MacCheck: Directory Corruption Detected (8/93)

Article Created: 19 August 1993

MacCheck has detected Directory Corruption on my hard disk. What should I do?

This article has been archived and is no longer updated by Apple.
If MacCheck detects directory corruption during its file system test, locate the Disk First Aid program on your Utilities disk (Performa owners) or Disk Tools disk (Macintosh owners.)

Follow the procedure detailed below:

1) Shut down your Macintosh from the Finder's Special menu.

2) Insert your Utilities or Disk Tools disk and turn on your Macintosh.

3) When the Finder appears, run the Disk First Aid * program. (Note: Be careful to designate the drive that MacCheck detected the problem on, as the drive that needs to be fixed.

4) Choose Quit to return to the Finder and choose Restart from the Special menu to restart your Macintosh.

* Apple recommends Disk First Aid v7.2, found on the Software Utility Update 1.0 disk, available from AppleLink and other online services.

Occasionally, Disk First Aid versions prior to version 7.2 will not find or fix the problems that MacCheck has detected. If you run MacCheck after running Disk First Aid, MacCheck may still detect file system problems. If this occurs or if MacCheck tells you that it detected problems that Disk First Aid cannot fix, the problems can be corrected by reinitializing your hard drive using Apple HD SC Setup. Please make sure that you have backed up your drive (using Apple Backup if you are a Performa user) before reinitializing your drive.

Some third-party utilities may be able to repair problems that Disk First Aid cannot repair. However, reinitializing your drive is the only way to be sure that problems that MacCheck detects are corrected.

Published Date: Feb 19, 2012

MacCheck: System File Corruption Detected (8/93)

Article Created: 19 August 1993

MacCheck has detected System File Corruption on my hard disk. What should I do?

This article has been archived and is no longer updated by Apple.
Macintosh and Performa Users

If MacCheck detects corruption problems in your System, Finder, System Enabler, or Launcher (Performa) files, replace these files using your original Apple installation disks using the Apple installer.

Performa Users
---
* If you have backed up your Performa with Apple Backup, you can restore a backup of your System files with the Apple Restore program.

* If you have not created a backup of your system, please contact the Apple Assistance Center.

Published Date: Feb 19, 2012

MacCheck: Logic Board Failure Detected (8/93)

Article Created: 19 August 1993

MacCheck just detected a logic board failure on my Macintosh. What should I do?

This article has been archived and is no longer updated by Apple.
If MacCheck detects a logic board failure:

1) Shut down your Macintosh by selecting Shut Down from the Finder's Special menu.

2) Hold down the Shift key while restarting your Macintosh. This lets the computer start up without loading any system extensions.

3) Run MacCheck again. If MacCheck still detects a logic board error, contact the Apple Assistance Center or your Authorized Apple Service Provider.

Published Date: Feb 19, 2012

Newton MessagePad: Changing Fonts in To Do List

If I change the default font or style by opening the Styles icon in the Extras drawer, the font or style is changed everywhere except the To Do List. Why?

This article has been archived and is no longer updated by Apple.

The Newton MessagePad's To Do List does not use the default font settings as chosen in Styles; it defaults to plain 12 point text. After you have entered text in the To Do List, you can select this text, and change its style by opening the Styles icon.

Published Date: Feb 19, 2012

MacCheck: Software Profiler Reports (8/93)

Article Created: 19 August 1993

This article details the information that MacCheck's software profiler collects and reports.

This article has been archived and is no longer updated by Apple.
The software profiler inside MacCheck collects and reports information on the following. (Note: state refers to active or inactive.)

* System version

* Finder version

* AppleTalk version, state, and (if Ethernet is installed), Phase 1 or 2.

* System Enablers

* Communications Toolbox (CTB) version, along with names and versions of any CTB tools installed.

* QuickDraw version

* Debugger name and version

* Memory Addressing mode (24-bit, 32-bit, or not capable of 32-bit mode)

* Virtual Memory state and location of the VM Backing Store file

* Disk Cache state and size

* User Name

* Machine Name

* Default AppleTalk Zone

* File Sharing state

* Chosen Printer

* Startup Device

* Volume (hard disk) information including: name, type, format, attributes, SCSI ID, Total Capacity, Free Space, Number of Files, Number of Folders, Last Backed Up, bootable, available for File Sharing, and has or should have boot blocks

* System Heap size

* Apple Menu Items: name and version of files.

* System Files: name, version & state for the following: System Extensions, Control Panels, Chooser Extensions, and Startup Items

* Fonts Installed: name, font family ID, type, sizes Installed, location

* Application Info: name, minimum memory required, preferred memory, 32-bit clean and location.

* Miscellaneous Startup (Boot) Volume Statistics:
- Duplicate System Folders

TA30004_MacCheck_Software_Profiler_Reports_(893)_(TIL13038).pdf

- Creation Date/Last Modified Date In The Future
- Deepest Path
- Longest Path

Published Date: Feb 19, 2012

MacCheck: Volume & Directory File Reports (8/93)

Article Created: 19 August 1993

This article details the information MacCheck's Volume & Directory File Checker reports.

This article has been archived and is no longer updated by Apple.
HFS Directory Structure Checking:
---
* Volume checks
- Every block allocated to a file on a volume is marked in the volume bitmap.
- Every block not allocated to a file on a volume is not marked in the volume bitmap.
- Every file on the volume has a unique set of blocks. No file claims blocks that are allocated to another file.

* Directory checks
- Each directory has the same number of files and directories allocated to it that is claimed in the directory record.
- The number of directories on the volume is the same as the number of directories found in the volume header.

* BTree checks
- Each node in the catalog and extent trees has the proper valence.
- Each node in the catalog and extent trees is properly marked in the volume bitmap.
- Each node in the catalog and extent trees is referenced only once.

Resource File Checks:

The Resource File Check performs an analysis of the System files, testing for the following:

* The resource fork is at least the minimum size.

* There is no overlap or space between the header, the resource data list, and the resource map.

* There are no bytes between the End Of File (EOF) and the end of the resource map.

* Each record in the resource data list is used once and only once. The last data item ends exactly where the data list ends.

* Each item in the resource type list contains at least one reference; each sequence of referenced items starts where the previous resource type item's reference list ended; and each item in the reference list is pointed to by one and only one resource type list item.

* There are no duplicates in the resource type list.

* Each name in the name list has one and only one reference, and the last name doesn't point outside the name list.

* Each reference list item points to a valid data item and either has a name list offset of ð1 or points to a valid name list offset.

* All names have a non-zero length.
Published Date: Feb 19, 2012

Apple Personal Modem: Supported RS-232 data lines

This article has been archived and is no longer updated by Apple.

Mini- RS-232
DIN Function Direction Pin

1 Data Set Ready (DSR) From Modem 6 CC
2 Data Term Ready (DTR) To Modem 20 CD
3 Receive Data (RXD) From Modem 3 BB
4 Signal Ground 7 AB
5 Transmit Data (TXD) To Modem 2 BA
6 Signal Ground 7 AB
7 Data Carrier Detect (DCD) From Modem 8 CF
8 Not connected (n.c.)

Published Date: Feb 19, 2012

MacCheck: Hardware Profiler Report (8/93)

Article Created: 20 August 1993

This article details what information the MacCheck's hardware profiler collects and reports.

This article has been archived and is no longer updated by Apple.

Macintosh Hardware Attributes:
---
* Macintosh model and machine ID.
* Processor (CPU) and clock speed (in MHz)
* Co-processor (FPU)
* Memory manager (MMU)
* Physical memory size in MB
* Logical memory size in MB
* Battery status (Portables and PowerBooks only)
* Hardware attributes
* Keyboard type
* ROM size in K
* ROM version
* ROM sub-version (Macintosh IIci and above)
* ROM checksum
* Docking information for PowerBook Duo

NuBus cards:
---
* Slot number in hexadecimal
* Card name
* Board ID
* Board version

LC-compatible PDS slot (Reported under NuBus slot $E):
---
* Card name
* Board ID

SCSI devices:
---
* SCSI ID (0 to 6)
* Device type (hard drive, CD-ROM drive, tape, printer, etc.)
* Device name (if a mounted block-device)
* Device size (if known)
* Vendor ID (if applicable)
* Product ID (if applicable)
* Revision (if applicable)
* Device serial number (if applicable)

Floppy Drives:
---
* Drive ID (1 internal, 2 second or external, 3 if applicable)
* Drive type (800K, Apple SuperDrive, HD20, etc.)

External Monitors:
---
* Screen size (pixels)
* Grays/colors (same as in the monitors CDEV)
* Horizontal and vertical resolution
* Location of monitor (built-in, attached to built-in video, or attached to a video card in a NuBus slot); if monitor is the main screen.

Global Village Modems:
---

* Global Village modem is found (attached to modem port)
* Modem is found, but not recognized as a Global Village modem
* No modem is found

(Note: the search for a Global Village modem is primarily for Performa systems that are bundled with Global Village modem and a Club Performa America OnLine account.)

Published Date: Feb 19, 2012

MacCheck: Operational Overview (8/93)

Article Created: 20 August 1993

This article is an operational overview of Apple's MacCheck software.

Several other articles in the Tech Info Library describe how you should respond to specific messages from MacCheck.

This article has been archived and is no longer updated by Apple.

Launching MacCheck

When you launch MacCheck, a splash screen appears detailing the initialization processes that MacCheck performs while launching. MacCheck's primary task during launch is gathering profile information and checking for multiple System Folders.

Launch time can vary greatly. For example, on a new Macintosh LC III, MacCheck takes about 1 minute to launch. On a Macintosh Quadra 950 with 400MB hard disk and 8,000 files, MacCheck takes approximately 5 minutes to launch.

If you want to speed up the launch process by approximately 20 seconds, press the Space bar when the splash screen first appears. This tells MacCheck not to profile modems or check "slower" SCSI devices, such as DAT tape drives. MacCheck will then display a "*QuickBoot*" message.

If you want to quit MacCheck during the launch process at any time, type Command-period.

Accessing Profile Information

MacCheck stores the collected profile information in three log files:
* System Info Log
* Additional System Info Log
* Application and Font Info Log

To view the profile information placed into these logs, select the log you want from the Windows menu.

Starting Logic Board and File System Tests

To begin the logic board and the file system tests, click the Test button or choose Test (Command-G) from the Diagnostics menu. When testing is completed, MacCheck stores the results in a file named "Test Results-1". You may rename this file by choosing "Save Results As" from the File menu.

Getting Help

Consult the Help menu or click the Help button if you have questions about the information in the System Info, Additional System Info, or Application and Font Info logs. Help also provides suggestions and troubleshooting tips for any problems MacCheck finds.

Balloon Help is also available. Choose "Show Balloons" from the ? (Balloon Help) menu.

Using MacCheck Menus
---
* The File Menu: MacCheck logs are saved as individual documents, so the File menu items behave in similar ways as the File items in other applications, such as TeachText. As with TeachText, there can be only one open document at a time. Below are the menu items for the File menu:

- New Results: Clears all the logic board and file system test information stored in the results file; does not clear the profile information after the bullets ("*** ╔") that MacCheck gathered during the launch process.

- Open Results: Opens an existing "Test Results-1" log. MacCheck reads the contents in the four logs that were saved into that results file.

- Save Results: Saves the results log, System Info log, Additional System Inf" log, and Application and Font Info log to "Test Results-1").

- Close: Hides the front-most log or closes the "Help-Topics" window, if it was the front-most window. To make a log the front-most window, use the Windows menu and select the log you wish to view.

- Print Results: Prints the front-most log. You also can choose to print any of the other three logs from the print dialog box.

* Diagnostics Menu:

- Test:. Starts the logic board, file system, and System file checking tests. MacCheck performs the check for multiple System Folders only when first launched. Once MacCheck begins testing, the "Test ╔" item is dimmed.
- Stop Testing: Enabled when testing is in progress.

* Windows Menu: When you select an log window in the Windows menu, MacCheck will bring that log forward, making it the front-most window. If you have viewed Help, but not yet closed the "Help-Topics" window, you can also select the "Help-Topics" item from the Windows menu.

* Help Menu and Help Window: When you click the Help button in the main MacCheck window, or select "Topics" from the Help menu, MacCheck displays a window containing eight Help topics; each topic consists of one or more pages.

Note: When running MacCheck on a Macintosh Plus, SE, Classic, or Classic II, the "Help-Topics" window becomes a "modal" dialog box due to screen space constraints.

Published Date: Feb 19, 2012

SNA■ps 3287 and LaserWriter Driver 8.0 Problem (1/94)

I'm encountering a problem between SNA*ps 3287 1.1.1 and LaserWriter driver 8.0. When I attempt to receive a print job from an IBM host I get errors with the PrintMonitor and my Macintosh locks up. I changed settings to receive the job as a text file and it worked fine.

I then installed LaserWriter driver 7.1.2, which comes with System Software 7.1, and receive a print job file and it printed properly. Is there a problem when using SNA*ps 3287 1.1.1 and LaserWriter driver 8.0?

I just recently purchased SNA*ps 3287, if I need to upgrade to SNA*ps Print what is the procedure and the cost if any?

This article has been archived and is no longer updated by Apple.
We did some testing with the new LaserWriter Driver 8.0 and SNA*ps. Here is what we found:

1) SNA*ps Print worked fine with LaserWriter 8.0 or 7.1.2 in both AS/400 and 3287 mainframe printer emulation.

2) SNA*ps 3287 worked fine with LaserWriter 7.1.2.

3) SNA*ps 3287 failed very badly with LaserWriter 8.0. It hung the PrinterMonitor and required a 'Stop Printing', dropping the PrintMonitor Document folder in the Trash (One document was X-ed out), and manually restarting the Macintosh with the Programmer switch. Menu Restart just hung in PrintMonitor.

So it looks like the workaround is to use LaserWriter Driver 7.1.2 with SNA*ps 3287 and if the LaserWriter 8.0 Driver is needed, LaserWriter 810, then you have to upgrade to SNA*ps Print.

Upgrades from SNA*ps 3287 to SNA*ps Print software are available; there is no charge for the upgrade. For more information on upgrades use the search string of "SNA*ps 3287 and upgrade" in the Tech Info Library.

Article Change History:
4 Jan 1994 - Updated article with testing information.

Published Date: Feb 19, 2012

Centris 660AV: Deskwriter Driver 3.9 Incompatibility (8/93)

Article Created: 23 August 1993

I have a DeskWriter printer (using DeskWriter driver version 3.9) connected to the Centris 660AV computer. The computer hangs with a blank screen (when doing a print job) unless I select the gray scale checkbox in the print dialog box.

This article has been archived and is no longer updated by Apple.
We (Apple) tested the HP DeskWriter driver version 3.9 (both serial and AppleTalk) on the Centris 660AV and 840AV. As you stated, the 660AV required the gray scale option (checkbox) to be selected in order to print. The Centris 840AV had no difficulty printing.

As a workaround with the 3.9 driver, if you need the DeskWriter to print on the Centris 660AV computer, you will have to select the gray scale checkbox in the print dialog box.

We spoke with Hewlett Packard. They do not have a solution at this time.

Published Date: Feb 19, 2012

Macintosh: Sound Effects Extension (8/93)

Article Created: 23 August 1993

What is the Sound Effects extension? How do I use it? It's bundled with the Macintosh Centris 660AV and Quadra 840AV.

This article has been archived and is no longer updated by Apple.
The Sound Effects extension adds sound effects options to the Sound control panel. Follow these steps to use Sound Effects:

1) Locate the Sound Effects file and drag it to the icon of the System Folder of your startup disk. A message asks you to confirm that you want this file in the Extensions folder.

2) Choose Restart from the Special menu. The new options aren't available until the computer restarts.

3) Open the Sound control panel and choose Effects from the pop-up menu. The Effects section of the control panel appears, showing another pop-up menu.

4) Choose an effect from the pop-up menu. When you choose an item, the current alert sound plays with that effect. The effect you choose remains active for all sounds the computer plays until you restart the computer. At restart, the effect choice reverts to None. If you want to keep using a sound effect, you must choose it again.

Important Note: When a sound effect is active, you can't change the sample rate in the Sound Out section of the control panel.

Published Date: Feb 19, 2012

Video Monitor Software: Additional Options

Video Monitor software displays a live video image in a window on the screen and can capture one frame of the video image. It is bundled with Macintosh Centris 660AV and Quadra 840AV.
This article has been archived and is no longer updated by Apple.
Additional Video Monitor options

* Preferences: Choose Preferences from the File menu to change the captured frame from a PICT file to an image on the Clipboard or to turn off compression of the captured frame.

* Printing a frame: Choose Print from the File menu to print one frame of the video image in the Monitor window.

* Capturing a frame: Choose Copy from the Edit menu to capture one frame of the video image in the Monitor window. (A message is displayed if the memory available is not sufficient to capture a frame.) The preset choice for frame capture saves the frame as a PICT file. The file is named PICT 0 (or the lowest number not already used) and stored on the desktop. You can use the Preferences dialog box to change frame capture from a PICT file saved on the desktop to an image stored on the Clipboard.

* Turning off sound: Choose Mute from the Monitor menu to turn off the sound accompanying the video displayed in the Monitor window.

* Resizing the Monitor window: Choose a size from the Monitor menu to resize the window displaying video. Or drag from the lower right corner of the window. Hold down the Shift key while dragging to maintain the horizontal and vertical proportions of the image as the window is resized.

* Changing video settings: Choose Video Settings from the Monitor menu to adjust options for the video image.

* Changing sound settings: Choose Sound Settings from the Monitor menu to adjust options for sound accompanying the video displayed.

Important Notes

- When the Video Monitor program is open, you can't give spoken commands.
- When you quit Video Monitor, you may need to change the Sound In device setting to Microphone (under the Options button in the Sound control panel) before you can begin or resume using speech recognition.

Published Date: Feb 19, 2012

Macintosh AV Systems: Displaying Video on Monitor (8/93)

Article Created: 23 August 1993

Can I display video from my VCR or video camera on my Macintosh Centris 660AV or Quadra 840AV?

This article has been archived and is no longer updated by Apple.
Yes, you can. Below is the standard method for setting up the ability to display video a video signal, from a VCR, on the Macintosh monitor:

1) Assemble the VCR and cables you need to connect it to the Macintosh.

2) If the Macintosh and VCR are powered on, turn them off.

3) Plug one end of the single-RCA-plug cable into the Video Out socket on the VCR.

4) Plug the other end of the single-RCA-plug cable into the composite input port on the Macintosh.

5) Plug the dual-RCA-plug end of the other cable into the left and right Audio Out sockets on the VCR.

6) Plug the stereo-miniplug end of this cable into the sound input port on the Macintosh. You can use a Y-shaped adapter to convert a dual RCA-plug cable to one that has a stereo miniplug at one end.)

7) Turn on the computer and the VCR.

8) Open the Apple Extras folder on your hard disk and locate the Video Monitor application.

9) Double-click on the Video Monitor icon to launch the application. A black window titled "Monitor" will appear.

10) Turn on the VCR and press the play button. A video image will appear inside the monitor window.

Troubleshooting:

If a video image does not appear, try the following:

1) Choose Source from the pop-up menu at the top left side of the Video window.

2) In the dialog box which appears, review the choices selected in the Input and Format pop-up menus:

* The Input choices indicate the input port for the video device. The preset choice is composite video, which is the standard for most VCRs.

* The Format choices indicate the format, or standard, of the video signal. The preset choice is NTSC, which is used in the U.S. and Japan.

3) Make sure all of the cables are securely connected between the video device and the computer.

4) Make sure the video device is turned on.

Published Date: Feb 19, 2012

MacCheck: What It Is (8/93)

Article Created: 23 August 1993

This article describes the MacCheck application from Apple.

This article has been archived and is no longer updated by Apple.
MacCheck is a diagnostic application from Apple Computer, Inc.

At this writing, MacCheck is bundled with the following systems:
* Macintosh Performa
* Macintosh LC 520
* Centris 660AV
* Quadra 840AV

It is also included on the Software Utility Update Disk, which is distributed free of charge on AppleLink and other online services.

MacCheck assists Macintosh owners by providing the following diagnostic tests:

1) MacCheck creates a profile of your Macintosh computer, including:

* The processor, memory, expansion cards, SCSI drives, keyboard, monitor, etc.

* The installed applications and system software on your startup drive

2) MacCheck performs a number of tests, including:

* A general logic board test

* File system and System files test

* Duplicate System Folders test

For further information on MacCheck, search by the string "MacCheck" in the Tech Info Library.

Published Date: Feb 19, 2012

Apple Personal Modem: The commands and what they do

This article has been archived and is no longer updated by Apple.
The Apple Personal Modem uses the Hayes instruction set--that is, the modem has a microprocessor inside it that controls all the functions of the unit. Any of the operating parameters, such as full/half duplex or number of rings before answer, can be set by a short command sequence; you can use similar command sequences for resetting and dialing. The modem also allows you to define certain text controls, such as line feed, carriage return, and escape characters, a very useful feature for defining specific terminal emulation for file transfer.

Command Instruction

AT The command prefix
A Answer command
A/ Again (repeat last) command
B Balance (Transmit Carrier Level) command
C Transmitter Carrier On / Off command
, Pause (Value in S8 Register) command
D Dial command
E Local Echo (In Command Mode) command
F Full Duplex (Local Echo in Data Mode) command
H On-Hook (Terminate Call / Hang Up) command
I Inquiry (Troubleshooting) command
M Monitor Speaker command
O On-Line (Used with +++ command)
P Pulse Dialing Mode command
+++ Escape command
Q Quiet (Response Codes) command
R Reverse Mode (Originate to Answer Only) command
S Set Register command (see following table)
; Return to Command Mode
T Touch-Tone Dialing Mode command
V Verbalize (Verbal or Terse) Responses command
X Extend Result Codes Set command
Z Zap (Reset) command

Registers: Default

S0 Auto-Answer
S1 Ring Counter
S2 Escape Character
S3 Carriage Return Character
S4 Line Feed Character
S5 Backspace Character
S6 Initial Wait
S7 Carrier Wait 30 seconds (range 1-255 seconds)
S8 Define Pause
S9 Carrier Detect Response Time 0.6 seconds (non-adjustable)
S10 Disconnect Timing
S11 Touch Tone Speed
S12 Escape Code Guard Time
S16 Self-Test Mode;
Analog Loopback Test

Published Date: Feb 19, 2012

Get Info Command: File Size Differences (8/93)

Article Created: 25 August 1993

I used the Get Info command on each folder on my hard drive to find the size, and added those numbers up. Then I used the Get Info command on my hard drive icon to find the size. The size difference is huge -- almost 30MB.

Why is this?

This article has been archived and is no longer updated by Apple.

```
It isn't surprising to see a large size difference between the hard
drive itself and the total folders on the hard drive.  Here are
factors that explain the difference:

* The invisible files (such as AppleShare PDS, Desktop DB, Desktop DF,
 and Desktop Folder) aren't counted in Get Info size for folders.

* The size shown in the Get Info box for folders is the actual file
 size, which includes data and resource forks.  For example, a text
 file which contains only 30 bytes, showed Size: 3K on disk (480
 bytes used); 480 bytes (30 bytes for data, 450 bytes for resource)
 will be added to the folder Get Info size, and 3K will be added to
 the hard drive Get Info size.

 Since the hard disk is a block device, any file created must reside
 on the block factor boundary -- 3K, in this case, is the size that
 the disk drive allocates for this file.  This accounts for a lot of
 differences, especially if you have a lot of small files on the
 drive.
```

Published Date: Feb 19, 2012

LaserWriter IIg: Downloading Macros in PCL Mode (8/93)

Article Created: 24 August 1993

When running a LaserWriter IIg in PCL mode (LaserJet emulation), there seems to be a problem in downloading multiple forms (PCL macros). If two forms are downloaded, only one will be available, and it varies which one.

The same problem does not occur with an HP LaserJet IIP. Multiple forms work fine. I am running PostScript from a LocalTalk network of Macintosh computers and PCL via RS-232 from an IBM RS/6000.

How does the memory on the LaserWriter IIg behave when switching between PCL (emulation) and PostScript modes? Does downloaded information remain resident for each mode?

This article has been archived and is no longer updated by Apple.
We were unable to duplicate the problem you outlined. We created and downloaded two simple macros to our LaserWriter IIg in PCL mode and were able to execute either one on command. We created and executed the macros using the following sequences:

<ESC>&f#Y

= 0 : To define the macro
= 1 : To end defining the macro
= 2 : To execute the macro
= 10 : To make the macro permanent

The last sequence, <ESC>&f10Y, is the key in keeping the macro available in the printer's RAM for use beyond the current job. There is a default amount of RAM set aside strictly for PCL emulation where this information will remain, unless the printer is power cycled.

With regard to your specific question about downloaded information while switching between PostScript and PCL modes, this information does remain resident in RAM if the appropriate PostScript or PCL commands are used. In other words, <ESC>&f10Y for macros in PCL mode.

As you may know, in PostScript mode the server loop can also be exited where commands will remain persistent even beyond power cycles of the printer. We are unaware of a mechanism for this in PCL mode.

Published Date: Feb 19, 2012

Newton MessagePad: Maximum Note Length

What is the maximum size of a note in the Newton MessagePad's Note Pad?
This article has been archived and is no longer updated by Apple.
Each note in the Note Pad has a maximum size of 4000 bytes. To check the current note size, tap on the little circled "i" icon at the top left of the note. If you are working with raw text in the default 18 point text size, you can write up to 12 screens of text per note.

Another limitation is that you can have approximately 50 items in a note, where an item can be a shape, ink (unconverted text), or a paragraph of converted text.

Shapes and ink are much more memory intensive objects than straight text.
Published Date: Feb 19, 2012

Quadra 840AV: Using With NEC Multisync 6FG

I have an NEC MultiSync 6FG monitor. With a Macintosh Quadra 840AV, it works fine in 640 x 480 mode, but not 1152 x 870. It acts like it's not syncing correctly.

This article has been archived and is no longer updated by Apple.

A Quadra 840AV connected to an NEC MultiSync FG 21-inch 6FG monitor requires the new AV 1152 X 870 or AV Multi-Res adapter. To obtain these adapters free of charge from NEC, call 312-622-7427. (General NEC Tech Support questions should be directed to 800-388-8888.)

Published Date: Feb 19, 2012

Newton MessagePad: Clock Loses Time

When I reset my Newton MessagePad, the internal clock loses time. What causes this?
This article has been archived and is no longer updated by Apple.
Approximately once every 5 minutes, the Newton MessagePad saves the time on its clock to a location in memory. When you reset the Newton, its clock is reset to the last saved time. The result is that the clock can lose up to 5 minutes each time you reset your Newton.

Your Newton MessagePad doesn't save the time while it is asleep, so resetting your Newton when it is asleep could result in a greater than 5 minute time loss. We recommend you wake up your Newton before resetting it.
Published Date: Feb 19, 2012

SNA■ps 3270 API Developer Technical Support (8/93)

Article Created: 23 August 1993

Where does a person get support on out SNA*ps 3270 API? What status do they have to have with Apple, like a registered developer, to get support?

This article has been archived and is no longer updated by Apple.
I checked with Developer Technical Support and they told me if someone is a Partner or an Associate, they can send their 3270 API questions to the AppleLink address, DEVSUPPORT.

Published Date: Feb 19, 2012

AppleShare Pro: Number Of Users and Groups

It is stated that AppleShare Pro can support a maximum of 200 simultaneous users. Is there a limit as to how many user accounts can be defined under AppleShare Pro?
This article has been archived and is no longer updated by Apple.
On page 115 of the "AppleShare Pro Administrator's Guide" you will find the AppleShare Pro Specifications appendix.

Here is the contents of that page regarding the AppleShare Pro File Server:

Maximum connected users	200
Maximum number of open files	5,000 (may require adding RAM)
Maximum number of volumes	50
Maximum number of shared items	50
Maximum number of users in a user/group file	2,000 (Recommended)
Maximum number of groups in a user/group file	2,000 (Recommended)
Maximum number of group memberships per user	42
Maximum number of simultaneous launches	200

Note: The maximum number of users in a user/group file and maximum number of groups in a user/group file in the manual is stated at 2,000. However, AppleShare Pro is based on AppleShare 4.0 code and the maximum number of users in a user/group file and maximum number of groups in a user/group file in the "AppleShare Administrator's Guide, Version 4" is stated as 8,192 (2,000 recommended).
Published Date: Feb 19, 2012

Apple Workgroup Server 95: Setup and Use of Telnet

After setting up an Apple Workgroup Server (AWS) 95 I have been unable to get Telnet to work, or to get UNIX commands such as rlogin to work.

I want to use the computer to set up a listserver (running under UNIX). I want to use Telnet to connect to another site to a listserv. I also plan to use the server as a file server for our computer Lab.

This article has been archived and is no longer updated by Apple.
First, the problem might have to do with "your set up of MacTCP under A/UX". I'm not sure how/what you did to setup MacTCP on A/UX. Under A/UX you don't have to "set up" MacTCP the same way as it does in Macintosh OS. MacTCP under A/UX will be automatically configured after configuring the TCP/IP network (such as IP address, subnet, name server, route, and so on) in the A/UX way. This information will be shown in MacTCP CDEV under A/UX.

Regarding domain name service, you may refer to the section of "Setting Up the Name Server" in A/UX Network System Administration for setting up the AWS 95 as a domain name server. If you only want the AWS 95 to be a client for accessing a remote domain name server, you can create the file called "resolv.conf" under the /etc directory with the following contents:

domain YOUR-DESIRED-DOMAIN-NAME

nameserver IP-ADDRESS-OF-THE-NAMESERVER

For example,

domain support.apple.com

nameserver 130.43.6.2

Here is an example of manually adding a default route in our network. You may put the following line in the /etc/rc file:

/usr/etc/route add 0 130.43.4.4 1

The IP address of 130.43.4.4 is an example of a Cisco router, while 1 is the number of hups to get to the router from a local computer.

Published Date: Feb 19, 2012

Performa Displays: Supported Macintosh Models (12/93)

Do the Performa and Performa Plus Displays work with Macintosh models outside the Macintosh Performa family?

This article has been archived and is no longer updated by Apple.
The Performa and Performa Plus Displays are standard Macintosh monitors with a resolution of 640 by 480 pixels. In order to work with either of the Performa displays, a Macintosh must either:

1) Have built in video which supports 640 by 480 monitors - or -

2) Have a video card which supports 640 by 480 monitors.

As of August 1993, the following Macintosh models with built in video will work with the Performa and Performa Plus displays:

Macintosh LC, LC II, LC III, LC 475, LC 550
Macintosh IIsi
Macintosh IIci
Macintosh IIvx, IIvi
Macintosh Centris 610, Centris 650, Centris 660AV
Macintosh Quadra 605, Quadra 610, Quadra 660AV, Quadra 700, Quadra 800, Quadra 660AV, Quadra 840AV, Quadra 900, Quadra 950

The following Apple video cards support 640 by 480 monitors:

Macintosh II High-Resolution Video Card
Macintosh 4*8 Display Card
Macintosh 8*24 Display Card
Macintosh 8*24GC Display Card

Article Change History:
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14 December 1993 - Added Macintosh models introduced since last update.
10 September 1993 - Revised article, adding info that Performa displays are standard 640 by 480 Macintosh monitors and any Macintosh with built-in video or any Apple video card which supports 640 by 480 will drive either Performa display.
Published Date: Feb 19, 2012

Macintosh AV Series: Update Older Hard Disks

Since the Macintosh AV Series computers use a faster SCSI manager, should older drives used with the Centris 660AV, Quadra 660AV or Quadra 840AV be updated?
This article has been archived and is no longer updated by Apple.
Yes, use HD SC Setup 7.2.2 to update any older hard disks you plan to use with the Centris 660AV or Quadra 840. Use the following procedure to update your hard disks:

1. Launch Disk First Aid 7.1.1 or higher. (Disk First Aid 7.2 is shipped on the Software Utility Update 1.0 and higher disk.)
2. Select the disk you wish to update.
3. Click the Start button (for Disk First Aid 7.2, click Verify.) Disk First Aid will inform you if any repairs are needed.
4. If repairs are needed, click the Repair button.
5. Repeat steps 2 through 4 for any additional hard disks you wish to update.
6. Quit Disk First Aid.
7. Launch HD SC Setup 7.2.2 or higher.*
8. Click the drive button to select the hard disk you wish to update.
9. Click the Update button. This installs the new version of the SCSI driver.
10. Repeat Steps 2 and 3 for any additional hard disks you wish to update.
11. Click the Quit button to return to the Finder.

*Note:

- Make sure that Disk First Aid and HD SC Setup is not running from any hard disk you wish to update.

- Make sure that none of the hard disk(s) you wish to update is the startup disk.

Why Update Older Hard Disks?

The Centris 660AV and Quadra 840AV use a new SCSI Manager, 4.3, a new system level manager that extends the capabilities of Macintosh systems both in terms of functionality and performance.

This new SCSI Manager is fully asynchronous, allowing each of several SCSI devices to have multiple requests outstanding. By queuing requests in this manner, overall throughput is improved. Other features such as direct memory access (DMA) support further enhance overall performance. Functionality has been improved through support for multiple buses and hardware configurations, and support for SCSI-2 messages and protocol actions.

Hard disks not updated using HD SC Setup 7.2.2 or higher will run approximately 15-20 percent slower than updated hard disks.

Published Date: Feb 19, 2012

Adjustable Keyboard: Command Key Shortcuts & VersaTerm (2/95)

When I use my Adjustable keyboard with VersaTerm Pro, the Command-key shortcuts are not recognized. Is there something included with System 7.1 that fixes the problem?

This article has been archived and is no longer updated by Apple.
Apple Support used VersaTerm-Pro 3.6.3, with the Adjustable Keyboard and did not have any problems with any command key shortcuts. Specifically, we used the following command key shortcuts:

CMD-S calls up Send files
CMD-Y calls up Text Options
CMD-I goes off/on line
CMD-K clears page
CMD-J jumps back

To answer your question, there is nothing in System 7.1 to fix the Adjustable keyboard. You may want to check your version of VersaTerm Pro.

Article Change History:
02 Feb 1995 - Revised access privileges of article.

Support Information Services
Published Date: Feb 19, 2012

Workgroup Server 80 & 95: Reading Status Lights

How do I read the status lights on the Apple Workgroup Servers 80 and 95?
This article has been archived and is no longer updated by Apple.
The front panel has two bi-color lights (LEDs). Green is used to indicate normal operation and Amber is used to imply warning conditions. Pulsing usually shows activity between the drive and the SCSI bus. If the cassette Light (Left) shows a steady Amber, this indicates that the cassette is write protected. If the Drive Light (Right) shows a steady Amber, this indicates a fault condition.

The following table lists the possibilities:

	Cassette Light	Drive Light	Meaning
Read / Write States	Pulse Green	Pulse Green	Cassette (Unloading)
	Green	Green	Cassette Loaded/Online
	Green	Pulse Green	Cassette Loaded/Activity
	Green	Off (No Light)	Cassette Loaded/Offline
Write-Protect Status	Pulse Amber	Green	Casette (Unloading)
	Amber	Green	Cassette Loaded/Online
	Amber	Pulse Green	Cassette Loaded/Activity
	Amber	Off (No Light)	Cassette Loaded/Offline
Error States	Green	Pulse Amber	Media Wear (Caution)
	Amber	Amber	High Humidity, No termination on SCSI bus
	Pulse Amber	Pulse Amber	Self Test (Normal)
	Pulse Amber	Amber	Self Test (Failure)
Other States	Off (No Light)	Off (No Light)	No cassette loaded
	Off (No Light)	Green	Error (illegal state)
	Off (No Light)	Pulse Green	Error (illegal state)
	Off (No Light)	Amber	Error (illegal state)
	Off (No Light)	Pulse Amber	Error (illegal state)
	Pulse Green	Off (No Light)	Error (illegal state)
	Pulse Green	Green	Error (illegal state)
	Pulse Green	Amber	Error (illegal state)
	Pulse Green	Pulse Amber	Error (illegal state)
	Pulse Amber	Off (No Light)	Error (illegal state)
	Pulse Amber	Pulse Green	Error (illegal state)
	Green	Amber	Error (illegal state)
	Amber	Pulse Amber	Error (illegal state) (Write Protect on)

Published Date: Feb 19, 2012

Apple Workgroup Server 95 PDS Card: SCSI Port Max Transfer Rate

Article Created: 26 August 1993

What is the maximum transfer rate of the SCSI ports on the Apple Workgroup Server 95 PDS card?

This article has been archived and is no longer updated by Apple.
The theoretical maximum for the SCSI bus is 5MB per second. The actual aggregate performance is around 4.5MB per second.

Maximum throughput for the 500MB and 1000MB drives on the SCSI DMA port of the Apple Workgroup Server 95 are as follows:

* Reads : 3MB per second
* Writes: 2MB per second

Published Date: Feb 19, 2012

Apple FORTRAN: Installing and using on an Apple IIe

To install Apple FORTRAN on an Apple IIe with 2 drives and 64K, you will need the following diskettes.
This article has been archived and is no longer updated by Apple.
1. FORTRAN diskettes:
a. FORT1:
b. FORT2:

2. Pascal diskettes:
a. APPLE1:
b. APPLE2:

Installing FORTRAN:

1. Put APPLE1: in drive 1 and FORT1: in drive 2.

2. Turn on the Apple.

3. When the command line comes up, type F for Filer.

4. Type T for Transfer to transfer the following files from APPLE1: to FORT1:.

Respond to the question Transfer what file?, by typing: APPLE1:?,FORT1:$

Answer Y to the question to transfer files:

SYSTEM.APPLE
SYSTEM.PASCAL
SYSTEM.MISCINFO

5. Leave APPLE1: in drive 1.

6. Replace FORT1: with FORT2: in drive 2.

7. Type T for Transfer to transfer the following files from APPLE1: to FORT2:.

Respond to the question Transfer what file?, by typing: APPLE1:?,FORT2:$

Answer Y to the question to transfer files:

SYSTEM.EDITOR
SYSTEM.FILER
SYSTEM.CHARSET

8. Leave FORT2: in drive 2.

9. Replace APPLE1: with APPLE2: in drive 1.

10. Type T for Transfer to transfer the following file from APPLE2: to FORT2:.

Respond to the question Transfer what file?, by typing: APPLE2:SYSTEM.LINKER,FORT2:$

11. Leave FORT2 in drive 2.

12. Replace APPLE2: with FORT1: in drive 1.

13. Type T for Transfer to transfer the following files between FORT2: and FORT1:.

Respond to the question Transfer what file?, by typing:

FORT2:SYSTEM.LIBRARY,FORT1:$
FORT1:FORTLIB.CODE,FORT2:$

14. At the conclusion of the transfer process, FORT1: and FORT2: should contain the following files:

a. FORT1:

- SYSTEM.APPLE
- SYSTEM.PASCAL
- SYSTEM.MISCINFO
- SYSTEM.LIBRARY

b. FORT2:

- SYSTEM.COMPILER
- SYSTEM.LINKER
- SYSTEM.EDITOR
- SYSTEM.FILER
- SYSTEM.CHARSET
- FORTLIB.CODE1

You can check this by typing L for list, put FORT1: in drive 1 and FORT2: in drive 2.

Respond to the question Dir listing of what vol? by typing:
#4: (for drive 1)
#5: (for drive 2).

15. Make Backup diskettes. Refer to the Apple FORTRAN manual, page 159.

Using FORTRAN

1. Place FORT1: in disk drive #4: (slot 6, drive 1), and FORT2: in disk drive #5: (slot 6, drive 2).

Note: At this point that diskette FORT1: will always be your boot or system diskette.

2. Turn on your Apple.

3. When the command line appears, type E to select the Edit option.

4. When this message appears:

>EDIT
NO WORKFILE IS PRESENT. FILE? (<RET> FOR NO FILE <ESC-RET> TO EXIT)

Press RETURN for new file.

5. When this prompt line appears:

>EDIT: A(DJST C(PY D(LETE F(IND I(NSRT J(MP R(PLACE Q(UIT X(CHNG Z(AP

Type I for Insert.

6. When this prompt line appears: >INSERT: TEXT A CHAR, ~~A LINEII ACCEPTS, ESCAPES]~~

~~Type in this demo program starting with the FORTRAN comment line:~~
~~C FORTAN DEMO.~~

~~The format, punctuation, and spelling must be exactly as shown. The indentation of the lines is important in FORTRAN. The indented lines must start in column seven. 1 2 123456789012345678901234 C FORTRAN DEMO DO 10 I = 1, 10 10 WRITE (*,'(I5)')I WRITE (*,'(I5)')I END~~

~~7. Type Control-C at end by holding down the control key first and typing C.~~

~~8. Type Q for Quit.~~

~~9. Type U to update the system work file~~

~~10. Now type R to Run the program~~

~~11. Respond to the question Listing File? by typing CONSOLE:~~

~~WARNING: If you are using Pascal 1.2, you will get an error message saying that the version numbers are incompatible. You must run the FORTRANFIX program.~~

~~To get the FORTRANFIX program, see the article FORTRAN: Using Fortran 1.0 with Pascal 1.2.~~

~~To use the FORTRANFIX program:~~

~~1. At the command line, type X for Execute.~~

~~2. Respond to the question, Execute what file? by typing~~

~~a. the volume name of the volume the program is on~~
~~b. one colon at the end of the volume name~~
~~c. the name of the program, FORTRANFIX~~
~~d. a carriage return~~

~~for example, FORT0:FORTRANFIX~~

~~3. Follow the directions as they appear on the console.~~

Published Date: Feb 19, 2012

72-Pin SIMMs: Which Macs Support Industry Standard (3/94)

All desktop Macintosh models introduced since February 1993 use 72-pin SIMM slots for their RAM. This type of SIMM is considered an industry standard, and is widely available for other brands of computers.

However, the specification for using these SIMMs with Macintosh computers omits the ninth parity bit, which is part of the so-called "industry standard." Will these SIMMs still work when installed in the new Macintosh models?

This article has been archived and is no longer updated by Apple.
The ninth parity bit in 72-pin SIMMs installed in Macintosh slots is ignored and should not present any problems. However, it is always best to test a type of SIMM carefully in all banks in any Macintosh models you intend to use.

The SIMMs that work in Macintosh models supporting 72-pin SIMMs are considered industry standard 72-pin SIMMs, but not all "industry standard" SIMMs are guaranteed to work in these Macintosh systems. In other words, these Macintosh models might require the "higher" quality SIMMs that meet industry standards. When purchasing SIMMs, be sure you get 72-pin fast-paged mode with 60ns access time or faster (80ns for the Macintosh LC III).

Be aware that Apple does not support composite SIMMs for the 72-pin SIMM form factor. (Composite SIMMs are SIMMs manufactured using a smaller or older memory technology. An example of this would be a 16MB SIMM made of rows of 4MB chips -- basically a 16MB SIMM made of four 4MB SIMMs on one board. Composite SIMMs are never recommended for use in Apple computers.)

Article Change History:
25 March 1994 - Retitled and edited article.

Support Information Services
Published Date: Feb 19, 2012

Composite SIMMs: How to Identify (2/95)

Apple recommends against using composite SIMMs in any Macintosh. Apple hasn't tested composite SIMMs, and there are known problems with some CPUs. This article tells you what some of the problems are, and how to identify composite SIMMs.

This article has been archived and is no longer updated by Apple.

A composite SIMM uses lower density components to construct a single bank of memory. It forms a large memory SIMM using many smaller DRAM chips along with additional bank-controlling circuitry and sometimes buffers for the address and control signals, deceiving the Macintosh memory controller circuitry.

Composite SIMMs are less expensive than non-composite SIMMS because they are made with less expensive components. As an example, a 16 MB composite SIMM would be made up of 32 4-megabit DRAM chips, along with the additional circuitry to control the banks. Conversely, a non-composite 16 MB SIMM would be made up of 8 16-megabit chips only. Composite SIMMs are made up of more commonly available and less expensive parts.

Composite SIMMs pose timing and electrical problems in some Macintosh computers, particularly those optimized for maximum DRAM performance, such as the Quadra 800 and 900 series. Composite SIMMs with signal buffering have caused floppy disk (especially 800K) mounting problems on the Macintosh AV computers. The additional circuitry in the composite SIMMs causes random memory failures due to:

* Higher electrical currents
* Increased system noise
* The added timing overhead (delay)

Composite SIMMs may work under some conditions, but may cause random problems such as start-up failures, system errors, or unexplained crashes. The errors can vary with different SIMMs, SIMM configurations, and vendors. Two composite SIMMs may work, but four may begin to cause random failures. One CPU might behave differently than the same model manufactured at a different time. Even temperature and supply voltages can cause minute variations.

Some SIMM vendors claim to have solved the loading and timing issues. However, the Macintosh memory system is tuned to expect the loading of standard SIMMs. Apple systems are verified to work with eight memory chips per bank, plus parity chips.

Article Change History:
14 Feb 1995 - Revised description of Composite SIMM.
11 Oct 1994 - Reviewed, made minor changes, added new keyword
26 Sep 1994 - Removed binary attachment.

Support Information Services
Published Date: Feb 19, 2012

Quadra 900 & 950: 256MB RAM & RAM Disk (8/93)

Article Created: 18 August 1993

We have a Macintosh Quadra 950 loaded with 256MB of RAM. However, we are unable to turn on the RAM Disk feature when the machine has this much memory.

This article has been archived and is no longer updated by Apple.
The MMU (memory management unit) page table is limited to 256K. When you install 256MB of RAM in a Quadra 900 or 950, the MMU page table grows a little too big and overwrites the RAM disk portion of memory. Replacing one bank of the 16MB SIMMs with 4MB SIMMS (reducing the total RAM below 256MB) will allow the system to work correctly with the RAM disk enabled.

Note that Apple does not officially support 16MB SIMMs in the Quadra, although in most situations they will work fine.

Published Date: Feb 19, 2012

Apple DMP: Connecting It With An IBM PC, XT, AT, PS/2

This article has been archived and is no longer updated by Apple.

To configure the Apple Dot Matrix Printer (DMP) with an IBM PC, use the standard IBM PC parallel interface and cable to the DMP with the standard switch settings. The Apple Dot Matrix Printer has a Centronics-style 36-pin parallel printer connector. This connector is also used on all IBM parallel printers manufactured for use with the IBM PC or PS/2 product lines.

The cable needed is the IBM Parallel Printer Cable, available from IBM authorized dealers.:

Switch 1 8 7 6 5 4 3 2 1
0 0 0 0 0 0 0 0

Switch 2 8 7 6 5 4 3 2 1
0 0 1 0 0 0

Key: 1 = Switch Closed; 0 = Switch Open

The DMP does not use the third and fourth switches on the second bank of switches; it doesn't matter how those two are set.

Use the IBM PC parallel interface compatible with Centronics printers.

IMPORTANT: You must clip off pin 16 on the DB-25 pin cable of the interface card. The printer will only print about one page and then start printing garbage if you don't clip off pin 16, which carries the signal Init Printer.

Published Date: Feb 19, 2012

LaserWriter Pro: Connecting to a NeXT Computer

How can I connect a NeXT computer to my LaserWriter Pro 600?
This article has been archived and is no longer updated by Apple.
From a hardware standpoint the only requirement for a serial RS232 connection to the printer would be a null modem cable. On an AppleTalk network, you can connect via the printer's LocalTalk port. Use NeXTSTEP 3.0 which reportedly includes an Appleshare client which provides access to PostScript printers on an AppleTalk network.

On the LaserWriter Pro itself, you want to set the thumbwheel switch to position 0 which sets the printer for PostScript, 9600 baud, 8 data bits, 1 stop bit, and XON/OXFF handshaking.
Published Date: Feb 19, 2012

Fonts: Fonts on the"More Fonts" Disk (8/93)

Article Created: 27 August 1993

What are the fonts found on the "More Fonts" and "Even More Fonts" disks that are shipped with the Personal LaserWriter NTR? I have been unable to find a comprehensive list anywhere.

This article has been archived and is no longer updated by Apple.

```
More Fonts:                              Even More Fonts:
----------------                         ---------------
Delphian                                 Lubalin Graph
Garamond Narrow                          Lubalin Graph (bold)
Garamond Narrow (bold)                   Machine
Garamond Narrow (bold,italic)            Nadianne
Garamond Narrow (italic)                 Nadianne (bold)
Helvetica Black                          Old English Text
Helvetica Compressed                     Onyx
Lucida Bright                            Oxford
Lucida Bright (bold)                     Swing
Lucida Bright (bold, italic)
Lucida Bright (italic)
```

Published Date: Feb 19, 2012

Applesoft: High-Res Memory Conflicts

When using High-Res graphics with a long Applesoft program the easiest way to avoid memory conflicts is to relocate the program. You thus avoid all the problems of program text and variables storing in the High-Res buffers.
This article has been archived and is no longer updated by Apple.
The following programs initialize the Apple's memory and RUN your application program. After the program is loaded above the High-Res buffer, DOS and CHAIN continue to load programs there until you re-boot the system or execute a FP command.

For HGR:

```
10 POKE 103,1
20 POKE 104,64
30 POKE 16384,0
40 PRINT CHR$(4); "RUN PROGRAM"
```

For HGR2 or both pages:

```
10 POKE 103,1
20 POKE 104,96
30 POKE 24576,0
40 PRINT CHR$(4); "RUN PROGRAM"
```

Published Date: Feb 19, 2012

Macintosh: Technical Developer Documentation

This article gives instructions on how to obtain Macintosh technical information articles.
This article has been archived and is no longer updated by Apple.
Macintosh technical information can be found at the following World Wide Web sites.

Technotes: **http://devworld.apple.com/dev/technotes.shtml**

Technical Support & Reference: **http://devworld.apple.com/dev/techsupport.shtml**

Developer Notes: **http://www.apple.com/developer/**

Technical Info Library: **http://til.info.apple.com/**

Some of these sites may require a username and password, if so, there are instructions on how to obtain a username and password.
Published Date: Feb 19, 2012

Newton MessagePad: Deleting Printers From List

How do I remove a printer from my Newton's print slip (or dialog box)? I have just renamed my Laserwriter, but its old name is still in the print list.
This article has been archived and is no longer updated by Apple.
The print list in the Newton MessagePad can display a total of two printer names, with the most recently selected printer name displayed on top of the list. There is no way to delete a printer from this list.

You can remove a printer name by choosing another printer from either the "Network printers" or "Other printers" selections. This will remove the oldest name from the print list. In your case, this will be the old name of your LaserWriter.
Published Date: Feb 19, 2012

Newton MessagePad: Using Foreign Characters in Word List

I can enter words that contain non-English characters (such as "è", "Ä", or "ㄱ") into the Apple MessagePad's word list. Why do these words appear without the accent?

This article has been archived and is no longer updated by Apple.

You can save words with non-English characters to the word list of the U.S. version of the Apple MessagePad. These words, however, are displayed without accents and the Apple MessagePad do not recognize non-English characters when you write them. We recommend that you do not enter words with non-English characters into your word list.

Published Date: Feb 19, 2012

PowerPC Microprocessor Family: An Overview (6/97)

This article gives an overview of the PowerPC microprocessor family.
This article has been archived and is no longer updated by Apple.
Apple, IBM, and Motorola are working on four versions of the PowerPC microprocessor simultaneously. Each version is designed to meet the needs of a different segment of the marketplace.

PowerPC 601 (MPC601)
The first microprocessor in the family is the PowerPC 601. The 601 will be in production in early 1994 and will be used in the initial midrange and high-end Macintosh systems.

PowerPC 601 features:

- 32-bit implementation of the PowerPC architecture
- 32-bit address bus
- 64-bit data bus
- Processor bus based on 88110 bus
- Available in two versions: a 66 MHz version and a 80 MHz version.

PowerPC 603 (MPC603)
The PowerPC 603 microprocessor will offer performance similar to the 601 in an even lower-power, lower-cost design. These features will allow Apple to use the 603 in high-volume desktop Macintosh computers and PowerBook models.

PowerPC 603 features:

- 32-bit implementation of the PowerPC architecture
- 32-bit address bus
- 64-bit data bus
- Processor bus based on 88110 bus
- Low power consumption
- Fully static logic with power-saving features
- 3.3 volt design
- Requires only two watts of power during full operation, one watt when only in active use.
- Available in two versions: a 66 MHz version and a 80 MHz version.

PowerPC 603e

PowerPC 603e SPEC95 Benchmarks				
Processor Clock/Bus (Mhz)	**150/50**	**166/55**	**180/60**	**200/66**
SPEC95*	4.1	4.5	4.6	5.1
SPEC95*	3.0	3.3	3.3	3.7

*Estimated based on testing on engineering system configured as follows:

- Processor:603e
- Memory Type:Sync Dram
- Memory Size:64Mb
- L2 Type:Burst
- L2 Size:1Mb
- Controller/PCI bridge:Motorola MPC105
- OS:AIX v4.1.3

PowerPC 604 (MPC604)
The PowerPC 604 microprocessor will eventually replace the 601, allowing Apple to offer even better performance in midrange and high-end Macintosh computers.

PowerPC 604 features:

- 32-bit address bus
- 64-bit data bus
- Bigger pipeline

- Higher parallelism
- Advanced branching techniques for higher performance

PowerPC 604 SPEC95 Benchmarks			
Processor Clock/Bus (Mhz)	**150/50**	**166/55**	**180/60**
SPEC95*	5.2	5.7	6.2
SPEC95*	4.4	4.9	5.3

*Estimated based on testing on engineering system configured as follows:

- Processor:604
- Memory Type:Sync Dram
- Memory Size:64Mb
- L2 Type:Burst
- L2 Size:1Mb
- Controller/PCI bridge:Motorola MPC105
- OS:AIX v4.1.3

PowerPC 604e

PowerPC 604e SPEC95 Benchmarks				
Processor Clock/Bus (Mhz)	**166/66**	**180/60**	**200/66**	**225/64**
SPECint95*	6.7	7.37	8.21	8.82
SPECfp95*	6.3	6.2	6.7	6.99

*Estimated based on testing on engineering system configured as follows:

- Processor:604e
- Memory Type:Sync Dram
- Memory Size:64Mb
- L2 Type:Burst
- L2 Size:1Mb
- Controller/PCI bridge:Motorola MPC105
- OS:AIX v4.1.3

PowerPC 620 (MPC620)
The PowerPC 620 microprocessor will be a high-end product offering premium performance and a full 64-bit architecture. It is being designed primarily for high-performance workstations and servers.

PowerPC 620 features:

- 32-bit address bus
- 64-bit data bus
- Multiple levels of parallelism
- Will use a different processor bus

Published Date: Feb 19, 2012

BASIC Commands: Using from DOS & ProDOS

The following guidelines apply equally to DOS, the predecessor of ProDOS.

Using a ProDOS command from a BASIC program extends the capability of your programs in several ways. For example, you might use deferred execution ProDOS commands to automatically display a disk's catalog, to save a backup copy of records in a file, or to save an unfinished game so you can continue it later.
This article has been archived and is no longer updated by Apple.
To use a ProDOS command from a program, use the BASIC statement PRINT followed by the string you want to print. In this case, the string will contain a ProDOS command. To indicate that you're printing a ProDOS command rather than text, type the control character CTRL-D as the first character of the string.

This is the general form:

PRINT CTRL-D "ProDOS command"

ProDOS and DOS from Integer BASIC
In Integer BASIC, there is only one way to get a CTRL-D into your program: type CTRL-D right after you type the quote marks that begin the string you want to print:

10 PRINT "CATALOG" (There is a CTRL-D between " and C.) The CTRL-D is there, although you can't see it.

CAUTION: Using the right arrow key to copy a BASIC statement will NOT copy invisible control characters. In effect, the right arrow key deletes control characters.

ProDOS and DOS from Applesoft
To get a CTRL-D into your program with Applesoft, you can use (1) the method above, or (2) the Applesoft CHR$ function in the expression CHR$(4). "4" is the argument the CHR$ function takes to return CTRL-D in a one-character ASCII string. Set any string variable to CHR$(4) at the beginning of your program and print that string variable before each ProDOS command. This gives you the advantage of seeing the CTRL-D in your code and the conveinece of fixing it in only one place if you've declared it improperly. Using the variable in a PRINT statement, CTRL-D from a CHR$ functions looks like this:

```
5 REM VALID ONLY WITH APPLESOFT
10 D$=CHR$(4)
20 PRINT D$;"CATALOG"
```

The string variable name is D as a reminder of the control character it contains.

You can omit the semicolon. The semicolon after D$ is optional. When your program has many ProDOS commands in PRINT statements, you'll save typing time and memory space by omitting the semicolon. Without a semicolon, line 20 looks like this:

20 PRINT D$"CATALOG"

There are three things you should watch out for while using ProDOS commands from Applesoft programs.

1. Be sure you have only one ProDOS command per PRINT statement

2. Be sure a carriage return is the last character printed before printing a CTRL-D. If the statement before a ProDOS command ends with a semicolon, a tab character, or a comma, the ProDOS command will not go to the ProDOS command interpreter. When your program unexpectedly prints a ProDOS command instead of executing it, look for a program statement that ends with a semicolon

If you set your D$ variable to precede CTRL-D with a carriage return (i.e., 10 D$=CHR$(13)+CHR$(4)), this D$ WILL CAUSE PROBLEMS WHEN YOU WRITE OR APPEND TEXT, INTRODUCING UNWANTED CARRIAGE RETURNS.

3. Remember that some ProDOS commands work only in programs. The ProDOS commands that can be issued only in deferred execution are APPEND, OPEN, POSITION, READ, and WRITE.
Published Date: Feb 19, 2012

AppleShare Print Server 2.0 Requires Laser Prep File (8/93)

Article Created: 30 August 1993

Our AppleShare Print Server software no longer runs on a network where all workstations (and by necessity the print server as well) are running the 7.x versions of the LaserWriter drivers.

This article has been archived and is no longer updated by Apple. Since AppleShare Print Server 2.0 requires the Laser Prep file, the the Prep file has been updated specifically for AppleShare Print Server 2.0 only. You'll find this updated file on the Printing Tools disk that comes with System 7.x. Replace the file on the print servers in the System Folder with this file. Don't put the Prep file on the workstations, only on the print server.

Note: The Laser Prep file was rolled into LaserWriter Driver version 6.1 and later. The Laser Prep file was required with printer driver versions 6.0 and earlier.

Published Date: Feb 19, 2012

Apple Adjustable Keyboard: Keypad Access & Key Caps DA (8/93)

Article Created: 31 August 1993

I have a Macintosh Centris 650 and an Apple adjustable keyboard. How do I use the Key Caps to access the both the keyboard and the keypad? Is there some kind of toggle switch?

This article has been archived and is no longer updated by Apple. Install the Hardware System Update 2.0 (HSU 2.0) on any system that will have an Apple Adjustable Keyboard attached. After the HSU 2.0 is installed, all that is needed to switch from the keyboard to the keypad and vice versa in the Key Caps DA is to touch a key on the respective device.

Published Date: Feb 19, 2012

LaserWriters: Differences in HP Emulation (8/93)

Article Created: 31 August 1993

1) Is there a list of PCL 4+ (Printer Control Language) commands supported by the LaserWriter IIg?

2) I would like to find out the differences between HP LaserJet emulation (PCL 4+) on Apple's LaserWriter printers, and the HP LaserJet IIP printer.

This article has been archived and is no longer updated by Apple.

1) With regard to the list of PCL 4+ commands supported by the LaserWriter IIg, we don't believe that such a list is available. However, as stated in Chapter 3 of the LaserWriter Reference (Addison-Wesley #ISBN 0-201-19258-6),

"With a few exceptions, the LaserJet+ emulator supports the entire set of escape sequences for both the LaserJet and the LaserJet+. This set includes the positioning commands, font-selection commands, and bit-mapped graphics with no limitation on areas covered by bit maps, as well as the rules, macros, overlays, and downloadable fonts."

2) The LaserWriter Reference has a total of about 11 pages that provide specifics on the HP LaserJet+ emulator (PCL 4+).

Appendix D in the LaserWriter IIf and IIg Owner's Guide provides some in-depth information on HP LaserJet+ emulation. The most important section are below:

The LaserJet IIP emulator contained in the LaserWriter allows you to print just about anything you can print on the LaserJet IIP, with these differences:

* The LaserJet IIP omits characters that overlap the left margin of the paper, but the emulator prints the portion of the character that does not extend into the margin.

* The LaserJet IIP allows you to insert commands to halt printing so that you can insert paper or envelopes manually. The emulator interprets those commands as form feeds.

* Applications that produce justified text with the LaserJet IIP versions of Helvetica (Helv) and Times Roman (Tms Rmn) fonts may generate slightly ragged output on the emulator.

* While the LaserJet IIP prints characters in the closest available point size and pitch for each font, the emulator scales the font to the specified size.

* The line printer font, which is 16.67-pitch Courier, appears with a height of 7.2 points when printed with the emulator, rather than 8.5 points as printed by the LaserJet IIP.

* The Control-C and Control-T key combinations, which you can normally use to interrupt printing or query the status of the LaserJet IIP, cannot be used with the emulator.

* The emulator does not print nine characters from the LaserJet IIP Roman-8 symbol set. These characters are shown in the following table.

Decimal codes: 176, 179, 227, 228, 240, 241, 247, 248, and 254.

Published Date: Feb 19, 2012

Finder and Desktop Manager: How They Work Together (8/93)

Article Created: 31 August 1993

I have two questions about how the Desktop Manager and Finder work together:

1) When does the Finder update the Desktop Manager Files?

2) If there are multiple applications with the same creator, how does the Finder decide which one to use?

This article has been archived and is no longer updated by Apple.
1) The Finder makes Desktop Manager calls when it needs to:

* Add icons to the Desktop database
* Add application information to the Desktop database
* Add "Get Info" comments for a file to the Desktop database
* Remove application information from the Desktop database
* Remove "Get Info" comments for a file from the Desktop database
* Get an icon or icon information from the Desktop database
* Find an application
* Get the "Get Info" comments for a file
* Rebuild the Desktop database

For more detailed information, please read pages 9-44 to 9-66 of Inside Macintosh Volume VI.

2) The Finder, using the call PBDTGetAPPL, will find and use the application with the most recent creation date. If two or more applications have the same creation date, the most recently added application in the Desktop database will be used.

Published Date: Feb 19, 2012

Racal-Vadic VA212LC modem: Using it with Apple Computers

Article Change History

02/09/93 - UPDATED
* Racal-Vadic changed name to Racal Datacom.
This article has been archived and is no longer updated by Apple.

Modem type:
AT&T 103/212A series; 1200 or 300 bps

Instruction set used:
None.

Hardware configuration:
Five front panel status indicators. Modem is answer-only, with external dial telephone needed to originate call. Control buttons on front select either voice or data mode/voice mode disables answer operation.

Software configuration:
No software controls for modem.

Interface type:
RS-232 DB-25S (DCE) connector, full or half duplex operation.

Modem interface packages, by computer:

Apple IIe (Super Serial card):
Access II or other terminal software; straight through DB-25 cable interface (serial card configured as DTE equipment) for hardware connection.

Apple IIc:
Access II or other terminal software; Apple IIc to Imagewriter cable with modem eliminator cable for hardware connection.

Apple III:
Access III or other terminal software; straight through DB-25 cable for hardware connection.

Macintosh:
MacTerm or other terminal software,;Macintosh to Imagewriter cable with modem eliminator cable for hardware connection.

Macintosh XL:
MacTerm or other terminal software; straight through DB-25 cable for hardware connection.

NOTE: This modem cannot originate calls - external telephone is needed if user wishes to dial out.

Racal-Vadic is now Racal Datacom.
Published Date: Feb 19, 2012

QuickDraw, Color QuickDraw, 32-Bit QuickDraw, and QuickDraw GX

This article explains the relationship of QuickDraw, Color QuickDraw, 32-bit QuickDraw, and QuickDraw GX.

This article has been archived and is no longer updated by Apple.

QuickDraw

QuickDraw shipped with the original Macintosh computers. It's in every Macintosh computer, and consists of drawing commands used by windows, menus, and dialogs as well as the usual graphics drawing such as the old MacPaint programs. It's sometimes called original QuickDraw.

QuickDraw supports only 8 colors: black, white, cyan, magenta, blue, green, yellow, and red; although most programs that use only original QuickDraw draw in black and white. There are two reasons for this:

* The original Macintosh computers didn't have color displays, so color seemed useless (unless you were printing).

* There are limitations to what you can do with color under original QuickDraw.

Color QuickDraw

Color QuickDraw first shipped with the Macintosh II, and is in every Macintosh II class computer, (which includes the SE/30). Color QuickDraw supplements QuickDraw by adding new color support. With Color QuickDraw, you can create and display incredible color images, among other things.

At this time Apple also introduced hardware for color displays. Most of the color PICT files you see today were made with Color QuickDraw. Color QuickDraw also makes it possible to have color menus, color windows, icons, and so forth. Most of the "graphical" toolbox routines were revised to support the color enhancements.

Notes: Inside Macintosh V talks about Color QuickDraw. So does Inside Macintosh VI, but they are completely different. What Inside Macintosh VI calls Color QuickDraw is really 32-bit QuickDraw.

The Color QuickDraw 1.2 INIT that shipped with system software 6.0.5 can't be used on computers prior to the Macintosh II or SE/30 (like the Plus, SE, or Classic) because there's no Color QuickDraw on board.

32-Bit QuickDraw

32-bit QuickDraw first shipped as an INIT with system 6.0.5. It supplemented Color QuickDraw, and therefore required Color QuickDraw to be present. Now every Color QuickDraw computer Apple creates also has a version of 32-bit QuickDraw in ROM. 32-bit QuickDraw was an enhancement for Color QuickDraw in that it made it easier to create graphics, and had additional graphics operations.

Any CPU with Color QuickDraw, and either 32-bit QuickDraw in ROM or the 32-bit QuickDraw INIT running, as well as any CPU running system 7 supports 32-bit QuickDraw.

A factor introduced with system 7 was the provision of 32-bit QuickDraw support on any computer. Although what occurs on a non-color QuickDraw computer (like the Classic) is a hybrid of true

32-bit QuickDraw. In any case, System 7 supports all the calls.

Therefore System 7 gives 32-bit QuickDraw and Color QuickDraw support to computers prior to the Macintosh II or SE/30. This doesn't necessarily give color capability to these systems -- but allows software that makes calls to 32-bit QuickDraw or Color QuickDraw to operate without crashing. System 7 also gives the Macintosh II, IIcx, IIfx, LC, LCII and computers with 32-bit QuickDraw in ROM (such as Macintosh IIci) a less buggy version of QuickDraw, with some additional features. Just as system software evolves, so does the underlying graphics software. The latest version will always be in the latest system software release.

QuickDraw GX

QuickDraw GX is the next evolution of QuickDraw. Like Color QuickDraw and 32-bit QuickDraw, it co-exists with the previous versions of QuickDraw, although it no longer requires them. However, GX requires system 7.1, so you'll automatically have 32-bit QuickDraw and Color QuickDraw support built in.

To summarize:

* You always have QuickDraw in a Macintosh.

* If you have Color QuickDraw, you also have QuickDraw.

* If you have 32-bit QuickDraw, you also have Color QuickDraw and QuickDraw.

* If you have system 7 you have 32-bit QuickDraw and Color QuickDraw support as well as QuickDraw (the actual code executed is different than the usual 32-bit QuickDraw).

* QuickDraw GX provides QuickDraw and some version (either true or a hybrid) of 32-bit QuickDraw and Color QuickDraw as well.

And just to be clear, the different types of QuickDraw can all be used together. You can ALWAYS intermix the calls, as long as they're supported by the system you're using.

Article Change History:
30 November 1993 - Clarified what System 7 does for systems prior to the Macintosh II and SE/30.
6 January 1994 - Reworded QuickDraw GX information.

Published Date: Feb 19, 2012

ABS Tech Note: AS00 About AppleSearch Technical Notes

This document accompanies each release of Apple Business Systems Technical Notes.
This article has been archived and is no longer updated by Apple.
We want Technical Notes to be distributed as widely as possible, so they are sent to all Partners and Associates at no charge; they are also posted on AppleLink in the Developer Services Bulletin Board also.

We place no restriction on copying Technical Notes, with the exception that you cannot resell them, so read, enjoy and share. We hope Apple Business Systems Technical Notes will provide you with lots of valuable information.

Technical notes are a 'living' complement to product documentation, be it Inside Macintosh or other documentation. This means that they are updated on a regular basis, so as to be accurate and up to date. New Notes are added as required.

This technical note is an index of all technical notes related to the AppleSearch and related products. It also documents all changes to the technical notes since the previous release.

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ASearch06	AppleSearch and XTND	Mar, 1994
ASearch07	Guest Access Bug	Mar, 1994
ASearch08	AppleSearch and the PowerPC	May, 1994

Changes since last release:

New Tech Notes: ASearch08
Modified Tech Notes:
Published Date: Feb 19, 2012

ABS Tech Note: AS01 AppleSearch Character Support

As with most information retrieval applications, AppleSearch deals with a variety of language and character rules in order to function properly.

This note will outline the AppleSearch character support for version 1.0. Note that our search engine is licensed from Personal Library Software. This article has been archived and is no longer updated by Apple.

Summary

For version 1.0 of AppleSearch, we are supporting the US English Character Set, with some mapping exceptions as defined below. Technically, we are 7-bit compatible, but 8-bit aware.

We've defined our character support based on the Inside Mac Volume VI definition of the Roman Character set; Appendix E: The Standard Roman Character Set.

The server software "handles" accented and double characters in a limited fashion. Accented characters are mapped to their US English counterpart, for example, to e, to a. AppleSearch makes no distinction between accented and non-accented characters. This mapping is consistent between indexing and searching. For example, while indexing the word "lve" would be changed to "eleve". When you search for the word "lve", it would be changed to "eleve", before searching the index.

Double characters are mapped to the first letter, for example, to o, to a. This may seem odd, but our options were to:

Store the character
Map it to a space
Map it to a 7-bit equivalent

We have chosen to map characters with accent marks and double characters to their 7-bit equivalent for the following reasons:

Staying 7-bit clean today, will ensure compatibility between future 8-bit releases and version 1.0 index files.

Users may get false hits when using languages where diacritical marks change the meaning of a word. However, for languages where the grammatical rules for diacritical marks are not very rigid, it is better to compare words after stripping diacritical marks. You may get false hits, but you'll not miss any documents.

Note: Download this document, open with your favorite word processor, and change the font to either Courier, Palatino, or Times to read all the characters below.

```
                    AppleSearch v1.0 Character Mapping

---------------------------------------------------------------------------

0x30      0    0      |     0x66      f    F      |      0x95          I

0x31      1    1      |     0x67      g    G      |      0x96          N

0x32      2    2      |     0x68      h    H      |      0x97          O

0x33      3    3      |     0x69      i    I      |      0x98          O

0x34      4    4      |     0x6a      j    J      |      0x99          O

0x35      5    5      |     0x6b      k    K      |      0x9a          O

0x36      6    6      |     0x6c      l    L      |      0x9b          O

0x37      7    7      |     0x6d      m    M      |      0x9c          U

0x38      8    8      |     0x6e      n    N      |      0x9d          U

0x39      9    9      |     0x6f      o    O      |      0x9e          U

                      |     0x70      p    P      |      0x9f          U

0x41      A    A      |     0x71      q    Q      |      0xa7          S

0x42      B    B      |     0x72      r    R      |      0xae          A
```

0x43	C	C	|	0x73	s	S	|	0xaf	O
0x44	D	D	|	0x74	t	T	|	0xbe	A
0x45	E	E	|	0x75	u	U	|	0xbf	O
0x46	F	F	|	0x76	v	V	|	0xcb	A
0x47	G	G	|	0x77	w	W	|	0xcc	A
0x48	H	H	|	0x78	x	X	|	0xcd	O
0x49	I	I	|	0x79	y	Y	|	0xce	O
0x4a	J	J	|	0x7a	z	Z	|	0xcf	O
0x4b	K	K	|				|	0xd8	Y
0x4c	L	L	|	0x80		A	|	0xd9	Y
0x4d	M	M	|	0x81		A	|	0xde	F
0x4e	N	N	|	0x82		C	|	0xdf	F
0x4f	O	O	|	0x83		E	|	0xe5	A
0x50	P	P	|	0x84		N	|	0xe6	E
0x51	Q	Q	|	0x85		O	|	0xe7	A
0x52	R	R	|	0x86		U	|	0xe8	E
0x53	S	S	|	0x87		A	|	0xe9	E
0x54	T	T	|	0x88		A	|	0xea	I
0x55	U	U	|	0x89		A	|	0xeb	I
0x56	V	V	|	0x8a		A	|	0xec	I
0x57	W	W	|	0x8b		A	|	0xed	I
0x58	X	X	|	0x8c		A	|	0xee	O
0x59	Y	Y	|	0x8d		C	|	0xef	O
0x5a	Z	Z	|	0x8e		E	|	0xf1	O
			|	0x8f		E	|	0xf2	U
0x61	a	A	|	0x90		E	|	0xf3	U
0x62	b	B	|	0x91		E	|	0xf4	U
0x63	c	C	|	0x92		I	|	0xf5	I
0x64	d	D	|	0x93		I	|		
0x65	e	E	|	0x94		I	|		

Published Date: Feb 19, 2012

Arabic System: Which LaserWriter Printer Driver?

When using an Arabic 7.1 system (WorldScript) and a LaserWriter Select 310, does this system require the Arabic version of the LaserWriter Select 310 printer drivers or will the UK or international printer drivers work?

Are localized printer drivers required to match the localized versions of system software?
This article has been archived and is no longer updated by Apple.
The Arabic version of the LaserWriter Select 310 print driver is not a requirement for using the printer with Arabic System 7.1. Compatibility with the UK version of the print driver is not known, however, the international Z-version will work with the Arabic system.

Essentially, the localized print drivers such as the Arabic version contain localized strings (Page Setup and Print dialog boxes with Arabic instead of English words), installer scripts, and paper size selections available in the respective country. The Z-version has English strings for the user interface, though contains the region-specific paper size selections, as well as modified installer scripts to accommodate the various script systems.
Published Date: Feb 19, 2012

Anderson Jacobson AJ 1259 modem: Using it with Apple Computers

This article has been archived and is no longer updated by Apple.
Modem type:
Vadic 3400 and AT&T 103/212A series; 1200 (2 modes), 0-300 bps.

Instruction set used:
None.

Hardware configuration:
Eight LED indicators and two switches on front panel give modem/data status and control modem fuctions. Telephone set is needed to originate calls using telephone for dialing. Once number has been dialed, modem is selectable to either high speed (Vadic 3400 or AT&T 212) or low speed modes.

Software configuration:
No command structure..

Interface type:
RS-232 DB-25S (DCE) connector, full or half duplex operation.

Modem interface packages, by computer:

Apple IIe (Super Serial card):
Access II or other terminal software; straight through DB-25 cable interface (serial card configured as DTE equipment) for hardware connection.

Apple IIc:
Access II or other terminal software; Apple IIc to Imagewriter cable with modem eliminator cable for hardware connection.

Apple III:
Access III or other terminal software; straight through DB-25 cable for hardware connection.

Macintosh:
MacTerm or other terminal software; Macintosh to Imagewriter cable with modem eliminator cable for hardware connection.

Macintosh XL:
MacTerm or other terminal software; straight through DB-25 cable for hardware connection.

NOTE: External telephone is needed for dialing called numbers.
Published Date: Feb 19, 2012

Fonts: Location Relative to Version of Operating System (2/95)

The chart below describes where to properly place fonts relative to the version of the operating system in use.

This article has been archived and is no longer updated by Apple.

. Bitmap PostScript TrueType
. ----------
.System 6.x I I
. Use I I
. Font/DA I I
. mover to I System I System
. install I I file
. fonts I Folder I
. into System I I * (see below)
. file I I
. ----------
. | |
.System 7.0 Drag to I I
. and System I Extensions I System
.System 7.0.1 file ** I folder ** I file **
. ----------
. I I
.System 7.1 Font I Font I Font
. folder ** I folder ** I folder **
. | |
. ----------
. I I
.System 7.5 Font I Font I Font
. folder ** I folder ** I folder **
. | |
. ----------

NOTE
* TrueType fonts don't work with system software version 6.0.4 or earlier and versions 6.0.5 through 6.0.8 require the TrueType INIT.

** System 7.0, System 7.0.1, and System 7.1 will automatically place Bitmap, PostScript, and TrueType fonts in the proper locations when they are dragged to the System Folder.

Article Change History:
15 Feb 1995 - Reviewed for technical accuracy.
06 Sep 1994 - Added System 7.5 information to article, revised title.

Support Information Services

Published Date: Feb 19, 2012

GeoPorts: How to Fix Disconnect Problem (9/93)

Article Created: 2 September 1993

I have problems with GeoPorts connecting to services and disconnecting immediately. The software on the update for the Express Modem is supposed to work with the GeoPort.

This article has been archived and is no longer updated by Apple.
You should use the software that comes with the GeoPort Telecom Adapter. The Express Modem Software 1.1.2 is compatible, but there's much more software installed by the GeoPort Express Modem Installer than by the normal one. Software installed includes the Shared Library Manager, ASLM Resources, GeoPort Extension, GeoPort Telecom Adapter, and GeoPort Telecomm. Without these files, you can't use the GeoPort Telecom Adapter.

If you installed the proper software, and still experience problems with disconnects or aren't connecting at all, try turning off error correction. You can do this with the modem command: &Q0 in the modem string.

Published Date: Feb 19, 2012

ABS Tech Note: AWS00 About AWS Technical Notes (11/94)

This document accompanies each release of Apple Business Systems Technical Notes.

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Technical notes are a 'living' complement to product documentation, be it Inside Macintosh or other documentation. This means that they are updated on a regular basis, so as to be accurate and up to date. New Notes are added as required.

This technical note is an index of all technical notes related to the Apple Workgroup Servers and related products. It also documents all changes to the technical notes since the previous release.

Note: we are also including for your convenience the technical documentation from the third party vendors of the Apple Workgroup Server products Oracle 7 and Retrospect. These documents were not written by Apple or tested for accuracy, but are included because we feel you might find them useful.

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Notes:
A: These technical notes have been superceded by the document "Tuning Server Performance and Adding Internal Hard Drives" available with release 3.1 of A/UX for the Workgroup Server 95.

B: This note is obsolete with release 3.1 of A/UX

Changes since last release:
New Technical Notes: AWS26, AWS30
Modified Technical Notes: AWS10, AWS28

Support Information Services
Published Date: Feb 19, 2012

ABS Tech Note: AWS01 File/Print Server for 4th Dimension (1/94)

This technical note advises you to choose the Apple Workgroup Server (AWS) 95 File/Print server platform for 4th Dimension.

This article has been archived and is no longer updated by Apple.
With the release of the AWS 95 there has been confusion with respect to guiding customers towards selecting the proper platform for their specific needs. In a number of instances the database version of this product has been selected when what the customer required was really the File/Print Server.

ACIUS Inc. is shipping their version of the 4th Dimension server. It will be important to make sure that people who want to obtain this product combination understand that the proper platform is the File/Print Server and not the database server product.

Published Date: Feb 19, 2012

ABS Tech Note: AWS02 AWS95 SCSI Termination (1/94)

This technical note describes SCSI termination on the Apple Workgroup Server (AWS) 95.

This article has been archived and is no longer updated by Apple.
The introduction of the AWS 95 has led to questions with regard to the SCSI termination requirements for the internal Processor Direct Slot Card and the SCSI busses that it supports. The internal and external SCSI buses on the AWS 95 are two separate electrical buses that are logically treated as one via software. This means external cabling and termination issues do not affect the internal bus and vice-versa. Both buses are terminated at the main board. The second termination point for the internal SCSI bus is built-in to the end of the internal SCSI cable, and the second termination point for the external SCSI bus is provided via a terminator connected to the last device on the external SCSI chain.

The AWS 95 retains the same termination scheme on the main board and on the PDS card for a total of four electrically separated SCSI buses. The two buses attached to the PDS card are terminated at the PDS card. The second termination point for the internal PDS SCSI bus is built-in to the end of the internal SCSI cable, and the second termination point for the external PDS SCSI bus is provided via a terminator connected to the last device on the external PDS SCSI chain.

Published Date: Feb 19, 2012

Anderson Jacobson AJ 1235 acoustic data coupler/modem

This article has been archived and is no longer updated by Apple.
Modem type:
AT&T 103/212A series; 1200, 0-300 bps.

Instruction set used:
None.

Hardware configuration:
Four LED indicators and two switches on front panel give modem/data status and control modem fuctions. Modem runs off of external plug-in power supply. Acoustic coupler is needed to originate calls using external telephone for dialing. Once number has been dialed, modem is selectable to either direct or acoustic telephone connection.

Software configuration:
No command structure..

Interface type:
RS-232 DB-25S (DCE) connector, full or half duplex operation.

Modem interface packages, by computer:

Apple IIe (Super Serial card):
Access II or other terminal software; straight through DB-25 cable interface (serial card configured as DTE equipment) for hardware connection.

Apple IIc:
Access II or other terminal software; Apple IIc to Imagewriter cable with modem eliminator cable for hardware connection.

Apple III:
Access III or other terminal software; straight through DB-25 cable for hardware connection.

Macintosh:
MacTerm or other terminal software; Macintosh to Imagewriter cable with modem eliminator cable for hardware connection.

Macintosh XL:
MacTerm or other terminal software; straight through DB-25 cable for hardware connection.

NOTE: External telephone is needed for dialing called numbers.
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ABS Tech Note: AWS08 kconfig Defaults & Deltas (6/94)

This article describes Kernel parameters (kconfig) defaults & deltas for the Apple Workgroup Server (AWS) 95 File/Print and Database Server Configurations.

This article has been archived and is no longer updated by Apple.
This technical note documents the default Kernel parameters settings for the File/Print and Database server Configurations under A/UX version 3.0.1 and 3.1 and how they are different from A/UX version 3.0. It also describes the new configuration parameters introduced in A/UX version 3.0.1 and their default settings.

Kernel Configuration Defaults

Variable File/Print Database 3.0 Defaults
-------- ---------- -------- ----------
MAXSC 32 32 8
NBLK16 256 256 128
NBLK64 800 800 64
NBLK128 256 256 32
NBLK256 256 256 16
NBLK512 128 128 8
NBLK1024 300 300 8
NBUF -1 0 0
NCALL 500 150 75
NFILE 7500 1024 256
NINODE 7500 1024 256
NMOUNT 32 32 10
NPBUF 64 64 20
NQUEUE 1200 1200 256
NSTREAM 200 200 32
SBUFSIZE 4096 4096 2048

Kernel Configuration Parameters Introduced in 3.0.1

Variable Description Default
-------- --- -------
GNOFILE Global File Table (used by Mac environment) 6144
MSGMAP Message Map Entries (used by msgop(2)) 200
MSGMAX Maximum Message Size (used by msgop(2)) 8192
MSGMNB Max. Message Queue Size (used by msgop(2)) 16384
MSGMNI Message Queue Identifiers (used by msgop(2)) 50
MSGTQL Number of Message Headers 200
NASIOD Number of Asynchronous I/O Daemons 4
NASIOQ Asynchronous I/O Request Queue 128
SEMMAP Semaphore Map Entries (see semop(2)) 50
SEMMNI Semaphore Identifiers (see semop(2)) 50
SEMMNS Total Number of Semaphores (see semop(2)) 300
SHMMNI Shared Memory Segment Identifiers (shmop(2)) 100

For more information on kernel parameters, refer to the on-line man page for kconfig.

In release 3.1, the behavior of the system has changed when NBUF is set to -1. The new algorithm for determining the size of the buffer cache is:

```
if (v.v_buf == -1) {
/* if < 20Mb available just allocate 10% for bufs */
if (availmem <= 5120)
m = availmem / 10;
/* else if < 40Mb available, reserve 20Mb for procs */
else if (availmem < 10240)
m = availmem - 5120;
/* else split 50/50 */
else
m = availmem / 2;

/* make sure we've got at least 10% for the bufs */
```

```
if (m < (availmem / 10))
m = availmem / 10;

v.v_buf = ptob(m) / v.v_sbufsz;
} else if (v.v_buf == 0)
v.v_buf = ptob(availmem) / (10 * v.v_sbufsz);
```

Support Information Services

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ABS Tech Note: AWS09 A/UX Buffer Cache Q&As on AWS 95 (6/96)

This technical note discusses the buffer cache on the Apple Workgroup Server 95, how it affects performance and how to tune your buffer cache to maximize performance.

This article has been archived and is no longer updated by Apple.

Question: What is Unix buffer cache and how is it related to performance?

Answer: Typically, the I/O buffers, or call it cache, store the most recently fetched information from block I/O devices, primarily disk drives. So in general, increasing the number/size of cache increases the chance that commonly accessed data will be in the cache, thereby increasing performance. However, it also reduces the free memory in the system, which increases the probability that the system will run out of physical memory and begin paging or swapping.

If the system commonly has free memory available, and/or if the applications have SMALL memory requirements, the cache size can be increased quite a bit.

If the application is NOT dependent on performance or A/UX is being used as a workstation then, the application should probably use the default cache size, though the cache could be adjusted up or down depending on many factors such as the nature of application, number of processes, file system size etc.

Adding more system RAM definitely gives more flexibility and freedom in terms of using more RAM to cache and thereby affecting the performance, by increasing the probability that the items will be in the cache.

Question: How can proper cache sizing be achieved?

Answer: A/UX buffer cache sizing on A/UX 3.0.1 and later releases may be achieved through Unix or by the Macintosh memory CDEV. There has been an enhancement made to the Macintosh Memory Control Panel Device (CDEV) to permit viewing and sizing of A/UX buffer cache, the Unix analogue of Macintosh's disk cache, in A/UX Version 3.0.1.

Using this facility, you can set the A/UX buffer cache in the Memory CDEV, located in the Control Panels folder under the Apple Menu. The Cache Size shows the current buffer cache size in use by the running kernel. If the user changes the cache size with the slide control, it will not be changed in the running kernel, until the memory CDEV is closed and the system is rebooted.

The traditional UNIX way, checking and changing the buffer cache size which is the function of the kernel's NBUF and SBUFSIZE parameters, requires you to use commands such as kconfig -a -n /Unix | grep NBUF. Since using kconfig can be confusing and prone to errors if kconfig adjustments are done incorrectly, this enhancement enables you to change the buffer cache through the memory Control Panel, and the system ensures the buffer cache size stays within acceptable limits.

In addition, A/UX 3.0.1 supports static and dynamic cache sizing.

In dynamic cache sizing, the kernel uses an algorithm to size the buffer cache as it boots, based on the value of NBUF=0 or -1 and SBUFSIZE.

NBUF=0

Set the cache to 10% of memory available at boot time.

NBUF=-1

See AWS08 for details on how the buffers are allocated.

In static cache sizing, the buffer cache is set to NBUF * SBUFSIZE bytes, based on the value of NBUF > 0, unless such a cache would be greater than 90% of available memory then it resets to 10% of available memory.

Question: What is the cache setting for the default File/Print as well as database configuration?

Answer: The AWS95 software comes in two flavors, one for the file/print server configuration and the other for database server configuration.

The manual "Tuning Server Performance and Adding Internal Hard Drives" shipped with release 3.1 has details on how to configure the server.

Question: What A/UX cache settings will optimize server performance?

Answer: As a default configuration, the file/print server version of A/UX sets NBUF to -1 and SBUFSIZE to 4096, and the database server version of A/UX sets NBUF to 0 and SBUFSIZE to 4096.

In general, an A/UX system acting as a file/print server, should have a fairly large buffer cache. A/UX systems running only database applications that access disks through raw devices should have a small buffer cache. More detail can be found on this in technical note AWS03.

For more information on A/UX buffer cache, please search the Technical Information for article, "Workgroup Server 95: Cache Optimization, Basic Formula".

Article Change History:

03 Jun 1996 - Added reference to Tech Info Library article.

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ABS Tech Note: AWS10 Apple Workgroup Server 95 Q&A (4/95)

This article is the ABS Technical Note, AWS10 Apple Workgroup Server 95 Q&A.

This article has been archived and is no longer updated by Apple.

```
Product Information
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Question: What is the relative positioning of the Apple Workgroup Servers and AppleShare family of products?

Answer: The Apple Workgroup Server 60 runs AppleShare 4.0, uses System 7.1, and is targeted at small business
and classroom lab environments.

The Apple Workgroup Server 80 runs AppleShare 4.0, uses System 7.1, and is targeted at medium-sized business
environments and addressing communications server (that is Internet Router, SNA*ps, X.25, X.400 gateways) needs.

The Apple Workgroup Server 95 runs AppleShare Pro, uses A/UX 3.1 as the server operating system, and is targeted
at large or data-intensive workgroups. The AWS 95 is also ideal for running relational database (RDBMS) products
such as Oracle7 Cooperative Server.


Question: What is the positioning of the AWS 95 and AppleShare Pro against its competitors?

Answer: The AWS 95 with AppleShare Pro is a high-performance AppleShare file and print server. It is designed
for Macintosh-mostly AppleTalk workgroups. Therefore, it is best to position it against AppleShare 3.0 as
opposed to Novell NetWare or UNIX-based file/print solutions. AppleShare Pro on the AWS 95 has 4 times the
throughput of AppleShare 3.0 on a Quadra 950 and will be up to 4 times faster for many operations. The AWS 9150
is somewhat below the AWS 95, while the 8150 is below that and about the same as a 8150, and AppleShare 4.0.2 on
a AWS 60 will be close to performance of a 6150.

For those customers who thought that they needed to move to Novell NetWare or a UNIX-based AFP server to satisfy
the performance needs of their Mac-mostly workgroup, the AWS 95 running AppleShare Pro is an ideal choice.


Question: What third party applications are available for the Workgroup Server 95?

Answer: Apple Business Systems has published a Workgroup Server Solutions Guide that details many of the third
party client-server solutions available for Apple servers today. The solutions guide can be ordered from Apple
Starting Line (S.LINE.ORDER). The phone number is 1-800-825-2145 and the cost is $6.25 per copy. Apple Starting
Line is located in Colorado.


General Issues
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Question: How does the AWS 95 fit into an AOCE environment?

Answer: Although the AOCE server will not run on A/UX 3.1, there are some advantages to having AOCE on a Mac OS-
based server in the network with an AWS 95. The primary advantage is the "key chaining" concept which allows a
single network logon.


Question: How do we setup the server if we want to use 4D Server?

Answer: 4D Server performs optimally when run with a large A/UX Buffer Cache and a large Macintosh virtual
memory partition (at least 16 MB of real RAM). Therefore, 4D Server should be run in one of the three file/print
configurations (as opposed to the database configurations) although it does not require AppleShare Pro.


Question: What type of caches are used by the on the AWS 95?

Answer: There are 3 levels of caching on the server: hardware, OS, and software. The hardware cache is called a
Level 2 cache and is basically just fast RAM (15 ns). The OS cache, also called the A/UX Buffer Cache, is a
```

backing cache for the entire file system. This means that all applications, including the local Finder, can take advantage of this cache. Files will remain in this cache until they are pushed out by another file. Therefore, the larger the buffer cache, the more likely a commonly used file will remain in the cache, and the better the performance will be. The AppleShare cache comes in 3 flavors: File Cache, Directory Cache, and Icon Cache. The Directory and Icon Caches store information found in the desktop database and information about file sizes, mod dates, and so on. Therefore, these caches are helpful in improving the navigation of the file system (especially with the Finder). The File Cache allows the server to "read ahead" and "write behind". An AppleTalk network sends data across the network in very small packets (about 4K). Since it is very inefficient for a server to continually go to disk for 4K chunks of data, the read-ahead cache gathers larger blocks of data (up to 128K) before sending it across the network. The write-behind cache does the same for writes by buffering data in the server's RAM before writing to disk. This greatly improves I/O efficiency thereby improving performance.

Question: What kind of network cabling systems are supported on the AWS 95?

Answer: The AWS 95 currently supports Ethernet and LocalTalk cabling systems. It does not currently support Token Ring networking interfaces. A third-party FDDI card manufacturer has announced FDDI support for the AWS 95 and A/UX.

AppleShare Issues

Question: Is there a way to import User Names, Groups, and Passwords from a text file to a File/Print AWS 95?

Answer: Third party developers of AppleShare management program, such as TechWorks, are incorporating tools for importing Users and Groups from text files into their products. These products will allow administrators to create text files in a specific format that can be transformed into a Users and Groups data file.

Question: Is the AppleShare Pro client software backwards compatible? Will it affect those users who try to access an AppleShare 3.0 server?

Answer: AppleShare Pro includes version 3.5 of the AppleShare Workstation. We chose the version number 3.5 so that it could live independently of the AppleShare version that it is bundled with. Workstation 3.5 is merely a bug fix of older AppleShare Workstations and is fully compatible with older versions of AppleShare. And, older versions of the AppleShare Workstation are fully compatible with AppleShare Pro. However, we recommend that users upgrade to the latest release.

Question: Can I run AppleShare Pro on any other Macintosh or Workgroup Server platforms?

Answer: AppleShare Pro will only run on the AWS 95. However, AppleShare 4.0 is essentially the same product as AppleShare Pro and is shipping now. AppleShare 4.0 uses all of the same caching algorithms as AppleShare Pro and runs on the following 6 platforms: Workgroup Server 60, Workgroup Server 80, Centris 610, Quadra 700, Quadra 800, and Quadra 950. Remember, AppleShare Pro gets some of its performance improvements from its own caches, but the rest comes from A/UX and the AWS 95 PDS card. AppleShare Pro 4.0.1 is required to operate on the RISC-based servers.

A/UX Issues

Question: What is the "Mac environment" in A/UX? How large is it?

Answer: The Mac environment (or virtual Macintosh) is a UNIX process that provides the operating system services required by Macintosh applications. These services include the System 7.0.1 Toolbox, so any well-behaved, 32-bit clean, System 7-aware application can run on the AWS 95 (A "well-behaved" application does not access hardware directly; the A/UX security model prevents user-level access.). The default size of the Mac environment is 16 MB in all configurations, but all UNIX processes run in virtual memory so the available memory can be much larger. This default size of the Mac environment can be changed using the "Virtual Memory" setting in the Memory Control Panel.

Question: How is RAM allocated in A/UX for a File/Print configuration?

Answer: The UNIX kernel and core processes take approximately 7 MB of RAM. The remainder of dynamic RAM is

divided between the buffer cache and the applications (like the Mac environment). There is also 51 MB of swap space available for virtual memory for UNIX processes. So, for a 32 MB configuration, 7 MB would be used by the Kernel, leaving 25 MB of dynamic RAM (and 51 MB of swap space). The A/UX Buffer Cache would then take 9 MB, leaving 16 MB of real RAM for UNIX processes. The Mac environment would then look for 16 MB of RAM, taking 16 MB of dynamic RAM and 2 MB of swap space. This would then leave 51 MB of swap space for other UNIX processes. The only caveat here is that the Mac environment does not allocate dynamic RAM for unused portions of it's 16 MB heap. Therefore, if only a portion of the 16 MB Mac Partition is being used at any one time, the remaining dynamic RAM will be available for other processes and Mac applications started later may wind up using swap space. See pages 8-10 of Chapter 2 of the Tuning Server Performance guide for more details.

Question: What about the Database configuration?

Answer: Since high-end databases like Oracle7 may maintain their own file system, they may not need a large buffer cache. Therefore all available dynamic RAM, not used by the Kernel, buffer cache, and the Mac environment, are used by Oracle 7.

Question: What version of AppleTalk runs on the Workgroup Server 95?

Answer: The AWS 95 uses a special version of AppleTalk, designed to run on A/UX. The version will report version 56 when polled but is actually compatible with the latest AppleTalk version. Do NOT try to install the latest Mac OS version of AppleTalk from the Network Software Installer (NSI) as it is not compatible with A/UX.

Hardware

Question: Describe the second-level memory cache on the AWS 95.

Answer: The second-level memory cache, which allows the microprocessor to gain significantly faster access to frequently accessed data or instructions, is located on the AWS 95 Processor Direct Slot (PDS) card. The cache uses 15 ns static RAM. 128 KB is on-board the PDS card. The second-level memory cache is expandable to 512 KB via SIMM upgrade kits. The second-level cache is a write-through, direct-mapped cache.

Question: Describe the SCSI DMA channels on the AWS 95.

Answer: Two SCSI DMA (Direct Memory Access) channels are located on the AWS 95 PDS card. SCSI DMA allows for more efficient data transfers between SCSI devices and DRAM (because data transfer is managed by the SCSI controller and SCSI DMA control logic instead of the microprocessor).

Question: How many SCSI devices can be attached to the AWS 95, and why?

Answer: Up to 20 SCSI devices can be attached to the AWS 95.
* Up to 7 SCSI devices can be attached to the PDS card's external SCSI port.
* Up to 7 SCSI devices can be attached to the main logic board's external SCSI port
* Up to 6 internal SCSI devices can be attached to the PDS card's internal SCSI port. NOTE: in order to attach 6 internal SCSI devices, special carriers would be required such as the 5 drive bracket for the AWS 95.

Question: Is the SCSI interface on the AWS 95 SCSI-1 or SCSI-2?

Answer: The SCSI interface is still SCSI-1. However, the AWS 95 supports the following SCSI enhancements:

Connect/disconnect is supported by A/UX and is available on all 4 SCSI channels. The benefit is more efficient use of SCSI bus (less contention). A SCSI device can momentarily disconnect from the SCSI bus while it is executing a time consuming operation (that is a full stroke seek on a CD-ROM drive). This permits other devices on the bus to execute SCSI commands until the slow device reconnects when it has data available for the initiator of the SCSI command. Applications such as Retrospect A/UX make good use of this feature.

Active termination and active negation technology is supported on the 2 SCSI DMA channels on the PDS card. The benefit is enhanced SCSI signal quality/integrity on the SCSI bus.

SCSI controllers on the PDS card are clocked at 33MHz.

SCSI performance is more efficient because of a combination of A/UX's asynchronous I/O capabilities and the hardware SCSI DMA. Multiple tasks can be queued up and data transfers finish quicker with SCSI DMA.

Question: Does the AWS 95 support fast or wide SCSI-2 options or synchronous transfers? Is there RAID support for the AWS 95?

Answer: The AWS 95 does not currently support either fast or wide SCSI-2 options. Synchronous transfers are also not currently supported. Work is being done with 3rd party providers for SCSI-2 options and RAID solutions. For more 3rd party information, please refer to the Apple Workgroup Server Solutions Guide.

Question: What kind of DRAM can I use with the AWS 95?

Answer: The AWS 95 ships with 4 MB parity DRAM (4 X 9), but non-parity DRAM can also be used (that is 1 X 8, 4 X 8, 16 X 8). The DRAM must be at least 80 ns and you add DRAM in the same way as you would for the Quadra 900/950 (that is you must fill a bank of 4 SIMM slots at a time, with the same DRAM density for each of the SIMMs in the bank). IMPORTANT: if you "mix and match" parity and non-parity DRAM in the AWS 95, make sure that parity checking is disabled in A/UX. To enable or disable parity checking, you should take the following steps, you should, from the Finder, choose Restart from the Special menu. Then, cancel the A/UX Startup process by either clicking the Cancel button or pressing Command-Period while the "Welcome" box is displayed. As a result, the A/UX Startup window opens and the Preferences menu appears in the menu bar. Choose General from the Preferences menu which gives you the check box for memory parity checking.

For more information, refer to Chapter 3, 'Configuring the Software' of "Setting Up and Managing Your Server" manual.

Question: How much data can the DDS-DC 4mm tape drive (sometimes called a DAT drive) back up?

Answer: The Digital Data Storage-Data Compression (DDS-DC) 4mm tape drive can typically back up 4-6GB of compressed data on a 90m tape. Exactly how much data can be backed up depends on the type of data being backed up. The DDS-DC drive can back up 2GB of uncompressed data.

Question: How should hard drives be formatted when they are attached to the AWS 95?

Answer: Hard drives should be formatted as UFS (Unix File System) drives instead of HFS drives. Be sure to use the A/UX version of HDSC Setup. This special version of HDSC Setup will automatically create a mount point for the hard drive.

Troubleshooting

Question: Why does the file system get "dirty" if the server is not shut down gracefully (that is, a power interruption)?

Answer: High performance servers gain most of their performance from caches. However, the data in the cache may not be the same as the data on the disk. It's the servers ability to schedule the writes to disk at a later time that gives the server a big performance boost. The side affect of this is that losing power before the caches are flushed can cause inconsistencies in data or even lost data. The FSCK (file system check) utility in UNIX allows the file system to rebuild itself and minimizes the possibility that data has been lost.

Question: Are there any guidelines in using or adding INITs and CDEVs to the A/UX Macintosh virtual machine?

Answer: Be extremely careful when using INITs or CDEVs that may be considered "hacks" and bypass the Macintosh toolbox interface. For example, applications such as SCSI Probe and Norton Utilities are not compatible with A/UX.

Question: I have been trying to remove INITs from A/UX by holding down the <shift> key as I do with Mac OS, but it doesn't seem to work, what am I doing wrong?

Answer: This works but is a question of timing. The <shift> key should ONLY be pressed after A/UX has loaded and is about to start up the Macintosh environment (that is, you see a spinning watch come up and the white menu bar is displayed). You have about 5 seconds to start holding down (and keep holding down) the <shift> key. INITs will not load, and the you can then go into the System Folder and remove the incompatible INIT.

Question: How do I rebuild the desktop with the Apple Workgroup Server 95, for example, if my icons become generic icons and the desktop needs to be rebuilt?

Answer: Right after A/UX has loaded and is about to start up the Macintosh environment (that is, you see a spinning watch come up and the white menu bar is displayed), press the <option> and <cmd> keys simultaneously and keep them depressed until you are asked via a dialog box if you want to rebuild the desktop or not.

Question: Why should I avoid pushing the RESET button on the AWS 95?

Answer: Reset the AWS 95 via the front reset button only as a last resort. If certain commands, such as hard disk writes, are occurring when there is a hardware reset, A/UX may detect a corrupted file system, and you may need to go into the A/UX Command Shell to manually check and/or rebuild the file system. Refer to the question above on 'dirty' file systems.

Question: How do I check or rebuild the file system?

Answer: If A/UX Startup says the file system is damaged or corrupt, choose AutoRecovery from the Execute menu to perform a file-system check (by executing fsck) on the root file system. Or, you may run fsck manually by executing the following command:

fsck /dev/default

and in general, answer "y" to any questions that come up. If you want to automatically answer "y" to all questions, use the following command:

fsck -y /dev/default

After A/UX has examined and fixed the file system, type <cmd> <L> to relaunch A/UX.

Question: An application running in the Mac environment of A/UX has hung or seems to have crashed. What should I do?

Answer: If a server application running in the Mac environment of A/UX seems to have hung or crashed, DON'T push the reset button! First, quit and restart the Mac environment by entering the command:

<control> <cmd> <e> [NOTE: type all 3 keys simultaneously]

Please be patient - wait 10-30 seconds for A/UX to quit and restart the Macintosh environment.

Question: Who should I contact if I have a question or find a problem with the Workgroup Server 95.

Answer: The normal chain of technical support should be used to report any problems. This allows the engineering and support teams to process the reports in the most efficient manner and ensure that nothing slips through the cracks.

Question: I've tried to install the drivers for the CD-ROM, and the Finder hangs. What do I do?

Answer: The CD-ROM drivers are actually part of the Unix Kernel on the AWS 95, and so the Mac OS-based drivers are not needed, and are in fact not compatible with A/UX. They should not be installed.

Question: I installed an extension into my System Folder and now my machine won't let me log in. How do I get rid of it?

Answer: First, try holding down the Shift Key during logon to disable inits. If this doesn't work, you can change your logon type to a terminal to eliminate the Macintosh environment and use the Unix shell to delete the files. Please be aware that the Unix environment is case sensitive and that spaces need to be quoted, so you have to use strings like 'cd "System Folder"'. Installing an INIT manager such as Now Startup or Extension Manager is also an option.

Article Change History:
18 Apr 1995 - Made correction of typographical errors.

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ABS Tech Note: AWS11 Configuring UFS inode Overhead (8/93)

Article Created: 31 August 1993

This technical note documents methods for tuning/creating a UNIX file system with lower overheads in terms of inode allocation, which proves to be important in large size file systems by reclaiming disk space on a Apple™ Workgroup Server (AWS) 95.

This article has been archived and is no longer updated by Apple.
The newfs command makes a Berkeley 4.2 UNIX file system (UFS) on the specified device file. The A/UX version of HD SC Setup invokes newfs when creating a UFS.

Each file on the system is represented by an inode, which contains critical information about the file, including ownership, permissions, size, and so on The newfs command allocates disk space for inodes when the UFS is created.

By default, newfs creates an inode for each 4 kilobytes (kb) of available space (2 kb on A/UX 3.0.1 and previous versions). Since each inode takes up 128 bytes on disk, the space dedicated for inodes (or the inode overhead) amounts approximately 3% of the total filesystem space (6% on A/UX 3.0.1 and previous versions). On a 1 gigabyte drive, this works out to be 32 megabytes (MB) or 250,000 inodes (64 MB or 500,000 inodes on A/UX 3.0.1 and previous versions).

If the average size of the files you use is much greater than 4 kb, for example, large, bit-mapped, color graphics, you may want to reclaim some of the inode overhead. Use the -i option to newfs to specify a larger value of bytes-per-inode (or the inode density). Figure 1 graphically depicts the inode overhead on differently-sized filesystems given inode densities of 2, 4 and 8 kb.

For example, if all the files you use contain at least 16 kb of data, you would choose the bytes-per-inode to be 16384. You need to manually execute the newfs command from the A/UX CommandShell. Important: This must be done when the filesystem is created. If you already have data on this disk drive, be sure to back-up your data before re-creating the filesystem. Assuming the filesystem was previously formatted with HD SC Setup on an external SCSI drive (id 5) on the external main board SCSI bus (bus 2), you would enter the following command.

newfs -i 16384 /dev/dsk/c205d0s3 other

The filesystem device name is identified as /dev/dsk/cx 0yd0sz where x specifies the bus (1-4), y is the SCSI ID number (0-6), and z is the slice number.

Note: If the data on the filesystem will be predominantly Macintosh files in the AppleDouble format, for example, plain text files, be sure to allocate additional inodes. The AppleDouble format requires two inodes per file, one for the resource fork and one for the data fork.
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Multimedia Kits: Overview of Three Bundles

At the time of introduction, three CD-ROM Multimedia bundles will be available for the USA and English-speaking geographies. The CD-ROM bundles are first in a series of bundled media products including "cross-platform" into the PC world. They include everything a customer needs to get started with the CD-ROM and media applications by creating an all-in-one solution. This article describes the three bundles.

This article has been archived and is no longer updated by Apple.
The first bundle is targeted at existing Macintosh customers.

Apple CD Multimedia Kit for Macintosh (M2159LL/A)
* AppleCD 300 drive and caddy SCSI system cable, and terminator
* AppleDesign Powered Speakers
- Powered speaker and satellite speaker
- Power-supply module (120-V input)
- Computer-to-speaker cable (with 3.5-mm miniplugs)
- CD stereo cable with RCA jacks
- Speaker-to-speaker cable
* Compton's Multimedia Encyclopedia
* Apple Multimedia Starter CD
* CD-ROM titles brochure: an entitlement to 3 free CDs of the customer's choice
* Complete instructional documentation for setup and reference

* Macintosh System requirements *
* Any Macintosh running system software version 6.0.7 or later with a 68020 microprocessor or greater
* At least 5MB of RAM (or more) recommended
* A color display with 640 x 480 pixel resolution or greater

The second bundle is targeted at the PC-compatible and Windows customers. It's an "internal upgrade" meaning that the CD-ROM and Sound Card are mounted internally.

CD Multimedia Kit for PCs (M2160LL/A)
* AppleCD 300i (internal) drive and caddy Internal SCSI and audio cables, AT mounting rails
* AppleDesign Powered Speakers
- Powered speaker and satellite speaker
- Power-supply module (120-V input)
- Computer-to-speaker cable (with 3.5-mm miniplugs)
- Speaker-to-speaker cable
* Media Vision Pro AudioSpectrum 16 sound card
- QuickTime for Windows
- Spectrum 16 software
- Software includes Pocket Recorder, MIDI Sequencer, Software
- Controlled Mixer, TrakBlaster Pro, Monologue, and Windows drives
* Apple Multimedia Starter CD
- An entertaining introduction with movies, sounds, and pictures.
* Compton's Multimedia Encyclopedia
* CD-ROM titles brochure: an entitlement to 3 free CDs of the customer's choice
* Complete instructional documentation for setup and reference

* System requirements *
* An 80386SX-based personal computer or greater running at 25 MHz or faster
* At least 4MB of RAM
* 10MB of available hard disk space
* VGA color display
* 5.25" half-height expansion bay
* ISA internal expansion slot
* Microsoft Windows version 3.0 or later and MS-DOS 5.0 or later

The third bundle is targeted at Macintosh Performa customers and is sold through channels that support the Performa line.

Performa Multimedia Upgrade Kit (M2364LL/A)
* AppleCD 300 drive and caddy, power cord, SCSI system cable, and terminator
* AppleDesign Powered Speakers

- Powered speaker and satellite speaker
- Power-supply module (120-V input)
- Computer-to-speaker cable (with 3.5-mm miniplugs)
- CD stereo cable with RCA jacks
- Speaker-to-speaker cable
* Grolier's Encyclopedia
* Apple Multimedia Starter CD
* Complete instructional documentation for setup and reference

* Performa System requirements* *
* Any Macintosh Performa with a 68020 (with PMMU) microprocessor or greater running Performa system software
* At least 4MB of RAM (5MB or more recommended)
* A color display with 640 x 480 pixel resolution or greater
Published Date: Feb 19, 2012

LaserWriter: Issues About Using It with a VAX

This article has been archived and is no longer updated by Apple.

If you wish to use a LaserWriter as a spooled printer from a VAX 780, spooling PostScript files, here are some problems you may encounter:

When you connect the printer to the VAX, each PostScript file gets appended with an EOT character to reset the printer. The EOT is echoed by the printer to the VAX. The VAX sends back a BEL character, which is often in the midst of the next job's PostScript commands. The printer flags this modified command as an error and flushes the rest of the job. The reset EOT, at the end of that job, repeats the confusion.

If the EOT is omitted, the printer's Job Timeout period elapses and it sends error messages to the VAX's spooler, which further confuses it.

There is no way to suppress the printer's acknowledgement. From the PostScript Language Reference Manual: "Certain character codes serve special purposes, such as Control-D to mark end-of-file. The server performs a job by reading and executing a PostScript program from the serial channel. When it reads the end-of-file character and the program terminates, the server sends an end-of-file character, and ends the job, and starts a new one."

Q. Can the printer's timeout messages be suppressed?

A. The printer's timeout and job flush message is being generated by the LaserWriter in response to the Control-G from the spooler. The LaserWriter's PostScript command interpreter does not understand the Control-G and generates an error. And, unfortunately, the spooler does not know the printer is in a timeout/flush mode and continues to send data to the printer. Error messages from the LaserWriter are generated spontaneously and are directed to the standard output file and can not be suppressed.

Q. Is it possible to switch to and from the Diablo emulation mode via Postscript commands, or can an emulation program be download as part of a job?

A. Yes, you can change the LaserWriter into Diablo 630 mode from PostScript mode. Below is a short PostScript routine that places the LaserWriter into Diablo 630 emulation mode for the remainder of the job (until ^D is received). This is the same Diablo emulation that can be selected with the side-panel switch setting, except for one limitation: when Diablo mode is selected from software, the serial port remains sensitive to the seven control characters ^C^D^T^S^Q and CR,LF. Diablo 630 output uses some of these codes, so the potential for problems is fairly high.

The Diablo emulator has some limitations, such as portrait mode only. If you want to get landscape printing, to change the type size or lines-per-page, or to emulate some other daisywheel printer, search this database under POSTSCRIPT AND DAISYWHEEL EMULATOR to get a generalized PostScript program that provides a framework for building any daisywheel emulator.

```
--
%!
%PostScript code to call Diablo emulator from AppleTalk or serial input stream
% This code should go on the front of a Diablo file.


/doDiablo {/printpageflag false def
{statusdict begin
62 eescratch fontname
61 eescratch dup 0 eq {pop 1} if fontname
60 eescratch
59 eescratch
```

```
/diablo load
end
exec
} stopped pop
printpageflag {showpage} if
} def

/fontname {$idleTimeDict begin
dup ROMnames length ge {pop 0} if
ROMnames exch get
end
} def

doDiablo
--
```

Q. The printer is connected via a serial 9600-baud line and may be shared by PCs via either a manual switch or a "smart" Logical connection printer sharer. Is there a better way to make this connection?

A. You may want to consider using DTR for the handshake, which eliminates the need for two-way communications with the LaserWriter. This way, the spooler can neither confuse nor be confused with extra control characters. To use DTR on the LaserWriter, the LaserWriter's ROMs must be rev 2.0.

TRADEMARK NOTICE:
PostScript is a trademark of Adobe Systems Incorporated
Diablo 630 is a trademark of Xerox Corp.

Published Date: Feb 19, 2012

ABS Tech Note: DAL27 REXEC Time-outs For TCP

This Technical Note discusses session establishment timing between a DAL Client and Server using the REXEC facility of TCP/IP.
This article has been archived and is no longer updated by Apple.

REXEC daemons: function in the DAL environment

REXEC is a standard daemon used in TCP/IP environments. Its primary function is to listen for incoming requests from remote hosts and respond appropriately. Specifically for Data Access Language, REXEC is used by the various DAL Servers to establish sessions with DAL Clients. In the A/UX, VAX/VMS, and VM/CMS host environments, REXEC will respond by logging in the USERID of the client on behalf of the client. For AS/400 and MVS, a sub task is spawned as part of a main server task.

Port numbers

Each DAL Server is configured to listen for connections on a specific REXEC port number. By default, DAL uses the de-facto standard of 512. Once the server is started, it waits to receive a connection request on the specified port number. Upon receiving a request, a validation is made against the user (client) making the request using the host's security facilities. If validated, a connection is then initiated back to the client on a different port number and the session begins. The port number that the server uses to respond back to the client varies from session to session; the REXEC daemon listener port is constant (unless changed in the DAL Server's configuration and a restart of the server is performed).

Timing issues

Since there can only be one client using the services of REXEC at any given time, a request to REXEC while it is in use will result in an error. The exact codes returned to the client will vary depending upon the server and client versions and platforms. The amount of time REXEC will be busy (and thus unavailable for any other client requests) will also vary based upon server platform due to size, implementation, load factors, and so on.

In all cases, REXEC is busy starting from the time it receives a connection request until (1) The request is satisfied via establishment of a session over a different port number or, (2) The request is rejected due to authorization failure. Once the session has been established or rejected, REXEC is then free to receive a new connection request.

Published Date: Feb 19, 2012

ABS Tech Note: DAL28 HOME Key

This Technical Note describes the need when making connections with DAL Clients to DAL Servers in the IBM environment, to send a HOME key as part of the login or logoff sequence.
This article has been archived and is no longer updated by Apple.
When making connections with DAL Clients to DAL Servers in the IBM environment using 3270 (MVS/TSO, MVS/VTAM, VM/CMS) or 5250 (AS/400) datastream protocols, it may be necessary to send a HOME key as part of the login or logoff sequence. HOME is not currently implemented within DAL's connection scripts. These scripts are commonly known as 'DAL Preferences' (Macintosh System 7.x), 'hosts.cl1' (Macintosh System 6.0.x), and 'hosts.dal' (DOS/Windows clients).

It is still possible to access the field desired by using a combination of forward tab (FTAB) or backward tab (BTAB) characters. Experimentation should be done with a 'live' 3270 or 5250 session to determine the exact number of tabs required.
Published Date: Feb 19, 2012

ABS Tech Note: DAL29 UPDATE Statements and $sqlcode

When a DAL UPDATE statement is executed and does not modify any rows, $sqlcode returns 0, even though some kind of error response would be appropriate.
This article has been archived and is no longer updated by Apple.
The issue is that DAL is using dynamic SQL statements, and DBMS vendors do not return an appropriate SQLCODE to DAL under this circumstance, so there is no way for DAL to return an error.

If this information is necessary, you can check for a non-zero set of data by doing a SELECT FOR EXTRACT and checking $rowcnt to make sure it is greater than zero.

For instance, the following SQL will update no rows in the demonstration tables, but return an $sqlcode of 0:

```
UPDATE offices SET city = 'Port Ludlow' WHERE office_nr = 444;
print $sqlcode;
```

To verify whether or not this command modifies rows, the following code can be used:

```
SELECT city FROM offices WHERE office_nr = 444 FOR EXTRACT;
print $rowcnt;
```

If $rowcnt is greater than zero, then the equivalent UPDATE statement will modify rows.

This limitation may be resolved in a future release of DAL if the appropriate information is available from the host DBMS.
Published Date: Feb 19, 2012

Lisa Pascal: Printing text from a program

This article has been archived and is no longer updated by Apple.
Here is an example illustrating printing from a Pascal program:

```
program Print__Output;
var OutFile: text;

begin
Rewrite (OutFile, '-printer'); {Declare the printer as a file named OutFile}
Writeln (OutFile, 'This is a test.') {Output goes to the printer}
Close (Outfile) {Close the file "printer"}
end. {Print_Output}
```

Published Date: Feb 19, 2012

ABS Tech Note: DAL30 Error Inserting Date With Select

This tech note describes a problem with DAL and the Oracle DBMS relating to inserting dates.
This article has been archived and is no longer updated by Apple.
If you try to insert into a table using values from another table with an INSERT INTO <table> SELECT phrase, and if there's a date involved the insert will fail with an Oracle error. You can insert the same date value if you use an INSERT INTO <table> VALUES phrase. The following code shows an example:

```
set $datefmt="DDMMM YY";
set $timefmt="HHMM";
insert into table_name values ("234234", "@#$@", "12Feb 92 0901");
insert into location values ("AAAAAA", "BBBB");

insert into table_name select location.station, "BBBB", "12Feb 92 0901"
from location where location.building = "BBBB";

****Remote DAL Error****
*Primary Error: untranslated DBMS error (-10207)
*Secondary Error: (-1830)
```

This is not a DAL error, but an Oracle error, and the same error can be reproduced under SQL*Plus. You can work around this error by removing the time field and only inserting the date.
Published Date: Feb 19, 2012

ABS Tech Note: DAL31 DAM And Non-Text Data

This Technical Note is about Data Access Manager and non-data returns.
This article has been archived and is no longer updated by Apple.
When using either the high-level or low-level interfaces of the Data Access Manager, by default the text is coerced to return as text strings. There are routines that allow a programmer to install and remove their own result handlers to override this (DBInstallResultHandler, DBRemoveResultHandler, see IM VI 8-65), but if the underlying database adaptor is Data Access Language, it must also be coerced to return non-text data as well. If you don't take that step then DAL will return data to DAM as text and your own result handlers will not be called.
Published Date: Feb 19, 2012

ABS Tech Note: DAL32 Terminal Servers and DAL

This technical note discusses a problem with reliability issues when trying to connect to a DAL server through an asynchronous connection and a terminal server.
This article has been archived and is no longer updated by Apple.
When attempting to connect to a DAL server via the Asynchronous network adapter through a terminal server, you may have trouble writing connection scripts that work reliably. A common symptom is that the connection scripts work when in debugging mode, but they don't work as consistently (or at all) when in standard mode.

Some terminal servers do baud rate recognition and require two carriage returns at the beginning of the script to activate them. DAL may send those returns with too little delay for the server to recognize them. The solution is to add a short wait between the two returns by modifying the script from '\\r\\r' to '\\r\\w1\\r', which forces DAL to pause long enough for the terminal server.
Published Date: Feb 19, 2012

System 7.1.x: Foreign Language Keyboard & KCHR Resource (1/95)

How can I obtain and install the keyboard layout for French, Spanish, Italian, German, and so on in System 7.1.x?

This article has been archived and is no longer updated by Apple.
With the release of System 7.5 there is built in support for many European languages. For more informaiton search the Tech Info Library for the article titled, "Keyboard Control Panel: International Layouts (10/94)".

You can add keyboard layouts from other countries to your system by dragging keyboard resources known as a KCHRs into your System Folder.

You can extract the KCHR from the internationalized version of system software of the country you want. Using German as an example, find the German 7.1 Images on the System Software CD (part of the Developer CD series). Double click on the Deutsch 7.1.sea and download the software to your hard drive. Double click on the System suitcase, and you'll see the KCHR for German.

Once you've extracted this resource, follow these steps:

1) Drop the German KCHR file into your U.S. System File within the System Folder.
2) Choose the Keyboard Control Panel in the Apple Menu. You'll see that for Keyboard Layout, German KCHR is now one of the choices. If you highlight German KCHR, your keyboard now becomes German.
3) You can check that you're in German mode by choosing Key Caps from the Apple menu. You'll find, for example, that the "y" key now becomes the "z" key and vice versa.

For your reference, system resources of type KCHR map key codes to character codes. Each resource of type KCHR normally corresponds to a natural language, and represents the character set in which the language is written.

Another good source of information is the book called "Guide to Software Localization" which you can order through APDA.

Article Change History:
17 Jan 1995 - Added System software version and System 7.5 information.

Support Information Services
Published Date: Feb 19, 2012

Network Software Installer 1.3.2: What it Fixes

This article lists the major changes made to NSI 1.3.2.
This article has been archived and is no longer updated by Apple.

- Installs AppleTalk v58.0.2 onto PowerBook Duos. NSI 1.3 was incompatible.
- Recognizes the Centris and Quadra 800 units and installs the latest EtherTalk software. NSI 1.3 didn't install the correct EtherTalk software to the Centris and Quadra 800.
- Installs A/ROSE v1.2 which is compatible with the Macintosh IIvx, and allows use of the Ethernet NB card on the IIvx system.
- Fixes the compatibility issue between EtherTalk and DecNet tools which was broken with NSI 1.3.
- Improves the performance of built-in Ethernet for all 68040-based systems. Anyone using a Quadra should install NSI 1.3.2 for this reason.

Published Date: Feb 19, 2012

Newton MessagePad: NiCds in Alkaline Battery Holder

Can I use Nickel-Cadmium (NiCd) AAA batteries in the Newton MessagePad's alkaline battery holder in place of AAA alkaline batteries?
This article has been archived and is no longer updated by Apple.
You may be able to operate your Newton MessagePad with Nickel-Cadmium (NiCd) batteries in the alkaline battery holder. Apple, however, does not support their use and recommends that you use NiCd battery packs designed specifically for the Newton MessagePad.

If you do put NiCd batteries in the MessagePad's alkaline battery holder, each battery must have .22 Amp-hour (Ah) capacity. If you use batteries with a different capacity, the MessagePad may fail to operate and/or may suffer damage.

Alkaline and NiCd batteries function differently in the MessagePad. If you put an alkaline battery holder filled with NiCd batteries into your MessagePad, the MessagePad will treat the batteries as if they were alkaline instead of NiCd. This may cause the MessagePad to shut down more quickly.

Note: The Newton MessagePad will not recharge any batteries that are in the alkaline battery holder. Also, do not insert the alkaline battery holder (with any type of batteries) into the Newton Battery Charger. This may damage both the batteries and the charger.

EXTENDED TIL INFO - *The following information is for Apple Internal & Support Providers Only*
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LisaTest 2.2: Errors When Testing Macintosh Hard Disks

This article has been archived and is no longer updated by Apple.

Under the following situations, LisaTest 2.2 can't test a hard disk formatted for Macintosh software:

1. If a Macintosh-formatted hard disk is attached to the system when you startup LisaTest 2.2. (The system will hang.)

2. If you connect your Macintosh-formatted ProFile after booting LisaTest, and afterwards choose test ProFile. (Error message #3 is displayed.)

Two later releases of LisaTest fix this problem:

1. LisaTest Version 3.0, which can test Macintosh-formatted hard disks.

2. Macintosh XL/Lisa Modification Test Version 1.0, which can test Macintosh-formatted hard disks and contains the square pixel screen driver for use on those Lisas or Macintosh XLs that have the Macintosh XL Screen Kit installed in them.

Published Date: Feb 19, 2012

PowerBook Duo Dock and Ethernet Problem

I am having a network problem. The network is a star network controlled by Farallon's StarLet. The network contains a Macintosh Quadra 800, a Macintosh Quadra 950, and three PowerBook Duo 230 computers with Duo Dock, each has Apple Ethernet cards.

The network works properly over LocalTalk, but after selecting Ethernet the StarLet control LEDs indicate collisions related to the Duo Docks. All of the Ethernet cards are from Apple. The cards in the Duo Docks were tested in a Quadra and seem to work properly.
This article has been archived and is no longer updated by Apple.
The problem is most likely caused by the presence of AutoRemounter 1.0 in the Control Panels folder of the PowerBook Duo computers. If this software is removed, does the problem persist? (The software needs to be removed, turning it off does not help.) If this resolves the problem, please ask the customer to not re-install the software. The customer should consider upgrading system software to a newer version, which would include a newer version of AutoRemounter that resolves the problem.
Published Date: Feb 19, 2012

Express Modem: Latin America Compatible (9/93)

Article Created: 3 September 1993

I read the back of an Express Modem Specifications sheet and it states that it's compatible with MOST South American countries. Why isn't it compatible with all South American countries?

This article has been archived and is no longer updated by Apple.

```
The Express Modem is compatible throughout Latin America. Fortunately, the
telephone systems in Latin America are compatible with each other.  The
other bit of good news is that if a product receives FCC approval it is
automatically approved in the Latin American countries.
```

Published Date: Feb 19, 2012

Hebrew Font: Characters Appear As Squares

When booting from the Hebrew Installation disk #1, the Hebrew font isn't properly loaded and all of the characters appear as squares.
This article has been archived and is no longer updated by Apple.
This is a known issue, however the workaround is very easy. It requires that you lock the installation disk before booting the system. If the disk isn't locked, the fonts aren't loaded properly and the font defaults to Geneva. The Hebrew characters map to the square character in Geneva.

Note: The disk may be corrupted. If you created the disks from the Developer CD, just recreate the disk and be sure to lock it before booting.
Published Date: Feb 19, 2012

PhotoGrade: Requirements for Increased Resolution (9/93)

Article Created: 1 September 1993

I thought the LaserWriter IIf and IIg printed images using PhotoGrade at a much higher resolution. I'm not seeing a difference.

This article has been archived and is no longer updated by Apple. PhotoGrade is available on the LaserWriter IIf and IIg, but must be enabled by setting the Color/Grayscale radio button in the "Print" dialog.

Also, PhotoGrade requires quite a bit of memory to print large, high quality images. Increase the RAM in the IIf and IIg.

Use the LaserWriter Utility that ships on a disk with the IIf and IIg to adjust the PhotoGrade settings for more levels of gray, or higher resolution.

Finally, some applications don't automatically use Photograde, and must be set to do so. When possible, set the default to "Use printer's settings," to allow the IIg to set the line screen and use Photograde. If the line screen must be set manually, set it to 106 lpi (the default for the IIg).

Published Date: Feb 19, 2012

Windows 3.x: Accessing Apple LaserWriters (4/96)

How do I access Apple LaserWriters from a PC running Windows 3.x?

This article has been archived and is no longer updated by Apple.

Windows ships with a basic PostScript driver upon which sit individual vendors' Windows Printer Description (WPD) files to support custom features of specific printers. Users wishing to access Apple printers via Windows should acquire the latest driver from Microsoft.

The WPD for the LaserWriter IINTX will support basic printing services for the IINT, IINTX, IIf, and IIg. There are problems with the NTR, but it may work in some situations. There's no support under the IINTX WPD for custom features on the IIf and IIg, like FinePrint and PhotoGrade. The LaserWriter IINTX WPD is available from Microsoft through a variety of sources, including their CompuServe forum.

Beginning with the LaserWriter Pro and Select series, Apple offers more support for Windows users. Unlike LaserWriters in the II series, the Pro and Select ship with a floppy disk specifically for Windows 3.x users. It contains new WPD files for the Pro and Select series, and a crude LaserWriter Utility which will allow power users to gain control of custom features such as FinePrint, PhotoGrade, 600dpi, and so on.

All of this comes with a strict caveat from Apple: do not use non-standard or non-commercial Windows applications when using Apple LaserWriters.

Article Change History:

22 Apr 1996 - Removed incorrect information.

09 Mar 1994 - Verified information

Published Date: Feb 19, 2012

Control Panel: Fixing Abnormal Icons

My Control Panel icons look strange, where they used to have some design to them, they now appear generic.

This article has been archived and is no longer updated by Apple.

You should be able to recover the icons by rebuilding the desktop by holding down the Command and Option keys at startup. You will see a dialog box asking if you want to rebuild the desktop, select yes and it will preform the operation and continue the boot process.

If this doesn't fix the problem, delete the invisible Desktop DB and Desktop DF files from the hard drive. The easiest way to do this is to use a disk utility program to make these files visible, then drag them to the trash.

Article Change History:
11 Nov 1994 - Reviewed for technical accuracy.

Support Information Services
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LisaGraph: Coefficient of Determination

This article has been archived and is no longer updated by Apple.
In the LisaGraph 7/7manual, the bottom paragraph on page 82 states:

"Lisa places a number near the end point of the line on the right side of the chart, called the correlation coefficient or confidence factor (r-squared)."

This value placed at the end of the regression line is actually the r-square value or the coefficient of determination.
Published Date: Feb 19, 2012

AppleTalk Packet Analyzer: Watch (9/93)

Article Created: 1 September 1993

I need to analyze packets on my AppleTalk network. Are there any shareware options for this?

This article has been archived and is no longer updated by Apple.
Watch is a freeware (copyrighted, but free to distribute) utility from Cayman Systems.

You can find it on AppleLink following this path:

Software Sampler
3rd Party Demos/Updates
Software Updates
Companies A-D
Cayman Systems

To locate a vendor's address and phone numbers, use the vendor name as a search string.

Published Date: Feb 19, 2012

System File: What Increases Size Under System 6 and 7 (9/93)

Article Created: 1 September 1993

When I choose "About this Macintosh..." from the Finder, it says the System is 4 megabytes or larger. Why is the System so big?

This article has been archived and is no longer updated by Apple.
The System can get big, but unless you have a large number of fonts it should never be larger than 3MB under System 7, and much less than that under System 6. There are several reasons the system will appear to grow. Here are the most common ones.

System 6

System 6 acts differently from System 7 in that its RAM heap is a fixed resource which needs to be constantly managed if you have many INITs and/or fonts installed. HeapFixer from CE Software is a simple utility which allows setting the System 6 heap size. The basic rule under System 6 was to keep the System showing 25% free (that is, white) space in the "About this Macintosh..." dialog.

These are the contributors to System File size under System 6:

* Fonts and INITs - both contribute to System memory requirements.
* Bit mode - System 6 is a 24-bit operating system. This means that unless a System 6 Macintosh has a third-party INIT enabling 32-bit addressing (such as Maxima from Connectix), all installed physical RAM over 8MB will show up as additional System memory.

System 7

Under System 7, the operating system maintains more extensive guards against running out of memory. Basically, the Cache (configured in the Memory Control Panel) controls how much space to allocate to the System. Memory management was improved under System 7, and users no longer need to worry about the "25% free space" concept. The System will typically take up 95-99% of its allocation, leaving only a small bit of white space in the "About this Macintosh..." graphic. This is nothing to worry about. If you get messages that you need more memory, then you can allocate more in the form of Cache, or you should consider adding more RAM if there's none available for additional Cache.

Here are the factors that contribute to a large System File size under System 7:

* Fonts - Previous to version 7.1, each installed font drove the system's RAM requirements up.
* Cache - The amount of RAM Cache allocated in the Memory control panel is included in the overall figure for System RAM requirements. To correct: set the Cache to 256K or less, and restart.
* Extensions - Each extension obtains its own amount of RAM and contributes to a large System RAM requirement.
* Bit mode - if the Macintosh has more than 8MB of physical RAM installed and is set to run in 24-bit mode (under the Memory Control Panel), then the excess over 8MB shows up as System memory. To correct: set the Macintosh to run in 32-bit mode.
* RAM Disk - Macintosh computers supporting the Apple RAM Disk (Quadras and later) can create a RAM disk using a portion of their installed physical RAM. All RAM used in the RAM Disk shows up as System memory in the "About this Macintosh.." dialog.

Published Date: Feb 19, 2012

WorldScript: Using Without Localized Operating System

With WorldScript and system software 7.1 can you use localized Japanese versions of the software without having to run the localized version of the operating system, and use WorldScript-aware applications with the Japanese fonts?

Also, is there a list of current localized Japanese and WorldScript-aware Applications?
This article has been archived and is no longer updated by Apple.
Yes, you can use localized Japanese versions of software without a localized operating system, but only if you have the Japanese Language Kit installed. It provides the ability to input Japanese text into localized or WorldScript-aware applications.

The Japanese Language Kit is basically installed on top of an existing System 7.1 system. If the existing system is the U.S. version of System 7.1, then the primary script (what language the system boots from and displays -- for instance, the menu bar) is English. But you can now launch Japanese versions of applications and input Japanese characters just as if they were running on a localized system.

You can also use WorldScript-aware applications with the Japanese fonts, if they have the Japanese Language Kit installed.

You can find a list of current localized Japanese and Worldscript-aware software in the Tech Info Library under "Japanese Language Kit: Overview". The article includes the compatibility list.
Published Date: Feb 19, 2012

At Ease 2.0: Setting Up For Users

This article describes how to configure At Ease 2.0 for users, including how to turn it on, how to set an administrator password, and how to register users.
This article has been archived and is no longer updated by Apple.
The At Ease Administrator sets up the At Ease 2.0 system for users and establishes the access privileges each will have. The administrator should follow these directions to get At Ease 2.0 ready for use (it is important to follow the steps in order):

TURNING ON AT EASE 2.0
==========

When you first turn on your computer, At Ease is turned off. (This is true even if your copy of At Ease was factory-installed.) To turn it on:

Step 1

Double-click the hard drive icon on the upper-right side of the screen.

Step 2

Double-click the At Ease Setup icon.

Step 3

Click the On button in the At Ease Setup window.

SETTING AN ADMINISTRATOR PASSWORD
==========

The administrator should set his or her own password so that no one else can access the At Ease Setup program to change access privileges.

Step 1

Choose Administrator Password from the Options menu.

Step 2

Type the password of your choice in the top box. The password can be up to 15 characters. Dots will appear in place of the letters you type to keep the password confidential from people who might be within reading distance of your screen.

Step 3

Retype the password in the second box to confirm it.

Step 4

Type a clue in the large text box. This is optional, but may help you remember your password in the future. It will always be shown when you are asked for the administrator password. Your clue may be up to 63 characters.

Step 5

Click OK.

REGISTERING USERS
==========

Each person who will use the Macintosh should be registered in the At Ease Setup program. You can register up to ten users, each with different access privileges.

Adding a User
==========

Step 1

Click the New button in the At Ease Setup window. The New User window will appear.

Step 2

Type the user's name in the uppermost box.

Adding A Password

Type a password in the second box (optional). Be sure to inform the user of his or her password. All users can change their passwords later if they want to.

Choosing At Ease or the Finder

Step 1

Determine the user's needs and choose whether the user will use At Ease or the Finder. If you choose "Stay in At Ease," skip to step 6.

Step 2

If you chose "Switch to Finder," that user will not be able to use At Ease. Click Done and you will be returned to the At Ease setup screen.

Step 3

Click the Next button to continue registering the user.

Establishing Access Privileges to Programs and Documents

Step 1

Click the Add Applications button. At Ease will search for all application programs on your hard drive on the left, and all of the applications listed for access by this user on the right. (If this is the first time you have set access privileges for this user, the right window will be empty.)

Step 2

In the Add Applications window, select any programs you want this user to have access to. Click Add.

Step 3

When you are done, click OK.

Step 4

To give the user access to other items, such as documents, click the Find Items button.

Step 5

Type all or part of the item's name.

Step 6

Click Finder. The item will show up in the right window.

Step 7

Click Add to add the item to the users list of accessible items.

Step 8

Click OK, then Click Next.

Customizing At Ease Menus

Step 1

If you want the user to see limited, basic menus, leave the Minimal button selected. Minimal limits the commands available to things like Open, Close, Quit and Restart.

Note: Minimal users will not be able to see the Chooser in the Apple menu.

Step 2

If you want the user to have access to all At Ease commands, click the All button. This allows users to perform such tasks as renaming and deleting files, copying files to and from floppy disks and changing Views.

Activating Text-To-Speech

You can have At Ease speak the names of buttons when the pointer passes over them. This is a handy feature for non-readers or people with vision difficulties.

Step 1

To activate text-to-speech, click the "Speak button names" button under Speech.

Step 2

Click Next.

Assigning a Location for Opening and Saving

* Anywhere -- The user can use his or her discretion and save files anywhere on the computer. This limits the administrator's ability to control file management and limits other users' privacy.

* Only in user's folder -- Keeps all the user's documents in one place and limits disk clutter elsewhere.

* Only on floppy -- A good idea if many people are saving many items and could quickly fill up disk space. This gives the administrator complete control over the arrangement and content of the hard disk. However, users will miss the convenience of keeping items stored in one place.

Access to the Finder

Some users who are more familiar with the Macintosh might want access to the Finder. Such access can be made available through At Ease.

Step 1

Click "Allow access to Finder." This is different from choosing the Finder as a startup environment. In this case, the user will start in At Ease but be free to switch to the Finder when he or she wants.

Note: The administrator should always check this if he or she chose At Ease as a startup environment while registering himself or herself.

Step 2

Click Done.

Step 3

Select Quit from the File menu when you finish registering users.

Removing Users

If you decide to remove users from At Ease, follow these steps:

Step 1

Open At Ease Setup. You will be asked for your administrator password.

Step 2

Select the name of the user you want to remove.

Step 3

Click Remove.

Changing Access Privileges

If you decide to adjust the privileges of any of the At Ease users:

Step 1

Open At Ease Setup.

Step 2

Click the name of the user whose privileges you want to change.

Step 3

Click Open.

Step 4

Click Add Applications.

Step 5

Click the Applications you want to remove or add.

Step 6

Click Add or Remove.

Step 7

Click Find Items if you want to change privileges on certain documents.

Step 8

Click the items you want to add or remove.

Step 9

Click Add or Remove.

Step 10

Click OK.

Published Date: Feb 19, 2012

A/UX and TCP/IP Client Delays (9/93)

Article Created: 2 September 1993

On A/UX when running any kind of TCP/IP client like ping, ftp, telnet, and so on, A/UX sits for two minutes before proceeding. Other UNIX computers can ping the A/UX computer with no delay.

This article has been archived and is no longer updated by Apple.
This can happen if the loop back address is not in the /etc/hosts file.
Ensure the file contains the following line (all 4 aliases are required):

127.0.0.1 loop lo loo localhost

Restart the computer and it should work as expected.

Published Date: Feb 19, 2012

At Ease 2.0: Basic Use Tips

This article discusses the basic day-to-day use of At Ease 2.0, including switching between panels, paging through, opening programs and documents, saving, and changing your password.
This article has been archived and is no longer updated by Apple.
After you have installed and configured At Ease 2.0 for users, you are ready to begin using it. When you start up in the At Ease environment, you will see the At Ease desktop, which looks like two manila folders (called panels), one on top of the other. One of the panels is titled At Ease Items, and the other is titled User Items (or the name of the user who had logged on).

Each of the panels has buttons on it representing applications or documents. The menu commands you can see will vary depending on what access privileges you were assigned by the administrator.

Switching Between Panels

To switch between the At Ease Items panel and your panel, just use the mouse to click the tab where the name of that panel appears.

Paging Through

If you can't see the item you want on the panel where you expect it to be, it is probably on a different page. At Ease supplies extra pages for buttons when you fill the first page and need more space.

The number of the page you are on, as well as how many total pages compose the panel you are looking at, appears at the bottom of the panel. You will also see upturned page corners on one or both of the bottom corners of the panel, indicating there are additional panels to be seen.

To move between pages:

1) Click the left corner to go to the previous page, or click the right corner to go to the next page.

2) To go to a specific page, hold down the Command (Apple) key and type the number of the page you want.

Opening Programs and Documents

To open either a program or a document, use the mouse to move the pointer to the button you want and click once. The desktop will disappear and you will see the window of the application or document you chose.

Saving Documents

When you save a new document, your choice of where to save it is determined by how the administrator set up your user registration. There are three possibilities, and you may need to check with your administrator to be certain which applies to you.

The three settings are:

* Anywhere -- Allows you to save documents anywhere on the hard disk or on a floppy. When you choose Save or Save As, you are presented with a dialog box that lets you select the location you wish.

* Only in user's folder -- Allows you to save documents only in your own folder. When you choose Save or Save As, the dialog box presented lets you save directly to your folder. You can also create new folders within your folder.

* Only on floppy disk -- Prevents you from saving documents to anything but a floppy disk. When you choose Save or Save As, you are prompted to insert a floppy disk unless one is already in the drive.

Changing Your Password

You may want to change the password the administrator gave you when you were registered. Here's how:

1) Start the Macintosh.

2) Click the Change button in the Password window that appears.

3) Type your old password in the upper box, then type your new password in the box below it. Type it again in the third box to confirm it. (Dots will appear in place of letters as you type, so people nearby can't see your password.)

4) Click OK.
Published Date: Feb 19, 2012

AWS 95: Volume and Finder File Limit (10/93)

I have an Apple Workgroup Server (AWS) 95. I want to know if I can use a hard disk larger than 2GB, and if the 32,000 file limit for the Finder in Macintosh OS applies to the Finder environment under A/UX? If I have four separate UFS partitions on a drive, and mount them all into folders in the Shared Data folder, can each one have 32,000 files, and still be viewable from the Finder environment?

This article has been archived and is no longer updated by Apple.

System Volume Limit

Since the AWS 95 uses A/UX it also has a 2GB file system limit, however, you could have several UNIX file systems mounted to get around some of the limitations of the Finder's 2GB limit. The Finder based AppleShare clients can not. What this means is that in order to use larger volumes on the AWS 95 you must share partitions of less than 2GB as separate AppleShare Volumes. Following is an example to help explain:

You could have A/UX and AppleShare Pro running on a 400 MB partition and mount a couple of partitions of about 2GB in size. Although the total size of disk space available is more than 2GB, A/UX deals with each UNIX mounted disk as a separate volume, therefore not running into the 2GB limitation. Do not share the parent directory of the mount points, share each one of the mount points separately.

Finder File Limit

For clarification, the maximum number of files and folders on a Macintosh HFS volume is 65,535 while the maximum number of files in a folder is 32,768. Remember these numbers are maximums under specific conditions, not for a practical implementation.

For the server client, the HFS limits for number of files to a folder still apply when sharing a UNIX volume, no more than 32,768 files should be present in a single directory (folder). We recommend 500 or less as the practical maximum.

On an AWS 95 with the Finder running in the Macintosh process under A/UX, the same limits for number of files to a folder still apply as the native Macintosh Finder. No directory may contain more than 32,768 files, however once again we recommend 500 files or less as the practical maximum.

Article Change History:
26 Oct 1993 - Included information on volume size limit.

Published Date: Feb 19, 2012

Anchor Signalman Express modem: Using it with all Apples

This article has been archived and is no longer updated by Apple.
Modem type:
AT&T 103/212A series, 1200/300 bps.

Instruction set used:
Fully HAYES compatible.

Hardware configuration:
Eight LED indicators on front panel give modem and data status. Internal back-up battery provides RAM power for auto-dial number storage in memory. Modem runs off of external +12V plug in power supply. Built-in speaker with front panel volume control is used to monitor operation and diagnostics.

Software configuration:
Microprocessor controlled intelligent modem with number storage, auto-dial and auto-answer functions.

Interface type:
RS-232 DB-25S (DCE) connector, full duplex operation.

Modem interface packages, by computer:

Apple IIe (Super Serial card):
Access II or other terminal software; straight through DB-25 cable interface (with serial card configured as DTE equipment) for hardware connection.

Apple IIc:
Access II or other terminal software; Apple IIc to Imagewriter cable with modem eliminator cable for hardware connection.

Apple III:
Access III or other terminal software; straight through DB-25 cable for hardware connection.

Macintosh:
MacTerm or other terminal software; Macintosh to Imagewriter cable with modem eliminator cable for hardware connection.

Macintosh XL:
MacTerm or other terminal software; straight through DB-25 cable for hardware connection.
Published Date: Feb 19, 2012

At Ease 2.0: Menus, Commands and Shortcuts

This article discusses:
* the location and function of At Ease menus and commands
* keyboard equivalents for menu commands.
This article has been archived and is no longer updated by Apple.

INTRODUCTION

The menus are located in a bar across the top of the screen.

Depending on what menus were selected for you when you were registered to use At Ease, you will either have minimal menus or full menus.

* Minimal menus contain the only commands that are always available in almost any situation, like Close, Quit, and Restart. They do not include the ones marked "optional" in the following list.

* Full menus include all of the commands discussed here.

The keyboard equivalents allow you to execute the commands without pulling down menus. They require that you hold down the indicated keys simultaneously.

(In this article, the key used to activate keyboard equivalents is called the Apple key because the keycap is labeled with the Apple logo. It is sometimes referred to as the Command key.)

THE FILE MENU

If you have access to full menus, you will see a menu with ten items in it. If you have access to minimal menus, you will see a menu with two items, Close and Quit.

New Folder (optional)
---
* Keyboard Shortcut: Apple-key, N

This command allows you to create new folders on your user panel. After a new folder is created, you can save new documents to it, but you can't move any documents that were previously created into the new folder.

To create a new folder:

1) If necessary, click the tab of your user panel to bring it to the foreground.

2) Choose New Folder from the File menu.

3) Type in a name for the new folder, then click New Folder. A button for the new folder will appear on your user panel.

Open Other (optional)
---
* Keyboard Shortcut: Apple-key, O

This command allows you to open programs or documents. If you have access privileges to open items anywhere, you can open any item on any disk using this command. If not, this command lets you open only those items on your user panel.

To open an item:

1) Choose Open Other from the File menu.

2) If necessary, use the pop-up menu (above the window with the list of items) to move to a different level or a different disk.

3) Click on the item you want to open, then click Open. The Open Other screen disappears and the window of the selected item appears.

Close
---
* Keyboard Shortcut: Apple-key, W

This command allows you to close any window that is currently open. It does not close the At Ease Items panel or the User Items panel.

Rename (optional)
---
* Keyboard Shortcut: Apple-key, R

This command allows you to rename any document or folder on your user panel.

1) If necessary, click the tab of the user panel to bring it to the foreground.

2) Choose Rename from the File menu.

3) Click on the item you want to rename, then click Rename.

4) Type a new name for the item in the text box, then click Rename.

Delete (optional)
---
* Keyboard Shortcut: Apple-key, D

This command allows you to delete any document or folder on your user panel. Deleting a folder also deletes its contents permanently.

To delete an item:

1) If necessary, click the tab of the user panel to bring it to the foreground.

2) Choose Delete from the File menu.

3) Select the item you want to delete by clicking on it.

4) Click Delete.

5) To permanently delete the item, click delete again.

Get Info (optional)
---
* Keyboard Shortcut: Apple-key, I

This command give you information about any item on either At Ease panel. To get information about an item:

1) Click the tab of the panel that contains the item you want information
about.

2) Choose Get Info from the File menu.

3) Select the item you want information about by clicking it, then click Get Info. An information box appears for you to read.

4) Click OK when you're done reviewing the information.

Find (optional)
---
* Keyboard Shortcut: Apple-key, F

This command helps you find items on either At Ease panel. To find an item:

1) Choose Find from the File menu.

2) Type the name (or part of the name) of the item you're looking for in the text box. Be sure, if you type the whole name, to type it exactly, including spaces and punctuation.

3) Click Find.

4) Select the name of the item you're looking for from the list shown. Information about the item will appear below it, and the Go To button will become active.

5) Click Go To, and the Find screen disappears. You will see the panel where the item is located, and its button will flash.

Copy to Floppy (optional)
---
* No Keyboard Shortcut

This command allows you to copy items from your user panel onto a floppy disk. To copy onto a floppy disk:

1) If necessary, click the tab of the user panel to bring it to the foreground.

2) Choose Copy to Floppy from the File menu. If there is not a floppy disk in the drive, At Ease will prompt you to insert one.

3) Select the item you want to copy. To select more than one item, hold down the shift key while you click each name.

4) Click Copy. At Ease will show you the progress of the copying process. When the message disappears, the process is complete.

Copy From Floppy (optional)
---
* No Keyboard Shortcut

This command allows you to copy items from a floppy disk onto your user panel.

To copy from a floppy disk:

1) If necessary, click the tab of the user panel to bring it to the foreground.

2) Choose Copy From Floppy from the File menu.

3) Select the item or items you want to copy.

4) Click Copy. A message appears showing the progress of the copying process. When the message disappears, the process is complete.

Quit
---
* Keyboard Shortcut: Apple-key, Q

This command returns you to the At Ease Welcome screen. From there you can shut down the computer, or another user can start up with At Ease. (If there is only one At Ease user, this command does not appear.)

THE EDIT MENU
---
* Keyboard Shortcuts:
Undo: ..... Apple-key, Z
Cut: ..... Apple-key, X
Copy: ..... Apple-key, C
Paste: ..... Apple-key, V
Select All: ... Apple-key, A

All users see the same Edit menu commands. The commands work the same as those in an application's Edit menu. They are available when you have selected a command that asks you to enter text (such as Rename or Find in the File menu).

THE VIEW MENU
---
* No Keyboard Shortcuts

You will only have access to the View commands if you have full menu access privileges. These commands let you change the way items on either At Ease panel are organized. To change your view:

1) Click the tab of the panel whose organization you want to change.

2) Choose a view from the view menu. There are four options:

* By Name -- organizes the items alphabetically.

* By Size -- organizes the items according to size, starting with the largest. When the pointer moves over an item in the View By Size mode, the item's size is displayed below its name.

* By Kind -- organizes the items in alphabetical order by category (application, document, etc.). Also documents are organized by the application in which they were created. When the pointer moves over an item in the View By Kind mode, the item's kind is displayed below its name.

* By Date -- organizes items by the date they were last modified, starting with the most recent. When the pointer moves over an item in the View By Date mode, the date the item was last modified is displayed below its name.

THE SPECIAL MENU

What commands you may see depends on your menu access privileges.

Turn Sound Off
---
* No Keyboard Shortcut

This command lets you turn off the sounds At Ease makes when executing tasks like turning a page, clicking a button, etc. When you select Turn Sound Off, the menu command becomes Turn Sound On.

Eject Disk
---
* Keyboard Shortcut: Apple-key, E

This command lets you eject a floppy disk. If there is more than one disk present, you will see a list of disks to choose from. If there is only one disk, the command will read "Eject <disk name>".

Go To At Ease Setup (may require a password)
---
* No Keyboard Shortcut

This command takes you to the At Ease Setup program, where access privileges can be set. If the At Ease owner has set an administrator password, you will need to enter it to gain access.

Go To Finder (optional)
---
* No Keyboard Shortcut

This command is available if you have the access privileges to switch to the Finder. Choosing this command brings the Finder forward; At Ease will still be running in the background. You can go back to At Ease by selecting Go To AT Ease from the File menu of the Finder.

Restart
---
* No Keyboard Shortcut

This command restarts the computer. Any floppy disks are ejected in this process, and applications are automatically quit. The first thing you will see when the computer restarts is the At Ease welcome screen.

Shut Down
---
* No Keyboard Shortcut

This command shuts down the computer so that it is safe to switch off the power. Any disks are ejected and applications quit.
Published Date: Feb 19, 2012

PostScript Printer Description Files: Naming Rules (9/94)

What is the syntax or rules, if any, for properly naming PostScript Printer Description (PPD) files so they work properly with LaserWriter driver 8.0?

This article has been archived and is no longer updated by Apple.
There really is no "standard" for naming PPD files. If there are any naming conventions required for the files, those conventions will be application specific. For example, PageMaker 4.2a requires that the PPD filename end with ".PPD" and is located in a specific folder within the System Folder.

With regard to LaserWriter driver 8.0, all PPD files will work with the driver regardless of their name. Generally speaking, PPD files are named after the printer model name stored in the printer's ROMs. If the PPD files are named something different, those files will still work fine since the driver looks at the contents of the PPD file. The only possible loss of functionality in this case would be with the "Auto Setup" feature.

With "Auto Setup," LaserWriter driver 8.0 first queries the printer for its Model Name and PostScript ROM version stored in its ROMs. It then takes this information and looks for an associated PPD file with either of the following criteria:

* PPD filename matches Model Name exactly (that is, Apple LaserWriter IIf)
* PPD filename matches Model Name with version (in other words, Apple LaserWriter IIf v2010.113)

If either of the above criteria are not met, then the driver asks to manually select the PPD. Once selected, the PPD file will work fine. Again, unless the application using the PPD file has specific requirements for PPD filenames, it really is the contents of the file that's most important.

Article Change History:
01 Sep 1994 - Reviewed for accuracy.

Support Information Services

Published Date: Feb 19, 2012

LW Driver 8.0: Different Printer Icons In The Chooser

When using the LaserWriter Driver 8.0, (to select a printer in the Chooser) I noticed that there are several different printer icons that appear in the Chooser. What do these icons represent?
This article has been archived and is no longer updated by Apple.
There are a total of four different icons that can appear when selecting a printer using the LaserWriter 8.0 driver.

1. The standard icon resembles a black and white laser printer with a piece of paper containing two ampersands emerging from the printer. This icon is displayed whenever a black and white PostScript printer with a resolution less than or equal to 600 DPI is selected.

2. If a color printer is chosen then the two ampersands are replaced by a piece of paper with a rainbow of colors on it.

3. A small magnifying glass appears whenever the chosen printer has a print resolution exceeding 600 DPI.

4. If a print spooler is chosen, then an icon representing a spool of thread will be displayed.
Published Date: Feb 19, 2012

LaserWriter Driver 7.2 & Earlier: Helvetica Font Bug

When using Helvetica bold underline, the underline only goes under about three quarters of the word or sentence. The underline command works fine with plain Helvetica, but not when you bold. I have reinstalled the fonts and the problem still exists.
This article has been archived and is no longer updated by Apple.
There is a known bug in previous versions of the LaserWriter driver (version 7.2 or earlier) where the problem outlined can occur. The problem is due to how the driver calculates the underlining as opposed to how the application calculates it.

This problem has been fixed in LaserWriter driver version 8.0. Try using this version of the driver.
Published Date: Feb 19, 2012

XTND: DataViz Translator Compatibility (9/93)

Article Created: 2 September 1993

Who supports XTND? Are DataViz translators compatible with XTND?

This article has been archived and is no longer updated by Apple.
Claris supports XTND in all Claris applications.

Most, but not all DataViz translators are XTND compatible. Call DataViz for more information on compatibility questions about their translators with XTND.

Published Date: Feb 19, 2012

AppleShare Print Server: Prevent Error Page Printing

I'm using AppleShare File and Print Server 3.0.2 and I'm having the following problem with the print server. Every time a print job is canceled or an error occurs, a report is printed notifying me the job has been canceled or there has been an error. This is no problem on a printer with ordinary paper, but it is a problem on a printer with film because it wastes film.

Is it possible to change the print server in someway to disable this feature?
This article has been archived and is no longer updated by Apple.
Here is how to prevent Error pages from printing on all printers captured by the AppleShare Print Server.

1) Using ResEdit open the AppleShare Print Server.
2) Open the "EXOP" resource.
3) Open the resource ID 128.
4) Change the first four zeros to ones.
5) Quit ResEdit and Save the changes.
Published Date: Feb 19, 2012

Express Modem Software: Using with Fax/Data Modem (4/95)

This information only applies to PowerBook Fax/Data Modem (2400 bps) users.

This article has been archived and is no longer updated by Apple.

Using the Express Modem software with the PowerBook Fax/Data Modem requires that the Serial Tool be installed in the Extensions folder.

The Serial Tool is installed in one of two ways:

* If you already have the older Fax Sender software installed on your system, the Serial Tool will remain on your system after installing the new Express Modem software.

* You can manually drag the Serial Tool into your Extensions folder.

These articles can help you locate software updates mentioned here:

* Where To Find Apple Software Updates
Lists online services for "free" Apple software updates.

* Obtaining Apple Product Support in the USA
Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech Info Library.

Article Change History:
24 Apr 1995 - Added info on where to find software updates online.

Support Information Services
Published Date: Feb 19, 2012

OneScanner w/Accessory Kit for Windows: Kits Contents (9/93)

Article Created: 9 September 1993

I have a question regarding the prices pages for the Apple OneScanner w/Accessory Kit for Windows. The description of the product says that it "Requires appropriate cables. Includes Apple OneScanner (C0187LL/A) w/Accessory Kit (C0217LL/A)."

I thought a cable shipped with the accessory kit? If it doesn't, what does "Requires appropriate cables" mean? Does Apple make the appropriate cables and if we do what is the part number?

This article has been archived and is no longer updated by Apple.
The comment "Requires appropriate SCSI cables is ambiguous and applies only to the Macintosh bundle. We've requested the Price Pages be reworded to more accurately represent what the accessory kits contain.

B0634LL/A The Apple OneScanner w/Accessory Kit (for Windows¬) includes:

- documentation & software
- SCSI I/F Card, cable & terminator

B0634LL/C The Apple OneScanner w/Accessory Kit (this is the Macintosh bundle) includes:

- documentation & software

Published Date: Feb 19, 2012

Applications: Japanese Localized Versions

Where I can purchase Japanese localized versions of the software without having to go to Tokyo. We're looking for Lotus 1-2-3 1.1J , Claris MacWrite II/Pro J, and Microsoft ExcelJ.
This article has been archived and is no longer updated by Apple.
You can purchase Japanese localized versions of application software through any authorized Kanji Reseller.

You can find a list of authorized Kanji Resellers in the Tech Info Library. Search under "Kanji" and "Reseller".
Published Date: Feb 19, 2012

Macintosh AV Systems: Source for Stereo Y-Adapter

What do I need to connect my Macintosh AV system to a stereo system?
This article has been archived and is no longer updated by Apple.
The Macintosh AV system computers (Quadra 840AV, Centris 660AV, and Power Macintosh with AV card) can record stereo audio to a hard disk from most audio sources such as VCRs, televisions, amplifiers, and CD, LP, and cassette players by directly connecting their sound out cables to the computer. The sound files stored on the hard drive can then be edited by using software on the computer.

Stereo audio input for the Macintosh AV computers requires a "Stereo-Y-Adapter" to connect the two RCA plugs (commonly used in audio equipment) to the 3.5mm stereo mini-jack on the rear of the Macintosh (indicated by the microphone icon).

Apple does not offer this adapter with the Macintosh AV system computers. A similar adapter (mono only) was included with previous Macintosh computers.

Functional adapters are available from electronics stores and hi-fi retailers nationwide.

The following information is for Apple Internal & Support Providers Only

Published Date: Feb 19, 2012

PowerBook 145B Plus Pack: Description (6/96)

This article describes the Apple PowerBook 145B Plus Pack.

This article has been archived and is no longer updated by Apple.

The Apple PowerBook 145B Plus Pack is a Apple PowerBook 145B computer bundled with a Global Village PowerPort Bronze internal fax/data modem and additional software.

The Global Village PowerPort Bronze modem can send fax documents at 9,600-bps and can receive fax documents at 4,800-bps. It can send/receive data at 2,400-bps.

The Plus Pack also includes the following application and communications software:

Applications

Aldus TouchBase Pro

Aldus DateBook Pro

Macintosh PC Exchange

Communication Software

ZTerm data send/receive software

Global Village fax send/receive software

AppleLink Online Services *

* on-line services require usage fees, see documentation for details

Article Change History -

05 Jun 1996 - Corrected minor typographical error.

03 Dec 1993 - Corrected fax receive speed for the PowerPort Bronze Modem.

TA30121_PowerBook_145B_Plus_Pack_Description_(696)_(TIL13209).pdf

Published Date: Feb 19, 2012

Anderson Jacobson AJ 1212-AD1 modem: Using it with all Apples

This article describes the Anderson Jacobson AJ 1212-AD1 modem and how it can be used with a variety of Apple computers.

This article has been archived and is no longer updated by Apple.
Modem type:
AT&T 103/212A series; 1200, 0-300 bps.

Instruction set used:
Proprietary Anderson Jacobson command control structure.

Hardware configuration:

Eight LED indicators and six switches on front panel give modem/data status and control modem fuctions and tests. Modem runs off of external plug-in power supply. Non-volatile memory retains stored numbers and configuration data. Built-in speaker is used to monitor operation and diagnostics.

Software configuration:

Microprocessor-controlled intelligent modem with stored number, auto-dial, and auto-answer functions.

Interface type:

RS-232 DB-25S (DCE) connector, full or half duplex operation.

Modem interface packages, by computer:

Apple IIe (Super Serial card):

Access II or other terminal software; straight through DB-25 cable interface (with serial card configured as DTE equipment) for hardware connection.

Apple IIc:

Access II or other terminal software; Apple IIc to Imagewriter cable with modem eliminator cable for hardware connection.

Apple III:

Access III or other terminal software; straight through DB-25 cable for hardware connection.

Macintosh:

MacTerm or other terminal software; Macintosh to Imagewriter cable with modem eliminator cable for hardware connection.

Macintosh XL:

MacTerm or other terminal software; straight through DB-25 cable for hardware connection.

NOTE: Pull-down functions of MacTerm will not work, since they're Hayes
instruction set commands. Typing in the correct command will work,
though; refer to the modem commands provided in the user manual.

Article Change History:
22 Aug 1994 - Revised formatting.

Support Information Services
Published Date: Feb 19, 2012

PowerBook 145B Plus Pack: Technical Specifications (6/96)

This article provides the technical specifications for the Apple PowerBook 145B Plus Pack.

This article has been archived and is no longer updated by Apple.

Microprocessor

Motorola 68030, running at 25 MHz

Memory

Comes with 4 MB of pseudostatic RAM (PSRAM)

Expands to 8 MB of RAM with the addition of a 4-MB PSRAM expansion card

Disk storage

One built-in 1.4-MB Apple SuperDrive disk drive that uses high-density

floppy disks and reads, writes, and formats Macintosh, MS-DOS, OS/2, and

ProDOS disks

One internal 80-MB hard disk drive

Display

10-in. (254 mm) diagonal

Backlit supertwist passive-matrix display, 640 by 400 pixels

Battery

Nickel-cadmium which provides 2 to 3 hours of portable computer use

before recharging is necessary

Keyboard

Built-in keyboard with standard Macintosh layout

Two-level tilt adjustment

Trackball

30-mm (approx. 1.25-inch) diameter, two buttons

Clock/Calendar

CMOS custom-integrated circuit with long-life lithium battery

Interfaces

One Apple Desktop Bus (ADB) port for keyboard, mouse, and other input devices

Two RS-422 serial ports for LocalTalk networking, printers, modems, and other devices

One HDI-30 SCSI port for hard disks, scanners, CD-ROM drives, and other devices

One sound-out port for external audio amplifier or headphones

One sound-in port

Modem

Internal PowerPort Bronze 2400-bps modem from Global Village Communication with fax send/receive at 9600 baud; includes fax send/receive software and ZTerm software

Sound Generator

Apple Sound Chip provides 8-bit sound and is capable of driving stereo headphones or other stereo equipment. These devices connect to the Apple Sound Chip through the sound port.

Sound input

8-bit sound, sampled at 11 or 22 kHz

Disability Access

CloseView, Easy Access, and visible-beep software are included with system software. These built-in third-party options provide alternative means of input and output for people with disabilities.

ADB Power Requirements

Maximum current draw for all ADB devices is 200 mA (milliamps) (a maximum of three ADB devices is recommended)

Electrical Requirements

Line voltage: 110 to 220 V

Frequency: 50 to 60 Hz

Environmental Requirements

Operating temperature: 50 F to 104 F (10 C to 40 C)

Storage temperature: -13 F to 140 F (-25 C to 60 C)

Relative humidity: 20% to 80% noncondensing

Operating altitude: 0 to 10,000 ft. (0 to 3048 m)

Maximum storage altitude: 15,000 ft. (4722 m)

Size and Weight

Height: 2.25 in. (5.7 cm)

Width: 11.25 in. (28.6 cm)

Depth: 9.3 in. (23.6 cm)

Weight: 6.8 lb. (3.03 kg)

Article Change History:

05 Jun 1996 - Corrected minor typographical error.

Published Date: Feb 19, 2012

AppleShare: 3.0.3 Patch Read Me

This article describes where to find the AppleShare 3.0.3 Patch on AppleLink, and the AppleShare 3.0.3 Patch Read Me First information.
This article has been archived and is no longer updated by Apple.

AppleShare 3.0.3 Patch - Read Me First

AppleShare 3.0.3 is the latest maintenance release of the AppleShare 3.0 product. It fixes problems found in the AppleShare 3.0, 3.0.1, and 3.0.2 releases.

Version 3.0.3, also fixes some incompatibilities between AppleShare and AOCE, and AppleShare and AppleSearch. It is recommended that you upgrade your AppleShare server to version 3.0.3 if you will be running either AOCE or AppleSearch on your server.

The AppleShare 3.0.3 patch application will upgrade your AppleShare 3.0, 3.0.1, or 3.0.2 product to AppleShare 3.0.3. It will upgrade the file server and AppleShare Admin to version 3.0.3. It will not upgrade the print server.

There are actually four different patch applications available. Choose the one that is appropriate for the language of AppleShare you are using.

IMPORTANT NOTICE:
If you have previously upgraded your AppleShare 3.0 or 3.0.1 server to AppleShare 3.0.1 Rev. B, you must replace your Rev. B File Server Extension file with either the 3.0 or 3.0.1 version prior to running the AppleShare 3.0.3 Patch Program.

To perform the upgrade, follow these steps:

1) Quit all applications that are currently running on your server.
2) Turn off any virus detection software.
3) Open the patch application. A text box with important information will appear.
4) Click Patch after reading the information in the text box.
5) Reboot your system.

Published Date: Feb 19, 2012

Newton MessagePad: Moving Items to Memory Card

How do I move items, such as notes, names or Calendar items, from my Apple MessagePad's main memory to a PCMCIA memory card?
This article has been archived and is no longer updated by Apple.
There are three ways to move items from the Apple MessagePad's memory to a PCMCIA memory card:

1) Use the Newton Connection Kit to synchronize your Apple MessagePad with a computer, then restore the data to the Apple MessagePad's memory card. You can only move notes and name cards with this method.

2) Copy individual items or groups of items to your memory card. You can move notes, name cards, or Calendar items with this method.

3) Remove software applications from your Apple MessagePad, then download them to your MessagePad's memory card.

Using the Connection Kit

To use the Connection Kit to move notes and name cards to a memory card, you must synchronize your Apple MessagePad with a computer. Be sure to have the PCMCIA card inserted into your Apple MessagePad. This produces two synchronization files -- one for your Apple MessagePad and one for your memory card.

To move name cards

1. Open your Apple MessagePad synchronization file, then tap twice on Name File and select all the names from the Name File window.
2. Choose "Cut Name File Entries" from the Edit Menu. Then open the memory card synchronization file and tap twice on Name File.
3. Choose "Paste Name File Entries" from the Edit Menu. This places all the names on the memory card.

To move notes

1. Open the Apple MessagePad synchronization file, then tap twice on Notepad and select all the names from the Notepad window.
2. Choose "Cut Notes" from the Edit Menu. Then open the memory card synchronization file and double-click on Notepad.
3. Choose "Paste Notes" from the Edit Menu. This places all the notes on the memory card.

After you have moved your name cards and notes, synchronize your Apple MessagePad again. Your names and notes are now moved to your memory card.

Copying Items

You can move individual names or notes by tapping the envelope icon and choosing "Move To Card," but individual Calendar or To Do items can not be moved with this method. If you have many items to move or you need to move all your Calendar items, follow these steps:

To move Notes and Calendar items to your memory card

1. Tap the Find button, then tap Look For and choose "dates after".
2. Enter an early date such as 1/1/80 and tap All. The Apple MessagePad displays an overview of all Notes and Calendar appointments created after the specified date.
3. Tap on the Envelope icon and choose Move to Card.

To move Name, ToDo items or Calendar day notes

1. Tap the Find button, then tap Look For and choose Text.
2. Enter the letter "a" and tap All. The Apple MessagePad displays a list of items that contain the letter "a".
3. Tap on the Envelope icon and choose Move To Card. Repeat this step for other letters in the alphabet. You should be able move all your items to your memory card by repeating these steps with all the vowels.

Moving Software Packages

1. Tap the Extras button, then tap Prefs.
2. Tap Memory in the Preferences menu, then tap Remove Software. Tap the name of the software applications that you want to move. This removes these software applications from main memory.
3. Tap X twice to return to the Extras drawer, then tap Card. Tap Store new items on card, then tap X again.
4. Reinstall your software applications with the Connection Kit. They are stored on the memory card.

Published Date: Feb 19, 2012

Newton MessagePad: Name Cards Don‘t Appear in Overview

When I list the cards in my Name File (by tapping the dot at the bottom of the screen), the cards aren't listed alphabetically by company name and don't appear next to the first letter in the company name.

For example, I have a card with a company called "Telephone Company" and it does not show up under the T's in the list.

Why is this?
This article has been archived and is no longer updated by Apple.
When you list your Newton MessagePad's Name File, the name cards will be displayed in alphabetical order based on either last name or company name.

If a name card only has a company name and its last name field is empty, it will not be placed under a letter in the overview list. Instead, it will be put at the top of the list with no letter next to it. To display such a card in alphabetical order by last name, you must:

1) Use the Find function to find the appropriate card. Tap Show, then tap All Info.
2) Tap List by, then tap Last Name.

The same problem can also occur if you select List by Company, but the name card has no data in the company field. To display such a card in alphabetical order by company, you must:

1) Use the Find function to find the appropriate card. Tap Show, then tap All Info.
2) Tap List by, then tap Company.
Published Date: Feb 19, 2012

Newton MessagePad: Proper Names Have Separate Word List

If I write the word "Developer" into the Last Name or Company field of a name card, the Newton MessagePad won't recognize it properly, even though the word "Developer" is entered in the user word list.

When I type "Developer" on the keyboard, however, it is recognized quite easily.

Why is this?
This article has been archived and is no longer updated by Apple.
The proper names word list and the user word list are stored in separate dictionaries on your MessagePad. The Last Name and Company fields in the Name File use the proper names word list to recognize text. When you enter a name into a new name card, the MessagePad uses only the proper names word list to look up and match the text you have entered.

Since the word "Developer" is entered in the user word list, the MessagePad won't recognize it and place it into a name card.

The built-in keyboards look at all word lists to recognize words, so the word "Developer" would be recognized and placed into the Note Pad or Calendar.
Published Date: Feb 19, 2012

At Ease 2.0: System Requirements and Installation

This article lists the system requirements for At Ease 2.0 and describes how to install it.
This article has been archived and is no longer updated by Apple.
If you purchased a Macintosh Performa computer with At Ease already installed, you do not need to go through the installation procedure. If At Ease was installed at the factory, you also may not have received the disks described in this article.

System Requirements

At Ease 2.0 runs on Macintosh computers with:

* at least 2MB of RAM (4MB is recommended)

* System software 7.0 or later

* an internal or external hard disk drive

Installation
==========
Make sure you have the At Ease 2.0 Install disks, which contain the At Ease program and related files.

Step 1

Turn on your Macintosh.

Step 2

Insert the At Ease 2.0 Install 1 disk.

Step 3

Double-click the Installer icon to begin the installation process. You see a screen that welcomes you to the Installer, and explains the installation process.

Step 4

After you have read the welcome screen, click OK. You see a new screen labeled Easy Install. Make sure the disk named for installation is your startup disk. If not, click Switch Disk until you see the name of your startup disk.

Step 5

Click the Install button. A status screen shows you the progress of the installation. Whenever the computer needs information from another disk, it ejects the current disk and display a message indicating which disk you should insert next.

Step 6

Insert the At Ease 2.0 disks as requested. When installation is complete, you see a message indicating the process was successful.

Step 7

Click Restart to quit the Installer program and restart your computer. You are now ready to set up At Ease 2.0 for use.
Published Date: Feb 19, 2012

QuickTime: Thumb Nails

QuickTime 1.5 and later versions add the ability to see thumb nails of graphics files in the open dialog box of some applications. I have these questions:

* Does the application have to implement this feature?
* What determines whether this feature shows up in a dialog box?
* What are all the file types that QuickTime can generate thumb nails for?

This article has been archived and is no longer updated by Apple.
QuickTime includes extensions to the Standard File Package that allow you to create and display file previews -- information that gives the user an idea of a file's contents without opening the file. Typically, a file's preview is a small PICT image (the thumb nail), but previews may also contain other types of information that is appropriate to the type of file. For example, a text file's preview might tell when the file was created and what it discusses.

"Inside Macintosh: QuickTime" has this to say:

"The Movie Toolbox provides two new Standard File functions, StandardGetFilePreview and CustmGetFilePreview, that allow you to display file preview in an open dialog box in System 7 using Standard File reply structures (of type StandardFileReply). The StandardGetFilePreview function corresponds to the existing StandardGetFile function; the CustomGetFilePreview function corresponds to the existing CustomeGetFile function.

"You use these new functions in place of the existing standard file functions whenever you want to allow the user to display previews during the Open dialog box."

So, whatever you want to display can be previewed based on what the programmer of the application has programmed.
Published Date: Feb 19, 2012

Apple IIe Card: Software Version 2.2.1 Available (9/93)

Article Created: 14 September 1993

Apple IIe Card (2.2.1) software is available on AppleLink.

This article has been archived and is no longer updated by Apple.
Apple IIe Card (2.2.1) software is now available for customers on AppleLink using the following path:

Software Sampler
Apple SW Updates
Macintosh
Peripheral Software
Apple IIe Card (2.2.1)

Published Date: Feb 19, 2012

Macintosh Performa: FPU Upgrade Options

What are the FPU upgrade options for the Performa line of Macintosh computers?
This article has been archived and is no longer updated by Apple.

System	FPU included	FPU upgrade	FPU upgrade method	Notes
Performa 200 (Macintosh Classic II)	No	Yes	3rd party PDS card	
Performa 400 (Macintosh LC II)	No	Yes	3rd party PDS card	
Performa 405	No	Yes	3rd party PDS card	
Performa 410	No	Yes	3rd party PDS card	
Performa 430	No	Yes	3rd party PDS card	
Performa 450 (Macintosh LC III)	No	Yes	Apple Service p/n 922-0107	
Performa 460	No	Yes	Apple Service p/n 922-0107	
Performa 466	No	Yes	Apple Service p/n 922-0107	
Performa 467	No	Yes	Apple Service p/n 922-0107	
Performa 475	No	Yes	Replace 68LC040 w/ 68040	(1)
Performa 476 (Macintosh LC 475, Macintosh Quadra 605)	No	Yes	Replace 68LC040 w/ 68040	(1)
Performa 550 (Macintosh LC 520, Macintosh LC 550)	No	Yes	Apple Service p/n 922-0107	
Performa 560	No	Yes	Apple Service p/n 922-0107	
Performa 575 (Macintosh LC 575)	No	Yes	Replace 68LC040 w/ 68040	(1)
Performa 577	No	Yes	Replace 68LC040 w/ 68040	(1)
Performa 578	No	Yes	Replace 68LC040 w/ 68040	(1)
Performa 600 (Macintosh IIvx)	No	Yes	Apple Service p/n 922-0107	
Performa 63x (Macintosh LC 630, Macintosh Quadra 630)	No	Yes	Replace 68LC040 w/ 68040	(1)
(1) - Apple does not recommend or support replacing the CPU chip.				

Published Date: Feb 19, 2012

Easy Access: Saving Settings Between Restarts (1/95)

I need a way to get the Easy Access settings to persist between restarts.

I use a headset to navigate on the Macintosh. I use Easy Access and would like a way for it to automatically be active when I start up the Macintosh. Currently, I have to press the shift key 5 times in succession, or open the control panel and manually select "On" each time I starts the Macintosh to activate Easy Access.

Are you aware of any way to have the Easy Access setting stay on between restarts?

This article has been archived and is no longer updated by Apple.
This was fixed with System Update 3.0. Below is the section on Easy Access from it's Read Me file.

Updates the Easy Access control panel to version 7.2. This new version allows Sticky Keys to remain active after waking up if it was active when the PowerBook or Portable went to sleep. Also, Easy Access now remembers whether sticky keys, mouse keys, and slow keys were on or off between restarts.

Article Change History:
03 Jan 1995 - Changed article to show fix with System Update 3.0.

Support Information Services
Published Date: Feb 19, 2012

Install Me First CD: Booting Into At Ease

Why does the Install Me First CD sometimes startup into At Ease and sometimes into Finder?
This article has been archived and is no longer updated by Apple.
There are two ways to startup from the Install Me First CD:

1. Select the CD-ROM as the startup device in the Startup Disk control panel and restart. This will startup into At Ease.

2. Hold down the Command-Option-Shift-Delete key combination. This may or may not launch At Ease at start up, depending on how long the Shift key is held.

The installation of At Ease and the system software on the Install Me First CD does not allow disabling of extensions at startup. Also, there is no message indicating the extensions are off.

At Ease will not be disabled if the Shift key is held down until the "Welcome To Macintosh" is displayed. The Shift key must be held down until after the "Welcome to Macintosh" screen is displayed.

If At Ease is preferred and did not load, follow these steps:

1. Select Control Panels under the Apple menu
2. Choose Startup Disk
3. Select the CD-ROM and close the window
4. Restart with no keys held down. This will launch At Ease

Published Date: Feb 19, 2012

ARK 24K modem: Using it with all Apples

This article has been archived and is no longer updated by Apple.
Modem type:
AT&T 103, 113 / 212 Series with 2400, 1200, 600, 0-300 bps.

Instruction set used:
Hayes command set or ARK command set with additional HELP commands available.

Hardware configuration:
Ten front panel control switches and ten LED indicators give modem, data, and test result status. Lithium battery backed-up RAM retains auto-dial number storage and modem configuration data in memory. Modem runs off of 117VAC, 60 Hz.

Software configuration:
Microprocessor controlled intelligent modem with 1K transmit data buffer, number storage, auto-dial and auto-answer functions. Terminal data speed independent of modem speed.

Interface type:
Synchronous and asynchronous RS-232 DB-25S (DCE) connectors, full or half duplex operation.

Modem interface packages, by computer:

Apple IIe (Super Serial card):
Access II or other terminal software; straight through DB-25 cable interface (serial card configured as DTE equipment) for hardware connection.

Apple IIc:
Access II or other terminal software; Apple IIc to Imagewriter cable with modem eliminator cable for hardware connection.

Apple III:
Access III or other terminal software; straight through DB-25 cable for hardware connection.

Macintosh:
MacTerm or other terminal software; Macintosh to Imagewriter cable with modem eliminator cable for hardware connection.

Macintosh XL:
MacTerm or other terminal software; straight through DB-25 cable for hardware connection.
Published Date: Feb 19, 2012

Newton MessagePad: When Letter Styles Don‘t Stay Selected

If I select a letter in the Letter Styles Preference, then tap Rarely, often the Rarely button will darken momentarily, then the selection goes back to Sometimes.

Why is this?
This article has been archived and is no longer updated by Apple.
You must choose Sometimes for at least one Letter Styles selection in both upper and lower case of each character. The Newton MessagePad will not allow changing all upper or lower case letter choices for each character to "Rarely."

When you select Cursive Only or Printed Only in the Handwriting Style Preferences, your Letter Styles Preferences become limited to cursive or printed styles, respectively.
Published Date: Feb 19, 2012

PowerBook 165: "Express Modem Cannot Be Used..." Message

Some customers have reported problems with the PowerBook 165 and the Express Modem. When they access the Express Modem, a message appears stating "The Express Modem cannot be used with this PowerBook."
This article has been archived and is no longer updated by Apple.
Some PowerBook 165 systems were shipped with two different enablers:
* version 1.0.2 on the hard drive
* version 1.0.3 on a floppy

Version 1.0.2 is the problem. The solution is to replace it on the hard drive with version 1.0.3, which works properly with the PowerBook 165 and Express Modem.

In general, Apple recommends using the latest version of an Enabler. If you get the message "The Express Modem cannot be used with this PowerBook" you should compare the version of the Enabler installed in your Macintosh's System folder to the version of the Enabler that comes with the Express Modem software -- and use the later of the two. Here's how:

1) Drag the old Enabler out of the System Folder (but not into the Trash).

2) Drag the new Enabler into the System Folder.

3) Restart.

4) Throw away the old Enabler.
Published Date: Feb 19, 2012

Macintosh AV Series: Video Conferencing (10/93)

Article Created: 15 September 1993
Article Reviewed/Updated: 4 October 1993

I want more information about the feasibility of teleconferencing with a Macintosh AV series computer to my headquarters in Europe. I have a digital phone system available.

* Can both audio and visual signals be sent over a single telephone line? The demo I saw appeared to be doing video over Ethernet, while one document I've seen indicates that some type of AppleTalk connection is required for teleconferencing.

* Besides the camera, what additional hardware or software is required, some kind of GeoPort? What kind of results can the I expect, for example quality of signals?

This article has been archived and is no longer updated by Apple.
Several products, including the bundled ES*F2F product, support the Macintosh AV series and can connect with other computers via AppleTalk, ISDN, many of the Comm (communications) toolbox tool, and ordinary telephone lines.

Other products which provide videoconferencing for Macintosh include Cameo Personal Video System from Compression Labs, ShareView Plus from ShareVision Technology and the MovieStar Videoconferencing Toolkit from Intelligence At Large. For specific details on each product, please contact the individual vendors.

To locate a vendor's address and phone number, use the vendor name as a search string.

Article Change History:
4 October 1993 - Changed title to include the Macintosh AV Series, deleted some incorrect information and added some additional third party product information.

Published Date: Feb 19, 2012

Cermetek 1200 Modem: Using it with all Apples

This article has been archived and is no longer updated by Apple.
Modem type:
AT&T 103 / 212A series; 1200, 0-300 bps.

Instruction set used:
Fully HAYES compatible.

Hardware configuration:
Seven LED indicators on front panel give modem and data status. Front panel switches allow voice or data operation. Call progress circuits detect dial, busy, ring-back, modem answer, or human voice. Modem runs off 117VAC, 60Hz.

Software configuration:
Microprocessor controlled intelligent modem with auto-dial and auto-answer functions.

Interface type:
RS-232 DB-25S (DCE) connector, full duplex operation.

Modem interface packages, by computer:

Apple IIe (Super Serial card):
Access II or other terminal software; straight through DB-25 cable interface (serial card configured as DTE equipment) for hardware connection.

Apple IIc:
Access II or other terminal software; Apple IIc to Imagewriter cable with modem eliminator cable for hardware connection.

Apple III:

Access III or other terminal software; straight through DB-25 cable for hardware connection.

Macintosh:
MacTerm or other terminal software; Macintosh to Imagewriter cable with modem eliminator cable for hardware connection.

Macintosh XL:
MacTerm or other terminal software; straight through DB-25 cable for hardware connection.
Published Date: Feb 19, 2012

AppleShare 3.0.3 Patch: Change History

Can you tell us what changes were made in AppleShare 3.0.3?

This article has been archived and is no longer updated by Apple.
AppleShare 3.0.3 Change History

Release dates:

- version 3.0.1 (9/92)
- version 3.0.2 (6/93)
- version 3.0.3 (9/93)

Note: All patches are incremental. All changes made in 3.0.1 are incorporated in 3.0.2, and all changes in 3.0.2 are incorporated in 3.0.3. Therefore, customers upgrading from 3.0, 3.0.1, or 3.0.2 to 3.0.3 will be running the most recent version of AppleShare file server.

AppleShare 3.0.1

The following fixes and enhancement were made in AppleShare 3.0.1:

File Server 3.0.1

* Fixed incompatibilities between CE Software (QuickMail 2.5) and AppleShare 3.0.

* When one client duplicated a large (several MB) file on the server, other clients would hang. The problem has been corrected so that the server will better service other requests during the duplication.

* Fixed a problem involving AppleShare and Retrospect Remote where if the Users & Groups file was backed up by Retrospect, users could no longer log into the server.

Admin 3.0.1

* "Users" folder access privileges incorrectly changed from explicit to inherited after the menu item "Verify Apple II Startup Info" was selected.

* AppleShare 3.0.1 now repairs damaged btree files. This fix eliminates occasional 2.0 to 3.0 upgrade failures.

* On System 7.1 the Admin in AppleShare 3.0 could not delete a user or group without hanging the machine with the File Server running. AppleShare 3.0 version 3.0.1 is now compatible with System 7.1.

* Fixed problems involving AppleShare 3.0's "Copy Item too ╔" feature where copy would terminate with a "file not found" error if it encountered an invisible folder at the root of source folder.

* There was an occasional inherited privileges problem when updating from AppleShare 2.0 to 3.0. Access privileges were sometimes upgraded incorrectly user AppleShare 3.0.

* Selecting the menu item "Compact volume Access Privileges" caused launch limit settings to be lost.

* AppleShare 3.0 "Summary of Shared Item Report" did not work correctly. The report would sometimes show an incorrect owner and group with incorrect privileges. If you looked at the server itself, the privileges were set correctly; it was just that the report that was incorrect.

Print Server 3.0.1

* The AppleShare Print Server previously did not properly handle contiguous paper feed on ImageWriter printers. (Extras <CRs> were issued when printing continuously with feed paper through an ImageWriter II. The beginning of each subsequent page started further down on the page.)

* If many Macintosh clients were using the Print Server a lot, the Print Server could freeze up.

* If many Apple II clients were spooling to the Print Server, the clients that tried to talk to the Print Server, after the ninth client, would report problems communicating with the printer. This problem was in the AppleShare Print Server and the Apple II client software. AppleShare Print Server 3.0.1 will continue to work the older Apple II clients, but for full robustness and future compatibility it is recommended that users upgrade the Apple II client software to version GS/OS 6.0.1.

* If the AppleShare Print Server and the AppleShare File Server were running on the same Macintosh under heavy stress, it was possible for the Macintosh to crash or freeze up. Users will need to upgrade the AppleTalk drivers on their server Macintosh's by using the Network Software Installer version 1.2.3 or greater.

AppleShare 3.0.2
The following fixes and enhancements were made in AppleShare 3.0.2:

* Allows Retrospect to properly back up the Users and Groups file. Previously caused an error whereby the file was left open and AppleTalk Remote Access clients couldn't dial into the network after a backup. There was no effect on AppleShare clients.

* Ups Max Cur Requests from 5 to 16 (although only 8 can be used) reducing the chance that a slow network link client (like an AppleTalk Remote Access client) will get a server timeout and hang until it retries.

* Fixes a bug related to B-Tree files that caused file system problems resulting in Open Error messages on random files once the bug occurred. Products that cause this bug to happen are: AppleSearch, AOCE, and other third party server products.

AppleShare 3.0.3
The following fixes and enhancements were made in AppleShare 3.0.3:

* Version 3.0.3 fixes some incompatibilities between AppleShare and AOCE and AppleShare and AppleSearch. It is recommended that customers upgrade their AppleShare servers to version 3.0.3 if they will be running either AOCE or AppleSearch on their server.
Published Date: Feb 19, 2012

Retrospect A/UX: 32000 File Limitation

The A/UX version of Retrospect has a limitation brought from the Macintosh version. It is the limitations of 32,000 files when storing or restoring a volume.

The error message, "Error -24062 (limited to 32000 files/folders)", is still in the A/UX version of the product. This puts some restrictions on what users can plan to backup with an Apple Workgroup Server (AWS) 95.

In the Macintosh version, Dantz claims that the HFS file system can become unstable with about 32000 files. That should not be true with the UNIX file system.

Will Dantz make any changes to eliminate this limitation in future version of Retrospect A/UX?
This article has been archived and is no longer updated by Apple.
Here is what we received from Dantz:

It is true that Retrospect has a limit per scan of 32,000 files. This matches the limits of the Macintosh file system, though they will address this limit in a future version of Retrospect.

There are a couple of ways to work around this limit on the AWS 95. The best is to use Retrospect A/UX and backup a large drive in segments of 32,000 files or fewer. Retrospect can define folders as "Subvolumes" which act as separate volumes for backup purposes. The entire drive can be backed up this way since each backup session or script may contain an essentially unlimited number of Subvolumes.

Another possibility is to use UNIX utilities such as TAR or DUMP for volumes which exceed 32,000 files or folders.
Published Date: Feb 19, 2012

AudioVision Display: "X" Displayed Through the Video INIT

I'm running the AudioVision Display on a Centris 660/AV. Upon startup my computer loads with an "X" through the video init and when I select the Video Control Panel it indicates that the control panels are not loaded. Additionally, when I select the Sound Control Panel the computer will freeze or give a system error.

This article has been archived and is no longer updated by Apple.

```
The AudioVision software provides integrated sound and video capabilities that allow you to take advantage of
multi-media and voice technology applications.

This monitor requires a system extension, also known as an "INIT" in the system folder. During the startup
process of the Macintosh computers, these extensions display icons at the bottom of the screen as they are
loaded.

When an "X"is displayed through the extension icon during this process, the extension has not loaded properly
and will not function.

The following procedure should ensure proper loading of the Audio Vision extension.

Note: Your Macintosh system software must be System 7.0.1 or later in order
     to use the Apple AudioVision software.
     The keyboard cable must be plugged into the AudioVision display, and not
     the back of the computer.  When it's not plugged into the monitor, you
     will still see the X through the INIT startup.  The INIT looks to the
     monitor's ADB port for one of the sense pins on the ADB cable, doesn't
     see it and 'X's it out.

Install the Software
--------------------

1) Insert the AudioVision Installer disk into the internal floppy disk
  drive.

2) Click the Installer icon.

3) Make sure that the hard disk indicated in the dialog box is the one on
  which you want to install AudioVision software.

4) Click the Install button.

5) After finishing the installation, restarting your computer is the
  only choice you have. When you restart the red X still appears through
  the video INIT.

6) Shut down your computer AND turn off the monitor for at least 30 seconds
  before restarting.

7) If you do not perform step 6, upon startup you will continue to see
  an icon on your monitor with an "X" through it. This icon indicates
  that the video control panel is not loaded and the AudioVision Display
  software is not be activated.
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Published Date: Feb 19, 2012

Macintosh AV Systems: Multiple GeoPort Applications

Why can't two DSP (Digital Signal Processor) GeoPort applications run concurrently on a Macintosh AV system? If I run, for example, both ApplePhone and the fax software set up to receive faxes, I expect them to work like ARA when it is set to answer calls. ARA will relinquish serial port rights to another application and then reclaim the serial port when the other application releases it.

Is this a function of how those two applications were written, or is a limitation of the ARA software?

Notes: ApplePhone 1.0 and 1.0.1 is an example program that Apple does not support. The Macintosh AV team created the program to show the capabilities of the AV technology. Apple does not intend to do any further work to this example program and it has been removed from Apple Software Updates. This ApplePhone software is NOT related in any way to the Apple Phone software that is a part of the Apple Telecom 3.x package. Apple Telecom 3.x also includes Apple Address Book and Apple Fax software.
This article has been archived and is no longer updated by Apple.
The issue: using the GeoPort telecomm adapter, you can run only one telecomm application at a time. Remember that the Express Modem software counts as one application, so you can have multiple applications that use that software running at the same time.

ApplePhone, which is not modem-based, doesn't use the Express Modem software, so you have an either/or situation with it. On the other hand, you could have multiple well-behaved commtoolbox application running at the same time.

You can also have (in some cases, depending on bandwidth use and processor capabilities) multiple DSP applications up and running. Remember that speech recognition takes a LOT of bandwidth and that it is difficult to get other DSP applications running concurrently with it.
Published Date: Feb 19, 2012

At Ease 2.0 for Workgroups: Shift-Key Security Loopholes

We are using At Ease 2.0 for Workgroups. We want a solution that will keep students from saving files and folders anywhere but to a specified folder on the Macintosh server (to cut down on security problems we were having).

At Ease was set up to use the server as the At Ease disk. Everything was working fine until a student held down the Shift key when powering up the Macintosh. At Ease came up with a dialog "The At Ease Preferences file is damaged, please contact your Administrator." The dialog box has a Cancel button in the lower right corner. Clicking on Cancel brings up the Finder with no protection to the local hard disk or the At Ease server that is mounted. This error dialog also comes up if there's any kind of an AppleTalk error, or if the server is under too heavy a load to support the request from the booting At Ease Macintosh.

Reformatting a couple of the drives with the newest HD SC Setup, reinstalling system software and applications, and At Ease, don't fix the problem. This shift key loophole is a big security issue.

If they remove the Finder from the System Folder, can we assume that no one can go to the Finder on those machines, including the administrator or teachers? Is there a utility that would work in this situation (no Finder), that the administrator or teachers could use to move the Finder out of the System Folder and back into it?
This article has been archived and is no longer updated by Apple.
Users can no longer hold down the shift-key during startup to get into the finder when the At Ease disk is a server. At Ease for Workgroups version 2.0.1 and later have fixed this problem.
Published Date: Feb 19, 2012

Setting MacSNMP trapDestination (4/96)

I'm trying to specify the console where alarms are sent in MacSNMP, but I'm having a problem. On page 25 of the SNMP Admin Guide, it says to set trapDestination in the trapTable for the System Group of the Macintosh Agent. I can't figure out how to do this. What do I need to do?

This article has been archived and is no longer updated by Apple.

We also tried to set trapDestination in the trapTable using the MacSNMP Admin application, but could not do it either. The variable value is not editable from the application. We checked with MacSNMP engineering and they told us you can only set it from a management console.

You need to copy the MIBs from the Administration disk onto the console. You will have to refer to the administration guide that came with your console for the instructions.

Normally from a UNIX workstation you can set trapDestination from the client by specifying the IP address. However, Macintosh is a multiprotocol workstation and we decided that the trapDestination has to be set from the management console.

Article Change History:

20 Apr 1996 - Change distribution status.

21 Sep 1993 - Included additional information.

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Cermetek APPLE-MATE 1200: Using it with all Apples

This article has been archived and is no longer updated by Apple.
Modem type:
AT&T 103 / 212A series; 1200, 300, 0-110 bps.

Instruction set used:
HAYES command set compatible with terminal emulator firmware on card.

Hardware configuration:
Plug-in modem board for the Apple II, IIe series computers. Built-in speaker is used to monitor operation and diagnostics.

Software configuration:
Microprocessor controlled intelligent modem with internal ROM terminal emulator firmware (addressing card initiates program), number storage, auto-dial and auto-answer functions.

Interface type:
RJ-11 telephone interface.

Modem interface packages, by computer:

Apple II+ or IIe:
Built-in terminal software; RJ-11 telephone cable interface for hardware connection.

Apple IIc:
Not useable.

Apple III:
Not useable.

Macintosh:
Not useable.

Macintosh XL:
Not useable.
Published Date: Feb 19, 2012

Cermetek Security Modem: Using it with all Apples

This article has been archived and is no longer updated by Apple.
Modem type:
AT&T 103/212A series; 1200, 300, 0-110 bps.

Instruction set used:
Fully HAYES compatible.

Hardware configuration:
Seven LED indicators on front panel give modem and data status. Front panel switches allow voice/data operation and password locking. Four levels of security offered--none, password validation, password validation with callback, or password validation with call-back on a second phone line. Call progress circuits detect dial, busy, ring-back, modem answer, or human voice. Internal RAM has back-up power for number retention up to one year (no power condition). Modem runs off of 117VAC, 60Hz.

Software configuration:
Microprocessor controlled intelligent modem with auto-dial and auto-answer functions. Security codes provided for up to 25 different users with call audit for security monitoring.

Interface type:
RS-232 DB-25S (DCE) connector, full duplex operation. Two phone lines supported for password call-back on second ('secure') line.

Modem interface packages, by computer:

Apple IIe (Super Serial card):
Access II or other terminal software; straight through DB-25 cable interface (serial card configured as DTE equipment) for hardware connection.

Apple IIc:
Access II or other terminal software; Apple IIc to Imagewriter cable with modem eliminator cable for hardware connection.

Apple III:
Access III or other terminal software; straight through DB-25 cable for hardware connection.

Macintosh:
MacTerm or other terminal software; Macintosh to Imagewriter cable with modem eliminator cable for hardware connection.

Macintosh XL:
MacTerm or other terminal software; straight through DB-25 cable for hardware connection.
Published Date: Feb 19, 2012

Datec PAL 212 modem: Using it with all Apples

This article has been archived and is no longer updated by Apple.
Modem type:
AT&T 103/212A series; 1200, 0-300 bps.

Instruction set used:
Limited implementation of the HAYES command set. Only the S0, S2 and S7 registers are used, as well as other abbreviations in the command control structure.

Hardware configuration:
Five LED indicators on front panel give modem and data status. Modem runs off of external plug-in power supply. Built-in speaker is used to monitor operation and diagnostics.

Software configuration:
Microprocessor controlled intelligent modem with auto-dial and auto-answer functions.

Interface type:
RS-232 DB-25S (DCE) connector, full or half duplex operation.

Modem interface packages, by computer:

Apple IIe (Super Serial card):
Access II or other terminal software; straight through DB-25 cable interface (serial card configured as DTE equipment). for hardware connection.

Apple IIc:
Access II or other terminal software; Apple IIc to Imagewriter cable with modem eliminator cable for hardware connection.

Apple III:
Access III or other terminal software; straight through DB-25 cable for hardware connection.

Macintosh:
MacTerm or other terminal software; Macintosh to Imagewriter cable with modem eliminator cable for hardware connection.

Macintosh XL:
MacTerm or other terminal software; straight through DB-25 cable for hardware connection.
Published Date: Feb 19, 2012

Datec PAL 212SA modem: Using it with all Apples

This article has been archived and is no longer updated by Apple.
Modem type:
AT&T 103/212A series; 1200, 0-300 bps.

Instruction set used:
Fully HAYES compatible.

Hardware configuration:
Ten LED indicators on front panel give modem and data status. Internal memory allows up to 10 user phone numbers to be stored. Modem runs off of external plug-in power supply. Internal jumpers and switches allow the modem to be hard-wired to any specific configuration otherwise supported by the command set. Built-in speaker is used to monitor operation and diagnostics.

Software configuration:
Microprocessor controlled intelligent modem with number storage, auto-dial and auto-answer functions.

Interface type:
RS-232 DB-25S (DCE) connector, full or half duplex operation.

Modem interface packages, by computer:

Apple IIe (Super Serial card):
Access II or other terminal software; straight through DB-25 cable interface (serial card configured as DTE equipment) for hardware connection.

Apple IIc modem eliminator cable for hardware connection.

Apple III:
Access III or other terminal software;. straight through DB-25 cable for hardware connection.

Macintosh:
MacTerm or other terminal software; Macintosh to Imagewriter cable with modem eliminator cable for hardware connection.

Macintosh XL:
MacTerm or other terminal software; straight through DB-25 cable for hardware connection.
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Datec PAL 212SC modem: Using it with all Apples

This article has been archived and is no longer updated by Apple.
Modem type:
AT&T 103/212A series; 1200, 0-300 bps..

Instruction set used:
Fully HAYES compatible.

Hardware configuration:
Rack-mounted (up to 16 units per rack) or stand-alone modem has ten LED indicators on front panel that give modem and data status. Non-volatile memory for number and configuration data storage. Modem runs off of external or rack power supply. Built-in speaker is used to monitor operation and diagnostics.

Software configuration:
Microprocessor controlled intelligent modem with number storage, auto-dial and auto-answer functions.

Interface type:
RS-232 DB-25S (DCE) connector, full or half duplex operation.

Modem interface packages, by computer:

Apple IIe (Super Serial card):
Access II or other terminal software straight through DB-25 cable interface (serial card configured as DTE equipment) for hardware connection.

Apple IIc:
Access II or other terminal software; Apple IIc to Imagewriter cable with modem eliminator cable for hardware connection.

Apple III:
Access III or other terminal software; straight through DB-25 cable for hardware connection.

Macintosh:
MacTerm or other terminal software; Macintosh to Imagewriter cable with modem eliminator cable for hardware connection.

Macintosh XL:
MacTerm or other terminal software; straight through DB-25 cable for hardware connection.
Published Date: Feb 19, 2012

FORTRAN: Pascal External Functions and Procedures

This article has been archived and is no longer updated by Apple.

When you use assembly language functions and procedures from FORTRAN, all parameters are passed to these functions and procedures as formal parameters. This means that when a function requires an integer, real number, boolean or character, it is the address of the variable being passed that resides on the stack, not the contents of the variable. Therefore, assembly language functions and procedures should load the address of the variable from the stack and use this address to retrieve the data in the variable.

Because of this small detail, it may not be possible to use some assembly language functions and procedures developed in Pascal from FORTRAN, since Pascal will pass data that requires two to four bytes of space on the stack. Data types requiring more space than two words (such as long integers, arrays, strings, and so on) are sent as formal parameters; therefore, the address in memory where the variable resides is passed on the stack, and the data is accessed through that address. When an external function or procedure in Pascal uses formal parameters, it can easily be used in FORTRAN; otherwise, it will have to be rewritten to handle the formal parameter stack format of FORTRAN.

If you wish to see a specific example of this difference, compare the assembly language listings of the paddle functions on page 120-121 of the Apple FORTRAN reference manual with the same listing on page 143-144 of the Apple Pascal Operating System Reference Manual.

NOTE: A FORTRAN host program calling a Pascal REAL subroutine with a VAR parameter may cause a "Stack Overflow".

Published Date: Feb 19, 2012

Datec PAL 212SD modem: Using it with all Apples

This article has been archived and is no longer updated by Apple.
Modem type:
AT&T 103/212A series; 1200, 0-300 bps..

Instruction set used:
Fully HAYES compatible.

Hardware configuration:
Rack-mounted (up to 16 units per rack) or stand-alone modem has ten LED indicators on front panel that give modem and data status. Password access control for security. Non-volatile memory for password, phone number, and configuration data storage. Modem runs off of external or rack power supply. Built-in speaker is used to monitor operation and diagnostics.

Software configuration:
Microprocessor controlled intelligent modem with password, number storage, auto-dial, and auto-answer functions.

Interface type:
RS-232 DB-25S (DCE) connector, full or half duplex operation.

Modem interface packages, by computer:

Apple IIe (Super Serial card):
Access II or other terminal software; straight through DB-25 cable interface (serial card configured as DTE equipment) for hardware connection.

Apple IIc:
Access II or other terminal software; Apple IIc to Imagewriter cable with modem eliminator cable for hardware connection.

Apple III:
Access III or other terminal software; straight through DB-25 cable for hardware connection.

Macintosh:
MacTerm or other terminal software; Macintosh to Imagewriter cable with modem eliminator cable for hardware connection.

Macintosh XL:
MacTerm or other terminal software; straight through DB-25 cable for hardware connection.
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TA30162_Baseview_Products_Inc-_(993)_(TIL13324).pdf

Baseview Products, Inc. (9/93)

Article Created: 16 September 1993

Baseview Products, Inc.

This article has been archived and is no longer updated by Apple.
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Company Profile:
Provides access to news wire services, and story management.
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MICROCOM Era2 modem: Using it with all Apples

This article has been archived and is no longer updated by Apple.
Modem type:
AT&T 103/212A series; 1200, 300, 0-110 bps.

Instruction set used:
Microcom Era2 terminal emulator and modem control software.

Hardware configuration:
Plug-in modem board for the Apple II, IIe series computers. Built-in speaker is used to monitor operation and diagnostics.

Software configuration:
Microprocessor controlled intelligent modem with number storage, auto-dial and auto-answer functions.

Interface type:
RS-232 DB-25S (DCE) connector, full or half duplex operation.

Modem interface packages, by computer:

Apple II+ or IIe:
MICROCOM Era2 software, RJ-11 telephone cable interface.

Apple IIc:
Not useable.

Apple III:
Not useable.

Macintosh:
Not useable.

Macintosh XL:
Not useable.
Published Date: Feb 19, 2012

At Ease 2.0: If You Forget the Administrator Password

This article describes what to do if you are an At Ease 2.0 administrator and you have forgotten the administrator's password.
This article has been archived and is no longer updated by Apple.
If you forget the administrator password, you can set a new one. However, doing this will turn At Ease off and reset the user greeting to "Welcome to At Ease" (if you had changed it).

To reset the administrator password:

Step 1

Turn off the Macintosh.

Step 2

Insert a disk with system software on it into your floppy drive. If your computer came with a disk called "Disk Tools," use it. If not, use a backup copy you made using Apple Backup.

Step 3

Turn on the Macintosh.

Step 4

Open the System Folder of your usual startup disk (probably on your hard drive). Do not open the System Folder on the floppy disk you are using to start up.

Step 5

Open the At Ease Items folder inside your System Folder.

Step 6

Find the At Ease Preferences file and drag it into the Trash.

Step 7

Hold down the Option key while you choose Empty Trash from the Special menu.

Step 8

Choose Restart from the Special menu, and the floppy disk automatically ejects from the drive.

Step 9

Open the At Ease Setup program.

Step 10

Choose Administrator Password from the Options menu. The Administrator Password screen appears.

Step 11

Type the new administrator password in the upper box. It can be up to 15 characters. Type it again in the middle box to confirm it. (Dots appear in place of letters to keep the password confidential).

Step 12

Type a clue in the lower box to help you remember this password. The clue can be up to 63 characters.

Step 13

Click OK.
Published Date: Feb 19, 2012

At Ease 2.0: Permanently Removing It

This article describes how to permanently remove At Ease software from your Macintosh.
This article has been archived and is no longer updated by Apple.

Turning Off At Ease
==========

If you don't plan to be using At Ease in the near future, but may choose to use it again later, the best option is to simply turn it off. Here's how:

Step 1

Open the At Ease Setup program, and type your password

Step 2

Click the Off button.

If you want At Ease 2.0 completely erased from your system, how you go about it will depend on whether you have the At Ease 2.0 Install 1 disk.

If your Performa came with software already factory-installed, you may not have this disk. In this case, be certain to make a backup copy of At Ease 2.0 (or use Apple Backup to backup your entire hard drive with At Ease on it) before you remove At Ease from your system. Label the backup disks "At Ease 2.0." This way, you have a copy of the software in case you ever want to reinstall it.

NOTE: Never attempt to remove At Ease without turning it off first.

If You Have the At Ease 2.0 Install 1 Disk
==========

Step 1

Open the At Ease Setup Program, and type the administrator password.

Step 2

Click the Off button.

Step 3

Quit the At Ease Setup program.

Step 4

Insert the At Ease 2.0 Install 1 disk into the disk drive.

Step 5

Click the Customize button.

Step 6

Select At Ease.

Step 7

Hold down the Option key. The Install button turns into a Remove button.

Step 8

Click the Remove button. At Ease will be permanently removed from your system. You may reinstall it in the future using the installation disks.

If You Do Not Have the At Ease 2.0 Install 1 Disk
==========

TA30170_At_Ease_2-0_Permanently_Removing_It_(TIL13349).pdf

Step 1

Open the At Ease Setup program, and type the administrator password.

Step 2

Click the Off button on the first screen.

Step 3

Quit the At Ease setup program.

Step 4

Drag the At Ease files to the Trash. The files you need to remove are:

* the At Ease Setup program (at the main directory level of your startup hard disk)
* the At Ease Items folder (in your System folder)
* the At Ease file (in your System folder)
* the At Ease Startup extension (in the Extensions folder)

Step 5

Hold down the Option key while you choose Empty Trash from the Special menu.
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MICROCOM MACMODEM 2400: Using it With All Apples

This article has been archived and is no longer updated by Apple.

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* Modem type:
 AT&T 103/212A series; 2400, 1200, 300, 0-110 bps.

* Instruction set used:
 Hayes compatible Macmodem software provides all modem control functions.

* Hardware configuration:
 Six LED indicators on front panel give modem and data status. Modem plugs
 into Macintosh Communications port, and terminal software provides
 auto-dial number storage. Modem runs off of 17VAC plug in power supply.
 Built-in speaker is used to monitor operation and diagnostics.

* Software configuration:
 Computer controlled intelligent modem with number storage, auto-dial and
 auto-answer functions.

* Interface type:
 Macintosh DB-9 connector, full duplex operation.


Modem interface packages, by computer:

* Apple IIe:
 Not useable.

* Apple IIc:
 Not useable.

* Apple III:
 Not useable.

* Macintosh:
 MICROCOM MACMODEM terminal software, with the modem providing the cable
 for hardware connection.

* Macintosh XL:
 MICROCOM MACMODEM terminal software, with a DB-9 to DB-25 adapter needed
 to connect the modem cable to the Macintosh XL port for hardware
 connection.
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Published Date: Feb 19, 2012

At Ease 2.0: How To Add & Remove Button Sounds

This article describes how to add and remove button sounds in At Ease 2.0.
This article has been archived and is no longer updated by Apple.
Sound effects can be added to any item that appears in a user's At Ease panels. The sounds will play any time the pointer is moved over a button that has sound attached to it.

NOTE: The sound effect will play even if the text-to-speech feature is turned on. The sound you have recorded will replace the spoken identification of that button.

To attach a sound to a button, you need existing sound files on your hard drive or on a floppy disk. These files are often available as third-party software. If you do not already have sound file, you can also create your own if you have compatible microphone hardware.

Preparing to Attach a Sound

1. Open the At Ease Setup Program.
2. Type the administrator password.
3. Choose Attach Sounds from the file menu. The Attach Sounds screen appears, showing you the items to which users have access. If the speaker icon next to an item has wavy lines next to it (sound waves emitting from the speaker), that item already has an attached sound.
4. Click the name of the item to which you want to add a sound.

To Import an Existing Sound
Follow the steps above, then:

1. Click the import sound button. The Import Sound screen appears.
2. If necessary, click the pop-up menu above the list of documents and folders on the left side of the screen to locate the sound file you want to use.
3. Click the name of the sound you want attached. You can hear the sound before you import it by clicking the Play Sound button at the bottom of the screen.
4. Click the Import button to attach the sound.
5. Click Done.

To Record an Original Sound
Follow the steps under "Preparing to Attach a Sound," then:

1. Click the Record Sound button. A screen appears allowing you to record a sound.
2. When you are ready to record a sound, click the Record button (marked with a circle).
3. When you are finished recording, click the Stop button (marked with a square).
4. To hear the sound before you attach it to the selected item, click the Play button (marked with a right-pointing arrow).
5. Click Save to save the sound. Wavy lines appear beside the speaker icon associated with the item to which you attached the sound. This indicates that the button will now play the sound you recorded rather than the button name when the pointer passes over it.

Removing a Sound
Follow the steps under "Preparing to Attach a Sound." You will see a screen called "Attach Sounds." Then:

1. Click once on the item from which you want the sound removed.
2. Click Remove Sound.

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At Ease 2.0: Restoring Deleted At Ease Software

I purchased a Performa with At Ease 2.0 software already installed. I removed it from my system, but now I want to use it again. Will I have to buy the software?
This article has been archived and is no longer updated by Apple.
If you removed At Ease from your system or deleted any files for At Ease that you want to use again, you have three options:

* If you performed a backup with Apple Backup while the At Ease software was still on your hard drive, you can restore the software using Apple Restore.

* If you did not perform a backup, or if you no longer have a backup copy with At Ease on it, you can call 1-800-SOS-APPL to further discuss your situation.

* If you did not perform a backup, and if you no longer have a backup copy of your hard drive with At Ease on it, you can go to an Apple Authorized Service Provider, who can provide the floppies you need, and may even install the software for you if you bring in your computer. To find the nearest Apple Authorized Service Provider, call 1-800-538-9696.

Article Change History:
14 Aug 1995 - Corrected minor typo.
08 Aug 1995 - Added keyword and reviewed for technical accuracy.

Support Information Services
Published Date: Feb 19, 2012

At Ease 2.0 for Workgroups: Installation

This article describes how to install At Ease 2.0 for Workgroups, including:

- Using the Install program
- Creating an administrator password
- Setting up for remote administration on an AppleTalk network

This article has been archived and is no longer updated by Apple.
You will need to install At Ease 2.0 for Workgroups on the startup disk of every computer on the network that will be using it.

(NOTE: The software licensing agreement for your copy of At Ease specifies how many computers may use that copy. Also, before you put other software in shared folders in At Ease, be sure to check whether the software agreement for those programs allows for sharing.)

Before you begin:

* Make sure that file sharing is off on the computers you will be installing At Ease on. To check, look in the File Sharing Setup control panel (in the Control Panels folder under the Apple menu).

* Make sure all virus checkers on the computers are turned off.

* Make sure you have these disks: At Ease 2.0 (WG) Install 1 At Ease 2.0 (WG) Install 2 At Ease 2.0 (WG) Install 3

WARNING: DO NOT install At Ease 2.0 for Workgroups by dragging the files to each hard drive from the floppies. Use the Installer program, which will put files in the correct locations on the startup disks.

Using the Installer

To install At Ease 2.0 for Workgroups on the first Macintosh (the administrator's):

1. Turn on the Macintosh.
2. Insert the At Ease 2.0 (WG) Install 1 disk.
3. Double-click the installer icon.
4. Click OK.
5. Click the Install button and follow the directions on the screen.
6. Click Restart to make At Ease active on that Macintosh.

Administrator Password

Now you will need to create an administrator password so that only you, the administrator, can make changes to the At Ease computers. To do this:

1. Open the At Ease Setup program. You will find it on the startup disk of any Macintosh that has had At Ease installed.
2. Choose Administrator Password from the Options menu.
3. Type the password in the first box, then type it again to confirm it. (You will just see dots instead of letters -- this is to keep the password confidential.) Then, if you choose, type a clue in the large box below.
4. Click OK.

Once you have set up the first Macintosh with At Ease, you will need to prepare the other computers in the workgroup. If the Macintosh systems are not linked by an AppleTalk network, you will have to run the Installer and create the administrator's password on each Macintosh individually at this point.

Setting Up For Remote Administration

If the At Ease computers are linked by an AppleTalk network, the workgroup's administrator can administer the network remotely from a single Macintosh. The administrator can set up At Ease and make changes to it on the administrator's Macintosh, then update every other computer on the network.

To prepare for remote administration, follow these steps for each At Ease computer:

1. Choose Control Panels from the Apple menu.
2. Open the Sharing Setup control panel.
3. Type a name into the space labeled "Macintosh Name," then close the control panel. Make sure each At Ease Macintosh has a distinct name and that everyone knows which name goes with which computer.

4. Go back to the At Ease Setup program by clicking inside the At Ease Setup window.
5. Choose Security from the Options menu.
6. Click the checkbox labeled "Allow remote administration," then click OK.
7. Choose Quit from the File menu to quit the At Ease Setup program.

Published Date: Feb 19, 2012

MacCheck: Test And Help Buttons Grayed Out (6/95)

When I double-click on MacCheck, it loads the tests as usual, but the Test and Help buttons are grayed out and not available. I can only click on System Info and Quit.

This article has been archived and is no longer updated by Apple.
This occurs when the application program doesn't reside in the same folder as the data file. Relocate MacCheck to the same folder as the data file, and you'll be able to use the test and help buttons.

Article Change History:
16 June 1995: Added keywords

Support Information Services
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Kensington Turbo Mouse: Supersedes Mouse Control Panel

My computer didn't respond to double-clicks. I opened the Mouse control panel, and the Double-click Speed buttons appeared deselected. I selected the buttons, and my computer responded to double-clicks. But when I restarted, the buttons appeared deselected again.

This article has been archived and is no longer updated by Apple.

Kensington Turbo Mouse software will take precedence at startup over the settings contained in the Apple Mouse control panel. The mouse uses the values allocated in the Turbo Mouse CDEV (v3.0), or the Turbo Mouse Control application program (v4.0), and respond accordingly. As with the Mouse control panel, setting the Turbo Mouse controls to the fastest setting can be inoperable for some users-they just can't click fast enough. The range of values selected for the double click speed in the Turbo Mouse Control Panel was chosen to accommodate the 5th to 95th percentile users. This means that if you select the farthest extreme to the right some users might have a problem generating a double click. Try decreasing the speed in the control panel.

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Penril AD 300/1200 modem: Using it with all Apples

This article has been archived and is no longer updated by Apple.
Modem type:
AT&T 103/212A series; 1200, 300, 0-110 bps.

Instruction set used:
Fully HAYES or PENRIL Auto-Dialer compatible.

Hardware configuration:
Eight LED indicators on front panel give modem and data status. Auto-dial sequence, phone number, and log-on macro storage in RAM memory. Modem runs off of external plug in power supply.

Software configuration:
Microprocessor controlled intelligent modem with number storage,macro sequence, auto-dial, and auto-answer functions.

Interface type:
RS-232 DB-25S (DCE) connector, full or half duplex operation.

Modem interface packages, by computer:

Apple IIe (Super Serial card):
Access II or other terminal software; straight through DB-25 cable interface (serial card configured as DTE equipment) for hardware connection.

Apple IIc:
Access II or other terminal software; Apple IIc to Imagewriter cable with modem eliminator cable for hardware connection.

Apple III:
Access III or other terminal software; straight through DB-25 cable for hardware connection.

Macintosh:
MacTerm or other terminal software; Macintosh to Imagewriter cable with modem eliminator cable for hardware connection.

Macintosh XL:
MacTerm or other terminal software; straight through DB-25 cable for hardware connection.
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At Ease 2.0 for Workgroups: If a User Forgets a Password

We use At Ease 2.0 for Workgroups on an AppleTalk network. One of our users forgot his password. He had changed the password from the one the administrator had assigned to him. How can he regain access to At Ease?
This article has been archived and is no longer updated by Apple.
The administrator password always works with any user name. To create a new password:

1. Enter the administrator password.
2. Open At Ease Setup.
3. Click Users.
4. Click the name of the user whose password you want to change.
5. Type the new password where the bullets (dots) appear.

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At Ease 2.0 for Workgroups: Questions and Answers

This article answer several frequently asked questions about At Ease 2.0 for Workgroups.
This article has been archived and is no longer updated by Apple.

Making Existing Files Available to a User

Question: How do I make existing documents available to a particular user?

Answer: In the Finder, place the items in the user's Documents folder. Here's how:

1. Log on to At Ease as the user to whom you want to make a document available. Use the user's name, but the administrator's password.
2. Go to the Finder (You may need to log on as a user who has access privileges to the Finder.)
3. Open the Documents folder.
4. Find the user's own folder. Inside the Documents folder is an individual Documents folder for each user who has logged on.
5. Move the items into the user's Documents folder.

Can't Open Requested File

Question: The application several members of our workgroup use asks them to open a file that is not on either At Ease panel. It's grayed out in the pop-up menu.

Answer: The administrator set a security feature not allowing users to access documents outside of their own folder. To turn this feature off:

1. Open At Ease Setup.
2. Click Options.
3. Deselect the box next to "Keep users from opening documents anywhere else."
4. Click OK.

Auto Log Out Not Working

Question: I set the computers in our workgroup to log out of At Ease if their Macintoshes had been idle for more than 15 minutes. Now sometimes the Macintoshes stay logged on well past that 15 minute limit. Why?

Answer: If a user has made changes to a document but has not saved them yet, At Ease can't log them out. Save or cancel the changes to the document(s) and At Ease will log that user off.

Items Not Copied From Floppy

Question: I tried to copy some items from a floppy disk to a user's panel. Some of them copied, but others didn't. Why?

Answer: At Ease panels displays only documents or folders that can be opened from At Ease. If the user whose panel you tried to copy to does not have access to the applications that created some of the items on the floppy disk, they will not copy over to the User's panel.

User's Password Doesn't Work On Other At Ease Computers

Question: A user changed his password, but it only works on the Macintosh he changed it on. Why don't the other Macintoshes recognize it?

Answer: If your workgroup is not on a server, you will have to update each Macintosh in the group separately so they "know" about the new password.

Network Update Does Not Take Effect

Question: The administrator changed the configuration of one of the Setups, then tried to update the other computers. Why didn't the changes show up?

Answer: When you update over the network, each computer will receive the new information. However, At Ease will not reflect the changes on a Macintosh until At Ease is Quit and launched again on that computer.

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AppleWorks: Technical Support Changes

Quality Computers now provides technical support for AppleWorks versions 2.0.1 or later.
This article has been archived and is no longer updated by Apple.
Claris previously supported these versions. Apple Assurance provides technical support for versions previous to 2.0.1.
Published Date: Feb 19, 2012

Apple Font Pack: Making Clock Symbols with the Zeal Font (9/93)

Article Created: 21 September 1993

The "Getting Started with Type" booklet that ships with the Apple Font Pack for Macintosh (M4040LL/A) contains incorrect information about which key combinations result in some of the clock symbols available in the Zeal font.

In particular, it says that six o'clock is made by pressing command-shift g. However this combination results in an open book.

This article has been archived and is no longer updated by Apple.
The correct key combination is option-` command-i.

An MS-Word document describing the correct key combinations is included on font pack's Install disk. The document is titled "Zeal Symbol Info (MS-WORD-5.0)." You don't have to use MS-Word to open the document. Most word processors can open it through translation.

Published Date: Feb 19, 2012

Macintosh System Update 2.0.1: Description (10/93)

System Update 2.0.1 contains enhancements to Macintosh System 7.1 and System 7 Pro and a collection of bug fixes. This update requires Macintosh System Software version 7.1 or System 7 Pro.

This article has been archived and is no longer updated by Apple.
Macintosh System Update 2.0.1 incorporates enhancements from the two previous versions of the Hardware System Update, versions 1.0 and 2.0. The primary additional enhancements that Macintosh System Update 2.0.1 provides are:

* Apple HD SC Setup version 7.2.2, which gives you more flexibility to format large Apple hard disks between 1 and 2 gigabytes.

* AutoRemounter 1.2, which significantly reduces network traffic.

* Apple Disk First Aid 7.2, a utility that repairs damaged disks, which provides a new user interface.

* More efficient management of the way fonts use memory.

* Macintosh PowerBook Control Panel version 7.1.3 and Express Modem software version 1.1.2, which include support for communications software that doesn't use the Apple Communications Toolbox.

* System Enabler 131 (version 1.0.3) for the PowerBook 160, 165, 165c, and 180 to support 12-inch monitors and improve reliability.

* Support for System 7.1.1.

The Apple Macintosh System Update will be licensed to customers free of charge through various on-line services, including AppleLink, America Online, and CompuServe. The System Update 2.0.1 extension will also be included in System 7 Pro, and will be placed directly onto hard drives of shipping CPUs.

Published Date: Feb 19, 2012

MacSNMP: Mac System MIB Compile Error (4/96)

Next week, together with IBM, I'm going to be demonstrating SNMP at a big exhibition. In trying to configure a RS/6000 as the console we had the following problem:

We couldn't compile the Apple-Macintosh-System-MIB. An error was reported at the line "userInTrouble TRAP-TYPE". I noticed that the MIB's first line states "IMPORTS TRAP-TYPE FROM RFC-1215". This RFC is not available on the RS/6000.

Is this the problem?

What is RFC-1215, where is it available, and can we receive a copy?

This article has been archived and is no longer updated by Apple.

You have to remove this trap from the MIB definition and it should work fine. The RS/6000 can't handle this trap.

RFC 1215 is a convention for Defining Traps for use with the SNMP, you can find the it on the Internet using a tool such as Gopher.

Article Change History:

26 Apr 1996 - Reviewed and changed distrubution status.

Published Date: Feb 19, 2012

AWS 95: Long File Names and Retrospect Problem (9/93)

Article Created: 21 September 1993

I backed up my Apple Workgroup Server (AWS) 95, and I had problems backing up files with filenames containing 32 or more characters. I got the error messages from Retrospect, what's wrong?

This article has been archived and is no longer updated by Apple.
This is a limitation of the Macintosh environment sitting on top of A/UX. The Macintosh limits filenames to 31 characters, so there's no way for Retrospect to deal with this. It's not a Retrospect (or AUX, for that matter) problem, but simply a place where the emulation isn't perfect.

You will find, if you look at that directory in the Finder, that the filenames aren't complete (view with Small Icons, it's easiest to see). If you attempt to move these files via the finder, they are created in the final location with a truncated filename.

This is documented, by the way, in Dantz's manual "Retrospect A/UX backup for the Apple Workgroup Server 95" on page 30 under troubleshooting.

The workaround is to rename these files so that their filenames match the Macintosh naming restrictions (31 characters). This should be a rare case, and the Retrospect log makes it easy to track them down. An alternative would be to back them up exclusively in the UNIX environment with tar, cpio or one of the other backup utilities.

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Prometheus ProModem 1200: Using it with all Apples

This article has been archived and is no longer updated by Apple.
Modem type:
AT&T 103/212A series; 1200 or 0-300 bps.

Instruction set used:
Fully HAYES compatible.

Hardware configuration:
Twelve LED characters and eight LED indicators on front panel give call, modem, and data status. Internal back-up battery provides back-up power for clock/calender, modem configuration, and auto-dial number storage in memory. Modem runs off of 117VAC, 60 Hz.

Software configuration:
Microprocessor controlled intelligent modem with clock / calender set, help menu, number storage, auto-dial, and auto-answer functions.

Interface type:
RS-232 DB-25S (DCE) connector, full or half duplex operation.

Modem interface packages, by computer:

Apple IIe (Super Serial card):
Access II or other terminal software; straight through DB-25 cable interface (serial card configured as DTE equipment) for hardware connection.

Apple IIc:
Access II or other terminal software; Apple IIc to Imagewriter cable with modem eliminator cable for hardware connection.

Apple III:
Access III or other terminal software; straight through DB-25 cable for hardware connection.

Macintosh:
MacTerm or other terminal software; Macintosh to Imagewriter cable with modem eliminator cable for hardware connection.

Macintosh XL:
MacTerm or other terminal software; straight through DB-25 cable for hardware connection.
Published Date: Feb 19, 2012

At Ease 2.0 for Workgroups: Installing Over a Network

This article describes how to install At Ease 2.0 for Workgroups over an AppleTalk network.
This article has been archived and is no longer updated by Apple.
If there are several computers on your network that will be using At Ease 2.0 for Workgroups, it is probably easiest to install the application over the network.

At the Administrator's Macintosh
==========

First, you must install At Ease 2.0 for Workgroups on a server. Working from the administrator's Macintosh:

1. Choose New Folder from the File menu.
2. Name the folder At Ease 2.0 (WG) Net Install.
3. Insert the At Ease 2.0 (WG) Install 1 disk into the floppy disk drive.
4. Drag the At Ease 2.0 (WG) Install 1 disk icon to the At Ease 2.0 (WG) Net Install folder. Eject the disk.
5. Insert the At Ease 2.0 (WG) Install 2 disk. Drag its icon to the Net Install folder. Eject the disk.
6. Insert the At Ease 2.0 (WG) Install 3 disk and drag its icon to the Net Install folder. Eject the disk.
7. Open the At Ease 2.0 (WG) Net Install folder.
8. Open the At Ease 2.0 (WG) Install 1 folder.
9. Select the Installer icon and drag it out of the At Ease 2.0 (WG) Install 1 folder into the At Ease 2.0 (WG) Net Install window.
10. Select the Install At Ease icon and drag it to the At Ease 2.0 (WG) Net Install window.

At Each Workstation
==========

Follow these steps for each computer on the network that will be using At Ease:

1. Turn on the computer.
2. Connect to the file server that has At Ease 2.0 for Workgroups on it.
3. Open the At Ease 2.0 (WG) Net Install folder.
4. Double-click the Installer icon. Click OK in the Welcome dialog box that appears.
5. Click the Install button and follow the directions on the screen.
6. Click Restart to restart the computer and make At Ease available.

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System Enablers Collection 1.0: Overview (6/96)

In a press release on August 9, 1993, Apple announced the Apple System Enablers Collection 1.0. This article describes the Collection.

This article has been archived and is no longer updated by Apple.

The System Enablers Collection contains nearly all of Apple's system enabler files on a single disk (the enablers included cover Macintoshes released between October, 1992 and May, 1993) System enablers are system files that allow System 7.1 to operate on Macintosh computers released since October 1992. Macintosh computers introduced before October, 1992 do not need a system enabler to operate. The disk also contains Control Panels and other files specific to these newer Macintoshes. The product contains a simple installer that automatically installs all of the system enablers and control panels in the user's system folder.

BENEFITS

By consolidating all of the different system enabler files into an easy-to-install package, system administrators, who support a variety of Macintosh models, can find the latest system enablers they need in one place. These customers will be able to use the System Enabler Collection to create a system folder that can boot any Macintosh, greatly simplifying network administration.

Some Macintosh users, particularly those with portable hard disks used for presentations or demonstrations, need to maintain a system folder that can boot any Macintosh. The System Enabler Collection will allow these customers to easily install all of the current system enablers into any system folder, so that their portable hard disk will be able to boot any Macintosh.

Service providers and computer rental agencies will also benefit from the System Enablers Collection. These customers will be able easily

configure a system folder that can be loaded on any Macintosh computer, allowing them to standardize on one system folder for all their service and rental needs.

SYSTEM REQUIREMENTS AND DETAILS

When installed, the files in the System Enablers Collection take up approximately 550K of hard disk space. This product requires System 7.1. It supports all Macintosh computers released between October, 1992 and May, 1993 (see list in "Details" section). This product does not support Performa computers.

COMPATIBILITY

The System Enablers Collection is compatible with any Macintosh computer running System 7.1 (as of July 1993). Apple is not aware of any applications that have a compatibility problem with the System Enablers Collection 1.0.

AVAILABILITY AND DISTRIBUTION

The System Enablers Collection 1.0 will be made available to bulletin boards and on-line electronic services, including AppleLink. Users can also order the product from Apple's system software fulfillment center by calling the Apple Order Center. When purchased directly from Apple, there is a nominal $10 charge for this product to cover manufacturing, shipping, and processing. Credit card orders only will be taken at the Apple Order Center number.

The Tech Info Library article titled "Locating Vendor Information" can help you search for the Apple Order Center phone number.

Article Change History:

04 June 1996 - Updated for technical accuracy.

Published Date: Feb 19, 2012

System Enablers Collection 1.0: Q & A (9/93)

Article Created: 22 September 1993

This article addresses questions on system enablers and the Enabler Collection.

This article has been archived and is no longer updated by Apple.

Q: WHAT IS A SYSTEM ENABLER?
A: System enablers are system files that allow System 7.1 to operate on Macintosh computers released since October 1992 (see list in "Extra" section). Macintosh computers introduced before October, 1992 do not need a system enabler to operate. System enablers are located in the computer's System Folder.

Q: HOW DOES THIS SOFTWARE GET INSTALLED?
A: The System Enablers Collection contains an installation program that automatically installs all of the software on the disk in the user's System Folder.

Q: DOES THE DISK CONTAIN ANY FILES BESIDES SYSTEM ENABLERS?
A: Yes. Some of the computers supported by the Collection also have Control Panels and other files that are specific to those computers. These files are also contained in the System Enabler Collection, and are automatically installed along with the system enablers. Examples of these extra files: the Battery Desk Accessory, the PowerBook Control Panel, and the AutoRemounter Control Panel. The Collection also contains the 32-Bit System Enabler, which allows owners of the Macintosh SE/30, II, IIx, and IIcx to address more than 8MB of physical RAM.

Q: WHY DO SOME MACINTOSHES HAVE SYSTEM ENABLERS, BUT OTHER MACS DO NOT?
A: System enablers were introduced in October, 1992 along with System 7.1. System enablers allow Apple to introduce new Macintoshes without revising the base system software (System 7.1). This has resulted in the most rapid introduction of new Macintoshes in Apple's history. System 7.1 supports Macintoshes released before October, 1992 without the use of a system enabler file. Only one computer released since October, 1992 does not require a system enabler -- the PowerBook 145B.

Q: WILL THIS DISK BE UPDATED IN THE FUTURE?
A: Apple will release updated versions of the System Enablers Collection as needed. The next major release of system software will consolidate all previously released system enablers, which will temporarily eliminate the need for the System Enablers Collection.

Q: IF NEW COMPUTERS COME WITH SYSTEM ENABLERS PREINSTALLED, WHY DO I NEED the System Enablers Collection?
A: Many users, particularly system administrators and service providers, need to create a single System Folder that will boot any Macintosh. Since newer Macs need system enablers to work with System 7.1, these users will need all of the system enabler files in one place if they intend to create a System Folder that will boot any Macintosh. The System Enablers Collection provides all of these enablers in one place, so that users can easily create a System Folder that will boot any Macintosh.

DETAILS
List of Macintosh CPUs that have system enablers on the System Enablers Collection, the name of their system enabler, and the

version included in the Collection:

PowerBook Duo 210 System Enabler 201, version 1.0.1
PowerBook Duo 230 System Enabler 201, version 1.0.1
PowerBook 160 System Enabler 111, version 1.0.2
PowerBook 165C System Enabler 121, version 1.0
PowerBook 180 System Enabler 111, version 1.0.2
Macintosh IIvx System Enabler 001, version 1.0.1
Macintosh IIvi System Enabler 001, version 1.0.1
Macintosh Color Classic System Enabler 401, version 1.0.5
Macintosh LC III System Enabler 003, version 1.0
Macintosh Quadra 800 System Enabler 040, version 1.0
Macintosh Centris 610 System Enabler 040, version 1.0
Macintosh Centris 650 System Enabler 040, version 1.0

Other files that are contained in the System Enablers Collection:
Battery Desk Accessory, version 7.1.1
PowerBook Control Panel, version 7.1.1
PowerBook Display Control Panel, version 1.0.4
Sound Control Panel, version 7.1.1
Screen Control Panel, version 1.0
AutoRemounter Control Panel, version 1.0
Memory Control Panel, version 7.1.1
Caps Lock Extension, version 7.1.2
32-Bit System Enabler, version 1.0.3

This product does NOT contain the enablers for the PowerBook 180C and the Macintosh LC 520. These computers were released after the Collection was completed.

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Prometheus ProModem 1200A: Using it with all Apples

This article has been archived and is no longer updated by Apple.
Modem type:
AT&T 103/212A series; 1200, 300, 0-110 bps.

Instruction set used:
HAYES command set compatible with terminal emulator firmware on card.

Hardware configuration:
Plug-in modem board for the Apple II, IIe series computers. Built-in speaker is used to monitor operation and diagnostics.

Software configuration:
Microprocessor controlled intelligent modem with internal ROM terminal emulator firmware (addressing card initiates program), auto-dial, and auto-answer functions.

Interface type:
RJ-11 four telephone interface (two provided).

Modem interface packages, by computer:

Apple II+ or IIe:
Built-in terminal software; RJ-11 telephone cable interface (two provided--one for user telephone) for hardware connection

Apple IIc:
Not useable.

Apple III:
Not useable.

Macintosh:
Not useable.

Macintosh XL:
Not useable.
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Prometheus ProModem 1200M: Using it with all Apples

This article has been archived and is no longer updated by Apple.
Modem type:
AT&T 103/212A series; 1200 or 0-300 bps.

Instruction set used:
Fully HAYES compatible with ProCom-M Macintosh software package.

Hardware configuration:
Twelve LED characters and eight LED indicators on front panel give call, modem, and data status. Internal back-up battery provides back-up power for clock / calender, modem configuration, and auto-dial number storage in memory. Modem runs off of 117VAC, 60 Hz. Same as Prometheus ProModem 1200 except for added cable and software.

Software configuration:
Microprocessor controlled intelligent modem with clock / calender set, help menu, number storage, auto-dial, and auto-answer functions.

Interface type:
RS-232 DB-25S (DCE) connector, full or half duplex operation. Special cable provided for Macintosh interface.

Modem interface packages, by computer:

Apple IIe (Super Serial card):
Designed for Macintosh. See Prometheus ProModem 1200.

Apple IIc:
Designed for Macintosh. See Prometheus ProModem 1200.

Apple III:
Designed for Macintosh. See Prometheus ProModem 1200.

Macintosh:
ProCom-M terminal software; Macintosh to ProModem 1200M cable provided for hardware connection.

Macintosh XL:
ProCom-M terminal software; Macintosh to ProModem 1200M cable provided for hardware connection. DB-9 to DB-25 cable adapter needed for connection.
Published Date: Feb 19, 2012

Prometheus 300C modem: Using it with all Apples

This article has been archived and is no longer updated by Apple.
Modem type:
AT&T 103 series; 300 bps.

Instruction set used:
Fully HAYES compatible.

Hardware configuration:
Plug-in modem designed to attach to the raer of the Apple IIc. Powered by the Apple IIc. Built-in speaker allows data and modem status monitoring.

Software configuration:
Microprocessor controlled intelligent modem with number storage, auto-dial and auto-answer functions.

Interface type:
RJ-11 telephone interface.

Modem interface packages, by computer:

Apple IIe (Super Serial card):
Apple IIc only.

Apple IIc:
ProCom-A terminal interface software provided with modem--direct attachment to rear of Apple IIc case.

Apple III:
Apple IIc only.

Macintosh:
Apple IIc only.

Macintosh XL:
Apple IIc only.
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At Ease 2.0 for Workgroups: Importing User Names

This article describes how to import a database file with a list of users into At Ease.
This article has been archived and is no longer updated by Apple.
You do not have to add users to At Ease individually if their names already exist in a separate database file. For instance, a list of employees or class members could serve as your source of At Ease user names.

Multiple fields that identify the users may make the import and setup process easier. For instance, if the database file you wish to use has employees' first and last names, identification numbers, and departments, you can convert these respectively into Setup fields like user, password, and Setup.

As you import the list of users, you can also tailor the list by grouping the names into particular Setups as you go.

To Import A List Of Users
==========

1. Open the At Ease Setup program on the administrator's Macintosh.
2. Click Users.
3. Click Import to add a list of users to At Ease.
4. Select the name of the file that you want to import.
5. Choose the fields from the original file that you want to import into At Ease.

* At least one name field will become the user name (for instance, the last name).
* You may use another available field for the password (for instance, a student or employee ID number).
* You may use another field to become the Setup (for instance, the employee's department).

6. In the order of the fields in your database, click each label in the available fields list that defines what you want the fields in your database to become in At Ease. Click <Ignore> for any field in the database that you don't want to import. Click Add after each field label selection to make it appear in the Imported Fields list. (Select any item in Imported Fields you decide to remove, and click Remove.)
7. After you have made your choices, click Sample Import to check them.
8. Click OK if the sample is correct.
9. Click OK to import the list.
10. A window will identify how many users and Setups were added. Click OK.
11. Click Done when you are finished importing users. If you have imported a Setup, its name appears in the list of Setups in the main window of At Ease Setup.

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KanjiTalk 6.0.7 Upgrade

KanjiTalk 6.0.7 users have two options to upgrade their Macintosh Japanese Operating Systems.
This article has been archived and is no longer updated by Apple.
KanjiTalk 6.0.7 users can upgrade to KanjiTalk 7 or Japanese Language Kit 1.2 at special upgrade prices.

KanjiTalk 7
KanjiTalk 7 offers the following features:

- Japanese (fully localized) version of System 7.1
- Japanese Finder
- Seven TrueType fonts: HonMincho, MaruGothic, HeiseiMincho, HeiseiGothic, Osaka, Ryumin, GothicBBB
- Two PostScript fonts: ChuGothic, SaiMincho

KanjiTalk 7 system requirements:

- At least 5 MB RAM
- At least 28 MB of free hard disk space
- CD ROM Drive (in order to load additional fonts)

Customers who wish to purchase KanjiTalk 7 should contact AsiaSoft Inc. for pricing information. They are at 800-882-8856 as of the date of this article.

Japanese Language Kit 1.2
The Japanese Language Kit offers the following features:

- An extension to System 7.5 (English or other versions) that allows you to input Japanese text and run Japanese applications without switching systems.
- Support for Japanese application menus
- Finder remains English
- Full compatibility with most Japanese software
- Two TrueType fonts: HonMincho and MaruGothic
- Two PostScript fonts: ChuGothic and SaiMincho

Japanese Language Kit system requirements:

- At least 5 MB of RAM
- At least 20 MB of free hard disk space
- An Apple SuperDrive floppy disk drive
- Macintosh System 7.1 or later

Customers who want to purchase the Japanese Language Kit should contact AsiaSoft Inc. for pricing information. They are at 800-882-8856 as of the date of this article.

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Racal-Vadic 1200V modem: Using it with all Apples

Article Change History

02/09/93 - UPDATED
* Racal-Vadic changed name to Racal Datacom.

This article has been archived and is no longer updated by Apple.

Modem type:
AT&T 103 / 212A series; 1200 or 300 bps

Instruction set used:
Maxwell 'GEORGE' or HAYES command and instruction sets.

Hardware configuration:
One front panel status indicator. All status and command responses are on the user's screen. Very similar to the Apple Modem 1200 in both operation and function.

Software configuration:
Microprocessor controlled intelligent modem with auto-dial and auto-answer functions.

Interface type:
RS-232 DB-25S (DCE) connector, full or half duplex operation.

Modem interface packages, by computer:

Apple IIe (Super Serial card):
Access II or other terminal software; straight through DB-25 cable interface (serial card configured as DTE equipment) for hardware connection.

Apple IIc:
Access II or other terminal software; Apple IIc to Imagewriter cable with modem eliminator cable for hardware connection.

Apple III:
Access III or other terminal software; straight through DB-25 cable for hardware connection.

Macintosh:
MacTerm or other terminal software; Macintosh to Imagewriter cable with modem eliminator cable for hardware connection.

Macintosh XL:
MacTerm or other terminal software; straight through DB-25 cable for hardware connection.

NOTE:
Pull-down functions of MacTerm will not work as they are Hayes instruction set commands. Keying in the correct command will work--refer to the modem commands provided in the user manual.

Racal-Vadic is now Racal Datacom.
Published Date: Feb 19, 2012

HP DeskWriter C: Cause of Garbage Characters (10/93)

Article Created: 6 October 1993

When I send a print job from a Performa 400 to an HP DeskWriter C, the printer seems to dump garbage characters that have accumulated in the print buffer. This problem occurs only when the printer is plugged in to the printer port, and ceases when the printer is switched to the modem port.

What could be sending this garbage out of the printer port? Is this a problem in 7.0.1P that could be fixed by upgrading to 7.1P2?

This article has been archived and is no longer updated by Apple.
The problem is most likely the print driver or the AppleTalk driver.
Upgrading to 7.1P2 is worth a try if the suggestions below don't help.

HP provided some helpful information on where the "garbage characters" might be coming from:

* HP ships two drivers with the DeskWriter C printer: one for an AppleTalk connection, the other for a direct serial connection. If the HP DeskWriter serial driver is being used and AppleTalk is (or was previously) ON, there is a good possibility that some "AppleTalk data" was sent to the printer buffer and printed as "garbage". One way to clean the print buffer completely is to power cycle the printer.

* In rare instances, spurious data is sent to the printer if the printer is already powered on when the Macintosh is turned on. Try starting up the Macintosh on first, then powering on the DeskWriter.

* Be sure the serial cable you're using is an HP cable #92215S or Apple cable #M0197 for a direct serial connection.

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LaserWriter 8.0: Fixed Margins in Page Setup

I have some questions regarding the LaserWriter 8.0 driver.

1) Why is the right margin in LaserWriter 8.0 Page setup window set at .403 and the other margins are set at .431 on an 8.5 by 11 inch page?

2) Why are the margins in all different (top .111, left .139, bottom .208, right .153) sizes if Larger Print Area is selected on an 8.5 by 11 inch page?
This article has been archived and is no longer updated by Apple.
1) The fixed margins displayed in the LaserWriter 8.0 Page Setup dialog are "standards" created by the Apple Imaging hardware group and these same standards apply to all LaserWriters since the LaserWriter IINT, with a few exceptions. All of the margins are based on what the maximum imageable areas are for the various print engines. When a different PPD (PostScript Printer Description) is selected for a different printer, these values may change to reflect the imageable area for that print engine.

2) In terms of your question with "Larger Print Area", the margins displayed are in fact the minimum margins that create a boundary for the maximum imageable (or printable) area. NOTE: Even though Larger Print Area is selected, the maximum printable area may not be achieved unless an application specifically supports those minimum margins.
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At Ease 2.0 (WG): Updating On An AppleTalk Network

This article describes how to put the information on the administrator's Macintosh onto all of the At Ease computers on an AppleTalk Network.
This article has been archived and is no longer updated by Apple.

Making a List of Computers to Update

The first step to updating the At Ease workgroup is to make a list of the computers in the group you want to update with the information on the administrator's Macintosh. To do this:

1. Open the At Ease Setup program on the administrator's computer (where you have created the group's Setups).
2. Choose update Computers from the Options menu.
3. To create the list of computers to be updated, click the Add button. You will see a dialog box with a window called "At Ease Computers" and another called "Computers to Update". If one of the names of the At Ease computers is dimmed, it has been set not to allow remote administration. If you want to update that computer, you will have to turn on the remote administration option in its At Ease Setup program.
4. Click the names of the computers that you want to update with the At Ease information on the administrator's computer. If you have never remotely updated computers before, try updating one computer first, then check that computer to be sure the update process was successful and the settings are as you want them. If they are not, change the settings on the administrator's computer and try updating again.
5. Click Add. If you are asked for the password, type in the administrator's password.
6. Click OK when you are done. A list of the computers you selected forupdating will appear.

Checking the At Ease Computers
==========

At this point you can check each selected computer's setup. Top do this:

1. Click the name of the computer you want to check.
2. Click Check.
- If you are attempting to update a computer with documents or applications to which that computer does not have access, it will list the missing items. You will have to add those documents or applications to the computer before it can be updated.
3. Click OK.

Updating the Computers
==========

Now you can finish updating by clicking Update All. If you get a message saying a computer is unavailable (it may be turned off, or not running At Ease), you can continue the update and update the unavailable computer later. If you click Cancel at this point, then make the unavailable computer available, you will have to start the update process over again from the beginning.

Click Done when you are finished.

You will need to restart all the computers that have been updated and have them start up with At Ease:

1. Check the main window of the At Ease Setup program to make sure that At Ease is turned on.
2. Choose Quit from the File menu.
3. Choose Restart from the Special menu.

Published Date: Feb 19, 2012

A/UX and gcc Binary (9/93)

Article Created: 23 September 1993

I would like to get the A/UX gcc binary. Do you have one for A/UX 3.0? Could you tell me where I can get it?

This article has been archived and is no longer updated by Apple.
The latest version of gcc for A/UX 3.0 and 3.0.1 is 2.4.5. It is available from anonymous ftp on jagubox.gsfc.nasa.gov (128.183.44.1) under the /pub/aux directory.

You might also need to get a copy of gzip package (also in jagubox) to uncompress files since it is in gz (gnu compressed) format.

Published Date: Feb 19, 2012

Portable StyleWriter: How the Two Power Sources Interact (9/93)

Article Created: 16 September 1993

What is the value of the DC current necessary to run the Portable Stylewriter?

This article has been archived and is no longer updated by Apple.
The AC adapter supplies +9.5VDC to the printer. The Nickel-cadmium battery Pack supplies 6VDC.

Here is a brief explanation of how the two power sources interact:
When the DC plug of the AC adapter is plugged into the printer, the unit will switch from the Ni-Cad battery to the AC adapter. The DC input, after passing through a 0.4A fuse and a noise filter, is checked for voltage by the A/D converter to judge whether the input is from the 9.5VDC or 6VDC Ni-Cad. If the Ni-Cad only is being used, the 'low battery sensing function' and 'auto power off' functions are activited. When the Ni-Cad pack is being charged, the A/D converter is used to check that DC is being inputted from the AC adapter and to activate the 'auto charge off function'.

Published Date: Feb 19, 2012

Racal-Vadic 300V modem: Using it with all Apples

Article Change History

02/09/93 - UPDATED
* Racal-Vadic changed name to Racal Datacom.

This article has been archived and is no longer updated by Apple.

Modem type:
AT&T 103 series; 300 bps

Instruction set used:
Maxwell 'GEORGE' or HAYES command and instruction sets.

Hardware configuration:
One front panel status indicator. All status and command responses are on the user's screen. Very similar to the Apple Modem 300 in both operation and function.

Software configuration:
Microprocessor controlled intelligent modem with auto-dial and auto-answer functions.

Interface type:
RS-232 DB-25S (DCE) connector, full or half duplex operation.

Modem interface packages, by computer:

Apple IIe (Super Serial card):
Access II or other terminal software; straight through DB-25 cable interface (serial card configured as DTE equipment) for hardware connection.

Apple IIc:
Access II or other terminal software; Apple IIc to Imagewriter cable with modem eliminator cable for hardware connection.

Apple III:
Access III or other terminal software; straight through DB-25 cable for hardware connection.

Macintosh:
MacTerm or other terminal software; Macintosh to Imagewriter cable with modem eliminator cable for hardware connection.

Macintosh XL:
MacTerm or other terminal software; straight through DB-25 cable for hardware connection.

NOTE: The pull-down commands on the Macintosh or Macintosh XL are written for Hayes compatible modems and will not work if the 'George' command set is being used. Line by line commands will work--refer to the user manual for the correct sequence and format.

Racal-Vadic is now Racal Datacom.
Published Date: Feb 19, 2012

AppleSearch: Searching Tips

This article presents Boolean operators that help you refine search requests in AppleSearch. The name Boolean is a mathematical term, used here to describe document-searching and sorting logic. Boolean queries use special qualifying words, called Boolean operators, to expand or narrow the scope of your search. AppleSearch supports the full range of Boolean operators: or, and, not, wild characters, and proximity connectors. This article summarizes them.

This article has been archived and is no longer updated by Apple.
Please note that a search request is evaluated from left to right.

Here's a list of operators you can use in AppleSearch:

* The and operator
This searches for articles that contain both search words separated by the operator "and".

* The or operator
This searches for articles that contain either one or combinations of the search words. The "or" operator is the default operator between search words.

* The not operator
This searches for articles that contain the search words preceding, "not". It ignores articles containing the search words following "not".

* The "*" (wild string) operator
Wild string searching allows you to generate other possible search words by substituting the "*" with 0 or more text characters in order to form new words. You can insert the "*" anywhere in the search word to find articles that contain variations of the word with the "*". Example: Searching on Victor* will find words such as victor, victorian, victoria and victory.

* The "?" character
Use the question mark to search for words that can be formed by substituting the question mark (?) with a letter. Example: Poe?s finds poets or poems.

* Proximity (or adjacency) operators
Proximity searching allows you to find important search terms when they are next to each other. You can use any of these operators: (-), (.), (,), (‘), (adj). The "adj" operator requires spaces between the words.

For example, the search string:

AppleTalk adj Remote adj Access
will give you all occurrences of AppleTalk Remote Access and won't return articles that contain only "appletalk" or "remote" or "access".

You can further adjust the proximity of the search by specifying how close the search terms need to be to each other. To adjust the proximity of your search, use the W/n Boolean operator, where W means within and n equals the number of terms that exist between your search words. For example, the search string:

Apple w/3 router

finds a good selection of AppleTalk Internet Router articles.

* The "!" (word expansion) operator
Word expansion allows you to search for words that frequently occur with your search word. By inserting the exclamation mark (!) after your search word, you instruct AppleSearch to find articles that contain the words that occur most often with the search word (the word preceding the exclamation mark). For example, the search:

SCSI!

will find articles containing words like device, SC, Small Computer Systems Interface, and so on.

* The () operator
Enclosing a phrase in parentheses instructs AppleSearch to process the enclosed search words before evaluating those outside parentheses. It designates the precedence of searching as the phrase is evaluated from left to right.
Published Date: Feb 19, 2012

IIe Installer Disk 2.2.1: Disk Contents (9/93)

This article details the contents of the IIe Installer disk 2.2.1.
This installs software for the Apple IIe card used in the Macintosh LC and selected Performa computers.

This article has been archived and is no longer updated by Apple.

File Name	Version #	Created	Modified
Apple HD SC Setup	3.1	2/11/92	2/11/92
BASIC.SYSTEM		7/17/90	7/17/90
Desktop		10/7/92	7/27/93
IIe Script	2.2.1	7/6/93	7/28/93
IIe Startup	2.2.1	7/27/93	7/27/93
Installer	3.2	4/23/91	4/23/91
PRODOS		7/17/90	7/17/90
Read Me		10/5/92	10/5/92
Color	3.3.2	9/5/89	9/5/89
Finder	6.1.8	4/17/91	4/17/91
General	3.3.3	3/7/90	3/7/90
Keyboard	3.3.1	8/26/88	8/26/88
Monitors	4.3	9/4/90	9/4/90
Mouse	3.3.1	8/26/88	8/26/88
ProDOS File System	1.2.1	7/6/93	7/6/93
Startup Device	3.3.1	8/26/88	8/26/88
System	6.0.8	4/17/91	4/17/91
TeachText	1.2	4/30/88	4/30/88

Published Date: Feb 19, 2012

Express Modem Install for GeoPort: Disk Contents (9/93)

This article details the contents of the Express Modem Install for GeoPort disk.

This article has been archived and is no longer updated by Apple.

File Name Version # Created Modified

Express Modem ReadMe 6/24/93 8/4/93
AppleLink 9600 US Access 12/23/92 12/23/92
ASLM Resources 6/30/93 6/30/93
Express Modem 1.1.2 8/4/93 8/4/93
Express Modem AT Cmds 12/23/92 12/23/92
Express Modem CCL 1.0 12/23/92 12/23/92
Express Modem Tool 1.1.2 8/4/93 8/4/93
Fax Cover 1.2 8/4/93 8/4/93
Sample 3/26/93 3/26/93
Standard 12/23/92 12/23/92
Fax Extension 1.2 8/4/93 8/4/93
Fax Sender 1.2 8/4/93 8/4/93
Fax Terminal 1.2 8/4/93 8/4/93
Fax Viewer 1.3 8/4/93 8/4/93
GeoPort¬ Extension 1.0 8/5/93 8/5/93
GeoPort¬ Telecom 1.0 12/23/92 12/23/92
GeoPort¬ Telecom Adapter 1.0 8/5/93 8/5/93
My first fax 12/23/92 12/23/92
Serial Extension 1.0 8/5/93 8/5/93
Shared Library Manager 1.1 6/30/93 6/30/93
Install GeoPort¬ 7.1 8/5/93 8/5/93
Installer 3.4 8/17/92 8/4/93
TeachText 7.1 11/24/92 11/24/92

Published Date: Feb 19, 2012

Hardware System Update 2.0.1: Disk Contents (9/93)

This article details the contents of the Hardware System Update 2.0.1 disk.

This article has been archived and is no longer updated by Apple.
The Hardware System Update 2.0.1 is shipped on a 1.4MB disk.

File Name Version # Created Modified

PowerBook Display 1.0.4 3/22/93 3/22/93
AutoRemounter 1.2 8/25/93 8/25/93
Express Modem 1.1.2 8/4/93 8/4/93
Memory 7.1.1 11/17/92 11/17/92
PowerBook 7.1.3 7/8/93 7/8/93
Sound 8.0.1 6/25/93 6/25/93
Desktop 9/16/93 9/16/93
720K Floppy Disk Formatter 1.0 6/29/93 6/29/93
Express Modem Tool 1.1.2 8/4/93 8/4/93
Hardware System Update 2.0.1 9/14/93 9/14/93
Record Button 1.0 9/29/92 9/29/92
Sound Manager 3.0 6/25/93 6/25/93
Installer 3.4 8/17/92 8/17/92
Installer Script 2.0.1 9/14/93 9/14/93
System Enabler 131 6/8/93 6/8/93
System Enabler 401 3/8/93 3/8/93
Keyboard Resources 1.0 9/29/92 9/29/92
Serial Resources 12/3/92 12/3/92
System Update 2.0.1 Read Me 6/25/93 9/15/93
TeachText 7.1 11/24/92 11/24/92
Apple HD SC Setup 7.2.2 9/15/93 9/15/93
Disk First Aid 7.2 8/6/93 8/6/93

Published Date: Feb 19, 2012

32-Bit System Enabler: Disk Contents (6/95)

This article details the contents of the 32-Bit System Enabler, shipped on one 800K floppy disk.

This article has been archived and is no longer updated by Apple.

Availability

AppleLink:
Software Sampler
Apple SW Updates
Macintosh
Supplemental System Software

Disk Name: Version:

32-Bit System Enabler Disk

32-Bit System Enabler 1.0.3
32-Bit System Enabler Read Me
TeachText 7.1

Article Change History:
13 June 1995 - Corrected typos

Support Information Services
Published Date: Feb 19, 2012

Hardware System Update 1.0: Disk Contents (6/95)

This article details the contents of Hardware System Update 1.0, shipped on one 1.4MB floppy disk.

This article has been archived and is no longer updated by Apple.

Availability

AppleLink:
Software Sampler
Apple SW Updates
Macintosh
Supplemental System Software

Contents

Control Panels —
- Memory 7.1.1

Extensions —
- Hardware System Update 1.0

HW System Update Read Me
Installer 3.4
Installer Script 1.0
TeachText 7.1

Article Change History:
13 June 1995 - Corrected typos

Support Information Services
Published Date: Feb 19, 2012

System 7.0.1: 1.4MB Disk Contents

This article details the contents of System 7.0.1, as shipped on six 1.4MB floppy disks.

This article has been archived and is no longer updated by Apple.

```
Disk Name:                          Version:         Part Number:
-----------------------------------------------------------------

Disk Tools                                              690-6049
-------------------
Apple HD SC Setup                   7.0.1
Disk First Aid                      7.0
System Folder
- Apple Menu Items
- Control Panels
- Extensions
- Finder                            7.0
- Fonts
- Preferences
 -Finder Preferences
- Startup Items
- System                            7.0.1

Install 1                                               690-6041
------------------
Install                             7.0.1
Installer                           3.2
Network Extension                   7.0
System                              7.0.1

Install 2                                               690-6042
---------
A/ROSE                              1.1.5
AppleShare                          7.0
DAL                                 1.3
DAL Preferences                     1.3
EtherTalk Phase 2                   2.2.1
Finder                              7.0
Finder Help                         7.0
TokenTalk Phase 2                   2.2
TokenTalk Prep                      2.2

Tidbits                                                 690-6045
-------
Apple File Exchange Folder
- Apple File Exchange               7.0
- DCA-RFT/MacWrite                  1.01
Cache Switch                        7.0.1
CloseView                           7.0
Control Panels
- Brightness                        7.0.1
- Caps Lock                         7.0.1
- Color                             7.0
- Control Panels (alias)
- File Sharing Monitor              7.0
- General Controls                  7.0
- Keyboard                          7.0
- Labels                            7.0
- Map                               7.0
- Memory                            7.0.1
- Monitors                          7.0
```

- Mouse	7.0	
- Network	2.3.1	
- Portable	7.0.1	
- Sharing Setup	7.0	
- Sound	7.0	
- Startup Disk	7.0	
- Users & Groups	7.0	
- Views	7.0	
Desk Accessories		
- Alarm Clock	7.0	
- Battery	7.0.1	
- Calculator	7.0	
- Chooser	7.0	
- Key Caps	7.0	
- Note Pad	7.0	
- Puzzle	7.0	
- Scrapbook	7.0	
- Scrapbook File		
Easy Access	7.0	
File Sharing Extension	7.0.1	
LaserWriter Font Utility	7.0	
Read Me		
TeachText	7.0	
Printing		690-6044

AppleTalk ImageWriter	7.0	
Backgrounder	1.3	
ImageWriter	7.0	
Installer	3.2	
Laser Prep	7.0	
LaserWriter	7.0	
LQ AppleTalk ImageWriter	7.0	
LQ ImageWriter	7.0	
Personal LaserWriter SC	7.0	
Personal LW LS	7.0	
Printer Update	7.0	
PrintMonitor	7.0	
StyleWriter	7.0	
Fonts		690-6043

Athens	N/A	
Cairo	N/A	
Chicago	N/A	
Courier	N/A	
Geneva	N/A	
Helvetica	N/A	
London	N/A	
Los Angeles	N/A	
Monaco	N/A	
New York	N/A	
Palatino	N/A	
San Francisco	N/A	
Symbol	N/A	
Times	N/A	
Venice	N/A	

Published Date: Feb 19, 2012

TEKCOM TC-212AD modem: Using it with all Apples

This article has been archived and is no longer updated by Apple.
Modem type:
AT&T 103/212A series; 1200, 0-300 bps.

Instruction set used:
Fully HAYES compatible.

Hardware configuration:
Two LED indicators on front panel give modem and data status. Modem runs off of external plug in power supply. Built-in speaker is used to monitor operation and diagnostics.

Software configuration:
Microprocessor controlled intelligent modem with auto-dial and auto-answer functions.

Interface type:
RS-232 DB-25S (DCE) connector, full or half duplex operation.

Modem interface packages, by computer:

Apple IIe (Super Serial card):
Access II or other terminal software; straight through DB-25 cable interface (serial card configured as DTE equipment) for hardware connection.

Apple IIc:
Access II or other terminal software; Apple IIc to Imagewriter cable with modem eliminator cable for hardware connection.

Apple III:
Access III or other terminal software; straight through DB-25 cable for hardware connection.

Macintosh:
MacTerm or other terminal software; Macintosh to Imagewriter cable with modem eliminator cable for hardware connection.

Macintosh XL:
MacTerm or other terminal software; straight through DB-25 cable for hardware connection.
Published Date: Feb 19, 2012

System 2.0.1 (4.1/5.5) 800K Disk Contents (9/93)

This article details the contents of System 2.0.1 (System file version 4.1 and Finder version 5.5) shipped on three 800K floppy disks.

This article has been archived and is no longer updated by Apple.

Availability

AppleLink:
Developer Support
Developer Services
System Software
Macintosh U.S. System Software

Disk Name: Version:

System Tools

System Folder
- AppleTalk ImageWriter 2.6
- Clipboard File
- Easy Access 1.0
- Finder 5.5
- General 1.0
- ImageWriter 2.6
- Key Layout 2.1
- Keyboard 1.0
- Laser Prep 4.0
- LaserWriter 4.0
- Monitors 1.0
- Mouse 1.0
- Scrapbook File
- Sound 1.0
- Startup Device 1.0
- System 4.1

TeachText 1.0
Update Folder
- Read Me

Utilities Folder
- Apple HD SC Setup 1.4
- Installer 2.4
- Installer Script
- Mac Plus, 512Ke, 512K Script
- Macintosh II Script
- Macintosh SE Script

Utilities 1

Apple HD SC Setup 1.4
Disk First Aid 1.2
HDBackup 1.0
Run Disk First Aid.
System Folder
- AppleTalk ImageWriter 2.6
- Clipboard File
- Easy Access 1.0
- Finder 5.5
- General 1.0
- ImageWriter 2.6
- Key Layout 2.1
- Keyboard 1.0
- Laser Prep 4.0

- LaserWriter 4.0
- Monitors 1.0
- Mouse 1.0
- Startup Device 1.0
- System 4.1
TeachText 1.0
Update Folder
- Read Me

Utilities 2

Apple File Exchange Folder
- Apple File Exchange 1.0
- DCA-RFT/MacWrite
Font/DA Mover Folder
- Desk Accessories
- Find File
- Note Pad
- Puzzle
- Font/DA Mover 3.5
- Fonts
- Athens
- Cairo
- Courier
- Helvetica
- London
- Los Angeles
- Mobile
- San Francisco
- Symbol
- Times
TeachText 1.0
Update Folder
- Read Me

Published Date: Feb 19, 2012

System 5.0: 800K Disk Contents (9/93)

This article details the contents of System 5.0, shipped on four 800K floppy disks.

This article has been archived and is no longer updated by Apple.

Availability

AppleLink:
Developer Support
Developer Services
System Software
Macintosh U.S. System Software

FTP Apple.com: /dts/mac/sys.soft/5.0

Disk Name: Version:

System Tools 1

System Folder
- Clipboard File
- Color 3.2
- DA Handler 1.0
- Easy Access 1.0
- Finder 6.0
- General 3.2
- Key Layout 2.2
- Keyboard 3.2
- Monitors 3.2
- Mouse 3.2
- MultiFinder 1.0
- Scrapbook File 2.1
- Sound 3.2
- Startup Device 3.2
- System 4.2

TeachText 1.1
Update Folder
- Read Me

Utilities Folder
- Apple HD SC Setup 1.5
- Installer 2.5
- Installer Scripts
- Macintosh II Script
- Macintosh Plus Script
- Macintosh SE Script

System Tools 2

Installer 2.5
System Folder
- AppleTalk ImageWriter 2.6
- Background Printing
- Backgrounder 1.0
- Clipboard File
- Color 3.2
- DA Handler 1.0
- Easy Access 1.0
- Finder 6.0
- General 3.2
- ImageWriter 2.6
- Key Layout 2.2

- Keyboard 3.2
- Laser Prep
- LaserWriter 5.0
- Mouse 3.2
- MultiFinder 1.0
- PrintMonitor 1.0
- Scrapbook File
- Sound 3.2
- Spool Folder
- Startup Device 3.2
- System 4.2

TeachText 1.1
Update Folder
- Read Me

Utilities 1

Apple HD SC Setup 1.5
Disk First Aid 1.3
HDBackup 1.0
System Folder
- Clipboard File
- Color 3.2
- DA Handler 1.0
- Easy Access 1.0
- Finder 6.0
- General 3.2
- Key Layout 2.2
- Keyboard 3.2
- Monitors 3.2
- Mouse 3.2
- MultiFinder 1.0
- Scrapbook File
- Sound 3.2
- Startup Device 3.2
- System 4.2

TeachText 1.1
Update Folder
- Read Me

Utilities 2

Apple File Exchange Folder
- Apple File Exchange 1.0.1
- DCA-RFT/MacWrite

Font/DA Mover Folder
- Desk Accessories
- Alarm Clock
- Calculator
- Chooser
- Control Panel
- Find File
- Key Caps
- Note Pad
- Puzzle
- Scrapbook
- Font/DA Mover 3.8
- Fonts
- Athens
- Cairo
- Courier
- Geneva
- Helvetica
- London
- Los Angeles

TA30217_System_5-0_800K_Disk_Contents_(993)_(TIL13431).pdf

- Mobile
- New York
- San Francisco
- Symbol
- Times
- Venice

Published Date: Feb 19, 2012

System 5.1: 800K Disk Contents (9/93)

This article details the contents of System 5.1, shipped on two 800K floppy disks.

This article has been archived and is no longer updated by Apple.

Availability

AppleLink:
Developer Support
Developer Services
System Software
Macintosh U.S. System Software

FTP Apple.com: /dts/mac/sys.soft/5.1

Disk Name: Version:

System Tools 1

System Folder
- Clipboard File
- Color 3.2
- DA Handler 1.0
- Easy Access 1.0
- Finder 6.0
- General 3.2
- Key Layout 2.2
- Keyboard 3.2
- Monitors 3.2
- Mouse 3.2
- MultiFinder 1.0
- Scrapbook File
- Sound 3.2
- Startup Device 3.2
- System 4.3

TeachText 1.1
Update Folder
- Read Me

Utilities Folder
- Apple HD SC Setup 1.5
- Installer 2.5
- Installer Scripts
- Macintosh II Script
- Macintosh Plus Script
- Macintosh SE Script

System Tools 2

Installer 2.5
System Folder
- AppleTalk ImageWriter 2.6
- Background Printing
- Backgrounder 1.1
- Clipboard File
- Color 3.2
- DA Handler 1.0
- Easy Access 1.0
- Finder 6.0
- General 3.2
- ImageWriter 2.6
- Key Layout 2.2

TA30218_System_5-1_800K_Disk_Contents_(993)_(TIL13432).pdf

- Keyboard 3.2
- Laser Prep
- LaserWriter 5.1
- Mouse 3.2
- MultiFinder 1.0
- PrintMonitor 1.1
- Scrapbook File
- Sound 3.2
- Spool Folder
- Startup Device 3.2
- System 4.3

TeachText 1.1

Update Folder

- Read Me

Published Date: Feb 19, 2012

System 6.0: 800K Disk Contents (9/93)

Article Created: 27 September 1993

This article details the contents of System 6.0, shipped on four 800K floppy disks.

This article has been archived and is no longer updated by Apple.

Availability

AppleLink:
Developer Support
Developer Services
System Software
Macintosh U.S. System Software

FTP Apple.com: N/A

Disk Name: Version:

System Tools

Read Me
Setup Folder
- Apple HD SC Setup 2.0
- Installer 2.6.1
- Installer Scripts
- Macintosh II Script 6.0
- Macintosh Plus Script 6.0
- Macintosh SE Script 6.0

System Folder
- Backgrounder 1.2
- Clipboard File 6.0
- Color 3.3
- DA Handler 6.0
- Easy Access 1.0
- Finder 6.1
- General 3.3
- Key Layout 2.3
- Keyboard 3.3
- Monitors 3.3
- Mouse 3.3
- MultiFinder 6.0
- Scrapbook File 6.0
- Sound 3.3
- Startup Device 3.3
- System 6.0

TeachText 1.2

Utilities 1

Apple HD SC Setup 2.0
Disk First Aid 1.4
HD Backup 1.1
Installer 2.6
Responder 1.0
Special Installer Scripts
- AppleShare Script 1.1
- Minimum II Script 6.0
- Minimum Plus Script 6.0
- Minimum SE Script 6.0

TA30219_System_6-0_800K_Disk_Contents_(993)_(TIL13433).pdf

System Folder
- Access Privileges
- AppleShare
- Clipboard File 6.0
- Color 3.3
- Easy Access 1.0
- Finder 6.1
- General 3.3
- Key Layout 2.3
- Keyboard 3.3
- Monitors 3.3
- Mouse 3.3
- Scrapbook File 6.0
- Sound 3.3
- Startup Device 3.3
- System 6.0

Utilities 2

Apple File Exchange Folder
- Apple File Exchange 1.1
- DCA-RFT/MacWrite
CloseView 1.0
Font/DA Mover Folder
- Desk Accessories
- Alarm Clock
- Calculator
- Chooser
- Control Panel
- Find File
- Key Caps
- Note Pad
- Puzzle
- Scrapbook
- Font/DA Mover 3.8
- Fonts
- Athens
- Cairo
- Courier
- Geneva
- Helvetica
- London
- Los Angeles
- Mobile
- New York
- San Francisco
- Symbol
- Times
- Venice
MacroMaker Folder
- MacroMaker 1.0
- MacroMaker Help 1.0
- Macros
Map 1.1

Printing Tools

AppleTalk ImageWriter 2.7
ImageWriter 2.7
Laser Prep 5.2
LaserWriter 5.2
LaserWriter IISC 1.1
PrintMonitor 1.2

TA30219_System_6-0_800K_Disk_Contents_(993)_(TIL13433).pdf

Published Date: Feb 19, 2012

System 6.0.2: 800K Disk Contents (9/93)

This article details the contents of System 6.0.2, shipped on four 800K floppy disks.

This article has been archived and is no longer updated by Apple.

Availability

AppleLink:
Developer Support
Developer Services
System Software
Macintosh U.S. System Software

FTP Apple.com: /dts/mac/sys.soft/6.0.2

Disk Name: Version:

System Tools

Read Me
Setup Folder
- Apple HD SC Setup 2.0
- Installer 2.6.1
- Installer Scripts
- Macintosh II/IIx Script 6.0.2
- Macintosh Plus Script 6.0.2
- Macintosh SE Script 6.0.2
System Folder
- Backgrounder 1.2
- Clipboard File 6.0.1
- Color 3.3.1
- DA Handler 6.0.1
- Easy Access 1.0
- Finder 6.1
- General 3.3.1
- Key Layout 2.3
- Keyboard 3.3.1
- Monitors 3.3.1
- Mouse 3.3.1
- MultiFinder 6.0.1
- Scrapbook File 6.0.1
- Sound 3.3.1
- Startup Device 3.3.1
- System 6.0.2
TeachText 1.2

Utilities 1

Apple HD SC Setup 2.0
Disk First Aid 1.4.1
HDBackup 1.1
Installer 2.6.1
Responder 1.0
Special Installer Scripts
- AppleShare Script 2.0.1
- Minimum II/IIx Script 6.0.2
- Minimum Plus Script 6.0.2
- Minimum SE Script 6.0.2
System Folder
- Access Privileges
- AppleShare 2.0.1

- Clipboard File 6.0.1
- Color 3.3.1
- Easy Access 1.0
- Finder 6.1
- General 3.3.1
- Key Layout 2.3
- Keyboard 3.3.1
- Monitors 3.3.1
- Mouse 3.3.1
- Scrapbook File 6.0.1
- Sound 3.3.1
- Startup Device 3.3.1
- System 6.0.2

Utilities 2

Apple File Exchange Folder
- Apple File Exchange 1.1
- DCA-RFT/MacWrite

CloseView 1.0
Font/DA Mover Folder
- Desk Accessories
- Alarm Clock
- Calculator
- Chooser
- Control Panel
- Find File
- Key Caps
- Note Pad
- Puzzle
- Scrapbook
- Font/DA Mover 3.8
- Fonts
- Athens
- Cairo
- Courier
- Geneva
- Helvetica
- London
- Los Angeles
- Mobile
- New York
- San Francisco
- Symbol
- Times
- Venice

MacroMaker Folder
- MacroMaker 1.0.1
- MacroMaker Help 1.0.1
- Macros

Map 1.1

Printing Tools

AppleTalk ImageWriter 2.7
ImageWriter 2.7
Laser Prep 5.2
LaserWriter 5.2
LaserWriter IISC 1.1
AppleTalk ImageWriter LQ 2.0
ImageWriter LQ 2.0
PrintMonitor 1.2

Published Date: Feb 19, 2012

System 6.0.3: 800K Disk Contents (9/93)

This article details the contents of System 6.0.3, shipped on four 800K floppy disks.

This article has been archived and is no longer updated by Apple.

Availability

AppleLink:
Developer Support
Developer Services
System Software
Macintosh U.S. System Software

FTP Apple.com: /dts/mac/sys.soft/6.0.3

Disk Name: Version:

System Tools

Read Me
Setup Folder
- Apple HD SC Setup 2.0
- Installer 2.6.1
- Installer Scripts
- Macintosh II Family Script 6.0.3
- Macintosh Plus Script 6.0.3
- Macintosh SE Script 6.0.3
- Macintosh SE/30 Script 6.0.3

System Folder
- Backgrounder 1.2
- Clipboard File 6.0.1
- Color 3.3.1
- DA Handler 6.0.3
- Easy Access 1.0
- Finder 6.1
- General 3.3.1
- Key Layout 2.3
- Keyboard 3.3.1
- Monitors 3.3.1
- Mouse 3.3.1
- MultiFinder 6.0.3
- Scrapbook File 6.0.1
- Sound 3.3.1
- Startup Device 3.3.1
- System 6.0.3

TeachText 1.2

Utilities 1

Apple HD SC Setup 2.0
Disk First Aid 1.4.2
HDBackup 1.1
Installer 2.6.1
Responder 1.0.1
Special Installer Scripts
- AppleShare Script 2.0.1
- Minimum II Family Script 6.0.3
- Minimum Plus Script 6.0.3
- Minimum SE Script 6.0.3
- Minimum SE/30 Script 6.0.3

System Folder
- Access Privileges
- AppleShare 2.0.1
- Clipboard File 6.0.1
- Color 3.3.1
- Easy Access 1.0
- Finder 6.1
- General 3.3.1
- Key Layout 2.3
- Keyboard 3.3.1
- Monitors 3.3.1
- Mouse 3.3.1
- Scrapbook File 6.0.1
- Sound 3.3.1
- Startup Device 3.3.1
- System 6.0.3

Utilities 2

Apple File Exchange Folder
- Apple File Exchange 1.1.1
- DCA-RFT/MacWrite 1.01

CloseView 1.0
Font/DA Mover Folder
- Desk Accessories
- Alarm Clock
- Calculator
- Chooser
- Control Panel
- Find File
- Key Caps
- Note Pad
- Puzzle
- Scrapbook
- Font/DA Mover 3.8
- Fonts
- Athens
- Cairo
- Courier
- Geneva
- Helvetica
- London
- Los Angeles
- Mobile
- New York
- San Francisco
- Symbol
- Times
- Venice

MacroMaker Folder
- MacroMaker 1.0.1
- MacroMaker Help 1.0.1
- Macros

Map 1.1

Printing Tools

AppleTalk ImageWriter 2.7
ImageWriter 2.7
Laser Prep 5.2
LaserWriter 5.2
LaserWriter IISC 1.1
LQ AppleTalk ImageWriter 2.0

TA30221_System_6-0-3_800K_Disk_Contents_(993)_(TIL13435).pdf

LQ ImageWriter 2.0
PrintMonitor 1.2

Published Date: Feb 19, 2012

System 6.0.4: 800K Disk Contents (9/93)

This article details the contents of System 6.0.4, shipped on four 800K floppy disks.

This article has been archived and is no longer updated by Apple.

Availability

AppleLink:
Developer Support
Developer Services
System Software
Macintosh U.S. System Software

FTP Apple.com: /dts/mac/sys.soft/6.0.4

Disk Name: Version:

System Tools

Apple HD SC Setup 2.0
Installer 3.0
Installer Script 6.0.4
Read Me
System Folder
- Clipboard File 6.0.1
- Finder 6.1.4
- General 3.3.2
- Monitors 4.1
- Startup Device 3.3.1
- System 6.0.4
TeachText 1.2

Utilities 1

Apple HD SC Setup 2.0
Disk First Aid 1.4.2
Responder 1.1.1
System Folder
- Access Privileges
- AppleShare 2.0.2
- Backgrounder 1.2
- Clipboard File 6.0.1
- Color 3.3.2
- DA Handler 6.0.4
- Finder 6.1.4
- General 3.3.2
- Keyboard 3.3.1
- Monitors 4.1
- Mouse 3.3.1
- MultiFinder 6.0.4
- Sound 3.3.1
- System 6.0.4
TeachText 1.2

Utilities 2

Apple File Exchange Folder
- Apple File Exchange 1.1.3
- DCA-RFT/MacWrite 1.01
Font/DA Mover Folder
- Desk Accessories

- Alarm Clock
- Battery
- Calculator
- Chooser
- Control Panel
- Find File
- Key Caps
- Note Pad
- Puzzle
- Scrapbook
- Font/DA Mover 3.8
- Fonts
- Athens
- Cairo
- Courier
- Geneva
- Helvetica
- London
- Los Angeles
- Mobile
- New York
- San Francisco
- Symbol
- Times
- Venice

MacroMaker Folder
- MacroMaker 1.0.1
- MacroMaker Help 1.0.1
- Macros

System Folder Additions
- CloseView 1.1
- Color 3.3.2
- Easy Access 1.0.1
- Key Layout 2.3.2
- Keyboard 3.3.1
- Map 1.2
- Mouse 3.3.1
- Portable 1.0
- Scrapbook File 6.0.1
- Sound 3.3.1
- Startup Device 3.3.1

Printing Tools

AppleTalk ImageWriter 2.7
ImageWriter 2.7
Laser Prep 5.2
LaserWriter 5.2
LaserWriter IISC 1.1
LQ AppleTalk ImageWriter 2.0
LQ ImageWriter 2.0
PrintMonitor 1.2

Published Date: Feb 19, 2012

System 6.0.5: 800K Disk Contents (9/93)

This article details the contents of System 6.0.5, shipped on four 800K floppy disks.

This article has been archived and is no longer updated by Apple.

Availability

AppleLink:
Developer Support
Developer Services
System Software
Macintosh U.S. System Software

FTP Apple.com: /dts/mac/sys.soft/6.0.5

Disk Name: Version:

System Tools

Apple HD SC Setup 2.0.1
Installer 3.0.1
Installer Script 6.0.5
Read Me
System Folder
- Clipboard File 6.0.1
- Finder 6.1.5
- General 3.3.3
- Monitors 4.2
- Startup Device 3.3.1
- System 6.0.5
TeachText 1.2

Utilities 1

Apple HD SC Setup 2.0.1
Disk First Aid 1.4.3
Responder 1.1.1
System Folder
- Access Privileges
- AppleShare 2.0.2
- Backgrounder 1.2
- Clipboard File 6.0.1
- Color 3.3.2
- DA Handler 6.0.5
- Finder 6.1.5
- General 3.3.3
- Keyboard 3.3.1
- Mouse 3.3.1
- MultiFinder 6.0.5
- Sound 3.3.1
- System 6.0.5
TeachText 1.2

Utilities 2

Apple File Exchange Folder
- Apple File Exchange 1.1.4
- DCA-RFT/MacWrite 1.01
Font/DA Mover Folder
- Desk Accessories
- Alarm Clock

- Battery
- Calculator
- Chooser
- Control Panel
- Find File
- Key Caps
- Note Pad
- Puzzle
- Scrapbook
- Font/DA Mover 3.8
- Fonts
- Athens
- Cairo
- Courier
- Geneva
- Helvetica
- London
- Los Angeles
- Mobile
- New York
- San Francisco
- Symbol
- Times
- Venice

MacroMaker Folder
- MacroMaker 1.0.2
- MacroMaker Help 1.0.2
- Macros

System Folder Additions
- CloseView 1.1
- Color 3.3.2
- Easy Access 1.0.1
- Key Layout 2.3.3
- Keyboard 3.3.1
- Map 1.2
- Mouse 3.3.1
- Portable 1.2
- Scrapbook File 6.0.1
- Sound 3.3.1
- Startup Device 3.3.1

Printing Tools

Apple Color
- 32-Bit QuickDraw 1.2
- Laser Prep 6.0.1
- LaserWriter 6.0.2
- Read Me for Apple Color
- TeachText 1.2
- Technical Information on 6.0.5

AppleTalk ImageWriter 2.7
ImageWriter 2.7
Laser Prep 5.2
LaserWriter 5.2
LaserWriter IISC 1.1
LQ AppleTalk ImageWriter 2.0
LQ ImageWriter 2.0
PrintMonitor 1.3

Published Date: Feb 19, 2012

System 6.0.7: 1.4MB Disk Contents (9/93)

Article Created: 27 September 1993

This article details the contents of System 6.0.7, as shipped on two 1.4MB floppy disks. (A separate article describes the contents of the same software as shipped on 800K disks.)

This article has been archived and is no longer updated by Apple.

Availability

AppleLink: N/A

FTP Apple.com: /dts/mac/sys.soft/6.0.7

Disk Name: Version:

System Startup

Apple HD SC Setup 2.0.3
Disk First Aid 1.4.3
Installer 3.0.1
Installer Script 6.0.7
Read Me
System Folder
- Access Privileges
- AppleShare 2.0.2
- Backgrounder 1.2
- Brightness 1.0
- Clipboard File 6.0.1
- Color 3.3.2
- DA Handler 6.0.7
- Easy Access 1.0.2
- Finder 6.1.7
- General 3.3.3
- Key Layout 2.3.4
- Keyboard 3.3.1
- Map 1.2
- Monitors 4.3
- Mouse 3.3.1
- MultiFinder 6.0.7
- Portable 1.2
- Scrapbook File 6.0.1
- Sound 3.3.2
- Startup Device 3.3.1
- System 6.0.7
TeachText 1.2

System Additions

Apple Color
- 32-Bit QuickDraw 1.2
- Laser Prep 6.0.1
- LaserWriter 6.0.2
- Read Me for Apple Color
- TeachText 1.2
Apple File Exchange Folder
- Apple File Exchange 1.1.4
- DCA-RFT/MacWrite 1.01
CloseView 1.1
Font/DA Mover Folder

- Desk Accessories
- Note Pad
- Puzzle
- Font/DA Mover 3.8
- Fonts
- Athens
- Cairo
- Courier
- Geneva
- Helvetica
- London
- Los Angeles
- Mobile
- New York
- Palatino
- San Francisco
- Symbol
- Times
- Venice

MacroMaker Folder
- MacroMaker 1.0.2
- MacroMaker Help 1.0.2
- Macros

Printing Folder
- AppleTalk ImageWriter 2.7
- ImageWriter 2.7
- Laser Prep 5.2
- LaserWriter 5.2
- LQ AppleTalk ImageWriter 2.0
- LQ ImageWriter 2.0
- Personal LaserWriter SC 1.0.1
- PrintMonitor 1.3

Responder 1.1.1

Published Date: Feb 19, 2012

System 6.0.7: 800K Disk Contents (9/93)

Article Created: 27 September 1993

This article details the contents of System 6.0.7, as shipped on four 800K floppy disks. (A separate article describes the contents of the same software as shipped on 1.4MB disks.)

This article has been archived and is no longer updated by Apple.

Availability

AppleLink:
Developer Support
Developer Services
System Software
Macintosh U.S. System Software

FTP Apple.com: /dts/mac/sys.soft/6.0.7

Disk Name: Version:

System Tools

Installer 3.0.1
Installer Script 6.0.7
Read Me
System Folder
- Clipboard File 6.0.1
- Finder 6.1.8
- General 3.3.3
- Monitors 4.3
- Startup Device 3.3.1
- System 6.0.8
TeachText 1.2

Utilities 1

Apple HD SC Setup 2.0.3
Disk First Aid 1.4.3
Responder 1.1.1
System Folder
- Access Privileges
- AppleShare 2.0.2
- Clipboard File 6.0.1
- DA Handler 6.0.7
- Finder 6.1.7
- MultiFinder 6.0.7
- System 6.0.7

Utilities 2

Apple File Exchange Folder
- Apple File Exchange 1.1.4
- DCA-RFT/MacWrite 1.01
Font/DA Mover Folder
- Desk Accessories
- Alarm Clock
- Battery
- Calculator
- Find File
- Key Caps

- Note Pad
- Puzzle
- Scrapbook
- Font/DA Mover 3.8
- Fonts
- Athens
- Cairo
- Courier
- Geneva
- Helvetica
- London
- Los Angeles
- Mobile
- New York
- San Francisco
- Symbol
- Times
- Venice

MacroMaker Folder
- MacroMaker 1.0.2
- MacroMaker Help 1.0.2
- Macros

System Folder Additions
- Backgrounder 1.2
- Brightness 1.0
- CloseView 1.1
- Color 3.3.2
- Easy Access 1.0.2
- Key Layout 2.3.4
- Keyboard 3.3.1
- Map 1.2
- Mouse 3.3.1
- Portable 1.2
- Scrapbook File 6.0.1
- Sound 3.3.2
- Startup Device 3.3.1

Printing Tools

Apple Color
- 32-Bit QuickDraw 1.2
- Laser Prep 6.0.1
- LaserWriter 6.0.2
- Read Me for Apple Color
- TeachText 1.2

AppleTalk ImageWriter 2.7
ImageWriter 2.7
Laser Prep 5.2
LaserWriter 5.2
LQ AppleTalk ImageWriter 2.0
LQ ImageWriter 2.0
Personal LaserWriter SC 1.0.1
PrintMonitor 1.3

Published Date: Feb 19, 2012

Ven-Tel 1200PLUS modem: Using it with all Apples

This article has been archived and is no longer updated by Apple.
Modem type:
AT&T 103 / 212A series; 1200, 0-300 bps.

Instruction set used:
Fully HAYES compatible.

Hardware configuration:
Eight LED indicators on front panel give modem and data status. Modem runs off of external plug in power supply. Built-in speaker is used to monitor operation and diagnostics.

Software configuration:
Microprocessor controlled intelligent modem with number storage, auto-dial and auto-answer functions.

Interface type:
RS-232 DB-25S (DCE) connector, full or half duplex operation.

Modem interface packages, by computer:

Apple IIe (Super Serial card):
Access II or other terminal software; straight through DB-25 cable interface (serial card configured as DTE equipment) for hardware connection.

Apple IIc:
Access II or other terminal software; Apple IIc to Imagewriter cable with modem eliminator cable for hardware connection.

Apple III:
Access III or other terminal software; straight through DB-25 cable for hardware connection.

Macintosh:
MacTerm or other terminal software; Macintosh to Imagewriter cable with modem eliminator cable for hardware connection.

Macintosh XL:
MacTerm or other terminal software; straight through DB-25 cable for hardware connection.
Published Date: Feb 19, 2012

System 6.0.8: 1.4MB Disk Contents (9/93)

Article Created: 27 September 1993

This article details the contents of System 6.0.8, as shipped on two 1.4MB floppy disks. (A separate article describes the contents of the same software as shipped on 800K disks.)

This article has been archived and is no longer updated by Apple.

Availability

AppleLink: N/A

FTP Apple.com: /dts/mac/sys.soft/6.0.8

Disk Name: Version:

System Startup

Apple HD SC Setup 2.0.3
Disk First Aid 1.4.3
Installer 3.0.1
Installer Script 6.0.8
Read Me
System Folder
- Access Privileges
- AppleShare 2.0.2
- Backgrounder 1.3
- Brightness 1.0
- Clipboard File 6.0.1
- Color 3.3.2
- DA Handler 6.0.8
- Easy Access 1.0.2
- Finder 6.1.8
- General 3.3.3
- Key Layout 2.3.4
- Keyboard 3.3.1
- Map 1.2
- Monitors 4.3
- Mouse 3.3.1
- MultiFinder 6.0.8
- Portable 1.2
- Scrapbook File 6.0.1
- Sound 3.3.2
- Startup Device 3.3.1
- System 6.0.8
TeachText 1.2

System Additions

Apple Color
- 32-Bit QuickDraw 1.2
- Read Me for Apple Color
- TeachText 1.2
Apple File Exchange Folder
- Apple File Exchange 1.1.4
- DCA-RFT/MacWrite 1.01
CloseView 1.1
Font/DA Mover Folder
- Desk Accessories
- Note Pad

- Puzzle
- Font/DA Mover 3.8
- Fonts
- Athens
- Cairo
- Courier
- Geneva
- Helvetica
- London
- Los Angeles
- Mobile
- New York
- Palatino
- San Francisco
- Symbol
- Times
- Venice

MacroMaker Folder
- MacroMaker 1.0.2
- MacroMaker Help 1.0.2
- Macros

Printing Folder
- AppleTalk ImageWriter 2.7
- ImageWriter 2.7
- Laser Prep 7.0
- LaserWriter 7.0
- LQ AppleTalk ImageWriter 2.0
- LQ ImageWriter 2.0
- Personal LaserWriter SC 7.0
- PrintMonitor 7.0

Responder 1.1.1

Published Date: Feb 19, 2012

System 6.0.8: 800K Disk Contents (9/93)

Article Created: 27 September 1993

This article details the contents of System 6.0.8, as shipped on four 800K floppy disks. (A separate article describes the contents of the same software as shipped on 1.4MB disks.)

This article has been archived and is no longer updated by Apple.

Availability

AppleLink:
Software Sampler
Apple SW Updates
Macintosh
System Software

FTP Apple.com: /dts/mac/sys.soft/6.0.8

Disk Name: Version:

System Tools

Installer 3.0.1
Installer Script 6.0.8
Read Me
System Folder
- Clipboard File 6.0.1
- Finder 6.1.8
- General 3.3.3
- Monitors 4.3
- Startup Device 3.3.1
- System 6.0.8
TeachText 1.2

Utilities 1

Apple HD SC Setup 2.0.3
Disk First Aid 1.4.3
Responder 1.1.1
System Folder
- Access Privileges
- AppleShare 2.0.2
- Clipboard File 6.0.1
- DA Handler 6.0.8
- Finder 6.1.8
- MultiFinder 6.0.8
- System 6.0.8

Utilities 2

Apple File Exchange Folder
- Apple File Exchange 1.1.4
- DCA-RFT/MacWrite 1.01
Font/DA Mover Folder
- Desk Accessories
- Alarm Clock
- Battery
- Calculator
- Find File
- Key Caps

- Note Pad
- Puzzle
- Scrapbook
- Font/DA Mover 3.8
- Fonts
- Athens
- Cairo
- Courier
- Geneva
- Helvetica
- London
- Los Angeles
- Mobile
- New York
- San Francisco
- Symbol
- Times
- Venice

MacroMaker Folder
- MacroMaker 1.0.2
- MacroMaker Help 1.0.2
- Macros

System Folder Additions
- Backgrounder 1.3
- Brightness 1.0
- CloseView 1.1
- Color 3.3.2
- Easy Access 1.0.2
- Key Layout 2.3.4
- Keyboard 3.3.1
- Map 1.2
- Mouse 3.3.1
- Portable 1.2
- Scrapbook File 6.0.1
- Sound 3.3.2
- Startup Device 3.3.1

Printing Tools

Apple Color
- 32-Bit QuickDraw 1.2
- Read Me for Apple Color
- TeachText 1.2

AppleTalk ImageWriter 2.7
ImageWriter 2.7
Laser Prep 7.0
LaserWriter 7.0
LQ AppleTalk ImageWriter 2.0
LQ ImageWriter 2.0
Personal LaserWriter SC 7.0
PrintMonitor 7.0

Published Date: Feb 19, 2012

System 7 Tune-Up 1.1.1: 800K Disk Contents (9/93)

Article Created: 27 September 1993

This article details the contents of System 7 Tune-Up 1.1.1, shipped on one 800K floppy disk.

This article has been archived and is no longer updated by Apple.
Availability

AppleLink:
Software Sampler
Apple SW Updates
Macintosh
System Software

Disk Name: Version:

System 7 Tune-Up

Install System 7 Tune-Up 1.1.1
Installer 3.2
Read Me
Tune-Up Parts
- Chooser 7.1
- File Sharing Extension 7.0.2
- LaserWriter 7.1.1
- StyleWriter 7.2.2
- System 7 Tuner 1.1.1

The Disk Part Number is: 690-0204
Published Date: Feb 19, 2012

System 7.0: 1.4MB Disk Contents

This article details the contents of System 7.0, shipped on seven 1.4MB floppy disks. (A separate article describes the contents of the same software as shipped on 800K disks.)

This article has been archived and is no longer updated by Apple.

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Disk Name:                          Version:          Apple Part Number:
-------------------------------------------------------------------------

Before You Install System 7                                   690-5687
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Before You Install System 7          1.0
Compatibility Checker                1.0
Late Breaking News
Read Me
TeachText                           1.2

Disk Tools                                                    690-5819
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Apple HD SC Setup                    7.0
Disk First Aid                       7.0
System Folder
- Apple Menu Items
- Control Panels
- Extensions
- Finder                             7.0
- Fonts
- Preferences
 -Finder Preferences
- Startup Items
- System                             7.0

Install 1                                                     690-5690
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Install                              7.0
Installer                            3.2
Network Extension                    7.0
System                               7.0

Install 2                                                     690-5691
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A/ROSE                               1.1.3
AppleShare                           7.0
DAL                                  1.2.2
DAL Preferences
EtherTalk Phase 2                    2.2.1
Finder                               7.0
Finder Help                          7.0
TokenTalk Phase 2                    2.2
TokenTalk Prep                       2.2

Tidbits                                                       690-5693
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Apple File Exchange Folder
- Apple File Exchange                7.0
- DCA-RFT/MacWrite                   1.01
CloseView                            7.0
Control Panels
- Brightness                         7.0
- Color                              7.0
- Control Panels (alias)
```

- File Sharing Monitor	7.0	
- General Controls	7.0	
- Keyboard	7.0	
- Labels	7.0	
- Map	7.0	
- Memory	7.0	
- Monitors	7.0	
- Mouse	7.0	
- Network	2.3	
- Portable	7.0	
- Sharing Setup	7.0	
- Sound	7.0	
- Startup Disk	7.0	
- Users & Groups	7.0	
- Views	7.0	
Desk Accessories		
- Alarm Clock	7.0	
- Battery	7.0	
- Calculator	7.0	
- Chooser	7.0	
- Key Caps	7.0	
- Note Pad	7.0	
- Puzzle	7.0	
- Scrapbook	7.0	
- Scrapbook File		
Easy Access	7.0	
File Sharing Extension	7.0	
LaserWriter Font Utility	7.0	
Read Me		
TeachText	7.0	
Printing		690-5692

AppleTalk ImageWriter	7.0	
Backgrounder	1.3	
ImageWriter	7.0	
Installer	3.2	
Laser Prep	7.0	
LaserWriter	7.0	
LQ AppleTalk ImageWriter	7.0	
LQ ImageWriter	7.0	
Personal LaserWriter SC	7.0	
Personal LW LS	7.0	
Printer Update	7.0	
PrintMonitor	7.0	
StyleWriter	7.0	
Fonts		690-5821

Athens	N/A	
Cairo	N/A	
Chicago	N/A	
Courier	N/A	
Geneva	N/A	
Helvetica	N/A	
London	N/A	
Los Angeles	N/A	
Monaco	N/A	
New York	N/A	
Palatino	N/A	
San Francisco	N/A	
Symbol	N/A	
Times	N/A	
Venice	N/A	

TA30230_System_7-0_1-4MB_Disk_Contents_(TIL13443).pdf

Published Date: Feb 19, 2012

System 7.0: 800K Disk Contents

This article details the contents of System 7.0, as shipped on nine 800K floppy disks. (A separate article describes the contents of the same software as shipped on 1.4MB disks.)

This article has been archived and is no longer updated by Apple.

```
Disk Name:                          Version:          Apple Part Number:
---------------------------------------------------------------------------

Before You Install System 7                                   690-5687
---------------------------
Before You Install System 7          1.0
Compatibility Checker                1.0
Late Breaking News
Read Me
TeachText                           1.2

Disk Tools                                                    690-5684
----------
Apple HD SC Setup                    7.0
Disk First Aid                       7.0
System Folder
- Brightness                         1.0
- Finder                             6.1.7
- General                            3.3.3
- Monitors                           4.3
- Mouse                              3.3.1
- Portable                           1.2
- Startup Device                     3.3.1
- System                             6.0.7

Install 1                                                     690-5680
---------
Install                              7.0
Installer                            3.2
System                               7.0

Install 2                                                     690-5681
---------
Apple File Exchange Folder
- Apple File Exchange                7.0
- DCA-RFT/MacWrite                   1.01
Cerulean Data

Install 3                                                     690-5682
---------
A/ROSE                               1.1.3
CloseView                            7.0
DAL                                  1.2.2
DAL Preferences
EtherTalk Phase 2                    2.2.1
Finder                               7.0
Finder Help                          7.0
TeachText                            7.0
TokenTalk Phase 2                    2.2
TokenTalk Prep                       2.2

Tidbits                                                       690-5686
-------
Control Panels
```

- Brightness	7.0
- Color	7.0
- Control Panels (alias)	
- Easy Access	7.0
- General Controls	7.0
- Keyboard	7.0
- Labels	7.0
- Map	7.0
- Memory	7.0
- Monitors	7.0
- Mouse	7.0
- Portable	7.0
- Sound	7.0
- Startup Disk	7.0
- Users & Groups	7.0
- Views	7.0
Desk Accessories	
- Alarm Clock	7.0
- Battery	7.0
- Calculator	7.0
- Chooser	7.0
- Key Caps	7.0
- Note Pad	7.0
- Puzzle	7.0
- Scrapbook	7.0
- Scrapbook File	
Network	
- AppleShare	7.0
- File Sharing Extension	7.0
- File Sharing Monitor	7.0
- Network	2.3
- Network Extension	7.0
- Sharing Setup	7.0
Read Me	

More Tidbits 690-5700

AppleTalk ImageWriter	7.0
Chicago	
Geneva	
ImageWriter	7.0
LaserWriter Font Utility	7.0
LQ AppleTalk ImageWriter	7.0
LQ ImageWriter	7.0
Monaco	
New York	

Printing 690-5683

Backgrounder	1.3
Installer	3.2
Laser Prep	7.0
LaserWriter	7.0
Personal LaserWriter SC	7.0
Personal LW LS	7.0
Printer Update	7.0
PrintMonitor	7.0
StyleWriter	7.0

Fonts 690-5685

Athens	N/A
Cairo	N/A
Courier	N/A
Helvetica	N/A

London	N/A
Los Angeles	N/A
San Francisco	N/A
Venice	N/A
Palatino	N/A
Symbol	N/A
Times	N/A

Published Date: Feb 19, 2012

System 7.1: 1.4MB Disk Contents (9/93)

Article Created: 27 September 1993

This article details the contents of System 7.1, as shipped on seven 1.4MB floppy disks. (A separate article describes the contents of the same software as shipped on 800K disks.)

This article has been archived and is no longer updated by Apple.
Availability

AppleLink: N/A

FTP Apple.com: N/A

Disk Name: Version: Apple Part Number:

Before You Install 690-0231

Compatibility Checker 2.0

Disk Tools 690-0245

Apple HD SC Setup 7.1
Disk First Aid 7.1
System Folder
- Apple Menu Items
- Control Panels
- Extensions
- Finder 7.1
- Fonts
- Preferences
- Startup Items
- System 7.1

Install 690-0237

Install FDHD 7.1
Installer 3.4
System 7.1

Install 2 690-0238

A/ROSE 1.1.7
EtherTalk Phase 2 2.3.1
EtherTalk Prep 1.0.2
Finder 7.1
Finder Help 7.1
Network 2.3.3
Network Extension 7.1
Token Ring 1.0.1
TokenTalk Phase 2 2.4.1
TokenTalk Prep 2.4.1
?Tidbits 690-0244

Apple Menu Items
- Alarm Clock 7.1
- Battery 7.1
- Calculator 7.1
- Chooser 7.2
- Control Panels (alias)

- Key Caps 7.1
- Note Pad 7.1
- Puzzle 7.1
- Scrapbook 7.1

Apple Utilities
- Apple File Exchange Folder
- Apple File Exchange 7.0
- DCA-RFT/MacWrite 1.01
- LaserWriter Font Utility 7.0
- Read Me
- TeachText 7.0

CloseView 7.1
Control Panels
- Brightness 7.0.1
- Cache Switch 7.0.1
- Color 7.1
- Date & Time 7.1
- File Sharing Monitor 7.1
- General Controls 7.1
- Keyboard 7.1
- Labels 7.1
- Map 7.1
- Memory 7.1
- Monitors 7.0
- Mouse 7.1
- Numbers 7.1
- PowerBook 7.1
- Sharing Setup 7.1
- Sound 7.1
- Startup Disk 7.0
- Users & Groups 7.1
- Views 7.1

Easy Access 7.0
Extensions
- AppleShare 7.1
- Caps Lock 7.1
- File Sharing Extension 7.1

Scrapbook File

Printing 690-0242

AppleTalk ImageWriter 7.0.1
ImageWriter 7.0.1
Installer 3.4
LaserWriter 7.1.2
LQ AppleTalk ImageWriter 7.0.1
LQ ImageWriter 7.0.1
Only System 6.x
- Backgrounder 1.3
- Laser Prep 7.1.2

Personal LaserWriter SC 7.0.1
Personal LW LS 7.2
Printer Update 7.1
PrintMonitor 7.1
StyleWriter 7.2.3

Fonts 690-0243

Apple Classic Fonts (folder)
- Athens N/A
- Cairo N/A
- London N/A
- Los Angeles N/A
- Mobile N/A
- San Francisco N/A

- Venice N/A
Chicago N/A
Courier N/A
Geneva N/A
Helvetica N/A
Monaco N/A
New York N/A
Palatino N/A
Symbol N/A
Times N/A

Published Date: Feb 19, 2012

System 7.1: 800K Disk Contents (9/93)

Article Created: 27 September 1993

This article details the contents of System 7.1, as shipped on nine 800K floppy disks. (A separate article describes the contents of the same software as shipped on 1.4MB disks.)

This article has been archived and is no longer updated by Apple.
Availability

AppleLink: N/A

FTP Apple.com:N/A

Disk Name: Version: Apple Part Number:

Before You Install 690-0231

Compatibility Checker 2.0

Disk Tools 690-0228

Apple HD SC Setup 7.1
Disk First Aid 7.1
System Folder
- Brightness 1.0
- Finder 6.1.7
- General 3.3.3
- Monitors 4.3
- Mouse 3.3.1
- Portable 1.2
- Startup Device 3.3.1
- System 6.0.7

Install 690-0224

Cerulean Data
Install 800K 7.1
Installer 3.4

Install 2 690-0225

System 7.1

Install 3 690-0226

AppleShare 7.1
EtherTalk Phase 2 2.3.1
EtherTalk Prep 1.0.2
Finder 7.1
Finder Help 7.1
Network Extension 7.1
Token Ring 1.0.1
TokenTalk Phase 2 2.4.1
TokenTalk Prep 2.4.1

Tidbits 690-0232

A/ROSE 1.1.7
Caps Lock 7.1

CloseView 7.1
Control Panels
- Brightness 7.0.1
- Cache Switch 7.0.1
- Color 7.1
- Control Panels (alias)
- Date & Time 7.1
- Easy Access 7.0
- File Sharing Monitor 7.1
- General Controls 7.1
- Keyboard 7.1
- Labels 7.1
- Map 7.1
- Memory 7.1
- Monitors 7.0
- Mouse 7.1
- Network 2.3.3
- Numbers 7.1
- PowerBook 7.1
- Sharing Setup 7.1
- Sound 7.1
- Startup Disk 7.0
- Users & Groups 7.1
- Views 7.1
Desk Accessories
- Alarm Clock 7.1
- Battery 7.1
- Calculator 7.1
- Chooser 7.2
- Key Caps 7.1
- Note Pad 7.1
- Puzzle 7.1
- Scrapbook 7.1
- Scrapbook File
File Sharing Extension 7.1

Tidbits 2 690-0233

Apple File Exchange Folder
- Apple File Exchange 7.0
- DCA-RFT/MacWrite 1.01
AppleTalk ImageWriter 7.0.1
LaserWriter Font Utility 7.0
LQ AppleTalk ImageWriter 7.0.1
LQ ImageWriter 7.0.1
Read Me
TeachText 7.0

Printing 690-0227

Backgrounder 1.3
ImageWriter 7.0.1
Installer 3.4
Laser Prep 7.1.2
LaserWriter 7.1.2
Personal LaserWriter SC 7.0.1
Personal LW LS 7.2
Printer Update 7.1
PrintMonitor 7.1
StyleWriter 7.2.3

Fonts 690-0229

Chicago N/A
Courier N/A

Geneva N/A
Helvetica N/A
Monaco N/A
New York N/A

Fonts 2 690-0230

Apple Classic Fonts (Not Auto Installed)
- Athens N/A
- Cairo N/A
- London N/A
- Los Angeles N/A
- Mobile N/A
- San Francisco N/A
- Venice N/A
Palatino N/A
Symbol N/A
Times N/A

Published Date: Feb 19, 2012

System 2.0 (4.1/5.5) 800K Disk Contents (9/93)

This article details the contents of System 2.0, shipped on three
800K floppy disks.

This article has been archived and is no longer updated by Apple.
Availability

AppleLink:
Developer Support
Developer Services
System Software
Macintosh U.S. System Software

Disk Name: Version:

System Tools

System Folder
- AppleTalk ImageWriter 2.6
- Clipboard File
- Easy Access 1.0
- Finder 5.5
- General 1.0
- ImageWriter 2.6
- Key Layout 2.1
- Keyboard 1.0
- Laser Prep 4.0
- LaserWriter 4.0
- Monitors 1.0
- Mouse 1.0
- Scrapbook File 2.1
- Sound 1.0
- Startup Device 1.0
- System 4.1
TeachText 1.0
Update Folder
- Read Me
Utilities Folder
- Apple HD SC Setup 1.3
- Installer 2.4
- Installer Script
- Mac Plus, 512Ke, 512K Script
- Macintosh II Script
- Macintosh SE Script

Utilities

Apple HD SC Setup 1.4
Desk Accessories
- Find File
- Note Pad
- Puzzle
Disk First Aid 1.2
Font/DA Mover 3.5
Fonts
- Athens
- Cairo
- Courier
- Helvetica
- London
- Los Angeles
- Mobile

- San Francisco
- Symbol
- Times

HDBackup 1.0
System Folder
- AppleTalk ImageWriter 2.6
- Clipboard File
- Easy Access 1.0
- Finder 5.5
- General 1.0
- ImageWriter 2.6
- Key Layout 2.1
- Keyboard 1.0
- Laser Prep 4.0
- LaserWriter 4.0
- Monitors 1.0
- Mouse 1.0
- Startup Device 1.0
- System 4.1

TeachText 1.0
Update Folder
- Read Me

Published Date: Feb 19, 2012

SNA■ps APPC and APPC/PC Under DOS (9/93)

Article Created: 27 September 1993

Can SNA*ps APPC connect to a PS/2 running APPC/PC under DOS? My environment has a PS/2 running APPC/PC (V 1.11, 1986) under DOS 3.3 connecting to an IBM 9370 mainframe running VTAM as a Host type 5 or SSCP node.

This article has been archived and is no longer updated by Apple.
In your environment, you were not able to connect the APPC/PCs to the 9370 using PU 2.1 peer-to-peer communications. You were also not able to get SNA*ps APPC gateways to attach to the PS/2 running APPC/PC using peer or PU 2.1 connections. From the trace provided, the APPC/PC is rejecting the SNA*ps peer PU 2.1 XID response. We had to conclude the APPC/PC (DOS version) was not able to interact with a full implementation of PU 2.1 found with the SNA*ps APPC product. The APPC/PC product is too old in the evolution of SNA to work at the peer level with SNA*ps.

Here is the exact technical explanation, SNA*ps receives a '2203000000' on the XID pre-negotiation phase. This is the very last thing in their response to our XID. By looking up the control vector (Chapter 8 of SNA Formats) we find that this is a 'XID Negotiation Error' and that the '0000╨00' are the byte and bit offset of the offending data. In other words, they rejected the first bit of the first byte of data that we sent them.

In checking with IBM, we found that IBM no longer supports APPC/PC, and they recommend moving to OS/2 or NS/DOS. SNA*ps has been tested with both OS/2 and NS/DOS and works perfectly in PU 2.1 peer-to peer connections.

Published Date: Feb 19, 2012

Ven-Tel 2400PLUS modem: Using it with all Apples

This article has been archived and is no longer updated by Apple.
Modem type:
AT&T 103/212A series; 2400, 1200, 0-300 bps.

Instruction set used:
Fully HAYES compatible.

Hardware configuration:
Eight LED indicators on front panel give modem and data status. Modem runs off of external plug in power supply. Non-volatile memory stores one number that can be auto-dialed by pressing a front panel button or by computer command. Built-in speaker is used to monitor operation and diagnostics.

Software configuration:
Microprecessor controlled intelligent modem with number storage, auto-dial, and auto-answer functions.

Interface type:
RS-232 DB-25S (DCE) connector, full or half duplex operation.

Modem interface packages, by computer:

Apple IIe (Super Serial card):
Access II or other terminal software; straight through DB-25 cable interface (serial card configured as DTE equipment) for hardware connection.

Apple IIc:
Access II or other terminal software; Apple IIc to Imagewriter cable with modem eliminator cable for hardware connection.

Apple III:
Access III or other terminal software; straight through DB-25 cable for hardware connection.

Macintosh:
MacTerm or other terminal software; Macintosh to Imagewriter cable with modem eliminator cable for hardware connection.

Macintosh XL:
MacTerm or other terminal software; straight through DB-25 cable for hardware connection.
Published Date: Feb 19, 2012

System 7.1 Software: Installing from 800K Disks (9/93)

Article Created: 27 September 1993

System 7.1 Update Kits purchased from software resellers contain 800K media. Those purchased directly from Apple are on 1.44MB disks. The System 7.1 installation process for 800K media differs slightly from 1.44MB disks. This article discusses the differences.

This article has been archived and is no longer updated by Apple.
With 1.44MB disks, you are instructed to shut down the computer, boot from the first floppy Install disk, and follow the installation program from there.

The installation using 800K media is slightly different. You're instructed to insert the first floppy Install disk while the Macintosh is running, and follow the installation program from there.

There are no problems using 800K media in high density floppy disk drives. The key difference is that you can't start up the Macintosh with System 7.1 on 800K disks. The 800K Install disk doesn't have room for the system files required to start up a Macintosh.

The documentation in the System 7.1 Upgrade Kit is correct for 800K media. The manual instructs users to insert the Install disk and proceed from there. You shouldn't shut down the computer, and try to boot from the disk.

Complete instructions for a Clean Install of System 7.1 are available in a separate article in the Tech Info Library or from the FaxInfo System.

Published Date: Feb 19, 2012

Apple IIgs OS v 6.0: Aristotle Installation (2/95)

This document provides installation steps to install Aristotle on an Apple IIgs using GS/OS v 6.0

This article has been archived and is no longer updated by Apple.

Hardware Requirements

You will need the following hardware:

A Macintosh Plus, SE, or member of the Classic, LC, Macintosh II, Centris or Quadra families of Macintosh computers operating in System 7 with a minimum of 4 Megabytes of random access memory (RAM) installed for AppleIIe networks.

A Macintosh computer with 5 MB of RAM installed is recommended for Macintosh and Apple IIgs networks.

Installation

---

1) Preparing the hard drive.

Insert the Disk Tools disk from the system software package in the accessory kit, and turn the Macintosh on. Open the program "Apple HD SC Setup" and click "Initialize." Answer any dialogues that ask if you want to erase the hard drive. Once the hard drive has been successfully initialized, click "Quit." When you see the Macintosh desktop, choose "Restart" from the "Special" menu.

2) Installing System 7

Insert the Install disk, or the InstallMeFirst disk from the system software package in the accessory kit. Follow any prompts. Be sure to click "Customize" to install any necessary network card services

(Ethernet, Router, and so on).

3) Installing AppleShare 3

a) With the Macintosh turned on, insert the File Server Disk and double-click on the Installer.

i) Click "Customize"

ii) Select File Server software, and Apple II Startup.

b) Check Computer's clock and set time in the "General Controls" control panel

c) Check Network Connections

i) Choose "Chooser" from the Apple menu and make sure AppleTalk is active

ii) Choose "Control Panels" from the Apple Menu and open the Network control panel to verify correct services (Ethernet, or LocalTalk) are selected.

4) Setting Up File Service

a) Open the System Folder (not the folder titled "system") and locate the AppleShare Admin application. Select its icon by clicking on it once and choose "Make Alias" from the "File" menu. Put the alias in the Apple Menu Items folder.

b) Open the AppleShare Admin Application

c) Name the File Server (enter Admin. key and click OK)

i) This is the name users will see in the Chooser

ii) Admin. Key is a password you enter whenever entering the Admin.

Application. Password can be up to 8 characters long.

d) Enter an Administrator's name and Password

i) Enter any name -- Default is "Administrator"

ii) Up to 8 characters for password -- For Administrator's personal

account on the server.

e) Check options needed as server Administrator

i) You will probably assign yourself all available options. Be sure

to click "save."

5) Creating Groups

For Aristotle, there must be a group named EXACTLY "Student" and one

named EXACTLY"Teacher" not "STUDENTS" and not "TEACHERS."

6) Creating Users

Assign each user to Student or Teacher as a primary group.

Only user's who's primary group is Teacher or student can log onto

Aristotle

7) Allowing Guest Access

Double Click on the <any user? option in User List

Default is turned off. Click Login Enabled.

8) Enable Apple II Startup

Select "Enable Apple IIStartup" from the Server Preferences in Server menu of the Admin. Program.

This will create a folder named "Users" on the root level of the server volume.

9) Selecting Volumes to Share

a) In the Administrator Application, choose "Access info" from the "Privileges" menu.

b) Select the item to be shared and click "share." The item will appeared in the shared items box on the right side of the dialog box.

c) Set privileges for the administrator. Mark check boxes: See folders, See files, Make changes.

d) Set everyone in users and groups to 'See folders'

e) Click the save button, a dialog box will appear. Select explicit.

Note: If you are going to provide Apple II Network Startup, the entire startup hard disk must be shared.

10) Open the AppleShare Server Application

11) Creating AppleShare Workstation Disk for the IIgs on 3.5 disk.

a) Start up with the Apple IIgs GSOS 6.0 System Disk

b) Insert a blank 800 K disk in the second 3.5-inch drive

c) Format the blank disk and name it "Workstation"

d) Remove the blank disk and insert GSOS v 6.0 Install Disk.

e) Open the Installer program on the Install Disk.

f) Click "Customize" when the Installer program appears.

g) Eject the Install disk and insert the Workstation disk.

h) Click "Disk" until you see "Workstation"

i) Select "Network: AppleShare 3.5 Disk" and click "install."

j) Swap disks until the installation is complete

k) Set the Apple IIgs control panel (CMD-CTR-ESC).

Note: It is recommend that you use two 3.5-inch drives.

Note: 01 and 03 ROM revision Setups.

IIgs ROM 01 - Slot 1=your card

Slot 7=AppleTalk

IIgs ROM 03 - Slot 1=AppleTalk

Slot 7=AppleTalk

12) Restart the IIgs with the Workstation disk. (CTR-Reset, at prompt type PR#5).

13) Connecting to the server from the IIgs

a) When Launcher window appears, click "Cancel"

b) Choose "Control Panel" from the Apple Menu

c) Select the AppleShare Icon on the left and the name of the server on the right.

d) Click "OK"

e) Type in the name and password of the Administrator and click "OK"

f) Select the name of the volume that will be used for the Apple II software.

g) Click "OK" and close the Control Panel.

14) Installing GSOS system software

a) Choose "Launch" from the "File" menu.

b) When the Launcher window appears, insert the Install disk.

c) Click "Disk" until Install is the Active disk.

d) Select Installer and click "Open."

e) Click "Customize" when the Installer program appears.

f) Click "Disk" until the name of the Server volume appears.

g) Choose the "Network: Server Startup" and "Network: Server Quick Logoff". (Open Apple to select multiple items.)

h) Click "Install" and "Perform this Update"

15) Restarting the IIgs from the network.

a) Open the AppleShare Admin. program from the Macintosh File Server

b) Select a user from the User list(click one time, do not open)

c) Choose "Set startup info" from the "Startup" menu

d) Click "Set Startup App"

e) Click "Desktop" then double-click the name of hard drive and the open the System folder.

f) Select the file called "Setstart.Sys16"

g) Close the Set Startup window and click "OK"

h) Choose "Verify" from the "Startup" menu.

i) Click "OK"

j) Go to the IIgs and change hardware control panel(CMD-CTR-ESC) set the RAM DISK to a minimum of 256k.

k) Restart the IIgs.

l) Log in as Administrator.

** Note: Repeat steps b-i for every user who will log in from an Apple IIgs.

16) Installing Aristotle

a) Insert the Aristotle Menu Software disk in the IIgs floppy drive.

b) Drag the Aristotle folder to the server volume icon on the desktop.

This will put the folder on the root level of the hard disk. This is recommended to minimize problems with access Privileges of enclosing folder.

c) Eject the Aristotle Menu Software Disk.

d) Insert the GSOS Install Disk.

e) Open the Installer Program.

f) Click "Customize" from the Installer program window.

g) Click "Disk" until the name of the server volume appears.

h) Choose the Aristotle Update script on the Left.

i) Open the Aristotle folder on the server volume.

j) Open the Menu.D. folder within that Aristotle folder.

k) Click "Install" and quit the Installer.

17) Setting Privileges on the File Server

a) For the folder named "System", NOT the Macintosh System folder.

Verify that Owner, Group and Everyone can See Folder and See Files

on the Folder named System. Click "Save"

b) For the "Users" Folder, verify Owner and Group and Everyone can See

Folders. DO NOT change all enclosed folders. Click "Save"

c) The "users" folder's group should be Teacher

d) For the Aristotle folder, verify that Owner, Group, and Everyone

can See Folders and See Files. Owner and Group should be able make

changes.

e) The Aristotle folder's group should be Teacher. Change all enclosed

folders. Click "Save"

18) Setting up the Startup application for each user

a) A Student User should be set to Menu.D as Startup

b) A Teacher User should be set to Menu.M as startup.

c) Verify each group from the Startup Menu and select Verify startup.

Adding New Users

After installing Aristotle, new users that have been added to the Users and Groups datafile will not appear in the User Menu of the Aristotle Menu Management Program.

They will appear after performing these steps:

1) Select the name of user.

2) Select "Verify Apple II startup Information" from the "Startup" menu in

the Administrator Program.

3) With Verification complete, open the Users Window in Aristotle (If

already open, close and open again.).

If these three steps do not work, check privileges and make sure the user has Teacher or Student assigned as a primary Group.

Article Change History:

16 Feb 1995 - Added heading for installation steps section.

03 Feb 1995 - Made corrections to AppleTalk references.

13 Jan 1995 - Made corrections to select file names appearing in article.

Support Information Services

Published Date: Feb 19, 2012

AppleShare 3.0 Commonly Asked Questions

This article presents commonly asked customer questions about AppleShare 3.0, and the answers.
This article has been archived and is no longer updated by Apple.
Question: Some of the user names are "grayed out" in the User List. What's wrong?

Answer: The login for those users is disabled. The Administrator, within the Admin application, must enable each user's login.

Question: How do I remotely administer my AppleShare server?

Answer: Apple doesn't provide a way to administer AppleShare 3.0 remotely. You must do administration tasks at the server or remotely via a third-party product.

Question: The users on the network can't see the server. What's wrong?

Answer: Ensure that you've done the following:

- Launched the File Server
- Shared the volumes
- Given users appropriate access

Question: Should I install the workstation software for AppleShare 3.0.1 on my workstations?

Answer: You should install the AppleShare 3.0.1 workstation software, unless the workstations are running System 7.1. This version has many new features.

Question: What can I do to maximize the performance of AppleShare 3.0?

Answer: Check the following:

- Make sure that AppleShare is the only application running on the server.
- Set the Remote User Activity Meter to 100%.
- Set the RAM cache between 1024K and 2048K.
- Eliminate any third-party extensions.

Increasing the memory partition for the AppleShare File Server application won't affect performance.
Published Date: Feb 19, 2012

Western DataCom WORLDCOM 200 modem: Using it with all Apples

This article has been archived and is no longer updated by Apple.
Modem type:
AT&T 103/202/212A series; 1200 FDX, 1200 HDX, 0-300 bps.

Instruction set used:
Fully HAYES compatible.

Hardware configuration:
Three LED indicators on front panel give modem status. The modem is capable of dual speed operation, necessary for Europe and Austrailia phone systems. Built-in speaker is used to monitor operation and diagnostics.

Software configuration:
Microprecessor controlled intelligent modem with auto-dial and auto-answer functions.

Interface type:
RS-232 DB-25S (DCE) connector, full or half duplex operation.

Modem interface packages, by computer:

Apple IIe (Super Serial card):
Access II or other terminal software; straight through DB-25 cable interface (serial card configured as DTE equipment) for hardware connection.

Apple IIc:
Access II or other terminal software; Apple IIc to Imagewriter cable with modem eliminator cable for hardware connection.

Apple III:
Access III or other terminal software; straight through DB-25 cable for hardware connection.

Macintosh:
MacTerm or other terminal software; Macintosh to Imagewriter cable with modem eliminator cable for hardware connection.

Macintosh XL:
MacTerm or other terminal software; straight through DB-25 cable for hardware connection.
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Macintosh PC Exchange: Troubleshooting Overview

Macintosh PC Exchange is a control panel that lets you format, read, or write DOS-format floppy disks in a Macintosh computer.

Formatting a disk prepares the disk to receive data. PC and Macintosh computers format disks differently. The term DOS describes disks formatted using DOS, Windows, or OS/2. Macintosh PC Exchange does not provide data translation.
This article has been archived and is no longer updated by Apple.

REQUIREMENTS

Be sure you have the proper software and hardware to use Macintosh PC Exchange:

- System software version 7.0 or later. System 7.5 version 7.5.3, which includes PC Exchange, is available for download from **http://asu.info.apple.com/**
- An Apple SuperDrive (formerly called FDHD), or equivalent third-party drive that reads DOS high-density disks
- At least 3 MB of random access memory (RAM)

WORKING WITH DOS DISKS

After you install Macintosh PC Exchange in your Control Panels folder and restart your computer, DOS-format disks appear directly on your Macintosh desktop when you insert them into the floppy disk drive.

Formatting Disks

Formatting erases all data on a disk. Be sure the disk you want to format doesnt contain information you need. Click on the disk icon once to select it, and then choose Erase Disk from the Special menu. A format pop-up menu includes these options:

Standard Macintosh format

Formats high-density disks at 1440K, and low-density disks at 800K.

PC-DOS format

Formats high-density disks at 1440K, and low-density disks at 720K.

Apple II ProDOS disks

Formats 400K, 800K, or 1.4MB 3.5 inch Apple II ProDOS disks.

Unreadable Disks

When you insert a floppy disk into a Macintosh, you may see a message saying the disk isnt readable, and asking whether to initialize it. This might happen for the following reasons:

- In the past, many DOS users formatted low-density disks for use as high-density disks. On a DOS computer, always format standard double-sided disks in the 720K capacity, and high-density disks in the 1440K capacity. The Macintosh does not recognize an improperly formatted disk.
- An unreadable disk might be damaged. Dont try to repair a DOS-format disk with a Macintosh repair utility program. This may destroy information on the disk. If the disk requires repair, use a disk repair utility on a DOS computer.
- If a disk has never been used, you just need to initialize it.
- If you dont see more than one disk format choice, your computer needs an Apple SuperDrive. You cant use Macintosh PC Exchange in a Macintosh SE or a Macintosh II computer without a SuperDrive upgrade.
- You can not use Macintosh PC Exchange on a Macintosh Plus computer.
- Macintosh PC Exchange might not be properly installed. The PC Exchange icon must be in the Control Panels folder, and you must restart the computer after installation. Read the installation instructions in the Macintosh PC Exchange Users Guide.

Extension (INIT) Conflicts

The Macintosh loads system extensions, often called INITs, into system memory when the computer starts up. When they arent compatible with other software on your computer, you have an INIT conflict.

- Here are some typical symptoms of INIT conflicts:
- System wont accept a correctly formatted DOS disk.
- System freezes when you insert a correctly formatted DOS disk.
- You can noy open the Macintosh PC Exchange control panel to make changes.

WORKING WITH DOS DOCUMENTS

DOS Documents Will Not Open

Sometimes you might double-click a documents icon, and see a message saying that the application program couldnt be found. An MS-DOS or

Windows document may not open when you double-click the icon for the following reasons:

- The Macintosh does not know which application program to launch. You can follow the steps in the Opening a Document from within a Program section. You can also follow the instructions under Assigning Document Type.
- You may be trying to access the document over a network. PC Exchange assignments does not work for documents over a network. Assignments work only for documents on DOS-format floppy disks and documents copied from DOS-format floppy disks.
- The disks currently available on your computer do not have the application. Find the disk that contains the application, and copy the application to your hard disk.

Sometimes the application program launches, but the document does not open. Here are some reasons this may happen:

- The application program may not be able to open DOS documents when you double-click the icon. Follow the instructions in the Opening a Document from within a Program section.
- The document may have been assigned a document type that the program can not open. Follow the instructions in the Assigning Document Type section to change the document type. Refer to the table in the Assigning Macintosh Programs to DOS Documents section of the Macintosh PC Exchange User's Guide to find types that a program can open.

Incorrect Document Format

Sometimes you can open a document, but find the format is wrong. It may contain incorrect characters and strange codes. This can happen when an application program recognizes the documents type, but does not interpret the documents file format (the way the information in the document is encoded).

- Check the applications documentation for document opening and saving procedures with different file formats, or open the document with another program.
- You can also try assigning a different document type. Follow the instructionsAssigning Document Type section of this article. Refer to the table in the Assigning Macintosh Programs to DOS Documents section of the Macintosh PC Exchange Users Guide to find types that a program can open.

Opening a Document from within a Program

To open a document using an application program, follow these steps:

1. Launch a Macintosh application.
2. Choose the Open command from the File menu.
3. In the dialog scroll box, select the DOS document and click Open.

Here is why the document you want may not be listed in the directory dialog box when you choose Open in an application program:

- The program can not recognize the document type assigned to the document. Try to open the document with another application program. Or reassign a document type following the instructions in the Assigning Document Type section to change the document type. Refer to the table in the Assigning Macintosh Programs to DOS Documents section of the Macintosh PC Exchange User's Guide to find types that a program can open.
- You may be trying to access the document over a network. PC Exchange assignments do not work for documents over a network. Assignments work only for documents on DOS-format floppy disks and documents copied from DOS-format floppy disks.

Assigning Document Type

The Macintosh PC Exchange control panel lets you map file types. A three-letter DOS suffix maps to a corresponding document type on the Macintosh. Here's how to designate a specific Macintosh application for opening MS-DOS documents:

1. Choose Control Panels from the Apple menu.
2. Double-click the PC Exchange control panel to open it.
3. Click on Add.
4. In the DOS Suffix box, type a period and the three-letter DOS suffix (for example, .TXT). The suffix is required. There is an error in the manual which states that a suffix is NOT required. This is incorrect.
5. In the lower part of the dialog box, select the Macintosh application.
6. Choose a document type from the Document Type pop-up menu (for example, TEXT).
7. Click OK.

Once you make this assignment, you can double-click the icon of the DOS document to open it.

When assigning document types, you must specify the type of document the application supports. If youre unsure of which document type to use, TEXT is the safest.

Once youve made assignments, documents appear on the disk with the icon representing application and document type. Documents with an unassigned DOS suffix appear as generic DOS documents.

So that all network users are consistent, make a master list of assignments on one Macintosh. Also, place a copy of the PC Exchange Preferences file in the Preferences folder, within the System Folder, of each licensed users Macintosh.

WORKING WITH MACINTOSH DOCUMENTS

Document Types
Choose Save from the File menu to save documents onto a DOS-format disk. When saving documents created or modified on the Macintosh, be sure to save the document in a file format that the DOS application can read. Refer to the applications documentation to find out what file formats the program can open, import, and save.

The Macintosh also creates two new files for each document, to keep track of such things as the location of icons and windows. Youll need to leave about 5K of extra disk space for each document to accommodate these files.

Document Name Length
While the Macintosh supports document names up to 31 characters long, DOS supports up to eight characters plus a three-character suffix. Macintosh PC Exchange truncates a longer name used on the Macintosh when saved to a DOS disk. To preview what the shorter name looks like:

1. Click on the file to highlight it.
2. Choose Get Info from the File menu.
3. Click on the document name in the Info dialog box. This switches between the Macintosh and DOS (truncated) version of the name.
4. If this procedure does not work, make sure the File Sharing Extension is in the Extensions folder.

Non-English Word Processors
When you create a document with a non-English word processor on the Macintosh, the special accent characters (diacritical marks) may change when you open the document on a DOS computer. DOS computers may not support all characters displayed on a Macintosh.
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Quadra 660AV and 840AV: Frequently Asked Questions

This article contains answers to frequently asked questions (FAQ) about the Macintosh Centris/Quadra 660AV and Quadra 840AV.
This article has been archived and is no longer updated by Apple.

Quadra 840AV questions and answers

Question: How is the DRAM/VRAM configured? Is it the same as the Quadra 800?

Answer: The 8MB configuration comes with one 8MB SIMM. The 16MB configuration comes with two 8MB SIMMs. The VRAM is the same as the Quadra 800. It takes four 256K SIMMs to achieve the maximum 2MB of VRAM. There is no DRAM on the logic board.

Question: Is the Quadra 840AV upgradeable to Power Macintosh?

Answer: The Quadra 840AV is upgradeable to the Power Macintosh 8500/120. This upgrade will not be available until 2 months after the introduction date of the Power Macintosh 8500 series computers.

Question: Can I upgrade the Quadra 900/950 to a Quadra 840AV?

Answer: No, there is currently no upgrade path for these machines to the Quadra AV technology.

Centris/Quadra 660AV questions and answers

Question: Is the Centris/Quadra 610 upgradeable to the 660AV?

Answer: These logic board upgrades have been discontinued.

Question: Does the Quadra 660AV have an FPU built-in?

Answer: Yes, it's a 68RC040 processor running at 25MHZ.

Question: What are the DRAM/VRAM configurations on the Quadra 660AV? Is it the same as the Centris/Quadra 610?

Answer: Yes, Except the 660AV requires 70ns RAM. It has 4MB of RAM on the Logic Board, and two slots for expansion. The 8MB configuration comes with one 4MB SIMM. The Macintosh Quadra 660AV has 1 MB of VRAM.

Question: Is the 660AV upgradeable to the Power Macintosh?

Answer: These logic board upgrades have been discontinued.

Question: Is it compatible with all third party monitors?

Answer: There are differences in the video port of the Quadra 840AV and the Quadra 660AV that may cause compatibility issues with some third party monitors. If a third party monitor isn't working with the built-in video, please contact the vendor of the monitor. You need to tell the vendor "The 840AV/660AV does not support sync on green." The vendor will need to provide a fix.

Question: Can I use a video board instead of the built-in video and still use the video-in capabilities of the Quadra 840AV and the Quadra 660AV?

Answer: No, the video-in capabilities on the new AV Macintosh computers will only work with the internal video of the Macintosh.

Question: Can I use another video card with my AV Macintosh?

Answer: Yes, however you will not be able to use the video-in capabilities of for that card.

Question: Will a future AV Macintosh connect directly to the AV monitor?

Answer: You will always need the adapter cable.

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QuickTime: Versions, System Requirements, Installation

QuickTime is the multimedia architecture for the Macintosh computer family. It allows any color-capable Macintosh to integrate dynamic data types such as video, sound, and animation into presentations, training materials, and documents. Hundreds of commercial applications support QuickTime. This article has been archived and is no longer updated by Apple.

Four components

The QuickTime architecture has four key components:

- True synchronization of streams of information in time -- video and sound, for example, using the movie controller.
- A variety of compression schemes, to minimize storage requirements.
- A standard graphical interface for navigating, manipulating, and editing data.
- A rich, flexible file format that readily accommodates these new information types.

QuickTime 1.5 features

Compared to earlier versions, QuickTime 1.5 provides:

- Larger screen software-only movie playback. Up to 320 x 240 pixels at up to 15 frames per second, or four times the screen area on a Macintosh LC II. Movies on screen will now be twice as big. You can play back movies of 160 x 120 pixels at up to 30 frames per second on a Macintosh LC II.
- Integrated support for Kodak Photo CD allows digitizing photos onto a CD-ROM where QuickTime can access them. Features include easily viewed "thumbnails," QuickTime overview movie of photo images, and file-format translation so you can paste Photo CD images into any Macintosh application that supports PICT files.
- Improved CD-ROM data handling for enhanced QuickTime movie playback from a CD.
- Improved network performance for better CD playback over a network.
- Faster 1-bit dithering offers enhanced and smoother viewing of QuickTime movies on PowerBook computers and other monochrome computers.
- Generic media handlers allow developers to incorporate different data types into QuickTime movies to create new movie track types.
- Text Track, a new feature that allows integration of texts into QuickTime movies.
- Human Interface support for compression settings, sound input devices, and video digitizers. Developers can now easily change settings and features in their hardware.

QuickTime 1.6 features

- Significantly improved performance, sound, and graphics support.
- Movies play back more than 10 percent faster than the previous version 1.5, delivering smoother playback.
- The new sound manager provides customers using third-party sound cards with the ability to input and play back CD-quality, 16-bit sound from QuickTime movies. Sound Manager version 3.0 completely replaces the existing Sound Manager, and it works with all versions of QuickTime. If Sound Manager 3.0 is installed, QuickTime 1.6 will take advantage of its new features.
- A Movie Import component allows you to open Audio CD tracks from QuickTime's Standard File Preview dialog, just as you could open PICS and AIFF files with QuickTime 1.5. If you have an AppleCD 300 or 300i drive, you can use QuickTime 1.6 to convert tracks of your favorite audio CD directly into QuickTime movies.
- By supporting ColorSync, Apple's color-matching technology, QuickTime1.6 will ensure that colors in a movie played on one color monitor will be the same when played on any other color monitor.
- QuickTime 1.6 requires 90 percent less memory than the previous version when installed, giving Macintosh customers with entry-level computers more flexibility when installing QuickTime.

QuickTime 1.6.1 fixes

QuickTime 1.6.1 fixed problems with the Alias Manager, incompatibilities with NOW and HAM utilities extensions, and with the decompressor for Photo CD.

QuickTime 2.0

QuickTime 2.0 is significant because it provides larger video at faster frame rates, support for music, and support for interactive television applications.

Larger, faster, TV-like video

Video on computers is often confined to small windows and played at less than 12 frames per second, making the video appear rough and jerky. QuickTime 2.0 provides greatly increased performance resulting in full-screen movies without the addition of any hardware. This closely resembles what viewers see on television today. For example, on a Macintosh LC 475, one of Apple's lowest-cost computers, 30 frames per second video is possible at a resolution of 320 x 240, or full-screen video (640 x 480) is possible at 15 frames per second.

Key components of the new video enhancements are new features that support professional-level video editing. QuickTime 2.0 includes support for time-code, 60 fields per second video and high data throughput greater than 3 MB per second. This represents a 300 percent increase over previous versions of QuickTime.

Interactive television support

QuickTime 2.0 creates an infrastructure for development and delivery of interactive television applications through MPEG support and network enhancements. Now, with its new device protocols, QuickTime can address distributed networks and devices, such as video servers, on the information superhighway.

QuickTime 2.0 supports MPEG, widely regarded as the industry-standard method of delivering video into the home for interactive television applications such as Video On Demand (VOD) and home shopping. However, MPEG, by itself, allows only playback. With QuickTime 2.0, users of MPEG-based devices will be able to edit, search for, interact with, as well as play back video information.

Note: QuickTime requires additional hardware for MPEG playback.

Music for the masses

Building on Apple's industry renowned ease-of-use, QuickTime 2.0 makes it much easier for computer users to create, edit, play back and synchronize music with video, all without a technical understanding of MIDI technology. In the past, users of Macintosh computers and other personal computers have required an understanding of MIDI technology in order to create and play back music on computers.

In addition, QuickTime 2.0's music capabilities will save disk space for users, because QuickTime music tracks are much smaller than digital audio. For example, Beethoven's 5th Symphony could easily fill a 300 MB hard disk if stored as CD-quality audio, but when represented as a QuickTime music track it would fill just a single 800K floppy disk.

Compatibility with older versions of QuickTime

Movies created with earlier versions of QuickTime will play back with QuickTime 2.0, and usually they will play back more smoothly.

Applications and tools which support early versions of QuickTime, Movie Player and Movie Converter, for example, will play back QuickTime 2.0 movies.

QuickTime 2.0 availability

Developers: QuickTime 2.0 and QuickTime for Windows 2.0.x are available to software developers in the QuickTime Software Developer Kit (SDK) through APDA, and include licensing agreements from Apple's Software Licensing division.

End Users: QuickTime 2.0 for Mac OS is available as part of System 7.5 or can be downloaded from CompuServe (GO QTIME) for a small fee.

QuickTime 2.0 for Windows is available from CompuServe for a small fee (GO QTIME).

QuickTime 2.0 for both Mac OS and Windows can also be downloaded from the internet for a small fee. It is available at **http://quicktime.apple.com**.

All earlier versions of QuickTime are no longer available and have been removed from Apple SW Updates.

Most QuickTime products also include a copy of QuickTime.

System requirements

QuickTime requires a Macintosh computer with a 68020 or later microprocessor, with system software version 6.0.7 or later. Apple recommends at least 4MB of memory when using QuickTime with System 7. QuickTime relies on the capabilities of 32-bit QuickDraw, which only runs on 68020 or later Macintosh computers.

If you want to use QuickTime on an older Macintosh, you might be able to upgrade the unit or use a third-party board to bring it up to a 68020 microprocessor or higher. QuickTime will then work with System 7 installed, or with the 32-bit QuickDraw file installed in system 6.0.5 or 6.0.7.

Installation

To install, simply drag the QuickTime extension to your System Folder and restart. Please note that the Installer for QuickTime Starter Kit 1.0 will replace QuickTime versions 1.5, 1.6, 1.6.1, or 2.0 with 1.0. Just reinstall the QuickTime 1.5, 1.6, 1.6.1, or 2.0 extension. QuickTime 2.0 also has additional components that need to be installed including QuickTime PowerPlug (For use only on Power Macintosh computers), and QuickTime Musical Instruments (for MIDI playback). Both the QuickTime PowerPlug and QuickTime Musical Instruments go in your Extensions folder.

With System 6.0.7, the 32-bit QuickDraw file is located on the Printing Tools disk in the Apple Color folder and is not automatically installed. You must install it manually. With System 7 and later versions, 32-bit QuickDraw is built into the system software, and a separate file for 32-bit QuickDraw is no longer required.

If QuickTime movies don't play in the Scrapbook, follow these steps:

1. Copy the Scrapbook DA from the QuickTime disk to your Apple Menu Items folder.
2. Replace your existing Scrapbook DA.

For the most current information on what SDKs Apple offers, point your web browser to:

TA30244_QuickTime_Versions_System_Requirements_Installation_(TIL13466).pdf

http://developer.apple.com/sdk/
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System 6: Removing Fonts and Desk Accessories (9/94)

This article gives instructions for removing fonts and desk accessories (DAs) from a System file. It applies only to Macintosh systems that use a version of System 6.

This article has been archived and is no longer updated by Apple.

Change from MultiFinder to Finder

Font/DA Mover 4.1 can remove desk accessories, but can't remove fonts from the startup System file while in MultiFinder. If you aren't using MultiFinder, skip to the "Use Font/DA Mover" section. If you try to remove fonts, a message appears. Click the OK button.

You now have three options to change from MultiFinder to Finder:

* Restart and Press Command Key
Choose Restart from the Special menu and hold down the Command key. This temporarily disables MultiFinder. Choosing Restart again enables MultiFinder.

* Restart with a System Floppy Disk
1) Choose Restart from the Special menu.
2) Put a System disk in the main floppy drive right after you hear the chime.

* Set Startup to Finder Only
1) Choose Set Startup... from the Special menu. A dialog box appears.
2) Click the Finder radio button (the Finder Only radio button highlights at the same time).
3) Click the OK button.
4) Choose Restart from the Special menu.

Use Font/DA Mover

You are now ready to remove fonts from your System file. If you don't already have Font/DA Mover 4.1 on your hard disk, copy the application to your hard disk now.

Note: If you have older versions of Font/DA Mover on your hard disk, drag them to the Trash and choose Empty Trash from the Special menu. Using an older version can damage your System file!

1) Double-click the Font/DA Mover 4.1 application. (Hold down the Option key before launching Font/DA Mover 4.1 to display desk accessories first rather than fonts. The scroll box on the left then shows the desk accessories currently installed in your System file. Follow steps 2-4, substituting desk accessories wherever you see fonts.) The Font/DA Mover screen appears.

The scroll box on the left shows the fonts currently installed in your System file. The title below the scroll box, "System on Macintosh HD," indicates the location of the fonts.

2) Select the fonts you want to remove by one of two methods:

* Drag over the list on the left while pressing the mouse button.

* Or you can hold down the Shift key and click each font. You can select items that aren't next to each other by this method.

Font/DA Mover displays the selected fonts in reverse type (white letters on a black background).

3) Click the Remove button to remove the selected fonts. A message appears.

4) Click the OK button. Font/DA Mover removes the fonts, and they no longer appear in the left window of the screen.

5) To remove desk accessories and fonts during the same session, click the Font or Desk Accessory radio buttons at the top of the Font/DA Mover window.

6) When you're finished, click the Quit button to go back to the desktop (Finder).

7) If you previously chose to Set Startup to Finder Only, repeat the steps in that section, but click the MultiFinder radio button rather than the Finder radio button.

Article Change History:
07 Sep 1994 - Reviewed fax document. Added paragraph about Apple Fax line.
24 Feb 1994 - Provided text-only version.

Support Information Services

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ZOOM/MODEM IIe: Using it with all Apples

This article has been archived and is no longer updated by Apple.
Modem type:
AT&T 103 series; 300 / 110 bps.

Instruction set used:
Either ZOOM or HAYES command set compatible with jumper selection on card.

Hardware configuration:
Plug-in modem board for the Apple II, IIe series computers. Built-in speaker is used to monitor operation and diagnostics.

Software configuration:
Microprocessor controlled intelligent modem with auto-dial and auto-answer functions.

Interface type:
RJ-11 telephone interface.

Modem interface packages, by computer:

Apple II+ or IIe:
ZOOM or HAYES software, RJ-11 telephone cable interface.

Apple IIc:
Not useable.

Apple III:
Not useable.

Macintosh:
Not useable.

Macintosh XL:
Not useable.
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Where Do I Find PC/TCP Software (6/95)

Where do I get PC/TCP which is an equivalent of MacTCP for PCs? I'm involved in an evaluation of the Farallon PhoneNet PC/Timbuktu products, and I need access to TCP/IP.

This article has been archived and is no longer updated by Apple.

PC/TCP can be obtained from FTP Software of Wakefield, Massachusetts. The latest version is 2.2 and requires DOS 3.3 or later, 640K, hard disk and a network card. To locate a vendor's address and phone number, use the vendor name as a search string.

Article Change History:
29 Jun 1995 - Corrected spelling.

Support Information Services
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PowerShare: Installing a Server (9/93)

Article Created: 28 September 1993

This article describes how to install a PowerShare Server.

This article has been archived and is no longer updated by Apple.
1) Install PowerShare. Launch the installer from the PowerShare CD-ROM or set of floppy disks. Use the default Easy Install selection when installing PowerShare.

2) After the installation is complete, restart the Macintosh.

3) Run PowerShare Easy Setup. The installation process installs an alias to the PowerShare Easy Setup application in the Startup Items folder inside the System Folder. Upon restart, the PowerShare Easy Setup application will launch.
?4) In the PowerShare Easy Setup application, click the New button.

5) A dialog box appears, asking whether this is a new PowerShare system or an existing one. Click the New button.

6) You will be prompted to type a name for this PowerShare system and a password for the Administrator. Type in the inforamtion and click the OK button.
?(Note: the PowerShare System Administrator name cannot be changed.)

7) Wait for PowerShare to start. You will see a series of dialog boxes informing you that the PowerShare Catalog Server is starting and then that the PowerShare Mail Server is starting.

8) Confirm that the servers are running. At this point, the PowerShare Catalog Server and the PowerShare Mail Server should be running. Each server will display a separate server status window.
?
Published Date: Feb 19, 2012

PowerShare: Adding a Catalog Server (9/93)

Article Created: 28 September 1993

How do I add another PowerShare Catalog Server?

This article has been archived and is no longer updated by Apple.
An important feature of your PowerShare System is the ability to replicate and distribute the contents of catalogs across the network. If there is excessive load on a server, you can create another server and use it to store catalog folders?without altering the structure of the catalog.

However, it is not possible to have more than one PowerShare Catalog Server running on a Macintosh at the same time. You need another Macintosh with the following minimum requirements:

* At least one Macintosh computer (using a 68020 or later processor) with a hard disk.

* A minimum of 4 megabytes of memory for each installed server.

* If both the PowerShare catalog server and the PowerShare mail server are installed on the same computer you will require at least 8 MB.

* The PowerShare Server system requires system software version 7.1.1 or later. (The PowerShare Installer will install System 7.1.1 if it is needed.)

Setting up an additional PowerShare Server:
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1) Install the PowerShare software on the Macintosh where the new server will reside. Upon restart, the PowerShare Easy Setup application starts and displays a dialog box informing you that the Easy Setup application requires some information to set up the PowerShare System.

2) Click the Later button in the dialog box.

3) Open the PowerShare Server Folder and double-click on the PowerShare Catalog Server application to start it. A dialog box appears, asking whether you want to create a new PowerShare System or join an existing System.

3) Click the Join Existing button. A dialog box appears, prompting you for an administrator name and password and asking you to select a PowerShare Catalog to join.

4) Choose a PowerShare System from the pop-up menu at the top of the window. If the System you want to join is not listed in the menu, choose Other. The PowerShare Admin application begins searching for available catalogs on the network, displaying a dialog box that indicates that a search is in progress. Depending on the size of the network, the search can take from a few seconds to several minutes. Click Cancel to terminate the search. When all PowerShare Systems have been located, a dialog box appears listing the names of the available PowerShare Systems. For example: In the list of PowerShare Systems, click the System you want to join then click OK. Now that you have selected a System to administer,you can complete the logon by providing the administrator name and password.

5) In the appropriate fields, type the administrator name and password that was specified when the catalog System was set up.

6) When the information is complete, click the OK button. When your identity is authenticated, a dialog box appears asking you for a name for the new PowerShare Catalog Server. The new server must have a unique name. By default, the name of your Macintosh is supplied as the server name.

7) In the Server Name field, type a unique Catalog Server name.

8) Click the OK button. The Server application creates the new PowerShare Catalog Server. The new server name is registered for use on the network and a status window appears, displaying information about the server's operation. You can see from the status window that the new server has joined the catalog structure of the selected PowerShare System. If the System Manger Utility is also running, the System Monitor window will now list the new server. Because the Catalog Server is brand new, no catalog folders are stored on it. You can now begin adding folders and assigning their contents to the new Catalog Server or you can use the new server to store copies of existing folders.

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PowerShare Server: Primary Services Provided (9/93)

Article Created: 28 September 1993

What are the services that a PowerShare server can provide out of the box?

This article has been archived and is no longer updated by Apple.
The PowerShare Servers provide three primary services that enable a wide range of collaborative applications:

1) Catalog services. A shared, centrally-administered catalog which can be used by users and collaborative applications.

2) Authentication services. The Catalog Server acts as a trusted third party in establishing authenticated network connections.

3) Mail services. A store-and-forward mail and message server. Catalog services In a PowerShare System, the catalog is a collection of records stored in folders on one or more PowerShare Catalog Servers. Each catalog record contains information about an entity in the PowerShare System, which can be a user, group of users, network device (such as a printer or file server), purchase order forms, or meeting rooms.

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PowerShare: Minimum Server Requirements (9/93)

Article Created: 28 September 1993

This article describes the minimum system requirements for a PowerShare server.

This article has been archived and is no longer updated by Apple.
You'll need the following hardware to set up a PowerShare Server system:

* At least one Macintosh computer (using a 68020 or later processor) with a hard disk.

* A minimum of 4 megabytes of memory for each installed server.

* If both the PowerShare catalog server and the PowerShare mail server are installed on the same computer you will require at least 8 MB.

* The PowerShare Server system requires system software version 7.1.1 or later.

Notes:

If this version of system software is not already installed on the Macintosh computers that will be running the server software, the Installer will automatically update the system software during installation.

The system can be administered from the same computer on which the servers are installed or from any other computer on the network on which the PowerTalk system software has been installed. The computer serving as the administration station can be any Macintosh computer with at least 5 megabytes of memory.
Published Date: Feb 19, 2012

PowerShare Server: Authentication Services (9/93)

Article Created: 28 September 1993

This article describes the PowerShare Server's Authentication Services.

This article has been archived and is no longer updated by Apple.
The authentication service allows collaborating users and applications to interact over a network by positively verifying the identity of each party. This verification protects against unauthorized access by parties masquerading as legitimate users or services.

In providing the authentication service a PowerShare Catalog Server acts as a trusted third party by maintaining an authentication key for each user, application, or other entity that has a record in the catalog. Collaborative services and applications will use the Catalog Server to authenticate themselves in order to communicate with other users and services. Once an authenticated session is established, transmissions across the network are encrypted to prevent unauthorized tapping of the network media.

PowerShare authentication and privacy services permit collaborative applications to securely exchange and transmit sensitive information such as financial records or personnel information.

Published Date: Feb 19, 2012

ZOOM/MODEM IIe Plus: Using it with all Apples

This article has been archived and is no longer updated by Apple.
Modem type:
AT&T 103 series; 300 / 110 bps.

Instruction set used:
Either ZOOM or HAYES command set compatible with jumper selection on card.

Hardware configuration:
Plug-in modem board for the Apple II, IIe series computers. On-board memory stores up to 16 phone numbers. Added file transfer with XMODEM protocols and printer control with full text editor. Built-in speaker is used to monitor operation and diagnostics.

Software configuration:
Microprocessor controlled intelligent modem with number storage, file transfer, auto-dial, and auto-answer functions.

Interface type:
RJ-11 telephone interface.

Modem interface packages, by computer:

Apple II+ or IIe:
ZOOM or HAYES software, RJ-11 telephone cable interface.

Apple IIc:
Not useable.

Apple III:
Not useable.

Macintosh:
Not useable.

Macintosh XL:
Not useable.
Published Date: Feb 19, 2012

PowerShare Server: Mail Services Description (2/95)

This article describes the PowerShare Server's Mail Services.

This article has been archived and is no longer updated by Apple.
PowerShare Mail Servers provide the routing and storage for data exchanged between users and applications. Data is exchanged between users in the form of letters; data is exchanged between applications in a format known as messages.

Letters and messages are stored in containers known as queues on the hard disk on which a Mail Server is installed. To exchange letters and messages through PowerShare Mail Servers, a user or application (or other entity such as a printer) must have a queue on a PowerShare Mail Server.

A record for the Mail Server is stored in a PowerShare catalog folder. This record provides information about how the Mail Server is used to store and forward messages and letters.

Your PowerShare System also provides access to other mail systems. It does this through gateways, software, and/or hardware products, allowing devices on your network to communicate with other networks running different messaging protocols.

Article Change History:
09 Feb 1995 - Added keyword; made several technical updates.

Support Information Services
Published Date: Feb 19, 2012

PowerShare: Software Components (9/93)

Article Created: 28 September 1993

What software components are included in the PowerShare Server Package?

This article has been archived and is no longer updated by Apple.
The PowerShare Server Package consists of the following software components:

1) The PowerShare Catalog Server, which provides catalog and authentication services.

2) The PowerShare Mail Server, which provides messaging and mail services.

3) PowerShare Admin,an application which provides an administrator with the ability to manage and monitor the servers and catalog. With this application, you can administer a PowerShare System from any Macintosh on the network.

4) PowerShare Easy Setup, an application which allows you to quickly set up a PowerShare System that includes one PowerShare Catalog Server and one PowerShare Mail Server on a single Macintosh The PowerShare System and services.

Published Date: Feb 19, 2012

PowerShare: Moving Servers (9/93)

Article Created: 28 September 1993

How do I move a PowerShare server from one Macintosh to another Macintosh?

This article has been archived and is no longer updated by Apple.
Every PowerShare server includes the application, its data files and a preferences file. By moving a PowerShare Catalog Server, you can maintain your PowerShare catalog structure without having to rebuild the PowerShare System by recreating the folder hierarchy and all your data records. The list below identifies the tasks you must perform when moving the server to a new location:

1) Reinstall the Server software from the original disks.

2) From the top folder level,copy the PowerShare Catalog Data folder and PowerShare Mail Data folder to the top folder level on the new disk or volume.

3) From the Preferences Folder in your System Folder, you also need to copy the files PowerShare Catalog Prefs and PowerShare Mail Prefs. These files should both be copied to the Preferences folder on the new Macintosh. (You don't need to move these items if you are moving the servers to another volume that won't be a startup volume.)

Note: After you restart the servers you have moved to a new location, you may need to identify the volume on which they are stored.
Published Date: Feb 19, 2012

PowerShare Server: Catalog Services (9/93)

Article Created: 28 September 1993

This article describes the PowerShare Server's Catalog Services.

This article has been archived and is no longer updated by Apple.
In a PowerShare System, the catalog is a collection of records stored in folders on one or more PowerShare Catalog Servers. Each catalog record contains information about an entity in the PowerShare System, which can be a user, group of users, network device (such as a printer or file server), purchase order forms, or meeting rooms.

The structure of the PowerShare catalog is easily customized to fit your organization's needs. For example, you can design the catalog to reflect organizational hierarchy, function, geographic distribution, or the type of information stored.

Within each record, information about the entity is stored as a collection of attributes. For example, a record named "William Smith" of the type "User" can store information about that user such as telephone number, building, and so on. Another record named "ColorPrint" of the type "LaserWriter" can store information about a printer.

In a collaborative environment, a catalog can be used by users and by PowerTalk-savvy services and applications to locate entities, store information, indicate status, or provide any other type of information that may be required by collaborative applications.

In the same way that you can arrange files in folders on your Macintosh desktop, you store records in containers known as catalog folders. Each catalog folder in the PowerShare System can contain records or other catalog folders. You can use the PowerShare Admin provided with your server software to administer the catalog structure; creating folders and manipulating the catalog structure to fit your needs. The PowerShare software provides built-in templates that allow you to quickly create records that you can use to store information about individual users and groups of users in your organization.

The structure of the PowerShare catalog is easily customized to fit your organization's needs. For example, you can design the catalog to reflect organizational hierarchy, function, geographic distribution, or the type of information stored. The figure below represents the hierarchical structure of a PowerShare System catalog, designed by an administrator to reflect the organization of a fictitious company.

With the PowerShare Admin, you can manage the structure of the PowerShare catalog in much the same way as you manage folders and files in the Macintosh Finder.

Keep in mind that the hierarchical structure of folders is simply a means of organizing and managing information?it does not necessarily represent network connectivity or physical proximity.

Published Date: Feb 19, 2012

PowerShare: Replicating a Folder (9/93)

Article Created: 28 September 1993

How do I replicate a folder on a PowerShare Catalog Server?

This article has been archived and is no longer updated by Apple.
Use the PowerShare Admin application to replicate a folder on any existing PowerShare Catalog server. Replication of folders provides better performance in larger or frequently accessed folders by shifting the workload between servers.

To replicate a folder:

1) Start the PowerShare Admin application if is not already running and switch to Manage Mode.

2) In the System window, select the catalog server on which you want to store the folder copy and click the Open button.

3) When the server window opens, choose Catalog Folders from the pop-up menu of display options.

4) Open the Catalog window and display the folder that you want to replicate.

5) From the Catalog window, drag the folder icon to the "Catalog Folder Name" area at the bottom of the server window. When you release the mouse button, the folder now appears in the listing of catalog folders residing on the selected server.

The load for managing the folder will now be distributed between the two servers on which it resides. Notice that on the Macintosh where the newly added server is running, the status window for the server now indicates that it is serving the specified folder. From now on, any change you make to the folder is replicated on both servers.

Note: In the catalog window, the replicated folder is still only represented as a single folder; replication does not affect the organizational structure of the catalog.

Published Date: Feb 19, 2012

PowerShare Server: PowerShare Admin (9/93)

Article Created: 28 September 1993

This article describes the functionality of the PowerShare Admin application.

This article has been archived and is no longer updated by Apple.
The PowerShare Admin application provided with the PowerShare Server product package is a utility that the system administrator can use to monitor and manage the workings of a PowerShare System. The system administrator will use PowerShare Admin to:

* monitor and manage the operations of PowerShare System servers and gateways.

* manage the catalog containing folders and records.

The PowerShare Admin application provides two modes of operation: Monitor mode and Manage mode. In Monitor mode, you can view a listing of servers on the PowerShare System. When running in this mode, PowerShare Admin can be set up in a public location where users can observe the operations of the PowerShare System.

When PowerShare Admin is in Manage mode, an administrator can use the application to manage all aspects of the System, including the catalog and individual records.

Note: The PowerShare Admin will not run on a Macintosh on which the PowerTalk software has been turned off in the PowerTalk control panel.

Published Date: Feb 19, 2012

PowerTalk: Troubleshooting Common Problems (9/93)

Article Created: 28 September 1993

This article describes common problems and solutions when using PowerTalk.

This article has been archived and is no longer updated by Apple.

Registration problems

Problem: You get a dialog box reporting that there is someone else with your name in the same catalog. The two names are differentiated by a creation ID.

Solution: Check with your administrator to be sure which creation ID is yours.

Access to catalogs and services

Problem: You can't find the Key Chain icon or you've thrown it away.

Solution: To create a new Key Chain, go to the PowerTalk Setup control panel and click the Key Chain button.

Problem: You can't find the Mailbox or the Catalogs icon.

Solution: PowerTalk is probably turned off. Go to the PowerTalk Setup control panel and activate PowerTalk.

Problem: AppleTalk or PowerShare catalogs are dimmed in the Catalogs window.

Solution: Go to the Chooser and activate AppleTalk.

Problem: You get a message that the system can no longer access a server on your network. In some cases a Resolve button appears in the notification dialog box.

Solution: Click the button to reconnect. Check the cable connection on the back of your computer.

Published Date: Feb 19, 2012

PowerShare: Only One Catalog Server Per Macintosh (9/93)

Article Created: 28 September 1993

Can I run more than one PowerShare catalog server on a single Macintosh?

This article has been archived and is no longer updated by Apple.
No, you cannot have more than one PowerShare Catalog Server running on a Macintosh at the same time. You must set up additional servers elsewhere on your network.

Note: You can install and run one PowerShare Catalog Server and one PowerShare Mail Server on a single Macintosh.

Published Date: Feb 19, 2012

PowerShare: Only One Mail Server Per Macintosh (9/93)

Article Created: 28 September 1993

Can I run more than one PowerShare Mail Server on a single Macintosh?

This article has been archived and is no longer updated by Apple.
No, you cannot have more than one PowerShare Mail Server running on a Macintosh at the same time. You must set up additional servers elsewhere on your network.

Note: You can install and run one PowerShare Catalog Server and one PowerShare Mail Server on a single Macintosh.

Published Date: Feb 19, 2012

PowerShare: Setting up a Mail Connection (9/93)

Article Created: 28 September 1993

How do I set up a PowerShare Mail Connection?

This article has been archived and is no longer updated by Apple.
Use the PowerShare Admin application to set up a mail connection between the PowerShare System and a foreign mail system running on the same network. A mail connection allows users of AppleMail to exchange messages with users of other mail applications, including AppleLink and QuickMail.

To set up a mail connection, you must first install and run a third-party gateway application that oversees communications between different types of mail systems. You must install and run the gateway on the same Macintosh on which a PowerShare Mail Server is installed and running.

Follow these steps to set up a gateway:

1) Start the gateway application installed on the Macintosh on which a Mail Server is running. Depending on the type gateway you installed, you will be asked to provide a gateway name and password. At some point in the set up, the gateway will establish communications with the PowerShare Mail Server, which will ask you to identify yourself with an administrator name and password.

2) Enter the appropriate name and password, then click OK. The Mail Server creates a record for the gateway and stores it in the System Catalog. It also creates a queue for the gateway, allowing it to store messages on the Mail Server. The Mail Server then returns control to the gateway. The gateway completes its set up process. Now you can use the PowerShare Admin application to set up a connection to a foreign mail system through the gateway.

Follow these steps to set up a mail connection:

1) Open the PowerShare Admin application and choose the system on which you installed the gateway. The Servers window should display the newly installed gateway.

2) Switch to Manage mode and choose Show Mail Systems Window from the Servers menu A Mail Systems window for the current PowerShare System appears. If you have not yet established any external mail systems the window is empty.

3) Click the New button. The New Mail System dialog box appears, asking you to create a new mail system.

4) In the Name field, type a name for the mail link.

5) Choose the type of mail connection: Open the Type pop-up menu and choose a mail system. Choose the type of mail system you will be connecting; some examples include AppleLink, QuickMail and Microsoft Mail.

6) Open the Gateway pop-up menu and choose the gateway that you are using to make the connection. Any gateways currently installed on the PowerShare System are listed in the pop-up menu.

7) Click Create. The PowerShare Admin application creates the new Mail Link, which is now displayed in the Mail Systems window. With the Mail

Link in place, PowerTalk users on the network can now begin exchanging messages with users on the foreign mail system.

Published Date: Feb 19, 2012

Business Basic III: Custom characters on a DMP

This article has been archived and is no longer updated by Apple.

The following sample program defines a custom character on the Apple Dot Matrix Printer, using Apple Business BASIC and a parallel driver named ".DMP".

```
         $30_$78_$FC_$FC_$FE_$FD_$49_$00
wire #1  |___|___|___|___|___|_*_|_*_|___| (LSB no descenders)
wire #2  |___|___|___|___|_*_|___|___|___| (LSB with descenders)
wire #3  |___|___|_*_|_*_|_*_|_*_|___|___|
wire #4  |___|_*_|_*_|_*_|_*_|_*_|_*_|___|
wire #5  |_*_|_*_|_*_|_*_|_*_|_*_|___|___|
wire #6  |_*_|_*_|_*_|_*_|_*_|_*_|___|___|
wire #7  |___|_*_|_*_|_*_|_*_|_*_|_*_|___|
wire #8  |___|___|_*_|_*_|_*_|_*_|___|___| (MSB no descenders)
wire #9  |___|___|___|___|___|___|___|___| (MSB with descenders)
```

```
10   esc$=CHR$(27):REM Escape
12   OPEN#1,".dmp":OUTPUT#1
14   PRINT esc$;"Z";CHR$(0);CHR$(32):
    REM Set 8 bit format on printer
16   PRINT esc$;"-":REM Declare as 8x8 character
18   PRINT esc$;"I";:REM Load Character Generator command
20   PRINT"!";:REM Assign new character to "!"
22   PRINT CHR$(8);:REM No descender in character
24   PRINT CHR$(TEN("0030"));CHR$(TEN("0078"));CHR$(TEN("00FC"));
    CHR$(TEN("00FC"));CHR$(TEN("00FE"));CHR$(TEN("00FD"));
    CHR$(TEN("0049"));CHR$(TEN("0000"));
26   PRINT CHR$(4):REM End of character
28   PRINT esc$;"D";CHR$(0);CHR$(32):
    REM Reset 7 bit format on printer
30   PRINT esc$;"'":REM Select alternate character set
32   PRINT"!":REM Try new character
34   PRINT esc$;"$":REM Return to pre-set character set
36   CLOSE:END
38   REM By Grover Nunnery - Apple Computer - Charlotte, NC
```

Published Date: Feb 19, 2012

Performa 410: RAM Expansion Details (10/93)

Article Created: 18 October 1993

This article describes the RAM expansion details for the Performa 410.

This article has been archived and is no longer updated by Apple.
The Performa 410 includes both RAM soldered onto the logic board as well as mounted in the two SIMM (Single Inline Memory Module) slots on the logic board.

Performa 410 RAM expansion:
* Supports 30-pin, 80 ns (nanoseconds) DRAM SIMMs only.
* Supports the following SIMM sizes: 1, 2, or 4MB DRAM SIMMs.
* Does not support 256K SIMMs.

Article Change History:
21 October 1993 - Removed erroneous reference to 8, 16, and 32MB SIMMs.
Published Date: Feb 19, 2012

AppleSearch: AFP Info

I have received inquiries about AppleSearch. I understand that this product is a client/server type application. The server component runs on a 68030 or 68040 System 7 Macintosh workstation (not necessarily a server?). The client component is currently available for the Macintosh and may be available in the future for other platforms.

Will AppleSearch work with any AFP compliant volume, for example NetWare for Macintosh, System 7 file sharing, LAN Manager, or will it only work with a genuine AppleShare server volume?
This article has been archived and is no longer updated by Apple.
The AppleSearch Server needs to run on a Macintosh computer that supports AFP (AppleTalk Filing Protocol) and PPC (Program to Program Communication).

The AppleSearch client software initiates the search on the AppleSearch Server via PPC in order to isolate the data handling on the server and optimize performance. (For this reason the data and indexes must reside on the AppleShare Server itself.) AFP is used to transfer the search results back to the client software.

At this time only Macintosh computers running System 7 File Sharing, AppleShare 3.0x, AppleShare 4.0, or AppleShare Pro can function as AppleSearch Servers.
Published Date: Feb 19, 2012

AppleShare 4.0: Using Apple Workgroup Server 80 & A/UX 3.0.1

I'm planning to purchase an Apple Workgroup Server (AWS) 80. I need to know if I can use it to backup existing DOS and UNIX fileservers. Will I require A/UX to do this, or does AppleShare 4.0 contain the needed software to allow Retrospect Remote to backup these foreign volumes?

I'm running SCO UNIX, and have an Ethernet network. What additional software is needed, if any, to get TCP/IP and NFS compatibility? Is there an upgrade path to A/UX from AppleShare 4.0, if there is what is needed?
This article has been archived and is no longer updated by Apple.
According to Dantz, the current Retrospect or Retrospect Remote product for Macintosh OS can only recognize and backup Macintosh HFS file systems. Foreign volumes like DOS or UNIX file systems are not supported by Retrospect for Macintosh OS. Retrospect for A/UX is for the AWS 95 operating under A/UX 3.0.1. However, Retrospect is able to backup both HFS and UNIX volumes since UNIX volumes can be mounted as AppleShare volumes under A/UX 3.0.1.

Without upgrading to the AWS 95 running A/UX 3.0.1, here is what we think might be a solution for you. Have the following software installed and running on the AWS 80 (assuming SCO UNIX has NFS server capability):

* Install Pathway (NFS Mounter) from Wollongong Group. Pathway acts as an NFS client, then mount the NFS file system as an AppleShare volume.

* Install NFS/Share from InterCon Systems Corporation. It acts as an NFS client, then mount the NFS file system as an AppleShare volume.

Another possibility is to install CAP (Columbia AppleTalk Package) on your SCO UNIX computer which implements the AppleTalk protocol stack on a variety of UNIX machines. The main applications provide an AppleShare compatible server (aufs), a LaserWriter Spooler (lwsrv), and a program to print to LaserWriters (papif).

To locate a vendor's address and phone number, use the vendor name as a search string.
Published Date: Feb 19, 2012

Apple Internet Router 3.0 On Quadra 840AV and 660AV (11/93)

What is the official response regarding the Apple Internet Router 3.0 running on a Quadra 840AV or Quadra 660AV? Are they supported? Have they been tested?

This article has been archived and is no longer updated by Apple.
The Macintosh Quadra 840AV and Quadra 660AV are compatible with the Apple Internet Router 3.0 software. Please note that the Apple Internet Router 2.0 has not been tested with either of these computers and should not be used.

Article Change History:
10 Nov 1993 - Added Quadra 660AV to this article.

Published Date: Feb 19, 2012

Netware: Broadcast Message Character Limit (9/93)

My customer is sending a broadcast message from one Macintosh to another via a Novell server. They are suppose to be able to send 80 character messages but are being limited to 28-30 characters (like a PC). Is there something we can do to get around this?

This article has been archived and is no longer updated by Apple.
This is a known problem to Novell that is improved by using the version of Network Tools that ships with 4.x, or with the 3.12 upgrade. The new limit is 44 characters.

Published Date: Feb 19, 2012

AOCE Templates (8/94)

This article describes AOCE Templates of Apple Open Collaborative Environment (AOCE).

This article has been archived and is no longer updated by Apple.
AOCE templates are system extensions that control how information in a catalog record is displayed on the screen. AOCE templates are common to all types of catalog services including catalogs on PowerShare Catalog Servers and those accessed through Catalog Service Access Modules.

There are times when it is neither desirable or appropriate to display all of the data resident in a catalog. An AOCE template can be written to display only the desired information and to display it in the appropriate manner.
? Catalog Record AOCE Template
---------- ----------
Employee Name text \\
Employee Number number | ----------
Office Location text | | --------- |
Department text | | Name | | |
Work Phone text |---->| Office Location | Picture | |
Home Phone text | | Work Phone | | |
Home Address text | | --------- |
Picture image | ----------
Next of Kin text /

Mapping attributes to AOCE template

Templates can have multiple pages of information, or they can be of any size or format necessary to best display information on that catalog record.
?Installing AOCE Templates
AOCE template files are system extensions. To install a new AOCE template, drop the template file into the System Folder and reboot.

Where do AOCE templates come from?
AOCE Templates are created by developers.

Article Change History:
23 Aug 1994 - Review for accuracy

Support Information Services

Published Date: Feb 19, 2012

AOCE: Signature Verification Without PowerShare (10/93)

Article Created: 4 October 1993

How is a signature verified if PowerShare isn't available?

This article has been archived and is no longer updated by Apple.
DigiSign does not depend on or require PowerShare in any way. The two technologies are entirely independent from each other. All information necessary to verify a signature is contained within the signature itself.

Published Date: Feb 19, 2012

AOCE: Accessing Messages Remotely (10/93)

Article Created: 4 October 1993

This article describes Accessing Messages Remotely on Apple Open Collaborative Environment (AOCE).

This article has been archived and is no longer updated by Apple.
PowerTalk users may have a need to retrieve their PowerShare Server mail from remote locations. There are a couple ways to do this for server-based messaging.

If the user is at a Macintosh computer that is connected to the same network as the PowerShare Mail Server on which the user has an account, then the user can use the Visitor Mailbox feature to retrieve messages from that PowerShare Mail Server. Search for "Visitor Mailboxes" for details.

If the user is using a Macintosh computer that is not connected to any network, then it is still possible to retrieve PowerShare Mail Server based mail using AppleTalk Remote Access (ARA). In this scenario, the user would connect to the AppleTalk network containing their PowerShare servers and communicate as though the remote Macintosh computer were connected to the network locally. PowerTalk and PowerShare work the same over ARA as they do when connected to a local network.

This is not the same as using Direct Dialup mail in PowerTalk. Direct Dialup Mail is simply the ability of two Macintosh computers to call each other and deliver a message. Direct Dialup mail and ARA use the same connection scripts. However, they offer distinctly different types of services.

Direct Dialup mail only works between two PowerTalk workstations. There is no server-based dial up in the initial release of PowerShare. Two individual PowerTalk workstations can call each other and exchange messages. However, it is not possible to send an AOCE message to a PowerShare account and have the server call the destination whether the destination is either another server or an individual workstation. PowerShare Mail Servers do not support Direct Dialup mail.

While ARA can be used to access messages in PowerShare Mail Server message queues, there is no way to access messages that are located in personal message queues. This is the same situation as with Visitor Mailboxes. Remote users can gain access to any messages that are delivered to a PowerShare Mail Server or through a server based Mail Service Access Module. Any messages that are delivered to local message queues (Direct Dialup mail, Direct AppleTalk mail and personal Mail Service Access Modules) cannot be accessed remotely.

Published Date: Feb 19, 2012

EtherTalk Card: Pinouts

What are the pinouts of the Apple EtherTalk Card?

This article has been archived and is no longer updated by Apple.
The EtherTalk Card conforms to the physical media standards set forth in the IEEE 802.3 specification. It also conforms to the pinout specifications of Ethernet transceiver cables set forth in "The Ethernet" standards published by Digital, Intel, and Xerox -- the original developers of Ethernet.
Standard Ethernet cabling works just fine.

Here are the pinouts for Ethernet thick cabling:

1 - Shield 9 - Collision Presence (-)
2 - Collision Presence (+) 10 - Transmit (-)
3 - Transmit (+) 11 - Reserved
4 - Reserved 12 - Receive (-)
5 - Receive (+) 13 - Power
6 - Power Return 14 - Reserved
7 - Reserved 15 - Reserved
8 - Reserved

Published Date: Feb 19, 2012

AOCE: AppleMail (10/93)

Article Created: 4 October 1993

This article describes AppleMail in Apple Open Collaborative Environment (AOCE).

This article has been archived and is no longer updated by Apple.
PowerTalk will ship with a letter application called AppleMail. This application allows users to create, edit, address, read, and send letters.
?AppleMail supports Standard Interchange Format which supports styled text, pictures, sound in AIFF format and QuickTime movies.

Users can use an application other than AppleMail to read messages from the In Tray. Because of type and creator conflicts, PowerTalk will not automatically launch an application other than AppleMail. However, users could open mail by dragging messages from the In Tray to a third party letter application that supports Apple Letter format.

Letterheads
AppleMail also supports letterheads.

Users can create new letterheads at any time by saving a document as a letterhead. To use a letterhead, select Letterheads from the File menu.

Letterheads are stored in a folder inside the Preferences folder in the System Folder.

File Format
AppleMail can send letters in two different formats: AppleMail and SnapShot. The SnapShot format is an image format, suitable for sending to a destination that does not understand AppleMail format, such as a FAX machine. It is possible to send a letter in both formats simultaneously by checking the 'Multiple Formats' box. This option is useful in situations where the user sending the letter does not know if the user at the destination has the application necessary to open and read the letter.
?Signing A Letter
AppleMail also fully supports the digital signatures capability of AOCE. Letters are signed by checking the 'Sign' box in the Send dialog box. PowerTalk will either use the signer file named in the Digital Signatures Prefs file or prompt the user to select a signer file.

The signed letter is then sent to its destination. Once the destination receives the letter, the signature can be verified by clicking the button in the mailer.
?Letter Priority
The Send dialog box also allows the user to set a message priority. Message priority is a type of tag that can be used to sort messages in the In Tray using the View menu. Setting a message priority does not do anything different as far as how the message is actually delivered.

Published Date: Feb 19, 2012

AOCE: Authentication and Privacy Services Overview (10/93)

Article Created: 4 October 1993

This article provides an overview of Authentication and Privacy Services of Apple Open Collaborative Environment (AOCE).

This article has been archived and is no longer updated by Apple.
PowerShare provides authentication and privacy features for users in a server-based environment. Through AOCE's two way authentication service, users and applications can be confident that the network entity with whom they are communicating are who they claim to be. The privacy feature of AOCE refers to a new protocol, AppleTalk Secure Data Stream Protocol (ASDSP) which encrypts data traveling across the wire.

Two Way Authentication
Two way authentication means that both sides are authenticated to each other. To illustrate why this is important, imagine a network application which prompts a user for a password. The user enters the password, thereby authenticating the user to the application. However, the application has not been authenticated to the user. It is possible that there is a password-gathering application loose on the network which, by impersonating a legitimate application, gathers user names and passwords. This situation is an example of one way authentication.

Two way authentication means that both parties are authenticated to each other. There is a mechanism by which each side can be assured that the entity with whom they are communicating is who it claims to be.

Authentication vs. Authorization
AppleTalk Secure Data Stream Protocol (ASDSP) only offers authentication services, not authorization. Authentication answers the questions 'Who am I?' and 'Who am I talking to?,' while authorization answers the questions 'Do I have access to this server?' and 'What are my access privileges?' ASDSP leaves authorization services up to the individual application.

ASDSP
Some customers are concerned about someone tapping into their physical network with a packet analysis tool and gathering confidential information by reading the packets on the network. Before AOCE, there was no way for customers to protect against wire tapping, other than guarding the physical security of their network.

PowerShare offers protection against wire tapping through the use of a new protocol, AppleTalk Secure Data Stream Protocol (ASDSP). ASDSP is a secure version of AppleTalk Data Stream Protocol (ADSP). ASDSP encrypts the packets traveling across the wire. If a wire tapper does tap into the network, the packets gathered will be encrypted.

ASDSP uses RC4 encryption.

Published Date: Feb 19, 2012

AOCE: Catalog Service Access Modules (10/93)

Article Created: 4 October 1993

This article describes Catalog Service Access Modules of Apple Open Collaborative Environment (AOCE).

This article has been archived and is no longer updated by Apple.
Catalog Service Access Modules (CSAMs) provide PowerTalk users with access to external sources of information. Examples include an X.500 directory service, a list of network entities on an AppleTalk network, or a window into a foreign file system.

Catalogs accessed through a Catalog Service Access Module are taking advantage of AOCE's open architecture which provides users the ability to use a wide variety of catalog services. Catalog Access Modules are responsible for translating external catalog information, in whatever form it may exist, into something which AOCE can display in the Catalogs icon.

```
------------------ -------- ----------------
| | | | |
| External Catalog |---->| CSAM |---->| Users & Groups |
| | | | |
------------------ -------- ----------------
```

Role of Catalog Service Access Module

Catalog Service Access Modules reside on the local workstation. In the initial release of AOCE software, server based Catalog Service Access Modules are not supported.

Published Date: Feb 19, 2012

AOCE: Certificate Sets Part Of The Digital Signature (10/93)

Article Created: 4 October 1993

The certificate set is part of what is attached to data that has been signed. The public key certificate contains the signer's public key, signed by the issuing organization.

This article has been archived and is no longer updated by Apple.
A certificate set contains a complete chain of signed certificates. In this example, Joe's public key certificate is signed by Apple. The digital signature portion of Joe's signed certificate consists of a digest of Joe's public key certificate signed by Apple. That means the digest is encrypted with Apple's private key. The encrypted digest is decrypted by using Apple's public key which is the next certificate in the chain. Apple's signed certificate follows Joe's certificate. Apple's signed certificate is constructed in the same way: a public key certificate containing Apple's public key and various other identifying information followed by an encrypted digest of the public key certificate signed by RSA.

```
? ------------------- \\
| | \\
| Public-key | |
| Certificate | |
| | |-- Joe's signed certificate
------------------- | (signed by Apple)
| | |
| Digital signature | |
| | /
-------------------
| | \\
| Public-key | |
| Certificate | |
| | |-- Apple's signed certificate
------------------- | (signed by RSA)
| | |
| Digital signature | |
| | /
------------------- /
```

Certificate Set

There is no certificate for RSA because everyone knows RSA's public key. RSA's public key is installed into a user's Macintosh with AOCE.

To validate something signed by Joe, Apple's public key is taken from Joe's certificate set and used to decrypt the digest of Joe's public key certificate. The decrypted digest is then compared with a new digest of Joe's public key. In turn, Apple's signature is verified by using RSA's public key to decrypt the digest of Apple's public key certificate and then the digests are compared. Finally, Joe's public key is applied to the encrypted digest of the data being signed. The result is compared with a newly calculated digest of the data. If they match, the signature is validated.

If any of the above steps fails the signature will not verify.

Published Date: Feb 19, 2012

AOCE: Date & Time Control Panel (10/93)

Article Created: 4 October 1993

This article describes the function of the Date & Time Control Panel in Apple Open Collaborative Environment (AOCE) and it's importance for proper operation.

This article has been archived and is no longer updated by Apple.
Many features of AOCE technology rely upon the date and time being correct. PowerTalk includes a new Date & Time control panel for setting the correct date, time and time zone. If any of these are incorrect, users may experience problems with accessing their PowerShare servers. Mail messages will also have the wrong date attached to them.

To set the date and time, open the Date & Time control panel, and check that the information is correct. Set the proper time zone by selecting a city located in the same time zone as the Macintosh computer.

Troubleshooting
One common user problem with PowerTalk or PowerShare is getting the date, time, or year wrong. If nothing is working, always check the Date & Time control panel for the correct information, including the correct year.
If the system clock has been reset to 1904, AOCE services will not work.

Published Date: Feb 19, 2012

AOCE: Direct AppleTalk Mail (10/93)

Article Created: 4 October 1993

This article describes Direct AppleTalk Mail on Apple Open Collaborative Environment (AOCE).

This article has been archived and is no longer updated by Apple.
AOCE software will ship with Direct AppleTalk mail, an example of a Catalog Service Access Module.
?The AppleTalk catalog displays Macintosh computers which have an AOCE Toolbox installed. A PowerTalk user would use this catalog to address messages to a particular Macintosh computer, allowing users to exchange messages in a server-less environment.

The entries in the AppleTalk catalog display the machine name of each Macintosh computer, taken from the Sharing Setup control panel.

AppleShare Servers
The AppleTalk catalog also displays AppleShare servers on the network. Users can select an AppleShare server from the AppleTalk Catalog and place a key to that file server in the PowerTalk Key Chain.

Ｔhis provides easy access to networking services without requiring the user to remember separate user names and passwords for many different servers. Access to servers is still protected by the PowerTalk Key Chain access code.

Published Date: Feb 19, 2012

AOCE: How ASDSP Encrypts (10/93)

Article Created: 4 October 1993

This article describes how AppleTalk Secure Data Stream Protocol (ASDSP) Encrypts in Apple Open Collaborative Environment (AOCE).

This article has been archived and is no longer updated by Apple.
The authentication process in AOCE technology relies on a trusted authority, the PowerShare Catalog Server, to authenticate two parties to each other. Each entity on the network trusts the server to authenticate other entities on the network.

The PowerShare Catalog Server can provide these authentication services because everyone has a PowerShare account. The server converts the user's password into a key that is used to encrypt information.

A Walk Through the Protocol

Suppose "I", the Initiator, wants to talk to "R", the Recipient. There is also a PowerShare Catalog on the network. At the beginning of the process, the Initiator knows the Initiator's key, Ki, the Recipient knows the Recipient key, Kr, and the PowerShare Catalog knows both their keys.

The process begins with the Initiator sending a request to the PowerShare Catalog asking for a set of credentials to use in establishing a secure session with the Recipient. This request contains who the Initiator is and who the intended Recipient is, encrypted with the Initiator's key, Ki. The encrypted information is accompanied by a clear text statement of who the Initiator is so the catalog knows which key to use to decrypt the request. The PowerShare Catalog Servers serving that catalog folder are the only entities on the network, besides the Initiator, which can decrypt the credential request.

```
? ------------
| PowerShare | Ki
| Server | Kr
------------
To Server /
/ /
I,[I,R] Ki / / [Ks Credentials] Ki
/ / Credentials = [Ks,I,R] Kr
/ /
/ /
/ To Initiator
----- [Credentials], [n] Ks -----
Ki | | ----------------------------> | | Kr
Ks | | [n+1] Ks, [m] Ks | | Ks
| I | <---------------------------- | R |
| | [m+1] Ks | |
| | ----------------------------> | |
----- -----
```
Authentication protocol

Once the PowerShare Catalog Server decrypts the credential request, the server sends the Initiator a set of credentials along with a session key, Ks. The session key will be used to encrypt communication between the Initiator and the Recipient. The packet returned by the PowerShare Catalog Server is encrypted with Ki, the Initiator's key. The only entity on the network that can decrypt this packet, besides the PowerShare Catalog Server, is the Initiator. Once the Initiator decrypts this packet, using Ki, the Initiator knows both its own key, Ki, and the session key, Ks.

The next step is for the Initiator to begin to send the Recipient the

credentials package in order to authenticate the Initiator to the Recipient. The Initiator cannot decrypt the credentials package because the information in the credentials package is encrypted with Kr, the Recipient's key. The Initiator sends the credentials package to the Recipient who then decrypts it. The credentials package contains the session key, Ks, the Initiator's identity, and the Recipient's identity. The Recipient now has the session key.

The next portion of the authentication process is the challenge exchange. This is to prevent a wiretapper from capturing packets on the network and then replaying them later in order to establish a false session.

Along with the credentials package, the Initiator sends a random number, n, encrypted with the session key. Once the Recipient successfully decrypts the credentials and has the session key, the Recipient will be able to decrypt the random number n. The Recipient adds one to the random number n, encrypts the result with the session key, and sends it to the Initiator. At the same time, the Recipient picks its own random number, m, encrypts it with the session key, and sends it to the Initiator.

The Initiator decrypts the n+1 package sent by the Recipient and confirms that it is indeed the original random number n, +1. The Initiator then decrypts the Recipient's random number m, adds one to it, encrypts it with the session key, and returns it to the Recipient. The Recipient confirms that what it receives really is m+1.

At this point, a secure session has been established. The Initiator and Recipient can use the session key to encrypt data traveling between them using ASDSP.

What This Means

The session key can be valid for up to eight hours. After that period, a new key must be negotiated. The process of session key negotiation is transparent to the user. An application using ASDSP can specify the time period for which the session key will be used.

The Initiator and Recipient must have accounts in the same PowerShare Catalog, though not on the same server or in the same catalog folder.

Import/Export Restrictions

Apple has a license to export all AOCE technology from the United States. At this date, there is a problem with importing the technology into France. To address this issue, there will be two versions of AOCE software available: encrypted and encryption-free. The encryption-free version will be shipped in France and any other country where importing AOCE technology becomes an issue.

If both sides are using the software that allows encryption, the session is encrypted. Otherwise, the session is not encrypted.

Published Date: Feb 19, 2012

AOCE: The "I‘m At" Feature and PowerBook (10/93)

Article Created: 4 October 1993

This article describes the benefits of the "I'm At" feature of Apple Open Collaborative Environment (AOCE) and how it assists PowerBook users.

This article has been archived and is no longer updated by Apple.
The "I'm At" feature of PowerTalk allows users to store several configurations for their AOCE client systems. The options are work, home, on the road, or off-line. This option is particularly useful for PowerBook users.
?A PowerTalk user will probably have access to different services depending on the Macintosh computer's location, at home, work, or on the road. For example, a user may want to disable Direct Dialup mail unless the Macintosh computer is at home. Similarly, if the user is at home, some work related catalogs might not be available.

Working off-line means the user will be able to create and send messages, but no attempt will be made to deliver the messages until the user indicates that a network is now connected. This selection is most useful in situations where the Macintosh computer is not connected to any network or communications methods.

PowerBook users will find the "I'm at" feature to be especially useful. It allows them to store several different preset configurations for collaboration services. One menu selection quickly enables or disables the appropriate services.

Published Date: Feb 19, 2012

AOCE: Regulatory Issues With Encryption Import/Export (3/96)

Are there any import/export problems with AOCE technology?

This article has been archived and is no longer updated by Apple.

Apple has received the necessary licenses from the United States government to export AOCE technology. However, there are problems with importing AOCE technology into France and its colonies and territories. The French government puts many restrictions on importing of software which does any kind of encryption. Since PowerShare does encryption with ASDSP, Apple will not be able to import AOCE products with encryption into France.

As a result of this restriction, Apple will be shipping an encryption-free version (PowerTalk Lite) in France. This version will not support ASDSP or authentication.

PowerShare Catalogs must either all support encryption or all not support encryption. If only one PowerShare Catalog Server in an PowerShare Catalog does not support encryption, then there will be no ASDSP or authentication services available.

Article Change History:

29 Mar 1996 - Changed title to be more descriptive.

Published Date: Feb 19, 2012

AOCE: Information Cards (10/93)

Article Created: 4 October 1993

This article describes Information Cards of Apple Open Collaborative Environment (AOCE).

This article has been archived and is no longer updated by Apple.
An information card is a file that contains the contents of one catalog record. Information cards are created by dragging a catalog record to the desktop or to someplace other than another catalog window. They can also be created from within a catalog using the Catalogs menu. Once an information card has been created, it can be used in the same way as the original catalog entry.

Information cards can be used for drag and drop mailing or for dropping information to a catalog entry. A user could create an information card for a frequently used mail address. Putting the information card on the desktop allows the user to easily mail files and folders by dropping them onto the information card.

Because information cards are portable, they can also be distributed as enclosures in mail messages or put onto a floppy disk.

Information cards can be created from any catalog record, including those found in PowerShare Catalogs, the AppleTalk catalog or personal catalogs.

Published Date: Feb 19, 2012

AOCE: Mail Service Access Modules (10/93)

Article Created: 4 October 1993

This article describes the Mail Service Access Modules of Apple Open Collaborative Environment (AOCE).

This article has been archived and is no longer updated by Apple.
Just as Catalog Service Access Modules provide access to external catalog services, Mail Service Access Modules provide access to messaging services. With the appropriate Mail Service Access Module, a PowerTalk user will be able to exchange messages with users on a variety of platforms and message delivery systems. Mail Service Access Modules will be provided by third parties.

At the time PowerTalk ships, some of the Mail Service Access Modules that will be available are: SMTP, Microsoft Mail, FAX, voice mail, QuickMail, and pager. This is partial list with many other MSAMs under development and available shortly after product ship.

There are two different types of Mail Service Access Modules: personal and server-based. A personal Mail Service Access Module resides on the local user's workstation. A server-based Mail Service Access Module resides on a PowerShare Mail Server. Letters sent through the server-based Mail Service Access Module are sent first to the PowerShare server and then out through the Mail Service Access Module.

This is a different situation from Catalog Service Access Modules where Catalog Service Access Modules could reside only on the local workstation.

Published Date: Feb 19, 2012

AOCE: Mailbox (10/93)

Article Created: 4 October 1993

This article describes the Mailbox of Apple Open Collaborative Environment (AOCE).

This article has been archived and is no longer updated by Apple.
PowerTalk puts a new icon on the desktop for the Mailbox.
?The icon represents an In Tray since this is where all incoming mail arrives, no matter what the original source. Messages in the mailbox can be in a variety of formats.

When the In Tray is open, the Mailbox menu is added to the menu bar. The Mailbox menu includes several selections for users to administer their incoming and outgoing mail.
?Mailbox menu contains the following options:
In Tray
Out Tray
Tag...
Copy Local...
Preferences

* Out Tray
The Out Tray displays items that either have been sent recently or are waiting to be sent.

oe copy of a sent letter will remain in the local system's outgoing letter queue until either the user drags it to the Trash or until the timeout period expires. Letters stay in the Out Tray for a period of time after they are sent to allow users to access recently sent letters. The default time for letters to remain in the Out Tray after being sent is 14 days. This time period can be configured using the PowerTalk Setup control panel.

If the letter was sent through a server, the letter is resident on the server queue. If the letter was sent through server-less messaging, the letter remains on the local system until the Out Tray timeout period has expired. In either case, the user will see the letter in the Out Tray.

* Copy Local
Copy Local means to take the selected letters and copy them from a server based letter queue to the local letter queue. This is another feature to make it easier for PowerBook users to collaborate remotely.

* Mailbox Preferences
The Preferences menu selection provides the following choices:
- Mail Tray:
Show most recent first
Allow Visitor's mailbox
- When Mail Arrives:
Display alert
Blink icon in menu bar
Play this sound:
- Out Tray Aging
Remove processed items after XX days.
- Tags List:
Edit (button)

If visitor's mailboxes are allowed, then someone else will be able to use this Macintosh computer to retrieve mail stored on a PowerShare Mail Server. Visitor mailboxes allow the user to have multiple mailboxes open on the desktop.

* Tags
Tags can be added to letters in the In Tray. Tags are useful in filtering incoming letters. The View menu can be used to restrict the view of letters in the In Tray to only show letters with a given tag.

Tags are assigned to letters using the Tag menu item. To assign a tag, select the item(s) in the In Tray and then select Tag from the Mailbox menu. Tags can also be assigned form within AppleMail.

To see a list of tags already created, press the pop up arrow button. Create a new tag by typing it into the dialog box and clicking the Add button from the Tag window.

The tags attached to a letter can be seen through the Get Info dialog box. Select the letter from the In Tray and then select Get Info from the File menu.

Tags can also be used by Beyond Software's MacRules Pro application. MacRules Pro can create rules to automatically add or delete tags or to take certain actions based on tags assigned to letters.

Tags can be single words or a short phrase.

Tags are removed when the item is moved from the In Tray to the local hard drive.

Published Date: Feb 19, 2012

AOCE Mailer (10/93)

Article Created: 4 October 1993

This article describes the Mailer in Apple Open Collaborative Environment (AOCE).

This article has been archived and is no longer updated by Apple.
The top portion of AppleMail contains the Mailer.
?Apple is encouraging developers to incorporate the AOCE Mailer into their applications. Once the mailer is a standard part of a Macintosh application, sending messages from within an application will become as commonplace as printing is today.

Developer University has completed a course on adding the AOCE Mailer to applications. Because the process requires very little effort on the part of developers while at the same time adding significant functionality to the application, it is expected that most Macintosh developers will be incorporating the AOCE Mailer into their products.

There are applications where it would not be appropriate to include the entire Mailer. In these cases, developers can access the mail and messaging services of AOCE using the Mail Manager calls directly instead of using the standard Mailer.

* From...
The 'from' field defaults to the owner of this AOCE system.

* Recipients...
Letters are addressed using the Catalog Browser Panel. Click the Recipients button to display the Catalog Browser Panel.

Personal Catalog
Letters can be addressed by selecting the address from the list of potential addresses and clicking either the To button or the CC: button. The top icon displays the contents of the preferred Personal Catalog.
? Catalog Browser
The second icon shifts the display to the Catalogs icon. This will look inside the Catalogs icon on the desktop. Users can also use the pop-up menu at top to browse through the file system for other personal catalogs or information cards.
? Find Address
The third icon is used for finding addresses. Users can search for addresses located in a particular catalog or on any mounted volume.

Type in addressing
The last icon allows users to type in an address. This is useful when the user knows the destination address yet there is no catalog service available to use in addressing the letter. One common example might be an Internet address or other messaging system that does not have a directory service.

* Subject...
The subject field contains the subject of the letter.

* Enclosures...
There are two ways to add enclosures with the Mailer. The first is to drag enclosures directly into the enclosures field.

The second is to click the Enclosures button and use the standard file dialog box to select a file or folder to enclose.

* Finder Support
PowerTalk is able to support dragging items directly into the enclosures field because of modifications to the Finder. PowerTalk incorporates a new Finder with changes made for AppleScript, AOCE, and QuickDraw GX.

It is also possible to drag information cards or addresses from Catalog windows into the Recipients field to address a letter.

The drag and drop method of addressing letters or adding enclosures is a feature of the System 7 with PowerTalk. It works no matter which application, third party or Apple, is in use.

Published Date: Feb 19, 2012

AOCE: Which Algorithm, MD4 or MD5, In The Digest (10/93)

Article Created: 4 October 1993

Which algorithm, MD4 or MD5, is used to create the digest?

This article has been archived and is no longer updated by Apple.
The algorithm used to create the digest is MD4.

Published Date: Feb 19, 2012

AOCE: Message Delivery Methods (11/93)

This article describes the Message Delivery Methods of Apple Open Collaborative Environment (AOCE).

This article has been archived and is no longer updated by Apple.
PowerTalk itself can exchange messages using three different message delivery methods.

Direct AppleTalk mail
PowerShare Server mail
Direct Dialup mail

Additional message delivery methods can be added using Mail Service Access modules from third parties.

Direct AppleTalk Mail

Direct AppleTalk mail enables users to exchange letters across an AppleTalk network without the use of a server. PowerShare is not required to take advantage of Direct AppleTalk mail. Direct AppleTalk mail is part of the PowerTalk package.

Within the AppleTalk Catalog, Macintosh computers with an AOCE toolbox installed appear as Direct AppleTalk mail addresses in the Catalogs window. A PowerTalk user could use this address to send messages to any Macintosh that appears in the AppleTalk Catalog window.

PowerShare Mail Server based messaging

Apple will be marketing a PowerShare Mail Server for users who want the advantages of a server-based mail system. With a PowerShare Mail Server, users will be able to use Visitor Mailboxes to retrieve server-based mail from remote locations. PowerShare also gives users additional privacy and security features with over the wire encryption and authenticated connections.

Direct Dialup Mail

Direct Dialup mail is the ability of two Macintosh computers to call each other and exchange messages through a modem. This allows users who are connected by telephone to exchange messages with other PowerTalk users.

Dialup and AppleTalk Remote Access (ARA)
ARA 2.0 and Direct Dialup mail use the same modem connection scripts and low level drivers. They also are compatible with each other. If a call comes in, ARA and PowerTalk will negotiate to determine whether the call is for ARA or Direct Dialup mail. However, Direct Dialup mail is not the same thing as ARA.

Direct Dialup mail is not a way to retrieve PowerTalk letters from a remote location.

There is no way to use Direct Dialup mail or ARA to retrieve messages stored in a local message queue. Examples include messages delivered to a Direct AppleTalk mail address.

- IMPORTANT: Direct Dialup mail will not be a part of the initial release of PowerTalk, Direct Dialup may be obtain separately. To get Direct Dialup mail the request card which comes with System 7 Pro along with the amount of money specified. Direct Dialup mail may be fully incorporated into a later release of PowerTalk.

Server Based Dialup

PowerShare does not support server based dial up in the initial release.
Two PowerShare Mail Servers will not call each other to exchange messages.

Article Change History:
30 Nov 1993 - Updated article for ARA 2.0 release.

Published Date: Feb 19, 2012

AOCE: Messaging Services (10/93)

Article Created: 4 October 1993

This article describes the Messaging Services of Apple Open Collaborative Environment (AOCE).

This article has been archived and is no longer updated by Apple.
The most obvious use of messaging services is electronic mail, exchanging letters and documents between two end users. However, electronic mail is just one example of the possible messaging services offered by AOCE technology.

* IPM
AOCE software supports InterProgram Messaging (IPM) a way of sending messages between applications as well as between electronic mail users. IPM is different from InterProgram Communication (IPC) in that IPM messages are delivered in a store and forward manner and that they can be addressed to a group of addresses. IPC messages must be delivered in real time and can have only one destination per message.

* Mail vs. messaging
The AOCE toolbox distinguishes between electronic mail and other AOCE messages through the use of message families. Any message of family 'file' or 'mail' will be treated as an electronic mail message and delivered to the System Mailbox. Messages of the 'file' family are direct display files, meaning that the file can be displayed as an image without any application software required.

The AOCE toolbox does no special handling for messages of different families. All messages, whether destined for the system mailbox or another application, are delivered in the same manner.

* Store and forward messaging
All AOCE messages are delivered in a store and forward manner. When a message is created on an AOCE system, the message is placed in an outgoing queue and delivered when the destination is available. Once the message has been placed in the outgoing message queue, the message originator need not worry about checking to see when the destination is available. The AOCE Toolbox will attempt to contact the destination and deliver the message.

In a server-based environment, messages are delivered to the server and then to their eventual destination. In a server-less environment, messages remain in the local outgoing message queue until they are delivered.

There is a timeout period associated with message delivery. If an AOCE system is unable to deliver a message for 5 days, a problem report will be sent to the message originator informing them that the message could not be delivered. The 5 day period was chosen to take into account situations where a message could not be delivered because the destination was unavailable over a 3 day weekend.

The 5 day timeout period is not user modifiable in the initial release of PowerTalk and PowerShare.

All AOCE users gain the benefit of store and forward messaging, whether they are in a server-based or server-less environment.

Published Date: Feb 19, 2012

AOCE: Personal Catalogs (10/93)

Article Created: 4 October 1993

This article describes Personal Catalogs of Apple Open Collaborative Environment (AOCE).

This article has been archived and is no longer updated by Apple.
There are times when users may find it more convenient to store catalog items locally instead of on a server. For this situation, PowerTalk includes personal catalogs. A personal catalog can contain any record that can be stored in an PowerShare Catalog Server or available through a Catalog Service Access Module. Users can also create new records specifically for a personal catalog.

When PowerTalk is installed, one personal catalog is created and placed in the Apple menu. Users can have more than one personal catalog on a workstation. Personal catalogs can be stored on any volume.

Personal catalogs could be used to gather collections of similar records. For example, one personal catalog could contain the addresses of everyone associated with a particular project. Another personal catalog could be an index to a music collection. Personal catalogs can hold the same types of information as a regular PowerShare Catalog with the advantage that users can create and edit personal catalogs at will.

Unlike PowerShare Catalog Server catalogs or catalog services accessible through a Catalog Service Access Module which have a hierarchical structure, personal catalogs have a flat structure. They are simple collections of records.
?Personal catalogs, like other AOCE Catalogs, support collections of user records called groups. To create a group, use the 'Create Group' menu item. To add items to a group, drag the record from the personal catalog into the group's folder.

To add a record to a personal catalog from a PowerShare Catalog or other Catalog service, drag the PowerShare Catalog entry into the personal catalog window. Data stored in the catalog record will be copied to the personal catalog.

There is no automatic synchronization of records in a personal catalog with the corresponding records in a PowerShare Catalog. To avoid synchronization problems, it is possible to create aliases to the PowerShare Catalog record and place the aliases into the PowerShare Catalog. The disadvantage of this approach is that the record is no longer available if the system cannot communicate with the PowerShare Catalog. PowerBook users, especially, should avoid this approach.

Personal catalogs can also contain aliases to the original records. Personal catalogs cannot contain other personal catalogs.

Creating New personal catalogs
To create a new personal catalog, open the Catalogs windows and select 'New Personal Catalog' from the Catalogs menu. There is no limit on the number of personal catalogs a user can access. However, the preferred Personal Catalog comes up automatically in the Catalog Addressing Panel. Select which personal catalog is the preferred Personal Catalog by using the Get Info window.

Published Date: Feb 19, 2012

AOCE: PowerTalk Setup Control Panel (10/93)

Article Created: 4 October 1993

This article describes the PowerTalk Setup Control Panel and Visitor Mailboxes of Apple Open Collaborative Environment (AOCE).

This article has been archived and is no longer updated by Apple. Functionality for adding and removing different messaging and catalog services has been moved to the PowerTalk Key Chain.

There is now a user adjustable time-out period. If the system is idle for a given amount of time, the user will be prompted to enter a password to access collaboration services. This is useful in the situation where someone walks away from their desk, leaving their Macintosh computer unattended.

Visitor Mailboxes

There are situations where a user might want to retrieve their mail from somewhere other than their usual workstation. There are also situations where one user may want to have mailboxes for multiple PowerShare accounts simultaneously open on the desktop. To handle these situations, PowerTalk provides Visitor Mailboxes.

```
Mail Source
----------- --------------------------
| Visitor |<-------| PowerShare Mail Server |----
| Mailbox |<-- -------------------------- |
----------- | -------------------------- |
-----| Server Based Mail |- |
| Access Module | | | ---------
--------------------------- | ->| |
-------------------------- ---->| System |
| Direct Dialup Mail |------>| Mailbox |
-------------------------- --->| |
-------------------------- | ->| |
| Direct AppleTalk Mail |-- | ---------
-------------------------- |
-------------------------- |
| Personal Mail Access |----
| Module |
--------------------------
```

What is accessible from which mailbox

Visitor Mailboxes contain any messages that come from a PowerShare Mail Server. The messages can be delivered directly through the PowerShare Mail Server or through a server-based Mail Service Access Module. In either case, the messages are delivered to a message queue on a PowerShare Mail Server.

Visitor Mailboxes do not have access to messages delivered to a local message queue. Any messages that are delivered through Direct Dialup mail, Direct AppleTalk mail or through a personal Mail Service Access Module cannot be accessed through a Visitor Mailbox.

By default, Visitor Mailbox capability is turned off in PowerTalk. To enable Visitor Mailboxes, open the System Mailbox and select Preferences from the Mail menu.
?Check the box to enable Visitor Mailboxes. Now there will be a new selection in the Special menu for creating a Visitor Mailbox.

When selecting Visitor Mailbox, the user will provide the PowerShare account name, password, and which catalog contains the account.
?If the workstation does not know about the PowerShare Catalog containing the account, select Other and PowerTalk will perform a network search to find available PowerShare Catalogs. Once the list is complete, select the PowerShare Catalog containing the user's account.

One PowerTalk workstation can have multiple Visitor Mailboxes open at the same time. Each Visitor Mailbox points to a different server-based message queue.

Published Date: Feb 19, 2012

AOCE: Protection and Storage of Private Keys (10/93)

Article Created: 4 October 1993

Where are the private keys stored and how are they protected?

This article has been archived and is no longer updated by Apple.
If you mean the items in the key chain, we do protect them and they are encrypted, but we aren't telling anyone where or how.

Published Date: Feb 19, 2012

AOCE: PowerShare Catalog Server Administration (10/93)

Article Created: 4 October 1993

This article describes PowerShare Catalog Server Administration of the Apple Open Collaborative Environment (AOCE).

This article has been archived and is no longer updated by Apple.
PowerShare Catalogs are created and maintained using an application called the PowerShare System Manager's Utility. This utility can be run locally or from a remote location. The PowerShare Catalog Servers serving a particular PowerShare Catalog can be physically located in a phone closet or other secure location while administration happens remotely. Remote administration does not create a security breach since all communication between the Admin application and the PowerShare Catalog Server is encrypted with ASDSP. Any packets tapped from the wire would be encrypted.

Published Date: Feb 19, 2012

AOCE: Public Key Cryptography (10/93)

Article Created: 4 October 1993

This article describes Public Key Cryptography in Apple Open Collaborative Environment (AOCE).

This article has been archived and is no longer updated by Apple.
While the process of signing something does use encryption, the data itself is never encrypted. If digital signatures could be used to encrypt data, Apple would not be able to export the technology. However, digital signatures does use encryption to create the signature.

The type of encryption used by digital signatures is called public key cryptography. This is different from the usual private key encryption.

To encrypt something using private key encryption, a private key is used to encrypt the original data and create ciphertext. The same private key is used to decrypt the ciphertext and reproduce the original data. The challenge with private key technology is how to communicate the private key in such a way that it does not become compromised.

```
Data Data
----- ------
| | | |
| | | |
| | | |
| | | |
----- ------
\\ /
\\ /
------------- \\ / -------------
| Private Key | \\ / | Private Key |
------------- \\ / -------------
\\ /
-----
|- - -|
| - - |
|- - -|
| - - |
-----
Ciphertext
```

Private key cryptography

DigiSign uses something called public key encryption. With public key encryption, a private key is still used to encrypt the original data into ciphertext. This private key remains private, protected by the entity which does the original encryption. Public key technology uses a second public key to decrypt the data. This second key is called a public key because it can be widely distributed. Since both keys are necessary to complete an encrypt/decrypt cycle, only one key need be kept secret.

```
? Data Data
----- ------
| | | |
| | | |
| | | |
| | | |
----- ------
\\ /
\\ /
------------- \\ / ------------
| Private Key | \\ / | Public Key |
```

```
-------------- \\ / -------------
\\ /
-----
|- - -|
| - - |
|- - -|
| - - |
-----
```
Ciphertext

Public key cryptography

RSA

Apple has licensed digital signature technology from RSA Data Security, Inc. The RSA system has been in use for quite some time. It is the emerging commercial standard of public key encryption systems. By using a standard, Apple ensures that as commercial products using digital signature technology become available on other platforms, Apple will be compatible.

Published Date: Feb 19, 2012

AOCE: PowerShare Catalog Structure (10/93)

Article Created: 4 October 1993

This article describes the PowerShare Catalog Structure in Apple Open Collaborative Environment (AOCE).

This article has been archived and is no longer updated by Apple.
A PowerShare Catalog is a hierarchical, distributed repository of information served by one or more PowerShare Catalog Servers. This catalog also provides authentication services on the network.

The relationship between a PowerShare Catalog and a PowerShare Catalog Server is not necessarily one to one. In fact, in all but the smallest installations, there will be several PowerShare Catalog servers for each PowerShare Catalog.

It is possible for a PowerTalk user to access information from more than one PowerShare Catalog.

* Hierarchical Structure
An PowerShare Catalog is organized in a hierarchical manner. For example, a PowerShare Catalog could be created for Apple Computer.

```
? ----------------
| Apple Catalog |
----------------
| |
------------ --------------------------
| |
-- --
------| |- ------| |-
| USA | | Pacific |
| | | |
| | | |
---------- ----------
| | | | |
------ | ------------ ------- | -----------
| | | | |
---- ---- -- -- ---- --
| | | | ------| |- ------| |- | | ------| |-
| | | | | | Tonga | | | | Japan |
| | | | | | | | | | | |
| | | | | | | | | | | |
---- ---- ---------- ---------- ---- ----------
<-------- Records ----------> | | |
------------ | |
| ------- |
| | |
---- ---- ----
| | | | |
| | | | |
| | | | |
| | | | |
---- ---- ----
```

Catalog Structure

Records are stored in catalog folders. It is possible to have a catalog folder that contains both records and other catalog folders.

* Where are the Servers?
Notice in the above diagram that there are no servers represented. This diagram is a picture of the logical structure of the information in the catalog. The catalog structure does not necessarily indicate which

PowerShare Catalog Servers contain which information.

In this example, it is highly unlikely that the entire Catalog could be maintained on one PowerShare Catalog Server. Instead, the load would be distributed among several PowerShare Catalog Servers. No one server would contain all of the data.

```
? ---------------
| Apple Catalog |
---------------
| |
--------------- ---------------
| |
---------------|----------------- -----------------|---------------
| | | | |
| -------- | | --------- |
| | USA | | | | Pacific | |
| -------- | | --------- |
| | | | | | | |
| ----- | ----- | | ------ ----- |
| | | | | | | |
| ---- ---- ---- | | ------- ------- |
| | | | | | | | | | Tonga | | Japan | |
| | | | | | | | ------- ------- |
| | | | | | | | | | | | |
| | | | | | | | ---------------------- |
| ---- ---- ---- | | | | |
| <------- Records ------> | | ---- ---- ---- |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | ---- ---- ---- |
--------------------------------- ---------------------------------
USA Server Pacific Server
```

Distributed PowerShare servers

From the AOCE client's perspective, there is no concept of PowerShare Catalog Servers, only PowerShare Catalogs. AOCE clients never select a particular server. In fact, an end user never knows which specific PowerShare Catalog Server is responding to an information request.

In this example, all data for Apple USA resides on the Apple USA server and all data for Apple Pacific resides on the Apple Pacific server. There is no one server that contains all of the records for the entire database. The data is distributed across two servers. However, all the data is in one PowerShare Catalog.

If a user in Apple USA needs information from the Apple Pacific catalog folder, the user need only open the Apple Pacific catalog folder from the Catalogs icon on the desktop. PowerTalk takes care of finding out which PowerShare Catalog Server serves the Apple Pacific catalog folder and directs the information request accordingly. The end user never has to select a PowerShare Server.

* Folders Directory
PowerTalk keeps a list of which PowerShare servers serve the Folders Directory. The Folders Directory is a copy of the structure of the PowerShare Catalog. The Folders Directory is a type of PowerShare Catalog which is used by PowerTalk and PowerShare to keep track of which servers serve which catalog folders. While the entire Folders Directory might be replicated in several places in a PowerShare system, the Folders Directory does not contain any user data. It contains only path information to direct PowerTalk and PowerShare users to the appropriate PowerShare Servers.

PowerTalk asks one of the servers serving the Folders Directory which PowerShare servers serve the catalog folder containing the requested data. PowerTalk receives a list of servers serving the appropriate catalog folder. Finally, PowerTalk picks a server from the list and sends the information request.

This process is transparent to the end user. An AOCE client never sees the different servers. The client only sees different catalog folders. In the Catalogs icon, the end user never knows nor cares which PowerShare Catalog Servers serve which catalog folders.

Replication

If the server containing data for a particular catalog folder goes down, the information in that catalog folder is no longer available. To guard against this situation, two PowerShare Catalog Servers can serve the same catalog folder, replicating the information among themselves.

A replicated server system can also balance the load between several servers, providing quicker responses to client systems. This means more clients can simultaneously access the same catalog folders with no loss of performance.
?For example, if Pacific Server #1 would go down for some reason, users would still have access to data in a Apple Pacific catalog folder because Pacific Server #2 also contains a copy of that information.

The end user still sees only the catalog and not the servers. The replication is transparent from the point of view of the AOCE client system.

Replication happens automatically with no intervention required by the catalog administrator. To add a record to a catalog folder, the catalog administrator would run PowerShare Admin to add the new record. As with PowerTalk, the catalog administrator cannot specify which PowerShare Catalog Server will be updated. Instead, the PowerShare System Manager's Utility will add the record to the catalog folder. The PowerShare System Manager's Utility picks one of the PowerShare Catalog Servers that serve that particular catalog folder. That PowerShare Catalog Server takes care of communicating the changes to other PowerShare Catalog Servers that serve the same catalog folder. The catalog administrator only has to update the catalog folder once, instead of updating each and every PowerShare Catalog Server that serves that particular catalog folder.
?The PowerShare Catalog Servers keep each other up to date by exchanging updates to information on the catalog folders they serve. The replication mechanism is peer to peer based, not master-slave based. Any server can accept and distribute updates to other servers serving the same directory folders. If one PowerShare Catalog Server receives an update, that server propagates the new information to other PowerShare Catalog Servers that serve the same catalog folder.

While it is true that the servers communicate with each other to check for new information, this exchange does not cause an excessive increase in network traffic. There are two reasons for this. The first is that the servers only exchange information on updates. They do not automatically exchange the entire contents of a catalog folder. The second reason is that the frequency with which the servers check with each other for new information is proportional to the rate of new information. If a large number of updates have been made recently, the servers will communicate frequently. As the amount of new information drops off, the servers drop the frequency with which they communicate with each other. The amount of network traffic generated by PowerShare Catalog Servers is directly proportional to the amount of information changing in the PowerShare Catalog structure.

TA30296_AOCE_PowerShare_Catalog_Structure_(1093)_(TIL13555).pdf

Published Date: Feb 19, 2012

AOCE: Are Messages Between Client and Server Encrypted (10/93)

Article Created: 4 October 1993

Are E-Mail messages sent from a client to the message server, and then from the message server to the recipient client, encrypted using ASDSP? How is the mutual authentication between clients handled?

This article has been archived and is no longer updated by Apple.
In a server-based environment, all communication between client and server is encrypted using ASDSP. If it's a server-less environment, there is no authentication or ASDSP. If the mail is being sent using Direct AppleTalk Mail, the message will not be encrypted, even if there is a server on the network. If two PowerTalk systems want to send messages between each other from within an application, that can be encrypted or not, depending on whether the application knows to call ASDSP instead of ADSP.

Published Date: Feb 19, 2012

AOCE: Where is the RSA Key Pair Created (10/93)

Article Created: 4 October 1993

Is the RSA key pair created on the client, or at the Certifying Authority?

This article has been archived and is no longer updated by Apple.
The private key is created using the DigiSign Utility on the client system. A key request is sent to the Certifying Authority (RSA, usually) who uses the request (based on the private key created on the client) to create a corresponding public key. This is placed in a signer approval file & sent back to the client. The user then uses the DigiSign Utility on the client system to merge the signer approval file with the private key and create a signer containing both key pairs.

Published Date: Feb 19, 2012

AOCE: Support Issues Q & A (2/95)

This article contains support issue related questions and answers about the Apple Open Collaborative Environment (AOCE).

This article has been archived and is no longer updated by Apple.

Q) After I installed System 7 Pro, my Macintosh at startup is slower than before. Does it take so long because of the network activity of PowerTalk?
A) No, this is normal behavior because of the additional setup required with PowerTalk. It isn't really network related, it happens even if AppleTalk is turned off.

Q) I have forgotten the Access Code to my Key Chain, how do I create a new one?
A) If you have forgotten the Access Code to your Key Chain, or it has become corrupted, throw away the PowerTalk Setup preferences file from the Preferences Folder. If there are items in the mailbox, they show up again the next time the system goes through the startup process, even if the new Key Chain is set to a different name.

Q) What's the difference between a Password and an Access Code?
A) In the documentation there is a distinction between the two. Passwords are used for things like external mail systems, AppleShare file servers, and so on, while Access Code refers only to the PowerTalk Key Chain, which unlocks the other passwords.

Q) Direct AppleTalk doesn't tell you who sent the mail, only the computer's name from the Sharing Setup Control Panel.
A) Here are ways to resolve this:

* Place the user's name in the "Machine Name" field of the Sharing Setup Control Panel to help identify mail senders.

* Create a new information card for the person; name it anything you want (for example, name it with their name), then drag their AppleTalk Info Card to the new Info Card you just created. Their AppleTalk address is added to the list of electronic addresses in the Info Card you created with a name that makes sense to you.

* Uncheck Direct AppleTalk Mail in the I'm At╔ dialog box under the Special menu. Mail can then only be sent through connections that are "turned on". If all mail is sent through a server, then the sender's name is included with the mail. If no server is available, then all access to the user's mailbox is disabled. This is handy if the user doesn't want mail dropped in his or her mailbox without user authentication - there is some room for abuse with non-authenticated mail.

Q) Information Cards and Aliases are easily confused. Information Cards for file servers allow access similar to Aliases. What is the difference?
A) Information Cards are not a hot link to a server but rather a document that contains the address of the server along with other user information. Information Cards only work under System 7 Pro, while Aliases work under all versions of System 7.x.

Q) If I threw away my Key Chain, how can I get it back?
A) Click on the Key Chain button in the PowerTalk Setup control panel, a new Key Chain is generated.

Q) How do I make new letterheads?
A) Documents saved as letterhead become new, potential letterheads.

Q) The mailbox Icon should change when there's mail or when there's a problem sending mail. Why isn't it?
A) Indication of mail in the mail box is set in the mail box preferences; the mailbox Icon does not change. The preferences box setting either beeps, flashes an alert, flashes an icon in the upper left corner, and so on.

Q) What do the different Information Card Icons mean for the same person?
A) Information Cards may provide information on a person, Macintosh, or File Server. A person may own all three types of Information Cards, with three different Information Card Icons representing different connections, all of which get information to the same mail box.

Q) What does it take to send and receive mail without a mail server?
A) You need System 7 Pro or System 7.5; it includes everything you need for server-less mail. No PowerShare is required.

Q) Is it OK to use PowerTalk for 20 or more people without a server?
A) Yes, it's fine to use PowerTalk with 20 or more clients in a server-less environment. However larger sites might want the central administration features.

Q) How do you remove an enclosure from a letter?
A) Here are a few suggestions:

* Simply drag the Icon representing the enclosure to the desktop; a copy of the enclosed file(s) is made.

* Throw it in the trash, if you want to get rid of it

* Drag it to the destination folder. System 7 Pro or System 7.5 adds a new feature which allows dragging between applications. Things can be dragged between Finder windows and the AOCE Mailer window.

Q) Can I change PowerShare service to the Key Chain by doing a shift click and drag of several items?
A) Services added to the Key Chain are added one by one; you cannot shift click and drag.

Q) Does the Views control panel change mail Icons to larger size?
A) Changing the List Views option in the Views control panel allows for larger Icons in your mail box.

Q) Why have I stopped receiving mail in my Mailbox?
A) If the amount of space available on your startup disk is less than 2½MB, your Mailbox will refuse new mail, even if the new mail is smaller than 2 MB. Deleting mail from your Mailbox will let new mail be received.

Article Change History:
08 Feb 1995 - Added System 7.5.
18 Nov 1994 - Added Q & A on mail not being received.
13 Oct 1994 - Added keyword; made several technical updates.
16 Nov 1993 - Added additional information.

Support Information Services
Published Date: Feb 19, 2012

AOCE: Description and Technology Overview (10/94)

This article provides a technology overview of the Apple Open Collaborative Environment (AOCE).

This article has been archived and is no longer updated by Apple.
The Apple Open Collaberation Environment (AOCE) includes two products:

* PowerTalk
* PowerShare

PowerTalk
==========

System 7 Pro with PowerTalk is an upgrade to System 7 that provides a unified framework for collaboration on the Macintosh computer.

The PowerTalk package includes System 7 extensions for collaborative services, and AppleMail, a letter application for sending and receiving messages. AppleMail is included to enable PowerTalk users to immediately take advantage of the collaborative features of System 7 with PowerTalk.

PowerTalk requires a hard drive. Apple recommends 5 MB of RAM for PowerTalk users.

PowerShare
==========

PowerShare is the AOCE server product.

The PowerShare package provides server-based services. Only customers who require a server-based environment need to purchase the PowerShare package. Basic collaboration services are available in the PowerTalk package.

Technology Overview
==========

PowerTalk and PowerShare are the first Apple products to take advantage of the AOCE technology. PowerShare and System 7 with PowerTalk consist of a number of managers, toolbox packages, and new desktop facilities that provide catalog services, store and forward messaging and mail, authentication and privacy features, and digital signature capability.

Apple and Third Party Components

This diagram illustrates what comes from Apple and what comes from third parties.
? Applications
---- ---- ---- ----
From Third | | | | | | | Service APIs
Parties | | | | | | |

| |
| * Catalog Services |
From Apple | * Store & Forward Messaging |
| * Authentication & Privacy |
| * Digital Signatures |
| |

From Third | | | | | | | Backend APIs
Parties | | | | | | |
---- ---- ---- ----
Service Access Modes

What comes from Apple and what comes from third parties

NOTE: API = Application Program Interface

* Catalog Services

PowerTalk catalog services can provide access to simple lists, which is only one of many types of information available through the PowerTalk catalogs. PowerTalk catalog services also provide access to data in any format from sounds to pictures to QuickTime movies. PowerTalk catalogs can provide access to services located on another Macintosh computer, an external directory service such as X.500, or a foreign file system such as a CD-ROM based database.

* Store and Forward Messaging

Store and forward messaging is the ability to send messages to a server for later distribution or to hold the message locally until the destination is available to accept the incoming message. AOCE messages can take the form of either letters exchanged between users or program to program communication.

* Authentication and Privacy

Authentication services ensure that the communicating entities are who they claim to be. Privacy refers to a new protocol, AppleTalk Secure Data Stream Protocol (ASDSP) which prevents wire tapping.

* Digital Signatures

Digital signatures provide a means of detecting whether data has been altered and of providing positive identification of the signer. They are especially useful in building automated workflow solutions.

AOCE Architecture

AOCE technology is built in several layers, as this diagram illustrates:

```
Applications
---- ---- ---- ----
| | | | | | | |
| | | | | | | |
---- ---- ---- ----
-------------------------------------------------------------
| --------- --------- ---------- ----------- |
| | Desktop | | Desktop | | Personal | | AOCE | | AOCE
| | Mailbox | | Catalog | | Catalog | | Templates | | Desktop
| --------- --------- ---------- ----------- |
-------------------------------------------------------------
-------------------------------------------------------------
| ------------------ --------------- |
| | Standard Catalog | | Standard Mail | | AOCE
| | Package | | Package | | Packages
| ------------------ --------------- |
---------------------------------------------------------------
-------------------------------------------------------------
| --------- ------------- ----------- ----------- |
| | Catalog | | Inter- | | Authenti- | | Digital | | AOCE
| | Manager | | Program | | cation | | Signature | | Managers
| | | | Message Mgr | | Manager | | Manager | |
| --------- ------------- ----------- ----------- |
-------------------------------------------------------------
---- ---- ---- ----
| | | | | | | |
| | | | | | | |
---- ---- ---- ----
Service Access Modules
```

AOCE architecture

Inside the AOCE Toolbox are the managers and packages of the underlying technology. AOCE software includes front end Application Program Interfaces (APIs) for developers to build collaborative features into existing end user applications or to build entirely new collaborative applications. AOCE technology also offers an open back end through Service Access Modules. Developers can use these APIs to connect AOCE users to existing messaging and catalog services or to new, as yet unknown, services.

The front end APIs provide a uniform way of accessing collaborative service from within third party applications. Building the services into the operating system preserves the Macintosh experience. End users access collaborative services in the same manner, no matter which vendor's application is being used.

The open backend APIs of AOCE technology extend the reach of PowerTalk and PowerShare users to any messaging or catalog service. Service Access Modules (SAMs) make the technology fully extensible. When a new messaging or catalog standard appears, PowerTalk users can easily plug into the system through the use of a SAM.

Article Change History:
13 Oct 1994 - Added description of PowerTalk and PowerShare; added keyword.

Support Information Services
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AOCE: To Use a PowerShare Server or Not (10/93)

Article Created: 4 October 1993

This article describes what requirements are needed in helping to determine if PowerShare Services are necessary in Apple Open Collaborative Environment (AOCE).

This article has been archived and is no longer updated by Apple.
Not all PowerTalk users require a server-based environment. Stand-alone users or users in a small network will not require a server to take advantage of the package of collaboration services included in PowerTalk. Direct AppleTalk mail does not require a server. Neither does messaging using personal Mail Service Access Modules. For small workgroups who wish to communicate only with each other through AppleTalk or with the outside world through personal Mail Service Access Modules, there is no need for a server. A typical server-less AOCE installation will be one in which the AppleTalk and Personal Catalog features are sufficient for catalog services, personal Mail Service Access Modules are available for any external messaging, and security is not a critical issue.

However, if authentication and security is an issue for the customer, then a server-based environment is indicated. The PowerShare Catalog Server is required in order to take advantage of the authentication services and to utilize ASDSP across the network.

Some installations may also have a need for server-based messaging. Examples include installations where one Macintosh is shared by several users, and situations where users travel frequently and dial into one central point for messages.

Published Date: Feb 19, 2012

AOCE: DigiSign What It Does (12/94)

DigiSign is Apple's implementation of digital signature technology. It is a way of electronically signing data. With a digital signature attached, a user can verify the signature to detect whether or not the data has been altered since the signature was attached. Signature verification also checks the validity of the signature itself, providing positive identification of who signed the data.

This article has been archived and is no longer updated by Apple.
DigiSign has two goals:

* To provide a mechanism by which a user can detect whether or not
a document has been altered since the time it was signed

* To positively identify the signer

Signing a document does not in any way encrypt data or prevent it from being altered. While the process of signing something does use encryption in the signature process, it is not possible to use DigiSign or Apple's digital signature manager to encrypt data.

Signing a document does not prevent someone else from reading or altering the document. The data is not encrypted, just as it was before the signature was attached. Anyone can read it and anyone can make changes.

The process of verifying a signature detects whether or not changes have been made although it is not possible to discover what the changes were.

How to Sign Something

The process of signing something begins with the data to be signed. The digital signature manager creates a 16 byte digest. The digest is a highly sophisticated checksum of the data. It is nearly impossible for two sets of data that differ in any way to produce the same digest.

This diagram ilustrates the signing process:

```
? ----------------------------
| |
| ----- |
| Data | | |
| to be | | |
| signed | | |
| ----- | -----
| | | | | Data
| | |------> | |
| ----- | | |
| Digest | | | -----
| ----- | --------------------------
| | -------- | | ----- |
| | <-| Signer | | | |-/-/-| Encrypted digest |
| | -------- | | ----- |
| ----- | | ----- |
| Encrypted |-/-/-| | | | | Public key |
| digest ----- | | ----- Certificate |
| | --------------------------
----------------------------
```

The signer file uses a private key from the signer file to encrypt the digest. The data itself is not encrypted. Only the digest of the data is encrypted.

The resulting encrypted digest and a public key certificate are appended to the data file as a signature resource. The original data remains unchanged and unprotected from anyone reading the data or making changes to it. The only thing that is changed about the file is the addition of the signature resource.

How to Verify Something

The process of verifying a signature begins with calculating a new digest of the original data. Next, the public key is retrieved from the public key certificate in the digital signature attached to the document. The public key is used to decrypt the encrypted version of the digest.

The two digests are then compared. If they match, the signature verifies. If they do not match, then something has been changed on the original document so that the digests are different.

This diagram illustrates the verification process:
? Original Data
----- Digest
| | -----
| |----------> | |------> = ?
| | -----
| |

Public Key Digest
----- -----
| |----------> | |------> = ?
----- Apply -----
----- Public Key
Public key ->| |
Certificate -----

The process of signature verification also verifies all signatures in the attached public key certificate. This is to ensure that the signature itself is valid and has not been altered.

Finder Signing

Third party applications will integrate digital signature technology into their products. For example, Shana Corporation will incorporate digital signature technology into their Informed Manager product to enable electronic authorization of forms.
PowerTalk users can sign entire files from the Finder by dragging a file to be signed onto a Signer file. Files signed from the Finder have a signature resource attached to them. The document is also locked. However, the file locking is not secure. In order to unlock the document, the user need only select the document, choose Get Info from the File menu and then uncheck the Locked check box. The purpose of locking the file is to prevent casual changes to the document, not to secure the file against any possible changes.
If the name of the file changes, the signature still verifies. The reason for this is that the document itself has not changed, only the name of the document.

* Validating a Signature

A file signed from the Finder has a new icon in the Get Info window for the file the Verification button. Click this button and a DigiSign dialog box appears.

To verify the signature, click the Verify button in the DigiSign dialog box. The signature is checked for validity. If the signature is verified a successful signature dialog box is displayed.

If the signature fails to verify, a dialog displays stating, "The signature of 'Document Name' could not be verified. Either the file has been modified since it was signed or the signature itself has been altered".
?* Removing a Digital Signature

To remove a digital signature from a document signed in the Finder, click the Remove button instead of the Verify button in the preceding process.

Article Change History:
09 Dec 1994 - Added keyword, reformatted, made numerous technical changes.

Support Information Services
Published Date: Feb 19, 2012

AOCE: PowerTalk Icons Presented On The Desktop (10/93)

Article Created: 4 October 1993

This article describes the new icons found on the desktop with PowerTalk.

This article has been archived and is no longer updated by Apple.
PowerTalk puts three new icons on the desktop, the Catalogs icon, the Mailbox icon and the PowerTalk Key Chain.
?Opening the Catalogs icon displays the different catalogs available. Examples include a PowerShare Catalog, the AppleTalk catalog, or an X.500 directory service.

The Mailbox contains all incoming and outgoing mail. Mail from any source, in any format is accessible through the Mailbox.

The PowerTalk Key Chain protects access to the services available through the Catalogs and Mailbox icons. The PowerTalk Key Chain provides users with one stop access to a variety of collaboration services.

Published Date: Feb 19, 2012

AOCE: PowerTalk Key Chain Features (10/93)

Article Created: 4 October 1993

This article describes how the PowerTalk Key Chain protects access to the services available through Catalogs and Mailbox icons. The PowerTalk Key Chain provides users with one stop access to a variety of collaboration services.

This article has been archived and is no longer updated by Apple.
In today's electronically connected world, a user may receive incoming messages from an overwhelming number of sources. It is not uncommon for employees to have accounts on a network mail system (for example, AppleLink, Internet, or other company mail system), a LAN mail system (for example, QuickMail), and voice mail. Logging into multiple message services can be time consuming as well as confusing.

The PowerTalk Key Chain makes it possible to access all of these services while remembering only one Access Code to access all of the other catalog and messaging services they may use.

The first time AOCE services are accessed after installation, the user will be prompted to enter an Access Code for the PowerTalk Key Chain.
?The PowerTalk Key Chain protects access to other messaging and catalog services available through PowerTalk. In order to access services protected by PowerTalk, the user must enter the correct Access Code.

Unlike the Catalogs or In Tray icons, the PowerTalk Key Chain icon can be moved from the desktop. Once the PowerTalk Key Chain has been created, the user can move it to anywhere on the local disk.

Once the PowerTalk Key Chain has been configured, the user can configure access to other services into the PowerTalk Key Chain.
?For example, the PowerTalk Key Chain can be configured to give a user access to messaging services available through both Direct AppleTalk mail and a PowerShare Mail Server. The Key Chain can also have a key for an AppleShare file server. The user has to configure access to the services once. After the initial configuration is complete, the user only has to remember the access code to their PowerTalk Key Chain to access all services linked to keys in the PowerTalk Key Chain.

* Changing The PowerTalk Key Chain Name
To change the name of the PowerTalk Key Chain, click the PowerTalk Key Chain icon in the upper right hand corner of the PowerTalk Key Chain window.

The user then has the option of entering either a new PowerTalk Key Chain name or a new Access Code.
?* Automatically Locking The PowerTalk Key Chain
The PowerTalk Key Chain must be unlocked each time the Macintosh computer boots. This prevents unauthorized use of the services protected by the PowerTalk Key Chain.

The AOCE PowerTalk Key Chain will also lock itself after a period of inactivity. The timeout period can be controlled using the AOCE Setup control panel. By default, the automatic locking feature is turned off.
To enable it, enter a number in the AOCE Setup control panel dialog box.

If a user is going to be away from their Macintosh computer for a period of time and would like to prevent someone else from accessing the services protected by the PowerTalk Key Chain, it is possible to lock the PowerTalk Key Chain. To do this, select Lock Key Chain from the Special menu. Once the PowerTalk Key Chain has been locked, PowerTalk services

will not be available on this Macintosh computer until the user provides the correct access code to unlock the PowerTalk Key Chain.

?* Access Code Requirements

The Access Code must be greater than six characters in length. Apple recommends that access codes include symbols or numbers as well as letters.

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68LC040 Macintosh Computers: FPU Upgrade Information

This article discusses adding an FPU (floating point unit) to any of the following computers:
-Macintosh LC 475
-Performa 475 and 476
-Quadra 605
-Macintosh 57x Family
-Macintosh 630 Family
This article has been archived and is no longer updated by Apple.
The Macintosh LC 475, Performa 475 and 476 and the Quadra 605 have a 25MHz 68LC040 microprocessor. Computers in the Macintosh 57x family and the Macintosh 630 family have a 33MHz 68LC040 microprocessor.

In order to upgrade to a microprocessor with a floating point unit (FPU), it is necessary to remove the existing microprocessor from its socket and replace it with a 68040 microprocessorof similar speed. These models have no specific FPU socket on the logic board, thus the requirement to replace the CPU chip.

Such an upgrade would not come from Apple. Apple has no plans to market an FPU upgrade, nor does Apple officially support this configuration.

Published Date: Feb 19, 2012

LC 475, Performa 475 & 476, Quadra 605: Custom ICs

This article describes the custom integrated circuits (ICs) in the Macintosh LC 475, Performa 475 and 476, and Quadra 605.
This article has been archived and is no longer updated by Apple.
The Macintosh LC 475, Performa 475 and 476, and the Quadra 605 support VRAM-based video and utilize a MEMC Jr. memory controller.

The MEMC Junior IC

The MEMC Jr. (the Most Excellent Memory Controller Junior) chip is a 208-pin Apple-designed integrated circuit which controls video display processing as well as memory control. The result is improved performance compared to the Quadra 700, 900, and 950 video.

The LC 475 and the Quadra 605 use the same 15-pin connector for video output used by the Quadra 700 and 900, as well as other Apple systems.

The Apple AudioVision 14 Monitor requires an adapter which connects the monitor cable on one end to the individual input/output ports such as Video and ADB.

Published Date: Feb 19, 2012

LC 475, Performa 475 & 476, Quadra 605: Expansion Slot

This article describes the expansion slot in the Macintosh LC 475, Performa 475 and 476, and the Quadra 605.
This article has been archived and is no longer updated by Apple.
The expansion slot in the Macintosh LC 475, Performa 475 and 476, and the Quadra 605 is not a true 040 PDS slot because it does not directly access the microprocessor bus. The expansion slot is an LC III compatible expansion connector: most cards that work with LC II, LC III, and LC 520 work with these systems* Examples: Ethernet cards for the LC Family, video cards for the LC family, and the Apple IIe Card.

Cards that are 030 specific, such as 030 accelerators or 030 cache cards, will not work with these models because they require direct access to the 68030 microprocessor. Those cards are intended to speed the 68030 microprocessor to higher performance levels that are already attainable with the 68040 microprocessor. However, accidentally plugging in an 030 accelerator or cache card will not cause any damage to your Macintosh.

Published Date: Feb 19, 2012

Performa 400, 405, 410 and LC II: Differences (10/93)

Article Created: 18 October 1993

What are the differences between the Performa 400, 405, 410, and LC II?

This article has been archived and is no longer updated by Apple.
The following table shows the differences between the Performa 400, 405, 410, and LC II. (The Performa 400 and LC II are discontinued models.)

	400	405	410	LC II
Processor	68030	68030	68030	68030
Clock Speed	16 MHz	16 MHz	16 MHz	16 MHz
FPU Socket	No	No	No	No
Std. RAM	4MB	4MB	4MB	4MB
Max. RAM	10MB	10MB	10MB	10MB
Std. Hard Drive	80MB	80MB	80MB	80MB
Display (1)	Separate	Included	Included	Separate
Std. VRAM (2)	512K	256K	512K	256K
Max. RAM	512K	512K	512K	512K
Resolution	Varies with Monitor	640 by 480	640 by 480	Varies with Monitor
Dot Pitch	.39mm/.29mm	.39mm	.39mm	.29mm
Slots	1 LC PDS	1 LC PDS	1 LC PDS	1 LC PDS
Modem	N/A	Included	Included	N/A
Min. System Software	7.0.1P	7.1P	7.1P	7.0.1
Market	Home	Home	Home	Education (3)

Notes
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(1) The Apple Performa Display is included with the Performa 405 and Performa 410.
(2) 256K of VRAM will display 16 colors. 512K of VRAM will display 256 colors.
(3) As of October 1993, The Macintosh LC line has been repositioned for the Education market. The LC II however, was offered to all markets before it was discontinued.
Published Date: Feb 19, 2012

LC III & 475, Performa 475 & 476, Q 605: How They Differ

This article compares the features of five similar Macintosh models: the Macintosh LC III, the Macintosh LC 475, the Performa 475, the Performa 476, and the Quadra 605. These five models have similar weight and dimensions.
Each has a SCSI port and a single expansion slot.
This article has been archived and is no longer updated by Apple.

	LC III	LC 475	P 475	P 476	Q 605
Market	schools	schools	home	home	business
Processor	68030	68LC040	68LC040	68LC040	68LC040
Clock Speed	25 MHz	25 MHz	25 MHz	25 MHz	25 MHz
FPU Socket	yes	no (5)	no (5)	no (5)	no (5)
Std. RAM	4MB	4MB	4MB	4MB	4MB
Max. RAM	36MB	36MB	36MB	36MB	36MB
Std. Hard Drive	80MB	80/160MB	160MB	230MB	80/160MB
Display	Separate (1)	Separate (1)	Bundled	Bundled	Separate (1)
Display Support	Up to 16"	All Apple displays	All Apple displays	All Apple displays	All Apple displays
VRAM	512/1MB	512/1MB	512/1MB	512/1MB	512/1MB
Colors	256 (2) Up to 16-bit on 14"	256 (3) Up to 16-bit on 16"	256 (3) Up to 16-bit on 16"	256 (3) Up to 16-bit on 16"	256 (3) Up to 16-bit on 16"
PDS	one LC PDS	one LC III-compat. PDS	one LC III-compat. PDS	one LC III-compat. PDS	one LC III-compat. PDS
Modem Incl.	no	no	yes	yes	no
System SW	7.1	7.1	7.1P	7.1P	7.1
Bundled Apps	no	no	yes (4)	yes (4)	no

Notes:

(1) The Performa models are bundled with the Macintosh Performa Display; the LC models can be used with a variety of Apple and third-party displays.

(2) Can be upgraded to 32,000 colors with VRAM upgrade from 512K to 768K.

(3) Can be upgraded to 32,000 colors with VRAM upgrade from 512K to 1MB.

(4) The Performa models are shipped with a selection of application software appropriate to the target market and resale channel.

(5) These systems come with a 68LC040 that has no FPU. A qualified technician can remove it and replace it with a 68040RC, which includes an FPU; Apple neither offers nor supports such an upgrade.

Published Date: Feb 19, 2012

Macintosh LC 475: Display Options

This article describes display options for the Macintosh LC 475 computer.
This article has been archived and is no longer updated by Apple.
512K VRAM in SIMMs (for 256 colors) is standard. VRAM is expandable to 1MB for 32,000 colors.

The Macintosh LC 475 works with all Apple and many third-party displays from 12-inch to 21-inch, including portrait displays and VGA monitors.

Other Apple and non-Apple monitors may also be supported, if used in conjunction with expansion cards or adapters.
Published Date: Feb 19, 2012

Portable StyleWriter: Undocumented Self Tests

This article describes additional self test information that is not documented in the Owner's manual.

This article has been archived and is no longer updated by Apple.
Make sure paper is loaded into the printer first. All of the tests are continuous. To stop the tests, turn off the printer.

- Power on the printer. After the beep let up on the power button, press the "PITCH" button and hold it until you hear another beep. Then, let up on the "PITCH" button. The printer will print a sample of the 11 built-in fonts for the CANON BJ-10e.
- Power on the printer. After the beep, let up the power button. Press the "LF/FF" button and hold it down until you hear another beep. Then let up on the "LF/FF" button. The printer will print a "barber pole" test print.
- Power on the printer while holding down the "ON LINE" and "LF/FF" buttons. After the first beep, let up on the power button. After the second beep let go of the "ON LINE" and "LF/FF" buttons. The printer will print rows of "H"s.

Published Date: Feb 19, 2012

Performa 450, 460, 466, 467 & Mac LC III: Differences

This article contains a table detailing the differences between the Performa 450, 460, 466, 467, and Macintosh LC III computers.

This article has been archived and is no longer updated by Apple.
This table details the differences between the Performa 450, 460, 466, 467, and Macintosh LC III computers.

	Performa 450	**Performa 460**	**Performa 466**	**Performa 467**	**LC III**
Processor	68030	68030	68030	68030	68030
Clock Speed	25 MHz	33 MHz	33 MHz	33 MHz	25 MHz
FPU Socket	Yes	Yes	Yes	Yes	Yes
Standard RAM	4 MB	4 MB	4 MB	4 MB	4 MB
Maximum RAM	36 MB	36 MB	36 MB	36 MB	36 MB
Standard Hard Drive	120 MB	80 MB	160 MB	160 MB	40/80/120 MB
Display(1)	Performa+	Performa	Performa+	Performa+	Separate
Standard VRAM	512 K	512 K	512 K	512 K	512 K
Maximum VRAM	786 K	786 K	786 K	786 K	786 K
Slots	1	1	1	1	1
Modem(2)	Included	Included	Included	Included	n/a
Minimum System Software	7.1P	7.1P3	7.1P3	7.1P3	7.1
Bundled Software(3)	Yes	Yes	Yes	Yes	No
Market	Home	Home	Home	Home	Education

Notes:
(1) The Apple Performa Display is a 14-inch display with 640 by 480 pixels and a .39 mm dot pitch. The Apple Performa Plus Display is a 14-inch display with 640 by 480 pixels and a .28 mm (Performa 466 and 467) or .29 mm (Performa 450) dot pitch.

(2) Each computer with included modem has a Global Village TelePort Bronze fax/data modem (2400 bps data/9600 bps fax).

(3) Each computer with bundled software has a set of application, communication, and utility software. This software varies between models.

Published Date: Feb 19, 2012

Performa 460, 466, 467: RAM and VRAM Specifications

This article describes the RAM and VRAM specifications for the Performa 460, 466 and 467.
This article has been archived and is no longer updated by Apple.

RAM

The Performa 460, 466 and 467 has 4 megabytes (MB) of memory soldered to the logic board and a single 72-pin SIMM RAM expansion socket.

The Performa 460, 466 and 467 can accomodate 1MB, 2MB, 4MB, 8MB, 16MB and 32MB RAM SIMMs. They do not support 256K SIMMs. You must use 72-pin fast-paged mode SIMMs with 80ns access time or faster.

Possible RAM configurations are 4MB, 5MB, 6MB, 8MB, 12MB, 20MB, and 36MB.

VRAM

The Performa 460, 466 and 467 have 512K of VRAM soldered to their logic board and have a single VRAM expansion socket. They can be expanded to 768K by adding a single 100ns 256K VRAM SIMM.

Published Date: Feb 19, 2012

System 7 Pro: Installation Key Points (9/94)

This article discusses what you need to keep in mind when installing System 7 Pro.

This article has been archived and is no longer updated by Apple.

Pre-Installation Checklist

Turn off extensions when you start up by holding the Shift key when

you start the Macintosh.

Turn off all security software and virus- protection software.

Back up the information on the hard disk.

Run Disk First Aid.

Update SCSI drivers if you're updating from System 6 to System 7 Pro.

Compatibility Checker

Run the Compatibility Checker before installing System 7 Pro. If the Compatibility Checker finds incompatible or unknown items in the System Folder of the startup disk, it presents a dialog box that allows you to move those items out of the System Folder. This dialog box lists the items not included in the compatibility database, as well as items that are incompatible.

The dialog box will come up with all items checked for moving. You can click the "Move" or "Don't Move" button. Or you can deselect the items you wish to remain before you click the "Move" button.

If you select "Move," the Compatibility Checker creates a new folder on the hard disk named, "May Not Work With System 7 Pro," and automatically moves the selected items to this folder. Be sure to follow the instructions in the compatibility report that it generates for you. You can save this report to disk as a text file.

Network Installer

The network install doesn't work the same as previous versions of system software:

The Installer and Installer Script remain inside the Install Me First

folder.

An alias of both items is outside the Install Me First folder.

800KInstallation Disks

If you wish to have 800K installation disks, there's a coupon in the box that you use to send for them.

Common Problems and Resolutions

If the Installer displays a message that your computer doesn't have enough memory, your Macintosh has less than 5MB of RAM. Contact your Apple-authorized dealer for information about how to purchase additional memory.

If the Installer displays the message that it's out of memory, usually it means that the disk cache is set too high. Open the Memory control panel and set your disk cache to the lowest possible setting.

If the Installer displays a message that there isn't enough disk space available, the hard disk has less than the minimum required to use the Installer. Remove some files from the disk to make more space available. Make backup copies of the files, if necessary, then drag them to the Trash. If you're installing from floppy disks, you can also try starting up with the Install disk. This requires less available hard disk space.

Article Change History:

29 Sep 1994 - Reviewed for concistency and update format.

12 Nov 1993 - Added Common Problems and Resolutions section.

Support Information Services

Published Date: Feb 19, 2012

AppleCD 300: Connecting to a PC? (10/94)

Is it possible to connect an AppleCD 300 to a MS-DOS PC using a SCSI interface?
Are there any drivers available for a MS-DOS PC?

This article has been archived and is no longer updated by Apple.
While it is technically possible to do this, it is not supported by Apple.

In order to use the AppleCD 300 with a PC, you need:

* The Transtor SCSI card and driver, which are reasonably compatible with the AppleCD 300.

* A utility called MSCDEX that comes with MS DOS 6.0.

* A compatible sound card. Unless you have a sound card, you will not have sound capabilities. Finding a compatible sound card requires testing and some "trial and error" to make it work.

Article Change History:
25 Oct 1994 - Removed Multimedia Kit for PCs.

Support Information Services
Published Date: Feb 19, 2012

VAX to Mac Special Character Translation On The Fly (9/93)

Article Created: 30 September 1993

Is there a way to automatic translate text files created on a VAX with edit/edt, characters like "çÄÆù£ûä", to be correctly read on a Macintosh? The configuration is a VAX with PATHWORKS v 1.1, with file transfer being done by copying the text files from a VAXshare volume mounted on the Macintosh desktop.

I know that it can be done via a small program (HyperCard?) looking for the special characters and replacing them for the Macintosh equivalent ones, but this is not as automatic as I want or need. Also I have seen that Mac340 emulation contains a Kermit based file transfer that allows this automatic translation, but this is also not acceptable, because the file transfer should be done via AppleTalk, and using Mac340 (or similar) means extra costs.

This article has been archived and is no longer updated by Apple.
Digital engineering told us that the only parts of PATHWORKS that currently handle this are NetCopy and FAL in DECnet for Macintosh, and Mail for Macintosh. DECnet allows you to select character translations for the transfer of TEXT files, and Mail does for mail messages. Digital does not have any specific plans to enhance this in the future.

We are also not aware of any other third party software that allows this kind of translation on the fly.

Published Date: Feb 19, 2012

System 7.x: Third-Party Keyboard Startup Difficulties

I have a third-party keyboard, and I can't boot with extensions off, nor reset the PRAM.
This article has been archived and is no longer updated by Apple.
First, make sure the Caps Lock key is **not** depressed.

Second, wait until the Happy Mac appears. The correct key combination has to be held down after the Happy Mac and before the "Welcome to Macintosh" screen. This is usually a one-second period of time. This is necessary because some third-party keyboards aren't recognized until a few seconds after the Macintosh is turned on.
Published Date: Feb 19, 2012

Multiplan: Why Some File Names Don‘t Appear in Scrolling Window

This article has been archived and is no longer updated by Apple.

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Microsoft Multiplan, versions 1.0, 1.01, and 1.02, have no inherent limit
as to the NUMBER of names that they hold, only the SIZE of the name file.
That is, many small names will store as well as a shorter list of long
names -- up to the limit of available memory.

Under some high memory-use conditions, however, the Name scroll-box or
the Link scroll-box can hold only the FIRST 45 NAMES. The rest are there,
and remain active, but the scroll-box will only show the first 45.
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Published Date: Feb 19, 2012

Quadra 840AV: Screen Fax Displays As If Selected

I have a Quadra 840AV. When my Quadra 840AV received a Fax it was displayed on the monitor with a black background with white text (just the reverse of the plain paper Fax). Is there a command for switching the background color on the display from black to white?
This article has been archived and is no longer updated by Apple.
No, there is no command to switch the background color. This is a known problem where the display is affected. If the Fax is printed out, it will print correctly, however, sometimes, it prints in inverse video. This problem also occurs on Power Macintosh computers.

To resolve this problem you should upgrade to Express Modem 1.5.5 software available from the Apple Software Updates Web site at http://www.apple.com/swupdates/ .
Published Date: Feb 19, 2012

Apple Modem Tool 1.5: Third-party Modem Compatibility (10/93)

Article Created: 6 October 1993

Recently, I installed the version of Apple Modem Tool 1.5 which was included in the Newton Connection Kit 1.0. After installation, I wasn't able to use a third-party modem to connect my Macintosh to another computer. When I try to connect, I get the message "The connection settings are invalid. Please reset your modem..."

Why is this?

This article has been archived and is no longer updated by Apple.
Apple Modem Tool 1.5 that is distributed with the Newton Connection Kit 1.0, is compatible with other modems than Apple and Hayes-compatible modems. This version of Apple Modem Tool 1.5, however, doesn't ship with a list of other modems' command strings; it only offers the choice of Hayes-Compatible, Custom, and a group of different Apple modems.

The workaround is to create a custom configuration for your modem. To do so, follow these steps:

1) Choose Connection from the Settings Menu.

2) In the lower-left corner of the Connection Settings dialog are the Modem Settings options. Scroll doen the list and select Custom.

3) Enter your "Custom Modem Configuration" (Refer to your modem user manual or contact the manufacturer of the modem should you need help in determining the proper command string to use.)

Your modem should now operate properly.

Published Date: Feb 19, 2012

LaserWriter 8.0: Global Village Incompatibility

I have a Global Village fax modem on my PowerBook. I'm constantly getting Type 1 errors. I've done a clean install of system software, and ran Disk First Aid. When I fax using the Global Village software it goes through, but then the document becomes corrupted. This doesn't happen with the LaserWriter driver 7.2, only with the 8.0 driver.

This article has been archived and is no longer updated by Apple.

This is a known problem and has been fixed in the LaserWriter driver version 8.1.1 and all LaserWriter drivers released after v8.1.1.

Published Date: Feb 19, 2012

Apple IIc/IIc Plus: Port Pin Assignments

Listed below are the pinouts of the Hand Control, Mouse and External Power connectors for the Apple IIc and IIc Plus.
This article has been archived and is no longer updated by Apple.

HAND CONTROL

Connector Pin Number	Signal Name	Description
1	GAMESW1	witch input (paddle #1)
2	+5V	+5 VDC (Do not exceed 100 MA)
3	GND	System Ground
4,9		Not used for hand controllers
5,8	PDL0 & PDL1	Hand control inputs. Each of these must be connected to a 1K pot connected to +5
6	N.C.	Not connected
7	GAMESW0	Switch input 0 (paddle #0)

MOUSE CONNECTOR

Connector Pin Number	Signal Name	Description
1	MOUSEID	Mouse Identifier
2	+5V	+5 VDC (Do not exceed 100 MA)
3	GND	System Ground
4	X1	Mouse X-direction Indicator
5	X0	Mouse X-movement interrupt
6		Mouse button
7	MSW	Mouse button
8	Y1	Mouse Y-direction indicator
9	Y0	Mouse Y-movement interrupt

EXTERNAL POWER

Connector Pin Number	Signal Name	Description
1,7		Not Connected
2,3		Common electrical ground
4	Chassis	Chassis ground
5, 6	+15V	+15VDC input to converter

Published Date: Feb 19, 2012

Forwarded Mail: Appears to Lose Enclosures (10/93)

Article Created: 4 October 1993

Mail forwarded from within an application, like AppleMail, may appear to lose enclosures when the recipient opens the document. A paper clip may appear in the upper right corner of the standard mail, while the enclosure window displays nothing.

This article has been archived and is no longer updated by Apple. Actually the enclosure is in the mail, though in a different layer. By clicking the turned edge at the bottom left corner of the standard mailer, you can find enclosures in the original addresses mailer.

Also, a popup menu (triangle) appears to the right of the "From" field. This popup menu lists names of all forwarding individuals. A paper clip may appear beside some names in the popup menu indicating an enclosure. Selecting names from the popup menu allows instant access to the standard mailer page addresses.

Published Date: Feb 19, 2012

System 7 Pro 7.1.1: 1.4MB Disk Contents (10/93)

System 7 Pro 7.1.1: 1.4MB Disk Contents (10/93)
Article Created: 5 October 1993

This article details the contents of System 7 Pro 7.1.1, shipped on twelve 1.4MB floppy disks.

This article has been archived and is no longer updated by Apple.

Availability

AppleLink: N/A
FTP Apple.com: N/A

Disk Tools:

File Name Version # Created Modified

Apple HD SC Setup 7.2.2 9/13/93 9/24/93
Disk First Aid 7.2 7.2 8/6/93 9/24/93
Disk Tools Read Me 9/21/93 9/24/93
Finder 7.1 8/27/92 9/24/93
Finder Preferences 9/22/93 9/24/93
System 7.1 8/27/92 9/24/93

Before You Install:

File Name Version # Created Modified

AppleShare 3.0.3 patch 4.0.4 8/27/93 9/1/93
Before You Install Read Me 1/14/40 8/18/93
Compatibility Checker 7.1.1 9/22/93 9/22/93
Desktop 8/31/93 9/22/93

Install:

File Name Version # Created Modified

Chicago 4/10/92 9/24/93
System 7.1 9/24/92 9/24/93
System Enabler 001 11/25/92 9/24/93
System Enabler 003 10/21/92 9/24/93
System Enabler 040 11/24/92 9/24/93
System Enabler 088 7/12/93 9/24/93
System Enabler 131 6/8/93 9/24/93
System Enabler 201 2/3/93 9/24/93
System Enabler 401 3/8/93 9/24/93
System Enabler 403 3/31/93 9/24/93

Install 2:

File Name Version # Created Modified

PowerBook Display 1.0.4 3/22/93 9/24/93
Auto Power On/Off 1.0 6/24/93 9/24/93
AutoRemounter 1.2 8/25/93 9/24/93
Hardware System Update 2.0.1 9/1/93 9/24/93
Printer Share 1.1 4/8/93 9/24/93
Record Button 1.0 9/29/92 9/24/93

Screen 1.0.2 8/3/93 9/24/93
System 7.1.1 8/27/92 9/24/93

Install 3:

File Name Version # Created Modified

A/ROSE 1.2 5/24/93 9/24/93
EtherTalk Phase 2 2.5.4 8/23/93 9/24/93
EtherTalk Prep 1.0.4 8/23/93 9/24/93
Finder 7.1.3 9/14/93 9/24/93
Finder Help 7.1.3 9/14/93 9/24/93
LaserWriter 300 1.2 6/30/93 9/24/93
Network 3.0.2 8/23/93 9/24/93
Network Extension 7.1.3 9/14/93 9/24/93
Token Ring 1.0.1 8/23/93 9/24/93
TokenTalk Phase 2 2.5.4 8/23/93 9/24/93
TokenTalk Prep 2.5.2 8/23/93 9/24/93

Fonts:

File Name Version # Created Modified

Athens 9/16/91 9/16/91
Cairo 9/16/91 9/16/91
London 9/16/91 9/16/91
Los Angeles 9/16/91 9/16/91
Mobile 12/3/91 12/3/91
San Francisco 9/16/91 9/16/91
Venice 9/16/91 9/16/91
Chicago 4/10/92 4/10/92
Courier 9/16/91 9/16/91
Geneva 9/16/91 9/16/91
Helvetica 4/10/92 4/10/92
Monaco 9/16/91 9/16/91
New York 9/16/91 9/16/91
Palatino 1/23/92 1/27/92
Symbol 9/16/91 9/16/91
Times 9/16/91 9/16/91

Tidbits:

File Name Version # Created Modified

Alarm Clock 7.1 8/13/92 9/24/93
Battery 9/8/92 9/24/93
Calculator 7.1 8/13/92 9/24/93
Chooser 7.3 11/19/92 9/24/93
Control Panels 4/25/91 9/24/93
Key Caps 7.1 8/17/92 9/24/93
Note Pad 7.1 8/17/92 9/24/93
Puzzle 7.1 8/17/92 9/24/93
Scrapbook 7.1 8/17/92 9/24/93
Apple File Exchange 7.0 4/25/91 9/24/93
DCA-RFT/MacWrite 1.0.1 12/9/88 9/24/93
LaserWriter Font Utility 7.0 4/25/91 9/24/93
System 7.1.1 Read Me 8/28/92 9/24/93
TeachText 7.1 11/24/92 9/24/93
CloseView 7.1 8/13/92 9/24/93
Brightness 7.0.1 9/16/91 9/24/93
Cache Switch 7.0.1 9/16/91 9/24/93
Color 7.1 8/13/92 9/24/93

Date & Time 7.1.1 9/22/93 9/24/93
File Sharing Monitor 7.1 8/27/92 9/24/93
General Controls 7.1 8/17/92 9/24/93
Keyboard 7.1 8/17/92 9/24/93
Labels 7.1 8/27/92 9/24/93
Map 7.1.1 9/22/93 9/24/93
Memory 7.1.2 6/24/93 9/24/93
Monitors 7.0 4/25/91 9/24/93
Mouse 7.1 8/17/92 9/24/93
Numbers 7.1 8/17/92 9/24/93
PowerBook 7.1.2 3/10/93 9/24/93
Sharing Setup 7.1 8/27/92 9/24/93
Sound 8.0 6/25/93 9/24/93
Startup Disk 7.2 6/28/93 9/24/93
Users & Groups 7.1 8/27/92 9/24/93
Views 7.1 8/27/92 9/24/93
Easy Access 7.0 4/25/91 9/24/93
AppleShare 7.1 8/17/92 9/24/93
Caps Lock 7.1.2 3/22/93 9/24/93
File Sharing Extension 7.1.1 9/22/93 9/24/93
Scrapbook File 4/25/91 9/24/93

Printing:

File Name Version # Created Modified
_____
AppleTalk ImageWriter 7.0.1 3/4/92 3/4/92
ImageWriter 7.0.1 3/4/92 3/4/92
Installer 3.4.4 6/18/93 6/18/93
LaserWriter 7.1.2 8/17/92 8/17/92
LQ AppleTalk ImageWriter 7.0.1 3/4/92 3/4/92
LQ ImageWriter 7.0.1 3/4/92 3/4/92
Backgrounder 1.3 1/29/91 1/29/91
Laser Prep 7.1.2 8/17/92 8/17/92
Personal LaserWriter SC 7.0.1 3/30/92 3/30/92
Personal LW LS 7.2 3/6/92 3/6/92
Printer Update 7.1 8/27/92 8/27/92
PrintMonitor 7.1 8/17/92 8/17/92
StyleWriter 7.2.3 1/28/92 1/28/92
StyleWriter II 1.0 11/20/92 11/20/92

PowerTalk:

File Name Version # Created Modified
_____
Mailbox Extension 1.0 9/22/93 9/24/93
PowerTalk Extension 9/22/93 9/27/93
PowerTalk Manager 1.0 9/22/93 9/24/93

PowerTalk 2:

File Name Version # Created Modified
_____
AppleMail 1.0 9/22/93 9/24/93
A Note 9/22/93 9/24/93
Celebration 9/22/93 9/24/93
F.Y.I. 9/22/93 9/24/93
Hot News 9/22/93 9/24/93
Memorandum 9/22/93 9/24/93
Out of the Office 9/22/93 9/24/93
Reply 9/22/93 9/24/93
Take a look ╔ 9/22/93 9/24/93

The Daily News 9/22/93 9/24/93
AppleTalk Service 1.0 9/22/93 9/24/93
Catalogs Extension 1.0 9/22/93 9/24/93
Demonstration Signer 9/22/93 9/24/93
DigiSign Utility 1.0 9/22/93 9/24/93
Find in Catalog 1.0 9/22/93 9/24/93
Personal Catalog 1.0 9/22/93 9/24/93
PowerTalk Setup 1.0 9/22/93 9/24/93
Untitled Info Card 1.0b11c1nodbgs 8/3/93 9/24/93

QuickTime:

File Name Version # Created Modified

QuickTime Read Me 6/22/93 6/22/93
QuickTime 1.6.1 6/21/93 6/21/93
QuickTime Logo Movie 4/25/93 4/25/93
Scrapbook File 4/25/91 4/27/93
Scrapbook File Read Me 4/27/93 4/27/93
Scrapbook 7.1.2 10/2/92 7/19/93

AppleScript Runtime:

File Name Version # Created Modified

AppleScript 1.0 4/14/93 4/14/93
Apple Event Manager 1.0.1 3/7/93 3/7/93
Script Editor 1.0.1 4/19/93 4/19/93
Scriptable Text Editor 1.0 4/6/93 4/6/93
Beep 1.0 4/6/93 4/6/93
Choose Application 1.0 4/6/93 4/6/93
Choose File 1.0 4/6/93 4/6/93
Current Date 1.0 4/6/93 4/6/93
Display Dialog 1.0 4/6/93 4/6/93
File Commands 1.0 4/6/93 4/6/93
Load Script 1.0 4/6/93 4/6/93
Numerics 1.0 4/6/93 4/6/93
Run Script 1.0 4/6/93 4/6/93
Store Script 1.0 4/6/93 4/6/93
String Commands 1.0 4/6/93 4/6/93
Getting Started Guide 3/22/93 4/23/93
Installer 3.4 4/6/93 4/23/93
Installer Script 1.0 4/19/93 4/23/93
Language at a Glance 1/30/93 4/28/93
Known Language Problems 4/7/93 4/23/93
Language Guide Errata 4/7/93 4/23/93
New Language Features 4/7/93 4/23/93
Script Application Notes 4/23/93 4/23/93
Script Editor Notes 4/7/93 4/23/93
Scripting Additions Notes 4/7/93 4/23/93
Guide to Sample Scripts 4/8/93 4/23/93
Item Delimiters & Paths 3/30/93 4/23/93
Folder Watcher 3/30/93 4/23/93
What's New? 4/5/93 4/23/93
Yet Another Folder Watcher 4/7/93 4/23/93
Get File Info 4/7/93 4/23/93
Get Total Size 4/6/93 4/23/93
Reconcile Files 3/17/93 4/23/93
Sort files into subfolders 3/24/93 4/23/93
Total Size 3/23/93 4/23/93
eight ball 4/7/93 4/23/93
SoothSayer 4/7/93 4/23/93
Talk to SoothSayer 4/7/93 4/23/93

Date Object 3/15/93 4/23/93
fileLib 4/8/93 4/23/93
listLib 3/25/93 4/23/93
stringLib 4/7/93 4/23/93
modifyreadonly (ToolServer) 4/7/93 4/23/93
Set MPW Directory 4/3/93 4/23/93
Round Off Example 3/23/93 4/23/93
Set decimal precision 4/7/93 4/23/93
Run Script Demo.sender 4/7/93 4/23/93
Run Script Demo.target 4/7/93 4/23/93
Run Script Demo.target2 4/7/93 4/23/93
Run Script Demo.target3 4/7/93 4/23/93
Idle handler example 3/30/93 4/23/93
Quit handler example 1 3/18/93 4/23/93
Quit handler example 2 3/28/93 4/23/93
Script Object Runner 4/7/93 4/23/93
Talk to Script Object Runner 4/7/93 4/23/93
.Read Me 4/7/93 4/23/93
Count Files Since Created 3/7/93 4/23/93
Count Files Since Started 3/1/93 4/23/93
Count Words 4/7/93 4/23/93
Report Files 3/7/93 4/23/93
Document Madness 4/8/93 4/23/93
Number Lines 4/8/93 4/23/93
Proportional Resize 4/8/93 4/23/93
Remote Clipboard 4/8/93 4/23/93
Remove Line Numbers 4/8/93 4/23/93
Tile Windows 4/8/93 4/23/93
Transpose Words 4/8/93 4/23/93
Underline Long Words 4/8/93 4/23/93
The Intro 4/8/93 4/23/93
finderLib 1.0.1 4/7/93 4/23/93
Scripting the Finder 1.0 3/29/93 4/23/93
Welcome to AppleScript 4/13/93 4/23/93

Published Date: Feb 19, 2012

AppleTalk Internet Redesign (10/93)

Article Created: 5 October 1993

I have an internet redesign issue. I'm concerned about my strategy to update the router definitions in my network.

Is it possible for the router/zone updating process to propagate bad zone information after it is changed? If I update a zone list on a router is the old table kept in other routers and forwarded as a part of normal updating therefore maintaining this bad zone information? What exactly prevents this from happening if anything?

What phenomenon on the network would cause ZIP storms between routers?

If I am changing my Internet wide zone lists what strategy should I follow in updating the routers? Do I need to isolate each while I change it and prevent it communication with others until they are all updated? If this isn't possible do I have other choices?

Is it possible for normal RTMP updating between routers to propagate bad network number entries that keep "updating around the network" when they no longer describe a valid network entry? This assumes a router is redefined to have a different network number setup for the ports that it seeds.

There is also a problem with zone names and zones appearing/disappearing in the chooser.

I have a 6000 node network with hundreds of subnets. I want to change my network zone tables from one that reflects a physical layout to a logical one, but I'm concerned about how to implement a ZIP change on a subnet when routers may be propagating bad zip information behind the changes for old entries.

This article has been archived and is no longer updated by Apple.
The Zone Information Protocol (ZIP) does not support dynamic network changes. The prescribed method of updating a zone list is to temporarily isolate the changing network from the internet, shut down all routers directly connected to the changing network, and change the zone list in each of the seed routers. Inside AppleTalk recommends the routers remain down for approximately 10 minutes to allow the old zone list to age out of all the other routers in the internet before being started again. If this procedure is not followed, it is possible for old zone information to be propagated after a change is made (depending on the complexity of the change, this could cause ZIP storms between routers).

Inside AppleTalk alludes to a "future network management protocol" that would provide the capability of changing the zone list of a network while that network is active as a part of the internet. Unfortunately, such a protocol hasn't been developed yet, so the aforementioned procedure is the only way to properly implement a network change.

The Routing Table Maintenance Protocol (RTMP) would only be temporarily impacted by a network change. The old network table entries would time out and get deleted as the routers on the internet no longer heard from the "old network" (Inside AppleTalk indicates this should take approximately 60 seconds).

Published Date: Feb 19, 2012

AppleShare 3.0.3 Patch: Print Server Versions

If you have Print Server 3.0 and you run either the 3.0.2 or 3.0.3 patch, there will not be any code changes made to the print server; however, installing the patch will update the version number to 3.0.2 or 3.0.3 respectively. You effectively still have Print Server 3.0, meaning the code fixes in 3.0.1 are not present.

This article has been archived and is no longer updated by Apple.

Installing the AppleShare 3.0.3 patch DOES NOT change the version number of the AppleShare Print Server. The version number on the Admin program and the File Server are upgraded but the Print Server is not changed.

Published Date: Feb 19, 2012

System 7 Pro 7.1.1: 800K Disk Contents (10/93)

Article Created: 6 October 1993

This article details the contents of System 7 Pro 7.1.1, shipped on seventeen 800K floppy disks.

This article has been archived and is no longer updated by Apple.
Availability

AppleLink: N/A
FTP Apple.com: N/A

Disk Tools:

File Name Version # Created Modified

Apple HD SC Setup 7.2.2 9/13/93 9/13/93
Desktop 1/2/92 9/21/93
Disk First Aid 7.2 7.2 8/6/93 8/6/93
Disk Tools Read Me 9/21/93 9/21/93
Brightness 1.0 9/4/90 9/4/90
Finder 6.1.7 10/9/90 10/9/90
General 3.3.3 3/7/90 3/7/90
Monitors 4.3 9/4/90 9/4/90
Mouse 3.3.1 8/26/88 8/26/88
Portable 1.2 3/7/90 3/7/90
Startup Device 3.3.1 8/26/88 8/26/88
System 6.0.7 10/9/90 10/9/90

Before You Install:

File Name Version # Created Modified

AppleShare 3.0.3 patch 4.0.4 8/27/93 9/1/93
Before You Install Read Me 1/14/40 8/18/93
Compatibility Checker 7.1.1 9/22/93 9/22/93
Desktop 8/31/93 9/22/93

Install:

File Name Version # Created Modified

Catalogs Extension 1.0 9/22/93 9/22/93
Chicago 4/10/92 4/10/92
Desktop 9/22/93 9/22/93
Install 800K 1.0 9/22/93 9/22/93
Installer 3.4.4 6/18/93 9/22/93

Install 2:

File Name Version # Created Modified

Cerulean Data 9/22/93 9/22/93
Alarm Clock 7.1 8/13/92 8/13/92
Battery 9/8/92 9/8/92
Calculator 7.1 8/13/92 8/13/92
Chooser 7.3 11/19/92 11/19/92
Key Caps 7.1 8/17/92 8/17/92

Note Pad 7.1 8/17/92 8/17/92
Puzzle 7.1 8/17/92 8/17/92
Scrapbook 7.1 8/17/92 8/17/92
Scrapbook File 4/25/91 4/25/91
Desktop 9/22/93 9/22/93
Hardware System Update 2.0.1 9/1/93 9/1/93

Install 3:

File Name Version # Created Modified

AppleShare 7.1 8/17/92 8/17/92
Desktop 9/22/93 9/22/93
System 7.1.1 9/22/93 9/22/93

Install 4:

File Name Version # Created Modified

Desktop 9/22/93 9/22/93
EtherTalk Phase 2 2.5.4 8/23/93 8/23/93
EtherTalk Prep 1.0.4 8/23/93 8/23/93
Finder 7.1.3 9/14/93 9/14/93
Finder Help 7.1.3 9/14/93 9/14/93
Network Extension 7.1.3 9/14/93 9/14/93
Token Ring 1.0.1 8/23/93 8/23/93
TokenTalk Phase 2 2.5.4 8/23/93 8/23/93
TokenTalk Prep 2.5.2 8/23/93 8/23/93

Tidbits:

File Name Version # Created Modified

A/ROSE 1.2 5/24/93 5/24/93
Caps Lock 7.1.2 3/22/93 3/22/93
Brightness 7.0.1 9/16/91 9/16/91
Cache Switch 7.0.1 9/16/91 9/16/91
Color 7.1 8/13/92 8/13/92
Control Panels 4/25/91 4/25/91
Date & Time 7.1.1 9/22/93 9/22/93
Easy Access 7.0 4/25/91 4/25/91
File Sharing Monitor 7.1 8/27/92 8/27/92
General Controls 7.1 8/17/92 8/17/92
Keyboard 7.1 8/17/92 8/17/92
Labels 7.1 8/27/92 8/27/92
Map 7.1.1 9/22/93 9/22/93
Memory 7.1.2 6/24/93 6/24/93
Monitors 7.0 4/25/91 4/25/91
Mouse 7.1 8/17/92 8/17/92
Network 3.0.2 8/23/93 8/23/93
Numbers 7.1 8/17/92 8/17/92
PowerBook 7.1.2 3/10/93 3/10/93
Sharing Setup 7.1 8/27/92 8/27/92
Sound 8.0 6/25/93 6/25/93
Startup Disk 7.2 6/28/93 6/28/93
Users & Groups 7.1 8/27/92 8/27/92
Views 7.1 8/27/92 8/27/92
Desktop 9/22/93 9/22/93
File Sharing Extension 7.1.1 9/22/93 9/22/93

Tidbits 2:

File Name Version # Created Modified

Apple File Exchange 7.0 4/25/91 4/25/91
DCA-RFT/MacWrite 1.0.1 12/9/88 12/9/88
AppleTalk ImageWriter 7.0.1 3/4/92 3/4/92
CloseView 7.1 8/13/92 8/13/92
Desktop 9/22/93 9/22/93
LaserWriter Font Utility 7.0 4/25/91 4/25/91
LQ AppleTalk ImageWriter 7.0.1 3/4/92 3/4/92
LQ ImageWriter 7.0.1 3/4/92 3/4/92
Record Button 1.0 9/29/92 9/29/92
System 7.1.1 Read Me 8/28/92 9/21/93
TeachText 7.1 11/24/92 11/24/92

Printing:

File Name Version # Created Modified

Backgrounder 1.3 1/29/91 1/29/91
Desktop 9/22/93 9/22/93
ImageWriter 7.0.1 3/4/92 3/4/92
Installer 3.4 4/6/93 4/6/93
Laser Prep 7.1.2 8/17/92 8/17/92
LaserWriter 7.1.2 8/17/92 8/17/92
Personal LaserWriter SC 7.0.1 3/30/92 3/30/92
Personal LW LS 7.2 3/6/92 3/6/92
Printer Update 7.1 8/27/92 8/27/92
PrintMonitor 7.1 8/17/92 8/17/92
StyleWriter 7.2.3 1/28/92 1/28/92

PowerTalk:

File Name Version # Created Modified

Desktop 9/22/93 9/22/93
Mailbox Extension 1.0 9/22/93 9/22/93
PowerTalk Manager 1.0 9/22/93 9/22/93

PowerTalk 2:

File Name Version # Created Modified

A Note 9/22/93 9/22/93
Celebration 9/22/93 9/22/93
F.Y.I. 9/22/93 9/22/93
Hot News 9/22/93 9/22/93
Memorandum 9/22/93 9/22/93
Out of the Office 9/22/93 9/22/93
Reply 9/22/93 9/22/93
Take a look ╔ 9/22/93 9/22/93
The Daily News 9/22/93 9/22/93
Desktop 9/22/93 9/22/93
Find In Catalog 1.0 9/22/93 9/22/93
Personal Catalog 1.0 9/22/93 9/22/93
PowerTalk Extension 9/22/93 9/22/93
Untitled Info Card 1.0b11c1nodbgs ╔ 8/3/93 9/22/93

PowerTalk 3:

File Name Version # Created Modified

AppleMail 1.0 9/22/93 9/22/93
AppleTalk Service 1.0 9/22/93 9/22/93
Demonstration Signer 9/22/93 9/22/93
Desktop 9/22/93 9/22/93
DigiSign Utility 1.0 9/22/93 9/22/93
PowerTalk Setup 1.0 9/22/93 9/22/93

Fonts:

File Name Version # Created Modified

Chicago 4/10/92 4/10/92
Courier 9/16/91 9/16/91
Desktop 9/22/93 9/22/93
Geneva 9/16/91 9/16/91
Helvetica 4/10/92 4/10/92
Monaco 9/16/91 9/16/91
New York 9/16/91 9/16/91

Fonts 2:

File Name Version # Created Modified

Desktop 9/22/93 9/22/93
Athens 9/16/91 9/16/91
Cairo 9/16/91 9/16/91
London 9/16/91 9/16/91
Los Angeles 9/16/91 9/16/91
Mobile 12/3/91 12/3/91
San Francisco 9/16/91 9/16/91
Venice 9/16/91 9/16/91
Palatino 1/23/92 1/27/92
Symbol 9/16/91 9/16/91
Times 9/16/91 9/16/91

AppleScript Setup:

File Name Version # Created Modified

AppleScript 1.0 4/14/93 4/14/93
Apple Event Manager 1.0.1 3/8/93 3/8/93
Script Editor 1.0.1 4/19/93 4/19/93
Beep 1.0 4/6/93 4/6/93
Choose Application 1.0 4/6/93 4/6/93
Choose File 1.0 4/6/93 4/6/93
Current Date 1.0 4/6/93 4/6/93
Display Dialog 1.0 4/6/93 4/6/93
File Commands 1.0 4/6/93 4/6/93
Load Script 1.0 4/6/93 4/6/93
Numerics 1.0 4/6/93 4/6/93
Run Script 1.0 4/6/93 4/6/93
Store Script 1.0 4/6/93 4/6/93
String Commands 1.0 4/6/93 4/6/93
Desktop 6/14/93 6/14/93
Installer 3.4 4/6/93 4/6/93
Installer Script 1.0 6/15/93 6/15/93

AppleScript Additions:

File Name Version # Created Modified

Desktop 6/14/93 6/14/93
Language at a Glance 1/30/93 4/13/93
Known Language Problems 4/7/93 4/14/93
Language Guide Errata 4/7/93 4/14/93
New Language Features 4/7/93 4/14/93
Script Application Notes 1/1/4 4/14/93
Script Editor Notes 4/7/93 4/14/93
Scripting Additions Notes 4/7/93 4/11/93
Guide to Sample Scripts 4/8/93 4/19/93
Item Delimiters & Paths 3/30/93 4/8/93
Folder Watcher 3/30/93 4/7/93
What's New? 4/5/93 4/7/93
Yet Another Folder Watcher 4/7/93 4/7/93
Get File Info 4/7/93 4/8/93
Get Total Size 4/6/93 4/7/93
Reconcile Files 3/17/93 4/13/93
Sort files into subfolders 3/24/93 4/4/93
Total Size 3/23/93 4/8/93
eight ball 4/7/93 4/7/93
SoothSayer 4/7/93 4/7/93
Talk to SoothSayer 4/7/93 4/7/93
Date Object 3/16/93 4/8/93
fileLib 4/8/93 4/8/93
listLib 3/26/93 3/28/93
stringLib 4/7/93 4/7/93
modifyreadonly (ToolServer) 4/7/93 4/8/93
Set MPW Directory 4/3/93 4/7/93
Round Off Example 3/23/93 4/7/93
Set decimal precision 4/7/93 4/7/93
Run Script Demo.sender 4/8/93 4/8/93
Run Script Demo.target 4/8/93 4/8/93
Run Script Demo.target2 4/8/93 4/8/93
Run Script Demo.target3 4/8/93 4/8/93
Idle handler example 3/30/93 4/7/93
Quit handler example 1 3/18/93 4/7/93
Quit handler example 2 3/28/93 4/7/93
Script Object Runner 4/7/93 4/7/93
Talk to Script Object Runner 4/7/93 4/7/93
.Read Me 4/7/93 4/7/93
Count Files Since Created 3/7/93 4/7/93
Count Files Since Started 3/2/93 4/7/93
Count Words 4/7/93 4/7/93
Report Files 3/7/93 4/8/93
Document Madness 4/8/93 4/8/93
Number Lines 4/8/93 4/8/93
Proportional Resize 4/8/93 4/8/93
Remote Clipboard 4/8/93 4/8/93
Remove Line Numbers 4/8/93 4/8/93
Tile Windows 4/8/93 4/8/93
Transpose Words 4/8/93 4/8/93
Underline Long Words 4/8/93 4/8/93
The Intro 4/8/93 4/14/93
Scriptable Text Editor 1.0 4/6/93 4/6/93
finderLib 1.0.1 4/8/93 4/18/93
Scripting the Finder 1.0 3/30/93 4/11/93
Welcome to AppleScript¬ 4/14/93 4/20/93

Published Date: Feb 19, 2012

System Enablers: Are Performa & Mac Enablers Compatible? (10/93)

Are the system enablers for similar Macintosh and Performa computers (such as the Macintosh LC III and the Performa 450) compatible?

This article has been archived and is no longer updated by Apple.
No, they are not compatible. You should not use Performa enablers with the Macintosh operating system or Macintosh enablers with the Performa operating system, since a particular system enabler may not have system resources that the other operating system needs.

Also, do not put a Performa enabler and a Macintosh enabler for a similar machine in the same System Folder, since this may cause unpredictable results.

Published Date: Feb 19, 2012

AppleScript: How To Use On AV Computers

Is there any information about using speech to control common, non-menu based Finder commands (jumping from one icon to another, and so on)?

What resources are available for customers to use AppleScript?
This article has been archived and is no longer updated by Apple.
Regarding scripting non-menu based Finder commands, there are two options currently available:

- The AppleScript Developer's Toolkit provides instructions on using "finderLib", a script library providing routines which script the System 7.0 and System 7.1 Finder.
- Use the QuicKeys Test Drive which ships with AV Macintosh computers, which would allow you to use speech to control QuicKeys of Finder commands (that is, assign QuicKeys to arrow keys to "jump from one icon to another").

Of course the best solution will be when Apple releases a fully scriptable Finder (without having to use "finderLib").

In the meantime, one of the best sources of AppleScript information is the AppleScript Developer's Toolkit, available from APDA, product number R0175LL/A.
Published Date: Feb 19, 2012

MacCheck 1.0.4 Read Me

This article contains the Read Me document for MacCheck 1.0.4.
This article has been archived and is no longer updated by Apple.

This Read Me document contains information about the MacCheck program. The Microsoft Word and MacWrite II documents, "MacCheck User Guide.msWrd" and "MacCheck User Guide.mwII" are a superset of this document and provide easier to read (better formatted and highlighted) text, along with more technical details about the inner workings of MacCheck.

I. INTRODUCTION TO MACCHECK

MacCheck is an Apple support utility tool with which you can learn more about your Macintosh computer, as well as diagnose software problems that result from corrupted directories and files. By using MacCheck in conjunction with Disk First Aid, you can resolve common disk corruption problems.

MacCheck creates a profile of your Macintosh computer, including:

* The processor, memory, expansion cards, SCSI drives, keyboard, monitor, and so on
* The installed applications and system software on your startup drive

MacCheck also provides:

* A general logic board test
* A checker for the file system and System files
* A checker for duplicate System Folders

The MacCheck product consists of the application file "MacCheck," and the data file "MacCheck dataFile." For MacCheck to work correctly, both the application file and the data file must be located in the same folder. MacCheck is compatible with System 7.0 or later.

Under most circumstances, MacCheck can be run with extensions on. However, if you are having trouble running MacCheck, you should turn extensions off (by restarting your computer while holding down the Shift key). MacCheck does conflict with some non-Apple extensions:

* Thunder 7
  Don't run MacCheck while Thunder 7 is active. MacCheck and Thunder 7 have serious conflicts.
* Virus protection programs
  You'll need to "teach" some virus protection programs about MacCheck.
* Electronic mail programs
  Sometimes when electronic mail programs, such as Microsoft Mail or QuickMail, are active, they disrupt the file system checking by making your startup volume "busy".

II. MACCHECK OVERVIEW

Launching MacCheck

When you launch MacCheck, you'll see a splash screen detailing the initialization processes that MacCheck performs while it starts up. During most of this time, MacCheck gathers profile information and checks for multiple System Folders. On a new Macintosh LC III, MacCheck takes about 1 minute to launch; on a 400MB, 8,000-plus-file Macintosh Quadra 950, it takes about 4-5 minutes to launch.

Note: If you want to speed up the launch process by about 20 seconds,

press the Space bar when the splash screen first appears. This tells MacCheck not to profile modems or check SCSI devices that are typically slow, such as DAT tape drives. MacCheck will display a "*QuickBoot*" message. If you wish to quit the launch process at any time, press command-period.

Accessing Profile Information

MacCheck stores the collected profile information in three log files, the "System Info," "Additional System Info," and "Application and Font Info" logs. To view the profile information placed into these logs, select the log you want from the Windows menu.

Starting Logic Board and File System Tests

To start the logic board and file system tests, click the Test button or select the Test option (command-G) in the Diagnostics menu. When these tests are completed, MacCheck stores the results in a results file. The default name of this file is "Test Results-1". You may rename this file by selecting the Save Results As option in the File menu.

Published Date: Feb 19, 2012

System 7 Pro 7.1.1: Macintosh AV Systems Alert

An incompatibility has been discovered when running PowerTalk 1.0 on a Macintosh Centris 660AV or Macintosh Quadra 840AV system. The incompatibility can result in performance degradation and/or possible B*Tree corruption.
This article has been archived and is no longer updated by Apple.
One problem occurs when users exchange a Business Card (or Personal Catalog) between a non AV Macintosh and an AV system. The Business Card (Personal Catalog) will be damaged when opened on the AV system. PowerTalk has a built-in repair function, but a user confirmation dialog will be brought up every time such repair takes place.

Before installing System 7 Pro on Quadra 840AV or Centris/Quadra 660AV, make sure you have System Enabler 088 1.0.1 or later installed.

Version 1.0.1 (or later) of System Enabler 088 is available from the Apple Software Updates Web site at http://www.apple.com/swupdates/ .

Published Date: Feb 19, 2012

CopyDoubler: System 7 Pro Incompatibility (10/93)

Article Revised/Updated: 23 November 1993

The System 7 Pro 7.1.1 Compatibility Checker reports that CopyDoubler 2.0.1 is compatible, but it should be listed as just "mostly compatible."

CopyDoubler 2.0.2 is compatible with System 7 Pro 7.1.1.

This article has been archived and is no longer updated by Apple.
If you have CopyDoubler's "Fast Empty Trash" enabled, it won't let you empty the trash if Apple Mail items have been thrown away. This also causes a crash about half the time.

We've reported this problem to Fifth Generation Systems.

Article Change History:
23 November 1993 - added that 2.0.2 is compatible
Published Date: Feb 19, 2012

GeoPort and Extensions Manager (10/93)

Article Created: 8 October 1993

If I install Extensions Manager 2.0, turn all of my extensions or the Express Modem control panel off, and then restart, the Express Modem control panel will be corrupted. It will come up black when extensions are loading if it is turned back on with Extension Manager. The only way to get it back is to reinstall the GeoPort software.

This article has been archived and is no longer updated by Apple.
We did some testing with this and believe we have discovered the problem. This is not really a software conflict but rather a customer-usage issue.

We did a lot of testing with the GeoPort and the Extensions Manager and the only way I could get the problem, where the "phone turned black" and the Express Modem was unusable, was:

* To have turned off the Extension Manager's own extension, EM Extension, when the other extensions were turned off.

* NOT to turn it back on when the other extensions were turned on.

If the Express Modem was turned off, with and without turning off its own extensions, we could always get it turned on successfully -- as long as the EM Extension was not turned off and left off.

The key to knowing whether the EM Extension is off, is to check where the Extensions Manager icon loads at boot. If it shows before the other extensions, then it is on; if instead it shows after the extensions and before the Express Modem icon, then it is off, and the phone will go black. Then yes, the only way to get the Express Modem back and functional is to reinstall the GeoPort software.

So, in summary, the key is to NOT turn off the EM Extension (equals don't turn off all extensions unless you really have to). If you do have to turn it off, BE SURE to turn it on in the Extensions Manager Control Panel BEFORE rebooting! Having the Extensions Manager half on/off is the actual problem.

Published Date: Feb 19, 2012

Freehand 3.1, Sys 7.1, Quadra 700 & 950: Use System Update 3.0

I am having problems working with Aldus Freehand 3.1. The first time I create a document, it works fine. If I edit the document, clicking on anything (editing and magnifying) freezes the application. Aldus tells me this is a problem with my Quadra 700.

This article has been archived and is no longer updated by Apple.

The Problem

The problem was with the way Aldus handled their screen buffers. With System 7.0 or 7.0.1, there was no problem. When customers upgraded to System 7.1, then Quadra 950s and Quadra 700s could exhibit the problem.

The Solution

The remedy is to install the latest System Update for System 7.1, currently System Update 3.0.

These articles can help you locate the software update mentioned here:

* "Where To Find Apple Software Updates" - Lists online services for free Apple software updates.

* "Obtaining Apple Product Support in the USA" - Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech Info Library.

Article Change History:
13 September 1995 - Updated with latest System Update version.

Support Information Services

Published Date: Feb 19, 2012

Apple HD SC Setup, 3rd-Party Drives, & SCSI Manager 4.3 (1/95)

Does Apple HD SC Setup format third party drives to take advantage of SCSI Manager 4.3?

This article has been archived and is no longer updated by Apple.
Apple does not distribute a SCSI formatter that supports both SCSI Manager 4.3 and third party drives. Apple HD SC Setup 7.2.2 that ships with System Update 2.0.1 does not support third party drives, and although Apple HD SC Setup 3.0.1 shipped with A/UX supports third party drives, it doesn't support the SCSI Manager 4.3.

As of October, 1993 there are two third party SCSI drive formatters that support SCSI Manager 4.3. To locate a vendor's address and phone number, use the vendor name as a search string.

* MicroNet Technology's SCSI utility software v6.0 which is compatible
with their drives.

* CharisMac Engineering's Anubis, v 2.5 which is a universal formatter.

Other vendors should have "SCSI Manager 4.3-savvy" drivers soon.

Article Change History:
13 Jan 1995 - Made corrections to application name appearing in article.
21 Oct 1994 - Retitled to better describe the article.

Support Information Services
Published Date: Feb 19, 2012

Token Ring 4/16 NB Card RAM Expansion (11/93)

I'm having difficulty obtaining a specified correct part for a DRAM upgrade to the Apple Token Ring 4/16 NB Card. Is the OKI part number M514400A-70Z, an acceptable substitute?

I would like Apple Computer's opinion on the acceptability of OKI part M514400A-70Z.

This article has been archived and is no longer updated by Apple.
We cannot bless an OKI part number as an acceptable replacement for a Toshiba or TI chip. We do not have access to the parts in question or the specifications of the OKI parts. Based on the part number it sounds like you want to upgrade the card with 2.0 MB of RAM to a total of 2.5 MB of RAM.

The best answer is for you to contact Marshall's Electronics telemarketing department at 800-800-2968 and ask to purchase, via credit card, the proper parts. There is a $50.00 minimum purchase requirement.

These are two parts they have in stock:

1) For 0.5 MB upgrade: Use TI part number TMS44C256-10SD @ $8.20 each (need 4 per card)

2) For 2.0 MB upgrade: Use TI part number TMS44000-12SD @ 27.50 each (need 4 per card). You may also used Toshiba part number TC514400AZ-80.

The Marshall's telemarketing staff is quite helpful on equivalent ZIP chip modules which have the bit density (256K x 4 or 1024K x 4) and the proper speed (120ns minimum). The parts are rare but a large semiconductor distributor has them.

Article Change History:
17 Nov 1993 - Updated to the proper chip speed.

Published Date: Feb 19, 2012

CharisMac Engineering, Inc.

CharisMac Engineering, Inc.
This article has been archived and is no longer updated by Apple.
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Web site: **http://www.CharisMac.com/**

Company Profile:
Develops mastering, data backup technology, RAID, disk management, error detection software for the Macintosh.
Published Date: Feb 19, 2012

Hard Drive: 230MB Drive Thermal Recalibration

Why does my 230MB drive access itself periodically when I'm not doing anything?
This article has been archived and is no longer updated by Apple.
The head positioning servo in the 230 MB drive maintains the heads over the desired track during the read/write operations. Fine tuning the position of the heads to compensate for changes in the thermal environment of the drive is a "designed in feature" of the 230 MB disk assembly, and is called "thermal recalibration."

When thermal conditions in the drive change, the servo system compensates for thermally induced dimensional changes, and keeps the heads properly positioned. At power on and at other predetermined times, and whenever an internal thermistor senses temperature changes greater than a specified amount, servo position information pre-written on the inner (ID) and outer (OD) tracks of the drive is sampled and used to provide correction to the location of the read/write heads relative to the optical encoder; this ensures that they are properly positioned over the magnetic recording surface during data transfer operations. This capability enhances the drives ability to accurately read and write data over it's specified operating environment.

This information pertains to the Apple 230MB drive as well as the 3rd Party drives using the Quantum ProDrive LPS 230 mechanism.
Published Date: Feb 19, 2012

Alternating Cursor: Macintosh Can‘t Boot (11/94)

After starting the Macintosh, it draws a menu bar with no text, freezes, and then the cursor changes between the watch and arrow continuously. The Macintosh never completes the startup sequence. The Macintosh can't boot from a System 7.x floppy disk, but can boot from a System 6.x floppy disk. Booting with extensions off or zapping parameter RAM doesn't help either.

This article has been archived and is no longer updated by Apple.
The cause of this is incorrect window coordinates in the Finder. The Finder stores the top-left and bottom-right coordinate of each window. Should, for some reason, the bottom-right coordinate of a window be to the left or top of the top-left coordinate, the Finder will get very confused. You'll then see the alternating wristwatch and arrow cursor.

The solution to this problem is to restart with the Option key held down. This forces the Finder to close all the windows, and zero out their coordinates. This may not work if a third party keyboard is in use, for best results, use an Apple keyboard to zero out the coordinates.

Article Change History:
02 Nov 1994 - Added possible problems with third party keyboards.
30 Sep 1994 - Edited to include the words "watch" and "pointer".

Support Information Services
Published Date: Feb 19, 2012

DigiSign Utility Signature Authentication (4/96)

DigiSign Utility that ships with PowerTalk has a new contact point for the signature authentication process.

This article has been archived and is no longer updated by Apple.

When requesting DigiSign's signature authentication, a floppy disk containing the "Request" file, created by the DigiSign Utility, should be mailed to:

VeriSign Inc.

Apple Certificate Services

2593 Coast Ave

Mountain View, CA 94043

Telephone: 415-961-7500

This article was published in the Information Alley on 9 April 1996.

Published Date: Feb 19, 2012

DigiSign: Not Supported on ImageWriter LQ & DeskJet (10/94)

I'm having problems printing my "signer request form" to an ImageWriter LQ.

This article has been archived and is no longer updated by Apple.
The ImageWriter LQ and an HP DeskJet can not be used to generate a printed signer request form. It isn't a supported configuration.

The solution is to print to a 300 dot-per-inch or greater printer. Also, RSA Data Security, Inc., will accept the signer file on diskette. Simply save the signer request to a diskette instead of printing it. You must contact RSA to obtain a authorized signer.

To locate a vendor's address and phone number, use the vendor name as a search string.

Article Change History:
10 Oct 1994 - Added HP Deskjet.

Support Information Services
Published Date: Feb 19, 2012

LaserWriter Driver Differences: Version 8.0 & 8.1.1

What are the differences between LaserWriter driver v8.0 and v8.1.1?
This article has been archived and is no longer updated by Apple.
Here's a summary of the differences between versions 8.0 and 8.1.1 of the LaserWriter driver:

NEW FEATURES:

Improved Tray Handling
When installed, the user may select the optional 500-sheet paper cassette as the "default" paper source. This was a much-requested feature from users. This feature is found in the "Configure" dialog during printer Setup from the Chooser.

Precision Bitmap Alignment
The driver now scales bitmaps in accordance with the resolution of the output device: 4% reduction as usual for 300 dpi printers, 10% for 400 dpi, and so on.

Consolidated PPDs
Multiple PPD files for different memory configurations are replaced by a single PPD file containing specifications for different page sizes. For example, we used to have 3 PPD files for the LaserWriter IIg v2010.113 (4MB, 5MB and 8MB) - with v8.1.1, we have one.

Improved Color Matching
The driver will use the ColorSync System Profile, if installed on the host, instead of the Apple 13" colorspace profile built into the driver.

BUG FIXES
There are various bug fixes in LaserWriter 8.1.1 that address both driver and 3rd party application issues. Apple is suggesting that users of LaserWriter driver 8.0 upgrade to LaserWriter driver 8.1.1 mainly because of these bug fixes, and also for the additional features.
Published Date: Feb 19, 2012

SNA■ps 5250 Can‘t Connect, Config Problem (10/93)

Article Created: 13 October 1993

I'm having trouble connecting SNA*ps 5250 1.0 to a SNA*ps Gateway 2.0. I have verified the gateway configuration and it is working. I'm starting 32 sessions and all sessions are contention winners. QAUTOVRT is set to 500.

When I start SNA*ps 5250 I get a zone list. I can see the gateway in the gateway list. I can see both pool and session names in the pool/sessions column.

SNA*ps 5250 control panel Local LU is set for PASSTHRU and Auto Configuration. Local LU name on gateway is PASSTHRU.

When I select a session (or pool - I've tried it both ways) and click the Connect button I get the error, "Couldn't connect to session because there is an error communicating with the SNA*ps gateway."

I have tried to get a trace on the SNA*ps gateway and it showed nothing. I also run an SNA trace on the AS/400 and there is no traffic related to starting display station PASSTHRU or connecting a terminal session. No errors are generated on the AS/400.

This leads me to believe that this is a problem with SNA*ps 5250 itself. Gateway and terminal emulator are being run on the same Mac right now, but I've also tried connecting 5250 sessions from other Macintoshs on network, and get the same error message.

The gateway is a Macintosh IIci, 20 MB RAM, System 7.1, AppleTalk 58.0, EtherTalk 2.5, Asante Ethernet card, 32-bit addressing on, file sharing off.

I am certain this is not an SNA communications problem. This has something to do with the connection between the gateway and the emulator.

This article has been archived and is no longer updated by Apple.
Since the gateway bound all contention winner sessions correctly, we all passed judgement on the correctness of the SNA*ps Gateway configuration too quickly. The TP configuration of the SNA*ps Gateway was incorrect in the Characteristics area on the dialog box. The SNA*ps 5250 emulator requires the Basic/Mapped Verb radio button be selected and the PIP information check box selected. You have the Basic radio button and no check box for PIP information. The SNA*ps 5250 attach Verb call was rejected since it requires Mapped verb support so you get the dialog box " Couldn't connect to session because there is an error communication with the SNA*ps gateway." This is a generalized failure to connect dialog box which is displayed for the less often encountered attach errors.

You ended up with this TP configuration by using the Apple supplied sample configs which come with the 2.0 gateway. You used that config file as a base for other configuration entries and never checked on the Characteristics required in the SNA*ps 5250 documentation. If you had done the config from scratch, the normal TP defaults are Basic/Mapped and PIP checked.

Published Date: Feb 19, 2012

DAL VM Server on VM/ESA: SUM Function Issues

This article describes a reported problem with the DAL VM Server, release 1.3.5 and queries which include the aggregate function, SUM.
This article has been archived and is no longer updated by Apple.
A few VM/ESA sites have reported problems of intermittent hangs, and server abends, with the DAL VM Server, release 1.3.5 and queries which include the aggregate function, SUM.

The symptom can be seen in a VM console log of the DAL session as an '80A' (Virtual Storage Capacity exceeded) abend, or an 'A0A' (Decimal Overflow Exception) abend of the server.

It has been determined that there needs to be a ZAP applied to the source code to solve this issue.

In both the DALVM and IDALVM modules the instruction at 034D4 needs to be NOP'd:

034CE D700F000F000
034D4 4410C060

Needs to be changed to:

034CE D700F000F000
034D4 07000700

Always be sure to do a verify before doing the Zap.

An additional factor to remember is that the user's virtual machine needs to be at least 6MB, and 8MB when DAL will be used with TCP/IP connections.
Published Date: Feb 19, 2012

Newton Messaging Card: How to Setup

How do I setup my Newton Messaging Card?
This article has been archived and is no longer updated by Apple.
With the Newton Messaging Card and the Apple Wireless Messaging Service, you can receive, read and store messages on your Newton. Anyone who knows your personal identification number (PIN) can send you number messages (such as a telephone number) or text messages that you can read on your Newton. If you've signed up for voice messaging, the Messaging Card can let you know when you've received a voice message.

Setup

To use your Messaging Card, you must activate the Apple Wireless Messaging Service, install the battery and turn on the card.

To activate the Apple Wireless Messaging Service, call the toll-free number listed in the information brochure that came with your Messaging Card. Be sure to have your Messaging Card available if you need to read the Card's ID number to the operator. You'll also be able to choose among the service options available in your area.

When you activate the service, you will receive a seven-digit PIN which is your address on the messaging service. Others must know your PIN to send you a message.

You will also receive a four digit PassCode which is a security code. You'll need it to review, hold or release messages, change your personal greeting, listen to voice messages or use other voice message features. Be sure to change your PassCode when you receive it and keep it to yourself.

To install the battery, follow these steps:

1) Slide off the battery compartment cover.
2) Insert one AAA-size battery. Be sure to properly orient the positive (+) and negative (-) terminals.
3) Replace the battery compartment cover.

Replace the battery when the indicator light flashes red or if a low-battery alert appears while you're reading messages.

To turn on the Messaging Card, slide the power switch to the left. The messaging card must be on to receive a message, but it does not have to be inserted into your Newton.

If someone sends you a message while the card is off, you will not receive the message. If you've left the card off for a while or believe that you've missed some messages, you can review those messages by calling a toll-free number listed in the messaging server quick reference guide.

To insert your Messaging Card, flip the latch on the top left corner of the Newton and press down on the switch to eject the current card. Then, insert the Messaging Card into the slot. It will not go all the way into the slot. When you insert the card, a dialog box with the message "Newton Messaging Card" will be displayed on the screen.

NOTE: On some airlines, passengers are asked to turn off their pagers to prevent possible interference with navigation systems. If you're on such a flight, turn off the Messaging Card.
Published Date: Feb 19, 2012

Apple Wireless Messaging Service: How to Use

How do I use the Apple Wireless Messaging Service?
This article has been archived and is no longer updated by Apple.
The Apple Wireless Messaging Service, with the Newton Messaging Card, allows you to:

* Send and receive text and number messages
* Send and receive voice messages by telephone
* Hold, release or review your messages

Messages are distributed by wireless communication and can be received in major metropolitan areas and cities in the United States and Canada. You can select different coverage options depending upon your needs.

You can subscribe to the Apple Messaging Service by calling 1-800-474-6374. You should have your Newton Messaging Card available when you call.

When you subscribe to the Apple Wireless Messaging Service, you will receive a seven-digit personal identification number (PIN) which is your address on the messaging service. Others must know your PIN to send you a message.

You will also receive a four digit PassCode which is a security code. You'll need it to review, hold or release messages, change your personal greeting, listen to voice messages or use other voice message features. Be sure to change your PassCode when you receive it and keep it to yourself.

Sending Messages

To send a text message, follow these steps:

1) Call 1-800-577-9757.
2) Enter the recipient's PIN. Do not press the pound key (#).
3) An operator will take your message, then repeat the message to verify it. You can send a message of up to 55 characters.
4) You can now send another message. When you have finished sending messages, hang up.

To send a number message, follow these steps:

1) Call 1-800-639-9757.
2) Enter the recipient's PIN. Do not press the pound key (#).
3) Enter a number message, either a phone number or numeric code. The message will be repeated back to you.
4) To send another message to another PIN, enter the second PIN. When you have finished sending messages, hang up.

To send a voice message, follow these steps:

1) Call 1-800-639-9757.
2) Enter the recipient's PIN. Do not press the pound key (#).
3) Leave a voice message of up to 60 seconds.
4) To send another voice message to another PIN, enter the second PIN. When you have finished sending messages, hang up.

Receiving Messages

To receive messages with your Newton Messaging Card, you must switch on the card and be within range of the messaging service transmitters. Your messaging service quick reference guide will give you information about your local coverage area.

To view text and number messages on your Newton, follow these steps:

1) Insert the Messaging Card into your Newton.
2) Tap the Extras button to open the Extras Drawer.

- To view unread messages only, tap In Box, then tap Receive. Tap Pager in the list of choices that appear. After a few seconds, any new messages will appear in the list.
- To view all messages, Tap Pager, then tap the dot at the bottom of the screen to list all of your messages. Tap the message that you want to view.

When you are sent a voice message, your Newton Messaging Card receives an alert. To receive your voice messages (by telephone), follow these

steps:

1) Call 1-800-639-9757.
2) Enter your PIN, then press the star key (#) to interrupt the greeting.
3) Enter your PassCode. Any voice messages you haven't heard are played back in the order they were received.
* Press the 3 key to delete a message.
* Press the 5 key to save a message.

Reviewing Messages

If someone sends you a message while the Messaging Card is off, you won't receive the message, but the message will be stored with the messaging service for 72 hours. You can review these messages by telephone.

You can also have a message re-sent to your Messaging Card.

To review these messages by telephone, follow these steps:

1) Call 1-800-639-9757 and enter your Personal Identification Number (PIN).
2) Press the star key (*) to interrupt the greeting, then enter your PassCode.
3) Press the pound key (#) for options, then press the 3 key for Message Management.
4) Press the 1 key to review your messages. You will hear the most recent message first.
* Press the 3 key to delete a message
* Press the 5 key to hear a message again
* Press the 6 key to skip a message
* Press the 8 key to start again from the beginning
5) To have a message re-sent to your messaging card, press the 7 key.
6) Press the 9 key to exit to Options, then press the star key (*) to exit Options and hang up.

Holding Messages

You can also have the messaging service hold your number and text messages for up to two weeks until you are ready to receive them. You can then release these messages at any time before the holding period ends.

To hold your messages, follow these steps:

1) Call 1-800-639-9757 and enter your Personal Identification Number (PIN).
2) Press the star key (*) to interrupt the greeting, then enter your Passcode.
3) Press the pound key (#) for options, then press the 3 key for Message Management
4) Press the 2 key again for Page Hold.
5) Enter the number of hours you want your messages held (from 1 to 99 hours; enter 99 if you want messages held for 14 days).
6) Press the star key (*) to exit, and hang up.

To release your messages, follow these steps:

1) Call 1-800-639-9757 and enter your Personal Identification Number (PIN).
2) Press the star key (*) to interrupt the greeting, then enter your Passcode.
3) Press the pound key (#) for options, then press the 3 key for Message Management
4) Press the 3 key again for Page Release.
5) Press the 7 key (for "Release") to release your messages.
6) Press the star key (*) to exit, and hang up.
Published Date: Feb 19, 2012

Macintosh LC 520 and Performa 550: How They Differ (10/93)

Article Created: 18 October 1993

This article provides a table of the differences between two similar Apple computer systems: the Macintosh LC 520 and the Performa 550.

This article has been archived and is no longer updated by Apple.

	LC 520	Performa 550
Market	Education	Home
Clock speed	25 MHz	33 MHz
Standard RAM	4MB	5MB
Hard drive	80 or 160MB	160MB
Keyboard	Sold separately	Apple Keyboard II included

Published Date: Feb 19, 2012

DAL TSO: Connection/Logoff Issue

I'm having an issue logging out of a DAL TSO session when connected with SNA*ps 3270 network connection. Logout works only when a certain time has elapsed where the IBM mainframe drops the session by itself.
This article has been archived and is no longer updated by Apple.
This is an issue of the network connection completely before the logoff from TSO has completed. You are experiencing the mainframe system's automatic timeout feature, when it will actually log you out of TSO after a certain pre-determined number of minutes of inactivity.

When we originally discovered this issue (that the DAL and SNA*ps 3270 network adapter does not log a user completely out of TSO after the DAL Server session is terminated by the DAL CLient), the only workaround seemed to be to log on to TSO and reconnect, which would then actually complete the "logoff".

However, now we have a better solution. The issue seems to be that the DAL Client is getting out of the SNA*ps network connection a bit too quickly.

Fortunately, the solution is simple. At the end of the logout sequence of the DAL connection script, add a match for something unique on the VTAM Splash Screen. This will cause the network connection to remain open until the exit from TSO has been completed all the way through to the VTAM Splash Screen.

This results in a clean logoff from TSO which will allow subsequent DAL TSO connections without failures, such as the "user is already connected" TSO error message.

A sample logout sequence would look like:

:\\mREADY\\w1\\slogoff\\r\\mLogon:

rather than:

:\\mREADY\\w1\\slogoff\\r:
Published Date: Feb 19, 2012

LaserWriter Pro 810: MS Word, Embedding PostScript Code

I'm doing a mail merge in MS Word. I would like to print the first page of the merge on letterhead and the second page on regular paper. The "First from" and "Remaining from" selections in my LaserWriter 8 driver don't seem to be recognized by Word, so what I've been trying to do is embed PostScript commands in the header for the first and second page of the document. These commands would tell the printer to use a specified paper tray for each page. In the LaserWriter Pro Developer's notes I found the 'setpapertray' command, and, judging by the description for that operator, it looks to be what I need.

How would I embed that operator into the Word document?
This article has been archived and is no longer updated by Apple.
Unfortunately, what you're trying to do is NOT possible. You were on the right track by trying to embed PostScript into the MS Word document, HOWEVER, the driver controls paper trays and thus overrides any tray selection when a print job is sent.

Basically, the print driver is treating the mail merge document as one single print job and is sending down PostScript code to manage the trays according to what is selected in the Print Dialog for that "one" job.

Apple engineering said that it would be very difficult to create PostScript code to work around this. Our only suggestion would be to see if other applications also handle mail merges as one large print job, or as individual ones.
Published Date: Feb 19, 2012

LaserWriter NTR: Recommended Parallel Cable Length (10/93)

Article Created: 18 October 1993

Using a parallel connection, to any PC, what would be the maximum length of cable allowed?

This article has been archived and is no longer updated by Apple.
The maximum recommended length for a parallel cable is 20 feet. Mixed results will occur for distances greater than this depending on the type of cable (shielded vs. ribbon) used and the quality of the connectors. There are other solutions available.

In the United States there is a company called Black Box that sells a product called PC Parallel Hypercable which allows parallel cables to be extended up to a maximum length of 150 feet. Each cable incorporates an integrated amplifier circuit that boosts signal strength and filters noise. The circuit is powered off of the 5 volt signal that is available on pins 13, 14, 15, or 16 of standard parallel interfaces.

For more information look in the Technical Information Library, using "Black Box" as your search string. Similar information may be available from European companies.

Published Date: Feb 19, 2012

Personal LaserWriter NT: Downloading Fonts(10/93)

Article Created: 18 October 1993

Can TrueType fonts be downloaded to the Personal LaserWriter NT, specifically Delphian and Lucida Bright?

Also, is there a way to download the TrueType rasterizer?

This article has been archived and is no longer updated by Apple.
Yes, Delphian and Lucida Bright TrueType fonts can be downloaded successfully to a Personal LaserWriter NT. We (Apple) used LaserWriter driver 8.0 and LaserWriter Utility 7.4.1. The font download seemed to take longer than usual, but was completed. We printed some documents including Delphian and Lucida Bright and as expected, the print job seemed to take less time since the fonts were already resident in RAM.

Something to consider is the limited amount of RAM on a 2MB Personal LaserWriter NT. There is approximately 430K bytes available for fonts and program memory after a fresh restart. Depending on the size of the fonts to be downloaded, there may theoretically be a point where printer performance will degrade with less RAM available. We did not try to print any complex documents (many fonts/graphics) after downloading the TrueType fonts, so we are not sure if lessening the amount of available RAM had an effect.

It is not possible to download the TrueType rasterizer. The rasterizer is downloaded automatically with the print job when TrueType fonts are used and the printer is a Class B (TrueType Scalar is not present in the printer, though can be downloaded) device.

Published Date: Feb 19, 2012

Macintosh Color Display: Design Changes (10/93)

Article Created: 18 October 1993
Article Reviewed/Updated: 21 October 1993

Were there changes made to the Macintosh Color Display (14-inch)?

This article has been archived and is no longer updated by Apple.
Yes, there have been changes made to the design of the original Macintosh Color Display.

The differences between the Macintosh Color Display, M1198LL /A and /B monitors are that the /B monitor contains additional circuitry so that the monitor is Energy Star compliant, which is a voluntary international agreement that was signed in June 1993. This agreement focuses on making electronic equipment more energy efficient.

Despite the circuitry difference, the monitor specifications and performance is identical to the /A version. They use the exact same ciruitry that produces the video signal and they use the same CRT.

These design changes are not unusual. It is Apple's policy to not only manufacture monitors with the latest technology, but to also make design improvements throughout the life of the product.

Article Change History:
21 October 1993 - added M1198LL /A and /B notations
Published Date: Feb 19, 2012

Radius RocketShare: PowerTalk Incompatibility (10/93)

Article Created: 15 October 1993

I'm using Radius RocketShare on a Quadra running PowerTalk. My computer hangs when launching Mission Control. It only happens if PowerTalk services are turned on.

This article has been archived and is no longer updated by Apple.
Some change in the handling of the EFS made RocketShare look to the Mail Enclosures as a Rocket Disk (without of course identifying it as such.)

Radius is testing a maintenance update to be called 1.1.1 that will be posted to AppleLink, AOL, Compuserve and Radius Anonymous FTP.

Published Date: Feb 19, 2012

LC 475, 476, 520, Performa 550, Quadra 605: Ext. Microphone

No microphone is bundled with the Macintosh LC 475, Performa 475 and 476, and Quadra 605 computers. This article describes the microphone, sold separately, that you need in order to record sounds using the built-in microphone port.
This article has been archived and is no longer updated by Apple.
The Macintosh LC 475, Performa 475 and 476, and Quadra 605 computers require the new PlainTalk microphone. Microphones bundled with earlier Macintosh models do not work with these computers.

The Macintosh LC 520 and Performa 550 computers use the PlainTalk microphone. Both of these computers have built-in microphones, but also have external microphone jacks. To use the external microphone jack, you need a PlainTalk microphone.

The PlainTalk microphone and the older microphone share a 3.5mm phono plug, but the PlainTalk microphone has a longer plug (.75 inch vs. .5 inch). Consequently, the old microphone does not seat fully in the microphone socket of the PlainTalk microphone.

Published Date: Feb 19, 2012

LaserWriter Pro 810: Changing the Default Settings

The printer has a set of default settings that are applied at the factory. You can change these default settings by using the control panel menu. For example, if you want to change the default paper tray, you'd have to take the printer offline and press the menu key to select the paper source menu.

See detailed information below.
This article has been archived and is no longer updated by Apple.
Use the keys on the control panel to display menu options and to change printer settings.

Keys on control panel:

ONLINE FORM FEED MENU UP ARROW
RESET PRINT STATUS ENTER DOWN ARROW

The printer's control panel settings are grouped into several menus.

* The Input Port menu allows you to select the way your printer communicates with the host.

* The Paper Source menu is used to select how your printer will use it's paper cassettes, manual feed tray and optional multimedia power feeder.

* The PostScript Resolution menu lets you set your printer's resolution to 300, 400, 600, or 800 dots per inch.

* The Miscellaneous menu contains a variety of printer settings.

FOLLOW THE STEPS BELOW TO CHANGE THE PRINTER SETTINGS:

1. If the printer is on line, take it off line by pressing the ONLINE key.

2. Press the MENU key to display the printer's main menu.

3. Press one of the arrow keys until you see the menu you want, then press ENTER. (The first option for that menu appears in the display window.)

4. Press one of the arrow keys to select the option you want to change.

5. Press ENTER.

6. Press the arrow keys to select the new value, then press ENTER.

7. If you want to change another setting, press ENTER until the main menu appears again, then repeat steps 3-6.

8. When you have finished selecting options, press ENTER until the menu appears then press the ONLINE button.

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LaserWriter Pro 810: Using the Printer‘s Control Panel

This article describes the operator control panel key switches and their functions.

The printer's control panel lets you take the printer off line (to change settings) or on line (to print) and access menus for changing the printer's connection port, paper source, or resolution.
This article has been archived and is no longer updated by Apple.
Use the keys on the control panel to display menu options and to change printer settings. An asterisk (*) appears in the display window next to any menu item currently selected.

KEY	FUNCTION
ONLINE	Places the printer online or offline. Note, the printer must be offline for the other switches to be functional.
FORM FEED	Ejects the current page from the printer.
MENU	Displays the printer setup menu.
Up and Down arrows	Scrolls up or down through the setup menu.
RESET	Returns the selected menu item to the default value.
PRINT STATUS	Produces a report that supplements the information on the startup page; includes the total copy count, amount of memory on the printer, and the downloaded fonts.
ENTER	Selects a menu item to display or select an option.

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LaserWriter Pro 810: Control Panel Menu & Options Description

The printer's control panel settings are grouped into several menus. This article describes the menus & options in more detail.
This article has been archived and is no longer updated by Apple.
* The Input Port menu: allows you to select the way your printer communicates with the host.

* The Paper Source menu: this menu is used to select how your printer will use its paper cassettes, manual feed tray, and optional multimedia power feeder.

* The PostScript Resolution menu: this lets you set your printer's resolution to 300, 400, 600, or 800 dpi.

* The Miscellaneous menu: contains a variety of printer settings.

The following table shows the menus, the options on each menu, and the values you can select. Default values are marked with an asterisk (*).

MENU	Sub-menu	Option	Values
Input Port	RS-232	RS-232 Enable	Yes, No
		RS-232 Printer Type	PostScript* LJETIIP
		Baud Rate	300, 600, 1200, 2400, 4800, 9600*, 19200, 38400
		Parity	None*, Even, Odd, Mark, Space
		Flow Control	XON-XOFF*, DTR
		Stop Bits	1* or 2
		Data Bits	8* or 7
	LocalTalk	LocalTalk Enable	Yes, No
		Printer Type	PostScript or LJETIIP
Paper Source			Tray 1, Tray 2, Tray 3 Manual Feed, Auto Cascade MM Power Feeder
Miscellaneous	Restore Factory Setup		
	Exit Jam Reprint	Enable*, Disable	
	Exit Jam Reprint	Enable*, Disable	
	SCSI Delay	Off*, 20, 40, 60	
PostScript Resolution	300, 400, 600, 800 (dots per inch)		

NOTES:
1) When the Auto Cascade option is selected, the printer uses any of the selected paper trays when the first one runs out of paper. Auto Cascade works only if all paper trays in the set you select contain the same size paper. If one of the selected paper trays contains a different size paper, the LaserWriter Pro skips it.

2) If HPLJIIP is selected as the printer type, the printer always prints at 300 dpi and this menu selection has no effect.

3) Some settings can be selected using either the printer control panel or the printer software - for example the LaserWriter Utility program. The printer uses the most recent setting. For example, if you select 800 dpi resolution in the LaserWriter Pro utility software and then you select 600 dpi resolution on the control panel, the printer prints at 600 dpi.
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LaserWriter Pro 810: Control Panel Status Messages

This article describes the operator control panel status messages.
This article has been archived and is no longer updated by Apple.

Message	Meaning
INTERNAL SELF TEST	Places the printer online or offline. Note, the printer must be offline for the other switches to be functional.
READY TO PRINT	Eject the current page from the printer.
PROCESSING	Displays the printer setup menu.
WAITING FOR DATA	Printer is waiting for data from the host system.
OFFLINE	Printer is offline.
MANUAL FEED	The manual feed option is selected and printer is waiting for paper to be inserted
INSTALL TRAY	The selected cassette is out of paper or not installed.
REMOVE PAPER FROM MANUAL TRAY	Another paper source has been selected and paper was left in the manual feed.
PAPER JAM: PAPER ENTRY	Paper is jammed in the cassette area.
PAPER JAM: PAPER EXIT	Paper is jammed in the fuser or paper exit area.
PAPER JAM: OPEN TOP COVER	Paper is jammed inside the top of the printer.
TONER LOW	Toner in the EP Cartridge is low.
REPLACE EP KIT	Toner in the EP Cartridge is expelled, replace the EP Cartridge, Transfer Charger, and Roller Cleaner.
EP CARTRIDGE NOT IN POSITION	The EP Cartridge is not installed correctly.

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LaserWriter Pro 810: Fonts Shipping with the 810

What fonts are included with the LaserWriter Pro 810?
This article has been archived and is no longer updated by Apple.
The LaserWriter Pro 810 printer will ship with 35 PostScript Type 1 fonts in ROM and a disk version of the Apple Font Library with 64 TrueType fonts.

The Type 1 fonts will benefit the mixed-Macintosh environment customers when working in Windows and DOS. In the PCL mode 33 of the 35 Type 1 fonts are utilized and rasterized as the expected font. Only ZapfDingbats and Symbol fonts cannot be utilized in PCL.

35 ROM fonts

Avant Garde (4 typefaces)
Bookman (4 typefaces)
Chicago
Courier (4 typefaces)
Helvetica (4 typefaces)
Helvetica Narrow (4 typefaces)
New Century Schoolbook (4 typefaces)
Palatino (4typefaces)
Symbol
Times (4 typefaces)
Zapf Chancery
Zapf Dingbats

64 Disk Fonts

Avant Garde (4 typefaces)
Bookman (4 typefaces)
Chicago
Courier (4 typefaces)
Delphian
Garamond Narrow (4 type faces)
Geneva
Helvetica (4 typefaces)
Helvetica Black (2 typefaces)
Helvetica Compressed (2 typefaces)
Helvetica Narrow (4 typefaces)
Lubalin Graph (4 type faces)
Lucida Bright (4 type faces)
Machine
Monaco
Nadianne (2 typefaces)
New Century Schoolbook (4 typefaces)
New York
Old English Text
Onyx
Oxford
Palatino (4 typefaces)
Swing
Symbol
Times (4 typefaces)
Zapf Chancery
Zapf Dingbats
Zeal
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LaserWriter Pro 810: Printer Port Pinouts

This article gives the printer port pinouts for the following connectors: Mini DIN-8 Serial, DB9 Serial, and the SCSI interface.
This article has been archived and is no longer updated by Apple.

Mini DIN-8 Serial Connector Signal Descriptions

Pin	Signal	Description
1	CLK	Rxd and Txd clock (output)
2	NC	No Connection
3	TxD	Transmitted Data (output)
4	SG	Signal Ground
5	RxD	Received Data (input)
6	TxD+	Balanced transmit (output)
7	Vcc	+5 VDC regulated, 300 mA max (output power)
8	RxD+	Balanced receive (input)
Shield	PG	Protective Ground

9 Pin RS-232 Serial Connector Signal Descriptions

Pin	Signal	Description
1	DCD	Data Carrier Detect
2	RXD	Received data
3	TXD	Transmitted Data
4	DTR	Data Terminal Ready
5	GND	Frame Ground
6	DSR	Data Set Ready
7	RTS	Request To Send
8	CTS	Clear To Send
9	RING	Ring Indicator (Not Used)

SCSI Interface Signal Descriptions

Pin	Signal	Description
1	REQ	Request data transfer
2	MSG	Message signal from target device
3	I/O	Controls direction of valid data
4	RST	SCSI bus RESET condition
5	ACK	Acknowledgment for data transfer handshake
6	BSY	Indicates the SCSI bus is in use
7, 9, 14, 16, 18, 24	GND	Logic Ground
8	DB0	Data bit 0
10	DB3	Data bit 3
11	DB5	Data bit 5
12	DB6	Data bit 6
13	DB7	Data bit 7
15	C/D	Indicates Control or Data is on the SCSI bus
17	ATN	An Attention condition exist
19	EL	Select a target or reselects the initiator
20	PARITY	A data bit generated to maintain an odd number of bits
21	DB1	Data bit 1
22	DB2	Data bit 2
23	DB4	Data bit 4
25	NC	No Connection

TA30384_LaserWriter_Pro_810_Printer_Port_Pinouts_(TIL13684).pdf

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LaserWriter Pro 810: Questions and Answers

This article addresses questions on the LaserWriter Pro 810.
This article has been archived and is no longer updated by Apple.
Question: Who is the target customer for the LaserWriter Pro 810?

Answer: The LaserWriter Pro 810 is tailored to the networked professionals who work continually in mixed environments of Unix, DOS, Windows and Macintosh, and need fast, crisp text printing.

Question: How much faster is the LaserWriter Pro 810 than the LaserWriter Pro 600 and 630?

Answer: The answer to that depends on the complexity of the print job, and the size of the file from which you print. On average, a LaserWriter Pro 810 will image 20% faster than a LaserWriter 600 or 630, and prints at speeds up to 20 pages per minute.

Question: What are the differences between the LaserWriter Pro 600 Series and the LaserWriter Pro 810?

Answer: LaserWriter Pro 600 Series is intended for desktop use by workgroups in graphics intensive Ethertalk environments. LaserWriter Pro 810 is intended for tabletop use in departments with massive printing requirements, and for those requiring seamless integration into many operating systems and network environments.

Question: Can a LaserWriter Pro 600 or 630 be upgraded to a LaserWriter 810?

Answer: No. These printers are based on a completely different design, with different capabilities and benefits to customers.

Question: What network operating systems are supported?

Answer: Mac OS, Apple A/UX, Novell, HPUX, Sun Solaris, SCO Unix, DEC Ultrix, IBM AIX, Interactive Unix, Windows, and DEC VMS are currently supported.

Question: What networking protocols are supported?

Answer: Over Twisted Pair and Thin Wire Ethernet, Ethertalk, TCP/IP, Netware IPX, and DEC LAT are supported. All of our protocols are enabled at once, simultaneously active and accessible over the network.

Question: Why is it important to have multiple, simultaneously active protocols implemented in a network printer?

Answer: The printer needs to have the same protocols as the users' systems or they won't be able to communicate directly and efficiently. If the protocol isn't supported by the printer, additional network software and capabilities are required, adding cost and processing overhead to the network. Clearly, all the needed protocols must be available all the time, or the benefit of offering them at all diminishes greatly.

Question: How fast is a LaserWriter Pro 810 over the network?

Answer: The I/O bandwidth is not a factor in the printers' speed, that is the interface won't slow down the printing. Depending on what the resource allocation of the network by the system administrator is to the printer, LaserWriter Pro 810's have demonstrated capability to accept data at 350K bytes a second.

Question: What print quality capabilities are available?

Answer: Users can software select 300, 400, 600 or 800 dpi print resolutions.

Question: Is TrueType installed in the printer?

Answer: No, the printer has only Type 1 PostScript fonts installed. However, the LaserWriter Pro 810 ships with 64 TrueType fonts on disk.

Question: Does it support PhotoGrade or FinePrint?

Answer: No, this printer uses other proprietary third-party resolution enhancement techniques to improve the image resolution beyond the 400 DPI capabilities of the print engine.

Question: What fonts are in the printer?

Answer: 35 ROM fonts: Avant Garde (4 typefaces), Palatino (4typefaces), Bookman (4 typefaces), Symbol, Courier (4 typefaces), Times (4 typefaces) Helvetica (4 typefaces), Zapf Chancery, Helvetica Narrow (4 typefaces), Zapf Dingbats, New Century Schoolbook (4 typefaces), and Chicago.

64 Disk Fonts: Avant Garde (4 typefaces) Geneva, Bookman (4 typefaces), Helvetica Black (2 typefaces), Courier (4 typefaces), New York, Helvetica (4 typefaces), Lubalin Graph (4 type faces), Helvetica Narrow (4 typefaces), Lucida Bright (4 type faces), New Century Schoolbook (4 typefaces), Machine, Palatino (4 typefaces), Monaco, Symbol, Nadianne (2 typefaces), Times (4 typefaces), Helvetica Compressed (2 typefaces), Zapf Chancery, Old English Text, Zapf Dingbats, Onyx, Chicago, Oxford, Delphian, Swing, Garamond Narrow (4 type faces), and Zeal.

Question: Does the LaserWriter Pro 810 support automatic emulation switching?

Answer: Yes. The LaserWriter Pro 810 utilizes a brilliant exciting new technology called Virtual Printer, which, among other things, provides a fool-proof means of recognizing PCL from PostScript, by determining the network's IP address of the queue or the PC sending the print command, and printing jobs accordingly as a DOS printer or a PostScript printer.

Question: Does the LaserWriter Pro 810 support PCL Level 5?

Answer: No, it supports PCL with Level 4+.

Question: What processor does this printer use?

Answer: The processor is a RISC based Weitek 8200 chip.

Question: What kind of RAM does it use?

Answer: The printer uses 4MB and 8MB RAM Modules, not to be mistaken for SIMM modules.

Question: What RAM configurations are possible?

Answer: All printers are equipped with 8MB standard, and can be upgraded with 4MB or 8MB RAM up to a maximum of 32 MB RAM achieved by 4x8MB RAM.

Question: How much ROM and RAM are standard?

Answer: 3 MB ROM and 8MB RAM.

Question: Is software for Windows users included?

Answer: Yes. There are drivers included to support Windows 3.0 and Windows 3.1.

Question: What network management tools does the LaserWriter 810 offer?

Answer: The LaserWriter Pro 810 offers SNMP, the only viable non-proprietary network management facility used. The printer also has a Remote Console Facility, useful for tasks performed by the network manager.

Question: What is SNMP?

Answer: The acronym stands for Simple Network Management Protocol. By being SNMP capable the LaserWriter Pro 810 will be a recognized

agent to a network management program like HP Open View, DEC MccDirector and PolyCenter, console programs of Sun, and others.

Question: What is the Remote Console Facility and what does it do?

Answer: The network manager can log in to the facility and obtain status information, can configure and manage the network printer for the enterprise much like this administrator would expect to manage other devices on the network. The manager can log in from IPX, LAT, LAT, or Ethertalk.

Question: What engine is the LaserWriter Pro 810 based on?

Answer: The engine is a Fuji Xerox XP 20.

Question: Is this a duplex printer?

Answer: No duplexing capabilities or options are available at this time.

Article Change History:
21 Nov 1995 - Reviewed for technical accuracy.
23 Mar 1995 - Reformatted and made minor typographical changes.

Support Information Services
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LaserWriter Pro 810: Internal PostScript Fax Modem Option

This article describes the (optional) internal fax modem for the LaserWriter Pro 810.
This article has been archived and is no longer updated by Apple.
The LaserWriter Pro 810 Internal PostScript Fax Modem gives you the ability to send and receive facsimiles (faxes) with fax machines and other printers equipped with PostScript fax cards. When the fax modem is installed (user installable), your printer is called a LaserWriter Pro 810f.

The LaserWriter Pro 810f:

* Sends documents to and from other Adobe PostScript printers, and to all CCITT (International Telephone and Telegraph Consultative Committee) Group III fax devices from an Apple Macintosh or IBM PC or compatible computer

* Sends and receives faxes 9600 baud

* Receives and prints fax transmissions at 600 dots per inch (dpi) from other printers equipped with PostScript fax cards

* Receives and prints fax transmissions at 200 dpi - the Group III standard - from Group III - compatible fax machines

* Sends PostScript language files to other printers equipped with PostScript fax cards at the resolution of the receiving printer

* Broadcasts a fax to multiple destinations with one command

* Delays fax transmission up to 24 hours

* Enables all users on a network connected to the printer to send and receive faxes

System requirements
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* An Apple Macintosh computer running system software version 6.0.7 or later
- or -
an IBM PC or compatible computer with at least 640 K or memory running DOS 3.1
- or -
an IBM PC or compatible computer with at least 1 MB of memory (2 MB recommended) running Microsoft Windows 3.0

* A LaserWriter Pro 810 printer

* A phone receptacle that accepts an ordinary RJ-11 or CA-11 telephone cable

NOTE: The fax modem will not work if you connect it to a digital phone line, which is intended to carry computer data exclusively, and it may not work if connected to a digital private exchange (PBX) system.

Ordering Information
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* Internal Adobe PostScript Fax Modem (Part Number M1772LL/A)
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Quadra 610 and 650: A/UX Compatibility

Can the Macintosh Quadra 610 and 650 run A/UX?
This article has been archived and is no longer updated by Apple.
Yes. A/UX 3.0.1 is designed to run on the Quadra 610 and Quadra 650.
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Centris 610 & Quadra 610: How They Differ

This article provides a quick-reference table of differences between two similar Macintosh models: Centris 610 and Quadra 610. The Quadra 610 operates up to 22% faster than the Centris 610, which it replaces.
This article has been archived and is no longer updated by Apple.

	Centris 610	Quadra 610
Clock speed	20 MHz	25 MHz
Integrated FPU	no	most configurations
Standard RAM	4MB	8MB
Hard Drive	80, 230, or 500MB	160MB or 230MB

In all other respects, these two systems are identical.
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Centris 650 & Quadra 650: How They Differ

This article provides a quick-reference table of differences between two similar Macintosh models: Centris 650 and Quadra 650. The Quadra 650 operates up to 22% faster than the Centris 650, which it replaces.
This article has been archived and is no longer updated by Apple.

	Centris 650	Quadra 650
Clock speed	25 MHz	33 MHz
Integrated FPU	optional	standard
Standard RAM	4MB	8MB
Maximum RAM	132MB	136MB
Hard Drive	80, 230, or 500MB	230MB or 500MB
Ethernet connector	optional	standard

In all other respects, these two systems are identical.
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LaserWriter Pro 810: Network Connectors

This article describes the network connectors on the LaserWriter Pro 810.
This article has been archived and is no longer updated by Apple.
The LaserWriter Pro 810 provides Ethernet, LocalTalk, & Serial ports for seamless integration into virtually any computing environment.

Interface	Comments
LocalTalk	Standard (Mini DIN-8 Connector)
RS-232 Serial	Standard (plug connector attached to printer, the cable connecting to the printer is a socket connector)
Ethernet	Thin wire (10Base-2, T connector) or Twisted Pair (10Base-T)

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LaserWriter Pro 810: Media Kits For Hosts

This article describes the media kits for non-Macintosh host on the LaserWriter Pro 810.
This article has been archived and is no longer updated by Apple.
Customers purchasing a LaserWriter Pro 810 will require Media Kits for each type of non-Macintosh host system. The software to be installed will supplement application drivers already on the host system for direct printing to the LaserWriter Pro 810 over the network. These kits contain the binary images, the actual software to be downloaded to the network. Included in the kit is a guide and the actual media. The media itself varies according to the host requirements shown below.

The table below shows the media kits:

System Type	Ships with LW Pro 810	Optional Media Kit
Macintosh	All necessary software	N/A
UNIX host	Unix TAR format on 3.5" diskettes	QIC kit
DEC host	DOS format of VMS install on 3.5" diskettes	TK50 kit

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LaserWriter Pro 810: Concurrent Protocol Multiplexing

This article describes the concurrent protocol multiplexing of the LaserWriter Pro 810.
This article has been archived and is no longer updated by Apple.
A LaserWriter Pro 810 will simultaneously talk to all the environments to which it is networked. All protocols, whether running over Thin Wire Ethernet or Twisted Pair Ethernet will run concurrently.

Below is a table of the supported environments:

Environment	Ethernet
Macintosh	EtherTalk
Novell	IPX
UNIX	TCP/IP
DEC VMS	LAT

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LaserWriter Pro 810: Remote Console Facility

This article describes the Remote Console Facility for the Apple LaserWriter Pro 810.
This article has been archived and is no longer updated by Apple.
The Remote Console Facility (RCF) is a tool used by network managers and system administrators to support mixed environments, principally DEC's LAT, UNIX's TCP/IP, and Novell's IPX environments. In these environments the network manager can log-in to the print server via the Remote Console Facility to retrieve and modify printer information. When logged-on the network manager can retrieve status, configure, and manage the network printer for the enterprise much like an administrator in those environments would expect to manage other devices on the network. The network manager can log in over IPX, LAT, TCP/IP.

Remote Console Facility is not required in a pure Macintosh environment because necessary Network management functions can be achieved from the Macintosh using the LaserWriter Utility, Vanguard, and Print Monitor utilities. The LaserWriter Utility will be used for printer name changes, Vanguard to support all bin selection and printer resolution options, and Print Monitor to get the status of a LaserWriter on the network.
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LaserWriter Pro 810: Virtual Printer Tech Key Points

This article describes the key points about Virtual Printer Technology (VPT) on the LaserWriter Pro 810.
This article has been archived and is no longer updated by Apple.
The key points about Virtual Printer Technology (VPT) are increased reliability and flexibility, multiple protocol management, printer resource accounting and management, and implementation by supplemental device drivers and no host software modification.

Personal printer flexibility

The printer will automatically configure itself to the configuration requirements of individual users or work groups sharing the printer. It will also save and restore any down loaded fonts, forms, macros, etc. for individual users or work groups.

Multiple concurrent protocols

VPT will concurrently support multiple network protocols allowing seamless communications with major network operating systems in a heterogeneous enterprise network environment.

Host software

VPT does not require replacement of any network operating system software. This means no custom code is required for Novell or VMS operating systems. You are not locked into proprietary software from your printer vendor.

Device driver assistance

VPT provides a means of supplementing device drivers by automatically enabling selected printer capabilities without modifying the device driver. This is particularly important to operating systems with applications specific device drivers such as MS-DOS, UNIX and VMS.

Increased reliability

VPT can reduce the likelihood of printer hangs by having the imaging controller automatically determine if it has reached an abnormal state and instructing the network interface to discard the current print job and go on to the next.

Resource accounting

Many installations require printer resource accounting for charge back purposes or to measure printer utilization. VPT can count the total of bytes, page images, and physical pages for each virtual printer.

Remote Console Facility (RCF)

VPT equipped printers can be managed and configured over the network. Network Administrators can check the status of and configure individual virtual printers and all network configuration parameters for the printer. Printer resource accounting information is also available through the RCF.

Simple Network Management Protocol (SNMP) compliance

VPT is SNMP compliant, initially with Management Information Block(MIB)=II, Character MIB, and RS-232 MIB. Future plans call for proprietary MIBs for full printer management through SNMP management stations.
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LaserWriter Pro 810: Windows, DOS Software Drivers

This article describes the software drivers for Windows or DOS.
This article has been archived and is no longer updated by Apple.

Windows Software Drivers

Windows 3.0 and 3.1 drivers have been developed to support the LaserWriter Pro 810 printer. These LaserWriter Pro 810 specific drivers include a great deal of the functionality found in Macintosh utilities, and will allow the user to access all standard and optional paper trays as well as select the desired print quality.

DOS Software Drivers

In DOS, individual applications ship with their own drivers, providing optimal support for the actual software application. However, some select customized applications' drivers have been developed for LaserWriter Pro 810 printers, maximizing the benefits of the printers for users of these applications: AutoCAD, Word 5.0 (DOS), Word Perfect 5.1 (DOS), and PC Send (used to download to the serial port).

Locating Printer Drivers

The LaserWriter Pro 810 printer drivers can be found on the "LaserWriter Pro, Software for DOS" disk that came with the printer.

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LaserWriter Select 360: Adding PostScript Fax (12/93)

Can you tell me more information about the fax capability on my LaserWriter 360?

This article has been archived and is no longer updated by Apple.
The optional PostScript Fax card offered with the LaserWriter Select 360 can send and receive faxes with traditional fax machines, computers with fax cards, and other PostScript Fax capable printers. A networked LaserWriter Select 360 printer is available to anyone on the network and therefore is a multi-user fax solution.

When communicating with other fax machines, PostScript Fax printers will produce 200 dpi and deliver the best results possible, given the limitations of a fax machine. However, when communicating with another PostScript Fax capable printer, the LaserWriter Select 360 can deliver and receive faxes that are of the same quality of the original. If the original is sent as a 600 dpi PostScript Fax, that is what is received and printed. This is accomplished by actually sending the other printer a PostScript file instead of a fax image. PostScript Fax to PostScript Fax interaction guarantees top quality images at both ends of the connection.

The LaserWriter Select 360's PostScript Level 2 driver provides for fax communication via the print dialog. This allows any user connected to the LaserWriter Select 360 directly or over the network to fax a document from an application by simply invoking the print command from the file menu. The driver also facilitates the use of an address book feature for frequently used fax destinations.

It is important to understand that by adding the optional fax board when purchasing a LaserWriter Select 360, a business will acquire not only a fast, networkable, high-quality laser printer, but also a plain paper fax machine that is capable of matching the quality of the original document.

NOTE:
* The PostScript Fax option must be installed by an Apple-authorized service provider.

* The Fax software shipping with the LaserWriter Select 360 Fax option card will not work with 68000-based Macintosh systems. Customers must use the LaserWriter FAX software version 1.0.1 to FAX documents via the 360 and 810 from a 68000 based Macintosh. This new version is not required if the customer is printing from a Macintosh with a 68020 or above.

Ordering Information

LaserWriter Select 360 PostScript Fax Card
Order No. M2345LL/A

Article Change History:
3 December 1993 - Added information on Fax software compatibility with 68000-based Macintosh computers

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LaserWriter Select 360: Automatic Language Sensing (10/93)

Article Created: 5 October 1993

This article discusses Automatic Language Sensing on the LaserWriter Select 360.

This article has been archived and is no longer updated by Apple.
The LaserWriter Select 360 can use two-page description languages: PostScript and PCL5. If you use a Macintosh computer, your documents are printed using the PostScript language. If you use an IBM PC or compatible computer, your documents may be printed using either PostScript or PCL5. When you send a document to the LaserWriter, a feature called Adobe IntelliSelect (AIS) automatically determines which language is used for the document.

Your printer has three interface ports (LocalTalk, parallel, and serial). Each port can be set up to use AIS or not, as you choose. For example, if you use the printer's LocalTalk port to connect a Macintosh computer, and the parallel port to connect an IBM PC or compatible computer, you can turn AIS off for the LocalTalk port and turn it on for the parallel port. This is because all Macintosh programs print using PostScript, and programs on PCs may use PostScript or PCL5.

Each port has three possible AIS settings:
1. AutoSelect (AIS is turned on)
2. PostScript (AIS is turned off and the port is set to PostScript only)
3. PCL5 (AIS is turned off and the port is set to PCL5 only).

When a port is set to PostScript only, you cannot use it to print PCL5 documents. When a port is set to PCL5 only, you cannot use it to print PostScript documents.

You use the rotary switch on the back of the printer to change the settings of the interface ports. AIS is one of the settings you can change. The switch is set at the factory to position 0, which is what most users will need. To find out what the settings are and how to change them, reference an article titled "Interface Configuration Settings."

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LaserWriter Select 360: Automatic Tray Switching (10/93)

Article Created: 5 October 1993

This article discusses automatic tray switching which is incorporated into the LaserWriter Select 360.

This article has been archived and is no longer updated by Apple.
When the LaserWriter Select 360 runs out of paper in one tray it can automatically switch between the paper cassette and the multipurpose tray. Using automatic tray switching between the 250-sheet paper cassette and the 50-sheet multipurpose tray, you can print 300 sheets without reloading paper.

You can use automatic tray switching with the optional cassettes, as well.

Tray Switching Default:
A tray switch can occur if and only if the following two criteria are met:
1. The tray it's switching to has the same media (same size paper, transparency, and so on.).
2. The tray it's switching to is not empty.

The possible default switching procedures that can be executed depend on whether the optional 250 or 500 sheet feeder is installed.

If an optional feeder is not installed, the printer, upon running out of paper in either tray, checks the other available tray to see if the tray switching criteria is met. If so, it automatically switches to that tray.

If the optional feeder is installed, the printer, upon running out of paper, checks the other two trays using the following priority: the standard cassette, the multipurpose tray, the optional cassette, and then the envelope tray. If the first tray checked matches the above criteria, the printer automatically switches to that tray. If it does not, the printer checks the other available tray for a criteria match and switches to it if the criteria is met.

Note: The Multipurpose tray can not be sensed for media type (only for the availability of media) so it is assumed that it contains only the default paper size. The user should not enable automatic tray switching if it is not known whether the multipurpose tray contains paper that matches the default paper size.

Published Date: Feb 19, 2012

LaserWriter Select 360: Automatic Emulation Switching (8/94)

This article discusses the automatic emulation switching technology incorporated into the LaserWriter Select 360.

This article has been archived and is no longer updated by Apple.
The LaserWriter Select 360 has the ability to sense an interface port data stream to determine the start and end of PostScript print jobs, PCL 5 print jobs, PC DOS PrtScn dumps, Hewlett Packard TBCP (Tagged Binary) and raw text dumps. This function is the key to providing simultaneously active ports and seamless switching between PCL 5, PostScript, and raw text printing.

Each interface port has the ability to process either a single emulation or multiple emulations. If an interface port is assigned multiple emulation responsibilities, all data sent to it is processed by the data sensing function. Ports configured for single emulation responsibility have the data sent directly to the assigned emulation processor.

Fonts that are downloaded for specific jobs remain in memory for the PostScript environment and the PCL 5 environment. If the active environment (either PostScript or PCL 5) runs out of virtual memory, inactive downloaded fonts are released as needed to regain enough memory to perform the current job.

The success of automatic emulation switching is tied to the correct usage of the Hewlett-Packard Printer Job Language, the use of PCL 5 print job delimiters, and proper implementations of the Adobe Document Structuring Conventions. Job streams that do not abide by the protocols produce print data that can't be properly sensed and processed.

Article Change History:
23 Aug 1994 - Review for accuracy.

Support Information Services

Published Date: Feb 19, 2012

LaserWriter Select 360: Installing/Loading Multipurpose Tray

Article Created: 4 October 1993

Do I need to install the multipurpose tray on my LaserWriter 360?

This article has been archived and is no longer updated by Apple.
You can use the multipurpose tray to automatically feed envelopes and various sizes of paper into the printer. You don't have to install the tray if you don't want to use it. If you don't want to install it, you can feed individual sheets of paper with the manual feed tray.

The tray fits into the manual feed opening and feeds up to 50 sheets or 5 envelopes.

INSTALLING THE MULTIPURPOSE TRAY
1. Open the flap door (front) of printer as if you're going to do a manual feed.

2. As you're facing the opened flap door, hold the multipurpose tray (folded up), and insert the left side first (see User's Guide for more details).

3. Push the black latch (located on the right side of the manual feed opening) to the left, position the tray, and release the latch.
Note: You can remove the multipurpose tray by pushing the latch to the left and gently pulling it out.

LOADING THE MULTIPURPOSE TRAY
1. Pull out the extension on the multipurpose tray.

2. Stack the paper on the multipurpose tray and adjust the paper guides so they just touch the paper, but still allow it to lie flat. Again, the multipurpose tray holds and feeds up to 50 sheets or 5 envelopes. The tray can accept U.S. Legal, A4, U.S. Letter, B5 (JIS), and Executive paper.
Note: Do not stack the paper above the tab (left side) on the multipurpose tray.

Published Date: Feb 19, 2012

LaserWriter Select 360: Interface Configuration Settings 10/93

Article Created: 5 October 1993

Each of the LaserWriter Select 360's interface ports (LocalTalk, serial, and parallel) has some associated configuration parameters that you can set. This article discusses the switch settings.

This article has been archived and is no longer updated by Apple.
The rotary switch on the back of the printer allows you to easily select one of nine commonly-used interface configurations. If one of these switch positions doesn't meet your needs, you can customize the configuration of switch position 8 using the LaserWriter Utility program for Macintosh or IBM PC and compatible computers.

To change the setting, press the rotary switch. Each time you press, the switch rotates forward or backward one setting. You can change the switch position when the printer is on. The new configuration takes effect within a few seconds. Changing the switch position while a job is being printed may produce unpredictable results.

NOTE: This is NOT a SCSI switch, and the number displayed is not a SCSI ID.

The table that follows summarizes the fixed interface configurations for switch positions 0 through 7, and the factory-default configuration for customizable switch position 8. Switch 9 is reserved. When the printer is turned on with the switch in position 4, an interface configuration page is printed instead of the usual startup page.

Position Interface Serial Parameters Protocol AIS
-------- --------- ---------- -------- ---
0 Serial 9600,N 8,1,DTR Raw AutoSelect
LocalTalk PostScript
Parallel Raw AutoSelect

1 Serial 9600,N 8,1,DTR Normal PostScript
LocalTalk PostScript
Parallel Normal PostScript

2 Serial 9600,N 8,1,DTR Raw PCL5
LocalTalk PostScript
Parallel Raw PCL5

3 Serial 9600,N 8,1, Normal PostScript
LocalTalk XON/XOFF PostScript
Parallel Raw AutoSelect

4 Serial 19200,N 8,1,DTR Normal PCL5
LocalTalk PostScript
Parallel Raw PCL5

5 Serial 19200,N 8,1,DTR Raw AutoSelect
LocalTalk PostScript
Parallel Raw AutoSelect

6 Serial 19200,N 8,1,DTR Normal PostScript
LocalTalk PostScript
Parallel Normal PostScript

7 Serial 19200,N 8,1, Normal PostScript
LocalTalk XON/XOFF PostScript
Parallel Raw AutoSelect

8 Serial 38400,N 8,1, Raw AutoSelect
LocalTalk DTR PostScript
Parallel Raw AutoSelect

Note: In the AIS column in the table above:
* PostScript mean that the port is configured to accept only PostScript jobs.
* PCL5 means that the port is configured to accept only PCL5 jobs.
* AutoSelect means that the port can accept either PostScript or PCL5 and can automatically switch back and forth between them.

Published Date: Feb 19, 2012

LaserWriter Select 360: Q & A (6/96)

This article answers questions on the LaserWriter Select 360 printer.

This article has been archived and is no longer updated by Apple.

Q: Does the LaserWriter Select 360 replace the Personal LaserWriter NTR?

A: Yes, the LaserWriter Select 360 is a feature enhanced replacement for the Personal LaserWriter NTR. It offers advanced print quality (FinePrint and true 600 x 600 dots per inch printing) an optional PostScript Fax card for full fax send and receive capability (at up to 600 dpi if communicating with a similarly capable PostScript Fax printer), and a RISC-processor controlled 10 page-per-minute engine.

Q: Is the LaserWriter Select 360 a PostScript printer?

A: Yes. The LaserWriter Select 360 uses Adobe PostScript Level 2. It also offers PCL 5 (Hewlett-Packard LaserJet III emulation) for non-PostScript PC users. PC-DOS PrtScn and HP's Tagged Binary (TBCP) are also available.

Q: What is the print speed of LaserWriter Select 360?

A: Depending on the application and the complexity of the document being printed, the printer is designed to print up to 10 ppm.

Q: What are the paper handling capabilities?

A: Paper input capacity is 250 sheets and can be expanded to support an additional 50, 250, or 500 sheets of paper. When all the paper handling options are installed the printer can have up to 800 sheet input capacity.

Q: Is the LaserWriter Select 360 compatible with the LaserWriter Select 300/310 toner cartridge and accessories?

A: No. The LaserWriter Select 360 is based on a new 600 dpi print engine. It is not compatible with the LaserWriter Select 300/310 toner cartridge.

Q: Is there a LaserWriter Select 360 upgrade for the LaserWriter Select 300 and 310?

A: No. Due to severe schedule restrictions and low customer demand for past upgrade options, there is no planned upgrade path from the LaserWriter Select 300 or 310.

Q: Can the LaserWriter Select 360 be upgraded to a LaserWriter Pro 630?

A: No, the LaserWriter Pro 630 is based on an entirely different engine.

Q: Won't the LaserWriter Select 360 impact LaserWriter Pro 600 sales?

A: Yes, because of the faster engine and equivalent resolutions, automatic emulation switching and the optional PostScript Fax capability. The LaserWriter Pro 600 will still be available because of the upgrade path it provides to the LaserWriter Pro 630.

Q: Is the LaserWriter Select 360 memory upgradeable?

A: Yes, a user can upgrade the memory by replacing the 72-pin 4 MB SIMM with a 72-pin 16 MB SIMM. This upgrade boosts the usable RAM from 7 MB to 16 MB. The 3 MB of RAM on the logic board is not used when a 16 MB SIMM is installed.

Q: Why isn't PhotoGrade supported in the LaserWriter Select 360?

A: Due to severe schedule restrictions and some engineering difficulties with 300 dpi PhotoGrade quality, the option was not included.

Q: What expansion options are available for the printer?

A: The expansion options include the PostScript Fax card for plain paper fax capability and various paper handling accessories which provide an input capacity of up to 800 sheets.

Q: Does the LaserWriter Select 360 support LocalTalk?

A: Yes. The LaserWriter Select 360 was designed to be an upgraded version of the Personal LaserWriter NTR and as such, supports LocalTalk, serial and parallel interfaces.

Q: Does the LaserWriter Select 360 printer support TrueType?

A: Yes, the ROM includes the TrueType scaler and the disk set includes 64 TrueType font faces.

Q: Is the LaserWriter Select 360 compatible with ATM (Adobe Type Manager)?

A: Yes, ATM and TrueType can both be used.

Q: When QuickDraw GX is available will the LaserWriter Select 360 support it?

A: As soon as QuickDraw GX is available Apple will add the appropriate driver to the in-box materials and modify the Installer script to install the appropriate driver depending on the system software present on the user's Macintosh.

Q. Who is the target customer?

A. The LaserWriter Select 360 is targeted for small to medium workgroups, small to mainstream businesses and power users who need high-quality, high-performance and network capability. The PostScript Fax option is ideal for each of the target customer segments.

Q. How much faster is the LaserWriter Select 360 than the Personal LaserWriter NTR?

A. The answer to that depends on the complexity of the print job, and the size of the file form which you print. On average, a LaserWriter Select 360 will image 60% faster than a Personal LaserWriter NTR.

Q. What print quality capabilities are available?

A. Users can select 300x300 dpi or 600x600 dpi. FinePrint can be employed in 300x300dpi.

Q. What fonts are in the printer?

A. All standard 35 Type 1 fonts for PostScript applications in UNIX, Windows, and Macintosh applications are ROM resident.

Q. Does the printer support automatic emulation switching?

A. Yes, it supports automatic emulation switching. If the data stream being sent to a port follows standards for each emulation, it can detect emulation switching needs and correctly route the data to the proper emulation logic.

Q. Does it support PCL Level 5 (HP LaserJet III emulation)?

A. Yes.

Q. What processor does the LaserWriter Select 360 use?

A. The processor is a RISC based AMD 29200 15 MHz chip.

Q. What kind of RAM does it use?

A. The LaserWriter Select 360 uses 72-pin, 80 ns, fast page mode DRAM. Three 1 MB banks of memory are soldered to the logic board. One 72-pin SIMM holds a 4 MB SIMM which may be replaced with a 16 MB SIMM.

Q. What RAM configurations are possible?

A. The LaserWriter Select 360 is equipped with 7 MB standard, and can be upgraded with one 16 MB SIMM (which replaces the 4 MB SIMM) to provide a maximum of 16 MB RAM. In the 16 MB configuration, the 3 MB of on-board DRAM are unused.

Q. How much ROM and RAM are standard?

A. 4 MB ROM and 7MB RAM.

Q. Does Apple include software for Windows users?

A. Yes. We have drivers to support Windows 3.0 and Windows 3.1.

Q. Does the LaserWriter Select 360 have duplex printing capability?

A. No.

Q. How does the LaserWriter Select 360 compare with the HP LaserJet 4M or 4P?

A. At this time, it is the only mainstream laser printer that offers the PostScript Fax option. Otherwise, the LaserWriter Select 360 and the Hewlett-Packard LaserJet 4M have similar features and abilities. The LaserWriter Select 360 has a faster engine than the HP LaserJet 4P (10 ppm to 4 ppm). All three printers have all ports active interfaces with automatic emulation switching capability.

Article Change History:

20 Jun 1996 - Updated FinePrint information.

Published Date: Feb 19, 2012

LaserWriter Select 360: Upgrading Printer Memory (2/95)

Can I upgrade my LaserWriter Select 360 with more memory?

This article has been archived and is no longer updated by Apple.
Yes, the LaserWriter Select 360 can be upgraded with more RAM (memory), which lets you print more complex documents and improves performance on documents that contain many fonts.

The printer's standard memory size is 7 MB (megabytes), 4 MB of which are contained on a removable SIMM (Single Inline Memory Module). The printer may be upgraded to 16 MB total (the largest size supported by the printer) by removing the 4 MB SIMM and replacing it with a 16 MB SIMM. The remaining 3 MB of memory is disabled by the controller whenever a 16 MB SIMM is installed.

The 16 MB SIMM may be purchased from your Apple-authorized Service Provider. SIMMs must meet the following specifications:

* Size: 16 MB (4 Mbit x 32 bit)
* Access Time: 80 ns or less
* SIMM Type: 72-pin
* Refresh: 2K Row (11 bit x 11 bit)

There are a wide range of 16MB SIMMs available. Just because a 16MB SIMM is being used does not mean that it is the correct one for use in the LaserWriter Select 360. Contact the SIMM vendor to confirm that the proper SIMM is being used.

Article Change History:
22 Feb 1995 - Added keyword; made minor technical updates.
12 Dec 1994 - Added additional SIMM information.
10 Jun 1994 - Removed incorrect ordering information

Support Information Services
Published Date: Feb 19, 2012

Ethernet and Twisted-Pair NB Card: Specifications (10/93)

This article provides the specifications and order information of the Apple Ethernet NB Card and Apple Ethernet NB Twisted-Pair Card.

This article has been archived and is no longer updated by Apple.

Apple Ethernet NB Card Technical Specifications

Connector
* Apple Ethernet

Transmit/receive data rate
* 10-megabit-per-second maximum data rate

Processor
* 10-MHz Motorola 68000

RAM
* 512K standard

Environmental requirements
* Operating temperature: 50í to 104í F (10í to 40í C)
* Humidity: 20% to 95% noncondensing, at a temperature range of 77í to 104ÍÊF (25í to 40í C)

Power dissipation
* 7.5 W or less (average is 4 W)

Ethernet controller
* National Semiconductor DP83932

System requirements
* One available NuBus slot; NuBus adapters required for the Macintosh IIsi and Macintosh Quadra 610
* Appropriate Apple Ethernet cable system media adapter

Apple Ethernet NB Twisted-Pair Card Technical Specifications

Connector
* Ethernet 10Base-T compliant RJ-45 port

Transmit/receive data rate
* 10-megabit-per-second maximum data rate

RAM
* 128K standard

Environmental requirements
* Operating temperature: 50í to 104í F (10í to 40í C)
* Humidity: 20% to 95% noncondensing at a temperature range of 77í to 104ÍÊF (25í to 40í C)

Power dissipation
* 3.75 W or less (average is 2 W)

Ethernet controller
* National Semiconductor DP83934-SONIC-T

System requirements
* One available NuBus slot; NuBus adapters required for the Macintosh IIsi and Macintosh Quadra 610
* Unshielded twisted-pair cable
* IEEE 802.3-compatible 10Base-T hub

Ordering Information

Apple Ethernet NB Card - Order No. M0417LL/B
* Apple Ethernet NB Card
* Network Software Installer Disk
* User's guide
* Limited warranty

Apple Ethernet NB Twisted-Pair Card - Order No. M1768Z/A
* Apple Ethernet NB Twisted-Pair Card
* Network Software Installer Disk
* User's guide
* Limited warranty

Apple Ethernet Thin Coax Transceiver - Order No. M0329Z/B

Apple Ethernet Twisted-Pair Transceiver - Order No. M0437Z/B

Apple Ethernet AUI Adapter - Order No. M0432LL/A

Apple Ethernet 5-meter Thin Coax Cable - Order No. M0833LL/A

Apple Ethernet 13-meter Thin Coax Plenum Cable - Order No. M0436LL/A

For the Latest version of AppleTalk software
AppleTalk Connection for Macintosh - Order No. M80692/A

For more information about AppleTalk network design and management, see:
Planning and Managing AppleTalk Networks by Apple Computer, Inc., published by Addison-Wesley Publishing Company, Inc.

Additional search string: twisted pair

Published Date: Feb 19, 2012

External Hard Drive Update: Positioning Horizontally

This article gives updated information about positioning the hard disk horizontally and attaching the feet on the Hard drive.
This article has been archived and is no longer updated by Apple.
The Apple External Hard Drive can be positioned vertically or horizontally. However, pages 3 and 4 of the Apple External Hard Drive User's Guide contain some outdated information about positioning the hard disk horizontally.

To position the hard disk horizontally, DO NOT attach the feet. Apple DOES NOT recommend stacking one hard disk on top of another.

The information about positioning the hard disk vertically is still correct.
Published Date: Feb 19, 2012

PowerBook Duo 250: Technical Specifications

This article provides the technical specifications for the Apple PowerBook Duo 250.
This article has been archived and is no longer updated by Apple.

Microprocessor
* Motorola 68030, running at 33 MHz

Memory
* Comes with 4MB of RAM
* Can be expanded to up to 24MB of RAM with PowerBook Duo 4MB or 8MB Memory Expansion Kits, or third-party memory expansion cards

Disk Drive
* One internal 200MB hard disk

Display
* 9-in. (229-mm) diagonal
* Backlit, active-matrix display, 640 by 400 pixels
* 16 shades of gray

Battery
* Nickel-metal-hydride High Capacity Type II battery provides 2.5 to 6 hours of computer use before recharging is necessary
* EverWatch Battery Saver technology

Keyboard
* Built-in, 2.5-mm travel, 18-mm pitch
* Two-level tilt adjustment
* LED indicator when caps lock is engaged

Trackball
* 19-mm diameter, dual-button trackball

Clock/Calendar
* CMOS custom-integrated circuit with long-life lithium battery

Microphone
* Built-in omnidirectional electret; output voltage of 4 mV, peak-to-peak, at normal volume

Interfaces
* Power adapter port

* 152-pin PDS connector for connecting PowerBook Duo Dock, PowerBook Duo MiniDock, PowerBook Floppy Adapter, or other expansion devices
* RS-422 serial port for LocalTalk networking, printers, modems, and other devices
* Port for optional internal modem

File-Transfer Options
* LocalTalk cables and System 7 file sharing
* Serial cable and System 7 file sharing
* Fax/data modem and AppleTalk Remote Access software
* Duo MiniDock with external Apple SuperDrive, SCSI Disk Adapter, and HDI-30 SCSI system cable
* Duo Dock internal Apple SuperDrive, optional internal hard drive, and HDI-30 SCSI system cable

Docking Options
* PowerBook Duo Dock
* PowerBook Duo MiniDock
* PowerBook Duo Floppy Adapter
* Docking solutions from third-party vendors

Modem
* Optional internal PowerBook Express Modem; sends and receives data at 14,400 bps and sends and receives faxes at 9,600 bps. Includes Express Fax software.

Subframe
* Magnesium subframe for structural rigidity and heat sink

Sound Generator
* Built-in speaker
* Apple Sound Chip provides monophonic 8-bit sound and is capable of driving stereo headphones or other stereo equipment with the same signal supplied to both channels through optional PowerBook Duo Dock or PowerBook Duo MiniDock

Sound Input
* 4-voice sound with 8-bit analog-to-digital conversion recording at 11 or 22 kHz sampling rate

Disability Access
* CloseView, Easy Access, and visible-beep included with system software.
These built-in solutions and third-party options provide alternative input and output devices for people with disabilities.

Electrical Requirements
* Line voltage: 85 to 270 VAC, RMS single phase, automatically configured
* Frequency: 47 to 63 Hz, single phase
* Power: 25 W maximum

ADB Power Requirements
* Maximum current draw for all ADB devices is 200 mA (a maximum of three ADB devices is recommended)

Size and Weight
* Thickness: 1.4 in. (3.6 cm)

* Width: 10.9 in. (27.7 cm)
* Depth: 8.5 in. (21.6 cm)
* Weight: 4.2 lb. (1.9 kg)

Operating Environment
* Operating temperature: 50í to 104í F (10í C to 40í C)
* Storage temperature: ð40í to 116í F (ð40í C to 47í C)
* Relative humidity: 20% to 80% noncondensing
* Operating altitude: 0 to 10,000 ft. (0 to 3,048 m)
* Maximum storage altitude: 15,000 ft. (4,722 m)

Published Date: Feb 19, 2012

ASCII Control Characters

Code sets provide a means of electronically expressing and communicating characters.
This article has been archived and is no longer updated by Apple.
There are three types of characters:

1. Alphabetic characters are the letters of the aphabet and special characters like <, *, @, ?, ", etc.

2. Numeric characters are numbers.

3. Control characters are unique characters that communicate specific functions (e.g., form feed, carriage return, escape, etc.) to a receiving unit.

Each character in a code set is expressed by a unique binary code. Morse code is an example of a code set. Each Morse character has a unique combination of dots and dashes that equate to the ones and zeros in a binary code.

Most people understand alphabetic and numeric characters. However, many people are not as familiar with control characters, so the following discussion will explain the control characters in more detail.

ASCII Control characters are used for five main functions:

1. COMMUNICATION CONTROL FUNCTIONS - SOH, STX, ETX, EOT, ENQ, ACK, NAK, DLE, SYN, ETB

2. CODE EXTENSION FUNCTIONS - Shift Out, Shift In, Escape

3. FORMAT EFFECTOR FUNCTIONS - Backspace, Tabs, Line Feed, Form Feed, Carriage Return

4. INFORMATION SEPARATOR FUNCTIONS - File Separator, Group Separator, Record Separator, Unit Separator

5. APPLICATION-DEFINED FUNCTIONS - Device Control 1 through 4, Bell

1. Communication Control Functions
These characters are mainly used in synchronous transmission character oriented protocols (such as Bisynchronous).

Since data communication between personal computer systems is usually asynchronous, we won't discuss the function of these characters here.

2. Code Extension Function
Code extension (ce) characters such as escape <ESC> are embedded in text to enable devices to recognize device-specific control codes not included in the code set.

The most commonly used ce character is <ESC>. It notifies a receiving unit that the character or characters following it are to be interpreted as a control code. A sequence of characters that starts with an <ESC> and makes up a control code is popularly called an "escape sequence."

For example, it might be desirable that a printer change the size of characters in the middle of a printing job. Since this function is not common to all types of equipment, an ASCII control character has not been assigned for it. Therefore many printer manufacturers have had to create escape sequences for this purpose.

When a printer receives and recognizes the ESC character, it interprets the following characters (up to the next RETURN character) as a control code, and (in our example) changes its print size accordingly.

Escape sequences are manufacturer-specific, so different devices may have different control codes to accomplish the same function (although there are ANSI standards which many conform to).

3. Format Effector Function
Format effector (FE) characters (for instance, carriage returns, line feeds) are embedded in the text sent to output devices like printers, CRT terminals, etc. These characters give these devices instructions on how to physically format the text when it is output.

4. Information Separator Function
Information separator (IS) characters allow the receiving unit to group the received data into a database hierarchy (file to group to record to unit, etc.).

5. Application-Defined Function
After all of the desired characters for a code set have been defined, there may be several codes (unique combinations of bits) left over. These codes are available for whatever purpose the designer may wish to assign them.

TA30410_ASCII_Control_Characters_(TIL01373).pdf

For example, in ASCII the DC1 and DC3 (Device Control) application defined codes are often used to start and stop data in the XON/XOFF flow control protocol (for more info on flow control protocols search on HTS and flow control).

Published Date: Feb 19, 2012

PowerBook Duo 270c: Technical Specifications

This article provides the technical specifications for the Apple PowerBook Duo 270c.
This article has been archived and is no longer updated by Apple.

Microprocessor

* Motorola 68030, running at 33 MHz
* 68882 math coprocessor, running at 33 MHz

Memory

* Comes with 4MB of RAM
* Expands to up to 32MB of RAM with the addition of PowerBook Duo 4MB or 8MB Memory Expansion Kits, or third-party memory expansion cards

Disk Storage

* One internal 240MB hard disk

Display

* 8.4-in. diagonal
* Backlit, active-matrix, color liquid crystal display, 640 by 480 pixels
* Two display modes: 640 by 400 with thousands of colors; 640 by 480 with 256 colors
* LED indicator when computer is in sleep mode

Battery

* Nickel-metal-hydride High Capacity Type II battery provides 2 to 4 hours of computer use before recharging is necessary
* EverWatch Battery Saver technology

Keyboard

* Built-in, 2.4-mm travel, 18-mm pitch
* Two-level tilt adjustment
* LED light when caps lock is engaged

Trackball

* 19-mm diameter, dual-button trackball

Clock/Calendar

* CMOS custom-integrated circuit with long-life lithium battery

Microphone

* Built-in omnidirectional electret; output voltage of 4 mV, peak-to-peak, at normal volume

Interfaces

* Power adapter port
* 152-pin PDS connector for connecting PowerBook Duo Dock, PowerBook Duo MiniDock, PowerBook Floppy Adapter, or other expansion devices
* RS-422 serial port for LocalTalk networking, printers, modems, and other devices
* Port for optional internal modem

File-Transfer Options

* LocalTalk cables and System 7 file sharing
* Serial cable and System 7 file sharing
* Fax/data modem and AppleTalk Remote Access software
* Duo MiniDock with external Apple SuperDrive, SCSI disk adapter, and HDI-30 SCSI system cables
* Duo Dock internal Apple SuperDrive, optional internal hard drive, and HDI-30 SCSI system cable

Docking Options

* PowerBook Duo Dock
* PowerBook Duo MiniDock
* PowerBook Floppy Adapter
* Docking systems from third-party vendors

Modem

* Optional internal PowerBook Express Modem; sends and receives data at 14,400 bps and sends and receives faxes at 9,600 bps. Includes Express Fax software.

Magnesium Subframe

* Provides structural rigidity and heat sink

Sound Generator

* Built-in speaker
* Apple Sound Chip provides monophonic 8-bit sound and is capable of driving stereo headphones or other stereo equipment with the same signal supplied to both channels through any optional PowerBook Duo Dock or PowerBook Duo MiniDock

Sound Input

* 4-voice sound with 8-bit analog-to-digital conversion recording, sampled at 11 or 22 kHz

Disability Access

* CloseView, Easy Access, and visible-beep included with system software.
These built-in solutions and third-party options provide alternative input and output devices for people with disabilities.

Electrical Requirements

* Line voltage: 85 to 270 VAC, RMS single phase, automatically configured
* Frequency: 47 to 63 Hz, single phase
* Power: 25 W maximum

ADB Power Requirements

* Maximum current draw for all ADB devices is 100 mA with Powerbook Duo MiniDock or PowerBook Floppy Adapter or 500 mA with PowerBook Duo Dock(a maximum of three ADB devices is recommended)

Environmental Requirements
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* Operating temperature: 50í to 104í F (10í to 40í C)
* Storage temperature: ð13í to 140í F (ð25í to 60í C)
* Relative humidity: 20% to 80% noncondensing
* Operating altitude: 0 to 10,000 ft. (0 to 3,048 m)
* Maximum storage altitude: 15,000 ft. (4,722 m)

Size and Weight
---
* Thickness: 1.5 in. (3.8 cm)
* Width: 10.9 in. (27.7 cm)
* Depth: 8.5 in. (21.6 cm)
* Weight: 4.8 lb. (2.2 kg)

Published Date: Feb 19, 2012

PowerBook Duo: Battery Reconditioning

This article discusses battery reconditioning for the PowerBook Duo 270c, Duo 280, and Duo 280c.
This article has been archived and is no longer updated by Apple.
Battery reconditioning is a deep discharge of a battery to avoid "memory effect" which, over time, can reduce the battery's power capacity.

The PowerBook Duo 270c, Duo 280, and Duo 280c have a modified power system which can recondition its battery. This allows it to draw power exclusively from either the AC source or the main batteries. When you recondition the battery, the Duo disconnects external power to avoid recharging, draws power from the internal battery only, and ignores all low power level alerts, including hardware shutdown. The Duo then senses when the battery is completely exhausted and fully recharges it. The entire process should take a few hours.

During battery reconditioning, you cannot use the Duo for any other purpose. While the Duo is reconditioning its battery, it goes into a screen saver mode where a black and white battery icon moves around the screen. Note that the power adapter must be plugged in for reconditioning to work.

You should recondition your battery no more than once a month. The battery reconditioning software (located on the Disk Tools diskette) keeps track of the last reconditioning performed by checking the battery's serial number. PowerBook systems prior to the Duo 270c, Duo 280, or Duo 280c cannot use the battery reconditioning software.

Please note that the Battery Reconditioning software is not on the system diskettes that come with the PowerBook Duo. You should make a backup of your software or download the software from one of the online services.

After installing Mac OS 7.6, when trying to recondition the battery in your PowerBook Duo 280 or 280c, you may get a message saying "Your battery was not reconditioned because the application quit" or "Battery Recondition will not work with this PowerBook".

Mac OS 7.6 installs version 1.5 of the Battery Recondition application which works with PowerBook Duo computers. On a PowerBook 280 or 280c, Battery Recondition 1.5 may fail to recondition the battery, producing one of the errors mentioned above. If you want to recondition the battery, follow these steps:

1. Open the Preferences folder inside the System Folder.
2. Drag the "Battery Recondition Preferences" file to the trash.
3. Restart.
4. Run an older version of the Battery Recondition application.

You can get version 1.1 at any Apple Software Updates site in the PowerBook section, or you may still have an older version on your hard drive. Also, you can install Battery Recondition version 1.3 from the System 7.5.3 installer by selecting Custom Install, going to the Mobility section, and checking the Battery Recondition box.

These articles can help you locate software updates mentioned here:

"**Where To Find Apple Software Updates**" - Lists online services for free Apple software updates.

"**Obtaining Apple Product Support in the USA**" - Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech Info Library.
Published Date: Feb 19, 2012

PowerBook Duo 250 and 270c: Displays

This article discussed the displays used in the PowerBook Duo 250 and 270c.
This article has been archived and is no longer updated by Apple.
The PowerBook Duo 250 has an active-matrix display which has 16 grayscales, while the PowerBook Duo 270c has a color active-matrix display with 256 colors at 640 by 480 pixel resolution and thousands of colors at 640 by 400 pixel resolution.

The PowerBook Duo 270c defaults to the 640 by 480 pixel, 256 color mode. By making a selection under Options in the Monitor control panel, then restarting, the Duo 270c can be switched to show 640 by 400 pixels in thousands of colors. When in this mode, a black band will appear at the top and the bottom of the screen.

Since contrast adjustment produces little effect on a color active-matrix display, the Duo 270c does not have a contrast control, while the Duo 250 does.
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PowerBook Duo 250 and 270c: Differences

This article outlines the differences between the PowerBook Duo 250 and 270c.
This article has been archived and is no longer updated by Apple.

Here are the differences between the PowerBook Duo 250 and 270c. The PowerBook Duo 230 has been included for illustrative purposes.

	Duo 250	Duo 270c	Duo 230
CPU	68030 @ 33MHz	68030 @ 33MHz	68030 @ 33MHz
FPU	no	yes	no
Display	9" grayscale active-matrix	8.4" color active-matrix	9" grayscale FSTN (Supertwist)
Colors/Grays Supported	16 grayscales	thousands of colors @ 640 x 400 256 colors @ 640 x 480	16 grayscales
RAM Capacity	4 to 24MB	4 to 32MB	4 to 24MB
Hard Drive Size	200MB	240MB	80/120MB
Battery Type	Type II NiMh	Type II NiMh	Type I NiMh (Type II compatible with software)
Battery Life	2.5 to 6 hrs (Type II)	2 to 4 hrs (Type II)	2 to 4.5 hrs (Type I)
Battery Reconditioning	no	yes	no
Weight	4.2 lbs	4.8 lbs	4.2 lbs
Sleep LED	no	yes	no
Duo Dock Compatibility	yes	no, needs Top Cover Retrofit (Order # M1814Z/A)	yes

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PowerBook Duo 270c and 280c: Sleep Indicator

This article discusses the sleep indicator of the PowerBook Duo 270c and Duo 280c.

This article has been archived and is no longer updated by Apple.

The PowerBook Duo 270c and 280c has a light-emitting diode (LED) in the upper-right side of its display to indicate whether the unit is in sleep mode. This LED, called the sleep indicator, flashes when the Duo computer is asleep. The sleep indicator is visible whether the display is open or closed.

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ASCII Code: Seven-Bit or Eight-Bit

Each character in the ASCII code set is transmitted as a unique eight bit binary code.

The ASCII standard doesn't actually define the eighth bit of the code, so many vendors in the industry have recogized two kinds of ASCII: eight bit ASCII and seven bit ASCII with a parity bit (a transmission-error-detecting scheme).
This article has been archived and is no longer updated by Apple.
The first seven bits of a character are the same for seven bit or eight bit ASCII; only the purpose of the eighth bit will change.

Eight bit ASCII has the eighth bit permanently assigned to a constant binary one or zero state.

Seven bit ASCII uses the eighth bit as a parity bit. This means that the eighth bit indicates the odd or even status of the sum of the seven bits in the character.

If the transmitting station has selected seven bit even parity, then for every character in which the sum of the lower seven bits (the real ASCII character) is odd, the transmitting station will make the eighth bit a 1. This makes the sum of all eight bits in the character even.

If the sum of the lower seven bits is already even, the transmitting station will leave the eighth bit a 0 so that the sum of the character will stay even.

The receiving station's equipment will check the sum of each character received to see that it is even. If it isn't, the receiving station's equipment will detect an error in data transmission.

Selecting eight bit ASCII, no parity, causes the transmitting station not to generate parity bits and the receiving station not to check parity. In this case a transmission error would not be detected by the equipment even if one occurred.
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PowerBook 200 & 2300 Series: Duo Dock Compatibility

The following chart provides the compatibility of PowerBook Duo systems with the PowerBook Duo Dock, Duo Dock II, and Duo Dock Plus. This article has been archived and is no longer updated by Apple.

Duo Computer	Compatible with Duo Dock	Compatible with Duo Dock II	Compatible with Duo Dock Plus	Compatible with Duo MiniDock
PowerBook Duo 210	Yes	Yes	Yes	Yes
PowerBook Duo 230	Yes	Yes	Yes	Yes
PowerBook Duo 250	Yes	Yes	Yes	Yes
PowerBook Duo 270c	Yes, 1	Yes	Yes	Yes
PowerBook Duo 280	Yes, 2	Yes, 2	Yes	Yes
PowerBook Duo 280c	Yes, 1,2	Yes, 2	Yes	Yes
PowerBook Duo 2300c	Yes, 1,2	Yes, 2	Yes	Yes

1- This system is slightly thicker than other PowerBook Duo computers and will not physically fit into the original Duo Dock. The PowerBook Duo Top Cover Upgrade (p/n M1814Z/A) is an enlarged top cover which will allow the Duo Dock to accommodate all of PowerBook Duo computers. An upgraded Duo Dock will also support a monitor of up to 85 pounds such as an Apple 21" Color Display. Without retrofitting, the Duo Dock will support a monitor of up to 35 pounds, such as an Apple 14" Color Display.

2- This system cannot utilize the 68882 math coprocessor (FPU) if installed in the Duo Dock.

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LaserWriter Pro 810: Imageable Area

What are the page sizes and memory requirements available for the LaserWriter Pro 810?
This article has been archived and is no longer updated by Apple.

	Imageable Area (Inches)		Memory Requirements in Bytes			
Page Description	Width	Length	300 DPI	400 DPI	600 DPI	800 DPI
Letter/US Letter	8.05	10.61	960134	1706905	3840537	6827621
LetterSmall/US Letter	7.67	10.14	874479	1554630	3497917	6218519
Transverse/US Letter	8.05	10.61	960134	1706905	3840537	6827621
Legal/US Legal	8.06	13.68	1240382	2205123	4961526	8820491
LegalSmall/US Legal	6.72	12.50	945313	1680556	3781250	6722222
Tabloid/Ledger	10.61	16.61	1982951	3525247	7931806	14100988
A3	11.25	16.19	2049205	3643030	8196818	14572121
A4	7.82	11.24	988424	1757198	3953695	7028790
A4Small/A4	7.47	10.85	911845	1621057	3647378	6484228
A4.Transverse/A4	7.82	11.26	990378	1760672	3961512	7042689
A5	5.46	7.81	480127	853559	1920507	3414235
B4	9.74	14.01	1535298	2729418	6141190	10917672
B5	6.83	9.74	748616	1330872	2994463	5323489
Postcard	3.60	5.52	223560	397440	894240	15897.960
Invoice/Statement	4.89	8.04	442292	786296	1769167	3145185
Folio	7.75	12.66	1103895	1962481	4415581	7849923
Executive	6.88	10.19	788416	1401628	3153663	5606511
Comm10/Comm #10 Envelope	3.65	9.15	376122	668661	1504488	2674645
Monarch/Monarch Envelope	3.46	7.13	277430	493208	1109719	1972833
DL/DL Envelope	3.88	8.21	358653	637605	1434611	2550420
C5/C5 Envelope	5.96	8.57	574421	1021192	2297682	4084769

Published Date: Feb 19, 2012

Macintosh AV Computers: PlainTalk Installation Problems (10/93)

Article Created: 20 October 1993

Installation of PlainTalk software on an AV CPU using the installer on the PlainTalk disk generates a dialog box asking for the PlainTalk 5 or Introduction to Speech disk. These disks weren't included with AV computers configured for the United States.

This article has been archived and is no longer updated by Apple.
You can successfully install just the PlainTalk software by doing a Custom Install from the Install Me First disk included with System 7.1.

Published Date: Feb 19, 2012

System 7 Pro: Read Me Incorrect About Apple IIe Card SW

This article explains how to obtain the Apple IIe Card Software upgrade software.

This article has been archived and is no longer updated by Apple.
The information about how to obtain Apple IIe Card Software in the Read Me file for System 7 Pro is incorrect. The Read Me file that is installed when updating to System 7 Pro reads as follows:

APPLE IIe CARD SOFTWARE FOR THE MACINTOSH LC II

To use the Apple IIe Card with System 7 Pro on a Macintosh LC II, you need version 2.2 of Apple IIe Card Software. You should upgrade to version 2.2 only if you are using your LC II with System 7 Pro. Apple IIe Card Software 2.2 may also be used with the original Macintosh LC, but it is not required.

You can obtain the upgrade package from an authorized Apple Reseller. In the United States, you can call the Apple Customer Assistance Center at 1-800-APL-CARE to request Apple IIe Card Software version 2.2.

Correct information

Contact an Apple Reseller to purchase the IIe software update. You can call the Apple Referral Center at 1-800-538-9696 to locate a reseller near you to purchase Apple part M1222LL/C, Apple IIe card Software Update.

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Flow Control Protocols: XOn/XOff or DTR

This article discusses the two most popular methods of flow control used in personal computer systems.
This article has been archived and is no longer updated by Apple.
Data is usually transmitted much more rapidly than it can be processed. This is why devices allocate memory to buffer space. Buffers are used to collect the received data as it comes in. However, many transmissions are quite a bit larger than the buffer space allocated. What is needed is a way for the receiving station to tell the transmitting station to stop and start transmitting as its buffer fills and is emptied. This is the purpose of flow control protocols.

XON/XOFF
XON/XOFF is a very popular method of flow control between asynchronous full duplex devices (for more info on asynchronous data transfers search on HTS and Asynchronous; for more info on full duplex search on HTS and Duplex). In full duplex, both communicating devices can send each other data at the same time. When the receiver's buffer starts getting too full, it sends an XOFF (which is most often an ASCII DC3 character; for more information on ASCII control characters search on HTS and ASCII Control Characters). The Transmitter sees the XOFF and stops its transmission. When the receiver is ready for more data it sends the transmitter an XON (most often an ASCII DC1 character). The transmitter sees the XON and resumes transmission. This process goes on until the transmission is complete.

DTR (also called hardware handshaking)
DTR can be used in full or half duplex RS232 communications. DTR is an RS232 control signal which normally indicates that a DTE device is online (for more info on DTEs and DCEs, search on HTS and RS232). However, many manufacturers use it for flow control. When the receiver's buffer starts getting too full, it turns off its DTR signal. The transmitter stops sending data. When the receiver is ready for more data it turns its DTR back on. The transmitter resumes transmission. This process goes on until the transmission is complete.
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At Ease: Stuffit Deluxe 3.0.7 Corrects Incompatibility

There are a couple of incompatibilities between At Ease for Workgroups 2.0 and Aladdin's StuffIt Deluxe 3.0 with SpaceSaver(SpaceSaver is compression software that stores unused applications and documents in a compressed state. But when the application or document icon is double-clicked, it launches as if it weren't compressed):

* With SpaceSaver software installed, At Ease can't see any applications at all (probably because they are compressed). The Finder can launch these compressed applications without any trouble.

* Magic Menu doesn't appear in the menu when the Finder is available. (Magic Menu is a custom menu that supplies immediate menu access to StuffIt Deluxe features from the Finder.)
This article has been archived and is no longer updated by Apple.
The work around for the first issue would be to use the 'find item' option in At Ease and to add the compressed application to the setup. There is no other solution.

Aladdin Systems reports they have corrected the second problem with the 3.0.7 version of StuffIt Deluxe (includes StuffIt SpaceSaver 3.0.6). The free update is available on most on-line systems, including Aladdin's bulletin board on AppleLink.

Please contact Aladdin Systems directly if you have any questions. To locate a vendor's address and phone numbers, use the vendor name as a search string.

Article Change History:
07 Mar 1994 - Corrected misinformation about both bugs being addressed.

Support Information Services
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Macintosh TV: Upgrading RAM to 8MB

This article describes how to upgrade the RAM in a Macintosh TV from 5MB to 8MB. This procedure should be performed only by an Apple-authorized service provider.
This article has been archived and is no longer updated by Apple.
To upgrade the RAM in Macintosh TV:

1) Remove the 1MB SIMM.

2) Install a Centris 610/650 4MB DRAM expansion kit, bringing the Macintosh TV's memory to 8MB.
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Macintosh LC 475 & Quadra 605: LC-PDS Q&A

This article answers basic questions about the LC-Processor Direct Slot (PDS) in the Macintosh LC 475 and Quadra 605 computers.
This article has been archived and is no longer updated by Apple.
Question: Why isn't the Macintosh LC 475 PDS an 040 PDS?

Answer: Because of the popularity of the Macintosh LC computers, many third-party developers have created expansion cards based on the LC-PDS. Like the other members of the Macintosh LC series the LC 475 can take advantage of many of the LC cards on the market, such as the video-out, Ethernet, and Apple IIe cards. Compatibility among the Macintosh LC 475, LC, LC II, and LC III slots means that a customer can simply take most cards out of an LC II slot, and place it in an LC 475 slot.

Question: What cards do, and do not, work with the "LC-PDS compatible" slot?

Answer: The expansion slot is an LC III compatible expansion connector, and almost all cards that work with Macintosh LC III also work with the LC 475. Examples include video-out, Ethernet, and Apple IIe cards. Cards that are 030-specific, such as 030 accelerators or 030 cache cards, do not work with the LC 475 because they require direct access to the 68030 microprocessor. However, those cards are intended to speed the 68030 microprocessor to higher performance levels, which are already attainable with the 68040 microprocessor.

Question: Why isn't the Quadra 605 slot NuBus or 040 PDS?

Answer: Apple uses the same logic board in three product families: Performa, LC, and Quadra. It was necessary to select one standard type of expansion slot. Because the LC-PDS has been extremely successful with both education and business customers -- through the LC, LC II, LC III, and LC 520 -- the LC-PDS technology was adopted.

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Macintosh Basics: Out Of Memory Message (10/93)

Article Created: 20 October 1993

I'm trying to run Macintosh Basics, and I get a message that I'm out of memory. My Mac seems to have plenty of RAM available. Why won't it work?

This article has been archived and is no longer updated by Apple.
First try increasing the memory allocation in the Get Information box to 2500K - 5500K. If that doesn't work, or if that much RAM isn't available, make sure the Monitors Control Panel is set to 8-bit (256 Colors) or less.

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RS-232: DTEs, DCEs and Pin Signal Sequences

This article discusses RS-232 DTEs, DCEs and Pin Signal Sequences.
This article has been archived and is no longer updated by Apple.
Note: Throughout this discussion acronyms will be used in place of full names. Since all knowledgeable data communications personnel use these acronyms, you should practice using them.

DTE and DCE
According to the RS-232 standard, all devices involved in data communications can be classified into two groups:

DTE - Data Terminal Equipment: those devices that originate the data or are its final destination. Examples would be computers, printers, tape drives, etc.

DCE - Data Communications Equipment: those devices whose function it is to communicate the data between the DTEs. Examples would be modems, data multiplexers, and digital service units.

The RS-232 cabling between a DTE and a DCE is straight through. That is, pin 1 from the DTE plug goes to pin 1 on the DCE socket, pin 2 goes to pin 2, and so on. If a pin is an output for a DTE, then it is an input for a DCE (and vice versa).

RS-232 PIN GROUPS (three main groups)

1. CONTROL pins carry signals that indicate and control the state of the DTE/DCE interface.
2. DATA pins carry data signals.
3. CLOCK pins carry the clock signals necessary for synchronous data communications.

Because Half Duplex has to control line direction, it requires more RS-232 pins. The following is the sequence of RS-232 signals which are usually used for Half Duplex.

HALF DUPLEX SIGNAL SEQUENCE

Sequence	Pin	Full Signal Name	Output From	Input To
(1)	20	Data Terminal Ready (DTR)	DTEs	DCEs
(2)	6	Data Set Ready (DSR)	DCEs	DTEs
(3)	4	Request to Send (RTS)	Tx DTE	Tx DCE
(4)	8	Rx'd Line Sig Detect (DCD)	Rx DCE	Rx DTE
(5)	5	Clear to Send (CTS)	Tx DCE	Tx DTE
(6)	2	Tx Data (TD)	Tx DTE	Tx DCE
(7)	3	Receive Data (RD)	Rx DCE	Rx DTE
Constant	7	Signal Ground (SG)	n/a	n/a

Fortunately, most Apple products use Full Duplex and so require fewer pins. The following is the sequence of RS-232 signals which are often used for Full Duplex.

FULL DUPLEX SIGNAL SEQUENCE

Sequence	Pin	Full Signal Name	Output From	Input To
(1)	20	Data Terminal Ready	DTEs	DCEs
(2)	6	Data Set Ready	DCEs	DTEs
(3)	2	Tx Data	Tx DTE	Tx DCE
(3)	3	Receive Data	Rx DCE	Rx DTE
Constant	7	Signal Ground	n/a	n/a

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Macintosh TV: Expansion and Upgrade Q & A

This article answers several questions about the expansion and upgrade possibilities of the Macintosh TV.
This article has been archived and is no longer updated by Apple.
Question: What is the computing performance of Macintosh TV?

Answer: Macintosh TV is targeted at new users and provides entry-level performance similar to that of the Performa 600, or about 15% less than a Macintosh LC 520. Although the Macintosh TV's case is similar to the LC 520's, the internal architecture is the same as the Performa 600 and Macintosh IIvx.

Question: Why is the performance of Macintosh TV less than the Macintosh LC 520, even though the clock speed of the processor is faster?

Answer: As with the Performa 600 and Macintosh IIvx, the bus on the logic board operates at half the speed of the processor. On the Macintosh LC 520 and LC III, the bus operates at the same clock speed as the processor.

Question: Can I upgrade a Macintosh LC 520 to a Macintosh TV?

Answer: There is no upgrade from Macintosh LC 520 to Macintosh TV.

Question: How can I expand the RAM in a Macintosh TV?

Answer: To expand RAM to the maximum 8MB, have an authorized service provider replace the 1MB SIMM with a 4MB SIMM. The SIMM must be a 72-pin design that also works in the LC III.

Question: Does Macintosh TV have a Processor Direct Slot (PDS)?

Answer: The television tuner in Macintosh TV is on a card in a special PDS-like slot on the logic board. There is no other slot for expansion cards. The tuner card can neither be installed in the PDS slot in other Macintosh models, not can other PDS cards be installed into Macintosh TV.

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Macintosh TV: Controls

This article answers several questions about the Macintosh TV's controls and its remote control.
This article has been archived and is no longer updated by Apple.
Question: Can the TV tuner work without the computer being on?

Answer: No. The computer and television share the same power source and video circuitry. You must turn on the computer to access the TV features. (You can use the remote control to turn the computer on.)

Question: What does the remote control do?

Answer: You can use the remote control to:

- Change television stations
- Control volume and mute sound
- Shut down or restart the computer
- Switch between computer and television mode
- Play, pause, fast forward, rewind, or eject an audio CD

Question: Will other remote controls work if I lose my remote control?

Answer: Yes, a standard replacement remote control, available from consumer electronic stores, can be used to control a Macintosh TV. Any remote that can control a Sony television can work with Macintosh TV.

Question: What software controls the television receiver in Macintosh TV?

Answer: The TV Setup Control Panel is used to:

- Automatically enable channels that have valid signal strength
- Turn on closed caption capabilities
- Configure a "hot key" to switch to and from TV mode
- Set a password for switching to TV mode
- Play sound from television or video source in computer mode

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Macintosh TV: Video Q & A

This article answers several questions about the video capabilities of the Macintosh TV.
This article has been archived and is no longer updated by Apple.
Question: Is Macintosh TV considered an AV system?

Answer: Although Macintosh TV includes video-in capabilities, it lacks some AV features, such as speech recognition and GeoPort.

Question: How is Macintosh TV's video different from the video in the Macintosh AV products?

Answer: The Macintosh Quadra 660AV and Quadra 840AV can display video input in a resizeable window on the display. You can see this window while you work with other applications. Macintosh TV's video, on the other hand, takes up the entire display. Although applications can be running in the computer mode while you view video, you can see only the computer or only the video mode at one time.

Question: Do I need a VCR or cable service to watch TV on Macintosh TV?

Answer: No. Macintosh TV includes a cable-ready tuner, along with video input ports. Just connect an antenna to watch TV.

Question: What is the quality of video on Macintosh TV?

Answer: Macintosh TV has the same video-display quality as the Quadra 660AV, at the same resolution (640 x 480). At a viewing distance close to the display, video images may look slightly "pixelated" due to displaying the video at a resolution of 640 x 240 at 16 bits per pixel. Displaying half the lines at twice the bit-depth is called "line doubling." From a normal television viewing distance, the quality is quite good.

Question: Can I capture a video image to use in applications? What about QuickTime movies?

Answer: To capture a screen image, use the Command-Shift-3 key combination. The resulting image can be viewed by TeachText and pasted into any application that supports PICT. Macintosh TV does not support recording of QuickTime video movies.

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Macintosh TV, LC/Performa 550, LC 520: How They Differ

This article provides a quick-reference table of differences among three similar Macintosh models: Macintosh LC 520, Macintosh LC/Performa 550, and Macintosh TV.

These three products share an all-in-one design with 14-inch Trinitron display.

This article has been archived and is no longer updated by Apple.

	LC/Performa 550	LC 520	Macintosh TV
Market	Home	Education	Home & Education
Case color	platinum	platinum	matte black
Clock speed	33 MHz	25 MHz	32 MHz (clock doubled)
FPU Socket	yes	yes	no
Standard RAM	5MB	4MB	5MB
Maximum RAM	36MB	36MB	8MB
VRAM	512K or 1 MB	512K or 768K	512K
Bit depth-Max.	16-bit	16-bit	8-bit
Display colors	32,000	32,000	256
Hard Drive	160MB	80MB or 160MB	160MB
AppleCD 300i	standard	optional	standard
Expansion slot	one	one	none
TV tuner	no	no	yes
Microphone	yes	yes	no
Sound	stereo in & out	mono in, stereo out	mono in, stereo out
Remote control	no	no	yes
Keyboard	included	sold separately	included

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PageMaker 5.0: Faxing From Within the Application (7/94)

I cannot fax from PageMaker 5.0 with Express Modem Fax Sender software. The following symptoms occur whether I'm using Fax Sender software on a GeoPort Telecom Adapter, an Express Modem on a 68K or Power Macintosh system, or on an Express Modem in a PowerBook.

Symptoms:
When I use the fax shortcut (pressing Control and Shift keys while selecting Fax from the File Menu), the following message appears:

"Cannot build printer list. No valid PPD files were found.
Check the 'Printer Descriptions' folder in the System Folder. Continue."

If I select 'Fax Sender' in the Chooser, then try to Fax from the File Menu, the print dialog box appears and hangs when I press the Print button.

If I hold down the option key while selecting Print from the File Menu, the machine hangs.

This article has been archived and is no longer updated by Apple.
Use this workaround when faxing documents from PageMaker 5.0 using Fax Sender software:

1) Use the Fax Sender as you would with any other application. Open the Chooser and select 'Fax Sender'
2) Select 'Fax' from the File Menu and press the 'Setup' button in the print dialog box.
3) The 'Fax Sender Page Setup' dialog box now appears. Make any changes necessary. Press 'OK'
4) The 'Fax Sender' dialog box now appears. Type in the fax receiver's phone number or choose one from the address book.
5) Press 'Send' to transmit the document.

Article Change History:
21 Jul 1994 - Updated article. Included more specific instructions.

Support Information Services
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Full Duplex, Half Duplex, Echoplex Discussion

This article discusses Full Duplex, Half Duplex, and Echoplex as it relates to data communications using modems or terminals.
This article has been archived and is no longer updated by Apple.
Note: Throughout this discussion both terminals and personal computers running terminal emulation software will be referred to as terminals. The term modem denotes any DCE device.

BANDWIDTH

The wires used to connect the average telephone to the American telephone system can be viewed as a river with information barges on it. The river's width is limited and cannot be made wider. Similarly, the telephone wire has a limited frequency bandwidth.

FULL DUPLEX (for modems and other data transmission devices)

A Full duplex modem can simultaneously transmit and receive on a connection. In other words, the river is divided into two channels in which information barges may travel in both directions at the same time. But some maneuvering room is required on either side of both barges to prevent collisions. This is also true of the telephone line; some of the bandwidth is needed to separate the transmit and receive channels. This space is then wasted and cannot be used to carry information. As a result in most full duplex modems have relatively slow data transmission rates.

HALF DUPLEX (for modems and other data transmission devices)

Half duplex modems, on the other hand, use almost the entire bandwidth and so waste very little space. But because there is not then room for two channels, the information may only move one direction at a time. This means that time must be taken after each transmission to "turn around" the line, and extra interface signals are required to control which station is transmitting.

ECHOPLEX

Echoplex is a feature designed into many modems. It enables the modem to reflect characters back to the terminal it serves, even while transmitting them to the phone line (if a phone connection has been made). With echoplex, a user can see whether his computer is communicating to the modem simply by typing a few characters. If the modem has the echoplex feature (Apple modems do), then the modem will return the typed characters to the screen. This tells the user that the data has transferred from the terminal to the modem without error.

TERMINAL FULL AND HALF DUPLEX

Sometimes terminals (and terminal emulator software such as Access III) have options for terminal full-duplex or terminal half-duplex to allow the terminals to support modems both with and without echoplex.

TERMINAL HALF DUPLEX

Terminal half duplex supports non-echoplex modems. This selection on a terminal causes the characters typed to be displayed regardless of whether or not the modem returns the characters.

If terminal half duplex is selected when using an echoplex modem, there will be two of every character typed: one from the terminal's keyboard and one from the modem.

If the modem doesn't have echoplex, it won't echo characters back to the terminal. So the only way the user can see what is being typed is if terminal half duplex is selected.

TERMINAL FULL DUPLEX

Terminal full duplex causes the terminal to display only the characters received from the modem (which may be those the modem has received from a remote modem accross a phone connection as well as those the modem is echoing back to the terminal).

Note: Many people think that selecting terminal full duplex means that full duplex communication will occur across the phone connection, modem-to-modem, but this is not so. Actually the terminal full duplex option is there only to enable the terminal to support an echoplex modem.

Terminal Full Duplex enables the user to check communication between the terminal and the echoplex modem by allowing him to ensure that the characters displayed are the same as those typed.

If terminal full duplex is used with a modem or other device that does not perform echoplex, then the user will not be able to see what is typed because the characters will not be echoed back.

The table below shows the indications that will occur when the wrong terminal duplex selection is made at a terminal.

SYMPTOM	CURE
Characters typed are not displayed with echoplex modem	Modem not functioning or not connected

Characters typed are not displayed with non-echoplex modem	Terminal should be in half duplex
Two of every character typed is displayed	Terminal should be in full duplex because modem is echoplex

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HSU, SUU, SU3.0, Enablers: Component SW Versions (6/94)

The matrix below compares the contents and versions of the Hardware System Update (HSU) versions 2.0 through 2.0.1, Software Utility Update (SUU) 1.0 through 1.0.1, the Enablers Collection 1.0, and System Update Disk v 3.0.

This article has been archived and is no longer updated by Apple.

```
Hardware Software Enablers System
System Update Utilities Update Collection Update
------------- ---------------- ---------- -------
2.0 2.0.1 1.0 1.0.1 1.0 3.0
--- ----- ---- ----- -------- -------

UTILITIES
HDSC Setup 7.2 7.2.2 7.2 7.2.2 ... 7.3.1
Disk First Aid 7.1.1 7.2 7.2 7.2 ... 7.2
MacCheck ... ... 1.0.4 1.0.4 ... ...
SimpleText ... ... ... ... ... 1.1

CONTROL PANELS
Memory 7.1.1 7.1.1 ... ... 7.1.1 7.3
PowerBook Display 1.0.4 1.0.4 ... ... 1.0.4 1.1
PowerBook 7.1.2 7.1.3 ... ... 7.1.1 7.3.1
PowerBook Setup ... ... ... ... ... 7.3.1
Sound 8.0.1 8.0.1 ... ... 7.1.1 8.0.1
Easy Access ... ... ... ... ... 7.2
Express Modem 1.0.4 1.1.2 ... ... ...
AutoRemounter ... 1.2 ... ... 1.0 1.2
Screen ... ... ... ... 1.0 1.0.4
TV Setup ... ... ... ... ... 1.0.1
PC Setup ... ... ... ... ... 1.0.2

EXTENSIONS
Duo Battery Patch ... ... ... ... ... 1.0
Sound Manager 3.0 3.0 ... ... ... ...
HSU 2.0 2.0.1 ... ... ... ...
System Update 3.0 ... ... ... ... ... 3.0
720K Formatter 1.0 1.0 ... ... ... ...
Record Button 1.0 1.0 ... ... ... ...
Express Modem Tool1.0.2 1.1.2 ... ... ...
Caps Lock ... ... ... ... 7.1.2 ...

DESK ACCESSORY
Battery DA ... ... ... ... 7.1.1 7.1.1

ENABLERS
Enabler 131 1.0.2 1.0.3 ... ... ... 1.0.3
Enabler 401 1.0.5 1.0.5 ... ... 1.0.5 1.0.5
Enabler 403 ... ... ... ... ... 1.0.2
Enabler 003 ... ... ... ... 1.0 1.1
Enabler 040 ... ... ... ... 1.0 1.1
Enabler 001 ... ... ... ... 1.0.1 ...
Enabler 111 ... ... ... ... 1.0.1 ...
Enabler 121 ... ... ... ... 1.0 ...
Enabler 201 ... ... ... ... 1.0.1 ...
Enabler 065 ... ... ... ... ... 1.2
Enabler 088 ... ... ... ... ... 1.2
32-bit Enabler ... ... ... ... 1.0.3 ...
PowerBook Duo ... ... ... ... ... 1.0
PowerPC ... ... ... ... ... 1.0.1
PowerPC Upgrade Cd... ... ... ... ... 1.0.1
```

Article Change History:
6 Jun 1994 - Added info on System Update Disk v 3.0 and removed HSU 1.0

information.

Support Information Services
Published Date: Feb 19, 2012

Video Mirroring and PowerLink Presentor Issue (10/93)

Article Created: 20 October 1993

When I purchased E-Machines' PowerLink Presentor there was a Release Note document giving me the latest information not covered in the Owner's Guide. Under Video Mirroring, it stated: "Some user's report problems with Apple's video mirroring feature with Presentor. The problem is caused by a bug in Apple's PowerBook Display control panel software. We recommend that you do not use this feature until you receive updated software from Apple."

Is this a known bug and is Apple sending out new software?

This article has been archived and is no longer updated by Apple.

```
It is reported that E-Machines', a division of SuperMac Technology, latest
software release of PowerLink Presentor version 1.0.2 solves this problem.
We downloaded it from their BBS at 408-541-6190.  You can also look on
AmericaOnline and CompuServe.

To locate a E-Machines' address and phone number, use SuperMac Technology
as a search string.
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Published Date: Feb 19, 2012

Disk Doubler 3.7.7i: System 7 Pro (10/93)

Article Created: 22 October 1993

DiskDoubler version 3.7.7.i comes bundled on Apple external hard drives. Fifth Generation System's DiskDoubler v 3.7.7i compresses files, saving storage space. This article describes a problem with DiskDoubler 3.7.7i and System 7 Pro.

This article has been archived and is no longer updated by Apple.
The only known problem occurs during installation in 24-bit Memory mode. If you restart your computer with the DiskDoubler INIT loading before the new Finder creates its Preferences file, your system will crash. The solution is to start up without extensions, letting the Finder create the preferences file, and then restart so your extensions load.

Published Date: Feb 19, 2012

AppleDesign Powered Speakers: Sound Cuts Out

I am using the AppleDesign Powered Speakers with a Macintosh computer. On some CD audio tracks where there are very soft passages, the sound will cut out. Other third party powered speakers do not cut out like this. I exchanged the speakers and the second set does the same thing.
This article has been archived and is no longer updated by Apple.
There is noise gate circuitry internal to the AppleDesign Powered Speakers that reduces the noise level of the output of the speakers. This noise gate is in place to reduce the amount of noise heard through the speakers while the speakers are just amplifying the sounds from the computer, such as alert beeps. This noise gate turns off the sound to the speakers when the input level (at the computer input jack, located on the AppleDesign Powered Speakers) falls below a set voltage level. This circuitry is only connected to the 1/8" stereo jack (computer Input Jack) and not to the dual phono plugs (CD Stereo Cable Jacks).

The noise level from other sources such as CD players, televisions and compact cassette players should be low enough that the noise gate would not be necessary on the CD Stereo Jack inputs.

Replacement Cable

Using a Y adapter cable from the computer's sound out port to the CD Stereo Cable/RCA Jacks on the speakers will eliminate the sound drop outs, but you will lose out on the noise limiting feature of the noise gate.

You can get a Y adapter cable at Radio Shack and similar electronics stores. As of 7/15/94, the Radio Shack Catalog part numbers for the replacement cables were as follows:
3 ft cable.....42-2475
6 ft cable.....42-2481

Please contact Radio Shack for further information.

Increase the Volume Level

The best way to handle this situation without having to buy any new cables is to turn up the volume in the Sound control panel and use the volume knob on the speakers to control the speakers volume. If you do this the problem of sound drop outs will be eliminated.

The problem occurs on all Power Macintosh computers and Macintosh computers. The sound drops occur in both application programs and when playing audio CD's.

Published Date: Feb 19, 2012

RS232: Modem Eliminator Cables

This article contains the information necessary to produce a cable type modem eliminator. There are also electronic devices called modem eliminators. These devices do not necessarily perform the same function as a modem eliminator cable.
This article has been archived and is no longer updated by Apple.
NOTE: For reasons specific to their applications, some interfaces use other pins than those we discuss here. You should be aware that there are a lot of different pin configurations out there.

Modem eliminator cables are designed to rectify the problems that occur when two RS232 DTEs are connected directly, without intervening DCEs.DTETb.

RS232 was originally designed for DTE to DCE communications.

DTE to DCE cable connections are pin to pin (pin 1 of the DTE is connected straight through to pin 1 on the DCE, 2 to 2, etc.).

However, most devices (except modems) installed locally (e.g., personal computers and printers in the same room) are DTEs, and DTEs won't communicate when connected by a straight through cable.

Here is one reason why: Data Terminal Ready (pin 20) (which tells the DCE that the DTE is online) is an output from the DTE and an input to the DCE. If two DTEs were connected with a straight through cable, the DTR output from the first DTE would go straight to the DTR output of the second DTE. Besides not working, this could also cause problems in the interface electronics.

Similarly, Data Set Ready (pin 6) is an output from the DCE and an input for the DTE. If two DTEs are trying to communicate with a straight through cable, the DSR input from the first DTE would go to the DSR input of the second DTE. Connected like this, neither DTE would output a signal onto the pin, so neither would know if its connected device was online.

Other pins cause similar problems in straight-through DTE connections.

So you can see that the RS232 interfaces of two DTEs are not compatible if connected with a straight-through cable and no intervening DCEs.

A modem eliminator cable simply jumpers signals from the pins of one DTE connector to compatible pins on the other, so that each DTE interface thinks it's talking to a DCE interface. Let's look at a typical signal exchange below.

1. DTE #1 raises DTR on pin 20. The modem eliminator jumpers DTR from pin 20 of DTE #1's connector (a DTE output) to DSR on pin 6 of DTE #2's connector (a DTE input).

We'll assume that DTE #2 was already on, so DTR on pin 20 of its connector was already active and DTE #2 is expecting a DSR from its DCE. DTE #2 sees the DTR from DTE #1 as the expected DSR.

The modem eliminator also jumpers DTR from pin 20 of DTE #2 to pin 6 of DTE #1 so that DTE #1 believes that its DCE is on-line too.

2. The modem eliminator routes TD (Transmit Data) from pin 2 (a DTE output) of each DTE to the opposite connector's RD (Receive Data) on pin 3 (a DTE input).

3. When a DTE wants to transmit, it simply shifts data out onto TD (pin 2) of its connector.

The modem eliminator cable routes the data to the RD on pin 3 of the destination DTE. Of course, in basic full duplex both DTEs may do this at the same time without the need for any other control signals.

HALF DUPLEX
In Half Duplex communications, Request to Send (pin 4), Clear to Send (pin 5), and Data Carrier Detect (properly called Received Line Signal Detect, pin 8) are required to control the direction of transmission. Some modem eliminators have these pins jumpered as well to accomodate local connection of "Half Duplex" DTE devices.

NOTE: When troubleshooting an RS-232 problem, it is always a good idea to check the connectors on the DTE and DCE to find out which signal pins are used. Then read the documentation to determine how they are being used. If it turns out that pins are connected but not used by the device, then those pins should be disconnected.

Apple RS232 Modem Eliminator Cable Pinout

```
PC                          Printer
DB9                          DB25

  1                            4
```

2	2
3	3
4	5&6
5	7
6&8	20
7	8
9	NC

PC DB25	Printer DB25
1	1
2	3
3	2
4	5
5	4
6	8&20
7	7
8&20	6

PC DB 25	Printer DB9 (LW Pro)
1	5
2	2
3	3
4	8
5	7
6	1&4
7	5
8&20	6

PC DB9	Printer DB9
1&4	6
2	3
3	2
5	5
6	1&4
7	8
8	7

Published Date: Feb 19, 2012

Apple Workgroup Server 60 Change

This article describes the changes in the Apple Workgroup Server (AWS) 60 with it's October 1993 product release.
This article has been archived and is no longer updated by Apple.
The October 1993 release of the AWS 60 provides a faster CPU from 20 MHz to 25 MHz. You will see AppleShare 4.0 performance similar to the 20MHz system, however, CPU intensive applications running on the server will be faster. (The benchmark for how much faster will be dependent on those applications.)

Below is a table showing the differences between the two:

	Discontinued AWS 60	AWS 60
CPU:	20 MHz 68040	25 MHz 68040, with FPU
Name:	Apple Workgroup Server 60	Apple Workgroup Server 60
Part Number:	M1780xx/A M1781xx/A M1911Z/A	M1780xx/B M1781xx/B M1911Z/B
Software:	AppleShare 4.0 System 7.1	AppleShare 4.0 System 7.1

Documentation will NOT change. We will add a sticker to the front of the manual notifying customers that the speed has been improved which will differ from their documentation.

Published Date: Feb 19, 2012

Performa: Shut Down Desk Accessory

My Macintosh Performa has a desk accessory named Shut Down in its Apple menu. What does it do?
This article has been archived and is no longer updated by Apple.
The Shut Down desk accessory (DA) allows you to properly shut down your Performa from any application which supports the Apple Menu. You simply open the DA and select Shut Down, instead of switching out of your current application to the Finder, then selecting Shut Down from the Special menu.

The Shut Down DA doesn't disable the normal shutdown method; you can still switch to the Finder and select Shut Down from the Special menu.
Published Date: Feb 19, 2012

PlainTalk: Installation and Plaintalk Disk 5 (10/93)

Article Created: 25 October 1993

When I try to install the PlainTalk software on my Centris/Quadra 660AV or Quadra 840AV, the Installer asks for either the PlainTalk Disk 5 or the Introduction to Speech disk. Neither of these disks were included with the computer.

How do I install PlainTalk?

This article has been archived and is no longer updated by Apple.
The Installer will ask for the PlainTalk Disk 5 or the Introduction to Speech disk if you try to install PlainTalk from the PlainTalk diskettes.

You must install PlainTalk from the System Software diskettes that came with your AV computer. Do NOT attempt to install PlainTalk from the PlainTalk diskettes.

To install PlainTalk, you must perform a custom System Software install. To do this, follow these steps:

1) Boot your Macintosh with the Install Me First diskette.

2) Select a custom installation.

3) Select PlainTalk only, then click Install. Swap diskettes as directed by the software.

This will install all the necessary PlainTalk files without asking for the nonexistent disks.

Published Date: Feb 19, 2012

Newton MessagePad: Be Careful When Pressing Reset Switch

What happens if I press my Newton MessagePad's reset too hard?
This article has been archived and is no longer updated by Apple.
If you press the reset switch too hard, you may damage your MessagePad. Since the Newton MessagePad's reset switch produces no audible or physical response (like a 'click') when you press it, some users may expect some sort of response and press harder than normal.

You should use no more pressure on the reset switch than you use to write on the Newton's touchpad screen.
Published Date: Feb 19, 2012

Apple Color OneScanner: LED Error Flashes Twice (10/93)

Article Created: 26 October 1993

Upon turning on my Apple Color OneScanner the error LED flashes twice. This indicates a lamp error, but replacement of the lamp and logic board does not repair the unit.

This article has been archived and is no longer updated by Apple.
Vendor evaluation of the scanner and 20 optical assemblies determined that the optical assembly can be at fault when the two flashing LED error signal occurs.

Do the following steps:
1 Clean the glass cover assembly
2. Check the lamp holder connection, be sure the label of the florescent lamp faces down into lamp holder
3. If that doesn't solve the problem, then replace the lamp, and finally the optical assembly.

Published Date: Feb 19, 2012

AppleScript: Does AppleMail Support It?

I'm doing some testing and evaluating of Apple Mail that comes with System 7 Pro and System 7.5. I want to automate the moving of mail into different folders on the network. However, the AppleMail application as delivered by Apple is not scriptable. Is this true, and if so will it be scriptable, script aware, or recordable in the future?
This article has been archived and is no longer updated by Apple.
There are two functional areas of scripting being discussed here. Being able to move and sort mail from the PowerTalk Mailbox which is a function of Finder scriptability, and the AppleMail application, which is a text editor with a PowerTalk mail header capability.

AppleMail is not scriptable, script aware, or recordable. AppleMail was never meant to be THE messaging application, it is a bare bones tool. AppleMail as a word processor will probably never attain the scriptability of say, Scriptable Text Editor. In other words, everyone should think of AppleMail as the TeachText of messaging.

If you need a scriptable word processor, then MacWrite Pro, WordPerfect, or Microsoft Word as well as other are all candidates. These three all support AppleScript and PowerTalk mail headers.

The Scriptable Finder can be installed into the System 7 Pro environment, but the capabilities of managing mail through AppleScript are still extremely limited. New Mailbox APIs will be made public to enable development of better managers and filters for the PowerTalk Mailbox.
Published Date: Feb 19, 2012

Apple Installer: "Right Name, But Wrong Disk" Message (3/94)

The Apple Installer application is used for most software that Apple distributes, including System 7. Sometimes installation halts on a specific disk, and it gives an error message saying the disk "has the right name, but it is the wrong disk."

This article has been archived and is no longer updated by Apple.
Check the hard drive to be sure that there is not a folder or file with the same name as one of the disks that you are trying to install. You should check the root level of the hard drive and the desktop for items with identical names to those of the disks the installer will be using.

Inspect the disk for a file moved from its proper location or renamed. Once you move the file back to its correct location and/or properly rename it, installation should run successfully.

This will require verification of file locations using another set of the installation disks, or a file or directory description for each disk. Any installation using the Apple Installer could be an applicable situation, assuming there aren't other factors affecting the suspect disk.

For non-Apple software, you should check with the appropriate vendor. To locate a vendor's address and phone numbers, use the vendor name as a search string.

Article Change History:
8 March 1994 - Added information on checking names of folders and hard drives

Support Information Services
Published Date: Feb 19, 2012

SNA■ps 5250 1.0 and OfficeVision/400 (10/93)

Article Created: 26 October 1993

When using SNA*ps 5250 in OfficeVision/400 (OV/400), and I use the word processing feature, the attributes (underline, and bold) don't work. Also other standard word processing functions like (insert, backspace, paragraph insert, margin ajust) don't exist. The Notes window doesn't scroll. The end of line word wrap doesn't work correctly.

With TokenAccess, I don't have this problem. Is something wrong with my configuration, or do these features in OV/400 simply not work with SNA*ps 5250?

This article has been archived and is no longer updated by Apple.
To support Text Assist, the emulation must support additional structured fields in the SNA data stream. SNA*ps 5250 does not support them so it gets the Notes window in OV/400 as a straight text window. Using InterAxcess or an IBM terminal (3196), the Notes message window does scroll within the total Notes window. The SNA*ps Notes window does not word wrap correctly at the end of the line, it just divides the word into two pieces.
We would assume any other "standard" OV/400 word processing features would not work either.

The reason for not including Text Assist with SNA*ps emulation is the very low use of OV/400 as a word processor, when you can use a Macintosh Word Processing Application rather than the AS/400 resources. There have been marketing discussions about adding Text Assist to the SNA*ps 5250 product but no decision has been made, and no product is available as of October 1993 with a development schedule to include it.

We have advised Macintosh customers to use InterAxcess as their 5250 emulation if Text Assist support is essential. There is no other workaround.

Published Date: Feb 19, 2012

Publish-It Easy: Use LW Driver 7.2 or 7.1.2

I'm having trouble printing from Publish-It Easy. I am able to print text files properly, but files with graphics and more complicated page layouts give the PostScript error "flushed by LaserWriter, no current point, offending command current point."

Are PostScript errors like this generated by the application, the driver, or the printer?
This article has been archived and is no longer updated by Apple.
Apple contacted TimeWorks, Inc. who develops Publish-It Easy and they are aware of the "no current point" PostScript errors.

Publish-It Easy is only compatible with PostScript Level I print drivers. You're most likely using LaserWriter driver 8.0 or 8.1.1. Apple recommends using LaserWriter driver 7.2 or 7.1.2 instead.
Published Date: Feb 19, 2012

Composite Sync on Green: Which Apple Computers Have It?

This article provides information about which Apple computers have a Composite Sync on Green and which models do not.
This article has been archived and is no longer updated by Apple.
Sync on green refers to the practice of sending the video synchronization signal along with the green color signal. Previously released Macintosh models with built-in video have supported sync on green.

For computers without sync on green, a third party adapter is necessary if you wish to connect a third party monitor which requires sync on green.

No Sync On Green

LC III
LC 475
LC 575
LC 550
Performa 550/560/575/577/578
Performa 460/466/467
Performa 475/476
Quadra 605
Quadra 840AV
Quadra 660AV
Macintosh 630 family
All portable computers (also no blanking)
Duo Dock (also no blanking)
Duo Dock II (programmable *)
All Power Macintosh models

Sync On Green

Quadra 700 (programmable *)
Quadra 800
Quadra 900 (programmable *)
Quadra 950 (programmable *)
Centris 610
Centris 650
Quadra 610
Quadra 650

Note: The programmable feature refers to the fact that the computer automatically disables the sync on green signal whenever the sense lines detect that a VGA monitor is connected.

Questions and Answers

Question: Why is Sync on Green not supported on all computers?

Answer:1. Many users have had problems with sync on green when hooking up third- party monitors; mainly multi-frequency displays from the PC world. Since these displays are increasingly being used with Macintosh, the lack of sync on green increases the number and compatibility of displays available.

2. The current popular video standards, VGA and VESA, dictate using separate sync signals, not sync on the green video.

3. No current Apple monitors support sync on green.

4. The new monitors with power-saving modes (monitors which can be put to sleep, thus consuming less energy) typically use the separate sync lines to signal the monitor to enter a low power state. Since separate sync lines run to the monitor anyway, sync on green does not make sense.

5. The ability to strip sync off the green video adds cost and complexity to a monitor.

Question: My monitor will not work without sync on green, how can I get

Answer: Unfortunately, there is very little you can do about this problem. This seems to affect only one or two major Macintosh display manufacturers, and affects only some of their displays.

The cable or adapter doesn't pass separate sync lines to the monitor

This is easily fixed by replacing/altering the cable or adapter. Companies such as Griffin Communications provide adapters to provide the sync on green capability.

PLEASE NOTE: One of the main reasons cables and adapters don't pass through the separate sync lines is because sync on green is there in the first place. Since the sync signal on green video causes some monitors to display a greenish tint when they see (and therefore use) the separate sync signals, simply not passing the separate sync signals to the monitor cures the problem. This workaround will fix the problem on a majority of the monitors available.

Published Date: Feb 19, 2012

Newton MessagePad: No Support For LaserWriter Select 310

Will the Newton MessagePad print to a LaserWriter Select 310?
This article has been archived and is no longer updated by Apple.
No. The only printers supported by the MessagePad are those that you can explicitly choose. The available options are the Personal LaserWriter 300, the StyleWriter II, and Networkable PostScript Apple laser printers.
Published Date: Feb 19, 2012

AppleWorks: Justified Indented Paragraphs

In a Word Processor document, if you format a paragraph with left justification and tabs for the paragraph indentation and then rejustify the paragraph with full justification, the left and right margins stay the same, but the paragraph indentation may change or vary. AppleWorks appears to justify the spaces in the paragraph indentation.
This article has been archived and is no longer updated by Apple.
The only workaround is a long process that should be performed only when the document is completed. If a paragraph shows the problem:

1. Separate the first line of that paragraph: move the cursor to the end of the line and press RETURN.

2. Format the line with spaces: place spaces in between words, bringing the line's margins in line with the paragraph's margins.

Published Date: Feb 19, 2012

ImageWriter DIP Switch Settings (2/95)

This article contains the DIP switch settings for the ImageWriter printer.

This article has been archived and is no longer updated by Apple.

FACTORY DEFAULT

SW2 1 2 3 4
. Open Open Closed Closed

SW1 1 2 3 4 5 6 7 8
. Closed Closed Closed Closed Closed Open Closed Closed

CHARACTER SETS

English (US) -> SW1-1:Open, SW1-2:Off, SW1-3:Off
English (UK) -> SW1-1:Closed, SW1-2:Closed, SW1-3:Closed
Italian -> SW1-1:Closed, SW1-2:Open, SW1-3:Open
German -> SW1-1:Open, SW1-2:Open, SW1-3:Closed
Swedish -> SW1-1:Closed, SW1-2:Open, SW1-3:Closed
French -> SW1-1:Open, SW1-2:Closed, SW1-3:Closed
Spanish -> SW1-1:Closed, SW1-2:Closed, SW1-3:Closed

PAGE LENGTH
---
72 Line -> SW1-4:Closed
66 Line -> SW1-4:Open

EIGHTH DATA (PARITY) BIT

Ignore -> SW1-5:Closed
Recognize -> SW1-5:Open

NOTE:
For parity explanation search on HTS and SEVEN OR EIGHT BIT ASCII)

CHARACTER PITCH

Pica (10 characters per inch) -> SW1-6:Open, SW1-7:Open
Elite (12 characters per inch) -> SW1-6:Closed, SW1-7:Open
Ultracondensed (17 characters) -> SW1-6:Open, SW1-7:Closed
Elite proportional -> SW1-6:Closed, SW1-7:Closed

ADD LINE FEED AFTER CARRIAGE RETURN
---

yes -> SW1-8:Open
no -> SW1-8:Closed

BPS (BAUD) RATE
---

300 -> SW2-1:Open, SW2-2:Open

1200 -> SW2-1:Closed, SW2-2:Open
2400 -> SW2-1:Open, SW2-2:Closed
9600 -> SW2-1:Closed, SW2-2:Closed

FLOW CONTROL PROTOCOL

XON/XOFF -> SW2-3:Closed
DTR -> SW2-3:Open

NOTE:
For flow control explanation search on HTS and FLOW CONTROL.

EXPLANATIONS

ADD LINE FEED AFTER CARRIAGE RETURN is used when the device sending data to the printer is not already sending a carriage return after every line of data (check application software on computer or interface PCB DIP switch positions). If the device is already sending a carriage return after every line, setting this switch will cause the ImageWriter to generate a line feed, resulting in two carriage returns after every line.

Article Change History:
09 Feb 1995 - Added factory default settings.
21 Dec 1994 - Corrected switch settings.

Support Information Services
Published Date: Feb 19, 2012

ABS Tech Note: AS02 AppleSearch Q&A

This technical note discusses the most common questions asked about AppleSearch.
This article has been archived and is no longer updated by Apple.
Question: I've got everything set up properly, but when I try to log on to AppleSearch, I'm told "Sorry. This user name refused." What's wrong?

Answer: The server does not have program linking enabled for that user, so the client cannot connect to the server.

Question: When I restart AppleSearch on my Apple Workgroup Server 95, I get the message. "Can't run AppleSearch. Please reinstall." I tried reinstalling and it still wouldn't start. What is wrong?

Answer: AppleSearch creates some temporary files when it runs in the "Temporary Files" folder. If the Macintosh crashes, when you restart this folder gets moved into the Trash so you have the option of recovering files if needed (this isn't needed with AppleSearch). Unfortunately, under A/UX on the AWS 95, if a file or folder exists in the trash, it can't be created again until the trash is empty, which causes AppleSearch to abort.

The solution on the AWS 95 is to empty the trash, not to re-install. The error message is incorrect under A/UX because it is making an assumption it is running on Mac OS.

Question: I wrote our XTND that accepts all file types, (type transparency flags in the FTYP resource all set on). Our XTND works fine if the MacLinkPlus AppleSearch XTND is not installed. If the MacLinkPlus AppleSearch IS installed, our XTND is NEVER called. Why am I having this issue?

Answer: If both the DataViz translator and another translator say they are able to translate the file, then AppleSearch will use the DataViz translator. AppleSearch should only call your translator if the file was in a format not supported by DataViz. If you only want to search on the information returned by your translator, then you should throw out the MacLinkPlus AppleSearch file. By doing this, you will no longer be able to search on any text in the document that is not returned by your translator. This is because XTND only allows one translator to read a particular file, and since the server has no way to ask a user which translator should be used when there are multiple translators for the same file we always try to prefer the DataViz translators.

Question: I'm having trouble with my scheduled reporters not being run. Why?

Answer: The usual reason why scheduled searches don't run is because the client has been disconnected from the server for some reason. Even if you quit the AppleSearch client software, the Macintosh remains attached to the server. If you disconnect the client, or if the client or server machines are restarted, that connection is lost and needs to be re-initialized.

Question: AppleSearch is forcing my indexes onto the root directory of my AWS 95. How do I move them to some other location?

Answer: AppleSearch 1.0 forces the "AppleSearch Indexes" folder to be at the root of HFS partition. This is fine for HFS disks, but for the UFS disks there are times when you want to move them (if, for instance, /users is a separate disk and you want the indexes there). There is a workaround you can use:

1. Start AppleSearch and create the information source indexes in /
2. Quit AppleSearch
3. Move the index to wherever you want them to exist.
4. Restart AppleSearch. It will ask you where the indexes are, and then remember the new location.
5. Index as usual.

Published Date: Feb 19, 2012

ABS Tech Note: AS03 Search on AWS95 In Non-Root Accounts

This article describes the possibility of installing AppleSearch and operating it in a non-root account.
This article has been archived and is no longer updated by Apple.
While AppleSearch is designed to be operated as part of the server environment on the Apple Workgroup Server (AWS) 95 using the super-user account, it is possible to install AppleSearch and operate it in a non-root account. While this isn't a recommended configuration, it is sometimes useful for testing purposes.

To do this, AppleSearch must be installed using the Installer while logged onto the Workgroup Server as root as you would for a normal install. Then execute the command:

mkdir /AppleSearch\\ Indexes

from CommandShell (note: command is case sensitive, and make sure you use the slash and backslash correctly).

When that directory is created, you can then use the chown command to assign ownership to whatever account will be using AppleSearch. You will then be able to use AppleSearch from that account, although AppleSearch will only be able to index files that can be read by that account.

Finally, if your account or the root account are using a custom System Folder, remember to copy the Claris Folder from root's System Folder to your own so that AppleSearch will have access to the XTND translators.

Note: because AppleShare Pro does not work under any account except root on the AWS 95, you will need to use filesharing for your permissions and access instead.
Published Date: Feb 19, 2012

Macintosh AV Systems: Connecting to Large TVs

This article describes how to connect a large-screen television monitor to a Macintosh AV system.
This article has been archived and is no longer updated by Apple.
1. Connect an RCA-type cable from the NTSC video-out port to the TV monitor that you wish to use.

2. In the Monitors control panel, click the Options button, then:
- choose Display video on Television.
- choose either NTSC or PAL
- choose flicker-free format

3. Click OK.

The video-out will then change from the normal display to the TV Monitor that is connected to the computer.
Published Date: Feb 19, 2012

Multimedia Kit for Macintosh: No PMMU Required

The press release for the Multimedia Kit for Macintosh says that a PMMU is required. Why is that? The AppleCD 300 and the AppleDesign speakers individually don't require it.

This article has been archived and is no longer updated by Apple.

The press release is in error: a PMMU is not needed. The kit should work with any 68020-class systems with 5MB RAM or more.

Published Date: Feb 19, 2012

System 7 Pro 7.1.1: Mailbox Delivery Frequency (12/93)

Article Revised/Updated: 13 December 1993

Mail sent via mail-enabled applications is copied to the Outbasket. The document is then sent to the destination device. If the destination device isn't available, how often does it attempt to deliver mail? How much time must pass before it returns mail as undeliverable?

Mail connection settings in the "I'm At╔" dialog box may delay mail delivery. Does a disabled connection prolong the time PowerTalk will wait for the destination device?

This article has been archived and is no longer updated by Apple.
The mailbox attempts delivery approximately every 15 minutes. For server-less mail, the messages are never considered undeliverable. You have to manually delete items in your Outbasket to get rid of them.

Since server-less mail is never considered undeliverable it doesn't matter if the connection is disabled or not. It won't affect the time PowerTalk will wait for the destination device.

Direct AppleTalk mail and mail sent through PMSAMs will attempt delivery indefinitely. Server-based mail is returned as soon as the mail is determined undeliverable or after five days.

Mail with Waiting status in the out-tray isn't deleted automatically. Mail with Done status is deleted after aging the number of days indicated in Mailbox preferences. The only exception is when mail is sent using a PMSAM and the PMSAM is removed from the key chain. In this situation all mail sent to the PMSAM is deleted along with the PMSAM.

Article Change History:
13 December 1993 - Added information about direct AppleTalk mail sent through PMSAMs.
23 November 1993 - changed title

Published Date: Feb 19, 2012

System 7 Pro: IPM Bin Folder (10/93)

I'm using System 7 Pro on a Macintosh IIfx with 20MB of RAM. A folder called "IPM Bin" is inside the PowerTalk Data folder, which is inside the System Folder. This folder occupies approximately 7MB. It contains many files that have numbers for names. A few of these files are as large as 1.2MB. I believe the files in the IPM Bin folder use more disk space as the computer sits idle.

This article has been archived and is no longer updated by Apple.
The IPM Bin folder is where all the incoming and outgoing messages are saved. (Without a server the messages must be stored locally.) If you start deleting items in the Out Tray and/or In Tray you'll see that the files with the number names will be deleted.

Although the computer may be sitting idle, it can be receiving mail which would create a new file in the IPM Bin folder. This accounts for an increase in disk space used.

Published Date: Feb 19, 2012

ABS Tech Note: AWS12 Retrospect on AWS 95 Q&A

This technical note answers some common questions on the Retrospect program that runs on the Apple Workgroup Server (AWS) 95.
This article has been archived and is no longer updated by Apple.
Question: Why are my DAT tapes write-locked?
Answer: The AWS 95 DAT drive requires MRS (Media Recognition System) format DAT tapes. Standard audio-quality DAT tapes are not MRS format, so the tape drive shows them as read-only, which allows an AWS 95 to read previously written tapes but not to modify them.

Question: Should a StorageSet be placed on a Macintosh Filesystem or a UNIX Filesystem?
Answer: It is recommended that the Macintosh File StorageSet be located on a Macintosh partition rather than on a UNIX partition. This is because when Retrospect updates a StorageSet, it appends the backup data to the file's data fork, then goes back and writes the catalog data to the file's resource fork. Retrospect displays the message "Updating Catalog" in the status window while this latter stage is happening.

Because Macintosh File StorageSets are created in AppleSingle format, the UNIX file system wants to write the resource fork contiguously. Which requires it to move all the backup data in the data fork. This causes delays, sometimes long enough to make people think Retrospect is hung.

Question: Retrospect isn't backing up my AppleShare.PDS file. Why?
Answer: Certain files are excluded from backups with Retrospect 2.0. These include AppleShare.PDS, Desktop files and the VM Storage file. None of them can usefully be restored because they're part of the active system and a restored copy of the file is useless, and they will usually cause compare errors in the log during the verify cycle. Because of this, and because it makes no sense to waste backup media on them, it was decided to exclude them.
Published Date: Feb 19, 2012

ABS Tech Note: AWS14 Tune-up Install of AppleShare Pro (6/94)

This article describes the tune-up installation of AppleShare Pro on an Apple Workgroup Server (AWS) 95.

This article has been archived and is no longer updated by Apple.
The AWS 95 Tune-Up 1.0 and the AWS 95 software upgrade will not update the AppleShare Pro File Server and Admin programs if the customer has changed the location of these programs on the root volume; for example, they may have changed the name of the " Applications" folder or placed the programs in sub-folders. This will result in an incomplete installation of the Tune-Up software.

Unfortunately, the Installer will not advise the customer that an error has occurred, since it was designed to update systems without AppleShare Pro, that is, database configurations.

The customer can complete the installation by "dragging" the File Server and Admin programs (inside the AppleShare Pro folder) from Disk 2 of the AWS 95 Tune-Up 1.0 or the upgrade CD to the folder(s) they have created or re-named. These programs must not be running when the new copies are installed. There is no need to install the File Server extension by hand, unless the extension itself has been re-named, which shouldn't occur.

If you're unsure whether or not your AppleShare has been updated properly, check the release number in the Get Info dialog for each application. Both AppleShare File Server and AppleShare Admin should be release 1.0.1. If they aren't, install updated copies from the Tune-Up disks by hand. Upgrade customers are upgraded to version 1.1

Support Information Services

Published Date: Feb 19, 2012

ABS Tech Note: DAL33 IN Clause Limitations

This article describes IN clause limitations.
This article has been archived and is no longer updated by Apple.
The following code shows a limitation in DAL (all releases through 1.4) when using the SQL IN verb in a DAL procedure. As DAL is currently implemented, you can't pass a parameter to a DAL procedure and use it in the IN clause:

```
procedure testit(inclause)
argument varchar inclause;
{
print inclause;

op;
select * from emp where empno in (inclause);
printall;

}
```

and the following calling sequence:

```
testit('3476,1556')
```

this should resolve itself to:

```
select * from emp where empno in (3476, 1556);
```

which is a legal SQL statement (and works). Trying to do this from a procedure, however, returns the error:

ORA-01722: invalid number.

under A/UX (oracle 7.0), and

```
*Error: incompatible operands for operator (-401)
"network", line 1 : DSNT408I SQLCODE = -401, ERROR: THE OPERANDS OF AN
ARITHMETIC OR COMPARISON OPERATION ARE NOT COMPARABLE
DSNT415I SQLERRP = DSNXODTI SQL PROCEDURE DETECTING ERROR
```

under DB2.

This limitation will be removed in a future version of DAL.

The following information is for Apple Internal & Support Providers Only
Published Date: Feb 19, 2012

ABS Tech Note: DAL34 SHARED READONLY SELECT coredump

This article describes SHARED READONLY SELECT coredump.
This article has been archived and is no longer updated by Apple.
If you open a database in DAL (in all releases through 1.4) for SHARED READONLY, and then attempt to SELECT data from a non-existent table, the DAL server will coredump. This causes the client to stop responding.

At this time, there is no patch or workaround for this issue. It will be resolved in a future release of DAL.

This is an example of the issue:

```
% idal
Apple Computer Interactive DAL (A/UX)
Execution begins...
DAL version 1.4b5 07/24/93 ORACLE7
Execution Completed Successfully(161)
begin> open oracle dbms.
Execution begins...
Execution Completed Successfully(220)
begin> open database "oracle" as user "scott" password "tiger" for shared
readonly.
Execution begins...
Execution Completed Successfully(360)
begin> select * from foobar; printall.
Execution begins...
Segmentation fault (core dumped)
%
```

Published Date: Feb 19, 2012

AWS 95 Server: Setting Up For ORACLE7 for A/UX

This technical information was provided by Oracle. This document was not written by Apple or tested for accuracy, but it's included because we feel you might find it useful.
This article has been archived and is no longer updated by Apple.

```
Setting Up An AWS 95 Server For ORACLE7 for A/UX                  Desktop
Victor Grigorieff
September 20, 1993                                       Apple A/UX 3.0.1

Revised 10/28/93 by Victor Grigorieff


This bulletin explains how to configure an Apple Workgroup Server (AWS) 95
(running A/UX 3.0.1) for use with the product "ORACLE7 Server for A/UX
version 7.0". This document contains information which details steps to
follow before installing any Oracle software.

Note:  This document describes the installation process for A/UX 3.0.1.
      The process will most likely be different with future versions of
      A/UX.

This document does not assume that the reader has UNIX experience, but it
does assume that the reader has basic Macintosh experience.

Conventions used in this Bulletin
---------------------------------

 * Directories:  On the Macintosh, people are familiar with folders.
                 Every Macintosh (running the English language) has by
                 default a folder named "System Folder".  A file can be
                 referenced by a full path description.  An example path
                 on a Macintosh would be: "Macintosh HD:Word Processing:My
                 Letter".  This path would refer to a file named "My
                 Letter", in the "Word Processing" folder of the disk
                 named "Macintosh HD".

                 Under A/UX's Macintosh environment, the hard disk is
                 named "/".  Under A/UX, and example path would look
                 like: "/:Word Processing:My Letter"

                 On UNIX, people are familiar with directories.
                 All directories are inside the root directory, "/".
                 An example path would be "/users/oracle/dbs
                 /initSAMP.ora".

 * Userid:       A userid is an account on a UNIX computer.  To log into
                 a UNIX computer, you must provide a user name and the
                 appropriate password.  Once you have logged into a UNIX
                 computer, you have access to all of the programs and files
                 to which that user id has access.

                 The super user, "root", has access to all files and
                 programs.  Be very careful when you are logged in as that
                 user.

 * Processes:    A process is a running image of an executable program.
                 On the AWS 95, you can run 300 processes at once by
                 default.  Before you log in, A/UX already has several
                 processes active, performing system functions.

                 When you run the CommandShell application (or telnet to
                 the AWS 95), a shell process is started to accept the
                 commands you type. If you run a UNIX program, a separate
                 process is created for that program, and will run until
```

it exits or is killed.

On UNIX systems, some programs and files are accessible only by certain users. In general, a process runs with the same permissions as the user who created it. If you set the setuid bit on a program, no matter who runs the program, the process will run with the same permissions as the owner of the program. Some Oracle programs must run with the setuid bit set.

Sometimes processes on UNIX computers will get into a state where they will never exit on their own, and will need to be killed by the system administrator.

* Shell: A shell is a program that looks at the commands you type, and performs the appropriate tasks. There are several shells available on A/UX, each with different features. The root user uses the Bourne shell (/bin/sh). All of the other users use the C-shell (/bin/csh). The different shells have different command languages, so some commands will work in one shell and not others. Each user has a default shell which A/UX will run when they log in.

  The shell is run each time you bring up a new window in the CommandShell application.

* Arguments an argument is an option that you can specify at the time you invoke a UNIX command that affects the way that command behaves. When you read the description of a UNIX command, it will list the various options available. If you were interested in the -a, -b, and -c options, you could use the command "some_command -a -b -c" or "some_command -abc".

* Environment An environment is a set of variables and their values. You can view the current environment with the command 'env'. From time to time, you will need to set environment variables to have different values.

* Path A path is a list of directories where UNIX will look for an executable program. Any command which is not a shell command will be looked for in each of the directories in the path. People usually add the directory which contains the oracle programs to their path to have access to the oracle tools.

* TextEditor On UNIX computers, you will often have the need to edit text files. People who are familiar with UNIX tend to prefer 'vi' which is a standard UNIX text editor. People who are familiar with the Macintosh tend to use the Macintosh-based "TextEditor" from the Macintosh environment of the AWS 95. Text Editor is located in "/:Applications" and behaves much like TeachText, except you can edit multiple documents at a time.

  You may log in to the console of the AWS 95, and simply double-click on a text file to bring up TextEditor to edit that file.

* Commando The term Commando refers to the way A/UX brings up a dialog box with a Macintosh interface to common UNIX commands. You do not need to know anything about Commando except that it is there, and can make your life a lot easier. You must be logged into the Macintosh

```
                    environment of the AWS 95 for this option to be
                    available.  You can also bring up the Commando interface
                    from within the CommandShell by typing a command, and
                    hitting command-K instead of enter.


The Workgroup Server 95
-----------------------

The Apple Workgroup Server 95 (AWS 95) is a Macintosh Quadra 950 with
special hardware additions, and an enhanced version of the UNIX operating
system, A/UX 3.0.1.

The AWS 95 has a PDS (Processor Direct Slot) card on its main logic board.  This
card provides faster access to the main memory by using a static RAM cache.
The PDS card also provides two extra SCSI buses which are capable of DMA
(Direct Memory Access).  These two extra SCSI buses are significantly
faster than the buses on the main logic board of the computer, and should be used
for the drives that contain the database files.

A/UX 3.0.1 is a mix of System V release 2 UNIX, and the Macintosh System
Software.  When the computer first boots, it reads a Macintosh Partition of
the boot disk, and loads the standard Macintosh operating system.  A/UX
3.0.1 is then launched by a program called "A/UX Startup". The "A/UX
Startup" application unloads the Macintosh operating system and loads in
the UNIX operating system.  This process is usually automated by placing an
alias to the "A/UX Startup" program into the "Startup Items" folder of the
System Folder on the Macintosh Partition.

Once the AWS 95 is started under A/UX, there will be a dialog box to log
in. When A/UX is first installed, you can log in with the username 'root'
with no password.  Once you have logged in, the AWS will look like a normal
Macintosh.  You can then run normal Macintosh applications, including
Oracle tools that can connect to the UNIX-based database.

When you are logged in to the console (actually sitting at the computer) and
using the AWS 95's Macintosh environment, the AWS is allocating UNIX memory
to run the Macintosh environment.  You can adjust the amount of memory
allocated to this finder environment by adjusting the Virtual Memory size,
under the Memory Control Panel.  When logged in as root, choose "Control
Panels" from the Apple menu (the picture of the apple in the upper-left
corner of the screen).  Then you can double-click on the Memory icon.  You
will see a setting called "After Logout" which has arrows to change the
number.  By default this is set at 16 Megabytes.  If you do not intend to
run large applications in the Macintosh environment of the AWS, then you can
safely set the size down to 8 Megabytes.

The AWS follows this chain of events when it starts up.

       AWS 95 is powered off.

                 |    ( User turns key to the right, or hits the
                 V      power key on the keyboard)

       AWS 95 has started up from the MacPartition,
         and is running Macintosh System 7 software.

                 |    ( User runs "A/UX Startup" program,
                 V      or A/UX Startup aliased in Startup Items folder)

       AWS 95 is running UNIX.
         * Remote users can log in with telnet.
         * Oracle databases may be started if configured to do so.

                 |    ( User logs into console of the AWS 95 by entering
```

```
                V      UNIX userid and password - root is the superuser)

        AWS 95 is running Macintosh Finder under A/UX
          *  User can now run Macintosh applications, like Oracle Tools.
          *  User can now insert and mount CD-ROM disks, allowing her/him
             to run the A/UX Installer from the ORACLE7 CD Install.
          *  The AWS is now running like it should be for day-to-day use.

                |    ( User chooses Logout from the Special menu )
                V

        AWS 95 is still running UNIX, but memory used by the Macintosh
          environment has been freed, allowing more memory to be used
          by other services, like the Oracle database(s).

         | ( User chooses   | ( *WARNING -- this is an emergency measure:
         |   Shut Down from |    User turns key to the left.
         |   Special menu)  |     This forces powerdown of the AWS 95.
         |                  |     If it still does not power down, try
         | This is normal.  |     hitting button with the triangle on it.
         |                  |
         V                  V

        AWS 95 is powered down.


Installing A/UX on the AWS 95
-----------------------------

A/UX is usually installed on the AWS 95 when it arrives from Apple.  You
MUST install another option before you can successfully install the Oracle7
Server for A/UX.

To Install A/UX:
 *  Power down the AWS 95.
 *  Insert the floppy disk labelled "Apple Workgroup Server 95
    Installation Boot Disk"
 *  Insert the CD-ROM disk labelled
    "System Software Installer Database Service Environment"
 *  Power up the AWS 95.

An A/UX installation consists of 3 parts:
 *  Disk Setup
 *  MacPartion A/UX Startup Files
 *  A/UX Software Setup

 You will want to do custom installs on Disk Setup and A/UX Software
 Setup.  You can do an Easy Install of the Macintosh System Software
 Setup.


 **  Disk Setup
     ----------
     You must partition each of your hard disks for use with A/UX.
     There are several kinds of partitions, and each partition of a disk
       must have a "Slice Number" assigned to it.

     These are the types of slices, and their common uses:

     * MacPartition
       This is a small portion of the startup disk (4 Megabytes) that
       holds a small System Folder.  Don't worry about making this
       partion any larger, as it only needs to be 4 MB to startup A/UX.

       *** When you log into A/UX to run the Macintosh environment,
```

```
  *** A different System Folder is used.  If you want to use any
  *** system extensions on your AWS 95's Macintosh environment,
  *** you need to place them in /:mac:sys:System Folder.

* Root (Slice 0)
  Has the UNIX operating system -- must be present to start A/UX.
  If this file system is "dirty", A/UX will not start.

* Swap (Slice 1)
  This is a partition which makes up swap space.  The UNIX
  kernel (name for the core of the UNIX operating system) uses
  swap space to complement the physical memory on the computer.
  A/UX can move processes from physical memory (RAM) to disk (swap)
  to make room for other processes.  NEVER try to put a filesystem on
  a swap partition.

    *** Note: Shared memory cannot be swapped out of main memory
              The ORACLE7 SGA uses shared memory.  This is discussed
              in greater detail in part 2 of this bulletin.

* Usr (Slice 2)
  This is a UNIX filesystem which can be mounted on a directory, and
  used for UNIX files.  When you create a Usr slice using the program
  "Apple HD SC Setup", it automatically puts a BSD 4.2 filesystem
  on the partition (which is the equivalent of running newfs).

* Free (Slice 3 or higher)
  This is a partition with no filesystem on it.  It cannot be mounted
  unless a filesystem is built on it using newfs (BSD 4.2) or
  mkfs (System V)

  A/UX supports two kinds of filesystems-- BSD 4.2 and System V.
  It is more convenient to use BSD 4.2 filesystems, because they
  support longer filenames.  BSD 4.2 filesystems are the default.

* Database Partition
  This is a partition of the disk with no filesystem on it.  You can
  configure the A/UX kernel to allow the ORACLE7 database to write
  directly to database partitions.  Using raw database partitions
  can provide better performance, as the rdbms can bypass the UNIX
  file buffers.  The drawback is that you also bypass the convenient
  mechanisms for backing up these partitions.  Backing up raw
  partitions is more complex than backing up UNIX filesystems.

  *** Warning:  Raw database partitions are more difficult to back
  ***           up, and require familiarity with UNIX administration.

You can choose a custom partitioning scheme that best suits your
needs.  On a computer with a single 1 Gigabyte hard disk, you might
choose the following partition scheme:

Note:  1 MB is 1 Megabyte, which is 1024K.  If you are trying to
       figure out how many megabytes are available on a partition,
       remember to divide by 1024 (NOT 1000).  A partition with
       1,000,000 K is actually only 976 MB.  This becomes important
       when you are adding datafiles to the Oracle database.

Mac Driver         16 K   (This is required)
MacPartition        4 MB
Swap (Slice 1)     50 MB
Root (Slice 0)    120 MB
Usr  (Slice 2)    825 MB

In this scheme, the database files and executables will be placed on
the  UNIX file system on slice 2.  This leaves the A/UX operating
```

system on its own slice 0. It is a very good idea to keep the database on a separate filesystem from the operating system. If the Server ever crashes while the rdbms is running, having the rdbms on a separate filesystem makes the server more likely to start up properly.

Also note in this scheme we did not use Raw database partitions.

In the process of partitioning disks, it is a good idea to keep a notebook where you write down all the information for every slice of every hard disk.

The AWS 95 has 4 separate SCSI buses. For each hard disk and tape drive, it is important to know the bus number and the SCSI ID. Below is a listing of the scsi buses.

```
    Bus                          ID
    ---------------------        --
    Internal main logic board    1
    External main logic board    2
  * Internal Cache Card          3   (This is the primary bus)
  * External Cache Card          4   (Good place for CD-ROM and HD's)
```

  * Indicates that the bus is significantly faster. These buses are connected to the cache card in the AWS 95. These buses are capable of DMA (Direct Memory Access). The Fast external port is the 5th slot from the bottom of the computer. The Slow bus is the 25-pin connector on the right side of the back of the computer, on the edge.

It is important to know the bus and SCSI ID of your hard disks so you can configure your system to use those disks. A slice of a hard disk is referenced by a file in the /dev/dsk directory.

/dev/dsk/cX0Yd0sZ is the generic format for a slice, where:
```
       X   refers to the bus number, and
       Y   refers to the SCSI id, and
       Z   refers to the slice number.
```

Examples:
```
/dev/dsk/c300d0s2  (Usr slice 2, on SCSI id 0 of fast internal bus)
/dev/dsk/c401d0s2  (Usr slice 2, on SCSI id 1 of fast external bus)
/dev/dsk/c302d0s4  (Raw partition 4, on SCSI id 2, of fast internal)
```

You will need this information when you write the file /etc/fstab, which is necessary to access more than the default root filesystem. This information is also necessary if you intend to use raw database partitions.

** MacPartition A/UX Startup Files

The default Easy Install options for the MacPartition A/UX Startup Files are fine.

** A/UX Software Install

You ** MUST ** perform a CUSTOM install of A/UX to enable the options which are REQUIRED for Oracle7 Server for A/UX

It is a good idea to install at least all of the following options:

  * Core A/UX System

```
        * More UNIX Utilities
        * Networking Capability
        * Network Server Capability
        * Manual Pages
        * Basic C Programming
        * Debugging and Version
        * Extended C Programming

     If you like, you can install every option, and they do fit
     comfortably in a partition that is 120 MB.
-------------------------------------------------------------------------------


Post Installation Tasks
-----------------------

  * Once the install is complete, the computer will restart, and the CD
    will be ejected.  The computer will boot up to a point where it prompts
    you to log in.

  * Log in with the userid root.
    YOU MUST BE ROOT TO PERFORM THE NEXT SET OF TASKS.

  * Choose "Control Panels" from the Apple Menu, and double-click on the
    "General Controls" control panel.  Set the date and time and close the
    control panel.

    *** It is important to have the date and time set properly before you
    *** run Oracle databases.

  * Filesystem Setup:

    You need to set up your computer to mount the filesystems that were
    created when you partitioned the hard disks.  When an A/UX computer
    boots up, it attempts to mount any filesystems that are listed in the
    /etc/fstab file.  Initially, the fstab file has one entry:

    /dev/dsk/c300d0s0       /       ignore  rw      1 0

    The first three columns are the ones which are important:

    /dev/dsk/c300d0s0  This is the disk device file to be mounted.  This
                       particular entry refers to Slice 0 of SCSI ID 0 of
                       SCSI bus 3, which is the fast internal bus.
                       (See the Disk Setup section above for more info.

    /                  This describes where to mount the filesystem.  In
                       this case, the slice is being mounted as the root
                       of the filesystem.  Other directories could be used
                       as well, like "/data, "/oracle", or "/u1".

    ignore             This is the type of filesystem to be mounted.

                     *  ignore means that the device should not be mounted
                        ignore is used for the / partition, as the fstab
                        file itself is on the / partition, so the /
                        partition must already be mounted if the file is
                        being read.  ignore is useful as a placeholder in
                        the file.

                   ***  4.2 means that the filesystem is the default BSD
                        4.2 file system created by either newfs, Apple HD
                        SC Setup, or the A/UX Install process.

                        *** The Oracle software requires 4.2 filesystems,
```

```
                    *** as the names of some files exceed the limits of
                    *** System V (5.2) filesystems.

                 *  5.2 means that the filesystem is a System V
                    filesystem.  A/UX computers do not normally use
                    these.

                 *  nfs means that the filesystem is actually on an NFS
                    server.  NFS is the Network File Service, which
                    allows computers to mount filesystems which are on
                    other computers that are acting as NFS servers.

rw               This specifies a readable and writable filesystem,
                 which is what you want.

1 0              These parameters affect the checking and backing up
                 of the filesystem, and generally do not need to be
                 changed.
```

You will need to add an entry for each filesystem other than '/' that you intend to use. Before you mount a filesystem, you need to choose a directory to mount the filesystem on.

Example of setting up a filesystem

It is convenient to make directories in / which follow a consistent naming scheme. For the first filesystem, you could call it 'u1', or any other name you come up with. The name is not important, as long as you use a consistent naming convention.

```
*** Note: DO NOT MOUNT FILESYSTEMS on the directory called " Shared
***       Data" because the Oracle database will not be able to handle
***       directories with the spaces in their names.
```

While logged in to the console of the AWS 95 in the Macintosh environment, you could double-click on the '/' disk icon, and then choose "New Folder" from the File menu. You could then type in the name for the new directory, like 'u1'. At this point you will have created a directory on which you can mount a filesystem.

Then you need to remember what disk file corresponds to the filesystem you want to mount. /dev/dsk/c300d0s2 would be the Usr slice 2 of the hard disk at SCSI ID 0 on bus 3. The filesystem is probably a BSD 4.2 filesystem (this is discussed above), so the filesystem type is 4.2.

You would then add the following line to the file and save the file.

```
/dev/dsk/c300d0s2       /u1     4.2     rw      1 0
```

You can use the A/UX command '/etc/fsentry' to automate the editing of the fstab file. If you type the command from the UNIX prompt, it will ask you a few questions. If you double-click on the fsentry icon, you will be presented with a Commando dialog box with your options. In either case, fsentry will add a line to the /etc/fstab file, and mount the newly entered filesystem.

At the UNIX prompt, type the following command:

df -B (The -B must be a capital 'B')

You should see output like this:

```
Filesystem        kbytes    used   avail %used  Mounted on
```

```
/dev/dsk/c0d0s0   140519  119247   14246   89%  /
```

This means that you have only one filesystem mounted. It is mounted on /, and it is almost full (89%).

To mount any filesystems you added to the /etc/fstab file, use the following command:

```
mount -a
```

If you see nothing happen that means that it completed successfully, and that all filesystems listed in the /etc/fstab file are mounted. If errors reported, you may have made an error identifying a slice of a disk, or entered a mount point that is not an available directory.

Now the 'df -B' should list several filesystems.

```
Filesystem        kbytes    used   avail %used  Mounted on
/dev/dsk/c0d0s0   140519  119247   14246   89%  /
/dev/dsk/c300d0s  637015      12  637003    1%  /u1
```

In this case, the / filesystem is almost full, and does not have enough room to install an Oracle database. The filesystem mounted on /u1 has over 600 megabytes available, and would be a good place to install the Oracle database. When you run the A/UX Installer to install the database on the server, make sure you are installing in a directory which is in a filesystem with enough available space. In this case, I could make a directory called oracle in /u1, and install the database there.

Note: The sample Oracle installation requires 60 megabytes of space.

* UNIX kernel configuration to enable networking:

If you intend to use TCP/IP, you must configure the UNIX kernel to do so.

If you are only using SQL*Net AppleTalk (and not TCP/IP), you do not need to reconfigure the UNIX kernel, and you could skip this section.

Before you attempt this, you need to make sure that no one else is using the computer, and that you have the following information:

```
  * IP address  ( A series of 4 numbers, separated by periods (.) that
                  identifies the computer on the network.  Also called
                  an Internet address.  This unique number is assigned
                  by your network administrator, and must not be used
                  by any other computer on the network. An example
                  address would be 128.20.2.17. )
  * Hostname    ( A name for the computer on the network.  This is
                  different from the "Macintosh Name" in the "Sharing
                  Setup" control panel.  Hostnames cannot have
                  punctuation characters in them.  Example hostnames
                  would be "squid", "aws95", or "saleserver". )
  * Domain name ( On larger networks, domains may be defined.  Most
                  universities, government agencies, and larger
                  companies are on the Internet.  This large network
                  is divided into domains. Example domain names would
                  be "us.oracle.com" or "cs.some_college.edu".  It is
                  useful to know this information, but it is not
                  required.
                  *** Note: This has nothing to do with AppleTalk
                      Zones.)
  * Subnet Mask ( A series of 4 numbers, separated by periods (.) that
                  tells the computer how to broadcast information to
```

```
                    the network.  Your network administrator should give
                    you this information, as an error in this parameter
                    can cause problems for your computer and others on
                    the network.  The most common masks are 255.255.0.0
                    and 255.255.255.0.  It is extremely rare that a
                    digit in the mask is anything but 255 or 0. )
  * NIS Domain  ( Your site may use NIS (Network Information
                    Services), previously known as yp (Yellow Pages).
                    This is not required, and will cause problems if not
                    properly configured. NIS allows your computer to ask
                    servers on the network for help resolving symbolic
                    names, delivering electronic mail, and other similar
                    tasks.
                    *** Warning:  If you configure your computer to use
                        NIS and a ypserver is not present on your
                        network, your computer WILL NOT BOOT.  If this
                        happens, you will have to rename /etc/ypbind to
                        disable yp.

Once you have this information (and have it written down in your log),
you are ready to run the following command:

  newconfig bnet

newconfig will ask you several questions.  You give it answers based
on the information gathered from your network administrator.  In
general, when you are asked "Do you want this computer to be an NIS
client?", you will answer NO.  This avoids the problem described in
the warning above.

When newconfig finishes a few minutes later, you should restart the
AWS 95 immediately.

Now the A/UX computer has a properly installed and configured operating
system, and is ready for an Oracle Installation.
```

Published Date: Feb 19, 2012

PowerCD: Available in Two Colors?

Does the PowerCD come in two colors?
This article has been archived and is no longer updated by Apple.
There original strategy had two colors available for both NTSC and PAL. The Gray was for the business and education channels and the Blue for the consumer. The Blue is no longer available. In Apple USA, model HOO14ll/A, which was Blue, changed to H0014LL/B, which is Gray. After the color change, the only difference between the business and consumer channel models were the CDs that come with the PowerCD.
Published Date: Feb 19, 2012

ImageWriter PROBLEM/CURE: Prints Garbage After 1/4 Page

This article has been archived and is no longer updated by Apple.

PROBLEM DESCRIPTION: ImageWriter prints OK during Self Test. When a Macintosh is used with certain software, the first several lines also print OK, but after about a quarter of a page is printed, the ImageWriter pauses, and then prints garbage.

CAUSE: The application may be using DTR handshaking flow control protocol (for more infor search on HTS and FLOW CONTROL). If so, it needs pin 20 DTR from the IW to be connected to pin 7 on the Mac.

CURE: Check the cable for 5 pins. If it doesn't have 5 pins, chances are DTR from the IW is not connected to the Mac so the application doesn't know when the IW's print buffer has filled. If the cable doesn't have 5 pins, obtain cable P/N 590-0169. Also confirm that IW DIP switch SW2-3 is open to select DTR handshake. If problem still not found, search on ImageWriter General Troubleshooting.

Published Date: Feb 19, 2012

Macintosh AV Systems: Gamma Correction for Television Use

This article describes how to get better color reproduction when connecting a Power Macintosh AV computer to a television.
This article has been archived and is no longer updated by Apple.
Some discoloration can occur because televisions have marginal purity specifications, compared to computers. You can see some improvement by correctly setting the gamma setting. Here's how:

1. Open the Monitors control panel.
2. While holding down the keyboard's Option key, click the control panel's Options button.
3. Gamma settings will appear. Select the one for television, and the color should improve.

Gamma correction is used to match the computer color tables to the monitor or television set it is connected to. This is necessary because all monitors and television sets do not reproduce color identically.

Remember that the gamma setting for televisions is a "best guess gamma" because the gamma varies significantly from one television to another.
Published Date: Feb 19, 2012

SIMMs: Double-Sided vs. Composite

This article clarifies the difference between composite SIMMs and double-sided SIMMs.
This article has been archived and is no longer updated by Apple.

Composite SIMMs

A composite SIMM uses lower-density components to construct a single bank of memory. An example would be a 16MB SIMM that uses 4MB components to construct one or two banks of memory. A non-composite 16MB SIMM uses 16MB components to construct one bank of memory. If a SIMM uses lower-density components to make up a bank of memory, it is a composite SIMM -- and is not recommended nor supported by Apple.

It has always been Apple's position that composite SIMMs are, by design, incompatible with all Macintosh systems.

Double-sided SIMMs

The double-sided SIMMs available for use in the newer Macintosh systems are not the same thing. A double-sided SIMM consists of two separate banks of memory using the correct density components for each bank. An example would be a double-sided 8MB SIMM, which uses 4MB components to construct two separate banks of 4MB each. These SIMMs can be used in Quadra and Centris systems, because the design of the logic board allows each SIMM slot to contain two banks of memory, not just one as in previous systems. If a bank of memory is to contain 4MB, the components for that bank should be 4MB. If the bank is to contain 16MB, the components that make up that bank must be 16MB.

Published Date: Feb 19, 2012

Macintosh: Using the Serial Switch Control Panel

I'm using Serial Switch v1.1a1 on my Quadra 900. I'd like to use it with my Quadra 840AV as well, but I get the message "Cannot be used with this Macintosh".
This article has been archived and is no longer updated by Apple.

What Serial Switch Is For

There are few situations where the Serial Switch is required. Those programs that don't use the I/O ToolBox routines, but instead directly address the I/O hardware (contrary to Apple's programming recommendations) may have compatibility problems with these IOP-equipped systems.

Because there's no way to bypass the IOP that controls the SWIM and ADB, applications that address that hardware must be modified to work on the Macintosh IIfx, Quadra 900, or Quadra 950.

Some History

This control panel was originally called the Macintosh IIfx Serial Switch 1.0. It was revised and renamed Serial Switch, to reflect that it can also be used with the Quadra 900 and 950. This newer version of the Serial Switch hasn't been as widely distributed as the previous version because most of the third-party incompatibilities have long since been corrected. But since there are still third parties, most notably MIDI developers, who wish to use their own serial drivers, Apple provides the switch to developers to distribute with their applications should their applications require it.

Which Macintosh Models Can Use It

The Serial Switch control panel is designed for systems that contain intelligent I/O processors (IOPs). Only the Macintosh IIfx, Quadra 900, and Quadra 950 have IOPs on the ports for the floppy disk, ADB, and serial I/O. These ASICs feature a built-in microprocessor, DMA controller, timer, and external Static RAM (SRAM), used to off-load floppy disk, ADB, modem, and printer port interrupts. If you use Serial Switch on a Macintosh that has no IOP, you will see the error message you report.

Using Serial Switch Version 1.1

The current version of Serial Switch is 1.1. After launching it, you will see "ver 1.1a1" in the top right corner of the window.

The control panel has two modes:

- Faster. Use this mode when using the IOP.
- Compatible. Enables developer's code to address the SCC hardware directly, bypassing the IOP.

After changing the mode, restart the system to have it take effect.

Where to Get It

You can get the Serial Switch control panel from:

- The MIDI Manager Tools Disk
- The E.T.O. (Essential Tools and Objects) CD-ROM that is sent to developers on a subscription basis
- Apple Software Licensing

Remember, the Serial Switch is still sometimes referred to as the "Macintosh IIfx Serial Switch"; however, regardless of the name, version 1.1 will work on some Quadras too.
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Macintosh TV: If You Forget Your Password

If you create a password to lock out the TV mode of your Macintosh TV, and then forget the password, here's what to do.
This article has been archived and is no longer updated by Apple.

1. Locate the file named "TV Preferences" inside the system folder and drag it into the Trash.
2. Restart your Macintosh TV.
3. After the computer starts up, the TV Setup control panel will create a new "TV Preferences" file.
4. Set up the channels, name them, and create a new password if you wish.

Published Date: Feb 19, 2012

MacTCP 1.1.1 and Hebrew (11/93)

I'm unable to configure MacTCP 1.1.1 when using the Hebrew version of System 6.0.7. When I pull up the MacTCP Control Panel, the numeric fields are black and do not accept entry of configuration information.

Is this a known problem?

This article has been archived and is no longer updated by Apple.
We've duplicated the problem you reported with the Hebrew Operating System (OS) and believe to have found the workaround.

After you've installed both the Network Software Installer and MacTCP on your Macintosh running Hebrew 6.0.7, prior to configuring MacTCP you'll need to do the following:

1) Via the Hebrew Interface System Control Panels device, select left-to-right.

2) Select the Roman Script Manager (click on the Hebrew "Star" and the Roman "Diamond" will appear in its place).

After configuring your Operating System in this fashion, you should then be able to configure MacTCP.

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ImageWriter: Continously Prints "U"s During Self Test

PROBLEM DESCRIPTION:The ImageWriter continuously prints the character "U" when print is initiated by Self Test.

CAUSE: Possible software problem or malfunctioning power supply regulator transistor.

This article has been archived and is no longer updated by Apple.
CURE: 1. Power off IW, disconnect it from the computer, then press form feed while you turn it back on. This should cause the printer to perform its SELF TEST (a standalone printout of character sets). If it is a software problem, the power on reinitialization will cure it and the SELF TEST printout will occur. If it's a hardware problem Us will be printed during the SELF TEST. If the latter is the case, go to step 2.

2. Replace transistor assembly 970-0082. If problem is still not found, search on ImageWriter General Troubleshooting.

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PowerBook: Using with LCD Projection Panels

Are there any special requirements to use a projection device from a PowerBook with external video support?
This article has been archived and is no longer updated by Apple.
Most PowerBook models provide a VGA compatible external video port or an adapter to allow the connection of a VGA style display. If the projection unit accepts a VGA signal then there should be no problem using it with the PowerBook model of choice.

Check with the vendor of the projection device to ensure it will function as expected with your particular PowerBook model.

Published Date: Feb 19, 2012

Problem with A/UX "lpr" Queue (11/93)

Under A/UX 3.0.2, I did the following:

"lpr -PLP1 /spoolin/long" and got error message " lpr: /spoolin/long: copy file is too large". How can I fix this? I need to spool files bigger then 800K, and that seems to be a limit set in A/UX somewhere? Has this got to do with ulimit?

This article has been archived and is no longer updated by Apple.
The problem you are seeing is not caused by ulimit. The lpr spooling system has a default maximum "copy size" of 1000 blocks. This is the largest file size it can print.

This can be increased by modifying the /etc/printcap file. All that is needed is to add a field to the entry for the queue where the large print jobs will be printed.

The field to be added is "mx". If the value of "mx" is set to 0 (zero), then it sets the size to unlimited.

For example,

```
lp|at|AppleTalk|postscript|PostScript:\\
:mx=0:\\
:lp=/dev/null:\\
:if=/usr/spool/lpd/AppleTalk/ifilter:\\
:of=/usr/spool/lpd/AppleTalk/ofilter:\\
:nf=/usr/spool/lpd/AppleTalk/nfilter:\\
:sd=/usr/spool/lpd/AppleTalk:
```

Please note that the second line says

```
:mx=0:\\
```

The lpr system will create temporary files before sending them to the printer, if you set the value of "mx" to 0 (zero), you could run out of disk space on the volume where the spool directory is located.

There are a couple of options to prevent this from happening.

One option is to create the file "minfree" in each spool directory for a queue set as unlimited.

The file minfree in each spool directory contains the number of disk blocks to leave free so that the line printer queue won't completely fill the disk. You can edit the minfree file with your favorite text editor.

The file should only contain one line with the number of blocks, for example:

```
5000
```

What this will do is prevent the lpr spool system from creating temporary files if the disk had less than 5000 blocks free.

The other option is to use the "-s" flag of the lpr command. This flag causes symbolic links to be created in the spooler directories instead of copies of the files to be printed. By creating the symbolic links, this option conserves the file-system space available.

```
$ lpr -s -PLP1 ...
```

For more information consult the A/UX manual page for lpr(1).

TA30484_Problem_with_AUX_lpr_Queue_(1193)_(TIL13831).pdf

Published Date: Feb 19, 2012

ImageWriter PROBLEM/CURE: Head "Buzzes" in Home Position

This article has been archived and is no longer updated by Apple.

PROBLEM DESCRIPTION: When the ImageWriter is turned on, the power light comes on and the carriage moves to the left, but the select light doesn't come on. The head may vibrate or "buzz" in the home position. Pushing the select button has no effect. Closer inspection shows that the carriage cannot be moved as far to the left as it should be.

CAUSE: The detector plate located below the front guide rail on the left side of the ImageWriter is misaligned or malfunctioning.

CURE: Inspect the detector plate. If it is not straight, adjust it and clean it. You will need a small Phillips screwdriver to do this. If the adjustment does not help, remove the top cover of the ImageWriter and replace the sensor assembly. If problem still not found, search on ImageWriter General Troubleshooting.

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ImageWriter PROBLEM/CURE: No Select Light

This article has been archived and is no longer updated by Apple.

BEFORE YOU START: Familiarize yourself with the ImageWriter Technical Procedures. Be sure to follow proper ESD procedures.

#1 - PROBLEM DESCRIPTION: When powered on the ImageWriter SEL lamp does not come on.

CAUSE: The magnetic cover interlock may be malfunctioning.

CURE: Check the magnet on the cover and the switch in the printer body to see that they are installed securely and aligned properly. If they are, replace the switch.

#2 - PROBLEM DESCRIPTION: The ImageWriter prints one line, returns to the left margin and the printer deselects. If the Select switch is pressed the printer prints another line, returns to the left and the printer deselects again.

CURE: The right margin switch is causing this problem. Replace the right margin switch.

If the problem is still not found, search on ImageWriter General Troubleshooting.

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Newton MessagePad: Date Book Error -48009

When I open a Date Book appointment, my Newton MessagePad displays a -48009 error. What causes this and how can I recover from it?
This article has been archived and is no longer updated by Apple.
This error occurred in version 1.0, 1.02, and 1.03 of the Newton Operating System. You should upgrade to version 1.05 of the Newton Operating System to permanently correct this problem.

These articles can help you locate the software update mentioned here:

* "Where To Find Apple Software Updates" Lists online services for "free" Apple software updates.

* "Obtaining Apple Product Support in the USA" Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech. Info. Library.

If you are using a Newton Operating System older that 1.05, your Date Book appointment has become corrupted. Whenever this appointment is opened, your MessagePad displays the -48009 error message. If you receive this error message, you must reset your MessagePad.

To cure this problem, you must delete the appointment. Since the error occurs when you view the slip for the damaged appointment, you can't delete the appointment within the Date Book application. Try these steps to delete the appointment:

1) Select a word in the text of the corrupted appointment that you can use with the Find command.

2) Create a new note in the Notepad with the word selected above.

3) Tap the Find button, enter the selected word, then tap All. The Find command will search through the Name File, Notepad, and Date Book. When the find is complete, an overview window will appear with all the found items.

4) If any of the items found are outside the Date Book, such as a Name File or Note Pad entry, go to each item and remove the selected word. Do this for all items except for the note created in step 2.

5) Repeat steps 3 & 4 until the overview only shows the note created in step 2 and the corrupted Date Book item.

6) Tap on the envelope button in the bottom right corner of the screen and choose Delete. This will delete the sample note and the corrupted Date Book item.

7) Repeat the above steps for other Date Book items that are producing the error.
Published Date: Feb 19, 2012

Newton MessagePad: Installing System Updates

How do I install system updates onto my Newton MessagePad?
This article has been archived and is no longer updated by Apple.
Apple is currently distributing system updates for your Newton MessagePad by the following methods:

If you have the Newton Connection Kit for Macintosh or Windows, you can:

1) Call the Newton Fulfillment Center at 1-800-242-3374 and order a floppy disk containing the system update. You can then use your Newton Connection Kit to download the system update from your personal computer to your Newton.

2) Download the system update from on-line services, such as Compuserve, America Online and others. You can then use your Newton Connection Kit to download the system update from your personal computer to your Newton.

If you do not have the Newton Connection Kit, you can call the Newton Fulfillment Center at 1-800-242-3374 and order the system update on a PCMCIA card. You can then transfer the system update from the PCMCIA card to your Newton.

The instructions below work with Newton System Update 1.05. Earlier system updates had other distribution methods and slightly different installation instructions.

Installing by Connection Kit

To install a system update with the Newton Connection Kit, follow these steps:

1) Connect your personal computer to your Newton. (See your Newton Connection Kit manual for instructions.)

2) Open the Newton Connection Kit on your personal computer.

3) Synchronize and back up the information in your Newton.

NOTE: You must back up the information in your Newton BEFORE installing the update. Installing System Update 1.05 will erase all information in your Newton. Earlier system updates did not erase your Newton's information.

4) Click the Install Package icon on your personal computer.

5) Select the system update in the dialog box, then click OK. For System Update 1.05, select "Update 1.05 for Connection."

6) On your Newton, open the Extras drawer and tap Connection.

7) Tap the type of connection you are making between your Newton and your personal computer, then tap Connect

8) Your Newton will ask if you have backed up your information, because installing the update will erase your information. If you have made a backup, tap OK.

9) Your Newton will ask you to confirm that you have backed up your information. Tap OK. The update is now installed. Once the update is installed, your Newton will restart.

10) Follow the instructions that ask you to tap several Xs on your Newton screen.

11) On your personal computer, click OK in the dialog box telling you that installation was successful.

12) Click Restore. In the dialog box that appears, locate and select your backup file to restore your information.

You've now installed the system update and restored the information in your Newton. The version number at the bottom of your Newton's Prefs should now be 1.05.

NOTE: Be sure to reset the date and time in the Date and Time preferences.

Installing by PCMCIA Card

To install a system update with a PCMCIA card, follow these steps:

1) Back up the information in your Newton using Newton Connection or a Memory Card. (See your Newton MessagePad or Newton Connection Kit documentation for instructions.)

NOTE: You must back up the information in your Newton BEFORE installing the update. Installing System Update 1.05 will erase all information in your Newton. Earlier system updates did not erase your Newton's information.

2) Turn off your MessagePad and remove your current PCMCIA card.

3) Insert the PCMCIA card which contains the system update and close the card lock switch. The system update will automatically download.

4) Your Newton will ask if you have backed up your information. If you have made a backup, tap OK. If not, back up your information as described above and begin this procedure again.

5) Newton asks you to confirm that you have backed up your information. Tap OK. The system update is installed. Once the update is installed, your Newton will restart.

6) Follow the instructions that ask you tap several Xs on your Newton screen.

7) Restore your information either from your card or from the Newton Connection Kit.

You've now installed the system update and restored the information in your Newton. The version number at the bottom of your Newton's Prefs should now be 1.05.

NOTE: Be sure to reset the date and time in the Date and Time preferences.

If have any problems following these instructions, you can call 1-800-871-6633 or 1-800-SOS APPL (767-2775) for assistance.
Published Date: Feb 19, 2012

Newton MessagePad: Dialing Options and Personal Prefs

When I dial a local telephone number, the area code is shown in the call slip. I checked the Local Dialing Information dialog box and the local area code is set properly.

Also, when I dial a long distance number, a "1" is not appended to the telephone number.

Why is this?
This article has been archived and is no longer updated by Apple.
Both of these situations are caused by settings in your MessagePad's Extras drawer. To ensure that telephone numbers are properly displayed, follow these steps:

1) Tap the Time Zones button in the Extras drawer, then tap your location on the world map.

2) Tap the I'm Here button, then tap X to close the window.

Also, be sure that the Country blank in the Personal and Locale Preferences is set to your home country.
Published Date: Feb 19, 2012

Imagewriter I/II: Minimum Margins (5/94)

What are the minimum margins for the ImageWriter I? I am printing from a Macintosh Plus to an ImageWriter I in landscape mode and the top .50" of each page is being clipped. I need 1/8" margins.

This article has been archived and is no longer updated by Apple.
Here are the minimum margins for the ImageWriter I or ImageWriter II printer:

Top and Bottom - .25"
Left and Right - .50"

With these margins the maximum printable line is 7.5-in. not 8-in. as the manual states.

NOTE: These margins depend on correct placement of the paper on the
platen, and may only be achieved if the application supports it.

With regard to the image being clipped, this is because the margins have been set to be less than the minimum. Some applications will warn the user that they have set the margins to less than the minimum, but some will not and the resulting "clippage" will occur.

Article Change History:
4 May 1994 - Added maximum pritable area.

Support Information Services

Published Date: Feb 19, 2012

LaserWriter Select 310: With PC Windows 3.1

I am trying to get a LaserWriter Select 310 to work with a PC running Windows v3.1. I have run through the installation for Windows and everything seems to be fine. However, when a job is sent to the printer, the LaserWriter Select just flashes its green light and nothing happens.
This article has been archived and is no longer updated by Apple.
With the green light flashing, it seems that the printer is not receiving the CTRL-D (EOF) character that it needs to print the job. The CTRL-D should be taken care of by the Windows PostScript driver. The only other things to check are:

- The parallel cable is bad. There have confirmed reports of bad parallel cables "disabling" the printer. You might want to try at least a couple different cables.

- Incorrect installation of the software. A very important step is installing the Windows Postscript driver from Windows Disk #6 (this is step 10 and 11 in Chapter 1, page 9 of the LaserWriter Select 310 User's Guide). The latest PostScript driver version is at least v3.53.

- A bad or incorrectly configured parallel interface card. Apple has heard that some cards have configuration DIP switches or jumpers.

- A bad printer I/O board. Does the test page print? Does the printer work if connected to a Macintosh?

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Performa Computers: Display Support (7/94)

This article lists the various monitors supported by Performa computers which will drive an external monitor.

This article has been archived and is no longer updated by Apple.
The Performa 410 supports:

Apple Basic Color Display: (256K/8-bit, .5MB/thousands)
Macintosh Monochrome RGB Displays: (256K/4-bit, 0.5MB/8-bit)
Macintosh 13 & 14-inch Displays: (256K/4-bit, 0.5MB/8-bit)

The Performa 460, 466, & 467 supports:

Apple Basic Color Display: (0.5MB/8bit, 768K/thousands)
Macintosh Monochrome Displays: (0.5MB/8bit, 768K/8-bit)
Macintosh 13 & 14-inch RGB Displays: (0.5MB/8bit, 768K/thousands)
Portrait Display: (0.5MB/4-bit, 768K/8-bit)
Macintosh 16-inch RGB Display: (0.5MB/8bit, 768K/8-bit)

The Performa 475 & 476 supports:

Apple Basic Color Display: (0.5MB/8-bit, 1MB/thousands)
Macintosh Monochrome Displays: (0.5MB/8-bit, 1MB/8-bit)
Macintosh 13 & 14-inch RGB Displays: (0.5MB/8-bit, 1MB/thousands)
Portrait Display: (0.5MB/4-bit, 1MB/8-bit)
Macintosh 16-inch RGB Display: (0.5MB/8-bit, 1MB/thousands)
19-inch landscape: (third party): (0.5MB/4-bit, 1MB/8-bit)
Macintosh 21-inch RGB Display: (0.5MB/4-bit, 1MB/8-bit)

Article Change History:
06 Jul 1994 - Reviewed for technical accuracy, revised topic to more accurately reflect the contents of the article.
Published Date: Feb 19, 2012

Newton MessagePad: Erasing a Corrupted PCMCIA Card

This article discusses how to erase a corrupted PCMCIA card.
This article has been archived and is no longer updated by Apple.
If you have a corrupted PCMCIA card that your Newton MessagePad that won't recognize follow these steps:

1) Remove the PCMCIA card from your MessagePad and restart the MessagePad.

2) Tap the Extras button, then tap Prefs.

3) Insert the corrupted PCMCIA card into your MessagePad. A dialog will appear which asks if you want to erase your card. Tap Yes.

Your card should now work correctly.
Published Date: Feb 19, 2012

At Ease 2.0: GrayShare 1.0

I have a ten Macintosh LC 520 computers running At Ease 2.0. Four StyleWriter II printers are connected directly to four of the LC 520 computers and they print fine. Other users trying to print (to a StyleWriter II) through GrayShare software, version 1.0 cannot find the printer in the Chooser.

If I turn off At Ease 2.0, and startup into the Finder, remote users can print to the StyleWriter II with GrayShare just fine.
This article has been archived and is no longer updated by Apple.
Install version 1.1 or later of Printer Share (GrayShare's system extension), and everything should work fine.

Apple was able to reproduce the problem and determined that it's a problem with the 1.0 version of Printer Share.
Published Date: Feb 19, 2012

Super Serial Card: DIP Switch Settings

This article has been archived and is no longer updated by Apple.

"PRINTER MODE"

MODE SELECTION
Printer Mode -> SW1-5:Off, SW1-6:On
SIC P8 Emulation Mode -> SW1-5:On, SW1-6:Off
SIC P8A Emulation Mode -> SW1-5:Off, SW1-6:Off

SPECIAL SWITCHES
Interrupts OFF -> SW2-6:Off
Interrupts On -> SW2-6:On
Normal Clear to Send -> SW1-7:On, SW2-7:Off
Second Clear to Send -> SW1-7:Off, SW2-7:On

BPS (BAUD) RATE
undefined -> SW1-1:On, SW1-2:On, SW1-3:On, SW1-4:On
50 -> SW1-1:On, SW1-2:On, SW1-3:On, SW1-4:Off
75 -> SW1-1:On, SW1-2:On, SW1-3:Off, SW1-4:On
109.92 (110) -> SW1-1:On, SW1-2:On, SW1-3:Off, SW1-4:Off
134.58 (135) -> SW1-1:Off, SW1-2:Off, SW1-3:On, SW1-4:On
150 -> SW1-1:On, SW1-2:Off, SW1-3:On, SW1-4:Off
300 -> SW1-1:On, SW1-2:Off, SW1-3:Off, SW1-4:On
600 -> SW1-1:On, SW1-2:Off, SW1-3:Off, SW1-4:Off
1200 -> SW1-1:Off, SW1-2:On, SW1-3:On, SW1-4:On
1800 -> SW1-1:Off, SW1-2:On, SW1-3:On, SW1-4:Off
2400 -> SW1-1:Off, SW1-2:On, SW1-3:Off, SW1-4:On
3600 -> SW1-1:Off, SW1-2:On, SW1-3:Off, SW1-4:Off
4800 -> SW1-1:Off, SW1-2:Off, SW1-3:On, SW1-4:On
7200 -> SW1-1:Off, SW1-2:Off, SW1-3:On, SW1-4:Off
9600 -> SW1-1:Off, SW1-2:Off, SW1-3:Off, SW1-4:On
19200 -> SW1-1:Off, SW1-2:Off, SW1-3:Off, SW1-4:Off

DATA FORMAT
8 data, 1 stop -> SW2-1:On
8 data, 2 stop -> SW2-1:Off

LINE WIDTH/VIDEO
40/video on -> SW2-3:On, SW2-4:On
72/video off -> SW2-3:On, SW2-4:Off
80/video off -> SW2-3:Off, SW2-4:On
132/video off -> SW2-3:Off, SW2-4:Off

DELAY AFTER <CR> OUT
none -> SW2-2:Off
32ns -> SW2-2:On

GEN <LF> AFTER <CR>
yes -> SW2-5:On
no -> SW2-5:Off

"COMMUNICATIONS MODE"
MODE SELECTION
Communications Mode -> SW1-5:On, SW1-6:On

SPECIAL SWITCHES
Interrupts OFF -> SW2-6:Off
Interrupts On -> SW2-6:On
RS-232-C Signals -> SW1-7:On, SW2-7:Off

BPS RATE (same as above in "PRINTER MODE")

DATA FORMAT
8 data, 1 stop -> SW2-1:On, SW2-2:On
7 data, 1 stop -> SW2-1:On, SW2-2:Off
8 data, 2 stop -> SW2-1:Off, SW2-2:On
7 data, 2 stop -> SW2-1:Off, SW2-2:Off

PARITY (for info search on ASCII and PARITY)
none -> SW2-4:On
odd -> SW2-3:On, SW2-4:Off
even -> SW2-3:Off, SW2-4:Off

GEN <LF> AFTER <CR> (same as above in "PRINTER MODE")

Published Date: Feb 19, 2012

Centris, Quadra 610 and 660AV: Internal Power Connector Pinouts

This article supplies the internal pinouts (for the internal cord connecting the power supply to the logic board) for four Macintosh systems:

* Centris 610
* Quadra 610
* Centris 660AV
* Quadra 660AV

(The Quadra 650 and Centris 650 have a different power supply.)

This article has been archived and is no longer updated by Apple.
The power supply provides three connectors: one for the hard drive, one for the CD-ROM drive, and one for the logic board.

Logic Board Connector

The pinouts for the 10-pin power connector that plugs into the logic board at J30 are (the location of Pin 1 and 10 are marked on the logic board):

1 - +5V
2 - +5V
3 - +5V
4 - Gnd
5 - Gnd
6 - N/C
7 - Gnd
8 - Gnd
9 - +12V
10 - -12V

Hard Drive and CD-ROM Drive

The pinouts for the power connector for the hard drive and CD-ROM drive:

1 - +12V
2 - Gnd
3 - Gnd
4 - +5V

Published Date: Feb 19, 2012

LaserWriter Pro: Smudging with Duplex Printing 11/93

When attempting duplex printing the top inch of the second side is smudged.

This article has been archived and is no longer updated by Apple.
The cause of the smudging on the second side is due to the top edge paper curl that the paper gets on the first pass. This curling is due to humidity, type of paper used and the heat of fusing.

One work around is to print the second side by:

1) Use "Page Setup" to flip the image both vertically and horizontally
2) Use the Multipurpose Tray
3) Feed the trail edge first into the printer

By flipping the image vertically and horizontally in the "Page Setup" menu, the original trailing edge of the page is fed into the printer rather than the original leading edge.

Published Date: Feb 19, 2012

AWS 95, Retrospect, and ADIC Autochanger (11/94)

ADIC 1200C autochanger makes a DAT Jukebox, will this work on an Apple Workgroup Server (AWS) 95 with Retrospect for backup purposes?

This article has been archived and is no longer updated by Apple.
This device is fully supported by Retrospect 2.0 and later. We talked with ADIC and Dantz to verify that this drive would work with an AWS 95, and both companies confirmed that it would work. The only thing you need to know is that when they configure the drive and autoloader, is to set the SCSI ID of the tape drive to 0, 1, 2, or 3 and then set the SCSI ID of the autoloader to 3 ID's higher (3, 4, 5, or 6) in relation to the tape drive SCSI ID.

Potential Problems

Opening the door to the autoloader (inserting tape cartridges) takes the mechanism off the SCSI bus. The SCSI bus must be scanned again with the door closed for Retrospect to recognize the autoloader.

Article Change History:
23 Nov 1994 - Added Potential problems section.

Support Information Services
Published Date: Feb 19, 2012

SNA■ps 2.0 Gateway: Configuring Mixed Session Types (11/93)

Is the 70 session license limit on a per SNA*ps gateway basis? In other words: Can I run a single Token Ring card and get a total of 70 sessions (mixed 3270 and APPC), or do I have to run multiple gateways to get both 3270 and APPC functionality?

This article has been archived and is no longer updated by Apple.
There is no such thing as a 70 session gateway, it is a 70 AppleTalk client limited gateway. It does not matter how many sessions are configured on the SNA*ps 2.0 Gateway. The only limit is 70 attached Macintosh computers over AppleTalk.

You can run a single Token Ring card with both 3270 and 5250 (APPC) services at the same time. This is how our demonstration gateways and our test gateways are configured. The session limit will be determined by the RAM size on the Token Ring card. In this environment we strongly suggest buying the 2MB upgrade memory chips.

This is done by configuring two separate SNA*ps Token Ring Lines and Partners. The first pair of lines and partners would be for 3270 services. It would be a Host type PU 5 connection for a PU2 gateway. The customer then does an NCP and VTAM config for the PU 2.0 (3270, 3287) devices and the SNA*ps gateway is matched with 3270 resources.

The second pair of lines and partners would be a PU 2.1 Peer-to-peer device which supports APPC sessions to the AS/400. You would configure a Controller, device, and mode description to support this attachment. Obviously, there are two Token Ring addresses as destination addresses (one for the source of the 3270 datastreams and one for the source of the AS/400 datastreams. The Macintosh Token Ring card will be given one Token Ring address and it will be used as the destination for both the 3270 and AS/400 datastreams. When this is all said and done, there is one gateway with one AppleTalk name projected on the LAN for both types of services. This can be done all on one card.

As an example: you could have 50 3270 sessions and 55 APPC sessions to support 5250 in the SNA*ps Config. Lets say a Macintosh AppleTalk client attaches to the SNA*ps gateway and opens three 3270 sessions, two 5250 sessions, one SNA*ps Print 3287 session, and one DAL AS/400 session. This SINGLE AppleTalk client has used 3 + 2 + 1 + 1 = 7 sessions.

Published Date: Feb 19, 2012

MacTCP 2.0.4 Patch (7/94)

Is MacTCP 2.0.4 now shipping with TCP/IP Connection for Macintosh? If not, how can it be accessed?

This article has been archived and is no longer updated by Apple.
There are no plans to roll the MacTCP 2.0.4 update into the TCP/IP Connection for Macintosh product. The 2.0.4 release is being made available as a free "Patcher/Updater" and you will find it as an enclosure to this document.

If you are reading this article on an online service other than AppleLink, these articles can help you locate the software update mentioned here:

* "Where To Find Apple Software Updates"
Lists online services for "free" Apple software updates.

* "Obtaining Apple Product Support in the USA"
Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech. Info. Library.

Article Change History:
21 Jul 1994 - Changed where to find software update section.

Support Information Services

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Quadra 610: How to Tell If It Has An FPU, How to Upgrade

Some Quadra 610 configurations come with an FPU, and some don't. How can I tell whether one of these systems contains an FPU?
This article has been archived and is no longer updated by Apple.

Background

There are three different Quadra 610 configurations sold the in the U.S.

* Two of them contain a Motorola 68040 processor, which has an integral FPU (floating-point unit, or math coprocessor).
M2098LL/A* Macintosh Quadra 610 (8MB RAM, 230MB HD)
M2099LL/A* Macintosh Quadra 610 (8MB RAM, 230MB HD, AppleCD 300i)

* One contains a Motorola 68LC040 processor, which has no integral FPU. This configuration is sold only in the U.S.
M2319LL/A* Macintosh Quadra 610 (8MB RAM, 160MB HD, no FPU)

How to Tell If a Quadra 610 Has an FPU

- Run MacCheck or other utility that reports whether an FPU is present.
- Run a program that requires an FPU -- such as some rendering or CAD/CAM applications.
- Open the case and examine the processor. A processor without an FPU will be labelled "68LC040".

How to Upgrade

If your Quadra 610 has no FPU and you wish to upgrade, you need to purchase a third-party upgrade kit, as Apple does not offer this upgrade.

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A/UX and MacTCP: Only One Network Available To Finder (11/93)

I have two Ethernet cards for accessing two different networks, 1 internal and 1 to Internet). I have set up bnet properly and can use "command shell" ping, ftp, and so on to either network. However, I can't use the Finder to access both networks simultaneously. I can only access the one indicated in the MacTCP control panel.

Questions:

1) Is this possible from the A/UX Finder to access different networks on different IP nets? I don't believe it is possible from the system 7.0.1 finder.

2) How can I change what IP network is accessible from the A/UX Finder if only one is accessible at a time?

This article has been archived and is no longer updated by Apple.
That is the correct behavior for MacTCP running under A/UX. The only way to access both networks without switching interfaces in the MacTCP control panel is to make the A/UX system into an IP router. Refer to the A/UX manuals for information on how to turn A/UX into an IP router. The manual neglects to mention the need to turn on the "ipforwarding" variable in the kernel to enable routing, so that information is included below.

As a super user, you can turn the "ipforwarding" parameter on by doing the following adb (kernel debugger) command:

```
# adb -w /unix
===> a.out file = /unix (COFF format)
===> cannot open core
===> ready
ipforwarding?D
===> ipforwarding: 0
ipforwarding?W 1
===> ipforwarding: 0x0 = 0x1
$w
$q
===> #
```

Then reboot A/UX so that the change will take effect. You might also want to make the same change to the /etc/install.d/boot.d/bnet_dr file (adb -w bnet_dr) in case you build a new kernel via newconfig at some later date.

If you would rather not reboot, do

```
# adb -w -w /unix /dev/kmem
===> a.out file = /unix (COFF format)
===> core file = /dev/kmem
===> ready
ipforwarding/W 1
===> ipforwarding: 0x0 = 0x1
$w
$q
```

This changes the running kernel (/dev/kmem) without affecting what will happen after the next boot. You can do both changes in one session. The "-k" flag is recommended when working on stand alone programs such as the kernel.

Published Date: Feb 19, 2012

PageMaker 5.0: LW Driver 8.0 and Onyx/Zeal Bug (11/93)

I'm having a problem with the following combination: Apple TrueType "Onyx" Font, PageMaker 5.0, and LaserWriter driver 8.0.

An "unimplemented trap" error occurs as soon as the print dialog box is opened and "Print" is selected. Printing from any other application such as MacWrite Pro and MS Word print fine with those fonts.

This article has been archived and is no longer updated by Apple.
This bug has been reported to Apple and Aldus engineering. Apparently, the problem occurs with the Zeal font as well.

Currently, there are a couple of workarounds to the problem:

- Printing with the Option key held down (bypassing the Aldus driver) will not cause the problem.

- A more permanent solution is to quit all applications, go to the Fonts folder, and drop the Onyx suitcase onto any other suitcase to merge it. Dropping another font suitcase onto the Onyx suitcase does not solve the problem, the Onyx suitcase must be merged into another.

This problem doesn't occur all the time, and varies with computer configurations. It seems to occur more with 040 machines than with 030 machines.

Published Date: Feb 19, 2012

Centris Series Replaced by Similar Quadra Models

On November 8, 1993, the Centris name was discontinued from the Macintosh product line.
This article has been archived and is no longer updated by Apple.
* The Centris 610 was replaced by the similar, but faster, Quadra 610.

* The Centris 650 was replaced by the similar, but faster, Quadra 650.

* The Centris 660AV was replaced by the identical Quadra 660AV.
Published Date: Feb 19, 2012

Quadra 840AV & 660AV: System 7 Pro and AIR 3.0

Are there any compatibility issues for the Macintosh Quadra 840AV or Quadra 660AV computers, System 7 Pro, and Apple Internet Router 3.0?
This article has been archived and is no longer updated by Apple.
System 7 Pro, the Macintosh Quadra 840AV or 660AV, and Apple Internet Router 3.0 are compatible with each other. The key is to install the software in the correct order. The problem here is the Apple Internet Router 3.0 installs a version of AppleTalk that is not compatible with System 7 Pro. The easiest way to solve the problem is to install the software in this order:

1) Install System 7 Pro
2) Install Apple Internet Router 3.0
3) Install NSI 1.4 or later

Step 3 ensures that AppleTalk 58.1 or later is installed and this is what System 7 Pro requires.
Published Date: Feb 19, 2012

Duo Type II Recharger: Marketing Number Correction (11/93)

I bought a PowerBook Duo Rechargeable Battery High Capacity Type II (M1835LL/A). It came with a slip of paper advising me to use "M1812" to charge the battery. I assumed this was a new battery recharger, but it's not in the product list.

This article has been archived and is no longer updated by Apple.
The marketing number M1812 is inaccurate. The correct number for the Type II Duo Battery Recharger is M4178LL/B (Service Part 922-0576).

Support Information Services
Published Date: Feb 19, 2012

Loading A/UX 3.0.1 On Quadra 610 and Quadra 650

I need the installer disk for the Quadra 610 and Quadra 650 not the Centris computers. Because of the version difference in the enablers of both Quadra 610, 650 and Centris 610, 650, I cannot boot the Quadra 610, 650 from the current A/UX Installation disk.
This article has been archived and is no longer updated by Apple.
The Quadra 610 and Quadra 650 were anticipated in 3.0.1, so the kernel recognizes their machine ids, but the installation floppy did not contain the necessary enabler. Keep in mind that A/UX will not work with 68LC040-based Quadra 610 computers. The low-end Quadra 610 (8/160) has the 68LC040.

Here's how to get A/UX running on a Quadra 610 and Quadra 650:

1. Make a copy of the A/UX install boot floppy.
2. Put the enabler for the Quadra 610 and Quadra 650 on the new install
3. Boot up and install normally.
4. Boot off a boot floppy or boot CD. Install the Quadra 610 and Quadra 650 enabler on the A/UX boot partition.

Things should now work fine. The only glitch is that the A/UX Finder won't give the correct name for your computer in "About This Macintosh" since their final names were not available when A/UX 3.0.1 came out.
Published Date: Feb 19, 2012

AWS 95: NFS File Copy and Slow Finder Visibility (11/93)

I'm using NFS between a SGI UNIX computer and an Apple Workgroup Server (AWS) 95.

The volume is exported from the AWS 95, and mounted on the SGI. I copy files from the SGI onto the mounted volume, 6 at a time. The desktop on the AWS 95 doesn't get refreshed for an hour, so the files aren't visible until then. The copied files can be found with Find, or are visible in the command shell, but I want to know why the refresh takes so long. Is there anything that can be done to speed this up? The time it takes increases with the number of people attached.

This article has been archived and is no longer updated by Apple.
There is no good way to correct this situation. We recommend that NFS volumes be kept separate from volumes used for AppleShare for this very reason. The changes made by an NFS client are done behind the Finder's back and require the folder be closed and reopened before the changes will be reflected on the server and then the client. The problem is that there are 3 different caches involved that store information on files and there locations.

A workaround is to turn off the AppleShare Pro Folder Cache. With the Folder cache off, the folders on the server and the clients will sync up within 90 seconds. It is not necessary to do any window manipulation on the server or the clients.

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Ofoto: Resetting Window Locations

While in the Ofoto application, some window title bars are under the menu bar and I can't move them. How do I reset the window locations?
This article has been archived and is no longer updated by Apple.
All you need to do is quit Ofoto and throw away the Preferences file. The path is:

```
System Folder
 Preferences
   Ofoto Folder
     PreferencesFolder
       Ofoto Preferences
```

Published Date: Feb 19, 2012

PostScript Level 2: Benefits (11/93)

What are the benefits of PostScript Level 2?

This article has been archived and is no longer updated by Apple.
To get more in-depth information on the what PostScript Level 2 provides over PostScript Level 1, Apple would suggest referring to the "PostScript Language Reference Manual, Second Edition" by Adobe Systems Incorporated (Addison Wesley). We have taken excerpts and/or paraphrased an overview of PostScript Level 2 features outlined in the reference manual, chapter 1, pages 7-9.

Here is a list of the new language features of PostScript Level 2, which include previous language extension features:

* Dictionaries
Many Level 2 operators expect a dictionary operand. This allows for optional parameters and future extensibility.

* Memory Management
In general, memory is more efficiently shared among different uses and arbitrary memory restrictions have been eliminated.

* Resources
The language includes convenient facilities for locating and managing resources.

* Filters
The language supports filters for ASCII encoding of binary data, compression and decompression, and embedded subfiles.

* Binary Encoding
In addition to the standard ASCII encoding, the language syntax includes two binary-encoded representations.

* User Paths
User path operators perform path construction and painting as a single operation for convenience and efficiency. There is also a user path cache and some convenience operators for painting rectangles.

* Forms
There is a form cache to optimize repeated uses of the same form.

* Color Spaces
Colors can be specified according to a variety of color systems (that is, gray scale, RGB, CMYK, and CIE based). The color space is now an explicit parameter of the graphics state.

* CIE-based color spaces
The language supports several device-independent color spaces based on the CIE 1931 (XYZ)-space.

* Patterns
It is possible to paint with patterns as well as with solid colors. There is a pattern cache to optimize repeated uses of the same pattern.

* Images
There are several enhancements to the facilities for painting sampled images: use of any color space, 12-bit component values, direct use of files as data sources, and additional decoding

and rendering options.

* Other text and graphic operators
There are several other new operators optimized for performance: graphic state objects, automatic stroke adjustment, new variants of "show", and a new "selectfont" operator.

* Device Setup
The setpagedevice operator provides a device-independent framework for specifying the requirements of a page description and for controlling both standard and optional features of a device.

* Interpreter Parameters
Administrative operations such as system configuration and changing input-output device parameters are now organized in a more systematic way.

Published Date: Feb 19, 2012

HP Emulation: Setting Lines Per Page and Lines Per Inch

Can the number of lines per inch and lines per page be set when using the LaserJet emulation mode on LaserWriter printers?
This article has been archived and is no longer updated by Apple.
The number of lines per inch and lines per page can be configured using the standard PCL escape code sequences. The value can be changed from within the HP emulation mode using the following PCL escape code sequence:

```
  <esc>&l#e##F

Where:
  l is a lower case L
  # is the top margin
  ## is the page length (default is 60)
```

To enter `<esc>`, press the Ctrl-P keys followed by the Esc key.

Note: You must use an ASCII text editor like DOS EDIT. You cannot enter the <esc> character in some Windows-based editors like Notepad.

In addition, the following escape sequence can be used to set the number of lines per inch, allowing more lines per page by decreasing the empty space between each line.

```
  <esc>&l#D

Where:
   l is a lower case L
   # is the number of lines per inch (default is 6)
```

There are several methods for downloading the information to the printer. From a standard PC that has BASIC available the following program will work. Be sure to replace the # and ## with the desired option values.

Program for setting the lines per page

```
10 REM This program allows the number of lines per page
20 REM to be set while in the LaserJet emulation mode.
30 REM Replace the # with the desired top margin. (1 is the
40 REM minimum recommended value to avoid losing lines off
50 REM the top of the page)
55 REM Replace the ## with the desired number of lines per page.
60 LPRINT CHR$(27)"&l#e##F"
```

Program for setting the lines per inch

```
70 REM This program allows the number of lines per inch
80 REM to be set while in the LaserJet emulation mode.
90 REM Replace the # with the desired number of lines per inch.
100 REM The default value is 6. Options are 1,2,3,4,6,8,12,18,24,48.
110 LPRINT CHR$(27)"&l#eD"
```

Published Date: Feb 19, 2012

Macintosh 21-inch Display: Image Shaking (11/93)

I have a Macintosh 21-inch Display near some florescent lights and it causes the image on my monitor to shake and jump. I cannot move the monitor any further away from the lights. Is there any magnetic shield or anything else that can be used to prevent the image from shaking so violently?

This article has been archived and is no longer updated by Apple. There is no practical method of shielding the monitor from this type of external interference. However, since you have localized the problem to fluorescent lighting fixtures, a solution to your problem should not be difficult.

A fluorescent fixture that is functioning correctly should not interfere with a monitor's operation. It is not uncommon for these lamps to arc internally. In many cases this action is readily apparent because the lamps have a discernible flicker. In most cases, the internal arcing does not affect the light output of the lamp. The best way to isolate a defective lamp is by disconnecting one lamp at a time until the symptom disappears or becomes less severe. When following this procedure be aware that the problem may involve more than one lamp. If the lamps check good but the symptom persists, the problem is associated with one of the ballasts that drives the lamps. The defective ballast should be replaced.

The reason that fluorescent fixtures interfere with monitor performance is due to the monitor's refresh rate. Because the lamps tend to arc at a 60 hz rate (because they are driven from a 60 hz power source--the wall outlet), they transmit noise at this rate. Therefore, if the monitor does not operate at the identical 60 hz refresh rate (our monitors usually operate at a higher rate), it interprets these pulses as synchronizing signals which causes the display to jitter.

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MacX, AppleTalk-DECnet Over ARA and Zone Problem (11/93)

I'm interested in doing DECWindows emulation with MacX 1.2 in a PowerBook 180c running System 7.1, connected to a VAX (VMS 5.5 with PATHWORKS for Macintosh v1.1) through AppleTalk Remote Access (ARA). The problem arises when trying to connect by using the following Host definition in the XWindown command:

Tool: AppleTalk-DECnet Tool v1.1
Gateway: DECnet on VMAD01 (VMAD01 is the DECnet name for the MicroVAX)
Service: VMAD01 (we want to connect to this node)
ADSP entity (as seen in the tool dialog): Kiko:X11@SPA Servidores

When the command is started the msax$client DECnet object starts and fails in finding back the PowerBook 180c node. The reason is that the string arriving at the VAX with the ADSP node address is "Kiko:X11@*" as I can see in the netserver.log file which is shown below:

```
$ ! Copyright (c) 1987 Digital Equipment Corporation. All rights reserved.
$ IF "" .NES. "" THEN NETSERVER$COMMAND
$ IF "" .EQS. "" THEN NETSERVER$VERIFY = 0
$ V = F$VERIFY(NETSERVER$VERIFY)

-------------------------------------------------------

Connect request received at 20-SEP-1993 16:01:17.37
from remote process VMAD01::"0=ATKGW$USER"
for object "SYS$SYSTEM:MSAX$CLIENT.COM"

-------------------------------------------------------

-------------------------------------------
PID=00000274 20-SEP-1993 16:01:18.24
Remote=Kiko:X11@* Local=VMAD01
Create Display Node: Kiko:X11@*
Transport: ADSP
Server: 0
Screen: 0
-------------------------------------------

%MSAX-F-NAMLOOKUPERR, error looking up name "Kiko:X11@*"
-ATK-E-NBP_NAMNOTFOU, Name was not found
X Toolkit Error: Can't Open display
%DWT-F-DWTABORT, xtoolkit fatal error
%MSAX-E-DCL_FAILURE, SET_DISPLAY_SUB DCL Subroutine failure
$ SET DISPLAY /CREATE -
/NODE = "Kiko:X11@*" -
/TRANSPORT = "ADSP" -
/SERVER = "0" -
/SCREEN = "0" -
/SUPER
$ RUN SYS$SYSTEM:MSAX$VERIFY
%MSAX-F-NAMLOOKUPERR, error looking up name "Kiko:X11@*"
-ATK-E-NBP_NAMNOTFOU, Name was not found
%DWT-F-DWTABORT, xtoolkit fatal error
-------------------------------------------
PID=00000274 20-SEP-1993 16:01:29.81
Remote=Kiko:X11@* Local=VMAD01
Logout - not caching this networked process
-------------------------------------------
```

Obviously if the ARA server and the VAX are not in the same AppleTalk zone, therefore the node Kiko:X11@* cannot be reached by the VAX.

I have checked by selecting the "Remote Only" icon in the network control panel and I have the same problem.

On the other hand if MacX 1.2 is open, and by using terminal emulation I do the following in the MicroVAX:

```
$SET DISPLAY/CREATE/USER/TRANSPORT="ADSP"/NODE="Kiko:X11@SPA Servidores"
$RUN SYS$SYSTEM:VUE$MASTER
```

a new XWindow client opens in the Macintosh, which means that everything is working from the connectivity point of view.

Am I doing something wrong? Is this a known bug of MacX 1.2 or the AppleTalk DECnet Tool? Is there any work around for this problem?

This article has been archived and is no longer updated by Apple.
We have duplicated the problem and Digital has confirmed it. When the ARA Server and the VAX are NOT in the same zone, the VAX looks for the remote Macintosh in the VAX's zone, instead of the ARA server zone. Digital will add this to the bug database to be fixed in the next release of the AppleTalk-DECnet Tool.

The workaround is to put the VAX and the ARA server in the same zone.

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Performa 550: Screen Turns Off (11/93)

Performa retailers are reporting that the Performa 550 screen will turn off while running the In-Store demo.

This article has been archived and is no longer updated by Apple.
The Performa 550 is Energy Star compliant, which turns off the screen after a few minutes. For example, if you choose 15 minutes, the screen will darken after the computer has been inactive for 15 minutes.

Workaround: Turn off the energy saving features by:

* Choosing the Control Panels from the Apple Menu.
* Open the Screen control panel.
* Turn off the Screen Power Saver.

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Quadra 605 & LC 475: 8MB SIMMs are Supported

Can I use 8MB DRAM SIMMs in a Macintosh LC 475 or Quadra 605? Some Apple documentation omits the 8MB SIMM as a supported size, and I've heard of systems that didn't work after 8MB SIMMs were installed.
This article has been archived and is no longer updated by Apple.
Yes, 8MB SIMMs are supported by the Macintosh LC 475 and Quadra 605.

4MB of 80ns DRAM is soldered on board, and one 72-pin RAM SIMM socket is available for expansion. The sockets can accommodate both single- and double-sided SIMMs. Each single-sided SIMM can hold 1MB, 4MB, or 16MB using 1-, 4-, or 16-Mbit DRAM technology, respectively. Each double-sided SIMM holds twice that amount of memory.

Because the DRAM SIMM in the Quadra 605 and the LC 475 sits at a severe angle in the SIMM socket, there may be an interference problem with some third-party double-sided SIMMs. With the Quadra 605 and LC 475, there is minimal clearance between some of the components on the main logic board and the SIMM. You may also encounter interference with third-party SIMMs that have ICs placed too close to the edge of the PCB.

Remember, although several vendors make composite SIMMs that may work with your particular computer and application, Apple does not support composite SIMMs in any Macintosh. And 100ns SIMMs do not work in these Macintosh models: SIMMs must be have an access time of 80ns or better.

Before purchasing any third-party SIMMs, verify with the manufacturer that the SIMMs conform to Apple's specifications for your specific Macintosh product.

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Elographics Intellitouch: Macintosh AV Compatibility

Is Elographics' Intellitouch screen compatible with the Quadra 840AV? I have used this product successfully with a Quadra 700, but when I try it with a Quadra 840AV, the touch-screen function could not be activated.
This article has been archived and is no longer updated by Apple.
Elographics provides the following information:

* Their original software does not work with Macintosh AV systems.

* Contact Elographics for the new "MonitorMouse for Macintosh, version 2.0", which is AV-compatible.

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MacTCP: More Than One IP Gateway and AppleTalk Zones (11/93)

Is there any reason why a network administrator couldn't have more than one IP gateway in a given AppleTalk zone? Are the existence of AppleTalk zones even an issue? I want to serve more than the 64 dynamic IP addresses my gateway allows to Macintosh clients on the network segment. I propose to do this by establishing two gateways each serving 64 addresses from different ranges. What is the limitation of MacTCP on a given zone for Dynamic addressing? Is there any? If so, does it differ by version of MacTCP?

This article has been archived and is no longer updated by Apple.
There is a limit of 1 DDP/IP gateway per zone. All versions of MacTCP have the same limit, it's not really a limitation of MacTCP as much as it is of the DDP/IP gateway. It's fairly involved but the bottom line is that the DDP/IP gateway specification is not clearly defined and currently offers no way to arbitrate requests from multiple gateways located in the same zone.

There are answers however, you could use a DDP/IP gateway that offers more than 64 addresses such as a cisco router. The cisco imposes no limits on the number of addresses you can configure other than those imposed by the amount of physical RAM you have to accommodate the table. The other solution for gateways with limited addresses would be to configure multiple zones on the same cable (ddpip1, ddpip2, ddpip3, etc.) and place one gateway in each zone. You could arbitrate which users used which gateways or you could just tell them to use one of the gateways in any of the ddpip zones. If one gateway was unable to give the Macintosh an address the user could simply choose the next zone until they were able to get an IP address.

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PostScript: Printing Process

Are there any documents that explain the printing process in detail? What is going on inside the Macintosh from the moment the print command is initiated until the page comes out of the printer?

Also, does the type of Macintosh one uses plays a big role in printing speed?
This article has been archived and is no longer updated by Apple.

```
With regard to the questions on the printing process and varying print
speed from different Macintosh computers, there is no single document we
are aware of that goes into detail about this.

To start off, here is a brief outline of the printing process.

1. User selects Print from the File menu.

2. The LaserWriter driver then utilizes QuickDraw bottleneck
  procedures to transform the QuickDraw screen image into PostScript
  commands.

3. If background printing is selected, then the resulting PostScript
  output is spooled to disk, and PrintMonitor is launched in the
  background to communicate with the printer.

4. PrintMonitor makes a connection with the printer and sends the
  PostScript file to the LaserWriter.  PrintMonitor is actually
  making calls to the AppleTalk stack to open the PAP connection and
  "packetize" the PostScript file.

5. The PostScript interpreter in the LaserWriter then takes the
  PostScript input stream and renders the resulting image on paper.

In terms of how different computers affect printing speed, you can
refer to the outline above to realize where a faster computer might
have an advantage.  To summarize, speed gains can be achieved in the
overall "processing of data" before it gets to the printer:

- faster conversion from QuickDraw to PostScript.
- faster spooling the PostScript file to disk.
- larger number of processor time-slices to PrintMonitor due to
 finishing tasks faster.
- faster "packetizing" of the data by the AppleTalk stack.
- if Ethernet is being used, built-in Ethernet (as in the Quadra) will
 be faster than Nubus Ethernet cards.

Thus, what you are seeing in terms of increased speed with a Macintosh
Quadra, as opposed to a Macintosh IIcx, is expected.
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PowerBook 200 Series: Symptoms of Bent Magnesium Frame

The PowerBook Duo 210, Duo 230, Duo 250, Duo 270c, 280, and 280c have a lightweight magnesium inner subframe, also known as CPU stiffener. This article describes some problems that may result from a bent magnesium frame.
This article has been archived and is no longer updated by Apple.

- Docking problem. If one particular Duo fails to properly interface with a docking device, where other Duos work fine, the one Duo's frame may be bent slightly.
- Battery seating. If the Duo's battery requires frequent reseating, and the power manager requires frequent resets, the frame may not be holding the battery tight against the logic board contacts.
- Duo won't run on battery power. If a logic board replacement temporarily corrects the problem, but needs repeated repair, the magnesium frame may be shorting against the logic board. If the Duo fails to start up on a charged battery, it may be a failed logic board caused by a shorting magnesium frame.

If you encounter any of these conditions, and you feel the problem is intermittent, the problem may be caused by a bent magnesium frame. Consider this component when dispatching. Obviously the magnesium frame won't always need replacement -- but a repeat failure for the same symptom may be a clue.
Published Date: Feb 19, 2012

DAL for VAX/VMS 1.4: TCP/IP Support

What is the status of TCP/IP access to DAL on VMS? Is this a feature of the latest release, or is it due for the next release of DAL?
This article has been archived and is no longer updated by Apple.
As of this article, the latest version of DAL for VAX/VMS 1.4 supports the following TCP products:

Digital's TCP/IP Services for OpenVMS V2.0
Process Software's TCPware V3.1
TGV's Multinet V3.2
Wollongong's WIN/TCP V5.2.1
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Palatino Fonts: Not Displaying Bold 11/93

The screen representation of Palatino Bold (for odd sizes) doesn't appear in Bold on the screen (TrueType). For example, Palatino 11 point Bold, is not appearing bold on the screen.

This article has been archived and is no longer updated by Apple.
The behavior you describe only occurs when the TrueType Palatino is installed. The reason this happens is fairly straightforward. One of the main features of TrueType is to provide an "as readable as possible" screen representation of a font, in the size selected.

In some cases, TrueType will decide that it is not possible to bold a font and still have it be readable. This is the case with Palatino. However, this particular trait does not always appear to be logical. For example, Palatino 4 can be bold on the screen and it is certainly not readable.

In any case, selecting to bold Palatino will change the spacing of the font to preserve the margins for the document.

There is no way to change this behavior.

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LaserWriter Select 360: PCL emulation (11/93)

The LaserWriter Select 360 supports HP PCL5 emulation. Which of the printer's ROM fonts are directly accessable via PCL5?

This article has been archived and is no longer updated by Apple.
As it turns out, not all fonts in the LaserWriter Select 360's ROM are accessible while in LaserJet III PCL5 emulation mode. There are only four fonts available, two are bitmap fonts (with a couple fixed-pitch point sizes), and the other two are scalable fonts. The fonts are:

Bitmap fonts (fixed pitch)

Courier
Line Printer

Scalable fonts

Times
Univers

Information regarding these fonts is actually built into the ROMs of the LaserWriter Select 360. The information provided includes such things as available point sizes, pitches, styles, and the PCL5 escape sequence necessary to access the font. To get a printout of this information, just download the following two lines of PostScript:

```
/LaserJetIII /ProcSet findresource
/FontReport get exec
```

NOTE: In the escape code sequence for scalable fonts, the "_" (underscore) character is where you fill in the point size you need, since it is a scalable font.

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LW Driver 8.x: PPDs Job Control/Page Control Commands

1) Does Apple use/support "Type 4.1" PPD files?

2) Do the LaserWriter 8 PPDs support HP PCL Job Control Language (JCL) and Printer Job Language (PJL)?

3) What is Job Control Language (JCL) and Printer Job Language (PJL)?
This article has been archived and is no longer updated by Apple.
Here are the answers to your questions:

1) Yes. Starting with LaserWriter driver 8.1.1, Apple started using Type 4.1 PPD files.

2) You must be referring to PCL Job Control Commands and Page Control Commands. These commands are actually not a function of the PPD's, but are of the respective PCL emulator in the various LaserWriters. Most of Apple's LaserWriter printers, except for the LaserWriter Select 360, provide HP LaserJet IIp, PCL 4+ emulation.

The LaserWriter Select 360 provides HP LaserJet III, PCL 5 emulation.

In terms of what PCL Job Control Commands and Page Control Commands are supported, there is an article in the Tech Info Library ("LaserWriters: Differences in HP Emulation") that outlines the differences between our HP LaserJet IIp emulation and the actual printer. With regard to our HP LaserJet III (PCL 5) emulation, there is no information on differences (if any) to the actual printer, though Apple has tried a lot of the commands and they work fine.

3) We have provided an outline below of what PCL Job Control Commands and Page Control Commands provide. For more in-depth information, refer to the PCL 5 Printer Language Technical Reference Manual, Manual part# 5961-0509, published by Hewlett Packard.

Here are some excerpts from the PCL 5 Printer Language Technical Reference Manual. These would apply mostly to the LaserWriter Select 360 since it has PCL 5 emulation.

Job control commands are usually grouped together and sent at the beginning of a job. Page control commands and data are associated with each printed page of a job.

JOB CONTROL COMMANDS include the following:
- Printer Reset.
- Universal End of Language/Start of PJL
- Number of Copies.
- Simplex/Duplex Print
- Left and Top Offset Registration
- Duplex Page Side Selection
- Job Separation
- Output Bin Selection
- Unit of Measure.

PAGE CONTROL COMMANDS include the following:
- Page Size
- Paper Source
- Logical Page Orientation
- Print Direction
- Text Area
- Left Margin
- Right Margin
- Clear Horizontal Margins
- Top Margin
- Text Length
- Perforation Skip
- Horizontal Motion Index
- Vertical Motion Index
- Line Spacing

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Portable StyleWriter: Printing Difficulty and PowerBooks (11/93)

I am having trouble printing from my Macintosh PowerBook 170 to a Portable StyleWriter.

Here are some specific question I have:

1) Does the Powerbook have to be turned on before the Portable Stylewriter?

2) Does the Powerbook have to stay awake while the Portable Stylewriter is printing?

3) How does the Spoolmaster react when you change applications after it has started to print?

This article has been archived and is no longer updated by Apple.
Here are the answers to your questions:

1) Does the Powerbook have to be turned on before the Portable StyleWriter?

ANSWER: No. The only thing you must do is make sure that if the Portable StyleWriter is connected to the printer port, you should have Appletalk turned OFF. Otherwise, the Portable StyleWriter will print gibberish when the computer is turned ON, this is because Appletalk sends out packets as part of its initialization.

2) Does the Powerbook have to stay awake while the Portable StyleWriter is printing?

ANSWER: Yes, otherwise the current line being printed will look "warped." Unfortunately, there is no code in Spoolmaster to warn users about putting Powerbooks to sleep while printing.

3) How does the Spoolmaster react when you change applications after it has started to print?

ANSWER: We were unable to verify any problems while switching out of Spoolmaster. We even had our PowerBook Control Panel set to "Maximum Conservation," and did not have any trouble printing. The only suggestion we have is to try a clean install of system software (by throwing away the old System Folder first).

Support Information Services
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Disk III Analog PCB Troubleshooting

This article has been archived and is no longer updated by Apple.
DESCRIPTION: Use this procedure only if a Disk III Analog PCB problem is confirmed. To obtain the procedure to confirm a Disk III problem, search on "HTS and Disk III and General".

YOU WILL NEED:
1. The following Disk III Analog PCB chips:
* IC 2003 (APN 327-2003)
* IC 74LS125 (APN 305-0125)
* IC CA3146 (APN 351-3146)
* IC 3470 (APN 355-3470)
* IC 74LS74 (APN 305-0074)
* IC 74LS32 (APN 305-0032)
2. Disk alignment aid
3. Level I Tech Procedures binders

BEFORE YOU START:
1. Refer to the Technical Procedures if removal/replacement or adjustment procedures are needed.

2. Before replacing a component on the Analog PCB, make sure that the power is off and remove the Analog PCB.

3. If replaced module/part doesn't fix the problem, reinstall the original module/part.

INSTRUCTIONS:
1. Remove the problem drive's case to expose the Analog PCB.
2. Examine the Analog PCB for:
* R32 at location D1 missing (send to Apple)
* IC 74LS74 at location E1 missing (replace)
* Jumper wires soldered to back (send to Apple)
* Damage (e.g., burns, cracks, etc.) if board is beyond repair, throw it away. Examine each chip and its socket.
* If repair is possible but it can't be made by replacing a socketted chip send the Analog PCB to Apple.
3. Find the PROBLEM below and perform appropriate FIX.

PROB: Known good internal Disk III in test bed Apple III won't boot when the problem drive is installed externally
FIX: Recheck for the problem after each of the following steps
(1) Replace IC 2003 at location C4
(2) Replace IC 3470 at location B1 and IC 74LS125 at location G2 then if it boots, perform the comparator offset adjustment
(3) Replace IC 3146 at location A3
(4) Replace IC 74LS74 at location E2
(5) Send the Analog PCB to Apple

PROB: Drive will not perform the D-Speed adjustment
FIX: Recheck for the problem after each of the following steps
(1) Replace IC 3470 at location B1 and IC 74LS125 at location G2 then perform the comparator offset adjustment
(2) Replace IC 3146 at location A3
(3) Replace IC 2003 at location C4
(4) Replace IC IC 74LS74 at location E2
(5) Replace IC 74LS32 at location F1
(6) Send the Disk III Analog PCB to Apple

PROB: Drive does not come on.
FIX: Recheck for the problem after each of the following steps

(1) Replace IC 2003 at location C4
(2) Replace IC 74LS125 at location G2
(3) Send the Disk III Analog PCB to Apple

PROB: Drive with the problem Analog PCB installed reads but doesn't write
FIX: Recheck for the problem after each of the following steps
(1) Replace IC 74LS125 at location G2
(2) Replace IC 2003 at location C4
(3) Replace IC 3146 at location A3
(4) Send the Disk III Analog PCB to Apple

PROB: Drive writes when the disk is protected
FIX: Recheck for the problem after each of the following steps
(1) Replace IC 74LS125 at location G2
(2) Send the Analog PCB to Apple

PROB: None of the symptoms above match those of the problem
FIX: Recheck for the problem after each of the following steps
(1) Perform the D-Speed adjustment
(2) Replace IC 3470 at location B1 and IC 74LS125 at location G2
then perform the comparator offset adjustment
(3) Replace all socketted chips one at time
* IC 2003 at location C4
* IC 3146 at location A3
* IC 74LS74 at location E2
* IC 74LS32 at location F1
(4) Every chip on the PCB has been replaced. If it still doesn't
work, send the Analog PCB to Apple.
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ARA 2.x: Ways To Access The Modem Ports

This article describes the three basic ways of accessing the modem ports in Apple Remote Access MultiPort Servers.
This article has been archived and is no longer updated by Apple.
There are three basic ways to configure the modem ports: Dial-in access, Dial-in and transfer, and Callback only. Also, users cannot access a configured port until it has been turned on in the Port Configuration window.

The ARA Multiport Server does not support the built-in serial ports. The ARA Multiport Server will only function over NuBus communication cards such as the ARA Serial Card for modem connections.

"Dial-in access" allows dial-in and/or callback access on the same port. With this method, a user who does not have callback enabled is able to dial in and remain connected. This is useful if you have a number of users who are on the road and cannot provide you with a callback number. If the user has callback enabled, when the user dials in, the server checks that the user name and password are correct. If they are correct, the user is disconnected, and the server calls him or her back on the same port.

Ports set to "Dial-in and transfer" are intended only for users who have callback enabled. When such a user dials in, the server checks that the user name and password are correct. If they are correct, the user is disconnected, and the server calls him or her back through a different, "Callback only" port. Users for whom you have not set up callback can dial in to "Dial-in and transfer" ports, but they will be disconnected. Users who do not have callback enabled must use "Dial-in access" ports.

"Callback only" ports cannot receive calls. They are used only in conjunction with ports that have been configured for "Dial-in and transfer" and the rest for "Callback only." Thus, you can have a maximum of 15 callback lines, depending on the number of Remote Access Serial Cards installed and modems connected to the ports. This method allows you to provide only one telephone number to your users.
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Apple Remote Access: Remote Access Manager

This article provides a brief description the tasks Remote Access Manager provides.
This article has been archived and is no longer updated by Apple.
The remote access server administrator uses Remote Access Manager software to set up and administer the server. These tasks include the following:

* Setting server preferences
* Registering users
* Configuring ports for dial-in and/or callback access
* Establishing server security

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Apple Remote Access: Macintosh Client Features

This article describes the features for Apple Remote Access Client for Macintosh.
This article has been archived and is no longer updated by Apple.
Ease of installation and use
---
* Lets users get started in only minutes
* Allows users to access services remotely, in the same intuitive way as they work with services locally
* Provides built-in context-sensitive help

Adaptability
---
* Works with all Apple Remote Access 'compatible servers', including both the Apple Remote Access Personal Server and the Apple Remote Access MultiPort Server
* Supports both Apple Remote Access 1.0- and 2.0-compatible servers
* Offers a range of dialing and connection options
* Supports a variety of leading modems

Remote productivity
---
* Supports System 7, so users can work with such familiar features as the Chooser, Finder, and Alias Manager
* Helps users manage everything from repeat connections to connection time
* Masks the complexities of the worldwide telephone system through its integrated DialAssist technology

Powerful security features
---
* Allows administrators to select the level of security that's most appropriate for their organization's needs (when used in conjunction with the Apple Remote Access MultiPort Server software)
* Provides users with a secure method of access, whether they're connecting from home or from a hotel outside the country

Apple Remote Access Client for Macintosh provides an easy, productive, and secure way to connect a desktop Apple Macintosh or PowerBook computer to information and resources at a remote location. And because it works with all Apple Remote Access 'compatible products' including the Apple Remote Access MultiPort Server and Personal Server software, it lets you choose the level of server support you need, whether you belong to a small workgroup or a multinational corporation.

Apple Remote Access Client for Macintosh software is designed with efficiency and productivity in mind. It installs in minutes and is remarkably easy to use, minimizing the need for ongoing support. For example, the software's built-in DialAssist technology makes dialing back to the office network simple, even for international travelers. It lets you build dialing sequences that help mask the complexities of worldwide telephone system, so you can connect easily from anywhere in the world. And Apple Remote Access Client for Macintosh has features that help you manage everything from repeat connections to connection time.

In addition, because it supports System 7, Apple Remote Access Client software lets you work with such familiar features as the Chooser, the Finder, and the Alias Manager. In short, it provides everything Macintosh or PowerBook users need to help them to get their work done easily and efficiently, wherever they are.
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ARA 2.0 MultiPort Server: Configuring Modem Ports

This article describes how to configure the modem ports for regular telephone lines on the Apple Remote Access MultiPort Server.
This article has been archived and is no longer updated by Apple.
To configure modem ports do the following steps:

1) Choose Configure Ports from the Server menu.
The Port Configuration window appears. This window contains information about services installed on the server computer and the configuration of each port.

2) Click the triangle next to Modem Service (or double-click the line) to display all installed cards.

3) Click the triangle next to the Apple Remote Access Serial Card (or double-click the line) to display the name, status, and configuration of each port.

The port name is determined by the slot in the computer in which the card is installed and the number of the port on the card. For example, Slot 1 Port 1A indicates that the Remote Access Serial Card is installed in Slot 1 in the server computer, and that Port 1A is selected. Each connector on the cable is labeled 1A or 1B, 2A or 2B to match the ports on the card. This identifies what port is used when a modem is connected to the card.

4) Select the port you want to configure by clicking it.
The Open button becomes active. Initially ports are turned off; that is, they are inactive. Once you configure each port, you can turn it on to make it active.

5) Click the Open button. You can also double-click the port name to open the Port window.
The Port window appears for each port you select. The name of the port appears in the title bar.

6) Enter text in the Port Info text box, such as the name of the modem connected to the port and the telephone number of the line connected to the modem.

7) From the Port Access pop-up menu, select on the following options:
- Dial-in Access
- Dial-in and Transfer
- Callback

8) From the Modem pop-up menu, select the modem script for the modem you've attached to the port.

See the Read Me file in the Apple Remote Access MP Folder for a list of supported modems. If your modem does not appear on that list, see the Apple Remote Access Modem Scripting Guide, included in the package, for information on writing your own script. To write your own script, you will need the Modem Workshop, which is included in the Apple Remote Access MultiPort Server Toolkit disk.

9) Turn the modem speaker on or off by clicking the On or Off button.
When the modem speaker is on, you can hear when the modem is making a connection with another modem. However, if modem noise is a concern, you can turn off the modem speaker.

10) Select Tone or Pulse for the dialing capability of your telephone line.
Select Tone if the telephone line to which the modem is connected supports touch-tone dialing Select Pulse if the telephone line to which the modem is connected supports pulse or rotary dialing.

11) Click the Ignore Dial Tone checkbox if you always want the modem to dial, regardless of its ability to recognize the tone provided on the telephone line.

12) Click Save to save these settings for the port.
If you click Revert, the contents of the window are not saved.

13) Click the close box to close the Port window.
The Port Configuration window is still visible. Now that you've configured the port, you must turn it on to make it active for receiving and/or making calls.

14) Select the port and click the Turn On button to turn on the port.

Notes:
1) If you are using the Security Zone software, you will be required to enter a password at this point. You will only be required to enter this password the first time you turn on a port.

2) The ARA MultiPort Server does not support the built-in serial ports. The ARA MultiPort Server will only function over NuBus communication cards such as the ARA Serial Card for modem connections.

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ARA 2.0 MultiPort Server: Creating New Users

This article describes creating new users on the Apple Remote Access MultiPort Server.
This article has been archived and is no longer updated by Apple.
1) If the User List is displayed, click the New button; otherwise, choose Create User from the Users menu.

A New User information window appears. Require New Password on Next Login and maximum connection time set to 60 minutes are selected by default.

2) Enter the user's name.

For sorting to work properly, enter user names first name first (for example, Joe User).

3) Type a password in the Password text box.

The user must enter this password when calling the server. Make sure to inform the user of the exact password, including capitalization.

4) Use the Remarks text box to enter information about the user, such as a department or project name.

This information is included in the server activity log when the user connects to the server and can be useful for call accounting or chargeback applications.

5) Click the Dial-in Access Enabled checkbox so that the user can log in to the server.

If you want to revoke the user's dial-in access at a later time, you can click the checkbox again to deselect this option.

6) Click the Change Password Enabled checkbox if you want to allow the user to change his or her password after logging in.

This allows the user to make user-initiated password changes. The administrator can also change passwords for any user in the User information window.

7) Click the Require New Password on Next Login checkbox to force the user to create a new password at the next login time.

This option is deselected once the user changes his or her password. This option works even if the Change Password Enabled option is not selected.

8) If necessary, click the "Maximum connection time" checkbox and enter a time in minutes if you want to limit the amount of time for which the user can connect to the server.

The default connection time is 60 minutes. You can enter another time if you wish. Deselecting this option will give the user unlimited access time.

9) If you want to require callbacks, click the "Call Back at #" checkbox and type in the callback number.

The callback number is the telephone number provided to you by a user for remote access. Selecting this option means that when the user calls the server, the server computer will temporarily disconnect the user, then immediately call the user at the number you've entered. The callback feature is optional; it provides an extra level of security, because the user must call from a specific phone number.

You enter the phone number as if you were dialing directly. Type in any dialing prefixes, such as "1" for long distance calling in the U.S. and an area code. If the server needs to dial an outside line (as in many business phone systems), type the outside line number, followed by a comma. For example, type "9,1-415-555-1234". The comma in this example indicates a pause during dialing so that the modem can connect to an outside telephone line from a PBX. The hyphens are included for readability but are not required.

10) If you selected an external security module in the Server Preferences dialog box, the name of the module appears in this dialog box with a checkbox next to it. Click the checkbox to enable the security feature for this user.

Note: If you selected the External Security Required for All Users option in the Server Preferences dialog box, the security option will already be selected. The name of the module will be dimmed, and you will not be able to deselect this option.

11) Click the Configure button to configure external security.

A dialog box appears in which you can set security parameters. Click OK when you have finished.

12) Enable access to one or more zones by making a selection from the "Allow Access to" pop-up menu in the Zones area.

You can determine which, if any, zone on your network a user can access by selecting an option from the "Allow Access to" pop-up menu. There are

four options for user zone access:

* This Macintosh Only. The user has access only to the services available on the server Macintosh.

* Only Zones Listed. The user has access to the zones listed in the Zone List in the User information window. The server zone is always part of the list and cannot be deleted.

* Entire Network. The user has access to all the zones on the network.

* All Zones Except Listed. The user has access to all the zones on the network except the ones listed in the Zone List in the User information window. The zone the server is in cannot be put on this list because the user always has access to the server zone.

If you choose Only Zones Listed or All Zones Except Listed, a dialog box appears from which you select which zones will appear on the user's Zone List.

13) Select one of more zones and click Add to add these zones to the Zone List in the User information window.

14) Click Save.
Published Date: Feb 19, 2012

ARA 2.0 MultiPort Server: How To Export User Lists

This article describes how to export the User List into a tab delimited text file, which you can then import to another server.
This article has been archived and is no longer updated by Apple.
To export the User List:

1) Make sure that the User List window is active.

2) Choose Export User List from the Users menu.

A directory dialog box appears in which you can name the exported User List and save it.

3) Enter a name and click Save.

The exported list is saved. You can view the list in any application that accepts tab delimited data.

IMPORTANT: Although a Password header appears in the document, passwords are not exported.
Published Date: Feb 19, 2012

ARA 2.0 MultiPort Server: Getting Users Ready To Use

This article describes getting users ready to use the Apple Remote Access MultiPort Server.
This article has been archived and is no longer updated by Apple.
Make sure that you provide Apple Remote Access Client for Macintosh version 2.0 software and documentation to all registered Remote Access users. Installation instructions are provided with the Apple Remote Access Client for Macintosh User's Guide.

A license and documentation for four clients is included with each Apple Remote Access MultiPort Server you purchase. Additional copies may be purchased individually or in volume through Apple's Volume licensing program.

Before users can log in to the server, you must tell them their login names and passwords. You should also briefly explain what they can expect during the first login. Make sure that the Dial-In Access Enabled option is selected for all users to whom you want to provide dial-in access, and that you have provided them with the dial-in number for the server.

Finally, if your server is using any external security modules, make sure that this software has also been provided to users, and that you have explained how to use it.
Published Date: Feb 19, 2012

ARA 2.0 MultiPort Server: Importing User List Info

This article describes how to import User List information on the Apple Remote Access MultiPort Server.
This article has been archived and is no longer updated by Apple.
To Import information to a User List:

1) Create a user database file and save it.

2) Choose Import User List from the Users menu.

3) Select a file from the directory dialog box and click Open.

4) Select an option to continue.

Once the information is imported, the current User List is updated. Any errors that occur during the import are written to the server activity log.

More Detail

You can create a tab delimited text file containing user information, such as names, password, and login access, and then import the information into Remote Access Manager to create a new User List or to add users to the current User List.

NOTE: You cannot import zone information or external security settings.

The first record in the imported file is a header record that contains the names of the fields that are to be imported. The only mandatory field is the Name field, which must be the first field specified. It is used as the key for matching the record in the imported file with the users existing in the user List. All fields in the header record must have corresponding values in the imported file, or processing will stop at the record with the missing data.

Any record in the imported file that has no match in the existing User List is inserted into the User List. Any fields not included in the header record are replaced with the default values.

To import the information in the tab delimited text file to the current User List, use the Import User List command from the File menu. Once you begin the import operation, a dialog box appears containing the following four options:

* Merge
* Replace
* Ignore
* Cancel

Select one of these options to determine how the information will be imported.

If new records exist in the imported file but do not exist in the User List, they are added to the User List. Fields in new records that do not contain information are filled with the default values. However, if a user name appears in both the file you are importing and in the current User List, the results of the import operation differ depending on the option you select.

Merge

Select Merge to combine the records from the imported file with the records from the User List. Fields in the existing User List are replaced by the fields from the imported file. Any fields that are not specific in the header record remain unchanged and retain the values from the existing User List.

Use the Merge option to add data to an existing User List while retaining some of the existing values. For example, you could change the callback numbers for a set of users without changing their passwords or zone access.

Replace

Select Replace to replace matching records in the existing User List with matching record from the imported file. Fields that are not present in the header record are filled with the default values.

Use Replace if you need to make changes that affect every field in matching records. For example, you can quickly change maximum connection time to the default value.

WARNING: Using the Replace option can cause you to lose information. For example, if the imported file does not specify passwords and you select Replace, the passwords for the matching records in the User List are lost.

Ignore

When Ignore is selected, any record in the imported file that matches an existing record in the User List is skipped, and import continues with the next record in the file. No values in the existing record are changed.

Cancel

Cancels the operation.

IMPORTANT: When you import User List information, you change your current User & Groups Data File. Make sure that you back up this file by duplicating and renaming it in the Preferences folder.

Published Date: Feb 19, 2012

ARA 2.0: MultiPort Server Features

This article describes the features for Apple Remote Access MultiPort Server.
This article has been archived and is no longer updated by Apple.

Ease of installation and use
---
* Takes only minutes to set up a server and to add users or ports as needed
* Provides built-in context-sensitive help

Multilevel security
---
* Provides a variety of sophisticated security features, making it one of the most secure remote access servers available
* Is supported by leading third-party security vendors, so administrators can choose to augment its built-in capabilities with additional security modules

Scalable solution
---
* Turns a single Macintosh computer into a server that can support from 4 to 16 simultaneous connections*
* Runs on a variety of Macintosh computers, so you can choose the system that's appropriate for your needs

Powerful administrative capabilities
---
* Allows flexible port configurations
* Offers comprehensive user-management facilities
* Supports industry-standard SNMP
* Tracks resource usage and automatically generates an activity log that can be exported for further analysis

Flexible client capabilities
---
* Supports a variety of connections, including cellular, X.25, and ISDN**
* Is fully integrated with Macintosh System 7, so remote users can work with such familiar tools as the Chooser, Alias Manager, and the Finder

The Apple Remote Access MultiPort Server provides a flexible, scalable, and secure way to offer network access to large numbers of remote or mobile users. Used in conjunction with one or more Apple Remote Access Serial Cards, it converts a single Apple Macintosh computer into a server that can support from 4 to 16 simultaneous connections.* This makes it an ideal solution for workgroups or entire organizations that want to enable employees to work productively and efficiently no matter what their location, whether they're in the office, out of town, or even out of the country.

Unlike conventional complex server software, the Apple Remote Access MultiPort Server is designed to streamline administrative tasks, while maximizing administrator productivity and control. The software installs in minutes and features sophisticated management capabilities, including industry-standard Simple Network Management Protocol (SNMP) support. This allows administrators to flexibly manage and maintain connections. Adding ports is simple, and the server features an automatically generated activity log that can be exported to a variety of programs for further analysis.

On the client side, the Apple Remote Access Client for Macintosh software is also designed with efficiency and productivity in mind. From its single-step installation to such productivity-enhancing features as full System 7 integration and extensive connection-management capabilities, it provides everything users need to help them get their work done easily and efficiently *, wherever they are.

Users can also rest assured that their work will be secure. The Apple Remote Access MultiPort Server offers a host of sophisticated security features that allow administrators to maintain the integrity of the network. These features, such as password aging, location validation, and the ability to filter access to services, make it one of the most secure remote access servers available. And because its security architecture is supported by leading third-party security vendors, administrators can choose to augment the server's built-in security features with additional challenge-and-response security modules.

* The Apple Remote Access MultiPort Server includes support for 4 ports. Support for 8, 12, or 16 ports requires purchase of 1, 2, or 3 Apple Remote Access MultiPort Server 4-Port Expansion Kits (respectively) and additional Apple Remote Access Serial Cards and Apple RS-232 cables.

** X.25, ISDN, and cellular connections require additional Apple or third-party products.

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ARA 2.0: Remote Access MultiPort Server Requirements

This article describes the minimum requirements for using the Remote Access MultiPort Server.
This article has been archived and is no longer updated by Apple.

Hardware requirements

The following are the hardware requirements for setting up and running a Remote Access MultiPort Server:

* Any Macintosh computer with slots for 12-inch NuBus cards and an Apple SuperDrive for high-density floppy disks.
* 5MB RAM for a 4-port server; 8MB RAM for a 16-port server
* A hard disk
* An Apple Remote Access Serial Card and an Apple RS-232 cable
* One or more high-speed modems
* A telephone line for each modem

Software requirements

Your Remote Access MultiPort Server package includes installer disks, which contain all the software you need to run the Remote Access MultiPort Server and Remote Access Manager application. Additionally, you must be running system software version 7.0 or later on your server computer (7.1 is recommended).

Macintosh clients need to run System 7 and should have either Apple Remote Access Personal Service for Macintosh version 2.0, or Apple Remote Access Client for Macintosh version 2.0 software installed.

Network requirements

Connect your Remote Access MultiPort Server to an AppleTalk network using the same type of networking software and cable types as used with other devices on your network. Any AppleTalk network is capable of supporting a Remote Access MultiPort Server. The most common network choices are LocalTalk, Ethernet, and Token Ring.

Published Date: Feb 19, 2012

ARA 2.0 MultiPort Server: Specifications

This article describes the technical specifications for Apple Remote Access MultiPort Server.
This article has been archived and is no longer updated by Apple.

Administrator control and monitoring
---
* Ability to monitor and manage server activity by port and user
* Ability to broadcast messages or send them to selected users
* Ability to adjust connection time by user
* Ability to disconnect any single user or all users
* Built-in Simple Network Management Protocol (SNMP), enabling you to monitor the server from any SNMP-based network management station

Security
---
* User name and password authentication
* Adjustable password length
* Filtering of network services by account
* Ability to disallow client use of Save Password option
* Account disable after specified number of password failures
* Password aging
* External security architecture (for example, for providing challenge-and-response authentication through a third-party security module)
* Callback feature that verifies the user's identity by returning calls to a predetermined phone number
* Activity log for recording user and server activities
* Administrative password option

Modem support and scripts
---
* Supports any Hayes-compatible 9600-bps or higher-speed modem with the appropriate script. Modem scripts for many popular modems are included:
- V.fast modems: Motorola Codex 3260 Fast
- V.32bis modems (14,400 bps): Hayes Ultra 144, Motorola Codex 3260, US Robotics Courier V.32bis
- V.32 modems (9,600 bps): Hayes Ultra 96, Telebit T1600, UDS/Motorola 3225, UDS/Motorola 3227, US Robotics Sportster, US Robotics Worldport
* ISDN support: Hayes ISDN adapter
* 9600-bps or higher-speed scripts included with the Apple Remote Access Client for Macintosh can also be used with the Apple Remote Access MultiPort Server.
* Additional scripts may be available. Contact your modem manufacturer or an authorized Apple dealer or representative for more details.
* Administrators or other programmers familiar with connection control languages (CCLs) can also write the necessary scripts, using the Apple Remote Access Modem Scripting Guide and Modem Workshop software, which are included with the Apple Remote Access MultiPort Server.

Network types supported
---
* Support for any AppleTalk network; the most common network choices include:
? LocalTalk
? Ethernet
? Token Ring

Connection types supported
---
* Support for a range of connection types:
- Standard telephone
- Cellular*
- X.25*
- ISDN*

Error detection/Data compression
---
* Support for several built-in components that allow for error-free and optimized delivery of data
- Smart buffering (developed by Apple Computer) for data-transfer optimization
- MNP, an industry standard for error detection
- V.42bis, an industry standard for data compression

Specifications
---

* Maximum number of simultaneous connections:16
* User name maximum length: 31 characters
* Password maximum length: 8 characters
* Total number of user records: 8,192
* Maximum connect time: selectable
* Maximum number of activity log entries: 32,767

Licensing information
---
* Comes with license to install Apple Remote Access MultiPort software on a single Macintosh and to install Apple Remote Access Client for Macintosh software on up to four systems
* Additional client software must be purchased or licensed separately; consult your authorized Apple reseller or representative for information

Operating requirements

For the server side:
* A Macintosh computer with one or more NuBus slots and at least 5MB of RAM (for configurations with more than four ports, additional memory is required, and a high-performance system is recommended)**
* Macintosh system software version 7.0 or later (version 7.1 or later recommended)
* A hard disk drive and an Apple SuperDrive floppy disk drive
* One Apple Remote Access Serial Card and Apple RS-232 Cable for each Apple Remote Access MultiPort Server package and each MultiPort Server 4-Port Expansion Kit
* One or more Apple or other Hayes-compatible modems (9600 bps/V.32 or higher speed recommended)

For the client side:
* A Macintosh Plus or later model with at least 4MB of RAM
* Macintosh system software version 7.0 or later
* A hard disk drive
* An Apple or other Hayes-compatible modem (2400 bps minimum; 9600 bps recommended) and appropriate modem cable, if needed

Ordering Information

Apple Remote Access MultiPort Server
Order No. M5214Z/A
* Apple Remote Access MultiPort Server software and installer (includes support for four ports)***
* Apple Remote Access Client for Macintosh software and installer (with license to install software on up to four client systems); additional client software can be purchased separately
* Apple Remote Access Serial Card
* Apple RS-232 Cable
* Apple Remote Access MultiPort Server Administrator's Guide
* Apple Remote Access Modem Scripting Guide
* Apple Remote Access Client for Macintosh User's Guide (four copies)

Apple Remote Access MultiPort Server 4-Port Expansion Kit
(Includes Apple Remote Access Serial Card and Apple RS-232 Cable.)
Order No. M2384Z/A
Expands your Apple Remote Access MultiPort Server by four ports up to a maximum of 16 ports***

Apple Remote Access Serial Card
Order No. M2511Z/A
(This is a full length NuBus card and does not fit in the Centris 610,
Quadra 610, Centris 660AV, and Quadra 660AV which only accommodate 7 inch NuBus cards.)

Apple RS-232 Cable
Order No. M0128LL/A

Apple Remote Access MultiPort Server X.25 Extension
Order No. M1998Z/A

Apple Remote Access Client for Macintosh (single-pack)
Order No. M5227Z/A

Apple Remote Access Client for Macintosh 10-Pack
Order No. M2692Z/A

Apple Remote Access Client for Macintosh (Volume Licensing)
Contact your authorized Apple reseller or representative for purchasing information or contact Apple's Volume Licensing group.

* X.25 support requires purchase of Apple Remote Access MultiPort Server X.25 Extension; ISDN or cellular support requires additional third-party products.

** Support for Macintosh computers that use 7-inch NuBus cards may not be available at this time; consult your authorized Apple reseller or representative.

*** The Apple Remote Access MultiPort Server includes support for 4 ports. Support for 8, 12, or 16 ports requires purchase of 1, 2, or 3 Apple Remote Access MultiPort Server 4-Port Expansion Kits (respectively) and additional Apple Remote Access Serial Cards and Apple RS-232 cables.
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ARA 2.0 Personal Service: PowerBook & Client Issues

This article describes potential issues you may encounter while using Apple Remote Access Personal Service or Client on PowerBook computers and offers suggestions for solving these issues.
This article has been archived and is no longer updated by Apple.
1) When running Remote Access Personal Service or Client on any PowerBook with an internal modem:

Remember that the PowerBook control panel controls which physical modem port the PowerBook will use. Make sure your port selection in the Remote Access Setup window and modem script selection are consistent with the PowerBook control panel.

For example, if you want to use your internal Apple Data Modem, you must do the following:

* In the PowerBook control panel, click the Internal Modem button.
* In the Remote Access Setup window, choose Apple Modem 2400 from the Modem pup-up menu.

2) When running Apple Remote Access Personal Service or Client on any model PowerBook with an Express Modem:

* In the PowerBook control panel you change from Internal to External Modem. Then you go to the Remote Access Setup window to select the appropriate port and there is no external modem pop-up selection. You need to close the Remote Access Setup window, then open it again to get both selections.

* You have an active Remote Access connection using the Express Modem. If the PowerBook goes to sleep (either because you put it to sleep or because it went to sleep automatically) the PowerBook will freeze. Restart your computer by pressing the reset button. In order to have the Sleep option function correctly, you must first disconnect your Remote Access connection.

* Disregard the Express Modem Read Me which states that you should automatically remove the Serial Port Arbitrator from the Extensions fold in the System Folder. Only remove the Serial Port Arbitrator if it is causing problems (for instance, other programs that use the serial port don't function properly, you see a dialog box that says the serial port is in use, or your PowerBook freezes during shutdown).

3) When running Apple Remote Access Personal Service on any model PowerBook that contains an Express Modem:

* You have the "Answer Calls" checkbox selected in the Remote Access Setup window and change from External to Internal Modem in the PowerBook control panel. An alert box appears which states, "This setting cannot be changed while the Internal Modem is in use." Click the Cancel button and then:

- In the Remote Access Setup window, deselect the "Answer Calls" checkbox
- In the PowerBook control panel, click the Internal Modem button
- In the Remote Access Setup window, click the "Answer Calls' checkbox

* You have the "Answer Calls" checkbox selected in the Remote Access Setup window. If you go to the Express Modem control panel and click the Off button and then click the On button, you will have disabled you ability to answer or make calls. You must restart your computer.
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ARA 2.0 Personal Server: Macintosh Features

This article describes the features for Apple Remote Access (ARA) Personal Server for Macintosh.
This article has been archived and is no longer updated by Apple.

Ease of use
---
* Installs in only minutes
* Provides everything you need for both the calling and the answering Macintosh computers' client and server software, in one convenient package*
* Lets individuals or small organizations access services remotely, in the same intuitive way as they work with services locally
* Requires no specialized equipment

Adaptability
---
* Enables individuals or small organizations to take advantage of remote access to a single Macintosh computer or an entire AppleTalk network
* Supports a variety of leading modems
* Supports a range of network types, including LocalTalk, Ethernet, and Token Ring

High performance
---
* Features built-in industry-standard data compression and error detection
* Provides increased efficiency, with Apple's smart-buffering technology
* Is optimized for a variety of connection types

Built-in security
---
* Includes several security options that allow you to restrict access to information
* Generates an activity log to track usage

Flexible client capabilities
---
* Supports a variety of connections, including cellular, X.25, and ISDN**
* Is fully integrated with Macintosh System 7, so remote users can work with such familiar tools as the Chooser, Alias Manager, and the Finder

ARA Personal Server software includes everything you need to allow a Macintosh computer to communicate with another Macintosh or an entire AppleTalk network over standard telephone lines. It takes only minutes to set up and offers powerful capabilities that can help make an individual or a small workgroup of Macintosh users even more productive, no matter where they are.**

With ARA Personal Server, you can work wherever you like, at home or on the road, and retain access to all of the resources of your office computer or network. You and your colleagues can send and receive electronic mail, collaborate on a shared project, or print to a network-connected printer. Yet doing all of this is as simple as if you were working at your office.

Getting started with ARA Personal Server is easy. The software features single-step installation that requires no special technical knowledge. And ARA Personal Server adjusts automatically to the type of network you're calling, leaving you free to focus on your own work instead of worrying about the details of networking.

In today's increasingly complex and mobile world, ARA Personal Server provides convenient, direct access to information and resources at a remote location for computer users on the go. So, whether you want to share files with a neighbor or collaborate on a project with colleagues around the world, ARA Personal Server can help you get the job done quickly, easily, and affordably.

* Includes software for one client. Additional client software must be purchased or licensed separately.

** X.25, ISDN, and cellular connections require additional Apple or third-party products.

Published Date: Feb 19, 2012

ARA 2.0 Personal Server: Technical Specifications

This article describes the technical specifications for Apple Remote Access (ARA) Personal Server for Macintosh.
This article has been archived and is no longer updated by Apple.

Modem support and scripts
---
* Supports any Hayes-compatible 2400-bps, 9600-bps, or higher-speed modem with the appropriate script. Modem scripts for many popular modems are included:

►? V.32bis modems (14,400 bps): Apple Express Modem, Global Village PowerPort Gold, Global Village TelePort Gold, Hayes Optima 144, Microcom QX4232bis, Prometheus ProModem 144e, PSI Powermodem IV, Supra SupraFax v.32bis, Telebit T3000, Telebit WorldBlazer

►? V.32 modems (9,600 bps): Global Village PowerPort Silver, Global Village TelePort Silver, Prometheus Promodem 96, PSI Powermodem III, Supra SupraFax Modem Plus, Telebit QBlazer , Telebit T1600, US Robotics Sportster, US Robotics Worldport

►? V.22bis modems (2400 bps): Apple 2400, Global Village PowerPort Bronze, Global Village TelePort Bronze, Hayes Optima 2400, Microcom AX 2400C, Prometheus Promodem 24, PSI PowerModem II

* Cellular Support: Applied Engineering DataLink PB and Applied Engineering Axcell Cellular Interface, Microcom Cellular Data Link 300

* ISDN support: Hayes ISDN adapter

* Additional scripts may be available. Contact an authorized Apple dealer or representative or your modem manufacturer for more details.

* If you understand connection control languages (CCLs) and are an experienced programmer, you may be able to write the necessary modem script yourself.

Network types supported
---
* Support for any AppleTalk network; the most common network choices include:
- LocalTalk
- Ethernet
- Token Ring

Connection types supported
---
* Standard telephone
* Cellular*
* ISDN*

Error detection, Data compression
---
* Support for several built-in components that allow for error-free and optimized delivery of data
- Smart buffering (developed by Apple Computer) for data-transfer optimization
- MNP, an industry standard for error detection
- V.42bis, an industry standard for data compression

Security
---
* User name and password authentication
* Callback feature that verifies the user's identity by returning calls to a predetermined phone number
* Activity log for recording calling and answering activities
* User account disabled after seven incorrect password attempts

Specifications
---
* Maximum number of simultaneous connections: 1
* User name maximum length: 31 characters
* Password maximum length: 8 characters
* Maximum connect time: selectable
* Total number of user records: 100
* Maximum number of activity log entries:1,000

Licensing information

---

* Comes with license to copy and install the Apple Remote Access Personal Server software for your own use on up to two Apple computers owned and/or operated by you.
* Additional client software must be purchased or licensed separately; consult your authorized Apple reseller or representative for information.

System requirements

---

* A Macintosh Plus or later model with at least 4MB of RAM
* A hard disk drive
* Macintosh system software version 7.0 or later
* An Apple or other Hayes-compatible modem (2400 bps minimum; 9600 bps or higher speed recommended) and appropriate modem cable, if needed
* Apple Remote Access Client for Macintosh version 2.0

Ordering Information

Apple Remote Access Personal Server for Macintosh
Order No. M2726Z/A
* Apple Remote Access Personal Server software and installer
* Apple Remote Access Personal Server for Macintosh User's Guide
* Apple Remote Access DialAssist quick-reference card
* Modem scripts for a range of Hayes-compatible modems (additional modem scripts may be available; contact an authorized Apple reseller or representative, or your modem manufacturer, for details)

Apple Remote Access Personal Server Upgrade Kit
Order No. M2678Z/A
Upgrades AppleTalk Remote Access Personal Service version 1.0 to Apple Remote Access Personal Server software version 2.0

Apple Remote Access Client for Macintosh (single-pack)
Order No. M5227Z/A

Apple Remote Access Client for Macintosh 10-Pack
Order No. M2692Z/A

Apple Remote Access Modem Toolkit version 2.0
Order No. R0129LL/C

This product is available from APDA.

* ISDN and cellular connections require additional third party products.
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ARA MultiPort Server: Basic Security Information

This article provides basic information about the Apple Remote Access MultiPort server's security.
This article has been archived and is no longer updated by Apple.
You can establish and control server security through a number of features in the Remote Access Manager software.

User Registration

Guest User is a generic account for guest users of remote access service. Anyone on the network can be a guest; a guest is not assigned a password and generally has limited network access. In the interest of security, you should limit the amount of access that guests have on your network.

A registered user is anyone for whom you have assigned a user name, password, and security options.

Password and callback security

You can increase the security of your network by requiring that each registered user enter a password to access the server. You should provide registered users with a unique password the first time they log in and require that they change the password at that time. Selecting the Require New Password on Next Login option in the User information window will ensure that all users must change their passwords after the first time they log in.

Requiring a callback number for users further ensures security because users can only connect to the server using a telephone number that they have provided to you. When a user successfully logs in, he or she is immediately disconnected from the server. The server then attempts to make a connection at the callback number listed for that user. If the telephone number is valid, a connection is made.

Zone access

Zones are logical subdivisions of a network in which services such as file servers, printers, and other individual Macintosh computers reside. Zones appear in the Chooser window. You can use zones to organize services into logical groups. The Apple Remote Access MultiPort Server administrator can assign each user access to specified zones on the network.

Security Zone

The Security Zone feature prevents individuals from setting up an Apple Remote Access MultiPort Server or Apple Remote Access Personal Service without an authorizing password. Security Zone software is provided on the Apple Remote Access MultiPort Server Toolkit disk. For instructions on how to implement this feature, see the Read Me file provided with the software.

External security

You can provide an additional level of security by implementing third-party, external security. For example, additional security would be appropriate for those who need roving access (for PowerBook users). Two types of external security are available: line-level security and protocol-level security.

Line-level security provides security at the telephone line level and usually consists of hardware that is connected to the server and security software module that is placed on the clients' workstation.

Protocol-level security provides security at the software level and usually consists of security software modules that are placed on both the server and the clients' workstations. You can install more that one security module on both the server and clients' workstations, but you can activate only one security module at a time.
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ARA MultiPort Server: Shares User Data With AppleShare

This article describes the sharing of user database information between AppleShare and Apple Remote Access (ARA).
This article has been archived and is no longer updated by Apple.
If you have installed the Apple Remote Access MultiPort Server on the same computer as your AppleShare server, the user database is shared between them. The user database is called the "User List" in ARA and the "Users & Groups Data File" in AppleShare.

All users from the AppleShare Users & Groups Data File appear in the Remote Access Manager User List as registered users, but you must select login and callback options for them. Remote Access Manager does not support the AppleShare Groups feature; any groups that you have created with AppleShare do not appear in the User List.

IMPORTANT: Any changes you make to the User List, such as adding or deleting users, will affect the AppleShare Users & Groups Data File.

Any changes that you make to a User information window, such as changing the login name or password, also affects the AppleShare Users & Groups Data File.

IMPORTANT: Since AppleShare Admin and Remote Access Manager use the same user database, you cannot run both applications at the same time. However, if you lock the Remote Access Manager, you can run the AppleShare Admin application. To lock the Remote Access Manager, choose Lock Server Manager from the Server menu.
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ARA 2.0: Starting the MultiPort Server After Booting

This article describes what needs to be done to start the Apple Remote Access MultiPort Server immediately after the server's computer boots.
This article has been archived and is no longer updated by Apple.
The Remote Access Manager application does not have to running for the server to be active. However, the Remote Access Manager must be run once to start up the server. After that, you can quit the Remote Access Manager and the server will keep running.

If you want the server to automatically start up when the server's computer is booted up, place the Remote Access Manager application (or an alias) in the Startup Items folder, located in the System Folder.
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Apple Remote Access: Underlying Technology

This article describes the underlying technology of Apple Remote Access for Macintosh.
This article has been archived and is no longer updated by Apple.

ARAP 2.0

The AppleTalk Remote Access Protocol (ARAP) provides efficient AppleTalk services on a per client basis over slow links. It defines the login and authentication sequences. The ARAP specification has been enhanced to include the ability to change passwords, to allow password retries, to authenticate a user using external third-party security devices, and to send out-of-band messages such as alerts and greetings. In addition to the above enhancements, ARAP Version 2.0 will now allow administrators of the Apple Remote Access Server to set the specific zones each user can see.

Note: The protocol enhancements are what allow for the new functionality; therefore, the client side of Apple Remote Access is compatible with ARAP 1.0 based products, however, users will not be able to take advantage of the ARAP 2.0 features when connecting to ARA 1.0 servers.

Also the client side of ARA 1.0 is not compatible with the ARA 2.0 servers.

Remote password change

Provides a method for a user to remotely change their password (without having to use AppleShare as was necessary with 1.0). Allows the administrator to set the number of retries allowed before user logon is disabled. Also allows the administrator to force users to change their passwords via the "New password required" dialog.

Roving access security

Dial-back is not satisfactory for everyone who wants both security and mobility. We now add mobile security to our feature list by allowing for the use of third-party "security cards". With some "security cards" the user must type in a personal code and a requestor code into a credit card size calculator like device. The device will then return the SecureID. Other "security cards" are time based and constantly display current SecureID information. When trying to make a connection to a secure server, the user will see a dialog box requesting a SecureID. Without the SecureID and the standard username and password the user will not be able to get in to the network.

The ARAP 2.0 protocol was defined such that security extensions can be added as drop-in modules. Several third party security vendors have agreed to write the extensions that will allow their products to work with our servers.

X.25 connectivity

The new server software contains extensions that allow a user to connect to Remote Access through an X.25 network. This type of access is valuable in situations where the cost of X.25 asynchronous dial-up service is less than the cost of end-to-end service through the phone companies.

Remote administration

Since the initial release of ARA 1.0, large business users have requested enhanced remote administration and management capability. Remote administration allows for the servers to be locked up in a secure area and still be managed from the administrators desk. Customers often have many servers and would prefer to maintain only one database of registered users. Remote administration addresses this need by providing for the remote location of a shared user database. Integrated network management via SNMP is now a part of the MultiPort servers as well.

DialAssistant

This is a client software feature that makes long distance, credit card, international, and private PBX calling extremely easy for the user. The software is preconfigured with all of the most common dialing codes so that a user only has to select items from two pop-up menus.

Published Date: Feb 19, 2012

System 7.1 Commonly Asked Questions

This article presents common customer questions about system software version 7.1, and the answers.
This article has been archived and is no longer updated by Apple.

```
Q. What is WorldScript?

A. WorldScript supports most written languages in the base system
  software. WorldScript includes support for text input and display,
  as well as for incorporating language attributes, such as date and
  time formats.

  This technology is incorporated into System 7.1 to provide the same
  system-level support for non-Roman languages, such as Japanese and
  Arabic, that Apple has always provided for Roman languages, such as
  English, French, German, and Spanish.

Q. Why am I getting a message about a 128-file limit on the Fonts
  folder?

A. The Fonts folder can hold a maximum of 128 files. This includes font
  suitcases, and  individual font files like bitmapped (or screen)
  fonts and TrueType fonts. It doesn't include PostScript (or printer)
  fonts.

  Suitcases can contain multiple font families and can be as large as
  16MB.  If you have more than 128 files, place individual bitmap or
  TrueType font files into suitcases, or merge suitcases. Merge
  suitcase files by dragging one suitcase file on top of another
  suitcase file.

Q. How do I create a font suitcase?

A. You can't create a font suitcase with System 7.1, but you can
  duplicate an existing suitcase. If you need an empty suitcase,
  duplicate a suitcase and throw away its contents.  You can duplicate
  the remaining suitcase as many times as you need.

Q. Is System 7.1 slower than System 7.0?

A. No.  There are a few things you should check if performance seems
  slow:

   Make sure File Sharing and Virtual Memory are off when not in use.

   Check all third-party extensions for compatibility with System
    7.1.

   Check the Views control panel to make sure "Calculate Folder
    Sizes" isn't checked.

Q. I'm using Adobe Type Manager and Suitcase with System 7.1.  Do I
  need an upgrade?

A. System 7.1 requires version 3.0 or later of Adobe Type Manager (from
  Adobe Systems) and version 2.1.2 or later of Suitcase (from Fifth
  Generation Systems).  Contact the manufacturers for specific upgrade
  information.

Q. I just upgraded from System 6, and now I'm getting random system
  errors.

A. Make sure all devices in the SCSI chain attached to your Macintosh
  computer are powered on before you start it up.
```

Try starting your Macintosh computer while holding down the Shift key to turn all extensions off. This will identify an extension (or INIT) conflict. If no errors result, an extension probably conflicts with the system or other extensions.

If your computer crashes when you have Virtual Memory on, contact your hard drive vendor to verify that your hard drive formatting software is compatible with System 7.1.

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Duodisk General Troubleshooting

This article has been archived and is no longer updated by Apple.
DESCRIPTION:
By following this procedure you can isolate a malfunction on the Duodisk and determine whether or not it is functional.

YOU WILL NEED:
1. "Known good" Apple IIe computer
2. Two DOS formatted 5 1/4 disks (one write protected the other not)
3. "Known good" Duodisk controller PCB - IN SLOT 6
4. 2 copies of DAP (Drive Acceptance Program) (APN 077-8101) - it is copyable
5. DDD (Digital Diagnostic Disk) (APN 689-8024)
6. Level I Tech Procedures

BEFORE YOU START:
1. If replacement or adjustment procedures are needed, refer to the Tech Procedures
2. If a replaced module/part doesn't fix a problem, reinstall the original module/part.
3. If the analog card proves to be problem, search on "HTS and Duodisk and Analog" for the analog card troubleshooting procedure.
4. After repair, check drive with "other" DAP disk (original may be damaged).

INSTRUCTIONS:
1. Connect the problem Duodisk to the controller in the Apple IIe.
2. Boot the DAP disk in LEFT drive.

a. First screen shows 2 drives and 2 arrow keys.

b. You run the program with the 2 arrow keys.

c. If drive booted OK, go to step 3; if not, check for problems below.

PROB: Won't boot. Drive comes on but I/O errors occur
FIX: Recheck for the problem after each of the following steps
(1) Try other DAP disk.
(2) Try reading a file from the other drive on the Duodisk. If it fails, replace analag card.
(3) Perform Dspeed adjustment in Tech Procedures (you'll need to use a known good drive in addition to the problem drive to make this adjustment). If the problem drive won't adjust, replace analog card
(4) Examine the head. If dirty, clean it with solution of 80% denatured alcohol and 20 % distilled water (for more info search on Disk Drive Preventive Maintenance); if the head is scored replace the mechanical assembly containing the head.
(5) Replace interface cable
(6) Replace disk mechanical on the problem drive
(7) Replace analog card

PROB: Won't boot. Drive doesn't come on.
FIX: Recheck for problem after each of the following steps
(1) Boot from other drive on Duodisk. If it fails, replace analog card.
(2) Replace interface cable
(3) Replace disk mechanical
(4) Replace analog card

PROB: Drive makes unacceptable noise
FIX: Replace disk mechanical

3. Press "LEFT" arrow to select "LEFT" drive for test.

4. Screen asks you to install WRITE-PROTECTED blank disk into drive. After

you do, press the RIGHT arrow to continue running the test...drive whirs.
Read IMPORTANT below.

IMPORTANT: If a failure occurs during the following steps, the drive under test will be crossed out and the number(s) above the crossed out drive will indicate which test(s) failed. If this happens, go to the end of this procedure find the Test #(s) that failed and perform the appropriate repair action.

5. The changing arrows on the screen tell you to remove the WRITE-PROTECTed disk and install NON-WRITE-PROTECTED blank disk into drive. After you do, press RIGHT arrow to continue running the test...drive whirs test numbers change as tests are performed.

6. After a minute or so and while drive is still whirring, screen asks you to install DDD disk. After you do, PRESS the RIGHT ARROW to continue tests...drive continues to whir, DDD disk change screen leaves, etc.

7. The drive stops whirring and the screen asks you to remove the DDD disk, this is the end of the test and indicates that the LEFT drive is OK so press the LEFT arrow once to go back to the first screen, then press RIGHT arrow to select RIGHT drive for test and go back to step 4.

If a failure ocurred in the procedure above, find the Test #(s) that failed and perform the appropriate repair action.

TEST# - REPAIR ACTION

1 Make sure test was done using proper disks (i.e., DOS 3.3 formatted, blank, write protected/non-write protected).
Replace disk mechanical
Replace analog card
Send to Apple

2 Adjust D-Speed
Replace analog card
Replace disk mechanical
Send to Apple

3 Replace analog card
Replace disk mechanical
Send to Apple

4 Rerun test (test 4 failure can indicate bad DDD disk)
Replace disk mechanical
Send to Apple

5 Replace disk mechanical
Send to Apple

6 or 7 Replace disk mechanical
Send to Apple
Published Date: Feb 19, 2012

MODE32: Boot Drive SCSI ID Must Be Zero (9/94)

My Macintosh seems to continually restart if I install MODE32. If I boot from a floppy, the problem goes away so it appears to be related to MODE32. I need to use MODE32, what's wrong?

This article has been archived and is no longer updated by Apple.
If your boot drive uses software to change the SCSI ID, then you will need to set the ID to 0 if you are using MODE32, otherwise the machine just seems to continually restart.

Here is the technical explanation of what is going on. MODE32 must "stutter-start" the machine since the ROMs only have a 24-bit memory manager and some software (like the disk's driver) have already loaded and would have loaded in a different place if 32-bit addressing had been enabled. So, as soon as possible in the boot process, MODE32 gives the machine a 32-bit memory manager, and effectively restarts the machine to let things load in their proper space.

A potential problem exists here however. What if the machine then restarts off another disk? Perhaps it didn't spin-up quickly enough, or the user inserted a floppy at the wrong instant. The new disk may not even have MODE32 on it! So, if MODE32 detects restarts from a different SCSI ID, it does a full restart, figuring that by now all the disks should be up to speed, and the machine will consistently choose the same startup disk.

Some SCSI drives, however, use software to control their SCSI ID, and effectively restart (for a moment) as SCSI ID 0 no matter what the jumpers are set to. The only way MODE32 can work with these disks is to change the SCSI ID to 0 so it will be the same on both boots.

Article Change History:
12 Sep 1994 - Reviewed for technical accuracy.

Support Information Services
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Newton Fax Modem: "No Modem Connected" Message

I connected my Newton Fax Modem to my Newton MessagePad and to the telephone line. When I try to dial a phone number with the modem, my Newton displays the message "No Modem Connected."

What do I do now?
This article has been archived and is no longer updated by Apple.
If you see the message "No Modem Connected" when you try to dial a phone number, follow these steps:

1) Reset your Newton by pressing its reset switch.

2) Check your Fax Modem's power source. If the battery status light (the red LED) is on, your batteries are low. Replace the batteries or connect the AC adapter.

Note: If the Fax Modem's batteries are completely discharged, the LED won't light.

3) Reset your Fax Modem by removing the batteries and disconnecting the AC adapter. Then replace the batteries and/or reconnect the AC adapter.

This will reset the internal modem circuitry. Your Fax Modem should now work.
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Newton Battery Booster Pack: When To Change Batteries

How do I know when to change the batteries in the Newton Battery Booster Pack?
This article has been archived and is no longer updated by Apple.
The battery gauge inside the Extras drawer displays the remaining capacity of all the Newton MessagePad's batteries. When the batteries are exhausted, the battery gauge's display bar will disappear and you will see a warning message on MessagePad's display.

The battery gauge reports the combined status of both the Booster Pack batteries and Newton's internal battery pack. When you see the low battery warning message, you must:

* Change all eight Booster Pack batteries

and

* Either remove the internal battery pack or replace its batteries.

You do not need the internal battery pack in the Newton MessagePad while you are using the Battery Booster Pack. If your MessagePad has alkaline batteries in its battery pack, Newton will draw power from its internal battery pack and from the Booster Pack.

Note: Do NOT attach a Battery Booster Pack to a MessagePad that contains a rechargeable internal battery pack, since this will shorten the life of the Booster Pack Batteries.
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Newton Connection Kit: Connecting to Undocked Duo

Whenever I use the Newton Connection Kit to synchronize my Newton MessagePad with an undocked PowerBook Duo, the Connection Kit returns an error message that says no connection could be established.

How can I make this configuration work?
This article has been archived and is no longer updated by Apple.
To use the Newton Connection Kit with an undocked PowerBook Duo, follow these steps:

1) Turn AppleTalk off by opening the Chooser application from the Apple Menu and clicking the AppleTalk Inactive radio button.

2) Connect one end of the serial communications cable to the Duo's modem/printer port.

3) If you are using a Duo 250 or 270c, open the PowerBook Setup Control Panel and set the modem setting to Normal; otherwise, set the Modem Control Panel settings to External Modem.

4) Connect the other end of the serial communications cable to the Newton's communications port.

You should now be able to operate the Newton Connection Kit with your PowerBook Duo.
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Newton MessagePad: 0011 Prefix Before Phone Number

When I use the Assist button to place a phone call, the numbers '0011' are inserted before the phone number.

How can I stop this from happening?
This article has been archived and is no longer updated by Apple.
The numbers '0011' are being inserted in the Assist slip because your Newton MessagePad thinks this is an international call.

When you set your Country preference in your Personal Preferences, you must tap Country, then select a country from the list that appears.

If you write the country name in the Country preference blank instead of selecting from the list, your MessagePad will not understand what country you are in and this problem will occur.
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Newton MessagePad 100: How to Avoid Scratching the Touchpad

How do I avoid scratching the Newton MessagePad's touchpad?
This article has been archived and is no longer updated by Apple.
The Newton MessagePad's touchpad (or screen) can be scratched quite easily. Here are some useful tips you can use to avoid scratching the touchpad.

- Only use the pen that was included with the Newton or other plastic-tipped pens designed for use with touch-sensitive screens, on the Newton's touchpad.
- Only clean the touchpad with a clean, soft, dry cloth. A chamois cloth works well.
- Do NOT use any solvent or cleaner on your Newton's touchpad!
- Clean your Newton's touchpad and pen often.
- Cover the touchpad when you're not using it to avoid the buildup of dust.
- If the touchpad has been exposed to dust for any length of time, clean it and your pen before writing.
- If, while writing, you discover that the pen seems to 'feel' different, IMMEDIATELY stop writing and clean both the touchpad and the pen. Debris on either device can cause the pen to 'feel' different when writing and scratch the touchpad.

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Newton 1 MB Storage Card: How to Replace the Battery

How do I change my Apple MessagePad devices 1 MB SRAM Storage Card's backup battery without losing the card's contents?
This article has been archived and is no longer updated by Apple.
As a Static RAM card, the 1 MB card requires a battery to maintain the contents when it is not installed in Newton. Storage cards that use batteries should have their battery life closely monitored and should have their batteries replaced approximately once a year. The Newton hardware warns you if the battery needs replacement. Apple 2MB Flash Storage Card and 4MB Flash Storage Cards use Flash memory technology, which does not need batteries to preserve memory.

Apple originally shipped the 1 MB card with a 3-volt Duracell DL 2325 lithium disk battery. This battery is no longer made by Duracell. The equivlant battery is Panasonic and Rayovac BR-2325.

If possible, leave the 1 MB card inside your Newton to maintain contents when replacing the battery. If you replace the backup battery with outside the Newton, replace the battery in 10 minutes or you may cause data loss.

To replace your storage card's battery, follow these steps:

1) Slide the switch on the top edge of the card into the unlocked position.

2) On the top edge of the card, you'll find a small slot.Using acoin or a fingernail for leverage in the slot, pull the battery carriage out of the card.

3) Place the battery in the carriage slot, making sure the plus (+) side is facing up. Wipe your fingerprints from the surface of the battery.

4) Gently push the carriage back into the slot until you hear a small click.
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Newton MessagePad: Separating Imported Name File Data

When I import data from my Sharp Wizard OZ/IQ 9600 to my Newton MessagePad, a single field in my Names application receives ALL of the imported data.

How can I separate this data string without losing any of the data?
This article has been archived and is no longer updated by Apple.
There are three different methods to separate your data. One method uses the Newton Connection Kit, while the other two methods use the MessagePad's clipboard.

If you own the Newton Connection Kit, follow these steps:

1) Synchronize your data with your Macintosh or MS-DOS/Windows-compatible computer.

2) Copy and paste individual pieces of the string to their appropriate fields using your computer.

3) Save all files and re-synchronize after you've finished copying your data.

If you do not own the Newton Connection Kit Software, you can use the MessagePad's clipboard to separate data. Here is the first method:

1) Select the first piece of information from the combined data string.

2) Drag the selected piece of data to the upper-right corner of the MessagePad screen.

3) Expand the field that you wish to place your data into by tapping on it.

4) Drag your data from the clipboard into the expanded field.

5) Repeat the process for the remainder of the string.

The other method is to:

1) Select the entire data string and drag it to the upper-right corner of the MessagePad's screen.

2) Open the Note Pad application and drag the data string into the Note Pad.

3) Divide the data string into its appropriate items.

4) Select each data item and drag them to the upper-right corner of the screen.

5) Move each data item back into the appropriate field in the Names file.
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ARA 2.0: Third-Party Vendor Support

This article provides information on Third-Party vendor support for Apple Remote Access product family.
This article has been archived and is no longer updated by Apple.
More than 12 leading third-party vendors will be shipping products built upon the Apple Remote Access product family architecture. The Apple Remote Access product family architecture consists of the new AppleTalk Remote Access Protocol (ARAP) 2.0 and Application Programming Interfaces (APIs).

Third-party vendors utilizing the Apple Remote Access product family architecture offer Apple Remote Access users a wide variety of solutions, enhancements and options.

The Apple Remote Access architecture empower third-party vendors to create a variety of service solutions including: the building of stand-alone remote access servers, security enhancements, and reporting applications.

Tech Info Library Article 17159: "**Locating Vendor Information**" can help you search for a particular vendor's address and phone number.

Apple Remote Access Portability

Leading companies such as APT Communications, Inc.; Cayman Systems; Cisco Systems, Inc.; Computer Methods Corporation; FCR Software, Inc.; Global Village Communication, Inc.; Pacer Software, Inc.; Shiva Corporation; Telebit; Webster Computer Corporation; and Xylogics, Inc. have announced independent products that support ARAP 2.0. These companies are building server functionality into other devices such as: dial-in communication equipment, routers, bridges, print and file servers and other computer systems or stand alone products.

Integrated Security Solutions

Key security vendors such as Digital Pathways, Inc.; MicroFrame, Inc.; Open Computing Security Group (OCSG); and Security Dynamics, Inc. have announced Apple Remote Access security products. These security products augment the advanced security features already found in the Apple Remote Access MultiPort Server and adhere to recognized security standards such as Kerberos network access security, Digital Encryption Standard (DES) password scrambling, and other token and card-based systems. The security functionality is added by the vendors through the Apple Remote Access security architecture which includes a Client and Server Security Application Programming Interface (API).

Reporting and Call Accounting

Additional third-party opportunities are available through the Apple Remote Access MultiPort Server logging system. They can incorporate the logging information into network management and resource allocation solutions. This information is readily available to any solution since it is stored as tab-delimited text. Examples of accessible information include: date and time of connections, disconnection, and connection-attempts events. Other available information includes user IDs, optional accounting and charge back identification information.

Remote Access Client Interfaces

Third-parties can also hook their applications directly into the Apple Remote Access Client through the architecture's API for the customization of commercial and in-house applications. This allows third-party applications to dial-out and make connections transparently to remote networks without the users knowledge or training of Apple Remote Access Client software. Examples of companies developing these kinds of products include Farallon Computing, Inc. and No Hands Software.

Modem and Terminal Adapter Support

While Apple has included automated modem scripts in it's new products for most of the leading modem and ISDN terminal adapter companies, it has also created the Apple Remote Modem Access Scripting Guide and the Modem Workshop Software, which allows modem vendors, in-house developers, and other technical users to write scripts for their particular modems, terminal adapters or PBX systems.

Apple Remote Access Architecture Products and Availability

The Apple Remote Access architecture consist of the enhanced AppleTalk Remote Access Protocol (ARAP) 2.0 specification and Application Programming Interfaces (APIs). The ARAP 2.0 specification provides the necessary interfaces for building compliant servers. The APIs include the security and client application interfaces. The protocol specifications and APIs are available in the AppleTalk Remote Access Protocol Developers Kit V.2.0. The Modem Scripting Guide and Modem Workshop software are available in the AppleTalk Remote Access Modem Tool Kit V.2.0. Each of these tool kits are available from APDA, Apple's source for developer tools.
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Apple Remote Access: General Q&A

This article contains general questions and answers on Apple Remote Access for Macintosh.
This article has been archived and is no longer updated by Apple.
Q) What is Apple announcing at Comdex in regards to remote access?
A) Apple is introducing a new family of remote access products. The new Apple Remote Access product family allows individuals and workgroups of any size to easily access information and services remotely over a variety of connections, ranging from standard telephone lines to ISDN.

Q) What are the new products?
A) The new product family includes the Apple Remote Access MultiPort Server, Apple Remote Access Personal Server for Macintosh and Apple Remote Access Client for Macintosh. The product family also includes several associated remote access products, including the Apple Remote Access MultiPort Server X.25 Extension Kit, the Apple Remote Access Client for Macintosh 10-Pack, Apple Remote Access Client for Macintosh Upgrade Kit and the Apple Remote Access Personal Server for Macintosh Upgrade Kit.

Q) What is the difference between these products?
A) Each product in the family is designed to provide a solution for different customer needs. The Apple Remote Access MultiPort Server is a multiline solution offering the most versatile and secure way to provide remote network access for a large number of dial-in users. The Apple Remote Access Personal Server for Macintosh is a single-line all-in-one remote access solution providing the easiest and most affordable way to offer remote network information and resources for individuals and small organizations. Apple Remote Access Client for Macintosh is the best way to connect to remote network services?anytime, anywhere, and with any Apple Remote Access-compatible server, including Apple's MultiPort and Personal Server products.

Q) What are the specific differences between AppleTalk Remote Access version 1.0 and Apple Remote Access Personal Server?
A) The major differences lie in two areas: product positioning and client-side features. Apple's original offering targeted anyone who needed remote access to an AppleTalk network.. Now that we have a product family, the positioning for Apple Remote Access Personal Server has become more specific: It provides a single-line solution for individuals and small workgroups that have relatively low-volume remote access needs. Apple's feature enhancements were to the "client side" Apple Remote Access Client for Macintosh. Those features include:

* DialAssist¬ technology (this is a big addition)
* Complete new set (broader range) of supported modems
* Ignore dial tone option for non-standard telephone equipment
* Alternate connection support (Cellular, ISDN, X.25, etc.)
* Manual and automatic dialing options give you more flexibility when using more obscure telephone systems
* Original and alternate number redialing options
* Settable connection reminder via menu or dialog box
* Universally available disconnect via the "Remote Access Disconnect" Desk Accessory
* 1.0 and 2.0 Remote Access Server Compatibility
* User initiated change password option
* Built-in support for third-party external security modules

Q) How does the MultiPort Server differ from the Apple Remote Access Personal Server?
A) The Apple Remote Access Personal Server answers only one call at a time and is designed for individuals or small workgroups who want a very affordable, no fuss, all-in-one remote access solution. The Apple Remote Access MultiPort Server, on the other hand, provides multiple users simultaneous dial-in access through a single Macintosh computer-based server. The MultiPort Server is also targeted at workgroups which expect to have "high volume" dial-in usage.
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DMP General Troubleshooting

This article has been archived and is no longer updated by Apple.

DESCRIPTION:
Follow this procedure to determine that the DMP is functional.

YOU WILL NEED:
1. Apple IIe computer
2. Apple IIe Parallel Interface Card
3. Printer cable
4. The Level I Tech Procedures
5. DMP User's Manual
6. Pencil and paper

BEFORE YOU START:
1. For replacement or adjustment procedures, refer to the Technical Procedures.
2. If a replaced module/part doesn't fix the problem, reinstall the original module/part.
3. For locations of DMP controls, refer to User's manual.

CHECK 1: PRE-PRINT
1.1 Disconnect the printer cable at the back of the DMP
1.2 Check that the top panel is installed correctly
1.3 Check that paper is installed
1.4 Turn the platen knob

PROB: The platen binds or doesn't turn consistently.
FIX: Remove the carrier cover and paper cover, use pen-light to examine the platen gears for obstructions.

1.5 Move the carriage to its rightmost position.

PROB: The carriage binds or doesn't move consistently
FIX: Check if carrier wire is strung properly or out of tension specification as described in Tech Procedures.
PROB: The carriage does not return to the leftmost postition.
FIX: Clean the end of travel sensor.

CHECK 2: POWER ON INITIALIZATION
As you turn on the printer, check for the conditions in 2.1, 2.2, 2.3, and 2.4.

If any do not occur as described, search on "HTS and DMP and Initialization".The document you will obtain contains fixes for DMP power-on problems.

2.1 The power lamp should come on.
2.2 The platen should rotate one line backward and then one line forward.
2.3 The carriage should move smoothly to its leftmost position and stop.
2.4 The SEL lamp should come on.

CHECK 3: SELF TEST
If conditions described in 3.1 and 3.2 do not occur as described, go back to the AppleLink Word Search Screen and enter "HTS and DMP and Self Test". The document obtained will contain FIXes for DMP Self Test problems.

3.1 Turn on the printer while pressing the TOF switch. The printer should begin printing CHARACTER SETS.
3.2 If print quality is good, go to CHECK 4.

CHECK 4: HOST PRINT

4.1 Turn off the printer, write down the customer's configuration of the DIP switches in the printer, then set the DIP switches as shown below:
(Note: Op = open, Cl = closed, Nu = not used)

```
__________SW1_________ __________SW2_________
1 2 3 4 5 6 7 8 1 2 3 4 5 6 7 8
Op Op Op Op Op Op Op Op Op Op Nu Nu Op Cl Cl Op
```

4.2 Install the Parallel Interface Card in slot 1. Connect the DMP to the card via printer cable. Turn on the DMP (make sure cover is installed). Turn on the IIe and press the RESET key while you press the CONTROL key (DO NOT BOOT A DISK). The cursor should blink.

Type the program exactly as shown below.

```
10 PR#1
20 FOR A = 1 TO 100
30 FOR I = 32 TO 126
30 PRINT CHR$(I);:NEXT I:PRINT
40 NEXT A
50 PR#0
60 END
```

4.3 Type RUN and press the <RETURN> key. The printer should print out about 100 character sets like the one shown below. If it does, the DMP communicates with the computer OK.

```
!#$%&'()*+,./0123456789:;<>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\\]^_'abcdefghijk
lmnopqrstuvwxyz{|}
```

If it doesn't, look below for problems.

* If you get a SYNTAX ERROR on the computer, you may have mis-typed the line.
To correct the syntax error perform the following:
(1) Type LIST and press <RETURN>. The program should appear on the screen.
(2) Examine the program for accuracy. Spaces, colons, etc. are important.
(3) To correct a line, simply retype the line and press <RETURN>. LIST again to make sure the correction is OK.

* If nothing happens on the printer or the computer, press the RESET key while you press the CONTROL key. Then LIST your program as described above in the SYNTAX ERROR explanation to look for typing errors.

* If no syntax errors occured and the cursor is blinking again; then the program has probably run OK. If the printout is not satisfactory, search on "HTS and DMP and COMMUNICATIONS". The document you will obtain contains fixes for DMP hardware communications problems.

4.4 If the printer has performed correctly, perform the following:
(1) Return the DMP DIP switches to the customer's configuration, then refer to the DMP User's manual to check that the customer's DIP switch configuration is right for his requirements.
(2) Perform the Periodic Maintenance procedure in Technical

TA30572_DMP_General_Troubleshooting_(TIL01396).pdf

Procedures/DMP tab/section 1.

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Apple Remote Access: Technology Q&A

This article contains technology questions and answers on Apple Remote Access for Macintosh.
This article has been archived and is no longer updated by Apple.
Q) What is Apple Remote Access and what does it do?
A) Apple Remote Access is a remote node technology (that is; allowing you to be a full peer on the network) which enables users to access all network resources, including file servers, electronic mail, calendars, applications, and network printers, from a remote location. Users of remote access include business travelers who need to check their electronic mail system back at the office or a person who telecommutes; working at home, yet needing to be "connected" back to the office.

Q) Is there a limit to the distance possible for a remote connection?
A) There is no physical limit. Users can call to and from anywhere in the world as long as they have access to a phone and a modem. The quality of the connection (that is: noise on the line) is the only factor that has an effect on the remote connection.

Q) Can Apple Remote Access products function over other connections such as ISDN or X.25?
A) Yes. The Apple Remote Access Client for Macintosh and MultiPort Server products have both been designed to accommodate a variety of connection options , including X.25 or ISDN services. Currently, Apple offers an Apple Remote Access MultiPort Server X.25 Extension which adds X.25 support to the Apple Remote Access MultiPort Sever and Client for Macintosh. Other connection options, such as ISDN, are expected to be offered by third-party developers.

Q) Why did Apple drop the "Talk" from the Apple Remote Access product name?
A) When AppleTalk Remote Access was first introduced in October 1991, it was intended for use with AppleTalk networks only. AppleTalk is Apple's local area network protocol suite that is built into every Macintosh computer and networked LaserWriter printer. Because we recognize the growing demand for remote access solutions that include computers from a variety of vendors, we plan to introduce cross-platform capability for Apple Remote Access in the future. Apple Remote Access will run on computer systems other than the Macintosh computer, and consequently, LAN protocol suites other than AppleTalk. Thus, we dropped "Talk" from the name to parallel our new direction for Apple Remote Access.
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Apple Remote Access: Macintosh Client Q&A

This article contains questions and answers on Apple Remote Access Client for Macintosh.
This article has been archived and is no longer updated by Apple.
Q) What does the Apple Remote Access Client for Macintosh do?
A) The Apple Remote Access Client for Macintosh software allows users to connect to any Apple Remote Access-compatible server -- easily, flexibly, and productively. It can be used with the single-line Apple Remote Access Personal Server to support a small workgroup or with the multiline Apple Remote Access MultiPort Server to support larger numbers of remote or mobile users.

Q) What are the key benefits of the Apple Remote Access Client for Macintosh?
A) Key advantages include:
- Easy to use software gets you up and running fast
- Access information anytime, anywhere
- Connects to any Apple Remote Access►?compatible server
- DialAssist technology makes dialing back to the office effortless

Q) Who will use the Apple Remote Access Client for Macintosh?
A: Apple Remote Access Client for Macintosh software will be purchased by anyone who is looking to capitalize on the resources of an existing Apple Remote Access Personal Server or MultiPort Server. In addition, customers who purchase third-party Apple Remote Access-compatible solutions may require the Apple Remote Access client software.

Q) What other features does the "client side" have?
A) Client-side features include:
- DialAssist technology
- Complete new set of supported modems
- Ignore dial tone option for non-standard telephone equipment
- Alternate connection support (Cellular, ISDN, X.25, and so on)
- Manual and automatic dialing options give you more flexibility when using more obscure telephone systems
- Original and alternate number redialing options
- Settable connection reminder via menu or dialog box
- Universally available disconnect via the "Remote Access Disconnect" Desk Accessory
- 1.0 and 2.0 Remote Access server compatibility
- User initiated change password option
- Built-in support for third-party external security modules

NOTE: Users will not be able to take advantage of all ARAP 2.0 features when connecting to ARA 1.0 servers. Also the client side of ARA 1.0 is not compatible with the ARA 2.0 servers.

Q) What is DialAssist?
A) DialAssist is a technology Apple developed and built-into the Apple Remote Access Client for Macintosh product which makes dialing back to the office network simple, even for international travelers. It lets you build dialing sequences that help mask the complexities of worldwide telephone system►?so you can connect easily from anywhere in the world. For instance, if you're in the France and need to access remote information on your network in California. You can enter your current location information into DialAssist and it will automatically add the appropriate dialing sequences (for example, outside line from hotel, country code, credit card number, and so on) around the telephone number in your Apple Remote Access connection document.

Q) What are the system requirements?
A) To use Apple Remote Access Client for Macintosh, users must have a Macintosh Plus computer or later model with at least 4 megabytes of RAM, and a hard disk drive, running system software version 7.0 or later. They also need an Apple or other Hayes-compatible modem (2400 bps minimum; 9600 bps or higher recommended) and appropriate modem cable, if necessary.
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Apple Remote Access: Client/Client/Server Q&A

This article contains questions and answers about Apple Remote Access for Macintosh and the Client/Client/Server.
This article has been archived and is no longer updated by Apple.
Q) What do you mean by client/client/server?
A) The rise of mobile computing devices such as laptop computers and Personal Digital Assistants (PDAs), means the client/server model needs to be extended to take into account information access from these remote clients. This concept embraces the belief that both the mobile and desktop, or hard-wired network client, need to be equal partners in information exchange across networks and between each other. Infrastructure, both networking and distributed applications, need to take into account the requirements of people who need to get data remotely and exchange this with their co-workers, whether they are in the same office or whether they are using a mobile device in another country.

Q) What evidence does Apple have to back up this strategy and definition?
A) Lots of evidence: work trends; the rise of mobile communications devices such as cellular phones, pagers, mobile FAXes, and laptop computers; and the huge interest in Personal Digital Assistants. All these as well as Apple's successful AppleTalk Remote Access product clearly indicate a trend. Information access needs to be ubiquitous.

A main way of doing business today is collaboration. These work trends show that if people are going to collaborate successfully, their computing devices must be designed and tuned to work collaboratively. This means that no matter what computing device you are using, or where, you should be able to exchange data with fellow workers, access information and generally provide users with the same experience you get using a desktop machine and hard-wired networks. It's clear that to be truly useful, mobile clients cannot be regarded as second class computing devices.

Q) Client/Client/Server is not just an Apple phenomenon; it's also happening in the DOS/Windows world. What makes Apple believe it has better solutions?
A) The ability to provide integrated solutions across computing platforms, as well as Apple's proven track record in hiding machine and network complexities from users. Client/Client/Server is more than just an operating system issue, it's a question of the approach to computing various vendors take.

You need to see computing in a systems setting. PDA's do not lend themselves to desktop GUI metaphors because they are being used in different ways, mainly on-the-move (for example meetings) to capture information, rather than manipulating information like desktop systems. Similarly, the OS, networking, applications and information management metaphors across PDAs, servers and desktop systems need to be optimized and 'harmonized' so that the strengths of each computing device add to a total systems approach that makes it easy for the customer to do what they want to do.
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Apple Remote Access: Compatibility Q&A

This article contains questions and answers about compatibility on Apple Remote Access for Macintosh (ARA).
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Q) Are the new ARA products compatible with AppleTalk Remote Access 1.0?
A) The new ARA Client for Macintosh can be set for server compatibility with any product compatible with the AppleTalk Remote Access Protocol (ARAP), including AppleTalk Remote Access 1.0. However, because of the significant enhancements we've made to ARAP 2.0, the AppleTalk Remote Access 1.0 client does not support connecting into Apple's newest server products, the ARA Personal Server or MultiPort Server or any ARAP 2.0 server. Affordable upgrades are available to customers with AppleTalk Remote Access version 1.0 who want to upgrade to the new ARA Personal Server or Client for Macintosh.

Q) Does the ARA MultiPort Server have to run dedicated on a Macintosh or can it run with other services? What about the Personal Server?
A) No. Both the ARA MultiPort Server and Personal Server operate in the background allowing the Macintosh to be used for other foreground applications. For optimal performance, however, it is always best to run the ARA servers products alone.

Q) Can the ARA MultiPort Server and the Personal Server run concurrently with AppleShare? Apple Internet Router? File Sharing?
A) In order to run AppleShare Server software and Apple Internet Router Basic Connectivity Package concurrently with the ARA MultiPort Server you must use AppleShare Server software version 4.0.1 or greater and the Apple Internet Router Basic Connectivity Package version 3.0.1 or greater. System 7 File Sharing cannot run concurrently with the ARA MultiPort Server. The ARA Personal Server can run concurrently with Macintosh File Sharing, AppleShare 3.0 and greater but cannot run concurrently with any version of the Apple Internet Router.

Q) Does the ARA MultiPort Server run on all Macintosh Systems? What about the Personal Server?
A) The ARA MultiPort Server runs on any System 7 capable Macintosh which can accommodate 12-inch NuBus cards. The current Serial NuBus card was tested in a Power Macintosh 6100 with ARA MultiPort Server 2.0.1 and is compatible. To get the Serial NuBus card to fit in the Power Macintosh 6100, or similar form factor computer (Centris or Quadra 610), it is necessary to remove the internal hard disk which is located in the left front bay. Obviously, this is not an ideal solution, but it is all that exists as of Aug. 1994. The Personal Server works on all System 7 capable Macintosh computers.

Q) Does the ARA MultiPort Server support the built-in serial ports?
A) No. The ARA MultiPort Server will only function over NuBus communication cards such as the ARA Serial Card for modem connections.
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Apple Remote Access: Competitive Profile

Why should customers buy Apple's Remote Access solutions over other competitive solutions? Why should customers buy the Apple Remote Access MultiPort Server over other competitive products?
This article has been archived and is no longer updated by Apple.
1) Ease of setup and use: Apple Remote Access products excel over the competition in terms of ease of setup, use and administration, reflecting Apple's well-known user-centered design principles.

2) Very scalable: The fact that Apple's remote access products are software-only solutions both protects customers' investment and allows for easy scalability: Customers can choose to move to a higher-performance system or expand their system to offer additional ports as needed. In contrast, competing dedicated hardware systems generally require customers to commit to a particular level of remote access support, so expansion necessitates purchase of an entire new system.

3) Wide Connectivity Options: The Apple Remote Access MultiPort Server can connect to any AppleTalk network (for example, LocalTalk, Ethernet, or Token Ring, and so on.), giving customers wider network connectivity options than is provided by competitive products.

4) Extremely Secure: The Apple Remote Access MultiPort Server includes the most comprehensive security offerings available. It is designed to allow administrators to augment its built-in security features with additional security modules. This allows administrators to choose the level of security best suited to their organization.

5) Variety of Solutions: Apple offers a family of products, which provide different solutions to meet the range of needs from the individual user to workgroups of any size.

6) Integrated/Flexible Solutions: Apple is more than just a "remote access" provider and can offer customers a set of workgroup solutions, such as AppleShare, Apple Internet Router, AppleSearch, Apple Remote Access, PowerTalk, PowerShare, and the Apple Workgroup Servers. Since all of these services work together, customers do not need to dedicate a single system for each service. They can choose to consolidate one or more of Apple's services on a single Macintosh computer or Apple Workgroup Server to maximize their system investment.

7) Affordable: With competitively priced products and integrated workgroup services that have an overall lower cost-of-ownership than the competition, Apple Remote Access products are extremely cost-effective.

8) Market Leadership: Apple is considered a technology leader in the area of remote access and our new product family offering shows our continued commitment to maintain this technology leadership.
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Apple Remote Access: Cross-Platform Support Q&A

This article contains questions and answers on Apple Remote Access and cross-platform support.
This article has been archived and is no longer updated by Apple.
Q) Will Apple support multivendor networks within large organizations?
A) This initial release of the Apple Remote Access product family is designed for and to complement "Macintosh mostly" workgroups of any size. In future product releases, customers can expect to see support for multivendor environments with cross-platform client support (such as a remote access client for Windows), multiprotocol dial-in adoption and even more powerful expansion capabilities.

Q) Will Apple provide point-to-point protocol (PPP) support?
A) Yes. Apple recognizes the growing demand for remote access solutions that include computers from a variety of vendors. To that end, Apple earlier this year announced its intention to support PPP to ensure that a cross-platform protocol will be available in its remote access products. Apple intends to introduce PPP supported products in 1994. Apple's support for PPP will be designed to allow multiprotocol remote access to a variety of network types, such as IPX, TCP/IP and AppleTalk.

Q) What is PPP?
A) PPP is an Internet Engineering Task Force (IETF) standard (RFC 1331) for encapsulating data packets over a serial communications link. Transport of any specific network protocol - such as AppleTalk, IPX or TCP/IP - with PPP requires an additional higher-level protocol, known as a Network Control Protocol or NCP. AppleTalk over PPP (the NCP for AppleTalk) is already a publicly available IETF standard, detailed in RFC 1378.

Q) How does Apple's announcement about support for Point-to-Point Protocol (PPP) affect ARAP? Will support for PPP nullify ARAP?
A) No. PPP support will not nullify ARAP. ARAP, or AppleTalk Remote Access Protocol, is Apple's protocol for accessing AppleTalk networks remotely. This protocol will still be used by Macintosh computers accessing AppleTalk networks remotely. At the same time, supporting PPP will allow multiprotocol remote access to a variety of network types, such as IPX, TCP/IP and AppleTalk.

Q) What is ARAP?
A) AppleTalk Remote Access Protocol, or ARAP, is the protocol used for accessing AppleTalk networks remotely. ARAP was introduced in conjunction with AppleTalk Remote Access in 1991. Like all AppleTalk protocols, ARAP is an open protocol, and specifications are available for third-party developers. In its latest versions of the Apple Remote Access product family, the AppleTalk Remote Access Protocol has been enhanced to provide superior performance and configuration flexibility.

Q) Is Apple going to sell a Windows version of Apple Remote Access?
A) Apple has announced its intention to bring to market an Apple Remote Access Client for Windows in 1994.

Q) Will Apple Remote Access work with the Newton MessagePad?
A) Since AppleTalk is built-into every Newton, it is a logical extension to provide remote access services to Newton users with Apple's remote access products. However, we have nothing to announce at this time.

Q) Will Apple Remote Access products work with Apple's PowerPC?
A) Yes. Apple plans to produce versions of the Apple Remote Access product family, AppleShare file and print server software and AppleSearch and that will run on its PowerPC processor-based servers.

Q) Are there other companies that make Apple Remote Access compliant software?
A) Yes. Apple has announced that more than 12 leading third-party vendors will be shipping products built on the Apple Remote Access product family architecture. The Apple Remote Access product family architecture consists of the new AppleTalk Remote Access Protocol (ARAP) 2.0 and client and security Application Programming Interfaces (APIs). Third party vendors utilizing the Apple Remote Access product family architecture offer Apple Remote Access users a wide variety of solutions, enhancements and options, such as security enhancements and reporting applications.

Q) Are third-parties making products that are compatible with the AppleTalk Remote Access Protocol and Apple Remote Access Client for Macintosh?
A) Yes. It is Apple's understanding that several companies intend to build stand-alone remote access servers that will compete with Apple's Apple Remote Access product family.

Q) Are the Apple Remote Access products compatible with the Apple Workgroup Servers (AWS)?
A) Yes. The Apple Remote Access Personal Server does not require any special card and therefore runs on any Macintosh computer, including the Apple Workgroup Server 60 and 80. The Apple Remote Access MultiPort Server is compatible with any NuBus equipped Macintosh server and the Apple Workgroup Server 80. Currently the Apple Remote Access MultiPort Server does not support the AWS 60 because it requires a 7" NuBus card and the Apple Remote Access Serial Card is 12 inches. However, Apple is planning to have a 7" version of its Apple Remote Access Serial Card in the early part of 1994 which will be compatible with the AWS 60. The Apple Remote Access MultiPort Server is currently designed to operate on Macintosh operating systems only, and consequently, does not run on the Apple Workgroup Server 95, which is based on A/UX, Apple's implementation of the UNIX operating system.
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Apple Remote Access: MultiPort Server Q&A

This article contains questions and answers about the Apple Remote Access MultiPort Server.
This article has been archived and is no longer updated by Apple.

Q) What is the Apple Remote Access MultiPort Server?
A) Apple Remote Access MultiPort Server software provides a simple, secure, and efficient way to offer multiline remote network access for large numbers of mobile professionals. Used in conjunction with one or more Apple Remote Access Serial Cards, Apple Remote Access MultiPort Server 4-Port Expansion Kits, and Apple RS-232 cables, the server software converts a single Macintosh computer into a server that can support from 4 to 16 simultaneous dial-up connections.

Q) Who will use the Apple Remote Access MultiPort Server?
A) The Apple Remote Access MultiPort Server is designed to meet the remote access needs of large workgroups who are more security conscientious, need more powerful systems management and desire broader expansion capabilities. Likely purchasers will be people whose job is to provide technical support services for organizations, such as IS managers, network managers, systems analysts, and workgroup administrators. In addition, independent consultants/systems integrators may be interested in this product as a component of a larger custom solution.

Q) What are the key features of the Apple Remote Access MultiPort Server?
A) Key features include:
- Easy to install and use
- "Multiline" scalable solution that can support up to 16 simultaneous connections
- Offers a comprehensive set of security features
- Powerful and comprehensive administrative capabilities.

Q) How many ports are included in the Apple Remote Access MultiPort Server?
A) The Apple Remote Access MultiPort Server includes four ports and is expandable to eight, 12 and 16 ports with the addition of 1, 2 or 3 Apple Remote Access MultiPort Server 4-Port Expansion Kit, respectively.

Q) Does the ARA MultiPort Server support the built-in serial ports?
A) No. The ARA MultiPort Server will only function over NuBus communication cards such as the ARA Serial Card for modem connections.

Q) What are the software licensing options for the MultiPort Server?
A) The Apple Remote Access MultiPort Server comes with a license to install Apple Remote Access MultiPort software on a single Macintosh and to install Apple Remote Access Client for Macintosh software on up to four systems. Additional Apple Remote Access Client for Macintosh software can be purchased as single packs or 10-packs. For 50 or more, the Apple Remote Access Client software can be volume licensed.

Q) What level of support does Apple offer for this product?
A) For U.S. customers, the Apple Remote Access MultiPort Server product includes lifetime, basic up and running support at no charge during regular business hours Monday through Friday. Additional support is available through the Interactive Voice Response System which offers a 24 hour common questions & answers line and is available 24 hours a day, 7 days a week by calling 1-800-SOS-APPL. For information about product support outside the U.S., contact the local Apple subsidiary or distributor.

Q) Will network administrators be able to monitor the MultiPort Server with SNMP network management consoles?
A) Since the Apple Remote Access MultiPort Server supports the Simple Network Management Protocolan industry-standard network management protocolnetwork administrators can monitor the Apple Remote Access MultiPort Server from any SNMP-based console. However, the SNMP console must support the MIB for Apple's MultiPort Server.

Q) What makes the Apple Remote Access MultiPort Server so secure?
A) The Apple Remote Access MultiPort Server offers a host of sophisticated security features that allow administrators to maintain the integrity of the network. These featuressuch as password aging, location validation, and the ability to filter access to servicesmake it one of the most secure remote access servers available. And because its security architecture is supported by leading third-party security vendors, administrators can choose to augment the server's built-in security features with additional challenge-and-response or roving access security modules.

Q) What is challenge-and-response or roving access security ?
A) Challenge-and-response or roving access security uses credit card or palm-size computers, provided by companies, such as Security Dynamics or Digital Pathways. These cards or small computers generate random passwords or access codes that users must input to gain access to a remote

network. Providing this type of "roving access" security enables an additional level of security for Apple Remote Access users who are traveling and are unable to utilize the built-in call-back feature.

Q) What are the Operating requirements of the Apple Remote Access MultiPort Server?
A) Operating requirements include:
- A Macintosh computer with one or more NuBus slots and at least 5 MB of RAM (for configurations with more than four ports, additional memory is required, and a high-performance system is recommended)*

- Macintosh system software version 7.0 or later (version 7.1 or later recommended)

- A hard disk drive and an Apple SuperDrive floppy disk drive

- Apple Remote Access Serial Card and Apple RS-232 Cable (for each set of four ports)

- One or more Apple or other Hayes-compatible 9600 bps/V.32 or higher speed modems

- The dial-in client software must be the Apple Remote Access Client software version 2.0 or greater.

* Support for Macintosh computers that require 7-inch NuBus cards may not be available at this time; consult your authorized Apple reseller or representative.
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Apple Remote Access: Personal Server Q&A

This article contains questions and answers about the Apple Remote Access Personal Server.
This article has been archived and is no longer updated by Apple.
Q) What are the key features of the Apple Remote Access Personal Server for Macintosh?
A) Key features include:
- Ease of use
- "Single-line" all-in-one software solution
- Supports a variety of modems and networks
- Built-in security keeps information secure.

Q) What are the specific differences between AppleTalk Remote Access version 1.0 and Apple Remote Access Personal Server?
A) The major differences lie in two areas: product positioning and client-side features. Apple's original offering targeted anyone who needed remote access to an AppleTalk network.

Now that we have a product family, the positioning for Apple Remote Access Personal Server has become more specific: It provides a single-line solution for individuals and small workgroups that have relatively low-volume remote access needs. Apple's feature enhancements were to the "client side" Apple Remote Access Client for Macintosh. Those features include:
- DialAssist technology (this is a big addition)
- Complete new set (broader range) of supported modems
- Ignore dial tone option for non-standard telephone equipment
- Alternate connection support (Cellular, ISDN, X.25, and so on)
- Manual and automatic dialing options give you more flexibility when using more obscure telephone systems
- Original and alternate number redialing options
- Settable connection reminder via menu or dialog box
- Universally available disconnect via the "Remote Access Disconnect" Desk Accessory
- 1.0 and 2.0 Remote Access Server Compatibility, however the client side of ARA 1.0 is not compatible with the ARA 2.0 servers.
- User initiated change password option
- Built-in support for third-party external security modules

Q) Who will use the Apple Remote Access Personal Server?
A) The Apple Remote Access Personal Server makes it easy for even non-technical Macintosh users to get started with remote access computing. Because of its ease of setup and use--as well as its single-package convenience and low price--it's ideal for individuals with home offices, telecommuters, traveling professionals, salespeople, students, and small organizations.

Q) Can current users of AppleTalk Remote Access upgrade to Apple Remote Access Personal Server?
A) Yes. Plans call for upgrades to be available for users of the original AppleTalk Remote Access 1.0.

Q) Is there a difference between the client for the MultiPort Server and the Apple Remote Access Personal Server client?
A) No, they're the same. The only difference is that the Personal Server product has a integrated client for Macintosh built into the software so we can offer an "all-in-one" solution for individuals on the go. Other than that, anyone using an Apple Remote Access Client for Macintosh can dial into either server.

Q) What level of support does Apple offer for this product?
A) For U.S. customers, the Apple Remote Access Personal Server product includes lifetime, basic up and running support at no charge during regular business hours Monday through Friday. Additional support is available through the Interactive Voice Response System which offers a 24 hour common questions & answers line and is available 24 hours a day, 7 days a week by calling 1-800-SOS-APPL. For information about product support outside the U.S., contact the local Apple subsidiary or distributor.

Q) What are the system requirements?
A) To use Apple Remote Access Personal Server, users must have a Macintosh Plus computer or later model with at least 4 megabytes of RAM, and a hard disk drive, running system software version 7.0 or later. They also need an Apple or other Hayes-compatible modem (2400 baud minimum; 9600 bps or higher recommended) and appropriate modem cable, if necessary.

Q) How will this product be sold?
A) The Apple Remote Access Personal Server is available through all authorized Apple resellers and major mail order catalogs including the Apple catalog.

Q) Why would someone buy the Apple Remote Access Personal Server over a competitive product?
A) For the individual, the Apple Remote Access Personal Server solution is unique in the industry. No other company offers an "all-in-one" peer-to-peer remote access software solution. If two Macintosh users (at their homes or at the different offices) just wanted to easily collaborate remotely, Apple offers the only solution for this.

For the small workgroup, no one can offer a solution as simple, eloquent or cost effective as Apple's. With the Apple Remote Access Personal

Server software, a customer can have remote users dialing into their workgroup network in minutes without any costly and complex hardware to setup. If their needs every expand beyond the Apple Remote Access Personal Server, they can move up to the Apple Remote Access MultiPort Server without any disruption to their user community.

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Apple Remote Access: The PowerBook Bundle Q&A

This article contains questions and answers about Apple Remote Access Client being bundled with PowerBooks.
This article has been archived and is no longer updated by Apple.
Q) Will the Apple Remote Access Client for Macintosh be bundled with the PowerBooks?
A) Yes. Apple has begun bundling the Apple Remote Access Client for Macintosh with new models of its PowerBook notebook computers in the U.S. As Apple introduces new PowerBook models, it will evaluate whether to include value-added software based on the needs of its target customers.

Q) Why isn't Apple bundling the remote access client outside the U.S.?
A) We expect many of Apple's market geographies outside the U.S. will bundle the Apple Remote Access Client for Macintosh, although this is a decision being made at the local level. At this time, Apple is only prepared to commit to bundling the remote access client in the U.S.

Q) What client version is currently being shipped with PowerBook computers? When will the newest version come bundled on PowerBook computers?
A) Apple is currently supplying remote access client version 1.0. Now that the latest client version is now shipping, Apple will begin to bundle the new Apple Remote Access Client for Macintosh onto its PowerBook computers. Affordable upgrades are available to customers with AppleTalk Remote Access version 1.0 who want to upgrade to the new Apple Remote Access Personal Server or Client for Macintosh.

Q) Will Apple Remote Access Personal Server come bundled with PowerBook systems?
A) No. Apple only intends to bundle the Apple Remote Access Client for Macintosh on PowerBook notebook computers in the U.S. The Apple Remote Access Personal Server is sold separately for those individuals or organizations who need a single-line server solution.
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DMP Power On Initialization Problems

This article has been archived and is no longer updated by Apple.

DESCRIPTION:
When the printer is turned on it should automatically perform a series of electro-mechanical operations to initialize itself before printing.

The following table is composed of FIXES for typical PROBLEMS which may occur during power-on initialization.

YOU WILL NEED:
1. Level I Technical Procedures
2. Pen-light

BEFORE YOU START:
1. Refer to the Technical Procedures if removal/replacement or adjustment procedures are needed.
2. If a replacement module/part doesn't fix the problem, reinstall the original module/part.

INSTRUCTIONS:
1. When you turn on the DMP, it should initialize itself as follows:
(1.1) light the Power lamp.
(1.2) rotate the platen one line backwards and then one line forwards.
(1.3) move the carriage to its leftmost position and stop.
(1.4) light the Select lamp.

2. Find your PROBLEM below and perform the corresponding FIX.
- -
PROB: The power lamp does not light when the DMP is turned on.
FIX: Recheck for the problem after each of the following steps:
(1) Check that power is turned on.
(2) Check that the power cord is plugged in.
(3) Check the power fuse at the back of the printer.
If it is burned out, replace it and turn power on again. If the fuse blows a second time, replace components in this order:
* Regulator Transistor
* CPU PC board
* Carrier Motor
* Transformer
(4) Check the two fuses on the CPU board and replace if blown.
(5) Replace the following components. Recheck for the problem after each replacement.
* Power cord
* Power switch
* CPU PC board
* Carrier Motor
* Transformer

PROB: The platen does not rotate one line backward and then one line forward when the printer is turned on.
FIX: Recheck for the problem after each of the following steps:
(1) Remove the carrier cover and the paper cover. Use the pen-light to examine the gears for obstructions.
(2) Check for loose connectors as you follow the procedure to replace the main logic PCB found in the Tech Procedures.
* If you find a loose connector, don't replace the main logic PCB but instead install the connector securely.
* If you don't find a loose connector, replace the main logic PCB.
(3) Replace the mechanical assembly

PROB: The DMP does not move the carriage smoothly from its rightmost

to its leftmost position and stop as the printer is turned on.
FIX: Recheck for the problem after each of the following steps:
(1) Check if carrier wire is strung properly.
(2) Check for loose connectors as you follow the procedure to replace the main logic PCB found the Technical Procedures
* If you find a loose connector, don't replace the main logic PCB but instead install the connector securely.
* If you don't find a loose connector, replace the main logic PCB.
(3) Replace the Carrier motor.

PROB: There is a burning odor, erratic carrier motion, or erratic platen rotation when the printer is turned on.
FIX: Check for the problem after replacing each of the following parts. If the problem remains, leave the part installed and replace the next part:
(1) CPU PC board
(2) Carrier motor
(3) Mechanical assembly
(4) Transformer
(5) When the problem no longer occurs, reinstall the parts that you've replaced and recheck for the problem. If another problem occurs, reperform this procedure.

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Apple Remote Access: PowerTalk Q&A

This article contains questions and answers on Apple Remote Access and PowerTalk.
This article has been archived and is no longer updated by Apple.
Q) Will the new Apple Remote Access Client and Personal Server software work with Apple's PowerTalk Direct Dialup Mail?
A) Yes. The products can run concurrently.

Q) What is the relationship of PowerTalk Direct Dialup Mail and Apple Remote Access Client and Personal Server software?
A) PowerTalk Direct Dialup Mail is an application level service that includes Apple Remote Access technology. The Apple Remote Access product family is a remote node service, which can run concurrently with PowerTalk Direct Dialup, but provides broader access to a variety of applications and services while PowerTalk Direct Dialup Mail is specifically designed to allow PowerTalk users to exchange electronic mail and documents.

Q) Is PowerTalk Direct Dialup Software compatible with AppleTalk Remote Access version 1.0
A) No. Customers who want to run PowerTalk Direct Dialup software concurrently with remote access must upgrade to the latest version Apple Remote Access Personal Server software or Client for Macintosh software.
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PowerTalk Key Chain: Resetting a Forgotten Password (10/95)

This article tells how to reset a PowerTalk password if a user forgets it.

This article has been archived and is no longer updated by Apple.
Follow these steps:

Step 1
Turn off collaboration services in the PowerTalk Setup control panel.

Step 2
Throw away the PowerTalk Setup Preferences file in the Preferences folder.

WARNING: All Key Chain, Preferred Personal Catalog, Mailbox Preferences, I'm at, and PMSAMs (Personal Message Access Modules) will be lost when you delete the PowerTalk Setup Preferences. Please make a note of your settings.

Step 3
Restart the computer.

Step 4
Turn on collaboration services in the PowerTalk Setup control panel.

Step 5
Restart the computer

Step 6
Double-click on the mailbox to redefine PowerTalk services.

Article Change History:
20 Oct 1995 - Included two additional steps.
19 Jan 1995 - Added words forgot and forget.
08 Dec 1994 - Provided more information on PowerTalk Setup Preferences.

Support Information Services
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At Ease 2.x: ClarisWorks Issue

When accessing an item from the Apple Menu while using ClarisWorks 2.0 with At Ease 2.x installed, some documents do not print all their pages.
This article has been archived and is no longer updated by Apple.
There is a known problem with ClarisWorks 2.0 and At Ease when printing a document. If you switch out of ClarisWorks by selecting an Apple Menu Item or switching to another application, and return to print, the document does not print properly. Approximately the first two-thirds of the page prints, cutting or clipping the text on the last one-third of the page.

A workaround is to save the document, close and reopen it, and then print it (without going to the Chooser). You can also select New View from the View menu, then print the new view.

At Ease 2.0.3 fixes this problem.
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Macintosh TV: Closed Caption Interference Using Antenna

When using a Macintosh TV with an antenna, closed captioning can be corrupted.
This article has been archived and is no longer updated by Apple.
This does not necessarily mean that the Macintosh TV is working incorrectly. It's likely that you need to adjust the antenna to compensate for interference or poor transmission quality.
Published Date: Feb 19, 2012

Modem Software for AV Computers: Supports 14.4kbps. (11/93)

When will the modem software for the AV machines be upgraded to 14.4 Kbps (Kilobits per second)?

This article has been archived and is no longer updated by Apple.
At the time the manuals were written, Apple could only guarantee 9600, and that was put in the manuals. After that point, we were able to implement 14.4, so Apple does support 14.4 Kbps (Kilobits per second.)

Published Date: Feb 19, 2012

Apple Monitors: Symptoms Associated w/EMF (5/95)

I am having severe Extremely Low Level Magnetic Field (EMF) interference problems with Apple 14" AV Color Displays connected to Centris 660AV, Centris 650, and Macintosh LC III computers.

Symptom: continuous vertical undulating interference on the monitor.

This article has been archived and is no longer updated by Apple.
Apple monitors are no more susceptible to EMF than any other monitor on the market today. All monitors demonstrate symptoms associated with EMF if the source is of sufficient strength.

Here are a few possible solutions:

1. Check the AC power line for noise. Apple has seen instances where noisy power lines induced the exact symptom you describe.

2. Locate the source of the EMF and then shield the wall between the source and the equipment.

3. Rotate the position of the monitors slightly, this may decrease the effect of the EMF field.

4. Shield the monitors with special five sided mu metal shields. However, please note that this is a very expensive solution.

Article Change History:
05 May 1995 - Made minor corrections and reformatted.

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DMP Self Test Problems

This article has been archived and is no longer updated by Apple.

DESCRIPTION:
This table is composed of fixes for typical DMP Self Test problems.

YOU WILL NEED:
The Apple Service Level I Technical Procedures

BEFORE YOU START:
1. Refer to the Technical Procedures if removal/replacement or adjustment procedures are needed.
2. If a replacement module/part doesn't fix the problem, reinstall the original module/part.

INSTRUCTION:
1. Press the Form Feed switch while you turn on the DMP, the printer should print a line of characters (one character set).
2. Find your PROBLEM below and perform the corresponding FIX.
- -
PROB: There is a burning odor, erratic carrier motion, or erratic platen rotation.
FIX: Recheck for the problem after replacing each of the following parts:
(1) CPU PC board
(2) Carrier motor
(3) Mechanical assembly
(4) Transformer

PROB: The printer doesn't print a character set when Self Test is initiated.
FIX: Perform the following steps. Retry the Self Test if a problem is found.
(1) Check that the top cover is seated properly. If it isn't, close it. Then press SEL and retry self-test.
(2) Check if PE lamp is lit on switch panel. If it is, reload paper
(3) Check the connectors between the carrier and carrier motor and the CPU PC board. If any of the connectors are loose, connect them.
(4) Replace the CPU PC board.
(5) Replace the Carrier motor.

PROB: The printer prints a character set when Self Test is initiated but the print quality is poor.
FIX: Find your print quality problem in the tables below.

* DOTS MISSING
(1) Make sure dot head is in place.
(2) Make sure dot head is not clogged with dirt.
(3) Make sure dot head connector is plugged properly in CPU board.
(4) Check impression control lever properly set. Push it away from you to its forwardmost position if using single sheet of paper.
(5) Replace the Dot head.
(6) Replace the CPU PC board.

* PRINT TOO LIGHT OR VARYING INTENSITY
(1) Check impression control lever properly set. Push it away from you to its forwardmost position if using single sheet of paper
(2) Substitute new ribbon cartridge.
(3) Check if ribbon wire tension is loose and adjust as necessary.
(4) Adjust intensity pot located under the clear plastic sheet that covers the configuration switches. Locate VR2 IMPRES and adjust for optimum print density.
(5) Replace the Ribbon cassette.
(6) Replace the Dot head.

(7) Replace the CPU PC board.

* HORIZONTAL SPACING PROBLEM
(1) Check if carrier wire is strung properly or out of tension specification.
(2) Replace the Carrier wire.
(3) Replace the Carrier motor.
(4) Replace the CPU PC board.

* CHARACTERS DO NOT ALIGN VERTICALLY BETWEEN LINES
Locate VR1 ALIGN under the clear plastic sheet that covers the configuration switches. Adjust for optimum vertical alignment.

Published Date: Feb 19, 2012

Apple Directory DA: Sold as Verisoft Lookup (11/93)

Where can I buy the commercial version of Apple Directory DA called Verisoft Lookup?

This article has been archived and is no longer updated by Apple.
Ask for Paul Sutter, Director of Marketing at Verisoft. To locate the vendor's address and phone numbers, use the vendor name as a search string.

Published Date: Feb 19, 2012

Map Control Panel: Limits to Storage (11/93)

Is there a limit to the number of cities that can be added to the Map control panel?

This article has been archived and is no longer updated by Apple.
The theoretical maximum number of cities that can be stored in the Map CDEV (Control Panel) is 32,767. However, lack of disk space could limit the quantity to a lesser amount.

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AWS 95 and TextEditor 1.3a1 (1/97)

This article describes a problem found with TextEditor 1.2 and the Apple Workgroup Server (AWS) 95 that can cause a loss of data.

This article has been archived and is no longer updated by Apple.

When launched, TextEditor 1.2 is issuing a pbSetEOF with a value of zero on the file with a refnum of 1. Normally, this is not a problem since a file refnum of 1 is not used. However, when AppleShare Pro is running on the AWS 95, an extended fcb pool is used and a file refnum of 1 is available. In fact, the first file opened by an AFP client is assigned a file refnum of 1. If a file with a file refnum of 1 is open on the AWS 95 with write permissions, when TextEditor 1.2 is launched, the data fork of that file will be set to zero bytes in length. This would not be a problem if the data fork of that file is not used.

TextEditor 1.3a1 fixes this problem and is available on AppleLink. This new version will be included in the next release of the AWS 95 software. Please replace all copies of TextEditor on AWS 95 systems with this version.

TextEditor 1.3a1 is also available on Apple SW Updates areas on the Internet, CompuServe and America Online:

America Online - keyword: applecomputer

CompuServe - GO APLSUP

Internet -
Worldwide Web: <http://www.info.apple.com/swupdates>
ftp: <ftp://ftp.info.apple.com>

Anyone that has an AWS 95 should not use TextEditor 1.2 while AppleShare is running. They should use TextEditor 1.3a1.

Article Change History:
17 Jan 1997 - Revised Online References
Published Date: Feb 19, 2012

At Ease 2.0 For Workgroups: Saving To Floppy

I'm using At Ease 2.0 for Workgroups at my school, and I want the students to ONLY be able to open and save from a floppy. I have set the control panel to require a floppy disk, but the students can still open and save files to the hard drive or floppy. Also there is no prompt to insert a floppy when creating a new document, or trying to open an existing one, what's wrong?
This article has been archived and is no longer updated by Apple.
If you installed Norton's Directory Assistance II on your computer, what you describe can happen. It attempts to override the Finder and lets users open and save from other directories. Removal of Directory Assistance II or similar programs is necessary for At Ease to properly prohibit this from occurring.

Note: The same is true for other programs that access files without using standard file manager. They, too, will be able to view the disks contents without regard to At Ease security.
Published Date: Feb 19, 2012

DMP Hardware Communication Problems

This article has been archived and is no longer updated by Apple.

DESCRIPTION:
This table is composed of typical DMP communication
problem symptoms and their fixes. If your problem matches up
with one of the symptoms perform the appropriate fix.

YOU WILL NEED:
1. Apple IIe computer
2. Apple IIe Parallel Interface Card
3. Printer cable
4. Level I Tech Procedures
5. DMP Operators Guide

INSTRUCTION:
* Refer to the Technical Procedures if removal/replacement
or adjustment procedures are needed.

* If a replacement module/part doesn't fix the problem, reinstall the
original module/part.

* In order to isolate a hardware communications problem, you first need
to eliminate the possibility of a software or DIP switch configuration
problem. To do this perform the following.

1. Turn off the printer, write down the customer's configuration of the DIP
switches in the printer then set the DIP switches as shown below: (Note:
Op = open, Cl = closed, Nu = not used)

_____SW1_____ _____SW1_____
1 2 3 4 5 6 7 8 1 2 3 4 5 6 7 8
Op Op Op Op Op Op Op Op Op Op Nu Nu Op Cl Cl Op

2. Install the Parallel Interface Card in slot 1. Connect the DMP to the
card via printer cable. Turn on the DMP (make sure cover is installed).
Turn on the IIe and press the RESET key while you press the CONTROL key
(DO NOT BOOT A DISK). The cursor should blink.

Type the program exactly as shown below.

```
10 PR#1
20 FOR A = 1 TO 100
30 FOR I = 32 TO 126
30 PRINT CHR$(I);:NEXT I:PRINT
40 NEXT A
50 PR#0
60 END
```

3. After you type RUN and press the <RETURN> key. The printer should print
out about 100 character sets like the one shown below. If it does, the
DMP communicates with the computer OK.

```
!#$%&'()*+,-./0123456789:;<>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\\]^_'abcdefghijklmno
pqrstuvwxyz{|}
```

If it doesn't, look below for problems.

* If you get a SYNTAX ERROR on the computer, you may have mis-typed a line.
To correct the syntax error perform the following:
(1) Type LIST and press <RETURN>. The program should appear on the
screen.

(2) Examine the program for accuracy. Spaces, colons, etc. are important.
(3) To correct a line, simply retype the line and press <RETURN>. LIST again to make sure the correction is OK.

* If nothing happens on the printer or the computer, press the RESET key while you press the CONTROL key. Then LIST your program as described above in the SYNTAX ERROR explanation to look for typing errors.

* If no syntax errors occured; the cursor is blinking again; then the program has probably run OK. If the printout is not satisfactory, look below for your problem.

SYMPTOM: The printer does not print a set of characters.
FIX: Recheck for the problem after each of the following steps. If no problem is found, go to step 3.
(1) Check that the computer is properly powered on and initialized.
(2) Check if SEL light is on. If it's off, press SEL and try printing under computer control with the program in step 2. If it prints while light is off, replace the switch panel.
(3) Make sure that the interface cable between the printer and the computer is connected and secured at both ends.
(4) Check DMP user's manual for correct setting of configuration switches.
(5) Replace main logic PCB.

SYMPTOM: The printer prints a set of characters but print quality is poor.
FIX: Do a word search for "DMP and HTS and Self Test Problems" to obtain the print quality fix.

4. Reset the DIP switches to the customer's original configuration. Then check to see if the customer's DIP switch configuration or software configuration for the application he was using caused the problem.

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Connectix CPU: Q&A

Below are the most common questions about CPU. You may refer customers, with these questions, to the CPU Troubleshooting document which is on the CPU disk or to Connectix directly (800-950-5880).
This article has been archived and is no longer updated by Apple.
Q) Sometimes when I startup my PowerBook, the startup sound plays twice. Why?

A) On PowerBooks that can switch from normal processor speed to 16MHz, CPU switches the processor speed automatically at sleep or restart depending upon whether or not the AC charger is plugged in. On most PowerBooks, you must restart to make the change in clock speed. At boot, CPU checks to see if the charger is connected, sets the PowerBook to boot at the desired clock speed (full speed when the charger is plugged in, 16MHz if not) and restarts the PowerBook if necessary. This is why the PowerBook startup sound is heard twice. Since PowerBook Duos are capable of dynamically switching clock speed, the "stutter-start" never occurs on these computers.

Q) Why doesn't the caps lock key work?

A) CPU allows you to modify the behavior of the caps lock key on the PowerBook's built-in keyboard. You can change caps lock so that it activates only if the shift or control key is held down, or disable caps lock altogether. You can configure this feature in the Extended Keys panel.

Q) Why does only one application show its windows at a time?

A) In order to help you avoid a cluttered desktop, CPU's AppManager can automatically hide an application's windows when it is in the background. If you want to temporarily see all of your applications' windows, select "Show All" from the System 7 Application Menu. You can turn this feature off by unchecking "Hide Background Apps" in QuickConfigure mode or by unchecking "Hide Background Applications" in the AppManager panel in FineTune mode.
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DOS Compatibility Card: Emulating Two-Button Mouse (5/96)

How can I perform Window functions that require a two-button mouse with my Macintosh DOS Compatibility Card?

This article has been archived and is no longer updated by Apple.

The DOS Compatibility Card software emulates the two-button mouse on all versions of the DOS Compatibility Card. You must use the keyboard in conjunction with the Macintosh mouse to emulate the second mouse button.

The = key (equal sign key) on the keypad acts as the second mouse button.

Position the mouse and hit the = key. To click with both buttons, press the mouse button and the = key at the same time.

Article Change History:

20 May 1996 - Revised to include all versions of DOS Compatibility Card.

05 May 1994 - Removed references to Houdini.

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Quadra 605, LC 475, Performa 475 476: Sound

This article provides details about the sound capabilities of the Performa 475, Performa 476, Macintosh LC 475, and Quadra 605 computers.
This article has been archived and is no longer updated by Apple.
The Performa 475 and 476, Macintosh LC 475, and Quadra 605 sound systems allow users to play back 8-bit stereo sound, and to record single-channel (mono) 8-bit sound input from a microphone or line input devices (for example, home stereo equipment) using a stereo adapter cable.

The stereo adapter cable may be obtained separately. The sound output jack is a stereo connector, stereo miniature phone jack, three conductor tip/ring/sleeve (TRS). Note: The Apple PlainTalk Microphone, which is sold as a standalone product, is compatible with these systems.

These products cannot use the older style low-level output microphone used on previous Macintosh models.

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Apple Basic Color Monitor: Using Centris & Quadra Computers

I have a Macintosh Centris 610 and Apple Basic Color Monitor. I selected 800x600 in the options panel of the Monitors control panel. The screen is now completely black, and I can't even see or use the Finder. Restarting from Disk Tools doesn't help.

This article has been archived and is no longer updated by Apple.

Symptom

With any of these computers -- Quadra 610, Centris 610, Quadra 660AV, Centris 660AV, Quadra 800, or Quadra 840AV -- is used with the Apple Basic Color Monitor, 1152x870 and 800x600 at two different hertz values are available in the options portion of the Monitors control panel. If any of these values are selected, the screen will turn black or a distorted image of the screen will appear.

Solution

Resetting PRAM, which resets the system to the default 640x480, is the only known fix.

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Macintosh to Performa Comparison Chart

This table lists the equivalent Macintosh and Performa computer models and their corresponding processors and speeds.
This article has been archived and is no longer updated by Apple.

Macintosh Performa	Comparable Macintosh	Processor	Intro Date
Performa 200	Classic II	68030 @ 16 MHz	9/92
Performa 400	LCII	68030 @ 16 MHz	9/92
Performa 600,600CD	IIvx	68030 @ 32 MHz	9/92
Performa 405	LCII	68030 @ 16 MHz	4/93
Performa 430	LCII	68030 @ 16 MHz	4/93
Performa 450	LCIII	68030 @ 25 MHz	4/93
Performa 410	LCII	68030 @ 16 MHz	10/93
Performa 460,466,467	LCIII	68030 @ 33 MHz	10/93
Performa 475,476	LC 475	68LC040 @ 25 MHz	10/93
Performa 550	LC 550	68030 @ 33 MHz	10/93
Performa 560	LC 550	68030 @ 33 MHz	1/94
Performa 575,577,578	LC 575CD	68LC040 @ 33 MHz	4/94
Performa 630 series	LC 630	68LC040 @ 66 MHz	7/94
Performa 6100 series	Power Mac 6100/66	PowerPC 601 @ 60 MHz	10/94
Performa 580CD	LC 580	68LC040 @ 66 MHz	5/95
Performa 640 DOS	LC 630 DOS	68LC040 @ 66 MHz	5/95
Performa 5200CD	Pwr Macintosh 5200/75 LC	PowerPC 603 @ 75 MHz	5/95
Performa 5215CD	Pwr Macintosh 5200/75 LC	PowerPC 603 @ 75 MHz	7/95
Performa 631CD	LC 630	68LC040 @ 66 MHz	7/95
Performa 6200 Series	N/A	PowerPC 603 @ 75 MHz	8/95
Performa 5300CD	Pwr Macintosh 5300/100 LC	PowerPC 603e @ 100 MHz	10/95
Performa 6300CD	N/A	PowerPC603e @100 MHz	10/95
Performa 6290	N/A	PowerPC603e @100 MHz	1/96
Performa 6320	N/A	PowerPC603e @120 MHz	4/96
Performa 6400/180	N/A	PowerPC603e @180 MHz	8/96
Performa 6400/200	Power Macintosh 6400/200	PowerPC603e @200 MHz	8/96
Performa 6360/160	N/A	PowerPC603e @160 MHz	10/96

Notes:
* The Macintosh Performa 630 series includes the Macintosh Performa 630 and 630, 635, 636, 637, and 638.
* The Performa 611x series includes the Performa 6110, 6112, 6115, 6117, and 6118.
* The Performa 6200 series includes the Performa 6200, 6214, 6216, 6218, 6220, and 6230.

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Apple III Joystick: Apple II Game Incompatibility

Some machine language games that use the paddle inputs will not work on the Apple III. The hardware for reading the analog inputs is different, and some software will not be able to take this into account.
This article has been archived and is no longer updated by Apple.
Also, the joystick ports on the back of the Apple III are arranged such that some games won't work properly in Emulation mode. Most joystick oriented games will use PDL (0) and PDL (1) for X-Y control. The ports on the Apple III put these signals on different connectors. Here are the Apple II Emulation Mode equivalents of the signals available on ports A and B.

pin	Port A	Port B
4	PDL (0)	PDL (1)
5	PB1	PB2
8	PDL (2)	PDL (3)
9		PB3

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LOGO: Printing Graphics

Printing out the graphics screen from LOGO is awkward. The following steps will get the job done. Brackets indicate the text you enter from the keyboard.
This article has been archived and is no longer updated by Apple.
1. Draw the graphics on the LOGO screen.

2. Insert an intialized diskette in slot #6, drive #1. This should be a blank diskette that has been intialized with the [INIT HELLO] command from Apple DOS 3.3. It should not contain a HELLO program, though.

3. Enter [.PRINTER 6]; this causes the system to boot DOS.

4. If you have a Silentype printer, you can simply enter [CTRL-Q] to print.

5. Enter [BSAVE filename, A8192, L8192]; this will save high res page #1 as binary file filename.

6. Now you must use whatever is appropriate to your system to print out graphics from a binary file.

7. To do more LOGO graphics, you need to reboot LOGO and start again.
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Monitor II Prob/Cure:Vert or Horiz Line or Dot in Display Center

This article has been archived and is no longer updated by Apple.

PROBLEM DESCRIPTION: After the Monitor II has had a chance to warm up, there is a vertical line or a horizontal line or dot going through the center of the display.

WARNING: Turn off and unplug the monitor whenever the case is removed.

CAUSE: 1. The yoke assembly may be bad or misconnected.
2. The electronics module may be bad.

CURE: 1. Check that the gray/brown wires going from the yoke to the electronics module are properly connected.
2. If these wires are properly connected, replace the yoke. Then install the case and turn on the Monitor and check for the faulty display.
3. If the display is still faulty, replace the electronics assembly.

If the above cure doesn't solve your problem, refer to the Tech Procedures to obtain the general troubleshooting procedure for this product.

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PowerBook: Radius PowerView Discontinued 11/93

The Radius PowerView External Display Interface has been discontinued. This will effect certain PowerBook users (see below.) Please do not refer callers to Radius for this product.

This article has been archived and is no longer updated by Apple.
PowerBook computers effected will be all models without video out capabilities, specifically the 100,140,170,145, and 145B PowerBook models.

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CD Improperly Mastered: Cause Problems on Startup (3/94)

If the Performa 550 or LC 520 unit is shut down incorrectly (that is, power switched off without using the Shut Down command) while a CD is loaded, the computer will behave strangely at start up.

Symptom/Solution: The screen will go grey and all you'll see is the cursor. If you use a paper clip to manually eject the caddy and restart the computer the problem is fixed.

This article has been archived and is no longer updated by Apple.
This problem occurs on any Apple CD unit (whether internal or external) if the CD-ROM is improperly mastered. However this problem is amplified in the CD 300 Plus because the drawer retracts on shutdown making the problem more likely.

Apple uses the signature in the boot blocks to determine if the CD has a driver. Those CDs which do not clear these blocks before mastering will attempt to be booted. Apple tested 127 CDs currently shipping and four were found to have problems. This problem is especially prevalent in the current Software Toolworks titles; San Diego Zoo Presents The Animals!, World Atlas, U.S. Atlas, and Space Shuttle.

Apple is working with CD manufacturers to ensure that future CDs will not have this problem.

Article Change History:
21 March 1994: Added CD 300 Plus information and Software Toolworks CD-ROM titles.

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LC 475, Quadra 605, Performa 475 476: Serial Ports

This article describes the two serial ports in the Macintosh LC 475, Quadra 605, Performa 475, and Performa 476.
This article has been archived and is no longer updated by Apple.
These four Macintosh models have two serial ports, one for a printer and one for a modem. They ports are not identical.

* The printer port uses the standard 8-pin mini-DIN socket.

* The modem port uses a 9-pin mini-DIN socket.

Both sockets accept 8-pin plugs, but only the modem port accepts a 9-pin plug. Pin 9 on the modem connector provides +5V power from the ADB power supply. An attached modem should draw no more than 100mA from that pin. The total current available for all devices connected to the +5V supply for the ADB and the modem port is 500mA.

Published Date: Feb 19, 2012

LaserWriter Pro 810: VAX Platform Questions

I'm interested in purchasing a LaserWriter Pro 810 for use on my Ethernet network. I have a VAX and about 60 Macintosh computers, and I want to know some specifics about how the LaserWriter Pro 810 supports the Dec LAT protocol.

1) Does the LaserWriter Pro 810 support LNO3 VAX printer emulation?

2) Does the LaserWriter Pro 810 support the WPS VAX-based word processing system?

3) How do third-party products such as Alisa Systems software and PATHWORKS interface with the DEC LAT support on the LaserWriter Pro 810?

This article has been archived and is no longer updated by Apple.

1) No, the LaserWriter Pro 810 does not support LN03 printer emulation. LN03 uses Digital's own escape characters. However being a PostScript printer, the LaserWriter Pro 810 can be used in place of many other PostScript printers, including the Digital LN03R, the PostScript version of the LN03. For an application that does not use the PostScript language, the LaserWriter Pro 810 also supports HP LaserJet II emulation.

2) To print to the LaserWriter Pro 810, the output has to be PostScript of HP PCL 4 mode. If you use the LaserWriter Pro 810 with a product such as PATHWORKS, PATHWORKS components will convert VAX text files to PostScript so VAX/VMS users can print their files to the printer. I am not familiar with WPS word processing system, but if it can support PostScript or HP PCL 4 printer, it can print to the LaserWriter Pro 810.

3) If you have PATHWORKS, you just need to define the printer just like any other Apple PostScript printer, and PATHWORKS will set up a print queue to talk to the printer via AppleTalk. Digital has informally tested PATHWORKS 1.2 with the LaserWriter Pro 810 and it worked fine. I would assume Alisa will work the same way.

Even if you don't have PATHWORKS or Alisa, you can still interface to the printer via LAT. This is done by setting up an application port in LATCP and start a queue using the /PROCESSOR=LATSYM. This procedure is fully documented in the Network Installation and Configuration Manual.

Published Date: Feb 19, 2012

Personal LW NTR: Postscript and Setting Tray Defaults

I'm getting a PostScript error when trying to set the paper tray format in the A4 paper tray. I'm using a SUN Workstation with UNIX and a Personal LaserWriter NTR.

When I print documents from the A4 tray, the printer driver uses a "Letter" format and margins are different.

This is the PostScript code I'm using:

```
%! /str 60 string def statusdict begin 60
defaultmultipurposepapertraysize str cvs print job end ( ) print
statusdict begin 60 defaultmultipurposepapertraysize pop str cvs print
end servedict begin O exitserver statusdict begin a4 true
defaultmultipurposepapertraysize end
```

This article has been archived and is no longer updated by Apple.
The operators for returning and setting the default multipurpose tray paper size are spelled incorrectly in the "Personal LaserWriter NTR Printer Developer Note". The correct spellings, respectively, are:

defaultmultipurposetraysize

and

setdefaultmultipurposetraysize

This PostScript code will print a page showing the default multipurpose tray paper size:

```
/Times-Roman findfont
15 scalefont
setfont
72 700 moveto
/str 20 string def
(Default multipurpose tray paper size: ) show
statusdict begin
defaultmultipurposetraysize pop str cvs show
showpage
```

This PostScript code changes the default multipurpose tray paper size based on the values used for "NAME" and "BOOL":

```
serverdict begin 0 exitserver
statusdict begin
NAME BOOL setdefaultmultipurposetraysize
```

The allowable values for "NAME" are the standard device setup procedures:

/letter
/legal
/a4
/b5

The standard device setup procedures /lettersmall and /a4small are not allowed.

The "BOOL" parameter is included for compatibility with other PostScript

printers. It specifies whether the paper is to be fed long edge first or short edge first. For all paper sizes on the Personal LaserWriter NTR, the value of "BOOL" must be true, meaning short edge first.

The following PostScript code changes the default multipurpose tray paper size to a4:

```
serverdict begin 0 exitserver
statusdict begin
/a4 true setdefaultmultipurposetraysize
```

Published Date: Feb 19, 2012

Super ATM 3.6: Works Fine with Macintosh AV Computers (11/93)

I have problems using Adobe's Super ATM, version 3.5 on a Macintosh 660AV or 840AV. The scenario is as following :

- Adobe uses the Apple Installer to install SuperATM,
- at the end of the installation, you must reboot your Macintosh,
- the Macintosh reboots correctly, except that the system freezes with the clock mouse and the menu bar staying white.

Does the Hardware System Update 2.0.1 solve this problem? I've tried to install this extension after installation of Super ATM and it doesn't change anything.

This article has been archived and is no longer updated by Apple.
Apple just learned that Super ATM, version 3.6 works fine with the AV computers (660AV and 840AV). Upgrade to version 3.6 and there should be no more problems.

In regard to Hardware System Update 2.0.1, that release does not actually load anything on the AV computers. You can run it, but nothing will change. It would not have fixed the problem you were experiencing.

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Asynchronous DataComm: Stop Bits and Framing Errors

This article discusses stop bits and framing errors in asynchronous data transfer.
This article has been archived and is no longer updated by Apple.

BACKGROUND

In RS232 there are two data pins, one for transmit and one for receive. One of two possible voltages on a data wire will express the state of the bit being transferred. In RS-232 the logic zero is assigned the positive voltage and the logic one is assigned the negative voltage.

When no data is being transferred on the data wire it is considered to be in an idle condition. In the idle condition the data wire has the same voltage that is used to express a one.

Inside both the transmitting and receiving units are electronic devices called clock circuits, which produce signals called "clock pulses" or clocks. The frequency of the clock signal is dependent on the BPS or Baud rate being used for the transmission. In synchronous data transfers, clock signals accompany the data being transferred.

In asynchronous data transfers, clock signals are used only on the "inside" of the sending and receiving units. This article discusses asynchronous data transmission only.

To make it easy for the receiving unit to know how many bits are coming, every asynchronous data transfer contains a set number of bits. Each transfer contains one byte of data plus a start bit and one or more stop bits.

START BIT

In an asynchronous data transfer, the receiving unit needs a change in voltage on the data wire to notify it that data is coming. The sending unit does this by preceding every character transmitted with a start bit (a logic zero; positive voltage in RS-232). After the sending unit does this it uses eight clock pulses to clock eight bits on to the data wire.

Once the receiving unit senses the start bit, it knows that data will follow. So, it clocks the data in from the data wire.

STOP BIT

In asynchronous data transfers the receiving unit will always wait a period of time after the eighth bit is clocked in before it will again allow itself to detect a start bit on the data wire. This period is divided into bit times, the same length as those used for the transmitted data bits. Since they signify the end of the character transmission, these bit times are called stop bits.

The number of stop bits (usually one or two) can often be selected when configuring application software, interface boards, and DIP switches. If all three places give the option for selecting stop bits, they should all be set to the same value. During the stop bit, the sending unit should maintain the data wire at the negative (idle) voltage level. At this time, the receiving unit will sample the data wire.

If both the sending unit and receiving unit are at the same BPS (BAUD) rate, then after it has finished clocking in the data from the sending unit, the receiving unit should see the stop bit's negative (idle) voltage level.

If the receiving unit sees a positive voltage at this time, then it knows that it and the sending unit are out of synchronous so it generates a framing error.

NOTE: A framing error commonly occurs when the sending and receiving units are at different BPS or BAUD rates.

CHARACTER MODE ASYNCHRONOUS

Character mode asynchronous data transfers occur one byte (character) at a time, with each transfer separated by idle time. Character mode is used for interactive communications, as when a personal computer user in terminal mode communicates with a bulletin board.

BLOCK MODE ASYNCHRONOUS

Block mode asychronous data transfers have no idle time between character transmissions. The sending unit packs the asynchronous data transfers end to end with no idle time (except for the stop bit). A block mode asynchronous data transfer is used for things like file transfers, where a large mass of already existing data is sent.

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System 7.1 Overview

System 7.1 is the first "world ready" reference release of System 7. It combines functionality introduced since the debut of System 7.0 along with a number of enhancements which support multiple languages or scripts running on a single Macintosh computer at one time.

To users of System 7.0 and 7.0.1, there are a few changes in the core system software package that you need to be aware of. These enhancements are:

- 5 new control panels
- Fonts folder
- Disk First Aid 7.1
- System 7 Tune-Up v1.1.1 now part of System 7.1
- QuickTime 1.5 extension

Please Note: This article doesn't cover WorldScript.

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```
New Control Panels
------------------

General Controls control panel

 The major change to the General Controls control panel is the icon.
 You can still change date and time values here as well as in the new
 Date & Time control panel.

Date & Time control panel

 This new control panel allows you to change the values for current
 date and time, as well as allowing customization of the date and time
 formats.

 Clicking on the Date Formats button brings up a dialog box which
 allows shifting the display of weekday, month, day, and year.

 Clicking on the Time Formats button brings up the following dialog
 box which allows shifting the display of 12 or 24 hour clocks, the
 display of AM or PM suffixes, as well as placing leading zeros in
 front of the current hour:

Numbers control panel

 This control panel allows you to set separators for large numbers as
 well as to set currency symbols.

Text control panel

 This control panel is for use with WorldScript I and WorldScript II.
 It provides the ability to switch between languages installed on the
 system, thus picking a primary viewing and editing language.

PowerBook control panel

 This control panel replaces the Portable control panel which came
 with System 7.0 and 7.0.1.  It incorporates several new features for
 Battery Conservation.  In addition, it provides SCSI Disk Mode for
 those PowerBooks capable of SCSI Disk Mode, as well as Automatic
 Wake-Up settings previously available in the Portable control panel.
 One slider bar gives the choice of "Maximum Performance" or "Maximum
 Conservation" to replace the twin slider bars for cycling off the
 hard disk and the screen.

Battery Conservation
```

Clicking the options button below the slider bar brings up a dialog box. This dialog box allows you to set the PowerBook to never sleep when it's plugged into an electrical outlet, as well as to turn the processor cycling feature on or off.

Fonts Folder

The Fonts folder is a special folder located within the System Folder, similar to other folders such as the Control Panels folder. The Fonts folder provides a common place for all bitmapped, TrueType, and Adobe Type 1 fonts to reside. You can also place font suitcases in this folder. During the startup process, the system opens up to 128 files containing bitmapped and TrueType fonts in the Fonts folder, and makes them available for use.

You can add and remove fonts from the Fonts folder while other applications are open. Fonts added to the Fonts Folder won't appear in already running applications.

However, you can't drop fonts onto the system suitcase in System 7.1. The system treats font files like normal files. Since the font files are always open, the Finder won't permit replacing a font file in the Fonts Folder with another file of the same name. You can merge font suitcases by dropping one onto another, and you can remove fonts from a suitcase.

Disk First Aid 7.1

Disk First Aid 7.1 now repairs the disappearing folders and files problem. However, to prevent the problem from re-emerging, please install System 7.1 or install System 7 Tune-Up v1.1.1 over System 7.0 or 7.0.1.

System 7 Tune-Up Rolled into System 7.1

System 7.1 includes the contents of the System 7 Tune-Up disk v1.1.1.

QuickTime 1.5 Included

The QuickTime 1.5 extension is included as a part of System 7.1.

Compatibility Issues

You need to update the following Apple software to work properly with System 7.1:

AppleShare File Server 3.0 update to AppleShare File Server 3.0.1.
MacTCP 1.1 update to MacTCP 1.1.1.

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PageMaker 5.0: Customers Needing LW Utility 7.4.1 (11/93)

Apple Support is getting calls from customers who have purchased PageMaker 5.0 and need the LaserWriter Utility 7.4.1. Aldus apparently has licensed LaserWriter 8.0 and has bundled it with PageMaker 5.0 but they did not license or bundle LaserWriter Utility 7.4.1.

This article has been archived and is no longer updated by Apple.
Apple Product Management and Aldus came up with a solution on handling the LW 8.1.1 and LW Utility situation.

* Both LW 8.1.1 and the LW Utility are posted on Compuserve and AOL in the Aldus folders.

* LW 8.1.1 and the LW Utility 7.4.1 are being added to PageMaker 5.0. Copies of PageMaker 5.0 with LW 8.1.1 and the LW Utility 7.4.1 should be on dealer's shelves around mid-January.

* Aldus will sell a software update kit with LW 8.1.1 and LW Utility to PageMaker 5.0 owners for $9.95. This should be available by early January.

* Aldus does not expect Apple to supply PageMaker 5.0 customers with LW 8.1.1 or LW Utility. Aldus will inform their customers about the above ways of getting LW 8.1.1 and the LW Utility.

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Macintosh: Chinese and English on One System

I'm a teacher and I want to bring Chinese writing into the classroom. While in China, I bought Chinese System 7.1 and successfully installed the system on my PowerBook 100. I now have two System folders: US and Chinese. Can I consolidate the files into one System folder (such as control panels, extensions, etc.) or should I have to keep the systems separate and use System Picker to switch systems?

Alternatively, I own ChineseTalk II. Can I enable word processing in Chinese simply by eliminating Chinese System 7.1 and installing the fonts in the Apple Product, ChineseTalk II?

Finally, all instructions for Chinese System 7.1 and ChineseTalk II are in Chinese but are incomplete and confusing. Where can I find complete documentation in Chinese and English?
This article has been archived and is no longer updated by Apple.
1) You might be a prime candidate for the Chinese Language Kit, and not the fully localized Chinese System 7.1 purchased in China. By installing the Chinese Language Kit on a Macintosh running U.S. System 7.1, you retain the English Finder and menus, but are able to input Chinese characters when using Chinese and World Script compatible applications. The Installer consolidates all necessary files and resources into one System Folder; afterwards, choose your desired script from the menu that is to the right of the Balloon Help menu. The Chinese Language Kit was built with the WorldScript technologies developed with System 7.1.

Chinese System 7.1 ships with Roman fonts, but it has a Chinese language Finder and menus.

Apple does not recommend more than one System Folder on a startup volume, requiring the use of utilities such as System Picker, or manually blessing/deblessing different System Folders.

2) Apple does not recommend the use of ChineseTalk II or any of its specific resources, files or fonts that accompanied it, as ChineseTalk II was a stopgap product between System 6.x and Chinese System 7.1.

Further, ChineseTalk II automatically added a thin space character to each Chinese character when non-Script Manager compatible applications are used. This resulted in unique (non-standard) fonts which:

* Increases document sizes by one-third.
* Increases transfer and printing times
* Causes problems when moving text between different applications

Both the Chinese Language Kit and Chinese System 7.1 use Chinese TrueType fonts and can use Roman (U.S.) fonts: simply drag them to the Fonts Folder.

3) The Chinese Language Kit documentation is in English and Chinese.

For further information on WorldScript in the Tech Info Library, use WorldScript as a search string.
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SNA■ps: Automating IND$FILE File Transfers (11/93)

I'm looking for an automatically solution for doing file transfer with IND$FILE. SNA*ps 3270 can do file transfer with IND$FILE, but it can't do them automatically.

I want that the Macintosh to send or get a text file to or from the host at a certain hour automatically. For example, at 5:00 PM every day check the host with an IND$FILE file transfer Tool.

This article has been archived and is no longer updated by Apple.
You'll need a third party product such as QuicKeys to automate file transfers. Information on QuicKeys by CE Software, Inc. follows for your convenience.

QuicKeys 3.0

Business And Professional Software
Macro Generators
QuicKeys 3.0
Keyboard enhancer
Macintosh Plus or larger; hard disk drive.

QuicKeys allows assignment of commands or actions to keystrokes. The program can define key presses to run documents and programs, select menu items, run Fkeys, insert current date and/or time, execute more than a dozen mouse movements, insert text strings, perform click and drag sequences and perform combinations of these commands or actions ?? all with a key press. DialogKeys, a companion program, lets a user use key presses to "click-in" buttons, check boxes or radio buttons in dialog boxes. QuickAccess is the utility program specifically designed for QuicKeys to create, modify and combine sets of defined keystrokes. It will also install sets into QuicKeys and print keyboard templates for easy reference. $169 retail

To locate a vendor's address and phone number, use the vendor name as a search string.

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Disk Drive Preventive Maintenance

This article has been archived and is no longer updated by Apple.

PROTECT YOUR MEDIA
Sometimes "disk drive problems" are really media problems, caused by the way the customer stores his disks. Make sure your customers know to keep disks away from dust, heat, electromagnetic inducing devices such as power supplies, CRTs, magnets, and the power/sweep PCB on the left side of a Macintosh.

YOU WILL NEED
1. Q-tips
2. Solution of 80% denatured alcohol and 20% deionized or distilled water

INSTRUCTIONS
The following preventive maintenance procedures should be performed whenever a repair or adjustment is done on a disk drive.

DISK II AND DISK III
1. Remove the cover and clean the guide rails (the metal shafts that the head slides on) with the alcohol/water solution. Do not use grease.

2. Inspect the head for worn or dull spots in the ceramic. If you find any, replace the assembly containing the head.

3. Clean the head with the alcohol/water solution.

4. Remove the bottom of the drive and inspect the disk drive belt for cracks, slippage, and elasticity (should not be dry and cracked). Replace if necessary.

5. Move the head assembly back and forth along its full length of travel. Check for blockage and smooth easy movement.

DUODISK AND UNIDISK
1. Remove the cover, the shield(s) and the analog PCB. Then perform steps 1 through 5 as explained in DISK II AND DISK III above.

2. Locate the spring connected to the head drive band. Make sure that it is holding the band reasonably taut.

APPLE IIc DISK DRIVE
1. Remove the disk drive from the Apple IIc and remove the mechanical assembly from the disk drive. Then perform steps 1 through 5 as explained in "DISK II AND DISK III", above.

2. Locate the spring connected to the head drive band. Make sure that it is holding the band reasonably taut.

MAC EXTERNAL DRIVE
No preventive maintenance is required on this drive. However, it is recommended that it be used only on the right hand side of the Macintosh. This helps keep any electro-magnetic interference from the power/sweep PCB from affecting disk drive operation.

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LaserWriter Pro 810: Cables For Maintenance RJ12 Port

How can I interface to the RJ12 maintenance port on the LaserWriter Pro 810?
This article has been archived and is no longer updated by Apple.
The LaserWriter Pro 810 includes an RJ12 maintenance port that can be accessed using a standard DEC terminal or almost any terminal emulation software package. In order to connect a Macintosh to the port a special serial cable needs to be constructed. The cable requires an RJ12 and a DIN-8 connector, along with suitable 6 wire cable.

RJ12 Diagram

```
--
+-++++++--+
| |
| | | | | | | |
| 1 2 3 4 5 6 |
+----------+
```

DIN-8 (male) Diagram

```
6 7 8
3 4 5
1 2
```

RS-232 Signal (DB-9) for DOS/Windows Connection

1 DCD: Data Carrier Detect
2 RXD: Receive Data
3 TXD: Transmit Data
4 DTR: Data Terminal Ready
5 GND: SIGNAL Ground
6 DSR: Data Set Ready
7 RTS: Request to Send
8 CTS: Clear to Send
9 Ring Indicator

RS-232 Signal (DB-25) for DOS/Windows Connection

1 - Shield
2 - TXD: Transmit Data
3 - RXD: Receive Data
4 - RTS: Request to Send
5 - CTS: Clear to Send
6 - DSR: Data Set Ready
7 - GND: SIGNAL Ground
8 - DCD: Data Carrier Detect
20 - DTR: Data Terminal Ready
22 - Ring Indicater

Maintenance port to Macintosh wiring diagram

```
RJ12 DIN-8
----------------------------------
2 ---------------------- 5 (RXD)
5 ---------------------- 3 (TXD)
3,4 --------------------- 4,6,8 (GND)
6 ---------------------- 1 (DTR)
1 ---------------------- 2 (CTS)
```

Maintenance port to DOS/Windows wiring diagram

```
RJ12 RS-232 DB-25
---------------------------------
2 --------------------- 3 (RXD)
5 --------------------- 2 (TXD)
3,4 -------------------- 1,7 (GND)
```

6 ---------- 20 (DTR)
1 ---------- 5 (CTS)

RJ12 RS-232 DB-9
---
2 ---------- 2 (RXD)
5 ---------- 3 (TXD)
3,4 ---------- 5 (GND)
6 ---------- 4 (DTR)
1 ---------- 8 (CTS)

Configure the terminal emulation package for 9600 baud, 8 data bits, 1 stop bit, and no parity. After turning the printer on the terminal should display a list of diagnostic information which will continue until the printer is ready to print.

In order to log into the remote Console Facility (RCF), wait until the message 'Server -993- Server ready for logins' appears and then press return. The terminal should prompt for a username. The default username is 'access'. Typing 'show server status' at the 'server>' prompt is one of many commands that can be entered in order to obtain status information about the printer.

In order to make changes to the print server you must have superuser status. Enter 'su' at the 'server>' prompt. The terminal will then ask for a password. The default password is 'system'. As long as the password is correct the prompt will change from 'server>' to 'server>>' indicating that the superuser mode is enabled. For additional information regarding the remote console facility (RCF) consult the network installation and configuration manual.

If you are having difficulties entering into the super user mode, review the following articles:

Tech Info Library Article 14664: "**LaserWriter Pro 810: How to Enter Super User Mode**"

Tech Info Library Article 15008: "**LaserWriter Pro 810: Password not Accepted**"
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System 7 Finder Description (8/94)

The Finder in system software version 7.0 or 7.0.1 is very similar to the System 6 MultiFinder. (Note that there's only one environment with System 7. It's called Finder, but it has the features of the old MultiFinder.)

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System 7 Finder additions and improvements are too numerous to mention here, so here's a short list to get you started.

Some New Features of System 7

System Folder

Items are organized into specific subfolders. Drag files onto the closed System Folder, and the System automatically installs them for you.

Finder windows

In List view, folders and subfolders are displayed hierarchically in a single window. Click the triangle to expand or collapse a folder's contents.

Clicking the zoom box opens windows just wide enough to see all the contents. Windows scroll when you move items beyond the boundaries.

Apple menu

Just about anything can reside in this menu -- desk accessories, documents, applications, folders, aliases, control panel devices (cdevs), even AppleShare volumes.

To put an item in the Apple menu, drag it into the Apple Menu Items folder within the System Folder.

Desk Accessories

To install them under the Apple menu, drag the files onto the closed

System Folder. They're put in the Apple Menu Items folder within the

System Folder.

Fonts

Install them by dragging the files onto the System Folder. They're

put in the System file.

INITs and cdevs

INITs are called extensions under System 7. Extensions reside in the

Extensions folder within the System Folder; cdevs reside in the

Control Panels folder within the System Folder.

Trash

The Trash functions as a folder. It doesn't empty, even after you

shut down the computer. It only empties when you choose Empty Trash

from the Special menu.

Balloon help

The Finder provides a form of interactive on-line help for you.

Click the question mark icon at the far right of the menu bar.

Choose Show Balloons from the menu. Move the cursor over a window,

folder, document, or icon, and a pop-up balloon gives you information

about that item.

Getting System Information

---

1) At the desktop, click the Apple menu. You'll see About This

Macintosh... at the top of the menu.

2) Choose About This Macintosh... from the Apple menu.

The window that appears is similar to the About the Finder... window when you're running MultiFinder in System 6. It not only shows memory allocated to the System and Finder, but also to other programs loaded in RAM. (Note that you can scroll and move this window.) You always want to see some white space for applications on this graphic barometer.

To see the names of applications loaded into RAM, click the mini-icon at the far right of the menu bar. The application menu appears. The check mark shows which application you're currently running.

Switching Between Applications

MultiFinder lets you switch between applications in several ways:

Choose the application name from the Application menu at the far

right of the menu bar.

Click the visible portion of another layer.

Double-click an application icon (even if dimmed).

Drag the icon of a document onto the icon of an application (provided

the application supports the document's format).

Memory Allocation

As with System 6 , each application in System 7 gets its own memory allocation. Even so, sometimes you'll get a message that there isn't enough memory to run the program, or that the application has unexpectedly quit. You can fix this by changing the program's memory allocation. Here's how:

1) Quit the application (no need to do this if the application has

unexpectedly quit).

2) At the Desktop, select the application icon.

3) Choose Get Info from the File menu (or press Command-I).

The Get Info window appears.

4) Select the Current size box.

5) Type a new number in the box. Make sure the number you use isn't less than the Suggested size. It's best to increase the memory size by only 50K to 100K at a time. (You can always repeat the procedure if it isn't enough.)

6) Close the Get Info window.

You can now launch the application again. The application will get this new memory size until you change it.

Hints and Help

If an extension doesn't work properly in the Extensions folder, try moving it to the root level of the System Folder.

While in Finder windows, you can drag a marquee around several files to select them.

You can navigate without the mouse by using the arrow keys or by typing the first few letters of the folder or file name.

Choose Finder Shortcuts from the Balloon Help menu to get a list of keyboard equivalents for Finder operations.

Article Change History:

26 Aug 1994 - Updated for FAX/TIL/QRG maintenance.

21 Feb 1994 - Provided the text version as well as the binary file.

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MacX Mapping DECwindows Keys To Macintosh Keyboard (11/93)

I'm using MacX 1.2 to connect to a VAX/VMS. When in VT100 editing mode on the VAX' X-client application, some keys don't work using the Macintosh extended keyboard. The top four keys "clear", "=", "/", and "*" on the numeric keypad are the ones I'm have trouble with. Here is an example or the key's functionality:

* deletes a line
Clear 4 goes to end of file
Clear/ is used to find something.

I also have VersaTerm-Pro, and with VersaTerm-Pro these keys work fine.
Remote command is:

set display/create/transport=tcpip/node=s10222
Second line: /create/term/detatch

I hope this information is sufficient to diagnose the problem and tell me what is wrong.

This article has been archived and is no longer updated by Apple.
This is not a MacX problem. DECwindows applications may have features that require keys not available on Macintosh keyboards. The keys you are talking about are the top row of the numeric keypad. In an editor such as EDT, these keys send the PFn keysyms and require special mapping. VersaTerm-Pro works fine because it is a terminal emulator that correctly sends the keysyms for these numeric keypad keys.

Page 17 of the PATHWORKS MacX User's Guide discussed this keyboard mapping using a VAX/VMS application called MSAX$MODMAP. MSAX$MODMAP modifies and displays mapping tables used by the X11 server to translate keystrokes to key symbols. A mapping table tells the X Window System -- in this case, MacX -- how to translate the keystrokes. The term keysymbol (or keysym) refers to the individual location of a key as defined by the software. MacX captures the signals generated by the keys specified in the mapping table and translates them to key symbols that can be recognized by X11 client applications.

The remote command you used is fine. Once you are at the DECterm window and before you start EDT, you should run the following command to map the keyboard:

$ MCR MSAX$MODMAP MSA$EXAMPLES:MSAX$POSITIONAL_EXTENDED_KEYBOARD.DAT

You can choose to put this command in a command procedure to save typing.

I strongly suggest that you read about MacX keyboard mapping from the manual to understand the other options available.

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Apple Internet Router 3.0 and X.25 Wide Area Extension (11/93)

I'm having trouble connecting two Apple Internet Routers, version 3.0, with the AppleTalk/X.25 Wide Area Extension, and MacX25 v1.2 using a 64 kbps line.

CONFIGURATION:

Copen-
hagen Macintosh Macintosh
| |----------| |----------| |
| |Router 3.0 |Hydra |-----|64 Kbit |-----|Hydra | Router 3.0 | |
|----| MacX25 |------|Modem|========|Modem|------| MacX25 |----|
| | X25Ext |cable |-----|tel-line|-----|cable | X25Ext | |
| |----------|port1a |----------| |
Network

Parameter "Apple DCE" "Apple DTE"
File
X.25 addr 2382XXXXXXXXXX 2382XXXXXXXXXX
MODE Call Answer

Question 1:

Is this configuration supported using a 64 kbps line between two Apple Internet Routers without a real X.25 network node in between?

Question 2:

Where should the calling address be configured?

I'm able to bring up level 1 and level 2, but virtual circuits are not being established because the packets do not contain the address of the origin (calling address).

I can easily configure the called/answered address in the PORT INFO window of the Internet Router Manager. By double-clicking on the X.25 (1) port access method, and in the field "Remote X.25 ID" to specify the X.25 address of the other Macintosh.

COPENHAGEN: Call-mode Remote X.25 := "2382XXXXXXXXXX" No password
Aarhus: Answer-mode Remote X.25 := "2382XXXXXXXXXX" No password

But I can't find a place to configure the calling/answering address (the address of the local Macintosh). I would expect it to be configured in MacX25 Admin, because the address is related to the allocated address of the Macintosh node on an X.25 network.

This article has been archived and is no longer updated by Apple.
The calling DTE address is the address that your computer uses to identify itself when initiating an X.25 call. Almost all public and private X.25 networks automatically insert this address in the call packet. However, if you are connected to a network that does not do this, such as yours, you need to use the Router Tuner utility to enter this address.

The Router Tuner is distributed in the AppleTalk Internet Router Administrator's Toolkit (RO490LL/A) by APDA.

Though we aren't familiar with your requirements, you may not need to use the AppleTalk/X.25 Wide Area Extension at all. A direct asynchronous or synchronous serial connect at 64 kbps would be substantially more efficient because it would not be burdened by the additional X.25 protocol overhead.

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ImageWriter II Initial Checks

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NOTE: Remove the Option Card if one is installed. Check the DIP switches after removal. SW2-4 should be open/off with the card out.

This initial check table deals with minor problems such as a loose cable, bad ribbon cartridge (color or black), incorrectly set DIP switches, etc. The items on this list should always be checked before you begin actual troubleshooting.

INITIAL CHECKS
Check for the problems below. If your problem isn't listed in or solved by the initial checks, search on IMAGEWRITER II GENERAL TROUBLESHOOTING.

SYMPTOM CHECK

Error lamp blinks -Is carrier cover securely in place?
-If left margin error occurs while printing, it may be a software problem: try other software.

Select off, Error on -No paper or paper improperly inserted?

No printing or garbled printing -Is the interface cable between the printer and computer loose or disconnected?
-Check DIP switches:
SW2-1 and SW2-2 should be closed for 9600 BPS
SW2-3 should be open for DTR handshaking (DTR is a (popular form of data flow control; for more info on flow control search on HTS and FLOW CONTROL).
SW2-4 should be open if no option card is installed and closed if an option card is installed.

Software-specific problem -Try a known good piece of software.
-Contact the Software Manufacturer to see if the program supports the IW II.

Prints okay for a while then garbage -Set DIP switch 2-3 to the correct serial protocol.
-Check that cable is securely installed.

Overprinting -Check that the program being used is set for the correct line spacing and line length.

Light printing -Change ribbon cartridge.
-Try different settings of the impression control lever (four positions).

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System 7.0 or 7.0.1: Installation Requirements

System 7.0 and 7.0.1 run on all Macintosh Plus and later Macintosh models that have 2 MB RAM (4 MB recommended) and a hard drive. However, some features are not available on all models. In addition, if you have a 68030 microprocessor or a 68020 microprocessor with a Paged Memory Management Unit (PMMU) installed, you can use the virtual memory feature.
This article has been archived and is no longer updated by Apple.

BACK UP YOUR HARD DISK

Copy the data on your hard disk to another hard disk or to floppy disks. There are several software utilities available that perform this operation. Or you can select the items you want to copy, and then drag them to the disk where you want to copy them. If you can't copy everything, at least copy your System Folder to another disk.

RUN COMPATIBILITY CHECKER

If you do not have HyperCard 2.1, copy the application and the Home Card to your hard disk before proceeding.

1) Copy the Compatibility Checker HyperCard stack to your hard disk.

2) Double-click the Compatibility Checker stack to open it. The Introduction screen appears.

3) Click the Start Checking button. Compatibility Checker scans your hard disk. Progress messages appear on your screen. If Compatibility Checker finds potentially incompatible items, a screen appears.

4) Click one of the two buttons at the bottom of the screen. If you click the Move Items button, a dialog box appears.

5) Click the OK button. Compatibility Checker's report screen appears.

6) Click one of the four buttons at the bottom of the screen. (It's best to print the report and use it as a guide to update your software if necessary.)

7) When you're finished with Compatibility Checker, click the Quit button. If you previously moved items out of your System Folder, a message appears.

8) Click the OK button.

9) Choose Restart from the Special menu.

10) Update your software according to the four categories outlined in the Compatibility Report:

- Compatible -- No action needed.
- Mostly compatible -- No action needed. It's optional to get the more recent version.
- Must upgrade -- You must upgrade to a compatible version to use this item with System 7.0 or 7.0.1.
- Not available -- No information available. Contact the software developer directly.

VIRUS AND SECURITY SOFTWARE

If you have installed virus protection or security software, you will need to remove them from the system. Follow removal instructions in the user manual provided with the software.

RUN DISK FIRST AID

Disk First Aid software can detect and repair problems on a hard disk.

1) Double-click on Disk First Aid, and make sure the startup disk is selected. If it isn't, click the Drive button to select the startup hard disk.

2) Click on Open and then on Start. Disk First Aid will check your hard disk for any potential problems. If it finds problems, you should let the software repair them.

3) Repeat this procedure for each hard disk attached to the system.

4) When you're finished verifying the hard disks, choose Quit from the File menu to return to the desktop.

If Disk First Aid can't repair a hard disk, you should back up the hard disk and reinitialize it using the appropriate formatting utility for that drive. For Apple drives, use Apple HD SC Setup.

UPDATE HARD DISK DRIVERS

If you do not have an Apple hard disk or use third-party software to format your disk, do not use the Apple HD SC Setup Utility. However, you should contact your hard disk vendor to verify that your formatting software is compatible with system software version 7.0 or 7.0.1.

If you have an Apple hard drive, you should update the drivers with the version of Apple HD SC Setup that's on the Disk Tools disk, following these steps:

1) Double-click the HD SC Setup icon to launch it.
2) Click on the Update button.
3) When you're finished, click Quit to return to the desktop.

If HD SC Setup can't update the hard disk driver (indicated by a "dimmed" Update button), consider these possibilities.

If a third-party utility formatted your hard disk, you should obtain the latest version of the utility to update your hard disk.

If a version of Apple HD SC Setup more recent than the version on the Disk Tools disk formatted your hard disk, don't update the hard disk drivers.

If an earlier version of Apple HD SC Setup formatted the drive, it may not have left enough room for the updated driver. You don't have to update hard disk drivers. However, if you intend to use file sharing or have a Macintosh that can use virtual memory, then you need to back up the disk and reinitialize it with HD SC Setup. This erases the disk, so be certain you back up the hard disk first.

If the driver is corrupt, the Macintosh doesn't recognize the drive (that is, the disk doesn't show on the desktop). You may wish to reinitialize it with HD SC Setup. This erases the disk, so be certain you back up the hard disk first.

If the driver has been modified with compression or security software you will not be able to update the driver. Contact the vendor for additional help.

INSTALLING SYSTEM SOFTWARE

System 7.0 and 7.0.1 software come as a set of 800K or high-density disks:

- The eight 800K disk set includes Disk Tools, Install 1, Install 2, Install 3, Printing, Fonts, Tidbits, and More Tidbits.

- The set of six 1.44MB high-density (or FDHD) disks includes Disk Tools, Install 1, Install 2, Printing, Fonts, and Tidbits.

1) Start up with the Install 1 disk. To do this, put the Install 1 disk in the startup floppy drive and turn on your Macintosh. A welcome message appears.

2) Click the OK button. The Easy Install screen appears.

At this point you have two options:

- Easy Install, which installs the Macintosh system software and printer software recommended for your computer

- OR -

- Customize Install, which lets you override the recommended software and choose exactly what to install.

Easy Install
---
1) Click the Switch Disk button to select the disk where you want to install system software.

2) Click the Install button to do the Easy Install.

3) Follow the instructions on the screen. Messages appear, prompting you for the proper disks. When installation finishes, a dialog box appears.

4) Click the Quit Button.

5) Choose Restart from the Special menu.

Customize Install
---
1) Click the Customize button.

2) Click the Switch Disk button to select the disk where you want to install system software.

3) Select the items you want to install. Shift-click to select multiple items. Your selections appear beneath the scrolling window.

4) When you've made your selections, click the Install button. Messages appear, prompting you for the proper disks. When installation finishes, a message appears.

5) Click the Quit button.

Net Install

If someone has previously set it up, you can install system software over a network:

1) Connect to the shared disk that contains the Net Install folder.

2) Open the Net Install folder. A window appears.

3) Double-click the Installer icon.

4) Follow the instructions under Easy Install or Customize Install, which appear earlier in this document.

IF INSTALLATION FAILS

If a normal installation fails, you need to do a clean system software installation. If you want to use the fonts installed in your old System file, you'll have to temporarily remove them. With versions of System 6, use Font/DA Mover to save fonts and desk accessories to a font suitcase.

1) Start up with the Disk Tools disk. To do this, shut down the Macintosh, insert the Disk Tools disk into the floppy drive, then start up your Macintosh.

If the computer ejects the Disk Tools disk and won't start up from it, be sure you have an Apple SuperDrive (formerly called FDHD). If your computer doesn't have a SuperDrive, you need 800K disks. Call the Apple Order Center to get them.

The Tech Info Library article titled "Locating Vendor Information" can help you search for the Apple Order Center's phone number.

If you already have 800K disks, and your computer won't start up from the Disk Tools disk, you may have a computer that won't start from System 6. Use the Disk Tools disk that shipped with your Macintosh and continue with the following steps:

2) Double-click your hard disk icon to open it.

3) Double-click the System Folder to open it.

4) Create a new folder within the System Folder and name it "Old Finder."

5) Drag the Finder file within the System Folder to this new folder.

6) Restart your Macintosh. You should see a blinking question mark, indicating that the computer couldn't locate a valid System Folder on your hard disk.

7) Insert the first Install disk.

8) Reinstall system software following the instructions in the Install System Software section.

9) Reinstall the fonts you removed from the old System file. Drag the fonts to the System file.

INSTALL SYSTEM 7 TUNE-UP 1.1.1

Install System 7 Tune-Up 1.1.1 on all Macintosh systems running system software version 7.0 or 7.0.1. Before installing System 7 Tune-Up 1.1.1 on your Macintosh, read the entire Read Me file on the Tune-Up disk or the System 7 Tune-Up Version 1.1.1 Installation Instructions included in the Tune-Up 1.1.1 package.

To ensure proper software installation, always install system, printer, or network software, including System 7 Tune-Up 1.1.1, via the Installer. Be sure to install the System 7 Tune-Up software last.

During System 7 Tune-Up installation, AppleTalk is set to "Inactive" in the Chooser. You need to set AppleTalk to "Active" in the Chooser, and restart your Macintosh. Then you can open the Network control panel avoiding the message that "AppleTalk Remote Access has not been properly

installed."

The first time you start your computer with Extensions on with Tune Up 1.1.1 installed, the System 7 Tuner installs an INIT resource into the System file. You can only see this INIT resource with a tool like ResEdit. After that first installation, you can start up with Extensions off.

The INIT loads from the System file, but the System 7 Tuner must be in the Extensions folder. If you throw away your system software and reinstall, you must start up with Extensions on with Tune-Up 1.1.1 installed.

System 7 Tune-Up 1.1.1 installs these files:

- System 7 Tuner 1.1 extension
- LaserWriter 7.1.1 driver
- StyleWriter 7.2.2 driver
- Chooser 7.1

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HyperCard 2.2: File Type Menu Missing from Save a Copy Dialog

With HyperCard 2.2, if the "StackToApp" extension is not in the proper place, the "Save a Copy" dialog doesn't include a pop-up menu for file type choice. Instead it displays "Stack" as static text.

This article has been archived and is no longer updated by Apple.
NOTE: StackToApp does not work on 68000 based Macintosh Computers such as the Macintosh Plus, SE, Classic and Portable. Also, StackToApp REQUIRES System 7.1 or later to function.

To use this feature, a system extension called "StackToApp" must be located in one of these places:

* Root folder where the HyperCard application resides.

* The Stack Translators folder in the same folder as the HyperCard 2.2 application, or

* The Extensions folder on the startup disk (NOTE: this is the least preferable location for the extension. If there is any extension conflict, and if the StackToApp extension is NOT in the Extensions Folder, then the user can boot with extensions off to isolate an extension conflict).

Article Change History:
03 May 1995 - Added additional requirement: only runs on System 7.1 or later.
11 Apr 1994 - Added that the root level was OK, and that Extensions folder should be the third choice.

Support Information Services
Published Date: Feb 19, 2012

AppleScript: Displaying Custom Icons

How can I display custom icons? I can display the yield sign, stopping hand, and talking man, but other icons won't display.
This article has been archived and is no longer updated by Apple.
The icon you want to display has to be in one of three places:

- In the resource fork of the script file.
- In the current application.
- In the system file.

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AppleScript: Dialog Box Displays 255 Characters Maximum

Can I make the dialog box bigger? I want to display about three paragraphs of information. Currently I can display about three lines.
This article has been archived and is no longer updated by Apple.
With the built-in display dialog, you can't make the dialog box bigger. It will grow to display a maximum of 255 characters.
Published Date: Feb 19, 2012

Macintosh Portable: Used in Space Shuttle

I would like more information about the Macintosh Portable used in the space shuttle by the NASA some years ago.
This article has been archived and is no longer updated by Apple.
We believe you are referring to shuttle launch STS-43. The primary mission of STS-43 was to deploy a fourth TDRS satellite (Tracking and Data Relay Satellite). The shuttle was launched at 11:02 AM EST on Friday August 2, 1991, and landed at about 8:30 AM EST on Sunday August 11, 1991.

The shuttle carried a Macintosh Portable (nonbacklite) system on board. It was used for four primary purposes:

1) Testing four cursor control devices:
a) the Portable's built-in trackball
b) a modified aircraft control stick fitted with a thumb ball at top
c) a 2-inch trackball
d) an optical mouse

Some bushings were placed under the trackball for experiment 1a to take up the small amount of slack. Experiments 1b-d were performed with third party products.

2) Connecting to AppleLink and sending mail and disk files. The very first electronic mail message from space was sent by the crew of the space shuttle mission on Friday, August 9, 1991. You may be interested in that message:

"Hello Earth ! Greetings from the STS-43 Crew. This is the first AppleLink from space. Having a __GREAT__ time, wish you were here,... send cry, and CS! Have a nice day..... Haste la vista, baby,... we'll be back!"

editor's note:
cry = cryogenics (meaning, send more fuel for life support--air, etc.)
CS = Reaction Control System (meaning, send more fuel for maneuvering/control) In other words, they wanted to stay up there!

To connect to AppleLink the modem was modified by NASA to work with their synchronous DCE equipment. AppleLink modifications were made to deal with, among other things, routing and packet delays.

3) Recording LB NP (lower body negative pressure) medical results along with other mission notes and provided procedures for doing medical experiments.

4) Shuttle flight path tracking using an application called (Shuttle Portable Computer). It presents a real-time display of the shuttle's orbital position against a world map along with day and night cycles, tracking stations, and emergency reentry information.

In addition, the Macintosh acted as an alarm clock (in tandem with the WristMac¬) alerting the crew when it is time to do certain experiments, and so on.

Modifications were also made by NASA to the battery system (we believe a circuit breaker was added to meet the safety requirements and regulations for personal gear transported into space). Since this date, Apple portable computers are continued to be used in other NASA space missions; we have no details on those missions. MacWEEK published an article in late 1991 on mission STS-43 you may wish to pursue. In general, the Portable was basically a stock Macintosh with very few modifications.
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ImageWriter II General Troubleshooting

This article has been archived and is no longer updated by Apple.

DESCRIPTION:
Follow this procedure to determine whether the ImageWriter II is functional.

YOU WILL NEED:
1. Apple IIe computer
2. Super Serial Card
3. Printer cable
4. Level I Tech Procedures for ImageWriter II
5. ImageWriter II User's Manual
6. Pencil and paper
7. Color ribbon for the ImageWriter II

A NOTE ABOUT THE RED ERROR LIGHT:

If the ERROR LIGHT stays lit: Check and make sure that the printer is not out of paper. The paper-out switch or main CPU PCB might be defective if the printer has paper inserted properly.

The ERROR LIGHT blinks at regular intervals: Check to make sure that the cover is securely fastened and that the magnet is still in place (located under the front right of the cover). Sometimes the magnet becomes loosened and falls out. Also, check to make sure that a paper jam has not occured.

The ERROR light blinks irregularly: Check DIP switch 4 on Switch 2. DIP switch 4 should be set to the "closed" position if the AppleTalk Card or Memory Card is installed. Otherwise DIP switch 4 should be set to "open".

BEFORE YOU START:
1. If replacement or adjustment procedures are needed, refer to the Tech Procedures.
2. If location for IW II controls is needed, refer to the User's Manual.
3. Install the color ribbon on the printer.

CHECK 1: PRE-PRINT
1.1 Disconnect the printer cable at the back of the IW II.
1.2 Remove the AppleTalk Option card
1.3 Check that the top panel is installed correctly.
1.4 Check that paper is installed.
1.5 Turn the platen knob.

PROB: The platen binds or doesn't turn consistently.
FIX: Take off the top cover, pull off the platen knob and check for obstructions in the gears

1.6 Move the carriage back and forth along its full length of travel.

PROB: The carriage binds or doesn't move consistently.
FIX: Check if carrier belt is properly installed.
Check for obstructions. "Very" lightly lubricate the carrier shaft with tellus lubrication oil.

CHECK 2: POWER ON INITIALIZATION
As you turn on the printer, check for NORMAL PRINTER ACTIONS below.

NORMAL PRINTER ACTION IF NOT THEN

The power lamp lights. Search on HTS and ImageWriter II
and Power/Carrier problems

The carrier should move Search on HTS and ImageWriter II
slowly to its leftmost position and Power/Carrier Problems
then rapidly to its center position

The platen should rotate one line Search on HTS and ImageWriter II
backward and one forward and Line Feed Problems

The ribbon frame assembly should Search on HTS and ImageWriter II
tilt down about two lines and and Color Select Problems
then up to become level again.

The SEL lamp lights. Search on HTS and ImageWriter II
and Communication Problems

CHECK 3: SELF TEST
To initiate Self Test: turn the printer off and press Form Feed while
you turn it back on. The printer should print:

SELF TEST

ROMREV

DIP switch settings

RAM XX AT On or OFF

and then begin printing lines of CHARACTER SETS in alternating colors.

If the Self Test occurs as described above and the print quality is
good, go to CHECK 4.

If the printer doesn't print character sets or the print quality is
poor, search on "HTS and Imagewriter II and Self Test". The document you
will obtain contains fixes for IW II Self Test problems.

CHECK 4: HOST PRINT
4.1 Turn off the printer, write down the customer's Super Serial Card
and printer DIP switch configurations. Set the DIP switches as shown
below:

(Note: Op = open, Cl = closed, up = On, dn = Off)

_____IW II-SW1_____ _____IW II-SW2_____
Op Op Op Op Op Cl Op Op Op Op Cl Cl N/A N/A
1 2 3 4 5 6 7 8 1 2 3 4 5 6

_____SSC-SW1_____ _____SSC-SW2_____
Off Off Off On Off On On On Off Off On On Off Off MODEM/TERM jumper
1 2 3 4 5 6 7 1 2 3 4 5 6 7 block to TERM

NOTE: Dip switches 2-5 and 2-6 on the printer are preset at the factory.
They control the timing of the firing of the hammer. Do not move these
switches unless a hammer firing adjustment is being done. Refer to ImageWriter
II Technical Procedures for more information.

4.2 Remove all peripheral cards from the IIe. Install the Super Serial
card in slot 1. Connect the IW II to the S/S card via printer cable.
Turn on the IW II (make sure cover is installed). Turn on the IIe and

press the RESET key while you press the CONTROL key (DO NOT BOOT A DISK). The cursor should blink.

Type the program exactly as shown below.

```
10 PR#1
20 FOR A = 1 TO 100
30 FOR I = 32 TO 126
40 PRINT CHR$(I);:NEXT I:PRINT
50 NEXT A
60 PR#0
70 END
```

4.3 After you type RUN and press the <RETURN> key. The printer should print out about 100 character sets like the one shown below. If it does, the IW II is OK.

```
!#$%&'()*+,-./0123456789:;<>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\\]^_'abcdefghijklmno
pqrstuvwxyz{|}
```

If it doesn't, look below for problems.

* If you get a SYNTAX ERROR on the computer, you may have mis-typed a line.
To correct the syntax error perform the following:
(1) Type LIST and press <RETURN>. The program should appear on the screen.
(2) Examine the program for accuracy. Spaces, colons, etc. are important.
(3) To correct a line, simply retype the line and press <RETURN>.
LIST again to make sure the correction is OK.

* If nothing happens on the printer or the computer, press the RESET key while you press the CONTROL key. Then LIST your program as described above in the SYNTAX ERROR explanation to look for typing errors.

* If no syntax errors occured; the cursor is blinking again; then the program has probably run OK so there must be a problem with the printer. Search on "HTS and Imagewriter II and Communications". The document you will obtain contains fixes for IW II hardware communications problems.

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Macintosh Screen Freeze, Lock Up: Resetting & Restarting (12/93)

My Performa 450 has locked up (screen is frozen) and I've heard that turning the power switch off and on is not the only way to restart my Macintosh. Are there any alternatives?

This article has been archived and is no longer updated by Apple.
There are several alternatives regardless of your Macintosh model. Try these in the following order:

1) If you have System 7.0 or later, attempt to "force quit" the application you were using. Hold down the Command (Apple), Option, and Escape keys. Your Macintosh should present a dialog box which states: "Force <application name> to quit? Unsaved changes will be lost." If you can move the mouse cursor, click the "Force Quit" button.

2) If the "force quit" is successful, you should return to the Finder. Restart your Macintosh from the Special menu. If the cursor is still frozen, refer to 3) and 4) below.

3) If your Macintosh is still locked up, (screen frozen) check and see if your Macintosh has a reset button. Most compact Macintosh models have a reset button (also known as a programmer's switch on the left or right side of the computer. Some modular Macintosh models have reset buttons on the front lower left hand side. (Examples are: Macintosh IIcx, IIci.) Push the button marked "reset."

4) If your Macintosh is still locked up, (screen frozen) and your Macintosh does not have a reset button, you can do a "warm restart." Hold down the Command, Option, and Power On Key (button at the very top of the keyboard). Your Macintosh should restart. This action is the equivalent of turning your computer off and then back on.

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System 7: Personal File Sharing

File sharing with System 7.0 and later versions turns your Macintosh into a file server, letting others access information on your hard disk. This article provides a general description of file sharing followed by the specific steps you follow to set up file sharing on your Macintosh. A brief list of troubleshooting tips follows the sharing setup steps.
This article has been archived and is no longer updated by Apple.

Defining File Sharing

You can define file sharing in System 7 for up to 10 top-level items (drives and parent folders -- folders inside folders do not count toward this limit). (This article uses the term "files" when a specific distinction is not important.)

You can define file sharing for a maximum of 100 users and a maximum of 100 groups in Users and Groups. Up to 10 users (specific or guest) can be connected, however 5 can be "actively" accessing files.

Setting up sharing includes these steps:

- Turning file sharing on for your Macintosh
- Defining users and groups (if you want to restrict access)
- Defining the files you want to share
- Monitoring and managing file sharing once you have activated it

Setting Up Sharing

The first thing you need to do is turn sharing capability on for your Macintosh. To do this, select the Sharing Setup Control Panel. Enter the owner and system names, click on the Start button for File Sharing, and close the Control Panel.

Defining Users and Groups

To restrict access to your shared files you must define the users and groups who will have access. If no restriction is necessary, then you simply permit "guest" access.

You define users and groups using the Users & Groups Control Panel. This Control Panel initially includes two items: one for you, as the owner, and one for guest access.

To allow guest access, double click on the <guest> icon, which displays a small dialog box that gives you two options:

- Allow guests to connect
- Allow guest to link to programs on this Macintosh

Click on the options you want and then close the box.

To add additional users and groups, you select New User or New Group from the File menu. Both of these actions creates a new item in the Users & Groups folder.

If you create a New User, define the name as the name you want the user to use when accessing your shared files. To set specific access for the user, you double click on the user's icon, which displays a personalized dialog box.

You specify the type of file sharing access to have, whether they belong to a Group folder (described next), and whether they have program linking capability. You also define an access password, if desired.

If you create a New Group, define the name as the name of the group. You then select and drag the applicable user icon(s) into the group folder. If you double click on the group folder, you see the users who belong to the group.

Sharing Drives and Folders

You define the drives and folders you want to share by highlighting the item and selecting the Sharing option from the File menu. A file sharing dialog box displays. This dialog box lets you:

Share this item and its contents For drives, this includes all files and top-level folders on the drive. For folders, this includes all files and sub-folders within the folder.

Select who will have shared access You can change the Owner to someone other than yourself. You can also define access for a specific user or group. Or you can let everyone have access (as "guest").

Define the level of access You can restrict access for each user or group to seeing folders, seeing files, and making changes, or any combination of

these.

Share access "down the folder tree" For folders, you can provide access to the folder and its immediate contents, or to all folders within the selected folder (by selecting "Make all currently enclosed folders like this one").

Restrict modification You can let users access information in your files and still restrict their ability to move, rename, or delete them (by selecting "Can't be moved, renamed or deleted").

Monitoring and Managing File Sharing

The File Sharing Monitor Control Panel lets you see what has been shared and shows you the name of any connected users (actually the names you have allowed users to connect with). In addition, the monitor lets you disconnect any connected users. A thermometer-style meter indicates the activity level of the server.

Viewing File Sharing Status

To see whether file sharing is turned on, simply open the File Sharing Monitor Control Panel. Information in the File Sharing Monitor updates as the status of file sharing on your Macintosh changes.

Disconnecting a File Sharing User

To disconnect a user from file sharing on your Macintosh, open the File Sharing Monitor Control Panel. Highlight the user or user names you want to disconnect and click on the Disconnect button. At the prompt, enter the number of minutes to wait before the disconnect (enter 0 for immediate disconnect) and click on OK.

A message announcing the pending disconnect displays on the monitor of each Macintosh that is currently sharing files on your system, or you can turn off your system to disconnect them all.

Steps For Setting Up File Sharing

Turn on File Sharing

1. Choose Control Panels from the Apple menu.
2. Double-click Sharing Setup in the Control Panels window. The Sharing Setup window opens.
3. Type your name in the Owner Name box. Your Macintosh uses this name to identify you over the network, like the Chooser name in versions of System 6.
4. Type a password you can remember, and that other users will not easily guess. (Upper case and lower case MUST match.) NOTE: With file sharing active, persons having access to your password can log on to your Macintosh and access the entire contents of your hard disk.
5. Type a name for your Macintosh. The name you give your Macintosh becomes the file server name when file sharing is on.
6. Click the Start button on the File Sharing portion of the Sharing Setup window. The Start button changes to Cancel, and the Status window says that file sharing is starting up.
7. Close the Sharing Setup window.

Configure Guest Access

1. Choose Control Panels from the Apple menu.
2. Double-click the Users & Groups icon. The Users & Groups window opens. NOTE: The window shows two users -- Guest, and the name you typed in the Sharing Setup Owner Name field.
3. Double-click the Guest icon. The Guest window opens. Be certain that the box titled "Allow guests to connect" IS NOT checked, unless you are certain that you want to allow guest access.
4. Close the Guest window.

Create a New User

1. If the Users & Groups window is already open, skip to step 4.
2. Choose Control Panels from the Apple menu.
3. Double-click the Users & Groups control panel. The Users & Groups window opens.
4. Choose New User from the File menu. A New User is added to the Users & Groups window.
5. Click the mouse in the text area just below the New User icon. The cursor changes from an arrow to a text cursor, and an outline box appears around the text.
6. Type the appropriate user name.
7. Double-click the New User icon. The New User window opens.
8. Set the User's password by typing the password in the field titled User Password.
9. Set the User's privileges by clicking the mouse in the Allow User to Connect and/or Allow User to Change Password boxes.
10. Close the User's window.

Create a New Group

1. Open the Users & Groups control panel window.
2. Choose New Group from the File menu. A New Group is added to the Users & Groups window.
3. Click the mouse in the text area just below the New Group icon. The cursor changes from a pointer to a text cursor.
4. Type in the appropriate group name.
5. To add users to the group, select the User's icon and drag it onto the group until the Group's icon is highlighted. Release the User icon. The User is added to the Group.
6. To see the members of the group, double-click the Group icon. The Group window shows icons of all users who are members of the group.

Configure a Folder for Sharing

1. Create a folder for the files and folders you plan to share. The folder should contain files and folders to be shared with users with identical access privileges.
2. Select the items to share and drag them into the new folder. To share a copy rather than the original, hold down the Option key, select the item, and drag it to the folder. This creates a duplicate of the item(s) selected.
3. Click the folder you wish to share. The folder is highlighted.
4. Choose Sharing from the File menu. The Sharing window opens.
5. Click the box titled "Share this item and its contents."
6. Click the Everyone boxes to turn OFF access for guests.
7. If you wish to make the folder available to a group, click the User/Group pop-up menu.
8. Select the appropriate group and release the mouse button. The group you have selected should now be visible in the User/Group menu.
9. Close the folder's sharing window.

Troubleshooting Tips

Here are the most common problems and the things you should verify first.

Users cannot see a shared volume or folder

- Make sure that File Sharing is turned on
- Make sure the volume or folder has the "Share this item..." box selected
- Check your network connections and make sure both you and the user have access to the same network

Users can't log on

- Make sure the user has the correct name and password (see Defining Users and Groups earlier in this article)
- Make sure the Caps Lock key is not down since passwords are case-sensitive
- Make sure the user has permission to connect (see Defining Users and Groups)
- Make sure the user has access to the same volume or folder that has been shared

Unexpected disconnects

- Make sure the Macintosh acting as a server has not gone down or been turned off
- Check for network problems

Cannot turn System 7 File Sharing on

- Make sure there is at least 340K of memory available on the hard disk.
- Make sure there are no DOS volumes mounted with PC Exchange. If there are, eject the volume and try again.
- Reset Parameter RAM (PRAM) by restarting the Macintosh and holding down the COMMAND-OPTION-P-R keys. Wait for the second startup chime then release the keys and let the computer startup. This resets the serial ports so you will have to reactivate AppleShare and reset your network interface (Ethernet or Token Ring) on most Macintosh computers.
- Delete the Users & Groups Data File in the Preferences folder. (NOTE: Deleting the Users & Groups Data File will remove all existing users and groups.) Restart the Macintosh and enter the Owner Name, Owner Password, and Macintosh Name in the Sharing Setup control panel then start File Sharing. Restart the computer and a new Users & Groups data file will be created. Recreate the user and group information.
- Delete the File Sharing folder in the Preferences folder, restart the Macintosh, and turn File Sharing on.
- If any media is formatted with a third-party utility, check with the vendor to be sure it is compatible with System 7 File Sharing.
- Delete the invisible AppleShare PDS file at the root of any volume being shared. (NOTE: Deleting the AppleShare PDS file will remove all existing file and folder access privileges.) Restart the Macintosh and start File Sharing. Re-establish folder and file access privileges. The AppleShare PDS file can be deleted by using ResEdit or other third-party utility that can view invisible files. Use the utility to make the file visible on the desktop. The now visible AppleShare PDS file can now be dragged to the trash.
- Backup the data and reformat the drive. The issue may be caused by bad blocks on the drive.

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Macintosh TV: New Control Panel for HRC Cable

Macintosh TV users may find that they cannot receive television signals from their cable system. The solution is to get the revised TV Set Up control panel.
This article has been archived and is no longer updated by Apple.

Background

About 30 percent of the cable systems in the United States use Harmonically Related Carrier frequency, which is different from air-transmitted television signals and from the remaining 70 percent of cable systems. HRC reduces interference when many channels are transmitted over cable. Most television receivers that are labeled "cable-ready" are compatible with HRC.

Macintosh TV, however, cannot receive an HRC signal -- because each channel's frequency is shifted down by 1.25 MHz from the standard channel frequencies recognized by Macintosh TV.

Solution: A New Control Panel

A revised TV Setup control panel that allows Macintosh TV to pick up the HRC frequency will be available starting November 30, 1993. It can be downloaded from the Apple Software Updates web site at http://www.apple.com/swupdates.

This new control panel also fixes a problem that would sometimes cause the screen to darken after returning from TV mode.

Published Date: Feb 19, 2012

Fonts and Desk Accessories Installation

This article tells you how to install fonts and desk accessories (DAs) for versions of System 6 and System 7.
This article has been archived and is no longer updated by Apple.

System 7 Installation
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1) Close all open applications except the Finder.

2) When the System Folder is open, you must install fonts and desk accessories in their proper places within the System Folder. If you have a suitcase file of multiple fonts or DAs, and you don't want to install all of them, you must first double-click it to open the suitcase file. Select the fonts or DAs you want to install and install them as follows:

For versions of System 7 later than 7.1, drag the font files to the Fonts folder.

For versions of System 7 prior to 7.1, drag fonts onto the System file.

Drag desk accessories (DAs) to the Apple Menu Items folder. When the System Folder is closed, you can drag font files onto the System Folder icon, and the system places the fonts in the proper location.

System 7 Hints and Help

DAs no longer have to reside only under the Apple menu. Instead of the Apple menu, you can put them in folders or on the desktop. TrueType and fixed-size fonts (such as Helvetica 18) go in the System file for System 7 versions earlier than 7.1. They go in the Fonts folder for 7.1 and later versions.

PostScript fonts go in the Extensions folder for System 7 versions earlier than 7.1. PostScript fonts go in the Fonts folder for 7.1 and later versions.

For versions of System 7 earlier than 7.1, you may find your text prints incorrectly on a PostScript printer (like the LaserWriter NT or NTX). If this happens, put the PostScript fonts in the System Folder at the root level rather than in the Extensions folder within the System Folder.

System 6 Installation
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1) Copy the Font/DA Mover 4.1 application to your hard disk.

Note: If you have older versions of Font/DA Mover on your hard disk, drag them to the Trash. Using an older version can damage your System file!

2) Double-click the Font/DA Mover 4.1 application. The Font/DA Mover screen appears. The left scroll box shows the fonts currently installed in your System file. The title below the scroll box shows the location of the fonts: System on Macintosh HD.

3) Click the Open... button on the right. A standard file selection dialog box appears.

4) Find the font file (also called suitcase file) with the fonts you want to install, select it, and click the Open button (or press Return). You are taken back to the Font/DA Mover screen.

5) Select the fonts you want to install by dragging over the list on the right. (You also can hold down the Shift key and click each font.) The selected fonts are displayed in reverse type (white letters on a black background). Arrows appear on the Copy button to show the installation direction.

6) Click the Copy button to install the fonts.

7) Click the OK button.

To install desk accessories during the same session, click the Desk Accessory radio button. The left scroll box then shows the DAs currently installed in your System file. Follow steps 3-7, substituting DA(s) wherever you see font(s).

8) When you're finished, click the Quit button to go back to the Desktop (Finder). Restart your Macintosh if you're in MultiFinder.

System 6 Hints and Help

Hold down the Option key before launching Font/DA Mover to display DAs first rather than fonts.

System 6 has a limit of 15 desk accessories and 52 fonts.

You can get around the System 6 limits by using a third-party extender utility such as Suitcase II or MasterJuggler.

Published Date: Feb 19, 2012

Macintosh TV: Television Connection Tips

This article provides some tips for connecting a Macintosh TV to cable service.
This article has been archived and is no longer updated by Apple.
Basically, anything that can be attached to a regular TV can be attached to Macintosh TV. There are two ports for a video source: coaxial and RCA. Things that have an RCA plug can also be attached to the coaxial port with the proper adapter, and vice-versa. One restriction is that closed caption must come through the coaxial port.

In the TV Setup control panel, click on Channel Setup and select Cable (as opposed to Antenna for broadcast TV) as the source.

Published Date: Feb 19, 2012

AppleShare Pro: System 6.x Created CD-ROMs

I have a custom CD-ROM disk that was shareable over AppleShare 3.0.x, but does not seem to be shareable over AppleShare Pro. The problem seems to be with AppleShare Pro not recognizing CD-ROMs that were created with a System 6.x type desktop. The CD-ROM appears on the Apple Workgroup Server (AWS) 95 desktop, but is not being shared.

I tested a CD-ROM that was known to have been mastered on a System 6.x volume. The dialog box message that is given when the (System 6.x type desktop) CD-ROM is inserted into the drive is, "The volume "xxxxx" could not be prepared for use with AppleShare Pro". The only option given is an "OK" button, which dismisses the dialog box and the CD-ROM volume appears on the AWS 95 desktop. If the AppleShare Admin program is then run, the CD-ROM does not appear in the list of available volumes. This CD-ROM cannot therefore be shared over the network.

The CD-ROM I used for testing was the "Bill and Dave's Excellent CD (Release Version)" from the Developer CD series. Interestingly, the Finder window of this mounted CD-ROM showed it to be locked, but didn't show the non-writable (crossed-out-pen) symbol. Another System 7.x formatted CD-ROM (October 93 Developer's CD) was mounted to compare it to the behavior of the System 6.x formatted CD-ROM. This CD-ROM appeared on the desktop and was available for selection in the AppleShare Admin program as a shareable volume. In the Finder, it had a locked icon as well as a non-writable icon in the Finder window for that volume.

Does this mean that System 6.x created CD-ROMs cannot be used with AppleShare Pro?
This article has been archived and is no longer updated by Apple.
AppleShare Pro is not able to share System 6.x based CD-ROMs. The CD-ROM must have System 7.x style desktop files on it for it to be shared on an AWS 95. This limitation is a result of A/UX not allowing the desktop files for a volume to be on a separate volume. This is required when System 6.x based CD-ROMs are shared.

To illustrate, when the "Phil and Dave's Excellent CD (Release Version)" CD-ROM is first mounted on a System 7 Macintosh, the Desktop files are created and stored in the "Preferences" folder within the "System Folder". The Desktop files for the CD-ROM are on the boot volume and A/UX can't do this.

Under A/UX, it is not necessary to have System 7 style Desktop files to see the contents of the volume, but they are necessary if the volume is to be shared.
Published Date: Feb 19, 2012

AV Computers: Using With Third Party Monitors (12/93)

I tested a Quadra 840AV with several third party monitors from manufacturers like Eizo and Sony (13", 16", 19" and 21"). I connected the monitors via the built-in video port. They didn't work. I got a black screen. Apple monitors work fine.

Is there a list of display devices that work with the AV models?

This article has been archived and is no longer updated by Apple.
Apple designs its video circuits to support its own monitors. This task has become increasingly difficult given the many different screen sizes and different types of video signals now supported by Apple computers and video cards (PAL, NTSC, VGA, and so on.). It is entirely up to the third party vendors to build their monitors to conform with Apple video specifications if they choose to make their monitors compatible with Apple CPUs. Because of the almost endless number of third party monitors in the market place, Apple does not keep track of nor maintain a list of which monitors may or may not be compatible with our ever growing CPU line. I recommend you contact the individual vendors who will know if their monitor is compatible with a particular Apple computer.

Published Date: Feb 19, 2012

Using Composite Monitors/TVs: With AV Computers (12/93)

Does Apple have a listing of Composite Monitors/TV Tuners that are compatible with the 660AV & 840AV computers?. Most monitors seem to scan in such a fashion that the menu bar and right side of the screen are lost. Has Apple tested the AV's to see which monitors compensate for this?

I'm running out of the Video-out RCA jack into the monitor and switching in the control panel according to the AV documentation.

A number of schools have brought this up as an issue. Is there a difference if we use the S-video output?

This article has been archived and is no longer updated by Apple.
It sounds as though you are using the monitor in the overscan mode. This is exactly how a television set operates--a portion of the video display is off the screen. This is not a problem when watching television but it is a serious inconvenience when using a NTSC receiver (TV) as an output to a computer generated signal. The solution is to operate the TV in the underscan mode. To do this you must open the monitor control panel and select the lower resolution (512 x 384) via the options button. This is the underscan mode and will allow you to see the entire raster when you "switch" to the TV.

Using the S-video output from the computer to drive an S-video compatible monitor will provide a slightly improved signal. However, the improved performance is very subtle and may not even be discernible under certain displays.

Finally, because of the almost endless number of third party monitors in the marketplace, Apple does not keep track of nor maintain a list of those which may or may not be compatible with our ever growing CPU line. I recommend you contact the individual vendors who will inform you as to their compatibility with a particular Apple computer.

Published Date: Feb 19, 2012

ImageWriter II:Carriage Problems and Cures

This article has been archived and is no longer updated by Apple.

#1: Carriage Hums and Won't Move at Power On

PROBLEM DESCRIPTION: When the printer is powered on, the carriage should move to the far left and then back to the center of its travel. With this problem, the carriage doesn't move at all at power on.

CAUSE: Printer is shipped with plastic tubes on the carriage shaft to hold the carriage stationary and so prevent damage. It is not easy to see that these tubes are just shipping fixtures so sometimes they aren't removed at installation.

CURE: If plastic tube shipping fixtures are installed, remove them from the carriage shaft.

#2:Carriage Moves to the Right at Power Up

PROBLEM DESCRIPTION: Carriage moves to the right instead of the left at power up.

CAUSE: The CPU PCB may be defective.

CURE: Replace the CPU PCB with a known good one.

#3:DEAD PRINTER

PROBLEM DESCRIPTION: When you power up the printer the carriage doesn't move at all.

CAUSE: it could be a defective Driver PCB; it could be a defective CPU PCB.

CURE: 1. If the LEDs are not lighting, replace the Driver PCB.
2. If the LEDs are lighting, replace the CPU PCB.

#4: AFTER POWER UP CARRIAGE MOVES LEFT BUT DOESN'T CENTER

PROBLEM DESCRIPTION: When the printer is turned on, the Carriage moves to the left but does not return to the center.

CAUSE: The end of travel switch mounted under the Carriage Assembly may be bent or malfunctioning.

CURE: Power off the unit. Remove the top cover and slide the Carriage Assembly to the right. Set the printer on its right side and locate the switch under the Carriage Assembly. Make sure that it is not bent. If it isn't, push the switch and check for (a) or (b) below:

(a) IF THE SWITCH HESITATES TO GO IN AND RETURNS VERY SLOWLY, then it's probably stuck. Spray contact cleaner on the switch while you press it a few times. Do this until it operates freely.
Recheck for the problem.

(b) IF THE SWITCH OPERATES FREELY BUT THE CARRIAGE STILL WON'T CENTER AT POWER UP, the problem could be the CPU, switch, Carriage Assembly, ribbon cable, or power supply. Refer to the Tech Procedures for the troubleshooting procedure to isolate the problem to one of these modules.

#5:DESCRIPTION

When the printer is turned on, the power light should come on.

YOU WILL NEED:
1. Level I Tech Procedures for ImageWriter II
2. ImageWriter II User's Manual

BEFORE YOU START:
1. If a replacement doesn't fix the problem, reinstall the original module/part before continuing with the procedure.
2. For location of IW II module/parts, refer to the Level I Tech Procedures.

INSTRUCTIONS
1. Move the carriage back and forth along its full length of travel.

PROB: The carriage binds or doesn't move consistently.
FIX: Check if carrier belt is installed properly
Check for obstructions in the gears

2. Turn on the IW II. The power lamp should come on and the carriage should move slowly to its leftmost position, then rapidly to its center position.

PROB: The power lamp doesn't light when the IW II is turned on or the carriage does not operate properly.
FIX: Recheck for the problem after each of the following steps:
(1) Check that power is turned on.
(2) Check that the power cord is plugged in.
(3) Replace the operation panel.
(4) Check the 5 amp and 1 amp fuses on the Drive PCB
* If either is burned out, replace it and turn power on again.
* If the fuse blows a second time, replace components in this order
(recheck for the problem after each replacement):
a. Drive PCB
b. Carrier motor
c. Transformer
(5) If the fuse is OK, swap the power cord.
(6) Replace components in this order (recheck for the problem after each replacement): transformer, drive PCB, filter board, 2 amp
fuse on the filter board, power switch.

PROB: There is a burning odor, erratic carrier motion, or erratic platen rotation when the printer is turned on.
FIX: Recheck for the problem after replacing each of the following parts:
(1) Drive PCB
(2) Main CPU PCB
(3) Carrier motor
(4) Flexible cable
(5) PCB interconnection cable
(6) Interface cable

If the above cures don't fix the problem, search on GTS and the

product's name to obtain a general troubleshooting procedure.

Published Date: Feb 19, 2012

HyperCard: Sending HyperTalk in AppleScript (12/93)

How do I embed HyperTalk code in a script that is in the AppleScript environment?

This article has been archived and is no longer updated by Apple.
After setting the language environment to AppleScript:

* Use the command "do script" and enclose the HyperTalk code in quotes.
For example:

do script "send mouseUp to card button 5"

* Or put AppleScript code in a field, then use something like this:

do card field scriptText as AppleScript

If the field scriptText has AppleScript code in it, the HyperTalk command will execute it as AppleScript.

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Performa 550: Video Out Solution (12/93)

I received a Performa 550 for my classroom and wish to use it for class presentations by connecting an external monitor. Is this possible?

This article has been archived and is no longer updated by Apple.
Power R, Inc. has developed a video out solution for the LC 520/Performa 550 called the Presenter 520. The Presenter 520 allows for output to an external monitor or LCD (liquid crystal display) panel, making it easy to display the LC 520 screen in a classroom setting.

The PowerR Presenter 520 installs in minutes with no tools and drives color or monochrome LCD panels and monitors. It installs directly onto the logic board (the video chip), leaving the LC 520 PDS slot available for an additional card. The PowerR Presenter 520 has both D-15 (Macintosh) and HD-15 (VGA) connectors for external monitors or LCD panels.

NOTE: The Presenter 520 is NOT compatible with non-multisync VGA monitors such as the Apple Basic Color Monitor.

PowerR Presenter 520 has a special educator price of $116.10.

For More Information

Contact Power R, Inc. at 800-729-6970 or 206-547-8000.

Published Date: Feb 19, 2012

DOS Compatibility Card: Hard Drive Partitioning (5/96)

How can I partition the hard drive so it works properly with the DOS Compatibility Card, in the DOS environment and still use the hard disk for the Mac OS?

This article has been archived and is no longer updated by Apple.

The PC hard drive is very flexible. It can be a "Drive Container," which is a large file that exists on a Macintosh partition or server; it can be a physical DOS partition on a SCSI device created with a third party utility; or it can be a SCSI DOS medium (such as a hard disk, SyQuest, etc.).

Creating a Drive Container

To create a drive container, use the PC Setup Control Panel.

1) Select either the C or D drive icon

2) Select New drive file from the menu

3) Select the location for the drive container

4) Name the drive container

5) Check the Initialize Drive File box

Using a DOS Partition

To use a DOS partition, it is necessary to have a SCSI drive attached that has a DOS partition on it. Some Macintosh hard disk formatting programs allow the creation of MS-DOS partitions. You can also use an existing MS-DOS formatted SCSI drive.

Once you connect the hard disk:

1) Open the PC Setup Control Panel

2) Select the appropriate drive letter

3) Select Drive Container

4) Select the appropriate drive from the list of available choices

If the partition is new or the drive has not been used by MS-DOS before, it is necessary to use the DOS FDISK command to create the DOS partitioning information for that drive. After using FDISK, you need to format the drive using the MS-DOS FORMAT command.

This article appeared in the 6 May 1996 issue of Information Alley.

Article Change History:

06 May 1996 - Reviewed for technical accuracy.

05 May 1994 - Removed references to Houdini

25 May 1994 - Added information on creating a disk container and hard disk

partitions.

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Peter & Santa Claus CD: QuickTime Alert (12/93)

Why does an alert appear saying that I need QuickTime installed when I launch Peter & Santa Claus?

This article has been archived and is no longer updated by Apple.
Answer:

1) Peter requires at least version 1.5 of QuickTime to run (QuickTime is an extension that plays the movies found on Peter & Santa Claus). The Peter & Santa Claus CD comes with QuickTime 1.6.1. To install it, drag it to your System Folder (press OK when your Macintosh asks if it should put QuickTime into the Extensions folder), and restart your computer.

2) If you already have QuickTime installed on your computer, perhaps the extensions were not loaded on start-up. Try restarting your Macintosh. If this still does not work, check the version of QuickTime that you are using by selecting it and choosing "Get Info" from the File Menu.

Published Date: Feb 19, 2012

Peter & Santa Claus CD: Configuration Requirements (12/93)

Why do I get an alert stating that I need 256 colors and 640x480 pixel resolution to run Peter & Santa Claus?

This article has been archived and is no longer updated by Apple.
Answer:

1) Peter & Santa Claus requires a resolution of at least 640x480 pixels. An Apple 12 inch RGB display does not support this resolution. This may be why you are receiving this alert. You must use a 13 or 14 inch RGB display or larger. If you are using a large enough monitor, perhaps you are running in something other than 256 colors.

2) Peter & Santa Claus requires 256 colors to run. You can set your Macintosh to run under 256 colors by going to the Monitors Control Panel and selecting 256 colors. If you do not have 256 colors available to you, you need to buy more VRAM, or a video board that supports 256 colors.

Reference: Peter & Santa Claus Configuration Requirements

Published Date: Feb 19, 2012

Peter & Santa Claus CD: Sound Problems (12/93)

Why doesn't the Peter & Santa Claus audio always play?

This article has been archived and is no longer updated by Apple.
Answer:

Peter & Santa Claus works with either the system sound or Sound Manager 3.0. It is true that Sound Manager 3.0 offers superior sound quality. However, Sound Manager 3.0 requires a little more memory. It seems that Sound Manager 3.0 takes an additional 10-30K of system memory when sound is being played. If this memory is not available to your system, some audio may not be heard.

To free up some memory, try the following:

1) Close all windows in Finder.
2) Quit any running applications.
3) Remove items in your System Folder that are not needed by Peter & Santa Claus (for example: Extensions and Control Panels).
4) If all else fails, try taking out Sound Manager 3.0 and using System 7.x Sound instead. Note: The goal is to have at least a 10-30K largest unused block (instead of 0K) AFTER launching Peter and Santa Claus.

Reference: Peter & Santa Claus Configuration Requirements

Published Date: Feb 19, 2012

Peter & Santa Claus CD: Sound & Animation Is Erratic (3/95)

Why does Peter & Santa Claus CD-ROM sound and animation play erratically?

This article has been archived and is no longer updated by Apple.
Erratic play from the CD could be a result of any one or more of the following:

* The CD-ROM disk may be dirty (fingerprints dust and so on). Try cleaning your disk.

* There may be applications running in the background (quit all applications besides Peter).

* Sharing may be on (ensure that sharing is off).

* Peter may be accessing Virtual Memory (ensure that Virtual Memory is off). If you do not have enough memory you may want to consider purchasing more.

* If you are using an older/slower Macintosh such as an LC or LC II Peter & Santa Claus may occasionally behave erratically. If you are planning on using a significant amount of CD-ROM multimedia and want optimum performance consider upgrading.

* If you are using an early or single speed CD player such as an Apple CDSC, CD 150, or PowerCD, Peter may behave erratically. You may want to consider upgrading to an AppleCD 300.

Reference: CD-ROM Drive Manual, Technical information concerning the use of multimedia CD-ROM disks

Article Change History:
17 Mar 1995 - Corrected product name and updated format.

Support Information Services
Published Date: Feb 19, 2012

ImageWriter II Line Feed Problems

This article has been archived and is no longer updated by Apple.

YOU WILL NEED:
1. Level I Tech Procedures for ImageWriter II
2. ImageWriter II User's Manual
3. Digital Multi-meter

BEFORE YOU START:
1. If a replacement module/part doesn't fix the problem, reinstall the original module/part before continuing with the procedure.
2. For location of IW II parts, refer to the Level I Tech Procedures.
3. After each of the steps in this procedure, perform the IW II Self Test to see if the problem has been repaired. To initiate Self Test turn the printer off and press Form Feed while you turn it back on.

INSTRUCTIONS
1. To check the paper feed mechanism, insert paper, take off the top cover, pull off the platen knob, check for obstructions in the gears, and look to make sure the gears to the left of the platen mesh properly. If defective module/parts are found, replace them.

2. Turn off the printer and check the Form Feed and Line Feed switches on the operation panel as follows. If either proves defective, replace the operation panel.

2.1 Set the digital multi-meter to measure 200 ohms resistance.

2.2 Place the probes on pin 12 and pin 13 of the operation panel connector. The reading should show no connection (1).

2.3 Depress the Form Feed switch. The reading should show continuity (0.00).

2.4 Place the probes on pin 11 and pin 13 of the operation panel connector. The reading should show no connection (1).

2.5 Depress the Line Feed switch. The reading should show continuity (0.00).

3. Replace the Drive PCB

4. Turn off the printer and check the paper feed motor as follows. If it proves defective, replace it.

4.1 Set the digital multi-meter to measure 200 ohms resistance.

4.2 At the cable connector end (disconnected from the drive PCB), check the resistance values between pins 6 and 4, 6 and 2, 5 and 1, and 5 and 3 (pin 1 is the black wire). The value for each reading should be approximately 22 ohms.

4.3 Check the resistance values between pins 3 and 1; and 2 and 4. The value for each reading should be approximately 44 ohms.

5. Replace the Main CPU PCB.

PROBLEM/CURE:IMAGEWRITER II
--Line Feed Problems Cause Power Supply to Smoke--

PROBLEM DESCRIPTION: The line feed function is not working properly (too much friction) and/or a component on the power

supply module may have burned up.

CAUSE: The line feed motor may have shorted a winding. This can cause components on the power supply and the CPU PCBs to be destroyed.

CURE: Remove the motor from the printer and try to turn its pulley. Check for (a) and (b) below:

(a) "If the pulley turns hard", then the windings are burned out so replace the bad line feed motor and recheck for the problem.

-If the printer still does not work after the replacement of the Line Feed motor, the original bad motor may have damaged the Power Supply and CPU PCBs. In this case try replacing one or the other or both of these modules.

(b) "If the pulley turns freely", then most likely the motor is good. Inspect the Power Supply for burned components, etc.

-If burned or discolored components are found on the Power Supply, replace the Power Supply.

-If the Power Supply appears to be OK, replace the CPU PCB.

If the above cures don't fix the problem, search on GTS and the product's name to obtain a general troubleshooting procedure.
Published Date: Feb 19, 2012

Apple File Exchange: Users Guide Error (12/93)

On page 256, the Macintosh Users Guide for desktop Macintosh computers (#030-2651-A) says that Apple File Exchange (AFE) comes with three translator files, but it only ships with one translator file.

This article has been archived and is no longer updated by Apple.
It's correct that AFE ships with only one separate translator. However, there are two built-in translators and one separate translator (DCA-RFT/MacWrite). I believe that the author counted the built-in text and binary translators as separate translators because on page 258 the manual contradicts what was written on page 256 and reads that AFE ships with one translator.

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68040, PowerPC 601: Integrated FPU Is IEEE 754 Compliant (12/93)

The U.S. federal government specification for personal computer purchases requires an FPU that is "IEEE 754 compliant, with precision ranging at least 10E+38 and 10E-38 (8 significant digits) to at least 10E+308 and 10E-308 (16 significant digits)."

Does the 68040's FPU meet this specification? Will PowerPC 601?

This article has been archived and is no longer updated by Apple.
Both the MC68040 and the PowerPC 601 microprocessors are fully compliant with IEEE 754 floating-point standards. The following tables show the approximate precision ranges for the two processors:

Single-Precision Real Format

Maximum Positive Normalized 3.4 x 10E38
Minimum Positive Normalized 1.2 x 10E-38
Minimum Positive Denormalized 1.4 x 10E-45

Double-Precision Real Format

Maximum Positive Normalized 1.8 x 10E308
Minimum Positive Normalized 2.2 x 10E-308
Minimum Positive Denormalized 4.9 x 10E-324

Extended-Precision Real Format

Maximum Positive Normalized 1.2 x 10E4932
Minimum Positive Normalized 1.7 x 10E-4932
Minimum Positive Denormalized 3.7 x 10E-4951

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HyperCard 1.2.5: Conflicts with System 6.0.7

There is an incompatibility between HyperCard 1.2.5 and the Sound Manager in all system software beginning with System 6.0.6.
This article has been archived and is no longer updated by Apple.
HyperCard 1.2.5 can run on 6.0.6/6.0.7 if the sound is set to 0 in the Control Panel before starting HyperCard. This incompatibility has been fixed in HyperCard 2.0.

This article is adapted from the Claris Tech Info database.
Published Date: Feb 19, 2012

HyperCard 2.0: Summary of Visual Effects (7/92)

Visual effects in HyperCard 2.0 now work with monitors in modes other than 1-bit black and white. Specifically, monitors in 2-, 4-, and 8-bit modes (4, 16, or 256 colors) are supported. Previous versions of HyperCard (before 2.0) supported fewer visual effects, and only did so in the black and white mode. The visual effects also work on secondary monitors as long as the card window does not extend into both displays.

This article has been archived and is no longer updated by Apple.
Visual effects may now be added to button scripts by means of a visual effect selection dialog. The dialog is activated by clicking the Effect button in the Button Info dialog. After you choose the visual effect, HyperCard 2.0 looks in the button script for the first Go command to go to another card or stack. The chosen visual effect is automatically added to the button script. If a Go command is not found, HyperCard 2.0 adds the visual effect to the script, followed by the command " this card".

Two new visual effects have been added to HyperCard 2.0: Stretch and Shrink. The stretch effect appears to pull the new card image from the top, bottom or center of the current card. Shrink appears to collapse the current card image to the top, bottom or center as specified by the script. For example:

```
on mouseUp
visual stretch from top
go to next card
end mouseUp
```

or:

```
on mouseUp
visual effect shrink to center
go to stack ""
end mouseUp
```

Notice that the word "effect" after the HyperTalk phrase "visual" is optional.

You can also control these two new effects like this:
visual shrink to center
Or: visual shrink from center
Or: visual shrink to top
Or: visual shrink to bottom
Or: visual stretch from center
Or: visual stretch from top
Or: visual stretch from bottom

You can also control the speed of these effects. Examples:
visual dissolve slowly
Or: visual dissolve very slowly
Or: visual dissolve fast
Or: visual dissolve very fast

You can also add color (sort of):
visual barn door open slowly to grey (or gray)
visual iris open slowly to black
visual venetian blinds slowly to white---inverts card
visual venetian blinds slowly to inverse ---inverts card

Visuals can also be combined, however, you must "go" either to black, white, or gray; or to another stack or card for all of the effects to appear:
visual dissolve slowly to white
visual dissolve very slowly to gray
visual dissolve fast to black

visual dissolve very fast
go next card

Note: In HyperCard 2.0 the following visual attribute speeds have been changed to execute differently: "Very fast" now means "as fast as the CPU can go." "Fast" now means "twice as fast as normal".

Here's a list of these visual effects that were unique to HyperCard before version 2.0 (v.1.0-1.2.5z):
barn door open
barn door close
iris open
iris close
checkerboard
dissolve
scroll up
scroll down
scroll left
scroll right
venetian blinds
wipe up
wipe down
wipe right
wipe left
zoom open
zoom close
zoom in
zoom out
Flash

The "Flash" visual effect is actually an XCMD built into HyperCard itself by Apple. To invoke it, you would use a handler such as:

```
on mouseUp
Flash 9 -- (any number can be used, or a repeat forever loop)
end mouseUp
```

In all releases of HyperCard before 2.0, you could also specify with colors and speed with the scripts cited above.

This article is adapted from the Claris Tech Info database.
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HyperCard 2.0x: A/UX Compatibility (7/92)

HyperCard 2.0x is not 100% A/UX 2.0 Compatible.

This article has been archived and is no longer updated by Apple.
The only incompatibility relates to Sound formats. A/UX will be revised by Apple around System 7.0's release to be compatible with HyperCard 2.1.

This article is adapted from the Claris Tech Info database.
Published Date: Feb 19, 2012

HyperCard: Handlers for Automatic Compacting (8/92)

Whenever you leave a stack that has too much free space, the initAutoCompact handler (below) will automatically ask if you want to compact it.

You can tell it to shut up, too. You can adjust the number of free bytes in a stack that this handler will allow before asking you whether you want to compact by editing the field to the right.

This article has been archived and is no longer updated by Apple.

```
on initAutoCompact
global autoCompactEnabled,maxFreeSizeOfStack
put true into autoCompactEnabled
lock screen
push card
go to card "AutoCompact" of stack "Cookbook Reference"
if the result is empty -- card exists
then put card field "MaxFreeSizeOfStack" into maxFreeSizeOfStack
else put 25000 into maxFreeSizeOfStack
pop card
unlock screen
end initAutoCompact

on autoCompact
-- Automatic stack compaction that can stop asking
-- Whenever you leave a stack that has too much free space,
-- this handler will automatically ask if you want to compact it.
-- You can tell it to shut up, too.

global autoCompactEnabled,maxFreeSizeOfStack
if autoCompactEnabled is not true then exit autoCompact
get the freeSize of this stack
if it > maxFreeSizeOfStack then
put "Compact this stack? (" & it div 1024 & "K free)" into prompt
answer prompt with "Yes" or "No" or "Stop Asking"
if it is "Stop Asking" then put false into autoCompactEnabled
if it is not "Yes" then exit autoCompact
doMenu "Compact Stack"
end if
end autoCompact
```

This article is adapted from the Claris Tech Info database.
Published Date: Feb 19, 2012

HyperCard: Commands Sent Automatically in HyperCard (7/92)

This article describes how HyperCard sends events automatically.

This article has been archived and is no longer updated by Apple.
HyperCard sends some commands automatically in response to events, just like system messages. But unlike system messages, if the command passes all the way to HyperCard without being handled, HyperCard performs a built-in action.

HyperCard sends choose and doMenu as messages when the user chooses a tool or an item from one of HyperCard's menus. It sends close as a message when the user clicks the close box of a window.

HyperCard sends help as a message when the user chooses Help from the Go menu (or presses Command-?).

HyperCard sends arrowKey, commandKeyDown, controlKey, enterInField, enterKey, functionKey, keyDown, returnInField, returnKey, and tabKey as messages when the user presses one of those keys key.

This article is adapted from the Claris Tech Info database.
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HyperCard: If You‘re Not Able to Modify a Stack (10/95)

I have some HyperCard stacks that will not let me make any changes to them.

This article has been archived and is no longer updated by Apple.
Here are a few possibilities why you cannot make any changes in a HyperCard stack.

Stack may be protected

The stack author or another user may have used the Protect Stack menu item in the File menu to lock the stack. To unlock the stack, hold down the Command key before you click on the File menu; continue holding down the Command key while selecting Protect Stack... from the File menu. You will be prompted for a password if one has been assigned to this stack. After entering the password, if there is one, the Protect Stack window will open. Here you can change the stack protection settings, the user level limits, and the password.

UserLevel not high enough

Before you can write your own scripts or change stacks, you must first set your user level to Scripting (userlevel 5). To do this, go to the Preferences card of your Home stack. If the option for Scripting is visible, select it. If this option is not visible, there are several ways to set the userLevel.

Type "Magic" in the message box and hit Return. If this does not work, type "Set the userLevel to 5" in the message box. This will give you access to the tools palette. Select the button tool. You should then see the outline of a big button covering part of the card. Select this button and delete it, then set the userLevel to 5.

The stack may be from an earlier version of HyperCard

The stack might be a HyperCard 1.x stack. If this is the case, there will be a small picture of a padlock on the menu bar. If you choose "Convert Stack" from the File menu, the stack will be converted to HyperCard 2.x format, and you will then be able to make changes.

This article is adapted from the Claris Tech Info database.

Article Change History:
27 Oct 1995 - Reviewed for technical accuracy.

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HyperCard: Card Windows and Positions (7/92)

The card window position is now saved whenever a stack is closed (by leaving the stack or quitting, for example).

This article has been archived and is no longer updated by Apple.
Thus, opening a stack always moves the card window to the last saved window position for that stack. This behavior brings HyperCard in line with standard recommendations for window handling in the Mac operating system.

Although HyperCard 2.0 can have multiple windows/stacks open simultaneously, only the loc and visible properties can be set for inactive card windows. " window," for example, no longer works on inactive card windows.

This article is adapted from the Claris Tech Info database.
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HyperCard: Closing Script Windows (7/92)

What happens when I close a HyperCard script window?

This article has been archived and is no longer updated by Apple.
To close a script window:
* Click the window's close box.
* Choose Close from the Edit menu (or press Command-W).
* Hold down Command-Option and click.
If you close a window in which you've made changes, HyperCard asks you if you want to save the changes before it closes the window.

Shortcuts

To close a script window without saving your changes, press Command-period.

To close a script window and save your changes, press Enter.

This article is adapted from the Claris Tech Info database.
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ImageWriter II Color Select Problems

This article has been archived and is no longer updated by Apple.

YOU WILL NEED:
1. Level I Tech Procedures for ImageWriter II
2. ImageWriter II User's Manual
3. Digital Multi-meter
4. Color ribbon for the ImageWriter II

BEFORE YOU START:
1. If a replacement module/part doesn't fix the problem, reinstall the original module/part before continuing with the procedure.
2. For location of IW II module/parts, refer to the Level I Tech Procedures.
3. The other functions on the printer must be working before this procedure can be performed. To check out the other functions, try printing a file from the IIe.

INSTRUCTIONS
1. Press the FORM FEED switch on the IW II as you turn on the printer. The printer should print:

SELF TEST

ROMREV

DIP switch settings

RAM XX AT On or OFF

and then begin printing lines of CHARACTER SETS in alternating colors.

If the printout shows color select problems, continue with this procedure below.

2. Examine the color ribbon assembly (printer should be off). Verify that the black tabs on the ribbon plate are riding on the spiral ridge of the ribbon cam. Check the ribbon cam for looseness. Also check the copper tab mounted behind and below the ribbon cam. When the cam is all the way up, the vertical ridge on the cam should hit the tab. If the color ribbon assembly is loose, the ribbon cam position is misaligned. For color printing adjustment procedures turn to Section 4, Adjustments, in the Tech Procedures. For more location info, see the illustrated parts diagrams in the Tech Procedures.

3. Replace the Drive PCB.

4. Turn off the printer and check the flexible cable and the ribbon motor as follows. If the check shows a problem, replace the flexible cable first and retry the check. If the problem remains, replace the ribbon motor.

NOTE: If part location information is needed, refer to the illustated parts list in the Tech Procedures.

4.1 Detach the flexible cable from the drive PCB.

4.2 Set the digital multimeter to measure 200 ohms resistance.

4.3 On the flexible cable, check the resistance values between pins 3 and 7, 5 and 7, 4 and 8, and 6 and 8. The value for each reading should be approximately 120 ohms.

4.4 Check the resistance values between pins 3 and 5, and 4 and 6.

The value for each reading should be approximately 240 ohms.

5. Replace the Main CPU PCB

6. Reset the DIP switches to the customer's original configuration. Then refer to the User's Manual and the Appendix in the Imagewriter II section of the Tech Procedures to see if the customer's DIP switch configuration caused the problem.

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HyperTalk: Adding Comments to Scripts (7/92)

In HyperTalk scripts, a string of two hyphens (--) indicate a comment. HyperTalk ignores all characters that follow the double-hyphen.

This article has been archived and is no longer updated by Apple.
In the following example, the strings "Displays a dialog box" and "the user's reply" are ignored by HyperTalk.

```
on mouseUp
-- Displays a dialog box
answer "What?" with "No" or "Yes"
put it -- the user's reply
end mouseUp
```

Shortcuts
---
* To comment several lines at once, drag to select the lines you want to comment, then choose Comment from the Script menu (or press Command-hyphen).

* To uncomment several lines at once, drag to select the lines you want to uncomment and then choose Uncomment from the Script menu (or press Command-=).

This article is adapted from the Claris Tech Info database.
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HyperCard: Converting Stacks to Version 2.x (11/92)

The file format for HyperCard 2.x differs from that of earlier versions. Stacks in the old format can be opened read-only by HyperCard 2.x. When such a stack is opened, a standard Macintosh padlock symbol appears in the menu bar, indicating the stack is read-only, and the Compact Stack item from the File menu becomes Convert Stack... instead.

This article has been archived and is no longer updated by Apple.
In order to convert a stack to HyperCard 2.x format, open the stack, choose the Convert Stack... item, and click OK in the confirmation dialog box.

NOTE: Once the stack is converted to HyperCard 2.x format, it can no longer be opened by earlier versions of HyperCard without using third party utilities.

Before converting a stack, keep in mind that you can always save a copy of it by choosing Save A Copy... from the File menu. Because the copy is an exact duplicate of the current stack, you can use Save A Copy... to archive versions of your stacks in the old format or any other.

Most operations on stacks, such as entering text into fields, creating new buttons, or editing graphics, are not allowed until the stack is converted. When you attempt to perform such operations within a stack in the old format, a dialog box appears informing you that you must first convert the stack before performing the operation.

Cards from converted stacks do not retain their background ID number the first time they are copied. Original 2.0 stacks are not a problem.

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HyperCard: Tips for Creating Menus (7/92)

During the creation or modification of menus, or when menus are addressed from scripts, menu items must be referenced by exact name or number. To avoid the error "No such menu item", remember these simple rules.

This article has been archived and is no longer updated by Apple.
* "MenuItem" (single word) is the correct way to refer to a menu item in a HyperTalk script.

* Menu items may be referred to by name or number. Names must be exact. For example, in the standard HyperCard menus, menuItem 1 of menu "File" is "New Stack..." . The three periods must be used in the name when referring to this menuItem.

NOTE: Although all standard menu items with three dots use simple periods, try an ellipsis (Option-semicolon) if your menuItem command fails.)

To refer to a menu item by number, count the first menu item as 1, and be sure to count menu separators (----------) as you would any other menu item. (menuItem 4 of menu "File" is "----------")

* In the Style menu, the "9" (for point size) is actually " 9" -- that's TWO spaces in front of the nine. So to reference point size 9 from the Style menu, the script needs to do something like doMenu " 9". If you omit the leading space ("9"), HyperCard will be unable to identify the menu item.

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HyperCard: Date Formats (7/92)

This article shows examples of the various forms of dates in HyperCard.

This article has been archived and is no longer updated by Apple.

Date Expression	What it Returns
the date	11/3/90
the short date	11/3/90
the abbrev date	Sun, November 3, 1990
the long date	Sunday, November 3, 1990

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HyperCard: Debugging Scripts (11/92)

HyperCard provides some useful tools for troubleshooting your scripts. These debugging tools let you step through a handler line by line as it runs, inspect the values of variables, and trace the flow of messages.

This article has been archived and is no longer updated by Apple.

Debugging a Handler

To debug a handler, follow these steps:

1) Open the script that contains the message or function handler you want to debug.

2) Click to place the insertion point on the line with the on or function statement that defines the handler.

Or, depending on where you want to start, place the insertion point on any statement of the handler that is not a comment.

3) Choose Set Checkpoint from the Script menu (or press Command-D) to set a temporary checkpoint.

A checkpoint tells HyperTalk where you want to start watching the script as it runs.

4) Press Enter to save the script and close the script editor window.

5) Perform the action in HyperCard that activates the script (for example, click a button).

When HyperCard hits the checkpoint, it opens the script and puts a box around the current statement. HyperCard also displays the Debugger menu.

HyperCard does not enter the script editor itself: All HyperCard menus remain in the menu bar. (Since the script is still running, HyperCard must preserve the current context.) But only the Debugger menu is active.

6) Choose commands from the Debugger menu to proceed.

The Step Menu
---
* Runs the current statement and moves to the next one.

* If the current statement calls another message or function handler, Step does not switch to the new handler and step through it. It just gets the result of that call.

Step Into
---
* Runs the current statement and moves to the next one.

* If the current statement calls another message or function handler, Step Into does switch to the new handler so you can step through it.

Trace
---
* Runs through the rest of the statements one line at a time, but without pausing after each statement.

* If the current statement calls another message or function handler, Trace does not switch to the new handler and trace it.

Trace Into
---
* Runs through the rest of the statements one line at a time, but without pausing after each statement.

* If any statement calls another message or function handler, Trace Into will switch to the new handlers and trace them as well.

Go
--
* Runs the remainder of the script from the current statement without stepping.

* After a Go command, HyperCard leaves the Script Editor window open, but activates the window containing the current card.

Trace Delay...
---
* Displays a dialog in which you can specify the number of ticks that HyperCard will pause between each statement as it traces a handler.

Set Checkpoint
---
* Places a checkpoint at the current line of a handler.

* This command changes to Clear Checkpoint if you've already set a checkpoint on the line.

Abort
---
* Stops the script from running. After an Abort command, HyperCard leaves the Script Editor window open and active.

Variable Watcher
---
* Shows or hides the Variable Watcher, a window that allows you to inspect the values of parameter variables or global and local variables as they are set during the execution of a handler.

* To change the value of a variable using the Variable Watcher, click to select a variable. Its value appears in the bottom panel. Edit the value and press Enter to save it.

Message Watcher
---
* Shows or hides the Message Watcher, a window that allows you to watch what messages HyperCard sends as it runs the script.

* For example, if you step through a statement such as doMenu "New Card", the Message Watcher will show the closeCard and openCard messages that run when the new card is added to the stack.

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HyperCard: Determining Available Disk Space (7/92)

Can I determine, from HyperCard, how much space there is on my hard drive?

This article has been archived and is no longer updated by Apple.
If you're in HyperCard and you want to check how much space you have left on your storage volume, type "the diskSpace" (it's not case sensitive) into the message box. HyperCard (versions 1.x through 2.1x) will display the total amount of disk space free (in kilobytes) on the active volume.

This script works in all versions of HyperCard up through 2.1.

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HyperCard 2.0v2: Divide by Zero Error Fixed in 2.1 (7/92)

Any use of the div function by 0 will cause HyperCard to bomb. Simply entering the string "put 1 div 0" into the message box will reproduce it.

This article has been archived and is no longer updated by Apple.
This problem is fixed in HyperCard 2.1.

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HyperCard 2.1: Sending Apple Events to Claris Resolve (11/92)

You can send almost any Claris Resolve Script command from HyperCard 2.1 to Claris Resolve using Apple Events. Claris Resolve, however, has a 254 character limit for each "dosc" event (the event which HyperCard sends with the HyperTalk "Send" command.

You will generally receive a -1708 error as theResult of your Send command if you exceed this limit.

The following handler will allow you to send scripts of any length from HyperCard to Claris Resolve in the most efficient manner possible. It sends as many lines as possible within the 254 character limit.

This article has been archived and is no longer updated by Apple.

```
on mouseUp
put empty into scriptChunk
put 0 into counter
put 1 into i
repeat until i > the number of lines in field "Script"
add ( the number of chars in line i of field "Script" + 1 ) to counter
if counter > 254 then
send scriptChunk to program "Claris Resolve"
If the result is not empty then
answer the result
exit mouseUp
end if
put empty into scriptChunk
put 0 into counter
else
put ( line i of field "Script" & space ) after scriptChunk
add 1 to i
end if
end repeat
send scriptChunk to program "Claris Resolve"
answer "Your script is complete!"
end mouseUp
```

Where:
* Field "Script" is a field containing the Claris Resolve script you wish to send (you may need to specify it as a card field if it is not a background field).
* It is assumed in this example that Claris Resolve is already running on the same machine.
* Modifications to this script are required if you wish it to launch Claris Resolve or if it resides on a different machine. In the second case, you need to specify the full network pathname of the application.
* This method does not allow for logical structures such as For loops or IF statements. Logical structures must be sent in one complete chunk or errors will occur.

You can also create a simple loop that sends the commands one line at a time. This method, however, will be slower - especially when sending events across a network.

This article is adapted from the Claris Tech Info database.
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HyperCard: Formatting Phone Numbers Consistently (5/93)

Here's a short HyperTalk script that will automatically convert phone numbers to a consistent format on data entry.

This article has been archived and is no longer updated by Apple.
Here' a basic script that formats U.S. phone numbers to appear in the consistent formats 1-408-555-0000, (408) 555-0000, or 555-0000. If you try to format something that doesn't look like a phone number, the script will leave the value as you entered it. To use the script, attach it to any field that contains a telephone number. The number will be reformatted whenever you make a new entry or change text in that field. This script is an example. Modify it to create your own customized version or to format numbers for your area.

```
on closeField
ð Assuming first line contains phone number.
put line 1 of me into PhoneNum
ðð Remove non-dial characters.
repeat with CurChar = length of PhoneNum down to 1
if char CurChar of PhoneNum is in ")(-" & space & tab
then delete char CurChar of PhoneNum
end repeat
ðð Format a phone number.
if length of word 1 of PhoneNum is 11 ð
and char 1 of PhoneNum is "" then
put "-" after char 7 of PhoneNum
put "-" after char 4 of PhoneNum
put "-" after char 1 of PhoneNum
else if length of word 1 of PhoneNum is 10 then
put "-" after char 6 of PhoneNum
put ")" after char 3 of PhoneNum
put "(" before PhoneNum
put PhoneNum into line 1 of me
else if length of word 1 of PhoneNum is 7 then
put "-" after char 3 of PhoneNum
put PhoneNum into line 1 of me
ðð end if
If the number does not match, then do nothing.
pass closeField
end closeField
```

This article is adapted from the Claris Tech Info database.
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HyperCard: Writing Function Handlers (7/92)

How do I write function handlers?

This article has been archived and is no longer updated by Apple.
When you write a handler for a function, you specify statements that compute and return a value to the handler that calls the function. Each function handler has the following form:

```
function functionName
statements
end functionName
```

HyperCard has many built-in functions, and you can write your own:

```
put square(5) into the Message box
end mouseUp

function square x
return (x * x)
end square
```

The function square receives a number through its parameter variable, x. It then returns the value of x * x to the handler that called it (mouseUp) using the return keyword.

This article is adapted from the Claris Tech Info database.
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ImageWriter II Self Test Problems

This article has been archived and is no longer updated by Apple.

YOU WILL NEED:
1. Level I Tech Procedures for ImageWriter II
2. ImageWriter II User's Manual
3. ImageWriter II color ribbon
4. Digital multimeter

BEFORE YOU START:
1. Install the color ribbon on the IW II.

2. If replacement or adjustment procedures are needed, refer to the Tech Procedures.

3. For location of IW II controls, refer to the User's Manual.

4. The printer must be able to perform a normal "power on initialization" before it can perform a Self Test. If you are unsure that your printer can do this, search on HTS and IMAGEWRITER II and GENERAL. Perform the HTS ImageWriter II General troubleshooting procedure. If the printer fails Self Test in that procedure, return here for instructions.

INSTRUCTIONS:
To initiate Self Test: turn the printer off, and press Form Feed while you turn it back on. The printer should print:

SELF TEST

ROMREV

DIP switch settings

RAM XX AT (On or OFF)

and then begin printing CHARACTER SETS something like the one below in in alternating colors.

!#$%&'()*+,-./0123456789:;<>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\\]^_'abcdefghijklmno
pqrstuvwxyz{|}

* If the Self Test occurs as described above and the print quality is good, the printer is OK.

* If the print quality is poor, search on HTS and IMAGEWRITER II and PRINT QUALITY.

* If the printout shows a color select problem, search on HTS and IMAGEWRITER II and COLOR SELECT.

* If the printout shows a problem other than color select or print quality, perform the steps below:

1. Turn the printer off and check the Form Feed switch on the operation panel as follows. If it proves defective, replace the operation panel.

1.1 Set the digital multimeter to measure 200 ohms resistance.

1.2 Place the probes on pin 12 and pin 13 of the operation panel connector. The reading should show no connection (1).

1.3 Depress the Form Feed switch. The reading should show continuity (0.00).

2. Turn the printer off and check the flexible cable and the Head PCB as follows. If check shows a problem, replace the flexible cable and Head PCB.

2.1 Detach the flexible cable from the drive board.

2.2 Locate the home position switch (under the left hand side of the ribbon carrier on the Head PCB).

2.3 Set the digital multimeter to measure 200 ohms resistance.

2.4 Place the probes on pin 10 and pin 12 on the flexible cable.

2.5 Push the home position switch on the Head PCB. The reading should be 0.00 when the switch is depressed. When the switch is released, the reading should be 1.

3. Replace the Drive PCB

4. Manually move the carrier back and forth. If it will not move, visually inspect the following. If you find a defective module/part, replace it.

4.1 Check the ribbon cartridge to be sure the ribbon is wound when the knob is turned in the direction of the arrow.

4.2 Check the carrier shaft and carrier belt for damage and foreign materials.

4.3 Check the ribbon wire for dislocation and damage.

4.4 Perform carrier shaft maintenance (see Section 1, Basics in the ImageWriter II tab of the Tech Procedures).

5. Replace the Main CPU PCB.

6. Replace the Carrier motor.

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HyperCard: Reacting to AM and PM in the Time (7/92)

How can HyperCard be taught to respond differently, depending on whether it's morning or afternoon?

This article has been archived and is no longer updated by Apple.
Here's a handler that, when its stack is opened, says either "Good Morning" or "Good Afternoon", whichever is appropriate:

```
On OpenStack
global openfirst
if openfirst <> "yes" then
get the time
if it contains "PM" then
play SoundName --plays "Good afternoon sound" if it is PM
else
if it contains "AM" then
play soundName --plays "Good afternoon sound" if it is PM
end if
end if
put "yes" into openfirst
end if
end OpenStack
```

The reason you declare you "global" up front (in addition to the fact that in all programming you must declare your globals first before using them) is so that when the user leaves the stack and re-enters it, it won't execute the script "from scratch" all over again.

This article is adapted from the Claris Tech Info database.
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HyperCard: Converting HyperCard Data to FileMaker (2/93)

The following HyperCard script is a general approach to converting stack data to FileMaker format. To use it, create a new button on any card, then enter the text below into the script area of the button. When you are done entering the script, click the new button to begin the export process.

This article has been archived and is no longer updated by Apple.

```
on mouseUp
put the short name of this stack & ".txt" into fileName
ask "Send text to what file?" with fileName
if it is empty then exit mouseUp
put it into fileName
open file fileName
repeat with i=1 to the number of cards
go to card i
repeat with j=1 to the number of background fields
repeat with k=1 to the number of lines of bg field j
if k > 1 then write numToChar(11) to file fileName
write line k of background field j to file fileName
end repeat
write tab to file fileName
end repeat
write return to file fileName
end repeat
close file fileName
end mouseUp
```

How it Works

The text contents of the HyperCard stack will be put into a text file that will read into FileMaker in exactly the same format as it existed in HyperCard. Create a new FileMaker file with the same number of fields as in the HyperCard stack and use the "Input From" command to read in the text file. After the file is read in, examine the data in the fields and rename the fields as appropriate.

This script converts all the Returns pressed inside the HyperCard fields to vertical tabs for the benefit of FileMaker. Thus, large fields with many lines will become large fields with many lines in FileMaker. If you want to break field data up into more meaningful chunks (for example, "City," "State," and "Zip" instead of "Address") you must either modify this script or create a calculation field in FileMaker to parse the fields using text manipulation functions (left, middle, right, and position). Most people find working in FileMaker more comfortable. Without writing the appropriate script in HyperCard or building the proper formulas in FileMaker, there is no way to "magically" convert such items into separate fields, since the structure can vary so much.

This article is adapted from the Claris Tech Info database.
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HyperCard: Exporting Text with Page Breaks to MacWrite II

Here's how to export a field from HyperCard to a text file that will be read into MacWrite II with page breaks between lines.

This article has been archived and is no longer updated by Apple.

```
on mouseUp
 ask "export data to what file"
 if it is not empty then
   put it into filename
   open file fileName
   repeat with i = 1 to the number of lines of field 1
     write line i of field 1 & numtochar(12) to file filename
   end repeat
   close file fileName
 end if
end mouseUp
```

The key line is "write .... numToChar(12)...", because that's what does the page break. Ascii=12 is a page break.

This article is adapted from the Claris Tech Info database.

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HyperCard: Handler for Specifying a Help Topic (7/92)

Here's a handler that lets you specify a the standard Help stack.

This article has been archived and is no longer updated by Apple.

```
on help -- More helpful help (help with a -- This handler lets you specify a -- ask for help with the standard Help stack.

debug checkPoint
if ask "What if it is "Anything" then pass help
put it into end if

go to card 1 of bkgnd "Content" of stack "HyperTalk Reference"
find if the result is not empty then -- not found, try other stack
lock screen
go to card 1 of bkgnd "Content" of stack "HyperCard Help"
find if the result is not empty -- still not found, go back
then go back
end if
end help
```

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HyperCard: Problems Selecting and Highlighting Text (7/92)

If I select some text in a field and then click a button, the selection goes away. What can I do?

This article has been archived and is no longer updated by Apple.
You can turn off the autohiliting in the button. (Choose the Button tool and double click on the button. In the dialog that opens up, uncheck the "hilite" box.) The Human Interface Guidelines state that only one item (text, a button, etc.) can be hilited at a time.

This article is adapted from the Claris Tech Info database.

alternate search terms: highlight hilite highlighting autohilite autohightlight hilite

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HyperCard 2.x: Hot Text, Group Text, Shared Text (11/92)

This article describes the hot text features of HyperCard 2.x:
* the clickText, clickChunk, and clickLine functions
* the Group text style
* Shared text

This article has been archived and is no longer updated by Apple.

Functions

In HyperCard 2.x, as in previous versions of HyperCard, once a field is locked, it can handle mouse clicks just as HyperCard buttons. In HyperCard 2.x, all of the text within a locked field becomes eligible for use as a trigger for action. When a user clicks within the text of a locked field, three new HyperTalk functions, the clickText, the clickChunk, and the clickLine, are available to return information about the click. With these functions, a handler can determine which text string the user clicked and respond accordingly.

* The clickText function returns the actual text that was clicked.

* The clickChunk function returns a chunk expression that describes the text that was clicked -- for example, "char 1 to 3 of bkgnd field 3".

* The clickLine function returns a chunk expression describing the line that was clicked -- for example, "line 5 of card field 2".

Remember that the HyperTalk definition of a line is determined by carriage returns, not by the way the lines are wrapped in a field. By default, all text is grouped into words, and the clickText and clickChunk functions will return information about the word that was clicked.

The following example handler -- which can be placed in the script of a locked field, a card, a background, or a stack -- performs a simple glossary lookup using hot text.

```
on mouseUp
lock screen
put the clickText into whatWasClicked -- must be done before leaving card
go stack ""
find whatWasClicked in field "" -- is it a glossary entry?
if the result is not empty then -- not found
go back
unlock screen -- looks like nothing happened
else unlock screen with visual effect dissolve -- shows glossary entry
end mouseUp
```

Other examples of hot text:

```
on mouseUp
if the clickText is "" then show card field ""
-- pops up definition of ""
end mouseUp
```

```
on mouseUp
if the textStyle of the clickChunk is bold then show cd fld ""
if the textStyle of the clickChunk is italic then show cd fld ""
-- In this field, a click on an italicized word has a different effect
-- from a click on a bold word.
-- This works because clickChunk returns a chunk expression,
-- and in HyperCard 2.0 chunks of text have properties.
end mouseUp
```

Group Text Style

As a way to override the standard grouping of text, HyperCard 2.x introduces a new text style: Group. By selecting a string of text within a field and choosing Group from the Style menu, designers can "stick" words or characters together so that they can be used more intelligently within scripts.

Grouping affects only the value of the clickText, the clickChunk, and the clickLine functions when text within the string is clicked. When such a click occurs, the clickText and clickChunk functions return information about the entire group, instead of just the individual word that was clicked. The clickLine function returns the line number of the first character of the group.

To illustrate the effect of grouping text, say we have a list containing the names Billy Bob, Billy "Bob" Smith, and Billy Smith, and we wish to have more information about each of these individuals appear on the screen when his name is clicked. Unless their names were grouped, HyperCard wouldn't know what to do when the user clicked the word Billy -- the clickText function would return only that single word. If we select each of the full names and set its text style to Group from the Style menu, the clickText function will return the full name when any part of it is clicked.

By itself, the Group text style makes no visible change to the appearance of text -- but you can find the grouped text in a field through the commands Show and Hide. The command "show groups" will draw a 2-pixel high gray line under all grouped text. Grouped text will be shown throughout the current session with HyperCard until the Hide Groups command is sent. For example:

show groups -- shows a 2-pixel gray line under all grouped text on the card
hide groups -- hides the gray lines

Keep in mind that showing groups will not necessarily identify all Hot Text, as hypertext responses from text in fields can be keyed to words, line number, character position, text style, text size, font, or special characters in words.

Note the differences: with Hot text, HyperCard always knows exactly which words in a field a user clicked: you can then tell HyperCard how to respond to that click. For example, you can write a script that tells HyperCard to display a hidden pop-up field that appears only when a user clicks on a specific word. When using Grouped Text, you can write scripts that tell HyperCard what to do when users click entire groups of words.

Shared Text

This feature appears in the Field Info dialog box. Shared text means that you only need to enter text once in a background field and the text will appear on every card with that background. Shared text can be activated as Hot Text.

This article is adapted from the Claris Tech Info database.
Published Date: Feb 19, 2012

HyperCard: HyperTalk, Script, and Handler Defined (7/92)

What is HyperTalk?

This article has been archived and is no longer updated by Apple.
HyperTalk is the HyperCard scripting language. It lets you write English-like statements that respond to events (such as when the user clicks a button or goes to a new card).

In HyperTalk, responding to an event is called handling the event. As a scripter, you will write a specific handler for each event that you want your stack to handle. A collection of handlers is called a script.

This article is adapted from the Claris Tech Info database.
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HyperCard: Placing Insertion Point in a New Card (7/92)

Users often want to open a new card and have HyperCard automatically place the cursor (I-beam insertion point) on the first line of the first field on the card, rather than having to click at this location with their mouse or having to use their Tab key. Here's a handler that does it automatically.

This article has been archived and is no longer updated by Apple.

```
on openCard
tabKey
end openCard
```

The tabKey function places the cursor automatically in the first line of the first field in the Tab order or a HyperCard stack. If the field is not empty, the whole text of the first line will be selected.

This script works on all versions of HyperCard from 1.2.5 through 2.1x.

This article is adapted from the Claris Tech Info database.
Published Date: Feb 19, 2012

HyperCard: Compatibility with Icon Colorizer (7/92)

Customers may have problems when they're running both Icon Colorizer INIT under System 6.0.x and HyperCard, while their monitor is set to color.

This article has been archived and is no longer updated by Apple.
This combination may cause some icons in HyperCard to appear poorly. It appears that Icon Colorizer is attempting to colorize these icons, while HyperCard, being a black and white program, is not allowing this to happen. The icon which results is a black and white representation of a full color image, and it may therefore lose significant detail.

This article is adapted from the Claris Tech Info database.
Published Date: Feb 19, 2012

HyperCard: Why Compacting Sometimes Fails (7/92)

When users set up a user-defined message inheritance path in HyperCard 2.0, and they try to compact their stacks, compacting fails. Why?

This article has been archived and is no longer updated by Apple.
This happens because stacks cannot be compacted when the "start using" command is in use.

Here's a typical script showing a user-defined message inheritance path:

```
On OpenStack
start using stack "XYZ"
end OpenStack
```

Now, here's a typical script for compacting stacks:

```
On Mouseup
doMenu "Compact Stack"
end Mouseup
```

The compact stack script won't work, because the resources of stack "XYZ" are also in use as well.

Here's a "compact stack" handler that does work, and makes the user-definable mess academic:

```
On Mouseup
stop using stack "XYZ"
doMenu "Compact Stack"
start using stack "XYZ"
end Mouseup
```

Here's a "bells and whistles" stack from Claris' "Tech Support Navigator" stack series, which pops text into the message box informing the user what's going on:

```
on mouseUp
repeat 2
set cursor to busy
end repeat
stop using stack "XYZ"
put "Now compacting your Stack..."
repeat 17
put " " before msg
end repeat
doMenu "Compact Stack"
wait 90
repeat 40
put " " before msg
end repeat
wait 30
put "Compacting of your Stack was successful..."
repeat 12
put " " before msg
end repeat
wait 2 seconds
repeat 60
put " " before msg
end repeat
hide msg
end mouseUp
```

TA30688_HyperCard_Why_Compacting_Sometimes_Fails_(792)_(TIL14089).pdf

This article is adapted from the Claris Tech Info database.
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ImageWriter II Print Quality Problems

This article has been archived and is no longer updated by Apple.

YOU WILL NEED:
1. Level I Tech Procedures for ImageWriter II
2. ImageWriter II User's Manual

BEFORE YOU START:
1. If a replacement module/part doesn't fix the problem, reinstall the original module/part before continuing with the procedure.
2. For location of IW II module/parts or adjustment procedures, refer to the Level I Tech Procedures.

INSTRUCTIONS:
1. Check the paper guide positioning adjustment.

2. Turn off the printer and replace the flexible cable.

3. Check the print head as follows. If it proves defective, replace it.

3.1 Set the digital multimeter to measure 200 ohms resistance.

3.2 Remove the print head and place it PCB side down with the edge connectors facing you. Place one probe on each side of the first edge finger on the right side of the print head. The resistance value should be approximately 3 ohms.

4. Replace the Drive PCB.

5. Replace the Main CPU PCB.

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HyperCard: Handler to Make a New Card the First Card (7/92)

Here's a handler that provides a quick and easy way to make a new card be the first card in a stack.

This article has been archived and is no longer updated by Apple.

```
on newFirst
go to card 1
doMenu "New Card"
go to card 1
doMenu "Cut Card"
doMenu "Paste Card"
go to card 1
end newFirst
```

This article is adapted from the Claris Tech Info database.
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HyperCard: The Message-Passing Order (7/92)

What is meant by HyperCard's "message-passing order"?

This article has been archived and is no longer updated by Apple.
The order in which HyperCard passes a message to objects is called the message-passing order.

Initially, HyperCard sends messages to a specific button or field or to the current card. If a button or field doesn't handle the message, it goes on to the current card. From the current card, the message goes to the following objects, in this order:
* the current background
* the current stack
* the stack script of the Home stack
* HyperCard itself

What happens if an object that receives a message doesn't handle it?
In this case, HyperCard passes the message to other objects and searches their scripts for a message handler that matches the current message.

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HyperCard: Handler for Moving a Card Between Stacks (7/92)

* The moveTo handler provides a quick way to move the current card into another stack.

* The copyTo handler provides a quick and easy way to copy a card between stacks.

This article has been archived and is no longer updated by Apple.

```
on moveTo where
doMenu "Cut Card"
push card
set lockMessages to true
go to last card of stack where
doMenu "Paste Card"
pop card
end moveTo

on copyTo where
doMenu "Copy Card"
push card
set lockMessages to true
go to last card of stack where
type "v" with commandKey
pop card
end copyTo
```

This article is adapted from the Claris Tech Info database.
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HyperCard: Moving Between Open Scripts (7/92)

In HyperCard, you can have more than one script window open at once. This article describes how to move between them.

This article has been archived and is no longer updated by Apple.
To move between the windows that contain scripts:

* Click to activate the script window in which you want to work.

* Choose an open script window from the Go menu.

To move between all open windows (including windows that contain stacks):

* Choose Next Window from the Go menu (or press Command-L).

This article is adapted from the Claris Tech Info database.
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HyperCard 1.2.5: Microsoft Mail Compatibility

There is an issue when you receive Microsoft Mail while using HyperCard 1.2.5.

This article has been archived and is no longer updated by Apple.
When your mail system notifies you with a "beep" that mail arrives, HyperCard intercepts this signal and causes the Macintosh to emit a constant beep, that seemingly cannot be stopped unless you restart the computer. If you find yourself affected by this, remove the MS Mail desk accessory. As soon as the Mail window opens, the beep sound will stop. This does not occur in HyperCard 2.0

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HyperCard & MultiFinder: Running Scripts in Background (7/92)

With HyperCard 2.x, you can switch to an application under MultiFinder while a script is running, and the script will continue to execute while HyperCard 2.x is in the background. The sorting and compacting operations also work while HyperCard 2.x is suspended.

This article has been archived and is no longer updated by Apple.
HyperCard 2.x yields time to MultiFinder (and hence other applications) under the following circumstances:
* When HyperTalk handlers execute
* When the busy cursor is rotated (for example, during sorting, compacting, and printing)
* During the Show Cards and Wait commands in scripts

HyperCard 2.x notifies the user when his intervention is required (for example, a script wants to display an Ask or Answer dialog. When this occurs, HyperCard 2.x beeps, puts a diamond next to its name in the Apple menu, and flashes its small icon in the menu bar. A dialog appears when HyperCard 2.x becomes the active program. Because HyperCard needs some working room on the disks you create, make sure you have at least 50K or so of free space on each HyperCard disk you use.

This article is adapted from the Claris Tech Info database.
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HyperCard: How to Open a Script (7/92)

How do I open or edit HyperCard scripts?

This article has been archived and is no longer updated by Apple.
Three ways to open a background's script window:
* Choose Bkgnd Info... from the Objects menu and click Script.
* Hold down Shift while you choose Bkgnd Info... from the Objects menu.
* Hold down Command-Option and press B. Pressing Command-Option-B again closes the script.

Four ways to open a button's script window:
* Select a button using the Button Tool, choose Button Info from the Objects menu, and click Script.
* Hold down Command-Option to peek at the visible buttons and click one (with the Browse tool).
* Hold down Shift while you double-click a button (with the Button tool).
* Hold down Command-Option to peek at visible and hidden buttons and click one (with the Button tool).

Three ways to open a card's script window:
* Choose Card Info... from the Objects menu, and click Script.
* Hold down Shift while you choose Card Info... from the Objects menu.
* Hold down Command-Option and press C. Pressing Command-Option-C again closes the script.

Four ways to open a field's script window:
* Select a field using the Field Tool, choose Field Info from the Objects menu, and click Script.
* Hold down Command-Shift-Option to peek at the visible fields and click one (with the Browse tool).
* Hold down Shift while you double-click a field (with the Field tool).
* Hold down Command-Shift-Option to peek at visible and hidden fields and click one (with the Field tool).

Three ways to open a stack's script window:
* Choose Stack Info from the Objects menu, and click Script.
* Hold down Shift while you choose Stack Info from the Objects menu.
* Hold down Command-Option and press S. Pressing Command-Option-S again closes the script.

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HyperCard: Using Parameter Variables (12/92)

What are parameter variables in HyperCard?

This article has been archived and is no longer updated by Apple.
A handler can receive values (called parameters) and use them as it runs. You represent each value with a container called a parameter variable. Parameter variables always follow the handler name in a comma-separated list.

For example, when running the following mouseUp handler, HyperCard calls sayMessage with two values, "red" and "apple". It then binds these values to the parameter variables color and fruit in the sayMessage handler.

```
on mouseUp
sayMessage "red", "apple"
end mouseUp

on sayMessage color, fruit
put "I want a" && color && fruit
end sayMessage
```

You can use the variables color and fruit anywhere inside the handler. When HyperCard sees them, it uses the values currently bound to them (the variables remain bound only while the handler runs).

This article is adapted from the Claris Tech Info database.
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HyperCard: Dealing with Pathname Problems (7/92)

Whenever I try to launch an application or another stack from inside HyperCard, I get the standard file dialog asking questions like " is "My Hard Disk:Applications:Excel"?

This article has been archived and is no longer updated by Apple.
Even the best scripters run into this now and then. Remember that a path like

: My Applications: HyperCard

is not the same as

:My Applications:HyperCard

You must specify the EXACT pathname, including (or excluding) spaces, trademark symbols, bullets, and the like. In the Finder, make sure that you have the names exactly right; if your script still doesn't work, check the file names to make sure they don't have an extra space at the end, or perhaps two spaces instead of one in the middle.

When you're running a script containing simply " Red Ryder", HyperCard may ask you, the first time you run your script, where " Ryder" is. Once you have pointed " Ryder" out to HyperCard via the standard file dialog, it will store the path information in the Home stack and it won' ask you again unless you run your stack from another system (which would have an entirely different set of paths).

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HyperCard 2.0: Problem with Phone Dialer Stack (7/92)

This stack does not work with many modems. It does not even work will all of the modems which are listed in the stack.

This article has been archived and is no longer updated by Apple.
At this point, there is no workaround other than re-writing the script.
There are also problems with the HyperCard 2.0 application itself.

Many, but not all, of these problems were resolved in HyperCard 2.1.

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Apple II and II Plus: Shift-Key Modification

This article has been archived and is no longer updated by Apple.

Probably all Apple II owners have heard of a mysterious "Shift-Key Mod". To many it has remained nothing more than a rumor, possibly because most modifications are thought to be costly additions. Not so the "Shift-Key Mod", the most simple and least expensive addition anyone could do for their Apple II. Of software recognizing this modification, there is a wide variety: Apple Writer, most other word processing software packages, and the firmware of most 80-column cards.

Software must recognize this alphabetic modification; the Apple alone does not do it automatically. After modification, the shift key allows you to enter uppercase characters as you do on a typewriter, without the need to precede them with a press of the Escape key or some other control character. You can still use the shift key to type the regular "shift" non-alphabetic characters, such as !,@,#,$,%,^,&,*,(,), and so on.

With the "Shift-Key Mod", you use the shift key to signal the software from an unused part of the Apple II Game port. The Port can address four separate hand controls and three hand-control pushbuttons of which only two of each are used by the standard game paddles and joysticks. This leaves unused two hand control inputs and a hand-control pushbutton input. The "Shift-Key Mod" exploits the address of this remaining pushbutton input. In practice, software supporting the modification first reads the character value at the address of the keyboard. Then, since joysticks use pushbuttons #0 and #1, the software reads the state of the address of pushbutton #2 (PB2). If the PB2 address is operated then the software simply makes the keyboard value represent uppercase.

To keep things in perspective, please note that this does not modify the Apple II to display lowercase nor enter lowercase characters into your programs when the II is in its native 40-column mode. To read the shift key's new address, the Apple II must have special software; without it, the II stays in 40-column mode. Most 80-column cards have firmware to read the address and display lowercase when in 80-column mode. When coding, you can easily enter lowercase characters into your own program's output strings with 80-column cards supporting the modification. However, when the program runs in 40-column mode, lowercase characters will appear as "garbage" characters. Adding the reasonably-priced "Lowercase Character Generator" on the motherboard allows proper display of lowercase characters in 40-column mode. Apple Writer also supports lowercase character generators.

Now to make the modification. Connect two micro test clips together with 8 inches of 28 AWG wire and solder the connections. Use micro test clips to match the size of Radio Shack #270-370 clips. 28 AWG wire-wrap will do. Clip size is most important; wire size and brands are less important. Once the jumper cools, install it this way:

1. Clip one end to pin 1 of the IC located at motherboard location H14, a 74LS251.

2. Clip the other end to pin 24 of the molex connector that connects the keyboard electronics to the keyboard. Pin 25 of this connecter is at the end away from the Apple's power supply. Pin 24 is to the left of pin 25.

Published Date: Feb 19, 2012

ImageWriter II: Correcting Communications Problems (1/97)

This article describes how to ensure an ImageWriter II printer is functional. This article is designed for service providers who have access to the Level I Tech Procedures for the ImageWriter II printer. However, you can perform the functionality check without the Tech Procedures.

This article has been archived and is no longer updated by Apple.

YOU WILL NEED:
1. Apple IIe computer
2. Super Serial Card
3. Printer cable
4. Level I Tech Procedures for ImageWriter II
5. ImageWriter II User's Manual
6. Pencil and paper

BEFORE YOU START:
- If replacement or adjustment procedures are needed, refer to the Tech Procedures.

- For location of IW II controls, refer to the User's Manual.

INSTRUCTIONS:
1. Connect the printer cable at the back of the IW II.
2. Remove the AppleTalk Option card
3. Check that the top panel is installed correctly.
4. Check that paper is installed.
5. Turn off the printer, write down the customer's Super Serial Card and printer DIP switch configurations. Set the DIP switches as shown below:

(Note: Op = open, Cl = closed, up = On, dn = Off)

IW II _____SW1_____ _____SW2_____
Op Op Op Op Op Cl Op Op Cl Cl Op Op Cl Op
1 2 3 4 5 6 7 8 1 2 3 4 5 6

S/S Card _____SW1_____ _____SW2_____ MODEM/TERM
Off Off Off On Off On On On Off Off On On Off Off jumper
1 2 3 4 5 6 7 1 2 3 4 5 6 7 to term

Note:
On the ImageWriter II, DIP switch 4, on SW2 is OPEN if Localtalk Option card is not installed, and CLOSED if the LocalTalk Option card is installed.

6. Remove all peripheral cards from the IIe. Install the Super Serial card in slot 1. Connect the IW II to the S/S card using a printer cable Turn on the IW II (make sure cover is installed). Turn on the IIe and press the RESET key while you press the CONTROL key (DO NOT BOOT A DISK). The cursor should blink.

Enter the BASIC program exactly as shown below.

```
10 PR#1
20 FOR A = 1 TO 100
30 FOR I = 32 TO 126
40 PRINT CHR$(I);:NEXT I:PRINT
50 NEXT A
60 PR#0
70 END
```

Enter RUN and press the <RETURN> key. The printer should print out about
100 character sets something like the one shown below:

!#$%&'()*+,./0123456789:;<>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\\]^_'abcdefghijk
lmnopqrstuvwxyz{|}

* If you get a syntax error on the computer, you may have mis-typed a
line. To correct the syntax error perform the following:

1) Type LIST and press <RETURN>. The program should appear on the screen.
2) Examine the program for accuracy. Spaces, colons, etc. are important.
3) To correct a line, simply retype the line and press <RETURN>.
4) LIST again to make sure the correction is OK.

* If the IW II prints characters when the program runs, the printer is functional.

* If it doesn't and there is no syntax error on the computer, check
for the problems below:

PROB: The printer does not print a set of characters.
FIX: Recheck for the problem after each of the following steps. If
no problem is found, go to step 4.
(1) Check that the computer is properly powered on and initialized.
(2) Check that the SEL light is on. If it's not, press SEL and try
to print from the computer again using the program above. If
it prints while the SEL light is off, replace the switch panel.
(3) Make sure that the interface cable between the printer and the
computer is connected and secured at both ends.
(4) Replace Main CPU PCB.
(5) Replace printer internal connector cable.

PROB: The printer prints a set of characters but print quality is
poor.
FIX: Do a word search for HTS and IMAGEWRITER II and PRINT QUALITY
to obtain the print quality FIX.

7. Reset the DIP switches to the customer's original configuration. Then refer to the User's Manual and the Appendix in the ImageWriter II section of the Tech Procedures to see if the customer's DIP switch configuration caused the problem.

Article Change History:
24 Jan 1997 - Corrected DIP settings.

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HyperCard: Preventing Users from Interrupting Scripts (7/92)

As a stack developer, how can I stop a user from pressing Command-Period (interrupting an action) during one of my scripts?

This article has been archived and is no longer updated by Apple.
You can't. But if your script involves hiding and showing buttons and fields, here's a way you can make sure the stack is returned to normal in the event a user presses Command-Period during the process: at the start of the script, "set the cantModify of this stack to true". Also, in your idle handler, add the line "the cantModify of this stack to false". That way, if the user cancels during the hiding and showing, the stack will revert to the way it was before the user initiated the action.

This article is adapted from the Claris Tech Info database.
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HyperCard: Using Select Command with Items (5/97)

The select command does not work properly in conjunction with items.

This article has been archived and is no longer updated by Apple.

```
The Problem
-----------
For example, the last line of item 1 of the following is "123 Main".

Mr. Bob Smith
123 Main, Street
Los Angeles, CA  12345
eMail address - 55555

If you give the command "put last line of item 1 of cd field x" you'll get
"123 Main" in the message box.  But if you say "select last line of item 1
of cd field x" what gets selected is "eMail address - 55555", or what is
actually item 1 of the last line.  The two parts of the command are
reversed.

Workaround
----------
1) Get the number of lines of item 1 of cd field x -- (puts 2 into the
  variable it)

2) Select line it of cd field x -- (selects "123 Main")


This article is adapted from the Claris Tech Info database.
```

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HyperCard: Setting Font and Size of a Script (7/92)

Text in the script windows appears in 9-point Monaco as the default. You can change the default font and size of the text in your script window using two properties:

the scriptTextFont
the scriptTextSize

This article has been archived and is no longer updated by Apple.
These two properties affect all script windows: you can't set the font and style of each script window separately.

For example, to set the font and size of the script windows to 10-point Geneva, type the following messages into the Message box and press Return:

set the scriptTextFont to Geneva
set the scriptTextSize to 10

This article is adapted from the Claris Tech Info database.
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HyperCard: Setting Field‘s Text Alignment (7/92)

Here's a script that you can use to set the TextAlign property of a field to determine the way lines of text are aligned in a given field.

This article has been archived and is no longer updated by Apple.

```
on mouseUp (or openCard or any other handler)
set TextAlign of field x to left --(or right, or center).
end mouseUp (or openCard or any other handler)
```

This script works in versions 1.2.5 and 2.0x of HyperCard.

This article is adapted from the Claris Tech Info database.
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HyperCard: Setting Text Fonts (7/92)

Here's a handler you can use to set the TextFont property of a field in HyperCard to determine which fonts are displayed in a given field.

This article has been archived and is no longer updated by Apple.

```
on mouseUp -- (or openCard or any other handler)
set TextFont of field x to Geneva -- (or some other font)
end mouseUp -- (or openCard or any other handler)
```

This article is adapted from the Claris Tech Info database.
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HyperCard: Setting Text Height (7/92)

Here's a handler you can use to set the space (in points) between baselines of text in a given field.

This article has been archived and is no longer updated by Apple.

```
on mouseUp -- (or openCard or any other handler)
set TextHeight of field x to 18
end mouseUp -- (or openCard or any other handler)
```

This handler works in versions 1.2.5 and 2.0x of HyperCard.

This article is adapted from the Claris Tech Info database.
Published Date: Feb 19, 2012

HyperCard: Setting Text Size (7/92)

Here's a handler you can use to set the font size (in points) of text in a given field.

This article has been archived and is no longer updated by Apple.

```
on mouseUp -- (or openCard or any other handler)
set TextSize of field x to 18 -- (or any specified point size)
end mouseUp -- (or openCard or any other handler)
```

This works in versions 1.2.5 and 2.0x of HyperCard.

This article is adapted from the Claris Tech Info database.
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HyperCard: Setting Text Style (7/92)

Here's a handler you can use to set the style in which text appears in a given field.

This article has been archived and is no longer updated by Apple.

```
on mouseUp -- (or openCard or any other handler)
set the TextStyle of field x to plain -- (or bold, shadow, etc.)
end mouseUp -- (or openCard or any other handler)
```

This works in versions 1.2.5 and 2.0x of HyperCard.

This article is adapted from the Claris Tech Info database.
Published Date: Feb 19, 2012

HyperCard Player: Some Stacks Don‘t Work with It (9/93)

This article describes conditions under which a HyperCard stack cannot work with the HyperCard Player.

This article has been archived and is no longer updated by Apple.
A stack with an interface and features that depend on running at userlevel 4 or 5 will not function properly with the HyperCard Player because the Player's userLevel is set to 3 on idle. For use with the Player, level 4 and 5 actions have to be scripted by the developer, so the stack would need to be rewritten.

Some of the XCMDs that are included with the HyperCard Development Kit are not included with the Player: message watcher and variable watcher, script editor, etc. If the stack developer has scripted anything related to these XCMDs, the Player generates an error. It is common practice, for example, for developers to call "hide window" for both the variable and message watchers to make sure they are not open when the stack is first opened. Calling a hide window on a window that does not exist, however, will result in an error. While there is no damage in getting the error, pressing OK, and returning to using the stack, it is inconvenient to get frequent errors.

When using the Developer's Licensing Kit tools to merge the Player with a stack to create a standalone application, developers must keep in mind that the housekeeping duties normally handled by the Home card will not be built in automatically, because the embedded stack effectively becomes the Home stack. Chores such as saving and restoring search paths, therefore, need to be added to the stack script of the embedded stack.

This article is adapted from the Claris Tech Info database.
Published Date: Feb 19, 2012

HyperCard: Finding and Displaying the Application Version (7/92)

Can I determine, without leaving HyperCard, what version of HyperCard is running?

This article has been archived and is no longer updated by Apple.
In the message box, type "the version". HyperCard will return the exact version or revision number of HyperCard that is running.

This works in version 1.2.5 and 2.x of HyperCard.

This article is adapted from the Claris Tech Info database.
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Macintosh 128K, 512K and Plus : Prints All "U"s to ImageWriter

PROBLEM DESCRIPTION: When the print to the ImageWriter is started by the Macintosh in question, the ImageWriter prints all "U"s. The ImageWriter performs the Self-Test OK and works fine with other Macintoshes and computers. This problem occurs with all applications.

CAUSE: The Macintosh is confused.

This article has been archived and is no longer updated by Apple.
CURE: Verify that the customer is using "Choose Printer version 1.5" or greater. Previous versions had problems setting ports correctly. If "Choose Printer" revision is OK, do the following:
1. Turn the Macintosh and printer off and on again and recheck for this problem.
2. If the problem remains after step 1, clear Parameter RAM. You can do this by disconnecting the battery inside the Macintosh for about 10 seconds to help the Macintosh forget its improper port configuration.
If the problem still is not cured, search on "Macintosh General Troubleshooting".

Published Date: Feb 19, 2012

HyperCard: Invoking the Variable or Message Watcher (7/92)

How can I invoke HyperCard's variable watcher?

This article has been archived and is no longer updated by Apple.
Here's how to invoke the Variable Watcher in HyperCard 2.x: In the message box, type "vw" (it's not case sensitive) then press Return.

To invoke the Message Watcher, type "mw" instead.

This article is adapted from the Claris Tech Info database.
Published Date: Feb 19, 2012

HyperCard: If Wrong Palette Appears (7/92)

Sometimes palettes don't appear when they should, or the wrong palette appears. Why is this?

This article has been archived and is no longer updated by Apple.
If a palette doesn't appear when called, but no error message is generated, then the likely cause is that there is no PICT resource for the palette (or it is corrupted). This may happen if the PLTE resource is installed without its corresponding PICT resource.

Also, if there is no corresponding PICT resource (with the same id number as the PLTE resource), then the palette will appear with the first PICT that it does find in the resource fork of the file. So the wrong palette picture might appear, but the active buttons (which may not be visible) will be for those of the palette that was called.

This article is adapted from the Claris Tech Info database.
Published Date: Feb 19, 2012

Compact Macintosh: Power, Reset & Interrupt Buttons

This article describes the location of power, reset and interrupt switches on all compact Macintosh models.
This article has been archived and is no longer updated by Apple.

```
General Information: Power Switch
---------------------------------
Power switches on compact Macintosh models are usually located on the back of the unit, near the left side.
 When facing the computer, you should be able to use your left hand to reach around to the back of the Macintosh
and operate the rocker switch.  When the computer is on, the top part of switch, marked with an "I," should be
pressed in.  The Power switch on the Macintosh Color Classic is on the back of the unit, near the right side.

General Information: Reset Switch
---------------------------------
The Reset Switch, also known as the Programmer's Switch is usually located on left side of compact Macintoshes.
 The exact position varies, but is usually near the rear of the unit, protruding from the vents near the base.
There is no Reset switch on the Macintosh Color Classic.

There are two switches or buttons to press.  The first, nearest to the front of the unit is the reset switch.
 Pushing the reset switch is the same as turning the power switch off and then on.

The second switch, nearest to the back of the unit, is the interrupt switch.  This switch is used by Macintosh
software programmers when writing applications and debugging them. Pushing the interrupt switch will produce a
blank dialog box on the Macintosh screen.  Programmers can then type codes to obtain the response or information
they require from the Macintosh.

Compact Macintosh Model Specifics
---------------------------------
* Macintosh 128K, 512K, 512KE, and Macintosh Plus:
- Power Switch: Rocker switch located on the rear side of the unit,
  near the left side.
- Programmer's Switch: small dark beige or medium gray plastic switch
  located on left side of the unit near the rear. Reset button is closer
  to the unit front, interrupt button is closer to the unit rear.
  User must install switch.

* Macintosh SE, SE/30:
- Power Switch: Rocker switch located on the rear side of the unit,
  near the left side.
- Programmer's Switch: light gray rectangular plastic switch located on
  left side of the unit near the rear.  Reset button is closer to the
  unit front, interrupt button is closer to the unit rear.
  User must install switch.

* Macintosh Classic, Classic II, and Performa 200:
- Power Switch: Rocker switch located on the rear side of the unit,
  near the left side.
- Programmer's Switch: small light gray rectangular plastic switch located
  on left side of the unit near the rear.  Reset button is closer to the
  unit front, interrupt button is closer to the unit rear.
  Switch is preinstalled.

* Macintosh Color Classic:
- Power Switch: Rocker switch located on the rear side of the unit,
  near the right side.  You can also turn the computer by using the
  power key on the keyboard, as long as the power switch on the back
  of the unit is in the on position.
- Programmer's Switch: No programmer's switch.  To reset, use the
following keyboard keys:
 To Restart, hold down the Command, Control and Power keys.
 To interrupt, hold down the Command and Power keys.
 To Shut down, press the power key.
```

Published Date: Feb 19, 2012

ABS Tech Note: AS04 AppleEvent Data Limits (11/93)

This technical note describes the built-in limit of 32K for returned data.

This article has been archived and is no longer updated by Apple.

```
The AppleEvent programming interface has a built-in limit of 32K for
returned data.  This affects AppleSearch, because it is unable to return
larger amounts of data.  In release 1.0,  if the data returned is greater
than 32K, then the call is never returned and the client is never notified.

Because of this, it is important to keep the data returned by AppleSearch
through the AppleEvents API to under 32K bytes, which allows for roughly
300 items.
```

Published Date: Feb 19, 2012

System 7.1 Clean Installation from 800K Disks (5/95)

This article presents the steps necessary to perform a clean installation of system software version 7.1 using 800K installation disks. Follow these instructions in the order presented.

This article has been archived and is no longer updated by Apple.

Purpose of a Clean Installation

A normal system software installation modifies and updates the existing System Folder. A clean installation disables the existing System Folder, leaving most files in place, and forcing the Installer to create a new System Folder.

A clean system installation brings the system software back to the standard configuration. This is necessary when system software has been damaged or modified, preventing a normal installation. It's also useful in troubleshooting.

Restart with Disk Tools

Shut down your Macintosh computer, insert Disk Tools in the floppy drive, and turn on the computer. At the desktop, the Disk Tools floppy disk should be in the upper-right corner of your screen with your hard disk's icon below it.

NOTE: If you have a Macintosh that requires System 7 (for example, PowerBook or Quadra), you can't start up from the 7.1 Disk Tools 800K disk. Because of the limited disk space, this disk contains system software version 6.0.7. Use the system software version 7.0.1 Disk Tools disk that came with your Macintosh instead.

Run Disk First Aid

Disk First Aid software can detect and repair problems with a hard disk.

1) Double-click on Disk First Aid, and make sure the startup drive is selected. If it isn't, click the Drive button to select the main hard drive.

2) Click on Open and then on Start. Disk First Aid will check your hard drive for any potential problems. If it finds problems, you should let it repair them.

3) Repeat this procedure for each hard drive attached to the system.

4) When you're finished verifying the hard drives, choose Quit from the File menu to return to the desktop.

If Disk First Aid can't repair a hard disk, you should back up the hard disk and re-initialize it using the appropriate formatting utility for that drive. For Apple drives, use Apple HD SC Setup.

Update Hard Disk Drivers

If you don't have an Apple hard disk or use third-party software to format your disk, don't use the Apple HD SC Setup Utility. However, you should contact your hard disk vendor to verify that your formatting software is compatible with system software version 7.1.

If you have an Apple hard drive, you should update the drivers with the version of Apple HD SC Setup that's on the Disk Tools disk, following these steps:

1) Double-click the HD SC Setup icon to launch it.

2) Click on the Update button.

3) When you're finished, click Quit to return to the desktop.

Sometimes HD SC Setup can't update the hard disk driver (indicated by a "dimmed" Update button). Here are some possible causes and solutions:

* If a third-party utility formatted your hard disk, you should obtain the latest version of the utility to update your hard disk.

* If a version of Apple HD SC Setup more recent than the version on the Disk Tools disk formatted your hard disk, don't update the hard disk drivers.

* If an earlier System 6 version of Apple HD SC Setup formatted the drive, it may not have left enough room for the updated driver. You don't have to update hard disk drivers. However, if you intend to use file sharing or have a Macintosh that can use virtual memory, then you need to back up the disk and re-initialize it with HD SC Setup. This erases the disk, so be certain you back up the hard disk first.

* If the driver is corrupt, the Macintosh doesn't recognize the drive (that is, the disk doesn't show on the desktop when you start from a floppy disk). You may wish to re-initialize it with HD SC Setup. This erases the disk, so be certain you back up the hard disk first.

* If the driver has been modified with compression or security software you will not be able to update the driver. Contact the vendor for additional help.

Check Available Hard Disk Space

Be sure you have at least 5,120K (5MB) available on the disk where you plan to install the system software. To check hard disk space, follow these steps:

1) Choose Control Panels from the Apple menu.

2) Double-click the Views control panel to open it.

3) In the Views control panel, check "Show disk info in header."

4) Open your hard disk's window.

The amount of available disk space appears in the upper-right corner of any open window.

If there's less than 5,120K (5MB) available, you'll need to delete some unnecessary files by dragging them to the Trash. Choose Empty Trash from the Special menu and you'll have more disk space available.

Disable the System Folder

You disable the System Folder by moving the System and renaming the System Folder.

1) Open your hard disk's icon and locate the System Folder.

2) Open the System Folder and locate the System.

3) Move the System into the Preferences folder.

4) Close the System Folder's window and rename the System Folder "Storage."

5) Close all windows that are open on your desktop.

Restart Your Computer

Choose Restart from the Special menu. The system automatically ejects the Disk Tools disk, and after a few seconds you should see a picture of a disk with a flashing question mark.

If your Macintosh starts up from the hard drive, you have an extra System Folder on the hard disk. You need to delete it or disable it as described in the previous section, then restart.

When you get the disk with the flashing question mark on your screen, you can continue. If you still don't see this on your screen, turn off your Macintosh and all attached peripherals and disconnect the SCSI cable from the back of the Macintosh. Start your Macintosh again.

Install System 7.1

Install system software version 7.1, following these steps:

1) When you see the disk with a flashing question mark, insert Disk Tools into the floppy drive.

2) When the desktop appears, choose Eject Disk from the File menu.

3) Remove Disk Tools, and insert the Install 1 disk.

4) Double-click the Installer on the Install 1 disk. Disk swapping (6 or 7 times usually; more if using the System 7.0.1 Disk Tools disk) between Install 1 and Disk Tools is normal.

5) When the "Welcome to the Apple Installer" message appears, click OK and then click Install.

6) Insert the other disks when the Installer asks you to.

Verify Problem Resolution

After performing a clean installation, verify that you resolved the problem before adding anything to the new System Folder. Adding items to the System Folder before resolving your problem defeats the purpose of this procedure.

Install Non-Standard Items

You can now reinstall the non-standard items from the old System Folder (now named "Storage") such as fonts, screen savers, device drivers, and so on. If possible, you should reinstall these items from their original disks.

If the original disks aren't available, you may move the non-standard items from the Storage folder to the new System Folder. Be careful not to replace anything that's already in the new System Folder. Only move items that aren't already in the new System Folder.

1) Open each corresponding folder within the System Folder and the Storage folder and then compare the contents.

2) Move anything that isn't already in the new System Folder and its subfolders from the Storage folder and its subfolders.

3) Restart your Macintosh.

Troubleshooting Extension Conflicts

If you've installed any system extensions or control panels, you'll probably see their icons line up across the bottom of the screen when you restart. They load into memory at startup time and modify the standard behavior of the operating system.

Verify INIT Conflict

If the Macintosh fails to restart or behaves erratically, you probably have an incompatible, or conflicting, INIT (also known as a system extension or control panel). To verify this problem, follow these steps:

1) Be sure the Caps Lock key is off.

2) Restart, and after you see the picture of a smiling computer hold down the Shift key.

3) Release the Shift key when the "Welcome to Macintosh, Extensions Off" message appears.

4) When the Macintosh is ready, try to recreate the erratic behavior.

If the problem no longer occurs, then you have a conflicting extension or control panel. Continue with the next section.

Remove and Replace INITs in System Folder

---

1) Create a new folder on the desktop.

2) Open the System Folder, Extensions folder, and Control Panels folder. Choose by Kind from the View menu. Find all items of Kind "system extension" or "control panel" and move them to this new folder.

3) Close the System Folder, and restart the Macintosh.

4) Attempt to recreate the problem.

5) Move one item from the new folder on the desktop to the closed System Folder and restart the Macintosh.

6) Attempt to recreate the original problem.

Repeat steps 5 and 6 for each item in the new folder on the desktop until the problem recurs. The last item returned to the System Folder is probably the cause of the problem.

Final Steps

Verify that your applications are performing normally. If not, refer to the application manual or contact the vendor.

When the Macintosh behaves as expected, drag the Storage folder to the Trash, and choose Empty Trash from the Special menu.

System Update

After performing a clean installation of System 7.1, you may want to consider installing System Update 3.0 to ensure that you have the most current version of the system software.

System Update 3.0 is available from the Apple Software Updates area of many online services. More specific information about how to find the updates on these services is available in Fax document #20729. If you do not have access to any online services, please call 1-800-SOS-APPL for more information.

Article Change History:
08 Feb 1995 - Added compressed driver information.
27 Oct 1994 - Review for consistency and update format.
28 Jan 1994 - Added more information to the HD SC Setup section.

Support Information Services
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PowerBook: Power, Reset & Interrupt Buttons

This article describes the location of power, reset, and interrupt buttons on all Macintosh PowerBook models.
This article has been archived and is no longer updated by Apple.

General Information: Power Buttons

The Power button on PowerBook models is usually located on the back panel of the unit close to the left side, or ahead of the keyboard just below the display bezel. Refer to your Users Guide or Mac Help for the exact location and function of the power button on your specific PowerBook model.

General Information: Reset and Interrupt Buttons

The Reset and Interrupt buttons are usually located in the back panel of the PowerBook, near the left hand side. Most, but not all, PowerBook models have both Reset and Interrupt buttons. Refer to your Users Guide or Mac Help for the exact location and function of the Reset and Interrupt button on your specific PowerBook model.

The Reset button is marked with a small triangle. Pushing the Reset button restarts the PowerBook; it is the same as turning the power switch off and then on.

The Interrupt button is marked with a small circle as shown in Figure 1 below. It is typically used by software programmers when writing applications and debugging them. Pushing the Interrupt button produces a blank dialog box on the Macintosh screen. Programmers can then type codes to obtain the response or information they require from the Macintosh.

Figure 1. Programmer's or Interrupt button

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ABS Tech Note: DAL35 DAL For A/UX Technical Overview

This document describes the files created by installation of Data Access Language 1.4 on the A/UX operating system.
This article has been archived and is no longer updated by Apple.

Overview

Data Access Language Server 1.4 supports connections to two databases: Oracle, and Informix, using one of three connection protocols: asynchronous via a serial connection, TCP/IP and ADSP. This document gives an overview of DAL under A/UX, describing what the server files are, how they relate to each other, and how each function is accomplished.

Installing DAL

Installation of DAL is straightforward. These examples use Oracle 7.0, but Informix is essentially the same process. First, it is important to install the database first and make sure it's running correctly before installing DAL. It is a common error for someone to try to install both the database and DAL at the same time and try to debug getting them running simultaneously, which is very difficult. By installing them a piece at a time, you make your life much easier.

This is a sample installation. To begin, insert the Oracle server floppy into the server and log on as root. Then create the directory to hold the server software (by default, /users/dal), then use tar to extract the files:

```
# cd /users (data the user types)
# mkdir dal (data the user types)
# cd dal (data the user types)
# tar xfv /dev/rfloppy0 (data the user types)
```

Once the files are copied over, you need to run DALinstall to complete the installation (Note in this case the user dalsys already exists in /etc/passwd. If it doesn't, it's created for you):

```
# DALinstall (data the user types)

- DAL Host Software Installation Script -
- dalsys user already exists -
- Setting file permissions -
- DAL adsp listener already configured -
===
- Configuring ORACLE -
| To install DAL demo data tables for ORACLE (after this install completes):
V Invoke sqlplus/sqldba as scott/tiger and enter the following command:

SQLprompt> @/users/dal/data/oracle_script;

ORACLE_HOME specifies where ORACLE is installed
Old setting: ORACLE_HOME=unknown
New setting: ORACLE_HOME=/users/oracle in oracle.cfg

ORACLE_SID selects the default ORACLE Instance to use
Old setting: ORACLE_SID=unknown
New setting: ORACLE_SID=SAMP in oracle.cfg
===
- Checking DAL environment settings -
New setting: DALDEFAULTDBMS=oracle in /etc/dalrc

DAL specifies where DAL is installed
Old setting: DAL=/users/dal

Set DALLOGGING to YES to enable logging to /tmp/dalXXXXXX.log
Old setting: DALLOGGING=NO

Set DALDEBUG to YES to send debug info to stderr(idal) or logfile
Old setting: DALDEBUG=NO

DALTEMPDIR specifies where DAL creates temporary work files
Old setting: DALTEMPDIR=/tmp

DALMESSAGES selects the default host message language to use
Old setting: DALMESSAGES=unknown
```

```
! Choose DALMESSAGES from the following: french italian us_english
>>Please supply a new value for DALMESSAGES (us_english): <return>
New setting: DALMESSAGES=us_english in /etc/dalrc

DALDEFAULTDBMS selects the default DBMS server to run
Old setting: DALDEFAULTDBMS=oracle

Set DALSERVERLOG to YES to enable ADSP listener logging
Old setting: DALSERVERLOG=NO

Set DALRESTARTADSP to YES to enable autorestart of DAL adsp listener at
boot
Old setting: DALRESTARTADSP=unknown
! Choose DALRESTARTADSP from the following: NO YES
>>Please supply a new value for DALRESTARTADSP (YES): <return>
New setting: DALRESTARTADSP=YES in /etc/dalrc
- Shutting down DAL adsp listener -
- Starting up DAL adsp listener -

DAL Server Version DBMS Version Networks
------------------ ------------------ ---------------------------
A/UX 1.4 ORACLE7 ORACLE 7.0.12.2.0 PktAsync, AppleTalk, TCP/IP

- Successful installation -
```

DAL Server files and their purpose

This is a listing of the files installed by DALinstall and their use. Most of the files DAL installs are in the /users/dal directory, but one file is created in /etc and three files are created in /usr/bin.

The file in /etc is:

```
# ls -l /etc | grep dal
-rw-r--r-- 1 dalsys dalsys 221 Oct 26 11:29 dalrc
```

This file sets up the standard configuration for DAL, and can be modified with the DAL command as will be seen below. A typical Oracle configuration would look like this:

```
DAL=/users/dal (location of the DAL files)
DALFILE="$DAL/dalprocs" (location of the host procedures)
DALLOGGING=NO (session logging, YES or NO)
DALDEBUG=NO (debugging, YES or NO)
DALTEMPDIR=/tmp (where temporary files go)
DALMESSAGES=us_english (which message file to use)
DALDEFAULTDBMS=oracle (default DBMS, oracle or
informix)
DALSERVERLOG=NO (server logging, YES or NO)
DALRESTARTADSP=YES (restart ADSP server on reboot)
DALDBMSLIST="oracle" (known DBMSes)
DALMSGLIST="french italian us_english" (known language files for errors)
```

The three files in /usr/bin are actually links to one another:

```
# cd /usr/bin
# dir | grep dalsys
-rwxr-xr-x 3 dalsys dalsys 216 Oct 26 11:29 DAL*
-rwxr-xr-x 3 dalsys dalsys 216 Oct 26 11:29 dalsvr*
-rwxr-xr-x 3 dalsys dalsys 216 Oct 26 11:29 idal*
```

DAL, dalsvr and idal all execute the same shell script:

```
#!/bin/sh
set -a
. /etc/dalrc
```

```
if [ X$1 = X-v -o X$1 = Xversions -o `basename $0` = DAL ] ; then
cd $DAL
. ./.dal.config
exit
fi

case `basename $0` in
idal) EXE=idal ;;
*) EXE="" ;;
esac
. $DAL/.dalsvr.run
```

What this script does is the following: it loads in the values in /etc/dalrc and then checks the parameters. If the dalsvr entry point was used, or if it was given the parameter -v or 'versions', then it responds by executing the file $DAL/.dal.config, a shell script which will output a listing of what is available for use with DAL:

```
medraut# dalsvr

DAL Server Version DBMS Version Networks
------------------ ------------------- ---------------------------
A/UX 1.4 ORACLE7 ORACLE 7.0.12.2.0 PktAsync, AppleTalk, TCP/IP
```

If it doesn't do that, it sets the environment variable EXE to either a null string (if the DAL command are executed) or 'idal' (if idal is executed), and then executes the file $DAL/.dalsvr.run. This starts either the DAL configuration program or the DAL server, depending on which entry point is used.

In /users/dal, we have these files:

```
medraut# ls -lRa
total 2454
-rwxr-xr-x 1 dalsys dalsys 216 Jun 18 01:41 .dal.cfg*
```

This is the shell script installed in /usr/bin.

```
-rwxr-xr-x 1 dalsys dalsys 9439 Sep 28 19:02 .dal.config*
```

This is the shell script executed as /usr/bin/DAL to do configuration.

```
-rwxr-xr-x 1 dalsys dalsys 10980 Sep 30 17:16 .dal.install*
```

This is the shell script executed by /users/dal/DALinstall or the "DAL install" command.

```
-rw-r--r-- 1 dalsys dalsys 1195 Jun 22 16:13 .dal.usage
```

A text file listing the commands for the DAL program. Listed by "DAL help".

```
-rwxr-xr-x 1 dalsys dalsys 6832 Jun 12 20:30 .dalprocs.cfg*
```

A text file storing the template for the /users/dal/dalprocs file. This is modified during installation for proper configuration..

```
-rwxr-xr-x 1 dalsys dalsys 203 Sep 30 13:53 .dalrc.cfg*
```

A text file storing the template for the /etc/dalrc file. This is modified during installation for proper configuration.

```
-rwxr-xr-x 1 dalsys dalsys 255 Jun 12 20:52 .dalsvr.cfg*
```

A text file storing the template for the /users/dal/.dalsvr.run file. This is modified during installation for proper configuration.

```
-rw-r--r-- 1 dalsys dalsys 253 Oct 26 11:29 .dalsvr.run
```

This is the shell script executed by idal to start the dal server.

```
-rwxr-xr-x 1 dalsys dalsys 495 Sep 22 17:39 .informix.cfg*
```

A text file storing the template for the /users/dal/informix.cfg file. This is modified during installation for proper configuration. (note: this is installed by the Oracle install floppy, but not used).

```
-rwxr-xr-x 1 dalsys dalsys 364 Jun 2 11:32 .oracle.cfg*
```

A text file storing the template for the /users/dal/oracle.cfg file. This is modified during installation for proper configuration.

```
-rwxr-xr-x 1 dalsys dalsys 27 Jun 9 18:41 DALinstall*
```

This shell script executes /users/dal/.dal.install.

```
-rw-r--r-- 1 dalsys dalsys 0 Oct 4 15:15 DiskCreationDate
```

A time stamp that documents what date/time the files on the install floppy were created.

-rw-r--r-- 1 dalsys dalsys 8394 Oct 5 11:30 README
The latest information on the release.

-rwxr-xr-x 1 dalsys dalsys 88476 Oct 1 17:07 dal_adsp*
The DAL 1.4 ADSP listener. This is restarted when the system boots from /etc/inittab using the line "dall:2:once:/usr/bin/DAL boot adsp", which should be added from the DALinstall command. Whether it is turned on or not is controlled by the DAL command.

-rwxr-xr-x 1 dalsys dalsys 220 Sep 22 18:08 dalbrd.sqlexec*
-rwxr-xr-x 1 dalsys dalsys 220 Sep 22 18:06 dalbrd.sqlturbo*
These two files are installed by the Oracle install floppy, which is a cosmetic bug in DAL 1.4. They are used to configure the Informix server for the different versions of Informix. They are not used with Oracle.

-rwxr-xr-x 1 dalsys dalsys 7369 Jun 24 01:12 dalprocs*
This is a text file containing the host-based DAL procedures. The commonly used ones are documented later.

-rw-r--r-- 1 dalsys dalsys 8318 Apr 16 1993 msg.french
-rw-r--r-- 1 dalsys dalsys 7980 Apr 16 1993 msg.italian
-rw-r--r-- 1 dalsys dalsys 6121 Apr 16 1993 msg.us_english
These files contain the error messages for the server and are set up for easy internationalization. Note that in DAL 1.4, neither the French or Italian files are actually internationalized, so using them won't give you any advantage. They are place holders so they can be modified as appropriate by the international subsidiaries.

-rwxr-xr-x 1 dalsys dalsys 367 Oct 26 11:29 oracle.cfg*
This file configures DAL so it can access the oracle DBMS without requiring the user's account to be configured for it.

-rwxr-xr-x 1 dalsys dalsys 1073072 Oct 5 16:06 oracle.dal*
The DAL database adapter for Oracle.

-rw-r--r-- 1 dalsys dalsys 919 Sep 27 16:10 usage
A short text file that explains installation for people who hate reading manuals.

The data/ sub directory holds the demo tables for Informix (which would be accessed with the "USE LOCATION /users/dal/data" clause), and the script needed to create the demo tables in Oracle. Since Oracle stores all data internal to it's database structures, there are no files stored here for that DBMS.

drwxr-xr-x 2 dalsys dalsys 512 Oct 26 11:28 data/
./data:
total 60
drwxr-xr-x 2 dalsys dalsys 512 Oct 26 11:28 ./
drwxr-xr-x 3 dalsys dalsys 1024 Oct 26 11:29 ../
-rw-r--r-- 1 dalsys dalsys 140 May 25 00:37 README.oracle
-rw-r--r-- 1 dalsys dalsys 27435 Aug 15 1991 oracle_script.sql

This is the end of the overview of DAL server files. The informix server is almost identical, the only changes being the added configuration scripts for the Online vs. SE database versions and the need for the separate demo tables (listed below).

Installing Oracle demo tables
This is an example of how to install Oracle demo tables. To install the demo table in Oracle, you need to log on to Oracle via the program sqldba (this assumes you are in an account configured to use Oracle. The easiest way to do this is log on to the system as user oracle).

```
% cd /users/dal/data
% sqldba

SQL*DBA: Release 7.0.12.2.0 - Production on Fri Oct 29 11:35:44 1993

Copyright (c) Oracle Corporation 1979, 1993. All rights reserved.

ORACLE7 Server Release 7.0.12.2.0 - Production
With the procedural and distributed options
PL/SQL Release 2.0.14.0.1 - Production

SQLDBA> connect
Username: scott
```

```
Password: tiger (note: not echoed!)
Connected.
SQLDBA> @oracle_script
set scan off
*
DBA-00110: illegal SET option
drop table orders
*
ORA-00942: table or view does not exist
Statement processed.
Statement processed.
1 row processed.
1 row processed.
[[many lines of output supressed]]
1 row processed.
1 row processed.
1 row processed.
Statement processed.
drop table ware_inv
*
ORA-00942: table or view does not exist
Statement processed.
Statement processed.
1 row processed.
1 row processed.
1 row processed.
1 row processed.
1 row processed.
1 row processed.
Statement processed.SQLDBA> exit
SQL*DBA complete.
```

Informix demo tables

When installing Informix, the following directory is installed, which contains the demo tables.

```
drwxrwxrwx 2 dalsys dalsys 1024 Oct 11 10:14 daldemo.dbs/
./data/daldemo.dbs:
-rw-rw-rw- 1 dalsys dalsys 8192 Apr 20 1993 custome100.dat
-rw-rw-rw- 1 dalsys dalsys 2048 Apr 20 1993 custome100.idx
-rw-rw-rw- 1 dalsys dalsys 1024 Apr 20 1993 offices103.dat
-rw-rw-rw- 1 dalsys dalsys 2048 Apr 20 1993 offices103.idx
-rw-rw-rw- 1 dalsys dalsys 3072 Apr 20 1993 orders_101.dat
-rw-rw-rw- 1 dalsys dalsys 2048 Apr 20 1993 orders_101.idx
-rw-rw-rw- 1 dalsys dalsys 2048 Apr 20 1993 staff__102.dat
-rw-rw-rw- 1 dalsys dalsys 2048 Apr 20 1993 staff__102.idx
-rw-rw-rw- 1 dalsys dalsys 2048 Apr 20 1993 store_i104.dat
-rw-rw-rw- 1 dalsys dalsys 2048 Apr 20 1993 store_i104.idx
-rw-rw-rw- 1 dalsys dalsys 3072 Apr 20 1993 stores_105.dat
-rw-rw-rw- 1 dalsys dalsys 2048 Apr 20 1993 stores_105.idx
-rw-rw-rw- 1 dalsys dalsys 0 Apr 20 1993 syscolauth.dat
-rw-rw-rw- 1 dalsys dalsys 4096 Apr 20 1993 syscolauth.idx
-rw-rw-rw- 1 dalsys dalsys 4096 Apr 20 1993 syscolumns.dat
-rw-rw-rw- 1 dalsys dalsys 6144 Apr 20 1993 syscolumns.idx
-rw-rw-rw- 1 dalsys dalsys 0 Apr 20 1993 sysconstra.dat
-rw-rw-rw- 1 dalsys dalsys 5120 Apr 20 1993 sysconstra.idx
-rw-rw-rw- 1 dalsys dalsys 0 Apr 20 1993 sysdepend.dat
-rw-rw-rw- 1 dalsys dalsys 4096 Apr 20 1993 sysdepend.idx
-rw-rw-rw- 1 dalsys dalsys 1024 Apr 20 1993 sysindexes.dat
-rw-rw-rw- 1 dalsys dalsys 4096 Apr 20 1993 sysindexes.idx
-rw-rw-rw- 1 dalsys dalsys 0 Apr 20 1993 syssynonym.dat
-rw-rw-rw- 1 dalsys dalsys 4096 Apr 20 1993 syssynonym.idx
-rw-rw-rw- 1 dalsys dalsys 0 Apr 20 1993 syssyntabl.dat
-rw-rw-rw- 1 dalsys dalsys 4096 Apr 20 1993 syssyntabl.idx
-rw-rw-rw- 1 dalsys dalsys 1024 Apr 20 1993 systabauth.dat
```

```
-rw-rw-rw- 1 dalsys dalsys 4096 Apr 20 1993 systabauth.idx
-rw-rw-rw- 1 dalsys dalsys 4096 Apr 20 1993 systables.dat
-rw-rw-rw- 1 dalsys dalsys 4096 Apr 20 1993 systables.idx
-rw-rw-rw- 1 dalsys dalsys 1024 Apr 20 1993 sysusers.dat
-rw-rw-rw- 1 dalsys dalsys 3072 Apr 20 1993 sysusers.idx
-rw-rw-rw- 1 dalsys dalsys 0 Apr 20 1993 sysviews.dat
-rw-rw-rw- 1 dalsys dalsys 3072 Apr 20 1993 sysviews.idx
-rw-rw-rw- 1 dalsys dalsys 1024 Apr 20 1993 ware_in106.dat
-rw-rw-rw- 1 dalsys dalsys 2048 Apr 20 1993 ware_in106.idx
-rw-rw-rw- 1 dalsys dalsys 1024 Apr 20 1993 warehou107.dat
-rw-rw-rw- 1 dalsys dalsys 2048 Apr 20 1993 warehou107.idx
```

Using DAL

The DAL command is used to configure the server and to look at its current status. A list of the commands supported by DAL are below, and can be printed with the "DAL ?" or "DAL help" commands:

```
medraut# DAL help
DAL utility usage:

DAL start [ adsp ] ( start the adsp listener)
DAL stop [ adsp ] ( stop the adsp listener)
DAL boot [ adsp ] ( only start the lstnr if DALRESTARTADSP=YES )
```

These three commands control the ADSP listener. Boot is equivalent to tart, but will only start the listener if it is configured to start on system reboot.

DAL sessions (list the active DAL sessions)
Describes the current state of the server. This is an example of the output when the server is idle:

```
medraut# DAL sessions
- DAL adsp listener is running -
- No DAL sessions currently running -
```

This is an example of a server with one active session:

```
medraut# DAL
- DAL adsp listener is running -
- DAL sessions currently running:

chuq 6087 289 1 13:52:37 C1 0:00 /users/dal/oracle.dal idal
```

DAL config (show all DAL config parameters)
This lists the contents of /etc/dalrc

DAL config dalrc (edit all parameters in /etc/dalrc)
This command lets you change the contents of /etc/dalrc by prompting you for a new entry for each line (carriage return implies no change).

DAL config <informix|oracle|ingres> (edit all parms for that dbms)
This command lets you change the contents of the appropriate configuration file for supported databases (/users/dal/oracle.cfg for oracle, /users/dal/informix.cfg for informix). Note that Ingres is not supported in DAL 1.4.

DAL config all (edit all DAL parms in DBMSs and dalrc)
Allows you to configure everything about the server, prompting you as appropriate.

DAL versions (show the versions of available DAL servers)
Lists the currently supported databases and their versions and configured network adapters. Equivalent to the "dalsvr" command.

DAL <log|lsn> (run more on latest /tmp/dalxxx.log or .lsn)
(you must press 'q' to exit, space for more)
DAL purge <log|lsn> (remove all but the latest log/lsn tmp files)
Prints and purges the .log (logging), .lsn (adsp listener logs) and .dbg (DAl debugging) logs. Note that "DAL dbg" and "DAL purge dbg" are also legal options.

DAL show <dal env. variable> (show the current setting for that var)
Shows a specific variable in /etc/dalrc.

DAL DEFAULTDBMS=<dbms-name> (make that dbms the default)
Allows you to change the default DBMS name.

DAL DALMESSAGES=<language-name>(make that msg language the default)
Allows you to change the language used for server error messages.

DAL <var>=<value> (change any DAL environment variable)
DAL -e <var>=<value> (explain each variable before prompting)
DAL -p <var>=<value> (force a prompt even if value is already valid)
Allows you to change any specific variable in /etc/dalrc. The -e option outputs a description of what you're changing. The -p option forces DAL to prompt you for the changed value.

DAL install ... (run the full DAL installer for reconfig)
The same as the DALinstall command.

Common Dalproc procedures
The file /users/dal/dalprocs contains host-based DAL procedures. It can be used to store commonly used and shared DAL functions. DAL 1.4 ships with a set of procedures in the dalprocs file. Some of them are of interest primarily as examples, but some have more general use. The ones you might want to use include:

dal_config: prints the DAL environment from inside idal, so you can see how
the server thinks it's configured.
op: opens the default DBMS and then opens the appropriate database so that
the demo tables are available.
oo: opens the Oracle DBMS and database as user scott (for demo table
access).
oinf: opens the Informix DBMS
closeall: closes all open databases and DBMSes.
tables: prints the name of all available tables.
columns(tablename): prints the columns for a given table.
exp: a quick validity test for the default database.

TCP/IP and Asynchronous connections
Under TCP/IP and Asynchronous connections, the DAL client logs onto the A/UX system like a normal user, and once it is connected to a shell, executes the command idal. TCP/IP makes the connection through the rexec daemon (the rsh function under BSD, the remsh function under System V), which does password checking. This assumes that the user has a valid account on the system and knows the password, and that idal is in the account's default $PATH.

A sample DAL Preferences entry for this is:

medraut:MacTCP:AUX:17.190.12.52
medraut:login::::3000:::

Medraut is the entry name (in this case, also the name of the machine), and 17.190.12.52 is the IP address for the machine. The client must have MacTCP installed for it to work.

ADSP
When connecting via ADSP, operation is very similar to TCP/IP. The ADSP listener replaces the rexec daemon and shell, doing the password validation and spawning the idal process. All server operations are handled by idal. When the user disconnects, idal exits and the network connection is closed.

A sample DAL Preferences entry for ADSP is:

medraut.a:atalk:Chuq's AUX box.De Anza 3/1st Floor
Published Date: Feb 19, 2012

Apple Internet Router 3.0: GeoPort Compatibility (12/93)

When I use Apple Internet Router (AIR) 3.0 on my Quadra 840AV, the router runs properly. If Express Modem for Geoport is loaded, the 840AV crashes at bootup.

Are the Apple Internet Router 3.0 and the GeoPort software compatibile?

This article has been archived and is no longer updated by Apple.
The Centris/Quadra AV computers require Apple Internet Router 3.0.1 when the Express Modem for GeoPort software is installed. AIR 3.0 will either crash at boot (if the router auto-starts at boot) or will crash with a "Type 3" error (if the router is manually started), when the GeoPort software has been installed on the system also.

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Macintosh 128K, 512K, Plus: ID = 02 Errors From External Drive

PROBLEM DESCRIPTION: Using external drive on left side of Macintosh gets 02 errors.

This article has been archived and is no longer updated by Apple.
CAUSE: Drive could be getting RFI interference from power/sweep PCB inside of Mac.

CURE: Use the external drive on the right side of the Mac. If problem still not saved, search on Macintosh General Troubleshooting.

Published Date: Feb 19, 2012

Apple Color Printer: Canon Cartridge Part Numbers

Is there is a Canon cartridge part number that can be used with this printer?
This article has been archived and is no longer updated by Apple.
The Canon cartridge part numbers that can be used in the Apple Color Printer are as follows:

BJI-643 Bk (Black)

BJI-643 C (Cyan)

BJI-643 M (Magenta)

BJI-643 Y (Yellow)

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Dynamic Data Exchange: Macintosh Implementation

What is available to Macintosh developers to match the Dynamic Data Exchange (DDE) capability in Microsoft Windows 3.1?

We use an internally developed application which uses MS Word, FoxBase Pro, Oracle, Windows 3.1, DDE and TMS image viewer/driver technology. This application archives and indexes collected data and scanned forms, and allows users to view the image of the form whose data is selected. If a 'query' returns a list of forms, as the user steps down the list, the displayed image keeps pace, always displaying the image associated with the chosen record. This interaction is accomplished using DDE.

Now that Microsoft Word, FoxBase Pro, and TMS viewing technology are all available on Macintosh, how can we make this application available to Mac users?

What's involved both in terms of software, and in terms of effort and expertise?
This article has been archived and is no longer updated by Apple.
Dynamic Data Exchange (DDE) enables you to transfer data or instructions between Windows applications. The capability you described is usually called Macro DDE. They are conversations between two applications and are managed by the macro language of the DDE client (or possibly by the server). This is different than what people normally think of DDE, which is solely in terms of the Clipboard metaphor.

In a DDE script, a DDE conversation is created by writing code that initiates a conversation with a server, pokes data to or receives data from the server application, and terminates the DDE conversation. You can view DDE as a cross between Apple's Publish and Subscribe and Apple Events.

Another Windows component called Object Linking and Embedding (OLE) allows objects to be embedded in documents and objects can contain data from other applications.

On the Macintosh, we implement this capability in InterApplication Communication (IAC).

IAC includes these elements:

- Cut and Paste
- Apple Events (which allows an application to request services or information from other applications)
- Edition Manager (which enables an application to share dynamic data)
- PPC Toolbox (which provides a mechanism for application to exchange blocks of data)
- AppleScript (which provides the ability to write scripts, supports recording user actions, and translate scripts into more complex Apple Events)
- OpenDoc

You can view OpenDoc as Apple's response to OLE. However, OLE can't have overlapping parts or irregular shapes - they must be rectangles.

To make this application available to Macintosh users, the software involved has to support more than the Required and Core Suites of Apple Events required for the business application. Many applications only support the Required Suite, and many receive but not send Apple Events. You should check with the software vendors to verify that your applications can use AppleScript and to what degree.
Published Date: Feb 19, 2012

System 7 Pro: Font Issues with Snapshot Format (12/93)

What's supposed to happen when an AppleMail document is sent to someone in the "snapshot" format, and a font that's used on the sender's computer isn't installed on the client's computer?

Does this affect output possibilities, whether to PostScript or QuickDraw printers and fax machines?

This article has been archived and is no longer updated by Apple.
An AppleMail snapshot creates a document in PICT format. The PICT format stores the information about the font used originally to create the document. The system that opens the document substitutes the font if the font isn't present. The result is that the recipient's document won't look like the original.

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Education Resource CD: QuickTime 1.6 Install Workaround (12/93)

The program on the Apple Education Resource CD that will update and/or install the QuickTime 1.6 extension isn't working correctly. It keeps the old copy of QuickTime 1.0 in the Extensions folder within the System Folder and just adds QuickTime 1.6 into the Extensions folder. The program doesn't replace the previous version of the QuickTime extension. When you restart the computer a message will appear saying that the QuickTime extension isn't available.

This article has been archived and is no longer updated by Apple.
Remove the old QuickTime version from the Extensions folder within the System Folder to work around this.

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AppleShare Print Server: LaserWriter 8.x.x Incompatibilities

This article addresses questions on AppleShare Print Server 3.0.1 and the LaserWriter 8.x.x driver.
This article has been archived and is no longer updated by Apple.
Question 1: I just installed the LaserWriter 8.0 print driver on my desktop computer and on our AppleShare Print Server 3.0.1, a Macintosh IIx running System 7.1.

The installation seemed to proceed normally, and I was able to print to my LaserWriter IIf. However, when I started the AppleShare Print Server, I received the following alert dialogue box:

"The print server had trouble getting to the LaserWriter file. Please make sure the print drivers are installed correctly."

Does the LaserWriter 8.0 driver print driver not work with AppleShare Print Server 3.0.1?

Answer:
LaserWrite 8.x.x drivers are not compatible with any of the current AppleShare Print Servers. The AppleShare Print Server 3.0.x, AppleShare Print Server 4.0.x, and AppleShare Pro Print Server 1.0 require one of LaserWriter 7.x.x drivers in the Extensions folder to work correctly. Also note that this driver must have the name "LaserWriter" to be recognized.

Question 2: When a user prints with the LaserWriter 8.0 driver to a printer captured by AppleShare Print Server 3.0.1 and System 7.1, the job creates two items in the queue, and the log shows two print jobs in the log. Why?

Answer:
The source of this anomaly is the LaserWriter 8.x.x driver on the client Macintosh. When it prints a document, it intentionally creates two print jobs. The first job contains setup information for the printer, the second job contains the PostScript stream for the document. Naturally, the Print Server will display these as two separate print jobs. Apple currently has no plans to change this.

Question 3: I have only been able to use the "Generic" setup in LW 8.0 when printing from a workstation to a LaserWriter that has been captured by AppleShare Print Server 3.0.1. Since the LaserWriter is already captured by AppleShare Print Server, one is unable to do a printer specific configuration.

Doesn't this effectively defeat the purpose of having printer-specific PPDs, and eliminate all of the special advantages and features of LW 8.0 when you use AppleShare Print Server?

Answer:
No, it does not. The solution here is, when choosing the printer in the Chooser, to manually select the correct PPD for your printer using the "Select PPD..." button in the "Setup" dialog. This will allow you to use any of the features of the selected printer.
Published Date: Feb 19, 2012

Macintosh 128K, 512K, Plus: Distorted Video/Scorched Components

PROBLEM DESCRIPTION: Left side of Video display stretched with vertical line overlapped. Also often very discolored L2 and/or C2 on power/sweep PCB.
This article has been archived and is no longer updated by Apple.

CAUSE: Possible blown flyback circuitry on power/sweep PCB.

CURE: Replace power/sweep PCB. If problem still not found, search on Macintosh General Troubleshooting.

Published Date: Feb 19, 2012

Peter & Santa Claus CD: Printing Problems (12/93)

1. When printing on a StyleWriter II, why does an alert appear saying that an unknown error occurred?

2. My document won't print, any suggestions?

This article has been archived and is no longer updated by Apple.

1. You may have background printing turned on. It is known that background printing may cause an error. Try turning background printing off via the Chooser which is located under the Apple Menu.

2. Check the following:
* Ensure that you have selected a printer in Chooser.
* Ensure that the printer is turned on.
* Ensure that the printer is properly connected to your Macintosh.
* Ensure that there is paper in the printer.
* If there is not enough memory available to print while the application is running, then the document will not be printed until Peter and Santa Claus is quit.

Published Date: Feb 19, 2012

Peter & Santa Claus CD: Memory Alerts (12/93)

1: When trying to run Peter & Santa Claus, why does an alert appear saying that there's not enough memory?

2: Why do I get an alert saying, "The application 'Peter and Santa Claus has unexpectedly quit (out of system memory)?"

This article has been archived and is no longer updated by Apple.

Answer to Question 1:
* Ensure that there is enough memory available by choosing "About This Macintosh" from the Apple Menu and examining your largest unused block. Peter & Santa Claus requires at least 2300K of memory to run.
* Remove any extensions or control panels that create a low memory situation in the background (such as background compression utilities). This will decrease the amount of memory used by your system software and allow more memory for your CD application.
* If using Virtual Memory, restart the CPU to ensure that memory is not fragmented.
* Close all windows in Finder.
* Quit any running applications.
* If you still do not have enough memory, you may want to consider purchasing more.

Answer to Question 2:
* If you are running under System 6.0.7 MultiFinder and do not have over 5MB of memory available, you will receive this alert.
* Peter and Santa Claus will run properly on a 4MB CPU if you switch over to Finder instead of MultiFinder.

Published Date: Feb 19, 2012

Peter & Santa Claus CD: CD Not Seen on Desktop (12/93)

Why can't I see the Peter & Santa Claus CD on my Desktop?

This article has been archived and is no longer updated by Apple.
One of the following may help you solve your problem:

1) Ensure that your CD-ROM drive is turned on & plugged into an active electrical outlet.

2) Ensure the CD-ROM drive's SCSI connection is properly connected to your Macintosh (see your CD-ROM drive's manual for instructions).

3) Ensure the CD-ROM drive's SCSI ID does not conflict with another SCSI device's ID number (consult your CD-ROM drive's manual for further information).

4) Ensure all CD-ROM drivers are installed.

5) Ensure the CD-ROM drive has been turned on before the Macintosh has been turned on (with the CD-ROM Player turned on restart your Macintosh).

6) Try to use another CD-ROM. This will narrow down the problem to either the set-up or the CD-ROM disc. It is highly unlikely that the problem involves the disc.

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PowerBook Models 14x, 16x, 170, 18x: Common Q & A

This article describes common questions and answers compiled by the PowerBook support team in the Apple Assistance Center. It is also available through the Apple FaxInfo system.
This article has been archived and is no longer updated by Apple.
Question: When I press the power button, my PowerBook does not start up, or flashes the display momentarily.

Answer: Follow the procedure detailed below:

1) Plug in the AC Adapter. If unit will start with the AC Adapter, but not with the battery in the compartment, you probably need to charge the battery. Another possibility is that you may need a new battery.

2) Reset the power management circuitry. This condition can be temporary, and this fix may be all you need. A separate Tech Info Library article details how to do this with various PowerBook and Duo models.

3) If the machine won't start with a recharged or new battery, or won't start with AC Adapter without a battery, then your PowerBook may need servicing. Please call 1-800-SOS-APPL or see your local Apple Authorized Service Provider.

Question: I am trying to connect a SCSI device to my PowerBook. However, when I start up the PowerBook, a diamond icon with a number appears on my screen.

Answer: Make sure you're using the correct cable, as it appears you have SCSI disk mode enabled. Use the Apple SCSI System Cable, part number: M2538LL/A, and appropriate SCSI termination.

Question: I'm trying to connect my PowerBook as an external hard drive (SCSI Disk Mode) to another Macintosh. When I turn on my PowerBook, I get a flashing question mark or a "Sad Mac" instead of the diamond icon with a SCSI ID number.

Answer: You may have the wrong cable. Use the Apple HDI-30 SCSI disk adapter cable, part number M2539LL/A, in conjunction with an Apple SCSI System Cable appropriate to your other Macintosh along with proper SCSI termination. Please refer to the Apple FaxInfo article on SCSI or refer to Chapter 14 in the User's Guide: "Expanding Your Computer System."

NOTE: SCSI Disk Mode is NOT supported on the following PowerBook models:
140, 145, 145B, 150, and 170.

Question: My battery lasts only a very short time. What can I do?

Answer: Follow the procedure detailed below.

1) Reset the power manager, following the procedure detailed in the first Q and A in this document.

2) Let the battery charge for 8 hours. This procedure should resolve the problem.

3) A few words about ongoing battery care: Completely discharge the battery after approximately 15 to 20 recharges. Here's how to do this:

Let the battery discharge completely until the PowerBook goes into sleep mode. You'll see three battery warning dialog boxes before this occurs. This process will "recycle" the nickel cadmium (NiCad) battery and eliminate a "memory effect," which makes the battery appear depleted when it is not.

Question: When starting up, my PowerBook displays the Fax Modem extension icon with an "X" through it. I can't use my modem to send a fax.

Answer: Open the Preferences folder inside your System Folder and trash the Fax Preferences file, empty the Trash, and restart your PowerBook. The Fax preference file can be corrupted due to a system error or screen freeze, disabling the Fax Modem extension as a result.

Apple recommends using Express Modem software 1.0.4 or later to permanently resolve this problem. Contact your local dealer or call 1-800-SOS-APPL to receive a copy.

Question: My PowerBook 140, 145, 160, or 165 display is blurry or displaying shadowing and ghosting effects. What can I do?

Answer: Open the Monitors control panel and select "Black & White" instead of 16 Shades of Gray. The type of screen technology used on these PowerBook models is susceptible to shadowing and ghosting, since it doesn't individually address each pixel on the display. These effects are less noticeable in Black & White mode, but cannot be eliminated completely.

You can also try adjusting your brightness and contrast controls to minimize the effect.

Question: How can I get the smiling Macintosh icon (often called "Happy Mac") and the "Welcome to Macintosh" dialog box displayed at startup on my external monitor?

Answer: Open the Monitors control panel, hold down the option key and drag the "Happy Mac" icon which appears to monitor image marked 2. After you restart your PowerBook, the icon and dialog box will appear on your external monitor.

Question: My external monitor is not displaying an image when I start up my PowerBook.

Answer: Follow this procedure:

1) Make sure the video cable connected to both the PowerBook video port and the Monitor video port is secure.

2) Make sure the PowerBook is plugged into the AC Adapter, which is required to use an external monitor.

3) Open the Monitors control panel. You should see images of two monitors, representing the PowerBook display and the external monitor. If don't see the image of the external monitor, repeat steps 1 and 2.

4) In the Monitors control panel, click (and hold) the "Identify" button. A large 2 should be displayed on the external monitor icon.

Tip: If you wish to use the External monitor as your primary monitor, open the Monitors control panel and drag the menu bar image from the internal to the external monitor. The menu bar will be displayed on the external monitor once you restart the PowerBook.

Question: How much does an All-In-One PowerBook weigh?

Answer: All in One PowerBook computers (any PowerBook model with a built in floppy disk drive) weigh 6.8 pounds. The PowerBook 150 weighs 4.5 pounds.

Question: What features are included in an All in One PowerBook?

Answer: All-In-One PowerBook computers (any PowerBook model with a built in floppy disk drive) all have the following features:

* ADB port (for external mouse or keyboard)
* Built-in floppy drive
* External SCSI port
* Internal modem slot
* Microphone port
* Speaker port
* Two serial ports, except the PowerBook 150 (one supports LocalTalk)

Additionally, PowerBook models 160, 165 and 180 have:

* Built-in microphone (The grill located beneath the display.)
* Video out port
* SCSI Disk Mode. SCSI Disk Mode allows you to attach the PowerBook via
a special cable to another Macintosh. The PowerBook then appears on
the other Macintosh desktop as an external hard disk.

Question: What is a System Enabler, why do I need it, and which version should I use?

Answer: A System Enabler provides system software code for your specific PowerBook to work with System Software. It is required and must be located in your system folder to function. A number of different system enablers have been released:

* System Enabler 111 was released with PowerBook models 160 and 180.
* System Enabler 121 was released with PowerBook model 165c.
* System Enabler 131 was released with PowerBook model 180c.

Additionally, System Enabler 131 supports all PowerBook models listed above. The current version of system enabler 131 is 1.0.3, but this is subject to change.

PowerBook models 100, 140, 145, and 170 do not require a System Enabler, regardless of the system software version they use.
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HyperCard: Script to Convert Dollar Amounts to Words (7/92)

Handler Name: dollarsToWords,numToStr,upperCase

This function converts a number of dollars into words, just as you do when writing a check. Try this: answer dollarsToWords(1234567.89)

This article has been archived and is no longer updated by Apple.

```
function dollarsToWords num
get offset(".",num) -- any cents?
if it <> 0 then put return into char it of num
put line 1 of num into dollars
put line 2 of num into cents
put numToStr(dollars) into result
put upperCase(char 1 of result) into char 1 of result
if cents > 0 then put " and " & cents & "/100" after result
return result
end dollarsToWords

function numToStr num
put empty into result

-- trillions, billions, millions, thousands
repeat with i = 1 to 4
put length(num) - (15-3*i) into lastDigit
if lastDigit <= 0 then next repeat
put char 1 to lastDigit of num into thisNum
delete char 1 to lastDigit of num
if thisNum = 0 then next repeat
put numToStr(thisNum) after result
put item i of " trillion, billion, million, thousand" after result
if num = 0 then return result
put ", " after result
end repeat

-- hundreds
if num > 99 then
put numToStr(char 1 of num) & " hundred" after result
delete char 1 of num
if num = 0 then return result
put " " after result
else if char 1 of num is 0 then delete char 1 of num

put "twen,thir,four,fif,six,seven,eigh,nine" into prefixes

-- twenty..ninety
if num > 19 then
put item (char 1 of num) - 1 of prefixes & "ty" after result
delete char 1 of num
if num = 0 then return result
put "-" after result
end if

-- thirteen..nineteen
if num > 12 then
put item num - 11 of prefixes & "teen" after result
return result
end if

-- zero..twelve
return result & item num + 1 of ┬
"zero,one,two,three,four,five,six,seven,eight,nine,ten,eleven,twelve"
end numToStr
```

```
function upperCase ch
get charToNum(ch)
if it < 97 then return ch
else return numToChar(it - 32)
end upperCase
```

This article is adapted from the Claris Tech Info database.
Published Date: Feb 19, 2012

HyperCard 2.0v2: Anchored Record in Report Definition (7/92)

There is a feature of 2.0v2 where only the top-left record in the report definition page becomes anchored in the corner. This article describes what to do.

This article has been archived and is no longer updated by Apple.
1) Choose the ImageWriter, choose Page Setup from the File menu, and choose No gaps between pages.

2) Choose Print Report from the File menu, and drag the top-left record into the top-left corner.

3) Choose the LaserWriter.

4) Choose Print Report, and drag a record other than the top-left one.

This article is adapted from the Claris Tech Info database.
Published Date: Feb 19, 2012

HyperTalk: Creating an Array of Globals (8/93)

The following handler creates a global variable array -- a set of consecutively-numbered global variable names: for example X1, X2, X3, and so on.

This article has been archived and is no longer updated by Apple.

```
on mouseUp
repeat with i = 1 to 10
do "Global X" & i
do "put 0 into X" & i -- optional
end repeat
end mouseUp
```

This article is adapted from the Claris Tech Info database.
Published Date: Feb 19, 2012

HyperCard: Caps Lock Crashes MovieInfo XFCN (8/93)

If the Caps Lock key is down when the MovieInfo XFCN is called, HyperCard crashes.

This article has been archived and is no longer updated by Apple.
The only workaround is to make sure that the Caps Lock key is not down before calling this function.

This article is adapted from the Claris Tech Info database.
Published Date: Feb 19, 2012

HyperCard through 2.1: Cards Print Smaller than Expected (7/92)

When printing cards to any printer, the card size always prints a fraction of a percentage smaller than specified.

This article has been archived and is no longer updated by Apple.
This problem exists in every version of HyperCard through 2.1.

This article is adapted from the Claris Tech Info database.
Published Date: Feb 19, 2012

HyperCard: Behavior of Click Command (7/92)

There might be a circumstance when HyperCard users set the lockscreen to true, scroll a field, and then click at a location that they think will be a line not currently visible.

This does not work. Next they might try and do the same thing without the lockscreen set to true, and it does work. What's going on?

This article has been archived and is no longer updated by Apple.
The click command works only on a REAL screen location rather than an intended one.

In the situation given, HyperCard does store the scroll of the screen in an internal data structure, but it is not available with the click command because it can't access internal data structures -- only the actual screen location. Therefore, try unlocking the screen before clicking at the new location.

This article is adapted from the Claris Tech Info database.
Published Date: Feb 19, 2012

Macintosh : Bomb and ID=02 Errors On Older Macintosh

PROBLEM DESCRIPTION: Getting random "Bomb and ID=02" errors on the Macintosh.
This article has been archived and is no longer updated by Apple.

CAUSE: Static charge on the old type of CRT is arcing, causing errors.

CURE: Locate the band holding the CRT to the front of the Macintosh. If the band has black tape around it, then it is the old CRT and this fix could work. If an old CRT, put the electrical insulating washers between the front of the Macintosh and each screw holding the CRT band. If the problem still is not saved, search on "Macintosh General Troubleshooting" for additional information.

Published Date: Feb 19, 2012

HyperCard 2.1, 32-Bit Addressing: Distort Crashes HC (3/93)

Use of the Distort command in HyperCard 2.1 while 32-bit addressing is on crashes HyperCard. There is currently no workaround.

This article has been archived and is no longer updated by Apple.
Distort is available under the Options menu when graphics are selected with the selection rectangle.

This article is adapted from the Claris Tech Info database.
Published Date: Feb 19, 2012

HyperCard: Script to Execute a Statement for Each Button (7/92)

This handler repeatedly executes a given statement for each button in the current card or background.

This article has been archived and is no longer updated by Apple.

```
on doToEachButton whatToDo,options
if options is not "bkgndOnly" then
repeat with i = 1 to the number of buttons
send whatToDo to button i
end repeat
end if
if options is not "cardOnly" then
repeat with i = 1 to the number of bkgnd buttons
send whatToDo to bkgnd button i
end repeat
end if
end doToEachButton
```

This article is adapted from the Claris Tech Info database.
Published Date: Feb 19, 2012

HyperCard: How to Find the Center of a Rectangle (7/92)

This little utility script is used to find the point that's at the center of a rectangle.

This article has been archived and is no longer updated by Apple.

```
function centerOfRect rect
put item 3 of rect - item 1 of rect into width
put item 4 of rect - item 2 of rect into height
return round(item 1 of rect+width/2)&","&round(item 2 of rect + height/2)
end centerOfRect
```

This article is adapted from the Claris Tech Info database.
Published Date: Feb 19, 2012

HyperCard: Problem with Font/DA Mover Before 3.8 (11/92)

Users of an older version of Font/DA mover (3.6, etc.,) will not see their fonts in the Font menu.

This article has been archived and is no longer updated by Apple.
Solution: use Font/DA Mover 3.8 or later.

This article is adapted from the Claris Tech Info database.
Published Date: Feb 19, 2012

HyperCard: Font Selection Unavailable in Print Report (8/93)

If you delete the Font menu in a stack, you will not be able to select a font from the Font pop-up field in the Item Info dialog box under Print Report.

This article has been archived and is no longer updated by Apple.
To restore the font selection option, reset the menu bar before going to Print Reports. (Type "Reset Menubar" in the message box and press the Return key.)

This article is adapted from the Claris Tech Info database.
Published Date: Feb 19, 2012

HyperCard Correction: Globals Retained After Open Command (7/93)

It is written that "When you quit the application you go to the card you were on in HyperCard when you executed the Open command. However, any global variables you had previously declared are now gone, and any portions of handlers that remained unfinished when you executed the open command do not finish."

This is not entirely true.

This article has been archived and is no longer updated by Apple.
Portions of handlers following the Open command will continue to execute in the background. Global variables are retained after quitting an application launched with the Open command.

This article is adapted from the Claris Tech Info database.
Published Date: Feb 19, 2012

HyperCard: Script to Go Back to Previous Stack (7/92)

The handler GoBackStack takes you back to the stack you were in before the current one. It uses information that is saved by rememberStack.

RememberStack is called from the closeStack handler in this stack. That means you can only go back to stacks that pass closeStack, so make sure all your favorite stacks do so.

This article has been archived and is no longer updated by Apple.

```
on rememberStack
global backTrackStacks
get short name of this stack
if it is not last line of backTrackStacks -- prevent consecutive duplicates
then put it & return after backTrackStacks
end rememberStack

on goBackStack
global backTrackStacks
get backTrackStacks
put last line of it into dest
delete last line of it
if dest is empty then go home else go to stack dest
put it into backTrackStacks -- global changed during go
end goBackStack
```

This article is adapted from the Claris Tech Info database.
Published Date: Feb 19, 2012

HyperCard: Script to Check for Picture (7/92)

This function tells you if there is a picture on the current card or background, depending on editBkgnd.

This article has been archived and is no longer updated by Apple.

```
function hasPicture
put the tool into saveTool
put the lockScreen into saveLockScreen
lock screen
choose select tool

doMenu "Select All"
doMenu "Select"
get the tool is "lasso tool"

choose saveTool
set lockScreen to saveLockScreen
return it
end hasPicture
```

This article is adapted from the Claris Tech Info database.
Published Date: Feb 19, 2012

HyperCard: Script to Check for Clicked Object (7/92)

This function takes a point and tells you which object is at that location.
If you pass it the point returned by the clickLoc function, you can tell
which object the user clicked on.

This article has been archived and is no longer updated by Apple.

```
function hitTest point
repeat with i = 1 to the number of card buttons
if point is within rect of card button i
then return "card button id " & short id of card button i
end repeat
repeat with i = 1 to the number of card fields
if point is within rect of card field i
then return "card field id " & short id of card field i
end repeat
repeat with i = 1 to the number of bkgnd buttons
if point is within rect of bkgnd button i
then return "bkgnd button id " & short id of bkgnd button i
end repeat
repeat with i = 1 to the number of bkgnd fields
if point is within rect of bkgnd field i
then return "bkgnd field id " & short id of bkgnd field i
end repeat
if globalPoint(point) is within rect of card window
then return "card id " & short id of this card
return empty -- no such object
end hitTest
```

This article is adapted from the Claris Tech Info database.
Published Date: Feb 19, 2012

HyperCard 2.0: Conflict with Icon Wrap INIT (7/92)

HyperCard 2.0 crashes when the down-arrow key is pressed.

This article has been archived and is no longer updated by Apple.
This could be due to a conflict between HyperCard and an INIT called Icon Wrap. If so, remove the INIT, then restart the computer.

Icon Wrap patches a ROM routine called CopyBits, and stays around after loading. A newer version of Icon Wrap solves the problem.

This article is adapted from the Claris Tech Info database.
Published Date: Feb 19, 2012

Parallel Interface Card: Product Description (11/96)

This article describes the Apple II Parallel Interface card and includes other related information.

This article has been archived and is no longer updated by Apple.

DB-25 Connector Pinout

DB-25
Connector Signal Name

1.....Data In, Bit 0
2.....Signal Ground
3.....Data In, Bit 2
4.....Signal Ground
5.....Data Out, Bit 0
6.....Data Out, Bit 1
7.....Blocked
8.....Data Out, Bit 2
11.....Data Out, Bit 5
12.....Data Out, Bit 6
13.....Data Out, Bit 7
14.....Data In, Bit 4
15.....Strobe Out
16.....Acknowledge In
17.....Data In, Bit 1
18.....Data In, Bit 7
19.....Data In, Bit 5
20.....Signal Ground
21.....Data In, Bit 6
22.....Data Out, Bit 3
23.....Data Out, Bit 4
24.....Signal Ground
25.....Data In, Bit 3

Switch Settings
==========

Strobe Length
---
1 microsecond -> SW1-1:Off, SW1-2:Off, SW1-3:Off
3 microseconds -> SW1-1:On, SW1-2:Off, SW1-3:Off
5 microseconds -> SW1-1:Off, SW1-2:On, SW1-3:Off
7 microseconds -> SW1-1:On, SW1-2:On, SW1-3:Off
9 microseconds -> SW1-1:Off, SW1-2:Off, SW1-3:On
11 microseconds -> SW1-1:On, SW1-2:Off, SW1-3:On
13 microseconds -> SW1-1:Off, SW1-2:On, SW1-3:On
15 microseconds -> SW1-1:On, SW1-2:On, SW1-3:On

Strobe Polarity

Positive -> SW1-4:Off
Negative -> SW1-4:On

Ack Polarity

Positive -> SW1-5:Off
Negative -> SW1-5:On

Firmware Select

Parallel (LF) -> SW1-6:Off
Centronics (No LF) -> SW1-6:On

Interrupts

Disable -> SW1-7:Off
Enable -> SW1-7:On

Interrupts should be enabled for the Apple III and disabled for the Apple II.

Switch Setting Explanations

Different peripherals (non-Apple printers, etc.) may use I/O signals that have different duration and polarity. The STROBE LENGTH, STROBE POLARITY, and ACK POLARITY switch settings on the Parallel Interface Card (2PIC) give you the flexibility to communicate with these other devices. For the I/O signal characteristics of the device you are connecting with, read its manual.

Controlling Bit 8

The following program enables you to control bit 8, used by some printers to select expanded or normal print mode or to enable alternate or graphics character sets. DOS 3.2 or DOS 3.3 is required to use this routine, which also works in the Apple III in Emulation mode.

Determine which slot your interface card is in and the corresponding slot code from the table. Replace "<slot>" with the slot number and "<code>" with the code when typing in the program.

slot 1 2 3 4 5 6 7
code C1 C2 C3 C4 C5 C6 C7

Enter the monitor with Call -155 and type:

```
3B0:A9 <slot>
:20 95 FE
:A9 80
:20 ED FD
:A9 C5
:85 36
:A9 03
:85 37
:4C EA 03
:29 7F
:0D CD 03
:4C 02 <code>
:80
```

To check your typing, type: 3B0L

Compare your listing to the one below configured for slot 1.

```
03B0- A9 01 LDA #$01
03B2- 20 95 FE JSR $FE95
03B5- A9 80 LDA #$80
03B7- 20 ED FD JSR $FDED
03BA- A9 C5 LDA #$C5
03BC- 85 36 STA $36
03BE- A9 03 LDA #$03
03C0- 85 37 STA $37
03C2- 4C EA 03 JMP $03EA
03C5- 29 7F AND #$7F
03C7- 0D CD 03 ORA $03CD
```

03CA- 4C 02 C1 JMP $C102
03CD- 80 ???

Enter 3D0G to return to Basic.

Save the driver to disk by typing: BSAVE CEN 730, A$3B0, L$1E

Load the driver and initialize the interface before using the printer. From command mode, type:

BLOAD CEN 730
Call 944

Or from a program: 100 Print D$;"BLOAD CEN 730" : Call 944, assuming that D$ is a CTRL-D.

To switch back to the video monitor for output type: PR#0
or in a program enter: 200 Print D$;"PR#0"

To reconnect the printer, all that is required is: Call 954, or from a program: 300 Call 954

To set normal print mode, type POKE 973,0; type POKE 973,128 to set the expanded print mode POKE.

Cable Pinouts

Here is a sample pinout for an Apple II parallel card to a parallel printer.

20-Pin Amphenol
DIL Connector Connector
(Female) (Male)
1 ---------- 14
2 ---------- 10
8 ---------- 1
10 ---------- 2
11 ---------- 3
12 ---------- 4
13 ---------- 5
14 ---------- 6
15 ---------- 7
16 ---------- 8
17 ---------- 9
20 ---------- 16

Article Change History:
19 Nov 1996 - Reviewed for technical accuracy, revised formatting.
Published Date: Feb 19, 2012

HyperCard: Script for Importing Comma-Separated Text (7/92)

This article provides a script that will import a comma-separated text file into HyperCard. It assumes that:
* There is a comma between fields.
* There is a return between records.
* If a field itself contains a comma, then the field has quote marks around (though it will work just as well if ALL fields have quotes around them).

This article has been archived and is no longer updated by Apple.

```
on mouseUp
answer file "Import from which file?" of type text
if it is empty then exit mouseUp
put it into fileName
open file fileName
go to last card
repeat forever

read from file fileName until return
if it is ∫mpty then
go to first card
close file fileName
exit mouseUp
else
doMenu "New Card"
put "," into last char of it
end if

repeat with x=1 to the number of fields
if char 1 of it is quote then
put char 2 to offset(quote&",",it) - 1 of it into field x
delete char 1 to offset(quote&",",it) of it
else
put char 1 to offset (",",it) - 1 of it into field x
delete char 1 to offset (",",it) of it
end if

end repeat
end repeat
end mouseUp
```

This article is adapted from the Claris Tech Info database.
Published Date: Feb 19, 2012

HyperCard: Importing Tab-Separated Text (8/93)

Here is a simple script that will import tab-separated text into a HyperCard 2.1 stack.

This article has been archived and is no longer updated by Apple.

```
on mouseUp
answer file "Choose the file to import" of type TEXT
if it is empty then exit mouseUp
put it into fileName
open file fileName
repeat
read from file fileName until return
if it is empty then
close file fileName
answer "Your data has been imported."
exit mouseUp
end if
doMenu "New Card"
put it into oneRecord
set the itemDelimiter to tab
repeat with i = 1 to the number of fields
put item i of oneRecord into bg fld i
end repeat
end repeat
end mouseUp
```

Note: The script will not work with earlier versions of HyperCard because it relies on the new ItemDelimiter property.

This article is adapted from the Claris Tech Info database.
Published Date: Feb 19, 2012

HyperCard: Disabling Option-Tab Key Combination (9/93)

How can I disable the keyboard shortcut (Option-Tab) for opening and closing HyperCard's Tools palette?

This article has been archived and is no longer updated by Apple.
Here's a handler that does it:

```
on KeyDown TheKey
if theKey = Tab and the optionKey is down then
exit keydown
else
pass keydown
end if
end KeyDown
```

By including this handler in your stack script, as part of simple error checking, this will prevent anyone from accidentally hitting the keys to activate the Tool palette.

This article is adapted from the Claris Tech Info database.
Published Date: Feb 19, 2012

HyperCard: Printing Problem to Kodak Diconix (8/93)

My stack has a simple "Print Report" command in a custom menu. This menu item will not print to a Kodak Diconix 180si ink-jet printer from HyperCard 2.1, even though it prints fine to standard Apple printers.

This article has been archived and is no longer updated by Apple.
The stack will print to the Diconix if "Print Report" is chosen from the File menu. This represents a probable incompatibility between the Diconix driver and HyperCard. Kodak is aware of this problem. HyperCard is not certified with the Diconix printer.

This article is adapted from the Claris Tech Info database.
Published Date: Feb 19, 2012

HyperCard: Script for Drawing Line Charts (7/92)

This handler draws a line chart when you pass it some values. Try this: lineChart "3,4,5,6"

To erase the chart, type "clearPicture".

This article has been archived and is no longer updated by Apple.

```
on lineChart values,frame
if frame is empty
then put insetRect(localRect(rect of card window),10) into frame
clearPicture frame
put itemArray(values) into values -- convert to comma separated list
put max(values) into maxValue
put number of items in values into valueCount
put item 3 of frame - item 1 of frame into frameWidth
put frameWidth/valueCount into valueWidth
put valueWidth/2 into margin
put item 1 of frame + margin into firstLeft
put item 4 of frame - item 2 of frame - 2 * margin into frameHeight
put item 4 of frame - margin into chartBottom
put 2 into pointSize
reset paint
set pattern to 12
set filled to true
repeat with i = 1 to valueCount
put firstLeft + (i - 1) * valueWidth into pointH
put item i of values / maxValue into ratio
put chartBottom - ratio * frameHeight into pointV
choose rect tool
set centered to true
drag from round(pointH),round(pointV) to ┬
round(pointH)+pointSize,round(pointV)+pointSize
if i is not 1 then
choose line tool
set centered to false
drag from round(oldH),round(oldV) to round(pointH),round(pointV)
end if
put pointH into oldH
put pointV into oldV
end repeat
choose browse tool
end lineChart
```

This article is adapted from the Claris Tech Info database.
Published Date: Feb 19, 2012

HyperCard: Landscape Printing on a LaserWriter IINT (8/95)

HyperCard 2.0, 2.0v2, and 2.1 do not print a 640 x 480 card in landscape orientation to a LaserWriter IINT.

This article has been archived and is no longer updated by Apple.
The problem does NOT occur when:
* Printing to a Personal LaserWriter NT, or to a LaserWriter IINTX.
* Using Portrait orientation instead of landscape.

This article is adapted from the Claris Tech Info database.

Article Change History:
22 Aug 1995 - Made minor corrections.

Support Information Services
Published Date: Feb 19, 2012

HyperCard: Print Stack Problem w LaserWriter Select 300 (8/93)

If you have a LaserWriter Select 300 and using driver 1.0, you need to adjust the scaling of pages under Page Setup, or you will get 1-inch by 2-inch cards when you print a stack.

This article has been archived and is no longer updated by Apple.
A suggested scaling is 500%. This will print two cards per page when the Print Card size set to Full.

This article is adapted from the Claris Tech Info database.
Published Date: Feb 19, 2012

HyperCard: Handler for Moving Handlers Between Scripts (7/92)

Given the name of a handler and a script, this handler puts the text of the specified handler into the specified script, replacing the previous version of the handler in that script.

This article has been archived and is no longer updated by Apple.

```
function putHandler newHandler,scriptText
-- Place a handler into a script.
-- Given the name of a handler and a script, this handler puts
-- the text of the specified handler into the specified script,
-- replacing the previous version of the handler in that script.

put word 2 of newHandler into handlerName
put getHandler(handlerName,scriptText,true) into offsets
put item 1 of offsets into startChar
put item 2 of offsets into endChar
put newHandler & return into char startChar to endChar of scriptText
return scriptText
end putHandler
```

This article is adapted from the Claris Tech Info database.
Published Date: Feb 19, 2012

HyperCard: Script to Move an Object to the Background (7/92)

The moveToBkgnd handler asks you what object you want moved to the background. If the object moved is a field, then its text goes with it.

This article has been archived and is no longer updated by Apple.

```
on moveToBkgnd
put "Click on the object to move to the background..."
wait until the mouseClick
put empty
put hitTest(the clickLoc) into object
if "card button" is not in object and "card field" is not in object
then exit moveToBkgnd
select object
type "x" with commandKey
set editBkgnd to true
type "v" with shiftKey,commandKey -- paste text too
choose browse tool
end moveToBkgnd
```

This article is adapted from the Claris Tech Info database.
Published Date: Feb 19, 2012

HyperCard: Moving Icons Between Stacks (7/92)

This article describes how to copy icons from one stack to another.

This article has been archived and is no longer updated by Apple.
* If you understand ResEdit, you can use it to move an icon from one stack to another.

* An easier method is to use ResCopy, an XCMD available on many online services and from user groups.

* The Power Tools stack contains a card that copies resources.

* If you have none of the above, choose the Button tool while inside the stack with the icon you want to copy. Click on the button with that icon, and choose Button from the Edit menu. Go to the stack where you'd like to install the button, and choose Button from the Edit menu. The icon resource will be moved along with the button.

This article is adapted from the Claris Tech Info database.
Published Date: Feb 19, 2012

ImageWriter 15 PROBLEM/CURE: Prints Only 8" Wide in Self Test

This article has been archived and is no longer updated by Apple.

PROBLEM DESCRIPTION: During Self Test (initiated by turning on printer while pressing Form Feed) the ImageWriter 15 prints character sets only 8 inches wide (it should print test 15 inches wide).

CAUSE: ImageWriter 15 may have the wrong motherboard installed.

CURE: Locate the position for IC 22. If there is a chip installed at that position, then the PCB is for the ImageWriter 15. If not, then the PCB is for the ImageWriter 8.

Published Date: Feb 19, 2012

Compatibility Checker 7.1: There Is No HyperCard 2.1v1 (8/93)

The Compatibility Checker included with Apple's System 7.1 contains an error as it applies to HyperCard.

This article has been archived and is no longer updated by Apple.
The Compatibility Checker states that you must have version 2.1v1 of HyperCard in order to be compatible. This is not a valid version number for HyperCard. The latest version of HyperCard is simply 2.1 and it is the correct version to use with System 7.1.

However, labels on the outside of retail packages of HyperCard 2.1 may be labeled in error as "HyperCard 2.1.1".

This article is adapted from the Claris Tech Info database.
Published Date: Feb 19, 2012

HyperCard 2.0 Does Not Have numberofchars Feature (7/92)

The HyperCard Script Language Guide (U90-614-001A) contains an error on page 233. It says you can execute the following command:

read from file filename at start for numberofchars

This article has been archived and is no longer updated by Apple.
This feature is part of HyperCard IIGS, but not of HyperCard 2.0.

This article is adapted from the Claris Tech Info database.
Published Date: Feb 19, 2012

HyperCard 2.0v2, Oracle, and Home Stack Versions (7/92)

The 2.0v.2 Home stack should be used with HyperCard 2.0v.2. The two must run hand-in-hand. Some of the bug fixes from 2.0v.1 to 2.0v.2 contained fixes to the application and the Home stack as well. The same is true of 2.1.

This article has been archived and is no longer updated by Apple.
This may be a particular problem for Oracle users. Oracle is a mainframe database application that uses HyperCard as an interface or "front-end" for the Macintosh. Installation of the Oracle XCMDs modifies the Home stack.

Oracle users have reported that when they use the Home stack from an older version of HyperCard with HyperCard 2.0, their application slows down considerably.

This article is adapted from the Claris Tech Info database.
Published Date: Feb 19, 2012

HyperCard: Script for Drawing Pie Charts (7/92)

This handler draws a pie chart when you pass it some values.
Try this: pieChart "3,4,5,6,7,8"

To erase the chart, type "clearPicture".

This article has been archived and is no longer updated by Apple.

```
if frame is empty
then put insetRect(localRect(rect of card window),10) into frame
clearPicture frame
put itemArray(values) into values -- convert to comma separated list
put sum(values) into total
put number of items in values into valueCount
put item 3 of frame - item 1 of frame into frameWidth
put item 4 of frame - item 2 of frame into frameHeight
put min(frameWidth,frameHeight)/2 into radius
reset paint
get centerOfRect(frame)
put item 1 of it into centerH
put item 2 of it into centerV
choose oval tool
set lineSize to 2
set centered to true
drag from centerH,centerV to ┬
round(centerH+radius),round(centerV+radius)
choose line tool
set centered to false
drag from centerH,centerV to centerH,round(centerV-radius)
put zero into angle
repeat with i = 1 to valueCount
put pi * item i of values / total into halfChange
add halfChange to angle
put centerH + round((radius-3) * sin(angle)) into halfH
put centerV - round((radius-3) * cos(angle)) into halfV
add halfChange to angle
put centerH + round(radius * sin(angle)) into h
put centerV - round(radius * cos(angle)) into v
choose line tool
drag from centerH,centerV to h,v
if halfChange > .01 then -- don't try to fill very small wedges
set pattern to item (i mod 12)+1 of "2,13,11,3,14,6,21,17,31,18,4,32"
choose bucket tool
click at halfH, halfV
end if
end repeat
choose browse tool
end pieChart
```

This article is adapted from the Claris Tech Info database.
Published Date: Feb 19, 2012

HyperCard Player: Out of Memory Error or Window Resize (9/93)

In the Development Kit version of HyperCard 2.x, the handle to an XCMD is only locked when the XCMD is executed. After the XCMD has executed, its handle is unlocked so the memory manager can move the XCMD if it needs to.

This article has been archived and is no longer updated by Apple.
The HyperCard Player, however, does not unlock the handle after executing the code. This can result in serious memory fragmentation. The two most common symptoms of this problem are:
* out of memory message
* a stack opened in a new window opens at less than its normal size, which brings up the scroll box.

This article is adapted from the Claris Tech Info database.
Published Date: Feb 19, 2012

HyperCard: Handler for Protecting Button Scripts (7/92)

Here's a handler that asks for user confirmation before deleting any button that has a script.

This article has been archived and is no longer updated by Apple.

```
on protectButton whichButton
if script of whichButton is empty
then exit protectButton
answer "Delete " & whichButton & "?" with "OK" or "Cancel"
if it is not "OK" then select empty
end protectButton
```

This article is adapted from the Claris Tech Info database.
Published Date: Feb 19, 2012

HyperCard 1.x: "Protect Stack" Manual Correction

This article corrects a small error in an early version of the HyperCard Reference Manual.
This article has been archived and is no longer updated by Apple.
Page 120 says that if you check the "Can't Abort" check box in the "Protect Stack" dialog box that it will remain in effect "only until you leave the stack."

This is incorrect. The "Can't Abort" property will stay on even if you leave the stack.

This article is adapted from the Claris Tech Info database.
Published Date: Feb 19, 2012

QuickTime and HyperCard: Closing External Windows (7/92)

Both the Palette XCMD and the Picture XCMD -- and now the Movie XCMD -- will send a message to the current card signaling that a window is closing. These messages are, respectively, closePalette, closePicture, and closeMovie.

The parameters sent with the message identify the window that is closing: The first parameter is the window's name and the second parameter is the window's ID (window IDs are new in HyperCard 2.1). The message is sent when the window closes, either via a click in a close box, or by executing a "close window" statement.

This article has been archived and is no longer updated by Apple.
Stack designers can define a closePalette, closePicture, or closeMovie handler to take care of any cleaning up or updating when a window is closed.

One restriction: Don't try to close the window again within a closePalette, closePicture, or closeMovie handler. The script can STILL refer to the window, for example, getting (or even setting) the window's location. The script can also close other windows -- but HyperCard will crash if the script tries to close the window (e.g., close window id (the param of 2)).

This article is adapted from the Claris Tech Info database.
Published Date: Feb 19, 2012

HyperCard: Script to Sort Multiple Lines (7/92)

Handler Name: quickSort, bubbleSort, merge

This handler, called QuickSort, takes a multiple-line expression and sorts it into ascending alphabetical order.

This article has been archived and is no longer updated by Apple.

```
function quickSort data
put number of lines in data into lineCount
if lineCount <= 10 then return bubbleSort(data)
return merge(quickSort(line 1 to lineCount div 2 of data),
quickSort(line lineCount div 2 + 1 to lineCount of data))
end quickSort

function bubbleSort data
repeat with i = 1 to the number of lines in data
repeat with j = i to the number of lines in data
if line i of data > line j of data then
get line j of data
put line i of data into line j of data
put it into line i of data
end if
end repeat
end repeat
return data
end bubbleSort

function merge list1,list2
put empty into resultList
put 1 into ptr1
put 1 into ptr2
put number of lines in list1 into lineCount1
put number of lines in list2 into lineCount2
repeat until ptr1 > lineCount1 and ptr2 > lineCount2
if ptr1 > lineCount1 then -- use list2
put line ptr2 of list2 & return after resultList
add 1 to ptr2
else if ptr2 > lineCount2 then -- use list1
put line ptr1 of list1 & return after resultList
add 1 to ptr1
else if line ptr1 of list1 < line ptr2 of list2 then
put line ptr1 of list1 & return after resultList
add 1 to ptr1
else
put line ptr2 of list2 & return after resultList
add 1 to ptr2
end if
end repeat
return resultList
end merge
```

This article is adapted from the Claris Tech Info database.
Published Date: Feb 19, 2012

HyperCard: Handler to Select Multiple Objects (7/92)

This handler allows you to select multiple parts (buttons and fields) by specifying the rectangle that contains them. After you've selected them, you can perform operations on all of them using alignParts, deleteParts, offsetParts, and pasteParts.

This article has been archived and is no longer updated by Apple.

```
on rectSelectParts
-- Group selection by specifying a rectangle.
-- Select a group of parts by clicking at topLeft and bottomRight
-- of enclosing rectangle.

global selectedParts,selectedPartsCard
put empty into selectedParts
put long name of this card into selectedPartsCard
put "Click at top left..."
wait until the mouseClick
put the clickLoc into topLeft
put "Click at bottom right..."
wait until the mouseClick
put the clickLoc into botRight
put topLeft & "," & botRight into selectionRect
repeat with i = 1 to the number of buttons
if loc of button i is within selectionRect
then put "card button id " & id of button i & return after selectedParts
end repeat
repeat with i = 1 to the number of bkgnd buttons
if loc of bkgnd button i is within selectionRect
then put "bg btn id " & id of bg btn i & return after selectedParts
end repeat
repeat with i = 1 to the number of fields
if loc of field i is within selectionRect
then put "bkgnd field id " & id of field i & return after selectedParts
end repeat
repeat with i = 1 to the number of card fields
if loc of card field i is within selectionRect
then put "card field id " & id of card field i & return after selectedParts
end repeat
put the number of lines in selectedParts & " parts selected."
end rectSelectParts
```

This article is adapted from the Claris Tech Info database.
Published Date: Feb 19, 2012

HyperCard 1.2.5: The Repair Stack

Some HyperCard 1.2.5 stacks can become damaged in a way that lets you view all but a few "broken" cards in the stack. When you try to go to a damaged card, you could get the error "Unknown Error 5534" or something similar. These stacks will not convert well into HyperCard 2.0, if they can be opened at all.
This article has been archived and is no longer updated by Apple.
There is no way for you to recover the information in the damaged cards. But you might be able to discard the damaged cards and create a new stack that works properly.

Two years ago, Apple Computer released a simple utility, named Recover, that lets you try to salvage the good cards in the stack. It works by copying cards one by one into a new stack, and skipping bad cards.

This utility is available from GEnie, CompuServe, and user groups.

This article is adapted from the Claris Tech Info database.
Published Date: Feb 19, 2012

HyperCard: Automatically Returning to First Card on Idle (4/93)

I'm writing a HyperCard stack to control a directory kiosk for our museum. I would like to have the program automatically return to the first screen if it has not been used for over 30 seconds. How would I go about adding this feature to my stack?"

This article has been archived and is no longer updated by Apple.
Here is one way to implement this feature. The following script will automatically return to the first card in a stack when it has remained on any card for more than 30 seconds and the mouse has not moved. If you are performing some operations and you would like to reset the time manually, you can call the resetTime handler which has the same affect as moving the cursor. The time will be automatically reset when the user goes to a new card so it is not necessary to reset the time when going to a new card.

Put this code in a stack or background script:

```
on openCard
global startTime, cursorLoc
put the long time into startTime
convert startTime to seconds
put the mouseLoc into cursorLoc
end openCard

on idle
global startTime, cursorLoc
-- Change the next line to set your time limit.
put 30 into timeLimit
-- Change the next line to set the return card number.
put 1 into returnCard
put the mouseLoc into currentLoc
if cursorLoc <> currentLoc then
put currentLoc into cursorLoc
resetTime
end if
put the long time into endTime
convert endTime to seconds
if (endTime - startTime) > timeLimit then
if the number of this card <> returnCard then
go to card returnCard
end if
resetTime
end if
end idle

on resetTime
global startTime
put the long time into startTime
convert startTime to seconds
end resetTime
```

This article is adapted from the Claris Tech Info database.
Published Date: Feb 19, 2012

HyperCard: Script to Indent Text Automatically (7/92)

The returnInField handler makes a field indent its text automatically.

This article has been archived and is no longer updated by Apple.

```
on returnInField
get the value of the selectedLine
put empty into indent
repeat with i = 1 to the number of chars in it
if char i of it is " " then put " " after indent
else exit repeat
end repeat
send returnInField to HyperCard
put indent after the selection
end returnInField
```

This article is adapted from the Claris Tech Info database.
Published Date: Feb 19, 2012

HyperCard 2.1: Stacks Reverting/Defaulting to Userlevel 2 (7/92)

The HyperCard binary is automatically set to start up at userlevel 2 in all versions being distributed at this date (Lite, Upgrade, Development Kit).

In the Upgrade and the Development Kit versions, the userlevel is changed by an "on Startup" script in the home card.

This article has been archived and is no longer updated by Apple.
If you try to start HyperCard by double-clicking a stack of your creation from the Finder, it will start up at userlevel 2, even though you have gone into the Home card during a previous session and changed the userlevel to 5. As a matter of fact, if you go back to the Home card after having done this, the userlevel will be reset to 2.

This will happen if you create an "on Startup" script in your new stack and fail to add a "pass startup" command in the script. Without the "pass startup" command, the Home card never receives the message it needs to invoke the script to set the userlevel to 5. As a result, the userlevel goes to the default userlevel 2. By adding the "pass startup" command everything should work OK.

This article is adapted from the Claris Tech Info database.
Published Date: Feb 19, 2012

HyperCard: Handler for Writing Scripts (7/92)

This function takes a script as a parameter and returns a script that can reproduce the original script. It's useful for encoding scripts into other scripts.

This article has been archived and is no longer updated by Apple.

```
function writeScript sourceScript,varName

if varName is empty then put "scriptVar" into varName
put quoteLines(sourceScript) into resultScript
repeat with i = 1 to the number of lines in resultScript
put "put " before line i of resultScript
put " after " & varName after line i of resultScript
end repeat
put "put empty into " & varName & return before resultScript
return resultScript
end writeScript
```

This article is adapted from the Claris Tech Info database.
Published Date: Feb 19, 2012

HyperCard: Search & Replace Handler (7/92)

The replacePrompt handler searches for text, asks for permission, then replaces it with a new string if you let it.

This article has been archived and is no longer updated by Apple.

```
on replacePrompt old,new
repeat
send "find string" & quote & old & quote to HyperCard -- no overriding
if the result is not empty then exit replacePrompt -- done
answer "Replace this one?" with "No" or "Yes"
if it is "No" then next repeat
do "put new into " & the foundChunk
end repeat
end replacePrompt
```

This article is adapted from the Claris Tech Info database.
Published Date: Feb 19, 2012

HyperCard: Handler for Selecting Groups of Cards (7/92)

This handler adds the current card to the list of selected cards. After you've selected a group of cards, you can perform operations on all of them using doToSelectedCards.

This article has been archived and is no longer updated by Apple.

```
on selectCard clearSelection
-- Group selection of cards.
-- This handler adds the current card to the currently
-- selected cards or clears the list of currently selected cards:

global selectedCards
if clearSelection is not empty then
put empty into selectedCards
put "No cards selected."
else
get long id of this card
if it is in selectedCards
then put word 1 to 3 of it & " is already selected."
else
put it & return after selectedCards
put word 1 to 3 of it & " is now selected."
end if
end if
end selectCard
```

This article is adapted from the Claris Tech Info database.
Published Date: Feb 19, 2012

HyperCard: Handler for Selecting Backgrounds (7/92)

This handler adds the current background to the list of selected backgrounds. After you've selected a group of backgrounds, you can perform operations on all of them using doToSelectedBkgnds.

This article has been archived and is no longer updated by Apple.

```
on selectBkgnd clearSelectionFlag
-- Group selection of backgrounds.
-- This handler adds the current background to the
-- currently selected backgrounds or clears the list
-- of currently selected bkgnds:

-- selectBkgnd clear -- any non-empty parameter clears
-- previous selection
-- selectBkgnd -- adds current bkgnd to the list of
-- selected bkgnds

global selectedBkgnds
if clearSelectionFlag is not empty
then put empty into selectedBkgnds
else -- get around bug in long id of bkgnd
get "bkgnd id " & id of this bkgnd & " of " & name of this stack
put it & return after selectedBkgnds
end if
end selectBkgnd
```

This article is adapted from the Claris Tech Info database.
Published Date: Feb 19, 2012

HyperCard: Handler to Select Multiple Objects (7/92)

This handler allows you to select multiple parts (buttons and fields) by clicking on them. After you've selected them, you can perform operations on all of them using alignParts, deleteParts, offsetParts, and pasteParts.

This article is constrained to a shorter line length than HyperCard scripts can have; you'll have to make adjustments.

This article has been archived and is no longer updated by Apple.

```
on selectParts
-- Group selection: click on parts
-- Set card script to catch mouseDown and eat mouseUp

global saveCardScript,selectedParts,selectedPartsCard
put empty into selectedParts
put long name of this card into selectedPartsCard
put script of this card into saveCardScript
choose browse tool
put "Click on the parts you wish to select. Press enter to stop."

-- write a script
put "on mouseDown" & return into scriptVar
put " global selectedParts" & return after scriptVar
put " put the shiftKey is down into deselectFlag" & return after scriptVar
put " if " & quote & "button" & quote & " is not in the target and " & quote
& "field" & quote & " is not in the target" & return after scriptVar
put " then put " & quote & "There is no part there." & quote & return after
scriptVar
put " else" & return after scriptVar
put " get the target" & return after scriptVar
put " if " & quote & "id" & quote & " is not word 3 of it" & return after
scriptVar
put " then put " & quote & "id " & quote & " & id of the target into last
word of it" & return after scriptVar
put " if deselectFlag then" & return after scriptVar
put " if it is not in selectedParts" & return after scriptVar
put " then put the target & " & quote & " is not selected." & quote &
return after scriptVar
put " else" & return after scriptVar
put " put offset(it & return,selectedParts) into startChar" & return
after scriptVar
put " delete char startChar to startChar + length(it) of
selectedParts" & return after scriptVar
put " put the target & " & quote & " is now deselected." & quote &
return after scriptVar
put " end if" & return after scriptVar
put " else" & return after scriptVar
put " if it is in selectedParts" & return after scriptVar
put " then put the target & " & quote & " is already selected." & quote
& return after scriptVar
put " else" & return after scriptVar
put " put it & return after selectedParts" & return after scriptVar
put " put the target & " & quote & " is now selected." & quote &
return after scriptVar
put " end if" & return after scriptVar
put " end if" & return after scriptVar
put " end if" & return after scriptVar
put " exit to HyperCard" & return after scriptVar
put "end mouseDown" & return after scriptVar
put return after scriptVar
put "on doneSelecting" & return after scriptVar
put " global saveCardScript,selectedParts" & return after scriptVar
put " set script of this card to saveCardScript" & return after scriptVar
```

```
put " put the number of lines in selectedParts & " & quote & " parts
selected" & quote & return after scriptVar
put "end doneSelecting" & return after scriptVar
put return after scriptVar
put "on closeCard" & return after scriptVar
put " doneSelecting" & return after scriptVar
put "end closeCard" & return after scriptVar
put return after scriptVar
put "on enterKey" & return after scriptVar
put " doneSelecting" & return after scriptVar
put "end enterKey" & return after scriptVar

set script of this card to scriptVar
end selectParts
```

This article is adapted from the Claris Tech Info database.
Published Date: Feb 19, 2012

HyperCard: Menu with Shift or Command Key (7/92)

Although HyperCard does not directly support invoking menu commands that involve keyboard modifiers (Shift and Command, for example) there are ways to circumvent this limitation via HyperTalk. This article provides some sample handlers.

This article has been archived and is no longer updated by Apple.
This handler does the same thing as choosing Paste from the Edit menu:

```
on mouseUp
type "v" with commandKey
end mouseup
```

This handler does the same thing as choosing Cut from the Edit menu:

```
on mouseUp
type "x" with commandKey
end mouseup
```

This handler does the same thing as choosing Copy from the Edit menu:

```
on mouseUp
type "c" with commandKey
end mouseup
```

To invoke menu commands which involve keyboard modifiers, you would write a script like this one, which does Shift-Command-Paste:

```
on mouseUp
type "v" with commandKey,shiftKey
end mouseup
```

This article is adapted from the Claris Tech Info database.
Published Date: Feb 19, 2012

Parallel/Centronics Card Pin-Out

This article has been archived and is no longer updated by Apple.

```
These two cards although different in name, are virtually identical apart
from those differences outlined below.


PIN OUTS (same for both cards)

20 Pin Header     Signal Name
1..........Ground - Pin 1 and 20 must be used.
2..........ACK (Handshake)
8..........Strobe out
10.........Bit 0 (LSB)
11.........Bit 1
12.........Bit 2
13.........Bit 3
14.........Bit 4
15.........Bit 5
16.........Bit 6
17.........Bit 7 (MSB)
20.........Ground - Pin 1 and 20 must be used


NOTE:  The differences between the two cards are as follows.

CENTRONICS:

The Centronics card is supplied with the PROM P9 (341-0019) installed and
does NOT add a linefeed after carriage return.  The Jumper block is
pre-configured for negative STROBE and positive acknowledge (ACK) signals.


PARALLEL:

The Parallel card is supplied with the PROM P1 (341-0005) installed and does
add a linefeed after carriage return.  With this card you must wire the
jumper block yourself.  For further information please refer to page 6 of
the card's manual.
```

Published Date: Feb 19, 2012

HyperCard: Text Styles Are Lost During Sorting (7/92)

Why are text styles lost when I do a sort in HyperCard?

This article has been archived and is no longer updated by Apple.
When the contents of a field are sorted, text styles are lost because the sorted text is redrawn using the default text styles for the field.

This article is adapted from the Claris Tech Info database.
Published Date: Feb 19, 2012

HyperCard Reports: Use Straight, Not Curly, Quotes (7/92)

If a report item you're creating in the new report templates area of HyperCard 2.0 is showing up blank no matter what you do to the "item contents," be sure you're not using curly quotes instead of the straight quotes that HyperCard expects to see.

This article has been archived and is no longer updated by Apple.
Even a single curly quote (produced with the keyboard's Option-[and Option-Shift-[) will make the item appear blank.

This article is adapted from the Claris Tech Info database.
Published Date: Feb 19, 2012

HyperCard: Script to Sum a List of Numbers (7/92)

This function adds up a series of numbers. It demonstrates how to process both item lists and separate parameters.

This article has been archived and is no longer updated by Apple.

```
function sum
put 0 into total
repeat with paramNum = 1 to the paramCount
put param(paramNum) into list
repeat with i = 1 to the number of items in list
add item i of list to total
end repeat
end repeat
return total
end sum
```

This article is adapted from the Claris Tech Info database.
Published Date: Feb 19, 2012

HyperCard: Varying Script Speed to Match Processor Speed (4/93)

Because the various Macintosh models operate at different clock speeds, some HyperTalk scripts may not execute correctly.

This is especially true regarding visual effects, animated icons, animations in general, searches, going to various cards, etc. And with each new Macintosh varying in speed and performance, the art of writing a "universal" HyperCard script that execute at various speeds depending on the CPU is getting trickier.

This article provides a handler that varies the execution of HyperTalk scripts depending on the CPU.

This article has been archived and is no longer updated by Apple.

```
on determineTiming
global fastCPU
put the ticks into startTicks
repeat with i = 1 to 50
put i into tempCounter
end repeat
put the ticks into endTicks
if endTicks - startTicks < 40 then
put true into fastCPU
else
put false into fastCPU
end if
end determineTiming
```

You can also add a line such as:

```
if CPUSpeed then wait 10 ticks
```

This will delay the execution of the script for 1/6 second. Remember to declare the fastCPU global in any handlers that use it.

This article is adapted from the Claris Tech Info database.
Published Date: Feb 19, 2012

HyperCard Player: Standalone Application & VIREX 3.2 (8/93)

Having VIREX 3.2 installed when trying to create a standalone application using the Embedding Tool (in the Player Tools stack which accompanies the HyperCard Developer's Licensing Kit) causes problems when opening the standalone.

This article has been archived and is no longer updated by Apple.
The standalone application asks "Where is Home?" (the Home stack should actually be the embedded stack).

If there is a stack named "Home" in the same folder, the standalone will open that "Home" instead of showing the embedded stack.

SOLUTION: The problem did not occur using VIREX 3.9.

This article is adapted from the Claris Tech Info database.
Published Date: Feb 19, 2012

HyperCard 2.x: Visual Effects Between Stacks (7/92)

One problem with using visual effects in HyperCard 2.0 is that they don't work if you try to use a visual between two stacks of different sizes. This article provides a workaround.

This article has been archived and is no longer updated by Apple.
Create a card as the last card in stack A. This card can be either all black, all white, or the same background as the rest of the stack with blank field data.

To get the visual effect to work, the script would read:

```
on mouseUp
visual effect -- whatever
go last card -- of stack A
go stack B
end mouseUp
```

The visual effect works because it is going between two cards in the same stack, and then the change to the new stack appears to occur instantaneously after the visual. If the last card created is a solid color, it will give the appearance of a "fade to black or white" or open to "white or black" and can work really dramatically.

If the last card has the same background, it will look like the data from the fields disappears and then you're in stack B.

This article is adapted from the Claris Tech Info database.
Published Date: Feb 19, 2012

HyperCard Through 2.1: "Word 3 to 1" Correction (7/92)

The next to last paragraph on Page 116 of the Script Language Guide states that

When the first number in a range is greater than the second, you get an empty string. For example, char 5 to 3 of "Motorcycle" yields "" or empty.

This article has been archived and is no longer updated by Apple.
This holds true for char, but not for word. For example, word 2 to 1 of "Motorcycle gang" yields "gang", not empty.

This applies to HyperCard versions 1.x through 2.1.

This article is adapted from the Claris Tech Info database.
Published Date: Feb 19, 2012

ImageWriter II: Cable for Network (12/93)

I want to connect (network) two Macintosh Computers, so they will be able to share files. Is it okay to use a DIN-8 serial cable, to connect the two computers?

This article has been archived and is no longer updated by Apple.
In theory it will work. However there are several known cases where it does not. The recommendation is to NOT use it.

Published Date: Feb 19, 2012

PowerBook Control Panel: Adapting to Power Source (12/93)

In the PowerBook control panel (System 7.1), what happens to the Battery Conservation Options when the system is connected to a power supply?

For instance, if the Processor Speed is set to Reduced Speed, will it still operate on reduced speed even with the PowerBook plugged in?

This article has been archived and is no longer updated by Apple.
Battery conservation options of early versions of the PowerBook control panel do not adjust according to whether the PowerBook is connected to a power supply.

Beginning with version 7.2 of the PowerBook control panel, you can adjust the settings depending on whether the PowerBook is using the AC power adapter or the battery. Version 7.2 ships with the PowerBook 250 and PowerBook 270c, and is compatible with all PowerBooks.

Support Information Services
Published Date: Feb 19, 2012

Duo & Duo Dock: Frequently Asked Questions

This article lists frequently asked questions (FAQ) and answers on the PowerBook 200 series computers. All information was compiled by the PowerBook Support Group in the Apple Assistance Center. This article is also available from the Apple FaxInfo system.

Questions answered in this FAQ:

1) What does the switch on the battery do?

2) Can I remove the battery while the machine is on?

3) Is the battery recharged if the PowerBook is turned on or in sleep mode?

4) What is the shelf life of a fully charged battery?

5) How do I reset the PowerBook? I cannot find a reset button.

6) I have lost the keys to my Duo Dock, where can I get replacement keys?

7) Do I need a screen saver for my machine?

8) How do I clean the trackball?

9) Can I move the machine while it is on?

10) Can I put my machine through the scanning machine at the airport?

11) Can I use my PowerBook Duo overseas?

12) Can I upgrade my PowerBook Duo memory myself?

13) Can I install a modem myself?

14) My PowerBook Duo will not startup. What can I do?

15) My PowerBook will not go into sleep mode on its own.

16) After installing AppleTalk Remote Access, I get a message that AppleTalk Remote Access is not installed correctly.

17) When do I rebuild the desktop and how do I do it?

18) Can I use the Duo in SCSI Disk Mode?

19) Which cable do I need if I want to hook up a SCSI device to my Duo?

20) How do I reset the PRAM?

21) The space bar does not register at times especially if I am typing very quickly.

22) My Duo does not dock with a floppy drive adapter or MiniDock.

23) My Duo does not undock from the floppy drive adapter or MiniDock.

24) My Duo will not dock in the Duo Dock.

25) My Duo does not startup in the Duo Dock.

26) The Duo Dock display does not come on.

27) When using the Duo in the dock, the machine defaults to the top icon or item in any menu bar or window.

28) I cannot print.

29) I cannot print to the serial printer from the modem port

30) I can not print to my StyleWriter II printer.

31) Can the Duo be inserted into the Duo Dock while in sleep mode?

This article has been archived and is no longer updated by Apple.

SECTION I: General Duo Questions and Issues

1) Question: What does the switch on the battery do?

Answer: The switch is simply a way to help remind you if the battery is charged or not.

2) Question: Can I remove the battery while the machine is on?

Answer: You can remove the battery if the PowerBook AC Adapter is plugged in. Apple recommends reinserting another battery as soon as possible, since dirt or other foreign materials may enter the battery cavity and damage the battery contacts.

3) Question: Is the battery recharged if the PowerBook is turned on or in sleep mode?

Answer: The battery is recharged whenever the PowerBook is plugged into the AC Adapter. The recharge rate is slower when the PowerBook is in use versus turned off. A fully depleted battery takes two to three hours to recharge if the PowerBook is turned off.

4) Question: What is the shelf life of a fully charged battery?

Answer: A fully charged Duo battery loses approximately half of its charge over the course of a month if it is not used. The warmer the storage conditions, the faster the rate of discharge.

5) Question: How do I reset the PowerBook? I cannot find a reset button.

Answer: To restart (Reset), hold down the Command, Control, and Power keys.
To Interrupt, hold down the Command and Power keys.

6) Question: I have lost the keys to my Duo Dock, where can I get replacement keys?

Answer: If you still have one key or have the key number, contact:

Fort Lock Corporation
3000 N. River Road
River Grove, IL 60171
Telephone: 708-456-1100

Be sure to include the code number printed on the tag that came with the keys.

If the keys are both missing and you do not have the key number, Apple must replace the lock and provide new keys. Contact your local reseller, they can order the part and install it for you.

7) Question: Do I need a screen saver for my machine?

Answer: A screen saver is not usually required on a PowerBook Duo as the LCD is less susceptible to burning in an image. If the image on the display seems to have left a shadow from displaying the same image for several hours, turn the PowerBook off for several hours. This lets the image fade. To help conserve battery life and minimize the possibility of temporarily developing a burned in image, enable the screen dimming feature in the PowerBook Display control panel.

8) Question: How do I clean the trackball?

Answer: Turn the retainer ring 1/4 turn counter-clock-wise (Unscrew). Do not use any liquids in the trackball assembly. Locate the two rollers, one at 6 o'clock and another at 9 o'clock. These should be free from lint and debris. Clean them by scratching horizontally with a fingernail, business card or soft cotton swab. Also clean the three bearings at 11, 4, and 7 o'clock. Clean the Trackball itself with a cotton cloth (Shirt tail or denim pants work well).

9) Question: Can I move the machine while it is on?

Answer: Yes, but be sure the hard drive is not spinning (such as when saving or opening a document.) It is best to put the PowerBook to sleep before moving it, that way you can be certain that the hard drive has been parked and will not be damaged due to motion. If traveling long distances, it is best to turn the PowerBook off just as a precaution.

10) Question: Can I put my machine through the scanning machine at the airport?

Answer: Yes, it does not affect the contents of your hard drive. Just make sure that the person behind you does not put a heavy bag on your PowerBook carrying case!

A few more tips for traveling:

* Always have current backup of your hard disk.
* Do not send diskettes through the x-ray scanner, it can scramble the contents of diskettes.
* Do not walk through the "Bridge" metal detector with any magnetic media.

11) Question: Can I use my PowerBook Duo overseas?

Answer: Yes, PowerBook Duo power adapters are universal, which means it can sense that it is being used in an environment in which the voltage and frequency is different and switches itself over automatically. You may need a special plug or power cord so that the adapter plug can physically fit into the specific outlet.

12) Question: Can I upgrade my PowerBook Duo memory myself?

Answer: Yes, at your own risk, and as long as you are working in a static free environment, have removed all power sources (unplugged the machine and removed the battery), and have the correct tools. Damage caused during an upgrade performed by non-trained personnel will not be covered by the Apple Limited Product Warranty however.

13) Question: Can I install a modem myself?

Answer: No, you will need to have an Apple authorized dealer install the modem.

14) Question: My PowerBook Duo will not startup. What can I do?

Answer:

- Make sure the battery is seated properly. Refer to Apple FaxInfo article for instructions on how to reseat the battery.
- Verify that you are using a known good battery
- Verify that the AC adapter is a known good adapter and that it is plugged into a live outlet.
- Verify that the display latch (where the display closes on the keyboard) is not stuck in the down position, thus making the machine think it should stay asleep.
- Reset the power manager. The Power Manager is a switch on the logic board which controls battery recharging and sleep functions.

To reset it:

Step 1: Unplug the computer from AC power and remove the battery.

Step 2: Hold down the power switch on the back (not the one on the keyboard) for 15 seconds.

Step 3: Let the PowerBook sit for one minute.

Step 4: Make sure the battery is seated properly.

Step 5: Remove the battery and try the computer when connected to AC power.

If the PowerBook Duo does not start up, try starting up with the PowerBook Duo AC Adapter plugged in. If the problem continues let the PowerBook recharge for about two hours and try starting up again.

15) Question: My PowerBook will not go into sleep mode on its own.

Answer: Make sure that AppleTalk is turned off in the Chooser. (If you have a FAX modem installed, verify that answer on ring is not selected.)

16) Question: After installing AppleTalk Remote Access, I get a message that AppleTalk Remote Access is not installed correctly.

Answer: Make sure that AppleTalk is turned on in the Chooser.

17) Question: When do I rebuild the desktop and how do I do it?

Answer: Rebuild the desktop when:
* Icons appear generic
* You cannot double click on a document and open it directly.
* The PowerBook does not mount a floppy disk on the desktop.
* The PowerBook does not remember its memory allocation for applications, set in the Get Info window in the Finder.

It makes sense to rebuild the desktop periodically, to clear redundant
or irrelevant information from the directory file.

To rebuild the desktop:

Step 1: Restart the PowerBook and hold the Option and Command keys simultaneously immediately after you hear the start-up tone. Hold the keys down until the message "Are you sure you want to rebuild the desktop?" appears.

Step 2: Click the OK button and the desktop is rebuilt.

18) Question: Can I use the Duo in SCSI Disk Mode?

Answer: Yes, but you need a Duo MiniDock, an Apple HDI-30 SCSI Disk Adapter, model number M2539LL/A, a standard SCSI cable, part number M0206, and a SCSI terminator, part number M0209. You CANNOT use SCSI disk mode when using the Duo Dock, floppy drive adapter or PowerBook Duo alone.

19) Question: Which cable do I need if I want to hook up a SCSI device to my Duo?

Answer: If you are using a MiniDock or full dock use the HDI-30 System Cable (Long 18-inch light gray cable with 29 pins on the HDI-30 end) to connect a SCSI device.

20) Question: How do I reset the PRAM?

Answer: To clear the settings stored in the parameter RAM, in other words, to go back to factory default settings:

1. Restart the PowerBook

2. Immediately after the start-up tone, hold down the Command, Option, P, and R keys SIMULTANEOUSLY. Shortly, you hear a second start-up tone and see the machine going through the restart process again.

3. After the second tone release the keys and the PowerBook starts up normally.

21) Question: The space bar does not register at times especially if I am typing very quickly.

Answer: Loosen the screw under the center of the keyboard 1/2 turn. Your service provider can also do this or you can call 1-800-SOS-APPL for technical support.

SECTION II: The Duo and the Duo Dock

22) Question: My Duo does not dock with a floppy drive adapter or MiniDock.

Answer: Verify that the back panel door is open. Verify that the large connector looks clear. There are two small round holes and two small square holes that should be clear as well. Start to insert the dock, lining up the locating pins. Gently rock the dock and Duo until the two connect.

23) Question: My Duo does not undock from the floppy drive adapter or MiniDock.

Answer: Keeping gentle pressure on the release mechanism, gently rock the dock and Duo up and down, and from side to side. They should separate. It is normal for the mechanism to be a little tight when they are new. They loosen up and work in after time.

24) Question: My Duo will not dock in the Duo Dock.

Answer: Verify that the door on the back panel of the Duo is open and that the Dock is unlocked. Verify that AC power is being supplied to the Dock. If the Duo will not be accepted into the Dock, it should be checked by a trained technician.

25) Question: My Duo does not startup in the Duo Dock.

Answer: Verify that the Duo Dock is plugged into a known good outlet by trying the monitor in to the same outlet. Try powering the dock on from the button in the back, the keyboard may be at fault. Try removing the battery in the PowerBook Duo. If it is low, it may not power up. If memory or a modem have been installed recently, verify that the keyboard does not look lifted on the right side. This may also cause the system not to restart.

26) Question: The Duo Dock display does not come on.

Answer: If the green power light is on, verify that the video cable is plugged in. If the light is not on, try plugging the display into a known good outlet.

27) Question: When using the Duo in the dock, the machine defaults to the top icon or item in any menu bar or window.

Answer: Does the machine have additional memory? If so check the keyboard, does the right side of the keyboard appear to be tilted up? If so the memory card is preventing the keyboard from sitting flush. When the Duo is closed it is putting pressure on the up arrow key.

28) Question: I cannot print.

Answer: Verify that the printer is plugged into the printer port and that the printer icon is selected (highlighted) in the Chooser.

29) Question: I cannot print to the serial printer from the modem port.

Answer: If the machine has an internal modem, be sure to change the setting to external modem in the PowerBook control panel.

30) Question: I can not print to my StyleWriter II printer.

Answer: Verify that the StyleWriter II icon is selected (highlighted) in the Chooser and not the StyleWriter icon. Verify that the StyleWriter II is connected to the printer port. You can also choose to plug the printer cable into the modem port, but make sure you selected the modem port in the Chooser as well. Finally, if you have an internal modem, select "external modem" in the PowerBook control panel. Should it remain non-functional, it is possible that the logic board in the Duo is damaged and needs service.

31) Question: Can the Duo be inserted into the Duo Dock while in sleep mode?

Answer: The Duo can be inserted into the Duo Dock while in sleep but the Duo will be ejected when the Duo Dock is powered on. When you bring the Duo out of sleep mode a dialogue box will appear informing you the Duo must be shut down, not in sleep mode, before it is inserted into the Duo Dock.

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Apple IIc: External Pinouts

This article describes the pinouts of the Apple IIc computer.
This article has been archived and is no longer updated by Apple.
Joystick

1- GAMESW1 Switch input 1 (sometimes called paddle button 1).
2- +5V total current drain from this pin must not exceed 100mA.
3- GND System ground.
4- Not Used for hand controller.
5- PDL0 hand controller input. Must be connected to a 150K ohm variable resistor connected to +5V.
6- N.C. Not connected.
7- GAMESW0 Switch input 0 (sometimes called paddle button 0).
8- PDL1 hand controller input; must be connected to a 150K ohm variable resistor connected to +5V.
9- Not used with hand controller.

DB-15 Video Expansion Connector

1- TEXT Video text signal from TMG; set to inverse of GR, except in double high-resolution mode.
2- 14M 14M master timing signal from the system oscillator.
3- SYNC* Displays horizontal and vertical synchronization signal from IOU pin 39.
4- SEGB Displays vertical counter bit from IOU pin 4; in text mode, indicates second low-order vertical counter; in graphics mode, indicates low-resolution.
5- 1VSOUND One-volt sound signal from pin 5 of the audio hybrid circuit (AUD).
6- LDPS* Video shift-register load enable from pin 12 of TMG.
7- WNDW* Active area display blanking; includes both horizontal and vertical blanking.
8- +12V Regulated +12 volts DC; can drive 300mA.
9- PRAS* RAM row-address strobe from TMG pin 19.
10- GR Graphics mode enable from IOU pin 2.
11- SEROUT* Serialized character generator output from pin 1 of the 74LS166 shift register.
12- NTSC Composite NTSC video signal from VID hybrid chip.
13- GND Ground reference and supply.
14- VIDD7 From 74LS374 video latch; causes half-dot shift high.
15- CREF Color reference signal from TMG pin 3; 3.58 MHz.

Note: The signals at the DB-15 on the Apple IIc are not the same as those at the DB-15 end of the Apple III, Apple IIGS, and Macintosh II. Do not attempt to plug a cable intended for one into the other.

Several of these signals, such as the 14 MHz, must be buffered within about 4 inches of the back panel connector--preferably inside a container directly connected to the back panel.

Printer/Modem port

The serial ports on the Apple IIc are standard 5 pin DIN, however, they are not labeled as standard DIN. Therefore, when looking at the back of the Apple IIc, the pinouts are as follows:

5 Pin DIN Position Signal Name

1..... 4 O'Clock ... Data Terminal Ready
2..... 5 O'Clock ... Transmit Data
3..... 6 O'Clock ... Signal Ground
4..... 7 O'Clock ... Receive Data
5..... 8 O'Clock ... Data Set Ready

PINOUT EXPLANTION
Pin 1 (DTR) becomes active when the IIc is ready to go on line.

Pin 2 (TD) conveys serial data sent from the IIc.

Pin 3 (SG) is used to provide a common ground reference for the electronics in both the IIc and the device it is connected to.

Pin 4 (RD) receives serial data sent from the device to the IIc it is connected to.

Pin 5 (DSR) is asserted by the device the IIc is connected to when it is ready to go on line.

NOTE: The serial ports on an Apple IIc are essentially identical, the pin connections being the same on both. The main difference being that the printer port is pre-configured for 9600 baud and the communication port is preconfigured for 300 baud. The printer port appears to the software as slot 1, the communication port as slot 2. The settings of these ports can be changed with the Apple IIc System Utilities disk. Please see the System Utilities manual for precise details.

CHARACTERISTICS AT STARTUP
The Apple IIc's ports are configured with keyboard commands instead of DIP switches. After power-up, the IIc sets the printer port to the default configuration given below:

- 9600 baud
- 8 data bits and no parity
- 2 stop bits
- 80 chars per line
- LF after CR
- Command character is CTRL-I
- Hardware (DTR flow control protocol) handshake.

External Floppy Drive Connector

The Apple IIc external disk drive port is a DB-19 connector. The signals available at the port are as follows:
1 - GND
2 - GND
3 - GND
4 - GND
5 - +12V
6 - + 5V
7 - +12V
8 - +12V
9 - /EXTINT
10 - WRPROT
11 - SEEKPH0
12 - SEEKPH1
13 - SEEKPH2
14 - SEEKPH3
15 - /WRREQ
16 - NC
17 - /DR2
18 - RDDATA
19 - WRDATA

For more info on how to change a port's configuration, refer to the Apple IIc Techncial Reference Manual.
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QuickTime: Reading Macintosh Movies on Windows PCs

How do I read QuickTime movies on a Windows-compatible PC which have been made on a Macintosh?
This article has been archived and is no longer updated by Apple.
When you created a QuickTime movie to be used on both Macintosh and Windows-compatible computers, there are two important things to remember:

First, the movie must be self-contained. That is, the movie must contain all of its video, sound, and all other data in the movie file.

Second, the movie must have a single fork (which is a data fork). This is because MS-DOS has no equivalent to the Macintosh Resource Manager or Alias Manager, which handles movies that reference other movie files. Self-contained, single fork movies can play on both Macs and Windows-compatible PCs with no performance penalties and no conversion required. Macintosh applications like DiVA VideoShop allow users to save movies with these attributes already set.

The Movie Converter utility for Macintosh is included on floppy disk #6 in the QuickTime for Windows Programmer's Guide kit. Use the Save As menu item in Movie Converter to create self-contained, multi-platform Movies.

You can also convert multimedia application data which has been created on a non-Macintosh platform to QuickTime movies playable on a Macintosh with the QuickTime Movie Exchange ToolKit. The ToolKit includes applications for DEC VAX, IBM RS6000, SGI, Sun-4, Cray YMP, and MS-DOS/Windows that let you easily create a QuickTime movie with both sound (8-bit) and images (8- and 24-bit). The APDA part number for this kit is R0190LL/A.

Another Way to Convert a QuickTime Movie
You can also follow these steps to make a movie playable on both Windows and the Mac OS platforms:

1) Open a movie file using Movie Player 2.0 or above on the Macintosh.
2) Choose Save As from the File menu.
3) In the dialog box that appears, click the radio button labeled "Make movie self-contained." This tells the utility to sever any links to other movies after incorporating the relevant video into this movie.
4) Select the checkbox labeled "Playable on non-Apple computers." This causes the movie to be saved as a single fork movie.
5) Rename the movie using PC naming conventions. The filename should be 8 characters in length for maximum portability. Use the extension ".mov." For example: MYMOVIE.MOV

The resulting file is a QuickTime cross-platform movie that can be played on either a Macintosh or any x86-based computer with Windows 3.x, Windows NT, and Windows 95.

Remember, when creating movies on the Macintosh that the following features are not yet available on Windows:
-MACE, sprites, time code, and modifier tracks
-Apple Component Video decompressor
-Multiple video tracks
-Display of non-burnt text tracks
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System 7.1: Clean Installation for 660AV or 840AV (7/96)

This article gives instructions for performing a clean installation on a Macintosh Centris 660AV, and Quadra 660AV or 840AV computers from the Install Me First CD.

This article has been archived and is no longer updated by Apple.

Purpose of a Clean Installation

A normal installation modifies and updates the existing System Folder. A clean installation disables the existing System Folder, leaving most files in place, and forcing the Installer to create a new System Folder.

A clean system installation brings the system software back to the standard configuration. This is necessary when system software has been damaged or modified, preventing a normal installation. It's also useful in troubleshooting.

FOLLOW THESE INSTRUCTIONS IN THE ORDER PRESENTED.

Restart with Install Me First CD

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1) Shut down your Macintosh computer.

2) Be sure the Caps Lock key is up.

3) Restart the computer while holding down the

Command-Option-Shift-Delete keys.

4) When you see the blinking question mark, continue holding down the

four keys, and insert the CD into the drive.

The computer should start from the CD. At the desktop, the Install Me First CD should be in the upper-right corner of your screen with your hard disk below it. If the CD icon isn't above the hard drive icon, repeat these four steps.

Run Disk First Aid

Disk First Aid can detect and repair problems that a hard disk might have.

1) Double-click on Disk First Aid, and make sure the main hard drive is

selected. If it isn't, click the Drive button to select the main

hard drive.

2) Click on Open and then on Start. Disk First Aid will check your hard

drive for any potential problems. If it finds problems, you should

repair them.

3) Repeat this procedure for each hard drive attached to the system.

4) When you're finished verifying the hard drives, choose Quit from the

File menu to return to the desktop.

If Disk First Aid can't repair a hard drive, you should back up the hard drive and reinitialize it using the appropriate formatting utility for that drive. For Apple drives, use Apple HD SC Setup.

Update Hard Disk Drivers

If you don't have an Apple hard drive or use third-party software to format your drive, don't use the Apple HD SC Setup Utility. However, you should contact your hard drive vendor to verify that your formatting software is compatible with SCSI Manager 4.3, preferably using an asynchronous SCSI driver.

If you have an Apple hard drive, you should update the drivers with the version of Apple HD SC Setup that's on the Disk Tools disk, following these steps:

1) Open HD SC Setup.

2) Click on the Update button.

3) When you're finished, click Quit to return to the desktop.

Sometimes HD SC Setup can't update the hard disk driver (indicated by a "dimmed" Update button). If a third-party utility previously formatted the hard disk, you should obtain the latest version of the utility to update your hard drive.

Check Available Hard Drive Space

Be sure you have at least 11MB available on the drive where you plan to install the system software.

1) Choose Control Panels from the Apple menu.

2) Double-click the Views control panel to open it.

3) In the Views control panel, check "Show disk info in header".

4) Open your hard disk's window.

The amount of available space appears in the upper-right corner of any open window.

If there's less than 11MB available, you'll need to delete some unnecessary files by dragging them to the Trash. Empty the Trash from the Special menu and you'll have more disk space available.

Disable the System Folder

You disable the System Folder by moving the System and renaming the System Folder.

1) Open your hard disk's icon and locate the System Folder.

2) Open the System Folder and locate the System file.

3) Move the System file into the Preferences folder.

4) Close the System Folder's window and rename the System Folder

"Storage."

5) Close all windows that are open on your desktop.

Install System 7.1

Install system software version 7.1 following these steps:

1) Double-click on the Install System Software icon located on the

Install Me First CD.

2) When the "Welcome to the Apple Installer" message appears, click on

OK and then on Install.

The Installer determines the required software and reads it from the

CD.

Verify Problem Resolution

After performing a clean installation, verify that you resolved the problem before adding ANYTHING to the new System Folder. Adding items to the System Folder before resolving your problem defeats the purpose of this procedure.

Install Non-Standard Items

You can now reinstall the non-standard items from the old System Folder (now named "Storage") such as fonts, screen savers, device drivers, and so on. If possible, you should reinstall these items from their original disks.

If the original disks aren't available, you may move the non-standard items from the Storage folder to the new System Folder. Be aware that reinstalling items from the old Storage folder into the new System Folder may reintroduce damaged or corrupt files. Be careful not to replace anything that's already in the new System Folder. Only move items that aren't already in the new System Folder.

1) Open each corresponding folder within the System Folder and the

Storage folder and then compare the contents.

2) Move anything that isn't already in the new System Folder and its

subfolders from the Storage folder and its subfolders.

3) Restart your Macintosh.

Troubleshooting Extension Conflicts

If you've installed any system extensions or control panels, you'll probably see their icons line up across the bottom of the screen when you restart. They load at startup time and modify the standard behavior of the operating system.

If the Macintosh fails to restart or behaves erratically, you probably have an incompatible, or conflicting INIT (also known as a system extension or control panel). To verify this problem, follow these steps:

1) Be sure the Caps Lock key is off.

2) Restart, and after you see the "Happy Mac" icon, hold down the Shift

key.

3) Release the Shift key when the "Welcome to Macintosh, Extensions

Off" message appears.

4) When the Macintosh is ready, try to recreate the erratic behavior.

If the problem no longer occurs, then you have a conflicting extension or control panel. Continue with these steps:

1) Create a new folder on the desktop.

2) Move all items of Kind "system extension" or "control panel" from

the System Folder, Extensions folder, and Control Panels folder to

this new folder.

3) Close the System Folder, and restart the Macintosh.

4) Attempt to recreate the problem.

5) Move one item from the new folder on the desktop to the closed

System Folder and restart the Macintosh.

6) Attempt to recreate the original problem.

Repeat steps 5 and 6 for each item in the new folder on the desktop until the problem recurs. The last item returned to the System Folder is the cause

of the problem.

Final Steps

Verify that your applications are performing normally. If not, refer to the application manual or contact the vendor.

When the Macintosh behaves as expected, drag the Storage folder to the Trash.

Article Change History:

02 Jul 1994 - Removed Fax Information

01 Nov 1994 - Modified process for disabling old system folder.

29 Aug 1994 - Updated for FAX/TIL/QRG maintenance.

Support Information Services

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Apple IIc: Video Port Pin-Out

This port requires an external PAL modulator to connect to a TV set. It is NOT an RGB port, to connect to an RGB monitor an external piece of hardware is required.
This article has been archived and is no longer updated by Apple.
Port Pinouts:

15 Pin Connector	Signal	Description
1	TEXT	Video text signal from GLU
2	14M	14MHz Timing signal from master oscillator
3	SYNC	Display synchronisation signal from IOU pin 39
4	SEGB	Display Vertical counter bit from IOU pin 4
5	1VSOUND	1v sound signal
6	LDPS	Video shift Register load enable
7	WNDW	Active area display blanking
8	+12v	Regulated +12v
9	PRAS	Ram row address strobe
10	GR	Graphics mode enable
11	SEROUT	Serialized character generator output
12	NTSC	Composite NTSC video signal
13	GND	Ground
14	VIDD7	Causes half dot shift if high
15	CREF	Colour reference signal

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System 7.1: Clean Installation from Macintosh LC 520 CD

A normal system software installation modifies and updates the existing System Folder. A clean installation disables the existing System Folder, leaving most files in place, and forcing the Installer to create a new System Folder.

A clean system installation brings the system software back to the standard configuration. This is necessary when system software has been damaged or modified, preventing a normal installation. It's also useful in troubleshooting.
This article has been archived and is no longer updated by Apple.

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Follow these instructions in the order presented.

Restart with Install Me First CD
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1) Shut down your Macintosh computer.

2) Restart the computer while holding down the
  Command-Option-Shift-Delete keys.

3) When you see the blinking question mark, continue holding down the
  four keys, and insert the CD into the drive.

The computer should start from the CD.  Then you should see the At Ease menu.  If you don't see this menu,
repeat the preceding steps.

Run Disk First Aid
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Disk First Aid software can detect and repair problems on a hard disk.

1) Click on the Disk First Aid button.

2) In the window that appears, be sure the startup hard drive is
  selected.  If it isn't, click the Drive button to select the startup
  hard drive.

3) Click on Open and then on Start.  Disk First Aid checks your hard
  disk for any potential problems.  If it finds problems, you should
  let the software repair them.

4) Repeat this procedure for each hard disk attached to the system.

5) When you're finished verifying the hard disks, choose Quit from the
  File menu to return to the desktop.

If Disk First Aid can't repair a hard disk, you should back up the hard disk and reinitialize it using the
appropriate formatting utility for that drive.  For Apple drives, use Apple HD SC Setup.

Update Hard Disk Drivers
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If you don't have an Apple hard drive or use third-party software to format your disk, don't use the Apple HD SC
Setup utility.  However, you should contact your hard drive vendor to verify that your formatting software is
compatible with System 7.1.

If you have an Apple hard drive, you should update the drivers with the version of Apple HD SC Setup that's on
the Disk Tools disk, following these steps:

1) Double-click the HD SC Setup icon to launch it.

2) Click on the Update button.

3) When you're finished, click Quit to return to the desktop.

If HD SC Setup can't update the hard disk driver (indicated by a "dimmed" Update button), consider these
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possibilities:

If a third-party utility formatted your hard disk, you should obtain the latest version of the utility to update your hard disk.

If a version of Apple HD SC Setup more recent than the version on the Disk Tools disk formatted your hard disk, don't update the hard disk drivers.

If an earlier version of Apple HD SC Setup formatted the drive, it may not have left enough room for the updated driver. You don't have to update the hard disk drivers. However, if you intend to use file sharing or have a Macintosh that can use virtual memory, then you need to back up the disk and reinitialize it with HD SC Setup. This erases the disk, so be certain you back up the hard disk first.

If the driver is corrupt, the Macintosh doesn't recognize the disk (that is, the disk doesn't show on the desktop). You may wish to reinitialize it with HD SC Setup. This erases the disk, so be certain you back up the hard disk first.

If the driver has been modified with compression or security software you will not be able to update the driver. Contact the vendor for additional help.

Check Available Hard Disk Space

Click on the Go To Finder button to exit At Ease. Be sure you have at least 5MB available on the disk where you plan to install the system software. To check hard disk space, follow these steps:

1) Choose Control Panels from the Apple menu.

2) Double-click the Views control panel to open it.

3) In the Views control panel, check "Show disk info in header."

4) Open your hard disk's window.

The amount of available disk space appears in the upper-right corner of any open window.

If there's less than 5MB available, you'll need to delete some unnecessary files by moving them to the Trash. Choose Empty Trash from the Special menu, and you'll have more disk space available. Or you can copy files onto floppy disks or other media before moving them to the Trash.

Disable the System Folder

You disable the System Folder by moving the System and renaming the System Folder.

1) Open your hard disk's icon and locate the System Folder.

2) Open the System Folder and locate the System file.

3) Move the System file into the Preferences folder.

4) Close the System Folder's window and rename the System Folder "Storage."

5) Close all windows that are open on your desktop.

Restart Your Computer

Choose Restart from the Special menu. The system automatically ejects the CD, and after a few seconds you should see a picture of a disk with a flashing question mark.

If your Macintosh starts up from the hard drive, you have an extra System Folder on the hard disk. You need to delete it (or disable it as described in the previous section), then restart.

When you get the disk with the flashing question mark on your screen, you can continue. If you still don't see this on your screen, turn off your Macintosh and all attached peripherals and disconnect the SCSI cable from the back of the Macintosh. Start your Macintosh again.

Install System 7.1

Install system software version 7.1, following these steps:

1) When you see the flashing question mark, insert the Install Me First CD.

2) When the At Ease menu appears, click on the button labeled Install System.

3) When the "Welcome to the Apple Installer" message appears, click on OK.

4) When another screen appears, click on Install.

The Installer determines the required software and reads it from the CD.

Verify Problem Resolution

After performing a clean installation, verify that you resolved the problem before adding anything to the new System Folder. Adding items to the System Folder before resolving your problem defeats the purpose of this procedure.

Install Non-Standard Items

You can now reinstall the non-standard items from the old System Folder (now named "Storage") such as fonts, screen savers, device drivers, and so on. If possible, you should reinstall these items from their original disks.

If the original disks aren't available, you may move the non-standard items from the Storage folder to the new System Folder. Be aware that reinstalling items from the old Storage folder into the new System Folder may reintroduce damaged or corrupted files. Be careful not to replace anything that's already in the new System Folder. Only move items that aren't already in the new System Folder.

1) Open each corresponding folder within the System Folder and the Storage folder and then compare the contents.

2) Move anything that isn't already in the new System Folder and its subfolders from the Storage folder and its subfolders to the new System Folder.

3) Restart your Macintosh.

Troubleshooting Extension Conflicts

If you've installed any system extensions or control panels, you'll probably see their icons line up across the bottom of the screen when you restart. They load into memory at startup time and modify the standard behavior of the operating system.

Verify INIT Conflict

If the Macintosh fails to restart or behaves erratically, you probably have an incompatible or conflicting INIT (also known as a system extension or control panel). To verify this problem, follow these steps:

1) Be sure the Caps Lock key is off.

2) Restart, and after you see the picture of a smiling Macintosh, hold down the Shift key.

3) Release the Shift key when the "Welcome to Macintosh, Extensions Off" message appears.

4) When the Macintosh is ready, try to recreate the erratic behavior.

If the problem no longer occurs, then you have a conflicting extension or control panel. Continue with the next section.

Remove and Replace INITs in System Folder

1) Create a new folder on the desktop and name it "INITs."

2) Open the System Folder, Extensions folder, and Control Panels folder, and choose by Kind from the View menu. Find all items of Kind "system extension" or "control panel" under the Kind heading in the windows of the open folders, and move them to the INITs folder.

3) Close the System Folder, and restart the Macintosh.

4) Attempt to recreate the problem.

5) Move one item from the INITs folder to the closed System Folder and restart the Macintosh.

6) Attempt to recreate the original problem.

Repeat steps 5 and 6 for each item in the INITs folder on the desktop until the problem recurs. The last item returned to the System Folder is probably the cause of the problem. Remove it from the System Folder (restart, holding down the Shift key again, if necessary), and contact the developer of the INIT for more information.

Final Steps

Verify that your applications are performing normally. If not, refer to the application manual or contact the vendor.

When the Macintosh behaves as expected, drag the Storage folder to the Trash, and choose Empty Trash from the Special menu.

Published Date: Feb 19, 2012

HyperCard 2.2 New Feature: AppleScript Support (12/93)

HyperCard 2.2 supports Open Scripting Architecture (OSA). This means you can write HyperCard scripts either in HyperTalk, or in any language defined by an external scripting system: AppleScript, for example.

This article has been archived and is no longer updated by Apple.
If you write in AppleScript, you can have your stacks or standalone applications communicate with other scriptable applications such as FileMaker Pro 2.0 and Microsoft Excel 4.0.

Scripts can receive messages as well as send or pass messages to other scripts, regardless of the script's language. So a button script written in HyperTalk can send a message to a card script written in AppleScript, which can, in turn, pass the message to a background script written in UserTalk.

HyperCard 2.2 accommodates scripting components that don't support the optional OSA event handling interface. You can invoke scripts that belong to such components by sending them a run message:

send "run" to button 1 -- run an attached QuicKeys script

For AppleScript details, see the HyperCard AppleScript Reference stack.

Note: To take advantage of AppleScript code in your stack, the user must be running System 7.0 (or later) and have AppleScript 1.1 installed.

This article was adapted from the HyperCard 2.2 New Features stack.

Article Change History:
24 December 1993 - deleted reference to both Apple Events Manager requirement
Published Date: Feb 19, 2012

HyperCard 2.2 New Feature: Three New Button Styles (12/93)

HyperCard 2.2 offers three new button styles: Default, Oval, and Standard.

This article has been archived and is no longer updated by Apple.
* The Default button style is the same type you see for the OK button in most dialog boxes: it's outlined with both a thin (one-pixel) line, and with a thicker line (three pixels thick).

* The Standard style is a rounded rectangle without a shadow. It looks like a Cancel button: its outline is a single one-pixel line.

* The Oval button style is transparent. Use it to overlay circular or oval shapes. Although the boundary of an oval button is rectangular, HyperCard respects its oval shape when tracking the mouse for highlighting and for messages (mouseEnter, mouseWithin, mouseLeave) and mouse clicks.

A separate article describes another new button style: pop-up button.

This article was adapted from the HyperCard 2.2 New Features stack.
Published Date: Feb 19, 2012

HyperCard 2.2 New Feature: Buttons as Containers (12/93)

Starting with HyperCard 2.2, buttons can contain up to 30,000 text characters.

This article has been archived and is no longer updated by Apple.

Editing Button Contents

Except for a pop-up button, where each line of a button's contents is an item in the button's pop-up menu, the contents of a button don't show. But you can edit the contents either through scripts (using the put command), or through the Button Contents editor, accessible in the button's Info dialog box. The contents of a button is always stored unformatted.

Pasting With Data

To paste a Clipboard-resident button with its data intact, hold down the Shift key as you paste (or press command-shift-V), just as you would paste a field with its text intact.

Button Expressions

Button expressions evaluate to the button's contents, just as field expressions evaluate to the contents of the specified field.

This article was adapted from the HyperCard 2.2 New Features stack.

Published Date: Feb 19, 2012

HyperCard 2.2 New Feature: Button Families (12/93)

A button family is a group of two or more buttons, only one of which can be highlighted at a time. When one button in a family is highlighted, all the other buttons in that family are automatically unhighlighted.

This article has been archived and is no longer updated by Apple.
You assign a button to a family by giving it the same family number as other members of that family. To assign a family number to a button, use the Family pop-up menu in the Button Info dialog box. You can also assign a button to a family in a script using the family property.

You can create up to 15 families on each card and up to 15 families on each background.

When you add a button to a family (that is, give it a family setting of anything except "none"), its Auto Hilite option is automatically turned on.

This article was adapted from the HyperCard 2.2 New Features stack.
Published Date: Feb 19, 2012

Apple III Port C: RS-232-C Serial Interface And Serial Card 3

This article has been archived and is no longer updated by Apple.

PINOUTS

DB-25 Connector Signal Name

1 ..... Shield Ground
2 ..... Transmit Data (Tx)
3 ..... Receive Data (Rx)
4 ..... Request To Send (RTS)
5 ..... Clear To Send (CTS)
6 ..... Data Set Ready (DSR)
7 ..... Signal Ground
8 ..... Data Carrier Detect (DCD)
20 ..... Data Terminal Ready (DTR)

NOTE:
Serial Card 3 has a modem eliminator button, when this button is "in" the above pin outs are correct. If the button is "out" this has the effect of a modem eliminator cable being installed.

Apple III Port C: RS-232-C Serial Interface & Serial Card 3 "Driver"

DATA CONFIGURATION BLOCKS
The following table explains how to configure the driver for the RS232 port using the System Configuration Program in the Apple III System Utilities (remember, to set the slot number).

DCB $00 = BAUD RATE
For BAUD RATE - Set $00 DCB to:

110 - $03
134.5 - $04
300 - $06
600 - $07
1200 - $08
1800 - $09
2400 - $0A
4800 - $0C
9600 - $0E

DCB $01 = DATA FORMAT
For Bits Parity - Set $01 DCB to:

Bits Parity
8 none - $00
7 odd - $22
7 even - $26
7 MARK - $2A
7 SPACE - $2E
6 odd - $42
6 even - $46
6 MARK - $4A
6 SPACE - $4E

DCB $02 thru $04 = PRINTER DELAYS
Using this driver to connect to a printer may require that you set the delay time then observe the printer while it actually performs the function you want it to delay after (i.e., Carriage Return, Line Feed, Form Feed). If

the delay is not adequate you will have to reset it. The delays are given in the range of $00 to $FF characters which specify the number of characters that would be sent during the delay specified. After the CR, LF, or FF the RS 232 driver will wait for the time it would take to transmit the amount of characters specified before it sends the following character.

DCB 02 = Delay After Carriage Return

DCB 03 = Delay After Line Feed

DCB 04 = Delay After Form Feed

DCB $05 thru $0B = FLOW CONTROL
For protocol - Set $05 $06 $07 $08 $09 $0A $0B DCBs to:

none - $00 $00
XON/XOFF - $80 $13 $11 $DF $84 $00
ENQ/ACK - $40 $05 $06 $50
ETX/ACK - $40 $03 $06 $50
DTR HW Hndshk- $00 $DF $84 $80

Published Date: Feb 19, 2012

HyperCard 2.2: Requirements & Compatibility (12/93)

HyperCard 2.2 is the third update to HyperCard version 2.0; it supersedes versions 2.0, 2.0v2, and 2.1.

This article, adapted from the HyperCard 2.2 "New Features" stack, lists basic HyperCard 2.2 information.

This article has been archived and is no longer updated by Apple.

System Software Requirements

HyperCard 2.2 requires Macintosh System Software version 6.0.5 or later, or A/UX version 2.0 or later.

Using HyperCard 2.2 Stacks With Earlier HyperCard Versions

None of the new features of HyperCard 2.2 can work under earlier versions of HyperCard.

WARNING: If under versions of HyperCard earlier than 2.2 you compact a 2.2 stack that contains non-HyperTalk scripts, the non-HyperTalk scripts are likely to be deleted, causing the stacks to behave in unexpected ways.

OSA Compatibility

For features related to Apple Open Scripting Architecture (OSA), you'll need Macintosh System Software version 7.0 or later -- and the AppleScript extension.

AppleScript Requirements

For AppleScript-related functionality, you'll need:
* System Software 7.0 or later
* AppleScript 1.1

For component-related functionality, you'll need:
* QuickTime 1.6 or System Software 7.1

Article Change History:
24 December 1993 - deleted Apple Events Manager requirement, revised "Earlier HyperCard Versions" section
Published Date: Feb 19, 2012

HyperCard 2.2: Enhanced HyperTalk Commands (12/93)

This article lists 19 HyperTalk features that are enhanced in HyperCard 2.2. For descriptions, syntax, and examples, see the New Features stack that comes with HyperCard 2.2. For more detail, see the new HyperTalk Reference stack.

See also the Tech Info Library article on miscellaneous HyperTalk enhancements.

This article has been archived and is no longer updated by Apple.

close
convert
delete
{disable | enable}
diskSpace()
do
doMenu
find
{lock | unlock}
number()
open
put
{read | write}
selectedLine()
selectedText()
sort
the enabled
the visible
there is

Published Date: Feb 19, 2012

HyperCard 2.2 New Field Style: List Field (12/93)

A list field is a field from which a user can make choices. This kind of field is new in HyperCard 2.2.

This article has been archived and is no longer updated by Apple.
When a user clicks a line or drags through a series of lines in a list field, the lines are highlighted. A script can detect the highlighted lines and take appropriate action.

The Field Info dialog box has two new options to make list fields possible:
* Auto Select
* Multiple Lines.

To create a list field, select the Auto Select, Don't Wrap, and Lock Text options in the Field Info dialog box. To allow the user to highlight more than one line at a time, you also select the Multiple Lines options.

(The user highlights more than one line either by dragging through several lines or by highlighting one or more lines and then shift-clicking elsewhere in the field.)

This article was adapted from the HyperCard 2.2 New Features stack.
Published Date: Feb 19, 2012

HyperCard 2.2: Message Box Enhancements (12/93)

In HyperCard 2.2, the message box has two new features.

This article has been archived and is no longer updated by Apple.
* Command-Shift-A selects all text in the Message box when it's open for editing.

* You can control the font, style, and size of text in the Message box by setting its textFont, textSize, and textStyle properties (but you don't have access to the Text Style dialog box). For example, to make the type in the message box larger, type:

set the textSize of the message to 14

This article was adapted from the HyperCard 2.2 New Features stack.
Published Date: Feb 19, 2012

HyperCard 2.2: Miscellaneous Enhancements (12/93)

This article describes a number of new enhancements in HyperCard 2.2 that aren't described in articles of their own.

This article has been archived and is no longer updated by Apple.
* You can now undo the deletion of a button or field.

* The maximum number of stacks in use, formerly 10, is now 16.

* The New Stack and Resize Card popup menus now have a PowerBook (640x400) setting.

* The maximum number of open windows is limited only by memory.

* There is now balloon help for all built-in menus, windows, and many dialog boxes.

* You can drag many modal dialog boxes (including the object Info dialog boxes) to where you want them on the screen. If you're running System 7, you now have access to the Edit menu while a modal dialog box is on the screen.

* Four new visual effects are now available: push left, push right, push up, and push down. These visuals are like the wipe set of effects, except that the push effects appear to push the current card off the screen.

This article was adapted from the HyperCard 2.2 New Features stack.
Published Date: Feb 19, 2012

HyperCard 2.2: Miscellaneous HyperTalk Enhancements (12/93)

This article describes several HyperTalk enhancements that appear with HyperCard 2.2. For more detail, see the new HyperTalk Reference stack. See also the Tech Info Library article on HyperCard 2.2's enhanced HyperTalk commands.

This article has been archived and is no longer updated by Apple.
hilite: If a button belongs to a family and its hilite property is set to true from a script, the hilite property of each of the other buttons in the family is set to false.

menu: You can specify a menu by its ID number. You can specify the System 7.x keyboards menu by its name.

menuItem: You can use the adjective "English" to determine the names of menus and menu items in English:

if the English name of menuItem 5 of menu "Edit" is "Paste"...

play: If a sound fails to play, HyperCard sets the result to "Couldn't load sound". The result gets "Sound is off" if the volume is 0, if HyperCard is running in the background, or if an XCMD is using the sound channel. A note string can now contain as many characters as you want.

program: You can specify a program by its ID, which is its application signature:

put the ID of HyperCard -- -> WILD
get there is a program ID "MACS" -- is the Finder running?

You can say "this program" when you refer to the current process.

programs: You can get a list of Apple event-aware programs running on remote machines by using the form

get the programs of machine zone:Mac

rect: You can retrieve (but not set) the complete complement of rect properties of the menu bar: rect, width, height, top, and so on.

value: There is no limit to the character count for value's argument. When the argument of value is a multi-token literal expression, the expression evaluates to itself:

put value("HyperCard 2.2") -- -> HyperCard 2.2

This article was adapted from the HyperCard 2.2 New Features stack.
Published Date: Feb 19, 2012

HyperCard 2.2: New HyperTalk Features (12/93)

This article lists fifteen new HyperTalk features in HyperCard 2.2. For descriptions, syntax, and examples of their use, see the New Features stack that comes with HyperCard 2.2. For more detail, see the new HyperTalk Reference stack.

This article has been archived and is no longer updated by Apple.

copy template
destination()
mouseDoubleClick message
part
selectedButton()
sum()
the autoSelect
the dialingVolume
the environment
the family
the multipleLines
the partNumber
the scriptingLanguage
the titleWidth
the zoomed

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HyperCard 2.2 New Feature: Part Numbers (12/93)

The "part number" -- new in HyperCard 2.2 -- is a button or field's ordinal position among all the buttons and fields that share a domain (a card or a background).

For example, if the ordering of parts on a card is card button 1, card button 2, card field 1, card field 2, and card button 3, the part number of card field 1 is 3. (Its layered position is third in a set of five.)

This article has been archived and is no longer updated by Apple.
The part number is available in the object's Info dialog box; in a script, it's available in the object's partNumber property.

Changing Part Numbers

When an object's position relative to other objects within a domain changes, its part number changes -- as when it moves closer to, or farther away from, the front.

Lowest and Highest Part Number in a Domain

The object farthest away from the front within its domain has a part number of 1; the object closest to the front in its domain has a part number equal to the total number of objects in that domain.

This article was adapted from the HyperCard 2.2 New Features stack.
Published Date: Feb 19, 2012

HyperCard 2.2 New Feature: Pop-up Buttons (12/93)

In HyperCard 2.2, the Pop-up button style lets you create buttons that become pop-up menus. Each line within the button's contents is an item in the pop-up menu.

This article has been archived and is no longer updated by Apple.

How a Button Appears

The Pop-up button's name appears as the menu title to the left of the collapsed button; the collapsed button's window shows the current selection. To change the space allocated to the title, either drag the left side of the button's content area with the Button tool or change the Title Width setting in the Button Info dialog box.

Editing Button Contents

You enter and edit the items of a button's pop-up menu through the Button Contents editor, accessible in the button's Info dialog box -- or through scripts using the put command. The menu items appear in the same font as the title of the button.

Determining the Selected Menu Item

The description of the currently selected item in the menu is the button's selectedLine and its text is the selectedText. To set a selection, use select line n of button.

This article was adapted from the HyperCard 2.2 New Features stack.

Although Apple's official spelling for the adjective is "pop-up", HyperCard itself spells it "popup".

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Apple III Universal Parallel Interface Card (UPIC)

This article has been archived and is no longer updated by Apple.

DI=Data In
DO=Data Out

PIN OUTS

20 Pin Connector

Pin Number Signal Pin Number Signal

1 ..... Signal Ground 11 ..... Port A output DO1
2 ..... Acknowledge input 12 ..... Port A output DO2
3 ..... Port B input DI0 13 ..... Port A output DO3
4 ..... Port B input DI1 14 ..... Port A output DO4
5 ..... Port B input DI2 15 ..... Port A output DO5
6 ..... Port B input DI3 16 ..... Port A output DO6
7 ..... Port B input DI4 17 ..... Port A output DO7
8 ..... Strobe output 18 ..... Port B input DI6
9 ..... Port B input DI5 19 ..... Port B input DI7
10 ..... Port A output DO0 20 ..... Signal Ground

40 Pin Connector

1 ..... Port B output DO0 21 ..... Port A output DO1
2 ..... Port B output DO1 22 ..... Port A output DO2
3 ..... Port B output DO2 23 ..... Port A output DO3
4 ..... Port B output DO3 24 ..... Port A output DO4
5 ..... Port B output DO4 25 ..... Port A output DO5
6 ..... Port B output DO5 26 ..... Port A output DO6
7 ..... Port B output DO6 27 ..... Port A output DO7
8 ..... Port B output DO7 28 ..... Port B input DI6
9 ..... Pin removed 29 ..... Port B input DI7
10 ..... Pin removed 30 ..... Signal Ground
11 ..... Signal Ground 31 ..... Pin removed
12 ..... Acknowledge input 32 ..... Pin removed
13 ..... Port B input DI0 33 ..... Data ready output
14 ..... Port B input DI1 34 ..... Signal ground
15 ..... Port B input DI2 35 ..... Signal ground
16 ..... Port B input DI3 36 ..... Signal ground
17 ..... Port B input DI4 37 ..... Signal ground
18 ..... Strobe output 38 ..... Data ready ACK in
19 ..... Port B input DI5 39 ..... Signal ground
20 ..... Port A output DO0 40 ..... Signal ground

DATA CONFIGURATION BLOCK

Commonly used configurations for the driver .PRINTER on the SOS 1.3
Update diskette are listed in the following table.

Printer Device configuration block (DCB) values
ERRMASK ERRSTAT AUTOLF CTRLWRD TIMEOUT
---
00 | 01 | 02 | 03 | 04
Centronics 779/700 E0 | C0 | 40 | 00 | 0A
Centronics 730/737 C0 | C0 | 00 | 00 | 5A
Anadex DP-8000 E0 | C0 | 00 | 00 | 5A

Printronix P300 E0 | C0 | 00 | 00 | 0A
C.Itoh 8510A E8 | C8 | 40 | 00 | 0A
IDS 440/445/460 60 | 40 | 00 | 00 | 5A
Epson MX-80 E8 | C8 | 00 | 00 | 0A
TI 810 E8 | C0 | 00 | 00 | 0A
Any printer connected | | | |
with Apple II cable 00 | 00 | 00 | 00 | 00

For further information on the Data Configuration Block please refer to page 19 onwards of the Universal Parallel Interface card manual.

NOTE:

The driver .PARALLEL is used for two way communications i.e. for input and output, when using the 40 pin connector. This driver has a three byte configuration block. Please refer to pages 29 onwards in the UPIC manual for more information.

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HyperCard 2.2 New Report Printing Features (12/93)

This article describes new report-printing features in HyperCard 2.2.

This article has been archived and is no longer updated by Apple.

Precision Adjustments for Report Layouts

In previous versions of HyperCard, you could hold down the Command key as you dragged to gain finer control over margins, cell spacing, and cell size. Now you check the newly added Precision Adjustments box, and save wear and tear on your Command-key finger.

Save Button

The Print Report dialog box now has a Save button so that you can immediately save changes you've made to the template.

Report Item Invert Option

The Report Item Info dialog box now has an Invert option. Checking its box inverts the item so that it prints as white text on a black field.

Report Item Framing Option

By checking from one to four boxes of the new Frame option, you can set off an item by drawing a line along any of its left, right, top, and bottom sides.

This article was adapted from the HyperCard 2.2 New Features stack.
Published Date: Feb 19, 2012

HyperCard 2.2: Specifications (7/96)

This article contains technical specifications for HyperCard 2.2 software.

A separate Tech Info Library article provides a general description of HyperCard 2.2, and several separate articles describe, in detail, features that are new in version 2.2 of HyperCard.

This article has been archived and is no longer updated by Apple.

System Requirements

An Apple Macintosh computer: Macintosh Plus or later with at least 2MB RAM (4MB required with System 7)

Macintosh System software version 6.0.5 or later (AppleScript requires System 7), or A/UX version 2.0 or later

Hard disk drive

QuickTime Tools requires System 6.0.7 or later, the QuickTime extension, 4MB RAM, and a 68020 (or later) processor.

With System 6, Color Tools requires 32-bit QuickDraw extension.

OSA Support

Apple's Open Scripting Architecture (OSA) lets you:

Use any OSA-compatible scripting language, including HyperTalk, AppleScript, UserTalk (from UserLand), and CEScript (from CE Software).

Use localized versions of AppleScript system extensions to script in French, Japanese, or other languages (requires additional software)

Link HyperCard stacks with any of more than 75 OSA-compatible applications, such as Claris FileMaker Pro 2.0 and Microsoft Excel 4.0 (applications must be running under System 7).

Attach AppleScript scripts to HyperCard objects, such as buttons, to launch and control other applications, exchange data with them, and so on -- even over a network.

Take advantage of support for the Required, Core, and HyperCard suites of

Apple events to launch and control HyperCard from other applications, as well as exchange data between them.

Multimedia Features

With HyperCard 2.2, you can:

Add sound, animation, and graphics to stacks.

Use the QuickTime Tools stack to add QuickTime movies to stacks.

Color Support

With the included Color Tools stack, you can:

Assign colors to buttons, fields, backgrounds, and cards.

Select from a palette of 256 colors.

Import color or grayscale PICT graphics.

Resize and reposition graphics on the card.

Apply color transitions between cards and between stacks.

Layer graphics under or over buttons and fields.

Development Features

The HyperCard development environment lets you:

Use XCMDs (external commands) to control various systems and equipment, including mainframe computers, networks, videodisc players, and CD-ROM drives.

Add features and commands to HyperCard applications by using XCMDs to call routines from languages such as C or Pascal.

Implement hypertext applications through links from a word or group of words.

Use shared code libraries to quickly add commonly-used sounds, external commands, pictures, and other elements to different stacks and to save disk space.

Scripting and Debugging Tools

HyperCard 2.2 provides several powerful tools:

The modeless script editor lets you view several scripts and stacks at once and quickly copy and paste HyperTalk or AppleScript code between them.

The debugging menu lets you set checkpoints in, and step and trace through, a script while it's running -- for fast and easy troubleshooting.

Background processing lets you continue working in other applications while complex scripts are running or while you compact or sort a stack.

Variable Watcher shows how variables are used and changed, and lets you edit variables while debugging your scripts.

Message Watcher lets you view HyperTalk messages as they're sent, so you can see how your program's logic really works.

Flexible Formatting and Reporting

HyperCard 2.2 lets you:

Design multiple report layouts for each stack -- and copy and paste report formats between stacks.

Control the content, appearance (including font, size, and style), and placement of text elements in report formats.

Define the optimum appearance, order, and functions of menus and menu items for each application.

Create card sizes ranging from one inch square to 18 inches square.

Print individual fields, selected parts of a card, a single card, selected cards (those containing a certain word, button, or background), or an entire stack.

Contents

HyperCard version 2.2 software

HyperCard example stacks

AppleScript run-time software

AppleScript reference and sample stacks

QuickTime Tools stack

Color Tools stack

ADDmotion II (from Motion Works International) for creating and editing

animation

HyperCard reference manuals

HyperCard Companion Products and Services Directory

Ordering Information

In the U.S., Order No. M2365LL/A

Outside the U.S., Order No. M2365Z/A

Article Change History:

02 Jul 1996 - Removed from the Fax system

27 Jan 1995 - Reviewed for technical accuracy, revised formatting.

Support Information Services

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HyperCard 2.2 New Feature: Standalone Applications (12/93)

If you're using HyperCard 2.2 and Macintosh System 7, you can create a standalone application from any HyperCard stack. Standalone applications work on their own: others can use your stacks even if they don't own HyperCard.

This article has been archived and is no longer updated by Apple.

Creating a Standalone Application
---

1) Choose Save A Copy... from the File menu.

2) Choose Application from the "File type" popup menu at the bottom of the Save A Copy dialog box.

3) A dialog box appears into which you can type information for the Finder's Get Info window. You can use this information to keep track of versions of the application as you develop it. You can summon an additional dialog box, of use mainly to advanced developers, into which you can type more detailed version information.

WARNING: Once a standalone application is created, it cannot become a stack again -- and, from a development point of view, is frozen in its new form.

Script Security

Because standalone applications have no script editor, the user has no access to your scripts.

Custom File Type

HyperCard provides the file type code STAK to standalone applications. You can provide your own file type code by choosing Custom file type from the "File type" popup menu. Again, this feature is intended for advanced developers.

WARNING: Creating a standalone application with anything other than the default application signature can have unexpected results. For information about avoiding such surprises, see "Create a Standalone Application" in the HyperCard Help stack.

This article was adapted from the HyperCard 2.2 New Features stack.

Published Date: Feb 19, 2012

HyperCard 2.2 New Feature: WorldScript Compatibility (12/93)

HyperCard 2.2 conforms to WorldScript compatibility requirements.

This article has been archived and is no longer updated by Apple.
Sensitive to the current key script or font script (as appropriate), HyperCard invokes special-case code for handling non-Roman text characteristics as necessary.

Additionally, HyperCard 2.2 properly displays fields that contain double-byte characters, bidirectional text, or contextual ligatures, as long as the relevant script is installed on the computer. (The script no longer needs to be the system script.)

This means that HyperCard can now show languages such as Japanese, Arabic, Korean, and Traditional Chinese without the problems of previous versions.

This article was adapted from the HyperCard 2.2 New Features stack.
Published Date: Feb 19, 2012

LaserWriter Pro 810: Fuser Temperature

What is the fuser temperature for the LaserWriter Pro 810?
This article has been archived and is no longer updated by Apple.
The fuser temperature in the standby mode is 392 degrees fahrenheit (200 degrees Celsius). During printing the temperature rises to 410 degrees fahrenheit (210 degrees Celsius).

Paper moving through the printer must be able to withstand the printing temperature for 0.1 seconds without discoloring or melting any of the dyes or coatings that may have been used for printing the a letterhead.
Published Date: Feb 19, 2012

Macintosh LC 520: Button Disabler Software (12/93)

A flier named "Update to Getting Started With Your Macintosh LC 520" describes a control panel called Button Disabler. It disables the buttons on the front of the Macintosh LC 520, so that students can't adjust the volume or brightness.

The flier also states that the control panel is already installed with the system software, but I don't find this control panel.

This article has been archived and is no longer updated by Apple. System Enabler 403 version 1.0 didn't include modifications required for a Button Disabler control panel. Engineering then received feedback from customers requesting a way to disable the front buttons. In order to implement the Button Disabler, they also needed to revise the System Enabler for the Macintosh LC 520. Version 1.0.1 was released, which included three new disks -- the Install Me First disk, the Disk Tools disk, and the Extras disk. If you have System Enabler 403 version 1.0.1, you'll have the Button Disabler.

The documentation for the Macintosh LC 520 couldn't be revised, so a flier describing the Button Disabler was included instead. This flier ships with the Macintosh LC 520 computers that have the Button Disabler software already installed on the computer. A customer shouldn't have one of these fliers unless they have the Button Disabler and System Enabler 403 version 1.0.1.

Published Date: Feb 19, 2012

Apple Basic Color Monitor: Medical Specifications (12/93)

What is the implosion or protection rating on the Apple Basic Color Monitor in regards to complying with the UL 544 (Underwriters Laboratory Specifications)? This knowledge is for the use of the monitor in a medical environment.

This article has been archived and is no longer updated by Apple.
The UL 544 specification is designed specifically for medical equipment that is directly interfaced to a patient (heart monitor, and so on). The Apple Basic Color display does not fall into this category. However, it does meet or exceed the UL478 and UL1950 standards.

Published Date: Feb 19, 2012

Apple III: Color Video Port Pinouts (2/95)

This article provides a description of the Apple /// color video port.

This article has been archived and is no longer updated by Apple.

DB-15 Connector Signal Ddescription

1 ....Shield Ground - Establishes electrical ground.
2 ..... XRGB4 - One of 4 RGB outputs. Pins 2, 5, 9, & 10 are TTL
outputs with instantaneous color information. A
linear-weighted sum of these four signals will form
a true 16 color RGB video signal.
3 ..... SYNC - Composite negative syncronous signal.
4 ..... PDI - Not used
5 ..... XRGB1 - See pin 2 (one of 4 RGB outputs)
6 ..... GND - Power & Signal Ground
7 ..... -5V - Maximum load 200 mA
8 ..... +12V - Maximum load 500 mA
9 ..... XRGB2 - See pin 2 (one of 4 RGB outputs)
10 .....XRGB8 - See pin 2 (one of 4 RGB outputs)
11 .....BWVID - NTSC B&W Composite video with negative
going sync, 1 volt peak to peak into a 75 ohm load.
12 .....NTSC - NTSC Color video with negative going
sync, 1 volt peak to peak into a 75 ohm load.
13 .....GND - Power & Signal Ground
14 .....-12V - Maximum load 200 mA
15 .....+5V - Maximum load 1 Amp.

Article Change History:
14 Feb 1995 - Reviewed for technical accuracy, revised formatting.

Support Information Services
Published Date: Feb 19, 2012

HyperCard: Converting 12-Hour Time to 24-Hour (7/92)

This article provides a script that converts 12-hour time to international 24-hour time:

This article has been archived and is no longer updated by Apple.

```
on mouseUp
put msg box into q
if last word of q = "PM" then
repeat with n=1 to (the number of chars of q)
if char n of q = ":" then put "," into char n of q
end repeat
put item 1 of q into z
put z+12 into z
put z into item 1 of q
repeat with n=1 to (the number of chars of q)
if char n of q = "," then put ":" into char n of q
end repeat
end if
put "" into last word of q
put q into msg box
end mouseUp
```

This article is adapted from the Claris Tech Info database.
Published Date: Feb 19, 2012

HyperCard 2.1: Power Tools Problems (7/92)

This article describes some problems in the HyperCard 2.1 Power Tools stack.

This article has been archived and is no longer updated by Apple.
* In the stack script's powerMenuItems function, the line just before "end powerMenuItems" should start with a quote.

* In the stack script's doInUseMenu handler, the line

{put "goStack" && it & "," after theMsgs}

should be

{put "goStack" && quote & it & quote & "," after theMsgs

* When the Power Tools stack is in use, the Undo command will not work in other stacks, although It will continue to work in the Power Tools stack. Power Tools needs to be in use, not just open, to reproduce this problem.

This article is adapted from the Claris Tech Info database.
Published Date: Feb 19, 2012

HyperCard: Accidental Creation of New Background (7/92)

If you copy a card to the clipboard, make changes to the background with which that card was associated, then paste the card back into the stack, HyperCard will create a new background for the card.

It will of course look almost identical to the cards of its original background, but it will lack any objects or art created while it was residing in the clipboard, and it will have a new background ID.

This article has been archived and is no longer updated by Apple.
To test this:

1) Open a test stack.

2) Go to "Bkgnd Info..." under the objects menu and note the background ID, click OK.

3) Choose "Copy Card" from the Edit menu.

4) Choose "Paste card" from the Edit menu, and check "Bkgnd Info..." to see that the background ID number matches the first background ID.

5) Choose "Background" from the Edit menu.

6) Choose the pencil tool, then click anywhere to change just one pixel in the background.

7) Choose "Paste Card" from the Edit menu, and check "Bkgnd Info..." again. You will see that the background ID has changed.

This article is adapted from the Claris Tech Info database.
Published Date: Feb 19, 2012

HyperCard: Answer Command Quirks (8/92)

The following anomalous result occurs with the use of specific strings in the answer command:

answer "4^2 =" && 4^2

results in 4 = 16

This article has been archived and is no longer updated by Apple.
It turns out that the answer command ignores the substrings "^0","^1","^2", "^3", whenever any of these appear in the text prompt of the answer command (probably for all variations and probably also in the "ask" command.)

This is a feature of the Dialog Manager, which treats these strings as placeholders.

For more technical detail, see the ParamText procedure in Inside Mac Volume I.

This article is adapted from the Claris Tech Info database.
Published Date: Feb 19, 2012

HyperCard: Trigonometric Arc Cosine (7/92)

There is no trigonometric arc cosine function built in to HyperCard. Therefore, if you want to find the arc cosine of a value use the method shown here.

This article has been archived and is no longer updated by Apple.
The following takes the arc cosine of the value in field x and puts it in field Result:

```
put (atan (sqrt (1 - fld"x" * fld"x") / fld"x") * 180)/pi into fld "Result"
```

This article is adapted from the Claris Tech Info database.
Published Date: Feb 19, 2012

HyperCard: Calculating Age (7/92)

Here's a HyperCard handler that accurately calculates a person's age.

This article has been archived and is no longer updated by Apple.

```
on calcAge

put the date into curDate
convert curDate to seconds
put curDate + 86400 into curDate
convert curDate to dateItems
put item 1 of curDate into curYear

put background field "BDay" into Birth
convert Birth to seconds
put Birth + 86400 into Birth
convert Birth to dateItems
put item 1 of Birth into BYear

put curYear - BYear into tempAge

Put 1900 into item 1 of curDate
convert curDate to seconds

put 1900 into item 1 of birth
convert birth to seconds

if curDate < birth then
put tempAge - 1 into tempAge
end if

put tempAge into background field "Age"

end calcAge
```

Where BDay is a background field containing a birthdate and Age is a background field into which the calculated age will be placed.

This article is adapted from the Claris Tech Info database.
Published Date: Feb 19, 2012

HyperCard: Color Animation (6/93)

Several third-party applications allow a color animation to be incorporated into a HyperCard stack. These products vary widely in their features and ease of use. The following is a list of some of these programs.

This article has been archived and is no longer updated by Apple.
* ADDmotion, from Motion Works, Inc.

* AnimationWorks

* MacroMind Director

* InterFace, HyperAnimator, from Bright Star Technology, Inc.

To locate a vendor's address and phone numbers, use the vendor's name as a search string.

This article is adapted from the Claris Tech Info database.
Published Date: Feb 19, 2012

HyperCard 2.0: Color Pictures in HyperCard (6/93)

HyperCard 2.0 supports color pictures using the picture command.

This article has been archived and is no longer updated by Apple.
The syntax is as follows:

```
on mouseUp -- or on cardOpen or stackOpen, etc.
picture [fileName, fileType, windowStyle, visible, depth]
end mouseUp
```

FileName is the name of a file or resource. These must be either PICT files or PNTG files. To make these files a resource and a permanent part of the stack, the stack must be modified with ResEdit.

FileType is the kind of file the picture is. It can be a resource file, as mentioned above or it can be a separate file on the Macintosh. The file can also be on the clipboard.

WindowStyle is the style of window in which the picture is displayed. You can use any of the types of windows in the Macintosh toolbox: plain, rect, zoom, roundRect, dialog, document, shadow, and windoid. The default type is zoom, which is the kind of window a document is normally shown in with most applications.

Visible is a Boolean value, meaning it can be true or false; true for visible, false for invisible.

Depth is the bit depth of the off-screen buffer that's created by the picture command. See "Picture Command" in the HyperCard Script Language Guide for an explanation of how this works.

Example:

```
on mouseUp
picture, "Lake", resource, plain, true, 0
end mouseUp
```

This would display a picture titled "Lake", which had been made a part of the stack with ResEdit. The picture would be visible and would be painted on the screen with bit depth buffer of zero.

To dismiss a picture created with the picture command, you can either close it using its close box (if there is one in its window) or you can script it. You'd use the following syntax:

```
on mouseUp
close window "Lake"
end mouseUp
```

Note that you must say close window, not close picture.

This article is adapted from the Claris Tech Info database.
Published Date: Feb 19, 2012

Macintosh 128K, 512K: Connector Pinouts

Macintosh Mouse Connector

This article has been archived and is no longer updated by Apple.

Pin Name Description, Notes

1 CGND Chassis ground
2 +5V See hardware Description, Notes for power limits
3 CGND Chassis ground
4 X2 Horizontal movement line (connected to VIA PB4 line)
5 X1 Horizontal movement line (connected to SCC DCDA-
line)
6 N-C Not connected
7 SW- Mouse button line (connected to VIA PB3)
8 Y2 Vertical movement line (connected to VIA PB5 line)
9 Y1 Vertical movement line (connected to SCC DCDB- line)

Macintosh Keyboard Connector

Pin Name Description, Notes

1 CGNB Chassis ground
2 KBD1 Keyboard clock
3 KBD2 Keyboard data
4 +5V

Macintosh External Drive Connector

Pin Name Description, Notes

1 CGNB Chassis ground
2 CGND Chassis ground
3 CGND Chassis ground
4 CGND Chassis ground
5 -12V
6 +5V
7 +12V
8 +12V
9 N-C Not connected
10 PWM Regulates speed of the drive
11 CA0 Control line to send commands to the drive
12 CA1 Control line to send commands to the drive
13 CA2 Control line to send commands to the drive
14 LSTRB Control line to send commands to the drive
15 WrReq- Turns on the ability to write data to the drive
16 HdSel Control line to send commands to the drive
17 Enbl2- Enables the Rd line (else Rd is tristated)
18 Rd Data actually read from the drive
19 Wr Data actually written to the drive

Macintosh RS422 9 Pin Communications Connectors

The following pin connections apply to the interfaces for both the serial communications modem port and the serial printer port on the Macintosh 128K and 512K. If the device being connected to the Macintosh uses RS422 the cable must have pins 4 and 8. If the device uses RS-232 pins 4 and 8 are not necessary.

DB-9 Connector Pin Signal Name Comments
RS-232: RS-422:

1 GND GND Ground
2 Not used +5V Don't use this one; it may
be converted into output
handshake in later equipment
3 GND GND Ground
4 Tx+ Tx+ Transmit Data, positive going
component
5 Tx- Tx- Transmit data, negative going
component
6 +12V +12V Use this one only to detect
Macintosh power on, not as a
power source.
7 DSR HSK Handshake input. Signal name
depends on the mode: Used for
Flow Control or Clock in.
8 Rx+ Rx+ Receive Data, positive going
component
9 Rx- Rx- Receive Data, negative going
component

NOTE:
Macintosh uses pin 7 as an input when communicating to printers in order to determine whether the printer is ready to receive data (DTR hardware handshaking). Macintosh uses software handshaking for connecting to remote computers or terminals.

The signal range for RS-422 communication is 2 to 6 volts. Refer to EIA Standard RS-422 available from:

EIA Engineering Department
2001 Eye St. N.W.
Washington, D.C. 20006

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HyperCard: Corrupted Stack (HyperCard Stack Won‘t Open) (11/92)

When trying to open a HyperCard stack that has been corrupted, one of three things may happen:

* HyperCard opens the Home stack instead of the stack desired, and doesn't let the user open the desired stack at all.

* HyperCard seems to open and load, but instantly quits to the Finder without showing any card windows.

* HyperCard reports an error has occurred with an error number, and exit either to the Home stack or to the Finder.

This article has been archived and is no longer updated by Apple.
Here are the solutions:

* A utility named CanOpener available from Abbot Systems, Inc., will extract all text, PICT, icon and sound resources from most stacks that have been corrupted. All of the stack scripts, including the scripts of buttons, fields, cards, etc., will be recovered as a text resource.

* If all else fails, restore the most recent back-up of the stack.

And some tips for prevention:

* If possible, avoid creating and modifying stacks on a floppy disk.

* Compact your stack often.

* When developing a stack, work on a copy -- and ALWAYS make back-ups.

This article is adapted from the Claris Tech Info database.
Published Date: Feb 19, 2012

HyperTalk: Deleting Groups of Objects (7/92)

I'd like to delete a series of objects when a particular button gets deleted (selecting the button tool, clicking on the button and then pressing the delete key). To accomplish this, I tried using the following handler:

```
on deleteButton
select cd btn "anotherButton"
doMenu "Clear Button"
end deleteButton
```

Although the other object[s] get deleted, the original button that has the script in it does not get deleted.

This article has been archived and is no longer updated by Apple.
The following handler will do what you expect.

```
on deleteButton
select cd btn "anotherButton"
doMenu "Clear Button"
select me
pass deleteButton
end deleteButton
```

As you might guess, having a script delete other objects after receiving a deleteButton message can create some problems and bring up some tricky issues. The main point here is that when HyperCard sends certain messages like deleteButton and deleteField, the object has not yet been deleted. Therefore, HyperCard currently deletes the selected/current object after this message is sent (this may change so do not rely on it). So, when you have a script that does something on a delete message, just make sure that the object selection does not change after this message is sent. Example, if you have

```
on deleteButton
select cd fld 1
end deleteButton
```

the first field will be deleted. Also, no "deleteField" message will be sent because you tricked HyperCard into deleting a field when it thought it was going to delete a button.

A final note: Watch out for unexpected recursion. The example script you included can easily become recursive by putting this anywhere but in a button or a field script.

This article is adapted from the Claris Tech Info database.
Published Date: Feb 19, 2012

HyperCard and Diacritical Characters (7/92)

In sorting and finding, HyperCard treats characters with diacriticals the same as other characters.

This article has been archived and is no longer updated by Apple.
For example, the French e with accent is treated as an e without accent, and German vowels with Umlaut are treated the same as vowels without Umlaut. (These characters are not reproduced here because AppleLink is limited to plain ASCII text.)

This article is adapted from the Claris Tech Info database.
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HyperCard: Cause of Disappearing Heap Space (7/92)

If two HyperCard stacks are open simultaneously, and one of them has a resource fork, is locked and in use -- switching back and forth between the stacks (even just clicking on their windows alternately in the Finder) will gradually diminish HyperCard Heap Space.

This article has been archived and is no longer updated by Apple.
The stack in use has to be locked and have a resource fork (new stacks that have not been created with a copied background have no resource fork). It does NOT have to contain resources. (It can get into this state by opening it in ResEdit or by adding and deleting a resource.)

The other stack does not have to be locked.

The Cause

HyperCard is opening a new access path to the stack in use every time you switch stacks.

To the Macintosh operating system, every time you switch stacks it looks like you are opening another file. In System 6.0.7, there is a limit of 40 open files (actually, it's 40 open forks), so HyperCard will eventually refuse to switch stacks. In System 7.0 and later, there is no limit, so heap space will simply continue to drop until HyperCard runs out of memory.

This behavior is confirmed in HyperCard 2.1 and we know of no workaround.

This article is adapted from the Claris Tech Info database.
Published Date: Feb 19, 2012

HyperCard: Disconnecting Modem After Dialing (10/92)

The following line of HyperTalk will disconnect the modem after dialing:

dial "" with modem "ATH"

This article has been archived and is no longer updated by Apple.
This string can be placed in a button and clicked on when the dialing is done. Another method is to use the Phone Dialer stack which shipped with HyperCard 2.1 and adjust when this command is sent on the Modem Options card.

This article is adapted from the Claris Tech Info database.
Published Date: Feb 19, 2012

HyperCard 2.1: DOS Mounter Compatibility (7/92)

A customer was unable to open HyperCard 2.1 while DOS Mounter was present.

This article has been archived and is no longer updated by Apple.
This is not to say that DOS Mounter is incompatible with HyperCard. It may be that a combination of DOS Mounter with one or more other INITs or CDEVs in incompatible with HyperCard 2.1. In one case, removing DOS Mounter 2.01 from the System Folder enabled the customer to open HyperCard 2.1.

This article is adapted from the Claris Tech Info database.
Published Date: Feb 19, 2012

HyperCard: Finding Hidden Objects (7/92)

This article describes how to make visible hidden HyperCard objects.

This article has been archived and is no longer updated by Apple.
* To find hidden buttons, select the button tool, then hold down the Command and Option keys. All of the buttons, both hidden and visible, will appear in gray outline.

* To find hidden fields, repeat the same process but choose the Field tool.

This article is adapted from the Claris Tech Info database.
Published Date: Feb 19, 2012

HyperCard: Finding Text in Scripts (7/92)

This article describes how find a string of text in a script.

This article has been archived and is no longer updated by Apple.
To find a string of text in a script (no matter where it's located), type the following into the message box:

ss "search string "

For example, in order to find a handler called MoveItAround, type

ss "MoveItAround"

into the message box. HyperCard will search all scripts in the open stack. When it finds the script containing the string, it will stop and open the script up. To find exactly where the string is within the script, choose "Find" under the "Go" menu or type command-F. HyperCard will have automatically copied and pasted the string into the Find window. At this point, hitting the Enter key will find it and show you exactly where it is in the script.

This article is adapted from the Claris Tech Info database.
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HyperCard 2.x: Focal Point Compatibility (7/92)

Focal Point is a product that was written using HyperCard 1.x. It's designed to help people keep track of appointments and contact lists. In its original form, the product does not work with any version of HyperCard 2.x.

This article has been archived and is no longer updated by Apple. Nine to Five Software sells a fix for the product that provides compatibility with System 7 and HyperCard 2.x. To locate a vendor's address and phone numbers, use the vendor's name as a search string.

This article is adapted from the Claris Tech Info database.
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HyperCard: getHandler Script (7/92)

Given the name of a handler and a script, the following handler gets the text of the specified handler. Optionally, it will return starting and ending character expressions of the handler.

This article has been archived and is no longer updated by Apple.
Script:

```
function getHandler handlerName,scriptText,returnOffsets
-- Extracts a handler from a script.
-- Given the name of a handler and a script, this handler gets
-- the text of the specified handler. Optionally, it will
-- return starting and ending character expressions of the handler.
-- check for function first because on is a substring of function

get offset("function " & handlerName,scriptText)
if it is zero then get offset("on " & handlerName,scriptText)
put it into startChar
put return & "end " & handlerName into footer
put offset(footer,scriptText) into endChar
if endChar is not zero then
add length(footer) to endChar
repeat until char endChar of scriptText is return ┬
or char endChar of scriptText is empty -- skip comment
add 1 to endChar
end repeat
repeat while char endChar + 1 of scriptText is return
add 1 to endChar -- take trailing returns
end repeat
end if
if returnOffsets is true
then return startChar & "," & endChar
else return char startChar to endChar of scriptText
end getHandler
```

This article is adapted from the Claris Tech Info database.
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Dot Matrix (DMP) Pin-Out and Switch Settings

This article has been archived and is no longer updated by Apple.

PIN OUTS

Amp Pin No. Signal Name Amp Pin No. Signal Name
1 ..... Data STB (-ve) 19 ..... Ground (TP pin 1)
2 ..... Data 1 20 ..... Ground (TP pin 2)
3 ..... Data 2 21 ..... Ground (TP pin 3)
4 ..... Data 3 22 ..... Ground (TP pin 4)
5 ..... Data 4 23 ..... Ground (TP pin 5)
6 ..... Data 5 24 ..... Ground (TP pin 6)
7 ..... Data 6 25 ..... Ground (TP pin 7)
8 ..... Data 7 26 ..... Ground (TP pin 8)
9 ..... Data 8 27 ..... Ground (TP pin 9)
10 ..... ACK (-ve) 28 ..... Ground (TP pin 10)
11 ..... Input Busy 29 ..... Ground (TP pin 11)
12 ..... Paper Empty 30 ..... Ground (TP pin 31)
13 ..... Select 31 ..... Input Prime (-ve)
14 ..... Ov 32 ..... Fault (-ve)
15 ..... no connection 33 ..... Ov
16 ..... Ov 34 ..... no connection
17 ..... Chassis Ground 35 ..... no connection
18 ..... +5v 36 ..... Input Busy

Note: TP = Twisted Pair cable

Dot Matrix (DMP) Switch Settings

CHARACTER SETS:
English (US) -> SW1-1:Open, SW1-2:Open, SW1-3:Open
English (UK) -> SW1-1:Closed, SW1-2:Closed, SW1-3:Open
Italian -> SW1-1:Closed, SW1-2:Open, SW1-3:Open
German -> SW1-1:Open, SW1-2:Open, SW1-3:Closed
Swedish -> SW1-1:Closed, SW1-2:Open, SW1-3:Closed
French -> SW1-1:Open, SW1-2:Closed, SW1-3:Closed
Spanish -> SW1-1:Closed, SW1-2:Closed, SW1-3:Closed

PAGE LENGTH:
72 Line -> SW1-4:Closed
66 Line -> SW1-4:Open

SELECT CODES:
Ignore -> SW1-5:Closed
Respond -> SW1-5:Open

ON BUFFER OVERFLOW:
Line feed -> SW1-6:Closed
No line feed -> SW1-6:Open

PRINT:
On CR,LF,VT,FF -> SW1-7:Closed
After CR only -> SW1-7:Open

LINE FEED:
Add LF after CR -> SW1-8:Closed
No LF after CR -> SW1-8:Open

ZERO CHARACTER:
Slash zero -> SW2-1:Closed

Do not slash zero -> SW2-1:Open

INPUT BUFFER:
One line only -> SW2-2:Closed
3k bytes -> SW2-2:Open

SWITCHES SW2-3 AND SW2-4 HAVE NO FUNCTION

CHARACTER SPACING:
Elite proportional -> SW2-5:Closed
Pica fixed width -> SW2-5:Open

8TH DATA BIT: (for more info, search on HTS and PARITY)
Ignore -> SW2-6:Closed
Recognize -> SW2-6:Open

ON POWER ON: (enables Select line on power up).
Select -> SW2-7:Closed
Deselect -> SW2-7:Open

PRINT:
Unidirectional -> SW2-8:Closed
Bidirectional -> SW2-8:Open

Published Date: Feb 19, 2012

HyperCard Sound and After Dark Screen Saver (5/93)

This article describes two small anomalies involving HyperCard and After Dark.

This article has been archived and is no longer updated by Apple.
The screen saver After Dark v. 2.0, runs silently if HyperCard is the application that's open when After Dark kicks in. This is because HyperCard takes control over sound while it is running.

After Dark, v.2.0u (for System 7) may also cause the cursor to change to After Dark's "never sleep" icon. This has been reported to Berkeley Systems.

additional search term: AfterDark

This article is adapted from the Claris Tech Info database.
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HyperCard and QuickTime (7/92)

What is QuickTime, and how does it relate to HyperCard?

This article has been archived and is no longer updated by Apple.
QuickTime is Apple's technology for storing and displaying digital "movies" on the Macintosh screen. Movies can be compressed still images, animations, or captured video. QuickTime provides Macintosh developers and customers with a software-only solution for integrating motion video into Macintosh applications.

What Do I Need to Run HyperCard with QuickTime?
---
* A Macintosh computer with a 68020 processor or better.

* The QuickTime stack is a high-level authoring tool for users to integrate movies into their HyperCard applications. You must have Apple QuickTime software before the HyperCard QuickTime tool will function.

* System 7.0 or better, and Apple QuickTime extension 1.0 or later.

* HyperCard 2.1 or later (HyperCard memory allocation must be 2MB or more.)

This article is adapted from the Claris Tech Info database.
Published Date: Feb 19, 2012

HyperCard: How It Does Math (7/92)

This article has four sections:
* HyperCard Uses SANE
* Floating-point Numbers
* NaNs and INFs
* Mixing Reals and Integers

(A related Tech Info Library article deals with HyperCard's round, trunc, and random functions.)

This article has been archived and is no longer updated by Apple.

HyperCard Uses SANE

HyperCard uses SANE (Standard Apple Numerics Environment) routines for doing math in HyperTalk. See Apple Numerics Manual, Second Edition, for any details.

Floating-point Numbers

Any floating-point (or real) number used by HyperCard is stored as an extended type. Each number is represented in 80 bits (10 bytes) and has a precision of roughly 19-20 decimal places. Because an extended type is allotted a fixed amount of memory, only a finite number of values can be represented exactly.

Example: type "100000000000000000000+1" into the message box. HyperCard evaluates this expression to 100000000000000000000.

NaNs and INFs

Calculations via SANE can produce infinities and NaNs (Not-a-Number). Such results may be passed back in HyperTalk. Consult the Apple Numerics Manual for the specifics.

Examples in HyperCard:
sqrt(-1)-> "NAN(001)"
ln(0)-> "INF"
ln(-1)-> "NAN(036)"
-1/0-> "-INF"
(-1)^(-.5)-> "NAN(037)"
1/ln(0)-> 0

Mixing Reals and Integers

HyperTalk, being an untyped language, lets scripters mix real and integer values. Sometimes this can produce unexpected results.

Examples:
(.3 * 10) DIV 1-> 2
(.3 * 10) MOD 1-> 1
trunc(.59*100) < 59-> true

The reason behind the unexpected result is that, internally, HyperCard is applying the math operations to extended type numbers. For example, ".3*10" is not equal to 3 (because .3 cannot be represented exactly by an extended type). The solution to such problems is to have HyperCard evaluate expressions first. This can be accomplished by putting the value into a field or by taking the value of the expression. Evaluating an expression converts it to a "practical" precision (using the numberFormat property).

Example:
value(.3*10) DIV 1-> 3

This behavior is exactly what one would expect if doing math in any high-level language. Both of the following, the first in Pascal and the second in HyperTalk, produce the same results:

```
program Math;

var
x:extended;
factor, truncX, K: integer;

begin
ShowText;{ for THINK Pascal }
factor := 1000;
x := 0.0;
for K := 1 to factor do
begin
x := K / factor;
truncX := trunc( factor * x );
if (truncX <> K) then
writeln(K);
end;
end.
```

```
on mouseUp
set cursor to watch
put 1000 into factor
put EMPTY into cd field "Table"
put EMPTY into theTable
repeat with K = 1 to 1000
put K/factor into x
if (trunc(factor*x) <> K) then
put K & return after theTable
end if
end repeat
put theTable into cd field "Table"
end mouseUp
```

Both of these produce the list:
1
2
4
8
16
32
63
64
126
128
252
256
504
507
512

This article is adapted from the Claris Tech Info database.
Published Date: Feb 19, 2012

HyperCard: Calculating Interval Between Two Dates (7/92)

Here's a handler that calculate the number of days, hours, and minutes between any two dates.

This article has been archived and is no longer updated by Apple.
1) Create five fields, one for the first date, one for the second date, and the other three for days, hours and minutes.

2) Use the following handler:

```
on mouseUp
global numdays,numhours,numminutes,temp
put "" into cd fld 3
put "" into cd fld 4
put "" into cd fld 5
put cd fld 1 into firstdate
put cd fld 2 into seconddate
convert firstdate to seconds
convert seconddate to seconds
put seconddate - firstdate into temp
--how many days worth of seconds
put 24 * 60 * 60 into secdays
put temp div secdays into numdays
put numdays & "days" into cd fld 3
--check for hours
put temp-secdays*numdays into temp
if temp = 0 then put "0 hours" into cd fld 4
if tem >0 then
put 60*60 into sechours
put temp div sechours into numhours
put numhours & "hours" into cd fld 4
--check for minutes
put temp-sechours*numhours into temp
end if
if temp=0 then put "0 minutes" into cd fld 5
if temp > 0 then
put 60 into secminutes
put temp div secminutes into numminutes
put numminutes & " minutes" into cd fld 5
end if
end mouseUp
```

This article is adapted from the Claris Tech Info database.
Published Date: Feb 19, 2012

HyperCard: Claris Label Maker Stack (6/93)

The Label Maker stack was included in a special HyperCard version sent by Claris to only a few educational right-to-copy sites.

This article has been archived and is no longer updated by Apple.
This special Label Maker stack was designed to make the job of creating things like mailing labels much easier. It is not supported by Apple.

This article is adapted from the Claris Tech Info database.
Published Date: Feb 19, 2012

HyperCard 2.x: Keyboard Problem on Macintosh Plus (7/92)

The =, /, * , and + keys on the Macintosh Plus keyboard do not produce these characters when typed. Instead, they act as arrow keys. (If you look at the Macintosh Hardware Manual, these keys match the "arrow keys" on the original Macintosh 128/512 keypad. Also, the keycodes/charcodes match the arrow keys on the Macintosh Plus keyboard.)

This article provides a workaround.

This article has been archived and is no longer updated by Apple.
If you trap for all keystrokes with a keydown handler and test for the problem keys, you can make them work properly:

```
on Keydown whichKey
if whichKey = "*" or whichKey = "/" or whichKey = "=" or whichKey = "+"
then type whichKey
else
pass keydown
end keydown
```

This article is adapted from the Claris Tech Info database.
Published Date: Feb 19, 2012

HyperCard: MacinTalk and Speech Recognition (9/95)

Is there anyone out there who has, or knows of, specific XCMDs for HyperCard that make use of the MacinTalk speech synthesis file?

On a similar note, has MacinTalk ever been updated beyond 1.3.1?

This article has been archived and is no longer updated by Apple.
MacinTalk is used in combination with Apple's Text to Speech software. It enables your Macintosh to provide Text to Speech capabilities for applications that support Text to Speech. SimpleText is an example of an application that supports Text to Speech.

HyperCard 2.2 supports sound better than HyperCard 2.1. There is an XCMD available from Jeff Iverson Software of Burnsville, Minn. that supports HyperCard 2.2 with Sound Manager 3.0.

HyperCard 2.3 does support Text to Speech and includes speech commands.

As of this writing, the current versions of MacinTalk are:

MacinTalk 2 v1.4
MacinTalk 3 v1.4
MacinTalk Pro v1.4
Speech Manager v1.4

Use the search string "plaintalk and macintalk" to locate the TIL article "PlainTalk and MacinTalk: Differences and When to Use" to determine which version of MacinTalk is supported on your computer.

Article Change History:
01 Sep 1995 - Updated article for MacinTalk 3 and HyperCard 2.3.
14 Sep 1994 - Updated article for MacinTalk 2 and MacinTalk Pro.
23 May 1994 - Merged three articles into one. Added third party information.

Support Information Services
Published Date: Feb 19, 2012

HyperCard 2.1: Tools and Font Menus Can‘t Be Disabled (7/92)

In HyperCard 2.1, you cannot use the disable menu command to disable either the Tools or Font menus. You can disable all other menus except the Balloon Help & Applications list menus.

This article has been archived and is no longer updated by Apple.
These menus could be disabled in HyperCard 2.0v2, and can be disabled in HyperCard 2.2.

The Tools and the Font menu can be deleted in HyperCard 2.1 via a script.

This article is adapted from the Claris Tech Info database.

Published Date: Feb 19, 2012

HyperCard: How To Pass a Mouse Click Through a Picture (7/92)

You can write a script in HyperCard that will allow you to click on a color picture generated by the Picture command, and 'pass' the click to whatever object lies underneath it.

This article has been archived and is no longer updated by Apple.
Simply use a handler like the following:

```
on mouseUpInPicture wName, cloc
add (item 1 of loc of window wname) to item 1 of cloc
add (item 2 of loc of window wName) to item 2 of cloc
click at cloc
end mouseUpInPicture
```

So when you click on a picture window, this script will actually click on whatever is directly underneath the picture.

The idea of the script is that the cloc parameter of the mouseUpInPicture message refers to a location within the window generated by the Picture command, and NOT to a coordinate on the card itself. However, if we tell HyperCard to click someplace, it will always use the current card for that. So all we have to do is add the LOC of the window (which is expressed in terms of the card as a whole) to the CLOC of the window (which is the area within the window that we clicked) to find the exact spot on the card underneath the picture that is physically the same as the location of the spot we clicked on the picture.

This article is adapted from the Claris Tech Info database.
Published Date: Feb 19, 2012

HyperCard: MouseDown in Palettes (7/92)

In some circumstance a user might want to create a button on a palette that performs a constant action while the mouse button is down: for example, a video disc control with a fast-forward button that fast forwards as the button is down, then resumes playing at normal speed when the mouse is up.

This article has been archived and is no longer updated by Apple.
1) If you make sure the "Remain Hilited" check is checked, the palette button will be activated on a mouseDown. This does mean we have to do some additional work to make sure that the button hilite is set to false later, but you will see this in just a second.

2) Create a one-line script, in the button, that will repeat through the fast-forward (or whatever) XCMD. The line should look something like this:

```
do("repeat until the mouse is up" & return & "beep" & return & "end repeat"┬
& return & "set hilitedButton of window bob to 0")
```

This script uses a beep instead of a fast forward, but replacing the two would create the desired results.

This article is adapted from the Claris Tech Info database.
Published Date: Feb 19, 2012

HyperCard 2.x: Compatibility with Performer and Cue (6/92)

There is a confirmed problem with HyperCard 2.x and two music applications for the Macintosh:
* Performer (from Mark of the Unicorn Software)
* Cue Film Music System (from Opcode Systems, Inc.)

This article has been archived and is no longer updated by Apple.
If HyperCard is running when you try to launch these applications, the computer freezes. This problem is caused by a bug in the copy-protection scheme in the two applications. For latest information, contact Mark of the Unicorn and Opcode. To locate a vendor's address and phone numbers, use the vendor's name as a search string.

This article is adapted from the Claris Tech Info database.
Published Date: Feb 19, 2012

HyperCard Before 2.2: Open File Undocumented Features (7/92)

This article describes some undocumented features in the open file procedures in HyperCard.

This article has been archived and is no longer updated by Apple.
The open file command opens, reads from, writes to, or creates text files on your Macintosh. HyperCard has a limit of three open files at one time.

Although this limitation is documented in the book "HyperTalk 2.0" by Kamins and Winkler, they wrongly inform the user that when a fourth file is opened an error message will appear: "Can't open any more files." They go on to say that when the user clicks the error dialog away, the open files will close, allowing any other files to be opened/created. This is not the case. The dialog never shows.

HyperCard displays an error message only when it tries to write to, or close a file (the fourth on...). "File not open." It will not alert you that your fourth file couldn't be opened in the first place.

Users must be careful to balance their opened files when writing scripts that use this command extensively.

This article is adapted from the Claris Tech Info database.
Published Date: Feb 19, 2012

HyperCard to 2.0 to 2.1: Limitations in Painted Text (7/92)

There's a limitation in HyperCard 2.0, 2.0v2 and 2.1.

This article has been archived and is no longer updated by Apple.
When using "painted text," you can only type 100 characters wide on a card, and 20 rows deep.

This article is adapted from the Claris Tech Info database.
Published Date: Feb 19, 2012

HyperCard: No Error Messages from Palette Buttons (7/92)

A message sent by a button on a palette seems to disappear, neither correct response nor error message. Checkpoints added to handler are not triggered when the palette button is clicked.

This article has been archived and is no longer updated by Apple.
Cause: Error messages are not issued by HyperTalk when processing messages from palettes. This causes palettes to appear disabled when carried into irrelevant environments, rather than seeming to have malfunctioned. If the problem is a runtime error, it can be detected by checkpoints in the handler; however, if it is a compilation error (in the nature of "can't understand"), the message is intercepted, but no handler is executed.

Workaround: Create a card button that sends the same message. This allows normal debugging of the problem handler. When you're finished, remove the card button.

This article is adapted from the Claris Tech Info database.
Published Date: Feb 19, 2012

HyperCard: Palette Design Shortcut (7/92)

When using the Palette Maker in the Power Tools stack, you have to create a card graphic for the appearance of the palette. The intuitive way to control the appearance of a new palette is by selection of button styles and icons, but Palette Maker ignores them.

This article has been archived and is no longer updated by Apple.
You can convert an arrangement of buttons into a graphic for use by the Palette Maker. Choose the select tool, drag a box around the buttons, choose Export Paint from the File menu, and park the exported file any place handy. Then Import Paint the same file. This creates a graphic which is an image of the originally selected area, including buttons, fields, and previously existing graphics (card and background).

This article is adapted from the Claris Tech Info database.
Published Date: Feb 19, 2012

HyperCard: PICT Compression (8/93)

The HyperCard Picture XCMD can open up compressed PICTs created with QuickTime. This is done by making a toolbox call (DrawPicture). QuickTime intercepts the call and does any decompression necessary.

This article has been archived and is no longer updated by Apple.
Here are some factors that seem to affect the speed of the Picture XCMD:
* The amount of RAM allocated to HyperCard.
* The size of the picture file.
* The type of compression used.
* The parameters you pass to the Picture XCMD.

The method used to compress an image affects its final size and the speed of decompression. Faster display speed may be achieved by allocating more memory to HyperCard. However, the method of compression is a more important factor.

The Picture XCMD seems to be able to display files quicker if you do not pass a parameter for bit-depth (fifth param). Do so only if memory conservation is important. Instead, let the XCMD figure it out the appropriate bit-depth. If you try to display a file at a lower bit depth, it takes time to convert.

If you pass 0 for the bit-depth parameter, then the XCMD does not set up an offscreen buffer. Hence, the window will seem to appear immediately, but the picture may take some time to get drawn into the window (it is drawn as it is decompressed). This method will give you slower updates.

This article is adapted from the Claris Tech Info database.
Published Date: Feb 19, 2012

HyperCard: Preventing the Moving of Windows (4/93)

HyperCard 2.0 added the system messages moveWindow and sizeWindow to HyperTalk. Some scripters expect to be able to prevent a user from moving a window (via dragging) by intercepting a moveWindow message. This is not possible.

This article has been archived and is no longer updated by Apple.
The moveWindow message is sent to the current card whenever the location of any stack window changes. MoveWindow is a system message, so it serves only to notify that an event has happened, not that it is going to happen if the message reaches HyperCard.

Scripters can use a moveWindow handler to figure out how to reposition other windows.

One way to prevent users from dragging windows is to hide the titlebar of the card window. Use hide titlebar. Restore the titlebar later with show titlebar. Note that any stack that opens in that same window will not have a titlebar (so scripters want to restore the titlebar on closeStack and suspendStack). The command will not affect other windows displaying stacks.

This article is adapted from the Claris Tech Info database.
Published Date: Feb 19, 2012

HyperCard: Use 2.1 or Later with Macintosh Quadra (7/92)

HyperCard versions before 2.1 are incompatible with the 040 cache.

This article has been archived and is no longer updated by Apple.
Workarounds:

* Use HyperCard 2.1 or later with Macintosh Quadra computers.

* If you must use earlier versions with a Quadra, turn off the cache CDEV in the Control Panel.

This article is adapted from the Claris Tech Info database.
Published Date: Feb 19, 2012

HyperCard: quoteLines Function (7/92)

This function takes a sequence of lines as a parameter and returns a copy of the lines with quotes around each one. It is used by the writeScript function.

This article has been archived and is no longer updated by Apple.

```
function quoteLines string
-- script 2-2: Convert text to a quoted string
put empty into quotedString
repeat with i = 1 to the number of lines in string
get line i of string
if it is empty then put "return" & return after quotedString
else if quote is not in it
then put quote & it & quote & " & return" & return after quotedString
else
put quote into expandString
put " & quote & " & quote into calcQuote
put number of chars in it into charCount
repeat with j = 1 to charCount
put char j of it into thisChar
put thisChar after expandString
if thisChar is quote then put calcQuote after expandString
end repeat
put expandString & quote & " & return" & return after quotedString
get " & " & quote & quote
repeat
put offset(it,quotedString) into emptyCat
if emptyCat is 0 then exit repeat
delete char emptyCat to emptyCat+length(it)-1 of quotedString
end repeat
end if
end repeat
return quotedString
end quoteLines
```

This article is adapted from the Claris Tech Info database.
Published Date: Feb 19, 2012

HyperCard: Problem with Volume Names Containing Quotes (7/92)

Problem: You get a "No Such Menu" error whenever you open a particular stack.

This article has been archived and is no longer updated by Apple.
We have documented a case where the WrongStack() function returned True instead of False, and the line "get word 2 of the long name of me" in the WrongStack function returned nothing. This happened because the customer's hard drive was named "Q" (including the quotes). The quotes in the name apparently caused HyperCard to see the long name as all one word so there was no word 2.

This article is adapted from the Claris Tech Info database.
Published Date: Feb 19, 2012

ImageWriter Printer: Configuration Table

This article contains the ImageWriter printer configuration table.
This article has been archived and is no longer updated by Apple.

ImageWriter printer configuration table

Note: 0 = off or open 1 = on or closed

	SW-1	SW-2	Cable Required
System	1 2 3 4 5 6 7 8	1 2 3 4	(Part Number)
Apple III	1 1 0 0 1 1 0 0	1 1 0 0	590-0166 and 590-0037B
Macintosh	1 1 0 0 1 1 0 0	1 1 0 0	590-0169
Lisa/Macintosh XL	1 1 0 0 1 1 0 0	1 1 0 0	590-0166 and 590-0037B
Apple IIc	1 1 0 0 1 1 0 0	1 1 0 0	590-0191A
Super Serial	1 1 0 0 1 1 0 0	1 1 0 0	590-0037B
High Speed Serial	1 1 0 0 1 1 0 0	0 0 1 1	590-0037B

Apple III driver configuration

Driver	0	1	2	3	4	5	6	7	8	9	A	B
RS232	0E	00	00	00	00	00	13	11	DF	84	50	80
Printer	0E	00	00	00	00	-	-	-	-	-	-	-

Note: The numbers in the top row are the data configuration blocks.

Super Serial Card configuration

	1	2	3	4	5	6	7
SW1	Off	Off	Off	On	Off	On	On
SW2	On	Off	Off	Off	On	Off	Off

Note: The jumper block should be pointing toward the terminal.

High Speed Serial Card configuration

Switches	1	2	3	4	5	6	7
Position	On	Off	On	On	Off	Off	Off

Note: The High Speed card must have the PROM P8 installed.
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HyperCard: Quotes in Pathname (7/92)

Some of the stacks provided with HyperCard 2.x do not function properly if the volume name contains quotes (" ").

This article has been archived and is no longer updated by Apple.
Quotes in the volume name cause problems in the HyperCard Reference stack as well as any other stack that gets the Long Name of the stack and tries to extract a word from it (second word in the case of the Reference stack).

Errors returned will vary from menu not found errors to missing handler errors like "Can't understand 'FindInTitle'". For the technically oriented, this is because the Reference stack will never open using the "HyperCard Help" stack because the wrongStack function in the openstack command does not function properly -- for reasons stated above.

The solution: Take the quotes out of the volume (HD or floppy) name as well as any folders in the path.

This article is adapted from the Claris Tech Info database.
Published Date: Feb 19, 2012

HyperCard: Rescue Utility for Recovering Stacks (7/92)

What is Rescue, and how does it releate to HyperCard?

This article has been archived and is no longer updated by Apple.
Rescue is a commercial product designed to recover damaged HyperCard stacks. It may help when you get a numeric error message, indicating that a stack is corrupt. It's published by Nine to Five software.

To locate a vendor's address and phone numbers, use the vendor's name as a search string.

This article is adapted from the Claris Tech Info database.
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HyperCard: Round, Trunc, and Random Functions (7/92)

This article has two sections:
* The Round and Trunc Functions
* The Random Function

(A related Tech Info Library article describes how HyperCard does Math. It deals with SANE, floating-point numbers, NaNs and INFs, and mixing reals and integers.)

This article has been archived and is no longer updated by Apple.

The round and trunc Functions

The round and trunc HyperTalk functions have a long integer range. If passed a number outside this range ⓪? less than -231 or greater than 231 - 1 ⓪? these functions will return ð2147483648 (i.e., -231).

The trunc function rounds toward zero, so that any fractional part is removed. Examples: trunc(2.2) -> 2 ; trunc(-2.2) -> -2.

The round function in HyperCard rounds "to nearest" (see the Apple Numerics Manual). (It is also known as a statistical round.) "To nearest" refers to a number's binary representation. This method is not the usual "round" that we learn in school. Whenever a number is exactly halfway between integers (e.g., 2.5), the "usual" round will round up. The round will round toward the even integer, e.g., round(2.5) -> 2. NOTE: Scripters may notice unexpected results when the numberFormat is imposed upon an expression. Similar rounding occurs in this instance (and it's harder to predict the rounding direction when dealing with fractions).

The random Function

The random function in HyperTalk produces pseudo-random numbers. In HyperCard 1.x, the random function had an integer (e.g., 215 - 1) range. In HyperCard 2.x, this was extended to a long integer range. (It calls SANE directly ⓪? using RandomX.) If passed an argument outside its range, the random function will use the maximum instead.

If a non-integer number is passed to random, HyperCard effectively rounds up before returning a random number. If a number less than 1 is passed to random, HyperCard returns 1.

This article is adapted from the Claris Tech Info database.
Published Date: Feb 19, 2012

HyperCard: SCSI Probe Interfere‘s with Command-Space Bar

The Command-Spacebar keystroke normally hides or displays the menu bar in HyperCard. If, instead, the cursor changes to a watch and the menu bar does not hide/display, the cause may be a Control Panel document in the System Folder called SCSI Probe.
This article has been archived and is no longer updated by Apple.
SCSI Probe uses Command-Spacebar to mount hard drive volumes. To fix the problem, change the keyboard shortcut for SCSI Probe to something else. (You won't need to restart the computer.)

This article is adapted from the Claris Tech Info database.
Published Date: Feb 19, 2012

HyperCard: sharedhilite to True May Limit Button Control (7/92)

From a script, setting the sharedHilite of a background button to true, then setting the hilite of the button to true, then setting the sharedHilite for that button to false, prevents further script control of the button.

This article has been archived and is no longer updated by Apple.
This series of steps may be followed if someone wants to quickly set several background buttons of a stack to hilite = true without having to visit each card individually. The button type and characteristics (show name, auto hilite, etc.) have no effect on this problem.

The only way to fix the button is to click on it with the button tool and change any of the button's characteristics in the button info dialog box. The button hilite will once again respond to script control until the above steps are repeated.

This article is adapted from the Claris Tech Info database.
Published Date: Feb 19, 2012

HyperCard: Using Field-to-Message Feature (7/92)

There is a feature in HyperCard that allows you to pick up text and transfer it to the message box. Holding the Command key down while the cursor is in a field (locked or unlocked) will change the cursor to a hand and draw a one-pixel selection box around the text. The selection box will grow, one word at a time, as you drag through the text. When you release the mouse button, the selected text will be placed in the message box.

This article has been archived and is no longer updated by Apple.
This feature is hard-coded into HyperCard and can't be bypassed through HyperTalk. First of all, in an unlocked field you will never be able to retain the I-beam pointer (insertion point) when the Command key is down, because some idle message will slip through to HyperCard creating a blinking hand to I-beam cursor.

And you can't trap the mousedown in an unlocked field. However, even if you try to trap the mousedown in a locked field and exit to HyperCard after your defined action, the text will still be picked up and placed in the message box.

This article is adapted from the Claris Tech Info database.
Published Date: Feb 19, 2012

HyperCard 2.0v2: "The Suspended" Global Variable (7/92)

Here's an undocumented feature of HyperCard 2.0v2. It's a built in global variable called "the suspended." This variable is normally false but is set to true when you open another application using the open[filename with] application command.

This article has been archived and is no longer updated by Apple.
This is an important feature if you are running under MultiFinder and start a handler that uses the open application command with additional messages after the open command. What will happen is that HyperCard will start launching the application and then continue to finish the other commands while it is running in the background. Therefore, if you want to suspend any pending commands that follow the open application command until after HyperCard gains control you might want to use the following structure:

```
on exampleHandler
open "Text File" with "MacWrite II"
wait 1 second -- assure following loop works
repeat until var is false
put the suspended into var
end repeat
beep
go next card
end exampleHandler
```

This article is adapted from the Claris Tech Info database.
Published Date: Feb 19, 2012

HyperCard: Developing XCMDs with Think Pascal or C (8/92)

In order to compile XCMDs using Symantec's Think Pascal or C products, special HyperXCMD libraries need to be included with the source code of the external.

This article has been archived and is no longer updated by Apple.
For more information, check the Symantec bulletin boards on CompuServe, AppleLink, or America Online -- or contact Symantec directly. To locate a vendor's address and phone numbers, use the vendor's name as a search string.

This article is adapted from the Claris Tech Info database.
Published Date: Feb 19, 2012

HyperCard: "Send" Can‘t Be Trapped (7/92)

Why can't the Send command be trapped?

This article has been archived and is no longer updated by Apple.
Send isn't a command; it's a keyword, like if, do, etc., and the designers of HyperTalk didn't allow keywords to be trapped by handlers in the same way that commands can be trapped.

Perhaps the simplest way to explain the difference between keywords and commands is that keywords force the compiler to do something out of the ordinary. In the case of "send", the target for the message is potentially different from the default target, so the compiler has to do some extra work to figure out where to send the message.

This article is adapted from the Claris Tech Info database.
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HyperCard: Trunc() Function Limitation (7/92)

The trunc() function may not return correct values when you supply a parameter greater than or equal to 2^31 (2147483648).

For example:

trunc(9876543210/2) = -2147483647
trunc(22222222222) = -2147483647

This article has been archived and is no longer updated by Apple.
This accuracy problem seems to be related to limitations in the way HyperCard handles SANE routines.

This article is adapted from the Claris Tech Info database.
Published Date: Feb 19, 2012

Dot Matrix Printer Configuration Table (7/94)

This article details the Dot Matrix Printer configuration table.

This article has been archived and is no longer updated by Apple.

System	SW-1	SW-2	CABLE REQUIRED
	12345678	12345678	Part Number
Apple III	11001010	00000110	590-0042B
Macintosh	N/A	N/A	N/A
Lisa/Macintosh XL	11001010	00000110	590-0042B
Apple IIc	N/A	N/A	N/A
Centronics Card	11001011	00000110	57-30360
2PIC	11001010	00000110	590-0042B

NOTE: 0 = OFF = OPEN
1 = ON = CLOSED

Apple III Driver Configuration

Driver	Data Configuration Block										
	0	1	2	3	4	5	6	7	8	9	A	B
PRINTER	60	40	00	00	64							

Parallel Interface Card (2PIC) Configuration

Switch Bank	1	2	3	4	5	6	7
SW1	Off	Off	Off	On	On	Off	Off

Article Change History:
13 Jul 1994 - Reviewed for technical accuracy, revised formatting.

Support Information Services
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HyperCard and Virex 3.5: Crash with "open file..." (7/92)

A user reports that if Virex 3.5 is running, and is configured to examine HyperCard stacks, then HyperCard 2.x will crash if an "open file..." statement is executed.

This article has been archived and is no longer updated by Apple.
The solution is to remove Virex, or turn off the examination of HyperCard stacks by Virex.

This article is adapted from the Claris Tech Info database.
Published Date: Feb 19, 2012

HyperCard: Rare Problem with Visual Effects (1/93)

Visual effects cause HyperCard 2.0v1, 2.0v2, and 2.1 to crash if:
* Part of the card is overlapping another display, and
* The display is set to 1-bit depth (monochrome).

This article has been archived and is no longer updated by Apple.
This has been observed on a Macintosh LC and IIfx, and on PowerBooks. Crashing has not been reproduced on the Macintosh IIsi or Macintosh Classic, nor on any of the pre-IIfx models, though potentially these may be a problem (particularly with third-party video cards).

The crashes do not always occur in the situation described above, and may vary with the system version. It may also depend upon the amount of card area that's not showing through the card window. The best reproducibility occurs when your card rect is very tall (taller than the monitor) and the card window is smaller than the card rect.

This article is adapted from the Claris Tech Info database.
Published Date: Feb 19, 2012

AppleScript: Scriptable Applications

Currently there are many software development companies that make their application AppleScript scriptable. This article tells you how to determine if your application is AppleScript aware, and provides a partial list of known AppleScript aware applications.
This article has been archived and is no longer updated by Apple.
Rather than trying to maintain a list of Apple Event-aware applications that would constantly be changing, we recommend using the following procedure to determine whether an application is Apple Event-aware.

Use the Script Editor that comes with the AppleScript software. Choose the Open Dictionary option under the File menu. Only Apple Event-aware applications will appear on the list of applications that AppleScript can open.

You can also call the software manufacturer to ask about Apple Event-aware status.

AppleScript is a system-software-level scripting facility that enables users to integrate the functionality of different applications into a custom solution designed to meet specialized needs.

New vendors announcing support for AppleScript represent a broad range of business and productivity software applications. Here is a partial listing:

ACIUS, Inc.
Advanced Software, Inc.
After Hours Software
Aladdin Systems
Aldus Corporation
Beyond Incorporated
Caere Corporation
Cambridge Science
Canto Software GmbH
CE Software, Inc.
Chang Labs
Chena Software
Claris Corporation
Concurrent Engineering Tools, Inc.
CTM Development
Cypress Research Corporation
Deneba Software
Ex Machina, Inc.
Glen Canyon Communication Software
Great Plains Software
Heizer Software
Imspace Systems Corporation
ISIS International
IT Makers
Linksware Corporation
Main Event
MapInfo Corporation
Microsoft Corporation
Milum Software Group
MotionWorks
Object Factory
Quark, Inc.
SAS Institute, Inc.
Scientific Visions
Shana Corporation
Simple Software
Snow International
Softsync/BLOC Publishing
Software Ventures Communication
Symantec Corporation
TGS Systems
Top Conseil Informatique
UserLand Software
Vividus Corporation
WordPerfect Corporation
Working Software

The AppleScript Scripter's Guide, which lists all scriptable applications, is available by contacting Cunningham Communication, Inc. at AppleLink address: CCI.CALIF.

Published Date: Feb 19, 2012

HyperCard 2.2: Color and Media Integration (12/93)

This article, extracted from the Apple press release announcing HyperCard 2.2, describes the new Color Tools and media integration features.

This article has been archived and is no longer updated by Apple.
HyperCard's new Color Tools enhance the usability and visual appeal of existing and new solutions. In addition to importing and resizing color PICT graphics, users can select from a palette of 256 shades to color HyperCard elements such as buttons, fields, cards, and backgrounds. HyperCard's QuickTime tools allow users to incorporate movies into cards and stacks with point and click simplicity.

HyperCard continues to help multimedia authors differentiate their product by providing comprehensive multimedia capabilities in one environment. With ADDmotion II, HyperCard 2.2 facilitates easy media, color, and sound editing to help users enhance the value of new and existing stacks. ADDmotion II is a 24-bit color paint, animation and sound extension that integrates seamlessly into HyperCard and provides tools for controlling and editing animations and sounds.

Published Date: Feb 19, 2012

HyperCard: Again Supported by Apple

Starting 13 December 1993, HyperCard is again sold and supported by Apple Computer. Apple will offer both pre-sales and technical support. This article outlines the levels of HyperCard support offered, and how they can be ordered.
This article has been archived and is no longer updated by Apple.

Presales Support
For pre-sales support, call the Apple Assistance Center at 800-SOS-APPL (800-767-2775).

Up and Running Support
Up and running support will be offered free of charge by Apple via the Apple Assistance Center at 1-800-SOS-APPL. Up and Running support includes:

- Help with installation, compatibility, and configuration
- Basic product use: tools, menus, and command syntax

Up and running support is available Monday through Friday from 6:00 a.m to 6:00 p.m. Pacific time.

Programming-Level Support
For programming-level development support, including use of XCMDs and OSAX, the Apple Macintosh Technology Partners Program is available. For information and/or an application, call the Developer Support Center at 408-974-4897.
Published Date: Feb 19, 2012

Quadra 660AV: Capturing Video Frame Problem (12/93)

I'm trying to capture a video frame at 640 x 480 using the Video Monitor application. Video Monitor will not let me capture a video frame while my monitor is set to Thousands of Colors. I must set my monitor to 256 colors (8-Bit) to capture a frame of video. How many colors will my frame capture contain once it is saved to the hard disk?

This article has been archived and is no longer updated by Apple.
The Macintosh Centris 660AV and Quadra 660AV come with 1MB of VRAM on the logic board, which is not expandable. When bringing video into the Centris 660AV and Quadra 660AV, you must set your monitor to 256 Colors (8-Bit) when using both Video Monitor and FusionRecorder. Even though your monitor is set to 256 Colors (8-Bit), you will be capturing your image or movie in Thousands of Colors (16-Bit).

Published Date: Feb 19, 2012

Apple Interface Cable Pin-Outs

This article has been archived and is no longer updated by Apple.

```
     (MODEM ELIMINATOR)
        P/N 590-0029                          P/N 590-0037-B

DB25 Connector    DB25 Connector     DB25 Connector    DB25 Connector
   (Male)          (FeMale)              (Male)            (Male)
     1 ---------------- 1                 1 ---------------- 1
     2 ---------------- 3                 2 ---------------- 2
     3 ---------------- 2                 3 ---------------- 3
 4 & 5 ---------------- 8                 4 ---------------- 4
     6 ---------------- 20                5 ---------------- 5
     7 ---------------- 7                 6 ---------------- 6
     8 ---------------- 4 & 5             7 ---------------- 7
    20 ---------------- 6                 8 ---------------- 8
                                         20 ----------------20

* This connection is to be found in the supplied cable but is not actually
required when you make your own cable.
```

```
                                                (MACINTOSH TO MODEM)
        P/N  590-0169                                P/N 590-0197-A

DB9 Connector     DB25 Connector      DB9 Connector       DB9 Connector
  (Male)             (Male)              (Male)               (Male)
     1 ---------------- 1                  1 ------------------ 8
     3 ---------------- 7                  3 ------------------ 3
     5 ---------------- 3                  5 ------------------ 9
     7 ---------------- 20                 6 ------------------ 6
     9 ---------------- 2                  8 ------------------ 1
                                           9 ------------------ 5
```

```
       P/N 590-0191-A                            P/N 57-30360

5 Pin Din       DB25 Connector            20 Pin          AMP36 Amphenol
                                        DIL Connector        Connector
  (Male)            (Male)                (Female)              (Male)
     1 -------------- 6                     1 ----------------- 14
     2 -------------- 3                     2 ----------------- 10
     3 -------------- 7                     8 ----------------- 1
     4 -------------- 2                    10 ----------------- 2
     5 -------------- 20                   11 ----------------- 3
                                           12 ----------------- 4
                                           13 ----------------- 5
                                           14 ----------------- 6
                                           15 ----------------- 7
                                           16 ----------------- 8
                                           17 ----------------- 9
                                           20 ----------------- 16
```

```
     P/N 590-0042-B (DMP)                Mac to V.24 modem

DB25 Connector         AMP36             DB-9             DB-25
   (Male)              (Male)           (Male)           (Male)
     2 ---------------- 19               1 ---------------- 1
```

```
 5 ---------------- 2
 6 ---------------- 3
 8 ---------------- 4
11 ---------------- 7
12 ---------------- 8
13 ---------------- 9
15 ---------------- 1
16 ---------------- 10
18 ---------------- 35
19 ---------------- 12
21 ---------------- 13
22 ---------------- 5
23 ---------------- 6
24 ---------------- 16
25 ---------------- 32
```

```
2 ---------------- 4&20
3 ---------------- 7
5 ---------------- 2
7 ---------------- 6
9 ---------------- 3
```

Published Date: Feb 19, 2012

DAL for AWS 95: DALInstall Requires ‘whoami‘

I have DAL 1.4 for the Apple Workgroup Server (AWS) 95. I am trying to install DAL and have it work with Oracle 7. I have followed the instructions, creating the directories, and so on, and then run DALInstall. I get the following error message: "DALInstall: whoami not found."

Do you know what is the problem? Do you have any suggestions?

This article has been archived and is no longer updated by Apple.
AAWS 95 installation does not install 'whoami' automatically. The instructions for installing DAL 1.4 on the AWS 95 did not include the information about installing 'whoami'. Once you install 'whoami' everything will work fine. We will forward this information for inclusion in the DALInstall instructions.
Published Date: Feb 19, 2012

DAL/VMS 1.4-Invalid Username/Psswd Error, ADSP Connect (12/93)

I'm having a problem with DAL for VMS 1.4. Whenever I try to connect I get an error message which indicates an invalid username or password. I was able to use MacTerminal and the c-term tool to connect to the VAX. I used the same userid and password and was able to log on to the system. What am I missing?

This article has been archived and is no longer updated by Apple.
If you confirm that your username and password are good, one cause of this error message is the "Restricted" flag being set on the UAF record. When you consult the VAX/VMS documentation, it is vague and does not present the flag as a problem. By unsetting this flag, this problem often goes away.

Published Date: Feb 19, 2012

AV Series: 800K ProDOS Disks and Apple File Exchange

I have a large number of 800K ProDOS disks containing AppleWorks GS files which I would like to copy to my Quadra 660AV using Apple File Exchange. However, success in both mounting and reading this disks is inconsistent. At times, it takes two to three minutes to mount the disk for translation within Apple File Exchange. Other times, the disk cannot be read at all.
This article has been archived and is no longer updated by Apple.
ProDOS disks originally formatted on an Apple IIgs and then inserted into an AV Series Macintosh running Apple File Exchange 7.0 can take up to two or three minutes before the contents of the disk are displayed in the right side window of Apple File Exchange.

However, upon inserting a ProDOS disk Apple File Exchange does not indicate that any activity is taking place. For example, the cursor doesn't change into a watch, menus don't respond, or the floppy is accessed intermittently resulting in the appearance that the Macintosh might have frozen or crashed. Once the ProDOS disk contents are displayed however, complete functionality is restored to the Macintosh.

Therefore, Apple recommends patience when attempting to read ProDOS disks when using Apple File Exchange 7.0. Subsitiuting Macintosh PC Exchange version 2.0 or later for Apple File Exchange is a good alternative to waiting for Apple File Exchange, since Macintosh PC Exchange does recognize ProDOS disk formats. However, any version of PC Exchange prior to 2.0 will not work.

Another work around is connect the Apple IIgs to the Centris 660AV using an AppleTalk network and transferring any ProDOS files to the AV Series Macintosh using System 7.x File Sharing.
Published Date: Feb 19, 2012

AV Series: Virtual Memory conflict with DeskWriter 550c (12/93)

I have a Centris 660AV computer with 8 MB of RAM and Virtual Memory turned on. I cannot print to my DeskWriter 550c using the DeskWriter 3.9 AppleTalk Driver.

This article has been archived and is no longer updated by Apple.
Turn off virtual memory and you'll be able to print to the DeskWriter 550c.
Published Date: Feb 19, 2012

Centris/Quadra 660AV: No Heat Sink on the 68040 (4/95)

Isn't 68040 CPU (central processing unit) used in the Centris 650 the same as that used in the Centris 660AV and Quadra 660AV?

If so, why is there not a heat sink mounted on the 68040 in the Centris 660AV and Quadra 660AV?

This article has been archived and is no longer updated by Apple.
Both the Centris 650 and the Centris 660AV use a Motorola MC68040 CPU running at 25 MHz.

The original MC68040 25 MHz chips that came from Motorola required the use of a heat sink on the Centris 650 to reduce the amount of heat generated by the chip. A new version of processor now used in Centris 660AV and Quadra 660AV no longer require the heat sink.

Article Change History:
25 Apr 1995 - Corrected spelling of sink.

Support Information Services
Published Date: Feb 19, 2012

Quadra 840AV: Personal LaserWriter NTR Printing Problem

I have a Quadra 840AV connected to a Personal LaserWriter NTR and I cannot print to the LaserWriter. I have checked the connections between the computer and the printer and have the latest version of the Personal LaserWriter NTR driver software installed. When printing, I either get a postscript error and or a message stating that the printer cannot be found.
This article has been archived and is no longer updated by Apple.
The following steps have proven successful in restoring the ability to print from a Quadra 840AV to a Personal LaserWriter NTR:

1. Ensure Speech Recognition is turned off.
2. Ensure that Virtual Memory is turned off.
3. Check to see if the Printer is connected to the Quadra 840AV's printer port so that the built in LocalTalk connected can be used.
4. Reinstall the printing software for the Personal LaserWriter NTR.
5. Reset the PRAM of the Quadra 840AV (RAM parameter settings). Hold down the Command, option, P and R keys while starting up the Quadra. The Quadra will start up normally but after several seconds will restart once again.

Published Date: Feb 19, 2012

LaserWriter Indicates A Paper Jam

The LaserWriter I/O Board has been removed for troubleshooting purposes. The LaserWriter is powered on and the green light blinks. The LaserWriter then tries to generate a test print (as if the I/O board was still installed). After a short time the LaserWriter indicates that a paper jam exists when, in fact, there is no paper jam.

This article has been archived and is no longer updated by Apple.

Remove and replace the scanner unit. Review the LaserWriter General Troubleshooting Procedures if the LaserWriter still indicates a paper jam.

Published Date: Feb 19, 2012

ImageWriter: First Printed Line Squeezed Into 1/2 Line

This article has been archived and is no longer updated by Apple.

PROBLEM DESCRIPTION: When print is initiated, the text of the first line is compressed.

CAUSE: When you tear paper from an older printer, the platen gears may be pulled 1/2 line or so out of alignment -- so that they are between two sprocket positions. This is a normal occurrance and doesn't mean that the printer is broken. During the print head's first pass after this has occurred, the platen will not be positioned properly. At the next pass (the printer may perform several passes for one line of print), the Line Feed motor is activated which turns the platen causing the platen gears to realign for the rest of the print.

CURE: Before printing, turn off the printer and then turn it back on again. This will cause the printer to perform its power-on initialization cycle which activates the Line Feed motor, thereby realigning the platen gears before the print is initiated.

Published Date: Feb 19, 2012

Centris, Quadra 660AV: Video Capture Issues (12/93)

I'm attempting to capture quality screen snapshots using the Video Monitor application on my Centris 660AV. I'm experiencing the following strange effects:

1) A black band line (about 3 pixels wide) appears at the bottom of the picture when taking screen snapshots with Video Monitor. This occurs when using both Composite In and S-Video In as the video source. Is there a work around?

2) When capturing S-Video, I get an extremely bright picture when using the lowest video setting in S-Video. When using Composite Video In, it works fine. Is there any way to adjust the brightness beyond the Video Settings?

3) I'm concerned that the Centris 660AV is not utilizing all of the resolution lines that my still camera outputs. The camera is capable of putting out 450 Resolution lines. Does the Centris 660AV utilize all of these lines. Customer is concerned that the Centris 660AV is digitizing with field resolution as opposed to frame resolution. How many of the resolution lines does the Centris 660AV utilize in the Video Monitor application?

This article has been archived and is no longer updated by Apple.
Of the two Macintosh AV systems (the Centris/Quadra 660AV and the Quadra 840AV), the Quadra 840AV has better capture characteristics largely due to the option to have an additional 1MB of VRAM installed. Given the fact, here are the answers to your questions:

1) The black band is most likely the blanking part of the video frame. The AV digitizer expects a certain number of lines and we've have seen this occur on other video digitizers. The signal contains the blanking information and is normally outside the display area of the typical television monitors.

Due to the vast amount of history with the NTSC standard, there is some "freedom" about exactly how blanking works. If the number of image lines the AV digitizer is expecting is more than what the source supplies, there will be visible blanking info at the bottom of the image (or at times, on one of the edges).

When capturing still frames it is relatively easy to fix these captured images using an application like Photoshop or Painter. Simply use their tools to Crop out the unwanted area. While not an ideal solution, it is only one available to eliminate this part of the display. Some video capture applications provide a crop rectangle so that cropping can be specified prior to the capture.

2) Based on what the AV expects in a video signal, it is possible to over saturate the bright areas of an image. Over saturatation is easier to introduce with S-video because you have a stronger signal available. Choosing the VCR option (instead of the TV/video disc option) in the video input control panel provides the best setting in such situations. The best way to control the brightness is during the shooting of the video. Keeping the contrast ratio as low as possible will provide the best results.

3) There are two issues to consider in the area of video resolution versus computer pixels. First, the output of the analog video device does not always map directly to the pixel count of the digital device.

Second, concerns the number of pixels that are captured by the AV

system. Based on VRAM of 1MB, a true 640x480 image can not be captured. A 640x480 image can be created, but it will use line-doubling from single field to produce the full screen image. To get a full 640x480 image using both fields 2MB of VRAM is required. The 1MB limits the dual field/undoubled line image to 496x372 pixels.

Some additional thoughts to consider on single field versus single frame, which uses both fields: If the capture image is 240 or less lines vertical 1 field is dropped to scale the image. Two examples:

* First case, 1MB VRAM - if the capture image is greater than 240 lines vertical or is equal to/less than 372 lines vertical, then both fields are used. A scalar chip is used to scale the information from the two fields.

* Second case, 2MB VRAM (840AV only) - if the capture image is greater than 240 lines vertical, up to 480 lines vertical, both fields are used. Again a scalar chip is used to scale both fields to the selected image size.

Published Date: Feb 19, 2012

Peter‘s Adventure Series: System Requirements

What are the system requirements of the Peter's Adventure series of games?
This article has been archived and is no longer updated by Apple.

Peter's Adventure is a series of CD-ROM based games consisting of Peter's Numbers Adventure, Peter's Alphabet Adventure and Peter's Magic Adventure.

The Peter's Adventure series has the following system requirements:

1) A Macintosh LC computer or later with at least 5 megabytes of memory, System 6.0.7 or later, 32-Bit QuickDraw, and QuickTime version 1.5 or later.

2) A Macintosh monitor which displays at least 640 by 480 pixels and 256 colors.

3) A Macintosh-compatible CD-ROM drive.

4) 2560K allocated memory for Peter's Numbers Adventure and Peter's Magic Adventure, and 3072K allocated memory for Peter's Alphabet Adventure.

QuickTime Version

If you do not have QuickTime installed, you will see an error message. Note that each of the Peter's Great Adventure CDs has QuickTime v 1.6, which you can drag to the Extensions Folder inside your Macintosh's System Folder if you don't currently have QuickTime.

Number of Colors

If your Macintosh computer is not set to 256 color mode, you will receive an error message. To set your Macintosh to display 256 colors, follow these steps:

1) Select Control Panel from the Apple Menu, then double-click on Monitors.

2) Select 256 and click on Color in the Monitor Control Panel, then close the control panel by clicking the close-box.

If your Macintosh does not support 256 colors, you must add VRAM or a video board that supports 256 colors.

Number of Pixels

If your monitor does not display at least 640 by 480 pixels, you will receive an error message. You must attach such a monitor to your Macintosh to play Peter's Adventure.

Memory

If you do not have enough memory available, your system may suddenly "crash" or stop operating. If this happens, follow these steps:

1) Go to the Finder and select About this Macintosh from the Apple Menu. The largest unused block must be at least 2560K for Peter's Numbers Adventure and Peter's Magic Adventure, and 3072K for Peter's Alphabet Adventure.

2) If you do not have this much memory, remove extensions and/or control panels that are not needed to run Peter's Adventure. Do NOT remove the QuickTime extension.

Note that using Virtual Memory will cause Peter's Adventure to run erratically and is not recommended.

Published Date: Feb 19, 2012

Peter‘s Adventure Series: Icon Missing from Desktop

Why can't I see the Peter's Adventure icon on my Desktop?
This article has been archived and is no longer updated by Apple.

```
Check your system for the following conditions:

1) Ensure that your CD-ROM drive is turned on and plugged into an live
  electrical outlet.

2) Ensure the CD-ROM drive is properly connected to your Macintosh computer's
  SCSI port (consult your CD-ROM drive's manual for instruction).

3) Ensure the CD-ROM drive's SCSI ID number does not conflict with another
  SCSI device's ID number (consult your CD-ROM drive's manual for further
  information).

4) Ensure all CD-ROM drivers are installed.

5) Turn on your CD-ROM drive before your turn on your Macintosh.  If your
  CD-ROM drive is already turned on, restart your Macintosh.

6) Use another CD-ROM disc.  This will narrow down the problem to either the
  your system set-up or your CD-ROM disc.
```

Published Date: Feb 19, 2012

Peter‘s Adventure Series: Erratic Sound and Animation (12/95)

Why does the sound and animation in the Peter's Adventure series play erratically?

This article has been archived and is no longer updated by Apple.
Erratic sound and animation can be caused by the following phenomena:

1) The CD-ROM itself may be dirty (fingerprints, dust, etc.). Clean your CD-ROM with a dry, soft, lint-free cloth. Be sure to wipe from the center of the CD straight out (not in a circular motion around the disk).

2) There may be applications running in the background on your Macintosh. You must quit other all applications.

3) You may have turned on File Sharing. Ensure that File Sharing is off before running Peter's Adventure.

4) You may turned on Virtual Memory. Ensure that Virtual Memory is off. If you do not have enough memory, add additional memory

5) If you are using an older and/or slower Macintosh such as an LC or LC II, Peter's Adventure may occasionally behave erratically. If you are planning on using a significant amount of CD-ROM multimedia and want optimum performance, consider upgrading.

6) If you are using an early or single speed CD player, such as an AppleCD SC, AppleCD 150, or PowerCD, Peter's Adventure may behave erratically. You may want to consider upgrading to an AppleCD 300.

7) The Sound Manager 3.0 extension may cause erratic sound with Peter's Adventure Series CD-ROM discs. The only workaround is to remove the Sound Manager 3.0 extension from the Extensions folder of your System Folder and restart your computer before running a Peter's Adventure disc.

Article Change History:
12 Dec 1995 - Added Sound Manager 3.0 information.
07 Sep 1995 - Made minor corrections.

Support Information Services
Published Date: Feb 19, 2012

AWS 95, AppleShare Pro and Non-root Users (12/93)

This article describes why the Apple Workgroup Server (AWS) 95 will not allow non-root users to run AppleShare Pro. Also the use of a screen saver with password protection will provide security.

This article has been archived and is no longer updated by Apple.
There are no plans to implement support for non-root users to run AppleShare Pro on the AWS 95. Its implementation has been investigated and the effort necessary to make such a change would be great.

Several factors were considered before arriving at this decision. Since AppleShare Pro requires write access to the "/" volume for the creation of the PDS file, it needs to be a root process. Other administrative functions require root access as well. For example, mounting file systems, initializing a hard disk, making a new file system, the creation of a new kernel, modifying the A/UX Buffer Cache which changes the A/UX kernel, and so on.

If the AWS 95 is in a situation where security is a concern, we suggest the use of a screen saver which allows for password protection. You must use a module that does not require CPU cycles to work. For example, AfterDark, using the FadeAway module with the SystemIQ monitor enabled. Any other AfterDark module will affect the server performance.

Published Date: Feb 19, 2012

GeoPort Modem: America Online Setup

This article explains how to set up your GeoPort modem to connect to America Online (AOL).
This article has been archived and is no longer updated by Apple.
If you have AOL software version 2.51 you should not have any problems connecting. AOL version 2.51 is the version recommended by AOL for the GeoPort modem. The modem set up strings are preconfigured for use with this modem. If you are having problems connecting to America Online with version 2.51, please contact AOL for further assistance.

Using earlier versions of the AOL software can cause the Geoport Telecommunications pod to exhibit a buzzing sound until the pod is disconnected from the computer and reconneted OR until the computer is restarted. This problem would normally be very intermitent.

If you have AOL software prior to version 2.51 and you are having problems connecting to America Online using your GeoPort modem, you may need to take a few simple steps to correct the problem.

1) Go into your Control Panels folder, and double-click on the EXPRESS MODEM Control Panel. Make sure that the "Express Modem:" option is set to "On", and the "Modem Port Setting" option is set to "Use Express Modem".

2) Also in the Control Panels folder, double-click on the "Speech Setup" Control Panel. Make sure that "Speech Recognition" is set to "Off".

3) Finally, you may need to use a "Modem Initialization String" to configure that modem properly for use with America Online.

To enter a modem string in the America Online software:

- Launch America Online by double-clicking the AOL application icon.
- Click on the "Setup" button.
- On the next screen, click on the "Edit Modem Strings" button, and you will see a screen with 3 (three) boxes for modem strings shown there.
- Enter one of the following strings, in the box labeled "Modem Initialization String" : AT&F&K0&Q0 or : AT\\N1&Q0

Make sure that the modem string is typed all in capital letters, with no spaces, and always use ZERO for "0",?NOT the letter "o".

If you follow all of the steps mentioned above, you should be able to connect to America Online without any further difficulties. If problems persist, see information on this BBS about Software Conflicts, Hard Drive Compression, or other possible problems which may be preventing you from connecting to America Online.

The Tech Info Library article, #17159, titled "Locating Vendor Information", can help you search for a particular vendor's address and phone number.
Published Date: Feb 19, 2012

MacTCP 1.1 and Quadra 610 Problem

I have MacTCP Version 1.1 and NCSA Telnet 2.5. My new Macintosh Quadra 610 is connected to a GatorStar GXR via LocalTalk which is then being routed to Ethernet. Before we had the Quadra 610 we had a Classic II connected in the same location.

Now, MacTCP is defaulting to Ethernet and we can not connect up to the LocalTalk side for connecting to the Ethernet via the GatorStar. When I open up the MacTCP control panel all is see at the top is the Ethernet Driver.

Is there a way to make MacTCP use the AppleTalk port on a Macintosh with on board Ethernet?

This article has been archived and is no longer updated by Apple.
MacTCP 1.1 is not compatible with System 7.1. MacTCP 1.1.1 or later should be used instead.

The main problem with MacTCP 1.1 and System 7.1 is that MacTCP 1.1 changes some values in low memory that System 7.1 relies on. With these values changed, System 7.1 will sometime crash and possibly corrupt an internal resource.

Also, MacTCP 1.1 does not display the LocalTalk mdev in the MacTCP Control Panel under System 7.1.

Because of this, MacTCP 1.1 and earlier are not recommended or supported under System 7.1. If you continue to use MacTCP 1.1 with System 7.1, you are doing so at their own risk.

Published Date: Feb 19, 2012

Apple IIc : Not Booting

I have an Apple IIc that will not boot. What could be causing this problem?
This article has been archived and is no longer updated by Apple.
Two possible causes:

1. Power Supply RFI interfering with the disk drive's ability to read data from disks.

Cure: Check the Technical Procedures "Power Supply Retrofit" to determine if the unit has a Type 1 power supply. If it is Type 1, follow the procedure to install the shield P/N 612-5004 onto the power supply.

2. Color Monitor RFI interfering with disk drive's ability to read data from disks.

Check for head shield on internal disk drive. If missing, install per March 1986 Technical Procedures update. A May Service & Support Notice will explain how to obtain reimbursement for this procedure.

If this cure does not resolve the problem, search the TIL for Apple IIc and Troubleshooting.
Published Date: Feb 19, 2012

A/UX 3.0.2: Software Handshaking With stty (12/93)

Under A/UX 3.0.2, when we try to set the /dev/tty0 to use software handshaking (Xon/Xoff) using 'stty', /dev/tty0 seems to accept but ignore whatever 'stty' setting we provide it with, any suggestion?

This article has been archived and is no longer updated by Apple.
In A/UX, some of flow control tty settings such as 'modem', 'dtrflow', and so on are maintained across last close. This means the flow control settings are "remembered" when a tty device is closed and reopened again. However, other termio characteristics like software flow control (ixon, ixoff), speed (50, 75, 1200, and so on), parity (parenb, parodd, and so on), input modes (ignbrk, brkint, istrip, and so on), local modes (echo, echok, and so on) are set to the default settings when the tty line is closed. The default setting for software flow control on tty0 is off.

In order to make the 'stty' settings affected and still keep the tty port open put a sleep statement, 'sleep 99999' for example, after the 'stty' command. In your case, you may do:

```
(stty hupcl ixon ixoff; sleep 99999) < /dev/tty0 &
```

Published Date: Feb 19, 2012

LaserWriter 810 & 360: Fax Option Error Checking

Do the fax options for the LaserWriter Pro 810 and LaserWriter Select 360 perform any error checking when transmitting and receiving data?
This article has been archived and is no longer updated by Apple.
Group 3 fax machines incorporate a means for identifying the optional features that are available on the receiving fax machine during the initial connection and identification phase. Better quality fax machines including the LaserWriter Pro 810 and LaserWriter Select 360 fax options support the ECM error correction method in both the group 3 and PostScript fax modes.

ECM is a method for error correction where the facsimile data to be transmitted is divided into data units each having a certain length, so that when any error occurs during data transmissions the applicable data unit is resent. Both the sending and receiving fax machines must support ECM for the option to be enabled.

The Group 3 raster fax data is sent in packets with a CRC byte. If the CRC byte is bad then the receiving station will keep requesting retransmission of the packet until it is successfully received.

The above information applies to Group 3 fax jobs. All PostScript fax jobs transmitted to other PostScript fax printers will always use ECM error correction since a single error can prevent a PostScript job from printing.
Published Date: Feb 19, 2012

AppleScript: Apple Event Manager Not Loading

I have a Quadra 800 running System 7.1, Apple Event Manager 1.0.1 and AppleScript 1.0.

Occasionally, on startup, the Apple Event Manager has an red "X" through it, indicating that it's not loading. When this happens there seems to be extra disk activity (after a normal restart) preceding the red "X". Rebooting does not clear up the problem.

Using the Extension Manager (from Apple) to disable all but these two extensions does not clear it up. I have found that to clear this up, I must reset PRAM and reboot twice! On the first reboot the Apple Event Manager does not load properly. I reset 32-bit addressing and cache size in the Memory Control Panel as well as other settings cleared by resetting the PRAM. On the next startup the Apple Event Manager initialized properly.

What conditions cause this extension not to load?
This article has been archived and is no longer updated by Apple.
Engineering has released version 1.0.3 of the Apple Event Manager which corrects the problem described above. Please be sure to remove all other copies of the Apple Event Manager (note the space in front of the name - a customer might drag 1.0.3 into his Extensions folder, thinking it would replace the older version, but it wouldn't because of the filename difference).

Please note that this problem goes away with AppleScript 1.1, because the functionality of the Apple Event Manager extension has been rolled into the AppleScript extension.
Published Date: Feb 19, 2012

Travelrama: Icon Missing from Desktop (11/95)

Why can't I see the Travelrama icon on my Desktop?

This article has been archived and is no longer updated by Apple.
Check your system for the following conditions:

1) Ensure that your CD-ROM drive is turned on and plugged into a live electrical outlet.

2) Ensure the CD-ROM drive is properly connected to your Macintosh computer's SCSI port (consult your CD-ROM drive's manual for instruction).

3) Ensure the CD-ROM drive's SCSI ID number does not conflict with another SCSI device's ID number (consult your CD-ROM drive's manual for further information).

4) Ensure all CD-ROM drivers are installed.

5) Turn on your CD-ROM drive before your turn on your Macintosh. If your CD-ROM drive is already turned on, restart your Macintosh.

6) Use another CD-ROM disc. This will narrow down the problem to either your system set-up or your CD-ROM disc.

Article Change History:
30 Nov 1995 - Corrected minor typo.

Support Information Services
Published Date: Feb 19, 2012

Travelrama: System Requirements (11/95)

What are the system requirements of Travelrama?

This article has been archived and is no longer updated by Apple.
The Travelrama game has the following system requirements:

1) A Macintosh LC III computer or other color Macintosh with a 68030 or faster processor (68040 recommended), 4 megabytes of memory (5 megabytes recommended), and System 7.1 or later.

2) A Macintosh-compatible 13-inch or larger RGB monitor which displays at least 640 by 480 pixels and 256 colors.

3) A Macintosh-compatible CD-ROM drive (double-speed CD-ROM drive recommended).

4) 2000K minimum allocated memory (2300K preferred) to run the game.

Number of Colors

If your Macintosh computer is not set to 256 color mode, you will receive an error message. To set your Macintosh to display 256 colors, follow these steps:

1) Select Control Panel from the Apple Menu, then double-click on Monitors.

2) Select 256 and click on Color in the Monitor Control Panel, then close the control panel by clicking the close-box.

If your Macintosh does not support 256 colors, you must add VRAM or a video board that supports 256 colors.

Number of Pixels

If your monitor does not display at least 640 by 480 pixels, you will receive an error message. You must attach such a monitor to your Macintosh to play Travelrama.

Memory

If you do not have enough memory available, your system may suddenly "crash" or stop operating. If this happens, follow these steps:

1) Go to the Finder and select About this Macintosh from the Apple Menu. The largest unused block must be at least 2000K.

2) If you do not have this much memory, remove extensions and/or control panels that are not needed to run Travelrama.

Note that using Virtual Memory will cause Travelrama to run irratically and is not recommended.

Article Change History:
30 Nov 1995 - Updated format.

Support Information Services
Published Date: Feb 19, 2012

Wacky Jacks: Icon Missing from Desktop (12/93)

Why can't I see the Wacky Jacks icon on my Desktop?

This article has been archived and is no longer updated by Apple.
Check your system for the following conditions:

1) Ensure that your CD-ROM drive is turned on and plugged into an live electrical outlet.

2) Ensure the CD-ROM drive is properly connected to your Macintosh computer's SCSI port (consult your CD-ROM drive's manual for instruction).

3) Ensure the CD-ROM drive's SCSI ID number does not conflict with another SCSI device's ID number (consult your CD-ROM drive's manual for further information).

4) Ensure all CD-ROM drivers are installed.

5) Turn on your CD-ROM drive before your turn on your Macintosh. If your CD-ROM drive is already turned on, restart your Macintosh.

6) Use another CD-ROM disc. This will narrow down the problem to either the your system set-up or your CD-ROM disc.

Published Date: Feb 19, 2012

Wacky Jacks: System Requirements (12/93)

What are the system requirements of the CD-ROM game, Wacky Jacks?

This article has been archived and is no longer updated by Apple.
The Wacky Jacks game has the following system requirements:

1) A Macintosh LC III computer or other color Macintosh with a 68030 or faster processor (68040 recommended), 4 megabytes of memory (5 megabytes recommended), and System 7.1 or later.

2) A Macintosh-compatible 12-inch or larger RGB monitor which displays at least 640 by 480 pixels and 256 colors.

3) A Macintosh-compatible CD-ROM drive (double-speed CD-ROM drive recommended).

4) 1600K minimum allocated memory (1800K preferred) to run the game.

Number of Colors

If your Macintosh computer is not set to 256 color mode, you will receive an error message. To set your Macintosh to display 256 colors, follow these steps:

1) Select Control Panel from the Apple Menu, then double-click on Monitors.

2) Select 256 and click on Color in the Monitor Control Panel, then close the control panel by clicking the close-box.

If your Macintosh does not support 256 colors, you must add VRAM or a video board that supports 256 colors.

Number of Pixels

If your monitor does not display at least 640 by 480 pixels, you will receive an error message. You must attach such a monitor to your Macintosh to play Wacky Jacks. Note that there is a special version of Wacky Jacks which will run on a 12-inch monitor or a Color Classic, but some graphics may be cropped and other items may not be centered on the screen.

Memory

If you do not have enough memory available, your system may suddenly "crash" or stop operating. If this happens, follow these steps:

1) Go to the Finder and select About this Macintosh from the Apple Menu. The largest unused block must be at least 1600K.

2) If you do not have this much memory, remove extensions and/or control panels that are not needed to run Wacky Jacks.

Note that using Virtual Memory will cause Wacky Jacks to run erratically and is not recommended.
Published Date: Feb 19, 2012

Wacky Jacks: Why Do I Lose Sound? (12/93)

Why do I sometimes lose sound when I run Wacky Jacks?

This article has been archived and is no longer updated by Apple.

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This is generally caused by a lack of application memory or by not having your
computer's sound turned up.  Here are some items to check:

1) Ensure that you have enough system memory available to run Wacky Jacks.  If
  you do not, make more memory available by closing other applications or by
  adding memory to your computer.

2) Set your Minimum and Preferred memory size to 2300K.  To do this, create a
  new folder on your hard drive and copy the Wacky Jacks application into
  that folder.  Then, create aliases of all other Wacky Jacks folders and
  copy them into the new folder.  Finally, click the Wacky Jacks icon, choose
  Get Info from the File Menu, then change the Minimum and Preferred memory
  size to 2300K.

3) Remove Sound Manager 3.0 and use the System 7.x sound resources instead.
  Sound Manager 3.0 offers superior sound quality, but uses slightly more
  memory.

4) Ensure that you have the volume turned up in your Sound Control Panel.
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Published Date: Feb 19, 2012

H-Series ColorMonitor IIc/e P/C: F901 Fuse Keeps Blowing

This article has been archived and is no longer updated by Apple.

NOTE: Check the serial number. This fix is only for:
ColorMonitor IIes with S/N less than Y029000
and
IIc ColorMonitors with S/N less than Y048650.

PROBLEM DESCRIPTION: F901 (3.15 amp fuse) on the main logic PCB of H-Series ColorMonitor IIc and IIes is blown.

CAUSE: A "special" medium blow higher ampere rating fuse needs to be installed.

CURE: Contact your local support center and ask them to send you an upgrade fuse kit.

If this cure does not resolve the problem, go to the Tech Procedures to obtain a General Troubleshooting procedure.

Published Date: Feb 19, 2012

ARA MultiPort Server: Read Me File

This article contains the Read Me file for the Apple Remote Access Multiport Server.
This article has been archived and is no longer updated by Apple.
APPLE REMOTE ACCESS MULTIPORT SERVER READ ME

This document provides late-breaking news about the Apple Remote Access MultiPort Server not covered in the "Apple Remote Access MultiPort Server Administrator's Guide." You may need to refer to that guide to understand the use of several terms in this document.

Modems supported by the Apple Remote Access MultiPort Server

The Remote Access MultiPort Server supports any Hayes-compatible 9600-bps or higher-speed modem with the appropriate script. Modem scripts for many popular modems are provided on the Apple Remote Access MultiPort Server installation disks, including:

United States

V.fast modems:
- Motorola Codex 3260fast

V.32bis modems (14,400 bps):
- Hayes Ultra 144
- Motorola Codex 3260
- US Robotics Courier V.32bis

V.32 modems (9600 bps):
- Hayes Ultra 96
- Telebit T1600
- UDS/Motorola 3225
- UDS/Motorola 3227
- US Robotics Sportster
- US Robotics Worldport

ISDN support:
- Hayes ISDN Adapter

Germany

25,000 bps:
- Motorola 326x (Fast) v2

19,200 bps:
- MDG 19K2-31 v2
- MDG14MX-22 v2

14,400 bps:
- euroScout v2
- PriCom 14.4 v2
- TELEJET 14400 v2

9600 bps:
- FURY 9600 TI v2
- MicroLink 9624 v2

2400 bps:
- CN-3532 SA Plus v2
- CN-3532 SA v2
- MicroLink 2410 v2

Switzerland

19,200 bps:
- ZyXEL U-1496

9600 bps:
- FURY 9600 TI v2
- NOKIA PMD 9600

NOTE: The U.S. scripts listed above are also installed in all other countries.

9600-bps or higher-speed modem scripts included with the Apple Remote Access Client for Macintosh software can also be used with the Apple Remote Access MultiPort Server.

If you're familiar with connection control languages (CCLs), you can also write the appropriate script for your modem by using the "Apple Remote Access Scripting Guide" and the Modem WorkShop software, which are included with the Apple Remote Access MultiPort Server.

Using an MNP 10 modem

MNP 10 is an error-correction protocol that allows for more reliable data connections made through cellular modems.

Cellular phones with modems that have MNP 10 capabilities generally cannot receive a callback from a server due to variations in how phones answer incoming calls. Use a different security verification method than callback for cellular clients.

Using a Remote Access MultiPort Server with an Apple Internet Router
---
The Remote Access MultiPort Server may coexist on the same Macintosh with the Apple Internet Router version 3.0.1 or later. If Apple Internet Router 3.0 is installed, you must upgrade to Apple Internet Router 3.0.1 before installing the MultiPort Server. You may obtain this software through your authorized Apple reseller or representative or the Apple Customer Assistance Center.

Using the Remote Access MultiPort Server with AppleShare

If AppleShare 4.0 is installed on the same Macintosh as the Apple Remote Access MultiPort Server is to be installed on, you must upgrade to 4.0.1 before installing the MultiPort Server. The Apple Remote Access MultiPort Server and AppleShare 4.0.1 can be active concurrently. You may obtain this software through your authorized Apple reseller or representative or the Apple Customer Assistance Center.

Using the Remote Access MultiPort Server with Macintosh File Sharing
---
You cannot use the Remote Access MultiPort Server software concurrently with System 7 Macintosh file sharing. When you start the Remote Access Manager program, you will be asked to convert the Users & Groups Data File. After it is converted, only Remote Access Manager and AppleShare 3.0 (or later) can use the Users & Groups Data File.

Using the MultiPort Server on Macintosh computers with 7-inch NuBus Cards
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Macintosh computers that use 7-inch NuBus¬ cards only (such as the Macintosh Centris 610 and Macintosh Centris 660AV) may not be supported at this time by the Apple Remote Access MultiPort Server. Consult your authorized Apple reseller or representative for more information.

Using the Remote Access MultiPort Server with the built-in serial ports
---
The built-in serial ports in your Macintosh are not available for use with the Remote Access MultiPort Server.

Automatically starting the Remote Access MultiPort Server

If you want the MultiPort Server to start automatically after you restart your computer, or if you want the server to restart after a power failure, place the Remote Access Manager application (or an alias) in the Startup Items folder, located in the System Folder. The MultiPort Server will only start automatically if it was running the last time you quit the Remote Access Manager application.

Printing the Remote Access MultiPort Server Log

For best results when printing the Remote Access Manager server log, choose Page Setup from the File menu and then select the following options:

1. In the Orientation section of the dialog box, select the landscape page orientation (the option on the right).

2. In the Reduce or Enlarge box, type 70.

Using the Remote Access MultiPort Server with a security zone
---
If a security zone is advertised by a network router, make sure the security zone is available when Remote Access Manager ports are configured and turned on. Otherwise, when an Apple Remote Access user dials in, the user will be disconnected and the port turned off. See the "Apple Remote Access Security Zone Read Me" file (on the "Apple Remote Access MultiPort Server Toolkit" disk) for more information.

Zone lists and server performance

Overall performance of the MultiPort Server may be diminished if a large number of zones are included as part of a user's zone access privileges. If you wish to allow or disallow a user's access to a large number of zones, it would be better to choose either "All Zones except listed" or "Only Zones listed," respectively. (See the section "Creating a New User" in Chapter 3 of the "Apple Remote Access MultiPort Administrator's Guide" for details on how to set these options.) Always try to minimize the number of zones in a user's zone list for best performance.

Reinstalling the Remote Access MultiPort Server software

If you reinstall the MultiPort Server software and want to keep your server preferences and port configuration, move the MultiPort Server Preferences and Remote Access Preferences files out of your Preferences folder (in the System Folder) before reinstalling the MultiPort Server. After you reinstall the software, replace the newly installed MultiPort Server Preferences and Remote Access Preferences files with your original files.

NOTE: Only replace the MultiPort Server Preferences file with the original file if you know that your original file is not damaged. Your MultiPort Server will not start with a damaged MultiPort Server Preferences file.
Published Date: Feb 19, 2012

ARA Personal Server: Read Me File

This article contains the Read Me file for the Apple Remote Access Personal Server.
This article has been archived and is no longer updated by Apple.
APPLE REMOTE ACCESS PERSONAL SERVER FOR MACINTOSH READ ME

This document provides late=breaking news about the Apple Remote Access Personal Server not covered in the "Apple Remote Access Personal Server User's Guide." You may need to refer to that guide to understand the use of several terms in this document.

Modems supported by the Apple Remote Access Personal Server

Modem scripts for many popular modems are provided on the Remote Access Personal Server installation disks, including:

United States

V.32bis modems (14,400 bps):
Apple Express Modem
Global Village PowerPort Gold
Global Village TelePort Gold
Hayes Optima 144
Microcom QX4232bis
Prometheus ProModem 144e
PSI Powermodem IV
Supra SupraFax v.32bis
Telebit WorldBlazer

V.32 modems (9600 bps):
Global Village PowerPort Silver
Global Village TelePort Silver
Prometheus Promodem 96
PSI Powermodem III
Supra SupraFax Modem Plus
Telebit QBlazer
Telebit T1600
US Robotics Sportster

V.22bis modems (2400 bps):
Apple 2400
Global Village PowerPort Bronze
Global Village TelePort Bronze
Hayes Optima 2400
Microcom AX 2400C
Prometheus Promodem 24
PSI PowerModem II

Cellular support:
Applied Engineering DataLink PB and Applied Engineering Axcell Cellular
Interface
Microcom Cellular Data Link 300

ISDN support:
Hayes ISDN adapter

Czechoslovakia

CZ Sample Script * Apple 2400

Germany

57,600 bps:
Andante EAZ0 v2 (V.24 ISDN Adapter)
Andante EAZ1 v2
Andante EAZ2 v2
Andante EAZ3 v2

Andante EAZ4 v2
Andante EAZ5 v2
Andante EAZ6 v2
Andante EAZ7 v2
Andante EAZ8 v2
Andante EAZ9 v2

25,000 bps:
Motorola 326x (Fast) v2

19,200 bps:
MDG 19K2=31 v2
MDG 14MX=22 v2

14,400 bps:
euroScout v2
Express Modem 14400 v2
Global Village Test v2
PriCom 14.4 v2
TELEJET 14400 v2

9600 bps:
CN=3532 SA Plus v2
CN=3532 SA v2
FURY 9600 TI v2
MicroLink 9624 v2

2400 bps:
Apple PowerBook/Portable v2
CN=3522 SA Plus v2
CTK EuroCoupler Akustikk. v2
CTK EuroCoupler Modem v2
Dialog 2400 MNP v2
FURY 2400 TI v2
GVC SuperModem 2400 MNP v2
GVC SuperModem 2400 v2
MAKK=CHAMPION Akustikk. v2
MAKK=CHAMPION Modem v2
MDG 2400=11 v2
MDG 2400=21 v2
MicroLink 2410 v.2
Personal Line 2400 MNP v2
TELEJET 2400 v2
Worldport 2400 MNP v2

Switzerland

19,200 bps:
ZyXEL U=1496

9600 bps:
FURY 9600 TI v2
NOKIA PMD 9600

NOTE: The U.S. scripts listed above are also installed in all other countries.

Modem scripts included with the Apple Remote Access MultiPort Server can also be used with the Apple Remote Access Personal Server.

Using AppleTalk Remote Access v1.0 Modem Scripts with the ARA Personal Server
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You can use AppleTalk Remote Access version 1.0 modem scripts with Apple Remote Access Personal Server, but you will not be able to use certain new features, such as Ignore Dial Tone, Manual Dialing, and MNP 10. You cannot use Apple Remote Access Personal Server modem scripts with AppleTalk Remote Access version 1.0.

Calling an AppleTalk Remote Access version 1.0 Server

The AppleTalk Remote Access 1.0 Compatibility option allows you to call a version 1.0 server and to receive callbacks from a 1.0 server (see Chapter 3 of the "Apple Remote Access Personal Server for Macintosh User's Guide" for details on setting this option). However, it does NOT allow an Apple Remote Access Personal Server to receive calls from an AppleTalk Remote Access 1.0 client. The Apple Remote Access Personal Server can only receive calls from version 2.0 Apple Remote Access Clients.

Using an MNP 10 modem

MNP 10 is an error-correction protocol that allows for more reliable data connections made through cellular modems.

To establish an MNP 10 connection, your modem and the modem you're calling must support MNP 10; clicking the "Use MNP 10 error correction in modem" checkbox in the Remote Access Setup window is not by itself sufficient to establish an MNP 10 connection.

Using aliases with Apple Remote Access

When you create an alias over an Apple Remote Access connection, select the alias icon and choose Get Info from the File menu, then click the Locked checkbox. If you don't lock the alias, the alias can be converted to call the wrong Apple Remote Access server or to try to access the service across your local network.

Using the Manual Dialing feature

When you use Manual Dialing, establishing a Remote Access connection varies according to the type of modem you are using. To ensure that you can make a connection while using Manual Dialing, you may need to experiment with pressing the Connect button slightly before or after you hear the remote modem answer the phone.

Using the Redialing feature

Remote Access Client will attempt redialing only when the phone number that has been dialed is busy. If the connection attempt has failed for any other reason, Remote Access will stop the redialing attempts so that you can correct any problems.

When using the Redialing option, you should set the "Time between retries" number to five seconds or greater. Depending on the modem, anything less than five seconds may not give your modem sufficient time to reset, resulting in your Macintosh serial port being busy and unavailable for redialing.

When using the Redial alternate number option, the main number will be dialed once before the redialing sequence is initiated. The redialing sequence will then alternate between the main and alternate numbers.

Using DialAssist

In certain countries city/area codes don't exist. If you are calling within such a country and you encounter problems, try entering a space in the "Connect To City/Area Code" field in your connection document to get DialAssist to work properly.

Serial Port Arbitration

When a Remote Access connection is established (or being established when answering or making a call), Remote Access prevents other application programs from using the serial port you selected in the Remote Access Setup control panel. In this case, most programs will inform you that the port is in use.

If your Macintosh is set up to answer calls (the "Answer calls" checkbox in the Remote Access Setup control panel is selected), then other programs are allowed to use the serial port. When they are finished with the port, Remote Access reenables your Macintosh to answer calls.

Remote Access Personal Server provides this port arbitration through a system extension called the Serial Port Arbitrator located in the Extensions folder. Some programs that use the serial port may not be compatible with this extension. If you suspect this, remove the Serial Port Arbitrator file from the Extensions folder, restart your Macintosh, and try the program again.

NOTE: The Serial Port Arbitrator will not work on a Macintosh if Remote Access Personal Server has not been installed.

Macintosh computers with Virtual Memory

If you are using a Macintosh IIfx, Macintosh Quadra 900, or Macintosh Quadra 950 and have Virtual Memory turned on, you must open the Serial Switch control panel (included on the Install 2 disk) and set the serial port setting to Compatible.

Modem cable requirements

Most modems require a cable that supports the data terminal ready (DTR) signal. In addition, certain modems require a cable that supports CTS/RTS hardware flow control. To support DTR, the cable must connect pin 20 on the DB=25 connector to pin 1 on the Mini DIN=8. To support CTS/RTS, the cable must connect pin 5 on the DB=25 connector to pin 2 on the Mini DIN=8 and pin 4 on the DB=25 connector to pin 1 on the Mini DIN=8. See your modem vendor or Apple=authorized dealer about obtaining the necessary cable.
Published Date: Feb 19, 2012

ARA 2.0 Client: Read Me File (12/93)

This article contains the Read Me file for the Apple Remote Access 2.0 Client.

This article has been archived and is no longer updated by Apple.

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APPLE REMOTE ACCESS CLIENT FOR MACINTOSH READ ME
------------------------------------------------
This document provides late=breaking news about the Apple Remote Access Client
not covered in the "Apple Remote Access Client User's Guide."  You may need to
refer to that guide to understand the use of several terms in this document.


Modems supported by the Apple Remote Access Client
--------------------------------------------------
Modem scripts for many popular modems are provided on the Remote Access Client
installation disks, including:

United States
-------------
V.32bis modems (14,400 bps):
 Apple Express Modem
 Global Village PowerPort Gold
 Global Village TelePort Gold
 Hayes Optima 144
 Microcom QX4232bis
 Prometheus ProModem 144e
 PSI Powermodem IV
 Supra SupraFax v.32bis
 Telebit WorldBlazer

V.32 modems (9600 bps):
 Global Village PowerPort Silver
 Global Village TelePort Silver
 Prometheus Promodem 96
 PSI Powermodem III
 Supra SupraFax Modem Plus
 Telebit QBlazer
 Telebit T1600
 US Robotics Sportster

V.22bis modems (2400 bps):
 Apple 2400
 Global Village PowerPort Bronze
 Global Village TelePort Bronze
 Hayes Optima 2400
 Microcom AX 2400C
 Prometheus Promodem 24
 PSI PowerModem II

Cellular support:
 Applied Engineering DataLink PB and Applied Engineering Axcell Cellular
 Interface
 Microcom Cellular Data Link 300

ISDN support:
 Hayes ISDN adapter

Czechoslovakia
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 CZ Sample Script * Apple 2400

Germany
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57,600 bps:
 Andante EAZ0 v2 (V.24 ISDN Adapter)
 Andante EAZ1 v2
 Andante EAZ2 v2
 Andante EAZ3 v2
 Andante EAZ4 v2
 Andante EAZ5 v2
 Andante EAZ6 v2
 Andante EAZ7 v2
 Andante EAZ8 v2
 Andante EAZ9 v2

25,000 bps:
 Motorola 326x (Fast) v2

19,200 bps:
 MDG 19K2=31 v2
 MDG 14MX=22 v2

14,400 bps:
 euroScout v2
 Express Modem 14400 v2
 Global Village Test v2
 PriCom 14.4  v2
 TELEJET 14400 v2

9600 bps:
 CN=3532 SA Plus v2
 CN=3532 SA v2
 FURY 9600 TI v2
 MicroLink 9624 v2

2400 bps:
 Apple PowerBook/Portable v2
 CN=3522 SA Plus v2
 CTK EuroCoupler Akustikk. v2
 CTK EuroCoupler Modem v2
 Dialog 2400 MNP v2
 FURY 2400 TI v2
 GVC SuperModem 2400 MNP v2
 GVC SuperModem 2400 v2
 MAKK=CHAMPION Akustikk. v2
 MAKK=CHAMPION Modem v2
 MDG 2400=11 v2
 MDG 2400=21 v2
 MicroLink 2410 v.2
 Personal Line 2400 MNP v2
 TELEJET 2400 v2
 Worldport 2400 MNP v2

Switzerland
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19,200 bps:
 ZyXEL U=1496

9600 bps:
 FURY 9600 TI v2
 NOKIA PMD 9600

NOTE:  The U.S. scripts listed above are also installed in all other
countries.

Modem scripts included with the Apple Remote Access MultiPort Server can also
be used with the Apple Remote Access Client for Macintosh.
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Using AppleTalk Remote Access v1.0 modem scripts w/Apple Remote Access Client

You can use AppleTalk Remote Access version 1.0 modem scripts with Apple Remote Access Client, but you will not be able to use certain new features, such as Ignore Dial Tone, Manual Dialing, and MNP 10. You cannot use Apple Remote Access Client modem scripts with AppleTalk Remote Access version 1.0.

Using an MNP 10 modem

MNP 10 is an error-correction protocol that allows for more reliable data connections made through cellular modems.

To establish an MNP 10 connection, your modem and the modem you're calling must support MNP 10; clicking the "Use MNP 10 error correction in modem" checkbox in the Remote Access Setup window is not by itself sufficient to establish an MNP 10 connection.

Using aliases with Apple Remote Access

When you create an alias over an Apple Remote Access connection, select the alias icon and choose Get Info from the File menu, then click the Locked checkbox. If you don't lock the alias, the alias can be converted to call the wrong Apple Remote Access server or to try to access the service across your local network.

Using the Manual Dialing feature

When you use Manual Dialing, establishing a Remote Access connection varies according to the type of modem you are using. To ensure that you can make a connection while using Manual Dialing, you may need to experiment with pressing the Connect button slightly before or after you hear the remote modem answer the phone.

Using the Redialing feature

Remote Access Client will attempt redialing only when the phone number that has been dialed is busy. If the connection attempt has failed for any other reason, Remote Access will stop the redialing attempts so that you can correct any problems.

When using the Redialing option, you should set the "Time between retries" number to five seconds or greater. Depending on the modem, anything less than five seconds may not give your modem sufficient time to reset, resulting in your Macintosh serial port being busy and unavailable for redialing.

When using the Redial alternate number option, the main number will be dialed once before the redialing sequence is initiated. The redialing sequence will then alternate between the main and alternate numbers.

Using DialAssist

In certain countries city/area codes don't exist. If you are calling within such a country and you encounter problems, try entering a space in the "Connect To City/Area Code" field in your connection document to get DialAssist to work properly.

Serial Port Arbitration

When a Remote Access connection is established (or being established when making a call), Remote Access prevents other application programs from using the serial port you selected in the Remote Access Setup control panel. In this case, most programs will inform you that the port is in use.

Remote Access Client provides this port arbitration through a system extension called the Serial Port Arbitrator located in the Extensions folder. Some programs that use the serial port may not be compatible with this extension. If you suspect this, remove the Serial Port Arbitrator file from the Extensions folder, restart your Macintosh, and try the program again.

NOTE: The Serial Port Arbitrator will not work on a Macintosh if Remote Access Client has not been installed.

Macintosh computers with Virtual Memory

If you are using a Macintosh IIfx, Macintosh Quadra 900, or Macintosh Quadra 950 and have Virtual Memory turned on, you must open the Serial Switch control panel (included on the Install 2 disk) and set the serial port setting to Compatible.

Modem cable requirements

Most modems require a cable that supports the data terminal ready (DTR) signal. In addition, certain modems require a cable that supports CTS/RTS hardware flow control. To support DTR, the cable must connect pin 20 on the DB=25 connector to pin 1 on the Mini DIN=8. To support CTS/RTS, the cable must connect pin 5 on the DB=25 connector to pin 2 on the Mini DIN=8 and pin 4 on the DB=25 connector to pin 1 on the Mini DIN=8. See your modem vendor or Apple=authorized dealer about obtaining the necessary cable.

Published Date: Feb 19, 2012

ABS Tech Note: AWS15 Reconfig of bnet For ATalk Support (1/94)

This technical note describes the proper reconfiguration of bnet for AppleTalk support on an Apple Workgroup Server (AWS) 95.

This article has been archived and is no longer updated by Apple.
Network protocols, like TCP/IP and AppleTalk, must be configured into the A/UX kernel before they can be used. To add networking capability through the Ethernet port, you must add a low-level driver to the kernel along with TCP/IP and AppleTalk Support This can be done by typing the following command in a CommandShell window,

newconfig bnet appletalk

This will create a new kernel that will include the necessary modules for Ethernet (ao, as or ae6), TCP/IP and AppleTalk support. It is important to note that the appletalk kernel module has certain dependencies on the bnet module and therefore both modules must be included in the kernel if support for AppleTalk is desired.

The user may decide to reconfigure the kernel that does not include the AppleTalk, TCP/IP and NFS modules. This can be done by typing the following command in a CommandShell window,

newconfig nonet

If the user decides later on to add support for AppleTalk, newconfig appletalk is not sufficient to configure the A/UX kernel. As mentioned before, the appletalk kernel module has certain dependencies on the bnet module, this makes it necessary to configure the kernel to include bnet. If the you attempt to build a kernel with appletalk support without the bnet module being included, the newconfig command will report an error. For example:

```
auxtest.root 9 # newconfig appletalk
newconfig: Making backup copies of /etc/inittab /etc/passwd /etc/group.
newconfig: Preparing to build a new kernel.
newconfig: Building a new kernel (this may take several minutes).
newconfig: *** PROBLEMS BUILDING A NEW KERNEL. ***
newconfig: You might try running newconfig with the -v flag.
/tmp/ncErr11168:Autoconfig error: Kernel link failed
Driver startup files in /etc/startup.d may not match kernel!
Run newunix(1m) to restore previous configuration
newconfig: Restoring saved /etc/inittab /etc/passwd /etc/group.
```

Running the newconfig command with the -v option, reveals that the kernel could not be linked because of undefined symbols in the elap module. These symbols are part of the bnet module.

```
ld warning: file /tmp/kernAAAa01368 has no relocation information
undefined first referenced
symbol in file
probing /etc/boot.d/elap
ld fatal: Symbol referencing errors. No output written to
/tmp/kernBAAa01368 Autoconfig error:
Kernel link failed
```

The correct way to include AppleTalk support back in the kernel after removing all network support is to include both the appletalk and bnet modules. This can be done by typing the following command in a CommandShell window:

newconfig bnet appletalk

On the other hand, creating a kernel which just includes the bnet module does not provide support for AppleTalk.

If you go to the Chooser and try to set AppleTalk to active, it will present you with the following dialog,

Please make sure that you are connected to an AppleTalk network

Followed by:

AppleTalk cannot be opened

If you go into the Network Control Panel and try to select EtherTalk, the following dialog will be displayed,

Please be sure you are connected to an AppleTalk network

If you click the OK button, the dialog will appear again. At this point, the only option available to exit the Macintosh Environment is to use Ctrl-Command-E.

To correct this situation, a new kernel that includes both the bnet and appletalk modules should be created. This can be done by typing the following command in a CommandShell window,

newconfig bnet appletalk

NOTE: To make use of the new kernel, you must reboot the system each time following the newconfig command. For more information on the newconfig details, refer to the on-line man page for newconfig.

Published Date: Feb 19, 2012

ABS Tech Note: AWS16 File Access Control on the AWS 95 (1/94)

The purpose of this tech note is to differentiate Macintosh (AppleShare) file privileges and A/UX file permissions. This document will discuss the concepts involved with each form of file access control and also discuss how the two concepts were integrated with each other on the Apple Workgroup Server (AWS) 95.

This article has been archived and is no longer updated by Apple.

AppleShare (Macintosh) File Access Privileges

The Macintosh was originally designed as a single-user machine, where all the files on the machine were only accessible by one user. As a result there is no support for file access control built into the file system. With the advent of AppleShare it was necessary to come up with a scheme to control access to files which were shared on a network. On a Macintosh which runs as an AppleShare file server there exists a special file which stores all the necessary information to determines the accessibility of files to network users (See the AppleShare Pro Server 1.0 Administrator's Guide for a detailed description of AppleShare file privileges).

A/UX File Permissions

UNIX was originally designed as a multi-user operating system, thus a file access control mechanism was designed into the file system from the start. On each UNIX system there is a list of users which can log on to the system, each user has a unique name and user ID. In order to provide more control and flexibility when setting up file accessibility UNIX also maintains a list of groups, each group has a unique name and group ID. A group is defined by a list of 0 or more users. Each user must be a member of at least one group, known as the user's primary group, but may also be a member of any of the other group.

For each file in a UNIX file system, in addition to the data content of the UNIX file there is also information stored which determines file access. Each UNIX file has associated with it the following data: An owner (usually the user which created the file); a group (usually the primary group of the user which created the file); and a set of 9 permission bits.

The 9 permission bits associated with a file can be broken down in 3 parts, leaving 3 bits for each part. Each set of 3 bits defines the level of access for the file depending on which user is accessing the file. The first 3 bits (reading from left to right) determines the level of accessibility for the owner of the file. The second 3 bits apply to users who are a member of the group which is assigned to the file. The third 3 bits apply to any user who does not fall in either of the first two categories. These 3 user types are termed "User, Group and Other", respectively.

Now for the interpretation of the 3 bits. The first bit (read from left to right) determines whether the user has read access on the file. The second bit determines if the user has write access on the file. The third bit determines if the user has execute permission on the file.

Read and write access on a file is pretty much self-explanatory, if a user has read permission on a file then they may read the contents of the file, if a user has write permission on a file then they may modify the contents of a file. Execute permission determines if a user can execute a file, in the case where the file is an executable program. In the case where the file in question is a directory the execute bit determines if a user may make the directory their current working directory ("cd" into it).

TA30916_ABS_Tech_Note_AWS16_File_Access_Control_on_the_AWS_95_(194)_(TIL14324

Integration of both File Access System on the AWS 95

On an Apple Workgroup Server 95, somehow both file access systems apply to some of the files and how this is done can sometimes be confusing. There exists 2 separate list of users and each file has it's UNIX permissions as well as it's AppleShare permissions. In order to explain how this integration is achieved the concept of the "Super User" or "root" must be understood. On every UNIX machine there exists a special user, "root", to which file access control does not apply. In effect the "root" user has read, write and execute permission on every file in the file system.

On the AWS 95 the AppleShare program (the program which provides file sharing service to network users) runs as a "root" process. That is, all file accesses made by the AppleShare process are made from the "root:" user, which means that the AppleShare process has unrestricted access to all UNIX files. This provides AppleShare users with the illusion that an AppleShare volume on an AWS 95 is the same as a volume on a regular Macintosh.

This integration can often confuse administrators and users since one would expect a file to be owned by the AppleShare user, but if we go look at it from the UNIX side it is owned by the "root" user.

Published Date: Feb 19, 2012

ABS Tech Note: AWS17 .fs_cache Item Limits (6/94)

This article describes the item limit recommendation on the Apple Workgroup Server (AWS) 95.

This article has been archived and is no longer updated by Apple.
Apple is recommending for releases prior to A/UX 3.1 a 120,000 item limit for items that can be shared on a AWS95. The limit is due to incorrect handling in the b-tree code that maintains the .fs_cache file. The .fs_cache file is used to create b-tree entries for all items being shared under AppleShare Pro. The problem occurs when the .fs_cache file becomes greater than 32 megabytes in size. The maximum number of items can be calculated with the following formula:

32,000,000 / 200 bytes for each item = 160,000 Items

The number of 120,000 that is being recommended as opposed to 160,000 is conservative and is meant to avoid any problems from occurring until a version of the AWS95 software is released that eliminates this problem. The 120,000 number will also allow for some growth up to the maximum of 160,000.

Support Information Services

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Macintosh 128K, 512K: Pinouts to PRC terminal box

This article has been archived and is no longer updated by Apple.
MACINTOSH PRC TERMINAL BOX

1----------GROUND-----1
5----------TDX-------2
7----------RTX-------3
RQS-------4
CTS-------5
DSR-------6
3 or 8 SG--------7
7----------RLSD------8
6----------DTR-------20

Published Date: Feb 19, 2012

Portable StyleWriter: Minimum Top and Bottom Margins (12/93)

My Portable StyleWriter won't print the last couple lines of text on several programs I'm using (Quark and Datebook). I have to move the text up about 3/4 of and inch before it would print the entire document.

This article has been archived and is no longer updated by Apple.
Portable StyleWriter Minimum top & bottom margins

Smallest Bottom margin Smallest Top margin
--- ---
.60 inches. .25 inches

Anything above or below these margins will not be printed on the page, even though it is in the document.

Published Date: Feb 19, 2012

Installing ORACLE7 Server (Version 7.0.12.2.0) For A/UX (10/93)

This technical information was provided by Oracle. This document was not written by Apple or tested for accuracy, but it's included because we feel you might find it useful.

This article has been archived and is no longer updated by Apple.
Installing ORACLE7 Server for A/UX (Version 7.0.12.2.0) Desktop
Victor Grigorieff
October 13, 1993 Apple A/UX 3.0.1

Updated 10/28/93 by Victor Grigorieff

This bulletin describes the steps required to install ORACLE7 Server for A/UX. This document assumes that A/UX has been properly configured. Bulletin #103947.028 describes in detail how to install A/UX 3.0.1 properly.

This bulletin only applies to the 7.0.12.2.0 Server release, as this process will most likely change with the upcoming 7.0.15 release.

Related Bulletins:

#103947.028 - Setting up an AWS 95 Server for Oracle7 for A/UX
If any part of the pre-installation checklist is not clear, or does not work, refer to this bulletin for assistance.

#104011.574 - Tips for administrating and supporting ORACLE7 for A/UX
This bulletin describes the techniques and tricks used to setup and debug the UNIX and Oracle installations.

Pre-Installation Checklist

C Compiler You must install the C compiler for the install of Oracle to complete. If you type the command 'which cc' at a UNIX prompt, you should see '/bin/cc'. If you do not see this, you must reinstall A/UX to install the C compiler.

Disk Space You must have 60 megabytes of space available to install the ORACLE7 Server for A/UX with the sample database. You can use the command 'df -B' to determine the amount of available space on the currently mounted filesystems. I recommend installing the Oracledatabase files on a separate filesystem from '/', which contains the operating system.

TCP/IP If you intend to use SQL*Net TCP/IP, check the configuration of the networking software. Type the command 'hostname' to determine the name of your host, and then try to telnet to that host. See Bulletin #104011.574 for more details on this.

AppleTalk If you intend to use AppleTalk check to see that the server is connected properly to your network. Usually, the Workgroup Server 95 is connected to an Ethernet network. If you are on an Ethernet network, check to see that the Network Control Panel has EtherTalk selected. Then, check the Chooser to se if you can see other AppleTalk devices on the network such as AppleShare file servers or LaserWriter printers.

Also, type the command:

ls -l /usr/lib/libat.a

If you do not see something like the following line, then you need to reinstall A/UX, including the Network Server capability:

-rw-r--r-- 1 bin bin 35774 Mar 23 1993 /usr/lib/libat.a

Installation

Before installing Oracle7 Server for A/UX, log into the AWS 95 as the root user. You must be root if you want to be able to install any SQL*Net product.

To install ORACLE7 Server for A/UX, you run the "AUX Installer" program from the folder called "Aux Installer" which is on the CD. The Installer will ask you several questions along the way.

Destination You need to pick a folder to install the Oracle database and utilities. This will later be known as the ORACLE_HOME, which you will need to know.

*** Important: You may not install the Oracle database in any
*** directory whose path has a space in its name. This
*** means that you may not install in the '/ Shared Data'
*** directory.

Oracle owner This is the user who will own the Oracle installation. You may pick an existing user, or let the Installer create a new user for you. The default is to let the Installer create a new user named 'oracle', which is fine.

DBA group This is the name of the group that will have the ability to start and stop the database, and perform DBA-privileged operations. The Installer will create a new group for you if the group does not already exist. The default is to let the Installer create a new group called 'dba'.

Software The ORACLE7 Server for A/UX is made up of several components.

A/UX RDBMS and Utilities
A/UX Required Support Files Version 7.0
A/UX SQL*Net Version 1.0

I recommend installing all of the options with this 7.0.12.2.0 release. If you know you will never need either SQL*Net AppleTalk or TCP/IP, you may choose to leave one of them out, but you would not be saving a large amount of disk space.

Procedural Option The Installer WILL NOT ask you if you are licensed to use the Procedural Option. If you are in fact licensed for this option, you may enable it by running the script called CATPROC.SQL after installing and creating the database. This process is described in the Oracle7 Server Administrator's Guide.

Distributed Option You will be asked if you are licensed to use the Distributed Option. If you are licensed, you may click yes.

If you click yes, several features will be enabled.
these include the ability to maintain snapshots and
snapshot logs (remote views of databases).

Note: The Distributed functionality will not work
unless the Procedural Option is enabled.

Seed Database You will be asked if you would like to create the seed
database in the folder where you are installing oracle.

There are good reasons to choose Yes or No, which are below:

Yes If you click yes, the Installer will start sqldba (the Oracle
database administration program), and run the script
createdb.sql, which was installed in the dbs directory of the
oracle home. The sample database will be named SAMP.

This is a quick way of having a working database that you can
use for learning and testing. The creation of this database
requires one click of the mouse.

You will be warned that creating the database will destroy any
other datbases in this location. If this is the first time
you have installed an Oracle database in that directory, do
not worry about this warning.

If you already have a database named SAMP in that directory,
choosing Yes will overwrite your old database by creating a
new one.

No You may choose not to create the seed database, because you
want to name the database something other than SAMP, or want
to use different parameters and sizes for your database.

You could manually create the database, following the
instructions in chapter 2 of the "ORACLE7 Server
Administrator's Guide". This is somewhat difficult if you have
never done it before.

Alternatively, you could make a copy of the createdb.sql
script, and edit that copy. If I have an edited copy of
createdb.sql called custom_createdb.sql, I could run that in
sqldba to build my database.

Once you have answered all of the questions, the Installer will install
the options you have selected, and create a seed database if you
requested that.

Post Installation Tasks

Once the installation is complete, you will need to go through a few more
steps to properly configure the Oracle database.

SQL*Net There are several files which need to be created/edited to
configure SQL*Net Version 1.

/etc/oratab You need to create a file called oratab in the /etc
directory. This file lists the instances (SID's)
available on the A/UX machine. This file is required
by both the TCP/IP and AppleTalk protocols of SQL*Net.
This file has one line per database on the machine.
Lines beginning with '#' are comments which are
ignored. Each line is made up of the format:

SID:ORACLE_HOME:STARTUP

Where: SID is the name of the database
ORACLE_HOME is where you installed the database
STARTUP is either Y or N, which indicates
whether the dbstart and dbshut
utilities should start or stop that
database.

The default /etc/oratab should have the line:

SAMP:/users/oracle:N

TCP/IP If you intend to use SQL*Net TCP/IP version 1, you must edit
several files, and startup the TCP/IP listener.

/etc/services You need to define a port number for SQL*Net
TCP/IP Version 1. By default, this is 1525. If
you use a different number for the orasrv port
number, you must configure the client machines to
use that same number. In most cases, you will be
fine if you add the following line:

orasrv 1525/tcp oracle # SQL*Net Version 1

/etc/hosts This file lists all the IP addresses and host
names for all machines that the A/UX server can
connect to using TCP/IP. If your own host is not
already listed in the file, add an entry with the
format

<IP address> <hostname> <aliasname>

An example would be:

139.185.81.95 squid.us.oracle.com squid

You may optionally list several other aliasnames
for each host, allowing you to call a host by
several different names.

tcpctl start This command starts the TCP/IP listener by running
the orasrv program.

This will start the orasrv process, which will
listen for client connections on the port defined
in the /etc/services file.

Client machines would then be able to connect
using the database connect string:

t:hostname:SAMP

hostname is the name of the server on the TCP/IP
network. SAMP is the name of the database.

AppleTalk If you wish to use SQL*Net AppleTalk version 1, you must
start the atksrv process. As the root user, type:

atksrv MyServer

This will start up an AppleTalk server named "MyServer".
Client machines will connect using the database connect
string:

at:MyServer:SAMP [,Appletalk_Zone]

You would only need to specify the AppleTalk Zone if the
client machine is in a different zone than the server.

Starting the atksrv process in this fashion will tie up that
window until you stop the listener by hitting control-C.

You may run the atksrv process in the background by adding
the ampersand (&) character after the command. You could
then kill that process with the command "kill %", provided
the atksrv process was the only background process of that
window. Please see Bulletin 104011.57 for more information
on running the atksrv process in the background.

Oracle user If the A/UX Installer created the oracle user, there will be
no .login file in the oracle user's home directory. If this
is the case, log in as the oracle user, and issue the
command:

cp /usr/lib/skel/std.login ~/.login

You will need to edit the .login file which is in the oracle
user's home directory (by default /users/oracle). Add the
following lines to the end of the file:

setenv ORACLE_HOME /users/oracle
setenv ORACLE_SID SAMP
setenv PATH "/users/oracle/bin:/bin:/usr/bin:/usr/ucb:
/mac/bin:/etc:/usr/etc:/usr/local/bin"

The examples above assume that Oracle was installed in
/users/oracle and that the name of the SID is SAMP. If you
have a different oracle home or a different name of the SID,
you will need to use different values in the examples above.

*** Once you have edited the oracle user's .login file, you must
*** log out, and log in again as oracle before the changes will
*** take effect.

Post-Installation Checklist

Verify that database is running by using the ps command as shown here:

ps -ef | grep dbwr
root 10355 10242 2 07:39:46 pb 0:00 grep dbwr
oracle 4196 1 0 Sep 2 ? 0:02 ora_dbwr_SAMP

Look at the right-most column in this output. If you see the process
named "ora_dbwr_SAMP", then the SAMP database is running.

Verify that the TCP/IP listener process is running by using the command

tcpctl status
tcputl: Status summary follows
Server is running:
Started : 21-SEP-93 10:01:29
Last connection : 30-SEP-93 14:39:49
Total connections : 300
Total rejections : 6
Active subprocesses : 3
ORACLE SIDs : S7F,SAMP

```
Default SID : (null)
Logging mode is ENABLED.
DBA logins are DISABLED.
OPS$ logins are ENABLED.
OPS$ROOT logins are DISABLED.
Orasrv is detached from the terminal.
Break mode = IN BAND.
Debug level = 1
No timeout (on orasrv handshaking).
Length of listen queue = 10
Orasrv logfile = /u2/7012f/tcp/log/orasrv.log
Orasrv mapfile = /etc/oratab
```

In the above example you see the string "Server is running", which is the sign that TCP/IP is up and running.

Verify that the AppleTalk listener is running by using the command:

```
ps -ef | grep atksrv
root 22675 22662 0 14:57:02 q2 0:00 atksrv Squid
root 22676 22662 1 14:57:28 q2 0:00 grep atksrv
```

Look at the right-most column in this output. If you see the process called "atksrv Servername", then the AppleTalk listener is running.

Verify that you can connect to the database using sqldba.

```
sqldba

SQL*DBA: Release 7.0.12.2.0 - Production on Thu Sep 30 15:00:11 1993

Copyright (c) Oracle Corporation 1979, 1993. All rights reserved.

ORACLE7 Server Release 7.0.12.2.0 - Production
With the procedural and distributed options
PL/SQL Release 2.0.14.0.1 - Production

SQLDBA> connect scott/tiger
Connected.
```

In this output, I connected as scott/tiger, and was successful. At this point you know that the database is running, and is accepting connections.

If you are still having problems with debugging/verifying the installation, refer to bulletin 104011.574 - Tips for administrating and supporting ORACLE7 for A/UX.

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Ethernet NB Twisted-Pair Card: Supported on A/UX (8/95)

I have a Macintosh IIfx with A/UX 3.0, and I just bought the Ethernet NB Twisted-Pair Card. I ran the installer for the MacPartition and the card works fine under Mac OS. A/UX however, does not recognize it. I've done newconfig bnet and newconfig appletalk, taken them both down and reconfigured them, explicitly specified "ae0" (and, just in case "as0") drivers, but to no avail.

Is this card supported by A/UX?

This article has been archived and is no longer updated by Apple.
You should upgrade to A/UX version 3.1 or later for Ethernet NB Twisted-Pair Card support. The following information is from the Read Me for the Apple Workgroup Server (AWS) 95 Software Upgrade:

Install Driver for the Apple Ethernet NB Twisted-Pair Card

If you are using this new interface card, install the driver on the volume named MacPartition. Installing the file on MacPartition assures that the server will use EtherTalk rather than switching to LocalTalk each time you restart the server.

CORRECTIONS TO MANUAL PAGES
==========

A few commands are incorrect as they appear on screen in the manual pages. The corrections are as follows.

"newconfig" manual page

If you're adding support to your system for an Ethernet card, these are the modules you need to specify in the "newconfig" command:

ao - Built-in interface for Apple Ethernet.
as - Apple Ethernet NB Card (a half-length card).
ae6 - Apple EtherTalk NB Card (a full-length card).
ac - Apple Ethernet NB Twisted-Pair Card.

An error appears in the last paragraph of the Descriptions section: "bnet_dr" should be "bnet".

"NETADDRS" manual page

The value of interface_id is as follows:
ao0 - for built-in interface for Apple Ethernet (which is found in the
AWS 95)
ae0 through ae5 - for Apple EtherTalk NB Cards
as0 through as5 - for Apple Ethernet NB Cards
ac0 through ac5 - for Apple Ethernet NB Twisted Pair Cards

Article Change History:
23 Aug 1995 - Updated info to A/UX 3.1 and changed back to MacPartition.
06 May 1994 - Updated to reword "Mac Partition" to Macintosh partition.

Support Information Services
Published Date: Feb 19, 2012

Administrating and Supporting ORACLE7 For A/UX - Part 1 (10/93)

This technical information was provided by Oracle. This document was not written by Apple or tested for accuracy, but it's included because we feel you might find it useful.

This is part 1 of 2, of an Oracle technical note on Administrating and Supporting ORACLE7 for A/UX. To find part 2 or 2, search for an article titled, "Administrating and Supporting ORACLE7 For A/UX - Part 2 (10/93)."

This article has been archived and is no longer updated by Apple.

```
Tips For Administrating and Supporting ORACLE7 For A/UX           Desktop
Victor Grigorieff
September 29, 1993                                       Apple A/UX 3.0.1

Revised: 10/28/93 by Victor Grigorieff


This bulletin explains many of the tools and procedures used in setting up,
administrating, and supporting ORACLE7 on A/UX 3.0.1.  It is helpful to
gather the pieces of information mentioned in this bulletin before trying
other methods of diagnosing problems.

This bulletin describes several UNIX commands, but does not provide
complete definitions of them.  Please refer to the documentation from Apple
Computer Inc., or the manual pages on-line for complete definitions of the
commands described below.

Manual pages is an option which can be chosen at the time you install the
A/UX operating system.  If they are installed, you can access the
information with the command called man.

Type 'man man' for a description of the man command.

Note: For clarity, some commands are enclosed in single quotes (') with
     the arguments they accept.

The commands and configuration files of importance are listed below, and
are grouped by the type of task to which they are related.

Macintosh Environment & A/UX Management
---------------------------------------

If you are logged into the console of A/UX 3.0.1 in the Macintosh Finder
environment, you there are several things which you need to know.

Command-Control-E  If the Macintosh ever appears to freeze (You cannot type
                   or move the mouse), DO NOT RESTART THE MACHINE.  You can
                   kill the Macintosh session by holding down
                   Command-Control-E.  The Command key is the key which
                   looks like an Apple or a clover.  Doing this will return
                   you to the A/UX logon screen, but will not affect any
                   other UNIX processes on the machine, like the Oracle
                   database.

General Controls   Under the Apple menu, there is an option for Control
                   Panels.  In the Control Panels folder is a General
                   Controls Control Panel, which will let you set the date
                   and time on the A/UX machine.

TextEditor         If you need to edit a text file, and prefer the
                   Macintosh interface, you can look in /: Applications for
```

```
                    the program called TextEditor.  It works like any other
                    word processor on the Macintosh.

/etc/RELEASE_ID      This text file tells you the version of A/UX you are
                    running.  A/UX 3.0.1 is required for ORACLE7 Server
                    for A/UX.

                    Type the command 'cat /etc/RELEASE_ID' to list the
                    file:

                    at /etc/hosts
                    **********************************
                    * A/UX 3.0.1                     *
                    * Friday, April 9, 1993          *
                    **********************************

User Management
---------------

id           displays user and group IDs and names
            If you are logged in as the oracle user, you will get output
            like this:

            % id
            uid=1000(oracle) gid=1000(dba)

            This means that you are the oracle user, and your active group
            is dba.  By default, the oracle user and dba group own the
            oracle database installation, meaning that this user can
            perform privileged operations. You must have dba privileges to
            connect internal, and to startup or shutdown a database.

passwd       passwd is the command to change the password for a user
            account.  If I am logged in as oracle, and type 'passwd
            oracle', I will be asked for the current password (if there is
            one), and will then be allowed to enter a new password.

            By default the oracle and root users have no password, so it is
            important to set passwords for those users.

su           su is the command to become another user.

            su - oracle

            This command prompts you for a password, and then logs you in
            as the oracle user, while reading in the oracle user's
            environment.  If you leave out the '-' between the su command
            and the user, you will not read in that user's environment
            properly.  If you are logged in as some other user, and wish
            to logon as the oracle user, use the above command.

            You usually become the oracle user when you want to start/stop
            the database, and perform routine maintenance.

Network Management
------------------

hostname -  displays the name of the UNIX host.  This is helpful in
            figuring out how to assemble a sql*net connect string for
            TCP/IP.

            % hostname
            squid

            In this case, my hostname is 'squid'.
```

ping

ping is a command which sends simple TCP/IP packets to a host to determine whether or not the host is functioning on the network. If you are having trouble connecting to a host with telnet or SQL*Net TCP/IP (ORA-6108 errors), then you should check to see if ping can reach the host.

** Ping is used to check how the host is responding to TCP/IP
** packets, which are completely different than AppleTalk
** packets. If a client Macintosh can access the server using
** File Sharing, then that means that the network is physically
** intact. It DOES NOT tell you that TCP/IP is functioning
** properly. You should use ping to verify the TCP/IP setup.

ping can be run by typing '/usr/etc/ping some_host' where some_host is the name (or IP address) of a machine on the network. See the description of the /etc/hosts file below for more info.

```
/usr/etc/ping squid
PING squid.us.oracle.com: 56 data bytes
64 bytes from 139.185.81.95: icmp_seq=0. time=0. ms
64 bytes from 139.185.81.95: icmp_seq=1. time=0. ms
----squid.us.oracle.com PING Statistics----
2 packets transmitted, 2 packets received, 0% packet loss
round-trip (ms)  min/avg/max = 0/0/0
```

Since squid has been properly configured for TCP/IP and is running, TCP/IP packets travel to it and back with no problem. The ping command will keep sending packets until you hit control-C, at which point it gives you the PING Statistics.

If I attempt to ping a machine which is down, the ping command will keep sending packets until the host responds (which may never happen) or until you hit Control-C. If you do not see any lines like '64 bytes from...' after 10 seconds, hit control-C, and you will have output which looks like:

```
/usr/etc/ping bartman
PING bartman.us.oracle.com: 56 data bytes

----bartman.us.oracle.com PING Statistics----
12 packets transmitted, 0 packets received, 100% packet loss
```

In this case, bartman (a UNIX machine) has been turned off, and hence does not respond to the ping command. The 100% packet loss means that the host you are attempting to ping is not working, or is actually at a different address than the one you are trying.

If I am trying to make a database connection to bartman using a database connect string like 'T:bartman:SAMP', I would get the ORA-6108 error, indicating that the TCP/IP connection attempt failed. I could then use the ping command to find out if the machine named bartman is functioning on the network. If bartman does not respond to a ping, action should be taken to revive bartman. In this case, I would go and turn the machine on.

If bartman does respond to a ping, but not a SQL*Net TCP/IP connection attempt, then there could be several different things going on.

* The SQL*Net TCP/IP version 1 listener process (orasrv) may not be running. Check to see if orasrv is active on the

```
              machine, and if the /etc/services file has the correct entry
              for orasrv.

            * Turn off the server and attempt to ping the server. This may
              sound like a silly thing to do, but if you ping a machine
              that is turned off and it actually responds, you know that
              there is another machine using the same IP address.  If this
              happens, you need to talk to your network administrator to
              determine a new unique address for your server.

telnet      telnet is a way to log into another machine on the network
           using TCP/IP.  It is a useful debugging tool as well as a
           convenience.

           telnet squid
           Trying...
           Connected to squid.us.oracle.com.
           Escape character is '^]'.

           Apple Computer A/UX (squid)

           login:

           Once you see the login prompt, type the UNIX userid you wish to
           use and hit return.  You will then be asked for a password.
           Once you have successfully entered the password, you will be
           working with the remote machine you have logged into, until you
           type exit.

ftp         ftp is a command you can use to transfer files from one machine
           to another.  If you are transferring anything other than a text
           file, remember to type the command 'binary' at the 'ftp>
           prompt.

/etc/hosts          This file lists all the IP addresses and host names for
                   all machines that the A/UX server can connect to using
                   TCP/IP.

                   127.0.0.1     loop local me localhost
                   139.185.81.95 squid.us.oracle.com squid

                   In this file is the default 127.0.0.1 which is an
                   internal loopback entry, and the definition for this
                   host, which is squid. 127.0.0.1 is a special address.
                   Any machine that attempts to connect to that address
                   will connect to itself.

                   The hosts file is used when the machine needs to figure
                   out the IP address of a host, when it knows the
                   hostname.

                   If you try to telnet to a host which is not in the
                   hosts file, you will see:

                   telnet does_not_exist
                   does_not_exist: unknown host

/etc/services       This file should contain an entry for the SQL*Net
                   TCP/IP version 1 server.  If you do not have the proper
                   line in this file, you will get the ORA-6107 error
                   while attempting to use SQL*Net TCP/IP version 1. The
                   line should look like:

                   orasrv          1525/tcp        oracle
```

```
/etc/NETADDRS       This file lists the TCP/IP network configuration for
                    the UNIX machine.

                    ao0     139.185.81.95 139.185.81.255 255.255.255.0

                    ao0 refers to the built-in Ethernet device of the
                    server.  139.185.81.95 is the IP address of the server.
                    139.185.81.255 is the broadcast address of the server.
                    255.255.255.0 is the subnet mask for the server.

                    This file is created when you run the newconfig
                    utility.  Checking this file can be helpful to debug
                    TCP/IP connectivity problems and address conflicts.

UNIX Command Management
-----------------------

man         man is a program which displays the help and documentation
            available for a command.

            man <some_command>

            will show you the description of the command, one page at a
            time.  As you are browsing the description, you hit the space
            bar to advance a page, and the return key to advance one line.

apropos     gives a listing of all commands which have a certain text
            string in their description.  This is useful if you remember
            what a command does, but not its name.

            For example, you know you need to reconfigure your UNIX kernel
            to set up certain network services. If you forget which command
            to use, type:

            apropos kernel

            It will give a listing of commands and descriptions, which have
            the word 'kernel' in them.   from that list, you determine that
            the command you were looking for was:

            newconfig(1M)            - generates an up-to-date kernel

            After finding a command with apropos, check the man page on the
            command before executing it.  It is a good idea to be aware of
            all of the options available before running a command.

more        more can be called on a file, to display the file a
            screen at a time. It can also have the output of a command
            piped through it to show output a screen at a time.

            ps -ef | more

            This will give you a long listing of processes, a page at a
            time.

| (pipe)    The '|' is the UNIX pipe operator.  It sends the output of
            the first command through the second command.

            some_command | some_other_command

            some_command will not send its output to the screen, but
            instead, the output will be read and processed by
            some_other_command.

grep        grep is a text-searching utility that returns all lines that
```

```
            contain the search condition.

            grep <some_condition> <some_file>

            This searches <some_file> for <some_condition>, and returns all
            lines that match the search criterion.

            % grep squid /etc/hosts
            139.185.81.95 squid.us.oracle.com squid

            This command lists all lines in the /etc/hosts file with
            'squid' in them.  When combined with the 'hostname' command
            above, this is a great way to find out what the A/UX machine's
            IP address is.  In this example, 139.185.81.95 is my IP
            address, which identifies my machine on the TCP/IP network.

wc           wc counts characters, words, and lines in a file.  It can be
            very helpful to pipe the output of another program through wc.

            ps -ef | wc
            134   1339   8817

            'ps -ef' gives a long listing of all processes on the machine,
            and wc tells you that there are 134 lines in that output.  This
            means that there are 134 processes currently running.

head         head <some_file> displays the first 10 lines of a file.  This
            is useful if you just want to peek at the beginning of a file.

            'ps -ef | head' lists the first 10 processes.

tail         tail is like head, except it returns the last 10 lines.

which        which will tell you exactly what function or executable will be
            executed, given a particular command.

            'which cc'   (This will tell me '/bin/cc' if the C compiler is
                          installed, or tell me 'cc: Command not found' if
                          the C compiler is not installed.)

Process & System Management
---------------------------

ps -ef       gives a long listing of all processes running on the UNIX
            machine.  There are usually MANY processes running on a UNIX
            machine, so you usually want to pipe the output through 'more'
            or 'grep'.

            ps -ef | more

            This will show you all of the processes a screen at a time.
            Hit the space bar to see the next page.

            ps -ef | grep oracle

            This will give you a full listing of all processes owned by
            oracle, or with oracle in their name.

            % ps -ef | grep oracle
               UID   PID  PPID  C    STIME TTY      TIME COMMAND
            oracle  1520  1474  5 17:27:48 qa       0:00 ps -ef
            oracle  1521  1474  2 17:27:48 qa       0:00 grep oracle
            oracle 20307     1  0  Aug 20  p2       0:00 ora_pmon_SAMP
            oracle 20308     1  0  Aug 20  p2       0:01 ora_dbwr_SAMP
            oracle 20309     1  0  Aug 20  p2       0:05 ora_lgwr_SAMP
```

```
oracle 20310     1  0  Aug 20  p2       0:45 ora_smon_SAMP
oracle 20311     1  0  Aug 20  p2       0:00 ora_reco_SAMP
daemon  1473 21954  4 17:08:27 ?        0:26 oracleSAMP
                                                    T:I,1024,5
oracle  1531  1530  0 17:34:55 qa       0:00 oracleSAMP
                                                    AT:I,0,5
oracle  1474  1456  0 17:08:34 qa       0:01 -csh
```

Note: I pasted the titles of the columns into this document for clarity. The UID is the owner of the process. The COMMAND is the name of the process.

In this example, you see that there are 5 processes with the format ora_XXXX_SAMP. These are the processes that make up the ORACLE database named SAMP. The 'oracleSAMP T:I,1024,5' process is called a TCP/IP shadow process, and means that there is a remote user connected to the SAMP database using SQL*Net TCP/IP. The 'oracleSAMP AT:I,0,5' process is an AppleTalk shadow process, representing a remote connection using SQL*Net AppleTalk.

From time to time, you may have to kill these shadow processes. 'ps -ef | grep oracle' will help you find them.

kill — kill can be used to terminate a process that is no longer needed on your machine.

```
kill <PID>
```

where PID is the process ID of the process you wish to terminate. The PID can be determined by looking at the second column of the ps -ef listing explained above.

For example, as part of the 'ps -ef' listing, I see:

```
daemon  1473 21954  4 17:08:27 ?        0:26 oracleSAMP
                                                    T:I,1024,5
```

If I know that no one is connected to the SAMP database using TCP/IP, I can kill the orphaned shadow process with the command:

```
kill 1473
```

Then the process will be dead, and the database will clean up after the connection. If the process does not die, you can use 'kill -9 <PID>' instead, which will definitely kill the process.

& — The ampersand character, when added onto any other command, will run the program in the background, which means that you could run another command in the current window.

```
atksrv Squid
```

would normally just run the program, and you could not type any other commands (except control-c to stop the program).

```
atksrv Squid &
```

runs the same command in the background, meaning that you can run other programs.

jobs — lists the jobs which are currently in the background.

```
jobs
[1]  + Running                atksrv MyServer
```

% This command is used to bring a bring a background process to the foreground. In the above example, there was a background process called 'atksrv MyServer'. Typing % at the prompt would bring the 'atksrv MyServer' process back to the foreground.

If there are multiple processes in the background, you can use '%2' to bring the second process in the list to the foreground.

pstat -m pstat -m lists current system status, including the amount of physical memory which is currently free.

uptime uptime tells you how long the UNIX machine has been running, and what the current load average is on the machine. It also tells you the current time, which lets you know if you need to reset the clock on your server.

```
uptime
7:28am  up 54 days, 13:59,  19 users,  load average: 2.29 2.32
2.20
```

The load average tells you how many processes are actively using the processor. At the time I ran this command, there were 130 processes on the machine, but only two of them were active. If I have 5 remote Macintosh clients actively start using one of the databases, the 5 shadow processes would become active, and the load would jump from about 2 to about 7.

ipcs -a ipcs -m lists the status of all attached blocks of shared memory. An Oracle database uses a block of shared memory to store the SGA (Shared Global Area).

```
ipcs -m
IPC status from /dev/kmem as of Wed Sep 15 07:35:18 1993
T     ID     KEY        MODE       OWNER    GROUP
Shared Memory:
m   2100 0x744c4f57 --rw-------     root     root
m   1501 0x00028d92 --rw-r-----   oracle      dba
m    402 0x00020386 --rw-r-----   oracle      dba
m    203 0x00025a8e --rw-r-----   oracle      dba
m    404 0x0002c003 --rw-r-----   oracle      dba
m    605 0x0002f58f --rw-r-----   oracle      dba
```

The first entry is owned by root, with the root group. This segment is used by the UNIX kernel, and is OK.

Note: the order of the entries in this list does not matter.

The other 5 segments here are blocks which were obtained by Oracle databases on the machine. I know this because the owner is oracle and the group is dba. I can then determine which Oracle databases are running by looking for processes with the letters 'dbwr' in the name, as that is a process which is required by the rdbms.

```
ps -ef | grep dbwr
root   10355 10242  2 07:39:46 pb       0:00 grep dbwr
oracle  4196     1  0  Sep  2  ?        0:02 ora_dbwr_S6A
oracle  5856     1  0  Sep  8  ?        0:02 ora_dbwr_S6C
oracle  4211     1  0  Sep  2  ?        0:02 ora_dbwr_S6B
oracle  4232     1  0  Sep  2  q4       0:02 ora_dbwr_SAMP
```

Looking at the right column, I see 4 processes with the name

```
ora_dbwr_???, where ??? is the name of the database (SID).  The
databases S6A,S6B,S6C, and SAMP are active on this machine.

I have 4 running databases, and 5 segments of shared memory
attached by Oracle databases.  This generally means that a
database was terminated abnormally (by killing the processes or
a severe crash).  That last block of shared memory will not be
freed until the system is rebooted.

In situations where you have blocks of shared memory that were
not freed, you should reboot the system as soon as you can.
```

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Administrating and Supporting ORACLE7 For A/UX - Part 2 (10/93)

This technical information was provided by Oracle. This document was not written by Apple or tested for accuracy, but it's included because we feel you might find it useful.

This is part 2 of 2, of an Oracle technical note on Administrating and Supporting ORACLE7 for A/UX. To find part 1 or 2, search for an article titled, "Administrating and Supporting ORACLE7 For A/UX - Part 1 (10/93)."

This article has been archived and is no longer updated by Apple.

```
Tips For Administrating and Supporting ORACLE7 For A/UX           Desktop
Victor Grigorieff
September 29, 1993                                       Apple A/UX 3.0.1

Revised: 10/28/93 by Victor Grigorieff


File Management
---------------

ls          ls gives a listing of the files in the current directory.

            ls -lF gives a useful long listing, and places a '/' after the
            name of each directory, and a '*' after each executable
            program.

            ls -a lists all files, including files that begin with the "."

cd          cd changes the current directory.

            'cd /' changes the active directory to the root of the
            filesystem.

            'cd ..' changes to the parent directory of the current
            directory.

pwd         pwd tells you what directory you are accessing.

mkdir       'mkdir new_directory' makes a new directory called
            'new_directory'

cp          cp is the command to copy a file to a new file.

            'cp -r' is a recursive copy, which can copy directories and
            their contents.

mv          mv is the command to move or rename a file.  mv is not capable
            of moving a file from one filesystem to another.

chmod       chmod <new permissions> <some_file> changes the permission bits
            on  a file.  chmod is often used to either restrict access to a
            file, or to enable the 'setuid bit' on an executable program.

            A file has certain permission bits, which determine the rights
            to read, write, and execute the file.  These permissions are
            given differently to the owner of the file, the group to which
            the file belongs, and everyone else.

            ls -l will give a full listing of files, and the left-most
            column is a listing of permission bits.
```

```
-rwxr-xr-x   1 oracle   dba      4122655 Jun 19 14:19 sqldba*
```

There are a total of 10 characters in the left column.

The first character is '-' for a file, and 'd' if the item is a directory.

The next 9 characters are 3 groups of 3 characters each.
Each group determines the rights to read, write, and execute.

rwx means that read, write, and execute rights are enabled
r-x means that read and execute are enabled, but writing is not.

If the letter is present in a particular position, the right is enabled. If there is a '-', the permission is disabled.

The first group of letters corresponds to the rights granted to the owner of the file. The userid listed in the third column of the ls -l output is the owner of the file.

```
  ** If the owner's permissions are 'rws', then the setuid bit
  ** is set, meaning that the program will run with all of the
  ** rights as the owner of the program, regardless of who
  ** invokes the program.
```

The second group of letters corresponds to the rights of the group to which the file corresponds, which is the fourth parameter of the ls -l output.

The third group of letters defines the permissions for everybody.

```
-rwxr-xr-x means that everyone can read and execute the file,
           but only the owner can write (modify) it.

-rwsr-x--- means that the setuid bit is enabled, people in the
           group which owns the file may read and execute the
           file, but people outside of the group have no access
           to the program.
```

To set the permissions, you need to assemble a string of 3 numbers to tell chmod how to set the permissions. Different privileges are enabled by adding up the numbers below:

```
read -    4
write -   2
execute - 1
```

read and execute privilege (4 + 1) are 5
read, write, and execute (4 + 2 + 1) are 7
to set the setuid bit, you prefix your string with the number 4.

```
chmod  755  (yields -rwxr-xr-x)
chmod  400  (yields -r--------)
chmod 4755  (yields -rwsr-xr-x)  (The setuid bit is enabled)
```

The files 'orasrv' and 'oracle' (which are located in the /users/oracle/bin) should be -rwsr-xr-x. You can set these permissions with the command:

```
chmod 4755 orasrv oracle
```

```
chown       chown <new_owner> <some_file> changes the ownership of
            <some_file> to be owned by <new_owner>.  Only the current owner
            or the superuser (root) may issue this command.

            Only the owner and the superuser (root) may delete a file.
            the ownership of a file is usually most important with
            executable files that have the setuid bit set (see chmod
            above).

            *** Note:  when you change the ownership of a file, the
            ***        permission bits can be changed.  You may need to use
            ***        the chmod command to get the proper setting.

chgrp       chgrp <new_group> <some_file> changes the group ownership of
            <some_file> to be owned by <new_group>.  Only the current owner
            or the superuser (root) may issue this command.

find        find can be used to locate files, and perform an action on each
            of them if desired.

            find . -exec ls -l {}\\;

            This command looks a bit confusing, but it gives a long listing
            of the files in the current directory, as well as all of the
            subdirectories.  Check the manual pages on find for more
            detailed information.

tar         tar creates archives and extracts data from them.

            tar -cf archive.tar something
              (creates a new archive called 'archive.tar' containing a copy
               of 'something'.  Something could be a file, or a filesystem)

            ** Note: NEVER try to back up a database that is RUNNING.
            **       copies of running databases WILL NOT WORK.

            tar -xf archive.tar
              (extracts the contents of archive.tar into the current
               directory)

compress    'compress some_file' will create a compressed version of the
            file called some_file.Z, and deletes some_file.  You must
            uncompress the some_file.Z before using it again.

Filesystem Management
---------------------

If you are not familiar with filesystems, mounting of filesystems, or disk
setup in general on A/UX 3.0.1, please refer to the "Disk Setup" section of
Bulletin #103947.028 -- "Setting up an AWS 95 Server for ORACLE7 for A/UX".

df -B       df will give you a line of information for each of the mounted
            filesystems.  Note the capital letter 'B', which specifies
            that the results should be given in kilobytes.

            df -B
            Filesystem        kbytes    used   avail %used  Mounted on
            /dev/dsk/c0d0s0   140519  125637    7856   94%  /
            /dev/dsk/c300d0s  637015  523524   81640   87%  /u1
            /dev/dsk/c401d0s 1122889  805559  261185   76%  /u2

            This command tells you which filesystems were successfully
            mounted, where they are mounted, how big they are, and how much
            space is available on each of them.
```

```
            ** Notice that the 'Filesystem' column is not giving you the
            ** first 16 letters in the name of the disk device file.  If
            ** you need the full name, check the /etc/fstab file, or use
            ** the df command without the -B flag.

/etc/fstab  the fstab file has one line for each filesystem which should be
            mounted.  It specifies the type of filesystem, where to mount
            it, and on what device it resides.

            # fstab for Squid 6/23/93
            #
            /dev/dsk/c300d0s0       /       ignore  rw      1 0
            /dev/dsk/c300d0s2       /u1     4.2     rw      1 0
            /dev/dsk/c401d0s2       /u2     4.2     rw      1 0

            The lines that begin with # are ignored.  It is a good idea to
            put notes in this file that identify which machine it belongs
            to, and when it was last modified.  Whenever you modify this
            file, you should PRINT it and put it somewhere safe.

          *** IMPORTANT:  having a printout of the fstab file is very
          ***             helpful if your machine has a damaged root
          ***             partition, and you need to remember where all of
          ***             your filesystems reside.  You need to know the
          ***             location of your root filesystem.
          ***             /dev/dsk/c300d0s0 is the default, but it may be
          ***             different on your system.

          ***  I like to tape a printout of this file to the machine.

fsck         fsck checks filesystem consistency and interactively repairs
            the filesystem.  If a filesystem will not mount, you need to
            run fsck on it to verify and fix it.  fsck works on a disk
            device file that corresponds to the filesystem in question.  If
            the filesystem which normally mounts fine on u1 is not
            mounting, I need to run fsck.  I can't just run 'fsck u1'.  I
            need to run fsck on the disk device file that was listed in the
            /etc/fstab file that corresponds to the problematic filesystem.

            squid.root # fsck /dev/dsk/c300d0s2
            ** /dev/dsk/c300d0s2
            ** Last Mounted on /u1
            ** Phase 1 - Check Blocks and Sizes
            ** Phase 2 - Check Pathnames
            ** Phase 3 - Check Connectivity
            ** Phase 4 - Check Reference Counts
            ** Phase 5 - Check Cyl groups
            FILE SYSTEM STATE IS MARKED AS DIRTY
            FIX?

            When you find out "FILE SYSTEM STATE IS MARKED AS DIRTY", you
            do NOT ALWAYS want to fix that.

               ** If the filesystem is currently mounted ( it shows up when
                  you use the df command), it will be DIRTY, which is OK.
                  Filesystems are dirty when there is data in buffers that
                  has not been written out to disk, which is fine if the
                  filesystem is mounted and in use.  If this is the case,
                  choose N.

               ** If the filesystem is not mounted (it does not show up
                  when you use the df command) then you should choose Y.

            If an Oracle database (or some other program) is writing to a
            file on a filesystem at the time a server goes down (crashes),
```

then the filesystem will not mount when the server comes back up. You need to run fsck to repair the dirty filesystem.

If the dirty filesystem is the root (/) filesystem, then A/UX will not boot. The A/UX Startup program will tell you that the root filesystem (/dev/dsk/c0d0s0) is dirty, and will present you with a window in which you can issue some UNIX commands. Try:

```
fsck /dev/dsk/c300d0s0
```

Once fsck completes the repairs on the filesystem, you should be able to type the command 'boot' to start A/UX.

mount -a mount -a will attempt to mount every filesystem listed in the /etc/fstab file. If mount -a returns no information, that means that it had no problem. If it gives you errors, that means that either the /etc/fstab file is not set up properly, or the filesystem is damaged and should be checked with fsck.

mount -a is automatically called at startup time. You should only need to use this command after modifying the /etc/fstab file or after repairing a filesystem with fsck.

Unix Shells

.login The .login file is in the home directory of each user. The .login file contains commands which are executed automatically when the user logs in to the UNIX machine.

It is often helpful to set the following in the .login file:

```
setenv ORACLE_HOME /users/oracle
setenv ORACLE_SID  SAMP
setenv PATH        "/users/oracle/bin:/bin:/usr/bin:/usr/ucb:
                    /mac/bin:/etc:/usr/etc:/usr/local/bin"
```

Adding these lines to the .login file will set these variables automatically when you next login, or use the source command.

PATH PATH is the environment variable which lists the directories on the UNIX machine that will be searched when a command is typed. If I type 'do_something', and there is no program called 'do_something' in the current directory, the shell will search all the directories listed in the PATH for an executable program called 'do_something'. A default PATH may look like:

```
PATH=:/bin:/usr/bin:/usr/ucb:/mac/bin:/etc:/usr/etc:/usr/local
      /bin
```

If you try to use the oracle program called 'sqldba' you will see:

```
sqldba
sqldba: Command not found.
```

If you want to be able to use Oracle commands, you should add the bin directory of the oracle home to the PATH. This is '/users/oracle/bin' by default. Then the PATH would look like:

```
PATH=:/bin:/usr/bin:/usr/ucb:/mac/bin:/etc:/usr/etc:/usr/local
      /bin:/users/oracle/bin
```

In this case, the PATH references /users/oracle/bin, so the

```
            sqldba command can be used without problem.

csh          csh is the C shell, which is the default shell for each user
            except root.  Use the setenv command to set environment
            variables.  when running the C shell.  This is also known as
            /bin/csh.

setenv       setenv sets environment variables under csh.

            'setenv SOME_VARIABLE some_contents' sets the variable
            SOME_VARIABLE to be some_contents.

            There are 3 environment variables which are important under
            A/UX.  They are ORACLE_HOME, ORACLE_SID, and PATH.

            ORACLE_HOME = /users/oracle ( This is the directory where the
                                          oracle files and executables
                                          reside )
            ORACLE_SID  = SAMP          ( This is the name of the default
                                          database, which is SAMP )
            PATH = ../users/oracle/bin.. (discussed in PATH section above)

sh           sh is the Bourne shell, which is the default user for the root
            user.  This is also known as /bin/sh.

            To set an environment variable in the Bourne shell, you can do:

            SOME_VARIABLE=some_contents; export SOME_VARIABLE

            It is important to add the '; export SOME_VARIABLE' to the
            line, as otherwise programs that you run will not be able to
            evaluate that environment variable.

            ORACLE_SID=SAMP; export SAMP

            This sets the ORACLE_SID to be SAMP, and allows other programs
            you run (like Oracle utilities) to read the variable.

env          env lists the names and contents of all variables in the
            current shell's environment.

source       source is used to read in a configuration file.  If you edit
            the .login file, and want the changes to take effect, you can
            log out and log in again, or read in the file.  To read in the
            .login:

            source .login

            This will run all of the commands in the .login file.

Oracle Database Management
--------------------------

tcpctl       tcpctl is a command to help you start, stop, and get the status
            of the SQL*Net TCP/IP version 1 listener.

      **    'tcpctl status' should give you the status of orasrv.

            tcpctl status
            tcputl: Status summary follows
            Server is running:
              Started             : 8-SEP-93 12:08:51
              Last connection     : 15-SEP-93 11:09:17
              Total connections   : 87
              Total rejections    : 3
```

```
  Active subprocesses : 9
  ORACLE SIDs         : S6A,S6B,S6C,S7F,SAMP
  Default SID         : (null)
Logging mode is ENABLED.
DBA logins are DISABLED.
OPS$ logins are ENABLED.
OPS$ROOT logins are DISABLED.
Orasrv is detached from the terminal.
Break mode = IN BAND.
Debug level = 1
No timeout (on orasrv handshaking).
Length of listen queue = 10
Orasrv logfile = /u2/7012f/tcp/log/orasrv.log
Orasrv mapfile = /etc/oratab
```

This tells you that the server is running, and has been running for a week. It has serviced 87 connections since it was started, and there are currently 9 connections made to the server. The active SIDs were read in from the /etc/oratab file.

If the server is not running, it will look like:

```
tcpctl status
tcputl: server is not running: Connection refused
```

** 'tcpctl start' should start the TCP/IP listener process (orasrv).

```
tcpctl start
tcpctl: log file is /u2/7012f/tcp/log/orasrv.log
tcpctl: SID mapping file is /etc/oratab
tcpctl: server will be run under oracle
tcpctl: logging mode is on

orasrv: Release 1.2.7.5.1 - Production on Wed Sep 15 12:01:06
1993

Copyright (c) Oracle Corporation 1979, 1993.  All rights
reserved.

Starting server on port 1525.
tcpctl: server has been started
```

This means that server was successfully started on port 1525 (which was read in from the /orasrv entry of the etc/services file).

You may get the following error if you try to issue the 'tcpctl start' immediately after issuing a 'tcpctl stop':

```
Starting server on port 1525.
orasrv: server already running: Address already in use
```

If this happens, wait a few minutes and try again, while the UNIX operating system releases the port.

** 'tcpctl stop' should stop the TCP/IP listener process (orasrv).

'tcpctl stop' requires that you log into the A/UX machine as the user who started the server. You must actually log into the machine or telnet to the machine to have the proper privileges. If I log in as a user who is not a dba, and use the 'su - oracle' command to become the oracle user, it will

```
            not work:

            tcpctl stop
            tcputl: checking user permission...
            tcputl: permission denied

            If I then telnet to this machine as oracle, or log out and log
            in as oracle, it will work:

            tcpctl stop
            tcputl: checking user permission...
            tcputl: server has been stopped

            You can also stop the orasrv process by killing it.

            ps -ef | grep orasrv   (this finds the orasrv process...)
            oracle   692       1  0  Sep 21  ?        0:02 orasrv
            vgrigori 16358 15344  2 18:17:44 p2       0:00 grep orasrv

            kill 692  (This kills the orasrv process.)

orasrv       orasrv is the SQL*Net TCP/IP version 1 listener process which
            is controlled by the tcpctl program.

atksrv       atksrv is the SQL*Net AppleTalk version 1 listener process.  It
            is invoked with the command atksrv.

            atksrv Squid
            atksrv: Release 1.0.1.2.1 - Production on Wed Sep 15 12:38:06
            1993

            Copyright (c) Oracle Corporation 1979, 1993.  All rights
            reserved.

            Server name is Squid

            Server Squid[10790] is accepting connections....

         *  If you get the error: Cannot register service "Squid" on
            network, that means that there is an AppleTalk listener using
            that name already in your zone of the AppleTalk network.

            The [10790] tells you the PID of the atksrv process.  You can
            stop the atksrv listener by hitting control-C, or by killing
            the process manually from another UNIX prompt.

            You could also kill the atksrv process in the same way you
            could kill the orasrv process, which is described in the tcpctl
            section.

sqldba       sqldba is the utility used to administrate the Oracle database.
            It can create, startup, and shutdown databases. If the database
            is not running, you can only connect to it by using 'connect
            internal'. Once connected internally, you may startup and
            shutdown the database.

            sqldba

            SQL*DBA: Release 7.0.12.2.0 - Production on Wed Sep 15 12:44:56

            Copyright (c) Oracle Corporation 1979, 1993.  All rights
            reserved.

            ORACLE7 Server Release 7.0.12.2.0 - Production
            With the procedural and distributed options
```

```
PL/SQL Release 2.0.14.0.1

SQLDBA> connect system/manager
ORA-01034: ORACLE not available
ORA-07318: smsget: open error when opening sgadef.dbf file.
Macintosh A/UX Error: 2: No such file or directory
```

The above error occurs when the database is not running. If you are logged in as a user in the dba group, you may connect internally and startup the database.

```
SQLDBA> connect internal
Connected.
SQLDBA> startup
ORACLE instance started.
Database mounted.
Database opened.
Total System Global Area       7319428 bytes
              Fixed Size         30492 bytes
           Variable Size       6453352 bytes
        Database Buffers        819200 bytes
            Redo Buffers         16384 bytes
```

After starting up the database, you may connect as a database user.

```
SQLDBA> connect scott/tiger
Connected.
```

You could then connect internally and shutdown the database.

```
SQLDBA> connect internal
Connected.
SQLDBA> shutdown
Database closed.
Database dismounted.
ORACLE instance shut down.
```

Loopback

You could then attempt a TCP/IP connection to the database (provided you have started the orasrv process). This is called a loopback, as the server machine is making a connection to itself, which is a useful test of the server's functionality.

```
SQLDBA> connect scott/tiger@t:squid:S7F
Connected.
```

* You may get errors trying to do the loopback.

```
ORA-6114 - problem with the SID you specified.  Compare the SID
           you tried with the /etc/oratab file.

ORA-6401 - you did not install SQL*Net TCP/IP.

ORA-3113 - you probably did not install the C programming
           option of A/UX and oracle was not properly
           installed.

ORA-6107 - you need to add the orasrv entry to /etc/services.

ORA-6105 - you need to add the server's hostname to /etc/hosts

ORA-6108 - orasrv is not running, or you have the wrong IP
           address entered for your server in /etc/hosts.
           Refer to the description of ping above.
```

```
            ORA-1034 - orasrv is running properly, but the rdbms is not.
                       Use sqldba to start the database.

            ORA-7318 - This error usually follows ORA-1034, but it means
                       the same thing.  The database is not running.

/etc/oratab       - This file lists the instances (SID's) available on the
                    A/UX machine.  The has one line per database on the
                    machine.  Lines beginning with '#' are comments which
                    are ignored.  Each line is made up of the format:
?                     SID:ORACLE_HOME:STARTUP

                    Where:  SID is the name of the database
                            ORACLE_HOME is where you installed the database
                            STARTUP is either Y or N, which indicates
                                    whether the dbstart and dbshut
                                    utilities should start or stop that
                                    database.

                    The default /etc/oratab should have the line:

                    SAMP:/users/oracle:N

                    This means that I have one database on my machine, it
                    is named SAMP, and the ORACLE_HOME for the SAMP
                    database is /users/oracle. The ORA-6114 error occurs if
                    you attempt to connect to a database that is not listed
                    in the oratab file.

                    *** The capitalization of the SID is important
                    *** 'SAMP' is different from 'samp'.
```

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AppleShare 4.x.x Versions: Which Computers Supported

This article details the supported computers for AppleShare 4.x.x.
This article has been archived and is no longer updated by Apple.
The following chart details the supported computers for AppleShare versions 4.0, 4.0.1, 4.0.2, 4.1, 4.2, and 4.2.1:

Supported Computer	4.0	4.0.1	4.0.2	4.1	4.2	4.2.1
Centris 610	X	X	X	.	.	.
Centris 650	.	X	X	.	.	.
Centris or Quadra 660AV	.	X	X	.	.	.
LC 475	.	X	X	.	.	.
LC 575	.	X	X	.	.	.
LC 630	.	X	X	.	.	.
Quadra 605	X	X	X	.	.	.
Quadra 610 or AWS 60	.	X	X	.	.	.
Quadra 630	.	X	X	.	.	.
Quadra 650	.	X	X	.	.	.
Quadra 700	X	X	X	.	.	.
Quadra 800 or AWS 80	X	X	X	.	.	.
Quadra 840AV	.	.	.	.	.	.
Quadra 900	.	X	X	.	.	.
Quadra 950	X	X	X	.	.	.
Power Macintosh 6100/60	.	.	X	X	X	X
Power Macintosh 6100/60AV	.	.	X	X	X	X
Power Macintosh 7100/66	.	.	X	X	X	X
Power Macintosh 7100/66AV	.	.	X	X	X	X
Power Macintosh 8100/80	.	.	X	X	X	X
Power Macintosh 8100/80AV	.	.	X	X	X	X
Power Macintosh 6100/66	.	.	.	X	X	X
Power Macintosh 7100/80	.	.	.	X	X	X
Power Macintosh 7100/80AV	.	.	.	X	X	X
Power Macintosh 8100/100	.	.	.	X	X	X
Power Macintosh 8100/100AV	.	.	.	X	X	X
Power Macintosh 8100/110	.	.	.	X	X	X
Power Macintosh 7200/75/90	.	.	.	.	.	X
Power Macintosh 7500/100	.	.	.	.	.	X
Power Macintosh 8500/120/132	.	.	.	.	.	X
Power Macintosh 9500/120/132	.	.	.	.	.	X
Workgroup Server 6150	.	.	X	X	X	X
Workgroup Server 8150	.	.	X	X	X	X
Workgroup Server 9150	.	.	X	X	X	X
Workgroup Server 6150/66	.	.	.	X	X	X
Workgroup Server 8150/110	.	.	.	X	X	X
Workgroup Server 9150/120	.	.	.	X	X	X
Workgroup Server 7250/12	.	.	.	.	.	X
Workgroup Server 8550/132	.	.	.	.	.	X
Workgroup Server 8550/200	.	.	.	.	.	.X

Note: AppleShare 4.2.2 is supported on the same machines as AppleShare 4.2.1

Note: AppleShare 4.2.1 and 4.2.2 are compatable with Open Transport on PCI and Nubus Power Macintosh computers. These computers should be updated to run System 7.5.5 with the PowerPC Interrupt extension, the 7.5.5 SCSI Server Update, and Open Transport 1.1.1. 7.6 is also supported, and does not require the separate updates required for 7.5.5 as they have been rolled into the system.

Note: There is a special version of AppleShare 4.0.2 for Power Macintosh computers. AppleShare 4.0.2 for Power Macintosh is no longer sold separately.

Note: AppleShare 4.0.1 supports all 68040-based Macintosh computers except the Macintosh Centris/Quadra 660AV and Quadra 840AV due to incompatibility. AppleShare is not recommended or supported when using a Power Macintosh Upgrade Card. There is no performance benefit with the Upgrade Card.

Note: From a functionality standpoint, AppleShare 4.0.1 is identical to the product "AppleShare 4.0.2 for 68040-based Macintosh Computers." Therefore, there is no need to upgrade AppleShare 4.0.1 to AppleShare 4.0.2. The only differences between these versions are the version number itself and the fact that AppleShare 4.0.2 is available in a complete retail package, while AppleShare 4.0.1 is available as a tune-up only and must be installed over an existing copy of AppleShare 4.0.

Note: The Workgroup Server 95 uses only AppleShare Pro (v 1.0 or 1.1). None of the other versions of AppleShare (shown in this article) is supported on the Workgroup Server 95. AppleShare Pro only works with the specific version of System Software (A/UX) it ships with.

Note: The AppleShare 4.0 column is left here for information purposes, users are recommended to upgrade to at least AppleShare 4.0.1.
Published Date: Feb 19, 2012

Color Plus14" Display: Mac II Video is Compatible (12/93)

Will the Mac II Video Card (8Bit) drive the Apple Color Plus Display?

This article has been archived and is no longer updated by Apple.

```
Yes.  The Color Plus has the same sweep rate as the previous HighRes RGB
monitor, for which the Mac II video card was originally designed.
```

Published Date: Feb 19, 2012

Macintosh 128K & 512K: Pinouts to Appleline

This article has been archived and is no longer updated by Apple.

MACINTOSH APPLELINE

1----------1
5----------3
6----------6
7----------20
9----------2
4,5,8: Jumpered

Published Date: Feb 19, 2012

Troubleshooting Macintosh INIT Conflicts

An Extension conflict results when an extension or control panel is incompatible with other software on your Macintosh. This document will help you determine whether an extension is causing erratic or unexpected behavior. An example of erratic behavior is a "frozen" screen that prevents continued use of the computer. This document also tells you how to resolve the conflict.
This article has been archived and is no longer updated by Apple.
These instructions call for you to test for the issue at regular intervals. To test for an issue, repeat the actions you took just before you saw the issue on your computer.

An easily reproducible issue facilitates testing (for example, if your screen freezes whenever you insert a floppy disk). However, you can also use this procedure to troubleshoot intermittent issues -- it will simply take longer to test for them.

What's an INIT?

System files that contain INIT resources are collectively referred to as INITs. The purpose of an INIT resource is to load into random access memory (RAM) at startup time and modify the standard behavior or add new features to the Macintosh operating system.

System extensions, control panels (cdevs) and Chooser extensions (rdevs) may contain an INIT resource. Control panels differ from system and Chooser extensions in that a control panel has a user interface where you can modify the parameters. System and Chooser extensions have no user interface to modify parameters.

In general, the term extension is used interchangeably with INIT, and refers to any of those files that contain an INIT resource. For more information about system files and what they do, read the Tech Info Library article "Macintosh System Folder: Files Described."

Troubleshooting Procedure

Follow these instructions in the order presented.

Turn Off Some Control Panel Settings

Turn off some of the control panel settings to check application compatibility with certain features first implemented in System 7.

1. Open the Memory control panel, click on Use Defaults, and restart your computer. This will turn off virtual memory and 32-bit addressing, and reset the disk cache to its default settings.
2. Turn off file sharing in the Sharing Setup control panel.
3. Test for the issue with these features turned off.

Some older applications may be incompatible with these features. So if this resolves the issue, contact the application vendor.

Disable Extensions

Note: In cases where it isn't feasible to disable ALL extensions (for example, if you're having issues launching an application that requires the QuickTime extension) skip to the Isolating Extensions section.

Verify that the issue is related to extensions, following these steps:

1. Make sure the Caps Lock key is off, and restart your Macintosh.
2. After you see the smiling Macintosh, hold down the Shift key.
3. If you are using System 7.5 or newer, hold down the Spacebar until the Extension Manager appears on screen. Select "System 7.5 Only" (or whatever is appropriate for your version of the Mac OS) from the Sets menu. This will load only those extensions installed during your original system software installation.
4. Release the Shift key when the "Welcome to Macintosh, Extensions Off" message appears.
5. When the Macintosh is ready, try to recreate the erratic behavior.

If the issue no longer occurs, then you have an Extension conflict.

Continue with the next section.

Identify the Conflicting Extension

1. Create a new folder on the desktop called "Removed Extensions."
2. Move all items of Kind "system extension," "control panel," or "Chooser extension" from the System Folder, Extensions folder, and Control Panels folder to this new folder. When you open these folders, choose "by Kind" from the View menu to help identify the files you need to move.

3. Close the System Folder, and restart the Macintosh. Test for the issue. **Note:** If the issue still occurs, check your System Folder to make sure you've removed all the extensions and control panels.
4. Move one item from the new folder on the desktop to the closed System Folder and restart the Macintosh.
5. Attempt to recreate the original issue.

Repeat steps 4 and 5 for each item in the Removed Extensions folder until the issue recurs. The last item returned to the System Folder is likely to bo be the cause of the issue.

Install the Compatible Version

Contact the extension developer for compatibility information. If you have the compatible version, reinstall it from the original disk or from your backup.

If you still have issues with an extension which should be compatible, follow the instructions for isolating this extension from the others on your system.

Isolating Extensions

Follow the steps in this section when you need to test a single extension in isolation. For example, if you just installed the Macintosh PC Exchange control panel, and it doesn't work properly, the cause may be a conflict with another extension.

Make sure you have a startup floppy disk available (that is, a floppy disk containing a System Folder and enabler if required). You can use the Disk Tools disk.

1. Open the hard disk icon and create a new folder called "Test Folder."
2. From the root level of the System Folder, drag the System and Finder files to the Test Folder. Also move any files called System Enabler followed by a 3-digit number, from the root level of your System Folder to the Test Folder.
3. Drag the extension or control panel you wish to test in isolation to the Test Folder as well.
4. Restart the Macintosh. **Note:** If you experience issues starting up, restart with the startup floppy disk, and make sure you've moved the correct files to the Test Folder.
5. Test for the issue.
6. If the issue recurs, you may have an incompatible extension, or some damage to the System file. Check the compatibility and reinstall the extension and the system software if necessary.
7. If the issue doesn't recur, there's some incompatibility between extensions. Drag the System, Finder, System Enabler (if any), and the extension you're testing back to the System Folder.

Note: Don't drag any of the folders you may see in the Test Folder back to your System Folder. The system automatically creates these empty folders.

Follow the instructions in the "Identify Conflicting INIT" section, with this important exception -- remove all system extensions and control panels from the System Folder except the one you're testing. Begin with this extension in place, and add the others one at a time until the issue recurs.

If after following all the above procedures and the issue continues, it is recommended that a clean system software install be performed.
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Troubleshooting Macintosh System 6 INIT Conflicts (8/94)

An "INIT conflict" results when a startup document or control panel is incompatible with other software on your Macintosh computer. This document will help you determine whether an INIT is causing erratic or unexpected behavior. An example of erratic behavior is a "frozen" screen that prevents continued use of the computer. This document also tells you how to resolve the conflict.

This article has been archived and is no longer updated by Apple.

These instructions call for you to test for the problem at regular intervals. To test for a problem, repeat the actions you took just before you saw the problem on your computer.

An easily reproducible problem is easy to test (for example, if your screen freezes whenever you insert a floppy disk). However, you can also use this procedure to troubleshoot intermittent problems it will simply take longer to test for them.

WHAT'S AN INIT?

System files that contain INIT resources are collectively referred to as INITs (pronounced in-its). The purpose of an INIT resource is to load into random access memory (RAM) at startup time and modify the standard behavior or add new features to the Macintosh operating system.

Control panels (cdevs) and Chooser extensions (rdevs) may contain an INIT resource. Control panels differ from Chooser extensions in that a control panel has a user interface where you can modify the parameters. Chooser extensions have no user interface to modify parameters.

In general, the term extension is used interchangeably with INIT, and refers to any of those files that contain an INIT resource.

TROUBLESHOOTING PROCEDURE

Follow these instructions in the order presented.

Turn Off INITs

Note: In cases where it isn't feasible to turn off all INITs (for example, if you're having problems launching an application that requires a particular INIT), skip to the Isolating INITs section.

1) Create a new folder on your hard disk named "INITs."

2) Move all items of kind "Startup Document" or "Control Panel" from

the System Folder to this new folder. When you open the System

Folder, choose by Kind from the View menu to help identify the files

you need to move.

3) Close the System Folder, restart the Macintosh, and attempt to recreate the problem. If an INIT conflict is causing the problem, you won't be able to reproduce the problem at this step.

Note: If the problem still occurs, check your System Folder and make sure you've removed all the startup documents and control panels. If you've followed these instructions correctly, then your problem isn't related to INIT conflicts. You may want to try other troubleshooting methods, such as reinstalling your application or system software.

4) Move one item from the INITs folder to the closed System Folder and restart the Macintosh.

5) Attempt to recreate the original problem.

Repeat steps 4 and 5 with each item in the INITs folder until the original symptom recurs. The last item returned to the System Folder is probably the cause of the problem.

Install the Compatible Version

Contact the INIT developer for compatibility information. If you have the compatible version, reinstall it from the original floppy disks or from your backup.

If you still have problems with an INIT which should be compatible, follow the instructions for isolating this INIT from the others on your system.

Isolating INITs

Follow the steps in this section when you need to test a single INIT in isolation. For example, if you just installed a new control panel, and it doesn't work properly, the cause may be a conflict with another INIT.

Make sure you have a startup floppy disk available (that is, a floppy disk containing a System Folder). You can use the System Tools, Utilities 1, or System Startup disk for this purpose.

1) Open the hard disk icon and create a new folder called "Test Folder."

2) From the root (top) level of the System Folder, drag the System and Finder files to the Test Folder.

3) Drag the startup document or control panel you wish to test in isolation to the Test Folder as well.

4) Restart the Macintosh.

Note: If you experience problems starting up, restart with the startup floppy disk, and make sure you've moved the correct files to the Test Folder.

5) Test for the problem.

6) If the problem recurs, you may have an incompatible INIT, or some damage to the System file. Check the compatibility and reinstall the INIT and the system software if necessary.

7) If the problem doesn't recur, there's some incompatibility between INITs. Drag the System, Finder, and the INIT you're testing back to the System Folder.

Follow the instructions in the Identify Conflicting INITs section, with this important exception -- remove all startup documents and control panels from the System Folder except the one you're testing. Begin with this INIT in place, and add the others one at a time until the problem recurs.

Article Change History:

30 Aug 1994 - Reviewed for concistency with Fax document.

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28 Jan 1994 - Reformatted.

Support Information Services

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ApplePhone: Feedback When Using Hands Free Mode

I'm using the ApplePhone 1.0 application with my Quadra 840AV and GeoPort Telecom Adapter in hands free mode. I'm getting feedback from the speakers in the AudioVision 14-inch Display. How can I eliminate the feedback?

Notes: ApplePhone 1.0 and 1.0.1 is an example program that Apple does not support and it has been removed from Apple Software Updates. The Macintosh AV team created the program to show the capabilities of the AV technology. Apple does not intend to do any further work to this example program.

This ApplePhone software is NOT related in any way to the Apple Phone software that is a part of the Apple Telecom 3.x package. Apple Telecom 3.x also includes Apple Address Book and Apple Fax software.

This article has been archived and is no longer updated by Apple.
The feedback is a result of a design deficiency in the ApplePhone application. Apple Phone does not have Echo Cancellation Code to prevent feedback. There are several workarounds you can use to eliminate the feedback.

1. If you are using the AudioVision 14-inch Display, set the volume controls to their midpoints. This will eliminate much of the feedback.

2. Connect the PlainTalk microphone to the microphone jack on the Macintosh or to the Monitor, if applicable. Position the microphone away from and behind the speakers to reduce the feedback.

3. Connect a pair of headphones to the sound out jack. This will eliminate all feedback.
Published Date: Feb 19, 2012

ApplePhone: Audio on Left Speaker Only

When using ApplePhone software on my Quadra 660AV, audio is heard on the left external speaker only. How do I get audio to play on both speakers?

Notes: ApplePhone 1.0 and 1.0.1 is an example program that Apple does not support and it has been removed from Apple Software Updates. The Macintosh AV team created the program to show the capabilities of the AV technology. Apple does not intend to do any further work to this example program.

This ApplePhone software is NOT related in any way to the Apple Phone software that is a part of the Apple Telecom 3.x package. Apple Telecom 3.x also includes Apple Address Book and Apple Fax software.

This article has been archived and is no longer updated by Apple.
ApplePhone plays audio through the left channel. This is the equivalent to the internal speaker on the Quadra 660AV. There is no way to play ApplePhone audio on both left and right external speakers.
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AWS 95: System Configurations With Jan. 1994 Release (1/94)

This article describes the new system configurations of the Apple Workgroup Server (AWS) 95 with the January 1994 release.

This article has been archived and is no longer updated by Apple.
Apple currently ships three AWS 95 configurations, and will only create two additional configurations with the January 1994 release. All three configurations will be equipped to install either the file/print environment or database tuned environment. Pacific configurations will be announced shortly.

Customers who purchase an AWS 95 in December 1993, January 1994, or February 1994 will receive a software upgrade free of charge. Customers will be required to prove that they purchased the AWS 95 in December, January, or February with an invoice.

USA Configuration:

Current Plan Jan. 1994 Release
AWS 95 AWS 95
--- ---
1) M6855LL/A 1) Same as AWS 95, phase in new
software/disk
* 16MB Memory, 128KB L2 Cache, * 16MB Memory, 128KB L2 Cache,
230MB Disk 250MB Disk

2) M6875LL/A 2) M3074LL/A
* 32MB Memory, 512KB L2 Cache, * 32MB Memory, 256KB L2 Cashe,
1GB Disk, DAT Tape, AppleShare 2GBDisk, DAT Tape, AppleShare
Pro Pro

3) M6895LL/A 3) M3075LL/A
* 48MB Memory, 512KB L2 Cache, * 48MB Memory, 512KB L2 Cache,
230MB Disk, 1GB Disk, DAT Tape 250MB Disk, 2GB Disk, DAT Tape

M6940Z/A Same as AWS 95, phase in new SW
* PDS Card Upgrade #1: PDS Card and * PDS Card Upgrade #1: PDS Card and
A/UX A/UX

M6945Z/A Same as AWS 95, phase in new SW
* PDS Card Upg #2: PDS Card, DAT * PDS Card Upg #2: PDS Card, DAT
Tape, A/UX Tape, A/UX

M6825Z/A M6825Z/B
* AppleShare Pro 1.0 Software * AppleShare Pro 1.1 Software

M2885Z/A
* Software upgrade to AWS 95
installed base

Europe Configuration:

Current Plan Jan. 1994 Release
AWS 95 AWS 95
--- ---
1) M6865XX/A 1) M3074XX/A
* 16MB Memory, 256KB L2 Cache, * 32MB Memory, 256KB L2 Cache,
500MB Disk, DAT Tape 2GB Disk, DAT Tape

2) M6895XX/A 2) M3075XX/A
* 48MB Memory, 512KB L2 Cache, * 48MB Memory, 512KB L2 Cache,

230MB Disk, 1GB Disk, DAT Tape 250MB Disk, 2GB Disk, DAT Tape

M6940Z/A Same as AWS 95, phase in new SW
* PDS Card Upgrade #1: PDS Card and * PDS Card Upgrade #1: PDS Card and
A/UX A/UX

M6945Z/A Same as AWS 95, phase in new SW
* PDS Card Upg #2: PDS Card, DAT * PDS Card Upg #2: PDS Card, DAT
Tape, A/UX Tape, A/UX

M6825Z/A M6825Z/B
* AppleShare Pro 1.0 Software * AppleShare Pro 1.1 Software

M2885Z/A
* Software upgrade to AWS 95
installed base

Published Date: Feb 19, 2012

TA30937_AWS_95_Documentation_with_January_1994_Release_(194)_(TIL14354).pdf

AWS 95: Documentation with January 1994 Release (1/94)

This article describes the Apple Workgroup Server (AWS) 95 documentation after the January 1994 product announcement.

This article has been archived and is no longer updated by Apple.
The existing AWS 95 user documentation will be used with the newer release.
A Read Me update will also be provided that will identify the differences.
A new Performance Tuning Guide will be included with each system.

Published Date: Feb 19, 2012

AWS 95: Hardware Product Enhancements - Jan 1994 Release (1/94)

This article describes hardware enhancements to the Apple Workgroup Server (AWS) 95 with the January, 1994 product announcement.

This article has been archived and is no longer updated by Apple.

1) 2GB Hard Drive

The new drive provides double the storage capacity of existing Apple hard drives on the AWS 95 (2GB vs. 1GB), and offers faster data rates. Most AWS 95 configurations will be packaged around the new 2GB hard drive. Below is a table showing speed comparisons:

	1GB Drive	2GB Drive
Seek time (ms)	11	9
Access Time (ms)	16	12
Internal Data Rate (MB/sec.)	3	5
External Data Rate (MB/sec.)	10	10

2) New Drive Bracket/SCSI Cable

Apple has developed a new bracket/cable solution that allows the AWS 95 to hold up to 5 internal hard drives as compared to 2 drives before. Both systems support CD-ROM or DAT tape in addition to the hard drives stated above. Users will be able to take advantage of the new expanded internal storage capability.

Published Date: Feb 19, 2012

AWS 95: Software Product Enhancements - Jan 1994 Release

This article describes software enhancements to the Apple Workgroup Server (AWS) 95 with the January, 1994 product announcement.
This article has been archived and is no longer updated by Apple.

```
1) Improved AppleShare Performance
  Apple has tuned A/UX software with AppleShare Pro to provide better
  system throughput.  Preliminary benchmarks indicate file sharing
  operations are about 40% faster.  Sequential reads improved an average
  of 12%, while sequential writes improved 70%.  Enumerate performance,
  browsing through files and directories on the server, experienced the
  largest gain with a 123% increase in speed.

2) Pre-install TCP/IP and NFS
  Each AWS 95 will include TCP/IP and NFS pre-installed on the hard drive.
  UNIX customers asked that Apple make this software easier to setup, so
  we are loading it on the hard drive and allowing customers to select
  TCP/IP and NFS as an option.

3) Software Enhancements and Fixes
  Apple has tuned AWS 95 system software and made critical fixes.  The key
  enhancements are listed below.  These software improvements will be
  available to the installed based through a charge for software upgrade,
  check the Apple Price List for prices.  Users who purchase an AWS 95 in
  December 1993, January 1994, or February 1994 will receive a software
  upgrade free of charge.  Users will be required t prove that they
  purchased the AWS 95 in December, January, or February with an invoice.

Performance Improvements
------------------------
* The file server now caches the packed data returned in enumerate calls,
 which improves browsing performance on the server.
* The file server no longer flushes the entire 68040 cache for local I/O.
* Rewrote the UNIX Ethernet driver and AppleTalk stacks to increase
 performance, primarily writes.
* Removed bottlenecks from the A/UX File Manager to speed up Finder copies.

Other Enhancements
------------------
* Support added for "dynamic" use of removable hard drives, such as Syquest
 drives.
* Added support for new Apple Twisted-Pair Ethernet card.
* Installed StyleWriter II print driver and new version of the Chooser.
* Installed new version of LaserWriter driver for LaserWriter NTR.
* Support for UNIX filesystems up to 4 GB (AppleShare still limited to 2
 GB).

AppleShare Pro Fixes
--------------------
* "Shortname" for CD-ROMs that have a ';' in the volume or path name will
 now be correct.
* The file server no longer returns fnfError when parsing a shortname path
 when the shortname not yet derived.
* Corrected a timing condition  during startup which caused the stack to
 remain uninitialized and AppleShare to crash.
* Clients now derive the correct sub-folder count when they don't have full
 privileges on the parent folder.
* Improved error checking for GetIcon, AddIcon and GetAPPL calls.
* Fixed a hang in the parsing code when parsing shortnames and a btree call
 completed asynchronously.
* You should now be able to umount(1m) a UNIX filesystem after unsharing
 via Admin.
* Enumerates are now counted as file server activity; previously, this was
 not done and could cause a client to be logged out when opening up a
```

folder containing many items.

A/UX Kernel Fixes

In the Protocol Stacks and Network Interfaces

* Infrequently, AppleShare Pro servers would not show up in the Chooser on some clients; this has been corrected.
* NFS clients with more than eight active supplementary groups could cause an AWS 95 to crash; the system no longer crashes, but will recognize only the first eight group IDs.
* ifconfig ae6 down no longer causes the system to crash.
* Previously, when using A/UX as a NFS client, you couldn't interrupt an NFS server, even if the remote filesystem was mounted with the intr option. This has been fixed.
* The AWS 95 no longer complains about duplicate IP addresses when IP is disabled.

In the UNIX Filesystem

* Fixed several problems where heavy UNIX filesystem use could cause system or process deadlock/panics.
* The buffer cache code could hold locks too long and cause interrupts to be lost and therefore, the system tick count could drift. This has been fixed.

Other A/UX Kernel Fixes

* The MTIOCGET ioctl now returns EINVAL for non-tape devices.

A/UX Macintosh Environment Fixes

In the A/UX File Manager

* Previously, the .fs_cache file size was limited to 32MB, causing loss of Finder info with filesystems containing more than about 160,000 items. This problem was documented in the AWS Tech Note #17. It has been fixed.
* The toolbox now detects the death of catsearchd; previously, this condition could cause the entire Mac environment to hang.
* Fixed a problem in the File Manager which prevented changing the case of a filename which contained a slash ('/').
* Files with both CR and LF are now considered DOS TEXT files; previously these were interpreted as UNIX binaries.
* Previously, the Finder would frequently terminate after rebuilding the desktop. This has been fixed.
* Aliases to UNIX symbolic links now resolve to the target, not the sym-link.
* You can now subscribe to a publisher with '/', slash, in its filename.
* PB(H)Rename now correctly renames a locked file on an UFS volume.
* Previously, PBOpen did not always set the ioRefNum properly; this has been fixed.
* The A/UX Toolbox now supports the FlushCacheRange trap.
* HRename now works properly.

Related to Retrospect

* Loss of communication with a Retrospect Remote client no longer causes the Macintosh environment to freeze or hang.
* The Time low-memory global will no longer be corrupted (this fixes the Retrospect 2016 date error).
* Files with an empty resource fork are now restored correctly by Retrospect.

Related to Compatibility with Other Applications

* Think C now runs under A/UX.
* An application may now set the serial port baud rate directly via Control.
* Previously, Photoshop would crash with a disk error when creating files bigger than the available free space on the volume. Calls to SetEOF now properly check for free space.

* If the Finder restarts with files in the "Temporary Items" folder, it will now properly move them to "Recovered Items". Previously, this would not occur and creation of a new "Temporary Items" folder could fail, causing some programs, such as AppleSearch, to start up improperly.
* In the A/UX MacTCP glue, the UDP interfaces were fixed so that UDP Chat now works.

The following Tech Info Library article can help you find the Tech Note mentioned here:

Article 24493: "**Apple Tech Notes: What They Are, Where To Find Them**"

Published Date: Feb 19, 2012

Apple Ethernet LC and LC Twisted-Pair Card Descriptions (1/94)

This article describes the Apple Ethernet LC Card and the Apple Ethernet LC Twisted-Pair Card.

This article has been archived and is no longer updated by Apple.
The Apple Ethernet LC Cards (Apple Ethernet LC Card and Apple Ethernet LC Twisted-Pair Card) provide all Macintosh LC models, as well as the Macintosh Color Classic and Macintosh Quadra 605 computers, with the ideal Ethernet connectivity solution for all of your networking needs.

Offering affordable high performance and flexibility, the Apple Ethernet LC Card includes a built-in Ethernet port. By plugging the appropriate Apple Ethernet cable system media adapter into this port, you can connect adapt to any standard Ethernet cabling environment: thin coax Ethernet networks, using the Apple Thin Coax Transceiver; and thick coax or other media (such as fiber-optic cable) Ethernet networks, using the Apple Ethernet AUI adapter.

The Apple Ethernet LC Twisted-Pair Card also provides cost-effective performance?as well as exceptional reliability?through its built-in, industry-standard 10Base-T network port. When used in conjunction with unshielded twisted-pair cable and an IEEE-compatible hub, it allows you to connect to IEEE 802.3 10Base-T networks.

These convenient, easy-to-install cards feature uncompromised network performance, and afford the flexibility of connection to any standard Ethernet media. They support a variety of networking protocols, including AppleTalk, TCP/IP, Mac IPX, and DECnet, and offer seamless interoperability in multivendor environments.

Features

Ease of use
* Easy, one button software installation makes set-up quick and painless
* Ships with multi-lingual software - ready for use with different language versions of system software

Compatibility
* Works with all Macintosh LC models as well as the Macintosh Color Classic and Macintosh Quadra 605 computers
* Complies with IEEE 802.3 standards
* Supports a variety of popular networking protocols, including AppleTalk, TCP/IP, Mac IPX, OSI and DECnet
* Easily integrates into multivendor environments
* Adapts to any standard Ethernet cable environment using the appropriate Ethernet cable system media adapter (Ethernet LC Card)

High performance
* Allows concurrent execution of multiple networking protocols to optimize network performance
* Ships with new, re-engineered, high performance network software
* Offers the highest available network buffer memory

Convenience
* Makes it easy to administer and expand your network. troubleshoot the network,
* Lets you take advantage of existing unshielded twisted-pair cabling (Ethernet LC Twisted-Pair Card)

Reliability
* Offers high network reliability because of the point-to-point nature of

10Base-T networks (Ethernet LC Twisted-Pair Card)

Ordering Information

Apple Ethernet LC Card
Order No. M0443
* Apple Ethernet LC Card
* Network Software Installer Disk
* User's guide
* Limited warranty

Apple Ethernet LC Twisted-Pair Card
Order No. M2460Z/A
* Apple Ethernet LC Twisted-Pair Card
* Network Software Installer Disk
* User's guide
* Limited warranty

Apple Ethernet Thin Coax Transceiver
Order No. M0329Z/B

Apple Ethernet Twisted-Pair Transceiver
Order No. M0437Z/B

Apple Ethernet AUI Adapter
Order No. M0432LL/A

Apple Ethernet 5-meter Thin Coax Cable
Order No. M0833LL/A

Apple Ethernet 13-meter Thin Coax Plenum Cable
Order No. M0436LL/A

For the latest version of AppleTalk software:
AppleTalk Connection for Macintosh
Order No. M8069Z/A

For more information about AppleTalk network design and management, see:
Planning and Managing AppleTalk Networks by Apple Computer, Inc., published
by Addison-Wesley Publishing Company, Inc.

Published Date: Feb 19, 2012

Apple Ethernet LC & LC Twisted-Pair Cards Specifications (1/94)

This article provides the specifications for the Apple Ethernet LC Card and the Apple Ethernet LC Twisted-Pair Card.

This article has been archived and is no longer updated by Apple.

Apple Ethernet LC Card

Connector
* Apple Ethernet

Transmit/receive data rate
* 10-megabit-per-second maximum data rate

Environmental requirements
* Operating temperature: 50í to 104í F (10í to 40í C)
* Humidity: 20% to 95% noncondensing

Power dissipation
* 4 W or less

Ethernet controller
* National Semiconductor DP83932 -SONIC

System requirements
* One available Macintosh LCðcompatible processor-direct slot
* Appropriate Apple Ethernet cable system media adapter

Apple Ethernet LC Twisted-Pair Card

Connector
* Ethernet 10Base-T compliant RJ-45 port

Transmit/receive data rate
* 10-megabit-per-second maximum data rate

Environmental requirements
* Operating temperature: 50í to 104í F (10í to 40í C)
* Humidity: 20% to 95% noncondensing

Power dissipation
* Maximum 1.5, average 1 W

Ethernet controller
* National Semiconductor DP83934 -SONIC-T

System requirements
* One available Macintosh LCðcompatible processor-direct slot
* Unshielded twisted-pair cable
* IEEE 802.3-compatible 10Base-T hub

Published Date: Feb 19, 2012

Apple Media Authoring System: Description

This article describes the Apple Media Authoring System.
This article has been archived and is no longer updated by Apple.
Apple presents the state-of-the-art desktop multimedia development solution: The Apple Media Authoring System. This system contains the essential hardware and software tools required for media authoring, integration, and production. From three-dimensional modeling to animation, from special video effects to object-oriented authoring, this system includes the software and hardware you need to create titles, on-line presentations, video kiosks, and games.

This Apple-designed system is intended for use with your choice of high-performance Macintosh Quadra computers (800, 840AV, 950). These computers provide expandable, high-speed platforms for multimedia authors and developers. AppleDesign Powered Speakers, included in this solution, equip the Quadras with CD-quality near-field stereo output.

DigitalFilm and ThunderStorm from SuperMac add the tools you need to go from concept, through production to mastering the video and audio portions of your CD-ROM. DigitalFilm adds capture capabilities for full-motion video and audio. The ThunderStorm image processing card accelerates the application filters in Adobe Premiere and Photoshop as well as in CoSA After Effects. Together these tools accelerate the process and generation of you final media productions, including Cinepak movies.

The system includes a complete suite of software programs: Adobe Photoshop, the industry-standard software for image manipulation and photo retouching; Adobe Premiere, a digital movie-making and video production tool; Apple Media Tool, object-oriented authoring software for rapid prototyping without programming and cross platform playback; CoSA After Effects for advanced digital compositing and effects; Macromedia Macromodel for 3D modeling, Macromedia Director integrates animation, sound, QuickTime movies, and interactivity; Macromedia Action! with ClipMedia, for producing multimedia presentations; Macromedia Sound Edit Pro for sound digitizing and editing; and Kodak Shoebox, an image database manager.

With the Apple Media Authoring System, youll have just about everything you need to build the ultimate multimedia authoring studio.

FEATURES

AppleDesign Powered Speakers

High-quality stereo separation and sound
Excellent frequency response using transducer, tuned-port design and active equalization
Built-in noise-reduction circuitry for clear sound

SuperMac DigitalFilm

NuBus video card for full-motion, full-screen video and audio capture and editing.
Hardware-accelerated Apple Photo JPEG compatible image compression and decompression.
24-bit accelerated graphics on up to 17-inch displays at 832 x 624 resolution.

SuperMac ThunderStorm

Nubus card accelerates multimedia filters for Adobe Premiere and Photoshop and CoSA After Effects. Ideal for CD-ROM Cinepak video production

Apple Media Tool

Multimedia production software allows media element assembly without programming

Adobe Premiere Deluxe CD-ROM Edition

Digital video production and editing software allows nonlinear, off-line editing and production of QuickTime movies

Adobe Photoshop Deluxe CD-ROM Edition

Photo manipulation, image editing, and production software

CoSA After Effects

Video special-effects software puts production-house-quality tools on the desktop

Macromedia Director

Authoring software for multimedia production combines text, graphics, animation, sound and digital and analog video from different sources

Macromedia MacroModel

Three-dimensional, spline-based modelling software allows fast creation of three-dimensional objects from two-dimensional reference objects

Macromedia Action!

Multimedia presentation software

Macromedia Sound Edit Pro

Software for digitizating and editing sound

Macromedia ClipMedia

Provides video, animation, music and sound clips for your multimedia presentations

Kodak Shoebox

Image database package for Kodak Photo CD users supports an index of multiple Photo CD discs

ORDERING INFORMATION

Apple Media Authoring System
Order No. M2699LL/A

Suggested computers:

- Macintosh Quadra 800 with 32MB of RAM, 1000MB hard disk drive, and external AppleCD 300 double-speed CD-ROM drive
- Macintosh Quadra 840AV with 32MB of RAM, 1000MB hard disk drive, and internal AppleCD 300i double-speed CD-ROM drive
- Macintosh Quadra 950 with 32MB of RAM, 1000MB hard disk drive, and external AppleCD 300 double-speed CD-ROM drive

Suggested displays:

- Apple AudioVision 14 Display
- Macintosh 16-inch Color Display
- SuperMac SuperMatch 17T Display
- SuperMac SuperMatch SmartTouch Touch Screen
- E-Machines T16 II Display

Suggested keyboards:

- Apple Extended Keyboard II
- Apple Adjustable Keyboard

Other suggested products:

- Sony CDW-900E Write Once drive and CD-ROM Formatter Series Software from Sony Electronic Publishing
- Additional SuperMac ThunderStorm card and Cinepak Accelerator Software for Cinepak compression acceleration
- SuperMac DigitalFilm Player card
- SuperMac Cinepak Acceleration Kit
- 2GB FWB Hammer hard disk drive

Published Date: Feb 19, 2012

Apple Professional Video Production System: Description (8/94)

This article describes the Apple Professional Video Production system, which brings professional video production and special effects capabilities to the desktop.

This article has been archived and is no longer updated by Apple.
Apple presents the state-of-the-art desktop video and special effects solution: The Apple Professional Video Production System. The system delivers a high-quality digital video production studio anywhere you can put a computer. It gives CD-ROM based Macintosh Quadra class machines (800 and 950 (see note below about the 840AV)) full-screen, full-motion video capabilities without pixel doubling. And it contains everything you need to quickly and easily capture, display, edit and output professional-quality video to video tape, and also includes professional-quality stereo sound mixing and editing capabilities.

These Macintosh Quadra computers are the perfect choice for video professionals who demand speed, expandability, and high-quality video capabilities. AppleDesign Powered Speakers, included in this solution, equip the Quadras with CD-quality near-field stereo output.

These computers are complemented by VideoVision Studio, Radius' newest and most advanced JPEG video capture card. This NuBus card puts hardware compression and decompression of full-frame, full-motion digital video at your fingertips. It allows you to capture, display, edit, and output 640-by-480-pixel digital video at 30 frames and 60 fields per second.

Equipped with VideoVision Studio and a 2-gigabyte disk array, Macintosh Quadra computers have ample processing power to exercise the capabilities of the system's video-production software: Adobe Premiere and VideoFusion. These programs bring professional-quality post-production capabilities to the desktop and offer an affordable alternative to costly special-effects hardware and outside production services.

To help create your sound tracks, the system includes digidesign's Audiomedia II 16-bit CD-quality sound card. This NuBus card puts a digital recording studio in your Macintosh. Its Sound Designer II stereo waveform-editing software makes it easy to edit and finesse sound for your videos.

The Apple Professional Video Production System. Just about everything a video producer needs. At a price just about every video producer can afford.

Features
* Radius VideoVision Studio
- Nubus video card allows video capture and editing
- Full motion, full-screen, flicker-free video at 640 x 480 resolution, at 30 frames, 60 fields per second
- Professional quality output to video tape

* Storage Dimensions Macinstor Speed Array
- External disk array provides 2 gigabytes of storage space
- Connects to high-speed macintosh processor direct slot

* digidesign Audiomedia II
- Nubus digital stereo sound card provides direct-to-disk recording, and playback
- 16-bit, 44.1 Khz And 48 Khz sample rates
- Digital and analog input and output

* AppleDesign Powered Speakers
- High-quality stereo separation and sound
- Excellent frequency response using transducer, tuned-port design and active equalization

- Built-in noise circuitry for clear sound

* Adobe Premiere Deluxe CD-ROM
- Digital video production and editing software includes non-linear, off-line editing capabilities and production of QuickTime movies
- Exports to video tape

* VideoFusion
- Special effects software combines video, graphics, and text in QuickTime movies
- Unlimited layering, field rendering and alpha channel support
- Extensive libraries of transitions, color transformations, DVE moves, 2D warps, and filters

Customer Profile

The Apple Professional Video Production System is designed for:
* Independent video producers
* Corporate marketing and PR departments responsible for producing sales and other promotional video presentations
* Training departments
* Ad agencies
* Multimedia designers and producers
* Students and educators
* Quicktime producers

System Capabilities

The Apple Professional Video Production System includes all the hardware and software you need to:
* Capture, edit, playback and compress full-motion, full-screen digital video
* 640 X 480 NTSC at 30 frames and 60 fields/second
* 768 X 576 Pal at 50 fields/second
* Produce quick, low-cost videos for presenting new concepts
* Creating training and motivational video presentations
* Editing rough-cuts (offline editing) of high-end video for edit decision list production
* Integrating video into multimedia presentations
* Transferring multimedia presentations to video tape

Ordering Information

Apple Professional Video Production System
Order No. M2703LL/A

* Radius VideoVision Studio
* Storage Dimension 2 Gb Array
* 16-bit Sound Card
* VideoFusion (software)
* Adobe Premiere Deluxe CD-ROM Edition
* AppleDesign Powered Speakers
* AppleCD 300

Suggested Computers:
---
* Macintosh Quadra 800 with 32MB of RAM, 1000MB hard disk drive, and an external AppleCD 300 double-speed CD-ROM Drive.
* Macintosh Quadra 950 with 32MB of RAM, 1000MB hard disk drive, and an external AppleCD 300 double-speed CD-ROM drive.

NOTE: The Professional Video Production Solution is not compatible with the Macintosh 840AV or the Power Macintosh. The Video Production Solution bundle contains the Storage Dimensions MacinStor SpeedArray 2GB external hard drive which interfaces with the processor direct slot (PDS) on the Quadra 800 and 950. The 840AV and Power Macintosh computers do not support a disk array through PDS and are therefore incompatible with the Storage Dimensions drive.

Suggested Displays:
---
* Apple AudioVision 14" Display
* Apple Macintosh 16" Color Display
* Apple Macintosh 21" Color Display
* Radius Intellicolor Display/20

Suggested Keyboards:
---
* Apple Extended Keyboard II
* Apple Adjustable Keyboard

Article Change History:
18 Aug 1994 - Changed wording in NOTE section to show Power Macintosh as incompatible.
16 Aug 1994 - Added Power Macintosh as incompatible due to PDS disk array card.

Support Information Services
Published Date: Feb 19, 2012

HyperCard 2.2: Possible Post-Installation Problems (12/93)

Some users may encounter the following problems after installing HyperCard 2.2:

* They may not see the stack icons of existing stacks.
* Earlier versions of HyperCard may be launched when they double-click on a stack.
* When they double-click on a stack, they may see a message that the application program (HyperCard) could not be found. (This will happen only on systems that have never had HyperCard or the Player installed, or that have had the Desktop file rebuilt after HyperCard was deleted.)

This article has been archived and is no longer updated by Apple.

The Problem

In order to fit on an 800K floppy disk, HyperCard 2.2 is shipped as a compressed file. The HyperCard 2.2 installation procedure doesn't make the Finder aware that the application that's been installed is HyperCard and the Finder doesn't add it to the Desktop database. On systems that already had HyperCard, there is a HyperCard entry in the Desktop database, but it points to the older version. Thus when a stack is double-clicked, the older version of HyperCard is launched. Finally, systems that have never had HyperCard don't know what icons to attach to stacks.

The Fix

All you need to do to teach the Finder about the new version of HyperCard is to open the HyperCard 2.2 folder that is installed. (Few customers will have any of these problems because the first thing most of them will do after installation is look to see what is in the HyperCard 2.2 folder.) Then their stacks will find the correct HyperCard, and under System 6 their icons will show up.

Under System 7 there's another wrinkle. If System 7 sees a HyperCard stack, it will cache the appropriate icon until the Finder is restarted (restarting the computer will do this). If it sees a HyperCard stack before an entry is made in the Desktop database for HyperCard, it will use the standard document icon. Thus under System 7, if the Finder sees a stack before it knows about HyperCard, it will give all stacks the standard document icon until it is restarted. If you see this problem, open the HyperCard 2.2 folder (to show HyperCard to the finder) and then restart the computer. Note that this will only happen on systems that had no prior knowledge of HyperCard or Player or systems that had HyperCard deleted and then had their desktop files rebuilt. Unfortunately, the Finder will see the stacks in the HyperCard program folder before it gets to HyperCard, so these systems will get the icon problem and you'll have to restart your computer to fix it.

Published Date: Feb 19, 2012

HyperCard 2.2 & Performa: If System Hangs After Install (2/94)

This article describes a problem with the HyperCard 2.2 Installer on Macintosh Performa systems. An incompatibility with the Performa system software sometimes causes a system to hang if you hit the Restart button at the end of the HyperCard 2.2 installation script, even though the installation was successful.

This article has been archived and is no longer updated by Apple.

To confirm that HyperCard was successfully installed, restart your computer and launch HyperCard.

Article Change History:
17 February 1994 - Reworded the discussion.

Published Date: Feb 19, 2012

HyperCard 2.2 Standalone Applications & Color (12/93)

This article provides some cautions regarding the creation of standalone applications that use color.

This article has been archived and is no longer updated by Apple.
When you first start to colorize a stack, resources are copied from the Color Tools stack into your stack. This process is not entirely completed until the stack is closed. If you save the stack as standalone application before quitting the stack, the resources won't make it into the standalone application -- and color won't work.

Be sure to allocate enough memory to the standalone app to allow it to display color. Generally, 2MB should suffice. If you're having trouble with color in standalone apps, be sure to close the stack at least once before saving it as a standalone application (most people will do this as part of the normal development process anyway), and then go to the Get Info dialog box and give the new application at least 2MB of memory.

Published Date: Feb 19, 2012

HyperCard 2.2: Color Tools Troubleshooting (2/94)

People with monitors that can't display 16 or more colors can't use the Color Tools stack. On one-bit monitors, the Color Tools stack will show a card that lists its requirements, but it doesn't do this for monitors that are not in B&W mode -- so you may have problems running the stack without realizing why.

This article has been archived and is no longer updated by Apple.

```
Here are the requirements for using the Color Tools stack:
* At least 2MB of RAM allocated to HyperCard
* 32-Bit QuickDraw (included as part of system software version 7.0
 or later)
* A monitor capable of showing 16 or more colors or shades of gray

Also, when using Color Tools 1.0 with HyperCard 2.2, if you:
1) Choose Open Color Tools from the Color menu,
2) Before the palette is drawn, click on the desktop, and then
3) Later go back to HyperCard,
you get Color menus but no palette.  The workaround is to close Color Tools
and reopen it.

Article Change History:
17 February 1994 - Reworded the discussion
```

Published Date: Feb 19, 2012

HyperCard 2.2: Can‘t Create Standalone App with 68000 (2/94)

The standalone application builder is not supported on 68000-based Macintosh systems.

This article has been archived and is no longer updated by Apple.

This means you can't create a standalone application on Macintosh Plus, SE, Classic, Macintosh Portable, or PowerBook 100 computers.

Article Change History:
17 February 1994 - Added more Macintosh models to the discussion.

Published Date: Feb 19, 2012

Macintosh 128K & 512K: Pinouts to Hayes SmartModem

This article has been archived and is no longer updated by Apple.
MACINTOSH HAYES SMART MODEM

1----------FRM GRND----1
3 OR 8------SIG GRND----7
5----------TD----------2
6----------+12 DTR-----20
7----------DCD---------8
9----------RD----------3

Published Date: Feb 19, 2012

HyperCard 2.2: Close Script Ed Before Running OSA Script (12/93)

1) I put the following AppleScript script into a HyperCard button:

```
on mouseUp
badNews()
end mouseUp
```

2) Click the button. HyperCard complains, 'Couldn't understand "badNews".' Click script in the complaint dialog. The script window opens. Leave the script window open.

3) Select the card window by clicking on it. Click the same button again as above.

4) HyperCard complains again. Click script again. The system eventually freezes or crashes.

This article has been archived and is no longer updated by Apple.
In a nutshell, HyperCard has problems if you run an AppleScript script with a script error and then hit the script button in the resulting error dialog while the corresponding script editor window is already open. If you run into this problem, close the script editor windows before running OSA scripts.

Published Date: Feb 19, 2012

ARA Serial Card and Serial NB Card Differences (1/94)

I have a question about the ARA 2.0 MultiPort Server. In the requirements it mentions the AppleTalk Remote Access Serial Card and RS-232 cable; is this different from the Apple Serial NB Card and the Hydra cable? If it is, will the ARA 2.0 support the Apple Serial NB Card?

This article has been archived and is no longer updated by Apple.

```
The ARA Serial Card is the same as the Serial NB Card except for one minor
difference.  The resistor packs on the card have been removed so that ports
1A and 1B are configured as RS-232-C ports.  If a customer is going to use
an existing Serial NB card with the ARA Server they must remove the
resistor packs in order to configure the card properly for operation.
```

Published Date: Feb 19, 2012

Macintosh 128K & 512K: Pinouts to Apple Daisywheel

This article has been archived and is no longer updated by Apple.
MACINTOSH APPLE DAISYWHEEL

3 AND 8------SG----------7
7----------20
9----------RXD----------2
5----------TXD----------3
4,5,6,8: Jumpered

Published Date: Feb 19, 2012

AppleShare 4.0.1: Read Me File

This article contains the AppleShare 4.0.1 Read Me.
This article has been archived and is no longer updated by Apple.
This document provides important information about AppleShare 4.0. Some of this information is not included in the "AppleShare 4.0 Administrator's Guide." You may want to print this document and keep it with the "AppleShare 4.0 Administrator's Guide."

Choose Screen Savers Carefully

There are many screen savers on the market that can be used to prevent screen burn-in on AppleShare servers. Some screen savers are quite elaborate and perform many complex calculations to draw a single picture on the screen. Since they require significant amounts of CPU time, the more complex screen savers will impede the performance of your AppleShare server. Please choose the screen saver that interferes the least with your AppleShare server.

Some screen savers are not compatible with AppleShare 4.0 and can cause your AppleShare file server to crash or hang. Before purchasing or using a screen saver, check with the screen saver's manufacturer to determine if the screen saver will work properly with your AppleShare file server.

Optimize Memory Usage

AppleShare 4.0 uses caching techniques to improve the performance of the file server. Caching stores frequently used items, such as folders, icons, and parts of documents, in high-speed memory. Items in memory can be retrieved faster than items stored on disk.

In general, the more you increase the size of the cache, the better your AppleShare File Server will perform. However, increasing the size of the cache also increases the amount of server memory your AppleShare File Server requires. If you increase the size of the cache by too much, your other server applications (such as AppleShare Print Server) may not be able to run in the remaining memory.

To be sure that all your server applications have enough memory to operate correctly, start AppleShare File Service after you have opened all your other server applications. If there is not enough memory to start AppleShare File Service with the cache size you requested, AppleShare File Service will decrease the size of the cache until it fits in the available memory.

If, however, the primary purpose of your server system is to provide AppleShare File Service, then you may want to start AppleShare File Service first. This will allow AppleShare to allocate all the memory it needs. You can then use the remaining memory for your other server applications.

If you are using a backup utility that periodically backs up your file server data, be sure to leave enough memory available for the backup utility to function properly.

Using System 7 Disk Cache with AppleShare 4.0

In addition to the caching provided in AppleShare 4.0, System 7 also provides disk caching. Depending on how you use AppleShare 4.0, you may notice an improvement in performance by adjusting the server computer's disk cache size. Cache sizes in the range 32K to 128K are valid settings for use with AppleShare. Settings higher than 128K will provide little additional improvement in performance and will waste memory. In general, increasing the size of the cache for your AppleShare File Server will provide a more substantial performance improvement than increasing the size of the System 7 disk cache.

System 7 ships with disk cache turned on and set to 32K. You may wish to experiment with higher settings. (You adjust the cache size in the Memory control panel.) Depending on the type of server usage in your work environment, you may notice better server performance.

If you change the size of the disk cache, be sure to restart the server computer for the new size to take effect.

Using Virtual Memory with AppleShare 4.0

It is possible to run AppleShare 4.0 software with virtual memory turned on; however, doing so is not recommended. If you choose to run the software with virtual memory turned on, you will likely notice a decrease in server performance. See the manuals that came with your server computer for more information on using virtual memory.

Using Special Characters in Server Names

AppleShare 4.0 Admin will not allow the administrator to enter a server name that contains a "/" character. If you must have a "/" character in the name of your server, use the following workaround:

1. Shut down file service.
2. Quit AppleShare Admin.
3. Drag the Users & Groups Data File from the Preferences folder to the System Folder.
4. Using the Sharing Setup Control Panel, change the Macintosh name to the Server name you want.

5. Start AppleShare Admin.
6. Fill out the information in the Administrator Information and Serial Number dialog box.
7. When the Server Name dialog box appears, do not touch the Server Name field. Just enter the Admin Key and click OK.
8. Quit AppleShare Admin.
9. Drag the Users & Groups Data File from the System Folder to the Trash. It is no longer needed.

Retaining Access Privileges while Upgrading from Macintosh File Sharing
---
If you are upgrading from Macintosh file sharing while using new server hardware, your original access privileges will not be retained in some circumstances. Specifically, if you copy information from the startup volume using the Finder, your access privileges for that volume will not be retained. The "AppleShare 4.0 Administrator's Guide" instructs you how to manually re-establish those access privileges on the new server. For startup volumes that have only a few sharepoints and only a limited number of folders with specific access privileges, this is the best approach. However, if your startup volume has many folders with different access privileges, then you may want to use the following workaround.

Follow the instructions in the "AppleShare 4.0 Administrator's Guide" for upgrading from Macintosh file sharing. When the instructions ask you to copy the data from the startup volume, use the instructions below instead. Then finish the rest of the instructions in the "AppleShare 4.0 Administrator's Guide."

1. Connect an empty (unused) external disk to your old system.
2. Copy AppleShare Admin from your AppleShare 4.0 Installer disk to your startup volume. AppleShare Admin is in the AppleShare File Server folder. If the disk is a CD, the AppleShare File Server folder is inside the AppleShare folder.
3. Open AppleShare Admin. The "Users & Groups Data File was not found" dialog box appears.
4. Select "Use System 7 ...", and Click OK
5. Enter a serial number in the Administrator Information and Serial Number dialog box.
6. Enter a server name and admin key in the Server Information dialog box.
7. Wait for Admin to finish starting up.
8. Use the Copy <item> command to copy the contents of your startup volume to the external disk.
9. Quit AppleShare Admin, and drag it to the Trash.
10. Drag the newly created Users & Groups Data File from the Preferences folder to the Trash.
11. Drag the old Users & Groups Data File from the floppy (where you saved it earlier) to the Preferences folder.
12. Attach the external disk to your new server.

AppleShare Admin 4.0 runs only on 68040 based systems. If you are running Macintosh file sharing on other than a 68040 system, use either AppleShare Admin 3.0 or a third-party backup program to copy your startup volume. Contact your Apple Support Representative for assistance.

Install Fonts Before Using Online Documentation

If you purchased AppleShare 4.0 on a CD, online documentation for the "AppleShare 4.0 Administrator's Guide" and "Macintosh Basics" is included on the CD. Before you can use the documentation, you must first install the fonts required by DocViewer into your system. Those fonts are on your CD in the "Apple DocViewer Fonts" folder, which is in the "Apple DocViewer v1.0" folder. You can install the required fonts into your system by dragging their icons into the Fonts folder, which is in the System Folder. Some DocViewer fonts may already be in your Fonts folder. Drag only those fonts that are missing from your Fonts folder.

Use Caution when Removing the Workstation

The Installer will allow you to remove AppleShare 4.0 software as well as install it. Be aware that removing the Workstation software requires you to restart your Macintosh computer. Restarting your Macintosh computer will break your connection with your AppleShare File Server. Since there is no longer any Workstation software on your Macintosh computer, you will be unable to reconnect to your AppleShare File Server. You will need to reinstall the Workstation software from the "AppleShare Workstation" floppy disk before you can reconnect to your AppleShare File Server.

Install System 7.1 First

Always install System 7.1 first, then install AppleShare 4.0. If you install System 7.1 after you install AppleShare 4.0, the Apple Shared Library Manager will not function correctly. Since AppleShare 4.0 uses the Apple Shared Library Manager, it will also not function correctly.

If you need to reinstall System 7.1 for any reason, always reinstall AppleShare 4.0 afterwards.

Use Separate Aliases for Sharepoints

Aliases to shared folders can be created by the AppleShare server (using the Finder). Those aliases can be shared with workstations by placing them in a shared folder. If a shared alias is used by a workstation, the alias may be modified in such a way that it is no longer usable by the Finder on the AppleShare server. This can only happen with sharepoint aliases created on an AppleShare server.

To avoid this problem, use separate aliases for sharepoints. Create two aliases to the same sharepoint, using the Finder on the AppleShare server. Place one alias in a shared folder for use by workstations. Keep the other alias in a folder that is not shared with workstations.

Serial Numbers are Not Updated Immediately

Using AppleShare Admin, you can change serial numbers while file service is running. However, the old serial number will remain in effect until you restart file service.

If you change serial numbers to eliminate a duplicate serial number, you will continue to receive duplicate serial number notifications until you restart file service. Likewise, if you accidentally change the serial number to one that is already in use by another file server, you will not receive duplicate serial number notifications until you restart file service.

In addition, once you change to a new serial number, the old serial number will no longer be displayed by AppleShare Admin. To avoid confusion about which serial number is in use, restart file service immediately after changing the serial number.

Some Greeting Messages may not Appear on System 7 Workstations
---
Your Macintosh system software includes an AppleShare Workstation. You can use that software to log on to and use any AppleShare server, including an AppleShare 4.0 server. However, the AppleShare Workstation software supplied with system software does not accept the full range of Server greeting messages that can be sent from an AppleShare 4.0 server.

To ensure that the full range of greeting messages are displayed on all workstations, use the AppleShare Workstation software included with your AppleShare 4.0 software. See your "AppleShare 4.0 Administrator's Guide" for how to install the Workstation software.

Working with a Large Users & Groups Data File

AppleShare Admin is factory configured to work with a Users & Groups Data File that has a maximum of 1900 users. If you have a large user community, you may need to increase the capacity of AppleShare Admin. You can increase the capacity of AppleShare Admin by increasing the preferred memory size in the Admin's Info Window. (Use the Finder to first select the AppleShare Admin icon, then choose Get Info from the File menu.) AppleShare Admin needs a minimum of 400k of memory. Increase Admin's preferred memory size by 100k for each additional 1000 users in your user community. For example, AppleShare Admin needs 500k of memory to handle 2900 users. Likewise, it needs 600k of memory to handle 3900 users.

Using Retrospect with AppleShare 4.0

If you are backing up a large number of files, you may need to give Retrospect more application memory. See your Retrospect User's Guide for guidelines on when to increase the size of your Retrospect application. The Read Me document included with your Retrospect software also contains pertinent information about the use of Retrospect.

Using MicroSoft Mail Client Software on Your Server

If you are using MicroSoft Mail client software on your AppleShare server, use these directions for installing your MicroSoft Mail software:

1. On your server computer, turn AppleTalk off. (Open the Chooser, then select the AppleTalk Inactive radio button)
2. Follow the instructions included in your documentation for installing MicroSoft Mail in low memory conditions. Specifically, use the drag and drop instructions described in the Read Me document included with your MicroSoft Mail software.
3. Drag and drop all the MicroSoft Mail files in their proper location except the AppleTalk files. Those files should not be installed on your server system.
4. Reboot your server system.

Capitalize Apple II Sharepoints

If you are experiencing problems moving files between your AppleShare File Server and your Apple II workstation, try capitalizing the name of the sharepoint. For example, use a sharepoint named ARTCLASS rather than ArtClass.

Use QuickTime 1.6.1 on Workstations

If you are using NOW utilities on your workstation, and also have QuickTime 1.6 on your workstation, your workstation may hang when logging on to an AppleShare File Server. This may occur when logging on to a server through either the chooser, or through an alias. To correct this problem, install QuickTime 1.6.1 on your workstation. Alternatively, removing QuickTime 1.6 or the NOW utilities from your workstation will also fix the problem. You may also experience problems if you are using the HAM (HierArchial Menu) utility.

If you received AppleShare 4.0 on a CD, QuickTime 1.6.1 is inside the "Extras" folder, which is in the "AppleShare Tidbits" folder on the CD. If you received AppleShare 4.0 on floppy disk, QuickTime 1.6.1 is inside the "Extras" folder on the floppy disk labeled "AppleShare Tidbits".

Using the Apple IIe or the IIe Card for the Macintosh LC

If you are experiencing problems logging on to an AppleShare 4.0 File Server from either an Apple IIe or a Macintosh LC with a IIe card, contact your Apple support representative. Ask your representative to supply you with the upgraded software required to fix the problem.

Use the International Menu to Choose the Roman Keyboard

Using KanjiTalk 7.1, there are two ways to select the Roman keyboard. You can use either the international menu or the keyboard palette. When entering the product serial number into the File Server Serial Number Preferences dialog, use the international menu to select the Roman keyboard rather than the keyboard palette. The keyboard palette does not work correctly.

Specifically, before you open AppleShare Admin for the first time, use the international menu to select the Roman keyboard. Afterwards, open AppleShare Admin and enter the serial number into the File Server Serial Number Preferences dialog.

If you need to change your serial number, remember to select the Roman keyboard before selecting File Server Serial Number Preferences from the Server menu.

Logging on to an AppleShare File Server from a PhoneNet PC Client
---
Using AppleShare Admin, you can force new AppleShare users to change their password the first time they log on to your server. If new users are experiencing problems logging on to an AppleShare File Server with PhoneNet PC, try letting the user keep the original password.

Modifying Users & Groups Information on a Server that also has Apple Remote Access
---
If you install AppleShare on a server that also has Apple Remote Access, the ability to work with Users and Groups from Apple Remote Access is disabled. Instead, use AppleShare Admin to work with Users and Groups.

Avoid Giving Users Access to the Root of a Volume

Using AppleShare Admin, you can give workstation users access to either the root of a volume, or to sharepoints within that volume. To ensure the security of your file server, give workstation users access to sharepoints only.

Opening Applications over the Network

If you are experiencing problems opening applications over the network from your AppleShare File Server, and your workstation is a 68040 based Macintosh, try installing "Network Launch Fix" into the Extensions folder of your workstation.

If you received AppleShare 4.0 on CD, "Network Launch Fix" is inside the "Extras" folder, which is in the "AppleShare Tidbits" folder on the CD. If you received AppleShare 4.0 on floppy disk, "Network Launch Fix" is inside the "Extras" folder on the floppy disk labeled "AppleShare Tidbits". If you received AppleShare Tune-Up 4.0.1, "Network Launch Fix" is inside the "Extras" folder on the floppy disk labeled "AppleShare Tune-Up 4.0.1".

Using Quadra 605's or LC 475's as File Servers

If you are experiencing problems using a Quadra 605 or an LC 475 as a file server, try setting the server monitor to black & white. Open the Monitors control panel and select "Grays: Black & White."
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AIR 3.0.1 Basic Connectivity Package Read Me

This article contains the Apple Internet Router (AIR) 3.0.1 Basic Connectivity Package Read Me.

This article has been archived and is no longer updated by Apple.

```
Apple Internet Router 3.0.1 Basic Connectivity Package Read Me

Version 3.0.1 Bug Fixes
-----------------------
* An incompatibility between the SNMP Router Agent and Shared Library
 Manager 1.1 has been fixed.

* An incompatibility between the DialUp access method and Apple Remote
 Access has been fixed.

Customized Installations
------------------------
* The Customize installation screen differs from the one shown in Chapter 2
 of the "Apple Internet Router Administrator's Guide."  The following
 additional items appear when you click Customize during the installation
 process:

  "AppleTalk v58.0 for System 7" ?? Select this item if you do not already
   have AppleTalk version 58.0 or later installed on your Macintosh.

  "Half-Routing Resources" ?? Select this item if you do not already have
   AppleTalk Remote Access or Apple Remote Access installed on your
   Macintosh.

* If you are doing a customized installation of the router, be sure to
 install AppleTalk version 58.0 unless you already have a later version
 installed.

Using Memory Efficiently
------------------------
* To ensure that the router has sufficient memory, you should start the
 router before starting other application programs (including file or
 print servers).

* When the router fails to start because it does not have enough memory,
 you may see an on-screen message that does not necessarily indicate that
 insufficient memory is the problem.  For instance, you may see the
 message "The router was unable to start because an error occurred while
 installing an AppleTalk connection driver for a configured port."

 The Apple Internet Router requires a Macintosh computer with at least 4
 megabytes of memory installed.  To run other applications concurrently,
 you may need to install more memory in the router Macintosh.

* If you install System 7.1 and do not reinstall the router, you may get a
 message indicating that there is not enough memory for the router to
 start.  You must reinstall the router software after installing System
 7.1.

Upgrading from Version 2.0 of the AppleTalk Internet Router
-----------------------------------------------------------
* The message "Version 2.0 of the Router can not run.  It is no longer
 installed." appears whenever you restart the router Macintosh if version
 2.0 of the AppleTalk Internet Router was running on the Macintosh
 computer on which you installed the Apple Internet Router Basic
 Connectivity Package and you did not do the following prior to the
 installation:
```

1. Open the Router desk accessory by choosing Router from the Apple menu.

2. If necessary, open the Router Setup window by choosing Router Setup from the Router menu.

3. Click the Current Status Off button to stop the Router.

4. Click the Restart Status Off button to prevent the Router from starting when you start up the router Macintosh.

5. Close the Router Setup window.

6. Click Yes to save your changes to the Router Setup.

Though version 2.0 of the AppleTalk Internet Router cannot run, the newly installed Apple Internet Router will function properly.

To prevent this message from appearing whenever you restart the router Macintosh, start the router Macintosh using a startup disk on which version 2.0 of the AppleTalk Internet Router is installed, then follow the preceding steps. Once you've set the router's restart status to Off, the message no longer appears.

Installing the Router on Non-U.S. Systems
---

* If you do an Easy Install, the appropriate modem scripts for your country are installed. If the Installer is unable to determine which foreign system you are using, the U.S. modem scripts are installed by default.

* If you do a customized installation, the U.S. modem scripts are installed automatically. However, you can install the modem scripts that are appropriate for your country by using the international modem scripts on the "Router Installer 2" disk. To install international modem scripts, follow these instructions:

1. Open the Dial Up folder on the "Router Installer 2" disk.

2. Open the International Modem Scripts folder.

3. Open the folder with your country's name and drag the files in it to the Extensions folder on the router Macintosh.

* We recommend that you do an Easy Install of the router software on a Macintosh on which a version of the system software other than an English-language version is installed. During the installation, a message may appear, requesting you to use the "Network Software Installer" disk to place the latest version of AppleTalk on the startup disk. If this message appears, quit the Installer, then use the Network Software Installer to install the latest version of AppleTalk. Once you have done so, you can use the Router Installer disks to install the router software by clicking Install when the Easy Install dialog box appears. Following this procedure ensures that the versions of the AppleTalk system files installed use the correct language.

* During a custom installation, a message appears, warning you that continuing the installation replaces local-language versions of some AppleTalk system files (such as the Network control panel, AppleTalk, and EtherTalk) with English-language versions. If you click Continue, the installation will replace only files that have the same names as the files being installed. Thus, there may be two different versions of some AppleTalk system files on the startup disk?a local-language version and an English version. If you click Cancel, a message appears, informing you that an error has occurred during installation and the software on the startup disk was not changed.

TA30954_AIR_3-0-1_Basic_Connectivity_Package_Read_Me_(TIL14385).pdf

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MegaDrive (1/94)

MegaDrive

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Beverly Hills, CA 90211

310-247-0006

310-247-8118 FAX

Company Profile:
Manufacturer of hard disk storage including RAID level 1.
Published Date: Feb 19, 2012

ABS Tech Note: ARA00 About ARA Technical Notes (11/94)

This document accompanies each release of Apple Business Systems Technical Notes.

This article has been archived and is no longer updated by Apple.
We want Technical Notes to be distributed as widely as possible, so they are sent to all Partners and Associates at no charge; they are also posted on AppleLink in the Developer Services Bulletin Board.

We place no restriction on copying Technical Notes, with the exception that you cannot resell them, so read, enjoy and share. We hope Apple Business Systems Technical Notes will provide you with lots of valuable information.

Technical notes are a 'living' complement to product documentation, be it Inside Macintosh or other documentation. This means that they are updated on a regular basis, so as to be accurate and up to date. New Notes are added as required.

This technical note is an index of all technical notes related to the AppleTalk Remote Access and related products. It also documents all changes to the technical notes since the previous release.

Index
Technical Note Subject Last Revision
--- --- ---
ARA00 About ARA Tech Notes Sep, 1994
ARA01 ARA ERS Corrections & Additions May, 1994
ARA02 Error Correction Sep, 1994
ARA03 ARA 2.0.1 known issues Sep, 1994

Changes since last release:

New: ARA03

Revised: ARA02

Support Information Services
Published Date: Feb 19, 2012

LaserWriter Pro 810: Auto Select Tray Size with Incoming Faxes?

When receiving an A-4 fax from Europe, will the LaserWriter Pro 810 auto select the A-4 paper tray to print on the correct size paper?
This article has been archived and is no longer updated by Apple.
If the printer was set up to Auto Cascade as the paper source then it doesn't matter what the size of the incoming fax is. The paper will be pulled from the first tray with paper in it. If the first tray happens to have A4 paper then all is well. I would imagine that for most applications in Europe that is an acceptable solution.

To force the fax to a different paper size you must specify the paper source explicitly (using the control panel). This is fine as long as you know that all your incoming faxes are going to be that size.

As a side note: I set up a LaserWriter Select 360 with a letter cassette and the multipurpose tray loaded with legal paper. I used the LaserWriter Utility to set the paper type in the multipurpose tray to legal. In this configuration the 360 would use legal paper for a legal size fax.
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Macintosh 128K & 512K: Pinouts to Brother printer

This article has been archived and is no longer updated by Apple.
MACINTOSH BROTHER

3 AND 8------SG----------7
7----------20
9----------RXD----------2
5----------TXD----------3
4,5,6,8: Jumpered

Published Date: Feb 19, 2012

ABS Tech Note: ARA01 Corrections & Additions For The ERS (6/94)

The document "AppleTalk Remote Access, Application Programming Interface (API) External Reference Specifications" that is distributed with the developers kit has a number of errors and additions necessary to provide developers with a complete example specification. This technical note details the changes necessary to correct the document and its example code.

This article has been archived and is no longer updated by Apple.
Minor typos and errors:

Page 7
---
1) Under LOAD the word 'to' is missing between "used" and "ensure".

2) The second sentence under LOAD. The structure referenced is

TRemoteAccessParamHeader, the correct structure is
TRemoteAccessParamBlock.

3) In the code example for LOAD the TRemoteAccessParamHeader should be
changed to TRemoteAccessParamBlock.

4) Under UNLOAD the word 'to' is missing between "used" and "release".

5) The second sentence under UNLOAD. The struc referenced is

TRemoteAccessParamHeader, the correct structure is
TRemoteAccessParamBlock.

6) In the code example for UNLOAD the TRemoteAccessParamHeader should be
changed to TRemoteAccessParamBlock.

7) The correct example code is:

```
#include "RemoteAccessInterface.h"
void UnloadRemoteAccess()
{
TRemoteAccessParamBlock unloadPB;

unloadPB.LOAD.csCode = RAM_EXTENDED_CALL; // extended call
unloadPB.LOAD.resultStrPtr = nil; // result string
unloadPB.LOAD.extendedType = REMOTEACCESSNAME; // to remote access
unloadPB.LOAD.extendedCode = CmdRemoteAccess_Unload; // try to unload
PBRemoteAccess(&unloadPB, false); // issue sync call
if (unloadPB.LOAD.ioResult)
ShowError(unloadPB.LOAD.ioResult);
} // UnloadRemoteAccess
```

Page 8
---
1) There should be a space between guaranteed & Access in the fifth
sentence. Additionally, Access should not be capped.

Page 9
---
1) In the DoConnect() example, TRemoteAccessConnectParam should be changed
to TRemoteAccessParamBlock.

2) In the DoConnect() example the routine called CopyPStr is not defined.
Instead you should use memcpy.

3) The structure pb should be changed to connectPB to make it consistent

with the LOAD and UNLOAD commands. The corrected code would look like this:

```
#include "RemoteAccessInterface.h"
void DoConnect()
{
TRemoteAccessParamBlock connectPB;
Str255 PathName = "\\pMyhardDisk:Remote Access:Connect Document";

LoadRemoteAccess(); // Get the Remote Access Manager loaded
connectPB.CONNECT.csCode = RAM_EXTENDED_CALL; // extended call
connectPB.CONNECT.resultStrPtr = nil; // don't want result strings
connectPB.CONNECT.extendedType = REMOTEACCESSNAME;// to remote access
connectPB.CONNECT.extendedCode = CmdRemoteAccess_DoConnect;// connect
// command
connectPB.CONNECT.portGlobalsPtr = nil; // use the user port
connectPB.CONNECT.fileInfo.vRefNum = 0; // use the full pathnam
connectPB.CONNECT.fileInfo.parID = 0; //
BlockMoveData (PathName, connectPB.CONNECT.fileInfo.name, PathName[0]
+ 1);
// copy the string to the
// fileInfo.Name

// Ask for password if needed, use connection document, & show status
pb.CONNECT.optionFlags = kNSCanInteract | kNSConnectDocument |
kNSShowStatus;
PBRemoteAccess(&pb, false); // issue sync call
if (pb.CONNECT.ioResult)
ShowError(pb.LOAD.ioResult); // Do Error reporting and recovery
UnloadRemoteAccess();
} // DoConnect
```

Page 10
---

1) The code example for DoConnect() shown above should terminate with } // DoConnect so that it is consistent with the rest of the code examples.

2) In the DoDisconnect() example, TRemoteAccessDisconnectParam should be changed to TRemoteAccessParamBlock.

3) DoDisconnect() should be rewritten as follows:

```
#include "RemoteAccessInterface.h"
void DoDisconnect()
{
TRemoteAccessParamBlock disconnectPB;

disconnectPB.DISCONNECT.csCode = RAM_EXTENDED_CALL; // extended call
disconnectPB.DISCONNECT.resultStrPtr = nil; // don't want result
// strings
disconnectPB.DISCONNECT.extendedType = REMOTEACCESSNAME; // to remote
// access
disconnectPB.DISCONNECT.extendedCode = CmdRemoteAccess_Disconnect;
// disconnect command
disconnectPB.DISCONNECT.portGlobalsPtr = nil; // user port
disconnectPB.DISCONNECT.abortOnlyThisPB = nil; // don't get tied to
// any specific pb
disconnectPB.DISCONNECT.optionFlags = 0 | kNSShowStatus; // show
// status while disconnecting
PBRemoteAccess(&disconnectPB, false); // issue sync call
if (disconnectPB.CONNECT.ioResult)
ShowError(disconnectPB.LOAD.ioResult); // Do Error reporting and
// recovery
} // DoDisconnect
```

Page 11
---
1) There is no code example for the IsRemote() function.

Page 12
---
1) GetStatus() should be rewritten as:

```
#include "RemoteAccessInterface.h"
void GetStatus()
{
TRemoteAccessParamBlock statusPB;
Str255 UserName, connectedTo, lastMessage;
long StatusBits;

statusPB.STATUS.csCode = RAM_EXTENDED_CALL; // extended call
statusPB.STATUS.resultStrPtr = nil; // put results here
statusPB.STATUS.portGlobalsPtr = nil; // do UserPort
statusPB.STATUS.extendedType = REMOTEACCESSNAME; // to Netshare
statusPB.STATUS.extendedCode = CmdRemoteAccess_Status; // status
// command
statusPB.STATUS.userNamePtr = &UserName;
statusPB.STATUS.connectedToNamePtr = &connectedTo;
statusPB.STATUS.theLastStatusMsgPtr = &lastMessage;
statusPB.STATUS.statusUserNamePtr = nil;
statusPB.STATUS.statusMsgSeqNum = 0;
PBRemoteAccess(&statusPB, false);
if (statusPB.STATUS.ioResult)
ShowError(statusPB.STATUS.ioResult); // Do Error reporting and
// recovery
else
{
// now decode the flag bits into words
StatusBits = statusPB.STATUS.statusBits;
if (StatusBits & CctlServerMode)
printf("Answer Connection\\n");
if (StatusBits & CctlConnected)
printf("Calling connection\\n");
if (StatusBits & CctlConnectionAborting)
printf("Cancel in progress\\n");
if (StatusBits & CctlAnswerEnable)
printf("Waiting for incoming call\\n");
if (StatusBits & CctlConnectInProg)
printf("Connection in progress\\n");
}
} // GetStatus
```

Note: The variable in the original code, lastSeqNum, causes a compiler warning because it is not needed in the code fragment pb has to be changed to statusPB to be consistent with previous code examples, lastly, the code fragment ends with the } // GetStatus to remain consistent with the other code fragments.

Page 14
---
1) MungePassword() should be rewritten as:

```
#include "RemoteAccessInterface.h"
void MungePassword(UserName, PassWord)
unsigned char *UserName, *PassWord;
{
TRemoteAccessParamBlock mungePB;

mungePB.MUNGEPW.csCode = RAM_EXTENDED_CALL; // extended call
mungePB.MUNGEPW.resultStrPtr = nil; // result string
```

```
mungePB.MUNGEPW.extendedType = REMOTEACCESSNAME; // to remote access
mungePB.MUNGEPW.extendedCode = CmdRemoteAccess_PassWordMunger;
mungePB.MUNGEPW.userNamePtr = (unsigned char *) &UserName;
mungePB.MUNGEPW.passWordPtr = (unsigned char *) &PassWord;
PBRemoteAccess(&mungePB, false); // issue sync call
// encrypt the eight bytes
// pointed to by PassWord
if (mungePB.MUNGEPW.ioResult)
ShowError(mungePB.MUNGEPW.ioResult);

} // MungePassword
```

Note: this code is rewritten to be more realistic as the user name and password would probably be passed in to a function like this as opposed to having them hard coded in the function itself. The TRemoteAccessParamBlock variable MungePB was changed to mungePB to be consistent with the other fragments, and the terminating line ends as } // MungePassword to be consistent with other examples.

2) In the GetCodeHooks section, the word are should be removed from the second sentence, or it should be rewritten.

Support Information Services

Published Date: Feb 19, 2012

ABS Tech Note: ARA02 Error Correction & Modem Scripts (11/94)

This document discusses error control and data compression when using Apple Remote Access (ARA). Specifically, it details ARA's use with modems that support error control using CCITT V.42 as well as data compression using CCITT V.42bis. Regardless of which error control and/or compression protocols your modem supports, please refer to the manufacturer's documentation for more information on their availability and use.

This article has been archived and is no longer updated by Apple.

Why use error control or data compression?

Numerous modem manufacturers are now supplying error control and/or data compression as a method of assuring accurate and efficient communication between a pair of modems, even under less than optimal line conditions. Typically, these options are enabled via Hayes-compatible "AT" commands prior to dialing a number or readying a modem to answer calls and are employed whenever the overlying application does not support error correction and/or data compression.

ARA's use of error control and data compression

ARA implements V.42 error correction (MNP 4) from its' Client application to its' Server application, as the Macintosh Serial Port is judged to be unreliable. ARA implements V.42bis data compression (LZW) from its' Client application to its' Server application. Thus it is not necessary to enable these features on the modem (except for cellular data modems, which are discussed below). Modem scripts, as distributed by Apple and by cooperating modem vendors, should specifically disable these features to ensure the best possible performance. ARA data compression is more effective than what is implemented in modems, simply due to greater computational power available.

If you plan to write or customize a modem script, it is recommended that you do not use the error correction or data compression capabilities of your modem without testing it with varying line quality, file type, and file size to see if the desired performance improvement has been achieved.

And what if data compression and/or error correction are used with ARA?

Some customers, with exceptionally noisy phone lines, have reported that enabling the primary V.42 error correction standard (LAP-M) from modem to modem, has given them improved connection reliability. Note that ARA still does MNP 4 error correction end to end, due to the unreliability of the Macintosh Serial Port. If you have this need, please consult your modem manual carefully, and note the use of USERHOOK 2 in the Modem Scripting Guide. This call alerts ARA that the modems have successfully negotiated a V.42 link, and ARA should relax its' re-transmit timers. Failure to call USERHOOK 2 could result in unnecessary timeouts, re-transmissions, and the connection being dropped. There is no method for turning off ARA V.42.

Some customers have expressed a desire to implement V.42bis data compression (or perhaps MNP 5) from modem to modem. Generally this hurts throughput, but if you have this desire, please consult your modem manual carefully, and note the use of USERHOOK 3 in the Modem Scripting Guide. This call alerts ARA that the modems have successfully negotiated a data compression link, and ARA should turn off it's own data compression. Failure to call USERHOOK 3 could result in performance losses, as ARA will be trying to compress already compressed data.

What's with the 'mlts' resource and varString 4?

During the development of ARA 2.0, we included the infrastructure for requesting that modems bring up a error correction link. VarString 4 was selected as the variable that would be set to indicate what type of error correction link was requested. The 'mlts' resource was selected as the way that the modem script writer could inform the CCL engine, that the modem had the capability to perform error correction. VarString 4 is controlled by an algorithm in the CCL engine. In future versions of ARA, the CCL engine may choose which modem script to use, based on values in the 'mlts' resource. Currently for the Personal Client/Server products, varString 4 = 0, unless the MNP 10 box is checked, in which case varString 4 = 2. Currently for the MultiPort Server product, varString 4 = 0. Setting 'mlts' byte 1 = 1 does not mandate that varString 4 be passed to the script with a value of 1. We recommend that modem script writers include 'mlts' resources and correct modem commands for varString 4 = 1, for future compatibility.

Using cellular modems with ARA

If an ARA connection is desired using cellular modems, you should enable the MNP10 capability in the modems. This is performed differently depending on whether you are configuring for ARA individually (Personal Server or Client) or for use with the MultiPort Server.

* For the Personal Server or Client, open the 'Remote Access Setup'
Control Panel document and check the box named 'Use MNP 10 error
correction in modem'. This will tell ARA to establish a connection
using MNP10 (provided that modems that support MNP10 are being used).
You must use a modem script that has been properly configured to support

both MNP10 and non-MNP10 modems.

* For the MultiPort Server, a check box is not used. Instead, you should configure the script to accept calls from both MNP10 and non-MNP10 modems.

Creating modem scripts for use with MNP10

If you need to create or modify a modem script for use with MNP10, ensure that you perform the following:

* Create an 'mlts' resource using ResEdit with byte 1 = 0x01

* Check if varString 4 is equal to '2'. If so, jump to the label that programs the modem to perform MNP-10.

* Issue a 'USERHOOK 4' for a successful MNP10 connection so that anything that polls the modem will know that MNP-10 is enabled. ARA data correction can not be disabled.

Here are some excerpts from an example CCL detailing the use of MNP10 with ARA. Note that this is not a complete CCL; only the relevant parts are shown for clarity.

```
! 'mlts' resource info for this modem:
! byte 1 == 01 -> modem HAS builtin reliability protocols
! byte 2 == 00 -> reserved by Apple
! byte 3 == 43 -> max hex chars in varstr 7 (72 dec)
! byte 4 == 43 -> max hex chars in varstr 8
! byte 5 == 43 -> max hex chars in varstr 9
...
! If modem mnp10 link requested (var 4 == 2) then jump label 4
ifstr 4 4 "2"
...
@LABEL 4
! Use this label for mnp 10 type stuff...
!
matchclr
matchstr 1 7 "OK\\13\\10"
! \\N2 = MNP reliable mode
! )M1 = force adjust cellular power level
! *H1 = link negotiation occurs at 1200
! @M18 = use -18dBm xmit level
! -K1 = turn on LAPM to MNP10 upshift (extended services)
! :E0 = turn off equalization
write "AT\\\\N2)M1*H1@M18-K1:E0\\13"
matchread 300
...
@LABEL 32
matchclr
matchstr 29 81 "CONNECT 2400/REL - CELLULAR\\13\\10"
matchstr 30 82 "CONNECT 4800/REL - CELLULAR\\13\\10"
...
note "MNP10 reliable link established." 3
userhook 4
note "Communicating at 2400 bps." 2
CommunicatingAt 2400
jump 87
!
@LABEL 82
note "MNP10 reliable link established." 3
userhook 4
note "Communicating at 4800 bps." 2
CommunicatingAt 4800
jump 87
```

See "Apple Remote Access Modem Scripting Guide" for more information on modem scripts.

Also See:
* Apple Remote Access Personal Server for Macintosh User's Guide
* Apple Remote Access Client for Macintosh User's Guide
* Apple Remote Access MultiPort Server for Macintosh Administrator's Guide

Support Information Services
Published Date: Feb 19, 2012

WorldScript II 7.1.2: Difficulty Printing Color or Grayscale

My computer will not respond when I select color or grayscale in the print dialog and have 2-byte fonts in the document.
This article has been archived and is no longer updated by Apple.
This is a known issue with the 7.1.2 version of the WorldScript II extension.

The following situations can result in the above behavior when you select color or grayscale in the print dialog to print a document with 2-byte fonts:

- You change the printer selection, and try to print again before restarting.
- You use a non-Apple printer driver (it's unknown if the Adobe 8.x driver is more likely to provoke this).
- You don't have much memory available (either a low-memory CPU or a lot of applications are running).

Published Date: Feb 19, 2012

Campus Software Set for Macintosh: Opening Documentation

I purchased the Campus Software Set for Macintosh, and I can't open the electronic documentation for Macintosh PC Exchange or Retrieve It! programs.
This article has been archived and is no longer updated by Apple.
The documentation for these applications is provided electronically only in Apple DocViewer version 1.0 format. If you can't open the documentation, be sure that DocViewer is installed.

The installer for this package will place the DocViewer application in a folder called "Retrieve It! folder" at the top level of the hard disk. If you can't find Apple DocViewer v1.0 on the drive, run the installer for the Campus Software Set for Macintosh again, select Custom, and reinstall only the software for Retrieve It! as this will also reinstall Apple DocViewer v1.0.
Published Date: Feb 19, 2012

Hebrew 3270 Emulation (1/94)

This article briefly describes a Hebrew 3270 terminal emulation.

This article has been archived and is no longer updated by Apple.
Heb3270 allows a Macintosh computer with a TCP/IP network connection to emulate an IBM 3270 terminal with Hebrew language capability. Heb3270 provides:

* Bilingual Hebrew/Latin computer interaction
* Graphic support for 3179 compatible graphics
* File transfer acting as a FTP server
* VT220/320 terminal text emulation

For information contact Bioinformatics Unit, Biological Services. To locate a vendor's address and phone number, use the vendor name as a search string.

Published Date: Feb 19, 2012

TA30964_Bioinformatics_Unit_Biological_Services_(TIL14398).pdf

Bioinformatics Unit: Biological Services

Bioinformatics Unit, Biological Services
This article has been archived and is no longer updated by Apple.
Bioinformatics Unit,
Biological Services,
Weizmann Institute of Science,
Rehovot, Israel

Company Profile:
Hebrew IBM 3270 terminal emulation.
Published Date: Feb 19, 2012

GeoPort Telecom Adapter: Can Send Without Fax Cover Sheet(1/94)

I have a Macintosh Quadra 840AV and a GeoPort Telecom Adapter. I'd like to send only the fax cover sheet using the Express Modem Software that came with the Adapter. Since I can only fax from within an application that prints, I can't send just the fax cover sheet. How can I send a fax with just the cover?

This article has been archived and is no longer updated by Apple.
You can't just send the fax cover sheet that's installed with the Fax Cover application. However, you can send just your fax without the cover sheet. You do this by choosing "none" from the Fax Sender Cover Page pop-up menu. This will mean that no cover page is attached to the fax. Therefore, the first page of your document will now be your "cover page."

Published Date: Feb 19, 2012

Macintosh 128K, 512K: Pinouts to Comrex CR-1 and CR-2

This article has been archived and is no longer updated by Apple.
MACINTOSH COMREX CR-1 AND CR-2

3 AND 8------SG----------7
7----------20
9----------RXD----------2
5----------TXD----------3
4,5,6,8: Jumpered

Published Date: Feb 19, 2012

At Ease 2.0 for Workgroups: Copy to Floppy Disk Command

The Copy To/From Floppy disk command doesn't show up in the File menu of At Ease 2.0 for Workgroups.
This article has been archived and is no longer updated by Apple.
In the Options section (not the Options menu) of At Ease Setup, you must set the "Location of User documents:" radio button to the "folder on At Ease disk." If this isn't set, the user doesn't have the access privileges to make any changes to the hard drive.

Without permissions to write to the hard drive, At Ease won't allow the user to copy from the hard drive. If you want to deny access, the user can work around this by opening the desired document and choosing Save As from the File menu to save to the user's floppy disk.
Published Date: Feb 19, 2012

Macintosh AV Series: HyperCard 2.1 Audio Palette Crashes (1/94)

I'm using HyperCard 2.1, the HyperCard Audio Palette (in the Audio Help Stack) on my Macintosh AV Series computer. When recording a sound, clicking on the Stop button crashes my computer. Is there a revised version of the stack that works with Macintosh AV Series computers?

This article has been archived and is no longer updated by Apple.
The Audio Help stack, bundled with HyperCard 2.2 and HyperCard 2.2 Runtime (the latter bundled with selected Macintosh systems) is fully compatible with Macintosh AV Series computers.

Support Information Services
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Macintosh AV Series: Apple Remote Access & GeoPort (1/94)

I'm trying to use Apple Remote Access with GeoPort Adpater on my Macintosh AV computer. According to page 118 in the Express Fax Modem User's Guide, I need a CCL description file apparently other than the file used to connect to AppleLink. Where can I find this file?

This article has been archived and is no longer updated by Apple.
The manual refers to the name of the file which is used by the PowerBook Express modem. With a GeoPort Adapter, you need the file called "Geoport¬ Telecom" installed in the Extensions folder inside the System Folder. The Express Modem for GeoPort software Installer properly install this file.

All the other files required for Apple Remote Access should be installed by the Apple Remote Access Installer. However, you need to remove the file called "Serial Port Arbitrator" from the Extensions folder inside the System Folder. The Serial Port Arbitrator file is not required in this instance. Failure to remove the Serial Port Arbitrator file may result an Error -23.

Support Information Services
Published Date: Feb 19, 2012

Macintosh AV: Large Screen Video Capture Unsupported (11/95)

I have a Macintosh AV Series computer connected to a Macintosh 21-inch Color Display. I'm unable to display or capture color video from a VCR or camera. I can only get black and white. Is there any way to do so?

This article has been archived and is no longer updated by Apple.
The Macintosh AV Series computers, including the Power Macintosh AV models, cannot display or capture 8-bit color video on displays using a resolution greater than 832x624 (17-inch, 19-inch, 20-inch, and 21-inch).

The reason is both VRAM and other on-board video circuitry are not fast enough to transfer the 8-bit color video data to the screen on larger monitors and the CPUs are only fast enough to dump the luminance data, so only 8-bit monochrome (grayscale) video can be displayed or recorded.

Article Change History:
13 Nov 1995 - Clarified type of video and Macintosh models.
24 May 1995 - Clarified black and white, not color capture.
18 Jul 1994 - Added other monitor sizes and reference to Power Macintosh.

Support Information Services

Published Date: Feb 19, 2012

LaserWriter Select 360: Size Limit of Phone Directory For Fax?

Is there a limit to the size of the Fax Phone Book for the fax option?
A customer has 1500 names and wants to make sure there won't be a problem adding that many names before she sets it up.

This article has been archived and is no longer updated by Apple.
Engineering indicates that they are aware of performance problems when OVER 100 addresses are added to the Fax Phone Book. The recommendation is to limit the number of addresses in the phone book to 100 or less. If more addresses are added to the phone book the system may crash or hang.

The only workaround I can think of is to rename an existing phone book which will automatically create a new one with the name "Fax Phone Book" the next time the Fax option is used. A user could switch from phone book to phone book by renaming the active phone book to something else and renaming the phone book that is to be used to "Fax Phone Book." Not the greatest solution but that's the only solution I can think of given the current software.

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ABS Tech Note: AS05 AppleSearch Compatibility

This technical note describes AppleSearch and compatibility with System 7 Pro and Macintosh computers.
This article has been archived and is no longer updated by Apple.
In the Compatibility Checker application shipped with System 7 Pro, AppleSearch's compatibility state is listed as not known, because at the time the Compatibility Checker's data was frozen, AppleSearch had not yet been released.

AppleSearch 1.0 has been tested against System 7.1 Pro as well as all current Macintosh computers (including the AV machines) and there are no known compatibility issues. A future version of the Compatibility Checker will be corrected to show this fact.
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Macintosh 128K & 512K: Pinouts to NEC 2010

This article has been archived and is no longer updated by Apple.
MACINTOSH NEC 2010

3 AND 8------SG----------7
7----------20
9----------RXD----------2
5----------TXD----------3
4,5,6,8: Jumpered

Published Date: Feb 19, 2012

ABS Tech Note: AS06 AppleSearch and XTND

This technical note describes AppleSearch and XTND technology.
This article has been archived and is no longer updated by Apple.
When AppleSearch is indexing data, if the file is a text file, it will import it directly. For files that are formatted, however, it uses the XTND technology to import the data. This has the advantage of allowing AppleSearch to be extended easily to support new data types, but also creates some potential reliability issues that need to be considered.

Supported file formats
AppleSearch 1.0 ships with an XTND that supports the following file formats. The formats are all supported by the MacLinkPlus XTND that ships with AppleSearch: MacWrite v4.5, v5.0 and vII; Word Perfect v1.0, v2.0, v2.1 (Mac); MS Word v3, v4, v5, v5.1 (Mac); MS Works WP v2.0 & v3.0; FrameMaker MIF v2.0, v3.0; PageMaker 4.0; Ragtime 3.1; AppleWorks; WriteNow v2, v3; Nisus v3; PICT (only text extraction); EXCEL (tab text - no formula); MS Word for Windows - 1.0, 2.0; and WordPerfect for Windows - 5.1.

To support additional formats, DataViz has an XTND that supplements AppleSearch 1.0 and supports the following formats: Macintosh Word Processing; FrameMaker MIF - 2.0, 3.0; Nisus - 3.0; MacWrite - 4.5, 5.0; MacWrite II; MS Word Mac - 3.0, 4.0, 5.0, 5.1; MS Works WP Mac - 2.0, 3.0; PICT (text extraction); Ragtime - 3.1; Rich Text RTF; WordPerfect Mac - 1.0, 2.0, 2.1; WriteNow - 2.0, 3.0; AppleWorks WP - 2.0, 3.0, GS.

It also supports importing the following DOS formats: AmiPro - 1.0, 2.0; DCA-RFT; MS Word DOS - 5.5; MS Word for Windows - 1.0, 2.0; MS Works WP DOS; MS Works WP Windows; Multimate; Multimate 4; OfficeWriter - 5.0, 6.0; Professional Write; WordPerfect DOS - 4.2, 5.0, 5.1; WordPerfect for Windows - 5.1; WordStar 3.4, 5.5, - 7.0; XYWrite III. The following spreadsheet formats are available as tabbed text as well: AppleWorks SS; Excel - 2.2, 3.0, 4.0; Lotus - WKS, WK1; MS Works SS Mac - 2.0, 3.0; MS Works SS DOS; MS Works SS Windows; SYLK. To get the XTND that supports these additional formats, please contact DataViz for pricing and availability.

XTND warnings
If you're planning on installing your own XTNDs into AppleSearch, there are a couple of potential issues you need to be aware of.

First, we've found that some publicly available XTNDs have bugs or memory management issues that might not show up under casual use, but under the heavy use AppleSearch makes of XTND can cause server failures. An XTND used by a word processor to import a file that leaves a memory pointer allocated doesn't usually cause an issue, but that same XTND being used to import 1,500 files can significantly fragment memory and cause the server to fail. If you install your own XTNDs and start having server reliability issues, you should remove them and test them individually for issues.

Also, the XTND protocol allows one XTND to define itself as the XTND that attempts to translate any unknown formats. The XTND shipped with AppleSearch is one of these, so if you install your own default XTND, AppleSearch will give priority to its own and your XTND will never get called.

Note: Not all XTNDs will work under AppleSearch. AppleSearch requires that the XTNDs do text extraction, not format conversion. We have found, for instance, that the ClarisWorks XTND will not function under AppleSearch.
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Newton MessagePan: -20006 Error During System Update

When I update my Newton MessagePad's system software by modem, I continually get a -20006 error. How do I recover from this?
This article has been archived and is no longer updated by Apple.
If you get a -20006 error when updating your MessagePad's system, call 1-800-SOS-APPL and talk to a representative in the Newton Support group. The -20006 error means that the update server needs to be reset.

After calling, wait three to four hours before trying to update again. This will ensure the server has been reset.
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AppleShare 4.0 Print Server: Not Printing Error Pages

I have set AppleShare 4.0 Print Server, banner page to off. However, when a print job is deleted from the print-queue, a page kicks out indicating that the print job has been deleted.

Is this "feature" changeable? I have an expensive output device, and I'm disturbed by the waste of supplies and time having such information printed.
This article has been archived and is no longer updated by Apple.
There is no supported method for preventing the AppleShare Print Server 4.0.x software from printing error pages. However, we have a ResEdit patch that will prevent AppleShare Print Server 3.0.x, AppleShare Print Server 4.0.x, and AppleShare Print Server Pro from printing error pages. Here are the directions:

1) Use ResEdit to open the AppleShare Print Server application.

2) Open the "EXOP" resource with an ID of 128; it should be the only one.

3) Change the first four zeros (0000) to ones (1111).

4) Quit ResEdit saving the changes made to the AppleShare Print Server application.

Now the AppleShare Print Server application should no longer print error pages.

Note: This is NOT a supported solution.
Published Date: Feb 19, 2012

AppleScript Scripter‘s Toolkit: Error on Box

The AppleScript Scripter's Toolkit box has an error printed on it.
This article has been archived and is no longer updated by Apple.
Under the "Contents" heading it lists a Data Access Language scripting addition. This item isn't included in the AppleScript retail product (M1730LL/A). However, it is included with the AppleScript Developer's Kit (R0175Z/B) from APDA.
Published Date: Feb 19, 2012

ABS Tech Note: AWS19 Adding a UFS Drive (1/94)

Some customers using the AWS 95 have experienced difficulty adding additional UFS drives to a server. This problem occurs when they set up their drives on a Macintosh other than the server they will be used on. The "Apple HD SC Setup" program that is supplied with the AWS 95 system software protects administrators from the details of creating UNIX mount points, which are necessary to make the drive available. If the drive is formatted on another machine, these mount points are not created on the server, so the disk will not be accessible, which confuses some users. This Technical Note will endeavor to provide step-by-step instructions for adding a UFS drive to the Apple Workgroup Server (AWS) 95.

This article has been archived and is no longer updated by Apple.

The following steps need to be taken to install a disk onto a server. It assumes you are using Apple HD SC Setup or some third party formatting tool that supports UNIX partitioning. The drive that will be used in this example is a Micronet CPK-200, set to SCSI ID #5.

Use the formatting tool to create a "Free UNIX slice 3" on the disk, which creates the partition we will be using. Attach the disk to the server, and then execute this command from CommandShell:

newfs /dev/rdsk/c5d0s3 Generic

The parameter "Generic" (which is case sensitive) in the command line specifies that there is no specific drive entry in the /etc/disktab file. Entries are provided for some disks. If your disk is not one of them, you can either specify "Generic" for the drive type or provide the drive information from the manufactures documentation. This information allows newfs to tune the disk performance somewhat, but isn't critical, so if you don't have it handy, the Generic entry is usually close enough.

The AWS 95 supports 4 logical SCSI busses number 1-4 so that when you connect the drive to the PDS card's external connector, the command that you will need to enter changes to the following:

newfs /dev/rdsk/c405d0s3 Generic

Since you have not used "Apple HD SC Setup" program you will also need to create an entry in the /etc/fstab file so that this drive can be automatically mounted when the system is restarted. For this example we will assume that the drive will be mounted on a directory within the "/Shared Data" folder. Open the /etc/fstab file by traversing in the Mac environment and double-clicking on the file. The file should look something like the following:

/dev/dsk/c300d0s0 / ignore rw 1 0

Now append a new line to the file specify an existing directory in the / Shared Data folder.

/dev/dsk/c205d0s3 /\\ Shared\\ Data/NewVolume 4.2 RW 1 2

In this instance the NewFolder that is used for the mount point is NewFolder. The back slashes are necessary as the string / Shared Data has a space in it. You can create the directory for NewVolume from the CommandShell or from the Mac environment. Now you can close and save the /etc/fstab file.

To make this volume accessible to users you can enter the following command from the CommandShell:

mount -a

If there is a problem you will see some error text after this command is executed. To verify that the drive is now accessible you can type mount and receive output similar to the following:

/dev/dsk/c300d0s0 on / type 4.2 (rw,noquota)
/dev/dsk/c205d0s3 on / Shared Data/NewVolume type 4.2 (rw)

When adding new drives to the AWS 95 it is also important to add them to the PDS card as this will give you maximum performance. The DMA and Cache provided by the card will help increase I/O as compared to the motherboard internal and external busses.

Published Date: Feb 19, 2012

ABS Tech Note: AWS20 Multi-Homing & IP Forwarding (6/94)

This tech note explains the differences between Multi-homing and IP (Internet Protocol) forwarding/routing, and how these capabilities can be achieved under A/UX.

This article has been archived and is no longer updated by Apple.

Multi-Homing

A/UX supports multi-homing. It's possible that you may have multiple IP (Internet Protocol) interfaces (for example Ethernet Adapters) running under A/UX. As a result, your A/UX system may appear on and have access to different TCP/IP networks which may not be connected. To set up your A/UX system for multi-homing, follow the steps 1 through 3 oulined in the configuartion section below.

IP Forwarding / Routing

A/UX also supports IP routing or forwarding. This means that an A/UX system with more than one IP interface is configured to run as an Internet forwarder /router, and knows how to route IP traffic between two separate networks. IP forwarding/routing helps in extending the topology of your Ethernet network. To configure your system to be an Internet forwarder / Router, follow all the steps outlined in the configuration section below.

Configuration

To set up your A/UX system for multi-homing and/or Internet forwarding/Routing functionality, install a second IP interface, per the instructions provided by the card manufacturer and connect the network cable that came with the card to the second network and follow the steps steps outlined below. In both situations, a Macintosh computer running A/UX can be connected to two separate networks by using two IP interfaces.

1) Log in as root , after A/UX boots up.

2) Make a new kernel by typing the following command:

newconfig bnet appletalk

This will create a new kernel that will include the necessary modules for Ethernet (ao, as or ae6) , TCP/IP and AppleTalk support. Please note that newconfig will prompt you for the Internet address and netmask for the additional Ethernet card. It will also display the interface name such as ae0 etc.

3) When newconfig is done, restart A/UX.

4) After restarting A/UX, log in as a root and enable IP forwarding by typing the following adb (kernel debugger) command. (IP forwarding defaults to OFF on A/UX 3.0 and later versions.) The following lines show the commands you enter italic type and the output of adb in boldface.

```
#adb -w -k /unix /dev/kmem
a.out file = /unix (COFF format)
core file = /dev/kmem
ready
ipforwarding?D
ipforwarding: 0
ipforwarding?W 1
ipforwarding: 0x0 = 0x1
$w
$q
```

Then reboot A/UX so that the change will take effect. You might also want to make the same change to the /etc/install.d/boot.d/bnet_dr file (adb -w bnet_dr) in case you build a new kernel via newconfig on the forwarder /router system at some later date.

5) Enable routed daemon on each computer on the networks. To start in.routed manually, enter the following command:

/etc/in.routed

Alternatively, you can change the action field for the /etc/in.routed entry in the /etc/inittab file to wait, which can cause in.routed to start automatically.

6) Modify/check the /etc/hosts file on all computers to include host name and IP address of all the systems on the network and /etc/networks file on all computers to contain the host name and the network number.

7) Modify /check the /etc/NETADDRS file to configure IP and broadcast addresses and netmasks for each card.

The user will be prompted for the information as in the above steps 6 and 7, while running newconfig. See Chapter 6 Creating and Managing a TCP/IP Network of the Server Administration With A/UX 3.0.1 manual, for the detailed description on Routing and Forwarding.

Note: MacTCP under A/UX supports only one control panel CDEV, attributing to ONLY one IP interface, and does not let you access /select multiple IP interfaces. In other words, you cannot change/switch IP interface from the A/UX finder and changing the interface selection in the MacTCP CDEV has no effect.

Support Information Services

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Macintosh 128K & 512K: Cable to Qume Letter Pro 20 & Sprint II

This article has been archived and is no longer updated by Apple.
MACINTOSH QUME LETTER PRO 20 SERIES AND QUME SPRINT II

3 AND 8------SG----------7
7----------20
9----------RXD----------2
5----------TXD----------3
4,5,6,8: Jumpered

Published Date: Feb 19, 2012

ABS Tech Note: AWS21 A/UX & Micropolis Drives (6/94)

This article describes a problem with A/UX 3.0.1 and A/UX 3.0.2, and Micropolis drives.

This article has been archived and is no longer updated by Apple.
There is a known problem with A/UX 3.0.1 and A/UX 3.0.2, and Micropolis drives. The actual problem is in the firmware of the Micropolis drives. The problem is compounded by a problem in A/UX which has been fixed in A/UX 3.1. Note: Apple Computer has not shipped a product that uses Micropolis hard disks. Only customers that have purchased third-party hard disks with Micropolis mechanisms need to be concerned with this issue.

When using A/UX 3.0.2, the A/UX System Console window (Command-zero from the CommandShell) displays a list of the connected SCSI devices. This list shows the name, model, and firmware revision of the SCSI devices. This information will make it easier to determine what SCSI drives are in use. A/UX 3.0.1 customers should install the AWS 95 Tune-Up 1.0. Once this is done, they will be running A/UX 3.0.2.

When a request is made for a large amount of data (128 Kbytes), Micropolis drives are returning 1 sector too few (127.5 Kbytes) but reporting the transfer as okay. At this point, A/UX should generate an error. However, A/UX has "special case" code that determines the last 512 bytes did not actually get transferred. A/UX re-issues the request with the correct residual count (512 bytes). Unfortunately, A/UX uses the wrong memory address and writes the 512 Kbytes to the same place the original data was written. The end result is the first and last 512 bytes of the 128 Kbyte transfer are invalid.

The solutions:

1) Micropolis is now aware that their SCSI disk firmware is behaving incorrectly and will soon have a fix available for their customers. Once the SCSI disk firmware is fixed, customers should no longer see the problem.

2) In A/UX 3.1, Apple has fixed the "special case" code so the residual 512 bytes are written to the correct location. This will allow the AWS 95 to use Micropolis drives even if their firmware has not been updated.

The work around:

There is a work around for this problem for customers that have yet to get the fix from Micropolis. The work around is to patch A/UX using "adb" so the largest request of data is 64 Kbytes instead of 128 Kbytes. This prevents the condition described above from ever occurring. The performance of the AWS 95 should not be noticeably affected by this patch. The work around changes the file /etc/config.d/newunix. Make a copy of this file before proceeding. You should also be logged in as the "root" user. Since you will be rebooting the machine at the end of this procedure you should make sure that the timing is convenient for active users of the system.

Create a shell script (file) called "micropolis" with the following lines of text:

```
adb -w /etc/config.d/newunix << EOF
maxba?W 8
maxwb?W 8
EOF
newconfig
```

After the file is created, it needs to be made executable. To do this, type the following in the CommandShell and hit return:

```
chmod +x micropolis
```

Now type micropolis in the CommandShell and hit return.

The output to the CommandShell should look something like this:

```
a.out file = /etc/config.d/newunix (COFF format)
cannot open core
ready
maxba: 0x10 = 0x8
maxwb: 0x10 = 0x8
newconfig: Making backup copies of /etc/inittab /etc/passwd /etc/group.
newconfig: Preparing to build a new kernel.
newconfig: Building a new kernel (this may take several minutes).
newconfig: Restoring kernel parameters.
newconfig: Checking for any installation information.
```

```
1 ao Ethernet card(s) installed
ao0: IP address 138.45.4.72
netmask 255.255.255.0
broadcast address 138.45.4.255
newconfig: To avoid kernel/device inconsistencies, reboot immediately.
The new configuration will take full effect when the system is
rebooted.
```

After you have done this, restart the Macintosh.

The following is a current list of Micropolis drives with their current firmware revisions that are known to work properly with A/UX 3.x. Please note that this list is subject to change:

Model(s)	Firmware	Checksum	Filename
1926, 1936	hw0a_11	97b8	hw0a-11.mac
21xx series	4930010a	b540	4930010a.mac
22xx series	4930010a	b540	4930010a.mac
22xx-AV series	No know problems		
1548, 1624,			
1908, 1924	Not yet available		

In all cases, we recommend customers update their Micropolis firmware. For more information, please contact:

Micropolis Corp.
21211 Nordhoff St.
Chatsworth, CA 91311
800-395-3748; 818-709-3300
FAX: 818-709-3396
Tech support: 818-709-3325

Support Information Services

Published Date: Feb 19, 2012

ARA 2.0 MultiPort Server and Client On Same Computer (1/94)

Can the Apple Remote Access (ARA) 2.0 MultiPort Server and 2.0 Client run on the same Computer?

This article has been archived and is no longer updated by Apple.

```
No, they can not be run on the same computer.  This is due to differences
in the link managers used by the two products.
```

Published Date: Feb 19, 2012

System 7 Pro: Digisign No Longer Supported

One of the features of System 7 Pro (7.1.1) was the Digisign digital signature. Is this still supported with later releases of the Mac OS?
This article has been archived and is no longer updated by Apple.
Apple no longer is supporting the use of Digisign.
Published Date: Feb 19, 2012

ARA 1.0 and Express Modem FAX (1/94)

I'm using the Express Modem software with his Quadra 840AV and GeoPort Adapter. I have installed AppleTalk Remote Access (ARA) 1.0 and the GeoPort Adapter software. I would like to be able to set AppleTalk Remote Access and FAX Terminal to auto-answer. Unfortunately, my Quadra 840AV with GeoPort Adapter will not accept a FAX from his FAX machine in this configuration. According to Appendix A on page 81 of the Express FAX/Modem User's Guide, this should work. The manual states:

"If both programs are set to auto-answer, the modem answers after the number of rings designated in the Data User Program. If the call is a FAX call, it is passed to the FAX server. If the call is intended for the data server, it is not passed to the data server (data user programs take precedence over data server programs) because the data port cannot distinguish between the two data programs."

I tested my configuration and found that I could get this to work if I went from Express Modem to Express Modem. However, as soon as I went from a Lanier FAX Model 3800 to Express Modem, the system would not accept a FAX. It would answer and then hang up.

What is happening here and is there a fix?

This article has been archived and is no longer updated by Apple.

```
The problem quite simply is that some FAX machines do not send the
mandatory FAX "calling tone" and therefore are not recognized as "FAX" when
the FAX Arbitrator is active and deciding whether an incoming call is FAX
or Data.

There is nothing that can be done by the receiving software to determine
that it is a FAX when this calling tone is missing from the sending FAX
machine.  When only FAX Terminal is active and waiting to answer there is
no problem, as it assumes that all calls are for it.

Both the Konica FAX 280 Intelligent Facsimile and the Lanier FAX models
2235 and 3800 do not send this calling tone.  The Panasonic Panafax PX-350
does send the calling tone and therefore it works with both FAX Terminal
and ARA waiting to answer calls on the GeoPort.

For a customer who questions whether their sending FAX should be able to
work with both FAX Terminal and ARA waiting to receive calls, the calling
tone is a one-second beep, followed by a one-second pause, followed by the
'phone ring'.  The beep can actually occur before -- or after -- the phone
ring, that is the sequence can be ring-pause-beep instead.  Regardless,
this three-second sequence must start as soon as the dialing modem goes
off-hook.

The following is specified in the CCITT specification:

"Calling Tone: To indicate a calling non-speech terminal. This signal is
 mandatory for automatic calling and optional for manual units."

This is not an Express Modem problem, but rather a limitation of the
calling FAX machine.
```

Published Date: Feb 19, 2012

PostScript Level 2 and CCITT Group 4 decompression for bit maps

I understand that PostScript Level 2 includes CCITT Group 4 decompression for bit maps. Is this true? Do any of the Apple printers support any CCITT decompressions?

This article has been archived and is no longer updated by Apple.
PostScript Level 2 does offer CCITT (now ITU-T) Group 3 and Group 4 encoding and decoding filters. PostScript language support for the ITU-T Group 3 and Group 4 standards is limited to encoding and decoding of image data. It does not include initial connection and handshaking protocols that would be required to communicate with a fax machine. The purpose of these filters is to enable efficient interchange of bi-level sampled images between an application program and a PostScript interpreter. For more information, please see pages 134 to 136 in the "PostScript Language Reference Manual, Second Edition" (ISBN 0-201-18127-4) from Addison-Wesley.

The LaserWriter Pro 810 and LaserWriter Select 360 have fax options that use the PostScript Level 2 ITU-T Group 3 encoding and decoding filters.

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VT420 Emulation On Macintosh (1/94)

When can we expect VT420 support for the Macintosh? Will the Comm Toolbox (CTB) support this any time soon, or will this support come from third-party vendors?

This article has been archived and is no longer updated by Apple.

```
Here are some of the third-party products available now.  For more
information, please search the Redgate database on AppleLink using the
string "VT420".  To locate a vendor's address and phone number, use the
vendor name as a search string on the Tech Info Library.

Vicom Pro by Vicom Technology
-----------------------------
Vicom Pro provides a powerful communication development environment in
which to create Macintosh front ends to corporate host systems.  By using
Vicom's unique interface editor in conjunction with Vicom's SuperScript
language, applications can be created for use with Vicom RunTime and Vicom
MultiTerm.  Features include a project manager with run-time debugger,
support for Publish and Subscribe, AppleEvents, AppleScript and XCMDs.
Vicom Pro includes terminal emulations for SNA*ps 5250 and SNA*ps 3270,
TN5250, TN3270, VT340 & VT241 (ReGIS), VT420, VT320, VT220, VT100/52,
VIP7800 WP VIP7824, WYSE 60, WYSE 50, SCO ANSI, ANSI, TV1950, TV1925,
DG410, DG211, MCG3101, Adds Viewpoint 50, TTY, Videotex Minitel/Teletel and
Videotex Prestel.  Connections can be made using Vicom drivers, TCP/IP,
LAT, Apple's Communication Toolbox (CTB) connection tools and Serial.  FTP
Client and FTP Server are included.

asc420 by Sysnet Corporation
----------------------------
asc420 is a terminal emulation tool.  It allows users to communicate with
any computer that works with a DEC VT420 terminal and can be used by any
communications application, such as 5PM, that works with the Communications
Toolbox.  Full-featured key mapping lets users choose a character set for
the keyboard and use DEC keys even if they do not appear on the Macintosh
keyboard.  Visual indicators are available to replace the indicators that
usually appear on the DEC keyboard.  These indicators show when the
terminal is online, using local echo, pausing while users read text that is
being written to the screen and waiting for the host.
```

Published Date: Feb 19, 2012

SNA■ps Print and Postscript (1/94)

Is there anyway to print a PostScript document from a mainframe to a LaserWriter through the SNA*ps printer client? If so, what special configurations are needed on the mainframe, SNA*ps gateway, and SNA*ps printer client for this to work?

This article has been archived and is no longer updated by Apple.
SNA*ps Print emulates an IBM 3287 or 3812 printer which supports LU3 (3270 data streams) or LU1 (SCS data streams) only. AS/400 printing is done only with LU1. The emulation is expecting to decode data (text only) within one of the mentioned data stream formats.

Therefore, SNA*ps Print is not a solution for printing Host based Postscript documents.

Published Date: Feb 19, 2012

Macintosh 128K & 512K: Pinouts to Transtar 140

This article has been archived and is no longer updated by Apple.
MACINTOSH TRANSTAR 140.

3 AND 8------SG----------7
7----------20
9----------RXD----------2
5----------TXD----------3
4,5,6,8: Jumpered

Published Date: Feb 19, 2012

Super ATM 3.5: Corrupts Desktop Rebuilding (11/94)

After the Macintosh desktop file has been rebuilt, some Icons are generic, and some documents, which would open before, will now not open when I double click on them. If I click on a document and then "Get Info" on that document, the Get Info box tells me that the document is Type: 'Document'.

This article has been archived and is no longer updated by Apple.
According to Adobe, this is a problem with Super ATM 3.5 and has been fixed in later versions of Super ATM.

Super ATM 3.5 was installed before the last desktop rebuild. Adobe is aware of the problem, and recommends the following:

a. Reboot the Macintosh with Super ATM off (Extensions off works well for this)
b. Rebuild the Desktop file
c. Restart the Macintosh

This can be done all in one step (if the user is quick) by rebooting, and immediately holding down the shift key, until the 'Welcome to Macintosh, Extensions Off' message is seen. Let up on the shift key, and hold down on the Command-Option keys until the message to Rebuild the Desktop dialog is displayed.

Customers can call Adobe at 800-833-6687 for update information.

Article Change History:
17 Nov 1994 - Reviewed for technical accuracy.

Support Information Services
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AV Serial Extension: Fixes 660AV Serial Printing Problems

I'm using a 660AV with a LaserWriter Select 310 and a Geoport. The printer does not work. It works with any non-AV Macintosh, but when connected to any AV Macintosh it does not work.
This article has been archived and is no longer updated by Apple.
The extension to fix the 660AV serial printing problems (AV Serial Extension) is available online. It is the official tested solution and can be used for 660AV/serial connection problems, especially LaserWriter Select 310 printing problems.

- I have tested with this extension, and a document which consistently failed when printed to a LaserWriter Select 310 from the 660AV, now prints completely with no problem. I tested with:
  Virtual Memory and Voice Recognition both OFF
- Voice Recognition ON

Virtual Memory and Voice Recognition both ON In all three cases the 660AV printed with no problem from the Printer Port.

From the AV Serial Enhancement documentation:

The AV Serial Enhancement file is a system extension that should be installed in the System Folder of your startup disk.This extension enhances the functionality of your Macintosh Quadra 840AV, Macintosh Quadra 660AV, or Macintosh Centris 660AV. Specifically, the extension corrects certain reported problems.
These include :
(a) difficulties when printing with the LaserWriter Select 310 printer;
(b) a possible system error when both the serial port and an AppleTalk network connection are being used heavily; and
(c) a possible system crash when simultaneously receiving a fax and transferring files over a network.

These articles can help you locate the software update mentioned here:

- Article 14724: "**Where To Find Apple SW Updates**" - Lists online services for free Apple software updates.
- Article 16332: "**Apple SW Updates Available Online**" - An index to Apple Software Updates showing the current software location on the Internet.

Published Date: Feb 19, 2012

Lisa/Macintosh XL: Cable structure to Hayes SmartModem

This article has been archived and is no longer updated by Apple.
MACINTOSH XL HAYES SMART-MODEM

1----------1
2----------2
3----------3
7----------7
20----------20
Published Date: Feb 19, 2012

AppleShare 3.0: Sharing CDs with AppleShare

I have a server running AppleShare 3.0 with a CD ROM Drive attached. I want to share various CD discs, how do I do this?
This article has been archived and is no longer updated by Apple.
A new CD can be shared by simply inserting it into the CD ROM drive. The new disc will automatically be mounted on the desktop and made sharable to AppleShare if it was previously a shared CD (on that server).

If the CD had never been shared previously, the CD will mount on the desktop, but you will have to share it via AppleShare Admin. After that, simply dragging the CD to the trash to unmount it, and then inserting it again, will cause it to automatically mount and become sharable with the same privileges as it had previously.
Published Date: Feb 19, 2012

Japanese Language Kit: Furigana Support

Does the Japanese Language Kit support Furigana (small Kana written next to an unusual Kanji as a guide to its pronunciation), or would that have to be simulated by adding a very small line above the normal one?
This article has been archived and is no longer updated by Apple.
Furigana is supported by several localized products. TurboWriter, EGWord, and Nisus support Rubi/Furigana, and we believe that MacWrite II-J, WordPerfect-J, PageMaker-J, Quark Express-J, and others, may support this feature.

We feel that simulating Furigana by adding an extra line above your line of text is a poor solution because the Furigana needs to be anchored to its associated text.

For additional details on third party Japanese Language Kit products, contact a Japanese Language Kit dealer in your area, or contact a third party software vendor, such as, SystemSoft.

The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.
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Japanese Language Kit: User Defined Characters

Does the Japanese Language Kit have any support for adding characters to the list of recognized characters?

For instance, if someone were to spell their name with an unusual Kanji character that the program does not already have, can the Japanese Language Kit add that Kanji itself or would an outside font editor be necessary?
This article has been archived and is no longer updated by Apple.
Depending on the nature of the kanji being used, Chapter 5 of the Japanese Language Kit Input Guide ("Using Dictionaries") may provide a solution. Otherwise see below:

When Kanji TrueType was introduced, User Gaiji (user defined characters) was dropped, because of the complexity of adding them to the outline fonts.

To our knowledge, the only program that produces User Gaiji is a 3rd party package from Enfour that patches the fonts.

For additional details on third party Japanese Language Kit products, contact a Japanese Language Kit reseller in your area, or call SystemSoft.

The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number, such as Enfour or SystemSoft.

Note: This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.
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Performa 550: Troubleshooting Blank Gray Display (1/94)

My Performa 550 is displaying a blank gray screen.

This article has been archived and is no longer updated by Apple.
If your Performa 550 is displaying a blank gray screen, you need to eject the CD (or CD-ROM) that's in the drive. Here's how:

1) Insert a paper clip or similar slender straight tool into the small hole located just below, and to the right of, the CD door. Press slowly and firmly until the CD ejects.

2) If this doesn't work, raise the door marked "caddy loaded" straight up. Here's how: With the computer's power on, "walk" the door up with your fingers. Press in and up on the two corners of the CD caddy and it will pop out.

3) Once the CD has ejected, hold down hold down three keys simultaneously:
the Control key at the bottom left of the keyboard,
the Command key (located next to the space bar), and
the Power key located at the top of the keyboard.

Hold all three for about one second and let go. Your Performa will restart.

4) If you see a message that your Performa was not shut down properly, press the Return key on your keyboard. If you do not see this message, select Restart from the Special menu.

Support Information Services
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LCD Panel Cabling Tips

This article describes the proper cable to use when connecting an LCD based display to a Macintosh.
This article has been archived and is no longer updated by Apple.
All Macintosh computers with built-in video (except for the Macintosh IIci and IIsi) automatically sense what kind of monitor is attached, and adjust the video signal accordingly.

Although most LCD panels can adapt to both RGB and VGA video signals, the different signals require different cables to instruct the Macintosh what signal to send to the display. Check with the LCD panel vendor for the proper cabling for your particular Macintosh.

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Lisa/Macintosh XL: Cable structure to Comrex CR-IIE

This article has been archived and is no longer updated by Apple.
MACINTOSH XL COMREX CR-IIE

2----------2
7----------7
6----------20
4,5,6,8: Jumpered
Published Date: Feb 19, 2012

DayStar Digital: nPOWER - PowerPC Coprocessor Card

This article describes the nPower PowerPC Coprocessor Card for selected Macintosh Models from DayStar Digital. The nPower card differs from other PowerPC upgrades in that multiple PowerPC chips can be added to a single card, accelerating important functions in image processing software.
This article has been archived and is no longer updated by Apple.
DayStar Digital has licensed core system-level ROM code from Apple. DayStar's nPower PowerPC Coprocessor Card will connect to the Processor Direct Slot (PDS) on the following Macintosh models:

* Macintosh Centris 650.
* Macintosh Quadra 650, 700, 800, 900, 950.

The rest of this article details the card's specifications. The card is expected to ship upon the official introduction of Apple first PowerPC based Macintosh models.

nPOWER PowerPC Coprocessor Card

Processor
- 66 MHz or 80 MHz clock speed option
- 64-bit data bus
- 32-bit address bus
- Main logic board interface:
* Processor Direct Slot (PDS) with proprietary multiplexed pipeline data path processor.
- Processor performance:
* SPECint92 >60 (integer)
* SPECfp92 >80 (floating point) at 66 MHz

Processor Cache
- Built in 32 Kbyte unified instruction and data cache
- Optional write-back mode

Memory
- 2 banks with two 72-pin SIMM slots each for a total of four.
- SIMM sizes: 1M x 32, 2M x 32, 4M x 32, 8M x 32.
- RAM speed: 60 ns (nanoseconds) or faster.
- RAM Type: non-parity or parity (parity is not used)

Memory Configurations
- Capacity range: 0 MB to 128 MB
- on board configurations: 0 MB, 8 MB, 16 MB, 27 MB, 32 MB, 40 MB, 48 MB, 64 MB, 72 MB, 80 MB, 96 MB, 128 MB, 0 MB

Memory Data Transfer Rates
- With interleaving: 92 MB per second reads, 118 MB per second writes.
- Without interleaving: 76 MB per second reads, 92 MB per second writes.
- Data transfer modes: 64-bit cache line transfers
- Data transfer rates: 20 MB per second and higher, depending on host platform.
- Power consumption: 3.0 amps at 5V (with 8 MB of RAM)

Software
- nPOWER Control Panel (CDEV)
- Adobe PhotoShop 25 nPOWERed extension

Environmental Conditions
- 50 to 104 degrees F (10 to 40 degrees C)
- Humidity: 10 to 80 percent (non-condensing)
- Altitude: Sea level to 10,000 feet.

To locate a vendor's address and phone numbers, use the vendor name as a search string.
Published Date: Feb 19, 2012

DayStar Digital: PowerPro 601 - PowerPC Upgrade Card

This article describes the PowerPro 601, the PowerPC Upgrade Card for selected Macintosh Models from DayStar Digital.
This article has been archived and is no longer updated by Apple.
DayStar Digital has licensed core system-level ROM code from Apple. DayStar's PowerPro 601 - PowerPC Processor Upgrade Card will connect to the Processor Direct Slot (PDS) on the following Macintosh models:

* Macintosh Centris 650.
* Macintosh Quadra 650, 700, 800, 900, 950.

The rest of this article details the card's specifications. The card is expected to ship upon the official introduction of Apple first PowerPC based Macintosh models.

PowerPro 601: PowerPC Processor Upgrade Card

Processor
- 66 MHz or 80 MHz clock speed option
- 64-bit data bus
- 32-bit address bus
- Main logic board interface:

    * Processor Direct Slot (PDS) with asynchronous communications interface.

- Processor performance:

    * SPECint92 >60 (integer)
    * SPECfp92 >80 (floating point) at 66 MHz

Processor Cache
- Built in 32 Kbyte unified instruction and data cache
- Optional 512 KB second L2 cache

ROM
- Apple PowerPC licensed ROMs

Memory
- 2 banks with two 72-pin SIMM slots each for a total of four.
- 1M x 32, 2M x 32, 4M x 32, 8M x 32.
- RAM speed: 60 ns (nanoseconds) or faster.
- RAM Type: non-parity or parity (parity is not used)

Memory Configurations
- Capacity range: 0 MB to 128 MB
- on board configurations: 0 MB, 8 MB, 16 MB, 27 MB, 32 MB, 40 MB, 48 MB, 64 MB, 72 MB, 80 MB, 96 MB, 128 MB, 0 MB

Memory Data Transfer Rates
- With interleaving: 92 MB per second reads, 118 MB per second writes.
- Without interleaving: 76 MB per second reads, 92 MB per second writes.
- Data transfer modes: 64-bit cache line transfers
- Data transfer rates: 20 MB per second and higher, depending on host platform.
- Power consumption: 3.0 amps at 5V (with 8 MB of RAM)

Software
- PowerPro Control Panel (CDEV)
- Native Photoshop filters
- Photoshop scripting
- Color Management

Environmental Conditions
- 50 to 104 degrees F (10 to 40 degrees C)
- Humidity: 10 to 80 percent (non-condensing)
- Altitude: Sea level to 10,000 feet.

TA31008_DayStar_Digital_PowerPro_601_-_PowerPC_Upgrade_Card_(TIL14451).pdf

To locate a vendor's address and phone numbers, use the vendor name as a search string.

Published Date: Feb 19, 2012

Duo Dock: Multiple Hard Drives May Not Spin Up

When inserted into a Duo Dock or Duo Dock II+, the PowerBook 200 series computer does not start up from its internal hard drive. The Dock contains its own hard disk, math coprocessor, and VRAM.
This article has been archived and is no longer updated by Apple.
This issue seems to occur only when specific conditions are present. It can affect all members of the PowerBook 200 family, as well as other Macintosh computers with two hard drives connected either internally or externally.

The conditions that can cause this situation are:

- The PowerBook 200 series (Duo) computer and Duo Dock hard drives have been formatted with different versions of HD SC Setup.
- Enough VRAM is installed to allow the option of thousands of colors when the PowerBook 200 series computer is inside the Dock (unless thousands of colors are selected, the problem does not occur).
- 32-bit addressing is on

It can also occur with an external hard drive connected to the Dock, or if a third party drive is installed inside the Duo Dock or Duo Dock II+. In this case, reformatting both the PowerBook 200 series computer and the Dock drives with the appropriate formatter is required. Because Apple HD SC Setup does not recognize third party drives, you need to use a third party formatter.

To correct the situation, remove one of these conditions:

- Use HD SC Setup 7.2.2 or later to update the drivers on both hard drives. Download the latest version from the Apple Software Updates Web site at http://www.apple.com/swupdates/ .
- Reformat the PowerBook 200 series computer's internal hard disk with Apple HD SC Setup 7.1, or reformat both the Duo's internal hard disk and the Dock's hard disk with the same version of Apple HD SC Setup.
- Turn 32-bit addressing off.
- When starting up from the Dock, set the colors to 256 instead of thousands.

Published Date: Feb 19, 2012

HyperCard 2.2: Common Support Questions (1/94)

This article, provided by Heizer Software, answers some common support questions that have come to Heizer since the introduction of HyperCard 2.2.

This article has been archived and is no longer updated by Apple.

Color

Q. Are the new Color Tools the same XCMDs as ColorizeHC?
A. No, they're entirely new XCMDs.

Q. How can I display color icons with HyperCard 2.2?
A. You can't. Color Tools supports the display of color picture resources (and files), but not icons. If you're comfortable with ResEdit, you can open the icon resource, select it, copy it to the clipboard, then create a new PICT resource and paste it in. You can then use Color Tools to display the new PICT resource.

Q. Why is color so slow?
A. Color is often slower, compared to monochrome, but here are several ways you can improve performance:
* In the OpenCard handler, set both lockmessages and lockrecent to true.
* Consider designing a single color background image, rather than colorizing several individual objects.
* Increase HyperCard's memory partition.

Visual Effects

Q. Why don't my visual effects work?
A. You've probably turned on Color Tools, which has its own visual effects. Either use Color Tools' visual effects, or turn Color Tools off.

Standalone Applications

Q. When I save as standalone, the color I added doesn't show up.
A. Increase the memory partition for your standalone (via the Get Info... command in the Finder) by at least 75K.

Memory

Q. Does HyperCard 2.2 require more memory than 2.1?
A. Yes, about 50K more -- primarily to support the new AppleScript features. If you haven't installed AppleScript, you probably don't need any more RAM than you did with HyperCard 2.1.

Compatibility

Q. Can HyperCard 2.1 open a HyperCard 2.2 stack?
A. Yes, both versions can read each other's stacks. However, new features of HyperCard 2.2 -- such as pop-up menus and AppleScript scripts, as well as some of the new language syntax -- will be unknown to HyperCard 2.1 and could cause script error messages.

Q. Will my XCMDs work under HyperCard 2.2, or do I need updates from the authors?
A. At Heizer Software, we have yet to find any XCMDs that worked under 2.1 but fail under 2.2. The XCMD interface is unchanged (other than bug fixes). Existing XCMDs should work just fine with the new version of HyperCard.

Other

Q. Why does the pop-up menu in the Save A Copy dialog list some menu items twice?

A. Because you've placed the StackToApp component in both your System folder and in HyperCard's folder. It should be in only one of those two places.

Support Information Services
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Newton Connection Kit for Windows: Missing AM/PM

When I open my Newton Connection Kit for Windows and edit my connection files, calendar items do not show up with the proper AM or PM designations.

Also, if I add an item to the calendar and type either AM or PM next to the time, the designation disappears when I close the item.

Why does this happen?
This article has been archived and is no longer updated by Apple.
This situation is caused by the setup of the Connection Kit's time display formats. To display the time in standard 12 hour format with AM/PM designations, follow these steps:

1) Open the Windows Control Panel, then open the International Control Panel.
2) Select Change from the Time Format section of the control panel. This will display the Time Format dialog box.
3) Click 12 hour in the dialog box.
4) Enter AM next to the sample time 00:00-11:59 and enter PM next to the sample time 12:00-23:59 by clicking the up and down arrows next to the sample times.
5) Close the dialog box and control panels.

The connection files will now display the time with AM/PM designations.
Published Date: Feb 19, 2012

Newton Messaging Card: In Box Limitation

When a Newton Messaging Card that has received more than ten pages (or messages) is inserted into a Newton MessagePad, only the last 10 pages are shown in the MessagePad's In Box.

Why aren't the remaining pages displayed? Would adding more memory help?
This article has been archived and is no longer updated by Apple.
Only the last 10 unread pages are shown in the In Box to conserve system memory for other tasks (such as handwriting recognition) and to reduce the memory overhead of maintaining the In Box.

Adding extra memory to the MessagePad will not help because the extra memory would be allocated to the user and not the Newton operating system.

To view the pages that are not shown in the In Box, open the Pager application in the Extras drawer.
Published Date: Feb 19, 2012

Newton Messaging Card: How to Turn Off Alarm

Does the Newton Messaging Card have a silent alarm so I can be notified when I receive pages (or messages) without an audible alarm?

Can I turn off the Newton Messaging Card (to avoid the audible alarm) and still receive pages?
This article has been archived and is no longer updated by Apple.
Some paging devices can receive pages (or messages) after they are turned off. These devices vibrate to notify the user when they receive a page and do not produce an audible alarm.

The Newton Messaging Card cannot receive pages when it is turned off, and does not support vibrating notification. Its audible alarm can not be disabled while the unit is on.

The Messaging Card must be on to receive a page, but it does not need to be inserted into the Newton. To review pages that may have been sent to you while the Messaging Card was turned off, call the toll-free number in your Apple Wireless Messaging Service quick reference guide.
Published Date: Feb 19, 2012

Video Monitor: Video Playthrough Displays White Screen (1/94)

The video playthrough displays a white screen using Video Monitor on my AV Series Macintosh. When the screen first appears the video window flashes from black to white. Why is this happening?

This article has been archived and is no longer updated by Apple.

Generally, the white screen means that the video signal is stronger than the machine can accept. It is similar to the effect when one records music on a tape deck and the volume is maximized. In that case, the sound goes to a blur of noise. In the case of your AV Series Macintosh, the result is a white screen. The opposite is when there is no signal at all and the display is completely black.

If the VCR or Television has an option for changing the video level,(it may be labeled 'Attenuation On/Off') try setting it to a lower level.

As an alternative, try adjusting some of the Video Settings such as Saturation, Brightness, and so on. By tweaking those adjustments, he may be able to achieve a satisfactory solution.

Support Information Services

Published Date: Feb 19, 2012

AV Series: Software for Adjusting Video Brightness (1/94)

Is there is any software to adjust the video brightness for my AV Series Macintosh?

This article has been archived and is no longer updated by Apple. Specific applications, such as VideoMonitor, Fusion Recorder, PhotoShop, or PageMaker, have software controls to adjust brightness. Currently, there isn't a general control panel or application to do this. However, most monitors and displays have contrast and brightness controls - either physical knobs or specific control panels.

To locate a vendor's address and phone numbers, use the vendor name as a search string.

Support Information Services
Published Date: Feb 19, 2012

AV, 68040 Macintoshes: Remote Application Launch Crash (1/94)

Is there an incompatibility when launching applications or files on an AV Series Macintosh from a remote volume? My Macintosh crashes or hangs when doing so.

This article has been archived and is no longer updated by Apple.
The problem has been reported by users of AV Series Macintosh models as well as on other 68040 based Macintosh models which have had NSI (Network Software Installer) 1.4 or 1.4.1 updates installed.

The Network Launch Fix (1.0) is a system extension that allows you to successfully launch application programs over a network.

You should install the Network Launch Fix if you have a Macintosh computer with a 68O40 microprocessor. The 68040 microprocessor is included in Macintosh Quadra, Centris, and Performa 470 series computers.

Support Information Services
Published Date: Feb 19, 2012

Apple 16" Color Monitor & Centris 610: White Lines Fix (1/94)

I recently came across a customer who had a problem with his Centris 610/16" Apple Color Monitor which caused "white lines" to appear across the screen during scrolling (such as a word processor). The problem is repeatable, occurs only in 8-bit mode, and appears just after you start to scroll the document. It's so bad that you are unable to do any scrolling without corrupting the video display.

What is the fix for this problem?

This article has been archived and is no longer updated by Apple.
The problem to which you allude was corrected in System Update 2.0.1. Once it is installed, the 16" Apple RGB Display/Centris 610 will not exhibit the "white lines" when scrolling.

Published Date: Feb 19, 2012

Apple IIc: Nec 2015 Spinwriter Cable Pinout

The following article gives the cable pinout for the Nec 2015 Spinwriter and the Apple IIc.
This article has been archived and is no longer updated by Apple.
APPLE IIC NEC 2015 SPINWRITER

2----------3
3----------7
4----------2
5----------19
4,5,6,8: Jumpered

NEC Dip switch settings:

Switch series 1: all off except #8
Switch series 2: all off
Switch series 3: all off except #4,6,7,8
Published Date: Feb 19, 2012

LaserWriter Pro 810: Netware ATPS Print Services

This article describes an issue when using the Apple LaserWriter Pro 810 with Novell's Netware ATPS Print Services.
This article has been archived and is no longer updated by Apple.
Novell's Netware ATPS Print Services is unable to make valid connections to the LaserWriter Pro 810 via the EtherTalk protocol. Presently you'll need to bind with IPX (or LocalTalk), not EtherTalk.

Note: This problem does not affect the Novell PSERVER Print Services.

Basically, the LaserWriter Pro 810's EtherTalk PAP arbitration is implemented differently than the LaserWriter Pro 630s and other printers. Though this implementation is not incorrect, merely different, it does cause problems with Novell's ATPS software as this software retries PAP connections with a new connection ID with every new print job instead of using the same connection ID, causing the LaserWriter Pro 810 to never get out of the arbitration stage. The ATPS console will show the printer as BUSY & IDLE at the same time.

It has been suggested that Netware ATPS administrators bind with Ethernet II (read Ethernet ii) instead of EtherTalk. We recommend you not bind the Ethernet II protocol as this protocol can only support AppleTalk Phase 1 packets. If you do bind Ethernet II intending to run AppleTalk Phase I, you'll need to place the server in -t (Transition mode) to translate the AppleTalk Phase II packets to AppleTalk Phase I and back, and place the LaserWriter Pro 810 on an AppleTalk Phase I cable segment.

Binding IPX (or using LocalTalk) is the preferred way to print to LaserWriter Pro 810s via the Netware ATPS queue.
Published Date: Feb 19, 2012

Newton Messaging Card: Deleting Messages

I have received a number of pages (or messages) on my Newton MessagePad with the Newton Messaging Card.

How do I delete more than one page at a time from my MessagePad?
This article has been archived and is no longer updated by Apple.
One method to delete multiple pages (or messages) at a time is to find all pages before or after a specific date, then delete all of the pages you found.

To do this, follow these steps:

1) Open the Pager application by tapping the Extras drawer, then tapping the Pager icon.

2) Tap Find to display the Find slip.

3) Tap Look for, then tap either "dates before" or "dates after". Since each page is time and date stamped, this will display a list of pages that were received either before or after the date you entered in the Find slip.

4) Tap the overview dot between the arrows at the bottom of the screen to display the selected list of pages.

5) Tap the Envelope icon at the bottom of the list, then tap Delete. All of the pages in the list will be deleted.
Published Date: Feb 19, 2012

Newton Connection Kit for Windows: -10066 Error

After starting a synchronization, both the Newton MessagePad and the Newton Connection Kit for Windows display error -10066.

How do I recover from this?
This article has been archived and is no longer updated by Apple.
If this occurs during a synchronization with the Connection Kit for Windows, install either the 1.04 update (if you have 1.0 ROMs) or the 1.11 update (if you have 1.1 ROMs). These updates can be found on the Windows Connection Kit Disk. Their filenames are SYSUPD104.PKG (for 1.0 ROMs) and SYSUPD111.PKG (for 1.1 ROMS).
Published Date: Feb 19, 2012

Newton Connection Kit for Windows: Missing Notes

After I synchronize my Newton MessagePad with the Newton Connection Kit for Windows, all of my notes are missing from my connection file, including the window headers which say "Created, Text, Folder, and Number of Shapes."

Sometimes, when I open synchronization files that are missing notes , the application quits with a General Protection Fault.

What causes this?
This article has been archived and is no longer updated by Apple.
Version 1.0 of Newton Connection Kit for Windows has a problem with synchronizing notes. To cure this problem, upgrade to version 1.0a or later. Your notes will now display properly.

To upgrade your Newton Connection Kit for Windows, call Newton Fullfillment at 1-800-242-3374.
Published Date: Feb 19, 2012

Newton Print Pack 1.0: Compatible Printers (A-L)

Listed below are printers that will print to a Newton MessagePad when used with the Newton Print Pack.
This article has been archived and is no longer updated by Apple.

AEG Olympia

Manufacturer	Model	Driver
AEG Olympia	Laserstar 6e	LJ II
AEG Olympia	NP 30	FX
AEG Olympia	NP 60	FX
AEG Olympia	NP 80 SE	FX
AEG Olympia	NP 80-24	LQ
AEG Olympia	NP 80-24E	LQ
AEG Olympia	NP 136 SE	FX
AEG Olympia	NP 136-24	LQ
AEG Olympia	NPC 136-24	LQ

Alps

Manufacturer	Model	Driver
Alps	Allegro 24	LQ
Alps	Allegro 500	LQ
Alps	Allegro 500XT	LQ
Alps	ALQ 218	FX
Alps	ALQ 224	LQ
Alps	ALQ 224E	LQ
Alps	ALQ 224GX	LQ
Alps	ALQ 318	FX
Alps	ALQ 324	LQ
Alps	ALQ 324E	LQ
Alps	ALQ 324GX	LQ
Alps	ALQ 3001	FX
Alps	ASP 1000	FX
Alps	ASP 1600	FX
Alps	DMX 800	FX
Alps	LPX 2020	LJ II
Alps	LSX 1600	LJ II
Alps	P2000+	FX
Alps	P2100	FX
Alps	P2400 C	LQ
Alps	P2418	FX
Alps	P2424 C	LQ

Brother

Manufacturer	Model	Driver
Brother	HJ-100i	BJ
Brother	HL-4	LJ II
Brother	HL-4V	LJ II
Brother	HL-4Ve	LJ II
Brother	HL-8e	LJ II
Brother	HL-8V	LJ II
Brother	HL-10V	LJ II
Brother	M-1109	FX
Brother	M-1209	FX
Brother	M-1309	FX
Brother	M-1324	LQ
Brother	M-1709	FX
Brother	M-1724L	LQ

Brother	M-1809	FX
Brother	M-1824L	LQ
Brother	M-1909	FX
Brother	M-1924L	LQ
Brother	M-2518	FX
Brother	M-2524L	LQ
Brother	M-4018	FX
Brother	M-4309	FX
Brother	Twinriter 5	FX
Brother	Twinriter 6	FX
Brother	XL-500	FX
Brother	XL-1500	LQ

C. Itoh/C-Tech

Manufacturer	Model	Driver
C. Itoh/C-Tech	9500	FX
C. Itoh/C-Tech	9515	FX
C. Itoh/C-Tech	9715	LQ
C. Itoh/C-Tech	C-240	FX
C. Itoh/C-Tech	C-245	FX
C. Itoh/C-Tech	C-310	FX
C. Itoh/C-Tech	C-315	FX
C. Itoh/C-Tech	C-510	LQ
C. Itoh/C-Tech	C-515	LQ
C. Itoh/C-Tech	C-610	LQ
C. Itoh/C-Tech	C-610 +	LQ
C. Itoh/C-Tech	C-610C +	LQ
C. Itoh/C-Tech	C-645	FX
C. Itoh/C-Tech	C-715 A	LQ
C. Itoh/C-Tech	CI-4	LJ II
C. Itoh/C-Tech	CI-8	LJ II
C. Itoh/C-Tech	CI-8E	LJ II
C. Itoh/C-Tech	ProWriter C-240	FX
C. Itoh/C-Tech	ProWriter C-245	FX
C. Itoh/C-Tech	ProWriter C-310 CXP	FX
C. Itoh/C-Tech	ProWriter C-610II	LQ
C. Itoh/C-Tech	ProWriter C-615II	LQ

Canon

Manufacturer	Model	Driver
Canon	BJ-5	BJ
Canon	BJ-10e	BJ
Canon	BJ-10ex	BJ
Canon	BJ-20	BJ
Canon	BJ-130e	BJ
Canon	BJ-200	BJ
Canon	BJ-230	BJ
Canon	BJ-300	BJ
Canon	BJ-330	BJ
Canon	BJC-800	LQ
Canon	BJC-820	LQ
Canon	LBP-4 sx	LJ II
Canon	LBP-8 sx	LJ II

Citizen

Manufacturer	Model	Driver

Citizen	120D	FX
Citizen	120D+	FX
Citizen	180D	FX
Citizen	200GX	FX
Citizen	200GX Fifteen	FX
Citizen	224	LQ
Citizen	5200	FX
Citizen	5800	FX
Citizen	GSX-130	LQ
Citizen	GSX-140	LQ
Citizen	GSX-140 Plus	LQ
Citizen	GSX-145	LQ
Citizen	GSX-240	LQ
Citizen	HSP-500	FX
Citizen	HSP-550	FX
Citizen	MSP-40	FX
Citizen	MSP-55	FX
Citizen	Overture 110	FX
Citizen	PN-48	LQ
Citizen	ProDot 9	FX
Citizen	ProDot 9X	FX
Citizen	ProDot 24	LQ
Citizen	ProJet	DJ
Citizen	ProLaser	LJ II
Citizen	ProScript	LJ II
Citizen	Swift 9	FX
Citizen	Swift 9X	FX
Citizen	Swift 24E	LQ
Citizen	Swift 24X	LQ

Compaq

Manufacturer	Model	Driver
Compaq	PageMarq 15	LJ II
Compaq	PageMarq 20	LJ II

Epson

Manufacturer	Model	Driver
Epson	ActionLaser	LJ II
Epson	ActionLaser 1000	LJ II
Epson	ActionLaser 1500	LJ II
Epson	ActionLaser II	LJ II
Epson	ActionLaser Plus	LJ II
Epson	ActionPrinter A-2000	FX
Epson	ActionPrinter A-2500	FX
Epson	ActionPrinter A-3000	LQ
Epson	ActionPrinter A-3250	LQ
Epson	ActionPrinter A-4000	LQ
Epson	ActionPrinter A-4500	LQ
Epson	ActionPrinter A-5000	LQ
Epson	ActionPrinter A-5500	LQ
Epson	ActionPrinter T-1000	LQ
Epson	Apex 80	FX
Epson	DFX-5000	FX
Epson	DFX-8000	FX
Epson	EPL-4000	LJ II
Epson	EPL-5000	LJ II
Epson	EPL-5200	LJ II
Epson	EPL-6000	LJ II
Epson	EPL-7000	LJ II

Epson	EPL-8000	LJ II
Epson	EX-800	FX
Epson	EX-1000	FX
Epson	FX-80	FX
Epson	FX-80 +	FX
Epson	FX-85	FX
Epson	FX-86e	FX
Epson	FX-100	FX
Epson	FX-100 +	FX
Epson	FX-185	FX
Epson	FX-286	FX
Epson	FX-286e	FX
Epson	FX-850	FX
Epson	FX-870	FX
Epson	FX-1050	FX
Epson	FX-1170	FX
Epson	HS-80	FX
Epson	JX-80	FX
Epson	L-750	LQ
Epson	L-1000	LQ
Epson	LQ-200	LQ
Epson	LQ-500	LQ
Epson	LQ-510	LQ
Epson	LQ-570	LQ
Epson	LQ-800	LQ
Epson	LQ-850	LQ
Epson	LQ-860	LQ
Epson	LQ-870	LQ
Epson	LQ-950	LQ
Epson	LQ-1000	LQ
Epson	LQ-1010	LQ
Epson	LQ-1050	LQ
Epson	LQ-1060	LQ
Epson	LQ-1070	LQ
Epson	LQ-1170	LQ
Epson	LQ-1500	LQ
Epson	LQ-2500	LQ
Epson	LQ-2550	LQ
Epson	LX-80	FX
Epson	LX-86	FX
Epson	LX-90	FX
Epson	LX-800	FX
Epson	LX-810	FX
Epson	SQ-850	LQ
Epson	SQ-2000	LQ
Epson	SQ-2500	LQ
Epson	SQ-2550	LQ
Epson	Stylus-800	LQ
Epson	T-750	FX
Epson	T-1000	FX

Fujitsu

Manufacturer	Model	Driver
Fujitsu	Breeze 100	DJ
Fujitsu	Breeze 200	DJ
Fujitsu	DL 1100	LQ
Fujitsu	DL 1100C	LQ
Fujitsu	DL 1150	LQ
Fujitsu	DL 1200	LQ
Fujitsu	DL 1200C	LQ
Fujitsu	DL 1250	LQ
Fujitsu	DL 2400	FX

Fujitsu	DL 2400C	FX
Fujitsu	DL 2600	FX
Fujitsu	DL 2600C	FX
Fujitsu	DL 3300	FX
Fujitsu	DL 3450	FX
Fujitsu	DL 3400	FX
Fujitsu	DL 3400C	FX
Fujitsu	DL 3600	LQ
Fujitsu	DL 3600C	LQ
Fujitsu	DL 4400	LQ
Fujitsu	DL 4400C	LQ
Fujitsu	DL 4600	LQ
Fujitsu	DL 4600C	LQ
Fujitsu	DL 5600	FX
Fujitsu	DL 5600C	FX
Fujitsu	DL 5800	LQ
Fujitsu	DL 5800C	LQ
Fujitsu	DX 2300	FX
Fujitsu	DX 2400	FX
Fujitsu	Print Partner 10	LJ II
Fujitsu	VM 2200	LJ II

Hewlett Packard

Manufacturer	Model	Driver
Hewlett Packard	DeskJet	DJ
Hewlett Packard	DeskJet Plus	DJ
Hewlett Packard	DeskJet 500	DJ
Hewlett Packard	DeskJet 500C	DJ
Hewlett Packard	DeskJet 550C	DJ
Hewlett Packard	DeskJet Portable	DJ
Hewlett Packard	LaserJet 4	LJ II
Hewlett Packard	LaserJet II	LJ II
Hewlett Packard	LaserJet IID	LJ II
Hewlett Packard	LaserJet IIP	LJ II
Hewlett Packard	LaserJet IIP Plus	LJ II
Hewlett Packard	LaserJet III	LJ II
Hewlett Packard	LaserJet IIID	LJ II
Hewlett Packard	LaserJet IIIP	LJ II
Hewlett Packard	LaserJet IIISi	LJ II
Hewlett Packard	PaintJet XL300	LJ II
Hewlett Packard	RuggedWriter	LQ
Hewlett Packard	RuggedWriter 480	LQ

IBM/Lexmark

Manufacturer	Model	Driver
IBM/Lexmark	2380 PPS II	FX
IBM/Lexmark	2381 PPS II	FX
IBM/Lexmark	2390	LQ
IBM/Lexmark	2390 PPS II	FX
IBM/Lexmark	2391 PPS II	FX
IBM/Lexmark	4019 LaserPrinter	LJ II
IBM/Lexmark	4019 LaserPrinter E	LJ II
IBM/Lexmark	4029-10 LaserPrinter SE	LJ II
IBM/Lexmark	4029-20 LaserPrinter 6	LJ II
IBM/Lexmark	4029-22 LaserPrinter 6P	LJ II
IBM/Lexmark	4029-30 LaserPrinter 10	LJ II
IBM/Lexmark	4029-40 LaserPrinter 10L	LJ II
IBM/Lexmark	4029-42 LaserPrinter 10P	LJ II
IBM/Lexmark	4070	BJ

IBM/Lexmark	4070 Execjet	LQ
IBM/Lexmark	4079	LQ
IBM/Lexmark	4226-302	FX
IBM/Lexmark	PS/1 printer	BJ

Kodak

Manufacturer	Model	Driver
Kodak	Diconix 180si	FX
Kodak	Diconix 300	FX
Kodak	Diconix 300W	FX
Kodak	Diconix 701	DJ

Kyocera

Manufacturer	Model	Driver
Kyocera	F-800	LJ II
Kyocera	F-800A	LJ II
Kyocera	F-820	LJ II
Kyocera	F-850	LJ II
Kyocera	F-1500A	LJ II
Kyocera	F-1800A	LJ II
Kyocera	F-2000A	LJ II
Kyocera	F-2010	LJ II
Kyocera	F-3000A	LJ II
Kyocera	F-3010	LJ II
Kyocera	F-3500A	LJ II
Kyocera	F-5000A	LJ II
Kyocera	F-5500A	LJ II
Kyocera	FS-1500A	LJ II

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MODE32: System Software Compatibility (8/95)

With which versions of Macintosh System Software is MODE32 compatible?

This article has been archived and is no longer updated by Apple.
MODE32 is a system extension produced by Connectix that provides 32-bit addressing for System 7 through System 7.5 on the Macintosh SE/30, II (requires PMMU), IIx, and IIcx. This feature is otherwise unavailable on these Macintosh models, yet is needed to run System 7.5. MODE32 is only designed for use on these four Macintosh computers.

MODE32 may operate with System 7 Pro, but has not been tested and is not supported.

Either MODE32 or Apple's 32-bit Enabler can be used with System 7.1, but do NOT use both at the same time.

MODE32 only works with System 7.0 and later. If you want to use 32-bit addressing mode with System 6.0 you need to use the Connectix product, OPTIMA.

For more information on MODE32, see "MODE32 Version 7.5: Release Notes and Instructions" and "System 7.5: MODE32 Now Compatible."

Article Change History:
15 Aug 1995 - Add information on System 6.0 and 32-bit addressing.
15 Feb 1995 - Revised keyword for System 7.5.
12 Sep 1994 - Reviewed for technical accuracy.

Support Information Services
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Macintosh AV Systems: Video Capture Rate

This article provides the video capture rate, in frames per second, when copying from a VCR to a Macintosh Quadra 660AV or 840AV.
This article has been archived and is no longer updated by Apple.
The video-in capabilities of the Quadra 660AV and 840AV support full-motion, full-screen viewing of any video material in the NTSC, PAL, or SECAM format. The video subsystem is completely independent of the CPU or DSP. One of the features provided by this subsystem is the ability to record a quarter screen image at 10 to 20 frames per second directly to a hard disk in real-time without data compression.

Video-in provides for on-screen viewing of video materials, 24-bit frame capture, and QuickTime movie recording without additional hardware.

Published Date: Feb 19, 2012

AV Series, AudioVision: Level Sensitivity Settings (1/94)

What are the line level sensitivity settings found in Sound Options dialog box in the AV Series Sound control panel. I'm using the AudioVision 14 Display with my AV Series Macintosh. The AV Series manual does not explain these settings and I'd like to know more.

This article has been archived and is no longer updated by Apple.
The following information was extracted from the Apple AudioVision 14 Display Developer Notes; Pages 32-34.

AudioVision Sound Options Dialog Box
---
* The controls in this dialog box are intended for power users.

* When you select an option in this dialog box, it is effective immediately.

AudioVision Sound Options functions. The remainder of this article explains the Sound Options dialog box controls.

External Sound Input buttons

These controls allows you to set the levels of the external sound input, specifically line level and microphone level.

The AudioVision 14 Display accepts 2.0 V and 4.0 V peak-to-peak sound input signals. When you power up the display initially, the Line Level button with low sensitivity will be selected. This means that the display is set to accept the 4.0 V peak-to-peak input.

If your sound input device provides a 2.0 V peak-to-peak signal, the sound output from the display will seem relatively quiet. To compensate for this, and boost the level of the sound output, you should select Microphone Level high sensitivity. Once you have done this, the Manager saves the setting, which becomes the default unless you change it.

You should generally select Line Level low sensitivity for audio cassettes, audio CDs, and some Apple microphones. You should select Microphone Level (high or low sensitivity) for most other microphones.

External sound input plays through speakers and headphones
(Internal microphone disables external sound input)

During normal operation, you should select "External sound input plays through speakers and headphones." When this option is selected, the "Internal microphone disables external sound input" option is also available.

You should select "Internal microphone disables external sound input" only when your sound input device is a CD player plugged into the audio input connector on the side panel of the display.

Note that Internal microphone disables external sound input may only be selected when External sound input plays through speakers and headphones is selected.

The CD player typically provides a 16-bit sound input, which is transferred through the display to the CPU, and then back from the CPU to be output from the display's speakers or headphone jack. Since the CPU supports only 8-bit sound I/O, the sound output provided in this way is distorted and inferior to the original input.

If you select "Internal microphone disables external sound input," the

sound input will be routed directly from the input port to the display's speakers and headphone outputs, without going through the CPU. This enables the display to function as a powered speaker system, and ensures that there is no loss in sound output quality.

If you are recording from the CD (or other sound device) input, the sound input must be routed through the CPU, and you should select "External sound input plays through speakers and headphones."

Support Information Services
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Centris/Quadra 610,660AV: Powering Down AudioVision Display

Contrary to what is stated in the AudioVision 14 display, turning off the computer will not turn off the display.
This article has been archived and is no longer updated by Apple.
There is a mistake in the AudioVision 14 Display manual. Both the Centris 610 and Centris/Quadra 660AV have a pass through power supply. This means that as long as the Centris is plugged in to the wall outlet and the monitor is plugged in to the Centris, there will be power to the monitor.

The only way to turn the monitor off is via the power switch on the monitor itself.

Published Date: Feb 19, 2012

AV Series: RS383 Video Support? (1/94)

I want to set up a Quadra 660AV running VideoMonitor to use in place of regular aircraft monitors, which are very expensive.

I know the AV Series Macintoshes support NTSC, PAL, SECAM. Can they run RS383 video instead? RS383 is a composite video, 640x480. They want to use C++ to create buttons that simulate those buttons around the aircraft monitor. Can DSP (Digital Signal Processor) handle it?

This article has been archived and is no longer updated by Apple.
We are not familiar with the RS-383 video format. However, there is an chance the format will work if its horizontal and vertical frequencies correspond to those employed by one of our Macintosh computers. If this is the case, a cable must be made with the appropriate sense line configuration.

Support Information Services
Published Date: Feb 19, 2012

Apple IIc: Olympia RO Cable Pinout

The following article gives the cable pinout for the Olympia RO printer and the Apple IIc.
This article has been archived and is no longer updated by Apple.
APPLE IIC OLYMPIA RO

2----------3
3----------7
4----------2
5----------4

NOTE: Use factory dip swich settings for printer.
Published Date: Feb 19, 2012

GeoPort, Express Modem: The ":" and "W" Commands (1/94)

I am trying to send a FAX using my telephone credit card according to page 32 of the Express Fax/Modem User's Guide (GeoPort Telecom Adapter version), and I'm having trouble getting the modem to recognize the ":" modem command using a GeoPort Telecom Adapter on my Macintosh AV computer.

This article has been archived and is no longer updated by Apple.
According the Express Fax/Modem User's Guide the ":" command is the same as the "W" modifier, except that the ":" can detect most calling card tones. The "W" modifier is used to make the modem detect a dial tone before sending the next digit, for example, calling card number. In some instances, the modem will not be able to recognize the ":" command using the Express Modem software version 1.1.2 that comes with the GeoPort Telecom Adapter. The solution is to use commas to delay the modem to wait until the long distance carrier dial tone is sent. The comma will delay the modem 2 seconds for each comma.

Published Date: Feb 19, 2012

ARA 2.0 Client: Network Installer Instructions (1/94)

These are instructions for creating a net install version of Apple Remote Access, using the Apple Remote Access Client set of three floppy disks. This net install version can be stored on an AppleShare File Server or File Sharing volume, and then installed over an AppleTalk network onto a AppleShare Workstation Client Macintosh.

This article has been archived and is no longer updated by Apple.

```
The AppleShare System Administrator should choose the volume where this net
install version will be located.  Create a folder called (for example) ARA
2.0 Client Net Install, and drag copy each of the three disks into it.
This is done by inserting a disk, selecting the icon on the desktop that
represents that disk, and dragging it to the ARA 2.0 Client Net Install
folder.  Continue until all three disks have been copied.

Double click on the folder called ARA PS Install 1, to open it.  Select and
drag the file named Installer (the actual Installer application) from the
ARA PS Install 1  folder, to the ARA 2.0 Client Net Install folder.  Repeat
this process for the file named Remote Access PS Install (the Installer
script).  You are now done.

Now, any AppleShare Workstation Client who has access privileges to the ARA
2.0 Client Net Install folder, can navigate to there, double-click the
Installer application or the Installer script, and install Apple Remote
Access onto their system, across the AppleTalk network.
```

Published Date: Feb 19, 2012

GeoPort Telecom Adapter: Surge Protection (1/94)

Is there any built in surge suppression or surge protection in the GeoPort Telecom Adapter?

This article has been archived and is no longer updated by Apple.
This is a follow-on to your original inquiry. After some research, we were able to determine that the GeoPort Telecom Adapter is surge protected. There is a clamp at 300V, and the unit is fused.

Support Information Services
Published Date: Feb 19, 2012

Multimedia Kit: Last Dinosaur Egg CD Bug

When using the CD, "Victor, Vector, and Yondo: The Last Dinosaur Egg," the game tells me (via a message on the screen) there is a virus. I ran Norton Utilities and Disinfectant and found problems. Can you explain what is going on?
This article has been archived and is no longer updated by Apple.
Apple contacted Sanctuary Woods Multimedia, the makers of the CD, and spoke with their technical support group. That virus message is actually part of the game and it's unlikely that the game caused the problems.

Sanctuary Woods Multimedia is aware of problems with that particular CD. The QuickTime version on the CD is corrupt and users will have problems if they install it. Also, the CD will crash with Type 1 and Type 28 errors if AppleTalk is active. There is a fix in a newer version which customers can order by calling: 1-800-665-2544.

For information on downloading the latest version of Disinfectant refer to:
TIL aritcle 30487: "**Disinfectant: Macintosh Anit-Viral Utility**"

The Tech Info Library article#17159: "**Locating Vendor Information**", can help you search for a particular vendor's address and phone number.
Published Date: Feb 19, 2012

Macintosh: Can It Be Used as a USENET News Server? (3/95)

Can I setup a Macintosh, using either the Macintosh Operating System (Mac╨OS) or A/UX, as a USENET news server?

If not, where can I get USENET news server software for other computers?

This article has been archived and is no longer updated by Apple.
You can setup a Macintosh as a USENET news server under A/UX, since it can use UNIX-based USENET new server software. We aren't aware of any Mac╨OS-based USENET news server software.

There is a large amount of news software available on the anonymous-ftp Internet hosts. Some of the USENET news software had been developed by the USENET community, such as B news, C news, NN, INN, nntp, rn, trn, ... etc. C News, NN, and INN are the programs most people are running for news servers.

INN (InterNetNews) seems to be the most current news server software being developed. Here is the description from INN's README file:

InterNetNews is a complete Usenet system. The cornerstone of the package is innd, an NNTP server that multiplexes all I/O. Think of it as an nntpd merged with the B News news, or as a C News relay news that reads multiple NNTP streams. Newsreading is handled by a separate server, nnrpd, that is spawned for each client. Both innd and nnrpd have some slight variances from the NNTP protocol.

Two news readers for UNIX systems are rn (read news), trn (threaded version of rn). Some Macintosh OS news reader packages (to access the news on the UNIX side of the news server) are Netnews, NewsWatcher, and Nuntius.

I believe the above mentioned software is available through some of anonymous-ftp hosts in the Internet. One source is the host sunic.sunet.se (192.36.125.2).

Article Change History:
31 Mar 1995 - Made minor changes.

Support Information Services
Published Date: Feb 19, 2012

LaserWriter Pro 810: Faxing in High Resolution

Issue

Graphics are created in Adobe Illustrator. They are imported into PowerPoint as an EPS file. The file is successfully printed on a PostScript printer. The same file cannot be faxed with acceptable quality. The text and graphics from PowerPoint are faxed at maximum resolution, but it appears the EPS imported file is printed in low resolution "preview mode."

Questions
---
1. Will the LW Pro 810 with fax capability completely rasterize the file at maximum resolution, including the EPS import, and fax it to a standard fax machine?

2. Is there a fax phone book file capability?

3. Can Windows users get access to all the printers features and its fax capabilities? Also, can they use some type of Ethernet to talk to the printer?
This article has been archived and is no longer updated by Apple.
1. Although you do not state what type of fax you're using I'm assuming that it is something like the Express Modem Fax software. This software uses QuickDraw for imaging the fax, therefore it is only using the preview of the EPS file. If you save the EPS file without a preview then the fax would have no graphic at all.

The LW Pro 810 fax option will use the EPS data and send the fax in high resolution.

2. Yes, there is a phone book utility that comes with the LaserWriter 8.1.1f driver.

3. Windows users can use the all of the printer's features that make sense, for example it's unlikely that a Windows user would use LAT. Ethernet can be used but the Windows machine would have to have either TCP/IP or AppleTalk drivers installed.
Published Date: Feb 19, 2012

Apple IIc:Okidata 92 Serial Adapter Cable Pinout

This article contains the cable pinout for an Okidata 92 Serial Adaptor and the Apple IIc.
This article has been archived and is no longer updated by Apple.
APPLE IIC OKIDATA 92 SERIAL ADAPTOR

4----------2
2----------3
4,5: Jumpered
6,20: Jumpered
3----------7
5----------11
Published Date: Feb 19, 2012

System 7.1: Clean Installation from 1.44MB Disks

This article presents the steps necessary to perform a clean installation of system software version 7.1. Follow these instructions in the order presented.
This article has been archived and is no longer updated by Apple.

Purpose of a Clean Installation

A normal system software installation modifies and updates the existing System Folder. A clean installation disables the existing System Folder, leaving most files in place, and forcing the Installer to create a new System Folder.

A clean system installation brings the system software back to the standard configuration. This is necessary when system software has been damaged or modified, preventing a normal installation. It is also useful in troubleshooting.

Follow these instructions in the order presented.

Restart with Disk Tools

Shut down your Macintosh computer, insert the Disk Tools diskette in the floppy drive, and turn on the computer. At the desktop, the Disk Tools floppy disk's icon should be in the upper-right corner of your screen with your hard disk's icon below it.

If the computer ejects the Disk Tools disk, make sure you have an Apple SuperDrive (formerly FDHD) that will read high-density disks. If your computer does not have a SuperDrive, you need system software version 7.1 on 800K disks. To get them, call the Apple Order Center.

The Tech Info Library article titled "Locating Vendor Information" can help you search for the Apple Order Center's phone number.

Run Disk First Aid

Disk First Aid can detect and repair problems with a hard disk.

1. Open the Disk Tools disk, and double-click on the Disk First Aid icon. In the window that appears, be sure the main hard drive is selected. If it is not, click the Drive button to select the main hard drive.

2. Click once on Open and then once on Start. Disk First Aid will check your hard disk for any potential problems. If it finds problems, you should let the software repair them.

3. Repeat this procedure for each hard disk attached to the system.

4. When you are finished verifying the hard disks, choose Quit from the File menu to return to the desktop.

If Disk First Aid cannot repair a hard disk, you should back up the hard disk and reinitialize it using the appropriate formatting utility for that drive. For Apple drives, use Apple HD SC Setup.

Update Hard Disk Drivers

If you do not have an Apple hard drive, or you use third-party software to format your hard disk, do not use the Apple HD SC Setup utility. However, you should contact your hard drive vendor to verify that your formatting software is compatible with system software version 7.1.

If you have an Apple hard drive, you should update the drivers with the version of Apple HD SC Setup that is on the Disk Tools disk, following these steps:

1. Double-click the HD SC Setup icon on the Disk Tools disk to open it.

2. Click on the Update button.

3. When you are finished, click Quit to return to the desktop.

Sometimes HD SC Setup cannot update the hard disk driver (indicated by a "dimmed" Update button). Here are some possible causes and solutions:

- If a third-party utility formatted your hard disk, you should obtain the latest version of the utility to update your hard drive.
- If a version of Apple HD SC Setup more recent than the version on the Disk Tools disk formatted your hard drive, do not update the hard disk drivers.
- If an earlier System 6 version of Apple HD SC Setup formatted the drive, it may not have left enough room for the updated driver. You do not

have to update the hard disk drivers. However, if you intend to use file sharing or have a Macintosh that can use virtual memory, then you need to back up the disk and reinitialize it with HD SC Setup. This erases the disk, so be certain you back up the hard disk first.

- If the driver is corrupt, the Macintosh does not recognize the drive (that is, the drive does not show on the desktop when you start from a floppy disk). You may wish to reinitialize it with HD SC Setup. This erases the disk, so be certain you back up the hard disk first.
- If the driver has been modified with compression or security software you will not be able to update the driver. Contact the vendor for additional help.

Check Available Hard Disk Space

Be sure you have at least 5 MB available on the hard disk where you plan to install the system software. Open the hard disk's window. Open the Views control panel and select "Show disk info in header." The amount of available disk space appears in the upper-right corner of any open window.

If there is less than 5 MB available, you will need to delete some unnecessary files by moving them to the Trash. Choose Empty Trash from the Special menu, and you will have more disk space available. Or you can copy files onto floppy disks or other media before moving them to the Trash.

Disable the System Folder

You disable the System Folder by moving the System and renaming the System Folder.

1. Open your hard disk's icon and locate the System Folder.
2. Open the System Folder and locate the System file.
3. Move the System file into the Preferences folder.
4. Close the System Folder's window and rename the System Folder "Storage."
5. Close all windows that are open on your desktop.

Restart Your Computer

Choose Restart from the Special menu. The system automatically ejects the Disk Tools disk, and after a few seconds you should see a picture of a disk with a flashing question mark.

If your Macintosh starts up from the hard drive, you have an extra System Folder on the hard disk. You need to delete it or disable it as described in the previous section, then restart.

When you get the disk with the flashing question mark on your screen, you can continue. If you still do not see this on your screen, and you are installing the system software on the internal hard disk, turn off your Macintosh and all attached peripherals. Then disconnect the SCSI cable from the back of the Macintosh. Start your Macintosh again.

Install System 7.1

Install system software version 7.1 following these steps:

1. When you see the disk with a flashing question mark, insert the Install 1 or Install Me First disk into the Macintosh. The computer will start up with the system files on the Install disk.

   If you have a Macintosh computer that requires a System Enabler, you should use the Install Me First disk that came with your computer. The standard 7.1 Install disk does not contain the Enabler, and will not start up a Macintosh that requires one.

2. Once the "Welcome to the Apple Installer" message appears, click on OK.
3. Click on Install.
4. Insert the other disks when the Installer asks you to.

Verify Problem Resolution

After performing a clean installation, verify that you resolved the problem before adding anything to the new System Folder. Adding items to the System Folder before resolving your problem defeats the purpose of this procedure.

Install Non-Standard Items

You can now reinstall the non-standard items from the old System Folder (now named "Storage") such as fonts, screen savers, device drivers, and so on. If possible, you should reinstall these items from their original disks.

If the original disks are not available, you may move the non-standard items from the Storage folder to the new System Folder. Be careful not to replace anything that is already in the new System Folder. Only move items that are not already in the new System Folder.

1. Open each corresponding folder within the System Folder and the Storage folder and then compare the contents.
2. Move anything that is not already in the new System Folder and its subfolders from the Storage folder and its subfolders.
3. Restart your Macintosh.

Troubleshooting Extension Conflicts

If you have installed any system extensions or control panels, you will probably see their icons line up across the bottom of the screen when you restart. They load into memory at startup time and modify the standard behavior of the operating system.

Verify INIT Conflict

If the Macintosh fails to restart or behaves erratically, you probably have an incompatible or conflicting INIT (also known as a system extension or control panel). To verify this problem, follow these steps:

1. Be sure the Caps Lock key is off.
2. Restart, and after you see the picture of a computer with a smile, hold down the Shift key.
3. Release the Shift key when the "Welcome to Macintosh, Extensions Off" message appears.
4. When the Macintosh is ready, try to recreate the erratic behavior.

If the problem no longer occurs, then you have a conflicting extension or control panel. Continue with the steps in the next section.

Remove and Replace INITs in System Folder

1. Create a new folder on the desktop.
2. Open the System Folder, Extensions folder, and Control Panels folder, and choose by Kind from the View menu. Move all items of Kind "system extension" or "control panel" to this new folder.
3. Close the System Folder, and restart the Macintosh.
4. Attempt to recreate the problem.
5. Move one item from the new folder on the desktop to the closed System Folder and restart the Macintosh.
6. Attempt to recreate the original problem.

Repeat steps 5 and 6 for each item in the new folder on the desktop until the problem recurs. The last item returned to the System Folder is probably the cause of the problem.

Final Steps

Verify that your applications are performing normally. If not, refer to the application manual or contact the vendor.

When the Macintosh behaves as expected, move the Storage folder to the Trash, and choose Empty Trash from the Special menu.

System Update

After performing a clean installation of System 7.1, you may want to consider installing System Update 3.0 to ensure that you have the most current

version of the system software.

This article can help you locate the software update mentioned here:

Article 14724: "**Where To Find Apple Software Updates**" - Lists online services for free Apple software updates.

Published Date: Feb 19, 2012

Chinese Language Kit: Third Party Product Solution

For customers using the Chinese Language Kit, the product Sindex described below may be of assistance.

Note: This product does not compete with the Chinese Language Kit.
This article has been archived and is no longer updated by Apple.
Sindex may meets the following needs for people using the Chinese Language Kit:

- Conversion of simplified characters to traditional, and vice versa, "on the fly." In other words, users can create text on the screen using simplified characters, then convert it to traditional and back again.
- Complete phrase input, as opposed to character by character.

The product is called Sindex, and it is available as a bundle with a word processor called Wintext. Wintext is one of the applications that is listed as being "Worldscript 2-byte savvy." It can be purchased from Pacific Rim Connections (415/697-0911) and is fully supported by the Chinese Language Kit.
Published Date: Feb 19, 2012

HyperCard: Phone Dialing with Abaton Interfax Modem

The Phone stack in HyperCard 1.2.5 (and presumably in 2.0 and 2.1 as well) does not automatically dial numbers if you have an Abaton Interfax modem.
This article has been archived and is no longer updated by Apple.
To get HyperCard to automatically dial, turn the Interfax control off in the Abaton Interfax control panel.

This article is adapted from the Claris Tech Info database.
Published Date: Feb 19, 2012

HyperCard: Working with Alias Manager (3/94)

I want to read from a file in a folder using an alias folder located on the startup volume. The folder pointed to by the alias is located on another mounted volume in the same AppleTalk zone (volume is visible on the Desktop).

Here is the script segment:

```
put "myMachine:aliasFolder:theFileName" into thePath
open file thePath
read from file thePath until end
close file thePath
```

This returns the error that there is no open file by that name. If I substitute the other volumes name instead of "myMachine" it works just fine.

Why can't HyperCard resolve this alias?

This article has been archived and is no longer updated by Apple.
Unfortunately, the Alias Manager doesn't resolve this alias. You've created this pathname by concatenating the path of an alias file and the leaf name of the target:

```
myMachine:aliasFolder:theFileName
|<--- alias file --->|
```

The pathname you want to resolve must refer to a real file on your desktop -- either an alias file or the real thing, like so:

```
myMachine:myAliases:aliasToFile
|<------- alias file -------->|
```

In other words, you need to use an alias for the file you want, not for the folder that it lives in.

This article is adapted from the Claris Tech Info database.
Support Information Services
Published Date: Feb 19, 2012

HyperCard: Ask Command Documentation Correction (8/92)

On page 164 of the HyperCard Script Language Guide there is an error in describing the "ask" command.

This article has been archived and is no longer updated by Apple.
The syntax given for the "ask file" variation includes the optional word "default" for indicating a default file name. The command is as follows:

ask file [promptText] [with [default] fileName]

* Note - promptText and FileName are italicized

The word default is in plain text, indicating that it can be used as an element in the expression, and is in brackets [], indicating that it is optional.

Given this information, you should be able to type the following handler and get a file name of "Copy":

ask file "Save this file as...." with default "Copy"

Instead the file name comes up as "default Copy". This is an error in the documentation, not with HyperCard. The word "default" describes fileName. A corrected version of the expression would read:

ask field [promptText] [with defaultFileName]

* Again - promptText and defaultFileName are italicized.

This article is adapted from the Claris Tech Info database.

Support Information Services
Published Date: Feb 19, 2012

HyperCard: Card Size Constraints (7/92)

This article describes HyperCard's card size constraints, and tells how to change a stack's card size.

This article has been archived and is no longer updated by Apple.
* All the cards in a given stack must be the same size, even if there are several different backgrounds in the stack.
* Smallest card size: 64 x 64 pixels
* Largest card size: 1280 x 1280 pixels.

To change the card size:
1) Choose Stack Info from the Object menu. In the Stack Info dialog box, click Resize.

2) You have two objects for changing the card size:
- Choose a size from the pop-up menu that appears to the right of Card size.
- Drag the little black square in the lower-right corner of the card graphic in the dialog box until you see the card measurements you want.

Note: The card size is restricted by memory. If you are unable to reach the largest size of 1280 x 1280, it is probably due to a lack of memory. That is, you might not have enough memory allocated to HyperCard, or you might not have enough RAM installed in the computer.

This article is adapted from the Claris Tech Info database.
Support Information Services
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Apple III Hardware: Motherboard Identification & Hints

This article has been archived and is no longer updated by Apple.

There are two types of Apple III main logic and memory board combinations. They are typically referred to as either being "5-volt" or "12-volt".

Since there are two types of boards in the field, the first step in servicing an Apple III is to identify whether the system contains 5 or 12-volt boards. Apple III systems above serial number 100,000 are 5-volt systems. When the Apple III was first introduced, 64K random-access memory (RAM) chips were too expensive to incorporate into the Apple III design. Approximately a year later they became economically feasible and began to replace the mixture of 16K and 32K RAM chips used until then. An additional advantage was that a 256K system would actually draw less power than the original "mixed" 128K system.

The first and best way is to look at the part numbers of the ROM chips at locations C11 and C13. Here is what to look for:

12-volt

Location	Part #
C11	341-0044
C13	341-0042

5-volt

Location	Part #
C11	341-0061
C13	341-0062 (128K) or
C13	341-0063 (256K)

The 342-0063 part number works for either a 128K or 256K configuration. The second method of verifying which main logic you are working with is to look at R58, which is located just above location C13. On a 12-volt logic board a 27 ohm, 1/4 watt resistor will be present. On a 5-volt logic board R58 will be missing and a solder bridge will connect the small solder pads on the logic board under R58's mounting position on the board.

There are also two different types of Apple III memory boards. The 12-volt board has three rows of RAM on it. Two rows are filled with 16K RAM (Apple part # 334-0002) and one row with 32K RAM (part # 333-0002). A 256K 5-volt board has two rows of 64K RAM (part # 334-0003) mounted on it. A 128K 5-volt board has one row filled with RAM and one row empty. Five-volt boards are also marked "5-Volt Memory Board" on the top center of the card.

The two memory boards and the two logic boards are not totally interchangeable. Always remember that logic and memory boards of the same voltage must be used together. Main logic boards can be modified to work with either type of memory board, but memory boards cannot.

256K Upgrade Kits are available from Apple for both types of systems.

Additional Service Hints:

The keyboard encoder chip on the Apple III main logic board is a static-sensitive device. Before a replacement board is sent out from Apple, a piece of conductive foam is secured on the solder-side of the board covering the pins of the encoder. Before you install a replacement main logic board, be sure to remove this foam. If this is not done, either there will be no keyboard response or the Apple III will lock up and do nothing at all. Running the Apple III internal RAM test (F6E6G) with a ProFile interface card installed may cause the RAM test to fail. It is best to remove the ProFile card before running the internal RAM test.

New Apple III Diagnostic Diskette

There is a new Apple III Dealer Diagnostic diskette available from Apple Service. This single diskette offers both 12-volt and 5-volt memory board tests. The part number is 077-0013-A.

Published Date: Feb 19, 2012

Apple IIc: Comrex CR-II Cable Pinout

This article contains the cable pinout for the Comrex CR-11 and the Apple IIc.
This article has been archived and is no longer updated by Apple.
APPLE IIC COMREX CR-II

1----------6,5,8
3----------7
5----------20

Dip switch settings for COMREX:

Switch series 1: all closed
Switch series 2: all closed except 3
Published Date: Feb 19, 2012

HyperCard: Problem with CD-Audio XCMDs from Voyager (12/95)

Some users, when they try to run their HyperCard 1.x stacks under HyperCard

2.0.v2, they find their previously working CD-Audio commands no longer

work.

This article has been archived and is no longer updated by Apple.

Apple and Voyager both sold CD-Audio XCMDs. They were both the same product as Voyager licensed them from Apple. However, Voyager included ResCopy (the old version) to install the externals. This caused a problem when the CD-Audio externals are installed with the old version of ResCopy, the stack will not work properly under HyperCard 2.x.

To fix the problem, re-install the XCMD using either ResEdit or Resource

Mover (found in the Power Tools stack).

All the development tools available from Apple are included with version 2.3 of HyperCard. CD-Audio XCMDS are not part of the HyperCard 2.3 tools and are no longer available from Apple. The Voyager company still offers the CD-Audio XCMDs.

Portions of this article were adapted from the Claris Tech Info database.

The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.

Article Change History:

22 Dec 1995 - Added information on XCMD availability.

Support Information Services

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HyperCard: Changing the Cursor While in a Field or Button (8/93)

Here is a short handler that changes the standard "Browse" cursor into another cursor while the mouse is within a button or field.

This article has been archived and is no longer updated by Apple.

```
on mouseWithin
set cursor to "busy" -- or other cursor
repeat while the mouseLoc is within the rect of the target
if the mouseClick then
[action on mouseClick]
exit mouseWithin
end if
end repeat
end mouseWithin
```

If this handler is used in a field, make sure the field is locked. If it isn't, and you click the mouse while over the field, any characters typed will be stored in a memory buffer, and the typed text will appear in the field as soon as the cursor is moved away from the field.

Putting this handler at the card level will cause it to change the cursor when it enters any button or locked field on the card. To make the handler respond specifically to buttons or fields only, insert the following line of text between ON MOUSEWITHIN and SET CURSOR TO BUSY:

```
if "button" is not in the target then exit mouseWithin
```

Use "field" instead of button if you only want fields responded to with the different cursor.

This article is adapted from the Claris Tech Info database.
Support Information Services
Published Date: Feb 19, 2012

HyperCard 2.0: Changes to the Convert Function

HyperCard 2.0v2 handles the Convert function differently than HyperCard 1.2.x.
This article has been archived and is no longer updated by Apple.

In early versions of HyperCard, the convert function would ignore parts of a date that were inconsistent. For example: April 24, 1991 is a Wednesday. Try the following line of HyperTalk code:

```
 convert "Saturday, April 24, 1991" to seconds
```

The result is 2755296000, the number of seconds from January 1, 1904 to April 24, 1991. HyperCard 1.2.x ignored the (incorrect) Saturday portion.

If you try the same line of code in HyperCard 2.0, the result is "Invalid Date." HyperCard 2.0 does not allow the day name to be inconsistent with the date.

If you have a script that tries to take advantage of this feature of HyperCard 1.2.x, you will have to re-work it before it will function properly in version 2.0 or later. If you know the dayname of the long date will be incorrect, here's a suggested substitution:

```
instead of:
 convert theDate to seconds

use:
 put item 2 to 3 of theDate into theDate -- Drops the Day Name
 convert theDate to seconds
```

If you are trying to use the Calendar stack from the old HyperCard, open the background script and insert the line of code marked with "-- Inserted for HC 2.0 Compatibility."

```
function startOfMonth aDate     -- the seconds of Monday before the 1st
 put 60*60*24 into OneDay      --seconds in a day
 put aDate into it
 convert it to long date
 put 1 into word 2 of item 2 of it     --first of month
 put item 2 to 3 of it into it -- Inserted for HC 2.0 Compatibility
 convert it to seconds
 convert it to long date
 repeat while item 1 of it <> "Sunday"
   convert it to seconds
   subtract OneDay from it    --look for previous Sunday
   convert it to long date
 end repeat
 convert it to seconds
 return it
end startOfMonth
```

This article is adapted from the Claris Tech Info database.
Support Information Services
Published Date: Feb 19, 2012

HyperCard: Disabling Arrow Keys while Keeping Text Arrows (8/93)

To disable navigation through a stack with arrow keys, while still allowing arrow keys to be used in a field, put the following handler in the stack or background script.

This article has been archived and is no longer updated by Apple.

```
on arrowKey
if the selectedField is not empty then pass arrowkey
end arrowkey
```

This will make sure that the cursor is within a field before passing the arrowKey.

This article is adapted from the Claris Tech Info database.
Support Information Services
Published Date: Feb 19, 2012

HyperTalk: Drawing Multiple Horizontal or Vertical Lines (7/92)

The first handler below is a quick way to get multiple horizontal lines drawn on your cards. The second handler does the same thing with vertical lines.

This article has been archived and is no longer updated by Apple.

```
on mouseup
put 0 into vert
choose line tool
repeat with n=1 to 68
drag from 0,vert to 512,vert
put vert+5 into vert
end repeat
choose browse tool
end mouseup
```

```
on mouseup
put 0 into horiz
choose line tool
repeat with n=1 to 102
drag from horiz, 5 to horiz, 160
put horiz+5 into horiz
end repeat
choose browse tool
end mouseup
```

This article is adapted from the Claris Tech Info database.
Support Information Services
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HyperCard: Script to Export Address Stack to FileMaker (6/93)

The following handler creates a tab-delimited text file from the HyperCard 1.x Address stack, with the elements of data parsed reasonably thoroughly. This enables you to bring your data into FileMaker.

This article has been archived and is no longer updated by Apple.
The created text file has to come into a database with the following fields, and in the following order:
Name
Company
Street Address
City, State
Zip Code
Phone 1
Phone 2
Phone 3
Phone 4
Check field

Tabs will separate the records, so it will be a standard merge file. More fields than these can exist, and if you want to separate Last and First Names, and State, that can be done in FileMaker later, or the script could possibly be modified.

The check field will mirror the original HyperCard form of the database, and so will contain much redundant information. However, since there will always be data that we can't parse (titles, divisions, odd or foreign addresses, etc.), we need this field so you can double-check your data, and perform additional manipulations.

```
on mouseUp
ask "Please name the new text file." with "HC.txt"
if it is empty or the result is "Cancel" then exit mouseUp
put it into fileName
set cursor to watch
set lockMessages to true
set lockRecent to true
if number of bg fields = 0 then
answer "There are no background fields from which to export data!"
exit to HyperCard
end if
set lockRecent to true
open file fileName

lock screen
repeat the number of cards
set cursor to busy
--
-- Now figure the how many lines we have, and where the lines go.
-- Our rules:
-- If there are 3 lines, then they are Name, street address, citystatezip.
-- If there are more than 3 lines, then
-- the last line is citystatezip,
-- the next to last line is street
-- the third to last line is company
-- and whatever else is filler.
-- In all cases, the first line is Name.

put number of lines in bg field 1 into numFieldLines
repeat with i = 1 to numFieldLines
if line i of bg field 1 is empty
then exit repeat
else put i into lastLine
```

```
end repeat

-- Now we initialize our variables.
-- If we don't do this, then they may carry over their values to the next record.

put empty into theName
put empty into theCompany
put empty into theStreet
put empty into theCityAndState
put empty into theZip

if lastline > 2 -- If there are 3 or more lines of data
then
get line lastline of bg field 1
put last word of it into theZip
delete last word of it
put it into theCityAndState
end if

if lastline > 4 OR lastLine = 2
then put line 1 of bg field 1 & " *See Notes" into theName
else put line 1 of bg field 1 into theName -- Name
if (lastLine - 2) > 1 -- if there's a third to last line, it's company
then put line (lastLine - 2) of bg field 1 into theCompany -- company
if (lastLine - 1) > 1 -- if there's a second to last line, it's street
then put line (lastLine - 1) of bg field 1 into theStreet -- street

-- Here's our parsed information about the card.
put theName & comma & theCompany & comma & theStreet & comma & ┬
theCityAndState & comma & theZip & comma into theText

put line 1 of bg field 2 & comma after theText -- phone numbers
put line 2 of bg field 2 & comma after theText
if line 3 of bg field 2 is not empty
then put line 3 of bg field 2 & comma after theText
else put comma after theText
if line 4 of bg field 2 is not empty
then put line 4 of bg field 2 & comma after theText
else put comma after theText
put bg field 3 after theText -- move the date to the notes field

write theText & return to file fileName
go next card
end repeat
close file fileName
set lockRecent to false
unlock screen
end mouseUp
```

This article is adapted from the Claris Tech Info database.
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HyperCard to 2.1: Extra Characters In "Text Pick-up" (8/93)

In HyperCard versions 1.2.5, 2.0, 2.0v2, 2.1, and later, a feature called "Text Pick-up" allows you to copy field text into the message box by dragging across the text while holding down the Command Key.

The result of this action sometimes produces an extra random character like a, e, m, g, 1, 5, 7, etc. at the end of the string in the Message Box.

This article has been archived and is no longer updated by Apple.
Although the problem is intermittent, dragging across the text quickly seems to produce this extra character more frequently than dragging slowly.

If you are having this problem, try dragging more slowly or dragging from right to left.

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HyperCard: Audio Palette vs. GateKeeper (7/92)

Why does GateKeeper software sound an alert when I try to add a sound to a HyperCard stack?

This article has been archived and is no longer updated by Apple.
In HyperCard, as in other programs, sounds are saved as resources. After you record a sound the Audio Palette allows you to save the sound to a stack, but the sound gets saved as a separate resource. This causes GateKeeper to sound the "Red Alert" message because a resource is being generated.

By design, GateKeeper flags resource changes and creations. It then checks these resources against its own built-in look up table and "flags" whatever virus "match" it finds accordingly.

Note: There is apparently a conflict between GateKeeper Aid version 1.0.1 and the Audio Palette in 2.1. If the INIT is installed and you try to save a sound through the audio palette, the system will crash. Removal of GateKeeper Aid or upgrading it to version 1.1 solves the problem.

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HyperCard: Converting SuperCard Projects to HyperCard (3/93)

Heizer Software has a utility program, called Homeward, for converting SuperCard projects to HyperCard stacks.

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Homeward performs about 70% of the conversion work. Projects with multiple windows are no problem. Each window is translated into a new stack, including the scripts and objects associated with each window. Graphics, including color, are converted, as well as first-pass translation of SuperTalk scripts. Color and irregular-shaped objects are handled with XCMDs.

Some work will be required to refine the newly created HyperCard stacks. To aid in this process, Homeward generates a detailed "Exception List," pin-pointing items that may require further attention. Many vendors offer solutions for recreating SuperCard feature which are not directly supported by Homeward, such as list objects and animations.

Contact Heizer Software for more information. To locate a vendor's address and phone numbers, use the vendor's name as a search string.

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Apple IIc: Lex Modem Cable Pinout

This article gives the cable pinout for the Lex Modem and the Apple IIc.
This article has been archived and is no longer updated by Apple.
APPLE IIC LEX MODEM

1----------6
2----------2
3----------7
4----------3
5----------5
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HyperCard: How It Loads and Calls Externals (8/93)

This article is about how HyperCard loads and calls externals.

This article has been archived and is no longer updated by Apple.

HyperCard 1.x

HyperCard 1.x loaded externals with a GetNamedResource call, then tried to make a copy of the external using NewHandle/BlockMove. If that failed, it used DetachResource to get the external away from the Resource Manager. It then moved the external high (MoveHHi), locked it on the heap (HLock), and jumped to it. The reason for making a copy or using DetachResource was to make sure the external stayed around even if the resource file it came from got closed.

HyperCard 2.x

HyperCard 2.x uses Get1Resource to read the external from a resource file, but it doesn't make a copy or detach the external -- it just moves it high, locks it, and jumps into it.

This method has a potential side-effect. With HyperCard 2.x, if an external somehow closes the resource file it came from while it is running, the block the resource is in will be marked purgeable (by the Resource Manager), and may be purged. Externals are usually pasted into a stack, so if an external does something to close the stack it came from, it could end up purging itself. An external could get purged simply by executing a callback that caused HyperCard to go to another stack.

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HyperCard, Apple Events, and Frontier (8/92)

When using the "send" command to execute Frontier scripts while the scripts are running, status messages are sent to the Frontier status bar using the msg command in Frontier. Is it possible to have the messages sent to the Frontier status bar sent to a HyperCard field (or "status window") instead?

This article has been archived and is no longer updated by Apple.
HyperCard is not multi-threaded. In particular, it can't automatically handle Apple Events while it's waiting for a reply to an Apple Event that it sent itself. While the "send" command awaits a reply from Frontier, all HyperCard can do is to handle update events from the Event Manager, suspend and resume events from the Process Manager, and command-periods from the user.

However, you can use an XCMD to do what you want in one of two ways:

* Send the Apple event to Frontier in queueReply mode and handle the reply that comes back from Frontier as a separate Apple event in an Apple event script (class 'aevt', id 'ansr'). This would mean that HyperCard can respond to events coming from Frontier in the meantime, including events to display the Frontier status messages in HyperCard fields. It would also mean that HyperCard will be able to respond to user events while it awaits the reply from Frontier, so you'll have to do some careful HyperTalk scripting to figure out how to reconcile what the user is doing with what you want to do when the reply from Frontier comes back. The SendAppleEvent XCMD, available online, will send an event in queueReply mode.

* Write an XCMD that sends the Apple event to Frontier and calls GetSpecificHighLevelEvent in the idle proc for AESend, in order to extract 'do script' events for HyperCard to handle while it awaits the reply from Frontier. Writing this XCMD would require pretty good knowledge of the High Level Event Manager, the Apple event Manager, and the 2.0 XCMD callbacks, particularly RunXHandler.

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HyperCard: Differences Between HyperCard and the Player

What is the difference between the Standard HyperCard package, and the HyperCard Player?
This article has been archived and is no longer updated by Apple.

The HyperCard Player is designed to allow the user to view or edit the contents of the stack. Therefore, items that would allow the user to modify the HyperCard environment in any way have been removed or changed. The items removed or changed are listed below:

* The New Stack... menu item
* Many of the printing menu items
* The Icon Editor
* The Objects menu
* The Message box
* Error Strings
* The maximum user level
* The script editor
* The variable and message watchers
* Home stack

New Stack Menu Item

Because of the ability to embed a stack into the HyperCard Player, the creation of a new stack (through the use of the menu item or through the command "create") behaves differently than HyperCard 2.1:

* The New Stack menu item is disabled in the HyperCard Player.
* Re-enabling this menu item will restore its HyperCard 2.1 functionality.
* All of the scriptable HyperCard 2.1 features of this menu item remain fully accessible from scripts.

Note: For additional information on this Embedding" note in the "Some Unique Features" section of the Player Tools stack.

Print Stack, Print Field, and Print Report
---
* These menu items are disabled in the HyperCard Player.
* These menu items can be re-enabled and given new menu messages (re-enabling these items WILL NOT restore the original HyperCard 2.1 functionality).
* All of the scriptable printing features of HyperCard 2.1 remain accessible from scripts.
* The Print Stack, Print Field, and Print Report dialogs and the code to support the dialogs have been removed from the Player.

Icon Editor
---
* The HyperCard Player does not include an Icon Editor.
* The Icon menu item is disabled.
* This menu item can be re-enabled and given a new menu message (re-enabling this item WILL NOT restore the original HyperCard 2.1 functionality).

Objects Menu

Since the HyperCard Player does not provide the user with the tools or facilities to create or modify objects, this menu has been removed.

* As in HyperCard 2.1, user level 3, there is not an Objects menu.
* All of the menu items in this menu CAN be accessed and changed from script.
* The dialogs used by the "info" menu items cannot be accessed, but the attributes contained in those dialogs can be set via script.

Message Box

The functionality of the Message box has been changed to prevent the HyperCard Player user from scripting via the Message box.

* The Message box has been simplified so that only the Find command can be executed.
* All HyperCard 2.1 forms of Find can still be used (e.g., Find whole, Find string, etc.).
* Any other evaluation or command entered and sent through the Message box will cause the HyperCard Player to beep.

Error Messages

Because the HyperCard Player is designed to allow the user to view stacks as easily as possible, the standard method of error notification has been changed. Instead of full error messages (the type that are received in HyperCard 2.1) being sent to the user, a simplified message is sent when using the Player. The error information consists of a reference to an error string list and includes the appropriate string number within that list.

For a complete discussion see the "Info" section of the Player Tools stack for additional information.

User Level

Since the HyperCard Player does not include facilities for authoring stacks, the functionality relating to userLevel has changed.

* From a user's standpoint, it will appear that the user level is set and restricted to user level 3 (with a few menu items disabled).
* From a functional standpoint, scripts have nearly all of the features of HyperCard user level 4 (minus a few menu items).
* The maximum user level that can now be set is user level 4 ("set userLevel to 5" will actually set the user level to 4).
* Once a script terminates, if the tool chosen in script is either the button or field tool, the Player changes the tool back to the Browse tool.

Script Editor

Because the HyperCard Player does not provide any facilities for authoring or scripting, the script editor and all of its related functionality has been removed.

* The Player does not include a script editor.
* All script editor support has been removed (including XCMD callbacks). The ability to add a script editor is not supported.
* All script editor callbacks return an error. The result field will contain an integer result code of 2, because the callback is not implemented.

Note: The "get script" and "set script" commands have all of their HyperCard 2.1 functionality. However, the script indentation code has been removed along with the "editor" code. When you "get" a script, it appears left-justified, WITHOUT indentation.

Variable Watcher and Message Watcher

Because the HyperCard Player does not provide any facilities for authoring, scripting or debugging, the variable watcher, message watcher and all of their related functionality has been removed.

* The Player does not include either watcher.
* All watcher support, including the XCMD callbacks, has been removed. The ability to add a watcher is not supported.
* All watcher callbacks return an error. The result field will contain an integer result code of 2, because the callback is not implemented.

Home Stack

The Home stack that is provided with the HyperCard Player has been simplified to reflect some of the changes made in the Player.

* The size of the Player Home stack is now 25K.
* All "Authoring" utility handlers have been removed (searchscript, c, b, s).
* This Home does not use the FontExists XCMD.
* This Home does not add or maintain any Home menus.
* This Home does not put any stacks "in use".
* The Preferences card has only three user level settings.

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HyperCard 2.x: If Visual Effects Fail (11/92)

This article lists several conditions under which visual effects fail to work in HyperCard 2.x.

This article has been archived and is no longer updated by Apple.
* Lock screen in effect. This the most common cause. If scripts are very complicated and nested, it is not unusual to have at least one too many 'lock screen' calls. If the screen is locked, visual effect commands do nothing.

* Monitor bit depth is greater than 8 (more than 256 colors).

* Going between two stacks with different card sizes (or any two stacks with HyperCard before 2.1).

* A card window that straddles two different displays.

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HyperCard: ClickText and International Systems (8/92)

The clickText function knows only those writing systems that are defined in the currently installed script resources. On a KanjiTalk system, for example, the clickText function knows Japanese; that is, it follows the Japanese script system's definition of a word.

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Use the word "script" in this context means a collection of resources that defines a writing system. These scripts are managed by the Macintosh Script Manager, which is documented in Inside Macintosh Volume V and VI. It is possible to modify existing scripts for use with various languages.

HyperCard is actually pretty good about not making assumptions about writing systems; the handling of text was extensively revised for 2.0 to have additional compatibility with international system software.

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HyperCard 2.x: International Date Formats (8/92)

Does HyperCard 2.1 UK version have the same date format as the U.S. version?

This article has been archived and is no longer updated by Apple.
HyperCard 2.x calls the Script Manager to parse and to format dates properly. Therefore, as long as you make no assumptions about date formats in your scripts, it shouldn't matter whether UK or Thai or Arabic date formats are different.

Here's an example of making bad assumptions about dates: if you want to know the number of the day of the week of a certain date, you could write a script that assumes that the date is in the form

Day_Of_Week, Month Day_of_Month, Year

This script could extract word 1 of this date and translate it into numerical form by using a large If Then Else statement in HyperTalk. If word 1 is "Sunday" then put 1 into dayOfWeek, etc. Works great under restrictive conditions, but not worldwide. Actually, it won't work if the user enters a date in any other format.

The savvy way to do this is to use the HyperTalk "convert" command to parse the date.

```
put field "date" into myLocalVar
convert myLocalVar to dateItems -- will now contain dateItems list
get item 7 of myLocalVar -- number of day of week
```

If you're concerned about displaying dates in the proper format, you can store them in a numeric form in a hidden field -- dateItems format or seconds format will do nicely -- and put them into a visible field and convert them to human-readable form within a script, perhaps on openCard.

```
on openCard
lock screen
put field "Date in Seconds" into field "Display Date"
convert field "Display Date" to long date
unlock screen
pass openCard
end openCard
```

If the user enters a date in a field, you can convert it to numerical form and store it in a hidden field, perhaps on closeField.

```
on closeField
put field "User Date" into field "Date in DateItems"
convert field "Date in DateItems" to dateItems
if the result is not empty then -- invalid date
answer "Invalid date." with "OK"
select text of field "User Date" -- user should try again
end if
end closeField
```

By translating dates back and forth between human-readable forms and numerical forms for storage, you can guarantee that dates will be displayed properly and sensibly throughout the world.

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HyperCard: International Sorting

To specify a sort order in HyperCard, or to treat characters with diacritics differently from those without (in sorting) try:

```
sort [ascending | descending] international by <expr>
```

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An example:

```
sort descending international by field "Hoopla"
```

For programmers only: The sort command follows an order established by the 'itl2" system resource. To customize the sorting order , replace the 'itl2' resource in your system. See Macintosh Technical Note #178, "Modifying the Standard String Comparison".

The following Tech Info Library article can help you find the Tech Note mentioned here:

Article 24493: "**Apple Tech Notes: What They Are, Where To Find Them**"
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HyperCard: Dealing with Memory Problems (11/92)

Frequently, when I attempt to paint on a card, I get the message "not enough memory to use paint tools." Other times, when I use a script that opens another application, nothing happens. What should I do?

This article has been archived and is no longer updated by Apple.
There are several things you can do to free up some memory in order to access the paint tools. Depending on your system configuration, any or all of these tips might help:

1) Turn off memory-hungry INITs and CDEVs. SoundMaster can take up a huge amount of memory if you are using large sound files. ColorDesk is another CDEV that can take up a large amount of RAM. After turning off or moving INITs and CDEVs out of the System folder, restart your computer; you should find that you have more memory now in which to work.

2) If you're using System software version 6, run HyperCard under Finder instead of MultiFinder.

3) Turn off the RAM cache via the Control Panel; HyperCard doesn't use it anyway. At the least, lessen the amount of the RAM cache.

4) Allocate more memory to HyperCard via the Finder: click on the HyperCard application (while it's not running), choose Get Info from the File menu, and increase the amount of the application memory size. The absolute minimum is 1000K; if you're having memory problems, try increasing the amount by 256K increments until you are able to use the paint tools. If your stack has a script that opens a large color PICT file, you may need to increase it up to 2000K. This will allow things within HyperCard to run more smoothly. Remember, if you're running HyperCard with increased memory and you try to open another application under MultiFinder, you may not have enough to open the second program. If you open the second one from the desktop, you'll get a "Not enough memory" message. If you try and open a second one via a script, nothing will happen.

5) Remember to put "" (or empty) into large variables when you're done with them. This is more important for systems with 1MB of RAM. Also bear in mind that you needn't use many variables when one will do: rather than using variables called name, sex, and age, you can put all four into one variable like this:

```
put "Bob Jones" into line 1 of singleVariable
put "Male" into line 2 of singleVariable
put "04/13/63" into line 3 of singleVariable
```

You can then reference an item in the variable by referring to "line 2 of singleVariable".

6) Install more RAM in your system (if you do this, you can probably skip all of the above steps.)

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Apple III: Cable structure to Olympia RO

This article has been archived and is no longer updated by Apple.
APPLE III OLYMPIA RO

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Published Date: Feb 19, 2012

HyperCard 2.x: Controlling Font, Style of Pasted Text (8/92)

In HyperCard 2.x, text pasted into a field will paste in the Font, Size and Style of the field from which it was copied. To get pasted text to take on the attributes of the target field, hold the Shift key down while pasting.

This article has been archived and is no longer updated by Apple.
To see this effect working from a script, create two card fields, then choose a different font and style for each. Then create a button with the following script. Enter text into card field 1, then click the button, with and without the optionKey down. (optionKey down demonstrates the shiftKey effect)

```
on mouseUp
if the optionKey is down then
select text of cd field 1
doMenu "Copy Text"
select before word 1 of cd field 2
type "v" with commandKey,shiftKey
else
select text of cd field 1
doMenu "Copy Text"
select before word 1 of cd field 2
type "v" with commandKey
end if
end mouseUp
```

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HyperCard: Phone Dialer Doesn‘t Dial Modem (7/92)

The Dialer generates tones, but the modem either:
* Doesn't dial.
* Hangs up too quickly.
* Doesn't hang up at all (line is faint, or conversation comes through modem speaker).

This article has been archived and is no longer updated by Apple.

Doesn't Dial

The most common cause is that the modem is waiting for a DTR (Data Terminal Ready) signal from the computer host, which is interrupted when HyperCard closes the serial connection. Modem manufacturers typically do not construct their own chip sets, but use one of about five that are made by OEMs. So various modems will share this problem, by sharing a chip set. We have observed that Zoom SupraModems, Abaton InterFax modems, and Prometheus fax modems all wait for DTR.

The solution to the DTR problem is normally to tell the modem not to bother looking at DTR. The Phone Dialer provided with HyperCard 2.1 has a ready-made option to do that. Simply open the Phone Dialer, click on the modem options button, and select the SupraModem setting. What we call the SupraModem setting will work with most of the modem types described above.

What this does is send a Hayes modem command to the modem with an instruction to ignore DTR. The command is "&D" (without quotes), and is incorporated as part of an ATD dial sequence, in the following form normally: AT&DS0=0DT. For Phone Dialers provided with versions of HyperCard BEFORE 2.1, the dial scripts themselves must modified to add the "&D" command.

Hangs Up Too Fast, or Not Fast Enough

The most common cause is that HyperCard is holding the serial connection open for an improper amount of time -- either too long or too short. This has been a longstanding problem with HyperCard, because it needed to be able to hold the serial connection open long enough to dial lengthy international numbers from the Portable, making it hang on after a regular local call has been dialed.

Finally, HyperCard 2.1 was introduced, and while it is set by default to hold the serial connection for 3 seconds, this amount of time can be modified through the use of the new dialingTime property. So a script can be written using the dialingTime to find a length congenial to the user's particular needs.

We have found that the TelePort modems require some modification of the dialingTime normally.

Different versions of HyperCard attempted different strategies with this -- some tried to send ATH commands (a Hayes modem command to hang up), or set certain registers in the modem to differing values, or change the amount of time they held the serial connection open. HyperCard 2.0v2 held the serial connection for 10 seconds; 2.0v1 held it for 3 seconds; versions of HyperCard before 2.0 held it open for differing amounts of time. None of these schemes was very successful.

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HyperCard 2.0: Phone Dialer Patches (7/92)

HyperCard 2.0 includes the local area code when dialing a number from the Address book. The correction for this lies in modifying the dial handler of the stack script of the Phone Dialer stack.

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The suggested fix is that the user first enter the local area code in the field labeled "Access Number" on the dial options card in the phone dialer. Then make the following change to the dial handler in the stack script of the Phone Dialer. This change parses out the area code, if it is local.

```
on dial theNumber
.
.
.
if international <> empty then
-- XFCN that displays a modal dialog
get PrefixDialog(dialogData(),longDistance,international,outsideLine,theNumber)
if it = "Cancel" then exit dial
put it into theNumber -- the user modified number
else
if char 1 to 3 of theNumber = areaCode
then delete char 1 to 3 of theNumber
else put longDistance before theNumber
-- add the outside line character(s)
.
.
.
end dial
```

The About section of the dial options on the Phone Dialer with 2.0 misleadingly states that there is a place on the card for the local area number. There actually is such a place, but it is misleading because the field is apparently labeled "Access Number", even though it is really named "Local Area Code".

However, putting the local area code in that field still won't solve the problem of HyperCard including the area code when dialing from the Address book. Some change like the one above must be made.

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HyperCard: Flaw in Power Tools Stack

Some versions of the Power Tools stack have a small flaw. This article provides the workaround.
This article has been archived and is no longer updated by Apple.
The problem: the Show Palette button of the Window Manager card of the Power Tools stack appears to be corrupt.

The symptom: the button does not highlight and does not show the Window Manager palette.

The workaround: Copies of the button work fine.

1. Duplicate the button.
2. Delete the original.
3. Replace the original button with the duplicate copy.

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HyperCard 2.x: Tips for Printing Disk Labels (11/92)

The commonly used labels (Avery 4241) are exactly 3" high. To print them out without skipping a label or having the labels "creep", do the following.

This article has been archived and is no longer updated by Apple.
1) In the Page Setup dialog, select International Fanfold paper.
This is 12-inch high paper. Also, make sure "No Breaks Between Pages" is checked.

2) In the Print Stack dialog, set the Top Margin to 0.0 inch, the Bottom Margin to as small as possible (hold down the Option key and try several times. The least you may able to attain is 0.062 inch). Set the Left Margin to as small as possible (0.093 inch) and the right margin to anything. Make sure that "space between cards" is 0.0 inch.

3) In your print script, use the "Print card from x,y to x,y" command, and adjust the top and bottom pixels until you get the correct spacing between adjacent labels. You may have to shorten the print area by 1 pixel less than what the calculated value is for 3 inches: your adjustment may vary. To make sure that only one label is printed "across", make the right-hand 'x' dimension large -- use the full width of the card, and make sure that there is only white space on each card. This works nicely, but it is far from obvious how to do it when you start working.

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HyperCard: Opening QuickTime Compressed PICTs (7/92)

The HyperCard Picture XCMD can open up compressed PICTs created with QuickTime. This is done by making a toolbox call (DrawPicture). QuickTime intercepts the call and does any decompression necessary.

This article has been archived and is no longer updated by Apple.
Here are some factors that seem to affect the speed of the Picture XCMD:

* The amount of RAM allocated to HyperCard -- more memory may help.

* The size of the picture file.

* The type of compression used -- JPEG compression may be a lot slower than Video compression. Note also that JPEG gives you a smaller file but may take longer to decompress.

* The parameters you pass to the Picture XCMD -- Files may display quicker if no parameter for bit-depth (fifth param) is passed. Pass a fifth parameter only if memory conservation is important. If you try to display a file at a lower bit depth, it takes time to convert. If you pass 0 for the bit-depth parameter, then the XCMD does not set up an offscreen buffer. Hence, the window will seem to appear immediately, but the picture may take some time to get drawn into the window (it is drawn as it is decompressed). This method will give you slower updates.

This article is adapted from the Claris Tech Info database.

Support Information Services
Published Date: Feb 19, 2012

Apple III: Cable structure to Panasonic Serial Interface

This article has been archived and is no longer updated by Apple.
APPLE III PANASONIC SERIAL INTERFACE

2----------3
6----------20
7----------7
Published Date: Feb 19, 2012

HyperCard: Sending Strings Using Apple Events (8/92)

I want to update an index over a network using identical HyperCard stacks.
I use this handler:

```
on incoming data
if data is not empty then put data into cd fld "index" of cd "end incoming
```

I send the contents of a large card to incoming by the following:

```
send quote& cd fld "index" of cd "where remote HC is the network address of the destination stack.
```

The script works fine in simple cases of "data". However, when sending the cd fld "index", I get an error that "Incoming could not understand QT", where QT is the first word of the second line of cd fld "index". The quotes on either end of the cd fld contents is not sufficient to distinguish the fld as a single entity; that is, everywhere I have a carriage return, the incoming handler thinks it's a separate argument and gets confused.

Sending each line of the cd fld "index" separately to avoid confusing the incoming handler works. Is there any way to send the contents of a field that has carriage returns as a single argument to a handler?

This article has been archived and is no longer updated by Apple.
The problem is really not related to Apple events. As an example, take the same script and field and try sending them to another stack without using Apple events (send "blah blah blah" to stack "blah"). You will find that returns can not be part of a string parameter when sent to another stack. Therefore the problem is caused by this constraint and not by an Apple event constraint.

Here are two recommendations for avoiding the problem.

First, create an "on AppleEvent" handler at the stack level of the receiving stack. With this created you simply send the whole field to your receiving stack.

```
on mouseUp
send cd fld "data" to program otherApp
end mouseUp
```

When the "AppleEvent" handler is activated in your receiving stack, you simply extract the contents of the sent field from the "data" parameter and put it into your location field.

```
on AppleEvent
request AppleEvent data
put it into cd fld "myField"
end AppleEvent
```

The only problem with this solution is that all Apple events will be trapped by this handler. If you are only planning on sending one Apple event or you are willing to parse out all potential Apple events in this handler, this solution is OK. If not you might want to try the next solution.

Using the same "incoming" handler you presently have, change the nature of the "data" parameter to represent the id (or number or name) of the field in the sending stack which holds the data. Then, in the "incoming" handler request the contents of this field from the sending stack. For example:

```
on incoming data
request data from program sendingProgram
```

```
end incoming
```

The script you would use in the sending stack would look something like this:

```
on mouseUp
answer program ""
put it into otherApp
send (incoming & quote & "cd fld id 1" & quote) to program otherApp┬
without reply
end mouseUp
```

This article is adapted from the Claris Tech Info database.

Support Information Services
Published Date: Feb 19, 2012

HyperCard: Network Communication (8/93)

How I can link one HyperCard stack on one Macintosh with another HyperCard stack on another Macintosh?

This article has been archived and is no longer updated by Apple.
There are several approaches to communicating between stacks on different Macintoshes or creating a multi-user stack which uses a client/server model.

* APDA (Apple Developer's Association) sells an AppleTalk Toolkit which includes XCMDs, XFCNs, and source code to enable stacks to interact via AppleTalk.

* epsiTalk 2.0 is a set of XCMDs which provide multi-user features. It enables you to make a stack multi-user and also includes an E-Mail system, real-time conferencing, and a mechanism to transfer files between Macintoshes.

* HyperCard can send and receive do script Apple Events. By sending an Apple Event to another Macintosh running HyperCard, it's possible to use Apple Events to pass data and commands between Macintosh computers. Refer to the Apple Event Primer Stack for more information.

This article is adapted from the Claris Tech Info database.

Support Information Services
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HyperCard: Converting 2.x Stacks Back to 1.2.5 (11/92)

It is not possible to convert a HyperCard 2.x stack to 1.x format using HyperCard alone. It is always a good idea to convert a copy of a 1.2.5 stack rather than the original. However, a utility named UnConvert from Heizer Software can perform this task.

This article has been archived and is no longer updated by Apple.
UnConvert converts stacks from 2.x format back to 1.2.5. Of course, if a script uses any of the new 2.x features, those features will not be supported. If [the card size of] a 2.x stack is larger than [that of] a 1.2.5 stack, objects that would be off the card are moved onto the card, and any graphics will be clipped.

To locate a vendor's address and phone numbers, use the vendor's name as a search string.

This article is adapted from the Claris Tech Info database.

Support Information Services
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HyperCard: Waiting for a QuickTime Movie to Finish (3/93)

The ability to play QuickTime movies in HyperCard is made possible using HyperCard's XCMD interface. XCMDs are basically little programs that can be executed using the HyperTalk language. Because they are separate programs, however, they can execute concurrently with other HyperCard scripts. A good example of this is the Movie XCMD provided in the QuickTime Tools stack. All commands in a handler following a Play command will execute while the movie is playing.

But what if I want to wait for the movie to finish before executing the rest of my handler?

This article has been archived and is no longer updated by Apple.
The Movie XCMD allows you to set a callBackMsg property which will be automatically sent when the movie completes. You can use this command to execute another handler when the movie completes.

Button script example:

```
on mouseUp
global TheMovieName
put "Claris Logo Movie" into TheMovieName
put the number of me into myButton
Movie TheMovieName,"Windoid","Card","Visible","Floating"
set the callBackMsg of window theMovieName to ┬
"send movieFinished to cd btn" && myButton
send "Play" to window TheMovieName
end mouseUp

on movieFinished
global TheMovieName
answer "The movie is done!"
close window TheMovieName
end movieFinished
```

This article is adapted from the Claris Tech Info database.

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EtherTalk: Some New Third-party EtherTalk Products for 1988

This article has been archived and is no longer updated by Apple.

The Release 3.0 of the Kinetics FastPath Manager implements EtherTalk/AppleTalk protocols with FastPath. This implementation includes a new load file, named 'etalkgw.srec' which includes EtherTalk support and the combined gateway code. This upgrade includes 3.0 PROMs for the FastPath with enhanced reliability and performance. The upgrade also includes a new network diagnostic/traffic application called 'LANRanger.' EtherTalk/AppleTalk protocol support is also available for the Etherport SC and SE products in a software upgrade for both the SC and SE manager (Release 2.0.). The new software is included with all new Kinetics products.

Alisa System's version of AppleTalk for VMS (Release 1.6) operates with the EtherTalk card for directly connected Macintosh IIs on Ethernet. Release 1.6 also operates with the new Kinetics software managers. A new version of the AlisaTalk file server (Release 3) supports 'remote terminal' function.

In addition, 3Com is said to be working on a new Mac 3+ driver for the EtherTalk card which allows direct connectivity for the Macintosh II under Macintosh OS and the 3Com 3Server using 3Com's implementation of the XNS protocol on Ethernet. This software will be unbundled, allowing a purchaser of an Apple EtherTalk card to buy the software separately.

Published Date: Feb 19, 2012

Newton Connection Kit for Windows: VCD.386 Error

I recently installed the Newton Connection Kit for Windows on my Windows-compatible computer. When Windows launches on my computer, I get the following error message:

"Can not find the device file that may be needed to run Windows in 386 Enhanced mode. You need to run setup program again to install VCD.386. Press any key to continue"

Also, the Newton Connection Kit doesn't work with my Newton and my computer's fax modem doesn't work. How can I make my system work properly?
This article has been archived and is no longer updated by Apple.
This problem occurs with version 1.0 of the Newton Connection Kit for Windows.
Version 1.0a of the Newton Connection Kit for Windows will solve this problem. You can also use a workaround with Version 1.0 to cure this problem.

Problem

When you install Newton Connection Kit for Windows v 1.0, the installer looks for a statement in the SYSTEM.INI file referencing the file VCD.386. In standard Windows installations, this statement is in the 386ENH section of the
SYSTEM.INI file and is written as:

device=*vcd

This statement tells Windows to look for a file called VCD.386 in the Windows system directory.

If this statement is missing from the SYSTEM.INI file, the Newton Connection Kit installer will add the following statement to the file:

device=vcd.386

Certain communications software and particular machines (usually laptops with PCMCIA slots) modify the SYSTEM.INI file and place a modified version of the file VCD.386 in the Windows system directory. Often, this modified version is NOT named VCD.386. This will cause the problems mentioned above.

Solution

You can use Version 1.0a of the Newton Connection Kit for Windows. It does not make the changes mentioned above and assumes that a VCD.386 file or equivalent is being loaded.

You can also use a workaround with Version 1.0. It restores the old SYSTEM.INI file and adds a line referencing the file TSIVID.386.

To do this, follow these steps:

1) Quit Windows.

2) Copy the file SYSTEM.INI from the directory where the Newton Connection for Windows was installed to your Windows directory. The default path is C:\\NEWTON. The installer placed the old SYSTEM.INI file in this directory.

3) Launch Windows

4) Go to the Program Manager, select RUN from the FILE menu, and enter SYSEDIT.EXE. Click on OK.

5) Select SYSTEM.INI from the WINDOW menu.

6) Scroll down through the file until you see a line that says [386Enh].

7) Continue scrolling down through the file until you see a line that says [Standard].

8) Insert a new line above the line that says [Standard] and enter the following text on the new line in all caps:

DEVICE=path\\TSIVID.386

where "path" is the DOS directory pointing to the installed Newton files.

For example, if the files where installed in the directory C:\\NEWTON, this statement would be:

DEVICE=C:\\NEWTON\\TSIVID.386

9) Relaunch Windows.

Your Newton Connection Kit and fax/communications software should now work.

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Power Macintosh Series: Standard versus AV Models

This article provides a short summary of the key differences between standard Power Macintosh models and Power Macintosh AV models.
This article has been archived and is no longer updated by Apple.
The primary difference is an additional expansion card, the Apple AV Technologies Card, which plugs into the 601 PDS (Processor Direct Slot)
The Apple AV Technologies Card adds the following functionality to a standard Power Macintosh model, making it a Power Macintosh AV model:

Interfaces

* One video output port (S-Video) for output to video devices or a television (composite input and output adapter cables provided.)
* One video input port (composite and S-Video) for video devices.

Video RAM (VRAM)

* 2 MB of VRAM is included with Power Macintosh AV models and cannot be upgraded.

For further information on individual Power Macintosh AV model specifications, use the product name as a search string.
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HyperCard 2.1: 16K Limits on Read Command (11/92)

The documentation for HyperCard 2.1 (both paper and stack) state that the 16K (16384 characters) limit has been dropped for the 'read' command. This turns out to be only partly true. (Note: This limit is mentioned in the Script Language Guide for HyperCard 2.0.)

This article has been archived and is no longer updated by Apple.
The form

read from file <fileName> for <N>

will read > 16K if N is greater than 16384 and the file is more than 16K in size. (It will read the minimum of the file size and N chars, provided there is memory to do so.)

The form

read from file <fileName> until { end | eof }

will read until the end of the file -- which can be > 16K characters (provided there is memory).

The form

read from file <fileName> until <char>

will still only read a maximum of 16K characters from a file.

This article is adapted from the Claris Tech Info database.

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Font/DA Mover: Pre-3.6 Versions Are Not MultiFinder Compatible

This article has been archived and is no longer updated by Apple.

TOPIC ----------

My copy of Font/DA Mover 3.6 works fine when I run it under the Finder, but I have problems when MultiFinder is on.

DISCUSSION ----------

Font/DA Mover 3.6 (included with System Tools 5.0) is compatible with MultiFinder. However, the MultiFinder "User's Guide" recommends turning MultiFinder off when your application or desk accessory isn't behaving properly under Font/DA Mover versions earlier than 3.6. The manual specifically recommends turning MultiFinder off when you install or remove fonts or desk accessories. Note that the warning applies only to versions of Font/DA Mover earlier than 3.6.

We recommend you upgrade to a 6.0.x release of Macintosh system software that is compatible with your computer. This would include the current version of the Font/DA Mover. If you want to upgrade to System 7, you won't need Font/DA Mover at all.

See the Tech Info Library for additional guidelines on using MultiFinder and FontDA Mover.

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HyperCard 2.1: Color Options (6/93)

HyperCard versions prior to and including 2.1 do not support color directly in card or background graphics. However, there are several options available to allow the use of color in HyperCard stacks. Note: Except for the first of these, they are not supported by Apple.

This article does not apply to HyperCard versions after 2.1.

This article has been archived and is no longer updated by Apple.
* Picture XCMD displays color or gray-scale pictures in several types of standard Macintosh windows. This XCMD comes free with HyperCard, and is documented in the Power Tools stack, which is included with both the HyperCard upgrade and the Development Kit.

* Colorizing HyperCard, from BungDabba Productions, is a set of XCMDs to color HyperCard. These XCMDs require at least 2MB RAM dedicated to HyperCard (4MB or more is preferable). This public domain unsupported product is available from most on-line systems.

* QuickColor is another product from BungDabba and is a "graphical" front-end for the ColorizeHC XCMD. It allows you to color your HyperCard stacks with pictures, colors, or both, with no programming or scripting.

* HyperTint: A demo of this commercial package for adding color to HyperCard is available on most on-line systems.

* Pictoid Package 1.0.2 is a package of XCMDs to display monochrome, color, and QuickTime movies in "pictoids". A "pictoid" is an any-shape windoid (it can contain holes and non-contiguous areas) which displays a picture. Pictoids can have scripts and behave like buttons.

This article is adapted from the Claris Tech Info database.

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HyperCard 2.1: Fix for Address Stack Import Problem (8/92)

If the ZIP Code in an old HyperCard 1.x.x Address stack contains arithmetic characters (+ - /) or letters (such as in Canadian postal codes), you may encounter an "Expected Number" error when attempting to import the data into the 2.1 Addresses stack. The script for this stack was changed from the 2.0 version to solve a similar problem but, this particular problem still exists.

This article has been archived and is no longer updated by Apple.
To correct the problem in the 2.1 version of the Addresses stack, follow the procedure outlined below. This procedure does not work in the 2.0 version of this stack.

1) Open the Addresses stack with the UserLevel set to 5.

2) Choose Bkgnd Info from the Objects menu.

3) The name of the background should be Body. Click on the Script button.

4) Choose Find from the Script menu and type the word "lastWord". Click Find.

5) You should be brought to the section of code listed below. The second line here contains an error.

```
if lastWord ¡ empty then
if offset(lastWord, "/-+") = 0 then
if value(lastWord) is a number then
put lastWord into theZip
delete last word of lastLine
end if
end if
end if
```

6) "Comment out" the second line by inserting two hyphens (--) in front of it and add a new line directly underneath this line, as follows:

```
if lastWord ¡ empty then
--if offset(lastWord, "/-+") = 0 then
if offset("-", lastWord) = 0 and offset("/", lastWord) = 0 and┬
offset("+", lastWord) = 0 then
if value(lastWord) is a number then
put lastWord into theZip
delete last word of lastLine
end if
end if
end if
```

This article is adapted from the Claris Tech Info database.

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HyperCard 2.1: String Too Long Error (10/92)

The "String Too Long" message may appear in the Apple Event Primer Stack that shipped with HyperCard 2.1. This article tells how to resolve the problem.

This article has been archived and is no longer updated by Apple.

1) Be sure you're running HyperCard 2.1 at UserLevel 5 and System 7.0 or greater.

2) Open stack Apple Event Primer.

3) When the "String too long" error appears, click the Script button.

4) The insertion point will be in front of the word "answer" of the errMessage handler (shown below).

```
on errMessage theOffender
if theOffender is not empty then answer┬
"This stack uses features available only in HyperCard" && ┬
"2.1 or greater running with System Software version 7 or" && ┬
"greater. To take advantage of these features, you will need to" &&┬
"upgrade your" && theOffender & ". For now, you will only be" &&┬
"able read about these features." --ã
exit to HyperCard
end if
end errMessage
```

5) Shorten the handler by deleting the characters

& ". For now, you will only be" && "able read about these features." --ã

from the sixth and seventh lines of the handler.

6) Close the script editor and save your changes.

This article is adapted from the Claris Tech Info database.

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HyperCard 2.1: "Send Message" Error (10/92)

The "Send Message..." error message may appear in the Apple Event Primer Stack that ships with HyperCard 2.1.

This article has been archived and is no longer updated by Apple.
To resolve the problem:

1) Be sure you're at userLevel 5, is running HyperCard 2.1, and System 7.0 or later.

2) Open stack Apple Event Primer.

3) Go to card "Conversing" by clicking the "Chat" button on the first card.

4) Edit the script of card button "Send Message..." by clicking the "Send Message..." card button while holding the Option and Command keys down.

5) Locate line 20 (empty lines count, too) of the mouseUp handler (bold down below but not in the stack).

6) Replace "Apple event Primer" in line 20 with "Gossip", so that the line now reads "send "Gossip" && quote & theNews &┬".

This article is adapted from the Claris Tech Info database.

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HyperCard 2.0v2: Problem with Appointments Stack (7/92)

In HyperCard 2.0v2, if you are in the appointments stack and are on January 31, clicking the button "Month" brings you to March 3rd, when most people would expect it to go to February 28th.

This article has been archived and is no longer updated by Apple.
The Appointments stack makes the assumption that the number of days in a month will always be 30 or 31. Therefore, if the month of January has 31 days, and the month of February has 28 days, and the current day is January 31, then the length of the next month is less than the number of the current day (28<31). Because of this, HyperCard 2.0 seems to overshoot the last day of the next month by the difference of the two numbers (31-28=3). Therefore, when you click the month button, instead of going from the last day of January to the last day of February, you end up at March 3.

This was corrected in HyperCard version 2.1.

This article is adapted from the Claris Tech Info database.

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HyperCard 2.0: Problem with Appointments Stack (7/92)

This article describes a problem with the Appointments stack that was shipped with HyperCard 2.0. It is fixed in HyperCard 2.1.

This article has been archived and is no longer updated by Apple.
If you try to return to a day that has been previously deleted, and allow the stack to try to create the cards to get to that day, then the stack will go into a loop, and create new cards for as long as you have hard disk space. Moreover, since the cantAbort property is set by the script to true, Command-period does not interrupt it.

Note that some customers received version 2.1 of the application but have the 2.0 version of the stack. Check the stack script to find the version of the stack.

This article is adapted from the Claris Tech Info database.

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HyperCard: Books on HyperCard and XCMDs (8/93)

This article list some books on HyperCard XCMD development.

This article has been archived and is no longer updated by Apple.
The following books were published before the release of HyperCard version 2.0v2 :
* XCMDs For HyperCard by Gary Bond. Published by MIS Press.
* HyperCard Developers Guide by Danny Goodman. Published by Bantam Books.

Since XCMD development can also include the use of the Mac Toolbox, you may also want to consult:
* Inside Macintosh Volume I-V. Published by Addison-Wesley
* Macintosh Revealed Volume 1-4 by Stephen Chernicoff.
Published by Hayden Books.

* The Complete HyperCard 2.0 Handbook, by Danny Goodman. Published by Bantam Computer Books. 1990.

* HyperTalk 2.2 The Book 2nd Edition, by Dan Winkler, Scot Kamins and Jeanne Devoto. Published by Random House, 1994.

* The Complete Book of HyperTalk 2, by Dan Shafer. Published by Addison Wesley. It highlights only the features of version 2.0, with some reference to earlier versions where necessary.

* "Windoid", newsletter from AHUG, published by AHUG (Apple HyperCard Users Group).

* "HyperPub", a new quarterly journal of hypermedia written by Michael Swaine, published by The Prose Lab, 31 Patrick Road, Santa Cruz, CA 95060; (408) 459-8564.

* "Inside HyperCard", a new monthly journal for HyperCard developers published by The Cobb Group, P.O. Box 36160, Louisville, KY 40232-9719

* The Complete HyperTalk 2.0, by Dan Winkler and Scott Kamins. Published by Bantam Computer Books. 1990.

* Cooking With HyperTalk 2.0, by Dan Winkler and Scott Knaster. Published by Bantam Computer Books. 1990.

* HyperTalk 2.0 New Features, by Ted Jones. Published by BMUG Press, 1442A Walnut Street, #62, Berkeley, CA 97409-1496. 1991.

HyperCard Stack Design Guidelines, by Apple Computer, Inc. Published by Addison-Wesley. 1989.

This article is adapted from the Claris Tech Info database.

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HyperCard 2.1: Cowhide Effect & Power Tools Stack (8/94)

If version 2.1 of the Power Tools stack is in use, then the Cowhide effect in the Background Art stack does not work.

This article has been archived and is no longer updated by Apple.
The problem appears to be in the "Lighten" paint effect -- when you call it by script or choose it from the Paint menu (the power key seems to be unaffected...) -- in combination with the "doMenu" handler in the Power Tools stack.

This problem also effects several of the demo scripts in the HyperTalk Reference Stack (those that call doMenu "Revert"). Most of these demos involve painting tools/ paint properties and failure to revert leaves paint on the card.

The following will fail with the Power Tools stack in use: Create a card that's filled with black paint -- and execute the following from a handler

```
choose select tool
doMenu "Select All" -- or make any non-empty selection
doMenu "Lighten" -- this works!
doMenu "Lighten" -- nothing happens
```

Any other affected commands will fail if added to the end of this script.
The selection seems to be getting lost after the first command.

Workarounds for other scripters (none is very effective):
* Make sure Power Tools is not in use.
* Re-select an area before calling subsequent commands in the Paint menu.

This article is adapted from the Claris Tech Info database.

23 Aug 1994 - Review for accuracy.

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HyperCard 2.0, 2.1: Create Report with Breaks (11/92)

HyperCard 2.0 and 2.1 can't print dynamically sized records that do not break across columns or pages when printing reports. HyperCard 1.2.x can.

This article has been archived and is no longer updated by Apple.

A Workaround

There is a workaround involving a series of scripts (below) that will solve this problem. To use the script, you need to

1) From the File menu, choose "Print Report...".

2) From the Edit menu, choose "New Report".

3) Set the top and bottom margins of the report to one-half inch.

4) Set the space between records to 0 inches.

5) From the Edit menu, choose "Report Items...".

6) From the Items menu, choose "New Item"..

7) Resize this item to the full height of the record by clicking and dragging in its corner.

8) From the Items menu, choose "Item Info...".

9) In the Item box, type "specialReport()"

10) Click OK as many times as you need to to exit and save your changes.

11) Enter the handlers (below) into the stack or background script.

How It Works

These scripts work by making the assumption that the default 12-point line height has been specified for the items in the report -- if this is not true, the script will need to be adjusted accordingly. A doMenu handler is required as well, so if you already have one, you can simply add the lines from the one below that are different from the one you already have to your current doMenu handler.

Finally, the report itself must have half-inch top and bottom margins, and no space between the labels, and must have fields corresponding to those in the Address stack shipped with HyperCard 2.1. Where differences occur, the script will have to be modified.

The Handlers

```
on doMenu item
global lineCount -- For our special report
if item = "Print Report..." then put empty into lineCount
pass doMenu
end doMenu

function writeBLine number
if number is empty then put 1 into number
repeat number
put return & "╩" after theLine -- option-space here
end repeat
return theLine
end writeBLine
```

```
function specialReport
-- Assumptions:
-- a 12 point line height.
-- a half-inch top and bottom margin.
-- an 11-inch high page.
-- Other handlers needed:
-- on domenu (to reinitialize lineCount each time it's called)
-- function writeBLine (to write a line with only an option-space in it
-- because HyperCard's report generator removes trailing returns.
--
global lineCount
put 12 into lineHeight
--
if lineCount > 63 or lineCount is empty then put 0 into lineCount
--
if bg fld "Company" is empty
then
put bg fld "Name" & return & bg fld "Street" & ┬
return & bg fld "City" &", "& bg fld "State" && bg fld "Zip" ┬
& writeBLine(1) into adjustedAddress
else
put bg fld "Name" & return & bg fld "Company" & ┬
return & bg fld "Street" & return & bg fld "City" & ┬
", " & bg fld "State" && bg fld "Zip" & writeBLine(1) into adjustedAddress
end if
--
put (number of lines of adjustedAddress) into labelHeight
put round((36 / lineHeight) + linecount) into usedLines
put round(792 / lineHeight) into availableLines
put availableLines - usedLines into freeLines
--
if freeLines < (labelHeight)
then
repeat ((labelHeight - freeLines) - 1)
put writeBLine(1) before adjustedAddress
end repeat
end if
--
if (number of this cd) = (number of cds of this bg)
then put empty into lineCount
else add labelheight to lineCount
--
return adjustedAddress
end specialReport
```

This article is adapted from the Claris Tech Info database.

Support Information Services
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HyperCard: Fax STF & Dial Command Problems (4/93)

I am using Fax STF 2.x software, which holds the serial port open until another application tries to open it, at which point it releases the port. When it see that the port is available again it will take control again. This works fine with several different terminal programs, but when I use the "dial" command and try to fax something at a later point the fax software complains that the port is in use by another application. Does HyperCard close the serial port after it uses it? Is there a way to get it to release the port?

This article has been archived and is no longer updated by Apple.
Using the dial command causes the Fax STF 2.x software to think that the serial port is in use. The Macintosh must be restarted before the Fax STF software will be able to fax. The problem is caused by a problem in the FaxSTF 2.x software and is fixed in FaxSTF version 3.0, which was released in December 1993.

This article is adapted from the Claris Tech Info database.

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HyperCard: Fixing New Card Problem in Graph Maker Stack (7/92)

If I make a new card in the Graph Maker stack, it becomes non-functional, with a string of "Can't understand" messages and so forth. What could be the cause?

This article has been archived and is no longer updated by Apple.
The reason is that the background is trapping the openCard message, and a handler is sending a message to the CARD script, which is not there for new cards.

The easy workaround is simply to disable the New Card command for this stack, since there should be no reason to make new cards in this stack.

This article is adapted from the Claris Tech Info database.

Support Information Services
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HyperCard 2.0v2 Graph Maker: Fix for Business Chart Error (7/92)

In HyperCard 2.0v2, the Fever charting section of the Graph Maker stack contains an oversight. A chart that contains values greater than 1, and contains no value greater than 2, goes careening wildly off the chart.

This article has been archived and is no longer updated by Apple.
The fix is simple: in the background script there is a function called getMaxValue. Change it to add 1 to the value returned as the highest value being charted.

```
function getMaxValue dataList
-- returns the number with the highest value
sort dataList descending numeric
return line 1 of dataList + 1
end getMaxValue
```

This has been fixed in HyperCard 2.1

This article is adapted from the Claris Tech Info database.

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HyperCard Pre 2.0v2: Problem with HP DeskWriter (7/92)

This article describes a problem printing from early versions of HyperCard to a DeskWriter printer.

This article has been archived and is no longer updated by Apple.
When printing to the Hewlett-Packard DeskWriter, you only get the first page of a short print job and page one and some other arbitrary pages of a long print job. The rest of the pages are blank.

This has been fixed in HyperCard 2.0v2 and later.

This article is adapted from the Claris Tech Info database.

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Apple III UPIC: Cable structure to IDS Series printers

This article has been archived and is no longer updated by Apple.

APPLE III UPIC IDS SERIES PRINTERS (PARALLEL DB-25)

1, 20----------7
2----------22
8----------3
9----------24
10----------14
11----------13
12----------12
13----------11
14----------10
15----------9
16----------15

Published Date: Feb 19, 2012

HyperCard: Importing Addresses Using "Import Text..." (7/92)

The Address Stack's Import script, designed to allow easy import of one address stack into another, fails when the last word of the address stack is text containing a mathematical operator (+,-,/,*).

This article has been archived and is no longer updated by Apple.
The import option ("Import Text..." under the "Utilities" menu of the Address Stack) was initially designed to handle addresses in the following format:

Name
Company
Street
City, State Zip

In order to handle international addresses ending in country names, or any other non-standard address ending in text, a line of script was inserted to evaluate whether the last word in the field was text or a number:

If Value(lastword) is a number then

This function works if the last word of the address field is all text, all number, or a valid mathematical expression, such as a ZIP-plus-four (96453-2345 for example). However, when a non-standard entry such as "USA+CANADA" is the last word in the field, the HyperCard VALUE function fails because it tries to evaluate the expression mathematically.

To fix the problem, run the import script. If HyperCard is set to userlevel 5, a dialog box with the choice of DEBUG, SCRIPT or CANCEL will appear if the script fails. Choose SCRIPT.

To fix the script for operation under HyperCard 2.1 replace the following
line:

if offset(lastWord, "/-+") = 0 then

with the line:

if offset("/",lastWord) = 0 and offset("+",lastWord) = 0 and
offset("*",lastWord) = 0 then

This fix should allow the import script to proceed to completion, though it will not place ZIP codes containing the +4 numbers into the ZIP code field.

The following line is intended to evaluate whether the last word of the address field is or is not a number :

if value(lastword) is not a number then

This article is adapted from the Claris Tech Info database.

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HyperCard:Importing Addresses 2.0 to Addresses 2.1 (7/92)

The HyperCard 2.1 Address stack can't import data from the 2.0 Address stack.

This article has been archived and is no longer updated by Apple.
The reason is that the returns in the 2.0 Notes field are never parsed out and replaced with the "..." (ellipses, made with Option-semicolon keys) that the import script is looking for.

So in the ImportTextFromNewStack handler, in the background of the 2.1 Addresses stack, one line should be added:

```
put bg fld "Notes" into theNotes -- notes field
put SubstituteChar(return,"╔", theNotes) into theNotes -- this is the new line
write theName & tab & theCompany & tab & theStreet & tab &...
```

This will solve the problem.

This article is adapted from the Claris Tech Info database.

Support Information Services
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HyperCard: Vendors of MIDI Products (7/92)

As MIDI integration with the Macintosh becomes more and more common, the ability to use MIDI with HyperCard becomes more important. He is a list of vendors of HyperCard MIDI products.

This article has been archived and is no longer updated by Apple.
Earlevel Engineering

Opcode Systems Inc.

Passport Designs

digidesign

To locate a vendor's address and phone numbers, use the vendor's name as a search string.

This article is adapted from the Claris Tech Info database.

Support Information Services
Published Date: Feb 19, 2012

HyperCard 1.2.5: Error Converting Month Calendar

Converting the Month Calendar from the HyperCard 1.2.5 Idea Stack to HyperCard 2.x results in a script error when the Extend button is clicked.

This article has been archived and is no longer updated by Apple.
The error, "Invalid Date" (or the error "Destination does not contain a number") occurs because the old script creates a long date in which the day name does not match the day number. Such as:

Sunday, September 12, 1992
(The correct day name for this date is Saturday)

While HyperCard 1.x could correctly convert such a mismatched long date to another date format (it ignores the day name), HyperCard 2.x will see the date as invalid, and exit the script with an error.

To correct the issue:

1) Go to the background script of the calendar stack, and find the function startOfMonth.

2) Find the first line reading "Convert it to long date", and change the words "long date" to "dateItems". (Note: dateitems is one word.)

3) Change the next line
put 1 into word 2 of item 2 of it
to
put 1 into item 3 of it

Note: The dateItems format shows the date "Saturday, September 12, 1992" as "1992,9,12,0,0,0,7"
(The parameters are "year,month,day,hours,minutes,seconds,day of week")

This article is adapted from the Claris Tech Info database.
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HyperCard 2.x and "More Disk Space" INIT (8/92)

There appears to be a problem with HyperCard 2.x and Altsys Corp's "More Disk Space" INIT. This INIT performs resource compression using Apple's built-in resource compressor.

If HyperCard has at any time been compressed by this utility, it will not allow you to display large cards, regardless of the amount of memory allocated to the application. The cards will always appear smaller with the scroll window displayed.

This article has been archived and is no longer updated by Apple.
The fix is to re-install HyperCard from the original disks. Decompressing the application does not correct the problem.

This article is adapted from the Claris Tech Info database.

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HyperCard 2.0: MultiFinder and Hidden Windows (7/92)

HyperCard 1.2.x was set up to automatically hide the current stack when you switched out of HyperCard to another application (or the Finder) using MultiFinder. HyperCard 2.0 no longer does this. This can be distressing, especially to those with small screens and full-size stacks. The difficulty can be worse if there are multiple stacks open at once (multiple windows). Also, although some windows ARE automatically hidden by HyperCard 2.0, the Variable Watcher and Message Watcher are not (there may be others ╔)

The following bit of HyperTalk remedies this situation.

This article has been archived and is no longer updated by Apple.
When placed in the Home Stack Script (it needs to always be in the inheritance path) somewhere in an "on idle" handler, it will automatically detect the fact that HyperCard is not the current application and hide all the visible windows. When you return to HyperCard, all the windows will reappear.

Be sure to add the container (variable) named resumeStackList to the global list at the beginning of the "on idle" handler.

```
on idle
global resumeStackList

.
.
.

if the suspended then
if resumeStackList is empty then
put the windows into rSL
repeat with z=1 to the number of lines in rSL
if the visible of window (line z of rSL) then
put line z of rSL & return after resumeStackList
hide window (line z of rSL)
end if
end repeat
end if
else
if resumeStackList is not empty then
repeat with z=1 to the number of lines in resumeStackList
show window (line z of resumeStackList)
end repeat
put empty into resumeStackList
end if
end if
pass idle
end idle
```

This article is adapted from the Claris Tech Info database.

Support Information Services
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HyperCard 2.0, MultiFinder, and Open With (7/92)

If you try to open a document with an application from within HyperCard 2.0 or 2.0v2 and you are using MultiFinder, it will only work correctly if the application you are trying to use to open the document has not yet been opened (that is, it doesn't appear in the Application menu).

This article has been archived and is no longer updated by Apple.
If the application has already been opened, your Macintosh will switch to that application, but it will not open the specified file. For example:

open "Hard Disk:Text:test file" with "MacWrite II 1.1v1"

This will work correctly only if MacWrite is not currently open.

This article is adapted from the Claris Tech Info database.

Support Information Services
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Apple III: Cable structure to Daisywriter

This article has been archived and is no longer updated by Apple.
APPLE III DAISYWRITER (50 PIN CONNECTOR) SERIAL

7----------6
2----------3
6----------49

Daisywriter Dip switch settings:

Top: all off except #1
Center: all off except 8. (Switch 6 must be on for Qume emulation.)
Bottom: all off except 2,8.
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HyperCard 2.0v2: "Never heard of..." Error (7/92)

Whenever I open HyperCard 2.0v2, I get the message "Never heard of bkgnd field 'Paths.'" I can re-install HyperCard to get rid of this message, but it eventually crops up again with some use.

This article has been archived and is no longer updated by Apple.
HyperCard 2.0v2 stores the pathnames of your frequently used stacks, documents, and applications in a series of cards in the Home stack. When HyperCard starts up, it looks at these cards first, referencing them by name. Essentially, it says, "Give me the information from the Path field on the Applications card." HyperCard also lets you set up a series of "Custom" Home cards with any name you specify.

Because of this, if you were to use the "Rename this card" command in the Home menu to call another card "Applications," HyperCard would mistakenly look for the Paths field on your "Applications" card. It won't find it there, and that is why you get the error message. Thus, you will get this error if any of the custom cards in your Home stack is named "Documents," "Applications," or "Stacks."

The easiest way to work around this is to click on your custom cards and rename them to something like "My Stacks," "My Applications" or "My Documents."

This article is adapted from the Claris Tech Info database.

Support Information Services
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HyperCard: Opening MacDraw 1.9.x Files

Using HyperCard to open MacDraw 1.9.x documents in MacDraw Pro 1.0v1 does not work. (This is fixed in MacDraw Pro 1.5.)

This article has been archived and is no longer updated by Apple.

This command should launch MacDraw Pro and open a MacDraw 1.9.x file named MDdoc:

```
 Open MDdoc with MacDraw Pro
```

Instead, it opens a blank, untitled document.

This command works correctly for all other openable file types. For example:

```
 Open MW2doc with MacDrawPro
```

opens a file named MW2doc into MacDraw Pro, even if this file is an EPSF, TIFF, PICT, MacWrite II or any other openable file.

This article is adapted from the Claris Tech Info database.

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HyperCard 2.0v2: PostScript Files from HyperCard (7/92)

Bliss Interactive Technologies has been able to successfully create PostScript files from HyperCard 2.0v2 under System 6.0.7 in MultiFinder and System 7.0. The procedures are outlined below.

This article has been archived and is no longer updated by Apple.
HyperCard 2.0v2 and System 6.0.7 with and without MultiFinder
---
1) Choose a PostScript LaserWriter from the Chooser.

2) Select Page Setup... from the File menu and click OK.

3) To generate a PostScript file without the LaserPrep header, choose Print Field..., Print Stack..., or Print Report... from the File menu.

4) If you choose Print Field..., immediately after you click OK in the next dialog, type and hold down Command-F until the Creating PostScript message appears. To create a file with the LaserPrep header type Command-K instead of -F.

5) When choosing Print Stack... or Print Report..., another dialog will appear with a Print... button. Immediately after clicking Print..., type Command-F to create a PostScript file without the LaserPrep header. Type Command-K instead of -F to capture the LaserPrep header.

6) For Print Card..., immediately after selecting this menu item, type Command-F to create a PostScript file without the LaserPrep header. Type Command-K instead of -F to capture the LaserPrep header.

NOTE: The files generated are saved as text files and titled PostScript0, PostScript1 to 9 -- similar to how screen dumps are named.

HyperCard 2.0v2 and System 7.0
---
1) Choose a PostScript LaserWriter from the Chooser.

2) Turn Background printing OFF.

3) Select Page Setup... from the File menu and click OK.

4) Choose Print Field..., Print Stack..., or Print Report... from the File menu. After clicking OK in the Field dialog, or Print... in the Stack and Report dialog, the typical Print dialog will appear. At the bottom of this dialog, you'll see two radio buttons for the destination. Toggle on PostScript and the Print button is renamed Save. Click on Save and the save dial appears, allowing you to name the file and its location. The PostScript file created contains the LaserPrep header.

5) If you want to capture a single card, you cannot create a PostScript file using the Print Card menu item. Instead, mark the card and choose Print Stack... In the next dialog click on Marked cards and proceed as above.

NOTE: The files generated are saved as text files.

This article is adapted from the Claris Tech Info database.

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TA31112_HyperCard_v_PostScript_Files_from_HyperCard__(TIL14584).pdf

HyperCard 2.0v2: Print Stack Does Not Print Tall Adjusted (7/92)

HyperCard 2.0v2 had a problem printing cards and stacks because the Tall Adjusted checkbox was disabled causing card images to print too narrow.

In version 2.1, the Tall Adjusted checkbox has been enabled, but it only affects Print Card, not Print Stack.

This article has been archived and is no longer updated by Apple.
Solutions:
* Print stacks in landscape mode.
* Create a button with a script to repeat for the number of cards,
doMenu "print card", and go next card.

This article is adapted from the Claris Tech Info database.

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HyperCard: Problem with Readymade Buttons Stack (7/92)

In the Readymade Buttons stack is a card called "Create Card Pictures". A field on the button explains that the buttons will disappear momentarily while the card is being copied. However, if you are at userlevel 1 or 2 and click the button, an error message says that it doesn't recognize Copy Card. After clicking "OK" the buttons are gone.

This article has been archived and is no longer updated by Apple.
As an immediate fix, type in show card button 1 or 2 (depending which one disappeared). As a permanent fix, the script needs to be changed. The following is a proposal.

```
on mouseUp
if the userlevel >= 3 then
hide me
doMenu "Copy Card"
show me
else
exit mouseup
end if
answer "Go to the card where you wish to paste the miniature card"┬
&& "image and press Command-Shift-V." with "OK"
end mouseUp
```

This article is adapted from the Claris Tech Info database.

Support Information Services
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HyperCard 2.x: If Reference Stack Can‘t Understand (4/95)

When you try to use the Reference Stack in HyperCard 2.x, nearly every mouse click may result in error messages containing "Can't understand..." . The problem is that the HyperCard Help Stack, which contains many handlers in its stack script required by the Reference stack, has not been placed "in use".

This article has been archived and is no longer updated by Apple.
The cause of the problem is a subtle scripting oversight in the HyperCard Reference stack's Openstack handler. When the Reference stack first opens it looks to see if the HyperCard Help Stack is already "in use". It does this by looking for the existence of the string "HyperCard Help" in the stacksInUse.

Unfortunately, if the Audio Help stack is placed "in use" first, and it happens to reside in a folder labeled "HyperCard Help", its full path name, including the folder name "HyperCard Help", shows up in the stacksInUse. The Reference stack sees "HyperCard Help" in the stacksInUse, and assumes that the HyperCard Help stack is already "in use".

To avoid the problem:
* Change the name of the HyperCard Help folder (for example, "HC Help")
or
* Move the Audio Help Stack out of the HyperCard Help folder

This article is adapted from the Claris Tech Info database.

Article Change History:
21 Apr 1995 - Modified Title Abbreviation Field.

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HyperCard 2.1: Don‘t Specify Root File Name as :: (8/92)

In HyperCard 2.0, I use double colons (::) to specify the root directory without knowing the name of the hard disk (so the script is not hardcoded with the name of my disk). But now, when I run HyperCard 2.1, every time I open a file inside a subdirectory using a command such as:

open file ":: tmp dir:tst.txt"

It closes the file immediately after opening it. So when I try to write to
it with the command:

write "test" to file ":: tmp dir:tst.txt"

HyperCard complains that the file is not open. The same script runs fine on a Macintosh Plus with HyperCard 2.0.

This article has been archived and is no longer updated by Apple.
A bug in HyperCard 2.1 keeps the subdirectory specification "::" from working as it did in HyperCard 2.0. This will be fixed in a future release of HyperCard.

This article is adapted from the Claris Tech Info database.

Support Information Services
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Apple III: Cable structure to C. Itoh 1550 (serial)

This article has been archived and is no longer updated by Apple.
APPLE III C.ITOH 1550 (SERIAL)

2----------3
3----------2
6----------20
7----------7
20----------6
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HyperCard 2.0: Sliding Objects in HyperCard Reports (7/92)

While HyperCard 2.0 doesn't have any native ability to slide report items up or left if one is blank while printing reports, it is possible to get that accomplished.

This article has been archived and is no longer updated by Apple.
The trick is to use a single report item, instead of one for each field. Then, by double-clicking on the report item, you can set the contents of the item to a call to a function. The function can be in your stack or background scripts, and can process the information on the card.

For example:

Assume the following fields: Name, Company, Address1, Address2, City, State, and Zip. Now assume that Company and Address2 will sometimes be empty, and that they should slide.

For the contents of your one report item in your label template, simply enter the name of a function: makeLabel()

Now, in your stack script write something like the following handler:

```
function makeLabel
put bg field "Name" into theLabel
if bg field "Company" is not empty
then put return & bg field "Company" after theLabel
put return & bg field "Address1" after theLabel
if bg field "Address2" is not empty
then put return & bg field "Address2" after theLabel
put return & bg field "City" & ", "& bg field "State" & " " & bg field "Zip" after theLabel
return theLabel
end makeLabel
```

For each card that's printed in the report, the single report item will be evaluated according to the function above, and will print the formatted label.

This article is adapted from the Claris Tech Info database.

Support Information Services
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HyperCard 1.x: Converting Stack Ideas to 2.x

Version 1.x of HyperCard included a stack named "Stack Ideas" that contained several templates to be used in creating new stacks. Two of these templates, "Monthly Cal" and "Weekly Cal 3", had issues after being converted to 2.x.
This article has been archived and is no longer updated by Apple.
With the "Weekly Cal 3" stack the date fields were not large enough to hold the full date. Therefore, the 14th of March would show as 1. This is caused by changes in the HyperCard text engine, where non-proportionally spaced fonts need a bit more room to be displayed. Enlarging the individual fields solves the issue.

The issues with "Monthly Cal" are a bit more complex. issues occurred as a result of some scripting errors encountered when using the "Extend" button.

This article is adapted from the Claris Tech Info database.
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HyperCard: Starting QuickTime Tools Stack (7/92)

The HyperCard Development Kit and HyperCard Upgrade each have an additional button installed on the Home Stack to access the QuickTime Tools Stack. However, you may find that clicking this button doesn't take you to the QuickTime Tools stack.

This article has been archived and is no longer updated by Apple.
This happens when the compressed QuickTime Tools Stack that ships with HyperCard has not been decompressed. If you do not decompress the stack before trying to access it, the Home Stack doesn't recognize the file as a HyperCard stack.

To correct this problem, simply double click on the compressed file to decompress it. Then return to the Home Stack where the QuickTime Tools button should now be working.

This article is adapted from the Claris Tech Info database.

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HyperCard 2.0 and "Stop Sign" Icon (7/92)

When assigning an icon to a button in HyperCard 2.0, a window will appear showing all icons available for use in your current stack. Near the lower left hand corner of this scrollable window is an icon called "Stop" which looks identical to the "Stop" icon on the Find File dialog box. Normally, in HyperCard, assigning a icon to a button is just a matter of double-clicking on it. However, when you click on the "Stop" icon, nothing happens.

This article has been archived and is no longer updated by Apple.
This is because Apple decided to use some of the same icons found in the System and Finder files, and include them in HyperCard. This helps developers make screen prototype mock-ups quickly. Rather than "re-invent the wheel," Apple simply moved copies of these System/Finder icons into HyperCard via a resource mover. Hence, the System/Finder ID numbers for these icons also got transferred as well into HyperCard.

Icon numbers 0-128 are reserved by the Macintosh operating system for System Use only. Therefore, when HyperCard goes to read the "Stop" icon, and it sees an ID # of 0 (zero), it doesn't know what to do with it.
Thus the icon, although selected, never appears.

The workaround is to (from within the icon window) assign an icon number to the stop icon which is greater than 128. This will enable HyperCard to "see" the icon, and display it properly when you assign it to a button. Be sure that this new number is different than all other icons in this stack, otherwise another icon will be overwritten.

This article is adapted from the Claris Tech Info database.

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HyperCard 2.x and StyleWriter: Print Card Problem & Fix (10/92)

Vertical lines do not align perfectly when printing to a StyleWriter from HyperCard 2.x using the "Print Card" option. This problems does not happen with horizontal lines or when using the "Print Stack" option.

This article has been archived and is no longer updated by Apple.
Yes, StyleWriter output has vertical-line registration problems when using the "Print Card" option in HyperCard 2.x. The registration problem is caused by the HyperCard printing code, not by the StyleWriter.

The registration problem can be avoided by using the "Mark Card" option:

1) Go to the card you want to print.

2) Display the "message box".

3) Type "Mark Card" into the message box and press either the Return or Enter key. Note that more than one card can be marked at a time.

4) Select "Print Stack" from the "File" menu.

5) Select the "Marked Cards" option.

6) Click the "Print" button.

7) Type "unMark Card" in the message box and press either the Return or Enter key. This unmarks the card so it doesn't printed the next time this procedure is used.

This article is adapted from the Claris Tech Info database.

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HyperCard 2.1: Phone Dialer and Teleport Modem (7/92)

HyperCard 2.1 and the Teleport modem from Global Village do not always work together properly.

This article has been archived and is no longer updated by Apple.
When dialing the phone with HyperCard through the Teleport, the Teleport will not hang up, which draws voltage from the phone, resulting in a more distant, less clear connection. But when the mouse moves, or a key is hit (a signal sent down the ADB), then the Teleport hangs up.

The workaround is to use the dialingTime property that is new to HyperCard 2.1, and set that property to around 10 seconds. There are several ways to do that:

* If you are using the Phone Dialer stack that comes with HyperCard 2.1 to do your dialing, then simply go to the Dial Delay card, select where it says "5 seconds", and move the selector on the slider bar that will then appear.

* If you are dialing directly from your stack, then a simple script like the following will work:

```
set the dialingtime to 600
-- (these are ticks, and there are 60 ticks per second, so 600/60=10)
dial dialNumber with modem
```

The reason for this problem is a little complicated. The Teleport is a special kind of modem, that uses the ADB (keyboard and mouse connections) both to draw power and to communicate with the serial port. When communications messages are sent to the serial port, the Teleport driver intercepts them, sends them over the ADB to the Teleport, where the Teleport software can process them. HyperCard closes down the serial connection so fast (normally 3 seconds after the Dial command has been given), that the Teleport software never gets a chance to do all it needs to, such as hanging up.

But the dialingTime property sets a specified amount of time that HyperCard 2.1 will hold the serial connection open, allowing the Teleport software a chance to complete its routines.

HyperCard 2.0v2 users will not have the same problem, since this version of HyperCard was hard-coded to hold the serial connection for a long period of time - around 10 seconds. This works for the Teleport, but introduces other problems.

HyperCard 2.0v1 will probably have the same problem as HyperCard 2.1, with the unfortunate difference that HyperCard 2.0v1 has no dialingTime property, and, therefore, may not have any way to work around the problem.

This article is adapted from the Claris Tech Info database.

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HyperCard 2.0: Unitialized Variables (7/92)

There is some inconsistency in how HyperCard 2.0 treats unitialized variables and the constant "empty".

This article has been archived and is no longer updated by Apple.
For example, typing

the number of items of myVariable

into the message box returns "1" when myVariable has not been initialized.

However, initializing myVariable with

put empty into myVariable

and then typing

the number of items of myVariable

returns "0".

This article is adapted from the Claris Tech Info database.
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HyperCard 2.0v2: Problem With WindChooser 1.12 INIT (7/92)

An INIT called WindChooser 1.12 (created 7/27/89) causes problems with HyperCard 2.0v2.

This article has been archived and is no longer updated by Apple.
Actually there are a series of WDEF-style INITs which cause a false (and invisible) window to get layered in front of HyperCard's window. Others of this type are Erics' WDEF, and Dave's WDEF (a color modification of Erics' WDEF).

The symptoms are a failure to redraw the screen after displaying dialogs, and an inability to operate with the mouse anywhere in a HyperCard window, including clicking.

Note: The WDEF referred to above is NOT related to the common virus of that name. The letters refer to a very common Macintosh resource for Window DEFinition.

This article is adapted from the Claris Tech Info database.

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Apple Writer II: DOS 3.3 Version -- Printer codes from all Apples

Many printers have special features that the computer signals by sending command codes. To send codes to a printer from Apple Writer II (DOS 3.3), you must insert the codes into the Apple Writer file you want printed.

The manual of the printer may list the codes by several names: decimal, hexadecimal, teletype abbreviations (SOH, ETX, DC1, DC3, etc.), standard keys, and combinations of the above.
This article has been archived and is no longer updated by Apple.
Using the chart "ASCII characters, values, and keystrokes", you have to translate from the name of the code in the printer manual into the name of the corresponding keystroke or keystrokes on the keyboards of the Apple II, Apple II Plus, Apple IIe, Enhanced Apple IIe, or Apple IIc.

Some keystrokes put so-called control characters into the Apple Writer file. These control characters are not part of the conventional English character set; while screen shows them, the printer intercepts and does not print them, instead recognizing them as signals to turn special functions on and off or to change printer settings.

NOTE: In the descriptions of the keystrokes, the characters greater than and less than, < and >, are used to contain one keystroke, which can mean that you must simultaneously hold down the control key, the shift key, or both as you press the other key.

With these considerations in mind, here is a list of codes and methods for inserting them in an Apple Writer II file.

Null (ASCII value 0):

II and II Plus: <CTRL-V><CTRL-SHIFT-P><CTRL-V>

All other Apples: <CTRL-SHIFT-2>

Control-A through Control-Z (ASCII decimal values 01 through 26):
Example: Control-Z (ASCII decimal value 26): <CTRL-V><CTRL-Z><CTRL-V>
Exception: Control-V (ASCII decimal value 22) can't be entered. See "Missing Keys" below.

Escape (ASCII value 27):
Some keystroke sequences start with or include the ESCAPE character.

On Apple II without shift key modification:

- If the printer manual shows the code as an escape followed by an upper case letter: <CTRL-V><ESC><ESC><ESC><CTRL-V>
- If the printer manual shows the code as an escape followed by a non-alphabetic character or lowercase letter: <CTRL-V><ESC><ESC><CTRL-V>

On Apple II with shift key modification: <CTRL-V><ESC><CTRL-V>

Missing keys:
To produce uppercase a-z, press the ESC key first, otherwise Apple Writer II under DOS 3.3 enters the a-z keystroke as lowercase.

The Apple II and Apple II Plus don't have some keys: underline, backward slash, brackets, braces, vertical line, open single quote, tilde, or delete. You can't enter a Control-V in Apple Writer. To use these and other characters in Apple Writer, it is necessary to create an Apple Writer glossary file from a BASIC program.

For example, to insert the ASCII value 22 (Control-V) into an Apple Writer file, follow these steps:

1. Start up the DOS System Master.

2. Write and save the following program:

```
1 REM APPLE WRITER II GLOSSARY CREATION
10 D$=CHR$(4)
20 PRINT D$;"OPEN CVGLOSS"
30 PRINT D$;"WRITE CVGLOSS"
40 PRINT "V";CHR$(22)
41 REM USE LINE 40 AS A TEMPLATE FOR OTHER NEEDED CODES
42 REM CHOOSE A DIFFERENT GLOSSARY ENTRY FOR EACH CODE
43 REM PRINT "V";CHR$(22) V=ASCII 22 (CONTROL-V)
44 REM PRINT "W";CHR$(31) W=ASCII 31 (CONTROL-UNDERLINE)
```

```
45 REM PRINT "X";CHR$(128) X=ASCII 128 (CONTROL-@ WITH THE HIGH BIT SET)
46 REM PRINT "Y";CHR$( ) Y=AND SO ON
50 PRINT D$;"CLOSE CVGLOSS"
```

3. Run the program, thus creating a file called CVGLOSS.

4. Start up the Apple Writer diskette.

5. Press CTRL-Q and select the option to Load a Glossary File.

6. Remove the Apple Writer diskette and insert the diskette containing CVGLOSS.

7. Enter the name CVGLOSS at the "Enter File Name" prompt.

8. Return to Apple Writer and enter your text.

9. At any point where you need to enter a Control-V, type CTRL-G for the glossary function and enter V (uppercase).

10. This procedure should imbed the ASCII 22 in your text. Once CVGLOSS has been created, you can reuse it whenever necessary by following steps 5 through 9 each time you start up Apple Writer.

There's already a glossary file on the Apple Writer II diskette. This file is named SPECIAL and contains key definitions for the keys \\, ^, ~, _, |, [,], {, }, ESC-D, and ESC-U.

Published Date: Feb 19, 2012

Apple III: Cable structure to Comrex CR-1 (serial)

This article has been archived and is no longer updated by Apple.
APPLE III COMREX CR-1 SERIAL

2----------3
3----------2
6----------20
7----------7
20----------6

Comrex CR-1 Dip switch settings:

Switch series 1: all open except #4
Switch series 2: all open except #6,7
Published Date: Feb 19, 2012

MacTCP: When It Initializes (2/95)

My office has a network of several Macintosh computers which run TCP/IP.

I am unable to consistently use Ping to find out the IP address of a particular Macintosh. If I start up one Macintosh without loading any software, then "ping" it from a second Macintosh, I will not get a response from the first Macintosh.

If I start up a Macintosh and run a TCP/IP application, like Gopher or NewsWatcher, then "ping" it from a second Macintosh, I will get a response from the first Macintosh and can obtain the IP address.

Why does this happen?

This article has been archived and is no longer updated by Apple.
Traditionally, Apple's MacTCP driver was not initialized at startup. Instead, it loaded into memory and waited for the first MacTCP application to be launched before initializing. If you "ping" a Macintosh before it loads the MacTCP driver, you would not get a response.

MacTCP was designed so a user could change its parameters before launching a MacTCP application and not be required to reboot the Macintosh to use the new parameters.

With System 7.5, MacTCP does not initialize at startup as described above. Confusion might arise if the TCP/IP Connection for Macintosh product is installed which include SNMP agents. With SNMP present, the MacTCP driver is initialized at startup, and you can "ping" this Macintosh without other MacTCP applications being started.

Article Change History:
10 Feb 1995 - Added SNMP information and corrected System 7.5 information.
20 Dec 1994 - Noted that TCP is active at system start under System 7.5.

Support Information Services
Published Date: Feb 19, 2012

System 7: Can I Save to the "Move&Rename" Folder?

When using Personal File Sharing or AppleShare under System 7, I occasionally save files in the "Move&Rename" folder. Often, I cannot find these files when I go back to look for them.

1) What is the purpose of the "Move&Rename" folder?
2) When are the contents of this folder deleted?
3) When should I use the "Move&Rename" folder?
This article has been archived and is no longer updated by Apple.
1) The "Move&Rename" folder (which is marked invisible) is created by Personal File Sharing and AppleShare as a temporary holding point for files during the execution of AppleShare File Protocol (AFP) "Move and Rename" calls. The "Move and Rename" call, as the name suggests, is used to move a file between folders and give it a different name in the destination folder. HFS only supports separate Move (with the same name) and Rename (in the same folder) calls.

Since the file cannot be renamed and then moved (there might be a name conflict with the new name in the source folder) and cannot be moved and then renamed (there might be a conflict with the old name in the destination folder), the only way to correctly execute the call on an HFS volume is to do the following:

1. Move the file to the "<box><box><box>Move&Rename" folder.
2. Rename the file there to the new name.
3. Move the file to the destination directory.

By the way, the <box><box><box> are the ASCII characters 0x01, 0x02, and 0x03, which generally do not have legitimate character representations in most fonts. We wanted to make sure this folder would not be confused with user folders, so we gave it a name that would be hard to type.

2) The "Move&Rename" folder should always be empty, except in mid-operation, and is emptied at system startup (it also is deleted at system shutdown).

3) The "Move&Rename" folder should **not** be used by anyone or anything but AppleShare and Personal File Sharing. Also, Macintosh applications are not supposed to show invisible folders in SFGetfile or SFPutFile.

Note: It is up to each application to properly specify what kinds of folders and files should be listed in Open/Save dialogs. Each application has the ability to specify a filter when calling SFGetfile or SFPutFile to weed out files or folders that should not be listed. Please consult with the application vendor if you believe a folder or file is displayed in error.
Published Date: Feb 19, 2012

LaserWriter Pro 810: Not Selecting Correct Tray

I'm having a problem getting my LaserWriter Pro 810 to select a specific paper tray.
This article has been archived and is no longer updated by Apple.
The cure is to restore factory default settings. Here's how:

1) Turn the printer on and wait until it comes ready.

2) Locate the control panel and press the On-line button to force the printer "Off-line".

3) Press the Menu button.

4) Press the down arrow until "Misc." appears in the display, then press Enter.

5) Press Enter again to select "Restore Factory Setup".

6) Press Enter when the "Factory Setup" question appears.

When you've done all this, the printer will display "Confirmed" and run a self-test. The printer will return to the ready state once the self-test is complete.
Published Date: Feb 19, 2012

Apple III: Cable structure to Hayes SmartModem

This article has been archived and is no longer updated by Apple.
APPLE III HAYES SMART-MODEM

2----------2
3----------3
7----------7
20----------20
Published Date: Feb 19, 2012

Apple License Mgr: How Much Network Traffic Generated? (2/94)

I need some information on Apple License Manager, which controls the software serial number tracking feature of AppleShare 4.x. I understand that Apple Licence Manager searches across the network to check serial numbers. My questions are:

* How much network traffic does Apple License Manager generate?
* How often do the searches occur?
* Does Apple License Manager search LAN or WAN wide?
* How big are the packets?
* When a serial number violation is found, is server performance affected in any way?

This article has been archived and is no longer updated by Apple.
We designed Apple License Manager (ALM) to keep the generated traffic as low as possible, especially when two LANs are connected by a router over a slow link such as X.25. This is one of the reasons we did not use Name Binding Protocol (NBP) directly. The Apple License Manager implements a new protocol Apple Serial Number Registration Protocol (ASNRP) and in its first implementation uses Datagram Delivery Protocol (DDP) and Routing Table Maintenance Protocol (RTMP).

RTMP is used to acquire network information, which is basically the network number range tables. It refreshes this information every hour by sending an RTMP request to A-router. RTMP is described in Inside AppleTalk. The number of RTMP packets is not significant (Our engineering net is composed of about 700 network number ranges; this gives 1 request and 5 responses every hour).

ASNRP also implements a general purpose multiplexed sharing socket protocol - known as broadcast protocol. It utilizes a static socket reserved by Apple for this purpose.

When a application has registered a Network Serial Number, ALM will be able to respond to any request matching this serial number, but it does not generate any requests until an application calls for a search. Then, every "X" seconds, ALM will pick a network number and send a request on this net. "X" can vary from 30 seconds to 2 minutes, depending of the size in network numbers of the internet. So, the search can take a long time to complete, but it generates little traffic. Once the search is completed, the application is free to call for another search.

AppleShare 4.0, for example, is continuously searching the entire internet sorted by hops during the first search at startup and then randomly. If a duplicate is found, then it requests the Apple License Manager to search using the cache of duplicates every 5 minutes to verify that the duplicate has not gone away. This search does not generate more traffic; it only changes the order the network numbers are searched.

The size of a request is just less than 100 bytes, and a response would be 40 bytes more.

Here is what AppleShare 4.0 does when it finds a duplicate serial number:

Time Action
---- ------
1) First Detection Duplicate detection dialog displayed on each server
2) Four hours later Set the greeting message to the duplicate detection dialog
3) 76 hours since first detection Start sending out the duplicate

detection dialog every hour
4) 112 hours since first detection Start sending out the duplicate detection dialog every 30 min
5) 148 hours since first detection Start sending out the duplicate detection dialog every 15 min

If at any time during the duplicate detection process, no more duplicate servers are detected, the duplicate detection dialog will go away.

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PLW 300: HyperCard Prints at Quarter Size (2/94)

When I print a card or stack from HyperCard version 2.1 or 2.2 to a Personal LaserWriter 300, the image is printed quarter-size (25% of normal). This problem didn't occur when I printed the same image from HyperCard to an ImageWriter and LaserWriter IINT.

What causes this?

This article has been archived and is no longer updated by Apple.
This is a known bug in HyperCard (including version 2.2). It also occurs when printing from HyperCard to the Personal LaserWriter LS and LaserWriter Select 300 since all of these printers use the same printer driver.

Since each image is reduced to quarter-size, the workaround is to set the Page Setup "Reduce or Enlarge" value to 400% for full size images, 200% for half size images, and 100% for quarter size images.

Support Information Services
Published Date: Feb 19, 2012

LaserWriter Select 360 Fax: Importing Phone Book Entries (2/94)

I just installed the software for the LaserWriter Select 360 with Fax card. I want to import my existing fax phone list which is already an ASCII text file containing three fields -- the format noted in the user's manual.

When I select the phone book file for import, I get an error message stating that the file is of the wrong file type. What am I doing wrong?

This article has been archived and is no longer updated by Apple.
The import feature is very particular about the data format for the import file. Unfortunately, the user's manual forgets an important field and carriage returns after all phone entries. Any changes from the designated format (that is, missing field, tab, or carriage return) will always yield an error when trying to import the data. The format should be as follows:

NAME (tab) COMPANY (tab) FAX NUMBER (tab) POSTSCRIPT (Y/N)? (tab) (return)

Note:

* You can leave fields blank as long as you insert a tab as a placeholder.

* The POSTSCRIPT field should contain a "Y" if the receiving device is a PostScript FAX-capable device.

In order to view a sample file that you can import, we suggest exporting your existing phone book entries using the export button. Open the file that was created using Microsoft Word or MacWrite Pro. From within the word processor select "show invisibles" to view the tabs and carriage returns.

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LaserWriter Pro 810: Enet Ptr Name Maximum 16 Chars

When I configured a LaserWriter Pro 810 on an Ethernet network, the Chooser name is truncated to 16 characters long. The full printer name, however, is displayed on the status page and in the Chooser when using LocalTalk.

Can the LaserWriter Pro 810's Ethernet printer name ever be longer than 16 characters?
This article has been archived and is no longer updated by Apple.
No, the LaserWriter Pro 810 Ethernet printer name is limited to 16 characters.

Previous LaserWriter printers have had plenty of EEROM space to store printer names. The LaserWriter Pro 810 supports up to 64 'virtual' printers with their own name and configuration variables that must be stored in non-volatile memory. In order to provide sufficient EEROM space, the LaserWriter Pro 810's non-LocalTalk printer names were truncated to 16 characters.

Page 43 of the LaserWriter Pro 810 User's Guide contains a small note explaining that the Ethernet printer name is limited to 16 characters.
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Macintosh with PC Emulation in Banyan VINES Environment

This article tells you how to enable a Macintosh using a PC Compatibility card or running PC emulation software (SoftWindows with SoftNode) to access a BANYAN server and use its services.

This article has been archived and is no longer updated by Apple.

Installing Banyan Vines in DOS

This section describes the settings you must make when using Banyan Vines with an NDIS driver in DOS. For Windows for Workgroups installation, please refer to the documentation which came with that application for additional installation instructions.

1) Install the Banyan Vines client software.

Please note: The client software used might not have an option for defining or adding a third party supplied driver like the one Apple supplies on the separate PC Compatibility Diskette called MACNDIS.DOS. In such a case, another driver on the list like a 3M network card can be selected and then the CONFIG.SYS and PROTOCOL.INI can be re-edited to reference the MACNDIS.DOS driver instead. The MACNDIS.DOS driver must be copied into the subdirectory which is being referenced by the Banyan client software. In this example, we are using the path of C:\\BANYAN\\MACNDIS.DOS.

2) Make sure your configuration files contain the following:

In CONFIG.SYS

```
REM *** BANYAN ***
DEVICE=C:\\BANYAN\\PROTMAN.DOS /I:C:\\BANYAN
DEVICE=C:\\BANYAN\\MACNDIS.DOS
```

In PROTOCOL.INI (this is located in the directory where the Banyan client software is installed)

```
[VINES_NIF]
DRIVERNAME=NDISBAN$
BINDINGS=MACNDIS

[MACNDIS]
DRIVERNAME=MACNDIS$
PROTOCOLDIX=BAD
```

The configuration described here works for Banyan VINES SoftNode or Banyan VINES.

1) The Banyan Macintosh client runs on top of NDIS and uses Ethernet II frames with a magic number of 0xBAD. So to run it with SoftNode, you must first set up the NET.CFG file to reflect this. The following is a sample Banyan NET.CFG file for SoftNode Ethernet:

```
Link Driver ETHERSPC
    Frame ETHERNET_802.3
    Frame ETHERNET_802.2
    Frame ETHERNET_II
    Frame ETHERNET_SNAP
    Protocol BANYAN BAD ETHERNET_II

Protocol ODINSUP
    Bind ETHERSPC
```

2) Run the following to set up SoftNode for Banyan:

```
LSL
ETHERSPC
ODINSUP
```

3) Configure VINES. Include the line:

```
  device=c:\\banyan\\protman.dos /i:c:\\banyan

  in the CONFIG.SYS file. If you've installed the software somewhere
  instead of c:\\banyan, substitute your directory here. The
  configuration file for PROTMAN.DOS is called PROTOCOL.INI. It should
  be in the c:\\banyan directory and should contain the following:

  [protocol manager]
    drivername = PROTMAN$

  [VINES_XIF]
    DRIVERNAME = NDISBAN.DOS$
    BINDINGS = ETHERSPC

4) Run PCCONFIG, the Banyan configuration program. Choose the first
  option, "Network Card Settings," choose "NDIS Ethernet."  Then in
  the configuration screen, configure IRQ 10, driver name ETHERSPC.
  Press F10 to save the changes. Then choose the second option, "Login
  Environment Settings," and configure NDIS Ethernet.  Press F10 to
  save the changes.

5) Restart for the CONFIG.SYS changes to become effective and run the
  ODI side and ODINSUP as described. Then type the following to get
  VINES going (from the Banyan directory, or wherever you have put
  it).

  ban /nc (Ignore the "network driver not enabled" message. It means
  it's working!) ndisban netbind arswait redir4 z: login

If you can run everything, but can't access files on the Z: drive, you
probably left out the Protocol line in the NET.CFG file.
```

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Apple III: Cable structure to HI Plot Plotter

This article has been archived and is no longer updated by Apple.
APPLE III HI PLOT PLOTTER

2----------3
3----------2
6----------6,16
7----------7

NOTE: Apple Serial Driver should be set for 2400 Baud, XOn/XOff, 8 bits, no parity, 1 stop bit.
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System 6 Clean Installation (8/94)

This document tells you how to do a clean System 6 installation. A normal system software installation modifies and updates the existing System Folder. A clean installation disables the existing System Folder, leaving most files in place, and forcing the Installer to create a new System Folder.

A clean system installation brings the system software back to the standard configuration. This is necessary when system software has been damaged or modified, preventing a normal installation. It's also useful in troubleshooting, and helps to determine whether a problem is hardware- or software-related.

This article has been archived and is no longer updated by Apple.

Required Disks

System 6 software comes as a set of 800K (double-density) disks or a set of 1.44MB (high-density) disks:

The set of four 800K disks includes System Tools, Utilities 1,

Utilities 2, and Printing Tools.

The set of two 1.44MB disks includes System StartUp and System

Additions.

The instructions in this document give the name of the 800K disk first, followed by the name of the 1.44MB disk in parentheses. Follow these instructions in the order presented.

Restart with Utilities 1 or System StartUp

Shut down your Macintosh computer, insert Utilities 1 (or System Startup) in the floppy drive, and turn on the computer. At the desktop, the floppy disk's icon should be in the upper-right corner of your screen with the hard disk's icon below it.

If the computer ejects the disk and won't start up from it, check the density of the disk. A high-density (1.44MB) disk requires an Apple SuperDrive (formerly FDHD) to read it. Macintosh computers, except the Macintosh Plus, SE, II and earlier, have SuperDrives.

If your computer doesn't have a SuperDrive, you need the set of 800K System 6 installation disks. To get them, contact your local Apple dealer or User Group for a copy (they may charge a fee).

Run Disk First Aid

Disk First Aid is a utility found on the Utilities 1 (or System StartUp) disk. It can detect and repair problems with the hard disk.

1) Double-click the Utilities 1 (System StartUp) icon to open it.

2) Double-click on Disk First Aid, and make sure the startup hard drive

is selected. If it isn't, click the Drive button to select the

startup hard drive.

3) Click once on Open and then once on Start. Disk First Aid checks

your hard disk for any potential problems. If it finds problems,

you should let the software repair them.

4) Repeat this procedure for each hard disk attached to the system.

5) When you're finished verifying the hard disks, choose Quit from the

File menu to return to the desktop.

If Disk First Aid can't repair a hard drive, you should back up the hard drive and reinitialize it using the appropriate formatting utility for that drive. For Apple drives, use Apple HD SC Setup.

Check Available Hard Disk Space

Be sure you have at least 3072K of disk space available on the hard disk where you're installing the system software. Double-click on the hard disk icon, and choose by Icon from the View menu. The upper-right corner of the window displays the amount of available disk space.

If there's less than 3072K available, you'll need to delete some unnecessary files. Copy files to floppy disks or other media if needed. Then drag the files from your hard disk to the Trash, and choose Empty Trash from the Special menu.

Disable the System Folder

You disable the System Folder by moving the Finder and renaming the System Folder.

1) Open your hard disk's icon and locate the System Folder.

2) Open the System Folder.

3) Create a new folder and name it "Old Finder."

4) Locate the Finder (within the System Folder) and move it into this

new folder.

5) Close the System Folder's window and rename the System Folder,

"Storage."

6) Close any open windows on your desktop.

Restart Your Computer

Choose Restart from the Special menu. The system automatically ejects the floppy disk, and after a few seconds you should see a picture of a disk with a flashing question mark. This indicates that no System Folder is active on the hard disk.

If your Macintosh starts up from the hard disk, you have an extra System Folder on the hard disk. You need to delete it (or disable it as described in the previous section), then restart.

If your computer starts up from a second hard disk connected to your computer, you'll see that disk's icon in the upper-right corner of your screen with the startup hard disk's icon below it. If this happens, you can continue installation without waiting for a blinking question mark.

Install System 6

Install System 6 following these steps:

1) Insert System Tools (or System StartUp) into the floppy drive.

2) Double-click the Installer application icon.

3) Once the "Welcome to the Apple Installer" message appears, click OK.

4) The Installer will indicate the name of the disk where it's

installing the system software. Click Switch Disk if necessary

until you see the name of the correct disk. Then click Install.

5) Insert the other disks when the Installer asks you to.

6) When installation is complete, quit the Installer program, and

restart the Macintosh.

The system will eject the floppy disk and the Macintosh will start up from the hard disk.

Verify Problem Resolution

After performing a clean installation, verify that you resolved the problem before adding anything to the new System Folder. Adding items to the System Folder before resolving your problem defeats the purpose of this procedure.

Install Non-Standard Items

You can now reinstall the non-standard items from the old System Folder (now named "Storage") such as fonts, screen savers, device drivers, and so on. If possible, you should reinstall these items from their original disks.

If the original disks aren't available, you may move the non-standard items from the Storage folder to the new System Folder. Be careful not to replace anything that's already in the new System Folder. Only move items that aren't already in the new System Folder.

1) Open the System Folder and the Storage folder and choose by Name

from the View menu. Then compare the contents of the folders as

they are open side-by-side.

2) Move anything that isn't already in the new System Folder from the

Storage folder to the new System Folder.

3) Restart your Macintosh.

Install Fonts and Desk Accessories

Fonts and desk accessories become part of the System file. You need to reinstall them after a clean installation. Use the original disks to install

them. If the original disks aren't available, follow these steps:

1) If the Font/DA Mover isn't on your hard disk, copy it from the Font/DA folder located on the Utilities 2 (or System Additions) disk to your hard disk.

2) Open the Font/DA folder on the hard disk, and double-click the Font/DA Mover to launch it. You see two windows. The radio button at the top indicates whether you're viewing fonts or desk accessories. The default is to view fonts. The left window displays fonts installed in your system, and beneath it you see "System on <hard disk name>."

3) Click the Open button beneath the window on the right.

4) When a dialog box appears, navigate to the Storage folder, and open it.

5) Double-click the System file to open it. You'll see the fonts in your old system in the window on the right.

6) Select the fonts you wish to add to the new system, and click on the <<Copy<< button.

7) When finished installing fonts, use the radio button at the top to display desk accessories.

8) Select the desk accessories you wish to add to the new system, and click on the <<Copy<< button.

9) When finished, quit the Font/DA Mover and restart your computer.

Troubleshooting INIT Conflicts

If you installed any startup documents or control panels, you'll probably see their icons line up across the bottom of the screen when you restart. They load into memory at startup time and modify the standard behavior of the operating system.

If the Macintosh fails to restart or behaves erratically, you probably have an incompatible, or conflicting INIT or control panel. To verify this problem, follow these steps:

1) Shut down the computer.

2) Insert the System Tools (or System StartUp) disk.

3) Restart the computer.

4) Create a new folder on the hard disk and name it "INITs."

5) Open the System Folder on the hard disk, and move to the INITs folder any third-party (that is, non-Apple) INITs you added since completing the clean installation. Choose by Kind from the View menu to help identify files of Kind "startup document," "control panel" and "Chooser document" that you need to move.

6) Restart the computer from the hard disk.

7) When the Macintosh is ready, try to recreate the erratic behavior.

If the problem no longer occurs, then you have a conflicting INIT.

Continue with these steps:

8) Move one item from the INITs folder to the closed System Folder and restart the Macintosh.

9) Attempt to recreate the original problem.

Repeat steps 8 and 9 for each item in the new folder on the desktop until the problem recurs. The last item returned to the System Folder is probably the cause of the problem. Restart with the System Tools (System StartUp) disk and remove the problem item from the System Folder. Check with the vendor for compatibility information.

Final Steps

Verify that your applications are performing normally. If not, refer to the application manual or contact the vendor.

When the Macintosh behaves as expected, check the Storage folder for items you may not have reinstalled. You may find items including the following:

INITs, control panels, device drivers (such as scanner drivers),

which you should reinstall from the original floppy disks, if

possible.

Application Preference files, which store any changes you made to the

application's default settings (for example, if you change the

default font in your word processing program). You can drag these

settings to the new System Folder, but be aware that Preference files

do sometimes become damaged and can cause erratic behavior. If this

happens, quit the application, remove the Preference file from the

System Folder, and launch the application again. The application

recreates the Preference file the next time you launch it, and

returns your settings to their defaults.

Folders installed by applications (such as Claris, Microsoft, and

Aldus). You can move these to the new System Folder.

After you move all needed items from the Storage folder, drag the Storage folder to the Trash, and choose Empty Trash from the Special menu.

Article Change History:

29 Aug 1994 - Updated for FAX/TIL/QRG maintenance.

TA31142_System_Clean_Installation__(TIL14621).pdf

Published Date: Feb 19, 2012

Apple LaserWriters: Changing the Symbol Set for DOS Print

I would like to print the special German letters (like è, f, Ü, º) in DOS, using the software Printer Control Panel that comes with the Windows-marketed Apple LaserWriter printers (LaserWriter Pro 600 and 630, Personal LaserWriter NTR, LaserWriter Select 310 and 360).
This article has been archived and is no longer updated by Apple.
The Printer Control Panel software that ships with Apple Windows-marketed LaserWriters is simply emulation switching software, so it has no real role in producing the German letters. You can print the letters in different ways depending on which mode you choose for the printer (PostScript or PCL). For this article we'll assume that you're using PCL.

Given this assumption, you can change the symbol set used in PCL mode to one that contains umlaut characters. The ROMAN-8 symbol set, for example, contains the characters you're looking for. We've provided the PCL escape code sequence at the end of this article to perform this.

Of course, you first need to generate the umlaut characters on the screen. The character codes for "è, f, Ü, º" in the ROMAN-8 symbol set are 204, 207, 206, and 222 respectively. To generate these on the screen requires some combination of modifier keys (Shift, Option, and so on) to get the characters.

Here's the HP PCL escape code to change the symbol set to ROMAN-8. You should place this at the beginning of your text document:

```
<esc>(8U
```

The Printer Control Panel software determines that this is HP PCL and automatically switches the Apple printer into PCL mode.

To enter `<esc>`, press the Ctrl-P keys followed by the Esc key.

Note: You must use an ASCII text editor like DOS EDIT. You cannot enter the <esc> character in some Windows-based editors like Notepad.
Published Date: Feb 19, 2012

LaserWriter Pro 630: PostScript Commands to Change Baud Rate

How can we change the baud rate for the RS-232 serial port on the LaserWriter Pro 630? We have an SGI Indigo-2 workstation serially connected to the LaserWriter, and we need the appropriate PostScript commands to change the baud rate.
This article has been archived and is no longer updated by Apple.
Here are the PostScript commands to change the baud rate on the serial 9-pin port.

Note: The LaserWriter Pro has four user-configurable communications settings; these are thumbwheel switch positions 6 through 9. Page 126 in the LaserWriter Pro User's Guide outlines all of the default settings for these positions.

To change the baud rate to 9600 for switch position 6 on the serial 9-pin port:

```
%%Begin

(%SerialB_NV%) <</Baud 9600>> setdevparams

%%End
```

The possible baud rate values are: 300, 600, 1200, 1800, 2400, 3600, 4800, 7200, 9600, 19200, 57600.

The integer after "`SerialB_NV`" correlates to the thumbwheel switch setting. For example:

%SerialB_NV% - changes settings to thumbwheel switch setting 6
%SerialB_NV2% - changes settings to thumbwheel switch setting 7
%SerialB_NV3% - changes settings to thumbwheel switch setting 8
%SerialB_NV4% - changes settings to thumbwheel switch setting 9

Published Date: Feb 19, 2012

Novell Netware: Rebuilding Desktop File (4/97)

Macintosh systems use a Desktop database that contains information associating the documents and applications with icons, and provides bitmap representations of the icons. AppleShare servers, and third-party servers that use AFP (Apple Filing Protocol), implement their own version of a Desktop database, enabling Macintosh users to retain their familiar Macintosh graphical user interface when accessing those server's volumes.

You can rebuild remotely a Novell Netware Desktop file on an AFP volume. This article presents steps for rebuilding the network's Desktop file(s) for Netware versions 3 and 4.
This article has been archived and is no longer updated by Apple.
Netware 3.x

Netware 3.x has 3 hidden files in the Desktop AFP subdirectory that collectively contain the database. Follow these steps to rebuild (clear) the Desktop files:

Step 1
Load AFP. It checks to see if the Desktop files exist, and if not, creates them.

Step 2
Load AFP CDT. CDT stands for Clear Desktop. This clears out the databases. It doesn't eliminate them, but merely clears them out.

Step 3
Rebuild the remote Netware volume. Use a Macintosh client running a version of System 6 system software, or a System 7.x workstation booted with a System 6.x System floppy disk. Hold down the Option key and the Command key (open Apple key) when connecting to that volume.

Step 4
Follow the steps to number 2 above.

Step 5
Mount the Novell volume you wish to rebuild, then launch the Rebuilder utility.

Step 6
A dialog box will appear on your desktop. Highlight the volume you wish to rebuild and click on the Rebuild button. If you wish to rebuild multiple volumes, hold down the <Shift> key, and highlight each volume you want to rebuild then click on the Rebuild button.

Step 7
A status bar will appear on the desktop showing the rebuilding progress. Also a dialog box will appear stating the desktop that has been successfully rebuilt when completed.

Step 8
For the Finder to recognize each new Desktop, you may need to restart or unmount and remount each rebuilt volume.

Netware 4.x

Netware 4.x uses a database Btrieve structure, which the server maintains dynamically. The system automatically checks the database for corruption. If it finds evidence of corruption, the server rebuilds the Desktop database. You can also force a rebuild of the database in a Netware 4.x environment within AFP CON:

Step 1
Load AFP CON.

Step 2
Choose Maintenance and Status option.

Step 3
Choose Volume information.

Step 4
Select your volume from the list.

Step 5
Choose Start Desktop Database Rebuild, Enable AFP, Choose Modified, Cancel Desktop.

Repeat these steps for each server you wish to rebuild.

Article Change History:
02 Apr 1997 - Removed outdated reference to on line service.
16 Oct 1995 - Changed information on getting Dayna Rebuilder utility.
10 Feb 1995 - Added information on where to find Dayna Rebuilder.

Published Date: Feb 19, 2012

A/UX: How to Upgrade to Version 3.0.1 (5/97)

Can I upgrade previous versions of A/UX to A/UX 3.0.1?

This article has been archived and is no longer updated by Apple.

```
Yes, there is an upgrade program for upgrading previous versions of A/UX to
A/UX 3.0.1.  The A/UX upgrade's part number is M0599LL/C and its title is A/UX
Update Product(CD-ROM).

Note: For A/UX 3.0.1 customers, there was a patch for A/UX 3.0.1 which was
primarily for the Apple Workgroup Server (AWS) 95 update, but it can also be
updated for existing A/UX 3.0.1 (non-AWS 95) users.  After the patch is used,
A/UX will be called A/UX 3.0.2.

The patch (called AWS 95 Tune-Up 1.0) can be found on the  Apple Internet server named  aux.support.apple.com
(130.43.6.2), in the  /usr/spoool/ftp/aws95 directory.
```

Published Date: Feb 19, 2012

A/UX: Does Version 3.0.1 Include Motif? (2/94)

Was a version of Motif shipped with A/UX 3.0.1? If not, where can I get a copy of Motif for A/UX?

This article has been archived and is no longer updated by Apple.
Motif has never shipped with A/UX.

Integrated Computer Solutions (ICS), however, developed a version of OSF/Motif (1.1.4, X11R4 based) for A/UX.

According to ICS, however, they have stopped producing this and no longer support for it.

To locate a vendor's name and phone number, use the vendor's name as a search string.

Published Date: Feb 19, 2012

LaserWriter Pro 810: Printing from HyperCard

When I press Command-P to print a HyperCard stack or card to a LaserWriter Pro 810 (with a fax modem installed), the printer starts a fax transmission instead of printing the document.

How can I print a HyperCard document to a LaserWriter Pro 810?
This article has been archived and is no longer updated by Apple.
This is a known problem which is documented in the Read Me file on the LaserWriter Pro 810 Fax software disk.

To print HyperCard documents to a LaserWriter Pro 810 with a fax modem installed, press Shift-Command-P so that a Print Dialog Box is displayed before printing.

Note: If you attempt to print an document by selecting Print from the File menu, printing problems may occur.
Published Date: Feb 19, 2012

Converting CADAM or IGES Output to a Macintosh

Lockheed's CADAM system and McDonnell-Douglas' Unigraphics can save files in IGES format. You can then use any of several IGES-to-Macintosh converters to get the file into a Macintosh. (You can also connect directly to the CADAM system using a Tektronix 4014 emulator, such as VersaTerm-Pro.)

This article has been archived and is no longer updated by Apple.

The CADMOVER utility (from Kandu Software Corp.) can convert:
- IGES -> Minicad and MiniCad -> IGES
- IGES -> DXF
- IGES -> MacDraw
- IGES -> PICT
- IGES -> MSC/pal

Three Macintosh CAD packages that support IGES file format:
- MGM Station Professional (from Micro CAD/CAM, Inc.)
- EZ-Draft (from Bridgeport Machines, Inc.)
- Minicad (from Diehl Graphsoft, Inc.)

Article Change History:
26 July 1993 - Company title updated from Bridgeport Macnines to Bridgeport Machines, Inc.
24 March 1988 - Updated for technical accuracy.
Published Date: Feb 19, 2012

LaserWriter Pro 810: What Are VMS/UNIX Network Utilities?

What are the LaserWriter Pro 810 VMS Network Utility Installer (Apple part number M2695LL/A) and LaserWriter Pro 810 UNIX Network Utility Installer (Apple part number M2696LL/A)?
This article has been archived and is no longer updated by Apple.
They are print driver and utility installer kits for the LaserWriter Pro 810. Both of these utilities are also included with the LaserWriter Pro 810 on 3.5-inch floppy diskettes (the UNIX utility is on a tar formatted-diskette and the VMS floppy is on a MS-DOS-formatted diskette).

Apple created these utility kits, because some VMS and UNIX systems require tape-based instead of floppy-based software.

The VMS Network Utility is shipped on a TK50 tape, while the UNIX Network Utility is shipped on a QIC24 tape.
Published Date: Feb 19, 2012

AppleSearch: Changing Index Location On An AWS 95

The AppleSearch Server requires a "volume" be selected as a point for indexing on an Apple Workgroup Server (AWS) 95.

Under the A/UX operating system, the root file system is the only choice that is presented. The reason for this is that the UNIX operating system "mounts" other file systems as a node on the current file system. For example, an external drive could be mounted as /shared data/software and could contain shared data.

The root file system could have only a couple of megabytes free, and a lot on /shared data/software, but since AppleSearch looks for Macintosh style volumes, that being "/" it uses the root file system for indexing. Most UNIX systems have a small root file system and a large data (/shared data) and /usr partitions. This way, the UNIX system can be reinstalled with minimal hassle. Under AppleSearch, this presents a problem, is there a workaround?
This article has been archived and is no longer updated by Apple.
AppleSearch 1.0 forces the "AppleSearch Indexes" folder to be at the root of HFS partition. This is fine for HFS disks, but for the UFS disks there are times when you want to move them (if, for instance, /users is a separate disk and you want the indexes there).

Here is a workaround you can use:

1) Start AppleSearch and create the information source indexes in "/".
2) Quit AppleSearch.
3) Move the index to wherever you want them to exist.
4) Restart AppleSearch. It will ask you where the indexes are, navigate to them, and then AppleSearch remembers the new location.
5) Index as usual.

Also, you may want to have fair amount of available space on the "/" directory. AppleSearch uses this directory to store temporary files when reindexing, which can be large at times.
Published Date: Feb 19, 2012

LaserWriter Pro 810: Printing Ledger Size at High Resolution

When I try to print ledger-size documents (11 by 17 inches) to my LaserWriter Pro 810, the only output is an 8.5 by 11 inch page with a double line printed across the top. I setup the printer with the Auto Setup option in the Chooser and I'm using LaserWriter driver version 8.1.1.

How can I print ledger-size documents?
This article has been archived and is no longer updated by Apple.
The LaserWriter Pro 810's standard 8MB of memory can only print ledger-sized pages at a maximum resolution of 400 dots-per-inch (dpi). If the printer is set for 800dpi and you try to print ledger-sized documents, the resulting problem you outlined will occur. To print ledger-sized pages at higher resolution, the printer memory needs to be upgraded to 12MB for 600 dpi and 16MB for 800 dpi.

Here's how to print ledger-sized documents at 400 dpi:

1) Select 400 dpi printer resolution for a particular print job.

On a Macintosh computer, follow these steps:

1. Select Print from the File menu to display the Print Dialog box.
2. Click on Options in the Print Dialog box to display the Print Options Dialog box.
3. Select 400 dpi from the Choose Resolutions option.

You can permanently change the LaserWriter Pro 810's default printer resolution by selecting the appropriate resolution in the printer's control panel under the POSTSCRIPT RESOLUTION option.

2) Set the paper size for ledger-size paper, then select the specific paper tray with ledger-sized paper in your printing utilities.

On a Macintosh computer, follow these steps:

1) Select Page Setup from the File menu to display the Page Setup Dialog box.
2) Select Ledger from the Paper option. Click OK to close this dialog box.
3) Select Print from the File menu to display the Print Dialog Box.
4) Select the specific paper tray (Upper, Middle, Lower) that contains ledger-size paper from the Paper Source option.
Published Date: Feb 19, 2012

LaserWriter Pro 810: Fuser Life Expectancy

What is the life expectancy of the LaserWriter Pro 810's fuser assembly?
This article has been archived and is no longer updated by Apple.
The suggested replacement interval for the LaserWriter Pro 810 fuser assembly is 100,000 print cycles. This compares favorably to some other Apple LaserWriter printers which have suggested fuser assembly replacement intervals of 85,000
print cycles.

The actual life expectancy of a fuser assembly can vary significantly depending on the level of preventive maintenance performed on the printer and the types of paper used in the printer.

To lengthen fuser assembly life, inspect the cleaning felt frequently. The cleaning felt cleans and lubricates the non-stick surface on the fuser roller to prevent paper, dirt, and debris from sticking to the roller and increasing wear. If the cleaning felt has a heavy coating of rust-colored or darker toner, it is a good preventive maintenance practice to replace it, even if the toner cartridge does not yet need replacing. Cleaning felts are available separately as a service part:
Cleaner, Heat roller, P/N 922-0929.

At a minimum, replace the cleaning felt with each toner cartridge. A new cleaning felt is provided with each toner cartridge.
Published Date: Feb 19, 2012

PowerBook: Insomnia Software (2/94)

What is the new PowerBook software from Apple called "Insomnia"?.

This article has been archived and is no longer updated by Apple.
Insomnia is an extension that keeps the PowerBook from going to sleep during the installation process when starting from the Install Me First disk.

Published Date: Feb 19, 2012

LaserWriter Pro 810: How Memory is Allocated

I have a LaserWriter Pro 810 with 16MB (megabytes) of memory. When I select my printer in the Chooser and click on Printer Info to see how much memory is available, only 1.2MB is free.

Note: The LaserWriter Pro 810 has just been turned on and no fonts are downloaded.

How is the rest of the LaserWriter Pro 810 memory allocated?
This article has been archived and is no longer updated by Apple.
When the LaserWriter Pro 810 powers on, it checks to see how much memory is available and automatically allocates the largest page buffer possible at the highest resolution. Thus, for a 16MB configuration, approximately 14.1MB is
used to create a page buffer for a ledger-sized page at 800dpi.

The remaining 1.9MB of memory is used for such things as the PostScript interpreter itself, PostScript dictionaries, display list, font caching, and program memory.
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Super Serial Card: Cable for NEC Printers (11/96)

Listed below are the cable pinouts and switch settings for connecting the Super Serial card to a Nec 3510 Spinwriter printer.

This article has been archived and is no longer updated by Apple.

NEC 3510 Spinwriter

Super Serial Card (SSC) Pin Cable Pin Printer Connector

Receive Data (Rx) ..... 3 <-----> 3
Signal Ground .....(SG)..... 7 <-----> 7
Data Terminal Ready (DTR) .... 20 <-----> 19

Super Serial Card dip switch settings

SW1: all off except #4,6,7
SW2: all off except #1,3,4

NEC dip switch settings
---

* Switches located on inside on G9NA5 board: ALL OFF

* The other dip switches are located in a cluster, and should be set as follows:

| |X| |X| | | | | | |X| | | | | | |X|X| | |X| UP
|X| |X| |X|X|X|X| |X|X| |X| |X|X|X|X| | | |X| | DOWN

NEC 5510/7710, 5515/7715, 5520/7720, 5525/7725

Super Serial Card (SSC) Pin Cable Pin Printer Connector

Frame Ground .....(FG)..... 1 <-----> 1.....(FG)
Transmit Data (Tx) ..... 2 <-----> 3.....(Rx)
Receive Data (Rx) 3
Request to send (RTS) .... 4 <-----> 5.....(CTS)
Clear To Send (CTS) 5
Data Set Ready (DSR) .... 6 <-----> 19....(SCTS)
Signal Ground .....(SG)..... 7 <-----> 7.....(SG)
Data Carrier Detect (DCD) 8
Secondary Clear To Send (SCTS) ... 19
Data Terminal Ready (DTR) .... 20 <-----> 6 & 8.(DSR) & (DCD)

Printer dip switches

SW1 1 - OPEN
2 - CLOSED
3 - OPEN
4 - OPEN
5 - CLOSED

6 - OPEN
7 - CLOSED
8 - OPEN

Article Change History:
21 Nov 1996 - Reviewed for technical accuracy, revised formatting.
Published Date: Feb 19, 2012

LaserWriter Pro 630: How Memory is Allocated

I have a LaserWriter Pro 630 printer with 8MB (megabytes) of memory. When I select my printer in the Chooser and click on Printer Info to see how much memory is available, only 2.3MB is free. Note that the LaserWriter Pro 810 has just been turned on and no fonts are downloaded.

What happened to the remaining 5.7MB of memory? How is the rest of my LaserWriter Pro 630's memory allocated?

This article has been archived and is no longer updated by Apple.
The remaining 5.7MB of memory is used for a variety of things, although most of it is allocated to a frame buffer where the actual page is imaged.

Since legal-size (8.5 by 14 inches) is the largest available page size, the memory required for a legal-sized page can be calculated by multiplying the total imageable area (8.5 by 14) by the highest vertical and horizontal resolution in dots-per-inch (600 by 600). This calculation comes out to roughly 5MB.

The 2.3MB of "free" memory is used for such things as the PostScript interpreter itself, PostScript dictionaries, display list, font caching, and program memory.

Published Date: Feb 19, 2012

LaserWriter Pro 810: Printing from UNIX Default Socket

I have been using TCP port 3101 (Factory printer with no settings) to print from UNIX platforms (Macintosh and Sun) to a LaserWriter Pro 810. A few days ago, TCP port 3101 would suddenly no longer print documents sent to it, though the printer acts like the documents are printed.

Are there any internal settings in the LaserWriter Pro 810 that are not reset to factory defaults by selecting "Restore Factory Setup" from the printer's LCD front panel? If so, how can they be reset and could they cause this problem?
This article has been archived and is no longer updated by Apple.
Yes, there are settings not affected by the "Restore Factory Setup" option in the LaserWriter Pro 810's control panel. This option only affects settings used by the PostScript interpreter. Settings for the LaserWriter Pro 810's print server (otherwise known as Virtual Printer Technology) are kept on the print server card itself which is inside the printer. It has its own separate Non-Volatile RAM (NVRAM). These settings can be reset in two different ways.

1) By entering the command "INIT DEFAULT DELAY 0" through the printer's Remote Console Facility (RCF).

2) By putting a jumper on "WIRE 2" on the print server card, starting up the printer until "Ready To Print" appears, and then removing the jumper.

WARNING: Either one of these reset mechanisms will remove all virtual printers, and any settings related to virtual printers.

Here are some suggestions which may cure your problems in printing from the UNIX default socket:

1) Reset the LaserWriter Pro 810's print server as mentioned above.

2) Through your printer's RCF, type in "show service characteristics" and look to see that CONNECTIONS and QUEUE are "enabled" in TCP port 3101. If they aren't, enabling them should cure your problem.

3) Print to a different TCP port, such as 3104 for ASCII printing or 3102 for PostScript printing.
Published Date: Feb 19, 2012

LW Pro 810: Non-AppleTalk Packets in Data Stream

When I used a network diagnostic tool on my network, I noticed that a variety of non-AppleTalk packets are being sent from my LaserWriter Pro 810. How do I turn each one off or on?
This article has been archived and is no longer updated by Apple.
If you plan on using the RCF (Remote Console Facility) extensively you should order the manual "Apple LaserWriter Pro 810 TCP/IP - LAT Protocol and Command Reference" (Apple Part Number M2187LL/A).

RCF can be accessed a couple of different ways. The easiest is by Telnet, once the printer's IP address has been set. The other way is by using the RJ-12 maintenance port. This option requires a unique RJ-12 to mini DIN-8 cable. For further information on the maintenance port and cabling, refer to Section 2.3.2 and Appendix A of Part 1 in the LaserWriter Pro 810 Network Installation and Configuration Manual. Once the connections have been made, the default passwords for RCF are as follows:

```
RCF:                  password = ACCESS
RCF Super User mode:  password = SYSTEM
```

Enable or Disable a Protocol Stack
Below is listed the RCF commands you can use to enable or disable the entire protocol stack. Use these commands to specify server options:

```
  SET    SERVER option(s)
  DEFINE
  CHANGE

Option: AUTHORIZED [PROTOCOL] APPLETALK [ENABLED | DISABLED]
                              LAT       [ENABLED | DISABLED]
                              NETWARE   [ENABLED | DISABLED]
                              TCPIP     [ENABLED | DISABLED]
                              ALL
                              NONE
```

Below is an example showing the disabling of TCP/IP:

```
 change server authorized tcpip disabled
```

Specifying a protocol with no flag, enables that protocol and disables the rest. ALL enables all protocols. NONE disables them.

```
SET      Modifies the current database and takes effect immediately.
        Parameters are reset to permanent (DEFINEd or CHANGEd) values
        at the next login or initialization

DEFINE   Modifies the permanent database and takes effect next login or
        initialization.

CHANGE   Modifies both databases immediately.
```

Enable or Disable Announcement Broadcasts
Announcement broadcasts may also populate the network such as DECnet MOP (Maintenance Operation Protocol) or bootp in TCP/IP. Use this command to specify server options.

```
  SET    SERVER option(s)
  DEFINE
  CHANGE

Option: ANNOUNCEMENTS [PROTOCOL] LAT   [ENABLED | DISABLED]
                                 TCPIP [ENABLED | DISABLED]
                                 RCF   [ENABLED | DISABLED]
```

Note: RCF enables or disables DECnet Mop.

Below is an example showing how to disable the DECnet MOP broadcasts:

```
 change server announcements rcf disabled

SET      Modifies the current database and takes effect immediately.
```

```
        Parameters are reset to permanent (DEFINEd or CHANGEd) values
        at the next login or initialization

DEFINE   Modifies the permanent database and takes effect next login or
        initialization.

CHANGE   Modifies both databases immediately.
```

Enable or Disable Netware Broadcasts

Netware broadcasts are different, use this command to specify the preferred Ethernet mode that IPX uses.

```
SET     SERVER NETWARE IPX [DEFAULT | 802.3 | [ETHERNET_II [ether_type]]]
DEFINE                     [REDISCOVER [minutes]]
CHANGE                     [FAST [PRINTSERVER] ENABLE | DISABLE]
```

Below is an example showing how to disable Netware broadcasts:

```
 change server netware ipx rediscover 0

DEFAULT      IPX will try both 802.3 and Ethernet II. The first one found
            will be selected.

802.3        IPX will only look for 802.3 Ethernet frames.

ETHERNET_II  IPX will only look for Ethernet II frames.

ether_type   If Ethernet II is selected the user can specify the Ethernet
            type in ASCII hex. For example, the Netware default is
            0x8137. The Ethernet type is not changed if this is not
            specified.

REDISCOVER   Triggers the rediscovery process. This process queries the
            network for newly configured Novell Print Servers and starts
            all remote printers found.

minutes      If specified with the REDISCOVER keyword this sets the
            automatic interval at which REDISCOVERY takes place. The
            range is from 0-14 minutes, 2 is the default and 0 disables
            periodic rediscovery.

FAST         Some versions of Netware pserver when run on original PC
            class machines (4.77mhz) require this option to be disabled.
```

Published Date: Feb 19, 2012

Newton MessagePad: Hard Resets Occur After Low Power

When I turn on my Newton MessagePad, I get the message "Do you want to erase data?". What is causing this to happen?
This article has been archived and is no longer updated by Apple.
The message is an indication that a hard reset has occurred. A hard reset erases only the information you have stored. It does not remove Newton's programs or operating system software (including system updates).

The normal procedure for doing a hard reset is to slide down the on/off switch, hold it down as you press the Reset button in the battery compartment, and then release the on/off switch.

There are also two unusual situations that can trigger a hard reset. If the Newton MessagePad is low on power, then a power fault flag is set. Once this flag is set, if the power switch is held for an extended duration, a hard reset is triggered. If the Newton MessagePad quits and resets itself, and the power switch is held down, a hard reset is also triggered.

No changes will be made to the software or hardware to eliminate this from occurring.
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ARA 2.0: Incompatible with Macintosh Plus (5/96)

I'm using a Macintosh Plus, Hayes V-series 9600, AppleTalk Remote Access (ARA) 2.0 and supplied script. ARA won't dial. AppleTalk Remote Access 1.0 worked on this Macintosh Plus.

This article has been archived and is no longer updated by Apple.

ARA 2.0 is incompatible with Macintosh Plus computers. Version 2.0.1 is compatible, and can be ordered through the Apple Order Center. There is a small charge for shipping and handling. The Tech Info Library article titled "Locating Vendor Information" can help you search for Apple Order Center's phone number.

Article Change History:

24 May 1996 - Updated for technical accuracy.

25 May 1994 - Added 2.0.1 availability information.

11 Apr 1994 - Added the note about ARA 2.0.1 beta software.

Published Date: Feb 19, 2012

VideoSync: Doesn‘t Run with Some Configurations (5/95)

I am using VideoSync, and followed all the directions. They explain that I needed to put VideoSync and the Monitors control panel at the root level of the System Folder, and put an alias of the Monitors control panel in the Control Panels folder. Then restarted my Macintosh computer.

Configuration:

System 7.1
VideoSync 1.0

Quadra 700
Apple 21-inch
Apple 8.24 GC video card

When I open the Monitors control panel and click on Options, the screen goes into a severe roll and I have to restart.

This article has been archived and is no longer updated by Apple.

```
This configuration won't work with VideoSync.

VideoSync will only run:

* In 8-bit color (256 colors)
* Only on a 13-inch monitor (640x480)
* Only on the 8*24 NuBus card

VideoSync WON'T RUN with:

* The 24AC Display card
* The 8*24 GC card
* Third-party cards
* Internal Video

You need to use a smaller monitor and a different card to make VideoSync work on the Quadra 700.  If you had
access to a Quadra 840AV, you could use VideoSync II which ONLY works on the Internal Video.

Both VideoSync and VideoSync II are available through online services Apple provides software updates on.

These articles can help you locate software updates mentioned here:

* Where To Find Apple Software Updates
 Lists online services for "free" Apple software updates

* Obtaining Apple Product Support in the USA
 Lists 800 numbers and online services for software updates, Apple
 support information, and a subset of the Apple Tech. Info. Library


Article Change History:
25 May 1995 - Added where to get VideoSync & VideoSync II software

Support Information Services
```

Published Date: Feb 19, 2012

Software Installation Over a Network

This article tells you how to set up software on a file server for installation over a network. This process works with many software packages that use the Apple Installer, such as At Ease and System 7, but does not work for system software versions earlier than 7.0.

This article has been archived and is no longer updated by Apple.

NETWORK INSTALLATION SERVER SETUP
==========

Most software installation scripts, especially those that use the Apple Installer, specify the name and contents of each disk used in the installation. You can substitute folders for disks, as long as their names and contents are exactly the same as the disks.

To set up a network installation, you need to have write privileges on the file server. If you cannot create files on the file server, ask your file server administrator to grant write privileges, then follow these steps:

Step 1:

Create a folder on a server volume, and give it an appropriate name, such as "System 7 Net Install".

Step 2:

Insert the first installation disk and drag its icon to this new Net Install folder. All files on the disk will copy into the new folder. Repeat this process for the remaining installation disks, except the Disk Tools disk.

Step 3:

Double-click the Net Install folder to open it.

Step 4:

Find the folder with the name of the first installation disk and open it.

Step 5:

Drag the Installer icon and the Installer Script icon to the root (top) level of the Net Install folder.

NOTE: If you are setting up a network installation for System 7 Pro, the instructions differ slightly from previous versions of system software. Make these changes:

The Installer and Installer Script remain inside the Install Me First folder.

Create an alias to the Installer and the Installer Script, and drag the aliases to the top level of the Net Install folder.

Step 6:

Be sure the server users have privileges to "See Folders" and "See Files" for the Net install Folder and all enclosed folders. Ask your file server administrator for help, if necessary.

Step 7:

Test the server by logging on from your own computer and running the installation.

NETWORK INSTALLATION
==========

Preinstallation Checklist
==========

Have a Recent Backup

It is always advisable to have a recent backup of your hard disk data. There are several software utilities available that perform this operation, or

you can select the items you want to back up, and then copy them to another disk. If you cannot back up your entire hard disk, at least make a backup copy of your System Folder.

Run a Compatibility Checker

If you are installing system software, you may have a Compatibility Checker with the package. If so, run it before installing the new software. It checks all your applications and extensions for compatibility, and lets you print out the report. Remove any incompatible or questionable extensions from your System Folder. Contact the vendors of the incompatible applications for update information.

Turn Off Security and Virus-Protection Software

Turn off all security software and virus-protection software, and restart. Refer to the manuals that came with the software for instructions.

Check for Directory Problems

Before upgrading system software, it is advisable to check the disk for directory problems. Start the workstation with the Disk Tools disk, and Run Disk First Aid on all connected hard disks. Repair any damaged hard disks you have connected to your Macintosh.

Update Hard Disk Drivers

You may want to update hard disk drivers, especially if you are upgrading from System 6 to System 7. If you have an Apple hard drive, you should update the drivers with the version of Apple HD SC Setup that is on the Disk Tools disk. Start the Macintosh with the Disk Tools disk, open Apple HD SC Setup, and click on the Update button.

If HD SC Setup cannot update the hard disk driver (indicated by a "dimmed" Update button), consider these possibilities:

If a third-party utility formatted your hard disk, you should obtain the latest version of the utility to update your hard disk.
If a version of Apple HD SC Setup more recent than the version on the Disk Tools disk formatted your hard disk, do not update the hard disk drivers.

If a System 6 version of Apple HD SC Setup formatted the drive, it may not have left enough room for the updated driver. You don't have to update the hard disk drivers. However, if you intend to use file sharing or have a Macintosh that can use virtual memory, then you need to back up the disk and re-initialize it with HD SC Setup. This erases the disk, so be certain you back up the hard disk first.
If the driver is corrupt, the Macintosh does not recognize the disk (that is, the disk does not show on the desktop when you start from a floppy disk). You may want to re-initialize it with HD SC Setup. This erases the disk, so be certain you back up the hard disk first.

If the driver has been modified with compression or security software you will not be able to update the driver. Contact the vendor for additional help.

Begin Installation
==========

Step 1:
Connect to the shared disk that contains the Net Install folder.

Step 2:
Double-click the Net Install folder to open it. A window appears.

Step 3:
Double-click the Installer icon (or alias, if you're using System 7 Pro).

Follow the instructions under Easy Install or Customize Install.

Easy Install

Step 1:
Click the Switch Disk button to select the disk where you want to install system software.

Step 2:
Click the Install button. When installation finishes, a message appears saying installation was successful.

Step 3:
Click the Quit Button.

Step 4:
Choose Restart from the Special menu.

Customize Install

If you want to select the components of the software installed (for example, if you do not want to install file sharing software, or don't want all printer drivers installed), you can customize the installation.

Step 1:
In the Installer, click the Customize button. A screen appears.

Step 2:
Click the Switch Disk button if necessary to select the disk where you want to install system software.

Step 3:
Select the items you want to install. Shift-click to select multiple items. Your selections appear beneath the scrolling window.

Step 4:
When you've made your selections, click the Install button.

Step 5:
When installation finishes, a message appears saying installation was successful. Click the Quit button.

Local Volume "Network Installation"
==========

This procedure also works on a local volume, such as an external hard disk or a RAM disk. This is useful for a Macintosh with only an 800K floppy drive, when you have high-density installation disks. Follow these steps:

Step 1:
Attach an external hard disk to a Macintosh with an Apple SuperDrive (formerly called FDHD).

Step 2:
Set up the Net Install folders on the external drive.

Step 3:
Connect it to the Macintosh with the 800K floppy drive.

Step 4: Run the Installer.

Clean System Software Installation
==========

A normal system software installation modifies and updates the existing System Folder. A clean installation disables the existing System Folder, leaving most files in place, and forcing the Installer to create a new System Folder.

A clean system installation brings the system software back to the standard configuration. This is necessary when system software has been damaged or modified, preventing a normal installation. It's also useful in troubleshooting.

Follow these steps to do a clean system software installation over the network:

Step 1:

Follow the previous instructions in this document about the Compatibility Checker and Disk First Aid, updating the hard disk drivers if needed, and disabling security and virus protection software.

Step 2:
Log on to the file server where the Net Install folder is.

Step 3:
Open the System Folder on your hard disk.

Step 4:
Drag the System (at the root level of the System Folder) into the Preferences Folder.

Step 5:
Close the System Folder, and rename it "Storage".

Step 6:
Proceed with the installation instructions in the Begin Installation section.

After performing a clean installation, verify that problems are resolved before adding anything to the new System Folder. Adding items to the System Folder before resolving the problem defeats the purpose of a clean installation.

When the Macintosh behaves as expected, check the Storage folder for other system files, fonts, and sounds that you may want to install in your new System Folder. Drag files to the Trash that duplicate those in your new System Folder. Other files you might find in the Storage Folder include:

INITs, control panels, and device drivers (such as scanner drivers), which you should reinstall from the original floppy disks, if possible.

Check the system suitcase for non-standard fonts, sounds, and keyboard layouts.

Preference files from applications that store information about the application's settings, (such as the default font and margins).

These files can sometimes become damaged -- unless you have spent a lot of time customizing the application, it is best not to reinstall these. The application recreates the Preference file with default settings when you launch it.

Some applications install folders (such as Claris, Microsoft, Aldus, or a folder for electronic mail). You can drag these folders to the new System Folder.

After you move all needed items from the Storage folder, drag the Storage folder to the Trash, and choose Empty Trash from the Special menu.

Published Date: Feb 19, 2012

Super Serial Card: Cable for US Robotics Password Modem (11/96)

Listed below are the cable pinouts for connecting the Super Serial card to a US Robotics Password Modem.

This article has been archived and is no longer updated by Apple.

Super Serial Card (SSC) Pin Cable Pin Modem Connector

Frame Ground .....(FG)..... 1
Transmit Data (Tx) ..... 2 <-----> 2
Receive Data (Rx) ..... 3 <-----> 3
Request to send (RTS) 4
Clear To Send (CTS) 5
Data Set Ready (DSR) 6
Signal Ground .....(SG)..... 7 <-----> 7
Data Carrier Detect (DCD) 8
Secondary Clear To Send (SCTS) ... 19
Data Terminal Ready (DTR) .... 20 <-----> 20

Super Serial Card dip switch settings

SW1: all up except 1 (down)
SW2: all up except 6,7 (down)

* Set Super Serial Card configuration block to Terminal.

Modem dip switches settings
---
* Dip switch settings for Modem: ALL DOWN

Article Change History:
21 Nov 1996 - Reviewed for technical accuracy, revised formatting.
Published Date: Feb 19, 2012

Sys 7.1 CD: Clean Install Quadra/Centris 610, 650, 800 (7/96)

A normal system software installation modifies and updates the existing System Folder. A clean installation disables the existing System Folder, leaving most files in place, and forcing the Installer to create a new System Folder.

A clean system installation brings the system software back to the standard configuration. This is necessary when system software has been damaged or modified, preventing a normal installation. It's also useful in troubleshooting.

This article has been archived and is no longer updated by Apple.

```
Follow these instructions in the order presented.


Restart with Install Me First CD

--------------------------------

1) Shut down your Macintosh computer.


2) Restart the computer while holding down the

  Command-Option-Shift-Delete keys.


3) When you see the blinking question mark, continue holding down the

  four keys, and insert the CD into the drive.


  The computer should start from the CD, and then you should see the

  At Ease menu.  If you don't see this menu, repeat these steps.


Run Disk First Aid

------------------

Disk First Aid software can detect and repair problems on a hard disk.


1) Click on the Disk First Aid button.
```

2) In the window that appears, be sure the startup hard disk is selected. If it isn't, click the Drive button to select the startup hard drive.

3) Click on Open and then on Start. Disk First Aid checks your hard disk for any potential problems. If it finds problems, you should let the software repair them.

4) Repeat this procedure for each hard disk attached to the system.

5) When you're finished verifying the hard disks, choose Quit from the File menu to return to the desktop.

If Disk First Aid can't repair a hard disk, you should back up the hard disk and reinitialize it using the appropriate formatting utility for that disk. For Apple drives, use Apple HD SC Setup.

Update Hard Disk Drivers

If you don't have an Apple hard disk or use third-party software to format your disk, don't use the Apple HD SC Setup Utility. However, you should contact your hard drive vendor to verify that your formatting software is compatible with system software version 7.1.

If you have an Apple hard drive, you should update the drivers with the version of Apple HD SC Setup that's on the Disk Tools disk, following these steps:

1) Double-click the HD SC Setup icon to launch it.

2) Click on the Update button.

3) When you're finished, click Quit to return to the Finder.

If HD SC Setup can't update the hard disk driver (indicated by a "dimmed" Update button), consider these possibilities:

If a third-party utility formatted your hard disk, you should obtain the latest version of the utility to update your hard disk.

If a version of Apple HD SC Setup more recent than the version on the Disk Tools disk formatted your hard disk, don't update the hard disk drivers.

If a System 6 version of Apple HD SC Setup formatted the drive, it may not have left enough room for the updated driver. You don't have to update the hard disk drivers. However, if you intend to use file sharing or have a Macintosh that can use virtual memory, then you need to back up the disk and reinitialize it with HD SC Setup. This erases the disk, so be certain you back up the hard disk first.

If the driver is corrupt, the Macintosh doesn't recognize the drive (that is, the drive doesn't show on the desktop). You may wish to reinitialize it with HD SC Setup. This erases the disk, so be certain you back up the hard disk first.

If the driver has been modified with compression or security software you will not be able to update the driver. Contact the vendor for additional help.

Check Available Hard Disk Space

Be sure you have at least 5MB available on the hard disk where you plan to install the system software. To check hard disk space, follow these

steps:

1) Choose Control Panels from the Apple menu.

2) Double-click the Views control panel to open it.

3) In the Views control panel, check "Show disk info in header."

4) Open your hard disk's window.

The amount of available disk space appears in the upper-right corner of any open window.

If there's less than 5MB available, you'll need to delete some unnecessary files by moving them to the Trash. Choose Empty Trash from the Special menu, and you'll have more disk space available. Or you can copy files onto floppy disks or other media before moving them to the Trash.

Disable the System Folder

You disable the System Folder by moving the System and renaming the System Folder.

1) Open your hard disk's icon and locate the System Folder.

2) Open the System Folder and locate the System file.

3) Move the System file into the Preferences folder.

4) Close the System Folder's window and rename the System Folder "Storage."

5) Close all windows that are open on your desktop.

Install System 7.1

Install system software version 7.1 following these steps:

1) Double-click on the Install System Software icon located on the Install Me First CD.

2) When the "Welcome to the Apple Installer" message appears, click on OK.

3) Be sure the correct disk is selected for the installation procedure (click on "Switch Disk" if necessary).

4) Click on Install.

The Installer determines the required software and reads it from the CD.

Verify Problem Resolution

After performing a clean installation, verify that you resolved the problem before adding anything to the new System Folder. Adding items to the System Folder before resolving your problem defeats the purpose of this procedure.

Install Non-Standard Items

You can now reinstall the non-standard items from the old System Folder (now named "Storage") such as fonts, screen savers, device drivers, and so on. If possible, you should reinstall these items from their original disks.

If the original disks aren't available, you may move the non-standard items from the Storage folder to the new System Folder. Be aware that reinstalling items from the old Storage folder into the new System Folder may reintroduce damaged or corrupted files. Be careful not to replace anything that's already in the new System Folder. Only move items that aren't already in the new System Folder.

1) Open each corresponding folder within the System Folder and the Storage folder and then compare the contents.

2) Move anything that isn't already in the new System Folder and its subfolders from the Storage folder and its subfolders to the new System Folder.

3) Restart your Macintosh.

Troubleshooting Extension Conflicts

If you've installed any system extensions or control panels, you'll probably see their icons line up across the bottom of the screen when you restart. They load into memory at startup time and modify the standard behavior of the operating system.

Verify INIT Conflict

If the Macintosh fails to restart or behaves erratically, you probably have an incompatible, or conflicting, INIT (also known as a system extension or control panel). To verify this problem, follow these steps:

1) Be sure the Caps Lock key is off.

2) Restart, and after you see the picture of a smiling Macintosh, hold down the Shift key.

3) Release the Shift key when the "Welcome to Macintosh, Extensions Off" message appears.

4) When the Macintosh is ready, try to recreate the erratic behavior.

If the problem no longer occurs, then you have a conflicting extension or control panel. Continue with the next section.

Remove and Replace INITs in System Folder

---

1) Create a new folder on the desktop and name it "INITs."

2) Open the System Folder, Extensions folder, and Control Panels folder, and choose by Kind from the View menu. Find all items of Kind "system extension" or "control panel" under the Kind heading in the windows of the open folders, and move them to the INITs folder.

3) Close the System Folder, and restart the Macintosh.

4) Attempt to recreate the problem.

5) Move one item from the INITs folder to the closed System Folder and restart the Macintosh.

6) Attempt to recreate the original problem.

Repeat steps 5 and 6 for each item in the INITs folder on the desktop until the problem recurs. The last item returned to the System Folder is probably the cause of the problem. Remove it from the System Folder

(restart, holding down the Shift key again, if necessary), and contact the developer of the INIT for more information.

Final Steps

Verify that your applications are performing normally. If not, refer to the application manual or contact the vendor.

When the Macintosh behaves as expected, drag the Storage folder to the Trash, and choose Empty Trash from the Special menu.

Article Change History:

02 Jul 1994 - Removcd Fax Information

01 Nov 1994 - Modified process for disabling old system folder.

04 Aug 1994 - Verified against contents of the fax document.

Support Information Services

Published Date: Feb 19, 2012

MODE32: How to Access More Than 8 Megabytes (2/94)

I have a Macintosh which has 24-bit ROMs and I wanted to access more than 8 megabytes of memory with System 7, so I installed MODE32. When I open About This Macintosh in the Apple Menu, my system size is larger than 8 megabytes, yet I cannot access more than 8 megabytes of memory.

How can I access more than 8 megabytes?

This article has been archived and is no longer updated by Apple.
Your Macintosh is still set to 24-bit memory addressing and cannot access more than 8 megabytes. You must set your Macintosh to 32-bit addressing. To do so, follow these steps:

1) Select Control Panels from the Apple Menu, then select the Memory Control Panel.

2) Click on 32-bit addressing in the Memory Control Panel.

3) Restart your Macintosh.

Your Macintosh will now be able to access more than 8 megabytes of memory.

Published Date: Feb 19, 2012

MODE32: System Crashes and Recovery (2/94)

I am using MODE32 and have had my system "crash" or "freeze." How do I recover from this?

This article has been archived and is no longer updated by Apple.
Here are some troubleshooting steps to follow if you have system "crashes" or "freezes" when using MODE32:

* If your Macintosh "freezes" before the Welcome to Macintosh dialog box is displayed, additional hardware, such as NuBus cards, system accelerators or memory may not be 32-bit clean. In this case, contact the manufacturer of your third-party hardware.

* If your Macintosh "freezes" when the Welcome to Macintosh dialog box is displayed, your hard disk formatting software may not be 32-bit clean. You should update your hard disk driver.

* If your Macintosh "freezes" while it is loading INIT files, remove all INITs except MODE32, then reboot your system. If your system reboots normally, add the INIT files one by one to your System Folder and reboot after you add each one. If your Macintosh "freezes" again, the INIT that you just added is likely to be incompatible. Contact the INITs vendor to get an updated version.

Note that INITs that are NOT 32-bit clean are likely to be incompatible.

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Newton MessagePad: How to get System Update 1.05

This article describes Newton System Update 1.05.
This article has been archived and is no longer updated by Apple.
Newton System Update 1.05 is designed for any Newton MessagePad who has system software version 1.04 or lower. It optimizes system performance for third-party applications, and improves your Newton's memory and power management. System Update 1.05 gives you the same functionality provided by Newton System 1.11.

To receive System Update 1.05 in the United States, contact the Newton Fulfillment Center at 1-800-242-3374. Outside the United States, contact your local Apple Authorized Service Provider.

Apple is currently distributing system updates for your Newton MessagePad by the following methods:

If you have the Newton Connection Kit for Macintosh or Windows, you can:

1) Call the Newton Fulfillment Center at 1-800-242-3374 and order a floppy disk containing the system update. You can then use your Newton Connection Kit to download the system update from your personal computer to your Newton.

2) For customers with a personal computer, modem, and a Newton Connection Kit for Macintosh or Windows, the update is also available on the following online services:

Compuserve (type go newton to get to the Newton Forum)
America Online (keyword PDA to get to the Newton Discussion Folder, inside World of Newton)

It is also available to internet users via FTP at the address: FTP.APPLE.COM.

If you do not have the Newton Connection Kit, you can call the Newton Fulfillment Center at 1-800-242-3374 and order the system update on a PCMCIA card. You can then transfer the system update from the PCMCIA card to your Newton.

Since System Update 1.05 uses an additional 32K of system memory, you must back up your Newton's information on a PCMCIA card or with the Newton Connection Kit before installing System Update 1.05. If you do not have a Newton Connection Kit or a memory card, contact the Newton Fufillment Center to borrow a memory card.

Article Change History
28 February 1994 - Added reference to on-line sources of System Update1.05
Published Date: Feb 19, 2012

Super Serial Card: Cable for Smith-Corona TP-1 (11/96)

Listed below are the cable pinouts for connecting the Super Serial card to a Smith-Corona TP-1.

This article has been archived and is no longer updated by Apple.

Super Serial Card (SSC) Pin Cable Pin Printer Connector

Frame Ground .....(FG)..... 1 <-----> 1
Transmit Data (Tx) ..... 2 <-----> 2
Receive Data (Rx) ..... 3 <-----> 3
Request to send (RTS) .... 4 <-----> 4
Clear To Send (CTS) .... 5 <-----> 5
Data Set Ready (DSR) .... 6 <-----> 6
Signal Ground .....(SG)..... 7 <-----> 7
Data Carrier Detect (DCD) .... 8 <-----> 8
Data Terminal Ready (DTR) .... 20 <-----> 20

Article Change History:
21 Nov 1996 - Reviewed for technical accuracy, revised formatting.
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A/UX and Compatible Macintosh Computers (8/94)

This article describes which Macintosh computers do and do not support A/UX.

This article has been archived and is no longer updated by Apple.
Here is the list of Macintosh computers supported by A/UX 3.0.1 or 3.0.2:

Mac SE/30
Mac II (with PMMU)
Mac IIx
Mac IIcx
Mac IIci
Mac IIfx
Mac IIsi
Mac Centris 610 (only with third party FPU)
Mac Centris 650 (only with FPU)
Mac Quadra 610*, 650
Mac Quadra 700, 800, 900, 950
Apple Workgroup Server (AWS) 95

* A/UX will not work with 68LC040-based Quadra 610 computers, because the 68LC040 microprocessor doesn't have an FPU. The low-end Quadra 610 (8/160) and the Quadra 610 (8/160) DOS Compatible have the 68LC040 microprocessor.

Macintosh computers NOT supported by A/UX include:

Mac IIvx
Mac Quadra 630
Mac Quadra 660AV
Mac Quadra 840AV
All Macintosh LC series computers (no FPU present)
All Macintosh PowerBook and PowerBook Duo computers
All Power Macintosh computers

Additionally, if you are installing A/UX on a supported Macintosh that requires a system enabler in order to boot, you can accomplish the installation by copying the necessary system enabler to the System Folder of the A/UX installation diskette prior to beginning the install.

A/UX 3.1 is only supported on the AWS 95, but it still can be purchased by existing non-AWS 95 customers for upgrade to A/UX 3.1.

Also, A/UX 3.0.1, 3.0.2, or 3.1 Finder interface is still based on Macintosh System 7.0.1.

Article Change History:
29 Aug 1994 - Added info about Quadra 630.
20 Jun 1994 - Added clarification on 68LC040-based computers.
06 Jun 1994 - Added Macintosh computers not supported by A/UX.

Support Information Services

Published Date: Feb 19, 2012

LaserWriter Pro 810: How to Enter Super User Mode

I am using NCSA Telnet to access the LaserWriter Pro 810's Remote Console Facility (RCF), and am unable to enter super user mode. I can, however, enter super user mode through a terminal that I have directly connected to the printer's RJ-12 port.

How can I enter super user mode through Telnet?
This article has been archived and is no longer updated by Apple.
When using Telnet to enter super user mode on the LaserWriter Pro 810, you must change the carrige return configuration from CR-LF to CR-NUL. Here is how to make this change.

1. Launch NCSA Telnet
2. Choose Preferences from the Edit menu, and choose Sessions from the submenu.
3. Click New to create a session, or highlight the session you normally use and Click Change.
4. Select Berkley 4.3 CR mode. (This changes the carriage return mode to CR-NUL.)
5. Select OK to close the Sessions options dialog.
6. Select OK to close the Sessions dialog.

Once you have changed the CR mode, you can enter the super user mode.

The password to enter the super user mode is: SYSTEM
Published Date: Feb 19, 2012

Macintosh Plus: Limited Cursor Movement During Background Print

Configuration:

* Macintosh Plus (4MB RAM)
* External hard disk
* StyleWriter II

During background printing, I can't move the cursor in certain directions:

* When connected to the printer port, I have only horizontal cursor movement.
* When connected to the modem port, I have only vertical cursor movement.

This article has been archived and is no longer updated by Apple.
We have verified this problem on a StyleWriter II with a Macintosh Plus. There was a Serial Driver patch created for other computers, and this patch doesn't work well on the Macintosh Plus.

You must do a "clean" system software version 7.1 installation, because the patch updated the System and can't be removed. Then drag the following items into the System Folder from the StyleWriter II version 1.2 disks (DON'T run the Installer as it will reinstall the patch):

* From Installer (Disk 1):
* StyleWriter II
* Chooser

* From Disk 2 Printer Software:
* TrueType Fonts 2
* And from within the "Printer Software 2" folder:
* PrinterShare

* From Disk 3 Printer Software:
* TrueType Fonts 3

* From Disk 4 Printer Software:
* TrueType Fonts 4

Be aware that you may still see the "slow CPU and jerky mouse" syndrome. But you'll have a functional mouse while the printer is actually printing.

Published Date: Feb 19, 2012

ApplePhone 1.0.1: Read Me

The following Statements are included in the Read Me document for ApplePhone 1.0.1
This article has been archived and is no longer updated by Apple.
ApplePhone 1.0.1 is an example program, is not supported, and it has been removed from Apple Software Updates. This program was written to show off the capabilities of the AV technology. ApplePhone runs on the Macintosh Quadra 660AV, and Macintosh Quadra 840AV systems with a GeoPort Telecom adapter installed. ApplePhone does not function on any Power Macintosh system.

ApplePhone 1.0.1 fixes a small problem where it would not hang up the phone consistently in answering machine mode.

This applicaiton is provided free of charge on an "as is" basis. This is not an official product of Apple Computer!

Note: This Apple Phone software is NOT related in any way to the ApplePhone software that is a part of the Apple Telecom 3.x package. Apple Telecom 3.x also includes Apple Address Book and Apple Fax software.

Published Date: Feb 19, 2012

File Server 3.0, 4.0, & Pro: Which Workstation Version

I want to know what version of AppleShare Workstation software I can load on all my workstations to create messages from either 3.0.1, 4.0.x, or AppleShare Pro servers, and not get error messages.

For example, when I mount a server and get a dialogue indicating the next time I log in I'll have a new password. What is the latest workstation software that works with all the AppleShare File Servers versions I mentioned above?
This article has been archived and is no longer updated by Apple.
The AppleShare Workstation software that comes with AppleShare 4.0 is version 3.5 and it is backward compatible, it will allow the workstation to get those messages you mentioned. We recommend using version 3.5.
Published Date: Feb 19, 2012

DAL Support & Sales Info from Independence Technologies

This article describes how to get support and sales information from Independence Technologies, Inc. (ITI) for Data Access Language (DAL).
This article has been archived and is no longer updated by Apple.
With the agreement between Apple Computer and ITI, ITI will market DAL and provide all support to DAL customers. Existing DAL licensing agreements, independent software vendors (ISVs) and resellers will continue with ITI.

* Technical Support
- In the USA, call ITI at 510-438-2095.
- In Europe and Pacific, contact Apple locally as of February 15, 1994.

* Sales Support
- Marsha Doyen, Manager DAL Sales at 510-438-2000.

For complete Independence Technologies, Inc. information, use "Independence Technologies" as a search string.
Published Date: Feb 19, 2012

Quadra 800: Upgrade to Quadra 840A

This article describes the upgrade from the Quadra 800 to the Quadra 840AV.
This article has been archived and is no longer updated by Apple.
The Macintosh Quadra 840AV Logic Board Upgrade (Order No. M1848LL/A) is a logic board upgrade a Quadra 800 to a Quadra 840AV. Along with the logic board, this upgrade includes 4MB of memory, System 7.1, an Apple PlainTalk Microphone and the Quadra 840AV back panel.
Published Date: Feb 19, 2012

HyperCard 2.2: Screen Doesn‘t Refresh Color When Scrolling

If a color object is in a scrollable window, and the window is then scrolled, the area scrolled onto the screen will be white. This is because the stack is not refreshing itself properly during the scroll. It is possible to program around this.

This article has been archived and is no longer updated by Apple.
In the OpenStack handler (or any setup handler) check the visible of the scroll window to see if refresh routines are necessary:

```
on (some action)
global needsRefresh
if the visible of window "scroll" then put true into needsRefresh
end (some action)
```

Then any other handler could periodically call a refresh handler:

```
on idle -- or whatever
refreshScreen
end idle

on refreshScreen
global needsRefresh
if needsRefresh then go this card
end refreshScreen
```

Published Date: Feb 19, 2012

A/UX 3.0: Tracking ftp Access (2/94)

A/UX doesn't log ftp transactions the way most UNIX computers do. People tell me that on other computers, ftp transactions appear in /usr/adm/messages, but it seems that under A/UX, ftp transactions aren't logged at all. Can you tell me how to log ftp transactions under A/UX 3.0?

This article has been archived and is no longer updated by Apple.
The "-l" option of in.ftpd in A/UX had bugs. But there's a newer version of in.ftpd posted on the Internet, which logs all uses of ftp on your system and especially pays attention when someone logs in via anonymous ftp. It logged a great deal of information via syslogd daemon.

We suggest that you upgrade to this version of in.ftpd to log ftp transactions properly. The newer version of in.ftpd is available from the Internet host, jagubox.gsfc.nasa.gov (128.183.44.1), via anonymous ftp. Get the AAA.AUX.README file for more information.

Published Date: Feb 19, 2012

CCS-7710: Cable for Nec 3510 and 5510 Spinwriter (1/97)

Listed below are the cable pinouts for connecting the CCS-7710 interface card to the Nec 3510 or 5510 Spinwriter printers.

This article has been archived and is no longer updated by Apple.

Nec Spinwirter 3510

CCS-7710 NEC 3510 SPINWRITER

3 <----------> 3
4 <----------> 19
7 <----------> 7
6,8,20: Jumpered

Nec Spinwriter 5510

CCS-7710 NEC 5510 SPINWRITER

3 <----------> 3
4 <----------> 19
7 <----------> 7
5,6,8,20: Jumpered

CCS 7710 dip switch settings for Nec 5510

All down except #3

NEC 5510 dip switch settings

All down except #4,7,8

NEC 510 front panel switch settings

Speed=h, parity=m, dup=f, set to remote.

* These cable are for use with the Apple IIe computer.

Article Change History:
28 Jan 1997 - Reviewed for technical accuracy, revised formatting.
Published Date: Feb 19, 2012

AppleShare 4.0.1: Can‘t Share Files with Remote NFS Volume

We need to use a Macintosh Quadra 800 as an AppleShare 4.0.1 server. However, the Quadra 800 is currently an NFS client to an Apple Workgroup Server 95, using NFS Share version 1.3.5 from InterCon.

When AppleShare 4.0.1 starts up, it scans all volumes on the desktop and gives an "access privilege not correct" message on the remotely mounted NFS volume. We understand that AppleShare 4.0.1 expects to see only HFS volumes, but is there any workaround that would allow us to use file sharing with the remotely mounted NFS volume from AppleShare 4.0.1?
This article has been archived and is no longer updated by Apple.
AppleShare only allows using local volumes for file sharing. It won't allow you to establish file sharing with a remote volume like NFS Share from InterCon. There's no public API to allow AppleShare to "publish" remote volumes mounted on the AppleShare server.

On a side note, it isn't that AppleShare 4.0.1 expects to see only HFS volumes. The volumes must be local to the server, they don't necessarily have to be HFS volumes.
Published Date: Feb 19, 2012

AppleShare: Converting From Novell DataClub

This document describes some methods for converting a Novell DataClub file sharing environment into an AppleShare server. It also presents some instructions for removing the DataClub software from the Macintosh, after the data, users, and security information have been successfully converted to the new file-sharing environment.
This article has been archived and is no longer updated by Apple.
We suggest three methods for converting data stored on a DataClub file server volume into an AppleShare volume. Each method has its own benefits, but all have the same drawbacks; none of these methods preserves the security information established by the DataClub software. Therefore, we strongly recommend that you use the DataClub Admin utility to obtain a
thorough summary of all information about users, groups, and the security of shared files and folders before destroying any DataClub volume(s). You must then explicitly recreate all the user names and security assignments for files and folders that you previously established using DataClub on the new AppleShare server. This is essential in order to minimize difficulties for end users during and after the conversion process.

* You can back up the DataClub volume, whether it is a dedicated server volume or a distributed or "virtual" volume, by using a number of tape drive utilities. Retrospect, from Dantz Software, is one example of a DataClub-compatible tape back-up system.

When using a tape back-up system, be particularly aware of any restrictions on how you can restore the data to a different volume. Each tape back-up vendor's solution may incorporate differing rules concerning existing volume names, new volume names, or incremental restorations. So be sure to verify that you can successfully restore all the data to the new volume before destroying the old DataClub volume.

* You can copy the data on a DataClub volume directly to the new AppleShare volume. To do this, mount both the DataClub and the AppleShare volumes on the desktop of the client Macintosh. Then, simply drag-copy the data and directory structure, if you want?from one volume to the other.

This method may be slower than others, but it allows you to verify the data's integrity on the new volume at arbitrary times during the process. If a problem occurs, you can halt the process and troubleshoot the problem at that time.

* You can move the data on the DataClub volume to some other intermediate storage, such as a workstation user's local hard disk or some removable storage such as a writable magneto-optical drive. You can even copy all the DataClub data to 1.44 MB floppy disks. After moving the data to intermediate storage, you can easily copy the data to the new AppleShare volume.

This method is probably the most labor-intensive of the three. However, if you do not have a tape back-up utility and want to install the AppleShare server software on the same machine as the current DataClub DSM (Dedicated Server Module) software, this method may offer the most desirable solution. In this case you can verify the data's integrity on the intermediate media at arbitrary times during the copying process. Then, during the software conversion from DataClub to AppleShare, you can retain the media in a safe place. Finally, after you install the new AppleShare file server, you can recopy the data to the new volume.

Removing DataClub from the Macintosh
It is important that you not remove the DataClub software or the hidden volume before successfully restoring the data on a new volume where you can verify the data's integrity.

We suggest two methods for removing the DataClub software from a Macintosh volume. Both of them require a resource editor program like ResEdit from Apple Computer or the Norton Utilities from Symantec.

* Use your favorite resource editor on each Macintosh where DataClub is installed. First, turn DataClub off in its Control Panel and restart the Macintosh. Then use the resource editor to find the hidden DataClub folder. (The folder name may include five nonprinting boxes.) After you find the folder, use the resource editor to make the folder visible so that you or the workstation user can move the folder to the Trash, as with any other folder on the local volume. The time required to empty the Trash depends on how much data the folder contains. This method may be the faster of the two, but it requires a person familiar with resource editors to perform the operation on every Macintosh where DataClub is installed.

* If DataClub is installed on every Macintosh, and each Macintosh has made its hard disk available for use by DataClub, you can remove the DataClub software from each Macintosh in a step-wise fashion. We recommend that you remove DataClub software from Macintosh workstations in order, based on the amount of available disk space on each Macintosh:

1) Remove DataClub from the Macintosh with the least available disk space.

2) Proceed to the Macintosh with the second least available disk space, and continue in this order.

3) Remove DataClub from the Macintosh with the most available disk space.

Starting with the first Macintosh, open its DataClub Control Panel and uncheck the checked disks in "Use these disks" list. This will cause DataClub to move any shared data residing on the first Macintosh to other Macintosh clients on the DataClub network. After DataClub has moved the data, turn off DataClub by clicking the OFF radio button in the DataClub Control Panel. If at any point during the automatic data migration a problem arises, use a resource editor (as described in the first method, above) to remove DataClub from the volume. After restarting the

Macintosh and verifying that DataClub does not load, move the DataClub Control Panel into the Trash. If any DataClub applications like the Admin utility reside on the Macintosh, throw them away also because they are not useful without the DataClub software.

Repeat the steps in this method on every Macintosh client until all the data (files and folders) reside on the last Macintosh on the network. On this workstation, turn DataClub off in the Control Panel, and restart the machine. Use a resource editor to find the hidden DataClub folder on the root of the volume and make it visible. After quitting the resource editor, simply move the entire DataClub folder into the Trash. The time required to empty the Trash depends on how many files are in the folder.

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SNA■ps Print: CEI Printer for Multipart Forms (2/94)

Is there any printer that SNA*ps Print can use to print multipart forms?

This article has been archived and is no longer updated by Apple.

```
CEI Systems has the CEI 420 printer, a 420 character-per-second
dot-matrix impact printer suitable for multi-part forms.  It prints
forms including invoices, W-2 forms and other tax forms, and checks. It
provides inexpensive, fast, high-quantity printing.  A
Macintosh-compatible driver is available, and seems to work quite well.
```

Published Date: Feb 19, 2012

LaserWriter Driver 8 Versions: Retain Preferences Differently

Is there a way for the LaserWriter driver to retain the configuration information so it remembers that a LaserWriter Pro 630 has an envelope feeder?

I'm using two LaserWriter 8.1.1 drivers (differently named) on my PowerBook. I select one for my LaserWriter Pro 630 at home (which doesn't have an envelope feeder), and select another for my LaserWriter Pro 630 at work (which does have an envelope feeder). Neither driver can save these types of settings independently. What's wrong?
This article has been archived and is no longer updated by Apple.
The LaserWriter driver 8.1.1 driver uses a Preferences file to store Envelope Feeder option information. All LaserWriter 8.1.1 drivers (regardless of what you name them) look to this file for option information, so there's no way to save settings independently.

A possible workaround is to use both LaserWriter driver 8.0 and 8.1.1, as it seems LaserWriter driver 8.0 stores its information in the LaserWriter 8 Preferences file differently. Of course, you don't get the benefits of LaserWriter driver 8.1.1 on one printer.
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LaserWriter Pro 810: Total Memory Available

I have noticed a big difference between the LaserWriter Pro 810 and several printers with the Total Memory available (information available in the "Printer info" dialog box of LaserWriter driver 8 versions). The LaserWriter Pro 810 seems to have less total Memory available. Here's a table of some Apple printers:

Printer	Pro 810	Pro 810	Select 360	Pro 630	Pro 630	LW IIg
Resolution	400dpi	800dpi	600dpi	600dpi	300dpi	300dpi
RAM	8MB	8MB	7MB	8MB	8MB	4MB
Total Memory available	348,4K	356,5K	1 ,3MB	2,2MB	2,2MB	1,7MB

Can you explain the differences for the total memory available among the printers listed?
This article has been archived and is no longer updated by Apple.
The total memory available is the amount of memory left after the printer has set aside its required space to operate. The majority of this is the largest page buffer possible at the highest resolution, given the amount of memory installed in the printer.

For example, a LaserWriter Pro 630 with 8MB of RAM would allocate a page buffer for a 600dpi Legal-sized page (approximately 5MB). The LaserWriter Pro 810 with 8MB of memory would allocate a page buffer for an 800dpi Letter-sized page (approximately 6.8MB) since there isn't enough memory to create a page buffer for an 800dpi Legal-sized page (approximately 8.8MB).

In addition to the page buffer, the printer needs to allocate space for the PostScript interpreter itself, PostScript dictionaries, display list, font caching, and program memory.
Published Date: Feb 19, 2012

SNA■ps Gateway, SNA■ps 5250, and IBM 5494 Controller (2/94)

I need to install a SNA*ps Gateway and SNA*ps 5250 which will attach to a remote IBM 5494 mod.2 controller equipped with Token Ring. The IBM 5494 is connected to an AS/400 through an X.25 line. The SNA*ps Gateway Macintosh will connect through Token Ring to the IBM 5494.

Is it possible to do this? If it is, how should I configure the IBM 5494 controller, the devices on the AS/400, and the SNA*ps Gateway?

This article has been archived and is no longer updated by Apple.
This is possible to do with the SNA*ps Gateway and SNA*ps 5250.

This is a complex configuration mostly because the IBM 5494 is very different from all previous IBM mid-range controllers. The IBM 5494 is an APPC LEN device (similar to that of a SNA*ps Gateway). It attaches to the AS/400 using special code included with OS/400 V2R2M0, which requires the IBM 5494 to connect to the AS/400 as a Token Ring or SDLC based APPC controller. (X.25 connection for SDLC is just fine). The Twinax devices on the physical IBM 5494 have to be associated with some remote Workstation controller on the AS/400 which manages the LU 4-7 sessions used by the Twinax ports. The connection between the APPC connection and the Remote Workstation controller is done by an AUTOCONFIGURED APPC parallel session between the APPC 5494 connection and the Remote workstation controller. If the IBM 5494 configuration is setup to support downstream PU 2.1 and passthru to the AS/400, (such as a SNA*ps APPC gateway), then there is just an APPC controller passing through the IBM 5494 to an APPC controller on the AS/400. The IBM 5494 just provides the pipeline to the AS/400. This is quite similar to how a SNA*ps Gateway in 3270 environments is a PU 2.0 downstream from IBM 3174 Cluster Controller.

Through all of this you need to know AS/400 Network IDs, Remote LUs, and Local LUs for the SNA*ps APPC connection, and use known Mode descriptions. That is all very basic information to a knowledgeable APPC system manager.

The most difficult to understand in the configuration of the SNA*ps Gateway in this setup were the XIDs to be used. The Gateway XID in the SNA*ps Gateway config can be anything, we used 050╩00000. BUT the XID for the Partner (the IBM 5494 in this case) HAS to be 073╩00000, which is the default value given the IBM 5494 if it is configured with downstream support for PU 2.1 on Token Ring. Also, the Link address in the SNA*ps config is the Token Ring address of the IBM 5494 controller which is placed in the IBM 5494 when customization is done. The IBM 5494 does not care about the Token Ring address of the SNA*ps Token Ring card (the address in the Apple Token Ring Control Panel).

We would suggest that you carefully read the IBM 5494 documentation, and get a copy of the current IBM RedBook on configuring 5494 to AS/400 - P/N GG24-3828-00. We found it to be very helpful.

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MacCheck 1.0.5 Read Me

This article contains the Read Me document for MacCheck 1.0.5.
This article has been archived and is no longer updated by Apple.

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MacCheck 1.0.5 Release Notes
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This Read Me document contains information about the MacCheck program.
The Microsoft Word and MacWrite II documents, "MacCheck User Guide.msWrd"
and "MacCheck User Guide.mwII" are a superset of this document and provide
easier to read (better formmated and highlighted) text, along with more
technical details about the inner workings of MacCheck.  These documents
are found in the Software Utilities Update 1.0.1 disk release.

Changes between MacCheck 1.0.4 and 1.0.5
----------------------------------------
* MacCheck no longer crashes when running on 3rd party NuBus cards.
* MacCheck now displays the "true" System Enabler version ("7.1--1.0.1").
* MacCheck displays the processor speed more accurately--MacCheck would
  not tell when a faster clock crystal was added, nor was able to
  accurately display the speed when running on some accelerator cards.
* MacCheck no longer fails the logic board test when a DayStar
  accelerator card is being used (or any other card that patches the ROM
  image, but fails to put a real ROM checksum in).
* If you double-click on the "MacCheck dataFile", MacCheck no longer puts
  up the annoying "Can't open this kind of document" message.

This ReadMe document contains information about the MacCheck program.
The Microsoft Word and MacWrite II documents, "MacCheck User
Guide.msWrd" and "MacCheck User Guide.mwII" are a superset of this
document and provide easier to read (better formatted and highlighted)
text, along with more technical details about the inner workings of
MacCheck.

I. INTRODUCTION TO MACCHECK
---------------------------
MacCheck is an Apple support utility tool with which you can learn more
about your Macintosh computer, as well as diagnose software problems
that result from corrupted directories and files.  By using MacCheck in
conjunction with Disk First Aid, you can resolve common disk corruption
problems.

MacCheck creates a profile of your Macintosh computer, including:

* The processor, memory, expansion cards, SCSI drives, keyboard,
 monitor, and so on
* The installed applications and system software on your startup drive

MacCheck also provides:

* A general logic board test
* A checker for the file system and System files
* A checker for duplicate System Folders

The MacCheck product consists of the application file "MacCheck," and
the data file "MacCheck dataFile."  For MacCheck to work correctly,
both the application file and the data file must be located in the same
folder.  MacCheck is compatible with System 7.0 or later.

Under most circumstances, MacCheck can be run with extensions on.
However, if you are having trouble running MacCheck, you should turn
extensions off (by restarting your computer while holding down the
Shift key).  MacCheck does conflict with some non-Apple extensions:
```

* Thunder 7
 Don't run MacCheck while Thunder 7 is active. MacCheck and Thunder 7 have serious conflicts.
* Virus protection programs
 You'll need to "teach" some virus protection programs about MacCheck.
* Electronic mail programs
 Sometimes when electronic mail programs, such as Microsoft Mail or QuickMail, are active, they disrupt the file system checking by making your startup volume "busy".

II. MACCHECK OVERVIEW

Launching MacCheck

When you launch MacCheck, you'll see a splash screen detailing the initialization processes that MacCheck performs while it starts up. During most of this time, MacCheck gathers profile information and checks for multiple System Folders. On a new Macintosh LC III, MacCheck takes about 1 minute to launch; on a 400MB, 8,000-plus-file Macintosh Quadra 950, it takes about 4-5 minutes to launch.

Note: If you want to speed up the launch process by about 20 seconds, press the Space bar when the splash screen first appears. This tells MacCheck not to profile modems or check SCSI devices that are typically slow, such as DAT tape drives. MacCheck will display a "*QuickBoot*" message. If you wish to quit the launch process at any time, press command-period.

Accessing Profile Information

MacCheck stores the collected profile information in three log files, the "System Info," "Additional System Info," and "Application and Font Info" logs. To view the profile information placed into these logs, select the log you want from the Windows menu.

Starting Logic Board and File System Tests

To start the logic board and file system tests, click the Test button or select the Test option (command-G) in the Diagnostics menu. When these tests are completed, MacCheck stores the results in a results file. The default name of this file is "Test Results-1". You may rename this file by selecting the Save Results As option in the File menu.

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System 7 Pro 7.1.1 Read Me

This article contains the Read Me file for System 7 Pro version 7.1.1.

This article has been archived and is no longer updated by Apple.

WELCOME TO SYSTEM 7 PRO, Version 7.1.1

This document provides late-breaking news about System 7 Pro. This information is not in the documentation that came with your software. For other questions, refer to your Macintosh software documentation.

APPLESHARE SERVER SOFTWARE

To install an AppleShare file server or print server on a Macintosh using System 7 Pro, you need AppleShare server software version 3.0.3. An application that updates your existing AppleShare file server or print server software to version 3.0.3 is on the disk titled "Before You Install."

APPLE IIe CARD SOFTWARE FOR THE MACINTOSH LC II

To use the Apple IIe Card with System 7 Pro on a Macintosh LC II, you need version 2.2 of Apple IIe Card Software. You should upgrade to version 2.2 only if you are using your LC II with System 7 Pro. Apple IIe Card Software 2.2 may also be used with the original Macintosh LC, but it is not required.

You can obtain the upgrade package from an authorized Apple Reseller. In the United States, you can call the Apple Customer Assistance Center at 1- 800-APL-CARE to request Apple IIe Card Software version 2.2.

INSTALLING SYSTEM 7 PRO ON A MACINTOSH QUADRA 700 AND 950

To install System 7 Pro on a Macintosh Quadra, use the Installer program's Easy Install option, or choose "System software for any Macintosh" in the Installer's Customize window. If you use the Macintosh Quadra option in the Customize window, some parts of the Monitors control panel will not work correctly.

MacTCP USERS: CHECK VERSION BEFORE YOU INSTALL System 7 Pro

To use MacTCP with System 7 Pro, you need version 1.1.1 or later. If the version number is 1.1 or earlier, you need to remove the file from your System Folder before you install System 7 Pro.

IF THE SYSTEM 7 PRO INSTALLATION FAILS

The installation may fail if your existing System file contains fonts with names having more than 31 characters.

If this happens, follow these steps:

1. Open the System Folder and move the System file to the desktop.
2. Restart the Macintosh using the Install disk. When the Installer opens, proceed with the installation (refer to your manual for help).
3. Restart the Macintosh when the installation is completed.
4. If you wish to use the fonts that were installed in your old System file with System 7 Pro, open the System file on the desktop and drag the font icons to the System Folder icon. The fonts are moved to the Fonts folder and can now be used.

If you had installed additional software that modified the System file, you will need to reinstall it after you install System 7 Pro.

USING ADOBE TYPE MANAGER WITH SYSTEM 7 PRO

In System 7 Pro, a new folder named "Fonts" stores all screen and printer fonts. Fonts you drag to the System Folder are automatically installed in the Fonts folder. If you use Adobe Type Manager, but are not getting smooth type on-screen, you must move any PostScript printer fonts located in the Fonts folder to the Extensions folder. Please contact Adobe to obtain a newer version of ATM that will allow you to use the Fonts folder (see details below).

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AV Series: Apple Nubus Video Card Compatibility

This article documents which Apple NuBus cards listed below will not function with the Macintosh Quadra 840AV, Quadra 660AV and Centris 660AV.
This article has been archived and is no longer updated by Apple.
The following list details all video cards tested for compatibility with the Macintosh AV Series. Each card is individually evaluated further in the discussion.

Video Card	Compatible with
Macintosh II 1 Bit Video Card	840AV (unsupported)
Macintosh II 4 Bit Video Card	840AV (See Note B)
Macintosh II 8 Bit Video Card	840AV (See Note B)
Macintosh II Hi-Res Display Card (4-Bit)	840AV
Macintosh II Extended Hi-Res Display Card (8-Bit)	840AV
Macintosh II Two-Page Video Card	Incompatible
Macintosh II Portrait Display Card	Incompatible
Macintosh II Portrait Display Card (DB15 connector)	Incompatible
Macintosh Display Card 4*8	840AV (See Note E)
Macintosh Display Card 4*8, Rev. B	840AV (See Note E)
Macintosh Display Card 8*24	840AV (See Note E)
Macintosh Display Card 8*24, Rev. B	840AV (See Note E)
Macintosh Display Card 8*24GC, Rev A	Incompatible
Macintosh Display Card 8*24GC, Rev B	840AV (See Note F)
Macintosh Display Card 24AC	660AV, 840AV

NOTES FOR SPECIFIC CARDS:

A) Macintosh II 1 Bit Video Card - The 840AV was never tested with this card. While we did not encounter any problems during testing, it is officially untested and the possibility of hidden bugs remains.

B) Macintosh II 4 Bit Video Card, Macintosh II 8 Bit Video Card - The Mac II High Res 4-bit and 8-bit video cards are compatible but will not drive Apple's 16-inch and 21-inch color monitors. Also, because these cards were designed only to drive the 12-inch High Res monochrome and the 13-inch RGB monitors, they have no sense line capability. Therefore, if they are placed in any Macintosh computer with a NuBus slot that is also supporting built-in video or a later version NuBus card, the boot up screen will automatically default to the old Mac II High Res 4-bit or 8-bit video card.

C) Macintosh II Hi-Res Display Card (4-Bit), Macintosh II Extended Hi-Res Display Card (8-Bit) - These cards are compatible with the Quadra 840AV.

D) Macintosh II Two-Page Video Card, Macintosh II Portrait Display Card, Macintosh II Portrait Display Card, (DB15 connector) - Apple does not recommend that these cards be used in the Macintosh AV series. While they will not harm the computer, there are some timing differences with certain cards.

E) Macintosh Display Card 4*8, Macintosh Display Card 4*8, Rev. B, Macintosh Display Card 8*24, Macintosh Display Card 8*24, Rev. B - The Macintosh 4*8 and 8*24 cards are compatible with the Quadra 840AV. If you're planning to use the Apple 16-inch or 21-inch color monitor with either of these cards, Apple recommends the Rev. B ROM upgrade, available from an Apple authorized service provider.

F) Macintosh Display Card 8*24GC, Rev. A, Macintosh Display Card 8*24GC, Rev. B - The Rev A card is incompatible. The Rev B card is compatible, but not in the accelerated mode.

G) Macintosh Display Card 24AC - The card is a 7-inch NuBus card and therefore compatible with the Centris 660AV, Quadra 660AV and

Quadra 840AV computers. The card can suffer significant performance problems (speed) when used in its accelerated mode.

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LaserWriter Select: Envelope Tray Specifications (2/94)

What envelope sizes can I use in the LaserWriter Select envelope cassette tray?

This article has been archived and is no longer updated by Apple.
The LaserWriter Select 360 uses the same trays as the LaserWriter Select 300/310. Part number M2031G/A is the 30-envelope cassette to use with all LaserWriter Select printers.

The envelope cassette is center justified and can support up to 30 #10 business envelopes. It supports the following envelope sizes:

Description	Width	Length
Com #10	104.8mm (4.12")	241.3mm (9.5")
Monarch	98.4mm (3.87")	190.5mm (7.5")
DL	110.0mm (4.33")	220.0mm (8.66")
C5	162.0mm (6.38")	229.0mm (9.02")
Post Card	100.0mm (3.94")	148.0mm (5.83")

Paper weights supported:

Minimum: 60 gr/sq m (16.0#)
Envelope max: 105 gr/sq m (28.0#)
Postcard max: 100 gr/sq m (50.7#)

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Apple Writer III: Sending printer codes

This article has been archived and is no longer updated by Apple.

Many printers have special features that the computer signals by sending command codes. To send codes to a printer from an Apple III with Apple Writer, you must insert the codes into the Apple Writer file you want printed. The manual of the printer may list the codes by several names: decimal, hexadecimal, teletype abbreviations (SOH, ETX, DC1, DC3, etc.), standard keys, and combinations of the above.

Using the chart "ASCII characters, values, and keystrokes", you have to translate from the name of the code in the printer manual into the name of the corresponding keystroke or keystrokes on the keyboard of the Apple III.

Some keystrokes put so-called control characters into the Apple Writer file. These control characters are not part of the conventional English character set; while screen shows them, the printer intercepts and does not print them, instead recognizing them as signals to turn special functions on and off or to change printer settings.

With these considerations in mind, here is a list of codes and methods for inserting them in an Apple Writer file on an Apple III.

NOTE: In the descriptions of the keystrokes, the characters greater than and less than, < and >, are used to contain one keystroke, which can mean that:

1. You must simultaneously hold down the control key, the shift key, or both as you press the other key, or
2. You must press a special key, such as ESC or RETURN.

Null (ASCII value 0):

Because Apple Writer III uses the null character to mark the end of a file, Apple Writer does not allow a null to be inserted into the file. The inserted null would effectively delete any text after it.

Apple Writer does send a null in the place of a Control-Underline character:

<CTRL-V><CTRL-UNDERLINE><CTRL-V>

Control-A through Control-Z (ASCII decimal values 01 through 26):

Example: Control-Z (ASCII decimal value 26): <CTRL-V><CTRL-Z><CTRL-V>

Exception: Control-V (ASCII decimal value 22) can't be entered.
See "Missing Characters" below.

Escape (ASCII value 27): <CTRL-V><ESC><CTRL-V>

Other Control characters: These can be entered in the manner of Control-A through Control-Z.

Missing Characters:

You can't directly enter a Control-V in Apple Writer. To use this character in Apple Writer, it is necessary to use an Apple Writer glossary file. You will find such a file on the Apple Writer III master diskette.

Apple Writer doesn't send a Control-Underline as such.

Business BASIC can be used to send a Control-Underline to your printer.

1. Create your Apple Writer document as usual, but substitute a unique

character in each place that you want a Control-Underline character.

2. Type <CTRL-P> to display the Print/Programs Command menu.

3. Type PD.Volume/Filename, Apple Writer's setup for printing to disk on an Apple III.

4. Type NP to begin printing.

6. After the printing to disk is finished, exit Apple Writer and start up Business BASIC.

7. Run the following program:

```
100   HOME
110   PRINT TAB(10);"APPLE WRITER TO PRINTER"
120   VTAB=5
130   INPUT"PATHNAME OF APPLE WRITER FILE PRINTED TO DISK: ";F$
140   IF F$="" THEN 900
145   VTAB=12
146   INPUT"CHARACTER TO REPLACE: ";X$
147   IF X$="" THEN 145
150   VTAB=10
160   INPUT"Driver Name: (e.g. .PRINTER) ";S$
170   IF S$="" THEN 900
200   ON ERR GOTO 800
210   UNLOCK F$
220   OFF ERR
230   VTAB=12:PRINT SPC(75)
240   PRINT
265   OPEN#1 AS OUTPUT,S$
270   OPEN#2 AS INPUT,F$
280   ON ERR GOTO 400
290   INPUT#2;LINE$
300   A$=""
302   L=LEN(LINE$)
304   FOR Q=1 TO L
306     C$=MID$(LINE$,Q,1)
315     IF C$=CHR$(12) THEN 310
320     IF C$=CHR$(13) THEN 350
330     IF C$=X$ THEN C$=CHR$(31)
340     A$=A$+C$
345     NEXT Q
350   OUTPUT#1
355   PRINT A$
390   GOTO 290
400   OFF ERR
410   CLOSE
430   VTAB=15
440   PRINT TAB(5);"FILE ";F$;" HAS BEEN PRINTED."
450   GOTO 900
800   OFF ERR
810   VTAB=12
820   PRINT CHR$(7);"I CAN'T FIND THE FILE ";F$;"."
830   INPUT"";Z$
840   GOTO 100
900   END
```

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CCS-7710: Cable for C.Itoh Starwriter F10 (1/97)

Listed below are the cable pinouts for connecting the CCS-7710 interface card to the C.Itoh Starwriter F10 (serial) printer.

This article has been archived and is no longer updated by Apple.

CCS-7710 C.ITOH STARWRITER F10 (SERIAL)

2 <----------> 2
3 <----------> 3
7 <----------> 7
4 <----------> 20

* This cable is for use with the Apple IIe.

Article Change History:
28 Jan 1997 - Reviewed for technical accuracy, revised formatting.
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System 7 Pro: Assistant Toolbox is Compatible (2/94)

The Compatibility Checker in System 7 Pro erroneously removes part of the PowerBook File Assistant out of the System Folder.

This article has been archived and is no longer updated by Apple.
When running the System 7 Pro Compatibility Checker, the file Assistant Toolbox is flagged as not compatible with System 7 Pro and removed from the System folder. All parts of the PowerBook File Assistant, Control Panel, The File Assistant, and the Assistant Toolbox, are compatible with System 7 Pro.

Work Around

After running the Compatibility Checker, move the Assistant Toolbox back into the System folder.

Support Information Services

Published Date: Feb 19, 2012

Newton: System Update 1.05 Changes and Features

What features does Newton System Update 1.05 provide?
This article has been archived and is no longer updated by Apple.
There are a number of updates including the following:

Dates

Addresses problems with recurring meetings
Exception repeating meetings alarms
-48009 error when deleting exceptions to recurring meetings
Alarms for appointments on a card after reset
Removes error that indicates "styles slot is too short" in to do list

Restore

Removal of false error when starting up
A card with packages problem
Allows restore from a card with too big a backup
Restores Letter styles properly

Beaming

Fixes "Auto receive"
Multiple beams problem

Power Faults

Alleviates system sensitivity to power fluctuations on wakeup
Unit can now always turn off

Memory Management

Elimination of memory fragmentation and leaks
Increase of system memory by 32K

Time Zones Old New
--- --- ---
Singapore +7:30 +8:00
Anchorage -10:00 -9:00
Tientsin +8:30 +8:00
Mt. Everest +5:30 +5:45

Word List

List now scrolls
Words that start with a capital letter can now be removed

Warm Reset

When switching folders and restarting, scrolls to the end of the notepad

Backup

Backup can be completed regardless of how full the internal memory is

Modem

Addresses out of sync wait for answer setting
Modified modem level for Japan approval

Dialing Assistant

Outgoing code for Hong Kong corrected

TA31201_Newton_System_Update_Changes_and_Features_(TIL14701).pdf

Corrects incorrect prefixes for Hong Kong, Singapore, and other cities
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HyperCard 2.2: Stand-alone Apps Need 2MB for Color (2/94)

After compiling a HyperCard 2.2 stack into a stand-alone application, graphics are not displayed in color.

This article has been archived and is no longer updated by Apple.
The default memory allocation of the stand-alone application is not set high enough for the program to display graphics in color. To display color graphics, adjust the memory allocation of the stand-alone application to a minimum of 2048K.

Support Information Services
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Power Macintosh Pinouts

This article presents the pinouts for non-AV Power Macintosh models. These pinouts include: ADB, GeoPort, SCSI, a floppy disk drive, built-in Ethernet, high-quality 16-bit stereo sound, and various levels of monitor support up to 21 inches, depending on the model.
This article has been archived and is no longer updated by Apple.

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Apple Desktop Bus (ADB)
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One connector is located on the back panel of Power Macintosh computers.

It is a 4-pin mini-DIN socket.


Pin    Description
---    -----------

1     Data; grounded by an open collector or pulled to +5 V through 470
2     Power on, fed by +5 V through 100 k; connect to pin 4 to turn on
      the system
3     +5 V at 500 mA maximum drain; protected by a 1.25-A circuit breaker
4     Ground return


Ethernet
--------

All models of Power Macintosh contain built-in Ethernet.


Pin     Signal Name       Signal Description
----    --------------    ---------------------------------

1      FN Pwr            Power (+12V @ 2.1W or +5V @ 1.9W)
2      DI-A              Data In circuit A
3      DI-B              Data In circuit B
4      VCC               Voltage Common
5      CI-A              Control In circuit A
6      CI-B              Control In circuit B
7      +5V               +5 volts (from host)
8      +5V               Secondary +5 volts (from host)
9      DO-A              Data Out circuit A
10      DO-B              Data Out circuit B
11      VCC               Secondary Voltage Common
12      NC                Reserved
13      NC                Reserved
14      FN Pwr            Secondary +12V @ 2.1W or +5V @ 1.9W
Shell   Protective Gnd    Protective Ground



Serial Ports
------------

The back panel of all Power Macintosh models contain two I/O ports for serial telecommunication data.  Both
sockets accept 9-pin plugs allowing either port to be independently programmed for asynchronous or synchronous
communication formats up to 9600 bps.  This includes AppleTalk and the full range of Apple GeoPort protocols.


Pin    Name                  Function
---    ----                  --------

1     SCLK(out)             Reset pod or get pod attention
2     Sync(in)/SCLK(in)     Serial clock from pod (up to 920 Kbit/sec.)
3     TxD-                  Transmit -
```

4	Gnd/shield	Ground
5	RxD-	Receive -
6	TxD+	Transmit +
7	Wakeup/TxHS	Wake up CPU or do DMA handshake
8	RxD+	Receive +
9	+5 V	Power to pod (350 mA maximum)

SCSI Connection

The SCSI interface in Power Macintosh computers exists in two forms: an internal 50-pin ribbon connector for internal devices and an external DB-25 connector for external devices.

Pin Number		Description	Pin Number		Description
Internal	External		Internal	External	
1	7	Ground	2	8	/DATA0*
3	9	Ground	4	21	/DATA1
5	14	Ground	6	22	/DATA2
7	16	Ground	8	10	/DATA3
9	18	Ground	10	23	/DATA4
11	24	Ground	12	11	/DATA5
13		Ground	14	12	/DATA6
15		Ground	16	13	/DATA7
17		Ground	18	20	/DATAP
19		Ground	20		No connection
21		Ground	22		No connection
23		Ground	24		No connection
25		No connection	26	25	TERMPWR
27		Ground	28		No connection
29		Ground	30		No connection
31		Ground	32	17	/ATN
33		Ground	34		No connection
35		Ground	36	6	/BUSY
37		Ground	38	5	/ACK
39		Ground	40	4	/RST
41		Ground	42	2	/MSG
43		Ground	44	19	/SEL
45		Ground	46	15	/C/D
47		Ground	48	1	/REQ
49		Ground	50	3	/I/O

* A slash (/) before a signal name indicates that it is in the low state when active.

Floppy Disk Drive Connection

All Power Macintosh models contain one internal Apple superDrive floppy disk drive, which supports GCR and MFM formats for 1.44 MB disks.

Pin	Signal	Description	Pin	Signal	Description
1	GND	Ground	11	+5 V	+5 V
2	PH0	Phase 0 state control	12	SEL	Head select
3	GND	Ground	13	+12 V	+12 V
4	PH1	Phase 1 state control	14	/ENBL*	Drive enable
5	GND	Ground	15	+12 V	+12 V
6	PH2	Phase 2 state control	16	RD	Read data
7	GND	Ground	17	+12 V	+12 V

8	PH3	Phase 3 register write strobe	18	WR	Write data
9	NC	No connection	19	+12 V	+12 V
10	/WRREQ	Write data request	20	NC	No connection

* A slash (/) before a signal name indicates that it is in the low state when active.

AudioVision Monitor Support

The Power Macintosh computers provide connection to AudioVision (and other monitors when used with an adapter cable) by means of an AudioVision HDI-45 monitor socket on their back panel.

Pin	Description	Pin	Description
1	Analog audio ground	24	Reserved
2	Audio input shield	25	Reserved
3	Left channel audio input	26	Red ground (shield)
4	Right channel audio input	27	Red video output (75)
5	Left channel audio output	28	I^2C data signal* (I-squared)
6	Right channel audio output	29	I^2C clock signal* (I-squared)
7	Reserved	30	Reserved
8	Monitor ID sense line 1**	31	Monitor ID
9	Monitor ID sense line 2**	32	Monitor ID
10	Green ground (shield)	33	Vertical sync signal
11	Green video output (75)	34	Composite sync signal
12	Video input power ground	35	ADB power +5 V
13	Power for camera +5 V	36	ADB ground
14	Reserved	37	ADB data
15	Reserved	38	Keyboard switch
16	Reserved	39	Reserved
17	Reserved	40	Reserved
18	Monitor ID sense line 3**	41	Monitor ID
19	S-video input shield	42	Horizontal sync signal
20	S-video input luminance (Y)	43	Video sync ground
21	S-video input chroma (C)	44	Blue ground (shield)
22	Reserved	45	Blue video output (75)

* Philips serial bus interface
** See Apple Technical Note 326

VRAM Expansion Cards

VRAM expansion cards are Apple cards that plug into the PDS slots of Power Macintosh 7100/66 and 8100/88 computers. They provide an additional DB-15 monitor output.

Pin	Description	Pin	Description
1	Red ground	9	Blue video signal
2	Red video signal	10	Monitor sense 2
3	Composite synchronization	11	Synchronization ground
4	Monitor sense 0	12	Vertical synchronization
5	Green video signal	13	Blue ground
6	Green ground	14	Horizontal synchronization ground
7	Monitor sense 1	15	Horizontal synchronization
8	No connection		

Sound I/O

All Power Macintosh computers contain external stereo mini phone jacks for sound I/O, connected through amplifiers to the AWAC chip.

Panel label	Description
Audio In	8 k impedance, 2 V rms maximum, 22.5 dB gain available
Audio Line Out	37 impedance, 0.9 V rms maximum, attenuated -22,5 dB (crosstalk degrades from -80 to -32 dB when the audio output is connectedto 32 headphones)

S-Video

Power Macintosh AV Models include S-Video In/Out jacks.

NOTE: Non-AV Power Macintosh models do not include these S-Video In/Out jacks.

Pin	Input Connector	Output Connector
1	AGND	AGND
2	AGND	AGND
3	Video Y (luminance)	Video Y (luminance)
4	Video C (chroma)	Viceo C (chroma)
5	I^2C clock (I-squared)*	Composite Video
6	+12V at 250 mA maximum	No connection
7	1^2C data*	No connection

* Phillips serial bus

The following Tech Info Library article can help you find the Tech Note mentioned here:

Article 24493: "**Apple Tech Notes: What They Are, Where To Find Them**"

Published Date: Feb 19, 2012

Power Macintosh AV Card Pinouts (7/94)

This article describes the pinouts for the Power Macintosh AV card.

This article has been archived and is no longer updated by Apple.
The AV card is an Apple expansion card that plugs into the PDS connector of any Power Macintosh computer. It contains an I/O system that handles video input and output signals, mixes video with 16-bit graphics, and supports a wide variety of Apple and third-party monitors. The AV I/O system also lets the user connect a television set as a monitor, using either NTSC or PAL format.

The AV card contains a DB-15 monitor connector output.

Here is a diagram of the pin configuration for the DB-15 monitor connector and the signals:

8 7 6 5 4 3 2 1
15 14 13 12 11 10 9

Pin	Description	Pin	Description
1	Red ground	9	Blue video signal
2	Red video signal	10	Monitor sense 2
3	Composite synchronization	11	Synchronization ground
4	Monitor sense 0	12	Vertical synchronization
5	Green video signal	13	Blue ground
6	Green ground	14	Horizontal synchronization
7	Monitor sense 1	15	Horizontal synchronization ground
8	No connection		

The AV card also contains two identical connectors for S-Video input and output, with adapter cables for composite video devices that have RCA connectors, like television equipment.

Here is a diagram of the pin configuration for the S-Video port and the signals:

4 7 3
2 6 5 1

Pin	Input connector	Output connector
1	AGND	AGND
2	AGND	AGND
3	Video Y (luminance)	Video Y (luminance)
4	Video C (chroma)	Video C (chroma)
5	I^2C clock (I-squared)*	Composite video
6	+12 V at 250 mA maximum**	No connection
7	I^2C data*	No connection

* Philips serial bus
** Fused at 1.1 A

Article Change History:
06 Jul 1994 - Added diagram of pin configuration for S-Video and DB-15 ports.
24 Mar 1994 - Corrected wording.

Support Information Services
Published Date: Feb 19, 2012

Why Do Computer-Generated Faxes Have a Header/Footer? (2/94)

When I fax a document from the fax modem from my Macintosh to a fax machine, each page has a header or footer with my name, phone number, date and time or transmission and other information.

Why is this? Can I turn this off?

This article has been archived and is no longer updated by Apple.

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Federal Communications Commission regulations require that all telephone
facsimile machines (including fax modems) manufactured on or after December
20, 1992, print identifying information at the top or bottom of each
transmitted page.  The identifying information must include the name of the
sender, the date and time the fax is sent and the telephone number of the
sender.

You cannot turn off this identifying information.
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Published Date: Feb 19, 2012

At Ease 2.0: GrayShare Printers Unshared on Logout

I have several Macintosh computers which are using At Ease on a LocalTalk network and are sharing a StyleWriter II. When the user of the Macintosh that is directly connected to the StyleWriter II logs out of At Ease, printer sharing quits and the printer is no longer shared across the network.

What causes this? Is there a workaround?
This article has been archived and is no longer updated by Apple.
This is a problem with At Ease 2.0. If you upgrade to At Ease v2.0.3 you do not have this problem. Under At Ease 2.0, when a user logged out all processes were terminated. This caused Printer Share to quit. When Printer Share quit, the StyleWriter II became unavailable to other computers and the "Share this printer" check box disappeared from the Choosers on the other computers.

We suggest you install At Ease 2.0.3, Printer Share no longer quits when users log out of At Ease, so the printer is still available on the network. However, print jobs sent to the printer will be queued up to print. Printer Monitor does not launch and the acutal printing will not take place until the next user logs onto the workstation.
Published Date: Feb 19, 2012

Super ATM: Problems After Rebuilt Desktop (2/94)

After I rebuilt my desktop file, some files are displayed as generic icons.

Also, some documents which previously opened, now won't open when I double click them. In the Get Info window, these icons are named "Document".

What causes this?

This article has been archived and is no longer updated by Apple.
This is caused by having Super Adobe Type Manager (ATM) loaded when you rebuilt your desktop. Adobe is aware of the problem and recommends the following workaround:

1) Turn off Super ATM and restart your system. You can do this by:

* Turning off Super ATM from the Control Panel

OR

* Rebooting your Macintosh with the Shift key held down to turn Extensions off.

2) Rebuild your Desktop file by restarting your Macintosh and holding the Option and Command keys down during the startup process.

3) Turn on Super ATM and restart your Macintosh.

According to Adobe, this problem fixed in version 3.6 of Super ATM.

Support Information Services
Published Date: Feb 19, 2012

HSU 2.0.1: Install After System 7 Pro Install (2/94)

Should I install Hardware System Update (HSU) 2.0.1 on top of System 7 Pro?

Why?

This article has been archived and is no longer updated by Apple.
Yes, you should install HSU 2.0.1 over System 7 Pro.

The Apple Installer Script, version 1.0, REMOVES HSU if it's installed, and doesn't replace it with a new copy. Installer Script 1.0.1 fixes this problem. There are approximately 18,000 System 7 Pro copies that have Installer Script 1.0. If you suspect that HSU was removed from a system, check the Extensions folder for Hardware System Update. If it isn't there, install HSU 2.0.1 again.

The HSU that Apple Installer Script 1.0.1 installs is exactly the same as the one the Hardware System Update disk installs, except the creation date is earlier.

If you install System 7 Pro with Custom Install on a system that already has HSU 2.0.1, you'll see a dialog box which says that the existing version is newer and asking whether you want to replace it. Since the HSU files are also found in System 7 Pro and are the same except for creation date, you can either replace or leave the existing file.

Support Information Services

Published Date: Feb 19, 2012

CCS-7710: Cable for TI-820 (1/97)

Listed below are the cable pinouts for connecting the CCS-7710 interface card to the TI-810 printer.

This article has been archived and is no longer updated by Apple.

CCS-7710 TI-820

3 <----------> 3
7 <----------> 7
11 <----------> 4,5,6,20

* This cable is for use with the Apple IIe.

Article Change History:
28 Jan 1997 - Reviewed for technical accuracy, revised formatting.
Published Date: Feb 19, 2012

System 7 Pro: Installs Older Version of Scrapbook

Does System 7 Pro install the most recent version of the Scrapbook?
This article has been archived and is no longer updated by Apple.
No, System 7 Pro installs version 7.1 of the Scrapbook desk accessory. It installs this version even though version 7.1.2 is found on the QuickTime 1.6.1 disk included with System 7 Pro.

System 7 Pro doesn't install the latest version of the Scrapbook because the Installer script requires that you manually install the Scrapbook file to retain its contents.
Published Date: Feb 19, 2012

Bernoulli: Compatible With DOS and Macintosh

Can I connect a removable cartridge drive, such as a Bernoulli drive, to both a Macintosh and IBM?
This article has been archived and is no longer updated by Apple.
Iomega Corp., the distributor of Bernoulli, distributes drives and drivers that work with both Macintosh and MS-DOS compatible computers. Check with Iomega regarding the compatibility of the product you are interested in.

After physically and logically establishing the connections, you need a utility to recognize a DOS formatted Bernoulli disk on a Macintosh, such as PC Exchange 2.0, AccessPC 3.0 from Insignia Solutions, or DOS Mounter Plus from Dayna Communications. Digital Intrumentations Technology makes a Windows product called TransferPro for Windows which reads Macintosh formatted removable media. A program called MacDisk for the PC allows MS-DOS compatible computers to read 1.4 MB Macintosh disks. So, you may wish to keep the disks and files in a DOS format, then use Macintosh utilities to access the disk.

Most Macintosh applications and their Windows or DOS counterparts can directly open and save files in the opposite platform's format. Many applications also let you read documents created with another application, but there can be some limitations. To help file translations, AccessPC 3.0 ships with some file format translators, and MacLinkPlus, a file translating application, is capable of translating hundreds of different file types.

To locate a vendor's address and phone numbers, use the vendor name as the search string.
Published Date: Feb 19, 2012

Power Macintosh: Install SIMMs In Same Size Pairs (2/95)

This article describes installing RAM SIMMs in same size pairs into a Power Macintosh.

This article has been archived and is no longer updated by Apple.
RAM for Power Macintosh computers is provided by dynamic random-access memory (DRAM) chips, of which the first 8 MB of RAM capacity is soldered to the main logic board. Users may expand RAM capacity by adding 72-pin Single Inline Memory Modules (SIMMs) of 80ns or better (for example 60ns) in pairs of 4 MB, 8 MB, 16 MB, or 32 MB in size.

For example, you may install two 8 MB SIMMs in the first two adjoining slots, additionally two 4 MB SIMMs may be added in the next two adjoining slots, and so on (no descending or ascending SIMM pair size order is necessary). SIMM pairs, of the same size and speed, must be installed in adjacent slots, but different size and speed SIMM pairs may be added to the next adjacent slots.

If you install a pair of SIMMs of different density, the Power Macintosh will assume they are both the larger size. For example if you have installed an 8 MB and a 4MB SIMM, your computer will think you have a total of 24 MB installed including the 8 MB on the logic board. In reality you would have 20 MB.

The result if an application were to try and use the additional memory that wasn't there, a system error or bomb would likely occur.

Article Change History:
15 Feb 1995 - Explained result if different density SIMM pairs are installed.

Support Information Services

Published Date: Feb 19, 2012

AV Systems: Apple Phone and Audio File Types

What are the file types of Apple Phone's messages and greeting? Also, how do I open Apple Phone files?

Notes: ApplePhone (1.0 and 1.0.1) is an example program that Apple does not support and it has been removed from Apple Software Updates. The Macintosh AV team created the program to show the capabilities of the AV technology. Apple does not intend to do any further work to this example program.

This ApplePhone software is NOT related in any way to the Apple Phone software that is a part of the Apple Telecom 3.x package. Apple Telecom 3.x also includes Apple Address Book and Apple Fax software.

This article has been archived and is no longer updated by Apple.
Apple Phone message and greeting files are saved as AIFF files.

They are saved to the Preferences folder inside the System Folder and can be opened with many audio programs, such as MacroMedia's SoundEdit Pro and Director and Adobe Premiere.
Published Date: Feb 19, 2012

Newton MessagePad: Reducing Out Of Memory Problems

When printing, running programs, or performing backups, I often get "out of memory" messages on my Newton MessagePad. How can I reduce this problem?
This article has been archived and is no longer updated by Apple.
If you have ROM version 1.0 and System Update 1.04 or earlier, you should upgrade to the latest version of the System Update. This will help reduce "out of memory" problems because the Newton System is allocated 32K more memory.

Also, early system updates had problems displaying many bit-mapped images and often fragmented system memory. These problems do not affect MessagePads with ROM version 1.1 or later.

Here are some tips for better memory performance:

1) Remove programs that you no longer use, including programs that reside on a memory card. Each additional program, besides those located in the Newton's ROM, takes up an additional 2K of heap memory.

2) Close the Extras drawer after running any application. This will save another 3K of system memory.

3) Avoid using a large number of programs that are run continuously after installation. These programs consume large amounts of system memory and slow performance.

You can identify these types of programs by the way they work. If you have a program that always adds a button on a particular screen or has a "floating" window that is always available, it may be a program that is always running.

4) Reset the MessagePad. This will rebuild the memory areas and remove deallocated memory which will free memory space and improve performance.
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Newton MessagePad: Digital Books and Bookmarks

How do I remove a bookmark from a Newton "digital book"?
This article has been archived and is no longer updated by Apple.
Digital books are Newton applications which use a book metaphor for their user interface. Newton digital books allow the user to scroll pages, mark pages with bookmarks, access data directly by page number or subject, and perform text searches.

You can place up to six bookmarks in a digital book at a time. Each additional bookmark replaces the oldest remaining bookmark. To replace an individual bookmark in a Newton digital book, you must add bookmarks until the desired bookmark is replaced. You cannot remove an individual bookmark.

Resetting your Newton will remove ALL the bookmarks.
Published Date: Feb 19, 2012

Apple Media Tool: Macintosh Runtime System Requirements

What are the system requirements for Macintosh computers which are running Apple Media Tool runtime modules?
This article has been archived and is no longer updated by Apple.
Here are the system requirements:

* Macintosh computer with System 7.01
* Quicktime
* CD-ROM player (if the runtime module is distributed on CD-ROM)
* Sufficient memory to run your runtime with the "minimum allocation" memory

You can display the minimum allocation memory by selecting your runtime application in the Finder, then selecting Get Info from the File menu.
Published Date: Feb 19, 2012

Apple Media Tool: Windows Runtime System Requirements

What are the system requirements for Microsoft Windows-compatible computers which are running Apple Media Tool runtime modules?
This article has been archived and is no longer updated by Apple.
Here are the system requirements:

* Pentium- or 486-based Windows-compatible computer with Windows 3.1
* Quicktime for Windows
* Audio (or sound) card
* Windows-compatible video board capable of displaying at least 256 colors on a 640 by 480 pixel monitor
* CD-ROM player (if distributed on CD-ROM)
* Sufficient memory to display the desired runtime module

Published Date: Feb 19, 2012

Newton Connection Kit for Windows: Connection Timeouts

When I try to synchronize my Newton MessagePad with the Newton Connection Kit for Windows, my connection to the Newton will timeout or "drop".

How can I avoid this?
This article has been archived and is no longer updated by Apple.
If you try to synchronize your Newton with the Newton Connection Kit and the connection "drops" or times out, try the following steps:

1) Be sure to avoid communication port conflicts. On Windows-compatible PCs, two communications ports generally share one interrupt line. COM1 and COM3 generally share IRQ4, while COM2 and COM4 share IRQ3.

Since you can't have more than one active device at a time on the same interrupt line, your connection will "drop" if a serial device (such as a mouse) uses the same interrupt line as the Connection Kit.

Note: The Windows Connection Kit will try to disable any communications ports on which it finds active devices.

Communication port conflicts can also occur if you have a fax/modem card. Fax software is generally loaded at startup and activates its communication port. If the fax/modem card uses the same interrupt as the serial port to which your Newton is connected, you won't be able to use the Connection Kit. In this case, be sure that you disable the fax software and restart your computer. To turn off your fax software, check the AUTOEXEC.BAT file or the WIN.INI LOAD= statement, remove any code that calls your fax software and restart your computer.

2) Try to synchronize again, especially if you've never synchronized your Newton before. Due to the Windows Connection Kit's speed, your connection can "drop" while your computer is processing data. This is especially true with computers which use a 80386SX microprocessor.

Trying to synchronize again will usually get around this problem. When you synchronize your Newton and your computer for the first time, synchronization files are created. Subsequently, synchronizing will go faster because there's less data to process and the chance of a timeout lessens.
Published Date: Feb 19, 2012

Newton MessagePad: AC Adapter Voltage Ratings

Will I need a power transformer to operate my Newton MessagePad on AC power outside of the United States and Canada?
This article has been archived and is no longer updated by Apple.
The Newton MessagePad AC adapter has the following specifications:

Voltage: 100 to 240 volts AC
Cycles: 50 to 60 Hertz

If the voltages at your destination conform to these specifications, then you need no extra transformer; the AC Adapter should handle these voltages properly. All you would need is an wall plug adapter for your destination country. This should be available in most electronic stores.
Published Date: Feb 19, 2012

CCS-7710: Cable for Apple Daisywheel printer (1/97)

Listed below are the pinouts for connecting the CCS-7710 interface card to the Apple Daisywheel printer.

This article has been archived and is no longer updated by Apple.

CCS-7710 APPLE DWP

2 <----------> 2
3 <----------> 3
4 <----------> 20
5 <----------> 5
6 <----------> 6
7 <----------> 7
8 <----------> 8
20 <----------> 4

* This cable is for use with the Apple IIe.

Article Change History:
28 Jan 1997 - Reviewed for technical accuracy, revised formatting.
Published Date: Feb 19, 2012

Newton MessagePad: Won‘t Power Off Or Sleep

My Newton MessagePad will not power off or go to sleep. What can be done?
This article has been archived and is no longer updated by Apple.
If the Newton will not go to sleep, be sure that the sleep settings in Preferences are not set to the "never" setting. To check this, follow these steps:

1) Tap the Extras Drawer, then tap Preferences.

2) Tap Sleep, then tap on the diamond for Sleep settings and choose a time other than never.

If your Newton will not power off, follow these steps:

1) Reset your Newton by pressing the reset button with the tip of your stylus.

Crashed applications or operating system tasks may prevent your Newton from powering off and a reset will restart these applications and operating system tasks.

2) If you reset your Newton and it still won't power off, remove all added applications from your Newton. Some applications may not handle the shutdown sequence properly can cause your Newton to fail to power off.

3) If the suggestions above do not work, toggle the sleep settings. Follow the instructions above for accessing the sleep settings and choose different sleep times.
Published Date: Feb 19, 2012

Newton Connection Kit for Windows: Truncated Line Error

When I try to install the Newton Connection Kit for Windows, the error "MemReadlinefrom file - Truncated Line" occurs.

What causes this error? How do I recover from it?
This article has been archived and is no longer updated by Apple.
This error occurs during installation while the Newton Connection Kit for Windows installer is reading or modifying one of the following system configuration files:

* CONFIG.SYS
* AUTOEXEC.BAT
* SYSTEM.INI
* WIN.INI

This particular error occurs if one or more lines in these files exceeds 128 characters. A future version of the Newton Connection Kit for Windows will address this installer problem.

The workaround is edit these files so each line is less than 128 characters.

You can edit these files with the Windows application SYSEDIT. To run SYSEDIT, go to the Program manager, choose Run from the File menu and execute SYSEDIT.EXE.
Published Date: Feb 19, 2012

NCK for Macintosh: Resources Not Found Error

When I synchronize my Newton MessagePad with the Newton Connection Kit for Macintosh, I get the error message "certain resources are not available" and the synchronization files do not open when I try to open them.

What causes this?
This article has been archived and is no longer updated by Apple.
This error message occurs when you use the Newton Connection Kit for Macintosh with a Macintosh that does not have Color QuickDraw in ROM or if system software wasn't installed properly.

The Newton Connection Kit for Macintosh requires a Macintosh running System Software 7.01 or greater, 4 megabytes of RAM, and Color QuickDraw in ROM. The Color QuickDraw ROM has certain system resources which are required by the Connection Kit. These particular resources are not added by the System Software if they are missing from the ROM.

The following Macintosh systems do not have Color QuickDraw in ROM:

Macintosh Plus
Macintosh SE
Macintosh Portable
Macintosh Classic
Macintosh PowerBook 100
Macintosh II without SuperDrive (FDHD) ROM support

The packaging for the Macintosh Connection Kit states that a Macintosh SE/30 or later computer is needed. This statement is incorrect because the Macintosh Portable, Classic, and PowerBook 100 were released after the SE/30.

Note: Adding third-party 68030/040 accelerator boards will not add the necessary system resources.

If you have a Macintosh with Color QuickDraw in ROM and the message "certain resources are not available" occurs, follow these steps:

1) Perform a "clean install" of System 7 and choose the "Easy Install" option.

2) Reinstall the Newton Connection Kit for Macintosh.
Published Date: Feb 19, 2012

Newton Connection Kit for Windows: 386SX Compatibility

Does the Newton Connection Kit for Windows run on Windows-compatible computers with 80386SX microprocessors?
This article has been archived and is no longer updated by Apple.
The Newton Connection Kit for Windows is only recommended for Windows-compatible computers with 386DX or later microprocessors.
Some customers have been able to run the Newton Connection Kit for Windows on 386SX-equipped computers, but we do not recommend it.
Published Date: Feb 19, 2012

MotionWorks

Motion Works Group (7/96)

This article has been archived and is no longer updated by Apple.

Motion Works Group

1020 Mainland Street

Suite 130

Vancouver, BC, Canada V6B 2T4

604-685-9975

604-685-6105 FAX

Internet: www.mwg.com

Company Profile:

Created ADDmotion II a 24-bit color paint, animation and sound extension (XCMD) that is bundled with HyperCard 2.3.

Article Change History:

16 Jul 1996 - Updated name, address & phone number. Added Internet address

Published Date: Feb 19, 2012

Performa: Checking Proper Installation of TelePort Modem (2/94)

Can I tell if the Global Village TelePort Bronze Modem is connected and the Global Village fax software is installed properly without sending a fax?

This article has been archived and is no longer updated by Apple.

Yes. From the TelePort/Bronze Modem Control Panel, you can confirm proper installation of both the modem and the software.

1) Open the TelePort/Bronze control panel

2) Click the change port icon

3) Change the port by selecting the modem or printer icon that is not highlighted

If the incorrect port is selected, the volume slider bar dims. If the incorrect port is selected, switch it back by following steps 2 and 3. When the proper port is selected, you can move the volume slider bar. This indicates that the Global Village TelePort/Bronze software is installed properly, and the modem is properly connected to the Macintosh.

Support Information Services

Published Date: Feb 19, 2012

Personal LaserWriter 320: Compatible With Apple IIGS (2/94)

Can a Personal LaserWriter 320 be used with an Apple IIGS and GSOS 6.0?

This article has been archived and is no longer updated by Apple.
You can use the Personal LaserWriter 320 on an Apple IIGS running GSOS 6.0.
Here is how:

1) Open the Net Printer Control Panel

2) Select ImageWriter Emulation

You can use the ImageWriter Emulation to print to any Apple PostScript AppleTalk printer.

Support Information Services
Published Date: Feb 19, 2012

CCS-7710: Cable for Comrex CR-1 (1/97)

Listed below are the cable pinouts for connecting the CCS-7710 interface card to the Comrex CR-1 printer.

This article has been archived and is no longer updated by Apple.

CCS-7710 COMREX-CR-1

3 <----------> 3
4 <----------> 20
7 <----------> 7
8 <----------> 8

CCS-7710 dip switch settings

All closed except #3

CR-1 dip switch settings

TOP BANK: all open except 4
BOTTOM BANK: all closed

* This cable is for use with the Apple IIe.

Article Change History:
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Macintosh LC III: Button on Logic Board Resets PRAM (2/94)

What is the button on the Macintosh LC III logic board used for?

This article has been archived and is no longer updated by Apple.
The button is used for testing purposes during manufacturing of the computer. When the button is pressed it resets the ADB bus, Parameter RAM, and the video settings.

Support Information Services

Published Date: Feb 19, 2012

Power Macintosh and NuBus Q and A

This article contains answers to questions surrounding NuBus on the Power Macintosh family.
This article has been archived and is no longer updated by Apple.
Question: Is NuBus slow on the Power Macintosh family?

Answer: No. NuBus performance on the Power Macintosh computers is faster than any NuBus-capable Macintosh we've ever shipped except for the Quadra 840AV. And compared to the Quadra 840AV, the NuBus performance of the Power Macintosh 8100 should be about the same for most situations. When combined with new native applications, the overall performance of Power Macintosh machines is far better than any previous Macintosh.

Question: Do existing NuBus cards run on the Power Macintosh?

Answer: Yes. That's why we chose to stay with the NuBus expansion bus. We have found that overall NuBus compatibility is excellent. High performance cards, in areas like video and graphics, may require new software drivers in order to achieve the level of performance of the fastest Quadra Computers today.

Question: Why do customers need to get new drivers?

Answer: Some existing drivers depend on software APIs custom to the 68040 family. The new drivers have be rewritten around the PowerPC 601 chip instead of the 68040.

Question: How will customers get the new software drivers?

Answer: These new drivers will be made available by the third-party card vendors.

Question: Under what conditions is NuBus faster on the Quadra 840AV than on the Power Macintosh 8100?

Answer: The Quadra 840AV has the potential for block transfer reads and writes from the CPU to a slave card, whereas the Power Macintosh 8100 can only block transfer when the card is a NuBus master. This difference is due to a special custom 68040 instruction called MOVE16, which is not implemented in the PowerPC instruction set.

Question: Why isn't the MOVE16 instruction included in the PowerPC instruction set?

Answer: The PowerPC processor is a Reduced Instruction Set (RISC) processor, which means that it has very simple instructions that can be executed quickly. It does not have complex instructions like MOVE16. This is what gives the PowerPC processor its great speed.

Question: Does this mean that the Quadra 840AV could be a better solution than the Power Macintosh 8100 for some customers?

Answer: No. The Power Macintosh 8100 combined with native Power Macintosh applications will offer performance far superior to the Quadra 840AV. We believe that the performance of native Power Macintosh applications will be 2 to 4 times faster than the same applications running on an Quadra 840AV.

Question: So NuBus performance is not an advantage of the new computers?

Answer: The Power Macintosh family was designed to vastly improve CPU processing performance while maintaining compatibility with today's Macintosh applications, peripherals and expansion cards. The I/O subsystems on the Power Macintosh machines, including NuBus, SCSI, networking, and so on, offer very high compatibility with today's computers and performance similar to that of the fastest Quadra Computers. The NuBus performance of the Power Macintosh machines is clearly sufficient for applications in publishing, multimedia and digital video.

The following information is for Apple Internal & Support Providers Only

Published Date: Feb 19, 2012

Power Macintosh: New Monitor Port Uses HDI-45 Socket

This article describes:

- HDI-45 socket on all Power Macintosh computers
- Monitors supported through the HDI-45 socket
- DRAM supported video when using this port
- Adapter cable needed for monitors with a DB-15 plug.

This article has been archived and is no longer updated by Apple.
All Power Macintosh 6100, 7100, 8100 computers have an HDI-45 monitor socket located on the back panel. The Power Macintosh 7100, 8100, and all designated AV models also provide a DB-15 monitor socket. In addition to the Apple AudioVision 14 monitor, the HDI-45 interface supports these other monitors when used with the HDI-45 Adaptor cable:

Monitor	Size (pixels)	Color depth (bits)
12-inch RGB	512 by 384	16
14-inch RGB	640 by 480	16
15-inch portrait	640 by 870	8
15-inch Multi-Scan	640 by 480	16
15-inch Multi-Scan	832 by 624	8
16-inch RGB	832 by 624	8
17-inch Multi-Scan	640 by 480	16
17-inch Multi-Scan	832 by 624	8
20-inch Multi-Scan	640 by 480	16
20-inch Multi-Scan	832 by 624	8
16-inch RGB	832 by 624	8
VGA	640 by 480	8

Note: Built-in video (HDI-45 with 640K DRAM support) does not support any monitor with a resolution greater than 832 by 624. To use a larger monitor (19-inch, 20-inch, or 21-inch) at these higher resolutions, a third-party video card or the AV card must be used.

When using the HDI-45 connector, frame buffering for monitor support is provided through a 640K DRAM space. There is no dedicated VRAM when using this port.

A video adapter cable (Part #M2681LL/A) is needed to connect a monitor with a DB-15 connector to a HDI-45 built-in port. This cable comes standard with every Power Macintosh 6100, and is offered as an option for the Power Macintosh 6100AV. With the Power Macintosh 7100, 8100, or AV models, the adapter cable is offered as an option to connect an additional display (other than the Apple AudioVision 14) to your computer.
Published Date: Feb 19, 2012

Power Macintosh: DRAM Based Video and HDI-45 Port (2/94)

When using to the new HDI-45 monitor port to connect my monitor, is dynamic random-access memory (DRAM) used for video buffering?

This article has been archived and is no longer updated by Apple.
Yes. Frame buffering for monitor support is provided through a 640K DRAM space. The HDI-45 provides support for 16 bits on 14 inch monitors, and 8 bits on 15 inch portrait, 16 inch monitors, and VGA.

Support Information Services

Published Date: Feb 19, 2012

Quadra 840AV: Video Frame Per Second Capabilities

This article provides the frames per second (FPS) capabilities of the Quadra 840AV.
This article has been archived and is no longer updated by Apple.
Question: How many FPS can I expect to capture without buying additional RAM using QuickTime 1.6 and 2.0?

Answer: The FPS rate of QuickTime depends on a number of factors. The size of the movie, what media it is playing back from, whether or not there is audio attached to it, and which compression algorithms are used. QuickTime 2.0 will have about twice the performance at 1.6 all other things being equal. The next part of the answer depends if you want to use third-party hardware to give better performance in QuickTime. New MPEG (Motion Pictures Expert Group) hardware exists which will give up to 30FPS data rate at 640 by 480.

Question: How many FPS with up to 64MB of RAM and setting up a RAM disk using QuickTime 1.6 and 2.0?

Answer: You don't necessarily need to use a RAM disk to save a movie to. Some digitizing software allows you to save to RAM as a standard option. Increased memory will not improve performance, rather it allows longer recording times. Again, QuickTime 2.0 will have about twice the performance at 1.6 all other things being equal.

Question: Is there any way to get the 840AV to capture video at (or very close to) 30FPS?

Answer: Yes, you can get 30FPS input speed with a 840AV if the size is 320 by 240 or less and you record to RAM, or if you record frame by frame. The more RAM you have the better, more RAM simply gives you longer recording times.

Question: What is the fastest rate at which video can be output from the 840AV to be recorded to a VCR?

Answer: The fastest rate that you can output from the AV is similar to the fastest that the movie will play. The output is recorded in real-time.

Lastly it depends on the frame rate that you actually need. You can do backgrounds that playback at 1FPS and smaller foreground movies that are small and playback at 30FPS.

The underlying understanding is that you have to experiment with a number of variables in making QuickTime Movies. The hardest thing to do is create movies that play back from CD-ROM. To do this you need to use MovieShop or an equivalent product which will allow you to limit the playback speed to between 90K to 190K/sec depending whether you have a single speed or double speed drive.

Published Date: Feb 19, 2012

ARA, Express Modem, and Net Install Problem (2/94)

I'm trying to do a net install using the Apple Installer over an AppleTalk Remote Access connection. The installer keeps cutting me off after I click the install button. I have a Macintosh Quadra 840AV, I'm using a GeoPort Telecom Adapter, and AppleTalk Remote Access 1.0. I tried a net install over AppleTalk Remote Access with my Macintosh IIci and external modem and everything worked fine.

Listed below is the sequence when net install failed:

1) Connect to AppleTalk Remote Access Server.
2) Quit AppleTalk Remote Access and stay connected.
3) Launch Net Installer for CD-ROM Setup v5.0.
4) Installer Loads fine. Click Install.
5) Installer asks to quit all other applications.
6) Clicked Continue
7) AppleTalk Remote Access connection is dropped
8) Message states that server is dropped and installation cannot continue

Is there a solution? It seems there is a limitation with the Express Modem Software or GeoPort Telecom Adapter, since my Macintosh IIci worked fine with AppleTalk Remote Access and Apple Installer.

This article has been archived and is no longer updated by Apple.

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We have been told that in order to change the Express Modem software, so
the Installer does not shut it down, will take a lot of work and there are
no current plans to do this.  We have submitted this as an enhancement
request.

We came up with two similar workarounds that still require downloading the
software, then doing the install, but at least they do not require any
additional equipment:

* Depending on the amount of software that must be downloaded and the
 amount of RAM installed on your computer, you could create a RAM disk to
 copy the software into, disconnect and quit ARA, then run the
 installation.  The RAM disk still appears if you then restart with the
 Shift key down to disable extensions.  This will increase the amount of
 RAM available for the Installer to run in.  We successfully downloaded
 Microsoft Mail and installed it using a RAM disk on a computer with 4MB
 of RAM.

* The RAM disk method isn't likely to work with a huge program like Word or
 Excel.  We used disk partition software that comes with Norton Utilities.
 We created a couple of partitions on our hard drive and copied the
 software into them.  The nice thing about these kind of partitions is
 they can be created and deleted on the fly.  Although we didn't perform
 extensive testing, this method also appeared to work.
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CCS-7710: Cable for Daisywriter (1/97)

Listed below are the cable pinouts for connecting the CCS-7710 interface card to the Daisywriter printer.

This article has been archived and is no longer updated by Apple.

CCS-7710 DAISYWRITER (50 pin connector)

3 <----------> 3
7 <----------> 6
4 <----------> 49

CCS-7710 dip switch settings

All on except #1

Daisywriter dip switch settings

TOP BANK: all off execpt #1
CENTER BANK: all off except #8,
BOTTOM BANK: all off except #2

* This cable is for use with the Apple IIe.

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LaserWriter Select 360: Creating Fax Groups (3/94)

Can I create several group lists with the Phone Book Utility?

This article has been archived and is no longer updated by Apple.
Yes, the LaserWriter driver 8f comes with a Phone Book utility that allows you to create a list of fax recipients. In addition to individual recipients it is quite easy to create a group of individuals that a fax will
be sent to.

Support Information Services
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LaserWriter Select 360: Cannot Force Fax Connection (3/94)

When trying send a fax to someone with a voice/fax/data switch the LaserWriter Select 360 fax software does not send the fax. It appears to be waiting for a fax to answer the phone. Is there a way to force the fax modem to go ahead and send the document?

This article has been archived and is no longer updated by Apple.
There is no way to force fax modems to go ahead and send documents. This is because data handshaking, and optionally error correction, need to be established. The LaserWriter Select 360 fax modem operates as a standard Group 3 fax machine so it's communications are no different, just the type of data being sent.

Historically voice/fax/data switches have not been too robust in making the appropriate connections. So, we would suggest contacting the manufacturer of the switch for additional help in troubleshooting the switch. We have heard that some switches can be configurable so it might help to adjust those settings.

Support Information Services
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Color StyleWriter Pro: Meaning of Error LEDs

This article provides provides the meaning of the various error indications from the Color StyleWriter Pro's front panel LEDs.
This article has been archived and is no longer updated by Apple.
The Error and Power LEDs are not visable when the top cover is closed. When the top cover is open they can be seen, as well as the cartridge (black, cyan, magenta, yellow) LEDs.

LED Status

ERROR	Power	Black	Cyan	Magenta	Yellow	Cause
ON	ON	OFF	OFF	OFF	OFF	Paper empty/Jam
ON	ON	OFF	OFF	OFF	ON	Check printer for leaks
ON	ON	One or more LEDs Blinking				Cartridge out of ink
Blinking	ON	All cartridge LEDs Blinking				Printhead error
(Sometimes the printhead cover not fully latched. Push down on cover.)						

If the error lights on the Color StyleWriter Pro indicate service is needed, you can first try resetting the printer. If resetting the printer doesn't correct the situation, it needs to be serviced.

Resetting the Color StyleWriter Pro

1. Disconnect the power cord from the Color StyleWriter Pro while it is still on.
2. Open printer and remove all four ink cartridges.
3. Open Print Head case and remove the print head.
4. Wait 1-2 minutes.
5. Replace print head and make sure that the lid for the print head snaps twice locking it down.
6. Replace all four ink cartridges, making sure that they snap into place.
7. Wait a few seconds, then reinsert the power cord into the printer.

Once the power cord is reconnected to the printer, it should print a calibration page. If it doesn't, use the Utilities option in the print dialog box to print a calibration page.
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Color StyleWriter Pro: Improperly Installed Ink Cartridge

When changing ink cartridges, for the Color StyleWriter Pro, I switched two of the colors. How can fix this problem?
This article has been archived and is no longer updated by Apple.
The following steps will clean the print heads and correct the problem.

1) Put all cartridges in their correct position
2) Turn the printer on
3) Choose PRINT DESKTOP from the 'File' pulldown menu
4) Open the UTILITIES box in the Print dialog
5) Select 'Clean print head before printing'
6) Select 'All Colors'
Published Date: Feb 19, 2012

Color StyleWriter Pro: Ink Cartridge Capacity & Usage

How much ink does each Color StyleWriter Pro ink cartridge hold, and how much ink is used in the various cleaning operations?
This article has been archived and is no longer updated by Apple.
Capacity

Ink in cartridge - 8 grams/ .28oz

Ink Used During Cleaning Operations

Single head cleaning of the black - 0.29 grams or 3.6%
Four-head cleaning - 0.14 grams per cartridge or 1.6%
Super cleaning - 0.44 grams per cartridge or 5.5%
Published Date: Feb 19, 2012

Color StyleWriter Pro: Avoiding Marks On Transparencies

When printing transparencies, I occasionally see a 0.5 in. x 2 in. rectangle mark on the edge that is fed in first. It is more apparent when a color or shaded background is used. How can I prevent this from occurring?
This article has been archived and is no longer updated by Apple.
The marks are caused by the sheet feed rollers. The marks are virtually invisible when the transparency is placed on an overhead projector. However, to avoid the marks altogether the following procedure is recommended:

1) Empty the sheet feeder

2) Move the paper load lever to the envelope position

3) Make sure printer is turned on

4) Insert the transparency into the sheet feeder, as normal

5) Load the transparency manually by adjusting the transparency so that the leading edge drops down into the printer about 1.25 in.

6) Start the print job. If printing a multi-page document, the printer attempts to automatically feed sheets for pages after the first page. To prevent this, print each page separately using the "From: To:" option in the Print dialog box.

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Color StyleWriter Pro: Initial Startup time

The first time I turned on my Color StyleWriter Pro, it took about 6 minutes before it was ready to use. Is this normal?
This article has been archived and is no longer updated by Apple.
Yes, this is normal the frist time the printer is turned on. The next time it should be ready in about two minutes or less. The initial startup cycle is called refreshing the printer. During this operation each color head is cleaned and wiped twice and the jets are cleaned of air bubbles that may developed in shipping. The process uses about 0.47 grams of ink per cartridge or 5.9%.
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CCS-7710: Cable for Datasouth DS-180 (1/97)

Listed below are the cable pinouts for connecting the CCS-7710 interface card to the Datasouth DS-180 printer.

This article has been archived and is no longer updated by Apple.

CCS-7710 DATASOUTH DS-180

2 <----------> 2
3 <----------> 3
7 <----------> 7
4 <----------> 20

* This cable is for use with the Apple IIe.

Article Change History:
28 Jan 1997 - Reviewed for technical accuracy, revised formatting.
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Language Kits: Printing Errors Q & A

This article contains questions and answers about printing from either the Japanese Language Kit (JLK) or the Chinese Language Kit (CLK) using the LaserWriter driver 8.1.1 to an Apple LaserWriter printer.
This article has been archived and is no longer updated by Apple.
Question: Trying to print in black and white with print options "Summarize PostScript errors on screen" and "Cover Page Before" enabled, I get a Type 4 error.

Note: This error does not occur when printing in "Color/Grayscale" or "Color/Calibrated Grayscale".

Answer: The Japanese Language Kit employs the "InputBackSupport" extension to support non-TrueType Japanese fonts. TeachText Japanese defaults to the non-TrueType font "Osaka" to display and print Japanese text.

The Japanese Language Kit Update contains a newer version of the "InputBackSupport" extension which provides System 7.5 compatibility and corrects issues associated with printing, including the "Type 4" error described above.

Question: When using the Japanese Language Kit to print to any of our LaserWriters (such as, a LaserWriter IIg, LaserWriter Pro 630, or LaserWriter Pro 810), one of two things happen:

- Our computer stops responding.
- Blank pages are printed.

This issue occurs from a variety of applications such as TeachText-J, and FileMaker Pro-J. Also, loading the InputBackSupport file from the Chinese Language Kit did not resolve the issue.

Answer: This is a known issue with LaserWriter driver 8.0 and 8.1.1 which is resolved by installing LaserWriter 8.2. LaserWriter 8.2 is included in System 7.5 Update 1.0. The latest version of the LaserWriter driver, 8.3, is now available for downloading from on-line services.

The following article can help you locate the software update mentioned here:

- Article 14724: "**Where To Find Apple Software Updates**" - Lists online services for free Apple software updates.

The following information is for Apple Internal & Support Providers Only
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Newton Connection Kit: Timeout Troubleshooting

When using the Newton Connection Kit for Macintosh or Windows, the connection fails during synchronization with a timeout error such as "Error-1", "Error -4", or "Connection Failed." Previous synchronizations were successful so I know the hardware configuration is correct.

What can be done?
This article has been archived and is no longer updated by Apple.
Occasionally certain applications and data added to the MessagePad cannot be backed up properly. The MessagePad or computer may take too long to process the information and will drop the connection. Pay attention to the progress window during synchronization. The windows will show which piece of data is being synchronized. When the sync fails, you should have an idea of what application or data may be causing the problem.

Try the following steps:

* Reset the MessagePad

* Remove applications from the MessagePad or RAM card and try to synchronize again. Contact the publishers of applications found to be causing the problem.

* Move the synchronization files to another folder or directory on the disk and resync. The resync will create new files from scratch.

Sometimes corrupt or uncompacted synchronization files can cause the problem. Copy and paste data from the old sync files to the new sync files then resynchronize to transfer data to the MessagePad.
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Macintosh TV: Remote Doesn‘t Work After Power On

The remote control for my Macintosh TV will power up the computer but does not provide any control of the unit after that. The replacement remote has the same symptoms.
This article has been archived and is no longer updated by Apple.
To resolve this problem you need to reset the Parameter RAM (PRAM) by holding down the Command, Option, P, and R keys while starting up your computer.

Your Macintosh TV will sound its normal startup chord twice. After the second chord you can release the keys you are holding down. Your remote control should now be functional in controlling your Macintosh TV.

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Power Macintosh 7100, 8100: Expanding VRAM on PDS Video Card

This article describes expanding video random-access memory (VRAM) on the Power Macintosh Video Card for the Power Macintosh 7100 and 8100 series computers.
This article has been archived and is no longer updated by Apple.
There are two unique video cards for Power Macintosh 7100 and 8100 systems. A video card with 2 MB of memory (1 MB soldered on the card and 1 MB made up of four 256K VRAM SIMMS) is available for the Power Macintosh 7100. A video card with 4 MB of memory (2 MB soldered on the card and 2 MB made up of four 512K VRAM SIMMS) is available for the Power Macintosh 8100. VRAM SIMMS consist of four 68-pin, 80 ns SIMMs in connectors on the video card.

The Power Macintosh Video Card adds a second monitor output and 2 MB of 32-bit VRAM separate from system RAM on the Power Macintosh 7100 card, and 4 MB of 32-bit VRAM on the Power Macintosh 8100 card. Monitor output is through a standard DB-15 connector.

SIMMs for both VRAM expansion cards have the same pin assignments and external dimensions. However, SIMMs for the card in the Power Macintosh 7100 have two chips, each storing 128K by 8 bits; SIMMs for the card in the Power Macintosh 8100 have four chips, each storing 256K by 4 bits.

VRAM expansion is not possible on the Power Macintosh 6100/60 computer because there is no VRAM Expansion Card for it.
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Power Macintosh 7100 and 8100: VRAM SIMMs are Unique

This article describes the importance of installing the correct VRAM SIMMs into the Power Macintosh 7100 and Power Macintosh 8100.
This article has been archived and is no longer updated by Apple.
Because the SIMMs for the Power Macintosh 7100 and 8100 VRAM Expansion Cards have the same pin assignments and external dimensions, they may inadvertently be switched between computers. If a switch happens, the additional VRAM may not be recognized, or strange video activity may occur. Be sure the proper VRAM SIMMs are installed.

The SIMMs can be differentiated visually. SIMMs for the Power Macintosh 7100 have two chips per SIMM, while SIMMs for the Power Macintosh 8100 have four chips per SIMM.

Note that this information is applicable to Apple SIMMs only, third party SIMMs may be different in chip count. Be sure to check with your SIMM vendor or installing dealer as to the compatibility of the VRAM SIMMs prior to installation.
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CCS-7710: Cable for IDS Printers (1/97)

Listed below are the cable pinouts for connecting the CCS-7710 interface card to the IDS 400 or 500 series printers.

This article has been archived and is no longer updated by Apple.

CCS-7710 IDS 400 AND 500 SERIES

2 <----------> 2
3 <----------> 3
7 <----------> 7
4 <----------> 20

* This cable is for use with the Apple IIe.

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Newton MessagePad: Comparison to other Models

The following discusses the differences between the original Newton MessagePad and the Newton MessagePad 110.
This article has been archived and is no longer updated by Apple.

TECHNICAL COMPARISON

Technical Comparison	MessagePad 110	MessagePad 100
Power Supply	4 Type AA batteries	4 Type AA batteries
Average User Battery Life - Alkaline Batteries - NICD Batteries	40-50 hours* 15-20 hours*	10-28 hours* 4-12 hours*
Enclosure	Flip-open cover	Carrying case
RAM/User Space	1024K/480K	640K/150K
Screen Size (pixels)	240 x 320	240 x 336
Pen	Telescopic round	Flat
Size	8"x4" x 1.25"	7.25" x 4.5" x 0.75"
Weight (with batteries)	1.28 pounds	0.9 pounds
Infrared Transfer rate	up to 38.4 kbps**	up to 38.4 kbps**
* battery life is estimated ** at 1 meter		

FEATURES OF MESSAGEPAD 110

New Industrial Design

The MessagePad 110 is a completely new industrial design that reflects Apple's commitment to user-centered designs. The new MessagePad is slightly longer and narrower than the original to accommodate a better grip. It also includes a flip-top cover that folds out of the way when in use, and flips closed to protect the MessagePad's screen when the Newton is off or charging.

Memory

The memory on the MessagePad 110 has been expanded to 1MB with about 480K available for user storage which is 3 times greater than the original MessagePad. Users should expect to be able to store about 600 recognized notes, 750 names, 1,500 appointments and 100 notes in digital ink.

Battery Life

The MessagePad 110's design accommodates AA type batteries which increase battery life to up to 50 hours of use when using alkaline batteries and up to 20 hours when using NICD batteries. The implementation of type AA batteries also bring the MessagePad 110 into a range of common electronic devices that use those size batteries. With the optional MessagePad 110 Recharger, the Newton can recharge a battery pack in about 2 hours.

Screen and Stylus

The MessagePad 110's screen is 16 pixels shorter than the original MessagePad. Software titles which were written to adjust to variable screen sizes should not experience any trouble when used on the MessagePad 110. Titles which do not adjust to variable screen sizes may not work properly with the MessagePad 110. A new, round stylus is also included which may make writing more comfortable for some users.

Manual and Video

A revised manual and video is included for all MessagePad 110 customers.

Improved Recognition Capabilities

TA31252_Newton_MessagePad_Comparison_to_other_Models_(TIL14761).pdf

The Newton Intelligence Operating System included in the MessagePad 110 ROM supports two new features which enhance handwriting recognition. An improved letter-by-letter recognition feature allows users to write words that are not in Newton's dictionary yet Newton will recognize them. Another new feature called deferred recognition allows users to take notes in digital ink and return to the note and recognize them later. Newton users now also have the option of adding the names, street names, and cities they enter the Names application to Newton's dictionary.

Compatibility

The MessagePad 110 can share data with any other device based on Newton Intelligence, including the original MessagePad. Applications written for the Newton OS which adjust for variable screen sizes are compatible with the 110. Those which do not adjust for variable screen sizes may not work properly.

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PostScript Fax Card: Limited Security For Incoming Faxes (3/94)

Are there any security options available for the optional PostScript Fax card when sending and receiving Faxes?

This article has been archived and is no longer updated by Apple.
The only security option we are aware of for the LaserWriter Pro 810 and LaserWriter Select 360 fax card is through setting a Fax Postscript password on your printer for incoming fax jobs. This works only with incoming faxes. Setting up a password is done with the LaserWriter Fax Utility that is automatically installed with the fax software.

Setting Passwords

The password can be set by choosing the Incoming Fax Settings menu item under the Configuration menu. Once this is set, people wishing to fax to your printer must type in the Fax PostScript password in one of two places:

1) The PostScript password field in the Options dialog when they are selecting a fax destination.

2) The PostScript password field when setting up entries in their fax phone book.

Deleting Passwords

To delete any passwords you have set for the printer, leave the Fax PostScript Password field blank in the Incoming Fax Settings menu and close the dialog. This clears out any stored password.

Support Information Services
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LaserWriter Utility 7.6.1 and 7.7: Grayed Out Options

A customer is trying to use the Power Saving option in the Laserwriter Utility. When the customer goes into Laserwriter utility 7.7, several of the utility's features are grayed out, including Power Saving. The customer is using a LaserWriter Pro 810 and has a fax card in the printer. If the customer takes out the fax card, then some of the options in the LaserWriter Utility's menu come back.

As a test, I used Laserwriter Utility 7.7 with our printer (a LaserWriter 16/600 PS) and had the same options grayed out.
This article has been archived and is no longer updated by Apple.
There was a similar previous issue with LaserWriter Utility 7.6.1, but ONLY when using it with the LaserWriter Pro 810f printer. Unfortunately, LaserWriter Utility 7.7 was based on LaserWriter Utility 7.6.1 so the same type of problem occurs. Please note that you will not be able to select "Power Saving", however, since the 810 DOES NOT have this capability.

With regard to the same problem happening on a LaserWriter 16/600 PS, the LaserWriter Utility 7.7 probably does not know about this new printer. Thus, the same problem (as in LW Utility 7.6.1) occurs where the Utility does not have the LaserWriter 16/600 PS with or without fax in its product list, and has disabled menu items since it knows nothing about the printer.

The bottom line is that customers should use one of the following:

* The new Apple Printer Utility for the LaserWriter 16/600 PS
* LaserWriter Utility 7.6.2 if they have a LaserWriter Pro 810
* LaserWriter Utility 7.7 if they are running GX

These articles can help you locate the software update mentioned here:

* Where To Find Apple Software Updates
Lists online services for "free" Apple software updates.

* Obtaining Apple Product Support in the USA
Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech. Info. Library.
Published Date: Feb 19, 2012

10-Base-T Pinout Configuration

I need some specific information on the pinouts for our 10-Base-T Ethernet connector.
This article has been archived and is no longer updated by Apple.

```
The pin configurations for 10BASE-T are as follows:

RJ-45 Connector

-------------------------------
|   1  2  3  4  5  6  7  8    |
|   -----------------------   |
|  |\\\\ \\\\ \\\\ \\\\ \\\\ \\\\ \\\\ \\\\|  |
|  |                       |  |
|  |                       |  |
|  |                       |  |
|  -----                -----  |
|       |              |      |
|        ---        ---       |
|           |      |          |
|            ------           |
-------------------------------

Contact:      Signal:
  1            TD+
  2            TD-
  3            RD+
  4            Not Used by 10BASE-T
  5            Not Used by 10BASE-T
  6            RD-
  7            Not Used by 10BASE-T
  8            Not Used by 10BASE-T
```

Published Date: Feb 19, 2012

LaserWriter Pro 630: No Tray Switching With Windows

Is there a way to specify which tray to use for the first page, and a different tray for the remaining pages of the print job with a LaserWriter Pro 630 using Windows?
This article has been archived and is no longer updated by Apple.
The ability to control tray selection for the "first" and "remaining" pages is a feature of PostScript level 2. The current Windows driver being distributed by Microsoft (PScript.drv v3.5x) is only a PostScript level 1 driver.

We believe Adobe sells a Windows version of their PS Printer driver which is a PostScript level 2 driver. You may want to verify with Adobe that their driver supports this specific feature you are looking for.
Published Date: Feb 19, 2012

LW Select 360 & Pro 810: Documents Are Faxed Not Printed

We have a LaserWriter Select 360, with the Fax option, and sometimes our documents are Faxed instead of printed. Can I correct this? Does this problem also apply to the LaserWriter Pro 810, with the Fax option? Are there any updates that fix this?
This article has been archived and is no longer updated by Apple.
This is actually a two-part problem and occurs on both the LaserWriter Select 360 as well as the LaserWriter Pro 810, when both have the Fax option cards. The first part of this problem is that there are some applications that bypass the Print dialog box, and so the destination of the print job (printer, file, or fax) is indeterminate.

Without the Print dialog, you are unable to select the appropriate destination (fax, printer, or file), so you cannot determine where the job is being sent. There are no rules as to which destination takes priority, but typically the job is sent to the previous destination stored in the driver.

Notes: This varies with versions of the LaserWriter Driver.

We strongly recommend using the Apple Print dialog (rather than the application's Print dialog) whenever possible, otherwise the destination of the job is questionable. Check the application's user's guide for instructions on using Apple's Print dialog. We are currently aware of a few applications that allow a bypass of the Print dialog, these include:

* AppleLink
* Microsoft Excel
* HyperCard
* PageMaker

The second part of the problem is that LaserWriter 8.0 and 8.1.1 have a "sticky" destination feature. Basically, the driver maintains the last selected destination and uses that destination for any future jobs, until a different destination is chosen. Engineering has acknowledged that this can cause potential problems, so they are modifying the next revision of the driver to be "non-sticky" and have it always default to "printer".

In addition to the two possible "causes" of this problem (i.e. no print dialog, and the driver's "sticky" destination), some applications don't make the required calls to certain Print Manager routines when they bypass the Print dialog.

We have determined that in these cases, the application does not make the Print Manager call to PrintDefault, which provides the default values for the printing record. PrintDefault MUST be called if the Page Setup or Print dialogs are not displayed.
Published Date: Feb 19, 2012

CCS-7710: Cable for Olivetti ET-121 (1/97)

Listed below are the cable pinouts for connecting the CCS-7710 interface card to the Olivetti ET-121 printer.

This article has been archived and is no longer updated by Apple.

CCS-7710 OLIVETTI ET-121

2 <----------> 2
3 <----------> 3
5 <----------> 6
7 <----------> 7

* This cable is for use with the Apple IIe.

Article Change History:
28 Jan 1997 - Reviewed for technical accuracy, revised formatting.
Published Date: Feb 19, 2012

LaserWriter Select 310: Printing Problems from Workstation(3/94)

A customer has a LaserWriter Select 310 with 5MB RAM connected to a Sun workstation using the serial port.

Very small PostScript files print fine, but when a nominal size PostScript file is sent to the printer, it blinks then resets itself without printing anything. What is causing this to happen?

This article has been archived and is no longer updated by Apple.
There are a couple of things that the customer can try, as well as verify:

1) Make certain that the printer has not been previously communicating to a Macintosh within the current power cycle. If so, the LaserWriter Select 310 driver puts the printer into a special serial communications mode. To solve this, turn off the power to the printer, then turn it back on.

2) Set the communications on the Sun for:

57.6 Kbaud (try 38.4 Kbaud if 57.6 fails), two stop bits, no parity, 8 data bits

3) Verify that the PostScript code, or the driver generating it, is producing good code. You might try sending the code to another printer.

Support Information Services

Published Date: Feb 19, 2012

LaserWriter Fax: Group Fax Has PostScript Selected (3/95)

When we use the LaserWriter Fax software (8.xf) with a fax-capable printer to send a "group fax" (sending to more than one number) it sets off the PostScript fax "flag" (the PostScript Fax check box gets turned on), and has to redial the destinations. Also, when sending to a group with return reciepts, you only get confirmation of the first user of the group.

Do these situations cause any problems when sending a fax to a non-PostScript fax machine? When will this be resolved?

This article has been archived and is no longer updated by Apple.
There are PostScript flag and confirmation page problems when sending group faxes. Both issues have been reproduced in our lab, and have been reported to engineering.

Workaround

Fortunately, there is a simple workaround to both issues. After selecting the group to fax to, click on Options in the Fax Destination dialog box, and then uncheck the PostScript checkbox. This prevents the PostScript fax card from dialing out twice; instead it just sends a Group 3 fax the first time. In addition to this, confirmation pages print for each and every job.

NOTE:
The problem occurs only when every phone number in the fax group is just a standard Group 3 fax machine.

If the phone numbers in the group include mixed Group 3 and PostScript fax destinations, then a user is NOT allowed to send a group fax using "Broadcast using Printer", but must instead select "Broadcast using Computer". With "Broadcast using Computer" selected, confirmation pages print for each job, however, two phone calls are still placed for standard Group 3 faxes. Finally, if all the phone numbers in the group are PostScript there are no problems; only one phone call is made and confirmation pages print for each job.

Helpful Suggestions

The following suggestions might make the problems less troublesome:

* In the Fax Phone Book, label the fax numbers with "PS" after their names so that it is easier to distinguish the type of fax machines.

* Use the LaserWriter Fax Utility to "Display the Activity Report". This option in the utility queries the LaserWriter for its recent fax activity and displays it for you.

Clearly, the best way to resolve the issue is to uncheck the PostScript box
when sending a group fax to Group 3 fax machines. Regardless of whether you turn off the PostScript option or not, the fax is sent successfully.

Article Change History:
23 Mar 1995 - Updated and expanded with additional information.
10 Jun 1994 - Revised instructions on turning off PostScript
18 Mar 1994 - Added how to decrease the time it takes to send the fax.

Support Information Services
Published Date: Feb 19, 2012

Power Macintosh: Memory Interleaving Support

Do any of the Power Macintosh computers or Workgroup Servers use memory interleaving? I heard that the PowerPC 601 chip will not support interleaving.
This article has been archived and is no longer updated by Apple.
Memory interleaving is a function of the memory controller not the microprocessor. Therefore, some Power Macintosh models based on the same microprocessor will support memory interleaving while others based on the same microprocessor will not.

For example, the Power Macintosh 7500, which is based on the PowerPC 601 microprocessor, supports memory interleaving. The Power Macintosh 7200, which is also based on the PowerPC 601 processor, does not support memory interleaving.

The difference is that the Power Macintosh 7500 uses the HammerHead ASIC memory controller which supports memory interleaving and the 7200 uses the Platinum IC which does not support memory interleaving.

The Power Macintosh 6100, 7100, and 8100 computers use the High-speed Memory Controller (HMC) which also does not support memory interleaving.

Interleaving Table:

POWER MACINTOSH SERIES NUMBER	MICROPROCESSOR	MEMORY CONTROLLER	MEMORY INTERLEAVING
Power Macintosh 6100	601	HMC	NO
Power Macintosh 6150	601	HMC	NO
Power Macintosh 7100	601	HMC	NO
Power Macintosh 7200	601	Platinum IC	NO
Power Macintosh 7250	601	Platinum IC	NO
Power Macintosh 7500	601*	HammerHead ASIC	YES
Power Macintosh 7600	604 *	HammerHead ASIC	YES
Power Macintosh 8100	601	HMC	NO
Power Macintosh 8150	601	HMC	NO
Power Macintosh 8500	604 *	HammerHead ASIC	YES
Power Macintosh 8550	604 *	HammerHead ASIC	YES
Power Macintosh 9150	601	HMC	NO
Power Macintosh 9500	604 *	HammerHead ASIC	YES
Power Macintosh 9600	604e *		YES
* Removeable/upgradeable microprocessor card			

Published Date: Feb 19, 2012

Mac Connection Kit 2.0: Using Import/Export File Format

When should we use Newton Connection import/export format in Newton Connection for Macintosh version 2.0?
This article has been archived and is no longer updated by Apple.
The Newton Connection format can be used to:

* Move information between two Newton Connection synchronize files
* Distribute information to other people who have Newton Connection
* Move data to another application that supports Newton Connection format

This file format contains all Newton information and you are guaranteed not to lose data with this format. In the future, other applications may also support the format removing the need for translators and templates.
Published Date: Feb 19, 2012

Mac Connection Kit 2.0: Using the Template Caveats

What are some of the issues when using the template import/export format feature of Newton Connection for Macintosh 2.0?
This article has been archived and is no longer updated by Apple.
Look for the following issues when using templates:

1) There are situations in which a file exported using a template and then re-imported into a Newton Connection Kit file may lose information. The templates import and export files with text only. This means that any graphics in your Newton data will not be exported if you use a template. If your data contains tabs, returns or multiple paragraphs (**), some of the data may be lost if you export with a template that uses Tab and Return as the field and record separators. To avoid this, click Options in the Edit Template dialog window and choose a character that does not appear in your data as the separator, or export in Newton Connection format. If you want to move all information from one Newton Connection Kit file to another, it is strongly recommended that you use the Newton Connection format to import and export the information. This format contains all information necessary to move the data between two or more Newton Connection files. It is also cross platform and will be supported by Newton Connection for Windows 2.0.

(**) Multiple paragraphs are concatenated with Carriage Returns.

2) Repeating meeting information may be lost when exporting repeating meetings using templates. The meeting still repeats but all special case information is lost. For example, if a repeating meeting repeats every Thursday for a month, and on the Newton you change week three's meeting from Thursday to Friday, the special case of having a Friday meeting for the third week will be lost.
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Newton Connection Kit 2.0: Import and Export Caveats

What are some of the caveats when using the built in DataViz translators that are included with the Newton Connection for Macintosh version 2.0?
This article has been archived and is no longer updated by Apple.
Here are some tips to keep in mind when using the translators:

* If you are exporting from a Newton application that contains fields not present in the designated supported Macintosh application, information in the fields not supported by the Macintosh application will not be exported. For example, in Newton Connection, name file entries have a field for the e-mail address. Dynodex 3.0 does not have a field for the e-mail address. Therefore, if you export a name entry to a Dynodex file, the e-mail address will not be exported.

Also, if you are importing information from a Macintosh application that contains fields not present in the corresponding Newton application, data from the unsupported fields will not be imported.

* Newton graphics and ink can be exported as PICT graphics from Newton Connection using the built in DataViz translators. However, PICT graphics in Macintosh applications can not be imported as Newton graphics and ink. Only the Newton Connection Format supports import of graphics into Newton Connection. However, future third party Macintosh applications might support this format.

* Some translators will break repeating meetings and repeating day notes into individual meetings and day notes. For example, if you export one yearly repeating meeting from Newton Connection into ACT! 1.1, the Newton repeating meeting will be translated into 10 non-repeating meetings which occur once a year for 10 years.

Published Date: Feb 19, 2012

3.5" Disks: Unformatted and Formatted Capacity

Some 3.5' floppy disks are marked as 1MB and 2MB. Why are the disks marked as such when the formatted capacity is 800K and 1.44MB respectively?

This article has been archived and is no longer updated by Apple.

The 1MB and 2MB ratings are unformatted capacities. Regardless of what computer you initialize these disks with, you do not get a data capacity of the full 1MB or 2MB. This is due to the way information is stored on floppy disks. Depending on what operating system is used, more information than 800K or 1.44MB can be placed on a floppy disk. This is because they use additional sectors per disk.

Macintosh Disk Capacities
==========

	Double Density	High Density
	1 MB Unformatted	2 MB Unformatted
	800K Formatted	1.44MB Formatted
	----------	----------
Bytes/Sector	512	512
Sectors/Tracks	8-12 (variable)	18
Track Density tpi	135	135
Tracks/Side	80	80
Sectors/Disk	1600	2880
Bytes/Side	409,600	737,280
Bytes/Disk	819,200	1,474,560

Typical Disk Sector
==========

A typical disk sector consists of 648 bytes of information. Here is how this information is encoded on the disk:

```
| <------------ Typical Sector 648 bytes ------------------> |
+-------------------------------------------------------------+
|  1  |  2  |  3  | 4 |  5  |  6  | 7 |  8  | 9 |  10  |
+-------------------------------------------------------------+
```

1 - Sector Gap	12 bytes
2 - ID Mark	4 bytes
3 - Track and Sector Address	4 bytes
4 - CRC	2 bytes
5 - ID Gap	22 bytes
6 - Date Block Gap	12 bytes
7 - Data Mark	4 bytes
8 - Data Field	512 bytes
9 - CRC	2 bytes
10 - Data Block Gap	84 bytes

How Disk Space is Calculated
==========

When formatted disk space is calculated, most of the sector information is not included. The only information used is the data field. Here is the formula used to determine the amount of information on a floppy disk.

Sides x Tracks x Sectors x Bytes/Sector = amount of information a disk can store

For a High Density disk this would be:

2 x 80 x 18 x 512 = 1,474,560 bytes

The Macintosh double density disk gets a bit more difficult because it uses 5 different speeds. When the speed changes, so does the sectors in per track. Here is a table with the track information and our formula:

```
Tracks        Sectors
-------       -------
00 - 15          12
16 - 31          11
32 - 47          10
48 - 63          09
64 - 79          08

Formula
-------
Sides x Tracks x Sectors x Bytes/Sector = Information

Double Density Disk
-------------------
2 x 16 x 12 x 512 = 196,608
2 x 16 x 11 x 512 = 180,224
2 x 16 x 10 x 512 = 163,840
2 x 16 x 09 x 512 = 147,456
2 x 16 x 08 x 512 = 131,072
.                   -------
.Total disk space = 819,200 bytes
```

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CCS-7710: Cable for C.Itoh Prowriter (1/97)

Listed below are the cable pinouts for connecting the CCS-7710 interface card to the C.Itoh Prowriter printer with serial board.

This article has been archived and is no longer updated by Apple.

CCS-7710 C.ITOH PROWRITER (Serial board)

2 <----------> 2
3 <----------> 3
7 <----------> 7
4 <----------> 20

CCS-7710 dip switch settings

All up except #4

C.ITOH dip switch settings

Switch Bank 1: all open except #2
Switch Bank 2: all open except 6,7

Serial board dip switch settings

21: all open except #4
22: all open
23: all open except 1,5
24: all closed except #2,3,6,7

* This cable is for use with the Apple IIe.

Article Change History:
28 Jan 1997 - Reviewed for technical accuracy, revised formatting.
Published Date: Feb 19, 2012

Power Macintosh: High-Speed Memory Controller (3/94)

This article describes the high-speed memory controller on all Power Macintosh computers.

This article has been archived and is no longer updated by Apple.
The high-speed memory controller (HMC) is an ASIC chip that controls all memory operations in Power Macintosh computers. The HMC has the following features that support data transfers to and from the PowerPC 601 microprocessor:

* Support for all basic transfer protocols, including all single-cycle accesses
* Support for four-cycle 32-byte cache accesses
* Translation of misaligned read actions into double-word read actions
* Implementation of address-only transactions
* Bus arbitration (of the address bus only)

The HMC does not support the following features:

* Pipelining of memory bus transactions
* Cache snooping
* Recovery from transfer error acknowledge signals
* Little-endian transfer mode

Support Information Services

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LaserWriter Select 360 Parallel Port: Data Flow (3/94)

We have a LaserWriter Select 360 connected to our Ethernet network via a NetQue from Emulex (software version 4.1). When a job is sent to the printer using LaserWriter driver version 8.1.1, the green LED flashes, but no document is printed. The same configuration with the version 7.1.2 of the driver works fine. If we print serially with the 8.1.1 driver however, the configuration works.

Can you explain the difference between driver LaserWriter 7.1.2 and 8.x, and why it's not possible to print via the parallel port using the NetQue device with LaserWriter 8.x?

This article has been archived and is no longer updated by Apple.

The LaserWriter Select 360 parallel port is unidirectional, however the LaserWriter driver 8.x expects to receive information back from the printer. The driver relies on bidirectional communications because it sends out various queries to obtain information about the characteristics of the target output device (such as features, fonts, etc.) before beginning a print job. The 7.x LaserWriter driver does not rely on bidirectional communications.

Included below is an excerpt from the APDA developer notes on the LaserWriter Select 360 regarding the parallel port:

"The Centronics parallel interface is essentially an input-only channel. This means it transfers information from the host to the printer. However, the PostScript interpreter always deals with both the input and output sides of an I/O channel. When operating in Centronics parallel input mode, the printer sets up the 8-pin serial port for the PostScript language print operator. The output from this port may be ignored for simple one-way communication. However, important information may be output via this port. Printer errors are always reported, since the Paper Error signal on the Centronics interface cannot be relied upon to report all printer errors."

Support Information Services
Published Date: Feb 19, 2012

Macintosh Color Display, Quadra 605 and Energy Saver software

The Macintosh Color Display is listed as being Energy Star compliant but the Energy Saver software is telling me that the monitor is not compatible when installed on a Quadra 605. Is the software being revised to support this monitor? Should this configuration work with the Energy Saver software?

This article has been archived and is no longer updated by Apple.
The Quadra 605, Macintosh Color Display, and the Energy Saver Display software (version 1.0), are compatible.

For this configuration to function properly you must be using system software version 7.1 and have at least 2MB of system memory available. Also, ensure that you are not using the CPU Energy Saver software (version 1.0.1) which is not designed to control the display. You must also use the Custom Install button even though there is only one item to select in the Custom Install list.

Article Change History:
12 May 1994 - Included Custom Install information.

Support Information Services
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How to determine A/UX version number (3/94)

How do I determine which version of A/UX is running?

This article has been archived and is no longer updated by Apple.

```
The following command returns the revision number for a/ux:
      uname -r

For a  more detailed snapshot including system name and processor type:
      uname -a

Support Information Services
```

Published Date: Feb 19, 2012

Serial Switch CDEV: Not For Use with AV Computers

The Serial Switch control panel is not for use with AV computers.
This article has been archived and is no longer updated by Apple.
The Serial Switch is designed for products that contain intelligent I/O processors (IOPs). Only the Macintosh IIfx, Quadra 900, and 950 have IOPs on the ports for the floppy disk, ADB, and serial I/O. Since the Quadra 840AV doesn't have IOPs, this program will return the error message you report.
Published Date: Feb 19, 2012

Apple Adjustable Keyboard & Compatibility with A/UX 3.x (3/94)

Is the Apple Adjustable Keyboard compatible with A/UX 3.x?

This article has been archived and is no longer updated by Apple.
No, the Apple Adjustable Keyboard does not work completely with A/UX 3.0 or 3.0.1.

Because the CommToolbox tool(s) are built into the kernal with the keyboard IDs, some of the keys, such as arrow keys and '~', key do not respond with the same ANSI escape sequences as they do in CommandShell.

The problem has been reported and is known to A/UX engineering.

Support Information Services
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Partitioning Large Hard Drives into Smaller Blocks

The minimum file size on my 2 GB drive is 32K, and I would like to make it smaller, but I can't seem to do it with HDSC setup. Why is the file size so large, and what can I do to make it smaller?
This article has been archived and is no longer updated by Apple.
In both the Macintosh and DOS environments, the maximum number of blocks on a drive is 65,536 because both operating systems address the allocation blocks with a 16-bit address. Drives larger than 512 MB cannot use a block size of 8K or less because there just aren't enough addresses. Thus, if a 2 GB drive is one Macintosh partition, the smallest file size allowed will be 32K. (If you saved a TeachText file with one character, it would take up 32K of disk space.) This can waste a lot of space on large drives that have a lot of small files.

One solution to this problem would be to partition larger drives into smaller partitions or logical drives, each with a maximum of 65,536 blocks. Apple's Drive Setup can be used to partition qualified Apple hard drives and some removable devices as listed in the Drive Setup Guide file. Unsupported hard drives will show up in the device list by name, however, if you select an unsupported hard drive you will get the message, "Cannot modify a disk in an unsupported drive."

Also, Drive Setup is supported on all of the Power Macintosh computers. This includes the original Power Macintosh computers and the new PCI-based Power Macintosh computers. Drive Setup is also supported on 68LC040 processor-based systems that have IDE drives installed. Drive Setup is not supported with the Power Macintosh Upgrade Card.
There are third-party companies that offer solutions for creating multiple Macintosh partitions. A few that we know of are:

- Hard Disk Toolkit (HDT) by FWB Software, Inc.
- Silverlining by La Cie Ltd.
- MicroNet Utility by MicroNet Technology
- MicroTech Utility by MicroTech International

The Tech Info Library article titled "**Locating Vendor Information**" can help you search for a particular vendor's address and phone number.
Published Date: Feb 19, 2012

CCS-7710: Cable for Silver-Reed EXP-550 (1/97)

Listed below are the cable pinouts for connecting the CCS-7710 interface card to the Silver-Reed EXP-550 printer.

This article has been archived and is no longer updated by Apple.

CCS-7710 SILVER-REED EXP-550

2 <----------> 2
3 <----------> 3
4 <----------> 20
7 <----------> 7

CCS-7710 dip switch settings

All down except #3

Silver-Reed dip switch settings

Left Bank: all off
Right Bank: all off except #2,5,8

* This cable is for use with the Apple IIe.

Article Change History:
28 Jan 1997 - Reviewed for technical accuracy, revised formatting.
Published Date: Feb 19, 2012

Direct Dialup Mail Overview and Issues (5/96)

This article provides a basic description of the capabilities of Apple's Direct Dialup Mail (DDM) software.

This article has been archived and is no longer updated by Apple.

Please refer to the "PowerTalk User's Guide" (from System 7 Pro), Appendix B for details on setting up and configuring the software. See Using Direct Dialup Mail in this article for an example.

You can find Direct Dialup Mail 1.2 on Apple Computer's software update locations.

These articles can help you locate Direct Dialup Mail 1.2:

"Where To Find Apple Software Updates" -- Lists online services for free Apple software updates.

"Obtaining Apple Product Support in the USA" -- Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech Info Library.

DDM Functionality

==========

What DDM Does

Lets you send Apple mail to another DDM/PowerTalk user (peer-to-peer).

Lets another DDM user send you Apple mail provided you have the software configured to accept incoming calls.

What DDM does NOT do

Let you retrieve your remote mail from another PowerTalk equipped Macintosh.

Let you get PowerShare mail from a PowerShare server

DDM Requirements and Issues

==========

DDM requires a Macintosh running PowerTalk. It also requires that modems be attached to the Macintosh computers to which you want to connect. See the "PowerTalk User's Guide" (or Using Direct Dialup Mail later in this article) for instructions on installing DDM and adding it to your PowerTalk Key Chain. Be sure to obtain the proper CCL script for the modem you are using. CCL scripts are obtained from the specific modem vendor. DDM uses the same modem scripts and setup control panel as Apple Remote Access. Because DDM is more particular about modem scripts, it is very important to use the most updated scripts from the modem vendors.

Once you have installed DDM, the modem connected to the Macintosh is always in "answer call" mode. While in this mode the modem cannot be used with any other communications software except Apple Remote Access (ARA), if it is installed. DDM must be disabled using the "I'm at..." command to use the modem for anything other than ARA or DDM.

There is no Status Window indicating that DDM is dialing, so the only indication you have of what is going on are the modem tones.

When addressing an Apple mail message using the DDM option, DDM attempts to send the mail message immediately. If it cannot connect to another DDM user's modem, then it retries three times before giving up. You can also specify a preset time to send all your DDM mail. This mode keeps all the mail in your Out Tray until the specified time, and then attempts to send each message.

Information for AppleTalk Remote Access Users

==========

AppleTalk Remote Access (ARA) 1.0 is not compatible with Direct Dialup mail. It is automatically removed from your hard disk when you install Direct Dialup mail. If you want to run PowerTalk Direct Dialup Mail concurrently with AppleTalk Remote Access Software, you must upgrade to ARA version 2.0 or later. ARA MultiPort Server is not compatible with Direct Dialup mail. Do not install both ARA Multiport Server and Direct Dialup mail on the same computer.

Upgrade Products

M1964Z/C Apple Remote Access Client for Macintosh Upgrade Kit v2.0.1

M2678Z/B Apple Remote Access Personal Server for Macintosh Upgrade Kit v2.0.1

These products require proof of purchase of version 1.0 or 2.0 and are available at authorized Apple resellers and dealers. For the name of a nearby authorized Apple reseller or dealer in the U.S., call (800) 538-9696. For more information on the Apple Remote Access product family, contact the Apple Network Information Line at (408) 862-3385. To obtain information on availability of Apple Remote Access Software outside the U.S., please contact your local Apple representative.

Using Direct Dialup Mail

You use the Direct Dialup Mail Accessory Kit for sending and receiving mail over a modem to another computer.

Setting Up the Software

After you have installed Direct Dialup mail, you are ready to set it up. Follow these steps:

Step 1:

Open your PowerTalk Key Chain. If you have not already given your Key Chain Access Code, you are asked to enter it. The Key Chain dialog box appears, listing your current services.

Step 2:

Click the Add button to bring up a list of available services.

Step 3:

Select Direct Dialup Mail and click OK. The dialog box closes and Direct Dialup is added to your list of available services.

Step 4:

Double-click Direct Dialup. The Direct Dialup dialog box appears.

Step 5:

Fill in or change information as appropriate.

Step 6:

To set the software to control your modem, click Modem Setup.

Step 7:

In the dialog box that appears, use the pop-up menus to choose the kind of modem you have and make sure the port setting is correct. Click the appropriate radio button to turn the modem speaker on or off.

NOTE:

If the pop-up menu does not list your modem, try the Hayes setting with the same speed as yours. If that does not work, contact the manufacturer to get the necessary software.

Step 8:

Close the Remote Access Setup, Direct Dialup, and PowerTalk Key Chain windows. Your software is now installed and ready to run.

Adding Dialup Addresses

You can add a dialup telephone address to an information card for easy access. Follow these steps to add a Direct Dialup mail address:

Step 1:

Find the information card to which you want to add a Direct Dialup mail address.

Step 2:

Open the card and use the pop-up menu to move to the Electronic Addresses page.

Step 3:

When the Electronic Addresses page appears, click Add at the bottom of the card. A dialog box appears, asking for the kind of address to add.

Step 4:

Select "Direct Dialup mail" and click Add. An untitled Dialup Address line appears on the card, ready for you to fill out.

NOTE:

Make this address the preferred one by highlighting its radio button. The Mailer uses the preferred address when it sends documents.

Step 5:

Type a descriptive name for this address. Something like "Mary's Home Modem" is a good choice because it describes both the owner and the modem's location.

Step 6:

Double-click the icon to the left of the address line to add the necessary dialup information. Select the top radio button to have the system use the information you supplied in the Direct Dialup dialog box (described earlier in this article) to form this person's telephone number. Then enter the required numbers in each of the three fields. If your area code and the area code you enter on this person's card are the same, the system does not use the area code when it dials.) For example, the Country code field can hold the standard 1 prefix used before North American area codes.

Select the bottom radio button to have the system use the number you type into the lowest field without regard for the information you supplied in the Direct Dialup dialog box. You can change any of these settings at any time.

Step 7:

Click the Close box when you are finished to confirm your settings and put the dialog box away.

Step 8:

Click the information card's close box. Once the dialup address information is complete, you can send mail to that address just as you can to any other address in PowerTalk.

Using Dialup Addresses in the Mailer

==========

Adding addresses

To add a dialup address from your personal catalog, follow these steps:

Step 1:

Click the top button in the Catalogs access panel.

Step 2:

Locate and select the information card containing the dialup address.

NOTE:

To use an information card as the source of a dialup address, a Direct Dialup number must be selected as the preferred address on the Electronic Addresses section of the information card.

Step 3:

Click the To button.

Manually Entering Address

To enter a dialup address for a letter's recipient, follow these steps:

Step 1:

Open the Mailer's Catalogs access panel and click the bottom button.

Step 2:

Type the exact phone number for the dialup recipient's modem. You can use a hyphen to separate the parts of the number if you want.

You can also use the form <name>@<number>.

Step 3:

Choose Dialup from the catalog pop-up menu.

Step 4:

Click To (or press the Return or Enter keys) to address the letter. To put a copy of this dialup address in your preferred personal catalog, press the Option key and click the Save button.

Step 5:

Provide any other necessary information in the Mailer and send the document.

Troubleshooting

==========

You may experience an occasional problem using the dialup service. Here are a few common problems and some suggested solutions.

Error Message When Typing a Phone Number

When you type a phone number in an address window, the system adds a message at the bottom stating that your dialup service has not been set up.

Open the PowerTalk Setup control panel and check that the dialup service information is complete and that you have entered your local phone number.

The Dialup Service Does Not Work

You have set up your dialup service, but it does not seem to work. For instance, the modem will not dial an address, try these solutions:

Be sure the modem is turned on and your phone line is connected.

Verify that you have selected your model of modem in the Remote Access Setup control panel. If your modem's auto-answer light is on, your setup is probably OK.

Cannot Connect With Another Macintosh

When your modem dials the telephone but cannot connect with another Macintosh, try these solutions:

Make sure the telephone number is correct.

Make sure the Macintosh you are trying to connect with is turned on, the modem is connected, and the computer and modem are set up correctly.

If you are using a charge card number in the Direct Dialup control panel, you may need to make Direct Dialup wait longer before dialing the charge card number. The default delay in the U.S. is 20 seconds. To increase the delay, add one or more commas at the beginning of the charge card number. Each comma increases the delay by two seconds.

If you are using a charge card in the Direct Dialup setup window, make sure you select tone dialing in the Remote Access Setup window.

If you see a triangle icon on the right side of your Out Tray or In Tray, it means there is a problem. Click the triangle icon for more information.

Connects Then Drops Connection

If your modem connects with another modem but then loses the connection, try these solutions:

Make sure you selected the correct modem type when setting up the software.

If your telephone line has a call-waiting feature turned on, try turning that feature off. Call waiting can interrupt modem connections.

Your telephone line may have excessive noise. Contact your telephone company.

If you are using another application program that uses the modem, quit that program before using Direct Dialup.

A Reply To a Letter Does Not Get Through

You reply to a letter that originally had multiple recipients, at least one of which had a dialup address, but your reply to that dialup address does not get through.

Check the area code of the dialup address. If the original sender of the letter and the dialup recipient were in the same area code (for example, 408), but you are in a different area code (for example, 212), the dialup recipient's address would not have any area code listed. (There would have been no need for the original sender to include an area code.)

Unless you change the dialup address, the system would dial without an area code and try to send your reply to your area code (212) instead of the proper one (408).

Other Troubleshooting Tips

To cancel a call in progress, open the Out Tray and drag the sending item to the trash.

To suspend Direct Dialup from using the port and phone temporarily, choose "I'm at" from the Special menu, and uncheck the Direct Dialup checkbox.

To use the MNP 10 protocol, both your modem and the one you call must support the protocol.

If you are using a Macintosh IIfx, a Macintosh Quadra 900, or a Macintosh Quadra 950 and have virtual memory turned on, you must open the Serial Switch control panel and change the serial port setting to Compatible.

If the error code -9014 appears while sending a Direct Dialup mail, choose "I'm at" from the Special menu, and make sure the Direct Dialup checkbox is checked.

If you drag a type-in Direct Dialup address from the mailer's recipient field to the desktop and change its name on the desktop, the address will become invalid and may not be used thereafter.

You may experience an occasional problem using the dialup service. Here are a few common problems and some suggested solutions.

When you type a phone number in an address window, the system adds a message at the bottom stating that your dialup service has not been set up.

Open the PowerTalk Setup control panel and check that the dialup service information is complete and that you have entered your local phone number.

This article was published in the "Information Alley":

Volume II, Issue 2, Page 15

Article Change History:

30 May 1996 - Corrected where to get DDM.

26 May 1996 - Updated for technical accuracy.

TA31277_Direct_Dialup_Mail_Overview_and_Issues__(TIL14790).pdf

13 May 1996 - Added troubleshooting tips.

Published Date: Feb 19, 2012

Apple Remote Access: Changes From 1.0, 2.0, & 2.0.1

This article lists the differences between ARA 1.0, 2.0, and 2.0.1.
This article has been archived and is no longer updated by Apple.
Differences Between ARA 1.0 and 2.0
==========

ARA 1.0

ARA 1.0 had both client and server capability, and came with a license to copy to three computers. ARA 1.0 cannot connect to an ARA 2.0 server.

ARA 2.0 Personal Server

ARA 2.0 Personal Server comes with a license to copy to two computers, and can act as a server or a client. There is a compatibility mode allowing connection to ARA 1.0 servers.

ARA 2.0 Client

ARA 2.0 Client can only access ARA 1.0 or 2.0 servers, it does not provide server capability.

ARAP 2.0

The AppleTalk Remote Access Protocol (ARAP) provides efficient AppleTalk services on a per client basis over slow links. It defines the login and authentication sequences. The ARAP specification has been enhanced to include the ability to change passwords, allow password retries, authenticate a user using external third party security devices, and send out-of-band messages such as alerts and greetings.

In addition, ARAP Version 2.0 now lets administrators of the MultiPort Remote Access Server set the specific zones each user can see. The Apple Remote Access MultiPort Server provides a flexible, scalable, and secure way to offer network access to large numbers of remote or mobile users. Used in conjunction with one or more Apple Remote Access Serial Cards, it lets a Macintosh computer or a Workgroup Server support from 4 to 16 simultaneous dial-up connections.

NOTE: The protocol enhancements are what allow for the new functionality; therefore, ARAP 1.0 based products are not able to take advantage of these enhancements.

Remote Password Change

ARAP 2.0 provides a method for you to remotely change your password (without having to use AppleShare on the same Macintosh as was necessary with ARA 1.0). Other new features in the MultiPort Server product let the administrator set the number of retries allowed before user logon is disabled and to force users to change their passwords via the "New password required" field in the user setup window.

SNMP Management

Integrated network management via SNMP is now a part of the MultiPort servers.

Roving Access Security

Dial-back is not satisfactory for you if you want both security and mobility. Mobile security is now added to the feature list by allowing for the use of third party "security cards". With some "security cards" you must type in a personal code and a requester code into a credit card size calculator like device. The device then returns the SecureID. Other "security cards" are time based and constantly display current SecureID information. When trying to make a connection to a secure server, you see a dialog box requesting a SecureID. Without the SecureID and the standard username and password you are not able to get access to the server.

X.25 connectivity

The new MultiPort Server software supports extensions that let you connect to ARA through an X.25 network. This type of access is valuable in situations where the cost of X.25 asynchronous dial-up service is less than the cost of end-to-end service through the phone companies. These

X.25 extensions are sold as separate products from ARA 2.0 MultiPort server.

DialAssist

DialAssist is a client software (both ARA Personal Server 2.0 and ARA 2.0 Client Only) feature that makes long distance, credit card, international, and private PBX calling extremely easy for you. The software is preconfigured with all of the most common dialing codes so that a you only have to select items from pop-up menus.

MNP10 error correction

If you have a modem that supports MNP10 error correction, it can be turned on via the Remote Access Setup window.

ARA 1.0 and 2.0 Compatibility
==========

Modem Scripts

You can use AppleTalk Remote Access version 1.0 modem scripts with Apple Remote Access 2.0 Personal Server, but you cannot use certain new features, such as Ignore Dial Tone, Manual Dialing, and MNP 10. You cannot use Apple Remote Access Personal Server 2.0 modem scripts with AppleTalk Remote Access version 1.0.

Calling an AppleTalk Remote Access Version 1.0 Server

The AppleTalk Remote Access 1.0 Compatibility option lets you call a version 1.0 server from the ARA 2.0 client and to receive callbacks from a 1.0 server (see Chapter 3 of the "Apple Remote Access Personal Server for Macintosh User's Guide" for details on setting this option). However, it does not let Apple Remote Access Personal Server receive calls from an AppleTalk Remote Access 1.0 client. The Apple Remote Access 2.0 Personal Server can only receive calls from version 2.0 Apple Remote Access Clients.

Supported Scripts

Apple includes some modem scripts with all versions of the ARA server. These are not the only compatible modem scripts. These scripts were current when 2.0 was introduced, but there could be updates from the modem vendors. If you need a new script, contact your modem vendor. The following paragraph is in the Apple Remote Access MultiPort Server Read Me file:

"9600-bps or higher-speed modem scripts included with the Apple Remote Access Client for Macintosh software can also be used with the Apple Remote Access MultiPort Server."

Basically, 9600-bps or higher-speed modem scripts should be compatible with the Apple Remote Access MultiPort Server product. If an ARA 2.0 script is not available for a particular modem, the ARA 1.0 script should work.

If you cannot find the CCL script for you modem, contact the modem vendor directly, check with user groups, or develop your own CCLs with tools from APDA, Apples source for developer tools.

Differences Between ARA 2.0 and 2.0.1
==========

The ARA 2.0.1 release addressed the following problems:

1) Fixed a bug that caused ARA 2.0 to crash when running on a Macintosh Plus.

2) Changed the ARA MP (MultiPort) Server to be compatible with the Power Macintosh computers.

3) Added the ability to determine on the fly whether the client is attempting to connect to an ARA 1.0 or 2.x server.

This release has no specific performance enhancements relative to ARA 2.0.
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ARA 2.0: DialAssist, Manual Dialing, & Redial (3/94)

Dialing, Redialing and DialAssist information for ARA

This article has been archived and is no longer updated by Apple.

```
Manual Dialing
--------------
When you use Manual Dialing, establishing a Remote Access connection varies according to the type of modem you
are using.  To ensure that you can make a connection while using Manual Dialing, you may need to experiment
with pressing the Connect button slightly before or after you hear the remote modem answer the phone.

ReDial Feature
---------------
Remote Access Client will attempt redialing only when the phone number that has been dialed is busy.  If the
connection attempt has failed for any other reason, Remote Access will stop the redialing attempts so that you
can correct any problems.

When using the Redial option, you should set the "Time between retries" number to five seconds or greater.
 Depending on the modem, anything less than five seconds may not give your modem sufficient time to reset,
resulting in your Macintosh serial port being busy and unavailable for redialing.

When using the Re dial alternate number option, the main number will be dialed once before the redialing
sequence is initiated.  The redialing sequence will then alternate between the main and alternate numbers.

DialAssist
----------
In certain countries city/area codes don't exist.  If you are calling within such a country and you encounter
problems, try entering a space in the "Connect To City/Area Code" field in your connection document to get
DialAssist to work properly.

Support Information Services
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Published Date: Feb 19, 2012

AppleShare File Servers: Adding to the PowerTalk Keychain

I want to add keys for additional AppleShare servers to my PowerTalk Key Chain, and I don't know how to do it. Logging into them via the Chooser doesn't provide an opportunity to add them, so how is this accomplished?
This article has been archived and is no longer updated by Apple.
AppleShare file server entries can be added to the Key Chain in two ways:

1) Access the server via an alias. You will then be provided with the dialog asking if you want to add that server to your Key Chain.

2) Access the server via AppleTalk Catalogs. When you search through the catalog for an AppleShare server, and select one, You will then be provided with the dialog asking if you want to add that server to your Key Chain.

PowerTalk uses the Alias Manager to trigger the additional dialog allowing you to add the server to your keychain. The Chooser does not use AppleEvents, nor the Alias Manager, and therefore has no way to trigger the dialog.

Note: Once added to your Key Chain the logon dialog box for a server will be skipped when accessing via an alias or AppleTalk Catalogs. Access via the Chooser still requires entry of user name and password.
Published Date: Feb 19, 2012

A/UX 3.0.1: cat Displaying Files Incorrectly (3/94)

When I use "cat" in the A/UX CommandShell, it is not displaying the file correctly. The lines are bunched up with one line on top of the other.

This article has been archived and is no longer updated by Apple.
A/UX 3.0.1 has new variable called "TBTRANSLATEUXONLY" that is set in the shell scripts /mac/bin/mac32 and /mac/bin/mac24. Use the Text Editor to comment this out, and the cat function will return to A/UX 3.0 behavior.

The TBTRANSLATEUXONLY variable affects how carriage returns (CR) and line feeds (LF) are stored in the system. A/UX™ 3.0 converts carriage returns to line feeds, and then tries to translate the line feeds back to carriage returns when the file is reopened. A/UX™ 3.0.1 avoids possible complications that this may cause and allows you to set this variable. If this variable is assigned any value in your environment, carriage returns are translated to line feeds upon a file save of UNIX text files. (Files created in the CommandShell as well as by TextEditor are considered UNIX text files.)

Support Information Services

Published Date: Feb 19, 2012

Problems Copying Reports Between HyperCard Stacks (3/94)

I tried to copy an Avery Mailing Label report from the Address stack that comes with HyperCard 2.2 into my own 2.1 Address stack, and it's not copying correctly. The original label report had three columns and ten rows, and the pasted version has two columns and eight rows. What's wrong?

This article has been archived and is no longer updated by Apple.
The problem is with Page Setup in your personal Address stack. In the page setup of your Address stack, choose Options, and make sure that "Precision Bitmap Alignment (4% Reduction) is NOT chosen. Try the copy again, and it should work fine.

Note: In the Reports dialog box in HyperCard version 2.1 there is no Save button, whereas there is a Save in version 2.2. A Save dialog does appear whenever a new report is created or an old report is changed, and the user chooses Print or Cancel (the only two options).

Support Information Services
Published Date: Feb 19, 2012

ARA MultiPort Server and Memory (3/94)

ARA MultiPort Server version 2.0 has a problem with locking memory that will be fixed in the next release.

This article has been archived and is no longer updated by Apple.

```
The Remote Access Manager application version 2.0 leaves a small
locked block in the MultiFinder (Process Manager) heap after the user quits. It is verified that this island
in the PM heap could reduce your "Largest Unused Block" size significantly. Engineering has agreed on a fix,
which they will begin testing for the next release.

Support Information Services
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Published Date: Feb 19, 2012

ARA 2.0: MNP 10 Description

Information regarding the use of MNP 10 error correction.
This article has been archived and is no longer updated by Apple.
MNP 10 is an error-correction protocol that allows for more reliable data connections using cellular modems.

To establish an MNP 10 connection, your modem and the modem you're calling must support MNP 10, and you must select the "Use MNP 10 error correction in modem" checkbox in the Remote Access Setup window.

If both modems do not support MNP 10 error correction, the selection in the Setup window will do nothing.
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ARA 2.0: Modem Cables Requirements

This article describes modem cable requirements for ARA 2.0.
This article has been archived and is no longer updated by Apple.
Most modems require a cable that supports the data terminal ready (DTR) signal. In addition, certain modems require a cable that supports CTS/RTS hardware flow control.

To support DTR, the cable must connect pin 20 on the DB-25 connector to pin 1 on the Mini DIN-8.

To support CTS/RTS, the cable must connect pin 5 on the DB-25 connector to pin 2 on the Mini DIN-8 and pin 4 on the DB-25 connector to pin 1 on the Mini DIN-8.

See your modem vendor or Apple-authorized dealer about obtaining the necessary cable.
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Apple II and IIe: Controlling the Reset key

On an Apple II or Apple IIe computer, the programmer can control how a BASIC program will react when reset or control-reset is pressed. DOS uses three special locations which it consults whenever reset or control-reset is pressed. Based on the values contained in these memory locations, DOS may halt a program, rerun the program, reboot a disk, or take another action you specify.
This article has been archived and is no longer updated by Apple.
Changing these values changes the results of typing reset or control-reset from the keyboard.

To discourage users from breaking into a Basic program, some programmers change the reset vector to restart a running program whenever reset is pressed. Put the following line at the beginning of your program to get this effect:

```
10 POKE 1010, 102 : POKE 1011, 213 : CALL -1169
```

A value is not POKEd into location 1012 because the CALL statement sets location 1012 to the correct value for the current situation. When you wish to return reset to its normal action, include this Basic line:

```
20 POKE 1010, 191 : POKE 1011, 157 : CALL -1169
```

You can also force a disk boot to occur whenever reset is pressed. Simply change the value of one of the three reset vector locations. An example is:

```
30 POKE 1012,1
```

You may instruct the reset vector to call one of your own machine language routines by placing the address of this routine in locations 1010 and 1011, and CALLing the ROM routine at location -1169 to set location 1012. Your routine may process information, display a warning message, or do anything else you wish.
Published Date: Feb 19, 2012

CCS-7710: Cable for Hayes Smart Modem (1/97)

Listed below are the cable pinouts for connecting the CCS-7710 interface card to the Hayes Smart Modem.

This article has been archived and is no longer updated by Apple.

CCS-7710 HAYES SMART MODEM

2 <----------> 3
3 <----------> 2
4 <----------> 5
5 <----------> 4
6 <----------> 20
7 <----------> 7
8 <----------> 8
20 <----------> 6

* This is a general purpose Null-Modem cable for this interface and the Apple IIe.

Article Change History:
28 Jan 1997 - Reviewed for technical accuracy, revised formatting.
Published Date: Feb 19, 2012

Power Macintosh: AV Video Technologies Card (7/95)

This article describes the AV Technologies Video Card (Apple order number: M3447LL/A)* found on Power Macintosh.

This article has been archived and is no longer updated by Apple.

The AV video card is an Apple expansion card that plugs into the PDS (Processor Direct Slot) connector of any Power Macintosh computer. It contains a sophisticated I/O system that handles video input and output signals, mixes video with 16-bit graphics, and supports a wide variety of Apple and third-party monitors. The AV I/O system also lets you connect a television set as a monitor, using either NTSC (National Television Standards Committee - primarily used in North America and Japan) or PAL (Phase Alternating Line - primarily used outside of North America and Japan) format.

The AV card expands the Power Macintosh computer's video capabilities to include the video capture and output features of the Apple AV Technologies. These video features were introduced with the Macintosh Centris 660AV and Macintosh Quadra 840AV.

Power Macintosh models 6100 AV, 7100 AV, and 8100 AV are shipped with the AV card installed. On the Power Macintosh 6100 AV, the card uses an angle adapter card.

A 40-pin connector on the AV card implements the Macintosh Digital Audio/Video (DAV) interface. The DAV connector taps into the AV card's unscaled YUV video input signal; through the PDS interface, it also connects to the digital audio signal input for the sound chip. NuBus cards for the Power Macintosh 7100 AV and 8100 AV can be designed with a flat ribbon cable that plugs into the DAV connector on the AV card, so they can access these video and audio signals directly.

Power Macintosh AV models are shipped with two adapter cables so you can connect your AV card to a standard television set, video camera, videodisc player, and videocassette recorder. The input cable connects the signal pin of an RCA socket to pin 3 (the luminance signal) of the AV card's video output connector.

The video and graphics I/O system is built around two banks of 80ns VRAM with a total capacity of 2MB. The CIVC (Cyclone Integrated Video Interfaces Controller) chip manages this VRAM and provides timing and interrupt signals. Applications can use the VRAM in two ways:

As a single frame buffer that uses all the VRAM capacity

As two frame buffers, one for video and one for graphics

If you configure the VRAM as a single video frame buffer, it can all be used for graphics and the video input can be disabled. If you configure the VRAM as two frame buffers, it can store video as well as graphics.

* NOTE:

Part numbers mentioned in this article are accurate as of this writing. Before ordering, verify that they are still correct as they are subject to change.

Article Change History:

14 Jul 1995 - Added part number and part number disclaimer.

14 Dec 1994 - Added keyword, clarified acronyms, made minor technical changes.

Support Information Services

Published Date: Feb 19, 2012

Power Macintosh: AV Video Card, Video Inputs (12/94)

This article describes the Power Macintosh computer's AV Video Technologies Card's video inputs.

This article has been archived and is no longer updated by Apple.
Video input signals, which may be analog composite or S-video in NTSC (National Television Standards Committee ð primarily used in North America and Japan), PAL (Phase Alternating Line ð primarily used outside of North America and Japan), or SECAM (a French acronym for the television signal format used in France, Eastern Europe, the former Soviet Union, and many former French colonies) format, enter through one of the identical connectors for video input and output. An adapter cable included with Power Macintosh AV models receives composite video from external devices that have RCA connectors and feeds it into the luminance input of the TDA8708 video ADC (Analog/Digital Converter) chip. The ADC chip can also receive separate luminance and chroma signals from S-video sources. The ADC chip digitizes the video waveform and the SAA7194 chip decodes the result into YUV format. The YUV digital video format, also known as YCrCb, is a video signal format with separate luminance and chrominance components.

The SAA7194 chip scales down the video image and converts its format to either 8-bit grayscale, 15-bit RGB, or 16-bit YUV, storing the result in the VRAM buffer.

The data rate for full-screen NTSC video (640 by 480 pixels at 30 frames per second) is 18.43 MB per second through the AV card. The data rate for full-screen PAL video (768 by 576 pixels at 25 frames per second) is 22.12 MB per second. This means that it is practical to record a video image up to one-quarter screen in size on an output device such as an external hard disk drive in real time, without data compression.

Users of the Power Macintosh 6100 AV, 7100 AV, or 8100 AV can capture live color video with a standard video camera, using the composite video input cable supplied with the computer.

Article Change History:
24 Aug 1994 - Made correction for technical accuracy.
14 Dec 1994 - Added keyword and technical detail; removed MHz references.

Support Information Services
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Power Macintosh: AV Video Card, Video Output

This article describes the Power Macintosh computer's AV Video Technologies Card's video output.
This article has been archived and is no longer updated by Apple.
Video and graphic images stored in VRAM may have different color depths. The two images exit VRAM through its serial access memory port and pass to the Sebastian color palette chip. Sebastian provides independent color lookup tables for video and graphics images and mixes them into a single digital RGB data stream. The Sebastian then converts the result into analog RGB video, using internal DAC circuits.

Analog RGB data passes to the Mickey encoder chip. Mickey either sends RGB directly to the monitor connector or encodes it into NTSC (National Television Standards Committee primarily used in North America and Japan) or PAL (Phase Alternating Line primarily used outside of North America and Japan) video signals in composite or S-video format and sends it to other connectors located on the card.

The Power Macintosh uses the HDI-45 for on board video. It supports a dot clock up to 57 MHz. On AV Power Macintosh computers, the AV card supports a dot clock up to 100 MHz.

The AV card has two banks of 80-ns VRAM soldered in, with a total capacity of 2 MB.

The AV card contains two identical connectors for video input and output with adapter cables for composite video devices that have RCA connectors, such as television equipment.

The AV card can support mixed video and graphics in full 24-bit color on small and medium-sized monitors and in 16-bit or 8-bit color on larger monitors. The color depths (in bits per pixel) available when the AV card drives Apple monitors are listed below:

Monitor type	Screen Size Hor.by Vert.	Color Depths Graphics	Graphics/video
12-inch RGB*	512 by 384	32	32/16
	560 by 384	32	16/16
13-inch RGB or 12-inch monochrome*	640 by 400	32	16/16
	640 by 480	32	16/16
	704 by 512	32	16/16
Full-page monochrome*	640 by 870	8	8/8
Full-page RGB	640 by 870	16	8/16*
16-inch RGB*	832 by 624	32	16/16
19-inch RGB	1024 by 768	16	8/8
Two-page monochrome	1152 by 870	8	8/8
Two-page RGB	1152 by 870	16	8/8**
VGA*	640 by 480	32	16/16
Super VGA 56 Hz*	800 by 600	32	16/16
Super VGA 72 Hz*	800 by 600	32	16/16
Super VGA 60 Hz	1024 by 768	16	8/8**
Super VGA 70 Hz	1024 by 768	16	8/8**
NTSC	640 by 480	32	16/16
	512 by 384	32	16/16
Convolved NTSC	640 by 480	8	n.a.
	512 by 384	8	n.a.

PAL	768 by 576	32	16/16
	640 by 480	32	16/16
Convolved PAL	768 by 576	8	n.a.
	640 by 480	8	n.a.

* With a color depth of 16 bits in these configurations, the maximum video window size is limited. If the video window width is 512 pixels or less, the height may be as large as 512 pixels; if the video window width is more than 512 pixels, the height is limited to 340 pixels.

** The 8 bits of video are grayscale.

The color depths above are shown as the number of bits in which the color or grayscale value of each pixel can be encoded.
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Apple Media Tool: Creating Mixed Mode CD‘s

Although the literature states that we support the creation of mixed mode and Windows only CDs with the Apple Media Tool, I have heard and read that there are known problems with being able to read such CDs in the Windows environment. Is there any additional information on this?

Also, for text that is a part of a project created on the Macintosh using the Apple Media Tool and then compiled to run on Windows, are those fonts compiled as part of the project, or does the project rely on the Windows system fonts?
This article has been archived and is no longer updated by Apple.
While some people have had problems creating mixed mode CD-ROMs, other companies have had good success. It depends on how much time they are willing to spend on development and testing. The most common reasons for problems is that the media files are in the wrong formats or don't conform to the eight character restriction of DOS. A good example of a mixed-mode disc is the "Forever Growing Garden" developed by a company called Arborescence located in San Francisco. The CD is distributed by Media Vision.

Regarding the fonts question:
As with most font handling for all applications, if you don't have the corresponding font on the PC, a default font will be used instead. You can use the PC version of StyleEdit (STYLEDIT.EXE) to look at your text on the PC and find a close match if you don't have the corresponding font. Another alternative would be to create a picture, and font substitution won't be an issue.
Published Date: Feb 19, 2012

Macintosh IIsi Speed Issues When Using Built-In Video (3/94)

We have 2 Macintosh IIsi's which are similarly configured and one of them seems to be running faster than the other. Both machines have 5MB of RAM, an 80MB hard drive, are using the built-in video port, and have a clean copy of System 7.0.1 with the tune-up installed. The logic board on the slower machine has been replaced, but it remains slower.

This article has been archived and is no longer updated by Apple.
When using built-in video with the Macintosh IIsi, performance of the machine can vary depending upon the setup of the system software and what size monitor is connected. The Macintosh IIsi does not have dedicated VRAM, rather it uses the RAM on the logic board for video.

Below are three things that can help improve the speed of a Macintosh IIsi.

1) Increase the Disk Cache in the Memory Control Panel to 768k.

2) Set the Monitors Control Panel to 16 colors/Shades. This reduces the amount of main memory used for the video and therefore allows the computer to run faster

3) As a 12" RGB monitor shows less information than a larger monitor, the computer can be set at 256 colors and still use less memory for the video. If a smaller monitor is suitable, it can improve performance.

Support Information Services
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ARA Client: Issues w/ Hard Drive Installation

I cannot install Apple Remote Access. When I double-click the Apple Remote Access Installer that came pre-loaded on my Macintosh PowerBook hard drive, I get a dialog box which asks me to insert the disk "Installer." I don't have a disk called "Installer." How can I install this software?
This article has been archived and is no longer updated by Apple.
Apple Remote Access (ARA) Client (version 1.0 or 2.0) comes bundled with several Macintosh PowerBook computers. Sometimes you may have problems running the ARA 1.0 Installer from your hard disk as described in the manual.

The following discussion describes a work around that will let you successfully run the ARA 1.0 installer. You will need one 1.4 Megabyte (MB) floppy disk.

NOTE: Before you begin, make sure you double-click on the Installer application, and not the script.

If you have tried double-clicking on the installer application, and still have problems with the installation, follow these instructions:

NOTE: This procedure only works for ARA Client software version 1.0. The ARA Client software version 2.0 or later installer does not show these symptoms and should install properly.

1) Format a 1.4 MB floppy disk and name it "Installer".
2) Locate and open the Apple Remote Access folder on the Hard Disk.
3) You should see four items inside the folder: ARA Installer, Remote Access Read Me, Remote Access Script and a folder called Installer. Copy all items but the Installer folder to the floppy disk.
4) Open the remaining folder "Installer," and copy all 8 items from inside this folder to the floppy disk.
5) Open the floppy disk window and verify that you see 11 items.
6) Open the Chooser and make AppleTalk active.
7) Restart the computer from the Special Menu.
8) Hold the shift key down after the start up chime. Keep holding the Shift key until you see "Welcome to Macintosh. Extensions Off." Release the Shift key.
9) Insert the "Installer" floppy disk.
10) Open the floppy disk window and click twice on the ARA Installer.
11) Restart. ARA is now installed.
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Color Clasc, Perf 550/636CD & LC520: Flashing Menu Bar

The Menu Bar constantly flashes on systems with built-in volume buttons such as the Color Classic, the LC 520, the Performa 550, and Performa 636 CD. Zapping the PRAM, booting from a floppy, and/or reinstalling the System Software made no difference.
This article has been archived and is no longer updated by Apple.
The volume button on the front of the computer (labeled with a speaker icon) is stuck in the down position, and when the volume reaches zero, the menu bar flashes. To verify, open up the Sound control panel, and turn the volume to maximum. You will see the volume go all the way back to zero, with a beep at each increment, and the menu bar will start flashing again.

The solution is to press the sound button a few times to see if the button can be freed. If it cannot be changed, then the system will need to be repaired.
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Removing PMSAM from Key Chain - Lost Mail (12/94)

Removing a PMSAM (gateway) from your key chain will appear to remove all mail in your PowerTalk mail box associated with that PMSAM (gateway).

This article has been archived and is no longer updated by Apple.
Starnine ships a QuickMail and Simple Mail Transfer Protocol (SMTP) Personal Message Access Module (PSAM) for Macintosh computers running PowerTalk. The PMSAMs serve as mail gateways retrieving mail from other systems for your PowerTalk mail box, and their preferences are stored in the PowerTalk Setup Preferences file.

There are two ways to recover the missing mail:

1) Look in System Folder: PowerTalk Data: IPM Bin folder path. The IPM Bin folder contains all local queues like in and/or out mail. All of the messages are still there with blank icons and 8-digit file names. You can simply drag the files over the AppleMail application and they will launch and display your messages, attachments included. You can also open the files within AppleMail, and do a Save As to restore the original type and creator so the files are double-click able AppleMail documents again. Although untested, this procedure should apply to messages created by other PowerTalk applications.

2) Change the file type and creator of the files with the 8-digit file names found in System Folder: PowerTalk Data: IPM Bin using a file utility such as FileType, Disk Top or ResEdit. Set as follows:

type: lttr
creator: lap2

Then move the files out of IPM Bin, and open them with AppleMail (or other appropriate mail application).

Article Change History:
08 Dec 1994 - Added information on the PMSAM preferences and IPM Bin folder.

Support Information Services
Published Date: Feb 19, 2012

Deleting forgotten root password under A/UX (3/94)

I have forgotten my root password under A/UX, how do I create a new one?

This article has been archived and is no longer updated by Apple.

```
There are several ways to delete the existing root password:

If Secure Startup is set:

  1) Get a clean copy of A/UX startup from their distribution CD, and
     reinstall.

  2) While booted under the Macintosh Operating System, launch ResEdit,
     and change the resource in the A/UX Startup application SASH ID=1
     which is called "state." Flip the "check passwords" field of this
     resource ID from 1 to 0 to disable password checking. You need not
     worry about the existence of the auxstartuprc file in /etc. To
     re enable switch the field back to 1.

     The existence of the auxstartuprc in /etc does NOT guarantee password
     checking. Even if the file is not there the bit in A/UX Startup
     application REALLY controls this behavior.

When Secure Startup is not set:

The actual commands that you will type are enclosed in <> characters for clarity.

  1) Start the AWS 95 or launch A/UX Startup.
  2) At the "Welcome to A/UX" dialog, click the Cancel button.
  3) At the Startup# prompt, type  <launch -S> .  This will cause A/UX to
     come up in single user mode.
  4) Type <cp /etc/passwd /etc/passwd.old>
  5) Once A/UX comes up in single user mode, type <vi /etc/passwd> .  This
     will start the vi text editor and open the passwd file.  You will see
     the passwd file looks something like this:

  root:CSFE80x0tKY92:0:0::/:/bin/sh
  daemon:*:1:1::/:
  bin:*:2:2::/bin:
  sys:*:3:3::/bin:
  adm:*:4:4::/usr/adm:

  The character string CSFE80x0tKY92 in the first line is the encrypted
  root password.  The encrypted password string will be different on every
  system.  This is the part that must be deleted.

  6) Use the arrow keys to move the cursor to the first character of the
     encrypted password string.
  7) With the cursor sitting on top of the first character, in this
     example the letter C, press the <x> key to delete the characters of
     the password one at a time.

     BE VERY CAREFUL not to delete the colon (:) at the end of the
     password string or anything after.
     When you are done, the first line should look like this:

     root::0:0::/:/bin/sh

   8) To save the changes you made type <:w!> and press return.
   9) To exit the vi editor type <ZZ> .  That's shift with two z's.
  10) To restart the Macintosh type <reboot> at the command line prompt.
  11) To log in, type <root> in the Name field and leave the Password
      field blank.
```

```
If you make any mistakes while editing the /etc/passwd file, type <:q!>
to quit without saving changes. Then start over again.
```

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Apple Remote Access: Serial Port Arbitration

Article discusses Serial Port Arbitration and Apple Remote Access (ARA).
This article has been archived and is no longer updated by Apple.
When an ARA connection is established (or being established when answering or making a call), ARA prevents other application programs from using the serial port you selected in the Remote Access Setup control panel. In this case, most programs will inform you that the port is in use.

If your Macintosh is set up to answer calls (the "Answer calls" checkbox in the Remote Access Setup control panel is selected), then other programs are allowed to use the serial port. When they are finished with the port, ARA re-enables your Macintosh to answer calls.

ARA Personal Server provides this port arbitration through a system extension called the Serial Port Arbitrator located in the Extensions folder. Some programs that use the serial port may not be compatible with this extension. If you suspect this, remove the Serial Port Arbitrator file from the Extensions folder, restart your Macintosh, and try the program again.

NOTE: The Serial Port Arbitrator is not needed with ARA Client software. If you remove the Serial Port Arbitrator and use ARA Personal Server, you must either select, or deselect Answer calls in the Remote Access Setup control panel. Also the Serial Port Arbitrator will not work on a Macintosh if ARA Personal Server has not been installed.
Published Date: Feb 19, 2012

AppleShare: Users & Groups Strange Entries

My Users and Groups file in AppleShare contains strange name entries such as: _SMU0000 through _SMU0099 and groups entries such as: _SMG0000 through _SMU0025. What has caused this?
This article has been archived and is no longer updated by Apple.
Check to see if you have the Server Manager from TechWorks (Technology Works) installed on this machine. The Server Manager does create a duplicate users and group file called SMBasis. This file is created in order to allow the remote administration to change users and groups from another machine. Server Manager makes a private copy of the Users and Groups Data file (SMBasis) when making changes, and then swaps the temporary file with the original Users and Groups datafile when the change is complete.

This problem should be referred to TechWorks/Santorini.
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ARA: Using on Quadra 900, 950 or IIfx with Virtual Memory

Using ARA Personal Server and Virtual Memory.
This article has been archived and is no longer updated by Apple.
If you are using a Macintosh IIfx, Macintosh Quadra 900, or Macintosh Quadra 950 and have virtual memory turned on, you must open the Serial Switch control panel (included on the Install 2 disk) and set the serial port setting to Compatible.
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Math Coprocessor (FPU): Which Centris & Quadra Models Have One

Which Macintosh Centris & Quadra products have an Math Coprocessor (FPU) and which do not.
This article has been archived and is no longer updated by Apple.
Quadra 605 (NONE of the configurations have an FPU)

Macintosh Centris 610 (NONE of the below configurations have an FPU)

M1345LL/A Macintosh Centris 610 4 MB Hard Disk 80 CPU (no Ethernet)
M1392LL/A Macintosh Centris 610 4 MB Hard Disk 80 CPU
M1397LL/A Macintosh Centris 610 8 MB Hard Disk 230 CPU
M1398LL/A Macintosh Centris 610 8 MB (1 MB VRAM) Hard Disk 230 CPU w/CD-ROM

Macintosh Quadra 610 (first two configurations below HAVE an FPU)

M2098LL/A Macintosh Quadra 610 (512K VRAM) 8 MB Hard Disk 230
M2099LL/A Macintosh Quadra 610 8 MB Hard Disk 230 w/CD-ROM

M2319LL/A Macintosh Quadra 610 (512K VRAM) 8 MB Hard Disk 160 (NO FPU)

Macintosh Centris 650 (first four configurations have an FPU)

M1613LL/A Macintosh Centris 650 8 MB Hard Disk 80 CPU
M1337LL/A Macintosh Centris 650 8 MB Hard Disk 230 CPU
M1279LL/A Macintosh Centris 650 8 MB (1 MB VRAM) Hard Disk 230 CPU w/CD-ROM

M1209LL/A Macintosh Centris 650 8 MB Hard Disk 500 CPU

M1276LL/A Macintosh Centris 650 4 MB Hard Disk 80 CPU (NO Ethernet or FPU)

Macintosh Quadra 650 (ALL configurations have an FPU)
Macintosh Quadra 700 (ALL configurations have an FPU)
Macintosh Quadra 800 (ALL configurations have an FPU)
Macintosh Centris/Quadra 660AV (ALL configurations have an FPU)
Macintosh Quadra 840AV (ALL configurations have an FPU)
Macintosh Quadra 900 (ALL configurations have an FPU)
Macintosh Quadra 950 (ALL configurations have an FPU)

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Visual Effects Don‘t Work, HyperCard 2.2 (6/95)

I created a new button in my HyperCard 2.2 stack, and added visual effects to it using "Effect" in the Button info dialog box, but the visual effects don't appear to be working. What's wrong?

This article has been archived and is no longer updated by Apple.
In HyperCard 2.2, when Color Tools resources have been added to a stack, and the Color Tools palette is opened, the following handlers are added to the stack script:

```
on openCard
Send colorMe to this card
pass openCard
end openCard

on closeCard
lock screen
pass closeCard
end closeCard

on colorMe
AddColor colorCard,stamp,30
end colorMe

on openStack
AddColor install
pass openStack
end openStack

on closeStack
AddColor remove
pass closeStack
end closeStack
```

As you can see, the on closeCard handler locks the screen, so unless messages have been locked in your button script, the visual effects will not be seen. Note that simply opening the "Coloring Tools" palette is what places these handlers in the home stack script; it doesn't matter whether the stack has actually been colored or not Removing the Color Tools resources does not remove these handlers.

The best solution here is to remove the black & white effect scripts from the buttons, turn on Color Tools, and use the Color Transitions menu for visual effects. You can set a transition for the entire stack, override that choice with a transition for a specific background, and then override that choice with individual transitions for individual cards within your stack.

You can use the visual effects that Color Tools provides by doing the following:
1) Select "Coloring Tools" under the "Color" menu
2) Select either stack transitions, background transitions, or card transitions from the "Effects" menu (see the Color Tools stack for more information).

Error messages such as "Can't Understand ColorMe" and Can't Understand AddColor" when opening and closing cards can be remedied by deleting the handlers from stack scripts, or use the lockmessages command. If you do lock out the commands, and you have added color to the card following the card with the button script that you edited, the color will not be there when you go to that next card. If you paste it and then come back to the card, the color will there. This is an anomoly of combining Color Tools with these locked out messages.

Article Change History:
19 June 1995 - Reworded workaround to clarify effects
09 Jun 1995 - Reworded workaround for clarification purposes.

Support Information Services
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Color StyleWriter Pro: ColorSync Matching Methods

This article explains each of the ColorSync Matching Methods on the Color StyleWriter Pro printer.
This article has been archived and is no longer updated by Apple.

Photographic	Photographic matching is best for images with many different colors and shades, especially when the image included a neutral color (such as a white border). This method allows for better continuous tone changes from one color to another.
Business Graphics	Business Graphics matching is best for charts, graphs, and other images with large areas of single colors.
Spot Color	Spot Color matching works best for images that have a large area of similar colors or shades of one color, and for images that do not include a neutral color (such as a white border). This method allows continuous tone consistency with any selected color. For example, a small background color behind a heading.

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AppleWorks: Incorrect volume names cause retrieval problems

If you're having problems retrieving files in Appleworks insure your AppleWorks software is setup as listed below.
This article has been archived and is no longer updated by Apple.
Make sure that the copies of the Appleworks Startup and Program disk are both named /APPLEWORKS, and that your data disk is not named /APPLEWORKS. Appleworks uses that disk name to identify its program disk, so it can be confused by a program disk without the name /APPLEWORKS, or a data disk with that name.
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Power Macintosh 6100, 7100, 8100: DRAM Based Video Is Not Expandable

Can I expand the DRAM allocated to video when using the HDI-45 port on my Power Macintosh computer?
This article has been archived and is no longer updated by Apple.
No. When using the HDI-45 connector, the computer senses the connection and automatically sets aside 640K of DRAM space for monitor support. There is no way to adjust DRAM allocation for monitor support on the following Power Macintosh models: 6100/60, 6100/66, 7100/66, 7100/80, 8100/80, 8100/100, and 8100/110.

If the monitor is connected in another way (through the DB-15 connector on an AV Video Technologies Card, or an VRAM Expansion Card on a Power Macintosh 7100/66 or 8100/80) the 640K of DRAM video allocation will become available for system use.
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LaserWriter Pro 810: Reading UNIX Network Installer Utility

This article explains how to use the UNIX Network Utility Installer that comes with the LaserWriter Pro 810 when there is not a 3.5-inch floppy drive on the UNIX workstation.
This article has been archived and is no longer updated by Apple.
The UNIX Network Utility Installer is a tar formatted disk that is used when configuring the LaserWriter Pro 810 in a UNIX environment.

Customers who do not have a UNIX workstation with a 3.5-inch floppy drive can order the software as a QIC24 tape, or they can use a Macintosh Utility like the shareware program Suntar to read the tar formatted disk and copy the files to a Macintosh computer.

Once the files are copied to a Macintosh computer, then the files can be transferred to the UNIX host using XMODEM, Kermit, or ftp.

Ordering Information

M2696LL/A - LaserWriter Pro 810 UNIX Network Utility Installer (QIC24)
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LaserWriter Select 360: Paper-Out Lit With Envelope Tray (3/94)

When the optional envelope tray is attached to the LaserWriter Select 360 and I try to print, the Paper-Out LED comes on. This doesn't occur using the manual envelope feed.

How can I fix this?

This article has been archived and is no longer updated by Apple.
There is no option in the Page Setup menu to select the envelope cassette. If Universal Cassette is selected you get the paper out indication. You must select Auto Select in the Page Setup menu. You must do this because the software looks at what type of paper is being selected in the Page Setup and checks each cassette until it finds that size paper.

In order to print an envelope with the optional envelope tray on the LaserWriter Select 360, follow these steps:

1) Open the application program

2) Choose Page Setup from the File menu

3) Select envelope size (Comm 10 for business envelopes)

4) Select Landscape

5) Select OK

6) Choose Print from the File menu

7) Select Auto Select

8) Select Print

Support Information Services

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PowerBook Batteries: Types And How To Recycle

This article describes the various batteries used in Apple portable products and how to properly recycle or dispose of them.
This article has been archived and is no longer updated by Apple.
**** WARNING **** Contacting the +/- terminals with metal objects such as paper clips or key chains can cause burns or start a fire. Always store the battery in its protective cover when not in use.

Apple uses lithium, lead-acid, nickel-metal hydride, nickel-cadmium, and Lithium-ion batteries in our portable products. These batteries should be returned to Apple for recycling or proper disposal.

Nickel Cadmium (NiCd) batteries may pose health and environmental risks if not disposed of properly. They require special handling and should not be sent to landfills with municipal garbage. Various states have bans that prohibit the disposal of Ni-Cd batteries in municipal garbage. These states include Florida, Iowa, Maine, Maryland, Minnesota, New Hampshire, New Jersey, New York, Oregon, Rhode Island, and Vermont.

At this time, only Nickel Cadmium (NiCd) batteries may be returned to an Apple authorized dealer for return to Apple. Other batteries should not be returned to the dealer or to Apple.

We recommend that non-NiCd batteries be disposed of according to local environmental requirements. In some jurisdictions, local recycling programs or other battery collection programs exist. Call your local or regional solid waste agency or recycling organizations to find out about battery disposal options in your area.

Lithium Batteries - Recycle or dispose of locally

Lithium batteries require disposal when dead, but you cannot throw them away. In addition to being potentially explosive, lithium is water reactive, requiring these batteries to be disposed of as hazardous waste. Therefore, after removing a dead battery from a board, clip off the lead wires (necessary for soldered batteries) and place the battery into the zip-lock wrapper that the replacement battery was taken from.

Lead-Acid Batteries - Recycle or dispose of locally

The Macintosh Portable and Macintosh PowerBook 100 main batteries are sealed lead-acid batteries. These batteries, which contain hazardous materials (lead and sulfuric acid), should not be thrown away with regular trash.

Nickel-Cadmium Batteries - Recycle locally, via Apple service provider, or via Apple directly

The battery contains hazardous materials that can be reclaimed. Call your local or regional hazardous waste agency or recycling organizations to find out about battery disposal options in your area.

Nickel-Metal Hydride Batteries - Recycle or dispose of locally

These batteries should be recycled.

Lithium-ion - Recycle or dispose of locally

These batteries should be recycled.

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AppleWorks: Okidata 92 Printer Codes

Following are the special Appleworks printer codes for the Okidata 92.
This article has been archived and is no longer updated by Apple.
Okidata 92 Printer Codes

Function	Keystrokes (commas are separators)
CPI 10	Ctrl-^
CPI 12	Ctrl-\\
CPI 17.1	Ctrl-]
Boldface Begin	Esc,T
Boldface End	Esc,I
Superscript Begin	Esc,J
Superscript End	Esc,K
Subscript Begin	Esc,L
Subscript End	Esc,M
Start Underline	Esc,C
End Underline	Esc,D
Correspondence Quality	Esc,1
Standard Quality	Esc,0

Published Date: Feb 19, 2012

Power Macintosh: Customer Issues Q & A (3/94)

This article contains questions and answers related to customer issues for Power Macintosh.

This article has been archived and is no longer updated by Apple.

Q) How do I briefly explain and position Macintosh with the PowerPC microprocessor?
A) Macintosh with PowerPC technology is the next generation of personal computing.
* A price/performance breakthrough based on RISC technology.
* Offers smooth migration paths for both Macintosh and PC users.
* Has excellent future growth on the Apple, IBM, and Motorola alliance.
* Introduced first in the mid to high end of product line.

Q) When should K-12 customers consider a PowerPC-based computer?
A) If a K-12 customer is currently considering a Macintosh Quadra or has cross platform needs (DOS, Windows), then the Power Macintosh would be an appropriate choice.

Q) Will a Power Macintosh "look" different than a Macintosh today?
A) The primary operating system for the Power Macintosh is System 7 the same operating system shipping with every Macintosh today. Apple is moving our mainstream operating system to PowerPC technology. Users get the power of RISC technology, familiar Macintosh user interface, and need no re-training.

Q) How do I position Power Macintosh to a DOS or Windows friendly audience?
A) Here we need to explain the advantages of making the technology leap to RISC technology, exemplifying Apple's technology leadership. Once people understand this, we can show why Apple has an excellent migration story.

Q) What sort of upgrade solutions will Apple have available at introduction, and how much will those upgrades cost?
A) Apple has stated that upgrades for Quadra and Centris models will be available at introduction. Additionally, Apple and third-party developers are working to create upgrades for other Macintosh models as well.

Q) Will important K-12 applications be compatible at introduction (for example, ClarisWorks, Mac School, HyperCard)?
A) Nearly any application that runs on current 680x0 models will be compatible on Power Macintosh. While the initial focus for native applications is targeted more towards mid-range and high-end customers, we expect most developers to start Power Macintosh projects soon if they haven't already. Claris has announced a Power Macintosh version of ClarisWorks.

Support Information Services

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Power Macintosh: Software Issues Q & A (3/94)

This article contains questions and answers related to software issues for Power Macintosh.

This article has been archived and is no longer updated by Apple.
SOFTWARE ISSUES

Q) How compatible are today's applications with the PowerPC Macintosh?
A) Today's Macintosh applications should run, without modification, on Power Macintosh models. Apple expects their performance to be surprisingly responsive. In actual use, performance will range from a fast 68030 to a 68040 based Macintosh. Apple has been testing third party software at developer conferences throughout the world, as well as in our own labs. After testing over a thousand packages, we are confident that compatibility will be excellent.

Q) What about DOS or Windows?
A) Power Macintosh computers gives us a greatly improved story for DOS/Windows users. InsigniaSolutions is working on a native version of SoftPC, which they call SoftWindows, for Power Macintosh models. The PowerPC 601 microprocessor is a far better platform for their emulator than today's 68040. Consequently a DOS or Windows program can run at speeds comparable to a 486. With this technology, Power Macintosh offers a migration path for the two operating systems that really matter in the large marketplace today - ? Macintosh and DOS/Windows.

Q) Will my existing peripherals work (CD-ROM, hard drives, scanners, printers)?
A) YES! AppleTalk devices (such as printers), SCSI devices (such as hard disks, scanners, and CD-ROMs), ADB devices (such as mice, trackballs and keyboards), and other Macintosh cards and peripherals are compatible with Power Macintosh. If a hardware device works with the new Macintosh AV systems, the odds are excellent that it will work on Power Macintosh with no problems.

Q) Will PowerPC and 680x0 based microprocessor systems co-exist on the same network or environment?
A) Yes. You will be able to mix RISC based and 680x0 based Macintosh systems on the same networks, exchange files and disks between them, and enjoy all the other benefits expected from a Macintosh.

Q) Which applications will be ready at release and when will a substantial number of native applications be available?
A) Because Power Macintosh is being initially introduced at the mid to high range, areas of emphasis are business applications, high end graphics and publishing applications and higher education science and engineering applications.

Q) Will Apple be publishing a list of Power Macintosh compatible software?
A) Nearly all software that currently runs on 680x0 based Macintosh models will run on Power Macintosh. A list of exceptions is more likely than a list of compatibles, since most all applications will be running at introduction.

Support Information Services

Published Date: Feb 19, 2012

Power Macintosh: LAN Software Compatibility

This article details the Power Macintosh compatibility of these Apple client and server software products:

- AppleSearch
- AppleShare family
- Apple Remote Access family
- Apple Internet Router
- A/UX
- System 7 Pro/PowerShare Collaboration Servers

This article has been archived and is no longer updated by Apple.
For each product, there is detailed information regarding compatibility at introduction for existing products, and revision schedules and distribution plans for Power Macintosh compatible upgrades. Some of these revisions coincided with the PowerPC Server introduction in May 1994.

Apple LAN Systems - Server and Client Software Compatibility
The following two tables summarize the compatibility and upgrade information. A more detailed description follows the tables.

Apple LAN Systems Power Macintosh Server Software Compatibility

COMPATIBLE PRODUCT	VERSION	UPGRADE METHOD	DATE AVAILABLE	PRICE	Notes
AppleSearch Patch	1.0.1	Delivered with Trial CD	May '94	Free	.
AppleShare 3	Not Compatible	Upgrade to AppleShare 4.0.2 through the AppleShare Upgrade Kit.	May '94	$699 (US)	.
AppleShare 4	4.0.2	AppleShare 4.0.2 Update Kit available through fulfillment house.	May '94	TBD	.
	4.1	AppleShare 4.1 Update Kit available through fulfillment house.	May '95	$199 (US)	Only for PowerPC processor-based computers.
AppleShare Pro	Not Compatible	N/A	N/A	N/A	.
Apple Remote Access Multiport Server	2.0.1	ARA Multiport Server 2.0.1 Update Kit	June '94	TBD	.
Apple Remote Access Personal Server	2.0	N/A	Now	N/A	.
Apple Internet Router	3.0.1	Upgrades from version 3.0	Now	Free	.
PowerShare Collaboration	1.0	Available from Apple Reseller	TBD	TBD	With PowerTalk Manager 1.0.2
A/UX	Not Compatible	Distributions of upgrades from A/UX to PowerOpen to be announced at a later date.	TBD	TBD	.

Apple LAN Systems Power Macintosh Client Software Compatibility

COMPATIBLE PRODUCT	VERSION	UPGRADE METHOD	DATE AVAILABLE	PRICE	Notes
AppleSearch Client	1.0	N/A	Now	N/A	.

AppleShare Client	3.5	Already ships with AppleShare 4.0/4.0.1, AppleShare Pro ships with Mac OS 7.1.2	Now	Free	.
AppleTalk Remote Access	1.0	Upgrade to ARA 2.0 Client or personal Server	Now	$29 (US) - Client $79 (US) - Server	.
System 7 Pro	.	Available from Apple Sites	Now	Free	System 7 Pro with PowerTalk Manager 1.0.2

Product Upgrade Strategies

AppleSearch

Compatibility as of Mar. 14 - AppleSearch 1.0 server is incompatible with Power Macintosh at the March 14th Desktop Introduction. AppleSearch Server 1.0 Demo Version on Trial CD is also incompatible with Power Macintosh. This is because AppleSearch Server 1.0 will only run on 68040-based Macintosh computers and the Power Macintosh 68000 emulator reports itself as a 68020.

The AppleSearch 1.0 client, running in emulation mode, is compatible with Power Macintosh on March 14th.

Power Macintosh version - AppleSearch 1.0.1 Patch will provide compatibility with Power Macintosh. Version 1.0.1 will be available as a Patch which can be installed over AppleSearch 1.0. server and will run in emulation mode on the Power Macintosh.

Version 1.0.1 will also run on 68040-based Macintosh computers, but there is no need to upgrade since there is no difference between version 1.0 and version 1.0.1 on 68040-based systems.

AppleSearch 1.0.1 Patch will be available in May 1994, and will contain two versions one for the standard AppleSearch 1.0 server and one for the AppleSearch Trial CD.

Upgrade distribution -- AppleSearch Server 1.0.1 will be free and distributed via a Patch which will be posted on Apple's Internet ftp server, and on Service Providers servers. AppleSearch 1.0.1 Patch will also be added to the AppleSearch 1.0 kits for new AppleSearch purchases. The AppleSearch Trial CD 1.0.1 Patch will always accompany the AppleSearch 1.0.1 Patch.

AppleShare

Compatibility as of Mar. 14 - AppleShare 3.0.3 is incompatible with Power Macintosh and is not supported by Apple. Apple recommends that all customers wishing to run AppleShare on Power Macintosh upgrade to AppleShare 4.1.

AppleShare 4.0 and 4.0.1 servers are incompatible with Power Macintosh. Customers who wish to run an AppleShare server on a Power Macintosh computer should upgrade to AppleShare 4.1.

There are no differences between AppleShare 4.0.1 and AppleShare 4.0.2 when running on a 68040 processor based Macintosh, so there is no need to upgrade to 4.0.2 for this environment.

AppleShare 4.1 is only supported on PowerPC processor based Macintosh computers. AppleShare 4.1 shipped on many PowerPC WorkGroup Servers and is available as an upgrade for existing PowerPC WorkGroup Server customers.

AppleShare Pro is incompatible with Power Macintosh since AppleShare Pro only runs on A/UX, and A/UX does not run on Power Macintosh.

The AppleShare Workstation 3.5 (client software) is compatible with Power Macintosh on March 14th and ships with System 7.1.2 (System 7 for Power Macintosh). The same version (3.5) will also work as a client with Power Macintosh-based AppleShare servers (description to follow).

Upgrade Distribution -- AppleShare 4.0.2 will be available for a nominal fee to all users of AppleShare 4.0 or 4.0.1 and will be distributed as an Update Kit in the U.S. via the Apple Order Center only. This special software kit contains the full AppleShare 4.0.2 software, but no manuals or serial numbers. A valid AppleShare 4 serial number is required to order the Update Kit.

Both the regular AppleShare 4 software kit and the AppleShare Upgrade Kit (for customers upgrading from AppleShare 2 or AppleShare 3) will be revised to version 4.0.2 and available through Apples standard software distribution channels.

Customers in the United States and Pacific region who buy a PowerPC Logic Board upgrade to their Apple Workgroup Server 60 or 80 will receive the AppleShare 4.0.2 Update Kit as part of the Logic Board accessory kit.

Customers in the U.S. wanting to upgrade from AppleShare 4.0, 4.0.1 or 4.0.2 to AppleShare 4.1 need to obtain the AppleShare 4.1 Update Kit (proof of 4.0.x purchase is required). The update can be obtained by calling the Apple Order Center. This program begins April 24, 1995 and

ends December 29, 1995. Orders must be post marked by December 29, 1995.

Apple Remote Access

Compatibility at introduction -- AppleTalk Remote Access 1.0 Client and Server are incompatible with Power Macintosh.

The Apple Remote Access 2.0 Client and Personal Server are compatible with Power Macintosh running in emulation mode.

The Apple Remote Access MultiPort Server 2.0 is incompatible with Power Macintosh.

Power Macintosh Version -- Apple Remote Access MultiPort Server v.2.0.1 will provide Power Macintosh compatibility running in emulation mode. Version 2.0.1 is expected to ship in June 1994.

Upgrade Distribution -- Apple Remote Access MultiPort Server 2.0.1 will be available to all users of Apple Remote Access MultiPort Server 2.0 as an Update Kit via a fulfillment house for a nominal shipping and handling fee. The update kits will modify the Apple Remote Access MultiPort Server software only. No other changes are necessary. A valid Apple Remote Access MultiPort Server serial number is required to order the MultiPort Server Update Kit.

Owners of AppleTalk Remote Access Client/Server 1.0 wishing to run this software on a Power Macintosh must upgrade to version 2.0. These upgrades are available through regular Apple software distribution channels.

Apple Internet Router

Compatibility as of Mar. 14 - Apple Internet Router 3.0 is incompatible with Power Macintosh. The Apple Internet Router 3.0.1 is shipping now and is compatible with Power Macintosh running in emulation mode.

Power Macintosh Version - Apple Internet Router 3.0.1 is currently available as both a full kit for new purchases and as a Tune-Up to upgrade from version 3.0.

Upgrade Distribution -- Apple Internet Router 3.0.1 is free to all users of Apple Internet Router 3.0 and is available as a Tune-up kit. The Tune-up kit provides a patch which can be installed over the Apple Internet Router 3.0. The Apple Internet Router 3.0.1 is available in the U.S. directly from Apple at 1-800-SOS-APPL, on AppleLink, and on Apples ftp servers. The regular Apple Internet Router 3.0.1 kits are available through Apples normal software distribution channels.

A/UX

Compatibility as of Mar. 14 - A/UX is incompatible with Power Macintosh.

Power Macintosh Version - Apples strategy is to migrate A/UX server (Apple Workgroup Server 95) customers to PowerOpen, which is based on IBMs AIX UNIX operating system. PowerOpen availability dates have not yet been announced.

Distribution - The distribution plan for software upgrades from A/UX to PowerOpen will be announced at a later date.

System 7 Pro: PowerShare Collaboration Servers

Compatibility at introduction - PowerShare Collaboration Servers 1.0 and System 7 Pro (including PowerTalk) are incompatible with Power Macintosh at the March 14th Desktop Introduction. This is because the PowerTalk Manager needs to be revised to work with Power Macintosh.

Power Macintosh version - PowerTalk Manager 1.0.2 is required to use either System 7 Pro or PowerShare Collaboration Servers on a Power Macintosh computer. A new Install Me First disk containing the PowerTalk Manager 1.0.2 will be available at the time of Power Macintosh introduction.

Upgrade distribution - This disk is available from the following electronic bulletin board services:

- The Safe House DesignLink BBS
- MacHaven BBS
- America Online
- Connect Inc.
- General Videotex Corp./Delphi
- Toronto Mac Developers Association
- John Crow
- The Rest of Us
- Resource Central, Inc. (Genie)

- San Diego Macintosh User Group
- TwinCity Mac
- Information Access Technologies, Inc.
- MacRefuge BBS
- MAUG/Micronetworked Apple (CompuServe) Users
- MauiLink
- Netrunner BBS
- North Start computer Ltd
- PressLink, Inc.
- Deep Cove BBS
- ZiffNet
- Alaska Mac
- Greyland BBS
- Macs Place BBS

It is also available from Apple user groups, the Apple Volume License program, and Apple resellers.

Published Date: Feb 19, 2012

Short Description Of The PowerPC 601 Processor (3/94)

This is a short description of the features of the PowerPC 601 processor which will be used for Apple Computer's first RISC products.

The organization of this description follows that of the PowerPC ISA document. Some familiarity with processor architectures, particularly of RISC processors, is assumed in the following. Since the PowerPC 601 is close to "traditional" RISC processors in many ways, the amount of detail in this document will reflect areas which are different. In areas where PowerPC (and/or the 601) are similar to normal chips, very little verbage will be spent.

This article has been archived and is no longer updated by Apple.

Architecture

The 601 is the first chip to implement the new PowerPC architecture (as described in the Version 1.01 documents). However, since it is intended as a bridge chip for IBM, it also includes the existing POWER instruction set. It is, therefore, the union of the two instruction sets.

There are several areas where the architectures differ in a rather fundamental way (for example, virtual address translation); in these areas, PowerPC prevails.

Branch Processor

The Branch Processor is logically responsible for all instruction fetching of the PowerPC architecture. It also decodes instructions to determine to which execution unit they should be sent for execution. The 601 uses pre-fetching to attempt to keep ahead of the execution units. Up to 9 instructions are contained within the Branch Processor, in a so-called "pre-fetch pipeline". In the 601, the bottom stage of the pipeline is what is normally referred to as the "Decode" stage of traditional RISC pipelines.

As instructions fall out of the bottom of the pipe (that is, proceeding from Decode to Execute, by being sent to the Fixed Point and/or Floating Point processors), the pipeline is filled by the pre-fetch logic.

Branch Instruction Processing:

The Branch Processor in PowerPC (as in POWER) "executes" all branch instructions. Note that "executing" a branch simply means to continue fetching from a different location than the current sequential stream implies. The 601 examines the last 4 stages of the pre-fetch pipeline, looking for branches.

Unconditional branches cause the pipeline stages above (and, including) the stage in which the branch is detected to be "flushed". Fetching of instructions to re-fill the pipe are then made from the "target address" of the branch. (Note that a conditional branch whose condition is determined early enough is processes the same as an unconditional branch.)

Conditional branches whose condition is not yet known when processed by the Branch Processor are "predicted". That is, instruction pre-fetching will be attempted along a path (taken vs. not taken) which is "guessed" by the hardware. In the 601, this prediction is based upon the direction of the branch (that is, the sign of its displacement). A "backwards" branch is predicted as taken; a "forwards" branch is predicted as not taken.

When the first instruction of a predicted path reaches the Decode stage (that is, the bottom of the pre-fetch pipe), and the condition is not yet known, the Branch Processor will stall, waiting for an indication of whether its prediction was correct. When the condition becomes known, the Branch Processor will either let the instruction in Decode proceed to Execute (if it predicted correctly) or flush the entire pipeline and re-fetch from the correct path.

When a branch is detected early enough, the pipe can be refilled before it would run "dry". As long as branches can be detected (and, for conditional branches, the proper direction can be determined) early enough, branches "execute" in "zero" time. In the 601, this translates into a general rule that branches which are separated by at least two non-branch instructions will execute without branch-induced delays.

In the 601, only one "predicted" conditional branch can be "outstanding" at any time.

Mini-TLB.

Code fetches have to be translated like any other memory access. In order to minimize the overhead of

translating every code fetch, the Branch Processor contains a copy of the last four page translations which were most recently fetched. Any fetch to one of these pages will not cause any explicit address translation. However, when a branch is taken to a page not contained within this mini-TLB, the branch is sent to the Fixed Point Processor, which performs the address translation. The resulting translation will update one of the 4 entries in the mini-TLB.

Accesses to addresses not contained in the mini-TLB will not be attempted until the branch is known to be taken. Thus, conditional branches will incur extra delay if they are not to one of the 4 most recently used pages.

Non-Branches

PowerPC includes a group of instructions which primarily operate upon the Condition Register. They are described within the Branch Processor chapter, because they were processed by the Branch Processor in the original POWER chip-set.

However, in the 601, only branch instructions are processed by the Branch Processor. All of the other "branch processor" instructions are actually executed by either the Fixed Point Processor or the "Sequencer".

Fixed Point Processor

The Fixed Point Processor is primarily intended to execute the Fixed Point instructions of PowerPC. However, as mentioned above, the 601's Fixed Point Processor also executes most of the non-branch instructions described in the PowerPC Branch Processor chapter.

The Fixed Point Processor also performs all address translation. Thus, all loads and stores (both Fixed and Floating Point) have their address generation (that is, computing the Effective Address) and translation (converting from EA->VA->RA) executed within the Fixed Point Processor. (A complete description of Address Translation appears as a separate section in this document).

In general, all Fixed Point instructions execute in one clock, and the result of the operation is immediately avaiable to a successive instruction. The exceptions to this rule are Loads (discussed below), Multiplies (which take 5 clocks for short results and 9 clocks for long) and Divides (which take up to 36 clocks). Multply and Divide instructions actually "stall" in the Execute stage of the Fixed Point Processor, thereby preventing execution of any following Fixed Point instructions until they complete.

The important timing number of Loads is its "latency". For example, if one has a "dependent" operation, how many extra clocks are required. In the 601, assuming that the data is aligned and in the cache, one "extra" clock is required to load the register with the correct data. This implies a general rule that one should have at least one instruction between a load and any dependent instruction in order to eliminate extra clocks.

Floating Point Processor

The Floating Point Processor executes all of the Floating Point instructions of PowerPC. In general, Floating Point instructions take 3 clocks to produce a result, with the exception being FP Divide, which takes up to 31 clocks. Thus, sequences of dependent Floating Point computations will execute at 1 every 3 clocks. However, sequences of Adds, Subtracts and Multiplys which can overlap their computations so that no dependencies are within the 3 clock latency will execute at 1 per clock.

A Floating Point Add or Subtract can be "issued" every clock, as long as its sources are available. Floating Point Multiplys can be issued every other clock. A Floating Point Divide stalls the entire unit.

Note that all Floating Point Loads and Stores require processing by the Fixed Point Processor (for address computation and translation). Thus, they fill a slot in both units.

Address Translation

The 601 implements the PowerPC translation mechanism, which is different from that of the original RS/6000s and the RSC. (See the Storage Control chapter in the PowerPC Operating Environment Architecture document for details.)

The PowerPC documents define the memory structure which is used for address translation (the Hash Table). Like most processors, the 601 uses a Translation Lookaside Buffer (TLB) to "cache" recently used translations to minimize the overhead of a full "table lookup" for translations. Addresses which translate to "recently used" pages will be found within the TLB, thereby circumventing the complete process of table walking.

The 601's TLB is organized as a 2-way set-associative cache with 128 sets, using LRU updating. Thus, up to 256 translations are available with no extra processing time required. (Note: if an operating system uses the full capabilities of the PowerPC translation mechanism, no explicit "flushing" of the TLB is necessary.)

If a translation is not available within the TLB, the Sequencer is invoked to perform the actual Hash Table walking.

Cache

The 601 contains a 32 KB Unified cache, organized as 8-way set-associative, with 64 sets, using LRU updating. Each cache line is 64 Bytes, divided into two "sectors"; a sector is the unit which is processed as a single burst transaction on the bus. (The term Unified means that the cache is shared between Code and Data.)

The cache is normally run in "Store-In" (CopyBack). This means that stores are performed by updating the cache contents and marking that cache sector as "dirty". Subsequent re-use of the cache line will cause dirty sectors to be written to memory.

Sequencer

In addition to the "architected" functional units described in the PowerPC documents, the 601 also contains a micro-coded "Sequencer". This sequencer performs any of the "hard" tasks which the hardware can't. This includes such things as Loads and Stores to "I/O" space (that is, accesses where the Segment Register has its T-bit == 1), TLB misses, exception processing (that is, processing interrupts).

Note that the Sequencer is normally inactive. When it does become activated (for example, by a TLB miss), all processing in the Branch and Fixed Point and Floating Point Processors is suspended. In other words, the Sequencer "takes over" the hardware.

(The only reason for mentioning the Sequencer is that it is referred to in various other documents.)

Support Information Services

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QuickTime 2.0: Audio AIFF

Does the audio side of QuickTime 2.0 use AIFF as the standard file format or some other format?
This article has been archived and is no longer updated by Apple.
QuickTime has its own internal audio file format. All versions of QuickTime can point to an AIFF file as a source file, but no version of QuickTime uses AIFF as a native file format.
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Color Monitor: Pinouts for Rev. O & Rev. A Cables

Following are the pinouts for both the Rev. O and Rev. A cables (DB15 to CN8) for the Color Monitor:

This article has been archived and is no longer updated by Apple.

```
   REV O                    REV A
--------------           --------------
DB15---Molex-8           DB15---Molex-8
   1---4                    1---1
   2---1                    2---2
   3---5                    3---3
   4---2                    4---4
   5---3                    5---5
   6---7                    6---6
   7---6                    7---7
```

Published Date: Feb 19, 2012

Newton MessagePad 110: System Update and ROM Versions

This article describes the ROM and system update versions that shipped with the MessagePad 110 beginning on March 4, 1994.
This article has been archived and is no longer updated by Apple.
The Newton MessagePad 110 ships with ROM version 1.2. Installed at the factory is a system update bringing the ROM up to version 1.3. You can see which version of the system software you have installed on the MessagePad by going to the preferences screen. The version is listed at the bottom.

Starting with the release of the MessagePad 110, the version number also includes a special service control number, in parenthesis, designating the physical ROM the system update works with. For future system updates, this number will remain the same. Use this control number to identify which system update to install on your MessagePad.

The first update version number is "1.3 (344052)" and appears in the preferences screen.

The service control number in parenthesis are part of the ROM version number. If there is ever an update to the ROM, you would end up with a different ROM number. For example system software 1.31, 1.32, or 1.4.
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Power Macintosh 6100, 7100, 8100: Description of Integrated Circuits

This article provides an overview of the various controller chips present on the Power Macintosh 6100/60, 7100/66, and 8100/80 logic boards. This article has been archived and is no longer updated by Apple.

Main Processor

The main processor in the Power Macintosh 6100/60, 7100/66, and 8100/80 computers is a PowerPC 601 microprocessor. The principal features of the PowerPC 601 microprocessor include:

* full RISC processing architecture
* parallel integer and floating-point processing units
* a branch manager that can usually implement branches by reloading the incoming instruction queue without using any processing time
* an internal memory management unit (MMU)
* 32 Kbit of on-chip cache memory

ROM

Power Macintosh computers contain 4MB of ROM with 100ns access time. Some of the system software that was on disk in previous Macintosh computers is in ROM in Power Macintosh models.

RAM

RAM for Power Macintosh computers is provided by dynamic random-access memory (DRAM) chips, of which the first 8MB of RAM capacity is soldered to the main logic board. Users may expand RAM capacity by adding 72-pin Single Inline Memory Modules (SIMMs) in pairs. Each SIMM contains two banks of DRAM with up to 16MB of capacity per bank.

High-Speed Memory Controller

The high-speed memory controller (HMC) is an ASIC (application specific integrated circuit) that controls all memory operations in Power Macintosh computers. The HMC has the following features that support data transfers to and from the PowerPC 601 microprocessor:

* support for all basic transfer protocols, including all single cycle accesses
* support for four-cycle 32-byte cache accesses
* translation of misaligned read actions into double-word read actions
* implementation of address-only transactions
* bus arbitration (of the address bus only)

The HMC does not support the following features:

* pipelining of memory bus transactions
* cache snooping
* recovery from transfer error acknowledge signals
* little-endian transfer mode

Apple Memory-Mapped I/O Controller

The Apple Memory-Mapped I/O Controller (AMIC) is a 160-pin gate array chip that performs most I/O logic and control for Power Macintosh computers. It supports the following functions:

* handling interrupts received through Versatile Interface Adapter (VIA) channels
* DMA for Ethernet I/O
* DMA for the SWIM III floppy disk drive controller
* DMA for the Serial Communications Controller (SCC) I/O
* DMA for Small Computer Systems Interface (SCSI) support
* DMA for sound I/O
* monitor support

The AMIC does not support the extended transfer protocols for the PowerPC 601 processor; using these protocols will cause a transfer error exception.

Data Path Chips

Two data path (DP) chips provide buffering between I/O and DRAM accesses and the cached CPU bus. They perform the following functions:

* route byte lanes between 8-bit and 16-bit I/O processes and the 64-bit CPU bus
* provide first-in, first-out (FIFO) buffering for video monitor data, which is fetched from RAM as eight-cycle bursts
* supply the Ariel II video chip with appropriate timing signals for video monitor data

The Ariel II video chip is described in the next section.

Ariel II Video Chip

The Ariel II video chip provides a color lookup table (CLUT) and digital-to-analog converter (DAC) for driving an AudioVision monitor.

SWIM III Floppy Disk Drive Controller

The SWIM III floppy disk drive controller is an extension of the SWIM II circuitry used in models such as the Macintosh Quadra 800 and Macintosh Quadra 650. It includes the following new features:

* support for DMA data transfers, which minimize use of the main processor
* no requirement that interrupts be disabled during floppy disk accesses
* support for GCR and MFM formats on 1.44MB disks
* compatibility with the manual-inject floppy disk drive

Floppy disk drives designed to be compatible with the New Age controller used in the Macintosh Quadra 840AV and Macintosh Quadra 660AV computers can easily be adapted for compatibility with the SWIM III controller.

Curio I/O Chip

The Curio is a multipurpose I/O chip that contains a Media Access Controller for Ethernet (MACE), a SCSI controller, and a Serial Communications Controller (SCC).

The SCC section of the Curio includes 8-byte FIFO buffers for both transmit and receive data streams.

Cuda Microcontroller Chip

The Cuda is a microcontroller chip. Its function is to:

* turn system power on and off
* manage system resets from various commands
* maintain parameter RAM
* manage the Apple Desktop Bus (ADB)
* manage the real-time clock
* let an external signal from either Apple GeoPort serial port control system power

AWAC Sound Chip

The audio waveform amplifier and converter (AWAC) is a 44-pin chip that combines a waveform amplifier with a 16-bit digital sound encoder and decoder (codec). It conforms to the IT&T ASCO 2300 Audio-Stereo Codec Specification and furnishes high quality sound I/O for Power Macintosh computers.

BART NuBus Controller

The BART NuBus controller chip provides the data gateway between NuBus and the CPU bus. It acts as a CPU bus master, transferring one-cycle or four-cycle transactions. It supports all NuBus burst transactions and is compliant with the IEEE Standard 1196.

Squidlet Chip

Squidlet is a 28-pin chip that provides a set of synchronized system clocks for Power Macintosh computers.

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Power Macintosh: 68LC040 Emulator (4/94)

This article describes the 68LC040 emulator found on Power Macintosh.

This article has been archived and is no longer updated by Apple.
The 68LC040 emulator provides an environment by which 680x0 applications can execute on a Power Macintosh computer. The emulator converts 680x0 instructions into PowerPC instructions and sends them to the PowerPC runtime environment. The emulator also maintains the emulated 680x0 environment (such as 680x0 registers).

This emulator uses the basic Motorola 68040 instruction set. However, it does not support instructions from the optional 68881 or 68882 floating-point coprocessor. Those applications which use the SANE math routines will be compatible with PowerPC systems and gain the benefit of the PowerPC's fast floating point unit.

A PowerPC implementation of System 7's Virtual Memory Manager is supported by the system. Applications that use the System 7 VM interface should work correctly, but those relying on directly accessing the 68K PMMU will break.

Note: The 680x0 emulator most resembles the Macintosh Centris 610. Applications or other software which runs on the Centris 610 will most likely run without problems under the emulator.

The emulator maintains tables which maps a 680x0 instruction to one or more PowerPC instructions. On average, one 680x0 instruction requires 10 PowerPC instructions. A PowerPC application will be slightly larger than its 680x0 counterpart because it generally takes more instructions to accomplish the same work on a RISC system than a CISC system.

Compatibility

The emulator has been designed to be highly compatible with those applications which adhere to the Macintosh programming guidelines. However, there are operational difference between the emulator and an actual 680x0 processor. The known exceptions are the following:

* No support for coprocessor's (FPU or MMU) instruction set (as mentioned above)

* The emulator will runs as fast as the system will allow. There is no attempt to maintain the same instruction timing as a 68040 microprocessor.

* The 68020 module calls, CALLM and RTM were deleted in subsequent 680x0 microprocessor. These calls are not supported by the emulator. Calling them will result in an illegal instruction exception. This should not be a problem for applications which run on 68030 or 68040 based systems.

* Within the 680x0 family, there are several instructions which have reserved fields. Although unlikely to have been intentionally done, accidental reliance on these fields may result in unexpected behavior when run under the 68LC040 emulator.

* Address error exceptions are handled differently under the emulator. A 680x0 microprocessor checks for address errors before completing the execution of a branch instruction. For performance reasons, the emulator checks after executing the branch with PowerPC systems. This may cause problems with applications which install an address error exception handler.

* Bus error exceptions are also handled differently under the emulator. Thus, applications with bus error handlers need to account for these differences.

* It may be necessary to modify some memory-mapped I/O calls to perform certain I/O accesses.

Note: For details on these compatibility issues refer to the Inside Macintosh: PowerPC System Software book. Available from Apple Programmer's Developers Association (APDA).

Article Change History:
14 April 1994 - Corrected a wording problem.

TA31320_Power_Macintosh_LC_Emulator__(TIL14842).pdf

21 March 1994 - Made miscellaneous corrections.

Support Information Services

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Power Macintosh: Mixed Mode Manager

The Mixed Mode manager is a new system level manager that handles switches between the native PowerPC and 680x0 environment.
This article has been archived and is no longer updated by Apple.
Applications, device drivers, and even portions of system software which were not ported to PowerPC code will run under the 680x0 emulator. The Mixed Mode manager will make sure that the code is properly routed to the correct environment.

The Mixed Mode Manager is designed to be completely transparent to 680x0 applications. If, for example, an application makes a toolbox trap call, the Mixed Mode Manager may be invoked to call a PowerPC version of the trap, but the application is not aware of that fact.

PowerPC applications, however, will have to be aware of the Mixed Mode Manager. The Mixed Mode Manager performs the same services for 680x0 applications as for PowerPC applications. For example, a PowerPC application making a toolbox call could end up in a 680x0 implementation of the call via the Mixed Mode Manager.

More importantly for PowerPC applications is the case where the application expects to be called-back by the system, for example, with a ModalDialog filter procedure. In this case, the application must make the filter procedure Mixed Mode compatible by creating a data structure called a routine descriptor that is used by Mixed Mode when the system calls the function.

Assistance in avoiding mode switches is provided by fat traps. A fat trap is a Toolbox routine that is available in both 68000 and native implementations. The two versions are enclosed in a "routine descriptor" that tells the mixed mode manager how to call it from either environment.

Published Date: Feb 19, 2012

Performa: Versions of ClickArt on computer (3/94)

This article describes what versions of T/Maker's ClickArt come bundled with the Macintosh Performa computer and how to open the files.

This article has been archived and is no longer updated by Apple.
The spring 1993 line of Performa computers are bundled with "Best of ClickArt." These are in a MacPaint format and can be opened with the bundled ClickArt Clipout desk accessory.

The fall 1993 line of Performa computers are bundled with "ClickArt." These are in ClarisWorks 2.0 format and can be opened with the bundled ClarisWorks 2.0 application program.

Note: ClarisWorks 1.0 will not open ClarisWorks 2.0 graphic files.

Spring Line of Performa computers:
Performa 405
Performa 430
Performa 450

Fall Line of Performa computers:
Performa 410
Performa 460
Performa 466
Performa 467
Performa 475
Performa 476
Performa 550
Performa 560

Support Information Services
Published Date: Feb 19, 2012

At Ease 2.0: Cannot Print with HP Deskwriter

With At Ease 2.0 for WorkGroups and a Hewlett-Packard DeskWriter 500c, the HP Print Monitor will not send documents to the printer. Documents print fine from the Finder, just not while in At Ease 2.0. Why?
This article has been archived and is no longer updated by Apple.
The problem is not with At Ease, but with the version of the DeskWriter printer driver that is installed. Customers with versions earlier than those listed below need to contact Hewlett-Packard to get updates.

Hewlett-Packard's phone number can be found, in the TIL, by using Hewlett-Packard Co. as the search string.

Printer	Printer Driver Version
DeskWriter C	3.0
DeskWriter 550c	2.0
DeskWriter	3.9

Latest HP drivers are also available through HP dealers who can download it from the HP email system or CompuServe (Go HPPER).
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PowerPC 601: Data Path Structure (3/94)

What data path structure does the PowerPC 601 miroprocessor use?

This article has been archived and is no longer updated by Apple.

The PowerPC 601 chip utilizes a 64-bit wide data bus and a 32-bit wide address bus.

Support Information Services

Published Date: Feb 19, 2012

System 7.1.2: Support for 68040 or Earlier Macintosh (4/97)

Can I use System 7.1.2 to update the operating system of my 680x0 Macintosh?
This article has been archived and is no longer updated by Apple.
Yes. Several 680x0 Macintosh, Performa, and PowerBook systems shipped with System 7.1.2 installed. If your computer has earlier versions of system software, you may safely update to 7.1.2 (which includes System Update 3.0).
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Macintosh: Licensing the ImageWriter Driver Source Code

This article has been archived and is no longer updated by Apple.

The ImageWriter source code has been made available to developers in order to encourage development and support of complementary products for the Macintosh. Note that the source code will be distributed on an "as is" basis: Apple will NOT be providing technical support for it.

To receive the code, you must submit a one page proposal that describes why you need the software. This proposal must be approved before Apple can grant a license. Upon approval, you will be sent a software license agreement. You must pay a one-time licensing fee to receive the source code.

To license the source code, contact Apple Software Licensing. Search on Software Licensing for address information.

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Macintosh Quadra 840AV: Horizontal Line in Captured Video

When displaying live video from a video camera, or in a captured frame or movie on a Quadra 840AV there appears to be a horizontal line going through the image

This article has been archived and is no longer updated by Apple.

What you are seeing is a scaling artifact, and is normal in some situations. It may be seen whenever an image is scaled vertically; but it should be most noticeable when the image is scaled vertically so that it is smaller than full size and greater that half.

The scaler works by low-pass filtering and subsampling. In the vertical dimension, this means that some of the horizontal scan lines are dropped, but the data contained in the dropped lines is averaged into the remaining lines. This averaging minimizes the dropped line effect, but it is not perfect; it is an approximation of perfect (you may see perfectly scaled images on television, but the equipment that does this costs thousands more than the entire computer).

In the case where an image is scaled vertically by less than full but greater than half, the image displayed on the screen consists of two video fields interlaced onto the monitor. The video scaling processes fields and it takes two fields to make a frame. When a line is dropped in one field, the corresponding line in the opposite field is also dropped. When the two fields are reconstructed on the display, the effect is that two vertically adjacent lines are dropped, and this can be visible in some cases.

The most likely reason it is not as visible when using a VCR is that the image from a VCR is lower resolution from the filtering done in the recording process. The artifact is still there, but the lower resolution hides it.

Published Date: Feb 19, 2012

SoftWindows: Hard Disk File C (1/95)

What is the Hard Disk File C in my SoftWindows folder? Can I delete it? Can I make it smaller?

This article has been archived and is no longer updated by Apple.
The Hard Disk File C is actually file where all of your MS-DOS and Windows applications and files are stored when running under SoftWindows. It is in fact your virtual hard drive when using SoftWindows. Deleting it causes you to lose everything installed or saved in on drive "C" while under SoftWindows.

The Hard Disk File C is created upon installation of SoftWindows and cannot be changed dynamically. It should be considered as a hard drive, and like a hard drive, would need to be reformatted to make specific partition changes (making it larger or smaller).

You can create a Macintosh Shared folder as another drive, and copy the contents of C into the newly created drive. You are then able to delete, and then recreate the "C" drive the exact size you want. If you delete the Hard Disk File C, you should also throw-away the SoftWindows Prefs file, located in the Preferences folder in your System folder.

Double-clicking on the Hard Disk File C launchs SoftWindows.

Article Change History:
17 Jan 1995 - added removing the SoftWindows Prefs file.

Support Information Services
Published Date: Feb 19, 2012

Performance Tips for SoftWindows (3/94)

Here are some recommendations for SoftWindows setup when comparing the speed to a PC.

This article has been archived and is no longer updated by Apple.

```
If you're comparing SoftWindows with a 4 MB PC:

* 16 MB of RAM on the Power Macintosh is the minimal configuration.
* Set the Monitors control panel to 256 colors.
* In the Memory control panel, turn Modern Memory manager ON, Virtual
  Memory OFF, reduce Disk Cache to the minimum.
* Set SoftWindows' application size to 12000K.
* Launch SoftWindows
* Select PC Memory under the Setup Menu
* Set Expanded Memory (EMS) to ZERO, and Extended Memory (XMS) to 3 MB or
  4 MB (this will leave between 1 MB and 2 MB of RAM unused, but will improve
  performance significantly).
* In Windows Desktop, set the size to 640X480, with 256 colors.

If you're comparing SoftWindows with a PC that has 8 MB RAM (or more):

* The Power Macintosh should have a minimum of 24 MB of RAM.
* Set the Monitors control panel to 256 colors.
* In the Memory control panel, turn Modern Memory manager ON, Virtual
  Memory OFF, reduce Disk Cache to the minimum.
* Set SoftWindows' application size to 18000K.
* Launch SoftWindows.
* Select PC Memory under the Setup Menu
* Set Expanded Memory (EMS) to ZERO, set Extended Memory (XMS) to 10 MB
  (this will leave about 2 MB of RAM unused, but will improve performance
  significantly).
* In Windows Desktop, set the size to 640X480, with 256 colors.

Additional Speed Tips:

1) Use the HPV video in the 7100 or 8100.
2) Add a cache card if you're using a 6100 or 7100, for a boost of about
   20%.
3) Install a fast hard disk (such as a 1 GB drive) to significantly boost
   Windows performance in general, and database access in particular.

NOTE: Some applications may require even more RAM than the minimum stated.

The difference in performance between the worst settings and optimum settings can be more than 100%.

Support Information Services
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Published Date: Feb 19, 2012

SoftWindows: Problems Printing (3/94)

I can't print from my Windows application running under SoftWindows, what's wrong?

This article has been archived and is no longer updated by Apple.
Try the following:

1) Open the Chooser under the Apple Menu and choose the printer you want to use
2) Open the ReadMe in found in the SoftWindows folder (open with SimpleText)
3) Choose Print from the File Menu

If your document successfully prints, then continue with the next instructions. If not, then make sure your printer is on, double-check your network connection, and ensure that you have the correct printer drivers installed.

4) Launch SoftWindows
5) Under the Setup menu, choose printer
6) Make sure "Epson LQ 2500" is selected
7) Make sure that within the DOS or Windows application that the "Epson LQ" or "Epson Basic" is also selected

Support Information Services
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SoftWindows: CD ROM Problems (3/94)

I'm using SoftWindows on my Power Macintosh and am trying to use a DOS CD-ROM. I can't seem to get it to work, what could be wrong?

This article has been archived and is no longer updated by Apple.
Try the following:

1) Launch SoftWindows
2) At the C:\\> prompt, type 'usecd' (don't type the quotes) and hit Enter
3) Insert the CD

If this fails, then remove the file "Foreign File Access" from your Macintosh System folder and restart. Repeat items 1-3 again.
If that continues to fail, then do the following:

1) Put the "Foreign File Access" file back into your System Folder
2) Restart
3) Insert the CD (it should appear on the Desktop. If it does not, then
you may have a bad CD)
4) Under the Setup menu, select "Mac/PC Shared Folders..."
5) Find the CD on the Desktop
6) Select the drive you want the CD mounted to (for example: G:\\ )
7) Click on "Use Macintosh HD" button at the bottom of the dialog
You should now be able to access the files on the CD from SoftWindows.

Note: you can only use one CD-ROM drive under SoftWindows.

Support Information Services
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SoftWindows and the DOS Compatibility Card (3/94)

How does SoftWindows and the DOS Compatibility Card compare as far solutions for running DOS on a Macintosh?

This article has been archived and is no longer updated by Apple.
The Macintosh Quadra 610 DOS Compatible and the SoftWindows bundle on the Power Macintosh are complementary approaches to provide cross-platform compatibility solutions. The Macintosh Quadra 610 is the only Macintosh that supports the DOS Compatibility Card. The Macintosh Quadra 610 DOS Compatible includes both a Motorola 68040 and an Intel486sx microprocessor enabling customers to run Macintosh, DOS and Windows software concurrently. It comes with MS-DOS 6.21. The DOS Compatible Card does not provide NetWare, or any network support.

SoftWindows is a native Power Macintosh application that runs solely on the Power Macintosh Computers. It emulates the 80286/287 microprocessors, and provides application performance comparable to the speed of entry level 386 to 486 personal computers when running DOS and Windows applications. It comes with MS-DOS 6.21 and Windows 3.1. SoftWindows also provides PC network support such as Netware, LAN Manager, Windows NT Server, and TCP/IP.

Support Information Services
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SoftWindows: Readme

SoftWindows, Version 1.0 - ReadMe information

This file contains information relating to SoftWindows, Version 1.0.
This article has been archived and is no longer updated by Apple.

1. Contents
==========
* What's New in SoftWindows
* Memory settings - for best performance
* More Performance Tips - Getting the best out of SoftWindows
* Other Tips
* SoftNode - Networking Support for SoftWindows
* CD ROM Support
* AccessPC compatibility
* External floppy drive support
* Miscellaneous
* Acknowledgements
* Your Comments Please

2. What's New in SoftWindows
==========
This is the first version of SoftWindows for the Power Macintosh. If you are familiar with the SoftPC family of products for the 68k Macintoshes, then these are the key features introduced in SoftWindows:
* It's fast - running at entry level 486 speeds. This is achieved through: - being a PowerPC native application which takes full advantage of the performance of your Power Macintosh - Insignia's advanced emulation technology - Having access to the source code of Windows from Microsoft, which enables us to modify Windows to give extra speed, without jeopardising compatibility.
* Improved SmartCopy - the Windows utility that links the Macintosh and Windows clipboards now allows bi-directional transfer of text and bitmap graphics data between PC and Macintosh applications.
* Improved networking - the list of supported network operating systems now includes Banyan Vines, so you can connect to Novell NetWare, LAN Manager, LAN Server, Windows NT Advanced server, and Banyan Vines servers. Also, using Novell's LAN Workplace for DOS, you can connect to UNIX fileservers through TCP/IP.
* Improved PC CD ROM support - Audio CD support is better and dual format CDs are supported.

3. Memory settings - for best performance
==========
The amount of memory that you dedicate to SoftWindows is set up by the SoftWindows installer, depending on the options you select during installation.

This determines three key features:
i) The maximum amount of PC memory available to your PC applications
ii) The maximum size and depth you may specify for the Windows desktop
iii) The performance of SoftWindows.

Stated simply, the more memory you give to SoftWindows, the better it will be. However, devoting a large portion of your Macintosh memory to running SoftWindows will limit your ability to run other Macintosh applications simultaneously.

If you want to dedicate more memory to SoftWindows:
* Make sure SoftWindows is not running: Quit SoftWindows if it is.
* Select SoftWindows in the Finder by clicking its icon once.
* Select "Get Info" from the Finder's File Menu
* Enter a higher number in both the Minimum and Preferred Size boxes.
* Click the close box for the dialog.
If you have given too much memory to SoftWindows, go through the above procedure typing a smaller number into the Minimum and Preferred Size boxes.

To see the effect of your changes, select PC Memory from the SoftWindows Setup menu. The size of the "DeltaCache" (which controls the SoftWindows performance - bigger is better) is displayed in the top right hand corner of the dialog. This should be between 0k (slowest) and 1024k (fastest). For some applications, there is an extra performance boost with a DeltaCache of 2048k. Additional DeltaCache beyond 2048k will have

little effect on SoftWindows performance.

4. More Performance Tips - Getting the best out of SoftWindows

* Make sure that SoftWindows is set up to use at least 3Mb of PC Extended memory, by using the PC Memory command from the SoftWindows Setup menu. Windows runs much better with 3Mb rather than the minimum 1Mb of extended memory - even on a hardware PC.
* Make sure the setting in your Macintosh "Monitors" Control Panel matches the number of colors you have selected for the Windows Desktop. This is displayed by selecting the Windows Desktop command from the SoftWindows Setup menu.
* Make sure the Windows Desktop is entirely on one monitor.
* Make sure the Windows Desktop is unobscured by other windows.
(Note that when the Windows desktop is in an optimal position, the title bar will have a check mark ( ) appended. If there is no title bar then holding down Command and option keys will display a hand icon with a dot in the middle).
* Try boosting the DeltaCache to about 2048k, as described above.
* Try turning File Sharing off, it can slow down your applications on the Power Macintosh.
* Make sure you do not have the MacsBug debugger installed - it slows down the entire Power Macintosh.

5. Other Tips

5.1 Loading DOS High

In order to maximize the amount of available conventional memory to PC applications, you may load DOS high by adding the line

DOS=high

to the CONFIG.SYS file.

5.2 DoubleSpace

DOS 6.2 is supplied with the DoubleSpace utility which enables the available disk space on a SoftWindows hard disk file to be doubled. Type "HELP DBLSPACE" at the DOS prompt for more information.

6. SoftNode - Networking Support for SoftWindows

6.1 Ethernet card compatibility

SoftNode is compatible with the on-board Ethernet fitted in all Power Macintoshes and virtually all Macintosh Ethernet cards.

If you are using third party Ethernet solutions, please ensure with the manufacturer that you have the latest version of the driver software.

The Apple Ethernet NB card has had a number of problems in the past. These are all believed to be addressed in version 1.4.2 of Apple's Network Software Installer disk.

SCSI based Ethernet - A number of SCSI Ethernet adapters have drivers which pad out the packets of the Ethernet II frame type. This causes illegal instructions in PC applications using this frame type, although other frame types work well. If it is not possible to use a different frame type, this problem may be solved by connecting via a SoftNode Ethernet Gateway for IPX protocols. This applies to the Focus Nuvo-Link SC and to Dayna's DaynaPORT SCSI/Link products.

6.2 Token Ring card compatibility

SoftNode is compatible with Token Ring cards which support the Apple .TOKN standard. At the time of writing, only the Apple 4/16 card works, and it has some restrictions. Other third party cards are likely to be fixed by the time the Power Macintoshes are available. These include cards from DCA, AsantÄ and CableTron (which work in SoftPC on today's 68k Macintoshes). Please contact the relevant manufacturers to check on the PowerPC compatibility of their cards.

The driver for Apple's Token Ring cards does not support the Token Ring 802.2 frame type. However, Apple are aware of the problem and a fix is expected from Apple shortly.

You can use SoftNode in an environment where other cards are installed by:

- installing a supported card in one Macintosh
- installing a SoftNode Token Ring Gateway on that Macintosh
- using the SoftNode ATALK.BAT batch file from other Macs to access the Novell file server via the SoftNode Gateway

6.3 Windows for Workgroups Support

There is a problem with two files in the \\INSIGNIA\\SOFTNODE directory on newly created SoftWindows hard disks. The files NET.WFW and NET.WFT are example NET.CFG configuration files for using Windows for Workgroups client software over Ethernet and Token Ring respectively. Both contain the line:

```
protocol IPX 0  ETHERNET_802.3
```

instead of the line:

```
protocol SMB f0  ETHERNET_802.2
```

This stops Windows for Workgroups working when the Network Control Panel is set up to use the Ethernet or Token Ring card for AppleTalk. There is no problem if the Network Control Panel is set up to use LocalTalk.

To fix the problem, you must replace the first line with the second line, or if you need simultaneous NetWare and Windows for Workgroups support, you may add the second line to the file, immediately after the first line.

7. CD ROM Support
==========
Audio CD ROM support is much improved over previous versions of SoftPC. In addition, it is now possible to use CD ROMs that have both a Macintosh (HFS) partition and a PC (ISO 9660) partition. Use of these hybrid CDs requires that you have a CD ROM driver that is capable of accessing both partitions. The Apple CD ROM driver is not one of these, but Insignia's RapidCD product will replace the Apple CD driver to enable this functionality. FWB's CD ROM Toolkit is also compatible.

8. AccessPC compatibility
==========
Insignia's AccessPC product allows you to mount SoftPC hard disk files on the Macintosh desktop so that you can see the DOS files and directories as documents and folders. Version 3.0.2 of AccessPC also allows you to mount SoftWindows hard disk files. If you have an earlier version (3.0 or 3.01) you may patch it to give this extra feature. Simply run the application called "PatchAccessPC" which is on the first SoftWindows installation disk and follow the instructions in the subsequent dialogs. Note that the AccessPC control panel should be closed when you patch it, and you will need to restart the Macintosh afterwards.

9. External floppy drive support
==========
At the time of writing, the only diskette drive that may be set up as SoftWindows A: or B: drive is the internal FDHD drive (also known as the "SuperDrive") in the Power Macintosh. Other diskette drives supplied by third party manufacturers work with SoftPC on 68k Macintoshes and are expected to work as soon as the drivers for these devices are fixed to work on Power Macintoshes.

Since every Power Macintosh is equipped with a SuperDrive, lack of support of 3rd party 3.5" drives is not expected to be a big issue. If you really need to use 5.25" PC diskettes, the DaynaFile drives from Dayna Communications and the DOSFloppy from PLI work with SoftPC on 68k Macintoshes. No information is currently available for when these devices will work on Power Macintoshes.

10. Miscellaneous
==========
10.1 Tutorial Error

Some configurations of SoftWindows are NOT supplied with a tutorial diskette. If this is the case, you may install the tutorial application from your SoftWindows hard disk. To do this, you should choose Run╔ from the Windows Program Manager File menu, and type C:\\WNPST\\SETUP in the command line field and click OK. (The manual incorrectly uses the WINPST directory instead of the WNPST directory).

10.2 Windows Desktop Size

Note that changing monitors, or monitor resolutions, between invocations of Windows, can lead to a Windows Desktop which is larger than the current monitor size. This may be fixed by manually resizing the Windows desktop from the SoftWindows Setup menu. The changes will take effect the next time Windows is run.

11. Acknowledgements

11.1 WinPost

The tutorial Windows application supplied with SoftWindows is WinPost, by Eastern Mountain Software. Please note that this is a shareware version of WinPost: if you decide to continue using it, please send the registration fee of $30 (USA/Canada/Mexico) or $35 (all other countries) to
Eastern Mountain Software, P.O. Box 6394, Bellevue, WA 98008-0394, USA. Telephone: (206) 391-3483.

11.2 DEVLOD

SoftWindows is supplied with a version of DEVLOD.COM from "Undocumented DOS" by Schulman et al. (Addison-Wesley, 1993). Copyright (c) 1993 Andrew Schulman, Ralf Brown, Jim Kyle, David Maxey, Ray Michels.

11.3 DOS for Dummies/ Windows for Dummies

The SoftWindows User Guide is not intended to be a reference guide for using DOS and Windows. If you need a DOS or Windows reference, we recommend DOS for Dummies by Dan Gookin and Windows for Dummies by Andy Rathbone, both by IDG books. These excellent books are used and recommended by the Insignia Technical Support specialists who are certainly not "dummies"!

12. Your Comments Please

The SoftWindows User Guide has details of how to contact Insignia's Technical Support or Customer Service departments. Please contact these departments if you have any problems with the software or wish to get further product information.

If you have any comments about the SoftWindows software or documentation, please send them by letter or fax to:

Insignia Product Marketing
Insignia Solutions Inc.
1300 Charleston Avenue
Mountain View CA 94043

Fax: (415) 964 5434

or

Insignia Product Marketing
Insignia Solutions Ltd.
Kingsmead Business Park
London Road
High Wycombe HP11 1JU
UK

Fax: +44 494 459720

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LC 575, Quadra 650: "Maxtime Cable" Message Upon Startup

In booting up a Quadra 650 or Macintosh LC 575, a message that says "Sending handshake byte in postburn. Please plug in Maxtime cable for postburn." may be generated.

This article describes how to get rid of this message.
This article has been archived and is no longer updated by Apple.
This message occurs when the burn-in software is not erased off of the hard drive at the factory prior to shipping.

To remove the software:

1) Boot from the Disk Tools diskette or the InstallMeFirst CD.
2) Trash the files in the Startup Items folder.

Another alternative is to reinitialize the drive and reinstall system software.
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MacWorks: Which Lisa boot ROMs to use

This article has been archived and is no longer updated by Apple.
The same boot ROMs recommended for Lisa software are fine for systems running MacWorks. In addition, square pixel ROMs are available for systems running only MacWorks XL. They are:

SYSTEM CPU I/O Sq PIXELS (CPU-I/O is the same)
Lisa 2/10-Mac XL F, H D (88) A3
Lisa 2 D, H B (A8) A3

Although MacWorks has been thoroughly tested with the earlier ROMs, consider upgrading them if a system with earlier ROMs shows illogical errors, such as locked disk errors when initializing a disk, which may occur after loading new system files.
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Macintosh LC 520: Part Number For FPU (3/94)

Will the FPU (Floating Point Unit) listed for a Macintosh LC III work in a Macintosh LC 520?

This article has been archived and is no longer updated by Apple.
Yes, the FPU for the Macintosh LC III, part number M6775LL/A, can be installed in the Macintosh LC 520.

Support Information Services
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Power Macintosh AV Upgrade: Composite Video Ports

This article describes how to utilize composite video ports after upgrading a Macintosh Quadra 840AV or 660AV to a Power Macintosh.
This article has been archived and is no longer updated by Apple.
When a Macintosh Quadra 840AV or 660AV is upgraded to a Power Macintosh AV, the composite video ports are not part of the upgrade.

These ports are provided via a composite video adapter which is connected to the S-video ports of the AV card.

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Power Macintosh: New Control Panels (3/94)

This article describes the changes made to the Monitors and Memory Control Panels.

This article has been archived and is no longer updated by Apple.
The Monitor Control Panel has been modified so a change in the desktop (moving of the menu bar for example) takes affect either after restart or upon close of the control panel. This option is selected using the radio button located on the bottom left hand corner of the window.

With the new Memory Manager (called Modern Memory Manager), there is a modification to the Memory Control Panel. It is possible to disable this new Memory Manager and revert to the old Memory Manager in ROM for software compatibility. This is done through the Modern Memory Manager section in the Memory Control Panel. The default setting is using the new Memory Manager.

Support Information Services

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Power Macintosh: Sampled Sound Playback Issue (3/94)

This article describes sampling rate playback change.

This article has been archived and is no longer updated by Apple.
The sampling rate of 22.05 kHz replaced the sampling rate of 22.254 kHz in older Macintosh models. This new rate was changed for compatibility with the 44.1 kHz audio CD sampling rate.

For sound samples made at the 22.254 kHz rate, playback at the 22.05 kHz results in a 1% change in pitch (lower).

Support Information Services

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Power Macintosh: Upgrade Card and Card Control Panel (3/94)

This article briefly describes the new Control Panel that comes with the Power Macintosh Upgrade Card.

This article has been archived and is no longer updated by Apple.
Macintosh computers with a 68040 processor direct slot can be upgraded to a PowerPC processor via an expansion card. In order to support this card, a Power Macintosh bootable system folder is required. Within this system folder is a Power Macintosh specific system enabler and a new control panel.

The Power Macintosh Card Control Panel allows the user the option of selecting which processor to use. This selection is made via the Power Macintosh Card control panel. It is a simple off or on selection. The system has to be restarted for the new selection to take effect.

Support Information Services

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LaserWriter 8.x: Configuring Paper Trays

How can I configure the LaserWriter 8.x software so that it uses the 500 sheet tray?
This article has been archived and is no longer updated by Apple.
Once the LaserWriter 8.x software is installed, it needs to be configured.

1) Open the Chooser
2) Select the LaserWriter 8.x driver
3) Select your printer
4) Click "Setup"
5) Click "Configure". If you don't see the "Configure" button, Click the "More Options" button
6) Select your cassette preference:
* Not Installed
* Installed
* Installed and Preferred

After configuring the print driver, those paper tray options appear in the Print dialog.
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Quadra 700: Power Macintosh PDS Upgrade Blocks NuBus Slot (3/94)

If I install the Power Macintosh PDS Upgrade Card in my Quadra 700, can I still use both NuBus slots?

This article has been archived and is no longer updated by Apple.
No, the $E NuBus slot (the one closest to the outside case) must be empty in order to install the Power Macintosh PDS Upgrade Card. The PDS and NuBus slots are in line with each other in the Quadra 700, you can install either a PDS card or a NuBus card but not one of each.

Support Information Services
Published Date: Feb 19, 2012

Quadra 610: NuBus & Power Macintosh PDS Card Not Possible

If I install the Power Macintosh PDS Upgrade Card in my Quadra 610, can I still use a NuBus card?
This article has been archived and is no longer updated by Apple.
As the Quadra 610 has only one PDS expansion slot, to install the Power Macintosh PDS Upgrade Card you must first remove any existing expansion cards.
Published Date: Feb 19, 2012

At Ease 2.0: Problems with Color Selection Dialog

When I hold down the Option key to select the number of colors an application can use when launching, I can't choose the down arrow to display more choices.
This article has been archived and is no longer updated by Apple.
This is actually a problem with At Ease 2.0 in both Workgroups and the Non-Workgroups version when setting monitor bit depth.

There are two issues:

* The options will include "thousands" and "millions of colors" and other choices, whether your video card supports it or not.

* The 'hot spot' on the pull down selection is mapped to the wrong spot. Clicking and holding on the actual name (to the left of the triangle) will display all the available options for color choices. You can then set the color selection for that particular application.

Published Date: Feb 19, 2012

CD Sampler.BW Gives an Error in HyperCard (3/94)

The CD Sampler.BW on Apple's CD-ROM Titles Sampler give error T63 when attempting to run demos. The CD Sampler.Color works fine.

To duplicate: Open the CD Sampler.BW stack, click on
This article has been archived and is no longer updated by Apple.
Opening the stack with the complete version of HyperCard 2.2 instead of the Player will generate a different error. At the point where the t63 error had appeared, the error "Don't understand "colorizeHC" now appears. The colorHC reference is to a series of XCMDs that add color to the HyperCard interface.

This XCMD has been used with the Sampler stacks. There appears to be a problem with properly handling the color depth when using these XCMDs. This should be handled more gracefully than it is.

Unfortunately, there is no workaround for this problem. Since the stack is a protected stack, there is no way to workaround the presentation of the error messages.

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A/UX: Can‘t Connect to the Toolbox, Can‘t Launch Macgetty (3/94)

I'm getting the error on the A/UX console stating:
"Can't Connect to the ToolBox environment - Can't launch macgetty-Launching getty instead." Then the startup fails.

This article has been archived and is no longer updated by Apple.
Here are some trouble-shooting steps you should try if you are getting this error:

1) ls -l /etc/macgetty should give you
-rwxr-x--- root sys (for the permissions, owner, and group)
if they aren't set that way
chmod 750 /etc/macgetty will change the permissions
chown root /etc/macgetty will change the ownership
chgrp sys /etc/macgetty will change the group

2) If you notice in step 1. above that both owner and group are set to
root, issue the command:
ls -l /etc

If you notice that every file is set with root ownership and root
groupship, it is probably time to reinstall the core A/UX.
The only way to tell how many files and directories are messed
up is to mount the installation cd and check all the files.
This is often the vestige of someone having changed permissions
on a folder from the file menu's "UNIX permissions ..." choice and
having checked the "make all currently enclosed ..." option.

3) If the file permissions seem to be set correctly, try the
command:
su sys

If that fails with an error like "can't execute /bin/sh",
issue the commands:

cd /
ls -la
make sure that the entries for "/etc" and ".." (which is "/" itself)
are set to:
drwxrwxr-x bin sys for /etc
drwxr-xr-x root root for ..
as long as they are listed as "d" for directory chmod 775 /etc ;
chown bin /etc; chgrp sys /etc will fix "/etc"
and
chmod 755 /; chown root /; chgrp root /
will fix "/"

4) If the permissions seem OK on the files and directories, and the error
specifically refers to the ToolBox, then the solution may be to replace
the /mac/lib/Patches/Patch* files from the CD or from a working A/UX
machine running the same version of A/UX (open a command shell and type
uname -a to find A/UX version number). The easiest way to get these
files would be to ftp them over from another machine.

Filenames are: Patch.0178 & Patch.067C

To get them from the CD-ROM, you must mount the CD as a Unix Filesystem
using the mount command:

mount -o r /dev/dsk/c10xdos0 /mnt where the 'x' indicates the SCSI id
of the CD ROM drive, and the 'c1' on an Apple WorkGroup Server 95 could
be c1-4, depending to which SCSI bus the CD-ROM drive is attached. Once
mounted, you can copy the files using the cp command:

cp /mnt/mac/lib/Patches/Patch* /mac/lib/Patches/*

5) If none of the above troubleshooting tips help, then a complete reinstall of core A/UX is most likely in order. Remember to backup any system specific files (such as hosts, or NETADDRS, Users and Groups datafile, etc.) whenever doing a reinstall.

Article Change History:
29 Mar 1994 - Added trouble-shooting tips for problem. Combined can't launch toolbox and Macgetty into one. Added reinstall as final option.

Support Information Services

Published Date: Feb 19, 2012

MacTCP: Invalid Address (3/94)

Every time I manually enter an address in the MacTCP control panel, and then close the Control Panel, I get an error that the address is invalid.

This article has been archived and is no longer updated by Apple.
First verify with your network administrator that the address you are using is indeed a valid address, and that there are no duplicate addresses on your network.

If your address is valid, make sure when you enter the address that no additional characters are accidentally added. Characters such as <Return> and <Ctrl> accidentally added after entering the address can cause this error.

Published Date: Feb 19, 2012

A/UX: mail and "not a typewriter" (2/95)

What does "not a typewriter" mean when sending mail in A/UX?

This article has been archived and is no longer updated by Apple.
The "user unknown: not a typewriter" error message is most likely caused by the sendmail program mapping the user's name to lowercase before checking /etc/password for the user's account. For example, a username of Mike or Jim would be mapped to 'mike' or 'jim', and then the passwd file is checked for those names. This is the way login names are supposed to appear in the passwd file.

The solution would be to create a username in the passwd file all in lowercase. "Jim" would have an entry of "jim" as well.

The error saying "not a typewriter" is a historical error. The text for this error message was created when the terminals attached to the system were teletypes. The error is saying that there is no terminal attached to the process where the process can send messages generated by either STDIO (standard output) or STDERR (standard error). This message is common on processes that are started from a script, from cron, or from inittab. It can also be encountered if a process is started as a background process. If the process generates any kind of output, the message "not a typewriter" is displayed.

Article Change History:
27 Feb 1995 - Added historic information on "not a typewriter".

Support Information Services
Published Date: Feb 19, 2012

Macintosh AV: Noise With Sampled Audio (3/94)

Customers are complaining about hiss and popping within a recorded audio sample. They are sampling from their internal CD-ROM drive using the CD-Remote DA with Fusion Recorder or MacroMedia's SoundEdit Pro v1.0.5.

* Configuration:
Macintosh Quadra 840AV 8/230/Int.CD 300i & External CD 150
System Software: Clean Installed 7.1 from CD;
Express Modem Software;
Virtual Memory: OFF
File Sharing: OFF
Express Modem: OFF
Sound Out: 44 kHz; 16 Bit & Stereo
Sound In: Internal CD & Playthrough selected
**For Internal Sampling Sound In: External Audio & Playthrough selected

**For External Sampling:

1) Sampling a sound via the internal CD 300i OR external audio source using both SoundEdit Pro v1.0.5 and Fusion Recorder v1.0.1 and the Apple CD Remote DA produces a poor quality sound with "hiss", "popping" and hesitation or skipping through both the internal speaker and external headphones.

NOTE: With Fusion Recorder we also heard a high pitched tone at random times of a sampled sound. During the recording of the audio, the sound is perfect while playing through internal speaker or head phones.

2) Sampling a sound via the internal CD 300i using the Apple ATG Group's Zounds(1/20/93) application products a clean and acceptable sound (AIFF format) on playback. Appears to just dump the sound right to the hard drive during recording in a "ZoundsTemp1", "ZoundsTemp2", etc. file.

3) Converting audio track via the internal CD 300i using Fusion Recorder v1.0.1 and QuickTime 1.6.1 produces a clean and acceptable sound (MooV format) on playback.

The questions raised are:

* Can the Sound Manager be interfering in our samplings?
* Is there a setting that we have overlooked to eliminate the additional sound introduced in the sampling?

This article has been archived and is no longer updated by Apple.
There are several issues to be considered here. First, the firmware present in most CD300 drives has difficulty correctly transferring digital audio. The problem has been corrected in the newer CD300 Plus drives.

Second, there is a basic throughput issue. In order to correctly read digital audio data, you need to read a chunk of audio, byte swap it, write it to disk, and issue another read command to the CD ROM drive before the drive overruns its read buffer. If you try this on a Macintosh with synchronous read and write calls, it is impossible to do.

There are a few things which the user can do to get the best performance from the Macintosh AV machines:

* Disable File Sharing. File sharing slows down overall system performance.
For best results, disable file sharing before using digital audio software. Use the "Sharing Setup" control panel to disable file sharing.

* Unmount File Servers. For the reason mentioned above, unmount any network file servers before using digital audio software.

* Turn off Virtual Memory. Virtual Memory (VM) allows you to use part of your hard disk as if is was RAM. In general, sound editing applications

do not work well with VM enabled. Use the Memory control panel to turn off VM and reboot your Macintosh.

* Turn off Speech Recognition. Apple's Speech Recognition software on the 660 and 840AV uses the DSP (Digital Signal Processor) to do its processing. Digital audio software requires nearly 100% of the DSP to perform its operations. Use the Speech setup control panel to disable Speech Recognition.

* Turn off the Express Modem. Apple's Express Modem software also makes heavy use of the DSP. Use the Express Modem control panel to turn off the Express Modem before using digital audio software.

* "Run Lean". Disable any unnecessary Extensions and Control Panels in the System Folder. Many Extensions and Control Panels use up some of the processing power of your Macintosh. To get the best performance from digital audio software, disable any unnecessary Extensions and Control Panels.

* Use High Speed Hard Disks. High Speed internal or external hard disks with SCSI-2 interfaces will work best for recording digital audio. You should also look for disks that don't use thermal recalibration or do it in the background when you are not recording audio.

* Optimize Your Hard Disk. Recording digital audio places a large burden on your hard disk. For best results use a hard disk optimizing program such as Speed Disk which is included in the Norton Utilities or the FWB Toolkit from FWB Software.

Article Change History:
23 March 1994 - Added specific tips on getting the most from the AV.

Support Information Services
Published Date: Feb 19, 2012

Power Macintosh: SNA■ps Is Compatible (5/94)

The following compatibility information was provided by Wall Data, Inc. and describes compatibility of the SNA*ps product line with Power Macintosh.

This article has been archived and is no longer updated by Apple.
The SNA*ps product line is compatible with Power Macintosh computers running in emulation mode.

Details of SNA*ps Compatibility

The entire SNA*ps product line was tested with prototypes of the Power Macintosh. SNA*ps 3270 Gateway Client (GC) (v1.1.3), SNA*ps 5250 GC (v1.2) and SNA*ps Print (v1.2) were all found to be compatible running in the emulation mode. The SNA*ps Gateway (v2.0.1) configuration and administration applications were also compatible. The SNA*ps Gateway code extension loaded correctly and did get downloaded to the various NuBus cards (4/16 Token Ring, Serial NB, and Coax). Be sure to use A/ROSE 1.2.1 with Macintosh Coprocessor Platform (MCP) NuBus cards (4/16 Token Ring and Serial NB) in Power Macintosh computers; it is expected that all gateways will operate in a stable fashion on released Power Macintosh hardware and system software. Below is a list of SNA*ps software versions which are compatible with Power Macintosh, however be sure that the Power Macintosh Modern Memory Manager is ON before attempting to launch any SNA*ps software:

SNA*ps 3270 V 1.1.2 or later
SNA*ps 3270 GC V 1.1.2 or later
SNA*ps 5250 V 1.0 or later
SNA*ps 5250 GC V 1.0 or later
SNA*ps Print V 1.0 or later
SNA*ps Gateway/10 V 2.0 or later
SNA*ps Gateway/35 V 2.0 or later
SNA*ps Gateway/70 V 2.0 or later

Also, there seem to be some system extension and Control Panel device conflicts between SNA*ps and other third-party software running in emulation mode on a Power Macintosh. The known incompatible software with SNA*ps is NOW Up-to-Date and Norton Utilities Disk Light, and there may be others. If problems are encountered while attempting to boot a Power Macintosh or launch SNA*ps software, it is recommend the user remove all other third-party system extensions and Control Panel devices from the System Folder. The Power Macintosh should boot and SNA*ps should then run OK. Then go through a process of elimination to determine which third-party system extension or Control Panel device is conflicting with SNA*ps.

Native Power Macintosh Version

As of March 1994, there is no delivery date for native versions of the SNA*ps product line.

Upgrade Distribution

The Wall Data upgrade program for SNA*ps is expected to start June 13, 1994. Wall Data will manage upgrades through a FAX program using a Wall Data SNA*ps Registration form. The customer must complete the form, and FAX it to Wall Data at the California FAX number to get the upgrade. All upgrades are priced but most are offered at 100% discount until August 31, 1994. There will always be a charge for SNA*ps 5250 upgrades. The Registration form calls for details about proof of purchase and how to pay for any upgrades. To get an Registration form FAXed to you, call Wall Data's Inside Sales group or the regular 408 area code number. Customers can also mail forms to Wall Data's California address.

To locate a vendor's address and phone number, use the vendor name as a search string.

The versions of SNA*ps software offered by Wall Data is NOT native Power Macintosh software, and you may experience the same problems with Modern Memory Manager and/or third-party extension conflicts. Available from Wall Data are the following versions of SNA*ps:

SNA*ps 3270 V 1.1.3
SNA*ps 3270 GC V 1.1.3
SNA*ps 5250 V 1.2
SNA*ps 5250 GC V 1.2
SNA*ps Print V 1.2
SNA*ps Gateway/10 V 2.0.1
SNA*ps Gateway/35 V 2.0.1
SNA*ps Gateway/70 V 2.0.1

Article Change History:
26 May 1994 - Updated information from Wall Data, Inc.

TA31351_Power_Macintosh_SNAps_Is_Compatible__(TIL14882).pdf

Support Information Services

Published Date: Feb 19, 2012

Power Macintosh: Both Serial Ports Support GeoPort (3/94)

Does it matter if I use the printer serial port, or modem serial port on a Power Macintosh when making a GeoPort connection?

This article has been archived and is no longer updated by Apple.
No. Both serial ports support the GeoPort protocols, and they utilize a 9-pin mini-DIN connector.

Support Information Services

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Apple, DayStar PowerPC Upgrade Cards Compared (3/94)

This article compares the Apple PowerPC Upgrade Card with the DayStar PowerPro 601 PowerPC Upgrade Cards

This article has been archived and is no longer updated by Apple.

Feature:	Apple PowerPC Upgrade Card	DayStar PowerPro 601
RISC processor	PowerPC 601	PowerPC 601
Processor Speed(s)	66 MHz	66 MHz, 80 MHz*
Restart with 68040	No	Yes
Maximum Operating Speed:		
- Centris 650	50 MHz	80 MHz
- Quadra 700, 900	50 MHz	80 MHz
- Quadra 650, 800, 950	50 MHz	80 MHz
Memory Expansion (on the card)	0 MB	128 MB
Maximum System Memory		
- Quadra 700	68 MB	196 MB
- Centris 650	136 MB	264 MB
- Quadra 650, 800	136 MB	264 MB
- Quadra 900, 950	256 MB	384 MB
Cache size available	1 MB	1 MB
Direct access to 64-bit memory	No	Yes

* The DayStar PowerPro 601 comes in two versions: one with a 601 chip running at 66 MHz and the second with a 601 chip running at 80 MHz.

To locate a vendor's address and phone numbers, use the vendor name as a search string.

Support Information Services

Published Date: Feb 19, 2012

Calculator: Divide by 0 gives Infinity (3/94)

When I divide the number 1 by the number 0, using the Calculator DA, I get the answer 'infinity.' Why does the calculator give me this answer?

This article has been archived and is no longer updated by Apple.
Any number divided by "nothing," or "zero" is undefined.

You can take the limit of 1/n as n->0 and you'll see that as "n" is in the whole number domain and decreases from +∞ toward 1, and that the result approaches "1." As "n" decreases from 1 toward 0 (.9,.8,.7,...,.0000003, ...,.00000000002, etc.) the result gets larger (for example: 1/.2 = 5, 1/.02 = 50, 1/.002 = 500, etc.). As the "n" gets smaller, the result gets larger. As "n" approaches 0, the result approaches +∞.

In Calculus, lim (1/n) as n->0 => +∞ which is undefined, so either "infinity" (∞) or "undefined" is the correct answer.

Support Information Services

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Apple Multiple Scan 20 Display: Macintosh Video Support

This article gives the video modes supported on each Macintosh computer with the Apple Multiple Scan 20 Display, and which computers require display adapters.

This article has been archived and is no longer updated by Apple.

(1) - 640x480 - 14-in Display
(2) - 832x624 - 16-in Display
(3) - 1024x768 - 19-in Display
(4) - 1152x870 - 21-in Display

Macintosh	Video Available				Display Manager
	(1)	(2)	(3)	(4)	Mode Switching?
Power Macintosh - 45 Pin conn	Y	Y	N	N	Y
Power Macintosh - AV card	Y	Y	Y	Y	Y
Power Macintosh - 2 MB VRAM*	Y	Y	Y	Y	Y
Power Macintosh - 4 MB VRAM*	Y	Y	Y	Y	Y

Notes:
* - Additional RAM goes into the VRAM expansion card

Quadra 700	Y	Y	N	Y	Y
Quadra 900	Y	Y	N	Y	Y
Quadra 800	Y	Y	Y	Y	Y
Quadra 950	Y	Y	Y	Y	Y
Quadra 660AV	Y	Y	Y	Y	Y
Quadra 840AV	Y	Y	Y	Y	Y
Quadra 610	Y	Y	Y	Y	Y
Quadra 650	Y	Y	Y	Y	Y
Quadra 605	Y	Y	Y	Y	Y
Centris 610	Y	Y	Y	Y	Y
Centris 650	Y	Y	Y	Y	Y
Macintosh IIci	Y	N	N	N	N
Macintosh IIsi	Y	N	N	N	N
Macintosh IIvx	Y	N	N	N	N
Macintosh 630 family	Y	N	N	N	Y (6)
Display Card 24AC	Y	Y	Y	Y	Y
8*24	Y	Y	N	Y	N
8*24 GC	Y	Y	N	Y	N
4*8	Y	Y	N	Y	N
Mac II cx	N	N	N	N	N/A
Mac II	N	N	N	N	N/A
Mac IIx	N	N	N	N	N/A
Mac IIfx	N	N	N	N	N/A
Performa 400	Y	N	N	N	N
Performa 410	Y	N	N	N	N
Performa 430	Y	N	N	N	N
Performa 405	Y	N	N	N	N
Performa 450	Y	Y	N	N	N
Performa 460	Y	Y	N	N	N
Performa 466	Y	Y	N	N	N
Performa 467	Y	Y	N	N	N
Performa 475	Y	Y	Y	Y	Y
Performa 476	Y	Y	Y	Y	N
Performa 550	Y	Y	N	N	N
Performa 600	Y	N	N	N	N
Performa 600CD	Y	N	N	N	N
PowerBook 180	Y	Y	N	N	N

PowerBook 180c	Y	Y	N	N	N
PowerBook 165	Y	Y	N	N	N
PowerBook 165c	Y	Y	N	N	N
PowerBook 160	Y	Y	N	N	N
PowerBook 100	N	N	N	N	N/A
PowerBook 140	N	N	N	N	N/A
PowerBook 145	N	N	N	N	N/A
PowerBook 170	N	N	N	N	N/A
PowerBook Duo 210	N	N	N	N	N/A
PowerBook Duo 230	N	N	N	N	N/A
PowerBook Duo 250	N	N	N	N	N/A
PowerBook Duo 270C	N	N	N	N	N/A
PowerBook 500 Series	Y	Y	N	N	Y
MiniDock	Y	Y	N	N	N
DUO DOCK	Y	Y	N	N	N (5)
DUO DOCK II	Y	Y	Y	Y	Y
Mac LC 475	Y	Y	Y	Y	Y
Mac LC III	Y	Y	N	N	N
Mac LC	Y	N	N	N	N
Mac LC II	Y	N	N	N	N

Notes:
(1) - 640 x 480 - 14-in Display
(2) - 832 x 624 - 16-in Display
(3) - 1024 x 768 - 19-in Display
(4) - 1152 x 870 - 21-in Display
(5) - The Duo Dock supports mode switching when System 7.5 is installed.
(6) - The Macintosh 630 family only supports a Macintosh resolution of 640x480. However, other VGA and SuperVGA resolutions are available.

Computers and Video Cards Not Requiring Video Adapters

Power Macintosh family
Macintosh Centris family
Macintosh Quadra family
Macintosh LC 475
Macintosh Performa 475 and 476
Macintosh Display Card 24AC
Duo Dock II
Macintosh 630 family

These units use the Apple Multiple Scan software to change resolutions.

Computers and Video Cards Requiring Video Adapters

Macintosh II Family
PowerBook computers
PowerBook Duo and MiniDock
PowerBook Duo and Duo Dock#
Macintosh Performa Computers (except 475 and 476)
Macintosh LC, LC II, LC III
Video Cards - 4*8, 8*24, 8*24GC

- The Duo Dock does not require a video adapter to change resolutions when System 7.5 is installed.

Maximum Resolutions With Video Adapters
==========

Computer	832x624	1152x870	Notes
Macintosh II	No	No	1
Macintosh IIx	No	No	1
Macintosh IIfx	No	No	1
Macintosh IIcx	No	No	1
Macintosh IIci	No	No	2
Macintosh IIsi	No	No	2
Macintosh IIvx	No	No	2
Macintosh LC	No	No	2
Macintosh LC II	No	No	2
Macintosh LC III	Yes	No	3
Performa 400	No	No	2
Performa 405	No	No	2
Performa 410	No	No	2
Performa 430	No	No	2
Performa 450	Yes	No	3
Performa 460	Yes	No	3
Performa 466	Yes	No	3
Performa 467	Yes	No	3
Performa 600	No	No	2
PowerBook 160	Yes	No	3
PowerBook 165	Yes	No	3
PowerBook 165C	Yes	No	3
PowerBook 180	Yes	No	3
PowerBook 185C	Yes	No	3
Duo and MiniDock	Yes	No	3
Duo and Duo Dock	Yes	No	3,4
4*8, 8*24, 8*24GC	Yes	Yes	

Notes:
1) No built-in video. Video is limited only by the video card used.
2) Limited to a resolution of 640x480 with built-in video.
3) Limited to a resolution of 832x624.
4) The Duo Dock does not require a video adapter to change resolutions when System 7.5 is installed.

Display Adapters
The Apple Multiple Scan 20 Display has several resolutions. Macintosh computers designed before the introduction of Apple Multiple Scan 20 Display will only recognize the display as a 14-in color display without an adapter. The adapters, available through Apple Resellers and third party companies, contain a sense code that tells the Macintosh that the display is fixed frequency 16-in. or 21-in. display. Without the adapter, the display will be fixed at a 640x480 resolution.

Display adapters are available from several third-pary companies such as Enhanced Cable Technology, Griffin Technology, and MacAdapt.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.

The following computers are in the Macintosh 630 family: Performa 630, Performa 635, Performa 636, Performa 637, Performa 638, LC 630, and Quadra 630.
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Apple Personal Diagnostics: Working in the Background

This article discusses what effect putting Apple Personal Diagnostics in the background has.
This article has been archived and is no longer updated by Apple.
Some applications (including disk protection/security utilities) can be preset to launch automatically. When APD is moved to the background, either by you or by an application that has launched automatically, any Diagnostic Test or Benchmark Check that was running at the time of the move will be stopped.
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Apple Personal Diagnostics: Emergency Disk Fulfillment

The emergency disks that come with Apple Personal Diagnostics v 1.0 (APD) do not cover my Macintosh, what do I use?
This article has been archived and is no longer updated by Apple.
If you use APD Version 1.0 on one of the system configurations listed below, you may encounter a situation that requires an emergency disk not included in the APD package. You may search for and download the latest version of APD from the Apple Software Updates web site at **http://www.apple.com/swupdates**.

System Configurations Affected

The emergency disk called "APD Emergency Disk 3 - Miscellaneous Macintoshes" supports these systems:

- Macintosh Quadra 610, 650, 660AV, 800, 840AV

- Centris 610, 650, 660AV

- Macintosh TV

- Apple Workgroup Server 60, 80

The emergency disk called "APD Emergency Disk 4 - 800K Drives Only" supports any Macintosh CPU that does NOT have a 1.44 MB floppy drive.

Version 1.1 of Apple Personal Diagnostics comes with emergency disks that cover all Macintosh models except the Workgroup Server 9150.

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Lisa and Macintosh XL: Restoring Corrupted Parameter Memory

This article has been archived and is no longer updated by Apple.
In the Lisa 2, Lisa 2/5, and Macintosh XL (Lisa 2/10), parameter memory settings are stored in two locations:

parameter RAM on the I/O board, and
the hard disk used for system boot.

In all Lisas and Macintosh XLs, parameter memory in the RAM is held by standby power as long as the machine is plugged in. Only the Lisa 2s and 2/5s have batteries to maintain parameter memory when the unit is unplugged.

The state of parameter memory at any one time depends on which of the following five configurations is true:

1. Configuration:

Neither the system disk nor the RAM has valid settings, such as when the system comes out of the box.

State of Parameter Memory:

The parameter memory will be set when the software is loaded.

2. Configuration:

The RAM does not have valid settings but the disk has, such as after the system is unplugged.

State of Parameter Memory:

The settings on the disk will be copied to RAM during startup.

3. Configuration:

RAM has valid settings but the disk does not, such as when loading software from an old system to a new disk.

State of Parameter Memory:

The settings in RAM will be copied to disk during startup.

4. Configuration:

RAM and the disk have dissimilar valid settings.

State of Parameter Memory:

The settings in RAM overwrite the settings saved on disk.

5. Configuration:

RAM and the disk have identical valid settings.

State of Parameter Memory:

Nothing happens to parameter memory during startup.

Understanding these five possible configurations will help you track down certain problems that may occur with Preferences. For example,

if you make the mistake of installing the unofficial Revision C of MacWorks (configuration 1), Preferences somehow gets corrupted in RAM. Under configurations 2 and 3, this corrupted information is copied to the disk. When another disk is started up (configuration 4), the corrupted RAM information is copied onto this disk as well. As a result, there may be no uncorrupted copy of Preferences on any of your disks by the time you notice the problem.

Workaround 1:

1. Unplug the system with the corrupted RAM.

2. Start up MacWorks XL Revision D.

Parameter settings will be copied from MacWorks XL Revision D to RAM, as in Configuration 2 above.

Workaround 2:

1. Unplug the system with the corrupted RAM.

On a Lisa 2 or 2/5:

a. Leave the system unplugged overnight, or
b. Take the I/O board out of the system, turn the battery switch to off, and leave the system for several hours.

2. Find a Profile with a working Lisa OS (Office System or Workshop).

3. Install a 2-port parallel card in one of the expansion slots.

4. Plug the system back in and start up from the Profile.

5. Select Preferences and make the appropriate changes.

6. Turn the system off.

7. Without unplugging the system (VERY IMPORTANT - just disconnect the Profile from the parallel card), start up the system from the disk with the copy of the corrupted RAM. This copies the parameter memory from RAM onto the disk, restoring the disk copy of RAM.

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Apple Personal Diagnostics: Low Memory Alerts

This article deals with the issue of low memory and Apple Personal Diagnostics.
This article has been archived and is no longer updated by Apple.
Apple Personal Diagnostics returns a low-memory alert when the APD application does not have enough memory to run or is running low on memory. For example, if you've created a report that requires more memory than is currently available. To allocate more memory to the APD application, you can do one or more of the following:

If you are using System 7, or System 6 with MultiFinder:

* Quit other applications that may be running at the same time as APD

* If you have sufficient RAM installed in your system, quit the APD application, open the Apple Personal Diagnostics Get Info box and increase the "preferred" application memory size to 1500K. (The application memory size is initially set to 1200K.)

* Close any open report.

* Reduce the size of any installed RAM disk and the system RAM cache.

If you are using System 6 with Finder rather than MultiFinder:
* Close any open report.
* Reduce the size of any installed RAM disk and the system Disk cache.
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Apple Personal Diagnostics and Video Mirroring

Apple Personal Diagnostics has known incompatibilities with video mirroring.
This article has been archived and is no longer updated by Apple.
If you sometimes use the video mirroring option, we strongly recommend that you make sure video mirroring is turned off before running APD.
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Chinese Language Kit: Description

This article describes the features of the Chinese Language Kit, and gives the technical specifications.
This article has been archived and is no longer updated by Apple.

Solutions

- Create documents and presentations in both Chinese and English, or Chinese and other languages supported by your system.
- Produce promotional materials, foreign-language textbooks, bilingual educational materials, and more.
- Insert Chinese text into letters, presentations, spreadsheets, and other documents.
- Boost language learning by using interactive practice drills and other learning tools.

Ease of Use

- Fast, simple installation.
- Enables you to easily create, edit, and print Chinese.
- Comes with an input guide which includes instructions in Chinese and English.

Compatibility

- Runs applications that have been localized, including WordPerfect or Nisus, or localized applications such as ClarisWorks Chinese, and TurboWriter.
- Recommended for all QuickDraw printers; also works with Postscript-compatible printers.

Flexibility

- Comes with TrueType fonts: LiSung for traditional and Song for simplified.
- Provides four additional fonts on the compact disk.
- Allows you to use simplified Chinese characters, traditional characters, or both.
- Provides a choice of input methods: Pinyin, Zhuyin, Cangjie, and others.

The Apple Chinese Language Kit contains everything you need to easily add Chinese text in your letters, presentations and reports.

Whether you're a desktop publisher or business professional, you can use the Language Kit to develop Chinese-language materials such as brochures, posters, business cards, presentations, and restaurant menus. Students and teachers can use it to run interactive Chinese-language programs and produce compelling term papers in Chinese. Although the Chinese Language Kit does not translate text, it does let you easily input, edit, and print in Chinese.

The Chinese Language Kit works as an extension to System 7.1 (or higher) and allows you to run Chinese applications. Because the Language Kit uses the operating system you already have, there's no need to store an additional system on your hard disk. The Chinese Language Kit also contains simplified and traditional characters, as well as a wide choice of input methods.

Many major software programs have a version that has been localized for use in Chinese-speaking countries. All you need to run them is the Chinese Language Kit and System 7.1 (or higher). You can even use non-localized programs, such as Nisus 3.4, that take advantage of WorldScript. WorldScript, introduced with System 7.1, simplifies the way in which a single operating system can support multiple languages.

The Chinese Language Kit comes with several TrueType fonts, which produce high-quality output from any Macintosh-compatible printer. Documentation is provided in both Chinese and English, making the Language Kit easy to use, whether you're a native speaker or just learning Chinese.

Technical Specifications
You can use the Chinese Language Kit with a variety of Chinese-localized and non-localized applications. They include:

Chinese-localized applications
Canvas 3.5 Chinese, from Deneba
ClarisWorks 1.0 Chinese (Simplified) from Claris
ClarisWorks 1.0 Chinese (Traditional) from Claris
FileMaker Pro 1.0 Chinese (Traditional) from Claris

Imprint 1.35 Chinese, from Ivy Systems
Lotus 1-2-3 1.0 Chinese (Simplified) from Lotus
Lotus 1-2-3 1.0 Chinese (Traditional) from Lotus
NewsMaker Chinese, from Compose
Nisus 3.50 Chinese (Simplified) from Nisus
Nisus 3.50 Chinese (Traditional) from Nisus
PageMaker 3.0 Chinese (Simplified) from Aldus
PageMaker 3.5 Chinese (Traditional) from Aldus
TurboWriter 2.0.5 Chinese (Traditional) from Transpac
WordPerfect 2.2 Chinese (Simplified) from WordPerfect

Non-localized programs
AllPage 1.82, from MicroMacro
AllScript 1.81, from MicroMacro
FreeHand 3.1 Asian, from Aldus
Imprint 3.5, from Ivy Systems
In Control 2.0, from Attain
Nisus 3.482, from Nisus
Persuasion 2.1 Asian, from Aldus
Sindex 2.0, from WinSoft
StatView 4.01, from Abacus Concepts
WinFile 1.7, from WinSoft
WinText 2.7.1, from WinSoft
WinView 1.7, from WinSoft
WordPerfect 2.1.4, from WordPerfect

Note: Apple has tested only a limited number of applications; these lists aren't intended to be comprehensive. Many non-localized applications that don't employ WorldScript software technology may provide limited functionality and allow input of Chinese characters.

The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.

Supported Fonts
The Chinese Language Kit contains several fonts, some automatically installed and some manually installed.

These CD-ROM based fonts are automatically installed with Traditional Chinese:

- Taipei (Bitmap font)
- Apple LiSung Light (TrueType font)

These CD-ROM based fonts are automatically installed with Simplified Chinese:

- Beijing (Bitmap font)
- Song (TrueType font)

These CD-ROM based fonts can be manually installed by putting them in your Fonts folder (found inside your System Folder):

- Apple LiGothic Medium (TrueType font for Traditional Chinese)
- Fang Song (TrueType font for Simplified Chinese)
- Hei (TrueType font for Simplified Chinese)
- (TrueType font for Simplified Chinese)

Printers supported
Recommended: QuickDraw printers, including the Apple StyleWriter line, the Apple Personal LaserWriter, and the ImageWriter line. PostScript-compatible printers, including Personal LaserWriter NTR printers and other LaserWriter printers. (Although PostScript printers can produce Chinese, performance may vary.)

System requirements

- Apple Macintosh computer with at least 4 MB of RAM (5 MB recommended for multiple applications)
- Hard disk with at least 10 MB of space available (17 MB for both Simplified and Traditional Characters)
- Apple SuperDrive floppy disk drive
- Apple Macintosh System 7.1 or later (Updater required for System 7.5)
- An application that is Chinese-localized or that uses WorldScript software technology
- CD-ROM drive to use additional Chinese fonts

Kit Components
The Chinese Language Kit includes:

- Chinese Language Kit on thirteen 1.4 MB floppy disks
- WorldScript II system extension
- Chinese Language Kit Installation and User's Guide
- Macintosh Chinese Input Method Guide (simplified)
- Macintosh Chinese Input Method Guide (traditional)
- CD-ROM with additional fonts

Ordering Information

In the USA, order number M2368LL/A
Outside the USA, order number M2368Z/A
Published Date: Feb 19, 2012

Newton Connection Kit: Syncing After PowerBook Sleeps

When using the Newton Connection Kit and a PowerBook through AppleTalk, I have to reboot the Newton Connection for Macintosh to synchronize the units again after the PowerBook goes into the sleep mode. Why?
This article has been archived and is no longer updated by Apple.
This is the expected behavior if any PowerBook is set up to "synchronize automatically" using AppleTalk. The Newton Connection for Macintosh does not know to revive the AppleTalk connection.

What happens is comparable to a file server connection between a PowerBook and an AppleShare server when the PowerBook goes to sleep and is awakened. The AppleTalk connection between the machines is broken when the PowerBook goes to sleep. After the PowerBook wakes up, the connection is still broken unless the control panel AutoRemounter is installed and remounts the server. With the Newton Connection for Macintosh, when configured to synchronize automatically, AppleTalk is being utilized to broadcast the PowerBook's name continuously on the network. When the PowerBook goes to sleep, the broadcasting stops because AppleTalk is shut down. When the computer is awakened, the Newton Connection application does not resume the broadcasting because it is unaware that AppleTalk has started up again.

Workarounds
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*Go to preferences, deselect "synchronize automatically", click OK, go to preferences again, and select "synchronize automatically." This causes the software to check for AppleTalk again and start up broadcasting.

* Quit the Macintosh Connection Kit and restart. This causes the software to check AppleTalk and start broadcasting.

* Do not use "synchronize automatically". Then AppleTalk broadcasting only happens when the synchronize button on the Macintosh Connection Kit is activated. Only activate the synchronization when the PowerBook is awake.
Published Date: Feb 19, 2012

AddMotion: No Missing Disks in Apple Bundle (3/94)

AddMotion from Motion Works is bundled with HyperCard 2.2 from Apple. Due to a change, cusomters may report that they are missing a disk mentioned in the AddMotion manual.

This article has been archived and is no longer updated by Apple.

Customers are not missing any disks. There is a change mentioned in the manual, but many customers are overlooking the change. Included in the AddMotion manual is a "Changes to Installation Procedure" sheet that clearly notes that "There is no longer a Media Sampler Disk" and "There is no longer a Principles of Animation Disk".

All customers who call inquiring about these disks should be informed of these changes, and reminded to call Motion Works USA, not Motion Works Canada for tech support. The Motion Works USA phone number is printed on a sticker applied to the front of the manual.

Support Information Services

Published Date: Feb 19, 2012

StyleWriter: How to Print a Test Page (3/94)

How do I print a test page on a Stylewriter?

This article has been archived and is no longer updated by Apple.
To print a test page, hold down the form feed and power buttons at the same time, then release both at the same time.

Support Information Services
Published Date: Feb 19, 2012

Apple Displays: No Shielding Suggestions For Interference (3/94)

A customer has multiple Apple monitors that shake and jiggle. None of the VGA monitors connected to MS-DOS computers exhibit this behavior. The company is located next to some older electrical lines and believes these to be the source of the problem. Are there any suggestions for shielding the monitors that will prevent the interference?

This article has been archived and is no longer updated by Apple.
There is good chance that the problem could very well be related to arcing electrical lines. The reason the problem does not affect the VGA monitors is because they operate at a refresh rate of 60 Hz. The 60 Hz noise occurs at the exact time intervals that these displays are in refresh and therefore does not interfere with the screen display. When higher refresh rates are used, as in the case of Macintosh Displays, 60 Hz noise can adversely affect the display.

There are two things to try. First, turn off all the fluorescent lights in the office. If that cures the problem, you most likely have an arcing fluorescent lamp operating near the monitors. Replacement of the defective lamps or ballast should cure the problem. Also, try turning the monitor on its axis to see if that helps. There are no practical shielding solutions for a problem of this type.

Support Information Services
Published Date: Feb 19, 2012

AppleDesign Powered Speakers: AM Stations Amplified

My AppleDesign Powered Speakers (M4475LL/B) are picking up AM radio signals. What can I do to prevent this?
This article has been archived and is no longer updated by Apple.
This problem is very common, and does not reflect on the design of the speakers. The audio/video industry has been plagued with complaints of this nature for years. The problem is the speaker wires act as an AM antenna. The AM signal is picked up by the wires, and sent to the amplifier to be amplified along with the intended signal. If the pre-amp stage has a noise gate, like the inputs on the Apple Powered Speakers, the amplitude of the AM signal is usually not high enough to pass the gate, and it is not amplified.

The only thing that can be done to alleviate this problem is to purchase some higher quality shielded cables. Two possible sources are TASCAM and Monster Cable.

Again, this is not a design flaw in the speakers. Apple is responsible for designing equipment that adheres to Federal Communications Commission (FCC) regulations, and have done so with the AppleDesign Powered Speakers.

Another option is to log the interference complaint with the FCC. The FCC is the governing body for Radio Frequency (RF) emissions in the United States.
Published Date: Feb 19, 2012

QuickTime 1.6.1: Read Me

This article contains the QuickTime Read Me file.
This article has been archived and is no longer updated by Apple.
The QuickTime 1.6.1 software consists of

- the QuickTime system software extension
- a new version of the Macintosh Scrapbook
- a Scrapbook file with a sample movie

The QuickTime system software extension adds capabilities that let your application programs integrate graphics, sound, video, and animation into documents. By providing a standard way for all Macintosh programs to control these multimedia elements, QuickTime makes them easier to use.

In the new Scrapbook, you can cut, copy, paste, and play QuickTime movies. Larger images will also shrink to fit so that you can see the entire image in the Scrapbook window. This Scrapbook is otherwise identical to the standard Macintosh Scrapbook.

If you obtained QuickTime by purchasing it separately, by ordering it over the phone, or by downloading it from an electronic mail system, follow the instructions below to install the QuickTime extension and the new Scrapbook.

If QuickTime was already installed on your hard disk when you bought your computer, skip ahead to the section "Installing the Scrapbook."

Installing QuickTime

To install QuickTime:

1. If you received a floppy disk labeled "QuickTime," insert it into your computer and open it. If you downloaded QuickTime electronically, make sure the QuickTime files you downloaded are visible.
2. Drag the QuickTime and Scrapbook icons from the QuickTime disk to your System Folder icon (not into the open folder).
3. Click OK in the dialog box that appears.
4. Restart your Macintosh.

Installing the Scrapbook

Before you install the new Scrapbook file:

Installing the new Scrapbook File in your System Folder will delete your current Scrapbook File. If you have stored any items in your current Scrapbook that you want to keep, drag the Scrapbook File from your System Folder to any other folder. This prevents the file from being deleted when you install the new Scrapbook File. (To open the old Scrapbook File in the future, you'll need to move the new one out of your System Folder and move the old one back in.)

To install the new Scrapbook File:

1. Find the folder called Replacement Scrapbook File. (If QuickTime was already installed on your computer, this folder is on your computer's hard disk. If you obtained QuickTime separately, this folder is on the QuickTime disk.)
2. Drag the contents of the Replacement Scrapbook File folder to your System Folder icon.
3. If you haven't moved your old Scrapbook File out of the System Folder, a message asks you whether you want to replace it. Click OK to replace your old Scrapbook File.

To use the new Scrapbook File:

1. Choose Scrapbook from the Apple menu.
2. When a picture appears in the Scrapbook window, use the buttons in the movie control bar, to play the movie.

You can use standard Cut, Copy, and Paste commands to copy movies to and from the Scrapbook. To copy a movie from the Scrapbook to a document, you need to use a program that supports QuickTime movies. If the program doesn't support movies, only a single PICT image is pasted into the document (the first frame of the movie segment in the Scrapbook).

New Features of QuickTime 1.6.1

Smaller Size
The QuickTime 1.6.1 system extension takes up only about 20K of memory when it is not in use.

Converting Audio Tracks to Movies
You can convert tracks from audio compact discs into movies and add the sound to your own movies. To convert an audio track, you must be using a program that can play QuickTime movies, and you must have an AppleCD 300 or 300i CD-ROM drive connected to your Macintosh. Follow these steps:

1. Insert an audio CD into your computer's CD-ROM drive.

2. In the program you are using, choose Open from the File menu.

3. Click Desktop, then double-click Audio CD.

4. Click the name of the audio track you want to convert to a movie.

5. Click Convert.

6. Type a name for the new movie, and choose a place to save it. To choose additional settings or to trim the length of the movie, click Options.

7. When you are ready to convert the movie, click Save.
The audio track is saved as a QuickTime movie. You can now copy and paste sound from it into other movies.

Macintosh Easy Open Support
QuickTime 1.6.1 supports the Macintosh Easy Open system extension. You can use this extension to translate sound and image files from a variety of formats into QuickTime formats--just by double-clicking them.

ColorSync Support
QuickTime 1.6.1 supports ColorSync. You can use the ColorSync control panel to obtain accurate color in your compressed still-image files, for all the devices connected to your Macintosh.

Improved Grayscale
QuickTime 1.6.1 now supports 4-bit grayscale dithering, providing a wider range of shades of gray.

Smoother Text
You can now have smoother-looking (anti-aliased) text in the text track of movies.

Cinepak Compression-Decompression Software
The Apple Compact Video compression-decompression software is now called Cinepak. The features and functionality of the software have not changed.

Using the QuickTime Extension

You do not interact directly with the QuickTime extension. It works behind the scenes as part of your system software, providing new features to the application programs that support QuickTime. The specific features of QuickTime that you use and how they are presented depend on the programs you use.

To Learn Even More

The best way to get started with QuickTime is to purchase the QuickTime Starter Kit from Apple Computer. This kit contains four programs with which you can play and edit QuickTime movies, convert existing files to movies, record video or audio movies (with digitizing hardware), and compress still photos. The kit also includes a CD-ROM disc filled with examples of QuickTime video, animation, and photos, and a catalog of products that work with QuickTime.

The QuickTime Starter Kit is available from your local hardware or software dealer.
Published Date: Feb 19, 2012

QuickTime 1.6.2: Read Me

This article contains the QuickTime 1.6.2 Read Me file.
This article has been archived and is no longer updated by Apple.
The QuickTime 1.6.2 software consists of

- the QuickTime system software extension
- a new version of the Macintosh Scrapbook
- a Scrapbook file with a sample movie

The QuickTime system software extension adds capabilities that let your application programs integrate graphics, sound, video, and animation into documents. By providing a standard way for all Macintosh programs to control these multimedia elements, QuickTime makes them easier to use.

In the new Scrapbook, you can cut, copy, paste, and play QuickTime movies. Larger images will also shrink to fit so that you can see the entire image in the Scrapbook window. This Scrapbook is otherwise identical to the standard Macintosh Scrapbook.

If you obtained QuickTime by purchasing it separately, by ordering it over the phone, or by downloading it from an electronic mail system, follow the instructions below to install the QuickTime extension and the new Scrapbook.

If QuickTime was already installed on your hard disk when you bought your computer, skip ahead to the section "Installing the Scrapbook."

Installing QuickTime

To install QuickTime:

1. If you received a floppy disk labeled "QuickTime," insert it into your computer and open it. If you downloaded QuickTime electronically, make sure the QuickTime files you downloaded are visible.
2. Drag the QuickTime and Scrapbook icons from the QuickTime disk to your System Folder icon (not into the open folder).
3. Click OK in the dialog box that appears.
4. Restart your Macintosh.

Installing the Scrapbook

Before you install the new Scrapbook file:

Installing the new Scrapbook File in your System Folder will delete your current Scrapbook File. If you have stored any items in your current Scrapbook that you want to keep, drag the Scrapbook File from your System Folder to any other folder. This prevents the file from being deleted when you install the new Scrapbook File. (To open the old Scrapbook File in the future, you'll need to move the new one out of your System Folder and move the old one back in.)

To install the new Scrapbook File:

1. Find the folder called Replacement Scrapbook File. (If QuickTime was already installed on your computer, this folder is on your computer's hard disk. If you obtained QuickTime separately, this folder is on the QuickTime disk.)
2. Drag the contents of the Replacement Scrapbook File folder to your System Folder icon.
3. If you haven't moved your old Scrapbook File out of the System Folder, a message asks you whether you want to replace it. Click OK to replace your old Scrapbook File.

To use the new Scrapbook File:

1. Choose Scrapbook from the Apple menu.
2. When a picture appears in the Scrapbook window, use the buttons in the movie control bar, to play the movie.

You can use standard Cut, Copy, and Paste commands to copy movies to and from the Scrapbook. To copy a movie from the Scrapbook to a document, you need to use a program that supports QuickTime movies. If the program doesn't support movies, only a single PICT image is pasted into the document (the first frame of the movie segment in the Scrapbook).

New Features of QuickTime 1.6.1 and 1.6.2

Smaller Size
The QuickTime 1.6.2 system extension takes up only about 20K of memory when it is not in use.

Converting Audio Tracks to Movies

You can convert tracks from audio compact discs into movies and add the sound to your own movies. To convert an audio track, you must be using a program that can play QuickTime movies, and you must have an AppleCD 300 or 300i CD-ROM drive connected to your Macintosh. Follow these steps:

1. Insert an audio CD into your computer's CD-ROM drive.

2. In the program you are using, choose Open from the File menu.

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4. Click the name of the audio track you want to convert to a movie.

5. Click Convert.

6. Type a name for the new movie, and choose a place to save it.
To choose additional settings or to trim the length of the movie, click Options.

7. When you are ready to convert the movie, click Save.
The audio track is saved as a QuickTime movie. You can now copy and paste sound from it into other movies.

Macintosh Easy Open Support
QuickTime 1.6.2 supports the Macintosh Easy Open system extension. You can use this extension to translate sound and image files from a variety of formats into QuickTime formats--just by double-clicking them.

ColorSync Support
QuickTime 1.6.2 supports ColorSync. You can use the ColorSync control panel to obtain accurate color in your compressed still-image files, for all the devices connected to your Macintosh.

Improved Grayscale
QuickTime 1.6.2 now supports 4-bit grayscale dithering, providing a wider range of shades of gray.

Smoother Text
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To Learn Even More

The best way to get started with QuickTime is to purchase the QuickTime Starter Kit from Apple Computer. This kit contains four programs with which you can play and edit QuickTime movies, convert existing files to movies, record video or audio movies (with digitizing hardware), and compress still photos. The kit also includes a CD-ROM disc filled with examples of QuickTime video, animation, and photos, and a catalog of products that work with QuickTime.

The QuickTime Starter Kit is available from your local hardware or software dealer.
Published Date: Feb 19, 2012

Language Kits: Changing File Names & Renaming Folders

I have the Japanese Language Kit installed, and am trying to rename a folder in the Finder. The keyboard menu changes from U.S. System 7 (a blue diamond) to Kotoeri (a red sun with an apple) automatically. If I select U.S. System 7 in the keyboard menu, I can enter the name in English. Why does the keyboard layout switch occur?
This article has been archived and is no longer updated by Apple.
Apple Language Kits provide Finder support for English in addition to the other language each installs. When you modify a file or folder name, the language kit defaults to its primary keyboard layout: Japanese to Kotoeri; Traditional Chinese to Pin yin; Simplified Chinese to Shuru Fangfa.

The Japanese Language Kit displays keyboard layouts based on the 'Font for views' selected in the Views control panel. When 'Osaka' is selected, the keyboard menu will offer U.S. System 7 and Kotoeri because Osaka supports both character sets. Selecting a Roman-only font like Palatino or Helvetica displays U.S. System 7 in the keyboard menu.

The Chinese Language Kit behaves the same way. Selecting 'Beijing' as the 'Font for views' will display 'Shuru Fangfa' and U.S. System 7 layouts in the keyboard menu because 'Beijing' supports both Simplified Chinese and Roman character sets.

Similarly, selecting 'Taipei' displays Traditional Chinese and U.S. System 7 layouts in the keyboard menu because 'Taipei' supports both Traditional Chinese and Roman character sets.
Published Date: Feb 19, 2012

LaserWriter Select 300: Word 4.0 Incompatible (3/94)

There is an incompatibility between the LaserWriter select 300 and Word version 4.0.

This article has been archived and is no longer updated by Apple.
The word wrap is incorrect when using Word 4.0 and printing to a LaserWriter Select 300. Words are printed in the margins, or are printed on top of one another.

Version 4.0d is needed for compatibility. Contact Microsoft Corporation for an upgrade to Word 4.0.

Support Information Services

Published Date: Feb 19, 2012

Peter‘s Adventures CDs: System Freeze (3/94)

This article describes a problem with Peter's Adventures CDs with Virtual Memory (VM) running on a LC II. The system freezes.

This article has been archived and is no longer updated by Apple.
On an LCII with 4 MB RAM running System 7.0, with Virtual Memory is active
(4 MB real memory and VM set to 8 MB). When Peter's Alphabet Adventure is launched, the system locks or freezes when the first QuickTime element is played (at the first musical note).

This does not occur on the same Mac LCII running with VM turned off.

This occurs for Peter's Alphabet, Peter's Magic, and Peter's Number Adventures (versions that do not include the Sound Manager 3.0 fix).

There is no known workaround other than to turn VM off. In general, MultiMedia CDs should not be used in conjunction with VM since this will severely degrade the performance.

Support Information Services

Published Date: Feb 19, 2012

Rescue CD-ROM: Software Restoration Toolkit (3/94)

I've heard there's a Rescue CD-ROM called the Software Restoration Toolkit which contains net install versions of System Software, as well as bundled software for all Macintosh computers. How can I purchase a copy?

This article has been archived and is no longer updated by Apple.
The Rescue CD-ROM you refer to is called the Software Restoration Toolkit and is solely for Authorized Service Providers to restore software bundles (System Software and bundled applications) to computers that have had hard disks repaired or replaced during service. If you are an Authorized Service Provider, you can purchase one from the Apple Service order line.

Support Information Services

Published Date: Feb 19, 2012

SAM 3.5.x & Apple File Exchange: Error Type 33 (3/94)

Using SAM 3.5.x and Apple File Exchange (AFE) together on any Macintosh, can cause AFE to quit with a type 33 error.

This article has been archived and is no longer updated by Apple.
There is a known conflict between SAM 3.5.x and Apple File Exchange. If SAM is turned on, and Apple File Exchange is used with only the translator that comes with it, then Apple File Exchange will quit with a Type 33 error.

Symantec is aware of the problem, and has suggested as a workaround to install additional translators in the Apple File Exchange folder. Even just one additional translator seems to fix the problem. It will also work if there is just one translator, as long as it is not the one that came with Apple File Exchange. Symantec is sending out a "dummy" translator to customers that isn't functional, but the presence in the AFE folder solves the problem. Any other translator will also work, MacLink translators for example.

Version 3.5.9 of SAM does not fix the problem, but a future version of SAM will. There is currently no estimated release date for a version that will fix this problem. Customers can either be referred to Symantec for the workaround translator, or encouraged to use PC Exchange instead of Apple File Exchange.

Support Information Services

Published Date: Feb 19, 2012

Writing Center: Reinstall Problems (3/94)

I am trying to reinstall my Writing Center application from my Apple Early Language Connections Backup CD. When I click on Customize, I do not see it listed. Where is it?

This article has been archived and is no longer updated by Apple.
When you click on Customize on the Apple Early Language Connections Backup CD, the Writing Center is not one of the options available. If you click on Teacher's Software (either version 7.0 or 7.1), you will find the Writing Center as an option to install. So, first click on Teacher's Software for your specific System Software version, and then click install.

Support Information Services

Published Date: Feb 19, 2012

Radius Video Cards: Pointer Freezes With System 7 (6/95)

After installing System 7.x on my Macintosh computer with a Radius video card, the pointer freezes in the upper left corner of the display. What is causing this?

This article has been archived and is no longer updated by Apple.
This is caused by incompatible ROMs on the Radius Video card.

Workarounds
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*Go back to an earlier version of Apple System software (6.0.8 or earlier).

*Contact Radius to update the ROMs. If the card is under warranty, the upgrade is free. If the card is not under warranty there is a cost to upgrade the ROMs.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor, Radius, for additional information.

The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.

Article Change History:
06 Jun 1995 - Revised keyword information.

Support Information Services
Published Date: Feb 19, 2012

GeoPort: Supports 14.4 Kbps (3/94)

What is the greatest transfer rate of the GeoPort?

This article has been archived and is no longer updated by Apple.
When the manuals were written, we could only guarantee 9600 bps. However, we now support 14.4 Kbps with the GeoPorts.

Support Information Services

Published Date: Feb 19, 2012

Macintosh Quadra AV: Activating Ethernet Requires Update (3/94)

When using a Macintosh Quadra 660AV or 840AV, Ethernet cannot be turned on while Virtual Memory and Speech Recognition are active. Is there a way to turn on Ethernet?

This article has been archived and is no longer updated by Apple.
The version of the network software being used needs updating. Use Network Software Installer v1.4.2 or higher to update the software.

Support Information Services

Published Date: Feb 19, 2012

DOS Compatibility Card: Macintosh Models Supported

This article documents which computers support the DOS compatibility card.
This article has been archived and is no longer updated by Apple.
The DOS Compatibility Card (M2153LL/A) can be used with the Quadra 610 and Centris 610. It cannot be used with any other Macintosh models.

The DOS Compatibility Card for Power Macintosh (M3581LL/A) can be used with the Power Macintosh 6100/60, 6100/66, or Performa 6100 series. It cannot be used with the Power Macintosh 6100/AV series or any other Macintosh models.

Part numbers mentioned in this article are accurate as of this writing. Before ordering, verify that they are still correct as they are subject to change.
Published Date: Feb 19, 2012

Time Almanac CD: Maintenance Update Available (4/94)

When using the Time Almanac CD, the video is jerky. Sometimes gets type 1 errors or cannot play QuickTime movies. Is there a way to correct this?

This article has been archived and is no longer updated by Apple.
Compact Publishing Inc. has a maintenance update available to fix these problems. The update installs on the hard drive and should be run in place of the Time Almanac icon on the CD-ROM. Contact Compact Publishing Inc. to receive the update.

The TIME Almanac CD update is available for downloading from America Online.
Keywords: TIME ALMANAC CD PATCH UPGRADE KIT Macintosh Multimedia Forum. Use Keyword: MMM

Use the vendor's name as the search string to locate the address and phone number of the vendor.

Article Change History:
7 April 1994 - Updated to include information on where to download upgrade
from.

Support Information Services

Published Date: Feb 19, 2012

Macintosh AV Series: Common Video Playthrough Solutions (5/95)

This article discusses a few common problems on the Macintosh AV computers and using video capture or playthrough.

This article has been archived and is no longer updated by Apple.

Video Application Does Not Show A Video Window

If you launch a video application, such as VideoMonitor or FusionRecorder, and do not get a video image, there are two possible reasons:

* Your monitor is connected to a NuBus video card instead of the on-board video. To do capture or playthrough, the computer must have a monitor connected to the on-board video, even if you have a second monitor connected to a NuBus video card and are running the video application on that monitor.

* The video application may already be launched. Check the Application Menu to see if the video application is already open. If so, make the application the current window. Then for VideoMonitor, choose Open from the File menu. For FusionRecorder, choose Show Record Window from the Record menu.

Cannot Display Video While In The Current Number Of Colors

If you get the error message "The Built-In Digitizer cannot display video while in the current number of colors". Use your Monitors control panel to select Thousands or 256 colors. This is necessary because the video RAM (VRAM) must be shared between the monitor and the incoming video.

No Built-in Digitizers Are Available

If you are trying to switch the image from your Macintosh monitor to a TV monitor and you get the message "there are no built-in digitizers available", it is because your monitor is connected to a NuBus video card. You must have a monitor connected to your on-board video for this to work.

Other possible causes include the AV card being loose and not seated properly, or system software corruption. The affected component is usually the QuickTime extension. Reinstallation of the QuickTime extension would be the first troubleshooting step followed by a clean system software install.

The Image In Your Video Window Has Black Lines And Scrolls Upwards
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You need to change the video source to NTSC. In Video Monitor, go into the Monitor menu, choose Video Settings, then from the pop-up menu in the upper left, choose Source, and for Format select NTSC. In FusionRecorder, go into the Record menu, choose Video Settings, and choose Format: NTSC. In any other application, refer to the documentation or software publisher for assistance.

This article was published in the "Information Alley":
Volume II, Issue 3, Page 5

Article Change History:
31 May 1995 - Added Info Alley information; made minor updates.
15 Mar 1995 - Additional troubleshooting added to No Digitizers Available.

Support Information Services
Published Date: Feb 19, 2012

Kid Works 2: File Menu Items Grayed Out (1/95)

When running Kid Works 2 on my Macintosh I cannot select Quit from the File menu. The Preferences menu item in the Options menu is also grayed out.

This article has been archived and is no longer updated by Apple.
You have most likely turned on Child Safety Mode. This option grays out Quit in the File menu and the Preferences menu item in the Options menu. This feature also does not allow you to select another item in the Applications menu.

There are two ways to resolve this issue. You can throw away the Kid Works 2 Preferences file from the Preferences folder inside the system folder.

The other alternative is to hold down the Command and Shift keys before opening the File menu which will allow you to select Quit. You can also hold down the Command and Shift keys while opening the Options menu, select Preferences, and turn off Child Safety Mode.

Article Change History:
09 Jan 1995 - Revised entire article.

Support Information Services
Published Date: Feb 19, 2012

Hardware System Update 2.0.1: Installing on Performa (3/94)

How do I install Hardware System Update (HSU) 2.0.1, the Sound Manager Extension 3.0, and the Sound Control Panel 8.0.1 on my Performa?

This article has been archived and is no longer updated by Apple.
To install HSU 2.0.1, simply run Apple Restore from a set of System 7.1p5 backup disks.

To install the Sound Manager Extension 3.0 and the Sound Control Panel 8.0.1, run custom install from the HSU 2.0.1 update disk.

Support Information Services
Published Date: Feb 19, 2012

Power Mac 8100/80: PDS Video Card vs. Third-Party Cards (4/95)

I need the specification on the 4MB Power Macintosh Video Card for the Power Macintosh 8100. I'm interested in refresh speed and a quantifiable way to compare the performance of this card to an accelerated video card.

This article has been archived and is no longer updated by Apple.

Given equivalent VRAM configuration and price range, the 4MB Power Macintosh Video Card should run faster than any comparable third party video accelerator cards in today's marketplace. This is due to the video card's high data transfer rate, which is in part attributed to its 64-bit data bus as compared to the 32-bit data bus available to NuBus video cards.

Article Change History:
26 Apr 1995 - Corrected name of video card.
10 Jun 1994 - Changed article status to "Everyone"

Support Information Services
Published Date: Feb 19, 2012

FAX Blind Dialing and LaserWriter Select 360 (3/94)

Is there a way to have the FAX card on the LaserWriter Select 360 perform a "blind dial" (dial without needing a dial tone)?

This article has been archived and is no longer updated by Apple.
There is a %Fax% PostScript device parameter WaitForDialTone which controls this. This is a boolean parameter which if set to FALSE, will permit the FAX card to do "blind dialing". If set to TRUE, the FAX card will insist on receiving a dial tone first. The following PostScript segment will set this parameter:

(%Fax%) <</WaitForDialTone false>> setdevparams

If you would like this setting to persist beyond power cycles, then the following PostScript code which exits the PostScript server loop, must precede the command line above:

serverdict begin 0 exitserver

Support Information Services

Published Date: Feb 19, 2012

LaserWriter Select 310: No support for 8.x Driver (3/94)

Does the LaserWriter Select 310 support any of the LaserWriter 8.x features? I specifically want to know this information:

* Can the Select 310 use an "installed and preferred" option for selecting paper trays as does the LaserWriter 8.x driver?

* Can the Select 310 driver continue to draw paper from an additional cassette if the first cassette runs out?

* Can the 310 draw the first sheet from one tray and all remaining pages from a second tray?

* Can the Select 310 handle "n-up" reductions when printing multiple pages?

* Does the Select 310 offer any kind of resolution enhancement?

* Is Apple considering releasing a serial version of the LaserWriter 8.x driver?

This article has been archived and is no longer updated by Apple.
The LaserWriter Select 310 does not support the LaserWriter 8.x printer driver, and so does not support a lot of the features you asked about.

* Can the Select 310 use an "installed and preferred" option for selecting paper trays as does the LaserWriter 8.x driver?

This is not possible as the LaserWriter Select 310 driver does not save any preference information in the LaserWriter 8 Prefs file as does the LaserWriter 8 driver, nor does it have the "Auto Select" feature to execute it.

* Can the Select 310 driver continue to draw paper from an additional cassette if the first cassette runs out?

No. Tray Switching is not implemented in the LaserWriter Select 310 Driver.

* Can the 310 draw the first sheet from one tray and all remaining pages from a second tray?

This is a built-in feature of the LaserWriter Select 310 driver and can be used via the Print dialog box.

* Can the Select 310 handle "n-up" reductions when printing multiple pages?

No. This feature was not implemented in the LaserWriter Select 310 driver, so you cannot print multiple pages on one sheet of paper.

* Does the Select 310 offer any kind of resolution enhancement?

The only type of enhancement offered is via the ability to change "Print Density" in the Options dialog within the Print dialog.

* Is Apple considering releasing a serial version of the LaserWriter 8.x driver?

No, Apple has no plans to release a serial version of the LaserWriter 8.x printer driver.

Support Information Services
Published Date: Feb 19, 2012

Color StyleWriter Pro: Color Discrepancies

I cannot get the Color StyleWriter Pro to print Reflex Blue. When I try it looks purple. How true of a blue can I print?
This article has been archived and is no longer updated by Apple.
Colors may differ from the screen when printed to the Color StyleWriter Pro. For example, Reflex Blue may look purple when printed. This is due to the following:

* Monitors "emit" colored light, whereas, colors on a printed page are "reflected" by whatever the light source may be. This has a large effect on the colors our eyes perceive.

* The Apple monitors are for the most part blue-ish in color, so this component also affects the colors that we see.

* There is a limitation of the ink and the color space that can be produced by printers. Basically, all printers (including non-Apple color printers) in this price range can only produce a subset of the CMYK color space. With some programs, you may be able to modify the CMYK values to alter the numbers a bit, which may help to produce specific colors you need.

ColorSync goes a long way in synchronizing the monitor with the printer, so Apple suggests that you use ColorSync and select the respective Color Matching Methods for your monitors or printers.

This article was published in the "Information Alley": Volume II, Issue 5, Page 14
Published Date: Feb 19, 2012

ARA: Personal FileSharing Can‘t Find File Server On Net

If I dial into a network with Apple Remote Access (ARA) 2.0 and the Macintosh that is dialing in has personal file sharing turned on with a name the same as a server on the dialed-in network zone, the server becomes unavailable. Sometimes I see two servers sometimes one server, but every time I try to log in to a server I log in to the ARA Client.

What I've found as a short term solution is to move the ComServer to its own zone with nothing else on it, but this problem still exists. Users can still setup individual ARA servers on their Macintosh computers thus opening up the possibility of further problems on the network.
This article has been archived and is no longer updated by Apple.
Some quick workarounds are:

* Use the Remote Only setting in the Network control panel, this is exactly one of the situations it was designed to handle.

* Turn off FileSharing at the ARA client.

* Advertise the names of the servers on the ARA Server's zone and tell people not to use them as their personal server names.

NOTE: If you were to try to bring up a personal server with the same name as an existing one while already connected to the network you are told the name is in use and to select another. You will get the same error if you attempt to change the name of an existing FileSharing server to that of an existing server. This is not an ARA limitation, it just gets more complicated with ARA since both servers are already up when the ARA client joins the network.
Published Date: Feb 19, 2012

Macintosh LC 575: Upgrading VRAM

What options are available for upgrading VRAM in the Macintosh LC 575?
This article has been archived and is no longer updated by Apple.
The Macintosh LC 575, which provides two VRAM SIMM slots, is available in two VRAM configurations:

1. A 512K VRAM configuration, consisting of two 256K VRAM SIMMs. This will provide a maximum of 256 colors to the built-in display.
2. A 1MB VRAM configuration, consisting of two 512K VRAM SIMMs. This will provide a maximum of Thousands of colors (32,768) to the built-in display.

There is no memory soldered onto the logic board. VRAM SIMMs must be 80ns or faster. Both VRAM slots must be populated in order for video to function.
Published Date: Feb 19, 2012

SNA■ps Gateway to AS/400 Configuration (3/95)

This article outlines the SNA*ps Gateway software configuration for connection to an IBM AS/400.

This article has been archived and is no longer updated by Apple.
The first part of this article shows a Token Ring configuration; the second part shows an SDLC Serial configuration. There is no SNA*ps support for Twinax connections to the AS/400.

The SNA*ps software will only run on Apple 4/16 Token Ring or Serial NB communications cards. Apple Computer's cards are MCP (Macintosh Coprocessor Platform) compliant. Before beginning the SNA*ps software configuration, be sure you have installed an Apple 4/16 Token Ring or Serial NB card and that the card has a minimum of 1 MB RAM installed (Use Macintosh Coprocessor Platform Memory Expansion Kit - M0145LL/A).

NOTE: Apple Computer's MCP communications cards (Apple Token Ring 4/16 NB Card, and Apple Serial NB Card) will NOT fit in the Centris or Quadra 610, 660AV, Power Macintosh 6100/60, or Workgroup Server 6150. The Apple Token Ring NB/c card does not support the SNA*ps Gateway, SNA*ps 5250 or SNA*ps 3270 software.

Token Ring

From the Macintosh Control Panel, open the Token Ring control panel window and note the Apple 4/16 Token Ring card's network address. This will correspond to the AS/400 Controller LAN remote adapter address.

SNA*ps TR Line Description

TR Line Name: LINE01
All timers at default values
Maximum I-Field Length: 2057

SNA*ps Partner Description

Partner Name: HOST01
Peer (Node type 2.1)
SAP Address: 04
Link Address: Corresponds to AS/400 TR Line local
. adapter address
Partner XID: 056XXXXX - AS/400 TR Line exchange ID
Gateway XID: 050XXXXX - AS/400 Controller exchange ID
Gateway Network Name: AS/400 Controller remote control point
Gateway Network Qualifier: AS/400 default network ID

SNA*ps Local LU

Name: PASSTHRU - Apple default
LU ID: 01 - Must be unique
Max TPs: Must match the AS/400 Mode maximum
. sessions (Typically 10, 35, or 70)
Network LU Name: LU01 - AS/400 Device remote location name
Network Qualifier: APPN - AS/400 Local network ID

SNA*ps TPs

TP Name: * - Allows all transaction programs
All other parameters at Apple See SNA*ps Gateway Configuration Guide
default. for details.

SNA*ps Remote LU

Name: AS400
Parallel Sessions
Network LU Name: AS400 - AS/400 Default local location
. name

Network Qualifier: APPN - AS/400 Local network ID

SNA*ps Mode

Name: MACMODE - Must match AS/400 Mode name. You
. cannot use QPCSUPP.
Queue Binds
Maximum Sessions: Same value as AS/400 Mode description
. maximum sessions
Contention Winner: Same as maximum sessions. AS/400 Mode
. locally controlled sessions=0.
Prebound Sessions: Same as maximum sessions. AS/400 Mode
. Pre-established sessions=0.
Pacing at default
Maximum RU Upper: 2048
Maximum RU Lower: 256

SDLC
===

SNA*ps SDLC Line Description

Name: LINE01
Port: 1A and 1B for use with V.35. 2A and 2B
. for use with V.24. Use Half Duplex for
. dial-up and multidrop lines. Be sure
. AS/400 line data link role is set to
. negotiated. Set SNA*ps line to
. Secondary.
All timers at default values.

SNA*ps Partner Description

Name: HOST01
Peer (Node Type 2.1)
Link Address: C1 - Must match AS/400 SDLC Line station
. address
Partner XID: 056XXXXX - AS/400 Line exchange ID
Gateway XID: 050XXXXX - AS/400 Controller exchange ID
Gateway Network Name: AS/400 Controller remote control point
. name
Gateway Network Qualifier: APPN - AS/400 local network ID

SNA*ps Local LU

Name: PASSTHRU - Apple default
LU ID: 01 - Must be unique
Max TPs: Must match the AS/400 Mode maximum
. sessions (Typically 10, 35, or 70)
Network LU Name: LU01 - AS/400 Device remote location name
Network Qualifier: APPN - AS/400 Local network ID

SNA*ps TPs

TP Name: * - Allows all transaction programs
All other parameters at Apple See SNA*ps Gateway Configuration Guide
default. for details.

SNA*ps Remote LU

Name: AS400
Parallel Sessions
Network LU Name: AS400 - AS/400 Default local location
. name

Network Qualifier: APPN - AS/400 Local network ID

SNA*ps Mode

Name: MACMODE - Must match AS/400 Mode name.
. You cannot use QPCSUPP.
Queue Binds
Maximum Sessions: Same value as AS/400 Mode description
. maximum sessions
Contention Winner: Same as maximum sessions. AS/400 Mode
. locally controlled sessions=0.
Prebound Sessions: Same as maximum sessions. AS/400 Mode
. Pre-established sessions=0.
Pacing at default
Maximum RU Upper: 2048
Maximum RU Lower: 256

Before starting the gateway, verify that the AS/400 Line, Controller, and Device are Active or Varied On. Also, verify the AS/400 system value QAUTOVRT. This value must be a non-zero number in order for the AS/400 to automatically configure the virtual controller and virtual devices required by the Display Station Pass-Through application.

See the SNA*ps Gateway Configuration Guide Appendix B for more details on AS/400 configuration.

Article Change History:
29 Mar 1995 - Added Workgroup Server 6150 and updated format.
19 Sep 1994 - Added info on Token Ring NB/c card.

Support Information Services
Published Date: Feb 19, 2012

A/UX 3.1 Console Emulator Problem and Workaround (3/94)

The A/UX 3.1 console emulator will hang if CONTROL-S is used to stop the display from scrolling. This is due to a bug in the streams code.
The following ADB patch addresses this problem. Engineering does not expect this to be a significant problem since the large majority of our customers do not use the Console Emulator.

This article has been archived and is no longer updated by Apple.
NOTE: This problem has to do with the console emulator, not the console in the command shell.

Patch to fix the problem:

```
cd /etc/config.d
adb -w newunix
getq_loop1+16?W 0x2e8a4eb9
getq_loop1+1a?W 0x100540a4
getq_loop1+1e?w 0x602e
```

To confirm that the patch has been entered correctly, the disassembled code should closely resemble the following:

```
getq_loop1+16?i mov.l%a2,(%a7)
getq_loop1+18?i jsr qenable
getq_loop1+1e?i bra.b getq_done1
```

After applying this patch with adb, you must run:

```
newconfig
```

and restart the system

Support Information Services
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Portable StyleWriter: Print Dialog Box Time Varies (3/94)

The Portable StyleWriter manual states that after you click Print in the Print dialog box, a message appears on your screen for a few seconds, then disappears. The Dialog box stays on my screen longer, is the manual incorrect?

This article has been archived and is no longer updated by Apple.
The proper time frame for seeing the Print dialog box is actually dependent on if background printing is enabled or disabled, as well as the length of the print job. Thus, the dialog can remain on the screen for as little as a few seconds, or may last much longer if background printing is OFF or if you are printing a large job.

Support Information Services
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Apple IIGS: Memory Location of Disassembler

This article has been archived and is no longer updated by Apple.

The Apple IIe's 20-line LIST routine (it begins at address $FE5E) is not supported in the Apple IIGS.

In the Apple IIGS, a similar location remains a part of the disassemble LIST routine. It is $F8D0, the INTSDP Display disassembled instruction routine, which displays one instruction pointed to by the program counter. (The $F8D0 routine is looped through 20 times in the Apple IIe LIST routine.) $F8D0 can be used in a similar routine on the Apple IIGS.

You may wish to review the Apple IIe routine in order write your own LIST routine. For further information, see the Apple IIGS Firmware Reference Manual and the Apple IIe Technical Reference Manual.

Published Date: Feb 19, 2012

Performa 550: Description of Backup Partition (3/94)

What is the Backup Partition on the Performa 550?

This article has been archived and is no longer updated by Apple.
The Apple Backup application creates a backup recovery partition that allows the Performa to boot even when the System Software on the main hard drive has been corrupted. The partition is invisible to the user.

When a system problem (one that prevents the Performa from booting) is detected, a dialog is displayed that informs the user of a system problem. The user can choose to fix the problem manually or to reinstall software from the backup partition's Mini System Folder. If the user chooses to install software from the Mini System Folder, the cursor becomes a watch, the hard disk spins for a brief time, the Mini System Folder is copied to the main volume and the system restarts booting from the main volume. The backup is then reset to invisible. The user can then copy the System, Finder and System Enabler to the main System Folder.

There is no built-in limit to the number of times the backup partition can be used. However, the partition will be lost if the hard drive is re-formatted. At this time the backup partition is used only on the Performa 550.

Support Information Services
Published Date: Feb 19, 2012

ARA: Modifying Serial Port B & MacEKG

MacEKG shows that ARA is touching, and modifying the node id of serial port B, even though the modem in the modem port, port A. The node id bounces around whenever he chooses "answer Calls" in the setup. Why is ARA doing anything to serial port B?
This article has been archived and is no longer updated by Apple.
Micromat Tech Support indicates that they have had similar problem reports recently. MacEKG should be performing its tests before any other software is loaded, including ARA.

The workaround is to rename the control panel "*MacEKG" to " MacEKG¬" (three spaces at the beginning of the name) and to move it from the Control Panels folder to the Extensions folder. This should ensure that MacEKG is indeed loading first. Once this is done MacEKG should no longer report that port B is being "touched", according to Micromat Tech Support.
Published Date: Feb 19, 2012

HyperCard:Problem Pasting Fields-Bad Script (3/94)

I am trying to paste the card number field from "Display the card number" from Readymade Fields Stack into the Addresses stack in HyperCard 2.2, but it's not working. It pastes fine into a new blank field. Both stacks come on the standard HyperCard distribution disks.

This article has been archived and is no longer updated by Apple.
The problem is with the script in the stack that came with HyperCard.

Below is a portion of the original script.

```
on addStackScript fieldType
get script of fieldType
if "openCard" is in it then
if (fieldType && "field id" && id of me) is not in it then
put scriptBody(fieldType) & return after char ┬
(offSet("openCard",it) + 8) of it
set script of fieldType to it
end if
else
if it ¡ empty then
if last char of it = return then put return after it
else put return & return after it
end if
-- write the full handler
put "on openCard" & return & scriptBody(fieldType) & return & ┬
"pass openCard" & return & "end openCard" after it
set script of fieldType to it
end if
end addStackScript
```

The first "if" statement (if "openCard" is in it then) should really test for "on openCard" instead of "openCard". Many stacks list handlers included in a script at the top of the script. This allows programmers to easily search a script for a particular handler. The addresses stack does this. When this button is pasted into it, the "openCard" in the handler list makes the conditional true and the script to include the card number is pasted into the handler list (where it will never execute).

Change"openCard" to "on openCard" in two places (as below in line 3 and 6) and the script works as advertised.

```
on addStackScript fieldType
get script of fieldType
if "on openCard" is in it then
if (fieldType && "field id" && id of me) is not in it then
put scriptBody(fieldType) & return after char ┬
(offSet("on openCard",it) + 8) of it
set script of fieldType to it
end if
else
if it ¡ empty then
if last char of it = return then put return after it
else put return & return after it
end if
-- write the full handler
put "on openCard" & return & scriptBody(fieldType) & return & ┬
"pass openCard" & return & "end openCard" after it
set script of fieldType to it
end if
end addStackScript
```

Support Information Services
Published Date: Feb 19, 2012

Express Modem: Fax Queue & Phone Number Limits (3/94)

How many fax documents can be placed in a queue, and how many addresses can be added to the phone number data base for the Express Modem software?

This article has been archived and is no longer updated by Apple.

There is no actual limit to the number of faxes you can have in the queue. You will be limited by hard drive space, and memory allocation. In testing we were able to get up to 145 recipients in the Send To without any problem.

The address book will hold up to 1000 addresses.

Support Information Services

Published Date: Feb 19, 2012

QuickTake 100: No OCR Support (3/94)

Can I use the Apple QuickTake 100, like I would a scanner and take pictures of a document, then use Optical Character Recognition (OCR) software to convert the picture into text?

This article has been archived and is no longer updated by Apple.
Apple does not support this. One of the main problems would be the focal range. The QuickTake 100 has a 4-foot focal range. At 4-feet, the document image is too small to use with OCR software.

Support Information Services
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LaserWriter Pro 810: Time Out Error Using LocalTalk

What causes time out errors when two or more documents are spooled to the LaserWriter Pro 810 connected using AppleTalk?
This article has been archived and is no longer updated by Apple.
When additional RAM is added to the LaserWriter Pro 810, the configuration changes, and the Macintosh needs to be aware of these changes. If extra memory is added without changing the memory configuration, then time out errors occur.

Changing Memory Configuration
---
1) Open the Chooser
2) Select the LaserWriter 8 icon
3) Click the Setup button
4) Click the Configure button
5) Change the memory configuration to match the amount installed in the LaserWriter Pro 810
Published Date: Feb 19, 2012

Newton MessagePad 100: Clock Gains Time

What causes the clock in the Newton MessagePad 100 to gain time and how can I fix it?
This article has been archived and is no longer updated by Apple.
There are two things that could cause the clock to gain time.

1) The Newton was previously in a diagnostic mode. The clock's speed is too fast in the diagnostic mode for everyday use. If the Newton is not reset after leaving diagnostic mode, then the clock continues to run fast. Reseting the Newton returns the clock to normal speed.

2) A faulty battery cell also causes the clock to skip ahead. Usually this happens if you are using the rechargeable battery pack but it can also happen with alkaline batteries. If you are using a rechargeable battery pack, try to drain the battery and then recharge the battery in the Newton recharger.

If the clock still has problems, have the rechargeable battery pack serviced. One of the battery cells may not be charging properly. If you are using alkaline batteries, make sure all the batteries are from the same package. You should not mix old and new batteries.
Published Date: Feb 19, 2012

Express Modem Installer: Version 1.1.2 Used In U.S. (3/94)

My GeoPort Telecom Adapter came with Express Modem Installer software v1.1.2. A friend received Express Modem Installer software v1.2. What is the difference between the two versions?

This article has been archived and is no longer updated by Apple.

The Express Modem Installer Software v1.2 only ships in Europe. The primary changes were made to meet European PTT certification requirements.

Support Information Services
Published Date: Feb 19, 2012

LaserWriter Select 360: Fax Dates & Times Incorrect (2/97)

On all the faxes I send or receive, the time and date is incorrect. The year is always set to 1980 and the time does not change. How can I correct this?

This article has been archived and is no longer updated by Apple.

The optional fax card for the LaserWriter Select 360, uses a clock chip with a 3.6 volt lithium battery. If the fax card was shipped without setting the time and date, then it must be set before the clock starts keeping time. The LaserWriter Fax Utility allows you to set the date and time.

If the fax card contains a dead battery, then you could set the proper time and date, but the card would continually lose the time and date. If this happens, you need to replace the battery (service part number 742-0011*).

*NOTE:
Service parts can only be ordered by authorized Apple Service technicians. These parts are not available to the general public because only authorized Apple technicians are approved to install them.

The part numbers mentioned in this article are accurate as of this writing. Before ordering or inquiring about an order, you need to verify the number is still correct, as they are subject to change.

Article Change History:
21 Feb 1997 - Added info about part number.
Published Date: Feb 19, 2012

Apple IIe Card: How To Partition the Hard Drive (7/96)

This article explains the steps needed to partition a hard disk for the IIe Card for the LC series, Performa 400 series, Performa 550, Quadra 605 and the Color Classic computers.

This article has been archived and is no longer updated by Apple.

Protecting the disks

==========

Before proceeding, lock the disks that came with the Apple IIe Card

-"IIe Installer Disk"

- "IIe Startup Disk"

Locking a disk protects its files from being changed or erased.

To lock a disk, slide the plastic tab on the back upper left-hand corner of the disk from the bottom to the top. When you can see through the hole, the disk is locked.

Reserving hard disk space for Apple IIe files

==========

You can use a portion of the hard disk connected to your Macintosh computer to store Apple IIe files. The hard disk can be built into the Macintosh or connected by a SCSI cable. The process of reserving part of the hard disk for Apple IIe files is called partitioning the hard disk.

Partitioning a hard disk completely erases all files stored on it. Before partitioning your hard disk, you must make backup copies of any files you want to keep. This section explains:

- Backing up the contents of your hard disk

- Creating an Apple IIe partition on your hard disk

- Restoring the original contents of your hard disk

Backing up your hard disk

==========

To back up your hard disk, follow the steps in this section. If you normally use another method of backing up your files, such as copying them to another hard disk or to a tape cartridge, you can use that method instead.

You do not need to back up your System Folder, because you have System disks. You only need to backup things you have added to the System Folder. In addition, you don't need to back up any applications that you have on original disks.

Performa Owners - Use the Apple Backup program that was installed on your computer to perform your backup. Make sure that you backup your entire hard drive, not just the System folder. Once you finish backing up with Apple Backup, skip to the section "Partitioning Your Hard Disk".

Step 1

Turn on your Macintosh computer. If your computer is already on, quit any programs you are running.

Step 2

Insert a blank 3.5-inch floppy disk into the built-in disk drive. If you see a message asking if you want to initialize the disk, click Initialize. If you are using an 800K disk, click Double-Sided.

Note:

If you are using PC Exchange, choose Macintosh 800K. Double-Sided does not appear when you use PC Exchange.

Step 3

Copy your files and folders to the floppy disk. Drag each icon from your hard disk to the floppy disk's icon until you get a message that the floppy disk is full. Then eject the floppy disk and repeat the procedure until you've backed up all the files you want to save.

Some folders may be too big to fit on floppy disks. If so, you can open the folder and drag its contents one icon at a time to the floppy disk icon.

For more information about copying files and folders, see the manual that came with your Macintosh computer.

Step 4

Label the disks so you can remember what is on them.

Partitioning your hard disk

==========

This section explains how to partition your hard disk using a program called Apple HD SC Setup.

- The procedure described in this section sets aside 10 MB (megabytes) of space for Apple IIe files. If you need a different amount, turn now to Appendix C. "Creating Custom Partition", of the Apple IIe Card Owner's Guide. When you finish, skip to the next section in this chapter, "Restoring the Contents of the Hard Disk."

- Follow these steps to partition the hard disk:

WARNING:

Partitioning erases all information stored on your hard disk. To preserve your information, see the previous section, "Backing Up Your Hard Disk".

Step 1

Turn off your Macintosh computer. Choose the Shut Down command from the Special menu. You do not have to turn off the power.

Step 2

Insert the Disk Tools disk (from System 7 disks) into the built-in disk drive. Performa owners - Use the Utilities disk in place of the Disk Tools Disk.

Step 3

Turn on the Macintosh. Click the Restart button if your Macintosh is already on; otherwise, turn on the power.

Step 4

If necessary, open the Disk Tools or Utilities disk by double-clicking its icon. The disk's window appears.

Step 5

Double-click the Apple HD SC Setup icon. The Set up program opens.

Step 6

If you have more than one hard disk, click the Drive button to select the one that you want to partition.

Step 7

Click the Initialize button. A dialog box appears to confirm that you want to erase your hard disk.

Step 8

Click Init in the dialog box. Once the initialization is complete, click the Partition button. A dialog box appears to confirm that you want to erase your hard disk.

Step 9

Click OK in the dialog box.

Step 10

Click "10 MB ProDOS, Maximum Macintosh", then click OK. The program takes a few moments to partition the disk drive and then asks you to name the new Apple IIe partition.

Step 11

Type a name and then click OK. The dialog box appears with a suggested name in it. As soon as you start typing, the suggested name is replaced by what you type.

You can give the new partition any legal ProDOS name, and you can use lowercase letters. ProDOS names can not have any special characters, and they must begin with a letter, as opposed to a number. The program does not let you continue if you used an illegal name. The program informs you of any illegal names.

Step 12

Click Quit. You return to the regular desktop.

(NOTE: The new partition appears only after you reinstall the Macintosh system software and then install the IIe Card software - see the following steps).

Reinstalling your System 7.x Software

==========

After completing the Partition, choose Restart from the Special menu. The computer will turn on and you will see a disk with a flashing or blinking ?.

Insert the Install or Install Me First disk that came with your Macintosh computer. When you get to the "Welcome to the Apple Installer" screen click OK.

Note:

Performa Owners - Use the Utilities Disk and the Apple Restore application to place the software on your computer.

Make sure that your Macintosh hard disk is selected (if not, click the Drive button) and then click Install. Follow the computer's directions.

When the computer has finished installing system software you will see "The installation has been successfully completed". Click Quit and then click Restart.

Installing your IIe Card Software

==========

After the computer has restarted insert the "IIe Installer Disk".

If needed, double-click on the disk icon. Then double-click on the "Installer" icon.

When you get the message that the "Installation was successfully completed" click Quit and Restart."

After restart, the Apple IIe partition mounts on the desktop.

Article Change History:

09 Jul 1996 - Removed keyword no longer a fax document.

28 Jun 1996 - Updated text format in step 12; added statement to last

section to indicate point the IIE partition mounts.

24 Feb 1995 - Updated format and corrected note in Reserving Space.

Published Date: Feb 19, 2012

Adjustable Keyboard: Software Part of System Update (2/95)

Upon installation of the Adjustable Keyboard software on my Power Macintosh, I get an error message stating "The software to be installed is older than software on this system. This installation is not allowed."

Is System Update 2.0.1 built into System 7.1.2?

This article has been archived and is no longer updated by Apple.
When installing the Adjustable Keyboard on a Power Macintosh, or a Macintosh with the System Update 2.0.1 or later installed, no additional software is necessary. Macintosh computers after the 660AV and 840AV support the Adjustable Keyboard out of the box.

The reason for this is that System Update 2.0.1 was included in the ROM beginning with the AV computers and it is therefore included in the ROM of the Power Macintosh computers. The Record extension is also no longer included as a separate extension since Sound Manager 3.0.1 includes its functionality.

Article Change History:
27 Feb 1995 - Reviewed for technical accuracy.
05 Aug 1994 - Noted that issue occurs with any Macintosh with the System Update 2.0.1 or later installed.

Support Information Services
Published Date: Feb 19, 2012

MacWorks XL: Encountering Error -96 During Hard Disk Install

This article has been archived and is no longer updated by Apple.
If you see error -96 during the Hard Disk Install of MacWorks XL, try to initialize the hard disk using either Lisa Workshop or Lisa 7/7 software. If that initialization fails, you must replace the hard disk unit of the Lisa or Macintosh XL.
Published Date: Feb 19, 2012

Power Macintosh: Sound "Voice" Capabilities (3/94)

I have a question about the sound capabilities of the Power Macintosh computers. Are they capable of playing more than four "voices"?

I have a professor at a music school and he wants to be able to play back a composition which has 6 to 8 "voices" in it. Is it a hardware constraint or is it software? He is using HyperCard 2.1 also. Would upgrading make a difference?

This article has been archived and is no longer updated by Apple.
The Power Macintosh computers include Sound Manager 3.0 which supports multiple voice capability. They are capable of playing 6 to 8 voices should not be a problem with the Power Macintosh. Constraints to the number of voices would be in the speed of the hardware, the bit resolution, 8 or 16, and the sampling rate, from 22kHz to 48kHz.

HyperCard 2.2 supports sound better than HyperCard 2.1 and there is an XCMD from Jeff Iverson Software of Burnsville, Minn. that supports HyperCard 2.2 with Sound Manager 3.0 available. Another solution would be to record sounds into a QuickTime format which can have up to 99 soundtracks.

Support Information Services
Published Date: Feb 19, 2012

QuickTake 100: Power Macintosh Compatible

Is the QuickTake 100 compatible with the Power Macintosh?
This article has been archived and is no longer updated by Apple.
The current QuickTake 100 software shipping with the QuickTake 100 camera (M1644LL/B) is compatible with the Power Macintosh computers. However, if your QuickTake 100 model number is M1644LL/A, then you need to obtain an update disk for the Power Macintosh. The QuickTake for PwrMac v1.0 disk is used in conjunction with the two QuickTake disks you received with your camera. The additional software disk is available from online services.

You can search for, and download the software from the Apple Software Updates web site at **http://www.apple.com/swupdates**.

Published Date: Feb 19, 2012

Personal LaserWriter LS: Needs Updated Driver for AV‘s (10/95)

My Personal LaserWriter LS won't print properly when connected to any AV Macintosh Computer. It prints one page then gives a time out error and tells me to check the serial cable. How can I fix this?

This article has been archived and is no longer updated by Apple.
Use the newer version of the driver for the Personal LaserWriter LS named 'LaserWriter 300' v1.2. Using this driver allows printing from the AV Series Macintosh computers. This software originally shipped with the AV Macintosh computers and is included in System 7.5.x.

Article Change History:
30 Oct 1995 - Updated driver availability in System 7.5.

Support Information Services
Published Date: Feb 19, 2012

Apple Multiple Scan 20 Display: Control Panel Video Size

Why does the Apple Multiple Scan 20 Display User's Guide show numerical resolutions in the Monitors control panel, when my control panel only shows monitor sizes?

This article has been archived and is no longer updated by Apple.

The Monitors control panel displays either resolutions or monitor sizes depending on the video drivers in the Macintosh ROMs or video card firmware. So, the Monitors control panel will vary depending on these factors.

Published Date: Feb 19, 2012

Power Macintosh: User Removal of PDS Card Not Allowed (3/94)

Can the Power Macintosh VRAM Expansion Card or Power Macintosh AV Card be removed by the end user of the computer?

This article has been archived and is no longer updated by Apple.
No, due to the risk of damage to the logic board or the card itself during the removal process, the VRAM Expansion Card or the AV Card must not be removed by the user. The computer should be serviced by an Apple authorized service technician only.

The Power Macintosh 7100/66 and Power Macintosh 8100/80 have the VRAM Expansion Card installed in the PDS connector, while the AV models have the AV card installed. In both cases, the card MUST remain installed to properly terminate the PDS bus.

Removal of the card or operating the computer with the PDS card removed can result in damage to the logic board of the Power Macintosh.

Installation of a NuBus card can be performed by the user, provided they follow the instructions for installation in the "Power Macintosh Getting Started" manual.

Support Information Services
Published Date: Feb 19, 2012

Power Macintosh: AV Card Available Separately (1/95)

Are the Power Macintosh AV Card or the Power Macintosh VRAM Expansion Card available separately?

This article has been archived and is no longer updated by Apple.
The Power Macintosh AV Card is available as a separate item to upgrade any non-AV model Power Macintosh. The finished goods part number is M3447LL/A.

The VRAM Expansion Card is not available as a separate item.

Article Change History:
09 Jan 1995 - Updated to show AV card available for all Power Macintosh models.
06 Oct 1994 - Updated to show AV card now available separately for 6100.

Support Information Services
Published Date: Feb 19, 2012

Power Macintosh 8100: Description of Dual SCSI Channels

This article discusses the two SCSI channels present within the Power Macintosh 8100 series.
This article has been archived and is no longer updated by Apple.
The Power Macintosh 8100 series computer has a dual channel SCSI bus, there are two physical connectors on the logic board. While the SCSI controller can address up to seven devices, Apple only supports the use of one internal drive on the first SCSI channel (bus 0).

The second channel bus supports any additional internal or external SCSI devices. The two SCSI busses are independent of each other, both have their own SCSI controller chip.

As with other Macintosh computers, the SCSI bus must be terminated at both ends. The first channel is terminated by the internal hard drive and the logic board.

Termination for the second channel is a bit more complicated. For CD ROM equipped 8100's, the cable for the CD has an additional SCSI connector, and a terminator on it similar to that on the Quadra 900/950.

If the unit does not have an internal CD ROM drive, termination is provided by the logic board. Any external device must also be terminated completing the necessary termination at both ends of the SCSI bus.

The faster processing rates and tighter tolerances of the Power Macintosh require using cables and terminators with the correct impedance. We strongly recommend using Apple cables and terminators or third party equivalents which meet Apple standards.

For definitions of SCSI terminology and general information on making SCSI connections, see the following TIL article:
Article 9387: "**Macintosh: Connecting SCSI Devices**"
Published Date: Feb 19, 2012

MPW: Issue with replace command in shell

In the shell of MPW 1.0, 1.0.1, and 1.0.2, there's a problem using the replace command to change the tag operator (option-r).
This article has been archived and is no longer updated by Apple.
The error message '### replace - Invalid Option-r statement.' results from using either of two commands,

replace /'Option-r'/ 'Option-r'
-or-
replace /Option-dOption-r/ 'Option-r',

where the first Option-r in each line is the tag operator and the Option-d is the shell escape character.

To work around the situation, use two commands,

Find /'option-r'/
-and-
Replace option-6 option-r

where the first option-r is is really the tag symbol, option-6 is really the selection symbol, and the second option-r is really option-r.
Published Date: Feb 19, 2012

Floppy Disk Drives: Apple III Plus External Drive Adapter

This article has been archived and is no longer updated by Apple.

```
The Apple III Plus has a DB25 connector for the external disk drive I/O port.
The standard Disk III has a 26-DIP flat connector on the cable.  To use the
standard Disk III with an Apple III+, you must acquire a Disk III Cable
Adapter. The service part number for this cable adapter is 655-6101.

Future Disk III drive cables will have a DB25 connector and will need no
adapter.

CAUTION:  Before connecting a Disk III to an Apple III+, be sure that pin 13
         has been removed from the adapter.  The pin can either be clipped off
         or pulled out. Later versions of the adapters may have this pin
         removed for you.
```

Published Date: Feb 19, 2012

A/UX 3.0: Quadra 950 Serial Port Problem (3/94)

The serial port, and sometimes the Quadra, freezes up when I use lp, then cancel the spooled job.

This article has been archived and is no longer updated by Apple.
The Quadra 950 running A/UX 3.0 using the System V spooler (lp) to a serial printer has the same problem that the Macintosh IIfx had running A/UX 2.0.

As with the Macintosh IIfx, you must use the Serial Switch (1.1) set to
compatible mode to succesfully use the System V spooler on the Quadra.

Support Information Services

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SNA■ps to IBM 5494 Configuration Parameters

The information below shows how the SNA*ps Gateway configuration parameters should correlate with the IBM AS/400 and 5494 Remote Control Unit.
This article has been archived and is no longer updated by Apple.

SNA*ps Line Configuration

```
Line Name:                    TRLINE
Line Type:                    Token Ring
                             All timers at default
Max I-Field Length:           2057
```

SNA*ps Partner Configuration

```
Partner Name:                 AS400
Network Name:                 AS400 - AS/400 Local control point name
Network Qualifier:            APPN - AS/400 Local network ID
Gateway XID:                  05000000 - Does not correspond to anything in
                             the 5494 connection
Partner XID:                  07300000 - Must be this value for 5494
                             connection
Link Address:                 400000005494 - Token ring address of 5494
Node Type:                    Peer
```

SNA*ps Local LU

```
Local LU:                      PASSTHRU - This is the Apple default
LU ID:                         2 - Must be unique ID
Max TPs:                       32 - IBM limit.
Network Name:                  MACLU01 - AS/400 Device remote location name
Network Qualifier:             APPN - AS/400 Remote network ID
```

SNA*ps TP

```
TP Name:                       * - Allows all transaction programs
All other parameters at default.  See SNA*ps Gateway Configuration Guide.
```

SNA*ps Remote LU

```
Remote LU:                    AS400 - This is the Apple default
Network Name:                 AS400 - AS/400 Device local location name
Network Qualifier:            APPN - AS/400 Local network ID
Parallel Sessions:            Supported
```

SNA*ps Mode

```
Mode Name:                   Must match the mode name created on the
                            AS/400. See Gateway Config Guide.
                            You cannot use the QPCSUPP mode.
```

There are some peculiarities with the 5494. It will not support more than 32 parallel workstation sessions per LU. Also, IBM recommends that the *APPC controller remote control point name match the 5494 controller remote location name. We believe this is to avoid confusion over the device description that is auto configured for the 5494. Apple support reps cannot assist in the setup or configuration of the IBM 5494. Refer to the IBM Redbook on configuring the 5494 to AS/400 (IBM P/N GG24-3828-00).

Published Date: Feb 19, 2012

ARA: Error in Port Configuration w/X.25 Extension

I am getting an error in the port configuration for the X.25 port on my ARA MultiPort server with the X.25 extension installed.
This article has been archived and is no longer updated by Apple.
You should check the following:

* Verify that the MacX25 Admin program is running, and has started the MacX25 server assigned to the port's serial card.

* If necessary, start the MacX25 Admin and server programs, and then try again to turn on the port

* If the Apple Remote Access MultiPort Server starts up automatically from the Startup Items folder, verify that the MacX25 program is also set for automatic startup, and that it starts up before the MultiPort Server program. In addition, make sure the at you have selected the "Auto Start" option for the MacX25 server in MacX25 Admin's Server Info dialog box.

* If MacX25 is running, and you still get errors when turning on X.25 ports, then check the server log for additional information. If the log indicates that the port's serial card is in use by the Modem Service, use the Remote Access Manager to turn off the modem ports, and then try to turn on the X.25 ports again. You can't have modem ports and X.25 ports active on the same serial card.

Published Date: Feb 19, 2012

ARA & X.25: Number of Serial Ports on a Serial NB Card

How many ports can I configure on my Apple Remote Access Multiport Server when using MacX25 and the X.25 Extension?
This article has been archived and is no longer updated by Apple.
You can configure a maximum of eight ports per card, however, the practical limit may be lower. The limit varies directly with the X.25 link speed for your network (usually measured in kilobits per second, or Kbits/sec.) and inversely with the speed of the connecting modems (usually measured as bits per second, or bps).

If your X.25 link is shared by other services in addition to Apple Remote Access, the actual limits may be even lower. In general, X.25 performance will always be somewhat lower with X.25 than with a modem-to-modem connection.

The following table gives you an idea of possible variations for the maximum practical ports per serial card:

	9.6 Kbits/sec link speed	19.2 Kbits/sec link speed	56/64 Kbits/sec link speed
all client modems 2400 bps	3 ports per card	6 ports per card	8 ports per card
half 2400 / half 9600 bps modems	1 port per card	2 ports per card	6 ports per card
all 9600 bps modems	1 port per card	2 ports per card	4 ports per card

Published Date: Feb 19, 2012

LaserWriter Pro 810: Password not Accepted

This article describes what to do if you cannot log into the "super user account" on the LaserWriter Pro 810.
This article has been archived and is no longer updated by Apple.
If a VT series terminal is connected to the maintenance port on the LW Pro 810, and you are unable to login to the "super user" account by typing the password "system," the following is a solution:

1) Hit the "F3" key on the terminal (this should put the terminal into setup mode)
2) Go to "General" setup
3) Under this area you should see "New Line" on the end of the third row
4) Change this entry to "No New Line" and retry the password

The problem stems from the fact that the printer is expecting "system" as a password and with the terminal set to "New Line" the VT is sending "system*" where the "*" is a carriage return; hence the printer thinks the password is wrong and displays the password> prompt again.
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Quadra 610 DOS Compatible: Image not centered

I have an NEC 15-in monitor attached to my Quadra 610 DOS Compatible. When I switch to the DOS side, the image is off-center. If I adjust it to center, then enter Windows, it's off center again and I have to re-adjust it. The monitor works fine in the Mac environment. What's wrong?
This article has been archived and is no longer updated by Apple.
The off center problem is caused by the different scan rate used by the graphics subsystem when in DOS as opposed to Windows. Basically it's in "graphics" mode when in Windows, and "text" mode when in DOS. Most of the newer multisync monitors have a way to center the picture in each environment and then save the settings. This is not specific to the Quadra 610 DOS Compatible computer or the DOS Compatibility Card. This is more a function of the way the monitor syncs to an incoming signal. The phenomena happens all the time in the DOS world, which is why the monitor manufacturers came up with monitors that had settings you could save.

MS-DOS itself uses no video drivers, so none are provided. The DOS Compatibility Card and the Quadra 610 DOS Compatible come with the Chips & Technologies (C&T) video drivers for the graphics chip the DOS Compatibility Card uses (C&T 450). The drivers disks are labelled "Display Drivers Disk 1" and "Display Drivers Disk 2".

Installing the C&T 450 drivers in Windows is going to be the best solution Apple can provide. Any additional adustments are up to the "adjustability" of the monitor.
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Portable StyleWriter: Pitch Button Not Used (3/94)

The pitch button is not mentioned in the manual, how do I use it?

This article has been archived and is no longer updated by Apple.
The pitch button is not used on the Portable StyleWriter, so it is not covered in the manual.

Support Information Services

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Universal Power Supply (UPS) and Retrospect (3/94)

I am having problems with my UPS and Retrospect on my AWS 95.

This article has been archived and is no longer updated by Apple.

Retrospect does some sort of script verification and notification at quitting time, and this can cause problems with quitting Retrospect and a UPS. These Retrospect notifications require user input, and if no one is at the machine to answer this dialog box, the computer never shuts down and a dirty file system occurs when power is cut off.

The solution is to uncheck the "Check Validity of Next Script" option in Retrospect. To get to this option, click on the Configure icon in the Retrospect Directory, click on the "Options" button, then click on "Quit Action" in the Program Options window. There you should see "Check Validity of Next Script." Retrospect will now quit without stopping for user input.

Another option in "Quit Action" is "Rewind Tapes." This will rewind any accessed tape to the beginnings. The purpose of this is to speed future access to Retrospect. This option should also be off for machines on a UPS. The UPS may not be able to keep the computer up long enough to finish rewinding the tape.

Note: These tips can also be applied to AWS60/80.

Support Information Services

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Network Software Installer 1.4.3: Contents & ReadMe

This article lists the software components for the Network Software Installer (NSI) 1.4.3.
This article has been archived and is no longer updated by Apple.

This installer works on either System 6.0.5 or later, or System 7 Macintosh computers. You can use this Network Software Installer to install the following networking products:

Product	Version	Notes
AppleTalk version	58.1.2	
Network Control Panel	3.0.2	
AppleTalk Internet Router	2.0	requires router installation disk
Ethernet driver	6.0.5	for the Apple EtherTalk NB Card
EtherTalk	2.5.6	
Ethernet driver	1.1.1	for the Apple Ethernet NB Card, Twisted-Pair Card, for the Apple Ethernet LC Card, the Macintosh Quadra 700/900/950/800, Centris 610/650, built-in Ethernet port. Apple Ethernet LC Twisted-Pair Card, for the Apple Ethernet CS Twisted-Pair/Coaxial/AAUI Card
Ethernet driver	1.0.1	for the Macintosh Quadra 840AV and Centris 660AV
TokenTalk	2.5.6	
Token Ring Control Panel	1.0.1	
Token Ring driver	2.5.2	for the TokenTalk NB and Token Ring 4/16 Cards

In addition, this Installer installs the following related products:

A/ROSE	1.2.1

NOTE:
On Macintosh computers with a 68040 microprocessor (Quadra, Centris, and Performa 470 series), some programs may quit unexpectedly or cause the computer to freeze when you attempt to open them over the network. This problem is fixed by using the Network Launch Fix available from AppleLink or the InterNet (ftp.apple.com).

Restrictions:
This software should not be installed with AppleTalk Internet Router and AppleShare client on a Macintosh with only 1 Megabyte of memory.

If this release of the Network Software Installer is being used in conjunction with an Apple Internet Router v. 3.0 Installer, Router 3.0 MUST be installed first. This will ensure that the Router installation does not overwrite the newer AppleTalk software contained on NSI 1.4.2.

Release notes for each item follows:

AppleTalk version 58.1.2
A problem existed with the LocalTalk SNMP byte counting code that would cause an occasional bus error. We were wrongly assuming that we ALWAYS had a WDS pointer and looking at that address to calculate the byte counts.

Now we check for Slotless networking devices when coming out of sleep for the PowerBook Duos.

Lap Manager only intercepts packets for SAP 0xAA or 0x00. We will attempt to deliver any packet for a destination SAP that is not 0xAA or 0x00 to the SAP listener. If no SAP listener is found, then the packet will be ignored.

Add check in LLCAttach for duplicate SAP or SNAP addresses. If so, then an error is returned.

Ethernet driver version 1.1.1 for the Apple Ethernet NB Card

Ethernet driver version 1.1 now allows the SONIC to transmit packets by building chains "on the fly". This results in a faster Ethernet driver.

This card no longer uses A/ROSE, but runs in "slave" mode. It now uses the same Ethernet driver that the Ethernet NB Twisted-Pair card uses.

Better allocation of memory when Virtual Memory is on.

Ethernet driver version 1.1.1 for the Apple Ethernet NB Twisted-Pair and LC Cards

Ethernet driver version 1.1 now allows the SONIC to transmit packets by building chains "on the fly". This results in a faster Ethernet driver.

Better allocation of memory when Virtual Memory is on.

Note: The faster Ethernet driver will only speed up Apple's LC Cards and not Third Party LC Cards.

Fixed a problem where the cpu could possible "hang" when the card was selected.

Ethernet driver version 1.1.1 for the Macintosh Quadra 700/900/950/800, Centris 610/650, built-in Ethernet ports.

Ethernet driver version 1.1 now allows the SONIC to transmit packets by building chains "on the fly". This results in a faster Ethernet driver.

QuickTime on a Quadra 800, Centris 610 or a Centris 650 has much better performance.

Better allocation of memory when Virtual Memory is on.

Ethernet driver version 1.1.1 for the Apple Ethernet LC Twisted-Pair Card

The Apple Ethernet NB LC Twisted-Pair Card is now supported.

Fixed a problem where the cpu could possible "hang" when the card was selected.

Ethernet driver version 1.1.1 for the Apple Ethernet CS Twisted-Pair/Coaxial/AAUI Card

The Apple Ethernet CS Twisted-Pair/Coaxial/AAUI Cards are now supported.

EtherTalk for EtherTalk NB

Internal build process has changed, but no changes to the driver code except the version number.

EtherTalk and TokenTalk version 2.5.6

Fixed a multinode occasional crashing problem where packets were being sent to a node that was in the middle of being acquired.

A/ROSE 1.2.1

Added support for Power Macintosh Systems.

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AV Systems: How To Adjust Auto Video Gain

Can the video gain feature be turned off?
This article has been archived and is no longer updated by Apple.
The Fusion Recorder utility program that comes bundled with the Macintosh Quadra 840AV and the Power Macintosh AV models doesn't support video gain (black level or white level), or contrast control. If you purchase VideoFusion software from VideoFusion, Inc., you will have the ability of adjusting the contrast control on only the Power Macintosh AV models.

There are third-party companys that provide hardware like the Radius' Video Vision or SuperMac's Video Spigot for greater video control on the Quadra 840AV.
Published Date: Feb 19, 2012

Hypercard XCMD: For Comm Toolbox & Geoport

I have built a customer HyperCard stack that will greet visitors, but I need the system to automatically dial from HyperCard using the GeoPort. I then need the system to detect a dial tone when the call is completed, and do an automatic hang-up and continue with the next process.

Is anyone aware of an XCMD that will provide this feature? OR, is there a HyperCard script that you are aware of that will provide this feature?
This article has been archived and is no longer updated by Apple.
There are a couple of companies that have supplied XCMDs for HyperCard that utilize the Apple Communications Toolbox which in turn communicates with the GeoPort. They are:

* Full Moon Software, Inc. PO Box 700237, San Jose, CA 95170, 408 253-7199 or 408 252-2378 (fax).

* Pacer Software, Inc. 7911 Hershel Ave, La Jolla, CA 92037, 619 454-0565, 800-722-3702 or 619-454-6267 (fax). * Mitem Corporation, 2105 Hamilton Ave., San Jose, CA 95125, 408 559-8801. MitemView 3.2 is a complete client/server communications framework for $7000.

Another way to solve the problem would be to use AppleScript within HyperCard 2.2 to communicate with an AppleScript-aware communications application such as:

* PhonePro from Cypress Research Corporation, 240 East Caribbean Drive, Sunnyvale, CA 94089 408 752-2700.

* SITcomm 1.0 from Aladdin Systems, 165 Westridge Drive, Watsonville, CA 95076, 408-761-6200
Published Date: Feb 19, 2012

LaserWriter: Getting high-quality output

This article has been archived and is no longer updated by Apple.

When using the LaserWriter to produce camara ready copy,
you can improve the results if you follow these guidelines.

Paper:

Use a stock with a smooth finish, such as standard photocopy paper. (Use 16-20 pound stock.) The paper should be white and not glossy. Most offset printers have paper with these characteristics in stock.

Toner density:

LaserWriter cartridges vary in darkness according to how frequently they have been used. For best results, you should avoid using a cartridge that is too black: the increased density fills serifs. We suggest that you print somewhat light. The control knob on the LaserWriter offers some control over density.

After replacing an old cartridge with a new one, you should print several pages to bring the toner up to a good consistent black.

If the LaserWriter prints darker on one part of the page than on another, remove the toner cartridge and roll it gently back and forth to more evenly redistribute the toner.
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Power Macintosh and MacX (11/95)

I'm trying to run MacX on a Power Macintosh 8100/80AV, and I'm not having any success. Is there a known problem with running MacX on a Power Macintosh? I'm running MacX version 1.2, is there a newer version I should use? I get an error saying something about the Comm tolls not loading properly.

This article has been archived and is no longer updated by Apple.
In order for Power Macintosh to properly work with MacX 1.2, you have to use MacTCP 2.0.4 or later. We have verified that MacTCP CDEV (1.1.1) which originally came with MacX 1.2 does not work on Power Macintosh. However the MacTCP Tool 1.2 which came with MacX 1.2 is still valid to use. Also the latest version of MacX is MacX 1.5.

MacTCP can be purchased off the Retail Price List as part number:
M8113Z/A - TCP/IP Connection for Macintosh

Article Change History:
09 Nov 1995 - Added latest version of MacX.
08 Jul 1994 - Added part number for the TCP connection product.

Support Information Services
Published Date: Feb 19, 2012

Power Macintosh: Files on System Diskettes Are Compressed (3/94)

Why do all the files on the diskettes for my Power Macintosh appear as generic documents?

This article has been archived and is no longer updated by Apple.
Due to space constraints on the diskettes, all the files have been compressed and as such must be installed via the Installer program, this includes the print drivers as well. It is not possible to drag copy the files from the diskettes.

Support Information Services
Published Date: Feb 19, 2012

Power Macintosh: Why SIMMs Must Be Installed In Pairs

Can I use the SIMM from a Centris 610 in my Power Macintosh 6100?
This article has been archived and is no longer updated by Apple.
The Centris SIMM you have is the right kind for your Power Macintosh 6100, but you need a matching pair to do the upgrade. The Centris has a 32-bit wide memory system. Since the SIMM is 32 bits wide a single SIMM is all you need to add memory. The Power Macintosh 6100 has a 64-bit wide memory system. This requires two matching SIMMs to perform an upgrade.

If you only install one SIMM, the computer still starts up, but it will not use that memory.

The same two SIMM installation requirement holds true for the Power Macintosh 7100 and the Power Macintosh 8100. Later Power Macintosh computers could be upgraded with a single SIMM or DIMM.
Published Date: Feb 19, 2012

Power Macintosh 7100/66: Contents of Upgrade

This article describes what was contained in the M2474LL/A Power Macintosh 7100/66 Logic Board Upgrade. This upgrade is no longer available from Apple.
This article has been archived and is no longer updated by Apple.
The Power Macintosh 7100/66 Logic Board Upgrade contained the following:

- HDA/CD ROM Cable Assembly
- Internal Chassis
- Housing Assembly, Bottom Case
- Top Cover With Front Panel
- Manual Insert Floppy Panel
- FCC Approval Label
- 7100 Logic Board
- CD 300 Plus Shield
- 2MB Video RAM Expansion Card

- Power Macintosh 7100/66 Getting Started Manual
- Macintosh Reference Guide
- Registration Card
- A Note About Power Macintosh Logic Board Upgrade
- Additional Tips And Troubleshooting Manual
- Resource Guide 7100
- Power Macintosh CD
- Power Macintosh System Software Diskettes

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Power Macintosh 7100/66AV: Contents Of Upgrade

This article describes what was contained in the M2840LL/A Power Macintosh 7100/66AV Logic Board Upgrade. This upgrade is no longer available from Apple.
This article has been archived and is no longer updated by Apple.
The Power Macintosh 7100/66AV Logic Board Upgrade contained the following:

- HDA/CD ROM Cable Assembly
- Internal Chassis
- Housing Assembly, Bottom Case
- Top Cover With Front Panel
- Manual Insert Floppy Panel
- FCC Approval Label
- 7100 Logic Board
- CD 300 Plus Shield

- Power Macintosh 7100/66 Getting Started Manual
- Macintosh Reference Guide
- Registration Card
- A Note About Power Macintosh Logic Board Upgrade
- Additional Tips And Troubleshooting Manual
- Resource Guide 7100
- Power Macintosh CD
- Power Macintosh System Software Diskettes

- Speech Kit Instruction
- S-Video To Composite Video Input Adapter Cable
- S-Video To Composite Video Output Adapter Cable
- Plaintalk Microphone
- AV Video Card

Published Date: Feb 19, 2012

Power Macintosh 8100/80: Contents Of Upgrade

This article describes what was contained in the M2344LL/A Power Macintosh 8100/80 Logic Board Upgrade.
This article has been archived and is no longer updated by Apple.
The Power Macintosh 8100/80 Logic Board Upgrade contains the following:

- 256K Cache Simm
- Cable Assembly, Power Harness
- SCSI Cable Assembly
- SCSI Cable Assembly, CD ROM Drive
- 8100 Logic Board
- Front Panel
- Rear Panel
- Internal Bottom And Top Chassis
- Top Cover
- NMI/Reset Actuator
- 4MB Video RAM Expansion Card

- Power Macintosh 8100/80 Getting Started Manual
- Macintosh Reference Guide
- Registration Card
- A Note About Power Macintosh Logic Board Upgrade
- Additional Tips And Troubleshooting Manual
- Resource Guide 8100
- Power Macintosh CD
- Power Macintosh System Software Diskettes

Published Date: Feb 19, 2012

Power Macintosh 8100/80AV: Contents Of Upgrade

This article describes what was contained in the M2902LL/A Power Macintosh 8100/80AV Logic Board Upgrade.
This article has been archived and is no longer updated by Apple.
The Power Macintosh 8100/80AV Logic Board Upgrade contained the following:

- 256K Cache Simm
- Cable Assembly, Power Harness
- SCSI Cable Assembly
- SCSI Cable Assembly, CD ROM Drive
- 8100 Logic Board
- Front Panel
- Rear Panel
- Internal Bottom And Top Chassis
- Top Cover
- NMI/Reset Actuator

- Power Macintosh 8100/80 Getting Started Manual
- Macintosh Reference Guide
- Registration Card
- A Note About Power Macintosh Logic Board Upgrade
- Additional Tips And Troubleshooting Manual
- Resource Guide 8100
- Power Macintosh CD
- Power Macintosh System Software Diskettes

- Speech Kit Instruction
- S-Video To Composite Video Input Adapter Cable
- S-Video To Composite Video Output Adapter Cable
- Plaintalk Microphone
- AV Video Card

Published Date: Feb 19, 2012

Power Macintosh: Explanation Of Naming Convention

This article explains the naming convention for the first generation of Power Macintosh computers, up to the Power Macintosh G3.
This article has been archived and is no longer updated by Apple.
The naming of the Power Macintosh models utilizes the following convention:

The first digit tells the form factor: 6xxx is the thin form factor as in the Quadra 610; 7xxx, the taller form as in the Quadra 650 (but the number derives from the Quadra 700); and 8xxx, the mini-tower form as in the Quadra 800.

The second digit indicates the generation of Power Macintosh computer.

The last two digits signify any particular market designation.

For example, the Workgroup Server 9150 uses the 9 series chassis (large tower), is among the first generation of Power Macintosh computer and the utilizes the server market designation of 50 in the name.

Finally, the digits following the slash indicate the microprocessor clock speed.

Published Date: Feb 19, 2012

Power Mac Upgrade Card Not Switching To PowerPC Mode (10/96)

I cannot get the Power Macintosh Upgrade Card to come up in Power Macintosh mode.

This article has been archived and is no longer updated by Apple.

When the control panel has been switched to the correct mode, you must then Shut Down (from the Special menu) and power on the computer. A restart will not work because the computer's Application Specific Integrated Circuits (ASIC) do not get reset unless they are powered off. A hard reset (Control-Command-Power) will reset the ASICs, but you can also corrupt the System file by doing this.

In addition, resetting the PRAM (Option-Command-P-R) at startup will bring the system up in 68000 mode regardless of the setting.

Article Change History:
02 Oct 1996 - Reworded for clarity.
Published Date: Feb 19, 2012

System 7.5: Error Installing Printer Software

We have a Power Macintosh 6100/60 and are getting the following error message when selecting Easy Install with the LaserWriter Select 300 disks:

"The selected disk has System 7 installed, the custom installation you have selected is only for disks where System 6 is installed. Please click Switch Disk to choose a different disk or insert a floppy disk".
This article has been archived and is no longer updated by Apple.
You will only receive this error performing an Easy Install, Custom installs are unaffected. Any computer with System 7.1.2 or System 7.5 installed can have this problem.

This problem also occurs with the StyleWriter II installation on the Power Macintosh computers. Basically, the LaserWriter Select 300 and StyleWriter II Installer scripts are not aware of the Power Macintosh computers and new system software.

Install printer drivers from the system software disks rather than from the disks that accompanied the printer.

To install the additional TrueType fonts included with your printer, use the Custom Install on the printer software disks. You should only install fonts from these disks. Do not install the printer software from these disks.
Published Date: Feb 19, 2012

Power Macintosh: VRAM Expansion Card Minimum Bit Depth (3/94)

My new Power Macintosh has the VRAM Expansion Card installed. When I connect my display to it the lowest bit depth I can select is 8 bit (256 colors/grays).

This article has been archived and is no longer updated by Apple.
The Power Macintosh was determined to have sufficient processing power with the VRAM Expansion Card to support 256 colors/grays at similar speeds as lower bit depths. Thus the VRAM Expansion Card only supports 256, Thousands, and Millions as options.

The AV Card has the traditional set of color depths, from black and white up to Millions.

Support Information Services

Published Date: Feb 19, 2012

Power Macintosh: Removable Cartridge Drive Compatibility

Will my removable cartridge drive (SyQuest) be compatible with a Power Macintosh?
This article has been archived and is no longer updated by Apple.
The Power Macintosh incorporates a new version of the SCSI Manager, version 4.3. In order for your SyQuest to be compatible, the software driver for the cartridge drive must be SCSI Manager 4.3 aware and also be able to recognize the Power Macintosh.

To verify compatibility with the Power Macintosh, you should contact the vendor of your cartridge drive or the vendor of the software driver itself.

It is possible for you to determine the likelihood of compatibility of your drive. Using SCSI Probe, you can check the revision of the drive. If the prefix is E, it is an older drive that did not support the full SCSI command set (SCAI a precursor to SCSI) and does not support disconnect/reconnect.

All other SyQuest drives built after 1990 should support the SCSI manager 4.3 commands. Cartridges from earlier drives should be readable in a newer drive as long as the drivers are up to date.

If the rev level is F2G or earlier as viewed from SCSI probe on a 44mb drive ONLY, the same compatibility issue would be present. Any drive after F2G (for example F2H) will work fine with a Power Macintosh. Verify that the driver from the drive vendor is SCSI Manager 4.3 compatible.

To locate a vendor's address and phone number, use the vendor's name as a search string in the Tech Info Library.
Published Date: Feb 19, 2012

DOS Compatibility Card: PC Control Panel Memory Dimmed (3/94)

The PC Control Panel on my Quadra 610 with the DOS Compatibility Card has the memory section dimmed. I could change the RAM amount in this control panel at one time. How can I make this section of the control panel active again?

This article has been archived and is no longer updated by Apple.
The DOS Compatibility Card for the Quadra 610 and Centris 610, comes with a 72 pin SIMM slot. When the unit is shipped there is not a SIMM in the slot. When the slot is empty, the DOS Compatibility card uses the RAM installed in the Macintosh. When it uses memory from the Macintosh, the PC control panel allows you to pick how much of memory the DOS Compatibility Card uses. However, if a 72 pin SIMM is added to the DOS Compatibility Card, memory is not shared so memory section of the PC control panel dims. Even with the memory section dimmed, it displays the word SIMM to let you know it is using a SIMM located on the DOS Compatibility Card.

Support Information Services
Published Date: Feb 19, 2012

DOS Compatibility Card: System Using Large Amount of RAM (9/95)

In the About This Macintosh dialog box, the system software on my Quadra 610 with the DOS Compatibility Card is using over 5.5 MB. Before I started using the DOS Compatibility Card, my system software was only using 1.5 MB. Why is there an increase in the size of the system software?

This article has been archived and is no longer updated by Apple.
The DOS Compatibility Card comes with a 72-pin SIMM expansion slot. This SIMM slot ships without a SIMM installed. Without a SIMM installed, the Macintosh and the DOS Compatibility Card share the memory installed in the Macintosh. In the PC Setup control panel, the amount of RAM that is shared can be changed in the memory section. The default amount of shared memory is 4 MB. The shared amount of RAM shows up in the About This Macintosh dialog box as part of the System software memory amount.

The PC Setup control panel allows you to change the amount of shared RAM. This allows you to lower the system software usage, by decreasing the amount of RAM set aside for the DOS Compatibility Card. The PC Setup Control panel also has an ON and OFF switch. This allows you to turn off the DOS Compatibility Card and free up all the shared memory if you aren't going to use DOS. After turning off the PC Setup control panel and restarting, the amount of RAM used by the system software returns to the original amount, in this case 1.5 MB.

If a SIMM is installed on the DOS Compatibility Card, then there is no shared memory, so the system software remains at the original amount.

Support Information Services
Published Date: Feb 19, 2012

Power Macintosh: Don‘t Drag Copy System Enabler (2/95)

In the past, I could drag an enabler off of the Disk Tools disk to replace the enabler on the hard drive. With the new Power Macintosh computers this doesn't work anymore.

This article has been archived and is no longer updated by Apple.
The Power Macintosh Enabler now joins the System & Finder as NOT being complete versions on the Disk Tools disk. As such, it also is not recommended to be dragged from the Disk Tools disk.

Article Change History:
27 Feb 1995 - Revised title slightly.

Support Information Services
Published Date: Feb 19, 2012

AWS 95: Hardware Upgrade Program

This article describes the hardware upgrade program for the Apple Workgroup Server 95 (AWS 95) which provides support for up to five hard drives.
This article has been archived and is no longer updated by Apple.
There is a revised disk subsystem that provides support for up to five hard drives inside the AWS 95 enclosure (older configurations support two internal hard drives).

Existing AWS 95 customers can obtain the hardware upgrade (new hard drive bracket and new SCSI cable) from their local Apple Authorized Service Provider or Apple Reseller. An Apple Authorized Service Provider is required to install the new disk subsystem.

Published Date: Feb 19, 2012

AWS 95: New A/UX 3.1 and AppleShare Pro 1.1

This article provides an overview of software improvements, install media, and upgrades available for recently purchased systems.
This article has been archived and is no longer updated by Apple.

Program Overview

Enhancements to the Apple Workgroup Server 95 (AWS 95) was announced on January 4, 1994. The AWS 95 system has been shipping since April, 1993 and these announcements represent the first improvements since the product's introduction. Apple is offering a software upgrade kit to existing AWS 95 users (customers who purchased an AWS 95 or bought a PDS Card Upgrade to Quadra 900/950) so they can take advantage of the new software. All AWS 95 and AWS 95 PDS Upgrade Kit customers are eligible to receive the software upgrade kit.

The AWS 95 system software was improved in several areas. The new software versions are:

NEW: A/UX 3.1 and AppleShare Pro 1.1

OLD: A/UX 3.0.2 and AppleShare Pro 1.0

Software Improvements

- AppleShare Pro file server performance improved an average of 40%
- TCP/IP and NFS software is now pre-installed on the AWS 95 hard drive
- Software bug fixes from the Tune-up Kit issued in September, 1993 have been included
- Support for Syquest Drives
- Support for Apple's new 2 GB hard drive

Installing the New Software

The software upgrade kit is available on CD-ROM. There is one CD which provides the A/UX and AppleShare Pro enhancements. The software upgrade includes just the incremental code needed to enhance your current system software and will take up an additional 10 MB on your hard drive. The CD installer will automatically upgrade the A/UX software first, then search for AppleShare Pro software. If AppleShare Pro is resident on the AWS 95, it will be upgraded to AppleShare Pro 1.1. If AppleShare Pro is not used on the AWS 95, the setup process will be complete. AppleShare Pro users and/or groups settings will be maintained through the software upgrade process.

Published Date: Feb 19, 2012

Power Macintosh Upgrade Card and System 7 Pro (3/95)

I am getting the error "You cannot install PowerTalk software on a hard drive with no System Software" when trying to install System 7 Pro on my Quadra 800 with a Power Macintosh Upgrade Card installed.

The system works perfectly otherwise and I did a "Clean Install" of the system software.

This article has been archived and is no longer updated by Apple.

There is no way for the Apple Installer to sense the presence of the Power Macintosh Upgrade Card, unless it is the active processor. Therefore, the Power Macintosh Card Control Panel will never be installed with System Software unless selected via a custom install.

System 7 Pro
==========

Regarding System 7 Pro, a problem was discovered with the installer script on the PowerTalk For Power Macintosh (1.0.3) Install Me First disk, where it would not install properly on systems with Power Macintosh Upgrade Cards. This problem does not exist on the PowerTalk For Power Macintosh (1.0.2) Install Me First disk. Except for the installer script, the software contained within the 1.0.2 and 1.0.3 Install Me First disks is identical. Apple recommends that customers use the 1.0.2 PowerTalk Install Me First disk when installing PowerTalk on Power Macintosh and Power Macintosh Upgrade Card systems.

NOTE:

Install the System 7 Pro software prior to installing the Power Macintosh Upgrade Card System Software.

The only "strange" thing that might happen after the install involves the Alert sound. After starting in 601 mode, the Alert sound only flashes the menu bar as though the volume is set to zero, but the Alert sound setting in the Sound control panel is set to normal. Changing the setting or the sound does not resolve the problem.

Check the Volumes setting for the built-in speaker to make sure it is not set to zero. Increasing this value brings the sound back. (This relationship is not discussed in the Power Macintosh Upgrade Card manual.)

System 7.5 PowerTalk
==========

Regarding System 7.5 PowerTalk, there seems to be no restrictions on how it is installed. We installed base System 7.5 on a Centris 610 with a Power Macintosh Upgrade Card present, by selecting custom install to select the Power Macintosh Card Control Panel as well as software for any Macintosh. With that System 7.5, we could run either under the 68040 of the Centris or the 601 of the Power Macintosh Upgrade Card while installing PowerTalk successfully. In either case we got PowerTalk system software that would run on either the 68040 or 601 processor.

Article Change History:
21 Mar 1995 - Added System 7.5 information; clarified reason for error.

Support Information Services
Published Date: Feb 19, 2012

Macintosh Display Card 24AC: Compatibility With Power Macintosh

I installed the Macintosh Display Card 24AC software on my Power Macintosh but it gives me an error that the board can not be used in accelerated mode.

Is the card and software compatible with the Power Macintosh?

This article has been archived and is no longer updated by Apple.
The Macintosh Display Card 24AC and its software are fully compatible with the Power Macintosh beginning with revision 1.2 of the software.

Earlier versions of the 24AC software currently did not support accelerated operation on Power Macintosh computers.

To locate software updates mentioned in this article please refer to the following Tech Info Library articles:

Where to Find Apple Software Updates
Obtaining Apple Product Support in the USATo locate software updates mentioned in this article please refer to the following Tech Info Library articles:

Where to Find Apple Software Updates
Obtaining Apple Product Support in the USA

Article Change History:
27 Jul 1994 - Added that software is now fully compatible with Power Macintosh.
18 Apr 1994 - Added information about new version of software for Power Macintosh computers.

Support Information Services
Published Date: Feb 19, 2012

LaserWriter Pro 810: Installing on Alpha/Open VMS

Is there a specific version of the LaserWriter Pro 810's VMS install program for OpenVMS? Also, do you have a file PRO810V1.SYS generated and compatible with OpenVMS?
This article has been archived and is no longer updated by Apple.
Currently, there is no version of the LaserWriter Pro 810 VMS install for OpenVMS. In terms of a file PRO810V1.SYS compatible with OpenVMS, we do not have one. This file is actually not needed as the "net load" feature of the LaserWriter Pro 810 is not utilized. All of the information needed to boot the printer is already in its ROMs.

You can get the LaserWriter Pro 810 to work with OpenVMS by bypassing the VMS install procedure and perform the following commands:

1) Run backup to unpack saveset in the same directory as it is in currently (generally this would be sys$common.[decserver] or [decserver.apple] if using mom$load).

2) Run psform.

3) Run applequeue (he will need last 6 digits of ethernet address and a unique LAT #).

For remote LAT admin:

1) Enter "mc ncp" at the vms prompt
2) Then "connect via 'svao' physic addr 'ethernet address'"
3) password= "access"
4) a "#" prompt indicates that a terminal session has been established with the printer.

To make changes in the printer's server card, get into the printer's RCF (remote console facility) and login in superuser mode ("su";password="system").
Published Date: Feb 19, 2012

Apple OneScanner: Scan-in-progress LED Doesn‘t Function (4/94)

In the Color OneScanner and OneScanner manual, it states that the scanðinðprogress light comes on while scanner is scanning an image. My scanðinðprogress light does not do this. Is the Scanner defective?

This article has been archived and is no longer updated by Apple.
The scan-in-progress LED indicator only operated in early versions of the unit. The User's Manual was written and printed when the early units were available. Later when firmware enhancements were made, the functionality of the scanðinðprogress LED ceased. The LED simply has no useful function on later versions of the scanner. However, this does not imply that the unit is defective.

Support Information Services
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Set MacSNMP Variables At The Console (4/94)

I'm confused over how to set the variables in MacSNMP.

I've installed MacSNMP and I'm trying to change the protocol and destination variables. This is described in the MacSNMP Admin guide on page 25 which states, "You specify where SNMP traps are sent by setting the variables in the trapTable within the Macintosh System Agent. ... To enable a console to receive all the traps sent by a a Macintosh computer, you must set the following variables in the trapTable (defined in the Macintosh System MIB) to the values specified on the next page. This information is stored in the Preferences file." I'm using the MacSNMP Admin program and can find the variables but I can't change the content! After selecting the variable in question, protocol or destination, I can under the Option menu "Get value" or "Get info", but I have found no way to change or set the value. What am I missing?

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```
First, MacSNMP does not allow you to set any of the MIB variables.

Second, you're correct, the manual does indeed explain that in order to send traps you need to set the various
associated variables within MacSNMP.  The point that is not very clear is that these variables can only be set
from the SNMP console and not from within MacSNMP.  In the second paragraph on page 25 you'll see that it
says, "To copy these MIBs to your console and set the variables, refer to the administrators guide that came
with your console."

Support Information Services
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Published Date: Feb 19, 2012

SNA■ps Gateway Config. To A Channel Attached 3174 (3/94)

I am setting up a SNA*ps gateway on Token Ring at a user site. According to the user, the 3174 is connected by subchannel directly to the host and a Macintosh IIx (gateway computer) is on Token Ring connected to the 3174. The user gave me the address for the 3174. I went into SNA*ps Manager, set up a Token Ring config, put in the address: 400025400003, keeping display LU's as 1, and Printer LU's as 0, left the XID blank (what bother's me is on page 20 of the gateway manual it says you must enter the Exchange ID), and left the default Token Ring card address. I started the gateway, setup connection and tried to connect, and I immediately get a 510 comm error. I have two questions so I can be more knowledgeable with them.

1) Is it okay to leave the default Token Ring card address? The user says on his PC's he doesn't have to change it. If yes, where does the user get this ID, from Question 940 on the 3174 configuration?

2) Is the XID required? Again, if yes, where do I point the user to get this?

This article has been archived and is no longer updated by Apple.
1) Is it okay to leave the default Token Ring card address? Generally this is not the correct thing to do.

The user says on his PC's he doesn't have to change it. Perhaps they are getting the client connection to a NetBios gateway mixed up with being the gateway. A NetBios connection to a 3270 IBM downstream gateway would use the Burned-in address. Kind of like using the burned-in Macintosh Ethernet address when running EtherTalk.

If yes, where does the user get this ID, from Question 940 on the 3174 configuration? YES.

2) Is the XID required? Again, if yes, where do I point the user to get this? In this connection, a Downstream PU off a 3174, an XID is NOT used in the configuration. The SNA*ps engineers wrote the configurator for Token Ring requiring an XID always. Just enter 000-00000 and let it be. It is never sent to the host or the 3174.

It could be the user is not following IBM's suggestions about how to customize the 3174. IBM suggests using locally administered Token Ring addresses so you can change the physical Token Ring hardware, and not have to alter the customization of the 3174 each time. The user may have entered the "burned-in" addresses of specific cards into the 3174 customization, which is very time consuming.

This is how the connections work:

In the 3174, Question 900 is the Token Ring address of the 3174 (the one it is known as on the Ring). This is the Address you put in the SNA*ps config as the "gateway" Token Ring address.

A channel attached 3174 has a channel address and several sub-channel addresses. The first subchannel address is associated with the Coax ports on the 3174. The 2nd through 5th (however many) subchannel addresses are associated with downstream PUs, which are "3174" like controllers such as a SNA*ps gateway. The downstream controller is not located in the channel attached 3174 but on the Token Ring. The 3174 offers the service of doing a Link layer remapping of the Subchannel address to the proper Token Ring address. That is the function of question 940.

Subchannel 560 ----> TR 4000 0000 4444 0000
Subchannel 561 ----> TR 3E89 EEEE 8990 C667
And so on.

The host has a configuration in NCP for LU (displays and printers) associated with these subchannel addresses. When it "polls" the subchannel address, the 3174, passes the SNA request out it's Token Ring port to the Token Ring address shown in Question 940. The SNA*ps downstream PU gets connected by using a proper and configured Token Ring address from question 940.

If you do not use one of these configured addresses, you get a Comm 510, which means, "I passed my address to the 3174 and it did not match any of the values found in question 940, so I could not become an active downstream PU."

You have to use one of the configured addresses. Try to verify which PC is using one of the configured addresses. Make sure it is powered down, and us it's Token Ring address value (also shown in question 940) in the Macintosh Token Ring control Panel. Remind the user you are NOT

changing the 3174, you are configuring the Macintosh to match up with their 3174 customization.

Support Information Services

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LaserWriter with Fax: Setting Fax Paper Tray

Is there a way to change the default paper tray the fax uses on the LaserWriter Select 360 or LaserWriter 16/600 PS printer?
This article has been archived and is no longer updated by Apple.
The PostScript code for setting the default paper tray can be used to set the default paper tray for incoming faxes on both the LaserWriter Select 360 and the LaserWriter 16/600 PS. The only disadvantage with this approach is that the user must manually select the desired paper tray from the print dialog box when printing from any other tray.

The following PostScript code changes the default paper tray to the 500-sheet tray. Use any word processor or TeachText to edit the code below and then save the file as a text document. Use the LaserWriter Utility to download the PostScript file to the printer.

If you decide to use the PostScript code below, you need to be very careful in selecting the default tray. If the multipurpose tray is set as the default and there is no paper in it, the paper out LED will light for EVERY PRINT JOB until paper is placed in the tray. This problem has caused some users (others on the network) to think that the printer is malfunctioning and needs to be repaired. Please forewarn users about this so they can understand, that the printer's behavior has changed.

Caution:
If you choose to use the PostScript code provided in this article, you assume all risks involved in making these changes. PostScript code, if not entered correctly, can place the LaserWriter into a condition requiring service.

This is PostScript Level 1 code:

```
%═══════════════════════════════════════════════════
% Begin PostScript Code
%
serverdict begin 0 exitserver
statusdict begin 2 setdefaultpapertray end
%
% end PostScript Code
%═══════════════════════════════════════════════════
```

To change the default tray to another tray, simply change the number before the "setdefaultpapertray" operator to one of the following values.

Value Tray Selection
0 250 Sheet Cassette
1 Multi-purpose/manual feed tray
2 500 Sheet Cassette

This is the equivalent PostScript Level 2 code:

```
%═══════════════════════════════════════════════════
% Begin PostScript Code
%
serverdict begin 0 exitserver
1 dict dup /InputAttributes 1 dict dup /Priority [2 1 0] put put setpagedevice
%
% End PostScript Code
%═══════════════════════════════════════════════════
```

This sets the paper tray priority to:
1st Priority - Cassette (500 Sheets) - designated by the "2" in the array above.
2nd Priority - Multipurpose Tray - designated by the "1" in the array above.
3rd Priority - Cassette (250 Sheets) - designated by the "0" in the array above.

You can change the paper tray priority order by changing the values in "/Priority [2 1 0]".

For example, /Priority [0 1 2] makes the 250 sheet cassette first priority, then the Multipurpose tray next, then the 500 sheet cassette.
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Jazz: Using it with Finder 4.1

This article has been archived and is no longer updated by Apple.
Jazz is shipped with the older version of the Finder (1.1). You can use Finder 4.1 with Jazz if you like, you should not run into any problems. To change to the newer version of the finder, make a copy of the original Jazz Startup Disk that came in your Jazz package and intall the new finder on it either by replacing the Finder with 4.1 version or by running Apples Finder Update program.

Note: When replacing the Finder you should startup your Mac with the disk with the newer Finder and then put in the Jazz Startup Disk. Finder 4.1 comes with the Choose Printer desk accessory, which is necessary for the LaserPrinter.

NOTE: Apple Computer Inc. is not responsible for the contents of this article.
Published Date: Feb 19, 2012

System Update Disk v 3.0: How to Install

This article details the installation process for System Update Disk v 3.0

This article has been archived and is no longer updated by Apple.

To install the 3.0 update, you need to do three tasks:

1. Install the System Update
2. Update your Apple Utilities
3. Update your Apple drivers

TASK 1?INSTALL THE SYSTEM UPDATE

The Easy Install process for System Update 3.0 automatically determines what elements if any, of the updated system software your computer needs.

To install the software update, follow these steps:

1. If you currently have the Connectix Enabler Patch on your hard disk, remove it from your hard disk before proceeding with this installation.

2. Insert System Update 3.0 Disk 1 in your floppy disk drive.

3. Double-click the Installer icon.

4. Read the Welcome screen, and then click OK.

5. Click the Install button.

The Easy Install process for System Update 3.0 automatically determines what elements of the updated system software your computer needs.

6. When you see a message that installation is complete, click the Restart button.

7. When you finish, continue with "Step 2: Update Your Apple Utilities" below.

NOTE: None of the packages on System Update 3.0 are removable, so they will all be dimmed if you select "Custom Remove" in the pop-up menu.

TASK 2: UPDATE YOUR APPLE UTILITIES

The "Utilities —" folder on the System Update 3.0 Disk 1 contains Apple HD SC Setup version 7.3.1 and Apple Disk First Aid version 7.2. These updates are intended to permanently replace the copies of Apple HD SC Setup and Apple Disk First Aid on your System 7.1, 7.1.1, or 7.1.2 Disk Tools disk. This update is recommended even if you have already installed System Update 2.0.1.

Follow these steps to update your utilities:

1. Insert the System Update 3.0 Disk 1 in your floppy disk drive.

2. Choose Eject Disk from the Special menu.

3. Insert the Disk Tools disk in your floppy disk drive.

4. Click the "Utilities —" window to make it active.

5. Drag the HD SC Setup and the Disk First Aid icons to the Disk Tools disk.

6. When your Macintosh warns you that the files on your Disk Tools disk

have the same names as the items that you are moving, click OK.

7. Insert specific disks as requested until the files are fully copied.

8. When you finish, continue with "Step 3: Update Your Apple Drivers" below.

TASK 3: UPDATE YOUR APPLE DRIVERS

System Update 3.0 also contains a driver update for Apple hard disk drives. You should install the driver update even if you have already installed System Update 2.0.1. Follow the steps below to install the driver update on each Apple hard disk drive you own:

1. With your computer off, insert the Disk Tools disk in your floppy drive.

2. Turn on your computer.

3. Double-click the Disk Tools icon.

4. Double-click the Disk First Aid icon in the Disk Tools window. (NOTE: If you completed "Step 2: Update Your Apple Utilities" above, the Disk First Aid utility on your Disk Tools disk should be version 7.2)

5. Click the driver icon that corresponds to your Apple hard disk drive. If you have more than one Apple hard disk drive, hold down the Shift key and click each icon for the drives that you will be updating.

6. Click the Repair button. Disk First Aid will now run some diagnostic tests and make any necessary repairs on your drive. This may take a few minutes depending on the size of your drive.

7. Open the File menu and choose Quit.

8. Double-click the Apple HD SC Setup icon in the Disk Tools window. (NOTE: For more information on Apple HD SC Setup, see your Macintosh user's guide. If you completed "Step 2: Update Your Apple Utilities" above, the HD SC Setup utility on your Disk Tools disk should be version 7.3.1)

9. Click the Drive button until the name of the hard drive you want to update appears.

10. Click the Update button.

11. Repeat steps 9 and 10 for any other Apple hard disk drives you own.

12. Click the Quit button.

NETWORK INSTALLATION INSTRUCTIONS

Preparation

Users that wish to install System Update 3.0 on a number of Macintosh computers on a network may find it simpler to install System Update 3.0 over their network rather than shuffling the two 1.4 MB floppies on each Macintosh. Creation of the "net install" package can be accomplished by following these steps:

1. Create a folder on the server named "System Update 3.0 Net Install".

2. Insert System Update 3.0 Disk 1 and drag the icon for the disk into the folder created in Step 1. This will copy the entire contents of the first disk into a folder within the "System Update 3.0 Net Install" folder.

3. Insert System Update 3.0 Disk 2 and drag the icon for the disk into the folder created in Step 1. This will copy the entire contents of the second disk into a folder within the "System Update 3.0 Net Install" folder.

4. Open the folder named "System Update 3.0 Net Install".

5. Open the folder named "System Update 3.0 Disk 1" and drag the Installer and Install System Update into the folder named "System Update 3.0 Net Install".

6. Verify that there are four icons showing in the "System Update 3.0 Net Install" folder. They should be the Installer, Install System Update, the "System Update 3.0 Disk 1" folder, and the "System Update 3.0 Disk 2" folder.

Installation

To install System Update 3.0 over a network, log onto the server containing the folder created above and double click the Installer. You can have multiple Macintosh computers installing from the same "System Update 3.0 Net Install" simultaneously. This should simplify, and speed up, the process for updating numerous networked Macintosh computers.

What Other Enhancements Does System Update 3.0 Provide?

System Update 3.0 includes enhancements from System Update 2.0.1, Hardware System Update 2.0, and Hardware System Update 1.0 (listed below). Some enhancements are Macintosh-model specific while others apply to a range of models.

* Improves the reliability of high-speed modems and similar devices connected to Macintosh LC, LC II, IIsi, IIvx, IIvi, Classic II, Quadra 900, and Quadra 950 computers.

* Improves the accuracy of the system clock in Macintosh LC, LC II, IIsi, IIvx, IIvi, Classic II, Quadra 900, and Quadra 950 computers.

* Corrects problems ejecting floppy disks when the computer is shut down on Macintosh IIsi, IIci, IIvx, IIvi, Macintosh Quadra 700, and Macintosh Quadra 950 computers.

* Addresses possible floppy disk drive and hard disk problems with the Macintosh IIsi, IIci, IIvx, IIvi, Centris, Quadra, and PowerBook and PowerBook Duo computers.

* Removes horizontal white lines that may appear while scrolling on Quadra and Centris systems with a Macintosh 16" Color Display.

* Prevents fonts from being needlessly locked in memory during the boot process. This frees up memory on affected machines.

* Corrects color problems with the Apple Basic Color monitor on Macintosh Centris and Quadra computers. (NOTE: If Hardware System Update 1.0, Hardware System Update 2.0, or System Update 2.0.1 extensions or the Basic Color Monitor extension are already installed on your computer, this update replaces them. The 3.0 update removes the Basic Color Monitor and the ADBReInit extensions and replaces them with a System Update 3.0 extension.)

* Adds software for the Apple Adjustable Keyboard, allowing you to connect the keyboard to any Macintosh computer without separately installing special keyboard software. This software is not needed by Power Macintoshes, but is needed by the Power Macintosh Upgrade Card.

* Updates the Macintosh Color Classic System Enabler (System Enabler 401, version 1.0.5). This new version allows the Apple IIe Card and software to be used with the Color Classic. In addition, this revised System

Enabler improves mouse performance with the Color Classic. (NOTE: To use the Apple IIe Card with system software version 7.1 on a Color Classic, you need to have version 2.2.1 of the Apple IIe Card software. You can obtain an upgrade package for the Apple IIe Card software by contacting an Apple-authorized dealer, or by using the AppleLink path Apple Products: Apple SW Updates: Macintosh: Peripheral Software: Apple IIe Card for Macintosh LC.)

* Updates System Enabler 131 (version 1.0.3) for the PowerBook 160, 165, 165c, and 180 to support 12" monitors and improve reliability. (NOTE: There is a very small chance that your PowerBook may not boot when you turn it on for the first time after installing the update. If this happens, turn the computer off and back on, and press Command-Option-P-R while the computer starts up.) System Enabler 131 replaces System Enabler 121 and System Enabler 111 (and the Installer will delete these files).

* Installs the Sound Manager Update to improve sound performance on most Macintosh computers. (NOTE: When this software is installed, your system sound will revert to the Simple Beep. After installation, you may wish to reset the Sound control panel to your preferred sound.)

* Installs AutoRemounter 1.2. This release significantly reduces network traffic compared to version 1.0.

* Includes Disk First Aid 7.2, a utility that repairs damaged disks.

Published Date: Feb 19, 2012

System Update 3.0: Disk Contents

This article describes the contents of the two FDHD disks that come with System Update Disk v 3.0, and the single 800K disk for the 800K version.

This article has been archived and is no longer updated by Apple.

```
System Update 3.0 Disk 1 contains:
----------------------------------
*  Installer and Installer script
*  System Update 3.0 Read Me
*  System Update 3.0 Archive
  This file is an InstaCompOne archive which contains the following files:
  -  Battery (v 7.1.1)
  -  System Update (v 3.0)
  -  Record Button (v. 1.0, from Norsi)
  -  Sound Manager (v. 3.0)
  -  Duo Battery Patch (v 1.0)
  -  Easy Access (v 7.2)
  -  Memory (v 7.3)
  -  Sound (v  8.0.1)
  -  PowerBook Display (v. 1.1)
  -  PowerBook (v. 7.3.1)
  -  PowerBook Setup (v. 7.3.1)
  -  AutoRemounter (v 1.2)
  -  TV Setup (v 1.0.1)
  -  PC╨Setup (v1.0.2)

System Resources in a folder named System Resources —:
*  Keyboard Resources (v1.0.3)
*  Serial Resources (for Grayshare)
*  StandardFile Resources (v1.0)

Utility applications in a folder named Utilities —:
*  Apple HD SC Setup (v 7.3.1)
*  Disk First Aid (v 7.2)

System Update 3.0 Disk 2 contains:

System Enablers at the Root Level:
*  System Enabler 131 ( v1.0.3)
*  System Enabler 401 (v1.0.5)
*  System Enabler 088 (v1.2)
*  PowerBook Duo Enabler (v1.0)
*  System Enabler 403 (v1.0.2)
*  System Enabler 065 (v1.2)
*  System Enabler 003 (v1.1)
*  System Enabler 040 (v1.1)
*  PowerPC╨Enabler (v1.0.1)
*  PowerPC╨Upgrade Card Enabler (v1.0.1)

---------------------------------------------------------------------------

System Update 3.0 (800K) contains:

Items at the root level:
*  Installer and Installer script
*  System Update 3.0 800K Read Me
*  System Update 3.0 800K Archive
This file is a System Update archive which contains the following files:
  -  System Update (v 3.0)
  -  Record Button (v. 1.0)
  -  Sound Manager (v. 3.0)
  -  Easy Access (v 7.2)
```

```
  -  Memory (v 7.3)
  -  Sound (v  8.0.1)

System Resources in a folder named System Resources —:
*  Keyboard Resources (v1.0.3)
*  Serial Resources (for Grayshare)
*  StandardFile Resources (v1.0)

Utility applications in a folder named Utilities —:
*  Apple HD SC Setup (v 7.3.1)
*  Disk First Aid (v 7.2)
```

Published Date: Feb 19, 2012

Apple IIe Card: Can‘t Use Comm slot device With Card (9/96)

Does the Apple IIe Card work with Macintosh computers that have a Comm Slot, such as the Macintosh LC 575?

This article has been archived and is no longer updated by Apple.

The Apple IIe Card does not work in multiple card environments. Because of this, the Apple IIe Card will not work when there is any device in the comm slot on the Macintosh LC 575.

This article was published in the 17 September 1996 issue of the Information Alley.

Article Change History:

17 Sep 1996 - Retitled, and rewrote discussion.

Published Date: Feb 19, 2012

LaserWriter IIf and IIg: Communication Switch Settings

This article discribes the communication switch settings on the LaserWriter IIf and LaserWriter IIg printer.
This article has been archived and is no longer updated by Apple.

The LaserWriter IIg contains an ethernet port, the LaserWriter IIf does not, so when the chart indicates ethernet, it only applies to the LaserWriter IIg printer.

The following table shows the communication settings in effect when the printer is new. The push-button switch on the printer's connector panel can be set to positions 0-9. Switch positions 0-5 are fixed, and the settings for these positions cannot be changed. Positions 6-9 are user-configurable; you can change the settings for these positions to match the needs of the computer you are connecting. The section "Available Settings," at the end of this article, lists all the options available for each setting.

From a Macintosh computer, you use the LaserWriter Utility program to display and change communication settings. From a computer other than a Macintosh, you can send PostScript commands to the printer to change the communication settings.

Settings

Switch Number	Port Name	Connect Type	Baud Rate	Parity	Data Bits	Stop Bits	Flow Cntrl	Protocol	Mode
0	Din-8	LocalTalk	-	-	-	-	-	-	PS
	RS-232	Serial	9600	None	8	1	XON/XOFF	Normal	PS
	Ethrnet	EtherTalk	-	-	-	-	-	-	PS
1	Din-8	LocalTalk	-	-	-	-	-	-	PS
	RS-232	Serial	9600	None	8	1	DTR	Raw	HP
	Ethrnet	EtherTalk	-	-	-	-	-	-	PS
2	Din-8	LocalTalk	-	-	-	-	-	-	PS
	RS-232	Serial	19.2K	None	8	1	XON/XOFF	Normal	PS
	Ethrnet	EtherTalk	-	-	-	-	-	-	PS
3	Din-8	LocalTalk	-	-	-	-	-	-	PS
	RS-232	Serial	9600	None	8	1	XON/XOFF	Raw	*
	Ethrnet	EtherTalk	-	-	-	-	-	-	PS
4	Din-8	LocalTalk	-	-	-	-	-	-	PS
	RS-232	Serial	1200	None	7	1	XON/XOFF	Normal	PS
	Ethrnet	EtherTalk	-	-	-	-	-	-	PS
5	Din-8	Serial	9600	None	8	1	XON/XOFF	Normal	PS
	RS-232	Serial	9600	None	8	1	XON/XOFF	Normal	PS
	Ethrnet	EtherTalk	-	-	-	-	-	-	PS
6	Din-8	LocalTalk	19.2K	None	8	1	XON/XOFF	Normal	PS
	RS-232	Serial	19.2K	None	8	1	XON/XOFF	Normal	PS
	Ethrnet	EtherTalk	-	-	-	-	-	-	PS
7	Din-8	LocalTalk	-	-	-	-	-	-	PS
	RS-232	Serial	1200	None	8	1	DTR	Normal	PS
	Ethrnet	EtherTalk	-	-	-	-	-	-	PS
8	Din-8	LocalTalk	-	-	-	-	-	-	PS
	RS-232	Serial	1200	None	8	1	XON/XOFF	Raw	HP
	Ethrnet	EtherTalk	-	-	-	-	-	-	PS
9	Din-8	LocalTalk	-	-	-	-	-	-	PS
	RS-232	Serial	9600	None	8	1	XON/XOFF	Binary	PS
	Ethrnet	EtherTalk	-	-	-	-	-	-	PS

```
PS - PostScript
HP - HP PCL 4
*  - Nonprinting input: This is used when a device-such as an automatic
                        sheet feeder-is connected to the serial port and
                        receives special commands from a computer
                        connected through another of the printer's ports.
```

Available Settings

The following table briefly describes the communication settings and lists the options available for each.

Setting	Description	Options
Baud Rate	The speed of transmission between the computer and printer.	300, 600, 1200, 1800, 2400, 3600, 4800, 7200, 9600, 19200, 57600
Parity	The method used to compare transmitted and received data to check for errors.	None, odd, even, mark, space
Data Bits	The number of bits used to represent each character.	7, 8
Stop Bits	The number of bits used to indicate the end of a character.	1, 2
Flow Control	The method used to prevent transmitted data from exceeding the rate at which the receiving end can accept it.	XON/XOFF, DTR ETX/ACK
Protocol	The digital format in which the data is presented.	Normal, Raw, Binary
Mode	The communication standard used to transmit data	Postscript, HP Printer Command Language 4, and Nonprinting Input (not intended for a computer connection)

Published Date: Feb 19, 2012

At Ease: Workgroup Version Message

Recently I began to get a message saying that I am now using the At Ease Workgroup version. How do I resolve this as I am not using a Workgroup version?
This article has been archived and is no longer updated by Apple.
Note: The steps presented below are resolving an issue occurring on a stand-along computer, not a computer networked together in a workgroup.

To resolve this issue follow the steps below:

1. Restart your computer using a volume other that the internal hard. For example, use the Utility diskette or CD that came with the comptuer.

2. Open the System Folder within the hard disk icon.

3. Open the At Ease Items folder within the System Folder. Drag the following items to the Trash:

- At Ease Preferences
- At Ease Setups
- At Ease Users

4. Once these items are in the Trash, hold down the Option key on your keyboard and choose Empty Trash from the Special menu.

5. Restart the computer and you should be able to get into At Ease Setup.
Published Date: Feb 19, 2012

LaserWriter Pro 600/630: Communication Switch Settings

This article discribes the communication switch settings on the LaserWriter Pro 600 and LaserWriter Pro 630 printer.
This article has been archived and is no longer updated by Apple.
The LaserWriter Pro 630 contains an ethernet port, the LaserWriter Pro 600 does not, so when the chart indicates ethernet, it only applies to the LaserWriter Pro 630 printer.

The following table shows the communication settings in the printer. The push-button switch on the printer's connector panel can be set to positions 0-9. Switch positions 0-5 are fixed, and the settings for these positions cannot be changed. Positions 6-9 are user-configurable; you can change the settings for these positions to match the needs of the computer you are connecting. The Available Settings section lists the options that are available for each setting.

From a Macintosh computer, you use the LaserWriter Utility program to display and change communication settings. From a computer other than a Macintosh, you can send PostScript commands to the printer to change the communication settings.

Settings

Switch Number	Port Name	Connect Type	Baud Rate	Parity	Data Bits	Stop Bits	Flow Cntrl	Protocol	Mode
0	Din-8	LocalTalk	-	-	-	-	-	-	PS
.	RS-232	Serial	9600	None	8	1	XON/XOFF	Normal	PS
.	Ethernet	EtherTalk	-	-	-	-	-	-	PS
.	Parallel	Centronic	-	-	-	-	-	Normal	PS
1	Din-8	LocalTalk	-	-	-	-	-	-	PS
.	RS-232	Serial	9600	None	8	1	DTR	Raw	HP
.	Ethernet	EtherTalk	-	-	-	-	-	-	PS
.	Parallel	Centronic	-	-	-	-	-	Raw	HP
2	Din-8	LocalTalk	-	-	-	-	-	-	PS
.	RS-232	Serial	19.2K	None	8	1	XON/XOFF	Normal	PS
.	Ethernet	EtherTalk	-	-	-	-	-	-	PS
.	Parallel	Centronic	-	-	-	-	-	Normal	PS
3	Din-8	LocalTalk	-	-	-	-	-	-	PS
.	RS-232	Serial	9600	None	8	1	DTR	Raw	*
.	Ethernet	EtherTalk	-	-	-	-	-	-	PS
.	Parallel	Centronic	-	-	-	-	-	Raw	HP
4	Din-8	LocalTalk	-	-	-	-	-	-	PS
.	RS-232	Serial	1200	None	7	1	XON/XOFF	Normal	PS
.	Ethernet	EtherTalk	-	-	-	-	-	-	PS
.	Parallel	Centronic	-	-	-	-	-	Normal	PS
5	Din-8	Serial	9600	None	8	1	XON/XOFF	Normal	PS
.	RS-232	Serial	9600	None	8	1	XON/XOFF	Normal	PS
.	Ethernet	EtherTalk	-	-	-	-	-	-	PS
.	Parallel	Centronic	-	-	-	-	-	Normal	PS
6	Din-8	Serial	19.2K	None	8	1	XON/XOFF	Normal	PS
.	RS-232	Serial	19.2K	None	8	1	XON/XOFF	Normal	PS
.	Ethernet	EtherTalk	-	-	-	-	-	-	PS
.	Parallel	Centronic	-	-	-	-	-	Normal	PS
7	Din-8	LocalTalk	-	-	-	-	-	-	PS
.	RS-232	Serial	1200	None	8	1	ETX/ACK	Normal	PS
.	Ethernet	EtherTalk	-	-	-	-	-	-	PS
.	Parallel	Centronic	-	-	-	-	-	Normal	PS
8	Din-8	LocalTalk	-	-	-	-	-	-	PS
.	RS-232	Serial	1200	None	8	1	DTR	Raw	HP

```
.      Ethernet EtherTalk  -     -       -     -    -         -         PS
.      Parallel Centronic  -     -       -     -    -         Raw       HP

9      Din-8    LocalTalk  -     -       -     -    -         -         PS
.      RS-232   Serial    9600  None     8     1    XON/XOFF  Binary    PS
.      Ethernet EtherTalk  -     -       -     -    -         -         PS
.      Parallel Centronic  -     -       -     -    -         Binary    PS

PS - PostScript
HP - HP PCL 4
*  - Nonprinting input: This is used when a device-such as an automatic
.                       sheet feeder-is connected to the serial port and
.                       receives special commands from a computer
.                       connected through another of the printer's ports.
```

Available Settings

The following table briefly describes the communication settings and lists the options available for each.

Setting	Description	Options
Baud Rate	The speed of transmission between the computer and printer.	300, 600, 1200, 1800, 2400, 3600, 4800, 7200, 9600, 19200, 57600
Parity	The method used to compare transmitted and received data to check for errors.	None, odd, even, mark, space
Data Bits	The number of bits used to represent each character.	7, 8
Stop Bits	The number of bits used to indicate the end of a character.	1, 2
Flow Control	The method used to prevent transmitted data from exceeding the rate at which the receiving end can accept it.	XON/XOFF, DTR ETX/ACK
Protocol	The digital format in which the data is presented.	Normal, Raw, Binary
Mode	The communication standard used to transmit data	Postscript, HP Printer Command Language 4, and Nonprinting Input (not intended for a computer connection)

Article Change History:

Support Information Services

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Jazz: Communicating with the Apple Modem

This article has been archived and is no longer updated by Apple.
When using Jazz communications with an Apple modem you cannot use the settings 7 Data Bits and NONE Parity - The modem will not dial. You should use 7 and EVEN or 8 and NONE. On our Apple 1200 modem we use the DIP switch settings of 1-DOWN 2-UP 3-UP.

Note: When trying to dial from a business phone that requires a 9 to get out remember to put it in your modem settings. Example 9,6172379898 this would be how you type in the number for a long distance call from a business phone.

NOTE: Apple Computer Inc. is not responsible for the contents of this article.
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Personal LaserWriter NTR: Communication Switch Settings

This article describes the communication switch settings on the Personal LaserWriter NTR printer.
This article has been archived and is no longer updated by Apple.
Warning: If you choose a non-LocalTalk setting for the LocalTalk (8-pin) port while the printer is connected to an AppleTalk network, you can do permanent damage to devices on the network! Settings 1, 4, 5, and 6, (and possibly 9, since you can customize 9) are non-LocalTalk settings for the 8-pin port. Before you choose one of these settings, disconnect any LocalTalk connector box connected to the printer.

If you have a non-Macintosh computer that requires special settings to work with the Personal LaserWriter NTR, you can choose a different group of settings. You use the ten-position push-button switch on the back of the printer to choose a group of settings.

If you need to change the setting, check the following table for the switch position that corresponds to the setting you need. If you need additional settings and have access to a Macintosh computer, you can program position 9 using the LaserWriter Utility software.

Settings

Switch Number	Port Name	Connect Type	Baud Rate	Parity	Data Bits	Stop Bits	Flow Control	Protocol	Mode
0	Din-8	LocalTalk	-	-	-	-	-	-	PS
	RS-232	Serial	9600	None	8	1	XON/XOFF	Normal	PS
	Parallel	Centronic	-	-	-	-	-	Normal	PS
1	Din-8	Serial	9600	None	7	1	XON/XOFF	-	PS
	RS-232	Serial	9600	None	7	1	XON/XOFF	Normal	PS
	Parallel	Centronic	-	-	-	-	-	Normal	PS
2	Din-8	LocalTalk	-	-	-	-	-	-	HP
	RS-232	Serial	9600	None	8	1	XON/XOFF	Normal	HP
	Parallel	Centronic	-	-	-	-	-	Normal	HP
3	Din-8	LocalTalk	-	-	-	-	-	-	HP
	RS-232	Serial	9600	None	8	1	DTR	Normal	HP
	Parallel	Centronic	-	-	-	-	-	Normal	HP
4	Din-8	Serial	1200	None	7	1	XON/XOFF	-	PS
	RS-232	Serial	1200	None	7	1	XON/XOFF	Normal	PS
	Parallel	Centronic	-	-	-	-	-	Normal	PS
5	Din-8	Serial	9600	None	8	1	XON/XOFF	Normal	PS
	RS-232	Serial	9600	None	8	1	XON/XOFF	Normal	PS
	Parallel	Centronic	-	-	-	-	-	Normal	PS
6	Din-8	Serial	9600	None	8	1	XON/XOFF	Binary	PS
	RS-232	Serial	9600	None	8	1	XON/XOFF	Binary	PS
	Parallel	Centronic	-	-	-	-	-	Binary	PS
7	Din-8	LocalTalk	-	-	-	-	-	-	PS
	RS-232	Serial	9600	None	8	1	XON/XOFF	Normal	PS
	Parallel	Centronic	-	-	-	-	-	Normal	PS
8	Din-8	LocalTalk	-	-	-	-	-	-	PS
	RS-232	Serial	9600	None	8	1	XON/XOFF	Normal	PS
	Parallel	Centronic	-	-	-	-	-	Normal	HP
9	Din-8	LocalTalk	-	-	-	-	-	-	PS
	RS-232	Serial	9600	None	8	1	XON/XOFF	Normal	PS
	Parallel	Centronic	-	-	-	-	-	Normal	PS

PS - PostScript

HP - HP PCL 4

* - Nonprinting input: This is used when a device-such as an automatic sheet feeder-is connected to the serial port and receives special commands from a computer connected through another of the printer's ports.

Available settings

The following table briefly describes the communication settings and lists the options available for each.

Setting	Description	Options
Baud Rate	The speed of transmission between the computer and the printer.	300, 600, 1200, 1800, 2400, 3600, 4800, 7200, 9600, 19200, 57600
Parity	The method used to compare transmitted and received data to check for errors.	None, odd, even, mark, space
Data Bits	The number of bits used to represent each character.	7, 8
Stop Bits	The number of bits used to indicate the end of each character.	1, 2
Flow Control	The method used to prevent transmitted data from exceeding the rate at which the receiving end can accept it.	XON/XOFF, DTR, ETX/ACK
Protocol	The digital format in which the data is presented.	Normal, raw, binary
Mode	The communication standard used to transmit data.	PostScript, HP Printer Command Language 4, and Nonprinting Input (not intended for a computer connection)

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Performa: Compton‘s CD Text Difficult To Read (4/94)

I'm having some problems with my Compton's CD, text is displayed in an Old English font which makes it difficult to read.

This article has been archived and is no longer updated by Apple.
To resolve this issue, there are two font files you need to remove from your Fonts folder. The two font files are:

(1) Remove (DO NOT TRASH) any font relating to American Heritage Dictionary in the Fonts folder inside the System Folder.

(2) Remove (DO NOT TRASH) any font relating to Holiday font suitcase in the Fonts folder inside the System Folder.

Apparently, these two font families conflict with Compton's normal accessing of fonts.

Support Information Services
Published Date: Feb 19, 2012

Performa: Default Document Folder Selection (4/94)

I would like to know how to reverse the process of making the Document folder the default. I would like the default folder to be the current folder that is open. How do I change it?

This article has been archived and is no longer updated by Apple.
The answer to this depends entirely on which version of the Performa operating system you have. I'll provide both answers for you.

If you have version 7.0.1p-7.1p2:

To prevent the computer from defaulting to the Documents folder you need to remove the Launcher Control Panel from the Control Panels folder within the system folder. The Launcher is what is causing your computer to default to the Documents folder. Even though the Launcher is removed from the system folder, you will still be able to use the Launcher to access your applications.

If you have version 7.1p3 or greater:

Open the Performa Control Panel. On this Control Panel there are several options, including an option to change what you want the default folder to be. Currently it is set to default to the Documents folder, but you can change this to default to the last folder used.

Support Information Services
Published Date: Feb 19, 2012

Performa: Launcher Unable To Find Hard Drive

Whenever I try to click on items in my Launcher it tells me that it cannot be opened because the disk "hard drive name" cannot be found. What should I do?
This article has been archived and is no longer updated by Apple.
This is happening because the name of the hard drive has been changed from what it was originally. To fix this problem, you will just have to rename your hard drive back to its original name (Hard Disk or Macintosh HD).

You change the name of the hard drive in the same manner that you change the name of a folder. This process is described in detail in your User's Guide. Once you have renamed it back to its original name, the items in the Launcher should then work fine.
Published Date: Feb 19, 2012

LaserWriter Pro 810: Change Virtual Printer Font

We are using the ASCII_portrait service on the LaserWriter Pro 810 and need to change the default font from 10pt Courier to 9pt Courier. How do we do this?
This article has been archived and is no longer updated by Apple.
As of April 1994, there is no way to change font characteristics of virtual printers. In actuality, virtual printers send down HP PCL or PostScript code before each print job to configure the printer. You can add a couple of lines of PCL to your print queue configuration (on NOVELL, UNIX, VMS) to change the font size or pitch. This should make it transparent for anyone using the print queue since the code will be downloaded automatically before the actual job.

Here are the HP PCL commands to change font size and pitch:

<esc>(s#H : pitch selection (usually 10 or 16.66 built-in)
<esc>(s#V : character height (font size in points)

<esc> is the escape character
is the actual value

For example, to change font size to 9 point:

<esc>(s9V

To enter <esc>, press the Ctrl-P keys followed by the Esc key.

Note: You must use an ASCII text editor like DOS EDIT. You cannot enter the <esc> character in some Windows-based editors like Notepad.
Published Date: Feb 19, 2012

GeoPort: Won‘t Answer Incoming Calls In Originate Mode (4/94)

I want my GeoPort adapter to answer an incoming call in "originate" mode. It works with my external modems - that is I issue an "ATDT" command when the phone is ringing and the modem grabs the incoming call. With the GeoPort, I get a port in use error.

This article has been archived and is no longer updated by Apple.
With the Express Modem and GeoPort, there is a time delay of 6 seconds between when a ring is detected and when you can issue a an "ATDT" command. The way to eliminate this would be to type "ATH1DT" instead of "ATDT". The "H1" forces the modem to go off-hook. Once off-hook, the "DT" command can be issued causing the modem to think it is the originator.

Support Information Services

Published Date: Feb 19, 2012

Express Modem Dial Back & TrackNet (4/94)

Our PowerBooks with Express Modems are not able to dial into our network using White Knight because of a problem with our TrackNet device and the Express Modem script. TrackNet is a security device used for dial-back and works fine with everything except Express Modems in PowerBooks.

In order to make connection using other modems, or another CPU with an external modem, the command ATDT* must be entered a few milliseconds after the dial-back ring is detected by the initiating CPU. When the ATDT* command is issued, the Express Modem returns "MODEM IN USE," however, other modems do not do this.

This article has been archived and is no longer updated by Apple.

Type ATH1DT* instead of ATDT* to avoid the 6 second timeout. The H1 command forces the modem to go off hook which then allows the dial command to proceed.

Support Information Services
Published Date: Feb 19, 2012

Power Macintosh Upgrades: Transferring Serial Number (4/94)

When performing Power Macintosh upgrades, one of the items included is a new case, however the new case does not have a serial number on it. What should be done to provide the customer with a serial number on their upgraded Macintosh?

This article has been archived and is no longer updated by Apple.
The Service Provider needs to write (using either indelible ink or an engraver) the serial number from the original unit into the blank space on the rear of the Power Macintosh where the serial number would normally go.

The customer should retain receipts that pertained to the original unit as well as the new unit. (Do not try to remove the old serial number from the old unit as it might rip or tear in the process).

Support Information Services
Published Date: Feb 19, 2012

PowerTalk and Power Macintosh Upgrade Card Problem (4/94)

I just installed a Power Macintosh Upgrade Card and it's software on my Macintosh and now PowerTalk acts up and I crash. What is the problem?

This article has been archived and is no longer updated by Apple.
The software Installer for the Power Macintosh Upgrade Card installs System 7.1 for 680x0 mode operation, PowerTalk requires System 7.1.1. After turning the Power Macintosh Card on in the Power Macintosh Card Control Panel, Shutting Down, and restarting you are in PowerPC 601 mode. The PowerTalk Manager contains the Drag Manager. The Drag Manager requires Process Manager 7.1.1 or later. As soon as you attempt to drag anything the computer will crash.

To use PowerTalk on a Power Macintosh Upgrade Card you must do the following:

1) Install the Power Macintosh Upgrade Card and its software.

2) Run the System 7 Pro Installer from the System 7 Pro "Install" disk.
Even better, boot off that disk in 680x0 mode and run the Installer.
This will re-install System 7 Pro when running your computer in 680x0 mode.

For optimum performance and stability in PowerPC mode, we recommend using the PowerTalk for Power Macintosh installer v. 1.0.2, which correctly handles both Power Macintosh computers and Power Macintosh Upgrade Cards.

The READ ME file on the NEW version of the PowerTalk for Power Macintosh installer includes these installation instructions.

All of the above applies with equal force to PowerShare Collaboration Servers, with one additional caveat: Although there are no known incompatibilities with PowerShare and Power Macintosh Upgrade Cards, we don't recommend this configuration.

Support Information Services

Published Date: Feb 19, 2012

AppleWorks: Transferring files to Jazz

Users have reported success transferring files from AppleWorks into Jazz using a Macintosh file translation program called "First Port".
This article has been archived and is no longer updated by Apple.
You change your files from DIF files into SYLK files, which Jazz can then Convert into a spreadsheet.

Lotus does not support this product so you will need to contact Desktop Software if you need help turning your DIF file to SYLK. When you have a SYLK file move it onto a copy of your Jazz startup disk. You will need the file Convert on your disk. This file came on the Jazz Startup Disk that came with your Jazz package. Start Jazz and choose Convert desk accessory. Select your
SYLK file, click on SYLK option in the box that will appear and then click on Convert. Your file will automatically open up as a Jazz worksheet, which you can then paste into your Jazz database or word processing.

Desktop Software can be reached at:

First Port
Desktop Software
Princeton, N.J.
609/924-7111

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

The Tech Info Library article, #17159: "Locating Vendor Information", can help you search for a particular vendor's address and phone number.
Published Date: Feb 19, 2012

Communication Slot: Specifications

I'm looking for information on the communications slot used in many Macintosh LC and Performa computers.
This article has been archived and is no longer updated by Apple.

The following computers have the communications slot:

Macintosh 575 family
Macintosh 630 family
Macintosh 5200 family
Macintosh 5300 family
Performa 6200CD series
Performa 6300 series

The Communication slot is a 112 pin slot with a 32-bit wide data path.

Following is the pinout description for the communication slot:

Signal Name	Pin#	Pin#	Signal Name
Audio MODEM to Host	1	2	Audio Host to MODEM
Audio MH GND	3	4	MIC to MODEM
R/W*	5	6	DS*
BERR*	7	8	DSACK1*
DSACK0*	9	10	GND
IOSIZE0*	11	12	C16M
IOSIZE1*	13	14	GND
RESET*	15	16	Bus Grant-Sacramento
IOD[31]	17	18	IOD[30]
IOD[29]	19	20	IOD[28]
IOD[27]	21	22	IOD[26]
IOD[25]	23	24	IOD[24]
IOD[23]	25	26	IOD[22]
+5V	27	28	IOD[21]
IOD[20]	29	30	IOD[19]
IOD[18]	31	32	IOD[17]
IOD[16]	33	34	IOD[15]
IOD[14]	35	36	IOD[13]
IOD[12]	37	38	IOD[11]
IOD[10]	39	40	IOD[9]
IOD[8]	41	42	GND
IOD[7]	43	44	IOD[6]
IOD[5]	45	46	IOD[4]
IOD[3]	47	48	IOD[2]
IOD[1]	49	50	IOD[0]
BGACK*	51	52	Bus Request-Sacramento
IO_CS_TIMED*	53	54	IO_CS_DSACK*
+5V	55	56	Sacramento IRQ*
IOA[1]	57	58	IOA[0]
A[2]	59	60	A[3]
A[4]	61	62	A[5]
A[6]	63	64	A[7]
A[8]	65	66	A[9]
A[10]	67	68	A[11]
A[12]	69	70	GND
A[13]	71	72	A[14]
A[15]	73	74	A[16]
A[17]	75	76	A[18]
A[19]	77	78	A[20]
A[21]	79	80	A[22]
A[23]	81	82	A[24]
+5V	83	84	A[25]
A[26]	85	86	A[27]
A[28]	87	88	A[29]
A[30]	89	90	A[31]

CPU_AS*	91	92	GND
TRICKLE+5V	93	94	System wakeup
'040 bus clock	95	96	-5V
+12V	97	98	GND
spare	99	100	C32M
spare	101	102	GND
spare	103	104	spare
SCC port A enable	105	106	spare
TxDA	107	108	RxDA
RTSA*	109	110	CTSA*
DTRA*	111	112	DCDA*

* = active low signal

There are four communication slot cards available:

* Macintosh Express Fax/Modem - M2480LL/A (Discontinued)
* Apple Ethernet CS Twisted Pair Card - M3065Z/A (for use with a 10BASE-T compatible hub)
* Apple Ethernet CS Thin Coax Card - M2708Z/A
* Apple Ethernet CS AAUI Card - M3066Z/A

Note:
The following computers are in the corresponding Macintosh families and series:

* Macintosh 575 family: LC 575, 580, Performa 575, 577, 578, 580

* Macintosh 630 family: LC 630, LC 630 DOS Compatible, Quadra 630, Performa 630, 630CD, 631CD, 635CD, 636, 636CD, 637CD, 638CD, 640CD

* Macintosh 5200 family: Power Macintosh 5200/75 LC, Performa 5200, 5210, 5215, 5220.

* Macintosh 5300 family: Power Macintosh 5300/100 LC, Performa 5300.

* Performa 6200CD series: 6200, 6205, 6214, 6216, 6218, 6220, 6230.

* Performa 6300 series: Performa 6300, 6290.

Note: To distinguish between those cards that are compatible with the Power Macintosh 5400 from those compatible with earlier models, the communication slots themselves are named distinctly. The communications slot in previous models is referred to as "comm slot I" whereas the slot in the Power Macintosh 5400 is called "comm slot II".

The Tech Info Library article "Power Macintosh 5400: New Communications Slot" contains information on the Power Macintosh 5400 communciations slot.

Published Date: Feb 19, 2012

Power Macintosh Upgrade Card: RAM Upgrade Information (1/95)

I have a Macintosh with the Power Macintosh Upgrade Card installed. To upgrade the memory of the base computer, do I need to add memory in pairs of SIMMs like in the full Power Macintosh models?

This article has been archived and is no longer updated by Apple.

No, the Power Macintosh Upgrade Card does not override the memory upgrade requirements of the base computer. You can upgrade the base computer using the existing memory upgrade requirements for that particular computer.

Article Change History:
27 Feb 1995 - Revised title slightly.
09 Jan 1995 - Clarified that upgrade info related to base computer.

Support Information Services
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Apple Multiple Scan 17 Display: Using Display Adapters

This article provides information on which Apple video cards and computers need display adapters to get greater resolution from the Apple Multiple Scan 17 Display.
This article has been archived and is no longer updated by Apple.
The Apple Multiple Scan 17 Display has several resolutions. Macintosh computers designed before the introduction of Apple Multiple Scan 17 Display will only recognize the display as a 14-in color display without an adapter.

Display adapters, available through Apple resellers and the third-party companies, contain a sense code that tricks the Macintosh into believing that the display is fixed frequency 16-in. or 19-in. display. Without the adapter, the display will be fixed at a 640x480 resolution.

Computers and Video Cards Not Requiring Video Adapters

Power Macintosh family

Macintosh Centris

Macintosh Quadra

Macintosh LC 475

Macintosh Performa 475 and 476

Macintosh Display Card 24AC

Macintosh 630 Family

Computers and Video Cards Requiring Video Adapters

Macintosh II Family

PowerBook computers before the PowerBook 3400

Duo Dock and MiniDock*

Macintosh Performa Computers (except 475 and 476)

Macintosh LC, LC II, LC III

Video Cards - 4*8, 8*24, 8*24GC

* - The Duo Dock does not require a video adapter to change resolutions when System 7.5 is installed.

Display adapters are available from several third-pary companies such as Enhanced Cable Technology, Griffin Technology, and MacAdapt.

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Apple Multiple Scan 17 Display: Macintosh Video Support

This article gives the video modes supported on each Macintosh computer with the Apple Multiple 17 Display.
This article has been archived and is no longer updated by Apple.

(1) - 640x480 - 14-in Display
(2) - 832x624 - 16-in Display
(3) - 1024x768 - 19-in Display

Macintosh	Video Available (1)	(2)	(3)	Display Manager Mode Switching?
Power Macintosh - 45 Pin conn	Y	Y	N	Y
Power Macintosh - AV card	Y	Y	Y	Y
Power Macintosh - 2 MB VRAM*	Y	Y	Y	Y
Power Macintosh - 4 MB VRAM*	Y	Y	Y	Y

Notes:
* - Addtional RAM goes into the VRAM expansion card

Quadra 700	Y	Y	N	Y
Quadra 900	Y	Y	N	Y
Quadra 800	Y	Y	Y	Y
Quadra 950	Y	Y	Y	Y
Quadra 660AV	Y	Y	Y	Y
Quadra 840AV	Y	Y	Y	Y
Quadra 610	Y	Y	Y	Y
Quadra 650	Y	Y	Y	Y
Quadra 605	Y	Y	Y	Y
Centris 610	Y	Y	Y	Y
Centris 650	Y	Y	Y	Y
Macintosh IIci	Y	N	N	N
Macintosh IIsi	Y	N	N	N
Macintosh IIvx	Y	N	N	N
Macintosh 630 family	Y	Y	N	Y(4)
Display Card 24AC	Y	Y	Y	Y
8*24	Y	Y	N	N
8*24 GC	Y	Y	N	N
4*8	Y	Y	N	N
Macintosh IIcx	N	N	N	N/A
Macintosh II	N	N	N	N/A
Macintosh IIx	N	N	N	N/A
Macintosh IIfx	N	N	N	N/A
Performa 400	Y	N	N	N
Performa 410	Y	N	N	N
Performa 430	Y	N	N	N
Performa 405	Y	N	N	N
Performa 450	Y	Y	N	N
Performa 460	Y	Y	N	N
Performa 466	Y	Y	N	N
Performa 467	Y	Y	N	N
Performa 475	Y	Y	Y	Y
Performa 476	Y	Y	Y	Y
Performa 600	Y	N	N	N
Performa 600CD	Y	N	N	N
PowerBook 100	N	N	N	N/A
PowerBook 140	N	N	N	N/A
PowerBook 145	N	N	N	N/A

PowerBook 170	N	N	N	N/A
PowerBook 160	Y	Y*	N	N
PowerBook 165	Y	Y*	N	N
PowerBook 165c	Y	Y*	N	N
PowerBook 180	Y	Y*	N	N
PowerBook 180c	Y	Y*	N	N
PowerBook 500	Y	Y	N	Y
PowerBook Duo 210	N	N	N	N/A
PowerBook Duo 230	N	N	N	N/A
PowerBook Duo 250	N	N	N	N/A
PowerBook Duo 270C	N	N	N	N/A
MiniDock	Y	Y	N	N
DUO DOCK	Y	Y	N	N(5)
DUO DOCK II	Y	Y	Y	Y
Mac LC 475	Y	Y	Y	Y
Mac LC III	Y	Y	N	N
Mac LC	Y	N	N	N
Mac LC II	Y	N	N	N

Notes:

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*  - Requires video display adapter

(1) - 640 x 480 - 14-in Display
(2) - 832 x 624 - 16-in Display
(3) - 1024 x 768 - 19-in Display
(4) - The Macintosh 630 family computers can use larger monitors such as
      the Multiple Scan 17 and Multiple Scan 20, however the maximum
      resolution on these monitors is 832x624, and at this resolution
      they cannot support the TV/Video System.
(5) - The Duo Dock requires a video display adapter to change
      resolutions unless System 7.5 is installed.
```

The following computers are in the Macintosh 630 family: Performa 630, Performa 635, Performa 636, Performa 637, Performa 638, LC 630, and Quadra 630.

Display adapters are available from several third-pary companies such as Enhanced Cable Technology, Griffin Technology, and MacAdapt.

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The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.
Published Date: Feb 19, 2012

AWS 95: SyQuest and Removable Media Support

Are SyQuest and Magneto Optical drive supported so that the media can be ejected and changed without shutting down AppleShare Pro and A/UX 3.1 on an AWS 95.
This article has been archived and is no longer updated by Apple.
The AWS 95+ Upgrade ReadMe files states that support has been added, "for automatic mounting and unmounting of removable media SCSI drives from the Finder." Here is a little more detail:

Under A/UX 3.1, the SyQuest disks can be mounted and unmounted. To unmount a disk, you push the eject button on the drive and then throw the drive icon in the trash. The optical drives should work as well. To unmount a disk, you throw the drive icon in the trash and then push the eject button on the drive.

Note: Magneto Optical drives have not been tested on A/UX 3.1 so we cannot say for sure how well they will work.

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Jazz: Using Control Characters in Communications

This article has been archived and is no longer updated by Apple.
You will need to hold down the Command and Shift keys while you type the control characters you need.

Examples:

Control C Command Shift C Used when logging on to CompuServe etc.
Control S Command Shift S Used to stop scrolling on CompuServe.
Control Q Command Shift Q Used to start scrolling on CompuServe.

See page 274 of the Jazz Handbook for a complete listing of Control Characters.

Note: On compuServe you need to hold down the shift key while typing a backspace.

NOTE: Apple Computer Inc. is not responsible for the contents of this article.
Published Date: Feb 19, 2012

GeoPort: Maximum Number Of Simultaneous Addresses (4/94)

I have a customer who wants to know maximum number of addresses he can send the same fax to simultaneously using the GeoPort for Power Macintosh (version 1.0) software.

This article has been archived and is no longer updated by Apple.
Previous testing allowed up to 145 recipients in the Send To field. According to the engineering team there is no limit to the number of recipients for a fax. Since the Fax software for GeoPort is the same as the PowerBook Fax software, this applies to the PowerBook family as well.

Support Information Services
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LaserWriter Select 360: Canceling a Fax Job (4/94)

How do I cancel a fax job which I have set to retry five times on the LaserWriter Select 360 with fax option?

This article has been archived and is no longer updated by Apple.
At this time, there is no way to cancel fax jobs or retries except to turn the printer off. Apple and Adobe are looking to add a feature in a successive release of software, which will enable a user to cancel fax jobs or retries.

Support Information Services
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Extension Manager: Not all Control Panels Listed

Why doesn't Extension Manager 2.01 list all control panels in the Control Panels folder?
This article has been archived and is no longer updated by Apple.
Extensions Manager will only list those files that have an INIT resource, or files that are set to be listed regardless of whether they have INIT code in them or not.

Using the Configure option you can add you own file types that Extensions Manager should list. To find out the file type of a given control panel or extension you may use DeskZap (a shareware desk accessory) or ResEdit.
Published Date: Feb 19, 2012

DOS Compatibility Card: How Memory Is Allocated (9/95)

When using the DOS Compatibility Card, is it possible to allocate all of the memory in the computer to the DOS side if that is the only thing that I need use during a session?

This article has been archived and is no longer updated by Apple.
Memory is allocated in the PC Setup Control Panel. The memory allocated is physical RAM on the main logic board of the Quadra or Centris 610. You have to have a minimum of 4 MB allocated to the Macintosh operating system. This means that you cannot allocate all the RAM on the logic board to the DOS Compatibility Card. As you upgrade RAM on the Quadra or Centris 610 logic board you can allocate more memory to the DOS Compatibility Card. For example, if you installed a 16 MB SIMM in a Quadra 610, you can assign 12 MB of RAM to the DOS Compatibility Card.

You can also add memory to the DOS Compatibility Card by installing a SIMM into the SIMM slot on the DOS Compatibility Card. However, you can't use any of the RAM installed on the Macintosh for the DOS Compatibility Card once you install a SIMM on the DOS Compatibility card. You also can't use the DOS Compatibility Card RAM as part of your Macintosh computer's memory.

Support Information Services
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PlainTalk Microphone: Not Supported On Current Displays (4/95)

I have connected my Apple Microphone (round) to the microphone pass through port on my Macintosh 16-in. Color Display. When I attempt to record sound to my Macintosh Quadra 840AV, nothing happens.

This article has been archived and is no longer updated by Apple.
The AV Macintosh computers and all Power Macintosh models use the PlainTalk Microphone instead of the older Apple Microphone. The PlainTalk Microphone requires additional voltage from the Macintosh to amplify the signal. All of Apple's current displays, includes all Multiple Scan Displays, are not setup to pass the voltage to the PlainTalk Microphone. To use the PlainTalk Microphone, it must be connected directly to the Macintosh AV or Power Macintosh computer.

Article Change History:
18 Apr 1995 - Added information on all Multiple Scan Displays.
13 Apr 1994 - Added Power Macintosh and the MS 17 Display.

Support Information Services
Published Date: Feb 19, 2012

Imagewriter II: Paper Guide Screw Specifications (4/94)

What are the specifications for the screws that hold the clear plastic paper guide in place on the ImageWriter II?

This article has been archived and is no longer updated by Apple.
The paper guide is mounted using two 6mm long, 2.6 mm wide metric threaded panhead screws with a captive lock washer. The screws can be very difficult to find. To locate possible sources for metric screws, check your local yellow pages under "screws" for possible suppliers. Some hobby and hardware stores may also carry compatible screws.

Support Information Services
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Power Macintosh: Some Printer Drivers Not Installed

I cannot find the printer driver for several Apple printers on my Power Macintosh 6100 computer. Where are the printer drivers?
This article has been archived and is no longer updated by Apple.
As you mentioned, several Apple printer drivers were not included with the System 7.1.2 software. Below is a list of printer drivers not included. All the printer drivers are available through online services Apple publishes software updates on.

Printer	Print Driver Used	Version
LaserWriter IISC	Personal LaserWriter SC	7.0.1
Personal LaserWriter SC	Personal LaserWriter SC	7.0.1
ImageWriter LQ	LQ ImageWriter	7.0.1
AppleTalk ImageWriter LQ	LQ AppleTalk ImageWriter	7.0.1
LaserWriter Select 310	LW Select 310	7.0
Apple Color Printer	Apple Color Printer	1.0
Color StyleWriter Pro	Color StyleWriter Pro	1.5.2
Portable StyleWriter	Portable StyleWriter	1.0.1

As a reminder, the StyleWriter II and LaserWriter 300 drivers on the Power Macintosh disks are also used for the original StyleWriter, and Personal LaserWriter LS and LaserWriter Select 300 printers respectively.

Published Date: Feb 19, 2012

Lisa: Copy-protected Tools

This article has been archived and is no longer updated by Apple.

Master tool diskettes are copy protected. The method still seems to confuse people to a fair degree. This article should cover any question you may have about Lisa's protection scheme.

The first time you duplicate a tool master diskette, that diskette AND its copy are tied to the specific Lisa you're using to perform the duplication: both diskettes are imprinted with that Lisa's serial number. This imprinting occurs almost immediately, so even if you abort the copy, both diskettes will probably already be tied to that Lisa. You may make as many copies of that master diskette as you like, but those copies will run only on the Lisa that made the first copy. Users can make as many back-ups as they feel necessary, while we are able to protect ourselves from unauthorized dissemination of Lisa software.

The original tool master diskette may be used on any Lisa, but you will not be able to copy the tool onto the ProFile.

The serial number that the diskettes are imprinted with is the one burned into the PROM located at position C6 on the CPU board. If the CPU board is replaced for any reason, it's very important that this PROM is transferred to the new board; otherwise, that Lisa's user will no longer be able to use applications stored on his or her hard disk. If that particular PROM itself is bad, request a new one from your Technical Support Center.

Files that are protected by this scheme will have the file attribute P when listed by the Workshop. This attribute cannot be changed.

Protected Lisa software distributed by Apple includes:

- All Lisa tools, except for LisaWrite and LisaProject 3.1. (Stationary pads, Office System diskettes and LisaGuide are not protected.)

- Pascal 1.0 and 2.0: PASCAL.OBJ, CODE.OBJ and EDITOR.OBJ are protected. (Pascal 3.0 is not protected.)

- COBOL 1.0, 2.0, and 3.0: overlay files are protected, as well as EDITOR.OBJ.

- BASIC-PLUS 1.0, 2.0, and 3.0: BASIC.OBJ and EDITOR.OBJ are protected.

Published Date: Feb 19, 2012

Using InterBridges on X.25: Packet Traffic & Initializing Info

This article has been archived and is no longer updated by Apple.

For those using InterBridges to connect an AppleTalk network to an X.25 backbone, this article concerns the rate and size of packet traffic generated by the idle polling of InterBridges across the net, as well as some information on how to initialize this polling.

During the first 30 seconds of polling time, approximately 5-6 packets are transferred between InterBridges. These packets are in ZIP (Zone Information Protocol). The first one is a ZIP bringup packet that comes out of each of the connected ports. ZIP bringup is followed by a ZIP GetZoneList or GetMyZone packet. The GetZoneList is followed by a GetZoneList Reply packet. A newly started InterBridge sends out a ZIP Query for information on packets whose addresses are not yet in its Zone Information Table (ZIT). This ZIP query also is answered with a ZIP reply packet.

The packets range in size: 8 bytes for a ZIP GetZoneList, 45 bytes for a ZIP bringup, 13 bytes plus 32 bytes for each zonename for a ZIP reply packet, and for a GetZoneList Reply there would be 9 bytes and 32 bytes for each zone name. The first group of bytes contain the LAP (Link Access Protocol) header, the DDP (Datagram Delivery Protocol) header, and the ZIP (Zone Information Protocol) header. This holds true for takedown, bringup, query, and reply packets. The ZIP GetzoneList and GetZoneList Reply packets use ATP (AppleTalk Transaction Protocol) header and user bytes. These transactions take place with each connected port. There are 2 AppleTalk ports and 2 Serial ports on the InterBridge. After the initial polling, 1 packet gets transmitted every ten seconds maintains the connection while idling.

To start the bridges communicating, simply turn one on. The InterBridge polls its nearest neighbor, asks it to update its own internal table of zones, then gives the neighbor bridge its zone information. If a bridge happens to be turned off, the bridge's zone table gets rebuilt at power on, which, from that point on, it maintains on its own. Applications communicating over AppleTalk request the zone information from the InterBridge for the user. Bridges periodically update their tables, and upon receiving a new zone address or a packet referencing an unnamed zone address with a name, the bridge updates its table to reflect the new zone name and address.

There is a problem that may cause some applications not to function on this type of network. Since InterBridges use ZIP, which is "best effort" protocol, this means checking for timeouts and proper data handling must be handled by the application. Some applications, notably AlisaTalk running on a VAX, will time out if delays are very long across the network. These programs operate at the mercy of any other traffic on the X.25 net.

Published Date: Feb 19, 2012

LaserWriter Pro 810 and NetWare 3.1x

This article describes an incompatibility when connecting a LaserWriter Pro 810 to a NetWare 3.1x server, and a workaround configuration. This article has been archived and is no longer updated by Apple.
Apple Computer's LaserWriter Pro 810 can work with Novell NetWare networks, but you'll find that a combination of software compatibility problems and documentation shortcomings make it challenging to configure for this environment using the information supplied with the printer. This document covers NetWare 3.11 and 3.12 using NetWare for Macintosh 3.011 or 3.12. Since most users will be connecting NetWare 3.1.X servers, we will focus on this configuration.

Configuring a NetWare 4.x server is not discussed in this document; however, most of the issues are the same. The configuration of printers and print queues in a 4.x environment is handled with different utilities.

Background

NetWare 3.1x servers can drive printers in one of two ways in the DOS/Windows environment:

Use a PC on the network as a "Remote Print Server" with printers directly attached through serial or parallel connections.

Locally attach a printer to the file server.

The "front end" remains the same with either of these configurations. You select a "print queue" to use on your DOS workstation that is defined and managed by the NetWare server. Your print job is spooled on the server and fed directly to the printer or remote print server. The capture of a print queue on a workstation is accomplished in a number of ways depending on the operating system and user configuration of the workstation.

When an AppleTalk printer is attached to a NetWare network, a Macintosh may print to this printer:

Directly to the printer in the traditional fashion, with no interaction with NetWare.

Print via NetWare's ATPS (AppleTalk Print Spooler) which is part of Novell's NetWare for Macintosh product. This behaves much as Apple's AppleShare Print Server does by advertising a spooler in the Chooser and accepting print jobs from a Macintosh. ATPS normally sends spooled jobs directly to AppleTalk printers or it can pass the job to the DOS/Windows queues for processing on non-AppleTalk printers.

Incompatibility

The incompatibility, caused by a "half-open" PAP (Printer Access Protocol) session being created, is due to the implementation of the AppleTalk PAP protocol used in the LaserWriter Pro 810. The LaserWriter Pro 810 uses a different implementation of the AppleTalk stack and PAP protocol than was used in previous LaserWriter printers. NetWare uses a version of AppleTalk designed for most of Apple Computer's LaserWriter printers. A more in-depth description of a "half-open" PAP session follows.

The behavior of the NetWare ATPapOpenConn() call is to try one PAP OpenConn ATP TReq transaction for four seconds, then to give up and try an OpenConn on a new ATP (AppleTalk Transaction Protocol) transaction and PAP conn ID. The wait time field of the OpenConn request is only incremented when a new transaction is issued. This behavior was designed to allow for incrementing the OpenConn wait time without violating the internal boundaries between PAP and ATP in our protocol stack.

If a printer responds to an OpenConn request after the ATP transaction has expired, and ATPS has moved on to a new connection session, it can lead to a half open connection which takes two or three minutes to time out. The printer will not accept any other connections during this period. Due to this potential weakness in PAP, Inside AppleTalk recommends allowing twelve seconds before using a new ATP transaction and PAP conn ID to issue the OpenConn requests (5 tries at two second intervals).

As of April 1994, ATPS' behavior is to transmit one retry at two second intervals, for a total of only four seconds. ATPS is technically within the AppleTalk specification, but these intervals don't work with the LaserWriter Pro 810. This is not an issue with other Apple LaserWriters as they do not use the LaserWriter Pro 810 implementation of AppleTalk.

The result is the LaserWriter Pro 810 will look at one PAP connection session, while ATPS has moved on to another PAP session requesting attention on a new connection session. The printer will report its status as idle, but it's still busy (looking at the incorrect PAP connection). When that session finally times out, the LaserWriter Pro 810 will then try to service other PAP sessions that may have been waiting for its attention, but by that time, the newly created ATPS PAP session has timed out, and it has moved on to creating another PAP session. The two versions of AppleTalk will then continue to chase each others out of sync "half open" PAP sessions endlessly.

SOLUTION

Configure NetWare print services to spool jobs to a LaserWriter Pro 810 from DOS and/or Windows computers, perform the following steps:

---

1) Determine if the DOS computers need to print to PCL4 (HP emulation) and/or Postscript printers.

2) PSERVER must be configured and run on the NetWare server using PCONSOLE from a DOS workstation. A print server must be defined, new printers must be defined, and the printers must be connected to queues. The PSERVER process will think it is using a remote print server when it prints to the LaserWriter Pro 810.

3) Ensure the server is configured to support the 802.3 frame type on the interface card that will provide IPX traffic to the LaserWriter Pro 810. The printer will not respond to 802.2 packets.

4) ATPS must be configured and loaded on the NetWare server to accept print jobs from Macintosh computers and pass the spooled print jobs to non-AppleTalk printers using NetWare's PSERVER NLM.

Configure the LaserWriter Pro 810 for DOS/Windows Use
---

1) Start by resetting the printer to factory defaults using the control panel on the front. This assures the factory printer setup is pristine and ready for NetWare use.

2) Print the Printer Status pages from the control panel on the front of the printer. This provides a list of default virtual printers. Make note of the two that begin with PSL20N and LJL20N

Modify File Server Configuration
---

1) Edit the AUTOEXEC.NCF file on the server to change or add a frame type of ETHERNET_802.3 to the Ethernet interface that the printer traffic will flow through. Without IPX bound to this frame type the PSERVER NLM on the NetWare server will never connect to the printer.

Creating & Configuring PSERVER

2) Log into the NetWare server from a DOS workstation as Supervisor and run the PCONSOLE utility.

3) Select "Print Server Information"

4) You may use an existing print server or press the Insert key to create a new print server.

5) After selecting the print server to configure select the "Print Server Configuration" option.

Configure the Printers

6) Select "Printer Configuration" option. You'll be presented with an empty list if this is a new print server configuration, otherwise you'll see a list of existing configured printers.

7) Select an unused printer number, unconfigured printers are labeled "Not Installed".

8) Name the printer with the appropriate name that appears on the printout of the virtual printers you obtained earlier. It will be the "LJL20N....." for HP Emulation, and/or "PSL20N....." for a Postscript printer.

9) Select the "Remote Parallel, LPT1" as the printer type. You can use this same type for all the printer definitions. There is no need for different IRQs or LPTs.

10) Retain the defaults for the rest of the settings and save changes by pressing the Esc key.

11) Repeat these steps for a second printer if you are configuring both HP and Postscript printers.

Creating the Print Queues

12) If you intend to add the configured printers to existing queues then skip to step 16.

13) Escape back to the main menu of PCONSOLE and select the "Print Queue Information" option.

14) Press the Insert key to create and name a new print queue. This name is the one the DOS stations will see when they capture the queue to print to so select a useful name.

15) Repeat the process to create a second queue if you are using both the HP and Postscript printers.

Attaching the Printers and Queues

16) Escape back to the main menu and select the "Print Server Information" option.

17) Select the print server you previously created and then select the "Print Server Configuration" option.

18) Select the "Queues Serviced by Printer" option. You'll see a list of the printers you created in the previous section.

19) Select each printer and use the Insert key to bring up a list of defined queues and attach the queue to the appropriate printer. You should be attaching one queue to one printer. Use the Esc key to save each one.

20) Escape back to the main menu and exit PCONSOLE.

At this point PSERVER is configured and ready to go. It will support DOS/Windows computers printing to Postscript or PCL4 virtual printers through NetWare queues.

If PSERVER is not currently running, it needs to be loaded at the System Console with a "load pserver [the name of your PSERVER]" command. If one is already running it needs to be unloaded and reloaded to run with the new name. After it loads you'll get a new screen on the console that shows the status of each of the defined printers. You'll notice that the initial status will be "Not Connected". Be patient! Eventually the status will change to "Waiting for job" as the server connects to the LaserWriter Pro 810 over the network. This can take several minutes.

Don't forget to edit your AUTOEXEC.NCF file if you want the PSERVER to load automatically at server boot time.

Configure the LaserWriter Pro 810 for Macintosh Printing Through NetWare
---

These steps are only needed when Macintosh computers will be printing through NetWare queues to the LaserWriter Pro 810. If printing straight to the printer the next section can be skipped.

Configure ATPS

ATPS is a NetWare module that drives AppleTalk printers and advertises a NetWare print queue in the Macintosh computer's Chooser. Because of the incompatibilities mentioned earlier, ATPS can't be used to print to the AppleTalk virtual printers in the LaserWriter Pro 810. Therefore, the Macintosh computer's print jobs must be routed from ATPS to PSERVER which will send it to the IPX virtual printer. ATPS must be configured and loaded if it is not currently in use on the NetWare server.

1) Load the Install NLM on the server.

2) Use the Alt-Esc keys to switch to the Install screen and select "Product Options".

3) Select the "NW-MAC" product.

4) Select the ATPS.CFG file.

5) If this file doesn't exist it will ask if you want to create it. Edit this file so it contains the following line;

-O "LW810 on IPX" -WB -L -F APPLWNTX

This example assumes the name you want to present in the Mac chooser for this queue is "LW810 on IPX". This name must match the queue name created in PCONSOLE.

Refer to the NetWare for Macintosh documentation for more information on the ATPS.CFG options.

6) Press the Esc key to save changes and exit the Install NLM.

7) If ATPS is currently running unload and reload it at the System Console prompt.

8) Edit the AUTOEXEC.NCF file to auto load ATPS at boot time if you desire.

The queue will now be advertised in the Chooser, users can submit their print jobs to this queue via ATPS and the print job will be serviced by PSERVER.

Create a New Virtual Printer on the LaserWriter Pro 810

A new LaserWriter Pro 810 Virtual Printer will need to be created because many Macintosh applications print in a BINARY form as opposed to DOS systems printing postcript in ASCII, and the Novell print server combination not being able to convert Binary to ASCII and vice versa. Not doing this last step will cause some (EPS) postcript print jobs to go into the Novell print Queue and then get flushed with no output to the printer.

1) Connect to the printer's command console through TelNet or serial connection through the command console connector. Login as the Super User. For more information on cable see Appendix A.

2) Issue these commands to create a new virtual Postscript Printer for Macintosh printing use. Select a name for the a new virtual printer that explains what it is like "MacIPX". This name is "(a name)" in the following steps.

3) CHANGE SERVICE (a name) COPY (Name of existing virtual Postscript printer. Begins with "PSL20Nxxxxxx".)

4) CHANGE SERVICE (a name) PORT

5) CHANGE SERVICE (a name) PROTOCOL NETWARE ENABLE

6) CHANGE SERVICE (a name) PROTOCOL LAT DISABLE

7) CHANGE SERVICE (a name) BINARY ENABLED

8) Print the Printer Status pages from the control panel on the front to verify the new Virtual Printer setup. It should appear the same as the original PostScript virtual printer except for a different name and the Binary Mode will be enabled.

Add a new Queue and printer definition to the NetWare server's Pserver configuration just as the previous section details. The new queue you're setting up is only for use by Macintosh computers, it will not print DOS jobs correctly!

Appendix A.

The LaserWriter Pro 810 includes an RJ12 maintenance port that can be accessed via a standard DEC terminal or almost any terminal emulation software package. In order to connect a Macintosh to the port special cable needs to be constructed. The cable requires an RJ12 and a DIN-8 connector, along with suitable 6 wire cable.

RJ12 Diagram
```
+---++++++----+
| |
| | | | | | | |
| 1 2 3 4 5 6 |
+-------------+
```

DIN-8 (male) Diagram

```
6 7 8
3 4 5
1 2
```

Maintenance port to Macintosh wiring diagram

RJ12 DIN-8

2 ---------- 5 (RXD)
5 ---------- 3 (TXD)
3,4 ---------- 4,6,8 (GND)
6 ---------- 1 (DTR)
1 ---------- 2 (CTS)

Configure a terminal emulation package for 9600 baud, 8 data bits, 1 stop bit, and no parity. After turning the printer on the terminal should display a list of diagnostic information which will continue until the printer is ready to print.

In order to log into the remote Console Facility (RCF), wait until the message 'Server -993- Server ready for logins' appears and then press return. The terminal should prompt for a username. The default username is 'access.' Typing 'show server status' at the 'server>' prompt is one of many commands that can be entered in order to obtain statu information about the printer.

In order to make changes to the print server you must have superuser status. Enter 'su' at the 'server>' prompt. The terminal will then ask for a password. The default password is 'system.' As long as the password is correct the prompt will change from 'server>' to 'server>>' indicating that the superuser mode is enabled. For additional information regarding the remote console facility (RCF) consult the network installation and configuration manual.
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Power Macintosh: Software Included With Upgrades (4/94)

A customer purchased a Power Macintosh upgrade and wants to know whether or not he is entitled to the extra software that ships with Power Macintosh systems.

This article has been archived and is no longer updated by Apple.
The Power Macintosh Logic Board Upgrade ships with both:

* The CD that contains the software that comes installed on a Power Macintosh (except for PlainTalk, which is not on the CD, but is included on the hard drive of AV Power Macintosh configurations). This would include the Apple Extras folder.

* The 5 disks which contain only the system software necessary to install the Power Macintosh System Software. These disks do not include the Apple Extras folder. These disks are included in this upgrade kit for customers who are upgrading a system which does not have a CD-ROM drive installed.

The Power Macintosh Upgrade Card, on the other hand, ships with only the System Software (5 disks) required to install the Power Macintosh System Software. The Apple Extras folder is not included with these disks (same disks as the second bullet above).

A customer is only entitled to the software that ships with whichever upgrade product he purchased. If he purchased the Upgrade Card, he will not receive the Apple Extras folder. If he purchased a Logic Board Upgrade and does not have a CD drive, he has the additional software but would need access to a CD drive long enough to copy it to his hard drive.

Support Information Services
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Newton Connection Kit: Import & Export Translation Errors

I am trying to setup a template for importing and exporting to-do items from the datebook application using the Macintosh version of the Newton Connection Kit 2.0. However I have found that if there is a carriage return embedded within the text of a to-do item, the exported files don't contain the information after the carriage return in the proper record. The information ends up in multiple records when imported into another application. How can I get all the information in one record?
This article has been archived and is no longer updated by Apple.
Export templates in the Newton Connection Kit for Macintosh write data into ASCII text files. Fields are delimited by a TAB character and records are delimited by a Carriage Return (CR) character. This is customizable within the connection kit. The problem here is that the text being exported from the Newton, a to-do item, contains one of the delimiting characters, a carriage return. When another program reads the exported file, it will read the embedded carriage return in the text as a record separator. The following excerpt from the Newton Connection Kit 2.0 read me file details the problem:

"There are situations in which a file exported using a template and then reimported into a Newton Connection Kit file may lose information. The templates import and export files with text only. This means that any graphics in your Newton data will not be exported if you use a template. Furthermore, if your data contains tabs, returns or multiple paragraphs (**), some of it may be lost if you export with a template that uses Tab and Return as the field and record separators. To avoid this, click Options in the Template dialog and choose a character that does not appear in your data as the separator, or export in Newton Connection format. If you want to move all information from one Newton Connection Kit file to another, it is strongly recommended that you use the Newton Connection format to import and export the information.

(**) Multiple paragraphs are concatenated with Carriage Returns. "

This type of problem is common throughout the computer industry.

Workaround

An option is configuring the Newton connection kit to have specific delimiters with the import and export programs.

With Newton Connection 2.0 for Macintosh, you can do the following:

1) Go to the File menu and choose "Create Template..." and pick an application you wish to create a template for. Use "Edit Template..." if you are modifying an existing template.

2) Click on the "Options" button

3) Configure the record and field separator characters in the spaces provided. It is helpful to choose "non" display characters that will not be embedded in the text. The "Key Caps" application available from the Apple Menu can provide some good choices.

Then, when you want to import the data in another application, configure the import option to use the same delimiters. You need to consult the documentation for your specific application if you need additional information on how to do this. However, there can be additional problems since not all applications can be configured. In those cases, the only solution is to change the text that contains one of the delimiters on the Newton.
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Newton MessagePad: Starcore Dyno Notepad Size Limit

Can I create files that are greater than 4k in the Starcore Newton application called Dyno NotePad?
This article has been archived and is no longer updated by Apple.
Both the Newton MessagePad and Dyno Notepad limit the size of note of 4k. The Dyno Notepad limit is on the sizes of individual note items or "Each Once you reach the 4k barrier, you can draw a line to create a new Support Information Services.
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LaserWriter 8.1.1: Setting Default Paper Tray

I am using a LaserWriter Select 360 with the LaserWriter 8.1.1 printer driver, and cannot make the lower tray the preferred tray option. After printing a document, the printer always defaults back to ALL trays. How can I make the lower tray the preferred paper tray?
This article has been archived and is no longer updated by Apple.
If you performed a set-up in the print window, the information is not stored for later print jobs. If you want to set the default paper tray, you need to configure the LaserWriter 8.1.1 in the chooser.

To select the default paper tray:

1) Open the chooser and select the LaserWriter 8.1.1. driver
2) Click SETUP
3) Click Configure
3) Select 250/500 Installed and Preferred.

Once the printer software is configured, the printer uses the paper tray you selected.
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AWS 95: NCSC Security Levels Available

I'm using an Apple Workgroup Server 95 (AWS 95) with Oracle in a TCP/IP environment. I am very concerned about the AWS 95 computer's security, since it will be serving mission-critical data and will be Internet accessible.

I'd like to know what additional security measures are available for A/UX, and to ensure that they will not break Oracle. Minimally, I need support for a shadow password file, but I would prefer full C2 security.

Does Apple have a C2 secure version of A/UX, and is it compatible with the AWS 95 with Oracle7?

This article has been archived and is no longer updated by Apple.
According to the NCSC (National Computer Security Center) evaluation criteria, seven levels of trust called Classes have been defined. The AWS 95 server based on A/UX 3.1 (the latest version) doesn't, in general, meet the C2 class requirements, it only meets the C1 class level. AppleShare and AppleShare Pro also are in the C1 class security category.

As of April 1994, Apple doesn't have a C2 security version of A/UX.

Below is more information on the NCSC security classes:

The increasing order of trust (from left to right), D, C1, C2, B1, B2, B3, and A1.

```
   D       C1       C2      B1      B2     B3      A1
<---------------------------------------------------------->
   not               increasing security           highly
   secure                                          secure
```

D systems aren't trusted. A1 systems are extremely resistant to compromise.

Up to level B3, each Class introduces additional features and functions to counter specific threats that weren't countered by lower Classes. For example:

- C2 introduces the "audit" function.
- B1 adds "security labels" to all objects.
- B2 adds a "trusted path."
- B3 adds a "trusted recovery" feature.

Class A1 adds no features or functions over a Class B3 system. The software system for a Class A1 system is identical to Class B3 system. However, the Class A1 system is more trusted because it is subjected to extremely rigorous design verification, threat analysis, construction, testing, inspection, distribution, and operational procedures covering hardware, firmware, and software.

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Jazz: Using the numeric keypad within the Worksheet

This article has been archived and is no longer updated by Apple.
The down arrow key on the numeric keypad will move the cell selection to the right when entering data in the Jazz worksheet. The return key on the main keypad will move the cursor down. Users entering a column of numbers can highlight the column heading (A, B, D, ect.) this will select the entire column. The down arrow will be forced to operate correctly when the entire column is highlighted. In the Jazz database the down arrow key on the numeric keypad will move the cell selection down.

NOTE: Apple Computer Inc. is not responsible for the contents of this article.
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Newton MessagePad: Assistant Uses Last Written Text

When I write in the notepad, then press the Assist button, the last couple of sentences written on the notepad appear in the Assist window. The Newton then tries to interpret the text and fails. Why does the Assistant do this?
This article has been archived and is no longer updated by Apple.
The assistant was designed to take what was last written in a note area and use the text to assist the user. For example, you can write "CALL STEVE" in the notepad and tap assist without highlighting the text. This makes Newton's notepad acts like a slip of paper where you can jot down an instruction and say "do it."

You should tap once somewhere in a blank space area on the notepad and then tap assist if you want the assistant to come up without text in the assistant window.
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Newton Connection Kit: Exporting Repeating Meetings

Why does the Newton Connection Kit 2.0 for Macintosh export repeating meetings to other applications as individual meetings?
This article has been archived and is no longer updated by Apple.
Repeating meetings are exported as individual meetings to handle the requirements of the application program that the information is imported into. This is done because there is a need to handle exception meetings. Most applications do this by storing repeating meetings as individual meetings. For example, create a repeating meeting for every Tuesday. Then pick one week that you have to go to the dentist on Tuesday but you still need to have the meeting so you change the meeting to Wednesday. Now you have repeating meetings for Tuesdays with one exception meeting for one week on Wednesday. This information would be lost if repeating meetings were not exported as multiple single meetings.
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Newton Connection Kit for Windows: Using a Logitech Mouse

This article describes compatibility problems between the Logitech Mouse and the Newton Connection Kit for Windows.
This article has been archived and is no longer updated by Apple.
When using the Newton Connection for Windows with a Logitech FirstMouse, the mouse cursor, or arrow, will travel across the screen in random direction without user interaction.

This is usually caused by a misconfigured Windows mouse driver. Change the configuration of the mouse using the Windows Setup program from "Microsoft or IBM PS/2 mouse" to "Logitech Mouse".
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DOS Compatibility Card: No Print Drivers Required for DOS (4/94)

How does the DOS Compatibility Card print to a printer? Do I redirect the output to one of the Macintosh serial ports, or are there drivers included for Window and DOS applications?

This article has been archived and is no longer updated by Apple.
The DOS Compatibility Card uses the printer selected in the Chooser. The DOS Compatibility Card software supports Epson and PostScript printer output. QuickDraw printers such as the StyleWriter or ImageWriter work only with Epson drivers (if a printer is not a PostScript Printer, it's considered a QuickDraw printer). When choosing a non-PostScript printer in DOS, you should select either an Epson LX or Epson LQ printer driver.

IMPORTANT: If you try to print a file and you're using a PostScript printer driver for a non-PostScript printer, your file will not be printed. Instead, the spool file will be moved to a folder called "Spooler Rejected" in the Macintosh Environment. To print the file, choose the proper printer driver in the DOS environment and try again.

The DOS Compatibility card supports two serial ports, COM1 and COM2. You can map these ports, in the PC Setup control panel, to an unused Macintosh printer or modem port, a text file, or to a setting of none.

When printing to non-PostScript printers from DOS, the information goes through printer emulation and also through the Macintosh printer driver. This process makes printing multiple pages from DOS slower than printing from a Macintosh application. Because of this, whenever possible you should print from the Macintosh side of the computer.

To print a DOS document from a Macintosh application, you need to cut and paste the information. The DOS Compatibility Card comes with software that converts the DOS or Windows clipboard into information the Macintosh clipboard can use.

If a PostScript printer is attached to the Macintosh computer, then DOS and Windows doesn't have to go through the printer emulation process. This enables DOS and Window documents to print at the same speed as Macintosh documents to the same printer.

When using a PostScript printer in DOS or Windows, choose the driver that matches your printer. Some DOS applications only let you select the option of printing to a generic PostScript printer. This works fine except you will not be able to use any of the special paper tray capabilities of you printer.

Support Information Services
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Power Macintosh AV: Monitors Ctrl Panel Shows Ghost Monitor 1/96

When I go into the Monitors control panel on any Power Macintosh with more than one NuBus or PCI bus video card installed, it indicates that I have two monitors connected, but I only have one. Why does this happen?

This article has been archived and is no longer updated by Apple.

On the AV Power Macintosh computers, if you have a monitor connected to the high-density monitor port, the Monitors control panel assumes that a television is connected to the S-video output port, even if there is no television connected. The control panel displays an image of a second "ghost" monitor. Unless there is a monitor connected to the standard monitor port, the Monitors control panel cannot tell whether or not a television is connected to the S-video output port and automatically assumes that a television is present.

WARNING Do not attempt to move the menu bar to the "ghost" monitor. If you do, the menu bar will disappear, and you will not be able to restore normal video until you attach a monitor to the standard monitor port and reconfigure your Monitors control panel.

Follow these steps to restore normal video:

1) Shut down your computer.

2) Connect a monitor to the standard monitor port*.

*Note: If you are using the AudioVision monitor with the HDI-45 connector you will need to attach the AudioVision 14 Display Adapter cable to your monitor in order to connect it to the standard monitor port.

3) Turn on your computer.

4) Choose Control Panels from the Apple menu and open the Monitors control

panel.

5) Verify that menu bar shows up on your primary monitor.

6) Close the Monitors control panel.

7) Turn off your computer.

8) Reconnect the monitor to the HDI-45.

9) Turn on your computer.

If you do not have the AudioVision adapter cable and/or another monitor that will plug into the DB-15 port of the AV card then you will need to use the following procedure to restore normal video:

1) Start up from the Power Macintosh CD.

2) Drag the "System" file from the "System Folder" of the hard drive and

place it at the same level as the "System Folder" itself.

3) Copy the System file from the Power Macintosh CD into the System Folder on located on the hard drive.

4) Restart the system, hold the mouse button down to eject the Power Macintosh CD to allow the system to boot the machine from the hard

drive.

5) Open Monitors control panel and verify that the menu bar is set to the primary monitor.

6) Restart the machine so that it starts up from the Power Macintosh CD.

7) Drag your original "System" file back into the "System Folder" on the

hard drive.

8) Click "OK" when the dialog box appears asking to replace the "System" file.

9) Shut down the computer.

10) Reconnect the monitor to the HDI-45.

11) Restart the machine so that it boots to the hard drive.

Article Change History:

23 Jan 1996 - Updated to include all AV Power Macintosh computers.

08 Jul 1994 - Reviewed for technical accuracy.

Support Information Services

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GeoPort Software: Current Version in Apple Telecom 2.3.2 (1/96)

The Express Modem 1.5.2 READ ME says I need, "(GeoPort rev 1.2.1 or greater) provided with GeoPort disks" for Quadra 660AV and 840AV computers. Where can I get it?

This article has been archived and is no longer updated by Apple.

NOTE THE FOLLOWING CORRECTIONS TO THE EXPRESS MODEM 1.5.2 READ ME

The Express Modem II Card is only available outside of the U.S. on

PowerBook 500 Series computers.

New versions of Express Modem software have been released. The latest version of the Express Modem software is 2.3

What you should use

Apple released Apple Telecom software v2.3.2 which includes all the latest versions of extensions and communications software to use with all Apple PowerBook Express Modems, all Apple Comm Slot Express Modems, and Apple GeoPort Telecom Adaptors.

If you own a PowerBook 500 Series computer with a PC Card Modem, or PowerBook 5300 series, or PowerBook 190 series, you should install the Apple Telecom/PC Card Modem v2.3.1 software package.

The installer in both Apple Telecom software packages automatically places the correct software on your hard drive for your computer's configuration. Both versions of the Apple Telecom software packages are available on online services.

These articles can help you locate the Telecom 2.3.x software mentioned here:

"Where To Find Apple Software Updates" -- Lists online services for free Apple software updates.

"Obtaining Apple Product Support in the USA" -- Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech Info Library.

Article Change History:

10 Jan 1996 - Updated with Telecom 2.3.x information.

15 Dec 1995 - Updated with Apple Telecom 2.3 information.

19 Jan 1995 - Updated with current versions.

Support Information Services

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AV Monitors: Missing Part of the Sound Control Panel

I have a 14-inch AudioVision monitor on a Power Macintosh and there are parts of the Sound Control Panel that are missing. Specifically, the AudioVision Speakers & AudioVision Headphones sliders (under Volumes in pop-up menu) and AudioVision Sound in pop-up menu.
This article has been archived and is no longer updated by Apple.
Both the AudioVision 14-inch Display and the AppleVision 1710 AV Display have their own processor chip which receives signal through the ADB channel in the monitor cable. Restarting the computer may not clear the chip. The following steps should clear up this situation and restore the proper control panels settings and functionality:

1. Shut down the computer and monitor. Wait 30 seconds.
2. Double-check monitor cable(s) for proper connection(s). Because the ADB signal is used by the monitor and the computer to determine configuration, you should connect the ADB devices this way: mouse to keyboard, keyboard to monitor, monitor to cpu.
3. Next power up the computer first, and THEN the monitor.
4. If problem remains, reset the PRAM by restarting the machine and holding down the CMD-OPTION-P-R just after you hear the startup tones, and let go as soon as you hear them again.
5. If problem still remains, system software (which includes the proper AV software) may be at fault. Options are to custom reinstall AV software or, follow steps for a clean install of system software on page 7 of "Additional Tips & Troubleshooting" addendum for Power Macintosh manuals.

The Video Control panel provides software control for brightness and contrast on the AudioVision 14-inch Display with System 7.1. In System 7.5, this control panel is replaced by the AppleVision Setup control panel which works on both AV monitors.

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Power Macintosh: Speech Recognition Locks Up (4/94)

The Power Macintosh seems to lock up right after turning on Speech Recognition.

This article has been archived and is no longer updated by Apple.
Do the following:

1) Turn Speech Recognition off.
2) Check to see if Sound Out in Sound Control Panel is set to 44 KHz.
If so, click 22 KHz setting.
3) Close Sound Control Panel and turn on Speech Recognition.

The Sound control panel should always be set to 22 KHz when using Speech Recognition. Setting Sound Out to 44.1kHz does not affect the audio off the CDs. Audio CDs just play through, the Sound Out settings are used for digital recording only.

Support Information Services

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TrueType: Styles Defined Differently In PostScript & QuickDraw

I am having difficulty printing the Geneva font in boldface on a StyleWriter II. When Geneva is printed to a LaserWriter Pro 630, it prints fine in Boldface. Why would the Geneva font print in bold on the LaserWriter Pro 630 but not on the StyleWriter II?
This article has been archived and is no longer updated by Apple.
The way that a PostScript device handles TrueType fonts differs from the way that a QuickDraw device such as the StyleWriter II handles the same font. Here are some modified excerpts from several different publications.

If QuickDraw requests a font in a specific style such as Geneva bold and the Font Manager has the font whose design includes the style, the Font Manager returns that font to QuickDraw, and QuickDraw does not need to apply the stylistic variation when drawing the font. If the Font Manager does not have the font with the stylistic variation intrinsic to it, the Font Manager returns the plain font to QuickDraw, and QuickDraw applies the style when drawing the glyphs. When QuickDraw requests a font with multiple styles, if the Font Manager does not have a font with all of the styles intrinsic to it, but it has a font with one intrinsic style, the Font Manager returns that font, and QuickDraw applies the additional style or styles when drawing the glyphs. The Font Manager does not apply stylistic variations to a font.

You can specify stylistic variations alone or in combination. (Certain styles may be disabled in some script systems.) Most combinations usually look good only for large font sizes. Here are the results of specifying any of the styles that QuickDraw supports:

- Bold increases the thickness of a glyph. It causes each glyph to be repeatedly drawn one bit to the right for extra thickness. Adding one bit is barely noticeable on most fonts, especially in the larger font sizes.
- Italic adds an italic slant to the glyphs. Glyph bits above the base line are skewed right; bits below the base line are skewed left.
- Underline draws a line below the base line of the glyphs. If part of a glyph descends below the base line, generally, the underline isn't drawn through the pixel on either side of the descending part. However, when printing to a PostScript LaserWriter printer, the line is drawn through the descenders.
- Outline makes a hollow, outlined glyph rather than a solid one. If you specify bold along with outline, the hollow part of the glyph is widened.
- Shadow also makes an outlined glyph, but the outline is thickened below and to the right of the glyph to achieve the effect of a shadow. If you specify bold along with shadow, the hollow part of the glyph is widened.
- Condense affects the horizontal distance between all glyphs, including spaces. Condense decreases the distance between glyphs by the amount that the Font Manager determines is appropriate.
- Extend affects the horizontal distance between all glyphs, including spaces. Extend increases the distance between glyphs by the amount that the Font Manager determines is appropriate.

For optimal quality, use a fully defined font that contains all of the style information.
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Newton MessagePad: Special Symbols in the calling options

In the call slip under "options" (available when trying to dial the phone with Newton), what do "!" and ">" in the prefix area stand for?
This article has been archived and is no longer updated by Apple.
The characters you reference are special dialing commands for accessing PBX systems. The exclamation symbol (!) is a flash hook command with a 2 second wait. It is used to wait for a clear line before initiating a call. The function is very similiar to a flash button on a phone set.

The greater than symbol (>) is a special symbol used on phone systems in Germany.
Published Date: Feb 19, 2012

Newton MessagePad: Lithium batteries Work Well

I would like to use Lithium rechargeable batteries in my MessagePad because they last longer than Alkalines. Do lithium AA batteries work with the MessagePad?
This article has been archived and is no longer updated by Apple.
Although Lithium batteries have not been officially tested, they appear to work well in all current Newton MessagePad models. The main differences between Lithium batteries and standard alkaline batteries are battery life and cost.

The Newton OS uses a "battery discharge table" to approximate the charge status of the battery. When using rechargeable batteries in place of Alkalines, the Newton OS cannot tell the difference and will use an Alkaline battery discharge table. The result is that you may not have an accurate indication of battery charge status. Although this may result in the loss of data when the batteries run out unexpectedly, it will not seriously affect the operation of the MessagePad.
Published Date: Feb 19, 2012

Newton MessagePad: Meaning of Assistant‘s Where Field

When using the intelligent assistant with the datebook, what does the "where" field mean?

For instance, when I write "talk to Bill Clark Mon 12:00pm", the Newton presents several options for the WHERE field in the scheduled meeting slip. Most of the options at least have the letters M and O. One options name is Monica and another is Mozgia. How does the Newton MessagePad determine what should be offered in the choice list for where?
This article has been archived and is no longer updated by Apple.
The assistant uses the name information stored in your Newton MessagePad to determine the where field contents when scheduling a meeting. This is because the names information can also be used to store locations.

First, the Newton MessagePad searches the names database on each word for the "who" field list. The Newton MessagePad also searches names for the "where" list. "Where" searches also look in the notes fields of the name cards. That is why the "where" list can contain some strange entries.

For instance, when I enter "Schedule meeting with Steve on Monday" on my Newton MessagePad, it put Electric in the "where" field because I had written the word "Monday" in the notes for my electric company name card. The Newton MessagePad is being as complete as it can by giving you the broadest range of options for "who" and "where."
Published Date: Feb 19, 2012

QuickTake 100: Some TWAIN Support (2/95)

Is the QuickTake 100 camera TWAIN compliant?

This article has been archived and is no longer updated by Apple.
The QuickTake camera and software are not TWAIN compliant using the Macintosh OS at this time and there are currently no plans to make it compliant. Microsoft Window users can use a third party product called PhotoNow by PictureWorks Technology.

However, the QuickTake camera already provides TWAIN-like functionality.

The QuickTake software lets you download pictures that are already stored in the camera, while in any application that opens or imports PICT files. This can be done by connecting to the QuickTake camera using the QuickTake Setup control panel. An icon representing the camera shows up on the desktop just like any other disk. Once this is done, the user's application can open QuickTake image files like it would any other PICT file. For example, MacWrite Pro can use its "Insert..." command to place a QuickTake image into a document.

Explanation of TWAIN

One apparent advantage of TWAIN is that TWAIN-compliant programs let you scan images directly from the application. This is not applicable to the camera that is not attached to the CPU when acquiring an image.

TWAIN is an API standard for scanners that provides across-the-board compatibility between scanners and software. The specification's open industry interface lets hardware developers and applications programmers support a wide range of devices by writing one standard device driver.

Users also benefit from the spec because it lets them directly acquire images from within TWAIN-compliant software applications, including word processors, spreadsheets, and desktop-publishing programs.

A cross-platform API, TWAIN works with both Windows 3.1 and Macintosh System 7. Windows NT support for TWAIN is in beta testing by developers for 32-bit applications.

The TWAIN specification was developed by the Working Group for TWAIN, a consortium of hardware and software vendors that includes Aldus Corp., Caere Corp., Eastman Kodak Co., Hewlett-Packard Co., and Logitech, Inc.

To locate a vendor's address and phone numbers, use the vendor name as the search string.

Article Change History:
03 Feb 1995 - Added information on PhotoNow product.

Support Information Services
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PowerTalk: Using With Power Macintosh Upgrade and 68K Mac (4/94)

Is it possible to install a Power Macintosh Upgrade Card and its software along with PowerTalk for Power Macintosh and utilize PowerTalk when using the 68040 processor instead of the PowerPC 601 processor?

This article has been archived and is no longer updated by Apple.
Here are steps required to facilitate the proper installation and usage of PowerTalk under both 68K and Power Macintosh modes.

0) (OPTIONAL, but recommended) Install a clean version of System 7.1.
1) Install the Power Macintosh Upgrade Card Software.
2) Install System 7 Pro (Boot off the System 7 Pro Install Me First disk).
3) Install Rev. 2 of the PowerTalk for PowerMacintosh Software.
4) Restart.

All three steps are required to utilize PowerTalk features in 68K and Power Macintosh modes. Though the process is rather convoluted currently, the process will be smoothed out with the advent of System 7.5 later this year.

Support Information Services
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LaserWriter: Shelf Life of Toner Cartridge

What is the shelf life of LaserWriter toner cartridges?
This article has been archived and is no longer updated by Apple.
The shelf life of LaserWriter toner cartridges is approximately two years. The label on the end of each toner cartridge states the expiration date:

"Use Before 19XX" or "Use Before 20XX."

The two-year shelf life of the cartridge is designed to ensure that the print quality will meet Apple's specifications for the expected life of the cartridge. In other words, the cartridge can be stored under the environmental conditions specified on its box, and meet print quality specifications for the rated life of the cartridge.

Since all of Apple's toner cartridges ship in airtight-, light-proof bags, they are protected from light, humidity, and chemicals (such as ammonia-based cleaners) that could shorten the life of the cartridge. The one environmental variable that cannot be controlled by the packaging is storage temperature. To ensure that a cartridge will function correctly after storage, Apple recommends that you keep LaserWriter cartridges at room temperature, about 25 degrees Celcius.

Over time, toner tends to settle in the toner bin and may form clumps. These clumps may affect print quality if they are not broken up prior to use. If you plan to store cartridges beyond the normal shelf life, you should occasionally rock the toner cartridges back and forth to help redistribute the toner and break up any clumps that may have formed. There is no recommended guideline for this, but every six months should be sufficient. Apple cannot guarantee that print quality will meet Apple specifications if cartridges are stored beyond their normal shelf life, however.

Color LaserWriter Toner Cartridge Shelf Life

The shelf life of Apple's Color LaserWriter models (12/600 PS and 12/660 PS) toner cartridge is also two years. There is a date code printed on each cartridge's box that consists of six alphanumeric characters. The first character indicates the last digit of the year, and the second character provides the month that the cartridge was produced. The month date codes are as follows:

A = January
B = February
C = March
D = April
E = May
F = June
G = July
H = August
I = September
J = October
K = November
L = December

Toner Life

For information on how long toner cartridges last once they are installed in a LaserWriter printer, see the following:
Tech Info Library Article 18014: "**LaserWriter: Toner Cartridge Life**"
Published Date: Feb 19, 2012

LaserWriter Pro 810: Startup Page and Printer Name

The startup page doesn't reflect the correct printer name. The printer has been named LW Pro Room 218, the test page says LW Pro 810f. If I check the name with the LW Utility it shows the correct name. The correct name also appears in the Chooser of all Macintosh computers. The correct name was on the test page but we had big problems with the printer and had to reset it to factory defaults. Since then I cannot get the test page to show the correct printer name.

How can I force the printer to print the correct name on the test page?
This article has been archived and is no longer updated by Apple.
The start up page reflects the name assigned to the LocalTalk side of the printer. Due to the I/O architecture of this printer it was not possible to set the LocalTalk name from the EtherTalk side and vice versa. To have the start up page reflect the correct name simply connect to the printer with LocalTalk and use the LaserWriter Utility to rename it.
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Power Macintosh: Memory Does Not Add Up Under "About This Mac"

When checking the memory allocation under "About this Macintosh", it doesn't add up to the amount of RAM installed, even after restarting. On an 8MB Power Macintosh 8100/80, the System Software has 3154K allocated, and the largest unused block is 2192K, so almost 3 MB RAM is missing.
This article has been archived and is no longer updated by Apple.
The available memory calculation is an estimate at best and should never be used as the last word on how much memory is actually allocated or in use.

There have been cases where an Extension conflict or corruption have caused the memory shown to be less than is actually installed. Booting with Extensions off should be the first step in this process. If the memory allocation is correct you should then verify compatibility with any Extension installed.

If that does not resolve the issue, try these steps:
- Reset PRAM by holding down the Command/Option/P/R keys at startup
- Update the driver on the hard drive
- Do a clean reinstallation of system software

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DOS Compatible Card: Copying & Pasting Problems (4/94)

When I try to copy or cut anything more complicated than a couple of lines of text from Windows or DOS to a Macintosh application, the machine either locks up at the "translating clipboard box," or nothing shows up in the clipboard. I have a brand-new system straight out of the box. What's wrong?

This article has been archived and is no longer updated by Apple.
The problem is memory related - there's not enough Macintosh memory for the translation. Sometimes this is handled gracefully, as when there's nothing in the clipboard, and sometimes the machine will crash when out of memory. If purchasing more memory is not an option, then turn Virtual Memory on and restart. Virtual Memory should be no greater than double the total amount of physical RAM. For example, on a machine with 8 MB physical RAM, Virtual Memory should be set to no more than 16 MB.

Support Information Services

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DOS (486) Compat Card: Frequently Asked Questions (3/97)

These are frequently asked questions (FAQ) about the DOS Compatibility card.

Questions in this FAQ:
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1) Is the socketed 486SX processor upgradable?

2) How do I capture the screen from DOS without a mouse?

3) Does the PC board maintain it's own clock?

4) What is the purpose for the unused connector on the DOS Compatibility Card?

5) Why do the video driver disks install a 1024X768 video driver in Windows? Is it supported?

6) What is the required speed of the SIMMs for the card?

7) Will Virtual Memory allow me to allocate more memory to the DOS card?

8) Are disk compression programs such as Disk Doubler, Spacemaker and DOS's Doublespace supported?

9) Will DOS disks be included with the purchase of this product?

10) How do I use my Apple Keyboard II? It doesn't have any function keys?

This article has been archived and is no longer updated by Apple.

1) Question: Is the socketed 486SX processor upgradable?

Answer: No, a 486DX chip at the same clock speed could be inserted with a few minor modifications to the board but is not supported by Apple.

2) Question: How do I capture the screen from DOS without a mouse?

Answer: Use the arrow keys to move the cursor to the desired location, and hold the shift key down when marking the region. Let go of the shift key and the marked region will be captured.

3) Question: Does the PC board maintain it's own clock?

Answer: No. The PC card polls the Macintosh at startup for the correct date and time. If the date and time are changed with the DOS date and time commands they will be reset when the Macintosh is restarted.

4) Question: What is the purpose for the unused connector on the DOS Compatibility Card?

Answer: This connector is actually a subset of the PC ISA bus. It was designed specifically for possible future enhancements, but has no real use at present.

5) Question: Why do the video driver disks install a 1024X768 video driver in Windows? Is it supported?

Answer: The video driver disks have not been modified for Apple's use and were provided by CHIPS & Technology. The DOS Compatibility Card only has 512K of VRAM and supports a maximum resolution of 800X600.

6) Question: What is the required speed of the SIMMs for the card?

Answer: 80ns or faster.

7) Question: Will Virtual Memory allow me to allocate more memory to the DOS card?

Answer: No, the DOS Compatibility Card only sees physical memory.

8) Question: Are disk compression programs such as Disk Doubler, Spacemaker and DOS's Doublespace supported?

Answer: Apple recommends that the customer don't use DOS's Doublespace even though it appears to work. There are no known compatibility issues with Macintosh compression programs. DOS Doublespaced containers will appear empty except for command.com when mounted from the Macintosh finder.

9) Question: Will DOS disks be included with the purchase of this product?

Answer: Yes.

10) Question: How do I use my Apple Keyboard II? It doesn't have any function keys?

Answer: Page 13 in the DOS Compatibility Card manual describes how to do this The OPTION key in combination with a number corresponds to function key of the same number.

14 Mar 1997 - Changed title to distinguish from newer PC cards.
13 Nov 1995 - Updated title.

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PowerBook: Problems Waking From Sleep or Dimming

This article provides some troubleshooting tips for a PowerBook that enters a dimmed state or freezes up while it is waking up from sleep.
This article has been archived and is no longer updated by Apple.

Software

Step 1
See if the PowerBook has gone to sleep with an external monitor attached. Select "Don't sleep" when plugged into AC power. Always use the AC adapter when external devices are attached to a PowerBook.

NOTE: Some software applications may not "understand" the PowerBook sleep function. If you discover your PowerBook always freezes when it goes to sleep if a certain application is open, you should contact the software vendor for more information.

Step 2
Check the hard drive for SCSI driver or ATA driver problem. Some possibilities:

- The hard drive's SCSI driver or ATA driver is not system 7.x compatible.
- The hard drive's SCSI driver or ATA driver is corrupt. (Update with HDSC Setup for Apple SCSI hard drives or Drive Setup for Apple ATA hard drives)

Step 3
Check to see if incompatible software is installed. Some possibilities:

- screen savers
- security software
- disable extensions and control panels using the Extensions Manager control panel.

To test for incompatibility, remove the software and then get an update if the removal solved the problem.

Step 4
Check for older third party products, which should be updated. Consult third party developers for updates.

Step 5
Reset PRAM by holding down COMMAND-OPTION-P-R after the startup tones. Once you hear the tones again, release the keys.

Step 6
If a PowerBook seems to hang for about 5 minutes when waking from sleep, check to see if TCP/IP is set too "active". If this is the case, and the unit is unable to make an Internet connection, there may be a pause when waking and during startup as well. If TCP/IP is set to "active", set to "inactive" and check "load only when needed."

If none of the preceding steps help, the System may be corrupt. Perform a clean install and run Disk First Aid (See Clean Install article).

Software and Screen Dimming

If the PowerBook has an external display attached and dims the display, some programs lock up when the PowerBook tries to use the external monitor again. The solution is to set the PowerBook not to dim when plugged in. Since the PowerBook must be plugged in to use the external display, this should solve the problem.

If the PowerBook is running System 7.0.1 or 7.1, then this setting is in the PowerBook Display control panel. If the PowerBook is running System 7.1.1, 7.5, or has v1.5 or later of the Express Modem software, then the setting is in the PowerBook control panel. The PowerBook control panel must be set to Custom, the Power Conservation at the bottom of the control panel must be set to Power Adapter, and the slider marked Screen Dims should be moved to Never.

With the PowerBook configured this way, it still dims the built-in display when running off of battery power and should not reduce the amount of time that you can expect to get out of a battery charge.

Potential Hardware Problems

Possible Hard Drive Failure
Update the hard drive's SCSI driver or ATA driver and run Disk First Aid. Run HDSC Setup test or Drive Setup test, and reformat the drive if the test finds errors.

Hard Drive Cable

If a new hard drive has been installed, the cable may need replacement.

Possible Logic Board Failure
Check with an Apple Authorized Service Provider for a replacement or repair.

Possible RAM failure
Test with the RAM card removed. Replace the RAM card.

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Newton MessagePad: Caps Lock Appears As Line On Screen

When I am in the date application, there is a intermittent line in the top left corner of the screen. It's appearance has no effect on any operations. What does it do?

This article has been archived and is no longer updated by Apple.

The line that appears at the top of the screen is a Caps Lock indicator. On the "soft" keyboard, if Caps Lock is left on, the small line appears in the upper left corner of the screen. In the notepad and names applications, the line gets hidden because windows on the screen cover it.

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Newton Connection Kit: No Export Into ClarisWorks Database

Does the Newton Connection for Macintosh support import/export of data from ClarisWorks database files?
This article has been archived and is no longer updated by Apple.
The Newton Connection File does not support a direct translation into the ClarisWorks database module. The ClarisWorks database can export data as tab delimited text, so you can use the Newton Connection Kit to create an import/export option for ClarisWorks.

The ClarisWorks database module cannot import text data into a database file, so you cannot export data from the Newton MessagePad into a ClarisWorks database file.
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Power Macintosh: NTSC Video Out Choice & Menu Bar Missing

I have an NEC monitor connected to my Power Macintosh 8100 AV system with the monitor connected to the S-Video port. I have two options for 640x480; 640x480 (NTSC - TV only) & 640x480 (NTSC).

What is the difference?

I also have a Power Macintosh 8500 with 4 MB of Video RAM (VRAM), a Multisync 15 inch display, and a 27 inch television set. I am attempting to use the highest resolution (800x600) available for both the monitor and television set. I am mirroring the computer's monitor onto the television screen.

I cannot see the menu bar on the NEC display or the TV in either of these setups. What is wrong?
This article has been archived and is no longer updated by Apple.
NTSC Options

The reason that the S-Video output from your Power Macintosh 8100 to your NEC monitor allows you two choices at the same resolution is because of convolution.

The NTSC-TV selection provides convolution.

The NTSC selection does not provide convolution.

Using the NTSC-TV option will provide a raster with substantially less jitter than with the NTSC option.

Missing Menu Bar

As far as not being able to see the menu bar is concerned, it is because you are in the overscan mode. Select a reduced resolution (underscan mode) and you will see the menu bar.

NTSC (S-Video) video output has different capabilities when compared to standard RGB display output. NTSC output on the Power Macintosh 8500 series computers only supports resolutions up to 640x480 output. In resolutions at 640x480 and above, the menu bar will disappear and the picture will appear to go off the sides of the screen. This is called overscan mode.

Apple does provide lower resolutions that better match the capabilities of NTSC. These are 512x384 and 320x240. Both resolutions will show the whole display area and the menu bar will not be cropped. This is because the conversion from RGB resolution to NTSC scan lines better match the capabilities of NTSC devices in these resolutions.

In fact, 320x240 is an excellent resolution to use for outputting QuickTime video. The computer can playback video faster at 320x240 resolution and the Power Macintosh 8500 series computer's hardware will optimize playback at 320 to fill an entire NTSC video screen.
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Chinese Language Kit: PC Exchange and Freeze With Disk Format

Using a Quadra 840AV with the Chinese Language Kit and PC Exchange 1.0.3, and when I try to format a floppy disk, the computer doesn't respond or does not complete the formatting process.

This article has been archived and is no longer updated by Apple.

There is a known conflict between PC Exchange 1.0.3 and the Chinese Language Kit. Apple has corrected this problem in PC Exchange 1.0.4.

PC Exchange 1.0.5 is also compatible with all the Power Macintosh computers.

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MacCheck: RAM Doubler Caused ROM Check to Fail (4/94)

When I run MacCheck on my Performa 550, the ROM check failed and Logic Board test failed.

This article has been archived and is no longer updated by Apple.
You probably have a third party extension such as RAM Doubler that patches the ROM code. Start with Extensions off by holding down the Shift key after choosing Restart. Then run MacCheck again. It should not report a problem.

RAM Doubler patches the ROM which causes the Checksum to no longer match. This will cause the error in MacCheck.

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Newton MessagePad 110: Not Recognizing Messaging Card

This article describes a problem with the Newton MessagePad 110 recognizing the Newton Wireless Messaging card.
This article has been archived and is no longer updated by Apple.
If you are having problems with the Newton Wireless Messaging card being recognized, remove the spacer clip attached to the card underneath the battery compartment. This allows the card to make better contact with the PCMCIA slot. The spacer is needed on the card when it is used with the original MessagePad or the MessagePad 100.
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Dell Crosswords: Removing puzzle data

Once a puzzle is completed in Dell Crosswords on a PCMCIA ROM card, how do you clear the puzzle so that it can be played again by another player?
This article has been archived and is no longer updated by Apple.
The steps for removing data from a puzzle are listed below. You may want to erase the data to save internal memory space in addition to removing it to let someone else play the puzzle. You save internal memory space because the PCMCIA ROM card stores the solutions and scores on internal Newton memory.

Puzzle data can be removed by following these steps:

1) Navigate to a puzzle pack screen which contains a list of available puzzles. The Dell Crosswords PCMCIA card comes with 13 different puzzle packages. The top of the screen displays "Contents of Dell CW Pack #Cx", where x is the number of the puzzle pack.

2) Tap once on the puzzle you want remove the data from.

3) Tap on the Cleanup Data button.

4) Tap on the Remove data for this pack button.
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Newton MessagePad: Preventing Early Alarms For Events

This article describes a workaround that prevents alarms for repeating events in the Newton Datebook from going off early.
This article has been archived and is no longer updated by Apple.
Sometimes Datebook alarms go off days, weeks, or months early. But, if events are created in a specific order, then the alarm for these events is not activated prematurely.

When creating the repeating event, create the item in the following order:

1) Create the meeting or day note
2) In the event slip, set the Alarm
3) Set the Frequency

Make sure you set the Alarm before you set the Frequency. If you set the frequency first, the alarm for the event may go off early.
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Express Modem 1.5.1: Default Profile of atN from 0 to 1 (4/94)

One of the changes in Express Modem software from 1.1.2 to 1.5.1 was to change the default factory profile of atN value from 0 to 1.

This article has been archived and is no longer updated by Apple.

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The change of the default factory profile of atN value from 0 to 1 effects users who are using an S37 command.
 What this means is if you need to force connect at a speed less than 14.4, for example when calling America
Online (AOL), you have to add "n0" (N-Zero) to your initialization string.  The initialization string we have
been using for AOL includes setting S37 to 6 to force the connection at 2400 bps.  "n1" causes the modem to
ignore the value in S37.

Support Information Services
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Published Date: Feb 19, 2012

Power Macintosh: SoftWindows, NetWare, Token Ring (5/94)

I've looked at Power Macintosh in my environment which includes a Token Ring network with both Windows and Macintosh computers, mainframe access, and NetWare (including NetWare for Macintosh).

I've seen a Power Macintosh 7100/66 with the Apple Token Ring 4/16 NB Card. Everything worked fine where TokenTalk connected to NetWare volumes with NetWare for Macintosh, we accessed the mainframe with MacMainFrame, and we accessed the Internet with MacTCP and MacTCP Token Ring.

With SoftWindows I could access applications from a mounted NetWare volume through SoftWindows' Shared Volumes feature. Finally I wanted to login to NetWare via IPX. The SoftWindows README said IPX is supported on Token Ring, provided the card is written to Apple Computer's .TOKN specifications.

I launched NetWare, and did login by typing 'token', and various drivers loaded, LSL, tokenspc, ODI, and so on. NETX launched to attach to the server, but the process failed with the message, "Can't find network server."

What do I need to make this work?

This article has been archived and is no longer updated by Apple.
The issue is the ability of an Apple Token Ring card and associated driver to send and receive SPX packets. SPX packets are the 802.2 version of Novell's IPX packet format whereby the SAP is 0xE0 as opposed to 0xFF. Novell has gotten around this problem with MacIPX by manipulating the Token Ring driver directly.

The Token Ring drivers on the NSI 1.4.5 disk make it possible for both the Apple Token Ring 4/16 NB Card and the Apple Token Ring NB/c Card to send and receive SPX packets as well as other packets types that have non-SNAP SAPs. The API is identical to Ethernet Card API.

These drivers are what we would call "dumb" drivers. In the case of the Apple Token Ring 4/16 NB Card driver, the 68000 processor on card is not used at all. This is a good thing for most situations. The driver is faster than the old driver and has an added benefit of not putting the card in bus master mode. The only caveat here is the dumb driver does not work with the SNA*ps Gateway product. A "smart" driver is included on the NSI 1.4.5 disk just for the SNA*ps Gateway product which puts the card in bus master mode.

Another issue to note here is that it's not possible to have the "dumb" and "smart" drivers for the Apple Token Ring 4/16 NB Card installed and used at the same time. If both drivers are installed, the "smart" driver will be used.

The Apple Token Ring NB/c Card is never in bus master mode and has only one driver. This driver does not support the SNA*ps Gateway product at this time.

Article Change History:
20 May 1994 - Additional information and clarification.
09 May 1994 - Updated article with NSI 1.4.5 information.

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AppleShare File Server: Software Will Not Start

After turning on the AppleShare File Server and the message, "Starting AppleShare File Server. This may take a few minutes.", is displayed, but the file server never becomes active. What is wrong?
This article has been archived and is no longer updated by Apple.
If the invisible AppleShare PDS file becomes corrupted the AppleShare File Server software will not be able to start. You will need to remove the invisible AppleShare PDS file from the root level of the hard disk being shared and allow AppleShare to build a new PDS file.

If you are using a Macintosh other than a Workgroup Server 95, please refer to Technical Information Library article, "AppleShare & System 7.x.x: Removing a Corrupt PDS File," for information on removing a corrupted PDS file.

Apple Workgroup Server (AWS) 95
To create a new AppleShare PDS file on a AWS 95 running A/UX, follow the steps below:

IMPORTANT: All access privileges information will be lost. If you proceed with the following steps, access privileges will have to be recreated using the AppleShare Admin application.

1. From the Apple Menu Open the Command shell. If a window does not appear then open a new window via the File pull down menu.
2. Type in "pwd" to confirm you are in the / directory. If not, type in the command "cd /" and press the return key.
3. Type "ls" and press the return key to view the files. Use the scroll bar to scroll to the top of the display until you see the AppleShare PDS file.
4. Use the command 'mv /"AppleShare PDS" temppds' to rename the PDS file.
5. Do another "ls" command to be sure the file has been renamed.
6. Restart the AWS 95 and launch AppleShare Pro.

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A/UX 3.1: Maximum UFS Partition Size (4/94)

I understand that A/UX 3.1 would support UFS partitions up to 4 GB. Is it true or is it still 2 GB as the limitation for an UFS partition?

This article has been archived and is no longer updated by Apple.
The latest version of A/UX 3.1 (the version used on the Workgroup Server 95) can support up to a 4 GB Unix UFS file system. However, the HFS limit for an AppleShare Pro volume is still limited to 2 GB.

NOTE (from the A/UX 3.1 ReadMe file):

Limit on File System Check Command

When the Apple Workgroup Server 95 starts up, the fsck command is run from the A/UX Startup application. It CANNOT check a file system larger than 2 GB. Therefore, limit the size of your root file system to 2,097,151 KB so that the root file system can be checked at system startup. Once A/UX is running, the fsck command can check file systems as larger than 4 GB.

Support Information Services

Published Date: Feb 19, 2012

LaserWriter Pro 810: Installing Software on Sparc Station

Software installation fails when installing on a Sun Sparc Classic running Solaris 2.2. Software installs properly on a Sun Sparc 10 model 41 running SunOS.
This article has been archived and is no longer updated by Apple.
There was a minor problem with the first release of LaserWriter Pro 810 enstall utilities for compiling the codes on SunSparc station running Solaris 2.2 or 2.3. There is a newer version which is available. Users should run the "enstall" with the -b option to install on the system without compiling the codes.

The LaserWriter Pro 810 Utilities with pre-compiled executable binaries for Sun Solaris 2.2 or 2.3 has been posted to on-line services.

These articles can help you locate software updates mentioned here:

* Where To Find Apple Software Updates Lists online services for "free" Apple software updates
* Obtaining Apple Product Support in the USA Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech. Info. Library

It is also available in ftp.support.apple.com via Internet anonymous ftp.
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LaserWriter 8 Driver: Printing Always Uses Hard Drive

You may not think that printing is in any way related to the amount of hard disk space you have available, but when you are using the LaserWriter 8.x printer driver it is a factor to consider. Even if you have a lot of hard disk space available, it may not be enough to print a very large file.
This article has been archived and is no longer updated by Apple.
LaserWriter driver 8.x actually spools the entire job to disk regardless of whether or not background printing is enabled or disabled; this is different from previous drivers. It does this to perform analysis on the print job while it is being spooled (first pass).

During the second pass (where the QuickDraw code gets converted to PostScript), it uses the data analysis from the first pass to optimize the PostScript code it generates.

LaserWriter driver 8.x performs the following types of analysis:

* Font analysis
* Image analysis
* Pattern analysis
* Bounding box accumulation
* Text measurement

In foreground printing, the performance penalty is negligible for typical short printing jobs, and is outweighed by the performance gains resulting from PostScript code optimization.

It is possible, however, that large foreground printing jobs may incur significant penalties, in both processing time and disk space, as a result of the separate spool pass.

Workarounds
The only workarounds to the problem are to free up space on the hard drive or use an older version of the LaserWriter driver, such as v7.2, and print in the foreground.

QuickDraw GX also uses a two-pass driver, so it also needs free space on the hard drive to print files.

This article was published in the "Information Alley"
Volume II, Issue 1, Page 11
Published Date: Feb 19, 2012

LaserWriter Select 360: Fax Speed (4/94)

What's the specifications for the fax speed on the Laser 360f?

This article has been archived and is no longer updated by Apple.
The LaserWriter Select 360 and LaserWriter Pro 810 PostScript Fax Cartridges follows the CCITT (International Telephone and Telegraph Consultative Committee) Group III transmission standard of up to 9600bps.

Each time a facsimile device attempts to establish a connection, a training signal will be transmitted from the sending device to the receiving device. If impairments on the line cause the receiving device to get errors in the training signal, the receiving device will signal the transmitting device to repeat the training signal at a lower baud rate. This repeats until the receiving device receives an error-free training signal or, if the receiving device does not receive an error-free signal at every baud rate (9600bps, 7200bps, 4800bps and 2400bps), the transaction will be terminated.

Additional attempts to establish a connection will be attempted if you have requested so in the Fax Options dialog box: in the "Maximum number or retries" box, type the maximum number of times, 0 to 100, the fax software should redial the fax number of if it cannot connect.

Failures to connect at any baud rate due to impairments on the telephone line should be brought to your telephone service provider's attention.

Support Information Services
Published Date: Feb 19, 2012

LaserWriters: Printing 2-byte Languages/Characters

We want to use third-party Chinese fonts which require a 2-byte printer. We were told the LaserWriter 810 is 1-byte and won't work. Is the Apple LaserWriter Pro 630 1-byte or 2-byte, and specifically what does this mean?
This article has been archived and is no longer updated by Apple.
If the Chinese fonts are TrueType then printer type is not an issue as the fonts will work with all Apple printers, and prints well on a QuickDraw printer (StyleWriter). The best printers to use are the ones with the TrueType interpreter in the ROMs:

- LaserWriter IIf/IIg
- LaserWriter Pro 600/630
- LaserWriter Select 360
- Personal LaserWriter NTR
- Personal LaserWriter 320

The LaserWriter Pro 630 supports composite fonts but has not been tested nor optimized for use with third party composite fonts (on a hard disk); the same holds true for the LaserWriter Pro 810. Apple released a Kanji version of the LaserWriter Select 360 optimized for printing Kanji characters. This printer is available in Japan and may be something you should look into. The entire system (printer, hard disk, fonts) has been tested and optimized. The main difference between the Kanji optimized printer and one bought in the United States is the speed in which documents print. In terms of the specific printer suggested by the font supplier, the same requirements above hold true for that printer.

Explanation of 1-byte and 2-byte

The difference between a "1-byte" or "2-byte" printer can be summarized by whether or not the printer supports composite font technology. Thus, the LaserWriter Pro 630 and 810 can both be considered "2-byte" printers, however, there are various other requirements for printing large character sets such as Chinese or Japanese.

These requirements are as follows:

- The printer must support composite font technology. PostScript Level 2 has built-in support, though there are some PostScript Level 1 implementations that have the composite font extensions (that is, LW NTX-J). As stated in the "PostScript Language Reference Manual" from Adobe, "A composite font is a collection of base fonts organized heirarchically."

  This basically means that instead of the typical 1-byte-per-character mapping when using a single base font (1 byte = 256 characters), the usage of multiple base fonts allows for a 2-byte-per-character mapping to represent up to 65,536 characters.
- The composite fonts themselves must have some intelligence built-in. The "daughter" fonts need to have some instructions to access their glyphs from storage (that is, instructions to access the hard drive where the glyphs reside).
- A hard disk of composite fonts, supplied with the printer. Since one composite font takes up a large amount of memory (for example, 7MB), the fonts need to reside on a hard drive, as opposed to being downloaded or in RAM.
- The printer should be designed and tested for use with composite fonts. Generally, any PostScript Level 2 printer processes composite fonts, but without any design changes or testing there could be some serious bugs and/or poor performance. Some of the most important design changes are ones such as font caching or file system utilization to handle the large amounts of font data.

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Hard Disk Install: Using it with MacWorks XL

This article has been archived and is no longer updated by Apple.
Earlier versions of the Hard Disk Install program may display the message "Hard Disk Install 1.1 must be used with MacWorks XL". Use the version that comes with the Rev. D disk in the finished goods box of MacWorks XL.
Published Date: Feb 19, 2012

HyperCard: Apple Videodisc Drivers (4/94)

I have been told that there is a videodisc driver that is made by Apple that I can use with the NEW HyperCard 2.2. Where do I get it? I have both Sony and Pioneer players -- does it give you a choice of laserdisc players?

This article has been archived and is no longer updated by Apple.
Neither Apple Computer nor the Apple Programmers and Developers Association carry video disc drivers any longer. However, third party developers such as the Voyager Company in New York and Objectic Systems in Renton Washington carry videodisc drivers compatible with HyperCard 2.2 and work with a variety of laserdisc players. Search on the company names for address and phone information.

Support Information Services
Published Date: Feb 19, 2012

LaserWriter Pro 810: Installation on UNIX Based Hosts

This article is the LaserWriter Pro 810 Quick Reference Guide, Installation on UNIX Based Hosts.
This article has been archived and is no longer updated by Apple.
Who should read this guide: This Quick Reference Guide is designed to assist the person responsible for installing the LaserWriter Pro 810 and configuring it to work on a customer's network. This guide assumes a high level of knowledge in the areas of Unix administration and TCP/IP network administration. This guide is designed to act as a pointer to the "LaserWriter Pro 810 Printer Server Installation and Configuration Guide," it is not meant to replace it.

1) Due to the additional networking protocols supported by the LaserWriter Pro 810, this printer is different than any other Apple LaserWriter you have seen before, we highly recommend that you become thoroughly familiar with the printer before attempting to install it at a customer site. If you are installing the LaserWriter Pro 810 on a network that you do not normally administer you should familiarize yourself with the target environment and have answers to questions such as:

* What OS is being used?
* Will the connection be 10 base 2 (BNC) or 10 base T (RJ-45)?
* What is the configuration of the host CPU?

You WILL need a C compiler and linker on at least one host for each type of system on which the utilities will be installed.

2) The LaserWriter Pro 810 does NOT have an IP address in firmware when it is shipped from the factory, it must be assigned as part of the installation procedure. There are two ways to set the IP address of the printer, Remote Address Resolution Protocol (RARP) and Remote Console Facility (RCF).

a) Using the RARP protocol. Many network administrators will not allow RARP to work as a permanent solution to assign an IP address. They may allow you to use it temporarily to set the printer's IP address. You can use the existing network to assign the IP address for the first time using RARP and then go in to the RCF and make the address permanent. If you are unable to run RARP on the network you will need to set up a separate two node network. (See Part 1, Section 2.3.3).

NOTE: A/UX does not include RARP. You must either use method a) above or find a public domain RARP that can be used with A/UX.

b) Accessing the Remote Console Facility (RCF) by using the RJ-12 maintenance port, (see Part 1, Section 2.3.2). The default Super User password is SYSTEM, (you need this when you use "su" to get into Super User mode). This password is needed when using the maintenance port and Telnet. This option requires a unique RJ-12 to mini DIN-8 cable.

Cable information is located in Part 1, Appendix A of the LaserWriter Pro 810 Printer Server Installation and Configuration Guide; to save you time, the pin assignments for a LaserWriter Pro 810 to Macintosh cable are shown later in this document.

Pin 1 is the pin on the far right of the male RJ-12 connector on the cable and on the far left side of the female RJ-12 connector on the printer. The numbering scheme for the male 8 pin Macintosh connector is also shown below:

Connector Reference:
RJ-12 is the LaserWriter Pro 810 Maintenance Port, Mini DIN-8 is the Macintosh Serial Port

```
RJ-12 Connector DIN-8 Connector
------------- ----------------
Signal Signal
name Pin Pin name
------ --- --- ------
TxD- 2 <-> 5 RxD-
RxD- 5 <-> 3 TxD-
GND 3 & 4 <-> 4, 6 & 8 GND
DTR 1 <-> 2 CTS
CTS 6 <-> 1 DTR


RJ-12 Plug Connector DIN-8 Plug Connector

----------------
| | | | | | | | 6 7 8
| | 3 4 5
| 6 5 4 3 2 1 | 1 2
----------------
| |
```

Note: Notes:
Pin 1 is on the right side of the Shown looking at pin side of
connector. connector. Note Space between
pins 4 and 5.

3) The bootp protocol can be used to load upgraded printer server firmware. This requires a binary image of the ROMs which Apple is not providing at this time since the firmware in ROM is the latest version available. As a result of this you can disregard all references to using bootp in the "LaserWriter Pro 810 Printer Server Installation and Configuration Guide" at this time.

4) Copy the utility software onto the host and run the install program (see Part 3, Section 2.2). You will be presented with a startup screen informing you that in order to use one of the three options (-b, -m, -u) you must quit and restart the program. The first time you run install you should run it without any of the options selected. You will use the -m option to modify virtual printers after the initial installation. The -b option will be used if the utilities were compiled on another system. At this time there is no software upgrade so the -u option is not needed.

5) If you plan on compiling the utilities on a system other than the host where the utilities will actually be used See Part 3, Section 2.4.

6) For the initial installation use the default values presented by the install program. These can be modified at a later time if necessary.

7) The Remote Console Facility (RCF) can also be accessed via Telnet once the printer's IP address has been set. The default password for the RCF over Telnet is access, See Part 3, Section 4.2, 5.2 or 6.2.

8) If you plan on using the RCF extensively you should order the "Apple LaserWriter Pro 810 TCP/IP - LAT Protocol and Command Reference."
Published Date: Feb 19, 2012

PrintMonitor: Manual Feed Notification

I have two computers that print to the same LaserWriter Pro 630 using different applications. On one system, whenever I select manual feed I get a box that says to insert paper in the manual tray and then go to Print Monitor and tell it to print. It prints fine but this is an annoyance. On my other system I don't get this dialog box.

I am using LaserWriter driver version 8.1.1.
This article has been archived and is no longer updated by Apple.
It's very likely that your PrintMonitor Preferences is set differently on the two systems. When the PrintMonitor window is active, select Preferences in the File menu. One of PrintMonitor's preferences is the ability to set:

"When a Manual feed job starts:"
Give no notification
Display icon in menu bar
Also display alert

The system giving you the additional dialog most likely has the third option selected, whereas the one not giving you the error most likely has the first option selected.
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Apple Media Kit Version 1.1: Description

Version 1.1 of the Apple Media Kit, Apple Computer's cross-platform multimedia authoring tool, includes enhanced features for both the Apple Media Tool and the Apple Media Tool Programming Environment. The Media tool lets users assemble interactive multimedia presentations that can run on Macintosh and Windows computers without using a programming language.

The tool uses object-based authoring for rapid creation of presentation prototypes using rough-draft media elements such as text, pictures, sounds and QuickTime movies.In addition, version 1.1 ships with a demo CD.
This article has been archived and is no longer updated by Apple.

New Apple Media Tool Features

To give designers and producers more power and flexibility in the project development process, the Tool includes these new features:

* Scrollable PICT and text files, which let designers scroll a picture or text image.
* A selection of cursors, controllers, and scrollbars, which lets designers personalize their projects with a variety of styles.
* QuickTime controller support, which lets designers assign QuickTime movie controllers to movies.
* Improved support for editable text, which lets the designer choose text font, style and color.
* A dissolve effect, which lets users fade from one screen image to another.
* A cross-platform utility that checks movie, picture, sound, and text files for compatibility with the Microsoft Windows platform and converts, if necessary, the files to the cross-platform formats of the Apple Media Kit.
* An addendum, which explains the new features and answers the most commonly asked questions about project creation using the Tool.

Enhanced Apple Media Tool Programming Environment

The number of classes in the Programming Environment (PE) has doubled in size from version 1.0, so programmers have a richer development environment in which to work. These classes have also been enhanced to support the new Tool features previously described.

The PE now includes sample source code that programmers can incorporate into their own projects or use as a reference. Programmers may customize cursors, scrollbars and controllers using common resource editing tools such as ResEdit.

The new version of the PE also has improved documentation and support. The revised PE documentation, which ships with version 1.1, is more comprehensive, providing detailed descriptions of new and existing features. It also includes an index that allows programmers to quickly locate a reference.

Demo CD

The demo CD that ships with the new software is included as a reference tool for designers and programmers and includes, among other things, a number of sample projects with source code. It lets users view projects and understand how to better utilize the Apple Media Tool and Programming Environment. The Demo CD includes the following components:

* A demo version of the Apple Media Tool, which lets designers create, edit and preview interactive multimedia projects. The only feature that is not enabled in this demo version of the Tool is the ability to create a runtime for the project;

* Four sample Apple Media Tool projects. Among the projects is a complete copy of "Peter's Magic Adventure", a children's edutainment title published under Apple's StarCore label, valued at $29.95. Designers can open up the projects to see how they were created;

* A sample Programming Environment (PE) animation project entitled "Gearhead", which was created by Art Technology Group in Cambridge, MA. This sample project illustrates how the PE can be used to create extensions to Apple Media Kit projects. The PE includes a number of sophisticated animations and special effects. Source code for the project is also included enabling programmers to better understand how to use the object-oriented development environment to enhance projects;

* Additional Programming Environment sample code, which provides examples of possible extensions that may be incorporated into projects. These possibilities include flipbook animations; Hypertext links, which enable the user to click and browse through information; and the use of Plaintalk, Apple's text-to-speech technology;

* A complete electronic version of the Programming Environment documentation;

* A list of Programming Environment consultants who can provide project support, with background on their specific areas of specialty.

Ordering and Support Information

Pricing

The Apple Media Tool is available for US $795, the Apple Media Tool Programming Environment is US$995 and the Apple Media Kit, which includes both the Tool and the Programming Environment, is US$1,495. The demo CD, which ships with version 1.1 of the Kit, is also available separately for US $10.

Upgrades

Version 1.1 of the Apple Media Tool will be sent free to all registered users of version 1.0. Customers who do not receive their upgrade will be referred to APDA.

Usage Requirements

- Macintosh IIci or later with at least 8MB DRAM
- System 7.1
- AppleCD CD-ROM or comparable CD-ROM drive

Support

Up and Running support for the Apple Media Tool is provided by the Software Support group at Apple Assurance.
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LaserWriter Pro 810: VMS Missing PRO810V1.SYS File

We are having problems setting up the connection between VMS and our LaserWriter Pro 810. We have VMS 5.5, and LaserWriter Pro 810 on 10Base-T which we're trying to connect, but we can't configure the Ethernet port.

We copied the disk image over to the VAX. Went through installation, and noticed that something was missing, the "PRO810V1.SYS" file. We checked the Saveset, and it wasn't there, either.

We ran APLCONFIG and also had a problem, the Ethernet address specified was incorrect (specifies 00-0C-25 as Ethernet address instead of 00-C0-25...), so we entered the correct address by running dsv config. We then went into NCP and connected to the printer by doing "Connect Via" using the printers Ethernet address; we connected to the server port on the printer, which we could configure, and did a LAT command test. We could see that data get to the printer, but it didn't print.

We weren't able to connect the node by using node name from NCT. We could only connect using physical address.

We then went into LAT CP and created a port, then tried a copy data to that port, but it didn't do anything, it just hung. We set host /dte to that port and a session hung.

What are we doing wrong?
This article has been archived and is no longer updated by Apple.
The PRO810V1.SYS file is not necessary with a LaserWriter Pro 810. PRO810V1.SYS is a file that is loaded remotely from the VAX to boot the printer. This file instead, is in the ROM of the printer and is auto-loaded when the printer is started.

You ran APLCONFIG and the Ethernet address was inverted. You found a valid bug, but since the PRO810V1.SYS file is not required, APLCONFIG is also not required.

Since the documentation does not specifically tell a user what to do if the PRO810V1.SYS file is not present, I have enclosed a log file that explains the install step by step.

**** Step #1 - reinstall the LaserWriter Pro 810 software using the VMSINSTAL as instructed in the printers manual.

**** Step #2 - re-set the printer back to factory specs.

```
$ mc ncp
NCP>connect via qna-0 physic addr 00-c0-25-01-04-88
Console connected (press CTRL/D when finished)

#access

--------- 24-APR-1987 07:22:40 - - LW Pro 810 AppleTalk/NetWare/TCP/LAT Printer Server --------
Copyright 1992, 1993. All Rights Reserved.

Engineering Software Release: 930430

------------------------------------------------- 24-APR-1987 07:22:40 -

Welcome to LW Pro 810

Enter username> "name"

Local> su
Password>
Local> init default delay 0
Local>
Target does not respond
NCP>exit
```

****Step #3 - The printer will display a status that loops through "Waiting Data" and "Processing". The customer should verify that the printer is back into it's ready state before continueing.

****Step #4 - Execute the command procedure that sets up the form to be used by the printer.

```
$ @psform
```

****Step #5 - Execute the command to setup the que, and respond to the prompts accordingly. In this example I created a regular ascii que. The customer must enter their own queue name, E-net address and Lat unique Lat number.

```
$ @apple_que

********This is a log of the apple que set up***********
;*********************************************************
; Apple Computer LaserWriter PRO 810 Printer
; Make Print Queue Utility
; Rev 1.0
;*********************************************************
; APPLE_QUE.COM 09/15/93
; CREATE AND START A PRINT QUE ON Apple Computer PRO810 Printers
; P1 PRINTER OR PRINT SERVER TYPE
; P2 ETHERNET ADDRESS
; P3 QUE NAME
; P4 LTA NUMBER
; P5 VIRTUAL PRINTER NAME
; P6 FORM NAME
;*********************************************************
press any key to continue :
```

In order to create a LAT port, the exact name of the printer server is needed. PRO810 by default uses the name APL followed by its last 6 digit's of Ethernet address. this data found on the printer's status page. It is necessary to have this address to continue. Eaxmple 00C530

Last 6 digits of Server Ethernet Address : 010488

Select a VMS queue name to be used for this printer. It is recommened to select a simple descriptive name that describes the printer type and possible location.

Examples: post330_eng text_ls_room2 post800_vp_sales

using this method should make tracking printers, queues and printer names cleaner

VMS queue name : test_ascii

Select an LTA port number to be used for this printer. It is recommended to check the numbers already used to avoind duplicates. Example 101

LTA number : 927

Please provide the type of Virtual Printer Service this queue is being made for Valid Services are:

1. POSTS300 PostScript 300 dpi
2. POSTS400 PostScript 400 dpi
3. POSTS600 PostScript 600 dpi
4. POSTS800 PostScript 800 dpi
5. ASCII_PORTRAIT ASCII text printer Portrait mode
6. ASCII_LANDSCAPE '"' '"' '"' Landscape '"'
7. GENERIC

Virtual Printer Service type ?: 5

Select a Printer Form, the factory provided form is PS this form defines the paper size as 8.5 X 11

enter Form Name : ps

NOTE 1:
The print queues expect to have a valid form operational on the system. The Factory default generic form is PS, which is started by issuing the command @PSFORM.

It is necessary to insert the following line in your system startup command procedure SYS$MANAGER:SYSTARTUP_V5.COM to create and start the queue every time the system boots.

```
$ @MOM$LOAD:[DECSERVER] PSFORM.COM
$ @MOM$LOAD:[DECSERVER]TEST_ASCII.COM
```

NOTE 2:
TEST_ASCII has been defined as PRINT/QUE=TEST_ASCII press any key to continue:

NOTE 3:
If you wish this symbol to be defined for all users, insert the following line in system wide login file SYS$MANAGER:SYLOGIN.COM

$ TEST_ASCII :== PRINT/QUEUE = TEST_ASCII

****There is a bug in the command procedure, where the user must enter "y" to the next two questions.

Do you want to see the file (Y,N) [Y] :
Do you want to start the queue now (Y,N) [Y] :
Published Date: Feb 19, 2012

CPU Energy Saver & Geoport: Wake up Possible? (4/94)

I have a Power Macintosh 8100/80AV running the CPU Energy Saver Cdev with a GeoPort¬ Telecom Adapter connected. Can I set my Power Macintosh to wake up from CPU Energy Saver when a phone call comes through on my GeoPort¬ Telecom Adapter?

This article has been archived and is no longer updated by Apple.
The answer is NO. Here's why:

The Power Macintosh needs to be ON to be able to answer the phone using a GeoPort¬ Telecom Adapter and Express Modem Software. The CPU Engergy Saver software shuts down your system at a time you specify. With your Macintosh shut down your GeoPort¬ Telecom Adapter cannot be utilized.

The CPU Engergy Saver software does have a feature called "Do not shut down if a serial port is being used". If either port is active (i.e. Geoport waiting for a phone call), the system will not shut down. You can disable this feature by unchecking this option.

Support Information Services

Published Date: Feb 19, 2012

LaserWriter Pro 810: Postscript using lpr from Unix

This article describes how to print Postscript files to the LaserWriter Pro 810 using lpr in Unix.
This article has been archived and is no longer updated by Apple.
The Postscript port on the LaserWriter Pro 810 is defined as port 3107. You can find the port definition of the other ports by taking the printer off line and telling it to print a status page.

The following is the printcap file from a Sun computer. The Printer is called 'reams' and it is the 8th printer defined in the printcap. Replace 'reams' with the name of your printer in the appropriate place if you want to print Postscript from Unix to the LaserWriter Pro 810.

```
# ** |reams8| entry maintained by Apple Printer Installation Program **
# printer type =PRO810
# printer interface type =Ethernet
# printer physical port number =1
reams8|reams8|Apple remote printer on port 1:\\
:lp=/dev/reams8:\\
:sd=/usr/spool/reams8:\\
:of=/home/software/apple/bin/apprint:\\
:mx#0:\\
:sf:\\
:sh:\\
:pw#0:\\
:apple_n=17.127.4.47:\\
:apple_pcs=:\\
:apple_scs=:\\
:apple_text=disable:\\
:apple_p=3107:
```

It is important to note the apple_text=disable and the apple_p=3107. Now any job printed to the Reams8 print queue will be printed as a Postscript job.

In order to print a Postscript file once this printcap is in place you should type lpr -P reams8 <filename>.
Published Date: Feb 19, 2012

PowerTalk: Version 1.0.2 vs 1.0.3 on Power Macintosh

Why is PowerTalk For Power Macintosh version 1.0.2 being made available? Wasn't PowerTalk For Power Macintosh version 1.0.3 already available?
This article has been archived and is no longer updated by Apple.
Apple is recommending that customers use version 1.0.2 PowerTalk Install Me First disk when installing PowerTalk on Power Macintosh and Power Macintosh Upgrade Card systems.
PowerTalk For Power Macintosh (1.0.2)

PLEASE NOTE: A problem was discovered with the installer script on the PowerTalk For Power Macintosh (1.0.3) Install Me First disk, where it would not install properly on systems with Power Macintosh Upgrade Cards. This problem does not exist on the PowerTalk For Power Macintosh (1.0.2) Install Me First disk. Except for the installer script, the software contained within the 1.0.2 & 1.0.3 Install Me First disks is identical. Apple is recommending that customers use the 1.0.2 PowerTalk Install Me First disk posted here when installing PowerTalk on Power Macintosh and Power Macintosh Upgrade Card systems.

The enclosed file is a self-extracting archive of a Disk Copy 1440K disk image. To use, download, double-click the downloaded file (this decompresses it), and use Disk Copy to create a disk.

Disk Copy can be found in the Utilties folder posted here.

Files found on PowerTalk Install Me First:

File Name Version #

Install PowerTalk 1.0.2
Installer 3.4.4
PowerTalk Extension 1.0.2
PowerTalk Manager 1.0.3
READ ME

From the Read Me:

PowerTalk Software for Power Macintosh

This disk allows you to install PowerTalk on your Power Macintosh computer. For more information about PowerTalk, please read the PowerTalk User►?s Guide included with System 7 Pro.

IMPORTANT: If you are installing PowerTalk on a Macintosh computer with a Power Macintosh Upgrade Card, please see the special instructions at the end of this document.

IMPORTANT: Before you install PowerTalk software, turn off any automatic virus detection programs you have on your computer. After the installation is complete, you can turn the virus detection programs back on.

Installing PowerTalk on Power Macintosh computers

IMPORTANT: You must have System 7 Pro, which contains the PowerTalk, PowerTalk 2, and Tidbits disks, to use the PowerTalk Install Me First disk to install PowerTalk on your Power Macintosh. The installation software on your PowerTalk Install Me First disk will only work on Power Macintosh computers or Macintosh computers with a Power Macintosh Upgrade Card installed.

To install your PowerTalk software, you need four disks:
' PowerTalk Install Me First (the disk that contains this document)
' PowerTalk
' PowerTalk 2
' Tidbits
The PowerTalk, PowerTalk 2, and Tidbits disks are included in your System 7 Pro package.

To install PowerTalk software, follow these steps:

1. Go to the Finder desktop. If your computer is off, turn it on. If it►?s already on, quit any programs that are running.

2. Insert the PowerTalk Install Me First disk. The disk►?s icon appears on the desktop.

3. Open the disk by double-clicking its icon.

4. Open the Installer by double-clicking its icon. The Easy Install dialog box appears.

5. Click the Install button. The Installer takes a few moments to calculate what needs to be done and then begins to copy files. The whole process may take several minutes.

6. When the PowerTalk Install Me First disk is ejected, follow the instructions you see on the screen. You►?ll have to swap disks a few times. Each time, the Installer ejects one disk and asks you to insert another.

7. When you see a message reporting that the installation has been successfully completed, follow the instructions on the screen. If you turned off any automatic virus detection programs on your Power Macintosh, turn them back on now.

Installing PowerTalk on Macintosh computers with Power Macintosh Upgrade Cards

To install your PowerTalk software, you need:
' Your System 7 Pro package
' PowerTalk Install Me First (the disk that contains this document)

IMPORTANT: You MUST install System 7 Pro software AFTER installing the Power Macintosh Upgrade Card software, even if you had previously installed System 7 Pro on your Macintosh.

If you have not previously installed System 7 Pro on your computer, or if you did not reinstall it after installing the Power Macintosh Upgrade Card software, you must do so now. To install System 7 Pro software, follow these steps:

1. Go to the Finder desktop. If your computer is off, turn it on. If it►?s already on, quit any programs that are running. If you are currently using the Power Macintosh Upgrade Card, use the Power Macintosh Card Control Panel to turn the Power Macintosh Card off. Turn your Macintosh off, then turn it on again.

2. Insert the Install disk. The disk►?s icon appears on the desktop.

3. Open the disk by double-clicking its icon.

4. Open the Installer by double-clicking its icon. The Easy Install dialog box appears.

5. Click the Install button. The Installer takes a few moments to calculate what needs to be done and then begins to copy files. The whole process may take several minutes.

6. When the Install disk is ejected, follow the instructions you see on the screen. You►?ll have to swap disks several times. Each time, the Installer ejects one disk and asks you to insert another.
IMPORTANT: If you see a message that says that the Finder you are about to install is older than the Finder already on the disk, click ñContinue.î

7. When you see a message reporting that the installation has been successfully completed, follow the instructions on the screen.

When you have completed the System 7 Pro installation, or if you previously had installed System 7 Pro on your computer, follow these steps:

1. Insert the PowerTalk Install Me First disk.
The disk►?s icon appears on the desktop.

2. Open the disk by double-clicking its icon.

3. Open the Installer by double-clicking its icon.
The Easy Install dialog box appears.

4. Click the Install button.
The Installer takes a few moments to calculate what needs to be done and then begins to copy files. The whole process may take several minutes.

5. When you see a message reporting that the installation has been successfully completed, follow the instructions on the screen.
If you turned off any automatic virus detection programs on your Macintosh, turn them back on now.

You can now use PowerTalk with the Power Macintosh card on or off.
Published Date: Feb 19, 2012

Newton MessagePad: Newton Data Viewer Not Available

Bundled with my Connection Kit 2.0 software is a card I can send in for some free software. What is this software, and what does it do?
This article has been archived and is no longer updated by Apple.
The card can be sent to Apple in order to receive the Newton Data Viewer software from StarCore. The card states that it takes 4-8 weeks for delivery of the software.

What is the Newton Data Viewer?

Mobile Information Management is as close as your Newton with Newton Data Viewer, an exciting new software title, available from StarCore.

With the Newton Data Viewer software, you can now take any text, spreadsheet or list file from your desktop computer to your next meeting with the Newton MessagePad. All you need to do is download the data to your Newton MessagePad. Once the information is on your Newton MessagePad, you can review and update any of the files. With the Newton Data Viewer, all your information is at your fingertips.

Availability

The Newton Data Viewer software is not currently available.
Published Date: Feb 19, 2012

StyleWriter Printers: Removing White Lines In Text

I keep getting horizontal white lines through my text. I have purged the cartridge several times and even replacing the ink cartridge, but this has not fixed the problem. How can I get rid of the white lines?
This article has been archived and is no longer updated by Apple.
The horizontal white lines are caused by an accumulation of lint on the left side of the wiper. If the wiper is cleaned so the lint is removed, the problem disappears. The lint absorbs the ink and causes the white lines. The printing nozzles should not come in contact with anything during printing. But when lint is present, it attaches to the nozzles damaging the nozzle. This damage can be temporary or permanent. This is why changing the ink cartridge doesn't fix the problem.

Preventing White Lines
Environmental conditions are the primary cause of the lint build-up. If paper is left in the paper tray for a period of time, then the top sheet should be removed prior to printing. The nozzle should also be checked periodically and any lint build-up removed.
Published Date: Feb 19, 2012

Fax Viewer: Reversed Text Caused By Number of Colors (1/97)

This article describes a problem with the Fax Viewer application that shipped with early GeoPort Telecom Adaptor and Express Modem software kits.

This article has been archived and is no longer updated by Apple.

If colors in the Monitors control panel are greater than 256, received Fax documents display and print white letters on a black background, rather than black on white. Changing the colors to 256 or less fixes the problem. Sent Faxes are not affected by the number of colors and are sent properly with any amount of colors displayed.

This problem was corrected for PowerBook computers as early as Express Modem software version 1.5.2.

This issue has been resolved on all Macintosh computers and PowerBooks that use either a GeoPort or Express Modem with Apple Telecom 2.1 or higher software. You should upgrade your Fax software by installing Apple Telecom 2.x. Apple Telecom 2.1 is available on many on-line services. The Apple Telecom 2.x software package is available on the following online locations:

* On the Internet at the following sites:
- Worldwide Web: <http://www.info.apple.com/swupdates>
- ftp: <ftp://ftp.info.apple.com/>
* On America Online, use keyword: applecomputer

* On CompuServe, use GO: APLSUP

These articles can also help you locate software mentioned here:

* "Where To Find Apple Software Updates"
Lists online services for "free" Apple software updates.

* "Obtaining Apple Product Support in the USA"
Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech. Info. Library.

Article Change History:
20 Jan 1997 - Updated online references.
07 Aug 1995 - Added Apple Telecom 2.1 information.
14 Dec 1994 - Added Express Modem 1.5.5 and where to obtain it.

Support Information Services
Published Date: Feb 19, 2012

ImageWriter II: Needs Updated Version of SimpleText (10/94)

When I try printing a multiple page document from SimpleText 1.0 to my ImageWriter II, it prints about a quarter of the first page and then stops. I can print this document from other application programs, but not from SimpleText. Why?

This article has been archived and is no longer updated by Apple.
SimpleText 1.0 seems to be incompatible with the ImageWriter II. In order to print from SimpleText, use Version 1.1.1. SimpleText 1.1.1 ships with System 7.5 and is also available on online services where Apple posts software updates.

These articles can help you locate software updates mentioned here:

* Where To Find Apple Software Updates
Lists online services for "free" Apple software updates

* Obtaining Apple Product Support in the USA
Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech. Info. Library

Article Change History:
13 Oct 1994 - Added SimpleText 1.1.1 information.

Support Information Services
Published Date: Feb 19, 2012

LW Pro 810: Won‘t Print Two Chinese TrueType Fonts per Page

When printing a single page PageMaker 3.5 (Chinese version) document an A3 size paper consisting of more than one Chinese TrueType font, the LaserWriter Pro 810 produces a page with one of the fonts printed correctly, while the other is unintelligible. If the same document is converted to contain only one TrueType Chinese font, the result was fine.

We have tried all of the print options in both PageMaker and the LaserWriter Pro 810, that is printing with effects not checked, different resolutions, and so on, but with no avail. Is there anything we can try?

The printer's configuration is as follows:

Interpreter version 2011.113
Revision 1
Installed Memory 16 MB
VM Maximum 1,335 KB
VM Available 1,300 KB
Resolution 400 DPI

I was told the value of VM affects the size of the font cache, is that true? If it is, can it be changed to resolve this problem?
This article has been archived and is no longer updated by Apple.
This problem can most likely be attributed to not enough RAM in the printer. Even though there is 16MB of RAM in the printer, the majority of it, about 14MB, is set aside for a page buffer. To explain more specifically, when the printer is powered ON it checks for the total amount of RAM and then allocates a page buffer to accommodate the largest page size available at the highest DPI. Thus, for the LaserWriter Pro 810, the page buffer allocated would be for a tabloid size page at 800dpi.

Increasing the RAM should resolve this issue as there is probably not enough memory to handle all of the outlines. One thing you might try to help alleviate the problem is to enable Unlimited Downloadable fonts in the Options dialog of Page Setup. This will purge a font automatically once it is used which will free up RAM, however a print job may take longer.

With regard to the font cache, it's size varies with the amount of VM available but again comes back to the amount of total RAM in the printer.
Published Date: Feb 19, 2012

Multiple Scan 20 Display: Older Video Cards Incompatible

I have a Macintosh IIfx with an 8-bit video card and a video card for a 21-inch Apple Monitor. Can I use either of these cards with the new Apple Multiple Scan 20 Display?

This article has been archived and is no longer updated by Apple.

In this particular case it was not possible to incorporate support for the old video card technology into the new display. So, neither of these cards support the Multiple Scan display.

Published Date: Feb 19, 2012

LaserWriter Pro 810: Getting The Ethernet Address

Is there a utility to query the Ethernet address of a LaserWriter Pro 810? This would prevent me from dismantling the printer to look at the label on the Ethernet card.
This article has been archived and is no longer updated by Apple.
There are a couple of ways to get the Ethernet address of the LaserWriter Pro 810 without having to look at the card. They are as follows:

* Print the "Printer Configuration" page which has the Ethernet address under the 10-base-2 values, here's how:

1) Hit "Online" in the printer's control panel, this will take it offline.

2) Press "Print Status" which will print out a couple of pages, one of which is the Printer Configuration page.

* The other way to get the Ethernet address is to download the following PostScript code to the printer:

```
/Times-Roman findfont
15 scalefont
setfont
72 700 moveto
/str 20 string def
(Ethernet Address: ) show
(%EtherTalk%) currentdevparams /EthernetAddress get str cvs show
showpage
```

Published Date: Feb 19, 2012

MPW: Sample Pascal Program of Linked Function

This article has been archived and is no longer updated by Apple.

Here is a sample of a linked function compiled as a code resource:

```
{$S Wally}

Unit StrayProcedure;

Interface

function Test(t:integer):Integer;

Implementation

Function Test(t:Integer):Integer;

begin
Test:=t*2;
end;

end.

{ This sample unit shows how to use MPW Pascal to create a 68000 function that
can stand alone. This technique can be used to create stand alone procedures
and functions. Here are the commands that you use to compile and link this
unit, as well as a disassembly of the resultant file:

pascal test

link -o steve -rt CODE=2 -sn Wally=Main test.o

dumpcode steve -rt CODE=2

File: steve, Resource 2, Type: CODE, Name: Main
Offset of first jump table entry: $00004E56
Segment is $00000020 bytes long, and uses 0 jump table entries
000000: 302E 0008 '0...' MOVE.W $0008(A6),D0
000004: E340 '.@' ASL.W #$1,D0
000006: 3D40 000A '=@..' MOVE.W D0,$000A(A6)
00000A: 4E5E 'N^' UNLK A6
00000C: 205F ' _' MOVEA.L (A7)+,A0
00000E: 544F 'TO' ADDQ.W #$2,A7
000010: 4ED0 'N.' JMP (A0)
000012: D445 '.E' ADD.W D5,D2
000014: 5354 'ST' SUBQ.W #$1,(A4)
000016: 2020 ' ' MOVE.L -(A0),D0
000018: 2020 ' ' MOVE.L -(A0),D0
00001A: 0000 8000 '....' ORI.B #$00,D0

}
```

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Apple Shared Library Manager: Errors And Resolution

Earlier revisions of the Apple Shared Library Manager may cause problems with the AV enabler or with the GeoPort on AV or Power Macintosh computers.
This article has been archived and is no longer updated by Apple.
The Shared Library Manager extension and System Enabler 088 v1.0 are not compatible and may cause bus errors at startup. Both the QuickTake and GeoPort software install the Shared Library Manager extension. The Shared Library Manager makes the Macintosh operating system more efficient for developers.

System Enabler 088 v1.1 is compatible with the Shared Library Manager and fixes the bus error that may occur with version 1.0 of the System Enabler. An upgrade to the Shared Library Manager, to 1.1.2 or later, will resolve the problems also.
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Power Macintosh AV: No color on NTSC Monitor

I have a TV or Composite/NTSC monitor connected to my Power Macintosh AV system, and I can only get grayscale or B&W, even though it is capable of displaying color. What's wrong?
This article has been archived and is no longer updated by Apple.
First double-check that color is selected in the monitors control panel.

Next, double-check that the correct S-Video adapter cable is being used to connect the RCA cable from the TV/monitor to the AV card. If the S-Video-IN cable is used by mistake, you will only get grayscale/B&W on the screen. Replace with the correct S-Video-OUT cable, and you should get a color display on your TV/monitor.

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LisaProject: Applications of LisaProject

This article has been archived and is no longer updated by Apple.

While the Lisa applications library offers many attractive features, LisaProject draws the attention of many executive decision makers. Apple presents LisaProject as a powerful instrument to efficiently and effectively accomplish resource scheduling. But as one explores the subject beyond this point, many questions arise. What is PERT, and how does LisaProject use PERT to achieve its schedule? What is a critical path and what are its implications? How does one apply LisaProject in the real world? Although the complete answers to these questions go beyond the scope of this publication, we will briefly discuss some of the issues and provide further research avenues for the reader.

What is PERT? PERT (Program Evaluation and Review Technique) is a scheduling algorithm, developed and utilized extensively by the Air Force during the Second World War. It identifies the tasks, resources, and their associated time-frames needed to complete an objective. Simply put, PERT is a network model which determines the significance and timing of the tasks involved in completing a project. As opposed to the majority of linear programming models that seek to maximize/minimize an objective function, PERT's algorithm uses Lisa's date arithmetic to arrive at the estimated sums of elapsed time to complete a "leg" of the project. The individual times associated with each "leg" are then compared to determine the longest route. This longest "leg", then, is the "critical path". Each task along the "critical path" is identified as a mandatory activity which is essential to timely completion of the project, and therefore, is defined by the system as having no spare ("slack") time. Again, as opposed to linear programming tools, PERT neatly avoids "supoptimization" (scheduling of two or more resources during the same time period), while arriving at an optimal solution to the problem.

Management scheduling staffs can bring the project generation phase to a rapid finish. During the progress of the project, the "what if" capabilities offer myriad uses. Specifically, the "critical path" identification feature not only indicates the relevant priorities of tasks, but its corollary argument tells the manager which tasks he can relatively ignore. If task A, to give an example, is not on the "critical path", then one should not expend labor, money or other scarce resources to try to expedite it. Devoting further resources to task A just will not abbreviate the length of the entire project. Also, the planner may take the completed project and use it to clearly develop budgets by tagging dollar values to resource and task "classes" and using LisaCalc to crunch the numbers.

For readers who desire further information on these topics, see:

1. "PERT ORGANIZATION: A Technique for Evaluating Schedules", Publications, Inc., October 1981, pgs. 407-412. A six page discourse on the Boolean Matrix involved in PERT.

2. Elementary Systems Mathematics: Linear Programming for Business , Robert E. Machol, McGraw-Hill Book Co., NewYork, 1976. An exhaustive examination of mathematical programming techniques which are matrix oriented.

3. "Computerizing PERT for Business", Dun and Bradstreet , January, 1979, pgs. 87-95. How to apply computer generated PERT charts to everyday business situations.

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Generic Icons: Applications on Removable Media (4/94)

I have documents on a boot volume and their applications on another volume. Sometimes my documents have generic icons and some times they are normal. Why?

This article has been archived and is no longer updated by Apple.

The Finder uses a file called the Desktop Database on each volume to keep track of icons and other important file information. The Desktop Database on a given volume is only updated when a file with a "bundle resource" is copied to that volume. Bundle resources are found in applications, control panels, extensions or files with custom icons. An Adobe postscript font is an example of a file with a bundle resource (also called bundle bit) that isn't an application, control panel or extension.

Documents and other files associated with a specific application (help files, dictionaries, etc.) do not have this bundle resource and depend on the application to provide this information to the Desktop Database and in turn the Finder.

We don't have all files use their own bundle resource because it's more efficient in regards to space and copying time to limit the files with bundle resources.

If you have a folder with 100 files with the same custom icon, each will have an entry in the Desktop Database. This is very inefficient. Adobe postscript font files do this for example. Even though they all use the same icon, each one updates the desktop database when copied and has its own unique entry in the desktop database. The desktop database views them all separately and has 100 entries. By referencing the application, we can have one entry to these same 100 files or 10,000 files, which is much more efficient.

There are some caveats when working with multiple volumes and/or servers. If an application is on a volume that is not available at startup (CD, Syquest, File Server), then document icons on the volumes will appear as generic document icons. If you mount a volume with the application after booting the CPU, the document icons may or may not be generic depending on the sequence of events initiated by the user. Here are some examples:

* If you attempt to 'view' a document icon on a start up drive that does not contain the application first, and get the generic icon (have it's window left open or intentionally open it's window), all files of the same 'type' will be generic on any volume until you restart.
* If you do not 'view' the document icon, mount the volume with the application, and then attempt to view the document on the boot volume, their icons will appear normal.
* You can get an inconsistency if you 'view' the document icon but not another file associated with the application (like a dictionary). In this case all occurrences of the document icon will be generic, but the dictionary icons will be normal because they are different file types with different icons.
* Additionally, you can change views to small icon and you will see the correct small icon for the document while the normal size icon is generic.

This starts over again when you restart the CPU.

Suggested work arounds:

1) Have the volume with the application mount on the desktop when the CPU is turned on or restarted.
2) Do not "view" the document icons until the volume with the application is mounted.
3) Copy the application to the volume with the documents. This updates the desktop database, then you can delete the application. The proper document icons will be displayed for that application until the desktop file is rebuilt. If the desktop is rebuilt, the above situation returns since the application with its bundle resource is not there to add the information to the desktop database.

For additional details on bundle resources and the desktop database, refer to the Inside Macintosh series of books and page 118 of "Technical Introduction to the Macintosh Family" second edition. See also the article "Generic (Document or Application) Icons: Restoring Proper Icons."

Support Information Services

Published Date: Feb 19, 2012

Apple Displays: Changes In Colors Requires Degaussing (4/94)

What can cause the below symptoms?

When the computer and monitor are powered on, a green an area on bottom left of the monitor changes colors depending on what is displayed on screen. Another less intense area is directly in the center of the screen. Both distortions are approximately one inch high and 3.5 to 4 inches wide.

The display has been moved in the house and checked for any environmental factors but this didn't change anything. The monitor was left off for over 24 hours but the discolored areas didn't change.

This article has been archived and is no longer updated by Apple.
This sounds like a classic case of magnetic field interference. Evidently the CRT has come in contact with a strong magnetic field that magnetized the CRT screen and thus created the problem you are now having. The magnetic field could have been generated by anything from a small magnet to the electric motor on a vacuum cleaner. The cure is fairly simple. The unit should be degaussed with an external manual degaussing coil, as used by TV technicians. They can be purchased at most good electronic parts stores and cost about $30.00.

Support Information Services
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Abaton C-Scan: Software Compatibility List

Abaton C-Scan is compatible with the following software.
This article has been archived and is no longer updated by Apple.

Page Layout	Paint Programs
MacPublish	FullPaint
Pagemaker	GraphicWorks
Ready,Set,Go!	ImageStudio
Scoop	LaserPaint
XPress	MacPaint
	SuperPaint
Draw Programs	**Word Processing**
CricketDraw	FullWrite
Illustrator	MacText
MacDraft	MacWrite
MacDraw	Word
	WriteNow
Other	
MORE	

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.
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CD Remote: Changing the Track Order (6/94)

I have a Power Macintosh 8100/80AV and I'm using CD Remote to play an audio CD. I can create a customized play list, but I'd like to change the playing order of the the tracks. How do I play track 8 before track 2? I think it's possible, but the manual doesn't explain how.

This article has been archived and is no longer updated by Apple.
The Power Macintosh uses CD Remote 4.5, which is identical to the CD Remote used on other Macintosh computers.

After you click on the zoom box to reveal the customized Play List, change the playing order of a particular track by holding down the command key and dragging the track before or after another track as it appears in the Play List.

Article Change History:
9 Jun 1994 - Corrected article. It said option key, and is really command key.

Support Information Services
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Workgroup Server 9150: External Cache

This article describes the external cache of the Workgroup Server 9150 (WS 9150).
This article has been archived and is no longer updated by Apple.
The optional external cache in the WS 9150 is a direct mapped, write through, 2nd level (L2) cache capable of 2-1-1-1 operation. It is selectable to either unified or instruction only operation, and can be a variety of sizes by the choice of components installed in the cache SIMM. Two pins on the SIMM socket are read by the High speed Memory Controller (HMC) at reset, and are intended to indicate the cache size to the Operating System software so meaningful diagnostics can be performed. If the SIMM is not present, pullup resistors on these pins disable all L2 cache related operations. If the SIMM is installed, the cache can be enabled or disabled from the HMC control register, although updates will still be performed to ensure coherency.

Tag Organization

The L2 cache tags all 32 bits of the PowerPC 601 processor's physical address. Address bits A(0:14) comprise the tag, A(15:26) index the set location, and A(27:31) form the line offset as shown in figure 4. In addition to A(0:14) the tag also compares a valid bit. The valid bit is cleared by a system reset and set by a cache line allocate operation.

```
 0                14 15            26 27           31
  ----------------------------------------------------
 |                  |                |                |
 | tag compare data | index          | line offset    |
 |                  |                |                |
  ----------------------------------------------------
```

Figure 4: Address Tag Organization

Cache Coherency

The L2 cache maintains a single valid bit for each 32 byte line. The valid bits are cleared by a system reset and individually set when a line is allocated in the cache. When the L2 cache is operating in the unified mode, a cache line is never invalidated other than system reset.

The PowerPC 601 processor broadcasts primary cache manipulation instructions so that other caches in the system can mirror the functionality of the instruction. Since the HMC makes the assumption that the L2 cache is bound to main memory rather than the processor, it ignores these broadcasts. Executing these invalidate memory cycles potentially discards useful data. In order to keep the L2 cache coherent without invalidating, all PowerPC 601 processor's write transactions, force a tag compare. Cache-inhibited write data is tag compared due to the possibility that the data was formerly cache-enabled and allocated.

Configuring the L2 cache as instruction-only alters the line allocation policy but does not affect the write-update procedure. This prevents stale instruction data that could be caused by relocating program code.

Whenever the tag matches on a write cycle, data is updated in the cache simultaneously with the write-buffer being filled. Bus cycles that write less than the full 64 bit data bus width, utilize the cache data RAM synchronous write-enables to select the appropriate byte lanes. To permit writes to execute as quickly as possible, the cache data RAM write-enables are qualified with the state of the tag match. As a result, the first beat of a two-clock write that misses the cache will be aborted asynchronously.

Since all 32 address bits are significant to the cache, but not to the physical memory decode (there are physical aliases of both DRAM and ROM), access of physical memory aliases is not recommended as it can result in stale data in the L2 cache. This feature allows cache testing.

Line Allocation

Cache lines are allocated only on PowerPC 601 processor's burst read memory cycles. Read data is forwarded to the CPU in conjunction with the line fill. The L2 cache is write-through so write transactions are never allocated. Setting the HMC control register bit, L2_INST, forces the L2 to cache only instruction fetches. The PowerPC 601 processor's TC(0) output distinguishes whether the bus read data is instruction or data.

The L2 cache attempts to allocate cache lines similarly to the PowerPC 601 processor primary cache. The PowerPC 601 processor bus transaction modifiers that affect line allocation are cache-inhibit and transfer-burst. Cache-inhibiting an address space prevents the L2 cache from allocating lines in that address space. Thus memory areas such as DMA buffer space that might be marked cache-inhibited will not thrash the L2 cache. The HMC also watches the transfer-burst signal for single-beat transactions. Because the granularity of the L2 cache valid data is 32 bytes, single-beat transactions are not allocated. Additionally, single beat reads are never looked up in the cache even if the cache-inhibit line is de-asserted.

The cacheable address spaces are RAM at $00000000-$3FFFFFFF, Macintosh ROM at $40000000-$4FFFFFFF, and PowerPC ROM at $FF000000-$FFFFFFFF. Other address locations, such as the PDS (processor direct slot), are not cached in the L2, but may be cached in the PowerPC 601 processor's primary cache.

Testing

Since all of the address bits are tagged, aliases of physical RAM space will appear distinct to the cached, but not to uncached data. This allows testing to determine proper cache operation. Normally the L2 cache ignores ROM writes. However, by setting the L2ROMW bit, ROM writes will update the cache. For normal ROMs, the cache will now be inconsistent with memory, allowing ROM caching to be tested.
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Workgroup Server 9150: Internal Cache Brief Description

This article briefly describes internal cache on the Workgroup Server 9150 (WS 9150).
This article has been archived and is no longer updated by Apple.
The PowerPC 601 processor maintains a 32 kilobyte, unified, set associative internal cache, organized as 64 sets of 8 lines were each line is divided into 2 sectors of 32 bytes each. The cache supports inhibit, copy back or write-though on a page basis, and both refills and writes back are 4 double word burst transactions.
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Workgroup Server 9150: Memory Bus Operations

This article describes the memory bus operations of the Workgroup Server 9150 (WS 9150).
This article has been archived and is no longer updated by Apple.
The High speed Memory Controller (HMC) contains a single read/write control register and resets to a "least critical" state to guarantee operation on power up. The HMC supports the basic PowerPC 601 processor's transfer protocol, including all of the PowerPC 601 processor's single beat accesses with the addition of the 4 beat 32 byte cache line access. Only the transfer codes in the basic protocol will generate a response from the HMC. Extended protocol codes will result in a transfer error exception from the WS 9150 I/O controller. The WS 9150 does not support the Little Endian mode of the PowerPC 601 processor.

Misalignment

Misaligned reads from the PowerPC 601 processor are translated into standard double-word reads by the HMC. However misaligned writes are fully decoded so only the appropriate DRAM CAS signals are selected. The L2 cache mirrors this functionality through the cache data RAM asynchronous write-enables so that RAM write hits are updated properly.

Address Only Transaction

The PowerPC 601 processor initiates address-only transactions when instructions that affect the level 1 cache are executed. These transactions never require data bus tenure but do require an address acknowledgment. The HMC decodes the TT(1) input to identify the address only cycles and asserts AACK_ on the third clock following transfer start.

Arbitration

Bus arbitration is fielded by the HMC on the address bus only. Granting of the data bus is implicit based on successful arbitration for the address bus. The PowerPC 601 processor's bus protocol specifies an arbitration overhead of one CPU clock unless bus parking is used. Bus parking is a situation that occurs when bus grant is asserted to a bus master who is not currently requesting the bus.

Since the PowerPC 601 processor is the primary WS 9150 bus master, the HMC eliminates one clock of the PowerPC 601 processor's memory latency by parking the PowerPC 601 processor on the bus. The HMC arbitration logic is a simple combinational decode of the bus request signals. Priority of bus granting is fixed in the order of DMA, PDS, and lastly the PowerPC 601 processor. The PowerPC 601 processor is only granted the bus in the absence of other bus requests. As a result the PowerPC 601 processor bus request is not an HMC input.

Receiving a bus grant from the HMC does not imply that the bus is unused. It is the responsibility of the requesting device to verify that the bus is indeed free by qualifying bus grant with the de-assertion of ABB_. The WS 9150 adds an extra level of decode in order to have both the VRAM frame buffer and the NuBus controller use the same bus request bus grant lines to HMC. The NuBus controller has priority over the VRAM based frame buffer.

Pipelining

All memory bus transactions are non-pipelined.

Snooping

The primary focus of the WS 9150 is uni-processing, and provisions for snooping would lengthen the latency to 2nd level cached data by 50% (from 2 clocks minimum to 3 clocks). For this reason, snooping of other processor internal caches is not supported on the WS 9150 memory bus. Alternate masters can be designed to snoop the PowerPC 601 processor's internal cache, provided certain restrictions are followed. When the alternate master reads data from DRAM that data must not be forwarded or acted upon until the ARTRY_ window has expired. If the PowerPC 601 processor does assert ARTRY_, then the alternate master discards the read data and backs off the bus allowing the PowerPC 601 processor to update memory. The alternate master then reruns the bus cycle to obtain the updated copy. If the alternate master is writing data to DRAM then an ARTRY_ from the PowerPC 601 processor implies a pipeline collision. The alternate master must retain the data so that the write cycle can continue to be rerun until the PowerPC 601 processor pipeline collision clears. This scenario has the benign side-effect that DRAM is updated with the same data more than once.

Bus Errors

Any access to undecoded address space will result in a Transfer Error Acknowledge (TEA) asserted by FAT AMIC after a 40 ?sec time-out. While in 680x0 based Macintosh computer's BERR time-outs where frequently generated by the Slot Manager, SCSI driver, and so on, and were generally recoverable, this is not the case in WS 9150. A cycle terminated with TEA is not in general recoverable due to the more or less independent operation of the Bus Interface, Branch, and Integer Execution Units within the PowerPC 601 processor. To prevent this, the Memory Management Unit (MMU) should be used to map only that space which is decoded by hardware. This can be determined at start-up by testing the various optional address spaces in the PDS range, using carefully written code. With the proper MMU setup, accesses to undecoded address space will generate an addressing exception from the MMU, which is recoverable. The only changes made to the PDM bus operation for WS 9150 are the expansion of the arbitration to allow for both the NuBus controller and the VRAM based frame buffer. PDM only accommodates one at a time.

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Workgroup Server 9150: Memory Overview

This article provides a memory overview of the Workgroup Server 9150 (WS 9150).
This article has been archived and is no longer updated by Apple.
The Workgroup Server 9150 computer's memory is organized in three levels:

- Internal cache
- External second level cache
- Main memory array

Access to data or instructions in memory, including routine copy back and refill maintenance is controlled by hardware. The main memory array is buffered from the cached bus so that external second level cache operations can proceed simultaneous with video refresh, I/O DMA, and other operations.

All memory operations are controlled by the High speed Memory Controller (HMC) ASIC.

Workgroup Server 9150 supports a single 32 bit memory map. Virtual memory is supported through the PowerPC 601 processor's internal memory management unit. The physical memory map is shown below. Of course the logical memory map is up to the discretion of the system programmer and may be configured to provide a Macintosh compatible 24 bit address space.

Figure 1 Memory map

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Workgroup Server 9150: Video Support

This article describes the video capability of the Workgroup Server 9150 (WS 9150).
This article has been archived and is no longer updated by Apple.
The WS 9150 uses DRAM for video buffering when connecting to the built-in DB-15 socket on the back of the computer. This DB-15 socket supports these monitors:

Monitor	Size (pixels)	Color depth (bits)
12-inch RGB	512 by 384	16
14-inch RGB	640 by 480	16
15-inch portrait	640 by 870	8
16-inch RGB	832 by 624	8
VGA	640 by 480	8

Bandwidth limitations prevent the WS 9150 from supporting 16 bit pixel depths on the larger monitors.

For larger monitors on the WS 9150 use either a NuBus, or PDS video card. The amounts of VRAM on the card will support larger monitors at greater color depth.

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Lisa: Two Port Parallel Card Pinouts

This article has been archived and is no longer updated by Apple.
Two Port Parallel Card
661-93138

PIN	NAME	PIN	NAME
1	GND	14	GND
2	GND	15	PSTRB
3	RW	16	BSY
4	GND	17	CMD
5	DDO	18	PARITY
6	DD1	19	OCD
7	N.C.	20	GND
8	DD2	21	CRES
9	GND	22	DD3
10	GND	23	DD4
11	DD5	24	GND
12	DD6	25	CHK
13	DD7		

The meanings of the individual signals on the interface are:

D0-D7: Eight bidirectional data lines. Bit D7 is the MSB.

DRW: This line is driven high by the Lisa to indicate that data is expected to be input on the data lines. It is driven low to indicate that data is being output.

PARITY: Bidirectional line which must be configured on the basis of the data currently on the data lines to give odd parity.

PSTRB: Processor strobe line used as a signal by the Lisa to indicate valid data being output.

CMD: This line is asserted by the Lisa to indicate that a command has been placed on the data lines.

BSY: This line is asserted by the peripheral to indicate to the Lisa that it is busy and unable to process commands on the interface.

OCD: The Lisa monitors this line. If it is high, it is assumed that no device is connected to the interface.

CRES: This line is asserted by the Lisa when the peripheral is to be reset to its power-on state.

CHK: This signal may be used to interrupt the CPU in the event that a fault condition has occurred in the device connected to the interface.

NOTE: These pinouts apply to both the upper and lower connector of a two port parallel card installed in a Lisa or Macintosh XL.
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DOS Compatibility Card: Using Newton Connection Kit (5/95)

I Want to be able to use the Newton Connection Kit for Windows on Quadra 610 DOS Compatible computer. Is this possible?

This article has been archived and is no longer updated by Apple.
We were successful in connecting an Apple MessagePad to the Quadra 610 running the DOS Compatible Card. The following steps were taken. The sequence is important, start with the Macintosh configuration, then Windows, then Apple MessagePad.

Macintosh Configuration

Step 1:
Open PC Setup in the control panel. Select the "Modem Port" option under the "comm1" pull down menu.

Step 2:
Close the control panel.

Step 3:
Switch back to the PC environment by pressing Command-Return.

Step 4:
Connect the Apple MessagePad to the Modem Port.

Windows Configuration

Step 1:
Install the Windows Newton connection software.

Step 2:
Launch windows.

Step 3:
Launch the Newton Connection application.

Step 4:
Pull down the Newton menu and select "preferences".

Step 5:
Select the "port setup..." button.

Step 6:
Make sure only comm1 is checked in the check boxes to the right.

Step 7:
Select 19,200 as the maximum baud rate.

Step 7:
Click OK. Then click OK again to exit all open windows.

Step 8:
Exit the Newton Connection application and then re-launch it.

Apple MessagePad

Launch the connection icon on the Apple MessagePad, and it should work.

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09 May 1995 - Made minor technical updates and reformatted.

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TA31599_DOS_Compatibility_Card_Using_Newton_Connection_Kit__(TIL15221).pdf

Performa 550, 575, 577, 578, & Mac LC 575 Differences

What are the differences between the Performa 550, 575, 577, 578, and Macintosh LC 575?
This article has been archived and is no longer updated by Apple.
The following table shows the differences between the Performa 550, 575, 577, 578 and Macintosh LC 575.

	550	**575**	**577**	**578**	**LC 575**
Processor	68030	68LC040	68LC040	68LC040	68LC040
Clock Speed	33MHz	33MHz	33MHz	33MHz	33MHz
FPU Socket	Yes	No	No	No	No
Std. RAM	5 MB	5 MB	5 MB	8 MB	5 MB
Max. RAM	36 MB	36 MB	36 MB	36 MB	36 MB
Std. Hard Drive	160 MB	250 MB	320 MB	320 MB	160 MB or 320MB
Display*	14-in	14-in	14-in	14-in	14-in
Std. VRAM	512K	1 MB	1 MB	1 MB	512K
Max. VRAM	1 MB	1 MB	1 MB	1 MB	1 MB
Slots	1 PDS	2 PDS/COM	2 PDS/COM	2 PDS/COMM	2 PDS/COMM
Modem^	Included	Included	Included	Included	N/A
Min. SystemSoftware	7.1P5	7.1P6	7.1P6	7.1P6	7.1
BundledSoftware~	Yes	Yes	Yes	Yes	No
Market	Home	Home	Home	Home	Education

Key

* - All models have a built-in .26 mm Trinitron display.

^ - Each computer with included modem has a Global Village Teleport Bronze for Performa fax/data modem (2400 bps data/9600 bps fax).

~ - Each computer with bundled software has a set of application, communication, and utility software. This software varies between models.

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AppleShare 4.0.2 Read Me File

This article is the AppleShare 4.0.2 Read Me file.
This article has been archived and is no longer updated by Apple.
This document provides important information about AppleShare 4.0 (including version 4.0.2). Some of this information is not included in the "AppleShare Administrator's Guide." You may want to print this document and keep it with the "AppleShare Administrator's Guide."

Choose Screen Savers Carefully
There are many screen savers on the market that can be used to prevent screen burn-in on AppleShare servers. Some screen savers are quite elaborate and perform many complex calculations to draw a single picture on the screen. Since they require significant amounts of CPU time, the more complex screen savers will reduce the performance of your AppleShare server. Please choose the screen saver that interferes the least with your AppleShare server.

Some screen savers are not compatible with AppleShare 4.0 and can cause your AppleShare file server to crash or hang. Before purchasing or using a screen saver, check with the screen saver's manufacturer to determine if the screen saver will work properly with your AppleShare file server.

Optimize Memory Usage
AppleShare 4.0 uses caching techniques to improve the performance of the file server. Caching stores frequently used items, such as folders, icons, and parts of documents, in high-speed memory. Items in memory can be retrieved faster than items stored on disk.

In general, the more you increase the size of the cache, the better your AppleShare file server will perform. However, increasing the size of the cache also increases the amount of server memory your AppleShare file server requires. If you increase the size of the cache by too much, your other server application programs (such as AppleShare Print Server) may not be able to run in the remaining memory.

To be sure that all your server application programs have enough memory to operate correctly, start AppleShare file service after you have opened all your other server application programs. If there is not enough memory to start AppleShare file service with the cache size you requested, AppleShare will decrease the size of the cache until it fits in the available memory.

If, however, the primary purpose of your server system is to provide AppleShare file service, then you may want to start AppleShare file service first. This will allow AppleShare to allocate all the memory it needs. You can then use the remaining memory for your other server application programs.

If you are using a backup utility that periodically backs up your file server data, be sure to leave enough memory available for the backup utility to function properly.

If you are having problems opening windows in the Finder, reduce the size of the cache until there is enough memory for the Finder to work properly.

Using System 7 Disk Cache With AppleShare 4.0
In addition to the caching provided in AppleShare 4.0, System 7 also provides disk caching. Depending on how you use AppleShare 4.0, you may notice an improvement in performance by adjusting the server computer's disk cache size. Cache sizes in the range 32K to 128K are valid settings for use with AppleShare. Settings higher than 128K will provide little additional improvement in performance and will waste memory. In general, increasing the size of the cache for your AppleShare file server will provide a more substantial performance improvement than increasing the size of the System 7 disk cache.

System 7 ships with disk cache turned on and set to 96K. You may wish to experiment with higher settings. (You adjust the cache size in the Memory control panel.) Depending on the type of server usage in your work environment, you may notice better server performance.

If you change the size of the disk cache, be sure to restart the server computer for the new size to take effect.

Using Virtual Memory With AppleShare 4.0
Using virtual memory affects the performance of your server application programs. DO NOT turn on virtual memory with your Workgroup Server.

Using Special Characters in Server Names
AppleShare Admin will not allow the administrator to enter a server name that contains a "/" character. If you must have a "/" character in the name of your server, use the following workaround:

1) Shut down file service.
2) Quit AppleShare Admin.
3) Drag the Users & Groups Data File from the Preferences folder to the System Folder.
4) Using the Sharing Setup control panel, change the Macintosh name to the Server name you want.
5) Start AppleShare Admin.
6) Fill out the information in the Administrator Information and Serial Number dialog box.

7) When the Server Name dialog box appears, do not change the server name. Just enter the Admin Key and click OK.
8) Quit AppleShare Admin.
9) Drag the Users & Groups Data File from the System Folder to the Trash. It is no longer needed. A new Users & Groups Data File has been created in the Preferences folder.

Retaining Access Privileges While Upgrading From Macintosh File Sharing
If you are upgrading from Macintosh file sharing while using new server hardware, your original access privileges will not be retained in some circumstances. Specifically, if you copy information from the startup volume using the Finder, your access privileges for that volume will not be retained. The "AppleShare Administrator's Guide" instructs you how to manually re-establish those access privileges on the new server. For startup volumes that have only a few shared items and only a limited number of folders with specific access privileges, this is the best approach. However, if your startup volume has many folders with different access privileges, then you may want to use the following workaround.

Follow the instructions in the "AppleShare Administrator's Guide" for upgrading from Macintosh file sharing. When the instructions ask you to copy the data from the startup volume, use the instructions below instead. Then finish the rest of the instructions in the "AppleShare Administrator's Guide."

1) Connect an empty (unused) external disk to your old system.
2) Copy AppleShare Admin from your AppleShare 4.0 Installer disk to your startup volume. AppleShare Admin is in the "AppleShare File Server" folder. If you received the AppleShare CD-ROM disc, the "AppleShare File Server" folder is in the "AppleShare" folder, which is in the "AppleShare for Power Macintosh" folder.
3) Open AppleShare Admin. The "Users & Groups Data File was not found" dialog box appears.
4) Select "Use System 7," and click OK.
5) Enter a serial number in the Administrator Information and Serial Number dialog box.
6) Enter a server name and Admin Key in the Server Information dialog box.
7) Wait for Admin to finish starting up.
8) Use the Copy <item> command to copy the contents of your startup volume to the external disk.
9) Quit AppleShare Admin, and drag it to the Trash.
10) Drag the newly created Users & Groups Data File from the Preferences folder to the Trash.
11) Drag the old Users & Groups Data File from the floppy (where you saved it earlier) to the Preferences folder.
12) Attach the external disk to your new server.

AppleShare Admin 4.0 runs on 68040- and PowerPC-based systems. If you are running Macintosh file sharing on other than a 68040 or PowerPC system, use either AppleShare Admin 3.0 or a third-party backup program to copy your startup volume. Contact your Apple support representative for assistance.

Install Fonts Before Using Online Documentation
If you received AppleShare 4.0 on a CD-ROM disc, online documentation for the "AppleShare Administrator's Guide" is included on the CD-ROM disc. Before you can use the documentation, you must first install the fonts required by DocViewer into your system. Those fonts are on your CD-ROM disc in the "Apple DocViewer Fonts" folder, which is in the "Apple DocViewer 1.1" folder. The "Apple DocViewer 1.1" folder is inside the "AppleShare Electronic Library" folder. You can install the required fonts into your system by dragging their icons into the Fonts folder, which is in the System Folder. Some DocViewer fonts may already be in your Fonts folder. Drag only those fonts that are missing from your Fonts folder.

Use Caution When Removing the Workstation
The Installer will allow you to remove AppleShare 4.0 software as well as install it. Be aware that removing the Workstation software requires you to restart your Macintosh computer. Restarting your Macintosh computer will break your connection with your AppleShare file server. Since there is no longer any Workstation software on your Macintosh computer, you will be unable to reconnect to your AppleShare File Server. You will need to reinstall the Workstation software from the "AppleShare Workstation" floppy disk before you can reconnect to your AppleShare File Server.

Install System 7.1 First
Always install System 7.1 first, then install AppleShare 4.0. If you install System 7.1 after you install AppleShare 4.0, the Apple Shared Library Manager will not function correctly. Since AppleShare 4.0 uses the Apple Shared Library Manager, it will also not function correctly.

If you need to reinstall System 7.1 for any reason, remove the Shared Library Manager from the Extensions folder and then reinstall AppleShare 4.0.

Use Separate Aliases for Shared Items
Aliases to shared folders can be created by the AppleShare server (using the Finder). Those aliases can be shared with workstations by placing them in a shared folder. If a shared alias is used by a workstation, the alias may be modified in such a way that it is no longer usable by the Finder on the AppleShare server. This can only happen with shared-item aliases created on an AppleShare server.

To avoid this problem, use separate aliases for shared items. Create two aliases to the same shared item, using the Finder on the AppleShare server. Place one alias in a shared folder for use by workstations. Keep the other alias in a folder that is not shared with workstations.

Serial Numbers Are Not Updated Immediately
Using AppleShare Admin, you can change serial numbers while file service is running. However, the old serial number will remain in effect until you restart file service.

If you change serial numbers to eliminate a duplicate serial number, you will continue to receive duplicate serial number notifications until you restart file service. Likewise, if you accidentally change the serial number to one that is already in use by another file server, you will not receive duplicate serial number notifications until you restart file service.

In addition, once you change to a new serial number, the old serial number will no longer be displayed by AppleShare Admin. To avoid confusion about which serial number is in use, restart file service immediately after changing the serial number.

Some Greeting Messages May Not Appear on System 7 Workstations
Macintosh system software includes AppleShare Workstation software. You can use that software to log on to and use any AppleShare server, including an AppleShare 4.0 server. However, the AppleShare Workstation software supplied with system software does not accept the full range of server greeting messages that can be sent from an AppleShare 4.0 server.

To ensure that the full range of greeting messages is displayed on all workstations, use the AppleShare Workstation software included with your AppleShare 4.0 software. See your "AppleShare Administrator's Guide" for how to install the Workstation software.

Working With a Large Users & Groups Data File
AppleShare Admin is factory configured to work with a Users & Groups Data File that has a maximum of 1900 users. If you have a large user community, you may need to increase the capacity of AppleShare Admin. You can increase the capacity of AppleShare Admin by increasing the preferred memory size in the Admin Info window. (In the Finder, select the AppleShare Admin icon, then choose Get Info from the File menu.) AppleShare Admin needs a minimum of 400K of memory. Increase Admin's preferred memory size by 100K for each additional 1000 users in your user community. For example, AppleShare Admin needs 500K of memory to handle 2900 users. Likewise, it needs 600K of memory to handle 3900 users.

Using Retrospect Remote With AppleShare 4.0
If you are backing up a large number of files, you may need to give Retrospect Remote more application memory. See your "Retrospect Remote User's Guide" for guidelines on when to increase the size of your Retrospect Remote application.

Using Microsoft Mail Client Software on Your Server
If you are using Microsoft Mail client software on your AppleShare server, use these directions for installing your Microsoft Mail software:

1) On your server computer, turn AppleTalk off. (Open the Chooser, then select the AppleTalk Inactive radio button.)
2) Follow the instructions included in your documentation for installing Microsoft Mail in low-memory conditions.
3) Drag and drop all the Microsoft Mail files in their proper location except the AppleTalk files. Those files should not be installed on your server system.
4) Turn AppleTalk back on. (Open the Chooser, then select the AppleTalk Active radio button.)
5) Restart your server system.

Capitalize Apple II Shared Items
If you are experiencing problems moving files between your AppleShare file server and your Apple II workstation, try capitalizing the name of the shared item. For example, use a shared item named ARTCLASS rather than ArtClass.

Use QuickTime 1.6.1 on Workstations
If you are using NOW utilities on your workstation, and also have QuickTime 1.6 on your workstation, your workstation may hang when logging on to an AppleShare file server. This may occur when logging on to a server through either the chooser, or through an alias. To correct this problem, install QuickTime 1.6.1 on your workstation. Alternatively, removing QuickTime 1.6 or the NOW utilities from your workstation will also fix the problem. You may also experience problems if you are using the HAM (HierArchial Menu) utility.

If you received AppleShare 4.0 on a CD-ROM disc, QuickTime 1.6.1 is in the "Extras" folder, which is in the "AppleShare Tidbits" folder. The "AppleShare Tidbits" folder is in the "AppleShare" folder, which is in the "AppleShare for Power Macintosh" folder. If you received AppleShare 4.0 on floppy disk, QuickTime 1.6.1 is inside the "Extras" folder on the floppy disk labeled "AppleShare Tidbits."

Using the Apple IIe or the IIe Card for the Macintosh LC
If you are experiencing problems logging on to an AppleShare 4.0 File Server from either an Apple IIe or a Macintosh LC with a IIe card, contact your Apple support representative. Ask your representative to supply you with the upgraded software required to fix the problem.

Use the International Menu to Choose the Roman Keyboard
Using KanjiTalk 7.1, there are two ways to select the Roman keyboard. You can use either the international menu or the keyboard palette. When entering the product serial number into the File Server Serial Number Preferences dialog, use the international menu to select the Roman keyboard rather than the keyboard palette. The keyboard palette does not work correctly.

Specifically, before you open AppleShare Admin for the first time, use the international menu to select the Roman keyboard. Afterwards, open

AppleShare Admin and enter the serial number into the File Server Serial Number Preferences dialog.

If you need to change your serial number, remember to select the Roman keyboard before selecting File Server Serial Number Preferences from the Server menu.

Logging On to an AppleShare File Server From a PhoneNet PC Client
Using AppleShare Admin, you can force new AppleShare users to change their password the first time they log on to your server. If new users are experiencing problems logging on to an AppleShare file server with PhoneNet PC, try letting the user keep the original password.

Modifying Users & Groups Information on a Server That Also Has Apple Remote Access
If you install AppleShare on a server that also has Apple Remote Access, the ability to work with Users and Groups from Apple Remote Access is disabled. Instead, use AppleShare Admin to work with Users and Groups.

Avoid Giving Users Access to the Root of a Volume
Using AppleShare Admin, you can give workstation users access to either the root of a volume, or to specific shared items within that volume. To ensure the security of your file server, give workstation users access to shared items only.

Opening Applications over the Network
If you are experiencing problems opening applications over the network from your AppleShare file server, and your workstation is a 68040-based Macintosh, try installing "Network Launch Fix" into the Extensions folder of your workstation.

If you received AppleShare 4.0 on a CD-ROM disc, "Network Launch Fix" is in the "Extras" folder, which is in the "AppleShare Tidbits" folder. The "AppleShare Tidbits" folder is in the "AppleShare" folder, which is in the "AppleShare for Power Macintosh" folder. If you received AppleShare 4.0 on floppy disk, "Network Launch Fix" is inside the "Extras" folder on the floppy disk labeled "AppleShare Tidbits."

Using a Macintosh Quadra 605 or Macintosh LC 475 as a File Server
If you are experiencing problems using a Macintosh Quadra 605 or a Macintosh LC 475 as a file server, try setting the server monitor to black and white. Open the Monitors control panel and select "Grays: Black & White."

Improving File Server Performance
AppleShare 4.0 allows you to adjust the amount of cache used for each open file. Normally, this value is set to 64K bytes per file. You may see better performance by setting this value to 128K bytes or higher. Using AppleShare Admin, you can change this value by selecting File Server Cache Preferences from the Server menu.

Negative File Sizes
In some views, the Finder displays the size of a file next to the file's name. If the Finder is displaying negative file sizes for files stored on AppleShare servers, upgrade to the latest version of AppleShare Workstation. Use the "AppleShare Workstation" disk provided with your AppleShare software to install the latest version. You can also install the AppleShare Workstation software over the network. Follow the instructions in the "AppleShare Administrator's Guide" to install the AppleShare Workstation software.

Using Apple Internet Router With AppleShare 4.0
If you are running an AppleShare 4.0 file server on the same machine as an Apple Internet Router, when shutting down the machine, be sure to quit the file server before quitting the router.

Mounting CD-ROM Discs While the File Server Is Running
If you are experiencing problems mounting CD-ROM discs on your AppleShare file server, make sure the "Desktop Manager Fix" is in the Extensions folder of your server.

If you received AppleShare 4.0 on a CD-ROM disc, "Desktop Manager Fix" is in the "Extras" folder, which is in the "AppleShare Tidbits" folder. The "AppleShare Tidbits" folder is in the "AppleShare" folder, which is in the "AppleShare for Power Macintosh" folder. If you received AppleShare 4.0 on floppy disk, "Desktop Manager Fix" is inside the "Extras" folder on the floppy disk labeled "AppleShare Tidbits."

Initializing Floppy Disks on an AppleShare 4.0 File Server
If you are experiencing problems initializing floppy disks on an AppleShare 4.0 file server that has connected users, try removing the PC Exchange control panel from the Control Panels folder in the System Folder, and then restarting.

Opening documents using an alias
Your AppleShare file server can contain aliases for documents that are located on other AppleShare file servers. If you are experiencing problems opening documents on other servers using an alias, contact your Apple support representative for a fix.
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Workgroup Server 6150, 8150, and 9150: Feature Matrix

This article provides a product feature matrix for the Workgroup Server (WS) 6150/60, WS 8150/80, and WS 9150/80.
This article has been archived and is no longer updated by Apple.

	Power Macintosh 6100 / Workgroup Server 6150	**Power Macintosh 8100 / Workgroup Server 8150**	**Workgroup Server 9150**
Processor	PowerPC 601-60 MHz integrated FPU & 32K Cache	PowerPC 601-80 MHz integrated FPU & 32K Cache	PowerPC 601-80 MHz integrated FPU & 32K Cache
Level-2 Cache	0/256K	256/256K	512K
RAM	8MB, expandable to 72	16MB, expandable to 264	16MB, expandable to 264
Display Support	Apple 12-in. to 17-in. displays, most VGA & SVGA displays	Apple 12-in. to 17-in. displays, most VGA & SVGA displays	Apple 12-in. to 17-in. displays, most VGA & SVGA displays
Video	HDI-45 Monitor Port	HDI-45 Monitor Port	DB-15 Video Port
NuBus Slots	One with NuBus Adapter Card	Three	Four
PDS	PowerPC 601	PowerPC 601	PowerPC 601
Expansion Bays	Three - Floppy, CD, one 3.5 inch HD	Four - Floppy, CD, DAT, and one 3.5 inch HD	Eight - Floppy, CD, DAT, and five 3.5 inch HD
Hard Disks	one 500 MB	one - 1 GB	Two - 1 GB
Floppy Drive	1.44 MB with DMA	1.44 MB with DMA	1.44 MB with DMA
CD-ROM Drive	AppleCD 300i Plus	AppleCD 300i Plus	AppleCD 300i Plus
DAT Drive	N/A	DDS-2, 120 meter media	DDS-2, 120 meter media
Networking	Built-in LocalTalk & AAUI-15 Ethernet	Built-in LocalTalk & AAUI-15 Ethernet	Built-in LocalTalk & AAUI-15 Ethernet
SCSI	8-bit. Support for 7 devices.	Dual-Channel. Support for 7 devices.	Dual-Channel, 2 buses. Support for 14 devices
Sound In	Stereo In, 16-bit with DMA	Stereo In, 16-bit with DMA	Two RCA jacks for 16-bit stereo in with DMA
Sound Out	Stereo out with DMA	Stereo out with DMA	16-bit Stereo out with DMA
Other Ports	Two DMA serial (GeoPort), ADB	Two DMA serial (GeoPort), ADB	Two DMA serial (GeoPort), ADB
Security	N/A	N/A	Three position key
Bundled Software	System 7.1.2, RAID, DocViewer & Docs, AppleShare 4.0.2 (Select configurations)	System 7.1.2, RAID, DocViewer & Docs, AppleShare 4.0.2 (Select configurations)	System 7.1.2, RAID, DocViewer & Docs, AppleShare 4.0.2 (Select configurations)

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Apple Data Modem 2400: Pass Through Port Problem (4/94)

The pass through port on my Apple Data Modem 2400 has worked to connect to the administrator port on a Farallon Star Controller, but it won't work to a Personal LaserWriter LS.

In further testing, I found the pass through port works on a StyleWriter II, but not a Personal LaserWriter LS. I used a Macintosh SE/30 (system 7.0.1*) and Macintosh Classic II (System 7.1) with the Personal LaserWriter LS driver from System 7 and the Personal LaserWriter 300 v1.2 driver. The printer will not identify -- yes, and the light was amber (to allow pass through), not green on all four tests.

Why isn't this working?

This article has been archived and is no longer updated by Apple.
The problem is related to the modems inability to effectively handle high speed serial communication. The modem was developed before the personal LaserWriter series was developed. The Personal LaserWriter LS printers reach speeds of 769 Kbps. The modem can only handle 57.6 Kbps.

Support Information Services

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Apple Color Printer: Use ColorSync instead of CIE Values

A customer is looking for the Adobe Photoshop Patch Color Values for the Apple Color Printer. This would be the CIE coordinates for these colors used in the printer.
This article has been archived and is no longer updated by Apple.
This can be resolved by using ColorSync, which is included with the Apple Color Printer software.

Assuming that they are looking for the x,y,Y values for CMYK which are in the "Custom" Ink Colors popup in "Printing Inks Setup", this feature of Photoshop allows the user to manually calibrate to the printer.

The easier way to obtain calibration would be to use ColorSync which automatically calibrates between the monitor and printer. There is an Apple Color Printer profile which ColorSync uses and can be selected in the "Color" options dialog in the Print dialog of the Apple Color Printer.
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DAP (Drive Acceptance Program) Documentation

This article has been archived and is no longer updated by Apple.

NOTE: The DAP (Drive Acceptance Program) is an obsolete diagnostic. It has been replaced with the Apple 5.25 Inch Drive Diagnostic. Refer to the Disk Drives Technical Procedures for complete information on the current Apple 5.25 Inch Drive Diagnostic.

The following article describes how the DAP works and what it is designed to do. For a description of how to run the DAP test or what to replace if a failure occurs, search on "HTS and GTS and the disk drive product name".

TEST SEQUENCE AND DESCRIPTION

1. WRITE PROTECT TEST (the digit 1 appears above the selected drive) -

When the right arrow key is detected, several things happen on the screen. The diskette icon is erased, the drive door icon flashes to a closed position, and the IN.USE lamp icon lights as the first test begins. The digit "1" appears above the drive to indicate the test step.

The write protect test reads and saves a copy of sector 5 on track 16 of the test diskette. This helps prevent accidental data loss if the wrong diskette is accidentally inserted. The write-protect test does not bother with the write-protect switch since this may differ in various drives and controllers. Rather, it attempts to write a sector and then reads the sector back. If the read detects the data pattern written, the drive is failed in step one. In the case of failure (i.e. the write is successful) the original sector is re-written to the diskette. If writing does occur, the big "X" fail sign is overlayed on the drive image. This same indication is used for failure of any of the remaining tests.

2. WRITE AND READ TEST -

A. SPEED (The digit 2 appears): The first write test makes 16 D-SPEED passes over track 30. The test is self-adjusting, allowing a variance of +- 26 WOZ counts for Apple II+, IIe and IIc systems, and +- 10 WOZ counts for the Apple III in emulation mode. (If the test fails at the beginning of the test, the drive circuitry may be unable to read/write.)

B. WRITE AND VERIFY TRACKS 31,32,33 (The digit 3 appears): The write test writes patterns to all sectors of tracks 31,32,33 and then attempts to read the track. After each read it compares the read data pattern to the pattern written to verify a good write and read.

3. DYSAN DDD DISKETTE TESTS -

A. SPIN ECCENTRICITY (spindle wobble, collet problems; displays digit 4): Tests tracks 21 and 24. An even amount of error has been encoded on each of these DDD tracks. A properly centered head should read each sector with equal ease or difficulty. Irregularity here generally indicates collet problems or possibly spindle wobble. The program allows for some errors. If the test shows more failures than the limit allows, the user will be prompted to re-insert the DDD. On Disk II and Disk III drives it is best if the DDD is "double clamped". Failure here can also indicate excess noise from nearby equipment or a worn DDD diskette.

B. RADIAL ALIGNMENT (head properly centers on track; displays digit 5): This test reads tracks 0, 5, 16, 19, 30 and 32. Each of these tracks has

been encoded with errors which are progressively further from the center track (by one mil) with each sector. A properly aligned drive will have a diminishing ability to read sectors and a perfectly positioned head will be unable to read the sectors furthest away from the center of the track. (Since the Digital Diagnostic Diskette checks alignment at six locations, it is possible that the error will not be detected with the Disk Alignment Aid.)

C. HYSTERISIS (physical slope in arm motion; displays digit 6): This test calibrates the drive, reads tracks 5 and 30, goes to track 34 and then reads tracks 30 and 5. A properly adjusted and functioning drive will not develop more than +- 2 mils of error on reads when the head moves from the opposite direction. Errors discovered here are due to physical slop or wear in the hardware. Failure of this test can often indicate that the guide rails need cleaning.

D. AZIMUTH (ability of head to detect data with 21-42 minutes of error in the angle of data placement; displays digit 7): This test calibrates and moves to track 34. This track has been encoded with data written with angular error which alternates direction with each sector and increases from 21 to 42 minutes of error. The inability to read this data indicates a faulty head. In most cases all sectors are read easily by the heads in Apple drives.

Published Date: Feb 19, 2012

LaserWriter Select 360f: Fax Imaging Information (4/94)

I have a LaserWriter Select 360 with the Fax option and want to know:

* If the images are stored as bitmaps, or if it buffers the Postscript code itself?

* If they are bitmaps, what resolution (fax resolution or full 600dpi)?

* How does broadcasting affect the RAM usage?

* What is the "faxopsexec" that is on the sample cover page that is used to access the fax features?

This article has been archived and is no longer updated by Apple.
There are two types of PostScript Fax jobs. You can able to select between transmission of PostScript Language data and raster data. Subsequently, PostScript Fax printers may send faxes as raster data, or when communicating with another PostScript fax printer they may send PostScript language data. Either way a PostScript job is sent from the client to the printer to be either transmitted or rastorized then transmitted.

Single destination

A fax transmission in raster form to a single destination will be made in a single call if there is sufficient storage to hold all of the raster pages of the job. However, the transmission may be broken into multiple calls if there is not sufficient storage. If the storage of the raster pages is exhausted, then a call will be made before rasterization is complete. Transmission and raterization will then take place simultaneously. If transmission succeeds in sending all prepared pages before raterization of the job is finished, the call will end. A subsequent call will be made either when all of the rasterization is done or when storage is again exhausted. Thus, a transmission may be broken up into multiple calls. It is also possible that when transmission and raterization are taking placed simultaneoulsy, rasterization keeps up with transmission. In this case, this transmission will be the last call for the job. If the storage in use is a disk, there will typically be sufficient storage for all of the raster pages of a job and the fax will be transmitted in a single call.

It is possible to request that a transmission take place at a particular time. These delayed transmissions, of course, are made with a single call. Since the pages of a raster job are prepared when the job is submitted, all of th pages of a delayed raster transmission must fit in storage, otherwise, the job will fail.

Multiple destinations

For a raster fax, the common body is rasterized and compressed only once. For a PostScript language file transmission, the out-bound file is assembled only once. Then, in either case, the previously prepared material is transmitted multiple times - one copy to each different recipient specified. Thus, one requirement for a broadcast job to succeed is there must be sufficient storage (RAM or disk) to hold all outgoing files that form the fax. Broadcast transmissions are not broken into multiple calls.

Resolution

Raster data - the specification for CCITT fax resoution is approximately, but not precisely, 200 dots per inch (dpi). A non-integral resolution would drastically decrease the efficiency of the PostScript interpreter. More importantly, the precise scaling generates moirÄ patterns in halftones rasters, that may be prevented by rounding. Therefore, a rounded scaling to 200 dpi is performed.

PostScript data - PostScript file transmission to another PostScript compatible faxscimile is output at printer resolution (300 dpi or better).

faxopsexec
---
faxopsexec is an exec, that pushes the Fax Options dictionary onto the stack, in order to execute the PostScript operand that precedes it.

Adobe uses faxopsexec to access predefined PostScript procedures implemented in an invisible, inaccessible dictionary. These ProcSets (dictionaries containing procedures) are not documented as they are either confidential, likely to change, reserved, have functionality useful only to Adobe, etc.

TA31607_LaserWriter_Select_f_Fax_Imaging_Information__(TIL15230).pdf

Support Information Services
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System Update 3.0 Read Me

This is the Read Me for System Update Disk v 3.0
This article has been archived and is no longer updated by Apple.
System Update 3.0 (1.44 MB floppy disk version)

What is System Update 3.0?

System Update 3.0 is a set of software enhancements that improves the performance and reliability of Macintosh computers running system software version 7.1, 7.1.1 (System 7 Pro), or 7.1.2 (for Power Macintosh).

System Update 3.0 provides all of the enhancements of System Update 2.0.1, Hardware System Update 2.0, and Hardware System Update 1.0, plus additional enhancements. (For a review of the System Update 2.0.1, Hardware System Update 2.0, and Hardware System Update 1.0 enhancements, see "What Other Enhancements Does System Update 3.0 Provide?" at the end of this document.)

What are the enhancements that System Update 3.0 provides?

System Update 3.0 introduces the following enhancements:

* Provides system-level improvements to increase overall system performance and reliability on most Macintosh models.

* Corrects a problem that caused some programs to quit unexpectedly or caused the computer to freeze when you attempted to open programs over the network. This includes/replaces all of the functionality of Network Launch Fix (and the Installer will delete it).

* Corrects a problem that potentially allowed the system to become corrupted during a power failure or a crash. This corruption would prevent the Macintosh from restarting.

* Prevents a PowerBook from trying to spin up its hard drive when the system needs to warn the user that there are only 10 seconds of battery power remaining.

* Fixes a problem that prevented the Macintosh Plus from using any system software newer than 7.1. Users wishing to upgrade to newer system software must also delete the Finder Preferences file from the Preferences folder and restart.

* Fixes the "About This Macintosh" box so the memory usage line does not get drawn outside of the box's bounds.

* Prevents the potential file/media corruption that can happen when working with a file that is on a remote volume and the connection to that volume is lost. Now, when the remote volume is lost, its icon will remain dimmed on the desktop (similar to what happens to the icon for a manually ejected floppy disk). All attempts to open items on the lost volume will result in an access privilege error. If you need to save your work on the open file, you will need to use "Save As..." (or the equivalent) to save it to a different volume. In order to re-connect with the lost volume, you will first need to close the file you were working with, then drag the lost volume's dimmed icon to the Trash.

* Increases reliability for remote file saving when the client is running System 7.1 or greater and the server is running a pre-7.0 system and using pre-3.0 AppleShare.

* Fixes a problem with throwing away folders that are on an AppleShare volume. Sometimes when attempting to empty the Trash, the Finder would warn that the folder contained items in use and could not be deleted. The Finder will now properly delete such folders.

* Fixes a problem where a Power Macintosh, Quadra 840AV, or 660AV may hang if a CD-ROM disk is inserted when file sharing is on and a large file is being transferred.

System Update 3.0 includes the following updates:

* Updates the Standard File package to include many fixes and enhancements. The most significant fix corrects a crash problem when more than 20 volumes are mounted. The most significant enhancement is the use of color icons.

* Updates the Easy Access control panel to version 7.2. This new version allows Sticky Keys to remain active after waking up if it was active when the PowerBook or Portable went to sleep. Also, Easy Access now remembers whether sticky keys, mouse keys, and slow keys were on or off between restarts.

* Replaces TeachText with SimpleText version 1.0. Among other improvements, SimpleText allows multiple documents to be open simultaneously, and allows users to easily use a variety of fonts, font sizes, and font styles.

* Includes Apple HD SC Setup version 7.3.1,. This new version fixes a crash problem version 7.3 has when run on Macintosh models that do not

support virtual memory.

* Updates the Memory control panel to version 7.3. This new version prevents a potential crash during boot if the RAM disk was set too large. Also, this control panel now opens with 32-bit addressing on.

* Updates the PowerBook control panel to version 7.3.1, the PowerBook Setup control panel to version 7.3.1, and the PowerBook Display control panel to version 1.1. This package of related control panels reorganizes and simplifies several controls.

* Updates the Battery desk accessory to version 7.1.1. This new version provides better support for the Duo 230.

* Updates the TV Setup control panel to version 1.0.1. This new version supports HRC cable systems. This version also fixes a problem that would sometimes cause the screen to darken after returning from TV mode.

* Updates the Screen control panel to version 1.0.4. This new version corrects a problem on the LC 575.

* Updates the PC Setup control panel to version 1.0.2. This version provides a fix for users of the Macintosh DOS Compatibility Card that are experiencing interference when using a single 14" display and the PC is in the foreground. If you are experiencing an interference problem, make sure the "Fade Screen" option is selected in the updated PC Setup control panel. With this option selected, switching to the Macintosh will be slightly slower but the video interference will disappear.

* Updates System Enabler 003 to version 1.1 for use with the LC III.

* Updates System Enabler 040 to version 1.1 for use with the Quadra 610, 650, and 800 and the Centris 610 and 650. This update also adds support for the Quadra 610 and 650.

* Updates System Enabler 065 to version 1.2 for use with the Quadra 605, LC 475, and LC 575. This new version removes some minor unnecessary components.

* Updates System Enabler 088 to version 1.2 for use with the Quadra 840AV and 660AV. This update fixes some serial communication problems and delivers improvements to the Resource Manager and other system components that increase system performance.

* Updates System Enabler 403 to version 1.0.2 for use with the Color Classic II, LC 520, and LC 550.

* Updates the PowerBook Duo Enabler to version 1.0 for use with the PowerBook Duo 210, 230, 250, and 270c. This new version allows the use of type II batteries. It also incorporates the Duo Battery Patch for all PowerBook Duo models except the Duo 270c, which does not need it.

* Updates the PowerPC Enabler to version 1.0.1 for use with the Power Macintosh 6100, 7100, and 8100. This new version fixes a problem with some large monitors connected to the AV video card, improves Energy Star compatibility for certain monitors connected to the built-in video port, updates the Communications Toolbox, fixes an occasional memory manager problem, improves the serial port performance, improves the video quality of the High Performance Video card in certain situations, and preserves the "Playthrough" and "CD Audio In" settings in the Sound Control panel across reboots. The PowerPC Enabler also supersedes the files "!TYC" and "!PowerAV Update" (and the Installer will delete them).

* Updates the PowerPC Upgrade Card Enabler to version 1.0.1 for use with the PowerPC Upgrade Card installed in the Centris 610 and 650 and the Quadra 610, 650, 700, 800, 900, and 950. This new version updates the Communications Toolbox and fixes an occasional memory manager problem.

Installing System Update 3.0

Before you install...

Do you use a Macintosh II, a Macintosh SE or a Macintosh Plus?

If you use a Macintosh II, a Macintosh SE, or a Macintosh Plus computer, then you need the version of System Update 3.0 that comes on an 800K floppy disk, unless your computer has been upgraded with a 1.4 MB floppy disk drive or you have network access to a Macintosh that has 1.4 MB floppies (see "Network Installation Instructions" below for information on installing over a network). The 800K package is a special version of System Update 3.0, including only the files needed for those three models of Macintosh. If your computer has been upgraded with a 1.4 MB floppy disk drive, then you can use the version of System Update 3.0 that comes on the high-density (1.4 MB) floppy disks.

If you have any Macintosh computer other than these three, you must use the version of System Update 3.0 that comes on two high-density (1.4 MB) floppy disks. Do not use the version of System Update 3.0 that comes on an 800K disk. It does not include all of the files that you need.

Do you have Macintosh system software version 7.1, 7.1.1, or 7.1.2?

You should install this update only if you have Macintosh system software version 7.1, 7.1.1, or 7.1.2 installed on your computer.

If you have already installed earlier system updates, you should still install System Update 3.0 in order to have the latest version of all system software. System Update 3.0 provides additional functionality and fixes problems that the earlier updates did not address.

Installation of System Update 3.0 includes three steps:

1. Install the System Update
2. Update your Apple utilities
3. Update your Apple drivers

See the step-by-step instructions below.

Step 1: Install the System Software Update

To install the system software update, follow these steps:

1. If you currently have the Connectix Enabler Patch on your hard disk, remove it from your hard disk before proceeding with this installation.

2. Insert System Update 3.0 Disk 1 in your floppy disk drive.

3. Double-click the Installer icon.

4. Read the Welcome screen, and then click OK.

5. Click the Install button.

The Easy Install process for System Update 3.0 automatically determines what elements of the updated system software your computer needs.

6. When you see a message that installation is complete, click the Restart button.

7. When you finish, continue with "Step 2: Update Your Apple Utilities" below.

NOTE: None of the packages on System Update 3.0 are removable, so they will all be dimmed if you select "Custom Remove" in the pop-up menu.

Step 2: Update your Apple Utilities

The "Utilities ─" folder on the System Update 3.0 Disk 1 contains Apple HD SC Setup version 7.3.1 and Apple Disk First Aid version 7.2. These updates are intended to permanently replace the copies of Apple HD SC Setup and Apple Disk First Aid on your System 7.1, 7.1.1, or 7.1.2 Disk Tools disk. This update is recommended even if you have already installed System Update 2.0.1.

Follow these steps to update your utilities:

1. Insert the System Update 3.0 Disk 1 in your floppy disk drive.

2. Choose Eject Disk from the Special menu.

3. Insert the Disk Tools disk in your floppy disk drive.

4. Click the "Utilities ─" window to make it active.

5. Drag the HD SC Setup and the Disk First Aid icons to the Disk Tools disk.

6. When your Macintosh warns you that the files on your Disk Tools disk have the same names as the items that you are moving, click OK.

7. Insert specific disks as requested until the files are fully copied.

8. When you finish, continue with "Step 3: Update Your Apple Drivers" below.

Step 3: Update your Apple drivers

System Update 3.0 also contains a driver update for Apple hard disk drives. You should install the driver update even if you have already installed System Update 2.0.1. Follow the steps below to install the driver update on each Apple hard disk drive you own:

1. With your computer off, insert the Disk Tools disk in your floppy drive.

2. Turn on your computer.

3. Double-click the Disk Tools icon.

4. Double-click the Disk First Aid icon in the Disk Tools window. (NOTE: If you completed "Step 2: Update Your Apple Utilities" above, the Disk First Aid utility on your Disk Tools disk should be version 7.2)

5. Click the driver icon that corresponds to your Apple hard disk drive. If you have more than one Apple hard disk drive, hold down the Shift key and click each icon for the drives that you will be updating.

6. Click the Repair button. Disk First Aid will now run some diagnostic tests and make any necessary repairs on your drive. This may take a few minutes depending on the size of your drive.

7. Open the File menu and choose Quit.

8. Double-click the Apple HD SC Setup icon in the Disk Tools window. (NOTE: For more information on Apple HD SC Setup, see your Macintosh user's guide. If you completed "Step 2: Update Your Apple Utilities" above, the HD SC Setup utility on your Disk Tools disk should be version 7.3.1)

9. Click the Drive button until the name of the hard drive you want to update appears.

10. Click the Update button.

11. Repeat steps 9 and 10 for any other Apple hard disk drives you own.

12. Click the Quit button.

Network Installation Instructions

Preparation

Users wishing to install System Update 3.0 on a number of Macintosh computers on a network may find it simpler to install System Update 3.0 over their network rather than shuffling the two 1.4 MB floppies on each Macintosh. Creation of the "net install" package can be accomplished by following these steps:

1. Create a folder on the server named "System Update 3.0 Net Install".

2. Insert System Update 3.0 Disk 1 and drag the icon for the disk into the folder created in Step 1. This will copy the entire contents of the first disk into a folder within the "System Update 3.0 Net Install" folder.

3. Insert System Update 3.0 Disk 2 and drag the icon for the disk into the folder created in Step 1. This will copy the entire contents of the second disk into a folder within the "System Update 3.0 Net Install" folder.

4. Open the folder named "System Update 3.0 Net Install".

5. Open the folder named "System Update 3.0 Disk 1" and drag the Installer and Install System Update into the folder named "System Update 3.0 Net Install".

6. Verify that there are four icons showing in the "System Update 3.0 Net Install" folder. They should be the Installer, Install System Update, the "System Update 3.0 Disk 1" folder, and the "System Update 3.0 Disk 2" folder.

Installation

To install System Update 3.0 over a network, log onto the server containing the folder created above and double click the Installer. You can have multiple Macintosh computers installing from the same "System Update 3.0 Net Install" simultaneously. This should simplify, and speed up, the process for updating numerous networked Macintosh computers.

What Other Enhancements Does System Update 3.0 Provide?

System Update 3.0 includes enhancements from System Update 2.0.1, Hardware System Update 2.0, and Hardware System Update 1.0 (listed below). Some enhancements are Macintosh-model specific while others apply to a range of models.

* Improves the reliability of high-speed modems and similar devices connected to Macintosh LC, LC II, IIsi, IIvx, IIvi, Classic II, Quadra 900, and Quadra 950 computers.

* Improves the accuracy of the system clock in Macintosh LC, LC II, IIsi, IIvx, IIvi, Classic II, Quadra 900, and Quadra 950 computers.

* Corrects problems ejecting floppy disks when the computer is shut down on Macintosh IIsi, IIci, IIvx, IIvi, Macintosh Quadra 700, and Macintosh Quadra 950 computers.

* Addresses possible floppy disk drive and hard disk problems with the Macintosh IIsi, IIci, IIvx, IIvi, Centris, Quadra, and PowerBook and PowerBook Duo computers.

* Removes horizontal white lines that may appear while scrolling on Quadra and Centris systems with a Macintosh 16" Color Display.

* Prevents fonts from being needlessly locked in memory during the boot process. This frees up memory on affected machines.

* Corrects color problems with the Apple Basic Color monitor on Macintosh Centris and Quadra computers. (NOTE: If Hardware System Update 1.0, Hardware System Update 2.0, or System Update 2.0.1 extensions or the Basic Color Monitor extension are already installed on your computer, this update replaces them. The 3.0 update removes the Basic Color Monitor and the ADBReInit extensions and replaces them with a System Update 3.0 extension.)

* Adds software for the Apple Adjustable Keyboard, allowing you to connect the keyboard to any Macintosh computer without separately installing special keyboard software. This software is not needed by Power Macintoshes, but is needed by the Power Macintosh Upgrade Card.

* Updates the Macintosh Color Classic System Enabler (System Enabler 401, version 1.0.5). This new version allows the Apple IIe Card and software to be used with the Color Classic. In addition, this revised System Enabler improves mouse performance with the Color Classic. (NOTE: To use the Apple IIe Card with system software version 7.1 on a Color Classic, you need to have version 2.2.1 of the Apple IIe Card software. You can obtain an upgrade package for the Apple IIe Card software by contacting an Apple-authorized dealer, or by using the AppleLink path Apple Products: Apple SW Updates: Macintosh: Peripheral Software: Apple IIe Card for Macintosh LC.)

* Updates System Enabler 131 (version 1.0.3) for the PowerBook 160, 165, 165c, and 180 to support 12" monitors and improve reliability. (NOTE: There is a very small chance that your PowerBook may not boot when you turn it on for the first time after installing the update. If this happens, turn the computer off and back on, and press Command-Option-P-R while the computer starts up.) System Enabler 131 replaces System Enabler 121 and System Enabler 111 (and the Installer will delete these files).

* Installs the Sound Manager Update to improve sound performance on most Macintosh computers. (NOTE: When this software is installed, your system sound will revert to the Simple Beep. After installation, you may wish to reset the Sound control panel to your preferred sound.)

* Installs AutoRemounter 1.2. This release significantly reduces network traffic compared to version 1.0.

* Includes Disk First Aid 7.2, a utility that repairs damaged disks.

Special Note For Power Macintosh Upgrade Card Users

If you are using System 7 Pro software, you must reinstall it after installing the Power Macintosh Upgrade Card software. To reinstall System 7 Pro software, follow these steps:

1. After installing the Power Macintosh Card software, restart your computer and insert the Install disk that came with your System 7 Pro package.

2. If the Installer application did not launch automatically, double-click the Installer application icon on the Install disk. The Easy Install dialog box will appear.

3. Click the Install button. The Installer takes a few moments to calculate what needs to be done and then begins to copy files. The whole process may take several minutes.

4. When the Install disk is ejected, follow the instructions you see on the screen. You will need to swap disks several times.

Important: If you see a message that says the Finder you are about to install is older than the Finder already on the disk, click "Continue."

5. When you see a message reporting that the installation has been successfully completed, follow the instructions on the screen.

TA31608_System_Update_Read_Me_(TIL15231).pdf

Apple strives to provide maximum reliability for its customers. This update provides specific improvements that many Apple Macintosh customers will find helpful.

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StyleWriter II: Self Test Prints Blank Page

My StyleWriter II will not print from my computer. When I do a self test, it just prints a blank sheet of paper and the error light comes on. Why?
This article has been archived and is no longer updated by Apple.
Verify the type of cable that is connected the StyleWriter II. Make sure that it is an Apple System Peripheral 8 cable (M0197LL/B) or compatible as described in the StyleWriter II manual. When a network cable, such as a PhoneNet or LocalTalk RJ11 Connector, is connected to the printer the symptoms you mentioned appear.

To verify the problem is cable related follow these steps:

1. Turn the printer off.
2. Unplug the printer cable.
3. Press and hold down the printer power button until the yellow light turns off.

The printer should print a self-test. If it prints the self test, the problem was cable related. If the StyleWriter II does not print a self-test with the cables disconnected, have the printer looked at by an Authorized Apple Service Provider.
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Power Macintosh: System 7.1.2 Software Clean Install

This article overviews specifics of performing a clean install of System Software 7.1.2 on a Power Macintosh.

There are some differences between the directions published in the Additional Tips and Troubleshooting manual when doing a clean install from CD. These differences are noted below.
This article has been archived and is no longer updated by Apple.
1) Power Macintosh computers will allow a bootable CD to function in the same way as a bootable floppy disk. When booting from the CD, you need to hold down the letter C key until the Welcome to Macintosh screen appears. There *is* a slight disadvantage, however - Power Macintosh computers will not eject CDs and reboot as with floppies.

2) After rebooting on the Power Macintosh CD which is now called "Power Macintosh CD" (PM CD), customers will need to double click on the CD volume icon first before selecting Disk First Aid (DFA). Customers may note that the boot process using the CD is much slower when compared to booting from the hard drive. Disk First Aid 7.2 is used on the PM CD and Power Macintosh system disks. Customers who haven't used DFA 7.2 previously may not be accustomed to the new interface.

3) In the next step, updating the SCSI driver with Apple HD SC Setup (version 7.3), there is a new dialog presented after clicking "Update". It says "Because this driver is in use, the new driver will not be available until you restart the machine." The only button available is "Continue". Otherwise, it functions in the same way.

4) In this version of the clean install, the current System is moved to the Preferences folder inside the current system folder. Then the system folder is renamed "Storage" as we currently recommend.

5) Step 12 is "Shut down your computer". Step 13 is "Turn on your Computer. The blinking question mark should occur."

Important difference - if using the original Power Macintosh CD version 1.0, the computer will boot off the CD again since it was not automatically ejected. For users that are very confident that a second system folder (with a Finder) does not exist, this may be fine. Otherwise, we may wish to have customers hold down the eject button on the CD-ROM drive after rebooting to eject the CD to check for the actual "?" appearing on their screen.

Also, the PM CD cannot be dragged to the Trash (it's the Startup Volume) and Eject Disk is grayed out in the Special menu.

If customers do eject the CD, and get a "?" on their screen - putting the PM CD into the Power Macintosh will not do anything! The "?" will remain on the screen. Once the user does a soft restart (control-command-power), the Power Macintosh will reboot on the PM CD.

6) There are some new items available from Custom install - CD ROM software, QuickTime software, AudioVision software, and Updates System Software for Any Mac. *Note: some of these may have been available on the AV Macintosh computers.

7) The Installer dialog box (after the Welcome/Splash screen) presents a slightly different window than what is shown in the "Additional Tips and Troubleshooting":

- instead of "Click install to place" it now says "Click Install to place version 7.1.2 of"
- instead of "System Software for Your Macintosh" it says "Macintosh Family System Software"
- instead of "Any existing Printing Software" it says "All printing software"
- the version number 3.4.4 is included in the lower left corner of the dialog box.

8) The actual system software floppy disks are now InstallMeFirst, Disk Tools (in place of Install 2 like the Quadra 605 generation of CPUs), Goodies (new), Additions (new), and Printing & Fonts (now combined).

9) At the end of the install process, Step 19 says "When you see a message reporting that the installation was successful, click Restart".

- What actually happens is the usual dialog reporting Installation was successful with Continue and Quit buttons. Once the user quits, they are back in the Finder.

If the user then Restarts - once again - the Power Macintosh will restart on the CD, unless the user holds down the mouse button to eject the CD. After ejecting the CD, if a clean install was done, a "?" may appear on the screen. This does NOT mean another clean install is required! A soft-restart (depressing the Control-Command-power on keys) will allow the system to boot off the hard drive's new system folder.

The "Additional Tips and Troubleshooting" *does* include advice on moving "control panels, extensions, or custom utilities back to your System Folder one at a time, restarting each time". It does *not* mention the possibility of corrupted fonts, so customers (particularly in the graphics industry or any heavy users of fonts) may need additional advice on this.
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Color StyleWriter Pro: Minimum Margins (4/94)

What are the minimum margins on the Color StyleWriter Pro printer? Can I do an edge to edge print out?

This article has been archived and is no longer updated by Apple.
You cannot perform a full page printout. The minimum page margins are:

Left margin - 0.1-in
Right margin - .4-in

Support Information Services
Published Date: Feb 19, 2012

PC Exchange: Incompatibility with Toner Tuner (4/94)

This article describes an incompatibility that exists when using PC Exchange with Toner Tuner 1.0 from Working Software.
This article has been archived and is no longer updated by Apple.
Toner Tuner 1.0 from Working Software will cause PC Exchange to crash when a user attempts to initialize an unformatted floppy disk. This problem applies to all versions of PC Exchange. This problem has been fixed in Version 1.05 of Toner Tuner. Customers reporting this problem should contact Working Software to obtain an upgrade to Toner Tuner 1.05. To locate a vendor's address and phone number, use the vendor name as a search string.

Support Information Services
Published Date: Feb 19, 2012

Apple Token Ring NB/c Card: Hardware Overview (3/95)

This article provides a hardware overview of the Apple Token Ring NB/c Card.

This article has been archived and is no longer updated by Apple.
The Token Ring NB/c Card is a 7 inch single board communications controller that occupies a NuBus slot on a Macintosh computer, and is the only Token Ring card from Apple supported for the Centris/Quadra 610, Quadra 660AV, and Power Macintosh 6100 when installed with the NuBus adapter card. It provides high speed (4 and/or 16 Mbps) Token Ring network communications and is compatible with the IBM Token Ring adapter at the physical transmission level. The transmission speed is selectable under software control.

Designed to the 2.0 NuBus specifications, the Token Ring NB/c Card functions as a NuBus slave device. As a NuBus slave, it will relinquish control of all of its internal resources to the NuBus master.

The overall design of the Token Ring NB/c Card can be divided into two main functional blocks, the Macintosh Coprocessor Platform and the Token Ring Interface.

Macintosh Coprocessor Platform (MCP) Slave-only Interface

The MCP consists of 4 major components: the MCP/Token Ring Interface, PROM, OTPROM, and the NuBus interface. Each of these components is discussed below:

* Read Only Memory
The Token Ring NB/c Card provides space for 32KB of ROM, provided by a 32K x 8 bit OTPROM. This ROM contains the NuBus configuration information required to interface the Token Ring NB/c Card into the Macintosh environment; the Slot Manager configuration information, checksum, version number, and copyright notice. The ROM is mapped at adapter addresses Fc000 - FFFFF. It appears as an 8-bit device on byte lane 1 to NuBus.

* NuBus Interface
The NuBus interface provides an 8/16/32 bit interface between the Token Ring NB/c Card's Token Ring interface and NuBus. It is based on the NuBus MCP ASIC's jointly developed by Apple and TI, the 74ACT2441 and 74BCT2425. Access to the NuBus interface is controlled through a set of Control Registers located at addresses C0000 - C800F.

* MCP/Token Ring Interface
The MCP/Token Ring interface consists of a 64 KByte region of RAM which is shared between the IBM chipset and NuBus as well as a set of shared registers resident on the IBM chipset. Buffers and Data are stored in the Shared RAM, while interrupts and status are obtained through the chipset's registers. The IBM chipset does not have DMA capability, and as such the NuBus host must perform the transferring of data between the Shared RAM and its own RAM. Both Shared RAM and the chipset's registers are 16 bit entities.

Token Ring Interface

The Token Ring Interface section of the Token Ring NB/c Card is implemented using the "IBM Token-Ring Mini-Card Sub-Assembly". This module includes the Token Ring Controller, the analog circuitry for the front end, and chipset ROM containing the microcode executed by the controller. 64 KBytes of Shared RAM is accessible by both the IBM chipset and the NuBus host.

* The Ring Interface
Physical connection to the ring is through a IBM Token Ring Adapter compatible DB-9 nine pin connector. This connector provides correct signal connection to the IBM-specified Type 1 Cabling System.

* Burned-in UnitID
The UnitID or Serial number is stored in a separate 32 byte PROM, occupying six words of address space of the NuBus host processor, starting at location 40000. The UnitID is the network node address of a Token Ring NB/c card and its host. Each Token Ring Adapter has a unique six byte (48 bit) burned-in UnitID. The UnitID contained in this PROM is to be used as the default node address when the adapter is opened. If desired, an alternate node address may be specified. In either case, it is the responsibility of the low level protocol firmware to supply the address to be used when the adapter is opened. Failure to do so will result in an open error. Assignment of a range of UnitIDs is coordinated by the IEEE. Note that before the BIA PROM can be accessed, the "external DMA register" must be initialized to the value "000A" by the NuBus host.

* UnitID PROM Addressing
The format of the UnitID/Burned-in Address consists of two 24 bit fields:

- The Corporate ID (assigned by IEEE)
- The Manufacturer-provided address (assigned by Apple)

The latter is unique for every Networking product sold by Apple computer.

Article Change History:
27 Mar 1995 - Added Quarda 610, 660AV,and 6100 computers are supported.

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III E-Z Pieces: Using it on an Apple III with Catalyst

The following information provides information on using III Easy Pieces on an Apple III with Catalyst.

This article has been archived and is no longer updated by Apple.
You may move III Easy Pieces version 1.0 (Haba Systems Inc.) to a hard disk for use with Catalyst. These instructions assume you are moving III Easy Pieces to a ProFile (with driver name .PROFILE). Substitute the name of your hard disk driver for .PROFILE if you wish to install III Easy Pieces on a different hard disk.

COPY PROCEDURE:

1. Boot the Catalyst diskette (if you haven't already).
2. From the Catalyst main menu, select the System Utilities Program.
3. Enter "F" for FILE HANDLING COMMANDS.
4. Enter "M" for MAKE A NEW SUBDIRECTORY.
5. Enter "THREE.EP" with a default size of 25 files.
6. Press "ESCAPE".
7. Enter "C" for COPY FILES.
8. Copy all files from the III EASY PIECES BOOT disk to the subdirectory "THREE.EP/=" except for the following:

SOS.KERNEL SOS.DRIVER

To do this, type ".D1/" and press the up arrow key. A list of files are displayed in a box. The up and down arrow keys allow you to move an inverse bar over the name of your choice. Pressing the right arrow key marks the file so as to include it in the copy process. Mark all files to be copied in this way. When all files are marked, press RETURN.

9. Copy all files from the PROGRAM disk in the same manner as above to the subdirectory "THREE.EP".
10. When all files have been copied, press ESCAPE.

ADDING III EASY PIECES TO THE CATALYST MENU

1. Return to the Catalyst main menu.
2. Select the Catalyst Editor.
3. Enter "E" to edit the menu.
4. Use the up and down arrow keys to position the inverse bar over the entry you want the program to precede. Press "A" to ADD a program entry.
5. You will be asked for the display name of this program, enter "THREE EP"
6. Enter "THREE.EP/SOS.INTERP" as the interpreter path name.
7. You will be asked if you want "EXTRA DRIVERS". Press RETURN.
8. Press RETURN for standard character set.
9. Press RETURN for the normal screen.
10. Press RETURN for the default keyboard.
11. Enter "/PROFILE/THREE.EP" for the initial prefix.
12. Enter "0" for the "Max Files Allowed..." question.
13. Press RETURN for the program path.
14. You will be asked if this entry is correct. If it is, enter "Y" then press ESCAPE to exit to the main edit menu. If you made any mistakes during entry, enter "N". You may then enter the number of the item you wish to correct. When all items are correct, press ESCAPE. Press ESCAPE again to exit to the main edit menu.
15. Enter "5" to update the INTERPS file. When you are asked if you want to recalculate the load address, enter "Y".
16. Exit to the Catalyst main menu by entering "Q".

As of September 27, 1991, Apple Computer, Inc. cannot locate a current phone number for Haba Systems. We believe they have gone out of business.

NOTE: Apple Computer Inc. is not responsible for the contents of this article.

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Apple Token Ring NB/c Card: Pinouts (4/94)

This article contains the NuBus and DB-9 pinouts of the Apple Token Ring NB/c Card.

This article has been archived and is no longer updated by Apple.
NuBus pinouts (as viewed from the front edge of the card) are as follows:

Pin # Row A Row B Row C
----- ----- ----- -----
1 -12 -12 /RESET
2 N.C. GND N.C.
3 /SPV GND +5
4 /SP +5 +5
5 /TM1 +5 /TM0
6 /AD1 +5 /AD0
7 /AD3 +5 /AD2
8 /AD5 N.C. /AD4
9 /AD7 N.C. /AD6
10 /AD9 N.C. /AD8
11 /AD11 N.C. /AD10
12 /AD13 GND /AD12
13 /AD15 GND /AD14
14 /AD17 GND /AD16
15 /AD19 GND /AD18
16 /AD21 GND /AD20
17 /AD23 GND /AD22
18 /AD25 GND /AD24
19 /AD27 GND /AD26
20 /AD29 GND /AD28
21 /AD31 GND /AD30
22 GND GND GND
23 GND GND /PFW
24 /ARB1 N.C. /ARB0
25 /ARB3 N.C. /ARB2
26 /ID1 N.C. /ID0
27 /ID3 N.C. /ID2
28 /ACK +5 /START
29 +5 +5 +5
30 /RQST GND +5
31 /NMRQ GND GND
32 +12 +12 /CLK

Pinouts for the DB-9 are:

Pin # Wire # Signal
----- ------ ------
Shield 1, Shield Chassis Ground
1 4, Red Receive
2 Digital Ground
3 +5 Volts, fused
4 Digital Ground
5 3, Orange Transmit
6 5, Green Receive
7 Digital Ground
8 Digital Ground
9 2, Black Transmit

Support Information Services

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Apple Token Ring NB/c Card: Adapter Memory Map (3/95)

This article provides a complete address map of all adapter resources on the Apple Token Ring NB/c Card.

This article has been archived and is no longer updated by Apple.
The complete address map of all adapter resources is listed below. Note that there is a distinction between accessing Borg's registers as a byte versus a word. For example, a byte read of address C0004 clears the "NuBus slot interrupt", while a word read of the same location returns the high byte of the current timer value. This method of operation was used to decrease the number of address inputs required by the NuBus interface ASIC's, and is common to all boards based on these chips. Also note that some registers are at C0xxx, while others are at C8xxxx. Again, this was done to save address inputs.

```
Address Function
----------- ----------------------------------------------
FE000-FFFFF Declaration ROM (8KB)
. F0000 Write - Place NuBus local bus in "latched reset"
E0000-EFFFF Test ROM (off card, used by manufacturing)
D0000-EFFFF NuBus access via second register set when enabled (Do not
. access)
. C800E Read Byte - Set NMRQ master mode (Do not use)
. C800C Read Byte - Clear NMRQ master mode (Do not use)
. C800A Read Byte - Set Interrupt "Borg" request (Do not use)
. C8008 Read Byte - Clear Interrupt "Borg" request (Do not use)
. C0006 Read Byte - Set NuBus slot Interrupt request (Do not use)
. C0004 Read Byte - Clear NuBus slot Interrupt request (Do not use)
. C0002 Read Byte - Clear Timer Interrupt (Do not use)
. CXXXX Read Byte - Clear "latched reset"
. C800F R/W Byte - DTACK Control Register 1 (07)
. C800D R/W Byte - DTACK Control Register 0
. C800B R/W Byte - Programmable timer low byte
. C8009 R/W Byte - Programmable timer high byte
. C0007 R/W Byte - TMS chipset Addr.Ext.reg.D4-7->AD20-23 (Do not
. use)
. C0005 R/W Byte - TMS chipset Addr.Ext.reg.D0-7->AD24-31 (Do not
. use)
. C0003 R/W Byte - 68000 Addr. Ext. reg. D4-7->AD20-23 (Do not
. use)
. C0001 R/W Byte - 68000 Addr. Ext. reg. D0-7->AD24-31 (Do not
. use)
. C800E Word - undefined (Do not use)
. C800C Word - undefined (Do not use)
. C800A Read Word - XDMA pins (D0-2) last TMx (D6-7)
. C8008 R/W Word - XDMA/Address Decode control byte (Set to 000A)
. C0006 Read Word - Current low byte timer value in low byte
. C0004 Read Word - Current high byte timer value in low byte
. C0002 R/W Word - NuBus Interface Hardware Configuration reg. (Set
. to 0000)
. C0000 Read Word - Interrupt and Slot ID register in low byte (Do
. not use)
A0000-BFFFF NuBus (Unused, do not access)
93000-9FFFF Reserved (Do not use)
82000-92FFF Shared RAM (64 KBytes) (After writing "10" to RRR at 81E00)
81E80-81FFF Reserved (Do not use)
81E00-81E7F Shared Memory Control Registers
60002-81DFF Reserved (Do not use)
. 60001 Borg's Control Register (LED, speed, module reset)
40040-5FFFF Reserved (Do not use)
40000-4003F Burned-In Address PROM
00000-3FFFF Unused
```

Article Change History:
29 Mar 1995 - Reviewed and updated format.

TA31617_Apple_Token_Ring_NBc_Card_Adapter_Memory_Map__(TIL15241).pdf

Support Information Services

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Express Modem: Converting faxes to PICT file (5/94)

I have been using the Express Modem in my PowerBook Duo computer to receive fax documents. I am trying to convert a FAX document to a PICT file, however on a 13-page document only the first page is converted. The user's guide states that it will convert all pages at once. Is there a way to do this?

This article has been archived and is no longer updated by Apple.

The manual is in error. The latest manual (beige cover) which is shipping with PowerBook Duos correctly states that the conversion to a PICT file happens one page at a time.

Support Information Services
Published Date: Feb 19, 2012

LaserWriter Pro 810: PRO810V1 UNIX File Not Missing

I am trying to get the LaserWriter Pro 810 to boot it's IP address from my Sun using RARPD. I was installing the support software from the floppy provided and I noticed the load file described in the manual, PRO810V1, was not on the disk. I would like to request the LaserWriter Pro 810 load file so that our Sun workstations can print to our LaserWriter.

This article has been archived and is no longer updated by Apple.

The load file PRO810V1 is not needed. The ROMs that are installed in the LaserWriter Pro 810 contain the only (and therefore latest) version of ROM code. The PRO810V1 file is only used to allow updates of the ROM. This is why this file is not included with the printer. The IP address can be set using RARPD without the PRO810V1 file.

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Retrospect for A/UX: Backing Up Shared Data

I selected the Shared Data folder as a subvolume in my scripts expecting that Retrospect would backup the data on the external hard drives attached to the Workgroup Server 95 (there are mount points inside that folder). Why can't I just select "Shared Data" and have it backup all the mounted volumes?
This article has been archived and is no longer updated by Apple.
The "Retrospect A/UX" manual states in two places that mounts points must be specifically scripted to back up individually.

On Chapter 1 Page 11, the first paragraph mentions "you need to specify each mount point as a subvolume and back it up as a separate source"

On Chapter 2 page 14, there is a "Caution at the bottom of the page that reads "CAUTION: If you fail to specify mount points as separate source subvolumes, any data stored on additional hard disks will not be backed up.
Published Date: Feb 19, 2012

System 7.1: Font Styles Do Not Appear Correct (8/95)

I've noticed that sometimes my bold or italic style for a TrueType font appears bold/italic rather than just bold or italic. For example if I have Lucida Bright, Lucida Bright (bold), Lucida Bright (bold, italic), and Lucida Bright (italic) sometimes Lucida Bright (bold) and Lucida Bright (italic) both display as Lucida Bright (bold, italic) and some times they appear correctly.

What would cause this problem? Do all the styles of a TrueType font have to be in the same suitcase?

This article has been archived and is no longer updated by Apple.
If you are using System 7.1 or later, all the styles of a font family should be in the same font suitcase.

Fonts DO NOT look correct if:
* All the styles of a font are 'loose' in the fonts folder
* If some styles are in a font suitcase, and other styles are loose in the fonts folder

Fonts DO look correct if:
* All the styles of a font family are in the same suitcase
* The styles that were previously loose are removed from the fonts folder entirely

The work around to solve the problem is to make sure all fonts on a specific font family such as Lucida Bright are in the same font suitcase and not loose in the fonts folder, or split among different suitcases. You can have multiple font families in the same suitcase, but do not split them among suitcases. The only limit on a suitcase is that it must be less than 16 MB in size.

To create a new font suitcase, open the Fonts folder and duplicate an existing font suitcase. Delete the contents, and rename the suitcase. Copy the fonts of the font family you want into the newly created suitcase.

Article Change History:
07 Aug 1995 - Made minor corrections; reformatted.

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Apple Token Ring NB/c Card: NuBus and IBM Chipset Reset (4/94)

This article describes NuBus reset, IBM Chipset reset, and Interrupts on the Apple Token Ring NB/c Card.

This article has been archived and is no longer updated by Apple.

Local NuBus Reset

The local NuBus host may be reset by two methods; "NuBus reset" and "Latched reset".

A "NuBus reset" occurs whenever the Macintosh is reset, for example when the "reset" programmer switch is pressed or "restart" is selected. NuBus reset also resets the Token Ring NB/c Card's Control Register to its default values.

"Latched reset" is accomplished by writing to address F0000 on the card. This is useful for downloading code over NuBus. "Latched Reset" will cease when a byte is read from address C0000 or whenever NuBus is reset. Latched reset does not alter the contents of the Token Ring NB/c Card's Control Register.

IBM Chipset Reset

The IBM Chipset can be reset by two methods; soft reset and hard reset. Soft reset is accomplished by accessing Shared Memory Register "SRR", while Hard reset is effected via bit 3 of the Token Ring NB/c Card's Control Register. Note that the IBM chipset will not be reset by a "Latched reset", but will be reset by a NuBus reset.

Interrupts

The Token Ring NB/c Card interrupts the Macintosh via the NuBus "slot interrupt", which is accomplished by a direct connection to the NMRQ slot interrupt line on NuBus.

Support Information Services

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Token Ring NB/c Card: IBM Chipset Shared Memory Register

This article describes the IBM chipset shared memory register on the Apple Token Ring NB/c Card.
This article has been archived and is no longer updated by Apple.
The definitions and addresses of the Shared Memory Control Registers on the IBM module are shown below. Each register is 16 bits, with the upper byte being addressed by an even address (for example 81E00) and the lower byte being addressed by an odd address (for example 81E01). Either byte or word accesses may be used. Refer to section 6.6 of the "Token-Ring Mini-Card Technical Reference" for explanations of these registers. Chapter 7 of the "IBM Local Area Network Technical Reference" has additional information, though the Mini-Card specification supersedes it in the event of a discrepancy. Also note that the bit ordering is different between these two manuals; The former labels the most significant bit as bit "15", while the latter calls the same bit "0".

```
Address  Function
-------  --------
81E00    RRR  - Shared RAM Relocation Register (set upper byte to "10")
81E02    WRBR - Write Region Base Address Register
81E04    WWOR - Write Window Open Register
81E06    WWCR - Write Window Close Register
81E08    UISR (ISRP) - User Interrupt Status Register  (adapter-to-host)

81E0A    LISR (ISRA) - Adapter Interrupt Status Register (host-to-adapter)
81E0C    TCR  - Timer Control Register
81E0E    TVR  - Timer Value Register
81E10    UER  - Reserved
81E12    SRR  - Soft Reset Register
81E14    IVR  - Interrupt Vector Register (not used)
81E16    JR   - Jumper Register
81E18    SRPR - Shared RAM Page Register (set upper byte to "C0")
```

The above registers are duplicated 3 times, for a total of 4 banks of registers. The registers present in each bank are identical, however the operation performed changes based on the bank addressed. The following shows the address ranges of each bank, and the resulting operation.

```
Range         Operation
-----         ---------
81E00-81E1F   Read or Write
81E20-81E3F   Read/Reset under mask (0)
81E40-81E5F   Read/Set under mask (1)
81E60-81E7F   Read only
```

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Apple Token Ring NB/c Card: Card Registers

This article describes these Registers:

- Interrupt and Slot ID Register
- MCP Status Register
- Control Register (Pass/Fail LED, and Ring Speed Select)
- NuBus Hardware Configuration Register
- Non-Optional Registers

This article has been archived and is no longer updated by Apple.

Interrupt and Slot ID Register

The IBM Token-Ring module can interrupt the host processor by externally asserting its /INT interrupt that directly drives the /NMRQ NuBus interrupt line. Refer to the Token-Ring data sheet for setting and resetting the interrupt line.

MCP Status Register

Do not use the MCP Status register, it resides at word location C200A. It is provided here for completeness. Its contents are:

```
Bit  Function                           Notes
---  --------------------------------   ----------------------
7    Last TM1 returned from NuBus
6    Last TM0 returned from NuBus
5    Status of /RESET from NuBus        Delayed 4 10MHz clocks
4    Status of "latched reset" signal
3    Not Used, always 0
2    Status of XBACK signal             BIAEN* select signal
1    Status of XBG signal
0    Status of XBR signal
```

Control Register (Pass/Fail LED, and Ring Speed Select)

```
Read:

.     4-7            3             2               1             0

.-------------------------------------------------------------------------
| Not         | IBM chipset | 4/16 Mbps    | Yellow-Green | Not         |
| Implemented | hard reset  | Speed Jumper | LED readback | Implemented |
.-------------------------------------------------------------------------

Write:

.     4-7            3             2               1             0
.-------------------------------------------------------------------------
| Not         | IBM chipset | Yellow       | Green        | Not         |
| Implemented | hard reset  | LED          | LED          | Implemented |
.-------------------------------------------------------------------------
```

One green LED and one yellow LED are provided on the Token Ring NBH/c Card. Upon power-up or any type of reset, both LEDs will clear, indicating that the card is off-line. Once the initialization code has run and determined that the board is operating normally, the green LED will be illuminated by the software writing to the register and reading a speed of 16 Mbps in the speed jumper. If 4 Mbps operation is selected, the Yellow LED should be illuminated. Bit 1 controls the green. A "0" indicates the LED is lit. Bit 2 controls the yellow. A "0" indicates the LED is lit. For diagnostic purposes a logical AND of the LED enables is feedback to bit 1 so that if either LED is on, bit 1 will be active low. To correctly set the LED register, the software should write a 0 to the appropriate bit. For example, to power up the IBM module and turn on the LED for 4Mbps operation, write a byte of $0A at $60001. To power up the IBM module and turn on the LED for 16 Mbps operation, write a byte of $0C.

Also included in this register is the 4/16 Mbps Ring Speed Jumper bit, which passes on the speed selected by the RING SPEED jumper on the card and determines whether the adapter will operate at 4 or 16 Mbps. If bit 2 is set to a 1, 4 Mbps is selected, while a zero means 16 Mbps. This bit is read by the IBM chipset only upon coming out of hard reset.

Bit 3 is connected to the hardware reset line of the IBM chipset. The default is "0", which holds the chipset in the reset state. Upon coming out of

reset, the state of the "speed select" bit will be loaded into the chipset. Write a 1 to remove the reset condition.

NuBus Hardware Configuration Register

The NuBus Hardware Configuration Register is not used. Note that this register must be accessed as a word entity.

Non-Optional Registers

The following registers control features of the ACT2441-based NuBus interface which are not used on the Token Ring NBH/c Card. For this reason, only the desired value of each register is listed. The power-up default of all of these registers is 0. These registers must be written with the indicated values to ensure proper functioning of the card:

Address	Size	Register	Value (Hex)
C8008	Word	External DMA Control	000A
C800D	Byte	DTACK Control 0	00
C800F	Byte	DTACK Control 1	07

These locations are the only initialization necessary for correct operation of the Token Ring NBH/c Card.

Published Date: Feb 19, 2012

LaserWriter Select 360: Most Should Have LW 8.1.1 Driver (5/94)

Is there a projected date when the LaserWriter Select 360 disks will ship with the LaserWriter Driver 8.1.1?

This article has been archived and is no longer updated by Apple.
The LaserWriter Select 360 disks were revised in January 1994 to include LaserWriter driver 8.1.1 in-box. Some customers may get units that were produced before January 1994 and will still have the LaserWriter 8.0 driver software.

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ACCESS III: Moving to the Hard disk

You may move ACCESS III (Apple) to the hard disk. This will allow you to access it with greater ease than using floppy diskettes. Parts of this installation procedure require a limited knowledge of the BASIC language.
This article has been archived and is no longer updated by Apple.
COPY PROCEDURE:

1) Boot the CATALYST disk (If you haven't already).
2) From the main CATALYST menu, select the System Utilities Program.
3) Press "F" for File Handling Commands.
4) Press "M" for Make a New Subdirectory.
5) Enter ".PROFILE/CATALYST/APPLCOM".
6) Press RETURN to accept the default size of 25 files.
7) Press ESCAPE.
8) Put the PROGRAM diskette in the internal drive.
9) Press "C" to Copy files.
10) Copy all files on your PROGRAM diskette except for the following: SOS.KERNEL SOS.DRIVER SOS.INTERP SYSTEM.MISCINFO
11) To do this, type ".D1/" and press the up arrow key.
12) A list of files are displayed in a box. The up and down arrow keys allow you to move an inverse bar over the name of your choice. Pressing the right arrow key marks the file so as to include it in the copy process. Mark all files to be copied in this way. When all files are marked press RETURN.
13) Enter ".PROFILE/CATALYST/APPLCOM/=" as the name of the destination file.
14) When all files have been copied, press ESCAPE.

ADDING ACCESS III TO THE CATALYST MENU

1) Enter the number for CATALYST EDIT.
2) Enter "1" to add an entry to the menu.
3) Enter the number of the menu entry you want ACCESS III to precede.
4) You will be asked for the display name of this program. Enter "ACCESS III".
5) Enter CATALYST/BASIC for the interpreter path name.
6) Press RETURN for the character set pathname.
7) Press RETURN for standard character set.
8) Press RETURN again to use the default keyboard.
9) Enter ".PROFILE/CATALYST" as the default prefix.
10) Enter "3" for the "Max files allowed..." question. It is suggested that the QUIT option be used to exit to BASIC then use the double apple escape to exit to the CATALYST main menu.
11) Enter ".PROFILE/CATALYST/APPLCOM,ACCESS3" when you are asked for the program path.(This will give you a BAD PATH error but ignore it).
12) You will be asked if this entry is correct. If it is, enter "Y", or just press RETURN. You will be allowed to insert another entry. Since you do not want to do this, enter "0" to exit to the main menu.
13) Enter "7" to update the INTERPS file. When you are asked if you want to recalculate the load address, enter "N".
14) Exit to the CATALYST main menu by entering "0".

ADDITIONAL INSTRUCTIONS

To complete the installation of ACCESS III you must modify the short Basic program "ACCESS3" which is located on the PROGRAM diskette. To do this you must have access to Apple Business Basic or a program that BASIC can be invoked from.

1) Boot Apple Business Basic.
2) Load ".PROFILE/CATALYST/APPLCOM/ACCESS3".
3) List "ACCESS3".
4) Delete lines 10 and 15.
5) Change line 20 to read "INVOKE".PROFILE/CATALYST/APPLCOM/ACCESS3.INV"".
6) Add line 25 "PREFIX$= ".PROFILE/CATALYST"".
7) Delete line 40.
8) Save ".PROFILE/CATALYST/APPLCOM/ACCESS3".

Now ACCESS III is completely configured for CATALYST.

NOTE: This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.
Published Date: Feb 19, 2012

Laserwriter Pro 810: PhotoGrade and FinePrint

Does the Laserwriter Pro 810 support the Photograde and FinePrint technologies?
This article has been archived and is no longer updated by Apple.
The LaserWriter Pro 810 does not support or use the PhotoGrade or FinePrint technologies which were developed at Apple. Instead, the LaserWriter Pro 810 uses other proprietary third-party resolution enhancement techniques to improve the image resolution beyond the 400 DPI capabilities of the print engine which is used by this printer. Although the end result may be similar to a printer containing FinePrint¬ and PhotoGrade¬ these technologies were not used in the printer.

Apple obtained the LaserWriter Pro 810 from another printer vendor who did not license these enhancement technologies from Apple. As a result, they could not be used in the LaserWriter Pro 810.
Published Date: Feb 19, 2012

PowerTalk: Number of Enclosures Stored (4/94)

I'm confused about PowerTalk and mail enclosures. When mail is sent with an attachment it appears that the attachment and the mail are copied into the mailbox (so you have two copies of it on the system). Then it is sent to the destination, arrives in the mailbox, and is copied into the receiving system. Does this mean you end up with four copies??

This article has been archived and is no longer updated by Apple.
The total number of copies can be as few as three (this includes the original document). Only two copies actually sit in the mail system - one in your out-tray and one on the mail server.

The following outlines the path mail takes when using PowerTalk:
1) A document resides on your computer's hard drive that was created in an application.
2) You send the document to someone through a PowerShare server.
- a copy is retained in your out tray
- a copy of your document is now on the mail server
3) The recipient logs into the server to check his/her mail.
- the item is listed in the in-tray as remote. (Remote means that the document is stored on the server only.)
5) The recipient selects the document and then selects "copy local" under the mailbox menu.
- so a copy exists on the recipients hard drive now.

SO, if you set your mailbox preferences to age outbound mail for a short period of time, then mail in your out tray will just go away in 1-99 days.

How does this differ from other mail systems, Microsoft Mail for instance? MS MAIL stores outbound mail on the server, and not on the local machine.

Why does PowerTalk retain a copy in the out-tray? Because PowerTalk does peer-to-peer mail which eliminates the need for a server in some situations. If the recipient copies the document to his/her local hard drive, then the remote copy can be thrown away.

Support Information Services

Published Date: Feb 19, 2012

Macsbug 6.5d6: Read Me

This is the complete ReadMe file from Macsbug version 6.5d6
This article has been archived and is no longer updated by Apple.

```
New Features in 6.5d6
---------------------

* MacsBug can now scramble and walk heaps when running under the New
 (Modern) Memory Manager.

* All "standard" resources (which includes macros, dcmds, templates and the
 like) can now be found inside MacsBug's own resource file. You may add
 and delete resources there, but the preferred method of modifying
 MacsBug's behaviour is to add your resources to the Debugger Prefs file.
 This includes macros, templates, dcmds, color and preference resources.
 The Debugger Prefs file is always searched first, so you may override
 default MacsBug behaviour by placing your resources there.

* If you have duplicate dcmds installed, MacsBug will display a duplicates
 list the first time you enter the debugger.

*╩The "DH" command can now disassemble 18 words (previously it could only
 do 6).

* You can now set the various types of breaks on selector-based A-Trap
 calls, just as though they were A-Traps to themselves. Simply type ATB,
 followed by the tool call name as it appears in Inside Macintosh. You no
 longer need to specify a conditional break expression as part of your
 break command for these types of tool calls, MacsBug handles it
 automatically.

As part of this new feature, MacsBug now can properly disassemble the actual names of toolcalls if they are
selector-based. For instance, the call GetFrontProcess is actually a call through the A-Trap OSDispatch with
the immediate data word of $0039 pushed on the stack. If you encounter this in a disassembly, MacsBug will now
display "_GetFrontProcess" instead of "OSDispatch". Most tool call names have been added to MacsBug's
database, however, at this time there may be a few oversights.

* MacsBug now supports a new preference resource that lets you control some
 low-level internal debugger behaviour. You can now disable the checksum
 that MacsBug performs on itself, and you can now stop the screen from
 swapping during a step (not swapping is now the default behaviour). Both
 have been added to speed up the debugger so you can spend more time
 finding you bugs, and less time waiting. The resource to modify is of
 type 'mxpr', and a ResEdit template is provided which defines the various
 bits.

* This version works correctly on 68040LC-based machines which do not
 include a math coprocessor. Previous versions were instable on such
 configurations and may cause a system crash.


Warnings
--------

*╩This version of MacsBug has not been thoroughly tested, and it is not
 guaranteed to  work on all machines or all configurations. That being
 said, it has been used extensively in-house by Apple engineers, and thus
 far there have been no reports of compatibility problems.

*╩This version has not been fully tested to work on 68000-based Macintosh
 models. For now it is best to continue using version 6.2.2 if you wish to
 debug on a machine which has a 68000 processor.
```

TA31629_Macsbug_d_Read_Me_(TIL15252).pdf

Support Information Services

Published Date: Feb 19, 2012

PowerBook Duo Dock: NuBus Power Requirements

This article discusses the power requirements for the PowerBook Duo Dock NuBus slots.
This article has been archived and is no longer updated by Apple.
The Duo Dock power supply is rated at 75 W continuous power, 85 W surge power. The two internal NuBus slots will allow two 15 W cards or one each at 25 W and 5 W.
Published Date: Feb 19, 2012

Apple Multiple Scan Displays: Read Me

This article contains the Read Me file that comes with the Apple Multiple Scan 17 Display and Apple Multiple Scan 20 Display.
This article has been archived and is no longer updated by Apple.

INFORMATION ABOUT YOUR APPLE MULTIPLE SCAN DISPLAY SOFTWARE

This document contains some important reminders and some information that is not in the user's guide.

For more information about these and other features of your display, see your user's guide.

SYSTEM REQUIREMENTS

Though your monitor works with both Macintosh computers and PC-compatible computers, the software on this disk works only with Macintosh computers. You must have system software version 7.1 or later to use this Macintosh software.

INSTALLING YOUR MULTIPLE SCAN DISPLAY SOFTWARE

Follow the instructions in the user's guide to install this software on this disk. If you upgrade your system software, you must reinstall the Multiple Scan Display software.

TROUBLESHOOTING

This section lists some potential problems and solutions.

AFTER CHANGING SCREEN RESOLUTION IN THE MONITORS CONTROL PANEL, I CAN'T MOVE A WINDOW, OR IT IS HALFWAY OFF THE SCREEN OR ALTOGETHER MISSING.

Try one of the following:

- Close the Monitors control panel before using any other window.

- Quit the program you're running and then open it again.

- Use the Monitors control panel to revert to the resolution you were using before making the change.

- If you have problems with one particular program, contact the publisher of that program. Not all programs can take advantage of the Multiple Scan Display's new features.

THE COLORS DON'T LOOK RIGHT AFTER I CHANGE THE NUMBER OF COLORS IN THE MONITORS CONTROL PANEL.

Try one of the following:

- Quit the program you're running and start it again.

- Use the Monitors control panel to revert to the number of colors you were using before making the change.

THE ICONS ON MY DESKTOP MOVE AFTER I CHANGE SCREEN RESOLUTION IN THE MONITORS CONTROL PANEL.

Because changing resolutions affects how much you can fit on your screen, the display software automatically repositions the icons after you change the screen resolution. In most cases, it repositions them as you would expect. You can use the mouse to move the icons where you like.

I CHANGED THE KIND OF MONITOR ATTACHED TO MY COMPUTER, AND THE NEW MONITOR IS BLANK OR SHOWS "GARBAGE" OR "SNOW."

Try the following: - Turn off the computer and detach the new monitor. Start the computer with no monitor attached. Turn off the computer again and reattach the new monitor.

I CAN'T SEE SOME OF THE WINDOWS IN MY PROGRAMS AFTER CHANGING THE SCREEN RESOLUTION IN THE MONITORS CONTROL PANEL.

Try one of the following:

-If your program has a Windows menu, use the commands in the menu to "hide" each invisible window and then to show it again, using the commands in the Windows menu.

- Use the Monitors control panel to revert to the resolution you were using before making the change.

- Quit and reopen the application that has the missing window.

AFTER USING THE ENERGY SAVER CONTROL PANEL TO TURN ON THE ENERGY-SAVING FEATURES, ONE OR MORE OF

MY MONITORS DO NOT DIM.

Not all monitors and video cards support this feature. See the user's guide for more information.

WHEN I TRY TO USE BOTH ENERGY SAVER AND A SCREEN SAVER PROGRAM, THE SCREEN FREEZES.

Turn off either the screen saver program or the Energy Saver control panel.

Important: Some programs and video cards do not yet take advantage of the Multiple Scan Display's new features. If you experience problems with your application programs or video cards, contact the publisher or manufacturer.

Published Date: Feb 19, 2012

DOS Compatibility Card: How To Share a CD-ROM Drive (10/95)

This article describes how to either share a CD-ROM between the Mac OS and MS-DOS/Windows, or access the CD-ROM directly from MS-DOS/Windows on a Macintosh DOS Compatible computer.

This article has been archived and is no longer updated by Apple.
There are two ways to use a Macintosh CD-ROM drive with the DOS Compatibility Card.

1) Install the proper CD-ROM driver in MS-DOS/Windows
2) Share the CD-ROM from the Macintosh

How to Share a CD-ROM drive

Step 1

Load the CD-ROM disc.

Step 2

Open the PC Setup Control Panel.

Step 3

Under the Sharing section of the control panel, click on the pop-up menu labeled drives and select the driver letter you want to use on in MS-DOS to access the CD-ROM.

Step 4

A dialog box appears requesting you to select a drive/folder to share.

Step 5

Once you select the CD-ROM as the drive, close the PC Setup Control Panel.

Once you go to MS-DOS, you can access the CD-ROM Drive like any other drive.

Note: This solution frees up additional conventional memory, since you can
remove all CD-ROM drivers from the autoexec.bat and config.sys files.

Using a CD-ROM Drive without Sharing

If you are trying to access a CD-ROM drive without sharing it from the Macintosh side, you need to load the proper driver in the CONFIG.SYS file for the CD-ROM drive mechanism you are using. This driver should be supplied by the drive manufacturer. Apple ships a CD-ROM driver that supports the CD300 and CD150.

The AppleCD 600 is supported with the DOS Compatibility card in certain configurations. The TIL article titled "AppleCD 600: Compatible with DOS Compatibility Card" contains additional information on this topic.

Follow these steps to install the Apple CD-ROM drivers included with your DOS Compatibility Card installation disks:

Step 1

Switch to the MS-DOS environment.

Step 2

Insert the disk with the label "DOS Compatibility Card Installer Disk for DOS environment."

Step 3

At the MS-DOS prompt, type WIN A:SETUP, then press return.

Note: If you only use MS-DOS, then you can type A:INSTALL.BAT to run the DOS batch program.

Step 4

The installation program prompts you to install the CD-ROM driver as well as other DOS Compatibility options.

Step 5

Restart your computer after the installation is complete.

After installing the proper drivers, the CD-ROM drive is recognized in the MS-DOS/Windows environment as drive E:.

Article Change History:
23 Oct 1995 - Clarified driver installation procedure.

Support Information Services
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Power Macintosh: Video Monitor Screen Disappears (6/94)

I am using a Power Macintosh 6100/60AV with a 14-inch AV monitor connected to the HDI-45 port. While using the program Video Monitor, I selected full screen, then I lost the Video Monitor window. If I connect the monitor to the DB-15 video connector on the AV card, I am able to use Video Monitor again. This same problem occurs with the program Fusion Recorder as well. How can I get the window to appear on my display again when I am connected to the HDI-45?

This article has been archived and is no longer updated by Apple.
When selecting full screen, the Video Monitor application assumes that you have another display connected to the AV card to view the incoming signal on. To get the Video Monitor window back to your display, remove the Video Monitor Preferences file from the Preferences folder.

When digitizing video on the Power Macintosh AV configurations, a monitor should be attached to the AV card's DB-15 connector for better performance (up to 30 frames per second opposed to 1-2 frames per second). Fusion Recorder and Video Monitor are assuming a monitor is attached to this port. This is why the window moves to the monitor attached to the AV card. The performance is better with a monitor attached to the AV card because all video processing can happen on the card avoiding the bottlenecks that occur when moving digitized data from the card to the system bus and on to built-in video.

Article Change History:
2 June 1994 - Added information regarding Fusion Recorder and details on why this problem occurs.

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Apple Multiple Scan Display: Troubleshooting Tips

This article lists some potential problems and solutions when using the Apple Multiple Scan 17 Display and Apple Multiple Scan 20 Display. This article has been archived and is no longer updated by Apple.
* AFTER CHANGING SCREEN RESOLUTION IN THE MONITORS CONTROL PANEL, I CAN'T MOVE A WINDOW, OR IT IS HALFWAY OFF THE SCREEN OR ALTOGETHER MISSING.

Try one of the following: - Close the Monitors control panel before using any other window. - Quit the program you're running and then open it again. - Use the Monitors control panel to revert to the resolution you were using before making the change. - If you have problems with one particular program, contact the publisher of that program. Not all programs can take advantage of the Multiple Scan Display's new features.

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Not all monitors and video cards support this feature. See the user's guide for more information.

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Turn off either the screen saver program or the Energy Saver control panel.

IMPORTANT: Some programs and video cards do not yet take advantage of the Multiple Scan Display's new features. If you experience problems with your application programs or video cards, contact the publisher or manufacturer.
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GeoPort: Maximum Throughput Speed

This article discusses the speed of the GeoPort.
This article has been archived and is no longer updated by Apple.
Question: What is the throughput on the Power Macintosh GeoPort?
Answer: The theoretical throughput of the GeoPort port is 2 Mbps.

Question: Is the throughput in the Power Macintosh GeoPort faster than the throughput of the modem ports in our earlier Macintosh computers?
Answer: Yes, the Quadra 900, 950, 660AV, 840AV, Power Mac 6100, 7100, and 8100 Macintosh models all have SerialDMA capabilities which allow them much greater throughput than previous (non-DMA) based 680x0 Macintosh models.

Question: Is the Power Macintosh GeoPort fast enough to keep up with the 28.8 Kbps V.34 class of modem?
Answer: The Apple Telecom 3.x software provides V.34 capabilities to the GeoPort Telecom Adapter on a Power Macintosh computer. Due to limitations in bandwidth of the DSP processor in the Quadra 660AV and 840AV, V.34 is not available on these computers.
Note: V.34 is a set of protocols, and the protocol does not guarantee a 28.8 Kbps connection. You can improve operation of the Apple Telecom software by having a level-2 cache card installed and virtual memory turned off.
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AppleWorks: RamWorks Card Needs Larger Memory Capacity

This article describes how to interface Catalyst with an Apple II, AppleWorks & RamWorks IIe 80-column Card.
This article has been archived and is no longer updated by Apple.
This technical note describes the procedure to correctly interface the above products to allow larger memory capacities with the AppleWorks application.

What You Need
Before you begin, be sure you have the following:

1. ProDOS users disk.
2. Desktop Expander disk from Applied Engineering.
3. AppleWorks startup and program disks.
4. Catalyst disk.

Procedure

1. Boot the Desktop Expander disk and follow the instructions. This will modify your AppleWorks disk so that it can use the additional memory of the Ramworks board IIe card.
2. Create a subdirectory on your hard disk using Apple's ProDOS Users disk called "/PROFILE/AW"
3. Copy all of the files from the AppleWorks Startup and Program disks to the subdirectory you just created.
4. Once the files have been copied, start up your Catalyst disk and select the Catalyst Editor.
5. Move the cursor to the point where you wish to add your AppleWorks program and press"A".
6. Type "APPLEWORKS" for the program name.
7. Type "AW/APLWORKS.SYSTEM" for the interpreter pathname.
8. Type "AW" for the initial prefix.
9. Press RETURN for the program path.
10. You will be asked if all items are correct. Answer "Y" and press ESCAPE to exit to the main menu.
11. Enter "U" to update the INTERPS2E file.
12. Exit to the Catalyst main menu by entering "Q".

When you select the AppleWorks program from the main menu you will notice that you now have 101K available for data storage.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.
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Macintosh AVs: AV Card Video vs. Onboard Video Speed (5/94)

I read a magazine article that claimed that the Power Macintosh onboard video is faster than the AV card video. Is this correct?

This article has been archived and is no longer updated by Apple.
Yes, the display speed of the internal video is faster than the AV card. This is because the AV card uses a 32-bit wide data path for video (as does the 840AV), while the DRAM-based video and HPV cards use a 64-bit wide video path. This means that video is technically faster on the non-AV Macintosh computers, although this is only a benchmark. In real applications, you should not notice the video speed differences between an AV and a non-AV system. So, the raw video speed is a trade-off of delivering video-in and video-out features, but you won't be able to tell the difference in actual system performance.

Support Information Services
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Apple Workgroup Server 95: AFP and NFS File Locking

We would like to share files from an Apple Workgroup Server (AWS) 95, using AppleTalk Filing Protocol (AFP) for Macintosh clients, and Network File System (NFS) for an OS/2 client. We understand that user security is separately maintained, and it's not an issue for us. However, we are concerned about file locking. Will a file locked under NFS appear locked via AFP, or the other way around?
This article has been archived and is no longer updated by Apple.
You understand some of the security issues. Here are two important notes in the "Tuning Server Performance and Addition Internal Hard Driver" documentation for the AWS 95. These notes regard an AWS 95 running both AppleShare Pro and an NFS server, or running AppleShare Pro and operating the server as an NFS client. You should be aware of the following:

Operating as both an AppleShare Pro and an NFS server

When using the Apple Workgroup Server 95 as both an AppleShare server and an NFS server, be sure that the two services DON'T share the SAME files, folders, and volumes (file systems). If they do, you'll incur considerable problems because the two services use different means to assign and manage users, groups, and access privileges. You can use AppleShare to access an NFS shared file system without encountering any conflicts. The potential problem arises when an attempt is made to create or modify files that are shared by AppleShare and NFS that reside on the SAME volume.

In addition, sharing the SAME volume through both services creates a security problem for users of NFS. Because AppleShare Pro runs from the root account, all AppleShare users have root-level privileges on the volumes being shared by NFS and AppleShare Pro. Therefore, the AppleShare Pro users can read and make changes to all files on a volume shared by AppleShare Pro and NFS. Be aware of the vulnerability of the NFS files; to avoid potential problems, DON'T allow the SAME volume to be shared by both AppleShare Pro and NFS.

Running AppleShare Pro and operating the server as an NFS client

AppleShare Pro is designed to share LOCAL volumes; it is not designed to share volumes over the network. Therefore, if you configure the server as an NFS client, DON'T use it to share NFS mounted file systems. If you do, and the NFS server crashes, AppleShare Pro will become unresponsive.

AppleShare Pro is not programmed to respond to the NFS timeout errors. In A/UX, Macintosh virtual memory is an A/UX process that handles multiple client sessions. One of the many client sessions trying to access the unresponsive server can cause AppleShare Pro and all its clients to become unresponsive. The other A/UX processes on the Apple Workgroup Server 95 will be unaffected.

With the above notes in mind, and because the two services use different locking mechanisms, we don't recommend using the AWS 95 as both an AppleShare server and an NFS server sharing the SAME files, folders, and volumes.

Published Date: Feb 19, 2012

DOS Compatible Card: Video Noise in PC Environment

When I connect my Apple 14 inch Macintosh Color Display to my Quadra 610 DOS Compatible system I notice that there are horizontal wavy lines across the screen when I am in the DOS/Windows environment. There is no problem when I work in the Macintosh environment. How can I correct this?
This article has been archived and is no longer updated by Apple.
Some customers using an Apple 14-inch Macintosh Color Display with a Macintosh Quadra 610 DOS Compatible, or a DOS Compatibility Card may experience video noise in the DOS/Windows environment when using a single monitor.

The symptom associated with this problem is noticeable horizontal wavy lines or flickering on the edges of the video when in the DOS/Windows environment. This anomaly is only associated with DOS Compatible card customers using the Apple 14-inch Macintosh Color Display in a single monitor configuration. The wavy lines and flickering is caused by interference on the horizontal sync line of the display.

Version 1.2 or later of the PC Setup control panel corrects this problem and is included as part of the Custom install in System Update 3.0. Once System Update 3.0 is installed, the "Fade Screens" option must be selected in the PC Setup control panel in order to enable the fix. System Update 3.0 is available for download at Published Date: Feb 19, 2012

LaserWriter Pro 810: Selecting Different Paper Trays

I am trying to get a LaserWriter PRO 810 to use the tabloid tray for plotting CADD files. I am using postscript, and have a copy of the LWPRO81_.ppd file. The problem I am having is trying to find the proper syntax. For most printers we use a command like:

statusdict begin n setdefaultpapertray end

where n is the tray number.

Several attempts at variations of this command, and using the .ppd to make more educated guesses have failed to get the desired results. I would appreciate any advice on the proper syntax to include in our postscript file.
This article has been archived and is no longer updated by Apple.
Caution:
==========
If you choose to use the PostScript code provided in this article, you assume all risks involved in making these changes. PostScript code, if not entered correctly, can place the LaserWriter into a condition requiring service.

We also verified that the "setdefaultpapertray" command was not accepted by the LaserWriter Pro 810. Typically, most PostScript level 2 printers have compatibility operators for PostScript level 1 code so we are unsure why "setdefaultpapertray" is not working. However, there are other ways to choose paper trays:

1) The "setpapertray" compatibility operator can be used for the LaserWriter Pro 810 with the following values below:

0 for the Upper tray
1 for the Middle tray
2 for the Lower tray
4 for the Manual tray

Thus, "statusdict begin 1 setpapertray end" will use the Middle tray for printing.

NOTE: Since this command does not exit the PS server loop, the paper tray selection is valid ONLY for the current job being printed.

By the way, this command does not work if the PostScript file being downloaded was generated by LaserWriter 8.x driver. This is because the paper selection code in LaserWriter 8.x driver overrides any code sent beforehand.

2) The following segments of code (taken from the LaserWriter Pro 810 PPD) will also select the various paper trays:

```
% Upper tray
currentpagedevice /InputAttributes get
0 get dup
null eq {pop}
{ dup
/InputAttributes
1 dict dup /Priority [0 1 2 3] put
put setpagedevice
} ifelse

%Middle tray
currentpagedevice /InputAttributes get
1 get dup
null eq {pop}
{ dup
/InputAttributes
1 dict dup /Priority [1 0 2 3] put
put setpagedevice
} ifelse

%Lower tray
currentpagedevice /InputAttributes get
2 get dup
null eq {pop}
{ dup
/InputAttributes
1 dict dup /Priority [2 0 1 3] put
```

```
put setpagedevice
} ifelse

%Manual feed
<</ManualFeed true>> setpagedevice
```

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BPI: Installing it on Catalyst for the Apple III (1 of 2)

This article has been archived and is no longer updated by Apple.
These instructions assume you have Version 2.0 or greater of BPI and that you have installed it on the ProFile according to the BPI Manual. This will allow you to place all of the programs for BPI on the ProFile and eliminate any need for the floppy disks. The BPI General Accounting Software uses most of the 256K of memory available in the Apple III. Catalyst 2.0 is designed to have all of the necessary drivers, Apple III Pascal options, and graphics space allocated so all the application programs can work. Therefore, since the memory space is limited, the SOS.DRIVER file must be kept to a minimum and NO graphics drivers can be installed. The following driver list should be adequate:

.CONSOLE .QUARKCOM
.PRINTER or .SPOOL .UNUSED 1-6
.CATALYST
.PROFILE

NOTE: You may conserve an additional 6K of memory by selecting the QUIT option from the SYSTEM UTILITIES main menu. This will take you to the Pascal Command Line. Select "O" and a menu will be displayed. Select option "B" and make the Apple II disk routines NOT resident. Once this is completed, press "Q" to quit.

These instructions assume you are moving BPI to a ProFile (with the driver name of .ProFile), and that Catalyst is installed. Substitute the name of your hard disk driver for .PROFILE if you wish to install BPI on another brand of hard disk.

COPY PROCEDURE:
1. Make certain that there is a .ProFile driver installed on the System utilities disk.
2. Boot the System Utilities disk.
3. Press "F" for File Handling Commands.
4. Press "M" to Make a New Subdirectory.
5. Enter ".PROFILE/BPI/BPI.TRAPOFF".
6. Press RETURN to accept the default size of 25 files.
7. Press ESCAPE.
8. Press "M" to Make a New Subdirectory.
9. Enter ".PROFILE/BPI/INSTALL".
10. Enter "3" when it asks for the number of files.
11. Press ESCAPE.
12. Put the BPI SYSTEM diskette in the internal drive.
13. Press "C" to Copy Files.
14. Copy the files SYSTEM.STARTUP and SYSTEM.STAR.LIB from your BPI SYSTEM diskette to the subdirectory ".PROFILE/BPI/=".

To do this, type ".D1" and press the up arrow key. A list of files are displayed in a box. The up and down arrow keys allow you to move an inverse bar over the name of your choice. Pressing the right arrow key marks the file so as to include it in the copy process. Mark all files to be copied in this way. When all files are marked, press RETURN.

15. Put the BPI INSTALL diskette in the internal drive.
16. In the same manner as above, copy the files SYSTEM.STARTUP, SYSTEM.STAR.LIB, and BPI.CNF from your BPI INSTALL diskette to the subdirectory ".PROFILE/BPI/INSTALL/=".

NOTE: Apple Computer Inc. is not responsible for the contents of this article.
Published Date: Feb 19, 2012

LaserWriter Pro 810: PostScript Fax Q&A

This article discusses questions on the LaserWriter Pro 810 PostScript fax option.
This article has been archived and is no longer updated by Apple.
Q: Can you have your faxes print out on 11x17 paper?
A: I verified that you can send a PostScript file by Fax and select different, unconventional to fax jobs, paper sizes. That is, you can in the Page Setup and Print/Fax dialog boxes select, then Fax from one LaserWriter Pro 810 the PostScript job to another LaserWriter Pro 810 to output on 11x17 paper.

Q: Can you print faxes at a higher resolution than the normal fax resolution of 200dpi?
A: Unique to PostScript Fax printers is the ability to send PostScript files in the form of a fax to each other. This ability improves the quality and flexibility of the fax document because all of the benefits of printing using PostScript devices accrue to faxing when sending the fax as a PostScript file. If the receiving fax printer is capable of large format media, gray scale, higher resolutions, color, or duplex, PostScript file faxes can use those features as well.

Q: Can you have a fax print at 800dpi?
A: Yes

Q: Do you need more than 8mb to fax at 800dpi?
A: You need 16MB of RAM to print a PostScript fax at 800dpi.

Q: Can you have a stand alone Pro 810 with no computer on a fax line to handle faxes?
A: The LaserWriter Pro 810 does not need to be connected to a computer or network to receive incoming faxes.

Q: Would there be a potential problem without a computer attached?
A: No

Q: If I have a LaserWriter Select 360 with the fax option, how can I send an 11x17 document?
A: You need to reconfigure the Select 360 to use the LaserWriter 810f PPD using the Chooser and Setup options. You need to specifically select the LaserWriter Pro 810f PPD. Do not select autoconfigure. Then Choose the larger paper size in Page Setup and Print/Fax dialog boxes, and fax the PostScript job. We recommend switching back to the LaserWriter Select 360's proper PPD when you have completed faxing a ledger sized document.
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Apple Monitors: Stripe Pitch vs Dot Pitch

I have noticed that many articles which describe monitors have ratings in "stripe pitch" or "dot pitch." Are they different words for the same thing?
This article has been archived and is no longer updated by Apple.
The terms stripe pitch and dot pitch are both associated with cathode ray tube (CRT) pixels. A CRT pixel can take the physical form of a dot (conventional CRT) or a stripe (as in the case of Trinitron CRTs).

In its dot form, a single pixel is three dots consisting of one red, one green, and one blue phosphor dot and is usually positioned in a triangular fashion. In the case of a stripe pixel, you have three small phosphor stripes (R, G, and B) that are positioned vertically and are set side by side.

The term "pitch" refers to the distance between pixels. Therefore, the reference when referring to Trinitron CRTs is to list the stripe pitch and in conventional CRTs the term is dot pitch.

Published Date: Feb 19, 2012

Apple Remote Access 2.0.1 Client: Read Me File

This article is the Apple Remote Access (ARA) 2.0.1 Read Me File.
This article has been archived and is no longer updated by Apple.
APPLE REMOTE ACCESS CLIENT FOR MACINTOSH READ ME
==========

This document provides late-breaking news about the Apple Remote Access Client that is not covered in the "Apple Remote Access Client User's Guide." You may need to refer to that guide to understand the use of several terms in this document, and you may want to print this document to keep with your user's guide.

Modems Supported by the Apple Remote Access Client
==========

Scripts that support most popular modems are provided on the Remote Access Client installation disks. The majority of these scripts are supplied in all countries in which the Remote Access Client is sold. Additional scripts are also provided for a number of countries to meet the particular needs of those communications environments. The scripts include:

All countries

- V.32bis modems (14,400 bps):
- Apple Express Modem
- Global Village PowerPort Gold
- Global Village TelePort Gold
- Hayes Optima 144
- Microcom QX4232bis
- Prometheus ProModem 144e
- PSI Powermodem IV
- Supra SupraFax v.32bis
- Telebit WorldBlazer

V.32 modems (9600 bps):
- Global Village PowerPort Silver
- Global Village TelePort Silver
- Prometheus Promodem 96
- PSI Powermodem III
- Supra SupraFax Modem Plus
- Telebit QBlazer
- Telebit T1600
- US Robotics Sportster

V.22bis modems (2400 bps):
- Apple 2400
- Global Village PowerPort Bronze
- Global Village TelePort Bronze
- Hayes Optima 2400
- Microcom AX 2400C
- Prometheus Promodem 24
- PSI PowerModem II

Cellular support:
- Applied Engineering DataLink PB and Applied Engineering Axcell Cellular Interface
- Microcom Cellular Data Link 300

ISDN support:
- Hayes ISDN adapter

Czechoslovakia

- CZ Sample Script * Apple 2400

Germany

57,600 bps:
- Andante EAZ0 v2 (V.24 ISDN Adapter)
- Andante EAZ1 v2

- Andante EAZ2 v2
- Andante EAZ3 v2
- Andante EAZ4 v2
- Andante EAZ5 v2
- Andante EAZ6 v2
- Andante EAZ7 v2
- Andante EAZ8 v2
- Andante EAZ9 v2

25,000 bps:
- Motorola 326x (Fast) v2

19,200 bps:
- MDG 19K2-31 v2
- MDG 14MX-22 v2

14,400 bps:
- euroScout v2
- Express Modem 14400 v2
- Global Village Test v2
- PriCom 14.4 v2
- TELEJET 14400 v2

9600 bps:
- CN-3532 SA Plus v2
- CN-3532 SA v2
- FURY 9600 TI v2
- MicroLink 9624 v2

2400 bps:
- Apple PowerBook/Portable v2
- CN-3522 SA Plus v2
- CTK EuroCoupler Akustikk. v2
- CTK EuroCoupler Modem v2
- Dialog 2400 MNP v2
- FURY 2400 TI v2
- GVC SuperModem 2400 MNP v2
- GVC SuperModem 2400 v2
- MAKK-CHAMPION Akustikk. v2
- MAKK-CHAMPION Modem v2
- MDG 2400-11 v2
- MDG 2400-21 v2
- MicroLink 2410 v.2
- Personal Line 2400 MNP v2
- TELEJET 2400 v2
- Worldport 2400 MNP v2

Switzerland

19,200 bps:
- ZyXEL U-1496

9600 bps:
- FURY 9600 TI v2
- NOKIA PMD 9600

NOTE: You can delete any unneeded scripts from your Extensions folder, which is located inside your System Folder. To recognize scripts, look for files listed as "Modem Link Tool Personal documents."

Using AppleTalk Remote Access Version 1.0 or Apple Remote Access
MultiPort Server Modem Scripts With the Apple Remote Access Client
==========

You can use modem scripts included with the Apple Remote Access MultiPort Server with the Apple Remote Access Client. You can also use AppleTalk Remote Access version 1.0 modem scripts with Apple Remote Access Client, but certain new features, such as Ignore Dial Tone, Manual Dialing, and MNP 10 support, won't be available. You cannot use Apple Remote Access Client modem scripts with AppleTalk Remote

Access version 1.0.

Calling an AppleTalk Remote Access Version 1.0 Server

The AppleTalk Remote Access 1.0 Compatibility option allows you to call a version 1.0 server and to receive callbacks from a 1.0 server. With version 2.0.1 you do not have to check the compatibility box as described in Chapter 2 of the "Apple Remote Access Client User's Guide".

Using an MNP 10 Modem

MNP 10 is an error-correction protocol that allows for more reliable data connections over cellular modems. Clicking the "Use MNP 10 error correction in modem" checkbox puts MNP 10 modems into cellular mode. Although MNP 10 is designed primarily for cellular modems, some users have found that it can also improve performance of conventional land lines. Do not click the "Use MNP 10 error correction in modem" checkbox to use MNP 10 over land lines rather than over a cellular link.

To establish an MNP 10 connection, both your modem and the modem you're calling must support MNP 10; clicking the "Use MNP 10 error correction in modem" checkbox in the Remote Access Setup window is not by itself sufficient to establish an MNP 10 connection.

Using Aliases With Apple Remote Access

To create an alias over an Apple Remote Access connection:

1. Select the alias icon.
2. Choose Get Info from the File menu.
3. Click the Locked checkbox.

If you don't lock the alias, the alias may accidentally be converted to call the wrong Apple Remote Access server or to access services across your local network.

Using the Manual Dialing Feature

Establishing a Remote Access connection with manual dialing varies according to the type of modem you are using. To ensure that you can make a connection while using Manual Dialing, you may need to experiment with pressing the Connect button slightly before or after you hear the remote modem answer the phone.

Using the Redialing Feature

Remote Access Client attempts redialing only when the phone number that has been dialed is busy. If the connection attempt fails for any other reason, Remote Access stops redialing so that you can correct any problems.

With the Redialing option, set the "Time between retries" number to five seconds or greater. Anything less than five seconds may not give your modem sufficient time to reset, so the serial port will be busy and unavailable for redialing.

With the Redialing Alternate Number option, the main number is dialed once before the redialing sequence is initiated. The redialing sequence then alternates between the main and alternate numbers.

Using DialAssist

If you are calling within a country with no city or area codes, and you encounter problems using DialAssist, try entering a space in the "Connect To City/Area Code" box in your connection document.

Serial Port Arbitration

When a Remote Access connection is established, Remote Access prevents other application programs from using the serial port selected in the Remote Access Setup control panel. Most programs will inform you that the port is in use.

Remote Access Client provides this port arbitration through a system extension called the Serial Port Arbitrator located in the Extensions folder. Some programs that use the serial port may not be compatible with this extension. If you suspect that a program is not compatible with the Serial Port Arbitrator:

1. Remove the Serial Port Arbitrator file from the Extensions folder.
2. Restart your Macintosh.
3. Try the program again.

NOTE: The Serial Port Arbitrator will not work on a Macintosh if Remote Access Client has not been installed.

Macintosh Computers Using Virtual Memory

If you are using a Macintosh IIfx, Macintosh Quadra 900, or Macintosh Quadra 950 and have virtual memory turned on:

1. If necessary, install the Serial Switch control panel from the "Install 2" disk.
2. Open the Serial Switch control panel.
3. Set the serial port setting to Compatible.

Modem Cable Requirements

Most modems require a cable that supports the data terminal ready (DTR) signal. In addition, certain modems require a cable that supports CTS/RTS hardware flow control. To support DTR, the cable must connect pin 20 on the DB-25 connector to pin 1 on the Mini DIN-8. To support CTS/RTS, the cable must connect pin 5 on the DB-25 connector to pin 2 on the Mini DIN-8 and pin 4 on the DB-25 connector to pin 1 on the Mini DIN-8. See your modem vendor or Apple-authorized dealer to obtain the necessary cable.

Using Express Modem or GeoPort

If you are using Express Modem software with either an Express Modem or a GeoPort telephone pod, you must turn on 32-bit addressing in the Memory Control Panel. Using 24-bit addressing may result in a software crash.

Published Date: Feb 19, 2012

Apple Remote Access 2.0.1 Personal Server: Read Me File

This article is the Read Me file for Apple Remote Access 2.0.1 Personal Server.
This article has been archived and is no longer updated by Apple.
APPLE REMOTE ACCESS PERSONAL SERVER FOR MACINTOSH READ ME
==========

This document provides late-breaking news about the Apple Remote Access Personal Server that is not covered in the "Apple Remote Access Personal Server User's Guide." You may need to refer to that guide to understand the use of several terms in this document, and you may want to print this document to keep with your user's guide.

Modems Supported by the Apple Remote Access Personal Server
==========

Scripts that support most popular modems are provided on the Remote Access Personal Server installation disks. The majority of these scripts are supplied in all countries in which the Remote Access Personal Server is sold. Additional scripts are also provided for a number of countries to meet the particular needs of those communications environments. The scripts include:

All countries

V.32bis modems (14,400 bps):
Apple Express Modem
Global Village PowerPort Gold
Global Village TelePort Gold
Hayes Optima 144
Microcom QX4232bis
Prometheus ProModem 144e
PSI Powermodem IV
Supra SupraFax v.32bis
Telebit WorldBlazer

V.32 modems (9600 bps):
Global Village PowerPort Silver
Global Village TelePort Silver
Prometheus Promodem 96
PSI Powermodem III
Supra SupraFax Modem Plus
Telebit QBlazer
Telebit T1600
US Robotics Sportster

V.22bis modems (2400 bps):
Apple 2400
Global Village PowerPort Bronze
Global Village TelePort Bronze
Hayes Optima 2400
Microcom AX 2400C
Prometheus Promodem 24
PSI PowerModem II

Cellular support:
Applied Engineering DataLink PB and Applied Engineering Axcell Cellular Interface
Microcom Cellular Data Link 300

ISDN support:
Hayes ISDN adapter

Czechoslovakia

CZ Sample Script * Apple 2400

Germany

57,600 bps:
Andante EAZ0 v2 (V.24 ISDN Adapter)

Andante EAZ1 v2
Andante EAZ2 v2
Andante EAZ3 v2
Andante EAZ4 v2
Andante EAZ5 v2
Andante EAZ6 v2
Andante EAZ7 v2
Andante EAZ8 v2
Andante EAZ9 v2

25,000 bps:
Motorola 326x (Fast) v2

19,200 bps:
MDG 19K2-31 v2
MDG 14MX-22 v2

14,400 bps:
euroScout v2
Express Modem 14400 v2
Global Village Test v2
PriCom 14.4 v2
TELEJET 14400 v2

9600 bps:
CN-3532 SA Plus v2
CN-3532 SA v2
FURY 9600 TI v2
MicroLink 9624 v2

2400 bps:
Apple PowerBook/Portable v2
CN-3522 SA Plus v2
CTK EuroCoupler Akustikk. v2
CTK EuroCoupler Modem v2
Dialog 2400 MNP v2
FURY 2400 TI v2
GVC SuperModem 2400 MNP v2
GVC SuperModem 2400 v2
MAKK-CHAMPION Akustikk. v2
MAKK-CHAMPION Modem v2
MDG 2400-11 v2
MDG 2400-21 v2
MicroLink 2410 v.2
Personal Line 2400 MNP v2
TELEJET 2400 v2
Worldport 2400 MNP v2

Switzerland

19,200 bps:
ZyXEL U-1496

9600 bps:
FURY 9600 TI v2
NOKIA PMD 9600

NOTE: You can delete any unneeded scripts from your Extensions folder, which is located inside your System Folder. To recognize scripts, look for files listed as "Modem Link Tool Personal documents."

Using AppleTalk Remote Access Version 1.0 or Apple Remote Access MultiPort Server Modem Scripts With the Apple Remote Access Personal Server
==========

You can use modem scripts included with the Apple Remote Access MultiPort Server with the Apple Remote Access Personal Server. You can also use

AppleTalk Remote Access version 1.0 modem scripts with Apple Remote Access Personal Server, but certain new features, such as Ignore Dial Tone, Manual Dialing, and MNP 10 support, won't be available. You cannot use Apple Remote Access Personal Server modem scripts with AppleTalk Remote Access version 1.0.

Calling an AppleTalk Remote Access Version 1.0 Server

The AppleTalk Remote Access 1.0 Compatibility option allows you to call a version 1.0 server and to receive callbacks from a 1.0 server (with version 2.0.1 you do not have to check the compatibility box as described in Chapter 3 of the "Apple Remote Access Personal Server for Macintosh User's Guide"). However, the Compatibility option does NOT allow an Apple Remote Access Personal Server to receive calls from an AppleTalk Remote Access 1.0 client. The Apple Remote Access Personal Server can only receive calls from version 2.0 Apple Remote Access Clients.

Using an MNP 10 Modem

MNP 10 is an error-correction protocol that allows for more reliable data connections over cellular modems. Clicking the "Use MNP 10 error correction in modem" checkbox puts MNP 10 modems into cellular mode. Although MNP 10 is designed primarily for cellular modems, some users have found that it can also improve performance of conventional land lines. Do not click the "Use MNP 10 error correction in modem" checkbox to use MNP 10 over land lines rather than over a cellular link.

To establish an MNP 10 connection, both your modem and the modem you're calling must support MNP 10; clicking the "Use MNP 10 error correction in modem" checkbox in the Remote Access Setup window is not by itself sufficient to establish an MNP 10 connection.

Using Aliases With Apple Remote Access

To create an alias over an Apple Remote Access connection:

1. Select the alias icon.
2. Choose Get Info from the File menu.
3. Click the Locked checkbox.

If you don't lock the alias, the alias may accidentally be converted to call the wrong Apple Remote Access server or to access services across your local network.

Using the Manual Dialing Feature

Establishing a Remote Access connection with manual dialing varies according to the type of modem you are using. To ensure that you can make a connection while using Manual Dialing, you may need to experiment with pressing the Connect button slightly before or after you hear the remote modem answer the phone.

Using the Redialing Feature

Remote Access Client attempts redialing only when the phone number that has been dialed is busy. If the connection attempt fails for any other reason, Remote Access stops redialing so that you can correct any problems.

With the Redialing option, set the "Time between retries" number to five seconds or greater. Anything less than five seconds may not give your modem sufficient time to reset, so the serial port will be busy and unavailable for redialing.

With the Redialing Alternate Number option, the main number is dialed once before the redialing sequence is initiated. The redialing sequence then alternates between the main and alternate numbers.

Using DialAssist

If you are calling within a country with no city or area codes, and you encounter problems using DialAssist, try entering a space in the "Connect To City/Area Code" box in your connection document.

Serial Port Arbitration

When a Remote Access connection is established, Remote Access prevents other application programs from using the serial port selected in the Remote Access Setup control panel. Most programs will inform you that the port is in use.

If your Macintosh is set up to answer calls (the "Answer calls" checkbox in the Remote Access Setup control panel is selected), other programs are allowed to use the serial port. When the port is free, Remote Access once again enables your Macintosh to answer calls.

Remote Access Personal Server provides this port arbitration through a system extension called the Serial Port Arbitrator located in the Extensions folder. Some programs that use the serial port may not be compatible with this extension. If you suspect that a program is not compatible with the Serial Port Arbitrator:

1. Remove the Serial Port Arbitrator file from the Extensions folder.
2. Restart your Macintosh.
3. Try the program again.

NOTE: The Serial Port Arbitrator will not work on a Macintosh if Remote Access Personal Server has not been installed.

Macintosh Computers Using Virtual Memory

If you are using a Macintosh IIfx, Macintosh Quadra 900, or Macintosh Quadra 950 and have virtual memory turned on:

1. If necessary, install the Serial Switch control panel from the "Install 2" disk.
2. Open the Serial Switch control panel.
3. Set the serial port setting to Compatible.

Modem Cable Requirements

Most modems require a cable that supports the data terminal ready (DTR) signal. In addition, certain modems require a cable that supports CTS/RTS hardware flow control. To support DTR, the cable must connect pin 20 on the DB-25 connector to pin 1 on the Mini DIN-8. To support CTS/RTS, the cable must connect pin 5 on the DB-25 connector to pin 2 on the Mini DIN-8 and pin 4 on the DB-25 connector to pin 1 on the Mini DIN-8. See your modem vendor or Apple-authorized dealer to obtain the necessary cable.

Using Express Modem or GeoPort

If you are using Express Modem software with either an Express Modem or a GeoPort telephone pod, you must turn on 32-bit addressing in the Memory Control Panel. Using 24-bit addressing may result in a software crash.

Before changing modem scripts or before switching selected ports with either an Express Modem or a GeoPort telephone pod, be sure to deselect the "Answer Calls" checkbox in the Remote Access Setup control panel.

Published Date: Feb 19, 2012

AppleSearch 1.0.1 Patch: Read Me File

This article is the AppleSearch 1.0.1 Patch Read Me file.
This article has been archived and is no longer updated by Apple.
About the AppleSearch 1.0.1 Patches

This document describes how to change your AppleSearch Server 1.0 software to version 1.0.1, allowing it to run in emulation mode on Power Macintosh computers. You need to use a patch only for your server software and only if your AppleSearch server is a Power Macintosh.

These patches are not required for the AppleSearch client software, nor are they required to run the AppleSearch Server 1.0 on nonðPower Macintosh computers. However, the patched AppleSearch Server software is compatible with your existing AppleSearch server hardware, so you may choose to patch your software now if you intend to upgrade your server to a Power Macintosh.

Patching your server software does not affect the operation of your current information sources or their indexes. The AppleSearch Server 1.0.1 software will continue to recognize your existing AppleSearch files if they haven't been changed or moved.

These instructions are not included in your AppleSearch documentation, so you may want to print this document and keep it with your administrator's guide.

Which Patch to Use

Two applications accompany this Read Me file:

* AppleSearch Server 1.0.1 Patch. If you purchased AppleSearch 1.0, you should use this patch.

* AppleSearch TrialCD 1.0.1 Patch. If you are using the AppleSearch Trial CD to evaluate AppleSearch 1.0 on a Power Macintosh, you should use this patch.

IMPORTANT: You must use the correct patch to allow your AppleSearch Server software to run on your Power Macintosh.

Updating Your AppleSearch Server Software

You can run the patch software from the floppy disk on which it is shipped, and you can patch the AppleSearch Server software while it is on your existing Macintosh server.

To patch your software, follow these steps:

1. If you have not installed your AppleSearch Server software, do so, using the installer provided with the software.

2. Turn off any virus-detection programs on the AppleSearch server computer and quit the AppleSearch Server application if it is running.

3. Double-click the icon for the appropriate AppleSearch 1.0.1 patch. (Both patches should be in the same location as this document.) A dialog box appears, displaying information about the patch.

4. Click the Patch button. A directory dialog box appears, asking you to locate the AppleSearch Server application.

5. Select the name of the AppleSearch Server application you want to patch, then click the Patch button. When the patch operation is complete, a confirmation dialog box appears, telling you that the operation was successful.

6. Click the OK button in the confirmation dialog box.

7. Start your AppleSearch Server application.

You can use your updated server software immediately after restarting it. There is no need to index your information sources again unless you have moved them to a new disk or partition.
Published Date: Feb 19, 2012

LaserWriter Utility: Prints Samples From Any Source

We have an APS Technologies 213MB hard drive internally connected to our LaserWriter Pro 630. We were able to initialize it with LaserWriter Utility 7.6.1 and download fonts to it. We can print the font catalog just fine and can also print the fonts on the hard drive from applications.

We are, however, unable to print Font Samples. When we select "Print Font Samples" from the LaserWriter Utility menu, 4 pages get spooled to print monitor and only the first page prints which displays the fonts in the ROM of the printer. The rest of the pages never print and the light on the printer quits flashing after a while. Can the LaserWriter Utility print font samples for fonts on the printer's hard drive?
This article has been archived and is no longer updated by Apple.
The LaserWriter Utility has the capability of printing font samples for all of the printers fonts, whether in ROM, RAM, or attached hard disk. Typically, when the "Print Font Samples" command is selected from the menu of the LaserWriter Utility, it will print a page for the fonts in the printer's memory (ROM and RAM), and a following page for fonts on the printer's disk if one is attached. By the way, font samples are printed for both TrueType and Type 1 fonts resident at the printer.
Published Date: Feb 19, 2012

PowerBook 500 Series: Can Newton PCMCIA Cards Be Used? (8/95)

If a customer has Newton info on part of a PCMCIA card and some free space, can they store Macintosh information on the free area of the card?

This article has been archived and is no longer updated by Apple.
No. Newton Cards cannot be used by a PowerBook with the PCMCIA module. The PowerBook 500 series with PCMCIA modules do not recognize cards other than those following the ATA standard. Newton cards do not follow this standard. Newton Cards and other non-ATA standard cards would only show up as "unrecognized card" with no option to format. There is no driver support on either the Newton side or the Macintosh side for partitioning a PCMCIA card.

Article Change History:
29 Aug 1995 - Reviewed for technical accuracy.

Support Information Services
Published Date: Feb 19, 2012

BPI: Installing it on Catalyst for the Apple III (2 of 2)

This article has been archived and is no longer updated by Apple.

ADDING BPI TO THE CATALYST MENU

1. Boot the Catalyst diskette.
2. Select the Catalyst Editor in the Catalyst main menu.
3. Enter "E" to edit the Menu.
4. Place the cursor to the position you want the menu entry location for BPI to be.
5. Press "A". You will be asked for the display name of this program. Enter "BPI".
6. Enter "CATALYST/PASCAL" for the interpreter pathname.
7. Press RETURN for the extra drivers question.
8. Press RETURN to use the default character set pathname.
9. Press RETURN for the standard character set.
10. Press RETURN again to use the default keyboard.
11. Press RETURN to accept the default prefix.
12. Press RETURN for the "Max Files Allowed..." question. This will allow the program to be exited only by the QUIT option in BPI. This procedure is suggested due to the fact that files and/or data may be lost if the double Apple escape option is used. You may exit to the Catalyst main menu by entering "Q" from the Pascal command line.
13. Enter "BPI/SYSTEM.STARTUP" when you are asked for the program path.
14. You will be asked if this entry is correct. If it is answer "Y". You will be allowed to insert another entry. You do want to do this, enter "1" to add the next program.
15. Place the cursor to the position you want the menu entry location for BPI} Install.
16. Press "A".You will be asked for the display name of the program. Enter "BPI Install".
17. Enter "CATALYST/PASCAL" for the interpreter pathname.
18. Press RETURN for extra for the extra drivers question.
19. Press RETURN to use the default character set pathname.
20. Press RETURN for the standard character set.
21. Press RETURN again to use the default keyboard.
22. Press RETURN to accept the default prefix.
23. Enter "0" for the "Max Files Allowed..." question .
24. Enter "BPI/INSTALL/SYSTEM.STARTUP" when you are asked for the program path.
25. You will be asked if this entry is correct. If it is answer "Y". You will be allowed to insert another entry. You do not now want to do this, enter "0" to exit the program.
26. Enter "5" to update the "INTERPS" file. When you are asked if you want to recalculate the load address, enter "N".
27. Exit to the CATALYST main menu by entering "Q".

Additional Instructions

1. Choose the option for BPI Install. Once you are at the BPI System Installation Menu, choose option 1, "Check System Device Status. The BPI Install program finds the new subdirectory and modifies itself to run from the ProFile rather than from the internal drive. End the Install program by entering "5". The following message will appear:

Current System Does Not Match System Data On Disk

Press RETURN to clear the message, and follow the instructions on the screen to insert the BPI Install and System Disks. This MUST be done. When this process is finished, you will be returned to the Catalyst 2.0 main menu. BPI is now set to begin execution.

RECOMMENDATIONS

1. Always exit BPI through the main menu by selecting "End BPI Systems". Do not end data entry by turning off the machine. This will insure the integrity of your data files.

2. Keep your drivers in the SOS.DRIVER to a minimum. If this is not done, a "stack overflow error" may occur and BPI will not work.

NOTE: Apple Computer Inc. is not responsible for the contents of this article.
Published Date: Feb 19, 2012

PowerBook 500 Series: PDS & PCMCIA Support (3/95)

This article describes the Processor Direct Slot (PDS) on the PowerBook 500 series (520, 520c, 540, and 540c), and the use of the Personal Computer Memory Card Information Association (PCMCIA) adapter.

This article has been archived and is no longer updated by Apple.
The PowerBook 500 series has an internal PDS connector that provides access to its 030-based I/O bus, which is accessible through a battery bay. Each of these PowerBooks has two battery bays. The left battery bay can be used as the processor direct slot for high-speed access to the system's processor.

The I/O bus provides direct access to all parts of the machine with the exception of the DRAM and ROM. An ASIC supplies bus arbitration logic to let plug in cards act a bus masters, as long as they conform to 68030 bus protocols. This PDS expansion slot can be used for different modules, and is a 16 bit 68030 16Mhz data bus that occupies the second battery on the PowerBook 500 series.

One of the possible PDS expansion options is the PCMCIA Expansion Module which slides into the left battery bay. The innovative module design provides slots for two Type I or Type II PCMCIA cards or a single Type III card. The module itself can only be installed or removed when the PowerBook power is turned off.

What is PCMCIA?

PCMCIA is a standard for small, credit-card sized modems and other external notebook computer devices. PCMCIA standards define the size and pin configuration for these devices.

Cards used in PCMCIA expansion slots, regardless of manufacturer, are commonly referred to as PC Cards.

PCMCIA Expansion Module

PCMCIA is rapidly becoming a defacto standard for all mobile computers. This Macintosh implementation offers a new level of ease-of-use not seen in the industry's PCMCIA other implementation (DOS, Intel x86 platforms) with the use of software eject for Cards as well as the complete integration of the PCMCIA cards into the Macintosh desktop.

The PCMCIA Expansion Module can ONLY be inserted or removed while the PowerBook is off. Insertion or removal of the PDS Module at any other time will result in the PowerBook being reset.

PowerBook computers and PCMCIA expansion are a natural pair. PCMCIA provides a simple light-weight method for PowerBook expansion without adding significant power drain. The PowerBook PCMCIA implementation is a two-phase process. Initially, mass storage, memory, and modems are the only types of PCMCIA devices that are supported. A full range of PCMCIA devices, including network interface cards, will be supported in the future. If you purchase a phase one PCMCIA Expansion Module, you will be able to upgrade your units by downloading a new ROM image into the module's flash ROM. Other software, residing in the system, will also be upgraded.

Article Change History:
31 Mar 1995 - Reviewed for technical accuracy.
15 Dec 1994 - Added keyword and definition of PCMCIA; other minor changes.
25 Aug 1994 - Revised title slightly.

Support Information Services
Published Date: Feb 19, 2012

PowerBook 500 Series: External Video Support

What is the highest bit depth the PowerBook 520 & 520c and PowerBook 540 & 540c are capable of using with an external monitor attached?

Can the internal video RAM be expanded to provide for more colors?

This article has been archived and is no longer updated by Apple.

The highest bit depth at 640X480 (or any resolution) is 8 bits per pixel.

The PowerBook 500 series come with 512K VRAM, which is not expandable.

External Video Support

Display	Resolution(HxV)	Bits/Pixel
12-in. RGB Display	512x384	1-8bpp
12-in. Monochrome Display	640x480	1-8bpp
13/14-in. RGB Display	640x480	1-8bpp
VGA (60 Hz)	640x480	1-8bpp
SuperVGA (56 Hz)	800x600	1-8bpp
VESA 1024x768 (60 Hz)	1024x768	1-4bpp
Portrait Display	640x870	1-4bpp
Portrait Display	640x818	1-8bpp
16-in. RGB Display	832x624	1-8bpp
Multiple Scan 17 Display	640x480	1-8bpp
	832x624	1-8bpp
Multiple Scan 20 Display	640x480	1-8bpp
	832x624	1-8bpp

Published Date: Feb 19, 2012

Catalyst: Using it with an Apple III and QC Hard Disk

This article has been archived and is no longer updated by Apple.
Catalyst will take full advantage of the QC hard disk provided that minor modifications to the .CATALYST device driver are made. A partial discussion of this modification is located on page 4-9 of the QC manual. Below are additional steps that must be completed in order to insure complete compatibility.

PREREQUISITES:

Catalyst for the Apple III

Special DCB values in the .CATALYST device driver are required in order for the Catalyst for the Apple III to take advantage of this feature. The first 6 bytes (0-5) are device specific and can be determined by following the instructions on page 4-9 of the QC manual. The bytes are assigned as follows:

BYTE ASSIGNMENT
0 Slot Number
1 Unit Number
2 Device Type
3 Device Subtype
4 Manufacturer ID (low byte)
5 Manufacturer ID (high byte)

Bytes 6-17 are checksum bytes. Their values must correspond to the following:

0 1 2 3 4 5 6 7 8 9 A B C D E F
0x 0S UU TT ST MM MM 00 8F 97 8A 91 93 23 17 17 F6
1x 00 B8

EXAMPLE OF THE ".CATALYST "DRIVER DCB USING THE QC-10 DEVICE ".Q1":

00 00 F1 AA 23 00 00 8F
97 8A 91 93 23 17 17 F6
00 B8

NOTE: Apple Computer Inc. is not responsible for the contents of this article.
Published Date: Feb 19, 2012

Fax Viewer: Incompatible With Early GCC Print Drivers

I have a Power Macintosh 6100 and a GCC PLP2 SCSI printer. I cannot print with the Fax Viewer 1.5.1 application program. I have the GCC PLP2 driver version 3.0.2.

When I print I only get blank pages. When I try the Print Preview option, it is also blank. Is there an incompatibility with the GCC PLP2 SCSI printer and the Fax Viewer application?
This article has been archived and is no longer updated by Apple.
Since we printed a fax successfully on a Personal LaserWriter SC, from a Power Macintosh 6100 and Fax Viewer 1.5.1, we suspect you have encountered a third party driver incompatibility.

We learned from GCC Tech Support that the PLP2 SCSI printer driver v3.0.2 is not recommended or compatible with Power Macintosh computers. They were surprised it worked in some situations. They recommend you upgrade to v4.1.2 of the print driver.

Please contact GCC Tech Support for the upgrade details.

For your information Print Preview is a GCC feature, and in this case the preview being blank is indicative, GCC says, of an incompatibility.

To locate a vendor's address and phone numbers, use the vendor name as the search string.
Published Date: Feb 19, 2012

LaserWriter Pro 630: Internal Termination Power Provided

We have a LaserWriter Pro 630 with an APS internal hard drive. We are having problems printing a sample of the fonts stored on the hard drive using the LaserWriter Utility 7.6.1. What can cause this to happen?

This article has been archived and is no longer updated by Apple.

The LaserWriter Pro 630 provides internal termination power so all that is needed on the hard drive is termination; you might check with APS technologies on this. One other thing to consider is that SCSI ID's 6 and 7 are reserved, so the APS drive should be set to something different.

Published Date: Feb 19, 2012

ASFU Fixer: For GDT‘s PowerPrint-Not Apple Print Pack

The 'ASFU Fixer' from GDT does NOT patch the Apple Print Pack, only the Power Print product from GDT.
This article has been archived and is no longer updated by Apple.
In summary:

To use DOS printers on Power Macintosh computers:

1) All Apple Print Pack customers MUST upgrade to GDT's Power Print Product using the upgrade card in the original Apple Print Pack box. (approx $40)

2) GDT Technologies will then issue the "ASFU Fixer" to patch the Power Print product (not the Apple Print Pack) and then it will be compatible with Power Macintosh computers.

IMPORTANT:
You should use the system extension SerialDMA instead of ASFU Fixer. If you use ASFU Fixer with several Apple Newton software applications and tools, you may not be able to use the serial communication connection.
Published Date: Feb 19, 2012

SoftWindows: "Too Many Users" and Fix (1/95)

In certain rare cases, it is possible for SoftWindows to erroneously detect another copy of itself running on the network. If this happens, a panel telling you that there are "Too Many Users" will appear, and you will be asked to quit SoftWindows.

Has Insignia Solutions resolved this issue?

This article has been archived and is no longer updated by Apple.
We apologize for the inconvenience caused if this happens to you. A solution has been found which may be applied to a copy of your existing SoftWindows application (version 1.0 or 1.0.1). Please proceed as follows:

* Turn your Extensions off with the Apple's shift key trick: Restart your Macintosh (Select Restart from the Special menu) and immediately hold down the shift key. Wait for the message "Extensions Off" before letting up on the shift key.
* Copy the "SoftWindows Licensing Fix" application to the SoftWindows folder.
* Eject the floppy disk by highlighting the "SoftWindows Patch" disk icon and selecting "Put Away" from the File menu.
* Select the SoftWindows¬ application in the Finder
* Choose the Duplicate command from the File menu (or type Command-D)
* Launch the "SoftWindows Licensing Fix" application
* Click Patch╔
* Locate the "SoftWindows¬ copy" application that you created above
* Click Open

When you now launch the "SoftWindows¬ copy" application the "Too Many Users" panel will not appear, (unless there really are too many users of SoftWindows on your network for the number of licenses that you have purchased).

You may now delete the original SoftWindows¬ application and rename "SoftWindows¬ copy" to "SoftWindows¬" if you so desire.

These articles can help you locate software updates mentioned here:

* Where To Find Apple Software Updates
Lists online services for "free" Apple software updates
* Obtaining Apple Product Support in the USA
Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech. Info. Library

Article Change History:
10 Jan 1995 - Revised format of article.

Support Information Services
Published Date: Feb 19, 2012

PowerShare and Power Macintosh Computers: ReadMe (3/95)

The following article is the ReadMe for PowerShare on Power Macintosh.

This article has been archived and is no longer updated by Apple.
Diskettes have been built for PowerShare on Power Macintosh, and are available on some on-line bulletin boards.

The software comes on two diskettes and requires that you have already purchased the PowerShare Collaboration software. The changes are in PowerTalk not in the PowerShare software itself.

The following is the work-around until the PowerShare diskettes are widely available:

PowerTalk for Power Macintosh IS available on many on-line services, but many only have the PowerTalk software for Power Macintosh, not the PowerShare specific disks.

Until they can get the PowerShare disks, users should install PowerTalk for Power Macintosh, then Custom install the PowerShare software. An easy install of the PowerShare software will result in PowerTalk for 680X0 installation, and this would not work on the Power Macintosh.

ReadMe for PowerShare Collaboration Server Software for Power Macintosh
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This disk allows you to install PowerShare Collaboration Servers on your Power Macintosh computer.

IMPORTANT: If you are installing PowerShare Collaboration Servers on a Macintosh computer with a Power Macintosh Upgrade Card, please see the special instructions at the end of this document.

IMPORTANT: Before you install PowerShare Collaboration Server software, turn off any automatic virus detection programs you have on your computer. After the installation is complete, you can turn the virus detection programs back on.

Installing PowerShare Collaboration Servers on Power Macintosh computers

IMPORTANT: You must have the PowerShare Collaboration Server software, which contains the PowerShare 1, PowerShare 2, PowerShare 3, and Tidbits disks, to use the PowerShare Install Me First disk to install PowerShare Collaboration Servers on your Power Macintosh. The installation software on your PowerShare Install Me First disk will only work on Power Macintosh computers or Macintosh computers with a Power Macintosh Upgrade Card installed.

To install your PowerShare Collaboration Server software, you need five disks:
* PowerShare Install Me First for Power Macintosh (the disk that contains this document)
* PowerShare 1
* PowerShare 2
* PowerShare 3
* Tidbits
The PowerShare 1, PowerShare 2, PowerShare 3, and Tidbits disks are included in your PowerShare Collaboration Servers package.

To install PowerShare Collaboration Server software, follow these steps:

1. Go to the Finder desktop. If your computer is off, turn it on. If it's already on, quit any programs that are running.

2. Insert the PowerShare Install Me First disk. The disk's icon appears on the desktop.

3. Open the disk by double-clicking its icon.

4. Open the Installer by double-clicking its icon. The Easy Install dialog box appears.

5. Click the Install button. The Installer takes a few moments to calculate what needs to be done and then begins to copy files. The whole process may take several minutes.

6. When the PowerShare Install Me First disk is ejected, follow the instructions you see on the screen. You'll have to swap disks a few times. Each time, the Installer ejects one disk and asks you to insert another.

7. When you see a message reporting that the installation has been successfully completed, follow the instructions on the screen. If you turned off any automatic virus detection programs on your Power Macintosh, turn them back on now.

Installing PowerShare Collaboration Servers on Macintosh computers with Power Macintosh Upgrade Cards

To install your PowerShare Collaboration Server software, you need:
* Your PowerShare Collaboration Server package
* PowerShare Install Me First for Power Macintosh (the disk that contains this document)

IMPORTANT: You MUST install PowerShare Collaboration Server software AFTER installing the Power Macintosh Upgrade Card software, even if you had previously installed PowerShare Collaboration Servers on your Macintosh.

If you have not previously installed PowerShare Collaboration Servers on your computer, or if you did not reinstall the software after installing the Power Macintosh Upgrade Card software, you must do so now. To install PowerShare Collaboration Server software, follow these steps:

1. Go to the Finder desktop. If your computer is off, turn it on. If it's already on, quit any programs that are running. If you are currently using the Power Macintosh Upgrade Card, use the Power Macintosh Card Control Panel to turn the Power Macintosh Card off. Turn your Macintosh off, then turn it on again.

2. Insert the PowerShare Install Me First disk that came with your PowerShare Collaboration Server software. The disk's icon appears on the desktop.

3. Open the disk by double-clicking its icon.

4. Open the Installer by double-clicking its icon. The Easy Install dialog box appears.

5. Click the Install button. The Installer takes a few moments to calculate what needs to be done and then begins to copy files. The whole process may take several minutes.

6. When the Install disk is ejected, follow the instructions you see on the screen. You'll have to swap disks several times. Each time, the Installer ejects one disk and asks you to insert another. IMPORTANT: If you see a message that says that the Finder you are about to install is older than the Finder already on the disk, click "Continue."

7. When you see a message reporting that the installation has been successfully completed, follow the instructions on the screen.

When you have completed the PowerShare Collaboration Server installation, or if you previously had installed PowerShare Collaboration Servers on your computer, follow these steps:

IMPORTANT: If any programs are running on your computer, quit them before installing. This includes the PowerShare Easy Setup application, which may have been automatically started after the previous step if you restarted your computer.

1. Insert the PowerShare Install Me First for Power Macintosh disk. The disk's icon appears on the desktop.

2. Open the disk by double-clicking its icon.

3. Open the Installer by double-clicking its icon. The Easy Install dialog box appears.

4. Click the Install button. The Installer takes a few moments to calculate what needs to be done and then begins to copy files. The whole process may take several minutes.

5. When you see a message reporting that the installation has been successfully completed, follow the instructions on the screen. If you turned off any automatic virus detection programs on your Macintosh, turn them back on now.

You can now use PowerShare Collaboration Servers with the Power Macintosh card on or off.

Article Change History:
23 Mar 1995 - Reformatted document.

Support Information Services
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DOS Compatibility Card: PC Exchange needs 32-bit addressing 5/94

I have a Quadra 610 DOS Compatible computer with PC Exchange 2.0DC. When I try to initialize a disk, the computer freezes on me and I have to restart my computer. Sometimes it allows me to initialize the disk, but when I click the window close box, the computer freezes on me. If I remove PC Exchange, this problem goes away. Why?

This article has been archived and is no longer updated by Apple.
PC Exchange 2.0DC needs 32-bit addressing turned on. If you turn on 32-bit addressing in the Memory control panel, you won't experience this problem.

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AppleShare Print Server: Modifications

This article describes how to correct the AppleShare Print Server time out problem and prevent error pages from printing by using ResEdit.
This article has been archived and is no longer updated by Apple.

AppleShare Print Server Time-out Issue

The AppleShare Print Server 3.0 and 3.0.1 will time out clients when the Print Server is not the active (front) application and the active application is busy. For example, the File Server is running with a moderate load as the active application, and the Print Server with several clients printing to it is the background application.

The AppleShare Print Server application will maintain its connections (not time out) if it is set to run in system heap memory. The Print Server, as shipped, is not configured to do this. The fix by using ResEdit is as follows:

1) Using ResEdit open the AppleShare Print Server application.
2) Open the "DRVR" resource
3) Select the "DRVR" ID 42 resource and choose "Get Resource Info" command from the Resource menu.
4) Click the Attributes checkbox for System Heap.
5) Quit ResEdit and Save the changes.

Preventing Error Pages from Printing

Here is how to prevent Error pages from printing on all printers captured by the AppleShare Print Server:

1) Using ResEdit open the AppleShare Print Server application.
2) Open the "EXOP" resource.
3) Open the resource ID 128.
4) Change the first four zeros to ones. This will be the first line, change as shown below:

Change from: 000000 0000 0000 0000 ┌┌┌┌┌┌
Change to: 000000 1111 0000 0000 ┌┌┌┌┌┌

5) Quit ResEdit and Save the changes.

Published Date: Feb 19, 2012

Quadra 610 DOS Compatible and PC Print Spooler (5/94)

After running Norton SI or a game on the DOS card, and I switch back to the Macintosh, the PC Print Spooler sends a blank page to the printer, or notifies me of a printing problem. I haven't tried to print, what's going on?

This article has been archived and is no longer updated by Apple.
There is a hardware problem with our implementation of an emulated parallel port. Typically when data, on a real PC, is sent to the parallel port, the signal to print is STROBE changing state, a parallel protocol signal line. We don't wait for STROBE, we immediately send the job to the print monitor. Some programs send data to the I/O port address designated for LPT1: but they don't pull the STROBE line low so nothing prints. Since we don't wait for STROBE to go low, it starts printing.

Support Information Services

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Power Macintosh 8100/80AV: NTSC-TV Selection in Monitors Control Panel

This article explains the following two options at 640x480 resolution in the Monitors control panel:

* 640x480 NTSC-TV
* 640x480 NTSC

This article has been archived and is no longer updated by Apple.

The reason the S-Video output to your monitor allows you two choices at the same resolution is because of convolution. The NTSC-TV selection provides convolution and the NTSC selection does not. Using the NTSC-TV option will provide a raster with substantially less jitter than with the NTSC option.

You can not see the menu bar because you are in the overscan mode. Select a reduced resolution (underscan mode) and you will see the menu bar.

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Catalyst: Integrating it for an Apple III and Corvus Omnidrive

This article has been archived and is no longer updated by Apple.
Either a single user or an multi user system may be integrated with the Catalyst for the Apple III provided that the items below are completed. It is assumed that you have initialized your Corvus hard disk, with the SOS format, according to the Corvus Disk System Installation Guides and have performed the following:

1. Update firmware.
2. Generation of a Constellation II system.
3. Addition of the Constellation Utilities.
4. Creation of a volume.
5. Creation of a "User"
6. Grant "User" access to the volume.

For the purposes of these instructions, a Catalyst volume was created, formatted, and mounted on .C2.

Once you have set up your Corvus drive for use, it will be necessary for you to add the Corvus device drivers (.C1-.C6 .CRDW .CORBOOT) to your Catalyst disk. To do this, use the System Configuration Program within Apple's System Utilities to read the device drivers of your Catalyst program disk into memory. Once this is completed, add the Corvus drivers contained in the files A3DRV.BOOT.CODE and A3DRV.SOS.CODE to the existing driver file. These files may be found on the Corvus A3C2.2 diskette. If you are unfamiliar with the procedures necessary to complete the above, consult your Apple Standard Device Drivers Manual for details.

NOTES ON THE MODIFICATION OF THE CATALYST SOS DRIVER FILE

1. In order for Catalyst to work along with the Constellation boot driver .CONSTBOOT it is necessary to remove the Quark .CONSOLE driver and replace it with an Apple .CONSOLE driver. The Apple .CONSOLE driver may be found on any Apple System Utilities Disk. In doing this, the Double Apple ESCAPE option within Catalyst will be disabled which will force you to quit each application installed on the Catalyst by use of a QUIT menu option within each application. The replacement of the Quark .CONSOLE driver will also make Quark's printer spooler Discourse unusable. Discourse uses special attributes of Quark's .CONSOLE driver that are unavailable with the Apple driver.

2. RECOMMENDATION: The Catalyst SOS.DRIVER file contains 18 device drivers with 18K of space remaining. It is possible to add the Constellation II drivers to the Catalyst, however, it may cause a $01 error. This is due to the fact that the driver file, once the Corvus drivers are added, approaches the maximum memory limit. To avoid this, refer to the section in the Catalyst manual dealing with "EXTRA DRIVERS". The following drivers may be deleted to keep the driver list on the Catalyst disk to a minimum:

.AUDIO .RS232 .GRAFIX .PRINTER .FMTD-1 through 4

In order for Catalyst to recognize the Corvus Device it is necessary to modify the .CATALYST Device Configuration Block (DCB).

3. When setting up the .CATALYST driver DCB, Byte 01 will vary depending upon the Corvus driver you are using. For example, .C2 has a unit number of "01". If you wish to use this device, Byte 01 in the Catalyst DCB must be set to "01". Device .C3 has a unit number of "02". If you wish to use this device, Byte 01 in the Catalyst DCB must be set to "02". The .C1 device is the System Manager and is not to be used by Catalyst.

Example of the .CATALYST DCB using the .C2 device, slot 4:

0 1 2 3 4 5 6 7 8 9 A B C D E F

0x - 04 01 F1 01 02 00 00 8F 97 8A 91 93 23 17 17 F6
1x - 00 B8

Once steps 1-3 have been completed, Generate a New System on your Catalyst Boot disk.

SCENARIO

Assuming that the above procedures have been performed, booting the Catalyst disk will activate the driver .CONSTBOOT. The Constellation main menu will appear. Type the user name you created for your Catalyst volume and your password. The Catalyst will now boot through the built in drive and you will be presented with the Catalyst main menu.

You may at this point install the Catalyst system, by following the instructions on page 2-6 of your Catalyst manual.

ERRORS:

SYSTEM FAILURE $05 - The Catalyst contains a Quark .CONSOLE driver. Use the Apple System Utilities to delete it and replace it with an Apple .CONSOLE DRIVER.

NOTE: Apple Computer Inc. is not responsible for the contents of this article.
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Early Language Connections (ELC) & Grady Profile Stack (8/95)

I have the Early Language Connections, and I seem to be missing The Grady Profile in the applications menu of At Ease 1.0. I went to the At Ease setup and gathered applications, but it did not show up. Now it's telling me there are no more applications to gather. Where is it?

This article has been archived and is no longer updated by Apple.

The Grady Profile Student Index is a HyperCard stack, and therefore will not show up under the Gather Applications list. For At Ease 1.0 you will need to make an alias of this item and place it in the At Ease Items folder that resides in the System Folder. For At Ease 2.0 you will need to use the FIND ITEMS button, and add it to At Ease that way.

Article Change History:
09 Aug 1995 - Added keyword and reviewed for accuracy.

Support Information Services
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ARA MultiPort Server: Not AppleShare 4.0 Compatible

This article describes an incompatibility between AppleShare 4.0 and Apple Remote Access (ARA) 2.0 MultiPort Server.
This article has been archived and is no longer updated by Apple.
AppleShare 4.0 is not compatible with ARA MultiPort Server. AppleShare 4.0 is compatible with the ARA Personal Server and ARA Client products.

AppleShare 4.0 and ARA MultiPort Server both use the Apple Shared Library Manager (ASLM). However, AppleShare 4.0 uses version 1.0 and ARA MultiPort Server uses version 1.1. Because ASLM 1.1 is not backward compatible with ASLM 1.0, AppleShare 4.0 and ARA MultiPort Server cannot run on the same server.

ARA Personal Server and ARA Client do not use ASLM, so they are compatible with AppleShare 4.0.

This incompatibility has been fixed with the release of AppleShare 4.0.1 and greater, an upgrade of AppleShare is recommended.
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Apple Multiple Scan Display: Resetting Display Controls

The Multiple Scan 17, and Multiple Scan 20 Displays have adjustments that change the brightness, contrast, center, size, rotation, shape, convergence and color temperature of the picture. This article describes how to reset the display back to factor settings.
This article has been archived and is no longer updated by Apple.
There are three options when resetting the display. You can reset the brightness and contrast, or you can reset all the picture controls.

NOTE: The User's Guide for the Multiple Scan Displays, mentions three methods of resetting the display, the two discussed in this article, and resetting the individual picture controls. You cannot reset individual picture controls.

Resetting Brightness and Contrast
You can reset brightness and contrast to their original levels. You cannot reset only brightness or only contrast; both are reset at the same time.

1) Press the Reset button using the tip of a pen. The Reset button is the button that looks like a large triangle pointing towards the left.

Resetting All Picture Controls
If you like, you can reset all of the picture controls; horizontal and vertical shift, horizontal and vertical size, horizontal and vertical convergence, rotation, picture shape, and color temperature, including brightness, and contrast, to their original levels.

1) While holding down the Control button (the round button to the right of the Reset button), press the Reset button using the tip of a pen.

Resetting All Picture Controls Except Brightness & Contrast
If any of the set-up LEDs are on, pressing the reset button returns all of the settings to their original settings, except the display brightness and contrast.
Published Date: Feb 19, 2012

DOS Compatibility Card: Speciality Cable Pinouts (8/94)

This article lists the pinouts for the DOS Compatibility Card and Quadra 610 DOS Compatible computer specialty cable. This cable connects the DOS Compatibility Card to display devices and the game port.

This article has been archived and is no longer updated by Apple.

DESCRIPTION	PC	Mac	Monitor	Game
SW 1A	1	2		
R AX	2	3		
R AY	3	6		
BLUE	4	9	9	
GREEN	5	5	5	
MAC CSYNC	6	3		
CABLE DET	7	14		
HSYCN OUT	8	15		
SENSE 0	9	4	4	
+ 5 VOLTS	10	1,8,9,15		
R BX	11	11		
R BY	12	13		
SW 2A	13	7		
BLUE GND	14	13	13	
GREEN GND	15	6	6	
MAC HSYNC	16	15		
VSYCN OUT	17	12		
SENSE 1	18	7	7	
SW 1B	19	10		
GROUND	20	11	11,14	4,5,12
SW 2B	21	14		
RED	22	2	2	
RED GND	23	1	1	
MAC VSYNC	24	12		
CSYNC OUT	25	3		
SENSE 2	26	10	10	

Article Change History:
23 Aug 1994 - Changed date in title. Reviewed article.

Support Information Services
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Catalyst: Integrating it for a IIe and Corvus ProDOS Omnidrive

The information below assumes that you are totally familiar with the commands and terminology of the Corvus ProDOS System Manager and the constellation system that was included with your Corvus Omnidrive. Incidentally, the instructions below are also compatible with any copy protected software application.
This article has been archived and is no longer updated by Apple.
Any problems with this installation of the Catalyst system should be referred to Quark Technical Support.

NOTE: Most protected software will only run from slot #6. In most cases, the Transporter card must be in slot #7 and the floppy controller card will reside in slot #6. When creating and mounting volumes, do so on logical drive 1. (eg. slot 5, drive 1.)

PROCEDURE

1. Boot the Corvus System Manager software. At the prompt, type "A2MGR" and press RETURN.

2. Create a ProDOS "user" and format it using the PRODOS FILER. Once the "user" has been created, give it write access to a volume that is to be used for data storage.

3. Boot the Corvus. You will be presented with a prompt stating "NO .SYSTEM FILE PRESENT"

4. Press CONTROL RESET which will take you to the monitor level. An asterisk "*" prompt will appear.

5. Place the Catalyst disk in the floppy drive with the write protect tab removed. Press the 6 key, the CONTROL key, and the P key (read 6 control P) and RETURN. You will be presented with the Catalyst menu . At this point follow the instructions in the Catalyst manual starting with step 5 to complete the Catalyst installation.

NETWORK NOTES:
Catalyst will accept any ProDOS compatible mass storage device including those that support a network environment provided that the user purchase separate copies of software that is copy protected for each node of the network.

For example, if you have a Corvus Omninet system with six work stations using VisiCalc, it will be necessary to purchase six separate VisiCalc packages and six Catalyst packages in order to use the Omninet with in the guidelines of the agreement. Under NO circumstances will two or more Catalyst packages be sold with identical serial numbers. This will necessitate the creation of a separate volume within the network for each network node. This volume will contain the copy protected programs used by Catalyst.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.
Published Date: Feb 19, 2012

LaserWriter Pro 810: Ethernet Card Part Numbers

This article provides the part numbers for ordering the LaserWriter Pro 810 Ethernet card.
This article has been archived and is no longer updated by Apple.
The LaserWriter Pro 810 Ethernet transceivers are no longer available as a finished good. However, these parts are available as Apple Service Parts.

Apple Service part numbers for LaserWriter Pro 810 Ethernet transceivers are:

661-0852 - Ethernet Card
661-0853 - Ethernet, 10 Base T
661-0854 - Ethernet, 10 Base 2
Published Date: Feb 19, 2012

Norton Utilities and Enabler Bundle Resource (5/94)

When I run Norton Utilities 2.0, it says that the bundle bit for my Enabler file has a problem. If I correct this or replace the Enabler with a fresh copy, the problem keeps returning.

This article has been archived and is no longer updated by Apple.
Norton Disk Doctor is giving a false error message because it cannot properly check the active Enabler on the active system volume. You need to run Norton Disk Doctor while booted off the emergency disk. You will then not receive this error.

Support Information Services
Published Date: Feb 19, 2012

Macintosh: Shutting Down Without A Mouse

How do I shut down my Macintosh Performa when the mouse is missing or damaged?
This article has been archived and is no longer updated by Apple.
If your Performa has the Shut Down desk accessory under the Apple Menu, you can use Command-key equivalents to perform a shut down. If you are using System 7.5, you can also use this procedure because System 7.5 provides the Shut Down desk accessory in the Apple menu.

Follow these steps:

1. Type Command-F, the Find command brings up the Find window.
2. Type "Shut Down" into the Find Window, and press the enter or return key.
3. When the "Apple Menu Items" window appears, Type Command-O (letter O), the Open command launches the Shut Down desk accessory and shuts down your computer.

Published Date: Feb 19, 2012

QuickTake 100: ASA Light Sensitivity Rating (5/94)

What is the equivalent ASA light sensitivity rating for the QuickTake 100 digital camera?

This article has been archived and is no longer updated by Apple.
The light sensitivity of the QuickTake 100 is equivalent to an ASA rating of 82 which is 1/4 stop below standard 100 ASA film.

Support Information Services
Published Date: Feb 19, 2012

Macintosh AV Systems: Selecting Flicker-Free Format (5/94)

I have a Macintosh AV computer connected to television display and I am trying to use flicker-free format from the options in the Monitors control panel. I can display video on the television but flicker-free format is grayed out.

This article has been archived and is no longer updated by Apple.
The monitor resolution must be set to 256 colors before you can use flicker-free format on the Power Macintosh AV, Centris 660 AV, Quadra 660 AV, or Quadra 840 AV. Flicker-free format will not work in 16 or 24-bit color modes. Also, make certain you have selected 256 colors before switching to the television.

Support Information Services
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PowerBook Duo: Battery Types and Compatibility

What types of batteries are used in Powerbook Duo computers and how can I identify them?
This article has been archived and is no longer updated by Apple.
PowerBook Duo computers use Nickel Metal Hydride (NiMH) batteries and come in three types: Type I, II, and III.

Type I batteries came installed in Duo 210 and 230 systems, Type II batteries came installed in Duo 250, 270c, and 280 systems, and Type III batteries were installed in the Duo 280c and 2300. It is possible to use both Type II and Type III batteries in Duo 210 and 230 systems with the addition of appropriate battery management software. Type I batteries can be used in newer Duo systems, but battery life is significantly reduced.

Each succeeding battery type offers improved battery performance over the other. The Type II battery provides as much as 50% longer life than Type I batteries. The Type III battery offers up to 15% longer life than the Type II battery. Type II and Type III batteries can be recharged in as little as three hours, depending on the charging method used.

Type II and Type III batteries have the same model number, but are marked differently. Each has either a "Type 2" or "Type 3" logo printed on it. Type I batteries do not have a logo. In addition, the battery door is different on the Type II and III batteries.

The Type II and Type III batteries can be used on all PowerBook Duo computers when the appropriate software has been installed. The Battery Reconditioning software can only be used on the PowerBook 270c, 280, and 280c.

With a Type III Duo Battery, part number M2780LL/A, you receive:

- Type III battery
- PowerBook Duo Enabler 2.0
- Battery case

Installation for Type II Batteries

Installation of the Type II battery and software on a Duo running System 7.1 or System 7 Pro requires a fresh install of system software utilizing the diskettes that came with the Type II battery which include software specifically designed for the new battery.

Below are the directions for those versions of system software.

- For System 7.1, follow the clean install instructions (search the TIL using clean install as your search query). Substitute the Install Me First diskette that came with the battery for the one with System 7.1. If the diskettes are not available, as a temporary measure, follow the steps below for System 7 Pro.
- For System 7 Pro, copy the new enabler, the new control panels, (PowerBook Display, PowerBook, PowerBook Setup, and AutoRemounter) from the Install Me First diskette to your System folder. Copy the additional files from the Extras disk (Network Control Panel, A/Rose, EtherTalk Phase 2, EtherTalk Prep and New Network Resources) to your System Folder as well, and restart.
- System 7.5 and later has the software built in so no additional software is necessary.

Installation for Type III Batteries

With the exception of System 7.5, which has the software built in, to utilize the Type III battery, you need only install the new Enabler in your system folder. After restarting the Duo, the installation process is complete.

Power Adapter and Recharger Information

Type I, II, and III Duo batteries can be recharged in the recharger model M1812 (Marketing number M4178LL/B). The Type I recharger, model M7778, only supports Type I batteries. Contact Apple or an Apple authorized reseller to obtain the correct model. The model number of the recharger is printed on the bottom of it.

If a red light appears when you place a Type III battery into your recharger, the recharger is either the older model or it needs to be updated.

If you have a recharger model M1812 and you need to update it, follow these steps:

1. Shut down the PowerBook Duo computer, make sure the Type III battery and any necessary software has been installed. If you're running System 7.5.1 the Type III Battery extension must be installed.

2. Plug the power adapter into an AC outlet using the power cord that came with the computer.

3. Snap the recharger onto the side of the power adapter.

4. Plug the power adapter cable into the power adapter port on the back of the Duo computer.

5. Turn on the PowerBook Duo to download the update to the charger.

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Macintosh AV Series: Floppy Drive Performance

Tasks such as formatting floppies, duplicating files on floppy disks, and copying from the hard drive to the floppy drive seem to take almost twice as long on the AV systems as compared to other Macintosh units.
This article has been archived and is no longer updated by Apple.
GCR (800K) Performance

This microprocessor (the new integrated floppy controller), while taking over all of the timing-critical floppy control functions, does not have the computational speed of the main processor, or the speed of the 68000 used in original Macintosh systems. The result is that for GCR formatted disks (800K), the additional computation used in GCR coding and decoding makes accesses to and from an 800K floppy slower than on previous macintosh systems. Our tests show that it usually takes about 50% longer to read and write to an 800K floppy on the AV systems as compared to other Macintosh systems. Currently, there are no plans to change the floppy controller for an increase in performance. The performance of the floppy drive in 1.44M mode is comparable to other Macintosh systems.

The 800K read/write performance is a compromise in order to provide the additional functionality of those products based on the current technology, cost, and time to market constraints.

There are some extensions (created outside of Apple) that may improve the read/write performance when using 800K floppy within the DSP based AV products. This is only mentioned as a possibility, as they are not tested by nor can be recommended by Apple.
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LaserWriter 8.1.1: Disable Font Downloading?

When printing a document under LaserWriter 8.x, the fonts that are used in the documents are downloaded before a query is enacted to determine if fonts are available at the printer, or in this case a print spooler causing unnecessary network traffic. Is there a way to not download these fonts to the spooler?
This article has been archived and is no longer updated by Apple.
At the beginning of every 8.x print job, the driver first opens a query job to obtain information about the target device; including its features, fonts, and other characteristics. Most likely this FontQuery does takes place in your setup, and could be confirmed by a packet trace of the print job.

A spooler receiving the query is expected to minimally return a default response. If the spooler cannot return a font list in a format that can be used by the printer driver, then the fonts will be downloaded with the print job.

Netware 3.x spoolers do not return the font list to a PostScript Level II LaserWriter 8.x driver query resulting in the fonts being downloaded. Note that Netware 3.x does support PostScript Level 1 font queries (such as those used by the LaserWriter 7.x driver).

Suggested Alternatives
Use only fonts built-in to your printer, thus eliminating fonts having to be downloaded when processing your job.

Another solution might be to use AppleShare Print Server 4.x or later. However, AppleShare doesn't maintain the font list dynamically, but builds the font list at the time the printer is captured. Fonts downloaded with previous jobs will not be reflected in the font list returned to the FontQuery. Since the font list isn't maintained dynamically, perhaps you could download and store typically used fonts via the LaserWriter Utility on a hard disk connected to the printer, then capture the printer with AppleShare Print Server. Thereafter, only the exceptional fonts used in a print job will be downloaded.
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LaserWriter Pro 600/630: Parallel Port Pinouts

What are the pinouts for the LaserWriter Pro 600/630 parallel port?
This article has been archived and is no longer updated by Apple.

Pin #	Signal	Description
1	/DATA STROBE	Strobe for input data, minimum pulse width is 1 ?second
2	Data1	Data Input bit 1
3	Data2	Data Input bit 2
4	Data3	Data Input bit 3
5	Data4	Data Input bit 4
6	Data5	Data Input bit 5
7	Data6	Data Input bit 6
8	Data7	Data Input bit 7
9	Data8	Data Input bit 8
10	/ACKNOWLEDGE	Handshaking output signal; acknowledges receipt of data and indicates readiness to receive additional data.
11	BUSY	Busy output signal; indicates that a /DATA STROBE has been received, but that /ACKNOWLEDGE has not yet been given. Signal will be high when receive buffer is full or printer fault occurs.
12	PAPER ERROR	Output status signal. Indicates a paper error.
13	SELECT OUT	Not used in the LW Pro 600/630, daisy-chained printer select signal.
14	AUTO FEED	Not used in Postscript printers. Indicates that paper should be fed automatically.
15	SELECT IN	Not used in the LW Pro 600/630, daisy-chained printer select signal.
16	SIGNAL GND	Signal ground
17	CHASSIS GND	Chassis ground
18	Not used	Not used
19-30	SIGNAL GND	Signal ground
33-36	Not used	Not used

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Great Plains Accounting: Using it on an Apple III with Catalyst

This article has been archived and is no longer updated by Apple.
You may move Great Plains Accounting software to the hard disk provided that you have version 3.00.

WARNING: Great Plains assumes that you are using a hard disk with a device driver named ".PROFILE". If you are using another brand of hard disk, rename the device driver accordingly.

Begin by following the LOAD TO HARD DISK PROCEDURE for the ProFile outlined on page 2-4 of the Great Plains module manual of your choice. Complete all steps, then follow along below. Do not continue on to "ENTERING COMPANY DATA" yet.

NOTE: As you copy the Great Plains files to your hard disk from GPS1 you will be asked if you wish to replace the file .PROFILE/SYSTEM.MISCINFO. Answer "NO" to this question. The file will be skipped by System Utilities.

COPY PROCEDURE:

1. Boot your CATALYST disk (if you haven't already.)
2. Select the Catalyst Editor in the Catalyst main menu.
3. Enter "4" to move Great Plains to the hard disk.
4. You will be asked to put the disk containing the interpreter in the internal disk drive and press the space bar. Insert the Great Plains BOOT disk and press the space bar.
5. You will be asked for the hard disk pathname of the interpreter. Enter "CATALYST/GRTPLN.INTERP".
6. The Great Plains interpreter will be copied to your hard disk.

ADDING GREAT PLAINS ACCOUNTING SOFTWARE TO THE CATALYST MENU

1. Select the Catalyst Editor in the Catalyst main menu.
2. Enter "E" to edit the menu.
3. Use the up and down arrow keys to position the inverse bar over the entry you want the program to precede. Press "A" to add a program entry
4. You will be asked for the display name of this program. Enter "GREAT PLAINS".
5. Enter "CATALYST/GRTPLN.INTERP" as the interpreter pathname.
6. You will be asked for a list of any extra drivers this program requires. Press RETURN.
7. Press RETURN for the character set pathname.
8. Press RETURN for standard character set.
9. Press RETURN again to use the default keyboard.
10. Press RETURN to accept the default prefix.
11. Press RETURN for the "Max Files Allowed... question. This will allow the program to be exited only by the QUIT option of Great Plains. This procedure is suggested due to the fact that files and /or data may be lost if the double Apple escape option is used.
12. Press RETURN for the program path.
13. You will be asked if this entry is correct. If it is, enter "Y" then press ESCAPE to exit to the main menu. If you made any mistakes during entry, enter "N". You may then enter the number of the item you wish to correct. When all items are correct, press ESCAPE. Then press ESCAPE again to exit to the main menu.
14. Enter "5" to update the INTERPS file. When you are asked if you want to recalculate the load address, enter "N".
15. Exit to the CATALYST main menu by entering "Q".

Once these steps have been completed, select the number for Great Plains from the CATALYST menu. When the welcome screen appears,press RETURN and continue the installation process outlined on page 2-6 of the Great Plains manual.

NOTE: Multi-company operation of the Great Plains Accounting package can be accomplished by deleting GRTPLN.DATA from the main directory level of your ProFile. This will force Great Plains to look for that file on .D1. In this way you can create a separate boot diskette for each company as outlined in the appendix of your manual and swap disks as necessary prior to invoking Great Plains via Catalyst.

NOTE: Apple Computer Inc. is not responsible for the contents of this article.

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MacX 1.5 and 24 bit Color (4/96)

I want to do 24 bit color image editing from a Sun Workstation using MacX over an Ethernet connection. It is my understanding that the current version of MacX does not support 24 bit color, is this true?

This article has been archived and is no longer updated by Apple.

You are correct. MacX 1.5, supports up to 8 bit color graphic images (256 colors). The X11 R5 server protocols can support 24 bit color graphic images, however, Apple's implementation of MacX 1.5, an X11 R5 based server, still operates at 8 bit graphic mode because some of the graphic code was from MacX 1.2.

Article Change History:

08 Apr 1996 - Updated article to MacX 1.5.

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Power Macintosh Upgrade Card READ ME File (7/94)

This article is the Power Macintosh Upgrade Card READ ME file.

This article has been archived and is no longer updated by Apple.
Important Information About Your Power Macintosh Upgrade Card

Congratulations on purchasing a Power Macintosh Upgrade Card. The information in this document adds to and updates the information in your Power Macintosh Upgrade Card User's Guide and the manuals that came with your computer. Read the tips below as well as your manuals to take full advantage of the increased speed and new capabilities your computer will have after you install the Power Macintosh Upgrade Card.

Memory Requirements of Power Macintosh Application Programs

If you run out of memory when you use Power Macintosh programs, try one of the following:

* Turn on virtual memory. (See "Turning on Virtual Memory," below.)

* Turn on the Modern Memory Manager in the Memory control panel. (Open the control panel and click On under Modern Memory Manager.)

* Have an Apple-authorized dealer or service provider install additional memory, as described in this document and in your Getting Started and Technical Information manuals.

Turning on Virtual Memory

Virtual memory is a feature of the Macintosh that lets you use part of your hard disk as additional memory. If you are using an application program designed especially for computers with Power Macintosh capabilities, turning on virtual memory may help you avoid running out of memory. (Power Macintosh programs are often larger and require more memory than other Macintosh programs.)

To turn on virtual memory, follow these steps:

1. Choose Control Panels from the Apple () menu and open the Memory control panel.

2. Click On under Virtual Memory.

3. Open the Select Hard Disk pop-up menu and choose a hard disk to use for virtual memory.

4. Click the Up Arrow or Down Arrow to set the amount of disk space to be used as virtual memory.

IMPORTANT The preset amount sets virtual memory to twice as much as the amount of built-in memory (RAM) installed in your computer. Instead of using the preset amount, however, try setting virtual memory to the size of your computer's RAM plus one. In other words, if built-in memory is 8M (8 megabytes), set virtual memory to 9M.

5. Choose Restart from the Special menu.

If you find that you still run out of memory when you try to open your Power Macintosh program, repeat the steps and increase the amount of virtual memory by 2 megabytes. (In other words, if you set virtual memory to 9M the first time, repeat the steps and set it to 11M.)

Keep increasing the amount of virtual memory until your Power Macintosh program opens and runs. It is best to set the size of virtual memory as small as possible. Increasing the virtual memory beyond the amount required to run your Power Macintosh program may slow your computer and take up unnecessary space on your hard disk.

Getting More Information About Memory Requirements

When virtual memory is turned on, a Power Macintosh program uses less memory than when virtual memory is turned off. If you check the program's Get Info box before and after turning on virtual memory, you'll see that the numbers in the Memory Requirements portion of the box have changed. This is because turning on virtual memory allows the program to use memory more efficiently.

To view a program's Get Info box, click the program's icon to highlight it, and choose Get Info from the File menu.

Note: Power Macintosh programs frequently use special files called shared libraries. The memory requirements of a program as reported in the program's Get Info box don't reflect the size of any shared libraries the program uses. You may need to turn on virtual memory, or increase the amount of virtual memory, if your Power Macintosh program uses a large shared library.

Adding Memory (RAM)

As an alternative to turning on virtual memory, you can install additional random-access memory (RAM) in your computer. The Technical Information manual that came with your computer describes how much additional memory can be installed in your Power Macintosh.

To avoid damage to your computer, Apple Computer recommends that only an Apple-authorized dealer or service provider install additional memory. Memory for your computer is provided in packages called DRAM SIMMs. The SIMMs must be the correct type for your computer. They should be installed in pairs of the same size into paired slots in your computer. It is very important that the DRAM SIMMs be correctly installed in your Power Macintosh. Incorrect installation can result in errors, unpredictable results, and damage to your equipment and data.

IMPORTANT Do not remove any factory-installed cards from inside your computer. Removing a factory-installed card at an angle can damage your equipment. Any NuBus¬ expansion cards installed in your computer will not operate properly if the factory-installed card is removed. If a factory-installed card needs to be removed, see an Apple-authorized service provider.

Installation and compatibility

The Minimal PowerPC Upgrade Enabler file, which is on both the Install Me First and Disk Tools floppy disks, allows you to start the computer with either of those disks. When you start up from a hard disk, you need the complete PowerPC Upgrade Card Enabler on that disk. If you have installed your Power Macintosh Upgrade software on your hard disk, the complete PowerPC Upgrade Card Enabler was installed automatically. Don't try to use the Minimal PowerPC Upgrade Enabler file in place of the complete enabler.

If you want to change the operating mode of your Macintosh, you must do so by changing the settings in the Power Macintosh Card control panel. To change the Power Macintosh Upgrade Card settings choose Control Panels from the Apple menu and open the Power Macintosh Card control panel. Click Off to turn the card off and use the original Macintosh processor. Click On to turn the card on and use the Power Macintosh processor.

IMPORTANT In order for the change to take effect, you must shut down your Macintosh completely and then restart it.

Always unplug your computer before installing or removing the Power Macintosh Upgrade Card. If you have installed the Power Macintosh Upgrade Card in (or removed the card from) a Macintosh Quadra 900 or 950 computer and the computer then fails to start up, try unplugging your computer and then plugging it in again. (Or, you can turn the key switch on the front of the computer to the Off position?indicated by the 'O' above the switch?and then to the On position?indicated by the ' | ' above the switch.) Then reset the PRAM by holding down the Command, Option, P, and R keys simultaneously while you start up the computer. Do not release the keys until you hear the startup sound twice.

CD-ROM Users

If you install the Power Macintosh Upgrade Card software on a Macintosh that has CD-ROM software version 5.0 installed, your system will contain two audio CD players, CD Remote and AppleCD Audio Player. You can use either player. If you want to get rid of one of the audio CD players, drag its icon from the Apple Menu Items folder to the Trash. If you get rid of the CD Remote player, also get rid of the CD Remote Init by dragging it from the Extensions folder to the Trash.

Installation Tips for Advanced Users

If you remove essential files from your original System Folder (to make it no longer a true System Folder), be sure to complete the installation of your new system (with its System Folder). If you cancel installation when you don't have a true System Folder, you won't be able to use your system. You'll need to start up your Macintosh in one of these ways:

* If you want to install new system software, use the Install Me First disk as your startup disk.
* If you want to put the files you removed back into the original System Folder, use Disk Tools as your startup disk.

If you experience problems installing software not designed especially for Power Macintosh computers, turn off the Power Macintosh Upgrade Card and reinstall the software.

Network Software

Please use the following versions of networking software with your Power Macintosh computer:

AppleShare Server 4.0.2

AppleTalk Internet Router 3.0.1
Inter*Poll 1.0.1
MacTerminal 3.0
Apple Remote Access 2.0 (Client; Personal Server) 2.0.1 (Multiport Server)

If you are using the Ethernet NuBus card or Twisted Pair NuBus card, use the latest Network Software Installer disk to install the required networking software. Turn off the Power Macintosh Upgrade Card before doing the installation.

What To Do If Your Computer's Performance Decreases

If you notice a decrease in your computer's speed and general performance after adding special software (a control panel, system extension, or custom utility), it may be because your special software does not work well with Power Macintosh computers.

* To find out if your special software is the problem, hold down the Shift key while you restart the computer. This temporarily turns off certain kinds of software. If the computer performs better without the special software, then that software is likely to be the problem.

* Drag the problem software out of the System Folder or remove it from your hard disk. (The software might be in the Control Panels or Extensions folders, which are inside the System Folder.) If the computer performs better when the software is removed, contact the software's manufacturer for information or an upgrade.

Serial Communications Compatibility

If you experience problems with software using high speed serial communications connections on a Macintosh Quadra 900 or 950 with the Power Macintosh Upgrade Card turned on, make sure the serial port is set to Compatible. (Open the Serial Switch control panel and click Compatible.)

Using CloseView

CloseView does not work when virtual memory is turned on. To use CloseView, turn off virtual memory in the Memory control panel. (Programs designed especially for Power Macintosh may require that virtual memory be turned on. You can't use CloseView with such programs.)

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06 Jul 1994 - Removed binary attachment.

Support Information Services
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PowerBook: Dual-Scan Display Explained

With regards to the PowerBook display, what does "dual-scan" mean?
This article has been archived and is no longer updated by Apple.
A dual-scan display is a passive matrix display that delivers almost twice the refresh rate of a standard passive-matrix display.

Instead of scanning all the lines of the screen from top to bottom, a dual-scan display divides the screen in two and scans the top half and bottom half simultaneously. This effectively doubles the screen's performance, and it makes colors appear brighter.
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Pascal 1.2 128K Development System: Using it with a QC Hard Disk

This article has been archived and is no longer updated by Apple.
If you are fortunate enough to own the Pascal 1.2 development system you can access all features of it from your QC hard disk. The 128K development version is REQUIRED.

It is assumed that you are familiar with the Pascal development system and the workings of the Apple II Pascal Software supplied with your QC hard disk.

PROCEDURE

1. Create a development version of the Apple Pascal II software disk using the procedure on page 1-4 of the Quark Hard Disk Drive Pascal II Users Manual. In addition to these steps, it is necessary to convert the software from a 64K development version to a 128K development version. To do this place the APPLE3 Pascal disk in the disk drive and T(ransfer "APPLE3:128K.APPLE" and "APPLE3:128K.PASCAL" to "QUARK:SYSTEM.APPLE" and "QUARK:SYSTEM.PASCAL" on the Apple II Pascal software disk. When asked to remove old files, answer "Y".
2. Make a copy of the APPLE1 disk and convert this disk to a 128K development version by T(ransfering APPLE3:128K.APPLE and APPLE3:128K.PASCAL to APPLE1:SYSTEM.APPLE and APPLE1:SYSTEM.PASCAL. When asked to remove old files answer "Y".
3. Boot the newly modified Apple IIPascal Software disk.
4. From the main menu select the VOLUME MANAGER.
5. Select CREATE VOLUMES and make a PASCAL II volume on your QC hard disk that is 800 blocks in size. Mount this volume with Read/Write access by pressing RETURN at the prompt "OK to allow unrestricted access to this volume?".
6. Return to the VOLUME MANAGER main menu and select EDIT CURRENT MOUNTS.
7. Set up the newly created Pascal II volume to currently mount on unit #5. Mount this volume with Read/Write access by pressing RETURN at the prompt "Mount with Read/Write access?".
8. Return to the VOLUME MANAGER main menu and select QUIT.
9. Select RENAME VOLUME and change the volume name to anything you wish.
10. Return to the Pascal QC Hard Disk Utilities menu and select QUIT TO PASCAL.
11. Insert the 128K APPLE1 in the disk drive and select F(iler.
12. Select T(ransfer. Copy the entire contents of APPLE0, APPLE1, APPLE2, and APPLE3 to "#5:=". Certain files, particularly SYSTEM.APPLE and SYSTEM.PASCAL and SYSTEM.COMPILER are duplicated throughout these disks. When asked to remove old files, answer "N".
13. Place the APPLE3 disk in the disk drive. T(ransfer the files "APPLE3:128K.APPLE" and APPLE3:128K.PASCAL" to "#5:SYSTEM.APPLE" and #5:SYSTEM.PASCAL". When asked to remove old files, answer "Y".
14. Insert the Apple II Pascal Software disk in the disk drive and T(ransfer "QUARK:=" to "#5:=". When asked to remove old files answer "N".

FINISHING UP

1. Boot the Apple II Pascal Software disk and select VOLUME MANAGER.
2. Select EDIT CURRENT MOUNTS. Mount your Pascal II volume on unit #4 by selecting "1" and pressing RETURN. Respond to the prompt "Mount which volume?" by typing the name of your Pascal II volume and pressing RETURN. Mount this volume with Read/Write access by pressing RETURN at the prompt "Mount with Read/Write access?".
3. Return to the VOLUME MANAGER main menu and select EDIT AUTOMATIC MOUNTS.
4. Auto mount your Pascal II volume on unit #4 by selecting "1". Respond to the prompt "Mount which volume?" by typing the name of your Pascal II volume and pressing RETURN. Mount this volume with Read/Write access by pressing RETURN at the prompt "Mount with Read/Write access?".
5. Reboot the Apple IIPascal Software disk. You will notice that after the initial boot, all files are being accessed from the QC hard disk. Surprise....
You will be able to access both Apple II Pascal Software files from your hard

disk and by quitting to Pascal, will be able to access all Pascal development tools without rebooting.

NOTE: Apple Computer Inc. is not responsible for the contents of this article.
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QuickTake: System Requirements (5/94)

What are the system requirements for the QuickTake camera software? I need this information for customers who are "on the edge" in terms of memory and storage.

This article has been archived and is no longer updated by Apple.
According to page 2 of the Apple QuickTake 100 User's Guide, the System requirements are as follows for the QuickTake 100:

* a Macintosh with a 68020 or higher CPU (any Macintosh except a Macintosh Plus, SE, Classic, Portable, or PowerBook 100)
* system software version 7.0.1* (with Tune-Up 1.1.1) or a later version
* 4MB of RAM with 8MB of virtual memory or 8MB of RAM
* Apple SuperDrive (or any floppy drive that can read high-density disks)
* a hard drive with at least 10MB available

Support Information Services
Published Date: Feb 19, 2012

Early Language Connection/Writing Center: Passwd Issue (8/95)

I have the Apple Early Language Connections (AELC), and am having problems using the Writing Center. I'm asked for a password whenever I try to run the Writing Center.

This article has been archived and is no longer updated by Apple.

The Writing Center is password protected with At Ease 1.0 so students can't access it, and it's the same password as the Administrator password in At Ease. The Writing Center was intended to be used by teachers, and not the students, and it is not possible to set up a group of users with access to it, or to make the password different for The Writing Center.

If you use a different version of At Ease, password protection does not work, and anyone will be able to access The Writing Center.

Article Change History:
09 Aug 1995 - Added keyword and reviewed for accuracy.

Support Information Services

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Power Macintosh: What Does Native Mean (5/94)

This article describes what Native means when referring to Native Power Macintosh applications.

This article has been archived and is no longer updated by Apple.
First for some definitions.

* Native application, is an application whose executable code is in the instruction set architecture of the CPU.

* PowerPC Native application, is an application that contains code only for a PowerPC microprocessor.

* 680x0 Native application, is an application that contains code only for a 680x0 microprocessor.

Since the Power Macintosh provides 68LC040 emulation for application compatibility, native or native application came to mean executable code, both system routines and third-party software, which runs on the hardware CPU, a PowerPC 601 microprocessor. It distinguishes between software running in emulation, and software running on the hardware.

Support Information Services

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LaserWriter Pro 810: Specifications For Labels

What recommendations are there for printing labels on the LaserWriter Pro 810?
This article has been archived and is no longer updated by Apple.
In order to minimize paper handling problems labels should be printed using the optional media feeder which attaches to the manual feed slot. The media feeder helps prevent skewing, and also provides a straight-through paper path for the labels as long as the face-up tray is also installed. Using the paper trays or choosing face-down printing increases the risk that a label might come unglued from the backing sheet and cause a paper jam.

The adhesives used in the labels should be able to withstand a temperature of approximately 410 degrees fahrenheit for 0.1 seconds. The fuser temperature during standby is 392 degrees fahrenheit (200 degrees Celsius) and rises to 410 degrees fahrenheit (210 degrees Celsius) when printing. These values are slightly higher than 8 ppm print engines because the fusing process must occur in a shorter period of time at 20 ppm. These are the default fusing temperature values as shipped from Apple, but they can be modified slightly by changing the parameters while in the service mode.

Label sheets that have missing labels, or that have any part of the backing sheet exposed should not be used. Labels that have areas of exposed adhesive should also not be used because the adhesive will adhere to the rollers and components in the paper path.

There are several manufacturers who are marketing special labels for the laser printer market. Apple suggests consulting with your local paper supplier or computer store for more specific information.
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LaserWriter Pro 810: No Limits on Downloading Fonts

The LaserWriter Pro 810 has a SCSI port for an external HD. Is there any network topology limitation to downloading fonts to that HD (can I download via Ethernet or LocalTalk)?
This article has been archived and is no longer updated by Apple.
There are no "topological" limitations on downloading fonts to a hard drive attached to a LaserWriter Pro 810. We have verified this by downloading TrueType and Type 1 PostScript fonts to the hard drive using Ethernet and LocalTalk from the LaserWriter Utility software.

We haven't tried downloading fonts to the printer in the Windows or Unix environment, but there shouldn't be any problems with this.
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LaserWriter: Slow Job Cancellation Normal (5/94)

Every time we cancel a print job, it sends the LaserWriter IINT into a 10 minute cycle of blinking the ready light before it cancels the job. We are using a majority of Macintosh IIci computers running system 6.0.7 and LaserWriter 7.1.1.

This article has been archived and is no longer updated by Apple.
What you've encountered is normal. Here is what is happening.

When you send a print job to a printer, data is processed until one of two things occurs: and end-of-transmission (Control-D) character transmitted in the print job is reached (normal), or there is a timeout on the communications channel (typically abnormal). The Printer Access Protocol sets up, maintains, and closes connections between workstations, printers, and print spoolers.

When you cancel a print job using the print monitor, the PAP client on the workstation issues a PAPClose call and an ATP transaction request is sent to the other end with PAP function CloseConn. At the server/printer end, the receipt of the CloseConn causes the connection to be torn down--but the server/ printer may continue to process data for the ongoing job. When the PostScript interpreter is ready to receive more of the print job data from the client, it detects the PAP connection is closed and invokes the WaitTimeout timer, the default of which for Apple LaserWriters is 300 seconds (5 minutes). (This timer is also set to 300 seconds, for the current job, by the LaserWriter 7.x driver when it begins the print job). The LaserWriter simply waits until "timeout" and then assumes that the job is complete. At that point, it resets itself to the initial job state.

During some periods during the processing of a printing job, you may be able to cancel the print job almost immediately, but as you have found, other times when the printer is busy processing the job, it may take awhile before it even learns the connection was closed, and then another 5 minutes before it is willing to accept another print job. A faster printer than the LaserWriter IINT may require less time to process a job; therefore, a faster printer will enter the WaitTimeout period faster.

There are two workarounds to this problem. You may either:

1) Cancel the print job sooner

or

2) Don't cancel the print job at all

Alternatively, by using a faster printer, your printer will free up more rapidly after a print job is canceled.

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Word Juggler: Printer Filters

This article has been archived and is no longer updated by Apple.
Below are many of the common printers that are available on the market and the printer filters supplied with the Word Juggler software that support the various features of those printers. Some filters are designed with the specific printers in mind, while other filters are matched to the printer taking into consideration the features of the device.

PRINTER FILTER TYPE

QUME SPRINT 5 APPLE LQP/DIABLO/XEROX/QUME/NEC STANDARD
QUME SPRINT 7 APPLE LQP/DIABLO/XEROX/QUME/NEC STANDARD
QUME SPRINT 9 APPLE LQP/DIABLO/XEROX/QUME/NEC STANDARD
QUME SPRINT 11 APPLE LQP/DIABLO/XEROX/QUME/NEC STANDARD

DIABLO 630 APPLE LQP/DIABLO/XEROX/QUME/NEC STANDARD
DIABLO 620 APPLE LQP/DIABLO/XEROX/QUME/NEC STANDARD

XEROX 1630 APPLE LQP/DIABLO/XEROX/QUME/NEC STANDARD

IBM 75 OTHER WITH BACKSPACE STANDARD

NEC 3510 NEC 35x0/55x0/77x0 STANDARD
NEC 3520 NEC 35x0/55x0/77x0 STANDARD
NEC 3530 NEC 35x0/55x0/77x0 STANDARD
NEC 5510 NEC 35x0/55x0/77x0 STANDARD
NEC 5520 NEC 35x0/55x0/77x0 STANDARD
NEC 5530 NEC 35x0/55x0/77x0 STANDARD
NEC 7710 NEC 35x0/55x0/77x0 STANDARD
NEC 7720 NEC 35x0/55x0/77x0 STANDARD
NEC 7730 NEC 35x0/55x0/77x0 STANDARD
SPINWRITER NEC 35x0/55x0/77x0 STANDARD

NEC 3515 APPLE LQP/DIABLO/XEROX/QUME/NEC STANDARD
NEC 3525 APPLE LQP/DIABLO/XEROX/QUME/NEC STANDARD
NEC 5515 APPLE LQP/DIABLO/XEROX/QUME/NEC STANDARD
NEC 5525 APPLE LQP/DIABLO XEROX/QUME/NEC STANDARD
NEC 7715 APPLE LQP/DIABLO/XEROX/QUME/NEC STANDARD
NEC 7725 APPLE LQP/DIABLO/XEROX/QUME/NEC STANDARD
NEC 8023A NEC 8023A AND C.ITOH 1550 USER

ANADEX 9500 RODUCTS P80 DATA PRODUCTS USER
DATA PRODUCTS P132 DATA PRODUCTS USER

DAISYWRITER APPLE LQP/DIABLO/XEROX/QUME/NEC STANDARD

GEMINI 10X EPSON FX & RX USER
GEMINI 15X EPSON FX & RX USER
POWERTYPE APPLE LQP/DIABLO/XEROX/QUME/NEC STANDARD
RADIX-10/15 WJ.RADIX (AVAIL ON DISK FROM QUARK)

EPSON MX-80 EPSON MX USER
EPSON MX-100 EPSON MX USER
EPSON MX-80GP EPSON FX & RX USER
EPSON MX-100GP EPSON FX & RX USER
EPSON FX-80 EPSON FX & RX USER
EPSON FX-100 EPSON FX & RX USER
EPSON RX-80 EPSON FX & RX USER
OKIDATA 92/93 OKIDATA 84,83 & 82 USER
IMAGEWRITER APPLE DMP & IMAGEWRITER USER

COMREX CR-1 OTHER W/O BSP NO AUTO LF STANDARD
COMREX CR-2 APPLE LQP/DIABLO/XEROX/NEC STANDARD

MANNESMANN EPSON FX & RX USER
TALLY SPIRIT 80

SILVER REED EXP 550 APPLE LQP/DIABLO/XEROX/QUME/NEC STANDARD

PRIMAGES I APPLE LQP/DIABLO/XEROX/QUME/NEC STANDARD

BROTHER HR-15 APPLE LQP/DIABLO/XEROX/QUME/NEC STANDARD
DYNAX DX-15 APPLE LQP/DIABLO/XEROX/QUME/NEC STANDARD

DTC 380Z DTC 380 USER
PANASONIC KXP1090 EPSON FX & RX USER
PANASONIC KXP1091 EPSON FX & RX
Press the right-arrow key as many times as necessary to select the filter that you desire.

All USER filters can be accessed from the Word Juggler UTILITIES menu. To select a USER filter, follow along below:

1. Proceed to the TEXT ENTRY MODE by pressing RETURN from the Word Juggler MAIN MENU.
2. With the Word Juggler (REMOVE THE WRITE PROTECT TAB) installed in the disk drive press CLOSED APPLE and "1".
3. From the UTILITIES menu select option "5" INSTALL USER PRINTER FILTER.
4. Select from the menu the USER filter that matches your printer from the list above and press RETURN. The filter will be automatically copied to your Word Juggler disk.
5. Press "0" to exit to the Word Juggler TEXT ENTRY MODE.

NOTE: Apple Computer Inc. is not responsible for the contents of this article.
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StyleWriter: General Troubleshooting Procedures

This article describes the steps for troubleshooting the StyleWriter and StyleWriter II printers. The steps for troubleshooting the printers are identical.
This article has been archived and is no longer updated by Apple.
If you are having problems with your StyleWriter or StyleWriter II printer here are the steps to determine where the problem is.

Step 1
Shut down your Macintosh.

Step 2
Turn off your Macintosh and StyleWriter printer.

Step 3
Remove all paper from printer.

Step 4
Disconnect the serial cable printer cable from the computer and the printer.

Step 5
Disconnect the power cable.

Step 6
Wait approximately 15 seconds, then reconnect the power cable to the printer.

Step 7
Reload the paper in the printer gently. Do not force the paper into the printer.

Step 8
Generate a test page on the StyleWriter:

- StyleWriter: With the printer off, hold down the form feed button, then press the power button and release both buttons simultaneously.
- StyleWriter II: With the printer off, hold down the power button until it starts to generate the test page.

Step 9
If the test page prints improperly or does not print:

1. Remove the ink cartridge from the printer.
2. Verify that the tape used during shipping has been removed from the cartridge.
3. Manually clean the cartridge if necessary by covering the ink jets with a wet cloth or paper towel and sling the cartridge.
4. Reinsert the ink cartridge.
5. Generate another test page.
6. If the printer still does not properly print a test page, replace the ink cartridge.
7. Generate another test page.

Step 10
If the test page prints properly, reconnect the printer to the computer. You can connect to either the printer, or the modem port, but you must make sure that the same port is selected in the Chooser.

Step 11
Remove any spooled files in the PrintMonitor Documents folder in the System Folder. Here is how to do this:

1. Open the PrintMonitor Documents folder, if there is anything in the folder, throw the entire folder in the Trash.
2. Restart the computer, and empty the Trash. If there are documents in this folder waiting to be printed and you do not remove the folder immediately, it tries to print those documents. Corrupted PrintMonitor documents will cause error messages, so you want to remove all the spooled documents.

Step 12
Open the Chooser and select the correct printer driver. Make sure that you select the proper driver for the printer. If you select a StyleWriter driver for a StyleWriter II, you will get error messages and will not be able to print.

Step 13
Select the proper serial port (modem or printer).

Step 14
Turn background printing off. This is not necessary for printing, but makes troubleshooting much easier

Step 15
Make sure AppleTalk is inactive.

Step 16
Print from the Finder. From the file menu choose Print Window, Print Desktop, or Print Directory depending on what you have on your desktop.

Step 17
If the printer prints from the Finder, but not from an application, the problem is with the application program and you need to contact the software vendor to troubleshoot the problem.

Step 18
If you cannot print from the Finder, restart with extensions off (hold down the shift key during the startup procedure). If this solves the problem, follow normal Extension troubleshooting procedures.

Step 19
If you still have problems, reinstall of the printer software :

1) Open the Extensions folder and throw away the PrintMonitor and StyleWriter and StyleWriter II files.
2) Restart the Macintosh with extensions off.
3) Reinstall the printer software.

Step 20
If you still have problems, do a clean reinstall of the system software and printer software.

Note: Check Apple Software Updates sites for the latest version of StyleWriter software.

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StyleWriter: Common StyleWriter Problems (2/95)

This article contains some of the more common problems and solutions regarding the StyleWriter and StyleWriter II printers.

This article has been archived and is no longer updated by Apple.
Problem: Document Changes Font Halfway Down the Page. This is caused by low system memory available. This is a common situation when using products like Microsoft Word 5.0, which uses 2MB on a 4MB Macintosh.

Solution: Try printing with background printing off. A better solution is upgrading the amount of RAM in your Macintosh.

Problem: Cannot find the StyleWriter or StyleWriter II printer in the Chooser. Check in Extensions (System 7) or the System Folder (System 6) and make sure that the Stylewriter II and the Stylewriter driver are present.

Solution: If the drivers are not in the proper location, move them into the proper location. Otherwise, reinstall the printer software.

Problem: Any error message mentioning the ready button. This indicates that the wrong printer driver is selected or the wrong type of cable is being used.

Solution: Select the proper printer in the Chooser. Use a Macintosh serial cable, not a PhoneNet cable.

Problem: Error message states: Stylewriter is out of paper or paper in printer is different size than paper selected. This indicates that the wrong printer driver is selected, the wrong type of cable is being used, or there is a problem with the printer cable.

Solution: Select the proper printer in the Chooser. If you have Global Village fax software installed, make sure that you do not have GlobalFax selected instead of the proper StyleWriter driver. Use a Macintosh serial cable, not a PhoneNet cable.

Problem: Text prints one line on top of the other, all in one column. This problem only occurs with certain versions of Microsoft Word 4.0 software. Microsoft has written a special TrueType INIT that has to be used with these versions of Microsoft Word.

Solution: Contact Microsoft for the INIT or upgrade to a later version of Microsoft Word.

Problem: Grayscale printing option is dimmed. Grayscale printing requires a Macintosh that has 32-bit color QuickDraw in ROM. The following Macintosh computers do not and thus cannot access grayscale printing:

- Macintosh Plus
- Macintosh SE
- Macintosh Classic
- Macintosh Portable

Solution: None

Problem: Background printing is dimmed. This only happens with System 6 when using Finder instead of MultiFinder.

Solution: Switch to MultiFinder and restart.

Problem: The StyleWriter II feeds all paper through the printer either all at once or one sheet after another. There is a Paper Feed Roller Assembly inside the printer. The roller consists of two 'D' shaped rollers that when activated, rotate one revolution to pick the top sheet of paper from the input tray and feed it into the platen roller further inside the printer. Attached to the end of this roller assembly is a cam that raises and lowers the lift plate that supports the stack of paper in the input tray. If the printer is bumped, or the Paper Feed Roller Assembly is moved out of position by inserting too much paper, the cam is moved sufficiently and allows the lift plate to rise, causing the feeder to be out of the home position, which results in paper feeding problems.

Solution: Remove all paper form the printer. Turn the printer off, then turn it back on. During the normal start up sequence, the Paper Feed Roller Assembly automatically rotate itself to the correct position (a flag located on the roller assembly shaft is sensed by and optical sensor on the main logic bard). This prevents the paper feeder trying to feed paper from an empty bin. When you are printing, reduce the paper stack to under 1/2

inch.

?roblem: The mouse does not move smoothly on a Macintosh Plus or 68000 Macintosh with background printing. This is a problem with the 68000 Macintosh computers and background printing.

Solution: Turn off background printing.

Problem: Sometimes, when installing StyleWriter software on a System 6.0.7 machine, the installer hangs and simply doesn't work.

Solution: Drag-copy the StyleWriter driver, the System 6.x Chooser, and the TrueType init into the System Folder, then use Font/DA Mover to install the fonts.

Problem: Structured drawing programs and desktop publishing programs do not print out properly on the StyleWriter and StyleWriter II. Programs like Quark Xpress, PageMaker, Illustrator, and FreeHand do not properly handle several things like letter kerning, line spacing, rotated text looks like bitmaps, and out of place graphics. This is because these programs rely on PostScript code to handle many of these features. The StyleWriter and StyleWriter II are QuickDraw printers, not PostScript printers.

Solution: Use a PostScript printer.

Article Change History:
16 Feb 1995 - Revised format. Replaced solution for paper feed problems.
15 Dec 1994 - Add keyword and make minor technical updates.
15 Sep 1994 - New method of resetting the StyleWriter II.

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Macintosh Performa: Ferro-Resonant Transformer (5/94)

The user is attaching an uninterruptable power supply (UPS) to their Macintosh Performa and needs to know if the Performa uses a ferro-resonant transformer.

This article has been archived and is no longer updated by Apple.
The Macintosh Performa does not use a ferro-resonant transformer. This type of transformer (large) was used in conjunction with a larger capacitor to produce a constant output voltage [also known as "constant voltage transformer (CVT)"], resonating between 50 and 60 Hz. It is a very old design and the power supply was very heavy, and it is seldom used in the industry.

We recommend that the customer use a true sinewave uninterruptable power supply with all Apple's platforms for best results.

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MacTCP 2.0.6: Error While Installing Update Patch (12/94)

When installing the MacTCP 2.0.6 update patch, an error occurs indicating incompatible or unexpected driver resources. Is there a workaround?

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In order for the MacTCP 2.0.6 patch installer to run correctly, you must work with an original (unmodified and unopened) copy of the MacTCP 2.0.4 Control Panel. To resolve the problem follow these steps:

NOTE: All licensed copies of MacTCP 2.0.4 can be upgraded. For earlier MacTCP 2.x versions (2.0 and 2.0.2), you must first be updated to version 2.0.4 before updating to version 2.0.6.

From MacTCP 2.0.4 to 2.0.6
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1) Make a backup of the MacTCP Prep file on a floppy or elsewhere on your hard disk.

2) Delete the existing MacTCP 2.0.4 Control Panel and MacTCP Prep file.

3) Drag a new copy of MacTCP 2.0.4 Control Panel from the original disk to the System Folder.

4) Restart your Macintosh.

5) Without opening the MacTCP 2.0.4 Control Panel, run the MacTCP 2.0.6 patch installer.

6) Replace the MacTCP Prep file with the backup you made, or open the MacTCP 2.0.6 Control Panel and enter the IP configuration settings.

The MacTCP DNR file should not affect this procedure.

NOTE: If you are using System 7.5, you need to use the installer for System 7.5 in order to obtain a new MacTCP control panel.

From MacTCP 2.0.2 to 2.0.6

If you are using MacTCP 2.0.2, and you wish to update to MacTCP 2.0.6, follow these steps:

1) Make a backup of the MacTCP Prep file on a floppy or elsewhere on your hard disk.

2) Delete the existing MacTCP 2.0.2 Control Panel and MacTCP Prep file.

3) Drag a new copy of MacTCP 2.0.2 Control Panel from the original disk to the System Folder.

4) Restart your Macintosh.

5) Without opening the MacTCP 2.0.2 Control Panel, run the MacTCP 2.0.4 patch installer.

6) Restart your Macintosh.

7) Without opening the MacTCP 2.0.4 Control Panel, run the MacTCP 2.0.6 patch installer.

8) Replace the MacTCP Prep file with the backup you made, or open the MacTCP 2.0.6 Control Panel and enter the IP configuration settings.

The MacTCP DNR file should not affect this procedure.

Article Change History:
09 Dec 1994 - Added information on instaling MacTCP with System 7.5.
30 Nov 1994 - Updated article to MacTCP 2.0.6.

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AppleShare 4.0 or AIR 3.0: MS Fox Pro 2.5 Issue

This article describes a problem and solution when using Microsoft Fox Pro 2.5 with either AppleShare 4.0 or Apple Internet Router (AIR) 3.0. This article has been archived and is no longer updated by Apple.
When you install Fox Pro 2.5 on a Macintosh computer, the Apple Shared Library Manager (ASLM) software is also installed. This causes a problem if you are running AppleShare 4.0 or Apple Internet Router (AIR) 3.0, which uses ASLM version 1.0. AppleShare File Server fails to initialize because of an incompatible version of Apple Shared Library Manager. The Router may fail to initialize for the same reason, only if the SNMP extensions are installed, as this is the only part of the Router that uses ASLM.

The solution is to upgrade to AppleShare 4.0.1 or AIR 3.0.1, which provides compatibility with ASLM version 1.1. Fox Pro, Internet Router, and AppleShare Server can then co-exist using a single version of ASLM.
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LaserWriter 8.x: Print Servers Issues

We've experienced some oddities with the LaserWriter Pro 810, Print Server 3.0 and 4.0 and QuarkXpress 3.11. The spooler Queue and Log windows contain extraneous entries (four lines rather than one) and the Document name and User name appear in parenthesis. During the spooling process, the document name appears during the postscript prolog creation but then disappears while the document is printing. It's as if the prolog is a separately spooled document from the actual document.

We are using Laserwriter 8.1.1. The Pro 810 PPD file must be manually selected when going thru either 3.0 or 4.0 spooler, rather than using the generic PPD which is selected by Auto-Setup in order to get the Ledger page size pop-up in the Page Setup dialog box in QuarkXpress.
This article has been archived and is no longer updated by Apple.
What you report are characteristics of clients printing using the LaserWriter 8.x driver. The print servers don't entirely support the those drivers and the queries they make.

1. At the beginning of every 8.x print job, the driver first opens a separate query job to obtain information about the target device, including its features, fonts, and other characteristics. This query is listed first in brackets in the Spooler Queue. The second job listed in the Spooler Queue is your actual document to be printed (note the spooler will cite the number of pages in that print job). The Spooler Log lists the start and completion times of each of the above jobs, for a total of four entries.

2. The client is unable to obtain printer information via the print server resulting in the generic PPD being offered. You must manually select the printer's specific PPD if you wish to use its special features via the Print dialogs (as compared to downloading specific PostScript commands to control the printer and print job, which doesn't require the specific PPD).
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Personal LaserWriter 320, LaserWriter 4/600: No Support from MS-DOS

Is possible to connect a Personal LaserWriter 320 to a PC or PC Compatible computer?
This article has been archived and is no longer updated by Apple.
The Personal LaserWriter 320 and LaserWriter 4/600 were designed to meet the needs of home and small office customers, so cross-platform support was not included or intended. Including this type of support would have added unnecessary complexity and cost to the printer. Customers who are looking for a printer to support both Macintosh and DOS/Windows computers need to look at our other printers that provide this type of support.

Since the Personal LaserWriter 320 does not have PCL4 capability or Diablo 630 ECS emulation, customers with PCs who wish to print using the Personal LaserWriter 320, need to use AppleTalk as the Protocol, and PostScript as the page description language. Products such as CopsTalk by Thursby Software Systems, Inc., and PCMacLAN for Windows by Miramar Systems, Inc., provide the AppleTalk stack. Microsoft ships PostScript print drivers with their operating systems.

In addition to necessary software, the printer must be connected to the network. Ethernet is generally the network of choice, and a bridge device is required to connect the LocalTalk printer to an Ethernet network. Bridge products include iPrint adaptor by Farallon Communications, Inc., and AsantePrint by Asante Technologies, Inc.

At this point, printing from Windows 95/98 via the Ethernet network should be possible.

Note: Mention of a particular product does not represent an endorsement, either expressed or implied, by Apple Computer, Inc.

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Direct Dialup Mail Install Problem and Modem Tool 1.5 (5/94)

Why will Direct Dialup Mail (DDM) not install if the Apple Modem Tool 1.5 is installed? Do you know if it will work if the Apple Modem Tool 1.5 is installed after the DDM installation?

This article has been archived and is no longer updated by Apple.
The reason you are having installation problems is the modem tool is in use, so the installer application can't replace it. If you move the modem tool out of the Extensions folder, the installer application will work properly. You can then put the Modem Tool 1.5 back in the Extensions folder and replacing the Modem Tool 1.1.1 that ships with DDM after you've finished the installation.

Support Information Services

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PowerBook Duo 280 and 280c: FPU not integrated

I am using a PowerBook Duo 280c in a Duo Dock with a math coprocessor installed, but my software application insists that an FPU is not installed. Why is this happening?
This article has been archived and is no longer updated by Apple.
Macintosh PowerBook Duo 280 and 280c systems use a Motorola 68LC040 microprocessor which does not have an integrated math coprocessor, otherwise known as a floating point unit (FPU). Some software packages may require an FPU and therefore will not run on this series of computers.

In addition, the 68882 math coprocessor option for the Duo Dock and the built-in FPU of the Duo Dock II are not compatible with the 68LC040 used in the Duo 280 and 280c systems. These computers will still operate in the Duo Dock, but will ignore the installed 68882 math coprocessor.

Users with software packages that require an FPU should contact the software vendor for assistance.
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PowerBook 540/540c: Modem Support

What modem ships with the PowerBook 540 and 540c?
This article has been archived and is no longer updated by Apple.
In the United States and Canada the PowerBook 540 and 540c computers will ship with the Global Village PowerPort Mercury as an internal modem option. If users purchase a configuration without the Global Village Modem, and then later decide they want it, they will have to purchase it from Global Village. There is no upgrade from Apple, and the modem must be installed by a Apple Authorized Service Provider.

Global Village PowerPort Mercury Features
19.2 kbps data speed

14.4 kbps fax speed

GlobalFax Software

ZTerm data communications software

NOTE: Global Village OCR software does not come bundled with the PowerBooks. To receive this software, contact Global Village for an upgrade.

The warranty on the Global Village modem as part of the bundle is 1 year through Apple. Global Village has its own warranty policy for modems purchased separately.

System Requirements
Minimum of 6 MB RAM

Minimum of 2 MB free space on the hard drive

International
Internationally we will ship the Express Modem II. This will have an RJ45 jack on the back for the specific Country Adapter which connects to the phone jack found in that country. Apple currently supports 21 country adapters.

The Express Modem II is considered a "World-Ready" Modem which means when you start one of the PowerBook 500 computers with an internal PowerBook Express Modem II, the modem interrogates the system software to see which language version of the operating system is currently running, and then configures itself accordingly.

For example, if your PowerBook 500 series computer is running the French version of System 7, the Express Modem II will configure itself to the France Telecom standards for modems. If the computer is using the German version of System 7, the modem will configure itself for the German telecom standards. This capability eliminates the need for an external country adapter.

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PowerBook Duo Family: Power Adapters

This article describes the power adapters used with Macintosh PowerBook Duo computers.
This article has been archived and is no longer updated by Apple.
PowerBook Duo 210, 230, 250, 270c, and 280 computers include a 25 watt (W) power adapter. The PowerBook Duo 280c includes a new 36 W power adapter which is fully backward compatible with all Duo computers.

The two power adapters can be identified by the model number listed on its bottom label: M7783 - 25 W adapter M2693 - 36 W adapter.

Although the 36 W adapter can be used with all Duo computers, it is not recommended to use the 25 W adapter with the Duo 280c system. Use of the 25 W adapter may cause the battery to drain while using the system in certain configurations and usage patterns.
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Workgroup Server 8150 and 9150: PDS Needs Terminator

This article describes the need for a PDS bus terminator on the Apple Workgroup Servers (WS) 8150 and 9150.
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The PDS terminator was intended for and installed in the Workgroup Server 8150 and 9150. This card is used to terminate the bus via resistors installed on it. The part, PDS Terminator Board, is service part number 922-0967.
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Performa 575: Using LC 575 Communication Cards

Is it possible to install the Macintosh Express Fax/Modem for the Macintosh LC 575 (M2480LL/A) in the Communications slot of the Performa 575? Also, does the Apple Ethernet CS Twisted Pair Card (M3065Z/A) and Apple Ethernet CS AAUI Card (M3066Z/A) work with the Performa 575?

Since all three products are for use with the LC 575, are they are supported with the Performa 575?

This article has been archived and is no longer updated by Apple.

All options supported in the LC 575 are supported in the Performa 575. Both cpu's are essentially the same except the Performa software, which has tested fine with all the communication slot options.

Support Information Services

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A/UX and Time Synchronization With Other UNIX Hosts (5/94)

I have a Quadra 800 running A/UX 3.0.1 on an Ethernet network with other UNIX systems (AIX, SCO, and SUN). I need to synchronize the time of the Macintosh with the other UNIX systems. Under UNIX standards, there is a "daemon" [timed (1M)] or [rdate (1M)] that will synchronize the time, but these don't appear to be present in A/UX. How can I resolve this?

This article has been archived and is no longer updated by Apple.
A/UX 3.1 and earlier versions do NOT support the Time Synchronization Protocol (TSP), which is a DARPA UPD protocol for clock synchronization services on computers in a local area network.

Fortunately, there was a new version of inetd which includes the TSP protocol (timed, timeserver) for A/UX. It is public domain shareware, and is available at jagubox.gsfc.nasa.gov (128.183.44.1) via anon-ftp.

Support Information Services

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AppleShare Print Server 4.2.1: LaserWriter 8.x Compatibility

What are the compatibility issues with AppleShare Print Server 4.0.2 and LaserWriter Print driver 8.1.1? Am I correct in assuming that client Macintosh computers can take full advantage of LaserWriter driver 8.x.x even though the AppleShare Print Server requires LaserWriter driver 7.x.x?

Does the LaserWriter driver 8.x.x fully support the FAX options of the LaserWriter Pro 810 and Select 360? Overall, what are the limitations of using LaserWriter driver 7.x.x on the AppleShare Print Server? Are there any features of a direct print from the LaserWriter driver 8.x.x that are lost when spooling to the LaserWriter driver 7.x.x?
This article has been archived and is no longer updated by Apple.
There are only a couple of limitations in using LaserWriter driver 7.x on the AppleShare Print Server 4.2.1 if a client computer is using LaserWriter driver 8.x. If LaserWriter driver 8.x compatibility was added to the AppleShare Print Server, it could potentially resolve most of these limitations though the print server must be changed to utilize information from the driver's feature and font query capability. AppleShare Print Server 4.2.1 has no additional support for PostScript Level 2 drivers than previous versions the print spooler software. Here is the list of limitations:

* Cannot use the "Auto Setup" feature of LaserWriter 8.x when using the Chooser to select a spooled printer. Users must manually select the appropriate PPD file and manually configure the RAM and paper handling options.

* Unable to obtain printer information using the "Printer Info" button in the Setup dialog of LaserWriter 8.x.

* When going through a spooler, the LaserWriter and Apple Printer Utilities only provide limited functionality, including the ability to send a PostScript file, print font samples, and restart the printer. To fully configure the printer via these utilities Choose the printer itself (note the AppleShare Print Server Bypass Printer option must be enabled to connect to the printer directly).

* When spooling LaserWriter 8.x print jobs two jobs will appear in the Spooler Queue window. (Only one job appears in the Spooler Queue window when printer a LaserWriter 7.x job.) The first job contains printer driver queries the driver may use to create the print job; the second job contains the PostScript data stream for the document itself.

Overall, the majority of features provided by LaserWriter driver 8.x are utilized regardless of LaserWriter driver 7.x being installed on the server. We have verified that the following features work:

* PostScript Level 2 code (just passed on to the printer by the server).

* PostScript FAX Support, including cover pages and captions.

* Selection of specific paper trays (correct PPD must be manually selected).

* Automatic Tray Switching.

* All print dialog "Options" (Printer Resolution, Color/grayscale, Tray switching, PostScript error reporting, FinePrint, Cover pages).

PostScript Level 2 support is being considered for future versions of the Print server software, however, there is no known date for this to happen.
Published Date: Feb 19, 2012

LaserWriter Select 360: PageMaker 5.0 Margins Incorrect (5/94)

The minimum margins on a LaserWriter Select 360 are .194-in, however when I print from PageMaker 5.0 I cannot print this close to the edge of the paper. I can print from other application programs and the desktop to these limits. Is this a problem with the PPD file?

This article has been archived and is no longer updated by Apple.
We looked into the LaserWriter Select 360 PPD and verified the imageable area values. They are correctly set to provide the approximate minimum margins shown in the Page Setup dialog box. These values are: .194-in. for top, left, right, and .167-in. for the bottom; the manual is incorrect in stating a minimum margin of .18-in. for all sides.

The reason why PageMaker does not allow for these minimum values, this is related to how PageMaker parses the PPD file. In the Print dialog box within PageMaker, we were able to see the correct PPD selected (LaserWriter Select 360), however, the "Print Area" displayed when the "Paper" option was selected was: 7.667 x 10.139. This allows for an approximate minimum margin of 3/8-in. -- about twice the minimum margin the printer can achieve. We printed a test document to verify this, and the margins came out to approximately 3/8-in.

We were able to verify the minimum .194-in. margins of the LaserWriter Select 360 with MacDraw Pro.

Given these results, the problem is application-related as the LaserWriter Select 360 PPD file is accurate. We would suggest that you contact Aldus and report this problem.

Support Information Services
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PowerBook 540: Identifying Global Village Modem Configs

This article describes how to identify whether a Global Village Modem was bundled from Apple with a PowerBook 540 Computer, or whether it was purchased separately.
This article has been archived and is no longer updated by Apple.
Configuration with Modem Installed by Apple

Part Number And Description	Last 3 Digits Of Serial Number
M3120LL/A CPU PowerBook 540 12/240	2SZ
M3121LL/A CPU PowerBook 540c 12/320	2T0 (0=zero)

Configuration Without Modem

Part Number And Description	Last 3 Digits Of Serial Number
M2807LL/A CPU PowerBook 540 4/240	28Q
M2809LL/A CPU PowerBook 540c 4/320	28V
M1845LL/A CPU PowerBook 520 4/160	154
M2597LL/A CPU PowerBook 520c 4/160	1XN

How to distinguish a modem if it has been removed from the PowerBook:

A modem which was configured at the Apple factory will have a small Apple logo on the modem and the DAA.

A modem that was purchased retail will NOT have the Apple logo on the modem or the DAA.

Published Date: Feb 19, 2012

Macintosh: Cause of Programmer‘s Window

Shortly after starting up my Macintosh, a window appears on the screen with a ">" mark. What is causing this?
This article has been archived and is no longer updated by Apple.
If the Power Key on an ADB keyboard is pressed and held down for more than approximately 1 second during startup of the Macintosh, the programmers window will appear the first time the Command key is pressed.

Macintosh Computers That Utilize The CUDA ADB Chip

This problem MAY occur on any Macintosh system that utilizes the CUDA ADB processor, including the following computers:

Macintosh Color Classic
Macintosh LC 520
Macintosh LC 55X
Macintosh LC 57X
Macintosh LC 58X
Macintosh Quadra 630
Macintosh Quadra 840AV
Macintosh Quadra 660AV
Power Macintosh 6100
Power Macintosh 7100
Power Macintosh 8100
Power Macintosh 5200/75 LC

Note: The symptom is unlikely with the Macintosh Quadra 660AV or the Power Macintosh 6100 since they do not have soft power and cannot utilize the Power Key to startup.

The CUDA ADB processor contains an address register that includes information about the state of the Power Key. If the Power Key is held too long at startup, its status is locked as "on". Therefore the computer believes that the Power Key is down and the first time the Command key is pressed it opens the Programmer's Window. This condition can also occur after startup if a control panel or application initiates an ABD REINIT command and then the Power Key is pressed.

Solution
The solution to this problem is to tap (and quickly release) the Power Key at startup. Do not press and hold down the Power Key during startup.

Workaround
You do not have to restart if the Programmer's window does appear. Follow these steps to get out of the Programmer's window:

1. Type in the letter g.
2. Press the RETURN key. The computer will resume normal operation (in other words, you will be back in the Finder).

Published Date: Feb 19, 2012

Emergency Disks: How To Create A Usable Emergency Disk (5/94)

How do I build an emergency disk for my Performa computer?

This article has been archived and is no longer updated by Apple.
Several third party companies produce utility type programs, some of these are:
* Norton Utilities
* Central Point Tools
* 5th Generation's 911

Most of these programs come with an emergency disk that allows you to startup your Macintosh computer from a floppy disk instead of the hard disk. In the fall of 1992, Apple started using System Enablers with all new Macintosh computers. The emergency disks provided by most utility type programs do not include the system enablers you need to use the emergency disks. You need to either install the proper System Enabler from your system folder on your hard disk to the emergency disk, or follow the instructions provided with the utility application program.

a currently list of enablers is available in the document titled "System Enablers: Current Versions & Change History"

Support Information Services
Published Date: Feb 19, 2012

APS Hard Disk: Only Part of Large Documents Viewable

When I try opening a very large document (37 MB), from my APS Technologies hard disk, I can only get about 1/4th of the way through the document before the computer freezes up. Smaller documents work without any problems, it just seems to be the large documents. Why?
This article has been archived and is no longer updated by Apple.
According to APS Technologies, the problem is using blind reading and writing to the hard disk. In the APS SCSI driver software V2.8, you need to disable automatic blind reads and writes. For additional information or software upgrades, contact APS Technologies.

To locate a vendor's address and phone numbers, use the vendor name as the search string.
Published Date: Feb 19, 2012

Macintosh: No Newton MessagePad Emulator Available

Is there an application which allows me to run Newton MessagePad applications on my Macintosh computer?
This article has been archived and is no longer updated by Apple.
No, there are no applications that allow you to run newton applications on your Macintosh. Apple's Newton Toolkit (NTK), the development system for creating Newton applications on the macintosh, will not actually run Newton programs. Code is written in NTK and then downloaded to an actual Newton. The Newton Toolkit does not have a built in emulator.
Published Date: Feb 19, 2012

AWS 95: Retrospect Backup Error -24702, Name Too Long (6/94)

I just installed a new Apple Workgroup Server (AWS) 95 with AppleShare Pro 1.1. I'm now using Retrospect Remote to do backup, and I received the following error:

5/4/94 3:01:05 A.M. Copying /
While scanning volume "/",
File "/mac/sys/Startup System Folder/Pre3.01_Startup Folder/*fs_cache",
Unix scanning trouble, error -24702
File "mac/sys/System Folder/Pre3.0.1_System Folder/*fs_cache",
Unix scanning trouble, error -24702
Internal consistency check failed:
Assertion check at "elem.c-696"
5/4/94 7:38:38 Execution completed successfully

Quit at 5/4/94 7:38 A.M.

Can you tell me what this means? I had to reinstall the Unix and Apple/sahre because of a hard crash. The next backup completed without an error.

This article has been archived and is no longer updated by Apple.
The -24702 error occurs when Retrospect A/UX encounters a file or folder with a name longer than 31 characters (the Macintosh Operating System limit). Names longer than 31 characters will be truncated to 31 characters and a -24702 error will appear in the Retrospect log. NOTE: The files are backed up. Please read the "Special considerations for A/UX backups" (pages 30 and 31) section (3rd bullet) in Retrospect A/UX manual for more information.

The folders "/mac/sys/Startup System Folder/Pre3.01_Startup Folder" and "/mac/sys/System Folder/Pre3.0.1_System Folder/*fs_cache" were created when you reinstalled the AWS 95 software. These folders are not necessary for the proper operation of the AWS 95. These folders were created by moving the contents of the System Folder present on the "/" volume before replacing them with the files on the Installation CD. This is done so files are not overwritten during a reinstall and therefore allow the user to recover parts of these two folders if necessary. If you have extracted all the files you need out of these two folders, we recommend removing them since they serve no other purpose, and they need not be present on your system. Dantz is aware of this limitation, and we are not aware of any plans to change the behavior of Retrospect in this situation.

Article Change History:
09 Jun 1994 - Change article title to be more descriptive.

Support Information Services

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Monochrome Monitor General Troubleshooting

This article has been archived and is no longer updated by Apple.

USING THE SYMPTOM CHART

Find the symptom that best describes how the defective monitor
appears and then try the recommended actions in the order listed.
If the first corrective action does not solve the problem,
put back the original module or part before trying the next action.

Symptom	Corrective Action
No power (LED doesn't light)	1. Check fuse; replace if blown. If it blows again, replace transformer. 2. Replace transformer. 3. Replace power switch.
No raster	1. Check that video cable is securely connected. 2. Adjust the external brightness control on the back of the case. 3. Adjust the contrast control. 4. Check that all connectors are secure on the CRT board and the main logic board. 5. Replace main logic board. 6. Replace CRT.
One vertical raster line appears	1. Replace main logic board. 2. Replace CRT assembly.
Raster deformed	Replace CRT assembly.
Wavy picture	Replace main logic board.
Spot remains with unit off	Replace main logic board.
Brightness range abnormal	1. Replace main logic board. 2. Replace power transformer.
Raster size small, picture abnormally bright	Replace main logic board.
No vertical synchronization	Replace main logic board.
Screen bright, no picture	Replace main logic board.
15 or more seconds for picture to appear	Change CRT assembly.

Picture appears 1. Replace main logic board.
and disappears 2. Replace CRT assembly.

Out of focus See "Focus" in Section 3, Adjustments*

Won't focus 1. Replace main logic board.
2. Replace CRT.

Narrow raster Replace main logic board.

Picture compressed Replace main logic board.
or stretched out

Picture tears See "Horizontal Synchronization" in
Section 3, Adjustments*

Image reversed Yoke connector (P4) is plugged in backwards.
(after servicing)

Image inverted Yoke connector (P3) is plugged in backwards.
(after servicing)

Published Date: Feb 19, 2012

MAE: Application Compatibility List (6/96)

Apple has worked with a number of software vendors in order to optimize functionality and performance of their applications running under the Macintosh Applications environment (MAE), and to ensure that leading Macintosh compatible applications are also compatible with MAE. In order to verify that MAE supports major functionality of key Macintosh applications, Apple has used the following software titles with MAE version 1.0 and found them to operate normally. As testing continues, (either by Apple and/or ISVs) Apple expects to add many new titles to this list.

Many other applications may run, but those applications have either not been tested by Apple or reported tested by the ISV. In general, those applications which support Inside Macintosh specifications and run 32-bit clean should run on MAE.

For more information about the compatibility of a particular program please contact the software vendor.

Apple provides this list for information purposes only, and the list does not represent a product endorsement on the part of Apple.

This article has been archived and is no longer updated by Apple.

Company Product

--- ---

ACI 4th Dimension (To get the version of 4th

Dimension, users should contact

ACI directly to receive a 1.4 MB

key disk for 4th Dimension)

4D Client

4D First

Object Master

Aladdin Systems Stuffit Expander 3.0.7

Aldus Corp. Persuasion 2.12

PageMaker 5.0

Freehand 4.0

Fetch (Fetch 3.0 and higher will not

work with MAE 2.0.2, use version

2.x.x.)

SuperPaint 3.0

TouchBase

Datebook 3.01

Adobe Systems Adobe Photoshop 2.5

Adobe Illustrator 5.0

Adobe Type Manager

Advanced Software Dow Comp II 1.0.6

Apple DocViewer 1.1.1

TeachText 7.1

Attain Corp. In Control 2.0.3

Berkeley Systems After Dark 2.0.3

Broderbund Software Mac Globe 1.3.0

Caravelle NetWorks NetWORKS

CE Software QuicKeys

Claris Corp. ClarisWorks 2.1

FileMaker Pro 2.1v1

MacProject Pro 1.5v1

MacDraw Pro 1.5v2

MacWrite Pro 1.0v4

HyperCard Player 2.2

MacDraw II 1.1v2

MacPaint 2.0

Resolve 1.1v1

Impact 1.0v1

DeltaPoint DeltaGraph Pro 3

Deneba Software Canvas 3.5

Frame Technology FrameMaker 4 4.0

Fractal Design Corp. Designer Sketcher 1.0

Intuit Quicken 4.0

Lotus Development Lotus 123 1.1

MECA Software Managing Your Money 4.0

Microsoft Corp. Word 5.1a

Excel 4.0

PowerPoint 3.0b

Works

Project

Nisus Software Nisus 3.47

NOW Software Now Utilities 4.0.2

Now Contact 1.0

Now Up to Date

ON Technology MeetingMaker XP (Please contact On Technology

directly to buy the appropriate

version on Meeting Maker XP

compatible with MAE)

Pastel Development DayMaker Organizer 3.0

PeachTree Software Accounting 2.0 Batch 04

Portfolio Software DynoPage 2.0

Dynodex

Quark Inc. QuarkXPress 3.2

ChipSoft MacInTax

Symantec Corp. More 3.1

WordPerfect Corp. WordPerfect 3.0

WordPerfectWorks 1.2

Wolfram Research Mathematica 2.1.0.2

Writing Tools American Heritage Eng. Dict. (AHED) College Edition

Article Change History:

25 Jun 1996 - Updated Fetch information.

06 Jun 1994 - Updated list of applications.

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AppleShare Print Server: Bracketed Entries In Queue

LaserWriter driver 8.x.x print server jobs show as bracketed entries in the queue while LaserWriter driver 7.x jobs do not, why?
This article has been archived and is no longer updated by Apple.
We installed and compared AppleShare Print Server 3.0, 3.0.3b, as well as a 4.0.1 and noted they all log print jobs the same: LaserWriter driver 8.x.x print jobs are bracketed whereas 7.x are not. This is normal, and we believe is due to the drivers being PostScript Level II or Level I respectively, and the spoolers handle the print job queries from the 7.x and 8.x.x drivers differently.
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AppleShare: Disk is Unreadable (5/94)

When I mount a volume through AppleShare, I get the message that the disk is unreadable. What is going on?

This article has been archived and is no longer updated by Apple.
It is very likely that there is an old version of DOS Mounter (prior to 3.0) in your System folder. Remove it, restart and try again. Contact Dayna for any updates to DOS Mounter.

Support Information Services

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AppleShare: Extension vs Server & Drag Install

What is the difference between AppleShare (the extension) and AppleShare Server software? Why can't the AppleShare extension be drag installed?
This article has been archived and is no longer updated by Apple.
The AppleShare extension enables a Macintosh to access network volumes and services through the Chooser. AppleShare Server software when installed on a Macintosh, allows network users to store, retrieve and share files and applications on a central, dedicated Macintosh server. The extension on an individual Macintosh allows the access the AppleShare Server running on a remote Macintosh.

The AppleShare extension cannot be drag installed because the Installer program must install System resources as well as the extension.
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Macintosh TV: Sound Manger 3.0 Problem

This article describes an issue with the Sound 8.0.1 control panel and Sound Manager 3.0 extension used on a Macintosh TV. The symptom is monaural sound through the right headphone speaker or the computer speaker.
This article has been archived and is no longer updated by Apple.
After installation of these two files (replacing pre-installed Sound 7.1), monaural sounds came from the right channel ONLY through headphones and the Macintosh TV computer's internal stereo speakers, whereas with Sound 7.1 mono sounds were in both left and right channels. Audio CDs and stereo TV broadcasts remain functional.

There are two workarounds to this issue:

1. Removed Sound 8.0.1 and Sound Manager 3.0 and revert to Sound 7.1.

2. Install System 7.5. The new Sound Manager extension functionality has been built into the System.

Published Date: Feb 19, 2012

LaserWriter Pro 810: New atprint Allows Printing From AUX

When I am using A/UX 3.1 and a LaserWriter Pro 810. When I try using the "atprint" command, I get an "idle status" returned from the printer.
This article has been archived and is no longer updated by Apple.
The "atprint" uses the Printer Access Protocol (PAP) to send data to the LaserWriter Pro 810. There is a new version of the "atprint" that fixes a problem in PAP that prevented A/UX from making a connection to the LaserWriter Pro 810 with A/UX 3.0.[12] or 3.1.

To locate Apple software updates, search the Tech Info Library for the article "Where To Find Apple Software Updates".
Published Date: Feb 19, 2012

DOS Compatibility Card: How To Get Sound From Windows

This article describes how to get sound from the DOS compatibility card when in the Windows environment.
This article has been archived and is no longer updated by Apple.
Most of the sounds generated in Windows requires a sound card. Something not available on the DOS Compatibility Card and Quadra 610 DOS Compatible computers.

There is a way to use .WAV files and sounds without a sound card though. Microsoft has a driver for Windows that uses the PC Speaker instead of a sound card. The file is called SPEAK.EXE and is available on all of the online services that has a Microsoft support area. It is also available at some internet FTP sites.
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AppleShare 4.0.1: "Cannot find the file: IWEm"

There have been multiple reports of people that are having trouble installing AppleShare 4.0.1. The error they get during installation is "Cannot find the file: IWEm."
This article has been archived and is no longer updated by Apple.
This is a file used by the AppleShare Print Server. You need to get the original AppleShare install disk and copy the file called "IWEm" from the AppleShare Print Server folder into the System Folder on the server's hard drive. The 4.0.1 upgrade will run correctly once this file is in place.
Published Date: Feb 19, 2012

Power Macintosh Upgrade Card: PlainTalk not Supported (5/94)

I successfully installed the Plaintalk software on my Quadra 700 equipped with a Power Macintosh Upgrade Card. Everything seems to work fine, except that the system doesn't seem to recognize any incoming sound. There aren't any "sound waves" appearing next to the "ear" to indicate the system is hearing me.

I have gotten the other features of the software to work fine. It will read text back to me, and I can change the configuration of the speech with no problems, but I don't have sound input.

Is this a supported configuration, and is there any way to get the software to recognize spoken commands?

This article has been archived and is no longer updated by Apple.
PlainTalk is not supported on machines with the Power Macintosh Upgrade Card installed. This is because these machines do not support the new Sound Control Panel that is required for Speech Recognition. The PlainTalk Microphone is not compatible with these machines, and the original round Apple microphone does not work with PlainTalk. Because it is not possible to select the "Options" feature of "Sound In" in the Sound Control Panel, it is not possible to select the microphone.

The Power Macintosh Upgrade Card data sheets are not very clear about this. It does, however, tell you what you get with the Power Macintosh Upgrade Card. It then continues and states: "In addition, even greater performance, as well as speech and telephony capabilities, can be yours if you choose the appropriate Power Macintosh Logic Board Upgrade for your Macintosh." Thus, PlainTalk is supported with the Power Macintosh Logic Board Upgrade, and not with the Power Macintosh Upgrade Card.

Support Information Services

Published Date: Feb 19, 2012

LaserWriter 810: Virtual Printer Attributes

We are trying to setup some LAT virtual printers with our LaserWriter Pro 810 and need a detailed list of the commands necessary to change different attributes (that is font, size, paper tray, and so on) of the virtual printer.
This article has been archived and is no longer updated by Apple.
Currently, you cannot permanently modify attributes such as paper trays, fonts, page orientation, etc. for virtual printers. You can, however, implement these features by encapsulating PostScript or HP PCL commands in the VAX's print queue mechanism. In other words, have the commands downloaded prior to each job. For font selection, page orientation, and tray selection, we have included the HP PCL commands to perform these functions. In terms of PostScript, the jobs themselves typically handle the font selection and page orientation.

PostScript Paper Tray Selection

statusdict begin # setpapertray end

= refer to following values
---
0 - Upper tray
1 - Middle tray
2 - Lower tray
4 - Manual tray

Example: (to draw paper from middle tray)

statusdict begin 1 setpapertray end

HP PCL Paper Tray Selection

<esc>&l#h

<esc> = escape character
l = lowercase L
# = refer to following values
---
0 - source current (default)
1 - upper tray
2 - manual feed
4 - lower tray
5 - middle tray

Example: (to draw paper from lower tray)

<esc>&l4h

To enter <esc>, press the Ctrl-P keys followed by the Esc key.

Note: You must use an ASCII text editor like DOS EDIT. You cannot enter the <esc> character in some Windows-based editors like Notepad.

HP PCL Font Selection

<esc>(s#T : typeface selection

= refer to following values
---
0 - Line Printer
3 - Courier (only font supported by HP IIP)

HP PCL Page Orientation

<esc>&l0o = Portrait orientation
<esc>&l1o = Landscape orientation

TA31734_LaserWriter_Virtual_Printer_Attributes_(TIL15396).pdf

l = lowercase L
┐ = zero
o = lowercase letter o
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Power Macintosh 6100 & Personal LaserWriter SC (5/94)

We have a Personal LaserWriter SC connected to a Power Macintosh 6100 and are unable to print in background mode. We have tried printer driver versions 1.0, 1.1, and 1.2. When we send a simple text document to the printer, the page starts to print and then PrintMonitor seems to take control of the computer until a dialog appears stating that a time-out error occurred.

This article has been archived and is no longer updated by Apple.
You need to be using the Personal LaserWriter SC driver v7.0.1. It can be found with both System 7.0.1 or System 7.1, and is also posted on multiple on-line services.

These articles can help you locate software updates mentioned here:

* Where To Find Apple Software Updates
Lists online services for "free" Apple software updates
* Obtaining Apple Product Support in the USA
Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech. Info. Library

This is the only SCSI print driver compatible with the Power Macintosh, and should be used for both the Personal LaserWriter SC as well as the LaserWriter IISC. The Power Macintosh Read Me, as well as the manuals will be updated to reflect this.

Support Information Services
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Macintosh Application Environment: Print Troubleshooting (5/94)

This article provides some ideas and helpful hints when troubleshooting printing problems with Macintosh Application Environment (MAE).

This article has been archived and is no longer updated by Apple.
Before you can print from MAE, UNIX printing must be correctly configured on the workstation. In addition, MAE only supports printing to Postscript printers, since Postscript is the only page description language commonly available on UNIX workstations. If there is no Postscript printer available, then you will not be able to print from MAE.

If you have never printed on your workstation, or are not sure of the types of printers available, see your system administrator, who should be able to help you solve problems with the UNIX print spooler configuration, based on the error messages displayed in the X window where you started MAE.

For flexibility with MAE, you can specify any UNIX command you choose for printing a generated PostScript file. The printing sub-system takes the user-specified command, and passes it to a UNIX shell, generating a command line similar to:

cat MAE.ps | USER_COMMAND

MAE.ps is the PostScript file generated by MAE, and USER_COMMAND is what you typed into the Setup dialog in the Chooser. Thus, the command that is used for printing reads its "standard input" to gather the PostScript file for printing. The command specified MUST be able to read the file to be printed from its standard input. Both lp and lpr (standard printing systems on UNIX workstations) have this functionality. We suggest testing a print command from the UNIX command line before entering it in a print command description in the Chooser. You should test the command by having it read its standard input, as above. If you are having problems getting a print command to work, you should try to print from the UNIX command line.

Nothing comes out of the printer
---
* Have never printed from the UNIX workstation

The underlying UNIX spooling system must be set up before printing from MAE. See your system administrator, or read the documentation that came with your workstation. The most common UNIX spoolers are lp and lpr.

* Have printed from the UNIX workstation

1) Check the X window in which MAE was started. MAE displays any error or status messages in this window. The error messages can provide useful information about why printing isn't working. (For example, "lp: unknown printer <printer name>", or "lp: host NAME is refusing permission", or "lp: no space left on device"). Here are some common problems:

* Remote machine is unavailable.
* Permission has not been granted for the your machine (for remote printing via lpd).
* There is no space left in the spooling directories (your home directory, /usr/spool).
* The printer is not accepting requests (Type "lpstat -a" to see if this is the case. "Not accepting requests" or "disabled" means that the spooler won't use that printer.)

A message similar to: "request id is Silence-0 (standard input)" is normal. This means that the UNIX spooler has accepted the print request. It also indicates which printer got the request.

2) Have you ever printed from MAE? (You have to go into the Chooser and create a print command before printing in MAE.) If you've never been able to print, print a text file from UNIX, and after verifying that it worked, type the exact same command into the Chooser window without the file name. If this doesn't work, click the "File" radio button on the right, inside a dashed box labeled "destination". This causes

LprWriter (just like LaserWriter 8) to save the output to a file instead of sending it to a printer. A standard file dialog pops up, asking where to put the file. After the file is saved, go to a UNIX window and try to print the file. This provides you with a print command that works, which you can enter in the chooser.

3) If you have printed from MAE

* If you don't explicitly specify a printer in the print command (the -d option to lp), you may be sending to the wrong printer. UNIX spoolers use an environment variable (LPDEST or PRINTER) to specify your default printer. If the environment variable isn't set, and a printer isn't specified on the command line, then the system default printer is used. The window where you started MAE should have messages saying which printer was used. You can find out the system default printer with the command "lpstat -d". You can find the value of the environment variables by typing "printenv" in C╩shell, or "set" in the Bourne or Korn shells.

Note: We recommend having one print command per printer the user prints to, and explicitly specifying the printer, rather than modifying the print command each time.

* Check the UNIX spool print queue:

"lpstat -oPRINTERNAME"

* Have you changed the print command recently?

* If you have more than one print command entered in the Chooser, do any of them work?

* Did you test printing under UNIX, using the exact same command as in the Chooser?

Example: echo "test" | THEIR_CHOOSER_COMMAND

* Is the PPD file correct? If it's not, incorrect Postscript may be generated, such as not downloading a font that MAE thinks is resident in the printer, but really isn't. Try using the "generic" PPD (in the "Page Setup" dialog, click on the "Select PPD╔" button, then the "use generic" button).

4) For some reason, the LprWriter driver may be generating incorrect Postscript. Check that Postscript is actually getting to the printer by doing the following:

* In the "options" dialog of the print dialog (that is, click on the "options" button in the "Print" dialog) specify a cover page to be printed before the document (click on the "Before" radio button).

* Choose "Postscript Errors - Print detailed report". If the generated Postscript actually makes it to the printer, and it contains a Postscript error, the Postscript error is printed. If nothing is printed, then something else is wrong because Postscript commands aren't getting to the printer.

5) If the desktop database (DDB) is bad, peculiar things can happen with printing. The most obvious being the driver not finding the PPD file; the driver stores an alias in the prefs file, and if the DDB is damaged, there's a chance the alias won't resolve. You can check if this is the cause by opening the Chooser, then opening the currently selected print command, and click on "Setup" or just press the <Return> key. If a damaged DDB is the problem, a message similar to what's below appears:

"can't find prefs file"
"can't use PPD file 'XXX', using Generic instead"

You need to re-select the PPD file for the printer.

Strange text comes out of the printer, starting with "%!PS-Adobe-3.0"
---
* It's not a Postscript printer.

* It's a Postscript printer, but the spooling system is interpreting the Postscript as text, instead of a Postscript program to be sent to the printer, and is printing the text of the program. This may be due to an option given to the print command (like the "-p" option with lpr), or it may be due to the spooling system being confused. See your system administrator for help in straightening out this spooling problem.

Can't cancel printing

Before the print status dialog disappears from the MAE window, you can cancel printing by holding down the <Command> and <period> keys at the same time until the "canceling printing" dialog appears. After the printing status dialog disappears from the MAE window, the print request has been given to the user-specified UNIX command for printing. At this point, you must use UNIX commands to cancel printing, for example lprm(1) or cancel(1). For information about using these commands to cancel print requests, see the appropriate man pages in the documentation that came with your workstation, or consult your administrator.

Only the first few pages of the document print

Check to see that the UNIX file systems that contain your MAE system folder (usually your home directory), and the spooling files (usually /usr/spool) aren't full using the df(1) command. If a file system is full, only a portion of your document prints because only a portion of your file was written to disk. You should see an error message in the window where you started MAE, such as: "no space on device", or "file system full", or "write error". Some files will have to be removed from the file system. See your administrator for help in resolving this problem. Note that some UNIX systems reserve a portion of a file system for the "super user" (up to 10%). The output of df(1) may not indicate that you can no longer add data to the file system.

Can't print from Aldus PageMaker

Aldus PageMaker uses its own, internal Postscript rastering driver instead of using the MAE printer driver. The Aldus driver expects the ability to talk directly to the printer to obtain information about the Postscript version and other parameters. Since MAE uses a user-specified UNIX command for printing, rather than talking to the printer directly, PageMaker cannot print using an Aldus driver. This problem is evidenced by an error message similar to:

"An error occurred while printing. Could not open the printer. Check that the printer connection is correctly set up in the Chooser."

You can print from Aldus PageMaker, but you must use the LprWriter print driver delivered as part of MAE. To do so, hold down the <OPTION> key when selecting "Print" in PageMaker's "File" menu. This tells PageMaker that you want to use the currently selected, standard driver, rather than an Aldus driver.

Miscellaneous useful commands

To get a list of printers:

lpstat -a

To get the status for a particular printer:

lpstat -oPRINTER
lpq -PPRINTER

Support Information Services

Published Date: Feb 19, 2012

Apple Media Tool 1.1: Sound Conversion Issues

This article describes issues with the "to Media Kit Sound" application included with the 1.1 release of the Apple Media Tool.
This article has been archived and is no longer updated by Apple.
The Apple Media Tool 1.1 includes a drag-and-drop application called "to Media Kit Sound." This application is included to convert AIFF and System 7 sound files into Media Kit format (.WAV) when creating a project that will be used on the Microsoft Windows platform.

There are two important issues with "to Media Kit Sound"

1) It converts only 8-bit sounds at a sample rate of 22kHz or 11kHz. Customers wishing to utilize 16-bit sound files and/or sounds at higher sample rates in a cross-platform Media Tool project should use a third-party utility to convert the sound to .WAV format. Users can also convert the sound into a QuickTime movie using Apple's "Movie Converter" application (included with the QuickTime Starter Kit).

2) It converts the original sound file dragged onto it, not a copy. Once "to Media Kit Sound" has completed conversion of a sound file to .WAV format, the original sound file is deleted. Customers should make a copy of the original sound file before converting it if they want to maintain the original.
Published Date: Feb 19, 2012

PROFS: Limits on Cut and Paste

This article has been archived and is no longer updated by Apple.

The message editor on PROFS accepts only two lines of text. Any additional text is automatically looped back to the top line of the screen. PROFS' Note editor allows up to 16 lines of text before looping to the top of the screen after the 16th carriage return.

The PROFS help message states that to type into further screens, an F10 (next page) or F4 (add line) key is required. This seems to mean that the user can paste only 16 lines of text at a time, followed by a next-page or add-line function key before continuing. There is a possible fix that includes modifying a font to show the character represented by a command-[. That character followed by a 0, if pasted every 16 lines, would do a next-page PF10.

Published Date: Feb 19, 2012

ImageWriter II: ClarisWorks Print not Centered (5/94)

When I print a ClarisWorks document to an ImageWriter II, the right margin is larger in print than it was on the screen.

This article has been archived and is no longer updated by Apple.
According to Claris Technical Support, it is a known issue that centered text in ClarisWorks 2.x prints narrower than it should to an ImageWriter II. This makes the right margin appear to be larger than it is on the screen.

The fix is to 'fool' ClarisWorks by decreasing the right margin, so that centered text will print 'centered,' although it will not be centered on screen.

Support Information Services

Published Date: Feb 19, 2012

Centris 610: Horizontal Line Flashes Across Monitor (5/94)

I have a Centris 610 and a Apple 14" Color Display (trinatron. screen). On start up there is a 1" horizontal line across the monitor, that flashes once very quickly. This happens right before receiving the "Welcome to Macintosh".

This article has been archived and is no longer updated by Apple.
For a fraction of a second the monitor does display a thick horizontal white line at the lower third of the screen. This is not a sign that the monitor or the Centris 610 has or ever will have a problem. This is a simple anomaly that occurs as the video drivers are being initiated. This is not considered a problem.

Support Information Services
Published Date: Feb 19, 2012

Newton MessagePad: Error -48204, -48205 on Mystery Capers

When I launch Starcore's Columbo's Mystery Capers from the Extras drawer of my Newton MessagePad, I get an error message of -48204 or -48205 after the startup splash screen appears. Why?
This article has been archived and is no longer updated by Apple.
This error occurs if the demo version of Columbo's Mystery Capers is installed, then the full version on the ROM card is installed. This error occurs even if the demo version is removed prior to installing the full version.

You must completely remove the preference entry from the Newton MessagePad to fix this problem. In order to remove the preference entry, you must use the application CapersFix.pkg. This application is available through online services.
Published Date: Feb 19, 2012

Newton MessagePad: Phone Numbers Have # In Call Slip

When dialing international telephone numbers with my Newton MessagePad, a pound sign "#" appears after the telephone number in the call slip. Why?

This article has been archived and is no longer updated by Apple.

By adding the pound sign "#" at the end of a telephone number, it informs the phone system that the Newton MessagePad is finished dialing the number. Without the pound sign at the end of the number, phone systems must wait several seconds in order to determine that the all numbers have been entered. This feature was added to the Newton MessagePad 100 and 110. It was not available on the original MessagePad.

Published Date: Feb 19, 2012

Hard Disks: Locating SCSI ID Jumpers

I am looking for the SCSI ID jumpers used on hard disks. Is there a way to get them?

This article has been archived and is no longer updated by Apple.

The Molex part number for the small white jumper used to set the SCSI ID on a Quantum 250MB hard drive is 52778-0221. This part should be available at any electronics part store.

Published Date: Feb 19, 2012

Newton MessagePad 100: Missing Icons in Extras Drawer

I'm missing the top row of icons in my Extras Drawer on my Newton MessagePad 100. How can I get all the icons back?
This article has been archived and is no longer updated by Apple.
This symptom appears when more than 20 packages are installed either in the Newton MessagePad's internal memory, on an external PCMCIA storage card, or a combination of the two. The Newton MessagePad's Extra drawer can only handle a total of 30 icons. The Newton MessagePad 100 ships with 10 built-in icons.

On the original Newton MessagePad and the Newton MessagePad 110 all icons past the limit are not displayed and require a third-party utility to access them.

As additional packages over the limit are installed on the Newton MessagePad 100 their icons are displayed at the bottom of the Extras Drawer. As this happens, the icons in the top row of the Extras Drawer start moving off the screen.

Currently, the only work around for this symptom is to keep the total number of icons to 30 or fewer. This problem only affects the Newton MessagePad 100 devices with ROM version 1.3 (414059). This problem does not affect the original Newton MessagePad or the Newton MessagePad 110.
Published Date: Feb 19, 2012

JAZZ: Transferring JAZZ Word Processing Documents to MacWrite

This article has been archived and is no longer updated by Apple.

JAZZ Word Processing Documents can be transferred to MacWrite. This can be very important if you are writing a long document and begin to run out of memory in JAZZ. To move a JAZZ Word Processing Document into MacWrite choose Save As from your File menu in JAZZ and click on Text Only and then Save. This will save your document as text only, which MacWrite will be able to read. Just transfer the text only file from your JAZZ startup disk to the MacWrite disk and you will be able to open it.

NOTE: When saving a document as text only you will lose formatting.

NOTE: Apple Computer Inc. is not responsible for the contents of this article.

Published Date: Feb 19, 2012

Newton MessagePad: Missing document creates Error -48807

Why do I get an error -48807 after selecting an item in the Newton MessagePad Outbox?
This article has been archived and is no longer updated by Apple.
This problem occurs when the original file that was sent to the Outbox is no longer available. This typically happens in three situations:

1) The original file is on a PCMCIA card and the PCMCIA card is removed.
2) The original file is on a PCMCIA card and a PCMCIA fax modem is installed.
3) The original file has been deleted, and is no longer available.

In the first situation, you need to reinsert the PCMCIA card and reselect the file from the Outbox in order to send the file. The second situation requires a more detailed workaround.

1) Remove the PCMCIA fax modem and reinsert the PCMCIA card that contains the original document.
2) Go to the Extras Drawer and select the Outbox.
3) Selected the item waiting to be sent and tap the delete button.
4) Open the original document in the application that created it.
5) Use the Action menu to move the item from the card.
6) Use the Action menu to send the document again.
7) Remove the PCMCIA card and insert the PCMCIA Fax modem.

The document can now be faxed or mailed properly.

If the original document was deleted, there is no way to send the message again.
Published Date: Feb 19, 2012

Macintosh LC 575: Video Out Solution

I am using a Macintosh LC 575 and wish to use it for presentations by connecting an external monitor. Is this possible?
This article has been archived and is no longer updated by Apple.
Video output to external monitors or LCD panels can be achieved on Macintosh LC 575 systems through the use of Presenter 575 by Power R, Inc. The Presenter 520 (for the Macintosh LC 520/550 and Performa 550) is not compatible with the Macintosh LC 575.

For information contact:
Power R Inc.
1606 Dexter Ave. North
Seattle, WA 98109

800-729-6970

206-547-8000

206-285-0260 Fax
Published Date: Feb 19, 2012

HyperCard: Printing reports using ‘Dynamic Height‘ (1/95)

When using HyperCard 2.1 or 2.2 and printing reports while 'Dynamic height' is selected, individual records are split on the page. Part of the last record will be on one page and the rest of the record will appear on the next page. With 'Fixed height' specified this does not happen. I want to use the 'Dynamic height' feature to conserve paper. Is there a way to make this work?

This article has been archived and is no longer updated by Apple.
When using the 'Dynamic height' setting within HyperCard, records can become split between fields, sometimes making "illogical" breaks in the printing of the data. There are a couple of ways around this.

First, you could create a new report which compiles the same address information into a single report object. Alternately, you can create a list report format which places all report objects side-by-side. Because the objects aren't separated vertically, all record data should remain together.

Article Change History:
09 Jan 1995 - Minor formatting changes.

Support Information Services
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JAZZ: Doing a Query Sort by Date in the Database

This article has been archived and is no longer updated by Apple.
It is possible to do a query sort by date in the database. An example would be to find all students born between June 21,1985 and July 24,1985. To do this the following formula would be used in the Database Query-
>DATE(85,6,21)#AND#FIELDNAME<DATE(85,7,24)
Insert your own field name for FIELDNAME.
This formula can be used for invoice dates, sales dates, ect. Just make sure to put the dates in the same format in the query as in the Field Format for the field in the database.

NOTE: Apple Computer Inc. is not responsible for the contents of this article.
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HyperCard: Power Tools and Palette Maker (5/94)

I am using the Power Tools stack with HyperCard 2.2 to create a palette. I have added a background and some buttons, but when I use the palette, the buttons do not appear (they are covered by the background, which is a shape filled in). However, if I click on the spot where the button?is supposed to be, it does what the button is supposed to do. How do I fix this?

This article has been archived and is no longer updated by Apple.
When using Palette Maker, ALL buttons will appear as transparent rectangles in the final palette. This is explained in the help card of Palette Maker.

Support Information Services
Published Date: Feb 19, 2012

HyperCard: Printing with Fax Sender (5/94)

I am using HyperCard and attempting to fax cards using Fax Sender. I select 'Fax Sender' in the Chooser as the output device and select 'Print Card' or "Fax Field" from the File menu. I then receive the message 'No fax recipient has been selected- Printing has been canceled.'

Selecting 'FAX Report' or "FAX Stack' from the File menu displays the Fax Sender dialog box and faxes are transmitted successfully once a phone number is entered. How do I correct this problem?

This article has been archived and is no longer updated by Apple.
This is a symptom of a larger problem with HyperCard. When selecting 'Print Card' from the File menu, the normal dialog is not displayed. As a result, you will not be able to take advantage of any of the options in that dialog. This is the way the print card function in HyperCard has operated since its introduction.

The only work around available is to use the 'Print Stack' or 'Print Report' commands.

Support Information Services
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DOS Compatibility Card: Cause of Diskette Error Message (5/94)

I have a Quadra 610 DOS Compatible computer and when I try to switch to DOS, I get a message that reads "Diskette error - Correct the problem and press any key to retry". What is causing this to happen?

This article has been archived and is no longer updated by Apple.
This is caused when the PC Setup preference file or the drive container is removed from the hard disk. When either of these are thrown away, the DOS Compatibility Card doesn't know where to load the DOS Operating System from. To fix this error, go to the PC Setup control panel and reset your drive selections. If the drive container was thrown away, you need to create a new drive container for the DOS Compatibility Card.

Support Information Services
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QuickTake 100: Use NiCad not Alkaline Batteries (5/96)

I am trying to use alakine batteries with my QuickTake 100 camera, but I have to frequently replace the batteries. If I leave the alkaline batteries in the QuickTake 100 for a week or so, then try to take pictures, I cannot even fill the camera twice. Is there a way to extend the life of alkaline batteries in my QuickTake 100 camera?

This article has been archived and is no longer updated by Apple.

Alkaline batteries exhibit an extremely short life when used with the QuickTake 100 camera, and should only be used when rechargable batteries (NiCads) are not available. Not matter what brand of alkaline batteries you use, you must remember that they will not last long in the QuickTake 100 camera. The best and preferred recommendation for lasting performance is to use lithium batteries. The second best choice is to use NiCads. The reasons for these recommendations are directly related to the current/voltage demands of the camera and the individual battery characteristics.

The QuickTake 100 and QuickTake 150 use AA Batteries.

Article Change History:

08 May 1996 - Added the battery size.

Published Date: Feb 19, 2012

QuickTake 100: Maximum Image Size and DPI (5/94)

What is the maximum size of a QuickTake 100 image printed at 300 dpi and 150 lpi?

This article has been archived and is no longer updated by Apple.
The standard maximum size of the image that can be printed is 640 x 480 pixels or 2.133 inches by 1.6 inches at 144 dpi. You can upsample the resolution of the image to 300 dpi, with a program like Adobe PhotoShop, but the image remains the same dimensions. The other thing you can do is increase the dimensional size of the image to 6.75 x 9 inches and keep the resolution at 144 dpi or increase it to 300 dpi. The line screening is independant of the dots per inch. It can have 80-lines per inch or 150-line or 175-line screens, and it only matters if you are creating a CMYK separation to an image setter, instead of to a continuous tone color printer. The lines per inch you would choose would have to do with the type of paper you print on.

Support Information Services

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QuickTake 100: Shutter Speed vs. Lens Aperture (5/94)

How does the QuickTake 100 decide on shutter speed and lens aperature when taking pictures? All good 35 mm cameras let the user select whether the shutter speed or lens aperture is the higher priority. Is this true of the QuickTake 100 camera?

This article has been archived and is no longer updated by Apple.
The QuickTake 100 camera is not nearly as sophisticated as a 35mm camera when determining aperture opening and shutter speed. Based on an internal program QuickTake samples the ambient light level and makes a determination of its shutter speed and aperture opening. The program places more emphasis on the shutter speed rather than the aperture opening.

Support Information Services
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At Ease: Compatibility Checker Issue

With At Ease the chosen startup application on my computer, and after running Compatibility Checker for System 7 Pro, the computer will no longer startup.
This article has been archived and is no longer updated by Apple.
At Ease is not compatible with System 7 Pro. If you intend to run System 7 Pro, then you cannot run At Ease.

Compatibility Checker v7.1.1, which ships with System 7 Pro, attempts to move At Ease 2.0 (Work Group version) from the System Folder of the active startup disk, even if At Ease is turned on. It gives an error that there were issues moving At Ease, but doesn't explain how to fix it, and doesn't remove any other items from System Folder.

With At Ease 1.0, it does move At Ease Setup, along with all incompatible items. Then the computer cannot start up again, because At Ease is still the chosen startup application, but it is not present because Compatibility Checker has moved it.

If At Ease 1.0 was removed from the System folder while it was 'ON', then startup with Disk Tools, drag Finder from within your System Folder (on your hard disk) to the root level of the hard disk, then drag Finder back to System Folder. This resets the boot blocks back to normal. The Macintosh should now startup to the Finder, but At Ease will not be active.
Published Date: Feb 19, 2012

Power Macintosh: Apple Media Tool 1.1 Compatible (5/94)

I just purchased a Power Mac 7100 AV and the Apple Media Toolkit 1.0 to develop multimedia products and solutions. As soon as I launch Apple Media Tool I get the message "This application needs the 68030 processor!" and quits. Is the Apple Media Tool incompatible with the Power Macintosh?

This article has been archived and is no longer updated by Apple.
Apple Media Tool 1.0 is incompatible with Power Macintosh.

Version 1.1 of Apple Media Tool works with all the Power Macintosh models.

APDA has been notified about the incompatibility of version 1.0 with Power Macintosh machines, and they will try and screen callers to make sure they order version 1.1 for Power Macintosh machines.

Support Information Services

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HyperCard 2.2: "Bad AppleScript Disks" (5/94)

When installing HyperCard 2.2, some users have reported problems with bad "AppleScript" disks

This article has been archived and is no longer updated by Apple.
This may be due to the fact that customers are installing HyperCard 2.2 onto Macintosh computers using System 6 systems. HyperCard 2.2 is compatible with System 6.0.5 or later, but to use the AppleScript programming language with HyperCard 2.2 a Macintosh computer must be configured with:
- System 7.0 or 7.0.1 and QuickTime 1.6 or later, OR
- System 7.1

Customers whose Macintosh computers are running System 6 will see an error during a custom installation of AppleScript which says that the disk is bad. This will not occur during an easy install.

Support Information Services

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HyperCard 2.2: Pasting from Readymade Stack Doesn‘t Work 5/94

I am trying to paste the card number field from "Display the card number" from Readymade Fields Stack into the Addresses stack in HyperCard 2.2. It doesn't work. It does, however, paste fine into a new blank field. Both stacks come on the HyperCard distribution disks. Any ideas on resolving this??

This article has been archived and is no longer updated by Apple.
There is a problem with the script. Below is a portion of the original script.

```
on addStackScript fieldType
get script of fieldType
if "openCard" is in it then
if (fieldType && "field id" && id of me) is not in it then
put scriptBody(fieldType) & return after char ┬
(offSet("openCard",it) + 8) of it
set script of fieldType to it
end if
else
if it ¡ empty then
if last char of it = return then put return after it
else put return & return after it
end if
-- write the full handler
put "on openCard" & return & scriptBody(fieldType) & return & ┬
"pass openCard" & return & "end openCard" after it
set script of fieldType to it
end if
end addStackScript
```

The first "if" statement (if "openCard" is in it then) should really test for "on openCard" instead of "openCard". Many stacks list handlers included in a script at the top of the script. This allows programmers to easily search a script for a particular handler. The addresses stack does this. When this button is pasted into it, the "openCard" in the handler list makes the conditional true and the script to include the card number is pasted into the handler list (where it will never execute).

Change"openCard" to "on openCard" in two places (as below in line 3 and 6) and the script works as it should.

```
on addStackScript fieldType
get script of fieldType
if "on openCard" is in it then
if (fieldType && "field id" && id of me) is not in it then
put scriptBody(fieldType) & return after char ┬
(offSet("on openCard",it) + 8) of it
set script of fieldType to it
end if
else
if it ¡ empty then
if last char of it = return then put return after it
else put return & return after it
end if
-- write the full handler
put "on openCard" & return & scriptBody(fieldType) & return & ┬
"pass openCard" & return & "end openCard" after it
set script of fieldType to it
end if
end addStackScript
```

Support Information Services

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JAZZ: Getting Rid of 0‘s in the Database Report

This article has been archived and is no longer updated by Apple.
If you would like to not print out 0's in your Database Report when the contents of a field is 0 a formula must be used.
=IF(ISBLANK(FIELD 1)," ",FIELD 1)
This formula should be used in the Record Detail line of your Show Defintion on the Database Report. Insert your own field names for FIELD 1.

NOTE: Apple Computer Inc. is not responsible for the contents of this article.
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MAE 1.0: Technical Frequently Asked Questions

This article is the MAE 1.0 Technical Frequently Asked Questions (FAQ) for users of Macintosh Application Environment (MAE).
This article has been archived and is no longer updated by Apple.
What's New
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1. Various updates to reflect changes in the patch "a" release.

2. How to increased shared memory.

3. How to remove MAE from your system.

4. How to suspend MAE.

5. Ross HyperSparc incompatibility.

6. ISO 9660 CD incompatibility.

7. Removable volume compatibility.

8. Maximum number of environment variables.

9. How to use command line arguments.

10. How to use X Resources to configure MAE at startup.

11. Setting the DISPLAY environment variable (and related issues).

12. How to change the font size used for desktop filenames.

13. Description of the APPLEPATH environment variable.

MAE FAQ's

Question: What information is contained in each of the three FAQ documents?

Answer: The Product FAQ contains general information about the product and licensing. This FAQ answers questions about support, pricing and product specifications.

The Technical FAQ contains information of about product performance, tuning, workarounds and other technical tips.

The Trial FAQ contains information specific to the MAE Trial.

Installation and Startup

Question: After installing and running MAE for the first time, a window stating "Rebuilding the Desktop" appears. This can last for a very long time. What should I do?

Answer: Building a desktop over a large file system or one with NFS mount points generally taks a long time and can use up a fair amount of disk space. The directories that MAE scans, in order, are:

1. System Folder
2. appledir
3. Home directory ***NOTE: this scan removed in patch "a"***
4. directory specified by APPLEPATH environment variable

It is best to allow the rebuild of the System Folder and appledir directories (which should be short) but it is not necessary to rebuild the HOME or APPLEPATH directories, so you can go ahead and cancel those rebuilds at any time by clicking the "Stop" button.

Question: What is the APPLEPATH environment variable used for?

Answer: The APPLEPATH environment variable is used to force MAE to scan a particular directory during a desktop rebuild (which is done whenever a System Folder is created or when MAE is started with the "-rebuild" command line argument). This is useful when a number of Macintosh applications are located in a directory shared by several MAE users. Forcing MAE to scan this application directory causes the appropriate application to launch whenever one of its documents are double-clicked.

Question: Does MAE pose a limit on how many UNIX environment variables can be defined at startup?

Answer: No. However, the total size of all defined environment variables should not exceed 35K (35,000 characters).

Question: MAE complains that it cannot connect to my X-Window display. What should I do?

Answer: If you are running MAE on the same workstation that you are running the X-Server, you can set your DISPLAY environment variable to be "local:0" and it should work. If you are running MAE on a different machine than the X-Server, you should set your DISPLAY environment variable to be the machine name the X-Server is running on with a ":0" appended, such as "my_machine:0". If MAE still does not open the display, run the program "xhost" on the X-Server machine. For example, if MAE is running on a workstation named "my_workstation", and the X-Server is on a machine named "my_terminal", then on my_terminal run the command "xhost +my_workstation", which lets MAE on my_workstation open a display on my_terminal.

Note that the command line argument "-display <dpy>" overrides the DISPLAY environment variable.

Question: When I first start up MAE 1.0 after installing, I get the splash screen, the 'Welcome to Macintosh' window, and then a system error. What's wrong?

Answer: There is an incompatibility between MAE 1.0 (commercial and trial versions) and the number of groups associated with a user under Solaris and HP-UX.

NOTE: This problem has been fixed in MAE patch "a" and MAE Trial version 1.0a.

The symptom of the problem is a Macintosh "bomb box" alert indicating that a bus error has occurred. This alert shows up just after the "Welcome to Macintosh" dialog displays. The restart button in the dialog is ineffective, and you must manually kill the MAE process to recover.

The cause of this problem is related to the supported number of groups that the user's login ID is affiliated with. Solaris 2.3 supports a maximum of 16 groups and HP-UX 9.x supports a maximum of 20 groups. MAE limits the number of groups to 8. Therefore whenever you attempt to run MAE with more than 8 groups you get the previously described "bomb box".

The workaround to this problem is to avoid running MAE when logged in as a user with more than 8 groups. This can be done by either deleting unneeded group associations from your normal user ID, or creating a new user ID with 8 or less group associations for the purpose of running MAE. A permanent fix for this problem will be available in an upcoming patch release.

You can determine the number of groups defined for a user by entering the command "groups". To change the supplemental group affiliations, edit the /etc/group file (you must be super-user to do this). See your system administrator (or your system administration manuals) for more information about user IDs and group associations.

Performance

Question: Can MAE be run as an X Application over the network?

Answer: Yes. However, MAE was optimized to run as a local application and be displayed on the local workstation console. While MAE is certainly an X application and can be run remotely, it is graphics intensive and may run significantly slower over the network. MAE performance is highly dependent on the X server, X client, and network bandwidth/traffic.

Question: Can I increase the performance of MAE when using a remote X-Client over the network?

Answer: Yes. Changing the Monitors Control Panel to "Black and White" reduces the amount data sent over the network to the X-Client. This can make a significant difference when running remotely, especially with graphics intensive applications.

Question: Will my performance be affected if my HOME directory is located on a remote volume.

Answer: Absolutely. The "System Folder" which contains the Macintosh toolbox and operating system is built in your HOME directory when you start MAE for the first time. Performance is affected since the code in this folder must be executed to run MAE and it runs more slowly when the System Folder is located on a remote volume.

Question: Can I run MAE with my HOME directory physically located on a machine running SunOS 4.1.x and NFS mounted to a Solaris 2.3 workstation running MAE?

Answer: Yes, but be careful with your permissions. Performance may also be significantly affected.

Question: How many licensed users can run MAE from the same shared workstation?

Answer: As stated before, MAE is very graphics intensive and, depending on the applications, network, and X hardware/software used, your performance could be severely affected. For optimum performance, Apple recommends one MAE user per workstation with the console used for display.

Question: Opening a folder sometimes takes a long time. Why is that?

Answer: When MAE opens a folder it must build a list of all files in that directory. In addition, the file type of each file must be identified ("stat'ed") in order for the proper icon to be displayed in the Finder window. This can take some time if there are hundreds of files in the directory.

A delay may also occur if you have automounter running and there are several mount points within the directory being opened. In this case, when MAE "stats" the mount point, the automounter attempts to mount the filesystem.

Customizing

Question: What are the command line arguments for MAE?

Answer: usage: apple/bin/mae [-argument ...]

Arguments include:

```
-display <dpy>          Name of the X server to display MAE
.                             Example: -display my_xterm:0

-geometry <WxH+X+Y>     Size and location of window
.                             Example: -geometry 600x800+200+200

-title <string>         Title for X window
.                             Example: -title My_MAE_Window

-sysfol <path>          System Folder path
.                             Example: -sysfol "/u/jim/System Folder"

-appledir <path>        Location of the 'apple' directory
.                             Example: -appledir /usr/opt/apple

-memory <memorysize>    Macintosh memory size in megabytes
.                              (m = megabytes, k = kilobytes)
.                             Example: -memory 10m

-maxdepth <bitdepth>    Set maximum frame buffer bit depth
.                              (1 bit == monochrome)
.                             Example: -maxdepth 8

-installcmap            Force the installation of X colormap
.                              (do not depend on window manager)

-iconic                 Start MAE iconified

-iconsleep              Start MAE iconified (same as iconic)

-noextensions           Startup MAE with no Extensions/INITs

-rebuild                Rebuild MAE desktop database

-zappram                Clear VPRAM settings

-help                   Display command arguments Help screen

-version                Display MAE version number
```

Question: Is there a way to permanently set the MAE command line arguments?

Answer: X resources have been defined for several of the command line arguments (see below). Place the desired X resources and settings into a file named ".Xdefaults" in your HOME directory. When starting MAE, it looks into your .Xdefaults file and sets the options accordingly.

Argument X Resource
-------- ----------

```
-geometry     ==  Mae.geometry
-title        ==  Mae.title
-sysfol       ==  Mae.systemFolder
-appledir     ==  Mae.appleDirectory
-maxdepth     ==  Mae.maximumDepth
-installcmap  ==  Mae.installColormap
-iconic       ==  Mae.iconic
-iconsleep    ==  Mae.iconSleep
```

Sample .Xdefaults file

X Resource Sample settings
---------- ----------

```
Mae.geometry:         1200x800
Mae.iconic:           True
Mae.title:            "My MAE Window"
Mae.systemFolder:     "/u/jim/System Folder"
Mae.appleDirectory:   /usr/opt/apple
Mae.maximumDepth:     1
Mae.installColormap:  False
```

Alternately, one could type "xrdb -merge file" where "file" contains the resource settings. The difference is that "xrdb" sets options for all users on the X server, while .Xdefaults only affects one user.

IMPORTANT: Command line arguments override xrdb, which override the equivalent resources in .Xdefaults. To override xrdb, you can either delete the resources from xrdb (in which case .Xdefaults is used) or use the command line equivalents.

Again, a resource in xrdb is used for every user that runs MAE on that X server. .Xdefaults settings are used whenever MAE is started by a particular user on an X server.

Question: How do I increase the usable RAM for MAE applications?

Answer: There are two ways in which to do this. The first is by using the memory control panel (which makes the change permanent) and the second is by specifying a -memory option on the command line (which lasts until MAE is restarted). For example, the following command starts MAE with a RAM size equal to 10MB

$ ~/apple/bin/mae -memory 10

26 June 1995

Question: When I start MAE on my SparcStation I get a message saying, "Not enough shared memory, using malloc..." How do I fix this?

Answer: When MAE notices that it is running on your SparcStation's local display, it attempts to enhance graphics performance by communicating with the X server using the "X Shared Memory Extension". For MAE to succeed at this, your Solaris kernel must be configured to support several large shared memory segments. If MAE is unable to obtain the shared memory it requires (based on the size and color depth of the MAE window), it falls back to a less efficient communications scheme based on large malloc'd X image structures.

To ensure that sufficient Solaris kernel resources are available to support efficient execution of MAE, Apple suggests adjusting the file "/etc/system" to include the following:

set shmsys:shminfo_shmmax=16777216
set shmsys:shminfo_shmseg=8

These shmsys parameters should adequately cover most screen and color depth configurations and take affect after rebooting your system.

IMPORTANT: Talk with your system administrator first before making any changes to this file. While it is unlikely that adjusting these parameters will have adverse effects on other software, Apple Computer does not support or take responsibility for any problems you may encounter.

NOTE: The only reason to make this change to your /etc/system file is if you get the "Not enough shared memory, using malloc..." message mentioned above.

Question: Is there Virtual Memory and if so, how does it work with UNIX?

Answer: MAE "thinks" virtual memory is turned off, however, it is running in a large "malloc'ed" chunk of UNIX memory. So in fact, a 48 Meg session of MAE could be run on a machine with only 16 Meg of RAM and lots of swap space (but note that Apple highly discourages this).

Troubleshooting

Question: I've just installed MAE 1.0 from the CD. When started, MAE opens a window, displays a splash screen, then displays the "Welcome to Macintosh" screen and bombs. What do I do now?

Answer: Follow these steps to help you troubleshoot this and other MAE start problems:

Step 1

Install and run MAE under a user account on the console machine (the root account tries to build a System folder in the root directory -- which may not have enough free disk space). Your HOME directory should be local to the console machine (not via some NFS or other mount point).

Step 2

Make sure that you have plenty of available disk space in your HOME file system (the Installer checks free space for the package install but MAE builds a System Folder in your HOME directory and there should be at least 5 Meg available for it).

Step 3

Make sure there are no NFS (or other) mount points within your HOME directory or in any of its parent directories. The first time MAE starts up, it scans thorough all these directories up to the root, which can trigger the automounter or AFS cells if these mount points are in the path. This can cause long delays or "hanging" situations at startup. Stale NFS mount points also cause these problems.

Step 4

Check UNIX permissions on your HOME directory and the files and directories within the apple directory (this should not be a problem unless you installed or operated as root or some other privileged account). Note: You MUST be able to create the System Folder directory in your HOME directory.

Step 5

Check the workstation RAM and available swap space to ensure there is enough to run MAE (which runs in 16 Meg minimum).

Step 6

If a problem occurs after "Rebuilding the Desktop" begins or if rebuilding takes a long time, cancel the rebuild.

Once you get MAE to successfully run, work back until you discover what caused your problem.

Question: Everything works except I do not seem to be able to access the floppy drive on my Sun workstation. How can I fix this?

Answer: Be certain the permissions on the floppy device file symlinked to /dev/rdiskette are readable and writable by you.

In addition, software products that do not currently support the Solaris Volume Manager conflict with MAE, which uses the Volume Manager. Until software products that are incompatible with the Volume Manager are upgraded to support it, you can work around this conflict by turning the Volume Manager on when using floppies or CDs in MAE and off when using other software. This work-around is only necessary when accessing a Macintosh floppy or CD since MAE does not use the Volume Manager until you try to access a Macintosh disk. Beware, too, that some software disables Volume Manager control at the device level by changing your /etc/vold.conf file, rather than starting or stopping the Volume Manager's vold process.

Printing

Question: When I cancel printing in MAE, is the job really canceled or is a partial job queued to UNIX?

Answer: If a "Printing Canceled" or some equivalent dialog comes up, then the entire print job is canceled and nothing gets printed. Note that the Command and period (.) keys may need to be held down for a few seconds to ensure this occurs. After the application has completed writing the print job, MAE queues the entire print job to UNIX where it is printed by the UNIX spooler.

Networking

Question: Does MAE 1.0 work with hard mounted NFS filesystems?

Answer: Yes, MAE works with hard mounted NFS filesystems. However, like any application, MAE can hang if an NFS server mounted with the hard mount option goes down. (This problem will be addressed in a future patch.)

Question: Does MAE 1.0 work with NFS automounters?

Answer: Yes, MAE works with NFS automounters. However, as with any application that scans the filesystem, MAE's behavior is dependent on your setup.

For example, if a directory contains a large number of direct mapped automount points, then whenever this directory is opened and scanned (such as when the MAE Finder opens a folder on the desktop to display its contents), the automounter is triggered to mount each of the NFS filesystems in that directory. This can produce a "mount storm" of activity with a corresponding delay dependent on the number of mount points and the time it takes to mount each of them. In addition, if any of the servers are down, then MAE can hang. On the other hand, directories of indirect mapped automount points do not have these problems since the mapped directories are not being specifically referenced.

A related MAE startup delay can occur if your site has configured the automounter to place NFS filesystems on direct mapped mount points within any directory on the path to your home directory (including "/"). The reason for this is that when MAE first runs, it opens and examines each directory along the path from the root to your home directory to gather information that is used to present the Macintosh desktop. For example, if your home is /nfs/sitename/users/joe, MAE tries to open and read "/", "/nfs", "/nfs/sitename", and so on. This behavior can cause MAE to trigger the automounter for all direct mapped automount points listed in any directory along the path to your home (which could take a long time). In addition, as with hard mounted NFS filesystems, MAE may hang if any of those NFS servers is down.

Question: Does MAE 1.0 work with Andrew Filesystems (AFS)?

Answer: AFS is not supported under MAE 1.0. However, MAE can be used on a workstation that is an AFS client if you start MAE 1.0 with $HOME referencing a filesystem that is not in your /afs hierarchy. As with the NFS automounter (see earlier question), when MAE traverses the path to your home directory on startup, any AFS cells found along this path may be contacted (which could produce a very long delay). In addition, MAE may hang if one of the cells in /afs is down.

Support

Question: What about updates of MAE? Since this is a new product, can we expect updates to bug reports to be free?

Answer: Apple is putting together a "free patch" mechanism of incremental fixes at no charge. This will be done on an as needed basis (determined by Apple). Patches will be made available via anonymous ftp on server ftp.support.apple.com and also through the ARCHIVE mechanism of the mail server (send mail to listproc@medraut.apple.com with body text of HELP for more information on obtaining archives).

Compatibility

Question: Does MAE run with the Ross HyperSparc processor upgrade?

Answer: No, this release of MAE does not support Ross HyperSparcs.

Question: Does MAE support the Chinese and Japanese language kits?

Answer: These kits are not supported under MAE release 1.0. But like many applications, however, they may work adequately for your needs.

Question: Is there any way of accessing a Macintosh-formatted hard disk from MAE if I connect it to the SCSI bus on my workstation?

Answer: No. Apple does NOT support HFS format hard disks (only CDs and floppies) in MAE. Further, you may potentially damage your workstation or Macintosh disk if you try this since most workstations use fast differential SCSI2, which is electrically different from single-ended SCSI2 or SCSI1 used by most Macintosh SCSI drives.

Question: What kinds of removable media are compatible with MAE?

Answer: The current release of MAE only supports Macintosh formatted CDs and Macintosh formatted 1.4 MB floppy disks.

Question: Are ISO 9660 formatted CDs compatible with MAE?

Answer: No. MAE cannot mount ISO 9660 format CDs. If these CDs are mounted under UNIX (Solaris 2.3 does this automatically), the mounted directory should be accessible to MAE. Do not add the "ISO 9660 File Access" extension (or any of the other Macintosh CD-ROM extensions) to your System Folder -- it does not work.

Miscellaneous

Question: What are the AppleSingle and AppleDouble file formats?

Answer: Apple provides two standards for representing files on foreign file systems. The goal is to preserve all attributes of the file's home file system on file systems that do not otherwise support the same attributes. MAE can read and write to both formats.

AppleSingle format keeps all contents and attributes of a file in a single file on the foreign file system. Both the data and resource forks of a Macintosh file, the Finder information and associated icons, and so on, are all arranged in a single file with a simple structure.

AppleDouble format is the same as AppleSingle format, except that the data fork is kept in a separate file from the resource fork and Finder information. The two can be distinguished by a "%" sign preceding the filename of the file containing the resource and Finder information.

Apple recommends that AppleSingle format should be used to transfer files to MAE whenever possible.

Question: Can MAE read MacBinary file formats?

Answer: No, MAE only reads AppleSingle and AppleDouble file formats.

Question: I notice that MAE uses CPU resources even when I am not doing anything. Is there way I can stop an idle MAE from eating these cycles?

Answer: There is no method within MAE to halt operation in this release. If this overhead is a problem, you can press Control-Z (or whatever stty suspend is set to) in the controlling window. Typing "fg" in the controlling window reawakens MAE. Note that the controlling window is the window where MAE was started. If MAE is started from a Window Manager menu, then you cannot use this trick. Also, if your shell does not support job control then it does not work either.

Question: How do I remove MAE from my system?

Answer: To remove MAE, delete the following:

```
~/apple           (and all its contents)
~/"System Folder" (and all its contents)
~/.mac            (and all its contents)
~/man1
~/docs
```

NOTE: you may have installed your "apple" directory in a place other than your HOME directory and you may also have chosen to create multiple "System Folders" (using the -sysfol argument or by running MAE with different user IDs).

Question: Is there any way to access the workstation serial ports through MAE?

Answer: No, this release of MAE does not support serial ports.

Question: What happens to applications that use sound?

Answer: MAE returns an error to the application when it requests sound support. If the application does not check for this error (refusing to believe the Macintosh does not have sound capability), the application may not behave correctly.

Question: What happens to file names that begin with the characters "//" ?

Answer: MAE looks in the root directory for these files. For example, if you save a file with name //foo, MAE attempts to write file "foo" into directory "/".

Question: How do I change the size of the desktop font used for filenames?

Answer: Use the Views control panel.

Question: How do I show ".*" files and directories in MAE Finder windows.

Answer: You can show/hide these files and directories by setting the appropriate check box in the Views control panel.

Question: The Views control panel check box for "Calculate folder sizes" does not seem to work and neither does the "Get Info" menu command. How can I find out the size of a folder from within MAE?

Answer: By setting the "Calculate folder sizes" check box in the Views control panel and viewing the contents of a folder "by size", the folder sizes within that directory are calculated and displayed.

WARNING: this can take a very long time depending on the depth of your directory.

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AWS 95 Tuning: Monitor System Swapping Activity

This article describes the importance of obtaining information on "swapping" when tuning your Apple Workgroup Server (AWS) 95.
This article has been archived and is no longer updated by Apple.
One of the most important things to learn when tuning an AWS 95 is to see if the system is "swapping". Unfortunately, the swap(1m) command included in A/UX only provides the current swapping activity.

First determine if swapping is actually occurring.

There is a sysinfo structure in the kernel (defined in <sys/sysinfo.h>) which contains counters updated by various kernel subsystems. Typically, these counters continue to be incremented as long as the system is running and re-set to zero each time the system is booted.

The sysinfo structure has several fields regarding the swap subsystem.

```
Field       Use
-----       ---
swpque      Number of "swapped-out" processes "ready-to-run"
swpocc      Is the swap "queue" occupied?
bswapin     Number of pages actually swapped in (read off the swap device)
bswapout    Number of pages actually swapped out (written to the swap device)
```

If the value of these fields are all zero, no swapping has occurred on the system since it was last booted.

A quick way to look at the kernel's sysinfo structure is by using the adb(1) command in the following manner:

adb -k /unix /dev/kmem

To display a particular field in the structure, you can use an offset as in the following adb input string.

sysinfo+0x38/X

The offsets of the fields described above are as follows:

```
Field       Offset
-----       ------
swpque      0x70
swpocc      0x74
bswapin     0x40
bswapout    0x44
```

In a system where no swapping has occurred, a session using the adb command to check these counters will look like this:

```
# adb -k /unix /dev/kmem
a.out file = /unix (COFF format)
core file = /dev/kmem
ready
sysinfo+0x70/X
sysinfo+0x70: 0x0
sysinfo+0x74/X
sysinfo+0x74: 0x0
sysinfo+0x40/X
sysinfo+0x40: 0x0
sysinfo+0x44/X
sysinfo+0x44: 0x0
<Control-d>
#
```

Since these counters are cumulative (if they are non-zero) swapping activity has occurred in the system. If you want to gain insight into historical activity patterns, the sar(1) command can be used with the -q and -w options to gather this kind of information.

If swapping is occurring and you want to understand the swapping characteristics better, configure and analyze the data from the System Accounting package. This will give you information on several aspects of the activities taking place in the system.

To enable the Systems Accounting Package, you need to modify the file /usr/spool/cron/crontabs/adm by removing the leading comment sign (#) from all of the lines.

To have cron(1) read the changes made to this file and schedule the processes you want executed, do the following:

```
# cd usr/spool/cron/crontabs

# vi adm (make the changes mentioned above or use TextEditor)

# su adm

% crontab < adm (If you do not do this and just type 'crontab', the adm crontab file will be initialized)
```

After this, typing the command crontab -l, should return the active crontab for the adm user

```
% crontab -l
0 4 * * 1-6 /usr/lib/acct/runacct 2> /usr/adm/acct/nite/fd2log
0 2 * * 4 /usr/lib/acct/dodisk
5 * * * * /usr/lib/acct/ckpacct

15 5 1 * * /usr/lib/acct/monacct
0 * * * 0,6 /usr/lib/sa/sa1
0 18-7 * * 1-5 /usr/lib/sa/sa1
0 8-17 * * 1-5 /usr/lib/sa/sa1 1200 3
# The following is an option to appear in the above directory
0 20 * * 1-5 /usr/lib/sa/sa2 -s 8:00 -e 18:00 -i 3600 -uybd

% exit
```

After this, you will get a report using the sar -w command that looks similar to this:

```
# sar -w

A/UX hostname 3.1 SVR2 mc68040 05/18/94

00:00:00 swpin/s bswin/s swpot/s bswot/s pswch/s
01:00:00 0.01 0.0 0.00 0.0 85
02:00:01 0.01 0.1 0.00 0.1 85
03:00:01 0.00 0.0 0.00 0.0 85
04:00:00 0.00 0.0 0.00 0.0 85
05:00:00 0.01 0.1 0.00 0.0 85
06:00:00 0.01 0.0 0.00 0.0 85
07:00:01 0.01 0.1 0.00 0.0 85
08:00:01 0.01 0.1 0.00 0.0 85
08:20:01 0.01 0.1 0.00 0.0 85
08:40:01 0.00 0.0 0.00 0.0 85
09:00:01 0.02 0.2 0.00 0.0 85

09:20:01 0.02 0.2 0.00 0.0 85
09:40:02 0.00 0.0 0.00 0.0 85
10:00:00 0.02 0.2 0.00 0.0 85
10:20:00 0.05 0.4 0.00 0.3 81

Average 0.01 0.1 0.00 0.0 85
```

Note: With the default values in the /usr/spool/cron/crontab/adm file, the report will get an entry every 20 minutes during the day and once an hour during the night and weekends.

We recommend reading the manual entry for sadc(1) and the "System Activity Package" section in the "A/UX Local System Administration" manual. You should also read the manual entry for acct(1).

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LaserWriter: Cannot Download 2-byte Fonts on US Models

I have a hard drive attached to my LaserWriter IIf and I want to download the Japanese Language Kit's TrueType fonts to improve the performance. Is this possible? I am trying to download Kanji fonts to the printer's RAM with LaserWriter Utility 7.6.1. I can see the font listed, but when I try to add it, I get a message saying that the file selected contains no downloadable fonts. I can download other fonts fine.

This article has been archived and is no longer updated by Apple.

Two-byte TrueType fonts, like those contained in the Japanese Language Kit, cannot be downloaded to a printer since no utilities do so properly. The Apple Printer Utility and LaserWriter Printer Utility may appear to download the font, but it is not downloaded entirely, if at all. At most, the TrueType font's header file appears in the hard drive or RAM font list. A 2-byte TrueType font consist of a header file and numerous (easily 40 or more) character tables that must all be mapped properly in a PostScript table.

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LAT Protocol Doesn‘t Pass Through A Router (5/94)

We are having problems using the DEC LAT protocol on our LAN. We use LAT because the database we use is on a VAX that requires it.

We have about 300 Macintosh computers on Ethernet and 100 on LocalTalk. We are using a DEC DEMPR as a hub for all the Ethernet computers and an Internet Router to go to LocalTalk. We have 18 10BaseT hubs that run back to the DEMPR. On the other side of the DEMPR we have thin Ethernet that is serving as the backbone for a small cluster of VAX computers.

We are using some of the Macintosh computers as VAX terminals through Ethernet utilizing the LAT tool. Because of the inability of the LAT tool to "pass through" routers, we have designed this entire network as one big Ethernet segment.

1) Is there any way to encapsulate LAT into either AppleTalk or IP in the cisco Router so we can segment the network?

2) Can we use PATHWORKS and ADSP on the VAX as a terminal server getting around the LAT and router limitation, and use AppleTalk all the way to the VAX?

3) What might be a better solution to this problem? (That is software or hardware which might work better.)

This article has been archived and is no longer updated by Apple.
According to Digital documentation on PATHWORKS (Client Admin Guide page 2-1) LAT architecture does not work over routers. DEC offers no technical explanation.

DEC has provided a work around for this problem. It's called The AppleTalk LAT Gateway. The following are instructions for installing and connecting to the Gateway. This solution is found starting on Chapter two, page one of PATHWORKS Client Admin Guide.

The requirements are: A Macintosh connected to Ethernet. This "should" be a stand alone server computer. If the Macintosh is connected to LocalTalk it won't work.

To configure the LAT Gateway Server you should:

1) Drag the "AppleTalk LAT - Gateway" software to the server Macintosh.
2) Launch the AppleTalk LAT - Gateway application.
3) Provide a name for the server.
4) Click the configuration boxes as required by the installation.

To connect to the Gateway you should:

1) Launch the application (I will use MacTerminal for an example).
2) Pull down the settings menu and select connections.
3) Select "AppleTalk - LAT" and the connection method.
4) Choose gateway and then the correct zone and gateway name.
5) Click OK. Wait a few seconds for the Gateway Service to identify itself.
6) Then select the "service" option and the desired gateway.
7) Click OK.
8) Close the dialog box and select "open connection" under the session menu.

Support Information Services

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LaserWriter Select 360: Correct Voltages (5/94)

The LaserWriter Select 360 user's manual manual and all other documentation I have states that the electrical specifications are 115V-120V, 50-60 HZ. On the back of the printer it states 110V-120V, 60HZ. Which is correct?

This article has been archived and is no longer updated by Apple.
There is a discrepancy between the product specification sheets, user's manual, and the product label.

The LaserWriter Select 360 supported input voltages are:

Voltage Frequency
------- ---------
90 - 110 VAC 48-52 Hz, 58-62 Hz
103.5-126.5 VAC 58-62 Hz

Support Information Services
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JAZZ: Frozen Margins in Word Processing

This article has been archived and is no longer updated by Apple.
When using JAZZ Word Processing you must turn off the Tab Wells after using them. After you click on a regular or decimal tab well, the tab well turns black, now you can click anywhere on the bottom half of the ruler to insert a tab. Just make sure to go back and click on the tab well to turn it white after you have finished or it will freeze your margins.

NOTE: Apple Computer Inc. is not responsible for the contents of this article.
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Newton MessagePad: Correcting Error -48205

Why do I get a -48205 error on my Newton MessagePad when I am browsing in a new or empty Newton Personal Word List?
This article has been archived and is no longer updated by Apple.
The -48205 error is explained as Index Out Of Bounds. In this instance, the error occurs because there are no entries in the Personal Word List to browse. Once you add words to the Personal Word List, the error does not occur.

The Newton Word List contains all the words added to the Newton's memory. You can access the Personal Word List by bringing up the Newton keyboard and tapping the book icon in the lower left corner. Scrolling in the Personal Word List is done by tapping the letter that starts each words entry or tapping the up and down arrows at the bottom of the Newton's screen.
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DOS Compatibility Card: Black & White Video In DOS Mode (5/94)

On the Quadra 610 DOS Compatible and the DOS Compatibility Card, isolated cases have been reported where the DOS screen will display in Black and White instead of Color.

This article has been archived and is no longer updated by Apple.
Some applications may not properly sense the type of monitor and video mode being used. Many applications have a command line switch that will force a particular video mode to be used.

For applications having this problem, check the program documentation or with the program vendor to see if a video switch is available to correct this problem.

Support Information Services
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Fax Phone Book: Over 100 Entries Degrades Performance

I have imported a list of approximately 500 names into the Fax Phone book and it now takes over 2 minutes to open the phone book after hitting the fax button in the print dialog box. I have assigned more memory to the fax utility and it doesn't appear to help.

How many names was the software designed to support? If it is less than 500, is there a way around this?
This article has been archived and is no longer updated by Apple.
There are performance problems when over 100 addresses are added to the Fax Phone Book. The recommendation is to actually limit the number of addresses in the phone book to 100 or less. If as many as 1000 addresses are added to the phone book the system may crash or hang.

With regard to a workaround, the only one we know of is to rename the phonebooks. You could switch from phone book to phone book by renaming the current phone book to something else, and renaming the phone book that they want to use "Fax Phone Book". This is the only known work around.

Engineering is looking into improving the Fax Phone Book in future revisions of the software. There is no additional information on what the improvements will be at this time.
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Macintosh AV: NTSC Underscan with Multiple Scan Display

With the Macintosh Quadra AV series Quadra computers and the Apple Multiple Scan 17 or 20 Display, the Monitors control panel does not allow me to select a resolution of 512x384. This makes it difficult to switch to output to an NTSC device except in the 640x480 mode. Is there a way of doing this?
This article has been archived and is no longer updated by Apple.
The Multiple Scan Display software doesn't show the 512 x 384 (NTSC underscan) resolution in the Monitors control panel, because the Multiple Scan Displays do not directly support that resolution. The monitor's software patches the Macintosh AV video ROM routines to enable the computers to do the dynamic resolution switching.

Here are the steps required to get the NTSC underscan resolution of 512 x 384:

Macintosh Quadra AV Series

1. Open the Monitors control panel.

2. If the Multiple Scan display is not set to 640 x 480:
- Click the "Options..." button.
- Change to the "Macintosh Hi-Res Display" resolution and click OK.

3. Hold down the Option key on the keyboard and click the "Options..." button.

4. Change to the 512 x 384 resolution and click OK.

5. Click OK to confirm that the smaller image appeared.

6. Change to "Display Video on Television" and click OK.

7. Click the "Switch" button to display the image on the Television.

Note: The additional resolution options are available when the extensions are off because the Multiple Scan Display software does not get loaded, so the video ROM is not patched.

Power Macintosh AV Series

1. Open the Monitors control panel. Click the "Options..." button.

2. Choose "Display Video on Television" button and the "Upon Restart Display Video on Television" button. Click "OK".

3. Click "Rearrange on Restart" radio button and close the Monitors control panel.

4. Restart. Video will display on TV in 640 x 480 mode.

5. Open the Monitors control panel. Click "Options...".

6. Choose the "512 x 384" setting. Choose "Upon Restart Display Video on Television" button. Click "OK". Click the "Rearrange on close" button and close the Monitors control panel.

Published Date: Feb 19, 2012

Power Macintosh AV: Internal Video vs AV Card Speed

Is the on-board video for the Power Macintosh AV configurations is faster than the AV display card (DB-15 connector output?
This article has been archived and is no longer updated by Apple.
The display speed of the internal video is faster than the AV card. This is because the AV card uses a 32-bit wide data path for video (as does the 840AV), while the DRAM-based video and standard Power Mac video cards use a 64-bit wide video path. This means that video is technically faster on the non-AV machines, although this is only a benchmark. In real applications, customers should not be able to notice the video speed differences between an AV and a non-AV system. The raw video speed is a trade-off of delivering video-in and video-out features, but you should not notice a difference in total system performance.

It is also recommended that if using a Power Macintosh AV with a single monitor, that you attach the monitor to the AV card's video out port (the DB 15 connector) as you will get better digitizing performance. This recommendation also stands for Apple AudioVision displays. You can connect the AudioVision to the DB 15 using the AudioVision HDI-45 to DB 15 display adapter.

The following information is for Apple Internal & Support Providers Only

Published Date: Feb 19, 2012

Power Macintosh: "PowerPC Finder Update" Error Message

After reinstalling system software on a Power Macintosh, the following message is displayed:

"The system extension PowerPC Finder Update cannot be used."
This article has been archived and is no longer updated by Apple.
This message is a result of some corruption in the Finder Preferences file. The solution is to delete the Finder preferences file and have the Macintosh create a new Finder preferences files. This can be achieved by following these steps:

1. Open the System Folder
2. Open the Preferences Folder
3. Move the Finder Preferences file to the trash
4. Choose Restart from the Special menu
5. After restart, empty the trash.

Upon reboot, the operating system will recreate a new default Finder Preferences file and the error should not longer occur. After this, it may be necessary to reset some of the Finder settings using the Views control panel.
Published Date: Feb 19, 2012

PowerBook: Solar Powered Solutions

Are there any solar power sources available for my PowerBook?
This article has been archived and is no longer updated by Apple.
Advanced Power Technologies, Inc. in Duluth, GA. makes the PowerLine Solar Charging System originally created by Keep It Simple Systems whom they acquired. You may contact them at http://wildwestweb.com/solar/index.html or phone them at 800-327-6882.

Jade Mountain, Inc. in Boulder, CO. makes a solar solution called Suncatcher. You may contact them at http://www.jademountain.com/energyProducts/suncatcher.html or phone them at 800-442-1972

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Published Date: Feb 19, 2012

Power Macintosh AV: How To Select Flicker Free Format

On a Power Macintosh AV system using NTSC/PAL output to a television, the Flicker Free option is disabled in the Monitors Control Panel. Why?
This article has been archived and is no longer updated by Apple.
When using NTSC/PAL video output, you must be in 256 colors before you can use the Flicker Free option. Setting the output to Thousands or Millions of colors uses too much video RAM and will disable this option until more memory is available.

If your are digitizing movies or pictures, it is best to connect a computer monitor to the Power Macintosh's AV card, set the resolution to 640x480, and set the colors to Millions. This will produce the best results for digitizing. Use the NTSC/PAL output options for presentations or for recording.

Published Date: Feb 19, 2012

Power Macintosh: 1 MB and 2 MB SIMMs not supported

Does the Power Macintosh support 1 MB or 2 MB 72-pin non-composite SIMMs?
This article has been archived and is no longer updated by Apple.
Apple has not tested 1 MB or 2 MB SIMMS in Power Macintosh systems and therefore cannot support their use.
Published Date: Feb 19, 2012

DOS Compatibility Card: Cut & Paste Freezes System (5/94)

I have Quadra DOS Compatible computer I am having problems copying and pasting between Windows and the Macintosh. Every time I try this my system freezes on me. How can I correct this?

This article has been archived and is no longer updated by Apple.
The problem on the Quadra 610 DOS Compatible and DOS Compatibility Card is related to the size and type of information being copied.

To correct this problem:

* Turn Virtual Memory on
* Set the Virtual Memory to 12 MB or higher
* Turn 32-bit addressing on
* Restart your computer

Support Information Services
Published Date: Feb 19, 2012

DOS Compatibility Card: Cold Creates Checkerboard Pattern (5/94)

In Isolated cases the Quadra 610 DOS Compatible and the DOS Compatibility Card have displayed a checkerboard pattern when the DOS screen is displayed.

This article has been archived and is no longer updated by Apple.
This symptom has only appeared in cases where the computer is in a very cold location, (close to freezing). This symptom corrects itself when the computer warms up.

Support Information Services
Published Date: Feb 19, 2012

HyperCard 2.2:AddColor colorPict Effect Must="Stamp" (5/94)

In Hypercard 2.2, the Color Tools stack (XCMD documentation) states that the following command will allow you to paste a picture with visual effects:

Addcolor "colorPictFile", "cd"|"bg", <filename>, <point|rectangle>, "t"|"o" [,<effect>|<duration>]

However, this doesn't seem to work unless the "effect" is "stamp."

To duplicate:

Launch Hypercard
Open Address Stack (or any other stack)
Create a new stack in Hypercard
Create a new button
enter script of button:

```
on mouseUp
AddColor "colorPictFile","cd","littlepict","0,0","o","stamp",60
end mouseUp
```

--where "littlepict" is the name of a pict file in same folder as new stack (you can take a screen shot and rename it).

Close button and test it, button works.
Change script so that effect is something else, like "dissolve", "irisOpen", whatever, and the pict doesn't appear. We also tried locking messages, redrawing screen, whatever else we could think of.

This article has been archived and is no longer updated by Apple.
The "AddColor colorPict..." command works but the "AddColor ColorPictFile..." command does not work with HyperCard 2.2.

The only work around is to not use this command. Make the PICT
a resource and use the "AddColor colorPict..." command instead.

Support Information Services

Published Date: Feb 19, 2012

QuickTime: Custom Color Palette

I want to use images in QuickTime movies with 256 colors, non-compressed, with its own color palette (not System Palette), so that image will not appear dithered. My images are 8-bit PICT files converted from 24-bit video; I use the DeBabelizer to create the color palette that is optimal for my images and has no dithering. The QuickTime movie always reverts to System Palette, resulting in dithering of image. Any way around this?
This article has been archived and is no longer updated by Apple.
Using an application such as PhotoShop, the following will use a custom color palette:

1) In PhotoShop - Choose Save As A PICT -Indexed Color - 8 Bit.
2) Go into Movie Converter and set the compression settings to video compression - high quality - 1 frame per second.
3) Convert the PICT into a Movie

You will have a movie that has the color palette you need. You can then paste that movie into any where else you want to use it.
Published Date: Feb 19, 2012

ImageWriter II: New Logic Boards

Problem:

After exchanging the the logic board in an ImageWriter II the error light comes on and the select light stays off. The printer does not respond to the computer or to a self test command.

This article has been archived and is no longer updated by Apple.

CURE:

All of the logic boards being shipped as exchange modules are the new Revision A boards. The Revision A boards are compatible with both the old mechanical paper out sensor and the new optical paper out sensor. Switch 3 on the logic board must be configured properly for the type of paper out sensor used on the printer. Jumper pins 1 and 2 for the mechanical sensor and pins 2 and 3 for the optical sensor. Refer to the ImageWriter II Technical Procedures for more information.

Published Date: Feb 19, 2012

HyperCard 2.2: Printing Disabled In Standalone App? (5/94)

Why are 'Print Field,' 'Print Stack,' and 'Print Report' disabled in stand alone applications? Is there anyway to get these menu choices available in stand alone applications?

This article has been archived and is no longer updated by Apple.
"Print Report" and "Print Stack" are options available under the "File" menu in HyperCard. In HyperCard Payer these items are still there but are grayed out because the XCDMs that perform these functions have been removed. Because of this, there is no way to access or modify a report template. Print Field is the only type of printing that the user can access directly.

Since standalones are basically stacks with the player engine embedded, they act the same way.

I have been able to print mail labels using
"open report printing with template..."
It works like a champ.

Support Information Services
Published Date: Feb 19, 2012

MacTCP 2.0.4 Release Notes and Read Me (8/94)

October 21, 1993

MacTCP version 2.0.4 is an update release.
MacTCP version 2.0.3 was released internal to Apple.
MacTCP 2.0.4 contains the following improvements over MacTCP 2.0.2 and earlier versions:
This article has been archived and is no longer updated by Apple.
Performance:
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* Earlier versions of MacTCP had several problems associated with setting lower bounds for retransmission times on TCP connections. This was particularly apparent when using MacTCP over serial lines which tend to have both long round trip times and a tendency to corrupt packets. The lower bounding for retransmission timeouts was frequently set to 20 seconds or more. MacTCP 2.0.4 corrects these problems, and sets the retransmission lower bound to 1 second regardless of link type. This allows MacTCP to correctly calculate the retransmission time as SRTT + 4(RTTV). Note that this may result in an increased number of retransmission on some connections, but the overall performance is much more acceptable.

* When set to large sizes, the disk cache included in System 7 and 7.1 does not work well with networking. Doing an FTP copy to a Mac with a 1 megabyte disk cache will result in cache flush delays of 30 seconds or longer, during which time the receive window will become full and no additional data can flow over the connection. We recommend that users of MacTCP set their disk cache size to 128k or less within the Memory control panel for optimal network performance. This should be fixed in a future release of the Mac OS.

NOTE: This problem has been fixed with System Software 7.5.

* Earlier versions of MacTCP incorrectly implemented TCP congestion avoidance by reopening the congestion window too quickly. MacTCP 2.0.4 corrects this problem.

Configuration:
---
* BootP requests are (again) sent to the Ethernet broadcast address as they were in MacTCP 1.x. MacTCP 2.0 and 2.0.2 sent BootP requests to an Ethernet multicast address.

* If MacTCP is set up to run over Ethernet, and server configuration mode is chosen in the MacTCP control panel, MacTCP attempts to configure itself using BootP. If that fails, it will attempt configuration using RARP. Previous versions of MacTCP used RARP initially, and if that failed, attempted BootP.

Domain Name Resolver:
---

* If a domain name server cannot resolve a name but can provide references to more appropriate name servers, the MacTCP Domain Name Resolver (DNR) will recursively follow those references until it resolves the name, runs out of servers and references, or times out. Earlier versions of MacTCP did not recursively follow references.

* The DNR is now compliant with the domain name syntax portions of RFC 1123 with respect to decimal digits and hyphens. Previous versions of the DNR did not accept hyphens and assumed that names beginning with numbers were dot format internet addresses.

* In earlier versions of the DNR, the processing of MXInfo and HInfo replies leaked memory if more than one record was received in the answer section.

* Earlier versions of the DNR corrupted the higher order bits of MXInfo preferences greater than 255.

* When resolving an alias, the DNR will now follow up on any CNAMES which are returned.

* The DNR manages cached resource record (RR) memory more efficiently than previous versions.

Program Interfaces:
---

* Earlier versions of MacTCP ignored the ULP timeout parameter in the TCPClose call.

* Previous versions of MacTCP dynamically allocated TCP and UDP ports in the range between 256 and 65535, inclusive. For consistency with most UNIX hosts, MacTCP 2.0.4 has been changed to first attempt to allocate ports in the range between 1025 and 5000. This does not impact programs which request specific ports.

* In earlier versions of MacTCP, it was possible for the UDP Create call to allocate a UDP port number which was already in use if a UDP Multiport stream existed.

* Previously, UDP did not call the application's completion routine if a driver error caused an IP Write call to fail.

* PBControl calls with csCode ipctlWrite now set the IOResult correctly.

* The UDP notify routine is called when an ICMP destination unreachable is received. In previous versions of MacTCP, the notify routine might not get called.

Odds & Ends:
---
* MacTCP 2.0.2 sometimes sent packets greater than 576 bytes long to hosts which were not on the same subnet. Earlier versions of MacTCP did not have this problem. It has been corrected in MacTCP 2.0.4.

* The TCP/IP protocol prohibits IP precedence level changes once a TCP connection is established. Some DEC Alphas running OSF/1 have been observed to do this when acting as FTP servers. MacTCP has always correctly sent a reset in response, but previous versions hung after doing so. Now MacTCP sends the reset but does not hang.

Article Change History:
26 Aug 1994 - Added note that the large disk cache sizes has been fixed
with System 7.5.

Support Information Services
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Network Terminology and AppleTalk Limits

Listed below are several generic networking terms and information on AppleTalk limits.
This article has been archived and is no longer updated by Apple.

Networking Terms

- Router: Connects 2 or more networks using the network layer.
- Gateway: Manages communications between different protocol families.
- Bridge: Connects 2 or more networks using the data link layer.
- Hop: Used to describe a jump through a router to the next network.
- AppleTalk: The network protocol for Apple Macintosh Systems.
- LocalTalk: AppleTalk protocol on twisted pair cabling (ie, PhoneNet).
- EtherTalk: AppleTalk protocol on EtherNet cable with interface card.
- TokenTalk: AppleTalk protocol on Token Ring cabling with interface card.

AppleTalk Limits

- Phase I supports up to 254 nodes, by number.
- Phase II supports (theoretically) 16 million nodes by range or number.
- LocalTalk should only address up to 32 nodes.
- LocalTalk Network is identified by a single network number.
- Extended AppleTalk networks are identified by network range.
- Extended AppleTalk networks support zone lists.

OSI Model

Applies to TCP/IP and other networking protocols:

- Layer 7 - Application
- Layer 6 - Presentation
- Layer 5 - Session
- Layer 4 - Transport
- Layer 3 - Network
- Layer 2 - Data link
- Layer 1 - Physical

Topology:

- Bus: All nodes connected in one line (daisy chain).
- Star: All nodes connected to a central hub.
- Ring: All nodes connected in a closed loop.

Published Date: Feb 19, 2012

SoftWindows: Novell Upgrade Problem (5/94)

When I updated from Novell 3.11 to 4.01 everything seems to work OK, but now SoftWindows can't find Network Drive. Does SoftWindows need a new driver?

This article has been archived and is no longer updated by Apple.
The solution is to remove the Novell driver and use the driver called EtherSPC from Insignia. Also check to make sure frame types are selected correctly. There is a net.cfg file in the driver directory for the SoftWindows software that configures SoftWindows' Ethernet driver. It specifies the actual Ethernet frame type the driver will use. The frame type selected must match the one used by the Netware server. Both Netware and SoftWindows allow selections of all the popular frame types, so WHICH one you select is less important than matching the selections between the server and the Macintosh.

Support Information Services

Published Date: Feb 19, 2012

HyperCard: Stacks w/ Audio Don‘t Work on AV Machines (5/94)

The stacks "Addresses With Audio," "Appointments With Audio," and "Audio Help" from HyperCard 2.1 do not work on the Macintosh AV machines.

From what I can tell, the "Audio Help" stack included with HyperCard 2.2 does work on the AV machines. I presume that this means the Addresses and Appointments stacks included with HyperCard 2.2 also have audio capability and work on the AV's, is this true?

Is the incompatibility with Sound Manager 3.0 in the ROMs on the AVs and not with the AVs themselves? If so, this issue could affect any CPU with Sound Manager 3.0.

This article has been archived and is no longer updated by Apple.
It is true that "Addresses with Audio" and "Appointments with Audio" don't work with the AV Macs. However, the Addresses and Appointments stacks that ship with HyperCard 2.2 do work with the Audio Recording capability in HyperCard.

The problem with the audio stacks is in hardware differences between the DSP chip in the AVs and the Apple Sound Chip in other machines. HyperCard 2.2 and the 2.1 audio stacks work OK with Sound Manager 3.0 on other machines that we have tested.

Support Information Services
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HyperCard: Palette Maker: "err: resource not found" (5/96)

I have found that when using Power Tools Palette Maker, and a palette is created and then deleted, I get the error: "err: resource not found.

This specifically, happens if palette is deleted from the Power Tools stack first, however, it also happens if multiple instances of the palette is found in the stack from which it is to be deleted.

Here are the steps to duplicate:

Open Power Tools Stack.

Select "Palette Maker"

Enter Palette Name

Click on "Create Palette"

Click on "Install palette" --select some stack, like "Appointments";

palette gets installed.

Click on "Install Palette" again to same stack --palette gets installed

again.

Click on "Delete Palette," get error "Error: Resource not found."

This article has been archived and is no longer updated by Apple.

HyperCard programming is an area of endeavor that is not to be taken lightly and creating multiple palettes with the same name is not something I would want to attempt. However if you do, you can delete multiple resources in a stack with the Resource Mover instead of the Delete Palette button in the Power Tools stack. You might want to check the scripts of the delete button and the card background to see what they are doing in that stack.

I have forwarded this situation to the HyperCard team and if they think a

change is warranted, it will be changed in a future version of Power Tools.

Article Change History:

21 May 1996 - Corrected minor typographical errors.

Published Date: Feb 19, 2012

Jazz Word Processing: Printing Pages After Page 7

This article has been archived and is no longer updated by Apple.
It has been reported that there is sometimes a problem printing a range of pages after page 7 in JAZZ word processing (ex. Print pages 9-12). Sometimes when trying to print a range of pages it will start printing at the beginning of the file. A solution is to copy and paste the pages you want to print into a new Word Processing document and then print that document. Also, you can always choose Save As from your file menu and click on Text Only -- then MacWrite can read your file. This can also be helpful when a document gets too long for the JAZZ Word Processor.

NOTE: Apple Computer Inc. is not responsible for the contents of this article.
Published Date: Feb 19, 2012

HyperCard 2.x: Color Printing Doesn‘t Work (1/96)

Color HyperCard 2.x stacks will not print to my Hewlett-Packard 4m printer. It appears that colored objects and PICTs do not print to PostScript printers in general. If an object has been colorized, it will print, but without color information. Is this because the color is in another layer and not really attached to the object, so nothing in the color 'layer' gets printed?

This article has been archived and is no longer updated by Apple.

You are right. HyperCard 2.2 or HyperCard 2.3 does not print color, nor is it likely to in the near future, because as you mentioned - color is added in as an XCMD and not fully supported in the body of the application.

Color printing is not a trivial task and would require a great deal more development time to implement in HyperCard.

Article Change History:

02 Jan 1996 - Added HyperCard 2.3 information.

Support Information Services

Published Date: Feb 19, 2012

Power Macintosh: No Sound With Audio CDs (5/95)

When I play an audio CD in the built-in CD ROM on my Power Macintosh I am unable to hear any sound. The CD mounts on the desktop, AppleCD Audio Player opens and the time counter moves when I press play, but there is no sound. What is causing this problem?

This article has been archived and is no longer updated by Apple.
You need to enable the audio playthrough option in the Sound control panel.

Step 1
---
open the Sound control panel

Step 2

From the pull-down menu, select Sound In.

Step 3

Click the option button

Step 4

Click Internal CD, and Playthrough.

After selecting the internal CD and Playthrough options, you should be able to hear audio CDs on your Power Macintosh computer.

Additional Troubleshooting

If you still do not hear any sound after setting the CD options properly, open your Preferences folder (in your System folder) and throw away the AppleCD Audio Player prefs and Sound Prefs. After throwing these files away, follow the previous steps to reset your Sound control panel.

Article Change History:
02 May 1995 - Added additional troubleshooting information.

Support Information Services
Published Date: Feb 19, 2012

Duo Dock II and Duo Dock Plus: Detailed Video Support

This article overviews the monitors and bit depths supported by the Duo Dock II and the Duo Dock Plus. The following monitors and resolutions are supported by the Duo Dock II and the Duo Dock Plus WITHOUT an external video adapter.
This article has been archived and is no longer updated by Apple.

Monitor	Resolution	Bit Depth	Number of Colors/Gray Scales
Apple 12 Inch Mono	640 x 480	16 bit	NA/256
Apple 12 Inch RGB	384 x 512	16 bit	32,000/256
AppleColor Hi-Res RGB	640 x 480	16 bit	32,000/256
Apple Portrait	640 x 870	16 bit	NA/256
Apple 16 Inch RGB	832 x 624	16 bit	32,000/256
Apple Multiple Scan 15	640 x 480	16 bit	32,000/256
Apple Multiple Scan 17	640 x 480	16 bit	32,000/256
Apple Multiple Scan 17	832 x 624	16 bit	32,000/256
Apple Multiple Scan 17	1024 x 768	8 bit	256/256
Apple Multiple Scan 20	640 x 480	16 bit	32,000/256
Apple Multiple Scan 20	832 x 624	16 bit	32,000/256
Apple Multiple Scan 20	1024 x 768	8 bit	256/256
Apple Multiple Scan 20	1152 x 870	8 bit	256/256
Apple 21 Inch RGB	1152 x 870	8 bit	256/256
VGA	640 x 480	16 bit	32,000/256
SVGA	800 x 600	16 bit	32,000/256

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Note: It is only possible to display 256 levels of gray, even if the bit density is greater than eight.
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AppleSearch WAIS Gateway: Description

This article describes the AppleSearch WAIS Gateway.
This article has been archived and is no longer updated by Apple.
AppleSearch is a client/server information retrieval system which allows users to search large text databases for WAIS, the Wide Area Information Servers system, is one of many services on the Internet. WAIS was developed jointly by Thinking Machines, Apple Computer, KPMG Peat Marwick, and Dow Jones and Company. It has became popular public domain client/server software, providing searchable databases on the Internet. Commercial implementations of WAIS are also now available.

Because WAIS and AppleSearch use similar indexing methods (inverted index files) and both provide relevance ranking, AppleSearch and WAIS work very well together. There are approximately five hundred WAIS servers on the Internet throughout the world with content including Supreme Court opinions, regional economic reports, weather maps, and even recipes. By extending the reach of the AppleSearch Reporter, the AppleSearch WAIS gateway makes it possible for users to receive updates from any WAIS server. The AppleSearch WAIS gateway allows less Internet-savvy users to easily conduct research on the wealth of informational resources on the Internet.

AppleSearch WAIS Gateway Features
---
* Allows Macintosh clients on AppleTalk networks to search Internet WAIS servers without having to be on the internet themselves.
* Provides user-defined "agent" based tracking of developments on the Internet.
* Allows server administrators to select the specific WAIS servers and restrict access to inappropriate servers.
* Enables unattended, non-prime time access to heavily used Internet information sources.
* Seamless integration of LAN and WAN based information sources.

AppleSearch Usage on the Internet

The AppleSearch WAIS gateway allows Educators and students, business people, and other professionals to share in all the benefits of the existing AppleSearch client/server architecture as well as accessing WAIS servers on the Internet. WAIS servers will appear in the AppleSearch sources window along with any AppleSearch sources on the user's LAN. Users can create AppleSearch Reporters to search and retrieve information on local servers from the following sources: documents stored in their native format on servers, CD-ROM-based information, information from online news feeds, in addition to sources out on the Internet. Queries may be sent out on the Internet in an interactive fashion for immediate feedback or scheduled to search the Internet during off-peak hours.

The AppleSearch WAIS gateway is a gateway from the AppleSearch server software out to the main WAIS directory server located and maintained by Thinking Machines Corporation at Think.com. The main Think.com directory server points to all the registered WAIS servers on the Internet. The administrator of the AppleSearch server connects to the gateway and then selects which WAIS servers will be made available to local area AppleSearch users. This allows the administrator to choose servers that are applicable and appropriate for the local users' needs. Because there are so many WAIS servers, the AppleSearch interface conveniently organizes them in a volume oriented fashion listing all available servers in alphabetically grouped folders.

The AppleSearch client user composes a query and selects an appropriate WAIS index from the AppleSearch Server software. The client passes the query to the Server over the AppleTalk network and the server connects to the WAIS Server over the TCP/IP Internet. The WAIS server returns a relevance ranked list of documents that match the search criteria to the AppleSearch server and on to the client user. The user can then select a document for viewing by double clicking on the list and the AppleSearch server will contact the WAIS Server and retrieve the document.

The AppleSearch Reporter agents can be used to periodically search designated WAIS servers for AppleSearch System Requirements
---
AppleSearch Server
* An Apple Workgroup Server (AWS) 60, 80, or 95 (file and print configuration), a Macintosh Quadra, or Centris 610 or 650.
* Macintosh system software version 7.x or A/UX 3.1.
* 8MB of RAM to run concurrently with AppleShare.
* AppleSearch Server and WAIS Gateway software.
* XTND translators for documents format support.

AppleSearch Client
* Macintosh computer with an internal hard disk and at least 4MB of RAM.
* Macintosh system software version 7.0 or later.
* AppleSearch Client software

Network Requirements
* AppleShare or the Macintosh file-sharing feature.
* AppleTalk software and an AppleTalk network connection (LocalTalk, EtherTalk, TokenTalk, or Apple Remote Access).
* Connection to the Internet

AppleSearch WAIS Gateway Architecture

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                                Main WAIS
                                Directory    Other WAIS Servers
                                  -----         -----
                                 |     |       |     |
                                 |     |       |     |
                                  -----         -----
           TCP/IP Internet         |             |
  ------------------------------------------------------------
         |
       -----
      |     | AppleSearch Server       -----      -----
      |     | with WAIS Gateway       |     |    |     |
       -----                          |     |    |     |
         |                             -----      -----   AppleSearch
         |  AppleTalk Network            |          |       Clients
         -------------------------------------------
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Published Date: Feb 19, 2012

Jazz: Formatting Columns & Rows in JAZZ (Running Out of Memory)

Do not format Columns and Rows in JAZZ. JAZZ uses up some RAM memory for every cell you format, so if you format a Column with 8,192 cells you will rapidly run out of RAM memory.
This article has been archived and is no longer updated by Apple.
If you think you have formatted a column in the Worksheet, you should choose Select All from your Edit menu. Look in the cell Selection Box it will say (ex. A1..G56), but if it says (A1..G8192) you know you have formatted a column. The same problem will occur if you format rows, if the cell Selection Box says A1..IV52, you know you have formatted a Row.

When you have formatted a Row or Column you should choose Disable Undo desk accessory and then click on the Column or Row heading and turn the Column or Row black. Now, choose Format from the Range menu and choose Default as the formatting choice. Choose Select All from the Edit menu again to make sure your Worksheet is back down to the proper size.

Note: If you think you have formatted a Row or Column in a small Worksheet it is often quicker to click and drag over the part of the Worksheet you are using and then choose Copy from the Edit menu. Close the Worksheet you were working on and open a new on and then paste in the contents of the old one.

Hint: Check the About JAZZ desk accessory frequently while using JAZZ it will let you see how much RAM is still available. Also, save your Worksheets every 15 minutes so that if you get into a problem you will not lose too much work.

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AppleSearch Bundle For Internet: Internet Essentials

This article describes some Internet elements users of the K-12 Internet Server need to know, when making decisions about Internet access.
This article has been archived and is no longer updated by Apple.

Getting Connected

The Internet is a large world wide network of machines running the TCP/IP protocol. There are three ways to connect to the Internet.

1) A dedicated full connection. You can connect a Macintosh to the Internet by installing MacTCP and connecting directly to the Internet through a service provider who installs a high speed line at your site. With a dedicated connection you are a full fledged node on the Internet.

2) A non-dedicated partial connection. You can dial into a service provider and use the Point to Point protocols (PPP) or the Serial Line Interface Protocols (SLIP) over a modem line.

3) A terminal emulation connection. You can remotely log into a machine that is on the Internet through telephone lines and act as a terminal.

A full connection provides you the ability to obtain all the Internet services available, including providing services to other users of the Internet. A partial connection provides considerably less services but does allow you to "browse" the Internet by running "front end" programs.

If you are integrating the Internet into you curriculum you may prefer a full connection while new users to the Internet may experiment with a partial connection. The optimum Internet experience is obtained with a dedicated connection.

Dedicated connections offer three advantages over non-dedicated connections:

* You can set up a File Transfer Protocol (FTP) server which will allow any other user on the Internet to access a file when it is convenient for them.

* You don't have to connect to the network each time you want to use it, you are always connected and ready to go.

* File transfers are significantly faster.

Dedicated connections come at a cost. An estimate for dedicated K-12 connection may be $12,000 per year or more.

PPP and SLIP connections are much less expensive because you dial in to the network through a high speed modem only when you want to use it. The features these connections lack are:

* Because you are using a modem, file transfer is significantly slower. The connection isn't fast enough to service more than two or three concurrent users.

* Since the connection to the network is active only when you dial in, interaction with the rest of the Internet community is limited. This will reduce the level of electronic mail and other collaborative and interactive experiences you will have with other students and educators.

WIDELY USED INTERNET SERVICES

Telnet Remote Terminals

Using the Telnet remote terminal protocol users can log into and run programs on millions of computers all over the world. Telnet supports connections to UNIX hosts, DEC VAX, and IBM mainframes. Thousands of publicly accessible services are available via Telnet, including the national weather service, Library of Congress card catalogs, and National Science foundation super computers.

FTP Servers

The File Transfer Protocol is widely used on the Internet to provide a wide range of software file servers to the general public. Using an Anonymous login, users can transfer files from an FTP server to their computer very quickly. Most Public Domain software as well as a large number of demonstration programs are available via Anonymous FTP.

Users who are directly connected the net can set up FTP servers for other Internet users to access. Your students can make available their collections of files to millions of Internet users.

Electronic mail

E-mail is the principal collaborative feature of the Internet. Mail is generally sent to the users of a machine that is directly connected to the Internet. Each user can then use a mail front end program that can download the mail to the users machine.

Shareware front ends such as Eudora can be used to download mail from an Internet node acting as a mail server to a LAN based mail package such as Quickmail, or Microsoft Mail. The First Class BBS system can also used as a front end system for Internet mail.

With Eudora each mail user must have an account on a computer that is directly connected to the Internet. This requires considerable management in a school setting. With a standard LAN mail package acting as a mail gateway, user management is typically easier and the entire user list can receive Internet mail through one Internet address. Handling Internet mail by passing messages off to a LAN based package allows the user to receive mail at any point on the LAN by launching the mail client software and entering their password.

Newgroups

The USENET Network Newsgroups can be thought of as a worldwide collection of automatically updated electronic bulletin boards or discussions.
Gopher

The most popular and easy to navigate sub-spaces on the Internet are the Gopher servers. Gopher, and TurboGopher for Macintosh was written by a team of programmers at the University of Minnesota. Gopher puts a menu based interface on the resources residing on the more than 1,500 servers running Gopher server software.

Gopher is best for Internet browsing because it allows you to jump from one Gopher site to the next while the program automatically opens and shuts down each server connection that is made during the session. While Gopher space navigation is quite easy, it can become aimless, time consuming and non-productive for students doing research because Gopher space is very large and it is growing by the day.

WAIS

WAIS (Wide Area Information Server) servers are another large subset of the Internet that contains a vast amount of educationally relevant material. WAIS servers differ from Gopher servers by indexing the material on them. Each server contains its own index which previously allow for searching by UNIX based shareware.

World Wide Web

Another service on the Internet is the World Wide Web (WWW). By using a front end program like NCSA Mosaic users who are directly connected to the net can use a point and click interface to access thousands of servers all over the world. All of the other services (FTP, WAIS, Gopher, Newsgroups) except mail are available via Mosaic.

Users who are directly connected to the Internet can put up their own home pages using a WWW server software. Students and faculty can design colorful and exciting interfaces to their own collections of information.
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DOS Compatibility Card: Drive Container Not Recognized

I have a Quadra 610 DOS Compatible computer and my drive container for the DOS Compatibility Card is not being recognized after I restart. I have tried resetting the PRAM and throwing away the PC Setup Prefs file, but neither of these have helped.
This article has been archived and is no longer updated by Apple.
Certain hard disk formatting application programs can cause the Quadra DOS Compatible and DOS Compatibility Card drive container not be recognized. Two formatting applications that are known to cause this issue are SCSI Director, and APS Power Tools; a version of SCSI Director bundled with drives from Alliance Peripheral Systems. Other hard disk formatting applications may produce similar symptoms.

To correct the issue, you need to make sure that Finder Eject is disabled. Finder Eject should only be used for removable media. Consult the software's User's Guide for specific information on disabling Finder Eject.

Once you disable Finder Eject, you need to restart your computer and select the drive container in the PC Setup control panel. You can now switch to MS-DOS. You should restart the computer and switch to MS-DOS again to confirm that the issue is resolved.
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Apple Media Tool 1.1: Demo Projects Can‘t be Opened

Customers with the Apple Media Tool Demo CD are getting a "Program error (1)" when attempting to open the Demo projects with the released version of Apple Media Tool 1.1. The projects cannot be opened with AMT 1.0 either. They can only be opened with AMT Demo 1.1.

* Is there a way to open the demo projects with AMT 1.1?
* Do users have any rights to use any of the stuff that is in the Demos?

This article has been archived and is no longer updated by Apple.
This is a bug, that Apple Engineering is aware of, and they are looking into it.

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ARA 2.0.x: Macintosh Portable Problem & Solution (5/94)

I'm trying to use Apple Remote Access (ARA) Personal Server 2.0 with an original Macintosh Portable with an Apple 2400 internal modem. I get no response from the modem when trying to dial. I have tried all of the available 2400 baud scripts, including the Apple 2400 and Hayes 2400 scripts. I'm able to dial with other terminal programs.

This article has been archived and is no longer updated by Apple.

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It turns out that there's a pretty simple solution.  Use the Apple Modem 2400 CCL from ARA 1.0.  It works
fine, and we have verified it.

We tested both ARA Personal Server 2.0 and 2.0.1 with a Macintosh Portable and reproduced your problem.  The
solution above resolves this problem for both ARA PS 2.0 and 2.0.1.  We have reported your problem, and we're
awaiting resolution.

Article Change History:
03 Jun 1994 - Added information on ARA 2.0.1 to article.

Support Information Services
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Published Date: Feb 19, 2012

PowerBook Duo: Type III Battery Q & A

This article provides questions and answers on the PowerBook Duo Type III battery.
This article has been archived and is no longer updated by Apple.
Question: Does the Type III battery for the PowerBook Duo use the same battery charger as the older Type II battery?

Answer: Type I, II, and III Duo batteries can be recharged in the recharger model M1812 (Marketing number M4178LL/B). The Type I recharger, model M7778, can only be used to recharge Type I batteries. The model number of the recharger is printed on the bottom of the recharger. If you have recharger model M7778, you cannot use it with Type II or Type III batteries. Contact Apple or an Apple authorized reseller to obtain the correct model.

If a red light appears when you place a Type III battery into the recharger, the recharger is either the older model or the recharger needs to be updated.

If you have a recharger model M1812 and you need to update it, follow these steps:

1. Shut down the PowerBook Duo computer.

2. Plug the power adapter into an AC outlet using the power cord that came with the computer.

3. Snap the recharger onto the side of the power adapter.

4. Plug the power adapter cable into the power adapter port on the back of the Duo computer.

5. Turn on the PowerBook Duo.

Question: What software do you need to install to correctly use Type III batteries in older PowerBook Duo computers?

Answer: You need to use the Type III Battery Extension, which is provided on a diskette with the battery when you purchase it. The 2.0 Enabler requires System 7.1.1, which is not available for the older Duo computers.

System 7.5 has all the required code for Type III batteries incorporated into the system software so no additional extensions or software is necessary. However, due to an error in the System 7.5 Update 1.0 software, if you are running System 7.5.1, the Type III Battery extension is required to update the external Duo Battery Recharger.

Question: The PowerBook Duo 280c comes with a newer AC power adaptor. Can older AC power adaptors be used with the Duo 280c and the new battery recharger?

Answer: You can you use older AC power adapters with the Duo 280c. The Duo 280 uses AC adapter model M7783. The Duo 280c can use model M7783 however it is suggested that the new model M2693 AC power adapter be used. You can use the new version of the AC power adapter with the model M4178 Battery Recharger. As explained previously, the battery recharger model M4777 cannot be used with Type III batteries.

Question: Do you need the new battery recharger to use Type III batteries in older Powerbook and Duo computers?

Answer: A new charger is not required to take advantage of a Duo Type III battery. An update to the existing charger will provide compatibility. This update procedure is documented above.

Question: Will there be a new recharger and power adapter that is compatible with all battery types?

Answer: There are no plans for any additional chargers or power adapters as the current charger and AC Adapter are fully compatible if they have been updated.

Question: If i purchase a Type II or Type III battery, will I still be able to use my old batteries?

Answer: Yes. With Type II Software installed, Type I or II batteries will work. With Type III Software installed, Type I, II or III will work.

Question: If i purchase a new battery for my PowerBook Duo 210/230, what software will I need?

Answer: With each battery purchase, software to enable your PowerBook to use that battery will come with it.

Type II batteries come with three disks; Duos InstallMeFirst, Duos Extras, and Duos Disk Tools. Substitute these for the disks with the same names in the set you already have. Then install this new software. Basically, this will add the PowerBook Duo Enabler (v1.0). If you have an internal modem, it is suggested that you also install the Duo Battery Patch.

Type III batteries come with a disk called Battery Tools. The Read Me file tells you to install the Type III Battery extension. This extension replaces the Duo Battery Patch and the Battery Patch can be removed from the System Folder.

TA31803_PowerBook_Duo_Type_III_Battery_Q_A_(TIL15484).pdf

Question: I have a Type II battery along with an Express Modem. I had to install the Duo Battery Patch. If I purchase a Type III battery, will I still need the patch?

Answer: No. The Type III Battery Extension replaces the Duo Battery Patch. The Duo Battery Patch can be removed from the System Folder. Also, the patch was rolled into the PowerBook Duo Enabler (V2.0).

Question: Should I install the new enabler on my PowerBook Duo 210/230?

Answer: No. The PowerBook Duo Enabler (V2.0) will not work with System 7.1. System 7.1.1 or later is required.

Question: If I upgrade to system 7.5, what enablers and extensions should I use for my Type II or Type III batteries?

Answer: System 7.5 comes with all of the enablers, patches and extensions needed to run Type II and Type III batteries. Nothing else need be added.

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Quadra 700, 9X0:Clean Install Problem - 16" & 21" Monitor 5/94

When doing a clean install of the operating system on a Quadra 700, 900 or 950, if you disable the System folder by moving the Finder to another folder, the Macintosh will hang on startup with a frozen Macintosh rather than display the blinking question mark. This will occur only if the Quadra internal video is attached to an Apple 16" or 21" color monitor.

This article has been archived and is no longer updated by Apple.
This problem occurs between the time the Quadra identifies a volume as bootable, and when it finds a legitimate system folder - which in a clean install scenario, doesn't exist. The solution for this problem would require a hardware fix, and these particular machines, with the exception of the Quadra 950, are out of production. It is a very rare problem that most people will never encounter.

We recommend that while doing a clean install with one of the above mentioned configurations, that you insert the Install 1 disk before powering up the Quadra. Do not wait for the blinking question mark as with a normal clean install.

This issue does not occur if the Quadra is attached to an Apple 12" Monochrome, 12" RGB, 13" RGB, or 14" RGB. It has not been tested with the Apple 15" portrait, 21" Monochrome or the 17" or 20" Multi-Scan monitors.

Support Information Services
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Chinese Language Kit: Frequently Asked Questions (1 of 2)

This is a list of Frequently Asked Questions (FAQ) on the Chinese Language Kit (CLK).
This article has been archived and is no longer updated by Apple.

1. Question: What is the Chinese Language Kit?

Answer: The Chinese Language Kit is system software that supports Traditional Chinese and Simplified Chinese language input on a non-Chinese operating system. In other words you can add the Chinese Language Kit to a Roman (European) operating system and input Chinese characters using a Chinese localized or WorldScript-savvy application.

2. Question: Will the CLK work with systems before System 7.1?

Answer: No, System 7.1 is required, because this is the first version of the operating system to incorporate WorldScript technology. WorldScript makes multi-lingual computing possible.

3. Question: How does the Chinese Language Kit work?

Answer: Once installed on a System 7.1 (or higher) Macintosh, the Chinese Language Kit adds Chinese as a secondary script to the Macintosh system. It adds extensions, Chinese character input methods, a control panel, language resources, fonts, dictionaries, and preference files and utilities that support the Chinese script. The language resources provide script-specific information for line direction, word boundaries, date, time and number formats.

4. Question: What does the CLK offer publishers?

Answer: For publishers, Language Kits provide an opportunity to expand their business by adding the capability to create Chinese language brochures, sign boards, posters, T shirt designs, restaurant menus, business cards, etc. Some publishers have been using ChineseTalk -- Apple's fully localized Chinese operating system -- but would prefer to use a system that provides an English Finder while allowing them to work with Chinese text.

5. Question: How much space does CLK occupy on the hard drive?

Answer: Approximately 17 MB if you install Traditional and Simplified Chinese; Approximately 10 MB if you install either Traditional or Simplified; Approximately 40 MB if you install both Traditional, Simplified & the 4 extra Chinese TrueType fonts on CD.

6. Question: Why does the CLK take up so much hard disk space?

Answer: Chinese fonts require 6 - 9 MB per typeface. Users who install both Traditional and Simplified characters will need 17 MB of hard disk space. However, many people will choose to install only one or the other, or choose not to install all TrueType fonts. This can be done easily through the custom install menu.

7. Question: Is the Chinese Language Kit compatible with System 7.5?

Answer: An updater has been released for customers who already own the CLK which will upgrade them to version 1.1.1. The following files are part of the updater disk:

```
Chinese Updater                     1.0
Installer                           4.0.3
Read Me
Support Files
- InputBackSupport                  7.5
- Language Kit Extension            7.5
- SimpleText                        1.1.1
- Simplified Chinese                CH1-7.1.1
- Simplified Chinese Input Method   CH1-1.0.3
- Traditional Chinese               TA1-7.1.1
- WorldScript II                    7.5
- WorldScript Power Adapter         7.5.1
```

8. Question: Does the CLK support both Traditional and Simplified characters?

Answer: Yes. Customers told us that this would be very important, especially for academic users, but also for publishers. Also, people use a wide variety of methods to input Chinese characters using a keyboard. The CLK includes pinyin, zhuyin, cangjie, dayi, wubi xing, wubi hua and a variety of others.

9. Question: How many Language Kits are available from Apple?

Answer: The Japanese Language Kit was shipped in April, 1993. The Chinese Language Kit shipped in October 1993. Apple will be looking at customer demand to decide which languages will follow.

10. Question: What third parties are supporting this product?

Answer: The Chinese Language Kit is supported by two kinds of applications: Chinese localized applications, and WorldScript-savvy applications. Many popular applications -- including WordPerfect and Nisus -- take advantage of WorldScript, Apples multi-lingual software technology. System 7.1 compatible applications that have been localized for Chinese can also be used with the Chinese Language Kit. The programs include Claris Works Chinese and TurboWriter from Transpac, among many others.

11. Question: I use both Japanese and Chinese Language Kits. I installed the Chinese Language Kit after installing the Japanese Language Kit, and they do not seem to work properly. What's wrong?

Answer: The Japanese Language Kit should be installed after the Chinese Language Kit. The only situation where a user should install Japanese Language Kit before Chinese Language Kit is if they have version 1.1.1 of the Chinese Language Kit and a version of the Japanese Language Kit previous to version 1.2.

12. Question: What does the CLK install into my computer?

Answer:
- WorldScript II extension
- Language Kit extension
- InputBackSupport extension
- Far East Addition extension
- Simplified Chinese Input Method extension
- Pinyin extension
- Dayi extension
- Parrot extension
- Zhuyin extension
- Cangjie extension
- Simplified and Traditional Chinese Support extensions
- Roman Support extension
- Text control panel
- Simplified and Traditional Chinese script resources (invisible once installed)
- Simplified and Traditional Chinese fbit/fdef fonts
- Simplified and Traditional Chinese Fonts patch files
- Hanzi bitmap fonts
- Hanzi TrueType fonts
- Main Dictionary
- User Dictionary
- Dictionary Tool (Cidian gongju)
- Simplified and Traditional Chinese Language Registers
- Simplified and Traditional Chinese TeachText
- Language Kit Preferences
- DTSysFile
- Input Method Preferences
- SWM Preferences
- User Preference File

13. Question: I installed CLK, but TeachText displays garbage when I enter Chinese. What's wrong?

Answer: You must use either 'TeachText Simplified Chinese' or 'TeachText Traditional Chinese' to enter Chinese text. They are not auto-installed and must be drag installed.

Here is where they are located: Chinese Install Disk 1->Chinese TeachText->TeachText Simplified Chinese or TeachText Traditional Chinese

For additional information see TIL Article 31215: **Chinese Language Kit: Frequently Asked Questions (2 of 2)**
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LaserWriter Postscript FAX Card: Phonebook Format (10/95)

I am confused by the instructions in the LaserWriter Select 360 PostScript Fax Card User's Guide for importing text files into fax phonebook. What is the proper format for both the Macintosh and MS-DOS text files?

This article has been archived and is no longer updated by Apple.
MS-DOS Text File Format

The proper format for importing text files into the fax phonebook is:

"NAME", "COMPANY", "NUMBER", "RESOLUTION", "FAXPASSWORD"
"Naomi Heldman", "Apple Computer", "123-555-1212", "F", ""

The first line has the field names. This is required, as is the quotation marks as indicated above. There is a space after every comma, both in the field name line and in the actual data line. Empty fields should have open and close quotation marks, with no spaces between them.

The valid entries for "RESOLUTION" are "S" for STANDARD, "F" for FINE, and "P" for POSTSCRIPT.

Macintosh Text File Format

The proper format for importing text files into the fax phonebook is:

NAME<TAB>COMPANY<TAB>NUMBER<TAB>RESOLUTION<TAB>FAXPASSWORD

Example: Naomi Heldman<TAB>Apple Computer<TAB>123-555-1212<TAB>N<TAB>
Note: The tab character is Decimal 09 (Hex $09)

There is no field name line, and that the field data is separated by TABS. Also, there are no quotation marks and any blank fields should simply be a tab.

The valid entries for "RESOLUTION" are "N" for NORMAL, and "P" for POSTSCRIPT.

Important: The FAX Phone Book does not allow curly quote marks. For example:
O'Brien is not accepted, O'Brien is.
Also, if there are a few duplicate entries in the phone book, they
should be eliminated. The more records there are, the slower the FAX
phone book operates.

Support Information Services
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Jazz: Mailing Labels with Jazz on the Apple Imagewriter

This article has been archived and is no longer updated by Apple.
Here are some guidelines for the number of lines that can fit on a mailing label:

Small Label 12ptNY 4 lines
10ptNY 5 lines

Corporate Label 12ptNY 12 lines
10ptNY 16 lines

If the number of lines per label exceeds the guidelines, a double line appears indicating that the information cannot fit on one mailing label, but will fit on two. Once you have established an incorrect mailing label in a word processing document, you must reconstruct your correct mailing label in a new document. These directions are for use on the Imagewriter only, if you are using a LaserWriter you will not have the choice of mailing labels in your Page Set-up menu.

1. When printing mailing labels with Jazz, the ImageWriter prints a label, drops a few spaces and then reverses itself to print the next label. This action often catches the label and causes a paper jam. To avoid this, adjust the platen on the ImageWriter (pg. 21 ImageWriter Manual).

2. If you are printing many labels you can choose Draft from the Page Setup menu and the labels will not reverse itself when printing, thereby reducing the chance of jamming.

3. When "Hotviewing" the name and address in your word processing document make sure you don't hit the return key at the end of the last line or the cursor will move down a line and JAZZ might think you have to many lines of text. You will get one blank label between each good one if you have done this. To get rid of the blank label between each good one you must start again with a new Word Processing Document.

4. Many people forget the last step when doing mailing labels. The last step is to go back to your database on last time and select the records you would like to use to for labels. There are three ways to select records. The first is to choose Select All from the Edit menu. The second is to use a query in the database to select certain records (example- people in a certain state). The third way to select records is by highlighting a few.

NOTE: Apple Computer Inc. is not responsible for the contents of this article.
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AWS 95: Diagnosing Problems Using Upgrade.report

This article describes how to diagnose problems which may occur during the installation of the Apple WorkGroup Server 95 (AWS 95) upgrade, using Upgrade.report file.
This article has been archived and is no longer updated by Apple.
The Upgrade.report file is created by the UNIX portion of the AWS 95 SW Upgrade Installer and can be useful in diagnosing problems which may occur during installation. The UNIX shell script is launched by the Macintosh Installer and unpacks the cpio archive placed in /tmp by the Mac Installer (along with the UNIX installation script), rebuilds the UNIX kernel and performs other configuration tasks.

The Upgrade.report file contains the standard output and error output from the installation script. The following is a description of the Upgrade.report file contents. For a complete understanding of the installer's actions, you need to examine the installer shell script itself.

As you read the description below, you may find it helpful to have a copy of a successful upgrade report to follow along with. The Upgrade.report file is re-created each time an installation is performed. Any previous Upgrade.report files are lost.

- First, the installation script version number is displayed along with the current date & time and the machine configuration as reported by uname(1).
- The current kernel configuration parameters, see kconfig(1m). The installer attempts to preserve these configuration parameters (see below), paying special attention to the NBUF parameter.
- A list of files from the cpio archive, reported by cpio as they are installed. You may see error reports regarding missing directories if the server does not have the development tools packages installed; this is ok.
- The modification time of /etc/init is reset; it represents the volume creation date for the virtual UNIX volume, '/'.
- Next you may see reports of kernel configuration files being re-linked.
- The output of the autoconfig(1m) command showing which modules are installed in the kernel.
- Depending on the server configuration, the text files /etc/inittab and /usr/lib/sendmail.cf may be modified. The installer script displays the changes in diff(1) format and leaves the original file in "filename".orig.
- Any custom values of the kernel configuration are restored and output.
- Finally, the script displays the contents of the Macintosh Installer's temporary directory and removes the directory and its contents.

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Apple Media Tool: Windows Runtime not Working.

My Windows runtime does not work. What could be wrong?
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Although it is difficult to determine, the most common reason for this problem is that the media files are not in the right format. Media files must be converted using the converters supplied with the Apple Media Tool. Sounds must be converted into the WAV format (not 'snd ' or AIFF). Movies saved in the PICT format (not Photoshop's native format). Quicktime movies must be 'cross-platform' and 'flat'.

The second most common reason for problems like this is a failure for media files to conform to DOS naming conventions. You must change the file names (if necessary) and use the "Replace Media" menu command in the Apple Media Tool BEFORE doing the Save As Text command in the Apple Media Tool. If you change the names afterward (or the file names change when converted to your DOS machine), the runtime will be looking for the WRONG file name. It cannot know what name to look for on the Windows platform because there is not a 1:1 correspondence between Macintosh file names and DOS file names.

We recommend that you convert the file formats and the file names during development and test the Macintosh version of your runtime thoroughly. When you move your project to your Windows machine, you should test ALL your movies to verify they work properly with Quicktime for Windows.
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Apple Media Tool & QuickTime Licensing/Royalty Q&A

The following is a Q&A regarding software distribution and licensing.
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Question: Who needs to sign an Apple Media Kit, QuickTime, and QuickTime for Windows Software Distribution Agreement?

Answer: Any developer or publisher who wishes to license and distribute a multimedia product developed using the Apple Media Kit consisting of the Apple Media Tool and/or the Apple Media Tool Programming Environment needs to sign the Apple Media Kit Software Distribution Agreement.

Question: I want to distribute QuickTime and QuickTime for Windows with my multimedia product. How do I license QuickTime?

Answer: The Apple Media Kit Software Distribution Agreement also includes a license to distribute certain QuickTime and QuickTime for Windows files with your multimedia product. Please refer to the agreement for the specific file listings.

Question: What if I want to distribute an international version of QuickTime or other QuickTime files with my multimedia product?

Answer: International versions of QuickTime and other QuickTime files are available for licensing on a separate Software Distribution Agreement. Please contact the Apple Software Licensing Department for the appropriate agreement. For most multimedia projects, the international versions of QuickTime will not be necessary.

Question: What about the QuickTime logo? Can I use it on my multimedia products?

Answer: As a QuickTime licensee you are required to display the QuickTime logo on your licensed multimedia product. Details concerning this requirement can be found in paragraph 7 of the Apple Media Kit, QuickTime, and QuickTime for Windows Software Distribution Agreement.

Question: What is the term of the Apple Media Kit, QuickTime, and QuickTime for Windows Software Distribution Agreement?

Answer: The term of this agreement is three years. After the initial three year term, you will be required to sign a new agreement and pay additional licensing fees for the right to continue distributing your multimedia product. You will also be required to pay additional licensing fees if you release a new version of your licensed product.

Question: I develop multimedia titles that I license to a publisher. Do I have to sign the license agreement and pay licensing fees.

Answer: You must sign the Software Distribution Agreement if you plan to distribute your multimedia product and your licensee (publisher) must also sign the Software Distribution Agreement.

Question: What are the licensing fees associated with the Apple Media Kit Software Distribution Agreement?

Answer: The licensing fees depend on the type of distribution of your product. There are four (4) types of distribution defined in the Agreement: Commercial, Non-Commercial, Enterprise, and Education.

Please refer to Section 1 of the Agreement for the definitions of each type of distribution and Exhibit B for the associated licensing fees.

Question: I create and publish multimedia shareware. Do I have to pay a licensing fee?

Answer: Apple considers multimedia shareware distribution as Commercial Distribution. You will be required to pay $500 for each multimedia product.

Question: I work in an organization that plans to use the products we developed with the Apple Media Kit for internal use only. We do not plan to distribute our products outside our organization. Do I have to pay a licensing fee?

Answer: Apple defines internal use of your product as Enterprise Distribution. You will be required to pay Apple a license fee of $500 for each multimedia product developed with the Apple Media Kit.

Question: I work for an educational institution. Do we have to pay a licensing fee?

Answer: If your educational institution distributes a product developed with the Apple Media Kit for internal use only to faculty, administration, and students, you will not be required to pay a licensing fee. If your educational institution distributes a product developed with the Apple Media Kit outside your institution, you will be subject to the Commercial Distribution licensing fees as specified in the Agreement.

Question: I work for a private, non-profit organization. Do we have to pay a licensing fee?

Answer: If you work for a private, non-profit organization as defined in Section 501(c)(3) of the Internal Revenue Code and distribute a product developed with the Apple Media Kit for no charge or for a nominal charge to cover costs and handling, you will not be required to pay a licensing fee. However, if your organization is distributing a product for commercial purposes, you will be subject to the Commercial Distribution licensing fees as specified in the Agreement.

Question: What if I have additional questions about the Apple Media Kit, QuickTime, and QuickTime for Windows Software Distribution Agreement?

Answer: Contact the Apple Software Licensing Department at 408-974-4667.
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Apple Media Tool: Lower Your Project Memory Requirements

My title seems to require 10 megs of memory but I was hoping that it would run in 5 megs of memory . How can I reduce the memory requirements for my project?
This article has been archived and is no longer updated by Apple.
Your AMK project could take an immense amount of memory if you incorrectly optimize your project. For instance, if you want a good transition, you might want a short looping sound covering up a slow screen transition.

You might want that sound pre-loaded (it is loaded into memory when your title starts) but you do not want to pre-load your 100 MB movie because that will require 100 MB of memory in order to run your project. To turn pre-load on or off, select the media file in the media window so that it is highlighted. Then select the "Pre-load" menu item from the Media menu in the Apple Media Tool.

From the AMT Programming Environment, ensure that your SUPPLIER/HANDLER classes do not have "preload is true" lines in your MEDIA.k files. If you want to change the memory allocation of your Macintosh runtime, after building the runtime, select the file in the Finder, select "Get Info" from the File menu and increase the "Minimum Size" number which represents the Kbytes of memory allocated to the runtime. Here are some tips on reducing memory requirements for your title:

1) Never use the pre-load feature for your media. That takes up the full size of the media file for the entire time your title is running.

2) Use pictures with smaller dimensions.

3) Use 3rd-party sound editing tools (like SoundEdit Pro) to reduce the frequency of your sounds (for instance, converting 22K sounds to 11K sounds). Sounds are loaded entirely into memory while they are running.

4) Turn long background sounds into small "looping" sounds. That will reduce the memory required on that screen.

5) For highly complex screens where many large pictures "hide" and "show" themselves, try turning the screen into multiple similar screens which emulate the same behavior. All pictures are loaded in memory for a whole scren and they will not be 'garbage collected' before you change screens (i.e. until the next link)
Published Date: Feb 19, 2012

Apple Media Tool 1.0 & Sound Manager 3.0 Problems

I hear a sound like a screech or white noise from my Apple Media Kit runtime. It should be just playing my sound. I am pretty sure that the sound is not 'broken'. It seems to be an incompatibility with Sound Manager 3.0. What is wrong?
This article has been archived and is no longer updated by Apple.
There is a known problem with the Apple Media Kit 1.0 which creates a problem for some users using Sound Manager 3.0. Sound Manager 3.0 is sometimes an optional Extension but it is in the ROMs for the AV-series Macintosh computers.

Workaround

For AMT & Runtime Maker 1.0 users: Download the Runtime Maker 1.0.1 from and on-lone bulletin board such as AppleLink and build your project with that version. This should fix this problem.

Version 1.1 of the Apple Media Kit will not have this problem. If you do not have access to an on-line bulletin board, and you are not producing a Windows runtime, you can convert sounds to Quicktime sounds (i.e. a movie without a video track) as a temporary fix, that would prevent the problem from occurring.

AMT Programming Environment 1.0 fix: If you have the AMTPE and you cannot wait for version 1.1, add an HLock call after the keyCheck call in the SoundHandlerLoad routine in SOUNDHANDLER.c:

```
keyCheck(aHandle != NULL);
HLock(aHandle); // add this line
```

Published Date: Feb 19, 2012

Apple Media Tool 1.0 "Transparency Problems with Windows

When I run the runtime on my PC, it quits after saying that transparency does not work on my Windows machine. I have even tried several video cards. What is wrong?
This article has been archived and is no longer updated by Apple.
If you used the Runtime Maker 1.0 to build your project, then you should download the Runtime Maker version 1.0.1 from an on-line bulletin board such as AppleLink. Be sure to follow the instructions enclosed with it regarding copying the .INI file in the Runtime Maker folder to your PC runtime folder.

If you used the AMT Programming Environment, be sure to include the lines:

[video]
transparency=bitmap

in your PROGRAM.INI file. If you have renamed your PC runtime MYPROJ.EXE, then you must change the name of your .INI file to MYPROJ.INI file and put it in the same directory.

Regrettably, the terminology behind checking for transparency is not well understood in the PC world. On the Macintosh, transparency effects are supported via Color QuickDraw transfer modes.

Windows relies on video drivers to do most of the work for this type of pixel information and transparency support is not required by Microsoft. Routines to check for transparency support, similar to the Macintosh Gestalt command set, is required for Windows video drivers but they often are not implemented, let alone correct.

If you use "driver-mode" transparency for your objects on the Windows versions, you must verify that transparency will be supported by the target machines. As of now, Apple does not have a reliable list of driver/board PC combos which support transparency. However, you should be able to get the effect by forcing software-based transparency effects.

The AMT Runtime Maker version 1.0 does not correctly check for this user option and so you should download the AMT Runtime Maker 1.0.1. In the AMT Runtime Maker 1.0, the default was driver-based transparency. Apple has determined that since so few boards support it, the default in version 1.1 will be software-based transparency and developers who want the faster driver-based transparency must have the line "transparency=driver" in their AMT.INI file.

Users of version 1.1 will note that the .INI file will be next to the PC's QTW.INI file instead of using a PROGRAM.INI file. That means that overriding default settings must be done on a PC-by-PC basis without relying on a .INI file on your CD-ROM.

The font mapping for Windows in AMK 1.0 is done in the .INI file but the font mapping for Windows in AMK 1.1 will be embedded in the new Apple Media Kit Text 1.1 media format. AMT.INI (only for AMK 1.1) is only useful when it contains:
[video]
transparency=driver
and when you are sure your video card and driver (for instance V7VGA.DRV support transparency.
Published Date: Feb 19, 2012

MAE and Apple Common Lisp (MCL) Incompatible (6/94)

We have the Macintosh Application Environment (MAE) Trial CD and we're trying to run Apple's Macintosh Common Lisp (MCL) environment with it. We're getting an Error 3 illegal instruction error. Can this be tested for verification, and if you find a work around to get it running, could you let us know?

This article has been archived and is no longer updated by Apple.
The Apple MCL environment has been found to be incompatible with MAE version 1.0, primarily due to the absence of Floating Point Unit support.

Article Change History:
02 Jun 1994 - Changed some terminology for clarity.

Support Information Services

Published Date: Feb 19, 2012

MAE & ftp: Transfer Macintosh Applications To UNIX Host (6/96)

This article provides information about using ftp to transfer Macintosh application and document files from Macintosh computers to UNIX workstations running Macintosh Application Environment (MAE).

This article has been archived and is no longer updated by Apple.

Under MAE 2.0 or later, you can transfer applications with AFP services because MAE has AppleTalk & AppleShare capabilities. If you chooses to use ftp, or not to load the AppleTalk Kernel modules, this article explains the process to use.

There are many third-party file transfer protocol (ftp) utilities that let you transfer Macintosh files (applications or documents) from a Macintosh to any UNIX workstation (Sun, HP, or A/UX) running the MAE. This article describes these useful utilities:

fetch 2.1.2* (freeware)

ftpd (shareware)

VersaTerm PRO (commercial)

NCSA Telnet 2.6 (public domain)

NOTE: Use the correct format type when doing transfers so either the data, or resource forks are preserved while transferring files between a Macintosh and UNIX workstation.

* Fetch 3.0 and higher will not work with MAE 2.0.2, use version 2.x.x.

Fetch

=====

The fetch 2.1.2 utility is very straight forward; it acts as an ftp client on a Macintosh with MacTCP installed. It supports these file format types:

AppleSingle

MacBinary I

MacBinary II

BinHex4

Stuffit Archives

MacHost

The ftpd Utility

==========

The ftpd utility acts as an ftp server on a Macintosh with MacTCP. You can ftp from a UNIX workstation (as an ftp client) to a Macintosh.

For transferring Macintosh applications, you should use the AppleSingle format if your ftp utility supports it. If the ftp utility does not support AppleSingle format, you could use other utilities like BinHex, MacBinary, and so on. First convert the files to be transferred into BinHex or MacBinary file format, then use the binary transfer form in ftp. After transferring to the remote UNIX workstation, you may use the same utility in MAE to convert them into their original file format.

For people who do not have a floppy drive on their MAE machine, getting the fetch and binhex utilities mentioned here can be a problem. The solution is to log into ftp.abs.apple.com/pub/mae/utilites and download the tar archives of fetch, stuffit, and binhex. The following read me is included in this directory:

README for /pub/mae/utilities

Tools for Making Macintosh Binaries Available to MAE

==========

The utilities in this directory are helpful if you need to transfer files between Macintosh computers and UNIX Workstations running MAE 1.0. This README explains how to get and use these tools.

How to Download

==========

There are 4 files in the utilities directory on the ftp server called ftp.support.apple.com:

/pub/mae/utilities/README

This file includes the text you are reading.

/pub/mae/utilities/fetch.tar - (630K)

This is a tar archive of Fetch and Fetch Help:

Fetch 2.1.2 - (500K)

This is an ftp program that runs on any Macintosh computer with MacTCP installed.

Fetch Help - (126K)

This is an optional file that includes the complete manual on the Fetch program. To use it, run Fetch with this file in the same directory, and pull down the Windows menu and select Fetch Help.

/pub/mae/utilities/stuffit_exp.tar - (83K)

This is a tar archive of Stuffit Expander - Stuffit Expander 3.0.7 (81K). This is a program that can unpack Macintosh files in several formats.

/pub/mae/utilities/binhex4.tar - (10K)

This is a tar archive of BinHex4 - BinHex 4.0 (8K). This is a program that can encode and decode Macintosh files in BINHEX (.hqx) format.

Enter the following UNIX commands to uncompress the downloaded archives:

tar -xvf fetch.tar

tar -xvf stuffit_exp.tar

tar -xvf binhex4.tar

Example

NOTE: User input is shown in quotes, but you do not actually type the quotes:

% Ftp

ftp> "open ftp.support.apple.com"

Name (ftp.support.apple.com:xxxxx): "anonymous"

Password: "<your email address>"

ftp> "cd /pub/mae/utilities"

ftp> "ls"

-- directory list displayed --

ftp> "binary"

ftp> "get fetch.tar"

ftp> "get stuffit_exp.tar"

ftp> "get binhex4.tar"

ftp> "close"

ftp> "quit"

%

%

% "tar -xvf fetch.tar"

% "tar -xvf stuffit_exp.tar"

% "tar -xvf binhex4.tar"

Using Fetch

==========

Run Fetch on a Macintosh computer that is on the same network as your workstation (that you use to run MAE). When "get"ing a file, always select binary transfer mode. When "put"ing a file, on the final dialog select AppleSingle as the file format. For more complete instructions on using Fetch, read the online Fetch Help.

NOTE: Any "put" file format besides APPLESINGLE does not work.

There is an incompatibility that occurs when running Fetch under MAE. After an ftp transfer (get, put or directory listing) has completed, Fetch does not recognize the completion event and waits (the dog cursor keeps running). To manually correct this, just press the Cancel button or press Command-. (period) after the ftp transfer has completed. Note that the Fetch Transcript window (invoked from the Window menu) displays a message when the transfer has completed.

Fetch is Copyright (c) 1994, Trustees of Dartmouth College and is licensed free of charge for use in educational and non-profit organizations. Users in government and commercial enterprises may obtain an individual license for $25. Please see the Fetch Help file for more information.

Using Stuffit Expander

==========

Stuffit Expander is a freeware Macintosh application that can decompress and decode a number of different formats including Stuffit, Compact Pro, AppleLink, and BinHex. This program is also invoked automatically by Fetch after the transfer process to decompress archive files (Fetch can decode BinHex files itself).

To use Stuffit Expander, drag the archive or encoded file on top of the Stuffit Expander icon or open the file from within Stuffit Expander.

Stuffit Expander is free for non commercial purposes and copyright 1992-1993 by Alladin Systems, Inc. and Raymond Lau.

Using BinHex4

==========

BinHex 4.0 is a freeware Macintosh application that can encode and decode files in BINHEX format. This is the most common form of ASCII encoding and transfer used for Macintosh files.

To use BinHex 4.0, launch BinHex 4.0 and choose Application --> Upload from the File menu. Select the file you want to encode from the standard file dialog and save it (always make the suffix .hqx to show it is a BINHEX file). To decode a .hqx file, choose Upload --> Application from the File menu and select the file to decode from the standard file dialog and save it.

BinHex 4.0 is free for non-commercial purposes and copyright by Mainstay.

Special ftp Note

.hqx files are the only files that can be downloaded in ASCII mode; all others must be downloaded in BINARY mode for the file to decompress properly. Otherwise you get errors like "unreadable file" or "file is corrupt" when you try to decompress them.

Legal Statement

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Article Change History:

25 Jun 1996 - Updated Fetch information.

09 Jan 1996 - Updated for MAE 2.0 and later.

21 Feb 1995 - Added keyword and made several technical updates.

Published Date: Feb 19, 2012

Monitor III: Repair Tips

This article has been archived and is no longer updated by Apple.

A typical problem reported on the Monitor III is "no video". In these cases, adjusting either the contrast or brightness controls on the monitor solves the problem. With an Apple II or II+, the problem lies in the computer's video adjustment potentiometer, K14 on the main logic board. It is often adjusted too low.

Before you send a Monitor III in for exchange, make sure that the monitor has the problem and not:
1. the video cable or
2. too low of an adjustment of the video signal by the video adjustment potentiometer, K14 on the main logic board.

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Jazz: JAZZ Cable Pin Settings to Connect Mac with PC‘s and VAX

This article has been archived and is no longer updated by Apple.
The following tables are pin outs if you would like to make your own cables to transfer files directly from your PC to the Mac at speeds of 4800 and 9600 Baud.

Mac to IBM (or other serial devices)
Mac IBM
RS-442A RS-232C
(9 Pin Male) (25 Pin Female)
1----------1
3----------7
5----------3
7----------20
9----------2

Mac to VAX or Modem (Hayes)

Mac VAX or Modem
(9 Pin Male) (25 Pin Male or Female)
1----------1
2----------20
3----------7
5----------2
7----------5
9----------3
You can make your own adapter cables from parts commonly available at Radio Shack or other electronic parts suppliers.
See also 123 to JAZZ and Symphony to JAZZ

NOTE: Apple Computer Inc. is not responsible for the contents of this article.
Published Date: Feb 19, 2012

MAE: Using Fetch To Transfer Macintosh Files (7/94)

This article describes the steps to follow when transferring files from a Macintosh to a UNIX workstation running Macintosh Application Environment (MAE).

This article has been archived and is no longer updated by Apple.
There is some confusion about using Fetch to transfer applications from a Macintosh to a UNIX workstation, so MAE can then launch those applications. The Macintosh must have MacTCP running and be able to communicate to the UNIX host via TCP/IP. Follow these steps:

1) Launch Fetch on the Macintosh.

2) Open a connection to your UNIX workstation.

3) Click the "Put File" button in Fetch.

4) Fetch will put up a file dialog, you then navigate to the file you want to send.

5) Highlight the filename, and select "Open".

6) Another dialog will open. Fetch will allow you to set the name of the file as it will be saved on your UNIX workstation. Also here you must change the transfer type to "AppleSingle". Fetch will generally default to MacBinary, so you need to change the transfer type.

7) Click Send.

8) You're done. Now launch MAE and run your application.

Article Change History:
28 Jul 1994 - Added MacTCP on Macintosh, and communicate through TCP/IP.

Support Information Services

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MAE Colormap Flashing: There Are Two Options (5/94)

This article describes colormap flashing in Macintosh Application Environment (MAE) and the two option settings.

This article has been archived and is no longer updated by Apple.
Colormap flashing is a phenomenon that typically happens when a number of different X applications try to allocate colors in the colormap. As a result, the colors displayed in the windows may change abruptly as you move the pointer among the different X windows.

MAE offers two options for dealing with colormap flashing, available in the Options dialog box (click the Options button in the Monitors control panel). The default option, "Reduce colormap flashing" reduces, but does not eliminate, the likelihood of colormap flashing, sometimes at the expense of performance. The other option, "Use standard Macintosh colors (colormap may flash)" increases the likelihood that the colormap will flash, in exchange for somewhat better MAE performance.

Refer to Appendix C "Reducing colormap flashing" in the MAE User's Guide for more details.

Support Information Services

Published Date: Feb 19, 2012

Apple LaserWriter: Setting PCL Print Resolution

Which resolution does the PCL emulator use by default on the LaserWriter Select 360--is it 300 dpi or 600 dpi? Is there any method of setting it to 600x600 dpi?

Can the LaserWriter 16/600 PS print PCL at 600 dpi, and if it can, what is needed to do this? Also which LaserWriters support PCL at 600 dpi and what is needed to get this capability?
This article has been archived and is no longer updated by Apple.
The PCL emulator in the LaserWriter Select 360 uses the current dpi (dot per inch) setting in the printer. Therefore, if the LaserWriter Select 360 is currently set for 300 dpi, then all PostScript and PCL jobs will be printed at 300 dpi. In other words, when printing in PCL, the dpi mode currently set on the printer will be used for PCL as well. This also holds true for the LaserWriter 16/600 PS, however, since the 16/600 cannot be set at anything other than 600 dpi, all PCL jobs by default will be printed at 600 dpi.

The easiest way to change the dpi on the printer is to use the Apple Printer Utility or the LaserWriter Utility from a Macintosh on the network. There is an "Imaging Options" item under the "Utilities" menu which allows you to change dpi, and enable FinePrint at the 300 dpi setting.

As to which LaserWriters support PCL at 600dpi... If the printer supports 600 dpi and PCL, then PCL jobs will print at 600 dpi as long as the printer is already in that mode.

PostScript Code to Change Resolution and FinePrint

If you do not have a Macintosh on the network, you can download the PostScript commands below to the printer to change dpi.

Note: This PostScript code is being provided if you do not have access to a Macintosh in order to run the Apple Printer Utility or LaserWriter Utility. This code DOES NOT have to be downloaded to the printer if it is already in the mode desired.

Note: Most LaserWriter printers are limited in the number of NVRAM writes that can be performed, so it is a good idea to check the resolution settings before downloading the PostScript code.

Caution: If you choose to use the PostScript code provided in this article, you assume all risks involved in making these changes. PostScript code, if not entered correctly, can place the LaserWriter into a condition requiring service.

For 300 dpi mode:

```
%==========================================================
% Begin PostScript Code
%
serverdict begin 0 exitserver
1 dict dup /HWResolution [300 300] put setpagedevice
%
% end PostScript Code
%==========================================================
```

For 600 dpi mode:

```
%==========================================================
% Begin PostScript Code
%
serverdict begin 0 exitserver
1 dict dup /HWResolution [600 600] put setpagedevice
%
% end PostScript Code
%==========================================================
```

Enable FinePrint:

```
%==========================================================
% Begin PostScript Code
%
currentpagedevice /PostRenderingEnhance get
{ (FinePrint is already enabled on this LaserWriter.) = }
{ serverdict begin 0 exitserver }
ifelse
vmstatus pop pop 0 eq
```

```
{ (Enabling FinePrint.) =
<</PostRenderingEnhance true>> setpagedevice
} if
%
% end PostScript Code
%==================================================================
```

Turn Off FinePrint:

```
%==================================================================
% Begin PostScript Code
%
currentpagedevice /PostRenderingEnhance get not
{ (FinePrint is already disabled on this LaserWriter.) = }
{ serverdict begin 0 exitserver }
ifelse
vmstatus pop pop 0 eq
{ (Disabling FinePrint.) =
<</PostRenderingEnhance false>> setpagedevice
} if
%
% end PostScript Code
%==================================================================
```

Published Date: Feb 19, 2012

Power Macintosh: Video Displays Require Adjustment (5/95)

I am using a Power Macintosh 6100/60 with an Apple Color Plus display or an Apple 16-inch display connected through the HDI-45 video port and a DB-15 adapter cable. On either display, the raster size has about an inch of black border and the raster appears small and shifted to the right. Why is this happening?

This article has been archived and is no longer updated by Apple.
When using the Power Macintosh with these displays there will be a significant change in the width of the raster. This is due to hardware differences between the respective video circuits. This identical phenomena occurred when these monitors were moved from an LC to a Macintosh II CPU. This is known to occur with Apple 14-in. displays, however the overall width of the 16-in. RGB monitor does not change, it only shifts slightly.

The only solution is to make adjustments to the monitor's horizontal width control for the video port to which it is connected. In the case of the 16-in. display, you must adjust the monitor's horizontal centering control.

Support Information Services
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Power Macintosh: Network Extension Error (6/94)

I have just started up my new Power Macintosh system and I received the following error:

"The System Extension 'Network Extension' cannot be used."

When I click Ok, I then receive the message "An unexpected error occurred." After clicking Ok again, nothing happens. I have also received the message "The Network Control Panel cannot be loaded"

How does one correct this problem?

This article has been archived and is no longer updated by Apple.
These error messages are due to corruption of the Finder Preferences file. It is possible to correct this problem by starting up from the Power Macintosh CD or Disk Tools disk and throw away the Finder Preferences file from the Preferences folder on the hard drive. You can also delete the Finder Preferences file using the following steps:

- Go to the Finder
- Open the System Folder
- Open the Preferences Folder
- Move the file called "Finder Preferences" to the Trash. DO NOT EMPTY THE TRASH.
- Choose Restart from the "Special Menu"
- After restarting you can empty the trash. A new Finder Preferences file is created during the restart process.

You may have to reset any custom settings in the Views Control Panel after deleting this file.

Support Information Services

Article Change History:
8 June 1994 - Combined simular article to include its information
Published Date: Feb 19, 2012

Performa: System and Peripheral Part Numbers

What are the part numbers for the various Performa systems and peripherals?
This article has been archived and is no longer updated by Apple.

SYSTEMS

Performa 400	- M1886LL/A	Includes Greatworks
Performa 400	- M1885LL/A	Includes Clarisworks 1.0
Performa 405	- M1742LL/A	Includes Workperfect Works
Performa 405	- M1719LL/A	Includes Clarisworks for the Performa
Performa 410	- M1985LL/A	Includes Clarisworks 2.0
Performa 430	- M1721LL/A	Includes Clarisworks for the Performa
Performa 450	- M1698LL/A	Includes Clarisworks for the Performa
Performa 450	- M1744LL/A	Includes Workperfect Works
Performa 460	- M2156LL/A	Includes Clarisworks 2.0
Performa 466	- M1982LL/A	Includes Clarisworks 2.0
Performa 467	- M1981LL/A	Includes Clarisworks 2.0, Apple Font Pack and MacLink Plus Translators
Performa 475	- M1904LL/A	Includes Clarisworks 2.0
Performa 476	- M2154LL/A	Includes Clarisworks 2.0
Performa 476	- M2155LL/A	Includes Clarisworks 2.0, Apple Font Pack and MacLink Plus Translators
Performa 550	- M2147LL/B	Includes Clarisworks 2.1
Performa 575	- M3119LL/A	Includes Clarisworks 2.1
Performa 577	- M3201LL/A	Includes Clarisworks 2.1
Performa 578	- M3202LL/A	Includes Clarisworks 2.1
Performa 600	- K0119LL/A	Includes Clarisworks 1.0, 4MB RAM
Performa 600	- K0121LL/A	Includes Greatworks, 5MB RAM
Performa 600CD	- K0144LL/A	Includes Clarisworks 1.0, 8 CD titles
Performa 600CD	- K0145LL/A	Includes Greatworks, 10 CD titles
Performa 630CD	- M3424LL/A	Includes ClarisWorks 2.1, American Heritage Dictionary 3rd Edition, Quicken 4, MacLink Translators, Mac Gallery Clip Art, Click Art Performa Collection, KidWorks 2, Thinkin' Things, The Writing Center, Spectre Challenger, Spin Doctor Lite, TelePort Fax Send, At Ease 2.0, PC Exchange, and eWorld.

PERIPHERALS

Performa Plus Display	- M9102LL/B
Powerbook 145B Plus Pack	- K0246LL/A
Apple Color StyleWriter Pro	- M1936LL/A
AppleDesign Keyboard	- M2891LL/A
Stylewriter II	- M2075LL/A
Personal LaserWriter 300	- M2047LL/A
AppleDesign Powered Speakers II	- M2668LL/A
Home Multimedia Upgrade Kit for Macintosh	- M3153LL/A
AppleCD 300e Plus-External CD-ROM Drive	- M2918LL/A

Published Date: Feb 19, 2012

Power Macintosh: Display Manager Software (6/94)

This article describes the new Display Manager software included with the Apple Multiple Scan 17 and 20 Displays and Power Macintosh systems.

This article has been archived and is no longer updated by Apple.
The Apple Multiple Scan 17 and 20 Displays include software which is installed on the Macintosh to allow "on the fly" resolution switching. This software installs a new version of the Display Manager. The Display Manager software is installed using two components:

- Display Enabler
- Monitors Control Panel (v7.3.3)

With the Power Macintosh, the new Display Manager is already present within the ROMs. Installing the Display Enabler will not cause any problems on the Power Macintosh, but results in a decrease in performance. This is because the Display Enabler "patches" some native Quickdraw routines (RISC CODE) with 68000 code.

The Monitors Control Panel v7.3.3 may be installed on the Power Macintosh since it is a newer version. The Monitors Control Panel which is included with the Power Macintosh (v7.1.3) should work fine with the Multiple Scan Displays since it also supports the new Display Manager.

Article Change History:
29 June 1994 - Corrected the size of the Multiple Scan Displays.

Support Information Services
Published Date: Feb 19, 2012

ImageWriter LQ General Troubleshooting (Part 1 of 3)

This article has been archived and is no longer updated by Apple.

NOTE: Detailed instructions for Take-Apart can be found in the Technical Procedures.

INTRODUCTION

Before starting, read the section titled "Preliminary Checks". Items listed here do not require any disassembly, tools, or special setups and can save you time and your customer money when troubleshooting the ImageWriter LQ.

If the suggestions in "Preliminary Checks" do not correct the problem, proceed to the appropriate symptom/cure chart.

How to Use the Symptom/Cure Chart:
First locate the symptom that comes closest to the symptom describing the problem; then perform the first corrective action on the solution list. If that corrective action does not fix the problem, proceed to the next action. If you replace a module and find that the problem remains, reinstall the original module before proceeding.

If a step asks you to test something, the procedure can be located elsewhere in this section.

If a tested component is defective, replace it. If it is not defective, proceed to the next action listed.

PRELIMINARY CHECKS

The following chart lists common problems that have simple solutions. Checking for these problems when you begin troubleshooting can save you time and effort.

Power light off, no carrier movement
1. Try another electrical outlet.
2. International units only: Verify the setting of the voltage selector.
3. Replace the power cord.

Error light blinks
Close the front cover.

Error light on, Select light off
No paper is inserted or is improperly inserted.

No printing
1. Make sure the printer is selected.
2. Verify that the interface connections to the printer are secure.
3. Verify the DIP switch settings.

Garbled printing
1. Verify the DIP switch settings.
2. Verify that the interface connections to the printer are secure.

Software-specific problem
Try using a known-good piece of software.

No communication with option card installed
Verify that DIP switch 2 position 4 is set to ON.

Paper feed difficulties (binding, tearing, etc.)
1. Verify the setting of the paper thickness lever.
2. Check, and if necessary, clear the paper path.

Torn Paper
1. Verify the setting of the paper thickness lever.
2. Verify that the paper-feed lever is set to the type of paper being used.
3. Verify that the paper is correctly installed and, if using tractor feed paper, that the sprocket holes are properly engaged on the tractor sprockets.

Printing too light
1. Verify the setting of the paper thickness lever.
2. Replace the ribbon.

Printing too dark
Verify the setting of the paper thickness lever.

SYMPTOM/CURE CHART

Power Problems

Power light off and no carrier motion
1. Test the primary fuse. If defective, replace it.
2. Test the three secondary fuses. If any are defective, replace the defective one(s).
3. Test the power switch. If defective, replace it.
4. Replace the main board.
5. Replace the transformer.
6. Replace the noise filter PCA.

Communication Problems

No printing or garbled printing
Perform the printer self-test. If the self-test passes, run the diagnostics to test the main board. If the self-test fails, replace the main board.

Carrier Problems

Carrier moves at power on, but doesn't return to home position
1. Test the home position switch. If defective, replace it.
2. Perform the "Home Position Switch Adjustment".
3. Replace the main board.

Power light on, no carrier motion
1. Check, and if obstructed, clear the carrier area.
2. Test the carrier motor. If defective, replace it.
3. Replace the main board.

Paper Feed Problems

No paper feed
1. Check the paper feed gear train and clear it if it is obstructed.
2. Test the paper-handling change switch. If defective, replace it.
3. Test the paper feed motor. If defective, replace it.
4. Replace the main board.

Paper bail doesn't automatically open and close
1. Test the auto-load solenoid. If defective, replace it.
2. Replace the main board.

For more ImageWriter LQ troubleshooting information see the following articles:
ImageWriter LQ General Troubleshooting (Part 2 of 3)

TA31830_ImageWriter_LQ_General_Troubleshooting_Part_of__(TIL01551).pdf

ImageWriter LQ General Troubleshooting (Part 3 of 3)

Refer to the Technical Procedures for the take apart instructions.

Published Date: Feb 19, 2012

LaserWriter Pro 810: Turning on the Configuration Page

I am having trouble printing the configuration page on LaserWriter Pro 810 with the optional fax card installed. Using LaserWriter Utility 7.6.1. When I try to print the configuration page I get the error "A PostScript error has occurred in the LaserWriter. Restart the printer and try again". After restarting the printer I get the same error.

I have tried running the LaserWriter Utility from several different Macintosh computers on a network and all of them have the same problem. I tried printing from both Localtalk and ethernet, and removing the fax card, but the postscript error occurs every time.

I tried running LW Utility 7.6.2 and the option for print configuration page is always dim.

What can I do to resolve this issue?
This article has been archived and is no longer updated by Apple.
The LaserWriter Utility wasn't designed to print out the configuration page on a LaserWriter Pro 810 from the utility itself. You need to turn on that feature by using the utilities, then restart the printer. Although LaserWriter Utility 7.6.1 was revised and intended to be used with the LaserWriter Pro 810, the problem you describe occurs when you have a fax option card installed in the printer, resulting in the PostScript error message. LaserWriter Utility 7.6.2 fixes this problem.

More specifically, the LaserWriter Pro 810f printer is not listed in the table of printers supported by the LaserWriter Utility v7.6.1; after the utility launches and checks the characteristics of the target printer, it detects the fax option card, assumes incorrectly the type of printer being queried, then enables the wrong menu options to be displayed. When the Print Configuration Page is chosen, you'll get the error mentioned. When the LaserWriter Pro 810 has the Fax card installed, the following menu items are available in the LaserWriter Utility 7.6.1 "Utilities" menu:

Name Printer...
Set Startup Page...
Get Page Count...
Print Configuration Page...
Download PostScript File...
Restart Printer...

The following is the list of menu items that should be displayed:

Name Printer...
Set Startup Page...
Get Page Count...
Imaging Options...
Download PostScript File...
Restart Printer...
Change Zone...
Paper Handling...

Along with the fixing the menu items listed, the LaserWriter Utility 7.6.2 software also added support for the LaserWriter Select 360-J (the Japanese version of the LaserWriter Select 360).
Published Date: Feb 19, 2012

LaserWriter Select 360: Comm Problems With Incoming Faxes (5/94)

I have a LaserWriter Select 360f and are receiving complaints from our customers that they get "communication" errors when they try to fax to our printer's fax card. Outbound faxing is no problem.

This article has been archived and is no longer updated by Apple.
We have not received any reports, nor have encountered any "Comm error" problems with our fax cards on the LaserWriter Select 360f or LaserWriter Pro 810f. Possible problems are:

* Use of a "sharing device" which automatically routes voice/data/fax on one phone line. These devices are typically problematic.

* Failure to connect at any baud rate due to impairments ("noise") on the telephone line. The phone line can be checked by the their local telephone company.

* Source fax machines which are able to communicate at 14.4 K baud sometimes have trouble dropping down to 9600 baud. The LaserWriter Select 360f fax card follows the CCITT Group III transmission standard of up to 9600 bps.

Support Information Services
Published Date: Feb 19, 2012

Newton MessagePad: Space requirements for StarCore Titles

This article gives the title of some Newton application software and the amount of free space needed to install the package on the Newton MessagePad or storage card.

This article has been archived and is no longer updated by Apple.

Software Title	Space Requrired	Notes
Checkbook	43 K	
Cogito	862 K	
Data Restorer	15 K	
Dell Crosswords	91 K	
Puzzles	50 K ea.	1, 2
DNP Restore	11 K	
DrawPad	199 K	
Dyno NotePad	140 K	
Economist	465 K	
soupMaker	696 K	1, 3
Expense Plus	238 K	
FilePad	324 K	
Utils	199 K	1, 4
Link	41 K	1, 4
Financial Assistant	886 K	
FingerTip for Golf	1,001 K	
Course Install	50 K	1, 5
Geo Assist	476 K	
GoFigure	400 K	
Jig	94 K	
MobileCalc	356 K	
Money Magazine Business Forms	267 K	
NotePak	95 K	
Notion	184 K	
Page Express	98 K	
Personal Time & Billing	302 K	
Time Tracker	33 K	1, 6
PocketCall	169 K	
PocketCall Services	69 K	1, 7
PresenterPad	276 K	
Silicon Casino	540 K	
Tax Pro	152 K	
Zagut	2,997 K	

Notes

1 - Free space requirements are in addition to main program.
2 - Additional software package requires Dell Crosswords software.
3 - Additional software package requires Economist software.
4 - Additional software package requires FilePad.
5 - Additional software package requires FingerTip for Golf.
6 - Additional software package requires Personal Time & Billing software.
7 - Additional software package requires PocketCall software.

Published Date: Feb 19, 2012

Newton Connection Kit for Windows: COM Port not Configured

When I try to run The Newton Connection Kit for Windows, an error message appears on my Newton MessagePad. The error displayed is "The connection was stopped because there was no reponse".
This article has been archived and is no longer updated by Apple.
This error message can be caused by several things, one of which is a COM port address problem. When the Newton Connection Kit for Windows 1.0 is installed, it does not automatically configure itself to reflect the computer's COM port setting. The Newton Connection Kit for Windows instead fills in the port addresses with addresses that are commonly used by many IBM-compatible computers. If the computer COM port address is different from the Windows Connection Kit's setting for that COM port, the port will not work with the Newton Connection Kit. If this happens, an error message is displayed on the Newton MessagePad.

To correct this problem, the port address in the Port Setup area needs to be changed to the proper address.

The default settings for the Newton Connection Kit for Windows are:
*COM1=03F8
* COM2=02F8
* COM3=03E8
*COM4=02E8

To determine the port addresses that the hardware is configured to, run MSD at the MS-DOS prompt. MSD is a diagnostic program from Microsoft, that is part of the MS-DOS Operating System. Among other things, MSD shows the actual port address. Once you have the proper COM port address for your computer, you can change the Newton Connection Kit for Windows preferences to match the address values displayed by MSD.
Published Date: Feb 19, 2012

Power Macintosh: At Ease 2.0 Compatible (8/95)

Is At Ease compatible with the Power Macintosh computers? If it is which version?

This article has been archived and is no longer updated by Apple.
At Ease 2.0 or later is compatible with the Power Macintosh computers. Users should use At Ease 2.0 Basic or At Ease 2.0.1 for Workgroups or later versions of At Ease.

Article Change History:
09 Aug 1995 - Added keyword and reviewed for accuracy.

Support Information Services

Published Date: Feb 19, 2012

QuickTime: Movies Lose Sound at Startup

Sometimes after putting a QuickTime movie in the system folder and naming it "Startup Movie" so that it will play automatically at system startup, the audio portion of the movie does not play. Why?
This article has been archived and is no longer updated by Apple.
During the startup process, sometimes there is not enough system memory available to play both the video and sound. When memory is low, Quicktime drops the audio portion of the movie.

QuickTime version 2.0 fixes this problem. If you are experiencing this problem you should upgrade to version 2.0 to correct it.

If you have any version of QuickTime prior to 2.0 and you cannot get version 2.0 right away, an intermediate workaround would be to place a startup screen file in the system folder in addition to the QuickTime movie in the Startup Items folder. This will cause the system to allocate more memory at startup time and allow QuickTime to play both the video and audio portions of the movie.
Published Date: Feb 19, 2012

Installing Aladin On Catalyst For The Apple III

This article has been archived and is no longer updated by Apple.
You may move Aladin (Advanced Data Institute) version 2.6 to a hard disk for use with Catalyst.

If you are using a ProFile hard disk in slot 4 with a volume name of "/PROFILE", most of your work has been done for you by the folks at ADI. Simply follow the installation instructions entitled "APPLE III STARTUP PROCEDURE" on page S-10 - S-14 of the Aladin product manual. Once these steps have been completed, follow along below.

If you are using your Catalyst with a different brand of hard disk, You must add the device drivers of the hard disk you are using to the Aladin BOOT disk using the System Configuration Program of your System Utilities. After this has been done, then you may precede with the "APPLE III STARTUP PROCEDURE" in the Aladin manual and follow along below.

COPY PROCEDURE

In addition to the automatic installation provided to you by Aladin, three additional files must be copied to the hard disk to allow you to use Aladin without having to insert the BOOT disk at startup. In this example, the volume name of the hard disk is "/P". If your hard disk volume name is different, substitute it for "/P".

1. Boot the Catalyst disk (if you haven't already).
2. From the Catalyst main menu, select the System Utilities Program.
3. Enter "F" for FILE HANDLING COMMANDS.
4. Enter "C" for COPY FILES.
5. Copy the file "SYSTEM.STARTUP" from the Aladin BOOT disk to the subdirectory "/P/ALADIN".

To do this, type ".D1/" and press the up arrow key. A list of files are displayed in a box. The up and down arrow keys allow you to move an inverse bar over the name of your choice. Pressing the right arrow key marks the file so as to include it in the copy process. Mark all files to be copied in this way. When all files are marked, press RETURN.

6. Copy the files ALADIN3.INFO and ALADIN.CODE to "/P/=" using the procedure above.
7. When these files have been copied, press ESCAPE.

ADDING ALADIN TO THE CATALYST MENU

1. Return to the Catalyst main menu.
2. Select the Catalyst Editor in the Catalyst main menu.
3. Enter "E" to edit the menu.
4. Use the up and down arrow keys to position the inverse bar over the entry you want the program to precede. Press "A" to add a program entry.
5. You will be asked for the display name of this program, enter "ALADIN".
6. Enter "CATALYST/PASCAL" as the interpreter pathname.
7. You will be asked for a list of any extra drivers this program requires. Enter ".PRINTER"
8. Press RETURN for the character set pathname.
9. Press RETURN for standard character set.
10. Press RETURN again to use the default keyboard.
11. Press RETURN to accept the default prefix.
12. Enter "3" for the "Max Files Allowed...." question. This will allow the program to be exited by holding down both Apple keys and pressing ESCAPE. (The value 3 suppresses the DISK FILES OPEN warning).
13. Enter "ALADIN/SYSTEM.STARTUP" when you are asked for the program path.

14. You will be asked if this entry is correct. If it is, enter "Y" then press ESCAPE to exit to the main menu.
If you made any mistakes during entry, enter "N". You may then enter the number of the item you wish to correct. When all items are correct, press ESCAPE. Then press ESCAPE again to exit to the main menu.
15. Enter "5" to update the INTERPS file. When you are asked if you want to recalculate the load address, enter "N".
16. Exit to the CATALYST main menu by entering "Q".

NOTE: Apple Computer Inc. is not responsible for the contents of this article.
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Apple Media Tool: Consultant Listing

Below you will find a listing of Apple Media Tool Programming Environment consultants who are interested in working on interactive multimedia projects using the Apple Media Kit. Each of these companies has expressed an interest in extending projects created with the Apple Media Tool.

This list is provided as a service to the Apple Media Tool community and does not constitute an endorsement by Apple Computer.

Feel free to contact any of these consultants to discuss the implementation of your project with the Apple Media Kit.
This article has been archived and is no longer updated by Apple.
Active Learning Systems, Inc.
1505 West 28th Street
Minneapolis, MN 55408
USA

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Active Learning Systems, a twelve-year-old corporation specializing in multimedia courseware development, consulting and teaching, presents seminars on developing multimedia and using the Apple Media Tool throughout the world. Favorable product reviews of ALS products have appeared in the NY Times, PC Magazine, Seybold Report, Computer User and other publications. ALS numbers many Fortune 100 companies among its clients. Currently ALS is in a strategic alliance with the University of St. Thomas (the second largest graduate school of business in the U.S.), 3M, KPMG Peat Marwick, Apple Computer and Interactive Personalities to put most of the technical aspects of the M.B.A. program into interactive media.

Antenna Communications Inc., dab Seed Software
1095 Valencia Way
Pacifica, CA 94044
USA

Contact: Kate Adams
Phone/Fax: +1 (415) 355-1923
America On-Line: ROCK 1619
CompuServe: 75030,3606

Antenna Communications provides software consulting services to clients creating multimedia CD-ROM titles or kiosks. We specialize in the Apple Media Tool Programming Environment and in cross-platform (MAC/PC) development. We recently did over 95% of the extensive programming involved in "The Forever Growing Garden", a CD-ROM title copyright C-Wave and published by Media Vision. In addition to the usual collection of multimedia tools, we occasionally resort to MacApp, MPW, Hypertalk (for the Mac) and Microsoft's Visual C++ and Visual BASIC (for the PC).

Antenna Communications will be sysop for the AMT/AML board on the Media Planet BBS service. I will let you know further details about this board when it is created.

Art of Memory Ltd.
Grafton Mews
High Street
Chipping Campden
Gloucestershire GL55 6AT
United Kingdom

Contact: Graham Howard
Phone: +44 (386) 841496
Fax: +44 (386) 841505
Internet: D.N.Crow@open.ac.uk

Art of Memory is a multimedia production company specialising in the design and production of multimedia information systems, installations, presentations, and CD titles. We develop products that show a real conceptual understanding of the messages to be communicated, married with very high quality design values. Good design and especially interface design is seen as a pivotal aspect of the success of any product. To engage and empower the user, we orchestrate a wide range of creative skills, using outside specialists from other fields as and when appropriate. As

experienced multimedia producers we work in close cooperation with our clients, enabling them to understand the new ways of thinking and of representing ideas that are needed to create exciting and meaningful multimedia.

Clients include: Apple Computer Europe, Virgin, BBC, Pergamon, Southern Arts, Design Museum, Victoria & Albert Museum, Olivetti, English Heritage, Corning Museum of Glass, Nationwide Building Society, Kodak, Addison Wesley, IKEA.

Art Technology Group
14 Story Street
Cambridge MA 01238
USA

Contact: Andy Hong
Phone: +1 (617) 494-6065
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Internet: lem-e-tweakit@redstar.com

When we're not skateboarding or snowboarding, we sometimes sit in front of our computers and make bets on whose hard drive will be first to perform a thermal-recalibration.

The Carl Group
21710 Steven's Creek Blvd.
Suite 110
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USA

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Established in 1985, The Carl Group provides our clients with a variety of technical services, including multimedia design and development, technical writing, on-line hypertext documentation, technical training, and engineering. We have been an Apple Computer consultant for the past four years. Specifically, we were involved in the development Apple Developer University's Macintosh Programming Fundamentals: Self-Paced Training course. As a part of the Apple Media Tool team, we developed the original specifications for the Apple Media Tool and developed the documentation for the Apple Media Tool Programming Environment (User's Guide and Reference manuals) for the original release and release 1.1. Because of our extensive experience with the Apple Media Tool and its Programming Environment, we help our clients design and produce their object-oriented multimedia projects. Our Multimedia Services also include artwork development, video production and digitizing, and CD ROM pre-mastering.

GALILEO, Inc.
680 Fourteenth Street NW
Suite A
Atlanta, GA 30318
USA

Contact: Mike Wittenstein
Phone: +1 (404) 425-4536
Fax: +1 (404) 872-3504

GALILEO is an Atlanta-based communications company specializing in multimedia for advertising, marketing, and sales. The firm designs and builds Talking Business Cards¬, Laptop Sales Systems¬, Kiosks, and On-Line Multimedia Information Systems for Fortune 500, Government, Start-Ups, and Mid-Range Companies. GALILEO's strength is in its combination of award-winning design with world-class programming. The firm's software engineers are very familiar with the Apple Media Toolkit Programming Environment, especially multimedia, file and image handling, and telecommunications. Each has multiple commercial products on the market. Our designers are award-winners and are fun to work with. Our programmers an intimate knowledge of MPW, C++, and other enabling technologies. GALILEO has applied to become a Kaleida Partner, so our engineers will grow with AMK and ScriptX as well.

MAConsulting
1146 North Central Avenue, Suite 342
Glendale, CA 91202
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MAConsulting is a Systems Integration and Consulting firm specializing in client-server "on-line transaction processing" database systems, networking, telecommunications, multimedia kiosks and applications, and desktop video production. We offer a complete line of services, including network design and administration, system design, software design and development, multimedia production, production quality 3-D animation, and much more. Our clients include the City of Glendale, CA; Verdugo Tri-City Fire Communication Center; Glendale Police Department; Santa Ana Unified School District; San Joaquin County Office of Education; Ketchum Communications; Hispanic America Advertising; and many more.

New Media Entertainment
1252 Mountain Quail Circle
San Jose, CA 95120
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Contact: Rick Rickards
Phone: +1 (408) 927-6866

New Media Entertainment is a full service multimedia consulting firm. With our network of consultants we are able to provide professional assistance in design and development of multimedia projects. We can help with a specific aspect of your project or develop an entire CD-ROM title.

Skills include:
Animation
Audio/Video Digitizing & Effects
Graphic Arts (2D & 3D)
Interactivity Programming
Kiosk Development
Producing
Project Management
Prototyping
Soundtrack Writing/Recording
Story boarding

Number One Graphics
325B N. Clippert
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CompuServe: 71001,3105

Founded in 1986, Number One Graphics was Michigan's first PostScript Service Bureau. Today we are a full service design studio, a print and video service bureau as well as active Apple Developers and Systems Consultants. Our staff consists of 14 employees, including 5 full-time designers. We produce a variety of printed pieces, including 4 color catalogs, children's books, and numerous monthly magazines. We are focusing our design and technical skills on the production of interactive CD yearbooks and technical publications.

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Perceptix distributes laser disc and CD-ROM based resource material to education. In addition the company develops CD-ROM based material and provides product support and educational services to it's clients. We have produced CD-ROM's for early childhood education and are presently working on a Cell Biology project as well as two instructional CD-ROM's.

Shoestring Multimedia
1500 20th Street
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Shoestring Multimedia is a full-service multimedia company, with complete digital video and CD-ROM production facilities. Shoestring has several in-house productions teams for rapid turnaround of CD-ROM titles. Shoestring uses Apple Media Tool and Apple Media Tool Programming Environment as its primary vehicle for cross-platform production and rapid prototyping. Shoestring recently created an information presentation to the San Francisco Chamber of Commerce on multimedia using Apple Media Tool in which we generated a "navigable" QuickTime Movie. Users were able to pan the entire San Francisco skyline (360í panning and 180í of tilt) under mouse control.
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Macintosh Basics: Which Version To Use?

What version of Macintosh Basics should I use with my Macintosh?
This article has been archived and is no longer updated by Apple.

Version 4.1.1
Version 4.1.1 will run on any Macintosh with 1 MB of DRAM and is set for Black and White mode. This version is recommended for use with compact Macintosh systems (Plus, SE, and Classic), black-and-white PowerBooks, and any other Macintosh with 4 MB of RAM or less. Macintosh Basics 4.1.1 should work with any version of System 6, but version 6.0.8 was the only one tested. Version 4.1.1 should be used with System 6.0.8 or later.

Version 4.3
Version 4.3 is a color version and requires at least 4 MB of DRAM or more as well as a color monitor. It is recommended for use with any Macintosh that supports color and has 4 MB or more of DRAM.

Version 5.0.3
Macintosh Basics version 5.0.3 is the latest version and is the only version currently available on the online services. It adds support for the trackpad on PowerBook computers. It also includes additional minor fixes to previous versions.

However, Macintosh Basics has been replaced with Macintosh Tutorial. Any Macintosh using System 7.5 should use Macintosh Tutorial rather than Macintosh Basics. Macintosh Tutorial is also available on the online services.

These articles can help you locate the software update mentioned here:

- Article 14724: "**Where To Find Apple Software Updates**" - Lists online services for free Apple software updates.
- Article 16332: "**US Apple SW Updates Available Online**" - An index to USA Apple Software Updates showing the current software location on the Internet.
- Article 17664: "**WW Apple SW Updates Available Online**" - An index to International Apple Software Updates showing the current software location on the Internet.

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MAE 1.0 Trial: Read Me Files (4/97)

This article contains the:

* MAE 1.0 Trial CD ReadMe file
* MAE 1.0 Trial On-Line ReadMe file

for Macintosh Application Environment (MAE) Trial Version. These files are similar, but are different in layout.
This article has been archived and is no longer updated by Apple.

MAE 1.0 Trial CD Read Me

Macintosh Application Environment Trial Version
This document provides important information about the MAE Trial product. The Trial product allows you to evaluate MAE for 8 total hours on your workstation. After the 8 hours, the Trial product will shut down and can be removed from your workstation. Printing is also disabled in the MAE Trial.

For instructions about installing and starting the MAE Trial product on your workstation, see the back of the Trial CD envelope.

Ordering Information
To order the Macintosh Application Environment, contact the Apple Order Center.

Macintosh Application Environment (MAE)
This document provides important information about MAE. This information is not included in the "Macintosh Application Environment User's Guide." You may want to print this document and keep it with the User's guide.

Most of the sections in this document are relevant to Sun and Hewlett-Packard workstations; some are relevant to Sun workstations only; and some are relevant to HP workstations only. The section titles indicate which kind(s) of workstations are covered in the sections. (The information in this document applies only to Solaris 2.3 and later, and HP-UX 9.01 and later.)

General Information
* MAE 1.0 Does Not Support AppleTalk, MacTCP, QuickTime, Serial Devices, Sound, or 800K Floppy Disks (Sun and HP).

* Text File Line Separators May Not Be Saved Correctly (Sun and HP). When you use some Macintosh applications to save a file in text format (file type "TEXT"), the file may have a Macintosh line separator (ASCII Character octal 15) instead of a UNIX line separator (ASCII Character octal 12). For example, if you save a file as Text using Microsoft Word, the resulting file will appear as one continuous line of text when opened from either MAE or a UNIX program. To restore the file, use the UNIX utility "tr" to translate the Macintosh line separator character to the UNIX line separator and save the result in a different file. The suggested "tr" command is:

```
tr '"' '"' < file1 > file2
```

where file1 is the file which contains the Macintosh line separator, and file2 is the restored file.

* Aliases Can Behave Differently in MAE Than on the Macintosh (Sun and HP). When you drag an item to the MAE desktop, MAE automatically creates an alias to the item and places the alias on the desktop. MAE lets you know that it created an alias by appending the word "alias" to the name of the item and putting the name in italics. If you move an item for which you have an alias from one UNIX file system to another, you will have to re-create the alias to the item. Otherwise, MAE will be unable to locate the original item when you double-click its alias. For more information about aliases, see "Creating an Alias" in Appendix A in the on-line version of the "MAE User's Guide."

* Must Be Root User (Superuser) to Change Settings in Some Control Panels and Desk Accessories (Sun and HP). You must be root user (superuser) to change the date and time settings in the General Controls or Date & Time control panels or to change the settings in the Alarm Clock desk accessory.

* Use Absolute Pathnames in Dialog Boxes and Control Panels That Require You to Type a UNIX Command (Sun and HP). For example, use absolute pathnames in the MAE File Launching control panel, the X Client Setup control panel, and the command-launch dialog box (which appears when you press the Control key and double-click a UNIX file).

* MAE Does Not Provide Remote Floppy Support (Sun and HP). You can only use floppy disks that are inserted in a floppy drive attached to the workstation on which you are running MAE. (You cannot use the floppy drive attached to a remote workstation on which you are displaying MAE.)

* Do Not Use the MAE Keyboard Control Panel to Map the "Alt" or "Mode Switch" Modifier Key Functions to the Right Diamond Key ("Meta Right") (Sun).

* Must Run the Solaris Volume Manager In Order to Use Floppy Disks (Sun). If you want to use a floppy disk on MAE running on your Sun workstation, you must be running the Solaris Volume Manager. For more information, see the Solaris documentation or your system administrator.

* Older HP CD-ROM Drives May Be Incompatible With HP 712 Workstations (HP). If you try to mount a CD-ROM disc on an older CD-ROM drive attached to an HP 712 workstation, MAE may display an alert message, asking if you want to initialize the disc. (Click Cancel to dismiss the alert box.) For information, see your system administrator or contact technical support at Hewlett-Packard.

* Using MAE with AFS (Andrew File System) (Sun and HP). Some UNIX systems and utilities may have problems using AFS, such as determining file system space and finding information about files and directories on an AFS disk. The same problems can occur in MAE. If your UNIX system has problems with AFS, then install MAE and use it with non-AFS file systems. Avoid using MAE with UNIX systems that have a large AFS file system mounted at the root level.

* Make Sure You Correctly Mount NFS File Systems (Sun and HP). To use Macintosh applications or documents located on an NFS server, you must mount the NFS file system the same way that it was exported. For example, if the file system was exported as "read-only," mount it as "read-only." See your system administrator if you need help.

* Do Not Run twm With the NoTitleFocus Option (Sun and HP).

* How to Maximize Performance on Solaris (Sun). You may want to increase the "shmsys:shminfo_shmmax" and "shmsys:shminfo_shmseg" parameters to increase the performance of MAE running on Solaris. See the documentation that came with your workstation for more information.

* How to Install Macintosh Applications That Need to Create a Folder in the / Directory (Sun and HP). Some Macintosh installer documents (also called scripts) expect to be able to access their application files during the installation process in a folder in the / directory. Due to a lack of free disk space or other issues, you may not be able to nor want to install the application files in the / directory. This method allows you to install the application files in the directory of your choosing by using the Apple Installer 4.0, while allowing the application's installer document to locate its files as necessary. The following instructions tell you how to create a symbolic link between the / directory and the directory in which you install the application files (usually your home directory or $HOME):

1) Make sure you have "read" and "write" access permissions for /. (See your system administrator for information.)

2) As a regular user, create a directory in $HOME and give it the same name that the application uses when it creates a folder during installation. (See "Important" below.)

For example, perform these steps: Enter the command: cd $HOME Then enter the command: mkdir "ClarisWorks 2.0"

IMPORTANT: You must create a directory with EXACTLY the same name as the name that the application uses. If necessary, you can determine the correct name by looking for the directory that the application created in the $HOME directory after the first application disk has been ejected.

3) Create a symbolic link to this new directory. For example, enter this command:

ln -s $HOME/"ClarisWorks 2.0" /"ClarisWorks 2.0"

4) Follow the directions presented in the section "Using the Apple Installer 4.0" in Chapter 3 of the "MAE User's Guide" to install the application.

5) After completing the installation, delete the symbolic link from /. For example, enter this command: rm /"ClarisWorks 2.0"

6) Restore the original access permissions for /. (See your system administrator.)

Troubleshooting

* If You Cannot Access the Files on an MAE CD Mounted Remotely on a Sun Workstation (Sun). You may have a problem accessing the files on a remotely-mounted MAE CD-ROM disc if the disc was mounted on a Sun workstation by using the Solaris Volume Manager. There are two possible solutions to the problem: you can quit the Solaris Volume Manager and explicitly mount the MAE CD-ROM disc by using a command such as mount(1). You should then be able to access the files on the CD-ROM disc in order to perform a remote installation. Or you can copy the MAE files from the CD-ROM disc to a directory on the Sun workstation and then access the files by remotely mounting the directory. For more information about remotely installing MAE, see Chapter 1 in the "MAE User's Guide."

* If You Have Problems Installing Aldus Persuasion From Floppy Disks (Sun and HP). You may need to increase the memory size of the Aldus Installer to 1024K (kilobytes) by following these steps:

1) Unlock the floppy disk that contains the Aldus Installer.

2) In MAE, insert and mount the disk (click the Mount Floppy/CD button in the Toolbar).

3) Select the Apple Installer icon and choose Get Info from the File menu.

4) Type 1024 in the Minimum Memory Size and Preferred Memory Size text boxes and press Return.

5) Close the Get Info window.

6) Eject disk and re-lock it.

Note: for information about locking and unlocking floppy disks, see "Working With Floppy Disks" in Appendix A in the on-line version of the "MAE User's Guide."

* If the Message "Can't locate engine" Appears When You Try to Start MAE (Sun and HP). When you start MAE, it tries to find a directory ("lib/engine") that contains the MAE files necessary for startup. (If you installed MAE according to the instructions in the "MAE User's Guide," the "lib/engine" directory is located in the "apple" directory.) If you have moved the directory or renamed it after you installed MAE, MAE displays this error message. You can use the -appledir command-line option when you start MAE, or you can edit your X Resources file in order to tell MAE where the directory is located. For more information, see the MAE manual page.

* If the Keys You Press on Your Keyboard Don't Produce the Correct Characters in MAE (Sun and HP). Open the MAE Keyboard control panel and check whether the preset keymap is "generic." If it is, choose a new keymap (from the Keymap pop-up menu) that is appropriate for your keyboard and workstation. If the Keymap pop-up menu does not contain an appropriate keymap, contact Apple technical support. See "Choosing a New Preset Keymap" in Appendix C in the on-line version of the "MAE User's Guide."

* If Colors Are Not Displayed Accurately in Certain Applications (Sun and HP). In certain applications that use color (for example, Adobe Photoshop), colors used in the document may not be displayed correctly. To fix this problem, select "Use standard Mac colors" in the Options dialog box in the Monitors control panel. For more information, see "Reducing Colormap Flashing" in Appendix C in the on-line version of the "MAE User's Guide."

* If You Have Problems Using MS-DOS (Including Windows) or Solaris File System Disks on MAE (Sun). If you insert a floppy disk formatted for MS-DOS or Solaris into a Sun workstation and try to mount it in MAE by clicking the Mount Floppy/CD button, MAE displays an alert box. To use MS-DOS files on MAE running on Solaris, use the capabilities provided by Solaris. (For example, do not use Macintosh PC Exchange or other Macintosh applications that read MS-DOS disks.)

Follow these steps:

1) Insert the disk that contains the MS-DOS files that you want to use.

2) In a Solaris window, type "volcheck floppy". The files on the disk will appear in the /floppy/<floppyname> directory on your UNIX file system.

3) To use the files on the MAE desktop, double click /, then double-click the folder called "floppy," and then double-click the folder called "<floppyname>."

* If the Message "fd0: read failed" Appears (Sun). When you try to mount a floppy disk on MAE, you may see the message "fd0: read failed" on your Sun console. This message alerts you that Solaris is unable to read certain sectors on the floppy disk. Try another floppy disk or try the same disk on a different workstation. (If the disk does not contain data that you need, you may want to reformat the disk on a workstation and then try mounting it again on MAE.)

* If Solaris Displays the "Unlabeled Floppy" Dialog Box on Your Console (Sun). When you insert and try to mount a Macintosh floppy disk on MAE, Solaris displays the "Unlabeled Floppy" dialog box if you didn't install the Solaris Volume Manager Extensions when you installed MAE. Click Cancel in the dialog box (do NOT click Cancel & Eject). The floppy disk icon should appear on your MAE desktop. To prevent this situation from occurring again, you should run the MAE Installer as root and install the Solaris Volume Manager Extensions package according to the instructions in Chapter 1 of the "MAE User's Guide."

* If MAE Hangs When a Mounted Floppy Disk Has Been Ejected (Sun). If a Macintosh disk is somehow ejected without MAE being notified (for example, by typing "eject floppy" in a Solaris shell window or by clicking Cancel & Eject in the "Unlabeled Floppy" dialog box described earlier), MAE may hang until it is able to use the disk again. Reinsert the disk and type "volcheck" in a Solaris shell window. This step should allow MAE to continue to use the floppy disk. To avoid this problem, you should eject disks that have been mounted on the MAE desktop by using MAE capabilities ONLY. For example, drag the disk icon to the Trash or select the disk and choose Eject Disk from the Special menu.

* If You Have Problems Quitting MAE (Sun and HP). If you cannot quit MAE by using the Shut Down command in the Special menu (on the MAE desktop) or by using the capabilities provided by your X window manager, you can press Shift-Control-E.

Additional Information
There are two mailing lists for MAE users. To talk with other users, compare notes, and share information on MAE issues, send e-mail to "mae-users@medraut.apple.com." To send information about MAE to Apple Computer, send e-mail to "mae-bugs@medraut.apple.com." To join the mae-users list, send e-mail to "mae-users-request@medraut.apple.com."

For MAE technical notes, patches, and other technical information, see "ftp.support.apple.com" in the directory "mae". You can use ftp to log on to the server as "anonymous" and use your e-mail address as the password.

IMPORTANT: The MAE mailing lists are unofficial sources of information. Apple Computer does not guarantee responses or bug fixes.

Mention of third-party products is for informational purposes only and constitutes neither an endorsement nor a recommendation. Apple assumes no responsibility with regard to the performance of these products.

MAE Trial On-line Read Me

README.TRIAL (last updated on 7/4/94)

TRIAL VERSION OF APPLE'S MAE 1.0 PRODUCT

The files in this directory allow you to install the Apple MAE Trial product for either Sun SPARC workstations running Solaris 2.3 and later, or HP workstations running HP-UX 9.01 and later. The Trial product allows you to evaluate MAE for 8 total hours on your workstation. After the 8 hours, the Trial product will shut down and can be removed from your workstation. Printing is also disabled in the MAE Trial.

Note: The minimum MAE Trial ftp package is about 13 megabytes. This can
take a while to download across some slower internet connections.

SYSTEM REQUIREMENTS

- HP 9000 Series 700 workstation running HP-UX 9.01 or later

- Sun SPARC workstation running Solaris 2.3 or later

- X Window System, Version 11, release 4 or later

- Window manager such as Motif, HP VUE, or OPEN LOOK

- At least 16 MB of RAM; 32 MB recommended

- At least 16 MB of free hard disk space; 22 MB recommended

PURCHASING THE MAE 1.0 PRODUCT FROM APPLE

If you would like to purchase Apple Computer's MAE 1.0 Product, in the U.S., contact the Apple Order Center at
http://www.apple.com/products.

HOW TO DOWNLOAD

There are 3 files in the "trial" directory on the ftp server called "ftp.support.apple.com":

/pub/mae/trial/README.TRIAL - This file.

/pub/mae/trial/MAE_HPUX.tar.Z - (13 MB) This is the Trial version
for HP Series 700 workstations. It includes the MAE Trial version,

online documentation, a man page, and two trial applications (Claris
Works 2.0 and MacProject Pro).

/pub/mae/trial/MAE_SOLARIS.tar.Z - (13 MB) Same as MAE_HPUX.tar.Z, except
for Sun SPARC workstations running Solaris 2.3 or later.

Download the correct file for your workstation.

INSTALLING AND STARTING

The MAE Trial is designed to be installed once for each user, and each user has 8 hours of use. In order for multiple users to evaluate the Trial, each user must run the installer (INSTALL.SH) and install a local copy for his or her own use.

Make a directory anywhere you have a free 16 MB of hard disk space (22 MB recommended). Place the MAE_HPUX.tar.Z or MAE_SOLARIS.tar.Z file in that directory. Uncompress it and untar it with the following command:

On HP Workstations: zcat MAE_HPUX.tar.Z | tar -xvf -
On Sun Workstations: zcat MAE_SOLARIS.tar.Z | tar -xvf -

Note: The latest MAE Trial information is located in the READ.ME file
located in this directory.

Now run the installer, which is called INSTALL.SH, using the command:

./INSTALL.SH

Follow the on-screen instructions. After installing MAE, type the pathname for mae and press Return. MAE is usually installed and run as a regular user (not root), and therefore mae is probably in $HOME/apple/bin/mae.

The Tech Info Library article titled "Locating Vendor Information" can help you search for the Apple Order Center's phone number.

LEGAL STATEMENT

This Trial Software product is being provided to you "as is." Apple assumes no responsibility with regard to use of this Trial Software product. Apple does not offer any warranties, assumed or implied, regarding the usability and reliability of this Trial Software. Apple is not responsible for any liability, direct or indirect, that may arise from the use of this Trial Software product.

Published Date: Feb 19, 2012

HD SC Setup: Change History v7.1 Through 7.3.1 (2/95)

This article describes the change history of certain HD SC Setup versions.

This article has been archived and is no longer updated by Apple.
HD SC Setup

Version 7.1

Cannot format an Apple 500 MB or 1GB hard drive due to a maximum format time of 14 minutes. There was an Engineering change in firmware of these 2 drives to return "already formatted" so HD SC Setup will only initialize.

Version 7.1.1

The format time was changed to well over 30 minutes. This software now can format both Apple and third party drives over 500MB (including the Seagate 500 MB/1 GB). HD SC Setup, however, will not be able to format 500 MB/1 GB Apple drive whose firmware returns "already formatted."

Somewhere between HD SC Setup version 7.1.1 and HD SC Setup version 7.2, the Apple 500 MB and 1GB firmware was changed to remove the "already formatted" message, hence, allowing 500 MB/1 GB drives to be formatted with 7.1.1. (Drive Rev. 8514). Prior revisions of the Apple 500 MB and 1 GB drives will not format no matter what software is used due to the drives firmware command.

Version 7.2

Add asynchronous SCSI and fixed the 120 MB "dirty bit bug." However, a bug in the "bad block handling routine" was discovered. In some circumstances the driver will get stuck in an infinite loop trying to re-allocate a block that doesn't exist on the disk. This only happens if a bad block or other error condition occurs with the drive - and then not in all cases.

Version 7.2.2

Golden Master 9/13/93 with the fix for the "bad block handling routine bug" above.

Version 7.3.1

Fixes a crash problem version 7.3 has when run on Macintosh models that do not support virtual memory.

Article Change History:
20 Feb 1995 - Revised format.

Support Information Services
Published Date: Feb 19, 2012

File Sharing: RAM Doubler Problems (6/94)

It has been reported that when a machine that is NOT running RAM Doubler attempts to mount a machine that is file sharing, AND running RAM Doubler that both machines can lock up.

The crash is severe enough that force quiting, and Programmer's Switches are of no use.

This article has been archived and is no longer updated by Apple.
The resolution for this problem is to install Network Software Installer 1.4.4 on both machines. Connectix is aware of the problem, and this is their recommendation.

Support Information Services

Published Date: Feb 19, 2012

GeoPort vs Modem Port: Difference Explained

What is the difference between the modem port on a Macintosh and the GeoPort?
This article has been archived and is no longer updated by Apple.
There are several differences:

1) The standard modem port has connectors (pins) for signals in and out, timing, and handshaking. The GeoPort adds a ninth pin for power to an external device.

2) The GeoPort also takes advantage of the power of the processor (either the DSP processor in the Macintosh AV computers, or the PowerPC Chip itself) to do telephony- either data, or fax, or even voice. A modem is just a line interface to the telephone wire, a DSP to create the tones used, and software to run it. If we have a DSP on the main logic board, we can build an inexpensive line interface (like a GeoPod Telephone Adapter) and use computer software to run the modem.

That makes it inexpensive to add a modem to a computer, and makes it easy to enhance the modem through software to increase performance, or accommodate a new standard when it becomes available. It also makes it more flexible and adaptable.
Published Date: Feb 19, 2012

Macintosh PC Exchange 2.0: Description (10/94)

This article describes the feature set of PC Exchange version 2.0.1

This article has been archived and is no longer updated by Apple.
In addition to formatting, reading and writing DOS, and OS/2 disks, PC Exchange 2.0.1 can format and use DOS-format SCSI-hard disks and removable media, such as Bernoulli and SyQuest cartridges and floptical drives. It can also format Apple II ProDOS floppy disks and removable media. PC Exchange 2.0.1 is for anyone who needs to work with MS-DOS, Windows, OS/2 or Apple II ProDOS data files on a Macintosh.

Features
---
* Now reads DOS-format SCSI hard disks and removable media, such as Bernoulli and SyQuest cartridges.
* Works with DOS-format hard disk drive container files created with the Macintosh Quadra 610 DOS Compatible system.
* Reduced memory footprint when not in use.
* Performance improvements with reading and writing to DOS-format disks.
* On/Off switch in control panel.

Compatibility
---
* 720K or 1.44MB 3.5 inch DOS Disks
* 360K or 1.2MB 5.25 inch DOS-Disks (requires a 5.25 inch drive)
* 400K, 800K, or 1.4MB 3.5 inch Apple II ProDOS disks
* PC*compatible SCSI hard disks and removable media drives

Requirements
---
* Macintosh computer with at least 3MB RAM
* System 7
* Hard disk drive
* Apple SuperDrive

Article Change History:
13 Oct 1994 - Reviewed for technical accuracy; minor updates.

Support Information Services
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Installing Apple Speller On Catalyst For The Apple III

This article has been archived and is no longer updated by Apple.
You may move Apple Speller III to the hard disk for use with Catalyst. These instructions assume you are moving Apple Speller III to a ProFile (with a driver name .PROFILE). Substitute the name of your hard disk driver for .PROFILE if you wish to install Apple Speller III to a different hard disk.

COPY PROCEDURE:

1. Boot the Catalyst diskette.
2. From the Catalyst main menu select the System Utilities Program.
3. Enter "F" for File Handling Commands.
4. Enter "M" for Make a New Subdirectory.
5. Enter "CATALYST/SPELL".
6. Enter "25" as the subdirectory size.
7. In the same manner, create the subdirectory: "DICTIONARY" with room for 25 files.
8. Press "ESCAPE".
9. Enter "C" for copy files.
10. Copy all files on the Apple Speller III PROGRAM disk to the subdirectory "CATALYST/SPELL" except for the following:

SYSTEM.MISCINFO SYSTEM.PASCAL SOS.KERNEL SOS.INTERP and SOS.DRIVER

To do this, type ".D1/" and press the up arrow key. A list of files is displayed in a box. The up and down arrow keys allow you to move an inverse bar over the name of your choice. Pressing the right arrow key marks the file so as to include it in the copy process. Mark all files to be copied in this way. When all files are marked press RETURN.

11. Enter "R" to rename a file.
12. Change the name of "SYSTEM.LIBRARY" to "SYSTEM.STAR.LIB" and "SYSTEM.STARTUP" to "START.CODE".
13. After all files have been copied and renamed, copy ALL files from disks DICTIONARY 1 and DICTIONARY 2 to the subdirectory "DICTIONARY".

ADDING APPLE SPELLER III TO THE CATALYST MENU

1. Return to the Catalyst main menu.
2. Select the Catalyst Editor in the Catalyst main menu.
3. Enter "E" to edit the menu.
4. Use the up and down arrow keys to position the inverse bar over the entry you want the program to precede. Press "A" to add a program entry.
5. You will be asked for the display name of this program, enter "APPLE SPELLER".
6. Enter "CATALYST/PASCAL" as the interpreter pathname.
7. You will be asked for a list of any extra drivers this program requires. Press RETURN.
8. Press RETURN for the character set pathname.
9. Press RETURN for standard character set.
10. Press RETURN again to use the default keyboard.
11. Press RETURN to accept the default prefix.
12. Enter "3" for the "Max Files Allowed...." question. This will allow the program to be exited by holding down both Apple keys and pressing ESCAPE. (The value 3 suppresses the DISK FILES OPEN warning).
13. Enter "CATALYST/SPELL/START.CODE" when you are asked for the program path.
14. You will be asked if this entry is correct. If it is, enter "Y" then press ESCAPE to exit to the main menu.
If you made any mistakes during entry, enter "N". You may then enter the number of the item you wish to correct. When all items are correct, press ESCAPE. Then press ESCAPE again to exit to the main menu.
15. Enter "5" to update the INTERPS file. When you are asked if you want to

recalculate the load address, enter "N".
16. Exit to the CATALYST main menu by entering "Q".

NOTE: Apple Computer Inc. is not responsible for the contents of this article.
Published Date: Feb 19, 2012

ARA MultiPort Server: System 7 File Share Incompatible

This article describes an incompatibility between Apple Remote Access (ARA) MultiPort Server and Macintosh Personal file sharing.
This article has been archived and is no longer updated by Apple.
You cannot use the ARA MultiPort Server software concurrently with System 7 Macintosh file sharing. When you start the Remote Access Manager program, you will be asked to convert the Users & Groups Data File. After it is converted, only Remote Access Manager and AppleShare 3.0.x, or AppleShare 4.0.1 or later can use the Users & Groups Data File.

If you have either an ARA 1.0, or 2.0.x Personal Server, and you have entered several user names through the User & Groups control panel; you can import these user names to the new MultiPort server by following the steps below:

Step 1

Throw the Users & Groups Data File found in the Preferences folder of the new MultiPort Server in the Trash.

Step 2

Place the Users & Groups Data File from the older ARA 1.0 or 2.0.x Personal Server into the Preferences folder of the MultiPort server

Step 3

Restart the MultiPort Server.

Step 4

Launch the Remote Access Manager software.

Step 5

When asked, convert the U&G DF file.

Step 6

The user names and passwords are imported.
Published Date: Feb 19, 2012

Macintosh LC 520: Serial Speeds Can Exceed 9600 Baud (6/94)

In "Getting Started" manual of my Macintosh LC 520, there is a section discussing problems when using modems faster than 9600 baud. I have a 14400 baud modem, should I be concerned about data loss at speeds over 9600 baud?

This article has been archived and is no longer updated by Apple.
The statement in the "Getting Started" Manual of the Macintosh LC 520 and LC 550 computers can be confusing. It is meant to imply that at high speed transmissions (baud rates of over 9600), there are many factors to consider, and you may or may not be aware of these. The "Getting Started" manual discusses these factors. Although the LC 520 was not officially tested at 14.4 K baud when it was introduced, it does function properly with a 14.4 K baud modem.

There are some performance problems with all Macintosh computers using high speed modems and LocalTalk concurrently. This is covered in the Tech Info Library article titled "Macintosh Serial Port: Maximum Speed"

Support Information Services
Published Date: Feb 19, 2012

MAE: Can‘t Open Display Error Message (6/94)

I want to run Macintosh Application Environment (MAE), but when I try to launch MAE I get the following message, "Error: can't open display". What's wrong?

This article has been archived and is no longer updated by Apple.
You will get this message when trying to launch MAE on a stand alone machine without IP networking enabled. The solution is to launch MAE with the -display option, setting the display to the loopback address as follows:

<path name>/mae -display 127.0.0.1:0.0

Support Information Services

Published Date: Feb 19, 2012

AudioVision 14 Display: Use Monitor To Connect Keyboards (6/94)

The manual that came with my Apple AudioVision 14 Display, states the Apple Adjustable Keyboard must be run through the monitor ADB port. Since I don't own an Apple Adjustable Keyboard, do I use the ADB port on the monitor, or the computer?

This article has been archived and is no longer updated by Apple.
On all keyboards, you should use the ADB port on the monitor. If the keyboard is not connected to the ADB port on the monitor, you may experience problems with the function keys not operating properly, or Video Control Panel loading with an "X" through it. When the control panel doesn't load properly and then you try to open the Video Control Panel the error message "...cannot open, no video panels loaded..." appears.

Support Information Services

Published Date: Feb 19, 2012

Apple Products: Locating Screws Used in Apple Equipment

This article describes where to locate screws and fasteners used in most Apple products.
This article has been archived and is no longer updated by Apple.
Apple products use fasteners available from most fastener suppliers. Some local hardware stores may not carry the metric sizes widely used in Apple equipment since the introduction of the original Macintosh in 1984. If your local hardware store does not carry the fasteners used in Apple equipment, you may want to contact specialty fastener suppliers in your area. Generally, a local fastener supplier will have the fastest shipping, or may offer will call (pick up of an order).

Two locations that carry many types of fasteners, both standard heads and specialty heads such as Tamper-proof, Countersunk, Richardson, and others are:

- Mr. Metric - Only carries metric fasteners - http://www.mrmetric.com/
- Olander Company - Metric and many other fasteners - http://www.olander.com/

Published Date: Feb 19, 2012

Mr. Metric

Mr. Metric

This article has been archived and is no longer updated by Apple.
1080 North 11th St.
San Jose, CA 95112

Phone: (408) 286-8816

Company Profile: Carries metric screws and fasteners, included those used in Apple Equipment.

Support Information Services
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Apple File Exchange and Apple Multiple Scan Displays (8/94)

After quitting Apple File Exchange (AFE) 7.0, my Multiple scan 17 Display fades to black and the monitor powers off. Relaunching Apple File Exchange causes monitor to power on again.

My Configuration:
Quadra 650 & Quadra 800
System Software 7.1
Display Software 1.0,
Apple File Exchange 7.0.

This article has been archived and is no longer updated by Apple.
There is a problem with the Display Enabler and AFE, and it is a known issue that is being addressed. The newer version of the Display Enabler v1.1 unfortunately does not work with AFE either.

This problem occurs with any Macintosh that requires the Display Enabler to use the Multiple Scan Displays. Every Macintosh except the Power Macintosh computers require the Display enabler.

Note: The Power Macintosh Computers will not run Apple File Exchange.

By doing a force-quit of Apple File Exchange via the COMMAND-OPTION-ESCAPE key sequence, the problem does not manifest. Be sure to unmount all servers or diskettes prior to invoking this procedure.

The only alternative at this time is to use PC Exchange or some other third party utility that reads MS-DOS or ProDOS disks.

Article Change History:
15 Aug 1994 - Added Command-Option-Escape workaround.
25 Jul 1994 - Included information on what computers have this problem.

Support Information Services

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How To Install MAE Man Page (6/94)

This article describes how to install Macintosh Application Environment (MAE) man pages in SOLARIS and HP-UX systems.

This article has been archived and is no longer updated by Apple.

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The only real difference between the SOLARIS and HP-UX install of the MAE man page is the default directory
for the man pages:

* SOLARIS is /usr/share/man or /usr/man
* HP-UX is /usr/man

It is possible that the man pages are actually in another directory, but there should be an environmental
variable to lead you to the right location, in HP-UX this variable is MANPATH.

For SOLARIS Systems
-------------------
To install/access the man page included with MAE, you need to "cp" or "mv" the apple/man1/mae.1 file to the
/usr/share/man/man1 directory, and then run the "catman 1" command to rebuild only the man1 section of the man
pages.

For example, we have installed the MAE man page in /export/home/apple the commands would look like:

cp /export/home/apple/man1/mae.1 /usr/share/man/man1
catman 1

Then "man mae" will give them the mae man info.

For HP-UX Systems
-----------------
To install/access the man page included with MAE, you need to "cp" or "mv" the apple/man1/mae.1 file to the
/usr/man/man1 directory, and then run the "catman 1" command to rebuild only the man1 section of the man
pages.

For example, we have installed MAE man page in /usr/apple the commands would look like:

cp /usr/apple/man1/mae.1   /usr/man/man1
catman 1

Then "man mae" will give them the mae man info.


Support Information Services
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Published Date: Feb 19, 2012

Appleworks 1.2: Installing On Catalyst 2.1

With the release of Appleworks 1.2, some changes in the installation procedure must be made. These instructions also assume that you have installed Catalyst properly and that you have a hard disk with the volume name of "/PROFILE".
This article has been archived and is no longer updated by Apple.
To install the new version, follow the steps listed below.

1. Boot the Catalyst disk (if you haven't already).
2. From the Catalyst main menu, select the Filer.
3. Press "F" for File Commands.
4. Press "L" for List ProDOS Directory.
5. Place the Appleworks BOOT disk in drive 1.
6. Enter "/APPLEWORKS".
7. A listing of all the files on the Appleworks disk will appear. Check for the filename "QUARK.INSTALL". If the file exists, continue with the next step. If the file DOES NOT exist, go to step 13.
8. Press the ESCAPE KEY two times. Press "Q". This should place you in the Catalyst main menu.
9. From the main Catalyst menu, select the Catalyst Editor.
10. Select option 6.
11. Select option 5 to install"Miscellaneous Manufacturers" programs. Follow the directions on the screen. Appleworks will be installed automatically for you.
12. When the process is completed, you will be returned to the Catalyst Editor. Select option 7 to quit.
13. Press the RETURN key. Press the ESCAPE key.
14. Press "M" for Make a New Subdirectory.
15. Enter "/PROFILE/AW".
16. Press ESCAPE.
17. Place the Appleworks BOOT disk in drive 1.
18. Press "C" to Copy Files.
19. For Source Pathname enter "/APPLEWORKS/=" and press RETURN.
20. For Destination Pathname enter "/PROFILE/AW/="
21. Hit "RETURN" when you are prompted to do so.
22. Place the Appleworks PROGRAM disk in drive 1.
23. For the Source Pathname enter "/APPLEWORKS/= and press RETURN.
24. For the Destination Pathname Enter "/PROFILE/AW/=" and press RETURN.
25. Press Return when you are prompted to do so.
26. Press Escape two times. Press "Q".

ADDING APPLEWORKS 1.2 TO THE CATALYST MAIN MENU

1. Boot the Catalyst disk.
2. Select the Catalyst Editor.
3. Enter 1 to Edit the Catalyst Menu.
4. Place the cursor to the position that you want the Appleworks menu entry to occur.
5. Press "A". You will be asked for the display name of this program. Enter "Appleworks".
6. For the Interpreter Pathname enter "/PROFILE/AW/APLWORKS.SYSTEM".
7. For the Prefix enter "/PROFILE/AW"
8. Press RETURN for Program Pathname.
9. You will be asked if this entry is correct. If it is answer "Y".
10. Press the ESCAPE key.
11. Enter "5" to update the Interpreter file.
12. Exit to the Catalyst main menu.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

The Tech Info Library article#17159: "Locating Vendor Information", can help you search for a particular vendor's address and phone number.
Published Date: Feb 19, 2012

LaserWriter Pro 630: Printing 600 dpi From Windows 3.1

Is it possible to print 600 dpi to a LaserWriter Pro 630 w/8Mb RAM from a Windows 3.1 machine? I can only get 300dpi. If it is possible, how do you do it?
This article has been archived and is no longer updated by Apple.
You are probably using the printer driver that shipped with the LaserWriter Pro 630. This software included different print driver files for different configurations, and you have probably selected the wrong one.

Although you could reinstall the correct printer-driver file as described in the manual, you should upgrade to the latest version of LaserWriter driver for Windows 3.1 that Apple has posted online. This software now includes many new features, including the ability to switch between 300dpi and 600dpi.
Published Date: Feb 19, 2012

PowerBook 500 Series: Priority of Dual Battery Charging (4/95)

What is the use/charging priority of the two batteries used in the PowerBook 500 series computer?

This article has been archived and is no longer updated by Apple.
The PowerBook 500 series computer has 2 battery bays that are each capable of holding a single PowerBook Intelligent Battery. The PowerBook will charge the battery in the left bay completely before charging the battery in the right bay. Once a battery is completely charged, the charging circuit for that battery goes into a maintenance stage. This maintenance stage will ensure that the battery's charge stays 'topped off' thus preventing any self-discharging that may occur.

If the computer has 2 batteries installed (one in the left bay and one in the right bay), the unit will draw power from the battery in the left bay first.

Article Change History:
24 Apr 1995 - Complete update of article.
17 Feb 1995 - Minor spelling correction.

Support Information Services
Published Date: Feb 19, 2012

MultiMedia Starter Kit: Viewing On A 13" Monitor

I am using the MultiMedia Starter kit on a 13" monitor, and I cannot see window edges so that I can move the frame around. There was nothing on the kit to indicate it will not work on 13" monitors. Was the window set only for larger monitors?
This article has been archived and is no longer updated by Apple.
The size of the Macromedia Player application is set to 640 by 480 and doesn't have a window bar to drag the window around. It is meant to fill the entire screen of a 13" monitor. If the application is played back on a larger monitor, it will appear centered on the screen, but will also have no window bar to move it around.

In other words, this window cannot be moved around on the screen regardless of how big the screen is. This is the way most CD-ROMs created with Macromedia Director work.
Published Date: Feb 19, 2012

LaserWriter Driver 8.x: Defaults To Level 1 w/Spooler

Is it possible to set the default for the LaserWriter 8 to Level 2 Postscript? We are printing to a variety of Apple and Non-Apple printers via a Novell spooler. Even though you can manually select the correct PPD, the info for the device cannot be updated and the driver uses Level 1 rather than Level 2 binary Postscript. This is causing a problem in increased print time and network traffic.
This article has been archived and is no longer updated by Apple.
We believe the most significant reason for the print job taking so long to spool and print is due to the fonts being downloaded with every LaserWriter 8.x print job, and to a lesser extent the additional Postscript Level 1 and 2 procedures being sent to the spooler and printer, explained below.

At the beginning of each printing job, the LaserWriter 8.x driver opens a connection with the target device and sends a query job to determine among other things what language level of Postscript the device supports (Postscript Level 1 or 2), what file format to use (binary, ASCII), the fonts available on the device, etc. Netware 3.x print spoolers do not support Postscript Level 2 queries which results in all of the fonts used in the document being downloaded with every print job. Since the print server cannot return the specific Postscript version level of the printer, both the procedure set for Level 1 and 2 of Postscript, along with the Postscript code to test the language level is sent in the print job.

Netware 4.x supports Postscript Level 2 queries which results in a significant increase in print spooling performance.

To improve print times, you can do the following:

1) Minimize the number of fonts used in the document you spool to a Netware 3.x print server.
2) Use a Postscript Level 1 driver, such as the LaserWriter 7.2 driver.
3) Print directly to the printer.
4) Upgrade your print server to Netware 4.x or greater.
Published Date: Feb 19, 2012

LaserWriter Fax Tune-up: Fixes Pagination Issue

I'm having a problem where the 8f driver sends an additional page after the cover page (an extra, blank page is being printed), listing the USER (with my name) filled in, the application, date, time. How can I turn this off?
This article has been archived and is no longer updated by Apple.
The page printed after the cover page is not really a second page, but a continuation of the cover page. The listing of User, application, and date is the "caption" and can be disabled in the "Fax Destination" dialog.

The caption should really be printed at the bottom of the cover page, but there is a problem in the driver that miscalculates the page length and produces the second page. This problem can be fixed with the LaserWriter Fax Tune-up. You can get the LaserWriter Fax Tune-up from online services Apple publishes software updates on.

These articles can help you locate software updates mentioned here:
Where To Find Apple Software Updates
Lists online services for "free" Apple software updates

Obtaining Apple Product Support in the USA
Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech. Info. Library
Published Date: Feb 19, 2012

Installing Backup III on Catalyst For The Apple III

This article has been archived and is no longer updated by Apple.
You may move BACKUP III (Apple) to the hard disk. This will allow you to access it with greater ease than using floppy disks.

COPY PROCEDURE

1) Boot the CATALYST diskette (if you haven't already).
2) From the main CATALYST menu, select the Systems Utilities Program.
3) Press "F" for File Handling Commands.
4) Press "M" for Make a New Subdirectory.
5) Enter ".PROFILE/CATALYST/BU3".
6) Press RETURN to accept the default size of 25 files.
7) Press ESCAPE.
8) Put the BACKUP III PROGRAM diskette in the internal drive.
9) Press "C" to copy files.
10) Copy SYSTEM.STARTUP from the BACKUP III PROGRAM disk to ".PROFILE/CATALYST/BU3/SYSTEM.STARTUP".
11) Press ESCAPE.

ADDING BACKUP III TO THE CATALYST MENU

1) Enter the number for CATALYST EDIT.
2) Enter "1" to add an entry to the menu.
3) Enter the number of the menu entry you want BACKUP III to precede.
4) You will be asked for the display name of this program. Enter BACKUP III.
5) Enter "CATALYST/PASCAL" for the interpreter pathname.
6) Press RETURN for the character set pathname.
7) Press RETURN for standard character set.
8) Press RETURN again to use the default keyboard.
9) Press RETURN to accept the default prefix.
10) Enter "3" for the "Max Files Allowed..." question.
11) Enter ".PROFILE/CATALYST/BU3,SYSTEM.STARTUP" when you are asked for the program path.
12) You will be asked if this entry is correct. If it is, enter "Y", or just press RETURN. You will be allowed to insert another entry. Since you do not want to do this, enter "0" to exit to the main menu.
13) Enter "7" to update the INTERPS file. When you are asked if you want to recalculate the load address, enter "N".
14) Exit to the CATALYST main menu by entering "0".

NOTE: Apple Computer Inc. is not responsible for the contents of this article.
Published Date: Feb 19, 2012

Power Macintosh: VRAM Expansion Options

This article describes the VRAM expansion options between the different Power Macintosh models.
This article has been archived and is no longer updated by Apple.
There is no VRAM or VRAM slots on the logic board of the Power Macintosh 6100, 7100, or 8100. To provide different levels of VRAM based video, one of three video cards is used:

AV Video Card	2MB of VRAM	no expansion
2 MB Video Card	1MB of VRAM	with 4 slots for 1MB additional VRAM
4 MB Video Card	2MB of VRAM	with 4 slots for 2MBs of additional VRAM

Below is the standard color depth supported based on available VRAM:

Monitor	Resolution	1 MB VRAM	2 MB VRAM
12-inch Color	512 by 384	millions	millions
12-inch Monochrome	640 by 480	256	256
13-inch or 14-inch Color or VGA	640 by 480	thousands	millions
15-inch Portrait Monochrome	640 by 870	256	256
16-inch Color	832 by 624	thousands	millions
19-inch Color	1024 by 768	256	thousands
21-inch Color	1152 by 870	256	thousands
SuperVGA	800 by 600	thousands	millions
NTSC	640 by 480	thousands	millions
NTSC flicker-free	640 by 480	256	256
NTSC	512 by 384	thousands	millions
NTSC flicker-free	512 by 384	256	256
PAL	768 by 576	thousands	millions
PAL flicker-free	768 by 576	256	256
PAL	640 by 480	thousands	millions
PAL flicker-free	640 by 480	256	256

NOTE: NTSC and PAL display modes supported only on AV configurations.

The VRAM expansion card does NOT support resolutions below 8-bit (256 colors). In order to get 2, 4, or 16 colors, you must use the HDI-45 connector.

Currently all Power Macintosh AV configuration include the AV card. The 8100 (non-AV) uses the 4MB VRAM card and the 7100 (non-AV) uses the 2MB card. Only the 2MB VRAM or 4MB VRAM cards provide VRAM expansion slots.

Note: These configurations are subject to change in the future.

No VRAM card is provided with the 6100 (non-AV) system. Using on-board video via the built in HDI-45 video connector on each machine shares the DRAM with the system. The built-in video port requires 640K of DRAM if connected to a monitor, otherwise it does not use any DRAM.
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GeoPort Adapter: Version Differences (6/94)

This article describes the differences in GeoPort adapter models and which versions to use outside the United States.

This article has been archived and is no longer updated by Apple.
There are 3 versions of the GeoPort adapter, two of these can be used internationally, one can only be used within the United States.

Model	Computers	International
M1694LL/A	Quadra 660 and 840	No
M1694LL/B	Quadra 660 and 840	Yes
M3127LL/A	Quadra and Power Macintosh	Yes

Model M1694LL/A can only be used with Quadra computers. This model has a problem with very old telephone equipment, which will not allow the GeoPort to break the dialtone. It can only be used within the United States.

Model 1694LL/B corrects the problem where the Tip and Ring line are transposed. The software included with this model does not support the Power Macintosh computers. However, with the proper software, this model could be used with the Power Macintosh. It can also be used both inside and outside the United States.

Model M3127LL/A is essentially Model 1694LL/B, but it contains software that can be used in both Power Macintosh and Quadra computers. This model can also be used internationally.

Support Information Services
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Power Macintosh: Video Capture With AV System

I am using a Power Macintosh AV system and I want to capture a frame of video played through avideo camera connected to the AV card.

I connected a video camera with RCA jacks to the S-video/RCA adapter and plugged the adapter into the S-video IN port. I then ran the Video Monitor application and it came up with a message "cannot digitize video with current number of colors". I tried setting the number of colors down from 256 to 16, 4, and 1 but I could not get it to work.

This article has been archived and is no longer updated by Apple.
Use of the HDI-45 connector on any of the Power Mac AV systems without a monitor attached to the AV card is not recommended. The Monitor control panel will automatically assume that a device is attached to the video out on the AV card and the result is what has commonly been described as a ghost monitor.

There are several problems associated with this anomaly which you may encounter:

- Moving the menu bar inadvertently to the ghost monitor in the Monitors control panel. Once this has been done you will need to connect a monitor into the AV Card in order to restore normal video. This is an issue for anyone using the AudioVision monitor which does not have an adapter cable.
- Viewing full-screen video in when using the Video Monitor application causes the computer to move the image to the ghost monitor. Returning to a half or quarter-screen window will not restore it back to normal. Quitting and restarting the machine will not restore the Video Monitor window either. This will prevent you from being able to view the video you wish to capture.
- Windows, files, or folders may be inadvertently moved to the ghost monitor. Once moved to the ghost monitor they are difficult to recover without attaching a monitor into the AV card.

Note that all of these issues are associated with the Power Mac 6100/60/AV, 7100/66/AV, and 8100/80/AV systems. It is recommended to acquire a AudioVision display adapter cable and attach the monitor to the AV card directly.

WORKAROUND

Attempting to capture a frame of video and save it as a PICT file while running off of the HDI-45 connector is possible, but difficult and not recommended. The built-in digitizer will not work if the ghost monitor is set to millions of colors. Do the following to change the bit depth:

1. Open the Monitors control panel. You will notice that there appears to be two monitors displayed side by side even though you only have one monitor attached to the HDI-45 connector.

2. Click on the 2nd monitor (the one labeled 2 without the menu bar) so that it is highlighted.

3. Change the bit depth of the ghost monitor to something less than millions.

4. Open the Preference folder within the System Folder and throw the Video Monitor Preferences file into the trash.

5. Launch the Video Monitor application and you should be able to capture a frame of video and save it as a PICT file using the Copy command.

Note: You will only be able to capture a Half or Quarter size frame of video. Setting the frame size to Full will cause the Video Monitor window to move to the ghost monitor and you will not be able to see the video. Switching back to Half or Quarter screen will not restore the window to its proper place. The only way to restore the video window to its proper location is to throw away the Video Monitor Preferences file.
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AppleSearch 1.0: Reporters and Restoring Volume

I had to replace an external hard drive that had crashed, the data was restored from a backup tape, and indexed on the new hard disk. Now the reporters have lost their connection to that information source.

The workstation reporters no longer appear in the reporter list on the server. There appears to be no way to "reconnect" them to the server short of re-saving them from each client.

The AppleSearch admin guide does say on page 9, "if you relocate an information source to another disk, AppleSearch reporters will only look for it in the old location". It does not describe a way to "reconnect" these reporters to their information source without having to recreate them from scratch.
This article has been archived and is no longer updated by Apple.
Unfortunately, AppleSearch uses the file ID's of the information sources for reference. When a backup is restored, the file ID's change, which causes the Reporters to lose contact with the information sources.

There is no way to reconnect the old Reporters to the 'new' information sources in the current release of AppleSearch. You need to open each Reporter and reselect the necessary Information Sources.
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Power Macintosh: LocalTalk Performance With GeoPort (6/96)

This article describes performance problems with LocalTalk on Power Macintosh computers when using GeoPort software.

This article has been archived and is no longer updated by Apple.

Power Macintosh 6100, 7100, and 8100 issue

Power Macintosh 6100, 7100, and 8100 users may notice a slow down in performance when printing to LocalTalk printers or accessing other LocalTalk network services while using the GeoPort software for Power Macintosh.

The GeoPort 2.0 upgrade will remedy this problem. We advise you to upgrade your GeoPort software.

If you do not have access to GeoPort 2.0, the solution is to turn off the receive Fax capability in the Fax Terminal application while using LocalTalk services. To do this:

1) Open the Fax Terminal application.

2) Deselect the Auto-Receive checkbox in the Fax menu.

Also, make sure other modem applications such as Apple Remote Access (ARA), or communications software is not set to auto-answer. When GeoPort software is set for auto-answer for either Fax, or data, LocalTalk performance can be affected.

This behavior does not effect Ethernet network connections.

Power Macintosh 7200, 7500, 7600, 8500, and 9500 issue

For Power Macintosh 7200, 7500, 7600, 8500, and 9500 series computers, the software necessary to use the GeoPort Telecom Adapter is Apple Telecom software version 2.1 or later. If you are using a GeoPort Telecom Adapter on these Power Macintosh models, you must either disable LocalTalk, or use Ethernet any time the GeoPort Telecom Adapter is active because the computer may either crash, lock-up, or return a Type 11 error.

Article Change History:

27 Jun 1996 - Added 7600.

20 May 1996 - Removed keyword.

06 Oct 1995 - Added Power Macintosh 7200, 7500, 8500, and 9500 section.

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Installing Apple Business Graphics on an Apple III

This article has been archived and is no longer updated by Apple.
You may move APPLE BUSINESS GRAPHICS to the hard disk. This will allow you to access it with greater ease than by using a floppy. However, because of the particular copy protection scheme used for APPLE BUSINESS GRAPHICS, you will have to install the APPLE BUSINESS GRAPHICS diskette in the internal drive before using it.
The .GRAFIX driver must be installed on your CATALYST disk. Additionally, 16K of graphics space must be allocated in Pascal. If you get the message "INSUFFICIENT GRAPHICS SPACE ALLOCATED" when trying to invoke BUSINESS GRAPHICS, you may allocate graphics space by pressing "O" from the Pascal command line. Then press "A", then "C", then "Q". Pascal will be restarted . Enter "0" to return to CATALYST. You may then re-enter BUSINESS GRAPHICS successfully.

NOTE:
In order for BUSINESS GRAPHICS to work with CATALYST, the file SYSTEM.LIBRARY that is located on the BUSINESS GRAPHICS MASTER disk MUST be installed on the root directory of your profile. If you already have the Apple Pascal language installed in conjunction with CATALYST, this procedure will not be necessary.

COPY PROCEDURE:

1) Boot the CATALYST diskette.
2) From the main CATALYST menu, select the Systems Utilities Program.
3) Press "F" for File Handling Commands.
4) Press "M" for Make a New Subdirectory.
5) Enter .PROFILE/CATALYST/BG.
6) Press RETURN to accept the default size of 25.
7) Press ESCAPE.
8) Put the APPLE BUSINESS GRAPHICS MASTER diskette in the internal drive.
9) Press "C" for Copy Files.
10) Copy all files from your APPLE BUSINESS GRAPHICS MASTER diskette except for the following:
SYSTEM.PLOT
SYSTEM.MISCINFO
SYSTEM.PASCAL
SYSTEM.LIBRARY
11) To do this, type ".D1/" and press the up arrow key.
12) A list of files is displayed in a box. The up and down arrow keys allow you to move an inverse bar over the name of your choice. Pressing the right arrow key marks the file so as to include it in the copy process. Mark all files to be copied in this way. When all files are marked press RETURN.
13) Enter ".PROFILE/CATALYST/BG/=" for the name of the destination file.
14) Copy the SYSTEM.LIBRARY from the APPLE BUSINESS GRAPHICS MASTER diskette.
15) Enter ".PROFILE/CATALYST/BG/PLOT.LIB" as the destination file.
16) When the copy is complete, insert the BUSINESS GRAPHICS DATA disk in the built in drive.
17) Enter ".D1/=H.TEXT" as the source file name.
18) Enter ".PROFILE/CATALYST/BG/=H.TEXT" as the destination file name.

If you have the Apple Pascal language installed on your ProFile in conjunction with CATALYST,skip to step 21.

19) Make a second copy of the file SYSTEM.LIBRARY.
20) Enter ".PROFILE/SYSTEM.LIBRARY" as the destination file name.
21) When all files have been copied press ESCAPE.
ADDING APPLE BUSINESS GRAPHICS TO THE CATALYST MENU

1) Enter the number for CATALYST EDIT.
2) Enter "1" to add an entry to the menu.
3) Enter the number of the menu entry you want BUSINESS GRAPHICS to precede.
4) You will be asked for the display name of this program. Enter BUS. GRAFIX.

5) Enter CATALYST/PASCAL for the interpreter pathname.
6) Press RETURN for the character set pathname.
7) Press RETURN for standard character set.
8) Press RETURN again to use the default keyboard.
9) Press RETURN to accept the default prefix.
10) Enter "3" for the "Max Files Allowed..." question.
11) Enter "*.PROFILE/CATALYST/BG,SYSTEM.STARTUP" when you are asked for the program path. This will generate a bad path error but ignore it.
12) You will be asked if this entry is correct. If it is answer "Y". You will be allowed to insert another entry. Since you do not want to do this, enter"0" to exit to the main menu.
13) Enter "7" to update the INTERPRETER file. When you are asked if you want to recalculate the load address, enter "N".
14) Exit to the CATALYST main menu by entering "0".

In order to access the HELP files you transferred to your ProFile you must set the default prefix within BUSINESS GRAPHICS by doing the following.

1) Boot BUSINESS GRAPHICS.
2) From the main menu type: "SET DEFAULT VOL .PROFILE/CATALYST/BG" and press return.
Now BUSINESS GRAPHICS will use that subdirectory as a source for your work files and for its program and help files.

NOTE: Apple Computer Inc. is not responsible for the contents of this article.
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MAE on Solaris Will Not Mount Macintosh Floppy Disk (1/96)

I'm running Macintosh Application Environment (MAE) on Solaris. When I put a Macintosh floppy into the drive and press the "Mount Macintosh Disk" button in MAE, nothing happens.

This article has been archived and is no longer updated by Apple.

There are a couple of things that need to be checked. First, look at the macdisks.Solaris file located in the System Folder in the Preferences folder. This file can be edited with TeachText or vi.

You need to enable the floppy drive by entering whether the drive is read-only or read-write, and provide the path name. Since most Suns have one floppy disk drive, only the floppy0 entry has to be enabled. If your Sun has two floppy drives there is also an entry for floppy1. The entry for the floppy drives usually looks like this:

floppy0:rw:/dev/rdiskette

floppy1:ignore

It is possible to have the floppy drive at floppy1. If so, set floppy0:ignore and enable floppy1. (If the Sun workstation does not have any floppy drives, set both line entries to :ignore.)

Next, make sure you installed the "Volume Manager Extensions" when installing MAE. The "Volume Manager Extensions" must be installed as root. MAE Volume Manager is software that is used on Sun workstations to make it easier to use removable media devices. MAE runs a UNIX process on the workstation called "vold". To see if the Volume Manager is running, do the following:

1) From the UNIX workstation console type:

ps -ef

2) Look for a UNIX process called "vold". That is the Volume Manager

process.

To see if the Volume Manager Extensions have been installed, do the following:

1) Type: cat /etc/rmmount.conf

During the MAE installation this file will be edited.

2) Look for these lines within the remmount.conf file. If they are there,

then the MAE Volume Manager extensions have been installed:

ident macfs ident_macfs.so floppy

action floppy action_macfs.so

In addition, software products that do not currently support the Solaris Volume Manager will conflict with MAE, which does use the Volume Manager. Until software products that are incompatible with the Volume Manager are upgraded to support it, you can work around this conflict by turning the Volume Manager on when using floppies or CDs in MAE and off when using other software. This work-around is only necessary when accessing a Macintosh floppy or CD since MAE doesn't use the Volume Manager until you try to access a Macintosh disk.

Also be aware that some software disables Volume Manager control at the device level by changing your /etc/vold.conf file, rather than starting or stopping the Volume Manager's vold process.

NOTE: If you are using Solaris 2.4, be sure you have applied the most current version of the Volume Manager patch -- as of January 1996, this version is 101907-05. To determine if this patch is installed, perform the following command:

showrev -p

If 101907-XX is not listed, you need to contact your support channel for this patch.

Article Change History:

30 Jan 1996 - Updated with the NOTE section on Solaris 2.4.

11 Oct 1994 - Corrected error.

28 Sep 1994 - Added more information.

Support Information Services

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MacX: Mapping The Delete Key On An AIX System (6/94)

What is the command to properly map the Delete key on an AIX system for MacX? I'm connecting to an IBM 340 running AIX 3.2.5.

This article has been archived and is no longer updated by Apple.
First some information about keyboard manipulation within MacX. When the MacX server is initiated, every key on the keyboard is associated with a key code and a correspondent key symbol. For example, the delete key has the keycode value 59, a keysym value 0xffff, and a keysym name "Delete". The keyboard and its keysys table can be modified in MacX with an X client called "xmodmap", which is available in most X hosts.

The "xmodmap" client lets you display and modify the X keyboard map and keysym table on the display server. You can find out what the key is mapped to with the command:

xmodmap -pk

You may for example, find the "Delete" key in MacX has the keycode value 59 and a keysym value 0xffff.

You can modify what the key is mapped to with the command:

xmodmap -e "keycode 59 = BackSpace"

In this example the keycode number 59 now maps to BackSpace instead of the Delete key. Please refer to the xmodmap(1X) manual in any X client host for more information and examples. Also, the "xev" client (which displays the content of X events) is useful to display these keycodes, and keysym values and names when any key is pressed interactively.

With this, you can virtually remap any key within MacX as long as you know their keycode and associated keysym values. You didn't specify which key the Delete key was to be mapped to in MacX, so we used the above example to show you how it is done.

Support Information Services

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MacX: Maximum Number Of Fonts (6/94)

I received some new compiled fonts for MacX 1.2 and after installing them the MacX Fonts window was corrupted. I increased the memory allocated for MacX up to 20 MB, but the problem did not go away.

The way I installed the compiled fonts was by dragging them into MacX Fonts folder. Once installed, I clicked on Update MacX Font Directory to add these fonts to the list.

Deleting the Font Directory file did not make a difference.

I think the fonts are good and there's a font limit in MacX because if I add half of the fonts to the font directory, they show up correctly in the MacX Fonts window. If I remove that half and add the other half, the fonts are still not corrupted in the MacX Fonts window. If I add all the fonts, the corruption occurs. Is there a maximum number of fonts that can be used in MacX?

This article has been archived and is no longer updated by Apple.
We were able to reproduce the problem with the 287 fonts you sent. The number of fonts installed in the MacX Fonts folder does matter.

We tested to find out how many fonts can be in the MacX Fonts folder, and 541 fonts seems to be the maximum number of fonts allowed by Font Directory for everything to work properly. Beyond that the font name manipulation and sample font display will be corrupted. The fonts themselves however, seem to be intact and usable.

We suggest you limit the number of fonts to 541 to avoid font name and sample font display corruption. We are also reporting this for resolution.

Note: Do not put any uncompiled fonts in the MacX Fonts folder, we found one uncompiled font in the group you sent. You must compile it first with the Font Director in MacX.

Support Information Services

Published Date: Feb 19, 2012

AppleShare Print Server: Reprioritizing Print Jobs

I need to know how I can rearrange jobs in the AppleShare Print Spooler queue.
This article has been archived and is no longer updated by Apple.
AppleShare Print Server (2.x, 3.x, 4.x, and AppleShare Pro) don't provide the option to automatically reprioritize print jobs. That is, you cannot configure the spooler to automatically give some clients' print jobs a higher priority than other clients'. You can select any print job appearing in the print queue and request it print next, and you can cancel print jobs higher in the queue while that job is being received or sent by the spooler. After the spooler has shipped the print job off to the printer it no longer appears in the spooler queue and cannot be canceled.

You may wish to investigate other high-end spoolers such as Print Central by Compumation Inc. and Novell Netware which enable you to reprioritize print jobs. To locate a vendor's address and phone number, use the vendor name as a search string.

Below for your convenience is the Redgate reference on Print Central:

Print Central
Print Central is an easy-to-use print server for the processing of high volumes of print jobs to PostScript output equipment. It offers the advantage of a "multiple device" print server so a user's computer is released instantly while Print Central handles the downloading of jobs to the printer(s). This multiple printer queue capability provides the simultaneous spooling of jobs to many print devices over a network. Print Central gives users a greater level of productivity by reducing the amount of waiting time that is often associated with the printing of large or complex files. A network administrator can perform management functions, such as reprioritizing, removing or putting jobs on hold remotely from their workstation. Print Central provides up-to-the-minute error and activity reports, giving an administrator complete information about the status of jobs and the amount of traffic on the system.
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LaserWriter Select 310: Determining Configuration

The LaserWriter Utility does not support the LaserWriter Select 310. How can I find out how much RAM is installed in the printer and the PostScript version?
This article has been archived and is no longer updated by Apple.
There is currently no Apple support for downloading fonts or PostScript programs to the LaserWriter Select 310. There is a shareware utility called "ShowPages" that allows downloading of PostScript files to the LaserWriter Select 310.

A description of ShowPages is on the following Info Mac site:
http://macinsearch.com/infomac2/printing/show-pages-141.html

To download the ShowPages, use the server list at the bottom of the page. ShowPages may be difficult to locate, so keep trying servers from the list at the bottom of the page, until you locate it.

Note: Currently, ShowPages can be found on the server: 'ftp.uu.net', however this can change without notice.

By downloading a PostScript program such as the one below the amount of installed memory, available virtual memory, PostScript version, and the ROM revision can be checked. Cut and paste the following PostScript program into a text file and then use PSTool or some other equivalent program to download the file to the printer. This same programs with other PostScript laser printers.

POSTSCRIPT CODE

```
% PostScript tool to print total RAM, VM, and PS version info.
% Use PSTool or other PostScript downloader program to download
% this program to a PostScript device.

serverdict begin 0 exitserver
/Times-Roman findfont
15 scalefont
setfont
72 700 moveto
/str 20 string def
/str1 20 string def
(Printer RAM: ) show
statusdict begin ramsize str cvs show
( bytes) show
72 670 moveto
/str2 20 string def
/str3 20 string def
(Available Virtual Memory: ) show
vmstatus exch sub 10 string cvs show
( bytes) show
72 640 moveto
/str4 20 string def
/str5 20 string def
(PostScript Version: ) show
statusdict begin version str4 cvs show
72 610 moveto
(ROM Revision Level: ) show
statusdict begin revision str5 cvs show
showpage
```

Published Date: Feb 19, 2012

Installing Datafax On Catalyst For The Apple III

This article has been archived and is no longer updated by Apple.
You may move DataFax (Link Systems) to a hard disk for use with Catalyst. These instructions assume you are moving DataFax to a ProFile (with driver name .PROFILE). Substitute the name of your hard disk driver for .PROFILE if you wish to install DataFax on a different hard disk.

COPY PROCEDURE:

1. Boot the Catalyst diskette (if you haven't already).
2. From the Catalyst main menu, select the System Utilities Program.
3. Enter "F" for FILE HANDLING COMMANDS.
4. Enter "M" for MAKE A NEW SUBDIRECTORY.
5. Enter "CATALYST/DATAFAX" with a default size of 25 files.
6. Press "ESCAPE".
7. Enter "C" for COPY FILES.
8. Copy all files from the PROGRAM disk to the subdirectory "CATALYST/DATAFAX/=" except for the following:

SYSTEM.MISCINFO SYSTEM.PASCAL

To do this, type ".D1/" and press the up arrow key. A list of files are displayed in a box. The up and down arrow keys allow you to move an inverse bar over the name of your choice. Pressing the right arrow key marks the file so as to include it in the copy process. Mark all files to be copied in this way. When all files are marked, press RETURN.

9. When all files have been copied, press ESCAPE.

ADDING DATAFAX TO THE CATALYST MENU

1. Return to the Catalyst main menu.
2. Select the Catalyst Editor.
3. Enter "E" to edit the menu.
4. Use the up and down arrow keys to position the inverse bar over the entry you want the program to precede. Press "A" to ADD a program entry.
5. You will be asked for the display name of this program, enter "DATAFAX".
6. Enter "CATALYST/PASCAL" as the interpreter path name.
7. You will be asked if you want "EXTRA DRIVERS". See page 3-9 of the Catalyst
manual for input instructions.
8. Press RETURN for standard character set.
9. Press RETURN for the normal screen.
10. Press RETURN for the default keyboard.
11. Press RETURN for initial prefix.
12. Enter "3" for the "Max Files Allowed..." question.
13. Enter "CATALYST/DATAFAX/SYSTEM.STARTUP" program path.
14. You will be asked if this entry is correct. If it is, enter "Y" then press ESCAPE to exit to the main edit menu. If you made any mistakes during entry, enter "N". You may then enter the number of the item you wish to correct. When all items are correct, press ESCAPE. Press ESCAPE again to exit to the main edit menu.
15. Enter "5" to update the INTERPS file. When you are asked if you want to recalculate the load address, enter "Y".
16. Exit to the Catalyst main menu by entering "Q".

NOTE: Apple Computer Inc. is not responsible for the contents of this article.
Published Date: Feb 19, 2012

AppleScript: What Apple Event Manager Does

What does the Apple Event Manager actually do?
This article has been archived and is no longer updated by Apple.
The Apple Event Manager allows applications to send and respond to Apple Events. An application that exchanges data with another application will probably use the Apple Event Manager. For example, in a client/server type environment, a client application might send an Apple Event requesting information from a server application. The Apple Event Manager handles addressing and sending the event.

You may see a file called "Apple Event Manager" and wonder what it's for. With AppleScript 1.0, there was a separate extension called "Apple Event Manager 1.0," which fixed some problems with the Apple Event Manager built into System 7. With the latest version of AppleScript (version 1.1) the improved version of Apple Event Manager is part of the AppleScript extension.

For additional information about Apple Events and the Apple Event Manager, see the book "Inside Macintosh: InterApplication Communication."
Published Date: Feb 19, 2012

LaserWriter Pro 630: Printing Times New Roman Font

I am having trouble printing files with Times New Roman II fonts in them. This occurs from several different Macintosh computers printing to a LaserWriter Pro 630. A PostScript error occurs when printing this font and the printer drops off the network 3 out of 4 times. Is there a compatibility problem with this font and printer?
This article has been archived and is no longer updated by Apple.
This problem is resolved by using either the LaserWriter 7.1.2 or LaserWriter 8.1.1 drivers; therefore, we recommend you use either of these drivers, but preferably LaserWriter 8.1.1 since it is a PostScript Level 2 driver and provides greater use of the LaserWriter Pro 630's features, such as paper trays.

If you continue to have problems when using LaserWriter 8.1.1, please:

1. Throw away the LaserWriter 8 prefs file in the Preferences folder inside the System Folder.
2. Reboot your Macintosh with Extensions OFF.
3. Select the LaserWriter 8.1.1 driver then try printing.

If the problems persist after following these steps, then:

1. Perform a clean install of system software 7.1
2. Install the LaserWriter 8.1.1 driver using its installer.
3. Install the Times New Roman font.

Published Date: Feb 19, 2012

PowerBook 160/180: Problems Using an External Monitor

I have problems when my startup screen and menu bar are located on an external monitor connected to my PowerBook 160 or 180 computer with System 7.1. When I try to shut down, the computer will display either a "Finder - Illegal F-line instruction" or "Finder - error type 41" error. The System Updates (2.0.1 and 3.0) do not seem to help this problem. Can you help?
This article has been archived and is no longer updated by Apple.
You will get this error on a PowerBook 160 or 180 with System 7.1.x when you connect an external monitor, multiple ADB devices, and both the menu bar and the startup screen are moved to the external monitor.

It will only occur if:

1) multiple ADB devices (the Apple Adjustable Keyboard acts like multiple devices) are attached

-AND-

2) both the menu bar and the startup screen are placed on the external monitor.

It does not occur with the PowerBook 165c or PowerBook 180c. It also does not occur with the PowerBook 500 Series computers.

Two temporary workarounds are to either:
- not use multiple ADB devices
- not put both the menu bar and the startup screen on the external monitor.

The permanent fix is to update to System 7.5.x or newer.
Published Date: Feb 19, 2012

LaserWriter 8f Driver: Wrong TO: Field With Group Fax

This article gives a workaround, so that the correct information is placed into the TO: field when sending a group fax.
This article has been archived and is no longer updated by Apple.
When sending a standard Group 3 bitmap group fax using a LaserWriter Select 360 or LaserWriter Pro 810 having the fax option car and the LaserWriter 8f driver, the Page Caption on each printed page reads "To:0" instead to the Name of the destination. The Name does prints correctly when sending a fax to just one destination, and the Fax Cover Sheet always lists the proper name.

One possible workaround to this cosmetic problem is to not use the Page Caption option but merely rely upon the "Recipient" address printed on the Fax Cover Sheet.
Published Date: Feb 19, 2012

Launcher: Limit to Items Displayed in the Launcher (6/94)

How many applications can the Launcher handle?

This article has been archived and is no longer updated by Apple.
In the System Folder there is a folder called 'Launcher Items', and within that folder there are up to 8 folders with bullets in the name. The folders with bullets represent a button on the Launcher. You can have up to 30 items (aliases to folders, files or applications) within each.

Therefore the Launcher can handle up to 240 items distributed throughout 8 buttons.

Support Information Services

Published Date: Feb 19, 2012

Express Modem: DAA Converters To RJ-11 (6/94)

I'm travelling from England to other places in the world (including the U.S.), and I'm having problems finding the correct adapter to connect the Express Modem's port and DAA (Data Access Arrangement) on my PowerBook 180c to the U.S. telephone systems RJ-11. Is there a good place to look for this adapter?

This article has been archived and is no longer updated by Apple.

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Yes, there's a company based in England with a U.S. office that specializes in these adapters.  The company is
TeleAdapt which provides worldwide connectivity for travelling portable computer users.  Ideally you brought
your DAA cable (which has a 8-pin minicircular connector on the PowerBook end and the telephone plug on the
other end) to use with the adapters available from TeleAdapt.  To locate a vendor's address and phone number,
use the vendor name as a search string.

Support Information Services
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Published Date: Feb 19, 2012

Installing Desktop Plan on Catalyst for the Apple III (9/95)

This article contains a setup file from Visiscorp on how to use their product, Desktop Plan, on a hard drive equipped Apple /// computer.

This article has been archived and is no longer updated by Apple.
You may move DESKTOP PLAN (VISICORP) to the hard disk. This will allow you to access it with greater ease than using the floppy diskettes.

COPY PROCEDURE:

1. Boot the CATALYST diskette.
2. From the main CATALYST menu, select the Systems Utilities Program.
3. Press "F" for File Handling Commands.
4. Press "M" for Make a New Subdirectory.
5. Enter ".PROFILE/CATALYST/PLAN".
6. Press RETURN to accept the default size of 25.
7. Press ESCAPE.
8. Put the DESKTOP PLAN PROGRAM diskette in the internal drive.
9. Press "C" for Copy Files.
10. Copy all the files from this diskette to ".PROFILE/CATALYST/PLAN".
11. After all the files have been copied from the PROGRAM diskette, put the DESKTOP PLAN SYSTEM diskette in the internal drive.
12. Copy all the files from this diskette EXCEPT for the following: SOS.KERNEL SOS.DRIVER SOS.INTERP to ".PROFILE/CATALYST/PLAN".
13. To do this, type ".D1" and press the up arrow key. A list of files are displayed in a box. The up and down arrow keys allow you to move an inverse bar over the name of your choice. Pressing the right arrow key marks the file so as to include it in the copy process. Mark all files to be copied in this way. When all files are marked press RETURN.
14. When all files have been copied press ESCAPE.

ADDING DESKTOP PLAN TO THE CATALYST MENU

1. Return to the Catalyst main menu.
2. Select the Catalyst Editor.
3. Enter "E" to edit the menu.
4. Use the up and down arrow keys to position the inverse bar over the entry you want the program to precede. Press "A" to ADD a program entry.
5. You will be asked for the display name of this program, enter "DESK TOP PLAN"
6. Enter "CATALYST/BASIC as the interpreter path name.
7. You will be asked if you want "EXTRA DRIVERS", press RETURN.
8. Press RETURN for standard character set.
9. Press RETURN for the normal screen.
10. Press RETURN for the default keyboard.
11. Enter ".PROFILE/CATALYST as the initial prefix.
12. Enter "3" for the "Max Files Allowed..." question.
13. Enter ".PROFILE/CATALYST/PLAN.HELLO" for the program path.
14. You will be asked if this entry is correct. If it is, enter "Y" then press ESCAPE to exit to the main edit menu. If you made any mistakes during entry, enter "N". You may then enter the number of the item you wish to correct. When all items are correct, press ESCAPE. Press ESCAPE again to exit to the main edit menu.
15. Enter "5" to update the INTERPS file. When you are asked if you want to recalculate the load address, enter "N".
16. Exit to the Catalyst main menu by entering "Q".

ADDITIONAL INSTRUCTIONS:

The following instructions are for a ProFile named ".PROFILE". If your hard disk is named something else you will have to alter the instructions

accordingly.

1. Select DESKTOP PLAN from the CATALYST menu.
2. Change the PROGRAM VOLUME NAME to: "PROFILE/CATALYST/PLAN". This will tell DESKTOP PLAN to look for all of its files under that volume name.
3. Once the volume name has been changed press RETURN.
4. Enter today's date and press RETURN.
5. Perform step #6 on page A-10 of the DESKTOP PLAN manual changing the "VOLUME NAME- PROGRAMS" from "PLAN" to "PROFILE/CATALYST/PLAN".
6. Perform step #7 on page A-10 of the DESKTOP PLAN manual.

You will now be able to access all files from your ProFile.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

Article Change History:
21 Sep 1995 - Updated format.

Support Information Services
Published Date: Feb 19, 2012

Macintosh: System Software Version History

This article contains a history of all the Macintosh System Software versions through System 7.5.3.
This article has been archived and is no longer updated by Apple.
Below is a table containing version numbers for all Macintosh System Software releases. Beneath the table is a brief description of the changes that were made with each successive release of the System Software.

Macintosh System Software Releases:

System Software Release	System Version	Finder Version	MultiFinder Version	LaserWriter Version
Mac System Software	1.0	1.0	N/A	N/A
Mac System Software (0.1)	2.0	1.1g	N/A	N/A
Mac System Software (0.3 & 0.5)	2.0	4.1	N/A	N/A
Mac System Software (0.7)	3.0	5.1	N/A	N/A
System Software 1.0	3.1	5.2	N/A	1.1
System Software 1.1	3.2	5.3	N/A	3.1
System Software 2.0	3.3	5.4	N/A	3.1
System Software 2.0.1	4.0 or 4.1	5.4 or 5.5	N/A	3.3 or 4.0
System Software 5.0	4.2	6.0	1.0	5.0
System Software 5.1	4.3	6.0	1.0	5.1
System Software 6.0	6.0	6.1	6.0	5.2
System Software 6.0.1	6.0.1	6.1.1	6.0.1	5.2
System Software 6.0.2	6.0.2	6.1	6.0.1	5.2
System Software 6.0.3	6.0.3	6.1	6.0.3	5.2
System Software 6.0.4	6.0.4	6.1.4	6.0.4	5.2
System Software 6.0.5	6.0.5	6.1.5	6.0.5	5.2
System Software 6.0.6	6.0.6	6.1.6	6.0.6	5.2
System Software 6.0.7	6.0.7	6.1.7	6.0.7	5.2
System Software 6.0.8	6.0.8	6.1.8	6.0.8	7.0
System Software 7.0	7.0	7.0	Built-In *	7.0
System Software 7.0.1	7.0.1	7.0.1	Built-In *	7.0
System Software 7.0.1P	7.0.1P	7.0.1P	Built-In *	7.0
System Software 7.1	7.1	7.1	Built-In *	7.1.2
System Software 7.1P **	7.1P	7.1P	Built-In *	7.1.2
System Software 7.1.1 (Pro)	7.1.1	7.1.3	Built-In *	7.1.2
System Software 7.1.1	7.1.1	7.1.3	Built-In *	7.1.2
System Software 7.1.2	7.1.2	7.1.4	Built-In *	7.1.2
System Software 7.1.2P	7.1.2	7.1.4	Built-In *	7.1.2
System Software 7.5	7.5	7.1.4	Built-In *	7.2 & 8.1.1
System Software 7.5.1	7.5	7.5.1	Built-In *	8.2
System Software 7.5.2	7.5.2	7.5.3	Built-In *	8.2.2
System Software 7.5.3	7.5.3	7.5.5	Built-In *	8.3.3 & 8.3.4

* Beginning with System 7.0, MultiFinder was no longer a separate piece of software.
** Peforma versions also include (System 7.1P2 - 7.1P6)

System Software History: Brief Description of Changes Between Versions:

System Software Release	CPU Release Information
Mac System Software	Released for Macintosh 128K (1984)
Mac System Software (0.1)	Maintenance Release, Added Mountain scene, About box, Clean Up Command (1984)
Mac System Software (0.3 & 0.5)	Finder Update (1984)
Mac System Software (0.7)	Release for Macintosh 512K (1984)

System Software 1.0	Release for Macintosh 512Ke (1985)
System Software 1.1	Release for Macintosh Plus (1986)
System Software 2.0	Release for Macintosh II & SE (1987)
System System Software 2.0.1	Update to System Software to include AppleShare Client Features
System Software 2.0.1	Maintenance Release of System Software. Updated LaserWriter Driver
System Software 5.0	Added Updated LaserWriter Driver, Easy Access, Color CDEV, etc.
System Software 5.1	Updated LaserWriter Driver. Also added new version of Apple HD SC Setup
System Software 6.0	Update to System Software to include: Updated Multifinder, SuperDrive Support.
System Software 6.0.1	Release for Macintosh IIx (1988)
System Software 6.0.2	Maintenance Release of System Software
System Software 6.0.3	Release for Macintosh IIcx (1989)
System Software 6.0.4	Release for Macintosh Portable and IIci (1989)
System Software 6.0.5	Release for Macintosh IIfx (1990)
System Software 6.0.6	Not ever officially released. Intended for Macintosh LC, IIsi and Classic (1990)
System Software 6.0.7	Official release for Macintosh LC, IIsi and Classic (1990)
System Software 6.0.8	Updated Printing software to match Printing software of System 7.0
System Software 6.0.8L	Limited maintanence release for Pacific customers
System Software 7.0	Major Update to System Software to include TrueType, FileSharing and other Features
System Software 7.0.1	Release for Macintosh Quadra 700/900 & PowerBook 100/140/170 (1991)
System Software 7.0.1P	Released for Macintosh Performa Computers (1992)
System Software 7.1	Update to System Software to include Fonts Folder, System Enablers, WorldScript and other Features
System Software 7.1P **	Version of 7.1 for Performa Computers
System Software 7.1.1 (Pro	Update to System Software to include AppleScript, PowerTalk and updated Quicktime
System Software 7.1.1	Subset of System 7 Pro for PowerBook 250, 270c, 280, 520, 520c 540 and 540c
System Software 7.1.2	Release for Power Macintosh 6100/7100/8100 (1994)
System Software 7.1.2 P	Release for Performa/LC/Quadra 630 (1994)
System Software 7.5	Major update to System Software to include QuickDraw GX and over 50 New Features
System Software 7.5.1	System 7.5 Update 1.0 released to fix several issues (1995)
System Software 7.5.2	New release specifically for the new Power Macintosh 7200/7500/8500/9500 computers, includes first version of Open Transport (1995)
System Software 7.5.3	System 7.5 Update 2.0, System 7.5.3 Revision 2, System 7.5 Version 7.5.3. Fix of several issues (1996)

Note: Information about later versions of the Macintosh operating systems can be found in the **Knowledge Base** by searching on the operating system version, for example: Mac OS 8.6.

Additional information may be found in the **Knowledge Archive** by searching on the operating system version, for example: Mac OS 7.5.
Published Date: Feb 19, 2012

Apple Media Tool 1.1: Palette Switch Workaround

I would like to create and install an Apple Media Tool (AMT) palette that will better support the colors that exist in an AMT project. That is, I would like to use a different color palette other than the System palette.
This article has been archived and is no longer updated by Apple.
This is not supported by AMT 1.1, but there is an unsupported workaround found on a MultiMedia bulletin board (posted by Don Leatham):

Tools needed: ResEdit 2.1.1, AMT 1.1, DeBabelizer

Step 1 - Use the Runtime Maker to create your Mac application.
Step 2 - Use DeBabelizer to create and save a Super Palette for your artwork. When you make the SuperPalette in Debabelizer, make it for 254 colors instead of the normal 256. When you paste your Debabelizer 'CLUT' resource into your program's 'pltt' resource you won't loose any colors.
Step 3 - Start ResEdit.
Step 4 - Using ResEdit, open both your Mac application (from step 1) and your "DeBabelizer Prefs" file (inside your System:Preferences folder) You will see in the prefs file a resource type "CLUT"
Step 5 - Open the "CLUT" icon in the prefs file.
Step 6 - Open the Supper Palette that you created (in step 2)
Step 7 - From the Edit menu do a "Select All" and a "Copy"
Step 8 - Open the "pltt" resource in your Mac application
Step 9 - From the Edit menu do a "Paste" command. Click "OK" to the warning.
Step 10 - Close and save your Mac application.

WARNING: The "pltt" resource maintains its first two entries as black and white. When your Super Palette (which is actually a "CLUT" and doesn't have this restriction) is pasted in to the "pltt" you can get some pixels switched in some images this may be a problem.

ANOTHER WARNING: The Runtime Maker has a bug in that it creates applications that do not reset the palette back to the System Palette when they quit. Therefore, if you use this workaround, your super palette will be applied to the Finder after you quit. This could possibly cause some end-user support problems.
Published Date: Feb 19, 2012

Power Macintosh & CD-ROM: Want to Initialize Dialog (2/95)

I am using a Power Macintosh with Audio CDs and when the CD is inserted, a dialog is displayed asking if I want to initialize the CD.

This article has been archived and is no longer updated by Apple.
Check for control panel/extension conflicts by restarting with only the CD extensions and control panels installed. The Extension Manager can exclude all but the base System 7.5 extensions.

Usually this behavior can be attributed to conflicts with software that extends the functionality of the Macintosh file system and its ability to read foriegn file formats. Make sure you have the Foreign File Access and Audio CD Access files in your Extensions folder.

One known control panel that causes this behavior is DOS Mounter from Insignia Solutions. It is similiar to PC Exchange in that it allows the Macintosh to read DOS disks and CDs. If both PC Exchange and DOS Mounter are installed, the Macintosh will have this trouble with audio CD's. Remove either PC Exchange or DOS Mounter.

Article Change History:
27 Feb 1995 - Clarified possible causes of problem.

Support Information Services
Published Date: Feb 19, 2012

QuickTime for Windows 1.1.1: Read Me

QuickTime for Windows, release 1.1.1 Read Me.
This article has been archived and is no longer updated by Apple.
NOTE: QuickTime for Windows 1.1.1 must be licensed for distribution. If you have received QuickTime for Windows as part of an Apple or 3rd party product, you are licensed to install and use QuickTime for Windows on your computer. You MAY NOT redistribute QuickTime for Windows in any form without a distribution license from Apple Computer. See TO LICENSE FOR DISTRIBUTION in this document for more information.

IMPORTANT INFORMATION To play on Windows, a QuickTime Movie created on a Macintosh must be saved as Self-contained and Playable on non-Apple platforms. See MAKING MOVIES PLAYABLE ON BOTH MACINTOSH AND WINDOWS for more information.

Sound and video card compatibility is listed under PC VIDEO CARD COMPATIBILITY and PC AUDIO CARD COMPATIBILITY

Not all OLE client applications are supported by QuickTime for Windows 1.1.1 See OLE 1.0 SUPPORT for more information.

Intel Indeo decompressor is bundled. Support for the Indeo codec is provided by Intel Customer Support at 1-800-468-3548. See INTEL INDEO DECOMPRESSOR IS BUNDLED for more information.

WHAT'S IN THIS DOCUMENT
New features in 1.1.1
New features in 1.1
Making movies playable on both Macintosh and Windows
Product submissions encouraged
OLE 1.0 support
Intel Indeo decompressor is bundled
Macintosh features that are not currently supported
Minimum PC configuration
Components of QuickTime for Windows 1.1.1
To license for distribution
Where to get QuickTime for Windows today
Recommended for development
PC Audio card compatibility
PC Video card compatibility
Modifying QTW.INI for compatibility

NEW FEATURES IN 1.1.1
* Support for P9000 Graphics accelerator.
* Support for the Cirus Logic CL-GD54xx GUI accelerator.
* Support for the WD 90C33 Graphics accelerator.

NEW FEATURES IN 1.1
* Cinepak (formerly named Compact Video) playback
* OLE 1.0 (Object Linking & Embedding). The Movie Player is an OLE server, enabling QuickTime movies to be placed and played in Microsoft Excel 4.0, Word for Windows 2.0, Write, and Word Perfect 5.2 using QuickTime's human interface
* MCI (Media Control Interface) provides media integration in applications like Windows Media Player, AimTech Icon Author, and Asymetrix Multimedia Toolbook.
* Visual Basic 2.0 is supported with a .VBX file for integration of QuickTime Movies into multimedia applications created with Visual Basic 2.0.
* QuickTime for Windows 1.1 and 1.1 supports custom add-in decompressors, such as Intel's Indeo.
* Support for more audio and video card configurations. See PC VIDEO CARD COMPATIBILITY and PC AUDIO CARD COMPATIBILITY for a listing of the audio and video cards which have been tested with QuickTime for Window 1.1 and 1.1.1.

MAKING MOVIES PLAYABLE ON BOTH MACINTOSH AND WINDOWS
To make a movie playable on a PC, on a Macintosh open a movie file using the Movie Converter utility (part of the QuickTime Starter Kit 1.0) and choose Save As (File menu). In the resulting dialog box, click the radio button labeled 'Make movie self-contained' which tells the utility to sever any links to other movies after incorporating the relevant video into this movie. Also select the checkbox labeled 'Playable on non-Apple computers'. This causes the movie to be saved as a single forked movie. The resulting movie is cross-platform and is still in the QuickTime file format.

Once you save the movie, it will be playable on both Macs and PCs without further translation or file conversion. Before you transfer the movie to a PC, remember to give it a filename that is no longer than 8 characters, plus the extension .MOV for example, MYMOVIE.MOV.

PRODUCT SUBMISSIONS ENCOURAGED
Apple Computer encourages developers of current and intended commercial products which use QuickTime for Windows to send us evaluation

copies. For example, products such as CD-ROM titles, Movie clip libraries, applications and utilities are often considered for future co-marketing opportunities. Two copies are requested, one for marketing evaluation and one for technical evaluation. Please submit with appropriate product and company information to:

QuickTime for Windows Product Submission
Apple Computer, Inc.
2 Infinite Loop, MS: 302-3KS
Cupertino, CA 95014

OLE 1.0 SUPPORT
The QuickTime for Windows 1.1.1 Movie Player is an OLE 1.0 Server. Due to a lack of standards in OLE 1.0 implementation, it is difficult to guarantee support of QuickTime for Windows with all OLE-supporting Client applications. The following products have been tested and compatibility verified. Support for other OLE Client applications cannot be guaranteed.

* Microsoft Windows 3.1 Write
* WordPerfect 5.2
* Microsoft Word for Windows 2.0
* Microsoft Excel 4.0
* Microsoft Multimedia Works for Windows

INTEL INDEO DECOMPRESSOR IS BUNDLED
Intel's first release of its Indeo decompressor is bundled with this product. Please contact Intel for support and for future updated releases of Indeo. Intel Customer Support is at 1-800-468-3548.

MACINTOSH FEATURES THAT ARE NOT CURRENTLY SUPPORTED
* Capture
* Compression
* Editing
* Photo CD
* Text track

Note: When producing QuickTime Movies, you are encouraged to use advanced features on the Macintosh release of QuickTime such as a text track. It is likely that features currently unique to the Macintosh will be supported in subsequent releases of QuickTime for Windows.

MINIMUM PC CONFIGURATION
* 386SX at 20 Mhz
* 4 Mb RAM
* 80 Mb hard disk
* VGA or better display card QuickTime provides best quality and performance on cards displaying 32,768 color or more. See the end of this document for a list of tested compatible audio and video cards.
* A Sound card for playback of Movies with sound
* Windows 3.1 or later
* DOS 5.0. MS-DOS 6.0 and 6.2 with and without double space is supported.

COMPONENTS OF QUICKTIME FOR WINDOWS 1.1.1
* DLLs
* Movie Player application and OLE 1.0 server
* Picture Viewer application
* On-line help

TO LICENSE FOR DISTRIBUTION
Contact:
Apple Software Licensing
20525 Mariani
MS: 38-I
Cupertino, CA 95014
408-974-4667
fax: 408-862-5106
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Please provide the following information to receive a license agreement:
- contact person
- mailing address
- phone number
- fax

Provide a proposal that includes a complete description of the product, how QuickTime for Windows is used in the product, and the distribution plans for the product. You will receive a QuickTime for Windows License Kit containing the Apple License Agreement and license information.

WHERE TO GET QUICKTIME FOR WINDOWS TODAY
QuickTime for Windows is bundled with various 3rd party products that support QuickTime for Windows such as Movie clip libraries, software applications and CD-ROM titles. Look for the QuickTime for Windows logo on the packaging of products such as these:

Adobe Premiere 1.0 for Windows
Macromedia Action 2.5 for Windows
Macromedia Authorware Pro 2.0 for Windows

The QuickTime for Windows Development Kit (APDA, #R0453LL/B), provides you with an ISO format CD-ROM that contains the DLLs, sample applications and source code, movie files, on-line documentation, help files and the QuickTime for Windows programmers manual. Six (6) DOS-based disks containing a subset of CD-ROM contents are also available for those without a CD-ROM drive.

Look for other QuickTime for Windows retail products in 1994.

RECOMMENDED FOR DEVELOPMENT
In addition to the QuickTime for Windows Development Kit, the following is useful in the development of cross-platform QuickTime support.

QuickTime for Macintosh Development Kit (APDA)

QuickTime Movie Exchange Toolkit (APDA #R0190LL/A)
Convert multimedia data created on other workstation platforms to QuickTime Movies playable on a Macintosh.

For development kits contact:
APDA
Apple Computer, Inc.
P.O. Box 319
Buffalo, NY 14207-0319
USA (800) 282-2732
Canada (800) 637-0029
Intl (716) 871-6555
eMail: APDA@apple.com
Compuserve: 76666,2405
America OnLine: APDA
Internet: APDA@.apple.com

QuickTime for Windows 1.1.1
Hardware Compatibility List
November 30, 1993

This document is meant to be an aid to developers who are working with, and distributing QuickTime for Windows per their license agreement. The list is by no means comprehensive but has grown substantially over the past year. The Video and Audio Hardware adapters are divided into three basic classifications Supported, Compatible and In-Compatible.

* Supported hardware/driver combinations are those that have been tested as part of the QTW development plan and are considered benchmarks to the product.

* Compatible hardware/drivers are those combinations that have been tested but not as thoroughly as Supported items but appear to function adequately.

* In-Compatible hardware/driver combinations are those recognized as having significant problems in appearance or behavior with QTW.

Another category that we've added to our report is Optimized.

Optimized video hardware/driver combination allows QTW to write directly to the video memory speeding up video performance significantly.

When ever possible the Name of the manufacturer, product name, driver date or version (when known), and depth in the case of video drivers is listed.

Supported Video

Adapter	Driver	Depth	Resolution	Optimized?
Standard VGA	Windows VGA	4	640x350	No
Standard EGA	Windows EGA	4	640x480	No
IBM 8514	Windows	8	1024x768	No
IBM XGA	07/27/92	4	640x480	No
IBM XGA	07/27/92	16	1024x768	No

Only XGA20 supports 16-bit color. Do NOT use the drivers supplied with Windows 3.1. Instead, use the drivers supplied by IBM

ATI VGA XL	04/09/92	4	800x600	Yes
ATI VGA XL	04/10/92	8	1024x768	Yes
ATI VGA XL	04/20/92	16	800x600	Yes
ATI ULTRA	04/22/92	8	1024x768	No
ATI ULTRA	OEM	16	640x480	No
ATI Mach 32	01/05/93	8	640x480	Yes
ATI Mach 32	01/05/93	16	1024x768	Yes
Orchid IIs	03/01/92	8	800x600	Yes
Orchid IIs	03/01/92	16	800x600	Yes
Video 7 VRAM2 ERGO	03/10/92	8	800x600	Yes
Orchid Fahrenheit VA	02/19/93	8	640x480	Yes
Orchid Fahrenheit 1280	08/10/92	8	640x480	Yes
Orchid Fahrenheit 1280	08/10/92	16	800x600	Yes
Diamond Stealth	09/25/92	8	640x480	Yes
Diamond Stealth	09/25/92	16	640x480	Yes
Diamond SpeedStar 24x	04/28/92	8	1024x768	Yes
Diamond SpeedStar 24x	04/28/92	16	800x600	Yes
Diamond SpeedStar 24x	04/28/92	24	640x480	Yes

Supported Audio

Adapter	Driver	date
Creative Labs SoundBlaster Pro	SBPSND.DRV	05/15/92

This driver has a know bug that effects all Windows applications that use sound where at times a portion of the sound will be repeated several times.

Creative Labs SoundBlaster Pro	SBPSND.DRV	02/05/92

This driver some times 'sticks' on a sound.

Creative Labs SoundBlaster Pro 16	SB16SND.DRV	04/14/93
Creative Labs ThunderBoard	SNDBLST2.DRV	03/10/92
Creative Labs ThunderBoard	SNDBLST2.DRV	05/13/92
Media Vision ProAudio Spectrum	MVPROAUD.DRV	02/03/93 1.3
Media Vision ProAudio Spectrum Plus	MVPROAUD.DRV	02/03/93 1.3

Make the following modifications to the QTW.INI file:

```
[Sound]
RequestedRate=22095
ActualRate=22536
```

Media Vision ProAudio Spectrum 16	MVPROAUD.DRV	02/03/92

```
Media Vision Audio Port                      MVAPORT.DRV       04/14/92
Does not support sound sampled at above 11khz. Make the following modifications to the QTW.INI file:
[Sound]
RequestedRate=11025
ActualRate=11025

Microsoft Sound System                       SNDSYS.DRV       09/21/92 1.0

Cardinal Technologies Sound Studio           TAPIGSS1.DRV     12/28/92

Orchid Sound Producer Pro.                   PRODUCER.DRV     01/13/93
Orchid Sound Producer Pro.                   PRODUCER.DRV     10/01/92

Turtle Beach MultiSound                      MULTISND.DRV     08/27/92 1.1

ATI Stereo F/X                               SFX.DRV          05/04/92

Compatible Video

Adapter                                         Driver    Depth Resolution Optimized?
-----------------------------------------------------------------------
Actix Graphics Engine Ultra Plus  03/25/93      16   1024x768   No
Actix Graphics Engine Ultra Plus  03/25/93       8   1024x768   No
Actix Graphics Engine Ultra Plus  03/25/93      16    800x600   No
Actix Graphics Engine Ultra Plus  03/25/93       8    800x600   No
Actix Graphics Engine Ultra Plus  03/26/93      24    640x480   No
Actix Graphics Engine Ultra Plus  03/25/93      16    640x480   No
Actix Graphics Engine Ultra Plus  03/25/93       8    640x480   No

ATI VGA XL                        08/14/92 1.42 16    640x480   No
ATI VGA XL                        04/20/92       8    800x600  Yes
ATI VGA XL                        04/10/92      16    640x480  Yes
ATI VGA XL                        04/20/92       8    640x480  Yes
ATI VGA XL                        06/25/92       8   1024x768  Yes
ATI VGA XL                        06/25/92       8    800x600  Yes
ATI VGA XL                        07/28/92      16    640x480  Yes
ATI VGA XL                        06/25/92       8    640x480  Yes
ATI VGAWONDER XL24                06/25/92       8   1024x768  Yes
ATI VGAWONDER XL24                07/28/92      16    800x600  Yes
ATI VGAWONDER XL24                06/25/92       8    800x600  Yes
ATI VGAWONDER XL24                07/28/92      16    640x480  Yes
ATI VGAWONDER XL24                06/25/92       8    640x480  Yes
ATI Graphics Ultra                08/14/92       4    800x600  No
ATI Graphics Ultra                08/14/92       4    640x480  No
ATI Graphics Ultra                06/25/92       8    640x480  No
ATI Graphics Ultra Pro            03/10/92       8    8514/a   No
ATI Graphics Ultra Pro            03/13/93       8   1280x1024 Yes
ATI Graphics Ultra Pro            03/13/93      16   1024x768  Yes
ATI Graphics Ultra Pro            03/13/93       8   1024x768  Yes
ATI Graphics Ultra Pro            03/13/93      24    800x600  No
ATI Graphics Ultra Pro            03/13/93      16    800x600  No
ATI Graphics Ultra Pro            03/13/93       8    800x600 Yes
ATI Graphics Ultra Pro            03/13/93      16    640x480  No
ATI Graphics Ultra Pro            03/19/93      24    640x480  No
ATI Graphics Ultra Pro            03/19/93      16    640x480  No
ATI Graphics Ultra Pro            03/19/93       8    640x480 Yes
ATI Graphics/Pro                  11/27/92       8   1024x768  No
ATI Graphics/Pro                  11/27/92      16    640x480  No

Dell   466/M   S3                 09/04/92(1.2)  4   1280x102 Yes
Dell   466/M   S3                 09/04/92(1.2)  8   1024x768 Yes
Dell   466/M   S3                 09/04/92(1.2)  8    800x600 Yes
Dell   466/M   S3                 09/04/92(1.2)  4    800x600 Yes
Dell   466/M   S3                 09/04/92(1.2) 15    640x480 Yes
```

```
Dell   466/M   S3                 09/04/92(1.2)  8    640x480 Yes

Diamond Stealth Pro               12/07/92       8   1280x968  No
Diamond Stealth Pro               12/07/92       8   1280x1024 No
Diamond Stealth Pro               12/16/92      16   1024x768  No
Diamond Stealth Pro               01/06/93       8   1024x768  No
Diamond Stealth Pro               12/18/92      16    800x600  No
Diamond Stealth Pro               01/06/93       8    800x600  No
Diamond Stealth Pro               02/23/93      24    640x480  No
Diamond Stealth Pro               01/06/93      16    640x480  No
Diamond Stealth Pro               01/06/93       8    640x480  No

Diamond SpeedStar 24              04/14/92       8   1024x768 Yes
Diamond SpeedStar 24              04/14/92      15    800x600  No
Diamond SpeedStar 24              04/14/92       8    800x600  Yes
Diamond SpeedStar 24              04/14/92      15    640x480  No
Diamond SpeedStar 24              04/14/92       8    640x480  Yes

Diamond Viper VLB                 04/27/93       8   1152x900  Yes
Diamond Viper VLB                 04/27/93      16   1024x768  Yes
Diamond Viper VLB                 04/27/93       8   1024x768  Yes
Diamond Viper VLB                 04/27/93      24    800x600  No
Diamond Viper VLB                 04/27/93      16    800x600  Yes
Diamond Viper VLB                 04/27/93       8    800x600  Yes
Diamond Viper VLB                 04/27/93      24    640x480  No
Diamond Viper VLB                 04/27/93      16    640x480  Yes
Diamond Viper VLB                 04/27/93       8    640x480  Yes
Support for the P9000 was added
in QTW 1.1.1.

Genoa Windows VGA 8500            02/16/93        8   1024x768 Yes
Genoa Windows VGA 8500           10/23/92(turbo) 16    800x600 Yes
Genoa Windows VGA 8500            08/24/92       16    800x600 Yes
Genoa Windows VGA 8500            10/28/92        8    800x600 Yes
Genoa Windows VGA 8500           12/01/92(turbo) 24    640x480 No
Genoa Windows VGA 8500            10/14/92       24    640x480 No
Genoa Windows VGA 8500           11/11/92(turbo) 16    640x480 Yes
Genoa Windows VGA 8500           08/24/92        16    640x480 Yes
Genoa Windows VGA 8500           10/28/92         8    640x480 Yes
Support for the Cirus Logic
CL-GD5426 GUI was added in QTW 1.1.1.

IBM XGA2                          07/27/92        8    640x480 No
IBM XGA2                          07/27/92       16    640x480 No
IBM XGA2                          07/27/92        8    800x600 No
IBM XGA2                          07/27/92       16    800x600 No
QTW supports IBM XGA2 starting
with version 1.1.

Orchid Fahrenheit VA              02/19/93 10:00 16   1024x768 Yes
Orchid Fahrenheit VA              02/19/93 10:00 24    640x480 Yes
Orchird VLB (Local Bus)           02/19/93       16    800x600 Yes
Orchird VLB (Local Bus)           02/19/93       15    800x600 Yes
Orchird VLB (Local Bus)           02/19/93        8    800x600 Yes
Orchird VLB (Local Bus)           02/19/93       24    640x480 No
Movies shifted to the left,
a few pixels in 24 bit mode.
Rebooting fixes the problem.
Orchird VLB (Local Bus)           02/19/93       16    640x480 Yes
Orchird VLB (Local Bus)           02/19/93       15    640x480 Yes
Orchird VLB (Local Bus)           02/19/93        8    640x480 Yes

Orchid Fahrenheit 1280            08/10/92 10:00 15    800x600 No
Orchid Fahrenheit 1280            08/10/92 10:00  8    800x600 Yes
Orchid Fahrenheit 1280            08/10/92 10:00 16    640x480 No
```

Orchid Fahrenheit 1280	08/10/92 10:00	15	640x480	No
Orchid Pro designer IIs/D 1.1	04/7/92	15	800x600	No
Orchid Pro designer IIs/D 1.1	04/7/92	8	800x600	Yes
Orchid Pro designer IIs/D 1.1	04/7/92	8	640x480	Yes
Orchid Pro II	03/01/92	8	1024x768	Yes
Orchid Pro II	03/01/92	15	800x600	No
Orchid Pro II	03/01/92	8	800x600	Yes
Orchid Pro II	03/01/92	15	640x480	No
Orchid Pro II	03/01/92	8	1024x768	Yes
Sigma Legend GX	04/01/92(1.13)	8	1024/768	No
Sigma Legend GX	04/01/92(1.13)	8	800x600	No
Sigma Legend GX	03/31/92(1.13)	8	640x480	No
Sigma Legend GX	04/01/92(1.13)	8	640x480	No
Sigma Legend 24X	11/13/92	8	1024x768	No
Sigma Legend 24X	11/13/92	16	800x600	No
Sigma Legend 24X	11/13/92	8	800x600	No
Sigma Legend 24X	11/14/92	24	640x480	No
Sigma Legend 24X	11/13/92	16	640x480	No
Sigma Legend 24X	11/13/92	8	640x480	No
Matrox 1024	08/21/92 2.07	24	1024x768	No
MiroCrystal 8S	04/13/93	8	1024x768	No
MiroCrystal 8S	04/13/93	16	800x600	No
MiroCrystal 8S	04/13/93	8	800x600	Yes
MiroCrystal 8S	04/15/93	16	640x480	No
MiroCrystal 8S	04/13/93	8	640x480	Yes

Compatible Audio

Adapter	Driver	Date
Creative Labs ThunderBoard	SNDBLST2.DRV	03/10/92
Creative Labs ThunderBoard	SNDBLST2.DRV	05/13/92
Creative Labs Sound Blaster	2.0	02/16/93

Sound 'Sticks' with this driver.

Digispeech PortAble Sound Plus	PRTSND.DRV	04/14/93
IBM M/Audio	ACPA.DRV	10/29/92 11:38

Adjusting the volume from the Movie Controller may cause the volume to be muted. To restore the volume, stop and restart the movie. Sound may skip when resizing window. Sound is played at 44khz by doubling the samples.

IBM M/Audio	ACPA.DRV	8/28/92

Limited volume control from
keyboard.

MediaVision Thunder and Lightning	TLWAVE.DRV	08/25/92

Make the following modifications to the QTW.INI file:
[Sound]
RequestedRate=22222

In-Compatible Video

Adapter	Driver	Depth	Resolution	Optimized?
ATI VGAWONDER XL24	07/29/92	24	640x480	Yes

In the 24 bit mode (16 Million Colors) Reds and Blues seem to be reversed

ATG CatsEye/X
Field reports of systems hanging when movies are played with this board.

Compaq Q-Vision
We have field reports that QTW does not work with is card.

Diamond SpeedStar 24 * 04/14/92 24 640x480 Yes
Movies render as a thin line at the top of the screen in 24 bit mode. All other functions are normal.

MediaVision
We have a field report that QTW does not work with the original MediaVision video display adapter. The report indicates that the movies sound is played but the movie can not be seen. Problem persists when Optimize is set to driver

OmiCorp Texan
We have field reports of sound but no movie (video) with this card.

PackardBell
We have several field reports dealing with a PackardBell. Reports of a "shutters" type effect on local bus systems have been noted. The shutters effect is where a few lines of movie can be seen, then a few lines of background, then a few lines of movie, and so on. The reports also state that the image is also shifted down and to the right about 10 pels.

Further reports tell of a lack of Movie image when running on Local Bus Packard Bell Machines.

Sigma WindStorm 08/21/92 8 1024x768 No
Sigma WindStorm 08/21/92 16 800x600 No
Sigma WindStorm 08/21/92 8 800x600 No
Sigma WindStorm 08/21/92 24 640x480 No
Sigma WindStorm 08/21/92 16 640x480 No
Sigma WindStorm 08/21/92 8 640x480 No
QTW has very poor performance
with is adapter.

Video 7 SPEA 7 OEM
We have field reports that the Optimize = Driver must added to the QTW.INI before the movie will appear in the movie window frame. Audio and all other actions seems to be OK with out the change

In-Compatible Audio

Media Vision Thunder and Lighting *
QTW has very poor through-put with this card.

Media Vision CDPC *
QTW does not work well with is system with movies over 10 seconds in length.

Media Vision CDPC II
QTW does not work well with is system with movies over 10 seconds in length.

Sigma Design WinStorm 8/21/92
Very poor QTW performance when running audio and video together.

Tandy 'Gold Card'
Only one unconfirmed report on this line of cards. A developer states that he has a Tandy "Gold Card" and QTW crashed when ever he trys to play a movie. Removing the card seems to fix the problem.

MODIFYING QTW.INI FOR COMPATIBILITY

NOTE: Modification of the QTW.INI file should be done at your own risk. Typically one does not need to make any modifications to this file. For some compatibility issues, modifying the file will make video or audio cards work properly, but with reduced performance. Be sure to make a backup of the QTW.INI file before modifying it.

The most common modification to the QTW.INI is to change the [Video] setting to Optimize = Driver. This may resolve severe compatibility problems with a specific video card but will also reduce the performance of Movie playback.

Once, again modify at your own risk.

[Video] (in order of priority)
Optimize = Hardware (default)
Driver
BMP
RAW
DIB

[Video Optimize]
This is not used

[Override] // group
DREF = no or yes {NO forces QTW to use the file as self referencing, useful for QT 1.0 files}

[Data Handler] CDROM Xfer Rate* = [integer] ranges from 100 to 600, where number is in K, default is 328.
CDROM Seek TIme* [integer from 0 to X] where x is 100 to 350 in ms for average seek, default is 200.
CDROM Block Size = [integer, expressed in K] default is 8, range is 1 to 64.

Max Open Files =[integer] default is 64.
Max Consumers = [integer] usually same as Max Open Files. You can have multiple consumers per file.
Max Cache Size = [integer] expressed in K, default is 128, ranges from 64 to 512.

Disk Xfer Rate = [integer] same as CDROM Xfer Rate, default is 300.
Disk Seek TIme [integer] expressed in milliseconds per average seek, default is 35.
Disk Block Size = [integer, expressed in K] default is 16, range is 1 to 64.

Network Xfer Rate = [integer] same as CDROM Xfer Rate, default is 250
Network Seek TIme [integer] expressed in millisecon s per average seek, default is 40.
Network Block Size = [integer, expressed in K] default is 16, range is 1 to 64.

Floppy Xfer Rate = [integer] same as CDROM Xfer Rate, default is 18.
Floppy Seek TIme [integer] expressed in millisecon s per average seek, default is 100.
Floppy Block Size = [integer, expressed in K] default is 2, range is 1 to 64.

[Sound]
Requested Rate = [integer] ranging from 5000 to 44000 (has to be exact rate for MPC cards)
Actual Rate = same possible rates as requested

* Set dynamically by QuickTime for Windows, based on what it senses as the CD-ROM speed.

COPYRIGHT NOTICES
QuickTime for Windows 1.1.1, Copyright ® 1993-1994 Apple Computer, Inc. All rights reserved.

The following files used by the QuickTime installer are Copyright ® Microsoft Corporation:
SETUP.EXE, _MSTEST.EXE, MSCOMSTF.DLL,
MSDETSTF.DLL, MSINSSTF.DLL, MSUILSTF.DLL, MSSHLSTF.DLL,
SETUPAPI.INC, MSDETECT.INC, MSSHARED.INC.

END OF QUICKTIME FOR WINDOWS 1.1 1 READ ME
Published Date: Feb 19, 2012

QuickTime for Windows 1.1.1: Description

This article describes QuickTime for Windows.
This article has been archived and is no longer updated by Apple.

NEW FEATURES IN 1.1.1
- Support for P9000 Graphics accelerator.
- Support for the Cirus Logic CL-GD54xx GUI accelerator.
- Support for the WD 90C33 Graphcs accelerator.

NEW FEATURES IN 1.1
- Cinepak (formerly named Compact Video) playback OLE 1.0 (Object Linking & Embedding). The Movie Player is an OLE server enabling QuickTime movies to be placed and played in Microsoft Excel 4.0, Word for Windows 2.0, Write, and Word Perfect 5.2 using QuickTime's human interface MCI (Media Control Interface) provides media integration in applications like Windows Media Player, AimTech Icon Author, and Asymetrix Multimedia Toolbook.

- Visual Basic 2.0 is supported with a .VBX file for integration of QuickTime Movies into multimedia applications created with Visual Basic 2.0.

- QuickTime for Windows 1.1 and 1.1 supports custom add-in decompressors, such as Intel's Indeo.

- Support for more audio and video card configurations. See PC VIDEO CARD

- COMPATIBILITY and PC AUDIO CARD COMPATIBILITY for a listing of the audio and video cards which have been tested with QuickTime for Window 1.1 and 1.1.1.

MACINTOSH FEATURES THAT ARE NOT CURRENTLY SUPPORTED
- Capture
- Compression
- Editing
- Photo CD
- Text track

Note: When producing QuickTime Movies, you are encouraged to use advanced features on the Macintosh release of QuickTime such as a text track. It is likely that features currently unique to the Macintosh will be supported in subsequent releases of QuickTime for Windows.

MINIMUM PC CONFIGURATION
- 386SX at 20 Mhz
- 4 Mb RAM
- 80 Mb hard disk
- VGA or better display card
- QuickTime provides best quality and performance on cards displaying 32,768 color or more. See the end of this document for a list of tested compatible audio and video cards.
- A Sound card for playback of Movies with sound
- Windows 3.1 or later
- DOS 5.0. MS-DOS 6.0 and 6.2 with and without double space is supported.

COMPONENTS OF QUICKTIME FOR WINDOWS 1.1.1
- DLLs
- Movie Player application and OLE 1.0 server
- Picture Viewer application
- On-line help

MAKING MOVIES PLAYABLE ON BOTH MACINTOSH AND WINDOWS
To make a movie playable on a PC, on a Macintosh open a movie file using the Movie Converter utility (part of the QuickTime Starter Kit 1.0) and choose Save As (File menu). In the resulting dialog box, click the radio button labeled 'Make movie self-contained' which tells the utility to sever any links to other movies after incorporating the relevant video into this movie. Also select the checkbox labeled 'Playable on non-Apple computers'. This causes the movie to be saved as a single forked movie. The resulting movie is cross-platform and is still in the QuickTime file format.

Once you save the movie, it will be playable on both Macs and PCs without further translation or file conversion. Before you transfer the movie to a PC, remember to give it a filename that is no longer than 8 characters, plus the extension .MOV for example, MYMOVIE.MOV.

WHERE TO GET QUICKTIME FOR WINDOWS TODAY
QuickTime for Windows is bundled with various 3rd party products that support QuickTime for Windows such as Movie clip libraries, software applications and CD-ROM titles. Look for the QuickTime for Windows logo on the packaging of products such as these:

- Adobe Premiere 1.0 for Windows
- Macromedia Action 2.5 for Windows
- Macromedia Authorware Pro 2.0 for Windows

The QuickTime for Windows Development Kit (APDA, #R0453LL/B), provides you with an ISO format CD-ROM that contains the DLLs, sample applications and source code, movie files, on-line documentation, help files and the QuickTime for Windows programmers manual. Six (6) DOS-based disks containing a subset of CD-ROM contents are also available for those without a CD-ROM drive.
Published Date: Feb 19, 2012

Retrospect: "Internal Consistency Check Failed" Error

I've recently used the "Software Update Installer CD-ROM" to upgrade my Apple Workgroup Server (AWS) 95 to A/UX 3.1, and Retrospect Version 2.0Ci. When I try to back up my data, I now get an, "Internal Consistency Check Failed: Assertion Check at elem.c -696", error. What is this, and how can I fix it?

This article has been archived and is no longer updated by Apple.

If you get this error check the Retrospect error log for a more specific error. If nothing specific is present the issue may be that Retrospect 2.0Ci thinks, the existing tape catalog is damaged. To fix this, use the utility in Retrospect to rebuild the tape catalog.

Published Date: Feb 19, 2012

AWS 95: Retrospect Memory Error -108, Application Memory

I'm using Retrospect on the Apple Workgroup Server (AWS) 95, and when I try to back up my data, I get an error from Retrospect of "-108".
This article has been archived and is no longer updated by Apple.
From page 153 in the Retrospect Users manual, -108 is an "Out of application memory" error. This can be fixed, but you need to know more about the environment of Retrospect first.

Retrospect asks for 4,000 KB (4 MB) of finder application memory by default. This allows Retrospect to back up about 10,000 files and folders. We suggest setting this finder application memory request value to 8,000 KB (8 MB). This allows for the backup of 32,000 files and folders which is close to the upper limit for Retrospect's back up capability.

Make sure that you have configured your "Memory After Logout" value, in the Virtual Memory section of the Memory control panel, to match the memory tuning required for the amount of physical memory that is installed in your server. If you have only 16 MB of RAM physically in your server and you have your AppleShare Pro cache set to consume a large amount of RAM, then you will get a -108 error from Retrospect.

Adding memory to the AWS 95 platform is the key to improved performance. We have found that the absolute minimum memory that customers have installed, and are functional is 24 MB of RAM. We suggest somewhere between 36 MB and 48 MB would be a more reasonable amount of RAM. Anything over 48 MB (depending on tuning and intended function of the server) should be tuned to be allocated to the A/UX I/O Cache and will improve performance of the server noticeably.
Published Date: Feb 19, 2012

Installing Graph ‘N‘ Calc On Catalyst For The Apple III

This article has been archived and is no longer updated by Apple.
You may move Graph 'n Calc (Desk Top Computer Software Inc.) to the hard disk. This will allow you to access it with greater ease than using floppy disks. These instructions assume you are moving Graph 'n' Calc to a ProFile (with a driver name .PROFILE). Substitute the name of your hard disk driver for ".PROFILE" if you wish to install Graph 'n' Calc on a different hard disk.

COPY PROCEDURE

1. Boot the CATALYST diskette (if you haven't already).
2. From the main CATALYST menu, select the Systems Utilities Program.
3. Press "F" for File Handling Commands.
4. Press "M" for Make a New Subdirectory.
5. Enter ".PROFILE/GNC".
6. Press RETURN to accept the default size of 25 files.
7. Press ESCAPE.
8. Put the Graph'n' Calc "GNC1" diskette in the internal drive.
9. Press "C" to copy files.
10. Copy all files from your "GNC1" disk to ".PROFILE/GNC/=" except for the following:

SOS.KERNEL SOS.INTERP SOS.DRIVER

To do this, type ".D1" and press the up arrow key. A list of files are displayed in a box. The up and down arrow keys allow you to move an inverse bar over the name of your choice. Pressing the right arrow key marks the file so as to include it in the copy process. Mark all files to be copied in this way. When all files are marked, press RETURN.

11. Copy all files from "GNC2" to the same subdirectory using the procedure above.
12. When all files have been copied, Press ESCAPE.

ADDING GRAPH 'N' CALC TO THE CATALYST MENU

1. Return to the Catalyst main menu.
2. Select the Catalyst Editor.
3. Enter "E" to edit the menu.
4. Use the up and down arrow keys to position the inverse bar over the entry you want the program to precede. Press "A" to ADD a program entry.
5. You will be asked for the display name of this program, enter "GNC".
6. Enter "CATALYST/BASIC as the interpreter path name.
7. You will be asked if you want "EXTRA DRIVERS", enter ".GRAFIX"
8. Press RETURN for standard character set.
9. Press RETURN for the normal screen.
10. Press RETURN for the default keyboard.
11. Enter ".PROFILE/GNC" initial prefix.
12. Enter "0" for the "Max Files Allowed..." question.
13. Enter ".PROFILE/GNC/HELLO for the program path.
14. You will be asked if this entry is correct. If it is, enter "Y" then press ESCAPE to exit to the main edit menu. If you made any mistakes during entry, enter "N". You may then enter the number of the item you wish to correct. When all items are correct, press ESCAPE. Press ESCAPE again to exit to the main edit menu.
15. Enter "5" to update the INTERPS file. When you are asked if you want to recalculate the load address, enter "N".
16. Exit to the Catalyst main menu by entering "Q".

NOTE: Apple Computer Inc. is not responsible for the contents of this article.
Published Date: Feb 19, 2012

Portable StyleWriter: Printing to PowerBook 500 Series (6/94)

Why doesn't the PowerPrint software that comes with the Portable StyleWriter work with a PowerBook 520?

This article has been archived and is no longer updated by Apple.
It works when you select in the Chooser that the Portable StyleWriter is connected to the Modem port. It does not work (the PowerBook 5x0 just beeps) when you attempt to print when the printer is connected to the Printer port. On some occasions, you may receive errors -96 and -98, but again, are resolved by selecting the Modem port.

Support Information Services
Published Date: Feb 19, 2012

PostScript Fax: Setting Send and Receive Options (6/94)

How do you set the LaserWriter's Fax option card to merely send Faxes and not receive them? Is there a parameter which needs to be set?

This article has been archived and is no longer updated by Apple.
There is a PostScript command that will accomplish this. This "parameter" (technically called a key in PostScript parlance) acts as the master on-off control for Fax send and receive functionality. The parameter takes an integer value with these meanings:

Code Meaning

0 Fax completely disabled
1 Send only enabled
2 Receive only enabled
3 Both send and receive enabled

The default value is 3. If receive is not enabled, then the ringing phone will not be answered. If send is not enabled, the routine that attempts to establish the call will fail and an I/O error is recorded.

Sending the following PostScript code to the Fax printer will enable "Send Only Mode."

(%Fax%) <</ServiceEnable 1>> setdevparams

To reinstate the default, send:

(%Fax%) <</ServiceEnable 3>> setdevparams

Send this code to the printer via the LaserWriter Utility or other PostScript download utilities.

You can also set, with the Fax Utility, the of number rings before the Fax card will answer the phone. The valid range is 1 to 30; increasing the number of rings gives you or your data modem more time to answer the phone prior to the Fax option card in the printer picking up and receiving the call.

Support Information Services

Published Date: Feb 19, 2012

GeoPort 1.0, 2.0: High Speed Fax, V.17

I need to disable the high speed Fax feature to dial into an older Fax that will not accept my documents. Page 35 of the "Express Fax/Modem User's Guide" shows a screen shot of the Fax Terminal preferences dialog box. The manual displays an option to turn off "high speed Fax feature". I do not have this option on my screen. I am using Fax Terminal 1.5.1, Power Macintosh 6100/60AV, GeoPort Adapter, GeoPort for Power Macintosh 1.0.

Does the "high speed Fax feature" disabled on the fly, or is there a manual switch to enable and disable high speed Faxing?
This article has been archived and is no longer updated by Apple.

Geoport 1.0

The Geoport for Power Macintosh version 1.0 only supports Fax transmission speeds up to 9600 bps (CCITT V.29).

The user's guide for the Express Modem software that ships with the Power Macintosh references high speed Fax capabilities. The option for high speed Fax will not appear in Fax Terminal's preferences window.

The high speed Fax option is only available when Express Modem software is being used with an Apple Express Modem on a PowerBook or Macintosh with an Express Modem installed.

Geoport 2.0

Apple Telecom Software version 2.0 will support high speed faxing (V.17) on a Power Macintosh. The Quadra, and Centris AV Family of computers will not support v.17 speeds.

V.17 fax speed is disabled by launching the Fax Terminal software under the Apple Menu. Under the "Fax" menu, drag down to "Preferences", unselect the box next to "Allow v.17 faxing".

Article Change History:
20 Jun 1995 - Updated with GeoPort 2.0 fax speed information.

Support Information Services
Published Date: Feb 19, 2012

Power Macintosh: Compatible Third Party Network Solutions (6/94)

I would like to access both a LanMan server and then ultimately a Windows NT server. I have looked around for information, but was unsuccessful at finding anything. We'll be using Power Macintosh computers with MicroSoft Mail.

This article has been archived and is no longer updated by Apple.
There are many network solutions for Power Macintosh Computers:

* Microsoft Lan Manager is based on OS/2 v1.3, and it has a module called "Lan Manager Services for Macintosh" which can supports AppleTalk as well as Power Macintosh.

* Windows NT Advanced Server is the new 32-bit pre-emptive multi-tasking operating system from Microsoft, it has AppleTalk support built into its system kernel, and is compatible with the Power Macintosh.

In your particular situation, we would recommend an upgrade from Microsoft Lan Manager to the Windows NT Advanced Server because NT provide much better system services, and is very easy to manage-particularly on an AppleTalk network.
Please proceed with caution during the upgrade process, there are "how-to" books on this The Microsoft Mail Macintosh client can be run on the Power Macintosh, and has the mail post office reside on either on the NT Advanced Server or Lan Manager Server.

Additionally, the Power Macintosh supports both ethernet and token ring topologies, and network transport protocols IPX/SPX, SNA/APPC, AppITalk, TCP/IP, etc. can run on those topologies,

The Power Macintosh also supports access to the following:

* Novell Netware 3.x and 4.x.
* Banyan Vines v5.5.x
* Windows NT Adv. Server
* Lan Manager 2.x and later
* Lan Server 3.x and later
* all flavors of Unix: HP, Sun, IBM RS/6000, etc.
* client to IBM mainframes and AS/400
* client for Dec Vax, via Pathworks

Support Information Services
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AppleSearch Bundle For Internet: Installation Checklist

This checklist contains information required for the successful installation of the AppleSearch Bundle for the Internet. This product will require that an Internet connection be in place prior to the installation of the AppleSearch server. It should also be noted that this product utilizes the A/UX operating system which will require an understanding of the UNIX environment for support and troubleshooting.
This article has been archived and is no longer updated by Apple.
What is AppleSearch and how does it relate to the Internet? AppleSearch software is a client/server product that enables members of an AppleShare workgroup to conduct personalized information searches on a server, at the same time -- effectively turning the file server into an information server.

Users can quickly and easily search for information on a selected How do I connect to the Internet? There are a variety of ways to connect your Apple workgroup server to the Internet. In most states there are currently projects underway to provide connections through a state agency or local university. Suggested contacts include your state universities, state office of public instruction or county office of education.

A number of commercial providers offer connections on both a regional and nation wide basis. Some commercial providers include PSI at (703) 620-6651, Sprint International at (703) 904-2156, or AlterNet at (800) 488- 6383. We strongly suggest you utilize a dedicated connection when arranging for service from the provider of your choice. This will provide increased speed, reliability, and the ability to service more simultaneous users than a dial up connection.

The AppleSearch Bundle for the Internet includes
---
* Apple Workgroup Server 95+.

* A/UX version 3.1 Operating System.

* AppleShare Pro server software.

* AppleSearch server and client software with gateway service to Internet WAIS servers.

* Installation.

* Getting started primer for WAIS curriculum usage in K-12.

Suggested Reading

There are a number of books available to provide you with additional information regarding an Internet connection and on Internet services. Suggested titles include:

* "How The Internet Works" by Joshua Eddings, published by Ziff-Davis

* "The Whole Internet" by Ed Krol, published by O'Reilly & Associates, Inc.

* "Connecting to the Internet" by Susan Estrada, published by O'Reilly & Associates, Inc.

* "The Internet Connection" by John S. Quarterman, published by Addison Wesley

Connection Checklist

Prior to the installation of your AppleSearch Bundle for the Internet the following information must be completed:

* Has the Apple Workgroup Server 95+ hardware arrived at the installation site?

* Type of connection: Dedicated line or Dialup _____

* If Dialup are modem and telephone line installed?

* If dedicated connection are the WAN router, CSU/DSU and dedicated line installed?

* Is a drop from the LAN installed for the AppleSearch Server?

* What is the TCP/IP address for the AppleSearch server given to you by the Internet connection provider? _____

* What is the subnet mask address for the AppleSearch server given to you by the Internet connection provider? _____

* What is the TCP/IP address of the Internet provider Domain Name Server
_____

* What is the Internet provider Domain Name Server Name? _____

* What is the TCP/IP address of the WAN router connecting the AppleSearch server to the Internet _____

Setup Information

Once you have completed the connection checklist please call Apple Computer, Inc. at 1-800-3APPLE3 to schedule the installation of your server. The installing engineer will then contact you directly to review the connection checklist. Upon successful completion of this review the engineer will be dispatched as scheduled to complete the installation.

Glossary

TCP/IP: Transmission Control Protocol/Internet Protocol. Roughly translated it is the common "language" used for different types of computers to pass messages and information.

TCP/IP Address: The address by which a device is known on a computer network. You might think of this as a very detailed phone number for computers to call each other.

Subnet mask: An extension to the TCP/IP address. A phone analogy for networking addresses might be: area code = Network ID; prefix = subnet mask; last 4 digits = hostid.

Router: A device that transfers data between two networks using the same protocols.

CSU/DSU: A device similar to a modem for a dedicated connection. It connects your router to the Internet provider channel (such as T1, Frame Relay, and so on).

DNS: Domain Name Server is the resource naming system used on the Internet. It is also used to translate names (such as apple.com) into numeric Internet addresses (like 155.55.55.5) and visa versa. The benefit for the user is the ability to use the Internet by name versus long address numbers.

WAIS: Wide-Area Information Servers; this is a system for looking up information in databases (libraries) across the Internet.
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QuickTime 2.0: Description (5/95)

This article describes the new features in QuickTime version 2.0, system requirements, availability and compatibility.

This article has been archived and is no longer updated by Apple.
QuickTime 2.0 is significant because it provides larger video at faster frame rates, support for music, and support for interactive television applications.

Larger, Faster, TV Like Video

Video on computers is often confined to small windows and played at less than 12 frames per second, making the video appear rough and jerky. QuickTime 2.0 provides greatly increased performance resulting in full-screen movies without the addition of any hardware. This closely resembles what viewers see on television today. For example, on a Macintosh LC 475, one of Apple's lowest-cost computers, 30 frames per second video is possible at a resolution of 320 x 240, or full-screen video (640 x 480) is possible at 15 frames per second.

Key components of the new video enhancements are new features that support professional-level video editing. QuickTime 2.0 includes support for time-code, 60 fields per second video and high data throughput greater than 3 MB per second. This represents a 300 percent increase over previous versions of QuickTime.

Interactive Television Support

QuickTime 2.0 creates an infrastructure for development and delivery of interactive television applications through MPEG support and network enhancements. Now, with its new device protocols, QuickTime can address distributed networks and devices, such as video servers, on the information super highway.

QuickTime 2.0 supports MPEG, widely regarded as the industry-standard method of delivering video into the home for interactive television applications such as Video On Demand (VOD) and home shopping. However, MPEG, by itself, allows only playback. With QuickTime 2.0, users of MPEG-based devices will be able to edit, search for, interact with, as well as play back►?video information.

Note:
QuickTime requires additional hardware for MPEG playback.

Music For The Masses

Building on Apple's industry renowned ease-of-use, QuickTime 2.0 makes it much easier for computer users to create, edit, playback and synchronize music with video►?all without a technical understanding of MIDI technology. In the past, users of Macintosh computers and other personal computers have required an understanding of MIDI technology in order to create and playback music on computers.

In addition, QuickTime 2.0's music capabilities will save disk space for users, because QuickTime music tracks are much smaller than digital audio. For example, Beethoven's 5th Symphony could easily fill a 300 MB hard disk if stored as CD-quality audio, but when represented as a QuickTime music track it would fill just a single 800K floppy disk.

System Requirements

QuickTime 2.0 will run on any color-capable (68020 or later) Macintosh computer running System 7 or 6.0.7 with at least 2 MB of memory (3-4 MB preferred on a System 7 system).

Availability

Developers

QuickTime 2.0 and QuickTime for Windows 2.0.x are available to software developers on the QuickTime Software Developer Kit (SDK) through APDA, and include licensing agreements from Apple's Software Licensing division.

End Users

QuickTime 2.0 for Mac OS is available as part of System 7.5 or can be downloaded from CompuServe (GO QTIME) for a small fee.

QuickTime 2.0 for Windows is available from CompuServe for a small fee (GO QTIME).

QuickTime 2.0 for both Mac OS and Windows can also be downloaded from the internet for a small fee. It is available from the WWW site:

http://quicktime.apple.com

All earlier versions of QuickTime are no longer available and have been removed
from Apple SW Updates.

Most QuickTime products also include a copy of QuickTime.

Compatibility with Older Versions of QuickTime

Movies created with earlier versions of QuickTime will playback with QuickTime 2.0, and usually they will playback more smoothly.

Applications and tools which support early versions of QuickTime, Movie Player and Movie Converter for example, will playback QuickTime 2.0 movies.

Article Change History:
24 May 1995 - Added QuickTime availability information.
02 May 1995 - Corrected spelling of LC 475 product name.

Support Information Services
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GS/OS 6.0.1: Desktop Icons Disappear

I have an Apple IIgs and have just upgraded my GS/OS from 6.0 to GS/OS 6.0.1. Before upgrading, I was able to place frequently used application icons on my desktop and keep them there. Now using GS/OS 6.0.1 when I place my application icons on the Desktop and restart, the icons are gone. How can I retain the application icon placement on the Desktop?

This article has been archived and is no longer updated by Apple.

When using GS/OS 6.0 or 6.0.1 in order to retain icon placement on the Desktop you must select Preferences from the Special menu and place an "x" in the save Finder information onto disk option.

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AWS 95: A/UX User Terminal Session Limit From 16 To 32 (6/94)

I'm interested in allowing more than 16 logins to an Apple Workgroup Server (AWS) 95 running A/UX 3.0.1. I'm using A/UX for a class and want to allow all students the ability to login and on the 17th login attempt, a message to the terminal says there are no more logins allowed (I'm are using NCSA Telnet to login).

I understand that there is a product called, A/UX 32 User License Product. From what I can tell, this is only a license agreement from Apple giving the customer permission to allow 32 logins to one A/UX computer.

Exactly how do I go about increasing that 16-user limit to 32? Is there a disk or CD that alters the A/UX process that keeps track of the active terminal sessions? It is unclear how this change is accomplished within A/UX.

This article has been archived and is no longer updated by Apple.
The 16 user limit applies only to users directly attached to the system. It does not apply to users connected via network services.

As of A/UX 3.1 and later, the system is capable of supporting more than 16 users after performing a change in the kernel and adding the additional devices needed.

Memory requirements of the system will be very different from the one the system has when being used as an AppleShare Pro file server. If you are planning on using the AWS 95 for both purposes, the system memory requirements might be big and memory usage parameters would need to be adjusted carefully. If this is not done, server performance will suffer greatly.

Also this only affects remote users accessing TCP/IP services such as telnet and rlogin. It does not limit the number of users accessing file systems remotely via NFS or AppleShare.

The kernel variable NPTY should be set to the number of users you want to let login. The default is 32.

You can increase this number based on specific needs. This can be used using the following kconfig command

```
kconfig -n /unix
NPTY=40
<Control-D>
```

For this change to take effect, the system needs to be restarted.

The devices to be added are the two parts of the pseudo terminal to be used. The master and slave part of this pair are necessary for the connection to work.

A/UX 3.1 includes 16 pairs of devices

```
/dev/ptyp[0-9a-f]
/dev/ttyp[0-9a-f]
```

For the next set of 16 devices to be available for connection, the devices need to be created. There are two ways of creating these devices. The long way is to use the command mknod(1) to create each of the devices in the range

```
/dev/ptyq[0-9a-f]
/dev/ttyq[0-9a-f]
```

The major device number for pty's is 20, the major device number for typ's is 21. The minor device numbers would go from 32 to 47. Based on this, the commands would look like

```
mknod /dev/ptyq0 c 20 32
mknod /dev/ttyq0 c 21 32
....
mknod /dev/ptyqf c 20 47
mknod /dev/ttyqf c 21 47
```

The easy way to do this is to modify and use the script

/etc/init.d/bnet

Edit the file /etc/init.d/bnet with vi or TextEditor.

Look for the line reading

for ptyname in C p # q r s

Change it to look like

for ptyname in C p q # q r s

Save the file.

Make sure there are no users connected to the system via telnet or rlogin.

Execute the modified shell script with the command:

sh /etc/init.d/bnet

This will create the devices:

/dev/ptyq[0-9a-f]
/dev/ttyq[0-9a-f]

Support Information Services

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Apple IIGS: Changing settings of the serial ports

This article has been archived and is no longer updated by Apple.

Changing the software settings of the serial ports for either data format of parity disables buffering, often used during access of bulletin boards. If a program changes the settings for Data Format (bits per character) or Parity, the program should re-enable buffering.

To change through software the baud rate from 1200 to 300 on the serial port, use nnB, the command in the Technical Introduction to the Apple IIGS, Page 35. The baud rate change will not show up in the control panel. The control panel displays the settings that are saved in firmware.

If you are using the Printer port, the control character is a Control-I. If you are using the modem port, the control character is a Control-A. Use the following numbers for the baud rates.

```
 n Baud Rate

 0 Default (as set in Control Panel)
 1     50
 2     75
 3    110
 4    134.5
 5    150
 6    300
 7    600
 8   1200
 9   1800
10   2400
11   3600
12   4800
13   7200
14   9600
15 19,200
```

For example, the following program changes the baud rate from 1200 to 300 under software control.

```
10 D$=CHR$(4):I$=CHR$(1)
20 PRINT D$;"PR#2"
30 PRINT I$;"8B": REM ENSURE 1200 BAUD
40 PRINT"This is a test of 1200 Baud"
50 PRINT I$;"6B": REM SET UP 300 BAUD
60 PRINT" This is a test of 300 Baud"
70 PRINT D$;"PR#0"
80 END
```

To verify that the baud rate is changing, run this program after connecting another system to the modem port. Depending on the baud rate for that receiving system, one of the sentences sent will not be legible.

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Installing Lazarus III On Catalyst For The Apple III

This article has been archived and is no longer updated by Apple.
You may move Lazarus III to the hard disk. This will allow you to access it with greater ease than using floppy disks. These instructions assume you are moving Lazarus III to a ProFile (with a driver name .PROFILE). Substitute the name of your hard disk driver for .PROFILE if you wish to install Lazarus on a different hard disk.

NOTE: Lazarus III uses quite a bit of computer memory. Due to this a "STACK OVERFLOW" error may occur when invoking it from Catalyst. To avoid this condition, make the Apple II disk routines in the Pascal NOT resident by selecting "OPTIONS" from the Pascal Command Line.

COPY PROCEDURE

1. Boot the CATALYST diskette (if you haven't already).
2. From the main CATALYST menu, select the Systems Utilities Program.
3. Press "F" for File Handling Commands.
4. Press "M" for Make a New Subdirectory.
5. Enter ".PROFILE/CATALYST/LAZARUS".
7. Press ESCAPE.
8. Put the LAZARUS PROGRAM diskette in the internal drive.
9. Press "C" to copy files.
10. Copy only the SYSTEM.STARTUP file from your PROGRAM disk to ".PROFILE/CATALYST/LAZARUS/SYSTEM.STARTUP"
11. When this file has been copied, Press ESCAPE.

ADDING LAZARUS III TO THE CATALYST MENU

1. Return to the Catalyst main menu.
2. Select the Catalyst Editor.
3. Enter "E" to edit the menu.
4. Use the up and down arrow keys to position the inverse bar over the entry you want the program to precede. Press "A" to ADD a program entry.
5. You will be asked for the display name of this program, enter "LAZARUS III".
6. Enter "CATALYST/PASCAL" as the interpreter path name.
7. You will be asked if you want "EXTRA DRIVERS". Press RETURN.
8. Press RETURN for standard character set.
9. Press RETURN for the normal screen.
10. Press RETURN for the default keyboard.
11. Press RETURN for the initial prefix.
12. Enter "3" for the "Max Files Allowed..." question.
13. Enter ".PROFILE/CATALYST/LAZARUS/SYSTEM.STARTUP" for the program path.
14. You will be asked if this entry is correct. If it is, enter "Y" then press ESCAPE to exit to the main edit menu. If you made any mistakes during entry, enter "N". You may then enter the number of the item you wish to correct. When all items are correct, press ESCAPE. Press ESCAPE again to exit to the main edit menu.
15. Enter "5" to update the INTERPS file. When you are asked if you want to recalculate the load address, enter "N".
16. Exit to the Catalyst main menu by entering "Q".

NOTE: Apple Computer Inc. is not responsible for the contents of this article.
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LaserWriter Fax: Legal Paper Tray Selection

We have a LaserWriter Select 360 equipped with a fax card and a letter cassette. When we receive a LEGAL size fax, it splits up the fax into two pages. If we were to install a LEGAL cassette, would the software have the intelligence to sense the legal cassette?
This article has been archived and is no longer updated by Apple.
The original implementation of PostScript fax on the LaserWriter Select 360 and LaserWriter Pro 810 printers did not have the "intelligence" to check/select the appropriate paper tray based on the incoming fax.

There is a "LaserWriter Fax Tune-up" that resolves a two-page fax problem where two pages are printed when only one page was faxed. This tune-up also adds the intelligence outlined above to route faxes to the appropriate tray based on the page size of the incoming fax. In other words, if a Legal-sized fax job comes in and there is a Legal paper tray installed, it will print to the Legal tray.

Note: The fax tuneup is downloaded into RAM so if the printer is power-cycled, the tuneup MUST be launched again to take effect.

Note: This article mentions an Apple software update available from the Apple Software Updates Web site at http://www.apple.com/swupdates.
Published Date: Feb 19, 2012

MacGlobe: Launching Problems - Nothing Happens (6/94)

When I double-click on MacGlobe I get a screen with a Broderbund logo that tells me to click to begin. I click to begin and then it drops me back where I started. It never actually opens.

This article has been archived and is no longer updated by Apple.
MacGlobe does not automatically open up a window and the menus across the top of screen don't change that much. After you have clicked to begin go up to the View menu and drag down to your selection (country, state, etc.).

Support Information Services

Published Date: Feb 19, 2012

QuickTake 100 for Windows: Description (6/94)

This article describes the QuickTake for Windows product.

This article has been archived and is no longer updated by Apple.
The Windows version of the QuickTake 100 digital camera features:

* High-quality, 24-bit color images
* Two image sizes: 320x240 (standard-) or 640x480 pixels (high-resolution)
* Up to 32 standard, 8 high-resolution images or a combination of both in internal memory
* Automatic shutter speeds from 1/30 to 1/175 seconds
* Apertures from f 2.8 to f 16
* Focus range from 4 feet to infinity
* Built-in automatic flash with user setting for on, automatic, fill flash or off.
* Images can be stored in the camera for over a year
* Battery life: 120 images (assuming about half taken with flash)

Compatibility
---
* Standard RS-232C serial connection (up to 57,600 kbs)
* QuickTake application to download and manipulate images
* File formats: TIFF, BMP, PCX, JPEG, and QuickTake
* Standard photo tripod socket
* 3 Nicad batteries and recharger
* Can be connected to Macintosh computers with the Connection Kit for Macintosh

System Requirements
---
* MS-DOS 5.0 or later
* MS Windows 3.1 or later
* Intel 80386, 80486, or Pentium CPUs with a serial port
* 4 MB of RAM
* 10 MB of hard disk space recommended, 4 MB minimum
* 1.44mb 3.5" floppy disk drive

Bundled Items
---
* QuickTake 100
* QuickTake for Windows software
* Serial cable (din 8 to DB-9)
* 25 pin serial cable adapter (DB-9 to DB-25)
* Manual
* Three NiCad batteries
* Battery recharger
* Neck strap

Availability

Apple expects to ship this product in late June, 1994.

Service and Support

QuickTake 100 for Windows digital cameras are entitled to service under the Apple Assurance mail-in repair service (same as PowerBook) program and carry-in service through Apple Authorized Service Providers (AASPs).

QuickTake 100 for Windows digital cameras and bundled items are supported through 1-800-SOS-APPL.

Support Information Services
Published Date: Feb 19, 2012

Power Macintosh: PowerKey May Cause Time Loss (6/94)

This article describes an issue when using PowerKey from Sophisticated Circuits on Power Macintosh systems.

This article has been archived and is no longer updated by Apple.
PowerKey allows users to specify when their Macintosh system turns on and off. Early versions of the control panel which is included with PowerKey may prevent the Macintosh from updating its system clock after shutdown. This will cause the internal clock to lose time.

Contact Sophisticated Circuits to obtain an update for this control panel.

Support Information Services
Published Date: Feb 19, 2012

Power Macintosh: Error Tones With Upgrade Card (6/94)

After installation of the Power Macintosh Upgrade Card in the PDS slot of a Macintosh, the machine refuses to boot in either 68k or Power Macintosh modes. Instead, the Macintosh produces only error tones.

This article has been archived and is no longer updated by Apple.
Receiving error tones after installing the Power Macintosh Upgrade card can indicate a problem with either the DRAM installed in the system or the card itself.

You may test this by removing the extra DRAM from the Macintosh. If the card now functions properly, the DRAM may not be within Apple specifications or could be installed incorrectly.

If the card continues to fail with DRAM removed, disconnect all devices attached to the SCSI port and test again. If the card continues to fail, try a replacement Power Macintosh Upgrade Card.

Support Information Services
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Power Macintosh: No Video With AV Video Card

This article describes an issue with Power Macintosh AV configurations and the loss of video sync with monitors attached to the DB-15 port of the AV video card.
This article has been archived and is no longer updated by Apple.
You may encounter the following symptoms when using a Power Macintosh AV system with a monitor attached to the DB-15 RGB port of the AV video card:

- No video or blank screen
- Wavy glittering lines with no video image
- Machine crashes and has no video on next reboot (restart)
- Machine loses video after a restart. If the machine is shutdown and restarted, the video image returns.

This issue can affect all Power Macintosh AV configurations with any type or size monitor attached to the AV video port.

This issue may occur because occasionally the video driver of a Power Macintosh AV can send out incorrect sync pulses to monitors that employ separate sync lines for the horizontal and vertical sync signals. Incorrect sync pulses may disable the monitor sweep circuits and the video signal fails to function.

To avoid this issue, install at least one of the following software fixes installed:

- PowerMac AV Update (in the extensions folder)
- PowerPC Enabler v1.01 or later (available in System Update 3.0)

These software fixes are incorporated in System 7.5. The presence of both files does not cause any issues in use of the Macintosh.

To install the enabler, you have to reestablish video. To do this, try resetting the parameter RAM (PRAM) or connect a monitor to DRAM-based video using an HDI-45 to DB15 adapter cable. The DRAM-based video port can support monitors up to 17-inches.
Published Date: Feb 19, 2012

Macintosh: Low Battery Causes Lost Date & User Settings, No Video

Every time I start up my Macintosh computer after it has been powered off, it switches to black and white mode, changes the desktop pattern, the date reverts to 1956, and it forgets my printer settings, Chooser settings, and time.

This does not happen if I just restart. I have tried resetting the Parameter RAM (PRAM) and it didn't help. Why is this reset occurring?
This article has been archived and is no longer updated by Apple.
The back-up lithium battery on the logic board of the Macintosh computer may have reached the end of its lifespan and needs to be replaced. The battery provides power to the logic board to save the control panel settings when you turn the machine off or interrupt power to it losing the settings. When the machine is restarted the power supply continues to run and control panel settings will not be lost.

With certain Macintosh models, a low battery results in a black screen (no video). For more information on this issue, please see the following Tech Info Library article:

Article 20328: "**Macintosh Computers: Low Battery Can Cause No Video**"

Any authorized service provider should be able to replace the dead battery. Since the battery is located on the logic board of the Macintosh, we suggest that users not attempt to replace the battery themselves. The logic board can be easily damaged by static electricity, incorrect handling, or an incorrectly inserted battery.
Published Date: Feb 19, 2012

Catalyst 3.0: Manual Installation Of Programs

This article describes the process for installing software to be used with an Apple /// computer running VisiCorp's product, Catalyst 3.0.
This article has been archived and is no longer updated by Apple.
With the release of Catalyst 3.0 some programs will need to be manually installed, until the manufacturer of the program has a Catalyst Desktop file for their program.

1. Boot the Catalyst disk (if you haven't already).
2. Open the floppy disk icon and select the System Utilities program.
3. Press "7" for Identify and Catalog a Disk.
4. Place the BOOT disk for the Program in drive 1.
5. Select Slot 6 Drive 1 and press Return.
6. Press RETURN to list file to the display.
7. A listing of all the files on the BOOT Disk disk will appear. Check for the filename "Catalyst.Desktop". If the file exists, follow the procedure for coping a program as discribed in the Catalyst manual.
8. Check for a file whose name ends in ".system". If the file is "BASIC.SYSTEM" Follow the Proceedure in the Catalyst Manual for installing BASIC Programs.
9. Write down the name of the System file _____.
10. Press the ESCAPE key.
11. Insert the disk you want to want install the program on. If the disk you want copy the program to is a hard disk, make sure that System Utilities can access it.
12. Select Option 8 for Advanced Operations.
13. Select Option 2 to Create Directory.
14. For Path Name enter the "/" name of disk "/" name of the directory.
EXAMPLE: ("/PROFILE/AW" is the directory we use use for AppleWorks).
15. Press the ESCAPE key twice.
16. Select option 1 to Copy Files.
17. For Source use Slot 6 Drive 1.
18. For Destination use the Directory Path Created int Step 14.
19. Copy all Files.
20. If there is a second disk copy the files from the disk using steps 16-19.
21. Select option 2 to Delete a File.
22. For Path Name enter the Directory Path in step 14 plus "/PRODOS".
23. Select option 9 to exit.

ADDING THE PROGRAM TO THE CATALYST DESKTOP.
1. Boot the Catalyst disk.
2. Insert the disk installing program to. If you are using a hard disk check to see that an icon for the hard disk displayed on the Desk Top. If the hard disk is not available restart the system using the procedure specified by the hard disk manufacture.
3. Select ADD A PROGRAM FROM THE MISCELLANEOUS menu.
NOTE: IF DURING THE ADD A PROGRAM PROCCEDURE YOU PRESS THE RETURN KEY YOU WILL EXIT ADD A PROGRAM. TO FINISH ENTERING THE PROGRAM INFORMATION SELECT GET INFO FROM THE FILE MENU.
4. For Program Title enter the name of the program and press the TAB key.
5. For System File enter the name of the System file Specified im step 9 above and press the TAB key.
6. For Prefix enter the name of the Directory created in step 14 above and press the TAB key.
7. For Program Path press the TAB key.
8. If everything is correct Click on the OK box.

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The Tech Info Library article, #17159, titled "Locating Vendor Information", can help you search for a particular vendor's address and phone number.
Published Date: Feb 19, 2012

PowerBook Mobility Bundle: What‘s In The Box? (3/95)

This article provides a list of the software included with the PowerBook Mobility Bundle.

This article has been archived and is no longer updated by Apple.
The PowerBook Mobility Bundle contains the following software:

- PowerBook Control Strip v1.0.1
- Macintosh PC Exchange v1.0.3
- PowerBook File Assistant v1.0
- Apple Remote Access Client v2.0.1
- HyperCard Player v2.2
- MacCheck v1.0.5
- MacLink Plus MCP v7.50
- PowerPort and GlobalFax software when purchased with optional modem installed

Disks for PC Exchange, MacCheck, ARA Client, and MacLink Plus software are not included in the PowerBook accessory kit. The software is comes pre-installed on the hard drive. A manual is provided for Apple Remote Access only.

Article Change History:
13 Mar 1995 - Removed Calendar 1.5 as it no longer ships with bundle.

Support Information Services
Published Date: Feb 19, 2012

PC Exchange: Error Opening Control Panel (6/94)

On a PowerBook 520c with no additional extensions when trying to open PC Exchange Control panel, the error "can't be opened because it isn't installed. Place in control panels folder and restart." comes up. Another symptom was a beep during the startup. Some configuration settings had been changed on the PC Exchange control panel prior to getting the error.
This article has been archived and is no longer updated by Apple.
This is not a known issue, but it is most likely a corrupted preferences file. In some situations, removing the PC Exchange preferences file from the Preferences folder within the System Folder, and restarting will eliminate the error.

Support Information Services

Published Date: Feb 19, 2012

Power Macintosh: CompuServe Information Manager & GeoPort (6/94)

This article describes compatibility problems between the GeoPort for Power Macintosh and CompuServe Information Manager version 2.3.

This article has been archived and is no longer updated by Apple.
MacCIM 2.3 (CompuServe Information Manager) is compatible with Power Macintosh and GeoPort, but the automated sign up program is not compatible.

New members (who don't have ID numbers and passwords) trying to sign up can call CompuServe Customer Service at 800-848-8990. They will walk customers through setting up MacCIM.

This customer service number is also on the back of the CompuServe documentation and within the MacCIM program.

Support Information Services

Published Date: Feb 19, 2012

Personal Catalog Icon Grayed Out In Apple Mail (6/94)

When in Apple Mail, I want to select the Personal Catalog Icon from "recipients" selections, the first icon (personal catalog) is grayed out so I cannot select it. What's the problem?

This article has been archived and is no longer updated by Apple.
Use the "get info" command on the personal catalog you want, then select "set preferred". After this is done the first time, the personal catalog option should be available when addressing mail in any AOCE savvy application like Apple Mail.

Support Information Services

Published Date: Feb 19, 2012

Performa 475: Using Serial Printers With Fax Modem (6/94)

I am using a Performa 475 running System 7.1P6 and I am having many problems printing to a LaserWriter Select 310:

- The computer doesn't retain the Setup information for the printer.
- Intermittantly an error code of -1401 appears when trying to print.
- Sometimes, the "Setup" button in the Chooser can't be accessed.

When I removed the fax/modem software, all of the problems disappeared.

This article has been archived and is no longer updated by Apple.
Some fax/modem software will typically "capture" a port, and place it "in-use". If you are trying to print to a serial printer connected to that same port, you may encounter errors such as those listed above.

Other than disabling the software, you might try to configure the fax/modem software (or the printer) to use the other port.

Support Information Services
Published Date: Feb 19, 2012

Apple Scanner: Not Compatible With the IBM PC

I have a customer who wants to use an Apple Scanner with an IBM PC clone. This works with the OneScanner, but can it be done with the original Apple Scanner?

This article has been archived and is no longer updated by Apple.

We know of no drivers that allow the Apple Scanner to be used with Windows.

Published Date: Feb 19, 2012

A/UX 3.0.1: Remote Connection, and Default Text Editor (6/94)

I have three questions about A/UX 3.0.1 concerning remote connectivity, not using vi as the default text editor, and creating new UNIX directories remotely.

1) What is needed to connect and access a remote Macintosh computer to a generic UNIX, or A/UX server? NCSA telnet appears to be a logical solution.

2) Also vi is the default text editor in the Command Shell, can I replace vi with another application?

3) Finally, can a remote Macintosh user create new UNIX directories on an A/UX volume and then see a new folder on the desktop?

This article has been archived and is no longer updated by Apple.
1) A/UX generally (including version 3.0.1) provides many networking services (servers and/or clients) such as FTP, TELNET, NFS, and NIS with TCP/IP protocols, or Apple File Sharing with AppleTalk protocols. For remote Macintosh systems connecting to A/UX TCP/IP services, it requires MacTCP and Macintosh applications providing MacTCP support; the known applications are NCSA Telnet, NFS/Share (Mac acts as a NFS client), VersaTerm Pro (Telnet and ftp), and others. For remote Macintosh systems connecting to A/UX Apple Personal File Sharing service, use the same procedure as a regular Macintosh doing Apple Personal File Sharing.

2) Yes, under an A/UX Command Shell, "vi" is the most commonly used text editor, however you may use another application like 'emacs' for instance. Under the A/UX Finder, "TextEditor" is the default application for launching any text based Macintosh document. You may, however, change to your favor such as MacWrite or MS Word. To do this, change the default FINDER_EDITOR environment value to where your favor Macintosh editor is located, that is put the following line in the .profile file (for Bourne or Korn Shell) in your home directory:

```
FINDER_EDITOR=/mac/bin/MacWrite
export FINDER_EDITOR
```

3) You can create new directories on an A/UX volume, but you CAN'T mount or see a new folder on the desktop under a non-Apple Workgroup Server (AWS) running A/UX 3.0.1. This is because when a volume is shared the entire volume is shared with the UNIX filesystem or HFS filesystem. With an AWS 95 which uses A/UX, this can be done with AppleShare Pro. AppleShare Pro was specifically designed for AWS 95 running A/UX 3.0.1 or later.

Support Information Services

Published Date: Feb 19, 2012

Apple III: Installing Microcourier On Catalyst

This article describes the steps for moving MicroCourier to a hard disk for use with Catalyst and Apple III.
This article has been archived and is no longer updated by Apple.
These instructions assume you are moving MicroCourier to a ProFile (with driver name .PROFILE). Substitute the name of your hard disk driver for .PROFILE if you wish to install MicroCourier on a different hard disk.

COPY PROCEDURE:

1. From the Catalyst main menu, select the System Utilities Program.
2. Enter "F" for FILE HANDLING COMMANDS.
3. Enter "M" for MAKE A NEW SUBDIRECTORY.
4. Enter "CATALYST/COURIER" with a default size of 25 files.
5. Press "ESCAPE".
6. Enter "C" for COPY FILES.
7. Copy all files from the PROGRAM disk to the subdirectory "CATALYST/COURIER/="

To do this, type ".D1/" and press the up arrow key. A list of files are displayed in a box. The up and down arrow keys allow you to move an inverse bar over the name of your choice. Pressing the right arrow key marks the file so as to include it in the copy process. Mark all files to be copied in this way. When all files are marked, press RETURN.

8. When all files have been copied, press ESCAPE.

ADDING MICROCOURIER TO THE CATALYST MENU

1. Return to the Catalyst main menu.

2. Select the Catalyst Editor.

3. Enter "E" to edit the menu.

4. Use the up and down arrow keys to position the inverse bar over the entry you want the program to precede. Press "A" to ADD a program entry.

5. You will be asked for the display name of this program, enter "MICROCOURIER"

6. Enter "CATALYST/PASCAL" as the interpreter path name.

7. You will be asked if you want "EXTRA DRIVERS". Enter ".RS232".

8. Press RETURN for standard character set.

9. Press RETURN for the normal screen.

10. Press RETURN for the default keyboard.

11. Press RETURN for initial prefix.

12. Press RETURN for the "Max Files Allowed open ..." question. This will allow the program to be exited only by the QUIT option in Microcourier. This procedure is suggested due to the fact that files and /or data may be lost if the double Apple escape option is used.

13. Enter "CATALYST/COURIER/SYSTEM.STARTUP" for the program path.

14. You will be asked if this entry is correct. If it is, enter "Y" then press ESCAPE to exit to the main edit menu. If you made any mistakes during entry, enter "N". You may then enter the number of the item you wish to correct. When all items are correct, press ESCAPE. Press ESCAPE again to exit to the main edit menu.

15. Enter "5" to update the INTERPS file. When you are asked if you want to recalculate the load address, enter "N".

16. Exit to the Catalyst main menu by entering "Q".

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TA31921_Apple_III_Installing_Microcourier_On_Catalyst_(TIL01562).pdf

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DOS Compatibility Card: Won‘t Recognize Radius Monitor (1/95)

My DOS Compatibility Card won't recognize my Radius monitor. When I switch to the DOS side, the Macintosh freezes and slightly fades. When I try to switch back to the Macintosh side, it stays frozen. I checked the cables and they are OK.

This article has been archived and is no longer updated by Apple.
The driver/support software for the Radius Precision Color Pivot Monitor (called "Pivot Software") is incompatible with the DOS Card support software. Apple Engineering is aware of the problem and is actively working on a solution. The only known workaround at this time is to install a standard Apple Monitor.

Article Change History:
09 Jan 1995 - Minor formatting changes.

Support Information Services
Published Date: Feb 19, 2012

Fonts: Documents on Macintosh and Windows

Does the Macintosh operating system, or a 3rd party offer auto font substitution of some form for Macintosh users?

If not, are Macintosh and Windows users forced to agree on a common set of fonts in order to exchange documents reliably?
This article has been archived and is no longer updated by Apple.
The cleanest way to exchange documents between Windows and the Mac OS is (as you suggest) to have users agree on a common set of fonts.

If it isn't possible to get the users to come to an agreement on Fonts Types, Styles and sizes, and the system substitution isn't acceptable, then it will be necessary for you to purchase a third party solution for document distribution. Most of these packages will also maintain the integrity of graphics as well as fonts. The following is a list of four popular packages for this purpose:

Company	Package
WordPerfect	Envoy
Adobe	Acrobat
No Hands	Common Ground
Farallon Computing	Replica

You would be best advised to call these companies and explain your requirements to make sure that this is the type of solution that they are looking for, or if you need more information on the products.
Published Date: Feb 19, 2012

MAE: hqx Formatted Files or Applications (6/94)

We are evaluating MAE in an environment consisting of an HP 9000 with no floppy drives and Macintosh computers. We are transferring files and Macintosh applications from ftp servers in .bin.hqx format. These files may also be compressed as .sit.

How do we de-hqx and be-binhex these files and applications so they can be recognized and run from within MAE? Please recommend specific procedures and utilities to be used.

This article has been archived and is no longer updated by Apple.
Here is a way to transfer Macintosh files and applications, in *.bin.hqx format, from ftp servers to HP or Sun workstations to run in MAE, when no floppy drives and/or Macintosh computers are present. Follow these steps:

1) Get a copy of "Stuffit Expander", a Macintosh decompression and decoding program, from the ftp.support.apple.com server (under /pub/mae/utilities) to your HP or Sun workstation. The Stuffit Expander on the ftp server is in tar format. After downloading (use 'binary' transfer form) to your workstation, do the UNIX command:

tar xvf stuffit_exp.tar

The "Stuffit Expander 3.0.7" Macintosh application will be created in your working directory.

2) Under ftp, use the 'binary' form to transfer the Macintosh applications and files to your UNIX workstation. (From your question, you probably have already done this.)

3) From within MAE, go to the folder which contains your *.bin.hqx formatted files, and drag the *.bin.hqx file on top of the "Stuffit Expander 3.0.7" icon which will launch the Stuffit Expander. The desired Macintosh application or file will be automatically decompressed and decoded. "Stuffit Expander" supports different formats including Stuffit, Compat Pro, AppleLink, and BinHex. See the README file under /pub/mae/utilities in ftp.support.apple.com for more information.

Support Information Services

Published Date: Feb 19, 2012

Power Macintosh: Campus Software Kit and ArtWorks (6/94)

I am having problems with Deneba ArtWorks which camemy "Campus Software Kit". It does not run on the Power Macintosh without turning Modern Memory Manager off.

This article has been archived and is no longer updated by Apple.
Deneba has now fixed the problem and you can call them to receive the free fix. Their phone number is (305) 596-5644 and they are located on the East Coast.

Article Change History:
28 November 1994 - Made article public.

Support Information Services
Published Date: Feb 19, 2012

PowerBook 500 Series Memory Allocation (6/94)

When I choose "About This Macintosh..." the Macintosh gives incorrect reports about how much memory I have available.

We see in "About This Macintosh..." :
Total Memory: 4096K
Memory available: 1682K
System: 2029K

Memory available: 1682K + System: 2029K = 3711K but Total Memory is 4096K

We find than about 300K (385K) RAM is missing. We think that this amount of RAM is memory reserved for Built-in Video, and in order to reduce the amount of this memory, we hold down the Option key while clicking the Option button in the Memory control panel. This doesn't brings up the special dialog box where you can set the maximum number of colors or grays to 256,16, 4 or black and white. So, we don't know why this 300K is missing.

This article has been archived and is no longer updated by Apple.
To get the correct amount of memory available for applications users should look at the "largest unused block" field on About This Macintosh (generally about 1.9 to 2 MB after boot on a 4 MB system). As you indicated, this number does not add up to the RAM configuration when totalled with the system size (you typically get a discrepancy of about 400K.) This space is not available to the user EVER as it is allocated by the ROM at boot time. Here's an explanation as to what that space is used for and why it is somewhat larger than that found on other 040 computers:

Less space is available on the PowerBook 500 Series due to the relatively larger amount of space allocated above the buff point at boot time (approximately 400K.) This space can be broken down thus:

* Modem/Sound buffers (64K)
* Boot Globals (327K)
Physical space table
MMU tables

The 327K allocated for the bulk of the space is larger than what is allocated on a Quadra 950 (209K) for example. This increase is due to the video architecture implementation found on 040 PowerBooks. ecause we must support both internal and external video (versus a single video architecture on the Quadra), a larger space must be allocated at boot time. While there is a way to support both internal and external video and not take so much memory on the front end, such an approach is more complicated, would require more development time, and involves considerable risk. Apple took a very conservative approach -- which resulted in additional memory use and reduced the amount of RAM available to run applications. The same case holds true for the new PowerBook 200 Series (although the numbers are slightly smaller).

As a side note, the additional RAM allocation on the PowerBook 500 Series is also the reason why you must have at least 6 MB of RAM installed to set up a RAM disk, while on the PowerBook 180c, for example, you can set up a RAM disk with just 4 MB installed.

Support Information Services
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Quadra Multiple Scan Display: Distorted Image

Some customers are reporting gray and distorted images on their Apple Multiple Scan Displays on a Quadra after restart.

This article has been archived and is no longer updated by Apple.

This problem has to do with the Display Enabler version the customer has on their machine.

To correct this problem, customers need to use Display Enabler 1.2.

These articles can help you locate the software update mentioned here:

* "Where To Find Apple Software Updates" - Lists online services for free Apple software updates.

* "Obtaining Apple Product Support in the USA" - Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech Info Library.

Article Change History:
28 Jun 1995 - Changed multiscan to multiple scan.
22 Dec 1994 - Added Information on Display Enabler 1.2

Support Information Services
Published Date: Feb 19, 2012

MAE: Performance Guidelines (6/94)

This article contains some guidelines for expected MAE performance, given memory configuration and benchmark information.

This article has been archived and is no longer updated by Apple.
Guidelines

Specints Cache Memory Equivalent 680x0
-------- ------ ------- ----------
25 Max Available 32 MB 68020/16Mhz
50 Max Available 32 MB 68030/20Mhz
90 Max Available 64 MB 68040/25Mhz
Published Date: Feb 19, 2012

Express Modem 1.5.2: Read Me File (1/95)

This is the Express Modem 1.5.2 Read Me file.

This article has been archived and is no longer updated by Apple.

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ReadMe for Express Modem

This Express Modem software can be run on the following machines with their respective modem cards:

* PowerBook 160, 165, 165c, 180, 180c using an internal Apple PowerBook
 14.4 Modem Card.

* PowerBook Duo 210, 230, 250, 270c, 280, 280c using an internal Apple
 PowerBook Duo 14.4 Modem.

* PowerBook 520, 520c, 540, 540c using an internal Apple PowerBook Express
 Modem II Card.

* LC 575 using an internal Macintosh Express Fax/Modem.

* Quadra 660 AV, 840 AV using an external Geoport Telecom Adapter. For
 these machines you need the supplemental software (GeoPort rev 1.2.1
 or greater) provided with your Geoport Disk.

* Power Macintosh 6100/60, 7100/66, 8100/80 using an external Geoport
 Telecom Adapter. For these machines you need the supplemental
 software (GeoPort for Power Macintosh rev 1.0 or greater) provided with
 your Geoport Disk.

* The Express Fax software also lets you send faxes with PowerBook
 models 100, 140, 145 and 170 when used with the Apple PowerBook Fax/Data
 Modem.

 WARNINGS: Preferred CCL scripts for AppleTalk Remote Access: ARA 1.0:
 "Express Modem 14400" ARA 2.0: "Express Modem ARA 2.0" (in "Modem
 Documents" folder in installer disk)

* Fax V.17 (High Speed) reception: Some fax machines may not work well with
 the high-speed (V.17) fax capabilities of Express Modem. If you find you
 are having problems sending or receiving a fax, try turning off the V.17
 option in the Fax Terminal Preferences dialog.


NOTE THE FOLLOWING CORRECTIONS TO THE EXPRESS MODEM 1.5.2 READ ME
-----------------------------------------------------------------
* The Express Modem II Card is only available outside of the U.S. on
 PowerBook 500 Series computers.

* Macintosh 660AV, and 840AV computers using an external GeoPort Telecom
 Adapter, should use GeoPort 1.2 software, not GeoPort 1.2.1, or Express
 Modem For PowerBook 1.5.2.

* Power Macintosh computers using an external GeoPort Telecom Adapter
 should use GeoPort For Power Macintosh 1.0 software, not Express Modem
 For PowerBook 1.5.2.


Article Change History:
10 Jan 1995 - Added keyword; made minor technical updates

Support Information Services
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TA31929_Express_Modem_Read_Me_File__(TIL15628).pdf

Power Macintosh: Compatibility Issue with COPYright (6/94)

This article provides a workaround for the problem of COPYright not working with a Power Macintosh or a Power Macintosh Card.

This article has been archived and is no longer updated by Apple.
Here's how to make COPYright work with Power Macintosh:

* Start with COPYright Control version 1.0.4 or 1.0.5
* Open COPYright Control with ResEdit.
* Open "fVER" resources
* Duplicate fVER ID -4039
* Select the new resource and Choose "Get Resource Info" from the Resource Menu
* Renumber the resource to -4038
* Rename the resource to "7.1.4f0" (change the 3 to a 4)
* Save and close
* Reboot.

This information is provided by Management Science Associates, Inc. CSG Technologies Division. Revised versions of COPYright or COPYright PRO will also resolve this problem. Contact the vendor for more information.

To locate a vendor's address and phone number, use the vendor name as a search string.

Support Information Services

Published Date: Feb 19, 2012

Installing Quickfile on Catalyst For The Apple III

This article has been archived and is no longer updated by Apple.
You may move QUICKFILE (APPLE) to the hard disk. This will allow you to access it with greater ease than by using a floppy.

COPY PROCEDURE:

1) Boot the CATALYST diskette.
2) From the main CATALYST menu, select the Systems Utilities Program.
3) Press "F" for File Handling Commands.
4) Press "M" for Make a New Subdirectory.
5) Enter ".PROFILE/CATALYST/QF".
6) Press RETURN to accept the default size of 25 files.
7) Press ESCAPE.
8) Put the QUICKFILE PROGRAM diskette in the internal drive.
9) Press "C" for Copy Files.
10) Enter".D1/SYSTEM.STARTUP" as the source file name.
11) Enter ".PROFILE/CATALYST/QF/QF" as the destination file name.
12) Enter ".D1/SYSTEM.LIBRARY as the next source file name to copy.
13) Enter ".PROFILE/CATALYST/QF/QF.LIB" as the name of the destination file.
14) When these files have been copied, hold down both APPLE keys and press ESCAPE to return to the CATALYST menu.

ADDING QUICKFILE TO THE CATALYST MENU
1) Enter the number for Catalyst Edit.
2) Enter "1" to add an entry to the menu.
3) Enter the number of the menu entry you want QUICKFILE to precede.
4) Enter QUICKFILE as the display name.
5) Enter CATALYST/PASCAL as the interpreter pathname.
6) Press RETURN for the character set pathname.
7) Press RETURN for standard character set.
8) Press RETURN again to use the default keyboard.
9) Press RETURN to accept the default prefix.
10) Enter "3" for the "max files allowed..." question.
11) Enter "CATALYST/QF,QF" when you are asked for the program path.(This will give a bad path error but ignore it.)
12) You will be asked if this entry is correct. If it is, enter "Y", or just press RETURN. You will be allowed to insert another entry. Since you do not want to do this, enter "0" to exit to the main menu.
13) Enter "7" to update the INTERPS file. When you are asked if you want to recalculate the load address, enter "N".
14) Exit to the CATALYST main menu by entering "0".

NOTE: Apple Computer Inc. is not responsible for the contents of this article.
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Performa Basics: Can‘t Use on a Performa 200 (6/94)

When launching Performa Basics on the Performa 200, a message appears stating that the Performa 200 cannot be set to 16 colors, so the application will NOT run. It seems that Performa Basics requires a color monitor.

This article has been archived and is no longer updated by Apple.
This is true. Performa Basics would not be useful for a Performa 200 user. Basic operation of the computer is thoroughly outlined in the User's Guide.

Support Information Services

Published Date: Feb 19, 2012

Turning Off Printer Configuration Pages Upon Startup

Why does my printer still produce a configuration page even though I have turned it off using LaserWriter Utility?
This article has been archived and is no longer updated by Apple.
If your LaserWriter Pro 600, Pro 630, LaserWriter Select 360, or Personal LaserWriter NTR has the communication switch set to number 4, it will print a configuration page on power-up. The configuration page is different than the start-up page that the LaserWriter Utility allows you to turn off. The configuration page provides information about many parameters that the start-up page does not mention.

To disable the printing of the configuration page, you must change the communication switch setting on the printer to any number other than 4.
Published Date: Feb 19, 2012

Power Macintosh: 21-Inch Mono Display Compatibility

Can the Apple 21-Inch Monochrome Display be used with Power Macintosh systems?
This article has been archived and is no longer updated by Apple.
The Apple 21-inch (2-page) monochrome display (model # M0402 or M1025 -- M0402 is revision A of the 21-inch monochrome display, M1025 is revision B) can be used on Power Macintosh 6100AV, 7100, 7100AV, 8100, and 8100AV series computers with either the HP Video Card (standard video card on the 7100 and 8100) or with the AV Video Card. It is not compatible with the built-in HDI-45 video ports used on these Power Macintosh computers.

The Apple 21-inch monochrome display also works with the Power Macintosh 7200, 7500, 8500, and 9500 series computers.

The Apple 21-inch monochrome display also works with the Power Macintosh G3 CPUs. In some cases when connected to a G3, the display may experience a blank screen upon startup possibly followed by a high-pitched whine. If so, simply turn the display off and back on again to achieve proper video synchronization.

A DB-15 to DB-25 adapter cable (590-0615) is required with any of these models. The number of shades of gray that are supported are black and white, 4, 16, and 256.
Published Date: Feb 19, 2012

Power Macintosh 8100: Incorrect VRAM Causes ‘Ghosted‘ Images

After upgrading the VRAM in a Power Macintosh 8100/80 using Sony 20" multisync monitors, the display is normal at thousands of colors, but in millions of colors there are "ghosted" images of each horizontal pixel.
This article has been archived and is no longer updated by Apple.
It appears that you have installed the M5953LL/A VRAM upgrade kit which is incorrect for this video card. This kit contains two 256K SIMMs and should be used in the Power Macintosh 7100/66 and other computers which accept 256K VRAM SIMMs.

The correct VRAM upgrade kit is M1311LL/A, which contains one 512K VRAM SIMM. The Power Macintosh 8100 video card requires four 512K VRAM SIMMs to upgrade from 2MB to 4MB VRAM.

Published Date: Feb 19, 2012

MAE: Solaris File Manager Affected After Trial Install (6/94)

My Solaris File manager won't work after I installed MAE. It won't check or format a floppy anymore. A check won't do anything, and a format will cause a core dump and Sigseg violation. After getting out of MAE, I deleted it entirely but the problem remained. I eventually found a line in a file that MAE had added:

/etc/rmmount.conf ... was changed.

action floppy action_macfs.so ... was added to the file.

This line was removed and the File manager was restarted. It now checks for floppies OK, but attempting to format a floppy still causes the same core dump.

This is critical for my operation as this system is used to generate floppies for my development's efforts. I have to get the Solaris File Manager back into its pre-MAE state.

This article has been archived and is no longer updated by Apple.
When MAE Trial installed support for the Solaris Volume Manager, it
did the following:

* Added these lines to /etc/rmmount.conf:

ident macfs ident macfs.so floppy
action floppy action_macfs.so

* Created a subdirectory named 'macfs' within the existing directory
/usr/lib/fs and tossed these files into it:

ident_macfs.so.1
mount

* Added this file to the existing /usr/lib/rmmount directory:

action_macfs.so.1

* Restarted the Volume Manager Daemon via:

kill -HUP <vold process id>

Remove all these files and changes then restart the vold process to get back to a before MAE state.

Be sure you are running Solaris 2.3 and not some other version because it's possible this could be the real problem.

Also make sure that the floppy there were trying to format will format on other Solaris 2.3 systems to be sure it's not a defective floppy.

Support Information Services

Published Date: Feb 19, 2012

AudioVision 14" Display: How to Reset the Monitor (7/94)

I seem to have either no raster, or a dim raster on the screen of my AudioVision 14" monitor, how do I reset it?

This article has been archived and is no longer updated by Apple.
Do the following:
1) Shut down the Macintosh.
2) Turn the power off on the monitor and CPU.
3) Disconnect AudioVision 14 Monitor power cable for 30 seconds.
4) Reconnect AudioVision 14 Monitor power cable.
5) Switch monitor back on WHILE holding down BRIGHTNESS UP and MICROPHONE buttons (these are the 2nd and 5th buttons from left, respectively).

NOTE: On a Macintosh CPU which turns on the monitor automatically at power up, you will instead have to hold down the above buttons while powering on the CPU.

Other situations when the monitor may have to be reset:
* Sound control panel does not display the 'AudioVision' option in the pull down menu.
* Unable to launch the 'Video' control panel, instead you get the message 'The Video control panel can't be opened because no video panels are installed.'
* When the '~AudioVision' extension boots with an 'X' through it
* The Monitors control panel does not display any bit depth selections

In the four situations listed above, merely powering down the monitor and disconnecting the power cable from the monitor may be sufficient, but the 2-button reset procedure above will definitely work in all cases where the monitor needs resetting. This 2-button reset procedure resets the CPU inside the Sound Module in the AudioVision 14 Monitor.

In some cases, a sync problem between the monitor and computer may also necessitate resetting the monitor. The microprocessor in the sound module is responsible for processing the sense lines. If the video cable connector that plugs into the main monitor board is seated correctly and has no broken wires at the connector, resetting the monitor should be tried prior to replacing the sound module.

Article Change History:
07 Jul 1994 - Added sync problems as reason to reset monitor.

Support Information Services
Published Date: Feb 19, 2012

Installing Thinktank On Catalyst For The Apple III

This article has been archived and is no longer updated by Apple.
You may move ThinkTank (Living Videotext) to the hard disk. This will allow you to access it with greater ease than using floppy disks. These instructions assume you are moving ThinkTank to a ProFile (with a driver name .PROFILE). Substitute the name of your hard disk driver for .PROFILE if you wish to install ThinkTank on a different hard disk.

COPY PROCEDURE

1. Boot the CATALYST diskette (if you haven't already).
2. From the main CATALYST menu, select the Systems Utilities Program.
3. Press "F" for File Handling Commands.
4. Press "M" for Make a New Subdirectory.
5. Enter ".PROFILE/CATALYST/THINKTANK"
6. Press RETURN to accept the default size of 25 files.
7. Press ESCAPE.
8. Put the THINKTANK PROGRAM diskette in the internal drive.
9. Press "C" to copy files.
10. Copy all files from your PROGRAM disk to ".PROFILE/CATALYST/THINKTANK/=" except for the following:

SYSTEM.STARTUP SYSTEM.MISCINFO SYSTEM.PASCAL

To do this, type ".D1" and press the up arrow key. A list of files are displayed in a box. The up and down arrow keys allow you to move an inverse bar over the name of your choice. Pressing the right arrow key marks the file so as to include it in the copy process. Mark all files to be copied in this way. When all files are marked, press RETURN.

11. When all files have been copied, Press ESCAPE.

ADDING THINKTANK TO THE CATALYST MENU
1. Return to the Catalyst main menu.
2. Select the Catalyst Editor.
3. Enter "E" to edit the menu.
4. Use the up and down arrow keys to position the inverse bar over the entry you want the program to precede. Press "A" to ADD a program entry.
5. You will be asked for the display name of this program, enter "THINKTANK".
6. Enter "CATALYST/PASCAL" as the interpreter path name.
7. You will be asked if you want "EXTRA DRIVERS". Press RETURN.
8. Press RETURN for standard character set.
9. Press RETURN for the normal screen.
10. Press RETURN for the default keyboard.
11. Press RETURN for the initial prefix.
12. Enter "3" for the "Max Files Allowed..." question.
13. Enter ".PROFILE/CATALYST/THINKTANK,TANK.CODE" for the program path.
14. You will be asked if this entry is correct. If it is, enter "Y" then press ESCAPE to exit to the main edit menu. If you made any mistakes during entry, enter "N". You may then enter the number of the item you wish to correct. When all items are correct, press ESCAPE. Press ESCAPE again to exit to the main edit menu.
15. Enter "5" to update the INTERPS file. When you are asked if you want to recalculate the load address, enter "N".
16. Exit to the Catalyst main menu by entering "Q".

NOTE: Apple Computer Inc. is not responsible for the contents of this article.
Published Date: Feb 19, 2012

Power Macintosh: System Update 3.0 and Sound In

For users of system software versions 7.1, 7.1.1 (System 7 Pro), or 7.1.2, this article explains how to update your system software so that it retains your sound input source selection.
This article has been archived and is no longer updated by Apple.

Symptom

On Power Macintosh computers, the setting for the sound input source resets to 'Microphone' after the computer is restarted or shut down. This is a particular concern when playing audio CDs, since the 'Internal CD' and 'Playthrough' settings have to be reselected each time the computer is restarted or shut down.

Products affected

Macintosh computers with system software versions 7.1, 7.1.1 (System 7 Pro), or 7.1.2 (for Power Macintosh).

Solution

System Update 3.0 partially addresses this issue. The updated Sound control panel retains the 'Microphone' or 'Internal CD' settings, but still does not retain the 'AV Connector' settings. If 'AV Connector' is selected as the 'Sound In' option, the setting reverts to 'Microphone' after the computer is restarted or shut down.

If the 'Internal CD' sound setting is not retained after the installation of System Update 3.0, then the Sound Preferences file is probably unusable. This file can be found in the Preferences folder in the System Folder. Drag this file to the Trash and reset the Sound In settings again.

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MAE 2.0.x: Frequently Asked Questions (6/96)

This article is the MAE Product Frequently Asked Questions (FAQ), for users of Macintosh Application Environment (MAE) 2.0.

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OS Versions Used to Validate MAE V2.0.2

File System

Networking

Floppy Disks and CD-ROMs

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Printers and PostScript

Other

This article has been archived and is no longer updated by Apple.

OS Versions Used To Validate MAE V2.0.2

Question: What versions and patch levels were used to validate MAE v2.0.2?

Answer: MAE was tested against the OS versions and patch levels as listed below for both environments (Solaris and HP-UX):

Solaris v2.3 with the following patches:

101306-10

101318-75 (replaces recommended patch 101318-59)

Solaris v2.4 with the following patches:

101907-09 (replaces required patch 102077)

HP-UX 9.0.3

HP-UX 9.0.5 with patch bundle PB_04_700_0905 ("HP-UX 9.05 release 04")

HP-UX 9.0.7

with the following patches:

PHKL_6050 (replaces required patch PHKL_4605)

PHNE_6227 (replaces required patch PHNE_3939)

PHSS_4341

PHSS_4485 (not required for HP-UX 9.0.7)

HP-UX 10.01 with no additional patches.

Please note that the STREAMS package is not required for MAE to function

with HP-UX 10.01.

Included are the most recent versions (at the time of publication) of the patches required by MAE v2.0; please note that these patches may have been updated and/or superseded. Check with your vendor's support services for further information. You can also read the section titled "INSTALLING THE REQUIRED VENDOR PATCHES IN YOUR WORKSTATION SOFTWARE," found in the file README as part of the CD-ROM distribution for more information.

Installation of any other OS patches (beyond those required for MAE to function properly) is at the sole discretion of the customer. Apple Computer, Inc. makes no recommendations regarding the administration and maintenance of workstations on which the MAE product is installed.

File Systems

Question: How do I show files and directories whose names begin with "." in MAE Finder windows?

Answer: You can show/hide these files and directories by setting the appropriate check box in the Views control panel.

Question: How do I manipulate files and directories under UNIX whose names contain spaces (for example, 'System Folder')?

Answer: You can do this in either of two ways:

1) Use a backslash before each space. Example: if you want to list the

contents of the System Folder, you can issue the command:

ls -l System\\ Folder

2) Enclose the entire name in quotes. Either single or double quotes can

be used as long as they are consistent. Example, if you want to list

the contents of the System Folder, you can issue the command:

ls -l "System Folder"

Question: Why are file sizes different in MAE and UNIX?

Answer: Using MAE to copy files from a CD-ROM disc or from network-based volumes can result in source and destination files of different sizes, as viewed by the UNIX file system. This is due to MAE's default of storing files in AppleSingle format. Since Mac OS files have both resource and data forks, MAE handles these files differently on a UNIX File system, in a format called "AppleSingle". For more details, refer to "AppleSingle and AppleDouble File Formats" in MAE Tech Note #1.

Question: Why won't my UNIX applications recognize files from MAE applications?

Answer: This is related to the previous question. By default, UNIX files are written by MAE in AppleSingle format. Since UNIX and its applications know nothing about the Macintosh "resource headers" tacked onto the beginning of files in their AppleSingle representation, UNIX applications may see these files as corrupted. For more details, refer to "AppleSingle and AppleDouble File Formats" in MAE Tech Note #1.

This "corruption" can occur in a number of different ways. For example, under FileShare, if a UNIX file is dragged from a Macintosh to MAE, the file will be written by MAE in AppleSingle format, which may make it unusable. This occurs because the Macintosh doesn't know anything about UNIX files, so when it sends one to MAE, MAE thinks it's a Macintosh file and writes it to disk accordingly.

This situation does not occur between two MAE sessions that are sharing files, since MAE recognizes UNIX files for what they are and does not store "resource" information about them. When dragging a UNIX file between two MAE sessions, MAE correctly treats the file as a UNIX file.

Using ftp utilities such as Fetch from MAE can also be problematic. When "getting" a file, Fetch will pass the file to MAE to be written to disk. This works fine for Macintosh files since they will be written as AppleSingle files. However, when "getting" a UNIX file, MAE will likewise write this file as an AppleSingle file, which can make it unusable by UNIX applications.

Text files are handled differently by MAE. Text files are always written by MAE in AppleDouble format to facilitate reading and writing by both Macintosh and UNIX applications (newline characters are automatically translated by MAE; they are stored on disk as UNIX newlines). So in the examples above, when dragging a text file from a Macintosh to MAE or when Fetch gets a file using ftp "Text" mode (that is, ASCII mode), MAE will write the file in AppleDouble format.

As a rule of thumb, it's best to use UNIX to work with UNIX files and MAE to work with Macintosh files. If your environment requires the same (non-text) files to be regularly handled by both MAE and UNIX, then you're probably a candidate for running MAE in AppleDouble mode, by launching it with the -filedouble option.

NOTE: Fetch 3.0 and higher will not work with MAE 2.0.2, use version 2.x.x.

Question: Can I run UNIX commands located on Macintosh floppy disks?

Answer: MAE does not support execution of UNIX commands from Macintosh floppy disks.

Question: Why does the Finder report negative file sizes on volumes larger than 2GB? I have a large volume that I want to use for application installation.

Answer: The erroneous value is a known limitation of the File System for 7.1 (upon which MAE 2.0 is based). To circumvent this problem, you can either use volumes smaller than 2GB or use the TIV (Temporary Installer Volume) to perform the installation.

Question: Is it possible to rename the root directory disk ("/") that appears on the MAE Desktop?

Answer: While it is technically possible to change the name of the disk as it appears on the MAE Desktop, you cannot circumvent the UNIX convention of the root file system disk having the name "/". We suggest that you leave the name as is to minimize confusion.

Networking

Question: I like to have the Chooser open and available throughout my MAE session. Does this generate unnecessary network traffic?

Answer: The Chooser generates significant traffic only when it is the foreground application and a Chooser device (such as AppleShare) is selected. It generates minimal traffic when it is the foreground application and no Chooser devices are selected. It generates no traffic when it is in the background. Keeping the Chooser open when using other applications should not generate network traffic or impact network performance.

Question: I just launched MAE. I see the message "Unable to open the file '/dev/appletalk/lap/ethertalk0/control, please be sure the file exists'" in the UNIX window from which I launched MAE. What does this mean?

Answer: AppleTalk is not installed properly. AppleTalk installation must be done as root on each system on which you want to run MAE. You cannot simply copy your MAE binaries from machine to machine. The AppleTalk installation correctly configures your kernel and creates device files used by AppleTalk. In addition, you may see this error if you have just installed MAE but have not yet rebooted your workstation.

Question: Whenever I use Find File to search a folder exported via FileSharing from a workstation running MAE 2.0, both the client and the server appear to hang. Is this a bug?

Answer: This is a file system problem. FindFile uses PBCatSearch to search the entire volume anytime a search is done. For large volumes with nested mountpoints, PBCatSearch can take a very long time. It is best not to use FindFile to search remote volumes.

Question: I have two Ethernet cards installed on my workstation; can I select either card for my MacTCP interface?

Answer: No. The MacTCP driver will use the first interface detected by the ifconfig command. If more than one Ethernet card is installed, MacTCP will be configured for the first card.

Question: Which network interface cards can be used by MAE?

Answer: Beginning with v2.0.2, MAE can utilize Ethernet, FDDI, and Token Ring interface cards that provide DLPI support at the driver level. ATM is not supported. As with the previous question: if more than one interface card is installed, MacTCP will be configured for the first card detected by the 'ifconfig' command. With AppleTalk, you can select which interface to use with the Network Control Panel (this feature is new for MAE v2.0.2). In order to be eligible for use with AppleTalk, the interface must be marked 'UP' by 'ifconfig' prior to starting MAE.

Question: Can I use the MacTCP control panel to set my MacTCP IP address?

Answer: No. When you run MacTCP on MAE, it uses the host and IP configuration of the UNIX workstation on which you are running MAE. This control panel is for information only. As a user, you cannot reset your workstation's IP/host information using MacTCP.

Question: We use File Sharing to share files between Macintosh computers and workstations running MAE 2.0. We have experienced problems when accessing files exported from an MAE workstation while performing server maintenance chores on that workstation. In particular, changing access permissions or ownership seems to adversely affect clients accessing the file server. Is there any way we can prevent this?

Answer: It is best not to attempt to alter the sharing status of a folder while it is being used by a remote client. If you want to alter the status of a

shared folder (by changing its access permissions, changing its owner, or unsharing it) you should check the "File Sharing Monitor" to see that no one is using the folder before changing its sharing status.

Floppy Disks and CD-ROM Discs

Question: I'm having difficulty mounting CD-ROM discs on Solaris 2.4.

Answer: MAE may be unable to mount CD-ROM discs under Solaris 2.4, even though the file macdisks.Solaris is unchanged from Solaris 2.3, where CD-ROM discs can be mounted without difficulty.

For mounting CD-ROM discs in MAE while running Solaris 2.4, follow these steps:

1) Verify that Volume Manager patch 101907-05 has been loaded.

(/etc/showrev -p will list all installed patches.)

2) Under Solaris 2.4, modify the macdisks.Solaris file in this manner

(scsi6 should be replaced with the correct SCSI ID# of the CD-ROM

Drive):

scsi6:removable:ro:/vol/dev/aliases/cdrom0

NOTE: After inserting the CD-ROM, wait 5 seconds before attempting to mount it in MAE. The Volume Manager first must create an entry in aliases for 'cdrom0' before MAE will be able to read the alias directory.

This will properly allow MAE to mount CD-ROMs without modifying the /etc/vold.conf directory, thereby allowing the user to mount UNIX CD-ROMs with the Volume Manager.

Question: Is there any way of accessing a Macintosh-formatted hard disk from MAE if I connect it to the SCSI bus on my workstation?

Answer: No. MAE does NOT support HFS format hard disks (only CD-ROM discs and floppies). You may potentially damage your workstation or Macintosh disk if you try to connect the two.

Question: What kinds of removable media are compatible with MAE?

Answer: The current release of MAE only supports Macintosh formatted CD-ROM discs and Macintosh formatted 1.4 MB floppy disks.

Question: Are ISO 9660 format CD-ROM discs compatible with MAE?

Answer: No. Do not add the "ISO 9660 File Access" extension (or any of the other Macintosh CD-ROM extensions) to your System Folder.

If ISO 9660 CD-ROM discs are mounted under UNIX (Solaris 2.3 does this automatically), the mounted directory should be accessible to MAE. (It does not appear as an icon on the desktop.)

Question: How do I use a SCSI floppy drive with MAE under HP-UX?

Answer: MAE can use a SCSI floppy drive with HP-UX as follows:

1) Verify that HP-UX utilizes the drive as SCSI floppy and not generic SCSI. You can verify this with the 'ioscan -bf' command. Your output should look similar to:

disk 2.0.1.1.0 scsifloppy ok(0x800101) ok TEAC FC-1 HF 00

The SCSI drive must scan as 'scsifloppy' for the SCSI address utilized by that drive. If it does not, verify that the scsifloppy driver has been installed into the kernel and that you have the required patches for your level of HP-UX. In addition, the chosen SCSI address cannot conflict with any other devices.

Also, ensure that you are using the proper device files with the drive. As an example, the following entries were created in /dev/floppy and /dev/rfloppy respectively using 'mknod':

brw-rw-rw- 1 root sys 23 0x201100 Jun 27 18:03 c201d1s0

crw-rw-rw- 1 bin bin 106 0x201100 Jun 28 10:28 c201d1s0

Note that read and write permission is granted to all users.

2) In the file 'macdisks.HPUX' (located in the Preferences folder for each user), add an entry similar to the following prior to starting MAE (or reboot after changing it if MAE is running):

floppy0:rw:/dev/rfloppy/c201d1s0

The exact entry will depend upon the SCSI address utilized by the drive. In all the examples above, SCSI address = 1 is shown. Do NOT put an entry into the SCSI section of this file -- it must be entered as a floppy drive. If you already have a floppy drive as 'floppy0', you can put the SCSI floppy as 'floppy1' instead.

Note: we tested with an ISA 1015S that required an upgrade from the vendor before it would be recognized by HP-UX as 'scsifloppy.' MAE will NOT be able to use the drive until HP-UX recognizes the unit as a SCSI floppy drive. We also discovered that our unit did not work if SCSI address = 0 was utilized.

Question: I'm having difficulty mounting disks using the 'default' convention in 'macdisks.HPUX' on my newly-upgraded HP-UX 10.01 system.

Answer: HP changed the names (and thus, the absolute paths) of the device files for HP-UX 10.01. Therefore, you will need to explicitly code the names in for each device that you wish to use with MAE. Usage of the 'default' convention will fail as it expects the files to be in the old (that is, HP-UX 9.x) locations.

Performance

Question: Can MAE be run as an X Application over the network?

Answer: Yes. However, MAE was optimized to run as a local application and be displayed on the local workstation console. While MAE is certainly an X application and can be run remotely, it is graphics intensive and may run significantly slower over the network. MAE performance is highly dependent upon the X server, X client, and network bandwidth and traffic.

Question: Can I increase the performance of MAE when using a remote X-Client over the network?

Answer: Yes. Changing the Monitors Control Panel to "Black and White" will reduce the amount data sent over the network to the X-Client. This can make a significant difference when running remotely, especially with graphics intensive applications.

Question: Will performance be affected if my home directory is located on a remote volume?

Answer: Yes. The "System Folder", which contains the Mac OS system files, is built in your home directory when you start MAE for the first time.

Performance will be affected since the code in this folder must be executed to run MAE and it will run more slowly when the System Folder is located on a remote volume.

Question: Can I run MAE with my home directory physically located on a machine running SunOS 4.1.x and NFS mounted to a Solaris 2.x workstation running MAE?

Answer: Yes, but be careful with your permissions. Performance may also be significantly affected.

Keyboard and Display

Question: Why does the cursor sometimes disappear from the screen, when I'm using MAE with a black and white monitor?

Answer: The MAE cursor can "disappear" when it enters an area of the MAE screen that is the same color as the cursor. This is most prevalent when running MAE in monochrome mode and you move an all black cursor (for example, the I-beam cursor) over an all black region of the screen. If your X Server supports color cursors, you can control the foreground and background colors of the MAE cursor by setting the TBFGCURSORCOLOR and TBBGCURSORCOLOR environment variables, as in the following c-shell example:

```
setenv TBFGCURSORCOLOR red

setenv TBBGCURSORCOLOR blue
```

Question: When I try to abort an MAE application by pressing Command-Option-Escape, MAE hangs. What's the problem?

Answer: This feature is not implemented in MAE 2.0. Avoid trying to abort applications with Command-Option-Escape on both Sun and HP workstations.

Question: How can I kill MAE without focusing on a separate X session and issuing a shell-level command?

Answer: Use Shift-Control-E to kill MAE (and its window) if other means of quitting MAE are not effective. This action should be performed only under unusual circumstances, as it does not permit MAE to perform its normal activities at shutdown (for example, you may need to remove the file '.SMlock' prior to starting MAE again).

Printers and PostScript

Question: I'm having trouble getting my PostScript printer to print reliably under MAE. What should I do?

Answer: While developing MAE, we could not test on all possible PostScript printers -- there are just too many. Also, many older PostScript printers have very little memory (for example, the original Apple LaserWriter only had 1 MB of RAM), making it difficult to print complicated documents on them. A Macintosh computer, by communicating directly with the printer, can circumvent this memory limitation by optimizing the feeding of PostScript to the printer. MAE's LprWriter, however, uses the underlying UNIX print spooler, and does not communicate directly with the printer. It is therefore possible for a printer to be unable to print a complex document from MAE that it can print successfully from a Macintosh computer.

Other tips:

1) The LprWriter driver generates Level 1 PostScript, which should print on any real PostScript printer that has enough memory. (Some companies did not license a PostScript interpreter from Adobe but wrote their own; these often have problems.)

2) Verify that there are no preset memory limitations with your print spooler or device description files.

3) It is very important to specify the correct PPD file for the printer. The PPD file contains information about resident fonts, memory size, page sizes, and so on. An incorrect PPD specification can create many problems.

4) If the PPD file for a printer is not shipped with MAE, you can try to get it directly from the printer manufacturer, or from Adobe. Adobe, the creator of PostScript, maintains archives of PPD files, and technical papers about PostScript. These are available on the Internet, at Adobe's FTP server, ftp.adobe.com (130.248.1.4). The login is "anonymous" (without the quotes), and you should use your email address as the password. PPD files are in the directory :
/pub/adobe/PPDfiles/MAC

NOTE: All spaces in PPD filenames have been replaced with tildes (~),

to make it easier to retrieve the files. After downloading a PPD from

this directory, change all tildes in the filename to spaces.

You can also send mail to their email server:

ps-file-server@adobe.com

Send an email message with just the word "help" in the subject for

instructions on how to use the email server.

Other

Question: Why will my Solaris 2.4 workstaton not successfully run MAE unless it is connected to a network? Without a network, MAE hangs after the "Welcome to Macintosh" screen, and I must kill MAE from a UNIX shell. If the same machine is added to a network, MAE starts up fine.

Answer: Solaris 2.4 workstations without a network connection require Sun's patch 101945-34 (or its equivalent). This "megapatch" is newer than the patches recommended in the MAE 2.0 README. This patch can be found found at sunsolve1.sun.com. After installing the patch, remove the file /tmp/at if it exists.

Question: Why will MAE 2.0 not produce sound on my my HP Workstation?

Answer: See ISSUES RELATED TO SOUND in the README file delivered with MAE 2.0.

Final check: be sure the AUDIO environment variable is set to the target audio server.

Question: Using Aldus Persuasion 3.0 with MAE, I can open documents but I cannot save them. What's the problem?

Answer: You will have to save your Persuasion 3.0 documents using a name different from the original name. This workaround is necessary because of an incompatibility between MAE and Persuasion 3.0 which causes Persuasion to think the original document is locked; it therefore opens a copy, with a generic 'untitled' name. Because Persuasion thinks the original document is locked, you cannot save the modifications under the original name.

Question: Can I use Apple's PC Exchange to read DOS disks in MAE?

Answer: PC Exchange is not supported. The current release of MAE supports only Macintoshformatted CD-ROM discs and 1.4 MB floppy disks.

Question: How do I install MAE on a diskless or dataless workstation?

Answer: In order to successfully install MAE for diskless or dataless workstations, write access to /usr, /kernel (Sun), /devices (Sun), and /etc/devlink.tab (Sun) is required. If you are installing as root, this should not present a problem; if you are installing as other than root, you may need to temporarily have write access to the necessary filesystems and directories.

Question: My workstation went down while I was running MAE. Now, when I try to start MAE, I get a message about the file '.SMlock' in my System Folder. How should I proceed?

Answer: Each time MAE is launched, it looks for the file '.SMlock' in the System Folder. If the file exists, MAE refuses to start; if the file does not exist, MAE creates it. This prevents multiple instances of MAE from using the same System Folder concurrently. Normally, the file is deleted when MAE is stopped (via 'Shut Down' from the Finder). If you are sure that no other instance of MAE is using that System Folder, you may safely delete .SMlock. Once it is removed, MAE will start normally.

Question: Can you provide me with some general troubleshooting tips for MAE? I am not sure if the problem I am experiencing is MAE-specific or related to the Macintosh application(s) that I am using.

Answer: Many of the troubleshooting tips that apply to isolating issues in the native Macintosh environment can be used successfully with MAE as well. An example of this would be to start MAE with the '-noextensions' option. Actions that are MAE-specific would include creating a new System Folder (use '-sysfol' and create the new folder in /tmp), resetting the virtual PRAM settings (start MAE with '-zappram'), increase the amount of RAM given to MAE at startup ('-memory'), and removal of the file system cache entry (.fs_cache in the System Folder). For more information, please reference your MAE documents.

Question: I have updated my HP-UX system from 9.x to 10.01 and applied the patch for MAE v2.0.2. A co-worker who executes MAE on his 9.x workstation using my Apple directory (appledir) is now experiencing errors. What's wrong?

Answer: The binaries for HP-UX 9.x and 10.01 are not interchangeable. When the patch for MAE v2.0.2 is installed on a 10.x system, it modifies the contents of the appledir to support that version of HP-UX. These modifications are not compatible with workstations running 9.x of HP-UX. To correct the problem, reinstall MAE from the CD-ROM on the 9.x system and rerun the patch for MAE 2.0.2.

Question: I've just purchased MAE v2.0. How do I install the necessary updates to MAE (that is, MAE 2.0.1 and MAE 2.0.2)? How do I remove MAE from a particular workstation?

Answer: The following is true for all platforms EXCEPT HP-UX 10.01 and later:

- For a new installation of MAE, first install MAE v2.0 as distributed on the CD-ROM. Then proceed with installation of the patch for MAE v2.0.2.
- If you are upgrading from MAE v2.0 or v2.0.1, executing ./PATCH.SH as distributed from MAE 2.0.2 will make the necessary changes. Note that as the patches are cumulative, you do not need to install MAE 2.0.1 prior to MAE 2.0.2.
- If you are upgrading from MAE v1.0 and would like to preserve the System Folder contents you added (Extensions, Fonts, Preferences, and so on), first install MAE v2.0 as distributed on the CD-ROM, then run it once to update each MAE v1.0 System Folder on your disk (note that the MAE 2.0.2 updater will only recognize MAE v2.0 and v2.0.1 System Folders). Then proceed with installation of MAE 2.0.2.
- To remove MAE, use the Remove feature of the installer supplied with the MAE v2.0 CD-ROM and/or the 2.0.2 patch distribution. Note that the 2.0.1 patch does not have any removal capabilities and that the 2.0.2 patch will ONLY remove previously-installed 2.0.2 components.

FOR HP-UX 10.01 USERS ONLY:

- For a new installation of MAE for HP-UX 10.01, first install MAE v2.0 as distributed on the CD-ROM but do not install AppleTalk (you can do this by performing a custom installation (as detailed in the 'MAE User's Guide')). After you have installed MAE 2.0 from the CD-ROM, you can apply the MAE 2.0.2 patch by executing ./PATCH.SH as distributed with the patch. Note that the STREAMS package is not required for HP-UX 10.01.
- HP-UX 10.01 was not supported in versions 2.0 and 2.0.1. As a result,

upgrade instructions are not included here.

- If you are upgrading from MAE v1.0, first rename any existing MAE v1.0 (or MAE v1.0a) System Folders. Next, install MAE v2.0 as distributed on the CD-ROM but do not install AppleTalk (you can do this by performing a custom installation as detailed in the 'MAE User's Guide'). This will create a new System Folder to which you can manually drag/copy any resources (Extensions, Fonts, Preferences, and so on) from your old MAE v1.0 System Folder. You can now safely apply the MAE 2.0.2 patch by executing ./PATCH.SH as distributed with the patch.
- To remove MAE except for the AppleTalk components, use the Remove feature of the installer supplied with the MAE v2.0 CD-ROM and/or the 2.0.2 patch distribution. Note that the 2.0.1 patch does not have any removal capabilities and that the 2.0.2 patch will ONLY remove previously-installed 2.0.2 components. Then remove the AppleTalk components utilizing the Remove feature of MAE 2.0.2.

Question: Are there other sources of information that can help me to support usage of Macintosh applications under MAE?

Answer: Yes! The MAE Engineering Team has created a mailing list for just this purpose. 'mae-users' an unmoderated list that allows users to discuss the Macintosh Application Environment product in an informal atmosphere. 'mae-users' permits our customers to assist each other and distribute hints and other information about the product.

In addition, you can also reference the online documentation supplied with the MAE CD-ROM. There are two documents which utilize the Macintosh application 'DocViewer' (supplied): 'MAE System Admin Guide', and 'MAE User's Guide'. Both of these documents contain helpful information on getting the most out of MAE.

Article Change History:

25 Jun 1996 - Updated Fetch information.

05 Feb 1996 - Updated for MAE 2.0.x.

05 Jul 1995 - Made correction for clarity.

TA31941_MAE_x_Frequently_Asked_Questions__(TIL15641).pdf

Published Date: Feb 19, 2012

MAE: Trial Frequently Asked Questions (10/94)

This article is an MAE Trial Frequently Asked Questions (FAQ); for users of Macintosh Application Environment (MAE).

This article has been archived and is no longer updated by Apple.

What's New

Note: All new information in this FAQ is marked "###NEW###"

and all changed information is marked "###UPDATED###".

1. MAE Trial version 1.0a has been made available via anonymous ftp at

ftp.apple.com.

2. How to remove the MAE Trial from your system.

MAE FAQ's

Q) What information is contained in each of the three FAQ documents?

A) The Product FAQ contains general information about the product and

licensing. This FAQ answers questions about support, pricing and

product specifications.

The Technical FAQ contains information of about product performance,

tuning, workarounds and other technical tips.

MAE Trial

###NEW###

Q) What is the MAE Trial?

A) Macintosh Application Environment (MAE), is a software implementation

of Macintosh that runs on UNIX workstations from Sun Microsystems and

Hewlett-Packard. Through the use of 68LC040 emulation and native

extensions, MAE provides the Macintosh System 7.1 environment in an X

Window. This gives users the ability to run thousands of "shrink-wrap"

Macintosh applications on their workstations. In addition MAE provides a high-level of integration between the Macintosh environment and UNIX thereby enabling users to manipulate UNIX files and execute UNIX applications from the Macintosh "desktop."

MAE runs on Solaris 2.3 or HP-UX 9.0.1 or later, and requires an X11 release 4 or later window display server. MAE is compatible with HP's Visual User Environment, as well as SunSoft's OpenWindows and OSF Motif.

The Trial product allows you to evaluate MAE for 8 total hours on your workstation. After the 8 hours, the Trial product will shut down and can be removed from your workstation. Printing is also disabled in the MAE Trial.

###NEW###

Q) What are the system requirements of the MAE Trial?

A) The system requirements are:

HP 9000 Series 700 workstation running HP-UX 9.01 or later

Sun SPARC workstation running Solaris 2.3 or later

X Window System, Version 11, release 4 or later

Window manager such as Motif, HP VUE, or OPEN LOOK

At least 16 MB of RAM; 32 MB recommended

At least 16 MB of free hard disk space; 22 MB recommended

###NEW###

Q) How do I get the MAE Trial?

A) The MAE Trial 1.0a is being distributed only via ftp at this time. You can download version 1.0a of the MAE Trial via anonymous ftp from server ftp.support.apple.com in directory /pub/mae/product-trial.

Note: The minimum MAE Trial ftp package is about 13 megabytes. This can

take a while to download across some slower internet connections.

Q) After I install the MAE Trial, I can run MAE without problems. When another user tries to execute the same binaries, they get a Trial expired message. What gives?

A) The MAE Trial is designed to be installed for each user, and each user has 8 hours of use. The work around is to mount the CD so everyone can see it and run the installer over the net and install local copies for each user that wants to test out the product.

###NEW###

Q) How do I remove the MAE Trial from my system?

A) To remove the MAE Trial, delete the following:

~/apple (and all its contents)

~/"Trial System Folder" (and all its contents)

~/.mac (and all its contents)

~/man1

~/docs

Note that you may have installed your "apple" directory in a place other than your HOME directory.

Q) What is Apple's Support policy on the MAE Trial.

A) The MAE Trial is provided on an as is basis. For your convenience, Apple has made an internet mailing list and ftp server available that contains information about MAE and the trial, answers to frequently asked questions, patches, support tips and other technical information. We highly encourage you to use these resources to obtain assistance.

Q) How do I subscribe to the MAE mailing lists?

A) There are two mailing lists in the MAE mailing list system:

mae-announce@medraut.apple.com

mae-users@medraut.apple.com

mae-announce is a moderated list that will be used to distribute announcements and information about MAE from Apple. It's aimed at people who want to keep informed on the product, but don't want to sift through all of the mail that is distributed through an open mailing list.

mae-users is an unmoderated list that allows users to discuss the product in an informal atmosphere. mae-users will allow users to assist each other and distribute hints and other information about the product.

To subscribe to a list, please send mail to listproc@medraut.apple.com.

Please put the following command in the body of the message (the subject line should NOT be a command. It can be blank or nonsense):

subscribe listname your name

EXAMPLE:

% mail listproc@medraut.apple.com
Subject: leave blank

subscribe mae-users Thurston P. Howell, III

Q) What is the name of the MAE ftp server and what does it contain?
A) The server name is "ftp.support.apple.com". MAE related material can be found in directory /pub/mae. The purpose of this server is to assist the distribution of information, patches and other related electronic material to users of Apple's Macintosh Application Environment (MAE).

The /pub/mae directory consists of the following subdirectories:

info - general info, announcements, digests, FAQ, mailing list information

install-hints - installation tips for Third-Party software

patches - tar files containing patches for MAE

product-trial - a free time-limited trial of MAE (printing disabled)

technotes - technical info (for example tuning, compatibility, troubleshooting, and so on.)

utilities - Macintosh, Solaris and HP/UX software utilities

incoming - writeable directory for (server related) user input and requests

Article Change History:

24 Oct 1994 - Reviewed for consistency and updated format.

25 Aug 1994 - Updated with new MAE Trial FAQ.

Support Information Services

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LW Select 360, & Personal LW 320 Power-On Self Test (5/96)

This article describes the LaserWriter Select 310 and 360, plus the Personal LaserWriter 320 Power-On Self Test.

This article has been archived and is no longer updated by Apple.

The LaserWriter Select 310 and 360, and the Personal LaserWriter 320 go through a self diagnostic each time you switch the printer on. This diagnostic is called the Power-On Self Test (POST). Observing how the LEDs extinguish from that point can help isolate certain failure areas.

NOTE: This test is not the same as the engine diagnostic. Unlike the engine diagnostic test, POST does not require the placement of any loopback cable.

NOTE: POST does not occur on the LaserWriter Select 300 or the Personal LaserWriter 300 printer.

1) When you switch on a functional printer, all LEDs will illuminate for a short time.

2) The Ready LED extinguishes when no errors are found on the I/O controller board.

3) Then the Paper-Out LED extinguishes when no errors are found on the RAM card.

4) Finally the Jam LED extinguishes when no errors are found in the engine.

NOTE: In a functional printer, control will be passed on to the PostScript interpreter at the end of this sequence.

Article Change History:

17 May 1996 - Added LaserWriter Select 310 back into article.

27 Apr 1996 - Removed references to LaserWriter Select 310.

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Workgroup Server 6150: Read Me File (6/94)

This article is the Workgroup Server 6150 ReadMe file.

This article has been archived and is no longer updated by Apple.
Information About Your Workgroup Server 6150

Congratulations on purchasing a Workgroup Server! This document contains important additions to the information that appears in the manuals that came with your computer.

Installation And Startup
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* Do Not Install the LaserWriter 8.1.1 Printer Driver DO NOT install the LaserWriter 8.1.1 driver. All necessary printer software is already correctly installed on your server.

* Installing Server Application Software
You may be planning to install software such as AppleShare, AppleSearch, Apple Remote Access, or other server application programs. The order in which you install and start server application software is important, so be sure to review the documentation for all the server application programs you plan to use before installing and running them. Note that the order in which you install is dependent on whether you are using the server for file, print, or database applications.

* Choose the Correct Software
Be sure to use these (or later) versions of software with your Workgroup Server:
* AppleShare File and Print Server 4.0.2
* AppleTalk Internet Router 3.0.1
* Apple Remote Access 2.0.1
* AppleSearch Server 1.0.1

* Use the Correct Software Installer
Different server applications come with different versions of the installer. Be sure to use the installer that came with the particular piece of software you are installing. Always start up the installer that is located in the same folder as the software you are installing.

* Problems Starting Up?
On occasion, particularly if there is heavy network traffic, the server may fail to start up correctly. Sometimes this problem is accompanied by a prolonged "beep" during the startup process. If startup problems occur, you may need to disconnect the Ethernet cable before startup, then reconnect it after the server successfully completes the startup process. After reconnecting, you must then reselect Ethernet using the Network control panel.

* If You Reinstall System Software
If you reinstall Workgroup Server software from the CD-ROM disc, you may need to reinstall all or part of your server applications, such as AppleShare or AppleSearch. When reinstalling, be sure to check the information that comes with your server application software.

Memory And Peripherals
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* Do NOT Turn On Virtual Memory
DO NOT turn on virtual memory (in the Memory control panel). Virtual memory doesn't improve the performance of server applications. In addition, some server applications, such as the Internet Router, can't run with virtual memory enabled.

As an alternative to turning on virtual memory, you can install additional random-access memory (RAM) in your computer. Installing

additional RAM adds more memory to your computer, and expands its capabilities.

The Technical Information booklet that came with your computer describes how much additional memory can be installed in your server.

* Installing Additional Memory
To avoid damage to your computer, Apple Computer recommends that only an Apple-authorized dealer or service provider install additional memory. Memory for your computer is provided in packages called DRAM SIMMS. The SIMMS must be the correct type for your computer, added in same-size pairs, and installed in paired slots inside your computer. It is very important that the DRAM SIMMS be correctly installed in your Workgroup Server. Incorrect installation can result in errors, unpredictable results, and damage to your equipment and data.

IMPORTANT Do not remove any factory-installed cards from inside your computer. Removing a factory-installed card at an angle can damage your equipment. Any NuBus¬ expansion cards installed in your computer will not operate properly if the factory-installed card is removed. If a factory-installed card needs to be removed, see an Apple-authorized service provider.

Performance
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* In Case of System Problems While Running Non-Native Applications If you notice problems when running third-party applications in emulation mode, try turning off the Modem Memory Manager in the Memory control panel. Contact the manufacturer for information on the version designed especially for Power Macintosh computers.

* If Your Computer's Performance Decreases
If you notice a decrease in your computer's speed and general performance after adding special software (a control panel, a system extension, or custom utility), it may be because your special software does not work well with Power Macintosh computers.

To find out if your special software is the problem, hold down the Shift key while you restart the computer. This temporarily turns off certain kinds of software. If the computer performs better without the special software, then that software is likely to be the problem.

Drag the software out of the System Folder or remove it permanently. (The software might be in the Control Panels or Extensions folders, which are inside the System Folder.) If the computer performs better when the software is removed, contact the software's manufacturer for information or an upgrade.

Who Should Install System Update 3.0?

System Update 3.0 provides the enhancements of System Update 2.0.1, Hardware System Update 2.0, and Hardware System Update 1.0. If you're encountering problems that you believe might be remedied by System Update 3.0, consult the service and support information that came with your server for instructions on how to contact an Apple-authorized service provider or Apple for assistance.

Here is a list of the fixes and enhancements offered by System Update 3.0:

* Provides system-level improvements to increase overall system performance.

* Corrects a problem that allowed the system to become corrupted during a power failure or crash and prevent it from restarting.

* Fixes the About This Macintosh box so the memory usage line doesn't get drawn outside of its bounds.

* Provides a solution to prevent the file corruption that can happen when a file is being modified remotely (Remote Access or file server) and the connection is unexpectedly broken. Now, when the remote volume is lost, its icon will remain dimmed on the desktop.

* Provides increased reliability for remote file saving when the client is running System 7.1 or greater while the server is running a pre-7.0 system and using pre-3.0 AppleShare.

* Fixes a problem with throwing away folders which were on an AppleShare volume. Sometimes after attempting to empty the Trash the Finder would warn you that the folder contains items that are in use and could not be deleted. The Trash will now properly handle folders from AppleShare volumes.

* Updates the Standard File package to include many fixes and enhancements. The most significant fix allows more than 20 volumes to be mounted. The most significant enhancement is the use of color icons.

* Updates the PowerPC Enabler (version 1.0.1) to fix some video problems and communications problems.

* Provides system-level improvements to increase overall system reliability on most Macintosh models.

* More efficiently manages the way fonts use memory.

* Installs AutoRemounter 1.2. This release significantly reduces network traffic compared to version 1.0.

Support Information Services

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Installing Versaform On Catalyst For The Apple III

This article has been archived and is no longer updated by Apple.
You may move VersaForm version 1.3 Release 2 (Applied Software Technology) to a hard disk for use with Catalyst. These instructions assume you are moving VersaForm to a ProFile (with driver name .PROFILE). Substitute the name of your hard disk driver for .PROFILE if you wish to install VersaForm on a different hard disk.

COPY PROCEDURE:

1. Boot the Catalyst diskette (if you haven't already).
2. From the Catalyst main menu select the Systems Utilities Program.
3. Enter "F" for File handling commands.
4. Enter "M" for Make a new subdirectory.
5. Enter "CATALYST/VF"
6. Enter "50" for the subdirectory size.
7. In the same manner, create the subdirectorys:"CATALYST/VFD" and "CATALYST/VF/WORK" also with room for 50 files.
8. Press "ESCAPE".
9. Enter "C" for Copy Files.
10. Copy all the files on diskette #1 to the subdirectory "CATALYST/VF/=" except for the following:

SYSTEM.MISCINFO SYSTEM.PASCAL SYSTEM.LIBRARY
SYSTEM.STARTUP BJTERM and BJSTART.CODE

To do this, type ".D1/" and press the up arrow key. A list of files is displayed in a box. The up and down arrow keys allow you to move an inverse bar over the name of your choice. Pressing the right arrow key marks the file so as to include it in the copy process. Mark all files to be copied in this way. When all files are marked press RETURN.
11. After all files have been copied, repeat step 10 for disks #2, #3, and #4.
.
NOTE: The files "RMSG2", "RMSG1", "RMSG0" and "CPCMENU" are duplicated on disk 4. When System Utilities asks if the previous copy of these files on the ProFile should be deleted, respond with "N".
12. Copy all files on diskette #5 to the subdirectory "CATALYST/VFD/=".
13. Copy "BJSTART.CODE" from the 3 DRIVE/HARD DISK boot diskette to "BJSTART.CODE".
14. Copy "SYSTEM.LIBRARY" from the 3 DRIVE/HARD DISK boot diskette to the following files:

BJSTART.LIB
CATALYST/VF/DESIGN.LIB
CATALYST/VF/FILING.LIB
CATALYST/VF/REPORT.LIB
CATALYST/VF/CPRINT.LIB
CATALYST/VF/PF.LIB

Additional Instructions

In order for VersaForm to find all of its files on your hard disk you must modify all the directory names within the program.

1. Boot the "3 DRIVE/HARD DISK" diskette.
2. Select option "7" (Exit to Pascal).
3. Type "X" for X(ecute from the Pascal Command Line.

NOTE: If you are using a hard disk other than ProFile, substitute the VOLUME name of your hard disk for /PROFILE in steps #4, #12, and #16.

4. Type "/PROFILE/CATALYST/VF/BJSETUP" in response to "Execute what file?".
5. Enter "5" for Customize existing configuration.

6. Press "RETURN" for the "*BJTERM" question.
7. Enter "N" in response to "Reconfigure function keys?".
8. Enter "N" in response to "Reconfigure dummy data character?".
9. Enter "N" in response to "Reconfigure reverse video?".
10. Enter "Y" or "N" to Reconfigure printer characteristics as required.
11. Enter "Y" to Reconfigure volume/directory names.
12. Set Program volume/directory names as follows:

Design program = /PROFILE/CATALYST/VF
Filing program = /PROFILE/CATALYST/VF
Report program = /PROFILE/CATALYST/VF
Copy/Prnt program = /PROFILE/CATALYST/VF
Rptwrk disk = /PROFILE/CATALYST/VF/WORK
Default files vol = /PROFILE/CATALYST/VFD

13. Enter "N" for Diagnostic mode.
14. Enter "Y" to write new configuration to disk.
15. Since you do not want to write copies of the configuration to separate disks, enter "N" for this question.
16. VersaForm will ask you to write the default configuration file you have just created to a location on your hard disk Enter "/PROFILE/BJTERM" for the pathname requested.
17. Enter "Y" or "N" for Listing configuration to printer as required.

ADDING VERSAFORM TO THE CATALYST MENU

1. Select the Catalyst Editor in the Catalyst main menu.
2. Enter "E" to edit the menu.
3. Use the up and down arrow keys to position the inverse bar over the entry you want the program to precede. Press "A" to add a program entry.
4. You will be asked for the display name of this program. Enter "VersaForm".
5. Enter "CATALYST/PASCAL" as the interpreter pathname.
6. You will be asked for a list of any extra drivers this program requires. Press RETURN.
7. Press "RETURN" for Character set path.
8. Press "RETURN" for Normal screen.
9. Press "RETURN" to use the default Keyboard.
10. Press "RETURN" to accept the default Initial prefix.
11. Press "RETURN" for the "Max files allowed ..." question. This will allow the program to be exited only by the QUIT option in VersaForm. This procedure is suggested due to the fact that files may be lost if the double Apple escape option is used. You may exit to the Catalyst main menu by typing "Q" from the Pascal Command Line.
12. Enter "BJSTART.CODE" when you are asked for the program path.
13. You will be asked if this entry is correct. If it is, answer "Y" then press ESCAPE to exit to the main menu. If you made any mistakes during entry, enter"N". You may then enter the number of the item you wish to correct. When all items are correct, press ESCAPE. Then press ESCAPE again to exit to the main menu.
14. Enter "5" to update the INTERPS file. When you are asked if you want to recalculate the load address, enter "N".
15. Exit to the CATALYST main menu by entering "Q".

NOTE: Apple Computer Inc. is not responsible for the contents of this article.
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PowerBook: Internal Modem & Serial Printer Configuration

The PowerBook 150, 200, 500, 2300 series computers have only one serial port. How do I set up a direct connect serial printer when I have an internal modem installed? Also, how can I communicate with an AppleTalk network?
This article has been archived and is no longer updated by Apple.
The PowerBook 200, 2300 (Duos), and 500 series computers have only one serial I/O port which is mapped as a modem port. Depending on the individual printer driver, the Chooser may show a combo port icon (such as the ImageWriter driver), or it may have two choices: printer and modem (such as the StyleWriter II). If given two choices, you should select modem port.

AppleTalk can run through this port if LocalTalk (built-in) is selected in the Network control panel and AppleTalk is Active in the Chooser. To successfully print to a direct-connect printer, you must make AppleTalk inactive through the Chooser.

You can redirect AppleTalk to a different port using the Network control panel if you are connected to an Ethernet network, or if you have Apple Remote Access Client software installed.

Since Apple Remote Access requires AppleTalk to be active, and a serial printer requires AppleTalk to be inactive, the Remote Only selection in the Network control panel allows you to set the internal modem port for AppleTalk. This enables the external serial port for use with non-AppleTalk devices.

Normal and Compatible Mode

Figure 1-PowerBook Setup control panel

PowerBook Setup control panel

In the Normal mode, the modem is addressed via the System 7.x Communication Toolbox, and the external port is available for usage.

If your communication program is NOT compatible with the Communication Toolbox, set the PowerBook Setup control panel to Compatible (see figure 1). This mode prevents the external serial port from being addressed by other programs, as well as preventing communication with a serial printer.

Global Village PowerPort 500 or PowerPort Duo control panel

If you have installed version 2.5 of Global Village's GlobalFax 2.5 software, the setting for Compatible or Normal will no longer be in the PowerBook Setup control panel. It will be in either the Global Village PowerPort 500 control panel or Global Village PowerPort Duo control panel.

You will need to click on the "Configure Port" button in the appropriate control panel to make the selection of Compatible or Normal. The functionality of the Normal versus Compatible setting remains the same as described above in the PowerBook Setup control panel.

PowerBook 200 Series with Express Modem Software

Figure 2-Express Modem turned off

On any PowerBook Duo 200 series computer (210, 230, 250, 270c, 280, or 280c) you need to open the Express Modem control panel and do the following:

Telecom Software
If using Telecom 2.3.2 or greater, be sure the box "Use internal modem instead of Modem Port" is NOT checked if you wish to print to a serial printer (see figure 2). If the box is checked, the serial port cannot be addressed by other programs, and the serial port cannot be used by the printer.

Figure 3-Express Modem turned on

Express Modem Software
If you are using Express Modem 1.5 or 1.5.5, you need open the Express Modem control panel and change the radio button setting to External, not Express Modem in order to print to a serial printer (see figure 3). In this situation, "External" is equal to the "Normal" setting and "use Express Modem" is equal to the "Compatible" setting.

PowerBook 200 Series with Telecom Software

All PowerBook 2300c (Duo) computers must use Telecom 2.3.2 or greater software. If you have installed older software it must be removed.

PowerBook 500 Series with Express Modem software 1.5 or later installed*

On any PowerBook Duo 500 series computer (520, 520c, 540 or 540c) which has an Express Modem II* intstalled you need open the Express Modem control panel and change the radio button setting to External, not Express Modem in order to print to a serial printer (see figure 3). In this situation, "External" is equal to the "Normal" setting and "use Express Modem" is equal to the "Compatible" setting.

*The Express Modem II is only sold and supported in Europe. Apple does not support the use of the Express Modem II in any country outside of Europe.
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Power Macintosh: Printing Fax In Landscape Orientation (6/94)

I am using a Power Macintosh with a GeoPort Telecom Adapter and the Express Modem software. I can both send and receive faxes, but I am unable print a fax from Fax Viewer in landscape mode. I have tried printing to several different printers including a LaserWriter Pro 630 and LaserWriter 810. I have changed the page setup dialog to show landscape printing but the fax prints out rotated ninety degrees with the bottom cut-off.

This article has been archived and is no longer updated by Apple.
In order to print a received fax from Fax Viewer in a landscape orientation you must perform the following steps:

1) Open the fax you wish to print with the Fax Viewer application.
2) Choose "Page Setup" in the File menu and select Landscape orientation.
3) Choose Rotate Right (Cmd-r) or Rotate Left (Cmd-l) from the Page menu.
Note: If you have a multiple page fax then this must be done for each
page you wish to print in landscape orientation.
4) Choose "Print" from the File menu to print the document.

Support Information Services
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LaserWriters: Screen Frequency and Gray Levels

This article discusses customizing printer halftones, screen frequency, and gray levels for optimum output.
This article has been archived and is no longer updated by Apple.
Determining the optimal relationship between gray levels and screen frequency is quite simple once you understand a few basic concepts of laser printers. Like computers, laser printers understand only two values: on and off (black and white). They simulate grays by varying the amount of dots within a certain area, called a halftone grid. Halftones are made of grids, just like the paper used to graph functions in trigonometry. To create a halftone, laser printers place dots within each cell on the grid. The screen frequency (which is a misnomer these days, but we still use the term leading when talking about the space between lines of text) determines the size of each cell in the grid.

Most laser printers can produce only a given size dot, however Photograde is the exception. Because the dot size is fixed and increasing the line frequency decreases the size of each cell, the gray levels which can be produced are inversely proportional to the line frequency. Visualize a grid and keep in mind only so many dots can be placed on a region of paper. In a 600 dpi printer, such as a LaserWriter Select 360, the dpi does not vary, but you can vary the size of the grid. Because printers produce grays by varying the amount of dots within each halftone cell, making the cells smaller will allow fewer grays in your halftone. The following formula lets you easily determine how many grays you can get for a given resolution and screen frequency with an angle of 0 degrees.

(Output Resolution / Screen Frequency)^2 + 1 = Gray Levels

For example, consider the LaserWriter Select 360.

(600 dots per inch / 100 lines per inch)^2 + 1 = 61 Gray Levels

With a little juggling, you can also use this formula to determine what screen frequency yields a desired level of grays. For a bit easier calculation, simply divide the dots per inch by the square root of the grays levels to determine the screen frequency:

Dots Per Inch times / sqrt(Gray Levels) = Screen Frequency

Staying with the Select 360 example, if you want 100 gray levels:

600 / sqrt(100) = 60

Again, you can rearrange this formula to calculate different variables. Keep in mind Postscript is limited to 256 shades of gray, so your largest divisor in the preceding formula will be 16. Even for high-end work though, Postscript does an excellent job. Plug a 150 line screen into the formula and you will see you need a 2,400 dpi printer to produce 256 grays.

The discussion above holds true for fixed resolution printers, but Photograde changes the rules by varying the timing of the laser pulses to vary the size of the dots within each cell. The LaserWriter Pro 600/630, Select 300 and IIf/IIg use Photograde technology. Photograde is capable of producing 91 levels of grays using a 106 line screen at 300 dpi. This is sufficient for proofing photographs and low-quality newsletter output.

Also keep in mind 300 dpi and 600 dpi laser printers cannot replace imagesetters or traditional darkroom halftones. Some 1,200 dpi laser printers can produce acceptable halftones for reproducing on newsprint, but users will have to experiment with dot shape and line angle to determine what works best with their particular printer and press. The best solution is to output final copy directly to film on an imagesetter and use laser printers for proofing.
Published Date: Feb 19, 2012

ARA: The Correct Global Village TelePort/Bronze Script

We can't connect using Apple Remote Access (ARA) with the TelePort/Bronze for Performa, TelePort ADB script. Is this the correct script?
This article has been archived and is no longer updated by Apple.
You are using the WRONG script. You should use one of the following scripts:

* "Global Village Bronze" which comes with ARA 2.0.

* "Global Village TelePort" which comes with ARA 1.0.

These modem scripts are included with the respective ARA software and can be installed during installation. Do NOT use the "... ADB" script!
The Performa modem draws power from the Apple Desktop Bus (ADB), but is not an ADB modem like the original TelePort ADB modem.
Published Date: Feb 19, 2012

TelePort/Bronze Modem: Chooser Shows "Unidentified Fax" (6/94)

I selected GlobalFax in the Chooser, and then in the right half of the Chooser, "Unidentified Fax", appears instead of the usual "T/P Bronze for Performa". What's wrong?

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If the Chooser shows "Unidentified Fax", and will not stay highlighted when chosen, the TelePort/Bronze Modem
or Fax Modem control panel has NOT loaded properly at startup.  You may have started with Extensions OFF, or
the control panel may be damaged.

To test:

1) Restart the computer normally (Extensions ON).

2) From the Apple menu, select "Fax Center".

3) If the dot in the middle of the letter "O" in GlobalFax is RED, then the
  control panel is missing or corrupt.  Re-install from an original disk.
  If the dot is black, it is normal.

NOTE: To help in troubleshooting holding down the option key while clicking on the dot in the letter "O" of
GlobalFax.  This action will bring up a window which maps the control panel devices, extensions, and so on in
the System Folder.  This can help in identifying known control panel devices or extensions which conflict with
the TelePort/Bronze Modem control panel.

Support Information Services
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Published Date: Feb 19, 2012

American Heritage Dictionary 3.0:Compton & Font Conflicts (6/94)

Some users are experiencing problems with fonts when using Compton's Multimedia Encyclopedia. Complaints of unreadable 'Old English' text in title fields while running Compton's Multimedia Encyclopedia.

-OR-

Complaints that Reader Rabbit text is all 'garbled.'

This article has been archived and is no longer updated by Apple.
Disable any font related to the American Heritage Dictionary by dragging them out of the Fonts folder in the System Folder (DO NOT throw them away). Restart.

Apparently, this font class can conflict with other applications accessing fonts.

Support Information Services

Published Date: Feb 19, 2012

TelePort/Bronze Modem: Applications Slow Down (6/94)

I'm having severe slowdowns in applications. Typing on the keyboard is followed by a three or four second delay before the screen catches up.

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Check for a large number of saved Faxes. The TelePort/Bronze (Fax Modem) control panel scans the Fax folders often to see if any status has changed and if a Fax needs to be re-sent. A large number of waiting or saved Faxes will require more drive access and slow down the computer.

For example, you're running ClarisWorks and it's responding slowly. In checking your Fax folders you find 9 Faxes waiting and 30 Faxes saved.

When possible, remove any unwanted Faxes from the Spooled Fax folder from within the GlobalFax Files folder in the System Folder. Either trash them and try Faxing later, or move them to a separate folder and try Faxing later.

Note: To improve Fax performance when sending a Fax with the GlobalFax driver turn Virtual Memory OFF and 32-bit Addressing ON.

Support Information Services

Published Date: Feb 19, 2012

Power Macintosh: 8■24 GC Video Needs New Monitors CDEV

I have a Power Macintosh 8100/80 with an 8*24 GC card connected to an Apple TwoðPage Mono Monitor, and internal video card connected to an Apple 16-in Color monitor. When I restart the monitor, the Two-Page Monitor defaults to black and white. Resetting PRAM and doing a clean installation of system software has not corrected the problem.
This article has been archived and is no longer updated by Apple.
The problem is caused by the version of the Monitors Control Panel. Installing v7.3.2 (or newer) of the Monitors Control Panel corrects this problem. You can find the correct version of the Monitors Control Panel on the Apple Multiple Scan Display Software Disk.

You do not need to go through the entire installation process to correct this problem. Simply drag the Monitors Control Panel from the Apple Multiple Scan Display Software Disk to your System folder.
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Installing VisiSchedule On Catalyst 2.0 For The Apple III

This article has been archived and is no longer updated by Apple.
You may move VisiSchedule to a hard disk for use with Catalyst 2.0, but you will be required to keep the VisiSchedule Program disk in the internal drive. These instructions assume you are moving VisiSchedule to a ProFile (with driver name .PROFILE). Substitute the name of your hard disk driver for .PROFILE if you wish to install VisiSchedule on a different hard disk.

COPY PROCEDURE:

1. Boot the Catalyst diskette (if you haven't already).
2. From the Catalyst main menu, select the System Utilities Program.
3. Enter "F" for FILE HANDLING COMMANDS.
4. Enter "M" for MAKE A NEW SUBDIRECTORY.
5. Enter ".PROFILE/CATALYST/VISISCHEDULE" with a default size of 25 files.
6. Press "ESCAPE".
7. Enter "C" for COPY FILES.
8. Copy the SOS.INTERP file from the VISISCHEDULE BOOT disk to the file ".PROFILE/CATALYST/VISISCHEDULE/INTERPRETER".

To do this, type ".D1/" and press the up arrow key. A list of files are displayed in a box. The up and down arrow keys allow you to move an inverse bar over the name of your choice. Pressing the right arrow key marks the file so as to include it in the copy process. Mark all files to be copied in this way. When all the appropriate files are marked, press RETURN. Then enter ".PROFILE/CATALYST/VISISCHEDULE/INTERPRETER" for the file to copy to and press return.

9. Copy the SYSTEM.STARTUP file from the VISISCHEDULE PROGRAM disk to the file ".PROFILE/CATALYST/VISISCHEDULE/SYSTEM.STARTUP"."
10. When all files have been copied, press ESCAPE and return to the main menu.
13. Enter "*.PROFILE/CATALYST/VISISCHEDULE,SYSTEM.STARTUP" for the program path.
14. You will be asked if this entry is correct. If it is, enter "Y" then press ESCAPE to exit to the main edit menu. If you made any mistakes during entry, enter "N". You may then enter the number of the item you wish to correct. When all items are correct, press ESCAPE. Press ESCAPE again to exit to the main edit menu.
15. Enter "5" to update the INTERPS file. When you are asked if you want to recalculate the load address, enter "Y".
16. Exit to the Catalyst main menu by entering "Q".

When you first select VISISCHEDULE from the Catalyst Main Menu, it will prompt you to install the VISISCHEDULE program disk in the internal drive. Do so and the program should run perfectly.

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Communications Bundle: Description

This article describes the Communications Bundle for the Apple Education Series. The Apple Education Series -- which includes the Communications Bundle -- is a series of products specifically intended for the effective use of technology in education.
This article has been archived and is no longer updated by Apple.
All too often, the biggest communication gaps in school aren't just between teachers and students, but among teachers, students, administrators, and parents.

With this in mind, Apple developed the Communications Bundle, a complete package of hardware and software expressly designed to help your entire school communicate more freely, acquire information more quickly, and collaborate more productively.

Education has always been about just two things: the creation of information, and the sharing of information. That's why we created the Communications Bundle.

In one complete package, your school gets everything it needs to streamline communications between teachers, students, and administrators -- even those using Windows PCs*. Practically overnight, it can transform the way a school's staff members communicate with one another. Memos bulletins, schedules, questions, comments, agendas, and meeting notes pass immediately from one educator's computer to anothers. Or to the entire faculty.

One that makes it easy for students to collaborate on projects even when they're not in the same classroom. And, one that gives administrators a direct link to critical information such as: student records, curriculum guidelines, budgets, and staff information.

The heart of all this is a remarkable software program called FirstClass. It was designed with the needs of educators in mind: It's very easy to use, yet offers powerful features including the ability to access your computer with remote access**. Remote access can open up your school to the whole community. District administrators can use their computer and modem to send and receive messages, and join discussions.

Parents and students with computers can also access the system to pick up homework assignments, read school news, and exchange messages with the faculty.

And because this FirstClass software deserves to run on first class hardware, it's bundled with your choice of two Apple Workgroup Servers. Should you wish to expand your system, two of more servers can communicate with each other -- from different buildings or different cities.

We'll even send an Apple authorized technician to install your server and FirstClass software.

Before the information superhighway comes to town, you'll first need to connect your school's own network. With this bundle, you're paving the way.

FirstClass software

Designed for educators, it combines easy-to-use operation with powerful communications features. Best of all, it has the kind of easy-to-use design that Macintosh software is known for.

* Installation will include set up of your Workgroup Server, connection to your existing LocalTalk or Ethernet network, as well as installation of a sample education configuration of the FirstClass software developed in our Apple Classroom of Tomorrow research project.

* Documents, graphics, video clips, and audio messages can be "attached" to e-mail memos.

* Automatically sends, receives, and stores your e-mail in the background, until you're ready to read them (so your work goes on without interruption).

* Capable of handling a virtually unlimited number of mail boxes.

* Must be purchased with either a 100-client, or 250-client package.

* Built-in conference for on-line discussions Remote access lets staff, parents, and teachers (with a modem) access e-mail and on-line discusssions. Passwords and guests permissions limit access on the server, so students, teachers, and parents only see what you want them to see.

* Can be used by both Macintosh and Windows computers*.

Apple Workgroup Server 60

Our most affordable server is ideal for schools or buildings that require the support of up to 50 teachers, students, and administrators at a time. High-speed Ethernet is built-in, for up to 10 times faster file access than with standard LocalTalk cabling. Can be upgraded to higher-performance Power Macintosh technology, if and when you wish.

* 50/25Mhz 68040 processor with built-in math coprocessor.
* Supports up to 50 people communicating at the same time.
* Support for optional DDS-DC tape backup system.
* 8 MB memory (expandable to 68 MB).
* 230 MB hard drive.
* Expansion bay for additional hard disk or CD-ROM drive.
* Expansion slot for processor-direct or 7 inch NuBus expansion card with adapter.
* High-performance SCSI interface.
* High-speed Ethernet networking.
* AppleShare 4.0 server software pre-installed.
* Ready for PowerPC processor upgrade.

Apple Workgroup Server 80

Allows up to 100 teachers, students, remote users, and administrators to connect at the same time to retrieve mail, send files, and collaborate through on-line conferencing. Built-in Ethernet networking and high-performance SCSI ports help prevent data bottlenecks. Built-in CD-ROM allows for access of additional resources such as on-line encyclopedias or reference materials. And a built-in tape backup enlarges the server's capacity and protects valuable data. Can be upgraded to higher-performance Power Macintosh technology.

* 66/33Mhz 68040 processor with built-in math coprocessor.
* Supports up to 100 people communicating at the same time.
* 16 MB memory (expandable to 256 MB).
* One-gigabyte hard drive.
* Built-in dual-speed CD-ROM drive.
* Built-in DAT tape backup system.
* Expansion bays for two additional hard disks.
* Three NuBus expansion slots.
* 68040 processor-direct slot.
* High-performance SCSI interface.
* High-speed Ethernet networking.
* AppleShare 4.0 server software pre-installed.
* Ready for PowerPC processor upgrade.

Ordering information
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* Communications Bundle with Apple Workgroup Server 60; includes setup and connection to your existing network.

B2094LL/A

* Communications Bundle with Apple Workgroup Server 80; includes setup and connection to your existing network.

B2096LL/A

In addition to the purchase of a communications bundle, you will need to purchase user licenses to allow users to connect to your server. These licenses are available in 100 and 250-user configurations. Additional users can be added at anytime with the purchase of additional packs. For example, start with a 250-user pack and, when you need to add more users, you can purchase additional packs to increase the capacity of your system.

FirstClass user license:

* T1377LL/A: 100-user pack
* T1378LL/A: 250-user pack

* Windows connections will require purchase of a Windows Client Option.
** Remote access requires modems.
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PowerBook 500 Series AC Adapter Ratings (6/94)

I am looking for the voltage the AC adapter is supplying the PowerBook 500 series.

This article has been archived and is no longer updated by Apple.
The PowerBook 500 series AC power adapter is rated at 40 watts. The adapter is actually made up of two 20 watt supplies of power, Vbatt and Vmain.

If the PowerBook is shut down or in sleep mode, both Vbatt and Vmain are dedicated to charging the batteries simultaneously. As a result, the computer charges two fully depleted batteries in two hours. If the PowerBook is running, Vmain supplies power to the PowerBook while Vbatt charges first one battery then the other (four hours total, although one battery is fully charged after two hours).

Vbatt output supplies 16.6 volts DC at 1.0 Amps. Vmain output supplies 16.6 volts DC at 1.5 Amps.

The AC Adapter requires an AC input of 100 to 240 volts AC, 50 to 60 Hz

Support Information Services
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Chinese Language Kit: ADDMotion II Issue

On a system with the Chinese Language Kit (1.0 or 1.1) installed, you may experience issues when adding a HyperCard animation with ADDMotion II. Your system will stop responding, quit with Type 2 error, or drop into MacsBug when executing the instruction NewFilter.
This article has been archived and is no longer updated by Apple.
Removing the WorldScript II extension (or disabling Extensions) works around this issue, but prevents you from using the Chinese Language Kit until you restart your computer with the WorldScript II extension on.

This affects the Japanese Language Kit v1.1; however, the Japanese Language Kit v1.0 is compatible.
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Portable StyleWriter: Printing In Grayscale (6/94)

I have a PowerBook 140 and a Portable StyleWriter. Everything I print from any graphics application prints in black and white, not grayscale. Can I create a grayscale image on a black & white Macintosh and print it to the Portable SW in grayscale? Why might the printer be printing in black and white?

This article has been archived and is no longer updated by Apple.
The Portable StyleWriter, which does not use GrayShare technology like the StyleWriter II, does NOT support grayscale printing and can only produce dithered images. Dithering is the effect of simulating grays or colors by using patterns of black and white dots.

Basically, what you see on the screen on a black & white Macintosh system is what you will get as output on the Portable StyleWriter. Since the Portable StyleWriter does not support grayscale printing, the output will be dithered similarly to the image on the screen.

If the application you are printing from does not support color/grayscale, then the output will not be dithered and will appear as on their Macintoshes screen - purely black and white blotches without dithering.

Support Information Services
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Macintosh Locks Up After Sending A Fax (6/94)

I'm having problems sending Faxes with my Quadra 660AV and GeoPort. When I send a Fax it is received at the other end, but my Macintosh freezes up after it's sent.

With Extensions Manager I've turned off all third-party extensions and this problem persists. I've thrown the Express Modem preferences file away, restarted, and this problem persists.

I even tried dragging the items in my Sent Fax Documents folder to another folder, and the problem went away. So I did some experimenting by duplicating several sent Faxes in the Sent Fax Folder until I had 206 files. I then sent a Fax to another GeoPort. The Fax was received successfully, but the sending Macintosh locked up. There are now 207 items in Sent Fax Folder.

I eventually reduced the items in Sent Fax folder to 197, and sent another Fax. It was received successfully, but this time the sending Macintosh didn't locked up. The items in Sent Fax Folder now number 198. I sent another Fax and the system locked up with the same issue this time.

I was able to reproduce this problem when there were 198 or more sent Fax files in the Sent Fax Folder. Is this the limit of items in the Sent Fax Documents folder?

This article has been archived and is no longer updated by Apple.
We were also able to confirm your findings. There does seem to be a limit on the number of files the Fax Terminal can handle in the Received Fax Documents and Sent Fax Documents folders. This problem has been escalated.

The simple workaround is to move sent or received Faxes into other folders in order to decrease the number of files in the Received Fax Documents and Sent Fax Documents folders. The Fax Viewer can read the Faxes regardless of where they reside. It had been suggested earlier that increasing the amount of memory for the Fax Terminal might alleviate the problem, however we found no evidence that it would help. Our recommendation is to manage the Fax folders manually until this limitation is addressed.

Support Information Services

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Apple Remote Access X.25: Virtual Circuits

We are testing the AppleTalk Remote Access X.25 solution, and have installed an X.25 service from Sprint with 22 virtual circuits. Based on initial test, the X.25 client software only allows 4 users to connect. Is there a way to utilize our client software and realize the virtual connections capability of the Sprint offering. There is an ultimate plan to allow up to 750 users to use this service.
This article has been archived and is no longer updated by Apple.
The only way to allow additional X.25 connections (virtual circuits) is to purchase one or more AppleTalk Remote Access 4 port upgrade(s). This of course gets you a card (which you may not need) but will provide you with the capability of supporting up to 8 virtual circuits per card.

The AppleTalk Remote Access X.25 configuration limits are:

* Up to 8 virtual circuits are support per card up to a maximum of 16 circuits per server.

* You cannot combine modem and X.25 communications links on the same card.

* 4 virtual circuits can be activated per AppleTalk Remote Access license with additional ports available by purchasing additional licenses up to a maximum of 16 ports per server.

The bottom line is, you can only support 16 simultaneous connections per server. With asynchronous based modem connections that would require 4 serial NuBus cards. With X.25 that would require 2 to 4 Serial NuBus cards (depending on how you configure the virtual circuits).
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Changes in Word Juggler for the Apple II (vers. 2.7 or greater)

This article has been archived and is no longer updated by Apple.
Word Juggler for the Apple II (version 2.7 or greater) differs from the older versions in two primary ways; by the elimination of the hardware modification and the addition of a number of enhancements to the program. The following list is a summary of all of the changes.

Enhancements to the program

New HELP feature
While editing a document, Open-Apple "?" will display a list of topics that, when selected, explain the various features of Word Juggler. Note that this replaces the old HELP command key (CONTROL V).

40 / 80 column support
Word Juggler for the Apple II will work in 40 columns on both the Apple IIe and the Apple IIc. When used on the Apple IIe, Word Juggler will use the 80 column card in the auxiliary slot if it is available. When used on the Apple IIc, Word Juggler checks the 40/80 column switch when the program is booted, and then reacts accordingly.

When used in the 40 column mode, Word Juggler changes in a few minor ways:

o The main menu changes slightly.
o The file name does not appear on the status line.

Main menu changes
o Purge is now Delete.
o Define Prefix is now Prefix.

Printer cards
o When used on the Apple IIc, the printer card is permanently set to Super Serial to accommodate the two ports on the Apple IIc.
o When used on the Apple IIc, the printer card must be used in Slot 1 or 2.

MOVE and COPY commands
Word Juggler now allows you to use the FIND and ^ FIND commands when prompted to "Move cursor to start (or end) of block and press space", in addition to the normal cursor movement keys.

FIND and ^ FIND commands
Hitting RETURN when prompted with "Find what?" will find the next occurrence of the string that was last searched for.

Titles and Page variables
The TEXT LINE/COL command now allows greater flexibility in choosing where on the page a title or page number can appear. In addition to specifying the absolute column number, titles or page numbers may appear on the left or right margin, centered between the margins, or alternating between the margins (which is useful when printing manuals)

Changes in the keystrokes

Because there is no keyboard enhancer included with Word Juggler version 2.7, some of the keystrokes had to be altered.

o The Open Apple key is used to access the editing commands (instead of the CONTROL key used in the older versions).

o The "overstrike" feature is no longer available.

Cursor Movement

Used to be: Now is:

o Previous Page SHIFT Up-Arrow Open-Apple Up-Arrow
Previous Word SHIFT Left-Arrow Open-Apple Left-Arrow
Next Word SHIFT Right-Arrow Open-Apple Right-Arrow
Next Page SHIFT Down-Arrow Open-Apple Down-Arrow

o Beginning of Document CONTROL SHIFT Up-Arrow Open-Apple E
Beginning of Line CONTROL SHIFT Left-Arrow Open-Apple S
End of Line CONTROL SHIFT Right-Arrow Open-Apple D
End of Document CONTROL SHIFT Down-Arrow Open-Apple X

o Straight Up CONTROL Up-Arrow Open-Apple CONTROL E
Straight Left CONTROL Left-Arrow Open-Apple CONTROL S
Straight Right CONTROL Right-Arrow Open-Apple CONTROL D
Straight Down CONTROL Down-Arrow Open-Apple CONTROL X

o Start of next line CONTROL RETURN Open-Apple RETURN

o Tab Set (and Clear) SHIFT (and CONTROL) TAB Open-Apple TAB
o Tab Inserting Spaces SHIFT CONTROL TAB Open-Apple Space

Printout Formatting Commands
The following commands not labeled on the command strip are now different:

Used to be: Now is:

o Else ESCAPE CONTROL = ESCAPE E
o 15 Pitch ESCAPE CONTROL 4 ESCAPE F
o Ragged Left ESCAPE CONTROL 2 ESCAPE R
o Triple Space ESCAPE CONTROL 7 ESCAPE T

Margin Settings
Both the Top Margin and the Left Margin commands are now counted from "0" instead of "1".

Printout Enhancement Commands and Special Functions
Printout enhancements (such as bold and underline) and special functions (such as Lexicheck and Terminus) are now accessed with the Solid-Apple key instead of the Open-Apple key. Additionally, Print Form has changed from Open-Apple "." to Solid-Apple "2".

Variables are also entered with the Solid-Apple key.

Using Word Juggler with the Keyboard Enhancer
If you have a keyboard enhancer already installed and prefer to use the old commands, simply create a document called "OLD.COMMANDS" on the Word Juggler diskette and reboot. (It doesn't matter what is in this document, it just needs to be on the diskette.) This will allow Word Juggler to function almost the same as the earlier versions, while still having access to all of the program enhancements.

The functions that will behave differently are:

o Help will still be accessed as Open-Apple "?".
o Margins are still counted from "0" instead of from "1".
o Print Form will change from Open-Apple "." to Open-Apple "2".

New features of Word Juggler 2.8

o Print to Disk option - Allows incorporation of Word Juggler files with other program applications including terminal communications while retaining the original format of the document. This feature may be accessed by pressing Closed-Apple "9".

o Built in Terminal Program - A scaled down telecommunication package based on Quark's TERMINUS program. This option is able to transmit and receive documents with as much ease as you would expect from a true telecommunications product. It will not, however, support any of TERMINUS' advanced transmission modes such as binary or compressed options.

The package allows you to define 4 Protocols, as opposed to Terminus' 16 Protocols. Furthermore, the Protocols support only two macros each, (the autodial and logon macros) while Terminus' Protocols can support up to 28 user-definable macros each.

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Modified Dates On Folders and Parent Folders (6/94)

I want to be able to change a folder that is nested in several other folders and have the modified date for all the enclosing folders change. Sometimes the modified date changes for enclosing folders and sometimes it doesn't. Could you briefly explain the way a Macintosh updates the modification dates for folders?

This article has been archived and is no longer updated by Apple.
Modification dates are not propagated up the directory tree. Modification dates are only changed when something in the folder actually changes and not something in its sub-folders. In other words, it is possible to have a folder that has a newer modification date than its parent. For example, the modification date on my hard drive is 6/20/94 8:33 AM but the modification date for the system folder is 6/20/94 11:37 AM.

Support Information Services

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PowerBook 500 Series: Indicators Of A Blown Fuse

What symptoms would be generated should the replaceable fuse on the PowerBook 500 series computer fail?
This article has been archived and is no longer updated by Apple.
When the power on button is pressed the screen would flicker as if the unit was starting it's normal power on process, then go blank again. No startup chime would be heard regardless of power source, battery or AC power.
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Assistant Toolbox: Problem Printing to LW Select 310 (5/96)

When I try to print from my PowerBook 520 to my LaserWriter Select 310, I cannot print my document. Why does this happen and how do I work around this problem?

This article has been archived and is no longer updated by Apple.

The PowerBook 500 series ships with the system extension Assistant Toolbox v1.1 installed. The Assistant Toolbox has a feature called Print Later that allows a user who normally prints to networked printer to spool documents for printing while not physically connected to the network. While the Assistant Toolbox is usually installed on PowerBook computers, any Macintosh with it installed can experience similar issues.

The above problem occurs when a user attempts to print to a LaserWriter Select 310. With the Assistant Toolbox extension loaded and AppleTalk active, when you try to print you get the following dialog box:

"This document can not be printed at the current time on the printer 'LaserWriter Select 310' because the printer is not available on the AppleTalk network."

If AppleTalk is inactive then a dialog box will read: "This document cannot be printed at the current time because AppleTalk is inactive. To activate AppleTalk, go to the Chooser."

There is no selection that will allow the user to print a document on the LaserWriter 310. Here are some workarounds:

Solution

Assistant Toolbox version 1.3 (which ships as part of System 7.5 Update 2.0) resolves this issue. Please update to this version.

NOTE:

Assistant Toolbox v1.2 which shipped with System 7.5 does not resolve this issue.

Article Change History:

14 May 1996 - Updated to add reference to Assistant Toolbox 1.3

23 Mar 1995 - Added information about unsupported fix.

09 Dec 1994 - Updated workarounds.

Published Date: Feb 19, 2012

Color StyleWriter Pro: Ink cartridge shelf life (6/94)

What is the shelf life of the Apple Color StyleWriter Pro ink cartridges?

This article has been archived and is no longer updated by Apple.
The shelf life for the Color StyleWriter Pro ink cartridges is 2 years after the date of production as long as the cartridges are stored in their original packaging and within the environmental conditions listed on the ink cartridge packaging materials. The conditions specify no sunlight and temperatures between -22 and 104 degrees Fahrenheit (-30 and 40 degrees Celsius). Once the cartridge has been opened and installed in a printer it has an expected shelf life of 6 months.

Support Information Services

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Color StyleWriter Pro: Cartridge Shelf Life & Date Codes (2/95)

What is the shelf life of the Apple Color StyleWriter Pro ink cartridges?

This article has been archived and is no longer updated by Apple.
The shelf life for the Color StyleWriter Pro ink cartridges is 2 years after the date of production as long as the cartridges are stored in their original packaging and within the environmental conditions listed on the ink cartridge packaging materials. The conditions specify no sunlight and temperatures between -22 and 104 degrees Fahrenheit (-30 and 40 degrees Celsius). Once the cartridge has been opened and installed in a printer it has an expected shelf life of 6 months.

The date codes are imprinted on each cartridge and consist of 5 alphanumeric characters. The second character indicates the last digit of the year, and the third character provides the month that the cartridge was produced. The month date codes are as follows:

A = January
B = February
C = March
D = April
E = May
F = June
G = July
H = August
I = September
J = October
K = November
L = December

Article Change History:
06 Feb 1995 - Changed access privileges of article.

Support Information Services
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Apple Color Printer: Cartridge Shelf Life & Date Codes (2/95)

What is the shelf life of the Apple Color Printer ink cartridges?

This article has been archived and is no longer updated by Apple.
The shelf life for the Apple Color Printer ink cartridges is 2 years after the date of production as long as the cartridges are stored in their original packaging, exposure to no sunlight, and temperatures between -22 and 104 degrees Fahrenheit (-30 and 40 degrees Celsius). Once the cartridge has been opened and installed in a printer it has an expected shelf life of 6 months.

The date codes are imprinted on each cartridge and consist of 6 alphanumeric characters. The second character indicates the last digit of the year, and the third character provides the month that the cartridge was produced. The month date codes are as follows:

A = January
B = February
C = March
D = April
E = May
F = June
G = July
H = August
I = September
J = October
K = November
L = December

The sixth character provides information on the ink color. The four possible codes are:

C = Cyan
Y = Yellow
M = Magenta
K = Black

Article Change History:
06 Feb 1995 - Changed access privileges of article.

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Word Juggler: Print To Disk Option

The print to disk option in Word Juggler, for the Apple II, sends the formatted image of your document to a diskette file just as it would appear on your screen when you use the DISPLAY DOCUMENT feature.

This print file is a standard ProDOS text file. Although the actual Word Juggler formatting commands (CENTER, JUSTIFY, etc.) are not written to this file, your text will appear formatted to their specifications.
This article has been archived and is no longer updated by Apple.
This feature is accessed from the TEXT ENTRY MODE of Word Juggler with the command Solid-Apple "9".

When selected, you will be presented with four prompts:

1) First page to print? - Enter the starting number to appear in your file. Press RETURN if you wish to start with page 1.

Note: In this context, page number does not refer to the page numbers that appear on the output, but rather to the sequential number of the page.

2) Last page to print? - Enter the last page to appear in your file. Press RETURN if you wish to print to the end of the document.

3) Remove control codes from output? - If you answer "Y" (or press RETURN) to this question, the file sent to disk will not contain any printer escape code sequences. This is necessary if you wish to transmit the document using a telecommunications package. The escape codes may be interpreted by another computer in a variety of different ways causing errors in transmission or reception.

If you answer "N" to this question, all printer escape sequences will be saved to disk in addition to the text. This will allow you to print the file with all printer enhancements included, such as bold and underline.

4) Pathname? - Enter the name of the file to hold the format

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.
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StyleWriter and StyleWriter II: Ink Cartridge Compatibility

This article will briefly explain the history, differences and compatibility between the StyleWriter and StyleWriter II ink cartridges.
This article has been archived and is no longer updated by Apple.
Previously, StyleWriter and StyleWriter II printers used separate ink cartridges that were labeled with their names to distinguish them. Current cartridges are labeled "Apple StyleWriter Ink Cartridge" (PN M8041G/C). These ink cartridges are compatible with the StyleWriter, StyleWriter II, StyleWriter 1200, and the Portable StyleWriter printers.

The StyleWriter II ink cartridge (M8041G/A) is NOT compatible with the original StyleWriter.

The original StyleWriter ink cartridge (PN M8052G/A) is also not compatible with the StyleWriter II.

The visible difference between original cartridges and current ones are the colors on the label of the cartridge itself. The original label has a vertical blue stripe on the right side of the cartridge and a black Apple logo above the word "StyleWriter". There are two current versions of the black and white StyleWriter series ink cartridges.

Version 1

One of the new cartridges does not have the vertical blue stripe, however it has two arrows that point in the direction the cartridge should be installed. This cartridge has the Apple logo above the words Apple StyleWriter. The word Apple and the Apple logo are red on this version of the cartridge.

Version 2

The other new cartridge retains the blue vertical stripe, but contains the printers it is compatible with on the cartridge itself. Below the words StyleWriter, StyleWriter II, and Portable StyleWriter it says Black Ink Cartridge.

If you wish to determine which cartridge you have, check the color on the cartridge to see if it is red or blue. If there is a vertical blue line, it will list the printers it is compatible with. Do not attempt to use the cartridge on any printer that is not listed on the blue striped cartridge. If there is the red Apple logo on the cartridge without a blue vertical stripe, it is compatible with all three StyleWriter printers.

Summary of Ink Cartridge Part Numbers

- Original StyleWriter Ink Cartridge (M8052G/A)* (discontinued)
- Original StyleWriter II Ink Cartridge (M8041G/A) (discontinued)
- Old universal StyleWriter Ink Cartridge (StyleWriter, StyleWriter II, and Portable StyleWriter) (M8041G/B) (discontinued)
- New universal StyleWriter Ink Cartridge (StyleWriter, StyleWriter II, StyleWriter 1200, and Portable StyleWriter) (M8041G/C)

*** Note:** This cartridge is also used by the Portable StyleWriter.
Published Date: Feb 19, 2012

QuickTake 100: LCD Panel Showing "ER" (6/94)

The Quicktake 100 camera I am using is showing the letters 'ER' on the LCD panel. What does this mean?

This article has been archived and is no longer updated by Apple.
This is an error state. Check that you are using the appropriate power adaptor and it is properly connected to the camera. Turn the camera off and back on. If the LCD still reads ER, have the camera serviced by an authorized Apple service provider.

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ABS Tech Note: AWS22 Retrospect Error Codes (3/95)

This technical note discusses some error situations that can occur using Retrospect on the Apple Workgroup Server 95.

This article has been archived and is no longer updated by Apple.
Under some circumstances, Retrospect may return an error in its log in the range of -27400. These errors are Unix system call errors being recognized by Retrospect. The general formula for the conversion is errno=retro_error-27400, so -27402 is the Unix error ENOENT, while -27404 is EINTR.

The -27402 will be seen when Retrospect comes across a file with a name longer than 31 characters, it logs it with an error number of -24702 and doesn't back up the file. While A/UX allows longer filenames, Mac OS doesn't, and Retrospect, being a Mac OS program, restricts itself to the Mac OS API.

The workaround, when you run into a filename like this, is to rename the file to a shorter name. At this time, there is no intention of changing Retrospect to relax this limitation.

Under some rare circumstances, Retrospect will log a -27404 error which is the equivalent of the Unix EINTR (interrupted system call) error. This is because there is a system call in Retrospect that isn't expecting this error code and doesn't recover from it cleanly. This failure is rare and intermittent, and may only be seen when Retrospect is backing up data on a non-root, UFS formatted filesystem. This bug is fixed in release 2.1 of Retrospect.

Article Change History:
31 Mar 1995 - Made minor changes.

Support Information Services

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ABS Tech Note: AWS23 SHMAT Limitations (6/94)

This technical note discusses a memory limitation that may be encountered by UNIX COFF (Common Object File Format) applications using shared memory on A/UX releases 3.1 and earlier versions and a programming technique that can be used to work-around this limitation.

This article has been archived and is no longer updated by Apple.
The memory limitation occurs if an application attempts to expand the size of its data segment (or heap space) by at least 256K bytes (cumulative) after it has allocated one or more shared memory segments which were attached at an address chosen by the system (i.e., in the invocation of the shmat(2) system call, the value of the shmaddr argument is zero).

In Figure 1, the address space of the application is depicted as it might appear immediately following the invocation of shmat(2). The arrow indicates the direction of future growth of the application's data segment.

This memory limitation is perceived by the application whether it attempts to expand its data segment directly using sbrk(2) or indirectly using malloc(3) or some interface supported by its run-time environment, e.g., an interpreted language. Malloc(3) and sbrk(2) will fail and set errno to ENOMEM (decimal 12).

```
----------------------------
| | low address
| text segment |
| |
----------------------------
| |
----------------------------
| |
| data segment |
| || |
------------||---------------
| || |
----------\\||/--------------
| \\/ |
| shared memory segment |
| |
----------------------------
| |
| |
| |
----------------------------
| |
| stack |
| | high address
----------------------------
```

Figure 1. Application Address Space after Invocation of shmat(2)

The ENOMEM error indicates that the available address space is not large enough to fulfill the requested growth of the data segment. In Figure 2, the address space of the application is depicted as it might appear when the ENOMEM error occurs. In the scenario described above, the error occurs because the expanded data segment would overlap the shared memory segment(s), which would be a violation of the virtual memory protection scheme. Even though there is still additional "free space" in the applications address space, the system cannot fragment the data segment, since some applications expect it to be contiguous.

```
¨ ------------------------------
| | low address
| text segment |
| |
------------------------------
| |
------------------------------
| |
| data segment |
| |
------------------------------
| |
```

```
| shared memory segment |
| |
-----------------------------
| |
| |
| |
-----------------------------
| |
| stack |
| | high address
-----------------------------
```

Figure 2. Application Address Space When ENOMEM Occurs

The work-around for this problem is for the application to request a specific address as the second argument to shmat(2). Given a prudent choice for the value of this address, the application can arrange for the shared memory segment to be placed high enough in memory to avoid conflict with the growing heap. The value of this address may be determined by obtaining the current size of the data segment and then adding the maximum future data requirements of the process.

In the following code fragment, the programmer has determined that the maximum future data requirements for this application is 0x100000 (5 MB); when sbrk(2) is called with an argument of zero, it returns the current end of the data segment. The shared memory segment will be attached at an address which is at least 5 MB beyond the end of the data segment.

```
if (shmat(shmid, sbrk(0) + 0x100000, SHM_RND) == -1)
{
perror("shmat");
}
```

Support Information Services

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PowerBook Duo: Where To Find Express Modem Controls

This article describes how the PowerBook Express Modem is controlled depending upon what version of the Express Modem software and PowerBook Enabler is installed.
This article has been archived and is no longer updated by Apple.

Duo Model	System software	Control Panel to select	Express Modem Release	Enabler
210/230	7.1	PowerBook	1.0 thru 1.1.2	System Enabler 201
		PowerBook Setup	1.0 thru 1.1.2	PowerBook Duo 1.0
		Express Modem	1.5 thru 1.5.2	System Enabler 201
		Express Modem	1.5 thru 1.5.2	PowerBook Duo 1.0
250/270c	7.1	PowerBook Setup	1.0 thru 1.1.2	PowerBook Duo 1.0
		Express Modem	1.5 thru 1.5.2	PowerBook Duo 1.0
280/280c	7.1.1	Express Modem	1.5 thru 1.5.2	PowerBook Duo 2.0

There are two factors which effect how the "modem choice" is presented to the PowerBook Duo user. One factor is the version of the Express Modem and the other is the version of the Enabler.

The Express Modem releases did not have any effect on this issue before release 1.5, which ships with the Duo 280/280c. With release 1.5 of the Express Modem, the choice for the modem now is contained in the "Express Modem" control panel rather than the "PowerBook" or "PowerBook Setup" control panel. Express Modem releases 1.0 through 1.1.2 did not contain the ability to choose the modem.

The following is a list of the Duos, and the Enabler that originally shipped with them:
* Duo 210/230 -- System Enabler 201
* Duo 250/270c -- PowerBook Duo Enabler 1.0
* Duo 280/280c -- PowerBook Duo Enabler 2.0

For a Duo with System Enabler 201 installed, the "PowerBook" control panel contains the ability to choose either the "Internal" or "External" Modem. This is true for the Express Modem releases from 1.0 through 1.1.2, and with the "PowerBook" control panel releases 7.1.1 through 7.1.3.

For a Duo with the PowerBook Duo Enabler 1.0 installed, the "PowerBook Setup" control panel contains the ability to switch the modem choice. The choices are "Compatible" or "Normal". Compatible refers to Internal, and Normal to External. These Duos usually shipped with Express Modem 1.1.2, and release 7.2 of the "PowerBook" and "PowerBook Setup" control panels.

For a Duo with the PowerBook Duo Enabler 2.0, the choice for the modem now is contained in the "Express Modem" control panel rather than the "PowerBook" or "PowerBook Setup" control panels. "Express Modem Settings" needs to be selected from the pop-up menu, and then "Use Express Modem" or "Use External Modem" can be chosen. Duos which come with this Enabler installed, also come with Express Modem 1.5. As shipped, the release of the PowerBook control panel is 7.3.1 and of the PowerBook Setup is 7.3.
Complicated as this is, it obviously gets more interesting when the user upgrades the Enabler via system software, the Express Modem software, or both. For the purposes of this answer, I will address only the changes that occur when the Express Modem software is upgraded while the Enabler/system software remains the same.

From a Duo with the System Enabler 201, when the Express Modem 1.5 (or 1.5.1 or 1.5.2) is installed, the way to choose the modem moves from the "PowerBook" control panel to the "Express Modem" control panel. In the Express Modem control panel, "Express Modem Settings" must be selected to actually allow selection of the "Use Express Modem" or "Use External Modem" option.

For a Duo with the PowerBook Duo Enabler 1.0 installed, upgrading the Express Modem software to 1.5 (or 1.5.1 or 1.5.2) changes the way to choose the modem from the "PowerBook Setup" control panel to the "Express Modem" control panel. And again, in the Express Modem control panel, "Express Modem Settings" must be selected to actually allow selection of the "Use Express Modem" or "Use External Modem" option.

In other words, as of release 1.5 of the Express Modem software, control of the selection of internal/external modem moved from the Duo's PowerBook/PowerBook Setup control panels to the Express Modem's control panel.

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ABS Tech Note: AWS24 Config Additional ATalk Printer lpr (6/94)

This technical note is a quick guide to configuring multiple AppleTalk printers for use with lpr This procedure is only necessary when configuring a remote printer, that is, a printer somewhere on the network rather than one connected directly (through a serial connection) to the AWS 95.

This article has been archived and is no longer updated by Apple.
The following example adds an AppleTalk printer called NewPrinter to the lpr spooling system.

1) Edit /etc/printcap to include the following entry.

```
lp|NewPrinter|AppleTalk|postscript|PostScript:\\
:lp=/dev/null:\\
:if=/usr/spool/lpd/NewPrinter/ifilter:\\
:of=/usr/spool/pd/NewPrinter/ofilter:\\
:nf=/usr/spool/lpd/NewPrinter/nfilter:\\
:sd=/usr/spool/lpd/NewPrinter:
```

This entry sets NewPrinter as the default printer. The special name lp in the above entry is used to designate NewPrinter as the default printer. Please note that there can be only one default printer.

All the names in the first line of the above entry are synonyms for the printer you are configuring. Any of these names may be used when invoking lpr from CommandShell.

2) Set up a special spooling directory to hold print requests for the newly added printer.

```
cd /usr/spool/lpd
mkdir NewPrinter
```

Make sure to have the owner and group correctly set to daemon on the spooling directory, and also that permissions are set to 775.

3) Set up the filters.

```
cd /usr/spool/lpd/NewPrinter
cp ../AppleTalk/ifilter
```

Make sure to have 755 permissions on the file ifilter.

4) You need to specify the printer information that you would normally enter through the Chooser. You do this by editing the Printer variable in the file ifilter. For example:

```
Printer="NewPrinter:LaserWriter@De Anza 3/1st Floor"
```

Link ifilter to two other files as shown below.

```
ln ifilter ofilter
ln ifilter nfilter
```

5) Make sure that lpd daemon is running.

6) Enable and start the printer using the lpc command. For example, enter the following commands:

```
lpc enable NewPrinter
lpc start NewPrinter
```

Once the printer is enabled and the spooling daemon is started, enter

either of the following commands from CommandShell.

lpr filename
or
lpr -PNewPrinter filename

For filename, type the name of the file you want to print. In both the above cases, the file will be printed to the printer NewPrinter, since it is the default printer.

You can use this procedure to configure additional printers to the spooling system and enable printing with lpr.

For more information on setting up the printer, see "Printing from CommandShell" in Server Administration With A/UX 3.0.1. For more information on troubleshooting techniques, see "Troubleshooting the LPR system" in Chapter 9 of Setting Up and Managing Your Server.

Support Information Services

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Multiple Scan Displays: ColorSync Color Temperatures

This article provides a list of color temperatures used in the ColorSync control panel when Apple Multiple Scan Displays are selected.
This article has been archived and is no longer updated by Apple.
The image on the Apple Multiple Scan Display is a combination of red, green, and blue signals. The intensity, or color temperature, of signals can be changed to one of three settings:

- 9300 K (the default, which appears bluish)
- 6500 K (which is page white)
- 5000 K (which appears reddish)

At higher color temperature, white appears as slightly cooler white with more of a blue tint, while at lower color temperature, white appears as a slightly warmer white. You can change the color temperature according to your personal preference or what is suitable for your particular application.

ColorSync Profile (System Profile)	Display Color Temperature
Apple Multiple Scan 17 - 9300	9300K (Macintosh default)
Apple Multiple Scan 17 - D65	6500K (page white)
Apple Multiple Scan 17 - D50	5000K (appears reddish/yellow)
20" MS-9300 (Multiple Scan 20)	9300K (Macintosh default)
20" MS-D50 (Multiple Scan 20)	5000K (appears reddish/yellow)
20" MS-D65 (Multiple Scan 20)	6500K (page white)

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ABS Tech Note: AWS25 Flushing the 68040 Cache From UNIX (6/94)

This Technical Note describes an interface which can be used for flushing data and instruction caches from a UNIX process.

This article has been archived and is no longer updated by Apple.
The following interface ONLY works on 68040 platform and supported on A/UX 3.1 and earlier versions.

```
_sysm68k(command, vaddr, scope, caches, size)
command = 105
vaddr = beginning address of lines or pages to be flushed
(if the address is not aligned on the appropriate
boundary, the entire line or page that encompasses the
address will be flushed).
scope = 1,2,3
1 = flush 'count' lines
2 = flush 'count' pages
3 = flush all (count and vaddr not meaningful)
caches = 1,2,3
1 = flush the data cache
2 = flush the instruction cache
3 = flush both caches
size = number of bytes to flush
```

In the following code fragment, the programmer is flushing both the data and instruction caches at the specified address with the specific length.

```
void cache_flush (addr, len)
caddr_t addr;
size_t len;
{
_sysm68k(105,addr,3,3,len);
}
```

Support Information Services

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ABS Tech Note: AWS27 Configuration Changes In A/UX 3.1 (6/94)

In A/UX 3.1, the following changes have been made to the File/Print and Database configurations. In general, these changes have been made to make the two configurations more similar -- hopefully decreasing customer confusion.

This article has been archived and is no longer updated by Apple.

Disk Partitions
---
* The size of the MacPartition (boot volume) on both configurations has been increased to 10 MB. This size will support a full install of System 7.1, if necessary.

* The size of the swap partition in the File/Print configuration has been increased to 51 MB, the same size as the Database configuration.

With these changes, the only difference between the disk partitions on the two configurations is that the Database configuration includes two 10 MB "raw" database partitions. Therefore, on an identical drive, the UNIX Root&Usr partition (slice 0) would be 20 MB smaller in the Database configuration. Figures 1 and 2 show the partition map of a 1 GB drive loaded with the default Database and File/Print configurations, respectively.

¨ ----------
16 K | Mac Driver |

| |
| |
| |
946578 K | UNIX Root & Usr |
| slice 0 |
| |
| |
| |

52224 K | Swap |

10240 K | Database Partition |

10240 K | Database Partition |

10240 K | Mac Partition |

Figure 1. Database Partitions on 1 GB Drive

¨ ----------
16 K | Mac Driver |

| |
| |
| |
967058 K | UNIX Root & Usr |
| slice 0 |
| |
| |
| |
| |
| |
| |
| |

52224 K | Swap |

10240 K | Mac Partition |

Figure 2. File/Print Partitions on 1 GB Drive

Installer Packages

The default set of packages is now identical for both configurations; they are listed in Table 1. These packages were selected based on customer feedback.

Package	Size
Core A/UX System	45 MB
Networking Capability	4 MB
Network Server Capability	1 MB
Manual Pages	4 MB
Basic C Programming	4 MB
Extended C Programming	2 MB
More UNIX Utilities	1 MB
UNIX Printing Utilities	1 MB
Debugging & Version Control	1 MB

Table 1. Default A/UX 3.1 Packages

Content of the Core Package

There are only two differences between the content of the packages in the two configurations. The user can switch between the two configurations using the shell script config_server, which is new in A/UX 3.1.

The values of a few of the kernel configuration parameters are different (These defaults have not changed since 3.0.1.). Table 2 details these settings; see kconfig(1) for more information.

Kernel Parameter	Database Configuration	File/Print Configuration
NBUF	0	-1
NCALL	150	500
NFILE	1024	7500
NINODE	1024	7500

Table 2 Default A/UX 3.1 Kernel Parameters

Finally, the File/Print configuration includes the Autologin file, which bypasses the Login screen; for more information, see Autologin(4).

Support Information Services

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ABS Tech Note: AWS28 Disk Driver Changes In A/UX 3.1 (11/94)

This document describes the A/UX 3.1 enhancements to the generic SCSI disk driver. A/UX uses this driver to support all SCSI directðaccess devices. This information may be useful to SCSI peripheral vendors qualifying their peripherals for A/UX and to developers writing their own A/UX SCSI driver. For more information regarding the kernel portion of this driver, see Chapter 5 of the A/UX Device Drivers Kit.

The three areas of enhancements in A/UX 3.1 are as follows:

* Enhanced support for removal media in directðaccess devices.
* Detection of writeðprotected (locked) media in directðaccess devices
which support the SCSI common command set (CCS).
* Limited support for CD-ROM drives which do not support 512-byte blocks.

This article has been archived and is no longer updated by Apple.

Removable Media

The header file <sys/gdkernel.h> has a new flag, CTF_REMOVABLE, for the controller state flags field, ctstate, in the controller data structure, gdctl. The SCSI driver sets this flag when a response to a SCSI inquiry command (0x12) indicates that the device is removable; see page 70 of the SCSI 1 specification (ANSI X3.131-1986) for more information. The inquiry command is sent to each device during the initialization phase of the SCSI driver state machine. A userðlevel application may issue an inquiry command directly using the GD_DRIVEINQUIRY ioctl.

For the (at most) seven devices on the virtual "Macintosh" bus, this information is also accessible through the removable field of the scsi_t type array defined in <sys/ss_scan.h> and returned by the UI_GETSCSIID ioctl of the user interface device, /dev/uinter0. The A/UX Macintosh Toolbox disk driver uses these values to determine if any of these devices should be checked for media; if media is present, the driver generates a disk insert event. Subsequently, these volumes may be ejected from the Finder by dragging to the Trash icon.

The SCSI driver performs an eject on all removable media using the CCS stop unit command (0x1B). For devices other than CD-ROMs, the SCSI 2 load/eject flag is not set, since some devices do not support this capability. The user should be able to eject the media manually at this point (the Toolbox driver does issue prevent/allow media removable commands (0x1E)).

Note: The development team discovered that after a stop unit command, some removables require a start unit command before coming on-line ð even after new media has been inserted. Since this is unusual behavior, the Toolbox driver contains a mechanism, based on the vendor and product strings returned in response to an inquiry command, to prevent eject commands from being issued. Contact DTS for more information.

Compatibility: Apple has done limited testing of removable media. We can't make specific recommendations on compatibility, but our testing has indicated that the Apple drive, Iomega Beta90 and Syquest models SQ5110 and SQ5110C all pass our preliminary compatibility looks. The Pinnacle drives model OHD-130 and OHD-650 both fail. All of these quick-look tests were as data disks only. We do not support or recommend ANY of these as a system disk or install target.

Write-Protected Media

The header file <sys/gdkernel.h> has a new flag, CTF_RDONLY, for the controller state flags field, ctstate, in the controller data structure, gdctl. The SCSI driver sets this flag when the response to a SCSI mode sense command (0x1A) indicates that the device is write-protected; see pages 108ð110 of the SCSI 1 specification for more information. The mode sense command is sent to each device during the initialization phase of the SCSI driver state machine, if the device indicates that it supports the CCS during the inquiry command described above; for more information, see page 11 of the CCS specification (ANSI X3T9.2/85-52 Rev 4.B).

During the partition initialization phase of the generic disk driver, the CTF_RDONLY flag is used to set the PTF_RONLY flag in the partition flags field, ptflags, of the partition data structure, gdpart, of each partition on that device controller. The partition flags may be accessed directly using the GD_GETPARTFLAGS ioctl.

On HFS volumes, the A/UX Macintosh Toolbox disk driver uses this ioctl to set the locked bit in the flags field of the drive queue entry for that volume; see page 128 of Inside Macintosh Volume II for more information. If the Finder detects this bit, it displays the lock icon in the left-hand corner of its windows and refuses to copy files to the volume.

For write-protected media containing UNIX filesystems, the kernel will return an error and set errno to EROFS if an application attempts to mount the device for writing.

Support for Third-Party CD-ROM Drives

TA31982_ABS_Tech_Note_AWS_Disk_Driver_Changes_In_AUX__(TIL15689).pdf

The A/UX SCSI driver and higher-level disk subsystem assume that all disks support 512ðbyte blocks. If a device reports that its default block size is greater than 512 bytes (in response to a read capacity command), the SCSI driver issues a mode select command to change the block size to 512 bytes. Previously, the driver assumed this command always succeeded.

This has been a problem, particularly for 3rd party CD-ROMs, since the "natural" block size for a CD-ROM is 2K and the mode select command is in the optional part of the SCSI CCS.

In A/UX 3.1, after the mode select command, the SCSI driver will detect that a device's block size is still greater than 512 bytes and handle read requests to that device specially, aligning requests on 2K boundaries and allocating temporary buffer space as necessary. Since only reads are allowed on CD-ROMs, there is no need to maintain consistency between this low-level buffer and the system's buffer cache.

Note: The performance impact of this data buffering is significant and is intended only for light data loads, such as system installation. Vendors should support the mode select command in new devices.

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Apple II Memory Expansion Card: Diagnostics (11/96)

This article describes the Apple II Memory Expansion Card diagnostics. These procedures can be used for any RAM configuration.

This article has been archived and is no longer updated by Apple.

Always verify the card size and the positioning of the ICs before running the internal diagnostics.

A card failure is indicated if the internal dagnostics will not run. In that case, remove the RAM, install them on an exchange module, and retest.

1. Install the Memory Expansion Card in any slot except 3 in a known good
Apple IIe. No disk drive is necessary.

2. Power on the Apple IIe.

The words Apple II will be displayed at the top of the screen. The prompt and cursor will be displayed on the screen in the upper left hand corner.

3. Enter CALL -151 and press RETURN. The monitor prompt, *, will appear.

4. Verify which slot the Memory Expansion Card is in by entering cX0AG, where
X is the slot number, and press RETURN.

5. The following display will appear. Verify the card size (RAM
configuration) which appears is the actual size for the card installed (in
this case a 256K card is installed). The dots appear on the screen as the
card is tested. The test will repeat until an error is encountered or the
ESC key is pressed.

MEMORY CARD TEST
ESC TO EXIT
TEST WILL TAKE 45 SECONDS Seconds: 45 90 135 180
CARD SIZE = 256K Card size: 256K 512K 768K 1024K

PASSES = 0001
....
....
....
....
....
....
CARD OK

Error Code Interpretation

The Memory Expansion Error Code Chart in the December 1985 mailing was incorrect. This article and the January 1986 mailing contain a corrected chart.

If an error is found during the internal diagnostic it will be displayed in one of the following formats: ADDRESS ERROR XXYYYY-ZZ or DATA ERROR XXYYYY-ZZ. There are, in fact, 4 error situations: address error, data error, non-existent RAM error, and card size error.

Address Error

An address error usually indicates a card failure. Remove all thecustomer's RAM, install them on an exchange module, and run the test again.

Data Error

Data errors usually indicate a RAM failure. The ZZ in the error code specifies the section of the card where the error took place. The XX in the

error code specifies the suspected faulty RAM within that section. Ignore the YYYY.

Memory Expansion Error Code Chart

RAM locator Section
in specified section of card
|| ||
XXYYYY-ZZ
||||
ignore

Range of RAM Locator in specified

Card Card Card
section Chip section Chip section
number number
ZZ XX ZZ

10 C1 0C - 0F A1 01
C2 08 - 0B A2
C3 04 - 07 A3
C4 00 - 03 A4

20 C5 0C - 0F A5 02
C6 08 - 0B A6
C7 04 - 07 A7
C8 00 - 03 A8

40 C9 0C - 0F A9 04
C10 08 - 0B A10
C11 04 - 07 A11
C12 00 - 03 A12

80 C13 0C - 0F A13 08
C14 08 - 0B A14
C15 07 - 04 A15
C16 00 - 03 A16

To locate DATA ERROR 08000 - 40 using the chart,

The bad chip is in section 40.

Card Chip
section number
ZZ

40 C9
C10
C11
C12

The bad chip is located where the RAM locator falls into the range that includes 08.

Range of RAM Locator in specified

Card Chip Card
section number section

ZZ XX

40 C10 08 - 0B

The position of the bad chip is C10. Replace the RAM chip on the card.

A x x x x x x x x x x x x x x x x

B x x x x x x x x x X x x x x x x

C 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

Re-run the diagnostic.

Non-Existent RAM Error

Any other section ZZ codes, for example 0B, 0E, FC, and so on, usually indicate a card failure. Remove all RAM and install it on an exchange module.

Other error codes might point to a RAM chip which is not installed, for example, if a 256K Memory Expansion Board gave an error of 0C0000 - 40, change the RAM which is installed in that section. If the test still gives the same error message, change the RAM in the adjoining sections.

Card Size Error

If the actual card size does not correspond to the card size listed on the built-in diagnostic, you will need to exchange eight RAMs. For example, if the card size indicated on the internal diagnostic is 768K, and the actual RAM on the card is 1 megabyte, remove the RAM at locations A1, C1, A5, C5, A9, C9, A13, and C13. Reinstall known good RAM and run the diagnostics.

If the card size is now correct, there may be one or more bad ICs among the RAM removed. Replace the removed RAM one at a time, testing after each installation, until the bad RAM is located.

If the card size is still incorrect, this will indicate a card failure. Remove all the RAM and install it on an exchange module and retest.

Article Change History:
15 Nov 1996 - Reviewed for technical accuracy, revised formatting.
Published Date: Feb 19, 2012

ABS Tech Note: AWS29 Running An AWS 95 Without A Monitor (6/94)

This article describes running an Apple Workgroup Server (AWS) 95 without a monitor.

This article has been archived and is no longer updated by Apple.
If you want to run an AWS95 without a monitor, you need to convince the system there is a monitor attached. You can do this by building a custom cable which grounds one or more of the monitor ID signals.:

Pin Signal Description
--- --- ---
1 RED.GND Red Video Ground
2 RED.VID Red Video
3 CYSNC~ Composite Sync
4 MON.ID1 Monitor ID, Bit 1 (also known as SENSE0)
5 GRN.VID Green Video
6 GRN.GND Green Video Ground
7 MON.ID2 Monitor ID, Bit 2 (also known as SENSE1)
8 nc (no connection)
9 BLU.VID Blue Video
10 MON.ID3 Monitor ID, Bit 3 (also known as SENSE2)
11 C&VSYNC.GND CSYNC & VSYNC Ground
12 VSYNC~ Vertical Sync
13 BLU.GND Blue Video Ground
14 HSYNC.GND HSYNC Ground
15 HSYNC~ Horizontal Sync

The AWS95 supports any display, whether from Apple or from another vendor, that meets one of the following specifications: Standard Sense Codes:

Sense pins Hor-x-Vert Dot Vert Horiz
Display 10 7 4 Pixels Clock Refrsh Refrsh
--- -- -- -- --- --- --- ---
Apple 21" Color 0 0 0 1152 x 870 100 75.00 68.70
Apple Portrait 0 0 1 640 x 870 57.2832 75.00 68.90
12" Apple RGB 0 1 0 512 x 384 15.6672 60.15 24.48
Apple 2-Page
Monochrome 0 1 1 1152 x 870 100 75.00 68.70
NTSC - Underscan 1 0 0 512 x 384 12.2727 59.94 15.70
NTSC - Overscan 1 0 0 640 x 480 12.2727 59.94 15.70
12" Apple
Monochrome 1 1 0 640 x 480 30.24 66.70 35.00
13" Apple RGB 1 1 0 640 x 480 30.24 66.70 35.00

Notes: A sense pin value of 0 means that the pin should be grounded to the C&VSYNC.GND signal; a value of 1 means do not connect the pin.

Sense pins 4, 7, and 10 are referred to as SENSE0, SENSE1, and SENSE2 in pinout tables for the video connectors.

To produce a color NTSC signal, an RGB-to-NTSC converter is required.

Support Information Services

Published Date: Feb 19, 2012

LaserWriter Pro 810: Printing With Word Perfect on VAX

I am unable to print properly to the LaserWriter Pro 810 with Word Perfect on the Vax.
This article has been archived and is no longer updated by Apple.
To print from Word Perfect you will need a special driver available from Word Perfect and you must also setup a generic print queue. The following steps must be performed to allow Word Perfect to print to the LaserWriter Pro 810:

* Contact Word Perfect to obtain the correct WP print driver. The driver name is LZR-1560.

* Execute the Apple supplied command procedure APPLE_QUE.COM and select the option called "generic queue". For more information on performing this step, refer to the LaserWriter Pro 810 installation and setup manual.

* Configure the new queue and driver into Word Perfect.

Published Date: Feb 19, 2012

MediaPlayer: CD Audio Missing from "Device" Menu (6/94)

I have the PC Multimedia Upgrade Kit, and am having problems playing an audio CD. When trying to play an Audio CD from MediaPlayer the "CD Audio" option is not listed under the "Device" menu as it should be.

This article has been archived and is no longer updated by Apple.
Try the following:
1) Go to "Drivers" Control Panel (double click "Control Panels" in "Main," double click "Drivers" in that window.
2) When "Drivers" is open, double click on "[mci]CDAudio"
3) You should get a message that says "One CD-ROM drive detected, CD Audio installed," or something similar.
4) You will now be able to access "CD Audio" from Media Player.

If the above does NOT work, then try the following:

1) Exit Windows
2) From the "c:\\" directory, type in:
edit c:\\windows\\mplayer.ini<cr>
3) Find the line that reads "CDAudio=x" (where "x" is some number)
4) Change the x to "17"
5) Save changes and exit (in "edit" you would hit alt-f, then "x", then hit return or enter)
6) return to Windows and double click on Media Player. CD Audio should now be listed.

Support Information Services

Published Date: Feb 19, 2012

ABS Tech Note: AS07 Guest Access Issue

This technical note describes a condition that may happen when using guest access with AppleSearch.
This article has been archived and is no longer updated by Apple.
When you set up access privileges on folders that are either AppleSearch information sources or subfolders of information source folders, AppleSearch guarantees that the access privileges would be honored. That is, if someone can not see a folder by mounting a volume on AppleShare, AppleSearch would neither show that folder as an information source, nor return any files contained in that folder as hits.

If you log in as Guest, sometimes this guarantee is violated. Guest users can occasionally see all the things superusers can see. At other times, Guest access works correctly.

Workaround

There are a couple of work-arounds:

* Disallow guest access to your AppleSearch Server.
* Set up accounts for all your users.
* Always log-in as an ordinary user immediately after launching the server,
but never login as superuser.
* Set up a pseudo-guest account that users can use.

Note: This condition is pertinent only on the servers where administrators really use access privilege protections among information sources. If all your information is available to all your users, this condition does not arise.

This issuewill be fixed in AppleSearch 1.4.
Published Date: Feb 19, 2012

ABS Tech Note AS08: AppleSearch and Power Macintosh Compatibility

This article describes the AppleSearch 1.0.1 patch and where to get it.
This article has been archived and is no longer updated by Apple.
AppleSearch 1.0 as shipped does not run on the Power Macintosh. A patch is available that will update AppleSearch to version 1.0.1. The only purpose of this patch is to add Power Macintosh compatibility.

To find the most recent version of this software, please consult the Apple Software Updates Library available at: http://asu.info.apple.com/

Note: Users will likely see a performance reduction of up to 30% running AppleSearch servers on a Power Macintosh. This will be resolved when a native code version of AppleSearch is made available.
Published Date: Feb 19, 2012

LW Select 360 & Pro 810: Controlling Print Destination

I am using a LaserWriter Select 360 with the fax option card and using the application 4th Dimension. As a programmer with 4D, I can select whether or not I want the printer dialogs to appear when the print command has been issued.

I re-programmed our application to display the printer dialogs for the specific purpose of faxing or printing items. Even with the printer dialogs displayed, I still encountered a problem of whether or not the item got printed or faxed. I simply could not control it.
This article has been archived and is no longer updated by Apple.
In our investigations into issues similar to this, we have found that some applications do not make the required calls to certain Print Manager routines when they bypass the Print dialog.

We found this to be the case with programs such as Applelink and its ability to print files downloaded during its "Repeating connection" feature. When using that feature a print dialog is not displayed, however, regardless of the destination selected in the previous print job (i.e. Print, File, or Fax), the downloaded files were being faxed. We took a look at this problem and determined that the application was not making the Print Manager call to PrintDefault which provides the default values for the printing record. PrintDefault MUST be called if the Page Setup or Print dialogs are not displayed.

With regard to 4D, we assume that it is also not making the necessary call to PrintDefault.
Published Date: Feb 19, 2012

Palatino Fonts: Spacing Different on 7.1 When Upgraded (6/94)

I just upgraded from System 7.0.1 to System 7.1. My Microsoft Word 5 documents that use Palatino TrueType fonts no longer have correct spacing either on the screen, or when printed on a Postscript printer. For government regulation reasons, our documents require exactly the same spacing as when printed with System 7.0.1.

This article has been archived and is no longer updated by Apple.
Since there were no Palatino TrueType fonts included with System 7.0.1, documents do not generate the same display and print images with System 7.0.1 as they do with System 7.1. System 7.0.1 shipped with bit map versions of Palatino (Palatino 10, 12, 14, 18, 24), whereas System 7.1 shipped with those, in addition to TrueType Palatino, TrueType Palatino Bold, Bold/Italic and Italic.

Therefore, to assure that the documents print exactly as they had with System 7.0.1, you must remove only the Palatino TrueType fonts from the System 7.1 Palatino suitcase found in the Fonts folder.

Support Information Services

Published Date: Feb 19, 2012

Macintosh: PlainTalk Audio Port Microphone Support

Can I plug in a standard line level 3.5 mm connector microphone into my Macintosh AV or Power Macintosh? I noticed that the PlainTalk microphone connector is slightly longer and have not been able to find a comparable third-party microphone.
This article has been archived and is no longer updated by Apple.
Standard 3.5 mm connector microphones which have a line level output will work on any Macintosh computer which utilizes the PlainTalk type microphone. The PlainTalk microphone requires +5 V DC power to function, thus the extra length on the connector. The original round Omni-Directional Apple Microphone will not work with PlainTalk equipped computers, however.

The microphone port on all Macintosh computers that use the PlainTalk microphone (such as the Macintosh AV computers, Power Macintosh computers, Macintosh Quadra 605, Macintosh 630 family, and Macintosh LC 575) is a standard stereo 3.5 mm stereo plug. The Plaintalk microphone has an extra 6.5 mm on the tip to get +5 V power from the logic board. It is also a mono plug, so the rubber rings on it do not match a stereo plug. The microphone plug has 2 separators. The one near the end is used to isolate the power at the tip. This can be confusing to those who think that our port is longer and has non-standard spacing for the left and right channels.

To connect an RCA equipped line level device such as a VCR or home audio equipment to your Macintosh, a standard RCA to 3.5 mm stereo adapter cable can be used. An example of this is a 3 meter stereo mini to RCA cable available from most electronic suppliers.

The PlainTalk sound input mini-jack is a standard 3.5 mm in diameter. Using microphones (that supply a line level signal) or adapters with 3.2 mm plugs may work, but they are not recommended. The 3.2 mm plugs have a diameter 0.35 mm smaller than the 3.5 mm plugs. When a 3.2 plug is used, it is prone to cutting out and having excessive noise on the audio line.

Be aware that non-Apple microphones must supply the line level signal in order to work properly when connected to the PlainTalk audio port.
Published Date: Feb 19, 2012

ABS Tech Note: AShare00 About AppleShare Tech Notes

This document accompanies each release of Apple Business Systems Technical Notes.
This article has been archived and is no longer updated by Apple.
We want Technical Notes to be distributed as widely as possible, so they are sent to all Partners and Associates at no charge; they are also posted on AppleLink in the Developer Services Bulletin Board.

We place no restriction on copying Technical Notes, with the exception that you cannot resell them, so read, enjoy and share. We hope Apple Business Systems Technical Notes will provide you with much valuable information.

Technical notes are a 'living' complement to product documentation, be it Inside Macintosh or other documentation. This means that they are updated regularly, to be accurate and up to date. New Notes are added as required.

This technical note is an index of all technical notes related to the AppleShare and related products. It also documents all change to the technical notes since the previous release.

Note: We are also including for your convenience technical documentation for converting a Novell DataClub file environment to an AppleShare Server. These documents were not written by Apple or tested for accuracy, but are included because we feel you might find them useful.

Index
Technical Note Subject Last Revision
--- --- ---

Changes since last release:
New: Ashare00, Third Party/Dataclub to AppleShare Conversion
Published Date: Feb 19, 2012

Novell-Apple Tech Note: From DataClub To AppleShare

This document was not written by Apple or tested for accuracy, but it's included because we feel you might find it useful for converting a Novell DataClub file sharing environment to an AppleShare server.
This article has been archived and is no longer updated by Apple.
This document describes some methods for converting a Novell DataClub file sharing environment into an AppleShare server. It also presents some instructions for removing the DataClub software from a Macintosh, after the data, users, and security information have been successfully converted to the new file-sharing environment.

Backup and Restoration Methods
We suggest three methods for converting data stored on a DataClub file server volume into an AppleShare volume. Each method has its own benefits, but all have the same drawback: none of these methods preserves the security information established by the DataClub software. Therefore, we strongly recommend that you use the DataClub Admin utility to obtain a thorough summary of all information about users, groups, and the security of shared files and folders before destroying any DataClub volume(s). You must then explicitly recreate all the user names and security assignments for files and folders that you previously established using DataClub on the new AppleShare server; this is essential in order to minimize difficulties for end users during and after the conversion process.

1) You can back up the DataClub volume, whether it is a dedicated server volume or a distributed or "virtual" volume, by using a number of tape drive utilities. Retrospect, from Dantz Software, is one example of a DataClub-compatible tape back-up system.

When using a tape back-up system, be particularly aware of any restrictions on how you can restore the data to a different volume. Each tape back-up vendor's solution may incorporate differing rules concerning existing volume names, new volume names, or incremental restorations. So be sure to verify that you can successfully restore all the data to the new volume before destroying the old DataClub volume.

2) You can copy the data on a DataClub volume directly to the new AppleShare volume. To do this, mount both the DataClub and the AppleShare volumes on the desktop of the client Macintosh. Then, simply drag-copy the data?and directory structure, if you want?from one volume to the other.

This method may be slower than others, but it allows you to verify the data's integrity on the new volume at arbitrary times during the process. If a problem occurs, you can halt the process and troubleshoot the problem at that time.

3) You can move the data on the DataClub volume to some other intermediate storage, such as a workstation user's local hard disk or some removable storage such as a writeable magneto-optical drive. You can even copy all the DataClub data to 1.44 MB floppy disks. After moving the data to intermediate storage, you can easily copy the data to the new AppleShare volume.

This method is probably the most labor-intensive of the three. However, if you do not have a tape back-up utility and want to install the AppleShare server software on the same machine as the current DataClub DSM (Dedicated Server Module) software, this method may offer the most desirable solution. In this case you can verify the data's integrity on the intermediate media at arbitrary times during the copying process. Then, during the software conversion from DataClub to AppleShare, you can retain the media in a safe place. Finally, after you install the new AppleShare file server, you can recopy the data to the new volume.

Removing DataClub from the Macintosh
It is important that you not remove the DataClub software or the hidden volume before successfully restoring the data on a new volume where you can verify the data's integrity.

We suggest two methods for removing the DataClub software from a Macintosh volume. Both of them require a resource editor program like ResEdit from Apple Computer or Norton Utilities from Symantec.

1) Use your favorite resource editor on each Macintosh where DataClub is installed. First, turn DataClub off in its Control Panel and restart the Macintosh. Then use the resource editor to find the hidden DataClub folder. (The folder name may include five non-printing boxes.) After you find the folder, use the resource editor to make the folder visible so that you or the workstation user can move the folder to the Trash, as with any other folder on the local volume. The time required to empty the Trash depends on how much data the folder contains. This method may be the faster of the two, but it requires a person familiar with resource editors to perform the operation on every Macintosh where DataClub is installed.

2) If DataClub is installed on every Macintosh, and each Macintosh has made its hard disk available for use by DataClub, you can remove the DataClub software from each Macintosh in a step-wise fashion. We recommend that you remove DataClub software from Macintosh workstations in order, based on the amount of available disk space on each Macintosh:

(1) first, remove DataClub from the Macintosh with the least available disk space.

(2) proceed to the Macintosh with the second least available disk space, and continue in this order;

(3) finally, remove DataClub from the Macintosh with the most available disk space.

Starting with the first Macintosh, open its DataClub Control Panel and uncheck the checked disks in "Use these disks" list. This will cause DataClub to move any shared data residing on the first Macintosh to other Macintosh clients on the DataClub network. After DataClub has moved the data, turn off DataClub by clicking the OFF radio button in the DataClub Control Panel. If at any point during the automatic data migration a problem arises, use a resource editor (as described in the first method, above) to remove DataClub from the volume. After restarting the Macintosh and verifying that DataClub does not load, move the DataClub Control Panel into the Trash. If any DataClub applications like the Admin utility reside on the Macintosh, throw them away also because they are not useful without the DataClub software.

Repeat the steps in this method on every other Macintosh client until all the data (files and folders) reside on the last Macintosh on the network. On this workstation, turn DataClub off in the Control Panel, and restart the machine. Use a resource editor to find the hidden DataClub folder on the root of the volume and make it visible. After quitting the resource editor, simply move the entire DataClub folder into the Trash. The time required to empty the Trash depends on how many files are in the folder.
Published Date: Feb 19, 2012

PowerBook 500 Series: Battery Not Immediately Recognized (2/95)

Upon inserting a fresh battery into my PowerBook 500 series computer, the battery is not immediately recognized. Is this normal?

This article has been archived and is no longer updated by Apple.
When a new battery is inserted into a PowerBook 500 series computer, it could take up to 30 minutes (or longer in rare cases) for the battery to be recognized and start to charge. The delay is a result of communication that occurs between the battery and PowerBook. The power circuitry is set up to poll the battery at specified intervals, rather than to communicate immediately after a battery has been inserted.

This problem has been resolved with the Intelligent Battery Recognition software. This software consists of a system extension and an application which updates the software that is contained on a chip inside the PowerBook 500 series battery. A separate article in the Tech Info Library documents this software, its title is "PB 500 Series: Intelligent Battery Recondition Software (2/95)"

These articles can help you locate the software mentioned here:

* "Where To Find Apple Software Updates"
Lists online services for "free" Apple software updates.

* "Obtaining Apple Product Support in the USA"
Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech. Info. Library.

Article Change History:
17 Feb 1995 - Updated resolution to problem.
04 Nov 1994 - Added information about AC Power Adapter.
24 Aug 1994 - New workaround information added.

Support Information Services
Published Date: Feb 19, 2012

LaserWriter PostScript Fax Card: Q&A (5/94)

This article contains questions and answers about the PostScript Fax Card for the LaserWriter Select 360 and LaserWriter Pro 810.

This article has been archived and is no longer updated by Apple.

Q: Can I receive a fax to my hard drive for later printing and/or re-sending?

A: You can delay a fax transmissions up to 24 hours. For example, a fax transmission could be delayed until the evening hours to reduce the cost of transmission. However, you cannot delay when you print a fax job that was received. After the fax is received by the printer and printed, it is flushed from memory and cannot be retransmitted.

Q: What happens to incoming faxes if I am in the middle of a large printing job?

A: If the printer is busy printing a document, the printer will save away incoming faxes in memory, and then print them when it's done with the current job.

Q: What happens if the printer runs out of paper when the printer is left unattended? Does it place the incoming fax into a memory buffer?

A: The default job timeout is set to zero (no timeout); therefore, if the printer runs out of paper, the printer buffers the queued fax print jobs until you add paper. The printer continues to accept incoming faxes until its buffer is full, at which point it no longer accept calls.

Q: How big is the buffer?

A: The amount of RAM allocated for fax operations is product dependent, and is set by the PostScript parameter MaxFaxBuffer. MaxFaxBuffer sets an upper bound on the number of bytes of printer RAM which may be used for incoming and outgoing fax data. For the LaserWriter Select 360, the value is 1,572,864 bytes, whereas the LaserWriter Pro 810 is 2,600,000 bytes. This amount of RAM is constant across printer models, and doesn't increase if you add more RAM to the printer. The fax buffer is not dedicated to solely fax operations, but can be used by other jobs. However, when large fax jobs are processed, the amount of RAM that may be used to process those fax jobs is the MaxFaxBuffer amount. In our tests we received and buffered more than 20 pages of PostScript fax data on a LaserWriter Select 360f with no difficulties. We have not tested the upper limit, because "your mileage will vary" because of certain variables: is it the fax job a PostScript fax file, are fonts downloaded, faxing in Group 3 standard mode (200 dpi by 100 dpi), G3 fine mode (200 dpi by 200 dpi)?

Faxes sent in the PostScript file format are generally more compact than traditional faxes, reducing the transmission time and cost. If the file contains complex graphics or images then the size of the PostScript file can exceed the size of raster fax. File size is reduced because PostScript Fax uses the built-in LZW compression and decompression capability of PostScript Level 2.

The memory required to handle fonts only becomes an issue when the recipient's fax device is another PostScript Fax printer, and a PostScript file fax is being sent. In this case, if the document being sent requires fonts beyond the standard 35 fonts, the PostScript Fax printer automatically sends the additional fonts along with the PostScript file to the recipient's fax printer. PostScript fonts are generally about 35 K in size and require approximately 35 seconds of additional transmission time for each font transmitted.

It is possible the sender or receiver may have insufficient storage to hold all of a transmitted fax data. Raster faxes can be transmitted in multiple calls.

The transmission of a PostScript language file to a single destination is always made in a single call. This decision to break up a PostScript fax file transmission takes place only after the entire file is in storage of the transmitting printer. If the file will not all fit in storage, the job fails.

If the receiving fax printer runs out of memory during the processing and printing of an incoming fax, it terminates the call. The sending fax printer then terminates the transmission attempt and print a confirmation page noting the transmission failure.

Support Information Services

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MAE: Installing Quark XPress 3.3 (6/94)

I'm trying to load Quark XPress version 3.3 in the Macintosh Application Environment (MAE), and I'm having a problems. I get an error message telling me there is more than one process running and I need to stop them before I continue installing Quark. The only thing running is the finder.

The exact error message is: "Installation of QuarkXPress cannot take place while other applications are running. Click O.K....."

How do I install Quark XPress?

This article has been archived and is no longer updated by Apple.
You are probably running into the problem Quark has when the MAE Helper application is running. You can work around this problem by disabling MAE Helper using the following procedure (Note that while MAE Helper is disabled, X<->Mac cut & paste won't work):

1) Move MAE Helper out of the Extensions Folder

2) Restart MAE

3) Install Quark XPress

4) Move MAE Helper back into the Extensions Folder. Note that you have to put it directly into Extensions by hand. Dragging the icon over the System Folder won't put it in the right place because it's actually an application rather than an "INIT".

5) Restart MAE and run Quark XPress

Support Information Services

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MAE V1.0: Patch Release "a" (5/96)

This article is the announcement of patch release "a" for Macintosh Application Environment (MAE) V1.0.

This article has been archived and is no longer updated by Apple.

As a result of your input and questions, we have created and are distributing patch release "a" for MAE V1.0. This patch release will alleviate several problems that you have identified in your communications to us.

The patch can be obtained over the internet from the /pub/mae/patches directory on the server ftp.support.apple.com. There is a read-me file in that location with complete details on what is contained in the patch release as well as how to download and install the patch. In addition, please be aware that the patch is covered by a license agreement. You MUST read and agree to the license agreement before downloading and/or using the patch software. Note: This patch cannot be used with the MAE V1.0 trial.

Our intention is to release patches on an as-needed basis. Each patch release will contain the previous patches as well as the new ones. If you have any questions and are a licensed MAE user call 1-800-SOS-APPL. Otherwise, send mail to mae-users@medraut.apple.com.

Article Change History:

13 May 1996 - Changed title.

Published Date: Feb 19, 2012

MAE Trial: Install Check Sum Error (6/94)

I ordered the trial CD, and have tried (unsuccessfully) to install it on my SPARC 2 (16 MB RAM) running Solaris 2.3. When I install, it successfully writes files to my hard drive, but during the verification phase, I'm given an error: The verification of the [insert package name here] Package cannot continue. The Installer detected a check sum error in the file shown below. [insert file name here]. What does this error mean, and is there a workaround?

This article has been archived and is no longer updated by Apple.
This error might occur if you've changed your "sum" file. The installer runs a check sum using /bin/sum -r. If "sum" returns something the Installer doesn't expect, then you would get the error you're seeing.

Support Information Services

Published Date: Feb 19, 2012

SuperPILOT: Command syntax

The SuperPILOT manual shows commands inconsistently: no spaces, one space, and two spaces.
This article has been archived and is no longer updated by Apple.
The following example of the KEEP command shows the correct use of spaces.

```
K:1,E*;#(%A) : #(TIM(0))
| |
SPACES
```

Published Date: Feb 19, 2012

MAE Trial: Installer Can‘t Find Installation Packages (6/94)

I grabbed the trial version of MAE from your ftp server, and am having problems trying to install the package. I have no problem uncompressing and untarring the file, but when I try to run the INSTALL.SH I get the following error message: The Installer cannot find the installation packages.

I do get an information screen displayed before I get this message. Is there an obvious workaround for this? When I enter the following command:

zcat MAE_SOLARIS.tar.Z|sum

I get a checksum of 4704 42700, in case it is a transfer problem.

This article has been archived and is no longer updated by Apple.
This error might occur if your current directory is not the same as the one containing INSTALL.SH. In addition, the variable INSTALL_SRC should not be set (the Installer uses this variable to select a non-standard installer script -- for testing purposes).

Support Information Services

Published Date: Feb 19, 2012

MAE: CAP and PacerShare Problem (11/94)

I'm testing the Macintosh Application Environment (MAE) at my site. I have a file server set up on a UNIX host using CAP. CAP (Columbia AppleTalk Package) for UNIX is a library of routines which enable a UNIX host to communicate using AppleTalk Protocols. It is public-domain software.

The file server is mounted on the UNIX machine via NFS, and when using Liken, the Macintosh applications stored on the file server can be launched by double-clicking on their Icons.

However, through MAE, the files appear to be UNIX binary files and can not double-clicked. I don't know what file format the files are stored in on the file server, but within MAE, they appear as two separate folders (folders, not files) for each application.

Does MAE support CAP, or as an alternative does MAE support PacerShare?

This article has been archived and is no longer updated by Apple.
CAP is not supported under MAE. The problem is CAP uses an unacceptable means to store Macintosh files. MAE understands only AppleSingle and AppleDouble file formats which CAP doesn't use.

PacerShare from Pacer Software is a product similar to CAP, in allowing a UNIX host to act as an AppleShare server. Apparently, it doesn't use AppleSingle or AppleDouble file formats either, and cannot be used to transfer files to MAE.

We have reported this for tracking and follow up if there is any.

Article Change History:
11 Oct 1994 - Added PacerShare to article.

Support Information Services
Published Date: Feb 19, 2012

LaserWriter IIg: PostScript Code For Changing Zones (6/94)

I am aware of the problem with the LaserWriter IIg and zone problem that was resolved by a ROM upgrade. Is there a way to fix this problem using PostScript code instead of replacing the ROM?

This article has been archived and is no longer updated by Apple.
The following PostScript code changes the zone the LaserWriter IIg is located in.

For 1.0 ROMs:

```
currentfile statusdict begin product (LaserWriter IIg) eq
version (2010.113) eq and end not
{save exch 291 string readstring pop pop restore} if
/ASCIIHexDecode filter /SystemPatch statusdict /emulate get exec
85f6ba98b8147bdb3c41fc154e390200521caba043febd65f48e008d42590001cd0f62e4c9
2b841c6c1c85660f30002ba262234d72494f203c119951000000376b481858e01bff2db172
f2ecfe000446e2f3ddca7b1fb2d27814e1c22e000598f64cae7bb9897afb760a5d81ac0106>
serverdict begin 0 exitserver
(%EtherTalk%) <</EtherTalkZone (YourZoneGoesHere)>> setdevparams
```

For 2.0 ROMs:

```
serverdict begin 0 exitserver
(%EtherTalk%) <</EtherTalkZone (YourZoneGoesHere)>> setdevparams
```

An alternative to sending the printer one of the above PostScript programs is to use the LaserWriter Utility, version 7.3 or later.

Support Information Services
Published Date: Feb 19, 2012

Macintosh Color Classic: Ohm Rating For Internal Speaker

What is the resistance rating in ohms for the internal speaker of the Macintosh Color Classic?
This article has been archived and is no longer updated by Apple.
The Macintosh Color Classic uses a rectangular 16 ohm speaker enclosed in a plastic housing.
Published Date: Feb 19, 2012

PlainTalk Microphone: Which Macintosh Models Support It (6/95)

This article describes which Macintosh computers support the PlainTalk microphone.

This article has been archived and is no longer updated by Apple.
All new desktop Macintosh computers designed since the fall of 1993 support the PlainTalk microphone.

Macintosh computers that use the PlainTalk microphone include:

* Macintosh Color Classic
* Macintosh LC and Performa 500 series computers
* Quadra 605/LC 475/Performa 475/476
* Quadra 660AV
* Quadra 840AV
* All Power Macintosh computers
* Macintosh 630 family computers
* Power Performa 6100 series computers

The following computers are in the Macintosh 630 family: Performa 630, Performa 635, Performa 636, Performa 637, Performa 638, LC 630, and Quadra 630.

The following computers are in the Macintosh Performa 6100 series: Performa 6110, Performa 6112, Performa 6115, Performa 6117, and Performa 6118.

All other Macintosh computers that support sound input utilize the standard Apple Microphone.

Article Change History:
05 Jun 1995 - Added Macintosh Color Classic to list.
10 Feb 1995 - Added technical updates; added 6100 series note.
26 Oct 1994 - Added Macintosh LC 500 series, description of 630 family.

Support Information Services
Published Date: Feb 19, 2012

PowerBook 1xx Series: Alternative Battery Sources (4/95)

Are there any alternative sources for PowerBook batteries?

This article has been archived and is no longer updated by Apple.
The following third party companies have PowerBook 100 and other 100 Series PowerBook batteries.

1. Battery Technology, Inc.
5700 Bandini Blvd.
Commerce, CA 90040

213-728-7874
800-982-8284
213-728-7996 (fax)

2. Dynamic Engineering

408-336-8891
408-336-3840 (fax)

3. Lind Electronic Design Inc.
6414 Cambridge St.
Minneapolis, MN 55426

800-659-5956
612-927-7740 (fax)

4. VST ThinPack by
VST Power Systems, Inc.
1620 Sudbury Road, Suite 3
Concord, MA 01742

508-287-4600
508-287-4068 (fax)

Article Change History:
25 Apr 1995 - Updated list of vendors.

Support Information Services
Published Date: Feb 19, 2012

AWS 95 and Launching Native X11 (6/94)

I have a question about XWindows running on an Apple Workgroup Server (AWS)╩95. I have tried launching X11, but I encountered the following errors:

applei2u.root # X11
can't ioctl(): Invalid argument
You don't have an X11 startup script (//.x11start).
Using default X11 startup script (/usr/lib/X11/.x11start).

Proceeding with X startup ...
can't ioctl(): Invalid argument
You don't have an X11 startup script (//.x11start).
Using default X11 startup script (/usr/lib/X11/.x11start).

Fatal server bug!
ioctl I_STR VIDEO_MAP_SLOT failed
XIO: fatal IO error 32 (Broken pipe) on X server "P"
after 0 requests (0 known processed) with 0 events remaining.
The connection was probably broken by a server shutdown or KillClient.
Failed to ioctl I_STR VIDEO_MAC.
applei2u.root #
applei2u.root #
applei2u.root #
applei2u.root #
applei2u.root # /usr/lib/X11/.x11start

xstdcmap: cannot open display "applei2u:0.0".
xset: unable to open display "applei2u:0.0"
twm: unable to open display "applei2u:0.0"
applei2u.root # Error: Can't Open display
Error: Can't Open display
Error: Can't Open display
Error: Can't Open display
Error: Can't Open display

applei2u.root #

How can I launch X11 under A/UX?

This article has been archived and is no longer updated by Apple.
You can launch X11 from either of the following two methods:

* An X11 session in "Change Session Type.." from the Options menu in the
A/UX Login Dialog window.

* From a Console Emulator session, then type the command: X11

Launching X11 from within an A/UX Finder (32bit or 24bit) CommandShell is unsupported.

Since the release of A/UX 2.0 and later, you can't launch a native X11 server in A/UX within the A/UX Finder environment. You can, however, launch MacX from within the A/UX Finder environment.

Support Information Services

Published Date: Feb 19, 2012

Workgroup Server 8150 & 9150: SCSI Information

This article provides more detailed information on the SCSI architecture of the Workgroup Server (WS) 8150 and 9150.
This article has been archived and is no longer updated by Apple.
The SCSI bus implementations in the WS 8150 (the same logic board as the Power Macintosh 8100) and the WS 9150 are basically identical.

These systems have two internal SCSI bus sub-systems with an external SCSI bus that is a physical extension of one of the internal SCSI bus sub-systems.

The "internal only" SCSI bus is implemented using an 53CF96 SCSI controller.

The "internal/external" SCSI bus is based on the 53C94 controller and is built-in to an ASIC on the logic board.

Both SCSI controllers, as implemented, support at a maximum transfer rate of 5 MB/second. In practice, we typically see transfer rates in the 3.0 MB/second to 4.0 MB/second range for both SCSI sub-systems. These numbers will vary depending on drive performance, SCSI bus dynamics (for example cable length and termination), and how software reads or writes to the hard drive. A standard SCSI drive is all that is needed. A SCSI-2 or SCSI FAST drive can only be utilized as a standard SCSI drive.

Hard drives with drivers that do not support SCSI Manager 4.3 may operate at speeds similar to the same drive with a driver that does support SCSI Manager 4.3. However, it is just as likely there will be a performance degradation. The only time there should be a compatibility problem is when there are drives on both SCSI buses with the same SCSI ID. If either drive does not support SCSI Manager 4.3, one of the drives will not show up on the desktop.

Please note that we strongly recommend that any drive used on these systems have a driver that supports SCSI Manager 4.3.

SCSI Bus Specifications:

- The two SCSI buses can connect up to nine SCSI devices.
- The internal SCSI bus (also known as bus A) is designed to connect no more than two internal hard disk drives to the server (CPU).
- The external bus (bus B) is designed to connect an optional (built-in) DAT drive, the built-in CD-ROM drive, and up to five additional external SCSI devices to the server (CPU).
- Figure 1 shows all the server's default SCSI ID numbers as well as the five SCSI ID numbers available for you to use on the external bus.
- The Workgroup Server 8150 can accommodate either a second internal hard disk drive or an internal DAT drive, but not both.

Figure 1 SCSI bus open ID numbers

Published Date: Feb 19, 2012

Macintosh II: Custom Video Extension Cable

How can I make a custom video extension cable for a Macintosh II?

This article has been archived and is no longer updated by Apple.
To make a custom video extension cable for a Macintosh II, you'll need a cable with a 75-ohm impudence value (usually RG59U standard coaxial video cable). Each line can be tied to the appropriate pin at the connector and the shield connected to the signal ground pin.

- Impedance: 75 ohm
- signal strength: 13.33 amps, 1 volt

The video signal can extend as far as 1,000 feet (though there is some color loss at this distance). The signal should be reliable up to 50 feet. The distance is limited by the loss of signal strength through cable resistance.

For more information on pinouts and cabling, search under "Macintosh II video signals".

Published Date: Feb 19, 2012

PowerBook Duo: Loose Battery Symptoms & Cures

This article describes some common battery related problems with the PowerBook Duo and how to alleviate them.
This article has been archived and is no longer updated by Apple.
Most of the problems you will experience with Duo batteries will result in the Duo:

- shutting down intermittently when running on the battery alone

- displaying a warning message saying the battery isn't charging

- not starting from the battery alone but running fine using the power adapter.

Correctly Seating the Battery

In most cases, one or more of these symptoms is caused by a loose battery. To correctly seat the battery:

1. Choose Shut Down from the Special menu.

2. Close the display.

3. Open the battery door by pressing the small button and sliding the door aside. The battery is physically attached to the door. Remove the battery from the Duo.

4. Hold the battery so you can read the printing on the battery right side up.

5. Pull the battery door to the left until you hear a DISTINCT click and it locks into place. It may take some effort the first few times, but it will loosen up in time. This aligns the door correctly so that when you insert the battery it will seat properly.

6. Tilt the Duo up onto its back edge so the battery compartment is on top.

7. Slide the battery most of the way in into the compartment, then drop it the last half-inch. Close the battery door to lock the battery into the computer.

8. Plug in the power adapter in case the battery is not fully charged and restart the Duo.

If you have a Type 1 battery (model # M7782) and the battery door won't CLICK as indicated in step 5 or feels very loose, the battery may come loose frequently. The battery door can be replaced by ordering part number 616-0004 from your local Apple authorized service provider.

Should the problem persist, it is possible that the battery contacts are mis-aligned. They can be re-aligned by an Apple Authorized Service Provider with the proper battery alignment tool.

Published Date: Feb 19, 2012

A/UX 3.1 Update CD and Macintosh Partition Problem (6/94)

I tried to update my A/UX computer to version 3.1, and I get a message telling me the installation was not successful, and that the original system was restored. Why is this happening?

This article has been archived and is no longer updated by Apple.
If your Macintosh Partition has insufficient space to have its software updated, the installer may inform you that installation was not successful and your original system software has been restored, but will not tell you why. You may have added files to your Macintosh Partition which is taking up the space needed.

If you have this problem with your Macintosh Partition when using the A/UX 3.1 update CD, try one of the following:

* Remove unnecessary files from your Macintosh Partition and try updating again.

* The default Macintosh Partition is 4 MB to maximize the space available to A/UX. Other partition options are available as custom selections within HD SC Setup. If you need to use additional software in your Macintosh Partition beyond what is necessary to boot and maintain A/UX, the default 4 MB Macintosh Partition size may be insufficient for your needs. If this is so, you may need to re-partition the drive using either one of the pre-set custom partition maps, or one you create so that your Macintosh Partition will be large enough to accommodate your needs.

IMPORTANT: Using HD SC Setup to change the size of ANY partition will require that you re-initialize your entire hard drive.
Because of this, you MUST re-install all of A/UX and your server's applications as well, so it is VITAL that you backup your data, and restore it after re-installation is complete.

Support Information Services
Published Date: Feb 19, 2012

Remote Access MultiPort Server:Quadra 840av Needs 2.0.1

I have installed the Apple Remote Access MultiPort Server on my Macintosh Quadra 840av, and am getting Type 1 errors and system crashes.

I am running System 7.1 with no voice recognition software installed, System Enabler 088 v1.1 installed.

This article has been archived and is no longer updated by Apple.
This problem should be resolved by upgrading to ARA MultiPort Server 2.0.1. If an upgrade is not possible or practical, then installing Apple Shared Library Manager 1.1.1 will reduce the occurrence of this problem. The preferred solution is to upgrade to ARA MS 2.0.1.

Also note, ARA MultiPort Server 2.0.1 officially supports only one Serial NuBus Card in a Macintosh Quadra 840av.

Published Date: Feb 19, 2012

NuBus ‘90: Macintosh Computers That Support It (6/94)

This article describes the 1990 proposal revision to the IEEE NuBus standard (IEEE Std. R1196-R-1990) commonly referred to as NuBus '90, what Macintosh computers support it, and facts surrounding the use of older cards in NuBus '90 equipped systems.

This article has been archived and is no longer updated by Apple.
The NuBus implementation in the Quadra family and the Power Macintosh family is based on the NuBus '90 proposal. This proposal includes the following new signals:

* Support for block transfers at double the standard rate. The Macintosh Quadra family of computers allow double rate block transfers between NuBus cards but do not support double rate transfers to or from the main memory.

* A serial bus on the formerly reserved pins A2 and C2. The serial bus signals are bused and terminated, but the main circuit board does not drive them.

* Support for a cache-coherency protocol. Pins on the NuBus connector are assigned to those signals, but the Macintosh Quadra system doesn't support them.

In addition, the NuBus slots in the Quadra 900/950, and Power Macintosh computers also provide the following feature:

* Low current at +5V is available on the new STDBYPWR pin when main power is off and the AC cord is plugged in.

The eight lines that were previously connected to the -5.2V supply have been replaced by the above new features. Many older NuBus cards connect those lines together, the presence of such a card in Macintosh computers implementing the features of NuBus '90 will disable the new features. All other features of both the old and new cards will operate normally.

Support Information Services
Published Date: Feb 19, 2012

Apple Restore: Disk or Disk Drive error (6/94)

During the Apple Restore procedure, I am prompted with the message that certain files cannot be copied because of '... a disk or disk drive error ...'. What is wrong?

This article has been archived and is no longer updated by Apple.
Apple Restore is operating exactly as designed, you can actually restore just fine.

You are getting this message because three files are LOCKED on the hard disk:
At Ease Preferences
Setups
Users

During the Apple Restore procedure, the customer will be prompted that these files cannot be copied because of '... a disk or disk drive error ...'

If you click CONTINUE, the restoration procedure will continue normally. At the end, you will be told that some files were not copied. This is OK. Restart your Macintosh.

Support Information Services
Published Date: Feb 19, 2012

PowerBook 500 Series Battery: No Deep Discharge (6/95)

Do the PowerBook 500 series batteries do a deep discharge before they recharge from AC? Is this type of battery susceptible to the "memory effect" from partial charges?

This article has been archived and is no longer updated by Apple.
The 500 series PowerBooks do not automatically perform a deep discharge of the batteries before recharging them, nor is a deep discharge recommended. To do a deep discharge, you would need to use an external device to drain the battery below recommended voltage levels.

The recommended procedure is to use the PowerBook on battery power until you see the battery level warning dialog box displayed, be sure to save any files that you are working on. Continue to use the PowerBook until the unit goes to sleep automatically, then connect the AC adapter and fully charge the batteries. It is recommended that this procedure be performed every 90 days.

The nickel-metal-hydride batteries (NiHy) can develop a "memory effect" but they are much less susceptible to it then other battery technologies are. Following the procedure above as well as the other battery care tips listed in your PowerBook users manual will prevent the batteries from developing any "memory effect".

You may also want to read the Tech Info Library article, "PowerBook
Ni-Cad Batteries: Memory Effect".

Article Change History:
06 Jun 1995 - Reviewed for technical accuracy.

Support Information Services
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PowerBook: Differences Between 14x and 150 models (4/95)

This article discusses the differences between the PowerBook 140/145/145B and the PowerBook 150.

This article has been archived and is no longer updated by Apple.
The PowerBook 150 differs from the 140/145/145B in a number of areas as follows:

Display

The PowerBook 150 uses a VGA 640 X 480 FSTN display measuring 9.5" diagonal capable of displaying up to 4 shades of grey.

External Ports

The PowerBook 150 has one serial port (modem or printer/LocalTalk), SCSI port, and a power connector on the back of the unit. There is no door covering the rear ports, care should be taken to avoid damaging the ports during use or transportation. With an optional modem installed, an RJ-11 jack will also be available.

Internal Hard Drive

The 150 uses an IDE (Integrated Drive Electronics) type hard drive rather than SCSI. A unique version of Apple HD Setup is supplied to properly initialize the drive. Replacement of the IDE drive with a SCSI drive is not supported by the logic board.

The IDE drive installed in the PowerBook 150 has numerous benefits for the system including a fast seek time: <17ms average, fast spin-up from standby, and light weight.

Memory

Utilizing a small adaptor, the PowerBook 150 uses 70ns memory similar to that used with the PowerBook Duo computers. Maximum memory capacity is 40MB.

Power On/Off

At the rear of the PowerBook 150 are two switches which affect the power on and power off sequencing of the computer. The small recessed switch (inside the plastic case) is a true On/Off switch. If the computer is in shutdown mode, upon pressing and releasing this switch, the PowerBook will initiate the boot-up process. A paper clip or other thin instrument is required to activate this switch.

As this is a true reset switch, it is possible that personal set up information could be lost when activated. Be sure to use it as a last resort only.

If the computer is on, upon releasing the switch, it will turn off.

The other switch is a Power ON switch only - which means the unit can be awakened either from sleep or shutdown by pressing it.

Article Change History:
03 Apr 1995 - Clarified info on PowerBook 150 Reset switch.

Support Information Services
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PowerBook 150: Description (7/94)

This article describes the Macintosh PowerBook 150 notebook computer. Note that the PowerBook 150 is functionally equivalent to the PowerBook 145B.

This article has been archived and is no longer updated by Apple.

Overview

The Macintosh PowerBook 150 is the most affordable PowerBook computer. It's ergonomically designed with an integrated trackball and palm rest to work with easily on your lap. The display is infinitely adjustable for optimum viewing angle while the PowerBook itself has a two position tilt adjustment.

With the PowerBook 150's built-in floppy disk drive, Macintosh, MS-DOS, OS/2, and ProDOS diskettes can be formatted, read, and written to.

ClarisWorks and Apple Remote Access Client come pre-installed on the hard drive.

Power and Speed
---
* 33 MHz 68030 microprocessor.

Memory
---
* 4MB RAM, expandable to 40MB.

Display
---
* Backlit 9.5" Passive Matrix LCD, 640 by 480 pixels.

Expansion
---
* Two external ports (SCSI and printer/modem) to connect the PowerBook 150 directly into high-capacity hard disks, printers, modems, and AppleTalk networks. Internal expansion slots for modem and RAM.

System software
---
* System Software 7.1, with multitasking, File Sharing, Balloon Help, and TrueType fonts.

Networking
---
* Built-in AppleTalk networking provides networking capability that gives access to all the resources on an AppleTalk network.

Compatibility
---
* Ability to read, write, and format Macintosh, MS-DOS, OS/2, and ProDOS floppy disks.

What's in the box:
---
* PowerBook 150 computer
* Apple low power AC adapter
* Battery case
* Utilities diskette
* PowerBook 150 Getting Started, Macintosh Reference, Apple Remote Access Client, and ClarisWorks user manuals
* Apple Resource Guide
* Product registration card for PowerBook 150
* Product registration card for ClarisWorks

Configurations and Ordering Information:

PowerBook 150 4/120 configuration

Order No. M2794LL/A

PowerBook Duo 4MB Memory Expansion Kit
Order No. M4814LL/A*

PowerBook Duo 8MB Memory Expansion Kit
Order No. M4815LL/A*

* Dealer installation recommended.

PowerBook 150 Memory Adapter Kit**
Order No. M3179LL/A

** Required for installation of Memory Expansion Kits

PowerBook Rechargeable Battery
Order No. M5545LL/C

PowerBook AC Adapter
Order No. M4662LL/A

PowerBook Battery Recharger
Order No. M1027LL/A

Apple HDI-30 SCSI System Cable
Order No. M2538LL/A

Support Information Services
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PowerBook 150 IDE Hard Drive: Description (7/94)

This article describes the IDE (Integrated Drive Electronics) hard drive installed in the PowerBook 150.

This article has been archived and is no longer updated by Apple.
The 120mb hard drive installed in the PowerBook 150 is unique from other drives previously used in Macintosh computers. Rather than being a SCSI drive, it is an IDE drive. The PowerBook 150 does still support connecting EXTERNAL SCSI devices however.

The drive is rated at <17ms average access time.

Due to the sensitive nature of IDE devices, removal and replacement of the drive for another is not recommended with the exception of service exchange by trained service personnel.

Support Information Services
Published Date: Feb 19, 2012

American Heritage Dictionary: Error Type -250 (3/97)

When launching American Heritage Dictionary 3.0.1 I get an error of type -250.

This article has been archived and is no longer updated by Apple.

This can occur intermittently in version 3.0.1 of the American Heritage Dictionary program. In the Memory control panel, if Virtual Memory is set to more than 20 MB, an error of type -250 will result. As a temporary workaround, you may reduce the amount of virtual memory to something less than 20 MB

Version 3.6.1 (and later) fixes this. The updated software can be obtained from the publisher, The Learning Company.

RAM Doubler
==========

NOTE: RAM Doubler reports to the operating system that Virtual Memory is ON (it's actually Extended Memory, but the Operating System flag is still the same). If physical RAM is greater than 10 MB, and RAM Doubler is installed, the same error message occurs. Solution: Disable the RAM Doubler extension or contact Connectix for other solutions specific to RAM Doubler.

The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.

Article Change History:
07 Mar 1997 - Added new version info, vendor info; corrected error number.
Published Date: Feb 19, 2012

At Ease: Can‘t Make Floppy Disks Copies

I am trying to make copies of a floppy disk, but it's not working. I have At Ease turned "ON", but have gone to the Finder to make the disk.
This article has been archived and is no longer updated by Apple.
While in At Ease, you cannot see diskette icons. If switched to Finder, you cannot create ghost icons with the 'Eject Disk' command in the Special menu.

Solution
Turn At Ease "OFF" and restart. You may then create disk copies using the ghost icon method (drop icon of destination disk on top of ghost icon of source disk).
Published Date: Feb 19, 2012

At Ease 2.0: Disk Copies NOT Bootable

I'm finding that the copy I made of the Utilities disk does not restart the computer (but the original Utilities disk does).
This article has been archived and is no longer updated by Apple.
A common way of making a copy of the Utilities disk in the Finder is to drag the icon of the floppy disk to the hard drive, which copies its contents into a folder named Utilities, then drag these contents onto an empty floppy disk, re-labeling it 'Utilities.'

Unfortunately, when the you start up with At Ease ON, go to the Finder, and then do the above procedure, the result is a disk that is NOT bootable.

Turn At Ease OFF and restart before attempting to create a new Utilities disk. (This issue arises when trying to make a Utilities disk equipped with PC Exchange).
Published Date: Feb 19, 2012

X11: Launching on a Workgroup Server 95

To launch X11 on a Workgroup Server 95, it is necessary to exit A/UX first.
This article has been archived and is no longer updated by Apple.
You MUST exit from A/UX Finder environment to launch X11.

One flexible way to do this is as follows:

1. Change Session Type to "Console Emulator"

2. Within Console Emulator window, you may execute the command below to get into A/UX Finder environment:
mac32; screenrestore

3. When you want to execute X11, you choose "Logout" from the "Special" menu. It will bring you to the Console Emulator mode.

4. Within the Console Emulator mode, you may type "X11" to get into the X11 Window Systems environment. To get out of the X11 Window environment, type "exit" from the X Console window. This brings you back to the Console Emulator.
Published Date: Feb 19, 2012

Apple IIGS BASIC: Availability, Features and Specifications

This article has been archived and is no longer updated by Apple.

Apple IIGS BASIC, available through APDA (Apple Programmer's and Developer's Association), is a RAM-based BASIC language for the Apple IIGS. Apple IIGS BASIC requires at least 512K RAM and one 3.5" disk drive.

Differences between Apple IIGS BASIC and Applesoft BASIC

Apple IIGS BASIC is entirely RAM-based. It doesn't rely on Applesoft at all. GS BASIC has additional commands, and many of the Applesoft commands do different things in GS BASIC. Some Applesoft commands (PR#, IN#, and HGR, for example) don't appear in GS BASIC at all.

Because GS BASIC and Applesoft files are stored differently on the disk, they are not interchangeable. GS BASIC is designed to run under ProDOS 16, whereas Applesoft can run only under ProDOS 8.

Summary of Apple IIGS BASIC Features

- Includes all standard BASIC commands.

- Provides access to external routines, which allow a BASIC programmer to call the Apple IIGS's ToolBox routines (QuickDraw II, Menu Manager, Window Manager, Sound Manager, etc.).

- Can define and call library routines. These are loaded with the INVOKE command, and called with the PERFORM and EXFN commands.

- Permits formatted program listings. Users can specify how much space appears between a line number and the first statement, and the amount of indenting to perform when listing program statement within a loop.

- Contains built-in constants and variables, such as PI, VPOS and HPOS.

- Enhances the GOTO, GOSUB, and ON xxx commands by allowing the programmer to specify destination by labels instead of line numbers.

- Allows programmers to define specific procedures that are called with the PROC command. Not only does the PROC command perform the same functions of AppleSoft's GOSUB, but it also lets the programmer pass local parameters.

- Enhances the looping capabilities of Applesoft with the following looping structures:

IF..THEN..ELSE
FOR..NEXT..STEP
DO..WHILE..UNTIL

- Implements PRINT USING and INPUT USING.

- Gives the programmer the variable types Integer, Real, String, Double Real, Double Integer, and Long Integer.

- Has a powerful line editor.

- Includes some primitives (built-in low-level commands) that let the user interact with the ToolBox routines. The commands Eventdef, Menudef, and Taskpoll are included in GS BASIC itself because they provide a tying bind between the ToolBox and BASIC line numbers.

Variable Specifications

Real: (+ or - 1.7E38) (less than 1.5E-45 equals 0)
Double real: (+ or - 1.7E308) (less than 5.0E-324 equals 0)
Integer: (%) (2 bytes) (-32768 to 32767)
Double integer: (@) (4 bytes) (-2147483648 to 2147483647)
Long integer: (&) (8 bytes) (-9223372036854775808 to 9223372036854775807)
String: ($) 255 characters
Arrays: (!)

Published Date: Feb 19, 2012

PowerBook 500, 5300 series: Video Adapter Cable Pinouts

I would like the pinouts for the external video cable used with the PowerBook 500 series computer.
This article has been archived and is no longer updated by Apple.
PowerBook 500 series and 5300 series computers have the same type VID-14 video output connector as earlier PowerBook models.

An adapter cable was included with some earlier models of the PowerBook that allows you to use a standard Apple video cable. If you didn't get the cable, it can be purchased separately. It is available as part number M3927LL/A.

Pin			
VID-14	**DB-15**	**Signal Name**	**Description**
1	2	RED.VID	Red video signal
2	1	RED.GND	Red video ground
3	4	SENSE0	Monitor sense signal 0
4	12	/VSYNC	Vertical synchronization signal
5	3	/CSYNC	Composite synchronization signal
6	11	GND	CSYNC and VSYNC ground
7	6	GRN.GND	Green video ground
8	5	GRN.VID	Green video signal
9	7	SENSE1	Monitor sense signal 1
10	14	HSYNC.GND	HSYNC ground
11	10	SENSE2	Monitor sense signal 2
12	15	/HSYNC	Horizontal synchronization signal
13	9	BLU.VID	Blue video signal
14	13	BLU.GND	Blue video ground
*	8	N.C.	Not connected
Shell	Shell	SGND	Shield ground

Published Date: Feb 19, 2012

LaserWriter Pro 630: No Change to Serial Settings in ROM Revisions

I had my LaserWriter Pro 630 repaired and the motherboard was replaced. The new motherboard has v2.0 ROMs, whereas my original had v1.0 ROMs. I think the new ROMs have changed the serial settings at switch positions 0 and 2. Does this new set of ROMs change the settings?
This article has been archived and is no longer updated by Apple.

```
At switch position 0 and 2, both sets of ROMs configure the serial port as documented in the manual:

Switch Position 0
1.0 ROMs            2.0 ROMs
--------            --------
PostScript          PostScript
RS-232              RS-232
9600 Baud           9600 Baud


Switch Position 2
1.0 ROMs            2.0 ROMs
--------            ---------
PostScript          PostScript
RS-232              RS-232
19200 Baud          19200 Baud
```

Published Date: Feb 19, 2012

LaserWriter Pro 630: How To Customize Switch Settings

How can I customize the switch settings on my LaserWriter Pro 630, and what does this actually do?
This article has been archived and is no longer updated by Apple.
The LaserWriter Utility allows you to customize switch positions 6 thru 9; thereafter, whenever you change the physical switch positions located on the printer itself to 6 thru 9, the printer's communication ports incorporate whatever communication parameters you gave them with the utility.
What may be confusing is the LaserWriter Utility doesn't allow you to override the physical switch settings on the printer, only configure 6 thru 9.

If the Current Printer Switch Settings returned by the LaserWriter Utility (Utilities menu: Configure Communications) is different then the actual physical switch position you've set on the printer, then you may have a hardware problem.
Published Date: Feb 19, 2012

Apple Scanners: Determining Scan Resolution (7/94)

What is the formula to scan images and get the best resolution while keeping the size of the file from getting extremely large?

I am scanning images for printing in a Linotronic at 2400 dpi. When I scan them at 600 dpi, the images are huge. I am trying to minimize the moire patterns.

This article has been archived and is no longer updated by Apple.
The moirÄ pattern is caused by a conflict between the dots that make up the printed picture and the dots that the scanner uses to create the image. This is why the moirÄ pattern shows up most often when scanning a printed picture from a newspaper or magazine. The Ofoto Software that is bundled with Apple's OneScanner and Color OneScanner is designed to minimize moirÄ patterns. Scanning directly from a photograph, however, will circumvent the problem entirely.

The following information should help get the best possible results:

Be sure the scanner is set for the device on which you'll be printing or displaying the final version of your scan. The Ofoto scanner software sets the scanning resolution appropriate to that device. Many people think that the highest resolution is always the best, but this is not the case. If, for example, you are printing on a laser printer, and you set the scanner to the high resolution appropriate to a Linotronic printing press, your files will be large, your printing time will be slow, and your scan will be no better than if you had selected the lower resolution. What's important is that the scanning resolution be appropriate for the output device's resolution and image-processing abilities.

Output Device Appropriate Scanning Resoultion
--- ---

Monitor 72 dpi

300 dpi laser printer
with standard PostScript
processing (53 line screen) 100 dpi

600 dpi laser printer with
standard Postscript
processing (85 line screen) 150 dpi

300 dpi or 600 dpi laser printer
with standard PhotoGrade
processing (106 line screen) 150 dpi

Separations at 125 line screen 200 dpi

Separations at 175 line screen 300 dpi

Support Information Services
Published Date: Feb 19, 2012

Color StyleWriter Pro: Shipping Guidelines (7/94)

What is the proper method for shipping the Color StyleWriter Pro to prevent ink from spilling inside the printer?

This article has been archived and is no longer updated by Apple.
The Color StyleWriter Pro ink cartridges easily become dislodged from the carriage mechanism if they are left in place during shipping. The ink from the dislodged cartridges leaks inside of the printer creating not only a mess, but due to the conductivity of the ink could cause damage to the printer if the ink makes contact with the circuit boards.

Appendix C of the Color StyleWriter Pro user's manual provides instructions for packing and moving the printer. The instructions state that the cartridges should be removed prior to shipping, wrapped in plastic, and then stored in a plastic bag. In order to prevent the printhead from becoming clogged with the residual ink it should be cleaned using the Super Clean option available through the utilities button in the print dialog box. An error message indicating that no ink cartridges are installed will appear. Press return to cancel the error and continue the cleaning process.

Support Information Services
Published Date: Feb 19, 2012

Apple IIe Card: Booting Directly Into ProDOS (7/94)

With an Apple IIe Card installed in my LC, how do I boot directly into ProDOS in Apple IIe mode?

This article has been archived and is no longer updated by Apple.
If you install the IIe Card software and properly configure everything, then click on IIe Startup icon, it will go to IIe mode and then check the boot devices for a suitable startup device.

In order to boot to ProDOS in the IIe mode, double-click the BASIC.SYSTEM icon, unless you have a ProDOS or DOS 3.3 disk you want to boot to. This will launch you directly into ProDOS.

Support Information Services
Published Date: Feb 19, 2012

HyperCard 2.2: Problem Using Mirroring Mode (7/94)

I am having a problem using the mirroring visual effect in HyperCard 2.2 with a PowerBook Duo 280c. The visual effects work without a problem if mirroring is not used.

This article has been archived and is no longer updated by Apple.
This is a known anomaly of HyperCard 2.2, and it will probably not be changed. The only work-around is to not use the mirroring mode with HyperCard 2.2.

Support Information Services

Published Date: Feb 19, 2012

DOS Compatibility Card: Printing to a QuickDraw Printer (5/96)

This article describes how to set up printing with the DOS Compatibility Card to a QuickDraw printer like Apple's ImageWriter or StyleWriter family of printers, or Hewlett Packard's (HP) DeskWriter family of printers.

This article has been archived and is no longer updated by Apple.

Here are the steps to set up a QuickDraw printer for printing from Microsoft Windows to your printer:

1) Open the Printers icon in the Windows Control Panel and select the

Epson LQ-2500 driver.

2) In the Macintosh Chooser, select the corresponding printer extension

for your type of printer.

3) Turn off Background Printing in the Macintosh Chooser.

If you have the DOS Compatibility Card for the Power Macintosh computer, then you need to perform steps 4 through 6 also.

4) In the Macintosh Extensions folder, launch the PC Print Spooler by

double-clicking its icon in the Extensions folder.

5) From the File menu, select Preferences.

6) Click on the Epson option for "Interpret non-PostScript As" to enable

the Epson emulator.

In order to print to a QuickDraw printer from the DOS Compatibility Card, you must use the Epson LQ-2500 printer driver in Windows. If you are printing from a DOS application that uses printer drivers, follow the instructions for the application to install a driver for the Epson LQ-2500.

The Epson emulator works by first translating the DOS text to a similar Macintosh font, then interpreting that text into a series of QuickDraw commands. Some characters in the original DOS character set may not have exact translations to a Macintosh font. The use of a PostScript font is recommended in these cases, since use of the PostScript standard requires no translation.

Using PC Setup 1.0.7 and earlier, the Epson emulator does not support color or grayscale. When printing from the PC to a color or grayscale printer, make sure to select the Black and White option from the Print dialog.

PC Setup 1.5 provides color printing to color QuickDraw printers. PC Setup 1.5 is available in the Apple Software Updates as DOS Compatibility 1.5.

NOTES:

When printing to the LaserWriter Select 300, you must turn off background printing, or "Not enough memory to print this document" error message appears.

When printing to the LaserWriter Select 310, you must turn ON background printing, or "Job may exceed the printer's capacity. Try reducing the number of fonts" error message appears.

These articles can help you locate the software update mentioned here:

"Where To Find Apple Software Updates" - Lists online services for free Apple software updates.

"Obtaining Apple Product Support in the USA" - Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech Info Library.

Article Change History:

17 May 1996 - Added information on Color QuickDraw support.

02 Oct 1995 - Update article to be more generic.

17 Jan 1995 - Replaced discussion with updated information.

Published Date: Feb 19, 2012

Newton Connection Kit 2.0: Read Me File

This article contains the Newton Connection Kit 2.0 Read Me document created on February 22, 1994.
This article has been archived and is no longer updated by Apple.
Newton Connection Kit 2.0 Read Me

This Read Me contains important late breaking information for your Newton Connection Kit 2.0 for Macintosh. The information covers the following areas:

- Switching from Newton Connection 1.0 to 2.0 DataViz import/export translators
- How to use the template import/export format
- When to use Newton Connection import/export format
- Things to watch out for
- Miscellaneous suggestions

Switching from Newton Connection 1.0 to 2.0

Synchronized files created with Newton Connection 1.0 are incompatible with Newton Connection 2.0 and vice-versa. This means you cannot use Newton Connection 2.0 to synchronize or restore from a Newton Connection 1.0 file. Therefore, BEFORE using Newton Connection 2.0, perform the following steps:

1. Launch Newton Connection 1.0.

2. Synchronize. This makes sure your Newton (and PCMCIA card if applicable) contains all the information you may have added to the 1.0 synchronize file since the last synchronization.

3. Quit Newton Connection 1.0 and delete or rename (**see note) the 1.0 synchronization file. This ensures that Newton Connection 2.0 will not try to use the 1.0 file when synchronizing.

4. If you have not already done so, install Newton Connection 2.0.

5. Launch Newton Connection 2.0 and synchronize. This creates a new 2.0 synchronization file with the data currently in your Newton.

** Once you are comfortable using the new version, we suggest you delete the old 1.0 files. If you do decide to keep any 1.0 files around, please keep a copy of Newton Connection 1.0 around. IF you accidentally, restore a 1.0 file using Newton Connection 2.0, you will see a -48025 error when you try to synchronize.

Please perform the following steps to correct this problem:

1. Quit Newton Connection 2.0.

2. Launch Newton Connection 1.0.

3. Using Newton Connection 1.0 restore the 1.0 synchronize file onto Newton.

4. Quit Newton Connection 1.0.

5. Delete the old 2.0 synchronize files.

6. Launch Newton Connection 2.0.

7. Synchronize using Newton Connection 2.0. Everything is now ready to go.

DataViz import/export translators

Newton Connection Kit contains portions of the MacLinkPlus file translation library, a product of DataViz Inc., 55 Corporate Drive, Trumbull, CT, USA (203)268-0030

You can use the following DataViz translators to import and export information between your MessagePad and supported applications on your Macintosh.

Newton	Macintosh

Date Book	DateBook Pro
-	Excel 4.0
-	Lotus 1-2-3
-	Now Up-to-Date 2.1
-	Works 3.0

Newton	Macintosh
Name File	ACT! 1.1 (*)
-	Address Book Plus
-	Dynodex 3.0
-	Excel 4.0
-	Lotus 1-2-3
-	Works 3.0 (Spreadsheet)
-	Works 3.0 (Database)

(*) This will import and export the Date Book and Notepad when done in conjuction with the Name File.

Newton	Macintosh
Notepad	MacWrite II
-	Nisus 3.0
-	Rich Text Format
-	WordPerfect 2.x
-	Works 3.0 (Word Processor)
-	WriteNow 3.0

If you are exporting from a Newton application that contains fields not present in the designated supported Macintosh application, the information in the fields not supported in the Macintosh application will not be exported. For example, in Newton Connection, name file entries have a field for the e-mail address. Dynodex 3.0 does not have a field for the e-mail address. Therefore, if you export a name entry to a Dynodex file, the e-mail address will not be exported.

Similarly, if you are importing information from a Macintosh application that contains fields not present in the corresponding Newton application, data from the unsupported fields will not be imported.

Newton graphics and ink can be exported as PICT graphics from Newton Connection using the translators. However, PICT graphics in Macintosh applications can not be imported as Newton graphics and ink. Only the Newton Connection Format supports import of graphics into Newton Connection.

Some translators will break repeating meetings and repeating day notes into individual meetings and day notes. For example, if you export one yearly repeating meeting from Newton Connection into ACT! 1.1, the Newton repeating meeting will be translated into 10 non-repeating meetings which occur once a year for 10 years.

How to use the template import/export format

There are situations in which a file exported using a template and then re imported into a Newton Connection Kit file may lose information. The templates import and export files with text only. This means that any graphics in your Newton data will not be exported if you use a template. Furthermore, if your data contains tabs, returns or multiple paragraphs (**), some of it may be lost if you export with a template that uses Tab and Return as the field and record separators. To avoid this, click Options in the Template dialog and choose a character that does not appear in your data as the separator, or export in Newton Connection format. If you want to move all information from one Newton Connection Kit file to another, it is strongly recommended that you use the Newton Connection format to import and export the information.

(**) Multiple paragraphs are concatenated with Carriage Returns.

To get data information from an unsupported Macintosh application into Newton Connection, you can use the template import/export feature of NCK 2.0. E.g., you may use the template we have provided to get information in and out of the HyperCard Addresses Stack or you may create one of your own.

To import Newton data into the HyperCard Addresses Stack:

1) Export the data from Connection using the "HyperCard Addresses Template"

2) In HyperCard Addresses simply choose the Import menu item.

3) Import the file created by Connection

To export HyperCard Addresses Stack data into Newton:

1) In HyperCard Addresses Stack simply choose the Export menu item.

2) In Connection import the HyperCard Addresses file using the "HyperCard Addresses Template"

When to use Newton Connection import/export format

Use Newton Connection format to move information between two Newton Connection synchronize files, to distribute information to other people who have Newton Connection and to move data to another application that supports Newton Connection format.

Things to watch out for

Repeating meeting information may be lost when exporting repeating meetings via templates. The meeting will still repeat but all special case information is lost. For example, if a repeating meeting repeats every Thursday for a month, and on the Newton you change week three's meeting from Thursday to Friday, the special case of having a Friday meeting for the third week will be lost.

When printing Newton information from your Macintosh, we suggest that you turn off font substitution (using page setup) before printing on a LaserWriter; otherwise some of your print out may be cut off.

If you ever get a corrupt file message, we suggest deleting the synchronize file immediately and use the backup file. There are times when Newton Connection will make a change to all the files in a folder (e.g., when updating folder names). If one of the files is bad, Newton Connection may crash. Deleting a bad file immediately will prevent the crash.

Miscellaneous suggestions

If you have a Newton Messaging Card we recommend that you remove it before connecting to your Macintosh. If a message is received while a synchronization is occurring there is a chance that some of the message's text will be lost.

If you have a Newton Getting Started card, we recommend that you remove it before connecting to your Macintosh. If you don't remove the card there is a possibility that you'll run out of memory on your Newton during the synchronization process (especially if you're using a serial connection).
Published Date: Feb 19, 2012

Newton Connection Kit 2.0: How to Switch from 1.0

This article explains how to switch from Newton Connection Kit 1.0 to version 2.0
This article has been archived and is no longer updated by Apple.
Synchronized files created with Newton Connection 1.0 are incompatible with Newton Connection 2.0 and vice-versa. This means you cannot use Newton Connection 2.0 to synchronize or restore from a Newton Connection 1.0 file. Therefore, BEFORE using Newton Connection 2.0, perform the following steps:

1. Launch Newton Connection 1.0.

2. Synchronize. This makes sure your Newton (and PCMCIA card if applicable) contains all the information you may have added to the 1.0 synchronize file since the last synchronization.

3. Quit Newton Connection 1.0 and delete or rename (see NOTE) the 1.0 synchronization file. This ensures that Newton Connection 2.0 does not try to use the 1.0 file when synchronizing.

4. If you have not already done so, install Newton Connection 2.0.

5. Launch Newton Connection 2.0 and synchronize. This creates a new 2.0 synchronization file with the data currently in your Newton.

NOTE: Once you are comfortable using the new version, we suggest you delete the old 1.0 files. If you do decide to keep any 1.0 files around, please keep a copy of Newton Connection 1.0 around. If you accidentally restore a 1.0 file using Newton Connection 2.0, you will see a -48025 error when you try to synchronize.

Perform the following steps to correct this problem:

1. Quit Newton Connection 2.0.

2. Launch Newton Connection 1.0.

3. Using Newton Connection 1.0, restore the 1.0 synchronize file onto Newton.

4. Quit Newton Connection 1.0.

5. Delete the old 2.0 synchronize files.

6. Launch Newton Connection 2.0.

7. Synchronize using Newton Connection 2.0.

Everything is now ready to go.
Published Date: Feb 19, 2012

PowerBook Express Modem: Problem Receiving Fax (7/94)

When I receive a fax using my PowerBook Express Modem I get an error during transmission. Sometimes I will only receive part of the first page. Other times I receive the whole first page. Then the error will occur when I start receiving the second page. I have reinstalled my Express Modem Software and clean installed my system software.

This article has been archived and is no longer updated by Apple.
The transmission error is caused by Virtual Memory being turned on. Go to the Memory Control Panel and turn off Virtual Memory. This will correct the problem.

*NOTE: This same situation can occur with some third party modems as well (like the Global Village PowerPort).

Support Information Services
Published Date: Feb 19, 2012

Apple Color Printer: No Support under Windows (7/94)

Does the Apple Color Printer work under Microsoft Windows?

This article has been archived and is no longer updated by Apple.

Apple does not provide any support for using the Apple Color Printer in the Windows environment, however the printer is identical to the Canon BJC-800 color printer with the SCSI option installed. Canon provides software support for the Macintosh and Microsoft Windows, so the drivers from Canon could theoretically be used.

Support Information Services

Published Date: Feb 19, 2012

Quadra 840AV: Large QuickTime Movies Freeze

I am having problems playing large QuickTime movies on my Quadra 840AV. Within 30 seconds, the movie freezes. I can play the movie from an external drive the movie plays without any problem.
This article has been archived and is no longer updated by Apple.
The internal hard disk driver needs to be updated. If you use HDSC Setup 7.3.1 which comes with System Update 3.0, you can correct this problem.

While you don't have to install System Update 3.0 to eliminate the problem, it is recommended that you install the update and update the hard disk driver.
Published Date: Feb 19, 2012

Discis Books: Showing Missing Menus (7/94)

I have lost the Customize and Recall menu in my Discis Book Programs that came as part of the Apple Early Language Connection. How do I get these menus back?

This article has been archived and is no longer updated by Apple.
Throwing away the Customize Prefs works temporarily, but pressing the key combination CommandðDelete gets the menus back. The CommandðDelete key combination works like a toggle switch to turn these menus off and on.

Support Information Services

Published Date: Feb 19, 2012

Mario Teaches Typing: Type 1 Errors Caused by Preferences (7/94)

I keep getting Type 1 error when I try to open Mario Teaches Typing that came on my Macintosh Performa computer. Is there something wrong with the program.

This article has been archived and is no longer updated by Apple.
Type 1 errors can be caused by many things. In the case of Mario Teaches Typing, it is a sign of bad preferences file. Throw away the Mario Preferences file that resides in your Preferences folder, then restart.

Support Information Services

Published Date: Feb 19, 2012

Apple IIe/IIgs: Slot Assignments (7/94)

What are the slot assignments for the Apple IIe and Apple IIgs computers?

This article has been archived and is no longer updated by Apple.

Slot#	Item	Description
Slot 1:	Printer	Super Serial card/other printer card
Slot 2:	Modem	Super Serial card/Internal modem card
Slot 3:	Video/Extended memory	RAM upgrades, 80 col card. (reserved)
Slot 4:	Mouse	Mouse controller card
Slot 5:	Hard drive	SCSI card/Profile controller card
Slot 6:	5.25" drives	DISK II or other drive controller
Slot 7:	5.25" or 3.5" disk drive	DISK II or other drive controller

Note:
- The Apple //e will boot from the highest numbered slot with a bootable device attached.

- If an Apple //e has a hard drive with more than 2 partitions, the drive will show the 3rd and 4th partition as slot 2, drive 1 and slot 2, drive 2.
This is regardless as to what is physically connected to slot 2.

Support Information Services
Published Date: Feb 19, 2012

PowerShare: How to Move Catalogs and Mail Servers (7/94)

I have several hard drives in my PowerShare Server's SCSI chain. How can I move my PowerShare Catalog and Mail Servers from the current PowerShare hard drive to one of my other hard drives?

This article has been archived and is no longer updated by Apple.
The steps for doing this are as follows:
1) Move the PowerShare Catalog Data and the PowerShare Mail Data folders to the new hard drive.
2) Delete PowerShare Catalog Prefs and PowerShare Mail Prefs from the Preferences located in the System Folder of the Startup Disk.
3) Launch the PowerShare Catalog Server.
4) When you launch PowerShare Catalog Server you will get a dialog box that says, "PowerShare cannot locate some of its configuration files." Click the "Restart" button in this dialog box.
5) Next you will get a dialog box that says, "The PowerShare Catalog Server cannot find its data folder." Select the desired hard drive from the pop-up menu in the dialog box.
6) Repeat steps 3-5 for the PowerShare Mail Server.

Support Information Services

Article Change History:
08 Jul 1994 - Changed wording of steps 2 & 5.
Published Date: Feb 19, 2012

System 7: Renaming System Enablers

Can I rename my System Enabler and still have my computer start up properly?
This article has been archived and is no longer updated by Apple.
Yes you can rename the System Enabler. It will not affect the performance of your computer if you give it a different name. However, you cannot just select the name of the system enabler by clicking on it and then type a new name because the system enabler's filename is locked.

Note: It is not recommended that you change the name of your system enabler because it can cause some confusion later if you need to know what the name of the original enabler was. If you do decide to change the name, it would be a good idea keep a copy of the original enabler outside of the System Folder.

Here are two ways you can rename your system enabler:

1) Make a duplicate of the system enabler and rename it.

- Open the System Folder, select the desired system enabler.
- Choose Duplicate from the File menu. This will make a copy of the enabler that does not have a locked filename therefore it can be renamed.
- Click once on the icon of the enabler copy, press Return, and type a new name.
- Remove the original enabler from the System Folder and restart the computer.

2) The enabler can also be renamed using a utility that is capable of changing and unlocking Finder flags (such as ResEdit or Norton Utilities).

Warning: The instructions in this article refer to using ResEdit. Apple Computer, Inc., is not liable for any damage done to your software through the use of ResEdit to alter software.
Published Date: Feb 19, 2012

LaserWriter Select 360: False Paper Out Alert Message (4/97)

I have a LaserWriter Select 360 printer, that keeps presenting me with a paper out alert message even though the paper tray is full. This happens from applications and from the desktop.
This article has been archived and is no longer updated by Apple.
This issue could be related to either software or hardware. Since software is the easiest part to troubleshoot, you should start there. If you determine that software is not the problem, you need to have the printer looked at by your authorized-Apple service provider.

Software Troubleshooting
==========

Step 1

Make sure you are using the latest version of the LaserWriter 8 printer software and the latest LaserWriter Select 360 PPD file. At a minimum you should be using the LaserWriter 8.2.2 printer software. The current version of the LaserWriter 8 software, at this writing is 8.3.2.

Step 2

Prior to installing or reinstalling the LaserWriter 8 software, you need to delete the LaserWriter 8 Prefs file. The LaserWriter 8 Prefs file is located in the Preferences folder inside the System folder.

Step 3

Print a configuration page using the LaserWriter Utility or Printer Utility, and check the default paper tray. If someone changed the default paper tray through PostScript to the Multipurpose tray, you could also get the alert message you are seeing.

You can find the value for the default paper tray in the lower left corner of the configuration page. A default paper tray value of "1" is for the Multipurpose tray, "0" is for the 250-sheet cassette.

Step 4

The last software troubleshooting step is to perform a clean installation of the System software. Their are several Tech Info Library articles describing how to perform this procedure depending on the version of System software you are using.

Changing Default Trays With PostScript
==========

If the default paper tray value has been changed, you can download the PostScript code below to change it back to the 250-sheet cassette.

Caution:
If you choose to use the PostScript code provided in this article, you assume all risks involved in making these changes. PostScript code, if not entered correctly, can place the LaserWriter into a condition requiring service.

This is PostScript Level 1 code:

```
%==========================================================
% Begin PostScript code
%
serverdict begin 0 exitserver
statusdict begin 0 setdefaultpapertray end
%
% End PostScript code
%==========================================================
```

This is the equivalent PostScript Level 2 code:

```
%==========================================================
% Begin PostScript Code
%
serverdict begin 0 exitserver
1 dict dup /InputAttributes 1 dict dup /Priority [2 1 0] put put setpagedevice
%
% End PostScript Code
```

%═══

This sets the paper tray priority to:
1st Priority - Cassette (500 Sheets) - designated by the "2" in the array above.
2nd Priority - Multipurpose Tray - designated by the "1" in the array above.
3rd Priority - Cassette (250 Sheets) - designated by the "0" in the array above.

You can change the paper tray priority order by changing the values in "/Priority [2 1 0]".
For example, /Priority [0 1 2] makes the 250 sheet cassette first priority, then the Multipurpose tray next, then the 500 sheet cassette.

Hardware Issues
═══════════════

If the default paper tray is already set to the 250-sheet cassette, then there is most likely a problem with one of the printer's hardware components such as the paper sensor. An Apple-authorized service provider will be able to correct any hardware problems.

In some cases where the paper tray is set to the 250-sheet cassette, the cassette may be the problem. There is a white gear which should move as the blue paper guide is adjusted. If the gear doesn't move, line up the paper guide with the gear and press down on the paper guide to snap it into place. If the doesn't function normally, your printer needs to be serviced by an Authorized Apple Repair center.

Article Change History:
14 Apr 1997 - Added PostScript Level 2 code.
08 May 1996 - Added information on gear.
06 Feb 1996 - Rewrote entire discussion area.

Published Date: Feb 19, 2012

LaserWriter Pro 630: Using PCL in Non-Binary Mode

It appears that the LaserWriter Pro 630 does not fully emulate the HP LaserJet IIp when using XON/XOFF handshaking. Setting the LaserWriter Pro's serial port to XON/XOFF with HP PCL selected resets the protocol to binary. In binary mode, graphics fail to print so we need to use the RAW protocol.
This article has been archived and is no longer updated by Apple.
Software handshaking (XON/XOFF) is not supported when using the RAW protocol for HP PCL because there are some PCL commands that require all 8-bits of ASCII to represent the command. Thus, RAW mode allows for use of all 8-bits as data (no filtering of any flow control characters) and therefore hardware handshaking is required. This holds true for all printers, including HP printers, when in PCL RAW mode.

In terms of a resolution to the problem, you can try using switch position 2 on the LaserWriter Pro 630 which places it in PostScript mode, 19200 baud, with XON/XOFF. Then you can send the line of PostScript below when you want to place the printer into HP emulation (only takes effect for the current job). This setup should might meet your need of having software handshaking in nonðbinary PCL mode.

PostScript to switch to PCL emulation

```
currentfile /LaserJetIIP statusdict /emulate get exec
```

Published Date: Feb 19, 2012

Power Macintosh: Third Party Video Cards Revert To One Bit Video

This article discusses solutions for customers using 3rd party video cards which don't retain the selected color depth setting in the Monitors control panel on restart.

This article has been archived and is no longer updated by Apple.
An update to the Monitors control panel resolves an issue with some third party video cards which revert to the black and white setting upon restart. Upgrade to version 7.3.2 or later to resolve this problem. This version was first shipped as part of the Display Software 1.0 which shipped with the Apple Multiple Scan 17 and 20 displays.

System Software versions greater than 7.1.2 also includes a version of the Monitors control panel that resolves this problem.

Support Information Services
Published Date: Feb 19, 2012

Macintosh PC Exchange 2.0.1: Read Me File (7/94)

The following is the Read Me file for Macintosh PC Exchange 2.0.1.

This article has been archived and is no longer updated by Apple.
Read Me file for Macintosh PC Exchange 2.0.1

****
Important Information About Macintosh PC Exchange Version 2.0.1

This document contains important information about Macintosh PC Exchange version 2.0.1 that is not included in your user's guide.

IMPORTANT

Macintosh PC Exchange version 2.0.1 requires Macintosh system software version 7.0 or later.

What is Macintosh PC Exchange?

Macintosh PC Exchange is a System 7 compatibility utility that lets you use DOS-format disks on your Macintosh. It lets you transfer files back and forth between a Macintosh and a PC-compatible computer simply by copying the files between disks.

PC Exchange makes it easy to work with DOS data files on your Macintosh. However, PC Exchange does not allow you to work with MS-DOS or Windows application programs on your Macintosh.

New Features in Version 2.0.1

Macintosh PC Exchange version 2.0.1

* now works with DOS-format and Windows-format SCSI fixed and removable media storage devices (such as Iomega Bernoulli and SyQuest cartridge drives).

* now works with Apple II ProDOS-format floppy disks.

* lets you access DOS-format drive container files created by the DOS Compatibility Card for Macintosh.

* uses considerably less random-access memory (less than 5K) when not in use.

* includes an on/off switch in the control panel that allows you to turn off the PC Exchange disk-mounting capability temporarily.

* comes with built-in device drivers to support a wide variety of SCSI hard disk and removable media drives.

* works on Power Macintosh systems in Macintosh 68000 emulation mode.

Installation Information

If you have already installed another PC disk-mounting utility on your Macintosh, be sure to remove it before installing Macintosh PC Exchange.

You install Macintosh PC Exchange by dragging the PC Exchange icon into the Control Panels folder of your System Folder and restarting your Macintosh.

Strange Text Characters in a Document

In some cases your Macintosh application program may not be able to interpret the file format of a PC document. When this happens, the document's formatting is displayed incorrectly and you may see strange characters in the document. Try using a different application program or translate the document into a different file format using one of the file format translation utilities available for the Macintosh (such as MacLinkPlus/Easy Open Translators from DataViz).

Paint Programs

Some paint programs, such as MacPaint and SuperPaint, save documents on DOS-format floppy disks very slowly. To avoid this problem, always save paint documents on your computer's hard disk. If you like, you can then copy the documents to a DOS-format floppy disk.

Apple File Exchange and Macintosh PC Exchange

The Apple File Exchange software is not compatible with PC Exchange and should not be used while PC Exchange is installed. Version 2.0 of PC Exchange contains an easier and more intuitive method for accessing DOS and Apple II ProDOS disks on a Macintosh.

AutoDoubler

To use AutoDoubler with Macintosh PC Exchange, you must first open the AutoDoubler control panel and turn off the "Show DD on Compressed Files" option.

ClarisWorks (Version 1.0v2 or Earlier)

Some versions of ClarisWorks cannot read or write files on DOS-format floppy disks. To open a PC document in ClarisWorks, you must first copy the document to your computer's hard disk. Always save ClarisWorks documents on your Macintosh hard disk. If you like, you can then copy the documents to a PC-format floppy disk. Contact Claris to obtain version 1.0v3 or later of ClarisWorks.

Directory Assistance II

Directory Assistance II should not be used while the Macintosh PC Exchange control panel is open. You can turn off Directory Assistance II from the PC Exchange control panel by holding down the Option key while you click the Add or Change button in the control panel window. Directory Assistance II will be turned off temporarily while you use the PC Exchange control panel and will be reactivated when you close the PC Exchange control panel.

Compressed PC Disks and Files

Macintosh PC Exchange does not work with DOS-format floppy disks or SCSI hard disks that have been compressed using Stacker or other MS-DOS or Windows disk-compression utilities. Before transferring compressed DOS files to a Macintosh, you must decompress the files and save them to a noncompressed DOS-format disk.

Working With PC-Format Disks Containing Multiple Partitions

If a SCSI hard disk or removable media cartridge has been formatted to contain multiple partitions, you can use PC Exchange to mount the Macintosh-, DOS-, or ProDOS-format partitions as individual logical drives on the Macintosh Desktop. If the disk contains both Macintosh and DOS-format partitions, PC Exchange will only recognize the Macintosh partition. In addition, PC Exchange will only recognize ProDOS-format partititions on SCSI hard disks that are less than 32 megabytes.

You can use PC Exchange to erase existing individual partitions on a SCSI hard disk or removable media cartridge to the same format. However, you cannot use PC Exchange to reformat and resize individual partitions contained on the disk. Nor can you format a Macintosh-format hard disk or removable media cartridge as a DOS-format disk. To resize or reformat multiple Macintosh, DOS, or ProDOS partitions, you need to use third-party software designed for partitioning hard disk and removable media cartridges.

Tips for Working with DOS-Format SCSI Removable Media Devices

In order for PC Exchange to recognize SCSI removable media devices, you must turn on the device and eject any cartridges before you turn on your Macintosh system.

Do not install the device driver software that came with your removable media device. Instead, open the PC Exchange control panel, click the Options button, select your SCSI device from the list, and then restart your Macintosh. PC Exchange will install it's own device driver for that SCSI device.

The Eject Disk command is unavailable when working with removable media devices. To unmount and eject a removable media cartridge, drag the device's icon to the Trash. Once the device has spun down and the red light goes out, you can manually eject the cartridge from the drive. To access a removable media cartridge that has been ejected, simply reinsert the cartridge in the drive.

When initializing and formatting Bernoulli and SyQuest cartridges on a PC-compatible computer, use the disk setup and partitioning software that came with the SCSI controller card installed in your PC or that came with your Bernoulli or SyQuest device. Do not use the MS-DOS Fdisk command to initialize a removable media cartridge. In addition, you should use the MS-DOS Format command to format the disk before you copy DOS files to a newly initialized removable media cartridge on a PC.

When you initialize a removable media cartridge on a PC-compatible computer, you must fully partition, initialize, and erase the cartridge using the software that came with your SCSI controller card or removable media device. If you do not, PC Exchange may not recognize the new DOS-format partitions on that cartridge.

Tips for Working with DOS-format SCSI Hard Disk Drives

In order for PC Exchange to recognize SCSI hard disk drives, you must turn on the drive before you turn on your Macintosh system.

Do not install the device driver software that came with your SCSI hard disk. Instead, open the PC Exchange control panel, click the Options button, select your SCSI device from the list, and then restart your Macintosh. PC Exchange will install it's own device driver for that SCSI device.

When initializing and formatting an external SCSI hard disk on a PC-compatible computer, use the MS-DOS Fdisk command or the disk setup and partitioning software that came with the SCSI controller card installed in your PC. In addition, you should use the MS-DOS Format command to format and erase the disk before you copy DOS files to a new SCSI hard disk on a PC.

Known Problems in Version 2.0.1 of Macintosh PC Exchange

* A "Sad Mac" error may occur on your Macintosh if a removable media cartridge is left in the drive during startup. To keep this problem from occurring, manually eject removable media cartridges from the drive before you turn on your Macintosh.

* PC Exchange cannot recognize SCSI hard disks, removable media devices, or drive container files which contain more than one gigabyte of disk space.

SCSI Hard Disk and Removable Media Drives Not Supported

The following disk drives are not supported by version 2.0.1 of Macintosh PC Exchange:

* Apple 5.25-inch floppy disk drive
* Pinnacle Micro PMO-650 magneto optical drive

Additions to the User's Guide

If you change the volume name of a DOS-format disk to a name that is longer than 11 characters, the disk name will be shortened when you view it on a PC-compatible computer.

If Macintosh PC Exchange encounters a problem while formatting a floppy disk, an Updating Disk dialog box may appear. This dialog box shows the status of the updating process. To stop the disk from being updated, you can click the Cancel button. This cancels the initialization process and the disk is ejected from the disk drive.

You cannot create an assignment with a blank DOS suffix in the PC Exchange control panel.

Common MS-DOS File Suffixes

.BAK Backup document (used by word processing programs)
.BAS BASIC program (cannot be used on a Macintosh)
.BAT Executable DOS program (cannot be used on a Macintosh)
.BMP Windows Bitmap graphic
.CDR CorelDraw graphic
.CGM Computer Graphics Metafile graphic
.COM Executable DOS file (cannot be used on a Macintosh)
.CWK Clarisworks document
.DBF dBASE database file
.DIF Data Interchange Format (used by spreadsheet and database programs)
.DLL Windows Dynamically Linked Library (cannot be used on a Macintosh)
.DOC Microsoft Word document
.DOX Multimate v4.0 document
.DWG Autocad drawing
.DXF Autocad drawing in exchange format
.EPS Encapsulated PostScript file
.EXE Executable DOS file (cannot be used on a Macintosh)
.INI Windows preference file
.OBJ Compiled object file (cannot be used on a Macintosh)

.PCC PC Paintbrush graphics file
.PCX PC Paintbrush graphics file
.PIC Lotus 1-2-3 graphics file
.PM3 PageMaker 3.0 document
.PM5 PageMaker 5.0 document
.PM4 Pagemaker 4.0 document
.PRG dBASE program file (cannot be used on a Macintosh)
.PRN DOS 'Print' file
.RFT DisplayWrite Revisable Form Text (DCA format)
.SAM AmiPro document
.STY Microsoft Word style sheet
.SYL SYLK format (used by spreadsheet and database programs)
.SYS DOS system file (cannot be used on a Macintosh)
.TIF TIFF graphics file
.TXT ASCII text file
.WDB Microsoft Works database
.WKS Lotus 1-2-3 spreadsheet, version 1
.WK1 Lotus 1-2-3 spreadsheet, version 2
.WK3 Lotus 1-2-3 spreadsheet, version 3
.WMF Microsoft Windows Metafile
.WP OfficeWriter or WordPerfect document
.WPF WordPerfect document
.WPG WordPerfect graphics file
.WPS Microsoft Works word processing document
.WQ1 Quattro Pro spreadsheet
.WS WordStar document
.XLA Microsoft Excel add-in macro
.XLT Microsoft Excel template
.XLC Microsoft Excel chart
.XLM Microsoft Excel macro
.XLS Microsoft Excel spreadsheet
.XY XyWrite document

Support Information Services
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Power Macintosh: AudioVision Display S-Video Unsupported (2/95)

When using the AudioVision 14" Display with my Power Macintosh AV, which S-Video port do I use to input video? The S-Video port on the monitor or the S-Video port on the Power Macintosh AV Display card?

This article has been archived and is no longer updated by Apple.
You should always use the S-Video ports that are on the AV card, since the S-Video port on the AudioVision 14" Display is currently not supported. Page 22 of the AudioVision Display owners guide incorrectly states that S-Video Pass Through is supported.

The same holds true when the AudioVision monitor is connected to a Quadra 660AV or the Quadra 840AV, S-Video is only supported through the card itself and not the monitor.

Article Change History:
10 Feb 1995 - Noted that S-Video is only supported on the card.
13 Oct 1994 - Added keyword; made minor technical updates.

Support Information Services
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Power Macintosh: Using NEC Multisync Monitors (2/95)

After starting up a Power Macintosh with an NEC multisync monitor, the only resolution available from the Monitors control panel is 640x480. Does the Power Macintosh support resolution switching with NEC monitors?

This article has been archived and is no longer updated by Apple.

The Power Macintosh supports "on the fly" resolution switching with many third-party multisync monitors (also called multiple scan displays). However, an adapter is required so the Macintosh can detect the proper multisync mode.

For NEC monitors, there is an adapter named "Power Macintosh Adapter" which lets you change resolutions through the Monitors control panel, like you would if you owned an Apple Multiple Scan Display. NEC adapters are available by calling NEC.

Macintosh Centris, Quadra, or LC Owners

With a Centris, Quadra or LC, you can use NEC's "DPI on the fly" software which provides a similar ability to change resolutions.

The "DPI on the fly" software is not compatible with the Power Macintosh.

To locate a vendor's address and phone number, use the vendor name as a search string.

Article Change History:

13 Feb 1996 - Revised discussion.

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AppleShare: Network Trash Description

I have seen references to the Network Trash on my AppleShare file server. What exactly is it and do I as an server administrator need to be concerned about it?
This article has been archived and is no longer updated by Apple.
When file sharing is turned on, or a file server is running, an invisible folder is created on the server called the Network Trash Folder. When a client logs into the server and deletes a file from the server, a folder is created inside the network trash folder (called Trash #1). Any subsequent user who deletes a file from the server, will cause a new file to be created (called Trash #2), and so on. There can be any amount of these folders depending on how many logged in users have items in the trash from the server.

When the user empties the trash on the client machine, the folder is deleted and those items will no longer remain on the server. In the AppleShare Admin program, the administrator has the option to empty the network trash. This option exists because any user who trashes something on the server, then crashes before trash is emptied, will cause those deleted items to be persistent in the network trash folder.

Once the session is terminated, that user has no control over any item that was left in the trash. The administrator can clear out any of these persistent trashed items by emptying the network trash. If a user has trashed a file from the server and logs off from the server gracefully, the finder will put up a dialog saying that all items in the network trash will be deleted.
Published Date: Feb 19, 2012

SimpleText: Incorporating Graphics In Documents

Is it possible to incorporate graphics or stylized text into a SimpleText document? If so, how?
This article has been archived and is no longer updated by Apple.
WARNING:
The instructions in this article refer to using ResEdit to alter your system software. Apple Computer, Inc., is not liable for any damage done to your software through the use of ResEdit to alter the software. The User Assistance Center phone representatives (at 800-SOS-APPL) do not provide technical support for ResEdit. It is supported by APDA. For contact information on APDA, search the Tech Info Library under "APDA".

You can incorporate graphic elements such as boldface and centered text, graphs, or pictures into SimpleText 1.1 documents as PICT resources. Here's how:

1. Create your document, type two carriage returns, an Option-Spacebar key sequence, and two more carriage returns in the places where you want to place the graphics or specially-formatted text.

2. Create your specially-formatted text or graphics and paste them into the Scrapbook.

NOTE: The text will need to be in "PICT" format. You can use MacDraw or other similar application to create a PICT file.

3. Using ResEdit, open your SimpleText document.

4. Open the Scrapbook. Copy and paste your formatted text or graphics from the Scrapbook into the document. ResEdit will create a new resource of type "PICT" in your document.

5. When done, select Get Info from the Resource menu -- for ID type in "1000". Do the same for all the formatted text or graphics in the Scrapbook, remembering to increment the ID by 1 for each successive resource (1001, 1002, etc.).

6. Quit ResEdit, saving changes.

7. Open your SimpleText document. Insert or delete carriage returns to adjust the graphics and formatted text, which will be automatically centered.
Published Date: Feb 19, 2012

Power Macintosh AV: Recovering Icons Moved Off Screen (2/95)

If the icons such as the Trash can or other icons on your Power Macintosh are shifted off the screen, here is how to move them back to the active desktop.

This article has been archived and is no longer updated by Apple.
Start the Macintosh from the hard drive as normal and close all Finder windows. Next, select all desktop icons by the Command-A key sequence or choosing Select All from the Edit menu.

Hold down option key, then click on Special menu to choose Clean Up All. At this point, any icon that may have moved off screen will be visible on the active desktop.

One other method is to move the Finder Preferences file from your Preferences folder inside your System Folder to the desktop and restart your Macintosh. The preferences file will be recreated and you can then throw away the old file. This will force all desktop icons to return to the active display.

Additional information on this issue can be found in the Tech Info Library article titled "Power Macintosh AV: Monitors Ctrl Panel Shows Ghost Monitor."

Article Change History:
02 Feb 1995 - Additional troubleshooting step documented.

Support Information Services
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Power Macintosh Graphing Calculator: No Spec Sheet Avail. (5/96)

I have a school customer who is very interested in the Power Macintosh graphic calculator for use in the science and math curriculum at her school.

Is there any literature or spec sheets available for the calculator and will it run on an 680x0 based Macintosh?

This article has been archived and is no longer updated by Apple.

The Graphing Calculator is only a demo application used to demonstrate the power of the Power Macintosh in performing complex mathematical calculations. Since this is only a demo application, there are no specification sheets or other literature available from Apple. As the Graphing Calculator installed on your Power Macintosh computer is a native application written specifically for the Power Macintosh, it will only run on the Power Macintosh.

The books, "Introducing Dynamic Algebra with NuCalc" and "Advanced Algebra Through Data Exploration: A Graphing Calculator Approach" are available from a third party company, Key Curriculum Press, The book give further documentation on how to use the Graphing Calculator in a classroom setting. Contact Key Curriculum Press to obtain a copy of the book.

There is a 680x0 version of the Graphing Calculator available from Key Curriculum Press. The publisher, Key Curriculum Press, does not provide technical support for the Graphing Calculator for 680x0 based computers.

The Tech Info Library article titled "Locating Vendor Information" can help you search for Key Curriculum Press' address and phone number.

Article Change History:

29 May 1996 - Updated with third party information.

27 Sep 1995 - Updated with third party information.

Published Date: Feb 19, 2012

Macintosh: Altering Default View In The Finder (7/94)

Is there a way that I can have the Macintosh operating system set the folder views for all my folders to "View by Name" without opening each one individually. Also, can "View by Name" be set as the default view?

I am using System 7 and 7.1.

This article has been archived and is no longer updated by Apple.
Sadly, there is no Apple utility to allow you to globally change the views for all folders on the volume to any particular setting. However, you might check if there is such a shareware/freeware utility which might allow you to do it.

There is no way to alter the operating system to have View by Name as the default.

Support Information Services
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PowerBook 500 series: Connector For Sound In Port (4/95)

What type of connector is needed for the sound in port on a PowerBook 500 series computer?

This article has been archived and is no longer updated by Apple.
The connector to use with the 500 series PowerBooks is a standard 3.5mm stereo plug.

A stereo plug has three sections on it, the tip, the ring and the sleeve. Each of these sections of the plug are separated by a black band, a stereo jack would have two black bands, a mono jack would have only one black band.

It is not necessary to use the RCA phono to 3.5mm jack adapter that were used by some previous Macintosh models. These adapters had built in attenuation that would drop the signal level for the sound input on certain Macintosh computers.

Article Change History:
04 Apr 1995 - Corrected size of phono plug.

Support Information Services
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System 7.5: Key Features (3/95)

Below is a discussion of the key features of Macintosh system software version 7.5.

This article has been archived and is no longer updated by Apple.

Active Assistance & Customization
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* Apple Guide: an innovative help system that interactively helps users accomplish specific tasks. It also works with third-party applications.

* AppleScript: facilitates the automation of routine tasks. AppleScript features a natural syntax designed specifically for ease of use.

* Macintosh Drag and Drop: expands on the cut and paste metaphor allowing users to select and drag any element from one document to another, or to a clippings file which can be saved on the desktop.

* New Productivity Features: include a hierarchical Apple Menu, Stickies to create on-screen reminder memos, WindowShade allows a user to hide a window, support for 4GB hard disk drives, and Find File which enables complex file searches.

Compatibility With Non-Apple Environments
---
* Macintosh PC╩Exchange 2.0: allows DOS/Windows, OS/2, and Apple╩II ProDOS╩ disks and mass storage media to appear on the Macintosh desktop like regular Macintosh disks.

* Macintosh Easy Open with document translators allows data files to be opened without using the application that originally created them.

* MacTCP: TCP/IP (Transmission Control Protocol/Internet Protocol) implementation for Macintosh. Allows Macintosh computers to interact with other computers running TCP/IP such as UNIX workstations and mainframes. TCP/IP is the standard protocol for the Internet.

Advanced Graphics and Printing
---
* QuickDraw GX: the next step forward in graphics►?with easier printing, color management, typography and document portability.

* QuickTime 2.0: allows multimedia capabilities without additional video hardware.

Collaborative Technologies

PowerTalk: Provides a set of collaborative services that allow users to send electronic mail, share files, and digitally "sign" and forward documents from within an application. System 7.5 also includes the Telephone Manager which allows Macintosh computers to integrate with telephone switching software.

Mobile Computing

A combination of communications, power management, information management, and DOS╩compatibility software.

Bundled Software
==========

System 7.5 includes the following software versions:
* Macintosh System software version 7.5 and utilities
* AppleCD Audio Player 2.0
* AppleScript 1.1, including sample scripts
* Macintosh CD Setup 5.0.1
* Macintosh Easy Open 1.1
* Macintosh PC Exchange 2.0.1
* MacTCP software version 2.0.4
* PowerBook Control Strip 1.1
* PowerBook File Assistant 1.0
* PowerTalk 1.1, including AppleMail and DigiSign software
* QuickTime 2.0
* QuickDraw GX 1.0.1
* Sound Manager 3.0

Compatibility

System 7.5 is expected to be compatible with most applications that are compatible with System 7.1. However, in order to use some new features of System 7.5, application programs must be written to take advantage of its capabilities.

A Safe Install utility will be included in System 7.5 which can advise users if control panels and extensions are not compatible. The Safe Install utility does not give compatibility information about application programs but it does provide application program vendors' phone numbers.

Usage Requirements

* CPU: System 7.5 requires a Macintosh Plus or later. PowerTalk and QuickDraw GX require a Macintosh computer equipped with a 68020 microprocessor or better.

* DRAM: 4MB minimum for Macintosh, Performa, and PowerBook computers; 8MB minimum for Power Macintosh computers; 8MB to run PowerTalk and QuickDraw GX on Macintosh, Performa, and PowerBook computers; 16MB to run PowerTalk and QuickDraw GX on Power Macintosh.

* Hard disk is required, 25MB must be free for a complete installation.

Article Change History:
23 Mar 1995 - Changed one erroneous occurrence of QuickTime 1.6.2 to 2.0.
14 Feb 1995 - Added Sound Manager 3.0 and updated format.
28 Sep 1994 - Changed to show QuickTime 2.0 ships with System 7.5.

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Catalyst 3.0: Installing QC Hard Disk Drivers

The following steps are necessary in order to use a QC Hard Disk with Catalyst 3.0 (UniDisk 3.5) version.
This article has been archived and is no longer updated by Apple.
Items Neccesary:

A. Catalyst 3.0
B. ProDOS/SOS diskette supplied with the QC Hard Disk.

Follow these steps:

1. Boot the Catalyst 3.0 disk. Select SYSTEM UTILITIES.
2. Select RENAME FILES.
3. Rename the file "CATSTART.SYSTEM" on the Catalyst 3.0 disk to "CATSTART.QUARK."
4. Return to the System Utilities Main menu and select COPY FILES.
5. Copy the files DRIVER.SYSTEM and QC.DRIVER from the ProDOS/SOS disk to the Catalyst 3.0 disk.

Reboot the Catalyst. The QC Hard Disk will now be seen as a Catalyst device.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.
Published Date: Feb 19, 2012

QuickDraw GX: Discussion Of Key Features

This article discusses the key features of QuickDraw GX.
This article has been archived and is no longer updated by Apple.

QuickDraw GX is a Macintosh system software extension that provides printing features as well as advanced graphics, type, and color capabilities. QuickDraw GX works with existing Macintosh applications and fonts and provides enhanced printing functionality and document portability.

KEY FEATURES

PostScript integration

QuickDraw GX automates the typographic process determining proper kerning, justification, and ligature sets. It also provides a number of ways of working with PostScript:

Enhanced font management

QuickDraw GX uses Adobe Type Manager GX (ATM GX) to provide complete support for Type 1 fonts. You can work directly with Multiple Master fonts, eliminating the need for multiple weights and instances.

Smarter printing of type

QuickDraw GX controls the downloading of all font formats, including TrueType, to PostScript printers. QuickDraw GX downloads only the characters needed from any font so that more fonts can exist in the printer RAM.

Extended functionality of existing PostScript devices

QuickDraw GX provides real-time color interaction between objects (transfer modes), perspective transforms on graphics and type, and high-level type features on existing PostScript devices through ColorSync color management technology.

Customizable, Extensible Printing

QuickDraw GX lets you use a printing enhancer background application to customize your printing process to provide increased control, security, and feedback. Examples of this feature are print multiple document pages to a single sheet of paper, or printing grayed Confidential across every page of a document.

Capabilities of QuickDraw GXdrivers may be expanded by adding QuickDraw GXExtensions to a users system folder.

Printing Interface

You can create a desktop icon of your printer then drag any document on top of the icon to have it printed. You can use the printer icon to reorder the print queue, postpone a print job, or transfer print jobs to other printers by dragging document icons to a new location or printer icon.

Printer Sharing

Using desktop printer icons, you can share any output device attached to an individual Macintosh across an entire network.

Password Protection

You can control access to output devices, such as film recorders, to control the use of costly consumables, such as color film, color toner, or expensive types of paper.

BUNDLED SOFTWARE

- Drivers

```
   LaserWriter GX
   ImageWriter GX
   ImageWriter LQGX
   StyleWriter GX
   LaserWriter 300 GX
   LaserWriter IISC GX
   Portable Digital Document Maker GX

- Fonts
   Apple Chancery
   Skia
   Tekton Plus
   Hoefler & Hoefler Ornaments

- Utilities
   SimpleText 1.1.1
   LaserWriter Utility 7.7
   QuickDraw GX Helper 1.0
   Type 1 Enabler 1.1.9
   PaperType Editor 1.0

- System Software
   QuickDraw GX 1.0.1
   ColorSync 1.0.5
   ATMGX 3.7

COMPATIBILITY
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System 7.5 is compatible with most applications that are compatible with System 7.1. However, in order to use
some new features of System 7.5, application programs must be written to take advantage of its capabilities.

QuickDraw GX is compatible with Type 1 and TrueType fonts.

The LaserWriter GX driver is compatible with many third party laser printers that use the standard LaserWriter
driver.

The following devices may not be compatible with QuickDraw GX until their manufacturers write and distribute
suitable drivers or software:

Non-Apple products:                 Apple products:

 fax modems                           Express Modem (fax capabilities)
 laser printers                       LaserWriter PostScript Fax Cards
 ink jet printers                     Color StyleWriter Pro
 color imagers                        Apple Color Printer
 plotters                             Portable StyleWriter

Check with the appropriate third party vendor for additional information about specific products.

USAGE REQUIREMENTS
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QuickDraw GX requires a Macintosh, Performa, or PowerBook computer with 8MB DRAM and a 68020 microprocessor or
better. It runs on all PowerMacintosh computers with 16MB of DRAM.

QuickDraw GX runs with System 7.1 or later.
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Published Date: Feb 19, 2012

Power Macintosh AV: No Sound Through Internal Speaker (7/94)

I have a Power Macintosh AV model and am not getting any sound generated through the internal speaker. There is nothing connected to either the microphone or sound out port on the AV. What could be causing the problem?

This article has been archived and is no longer updated by Apple.
Before replacing the logic board or speaker, plug the microphone into the headphone port a couple of times, and then pull it back out.

The headphone port isn't designed for the longer connector used on the PlainTalk microphone. If the microphone connector is accidentally inserted into the headphone port by mistake, it's may jam the headphone port in a closed position. This may cause the system think there are headphones or external speakers connected and disable sound through the internal speaker.

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PowerBook 500 series: Dual Speed Explained (8/94)

This article explains the Dual Speed rating for the processor used in the PowerBook 500 series computers.

This article has been archived and is no longer updated by Apple.
Traditionally, Apple has advertised the processor's bus clock speed as the speed of the CPU. In the case of the PowerBook 500 series, this is 33Mhz. On the other hand, the DOS world has advertised the processor clock speed, which is twice the bus clock speed, for certain processors. As this is more of an industry standard, we have begun to publicize the processor clock speed, in this case, 66Mhz.

Article Change History:
30 Aug 1994 - Corrected for technical accuracy.

Support Information Services
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Adobe Illustrator 5.5: Install Problem, Destination Disk 12/95

While installing Adobe Illustrator version 5.5, the installer produces the error "Was unable to load Adobe Illustrator 5.5 because there is a problem with the destination disk." Is there a problem with the destination disk (my hard drive)?

This article has been archived and is no longer updated by Apple.
There is no problem with the destination disk (your hard drive). Adobe is aware of problems installing Adobe Illustrator version 5.5. Adobe suggests the following workaround:

* Open the System Folder on your hard drive.

* Drag the Fonts folder from within your System folder onto the desktop.

* Run the Adobe Illustrator 5.5 installation program.

* Drag the contents of Fonts folder on the desktop onto the closed System Folder on your Hard Drive to reinstall the fonts.

* Drag the empty Fonts folder from the desktop to the Trash and empty the Trash.

NOTE This information is provided to inform you of a situation involving an error message that may falsely indicate a problem with your Apple Macintosh hardware. Apple Computer, Inc. does provide technical support for Adobe Illustrator. For further details and information on this problem and other questions about Adobe Illustrator version 5.5 you will need to contact Adobe.

Article Change History:
08 Dec 1995 - Removed keyword.

Support Information Services
Published Date: Feb 19, 2012

PowerShare: How to Setup Administrator‘s Mail (7/94)

When I attempt to send messages to my PowerShare Mail Server Administrator I get a message that says the mail was undeliverable. Why? How can I fix this problem?

This article has been archived and is no longer updated by Apple.
By default, the Administrator's mail account is not active in a PowerShare system. Users attempting to send messages to the Administrator's address may find that their mail is undeliverable.

To receive mail as Administrator you must:

* Open the Administrator's catalog record in PowerShare Admin.

* Change the Mail Account setting from "None" to the appropriate mail server.

* Now you may either set your keychain identity to "Administrator" or open a
Guest MailBox for "Administrator" to receive mail for that account.

Support Information Services
Published Date: Feb 19, 2012

MAE: MS Word File Cannot Be Opened By Word For Windows (4/96)

I'm using Microsoft Word for Macintosh under MAE on an HP workstation with an NFS server, and after saving a document I cannot open it on a PC with Word for Windows. However, the same document can be opened by Word for Macintosh via NFS Share. What's the problem?

This article has been archived and is no longer updated by Apple.

MAE 2.0

The solution under MAE 2.0.x is to either start MAE with the -filedouble option, or download the "asdtool" tool from www.mae.apple.com. This tool will separate AppleSingle files into AppleDouble files, and vise versa.

MAE 1.0

As a workaround in MAE 1.0 use the environment variable, TBFILEFORMAT. Set it to 1 (one) BEFORE you launch MAE, this will change the default file format to AppleDouble instead of AppleSingle. Below are more details.

We installed PC/TCP software on a PC and configured it to have NFS client capability. We did a couple of tests regarding your problem with Microsoft Word documents created under MAE. Here was our test environment:

HP-UX 9.0.3 NFS server

MAE 1.0 Macintosh Word 5.1a

Power Macintosh 8100 NFS/Share 1.3.5

Macintosh Word 5.1a

Gateway2000 Pentium Windows 3.1

PC/TCP 2.3 for DOS/Windows with NFS client feature built-in

Word for Windows 6.0

Here are the results, we did verify the symptom you encountered. The "FILE TYPE" used when the Word document is first saved after creation is very important. Under MAE if the file was saved as "Normal", it CANNOT be opened by Word for Windows 6.0 on a PC. The "Normal" FILE TYPE saved by Macintosh Word 5.1a under MAE is in AppleSingle file format and can't be recognized as a regular Word document by the Word for Windows application. This could be the problem you encountered. However, if a Word document under MAE is saved (with the FILE TYPE created) as "Text Only" or "Interchange Format (RTF)", it can be opened correctly by Word for Windows. Note that "Text Only" or "InterChange Format (RTF)" file types saved by Macintosh Word under MAE is in AppleDouble file format.

In summary, the problem is the MS Word document saved as the "Normal" file type under MAE is in AppleSingle file format, and Word for

TA32072_MAE_MS_Word_File_Cannot_Be_Opened_By_Word_For_Windows__(TIL15798).p

Windows cannot recognize AppleSingle file format. However, the Word document saved as a "Normal" file type in a NFS file system via Macintosh NFS/Share is an AppleDouble file format. This is why it can be opened by the Word for Windows application.

As a workaround set the environment variable, TBFILEFORMAT to 1 (one) BEFORE you launch MAE, this will change the default file format to AppleDouble instead of AppleSingle.

Article Change History:

09 Apr 1996 - Included MAE 2.0 workaround.

29 Jun 1995 - Corrected spelling.

20 Mar 1995 - Made minor corrections for clarity.

Published Date: Feb 19, 2012

Apple IIc: Connecting To A Smith-Corona TP1 Printer

Listed below are the jumper settings and cable pinouts for connecting a Smith-Corona TP1 to an Apple IIc.
This article has been archived and is no longer updated by Apple.
On the Smith-Corona TP1 interface circuit board, set the jumpers to match these specifications:

- 9600 Baud
- 8 Data Bits
- No Parity
- 1 Stop Bit

On the Apple IIc, set the "PIN" configuration using the Apple IIc utilities program, to the same specifications that are listed above.

Cable Pinout

Apple IIc TP1

2 ---------- 3
3 ---------- 7
5 ---------- 20
4 ---------- 2
Published Date: Feb 19, 2012

Configuring Catalyst for the Apple III for the 10 Meg ProFile.

This article has been archived and is no longer updated by Apple.
You will need the following diskettes- Apple System Utilities, ProFile 10 Driver disk, and the Catalyst Master and Backup.

1. Boot the System Utilities disk.
2. Select System Configuration Program from the menu.
Note- (To exit from the following procedures to this Menu press the ESCAPE key.)
3. Select Read a Driver File.
a. Insert the ProFile Driver disk and press RETURN.
4. Select Edit Driver Parameters.
a. Select .ProFile and press RETURN.
b. Write down following information from the screen.
Unit number _____
Device type _____
Device subtype _____
Manufacturer ID Left two digits (High Byte) _____
Manufacturer ID right two digits (Low Byte) _____
c. press the Escape key twice.
5. Select Read a Driver File.
a. Insert the Catalyst master disk and press RETURN.
6. Select Edit Driver Parameters.
a. Select the second ProFile driver in the list and press RETURN. (The first driver in the list should be the new ProFile driver).
b. Write down the slot number _____
c. Select the first ProFile driver in the list and press RETURN.
d. Check the value of the slot number to see if matches the number above in step 6b. If it does not match. Press the Escape key twice and select Change System Parameters. Select option 2 then the first ProFile driver and press RETURN. When asked for driver slot enter the number from step 6b.If the slot numbers are the same go to the next step.
7. Select Delete A Driver.
a. Select the second ProFile driver in the list and press RETURN.
8. Select Edit Driver Parameters.
a. Select the Catalyst Driver and press RETURN.
b. Select option 6 (Configuration Block Data).
The Configuration Block Data is set up as follows:

BYTE CODE ASSIGNMENT
»» OS SLOT NUMBER
»1 UU UNIT NUMBER
»2 TT DEVICE TYPE
»3 ST DEVICE SUBTYPE
»4 MM MANUFACTURER ID (Low Byte)
»5 MM MANUFACTURER ID (High Byte)

Byte »6 is the Directory buffering byte. Due to design of this new ProFile driver however, Directoy buffering as metioned in Appendix B of the Catalyst manual is no longer supported. Therefore the value of Byte »6 must be »». Bytes »7 - 11 are Checksum bytes. Their values must correspond to the following:

» 1 2 3 4 5 6 7 8 9 A B C D E F
»X OS UU TT ST MM MM »» 8F 97 8A 91 93 23 17 17 F6
1X »» B8

c. Check values on the screen against the values listed in step 4b. If any of the values do not match use cursor keys to select the it and enter the correct value.
d. When all the values match press the Escape key.
e. Press the Escape Key twice.
9. Select Generate New System

a. Remove the write protect tab from the Catalyst Master disk.
b. Insert the Catalyst Master disk in the internal disk drive.
c. The cursor should be at .D2/SOS.DRIVER enter .D1/SOS.DRIVER and press RETURN.
d. After you recieve the message SYSTEM GENERATION COMPLETE. Press the ESCAPE key and re-install the write protect tab on the Catalyst Master disk.
10. Now boot the the Catalyst Master disk.
a. Check to see that the all programs and devices (Printers, Modem's, ...) work as they were before.
b. If everything is working correctly select System Utilities from the Catalyst Menu.
11. Select System Configuration Program from the menu.
a. Select Read a Driver file. Insert the Catalyst Master disk in the internal disk drive if it is not already there and press RETURN.
b. Press the Escape key.
12. Select Generate new System
a. Remove the write protect tab from the Catalyst Backup disk.
b. Remove the Catalyst Master disk and insert the Catalyst Backup disk in the internal disk drive.
c. The cursor should be at .D2/SOS.DRIVER enter .D1/SOS.DRIVER and press RETURN.
d. After you recieve the message SYSTEM GENERATION COMPLETE. Press the ESCAPE key and re-install the write protect tab on the Catalyst Backup disk.
10. Now boot the the Catalyst Backup disk.
a. Check to see that the all programs and devices (Printers, Modem's, ...) work as they did before.

NOTE: Apple Computer Inc. is not responsible for the contents of this article.
Published Date: Feb 19, 2012

GeoPort: Missing Station ID In Faxes Sent (5/95)

When I'm using my GeoPort with the Express Fax software, Faxes received on other computers do not show the page number and station ID at the top of each received page. When sending to other Fax machines, this information is displayed at the top of the page.

Is there any way to transmit the Station ID at the top of each page? The manual says on page 26 "If your recipient's Fax device has the capability, Station ID is printed on the top of each page of the Fax document, along with the date and time." We tried every option we could find and nothing gave us Station ID on the document.

This article has been archived and is no longer updated by Apple.
The sending of the Station ID is a function of the sending Fax machine. With the Express Modem Fax software, the Station ID is transmitted to the receiving machine. Station ID is a 20-character header line identification of your choice. If your recipients's Fax device has the capability, Station ID is printed on the top of each page of the Fax document, along with the date and time.

Apple Telecom 2.0 software fixed a problem with the Express Fax software involving the proper transmission of the Station ID, where some receiving Fax machines failed to print the Station ID header on each page. Also, when using QuickDraw GX, the Station ID only needs to be placed on the cover page.

Article Change History:
11 May 1995 - Updated article with Apple Telecom 2.0.

Support Information Services
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TelePort/Bronze: GlobalFax Receive Software Install Fails-7/94

I'm running the Installer for the GlobalFax Receive software and I get the following message:

"The Installer needs more memory to perform an installation. Try quitting other applications and running the Installer again. You can also try removing system extensions (INITs) or lowering your RAM cache size and restarting to make more memory available."

This article has been archived and is no longer updated by Apple.

Unlocking the installation disk usually resolves this problem.

Support Information Services

Published Date: Feb 19, 2012

PowerBook 500 Series: Floppy Drive Alignment Procedure (7/94)

Why would a PowerBook 500 series machine have problem accepting floppy disks after the floppy drive was replaced?

This article has been archived and is no longer updated by Apple.
The floppy drive in the PowerBook 500 must be aligned after being installed into the unit or it may not accept or eject diskettes properly.

To start the alignment process, start with the screw located closest to the display. With your free hand push from the rear of the drive towards the floppy disk insert slot located on the right hand side of the PowerBook.

While applying light pressure to the drive, tighten down the screw under the display then insert the remaining screws and tighten them down. The drive should be properly aligned in the PowerBook.

Support Information Services
Published Date: Feb 19, 2012

DOS Compatibility Card: Can‘t Use Most DOS Backup Programs 7/95

We are trying to perform a backup to floppy of files from a Macintosh DOS Compatible computer.

When we tried to configure the backup or to do it using DOS backup, a message appears saying the estimated time is 1:24. More than an hour passes and nothing occurs, no copy to disk is made. From Windows, it hangs up and we have to reset the computer. From CPBACKUP, the program hangs up when the backup is attempted, the same program works fine in a 486DX equipped PC.

Reinstalling MS-DOS and Windows have not corrected problem.

This article has been archived and is no longer updated by Apple.
The problem you are experiencing is due to the program trying to write directly to the floppy drive hardware. Since we are only emulating a DOS compatible floppy drive, accessing the hardware directly fails. Backup programs in order to gain speed, typically use DMA to write to floppy drives. Since the backup programs are not using DOS BIOS calls, they fail when they don't find the actual hardware they're looking for. However, some applications, such as Norton Backup for Windows can perform backups to floppy disks.

Norton Backup for Windows has the same problem as other backup software when using the floppy drive but Norton Backup also has a work around for this. Norton Backup for Windows has a feature to backup files to any valid DOS path. By using "A:\\" as the DOS path, Norton Backup for Windows will backup to floppy disks when used with the DOS Compatibility Card.

The DOS Compatibility Card is not a "true DOS machine", we are a "DOS compatible" machine. Because of current technology limitations, there is no way to "emulate" DMA access to an Intel x86 architectured device. Anything that tries to access hardware directly, do not work in the DOS compatible card environment. When the PC was first designed, and in subsequent revisions of the PC hardware, BIOS was designed to handle the interface between the operating system and hardware. In order to ensure software compatibility, software programmers were urged to use BIOS calls as opposed to writing directly to hardware. With our DOS compatible card, any program that makes BIOS calls should work, and any program that writes directly to hardware will probably fail.

There are no plans to add support for floppy disk DMA access to the DOS Compatible Card. Current solutions to the problem are copying the complete drive file to a different storage device while in the Macintosh environment, or double-clicking the drive container file and copying individual files from it, also while in the Macintosh environment.

Article Change History:
17 Jul 1995 - Added third-party solution
07 Nov 1994 - Added additional information on why Backup programs fail.

Support Information Services
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DOS Card: Video Modes Supported (7/94)

What video modes are supported by the DOS compatible card?

This article has been archived and is no longer updated by Apple.

Here is the table of video modes supported by the DOS compatible card:

Apple 13"/14" Monitor

Mode	Mode Type	Size/Chars	Char. Box	Colors
0	Text	40x25	8x8	16
00*	Text	40x25	8x14	16
00+	Text	40x25	9x16	16
1	Text	40x25	8x8	16
01*	Text	40x25	8x14	16
01+	Text	40x25	9x16	16
2	Text	80x25	8x8	16
02*	Text	80x25	8x14	16
02+	Text	80x25	9x16	16
3	Text	80x25	8x8	16
03*	Text	80x25	8x14	16
03+	Text	80x25	9x16	16
4	Graphics	320x200	N/A	4
5	Graphics	320x200	N/A	4
6	Graphics	640x200	N/A	2
7	Text	80x25	9x14	Mono
07+	Text	80x25	9x16	Mono
0D	Graphics	320x200	N/A	16
0E	Graphics	640x200	N/A	16
0F	Graphics	640x350	N/A	Mono
10	Graphics	640x350	N/A	16
11	Graphics	640x480	N/A	2
12	Graphics	640x480	N/A	16
13	Graphics	320x200	N/A	256
79	Graphics	640x480	N/A	256

Apple 16" Monitor

0	Text	40x25	8x8	16
00+	Text	40x25	9x16	16
1	Text	40x25	8x8	16
01+	Text	40x25	9x16	16
2	Text	80x25	8x8	16
02+	Text	80x25	9x16	16
3	Text	80x25	8x8	16
03+	Text	80x25	9x16	16
4	Graphics	320x200	N/A	4
5	Graphics	320x200	N/A	4
6	Graphics	640x200	N/A	2
07+	Text	80x25	9x16	Mono
0D	Graphics	320x200	N/A	16
0E	Graphics	640x200	N/A	16
11	Graphics	640x480	N/A	2
12	Graphics	640x480	N/A	16
13	Graphics	320x200	N/A	256
6A	Graphics	800x600	N/A	16
70	Graphics	800x600	N/A	16

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LaserWriter Pro 630: Tray Addressing Under A/UX

I need to know how to address multiple paper trays on a LaserWriter Pro 630 directly from within the A/UX command shell. Do I need some Postscript code?
This article has been archived and is no longer updated by Apple.

Caution: If you choose to use the PostScript code provided in this article, you assume all risks involved in making these changes. PostScript code, if not entered correctly, can place the LaserWriter into a condition requiring service.

We have used the following postscript functions code to select and print to different paper trays using the "lpr" command under the A/UX command shell. The below postscript code must be inserted in a Postscript (ready) file. For printing text files you can use the "enscript" program to convert text files to Postscript format:

```
enscript -pout.en out.txt
```

Basically, the following values passed to the /zselectmediasource function will select the desired tray:

```
0 zselectmediasource       % select the standard 250 sheet standard tray
1 zselectmediasource       % select the multipurpose tray
2 zselectmediasource       % select the optional 500 sheet tray
3 zselectmediasource       % select the optional envelope feeder
```

Also the following code segment (appended at the end of defined functions) will select the letter sized paper from the 500 sheet tray

```
letter
zsetmultipurposepagesize
2 zselectmediasource
```

Lines started with "%" are comments in Postscript.

```
% Paper source selection code for the LW Pro.
% Copyright (c) ) Apple Computer, Inc. 1992-1993

/zbdf
{
  bind def
}bind def

/zxdf
{
  exch def
}zbdf

%-------------------------------------------------------------------------
% zislwpro  -- boolean
% Returns true if product is LaserWriter Pro 600 or 630.

/zislwpro
{
  statusdict begin/product load end dup(LaserWriter Pro 630)eq
  exch(LaserWriter Pro 600)eq or
}zbdf

%-------------------------------------------------------------------------
% zisntr  -- boolean
% Returns true if product is Personal LaserWriter NTR.

/zisntr
{
  statusdict begin/product load end(LaserWriter Personal NTR)eq
}zbdf

%-------------------------------------------------------------------------
% zadjustpagedevice  dict --
```

```
% Similar to setpagedevice but attempts to preserve much of the graphics
% state across the call.  For level 2 PostScript ONLY.

/zadjustpagedevice
{
  /zpagedevicedict zxdf

  % Save everything.
  matrix currentmatrix

  currenttransfer currentgray
  systemdict/currentcolorscreen known
  {
  currentcolorscreen true
  }
  {
  currentscreen false
  }ifelse

  zpagedevicedict setpagedevice

  % Restore everything.
  {
  setcolorscreen
  }
  {
  setscreen
  }ifelse

  setgray settransfer setmatrix
}zbdf

%-----------------------------------------------------------------------
% zsetmultipurposepagesize  --
% Matches and thus sets the page size for the multipurpose tray.

/zsetmultipurposepagesize
{
  systemdict/setpagedevice known
  {
  % Check for LaserWriter NTR or LaserWriter Pro
  zisntr{0}{zislwpro{1}{-1}ifelse}ifelse

  % stack: -- 0, 1, or -1.
  % LW NTR multipurpose tray = 0, LW Pro multipurpose tray = 1
  dup 0 ge
  {
  1 dict dup begin/InputAttributes 1 dict dup 4 index
  1 dict dup/PageSize currentpagedevice/PageSize get put put def end
zadjustpagedevice
  }if pop
  }if
}zbdf

% zmanualfeedoff  --
% Turns manual feed off.
/zmanualfeedoff
{
  statusdict/manualfeed known
  {
  statusdict/manualfeed false put
  }if
}zbdf

%-----------------------------------------------------------------------
```

```
% zselectmediasource  source --
% Selects the given paper source (tray) for auto feed.  Should only be
% called on LW Pro.
% Source values are 0, 1, 2, 3 meaning respectively: 250 sheet standard
% cassette, multipurpose tray, 500 sheet optional cassette, optional
% envelope feeder.

/zselectmediasource
{
  % Save the source request into the priority array.
  1 array astore/zmediasourcepriority zxdf

  % Turn off manual feed.
  zmanualfeedoff

  % Check for presence of setpagedevice operator
  systemdict/setpagedevice known
  {
  % Verify tray presence.
  currentpagedevice/InputAttributes get zmediasourcepriority 0 get

  % stack: dict key --
  known
  {
  % Update the current page device (select the tray).
  % We also force the current page device to the PageSize of
  % the selected tray -- this will force the paper to be drawn from
  % the requested tray regardless of the paper size actually sensed
  % by the tray (i.e. this will override auto page size matching).
  4 dict begin/InputAttributes 1 dict dup/Priority zmediasourcepriority put
def
  /PageSize currentpagedevice/InputAttributes get zmediasourcepriority 0 get
get/PageSize get def
  /ManualFeed false def
  /Policies 1 dict dup/PageSize 1 put def currentdict end zadjustpagedevice
  }if
  }if
}zbdf
```

Article Change History:
08 Feb 1995 - Added PostScript caution message.

Support Information Services

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ImageWriter LQ General Troubleshooting (Part 2 of 3)

This article has been archived and is no longer updated by Apple.

NOTE: Detailed instructions for Take-Apart can be found in the Technical Procedures.

Printing Problems

Dots missing
1. Replace the print head.
2. Replace the main board.
3. Replace the print head to relay PCB cables.
4. Replace the relay PCB to main logic cables.

Printing continues on a paper-out condition
1. Test the paper-out sensor. If defective, replace it.
2. Replace the main board.
3. Replace the paper detect sensor.

Carrier moves but no printing
1. Replace the main board.
2. Replace the print head.

Nothing printed, the carrier doesn't move, and the power light is on
Perform the printer self-test. If the self-test passes, see Preliminary Checks, No Printing.

If the self-test fails, replace the main board.

Garbage printed
Replace the main board.

Printing too light
1. Perform the "Print Head Gap Adjustment".
2. Perform the "Platen Gap and Parallelism Adjustment".

Printing too dark
1. Perform the "Print Head Gap Adjustment".
2. Perform the "Platen Gap and Parallelism Adjustment".

Printing continues with front cover open
1. Test the cover-open sensor. If defective, replace the control panel PCA.
2. Replace the main board.

Color Printing Problems

Color bleeding
1. If the bleeding is consistent across the page, perform the "Color Ribbon Home Position Adjustment".
2. If the bleeding increases or decreases across the page, perform the "Color Ribbon Parallelism Adjustment".

Wrong color printed
1. Test the color ribbon detect switch. If defective, replace the color ribbon motor assembly.
2. Test the color ribbon home position switch. If defective, replace the color ribbon motor assembly.
3. Test the color ribbon motor. If defective, replace the color ribbon motor assembly.
4. Replace the main board.

Only one color is printed
1. Test the color ribbon motor. If defective, replace the color ribbon motor assembly.
2. Replace the main board.

Other Problems

Control Panel switches don't work
1. Test the control panel switches. If defective, replace the control panel PCA.
2. Replace the main board.

TESTING THE PRIMARY AND SECONDARY FUSES

Materials Required: Digital multimeter

Procedure
1. Turn off the printer and remove the main cover.
2. Remove the fuse to be tested and place a probe at each end of the fuse. The resistance of the fuse should be 0 ohms. If the resistance is not 0 ohms, replace the fuse.

o TESTING THE POWER SWITCH

Materials Required: Digital multimeter, Needle nose pliers

Procedure
1. Turn off the printer and remove the main cover.
2. Remove the power switch from the case by pressing the two plastic tabs at the sides of the switch with needlenose pliers while pushing the switch out of the case.
3. Connect the multimeter between the two white wires of the power switch and toggle the switch on and off.

When you turn the power switch on (1), the resistance should be 0 ohms.
When you turn the switch off (0), the resistance should be infinite.
If the resistances are not as indicated, replace the power switch.

4. Repeat step 3 for the black wires.

TESTING THE HOME POSITION SWITCH

Materials Required: Digital multimeter

Procedure
1. Turn off the printer and remove the main cover.
2. Disconnect the home position switch cable from main board connector CN10.
3. Connect the multimeter between pins 1 and 2 of the removed connector and toggle the home position switch with your finger.

When you depress (close) the home position switch, the resistance should be 0 ohms. When you release (open) the switch, the resistance should be infinite. If the resistances are not as indicated, replace the home position switch.

TESTING THE CARRIER DRIVE MOTOR

Materials Required: Digital multimeter

Procedure
1. Turn off the printer and remove the main cover.
2. Disconnect the carrier motor cable from main board connector CN5.
3. Connect the multimeter between the pins of the removed connector listed below and verify that resistances are as shown.

Pins to measure	Resistance (Ohms)
1 and 3	1.3
1 and 5	1.3
2 and 4	1.3
2 and 6	1.3
3 and 5	2.6
4 and 6	2.6

If the resistances are not as shown, replace the carrier motor.

For more ImageWriter LQ troubleshooting information see the following articles:
ImageWriter LQ General Troubleshooting (Part 1 of 3)
ImageWriter LQ General Troubleshooting (Part 3 of 3)

Refer to the Technical Procedures for the take apart instructions.

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Power Macintosh: PATHWORKS LAT Problem (7/94)

The PATHWORKS LAT connection tool intermittently disconnects when running on any model of Power Macintosh.

This article has been archived and is no longer updated by Apple.
This problem is being worked on by both Apple Computer and Digital Equipment Corporation (DEC) engineers. The problem has not yet been identified so there is no estimated date for a fix. The disconnect only seems to happen when there are high collisions on the Ethernet where a Power Macintosh is connected.

Until a fix is available, the work around is to use the AppleTalk-LAT Gateway. The Gateway must be configured on a 680x0 processor based Macintosh. See the PATHWORKS installation manual for installation and set-up details.

Support Information Services

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DOS Compatibility Card: Formatting SCSI Media (7/94)

How do I use SyQuest or Bernoulli cartridge drives in DOS with the Quadra 610 DOS Compatible computer?

This article has been archived and is no longer updated by Apple.
To format a SCSI device as a DOS drive, the device must first have a low-level format. There are many Macintosh SCSI formatting utilities that can do this. It is important that the device not be partitioned, or have a driver installed. Most third party formatting programs allow just a low-level format without doing anything more to the drive.

Next, open PC Exchange 2.0, click the Options button, and then place a check by the SCSI drive that has just been formatted.

Finally, open the PC Setup control panel, select the D: menu, and select Drive Partition. You will see the SCSI device as being an available choice. After selecting this, restart the PC, and the SCSI device will now be available as drive D in DOS.

No DOS drivers are necessary, since the access to the device is being handled by PC Exchange and PC Setup.

Support Information Services

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Power Macintosh: GeoPort and Jabra Earphone ARTA Error (7/94)

When using the Jabra Earphone with the GeoPort on a Power Macintosh, I get the error message, "Requires Apple RealTime Architecture, and a GeoPort Pod..." What else needs to be installed?

This article has been archived and is no longer updated by Apple.
If you are using a Quadra AV computer, make sure you have installed the application called "Dialer". If you are using a Power Macintosh, make sure you have installed the application called "Power Dialer". "Dialer" can not be used on a Power Macintosh and will cause this error message because it is not able to locate the GeoPort software in memory.

If your are using the correct application, contact Jabra at 619-622-0764.

Support Information Services

Published Date: Feb 19, 2012

Apple IIGS: Supported AppleShare Versions

I just upgraded my AppleShare server to AppleShare 3.x and now the Apple IIGS computers will not login in. Sometimes they get a prodos error message other times they just hang at startup with some weird numbers.
This article has been archived and is no longer updated by Apple.
The supported configurations for AppleShare and the Apple IIGS are:

1) GSOS 5.0.4 and AppleShare 2.x
2) GSOS 6.x and AppleShare 3.x and 4.x

Note: AppleShare 4.x does not support network startup
Published Date: Feb 19, 2012

Apple IIGS: Keeps Dropping Off AppleShare Network (7/94)

I have a AppleShare network, and sometimes after 3 to 5 minutes of idle time, the Apple IIGS computers drop off the network. The AppleShare server reflects that the computers are no longer connected.

This article has been archived and is no longer updated by Apple.
This problem occurs infrequently with GSOS 6.0 and AppleShare 3.x. Here are some possible solutions:

1) Reinstall AppleShare and GSOS
2) Set the GSOS system speed to fast

if neither of these fix the problem, the only known solution is to use AppleShare 2.x and GSOS 5.0.4

Support Information Services
Published Date: Feb 19, 2012

Apple IIGS: Booting From an AppleShare Server (7/94)

I have an Apple IIGS, and it does not boot properly from an AppleShare server. How can I boot the Apple IIGS from the server?

This article has been archived and is no longer updated by Apple.
This problem only happens with Apple IIGS computers that have ROM 01. There are two solutions:

1) Upgrade to ROM 03. It doesn't have a problem booting from an AppleShare server.

2) Create an AppleShare boot disk and start the Apple IIGS from that disk.

This allows you to use the Auto Logon feature to set the boot disk to automatically log into the server and launch a program at startup.

Support Information Services
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WriteNow: Document Icons Disappear or are Generic (7/94)

I have WriteNow from T/Maker and both the application program icon and document icons sometimes disappear or turn into a generic paper icon.

This article has been archived and is no longer updated by Apple.
T/Maker Graphics is distributing a patch to fix this problem. Contact T/Maker to receive the patch for this product.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

To locate a vendor's address and phone numbers, use the vendor name as the search string.

Support Information Services
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Catalyst 2.1: How To Install DOS 3.3 BASIC (1 of 2)

The instructions below explain how to install DOS 3.3 BASIC and its associated Volume Manager on your hard disk through the Catalyst Editor program. The Volume Manager may then be used to create volumes on the hard disk for use by DOS 3.3, and to create the MOUNTS3.3 file to enable access to those volumes.
This article has been archived and is no longer updated by Apple.

CHAPTER 1

OVERVIEW

DOS 3.3 BASIC and its associated Volume Manager (both supplied on your Catalyst diskette VERSION 2.1) may be used to access your DOS BASIC programs directly from your hard disk and have access to "DOS 3.3 volumes" on the hard disk.

The DOS 3.3 Volume Manager is used to create standard ProDOS files which appear as DOS 3.3 volumes to DOS 3.3 BASIC. To access these files, they must be "mounted" and formatted as a floppy diskette within your hard disk. All accesses to the hard disk on which you mounted the ProDOS file are then made to that file.

The Volume Manager also allows you to create a file (named MOUNTS3.3) which tells DOS 3.3 which slot/drive pair to run the startup program (HELLO) from, what ProDOS files to mount on selected slot/drive pairs, and whether or not to reserve room for DOS when you initialize a file or diskette.

When DOS 3.3 is selected from the Catalyst menu, it reads the MOUNTS3.3 file from the directory specified by the current ProDOS prefix. If no MOUNTS3.3 file is found, the following assumptions are made:

- DOS 3.3 will look for its startup program on slot 6, drive 1. If a HELLO program is not found there, you will receive an I/O error.
- No hard disk DOS volumes will be mounted for access.
- The INIT command will reserve room for DOS when you initialize a file or diskette.

RESTRICTIONS
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1. Catalyst version 2.1 is necessary in order to use the DOS 3.3 option.
2. Copy protected DOS 3.3 programs can not be used.
3. ProDOS files (disk volumes) no larger than 800 sectors (200K) can be created, thus DOS program applications requiring more than 800 sectors can not be used.

INSTALLATION

To install DOS 3.3 BASIC and its associated Volume Manager under Catalyst, perform the following procedure:

1. Select the Catalyst Editor from the Catalyst menu.
2. When the Catalyst Editor main menu comes up, select the "Install program" option.
3. From the list of Program manufacturers, select the entry for "Apple Computer, Inc.".
4. Select the entry for "DOS 3.3 BASIC" from the list of Apple programs.
5. You are then prompted to insert the boot diskette of the program to install in the disk drive. Insert the Catalyst PROGRAM diskette in the disk drive, and then press the space bar.
6. DOS 3.3 BASIC and its associated Volume Manager (MAKE.MOUNTS) will then be copied from your Catalyst PROGRAM diskette to the CATALYST2E subdirectory on your hard disk. You are then returned to the Catalyst Editor main menu.
7. Enter "E" to Edit the Catalyst menu.
8. Using the up and down arrow keys, position the inverse bar over the "DOS 3.3 BASIC" entry which now appears on your menu. Type "A" to Add a program entry.
9. Enter "DOS Volume Manager" for the menu Display name.
10. Enter "CATALYST2E/BASIC." for the Interpreter path.
11. Press RETURN for the Initial prefix.
12. Enter "CATALYST2E/MAKE.MOUNTS" for the Program path.
13. If all the above has been entered correctly, press RETURN when asked "Is all this correct?". Otherwise, enter "NO" and fix the incorrect entry.
14. Press ESCAPE to return to the Catalyst Editor main menu. Enter "U" to Update the INTERPS2E file.
15. Enter "Q" to Quit from the Catalyst Editor.

NOTE: Since the ProDOS Prefix for the DOS 3.3 BASIC entry is automatically set to "CATALYST2E" by the above installation process, DOS will expect its MOUNTS3.3 file to be in that subdirectory.

CHAPTER 2

THE DOS 3.3 VOLUME MANAGER

If you have performed the above installation procedure, you may select the DOS 3.3 Volume Manager program directly from your Catalyst menu. Alternatively, you may select ProDOS BASIC and execute the program named MAKE.MOUNTS on your Catalyst diskette by typing "RUN /volume name of your hard disk
/CATALYST2E/MAKE.MOUNTS".

1. Catalog
The first entry on the DOS Volume Manager main menu allows you to obtain a standard catalog of files on your hard disk or a floppy diskette. You are prompted to enter the pathname of the directory for which the catalog is to be displayed. In order to freeze the display, press CONTROL "S". Pressing CONTROL "S" again will allow the display to continue.

2. Create DOS 3.3 Volume
The second entry on the DOS Volume Manager main menu allows you to create a ProDOS file which can be used as a DOS 3.3 volume. When you select the "Create DOS 3.3 Volume" option, you are asked to enter the pathname of the new DOS 3.3 volume. Any standard ProDOS pathname may be entered such as "/P/CATALYST2E/DOS".

Next you are requested to enter the size of the volume. Volume size is specified in units of "sectors", where one sector is equivalent to 256 bytes or characters of storage.

The size you specify will depend on what you intend to use the volume for and how much room is left on your hard disk. Volumes must be at least 288 sectors (72K) in size, and may be no larger than 800 sectors (200K). The size you specify will be automatically rounded up to the nearest multiple of 16 sectors (4K). A standard floppy diskette contains 560 sectors (140K).

ADDITIONAL INFORMATION CONCERNING CREATING DOS 3.3 VOLUMES

Once the DOS 3.3 volume has been created and the size has been specified, you must mount it using the Edit Mounts option within Edit mount file for DOS 3.3 application described in part 4 of this chapter in order to grant access to it.

Last but not least, you must initialize the DOS 3.3 volume in order to be able to store information to it. In order to do this, select DOS 3.3 BASIC from the Catalyst main menu. at the prompt "]" type INIT HELLO. The DOS 3.3 volume that you have previously mounted will be initialized for DOS 3.3.

3. Delete DOS 3.3 Volume
The third entry on the DOS Volume Manager main menu allows you to selectively remove previously defined DOS 3.3 volumes from your hard disk. All storage associated with a DOS 3.3 volume is released when IT is deleted. The freed storage is then available for use by any subsequent volume definitions.

Actually, you may delete any ProDOS file, not just DOS 3.3 volumes. When you select the "Delete DOS 3.3 Volume" option, you are asked to enter the pathname of the volume to delete. Any standard ProDOS pathname may be entered.

Note: Deleting a DOS 3.3 volume does not remove it from any place where it may have been mounted. Your system may still contain a MOUNTS3.3 file with a
reference to the deleted volume. Such a reference will be ignored, however.

4. Edit Mount File for DOS 3.3 Application
The fourth entry on the DOS Volume Manager main menu is used to create a new or edit an existing MOUNTS3.3 file for DOS 3.3 BASIC.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

* Article 1584: "**Catalyst 2.1: How To Install DOS 3.3 BASIC (2 of 2)**" - Contains part 1 of the installation instructions.

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Apple QuickTake 100 For Windows: Specifications (9/96)

This article describes the specifications of the Apple QuickTake 100 Digital Camera for Microsoft Windows.

This article has been archived and is no longer updated by Apple.

QuickTake 100 for Windows Includes

QuickTake 100 camera

Battery charger

Rechargeable NiCad batteries

Serial Cable

9-to-25 adapter

Neck Strap

QuickTake 100 for Windows software disk

Image

24-bit color

Memory

1MB of FLASHEEPROM stores up to 32 standard-resolution images, 8

high-resolution images or a combination of high and

standard-resolution images

Storage time: up to one year

Resolution

---

320 by 240 pixels (standard resolution)

640 by 480 pixels (high resolution)

Optics

Fixed-focus lens

Focus range: 4 feet to infinity

Field of view: equivalent to a 50-mm lens on a 35-mm camera

Optical viewfinder

Aperture from f2.8 to f16

Lens field of view: 8 mm (equivalent to 50-mm lens on a 35-mm film

camera)

Speed

Shutter speed:from 1/30 to 1/175 of a second

Cycle time: average 4 seconds

Self-timer: 10 seconds

Built-in Flash

Three modes: Automatic, On, or Off

Range 4 to 9 feet

Flash cycle time: 7 seconds

Power

Includes three rechargeable AA NiCad batteries

Supports three 1.5V AA, R6P, LR-6, or SUM-3 NiCad or lithium batteries

Battery recharger

Optional AC adapter

Interface

RS-232C serial connection for Windows

User Controls

Shutter release, resolution, flash, self-timer, and Erase All Images

LCDDisplay

Number of images that have been taken

Number of images remaining

Resolution, flash, and self-timer settings

Erase All Images

Battery level

QuickTake 1.0 Application

Display thumbnails of images

Select, process, and view images

Rotate images by +/- 90 degrees

Crop, scale, and zoom in on images

Cut, copy, and pates images into other applications

Erase images in camera

Transform images to 16 bit, 8 bit, and 1 bit

Save pictures in PICT QuickTake, TIFF, BMP, PCX, or JPEG file formats

Note:

If you are going to transfer images to a Macintosh system, you need to save the pictures in TIFF and PICT QuickTake format.

System Requirements

An IBM or IBM Compatible personal computer with an 80386 or later

processor.

Windows 3.1 or later

MS-DOS 3.3 or later

2 MB of available RAM

a 3.5-inch, 1.44 MB floppy drive

a hard drive with at least 10 MB available

Physical Specifications

Depth: 6.1 in. (155 mm)

Width: 5.3 in. (135 mm)

Height: 2.2 in (55 mm)

Weight: 1 lb. (0.5 kg)

Article Change History:

17 Sep 1996 - Minor typographical correction.

Published Date: Feb 19, 2012

PowerBook 500 series: 16 Bit, 44KHz Sound Recording (7/94)

The 500 series PowerBook have built-in stereo sound support. The specifications say it supports 16 bit sound, and there is an option for 44KHz sampling rate. Does it really support that rate, and how do I record stereo sound into the PowerBook?

This article has been archived and is no longer updated by Apple.
The 500 series PowerBooks do support 16 bit 44 KHz sampling. The internal microphone is mono only, but the options in the Sound control panel do support switching to 44 KHz on that microphone. None of the current Apple external microphones support stereo input to the port on the back of the PowerBook 500, however, you can use "line-in" cables to get stereo in. These cables are standard stereo minijacks, and in fact, Apple provides one with 16" and 17" monitors. This cable is called "Cable, Sound In," and is part# 590-4513.

However, the software provided with the PowerBook 500 series (the Sound control panel) does not have the ability to record in stereo. You must use 3rd party applications that support stereo recording, such as the latest versions of SoundEdit Pro (Farallon), AudioShop (Opcode Systems), or something similar. The Sound cdev can record mono 16bit 44KHz but you are limited to a 10 second sound by that control panel.

Support Information Services
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Busytown & Sound Manager 3.0 (5/95)

I have an interactive CD ROM game called Busytown. It used to work fine, but ever since I installed the System Update 3.0 I am experiencing intermittent freezes when I play the game. I get no error message, the system freezes, and I have to restart. What is wrong?

This article has been archived and is no longer updated by Apple.
Busytown by Paramount Interactive is incompatible with Apple's Sound Manager versions 3.0. Sound Manager 3.0 was installed on your computer when you installed System Update 3.0.

Paramount Interactive suggests the following fix:

* Open the System Folder on your hard drive.
* Open the Extensions folder inside the System Folder.
* Remove the Sound Manager.

NOTE: Busytown will not work at all on the Macintosh Quadra 660AV, 840AV, and all Power Macintosh Computers because Sound Manager 3.0 is built into the ROMs of these computers.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor, Paramount Interactive, for additional information.

The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.

Article Change History:
23 May 1995 - Updated keywords and reviewed for technical accuracy.

Support Information Services
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Macintosh 630 Family Computers: Apple IIe Card Not Compatible

This article discusses compatibility between the Apple IIe Card for the Macintosh LC and the Macintosh 630 Family computers (Macintosh LC 630, Quadra 630, and Performa 630).

This article has been archived and is no longer updated by Apple.

Because the 630 Family computers operate only in 32-bit addressing mode, they do not support the Apple IIe card for the Macintosh LC.

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630 Family Computers: Comparisons

How do the 630 Family computers (Macintosh LC 630, Quadra 630, and Performa 630) compare with each other?

This article has been archived and is no longer updated by Apple.

The major differences between the 630 Family computers are:

	Macintosh LC 630	Macintosh Performa 630	Macintosh Quadra 630
Processor	68LC040 @ 66/33-MHz	68LC040 @ 66/33-MHz	68040 @ 66/33-MHz
DRAM	4 MB to 36 MB	4 MB to 36 MB	4 MB to 36 MB
Disk storage	250MB IDE hard disk Optional CD-ROM	250MB IDE hard disk CD-ROM w/ 630CD	250MB IDE hard disk Optional CD-ROM
Displays	Apple displays to 15 inch VGA and SVGA	Apple displays to 15 inch Performa Plus VGA and SVGA	Apple displays to 15 inch VGA and SVGA
Video RAM	1MB DRAM,independent from system DRAM	1MB DRAM,independent from system DRAM	1MB DRAM,independent from system DRAM
Color depth	16-bit on 640x480 8-bit on 800x600	16-bit on 640x480 8-bit on 800x600	16-bit on 640x480 8-bit on 800x600
Interfaces	SCSI interface port Expansion slot Communications slot Video-input TV tuner Video-out Serial Port	SCSI interface port Expansion slot Communications slot Video-input TV tuner Video-out Serial Port	SCSI interface port Expansion slot Communications slot Video-input TV tuner Video-out Serial Port
Sound	8 bits/channel Stereo in Mono record Stereo out	8 bits/channel Stereo in Mono record Stereo out	8 bits/channel Stereo in Mono record Stereo out

Support Information Services

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Macintosh Desktop & PowerBook Computers: IDE Hard Drive

This article describes the IDE (integrated drive electronics) hard drive, the 40-pin IDE connector pinouts, and IDE signals currently used on some Macintosh and PowerBook computers. To find out if your computer uses an IDE hard drive, check the specification article for your computer model.
This article has been archived and is no longer updated by Apple.
Some Macintosh, Performa, Power Macintosh and PowerBook computers use an internal hard disk using the IDE interface. This cost-effective interface is also referred to as the ATA interface. The implementation of the ATA interface on the Macintosh LC 630 and Macintosh Quadra 630 computers is a subset of the ATA interface specification, ANSI proposal X3T9.2/90-143, Revision 3.1.

An IDE drive does not have any address conflicts, specific cabling, or termination issues normally found in a SCSI chain. Performance of an IDE hard drive will be similar to a comparable SCSI hard drive.

Any hard drive utilities you may have for SCSI drives will likely have to be revised to function properly with an IDE drive. Check with the vendor of the utility for compatibility information.

Note: The internal hard disk in the Macintosh 630 Family computers is an IDE drive, not a SCSI drive. To avoid possible problems in formatting, be sure to use the supplied Internal HD Format software with the internal IDE drive.

Hard Disk Connectors
The internal hard disk has a standard 40-pin IDE connector and a separate 4-pin power connector. The 40-pin connector cable is part of the cable harness attached to the main logic board by the internal chassis connector. The power cable is attached directly to the power supply.

Pin Assignments
The Table below shows the pin assignments on the 40-pin IDE hard disk connector. A slash (/) at the beginning of a signal name indicates an active-low signal.

Pin assignments on the IDE hard disk connector:

Pin number	Signal name	Pin number	Signal name
1	/RESET	2	GROUND
3	DD7	4	DD8
5	DD6	6	DD9
7	DD5	8	DD10
9	DD4	10	DD11
11	DD3	12	DD12
13	DD2	14	DD13
15	DD1	16	DD14
17	DD0	18	DD15
19	GROUND	20	KEY
21	Reserved	22	GROUND
23	DIOW	24	GROUND
25	DIOR	26	GROUND
27	/IORDY	28	Reserved
29	Reserved	30	GROUND
31	INTRQ	32	/IOCS16
33	DA1	34	/PDIAG
35	DA0	36	DA2
37	/CS0	38	/CS1
39	/DASP	40	GROUND

Note: The IDE data bus is connected to the I/O bus through bidirectional bus buffers. To match the big-endian format of the MC68030-compatible bus, the bytes are swapped. The lower byte of the IDE data bus, DD(0ð7), is connected to the high byte of the upper word of the I/O bus, IOD(24ð31). The higher byte of the IDE data bus, DD(8ð15), is connected to the low byte of the upper word of the I/O bus, IOD(16ð23).

IDE Signal Descriptions
The Table below describes the signals on the IDE hard disk connector.

Signal name	Signal description
DA(0ð2)	IDE device address; used by the computer to select one of the registers in the IDE drive. For more information, see the descriptions of the CS0 and CS1 signals.
DD(0ð15)	IDE data bus; buffered from IOD(16ð31) of the computer's I/O bus. DD(0ð15) are used to transfer 16-bit data to and from the drive buffer. DD(8ð15) are used to transfer data to and from the internal registers of the drive, with DD(0ð7) driven high when writing.
CS0	IDE register select signal. It is asserted high to select the additional control and status registers on the IDE drive.
CS1	IDE register select signal. It is asserted high to select the main task file registers. The task file registers indicate the command, the sector address, and the sector count.
/IORDY	IDE I/O ready; when driven low by the drive, signals the CPU to insert wait states into the I/O read or write cycles.
/IOCS16	IDE I/O channel select; asserted low for an access to the data port. The computer uses this signal to indicate a 16-bit data transfer.
/DIOR	IDE I/O data read strobe.
/DIOW	IDE I/O data write strobe.
INTRQ	IDE interrupt request. This active high signal is used to inform the computer that a data transfer is requested or that a command has terminated.
/RESET	Hardware reset to the drive; an active low signal.
Key	This pin is the key for the connector.

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Macintosh 630 Family: External Pinouts

This article documents the external pinouts for the Macintosh 630 family of computers.
This article has been archived and is no longer updated by Apple.

Serial Port Pinouts

Pin number	Signal description
1	Handshake output
2	Handshake input
3	Transmit data *
4	Ground
5	Receive data *
6	Transmit data +
7	General-purpose input
8	Receive data +
9	+5 volts

ADB connector

Pin number	Name	Description
1	ADB	Bidirectional data bus used for input and output. It is an open-collector signal pulled up to +5 volts through a 470-ohm resistor on the main logic board.
2	PSW	Power-on signal that generates reset and interrupt key combinations
3	+5V	+5 volts from the computer.
4	GND	Ground from the computer.

SCSI Connector

Pin Number	Signal Name	Singnal Description
8	/DB0	Bit 0 of SCSI data bus
21	/DB1	Bit 1 of SCSI data bus
22	/DB2	Bit 2 of SCSI data bus
10	/DB3	Bit 3 of SCSI data bus
23	/DB4	Bit 4 of SCSI data bus
11	/DB5	Bit 5 of SCSI data bus
12	/DB6	Bit 6 of SCSI data bus
13	/DB7	Bit 7 of SCSI data bus
20	/DBP	Parity bit of SCSI data bus
25	n.c.	Not connected
25	TPWR	+5 V terminator power
17	/ATN	Attention
6	/BSY	Bus busy
5	/ACK	Handshake acknowledge
4	/RST	Bus reset
2	/MSG	Message phase
19	/SEL	Select
15	/C/D	Control or data
1	/REQ	Handshake request

3	/I/O	Input or output
20, 22, 24, 28, 30, 34, and all odd pins except pin 25, 7, 9, 14, 16, 18, and 24	GND	Ground

Video connector

Pin number	Signal name	Description
1	RED.GND	Red video ground
2	RED.VID	Red video signal
3	/CSYNC	Composite synchronization signal
4	SENSE0	Monitor sense signal 0
5	GRN.VID	Green video signal
6	GRN.GND	Green video ground
7	SENSE1	Monitor sense signal 1
8	n.c.	Not connected
9	BLU.VID	Blue video signal
10	SENSE2	Monitor sense signal 2
11	GND	CSYNC and VSYNC ground
12	/VSYNC	Vertical synchronization signal
13	BLU.GND	Blue video ground
14	HSYNC.GND	HSYNC ground
15	/HSYNC	Horizontal synchronization signal
Shell	SGND	Shield ground

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Macintosh 630 Family: PDS Compatibility

What interface cards are incompatible with the PDS expansion slot in the Macintosh 630 family of computers?
This article has been archived and is no longer updated by Apple.
While the I/O expansion slot will accept PDS cards designed for the Macintosh LC II and LC III, some of those cards do not work. Cards that are incompatible with the PDS expansion slot include:

* Cards designed to work as coprocessors with an MC68020 or an MC68030 or as replacements for those microprocessors. Such cards include accelerators, 68882 FPU cards, and cache cards. That type of card won't work because the microprocessor is different and because the slot signals are not connected directly to the microprocessor.

* Cards with drivers that include incompatible code. Some drivers that do not follow Apple Computer's programming guidelines won't work on machines that use the MC68040 microprocessor. For example, some of those drivers write directly to the cache control register in an MC68030. Such code won't work on an MC68040.

* Cards with drivers that include code to check the gestaltMachineType value and refuse to run on a newer CPU. The idea is to protect users by refusing to run on a machine that the cards haven't been tested on. Such cards have compatibility problems with all new Macintosh models.
Published Date: Feb 19, 2012

Macintosh 630 Family: Video and Communications Module Description

This article describes video and communication modules available for the Macintosh 630 family.
This article has been archived and is no longer updated by Apple.

TV Tuner Module

The TV tuner module turns the computer into a television receiver, complete with remote control. The features of the TV tuner module are similar to those of the TV tuner in the earlier Macintosh TV computer, with two improvements: the TV picture is in its own window on the desktop, and the TV signal is carried in YUV format for improved picture clarity.

The features of the TV tuner module in the Macintosh 630 family computers are:

* Ability to tune 181 broadcast and cable channels (US version).
* Coaxial connector for TV antenna or cable input (F-type connector in US and Japanese versions; IEC-type connector in Europe).
* TV picture in a resizable and movable window.
* YUV format for improved clarity.
* Support for closed captioning and teletext.
* Software password protection.
* Automatic and manual channel programming.
* Single remote control for TV and for playback of audio CDs.

The TV tuner module is available in versions for NTSC, PAL, and SECAM television systems. The TV picture appears in its own window. The default size of the window is 320 by 240 pixels. You can resize the TV window up to a maximum size of 640 by 480 pixels or down to a minimum size of 160 by 120 pixels. The resolution of the TV picture does not increase at the larger window sizes; instead, the image is enlarged by doubling the size of the pixels.

The TV tuner module works in conjunction with the video input module, which converts the video data into digital YUV format and stores it in the display buffer. The TV tuner comes with a remote control device similar to the one used with the Macintosh TV computer. You can switch channels either by using the remote control or by typing the channel numbers on the keyboard. You can toggle between the current and previous channel by pressing the Tab key on the keyboard. Each time the channel changes, the computer displays the channel name (assigned by you) on the picture in the video window.

You can customize the operation of the TV tuner by adding or removing TV channels that are unused or unwanted. The computer can program the channels automatically, scanning through all available channels and disabling those that do not have a valid signal. When you scan for the next channel by using the remote control or the Tab key on the keyboard, the tuner skips the disabled channels.

The software that supports the TV tuner module is an application called Apple Video Player. The application includes password protection for the disabled channels. Parents might use this feature to prevent children from watching undesirable channels. The software lets you capture or freeze a single frame of video or record a segment of video as a QuickTime Movie. The TV window cannot be resized while the computer is recording a movie.

Note: The TV Tuner Module is NOT available separately, it must be purchased along with the Video Input Module.

Video Input Module

The video input module accepts video from an external source and dispays it in a window on the computer's display. The features of the video input module are:

* Accepts video input in NTSC, PAL, or SECAM format
* Connectors for stereo sound, composite video, and S-video (Y/C)
* Video display in a 320-by-240-pixel window
* Pixel doubling for 640-by-480-pixel maximum display
* Video overlay capability
* YUV format for digital video input
* A digital video connector for adding a video processor on an expansion card

The video input module provides AV features similar to those of the Macintosh Quadra 660AV, with one key improvement. Whereas the Macintosh Quadra 660AV digitizes color video using a 16-bit RGB format, the video input module uses a digital YUV format. Because a standard television signal has more information in its chrominance channel than in its luminance channels, digitizing the video signal as YUV format results in a clearer picture.

The video input module can accept video input from either an external device such as a VCR or camcorder, or from the internal TV tuner module. The external device can be connected to the video input module either through the composite video connector or the S-video connector. The default window size is 320 by 240 pixels; the user can resize the window up to 640 by 480 pixels ?? the full screen on a 14-inch monitor. The large image uses pixel doubling of the 320 by 240 pixel image.

Note: The video input module does not work on video monitors with screens larger than 800x600 pixels. It works with 800x600-pixel displays that have a 60 Hz refresh rate, but not with that size display at a 72 Hz refresh rate.

The video input module plugs into a dedicated slot on the main logic board. The slot connector is a 60-pin microchannel connector. The module fits only its proper slot and only in the proper orientation so that you can safely install the video input module.

Video Output Module

The video output module is an external module that uses the 15-pin video output connector and provides a video signal for a separate television display. The video output can also be recorded on a VCR. A standard television monitor has overscan: to ensure that the entire screen is filled, the image is larger than the screen, causing the outer parts of the picture to be cut off by the edges of the screen. The video output module provides a video signal with a 640x480 pixel display inside the safe display area so that no information is lost.

The video output module supports video mirror mode: in this mode, the image on the television display is the same as that on the computer's primary video monitor. This mode of operation is appropriate, for example, for presentations, so that the audience and the presenter can see the same displays. Apple expects to provide separate video output modules for NTSC and PAL systems.

Communications Modules

The main logic board in the Macintosh 630 family computers has a communications slot that is compatible with the communications slot first introduced in the Macintosh LC 575 computer. The slot lets the computer support a communications module without occupying the expansion slot. A communications module can be installed by either the user or the dealer. The communications slot in the Macintosh 630 family computers supports all communications cards developed for the Macintosh LC 575, including the:

* 10BaseT, Ethernet CS Twisted-Pair Card - M3065
* 10Base2, Ethernet CS Thin Coax Card - M2708
* AAUI, Ethernet CS Apple Standard Card - M3066
* 14.4 Fax/Data Modem CS Card - M2480

The following computers are in the Macintosh 630 family: Performa 630, Performa 635, Performa 636, Performa 637, Performa 638, LC 630, and Quadra 630.

Published Date: Feb 19, 2012

Macintosh 630 Family: Sound Input Specifications

This article documents the sound input specifications for the Macintosh 630 family of computers.
This article has been archived and is no longer updated by Apple.
The sound input jack has the following electrical characteristics:

* Input impedance: 100k ohms
* Average line level: 100 mV RMS
* Average microphone level: 70 mV RMS
* Maximum input level: 1.8 V RMS

Published Date: Feb 19, 2012

Power Macintosh:Compatibility With Macintosh Common Lisp (6/96)

Is Macintosh Common Lisp (MCL), now a product of Digitool, Inc., compatible with Power Macintosh computers?

This article has been archived and is no longer updated by Apple.

MCL 2.0.1 is partially compatible with Power Macintosh computers, provided a software patch is installed first and some environmental settings (such as Virtual Memory) are configured exactly.

MCL 3.0 is compatible with Power Macintosh computers but is again somewhat dependent on certain configurations, such as whether Virtual Memory is enabled or disabled.

MCL 3.9 is Power Macintosh native, and is not compatible with non-PPC systems. All versions of Macintosh Common Lisp prior to 3.9 are 680x0-based applications and will execute in emulation on a Power Macintosh.

Software patches, patch installation instructions, and further information can be found at Digitool's web site at http://www.digitool.com or via anonymous ftp at ftp.digitool.com.

Article Change History:

07 Jun 1996 - Updated article.

28 Feb 1995 - Changed ftp site, and added MCL is a product of DigiTool.

Published Date: Feb 19, 2012

Catalyst 2.1: How To Install DOS 3.3 BASIC (2 of 2)

This article continues the instructions on how to install DOS 3.3 BASIC and its associated Volume Manager on your hard disk through the Catalyst Editor program. The Volume Manager may then be used to create volumes on the hard disk for use by DOS 3.3, and to create the MOUNTS3.3 file to enable access to those volumes.

This article has been archived and is no longer updated by Apple.

CHAPTER 2a

When DOS 3.3 BASIC is run, it reads the MOUNTS3.3 file from the directory specified by the current ProDOS prefix, and uses that information to determine on which slot/drive pair to look for its startup program (HELLO), what ProDOS files (DOS 3.3 volumes) to mount on selected slot/drive pairs, and whether or not to reserve room for DOS when you initialize a file or diskette.

When you select the "Edit Mount File for DOS 3.3 Application" option, you are asked to enter the name of the subdirectory containing your MOUNTS3.3 file. When you installed DOS 3.3 a MOUNTS3.3 file was created for you in the CATALYST2E subdirectory. If no MOUNTS3.3 file is found in another subdirectory you specify, you are asked if one should be created. If you enter a negative response, you are returned to the DOS Volume Manager main menu.

If the MOUNTS3.3 file is found (or if you request a new file should be created), you are presented with a display listing some of the file's attributes, including its location, the slot/drive which will be used to find the startup program (HELLO), and whether or not tracks will be reserved for DOS when you initialize diskettes or ProDOS volumes.

Also shown is a menu of options which allow you to set the HELLO program location, change the DOS track allocation for diskettes or DOS 3.3 volumes, and edit the mounts for your MOUNTS3.3 file. Pressing ESCAPE at this menu will return you to the DOS Volume Manager main menu.

If you select the "Edit mounts" option instead, you are presented with a list of all slot and drive combinations, and the DOS 3.3 volume currently associated with each pair. You may mount DOS 3.3 volumes in any location except those slot/drive pairs occupied by a floppy diskette controller card which are noted with a "Disk II" entry.

NOTE: The MOUNTS3.3 file can only work with one startup program (HELLO) located on a slot/drive pair at a time. You may, however, mount up to 12 DOS 3.3 volumes under it for access. In order to run a HELLO program from another mounted DOS 3.3 volume, you must select the SET HELLO PROGRAM LOCATION from the EDIT MOUNTS FILE FOR DOS 3.3. APPLICATION menu.

To edit the entry for a particular slot/drive pair, simply select the desired entry when asked, "Edit which mount?". You will then be asked for the "New mount file path". If you don't want any DOS 3.3 volume mounted on the selected slot/drive pair, simply press RETURN. Otherwise, enter the pathname for the DOS 3.3 volume you wish to mount. You will be warned if the name of the DOS 3.3 volume you supply cannot be found.

When you are finished editing the mounts, press ESCAPE and you will be returned to the menu of options for editing your MOUNTS3.3 file. If no further changes are desired, press ESCAPE again, and you are returned to the DOS Volume Manager main menu.

5. Quit

The last entry on the DOS Volume Manager main menu is used to exit the program. To return to the Catalyst menu, type "BYE".

CHAPTER 3

COPYING DOS 3.3 APPLICATIONS TO THE HARD DISK

Many DOS 3.3 applications can be used with this system provided that the entire application can be installed in 800 sectors or less and it is not copy protected. A quick and easy way to copy applications to the hard disk is to first copy the Apple II File Developer (FID) program to a DOS volume on the hard disk, and then execute the program. To do this, perform the following procedure.

1. Select the DOS 3.3 Volume Manager from the Catalyst menu.

2. Select Create DOS 3.3 Volume from the menu and create a DOS 3.3 volume under the CATALYST2E subdirectory that is 800 sectors in size. This will give you enough room to copy the rest of the Apple System Master files to the volume if you wish. For this example we will use a pathname of /P/CATALYST2E/DOS. Remember that the only MOUNTS3.3 file that exists at this time that can be associated with the new DOS 3.3 volume is located in the subdirectory CATALYST2E. If you wish to locate the DOS 3.3 volume elsewhere, you will have to create a MOUNTS3.3 file for that location by using the Edit Mount File for DOS 3.3 Application option.

3. Once the DOS 3.3 volume has been created, press ESCAPE to return to the DOS 3.3 Volume Manager menu. It is now necessary to edit the MOUNTS 3.3 file for the newly created volume. Select Edit Mount File for DOS 3.3 Application from the menu. You will be asked for the subdirectory containing the MOUNTS3.3 file. Type /P/CATALYST2E and press RETURN.

4. For this exercise, we will mount the DOS 3.3 volume on slot 5, drive 1. Select EDIT MOUNTS from the menu. A list of all slot/drive pairs will

be displayed. Select number 9 (slot 5, drive 1) from the menu and enter /P/CATALYST2E/DOS which is the pathname of the DOS 3.3 volume you have created. The volume will be mounted.

5. Press ESCAPE to return to the Edit Mount File for DOS 3.3 Application menu. If you will notice, the BASIC startup program is being run from slot 6, drive 1. Since your newly created DOS 3.3 volume is mounted on slot 5, drive 1, you will have to change this. Select Set HELLO Program Location from the menu and change the slot/drive location to Slot 5, Drive 1.

6. Escape back to the DOS 3.3 Volume Manager menu and select QUIT.

7. At the "]" prompt, type INIT HELLO. The DOS 3.3 volume that you created and mounted will now be formatted for DOS 3.3. To prove this, type CATALOG. A listing with the file HELLO will be displayed.

8. Place your Apple SYSTEM MASTER disk in drive 1. Type CATALOG S6,D1" and press RETURN. Press RETURN until you arrrive at the bottom of the catalog. At the prompt"]" type "BRUN FID" and press RETURN.

9. Select COPY FILES. At the prompt SOURCE SLOT? type "6", for DRIVE? type "1". For DESTINATION SLOT? type "5". For DRIVE? type "1". For FILENAME? type "FID".

10. The copy program FID will be copied to your hard disk. You may now access it from the hard disk by selecting DOS 3.3 from the Catalyst main menu and at the prompt "]" type "BRUN FID". You may now copy ANY non copy protected DOS 3.3 application to your DOS 3.3 volume. In order to access DOS 3.3 applications from your hard disk, you may do one of two things:

A.
1. Select DOS 3.3 BASIC from your Catalyst menu.
2. At the BASIC prompt "]" type CATALOG.
3. Run the application as you would from a floppy disk. ie."] RUN filename".

B.You may create a Catalyst menu entry for each DOS 3.3 application.

CHAPTER 4

MAKING CATALYST ENTRIES FOR DOS APPLICATIONS

You may now wish to make Catalyst menu entries for your individual DOS BASIC applications.

Each application which appears in your Catalyst menu must have an associated MOUNTS3.3 file describing the volumes to be mounted for that application (including the volume on which the application resides).

To make the Catalyst menu entry for your DOS BASIC application, perform the following procedure:

1. Select the Catalyst Editor from the Catalyst menu.
2. When the Catalyst Editor main menu comes up, select the "Edit Catalyst menu" option.
3. Using the up and down arrow keys, position the inverse bar over the menu entry you wish your program entry to precede. Type "A" to Add a program entry.
4. Enter the menu Display name for your application.
5. Enter "CATALYST2E/DOS3.3" for the Interpreter path.
6. Enter the prefix where the MOUNTS3.3 file for your application resides.
7. Press RETURN for Prgram path.
8. If all the above has beenentered correctly, press RETURN when asked "Is all this correct?". Otherwise, enter "NO" and fix the incorrect entry.
9. Press ESCAPE to return to the Catalyst Editor main menu. Enter "U" to Update the INTERPS2E file.
10. Enter "Q" to Quit from the Catalyst Editor.

B The above Catalyst menu entry will simply execute the DOS 3.3 BASIC interpreter, passing it a specific prefix for a MOUNTS3.3 file.

The MOUNTS3.3 file referenced should be set up to mount the DOS 3.3 volume on which your application resides, and reference it as the startup volume. Since DOS always expects its startup program to be named HELLO, your application should have this name as well.

For example, if you wish to run the application CHECKBOOK from Catalyst, first copy the file to the DOS 3.3 volume you created using FID. From the BASIC prompt "]" type "RENAME CHECKBOOK,HELLO".

NOTE: Binary files are excluded from the above discussion. In order to run a binary application, boot DOS 3.3 from the Catalyst menu and at the BASIC prompt "]" type BRUN filename.

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additional information.

* Article 1582: "**Catalyst 2.1: How To Install DOS 3.3 BASIC (1 of 2)**" - Contains part 1 of the installation instructions.
Published Date: Feb 19, 2012

MacTest Pro: False SCC Loopback Error On Power Macintosh (7/94)

When running MacTest Pro for the Power Macintosh, I am consistently getting "SCC loopback data count error" when running the serial loopback test. All other tests pass on the computer. Is this a known issue on the diagnostics?

This article has been archived and is no longer updated by Apple.
The diagnostic group was able to confirm that this is a bug in Comm Ports test v1.1 which will be fixed in version 1.2 of the test. Version 1.2 is expected to ship sometime in August assuming no delays.

If there are no other symptoms which would normally point to a serial port failure, this error can be ignored.

Support Information Services
Published Date: Feb 19, 2012

Apple CD-ROMs:Multisession CD-R Discs Compatibility (8/96)

I am having trouble reading my CD-Recordable (CD-R) discs in my AppleCD 300i CD-ROM drive that came in Power Macintosh 7100. I can copy some files to the CD and everything works fine the first time I read it in my AppleCD 300i drive. However, if I copy additional information to the same CD later and try to read the CD again, I can only see the new information.

I am creating the CD-R discs on a Yamaha CDE100 CD-ROM Writer which is connected to a Macintosh 840AV. I am using an application "Gear" to copy the information to the CD-R disc.

When I talked to Yamaha about this, and they said my CD-ROM drive needs to be "Orange Book Part II compatible" in order to read a multisession disc. What is Orange Book? Are my AppleCD 300i and CD-ROM driver software Orange Book Part II compatible?

This article has been archived and is no longer updated by Apple.

"Orange Book" is supposed to be a standard software method for multisession CD-R writable discs which allows you to mount a separate volume for each session that you record.

Problem

The "Orange Book" CD-ROM specification is not yet an industry standard. This is due to the fact that many CD-ROM hardware and software driver manufacturers have been implementing their user interfaces to the "Orange Book" specification differently. Some CD-ROM drivers currently show only the first volume created, some drivers show only the last volume created.

If you are having difficulties reading multisession CD-R discs, there are many possible solutions:

1. Update your AppleCD software to the latest version. 5.1.1. Version 5.1.1 of CD-ROM Setup adds support for multisession CDs, CD Plus, and Enhanced CDs. It requires System 7.1 or later.

2. Use one of several third-party solutions available for the AppleCD 300. Companies such as FWB, MacPeak, Optical Media International, and ASTARTE GmbH offer software to mount multisession data CD-R media.

3. If you continue to have difficulty, contact an Apple-authorized service provider for additional assistance.

The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.

These articles can help you locate the software update mentioned here:

"Where To Find Apple Software Updates" - Lists online services for free Apple software updates.

"Obtaining Apple Product Support in the USA" - Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech Info Library.

Article Change History:

19 Aug 1996 - Changed misspelling.

11 Jul 1995 - Added additional resolutions

04 Oct 1994 - Added how to fix the problem.

Published Date: Feb 19, 2012

Sound Control Panel: Playthrough Option Missing (7/94)

The Playthrough option is missing from the "Input Options" window in my Sound Control Panel. Also, the Sound Input window also looks different than the documentation that came with my Macintosh computer. Instead of a picture of a Macintosh with a small microphone next to it, there is a picture of a round microphone. Is the sound control panel damaged or has the Playthrough option been moved?

This article has been archived and is no longer updated by Apple.

The Playthrough option in the Sound Control Panel is used to set up how a Power Macintosh or Macintosh AV computer plays audio CD's. This option is not available on any other Macintosh models.

Usually the symptom you mention is caused by and extension conflict. Extension conflicts are often caused by older, incompatible system extensions or control panels.

To determine whether this problem is an extension conflict, restart the Macintosh with extensions off by holding down the Shift key at startup right after the Startup tone until you see the message "Welcome to Macintosh. Extensions off."

If the Sound Control Panel looks normal now, you will need to determine by process of elimination which Control Panel or Extension was causing the conflict. (For example, some versions of Suitcase II from Fifth Generation Systems are known to cause this kind of behavior.) *For information on how to troubleshoot Control Panels and Extensions search on the string "init conflict."*

If the Sound Control Panel symptoms continue, remove the file "Sound Preferences" from the System Folder>Preferences folder and restart.

If the symptoms still persist, perform a clean install of the system software. *For information on how to perform a clean install search on the string "clean install."

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To locate a vendor's address and phone number, use the vendor name as a search string.

Support Information Services

Published Date: Feb 19, 2012

DOS Compat Card: Color Printing Options

I have a Color StyleWriter and a DOS Compatibility Card, I want to print in color from Windows, but cannot figure out how to do this. How can I print in color?
This article has been archived and is no longer updated by Apple.
Using PC Setup 1.0.7 and earlier, the Epson emulator does not support color or grayscale. When printing from the Windows environment to a color or grayscale printer, you need to select the Black and White option from the Print dialog.

PC Setup 1.5 or greater provides color printing to color QuickDraw printers. PC Setup 1.5 is available in the Apple Software Updates as DOS Compatibility 1.5.

PostScript Printing
==========

As mentioned in the DOS Compatibility Card User's Guide, you can print in color from DOS or Windows with the correct printer driver. However, the Apple Color LaserWriter 12/600 PS printer does not allow you to print in color from DOS or Windows.

Additional Color Printing Solutions
==========

Another option to print in color is to install software which allows color PostScript printing, such a software based Color Postscript emulator so that the Color StyleWriter would appear as a PostScript printer.

One product that provides this capability is StyleScript from GDT Softworks. StyleScript is a PostScript Level 2 emulator which allows you to print in color from Windows using PostScript.

This software is installed in the Macintosh operating environment not the Windows environment. When you install StyleScript it modifies the existing Color StyleWriter printer driver (only certain models, check with GDT for list of available models) and turns it into a PostScript driver. From then on, it is seen as a PostScript printer to all applications (Macintosh and Windows).

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To locate a vendor's address and phone number, use the vendor name as a search string.
Published Date: Feb 19, 2012

PowerBook: Video Mirroring And MacroMedia Director Issue (7/94)

When running presentations from MacroMedia Director 3.1.1 on a PowerBook with video mirroring activated, I have problems with screens not updating correctly.

This refresh problem occurs on different screens depending on which PowerBook I am using. The problems do not show up with mirroring disabled. The problem mostly seems to be related to transition effects, such as dissolve bits or pixels.

This article has been archived and is no longer updated by Apple.
MacroMedia confirmed this problem occurred on all secondary monitor configurations, and was a problem with the way that MacroMedia Director writes to the screen. Also, they stated that the problem was not fixed in version 4.0 of Director, and they had no immediate plans to implement a fix.

On the 100 series PowerBooks, the external monitor is considered the primary monitor when you are in mirroring mode, and the PowerBook's display is where you see the problems.

On the 500 series PowerBooks, the Monitors cdev determines which is the primary monitor. The menu bar placement indicates which is primary. The secondary monitor (either the external or the PowerBook's display) reflects the problem, but the primary looks fine. Therefore, when doing a presentation with a 500 series PowerBook, you must set the external monitor to be the primary with the Monitors cdev.

The 210/230/250/270c PowerBooks behave like the 100 series, but the 280 and 280c behave like the 500 series.

At this time, it is unclear whether this difference in behavior is due to the newer version of the Monitors cdev on the 500 series and 280/280c, so this behavior is possibly subject to change in future versions of the system software.

Support Information Services
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Power Macintosh: Upgrading Non-AV Model To AV Model

This article describes the feasability of upgrading a non-AV Power Macintosh to an AV capable model.
This article has been archived and is no longer updated by Apple.
It is possible to upgrade a non-AV model to an AV model with the installation of the Power Macintosh AV card, the PlainTalk software, and the Audio/Visual utilities that come with the Power Macintosh CD version 2.0, which ships with all Power Macintosh models.

The PlainTalk microphone is available from finished goods or service. This provides the customer with an equivalent Power Macintosh AV configuration.

The AV configuration requires a significant amount of RAM. Apple recommends a minimum of 16 MB for best overall performance.
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LaserWriter Pro 600/630: TrueType Init Not For System 7

The LaserWriter Pro 600/630 owner's manual explains that the TrueType init must be installed before completing the installation process. Is this correct?
This article has been archived and is no longer updated by Apple.
The manual is misleading. If you have System 7.x installed, then you don't need the TrueType Init. If you are using System 6.0.7 or 6.0.8, then you must use the TrueType Init. However if you use the Installer application, you do not have to drag install the TrueType Init from Font Disk 1 as explained in the owner's manual.

If you install the TrueType Init on a Macintosh using System 7.x, an error message appears at startup telling you that TrueType is already installed. If you get this error message, you need to remove the TrueType Init located in the Extensions folder, in the System folder.
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TrueType: TrueType Already Installed Error (7/94)

When my computer starts up, it gives me an error that says, "TrueType is already installed skipping Installation". What causes this error?

This article has been archived and is no longer updated by Apple.
There are two occasions when this error message appears during the startup process:

1) If you are using System 7.x and install the TrueType init in your System Folder or Extensions Folder.

* System 7.x already has TrueType built into the operating system, so the TrueType Init is not required. Removing the TrueType Init from your System or Extensions folder corrects the problem.

2) If you are using System 6.0.7 or 6.0.8 and get the error message at startup, then you have two copies of the TrueType Init installed.

*Removing the additional TrueType Init from the System folder, corrects the problem. Remove the oldest version of the TrueType Init if they are different versions.

Support Information Services
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Workgroup Server 95: Files To Keep For Reconfiguration

Keep copies of the following files (or, if they're a text file, a hard copy of their contents) to facilitate reconfiguring the Workgroup Server (WS) 95, should you ever need to re-install the system software.
This article has been archived and is no longer updated by Apple.

Important for all Workgroup Server 95 computers

* /etc/fstab

This is the file system table, containing the list of the file systems to mount and their mount points.

* /mac/sys/System Folder/Preferences/Users & Groups Data file

This file contains information about your AppleShare Users & Groups, and is essential for maintaining access privileges on the server. If you ever reinstall your software or create a new system folder, the Users & Groups Data File containing the data on your users should be placed in the Preferences folder of the new System Folder BEFORE launching the AppleShare Admin program. Otherwise, a new Users & Groups data file is created, and all access privileges of your users & groups will be lost.

NOTE: The other file that is essential to preserving access privileges -- the AppleShare PDS file -- is invisible. However, Retrospect will retain access privilege information on your shared data if the File Server software is running and the folders are being shared during the backup process. See Appendix D, "Backing Up and Restoring Servers" of your Retrospect manual for details.

* /mac/sys/System Folder/Preferences/Retrospect/Retro.Configuration

This file contains your settings for Retrospect, including such things as scripts, remote names, activator codes, and location of storage sets. Back up this file whenever you make significant changes to your Retrospect settings.

If You've Modified The Mac32 Environment

* /mac/bin/mac32

This file is a shell script which sets certain environment variables; if you have modified this file for any reason -- for example, to change the default file format from AppleSingle to AppleDouble -- create a backup of it.

If You've Set Up UNIX Users

* /etc/passwd

This is the password database containing a list of all UNIX users and their encrypted passwords. (Note that these are UNIX users only, such as "root", not AppleShare registered users. AppleShare registered user and group data is contained in /mac/sys/System Folder/Preferences/Users & Groups Data File.)

* /etc/group

This is a group database file

If You've Configured the WS 95 for TCP/IP

* /etc/NETADDRSS

This file contains the IP address for your computer, created when you run newconfig bnet.

* /etc/hosts

This file may contain a table of IP hosts to which you can connect. The /etc/hosts can be used to resolve IP domain names when a domain name server is unavailable.

* /etc/HOSTNAME

This file contains the hostname and domain name for your machine, created when you run newconfig bnet.

* /etc/resolv.conf

This file contains domain name server information

* /etc/rc

This file may contain information about your default gateway.

TA32117_Workgroup_Server_Files_To_Keep_For_Reconfiguration_(TIL15859).pdf

Published Date: Feb 19, 2012

Select 310: How To Install Print Driver in SoftWindows

I have a Power Macintosh running SoftWindows, and a LaserWriter Select 310. I want to be able to print from the Windows 3.1 environment under SoftWindows, but Windows 3.1 doesn't have the driver for my printer preinstalled. What do I need to do to allow me to use my printer under Windows 3.1?
This article has been archived and is no longer updated by Apple.
These directions assume that you have already installed the LaserWriter Select 310 software in the Macintosh system, and have been able to print successfully from the Macintosh environment. It also assumes that you have selected "Postscript" from the "PC Printer Port" option under the Setup menu in SoftWindows. Follow the steps below to install the LaserWriter Select 310 drivers in SoftWindows:

1) Locate the LaserWriter Select 310 for Windows disk that came with the printer which contains the Windows versions of the Select 310 software.

2) Launch SoftWindows, and type "win" at the DOS prompt to launch Windows 3.1.

3) Once the Windows desktop comes up, double-click the Main icon located within Program Manager.

4) Then double-click the Control Panel icon.

5) Then double-click the Printers icon.

6) You will need to remove a printer driver from the list to the left side of the window which opened. Select a printer that you don't anticipate using (such as one of the Hewlett Packard or QMS printer drivers), and click Remove.

7) Then click Add to add a new printer driver to the list. The window will enlarge to include a list showing several different drivers that are available for installation. At the top of the list should be "Install Unlisted or Updated Printer" which you select. Click Install to the right of the window.

8) A new window will open asking you to insert a disk containing the printer driver you want to install into the "A:" drive. Insert the LaserWriter Select 310 for Windows disk, and click Browse at the right side.

9) A directory of the disk should be shown with three available folders, double-click "win31drv" to open it. Then click OK at the right to select it. The window should update to show "A:\\WIN31DRV\\".

10) Click OK to continue. A new window should come up showing "Apple LW Select 310", select it and click OK for installation.

11) Another window will appear asking you to insert Microsoft Windows 3.1 disk #6 so the system can install an updated PSCRIPT.DRV file into the system. To bypass this message click Browse which will bring up a directory of the "C:\\windows" area, with a folder called "system" as the third item on the list. Click on the "system" folder to open it, and then click OK. This will take you back to the previous window, where you must click OK again in order to complete the installation.

12) Then double-click on "Apple LW Select 310" to make it the active printer, and click the Close.

Windows 3.1 should now be configured correctly for use with your LaserWriter Select 310.
Published Date: Feb 19, 2012

GeoPort Adapter: Ringer Equivalence Number & Frequency (8/94)

What is the ringer equivalence and ring signal frequency range of the GeoPort Adapter? I have multiple items connected to the same phone line, and some of them aren't working properly since I added my GeoPort adapter.

This article has been archived and is no longer updated by Apple.
The ringer equivalence number (REN) for the GeoPort Adapter is 0.7B. In most areas, the total of the REN's of all the devices connected shouldn't exceed five. Contact your local phone company to determine your local maximum. Exceeding the recommended maximum can cause unreliable operation of all devices on that line, in other words if a call comes in, all of the devices may not ring or detect the call.

The ring frequency range the GeoPort Adapter uses is between 14 Hz to 1200 Hz (much wider than required by FCC Part 68).

Article Change History:
23 Aug 1994 - Added information about ring signal frequency.

Support Information Services

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Standard Resource Types: Reserved Resource Type Names (7/94)

The following standard resource types have been defined (System file 4.1 or later). All-uppercase resource types are listed first followed by all-lowercase resource types.

Uppercase and lowercase letters are distinguished in resource types. You can use any four-character sequence, except those listed below, and those sequences consisting entirely of lowercase letters (reserved by Apple), for resource types specific to your application. There's no need to register your resource types with Apple since they'll only be used by your application.

This article has been archived and is no longer updated by Apple.

Resource Meaning
type

'ALRT' Alert template
'ADBS' Apple Desktop Bus service routine
'BNDL' Bundle
'CACH' RAM cache code
'CDEF' Control definition function
'CNTL' Control template
'CODE' Application code segment
'CURS' Cursor
'DITL' Item list in a dialog or alert
'DLOG' Dialog template
'DRVR' Desk accessory or other device driver
'DSAT' System startup alert table
'FKEY' Command-Shift-number routine
'FMTR' 3 1/2-inch disk formatting code
'FOND' Font family record
'FONT' Font
'FREF' File reference
'FRSV' IDs of fonts reserved for system use
'FWID' Font widths
'ICN#' Icon list
'ICON' Icon
'INIT' Initialization resource
'INTL' International resource
'INT#' List of integers owned by Find File
'KCAP' Physical layout of keyboard (used by Key Caps DA)
'KCHR' ASCII mapping (software)
'KMAP' Keyboard mapping (hardware)
'KSWP' Keyboard script table
'LDEF' List definition procedure
'MBAR' Menu bar
'MBDF' Default menu definition procedure
'MDEF' Menu definition procedure
'MENU' Menu
'MMAP' Mouse tracking code
'NBPC' Appletalk bundle
'NFNT' 128K ROM font
'PACK' Package
'PAT ' Pattern (The space is required.)
'PAT#' Pattern list
'PDEF' Printing code
'PICT' Picture
'PREC' Print record
'PRER' Device type for Chooser
'PRES' Device type for Chooser
'PTCH' ROM patch code
'RDEV' Device type for Chooser
'ROvr' Code for overriding ROM resources
'ROv#' List of ROM resources to override

'SERD' RAM Serial Driver
'SICN' Script symbol
'STR ' String (The space is required.)
'STR#' String list
'WDEF' Window definition function
'WIND' Window template
'actb' Alert color table
'atpl' Internal AppleTalk resource
'bmap' Bit maps used by the Control Panel
'boot' Copy of boot blocks
'cctb' Control color table
'cicn' Color Macintosh icon
'clst' Cached icon lists used by Chooser and Control Panel
'clut' Color look-up table
'crsr' Color cursor
'ctab' Used by the Control Panel
'dctb' Dialog color table
'fctb' Font color table
'finf' Font information
'gama' Color correction table
'ictb' Color table dialog item
'insc' Installer script
'itl0' Date and time formats
'itl1' Names of days and months
'itl2' International Utilities Package sort hooks
'itlb' International Utilities Package script bundles
'itlc' International configuration for Script Manager
'lmem' Low memory globals
'mcky' Mouse tracking
'mctb' Menu color information table
'mitq' Internal memory requirements for MakeITable
'mppc' AppleTalk configuration code
'nrct' Rectangle positions
'pltt' Color palette
'ppat' Pixel pattern
'snd ' Sound (The space is required.)
'snth' Synthesizer
'wctb' Window color table

Support Information Services
Published Date: Feb 19, 2012

PowerBook Assistant Toolbox: Printing a PostScript File (01/95)

A customer with a PowerBook 500 series computer wants to print to a PostScript file rather than to a printer. The customer chooses LaserWriter in the Chooser, but of course, cannot choose a specific printer. The customer activates the print dialog and selects the destination as a PostScript file, and then clicks the Save button.

The system displays the dialog message "This document cannot be printed at the current time on the printer 'LaserWriter' because a printer is not available to the AppleTalk network." and has two choices: "Exit the dialog - Don't Print", or "Print Later".

If the customer chooses Print Later, it spools the file to the PrintMonitor, and does not create the desired file. If the customer removes the Assistant Toolbox, and restarts, the dialog does not display, and the Postscript file is generated correctly.

What is the problem here, and what can the customer do about it?

This article has been archived and is no longer updated by Apple.
The PowerBook 500 series computers ship with version 1.1 of the Assistant Toolbox. It has a deferred printing feature that lets you save a spooled print file and then print it out later when you return to your printer.

This feature takes over control of the printing from PrintMonitor. Therefore, it interrupts printing to put up the preceding dialog before PrintMonitor figures out that a PostScript file was being requested. So, if your choose Print Later, it only makes the spool file, and doesn't even try to print the file until you reconnect to the network. Once you do this, you get a dialog that asks if you are ready to print, and if so, it generates the PostScript file.

If you disable the Background Printing option in the Chooser, and go through the preceding steps, you still get the Print Later dialog. However, if you choose Print Later, it immediately generates the PostScript file since PrintMonitor is not active to make a spool file. This is a little confusing, but does produce the desired result.

The only other way to get this to work is to remove the Assistant Toolbox extension and then restart, which disables the whole Print Later option.

This issue only applies to version 1.1 of the Toolbox, and has been brought to Engineering to address in possible future releases.

Article Change History:
11 Jan 1995 - Added keyword and made several minor technical updates.

Support Information Services
Published Date: Feb 19, 2012

PowerBook 150: DOES NOT Support The Express Modem (8/94)

Is the international Express Modem supported by the PowerBook 150?

This article has been archived and is no longer updated by Apple.
The PowerBook 150 will support the same kinds of modems that are supported by the PowerBook 140, 145, and 170. The Global Village PowerPort line will be supported in the near future after their software is updated.

The PowerBook 150 does not support the Express Modem.

Article Change History:
15 Aug 1994 - Updated to show that the Global Village software needs a revision.

Support Information Services

Published Date: Feb 19, 2012

Global Village Modem and Two Line Telephone (7/94)

I have a Performa 575 with a bundled Global Village TelePort Bronze Modem. I would like to know if a two line telephone would work with the Global Village modem?

This article has been archived and is no longer updated by Apple.
There are two possibilities:

1) If your two line telephone uses a specialized ring, you will have the same problems as if you had call waiting enabled. The second line can interrupt your modems data and FAX transmissions.

2) If you have two actual lines, you should have little difficulty, as all four wires are passed through the modem connection.

Support Information Services

Published Date: Feb 19, 2012

System 7: System Software Using Excessive RAM

Sometimes my Macintosh shows an unusual amount of RAM (20mb or more) is being used by the system software in the "About this Macintosh" window.

I tried turning on 32 bit addressing in the Memory Control Panel, resetting the PRAM, troubleshooting incompatible extensions, removing all fonts, and even performing a clean install of System Software, but the issue remains. Could there be an issue with the Macintosh hardware?
This article has been archived and is no longer updated by Apple.
If the issue you stated persists even after a clean installation, the next step would be to remove all internal or external devices that use non-Apple device drivers from your computer system. These items might include: internal or external hard drives formatted with 3rd party utilities, NuBus cards (for example, accelerator or video cards), or any other non-Apple hardware.

The reason that you should physically remove these items is that all device drivers are ALWAYS loaded at system startup regardless of the designated startup disk. In other words, booting from a Startup Diskette or CD (like Disk Tools) does not eliminate all third party software from the startup sequence if there are still non-Apple items in or attached to the computer. Those devices will continue to load their driver software at startup from any startup disk.

If the issue continues even with all third party devices removed, the next thing to try would be to remove any extra RAM that has been added to your Macintosh. If removing all extra RAM still doesn't resolve the issue, you may have a computer hardware issue that needs service.

For information about how to perform a "clean installation" procedure search with the string, "clean installation".
Published Date: Feb 19, 2012

SoftWindows, ImageWriter II, Type 1 Errors When Printing (7/94)

I have an ImageWriter II connected to my Power Macintosh modem port. I can print fine from the Macintosh environment, but whenever I try to print from within SoftWindows I get a type 1 errors part way through or at the end of the printing process, and SoftWindows quits. I have Epson LQ2500 emulation selected in the SoftWindows printer port selection under the Setup menu.

This article has been archived and is no longer updated by Apple.
SoftWindows defaults to assigning com1: to the modem port. This can cause errors when printing, and often causes a type 1 error to come up. The solution recommended by Insignia is to have both com1: and com2: serial ports set to "none" within the "PC serial port" selection under the Setup menu, this will prevent the conflicts from occurring.

Support Information Services

Published Date: Feb 19, 2012

Apple Support Information on the Internet

This article has been consolidated with TIL article 14724. Please click **here**.
This article has been archived and is no longer updated by Apple.
Published Date: Feb 19, 2012

Sound Manager: Digitizing, Down-Sampling, and Static

I get static and distortion when I digitize sounds. This happens when I record at low sound levels (soft music) with any application that uses the Sound Manager, including Apple's Sound control panel. The resulting static is louder than the originally recorded signal. The static appears to superimpose itself over the whole recording.

The issue occurs on both a Macintosh 840AV and a Macintosh Performa computer. I've tried different input devices, such as: a PlainTalk microphone, third party microphones, audio CDs, and video sources. I've tried several software programs including: the Sound Control Panel, SoundEdit Pro 1.0.5, SoundEdit 16, Fusion Recorder, MoviePlayer, and Digitrax.

The only program that consistently works without static is called Digitrax. It records fine at any bit-depth and any sampling rate. I can record a clean sound with Digitrax, but as soon as I edit it with SoundEdit Pro, static is introduced into the sound.

I have replaced logic board, clean installed system software, run Disk First Aid, replaced PlainTalk microphone, reinitialized the drive, reset PRAM and rebuilt the desktop. What is wrong?
This article has been archived and is no longer updated by Apple.
The original recording is clean. The static you're getting comes from what is done to the sound when you digitize (edit) it. There is a known issue with the method that you're using. Recording in 16-bit 44kHz stereo audio and then down-sampling the file to an 8-bit 22kHz mono file will result in a lot of anti-aliasing artifacts (static).

The workaround for this issue is to record the file in 8-bit mode from the beginning instead of downsampling. However, you must keep in mind that any program which records in 8-bit mode such as Fusion Recorder, Sound Edit Pro, or the Sound Control Panel will introduce some noise with the signal. Other applications, such as Sound Sculptor, will allow you to record in either 8- or 16-bit mode, so the issue can be avoided. You may also want to make sure you are using the latest version of Apple's Sound Manager extension (v 3.1). It is no longer a separate extension in System 7.5 or later, but instead is built into the System file.

There is also a known issue when using QuickTime 1.6.1 and MoviePlayer to record 16-bit audio from an audio CD. The recording that results from this combination of software will have a lot of static. The combination of QuickTime 2.0 and MoviePlayer 2.0 fixes this issue.
Published Date: Feb 19, 2012

FAX with GeoPort and Power Macintosh In PageMaker 5.x

I cannot FAX documents from PageMaker 5.0 using my GeoPort and Power Macintosh. When I use the FAX shortcut (pressing Control and Shift keys while selecting FAX from the File Menu), the following message appears:

"Cannot build printer list. No valid PPD files were found. Check the 'Printer Descriptions' folder in the System Folder. Continue."

If I select "Fax Sender" in the Chooser, then try to FAX from the File Menu, the print dialog box appears and hangs when I press Print.

If I hold down the option key while selecting Print from the File Menu, the computer hangs.
This article has been archived and is no longer updated by Apple.
Use this workaround to FAX documents from PageMaker 5.0 with your GeoPort for Power Macintosh:

1) Open the Chooser, select Fax Sender.

2) Select Fax from the File Menu and click Setup in the print dialog box.

3) The Fax Sender Page Setup dialog box now appears. Make any changes necessary then click OK.

4) The Fax Sender dialog box now appears. Type in a phone number or choose one from the address book.

5) Click Send to transmit the document.
Published Date: Feb 19, 2012

Apple Restore:Doesn‘t Run Properly on Macintosh Performa (7/94)

I cannot run the Apple Restore program on my Macintosh Performa computer. I started up the computer from Utilities Disk. Then I launched Apple Restore from the disk. I got a message on the screen which asked me to click Continue. I clicked it. At this point the Utilities disk ejected, and a message came on the screen which said, "Please insert Utilities disk." After I inserted the Utilities disk, I got another message which said, "Please insert Hard Disk Copy 1", but the Utilities Disk is STILL IN THE DRIVE. What should I do now?

This article has been archived and is no longer updated by Apple.
This situation is known to occur with versions of Apple Restore prior to 7.1P3. This software came with the following Macintosh Performa models: 200, 400, 405, 430, 450, and 600/600CD.

With the Utilities Disk still in the drive and the message to insert , do the following:

1) Click Quit in the message area.
2) A message will appear stating that Apple Restore is finished. Select QUIT again.
3) Upon return to the Finder, select Shutdown from the Special menu.
4) Re-insert the Utilities disk.
5) Restart the computer and reset the Parameter RAM (PRAM). To reset the PRAM Hold down the Option, Command, P, and R keys on the keyboard immediately after you hear the startup chime. Keep holding down all four keys until you have heard the startup chime three or four times. Release all four keys and the machine will startup from the Utilities Disk.
6) Click twice on the Apple Restore program icon on the Utilities Disk to launch the program. After resetting the PRAM, Apple Restore should run correctly.

Support Information Services
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PowerBook: Lock Up After Hard Drive Spins Down (1/95)

When the hard disk on my PowerBook spins down and I try to access it, the drive refuses to spin back up and the PowerBook locks up. What could be the problem?

This article has been archived and is no longer updated by Apple.
The likely cause of the problem is Desktop file got corrupted when you did a Desktop rebuild with SuperATM (other extensions can cause it too) loaded.

The problem with the Desktop can be verified with Norton Utilities or MacTools but, they can only offer a temporary fix. The problem may go away for a while, but could reoccur.

The long term solution is to rebuild the desktop with the extensions off thus eliminating the possibility of any extension interfering with the rebuilding of the Desktop file.

Occasionally the situation you are experiencing could be related to a formatting corruption. So, in addition to rebuilding the desktop, you may also want to update the SCSI driver using Apple HDSC Setup while booted from your Disk Tools floppy disk. For more information about updating SCSI drivers see "Apple HD SC Setup: Updating SCSI Disk Drivers (1/95)."

If you have reformatted your hard drive with a third party utlity, you will need to follow the driver update instructions that came with that utility.

Article Change History:
27 Jan 1995 - Reviewed for technical accuracy and added info about
updating SCSI driver.

Support Information Services
Published Date: Feb 19, 2012

PowerBook 500 Series: Video Mirroring Issue With ATM (7/94)

I'm using a 500 series PowerBook and have video mirroring activated. The external monitor is not displaying some of the characters that display fine on the PowerBook's display.

I have figured out that my Adobe Type Manager is involved in producing the characters I am having problems with, since they are large type sizes. If I boot with extensions off, the type looks "jaggy," but the characters look the same on both displays.

Is this an Apple problem or an Adobe Type Manager problem? Is there a fix for this?

This article has been archived and is no longer updated by Apple.
The problem described is fixed by a patch to Adobe Type Manager. This patch is available from Adobe Tech Support. Their phone number is 408-986-6500. Customers should call this number, describe the problem (mirroring monitor off of PowerBook 500 does not show characters being drawn with aid of ATM), and ask for the patch. Apparently, Adobe does not have a name for this patch, and I was unable to get any other reference from them.

This patch is free to registered users of Adobe Type Manager (the tech support line will ask for serial number of diskette).

Support Information Services
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Macintosh: Monitor AC Power Cord Part Numbers (6/95)

This article provides service part numbers for AC power cords for Apple monitors.

This article has been archived and is no longer updated by Apple.

Part Number	Description
590-0370	AC Power Cable - Connects from monitor to the Macintosh
590-0373	AC Power Cable - Connects from monitor to wall outlet

NOTE:
There are several AC cords that connect the monitor to an AC wall outlet. They vary from monitor to monitor in terms of length and color. However, service part number 590-0373 works on all Apple monitors that have a detachable AC cord.

Article Change History:
6 June 1995 - Corrected part number for Macintosh to monitor cable.

Support Information Services
Published Date: Feb 19, 2012

Quadra 605: Playback of 44KHz Sound Files

Will sounds previously recorded as 16 bit 44khz samples on a Power Macintosh 6100 or a Quadra 660av play back at the same resolution on a Quadra 605?
This article has been archived and is no longer updated by Apple.
The Quadra 605 supports both recording and playback of sounds at 8-bit and sampling rates of 11 kHz or 22 kHz. There are several ways to playback 16-bit 44kHz files on a Quadra 605.

One solution is to install Sound Manager 3.0 on the Quadra 605. It will automatically convert 16-bit 44kHz files to 8 bit 22kHz files on the fly for playback. Another method is using QuickTime 2.0 to playback 16-bit 44kHz audio movie files. QuickTime 2.0 will automatically convert them to 8-bit playback on the Quadra 605.
Published Date: Feb 19, 2012

LaserWriter 8.x: Freezes Printing To Tektronic Printer

I can print to an Apple LaserWriter from a Power Macintosh 6100 with LaserWriter 8.1.1, but cannot print always successfully print to a Tektronix Phaser 300i using the Tektronix driver. Printing to the Tektronix printer causes the Macintosh to freeze frequently, particularly when using background printing.
This article has been archived and is no longer updated by Apple.
Tektronix Tech Support believe this problem is due to a bad Tektronix PPD and may occur when printing from any Macintosh when using earlier versions of the PPD. You need to update to PPD version 4.1 in order to avoid this problem.

For additional information on obtaining new versions of the PPD, contact Techtronics Tech Support.

To locate a vendor's address and phone numbers, use the vendor name as the search string.
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Apple IIc: Catalyst 3.0 and IIc clock Issue

At the present time, the Catalyst 3.0 is totally incompatable with any clock driver designed for the IIc. The end result of combining the two applications results in destroying the Catalyst 3.0 system file rendering the disk unbootable.
This article has been archived and is no longer updated by Apple.
CPU has been contacted regarding this matter.

Users who experience this problem may have their Catalyst disk recopied by Quark for $10.00.

NOTE: Apple Computer Inc. is not responsible for the contents of this article.
Published Date: Feb 19, 2012

PowerBook: How To Recover From A System Hang

If your PowerBook refuses to respond to the keyboard, trackball, or trackpad input, you are experiencing what is known as a "freeze," "hang," or "crash." To recover from this condition with the least amount of data loss and the least amount of corruption of your system, you will have to reset your PowerBook. According to the model of PowerBook you are using, follow the resetting procedure explained below.
This article has been archived and is no longer updated by Apple.

Attempt to Quit or Cancel

Try these steps in the order presented first. If the first step is not successful in cancelling the action, try the second step. If the second step does not make the application quit, try the last step. If this still does not work, move on to the Resetting section.

1. Press Command-Period
2. Press Command-Q
3. Press Option-Command-Escape (Forced Quit)

Resetting

PowerBook 100

The reset button is on the left side of the unit, marked by a triangle. Push the button to reset your PowerBook. Since the PowerBook 100 has no Power On button, this is the only way to escape a freeze.

Remaining Powerbook 100 Family (except the 190)

The reset button is on the back of the unit, inside a little hole next to the power button. The hole is marked with a triangle. Push the button using a straightened paper clip.

PowerBook (Duo) 200 Family & 2300 Series

Press the Control, Command and Power On keys simultaneously.

PowerBook 500, 190, 2400, 3400, 5300, G3, and G3 Series

Press the Control, Command, and Power On keys simultaneously .

Note: Do not turn the computer off with the power button when it is frozen. Doing so can damage or corrupt your system software.

Diagnosing System Hangs or Freezes

Most system hangs, freezes, and crashes are caused by software. After you experience several repeated system hangs or freezes, try to power on your computer while holding down the Shift key. This will disable software extensions that could be the cause of the problems.

If, after you turn off the extensions, you no longer experience the freezes and crashes, you will need to narrow your search for the suspect extension.

To do this, first note when the freeze occurred. If you see a pattern, you may be able to identify which application or control panel is to blame.

For instance, if you continually crash when you're in a particular word-processing application, remove all of the extensions related to that application from your System folder and/or Extensions folder.

If you consistently crash when running a particular Control Panel, such as a clock or screen saver, remove that item from the Control Panels folder. If you recently loaded new items into your System folder, Control Panels folder, or Extensions folder, remove those items first.

Compatibility Issues

If you identify or suspect that you have identified an extension that is causing your system to freeze, the application, extension, or control panel may be incompatible with the PowerBook. In these cases, contact the software vendor.

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X on Launcher Control Panel at Startup (7.1p2 or Less) (3/95)

When I start up my Macintosh Performa computer a red 'X' crosses out one of the little pictures that comes across the bottom of the screen. When it finally gets to the desktop I have no Launcher. What happened?

This article has been archived and is no longer updated by Apple.
The picture that you see at the bottom of the screen with an 'X' through it is the Launcher Control Panel icon. The Launcher does not show up on the desktop because it has been disabled.

The red 'X' you're seeing is probably caused by one of the following situations:

* You have renamed the Applications folder.
* You have renamed the Documents folder.
* You have renamed BOTH the Applications folder and the Documents folder.
* There is a duplicate Launcher control panel in the System Folder.

To fix the problem do the following:

* Rename each folder to its original name or throw away the duplicate Launcher. Restart the computer. The red 'X' will go away and the Launcher will appear on the desktop.

MORE INFORMATION
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When your Macintosh Performa starts up, the Launcher searches for two folders on the hard drive: Applications and Documents. If it finds that either folder has been renamed, it places a red 'X' over its icon at startup to warn you of feature(s) you have disabled. (Note: This would be a black 'X' on Performa 200).

If either the Applications or the Documents folder is GONE from the hard drive (not renamed, but removed), then the Launcher icon will have no red 'X' at startup and will recreate the missing Applications/Documents folder(s) on the desktop.

Article Change History:
16 Mar 1995 - Reviewed for technical accuracy.

Support Information Services
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Express Modem: Fax Phone Book Corruption (7/94)

I am trying to fax a document using the Express Modem software which came with my Macintosh computer. However, the Fax Phone Book in the Fax Sender dialog box has garbled characters instead of the entries I created. When I create new Fax Phone Book entries, those new entries are also garbled.

This article has been archived and is no longer updated by Apple.

The Fax Addresses file has been corrupted. This file is located in the Preferences folder in the System Folder. Drag this file to the Trash, restart the computer, then re-access the Fax Sender dialog box to recreate the Fax Phone Book entries.

Support Information Services
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PowerBook 500 Series: Switching Between Ethernet And LocalTalk

A PowerBook 500 series computer is connected to an Ethernet network, shut down, taken home and hooked to a PhoneNet network and restarted. The PowerBook does not see the network even though it changes to LocalTalk (Built-In) in the Network Control Panel. Switching back and forth in the Network Control Panel makes no difference. The PowerBook must be restarted again to see the net.

If the PowerBook is switched to LocalTalk before being shut down and moved, it sees the PhoneNet network fine when started later. Yet, going the other way (from LocalTalk to Ethernet), you simply change the network CDEV and the network shows up right away. Why?
This article has been archived and is no longer updated by Apple.

If you are going to be using Ethernet you should select the EtherTalk option in the Network Control Panel. Now, the desired behavior for the PowerBook 5xx is to use Ethernet when available, otherwise use LocalTalk. This should be accomplished without ever opening the Network Control Panel.

On two systems that I used for testing, I was able to use Ethernet but when I switched to a LocalTalk connection, I did not have access to network services. If I simply went back to an Ethernet connection I had access to the network again. If, while connected to LocalTalk, I opened the Network Control Panel, it indicated that LocalTalk was the selected option. There are two ways I could get LocalTalk to actually work;

1. Select EtherTalk and have that attempt fail since there was no Ethernet connection.

or

2. Restart the PowerBook.

The problem is that now, in order to use Ethernet, it is necessary to select the EtherTalk option in the Network Control Panel the next time you connect to an Ethernet network.

A third system used in testing behaved as expected, switching from Ethernet to LocalTalk depending on the physical connection. Finally, after verifying that the software on all three systems was essentially the same, the PRAM on the two offending machines was reset using the old Command-Option-P-R method. Much to our pleasure the two systems worked as advertised.

Note: If you open the Network Control Panel while the PowerBook is using LocalTalk it will change the default network connection to LocalTalk. This happens even if you don't select anything in the Network Control Panel and just close it. The mere act of opening and closing the Network Control Panel is enough to change the default connection.

The bottom line is that if you are going to be switching frequently between Ethernet and LocalTalk, set it up for Ethernet once and leave the Network Control Panel alone.

In the course of testing we did observe that changing from LocalTalk to EtherTalk in the Network Control Panel often took very long, in some cases the PowerBook froze, requiring us to force it to restart. This may be what is corrupting the PRAM. We will report this and continue investigation.

Published Date: Feb 19, 2012

MacLink Plus: Remove Drivers Prior To Clean Install (7/94)

I did a clean system software install without saving the DataViz translators or MacLink Plus. How do I replace them after performing a clean install?

This article has been archived and is no longer updated by Apple.
It is best to remove the DataViz translators and MacLink Plus prior to performing a clean install. Save the DataViz folder, MacLink Plus Setup control panel, and the MacLink Plus for EasyOpen extension. Those three items are necessary to retain the functionality of the DataViz software once the reinstallation has been performed.

If this is not possible, the customer must call DataViz and order a fulfillment kit to reinstall the drivers. DataViz will charge a shipping and handling fee for all fulfillment kits.

Support Information Services
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X on Performa Control Panel at Startup (7.1p3 or Greater) (3/95)

When I startup my Macintosh Performa a red 'X' appears through Performa control panel icon. What happened?

(Note the 'X' will be black on a Macintosh Performa 200.)

This article has been archived and is no longer updated by Apple.
There are several reasons why you might be getting a red 'X' through your Performa control panel icon at startup:

* You have renamed either the Applications folder or the Documents folder or both of these folders.
* You may have thrown away either the Documents or Applications folder.
* There may be a duplicate of the Performa control panel in the System Folder.
* There may be damage to the Performa Shutdown Check file or the Performa Preferences file.

To get rid of the 'X' do the following:

* Rename each folder to its original name.
* Throw away the duplicate Performa Control Panel from the System Folder.
* Open the Preferences Folder>System Folder and throw away the Performa Shutdown Check and Performa Preferences files.
* Restart the computer.

ADDITIONAL INFORMATION
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When the Macintosh Performa computer starts up, the Performa Control Panel searches for two folders on the hard drive: Applications and Documents. If it finds that either folder has been renamed, it places a red 'X' over its icon at startup to warn you of feature(s) you have disabled.

If either the Applications or Documents folder is GONE from the hard drive (not renamed, but removed), then the Performa control panel icon will have a red 'X' at startup INITIALLY, and upon further restart, will recreate the missing Applications folder on the hard disk and the Documents folder on the desktop.

Article Change History:
16 Mar 1995 - Reviewed for technical accuracy.

Support Information Services
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QuickFile IIe & QuickFile III: File Sharing

This article has been archived and is no longer updated by Apple.

QuickFile III and QuickFile IIe can share the same files if you format your data diskettes with QuickFile IIe or the Apple II Pascal system. Both QuickFile IIe at home and QuickFile III at the office will recognize the disk.

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Catalyst 3.0 And Color Monitors

This article has been archived and is no longer updated by Apple.

Catalyst currently does not support monitors that do not have a monochrome mode
Catalyst also does not support the Telemax "Peacock" IIc interface with a monochrome monitor.

Some of the problems seem to be caused by the Double-High-Resolution graphics being turned off or disabled. Catalyst 3.0 must have the Double-High-Resolution jumper installed on the 80 column card. Or the display will be totally unreadable.

(NOTE: In cases where the the color bleed is the problem, switch to monochrome mode.)

Recommended Color configurations:

Apple IIe

CARD MONITOR TYPE
Apple RGB 80 column Apple Color 100 RGB
Apple Extended 80 column Apple Color Monitor IIe High Res Composite

Apple IIc

CARD MONITOR TYPE
N/A Apple Color Monitor IIc High Res Composite

NOTE: Apple Computer Inc. is not responsible for the contents of this article.

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AWS 95: Create New System Folder For A/UX 3.0.1 or Later (1/95)

This article describes how to create a new system Folder under A/UX 3.0.1 or later on an Apple Workgroup Server (AWS) 95.

This article has been archived and is no longer updated by Apple.
It may sometimes be necessary to create a "clean" System Folder when troubleshooting problems under A/UX on the AWS 95. This procedure will deactivate the current default System Folder, create a new one, and recover the minimum number of files needed to get AppleShare Pro back up and running. Follow the steps below:

1) After signon on as Root, in CommandShell type the command "systemfolder" at a "localhost.root#" prompt. The system should echo that it is creating a new system folder for you. This will take about a minute.

2) Open "/", open the "mac" folder, then open the "sys" folder and rename the "System Folder" to "Old System Folder"

3) Drag the "System Folder" in "/" to the "sys" folder.

4) Drag the file called "File Server Extension" from the "Extensions" folder in the "Old System Folder" to the "Extensions" Folder in the "System Folder"

5) Open the "Preferences" Folder in the "System Folder" and move the "Users & Groups Data File" (if it exists) into a new folder on the desktop called "Old U&G Data."

6) Drag the file called "Users & Groups Data File" from the "Preferences" folder in the "Old System Folder" to the "Preferences" Folder in the "System Folder."

7) Drag the Sharing Setup control panel from the "Old System Folder" to the "System Folder" to preserve the server's name.

8) Go to the "Special" Menu and Select "Logout"

9) When the computer comes back up: move the folder you created on the desktop called "Old U&G Data" to the trash and empty it.

10) Launch AppleShare Admin, and check the configuration.

Once troubleshooting is complete, you may want to copy other items from the "Old System Folder" into the new System Folder, particularly the "Retrospect" folder within Preferences, and the aliases within the Apple Menu Items folder.

Article Change History:
18 Jan 1995 - Added step number 7, and changed title for clarification.

Support Information Services
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How To Remove Unnecessary INITs and CDEVs Under A/UX (5/95)

This article describes how to remove stray INITs (extensions) and CDEVs (control panel devices) under A/UX, these may cause a corrupted System Foler. Follow the steps below to remove unnecessary software from the System Folder.

This article has been archived and is no longer updated by Apple.

Step 1
Power On the Machine normally.

Step 2
Wait for the "Welcome to A/UX" or "Welcome to the Workgroup Server 95" Splash screen.

Step 3
Hit the "command" (or apple) and the "period" key at the same time.

Step 4
You should see a screen with several lines ending with a "startup #" prompt.

Step 5
Change directory to the system folder normally active when A/UX is running by doing the following (Press the "return" key after each line):

Please note that the quotation marks (") are required. Also note that UNIX is case sensitive.

```
cd /mac
cd sys
cd "System Folder"
cd "Extensions"
ls
```

Step 6
At this point (after typing "ls") the system will list all of the files in the directory down the left side of the screen. Look at the filenames and write down the ones that were added by accident.

Step 7
Remove the offending file by typing

```
rm "file name here"
```

Please note that the filenames that were written down in step six should be replaced above where it says "file name here" (the quotation marks are required). For example, rm "Audio CD Access".

Step 8
Execute the following commands to check out the Control Panels folder as well:

```
cd ..
cd "Control Panels"
ls
```

Step 9
Repeat steps 6 and 7.

Step 10
Check the System Folder itself for foreign items:

```
cd ..
ls
```

Step 11
Repeat steps 6 and 7.

Step 12
When you are done removing files that do not belong, perform the following commands to clean up the filesystem and re-launch A/UX, (this could take a few minutes):

```
fsck -y /dev/default
launch -v
```

Aside

If the computer will not boot after the above course of action was taken repeat the above steps. There could be some incompatible extensions left in the System Folder that do not belong. Check the listing that the "ls" command provides carefully for problem extensions and control panels.

Article Change History:
03 May 1995 - Included additional descriptive information in Topic section.

Support Information Services
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Installing CD-ROM INITs On A/UX (7/94)

This article describes installing CD-ROM INITs on A/UX.

This article has been archived and is no longer updated by Apple.

```
Drag the three files listed below into "/mac/sys/System Folder" from the CD installer disks. It is preferable
to use version 4.0.2 or later.

Note: The CD installer disks should not be used to install these files under A/UX. Also the "Audio CD Access"
file will not work in the base A/UX configuration, and requires an unsupported newer SCSI Manager to operate.

* Foreign File Access
* High Sierra File Access
* ISO 9660 File Access


Support Information Services
```

Published Date: Feb 19, 2012

MAE: Changing The Default Editor (7/94)

How do I change the default editor in Macintosh Application Environment (MAE) to a Macintosh editor? The default is vi.

This article has been archived and is no longer updated by Apple.
In the X client Set Up control panel, you can change the default text editor by telling MAE the path to editor you prefer.

For example, on our test computer to set SimpleText as the default editor, follow the path: "/export/home/SimpleText $1", and to reset vi as the default editor, follow the path: "/bin/vi $1".

Support Information Services

Published Date: Feb 19, 2012

Apple Media Tool: Demo Files Won‘t Open

I just got the Apple Media Kit which contains the Apple Media Tool version 1.1. I am trying to run the Apple Media Tool tutorial. I am following the instructions in the Apple Media Tool Handbook and using the Apple Media Kit Demo CD.

When I try to open the file travel.map from the CD the I get an error dialog box which says, "Error Type 1." Is this because it is write only, or do I possibly have incompatible versions?
This article has been archived and is no longer updated by Apple.
You need to open the tutorial file, travel.map, using the DEMO version of the Apple Media Tool on the CD. Then choose "archive" under Preferences:General from the File menu and save it to your hard drive (check the backup media box). Then you can open it with the complete (not the demo) version of Apple Media Tool 1.1 on your hard drive.

The problem is that the demo version and the complete version are different programs so, projects created for the demo version need to be opened and saved as archive before you can open them with the complete version.
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Apple Media Tool: StyleEdit Won‘t Open

I just got the Apple Media Tool Kit which contains the application StyleEdit. When I launch StyleEdit/Macintosh, the cursor continually switches from arrow to watch, making me wait long periods of time in between actually doing anything. I allocated a lot of RAM to the application, but that did not fix the problem. What is wrong?
This article has been archived and is no longer updated by Apple.
StyleEdit can be confusing when you first launch it because it opens to a text window with what looks like text that you can edit. The program appears to be dead until you can edit the text. You can edit the text, but you cannot just click on it to select it.

There are three ways you can edit the text:

1) Choose "Text" from the "Edit" menu.
2) Hold down the "Command" key and the "Y" key.
3) Double-click in the text window.

Doing one of these things will bring up a separate text window which you can edit. (The window looks like at text window you might see in a program like Adobe Photoshop.)

The reason two separate windows are necessary to edit text and view text is that the Apple Media Tool does not currently support "rich" styled text. In other words, you can't mix fonts, point sizes, etc. in the same text field. StyleEdit uses a text-entry window like Photoshop to force users to confine themselves to one style at a time. The reason why rich text is not supported that rich text does not work well in a cross-platform environment.

If you want to utilize rich text and do not care about cross-platform issues, then you can modify TEXTHANDLER to use TEStylHandles instead of TEHandles and add some routines to change parts of the text to different styles.
Published Date: Feb 19, 2012

LaserWriter 8.x: Using Hewlett-Packard LaserJet 4si

I have a Hewlett-Packard LaserJet 4si, and I unable to choose "Auto Select", or get the LaserJet 4si pull paper from another tray when the current one runs out of paper. How can I get these features to work?
This article has been archived and is no longer updated by Apple.
Without the HP LaserJet 4si PPD file, correct tray handling and usage is not possible.

We contacted HP and the "Auto Select" and "Trayswitch" features are available on the HP LaserJet 4si. In other words, the two problems:

1) having a paper source of "wherever there's paper" (Auto Select)
2) automatically feeding from another paper tray when the current one runs out (Trayswitching), are supported on the HP LaserJet 4si.

As long as the HP LaserJet 4si PPD is selected in LaserWriter 8.x driver, the Auto Select feature is available as a paper source option. In terms of the Trayswitching feature, this is already built-in to the LaserJet 4si. There is also a feature on the front panel of the printer that allows you to disable any tray so that it is not used in the trayswitching cycle. The default trayswitch setting for the printer is to use the top tray first, and then the lower trays from top to bottom.

You can obtain the HP LaserJet 4si PPD from HP's driver distribution center.

Note: This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.
Published Date: Feb 19, 2012

QuickTake 100: Serial Driver Problems Using Windows 3.11 (7/94)

I am trying to communicate with the QuickTake for Windows, however when I do, my computer freezes. I am using Windows 3.11 on my Pentium based computer. Is the QuickTake for Windows compatible with a Pentium based computer and Windows 3.11?

This article has been archived and is no longer updated by Apple.
There is a serial driver problem with some Pentium computer and Windows 3.11.

To fix this problem, you need to install an updated SERIAL.386 Driver for Windows for Workgroups available from Microsoft. The driver is located on Microsoft's TechNet CD-ROM, so if you have the TechNet CD-ROM, you will find it on disc #2. The name of the archive the driver is located inside of is "WG1001.EXE". If you do not subscribe to TechNet then you must log onto the Microsoft Download Service to get the updated driver. The phone number is 206-936-6735, at the Main Menu enter:

1) "1" for download file
2) Then "D" for download
3) Then type in WG1001.EXE press <RETURN>
4) Select the appropriate protocol

The file WG1001.EXE is also available at Microsoft's FTP site.

ftp.microsoft.com

The directory path for this file is d:/Softlib/MSLFILES

Article Change History:
10 Aug 1994 - Corrected Windows version number and added FTP site information.

Support Information Services
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Catalyst 3.0 and Memory Cards.

This article has been archived and is no longer updated by Apple.
There are currently two types of memory cards for the Apple II family of computers. First is the new Apple II Memory card from Apple Computer Inc. The other type is the RamWorksII, Z-Ram,and Multiram type cards. The latter cards are manufactured by Applied Engineering and Checkmate Technology Inc.

Catalyst 3.0 recognizes the Apple II memory card as a Ram disk when it boots. This due to the way this card is designed. The card can be installed into any slot in the Apple except for the Auxiliary slot for the 80 column card. This card looks like a disk drive to the system.

The Cards that install extra memory into the Auxiliary slot requires a program be run to tell the system that the memory is available. Due to this requirement Catalyst 3.0 does not know that the Ram disk exists. These cards install the extra memory as banks of memory thus requiring software to access it.

Features of Catalyst and Ram disks.

Catalyst will work with both types of Ram disks. However the the automatic program load features of Catalyst are only supported by the Apple II Memory board.The other Ram disks will be displayed on the desktop as a 5.25" diskette. These Ram disks can be accessed just like any other diskette. One note of Caution if a failure or power loss occurs any data in the Ram disk will be lost For maximum speed the Catalyst System file should be copied to the Ram disk.

NOTE: Apple Computer Inc. is not responsible for the contents of this article.
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MAE: Installing Applications (8/95)

This article describes installing applications that attempt to install to the root of a volume when running the Macintosh Application Environment (MAE).

This article has been archived and is no longer updated by Apple.
When installing applications in MAE there are several options available depending on the version of MAE, and if the installer tries to write to the root directory. Applications that are required to be installed at the root of a volume typically will fail, because most users do not have write access to the root of a UNIX file system.

MAE 2.0

MAE 2.0 has an option to create a Temporary Installer Volume (TIV). This TIV appears to the installer as another volume, letting the installer write to the root of the TIV. Follow the steps below:

Step 1

Determine how much memory the installed application will need. In the MAE General control panel, select the size and the location where the TIV will be placed. The TIV uses a combination of RAM and disk space to mimick an additional volume, be sure the location of the TIV file (/tmp/tiv is the default) has write access for the user, and has enough disk space.

Step 2

After mounting the TIV, the user can launch the installer and select the TIV as the install destination.

Step 3

If an installer needs to add files to the System Folder, drag the System Folder from the user's home directory to the TIV. After the install is complete, rename the existing System Folder in the user's home directory to another name (for example, previous system folder), and drag the System Folder in the TIV back to the user's home directory. Restart MAE, and the new system folder will be in use.

Step 4

The TIV can then be unmounted by dragging it to the trash.

MAE 1.0

MAE 1.0 Does not offer the TIV capability. However, it is still possible to install applications that will write to the root.

Step 1

Launch MAE as root, but with the -sysfol option pointing to a your system folder. This is done to prevent MAE from building a new system folder and desktop file for root. For example, you could launch MAE and point MAE to "George's" system folder with the following command:

/export/home/apple/bin/mae -sysfol /export/home/george/System\\ Folder

Step 2

Put in the first ClarisWorks install disk, and mount it.

Step 3

Drag the install script from ClarisWorks disk on top of the Installer 4.0 application from within MAE.

Step 4

When the installer is finished, ClarisWorks will be installed at the root level. The translators will be in the specified System Folder.

Article Change History:
04 Aug 1995 - Added MAE 2.0 to article.

Support Information Services
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MAE: Install From Tape (7/94)

Is it possible to copy the Macintosh Application Environment (MAE) Installer and software to tape and still have it work? We don't have many CD-ROM drives at our site, and we would like to convert the software to tape format for easier installation.

This article has been archived and is no longer updated by Apple.
No, you cannot copy MAE software to tape and then install it from tape directly. Here are two ways to install MAE when there are a few CD-ROM drives available:

* Copy the MAE Trial CD file system to a shared (NFS) directory, and then install it from there. Each user can install MAE to a local directory, and run it.

* Your other possibility would be to tar the whole CD to tape (about 40 to 60 MB), copy it back to each workstation you want to run it on, and then run the installer locally on each workstation.

Remember, you do not have to install multiple copies of the purchased MAE product, if you have multiple licenses. You can install MAE on an NFS server, and have users run it from those binaries. MAE will then build a system folder in each user's home directory. One problem with this solution is you will see some slow down using the binaries via NFS.

Support Information Services

Published Date: Feb 19, 2012

MAE: "Not enough shared memory..." Message On Startup (7/94)

When I start Macintosh Application Environment (MAE) on my SPARCStation, I get a message saying, "Not enough shared memory, using malloc..." How do I fix this?

This article has been archived and is no longer updated by Apple.
When MAE notices that it is running on your SPARCStation's local display, it attempts to enhance graphics performance by communicating with the X server using the "X Shared Memory Extension." For MAE to succeed at this, your Solaris kernel must be configured to support several large shared memory segments. If MAE is unable to obtain the shared memory it requires (based on the size and color depth of the MAE window), it falls back to a less efficient communications scheme based on large malloc'd X image structures.

To ensure that sufficient Solaris kernel resources are available to support efficient execution of MAE, Apple suggests adjusting the file "/etc/system" to include the following:

```
set shmsys:shminfo_shmmax=16777216
set shmsys:shminfo_shmseg=8
```

These shmsys parameters should adequately cover most screen and color depth configurations and will take affect after rebooting your system.

IMPORTANT: Talk with your system administrator first before making any changes to this file. While it is unlikely that adjusting these parameters will have adverse effects on other software, Apple Computer will not support or take responsibility for any problems you may encounter.

NOTE: The only reason to make this change to your /etc/system file is if you get the "Not enough shared memory, using malloc..." message mentioned above.

Support Information Services

Published Date: Feb 19, 2012

MAE: Using SCSI Devices On Solaris (7/94)

How do I properly modify the macdisks.Solaris file in order to use a SCSI device in Macintosh Application Environment (MAE)?

This article has been archived and is no longer updated by Apple.
The macdisks.OS files describe to MAE where your SCSI and floppy drives live, and how to access them. For the most part, setting these up is easy, as the documentation is included in the file. Generally, you should be able to set the line in macdisks corresponding to your SCSI device to default, as in the following:

scsi6:default

This would be for a SCSI device such as a CD-ROM at SCSI device 6. Unfortunately, MAE is not always able to determine the default setting. If this is the case, then you need to explicitly define the device. As the file states, the general format to describe a SCSI device to MAE is this:

scsiX:[fixed|removable]:[ro|rw]:</dev/path>

For example, the CD-ROM previously described would have the following entry:

scsi6:removable:ro:/dev/rdsk/c0t6

Note: Where c0t6 means controller 0 (logic board SCSI), target number 6
(SCSI device number 6).

A general trouble shooting procedure: Are you able to mount UNIX CD's to this device. If so, what is the device path used to mount CDs. Then us this information to set up your macdisks file. Also make sure you are, in fact, trying to mount a Macintosh Operating System formatted CD to MAE.

Support Information Services

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Network Software Installer Version 1.4.4 Read Me

This article is the Network Software Installer (NSI) Version 1.4.4 Read Me file.

This article has been archived and is no longer updated by Apple.
You can use this Network Software Installer to install the following networking products:

* Update to AppleTalk version 58.1.3
* Network Control Panel version 3.0.2
* AppleTalk Internet Router 2.0 (requires router installation disk)

* EtherTalk version 2.5.6
* Ethernet driver version 1.1.1 for the Apple Ethernet NB Card
* Ethernet driver version 6.0.5 for the Apple EtherTalk NB Card
* Ethernet driver version 1.1.1 for the Apple Ethernet NB Twisted-Pair Card
* Ethernet driver version 1.1.1 for the Apple Ethernet LC Card
* Ethernet driver version 1.1.1 for the Macintosh Quadra 700/900/950/800, Centris 610/650, built-in Ethernet port.
* Ethernet driver version 1.0.1 for the Macintosh Quadra 840AV and Centris 660AV
* Ethernet driver version 1.1.1 for the Apple Ethernet LC Twisted-Pair Card
* Ethernet driver version 1.1.1 for the Apple Ethernet CS Twisted-Pair/Coaxial/AAUI Card

* TokenTalk version 2.5.6
* Token Ring Control Panel version 1.0.1
* Token Ring driver version 2.5.2 for the TokenTalk NB and Token Ring 4/16 Cards

In addition, this Installer installs the following related products:

* A/ROSE 1.2.1

This installer works on either System 6.0.5 or later, or System 7 Macintosh computers.

NOTE:
=====
On Macintosh computers with a 68040 microprocessor (Quadra, Centris, and Performa 470 series), some programs may quit unexpectedly or cause the computer to freeze when you attempt to open them over the network. This problem is fixed by using the Network Launch Fix available from AppleLink or the InterNet (ftp.apple.com).

Restrictions:
==========
This software should not be installed with AppleTalk Internet Router and AppleShare client on a Macintosh with only 1 Megabyte of memory.

If this release of the Network Software Installer is being used in conjunction with an Apple Internet Router v. 3.0 Installer, Router 3.0 _must_ be installed first. This will ensure that the Router installation does not overwrite the newer AppleTalk software contained on NSI 1.4.2.

Release notes for each item follows:

AppleTalk version v58.1.3
==========
The ADSP probe timer won't be reset for every attention packet. This keeps the window sizes updated on each end.

SCC LocalTalk Driver v58.2.2
==========
A fix was made for a slowdown that occurred when using FileShare and ARA Personal server on 680x0 Macintosh computers while communicating with Power Macintosh computers.

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TA32161_Network_Software_Installer_Version_Read_Me_(TIL15915).pdf

Published Date: Feb 19, 2012

Network Software Installer Version ZM-1.4.5 Read Me

This article is the Network Software Installer Version ZM-1.4.5 Read Me file.

This article has been archived and is no longer updated by Apple.
You can use this Network Software Installer to install the following networking products:

* Update to AppleTalk version 58.1.4
* Network Control Panel version 3.0.2

* EtherTalk version 2.5.6
* Ethernet driver version 1.1.1 for the Apple Ethernet NB Card
* Ethernet driver version 6.0.5 for the Apple EtherTalk NB Card
* Ethernet driver version 1.1.1 for the Apple Ethernet NB Twisted-Pair Card
* Ethernet driver version 1.1.1 for the Apple Ethernet LC Card
* Ethernet driver version 1.1.1 for the Macintosh Quadra 700/900/950/800, Centris 610/650, built-in Ethernet port.
* Update to Ethernet driver version 1.1.1 for the Macintosh Quadra 610/650, built-in Ethernet port.
* Ethernet driver version 1.0.1 for the Macintosh Quadra 840AV and Centris 660AV
* Ethernet driver version 1.1.1 for the Apple Ethernet LC Twisted-Pair Card
* Ethernet driver version 1.1.1 for the Apple Ethernet CS Twisted-Pair/Thin Coax/AAUI Card

* TokenTalk version 2.5.6
* Token Ring Control Panel version 1.0.1
* Update to Token Ring driver version 2.5.2 for the TokenTalk NB Card
* Token Ring driver version 1.0 for the Token Ring 4/16 NB and Token Ring NB/c Card

In addition, this Installer installs the following related products:

* A/ROSE 1.2.1

This installer works on either System 6.0.5 or later, or System 7 Macintosh computers.

NOTE:
On Macintosh computers with a 68040 microprocessor (Quadra, Centris, and Performa 470 series), some programs may quit unexpectedly or cause the computer to freeze when you attempt to open them over the network. This problem, as well as others, is fixed by installing the System Update 3.0 available from AppleLink or the Internet (ftp.apple.com).

Restrictions:
You must use the Installer application (version 3.4.3) included on this floppy disk. Any other version of the Installer application will not perform a correct installation for this product.

Note that the "NSI International Files" folder is not empty; it contains invisible files necessary for the installation.

This software should not be installed with AppleTalk Internet Router and AppleShare client on a Macintosh with only 1 Megabyte of memory.

The new token ring driver is not compatible with MacIPX versions 1.1 and older. Contact Novell Technical Support to obtain an update to newer MacIPX software which will work with this token ring driver.

SoftWindows versions 1.0 and 1.0.1 using SMB (NetBEUI) protocols to access Lan Manager servers over Token Ring are not 100% compatible with the AppleTalk version included on this disk. Contact Insignia Solutions regarding availability of an update to the SoftWindows software which will work with this driver.

If this release of the Network Software Installer is being used in conjunction with an Apple Internet Router v. 3.0 Installer, Router 3.0 _must_ be installed first. This will ensure that the Router installation does not overwrite the newer AppleTalk software contained on NSI 1.4.5.

To use this release of the Network Software Installer with a SNA*PS gateway, a special custom install option is provided that installs a compatible token ring driver for the Token Ring 4/16 NB card. SNA*PS gateway is not currently supported on the TokenTalk NB or Token Ring NB/c cards. A future version of the SNA*PS gateway will not require the custom-installed driver.

Release notes for each item follows:

AppleTalk version 58.1.4
The LAP Manager was fixed to avoid sending corrupted TEST and XID response packets in certain heavy traffic situations.

Apple Token Ring NB driver file version 1.0
This token ring driver file handles all Apple Token Ring cards for the NuBus - the TokenTalk NB, Token Ring 4/16 NB and Token Ring NB/c. The file is installed into the extensions folder. The new driver for the Token Ring 4/16 NB and Token Ring NB/c cards has significantly better performance and fewer problems in large source-routed environments than earlier drivers.

Built-in Ethernet driver for Quadra 610 and 650 version 1.1.1
An installation problem prevented an earlier fix for QuickTime performance from working on these machines. This installer correctly updates the driver on these machines to improve QuickTime performance over built-in Ethernet.

Support Information Services

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Performa 550/560: Labeled As Macintosh LC 520 (7/94)

When I opened up my Performa 550/560 and looked at the product label, I noticed that it is labeled as a Macintosh LC 520.

How can I tell if it is actually the Performa?

This article has been archived and is no longer updated by Apple.

To determine if your computer is a Performa, run MacCheck¬ to verify whether the processor clock speed on the computer in question is 25 MHz (LC 520 speed) or 33 MHz (Performa 550/560 speed).

Support Information Services
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Performa 500 Series: Button Disabler isn‘t on Hard Drive (1/97)

The "Getting Started With Your Performa 500 Series Computer" manual (on page 23) describes a control panel called Button Disabler. Button Disabler disables the buttons on the front of the Performa 550, making the volume and brightness controls inoperative.

I have been unable to locate Button Disabler on my hard drive.

This article has been archived and is no longer updated by Apple.

The Button Disabler control panel has not been pre-installed on any of the Performa computers. The Button Disabler was originally intended for the LC 520 sold to the education market where there was a need to prevent students from adjusting the buttons on the front of the computer.

Since the Performa 550 documentation was based on the LC 520 documentation, any mention of the Button Disabler appears as a mere artifact. The Performa 570 Series Getting Started manuals have been corrected, they omit any reference to the Button Disabler.

If you use the Custom installation of System 7.5, you can install the Button Disabler control panel. An easy installation of System 7.5 does not install the control panel.

The Button Disabler also works on the Performa or LC 5200, 5300, and 5260 series computers.

NOTE: The following computers are in the corresponding Macintosh families:

* Macintosh 5200CD family: Macintosh 5200/75 LC, Performa 5200, Performa 5210, Performa 5215, and Performa 5220.

* Macintosh 5300CD family: Macintosh 5300/100 LC, Performa 5300.

Article Change History:
07 Jan 1997 - Removed Performa 5400 references.
10 Sep 1996 - Added the 5200, 5300, 5260, and 5400 series computers.
08 Aug 1994 - Added Custom installation information for System 7.5

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Installing Word Juggler version 2.9 on Catalyst 2.1

This article has been archived and is no longer updated by Apple.
Due to a new format in the QUARK.INSTALL file present within Word Juggler 2.9 it is necessary to use MISCELANEOUS MANUFACTURERS option within the Catalyst Editor to sucessfully install it instead of using the Quark option. Using this procedure forces Catalyst to use the new QUARK.INSTALL instead of the one built into Catalyst 2.1.

Procedure:

Boot Catalyst 2.1
Select Catalyst Editor
Select Install Program
Select Misceleneous Manufacturers
Put the Word Juggler 2.9 disk in the drive
Follow instructions on the screen.

NOTE: Apple Computer Inc. is not responsible for the contents of this article.
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Dictation Applications For Macintosh & PC Computers (7/94)

As part of our workstation development, we are trying to demonstrate the ability to dictate progress notes to a workstation. The dictation would be stored as a sound file until a transcriptionist converts it to text. Also the sound files would need to be accessible from other workstations as sound in the interim.

Two questions:

* What products should we be looking at to assist us in providing this capability?

* Are there any products which are portable across Apple and Intel machines? The sound files would be stored on a network server, but they would need to be stored in a format that both platforms understand.

This article has been archived and is no longer updated by Apple.
There is a dictation application called PowerSecretary from Articulate Systems, Inc. in Woburn, MASS. Articulate also makes a noise-canceling headset microphone, Voice Record and Voice Navigator software for the Macintosh.

There is another Macintosh application called SoundEdit 16 from MacroMedia that will save an AIFF sound file created with Voice Record as a Windows WAV file. It is then playable on an IBM PC class computer.

To locate a vendor's address and phone number, use the vendor name as a search string.

Support Information Services

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LaserWriter Pro 810: Uses LaserWriter Utility 7.6.2

I are having trouble accessing my LaserWriter Pro 810 using the LaserWriter Utility. When I try to use the LaserWriter Utility, it makes my Macintosh computer go into a busy cycle, and does not access the printer.
This article has been archived and is no longer updated by Apple.
We would suggest verifying that you are using LaserWriter Utility 7.6.1 or 7.6.2. These are the only supported versions of the LaserWriter Utility for the LaserWriter Pro 810. LaserWriter Utility 7.6.1 shipped with the printer, however, a bug was found with that version which affects LaserWriter Pro 810 printers with PostScript fax cards installed.

These articles can help you locate the software update mentioned here:

- Article 14724: "**Where To Find Apple Software Updates**" - Lists online services for free Apple software updates.
- Article 16332: "**US Apple SW Updates Available Online**" - An index to USA Apple Software Updates showing the current software location on the Internet.
- Article 17664: "**WW Apple SW Updates Available Online**" - An index to International Apple Software Updates showing the current software location on the Internet.

Published Date: Feb 19, 2012

Apple DocViewer 1.1.1: Read Me File

This article contains the Read Me file from Apple DocViewer. Apple DocViewer ships with several current Macintosh computers.
This article has been archived and is no longer updated by Apple.
What is the Apple DocViewer?

Apple DocViewer is an on-line documentation application. It provides a standard way for Apple to distribute documentation to developers in an electronic form. Apple DocViewer provides a quick on-screen reference for browsing through multiple documents. It supports full Macintosh mixed-text and graphics, printing, interactive table of contents/catalog, book indexes, text search & retrieval, the ability to copy text and/or pictures for use in other applications, and provides the ability to set bookmarks to commonly used pages in documentation. With our new Collections feature, users can create their own "virtual books" from whole or parts of other books.

Version 1.1.1 Release Notes

Since the release of version 1.1, we received quite a bit of feedback from our users. The following list outlines the minor changes in Version 1.1.1:

* "The Preference is Yours" - We have restored the application preferences to allow you to specify a default view style and scaling when you open DocViewer documents.

* DocViewer Lookup Apple event support - Support has been added so that DocViewer can now be messaged via Apple events. Please see the DocViewer Tech Note "Apple Event Support in DocViewer 1.1.1" included with this version on the Developer CD series.

Enhancements and Minor Bug fixes (From version 1.1)
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* Running UniFinder on System 6.0.5 on a Macintosh SE, the Apple DocViewer crashes when the Control Panel is accessed.
- This problem has been resolved. If the memory situation is bad, you will not be able to access the Control Panel desk accessory.

* There is now support for 8-bit languages and character sets. Previous versions had trouble searching for high-ASCII characters.

* Garbage characters in the Query dialog with "Show Context" selected in low memory situations.
- This problem has been resolved.

* Many annoying dialogs in low-memory situations.
- This problem has been resolved.

* Problems clicking on the "Splash Screen" during launch caused a crash on some Macs.
- This problem has been resolved.

* Problems with the use of the "Shift" key while selecting "Next Occurrence" have been resolved.

* Printing from the Finder is now supported! (Yeah!)

* Many other minor bugs were addressed and fixed.

* Preferences information - Previously, the DocViewer stored user preferences that determined user view, and zooming. This information is now stored in the document when possible.

There are some minor bugs and enhancements which are not addressed in Version 1.1. These and user tips are documented in later pages of this Read Me file. If you have comments or suggestions we would like to hear from you via AppleLink to DEV.CD. We will not be answering individual questions about this software, but this information will be forwarded to the engineering group.

Installation

Apple DocViewer runs on all models of the Macintosh computer from the Macintosh Plus onward. It runs under versions 6.0.5 and later of the Macintosh system software, including version 7.0, Release 7.1. Apple DocViewer requires at least 1024 Kb memory partition.

Apple DocViewer also requires both bitmap and TrueType fonts. In particular, many Apple DocViewer documents use Palatino, Helvetica, Courier, and Zapf Dingbats. We are providing these fonts in the Apple DocViewer Fonts folder.

The Apple DocViewer application can be run directly off a CD, or from a server, but we strongly recommend that you copy the application to your local hard drive.

Limitations

TA32171_Apple_DocViewer_Read_Me_File_(TIL15924).pdf

Apple DocViewer is NOT a word processor?it was designed to support quick conversion of existing technical documents to electronic form. Apple DocViewer focuses on being both a printing and display tool. Printing is limited by Apple DocViewer's display capabilities and displaying is limited by Apple DocViewer's print capabilities. In particular:

* Display spacing may appear uneven on some documents because the text is kerned for printing, not display.

* Output on non-postscript printers may be less satisfactory.

* Color/Gray Scale must be selected for printing color/shaded figures.

* Documents may be more difficult to read on systems which do not have a complete set of screen fonts or do not have TrueType installed.

This version of Apple DocViewer has a number of features that are incomplete, notably:

*The "Text Only" view is only partially implemented. Text still needs to continuously flow between page boundaries for true dynamic text reformatting capabilities.

Recommendations, Tips, and Techniques
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* It is not required, but use both bitmap and TrueType fonts for the best display quality . If you are running under System 6, please use the TrueType INIT in the TrueType Fonts & Software folder.

* To improve display legibility on monitors larger than 13" (that typically have a resolution greater then 72 dpi) set SCALING to 112% in the document window. We've found this to be a good compromise between window size and font size.

* Apple DocViewer has been optimized for displaying documents off of a CD-ROM. However, copying the document file you use most (and its associated index file) to your local hard disk can significantly improve performance.

* The "Query" command uses an efficient indexing technique with Apple DocViewer documents, however, it does not index every word. Words such as (and, but, or, because, etc.) and words less than 4 characters in length are not indexed. The "Find" command uses a search method that is much slower, but will find every word in a document. The "Table of Contents" window's "Filter" narrows the list of table of contents entries. The "Open Book Index" displays an index created by the authors of the document. Explore the difference between these four features and use the one most appropriate for your task.

* Apple DocViewer is optimized for printing on Postscript printers, such as the Apple LaserWriter. New Inside Macintosh documents take advantage of the "Larger Print Area" option available from the LaserWriter's Page Setup/Options dialogue. Printing with other printers will work, but there may be clipped pages, or reduced print quality.

* Users in countries which use A4 paper may print Apple DocViewer documents by using the "Reduce or Enlarge" setting of the "Page Setup" dialog.

* Use Apple DocViewer's "Copy" command to get code samples and paste them into your source. This code can them be compiled or incorporated into your software. Remember, there is no copyright limitation on use of source code from Apple documentation.

* Technical writers developing in-house documentation can use Apple DocViewer's "Copy" capability to grab figures or text from Apple documentation for internal documentation or in-house training. Unlike source code, however, documentation or courses developed for sale to your customers MAY NOT incorporate figures or text from Apple documentation.

* We have tried to optimize the usability of Apple DocViewer on small screens. If you have a small screen, we recommend you use the "Text Only" view of Apple DocViewer, and adjust the window size to your liking. Then use the page up/down arrow icons to navigate individual pages in the document.

Known Problems
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* Problem: When printing New Inside Macintosh documents, the top and bottom edges of the page can be cut off.

Solution: Set the "Larger Print Area" option available from the LaserWriter's "Page Setup/Options" dialogue.

* Problem: When running the application from a server, if that server disconnects while DocViewer is running, the application will begin beeping incessantly.

Solution: Do not run Apple DocViewer off of a server.

* Problem: The "From" and "To" fields in the "Print" dialog box do not accept the "Chapter-Page" form of page numbers (e.g., From 1-3 to 3-3).

Solution: Use the physical page numbers displayed inside the parentheses in the "Page Indicator" area of the document window. Lower portion of the Print Dialog will display the actual page numbers displayed on the document.

* Problem: "Query 'Within n words of╔'" does not count the number of words correctly, given an integer value for n.

Solution: Add 2 to 3 for the value n.

* Problem: When you use "Query", Apple DocViewer displays the message "The index file for <<docname>> cannot be found."

Solution: Be sure the Apple DocViewer document and its associated ".idx" file are in the same folder

* Problem: Some "Query" searches do not find text that includes punctuation or hyphens in either the search string or the text being searched.

Solution: There is a bug in the "Query" command such that punctuation characters are not passed to the search engine. For example, the search string "get file" will not find the text "get, file"

The fix (for now) is to search for "get x file". The "x" serves as a noise word that is ignored, but broadens the search. Searching "get x file" will find "get file", "get, file", "get on file", "get the file", etc.
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Direct Dialup 1.1 Included with System 7.5 (2/95)

This article describes how Direct Dialup 1.1 will be distributed.

This article has been archived and is no longer updated by Apple.
Direct Dialup 1.1 is the version that will be included on the System 7.5 CD. This version incorporates the fixes made in 1.0.1 plus some additional fixes requested by international users. Version 1.1 will be a System 7.5 version only, it will not be supported on System 7 Pro (7.1.1) and will have a new marketing part number.

Article Change History:
15 Feb 1995 - Reviewed for technical accuracy, revised System 7.5 keyword.

Support Information Services
Published Date: Feb 19, 2012

System 7.5: Accessing Extensions Manager to Troubleshoot Extension Conflicts

Is there an easy way to troubleshoot possible extension conflicts on my Macintosh with System 7.5 installed?
This article has been archived and is no longer updated by Apple.
The Extensions Manager control panel installed with System 7.5 enables you to isolate and troubleshoot third party extensions from those installed with System 7.5. The Extensions Manager control panel allows you to selective activate and deactivate an extension. This allows you to determine if that extension is causing system problems.

You also have the ability to deactivate all non-Apple extensions which is helpful in determining if the problem is with the base system software. If you deactivate all non-Apple extensions and the problem persists, it is likely that the core system software is damaged. You should perform a clean install of the system software to ensure you have a known good base system folder to work with.

There are a number of articles in the Tech Info Library which describe a clean install of system software, use system software and clean install as your search query to find the article most relevant to your version of system software.

There are two methods to access the Extensions Manager.

System 7.5 or System 7.5.1

Select Control Panels from the Apple menu. Open the Extensions Manager control panel and select System 7.5 Only from the Sets button. Upon restarting your Macintosh, only the extensions installed with System 7.5 will load.

System 7.5.2

Select Control Panels from the Apple menu. Open the Extensions Manager control panel and select System 7.5.2 from the Sets button. Upon restarting your Macintosh, only the extensions installed with System 7.5.2 will load.

If the problem persists, it is likely that one of the default 7.5 extensions or control panels is corrupted. At this point, it is best to remove all extensions and control panels from your system folder and reinstall them one at a time to locate the corrupted extension or control panel.

An alternative method of accessing the Extensions Manager is to hold down the spacebar when booting up your computer. The Extensions Manager will appear on screen. Follow the same procedure as above for troubleshooting.
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Retrospect Backups, ABS Quick Start Card

This article is the Apple Business Systems' Quick Start Card for Retrospect Backups.
This article has been archived and is no longer updated by Apple.

INTRODUCTION

This Quick Start Card will help you to quickly perform a back up using Retrospect. While this card gets you started quickly, the manual contains important additional information. If you encounter a situation not covered here, refer to your manual for more complete descriptions of these processes.

WHAT YOU NEED

Before you start, check to see that your server meets the following hardware and software requirements.

Retrospect needs a minimum of 1.7 MB of RAM available. The more files you have, the more RAM you need. The following is a guide for how much memory Retrospect will need to back up large volumes:

- 1,700K for 3,500 files/folders (this is the default)
- 4,000K for 10,000 files/folders
- 6,000K for 20,000 files/folders
- 8,000K for 32,000 files/folders

IMPORTANT: You cannot run Retrospect on your Apple Workgroup Server when an electronic mail server or MeetingMaker server is running. You will need to quit these applications prior to running Retrospect.

PERFORMING AN IMMEDIATE BACKUP

The first time you back up the contents of your hard disk, Retrospect backs up all specified files from the source volume to a StorageSeta StorageSet comprises the set of files stored on one or more volumes. In subsequent backups (unless you indicate otherwise), Retrospect backs up only those files that are new or that have changed since the last backup.

To start the immediate backup:

1) Double-click the application icon to start Retrospect.
2) Click Backup.
3) Drag through the list of volumes or Shift-click to select a range of volumes. Use Command-click to select non-contiguous volumes.

NOTE: While Retrospect A/UX backs up and restores all A/UX and Macintosh files and directories, it cannot access raw device partitions to back up database information. See the documentation provided with your database server for specific information.

IMPORTANT: When you add a hard disk to the server, it appears as a folder, known as a mount point, located on the main "/" volume. If you direct Retrospect A/UX to back up the "/" volume, it will ignore the contents of any folders that represent additional hard disks. To back up the contents of these disks, you need to specify each mount point as a subvolume and back it up as a separate source. Additional disk devices must also be restored as separate volumes.

4) Click OK to continue.

5) Click Create New.

6) Choose the type of storage media you want to use from the Storage type menu.

7) In the StorageSet Name field, type a descriptive name for the StorageSet.

NOTE: Name StorageSets carefullyTapes StorageSets and Disks StorageSets cannot be renamed. Macintosh File StorageSets, however, can be renamed in the Finder.

7a) If you want, add password protection or encryption by clicking Secure and choosing an option from the dialog box that appears, then click OK.

8) Click New.

NOTE: Before continuing, make sure that the information displayed in the Immediate Backup window is correct. To change information, click the appropriate button.

9) If the information displayed is correct, click Backup.

10) Click OK to confirm the operation.

11) Choose the destination disk or tape and click Proceed.

12) When Retrospect informs you that the execution is complete, click the close box to return to the Retrospect Directory, where you can select another operation or quit the application.

PLANNING SUBSEQUENT BACKUPS
For subsequent backups, you can repeat the basic backup procedure as often as you want and even switch between multiple StorageSets to maintain extra backup copies of your volumes. By default, Retrospect only backs up those files that have changed since the previous backup to a StorageSet.

If you want to automate your backups so they can be performed while your Macintosh is unattended you can use Retrospect's scripting feature to set up and schedule backups. See Chapter 4, "Automating Backups With Scripts," in the Retrospect User's Guide for more information on creating, modifying, and scheduling scripts.

If you want to back up specific files or folders, you will probably want to use Selectors to mark files for backup. Retrospect Selectors can be retained between backups and used with scripts to fully automate your backups. See Chapter 7, "Using Selectors," in the Retrospect User's Guide for more information on creating and managing Selectors.

RESTORING FROM A BACKUP
To restore selected files from the most recent backup:

1) Click Immediate in the Retrospect Directory.
2) Click Restore.
3) Click OK.

NOTE: If the Catalog for the StorageSet is lost or missing, you will need to rebuild the Catalog from the StorageSet before you can perform the restore. For more information, see "Recreating a Catalog," in the Retrospect Setup manual.

4) From the upper list box, select the StorageSet that contains the backup files.

5) From the lower list box, select the SnapShot of the volume from which you want to restore files. Then click OK.

6) Select the destination volumethe volume to which you are restoring files.

7) From the pop-up menu, select the setting that defines how you want files to be restored. Then click OK.

NOTE: If you are restoring just a few files or folders, use the "Retrieve files & folders" option or the "Retrieve just files" option.

8) If you are only restoring a few files, click Files Chosen to display the Browser. Choose Select All from the Edit menu, click Unmark, then double-click on the files and folders you wish to restore. You may use Find under the Browser Menu to search for a specific file or folder.

9) If you want to change the retrieval options, click Options.

10) Make sure that the information displayed in the window is correct. If you want to change any of the settings, click the appropriate button to return to a previous window.

11) Click Restore to begin the restore. Retrospect performs the retrieval and returns to the Retrospect Directory when the operation is complete.

RESTORING AN ENTIRE VOLUME
The following information provides instructions for restoring an entire volume to the state it was in when it was last backed up. To restore a server volume, see Appendix D, "Backing Up and Restoring Servers," from the Retrospect Setup manual before you perform the restore. To restore a Remote volume, see the Retrospect Remote User's Guide.

There are two stages in restoring an entire volume:

1. Preparing the volume for a restore
2. Restoring files to the volume

Before You Reformat or Erase Your Hard Disk
Before erasing or reformatting a hard disk, make two separate backups with Verification enabled. If the hard drive you are erasing contains the StorageSet Catalog, copy it to another accessible volume before erasing the drive.

Before restoring a hard disk that failed due to a directory corruption, first re-initialize the disk by choosing the Erase Disk command from the Finder. If the hard disk failed due to media defects, you should entirely reformat the disk. Refer to the hard disk manufacturer's manual for detailed instructions on reformatting the hard disk. In order to maintain System 7 aliases after the restore, the volume must have the same name as the original volume.

Preparing the Volume for a Restore
Before you can restore the volume, you need to first start up the server to which it is attached. Ideally, you should restart the server from an extra hard disk attached to the SCSI port and designated as the Start-up disk. If you have an extra hard disk, use this disk to restart the volume.

If you don't have an extra hard disk, use the following steps to restart using the System software that came with your Apple Workgroup Server.

To install System software:

1) Install the System software on the hard disk to be restored.

NOTE: To maintain System 7 aliases, you must name the hard disk the same as it was originally named.

2) Rename the newly installed System Folder "temp."

3) Insert the Retrospect application disk.

4) Create a new folder on the hard disk.

5) Drag the Retrospect application to the folder you just created.

6) Eject the Retrospect application disk. If you are using a tape drive, insert the Retrospect Extras disk. Otherwise, skip to Step 8.

7) Place the Retro.SCSI file in the Extensions folder.

8) Copy the Catalog for the StorageSet you wish to restore to the volume you are restoring.

9) Restart the Macintosh.

NOTE: If the Catalog for the StorageSet is lost or missing, you will need to rebuild the Catalog from the StorageSet before you can perform the restore.

Restoring the Volume
After starting up the volume, follow these steps to restore the volume to the state it was in at the time of the most recent backup.

1) Launch Retrospect. Click Immediate in the Retrospect Directory.

2) Click Restore.

3) Click OK.

4) From the upper list box, select the StorageSet that contains the backup files. If the StorageSet does not appear in the list, click Open Other to display a standard directory dialog box and locate the StorageSet Catalog.

5) From the lower list box, select the SnapShot of the volume you want to restore. Then click OK.

6) Select the destination volumethe volume to which you are restoring files.

7) From the pop-up menu, select "Restore entire disk." Click OK.

8) Click Replace to confirm your choice.

9) Click Restore to begin the restore.

10) Click OK if you want to continue the restore.

11) Click OK if you want to continue the restore and replace the contents of the destination volume.

If you need to cancel a restore before it is completed, you can begin the restore again and Retrospect will perform an incremental restore.

Any files you have added manually after canceling the first restore will be deleted when you continue the restore.

12) When the restore is complete, quit Retrospect. Then rebuild the desktop by holding down Command-Option until you receive a confirmation dialog box while you restart the Macintosh. Throw away the System folder named "temp" and empty the trash.

NOTE: Retrospect does not restore Subvolume definitions. If you need to back up a restored Subvolume again, you must redefine the Subvolume. See "Specifying Subvolumes," in the Retrospect Setup manual for details. You will also have to edit any scripts that included the Subvolume.

WHERE TO GET MORE INFORMATION

- Retrospect Remote User's Guide.
- Retrospect Setup manual.
- Retrospect User's Guide.

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System 7.5: 50 New Features - Brief Description

This article provides a brief description of the 50 new features in the Macintosh operating system version 7.5.
This article has been archived and is no longer updated by Apple.

Active Assistance & Customization
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Apple Guide

A whole new kind of help system that features active assistance; it walks you through any task one step at a time from start to finish, so you learn by doing.

Macintosh Drag & Drop

Bypass the Cut and Paste commands. Now with drag-and-drop-savvy applications, including the Note Pad, SimpleText, Finder, Desktop Patterns, and Scrapbook, you can simply drag graphics, text, and sound within a document, between documents, between applications, or to the desktop as "clippings" files.

Scriptable Finder

Automate routine and repetitive system tasks with scripts that save you time and help you avoid mistakes.

Enhanced Apple Menus

The Apple Menu now features hierarchical sub-menus so you can quickly access your Control Panel items and your most recently used applications, documents, and servers.

Faster Than System 7.1

Snappier than ever, 7.5 offers users improved performance when they copy files, launch and switch applications, and access menus.

WindowShade

Cut down on screen clutter -- a simple double click on any window's title bar and zip, the window shrinks to give you access to information behind it.

4 Gigabyte Volume Support

System 7.5 doubles the volume support size from 2 gigabytes to 4 gigabytes so you can store large data, documents, and files in one place. Large volume support is available for some third-party drives.

Finder Hiding

Use the Desktop Hiding feature to keep novice users from becoming confused when they click outside an application and find themselves on the desktop.

Launcher

Improve your productivity by keeping your frequently used applications, documents, and folders in a special floating window for quick access.

Recent Items Folders

Quickly access recently opened documents and applications through a hierarchical Apple menu.

TA32175_System_New_Features_Brief_Description_(TIL15929).pdf

Default Folder For Saving Files

Automatically save newly created documents to a central folder on the desktop so you can find them easily and spend less time looking for them later.

Electronic Notes

Easily make and post notes to your desktop in a variety of colors. Remind yourself of key meetings, phone calls, or important dates. Print or mail your memos with Macintosh Drag and Drop.

New Scrapbook

Now you can change the size and dimensions of the Scrapbook. And when working with drag-and-drop-savvy applications, simply drag items directly from the Scrapbook without cutting and pasting.

New Note Pad

A resizable Note Pad offers increased functions like printing, find file, and support for Macintosh Drag and Drop. Make and store notes of up to 32K each.

Menu Bar Clock

Display date and day of week in the menu bar in a variety of fonts and colors. Toggle with a double-click between date and time.

System/Application Folder Locking

Lock your System and application folders to keep novice or young users from deleting files, making unwanted changes, or "storing" things in the Trash.

Improved Stability

A more stable system that means fewer bugs, bombs, and crashes for today's Apple computers.

More Colorful Desktop Patterns

Select from dozens of new and more colorful desktop patterns.

Automatic Power Management

Automatically power-off most systems at a specific time or after a predetermined period of idle time. Save time, energy, and hardware life.

Automatic Screen Dimming

Save power on your Energy Star compliant monitor or PowerBook display by having it reduce brightness levels after a pre-determined period of time.

New Audio CD player

New Apple menu item offers you easy access and full control for playing and programming audio CDs.

Sound Manager 3.0

Enjoy 16-bit stereo-quality sound for all your multimedia applications, CD-ROM packages, education software, and more.

Compatibility

Macintosh PC Exchange and Macintosh Easy Open

These powerful utilities are now built into System 7.5 to make it easier than ever for you to exchange information and work with DOS, Windows, OS/2, and Apple II ProDOS disks and data files.

MacTCP

Apple computers take another step to total connectivity with on-board support for TCP/IP, giving you simplified access to UNIX systems and Internet communications.

Advanced Graphics and Printing with QuickDraw GX

Desktop Printers

Work more efficiently with desktop printer icons for all your printers. Drag documents to any printer, check status of print queue, and cancel or move print requests -- all without the complexity of accessing the PrintMonitor or resetting the printer through the Chooser.

Improved Printer Selection

Bypass the Chooser for faster printing. Simply select a printer from a pop-up list in the GX-savvy application's print dialog box and print.

GX Print Enhancers -- Sample Tools

Save on paper and printing with printing extensions that let you, for example, produce thumbnails for previewing output. Additional extensions available from third party companies offer "watermark" printing, double-sided printing, pamphlet maker, and more.

GX Printer Sharing

Save time and money, increase user productivity, and eliminate the need for dedicated workstations for output devices such as plotters. Password protect high-end devices like color printers that use expensive printing materials.

GX Print and View Documents

View and print any document regardless of application type or fonts used and reduce the need for multiple copies of software throughout your organization. Distribute electronic documents for review without risk of the original document being changed.

Built-in ATM GX

Work smarter with all your Type 1 fonts; install QuickDraw GX for better WYSIWYG output every time you print.

What You See Is What You Get (WYSIWYG) Color with ColorSync

Get consistent color-matching between scanners, displays, and printers and eliminate fiddling with color settings and printing multiple drafts just to get the colors right.

European Language Support

Set keyboard, as well as date and time formats, for any one of 18 European languages.

Better Quality Typography

Get professional typography without expert sets and cumbersome search-and-replace routines. Automatically obtain ligatures, fractions, hanging punctuation, and optical alignment when using GX fonts and applications.

Multiple Page Formats

Create multiple formats -- horizontal, vertical, and varied paper sizes -- in a single document when working with GX-savvy applications. What once took several documents can now be done in one.

Font Embedding

Embed fonts in your GX-ready applications for consistent and predictable results when working with service bureaus. Workgroups can now edit design documents without having the document's fonts installed on every workstation.

Collaboration
==========

Built-in AppleMail

Small businesses and workgroups can now obtain built-in peer-to-peer electronic mail without incurring added cost of e-mail software, mail server, or a system administrator.

Support for mail-capable applications -- Compose and send documents directly from within any PowerTalk ready application rather than using separate e-mail software.

Universal Desktop Mailbox

Use the universal mailbox and personal gateways to send, receive, and review all your electronic communications from a single mailbox on your desktop.

PowerTalk Catalogs

Make communicating electronically simple and easy by storing individual and group electronic addresses, phone and fax numbers, and personal notes all in one central location.

DigiSign Digital Signatures

Cut down paper flow and approve documents electronically with built-in DigiSign signature software.

PowerTalk Key Chain Security

Reduce hassles and save time when accessing your password-protected resources such as servers, online services, and e-mail.

With PowerTalk Key Chain, a single password does it all.

Built-in Telephone Manager

New system architecture enables developers to incorporate telephone technologies into applications so users can take advantage of new features as they are released.

PowerBook Enhancements
==========

Intelligent Power Saving

Extend battery life and optimize performance with preset power supply profiles that minimize power consumption when running on battery and maximize performance when using an AC adapter.

File Synchronization

You will always be sure of working with your most recent version of a document. The PowerBook File Assistant utility automatically synchronizes files and folders between your PowerBook and another Macintosh.

Deferred Printing

Create documents for printing while you are on the go; when you reconnect to your selected printer, those documents can be printed.

Sleep Key

Put your PowerBook to sleep at the touch of a single key.

Automatic Server Remounting

Automatically remount servers after your PowerBook comes out of sleep mode without having to use the Chooser or an Alias.

PowerBook Control Strip

Save time with consolidated access to file sharing, AppleTalk, sound level, and other PowerBook features.

Improved Multiple Monitor Control

Save time with this convenient feature that lets you configure external or multiple monitors without restarting your system.

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IIc Monitors PROBLEM/CURE: Intermittent Flashing Screen

This article has been archived and is no longer updated by Apple.

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PROBLEM DESCRIPTION:  Video display intermittently appears and disappears.

CAUSE:  RCA connectors on either end of the video cable from the
       monitor to the computer may not be making good contact.

CURE:  Slightly crimp (squeeze with a pair of pliers) the shield part of
      the RCA connector on the video cable on both ends so that it
      makes slightly tighter fit on the monitor and the computer.
      (DO NOT OVERCRIMP; it must be snug only).

If this cure does not resolve the problem, go to the Tech Procedures
to obtain a General Troubleshooting procedure.
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System 7.5: Energy Saving Features

This article describes the Auto Power On/Off control panel installed on any desktop Macintosh computer and which computers are supported. This article has been archived and is no longer updated by Apple.
The Auto Power On/Off Control Panel lets you set your Macintosh computer to power ON or OFF at a pre-determined time, on a daily basis or for one particular day. It also has a check box labeled "Automatically restart after power failure." If you check this box and the power goes off, the computer will automatically restart. This control panel first appeared with the Macintosh Quadra 840AV computer in July, 1993.

The Auto Power On/Off Control Panel supports Macintosh computers that use the soft power off (in other words, systems that do not require you to turn the switch off) and the Cuda Microcontroller chip.

Additionally, the Control Panel works with older soft-power capable Macintosh systems that have a version of the Motorola 68HC05 microcontroller chip. Examples of these systems include the Macintosh IIsi, IIvx/IIvi, and the Color Classic.

The following is a list of Macintosh systems that work with the Auto Power On/Off Control Panel that is included with System 7.5:

* Macintosh Color Classic
* Macintosh IIsi

* Macintosh IIvx/IIvi
* Macintosh LC 630
* Macintosh LC 520
* Macintosh LC 550
* Macintosh LC 575
* Macintosh LC 580
* Macintosh LC 630
* Macintosh Quadra 630
* Macintosh Quadra 840AV
* Macintosh Quadra 900/950
* Macintosh Performa 250, 275 (Japan Only)
* Macintosh Performa 520
* Macintosh Performa 550
* Macintosh Performa 560
* Macintosh Performa 570-series
* Macintosh Performa 580-series
* Macintosh Performa 600
* Macintosh Performa 630-series
* Macintosh Performa 640-series
* Macintosh Performa 5200-series
* Macintosh Performa 5300CD-series
* Macintosh Performa 6200-series
* Macintosh Performa 6300-series
* Power Macintosh 5200/75 LC
* Power Macintosh 5300/100 LC
* Power Macintosh 5260/100
* Power Macintosh 6200/75
* Power Macintosh 7100 series including the AV models
* Power Macintosh 8100 series including the AV models
* Workgroup Server 95
* Workgroup Server 8150
* Workgroup Server 9150

You can use the Auto Power On/Off feature in conjunction with other System 7.5 features. For example, you could set your system to power on during the night and run an Apple Script that re-indexes all of your database files or backs up your hard drive.

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System 7.5: Backward Compatibility of Modules (2/95)

Are any of the new control panels or extensions in System 7.5 compatible with previous versions of system software?

This article has been archived and is no longer updated by Apple.
The additions to System 7.5 were, for the most part, designed to operate specifically under this environment. None of the modules were tested on earlier versions of system software and, though they may function, they are not supported and it is recommended that they only be used with System 7.5.

Article Change History:
15 Feb 1995 - Reviewed for technical accuracy, revised System 7.5 keyword.

Support Information Services
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System 7.5: Overview of New Enhancements (2/95)

This article provides an overview of the new features of System 7.5.

This article has been archived and is no longer updated by Apple.
The Macintosh System 7 operating system has established a tradition of delivering breakthrough functionality to Macintosh users. Through the regular release of system extensions and enhancements, System 7 has come to offer features such as built-in mail and messaging, multimedia capabilities, support for multiple languages, and the ability to automate routine tasks. It is also the only mainstream personal-computer operating system for RISC (Reduced Instruction Set Computing) based Macintosh computers, such as the Power Macintosh.

With the release of System 7.5, Apple offers even greater power to Macintosh users, providing technology that actively assists you, elegantly simplifies many tasks, offers built-in compatibility with MS-DOS and Windows data files and diskettes, and brings users advanced graphics capabilities. The result is greater productivity and a computing environment more closely tailored to your individual preferences.

System 7.5 offers several significant enhancements that enable greater efficiency and speed ð letting you minimize the number of steps it takes to complete a given task. In addition, System 7.5 introduces QuickDraw GX, a sophisticated graphics and printing architecture that represents a major advance in ease-of-use for everyday printing as well as high-end graphics manipulation.

To make it easier to work with others, System 7.5 also builds in collaborative technologies such as electronic mail, catalogs, and electronic signatures via PowerTalk. It also supports industry standards such as DOS and Windows data files, and the TCP/IP protocol. By fitting into your larger computing environment in this way, System 7.5 provides you with a much broader range of options. Having an open, connected environment is important for many Macintosh users --- as well as DOS and Windows users who are considering Macintosh. They are equally concerned about making choices that will give them the greatest range of future options.

System 7.5 enhancements fall into five major areas:

Active Assistance & Customization:
* Apple Guide
* Macintosh Drag and Drop
* Scriptable Finder
* New productivity features

Compatibility:
* Macintosh PC Exchange and Macintosh Easy Open
* MacTCP

Advanced Graphics and Printing:
* QuickDraw GX

Collaboration Technologies:
* PowerTalk
* Telephone Manager

Mobile Computing:
* PowerBook utilities and enhancements
* PowerTalk support for PowerBook computers

Individual articles have been created for each enhancement listed above. Use the enhancement as a search word in the Tech Info Library for more information.

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System 7.5: RAM Requirements for 68K and Power Macintosh (2/95)

What are the memory requirements for System 7.5?

This article has been archived and is no longer updated by Apple.
For 680x0-based Macintosh systems, System 7.5 without PowerTalk and QuickDraw GX requires a Macintosh Plus or later model with a minimum of 4 MB of RAM; if you're going to run PowerTalk and QuickDraw GX as well, you'll need a minimum of 8 MB of RAM and a 68020 processor.

On PowerPC processorðbased Macintosh systems, System 7.5 requires a minimum of 8 MB of RAM; when adding PowerTalk and QuickDraw GX, a minimum of 16 MB is recommended.

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System 7.5: Overview Of Productivity Features (2/95)

This article provides an overview of the new productivity features included in System 7.5.

This article has been archived and is no longer updated by Apple.
System 7.5 includes a host of new features that help Macintosh users reduce complexity and work more efficiently. Some of the features give a glimpse into the future when Macintosh systems will become even smarter about users' preferences:

* Hierarchical Apple menus ⊕? enable faster and easier access to items that are kept in folders under the Apple menu. For instance, selecting Control Panels under the Apple menu causes a list of sub-menus to be displayed. A set of "recent items" selections also automatically tracks documents, applications, and servers that were recently used, letting the user quickly refer back to them and open them again.

* The Recent Applications selection shows the applications most recently used and lets them be quickly launched from this menu.

* Stickies ⊕? lets users create on-screen electronic notes.

* Finder hiding ⊕? lets the Finder be inactive while an application is running; if a user clicks outside a document window, the application still remains selected, thus preventing the novice user from getting "lost" by switching to the Finder or another application.

* Default document folder ⊕? automatically saves files to a folder named "Documents" on the desktop, rather than the application folder, making it easier for novice users to keep track of documents.

* System and application folder locking ⊕? prevents accidental deletion of important files.

* Updated Scrapbook and Notepad ⊕? includes built-in support for Macintosh Drag and Drop.

* Windowshade ⊕? lets the user click on a window title bar to hide the window from view, thereby reducing screen clutter caused by many windows being open at once.

* Support for larger hard disk volumes⊕?up to 4 gigabytes.

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System 7.5: Apple Guide Description

This article discusses Apple Guide, the new help system integrated into System 7.5.
This article has been archived and is no longer updated by Apple.
Among the many advanced features of System 7.5 are those that actively help users accomplish specific tasks. Chief among these is Apple Guide, an electronic assistant that leaps beyond traditional help systems and guides you through specific procedures one step at a time, actually leading you through to the completion of the task.

Working with Apple Guide is not unlike working with a teacher or coach -- someone you can ask questions of and who points the way, but lets you take the way yourself. Apple Guide marks a leap from the passive assistance of typical help systems to on-line active assistance that lets you accomplish tasks as you learn how to do them.

With Apple Guide, you can learn how to accomplish new or complex tasks by following on-screen prompts. Apple Guide also provides on-screen coachmarks that provide visual clues by circling or highlighting items such as menu selections.

Rather than requiring the you to search an electronic manual that covers an entire application, Apple Guide decides which information to provide to you based on the current context (which window is in front, what item is selected, and so on) For example, Apple Guide automatically skips a step in a process if you have already completed that step, letting you accomplish the task more quickly. It also checks to make sure that you have completed the current step before moving on to the next one.

Apple Guide doesnt simply offer a text description of various tasks; instead, it prompts you with meaningful queries about specific operations. For instance, at the desktop level it offers queries that apply to Finder and system operations (How do I change the desktop pattern? How do I share a file? How do I empty the trash?) and then provides hands-on instruction for the selected task.

Apple Guide is also a standard for third-party applications and custom solutions. Since Apple Guide is built into the operating system, it will quickly become the standard way of providing help and access to advanced functionality in many application programs. Apple expects that the majority of software vendors will provide support for Apple Guide in their applications.

Applications that support Apple Guide lead users through the steps required to perform particular operations. This is especially important as applications add more and more features and functionality.

In a page layout application, for instance, a user might want to know how to change a block of text to a different font or import a word processing file into a column. With Apple Guide, the user can learn the steps to complete the operation while actually performing the task and getting work done rather than leafing through a manual or browsing through on-line help for the relevant topic or working through a tutorial.

Businesses, schools, and other organizations can reduce training and support costs by creating their own Apple Guide databases to lead users through tasks that are unique to their company or organization. For example, a human resources department could use Apple Guide to assist employees in filling out forms electronically -- guiding the user through obtaining the correct form from a network server, filling it out, and sending it to the proper electronic mailbox.

Databases can be created with Guide Maker. Apple will deliver Guide Maker tool as part of the Apple Guide Authoring Kit which is expected to be available through APDA, Apples source for developer tools, when System 7.5 is available.

Compatibility

AppleGuide is compatible (can provide assistance) with System 7.5, PowerTalk, and QuickDraw GX. Application programs must be rewritten, and assistance files created in order to take advantage of Apple Guides active assistance technology.

Usage Requirements

Apple Guide requires System 7.5.

Apple expects that the majority of software vendors will provide support for Apple Guide in their applications.
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Desktop Patterns: Maximum Supported Image Size (2/95)

What is the maximum image that can be pasted into the Desktop Patterns control panel?

This article has been archived and is no longer updated by Apple.
The Desktop Patterns control panel supports a maximum image size of 64k.

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System 7.5: Drag and Drop Description (3/95)

This article provides a description of the Drag and Drop feature of System 7.5.

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Macintosh Drag and Drop, an enhanced feature of System 7.5, is the Macintosh popularized "cut and paste" functionality -- selecting data in a particular document, cutting it, and then pasting it elsewhere in the document or in another open file. Macintosh Drag and Drop goes a major step beyond this now-standardized approach to create a more simple and intuitive method of manipulating data.

Using an application that supports Macintosh Drag and Drop, you select a block of data (such as text or graphics) from an open file or the desktop and drag it to another location. This eliminates the steps of opening an application, copying the selected data, switching to an open document, and pasting the data elsewhere -- instead, you drag the data where you want it.

Here is how it works with applications that support Drag and Drop: You use a drawing program to create a graphic that you want to add to a word processing document. You select the graphic and drag it into position in the document. The graphic now appears in both the drawing program and the word-processing document -- without copying and pasting.

Or you could drag the graphic onto you desktop, where it becomes a Clippings file that you can drag into other files later. For example, you could save your mailing address or company logo as a Clippings file and easily drop them into any document when you need it.

To provide data translation between different types of applications, System 7.5 also includes Macintosh Easy Open, which automatically translates data when it is moved between differing types of applications when the correct data translators are present.

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Omnis 3+ Multi-user on the Corvus Network

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1) Multi-user Omnis 3+

Omnis 3+ multi-user version is a true multi-user program and will allow several users to access the same data simultaneously. The record-locking facility in Omnis 3+ automatically prevents two or more users from attempting to modify the same information at the same time, but allows an unlimited number of users to read the same information. The same copy of multi-user Omnis 3+ may be used to access different databases simultaneously. These features are built in and are transparent to both the user and the developer.

In order to use the multi-user version of Omnis 3+, care must be taken in installing Omnis 3+ and in configuring the network environment. Failure to properly install Omnis 3+ or correctly configure the network may result in the inability to run Omnis 3+ in the multi-user environment. In most cases, it could also result in the corruption or loss of data.

2) The Network

Multi-user Omnis 3+ may be installed on Corvus disk drives residing on the Corvus Omninet using the Contellation III (Release 2 or later) Network Software for the Macintosh. If you have the wrong system software, do not attempt to install Omnis 3+, call your dealer or Corvus to obtain the correct software.

We have assumed at this point that you have properly installed the network software and have physically connected your network together.

3) Volumes

There are four types of volumes in the Corvus environment: Private, Public, Controlled, and Uncontrolled. The following is a brief description of each, additional information is available in your Corvus manuals and/or guides.

Private - can only be mounted by the owner; can be mounted as either read/write or read-only

Public - can be mounted read-only by any user; can only be mounted read/write by the owner

Controlled - can be mounted read/write by any one user; additional users may only have read-only access

Uncontrolled - can be mounted read/write or read-only by any user at any time; this is the type of volume used by Omnis 3+ shared files since all users must be able to both read and write simultaneously

4) Recommended Volume Configuration

Each user must have his or her own private volume which contains the Macintosh system documents (System, Finder, etc.) since these documents cannot be shared. The Omnis3.info file should also reside in this volume inside your system folder. Single-user applications can also be stored in this volume. The Omnis 3+ Utilities is a single-user application and should be stored in a private volume.

An uncontrolled volume should contain the Omnis 3+ program. The size of this volume is determined by the multi-user applications that are to be stored in

this volume. Print resource documents (LaserWriter and LaserWriter Prep) must also be in this volume. The ImageWriter driver can also be stored in this volume, but care has to be taken to make sure that only one user at a time tries to print using this driver since it is a single-user resource. Loss of data may occur if more than one person tries to print using this resource.

A second uncontrolled volume should be created to contain the Omnis 3+ libraries and data files. This volume should be made as large as the anticipated size of all the data files. If possible, the volume should have enough free space to hold a copy of the largest anticipated data file in case a data reorganization is necessary.

5) Omnis 3+ Multi-user Considerations

Always maintain backup copies of all libraries and data files.

No other copy of Omnis 3+ should be available to the user of a multi-user version of Omnis 3+. Loss of data may occur if a user tries to access a database that is already being used by another copy of Omnis 3+.

Creation of new libraries or data files must be done through the Utilities in a private volume.

Omnis 3+ multi-user cannot automatically extend the size of the library or the data file. When the space allocated to the files have been used up, the user will get messages that will inform them that the file is full. Use the Omnis 3+ Utilities to increase the size of the library or data file. At this point, it is recommended that all other users be logged off.

Omnis 3+ multi-user stores internal semaphore flags in the library to keep track of which records are being accessed. If Omnis 3+ or the network is interrupted while executing a multi-user application, a semaphore lock-up or corruption may occur. This will result in abnormal behavior while using the Omnis 3+ multi-user application. If this happens, there are two ways to clear the semaphore table:

Reboot Omnis 3+ while holding down the "Command-S" keys. Keep holding the keys down until the application has successfully launched.

Mount the volume which contains the library in a private volume and launch the Utilities program. Select the library with the corrupted semaphore table and go into "Library Utilities". Delete the semaphore table. This is the format labelled "WORK999". This will cause Omnis 3+ to re-create a new semaphore table when the library is launched. Mount the volume as an uncontrolled volume and launch the library.

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System 7.5: Extension Manager System 7.5 Only Set (2/95)

What is the System 7.5 Only set for in the Extension Manager control panel?

This article has been archived and is no longer updated by Apple.
The System 7.5 Only extension manager set disables all extensions that are not installed as part of the System 7.5 installation. This helps in troubleshooting any possible extension conflict by letting you disable third party extensions while retaining base functionality of your computer during the troubleshooting process.

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QuickDraw GX: Desktop Printing Overview (3/95)

This article provides an overview of the Desktop Printing feature of QuickDraw GX.

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In QuickDraw GX, a desktop printer takes the form of an icon on the desktop to represent an available printer. When you select a printer with the Chooser, QuickDraw GX displays the desktop printer icon on the desktop. To print a document through a desktop printer, you can simply click a document and drag its icon on top of a desktop printer icon.

You can create multiple desktop printers, one of which represents the default output printer. The last desktop printer that you create automatically becomes the default output printer.

To distinguish the default desktop printer from the other desktop printers on the screen, the icon that represents the default desktop printer appears with a bold outline. When you double-click on a desktop printer, QuickDraw GX displays the desktop printer window.

A desktop printer window shows all print jobs queued for a particular printer. This includes other users' print jobs when the desktop printer is set up to be shared.

You can set up a desktop printer to be shared. For example, you may choose to share a printer, such as the Apple StyleWriter, which is otherwise a non-networkable printer. You can create a shareable desktop printer by choosing the Share Printer command from the Printer menu. QuickDraw GX adds the Printer menu item to the menu bar (to the right of the Special menu) when you click on a printer icon. You can also set up a desktop printer for sharing just like you set up a file for sharing -- by choosing the Sharing command from the File menu.

You are notified of errors through desktop printers. For example, if a printer runs out of paper, its printer driver sends this status to the desktop printer. If the Finder is in the foreground, the desktop printer displays the Out of Paper alert box on your screen. If the Finder is in the background, the Notification Manager displays a blinking Finder icon over the Application menu. When you click on the Finder icon, QuickDraw GX displays the Out of Paper alert box on the screen.

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QuickDraw GX: X Through Dsktop Prntr In Save/Open Dialog (2/95)

I noticed my desktop printer icon has an X through it when viewed through the Save or Open dialog box. Is this normal? It looks fine on the Desktop.

This article has been archived and is no longer updated by Apple.
The desktop printer icon is a container, similar to a folder, but it cannot be saved to. QuickDraw GX and the Finder work together to place an X through the icon in the Save or Open dialog box so that the user cannot open it or save anything to it.

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QuickDraw GX: Workaround For Fax Capable Apple Printers (2/95)

Are there any workarounds to let me to use QuickDraw GX and the fax cards in my LaserWriter Select 360 and LaserWriter Pro 810?

This article has been archived and is no longer updated by Apple.
Currently, QuickDraw GX drivers do not support the fax cards in the LaserWriter Pro 810 and LaserWriter Select 360. There is a workaround to use these fax cards when working in non-GX savvy applications.

1. If you do not have the QuickDraw GX Helper extension, run the GX installer, select custom install, and install the GX Helper extension.

2. Remove any version 7 LaserWriter driver in your extensions folder.

3. If you have not already set up the LaserWriter 8 driver, disable GX, restart, and choose the LaserWriter driver to set up a printer description with a fax card. Re-enable QuickDraw GX and restart your machine.

4. Open an application that does not support QuickDraw GX, in the Apple Menu select "Turn Desktop Printing Off". With GX Helper installed, the LaserWriter GX driver selected in the Chooser passes through to the standard LaserWriter driver and the fax option is available to you.

Note: This workaround does not work with any application that supports QuickDraw GX.

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System 7.5: QuickDraw GX Graphics Overview (2/95)

This article provides an overview of how graphics are handled by QuickDraw GX.

This article has been archived and is no longer updated by Apple.

Introduction

The QuickDraw GX Graphics engine delivers powerful geometric resources to any Macintosh application. With QuickDraw GX as a building block, software developers can revise and enhance applications more quickly.

The built-in, system-level graphics resources provide applications with sophisticated easy-to-implement graphics and type functionality. Because much of the graphic manipulation overhead is handled by QuickDraw GX, many applications may eventually be significantly smaller in size (if they are targeted for markets where QuickDraw GX is assumed to be a part of the system).

Overview

QuickDraw GX is a geometric-based, resolution and device-independent graphics system. Images are described by geometric structures such as points, lines, and curves. These geometric structures are defined by a fixed-point coordinate system.

The coordinate system does not assume what metric (for example, inches or millimeters) defines the spacing in the system. Therefore, the images can be drawn to any resolution device, such as a monitor or printer, because the graphics system makes no assumptions about spacing.

An analogy to this situation is the difference between screen (bitmapped) and TrueType fonts. Both fonts contain information about how to draw characters on the screen. However, screen fonts are best shown at their predefined point size on a 72-dot-per-inch (dpi) output device. Attempting to change the font size or draw to a different resolution device can result in rough-edged characters. This problem does not happen with TrueType fonts because they are based on curves.

QuickDraw GX was designed with various output devices in mind. It supports raster, PostScript¬, and vector (for example, plotter) devices. There are also many built-in features, such as halftones and dithering, to produce the best image for an output device.

All data structures are private, so that the graphics, line layout, and printing software and hardware on which they run can evolve without disrupting existing applications. Thus, any changes to data structures within QuickDraw GX must be made through a procedural call.

These QuickDraw GX features resolve many of the limitations with QuickDraw. QuickDraw is a bit image, resolution-dependent graphic system. Since many applications write directly to the data structures, there have been numerous compatibility issues. In addition, support for PostScript was added on after QuickDraw was designed, and there is no built-in support for vector devices. Nor are there any special graphic functions such as dithering.

However, QuickDraw GX does not replace QuickDraw. They work side by side. Thus, even if you have QuickDraw GX installed, old QuickDraw applications still work. Graphic calls are routed to the correct part of the graphics system, and both QuickDraw and QuickDraw GX applications can run concurrently.

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QuickDraw GX: Portable Digital Document Description (2/95)

This article provides a brief description of the Portable Digital Document feature of QuickDraw GX.

This article has been archived and is no longer updated by Apple.
A Portable Digital Document (PDD) is a file that contains data to be printed. QuickDraw GX supports the Portable Digital Document (PDD) document file format, which lets you exchange documents with other GX users, who can read and print the documents without having the same application or fonts installed.

QuickDraw GX creates a Portable Digital Document when an application begins the printing process. The process of creating a portable digital document is also referred to as spooling. To create a PDD, select "Print" from the file menu and then select "PDD Maker GX" from the pop-up menu.

Any application can create a PDD, which retains all the font, graphic, and typographic information of the original document. A PDD document can be opened, viewed, and printed from any other Macintosh with QuickDraw GX installed, even if the other Macintosh has not installed the application originally used to create the document.

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QuickDraw GX: Alteration Of Spooled Printer Print Queue (2/95)

Can I change the order of or remove print jobs from the queue of a printer that I have shared?

This article has been archived and is no longer updated by Apple.
Yes, if the printer has been shared through your computer, you have the ability to delete jobs from the queue. If, however, you are viewing the queue from another workstation, you cannot alter the order or delete jobs from the queue.

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QuickDraw GX: Four Printing Phases Described (2/95)

This article provides a description of each of the four printing phases within QuickDraw GX.

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Application Phase

During the application phase of printing, the application calls QuickDraw GX and interacts with you by displaying dialog boxes to establish printing parameters such as page orientation and paper types.

Spooling Phase

During the spooling phase of printing, the application spools the document pages to disk in preparation for printing. QuickDraw GX sends messages during this phase to notify you when each page is about to be spooled.

Imaging Phase

During the imaging phase of printing, each previously spooled page is rendered into a form that can be printed on the output device. This phase is composed of two processes: despooling and rendering. Despooling is the process by which each previously spooled page is read from the spool file. During rendering, each despooled page is converted into image data that can be printed by the output device. Some rendering messages, known as universal imaging messages, are sent for all imaging systems.

Device Communications Phase

During the device communications phase of printing, the data that represents the rendered form of each page is sent to the output device. Communication with the printing device is only possible during this phase.

Note: The spooling, imaging, and device communications phases of printing can occur on different devices. For example, an application can spool a document to a printer server on a network, which might then image the document to a disk that is taken to a printing service and printed on a high-resolution printer.

The four printing phases need not occur in a sequential order, with one following the completion of the other. When the same computer is performing both formatting and output of a document, the application and spooling phases are interleaved and the imaging and device communication phases are interleaved. The application initiates the printing of each page and this output is written to a spool file. When the printer is ready, each page is despooled, rendered, and sent to the device.

Printing extensions and printer drivers can override any of the messages that QuickDraw GX sends during each of these phases, allowing a tremendous degree of flexibility in controlling printing on a specific device.

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QuickDraw GX: How Printing Process Works (2/95)

This article provides an overview of the printing process within QuickDraw GX.

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QuickDraw GX Printing and Messages

Printing with QuickDraw GX is based on a message-passing architecture. QuickDraw GX sends printing messages when certain printing-related tasks need to be accomplished or when certain printing-related conditions arise. A printing message is a notice that a certain part of the printing process is in progress or that a certain printing task needs to be accomplished.
QuickDraw GX sends a large number of printing messages during the printing process, and a printing extension or printer driver might need to respond to make available its features or functionality. For example, a printing extension could respond to a particular printing message called GXDespoolPage to add a date/time stamp to each page. Or a printer driver could respond to the GXOpenConnection message to verify that the corresponding printing device is working properly. This response of intercepting a specific printing message and taking some action is called a message override, which is performed by an override function that is defined in the extension or driver.

Before learning more about how message overrides work, it is important to have an overview of what happens when QuickDraw GX sends a printing message. Because the printing extension or printer driver may respond to a printing message, it is called a message handler. A number of message handlers, including an extension or driver, an application, and QuickDraw GX itself, can respond to printing messages.

Each message handler is part of the message chain, which links the handlers in a hierarchical sequence. Each handler in the hierarchy receives the message and decides whether to respond to the message and whether to forward the message to the handler below it in the hierarchy.

In most cases, when the printing extension or printer driver overrides a printing message, it performs some operations and forwards the message to the next handler in the message chain. This is called a partial override. (A total override occurs when the message is not forwarded.) Because QuickDraw GX provides a default implementation for most of the printing messages, a partial override is used to add to the response of, or change the result of, the default implementation before or after forwarding the message. For those printing messages that require forwarding, a partial override can be used. If the messages are not forwarded, their default implementation is not invoked, which means that a vital operation might be neglected, potentially resulting in serious errors.

Depending on the nature of a message, a partial override can forward it to the other handlers and then perform the tasks, or it can perform the tasks and then forward it to other handlers. For example, if a printing extension is created that combines eight pages of a document into one page of thumbnail sketches, it needs to override the GXCountPages message, which QuickDraw GX sends to count the pages in the spool file. It forwards this message to let the default implementation count the pages, and the override would then modifies this value. On the other hand, if the extension created adds a background picture to each page as it gets printed, it needs to override the GXDespoolPage message. It adds the background picture to the page after forwarding the message to the default implementation, which would reads the page from the spool file.

QuickDraw GX also provides a number of printing functions that can only be called from within the message overrides that are implemented in the driver or extension. These functions perform a variety of operations, including:

* Displaying status information and printing alert boxes
* Interfacing with the paper trays
* Communicating imaging options between a driver and an application
* Gracefully handling errors that arise during the processing of certain printing messages

The message-passing architecture used for QuickDraw GX printing is supported by the Message Manager, which is a general-purpose software component of QuickDraw GX that can be used when programming for message passing.

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System 7.5: Technical Overview Of QuickDraw GX (2/95)

This article provides a technical overview of QuickDraw GX.

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Introduction

QuickDraw GX provides a robust graphics environment, high-quality typography, worldwide text services, and an extensible print architecture that enables easy driver development. It is composed of three major technologies: new graphics capabilities, expanded and easier-to-use print architecture, and very sophisticated typography. QuickDraw GX is not intended to replace QuickDraw.

They coexist, ensuring compatibility with all existing applications.
By supporting high-resolution graphics with its Macintosh systems and LaserWriter printers, Apple started the desktop publishing revolution. With QuickDraw GX, Apple is setting the stage for the next generation in graphics. QuickDraw GX greatly extends and expands the graphics capabilities of the Macintosh, creating a new standard for desktop graphics computing and reaffirming the place of Macintosh as the premier publishing platform in the personal computer industry.

QuickDraw GX offers greater efficiency and power to Macintosh users by providing:

* Device- and resolution-independent graphics. Unlike QuickDraw, QuickDraw GX supports multiple resolutions and a much larger coordinate system for precise and resolution-independent imaging.

* Greatly enhanced graphic capabilities. Because QuickDraw GX is an object-based model (shapes are the basic building block for everything) all graphic primitives can be distorted, or transformed in many ways. Rotation, perspective, skewing, and scaling are a few of the transforms offered by the system. Colors can also be transformed to allow for transparent overlapping shapes and realistic shading effects. In addition, all of the primitives can have various styles applied to create framed, dashed, patterned, and filled shapes.

* Simplified printing and print management via a new, customizable print architecture and user interface.

* The capability to create "portable" documents from any application, letting other users print and view documents without having the original application or fonts.

* Consistent color between scanners, displays, and printers via ColorSync color management technology.

* Powerful type and text capabilities that, in conjunction with updated or new applications, enable the display and printing of any typeface in any of the world's myriad script systems.

* Tools for developers that result in new applications that offer greater sophistication in graphics, type, and printing.

Simplified and More Powerful Printing

QuickDraw GX makes Macintosh print functions even more powerful and convenient?with no software upgrades required.

QuickDraw GX lets you to display and control selected printers via printer icons on the Macintosh desktop. To print a document, you can simply drag the file to the desired printer icon. Because multiple printer icons can appear on the desktop, you can choose to send a document to any of a number of printers. An improved print dialog box appears in QuickDraw GX-compatible applications to let you select among multiple desktop printers without having to access the Chooser.

A desktop printer icon behaves much like a file server or other network device icon. Double-click on a printer icon, and a print queue status window appears. You can decide to reorder the print queue or postpone a print job simply by dragging document icons to a new location. You can also transfer print jobs to other printers by dragging document icons to another printer icon. These print management functions replace today's Print Monitor.

Further benefits come from new printer extensions that can be used with existing applications. These extensions let you customize print output with watermarks and print multiple pages on a single sheet.

Portable Documents

QuickDraw GX supports a new type of document file format, known as a "print and view" document, that facilitates the exchange of documents in electronic form. With this technology, you can create a file, called a portable digital document, that can be opened, viewed, and printed from any other Macintosh with QuickDraw GX installed.

Even if the other Macintosh doesn't have the same application or typefaces that were used to create the document, the file retains all of the graphics and typographic information of the original document. No new software is required; portable documents can be created using any of today's applications.

More Sophisticated Typography

Macintosh gave many users their first opportunity to work with high-quality type. This helped make their written work more readable and effective. Many Macintosh users are now demanding even better typography from their applications, and they want it to be even easier to work with type. Applications that work with QuickDraw GX satisfy both of these demands.

QuickDraw GX raises the standards of type and document composition, making typographic excellence the standard, not the exception. This is because QuickDraw GX automates much of the typographic process. Users who work extensively with type no longer have to determine the proper kerning and justification for a particular block of type, or remember to select special characters (such as ligatures) when typing. These settings and capabilities are built into QuickDraw GX fonts and are handled automatically within applications that support QuickDraw GX.

TrueType GX has an extended set of glyphs that support typographic features such as ligatures, swash characters, fractions, old style numerals, and small caps. Extended sets have been available previously on the Macintosh in collections called "expert sets," but they required multiple fonts and tedious mixing of font selection in order to achieve desired effects. QuickDraw GX provides support for context-sensitive substitution of the glyph used to represent a character, or characters, based on its position within a word or line of text.

The capabilities listed above require extended fonts, with extra glyphs, kerning information, ligature tables, and so on. New fonts can also support an expanded notion of Macintosh "styles." Similar in capability to Adobe's Multiple Master technology, these new fonts can support many degrees of boldness, condensing, or other features from one typeface.

Installation, screen display, and printing of fonts is simplified with QuickDraw GX, which includes support for Apple's TrueType standard as well as a new version of Adobe Type Manager, ATM GX. This lets users select the typefaces they want, whether in TrueType or Type 1 format.

QuickDraw GX also provides extensive, system-level capabilities for the display and printing of any international text system, such as Arabic or Kanji. It doesn't matter whether the text reads right to left, left to right, vertically, or some combination of the three. QuickDraw GX can even display text that combines different reading directions within the same line.

In addition, QuickDraw GX and WorldScript, Apple's system technology for international software localization, provide Macintosh developers with a powerful set of tools for the creation and release of equivalent software versions worldwide. Specifically, QuickDraw GX provides support for the display and graphical manipulation of international fonts and text systems on Macintosh computers. QuickDraw GX fully supports worldwide character sets based on international standards.

Consistent and Predictable Color Matching

It's easy to create documents that contain color information ?? most Macintosh computers have color displays and most Macintosh applications are color-capable. The difficulty has been in trying to get the onscreen colors to match the colors produced on a variety of color output devices.

For example, a businessperson might have to redesign an entire presentation when she sees that the contrast between the text and the background color is not nearly as great on the transparencies as it is on the screen. Or a graphic designer might have to rework a design when the colors in a corporate logo come out differently in print than they looked on the screen.

To create better color matching, QuickDraw GX incorporates Apple's ColorSync color management technology to let color devices and applications input, display, exchange, and output color information consistently and predictably. It matches colors between scanners, displays, printers, and even between Macintosh systems. You can send a color file from one Macintosh with QuickDraw GX installed to another, and the same color matching processes help maintain accurate color display and printout on the second machine.

Compatibility

Apple is committed to protecting customers' investment in fonts, applications, and hardware while creating a foundation for extensive new features and product development possibilities. Current Macintosh applications and fonts work alongside QuickDraw GX and can take advantage of many of the printing enhancements it provides. Revised and newly-designed applications take full advantage of QuickDraw GX color, type, and graphics.

QuickDraw GX runs on 68020, 68030, or 68040 Macintosh systems and is also optimized for the PowerPC chip, letting applications access the greater speed and performance of the PowerPC technology.

Many of the features of QuickDraw GX, such as improved printing and portable document technology, are available to users immediately. Other features, such as advanced type and graphics, require developers to build these features into new QuickDraw GX-compatible applications.

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System 7.5: QuickDraw GX Typography Overview (2/95)

This article provides an overview of the typography features of QuickDraw GX.

This article has been archived and is no longer updated by Apple.

Introduction

With the introduction of QuickDraw GX, Apple delivers feature-rich imaging to the Macintosh. One of the most noticeably enhanced areas of the Macintosh imaging environment is the concept of intelligent fonts. With TrueType GX fonts, Macintosh users can see fonts with capabilities far beyond those of currently available fonts. These include concepts like contextual forms, ligatures that are employed dynamically, fractions, automatic subscripts and superscripts, automatic kerning, full support for international fonts, and the ability to mix Roman and non-Roman fonts on the same line.

The intelligence to support all these features resides in QuickDraw GX and within the fonts themselves. Applications that support QuickDraw GX and use TrueType GX fonts can rely on the imaging system to implement this new feature-rich typographical environment without having to be concerned with the details of how the type is displayed. QuickDraw GX treats text as a set of characters that can be displayed and edited, and as a graphic object that can be colored, rotated, and manipulated like any other graphic object.

Some of the specific typographical capabilities of QuickDraw GX are:

* Creation of layouts from descriptions of text, styles, and other information
* Automatic creation of contextual forms and ligatures
* Manual and automatic kerning, tracking, and letter spacing
* Sophisticated justification with support for Arabic kashidas
* Hit testing within the text
* Determination of the caret(s) for some location within the text
* Support of applications' line-breaking decisions with fast measurement routines
* Automatic reordering and rearrangement of text for languages like Arabic, Hebrew, and Hindi

QuickDraw GX deals with text primarily in "linguistic" terms ("kern by this amount" or "change the orientation of this text in a vertical line") rather than dealing with text primarily in "graphic" terms ("place this glyph at the following (x,y) location" or "set this glyph's rotation to 12 degrees").
The term "layout" is used extensively throughout this document so it is important to understand that layouts (a grouping of text on a single line or the visual ordering of symbols that convey information) are just shapes to QuickDraw GX. As is the case with all other shapes in the graphics system, a layout can be drawn, transformed, dashed, clipped to, and so on. For example, an entire text layout can be rotated by 45 degrees and skewed, yet this transformed layout can still be edited on the fly.

QuickDraw GX has three types of typographical shapes: text shapes, glyph shapes, and layout shapes. All three types of shapes can be used to display text.

Text shapes contain text in one style. Text shapes are the easiest, though least flexible, method for text display. Glyph shapes allow for drawing text in several styles and can be manipulated graphically, such as rotating them. Each glyph within a glyph shape can be drawn at a different angle.
Layout shapes are the most sophisticated typographical shape and are the basis for the bulk of the advanced QuickDraw GX typographical features described in this document.
Layout shapes use information contained in font tables (within the font itself) to display text with proper spacing, alignment, specialized glyphs for specific positional situations, ligatures, and various directional flows necessitated by many international scripts.

Much of QuickDraw GX layout functionality happens automatically ?? tables in TrueType GX fonts help control the layout process. By this means, applications can get sophisticated linguistic and layout behavior without having to specify parameters to control it and without having to include code to implement it. Although much of this work happens automatically, there are many ways to control the operation. The QuickDraw GX layout routines let features be turned on or off as desired.

Font vendors can create tables that implement a set of features. This scheme is open-ended; font vendors can create new kinds of tables, and QuickDraw GX automatically takes advantage of them. Applications can query fonts to determine the set of features available. The font also supplies a set of strings identifying the features that can be presented to the user.

Additional information on QuickDraw GX can be found in the Inside Macintosh volume on QuickDraw GX available from Addison Wesley.

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TA32196_System_QuickDraw_GX_Typography_Overview__(TIL15950).pdf

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System 7.5: PowerBook Utilities And Enhancements

This article provides an overview of utilities and enhancements for mobile computing contained in System 7.5.
This article has been archived and is no longer updated by Apple.
System 7.5 includes a new set of utilities that extend PowerBook battery life, synchronize files between laptop and desktop systems, and offer convenience features that make mobile computing easier and faster.

- Extended battery life. The PowerBook Assistant gives users increased hours of battery life by providing automatic power management switching to full performance if the PowerBook is plugged in, and full conservation if it's not. It also provides for quick and easy configuration of the PowerBook for either performance or battery conservation.

Battery management features include automatic backlight dimming and a permanent RAM disk feature that saves information between restarts and shutdowns.

The PowerBook Control Panel consolidates power-management features.

- Consolidated Control Strip. Because PowerBook control panels are now combined into a single control strip, you have simpler access to controls and can more easily customize your PowerBook systems. The Control Strip can be moved anywhere on the screen. The whole Strip or portions of it can be hidden and you can arrange the modules to fit your preferences. It includes the following modules:

  - AppleTalk Switch: Lets you switch AppleTalk on or off without going to the Chooser.

  - Battery Monitor: Provides a visual indication of present battery charge levels, rate of battery consumption, and a digital read-out of battery time remaining. It also displays whether one or two batteries are being used and includes icons that let you know if the batteries are charged, charging, or draining.

- File Sharing: You can switch File Sharing on or off and change the sharing set-up.
- Hard Disk (HD) Spin Down: Lets you spin down the hard disk drive with a single click.
- Power Settings: Using the PowerBook tool bar, you can set your PowerBook system for better conservation or better performance or open the PowerBook Control Panel.
- Sleep Now: Lets you put the PowerBook into sleep mode with a single click.
- Sound Volume: By clicking on the Control Strip's sound icon and selecting the volume, you no longer need to resort to the Control Panels.
- Video Mirroring: Lets you switch video mirroring on or off without going to the Control Panels. (Icon available only when a PowerBook is attached to an external monitor.)
- File synchronization. The PowerBook File Assistant automatically synchronizes files between PowerBook computers and other Macintosh systems. It gives you the freedom to work with your PowerBook whenever and wherever you want without worrying about whether you have the most current version of a document. The PowerBook File Assistant keeps any two files, folders, or disks synchronized * locally, over a network, or using a floppy disk. It provides "drag and drop" setup and lets you select automated or manual synchronization of data. Synchronization can be one-way or bi-directional.
- Convenience features. Other built-in utilities queue up documents to print as soon as the PowerBook is connected to a printer, and improve mouse tracking by enhancing cursor visibility. A sleep key puts the PowerBook into sleep mode when not in use to preserve battery life. When it comes out of sleep, hard disks and servers are automatically remounted.

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QuickDraw GX: Printing To Non-GX Supported Device (2/95)

How do I print to an output device that does not currently have a QuickDraw GX compatible print driver?

This article has been archived and is no longer updated by Apple.
If you have a non-GX driver, you can disable QuickDraw GX via the extension manager and restart. This will let you print using the original driver.

The only other alternative is to check with the vendor of the output device to see if they are planning a GX-compatible driver.

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QuickDraw GX: Non-GX Print Drivers Not Shown In Chooser (2/95)

I have a number of non-QuickDraw GX print drivers in my extensions folder yet they do not appear in the Chooser. How can I access them?

This article has been archived and is no longer updated by Apple.
When QuickDraw GX is disabled, these drivers appear in the Chooser. They are hidden when it is active because they are incompatible with QuickDraw GX technology.

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System 7.5: Overview Of DOS Compatibility (1/96)

This article provides an overview of how with System 7.5 you can read, write, and edit ProDOS, MS-DOS, Windows, and OS/2 files with your Macintosh computer.

This article has been archived and is no longer updated by Apple.

Macintosh PC Exchange and Macintosh Easy Open are a set of utilities that let ProDOS, MS-DOS, Windows, and OS/2 data files be opened and edited with compatible Macintosh applications. They work in tandem on the Macintosh to let you efficiently exchange data with users on these other platforms.

Macintosh PC Exchange

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Macintosh PC Exchange lets you insert a DOS-formatted floppy disk into an Apple SuperDrive and view the disk's contents from the Macintosh desktop just as if the floppy came from another Macintosh system. When you double-click on a DOS or Windows file to open it, Macintosh Easy Open automatically searches for applications and file translators that are capable of opening it and lists the applications for you. Once an application is selected, Macintosh Easy Open manages the translation and opening of the file.

MacTCP

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Besides offering built-in AppleTalk networking, Apple has consistently provided compatibility with all major networking and enterprise systems. Apple builds Ethernet and Token Ring connectivity into its Macintosh systems and also supports a range of options for connecting with networks supporting IBM's SNA, Digital Equipment Corp.'s DECNet, Novell's IPX, and the TCP/IP and OSI protocols.

With System 7.5, Apple is now building in support for TCP/IP (Transmission Control Protocol/Internet Protocol), a major communications protocol for UNIX networking that is implemented pervasively in the higher education and research communities. It is also the standard protocol for the Internet communications network. TCP/IP networking protocols let multi-vendor computers communicate or connect with each other over a network. MacTCP, which has been sold standalone as Apple's standard software implementation of TCP/IP, lets you use your Macintosh to access information on Cray supercomputers, UNIX and Sun workstations, VAX systems, and a variety of hosts. Building MacTCP into System 7.5 ensures that TCP/IP support is readily accessible to the broadest base of Macintosh customers.

DOS Compatibility Card

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If you own a Centris or Quadra 610, you can use the original DOS Compatibility Card, which allows you to have a real Intel x486SX processor inside your Macintosh computer.

If you own a Power Macintosh 6100, you can use the DOS Compatibility Card for the Power Macintosh. This card provides the same functionality of the orginal DOS Compatibility Card, but adds Sound Blaster capabilities, Windows 3.1, and an Intel x486DX processor.

If you own a Macintosh 630 computer, a DOS Compatibility Card functionally identical to the Power Macintosh DOS Compatibility Card is available.

These cards give you the advantage of using both MS-DOS/Windows and the Mac OS without a decrease in the Macintosh OS performance.

Third-Party Options

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SoftWindows:

If you have a Power Macintosh system, with System 7.5 you can have an additional level of compatibility with DOS and Windows using emulation provided by SoftWindows from Insignia Solutions. SoftWindows comes both as a native PowerPC application, and a 68040 application. Both versions emulate an Intel x86 processor and lets you run DOS and Windows applications on top of the standard MacOS.

Insignia Solutions also provides SoftPC and SoftPC Professional for Macintosh owners without a PowerPC or 68040 Processor.

DOS on Mac:

DOS on Mac by Rely Corporation comes in several configurations depending on the model Macintosh you own. This card is similar to the Apple DOS Compatibility Card, since it provides a hardware solution to run MS-DOS/Window applications.

As a DOS and Windows user you can retain your investment in DOS and Windows data and take advantage of all the additional capabilities of the Power Macintosh platform.

The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.

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QuickDraw GX: Default Folder For PDD Maker Files (2/95)

What folder do Portable Digital Document (PDD) files created by PDD Maker default to?

This article has been archived and is no longer updated by Apple.
Files created by the PDD Chooser extension default to the PrintMonitor Documents folder inside the system folder. The default folder can be changed by selecting the PDD Desktop Printer icon and choosing PDD Maker Setup from the Printing Menu.

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System 7.5: PowerTalk Features for PowerBook Computers (2/95)

This article provides an overview of the PowerTalk capabilities within System 7.5 available for PowerBook computers.

This article has been archived and is no longer updated by Apple.
Because PowerTalk software enables collaboration, it is especially useful for those of you who need to communicate with others, whether or not you are connecting to a local area network, a public e-mail service, or directly to another Macintosh computer. Even if you are not part of a network, you can install PowerTalk Personal Gateway Software (available from third parties) to get easy access to fax, pager, and e-mail services, as well as the Internet.

PowerTalk puts everything you need to communicate in one place. You can organize information needed to collaborate ?- such as electronic addresses, phone and fax numbers, and supporting notes ?- in easy-to-access catalogs that you can take with you wherever you go. Your DigiSign "signer" can also travel with you, enabling you to approve and verify documents ? even when you are on the road.

PowerTalk was specifically designed for those of you who frequently connect to a network, work off-line, and then reconnect at a later time. With PowerTalk, you can quickly and easily copy mail from a server, read it off-line, and compose replies. When you reconnect to the network, all messages are sent automatically.

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System 7.5: Where Spooled Documents Are Stored (5/95)

Under QuickDraw GX, where do spooled documents reside until printed?

This article has been archived and is no longer updated by Apple.
As with System 7.5 PrintMonitor (Background Printing), documents being printed are stored temporarily in the PrintMonitor Documents folder inside the system folder, located inside the System Folder.

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System 7.5: Difference between Print Driver and Extension (2/95)

This article differentiates between Printing Extensions and Printer Drivers when used in conjunction with QuickDraw GX.

This article has been archived and is no longer updated by Apple.

Printing Extensions

Printing extensions are add-on software components that can be created to extend the printing capabilities of applications. Printing extensions are used for tasks such as supporting hardware additions, modifying the appearance of printed pages, and allowing the provision of these capabilities without having to write an entire printer driver. When you place a printing extension in the Extensions folder (which is in the System Folder), the extension is available for use.

Printer Drivers

Printer drivers translate the instructions that compose QuickDraw GX shapes and pictures into printed output on a specific output device. Each printer driver sends data and instructions in a form specific to the device that it drives and manages the physical communications with the device. A separate driver must be developed for each hardware device that has different characteristics. Whenever a desktop printer is created, the Macintosh system software loads and uses the driver for that printer.

QuickDraw GX printing extensions and printer drivers are largely data-driven and take advantage of the QuickDraw GX message-based printing architecture.

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QuickDraw GX: Printer Sharing And Password Protection (2/95)

This article describes password protection for printers under QuickDraw GX.

This article has been archived and is no longer updated by Apple.
Under QuickDraw GX you have the ability with a password to control access to printers shared on the network. As such, it is possible for users to capture a printer and assign a password to it. A captured and password protected printer is no longer visible to others on the network.

This feature is designed to be used with output devices that utilize specialized or expensive media such as color slide printers.

If a printer has been unintentionally hidden from general network access, it is possible to determine which computer has captured the printer using network monitoring or network management software.

Once the spooling computer has been located, the printer can be returned to general access.

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System 7.5: Scriptable Finder Overview (2/95)

This article provides an overview of the scriptable Finder in System 7.5.

This article has been archived and is no longer updated by Apple.
With the System 7.5 operating system, Apple now builds in its AppleScript scripting technology to let users automate routine or complex tasks ?? offering the broadest range of scripting options available.

Using AppleScript's "Watch Me" feature in supported applications, you can automate any series of actions ?? such as reformatting a document or recalculating a spreadsheet. You can also use scripting to easily build custom solutions by combining the most useful features of several applications ?? for instance, a word processing program could be scripted to automatically retrieve information from a customer database and an accounts payable module to generate a dunning letter.

As of early 1994, 80 software developers have announced support for AppleScript, including Microsoft, Claris, Aldus, ACIUS, Deneba, Great Plains, Symantec, WordPerfect, Alladin Systems, CE Software, and UserLand. By providing "scriptability," their applications can be linked to each other ??- and with the Macintosh Finder ??- via scripts.

Scripting Desktop Functions

With System 7.5, the Finder also becomes "scriptable", meaning that you can now automate system tasks with your scripts. The Scriptable Finder provides full Object Support Library support to the Macintosh Finder, letting the Finder be scripted and recorded. For instance, using AppleScript and the desktop functions of the Finder, you could create a script that backs up a hard disk onto a server. Taking advantage of the Scriptable Finder, you could also create a script that sets up a File Sharing "drop" folder, automatically enabling File Sharing, specifying privileges, and creating a folder that can be shared.

Using AppleScript to script the Finder along with scriptable applications, you could automate the process of updating a weekly report. The script could retrieve and open the report template from a departmental server and then go onto the administrator's hard disk and open the most recent budget spreadsheet, selecting this month's figures and copying them directly into the report.

The script could then enter today's date in the report, open the PowerTalk "mailer" attached to the report document, identify people on several different mail services to whom it should be sent, and send it. Once sent, the script can do a "Save As" and name the report with the current date, saving it in an archive folder on the server.

Improvements Over Previous Finder/AppleScript Capabilities

The Finder Event Suite provided with the 7.0 Finder is inadequate for all but the most basic of scripting needs. Providing a Scriptable Finder is the most compelling thing that Apple could do to leverage the power of AppleScript and speech-recognition software.

Components of the Scriptable Finder

The following are components of the Scriptable Finder:

* Full scriptability and recordability of all Finder functions. You can write scripts to do anything that can be accomplished using the standard point-and-click interface currently supported by the Finder. You create sample scripts by turning on recording and using the standard point-and-click interface.

* The Shutdown Items folder found in the System Folder. Items in this folder are automatically run when the system is restarted or shutdown. You may place a custom script in this folder and have it run whenever you shut down your Macintosh. For example, if you have scripts in the Startup Items folder that logs onto servers, creates folders, and copies files, your "Shutdown" scripts could archive these folders and delete them from your desktop.

* Through scripting, the Finder can provide services to third-party applications.

Events and Objects Supported By the Scriptable Finder

Events

In addition to supporting a variety of constructs from the Core suite, the Finder suite defines Apple events for these functions:

* Cleaning up icons
* Ejecting disks
* Emptying the Trash
* Putting away icons
* Restarting a computer
* Shutting down a computer
* Putting a Macintosh Portable or PowerBook computer into sleep mode

Objects

The following objects are supported by the Scriptable Finder:

* Finder aliases
* The Finder application
* Application files
* Containers such as folders and disks
* Windows for Finder containers
* Control panels
* Desk accessories
* The desktop
* Disks
* Document files
* Files
* Folders
* Font files
* Gestalt information
* Info windows
* Keyboard layouts
* Processes
* Script resources
* Sound files
* Suitcases
* The Trash

AppleScript first became available as part of the operating system in System 7 Pro in October, 1993. With System 7.5, AppleScript becomes available to all System 7 users.

The AppleScript Scripter's Kit

System 7.5 includes AppleScript enabling technology to run AppleScripts on your system. However, if you want to create your own scripts, you need to purchase the AppleScript Scripter's Kit (M1730LL/A), which includes documentation, sample programs, and a third part interface builder. The AppleScript Scripter's Kit is available where other Apple software is sold.

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System 7.5: Stickies Description (4/95)

What exactly are "Stickies"?

This article has been archived and is no longer updated by Apple.
Stickies are on-screen electronic notes, similar to 3M Post-it brand notes, that can be customized with various colors and stylized text. You can use them to remind yourself of key meetings, phone calls, or important dates. You can print or mail your sticky memos using Macintosh Drag and Drop.

Article Change History:
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System 7.5: Telephone Manager Overview (2/95)

This article provides an overview of the Telephone Manager component of System 7.5.

This article has been archived and is no longer updated by Apple.
Apple's Telephone Manager has been available to developers for two years and is now built into the operating system with System 7.5. The Telephone Manager is part of the Macintosh Telephony Architecture (MTA), which provides a framework for the integration of personal computers and telephones.

The MTA framework lets developers create sophisticated telephony-based solutions that you can take advantage of with the built-in Telephone Manager support in System 7.5. Solutions include:

Telephony-Aware Applications

Telephony-aware applications that tie software applications to telephone functions. These include applications such as contact managers that can initiate telephone calls, databases that present information automatically based on incoming calls, calendaring programs that automatically dial scheduled conference calls, accounting applications that can automate accounts receivables follow-up phone calls, and electronic-forms applications that let individuals call the originator of a form before approving it.

Screen-based Telephony Applications

Screen-based telephony applications that provide you with an interface for a virtual telephone on your Macintosh desktop. At a basic level, these applications provide an easier-to-use, and better integrated alternative to the keypad on a telephone ?- letting you place calls, answer calls, transfer and hold calls, and so on, with a simple, direct-manipulation user interface. Examples include programs that log call times for professionals charging hourly rates, and phone applications for receptionists who juggle many calls simultaneously. Given how frequently most people use their telephones, these applications can quickly become essential to day-to-day productivity.

Programmed Telephony Applications

Programmed telephony applications that let you script a Macintosh computer to handle incoming calls and interact with callers to create telephone-based information retrieval systems, voice mail, and personal agents.

Telephony applications can be combined with PowerTalk's catalogs technology for the storage of telephone numbers and other personal information. This provides a real-time application of PowerTalk's integration of store-and-forward collaboration to the Macintosh user experience.

By offering built-in support for telephony, System 7.5 helps you benefit from the efficiencies of computer-telephone integration.

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System 7.5: Thread Manager Overview (11/95)

This article provides an overview of the Thread Manager component of System 7.5.

This article has been archived and is no longer updated by Apple.

Introduction

The Thread Manager is an addition to the Macintosh Toolbox that enables concurrent programming for true multitasking within an application. The Thread Manager supports cooperative and preemptive threads of execution at the application level, not at the system level.

The Thread Manager has the same rights and privileges as other services in the Macintosh Toolbox. The Thread Manager works on all Macintosh platforms running System 7 or later.

Thread Manager Overview

The Thread Manager has two types of threads: cooperative and preemptive. Additionally, the Thread Manager provides the basic services for creating, scheduling, and deleting threads and for gathering thread status.

Thread

A thread is a sequence of instructions executed in a program. A thread has a program counter and a stack to keep track of local variables and return addresses. A multithreaded process is associated with one or more threads.

Threads share process instructions and most of their data. Threads that share the process state have considerable interaction; it is possible for them to affect each other because there is no system-enforced protection between threads.

Threads also share the open files; each thread sees the same open files. If one thread opens a file, another thread can read it. If shared data changes, it can be seen by other threads in the process.

Cooperative Threads

Cooperative threads allow cooperative multitasking. They are the most effective to use for scheduling and accessing Toolbox traps. Cooperative threads have the same capability as a standard application when working with memory allocation, file I/O, QuickDraw, and other resources. Operationally, cooperative threads yield to other cooperative threads only when the application explicitly makes one of the Thread Manager yield calls or changes the state of the current cooperative thread.

Cooperative threading in the Thread Manager works similar to the cooperative threading in the earlier Threads Package. The advantage of using the Thread Manager is that thread stacks are register-swapped during a context switch.

Preemptive Threads

Preemptive threads allow true multitasking at the application level. When an application gets control from the Process Manager, preemptive threads for that application are allowed to run.

Preemptive threads differ from cooperative threads because they can interrupt the currently executing thread at any time to resume execution. Preemptive threads can be designed to yield back to the just-preempted cooperative thread using a Thread Manager yield call or to wait for its time quantum to expire.

If the interrupted cooperative thread is in the stopped state, the next available preemptive thread is made to run. Preemptive threads then preempt each other in a round-robin fashion until the interrupted cooperative thread is made ready.

Data Type

Data type is an identifier within the Thread Manager that provides the identity and status of the thread. There are several data types in the Thread Manager. Data types determine the type of thread (cooperative or preemptive), the state of a thread (running, ready, or stopped), and a set of options for creating new threads.

The Main Thread

When an application launches with the Thread Manager installed, the Thread Manager automatically defines the application entry point as the main cooperative thread. The main cooperative thread is commonly referred to as the application thread or main thread.

End of the Thread

When threads finish executing, the Thread Manager automatically disposes of them. Preemptive threads are recycled to avoid moving memory. Recycling a thread causes the Thread Manager to clear out the internal data structure, reset it, and place the thread in the proper thread pool. (There are two pools: one for cooperative and one for preemptive threads.) Since recycling a thread doesnt move memory, preemptive threads can dispose of themselves and other threads safely.

Requirements

The Thread Manager is part of the Macintosh Toolbox. Thread Manager requires System 7 or later.

Article Change History:

29 Nov 1995 - Added keyword, reviewed for technical accuracy.

TA32209_System_Thread_Manager_Overview__(TIL15963).pdf

Support Information Services

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AELC: Installing Grady/Writing Center from Backup CD (8/94)

The Teacher Station of the Apple Early Language Connections (AELC) bundle includes two programs that are NOT installed on the Student stations: Grady Profile and The Writing Center. When I try to reinstall the Teacher software from the Backup CD these two programs are not installed. Why?

This article has been archived and is no longer updated by Apple.
The Easy Install option on the AELC Backup CD installs only the student software. To install all of the Teacher software, select "Customize" in the Installer, choose "Teacher Software" from the list of available options and click on the "Install" button.

Support Information Services
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Newton Print Pack 1.0: Compatible Printers (M-X)

Listed below are printers that will print to a Newton MessagePad when used with the Newton Print Pack.
This article has been archived and is no longer updated by Apple.

Mannesman Tally

Manufacturer	Model	Driver
Mannesman Tally	MT 150/9	FX
Mannesman Tally	MT 150/24	LQ
Mannesman Tally	MT 151/9	FX
Mannesman Tally	MT 151/24	LQ
Mannesman Tally	MT 81	FX
Mannesman Tally	MT 82	LQ
Mannesman Tally	MT 85	FX
Mannesman Tally	MT 86	FX
Mannesman Tally	MT 87	FX
Mannesman Tally	MT 88	FX
Mannesman Tally	MT 92C	DJ
Mannesman Tally	MT 130/9	FX
Mannesman Tally	MT 130/24	LQ
Mannesman Tally	MT 131/9	FX
Mannesman Tally	MT 131/24	LQ
Mannesman Tally	MT 222	LQ
Mannesman Tally	MT 230/9	FX
Mannesman Tally	MT 230/24	LQ
Mannesman Tally	MT 290	FX
Mannesman Tally	MT 330	LQ
Mannesman Tally	MT 340	FX
Mannesman Tally	MT 490	FX
Mannesman Tally	MT 645	FX
Mannesman Tally	MT 661	FX
Mannesman Tally	MT 691	FX
Mannesman Tally	MT 735	LJ II
Mannesman Tally	MT 904	LJ II
Mannesman Tally	MT 905	LJ II
Mannesman Tally	MT 906	LJ II
Mannesman Tally	MT 906WP	LJ II
Mannesman Tally	MT 908	LJ II
Mannesman Tally	MT 911	LJ II
Mannesman Tally	MT 911PS	LJ II
Mannesman Tally	MT 7400C	DJ

NEC

Manufacturer	Model	Driver
NEC	P5XL	LQ
NEC	P6	LQ
NEC	P7	LQ
NEC	P9	LQ
NEC	P20	LQ
NEC	P30	LQ
NEC	P60	LQ
NEC	P70	LQ
NEC	P90	LQ
NEC	P2200	LQ
NEC	P2200XE	LQ
NEC	P3200	LQ
NEC	P3300	LQ
NEC	P5200	LQ
NEC	P5300	LQ
NEC	P6200	LQ

NEC	P6300	LQ
NEC	P8300	LQ
NEC	P9300	LQ
NEC	Silentwriter LC 260	LJ II
NEC	Silentwriter LC 860	LJ II

Okidata

Manufacturer	Model	Driver
Okidata	DOC*IT 3000	LJ II
Okidata	DOC*IT 4000	LJ II
Okidata	LaserLine 6	LJ II
Okidata	MicroLine 184 Turbo	FX
Okidata	MicroLine 280	FX
Okidata	MicroLine 320	FX
Okidata	MicroLine 320 Elite	FX
Okidata	MicroLine 321	FX
Okidata	MicroLine 321 Elite	FX
Okidata	MicroLine 380	LQ
Okidata	MicroLine 390	LQ
Okidata	MicroLine 390 Elite	LQ
Okidata	MicroLine 390 FB	LQ
Okidata	MicroLine 390 Plus	LQ
Okidata	MicroLine 391	LQ
Okidata	MicroLine 391 Elite	LQ
Okidata	MicroLine 391 Plus	LQ
Okidata	MicroLine 393	LQ
Okidata	MicroLine 393 B Plus	LQ
Okidata	MicroLine 393 C	LQ
Okidata	MicroLine 393 C Elite	LQ
Okidata	MicroLine 393 C Plus	LQ
Okidata	MicroLine 393 Elite	LQ
Okidata	MicroLine 393 Plus	LQ
Okidata	MicroLine 520	FX
Okidata	MicroLine 521	FX
Okidata	MicroLine 590	LQ
Okidata	MicroLine 591	LQ
Okidata	MicroLine 3410	FX
Okidata	OkiLaser 400	LJ II
Okidata	OkiLaser 800	LJ II
Okidata	OkiLaser 810	LJ II
Okidata	OkiLaser 820	LJ II
Okidata	OkiLaser 830	LJ II
Okidata	OkiMate 240	LQ
Okidata	PaceMark 3410	FX

Panasonic

Manufacturer	Model	Driver
Panasonic	KX-P1010	FX
Panasonic	KX-P1080	FX
Panasonic	KX-P1080i	FX
Panasonic	KX-P1090	FX
Panasonic	KX-P1091	FX
Panasonic	KX-P1091i	FX
Panasonic	KX-P1092	FX
Panasonic	KX-P1092i	FX
Panasonic	KX-P1093	FX
Panasonic	KX-P1123	LQ
Panasonic	KX-P1124	LQ
Panasonic	KX-P1124i	LQ

Panasonic	KX-P1160	FX
Panasonic	KX-P1180	FX
Panasonic	KX-P1180i	FX
Panasonic	KX-P1191	FX
Panasonic	KX-P1524	LQ
Panasonic	KX-P1592	FX
Panasonic	KX-P1595	FX
Panasonic	KX-P1624	LQ
Panasonic	KX-P1654	LQ
Panasonic	KX-P1695	FX
Panasonic	KX-P2023	LQ
Panasonic	KX-P2123	LQ
Panasonic	KX-P2124	LQ
Panasonic	KX-P2180	FX
Panasonic	KX-P2624	LQ
Panasonic	KX-P3123	LQ
Panasonic	KX-P3124	LQ
Panasonic	KX-P4410	LQ
Panasonic	KX-P4420	LJ II
Panasonic	KX-P4430	LJ II
Panasonic	KX-P4450i	LJ II
Panasonic	KX-P4451	LJ II

Roland

Manufacturer	Model	Driver
Roland	LP-800	DJ II
Roland	PR-1212A	FX
Roland	PR-1515	LQ
Roland	PR-2416	LQ
Roland	PR-2417	LQ
Roland	PR-2465	LQ
Roland	PR-9101	FX
Roland	PR-9104	FX
Roland	PR-9606	FX

Seikosha

Manufacturer	Model	Driver
Seikosha	BP-5420 FA	FX
Seikosha	BP-5460	FX
Seikosha	BP-5780	FX
Seikosha	LT-20	LQ
Seikosha	MP-1200 AI	FX
Seikosha	MP-1350 AI	FX
Seikosha	MP-3000 AI	FX
Seikosha	MP-3005 AI	FX
Seikosha	MP-5300 AI	FX
Seikosha	MP-5305 AI	FX
Seikosha	MP-5350 AI	FX
Seikosha	OP-104	LJ II
Seikosha	OP-108	LJ II
Seikosha	OP-115	LJ II
Seikosha	OP-215	LJ II
Seikosha	Priente 900	FX
Seikosha	Priente 2400	LQ
Seikosha	SBP-10 AI	FX
Seikosha	SBP-10 CX	FX
Seikosha	SBP-10 Plus	FX
Seikosha	SBP-10 TX	FX
Seikosha	SK-3000 AI	FX

Seikosha	SK-3005 AI	FX
Seikosha	SK-3005 Plus	FX
Seikosha	SL-80 AI	LQ
Seikosha	SL-90	LQ
Seikosha	SL-90 AI	LQ
Seikosha	SL-90 Plus	LQ
Seikosha	SL-92 Plus	LQ
Seikosha	SL-130 AI	LQ
Seikosha	SL-210	LQ
Seikosha	SL-230 AI	LQ
Seikosha	SL-270	LQ
Seikosha	SL-532	LQ
Seikosha	SP-10 Plus	FX
Seikosha	SP-185 AI	FX
Seikosha	SP-1600 AI	FX
Seikosha	SP-1900 Plus	FX
Seikosha	SP-2000 AI	FX
Seikosha	SP-2000 Plus	FX
Seikosha	SP-2000 S	FX
Seikosha	SP-2400	FX
Seikosha	SP-2415	FX

Sharp Electronics

Manufacturer	Model	Driver
Sharp Electronics	JX-9500	LJ II
Sharp Electronics	JX-9500H	LJ II
Sharp Electronics	JX-9500PS	LJ II
Sharp Electronics	JX-9550	LJ II
Sharp Electronics	JX-96500	LJ II
Sharp Electronics	JX-9700	LJ II

Star Micronics

Manufacturer	Model	Driver
Star Micronics	LaserPrinter 4	LJ II
Star Micronics	LaserPrinter 8II	LJ II
Star Micronics	LC 10	FX
Star Micronics	LC 20	FX
Star Micronics	LC 24-15	LQ
Star Micronics	LC 24-20	LQ
Star Micronics	LC 24-200	LQ
Star Micronics	LC 24-200 Colour	LQ
Star Micronics	LC 200	FX
Star Micronics	NB 15	LQ
Star Micronics	NB 24-10	LQ
Star Micronics	NB 24-15	LQ
Star Micronics	NX 15	FX
Star Micronics	NX 1000	LQ
Star Micronics	NX 1000 II	FX
Star Micronics	NX 1000 Rainbow	FX
Star Micronics	NX 1001	FX
Star Micronics	NX 1020 Rainbow	FX
Star Micronics	NX 1500	FX
Star Micronics	NX 2400	LQ
Star Micronics	NX 2410	LQ
Star Micronics	NX 2415	LQ
Star Micronics	NX 2420 Rainbow	LQ
Star Micronics	NX 2430	LQ
Star Micronics	StarJet SJ-48	LQ
Star Micronics	XB 2410	LQ

Star Micronics	XB 2415	LQ
Star Micronics	XB 2420	LQ
Star Micronics	XB 2425	LQ
Star Micronics	XR 1000	FX
Star Micronics	XR 1020	FX
Star Micronics	XR 1500	FX
Star Micronics	XR 1520	FX

Tandy/Radio Shack

Manufacturer	Model	Driver
Tandy/Radio Shack	DMP 103	FX
Tandy/Radio Shack	DMP 135	FX
Tandy/Radio Shack	DMP 136	LQ
Tandy/Radio Shack	DMP 240	LQ
Tandy/Radio Shack	DMP 302	LQ
Tandy/Radio Shack	DMP 2103	LQ
Tandy/Radio Shack	DMP 2104	LQ
Tandy/Radio Shack	DMP 2130	LQ
Tandy/Radio Shack	LP 950	LJ II
Tandy/Radio Shack	LP 990	LJ II

Texas Instruments

Manufacturer	Model	Driver
Texas Instruments	875	LQ
Texas Instruments	877	LQ
Texas Instruments	8920	FX
Texas Instruments	8930	FX
Texas Instruments	microLaser	LJ II
Texas Instruments	microLaser Plus	LJ II
Texas Instruments	microLaser Plus PS17	LJ II
Texas Instruments	microLaser Plus PS35	LJ II
Texas Instruments	microLaser PS	LJ II
Texas Instruments	microLaser PS17	LJ II
Texas Instruments	microLaser Turbo	LJ II
Texas Instruments	microLaser XL	LJ II
Texas Instruments	microLaser XL PS17	LJ II
Texas Instruments	microLaser XL PS35	LJ II
Texas Instruments	microLaser XL Turbo	LJ II

Toshiba

Manufacturer	Model	Driver
Toshiba	ExpressWriter 201	LQ
Toshiba	ExpressWriter 420	LQ
Toshiba	ExpressWriter 440	LQ
Toshiba	GX200	LJ II
Toshiba	GX400	LJ II
Toshiba	PageLaser 6	LJ II
Toshiba	PageLaser 12	LJ II

Xerox

Manufacturer	Model	Driver
Xerox	4197 MICR	LJ II
Xerox	4213	LJ II

Xerox	4235	LJ

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ImageWriter and DMP: 5 A Fuse Keeps Blowing (Dead Printer)

This article has been archived and is no longer updated by Apple.

NOTE: You will need an ohm-meter for this procedure.

PROBLEM DESCRIPTION: Printer has no line feed, carriage movement, or dot fire because the 5 Amp fuse is blown. After the fuse is replaced and Self Test is tried, the fuse blows again.

CAUSE: Probably either the line feed or carriage stepper motor has shorted a winding, causing the fuse to blow.

CURE: TO CHECK THE LINE FEED MOTOR (DMP and IW have same stepper motors)
1. Remove the logic PCB, disconnect plug CN1 (line feed stepper motor connector for both DMP and ImageWriter).

2. Measure for approximately 65 ohms between the following pins with an ohm-meter: 6 to 2, 6 to 4, 5 to 1, and 5 to 3.

3. If any measurement is significantly less than 65 ohms, that probably means that a winding is shorted in the line feed motor and it should be replaced. (The DMP's line feed stepper motor is not listed as a replacement part. However, the line feed stepper motor for the ImageWriter will also work for the DMP. ImageWriter line feed stepper motor P/N is 699-0109).

TO CHECK THE CARRIAGE MOTOR
1. Remove the logic PCB, disconnect plug CN3 (Carriage stepper motor connector for both DMP and ImageWriter).

2. Measure for approximately 10 ohms between the following pins with an ohm-meter: 6 to 2, 6 to 4, 5 to 1, and 5 to 3.

3. If any measurement is significantly less than 10 ohms, that probably means that a winding is shorted in the line feed motor and it should be replaced.

IF BOTH STEPPER MOTORS CHECK OUT
There is probably a short on the main PCB so replace it.

If this cure does not resolve the problem, go back to the Word Search screen and search on the product's name and HTS and GTS to obtain a General Troubleshooting procedure.

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Newton OS 1.x: Supported Printers

What Printers are supported by the Apple MessagePad, MessagePad 100, MessagePad 110, and MessagePad 120 using the Newton OS 1.x?
This article has been archived and is no longer updated by Apple.
The following Apple printers are supported:

- StyleWriter & StyleWriter II
- Personal LaserWriter LS
- Personal LaserWriter 300

All Apple LocalTalk networkable LaserWriters such as:

- LaserWriter
- LaserWriter Plus
- LaserWriter II, IInt, IIntx, IIf, and IIg
- LaserWriter Pro 600, 630, and 810
- Personal LaserWriter 320
- LaserWriter Select 360
- LaserWriter 16/600 PS
- LaserWriter 4/600 PS
- Color LaserWriter 12/600 PS (not in color)

Note: Non-Apple, networkable laser printers may work with the Apple MessagePad, however these have not been tested by Apple Computer.

The following Apple printers are not supported:

- Scribe
- ImageWriter I, II, & LQ
- Color StyleWriter 2400
- StyleWriter 1200
- Color StyleWriter Pro
- Apple Color Printer
- LaserWriter IIsc
- Personal LaserWriter SC
- LaserWriter Select 300 and 310

Note: Non-Apple printers used with the Macintosh computer that require a serial connection, or are not laser printers, such as the Hewlett-Packard DeskWriter are not supported.

With the purchase of the Newton Print Pack, hundreds of other printers are available. A list of printers that the Newton Print Pack supports is available in the article "Newton Print Pack: Compatible Printers".
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LaserWriter Pro 810: Printing From Windows NT

Does the LaserWriter Pro 810 have a printer driver for Windows NT?
This article has been archived and is no longer updated by Apple.
Microsoft includes a print driver for the LaserWriter Pro 810 with Windows NT 3.5, NT 3.51, and NT 4.0.

Since there is not a LaserWriter Pro 810 driver specifically designed for Windows NT 3.1 and Windows NT Adv. Server 3.1, you must choose another Apple LaserWriter from the NT printer driver menu. For example, the Apple LaserWriter IINT or Apple LaserWriter IIg selection will allow you to print to the LaserWriter Pro 810.

Windows NT can print to LaserWriter Pro 810 via IPX/SPX, TCP/IP, AppleTalk, and DEC LAT.
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System 7.5: Enhanced Large Volume Size Support

I understand that under System 7.5, the maximum hard drive volume size has been increased from 2 GB to 4 GB. How was this accomplished?
This article has been archived and is no longer updated by Apple.
A set of modifications to the Finder and HFS were implemented to raise the maximum volume size of 2 GB to 4 GB. This was done by treating volume sizes as unsigned values. The exact upper limit is 4063 MB. System 7.5.2 (and newer) increases this limit to 2 terabytes on some computers, including:

- any system that shipped with System 7.5.2 or newer.
- any Macintosh system with PCI slots.

It is not necessary to have SCSI Manager 4.3 installed to take advantage of the larger volume sizes.

Note that AppleShare, including Personal File Sharing, has its own volume size limitations. For more information, please see the following Tech Info Library article:

Article 15460: "**AppleShare File Server: Chart Of All Limitations**"
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ImageWriter II/L: 32K RAM Buffer Is Not Compatible (8/94)

I have a 32K RAM buffer for the ImageWriter II, can I use this in the ImageWriter II/L printer?

This article has been archived and is no longer updated by Apple.
The ImageWriter II/L was redesigned to include a 24K RAM buffer. The 32K RAM buffer designed for the ImageWriter II is not compatible with ImageWriter II/L.

Support Information Services
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AppleShare 4.0: Control Fonts, Client or Print Server

In the AppleShare 4.0 Print Server, which system is responsible for having the fonts for a print job, the client system creating the job or the print spooler that the job is going to?
This article has been archived and is no longer updated by Apple.
The client is responsible for downloading the fonts if required to process a print job. The print server does maintain a list of the fonts available on the printer that the client queries, to determine which fonts are required to be downloaded.

Below is more detail into this printing process:

* The process of workstation to spooler is identical to that of workstation to printer. The AppleShare Print Server keeps a list of the LaserWriter's ROM, RAM, or hard drive resident fonts in RAM and it responds to the workstations FontQuery postscript command exactly as the printer would. If the font isn't in the list, then the workstation sends the font to the spooler, who in turn sends it to the printer.

* The fonts installed on a hard drive to some SCSI capable LaserWriters (IINTX, IIf, IIg, and Pro series) appear as though they were in the LaserWriter ROM. Adobe and Apple designed the hard drive option so the LaserWriter operates transparently, and the user can access the additional fonts without having to download them with utilities.

* There is no relation between the font file in the Print Server's System Folder and the downloaded fonts. If the Print Server's System Folder has the desired outline font, but the printer does not, the workstation will send the font to the spooler along with the job. If the workstation does not have a copy of the necessary outline font, the spooler CANNOT use its own copy and a bitmap version is used (or a substitute font if that option is selected).

* Our FontQuery command is used whether a print server is present or not, and the font list maintained by the print server changes as fonts are downloaded to the printer.

* During the capture process the print server builds its font list for the LaserWriter from the LaserWriter's responds to a FontList postscript command. The list remains until the server is shutdown or the LaserWriter is released. The list is dynamically updated as the spooler downloads files to the LaserWriter.
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Quadra 660AV: Poor Quality Output From Video-Out (8/94)

A Quadra 660AV customer gets very low quality output from the video-out port. Using composite or S-Video gives the same low quality.

Since we are in Europe he is using PAL TV-standard, he has tried the different settings in the Monitors Control Panel, but can't get good quality.

Do you have any suggestions?

This article has been archived and is no longer updated by Apple.
While they appear similar, in fact, computer graphics and television video are extraordinarily incompatible. It is a significant achievement for Apple to have bridged these two worlds with a cost effective design. The output that the customer is getting is probably as good as they are going to get with the existing Macintosh video output hardware in the 660AV.

What the hardware has to do is convert a very high quality, 30MHz 640 by 480 pixel 66.7 Hz non-interlaced RGB Macintosh signal into a lower quality 15MHz 768 by 576 line PAL signal interlaced at 50Hz (25 frames per second). There are differences between the total number of active lines the Macintosh produces and the number produced by PAL video. We will produce 576 active lines while PAL video uses about 590. Some lines are blanked and rendered as black. This is necessary to maintain the 3:4 screen aspect ratio with a square pixel graphics model. Unfortunately, the circuitry that we supply on the Macintosh 660AV cannot perform that task at a very high quality and there is no workaround.

The only solution to get high quality video output from the Macintosh 660AV to videotape is to use a third party scan converter. Scan converters will convert an RGB signal to a PAL signal with convolution to eliminate single line flicker. Information about scan converters can be found on AppleLink in the Technical Information Library.

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QuickDraw GX: How GX Fonts Differ From TrueType Fonts (5/96)

How does a QuickDraw GX specific font differ from a TrueType font?

This article has been archived and is no longer updated by Apple.

In QuickDraw GX, a letter seen on screen may not actually be representative of a single keystroke on a keyboard. QuickDraw GX introduces Characters, Glyphs, and codes to aid in generating a character or group of characters on screen.

A character is an abstract object having a single and unique semantic or phonetic meaning. A glyph represents the visual, graphical appearance of a character. For example, the glyphs for bold A, italic A, and underlined A are all graphical objects which may all be used to represent the character "A."

A font is a collection of glyphs that usually has some element of design consistency in appearance (such as serifs or stroke thickness), along with other information such as which glyphs represent ligatures or contextual forms.

Glyphs do not have a one-to-one relationship to characters: a given character may be represented by one or more glyphs (for example, "ï" could be represented by 2 glyphs: a vertical stem plus a dot above the stem), and two or more characters can display as a single glyph. Context also affects the glyph used to represent a character. For example, in a cursive font a character may have four glyphs: a separate glyph for the character at the beginning, middle, and end of a word, and a glyph for the character in isolation. This is particularly true in context-sensitive written languages such as Arabic.

A complex font contains information associating some glyph indices with certain combinations of characters and rules. For example, information in a font may associate the glyph ID (or code) $1A01 (which happens to have the appearance "fi" - where the f and i are connected as a single character) with the combination of the two characters $0066 ("lowercase f") followed by $0069 ("lowercase i"). Any font lacking such associative information is called a simple font. All TrueType fonts released with System 7.0 and System 7.0.1 are simple fonts.

The glyphs in a complex font can be divided into two classes: rendering forms, for which combination rules appear, and character glyphs, which have a one-to-one correspondence with character codes. Rendering forms include ligatures, applied marks, and contextual forms. In general, only character glyphs will contain entries in the font's character-to-glyph mapping table (since QuickDraw GX uses other tables in the font to generate rendering forms).

In order to utilize the new functionality in the QuickDraw GX, fonts must carry font information in the form of font tables describing the attributes for such things as baselines, glyphs, metamorphosis, kashidas, and more. TrueType GX fonts have these font tables.

In addition, a new style variation feature has been added to some fonts.

Font Families

The term font family refers to a group of fonts that share many characteristics. Helvetica, Helvetica Bold, and Helvetica Narrow are examples of fonts in a font family. Previously, a FOND resource was used to indicate font families. QuickDraw GX uses the font name table to detect font families instead of the FOND resource.

Extended Styles

QuickDraw supported the model of a font family with a set of predefined styles. These were plain, bold, italic, condensed, extended, underline, outline, and shadow. When a font was wanted in a certain style, it was left up to the Font Manager to first search for a font in the system that matched the desired style, and if one was not found, to algorithmically create the style from plain.

The new font system supports the model of a font family with an arbitrary number of named styles. Each style represents a designed typeface, such as "Regular," "Bold," "Demibold," and "Extra Condensed." The new graphics system supports variable amounts of algorithmic styling to be applied to the specific typeface supplied by the application.

Style Variations

A new style option is the concept of style variations. Similar in capability to Adobe's Multiple Master technology, these new fonts can support many degrees of boldness, condensing, or other features from one typeface. The font has multiple styles of a typeface built in to itself. The system then can interpolate between the styles to create type with a specific look. A font variation is an algorithmic method for producing a specific style along a variation axis, or range of font styles. That specific instance of a font style would be called a font instance.

Since such latitude exists with a single font, an entire page can be laid out using only one font. However, by varying the style, it will not look monotonous. In addition, style variation can be used by an application to substitute for a font that is not available in the system and still maintain the same spacing. This avoids reflowing of the document.

Font Files

QuickDraw supported only fonts that were stored as resources. The new font system allows a font to be stored in a file's resource or data fork, or simply handled in memory. In addition, fonts that are stored in files never need to be read into memory all at once, allowing applications to use and edit fonts that need to be disk resident because of their size (for example, Asian fonts, which are about 6 megabytes per font).

Font Names

QuickDraw relied upon the resource name to identify the font families. This made it impossible to have multilingual family names and provided no support for arbitrarily named styles. The new font system supports fonts with multilingual names for their family and style, as well as names describing the typeface itself (Helvetica Bold), a unique name (Apple Computer Helvetica Bold 10), and others.

Open Font Architecture

The new graphics system has been designed to accommodate multiple, separately loadable scalers. Initially, only TrueType and Type 1 (from Adobe) scalers will support this interface, but over time it may be used by other scaler types.

The new scaler interface, Font Scaler API, is defined. The TrueType scaler was modified to adhere to the new interface. Adobe implemented a

compatible version of their Type 1 scaler, which will be shipped with QuickDraw GX as part of ATM GX. The new graphics system accommodates the interface, such that the particular scaler will be invoked based upon the font currently selected by the application.

Adobe will store Type 1 fonts as "sfnts" (as TrueType fonts have been), but will include new outline and hinting table(s) for the Type 1 data. In this way, the Font Manager will not need to change to accommodate Type 1 fonts, yet Type 1 fonts will be fully functional under QuickDraw GX.

Article Change History:

15 May 1996 - Corrected the word monotonous.

23 May 1995 - Replaced high ASCII characters with simpler explanations.

14 Feb 1995 - Reviewed for technical accuracy.

Published Date: Feb 19, 2012

PrintMonitor: Suggested Size = N/A

I am unable to print. Every time I try to print various errors come up including "not enough memory to print". When I "Get Info" on my PrintMonitor in order to change the memory allocation, it says that the suggested size is "N/A".
This article has been archived and is no longer updated by Apple.
The PrintMonitor has been corrupted. You will need to replace it. Follow this procedure:

* Locate your original System Software disks that came with your Macintosh computer or the disks that came with your Apple printer.
* Open the Extensions Folder in the System Folder on the hard drive.
* Locate the PrintMonitor and drag it to the trash.
* Empty the trash.
* Drag a new copy of PrintMonitor into your Extensions folder from one of the System Software disks. (The disk name is usually "Printing"). Or you can copy PrintMonitor from one of your Apple printer disks.
* Restart your computer.

Note: Some newer System Software disk sets now only contain compressed files on the disks. The PowerBook 500 series System Software disk set is an example of this. You won't be able to just drag a copy of PrintMonitor from one of these disks because the files need to be decompressed by the Apple Installer.

If you have a Macintosh computer with this type of disk set, follow this procedure:

* Locate your original System Software disks or the disks that came with your Apple printer.
* Open the Extensions Folder in the System Folder on the hard drive.
* Locate the PrintMonitor and drag it to the trash.
* Empty the trash.
* Insert the "Install Me First" disk.
* Double-click on the Installer icon.
* Welcome to the Apple Installer dialog appears. Click "OK".
* Click "Customize".
* Select "Software for All Apple Printers" from the list of options.
* Click "Install".
* Insert the "Printing and Fonts" disk when prompted.
* Re-insert the "Install Me First" disk when prompted.
* Restart your computer.

Published Date: Feb 19, 2012

ImageWriter and ImageWriter II: Prints Out Hex Codes

This article has been archived and is no longer updated by Apple.

PROBLEM DESCRIPTION: When normal ASCII text is sent to the printer for a print it is printed in hexadecimal form (something like the hex dump below).

00 AF E3 5F 3D FF FF FF EF AF 5D 3E 5F FF FF FF FF FF FF
7F 9E 7A 4F FF FF FF FF 3F 12 1F 3F 23 23 DF EF AF 3D 5E

CAUSE: 1. If the Select button is accidently pressed when the printer is turned on (something that is very easy to do with the IW II), the printer will print all text sent to it in hex.

2. Sometimes if the computer is turned off and on while connected to the printer, the printer may receive a glitch that it interprets as a command from its host (the computer) to print in hexadecimal.

CURE: In either case, turning off the printer and then turning it back on again will cause it to return to all default settings (including normal print mode).

Published Date: Feb 19, 2012

Macintosh Basics: Can‘t Open Files in Mac Basics Fldr (8/94)

When I double-click on a file in the Macintosh Basics folder, my Macintosh tells me it can't be opened because it can't find the application program that created it. Why does this happen? Is my Macintosh missing software?

This article has been archived and is no longer updated by Apple.
The Macintosh Basics application uses the files in the Macintosh Basics folder only when you are running the Macintosh Basics application. When you not running Macintosh Basics, you don't need to open these files. The files consist of graphics and other items used by the Macintosh Basics application.

The reason why you see the message stated above is that these files were created using an application called MacroMind Director. You probably do not have this application on your hard drive. It is important to note that you do not need MacroMind Director to view these files. These files only need to be viewed when you are running the Macintosh Basics application.

Support Information Services
Published Date: Feb 19, 2012

Power Macintosh: Slow SoftWindows Performance with GeoPort

This article describes workarounds addressing slow SoftWindows performance on a Power Macintosh using the GeoPort Telecom Adapter and the Express Modem software.

This article has been archived and is no longer updated by Apple.
SoftWindows performance can slowdown between 25% - 50% when the Express Modem software is enabled and waiting for a call. Either Fax Terminal or a data communication program set to auto answer can also cause this behavior.

If you do not need to use a modem while using SoftWindows, configure SoftWindows to ignore the modem port by going to the "Setup Menu," choosing "PC Serial Ports" and setting "COM1" and "COM2" to NONE. This should keep SoftWindows from accessing the serial ports which subsequently will turn on the Express Modem software. Also, be sure that fax receive is turned off in the Fax Terminal program.

In most circumstances, use Macintosh Modem software for better performance. The overhead of x86 emulation in SoftWindows and emulating a modem extract a heavy performance toll when using DOS communication programs.

Support Information Services
Published Date: Feb 19, 2012

MAE: How To Enhance Performance (8/94)

Are there some things about installing MAE that might help performance? I loaded the MAE demo version on my Sparcstation 20 this morning. My first impression of the software is that it's a very slow emulator, for example window and menu operations are sluggish. I may not have everything set up correctly for the Sparcstation and/or MAE. The Sparcstation has 64 MB of RAM and 2 GB of disk space. MAE was set for 20 MB of RAM. MultiSpec was set for 3 MB of RAM.

Following are the timing comparisons for a 2-class, 7-channel classification of 28,561 pixels. This was done using the non-coprocessor version of the MultiSpec application since the 68881 is not emulated.

Sparcstation 20/MAE 2400 seconds.
Macintosh IIfx 161 seconds.

Macintosh IIfx using 68881 15 seconds.
Power Macintosh 8100 native mode 2 seconds.

This article has been archived and is no longer updated by Apple.
We think the following settings should speed your MAE graphics performance to about Macintosh IIci speeds. These settings are for a Sun workstation running Solaris 2.3. We suggests as Root user adjusting the file "/etc/system" to include the following:

Note: These are merely suggestions, you should take your specific environment into consideration as well.

set maxusers=# (# = a numerical value i.e. 20, 32, and so on)
set shmsys:shminfo_shmmax=8388608
set shmsys:shminfo_shmmin=1
set shmsys:shminfo_shmmni=200
set shmsys:shminfo_shmseg=12

We are assuming your System Folder and other files and directories are NOT on remote NFS disk space/mount points.

Support Information Services

Published Date: Feb 19, 2012

PC Exchange 1.0.5: Modified File Dates Problem (8/94)

When I insert a PC disk into the disk drive, and open a file using an open dialogue box with PC Exchange 1.0.5, all of the modification dates of the files on the disk are then changed to the current date on the Macintosh. It is important to be able to retain the original document creation date. Will PC Exchange 2.0.1 corrects this problem?

This article has been archived and is no longer updated by Apple.
We were able to duplicate the problem and verify that it has been fixed in Macintosh PC Exchange 2.0.1 and later. Below are the steps used to test PC Exchange 1.0.5 and 2.0.1.

System configuration: Quadra 610 DOS Compatible, 8MB RAM with a 160 MB Hard drive, and System 7.1.

1) Formatted 2 floppies on a Dell 486DX/50, hereafter called Disk 1 and Disk 2.
2) Copied various files to Disk 1.
3) Copied Disk 1 to Disk 2.
4) Loaded Macintosh PC Exchange 1.0.5 on Quadra 610, and restarted computer.
5) Insert Disk 1 into Quadra 610, and launched SimpleText.
6) Select "Open" from "File" menu.
7) When STDFile Open Dialog box comes up, click "Desktop" button, then double-click Disk 1.
8) Open text file on Disk 1 from SimpleText.
9) Close text file without modifying and quit SimpleText.
10) Open Disk 1 from the Finder, viewed by name and found all modified dates changed to current date and time.

We then tested Disk 2 with PC Exchange 2.0DC.

1) Loaded Macintosh PC Exchange 2.0DC on Quadra 610, and restarted computer.
2) Insert Disk 2 into Quadra 610, and launched SimpleText.
3) Select "Open" from "File" menu.
4) When STDFile Open Dialog box comes up, click "Desktop" button, then double-click Disk 2.
5) Open text file on Disk 2 from SimpleText.
6) Close text file without modifying and quit SimpleText
7) Open Disk 2 from the Finder, viewed by name and found all modified dates have not changed.

The results were the same for Macintosh PC Exchange 2.0.1 as they were for Macintosh PC Exchange 2.0DC, it looks like the problem has been fixed.

Support Information Services

Published Date: Feb 19, 2012

Newton Connection Kit: Disk Errors Occur When Exporting

I am using the Newton Connection Kit 2.0 with my Quadra 700, and everytime I try to export into the DateBook Pro format, I get a disk error message. What is wrong?

This article has been archived and is no longer updated by Apple.

Remove any digital ink from the Calendar application on the Newton MessagePad, and the problem goes away.

Published Date: Feb 19, 2012

Power Macintosh: Amount of Virtual Memory Reported

When virtual memory is enabled in the Memory control panel, the amount that is reported in the "About This Macintosh" window (under System 7.0 to 7.5.5) or "About This Computer" (in Mac OS 7.6 and later) is more than expected. For example, with virtual memory set to 16 MB, this window reports 17,228 KB available.

Even taking into account the 1024K memory value instead of 1000, the memory allocation does not add up. What is taking up the additional memory?
This article has been archived and is no longer updated by Apple.
The total memory value in "About this computer" (7.6 and later) and "About this Macintosh"(7.1.2 - 7.5.x) is obtained from the "lram" (logical RAM) Gestalt selector. This number is calculated slightly different on the Power Macintosh due to memory used by the NanoKernel (68K emulator). An adjustment to the number is performed to yield the best possible estimate of the remaining RAM as shown in the value for the largest unused block.

The discrepancy in values returned from different machines are usually caused by various color depth settings for on-board video. The expected discrepancy for the NanoKernel should be around 870K.
Published Date: Feb 19, 2012

Color StyleWriter Pro: Error Due to Amount of RAM (1/95)

I recently added additional memory to my Power Macintosh computer, so it now has 72 MB of RAM. When I try to print, to the Color StyleWriter Pro, I get a -39 error. If I pull out two of the SIMMs, the problem goes away.

This article has been archived and is no longer updated by Apple.
This is a known problem with the Color StyleWriter Pro driver v1.5 and how it handles it memory space. This problem is documented in the Color StyleWriter Pro v1.5 ReadMe document. To correct this problem, use the Color StyleWriter Pro driver v1.5.2.

These articles can help you locate software updates mentioned here:

* Where To Find Apple Software Updates
Lists online services for "free" Apple software updates

* Obtaining Apple Product Support in the USA
Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech. Info. Library

Article Change History:
13 Jan 1995 - Added information on new printer driver.
09 Dec 1994 - Added information on System Update 4.0.

Support Information Services
Published Date: Feb 19, 2012

LaserWriter P/C: Green LED Flashes Long While Then Goes Out

This article has been archived and is no longer updated by Apple.

PROBLEM DESCRIPTION: The 47 Ohm socketed resistor on the fuser safety PCB may be blowing.

CAUSE: The fuser bulb in the fuser assembly is not making good contact. The 47 Ohm resistor on the fuser safety PCB, which acts as a fuse, will blow to protect the rest of the fuser circuitry. Sometimes the fuser bulb is shaken out of good contact during shipment or the fuser resistor just fails. It does not necessarily mean that any other part on the fuser has failed.

CURE: Make sure that the fuser bulb is securely installed. Then replace the 47 ohm fuse/resistor on the fuser safety PCB.

If the above cure does not solve your problem, refer to the LaserWriter Printer Technical Procedures for the general troubleshooting procedure.
Published Date: Feb 19, 2012

LaserWriter Pro 630: PostScript Code to Change Resolution

I have a LaserWriter Pro 630 connected to a UNIX workstation using a serial connection. I would like to change the printing resolution from 300 to 600 dpi using PostScript. What is the PostScript code I need to do this?
This article has been archived and is no longer updated by Apple.
The following PostScript code changes the printer's resolution to either 300 or 600 dpi. The PostScript array, [xxx xxx], contains two values, for vertical and horizontal resolution. These values must be the same, either both are 300 or 600.

Caution: If you choose to use the PostScript code provided in this article, you assume all risks involved in making these changes. PostScript code, if not entered correctly, can place the LaserWriter into a condition requiring service.

You may change the resolution for a specific print job, or make the change persistant across print jobs.

To change the resolution for a particular job, include the following code in your print job:

```
Change to 600 dpi
1 dict dup /HWResolution [600 600] put setpagedevice

Change to 300 dpi
1 dict dup /HWResolution [300 300] put setpagedevice
```

To make the settings persistent across jobs, (settings remain until you change it with other PostScript code or a utility that changes the resolution), execute the command outside the server loop:

```
Change to 600 dpi
serverdict begin 0 exitserver
1 dict dup /HWResolution [600 600] put setpagedevice

Change to 300 dpi
serverdict begin 0 exitserver
1 dict dup /HWResolution [300 300] put setpagedevice
```

Published Date: Feb 19, 2012

Internet: BinHex Translation Error

This article describes the improper BinHex format error that occurs when downloading files from Internet ftp servers and gives methods of avoiding future errors.
This article has been archived and is no longer updated by Apple.
Customers may complain of BinHex translation problems when they attempt to download software from Internet sites.

In most cases, the customers will get half way through the download then have a BinHex related error message.

SOLUTION:

1) Update software -- In most cases, this error occurs when software packages like Fetch are being used. Older versions of Fetch tend to produce this error. If customers update to Fetch 3.0.1 (or the latest version of their client of choice), the problem is usually resolved.

2) Turn BinHex translation off -- BinHex (signified by .hqx) documents are large text files. If the first few lines of text are not what the BinHex translator expects, it will produce the improper BinHex format error. If this is the case, turn BinHex translation off, download the file as a binary, then use something like StuffIt Expander (freeware) to do the BinHex translation. It is generally more robust and able to see past many improper .hqx formatting errors.
Published Date: Feb 19, 2012

MAE: Architecture (8/94)

This article describes the Macintosh Application Environment (MAE) architecture.

This article has been archived and is no longer updated by Apple.
As the following architectural block diagram illustrates, MAE utilizes three distinct layers: Macintosh Desktop Services, Macintosh Application Engine, and Host System.

```
-----------------------------------------------
User Interface and | Macintosh Finder | 680x0 Applications |
Desktop Services ----------------------------------------------
-----------------------------------------------
| Macintosh System 7 Toolbox |
-----------------------------------------------
Application Engine | Macintosh System Services |
& System Services | ----------------------- |
| | Mixed Mode Manager | |
| |-----------------------| |
| | 68LC040 Emulator | |
-----------------------------------------------
-----------------------------------------------
| X Window System | |
------------------- |
Host System | UNIX Operating System |
-----------------------------------------------
| RISC Hardware |
-----------------------------------------------
```

Apple designed these layers and their components to achieve the best integration with the X Window System, UNIX operating system and RISC-based hardware.

Support Information Services

Published Date: Feb 19, 2012

MAE: Key Features (6/96)

This article describes the key features of the Macintosh Application Environment (MAE).

This article has been archived and is no longer updated by Apple.

One significant benefit of the MAE is its ability to run off-the-shelf Macintosh applications. But equally important is the seamless integration MAE provides you between the Macintosh and UNIX environment.

Of course you can use MAE to completely manage your Macintosh applications, folders and files. However, you can also use MAE to perform functions on your UNIX directories, files, applications and manage system services such as printers file servers, even over the network-all with the same intuitive, easy-to-use Macintosh style interface.

Benefits of MAE

MAE maximizes the efficiency of the UNIX user by supporting simple navigation and management of both Macintosh and UNIX file systems, and by providing:

Enhanced productivity through shrink wrap Macintosh applications. MAE supports most productivity applications and tools long enjoyed by users of the Mac OS. In fact, MAE supports more of these applications than any competing technology.

Copy-and-paste of text and graphics. Lets you transfer text and graphics between MAE and other X Windows via the copy-and-paste tools in the MAE Toolbar.

Drag-and-drop UNIX command execution. To execute UNIX commands, the user merely "drags" the icon of a file or directory and "drops" it onto the icon of a UNIX command. For example, if you drag the icon of a directory to the ls icon, the X window displays a list of the files in that directory.

Support for NFS and AFS. MAE supports both NFS and AFS (Andrew File System 2.4) to provide access to the highly distributed file systems typical of workstation environments. NFS/AFS support lets you easily access appropriate files within these environments through the Finder.

New features of MAE version 2.0

New features of MAE version 2.0 provide the following additional benefits.

AppleTalk for MAE. System administrators can now help users gain access to network resources more easily using AppleTalk networking capabilities. With the AppleTalk protocol, designed and developed by Apple Computer, users have a simple method to access printers, file servers, or other AppleTalk-enabled computers on the network using the Chooser.

Improved speed and performance in a smaller amount of memory. MAE v2.0 takes advantage of two technological breakthroughs -- dynamic compilation and code block templates -- to obtain optimal emulator performance while consuming a minimal amount of memory. These techniques

reduce system overhead and increase speed by letting MAE identify sections of Mac OS and applications code that are translated to native code, and run directly as native code on the underlying RISC architecture.

MacTCP support. MacTCP is the Macintosh implementation of the TCP/IP networking protocol, which gives users access to the Internet as well as TCP/IP-based utilities such as Fetch and Telnet.

NOTE: Fetch 3.0 and higher will not work with MAE 2.0.2, use version 2.x.x.

Sound Manager. Controlled by the Sound control panel, the MAE Sound Manager supports all standard sounds supported by a Macintosh computer.

Dynamically resizable MAE window. Users can dynamically resize the MAE window using the Monitors control panel in MAE or the workstation's X Window size controls.

Finder Window Update. Finder Window Update helps to reduce MAE overhead on the host system (for additional details, please see the section entitled Configuring MAE for the UNIX Environment).

Cycle saving via Processor Slowdown. Processor Slowdown also helps to reduce MAE overhead on the host UNIX system (for additional details, please see the section entitled Configuring MAE for the UNIX Environment).

Temporary Installer Volume (TIV). TIV is a utility that facilitates installation of Macintosh productivity applications in the UNIX host system (for additional details, please see the section entitled Configuring MAE for the UNIX Environment).

NFS Heartbeat. An important enhancement for improved NFS robustness, NFS Heartbeat provides a mechanism by which to break out of "hung" network system calls. These calls can hang when MAE attempts to access an inaccessible NFS-based file server.

Productivity features from Macintosh System 7.5. MAE 2.0 enhancements from System 7.5 include:

- Launcher. The Launcher control panel lets users launch an application with a single click of a mouse button by selecting from lists of the most frequently used applications.

- Stickies. Allows users to create electronic "sticky notes" and place them anywhere in the MAE window.

- Improved desktop patterns. The Desktop Patterns control panel has been expanded to provide more colorful and textured Desktop patterns. Users can also create their own custom Desktop patterns by copying and pasting graphics into the control panel.

- Find File. This expander Finder utility lets users quickly search hard disk drives or file servers for a desired file.

- WindowShade. Allows users to shrink a window in MAE to just its title bar or re-expand it with two or three clicks of the mouse.

- Extension Manager. The Extension Manager control panel lets users enable or disable Macintosh control panels, extensions, and INITs in MAE.

Article Change History:

25 Jun 1996 - Updated Fetch information.

30 Jan 1996 - Completely revised this article.

Published Date: Feb 19, 2012

ImageWriter II: "Loopback Test Failed" error

When performing a self-test on my ImageWriter II/L it prints four lines then it says "LOOP BACK TEST FAILS."
This article has been archived and is no longer updated by Apple.
The ImageWriter II/L has two self-tests: a Loop Back test, and a standard self-test. Running the loop test without the loopback plug connected will generate the error message.

To initiate a standard self-test, hold down the Form Feed button while powering on the ImageWriter II.

Published Date: Feb 19, 2012

Macintosh 630 family: Adding an Internal CD-ROM Drive (8/94)

I ordered a Macintosh 630 family computer without an internal CD-ROM drive and now want to add one. What is the part number for the drive?

This article has been archived and is no longer updated by Apple.
There are two options for adding an internal CD-ROM drive to a 630 family machine.

* Order the LC 550/575 kit, part number B1551LL/A, and don't use the faceplate for the 550/575. Inside the cover of the 630, the door over the CD can be popped out with two squeeze clips.

* A specific upgrade for the 630 family will be available in the near future. Waiting for that kit is the other option.

Support Information Services
Published Date: Feb 19, 2012

Power Macintosh: Problem Receiving Fax From External Modem 3/96

This article addresses reported problems receiving faxes via an external fax modem connected to a Power Macintosh computer.

This article has been archived and is no longer updated by Apple.

The problem of not being able to receive a fax from an external fax modem on a Power Macintosh has been resolved in System 7.1, System Update version 3.0 and later (including all versions of System 7.5). This update includes a patch that allows the serial port on the Power Macintosh to communicate properly with the external fax modem, thereby allowing faxes to be received.

If you have a Global Village modem, be sure that you have installed their Teleport Serial software version 2.08b or later. This version of the Teleport software will ensure that your Global Village modem performs properly on your Power Macintosh.

Be aware, though, that the install disks for 2.08b include a file called "AV/PPC Serial Tuner." If you have installed System Update 3.0 or later, then you may safely remove the serial tuner since it is included in the System Update.

Article Change History:

18 Mar 1996 - Clarified information.

Published Date: Feb 19, 2012

Macintosh: Calculate Folder Size Doesn‘t Add Up (12/94)

When I enable "Calculate Folder Size" in the Views control panel, the amount of disk space shown is not equal to the sizes when all folder sizes are added up.

What is occupying the extra space?

This article has been archived and is no longer updated by Apple.
Simply adding up the folder sizes does not include the items on the desktop, nor invisible files.

For example, using a utility called Find Pro III to locate hidden files, 144 of them were found. 137 of them were named "Icon". These files are created when you paste an icon on a folder. If you create an empty folder and paste an icon on it, the "Get Info" window shows that the folder contains zero K and no items. However, if you throw this folder in the trash and "Get Info" on the trash, the window shows one file and one folder in the trash and the size of the file is greater than zero K. Therefore, the Finder apparently does not count invisible files when it calculates the size of a folder.

To summarize, the displaying of folder sizes is not always accurate due to the invisible files, which the Finder ignores, and the virtual memory swap file, which is whatever size is set in the Memory control panel. Also, items on the Desktop are not shown as being in any folder but they take up space and are included in total disk usage. By adding up all of the space these items take on the drive, the total amount of disk space used should be very close to the amount of space the disk info shows.

Article Change History:
15 Dec 1994 - Added keyword and made minor technical updates.

Support Information Services
Published Date: Feb 19, 2012

Assistant Toolbox Extension: Version History (11/95)

This article describes the version history for PowerBook File Assistant's Assistant Toolbox extension.

This article has been archived and is no longer updated by Apple.
PowerBook File Assistant 1.0 itself has not changed. It is still version 1.0. The only changes that have been made in all new versions of the PowerBook File Assistant so far have been updates to the Assistant Toolbox extension.

Versions Since Assistant Toolbox 1.0
==========

1.1

All 500 Series PowerBooks that came with System 7.1.1 pre-installed contain Assistant ToolBox extension version 1.1.

1.2

All PowerBook computers that came with System 7.5 pre-installed and System 7.5 Upgrade Kits include Assistant ToolBox extension version 1.2.

Assistant Toolbox Change History
==========

From 1.0 to 1.1
---
* Print Later - fixed a problem that caused the system to crash when Print Later was selected on a Duo.

* AutoRemounter - fixed a problem that caused a crash on Macintosh Classic computers.

* Video Mirroring - removed the cursor marks that appeared on external monitors.

* PRAM - changed PRAM location for storing Persistent RAM Disk information.

From 1.1 to 1.2
---
* This is the currently supported version although there are no major changes documented.

Article Change History:
27 Nov 1995 - Updated information on which versions shipped on which computers.
20 Jul 1995 - Corrected spelling of AutoRemounter; reviewed.

Support Information Services
Published Date: Feb 19, 2012

DOS Compatibility Card: Printing to a HP LaserJet

How do I direct connect an HP LaserJet serial printer to a Quadra 610 DOS compatible, or the DOS Compatibility Card, so I do not have to go through the printer emulation mode?

This article has been archived and is no longer updated by Apple.

Here is how to connect the printer to the Macintosh in order to use the HP LaserJet in both PCL and Auto mode. In the Auto mode the printer switches to PostScript if needed.

Communication Settings

Set the printer to:

- Serial (or Auto to allow it to print from any port)
- 9600* (1)
- XON/XOFF
- Robust XON = OFF (2)

Notes:
(1) - You can also set the printer to 19,200, if you use the "Faster Printing Directly to Port" option in Windows.

(2) - You can also use Robust XON = ON

Cable Pinouts No Handshaking

```
.    DB9 Plug                Din 8 Plug
.   --------                ----------

.  DCD 1----|
.  DTR 4----|--------------------|----1 HSKo (DTR)
.  RTS 7----|                    |----2 HSKi (CTS)
.  CTS 8----|
.     TxD 3------------------------5 RxD-
.     RxD 2------------------------3 TxD-
. SIG GND 5----------------------|----4 SIG GND
.                                |----7 GPi
.     DSR 6 - No Connection
.     RI  9 - No Connection
```

This cable is a straight through connection without handshaking. The way it is illustrated above is that pins 1,4,7, and 8 on the DB9 Plug are connected to pins 1 and 2 on the Din 8 Plug. Pin 5 on the DB9 is connected to both pins 4 and 7 on the Din 8. On this cable everything is grounded except for transmit and receive. The HSKo and HSKi on the Macintosh are not used, so a more straightforward cable like the one below can be used instead.

Cable Pinouts Straight Though Connection

```
.       DB9 Plug                 Din 8 Plug
.       --------                 ----------
DCD     1 No Connection          1  HSKo (DTR) No Connection
DTR     4 No Connection          2  HSKi (CTS) No Connection
RTS     7 No Connection
CTS     8 No Connection
RxD     2------------------------5  RxD-
TxD     3------------------------3  TxD-
SIG GND 5 No Connection          4  SIG GND  No Connection
DSR     6 No Connection          7  GPi      No Connection
RI      9 No Connection
```

Both of these cables work in Windows and DOS. You can use these cables in Windows at either 19,200 or 9600 baud. You can only use 9600 baud when you are using MS-DOS.

Setup

1) Open the PC Setup control panel.

2) Configure either COM1 or COM2 for the desired Macintosh port.

3) Click the Restart PC button .

4) Click OK in the dialog box that asks if you want to continue.

5) Close the PC Setup control panel.

6) Switch to DOS.

Printing From DOS

1) Type in the following at the DOS prompt:

. MODE COM1:96,n,8,1,p

2) Type the following:

. MODE LPT1:=COM1:<cr>

You can print as usual from any DOS application.

Note: It is preferable to use applications that can print directly to the serial port, instead of having to reroute LPT1. You can also add those commands listed above to the AUTOEXEC.BAT file so you do not have to re-type them after restarting.

Printing From Windows

1) In Windows, double-click the "Main" icon.

2) Double-click the Control Panels icon.

3) Double-click the Printers icon.

4) Install the appropriate driver for the serial printer you are using.

Note: Consult the Windows manual for driver installation if needed.

5) After driver installation, click the "Connect" button in the Printers Control Panel.

6) Select the appropriate COMM port, click the check box marked "Fast Printing Direct to Port".

7) Click the "Settings" button.

8) Set the COMM port parameters to:

. Baud Rate: 19200
. Data Bits: 8
. Parity: None
. Stop Bits: 1
. Flow Control: Xon/Xoff

9) Click either "Set As Default Printer" or "Close" and Windows is setup to print to a DOS serial printer without having to go through emulation.

Published Date: Feb 19, 2012

Apple III: System Failure Errors

The following table attempts to explain the numbers that are displayed ollowing a SYSTEM FAILURE.
This article has been archived and is no longer updated by Apple.
A system failure is generally a hardware problem. Try recreating the same error with the same software on another Apple III to confirm if it is software or hardware that is causing the failure.

Copying certain protected diskettes will cause an error $06 when the copy is booted. This is a normal effect of the protection scheme.

$01 BADBRK Break instruction from within SOS
$02 BADINT1 Interrupting device not found
$03 BADINT2 Bad zero page allocation
$04 NMIHANG Unable to lock NMI
$05 EVQOVFL Event queue overflow
$06 STKOVFL 6502 stack overflow
$07 BADSYSCALL DMGR detected invalid request code
$08 MCTOVFLOW DMGR - too many device handlers
$09 MEM2SML Memory size less than 64K
$0A VCBERR BFMGR - volume control block not useable
$0B FCBERR File control block crashed
$0C ALCERR Allocation blocks invalid
$0D DIRERR Directory is not correct
$0E TOOLONG Pathname buffer overflow
$0F BADUFNUM Invalid buffer number
$010 BADBUFSIZ Invalid buffer size (=0 or >16K)

BFMGR Block file manager
DMGR Device Manager
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Apple III: Printing from BASIC and Pascal

This article has been archived and is no longer updated by Apple.

Many times it is desirable to have a program send selective, processed output to the printer. Both Business BASIC and Pascal have the commands to handle this chore; however, none of the language reference manuals provide an example for printing to a printer where the syntax of the commands is illustrated.

When directing output to the printer, it is important to remember that Apple III's Sophisticated Operating System (SOS) treats everything as a file. In this sense, any output, whether to a printer or diskette, is handled identically:

1. Programs pass data to SOS as files.

2. In SOS, the SOS File Manager passes the file to the appropriate device driver.

3. The device driver passes the output to the selected device.

The device driver does the job of transmitting the output in the fashion that the device requires it. Input data follows the same path, only in reverse. Understand these passes of files through the operating system. SOS and the device drivers can handle the details; you must handle the concept.

Here is an example of printing to both screen and printer from a Business BASIC program. Without the delay subroutine in line 100, everything would appear to happen at once, so we have it in the program only to improve the sense of sequence during execution.

```
10  OPEN#1,".printer": REM Declare the printer as a file.
20  PRINT "This is a test.": GOSUB 100
30  REM Output goes to the screen.
40  PRINT#1 "This is a test.": GOSUB 100
50  REM Output goes to File #1, the printer.
60  PRINT "This goes to the screen.": GOSUB 100
70  REM Without file specification
80  PRINT#1 "This goes to the printer."
90  CLOSE#1: END: REM Close the file ".printer" and end.
100  FOR delay = 1 to 2000: NEXT delay: RETURN
```

The program could also use ".silentype" for the printer device driver.

The seperate statements OUTPUT#x and PRINT can be used in succession to direct output to device x.

For instance, to simply list a program to the printer, the following commands can be entered at the keyboard in direct mode.

```
OPEN#1, .printer  (Notice, no quotes are needed in direct mode.
OUTPUT#1          (Routes all subsequent output to File #1)
LIST
CLOSE             (CLOSE in place of CLOSE#1 will close all
                  files instead of ".printer" -- with no other
                  files open it's just easier to type.)
```

There are other useful commands using this concept which are variations of other familiar BASIC commands besides PRINT. They are GET#1, INPUT#1, READ#1, and WRITE#1. The Apple III can have as many as ten files open for input and output at one time, so, where "#1" is used in the examples, it could be "#7", and so on.

The following is an example of how to print both to the screen and printer from a Pascal program. Again, the delay procedure is not necessary.

```
program PRINT_OUTPUT;
 var OutFile: text;

 procedure DELAY;
   var Count: integer;
   begin
     for Count := 1 to 2000 do
   end; {Delay}

begin
 rewrite (OutFile, '.printer'); {Declare the printer}
                                {as a file.}
 writeln ('This is a test.'); {Output goes to the screen.}
 DELAY;
 writeln (OutFile, 'This is a test.'); {Output goes to}
                                       {the printer.}
 DELAY;
 writeln ('This goes to the screen.');
 DELAY;
 writeln (OutFile, 'This goes to the printer.');
 close (Outfile) {Close the file ".printer" and end.}
end. {Print_Output}
```

The Apple III can have as many as ten files open for input and output at one time; "OutFile" is only one. Additional files can be declared with additional REWRITE statements.

To simply list a program to the printer, go to the Filer and transfer the text file to .PRINTER (for the Apple III) or to PRINTER: (for the Apple II and Apple IIe).

Since Pascal treats output as a file, both of these examples work with both Apple II and Apple III Pascal.

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AppleWorks: Apple IIe May Lock Up With Extended 80 Column Card

The computer may work fine in other applications but fails with AppleWorks using the extended 80 column card.
This article has been archived and is no longer updated by Apple.
CAUSE: The MMU (P/N 344-0010) chip may have failed.

CURE: Replace the MMU or logic board if MMU not available.

If this cure does not resolve the problem, go back to the Word Search screen and search on the product's name and HTS and GTS to obtain a General Troubleshooting procedure.
Published Date: Feb 19, 2012

MAE: How to Check the MAE 1.0a Patch Install (8/94)

How to find out if the Macintosh Application Environment (MAE) 1.0a the patch was installed correctly.

This article has been archived and is no longer updated by Apple.
Type the following commands:

mae -version to get the version of MAE
what -s engine to get the version of the engine
what -s macd to get the version of macd

You should also make sure you've updated your system folder as described in the patch documents, removing the system folder is one way.

Support Information Services

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PostScript Fax: When Font Substitution Takes Place (8/94)

The manual that comes with the fax cartridge for the LaserWriter Pro 810 states that if the document being received contains anything other the the standard 35
fonts found in the printer, it substitutes the fonts with Courier. Is this true?

This article has been archived and is no longer updated by Apple.
According to the Adobe technical note #5135 titled "Supporting PostScript Fax", the PostScript interpreter handles an incoming PostScript Fax document in the same manner as any other PostScript language document. Depending on how each vendor implements their driver, a font substitution to Courier could take place, or the requested font could be included with the data stream. The LaserWriter 8f driver from Apple assumes that the receiving printer contains at least the minimum 35 font set that Adobe requires for PostScript Fax printers and all other type 1 and TrueType fonts contained in the document are downloaded to the receiving PostScript fax printer with the data stream. These are the fonts that PostScript assumes are available in ROM:

Times-Roman
Times-Bold
Times-Italic
Times-BoldItalic

Courier
Courier-Bold
Courier-Oblique
Courier-BoldOblique

Palatino-Roman
Palatino-Bold
Palatino-Italic
Palatino-BoldItalic

ITC Bookman-Light
ITC-Bookman-Demi
ITC-Bookman-LightItalic
ITC Bookman-DemiItalic

Helvetica
Helvetica-Bold
Helvetica-Oblique
Helvetica-BoldOblique

ITC Avante Garde-Light
ITC Avante Garde-Demi
ITC Avante Garde-BookOblique
ITC Avante Garde-Oblique

New Century Schoolbook-Roman
New Century Schoolbook-Bold
New Century Schoolbook-Italic
New Century Schoolbook-BoldItalic

Hevetica-Narrow
Helvetica-Narrow-Bold
Helvetica-Narrow-Oblique
Helvetica-Narrow-BoldOblique

ITC Zapf Chancery-MediumItalic
ITC Zapf Dingbats
Symbols Set

Downloading the fonts to the receiving printer do add transmission time, but due to PostScript Level II's built-in LZW compression and decompression algorithms this averages out to about 35 seconds per font.

TA32246_PostScript_Fax_When_Font_Substitution_Takes_Place__(TIL16003).pdf

Support Information Services

Published Date: Feb 19, 2012

LaserWriter Pro 810: Fonts Are Not Downloaded From HD

A third party hard drive is attached to our LaserWriter Pro 810. The LaserWriter Utility recognizes the hard drive and lists the fonts on the drive, however fonts from this drive are not used during the printing process. Fonts from the Macintosh computer are still downloaded to the printer.
This article has been archived and is no longer updated by Apple.
There are no formal lists for compatibility between the LaserWriter Pro 810 and third-party manufactured SCSI hard drives, but there are three major requirements of when these drives are connected to Apple printers:

1. They must provide SCSI terminator power. For the 810, it must supply 5 volts DC to the SCSI line.

2. They must be able to report to the printer what size volume it is. This is done using the SCSI command "Mode Select."

3. The drive must support the SCSI "Unit Attention" command.

Some other things to check are:

- A gray terminator is being used on the external hard disk.

- SCSI ID is set to any number from 1 to 6.

- Use the LaserWriter Utility 7.6.2 to initialize the hard drive. This utility is available on AppleLink and other online services Apple posts software updates on.

We have connected a couple different hard drives to the LaserWriter Pro 810, and have had no trouble accessing TrueType or Type 1 fonts downloaded to the drive. The hard disks we've tried are an Apple 20SC, Quantum LPS 40, and Quantum LPS 80.

Please verify that all of the conditions above are met. We would also suggest contacting the drive manufacturer to verify compatibility with the LaserWriter Pro 810.
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Performa 550: System Folder Created w/ Dinosaur Safari CD

When I launch the Dinosaur Safari CD from Creative Multimedia, a dialog box appears telling me that my Performa computer is having trouble starting up. I only have two options Shutdown or Continue? Why?

This article has been archived and is no longer updated by Apple.

The Performa 550 computer has a mini-System folder in a hidden partition on the hard drive. When something happens to the System folder on the hard drive, the mini-system folder is copied from the hidden partition to the hard drive.

* When you select Continue, the computer copies the mini-System folder and starts-up normally.

 - If a mini-system was copied to your hard disk, throw away the System suitcase in the mini-system folder, then throw away the entire mini-system folder. You need to "bless" the main system folder, then restart. One of the easiest ways of doing this is to open the System folder, then double-click the System suitcase. Once the System opens, close it and restart your computer.

* When you select Shutdown, the computer shuts down normally.

Regardless of which option you choose, there is nothing wrong with the system software on the hard drive. Creative Multimedia has determined that this problem only occurs on the Performa 550 computer.

Workaround

Copy the main icon from the CD to your hard disk. Launch the application from the hard disk instead of the CD. The program requires approximately
15 MB of hard disk space.

If you have additional questions about the Dinosaur Safari CD, or about this problem, contact Creative Multimedia.

The following Tech Info Library article can help you search for a particular vendor's address and phone number:

Article 17159: "**Locating Vendor Information**"

Published Date: Feb 19, 2012

Power Macintosh: No Video After Displaying on TV (8/94)

I have a Power Macintosh 7100AV and an Apple Multiple Scan 17 Display. I was displaying the video from the Macintosh on a television. When I changed the video back to the Multiple Scan Display, I only get a black screen. How can I get the video to display properly on the Multiple Scan Display?

This article has been archived and is no longer updated by Apple.
The Apple Multiple Scan Displays cannot show a video image using a 512x384 resolution. When a signal using this resolution is sent to a Multiple Scan Display, the image and the raster signals are cutoff and the LED displays an error condition.

To correct this problem, use the reset button on the computer, or hold down the Control, Command, and Power-on keys on the keyboard to restart the computer.

After restarting, the video returns to either the television, or the monitor. If the video is on the television, do the following to get the video on the Multiple Scan Display:

1) Open the Monitors control panel
2) Click on the Options button
3) If the "Upon Restart Display Video on Television" checkbox is selected, click the checkbox to turn off this option.
4) Click the "Display Video on RGB Monitor" checkbox
5) Click the "OK" button
6) Close the Monitors Control Panel
7) Restart your Macintosh Computer.

Support Information Services

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Cannot Mount Macintosh HFS CDs in Novell 3.12 (8/94)

I'm trying to determine if Novell for Macintosh 3.12 and HFS CD-ROMs work together. I have the first two set up and I'm mounting ISO 9660 CDs fine. I'm not having any luck at all mounting Macintosh HFS CDs. Novell's phone support will not confirm or deny that they work at all. Is it possible to mount Macintosh CDs in Novel 3.12?

This article has been archived and is no longer updated by Apple.
HFS CD volumes are not supported with Novell 3.12. They are supported with Novell 4.01, but you cannot load the HFS nlm and the ISO nlm at the same time, so it's one or the other.

Again, there is no Novell support for HFS CDs in Novell 3.12

As a workaround a company called Micro Design makes a product called SCSI Express that may do what you're looking for. It allows Macintosh CDs to be mounted under Novell Netware 3.xx. To locate a vendor's address and phone number, use the vendor name as a search string.

Support Information Services

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ImageWriter II: Ribbon Positioned Below Printhead (No Print)

This article has been archived and is no longer updated by Apple.

PROBLEM DESCRIPTION: When a properly operating printer is powered on, the carriage should move to the far left and then back to center of its travel. After this the black plastic cam at the right front of the ribbon platform turns causing the platform to its lowest position and then return to its top position (used for black print). With this problem, the ribbon platform moves to its lowest position but does not return to the top position so when the print starts, the ribbon is positioned below the printhead resulting in no ink transfer to the paper.

CAUSE: During the power up sequence described above, the lower front lip on ribbon cartridge is catching on the left brass washer securing the clear plastic paper guide to the carrier assembly.

CURE: Bend the washer down or file it back.

If this cure does not resolve the problem, go back to the Word Search screen and search on the product's name and HTS and GTS to obtain a General Troubleshooting procedure.

Compliments: Lauri Fischer (formerly Marshman) FSE
Published Date: Feb 19, 2012

Power Macintosh: SoftwareFPU and PowerFPU (6/95)

How do I get FPU-dependent applications to work on a Power Macintosh or on any other computer without an integrated FPU?

This article has been archived and is no longer updated by Apple.
The microprocessor on Power Macintosh computers has an integrated FPU. However the 680x0 emulator, emulates 68LC040 instructions and does not emulate FPU instructions. Installing the shareware Control Panel SoftwareFPU, by John Neil & Associates, may allow programs that require an FPU to run. Version 2.45 or later is required on a Power Macintosh. Beginning with version 3.0, a native version is available that can double the performance compared to the emulated version. The native version is available to registered users only.

John Neil and Associates has introduced a commercial version called PowerFPU which is native and reported to be faster than SoftwareFPU 3.0.

To locate a vendor's address and phone number, use the vendor name as a search string.

Article Change History:
09 Jun 1995 - Added PowerFPU to the article.

Support Information Services
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SoftWindows: Printing from Windows (8/94)

I have some questions about how SoftWindows handles certain printing operations.

1) When printing from DOS, is Windows bypassed?

2) Can I attach a serial to parallel cable to a DOS printer and print directly to the printer? (bypassing the Macintosh when printing).

3) Since the HP LJ4M has emulation switching and Softwindows supports network devices is it possible to load the HP printer drivers and print DOS jobs using PCL and IPX directly to the printer?

This article has been archived and is no longer updated by Apple.
1) If you are running DOS in a window under Windows, it does not bypass Windows. In this situation, Windows captures the job and prints it just as if you were printing from within a Windows application. If you are in DOS without Windows loaded, then DOS prints directly to the printer, and Windows is not involved.

2) As far as using a serial to parallel converter, we have no way to test this and it definitely would not be a supported configuration.

3) You can connected an HP LaserJet 4MPlus through a Netware 3.12 queue using IPX. Here is how you need to setup your computer:

1) Set up a print queue on the Netware server, make sure the printer is configured correctly for your configuration. (See the printer and/or Netware documentation on how to do this if needed)

2) In SoftWindows, load the appropriate network drivers. (I loaded, in order: lsl, etherspc, ipxodi, netx).

3) Log in to the network

4) Type in "capture /q=xxxx<cr>" where xxxx is the queue name you want to print to.

All print jobs from DOS configured for the LPT port will bypass any emulation and go directly to the NetWare print queue. Configure Windows for printing to the queue as you would any network printer - see the Windows documentation for additional information.

Support Information Services

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LaserWriter Pro 600/630: Avoiding Paper Jams with Labels

Why do my labels jam when I print them on my LaserWriter Pro 630? I am carefully loading them into the cassette tray.
This article has been archived and is no longer updated by Apple.
The LaserWriter Pro 600 and 630 are susceptible to label printing problems if the cassette tray is used. Chapter 5 of the user manual contains the following information:

Loading labels in the multipurpose tray
You can load one sheet of labels at a time into the multipurpose tray for manual printing.
Important: When you print labels, use the multipurpose tray. (This helps avoid paper jams and curling)"

The manual clearly states that labels should be fed through the multi-purpose tray, and that only one sheet should be placed on the tray at a time. The LaserWriter Pro 600/630 cassette feeding mechanism uses a single metal 'snubber' to prevent multiple sheets from being pulled from the cassette tray when the pickup roller rotates. Labels are made up of two parts, a backing sheet and the label material.

In some cases the 'snubber' can catch on the label sheet causing damage to the sheet or skewing it slightly so that it jams later in the winding paper path. The multi-purpose tray uses a friction retard pickup system which eliminates the need for a snubber, thereby improving the results when printing on labels.

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Macintosh 630 Family: Modem and Ethernet Options

This article discusses modem and Ethernet options for the Macintosh 630 family of computers.
This article has been archived and is no longer updated by Apple.
There are several options for modems and Ethernet cards for the Macintosh 630 family of computers (Quadra 630, LC 630, or Performa 636).

- Install the Apple CS Ethernet 10BASE-T or AAUI option in the Communication Slot and then add an external high speed modem.
- Install the Apple Express Fax/Modem in the Communications Slot and the LC Ethernet Card to the I/O Expansion (LC PDS) Slot.

The Macintosh 630 family of computers only has one Communication Slot, therefore you cannot add both the internal Apple Express Fax/Modem option and Communication Slot Ethernet card.

The following computers are in the Macintosh 630 family: Performa 630, Performa 635, Performa 636, Performa 637, Performa 638, LC 630, and Quadra 630.
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Macintosh XL : After Hard Disk is Swapped It Won‘t Boot

PROBLEM DESCRIPTION: After swapping the hard disk assembly (Widget), the hard disk will not boot or is not recognized as being attached to system. But the hard disk will boot if the hard disk assembly is removed while leaving the cables connected.

This article has been archived and is no longer updated by Apple.

CAUSE: 1. The hard disk/micro disk assembly fits snugly into the Mac XL's cabinet. A number of screws terminate inside the disk assembly mounting area. These two factors make it very easy to accidently damage the grey flat cable or the drive power cable when sliding the disk drive assembly into the XL.

2. A screw projects from the right of the main body of the Lisa cabinet into the Disk Drive cavity. On some Lisas, this screw interferes with a comfortable installation of the drive cage forcing the right rear lip of a metal shield on the HDA down. This stresses the motherboard on the HDA causing potentiometers on the HDA's PCB to misadjust.

CURE: 1. Replace the hard disk's grey flat cable. When reinstalling the disk drive assembly, remove the XL's top to help you to guide the assembly into its mounting place without damage.

2. Cut off the offending screw and if permanent visible damage has occurred to the PCBs, replace the HDA.

If this cure does not resolve the problem, go to the Tech Procedures to obtain a General Troubleshooting procedure.

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Power Macintosh Upgrade Card: General Troubleshooting (8/94)

This article describes some procedures to follow when troubleshooting problems after installing a Power Macintosh Upgrade Card. Try these procedures if your Macintosh freezes or crashes when starting up in either 680x0 or PowerPC processor mode.

This article has been archived and is no longer updated by Apple.
To troubleshoot or identify problems related to the installation of a Power Macintosh Upgrade Card, try the following:

* Perform a clean install of the system software from the disks supplied with the Power Macintosh Upgrade Card.

* Check to see if the computer's DRAM SIMMs are composite. Composite SIMMs are not supported in a Macintosh and can cause problems in Macintosh computers using the upgrade card.

* Test with all external SCSI devices disconnected. Devices with older device drivers may cause the system to crash when starting up in PowerPC processor mode.

* Remove NuBus cards, especially third-party video cards, and test using the computer's built-in video. Drivers loaded for the cards may be incompatible.

* Remove any extra RAM and test. Maybe there is a SIMM installed that is not within specifications.

* Try the Power Macintosh Upgrade Card in another Macintosh computer, if one is available.

The goal of the troubleshooting procedure is to determine whether the card is good. You can do this by making sure the Macintosh it is installed in is as close to factory specifications as possible (for example, no extra RAM, NuBus devices, and so on). If the tests still fail, it is possible that the card is failing. You can test the card by trying it with another Macintosh computers.

Support Information Services

Published Date: Feb 19, 2012

AV Power Macintosh: Built-in Video Cannot Display Video (6/95)

When using Fusion Recorder, Video Monitor, or other 3rd party Video Applications, I get the message "Built in Video Can Not Display Video While in Current Number of Colors." What does this mean and how do I correct the problem?

This article has been archived and is no longer updated by Apple.

This message is generated on Power Macintosh AV computers when trying to use the digitizing capabilities of the AV card. The message is ambiguous in that it really means that there is not enough video memory available on the AV card to use it for digitizing (inputting) video. In most cases, this is because the number of colors the AV card is producing for the display is using too much video memory. The error message applies only to the monitor attached to the AV card.

To make more video memory available on the AV card so you can use the digitizing feature, adjust the following settings :

- Reduce the number of colors the monitor is configured to display with the Monitors Control Panel. It is best to set the color depth to 256 or Thousands of Colors. The digitizer will never work when monitor color depth is set to millions. This setting does not affect the number of colors that are captured during video input. After capturing video, you can set the depth back to millions for playback.

- For multiple scan or multiple resolution displays, change the resolution of the monitor to 832x624 or less with the Monitors Control Panel. Higher resolutions require more video RAM.

- For NTSC televisions attached to the AV card, turn off the 'Flicker Free" mode using the Monitors Control Panel. Using the "Flicker Free" mode also uses up extra video memory and prevents the digitizer from working. Even though the image on the television flickers, the input video signal does not, and the captured image appears normal on playback after flicker free is re-selected.

If you have tried all of the above settings and still see the error message, you have the monitor attached to the HDI-45 video port. You need to attach the monitor to the AV card's DB 15 connector, then perform the setting changes again.

Apple recommends that you monitor all video capturing on a monitor or television attached to the AV card. There are some additional benefits when you attach a monitor to the AV Card. When the monitor is attached, to the AV Card, the computer doesn't have to perform as much video processing, providing you with a better frame capture rate.

Article Change History:
28 Jun 1995 - Changed reference from multiscan to multiple scan.

Support Information Services
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AV Macintosh: Tips for Better NTSC output (2/95)

This article provides some tips and hints on obtaining better NTSC video output using a Power Macintosh AV or Quadra AV series computer.

This article has been archived and is no longer updated by Apple.
Most Macintosh AV series computer owners are concerned with the quality of NTSC video output. Usually comparisons are made between an RGB monitor and a TV or NTSC monitor. Unfortunately, quality is limited by the NTSC standard itself. The standard was developed nearly 40 years ago and is outdated when compared to the more recent RGB standard. Since the NTSC video standard is drastically different from the RGB standard in the way it addresses video signals, there are some steps to follow to get the best looking Macintosh graphics on an NTSC device. Most Macintosh presentation applications recommend the following for best results:

* View your work on an NTSC monitor while creating the graphics.
You will spot any problems as they are created.

*Stay well within the NTSC "safe zone" of 512 x 384 screen resolution
(85% of the screen size.

* Avoid one-pixel wide horizontal lines. All lines should be at least
two pixels wide and have an even number of lines.

* Do not use contrasting colors in adjoining areas. Buffer contrasting
colors with a couple of lines of a neutral intermediate color.

* Instead of pure white, use light shades of gray.

* Use at least 24 point font size for titles.

* If titles are overlaid on video, use contrasting colors for the titles.
If the video image is light, use dark letters, and if the video image
is dark, use light letters. You can avoid the problem completely by
displaying your letters on a solid background color, or contrasting
drop shadow.

* Use solid colors to avoid flicker. For example, change the desktop
pattern to a solid gray if you are displaying or recording the Finder
on NTSC video.

*Do not use dithered patterns, or patterns that have alternating dots
or lines.

Article Change History:
08 Feb 1995 - Added keyword; made several technical updates.

Support Information Services
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What is the "Record Button" Extension?

This article describes the "Record Button" extension and its interaction with the Apple Adjustable Keyboard.
This article has been archived and is no longer updated by Apple.
The Record Button extension enables the use of the Record button on the Apple Adjustable Keyboard (the circular button in the lower right corner with the microphone icon next to it) to start and stop the recording of a sound. To use it, you must first open the Sound control panel, and click on the "Add..." button.

The Keyboard Installer disk installs the following resources:
* Sound control panel, version 7.1.1
* Record Button extension, version 1.0
* Keyboard Resources (to be added to System File), version 1.0
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Power Macintosh: SoftWindows TCP/IP and MacTCP Together (10/94)

Is there a way to run MacTCP at the same time as TCP/IP under SoftWindows?

This article has been archived and is no longer updated by Apple.
Using only one Ethernet connection, it is not possible to run MacTCP and TCP/IP under SoftWindows at the same time. Network cards or on-board Ethernet cannot have identical communication protocols running simultaneously.

TCP/IP under SoftWindows will only work if MacTCP is turned off by removing it from the Control Panels Folder and restarting.

The only way to concurrently run MacTCP under the Macintosh OS and TCP/IP under SoftWindows is to have two Ethernet interfaces, one setup for MacTCP and one for SoftWindows.

Article Change History:
28 Oct 1994 - Added a solution for running both MacTCP and TCP/IP under SoftWindows.

Support Information Services

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MAE: $HOME and System Folders (5/96)

This article provides a general overview of how MAE (Macintosh Application Environment) determines where to build or use a System Folder.

This article has been archived and is no longer updated by Apple.

When a user launches MAE, without any options, MAE looks at that user's HOME environmental variable for their home directory. MAE will then look at their home directory, and if there is no System Folder there (which will be the case the first time a user launches MAE), MAE will build a System Folder. Keep in mind that by default, MAE looks for a directory (in their home directory) called "System Folder". If a user renames their system folder, MAE won't recognize it.

There are two things that can affect where MAE looks for a System Folder.

The HOME variable. A user could change their home variable to another location. For example, root could change its HOME to point to /tmp, thereby alleviating the long desktop rebuilds associated with launching MAE as root. A user may also want to temporarily change their home directory from a NFS mounted directory to one that is local, for MAE performance benefits.

The -sysfol option to MAE. For example, a developer may want two different system folders in their home directory, one for production use, and one for testing new extensions. By default, they would have a system folder in their home directory called "System Folder". They may have another system folder called "Really Cool System Folder". Launching MAE with no options would cause it to use "System Folder". But launching MAE with the -sysfol option would cause MAE to use the alternate system folder. Following is an example:

/appledir/bin/mae -sysfol /export/home/user/Really\\ Cool\\ System\\ Folder

In the above example, MAE will still use the user's HOME directory, .mac directory, to retain desktop attributes.

Note: The easiest way to generate another system folder is to rename your current system folder to something else, then launch MAE. MAE will see that there is no directory called System Folder in your home directory, and will generate a new one.

Article Change History:

14 May 1996 - Added more information to second point.

Published Date: Feb 19, 2012

Power Macintosh: Compatible With Basic Color Display (8/94)

Is the Apple Basic Color Display compatible with the Power Macintosh?

This article has been archived and is no longer updated by Apple.
Yes, the Apple Basic Color Display is compatible with both the HDI-45 connector and the DB15 RGB Video connector.

The Apple Basic Color Display has a mini-DB15 (VGA) to DB15 Connector attached to the end of the monitor's video cable. If you are attaching the monitor to the HDI-45 connector on the Power Macintosh, you need to use the HDI-45 to DB-15 cable to attach the monitor to the CPU.

Support Information Services
Published Date: Feb 19, 2012

SoftWindows: Increasing MS Office Performance (8/94)

I am running SoftWindows on my Power Macintosh 7100 computer along with Microsoft Office. However, the overall performance of Microsoft Office in SoftWindows is poor. How can I increase the performance?

This article has been archived and is no longer updated by Apple.
Here are some things you can do to increase performance:

1) The most significant performance increase you can configure is to allocate as much memory to SoftWindows as possible.

2) Make sure Virtual Memory is turned off.

3) Decrease the disk cache to 96K (the default) in the Memory control panel.

4) Make sure at least 2 MB of RAM is left over from the difference between the memory partition allocated to SoftWindows, and the memory allocated under PC Memory in the Setup menu of SoftWindows. Don't allocate EMS memory, but use XMS memory only. For example, if you have 18 MB allocated to SoftWindows. Run SoftWindows, go to the "Setup" menu, and select "PC Memory". Make sure EMS memory is set to 0, and set Extended Memory (XMS) to 8 MB. Since SoftWindows needs about 10 MB for itself, this would leave roughly 2 MB for what's called the "Delta Cache", which should speed things up. For future reference, take the total amount of memory allocated to SoftWindows, subtract what you set up in the PC memory menu, subtract 10Mb, and that's roughly what you have left for the Delta Cache. You always want the Delta Cache to be about 2 MB - no less.

5) Set the monitor bit-depth to 256.

Insignia Solutions has a FAX-BACK system that you can call to get this information. The document number is 305. The Fax system phone number is 800-876-3872.

Support Information Services

Published Date: Feb 19, 2012

System 7.5: Known Color Picker problems (3/95)

This article discusses known problems with the System 7.5 Color Picker.

This article has been archived and is no longer updated by Apple.
There are known problems with the System 7.5 Color Picker. The Color Picker is a system dialog that appears in certain applications allowing you to choose colors from an adjustable color wheel. An easy way to see what the Color Picker looks like is to open the Color Control Panel and choose Other from the Highlight pop-up menu. System 7.5 has an enhanced color picker. These enhancements come from the Color Picker extension stored in the Extensions Folder.

When using this enhanced color picker with a Macintosh using two or more monitors, the Color Picker appears on the monitor configured for the highest bit-depth. For example, if you are using a Quadra 800 with a 16-inch display set to 256 colors and a 14-inch display set to millions of colors, the Color Picker shows up on the 14-inch display, since it is capable of showing more colors. The color picker always shows up on the monitor with the highest bit-depth, regardless of which monitor is the startup monitor. The monitor you have set as your startup monitor displays the "Welcome To Macintosh" screen.

Power Macintosh AV Computers
==========

On Power Macintosh AV systems using the HDI-45 port, the Color Picker displays on the monitor attached to the AV card if it is configured for more colors than the built-in video port, even if a monitor is not attached to the AV card. This happens because you can still configure the monitor port from the Monitors Control panel. If you do have the AV Card set to a higher bit-depth, the Color Picker can disappear from view. When the Color Picker displays, however, it is displaying on a non-existent monitor.

Workaround
==========

Step 1
Press Return to close the invisible Color Picker window.

Step 2
Open the monitors Control Panel

Step 3
Adjust the color depth for the "ghost" monitor to 256 colors or less.

A better workaround is to move the monitor from the HDI-45 port to the AV monitor port. This eliminates these types of "ghost" monitor problems.

Article Change History:
23 Mar 1995 - Made minor updates.
14 Feb 1995 - Reviewed for technical accuracy.

Support Information Services
Published Date: Feb 19, 2012

LaserWriter Pro 600/630: Multipurpose Tray Paper Sizes

What are the minimum and maximum paper sizes supported by the LaserWriter Pro 600/630 multi-purpose tray?
This article has been archived and is no longer updated by Apple.
The Canon P270 print engine that is used in the LaserWriter Pro 600 or LaserWriter Pro 630 supports the following paper sizes when using the multi-purpose tray:

	Minimum	Maximum
Width	90mm (3.54 inches)	216mm (8.50 inches)
Height	165mm (6.49 inches)	356mm (14.02 inches)

The LaserWriter Pro 600/630 PPD files used by the LaserWriter 8 driver provides support for standard paper sizes. The PPD file may need to be modified if other sizes are required. Additional information on how to modify PPD files is available from Adobe Systems as part of their PostScript software development kit.

The information can also be accessed in electronic format using the Adobe file server which is available on the Internet at http://www.adobe.com.

Published Date: Feb 19, 2012

Macintosh AV & FusionRecorder: Red Dots with QuickTime (8/94)

Why do I sometimes get red dots or pixels in the QuickTime movies I record using Fusion Recorder? This happens when I set the compression to "Video" at any quality and any frame rate.

This article has been archived and is no longer updated by Apple.
It is possible to get distinct, bright, red dots in QuickTime movies that are recorded on an AV-series Macintosh. QuickTime movies should only get these red dots when the Caps Lock key is in the "down" position during FusionRecorder's compression process. Setting the Caps Lock key to the "up" position should keep the red dots from appearing.

This behavior has been fixed in QuickTime 2.0.

Support Information Services

Published Date: Feb 19, 2012

Macintosh 630 Family: Display Resolution and Color Depth

This article describes the various resolutions and color depths supported by the Macintosh 630 family along with the most commonly used displays to be used at the various resolutions.

The Macintosh 630 family can use both the Multiple Scan 17 and Multiple Scan 20 monitors though their resolutions are limited to 832 x 624 with no support for the TV/Video Module.

This article has been archived and is no longer updated by Apple.

What is Resolution?

Resolution is the number of pixels (dots) a monitor can display on the entire screen. The more pixels there are, the higher the resolution. For example, a resolution of 640x480 is a total of 307,200 pixels on the screen (640 pixels horizontally and 480 pixels vertically). A resolution of 800x600 is 480,000 pixels. The increased number of pixels on the screen provides for a more detailed, crisper image ð as well as slower screen-related processing (such as displaying an image).

What is Color Depth?

Color depth is the number of colors or shades of grey that a single pixel can display, which depends on the number of bits in memory each pixel uses (each byte of memory equals eight bits). The more bits-per-pixel used, the more colors and shades of grey you can display and the more video RAM you need to store the information. (The 630 family includes 1MB for video RAM.) For example, a color depth of one bit can display black or white. An 8-bit color depth can display 256 colors or shades of grey (the bits in one byte can be combined 256 different ways). A 16-bit color depth can display 32,768 colors. You can tell the video RAM needed by multiplying the resolution by the color depth (example: 640 times 480 times 2 (bytes) equals 614,400 bytes or 614K)

Resolution and Color Depth Table

Resolution	Scan Rate	Color Depth	Video RAM	Most Common Displays and Options
640 by 480	60Hz	32,768	614K	Multiple Scan 15 Display
				Apple Presentation System
				Apple TV/Video System
640 by 480	67Hz	32,768	614K	Performa Plus Display
				Apple Color Plus
				Apple Presentation System
				Apple Video System
800 by 600	60Hz	256	480K	Multiple Scan 15 Display
				Apple TV/Video System
800 by 600	72Hz	256	480K	Multiple Scan 15 Display
				No support for Apple TV/Video System
832 by 624 (1)	75Hz	256	519K	No support for Multiple Scan 15 Display
				No support for Apple TV/Video System

Notes:
(1) The resolution switching software, which is built into the Macintosh 630, lets a Multiple Scan Display use the 832x624 resolution. However, the video-in and TV tuner features of the Macintosh 630 will not work properly at this resolution.

(2) Full screen video capture and output is only supported at the 640x480 resolutions. This requires the Apple TV/Video System or Apple Video System to capture video and the Apple Presentation System to output video.

The following computers are in the Macintosh 630 family: Performa 630, Performa 635, Performa 636, Performa 637, Performa 638, LC 630, and Quadra 630.
Published Date: Feb 19, 2012

TelePort/Gold and Older Macintosh Computers (8/94)

This article describes the incompatibility with the TelePort/Gold and older Macintosh computers.

This article has been archived and is no longer updated by Apple.
Global Village has reported that their TelePort/Gold modem cannot be used with a Macintosh 128K, 512K, or Plus. This information can also be found written on the product's box.

Support Information Services

Published Date: Feb 19, 2012

Apple IP Gateway: Overview (12/94)

This article provides an overview of the Apple IP Gateway.

This article has been archived and is no longer updated by Apple.
The Apple IP Gateway, a DDP/IP (Datagram Delivery Protocol/Internet Protocol) gateway, is Macintosh software which allows Macintosh computers using AppleTalk (usually Remote Access or LocalTalk) to access IP services on an IP internet. Typical services are Telnet, E-mail, WAIS, and Gopher which can be used to access internal company hosts or data on the Internet. MacTCP is required on both the client Macintosh (Apple Remote Access (ARA) or LocalTalk) and the gateway Macintosh.

The Apple IP Gateway could run on a Remote Access server (MultiPort or personal), an Apple Internet Router, or any other Macintosh on the network. Administration of the gateway is provided through a local application for setup and monitoring, along with an SNMP agent for remote monitoring.

Overview

A DDP/IP gateway is a node that sits both on an AppleTalk and an IP network and translates packets between them. The basic purpose of the DDP/IP gateway is to allow Macintosh clients on an AppleTalk only network to have access to TCP/IP hosts on an IP network. In the past, the main purpose for this type of service was the large number of Macintosh computers on LocalTalk. Recently, however, another less obvious use of DDP/IP has emerged. This is the growing number of ARA users. They too, need DDP/IP services because the ARA connection allows only AppleTalk packets to be transmitted.

To accomplish this functionality, Macintosh clients using ARA or other forms of AppleTalk send out IP packets that are encapsulated in DDP (by MacTCP) to the DDP/IP gateway. The gateway strips off the DDP header and the packet is sent to the IP host on the IP internet. When an IP packet comes in on the IP port of the gateway, a DDP header is added and the packet is sent to the correct Macintosh client. If the packet is larger than allowed by AppleTalk (576 bytes), it is fragmented before being sent.

Most DDP/IP gateways that currently exist support both forwarding and routing of IP packets. The Apple IP Gateway only supports forwarding. That is, the Macintosh computers on the AppleTalk side of the gateway are an extension of the IP network as opposed to a separate subnet.

In addition to the basic packet translation service, the DDP/IP gateway provides address assignment services as well. One of the major advantages AppleTalk has over IP is that an AppleTalk node does not have to be configured with an address by a network administrator. The address assignment functionality of the gateway attempts to simulate this advantage. The gateway is configured with a range of IP addresses and can give them out to Macintosh computers who request them. Macintosh clients can also manually configure their own address if desired.

The DDP/IP gateway is useful on its own, but becomes even more powerful when combined with ARA servers or the Apple Internet Router (AIR). Combined with ARA, it allows ARA clients to access IP networks. Combined with AIR, it allows all of the AppleTalk networks on the router's AppleTalk internet to access IP networks.

The main components of the product are:

* System extension to load the gateway.
* Driver which implements the core gateway functionality.
* Administrative application for local configuration and monitoring.
* SNMP agent for remote monitoring.

The basic configuration required is a Macintosh II or later with System 7.1 or later, AppleTalk 58.1.3 or later, MacTCP 2.0.4 or later, and 4 MB of RAM. Any AppleTalk connection type is be supported (LocalTalk, EtherTalk, or TokenTalk) on the DDP side of the gateway, and Ethernet is be supported on the IP side of the gateway. The product runs in emulated mode on Power Macintosh computers.

MacTCP is required on the client and is configured to specify that a DDP/IP gateway is to be used and to indicate which zone it is in. A Macintosh client can request an IP address from the DDP/IP gateway at start-up and maintain the use of it until shutdown or reboot.

Because the clients may be in zones different from that of the gateway, it is difficult to know exactly when users are finished using their IP address. The correct method is to issue an NBPConfirm for the IP address in question and to time out the address when these confirms are not replied to for a given time. However, NBPConfirms are zone wide and the gateway does not know the zone of each client. The Apple IP Gateway implementation uses ICMP Echo (PING) to make sure the clients are still alive instead of NBPConfirms to avoid this problem.

Article Change History:
09 Dec 1994 - Made corrections for technical accuracy.
12 Sep 1994 - Changed product name to reflect finished goods.

Support Information Services

TA32276_Apple_IP_Gateway_Overview__(TIL16036).pdf

Published Date: Feb 19, 2012

Apple IP Gateway: General Setup Information Needed (5/95)

This article provides a general description of the Apple IP Gateway.

This article has been archived and is no longer updated by Apple.
The user of this product is a network administrator responsible for AppleTalk networks and/or IP networks. They may or may not be the same person who sets up the Apple Remote Access server or the Apple Internet Router. The expertise will vary greatly depending on the person and the interface must therefore accommodate a range of novice to expert users.

The main tasks performed by the user are configuration, monitoring, and control. Configuration takes place in the MacTCP Control Panel as well as in an administrative application.

To configure the gateway, several items must be entered by the user. The following items must be configured in the MacTCP Control Panel:
* The IP address of the gateway.
* The subnet mask of the connected IP network.
* The default gateway to forward packets destined for a different IP subnet.
* The specific Ethernet port that is attached to the IP network.
* The domain name server (if any) to be used by the IP clients.

The following items must be configured in the administrative application:
* The dynamic addresses to be used for assignment to clients. These addresses are in a range; that is, they cannot be discontiguous.
* Whether or not to allow static addresses.
* The static addresses that clients can keep permanently. These addresses are in a range; that is, they cannot be discontiguous. This feature can be used to allow static addressing, but only if the addresses fall in a specific range.
* Whether or not the gateway should start when a Macintosh starts up.
* Whether or not to restrict access to the gateway.
* The list of networks which are not allowed (or are allowed) to use the gateway and how the list should be interpreted.

A monitoring window is available when the gateway is running with the following information:
* Graphical representation of network activity and errors.
* A list of addresses that have been assigned and to whom.
Note: For more detailed monitoring, the SNMP agent can be used.

The gateway can be controlled by the application as well:
* Gateway can be started.
* Gateway can be stopped.
* Client(s) can be disconnected.

In addition to the above task groups, some miscellaneous tasks exist as well:
* Statistics can be reset.
* Administrator password can be set and removed.

As a security feature, the administrator can restrict access to the gateway by AppleTalk network number. A list of network ranges can be entered that are allowed (or not allowed) to use the gateway. For instance, if the range 500-600 is entered in the list and the list is marked as a list of network that are not allowed to use the gateway, a client on network 40 can use the gateway and a client on network 510 cannot.

Article Change History:
03 May 1995 - Change title to better describe the article.
12 Sep 1994 - Changed product name to reflect finished goods name.

Support Information Services
Published Date: Feb 19, 2012

Macintosh Displays: External Magnetic Emissions Tolerance (8/94)

Our customer would like to know what the maximum tolerance, in milligauss, of the 14" RGB and 16" RGB monitors. We need to learn what is causing an interference pattern and determine a way around it.

It seems that there is some sort of magnetic field problem in his building causing monitor problems.

This article has been archived and is no longer updated by Apple.
At this time, the display industry only recognizes emission standards related to the amount of emissions generated by a display. There is no standard that stipulates the amount of EMI a display can withstand and still continue to operate normally. Therefore, we do not test for this and cannot provide the information requested.

Support Information Services
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Hard Disk 20 P/C: First Time Start-Up = "Init Failed"

This article has been archived and is no longer updated by Apple.

PROBLEM DESCRIPTION: When initializing a Hard Disk 20 with a known good Mac, the Mac displays an "Init Failed" message.

CAUSE: The HD 20 may have a failed Controller PCB.

CURE: Replace the modules in this order:

1. Controller PCB
2. Analog PCB/HDA Module

If this cure does not resolve the problem, go to the Technical Procedures to obtain a General Troubleshooting procedure.

Published Date: Feb 19, 2012

QuickDraw GX: Before You Install Read Me

The following article is the Read Me document for QuickDraw GX.
This article has been archived and is no longer updated by Apple.
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Before You Install QuickDraw GX

Printing and Faxing from QuickDraw GX

To print with QuickDraw GX, you need a QuickDraw GX printer driver for your printer.

* If you have an Apple printer, the QuickDraw GX versions of your currently installed printer drivers are installed with the QuickDraw GX software. All Apple printers (except the Apple Color Printer, and Color StyleWriter Pro) have GX drivers. The Color StyleWriter Pro will have a GX driver available soon.

* If you have a non-Apple printer, check with your Apple-authorized dealer or contact your printer vendor directly to make sure that you have the right printer driver for your printer. For printer vendor contact information, see the "QuickDraw GX Printer Driver Upgrade Information" section below.

* At the time of shipping, System 7.5 does not carry a QuickDraw GX version of a fax driver. These will be available very soon. For fax driver information, contact Apple Customer Assistance at 1-800-SOS-APPL or contact your fax vendor. For more information, see the "QuickDraw GX Fax Information" section later in this file.

QuickDraw GX and WorldScript II

Make sure that you are using WorldScript II version 7.2 or later. QuickDraw GX is not completely compatible with versions of WorldScript II prior to 7.2.

QuickDraw GX and At Ease

Make sure that you are using At Ease version 2.0.3.

QuickDraw GX Printer Driver Upgrade Information

If you are using a non-Apple printer, use the information below to contact the vendor about a printer driver upgrade. If your printer's vendor is not listed here, see the manual that came with your printer for contact information.

CalComp ?? PostScript compatible printers from CalComp should work with the standard LaserWriter GX PostScript driver. If you have any problems using QuickDraw GX with CalComp products and are within the United States or Canada, call CalComp at 800-451-7568. Outside the United States or Canada, contact the office in your area as listed in an appendix of your User's Guide.

Epson America??For information about Epson QuickDraw GX drivers, call the Epson End User Support Center at 1-800-922-8911 after October 1, 1994.

GCC Technologies??For information about GCC QuickDraw GX drivers and upgrade information contact GCC Technical Support at one of these numbers:

Phone Number: 617-276-8620
Fax Number: 617-275-1115
CompuServe: 67004,2302
GEnie: GCC.TECH
America OnLine: GCC TECH

GDT Softworks Inc. ?? For upgrade information about GDT Softworks products (PowerPrint 2.5, PowerPrint/GX 3.0, PowerPrint/LT 3.0, PowerPrint/NW 3.0, PLOTTERgeist 3.0, PowerPlot 2.0, PowerPlot/LT 2.0, StyleScript 2.0), contact GDT:

GDT Softworks Inc.
Customer Service Upgrades
4664 Lougheed Highway, Suite 188
Burnaby, BC V5C 6B7 Canada

Phone Number: 1-800-663-6222 or 604-291-9121
Fax Number: 604-291-9689
CompuServe: 72137,3246
Internet: customer_service@gdt.com

Hewlett-Packard??If you need Post-Sale Assistance, Technical Assistance, or if you have any kind of questions about H-P peripherals, contact the H-P Computer Products Customer Support Center at 208-323-2551.

For users of DeskWriter 500 series printers, the fastest way to get a QuickDraw GX printer driver is from one of these electronic on-line services:

CompuServe: HP Peripherals forum (HPPER) Library 9
Internet: IP address - 192.6.71.2
Name - Anonymous
Password - Send User Identification
HP Download Service: 208-344-1691 (modem settings: parity,N; data bits, 8; stop bits, 1)

To receive detailed instructions on accessing these on-line services, contact HP FIRST, Hewlett-Packard's document FAX retrieval service: Inside the U.S. and Canada: 1-800-333-1917 (Then press 1 for HP FIRST.) Outside the U.S. and Canada: 208-344-4809

To receive a disk with the QuickDraw GX printer driver, contact the HP Software Distribution Center at 303-339-7009. A nominal charge for materials and shipping applies.

Kodak ?? Call 1-800-CDKODAK, for technical support. To update and provide discussion for EKC drivers and print utilities, log on to CompuServe and 'go kodak'. In the Library menu, select browse and in the browse sections, select Kodak Printers. You can download these upgrades from CompuServe!

Lasermaster ?? For QuickDraw GX driver updates from Lasermaster, call Lasermaster Technical Support at 612-944-8509.

Lexmark International►?Lexmark/IBM customers can get the latest QuickDraw GX drivers from:
Technical Support: 606-232-3000
Lexmark Bulletin Board: 606-232-5238
Internet: anonymous ftp at ftp.lexmark.com
CompuServe: Go Lexmark

Microspot►?For information about "MacPlot Raster GX" and "MacPlot Pen Plotter Professional GX" Chooser level GX drivers or upgrade information, contact the Sales Department:

Microspot
12380 Saratoga-Sunnyvale Road, Suite 6
Saratoga, CA 95070
Phone Number: 1-800-622-7568 (1-800-MACPLOT) or 408-257-4000
America OnLine: MICROSPOT1
CompuServe: 70274,3650

NEC Technologies ►? Contact NEC Technical Support at 800-388-8888 or use one of the following:
NEC Bulletin Board: 508-635-4706
Main Phone Number: 508-264-8000
Main FAX Number: 508-264-8673

QMS, Inc. ►? For assistance with QMS printers, drivers, and driver updates, call QMS Customer
Technical Assurance:
Phone Number: 205-633-4500
FAX Number: 205-633-3716

Seiko Instruments ►? QuickDraw GX is supported by Seiko Instruments for the ColorPoint PostScript printer line with four drivers:

Printer Names Required GX Driver
--- ---
ColorPoint PS, PSX or PSN ColorPoint PS/PSX/PSN GX driver
ColorPoint PSE ColorPoint PSE GX driver
ColorPoint PSH ColorPoint PSH GX driver
ColorPoint PSF ColorPoint PSF GX driver

All driver upgrades are free and are available now:
Technical Support Department: 1-800-553-5312 (inside USA)
Technical Support Department: 408-922-5800
Seiko Bulletin Board: 408-428-9810

SuperMac Technology ►? For the SuperMac ProofPositive and the SuperMac Splash -- contact SuperMac Technical Support at 1-800-541-7680.

Tektronix ►? In the US and Canada, call Customer Support at 1-800-835-6100 or use the following:
Fax Number: 503-682-2980
Tektronix Bulletin Board: 503-685-4505
International Customers: Please contact your local Tektronix office

Xerox ►? Xerox offers QuickDraw GX printer drivers for Xerox DocuTech Network Publisher Model 90 and Xerox DocuTech Network Publisher Model 135. For information on how to obtain the driver, customers can send an electronic mail message to: GX.Roch817@Xerox.com

QuickDraw GX Fax Information

To fax with QuickDraw GX, you need a QuickDraw GX fax driver for your modem. Use the information below to contact the vendor about a fax driver for your modem.

Express Modem ►? At the time of shipping, the Express Modem faxing capability is not compatible with QuickDraw GX. The express modem fax driver for QuickDraw GX will be available very soon.

GeoPort ►? GeoPort 1.2 is not QuickDraw GX compatible. The next version of GeoPort will be QuickDraw GX compatible.

Global Village ►? Global Village plans to add QuickDraw GX support to a future version of GlobalFax, and will send out a press release and an online-services announcement when it is available. To find the latest information on Global Village products, check Global Village forums on the following online services:
America Online: global

CompuServe: go global
Global Village BBS: 415-390-8334

Cypress Research►?If you use Cypress Research FaxPro II, call 408-752-2700 and ask for Technical Support.

STF Technologies►?For information about our "FaxPrint GX" printer driver contact STF Customer Service:
Phone Number: 816-463-2021
Fax Number: 816-463-7958
Bulletin Board: 816-463-1131
CompuServe: 74740,1244 (Go STFTech)
America OnLine: STFtech

Using Fonts

Type 1 Fonts Enabled During Installation

During installation, QuickDraw GX enables any Type 1 fonts found in the System Folder, the Fonts folder, or the Extensions folder. However, you must ensure that each Type 1 font family is in its own suitcase. The installer enabler will not enable your Type 1 fonts if multiple font families are contained in one suitcase. QuickDraw GX does the following:

* creates a new folder called "Archived Type 1 fonts" in your Fonts folder
* moves all suitcases referring to Type 1 fonts to the "Archived Type 1 fonts" folder
* moves all Type 1 outline font files to the "Archived Type 1 fonts" folder
* makes a copy of the original suitcase and puts the copy in the Fonts folder
* creates one or more 'sfnt' font resources from the corresponding Type 1 outline font files and places the resources into the suitcase in the Fonts folder

The 'sfnt' (scalable font) resource was originally specified to contain TrueType font data. When QuickDraw GX enables a font, the 'sfnt' resource may contain either TrueType font data or PostScript Type 1 font data.

You can find instructions for installing QuickDraw GX in the Macintosh System 7.5 Upgrade Guide.

Adobe Type Manager version 3.7 (ATM GX)

ATM version 3.7 (ATM GX) is installed with QuickDraw GX. Type 1 fonts will display and print properly only if ATM 3.7 is installed and turned on. As with previous versions, ATM 3.7 rasterizes Type 1 font data from the POST resource in conventional outline font files (file type LWFN). In addition, ATM 3.7 rasterizes Type 1 font data from the 'sfnt' resource in suitcase files (file type FFIL). ATM 3.7 does not include font substitution capability.

Enabling Type 1 Fonts After Installation

You may need to enable Type 1 fonts that are not located in the System Folder, the Fonts folder, or the Extensions folder. Or you may need to enable Type 1 fonts installed after you install QuickDraw GX. To enable Type 1 fonts, use the Type 1 Enabler (one of the QuickDraw GX Utilities). You must ensure that each Type 1 font family is in its own suitcase. The Type 1 Enabler will not enable your Type 1 fonts if multiple font families are contained in one suitcase.

To install the QuickDraw GX Utilities and enable Type 1 fonts, see the instructions in Chapter 3 ("Installing QuickDraw GX") of the Macintosh System 7.5 Upgrade Guide.

The Type 1 Enabler supports only Type 1 fonts. If the Type 1 Enabler program encounters a suitcase containing Type 3 fonts, it displays the message "Contains a Type 3 font program" and does not enable the suitcase.

The Type 1 Enabler does not enable hybrid fonts. If you see the message "Contains a hybrid font program (see READ ME file for details)" when the Type 1 Enabler attempts to enable Optima or ITC Eras, it may be because you have an old version of these fonts.These fonts cannot be enabled because they are hybrid fonts. If you are a registered owner of Optima or ITC Eras, call Adobe Systems Technical Support to obtain an upgrade to the non-hybrid versions of these families.

***NOTE: The following section was inadvertantly omitted from the original Read Me.

Restoring Type 1 Fonts to Their Original State

If you remove QuickDraw GX from your system, you need to restore your Type 1 fonts. To restore Type 1 fonts, follow these steps:

1. Open the System Folder.
2. Open the Fonts folder.
3. Drag any suitcases that have been enabled to the Trash.
4. Open the *Archived Type 1 Fonts* folder.
5. Move the contents of the *Archived Type 1 Fonts* folder to the Fonts folder.
6. Drag the *Archived Type 1 Fonts* folder to the Trash.

If you want to switch back and forth between using QuickDraw GX and not using QuickDraw GX, skip Steps 2 and 3. This leaves both types fonts available.***

Removing Duplicate Fonts

To make sure that QuickDraw GX properly manages currently installed fonts, you should make sure you have no duplicate fonts installed in the System Folder. Remove any duplicates that you find.
Published Date: Feb 19, 2012

System 7.5: Automated Tasks Folder ReadMe (2/95)

The following article is the ReadMe document for the Automated Tasks folder in the Apple menu.

This article has been archived and is no longer updated by Apple.
What are Automated Tasks?

Automated Tasks are AppleScript scripts that perform tasks in the Finder. To run a script (and perform its task), you can either choose the script from the Apple menu or activate the script in the Automated Tasks folder. The Automated Tasks folder is located in the AppleScript folder (inside the Apple Extras folder) on your hard disk.

How to Run the Scripts

The list below describes the task each script performs. It also tells you how to run the script from the Apple menu and from the Automated Tasks folder.

Add Alias to Apple Menu creates an alias for an item and puts the alias in the Apple Menu Items folder. (For more information on aliases, see the manual that came with your computer.)

* To use the script from the Apple menu: Select the item for which to create an alias. Then open the Apple menu and choose Automated Tasks and Add Alias to Apple Menu.

* To use the script from the Automated Tasks folder: Open the Automated Tasks folder and drag the item's icon onto the script's icon.

Find Original from Alias shows the original items of one or more aliases selected in the Finder.

* To use the script from the Apple menu: Select the alias (or aliases). Then open the Apple menu and choose Automated Tasks and Find Original from Alias.

* To use the script from the Automated Tasks folder: Open the Automated Tasks folder and drag the alias onto the script's icon.

Share a Folder checks to see if there is a folder named Drop Folder at the top level of the startup disk. If there is no Drop Folder, the script creates one. If File Sharing is off, it turns File Sharing on. It then sets full guest access privileges for the Drop Folder.

* To use the script from the Apple menu: Open the Apple menu and choose Automated Tasks and Share a Folder.

* To use the script from the Automated Tasks folder: Open the Automated Tasks folder and drag the folder you want to share onto the script's icon.

Start File Sharing turns file sharing on.

* To use the script from the Apple menu: Open the Apple menu and choose Automated Tasks and Start File Sharing.

* To use the script from the Automated Tasks folder: Open the Automated Tasks folder and double-click the script's icon.

Stop File Sharing turns file sharing off.

* To use the script from the Apple menu: Open the Apple menu and choose Automated Tasks and Stop File Sharing.

* To use the script from the Automated Tasks folder: Open the Automated Tasks folder and double-click the script's icon.

Turn Sound On sets the volume in the Sound control panel to the level 5.

* To use the script from the Apple menu: Open the Apple menu and choose Automated Tasks and Turn Sound On.

* To use the script from the Automated Tasks folder: Open the Automated Tasks folder and double-click the script's icon.

Turn Sound Off sets the volume in the Sound control panel to off (the menu bar will blink instead).

* To use the script from the Apple menu: Open the Apple menu and choose Automated Tasks and Turn Sound Off.

* To use the script from the Automated Tasks folder: Open the Automated Tasks folder and double-click the script's icon.

Running Automated Tasks at Startup and Shutdown

If you want a script to run whenever you start up your computer, drag the script's icon into the Startup Items folder (inside the System Folder).

If you want a script to run when you shut down your computer, drag the script's icon into the Shutdown Items folder (inside the System Folder). To run the script at shutdown, make sure you choose Restart or Shut Down from the Special menu (not from the Apple menu).

More Automated Tasks

See the More Automated Tasks folder for other scripts that perform Finder tasks. The More Automated Tasks folder is located in the AppleScript folder (inside the Apple Extras folder) on your hard disk.

The list below describes the task each script performs. It also tells you how to run the script in the More Automated Tasks folder.

Alert When Folder Changes tells you when an item is added to a folder. This script is useful when you are sharing a folder on a network. To use the script, you must first specify a single folder that you wish to watch. To specify the folder, drag the folder on top of the script (or double-click the script and select a folder in the dialog box). The script runs in the background while you work on other tasks. If any new items are added to the folder, the script identifies the new items in the folder. You can also modify the script to perform some other action when the folder changes.

Change Monitor to 256 changes the setting in the Monitors control panel to 256 colors or grays (bit depth of 8). If the monitor does not support 256 colors or grays, you can set the monitor to the maximum supported depth. This change is temporary. The next time you start up your computer the Monitors control panel setting will revert to the earlier setting.

Change Monitor to B&W changes the setting in the Monitors control panel to black and white (2 colors or grays). This change is temporary. The next time you start up your computer the Monitors control panel setting will revert to the earlier setting.

Hide/Show Folder Sizes turns the Calculate folders sizes checkbox in the Views control panel on and off.

Synchronize Folders compares the contents of two folders and synchronizes the contents. For example, if there is a file called "Document 1" in folder A and a file called "Document 2" in folder B, the script copies "Document 1" to folder B and "Document 2" to folder A so that both folders contain both files. If the files in both folders have the same name, the file with the later modification date is copied to the other folder.

Running Automated Tasks at Startup and Shutdown

If you want a script to run whenever you start up your computer, drag the script's icon into the Startup Items folder (inside the System Folder).

If you want a script to run when you shut down your computer, drag the script's icon into the Shutdown Items folder (inside the System Folder). To run the script at shutdown, make sure you choose Restart or Shut Down from the Special menu (not from the Apple menu).

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System 7.5: Before You Install 7.5 ReadMe (2/95)

The following article is the ReadMe document Before You Install System 7.5.

This article has been archived and is no longer updated by Apple.
Before you install Macintosh system software version 7.5, read the important information below.

Disk First Aid and HD SC Setup

To ensure a smooth upgrade to system software version 7.5, make sure you use Disk First Aid to verify the hard disk and HD SC Setup to update the hard disk before installing the system software. For instructions, see Chapter 1 ("Before You Install System 7.5") in the Macintosh System 7.5 Upgrade Guide.

IMPORTANT If you are installing software on a PowerBook 150, Macintosh Quadra 630, or Macintosh LC 630, you should just run Disk First Aid to verify the hard disk. You do not need to update your hard disk.

RAM Disk

If you use a RAM disk, turn it off before you install system software version 7.5. When the RAM disk is active during software installation, it uses too much memory and prevents your system from starting up.

Quit All Applications

Before you begin installing system software, quit all applications.

Start Up from Install Disk 1

After you run Disk First Aid, HD SC Setup and Safe Install, you can restart your computer and insert the Install Disk 1 disk to install system software. Although starting up from the Install Disk 1 disk is not required, it uses less memory than starting up with your hard disk.

Installation Disks

If you are installing from floppy disks, make sure the installation disks are locked. For more information on locking disks, see the manual that came with your computer.

Installation Time

Depending on your model of Macintosh, installation may take fifteen minutes to about an hour.

PowerBook 150 with Internal Modem

There is a compatibility problem with the PowerBook 150 with an internal modem and some communication software programs. We have included a fix for this problem on the Before You Install disk. After you install System 7.5 on a PowerBook 150 with an internal modem, insert the Before You Install disk, drag PB 150 Modem Patch to the System Folder icon, and then restart your computer.

Server or Network Programs

Anytime you upgrade or re-install your Macintosh system software, you should also re-install your server or network programs, such as AppleShare or Apple Remote Access. For instructions, see the information that came with your server or network software.

IMPORTANT If you have Workgroup Server 95, do not upgrade to system software version 7.5. Workgroup Server 95 works only with system software version 7.0.1 and System Update 3.0.

Possible Startup Problem on Quadra 900 & 950

After you install System 7.5 on a Macintosh Quadra 900 or 950, it is possible that you may encounter a problem starting up your computer. If you have trouble starting up your computer, do these steps to solve the problem:

1. Restart your computer while holding down the Shift key (to start up without extensions).

2. When the computer is ready, open your Extensions folder (inside the System Folder) and drag SCSI Manager 4.3 out of the Extensions folder.

3. Restart your computer again.

4. After you've started up successfully, if you need the functionality that SCSI Manager 4.3 provides move SCSI Manager 4.3 back to your Extension folder and restart. Your computer should behave normally.

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System 7.5: Full ReadMe (11/95)

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TIPS

System Update 3.0

System Update 3.0 is a set of software enhancements that improves the performance and reliability of Macintosh computers running system software version 7.1, 7.1.1 (System 7 Pro), or 7.1.2 (for Power Macintosh). When you upgrade your system software from any of these versions to 7.5, you automatically get the enhancements provided in System Update 3.0.

PowerBook Duo 210 and 230 Models

When Macintosh system software 7.5 is installed, PowerBook Duo 210 and 230 models can use Type III batteries.

PowerBook 200 and 500 Series Printing to Serial Printers

If you have trouble printing to a serial printer that is connected to the Printer/Modem port of your PowerBook 200 or 500 series computer, do these steps:

1. Depending on whether or not your PowerBook has Express Modem installed,

do one of the following:
* Open the Express Modem control panel and choose Use External Modem.
* Open the PowerBook Setup control panel and choose Normal.

2. Open the Chooser and do the following:
* Turn off AppleTalk.
* Select the serial printer.
* Select the printer/modem icon (or the modem icon if the printer/modem icon is not available).

How to Reconnect to a Lost Server

When connection to a server is unexpectedly lost, the server's icon remains dimmed on the screen. If you double-click the dimmed icon or choose the server from the Recent Servers item in the Apple menu, you get a message telling you that the disk could not be opened because you do not have enough access privileges. Before you can reconnect to the server, you must close any open files, and then drag the server's dimmed icon to the Trash. If you need to save your work on an open file, use Save As to save it on a different disk.

How to Use the old "Find File" Feature

In System 7.5, the Find File program appears when you choose Find from the File menu. If you want to use the earlier Find feature instead of the Find File program, follow these instructions:

1. To launch Find, press Command-Shift-F.
2. To find an item again, press Command-Shift-G.

How to Use the Shutdown Items folder

The Shutdown Items folder (inside the System Folder) allows you to specify scripts or programs that automatically run during the shutdown process. It works much like the Startup Items folder. To specify an item to run during shutdown, follow these instructions:

1. Put the item into the Shutdown Items folder.

2. To run the Shutdown Items, choose Shut Down or Restart from the Special menu. (Do not choose Shut Down from the Apple menu. It will not launch items in the Shutdown Items folder.)

How to Rebuild Your Desktop

It is not necessary to rebuild your desktop periodically. However, when you do rebuild your desktop see the information below.

Some Apple and non-Apple extensions may interfere with rebuilding your desktop. To prevent problems, you'll need to turn off all extensions except Macintosh Easy Open before you rebuild the desktop. When you finish rebuilding the desktop, turn the extensions you normally use back on.

To rebuild the desktop, follow these steps:

1. Before you rebuild your desktop, use the Extensions Manager to save a record of the extensions that are currently turned on.
* Open the Extensions Manager control pane.
* Open the Sets pop-up menu, and choose Save Set.
* When the Save Set dialog box opens, type a name for your currently selected extensions (for example, 'My Extensions'). When you close the dialog box, the name of your set is added to the Sets pop-up menu.

2. To turn off all extensions, open the Sets pop-up menu again and choose All Off.

3. To turn on Macintosh Easy Open, find it on the list and click it to put a checkmark beside it.

4. To rebuild the desktop, restart your computer while holding down the Command and Option keys.

5. When you see the dialog that says "Are you sure you want to rebuild

your desktop on your disk? All of your info window comments will be lost," release the keys and click OK.

6. When the desktop is rebuilt, open the Apple menu and choose Control Panels.

7. Open the Extensions Manager control panel.

8. To turn your extensions back on, open the Sets pop-up menu and choose the name you gave your set of extensions in step 1 (for example, 'My Extensions').

9. Restart your computer to activate the extensions.

CloseView and the Apple Video Player

You can use CloseView to magnify part of the display up to 16 times and to invert the display. CloseView is not currently compatible with the Apple Video Player. If you want to view video in the Apple Video Player, you must turn off CloseView. To turn off CloseView, press Command-Option-O or open the CloseView control panel and click the Off button.

Express Modem Software

Any time you re-install your Macintosh system software, you should also re-install your Express Modem software.

TROUBLESHOOTING

Incorrect "Guide" File Balloons

System 7.5 includes Apple Guide documents which provide the on-screen instructions and other information that you need to help you use your computer. However, if you turn on Balloon Help (by choosing Show Balloons from the ? menu) and point to a Guide file icon on the hard disk, the balloon may give you the wrong information about where the file belongs or what you can do with it. To avoid being misled by incorrect balloons, follow the guidelines below:

* Leave Guide files where they are. Some Guide files (for example, the Guide file named "Macintosh Guide") belong in the Extensions folder. Others will not work if they are put into the Extensions folder.

* Keep application programs that have Guide files in the same folder as the Guide file. For example, keep the file named "File Assistant Guide" in the same folder as the File Assistant program. If you move a Guide file that belongs with an application program, you won't be able to get help while using the program.

Apple Guide Documents and Sleep

If your PowerBook is set to go to sleep automatically, it will not sleep while an Apple Guide document is open. If you're not sure whether an Apple Guide document is open, here's how to check: Look for a window that contains instructions and "floats" on top of all the other windows on your screen. An Apple Guide document window remains frontmost and active even when you click other windows to make them active. Also, look for a window with rows of dots (rather than lines) in the title bar. To close an Apple Guide document, click the close box in the upper-left corner of the window.

QuarkXPress

To use QuarkXPress with System 7.5 on a Power Macintosh, you must upgrade to QuarkXPress version 3.3.1 or later. For upgrade information contact Quark, Inc. at 1-800-788-7835.

GeoPort and Power Macintosh

System 7.5 on the Power Macintosh requires version 1.0.1 of "GeoPort for Power Macintosh." Other GeoPort versions are not compatible with System 7.5 on the Power Macintosh. Version 1.0.1 of GeoPort is available on the CD version of System 7.5 or from 1-800-SOS-APPL.

NOTE: This is not part of the Read Me file. GeoPort for Power Macintosh 1.0 and 1.0.1 will function with System 7.5, but there are

outstanding bugs customers need to work around:

* 1.0 has two problems with virtual memory:
- Network file transfers will fail when VM is on.
- Data connections will fail when VM is on.

* 1.0 and 1.0.1 will crash the computer on restart if there are
any faxes waiting to be sent in the Waiting to be Faxed folder.

* The modem speaker must be turned off at all times through the
Express Modem control panel to prevent intermittent crashing.

This article can help you locate the GeoPort for Power Macintosh
1.0.2 update, it is available on online services:

* "Where To Find Apple Software Updates"
Lists online services for "free" Apple software updates.

Using ISO 9660 and High Sierra CD-ROM Discs

Discs in the ISO 9660 and High Sierra formats have version numbers attached to filenames. Some application programs need these version numbers in order to use the files. If you have problems using an ISO 9660 or High Sierra CD with a program, follow the instructions below to make the version numbers available to the program:

1. Make sure the application program you want to use with the CD is
active.

2. Drag the CD icon to the Trash to eject the disc.

3. Hold down the Option key while you reinsert the disc. Keep holding down
the Option key until the disc is in the player. The program should now
be able to locate the filenames on the CD-ROM disc.

Printing Large Fonts with LaserWriter Version 7.2 or 8.1.1

If QuickDraw GX is not installed and your printer uses either the LaserWriter 7.2 or the LaserWriter 8.1.1 (or earlier version 8) driver, your system may crash rather than report an out-of-memory error when printing large QuickDraw GX fonts or other large fonts. The problem will be fixed in the LaserWriter 8.2 driver.

Problem with AudioVision 14 Display Software on PowerBooks

If you have AudioVision 14 Display software installed on a PowerBook, you may have trouble with the pointer "freezing" (not responding to the trackball) after you install System 7.5. To fix the problem, do these steps:

1. Turn off your computer.
2. Start up your computer while holding down the Shift key (to turn off
all extensions).
3. When the computer is ready, drag the AudioVision extension out of the
Extensions folder.
4. Restart your computer to turn the extensions back on.

The Assistant Toolbox and Non-Networked Printers

If the Assistant Toolbox extension is installed on your computer, the Print Later option (LaterLaser) works only with networked PostScript printers. If you are printing on a non-networked printer?particularly a LaserWriter Select 310?you should open the Extensions Manager control panel and turn off the Assistant Toolbox extension.

Losing Your Desktop When You Have an AV Card Installed

If you have an audio-video (AV) card installed, it is possible to lose access to your desktop. If you encounter the problem on a Power Macintosh, see the Troubleshooting section in the manual that came with your computer. If you encounter the problem on another model of Macintosh computer, see the information below:

* If you select the AV card in the Monitors control panel when no monitor
is attached to the card?This usually happens when the Monitors control

panel is set to "Rearrange on close" and you move the menu bar to a video card (such as the Power Macintosh AV Card or a non-Apple video card) when no monitor is attached to the card. The computer cannot determine whether the AV card really has a monitor attached. When you restart the computer, you do not have access to your desktop. To correct the problem, you will have to remove the AV card and change the primary monitor back.

* If you are using a single monitor that is NOT attached to the AV card and the AV card is set to greater bit depth than your monitor?When you start up the computer with the AV card installed, the system thinks that there is a monitor attached to the AV card. For example, if you are using a single monitor that is not attached to the AV card, the system thinks there are two monitors. The new color picker tries to show itself on the deepest screen available. If the depth of the AV card is greater than the bit depth of your main display, the AV card becomes the main display. To correct the problem, attach a monitor to the AV card, and then restart your computer and use the Monitors control panel to set the AV card to black and white (1 bit depth).

Macintosh Centris/Quadra 660AV, Quadra 840AV, and Alert Sounds
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If you have a Macintosh Centris/Quadra 660AV or Quadra 840AV, some system alert sounds may not play correctly with the Alert Volume turned down. To avoid the problem, keep the Alert Volume turned all the way up and adjust the Built-in system volume. (To adjust Built-In volume, open the Sound control panel and choose Sound Out from the pop-up menu.)

Help with the Japanese or Chinese Language Kit

Japanese and Chinese Language Kits version 1.1 or earlier may not be compatible with System 7.5. To run effectively, please upgrade your language kit to version 1.1.1 or later.

Volumes Larger than 2 GB

Volumes larger than 2 gigabytes (GB) with lots of files may show a negative number for bytes used in the Get Info dialog box. An incorrect number of bytes used does not indicate that the data on your disk is damaged.

RasterOps Video Board

Some older RasterOps video boards with ROM earlier than 2.0 may not be compatible with System 7.5. Before installing System 7.5, you should determine the ROM revision of the RasterOps video board by doing the steps below:

1. Start up your computer with the RasterOps video board.
2. When the RasterOps logo appears, look at the ROM version in the top right corner of the monitor.

Boards with ROM revision 2.0 or later should operate correctly with System 7.5.

If your ROM is earlier than 2.0, contact RasterOps Technical Support for upgrade information. The RasterOps Technical Support department is available Monday through Friday from 8:00 a.m. to 7:00 p.m. Eastern Standard Time.

Worldwide: (317) 577-8788
U.S.: (317) 577-8788
AppleLink: RASTERHELP

IMPORTANT INFORMATION ABOUT MACINTOSH PC EXCHANGE

This section contains important information about Macintosh PC Exchange

Apple File Exchange and Macintosh PC Exchange

The Apple File Exchange software is not compatible with PC Exchange and should not be used while PC Exchange is installed. Version 2.0 of PC Exchange contains an easier and more intuitive method for accessing DOS and Apple II ProDOS disks on a Macintosh.

AutoDoubler

To use AutoDoubler with Macintosh PC Exchange, you must first open the AutoDoubler control panel and turn off the "Show DD on Compressed Files" option.

ClarisWorks Version 1.0v2 or Earlier

Some versions of ClarisWorks cannot read or write files on DOS-format floppy disks. To open a PC document in ClarisWorks, you must first copy the document to your computer's hard disk. Always save ClarisWorks documents on your Macintosh hard disk. You can then copy the documents to a DOS-format floppy disk. Contact Claris to obtain version 1.0v3 or later of ClarisWorks.

Compressed PC Disks and Files

Macintosh PC Exchange does not work with DOS-format floppy disks or SCSI hard disks that have been compressed using Stacker or other MS-DOS or Windows disk-compression utilities. Before transferring compressed DOS files to a Macintosh, you must decompress the files and save them to a non-compressed DOS-format floppy disk.

Working with PC-Format Disks Containing Multiple Partitions

If a SCSI hard disk or removable media cartridge has been formatted to contain multiple partitions, you can use PC Exchange to mount the Macintosh-, DOS-, or ProDOS-format partitions as individual logical drives on the Macintosh desktop. If the disk contains both Macintosh and DOS-format partitions, PC Exchange will only recognize the Macintosh partition. In addition, PC Exchange will only recognize ProDOS-format partitions on SCSI hard disks that are less than 32 megabytes.

You can use PC Exchange to erase existing individual partitions on a SCSI hard disk or removable media cartridge if they have the same format. However, you cannot use PC Exchange to reformat and resize individual partitions contained on the disk. Nor can you format a Macintosh-format hard disk or removable media cartridge as a DOS-format disk. To resize or reformat multiple Macintosh, DOS, or ProDOS partitions, you need to use third-party software designed for partitioning hard disks and removable media cartridges.

Working with DOS-Format SCSI Removable Media Devices

In order for PC Exchange to recognize SCSI removable media devices, you must turn on the device and eject any cartridges before you turn on your Macintosh system.

Do not install the device driver software that came with your removable media device. Instead, open the PC Exchange control panel, click the Options button, select your SCSI device from the list, and then restart your Macintosh. PC Exchange will install its own device driver for that SCSI device.

The Eject Disk command is unavailable when you are working with removable media devices. To unmount and eject a removable media cartridge, drag the device's icon to the Trash. Once the device has spun down and the red light goes out, you can manually eject the cartridge from the drive. To access a removable media cartridge that has been ejected, simply reinsert the cartridge in the drive.

When initializing and formatting Bernoulli and SyQuest cartridges on a PC-compatible computer, use the disk setup and partitioning software that came with the SCSI controller card installed in your PC or that came with your Bernoulli or SyQuest device. Do not use the MS-DOS Fdisk command to initialize a removable media cartridge. In addition, you should use the MS-DOS Format command to format the disk before you copy DOS files to a newly initialized removable media cartridge on a PC.

When you initialize a removable media cartridge on a PC-compatible computer, you must fully partition, initialize, and erase the cartridge using the software that came with your SCSI controller card or removable media drive. If you do not, PC Exchange may not recognize the new DOS-format partitions on that cartridge.

Working with DOS-Format SCSI Hard Disk Drives

In order for PC Exchange to recognize SCSI hard disk drives, you must turn on the drive before you turn on your Macintosh.

Do not install the device driver software that came with your removable media device. Instead, open the PC Exchange control panel, click the Options button, select your SCSI device from the list, and then restart your Macintosh. PC Exchange will install its own device driver for that SCSI device.

When initializing and formatting an external SCSI hard disk on a PC-compatible computer, use the MS-DOS Fdisk command or the disk setup and partitioning software that came with the SCSI controller card installed in your PC. In addition, you should use the MS-DOS Format command to format and erase the disk before you copy DOS files to a new SCSI hard disk on a PC.

Tips and Problems
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* A "Sad Mac" error may occur on your Macintosh if a removable media cartridge is left in the drive during startup. To keep this problem from occurring, manually eject removable media cartridges from the drive before you turn on your Macintosh.

* PC Exchange cannot recognize SCSI hard disks, removable media devices, or drive container files that contain more than one gigabyte of disk space.

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System 7.5: PlainTalk Software ReadMe (2/95)

The following article is the ReadMe document for the PlainTalk software.

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About the PlainTalk software

The PlainTalk software you have received (version 1.3) is designed to work with System 7.5 only on Macintosh Quadra 840AV, Macintosh Quadra 660AV, and Power Macintosh computers.

About the Sound control panel

Speech recognition works best when the original (default) sound settings are chosen in the Sound control panel. If you have problems while using your computer's speech recognition capabilities, make sure that the following settings are chosen in the Sound control panel:

* The Sound Out rate should be set to 24.000 kHz if you are using a Macintosh Quadra 840AV or 660AV. If you are using a Power Macintosh computer, set the rate to 22.050 kHz.
* In the Options section under Sound In, turn off Playthrough (make sure there is no X in the box next to Playthrough).

If PlainTalk runs but doesn't recognize what you're saying

PlainTalk has some ability to adapt to background sounds in a room. Occasionally, PlainTalk will appear to not recognize what you're saying because it has not yet adapted properly. If this happens, you can help PlainTalk adapt by turning it on using the Speech Setup control panel and speaking into the microphone at a normal distance and volume for a while. On the Power Macintosh computer, PlainTalk will usually adapt after about 20 seconds of speech. On the Macintosh Quadra 840AV and Quadra 660AV it can take a few minutes of speech for PlainTalk to adapt. Once it has adapted, PlainTalk should be able to recognize and respond to utterances like "Computer, what time is it?". PlainTalk will remain properly adapted the next time you turn it on.

If you see a message that there isn't enough memory available
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If you see a message that the SR Monitor is having trouble due to lack of memory, save all your open documents and quit the applications you have open.

To avoid running out of memory while using speech
---
* Quit the applications you have open.
* Use the Speech Setup control panel to choose a voice that takes up less memory, or turn off voice feedback. (The voices named "Agnes," "Bruce," and "Victoria" take up the most memory.)
* Use the Memory control panel to turn on virtual memory. (With virtual memory on, voices may be slightly distorted and, with some applications, speech performance may decrease.)
* Add more memory to your computer.

If you are running System 7.5 with PowerTalk, QuickDraw GX, and PlainTalk installed, then it is recommended that you have at least 12MB of RAM on a Macintosh Quadra 840AV or Macintosh Quadra 660AV, or at least 16MB of RAM on a Power Macintosh.

Speech Recognition Files

The Apple Extras folder on your hard disk contains an "Introduction to Speech" application and files needed for speech recognition scripting to work. Don't delete items from this folder unless you are sure you don't need them, and make sure that you keep backup copies of any files you delete.

If you write scripts

The Speech Macro Editor enables you to create and edit scripts that run in response to a spoken command. If such scripts contain loop commands, such as the AppleScript Repeat statement, make sure that the loop has an exit. If you inadvertently specify a loop statement that has no exit (an infinite loop), the commands within that statement will repeat indefinitely. If this happens, restart your computer.

If you have edited the "My Speech Macros" file in the Extensions folder, back up that file before installing this new PlainTalk software, because the PlainTalk installer will replace the existing "My Speech Macros" file with a new one.

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System 7.5: Portables Extras ReadMe (3/95)

The following article is the ReadMe document for the Portables Extras.

This article has been archived and is no longer updated by Apple.

About Portables Extras

The Portables Extras folder contains the PowerBook File Assistant folder, where you'll find:

* File Assistant, an application program that helps you synchronize files and folders on PowerBooks and desktop computers

* Battery Recondition, an application program you can use on certain PowerBook models to recharge the battery.

Using File Assistant to Synchronize Files

Synchronizing files is especially helpful if you frequently use two computers. If you use a PowerBook with a desktop Macintosh, Duo Dock, or network file server, you may want to keep identical copies of a file or folder in both places.

Start File Assistant by double-clicking the File Assistant icon. Then choose File Assistant Guide from the Apple Guide (question mark) menu to learn how to use File Assistant. File Assistant Guide contains step-by-step instructions for synchronizing files and folders.

IMPORTANT The File Assistant Guide must remain in the same folder as the File Assistant program, or you will not be able to get help while using the File Assistant program. If you choose Show Balloons from the Apple Guide (question mark) menu, and point to the File Assistant Guide icon, the information in the balloon may be incorrect. It is not possible to open and edit the File Assistant Guide.

Also, if you have files named Assistant Tidbits 1 and Assistant Tidbits 2 in your System Folder, drag them to the Trash to remove them. The 'tidbits' files belong to an older version of File Assistant.

Using Battery Recondition

The Battery Recondition program works with certain models of PowerBook. If it doesn't work with your computer, a message will appear when you try to start the Battery Recondition program.

For more information on recharging your computer's battery, see the user's guide that came with your computer, and the Batteries and Power topic in Macintosh Guide. Choose Macintosh Guide from the Apple Guide (question mark) menu.

Article Change History:
22 Mar 1995 - Corrected wording of Duo Dock.
14 Feb 1995 - Reviewed for technical accuracy.

Support Information Services
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System 7.5: PowerTalk Extras ReadMe (2/95)

The following article is the ReadMe document for PowerTalk Extras.

This article has been archived and is no longer updated by Apple.
PowerTalk Extras are application programs and utilities for your PowerTalk electronic mail and collaboration software.

How to Use PowerTalk Extras

The list below describes the items in the PowerTalk folder and tells you how to use each item.

AppleMail and AppleMail Guide

AppleMail is a built-in electronic mail program that lets you write and send messages. To use AppleMail, double-click its icon.

AppleMail Guide is a document that provides on-screen instructions and other information while you are using AppleMail. Make sure you leave AppleMail Guide where it is, in the same folder with the AppleMail program. You can't open the AppleMail Guide file directly. It contains information that is available from the Guide menu (marked with the ? icon) while you are using the AppleMail program.

To get help while you're using AppleMail, open the Guide menu (marked with the ? icon) and choose AppleMail Guide.

Demonstration Signer and DigiSign Utility

PowerTalk's DigiSign digital signatures software lets you electronically approve and verify data. The DigiSign Utility lets you begin the process of obtaining a Signer file. The Demonstration Signer is a sample file showing how your Signer file will look.

For more information, open the Guide menu (marked with the ? icon) and choose PowerTalk Guide. Then click the Topics button and see the items for the topic "Digital Signatures."

Untitled Info Card

You can use the Untitled Info Card to create a card that contains information about a person or group of people. An information card usually contains a person's name, postal address, electronic address, and telephone numbers. An information card for a group contains pointers (or aliases) to information about the individuals in the group.

Information cards are usually stored in catalogs, although you can keep an information card on your desktop or in a Finder window.

For more information on using information cards, open the Guide menu (marked with the ? icon) and choose PowerTalk Guide. Then click the Index button and see the items for the index term "info card/information card."

Article Change History:
14 Feb 1995 - Reviewed for technical accuracy.

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System 7.5: QuickDraw GX software ReadMe (2/95)

The following article is the ReadMe document for QuickDraw GX.

This article has been archived and is no longer updated by Apple.
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- QuickDraw GX with the Vector Imaging System on the Power Macintosh

Tips

Restoring Type 1 Fonts to Their Original State

If you remove QuickDraw GX from your system, you need to restore your Type 1 Fonts. To restore Type 1 fonts, follow these steps:

1. Open the System Folder.
2. Open the Fonts folder.
3. Drag any suitcases that have been enabled to the Trash.
4. Open the *Archived Type 1 Fonts* folder.
5. Move the contents of the *Archived Type 1 Fonts* folder to the Fonts folder.
6. Drag the *Archived Type 1 Fonts* folder to the Trash.

Tekton Plus RegularSC Prints as Courier From Some Applications
---
In application programs which do not take advantage of QuickDraw GX, Tekton Plus appears as two fonts: Tekton Plus Regular and Tekton Plus RegularSC. Applications such as Adobe Illustrator, QuarkXPress, and Aldus PageMaker print characters from Tekton Plus RegularSC as Courier on PostScript printers.

Troubleshooting

QuickDraw GX and Memory
---
* On a Macintosh with 8 MB of available memory with Macintosh system software version 7.5, QuickDraw GX, and PowerTalk, you can enable only a limited number of printing extensions and desktop printers. More than 7 of each at the same time may cause a low-memory alert to appear. If you want to have more than 7 desktop printers, removing a printing extension will help alleviate memory difficulties and vice-versa. If a low-memory alert does appear, try deactivating printing extensions or removing desktop printers. For more information about desktop printers and printing extensions, see the Macintosh System 7.5 Upgrade Guide.

* The presence of several inactive desktop printers (with Xs through the icon) on the desktop or on disks other than the startup disk can cause low-memory alerts to appear. They may also cause your computer to be unable to start up. To solve the problem, hold down the Shift key as you start up your computer. When the computer is ready, drag the inactive

desktop printers to the Trash.

Printing Problems
---
* Occasionally, jobs waiting in a desktop printer queue may not be printed. Be sure to check the status of the document in the desktop printer to ensure it is not on hold. If the status of the document is normal and your document is not printing, restart your Macintosh.

* If you set up "client" desktop printers (created in Chooser with the Servers pop-up menu), keep these client desktop printer windows closed. Leaving these windows open causes extra network traffic and may cause your system to crash.

* Once QuickDraw GX is installed, do not lock the System file. Locking the System file may cause your system to crash, especially if you drag the default desktop printer icon to the Trash. The reason is that QuickDraw GX software stores the name of the default desktop printer (and the name of its Chooser extension) in the System file. To unlock the System file, select the System file's icon, choose Get Info from the File menu, then click the Locked checkbox to remove the X.

* Occasionally, your system may not respond when you choose Shut Down while printing. If you choose Shut Down repeatedly, the correct message will appear (asking whether you want to shut down after printing or shut down immediately). If you try to cancel the shutdown at this point, the computer may still shut down. If this happens, no print jobs are lost. The document currently being printed will finish and any other print jobs will show up in the print queue when you start up your computer again. If a print job is on Hold after you start up again, select it and click Resume.

QuickDraw GX and Application Programs
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* If possible, do not use the QuickDraw GX Helper (to turn off desktop printing) with WordPerfect. In WordPerfect, when you turn desktop printing off, the third item on the Apple Menu (which corresponds to the first alphabetic item in the Apple Items folder) opens.

* In PageMaker version 5.0, documents containing PICTs will print without the PICTs and an extra blank page may be printed at the end of some documents. To print correctly, hold down the Option key when you choose Print from the File menu.

* Adobe Illustrator version 5.5 incorrectly installs ATM 3.6.1 alongside ATM 3.7 (ATM GX) when ATM 3.7 is already installed. ATM will not run when two versions of ATM are installed at the same time. To remove ATM 3.6.1 after installing Adobe Illustrator 5.5, follow these steps:

1. Open the System Folder.
2. Drag the ~ATM 68020/030/040 file onto your desktop.
3. Open the Control Panels folder in the System Folder.
4. Drag the ATM 3.6.1 control panel (named ~ATM¬) onto your desktop.
5. Restart your Macintosh.
6. Drag the ~ATM¬ and ~ATM 68020/030/040 files to the Trash.

* To print on a PostScript printer using Insignia Solutions' SoftPC and SoftWindows products, you must turn off desktop printing or use the Epson LQ-2500 output option. To turn off desktop printing, use the QuickDraw GX Helper (one of the QuickDraw GX Utilities). To install the QuickDraw GX Utilities, see the instructions in Chapter 3 ("Installing QuickDraw GX") of the Macintosh System 7.5 Upgrade Guide.

* You should print documents that use the Al-Nashir Al-Sahafi font (Arabic Design Studio) on raster (non-PostScript) printers. If you try to print

an Al-Nashir Al-Sahafi document on a PostScript printers, no document will print.

* When you open Adobe Acrobat Reader or Adobe Acrobat Exchange with QuickDraw GX or ATM 3.7 installed, the following message appears: "The ATM Font Database must be installed to use Acrobat. The program will now quit." This error message is displayed (even if the ATM Font Database is present) because ATM 3.7 does not have font substitution capability, which is a requirement for Acrobat products.

If your Macintosh Fails to Restart

Occasionally, your Macintosh may fail to restart when you choose Restart from the Special menu.

If this occurs, follow these steps:

1. Open the Special menu and choose Restart.
2. Hold down the Shift key as the computer starts up.
3. When the computer is ready, open the System Folder.
4. Open the Preferences folder (inside the System Folder).
5. Drag the Finder Preferences file from the Preferences folder into the Trash.
6. Open the Special menu and choose Restart again.

Installing QuickDraw GX with the Power Macintosh Upgrade Card
---
When you install QuickDraw GX on a Macintosh with the Power Macintosh Upgrade Card, make sure that the upgrade card is enabled before installing QuickDraw GX.

The Tray Mismatch Alert Scaling Option

The Tray Mismatch Alert scaling option is not completely implemented for QuickDraw GX 1.0.1. Under certain circumstances, the pages will not be properly scaled even if you select the Scale option. To avoid this problem, format the pages from within the application program to match the output device tray.

QuickDraw GX with the Vector Imaging System on the Power Macintosh
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There is a problem with the Vector Imaging System and Power Macintosh. If you have problems plotting, turn off Modern Memory in the Memory control panel.

Article Change History:
14 Feb 1995 - Reviewed for technical accuracy.

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Apple 800K Drive Mechanism and Cable Compatibility

This article has been archived and is no longer updated by Apple.

Drive and Cable Compatibility Chart

(YES = Compatible NO = Not Compatible)

	APPLE 3.5 MECHANISM Part # 661-0345 MFD-51W-03 red on silver label	800K DRIVE MECHANISM Part # 661-0305 MFD-51W or 51W-10 black on silver label
INTERNAL MACINTOSH internal drive cable part # 590-0437	Yes- w/ yellow drive cable part # 590-0167	Yes- w/ red internal
EXTERNAL 800 K DRIVE	YES	YES
UNIDISK 3.5 DRIVE	YES	YES
APPLE 3.5 DRIVE	YES	NO

NOTES:

1. If an Apple 3.5 Drive mechanism (P/N 661-0345) is installed as an internal Macintosh drive, it will require a YELLOW striped internal cable (P/N 590-0437) in order to operate.

2. If an older version of the Apple 800K Drive mechanism (P/N 661-0305) is installed as an internal Macintosh drive, it will require a RED striped internal flat cable (P/N 590-0167) in order to operate.

3. It is possible to install the recently released Apple 3.5 Drive mechanism in an external Macintosh 800K Drive or in a UniDisk 3.5 Drive. However, you should NEVER try to install the older verison 800K Drive mechanism in an Apple 3.5 Drive.

4. You can distinguish the Apple 3.5 Drive mechanism (P/N 661-0345) from the older version 800K Drive mechanism (P/N 661-0305) by its Apple and vendor part numbers. Also, each mechanism has a different colored drive label. Refer to the chart above for the details.

Published Date: Feb 19, 2012

Color StyleWriter Pro: Transparency Requirements (1/95)

This is a list of frequently asked questions about the specifications of transparency film required for a Color StyleWriter Pro.

This article has been archived and is no longer updated by Apple.
Q: Does the Color StyleWriter Pro transfer any heat which could affect the transparency?

A: The Color StyleWriter Pro does not use heat to fuse the ink to the printing material. The bubble jet printing process uses miniature heating elements to heat the ink and cause it to jettison from the print nozzle. The amount of heat produced is insignificant.

Q: Does the printer have an optical sensor which requires a paper backed transparency?

A: The Color StyleWriter Pro utilizes a photosensor with a mechanical flag to detect the presence of paper. This configuration allows it to operate properly using either clear or opaque printing materials, however for best results Apple's paper backed transparencies should be used.

Q: Why does apple recommend using the more expensive paper backed transparencies if an optical sensor is not used?

A: Apple's paper backed transparencies are priced competitively with other brands and optimized for use in Apple's ink-jet printers. The paper backing aids in transporting the paper through the paper feed mechanism, viewing printed slides prior to viewing them on an overhead projector, and eliminates the need for putting the potentially light diffusing absorbent material on both sides of the transparency film during manufacturing.

Apple transparencies are formulated to minimize ink drying times and prevent paper feeding problems. The surface finish aids in fast drying times and Apple's transparencies can be stack printed without risk of smudging or other print quality problems.

Q: Can a less expensive, non-backed transparency be used?

A: Apple strongly recommends the use of transparencies designed specifically for the Color StyleWriter Pro. There are many other transparencies designed for ink-jet printers that may work, however Apple does not make any specific recommendations. If you wish to use non-Apple transparencies, you should test a small quantity to make sure that the results are acceptable.

Article Change History:
09 Jan 1995 - Removed recommendations for specific brands.

Support Information Services
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System 7.5: Shut Down From Special or Apple Menu (2/95)

After installing System 7.5, I noticed that in addition to being able to select Shut Down from the Special menu, there is a Shut Down desk accessory under the Apple menu.

Why are there two selections and does it matter which one I use?

This article has been archived and is no longer updated by Apple.
The two different choices for shutting down your computer are functionally equivalent. The Desk Accessory does bypass any items in the Shutdown Items folder however.

The shut down selection under the Apple menu is intended for Performa users who may have the Finder hidden for security reasons.

Article Change History:
14 Feb 1995 - Reviewed for technical accuracy.

Support Information Services
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Reading Maze and Color Printing to ImageWriter II (9/94)

I am having trouble printing from Reading Maze to an Apple Imagewriter II with a color ribbon.

This article has been archived and is no longer updated by Apple.
The Reading Maze program, included with the Apple Early Language Connections (AELC) package, will not print in color to an ImageWriter II with a Color Ribbon.

Reading Maze is produced by Great Wave Software. According to Great Wave, this program uses direct color Quickdraw routines that the ImageWriter II driver does not support. The Apple Color StyleWriter Pro and several Hewlett Packard printers will print in color with Reading Maze.

There is a third party product that may support color printing to the Imagewriter. Look at MacPalette, made by MicroSpot USA, Inc.

To locate a vendor's address and phone numbers, use the vendor name as the search string.

Article Change History:
15 Sep 1994 - Revised article for clarity.

Support Information Services

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System 7.5: Proper Disk Cache Setting (4/96)

Under System 7.5, is the default Disk Cache setting appropriate for all levels of memory installed? If not, what would the proper setting be?

This article has been archived and is no longer updated by Apple.

It is recommended that the Disk Cache be set to 32K per megabyte (MB) installed of physical memory. For an 8 MB Macintosh, the proper Disk Cache setting would be 256K.

In System 7.5, 7.5.1, and 7.5.2, the Memory control panel had an anomaly where, if you click the "Default" button, it will always set the Disk Cache setting to 96K no matter how much memory you have installed. However, this has been fixed in System 7.5.3, and the default is now equal to 32K per MB installed. You can updgrade to System 7.5.3 using System 7.5 Update 2.0, which is available on the online services.

These articles can help you locate the software update mentioned here:

"Where To Find Apple Software Updates" - Lists online services for free Apple software updates.

"Obtaining Apple Product Support in the USA" - Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech Info Library.

This article was published in the Information Alley on 19 April 1996.

Article Change History:

26 Apr 1996 - Added alley info.

19 Apr 1996 - Added info about System Update.

14 Feb 1995 - Reviewed for technical accuracy.

Published Date: Feb 19, 2012

Video Mirroring: Ways to Maximize Performance (8/94)

I intend to use my PowerBook and Video Mirroring for presentations. What steps can I take to improve performance?

This article has been archived and is no longer updated by Apple.

Here are some suggestions to maximize Video Mirroring performance:

* keep color settings to the minimum bit depth actually needed
* keep use of animated transition effects to a minimum
* minimize use of complicated graphics
* minimize number of individual graphics per slide
* turn off virtual memory during presentations
* disable extensions that are not required for the presentation

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ImageWriter II P/C: How to Run LoopBack Self Test

This article has been archived and is no longer updated by Apple.

DESCRIPTION: There is a way to test the interface port on the ImageWriter II without requiring a Macintosh.

1. Build a connector with pins 3 and 5 jumpered together (touching no other pins) and pins 1 and 2 jumpered.

2. Press the Print Quality switch while you Power on the IW II.

3. If a failure occurs search on HTS and GTS for the IW II communications troubleshooting procedure.

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Power Macintosh AV: Displaying Flicker Free Video on TV (3/95)

Using my Power Macintosh AV model with a television connected, I want to display flicker free images on the TV at 512 x 384. There is no option for this in the Monitors control panel, how can this be accomplished?

This article has been archived and is no longer updated by Apple.
To display flicker free images on your TV, follow these steps:

1. Open the Monitors control panel, click on the Options button and choose
. 640x480 Resolution on 17" monitor
2. In the Video Display Options box, choose display video on television
3. Choose switch
4. Choose upon restart display video on television
5. Restart your Macintosh
6. In the Monitors control panel, select 256 colors
7. Click on the Options button, choose 512x384 (NTSC TV only)
8. Select flicker free format

Article Change History:
01 Mar 1995 - Revised title to more accurately reflect contents of article.

Support Information Services
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QuickDraw GX: Desktop Printing On/Off Retained After Quit (2/95)

With QuickDraw GX installed, if I disable Desktop Printing in one application, will it be disabled in all applications?

This article has been archived and is no longer updated by Apple.
No, the Desktop Printing on/off setting is not a global setting. Changing the setting in one application affects that application only.

Additionally, quitting the application does not reset Desktop Printing. It will remain set as it was when the application was quit.

Article Change History:
14 Feb 1995 - Reviewed for technical accuracy.

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QuickDraw GX: Multi Page Printing on One Sheet of Paper (2/95)

I just installed System 7.5 and QuickDraw GX and would like to print multiple text pages on one sheet of paper. Using the Layout feature in the Page Setup dialog box of the LaserWriter 8.x driver I was able to do this.

How can I accomplish this with System 7.5 after QuickDraw GX is installed?

This article has been archived and is no longer updated by Apple.
There are two methods to print multiple text pages on one sheet of paper.

An extension to QuickDraw GX called Pierce Paper Saver can be installed. Pierce Paper Saver is included with the System 7.5 Personal and Group Upgrade Kits.

If you do not have the Pierce Paper Saver printing extension installed, the following procedure will allow you to utilize the LaserWriter 8.x multi page printing feature while running System 7.5:

Step 1
Make sure you have installed GX Helper via the Custom Install of QuickDraw GX.

Step 2
Remove all old LaserWriter drivers with the exception of the 8.x version.

Step 3
While in your application, under the Apple menu, select "Turn Desktop Printing Off."

Step 4
A dialog box will appear asking you to confirm your selection, select OK.

You will now be using the LaserWriter 8.x driver and have the ability to use all the features of the 8.x driver.

Article Change History:
14 Feb 1995 - Reviewed for technical accuracy.

Support Information Services
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Workgroup Server 9150: DAT Tape Length and Type

What kind of DAT tape is required by the Apple Workgroup Server 9150?
This article has been archived and is no longer updated by Apple.
The Workgroup Server 9150 uses MRS DAT tapes. The tapes come in 90 and 120 meter lengths.
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PowerBook: Printing to Serial Printer

This article discusses the "Port is Busy" error message with the StyleWriter II and PowerBook 500 computer.
This article has been archived and is no longer updated by Apple.
The PowerBook 520c and 540c computers employ a single serial port which is a combination Printer/Modem port. In order to use this port for serial printing, use the following information to properly configure your PowerBook 500 series computer:

If the Express Modem is installed:

- Select Use External Modem from the Express Modem control panel.
- Select Normal from the PowerBook Setup control panel.

Open the Chooser and do the following:

1. If using the PowerBook 200 series, turn OFF AppleTalk. Because the PowerBook 500 series is equipped with Ethernet, you only have to disable AppleTalk if you are using the serial port for network services. You can verify that you are using Ethernet by making sure the Network Control Panel is set for Ethernet.

2. Select the serial printer driver.

3. Select the "printer/modem" icon (or the modem icon if the printer/modem icon is not available).

Note: Domestic PowerBook 500 series computers will have a Global Village Powerport Mercury modem installed, not an Express modem, and therefore will only need to have the PowerBook Setup control panel set to normal for step #1.

A similar situation can also occur when using the Color StyleWriter 2400 or other serial printer. If you see no port selection choices, make sure the PowerBook Setup control panel is set for Normal. Future Apple serial printer drivers will provide only one port selection (called the "Printer/Modem") in the Chooser.

This issue can also occur when printing to any serial printer with other PowerBook computers that have a single serial port including the PowerBook 150 and the PowerBook 200 series.

Published Date: Feb 19, 2012

AppleSearch WAIS Gateway: Connecting to the Internet

How do I use the WAIS gateway capability of AppleSearch 1.5 to access information on the Internet?
This article has been archived and is no longer updated by Apple.
AppleSearch is Apple's client/server information retrieval system. It allows users to search large text databases for topics of interest. The AppleSearch WAIS (Wide Area Information Server) gateway expands the scope of AppleSearch beyond Local Area Networks to the Internet.

The WAIS gateway, the primary new feature of AppleSearch 1.5, allows Macintosh users on a AppleTalk network to search WAIS servers on the Internet for information related to specific topics or keywords.

INTERNET CONNECTION

In order to use the AppleSearch/WAIS gateway, you must have a TCP/IP connection from a Macintosh to the Internet. This can be accomplished with the Apple IP Gateway software, Shiva Fastpath, Cisco router or some other DDP/IP (Datagram Delivery Protocol/Internet Protocol) gateway. The Internet connection can be either dial-up or dedicated.

HOW IT WORKS

The AppleSearch server software handles all communication with the AppleSearch client Macintosh computers on your AppleTalk network. The WAIS gateway software communicates with the AppleSearch server via Apple Events and handles all communications with the Internet-based WAIS servers. Both the AppleSearch server and WAIS gateway software reside on the same Macintosh computer (You could also install the Apple IP Gateway software on this same machine to provide a cost effective Internet connection).

Once the IP connection to the Internet is in place, you will use the WAIS gateway software to connect to WAIS.com (the WAIS server directory on the Internet) and download its list of known WAIS servers. From this list you will use the AppleSearch server software to specify which WAIS servers or "libraries" can be accessed by your AppleSearch clients.

An AppleSearch client on the AppleTalk LAN can make requests for information from available WAIS servers. The WAIS servers will appear as AppleSearch libraries. When a request is made, it is passed from the AppleSearch server to the WAIS gateway, reformatted, and sent on to the target WAIS server. The WAIS server returns a ranked relevance list of document titles or "hits" that fit the criteria of the search. The AppleSearch user then selects which document he/she wants to view. That document is downloaded from the WAIS server, through the WAIS gateway, to the AppleSearch server and made available to the AppleSearch client user.

Using AppleSearch, users don't have to have direct Internet access to make use of Internet resources; they can go through the server from either their desktop or portable computer without being directly connected to the Internet themselves. This gateway approach allows the AppleSearch server administrator to choose which WAIS sources are available to the LAN users, allowing their selection on the basis of what is appropriate or applicable to the users.
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Apple IIc Monitors: Wavy Video Display

Video display exhibits a "waving" or "rippling" effect.
This article has been archived and is no longer updated by Apple.
Issue: Stand alone power supply manufactured prior to 4584 (i.e. the 45th week of 1984).

Solution: Check the stand alone power supply date code. If manufactured prior to 4584, exchange the power supply.

This repair is eligible for warranty coverage to those costomers who have purchased AppleCare for their system. For all others the repair cost responsibility lies with the customer.
Published Date: Feb 19, 2012

A/UX: No AppleShare PDS file

I noticed that when one starts up Personal File Sharing on a Macintosh running A/UX, no "AppleShare PDS" file is created at the root level of the volume. If there is no PDS file, where is the information on access privileges stored?

This article has been archived and is no longer updated by Apple.
There is no file called "AppleShare PDS" in the File Sharing implementation of the A/UX Macintosh environment. Instead, the information normally contained in the PDS file is stored in several files located in the folder:

System Folder
Preferences
File Sharing

The files will have names similar to:

.HfsPDF.2.41.52.PM
.HfsPDF.6.15.47.AM
.UnixRoot

The files with the name .HfsPDF.??.??.??.?? are the PDS information for each one of the Macintosh HFS volumes attached to the server. The ??.??.??.?? portion of the name reflects the creation date for the volume.

The file .UnixRoot contains the PDS information for the "/" volume. This includes other UFS mounted volumes.

The implementation is similar to the way File Sharing saves access data for Read-Only media and Removable Media.

If you remove these files, the access information will be lost.

Support Information Services

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At Ease: Changing Writing Center "Get Pictures"

When using At Ease and selecting "Get Pictures" from The Writing Center's Picture menu, it only allows you to open documents in that user's Documents folder. How can this be changed to get pictures from a different folder?
This article has been archived and is no longer updated by Apple.

At Ease Prior To Version 2.0.3

When launching The Writing Center from At Ease (and the user whom you log in as is restricted in At Ease to opening documents in their Document folder only), selecting "Get Pictures" from The Writing Center's Picture menu will only allow you to open documents contained in the user's Documents folder.

In short, you can not access the pictures without allowing the user At Ease access priviledges to open items outside of their own Documents folder.

Workarounds:

1) If you launch The Writing Center from the Finder, you could navigate to the Pictures folder in The Writing Center folder on the hard drive to "Get Pictures".

2) Place aliases to each picture in the user's Documents folder.

At Ease Version 2.0.3

At Ease 2.0.3 adds an Application Preferences option to the Options menu in At Ease Setup. It allows the administrator to set "open" and "save" preferences for each application to which users are given access.

The procedure is the same for both At Ease and At Ease for Workgroups:

1) Open At Ease Setup.

2) Select "Application Preferences" from the Options menu. You'll see a list of all available applications. Highlight "The Writing Center" and ensure that there are "X"s in the boxes next to "open location" and "save location." By default, they'll be selected already. Click on "OK" to save.

3) Quit At Ease Setup and log into At Ease as a user who has full access privileges to the hard drive. In other words, do not log on as a user who only has access to a floppy disk, but as a user who can open documents from anywhere on the hard drive. (These will be access privileges you've previously defined for a user from within At Ease Setup.)

4) Open either a new or a previously created Document in The Writing Center. Then, from the Edit menu, select "Preferences...."

5) Click on "Set Default Picture Folder...." A file dialog box will appear from which you can navigate to the location of your new Pictures folder, which can be anywhere you want it to be. Highlight this folder and click "Select." You're finished.

Note: Unless you log on as a user who has access privileges to the hard drive, clicking on the "Set Default Picture Folder" button will simply bring up the familiar "Please Insert Disk" message.

Thereafter, all users, whether they have access privileges to the hard drive or not, can retrieve (or save) Pictures from the default Picture folder you have defined within The Writing Center.

Note: At Ease 2.0.3, in addition to the changes discussed in this article, is also compatible with System 7.5.
Published Date: Feb 19, 2012

QuickTime: Not Recommended with 68000 Computers (8/94)

Is QuickTime compatible with my 68000 based Macintosh?

This article has been archived and is no longer updated by Apple.
Due to performance limitations of the 68000 microprocessor, QuickTime is not recommended for use with a 68000 based computer. This would include the Macintosh 128k through the Macintosh SE and the Macintosh Classic.

Support Information Services
Published Date: Feb 19, 2012

MacTCP: Information on Version 2.0.6 (8/94)

I understand there will be a new release of MacTCP soon. Are there any specific details available on new features or bug fixes?

This article has been archived and is no longer updated by Apple.
There will be a bug fix revision to MacTCP beyond the current 2.0.4. For some originally silly, but now sacred (or at least superstitious) reasons, we'll skip the odd-numbered 2.0.5 and go straight to 2.0.6.

This is _not_ a full-scale bug fix release, and it is certainly not a feature enhancement release. We're trying very hard to keep all the engineering attention on the next generation Open Transport/TCP, so that we can bring you nifty things like IP Multicast support and reconfiguration without requiring a machine reboot. But occasionally, there comes a time when a specific bug fix can't be postponed.

Many of you have heard of the new AppleSearch/WAIS gateway. Obviously, it depends on MacTCP. During the final QA testing on the gateway, we discovered a bug in the MacTCP dnr that can cause a system crash. This bug is extremely rare in all normal circumstances, but the demands that the WAIS gateway places on the dnr at not normal - in fact, it is a very high stress client of the dnr. Since this is a crashing bug, and since we expect that AppleSearch/WAIS gateway customers would be likely to encounter the bug, we felt that a maintenance upgrade was in order. Thus, the gateway will ship with MacTCP 2.0.6 installed.

For all other MacTCP users, there is only one other change that _might_ lead you to install MacTCP 2.0.6. MacTCP 2.0.4 has a peculiarity in the way that it handles BootP when the BootP server is on a different subnet than the client Mac. This is _not_ a crashing bug, and workarounds are possible. However, in certain configurations, Macs will apparently fail to find the BootP server on the network. The Mac is actually receiving the response from the server, but is being very "picky" about the infromation in the header. In these certain cases, the Mac rejects/drops the response packet, because it considered the header to contain invalid information. The RFC does not specify that this test be made, so we stopped making it. Thus, the 2.0.6 build fixes this "bug" -- translation, improves interoperability in the real world.

There are no other changes, and no other users need upgrade. It won't hurt anything if you do, but it won't help anything either. In particular, in order to meet the needs of the AppleSearch team and their shipping schedule, we are continuing to postpone other requested changes related to the DNR's memory management. Customers running BIND 4.9.3(x) have experienced out-of-memory situations that result from the "verbose" behavior of such DNS installations. We'll keep monitoring this situation, and try to make the right decision as time goes on. Again, Open Transport/TCP is not that far away, and we want to keep focused on that if at all possible.

MacTCP 2.0.6 will be released electronically, at no upgrade fee. It will probably be in the form of a "patcher" such as was initially done for MacTCP 2.0.4. If you decide that you need 2.0.6, you will need to be at MacTCP 2.0.4 to apply the 2.0.6 patch. And, as I already noted, it will be preinstalled on the AppleSearch/WAIS gateway.

Support Information Services
Published Date: Feb 19, 2012

System 7.5: DataViz Translators Included W/Upgrades Only (2/95)

I noticed that the System 7.5 upgrade kits contain the MacLinkPlus translators by DataViz. These were not installed on my recently purchased Macintosh and was wondering why.

This article has been archived and is no longer updated by Apple.
The MacLinkPlus translators are bundled with the System 7.5 upgrade kits as a promotion. They have not been licensed for installation on new Macintosh computers, only in upgrade kits. (Upgrade kits included in the promotion are personal upgrade kits as well as 10, 30 and 100 multi-pack upgrade kits. Site licenses are NOT involved in this promotion).

Support for the translators themselves is provided by DataViz, support for Macintosh Easy Open or Macintosh PC Exchange is provided by Apple Computer, Inc.

This article provides information about a non-Apple product. Please contact the vendor for additional information about their product.

The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.

Article Change History:
14 Feb 1995 - Reviewed for technical accuracy.

Support Information Services
Published Date: Feb 19, 2012

System 7.5: PC Exchange 2.0.2 Mounts Removable Media (2/95)

If I want to use a SyQuest type removable cartridge drive with my Macintosh running System 7.5, do I need to install the software for the drive? I understand that PC Exchange enables me to mount cartridges on the fly.

This article has been archived and is no longer updated by Apple.
PC Exchange (PCX) 2.0.2 will allow you to mount removable media, such as SyQuest cartridges, on the fly negating the need to install separate software.

Step 1
To enable this, you must open the PCX control panel and select Options.

Step 2
Once selected, a list of connected devices will be present, clicking on your cartridge drive will place a check mark next to it indicating that the driver for that device will be loaded at restart.

Step 3
Restart your computer and you now have the ability to insert cartridges on the fly.

The Eject Disk command is unavailable when working with removable media devices. To unmount and eject a removable media cartridge, drag the device's icon to the Trash. Once the device has spun down and the red light goes out, you can manually eject the cartridge from the drive. To access a removable media cartridge that has been ejected, simply reinsert the cartridge in the drive.

When initializing and formatting Bernoulli and SyQuest cartridges on a PC-compatible computer, use the disk setup and partitioning software that came with the SCSI controller card installed in your PC or that came with your Bernoulli or SyQuest device. Do not use the MS-DOS Fdisk command to initialize a removable media cartridge. In addition, you should use the MS-DOS Format command to format the disk before you copy DOS files to a newly initialized removable media cartridge on a PC.

When you initialize a removable media cartridge on a PC-compatible computer, you must fully partition, initialize, and erase the cartridge using the software that came with your SCSI controller card or removable media device. If you do not, PC Exchange may not recognize the new DOS-format partitions on that cartridge.

Article Change History:
14 Feb 1995 - Reviewed for technical accuracy.

Support Information Services
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LaserWriter Pro 810: Maximum Name Length Via Ethernet

A customer is trying to name their LaserWriter Pro 810 via Ethernet. The users guide states that they can select a name up to 31 characters in length but they have been unable to get beyond 16 characters. Is there a misprint in the manual?
This article has been archived and is no longer updated by Apple.
The LaserWriter Pro 810 User's Guide is correct. For clarification, the last paragraph of page 43 in the manual states:

IMPORTANT: The LaserWriter Utility will let you create a name up to 31 characters when you are using the printer via the serial or LocalTalk port, and a name up to 16 characters when you are using the printer via the Ethernet port. (The printer can have two different names: one for the LocalTalk connection and one for the Ethernet connection.)

The reasoning behind only supporting 16 characters for the Ethernet printer name is due to the 810's virtual printer technology (only applicable on the printer's Ethernet interface). Since there can be a total of 64 different virtual printers, the data structure keeping track of the names could only support a 16 character string. In other words, there was only enough memory to store 16 x 64 characters.
Published Date: Feb 19, 2012

Monitor II PROBLEM/CURE: Picture Rolling

PROBLEM DESCRIPTION: After the Monitor II has had a chance to warm up, the picture just won't stop rolling.

WARNING: Remember to turn off the Monitor II and unplug it whenever the case is removed for the procedure below.

CAUSE: 1. Vertical Hold misadjusted
2. Bad electronics module

This article has been archived and is no longer updated by Apple.
CURE: 1. Adjust the Vertical Hold (set must be turned on and operating for this adjustment).
2. If Vertical Hold doesn't fix the problem, replace the electronics module.

If the above cure doesn't solve your problem refer to the Tech Procedures to obtain the general troubleshooting procedure for this product.

Published Date: Feb 19, 2012

TokenTalk NB Card: Power Macintosh Compatibility

Is the TokenTalk NB Card compatible with Power Macintosh computers?
This article has been archived and is no longer updated by Apple.
The old TokenTalk NB Card has not been tested with any of the Power Macintosh systems and is not compatible.

The Token Ring 4/16 NB Card and Token Ring NB/c Card are compatible with the Power Macintosh 7100/66 and /80, Power Macintosh 8100/80 and /110, Workgroup Server 8150, and Workgroup Server 9150 systems. The Token Ring NB/c Card is compatible with the Power Macintosh 6100/60 and /66, and Workgroup Server 6150 when using the NuBus Adapter Card.

The System 7.1.2 installer has TokenTalk software for the Token Ring 4/16 NB Card but not for the Token Ring NB/c Card. NSI 1.4.5 or later is included in the box with the Token Ring NB/c Card. For the Token Ring 4/16 NB Card, we highly recommend that NSI 1.4.5 or later be used to install the latest Token Ring software.

If you plan on using MacTCP, you need to use MacTCP 2.0.4 or later. Operationally, there is no difference between the 680x0 and these Power Macintosh systems in regards to Apple's Token Ring cards.

Published Date: Feb 19, 2012

PlainTalk: Freezes After Startup (8/94)

After booting the Macintosh, when the Plaintalk feedback window open and is "ready" , the computer freezes up when interpreting the first spoken commands. What is the problem?

This article has been archived and is no longer updated by Apple.
Speech recognition works best when the original (default) sound settings are chosen in the Sound control panel. If you have problems while using your computer's speech recognition capabilities (such as locking up, slow performance, or freezes of the computer), make sure that the following settings are chosen in the Sound control panel:

* The Sound Out rate should be set to 24.000 kHz if you are using a Macintosh Quadra 840AV or 660AV. If you are using a Power Macintosh computer, set the rate to 22.050 kHz.

* In the Options section under Sound In, turn off Playthrough (make sure there is no X in the box next to Playthrough).

Support Information Services
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LaserWriter Select 360: RAM Needed for Legal Page (8/94)

How much ram is necessary for the LaserWriter Select 360 to print a legal size page of text?

This article has been archived and is no longer updated by Apple.
The memory requirements for printing a legal size page depend on the selected resolution, the imageable area, number of fonts downloaded to the printer, and the PostScript overhead requirements. The imageable area can be calculated from the border information available in page setup by clicking on the dog-cow icon.

The chart below indicates the amount of memory set aside by the printer for the page buffer which stores the processed image just before printing.

DPI(H) X DPI(V) X Imageable Area = Page Buffer Comments
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300 300 6.722 x 12.5 945K Std. Legal
300 300 8.112 x 13.639 1.245MB Larger Print Area On
600 600 6.722 x 12.5 3.781MB Std. Legal
600 600 8.112 x 13.639 4.979MB Larger Print Area On

Once the printer has allocated memory for the page buffer it also allocates space for the PostScript interpreter, PostScript dictionaries, display list, font caching, and program memory. The standard 7 MB LaserWriter Select 360 provides enough DRAM to print a full legal page at 600 DPI with over 1MB of virtual memory remaining for downloading fonts.

Support Information Services

Published Date: Feb 19, 2012

SIMM Stack: Description

This article provides a brief description of the SIMM Stack, now known as The Memory Guide.
This article has been archived and is no longer updated by Apple.
The SIMM Stack was a HyperCard stack containing visual and text based information relating to memory upgrade requirements, specifications, and capabilities of Apple Macintosh computers and applicable LaserWriter printers.

The stack has been replaced by a PDF document called the Memory Guide. You can download the Memory Guide from the Apple Software Updates Web site at http://www.apple.com/swupdates/ .

Published Date: Feb 19, 2012

PlainTalk 1.3 and PlainTalk 1.2: System Compatibility (7/95)

Is PlainTalk version 1.3 compatible with System 7.1.2? We find it crashes when run with 7.1.2 systems.

This article has been archived and is no longer updated by Apple.
We installed PlainTalk 1.3 on a Power Macintosh with System Software 7.1.2 installed. It did not "crash" the CPU, but every time we tried to open a folder or file we received an error message that "Finder got an error: Apple Event timed out."

Checking the Read Me file that was installed with PlainTalk 1.3, showed this release was, "designed to work with System 7.5 only on Macintosh Quadra 840AV, Macintosh Quadra 660AV, and Power Macintosh computers".

We recommend the following:

Version	O/S Version	CPU
PlainTalk 1.3	7.5 or 7.5.1	Quadra 660AV and 840AV, All Power Macintosh computers except the 5200 series
PlainTalk 1.2	7.1.2	All Power Macintosh computers except the 5200 series
PlainTalk 1.2	7.1, 7.1.1	Quadra 660AV and 840AV

Article Change History:
25 Jul 1995 - Added information on the Power Macintosh 5200.
26 Apr 1995 - Added System 7.5.1.
14 Feb 1995 - Reviewed for technical accuracy.

Support Information Services
Published Date: Feb 19, 2012

QuickDraw GX: Current Benefits of Installation (2/95)

Is there any benefit to running QuickDraw GX with applications that do not explicitly support it?

This article has been archived and is no longer updated by Apple.
QuickDraw GX improves all-around the printing system on the Macintosh. This works for old as well as new GX-savvy applications.

Some things that you can do without ANY upgrades to your applications:

* Create and use desktop printers.

* Eliminate the need for the Chooser when switching printers.

* Do drag and drop printing of existing documents onto printers.

* Create Portable Digital Documents (PDDs), which let you view and print documents created on other computers, even if you do not have the original application OR the original fonts. (And when you print the document the *actual* fonts, outlines, and hints are used so that your output looks exactly as it would on the original person's machine).

* Use background printing for all drivers.

* Employ better memory management on PostScript devices -- no more need for "unlimited downloadable fonts".

* Print everything -- with no differences between drivers and what comes out on one but not another (for example, text rotation PicComments).

* Employ full color and grayscale support for all appropriate output devices.

* Handle printing control entirely through the Finder; no more PrintMonitor.

* Use printing extensions (two come bundled on the System 7.5 Personal and Multi-User Upgrade CD-ROM), from both commerical and freeware/shareware vendors that let you do things like 4-up printing, background washes, and other page-modifications without the application being involved.

* Use four new fonts. These fonts are much nicer with GX applications, but you can still use them from your old applications as well.
- Hoefler (Roman, Italic, Ornaments)
- Apple Chancery
- Skia
- Tekton

* Define and use PrinterSharing - you can share any printer (including non-network printers) with other people, and can have Users & Groups and password protection of the printer.

* Employ fully integrated ColorSync support, including support for PostScript device-independant color matching.

* Take advantage of the full generation of PostScript Level 1, Level 2, portable PostScript, and optional ADSC-compliant PostScript. Use the built-in and fully-tested "save as PostScript" option in the driver. Use device-specified control over PostScript font embedding.

* Employ true support for outline fonts on all printers, including large glyph set fonts (such as Asian languages) with output at the full resolution of the device. This feature also provides fast download times through sparse font downloading.

While it is true that both GX and GX printing become even MORE interesting with new applications -- it's not true to say that QuickDraw GX offers nothing until this happens.

Article Change History:
14 Feb 1995 - Reviewed for technical accuracy.
11 Jan 1995 - Added keyword and made minor technical updates.
25 Aug 1994 - Slight modification of Discussion for ease of readability.

Support Information Services
Published Date: Feb 19, 2012

Monitor II PROBLEM/CURE: Display Shrinks

This article has been archived and is no longer updated by Apple.

PROBLEM DESCRIPTION: After the power is on for about 5 minutes, the display shrinks to a 3 inch (approximately) square.

WARNING: Turn off the Monitor II and unplug it whenever the case must be removed for the procedure below.

CAUSE: The regulator is loose or has become damaged from excessive heat.

CURE: Remove the regulator and replace it with a new one. Be sure to use a heat sink compound before tightening down the the regulator to the heat sink.

If the above cure doesn't solve your problem refer to the Tech Procedures to obtain the general troubleshooting procedure for this product.

Published Date: Feb 19, 2012

Protecting Ethernet Networks from Power Surges (8/94)

Are there any companies that sell products which can protect Ethernet networks from damage caused by lightning strikes or electrical surges?

This article has been archived and is no longer updated by Apple.

There are a number of products on the market that can be used to protect incoming power, telephone, and network systems. The list below provides a small sampling of companies that sell products designed to protect Ethernet networks against electrical surges and spikes.

Use the company names as keywords to search for more information about these companies. Please contact each company for a description of the products they provide.

Panamax

Patton Electronics Co.

Powercom America, Inc.

Best Power Technology, Inc.

Support Information Services

Published Date: Feb 19, 2012

SoftWindows, Version 1.0.2 Read Me (6/95)

This article is the SoftWindows, Version 1.0.2 - Read Me information. This information is provided by Insignia Solutions Incorporated.

This article has been archived and is no longer updated by Apple.
SoftWindows, Version 1.0.2 - Read Me information

This file contains the latest information relating to SoftWindows, Version 1.0.2

1. Contents
==========

* What's New in SoftWindows
* Memory settings - for best performance
* More Performance Tips - Getting the best out of SoftWindows
* Other Tips
* SoftNode - Networking Support for SoftWindows
* CD-ROM Support
* AccessPC compatibility
* External floppy drive support
* Miscellaneous
* Acknowledgments
* Your Comments Please

2. What's New in SoftWindows
==========

2.1 Version 1.0.2

This minor revision contains a number of enhancements in the following areas:
* Networking
- 802.2 frame types are supported using Apple's Token Ring cards
- NetBEUI protocols are now supported over Apple's Token Ring cards
- PATHWORKS version 4 or 5 using the DECnet protocol is now supported
- The batch files used to configure Windows for Workgroups have been corrected
- Batch files for configuring Banyan VINES are supplied
* Licensing
- support for multiple user licenses has been added
* General
- The LQ2500 printer emulation has been improved
- BACKUP.EXE has been added to the hard disk
- SoftWindows no longer aborts with an "Error 11" panel

2.2 Version 1.0.1

This minor revision updated the version of DOS to version 6.21 from version 6.2. The difference between the two versions concerns the DoubleSpace utility, which has been removed for legal reasons. If you need to increase your available disk space, we recommend that you use Macintosh utilities or other third party PC utilities.

2.3 Version 1.0

This was the first version of SoftWindows for the Power Macintosh. If you are familiar with the SoftPC family of products for the 68k Macintosh computers, then these are the key features introduced in SoftWindows:
* It's fast - running at entry level 486 speeds. This is achieved through:
- Being a PowerPC native application which takes full advantage of the performance of your Power Macintosh
- Insignia's advanced emulation technology
- Having access to the source code of Windows from Microsoft, which enables us to modify Windows to give extra speed, without jeopardizing compatibility.
* Improved SmartCopy - the Windows utility that links the Macintosh and Windows clipboards now allows bi-directional transfer of text and bitmap graphics data between PC and Macintosh applications.

* Improved networking - the list of supported network operating systems now includes Banyan VINES, so you can connect to Novell NetWare, LAN Manager, LAN Server, Windows NT Advanced server, and Banyan VINES servers. Also, using Novell's LAN Workplace for DOS, you can connect to UNIX file servers through TCP/IP.
* Improved PC CD-ROM support - Audio CD support is better and dual format CDs are supported.

3. Memory settings - for best performance

The amount of memory that you dedicate to SoftWindows is set up by the SoftWindows installer, depending on the options you select during installation.

This determines three key features:
i) The maximum amount of PC memory available to your PC applications
ii) The maximum size and depth you may specify for the Windows desktop
iii) The performance of SoftWindows.

Stated simply, the more memory you give to SoftWindows, the better it will be. However, devoting a large portion of your Macintosh memory to running SoftWindows will limit your ability to run other Macintosh applications simultaneously.

If you want to dedicate more memory to SoftWindows:
* Make sure SoftWindows is not running: Quit SoftWindows if it is.
* Select SoftWindows in the Finder by clicking its icon once.
* Select "Get Info" from the Finder's File Menu
* Enter a higher number in both the Minimum and Preferred Size boxes.
* Click the close box for the dialog.

If you have given too much memory to SoftWindows, go through the above procedure typing a smaller number into the Minimum and Preferred Size boxes.

To see the effect of your changes, select PC Memory╔ from the SoftWindows Setup menu. The size of the "DeltaCache" (which controls the SoftWindows performance - bigger is better) is displayed in the top right hand corner of the dialog. This should be between 0k (slowest) and 1024k (fastest). For some applications, there is an extra performance boost with a DeltaCache of 2048k. Additional DeltaCache beyond 2048k will have little effect on SoftWindows performance.

4. More Performance Tips - Getting the best out of SoftWindows

* Make sure that SoftWindows is set up to use at least 3 MB of PC Extended memory, by using the PC Memory╔ command from the SoftWindows Setup menu. Windows runs much better with 3 MB rather than the minimum 1 MB of extended memory - even on a hardware PC.
* Make sure the setting in your Macintosh "Monitors" Control Panel matches the number of colors you have selected for the Windows Desktop. This is displayed by selecting the Windows Desktop╔ command from the SoftWindows Setup menu.
* Make sure the Windows Desktop is entirely on one monitor.
* Make sure the Windows Desktop is unobscured by other windows. (Note that when the Windows desktop is in an optimal position, the title bar will have a check mark (├) appended. If there is no title bar then holding down Command and option keys will display a hand icon with a dot in the middle).
* Try boosting the DeltaCache to about 2048k, as described above.
* Try turning File Sharing off, it can slow down your applications on the Power Macintosh.
* Make sure you do not have the MacsBug debugger installed - it slows down the entire Power Macintosh.

5. Other Tips

5.1 Loading DOS High

In order to maximize the amount of available conventional memory to PC applications, you may load DOS high by adding the line

DOS=high

to the CONFIG.SYS file.

6. SoftNode - Networking Support for SoftWindows

6.1 Ethernet card compatibility

SoftNode is compatible with the on-board Ethernet fitted in all Power Macintosh computers and virtually all Macintosh Ethernet cards.

If you are using third party Ethernet solutions, please ensure with the manufacturer that you have the latest version of the driver software.

The Apple Ethernet NB card has had a number of problems in the past. These are all believed to be addressed in version 1.4.2 of Apple's Network Software Installer disk.

SCSI based Ethernet - A number of SCSI Ethernet adapters have drivers which pad out the packets of the Ethernet II frame type. This causes illegal instructions in PC applications using this frame type, although other frame types work well. If it is not possible to use a different frame type, this problem may be solved by connecting via a SoftNode Ethernet Gateway for IPX protocols. This applies to the Focus Nuvo-Link SC and to Dayna's DaynaPORT SCSI/Link products.

6.2 Token Ring card compatibility

SoftNode is compatible with Token Ring cards which support the Apple .TOKN standard. These include cards from DCA, AsantÄ and CableTron (which work in SoftPC on today's 68k Macintosh computers). Please contact the relevant manufacturers to check that you have the latest version of the driver software required for their cards in Power Macintosh computers.

You will need version 1.4.5 of Apple's Network Software Installer if you need to use the Token Ring 802.2 frame type with Apple Token Ring cards.

You can use SoftNode in an environment where other cards are installed by:
* Installing a supported card in one Macintosh.
* Installing a SoftNode Token Ring Gateway on that Macintosh.
* Using the SoftNode ATALK.BAT batch file from other Macintosh computers to
access the Novell file server via the SoftNode Gateway.

6.3 DECnet protocol support in PATHWORKS

The DECnet protocol requires that the Ethernet card you use in your Macintosh has a particular address based on the "area" and "node" you have been assigned in your DECnet network by the system administrator. In order to override the default address, a small utility is provided to install this new address.

This utility may be installed by a new custom option in the SoftWindows installer, called DECnet Address Override Utility. This places the utility in the Utilities folder within the SoftWindows folder. Double-click the utility, then:

* click "Change Address╔"
* specify the area and node given to you by the system administrator
* click Generate
* click OK
* restart your Macintosh to use the new address

7. CD-ROM Support

Audio CD-ROM support is much improved over previous versions of SoftPC. In addition, it is now possible to use CD-ROMs that have both a Macintosh (HFS) partition and a PC (ISO 9660) partition. Use of these hybrid CDs requires that you have a CD-ROM driver that is capable of accessing both partitions. The Apple CD-ROM driver is not one of these, but Insignia's RapidCD product will replace the Apple CD driver to enable this functionality. FWB's CD-ROM Toolkit is also compatible.

8. AccessPC compatibility

Insignia's AccessPC product allows you to mount SoftPC hard disk files on the Macintosh desktop so that you can see the DOS files and directories as documents and folders. Version 3.0.2 of AccessPC also allows you to mount SoftWindows hard disk files. If you have an earlier version (3.0 or 3.01) you may patch it to give this extra feature. Simply run the application called "PatchAccessPC" which is on the first SoftWindows installation disk and follow the instructions in the subsequent dialogs. Note that the AccessPC control panel should be closed when you patch it, and you will need to restart the Macintosh afterwards.

9. External floppy drive support

At the time of writing, the only diskette drive that may be set up as SoftWindows A: or B: drive is the internal FDHD drive (also known as the "SuperDrive") in the Power Macintosh. Other diskette drives supplied by third party manufacturers work with SoftPC on 68k Macintosh computers and are expected to work as soon as the drivers for these devices are fixed to work on Power Macintosh computers.

Since every Power Macintosh is equipped with a SuperDrive, lack of support of 3rd party 3.5" drives is not expected to be a big issue. If you really need to use 5.25" PC diskettes, the DaynaFile drives from Dayna Communications and the DOSFloppy from PLI work with SoftPC on 68k Macintosh computers. No information is currently available for when these devices will work on Power Macintosh computers.

10. Miscellaneous

10.1 Tutorial Error

Some configurations of SoftWindows are NOT supplied with a tutorial diskette. If this is the case, you may install the tutorial application from your SoftWindows hard disk. To do this, you should choose Run╔ from the Windows Program Manager File menu, and type C:\\WNPST\\SETUP in the command line field and click OK. (The manual incorrectly uses the WINPST directory instead of the WNPST directory).

10.2 Windows Desktop Size

Note that changing monitors, or monitor resolutions, between invocations of Windows, can lead to a Windows Desktop which is larger than the current monitor size. This may be fixed by manually resizing the Windows desktop from the SoftWindows Setup menu. The changes will take effect the next time Windows is run.

11. Acknowledgments

11.1 WinPost

The tutorial Windows application supplied with SoftWindows is WinPost, by Eastern Mountain Software. Please note that this is a shareware version of WinPost: if you decide to continue using it, please send the registration fee of $30 (USA/Canada/Mexico) or $35 (all other countries) to Eastern Mountain Software, P.O. Box 6394, Bellevue, WA 98008-0394, USA. Telephone: (206) 391-3483.

11.2 DEVLOD

SoftWindows is supplied with a version of DEVLOD.COM from "Undocumented DOS" by Schulman et al. (Addison-Wesley, 1993). Copyright (c) 1993 Andrew Schulman, Ralf Brown, Jim Kyle, David Maxey, Ray Michels.

11.3 DOS for Dummies/ Windows for Dummies

The SoftWindows User Guide is not intended to be a reference guide for using DOS and Windows. If you need a DOS or Windows reference, we recommend DOS for Dummies by Dan Gookin and Windows for Dummies by Andy Rathbone, both by IDG books. These excellent books are used and recommended by the Insignia Technical Support specialists who are certainly not "dummies"!

12. Your Comments Please

The SoftWindows User Guide has details of how to contact Insignia's Technical Support or Customer Service departments. Please contact these departments if you have any problems with the software or wish to get further product information.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.

Article Change History:
27 Jun 1995 - Added kppc keyword.

Support Information Services
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Japanese Language Kit: Printing to a File

I am experiencing issues downloading postscript files using the LaserWriter Utility 7.6.1. The files were created on a computer with the Japanese Language Kit installed. They were then "printed" to a file, instead of a printer, using LaserWriter 8.1.1.

The printer was a LaserWriter IIg. The postscript file was sent from Japan to Australia, to a computer which has the following software installed: the LaserWriter 8.1.1, LaserWriter Utility 7.6.1, and the Japanese Language Kit v1.1. When this file was printed using the LaserWriter Utility, the printed page contained garbage Roman characters, instead of the Japanese characters.

I think the issue arises from the fact that the fonts in the Japanese Language Kit are not downloadable. If I try to download these fonts using the LaserWriter Utility, it says that the Osaka, HonMincho, and other fonts are not downloadable. Is there any solution to this?
This article has been archived and is no longer updated by Apple.
2-byte fonts are not downloadable to the LaserWriter, and that is the reason why the PostScript files print garbage characters instead of Japanese text - they are not downloadable to files.

Solutions
- Use the localized version of LaserWriter 8 (version J1-8.1.2). This is available only in Japan.
- Use the LaserWriter 8.2

Previously, customers had to have a Kanji LaserWriter printer or the Japanese-localized LaserWriter driver to print PostScript files. Now, both LaserWriter J1-8.1.2 and LaserWriter 8.2 rasterize the 2-byte Japanese fonts into a bitmap as long as "Font Inclusion" is selected when printing to a file. Save the file as Binary, not ASCII, in order to save the information properly.

LaserWriter 8 Drivers Printing Japanese Text To Disk
Below are how the various LaserWriter 8 drivers behave when printing a file to disk with Japanese text:

- LaserWriter 8.1.1 does not download Kanji fonts.
"Font Inclusion" can be selected; but you will get the message "Job terminated due to error"

- LaserWriter J1-8.1.2 downloads Kanji fonts.
"Font Inclusion-All" must be selected; it defaults to "Font Inclusion-None".

- LaserWriter 8.2 downloads Kanji fonts.
"Font Inclusion-All" must be selected; it defaults to "Font Inclusion-None"

Note to U.S. Customers
Since the LaserWriter J1-8.1.2 driver is only available in Japan for use with LaserWriter 610 or LaserWriter 360-J, we recommend that customers in the United States install LaserWriter 8.2.
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Apple Multiple Scan 15 Display: Macintosh Video Support

This article gives the video modes supported on each Macintosh computer with the Apple Multiple Scan 15 Display, and which computers require display adapters.
This article has been archived and is no longer updated by Apple.

Macintosh	Video Available 640x480	Video Available 832x624	Display Manager Mode Switching?
Quadra 700	Y	Y	Y
Quadra 900	Y	Y	Y
Quadra 800	Y	Y	Y
Quadra 950	Y	Y	Y
Quadra 660AV	Y	Y	Y
Quadra 840AV	Y	Y	Y
Quadra 610	Y	Y	Y
Quadra 650	Y	Y	Y
Quadra 605	Y	Y	Y
Quadra 630 (2)	Y	N	Y
Centris 610	Y	Y	Y
Centris 650	Y	Y	Y
Macintosh IIci (1)	Y	N	N
Macintosh IIsi (1)	Y	N	N
Macintosh IIvx (1)	Y	N	N
Macintosh IIvi (1)	Y	N	N
Macintosh II	N	N	N/A
Macintosh IIx	N	N	N/A
Macintosh IIfx	N	N	N/A
Macintosh IIcx	N	N	N/A
Performa 400 (1)	Y	N	N
Performa 410 (1)	Y	N	N
Performa 430 (1)	Y	N	N
Performa 405 (1)	Y	N	N
Performa 450	Y	Y	N
Performa 460	Y	Y	N
Performa 466	Y	Y	N
Performa 467	Y	Y	N
Performa 475	Y	Y	Y
Performa 476	Y	Y	Y
Performa 550	Y	Y	N
Performa 600 (1)	Y	N	N
Performa 600CD (1)	Y	N	N
Power Macintosh - 45 Pin conn	Y	Y	Y
Power Macintosh - AV card	Y	Y	Y
Power Macintosh - 2 MB VRAM (3)	Y	Y	Y
Power Macintosh - 4 MB VRAM (3)	Y	Y	Y
Display Card 24AC	Y	Y	Y
8-24	Y	Y	N
8-24 GC	Y	Y	N
4-8	Y	Y	N

Notes:

1. Requires a display adapter to provide the proper sync signal.
2. The Macintosh 630 family only supports a Macintosh resolution of 640x480. However, other VGA and SuperVGA resolutions are available.
3. Additional RAM goes into the VRAM expansion card

Macintosh	Video Available 640x480	Video Available 832x624	Display Manager Mode Switching?

PowerBook 180	Y	Y	N
PowerBook 180c	Y	Y	N
PowerBook 165	Y	Y	N
PowerBook 165c	Y	Y	N
PowerBook 160	Y	Y	N
PowerBook 100	N	N	N/A
PowerBook 140	N	N	N/A
PowerBook 145	N	N	N/A
PowerBook 170	N	N	N/A
PowerBook Duo 210	N	N	N/A
PowerBook Duo 230	N	N	N/A
PowerBook Duo 250	N	N	N/A
PowerBook Duo 270C	N	N	N/A
PowerBook 500 Series	Y	Y	Y
PowerBook 190 Series	Y	Y	Y
PowerBook 5300 Series	Y	Y	Y
MiniDock	Y	Y	N
DUO DOCK	Y	Y	N
DUO DOCK II	Y	Y	Y
Macintosh LC 475	Y	Y	Y
Macintosh LC III	Y	Y	N
Macintosh LC (1)	Y	N	N
Macintosh LC II (1)	Y	N	N

Notes:

1. Requires a display adapter to provide the proper sync signal.

Display Adapters
The Apple Multiple Scan 15 Display has several resolutions. Macintosh computers designed before the introduction of Apple Multiple Scan 15 Display only recognizes the display as a 14-inch color display without an adapter. The adapters, available through Apple Resellers and the third party companies, contain a sense code that tricks the Macintosh into believing that the display is fixed frequency display. Without the adapter, the display will be fixed at a 640x480 resolution. The display adapter also provides the proper sync signal from some computers built-in video to the Multiple Scan 15 Display.

Computers and Video Cards Not Requiring Video Adapters

Power Macintosh family
Macintosh Centris
Macintosh Quadra
Macintosh LC 475
Macintosh Performa 475 and 476
Macintosh Display Card 24AC
Macintosh 630 family
PowerBook 5300 Series
PowerBook 190 Series
PowerBook 500 Series

Note: These units use the Apple Multiple Scan software to change resolutions.

Computers and Video Cards Requiring Video Adapters

Macintosh II Family
PowerBooks
Duo Dock and MiniDock *
Macintosh Performa Computers (except 475, 476, and 630 series)
Macintosh LC, LC II, LC III (except 475 and 630 series)
Video Cards - 48, 824, 824GC

* Note: The Duo Dock does not require a video adapter to change resolutions when System 7.5 is installed.

Maximum Resolutions With Video Adapter

Macintosh	832x624	Notes
Macintosh II	No	1
Macintosh IIx	No	1
Macintosh IIfx	No	1
Macintosh IIcx	No	1
Macintosh IIci	No	2
Macintosh IIsi	No	2
Macintosh IIvx	No	2
Macintosh LC	No	2
Macintosh LC II	No	2
Macintosh LC III	Yes	
Performa 400	No	2
Performa 405	No	2
Performa 410	No	2
Performa 430	No	2
Performa 450	Yes	
Performa 460	Yes	
Performa 466	Yes	
Performa 467	Yes	
Performa 600	No	2
PowerBook 160	Yes	
PowerBook 165	Yes	
PowerBook 165C	Yes	
PowerBook 180	Yes	
PowerBook 180C	Yes	
Duo & MiniDock	Yes	3
4-8, 8-24, 8-24GC	Yes	

Notes:

1. No built-in video. Video is limited only by the video card used.
2. Limited to a resolution of 640x480 with built-in video.
3. The Duo Dock does not require a video adapter to change resolutions when System 7.5 is installed.

Display adapters are available from several third-pary companies such as Enhanced Cable Technology, Griffin Technology, and MacAdapt. An display adapter allows you to connect a Multiple Scan Display to other Macintosh products, such as the Macintosh 824 card, Macintosh II, PowerBook computers, and Duo Dock products.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.
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System 7.5: Clean Installation Procedure

Is there any shortcut for doing a clean system folder installation under System 7.5? I would like to do this without having to remove the Finder or System file and renaming the system folder.
This article has been archived and is no longer updated by Apple.

Purpose of a Clean Installation

A normal system software installation modifies and updates the existing System Folder. A clean installation disables the existing System Folder, leaving all files in place, and forcing the Installer to create a new System Folder.

A clean system installation brings the system software back to the standard configuration. This is necessary when system software has been damaged or modified, preventing a normal installation. It is also useful in troubleshooting.

Follow these instructions in the order presented.

Restart with Disk Tools or Apple Macintosh CD

If you have a Disk Tools Disk:

Shut down your Macintosh computer.

Insert Disk Tools in the floppy drive, and turn on the computer. At the desktop, the Disk Tools floppy disk's icon should be in the upper-right corner of your screen with your hard drive's icon below it.

If the computer ejects the Disk Tools disk, make sure you have an Apple SuperDrive (formerly FDHD) that will read high-density disks and that you are using the Disk Tools that came with System 7.5.

If you have an Apple Macintosh CD that came with your computer:

1. Insert the Apple Macintosh CD in the CD-ROM drive.
2. Restart your Macintosh.
3. If you have a Power Macintosh or a Macintosh 630 series computer, hold down the letter 'C' on the keyboard and turn the computer on. If you have a Macintosh 570 series computer, turn on the computer and immediately hold down the Command-Option-Shift and the large Delete keys simultaneously. Keep these keys held down until you see the "Welcome to Macintosh" message.

At the desktop, the Apple Macintosh CD's icon should be in the upper-right corner of your screen with your hard drive's icon below it. If any other hard drives appear above the Apple Macintosh CD, shut down the computer, all attached devices and remove the large SCSI cable from the rear of the Macintosh and try again. If the internal hard drive still appears above the Apple Macintosh CD, go to the Control Panels under the Apple Menu, open the Startup Disk item, select the Apple Macintosh CD, close all open windows and restart. The Apple Macintosh CD should then appear above the hard drive.

Run Disk First Aid

Disk First Aid can detect and repair issues with a hard disk.

1. Open the Disk Tools disk or the Apple Macintosh CD. Apple Macintosh CD users should open the Utilities Folder.
2. Double-click on the Disk First Aid icon. Select the main hard drive's icon at the top of the Disk First Aid window.
3. Click on Verify. Disk First Aid will check your hard disk for any potential issues. If it finds an issue, click Repair. It will attempt to fix the fault.
4. Repeat this procedure for each hard disk attached to the system.
5. When you are finished verifying the hard disks, choose Quit from the File menu to return to the desktop.

If Disk First Aid cannot repair a hard disk, you should back up the hard disk and reinitialize it using the appropriate formatting utility for that drive. For Apple drives, use Apple HD SC Setup.

Update Hard Disk Drivers

Apple HD SC Setup

If you do not an Apple hard drive, or you use third-party software to format your hard disk, do not use the Apple HD SC Setup utility. You should contact your hard drive vendor to verify that your formatting software is compatible with System 7.5.

If you have an IDE drive in your computer, refer to the Internal HD Format and Drive Setup sections below. Also see the Drive Setup section to see which computers with SCSI drives can use Drive Setup as well as Apple HD SC Setup.

Follow these steps to update the hard disk driver on your Apple SCSI hard drive using Apple HD SC Setup:

1. Disk Tools users: Double-click the Apple HD SC Setup icon on the Disk Tools disk.

Apple Macintosh CD users: Double-click the Apple HD SC Setup icon in the Utilities folder.

2. Click on the Update button.

3. When you are finished, click Quit to return to the desktop.

Sometimes HD SC Setup cannot update the hard disk driver (indicated by a "dimmed" Update button). Here are some possible causes and solutions:

- If a third-party utility was used to format your hard disk, you should obtain the latest version of the utility to update your hard disk driver.
- If a version of Apple HD SC Setup more recent than the version on the Disk Tools disk was used to format your hard drive, do not update the hard disk drivers.
- Your Macintosh has an internal IDE drive. Refer to the Internal HD Format and Drive Setup sections below.
- If an earlier System 6 version of Apple HD SC Setup formatted the drive, it may not have left enough room for the updated driver. You do not have to update the hard disk drivers. However, if you intend to use file sharing or have a Macintosh that can use virtual memory, then you need to back up the disk and reinitialize it with the current version of HD SC Setup. This erases the disk, so be certain you back up the hard disk first.
- If the driver is corrupt, the Macintosh does not recognize the drive (that is, the drive does not show on the desktop when you start from a floppy disk). You may wish to reinitialize it with HD SC Setup. This erases the disk, so be certain you back up the hard disk first.
- If the driver has been modified with compression or security software you will not be able to update the driver. Contact the vendor of the compression or security software for additional help.

Drive Setup
Drive Setup can be used in all Power Macintosh computers as well as all computers (desktop and PowerBook) with IDE drives. The only exception is the PowerBook 150, which must use the Internal HD Format utility.

Follow these steps to update the hard disk driver on your Apple SCSI hard drive using Drive Setup:

1. Double-click the Drive Setup icon.
2. Select the drive you wish to update.
3. From the Functions menu select Update Driver.
4. When you are finished, click Quit to return to the desktop.

Drive Setup 1.0.4 is included with System 7.5 Update 2.0, which is available on online services.

Internal HD Format
The PowerBook 150 is the only computer which requires Internal HD Format. However, you cannot update the driver on the PowerBook 150 because it is loaded into ROM.

Check Available Hard Disk Space
Open the hard disk's window and select "by Icon" in the View menu. The amount of available disk space appears in the upper right corner of any open window.

To install System 7.5 with PowerTalk and QuickDraw GX, you should have at least 21 MB available on the hard disk where you plan to install the system software. Installation of the base operating system requires approximately 14 MB of drive space.

If there is less than the required space available, you will need to delete some unnecessary files by moving them to the Trash. Choose Empty Trash from the Special menu, and you will have more disk space available. If you want to keep the files, copy them onto floppy disks or other media before moving them to the Trash.

Install System 7.5

From Floppy Disk

1. You have finished using the Disk Tools disk so, choose Shut Down from the Special menu. The Disk Tools will automatically eject.
2. Insert the "Install Disk 1" disk into the Macintosh and turn the computer on. The computer will start up using the system file on the Install disk.
3. Once the "Welcome to System 7.5" message appears, click Continue.
4. When the installer window appears, press the Command-Shift-K keys simultaneously (the Command key is the key with the Apple and Cloverleaf). You will be presented with a small dialog box with two selections:

- Update Existing System Folder

- Install New System Folder

For a Clean install, select Install New System Folder and click "OK." Make sure the Destination Disk on the bottom left is the disk you want to install onto, then click Clean Install on the bottom right. This will install a new system folder and rename you current folder "Previous System Folder."

5. Insert the other disks when the Installer instructs you to.

From the Personal Upgrade Kit CD-ROM

1. Insert the "Macintosh System 7.5" CD-ROM into the Macintosh.
2. Open the "Macintosh System 7.5" CD-ROM by double-clicking on its icon in the upper right corner of the screen.
3. Open the "Installation" folder. Open the "System Install" folder
4. Double-click the "Install" icon.
5. When the "Welcome to System 7.5" message appears, click Continue.
6. When the installer window appears, press the Command-Shift-K keys simultaneously (the Command key is the key with the Apple and Cloverleaf). You will be presented with a small dialog box with two selections:

- Update Existing System Folder
- Install New System Folder

For a clean install, select Install New System Folder and click "OK." Make sure the Destination Disk on the bottom left is the disk you want to install onto, then click Clean Install on the bottom right. This will install a new system folder and rename you current folder "Previous System Folder."

If your computer came with an an Apple Macintosh CD

1. Open the "System Software Install" folder on the Apple Macintosh CD or click the Install Software button in the Launcher window.
2. Double-click the "System 7.5 Installer" icon.
3. When the "Welcome to System 7.5" message appears, click Continue.
When the installer window appears, press the Command-Shift-K keys simultaneously (the Command key is the key with the Apple and Cloverleaf). You will be presented with a small dialog box with two selections:

- Update Existing System Folder
- Install New System Folder

For a clean install, select Install New System Folder and click "OK." Make sure the Destination Disk on the bottom left is the disk you want to install on, then click Clean Install on the bottom right. This will install a new system folder and rename you current folder "Previous System Folder."

Note: After performing a System 7.5 Clean Install, when About This Macintosh is selected under the Apple menu, it will no longer display the specific Macintosh name. Instead, it will display only "Macintosh", "Macintosh Powerbook", or "Power Macintosh" depending on which system it is running. If System 7.5 is installed over an existing system (pre 7.5), it retains the specific Macintosh name for the About This Macintosh window. This holds true for future Macintosh computers also.

A CLEAN INSTALLATION OF SYSTEM 7.5 IS NOW COMPLETE. THE FOLLOWING STEPS ARE FOR TROUBLESHOOTING

Verify Issue Resolution

After performing a clean installation, verify that you resolved the issue before adding anything to the new System Folder. Adding items to the System Folder before resolving your issue defeats the purpose of performing a clean installation.

Install Non-Standard Items

You can now reinstall the non-standard items from the old System Folder (now named "Previous System Folder") such as fonts, screen savers and device drivers. If possible, you should reinstall these items from their original disks.

If the original disks are not available, you may move the non-standard items from the Previous System Folder to the new System Folder. Be careful not to replace anything that is already in the new System Folder. Only move items that are not already in the new System Folder.

1. Open each corresponding folder within the System Folder and the Previous System Folder and then compare the contents.
2. Move anything that is not already in the new System Folder and its sub folders from the Previous System Folder and its sub folders.
3. Restart your Macintosh.

Troubleshooting Extension Conflicts

Any system extensions or control panels installed appear as icons across the bottom of the screen when you restart. They load into memory at

startup time and modify the standard behavior of the operating system.

Verify Conflict
If the Macintosh fails to restart or behaves erratically, you probably have an incompatible or conflicting INIT (also known as a system extension or control panel). To verify this issue, follow these steps:

1. Restart, and after you see the picture of a computer with a smile, hold down the Shift key.
2. Release the Shift key when the "Welcome to Macintosh, Extensions Off" message appears.
3. When the Macintosh is ready, try to recreate the erratic behavior.

If the fault no longer occurs, then you have a conflicting extension or control panel. Continue with the steps in the next section.

Isolate Incompatible or Unusable INITs in System Folder

1. Open the Control Panels from the Apple Menu. Double click on the control panel called Extensions Manager.
2. Go to the pop-up menu that says All On and pull it down to System 7.5 Only. This will disable all non-standard extensions and control panels. You will notice that the other items no longer have a check mark by them. Close the Extensions Manager.
3. Go to the Special menu and choose Restart.
4. Attempt to recreate the issue.
5. If the issue does not occur, use the Extensions Manager to enable another extension or control panel and restart the Macintosh. Note: You can enable items in the Extension Manager by simply clicking on the name of the item so that a check mark appears.
6. Attempt to recreate the original issue.

Repeat steps 5 and 6 for each item listed in the Extensions Manager until the issue recurs. The last item returned to the System Folder is probably the cause of the issue.

Final Steps
Verify that your applications are performing normally. If not, refer to the application manual or contact the vendor.

When the Macintosh behaves as expected and you are sure that all needed items in the Previous System Folder are transferred, move the Previous System Folder to the Trash, and choose Empty Trash from the Special menu.

System Update
After performing a clean installation of System 7.5, you may want to consider installing System 7.5 Update 2.0 and then installing System 7.5.5 Update to ensure that you have the most current version of the system software.

Note: There is a sequence you must follow if you want to install System 7.5.5 Update software. Since you have just performed a clean System 7.5 installation, follow the sequence below:

1) Performed a clean installation of System 7.5
2) Install System 7.5 Update 2.0
3) Install System 7.5.5 Update

System 7.5 Update 2.0 and System 7.5.5 Update are available from the Apple Software Updates area of many online services. If you do not have access to any online services, please call 1-800-SOS-APPL for more information.

This article can help you locate the software update mentioned here:
Article 14724: "**Where To Find Apple Software Updates**" - Lists online services for free Apple software updates.

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AppleSoft: Routine to Read a DOS Catalog

The following routine will read a DOS Catalog.
This article has been archived and is no longer updated by Apple.

```
100 TEXT : NORMAL : HOME
102 INP$ = ""
104 VS = ( PEEK (106) * 256) + PEEK (105)
106 POKE (VS + 2),240: POKE (VS + 3),14: POKE (VS + 4),150
108 FOR A = 768 TO 793: REM RWTS IOB; A$300, L$20
110 READ D: POKE A,D: NEXT
112 DATA 169,3,160,9,32,217,3,96,0,1,96,1,0,17,15,: 251,183,0,150,0,0,1,0,254,96,1
114 BL$ = ""
116 FOR I = 1 TO 40
118 BL$ = BL$ + CHR$ (160): NEXT I
120 DIM N$(105),S$(105),T$(105),L$(105)
122 IOB = 777:PL = 15
124 RB = - 27136: REM READ BUFFER
126 CS = IOB + 1:CD = IOB + 2:TRK = IOB + 4:SEC = IOB + 5
128 F1 = RB + 11:F7 = RB + 221
130 S = PEEK ( - 18455) / 16:D = PEEK ( - 18454)
132 POKE CS,(S * 16): POKE CD,D
134 POKE TRK,17
136 F = 496:C = 0
138 FOR X = 15 TO 1 STEP - 1
140 POKE SEC,X: CALL 768
142 ZZ = - 34
144 FOR Y = F1 TO F7 STEP 35
146 ZZ = ZZ + 35
148 Z = PEEK (Y + 33): IF (Z = 0) GOTO 178
150 C = C + 1
152 IF ( PEEK (Y) = 255) THEN N$(C) = "1": GOTO 176
154 F = F - Z
156 S$(C) = STR$ (Z)
158 IF ( LEN (S$(C)) = 1) THEN S$(C) = "00" + S$(C)
160 IF ( LEN (S$(C)) = 2) THEN S$(C) = "0" + S$(C)
162 Z = PEEK (Y + 2):L$(C) = " ": IF (Z > 16) THEN L$(C) = "*":Z = Z - 128
164 IF (Z = 0) THEN T$(C) = "T"
166 IF (Z = 1) THEN T$(C) = "I"
168 IF (Z = 2) THEN T$(C) = "A"
170 IF (Z = 4) THEN T$(C) = "B"
172 IF (Z = 16) THEN T$(C) = "R"
174 N$(C) = MID$ (INP$,ZZ,30)
176 NEXT Y: NEXT X
178 F$ = STR$ (F): IF ( LEN (F$) = 1) THEN F$ = "00" + F$
180 IF ( LEN (F$) = 2) THEN F$ = "0" + F$
182 FOR I = 1 TO C
184 C$ = STR$ (I)
186 IF ( LEN (C$) < 3) THEN C$ = " " + C$: GOTO 186
188 IF (N$(J * PL + I) = "1") THEN PRINT C$;" ";: INVERSE: PRINT "DELETED FILE";: NORMAL : PRINT
190 IF (N$(J * PL + I) <> "1") THEN PRINT C$;" ";L$(J * PL + I);T$(J * PL + I);" ";: S$(J * PL + I);" ";
N$(J * PL + I)
192 NEXT
```

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Monitor II P/C: No Display, Faint Display or Fuzzy Display

This article has been archived and is no longer updated by Apple.

PROBLEM DESCRIPTION: After the Monitor II has had a chance to warm up, there is no display or faint display or fuzzy display.

WARNING: Turn off the Monitor II and unplug it whenever the case must be removed for the procedure below.

CAUSE: 1. The video connector is either not plugged in all the way or the video jack may be cracked.
2. The regulator is plugged in upside down or cracked.

CURE: 1. Plug video cable into the jack all the way and make sure the connector is not broken and fits snugly.
2. Replace regulator. Be sure to use heat sink compound before tightening it down.

If the above cure doesn't solve your problem, refer to the Tech Procedures to obtain the general troubleshooting procedure for this product.

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Power Key Icons: Visually Different, Functionally The Same

Apple has used two different icons to represent power keys or power buttons on Macintosh computers and keyboards.
This article has been archived and is no longer updated by Apple.
Apple has used two different icons on the power key. One is a circle with a line in it, the other is a triangle that points to the left. Only the Icon is different, the function associated with the key is the same. Refer to figures 1 and 2 for images of the two icons.

Figure 1 Triangle power icon

Figure 2 Circle with bar icon

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PC Exchange: ProDOS, MS DOS, and Macintosh Partitions

I'm sharing ProDOS or MS DOS partitions on a volume with a Macintosh partition. Why can't I see the ProDOS and MS DOS partitions with PC Exchange?
This article has been archived and is no longer updated by Apple.
Any ProDOS or MS DOS volume originally formatted as a Macintosh volume may not work with PC Exchange. It seems certain Macintosh residue (boot block information) is left on the drive so PC Exchange is confused at the Macintosh-like characteristics. Since PC Exchange sees the drive as a Macintosh drive, it just ignores it and won't mount as a MS DOS or ProDOS volume.

The solution is to perform a low level format on any Macintosh volume before formatting it with a non-Macintosh operating system. This low level format (with some Apple II or DOS utility) eliminates Macintosh boot block information from the drive so PC Exchange won't see it as a Macintosh drive.
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Power Macintosh: GeoPort May Cause Freeze Up (12/95)

On a Power Macintosh with System 7.5 and GeoPort installed, the Macintosh sometimes freezes when the modem attempts to dial. Is there a work around?

This article has been archived and is no longer updated by Apple.
Yes, there is an incompatibility between GeoPort and System 7.5 where the machine may freeze when it attempts to dial. GeoPort for Power Macintosh 1.0 and 1.0.1 will function with System 7.5, but there are outstanding bugs customers need to work around:

* 1.0 has two problems with virtual memory:
- Network file transfers will fail when Virtual Memory (VM) is on.
- Data connections will fail when VM is on.

* 1.0 and 1.0.1 will crash the computer on restart if there are any Faxes
waiting to be sent in the Waiting to be Faxed folder.

* The modem speaker must be turned off at all times through the Express
Modem control panel to prevent intermittent crashing.

Apple Telecom 2.x or later software is available and fixes the problems listed. This article can help you locate this software update, it is available on online services:

* "Where To Find Apple Software Updates" -- Lists online services for free Apple software updates.

Article Change History:
02 Dec 1995 - Change distribution status and updated workaround information.
08 Dec 1994 - Made clarification for accuracy.
10 Oct 1994 - Updated workaround information.

Support Information Services
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Quadra 800: AppleCD 300i Plus Upgrade Issue

Can the following Internal CD-ROM drive components be installed in a Quadra 800?

M3152LL/A AppleCD 300i Plus Internal Drive
and
M2847LL/A AppleCD 300i Plus Mounting Kit
This article has been archived and is no longer updated by Apple.
A customer's dealer had trouble installing the drive and mounting kit because:

1. After installation, the top cover plastics and metal shielding of the Quadra 800 obscures the eject button of the CD-ROM drive.

2. The front bezel for the CD will not mount on the front of the top cover for the same reason.

3. Audio cable is too short. The supplied audio cable is about 2" long. On the Power Macintosh 8100/80, the audio cable connector is on the top edge of the logic board. On the other hand, the Quadra 800 audio connector is lower down, in the middle of the logic board.

We examined three different Quadra 800s, and all the top covers had the same problem. There is no way to eject the tray to insert a CD after the top cover is mounted.

What you found is correct. After installation, the top cover plastics and metal shielding of the Quadra 800 obscures the eject button of the CD-ROM drive. The front bezel for the CD will not mount on the front of the top cover for the same reason.

However, there are two versions of the cover top, service p/n 922-0847 for the Quadra 800. The one that causes the fit problem has engineering p/n 805-0456-08 and the one that fits correctly has engineering p/n 805-0666A. This information will be forwarded to the organizations that can make changes in the Finished Goods kits.

In the meantime, for the customers the only solution is to order p/n 922-0847 from the service price pages.

The correct audio cable is available as a service part. The part number is 922-0842.

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System 7.5:MacTCP, CloseView, Easy Access & Easy Install (2/95)

I have been using Easy Install for System 7.5 on a couple systems, and I cannot seem to find MacTCP, CloseView, or Easy Access when completed.

Could you please let me know how to install MacTCP, CloseView, and Easy Access on System 7.5 if it doesn't do it through Easy Install?

This article has been archived and is no longer updated by Apple.
MacTCP, CloseView, and Easy Access are not part of the Easy Install process under System 7.5, you need to perform a Custom Install to include these features.

* MacTCP: Click Custom Install and expand the view for Networking Software, you will see that MacTCP is the last item in the list. Click the MacTCP check box and then click Install if there are no other items you wish to install at this time.

* CloseView: Click Custom Install and expand the view for Control Panels, find CloseView in the alphabetical list. Click the CloseView check box and then click Install if there are no other items you wish to install at this time.

* Easy Access: Click Custom Install and expand the view for Control Panels, find Easy Access in the alphabetical list. Click the Easy Access check box and then click Install if there are no other items you wish to install at this time.

Article Change History:
15 Feb 1995 - Reviewed for technical accuracy, revised System 7.5 keyword.
01 Sep 1994 - Added CloseView and Easy Access not being part of Easy Install.

Support Information Services

Published Date: Feb 19, 2012

PrintMonitor: Description

What is PrintMonitor and how is it used?
This article has been archived and is no longer updated by Apple.
The PrintMonitor application program included with Macintosh system software is an example of a background printer or spooler. Background spooler software runs on the Macintosh computer and temporarily stores, or spools, documents to be printed on the computer's hard disk. The computer must remain connected to the network until the print job is finished, but it can perform other tasks during that time.

The PrintMonitor program opens automatically whenever a user prints a document with background printing turned on. When a print command is issued, PrintMonitor spools the document to a file in the PrintMonitor Documents folder. It then waits for the selected printer to become available, establishes a network connection, and sends the document to the printer.

Aside from the convenience provided by PrintMonitor, it also provides users with additional management control in printing their documents. With PrintMonitor users can:

- See the name of the document that is currently being printed, the document's status (for example, how many pages still need to be printed), and the name of the printer being used
- Cancel a document currently printing or waiting to print
- Specify a date and time to print a document or postpone a job indefinitely
- Monitor paper supply
- Signal when to feed paper manually

PrintMonitor's icon blinks at the right end of the menu bar when the printer is out of paper or to signal that you must confirm a manual operation. It can also be set to display an alert message. To change the notification method, use the program's Preferences command in the File menu.
Published Date: Feb 19, 2012

HD20: Line voltage

This article has been archived and is no longer updated by Apple.
Appendix A of the HD 20 Manual states that the HD 20 will work on a line voltage of 85 to 270, RMS, 47 to 64 Hz. This means that the HD 20 works without stepdown transformers, automatically switching for the power source voltage range, the 220 volt range being the most common overseas. All you need is an adapter plug for the specific locale.
Published Date: Feb 19, 2012

Apple Guide: Where to Obtain Guide Maker (4/95)

How can I obtain Guide Maker, the Apple Guide Authoring Kit?

This article has been archived and is no longer updated by Apple.

Macintosh Guide, which is included in Macintosh System 7.5, utilizes a technology called Apple Guide. Apple Guide is an electronic assistant that leaps beyond traditional help systems and guides the user through specific procedures one step at a time, actually leading the user through to the completion of the task.

With Apple Guide, a user can learn how to accomplish new or complex tasks by following on-screen prompts. Apple Guide also provides on-screen "coachmarks" that provide visual clues by circling or highlighting items such as menu selections.

Businesses, schools, and other organizations can reduce training and support costs by creating their own Apple Guide to lead users through tasks that are unique to their company or organization. For example, a human resources department could use Apple Guide to assist employees in filling out forms electronically?guiding the user through obtaining the correct form from a network server, filling it out, and sending it to the proper electronic mailbox.

The Apple Guide Authoring Kit is available as a separate product from Addison Wesley. The kit allows you to create your own customized Guide files.

The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.

Article Change History:
03 Apr 1995 - Reviewed for technical accuracy.
15 Feb 1995 - Reviewed for technical accuracy, revised System 7.5 keyword.
06 Jan 1995 - Removed info on where to obtain free copies as program expired.

Support Information Services
Published Date: Feb 19, 2012

Alert Sounds: Distortion at Lower Volume Levels (8/94)

Our customer is hearing distorted audio in Sound Control Panel at low volumes. When selecting alert sounds, as the audio level is reduced, the distortion increases. This problem occurs in 8 bit and 16 bit sounds at all resolutions.

The audio does not distort when triggered from the Volumes menu, only the Alert Sounds menu.

Steps we used to reproduce the problem:

1. Open Sound Control Panel.
2. Set volume slider to full volume.
3. Gradually lower slider. As volume decreases, distortion increases.
4. For maximum distortion, set slider to the lowest possible audible volume level.

This article has been archived and is no longer updated by Apple.

This is actually normal behavior for Sound Manager 3.0. The loss of resolution is due to scaling of the actual sound samples. For 8-bit samples (and especially quiet sounds), there isn't much resolution to begin with (256 levels). The alert volumes slider scales each of these samples when sending them to the output channel, causing the distortion noted.

In the future, the Sound Manager might apply some sort of non-linear scaling for 8-bit sounds to minimize this problem.

Support Information Services
Published Date: Feb 19, 2012

PowerBook 280c: Not Shutting Down After Memory Install (11/94)

I just had extra RAM added to my PowerBook 280c. Now it will not shut down when I select Shut Down from the Special menu. How can I resolve this problem?

This article has been archived and is no longer updated by Apple.
This is an issue with PowerBook 280c's that have version 1.5 of the Express Modem software and extra RAM installed.

The solution is to upgrade the Express Modem software to 1.5.2. This problem was addressed in the 1.5.2 version of that software.

To locate software updates mentioned in this article please refer to the following Tech Info Library articles:

Where to Find Apple Software Updates
Obtaining Apple Product Support in the USA

Article Change History:
08 Nov 1994 - Reviewed.

Support Information Services
Published Date: Feb 19, 2012

Macintosh 630 family: VideoShop Can‘t Record From TV

I am trying to record video from the TV Tuner card in my Quadra 630 with VideoShop and it is not working. Is this a known problem and is there a workaround?
This article has been archived and is no longer updated by Apple.
VideoShop is unable to record from the TV Tuner. TV is not an input source option in the Video Settings screen. According to Avid, the QuickTime vdig which is included in the 630 does not allow Quicktime software to connect through to the TV Tuner.

The only workaround is to record the TV signal through Apple Video Player and then import that QuickTime movie into VideoShop.
Published Date: Feb 19, 2012

Macintosh 630 Family: General Questions and Answers

This article provides answers to some common questions concerning the Quadra/LC/Performa 630 series computer.
This article has been archived and is no longer updated by Apple.
Question: If I purchase a Quadra 630 with the Apple Video TV System card installed, can I output the video to a NTSC device such as a television or VCR?

Answer: Yes, however you need to purchase the Apple Presentation System to do this. Without the Apple Presentation System, you cannot display the video from the Quadra 630 to a NTSC device. A PAL version of the Apple Presentation System is also available.

Question: Does the image from the Apple Presentation System appears in some sort of video capture Software or is it the whole Macintosh screen shown?

Answer: The Apple Presentation System displays the entire Macintosh Screen up to 640x480. You cannot use the Apple Presentation System at higher resolutions because the upper bits of VRAM would be off the edge of the NTSC screen.

Question: If I use the Apple Presentation System to display my screen on a television, is there a way to still use my computer monitor?

Answer: Yes, the Apple Presentation System allows you to connect both.

Question: What connectors are available on the Apple TV/Video System card?

Answer: The Apple TV/Video System card provides:

TV Tuner Card
* One coaxial connector

Video Input Card
* One S-Video connector
*Two Audio Connectors (one for the left and right audio channels)

Published Date: Feb 19, 2012

LaserWriter Pro 810: Speeding Up Ethernet Performance

I have a LaserWriter Pro 810 and I have noticed that when I print to it using the Ethernet port it takes a long time to print. How can I speed up the printing process using the Ethernet port.
This article has been archived and is no longer updated by Apple.
Macintosh AppleTalk print jobs sent to the LaserWriter Pro 810's Ethernet port can take up to 50% longer than printing to the LocalTalk port on the printer. This "slowness" varies with the type of document being printed as well as the number of pages, and is most noticeable printing the first page of a multi-page document, or merely a one page document.

This problem is due to Ethernet data having to propagate through the printer's unidirectional parallel port architecture to get to the PostScript interpreter. For reverse communications (data from the PostScript interpreter to the client), additional processing is required to parse the data and then funnel the information back using the serial port. The serial port is used as the communications "backchannel" since the printer's parallel port is unidirectional.

We recommend using LocalTalk if possible when speed and/or performance is required. To use LocalTalk, you would place the LaserWriter Pro 810 on a LocalTalk network segment, while the workstations may remain on Ethernet. In this case, you need to use an AppleTalk router to connect the LocalTalk and Ethernet networks. Ethernet must be used when alternate protocols, such as IPX, TCP/IP, and LAT are paramount. If you need alternate protocols, then the LocalTalk solution is not an option.
Published Date: Feb 19, 2012

LaserWriter: Slow response time

This article has been archived and is no longer updated by Apple.

The LaserWriter takes an especially long time to process the following:

1. Bit mapped fonts

2. Many font/size/style changes whether the fonts are LaserWriter fonts or bit mapped fonts

3. MacDraw with:patterns

4. Landscape orientation with:
a. bit mapped fonts
b. a clipped image that bleeds off the edge of the page

5. Images using smoothing

The LaserWriter takes a long time to process the following:

1. MacDraw with:
a. rotated text
b. clipped or cropped images

2. Landscape orientation

3. Bleeds

4. Any text over 20 points

5. Text with center, justified, or flush right

6. Text in outline or or shadow style

7. Any object scaled very tiny

8. Multiple or dashed-line styles

9. Lots of pattern shades (in PageMaker)

NOTE: PostScript errors will almost always be in this format:

%%[Error:_____; Offending Command:_____]%%

where the two blanks are the important words.

NOTE: Apple Computer Inc. is not responsible for the contents of this article.
Published Date: Feb 19, 2012

System 7.5: Old Enablers May Remain After Easy Install (2/95)

After installing System 7.5 over my old System 7.1 folder, I noticed that some enablers remained in the system folder. Can I throw them away?

This article has been archived and is no longer updated by Apple.
When selecting Easy Install from the System 7.5 Installer and installing over 7.1 systems, the installer will fail to remove the PowerBook 150 Enabler, the PowerBook 500 Series Enabler, and the Workgroup Server 9150 Enabler.

This is not a problem, as 7.5 will ignore the enabler. The enablers can be safely tossed in the trash.

Article Change History:
15 Feb 1995 - Reviewed for technical accuracy, revised System 7.5 keyword.

Support Information Services
Published Date: Feb 19, 2012

System 7.5.x: Large Server Volume Size Shown Incorrect (9/95)

I am using System 7.5 and later on some Power Macintosh computers trying to access a 10 GB hard disk through AppleTalk. The disk is attached to a Microsoft Windows NT Server. The problem is the server volume size, as viewed by the Macintosh, is not accurate.

Where is the additional drive space on these network volumes?

This article has been archived and is no longer updated by Apple.
This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

This would typically be a question for Microsoft, however, we have found a way to modify Windows NT server 3.5 and 3.51 to correctly report the volume size. The information below comes from a Microsoft Technical Information Document, which we are including here for your convenience.

PSS ID Number: Q120739
PSS database name: WINNT

3.50

WINDOWS

The information in this article applies to:

- Microsoft Windows NT Server version 3.5

SUMMARY
=======

A registry flag controls the maximum volume size and free space reported by the Services for Macintosh (SFM) file server. Since System 7.5 now allows Macintoshes to support volumes up to 4GB-1 (0xFFFFFFFF), administrators may want to use this flag to help Macintosh clients if all clients are running System 7.5 and the SFM volume resides on a disk partition greater than 2018MB.

MORE INFORMATION
================

Pre-System 7.5 Macintoshes support volume sizes up to 2GB-1 (although tests have shown the actual limit to be around 2018MB). Because of this, SFM restricts the values it reports for total and free space on SFM volumes to 2018MB, when the actual size of the SFM volume's disk partition is larger.

System 7.5 can handle volumes up to 4GB-1, and you may find it useful to raise the maximum values reported for SFM volumes to this new limit.

WARNING: ALL Macs connected to the volume must be System 7.5; reporting a volume size greater than 2GB-1 to a pre-System 7.5 Macintosh crashes Macintosh Finder.

You can raise the maximum reported size for SFM volumes to 4GB-256 (0xFFFFFF00) by creating the SFM volume, then editing the registry entry:

HKEY_LOCAL_MACHINES\\System\\CurrentControlSet\\Services
\\MacFile\\Parameters\\Volumes\\<VolumeName>

Properties=xxxxx

by adding 262144 (0x00040000) to the number xxxxx.

WARNING: Using Registry Editor incorrectly can cause serious, system-wide problems that may require you to reinstall Windows NT to correct them. Microsoft cannot guarantee that any problems resulting from the use of Registry Editor can be solved. Use this tool at your own risk.

Stop and restart Macfile to make this change take effect on the SFM volume.

In Windows NT 3.51 you can change this value globally for all volumes. To do this, add bit 0x10 to the following section of the registry and every volume will be 4GB enabled:

HKEY_LOCAL_MACHINE\\SYSTEM\\CurrentControlSet\\Services\\MacFile\\Parameters
ServerOptions: REG_DWORD: xxxx

Additional reference words: prodnt 3.50 3.51
KBCategory: kbnetwork kbenv
KBSubCategory: ntmac ntregistry

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Article Change History:
29 Sep 1995 - Revised with Microsoft Corporation information.
15 Feb 1995 - Reviewed for technical accuracy, revised System 7.5 keyword.

Support Information Services
Published Date: Feb 19, 2012

Multiple Scan 17 Display: DOS Card Requires Adapter (8/94)

I have connected an Apple Multiple Scan 17 Display to a Macintosh Quadra 610 with the DOS compatibility card. When I try to switch from the Macintosh to the DOS environment, the screen fades slightly, but system freezes and never switches to DOS. On the PC Setup control panel only the 16-in and VGA options are available. It seems like that Macintosh recognizes the monitor as an Apple 16-in display.

Is the Apple Multiple Scan 17 Display compatible with DOS Compatibility Card? If the answer is yes, which resolutions are supported in the Windows or DOS applications, and which is the correct configuration to make it work?

This article has been archived and is no longer updated by Apple.
The sense pins on the Multiple Scan 17 Display signal the Macintosh that a 14-in. monitor is connected and the Macintosh sets up the video signal up for a 14-in. display. However when the video software loads and queries the monitor, it determines that it is really a 17-in. display, and re-sets the video accordingly.

The problem on the Quadra 610 DOS compatible is that the initial video setup is sent to the DOS Compatibility Card, and so the card is set incorrectly for that monitor. The Macintosh video software has no access to change the parameters that were previously set in the DOS compatibility card.

Workaround

The only workaround is to configure the sense pins on the monitor for a Apple 16-in. display. This allows the Macintosh to correctly set the DOS compatibility Card video parameters at startup. There are two vendors that sell adapters that allow you to configure the sense pins on the monitor; James Engineering and Enhance Cable Technology.

Once you have attached the proper cable adapter which sets the sense pins for a 16-in. display, the DOS compatibility card supports all 16-in. resolutions. A complete list of these resolutions is available in the Technical Information Library article titled "DOS Card: Video Modes Supported".

To locate a vendor's address and phone numbers, use the vendor name as the search string.

Support Information Services

Published Date: Feb 19, 2012

QuickTime: Movie Player Audio Distortion

Audio is distorted in QuickTime Movie Player at low volumes. The Volume fader on the Movie Controller does indeed lower the volume of the sound in the movie, but leaves the sound of the aliasing and hiss at the same level, no matter what volume setting is used.

At lower volume levels, the noise is as loud as the intended program material. This does not seem to happen if you open the same file in SoundEdit 16 or DigiTrax. Lowering the sound playback volume lowers all that is included in the program material, including hiss and anomolies. Is this a problem with Sound Manager 3.0?
This article has been archived and is no longer updated by Apple.
All volume in QuickTime is handled by the Sound Manager.

This is actually normal behavior for Sound Manager 3.0. The loss of sound resolution is due to scaling of the actual sound samples. For 8-bit samples (and especially quiet sounds), there isn't much resolution to begin with (256 levels). The alert volume slider scales each of these samples when sending them to the output channel, causing the distortion.

In the future, the Sound Manager may apply some sort of non-linear scaling for 8-bit sounds to minimize this problem.

The work around is to record audio in QuickTime movies to a level that allows comfortable playback while the Movie Player volume control is at its highest level.
Published Date: Feb 19, 2012

DOS Compatible Card and Large Multiscan Monitors (8/94)

We purchased a Mitsubishi 27 inch multiscan monitor, for use with our Quadra 610 DOS compatible computers. We can display the Macintosh side fine, but when we switch to DOS, the screen goes black.

Does a Mitsubishi 27 inch Multiscan monitor work with the Quadra 610 DOS Compatible computer?

This article has been archived and is no longer updated by Apple.
The maximum resolution on the DOS compatible card is 800x600 with 16 colors. In order to use this resolution, the sense pin configuration must match that of an Apple 16 inch monitor on the Macintosh side. The problem is the video on the DOS compatible card is set up at boot time, and cannot be changed until a reboot. If the sense pins are configured for, say, an Apple 14 inch and then the resolution is changed through software, the graphics chip on the DOS compatible card is in an undetermined state. This will keep it from outputting a recognizable signal, so no video is displayed.

The work around is to configure the sense pins on the monitor for a Apple 16 inch monitor. This will allow the Macintosh to set the correct video parameters on boot, to be sent to the DOS compatible card. There are two vendors that we know of that sell adapters that will allow you to configure the sense pins on the monitor. The vendor names are: James Engineering and Enhance Cable Technology. To locate a vendor's address and phone number, use the vendor name as a search string.

Once you have attached the proper cable adapter which sets the sense pins for a 16 inch display, the DOS compatible card will support the same resolutions which are supported for a 16 inch attached monitor, which is outlined in the TIL article: "DOS Card: Video Modes Supported".

Note: Once you configure the sense pins for an Apple 16 inch Color Display, unless the Mitsubishi comes with special software, you won't be able to switch resolutions while the computer is running on the Macintosh side.

Support Information Services

Published Date: Feb 19, 2012

Multiple Scan 15 Display: Meaning of LED Colors (6/95)

Why does the LED on Multiple Scan 15 Display change colors?

This article has been archived and is no longer updated by Apple.
The LED on the front of the monitor turns amber instead of green if the signal cable (video cable) is not connected to the CPU or if the monitor is not detecting a video signal from the cpu. The LED in normal operation is green when the monitor is turned on. However, the monitor LED does change briefly during a normal startup.

Article Change History:
15 June 1995 - Changed unclear language

Support Information Services
Published Date: Feb 19, 2012

QuickTake100: Exposure to UV Light

This article discusses whether taking pictures with a high UV light background will burn out the photo receptors in the camera, and whether they could possibly use filters to screen out the UV light before it got to the camera.

This article has been archived and is no longer updated by Apple.

The QuickTake camera will not be adversely affected in a fluorescent lighting environment. Therefore, you will not need to use any type of light filters.

Published Date: Feb 19, 2012

Macintosh 630 Family: Video Frame Capture Rate

This article provides the frame capture rate for the Macintosh 630 family computer using the Apple TV/Video system.
This article has been archived and is no longer updated by Apple.
There is no official frame rate specification. Frame rates provided below are not official specifications, but results we got when we tested a Quadra 630.

When recording, the Apple Video Player uses the best possible frame rate. This rate can be affected by several different factors, including the version of QuickTime used, third-party system extensions, and the monitor's bit-depth settings.

In our testing, we found the highest frame rates when using the following setup:
- Quadra 630 (we were unable to test an LC or Performa 630-series)
- QuickTime 1.6.2 (this version is installed by the Apple TV/Video System)
- no third-party extensions
- monitor set to "Thousands" of colors at the 640x480 resolution.

We found that performance levels vary greatly. But, as a guideline, you can expect to get up to approximately 16 frames per second (fps) when recording a 160x120 pixel window, about 8 fps for a 320x240 window, and about 2.5 fps for a 640x480 window.

The following computers are in the Macintosh 630 family: Performa 630, Performa 635, Performa 636, Performa 637, Performa 638, LC 630, and Quadra 630.
Published Date: Feb 19, 2012

A/UX: Support for bootp and rarpd (8/94)

Does A/UX 3.0 support bootp and/or rarpd?

This article has been archived and is no longer updated by Apple.
Neither the desktop version of A/UX 3.0.1 nor the AWS 95 A/UX 3.1
supports bootp or rarpd.

Note that development on the desktop version of A/UX 3.0.1 has been discontinued. The latest version of A/UX 3.1 was developed for the Apple Workgroup Server 95, hence it does not support non-AWS 95 CPUs.

The future AIX/PowerOpen product MAY support bootp and rarp protocols, but this has not been finalized.

Several other Apple products may use bootpd and rarpd for auto configuation and management, including:

MacTCP rarpd,bootp for assigning addresses
LW 810 rarpd for assigning addresses; bootp for loading software
(not implemented yet)

People who wish to use bootp and rarpd to manage the above mentioned Apple products will need to configure the rarpd or bootp programs on another Unix machine.

Support Information Services

Published Date: Feb 19, 2012

DOS Compatibility Card: Serial Support vs. SoftWindows (8/94)

I have a MS-DOS program, that uses serial communications, that works fine on my Power Macintosh 6100 running SoftWindows, however it doesn't work on my Dos Compatible Quadra 610. The software vendor claims the problem is related to the way the Macintosh supports the RS-232. Is there a difference between the way the DOS Compatibility Card and SoftWindows handles serial support?

This article has been archived and is no longer updated by Apple.
Due to the RS-232 implementation of the Macintosh, not all RS-232 signals are available. These signals are not available: Carrier Detect (CD), Data Set Ready (DSR), Request to Send (RTS), and Ring Indicator (RI). If your application or serial device requires these signals, it will not work.

The DOS Compatibility Card does not support Carrier Detect (CD). You must configure your communications applications so they do not use CD. Most communications applications can be set to respond to the CARRIER string sent back by most modems.

The work around is for the customer to configure their software to use XON/XOFF for flow control. If their software does not allow for XON/XOFF then the software will not run on our DOS Card.

The serial problem is the same for all Macintosh computers, but SoftWindows does some special software processing of serial signals to "emulate" the missing RS-232 signals. The SoftWindows manual has the following information:

Serial Limitations-

Programs that do not work well are those that are extremely timing sensitive, or that rely on serial port lines that are not available on the Macintosh serial port.

SoftWindows has no access to the DSR, DCD or RI signals, and the RTS line cannot be set up, due to lack of lines. Instead, SoftWindows makes the DSR and RLSD/DCD lines seem to always have the same status as the DTR line. RI is always set to off.

Support Information Services

Published Date: Feb 19, 2012

LaserWriter Pro 630: Switching Paper Trays w/ PostScript

Is there any tray select software, or Postscript files available to switch trays on a Laserwriter Pro 600/630 on a Unix computer?
This article has been archived and is no longer updated by Apple.
Yes, the following postscript functions codes to select and print to different paper trays on a LW Pro 630 using the "lpr" command under A/UX. Note that the postscript codes below must be inserted in a Postscript (ready) file. For printing text files you can first use the "enscript" program which converts text files to Postscript format. For example, "enscript -pout.en out.txt". The following values passed to the /zselectmediasource function select the desired tray:

0 zselectmediasource % select the standard 250 sheet standard tray
1 zselectmediasource % select the multipurpose tray
2 zselectmediasource % select the optional 500 sheet tray
3 zselectmediasource % select the optional envelope feeder

Note: Lines which start with % are the comments in Postscript.

For example, the following codes segment (appended at the end of defined functions) selects the letter sized paper from the 500 sheet tray:

letter
zsetmultipurposepagesize
2 zselectmediasource

Caution: If you choose to use the PostScript code provided in this article, you assume all risks involved in making these changes. PostScript code, if not entered correctly, can place the LaserWriter into a condition requiring service.

PostScript source code

```
% Paper source selection code for the LW Pro.
% Copyright (c) ) Apple Computer, Inc. 1992-1993

/zbdf
{
  bind def
}bind def

/zxdf
{
  exch def
}zbdf

%-----------------------------------------------------------------------------
% zislwpro  -- boolean
% Returns true if product is LaserWriter Pro 600 or 630.

/zislwpro
{
  statusdict begin/product load end dup(LaserWriter Pro 630)eq
  exch(LaserWriter Pro 600)eq or
}zbdf

%-------------------------------------------------------------------------------
% zisntr  -- boolean
% Returns true if product is Personal LaserWriter NTR.

/zisntr
{
  statusdict begin/product load end(LaserWriter Personal NTR)eq
}zbdf

%-------------------------------------------------------------------------------

% zadjustpagedevice  dict --
% Similar to setpagedevice but attempts to preserve much of the graphics state
```

```
% across the call.  For level 2 PostScript ONLY.

/zadjustpagedevice
{
  /zpagedevicedict zxdf

  % Save everything.
  matrix currentmatrix

  currenttransfer currentgray
  systemdict/currentcolorscreen known
  {
  currentcolorscreen true
  }
  {
  currentscreen false
  }ifelse

  zpagedevicedict setpagedevice

  % Restore everything.
  {
  setcolorscreen
  }
  {
  setscreen
  }ifelse

  setgray settransfer setmatrix
}zbdf

%-----------------------------------------------------------------------------
% zsetmultipurposepagesize  --
% Matches and thus sets the page size for the multipurpose tray.

/zsetmultipurposepagesize
{
  systemdict/setpagedevice known
  {
  % Check for LaserWriter NTR or LaserWriter Pro
  zisntr{0}{zislwpro{1}{-1}ifelse}ifelse

  % stack: -- 0, 1, or -1.
  % LW NTR multipurpose tray = 0, LW Pro multipurpose tray = 1
  dup 0 ge
  {
  1 dict dup begin/InputAttributes 1 dict dup 4 index
  1 dict dup/PageSize currentpagedevice/PageSize get put put def end
zadjustpagedevice
  }if pop
  }if
}zbdf

% zmanualfeedoff  --
% Turns manual feed off.
/zmanualfeedoff
{
  statusdict/manualfeed known
  {
  statusdict/manualfeed false put
  }if
}zbdf

%-----------------------------------------------------------------------------
% zselectmediasource  source --
```

```
% Selects the given paper source (tray) for auto feed.  Should only be called
% on LW Pro.
% Source values are 0, 1, 2, 3 meaning respectively: 250 sheet standard
% cassette, multipurpose tray, 500 sheet optional cassette, optional envelope
% feeder.

/zselectmediasource
{
  % Save the source request into the priority array.
  1 array astore/zmediasourcepriority zxdf

  % Turn off manual feed.
  zmanualfeedoff

  % Check for presence of setpagedevice operator
  systemdict/setpagedevice known
  {
  % Verify tray presence.
  currentpagedevice/InputAttributes get zmediasourcepriority 0 get

  % stack: dict key --
  known
  {
  % Update the current page device (select the tray).
  % We also force the current page device to the PageSize of
  % the selected tray -- this will force the paper to be drawn from
  % the requested tray regardless of the paper size actually sensed
  % by the tray (i.e. this will override auto page size matching).
  4 dict begin/InputAttributes 1 dict dup/Priority zmediasourcepriority put
def
  /PageSize currentpagedevice/InputAttributes get zmediasourcepriority 0 get
get/PageSize get def
  /ManualFeed false def
  /Policies 1 dict dup/PageSize 1 put def currentdict end zadjustpagedevice
  }if
  }if
}zbdf
```

Published Date: Feb 19, 2012

ARA 1.0 Client Enabler: Read Me

This article includes the contents of the Read Me for ARA 1.0 Client Enabler software for Apple Remote Access 2.0.1 Servers which is posted on the Apple Support Online web site, Apple Software Updates page.
This article has been archived and is no longer updated by Apple.
1.0 Client Enabler for Apple Remote Access 2.0.1 Servers

These enablers are designed for Apple Remote Access 2.0.1 MultiPort and Personal Servers. They allow those servers to accept calls for ARA 1.0 clients. They do not provide bug fixes of other enhancements. You do not need to use the enablers if no version 1.0 clients require access to your version 2.0.1 Personal or MultiPort server.

The enablers work by modifying certain of your ARA 2.0.1 server files, changing their version number to 2.0.1RevB. No changes need be made to either 1.0 or 2.0 clients. To install the enablers, simply run the appropriate enabler application on the server machine. If you want to provide 1.0 client access on a version 2.0 server, you must first install the ARA 2.0.1 upgrade before running the enabler application.

These enablers are for the nonlocalized (English-language) version only.

LIMITATIONS

- External third-party security was introduced with version 2.0 of ARA. If a server requires a client to have external security modules in its System Folder, version 1.0 clients will not be able to connect.
- In the highly improbable event of line errors at the time of connection, it is possible for a version 2.0.1 client to retry a connection by using version 1.0 ARA protocol. If the retry succeeds, some ARA version 2.x features may not be available to the client for the duration of the connection. This connection degradation is not likely to occur, and even if it does, the user may never notice. If the user does encounter problems, he or she should disconnect and make the call again.

MultiPort 2.0.1RevB - CLIENT 1.0 INCOMPATIBILITIES

Here is a list of the 2.0 security features that have no counterpart in 1.0 clients:

- The client's account requires an external security module.
- The "Always Require User to Enter Password" checkbox is checked in the Server Preferences dialog box.
- The client's account has "Require New Password on Next Login" checked.
- The client's password has an expiration date.
- The client's password must be of a minimum size specified by the administrator.

When a 1.0 client attempts to connect to a server that has 2.0-only security features in place that apply to the client's ARA account, the connection attempt is refused by the server. The client receives the following message in a dialog box:

"The connect attempt failed. Remote Access on the computer you are calling refused to connect."

The server records the following two messages in the activity log:

"Connection attempt refused."
"Caller's ARA version insufficient for security or password settings."

Note: For all of the security features just listed, if a 1.0 call is denied access and is followed by a 2.0 call to the same account, the security is handled in the standard 2.0 way. For example, say that the user's password has expired and he or she is refused access when calling in with 1.0. The next time the user calls in with 2.0, he or she will be presented with the normal password-expired dialog box.

In addition, if dial-in-and-transfer and callback-only ports are being used on the 2.0.1 MultiPort server, 1.0 clients may encounter the "The connect attempt failed ╔" error message if their accounts are not set up properly for callback. The administrator should verify that a callback number is entered and checked for each 1.0 client that uses a dial-in-and-transfer port.

WARNINGS

- On the version 2.0.1 Personal Client/Server, the Compatibility checkbox is obsolete and should be left unchecked. Checking this box causes the Remote Access Personal application to deactivate the Change Password item in the Setup menu.
- If you try to apply the enabler a second time on your server, an error message will appear.
- Apple does not recommend use of this enabler with MNP-10 modems.

Run the enabler application from a disk on your system and not from another system on a network. A system crash may result if you try to launch

the application from a remote system.

INSTALLATION
Two enabler applications are supplied on this disk: one for the MultiPort Server (ARA MP 1.0 client enabler), and the other for the Personal Client/Server (ARA PS 1.0 client enabler). Before you launch the application appropriate for your server, you may want to back up the files that will be modified. Backup is not necessary if you have the original ARA installation floppy disks handy. If you do want to go back to the original version of the server, do not use the Installer on the disks. Instead, simply copy the files back to the Extensions folder.

On the Personal Client/Server, two files in the Extensions folder will be affected by the enabler. Their names as originally installed are:

- Apple Remote Access Personal

Link Tool Manager

On the MultiPort Server, four files in the Extensions folder will be affected:

- Apple Remote Access MP
- Call Back Client
- Call Back Server

Link Tool Manager

When the enabler application runs, it will prompt you with standard file dialog boxes for the names and locations of the files to be modified.

When the enabler application exits, restart the system.
Published Date: Feb 19, 2012

Quadra 610/650/800: How to Configure for NTSC or PAL

How can I configure NTSC and/or PAL video on a Quadra 610, 650, or Quadra 800?
This article has been archived and is no longer updated by Apple.
As you are aware, many Macintosh computers support the NTSC and PAL video formats and both the Quadra 610 and 650 fall into this category. Their respective sense line configurations to generate the appropriate video signal are listed below.

NTSC Pins 4,7, and 11 (ground) are tied together. Sense pin 10 is not connected (logic high) Pin 5 is the composite signal and pin 6 is composite ground.

PAL Sense pins 4, 7, and 10 are tied together. Pin 5 is the composite signal and pin 6 is composite ground.
Published Date: Feb 19, 2012

System 7.5: Personal and Multi User Upgrade Kit Contents

The following article provides information on what is contained within each System 7.5 upgrade kit.

This article has been archived and is no longer updated by Apple.

```
****************************
Multi-User Upgrade Kit (MUK)
****************************

Media:
   14 Disk Set:
       Before You Install
       Install Disk 1
       Install Disk 2
       Install Disk 3
       Install Disk 4
       Install Disk 5
       Install Disk 6
       Install Disk 7
       MacLink Plus for 10/30/100 users
       Install - PowerTalk & QuickDraw GX
       QuickDraw GX 1
       QuickDraw GX 2
       PowerTalk
       Disk Tools
   MUK-CD (includes network administrator tools)

Print Materials:
   Manual (030-5660) - Upgrade Guide to System 7.5
   Manual (030-5759) - Group Upgrade Guide to System 7.5
   System 7.5 SLA - 10/30/100 user Software License Agreement
   Reg Card (030-6491) - Standard SW reg card
   Booklet, CD Instructions (030-6116)

       :YOUR MACINTOSH SYSTEM 7.5 CD-ROM INSTALLATION KIT
       :Your installation kit includes a CD-ROM disc and a floppy disk.  The
       :CD-ROM disc contains the software to install System 7.5 and extra
       :application programs.  The floppy disk contains software to start up
       :your computer and Apple CD-ROM drive.
       :
       :For installation instructions, see you Macintosh System 7.5 Upgrade
       :Guide.  Start with Chapter 1 ("Before You Install").  As you follow
       :the steps, look for notes that begin "If you are installing from a
       :CD..." and follow the instructions in the notes.  If you have a
       :problem before the installation is complete, you can use the floppy
       :disk to start up your computer.

   Manual, 3rd party (030-6125) - Guide to 3rd party 7.5 savvy apps

   Pack List for 10/30/100 user kit

   Digital Signature order form - 10/30/100

   Reg Card, 3rd party, DataViz - Reg card for the MacLink Plus translators
       Includes troubleshooting info, instructions in use of the product,
       detachable reg card, etc.

   POS sticker

******************************
Personal Upgrade Kit (PUK) - CD
******************************
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Media:
PUK-CD
Disk Tools Disk

Print Materials:
Manual (030-5660) - Upgrade Guide to System 7.5
System 7.5 SLA - single user Software License Agreement
Reg Card (030-6491) - Standard SW reg card
Booklet, CD Instructions (030-6116)

```
:YOUR MACINTOSH SYSTEM 7.5 CD-ROM INSTALLATION KIT
:Your installation kit includes a CD-ROM disc and a floppy disk.  The
:CD-ROM disc contains the software to install System 7.5 and extra
:application programs.  The floppy disk contains software to start up
:your computer and Apple CD-ROM drive.
:
:For installation instructions, see you Macintosh System 7.5 Upgrade
:Guide.  Start with Chapter 1 ("Before You Install").  As you follow
:the steps, look for notes that begin "If you are installing from a
:CD..." and follow the instructions in the notes.  If you have a
:problem before the installation is complete, you can use the floppy
:disk to start up your computer.
```

Manual, 3rd party (030-6125) - Guide to 3rd party 7.5 savvy apps

Pack List for PUK-CD

Digital Signature order form - single user

Reg Card, 3rd party, DataViz - Reg card for the MacLink Plus translators
Includes troubleshooting info, instructions in use of the product, detachable reg card, etc.

POS sticker - PUK-CD specific

****
Personal Upgrade Kit - 1.44mb diskette
****

Media:
14 Disk Set:
Before You Install
Install Disk 1
Install Disk 2
Install Disk 3
Install Disk 4
Install Disk 5
Install Disk 6
Install Disk 7
MacLink Plus for 10/30/100 users
Install - PowerTalk & QuickDraw GX
QuickDraw GX 1
QuickDraw GX 2
PowerTalk
Disk Tools

Print Materials:

Manual (030-5660) - Upgrade Guide to System 7.5

System 7.5 SLA - single user Software License Agreement

Reg Card (030-6491) - Standard SW reg card

Manual, 3rd party (030-6125) - Guide to 3rd party 7.5 savvy apps

```
Pack List for 10/30/100 user kit

Digital Signature order form - 10/30/100

Reg Card, 3rd party, DataViz - Reg card for the MacLink Plus translators
    Includes troubleshooting info, instructions in use of the product,
    detachable reg card, etc.

POS sticker - PUK-dsk specific
```

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Workgroup Server 8150 & 9150: DAT Drive Specifications

This article provides the specifications on the HP 1533A DAT drive in Apple's Workgroup Server 8150.
This article has been archived and is no longer updated by Apple.
The Digital Audio Tape (DAT) drive used in the Workgroup Servers 8150 and 9150 is from Hewlett-Packard, model HP C1533A DDS-2. It supports 60m and 90m DDS Media Recognition System cartridges in addition to the new 120m Digital Data Storage-2 cartridges.

The specifications given below are based on the following general assumptions:

- Media must conform to the DDS Media specifications and not be damaged or faulty.
- The drive and media must remain within their respective operating and non-operating environmental specifications.
- The drive is in good operating condition.
- Read-after-write rewrites are used as necessary on writing.

Performance (DDS-DC Mode)

Capacity:

60 meter tape (DDS-1) 2.6 GB (typical)

90 meter tape (DDS-1) 4.0 GB (typical)

120 meter tape (DDS-2) 8.0 GB (typical)

NOTE: Tape capacity is dependent upon compressibility of data. For example, text files compress better that applications.

Transfer Rate

Sustained:

510 KB per second (native)

1.0 MB per second (typical)

1.5 MB per second (maximum)

Burst:

Asynchronous 3.0 MB per second (maximum)

Synchronous 7.5 MB per second (maximum)

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System 7.5: Additional Software on Personal Upgrade CD (3/95)

This article details the additional software contained on the CD-ROM version of the System 7.5 Personal Upgrade Kit.

This article has been archived and is no longer updated by Apple.

PowerTalk

QuickMail Gateway
Internet Gateway
CompuServe Gateway
Fax Gateway
PowerTalk Direct DialUp
Notify -Pager Gateway
Notify! Pager Gateway
PowerTalk Tour

QuickDraw GX

Peirce Paper Saver
Peirce Watermark
GX Font Demonstration

Miscellaneous
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e*World
Eric's Ultimate Solitaire
PlainTalk Update
QuickTime Extras
At Ease Patch

Article Change History:
23 Mar 1995 - Corrected spelling of Watermark.
15 Feb 1995 - Reviewed for technical accuracy, revised System 7.5 keyword.

Support Information Services
Published Date: Feb 19, 2012

Macintosh: Maximum Clipboard Size

This article has been archived and is no longer updated by Apple.

The Clipboard may be written to disk whenever the application requires the memory space, therefore the maximum size of the Clipboard is limited by the available disk space on the startup disk.

A more internal limit to the Clipboard occurs with the Scrap Manager, a set of routines and data types that let Macintosh applications support cutting and pasting using a specially allocated portion of RAM called the desk scrap or scrap, which is not to be confused with the Scrapbook desk accessory.

The desk scrap is initially located in a portion of RAM called the application heap. When starting up an application, the Segment Loader temporarily copies the scrap out of this heap into a portion of RAM called the stack. There is a brief moment when the scrap and a copy of the scrap both exsist, the scrap in the heap and the copy in the stack; for this reason, the desk scrap cannot be bigger than half the amount of memory allocated to heap and stack.

The amount of memory allocated to heap and stack varies with each application. However, as RAM increases from 128K to 512K to 1M bytes, larger and larger amounts of RAM can be allocated to heap and stack. In a Macintosh Plus with 1Mbyte of RAM, this allocation could be as big as 800K, giving a possible Clipboard size of 400K, depending, of course, on the application.

After the copy of the scrap is in the stack, the Segment Loader reinitializes the heap, and copies the scrap back from the stack into the heap, where the Scrap Manager can use it for cutting and pasting. A handle to the scrap is stored in low memory.

An application can keep the scrap on disk, which puts a limit of available disk space on top of the limit of one-half the RAM allocated to heap and stack. To use this scrap disk file, two applications would have to have a consistent amount of RAM allocated to their heaps and stacks. The scrap of the first application could be written to disk, left on disk with warnings against dismounting the disk with the scrap file, and the second application could then read the scrap file from disk.

Notes:
- -- This description idealizes the application. Keep in mind that real applications often will not handle the clipboard this way.
- -- Machines with 64K ROMs are limited to a maximum picture size of 32767 bytes.

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PostScript Fax: Maximum Limit for Fax Number Field (8/94)

Is there a maximum length to phone numbers entered into the PostScript Fax phone book?

This article has been archived and is no longer updated by Apple.
When establishing the fax phone character limits, consideration was made for faxing international locations, using calling cards, and other conditions that required long field lengths. The limits are:

Fax Number field limit - 126 characters (visible characters - 25)
DialCallee string limit - 100 characters

From a user perspective the limit is less than 100 characters, somewhere between 95 to 97, as the DialCallee string limit includes characters the fax driver places in the string for specifying Pulse or DTMF (Touch-Tone) dialing, possible DTMF symbols sent to a telephone exchange, pauses, and a character requesting the fax card to wait for dial tone or not.

Support Information Services
Published Date: Feb 19, 2012

LaserWriter Pro 810: No Parallel Support

According to information found in the 8/94 version of the Apple Facts product guide the LaserWriter Pro 810 supports simultaneous connections to LocalTalk, Ethernet, serial, and parallel interfaces. How do I obtain the parallel interface?
This article has been archived and is no longer updated by Apple.
Early versions of the Apple Facts guide dated through 8/94 contain an error in the LaserWriter Pro 810 section by referring to a parallel interface on the LaserWriter Pro 810. The LaserWriter Pro 810 does NOT include a parallel port, but does include Ethernet, RS-232 serial, and LocalTalk interfaces.

Due to last minute changes in the printer product lineup a parallel printer interface card for the LaserWriter Pro 810 was inadvertently left on the service price pages. The part is listed as Apple service part number 661-0850 and is called a communications card. Although this parallel card can be installed in the LaserWriter Pro 810 in place of the Ethernet option, Apple does not provide support for it. The card will be removed from the service price pages shortly.
Published Date: Feb 19, 2012

Express Modem: Ver. 1.5.3 Fixes "Cannot be Used..." Error

Our customeris getting an error message stating that this modem cannot be used with this computer, a Performa 636. She's tried looking for 'settings' so she can set them to 'generic' but the 'settings' cannot be found.

The software seems to load on startup because the startup INIT shows up and the Express software folder is on the hard drive. Her disk says she's running software v. 1.1.2. The model number on the box for the product is M2480LL/A which is the kit for the Macintosh 630 series.
This article has been archived and is no longer updated by Apple.
It would appear the customer is using the incorrect Express Modem software. Please have the customer use Express Modem 1.5.3.

The following Macintosh systems are supported by the Express Modem 1.5.3 release:

- PowerBook 160, 165, 165c, 180, 180c using an internal Apple PowerBook 14.4 Modem Card.

- PowerBook Duo 210, 230, 250, 270c, 280, 280c using an internal Apple PowerBook Duo 14.4 Modem.

- PowerBook 520, 520c, 540, 540c using an internal Apple PowerBook Express Modem II Card.

- LC 575, Macintosh 630 using an internal Macintosh Express Fax/Modem.

- The Express Fax software also allows you to send faxes with PowerBook models 100, 140, 145, 150 and 170 when used with the Apple PowerBook Fax/Data Modem.

Files found on Express Modem 1.5.3 disk:

```
File Name                        Version #
-----------------------------------------
AppleLink US Access
Express Modem 14400              1.0
Express Modem ARA 2.0            1.0
Express Modem AT Cmds            1.5.2

Express Modem CCL                1.0
Express Modem ReadMe             1.5.3
Express Modem Tool               1.5.3
Express Modem                    1.5.3
Fax Cover                        1.5.2
Fax Extension                    1.5.2
Fax Sender                       1.5.2
Fax Terminal                     1.5.2
Fax Viewer                       1.5.2
Installer Script                 1.5.3
Installer                        3.4
My first fax
PowerBook Setup                  7.3
PowerBook                        7.3.1
Sample
Standard
System Enabler 131               1.0.3

Express Modem 1.5.3 was released to support Japanese System Software and systems.
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Power Macintosh: Correct GeoPort Software Version Info

A Power Macintosh which has GeoPort for Power Macintosh software installed is getting the error message, "Express Modem cannot be run on this Macintosh".
This article has been archived and is no longer updated by Apple.
If Power Macintosh users install the Quadra 660AV and 840AV version of GeoPort software, they will get the error message, "Express Modem cannot be run on this Macintosh", when they try to open the Express Modem Control Panel.

However, you can also get this error message when using older versions of the Power Macintosh version of the GeoPort software. You can verify the correct version by doing a Get Info on the Express Modem Control Panel. The Power Macintosh version will read "Express Modem GeoPort for Power Macintosh (with version number)" at the top of the Get Info window.

The minimum version needed for the Power Macintosh is 1.0 or later, while the Quadra 660AV, and 840AV version is 1.1.2 or later. The most current version of the GeoPort software is available from the Apple Software Updates Web site at http://www.apple.com/swupdates/ .

Also GeoPort for Power Macintosh 1.0, 1.0.1, and 1.0.2 functions with System 7.5, but you need to use these workarounds:

* 1.0 has two problems with virtual memory
- Network file transfers will fail when Virtual Memory (VM) is on.

- Data connections will fail when VM is on.

* 1.0 and 1.0.1 will crash the computer on restart if there are any faxes
waiting to be sent in the Waiting to be Faxed folder.

* The modem speaker must be turned off at all times through the Express
Modem control panel to prevent intermittent crashing.

In cases, where this error message occurs even with the correct version of GeoPort software installed, a clean installation of system software is recommended. A reinstallation of the GeoPort for Power Macintosh software is needed also.

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HyperCard: Standalone Apps and Search Paths (8/94)

How are search paths handled in standalone HyperCard applications?

This article has been archived and is no longer updated by Apple.
A standalone HyperCard application includes what is essentially an embedded copy of the HyperCard Player. However, a standalone application, unlike HyperCard or the Player, does not have a Home stack. Rather, the stack embedded within the standalone application is its own Home stack. Therefore, the standalone's stack script must perform all the tasks the Home stack normally takes care of.

In regard to search paths, the Home stack stores a set of locations where HyperCard looks for stacks, documents, and applications. If your standalone goes to other stacks, or opens other applications or documents, you'll need to store these paths and maintain the globals that go with them. Otherwise, every time your standalone tries to access another file, it will ask the user to locate the file. To see how you need to maintain these globals, look at the getHomeInfo handler in the Home stack script.

In order to support the search paths for stacks, applications, and documents in a stand-alone application, the embedded stack needs to have three cards named "Stacks", "Applications", and "Documents". Each of these three cards needs to have a background field named "paths". This is where the search path information will be stored.

To test this, create a stack with one button which launches TeachText on the first card. Verify that it works. Then select "New Background", which creates a new card and background. Select "New Field" and name the field "paths". Then name the card "Stacks". Do this two more times, naming the next two cards "Applications", and "Documents". When the stack is saved as an application everything should work exactly the same as the original HyperCard stack had.

A good source of additional information on this topic is the book, HyperCard 2.2 by Winkler, Kamins, and DeVoto. See the chapter titled Coding for Special Environments.

Support Information Services

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ImageWriter LQ General Troubleshooting (Part 3 of 3)

This article has been archived and is no longer updated by Apple.

NOTE: Detailed instructions for Take-Apart can be found in the Technical Procedures.

TESTING THE PAPER-HANDLING CHANGE SWITCH

Materials Required: Digital multimeter

Procedure
1. Turn off the printer and remove the main cover.
2. Disconnect the paper-handling change switch cable from main board connector CN18.
3. Connect the multimeter between pins 1 and 2 of the removed connector and alternately depress and release the paper-handling change switch.

When the paper release lever is depressed, the resistance should be 0 ohms. When the lever is released, the resistance should be infinite. If the resistances are not as shown, replace the paper-handling change switch.

TESTING THE PAPER FEED MOTOR

Materials Required: Digital multimeter

Procedure
1. Turn off the printer and remove the main cover.
2. Disconnect the paper feed motor cable from main board connector CN6.
3. Connect the multimeter between the pins of the removed connector listed below and verify that resistances are as shown.

Pins to measure Resistance (Ohms)
1 and 3 20
1 and 5 20
2 and 4 20
2 and 6 20
3 and 5 40
4 and 6 40

If the resistances are not as shown, replace the paper feed motor.

TESTING THE AUTO-LOAD SOLENOID

Materials Required: Digital multimeter

Procedure
1. Turn off the printer and remove the main cover.
2. Disconnect the auto-load solenoid cable from main board connector CN8.
3. Connect the multimeter between pins 1 and 2 of the removed connector, and then between pins 2 and 3.

The resistance between pins 1 and 2 and between pins 2 and 3 should be infinite. If the resistances are not as indicated, replace the auto-load solenoid.

TESTING THE PAPER-OUT SENSOR

Materials Required: Digital multimeter

Procedure
1. Turn off the printer and remove the main cover.

2. Disconnect the paper-out sensor cable from main board connector CN9.
3. Connect the multimeter between pins 4 and 5 of the removed connector and alternately raise and release the paper-out sensor arm.

When you raise the paper-out sensor arm, the resistance should be 0 ohms. When you release the paper-out sensor arm, the resistance should be infinite. If the resistances are not as indicated, replace the paper-out sensor.

TESTING THE COVER-OPEN SENSOR

Materials Required: Digital multimeter

Procedure
1. Turn off the printer and remove the main cover.
2. Connect the multimeter between pins 1 and 13 of the removed connector and open and close the front cover.

When you close the front cover, the resistance should be 0 ohms. When you open the front cover, the resistance should be infinite. If the resistances are not as indicated, replace the control panel PCA.

TESTING THE COLOR RIBBON DETECT SWITCH

Materials Required: Digital multimeter

Procedure
1. Turn off the printer and remove the main cover.
2. Disconnect the color ribbon assembly cable from main board connector CN7.
3. Connect the multimeter between pins 7 and 8 of the removed connector and alternately depress and release the color ribbon detect switch.

When you depress the color ribbon detect switch, the resistance should be 0 ohms. When you release the switch, the resistance should be infinite. If the resistances are not as indicated, replace the color ribbon detect switch.

TESTING THE COLOR RIBBON HOME POSITION SWITCH

Materials Required: Digital multimeter

Procedure
1. Turn off the printer and remove the main cover.
2. Disconnect the color ribbon assembly cable from main board connector CN7.
3. Connect the multimeter between pins 9 and 10 of the removed connector and alternately rotate the front carrier shaft completely forward and then back slightly.

When you rotate the shaft completely toward you, closing the switch, the resistance should be 0 ohms. When you rotate the shaft slightly forward, opening the switch, the resistance should be infinite. If the resistances are not as indicated, replace the color ribbon motor assembly.

TESTING THE COLOR RIBBON MOTOR

Materials Required: Digital multimeter

Procedure
1. Turn off the printer and remove the main cover.
2. Disconnect the color ribbon assembly cable from main board connector CN7.
3. Connect the multimeter between the pins of the removed connector listed below, and verify that resistances are as shown.

Pins to measure Resistance (Ohms)
1 and 3 70
1 and 5 70
2 and 4 70
2 and 6 70
3 and 5 140
4 and 6 140

If the resistances are not as indicated, replace the color ribbon motor assembly.

TESTING THE CONTROL PANEL SWITCHES

Materials Required: Digital multimeter

Procedure
1. Turn off the printer and remove the main cover.
2. Place the cover top down on a padded work surface.
3. Connect the multimeter between the pins of the control panel PCA connector listed below and check to see if the resistance reads 0 ohms when the corresponding control panel switch is depressed. Refer to Figure 14 to determine the location of each pin.

Switch Check pins

Select switch 10 & 13
Print quality switch 9 & 13
Line feed switch 1 & 13
Form feed switch 12 & 13

If any switch fails to show 0 ohms when depressed, replace the control panel PCA.

For more ImageWriter LQ troubleshooting information see the following articles:
ImageWriter LQ General Troubleshooting (Part 1 of 3)
ImageWriter LQ General Troubleshooting (Part 2 of 3)

Refer to the Technical Procedures for the take apart instructions.

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Energy Saver Power Ratings for Applicable Products

This article lists the amount of power our Energy Star compliant products draw while in energy saver mode. This list will be updated as additional products and information become available.

This article has been archived and is no longer updated by Apple.

Product	Power Consumption in Energy Saver Mode
Apple 20" Multiple Scan	10 watts
Apple 17" Multiple Scan	10 watts
Apple 15" Multiple Scan	less than 5 watts

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System 7.5: Set Background Pattern of Desk Accessories (9/95)

Is it possible to set the background pattern of Desk Accessory utilities like Find File, Scrapbook, and others?

This article has been archived and is no longer updated by Apple.
Although this is not documented, you can change the background pattern of Desk Accessory utilities by holding the Option key down when the Desktop Patterns window is displayed. The Set Desktop Pattern button changes to Set Utilities Pattern.

Scroll through the patterns to find one you like then click on the Set Utilities Pattern button to select the pattern. The new pattern appears as the background of the Calculator, Find File, Jigsaw Puzzle, Keycaps, and Scrapbook.

This article was published in the "Information Alley":
Volume II, Issue 10, Page 9

Article Change History:
29 Sep 1995 - Added Info Alley information; updated article.
15 Feb 1995 - Reviewed for technical accuracy, revised System 7.5 keyword.

Support Information Services
Published Date: Feb 19, 2012

System 7.5: Old Find File Still Available (2/95)

Is the old-style Find File still available with System 7.5?

This article has been archived and is no longer updated by Apple.
Yes. People who do not want to use the new Find File for System 7.5 can still access the old Find File by pressing Command+Shift+F or by holding down the Shift key while selecting Find... from the File menu.

Article Change History:
15 Feb 1995 - Reviewed for technical accuracy, revised System 7.5 keyword.

Support Information Services

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System 7.5: Network Startup Diskette for Net Installs

Is there a diskette image available which will allow me to mount an AppleShare file server to perform a net install of software?
This article has been archived and is no longer updated by Apple.
The System 7.5 Group Upgrade CD will include a Disk Copy image of the Network Access Disk which will have AppleShare, Ethernet, Chooser and Finder support. This Disk Copy image can be found in the Administrator Tools folder, in the Network Access folder on the CD.

This will provide customers with a disk that will start any Macintosh and let them mount an AppleShare file server in order to "Net Install" system software. There is no Token Ring support.
Published Date: Feb 19, 2012

System 7.5: Date & Time Problem with Adobe Illustrator (2/95)

A problem has been discovered with Date & Time (aka SuperClock) on System 7.5 that will cause Adobe Illustrator to crash when printing to a LaserWriter IISC or Personal LaserWriter SC.

This article has been archived and is no longer updated by Apple.
The workaround to this problem is to turn off the Menu bar clock before printing from Illustrator. The problem was discovered too late to include this information in the ReadMe file before System 7.5 shipped.

Article Change History:
15 Feb 1995 - Reviewed for technical accuracy, revised System 7.5 keyword.

Support Information Services

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System 7.5: Apple Menu Items Contents (2/95)

This article describes the initial contents of the System 7.5 Apple Menu Items folder, as well as how you can customize and expand the items in this folder. The items in the Apple Menu Items folder appear in the menu at the left end of the menu bar, indicated by the Apple logo. You choose items from this menu to open items that you have placed in the Apple Menu Items folder, and to get information about programs that are currently running ("About╔").

This article has been archived and is no longer updated by Apple.
Default Apple Menu Items
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The following is a brief description of the contents of the Apple Menu Items folder. Since you can customize and expand the items in your Apple Menu, the contents of your Apple Menu Items folder may vary.

AppleCD Audio Player

Gives you control of audio CDs inserted into your Macintosh.

Calculator

An online calculator.

Chooser

Gives you access to select which printer you want to use as well as other network services.

Control Panels

This is an alias to the control panel folder.

Find File

Lets you search for files on volumes mounted on your desktop based on a variety of search criteria.

Jigsaw Puzzle

An online jigsaw puzzle game.

Key Caps

Provides you with a visual representation of a keyboard and what character is produced for each key in every font installed in your Fonts folder. Key Caps is not able to display the extended keyset of QuickDraw GX Fonts.

Note Pad

A small note pad for keeping notes or reminders.

Recent Applications

A folder that stores an alias to applications that have recently been opened. You can set how many applications it remembers via the Apple Menu Options control panel.

Recent Documents

A folder that stores an alias to documents that have recently been opened. You can set how many it remembers via the Apple Menu Options control panel.

Recent Servers

A folder that stores an alias to servers that have recently been accessed. You can set how many it remembers via the Apple Menu Options control panel.

Scrapbook

The scrapbook can hold text, graphics, and QuickTime files for use in other applications.

Stickies

Stickies are similar to 3M¬ Brand Post-It notes in electronic form.

* Shut Down

This is an alternative to the Shut Down selection under the Special menu. When your select the * Shut Down menu item, any item in the Shutdown Items folder in your system folder is not acted on.

Article Change History:
16 Feb 1995 - Added keyword; updated keyword; made several technical updates.

Support Information Services
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System 7.5: Control Panels Folder Contents (1/97)

After recently upgrading to System 7.5, I am curious as to the purpose of my Control Panels folder and its contents.

This article has been archived and is no longer updated by Apple.

A Control Panel is a small piece of software which provides you with a method to configure your computer to match your needs.

The following is a brief description of the contents of a standard System 7.5 Control Panels folder, and on which computers each is installed. The contents of your Control Panels folder may vary.

Apple Menu Options

Lets you enable or disable hierarchical menus, and set the number of recent documents, applications, and servers.

ATM GX - All

Adobe Type Manager (ATM) is the Adobe font utility for Type 1 Postscript fonts that works in much the same way as TrueType. It gives you a good quality screen display with any font size. In addition, it improves the output of QuickDraw printers, such as the ImageWriter and Deskwriter.

Auto Power On/Off - See NOTE

Set your computer to turn on and/or off at a specified time on a daily basis or on a specified date. Only for systems with soft power on technology introduced with the Macintosh II.

NOTE: See the Tech Info Library article titled "System 7.5: Energy Saving Features" for full list of supported computers

AutoRemounter - PowerBook models except 100, 140, 145, 145B, 170

Lets a PowerBook sleep without a warning dialog box appearing about losing network services. It also remounts any file servers that were connected when the system went to sleep.

Brightness - Classic and Classic II

Adjust Brightness of screen through control panel for computers with soft brightness control such as the Classic and Classic II.

Button Disabler - Performa and LC 500, 5200, 5300, and 5260

Disables the buttons on the front of the Macintosh or Performa 500, 5200, 5300, and 5260 series so users (usually students) cannot adjust the volume or brightness.

NOTE: The following computers are in the corresponding Macintosh families:

* Macintosh 5200CD family: Macintosh 5200/75 LC, Performa 5200, Performa 5210, Performa 5215, and Performa 5220.

* Macintosh 5300CD family: Macintosh 5300/100 LC, Performa 5300.

Cache Switch - Quadra, Centris and Performa 400/500 series

Control Panel installed only on 68040 based Macintosh computers which enables or disables the 040 processor caching. For compatibility reasons, it may need to be disabled in some applications.

Color - All

Set the color of text that is highlighted and the border color of windows.

CloseView - All Macintosh computers EXCEPT Power Macintosh

Magnifies the display for easier viewing.

ColorSync System Profile - All

Part of the ColorSync system that provides consistent color attributes through various input and output methods.

Date & Time - All

Configure and set the date and time of your system.

Desktop Patterns - All

Change the pattern or color of the desktop background.

Easy Access - All

When turned on, an audible whistle is heard and an icon appears in the upper right corner besides the Application Menu icon. Turning it off prompts a whistle again.

It provides ability to press combination keys one at a time (Sticky Keys); the ability to move pointer using numeric Keypad (Mouse Keys); and set Typing Speed for Macintosh with audible response (Slow Keys).

Extensions Manager - All

Specify which extensions load at system startup.

File Sharing Monitor - All

See who is connected to your computer while File Sharing is active.

General Controls - All

Set a number of overall system parameters, including Desktop hiding, Launcher visibility at startup, Folder protection so that files in the system and/or applications folder cannot be thrown away, the rate that the insertion point blinks, how many times a menu selection blinks when selected, and which default folder appears in the Save dialog box.

Keyboard - All

Set the repeat rate and delay before repeat for your keyboard.

Labels - All

Customize the color and text that makes up the Label of a document when viewed at the Finder level.

Launcher - All

By placing an alias to your favorite applications, files, or folders in the Launcher Items in the system folder, you can use the Launcher to open them without having to navigate through your hard drive.

MacTCP - All

Lets Macintosh computers connect to services via TCP/IP services. Replaces part of the AppleTalk protocol stack.

Macintosh Easy Open - All

A system software extension that lets you open a document when you do not have the application that created it.

Map - All

Provides a reference to location and time for certain cities.

Memory - All

Lets you to set the disk cache, memory manager setting, enable or disable Virtual Memory, and configure a RAM Disk.

Monitors - All

Set the number of colors or shades of gray that are displayed.

Mouse - All

Set the tracking speed and double click speed of your mouse.

Network - All

Select between any network options installed in your computer. Typical choices are LocalTalk, Ethernet, or Token Ring.

Numbers - All

Set the format of numerical data such as the placement of the decimal point and separators for monetary functions.

PC Exchange - All

Lets MS-DOS and ProDOS floppy disks, and SyQuest and Bernoulli disks be mounted on the Macintosh desktop. Applications that have the appropriate translators can be linked to DOS documents through the DOS suffix to automatically launch the application when the document is double-clicked.

Power Macintosh Card - Macintosh computers with Power Macintosh card installed
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Macintosh computers with a 68040 processor direct slot can be upgraded to a PowerPC processor via an expansion card.

Gives the user the option of selecting which processor to use. This selection is made via the Power Macintosh Card control panel. It is a simple off or on selection. The system has to be restarted for the new selection to take effect.

PowerBook - All PowerBook models

Full control of HD sleep, system sleep, and display dimming - also setting for processor cycling, and on certain machines, reduced processor speed. Also controls the backlight and the built-in video.

Also controls the backlight and the built-in video.

PowerBook Display - PowerBook 160, 165c, 180, 180c, and 200 series models
---
Controls the Video Mirroring function.

PowerBook Setup - PowerBook 200 and 500 series

Defines setting for SCSI Disk Mode. Also defines Normal and Compatible Mode.

In the Normal mode, the modem is addressed via the System 7 Communication Toolbox, and the external port is available for usage.

If your communication program is not compatible with the Communication Toolbox, set the PowerBook Setup control panel to Compatible. This mode prevents the external serial port from being addressed by other programs, as well as preventing communication with a serial printer.

Screen - Macintosh computers with built-in display

Controls the brightness and contrast of the built-in monitor on certain Macintosh models.

Serial Switch - Macintosh IIfx and Quadra 950.

Provides compatibility for some applications that use the printer or modem port. Serial port option is either Faster or More Compatible.

Sharing Setup - All

Configure File Sharing and enter the network identity of your Macintosh.

Sound - All

Select an alert sound and volume.

Speech Setup - 660 AV, 840 AV, Power Macintosh AV models

Enables Speech recognition, lets you select voice, character, responding method, and provides control of recognition and the ability to "name" the computer for recognition.

Startup Disk - All

Select which volume your computer starts up from.

Text - All

Select what text script and behavior (country) is used.

Trackpad - PowerBook 500 series

Provides support for the trackpad used in the PowerBook 500 series.

Users & Groups - All

Configure who can access your hard drive when File Sharing is enabled.

Views - All

Customize what information is displayed in Finder windows.

WindowShade - All

Hide a window by clicking on its title bar.

Article Change History:
15 Jan 1997 - Corrected Computer list in Button Disabler section.
06 Sep 1996 - Added computers to Button Disabler section.
09 Jun 1995 - Updated for clarity.

Published Date: Feb 19, 2012

System 7.5, 7.5.1, 7.5.2: Extensions Folder Contents

This article lists the purpose and contents of the Extensions folder in System 7.5, System 7.5.1 and System 7.5.2.
This article has been archived and is no longer updated by Apple.
An extension is a relatively small file that modifies the operation of your Macintosh. Unlike a control panel, you typically do not have any direct interaction with an extension. It makes the appropriate modification when your system starts up and remains present until it is shut down.

The following is a brief description of the contents of a standard System 7.5 Extensions folder. The contents of your Extensions folder may vary. You can use the Extensions Manager control panel to disable any of the following extensions, if you do not need them to be active on your system.

The Extensions Manager control panel

The Extensions Manager control panel lets you control which Extensions load when your computer starts up.

The Extensions

The System 7.5 extensions are listed in alphabetical order:

A/ROSE

Allows communication between the Macintosh main logic board and Macintosh Coprocessor Platform (MCP) based NuBus cards which run the Apple Real-Time Operating System, such as Apple Token Ring 4/16 NB card or the Apple Serial NB card.

About Apple Guide

This is the guide file which provides information about Apple Guide. When in the Finder, you can read the contents of this file by selecting About Apple Guide under the question mark icon in the upper right corner of your screen.

Apple CD-ROM

This is the driver software for any installed Apple CD-ROM drive.

Apple Guide

Apple Guide is Apple's integrated help system.

Apple Photo Access

This is part of the CD-ROM software which lets you view Kodak PhotoCDs.

AppleScriptLib

AppleScriptLib implements the AppleScript Open Scripting Architecture (OSA) component.

AppleScript

AppleScript provides you with the ability to automate repetitive tasks within scriptable applications.

AppleShare

AppleShare is the software that lets you have access to shared network volumes through the Chooser.

AppleTalk ImageWriter

This is the printer driver for a networked ImageWriter printer.

Audio CD Access

This is part of the CD-ROM software that lets you play audio CDs through your internal or external CD-ROM drive. It requires the AppleCD Audio Player or equivalent to control the CD.

Assistant Toolbox

Base extension for Auto Remounter (for PowerBook computers), allows file synchronization, battery management, and easy mobile computing. Provides support for "Persistent RAM disk" and deferred printing. Has a conflict with the Select 310 printer driver, and can block printing. The workaround is to turn off background printing.

Caps Lock

Provides caps lock function for PowerBooks (the keyboards do not have Caps lock key). When the caps lock function is active, an "up" arrow is displayed in the menu bar next to the Balloon Help icon.

Clipping Extension

Lets Drag & Drop create clipping files on the desktop.

Color Picker

Color Picker is a tool that presents a standard interface for color selection. With this dialog, any application can ask the user to choose a color.

EM Extension

This extension detects if you are pressing the space bar while your computer is starting up. If the space bar is pressed when the EM Extension is loaded, the Extensions Manager control panel is immediately launched.

EtherTalk Phase 2

This is the driver software that lets a Macintosh connect to an Ethernet network.

File Sharing Extension

File Sharing lets you share part or all of your hard drive so others on a network can access it.

Find File Extension

The Find File extension instructs the System to use the Find File desk accessory in place of the Find command built into the Finder. If you disable this extension with Extensions Manager, and then choose Find from the File menu, you will get the old Find interface from System 7.1.

Finder Help

Provides the support for Balloon Help for the Finder.

Finder Scripting Extension

Provides support for scripting of the Finder through AppleScript.

Foreign File Access

This is part of the CD-ROM software that lets you mount non-Macintosh file system CDs such as ISO 9660 or High Sierra formats.

High Sierra File Access

This is part of the CD-ROM software that lets you view non-Macintosh file system CDs created in the High Sierra format.

IIci/IIsi Monitors

Hardware specific information for the Monitor Control Panel that describes the capabilities of the built in video card for the IIci and IIsi.

Removing this file has no effect on the ability of the Macintosh to use the built-in video card or the ability to select the bit depth, but options that are found in the "option" section of the Monitor Control Panel may not be available (gamma settings, for example).

ImageWriter

This is the ImageWriter print driver.

ISO 9660 File Access

This is part of the CD-ROM software that lets you view non-Macintosh file system CDs created in the ISO 9660 format.

LaserWriter

This is the LaserWriter print driver version 7.2.

LaserWriter 8

This is the LaserWriter print driver version 8.x.

MacinTalk Pro

Lets a Macintosh computer read text documents in human-like voices.

Macintosh Guide

Apple Guide database describing Macintosh.

MacTCP Token Ring Extension

For customers who have standardized on TCP/IP over Token Ring.

Mailbox Extension

Provides Mailbox support under PowerTalk.

My Speech Macros

Support for Speech Macro Editor.

Network Extension

Used by Personal File Sharing to select network options.

ObjectSupportLib

ObjectSupportLib is a library developers use to implement the OSA object model. For example, how to refer to a word of a paragraph of a document.

Personal LaserWriter SC

This is the Personal LaserWriter SC print driver.

PowerBook Guide Additions

Apple Guide database describing PowerBook related topics.

PowerBook Monitors Extension

Hardware specific information for the Monitor Control Panel that describes the capabilities of the Video system for the PowerBooks.

Removing this file has no effect on the ability of the Macintosh to use the built-in video card or the ability to select the bit depth, but options that are found in the "option" section of the Monitor Control Panel may not be available (gamma settings, for example).

PowerPC Finder Update

Extends the width of the "About This Macintosh" dialog box (under the Apple Menu). This extension prevents the Macintosh Name from being clipped. The names of the Power Macintosh computers are longer than the standard Macintosh names, and part of the name was not displayed in the standard About This Macintosh dialog box.

PowerPC Monitors Extension

Support for AudioVision 14" Monitor.

PowerTalk Extension

Provides support for the PowerTalk services. Also has information that the keychain uses.

PowerTalk Guide

Apple Guide database describing PowerTalk.

PowerTalk Manager

Provides management of the AOCE Mailbox and services.

Printer Descriptions

This folder contains descriptions for a multitude of printers that are used by the LaserWriter 8 driver.

Printer Share

Provides the ability to share non-network printers (like StyleWriter II), across a network.

PrintMonitor

PrintMonitor handles the printing process when you have Background Printing enabled.

Quadra AV Monitors Extension

Hardware specific information for the Monitor Control Panel that describes the capabilities of the built in video card for the Quadra & Centris AV systems.

Removing this file has no effect on the ability of the Macintosh to use the built-in video card or the ability to select the bit depth, but options that are found in the "option" section of the Monitor Control Panel may not be available (gamma settings, for example).

Quadra Monitors Extension

Hardware specific information for the Monitor Control Panel that describes the capabilities of the built in video card for the Quadra & Centris Computers.

Removing this file has no effect on the ability of the Macintosh to use the built-in video card or the ability to select the bit depth, but options that are found in the "option" section of the Monitor Control Panel may not be available (gamma settings, for example).

QuickTime

Lets you play QuickTime movies within any application that supports QuickTime.

QuickTime PowerPlug

Provides native support of QuickTime for Power Macintosh computers when used in combination with QuickTime 2.0. It, by itself, is not a fully functional version of QuickTime. It is an extension which must be used in addition to QuickTime 2.0.

QuickTime Musical Instruments

Supports 30 Roland Standard MIDI sound samples that can be accessed by QuickTime applications with no additional MIDI equipment.

Scripting Additions

These extend the AppleScript language with special features, such as finding the date or time of day. With scripting additions installed, AppleScript acts as if these features are part of the language. Scripting additions are required only when a script uses them; many scripts use them.

SCSI Manager 4.3

This is an update to the driver software used by the Macintosh to access hard drives. It is coded into the ROM in the Power Macintosh computers.

Shortcuts

Apple Guide database describing Finder Shortcuts.

Speech Guide Additions

Mix-In for Apple Guide describing speech.

Speech Recognition

Provides support for Speech recognition.

SR Monitor

Extension used to monitor and interpret speech.

StyleWriter II

This is the print driver for the StyleWriter II.

System Speech Rules

Supports the voices/dialect of speech.

TokenTalk Phase 2

Driver for Token Ring Card.

TokenTalk Prep

Support for TokenTalk Phase II.

Video Guide Additions

Mix-In for Apple Guide describing Video.

WorldScript Power Adapter

Support for Language Kits on Power Macintosh computers.

Extensions Added by System 7.5 Update 1.0

Apple Guide

Apple Guide version 1.2.5 improves performance, runs native on Power Macintosh models, and is compatible with At Ease.

File Sharing

File Sharing version 7.6.1 improves overall performance and provides new functionality. When file sharing is turned on, removable disks and CD-ROMs will automatically be shared-except for audio CDs, which will no longer be shared. You no longer have to turn off file sharing in order to eject a removable disk or CD-ROM.

Finder Update

Updates resources in the Finder code.

MathLib

The updated Math Functions Library (MathLib) boosts performance of math operations on Power Macintoshes.

SCSI Manager

Adds SCSI Manager version 4.3.1

- Works with Performa 630 series, PowerBook 150, Quadra 630, and LC 630.
- Fixes a potential data corruption problem on Quadra 840AV and Quadra 660AV models.
- Fixes a potential crash problem when using some external hard disks

Speech Manager

Speech Manager version 1.3 is included. It was not included on the System 7.5 upgrade disks.

ThreadsLib

ThreadManager resource.

Update File Replaces Some Extensions

The System 7.5 Update file loose in the System Folder contains the functionality of and removes the following extensions: EM Sound Update, PowerBook 150 Update, and Mount IDE Drive.

Extensions Added by System 7.5.2

7200 & 9500 Guide Additions

Mix-In for Apple Guide describing the Power Macintosh 7200 & 9500.

7500 & 8500 Guide Additions

Mix-In for Apple Guide describing the Power Macintosh 7500 & 8500.

Apple Color SW Pro CMM

ColorSync 2.0 color-matching method file for maintaining consistent color information between documents.

AV Setup

Extension used by Sound & Displays control panel included in the second release of System 7.5.2.

Color SW 2000 Series CMM

ColorSync 2.0 color-matching method file for maintaining consistent color information between documents.

Color SW 2400

This is the print driver for the Color StyleWriter 2400.

Color SW Pro

This is the print driver for the Color StyleWriter Pro.

ColorSync

Resources for color matching between different hardware and applications.

Display Guide Additions

Mix-In for Apple Guide describing Sound and Displays control panel on the Power Macintosh 7500 and 8500.

Energy Saver Extension

Provides compatibility for background prcesses associated with Energy Saver software.

Energy Saver Guide Additions

Mix-In for Apple Guide describing Energy Saver software on the Power Macintosh 7500 and 8500.

Ethernet (Built-In)

Open Transport code resource to allow access to built-in Ethernet port.

Graphics Accelerator

Provides video acceleration for the PCI video card on the Power Macintosh 9500.

Macintalk 3

Speech generation extension included in the second release of System 7.5.2.

Open Tpt AppleTalk Library

Open Transport code resource for AppleTalk communication protocol.

Open Tpt Internet Library

Open Transport code resource for TCP/IP communication protocol.

Open Transport Library

Open Transport code resource.

OpenTptAppleTalkLib

Open Transport code resource for AppleTalk communication protocol.

OpenTptInternetLib

Open Transport code resource for TCP/IP communication protocol.

OpenTransportLib

Open Transport code resource.

Printer Descriptions Folder

Contains PostScript drivers for Apple printers.

Scripting Additions Folder

Contains AppleScript applets used in various preinstalled scripted functions such as MonitorDepth switching in the Control Strip.

Serial (Built-In)

Open Transport code resource to allow access to built-in serial port.

SystemAV

Audio-video input extension included in the second release of System 7.5.2.

Tutorial Items

Files used when running the Macintosh Tutorial under the Apple Guide menu.

Video Startup

Extension used by Apple Video Player.

Voices Folder

Contains voice files used by PlainTalk and Text-to-Speech applications.

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System 7.5: System Folder Contents (2/95)

After recently upgrading to System 7.5, I am curious as to the purpose of my system folder and its contents.

This article has been archived and is no longer updated by Apple.
The following is a brief description of the major contents of the system folder and what their purpose is. The contents of your system folder may vary.

Finder

Provides the Finder environment.

Apple Menu Items

This folder contains all the items which appear under the Apple menu. Any item such as a folder, application, or document, which is put into this folder will immediately appear under the Apple menu.

Clipboard

Temporary Storage place for last item cut or copied

Control Panels

Individual control panel files reside in this folder. Control Panels allow you to customize how you interface with your Macintosh and how it interfaces with other Macintosh Computers on a network.

Extensions

Software which modifies how your Macintosh works without your intervention is stored in the Extensions folder.

Fonts

Font suitcases or individual files reside in this folder. The Font folder is limited to a total of 128 suitcase and font files (PostScript fonts are not included in the 128 file limit). Suitcases can hold an unlimited number of font files, as long as 16MB of disk space is not exceeded.

Launcher Items

Contains files, folders, or applications which will appear in the Launcher window.

Note Pad File

Contains the text for Note Pad

Preferences

Many applications create a preferences file for themselves, those files reside in the Preferences folder.

PrintMonitor Documents

Files which you have selected to be printed with Background Printing enabled will temporarily reside in this folder. After the print job has been completed, the system software will remove the temporary file.

Scrapbook File

Stores the items placed in the Scrapbook

Shutdown Items

Applications or scripts which you would like to execute when your computer is shut down reside in this folder. Keep in mind that these applications or scripts will only run if you choose Shut Down from the Special menu. Choosing Shut Down from the Apple menu will bypass these items.

Startup Items

This folder contains applications or scripts which you would like to launch or run when your computer is started up.

System

This is the actual system file, it cannot be modified from the Finder level.

Universal Enabler

Provides additional system software code for the Macintosh.

Article Change History:
15 Feb 1995 - Reviewed for technical accuracy, revised System 7.5 keyword.

Support Information Services

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PowerBook: Asst Toolbox Problem w/Serial Printers

When I power on my PowerBook with a serial printer connected, my printer prints out a strings of garbage characters. Why?
This article has been archived and is no longer updated by Apple.
Some PowerBook computers are bundled with Assistant Toolbox installed. The Assistant Toolbox opens AppleTalk during the startup process so it is available without having to restart if you need to make it active. This causes problems with some serial printers.

There are two workarounds for this situation.

- Turn the printer on only just before you need to use it. If it is not on when you turn the PowerBook on, then it will not print out garbage.
- Remove Assistant Toolbox from the Extensions Folder, then reset PRAM and choose the printer in the Chooser.

Published Date: Feb 19, 2012

System 7.5: Using At Ease or KidDesk With Apple Guide (8/95)

Why doesn't Apple Guide seem to work properly with At Ease 2.0 installed and turned on in System 7.5? What about KidDesk? Are they not compatible?

This article has been archived and is no longer updated by Apple.

At Ease
==========

At Ease and Apple Guide are compatible. However, there are some common misunderstandings about how Apple Guide works with At Ease.

If At Ease 2.0 is installed and turned on, Apple Guide does not function in System 7.5. The Help menu contains only Balloon Help items, with no mention of Apple Guide. It also contains About Balloon Help instead of About Apple Guide.

However, At Ease and Apple Guide can be used together on the same system. If an application contains a guide file for its help system, this guide is available to all At Ease users who can access that application through At Ease. Used within the application, the guide functions normally.

Within the At Ease panels themselves, no guides are available because none have been written for it yet. Apple hopes to have one ready for a later release of At Ease. The Macintosh Guide, which normally appears in the System 7.5 Finder, does not appear in the At Ease panels, and should not. This guide depends on the Finder to display its red "coach marks", open Control Panels, and so on. Since At Ease users do not normally have access to Control Panels and system settings, it is inappropriate to have the Macintosh Guide available and fully functional in At Ease.

A problem does occur when a system starts up in At Ease, and then a user or administrator goes to the Finder. In this situation, the Macintosh Guide, which normally appears in the Finder, is unavailable. This is a problem in Apple Guide. Apple Guide treats the Finder in a special way and does not load in situations when the Finder is "off". All products that replace the Finder, like At Ease does, experience the same problem. Apple is developing a fix for this problem which should be available at a later date.

The impact on the user is that, if they startup in At Ease, and then go to the Finder, both the Macintosh Guide and application specific guides, are not available. In order to use Macintosh Guide in the Finder, At Ease must be turned off by the administrator and the computer restarted.

This situation has the potential to be viewed as an incompatibility between Apple Guide and At Ease. It is NOT, and we hope that this information helps you understand the problem. This is not a situation where you have to choose between System 7.5 and At Ease. Apple Guide behaves as it should for At Ease users.

At locations where At Ease is used, most of the system's users operate their computers in At Ease, not in the Finder. Hence most end users will have access to application guides. Administrators who do have access to the Finder are generally advanced users that do not use Macintosh Guide very often.

KidDesk
==========

Edmark's KidDesk software has this same issue with Apple Guide because it is an interface that takes over for the Finder similar to the way At Ease does. Edmark Tech Support is advising customers to obtain System 7.5 Update 1.0 to resolve issue with Kid Desk and problems with Apple Guide.

How To Tell If KidDesk Is Loading With Apple Guide

KidDesk creates an alias of itself in the Startup Items folder. Starting with the System 7.5 Extensions Manager set "System 7.5 Only" will not disable KidDesk. The alias must be removed to prevent its launch at startup. KidDesk 1.0 by Edmark prevents Apple Guide from displaying "Macintosh Guide" and "Shortcuts" when pulling down the "Apple Guide" menu. It reverts to displaying "About Balloon Help" and "Show Balloons" and "Finder Shortcuts" instead of any Apple Guide files loaded. These are the same menu options displayed as if Apple Guide did not load at startup.

This article provides some information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor, Edmark, for additional information.

The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.

Article Change History:
14 Aug 1995 - Reviewed for technical accuracy.
15 May 1995 - Changed title.
31 Mar 1995 - Added more information about KidDesk.

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PowerBook 500: PCMCIA Expansn Module Q&A & Tech Specs (Discont)

This article provides information on the PCMCIA Expansion Module for the PowerBook 500 series computer.

The PCMCIA Expansion Module for the PowerBook 500 series computer was discontinued in September 1996.

This article has been archived and is no longer updated by Apple.

Question: What is PCMCIA?

Answer: The Personal Computer Memory Card International Association (PCMCIA) was formed in 1989 to create a standard technology for very small memory cards, to be used in lightweight, mobile computing devices. A card that uses PCMCIA-standard technology is referred to by the PCMCIA as a PC Card, and is about the size of a credit card.

To date, PC Card technology has been used primarily in personal digital assistant (PDA) devices. For example, Apple integrates this technology in its Newton MessagePad communications assistants. But PC Card technology is quickly migrating to personal computers (it is becoming a standard feature in DOS and Windows softwarebased portable computers), and it will eventually be incorporated in peripheral devices such as printers. The PowerBook 500 series computers are now integrating this capability, and they offer distinct advantages over competitive personal computer systems that use PC Cards.

Question: What can PC Cards do for me?

Answer: As mobile computing and telecommuting become more common, and as smaller, more portable computer systems become available, solutions for providing lightweight, high-capacity media will increase in popularity.

PC Cards offer four key benefits:

Flexibility in expanding your computers capabilities. PC Cards provide the easiest way for you to extend the capabilities of your PowerBook 500 series computer. You can install everything yourself in a matter of seconds. There is no complex system configuration required, and the hardware component plugs directly into an expansion slot. Just insert PC Cards into your PowerBook to add storage capacity, applications, fax/data modem capability, cellular capability, or networking capability.

Thousands of computing solutions. Cellular modems, fax/data modems, paging, storage, local area and wide area networks, global positioning systems, digital video capture, data collection, and data encryption. These solutions and thousands more are possible through PC Cards. For example, you can have remote access to your desktop computer, electronic mail, the Internet, servers, and networks by inserting a cellular modem PC Card into your PowerBook, launching Apple Remote Access software, and dialing your cellular telephone.

Lightweight, compact, and portable media. PC Cards provide a simple, lightweight expansion solution. Portable devices such as PowerBook computers and Newton MessagePad units require expansion media that wont add significant weight. Because PC Cards are so small and convenient to carry, they are perfectly suited for use with portable computers and PDAs.

Low energy consumption. PC Cards consume less power than traditional floppy disk technology. By running an application off a PC Card instead of the hard disk in your PowerBook, you will use less battery poweran obvious advantage when using your PowerBook on the road.

Question: How do I use PC Cards in my PowerBook 500 series computer?

Answer: You need an accessory product called the PowerBook PCMCIA Expansion Module and its accompanying software. Adding it to your PowerBook is as easy as inserting a battery: The PowerBook 500 series computers have a processor-direct slot in the left battery compartment, and you just slide the PCMCIA Expansion Module into the slot. Then insert PC Cards into the module, just as you would insert floppy disks into a floppy disk drive. It is that simple.

The PowerBook PCMCIA Expansion Module weighs only four ounces, making it a particularly attractive accessory for your PowerBook computer.

Question: How is Apples implementation of PC Card technology in PowerBook computers better than whats offered on other computing platforms?

Answer: Apples implementation of PC Card technology provides several unique advantages:

Seamless integration of hardware and software. The advantage of true plug-and-play capability is perhaps the most important. Unlike in the DOS and Windows environments, where a variety of conflicting PCMCIA implementations abound, the PowerBook environment uses only one PCMCIA implementation. As a result, there are no compatibility conflicts, and you dont need to perform any complex system reconfigurations before using PC Cards you just insert a PC Card into the PowerBook PCMCIA Expansion Module and youre ready to work. The integration of hardware and software makes PowerBook the only computer line to deliver the ease of use promised by this new technology.

Immediate, flexible card recognition. The PowerBook PCMCIA Expansion Module accepts two Type I or Type II PC Cards, or one Type III PC Card. Through Apples hardware and software integration, the module can even simultaneously accept Type I and Type II PC Cards that provide different functionalitysuch as a cellular modem card and a storage card.

No disruptions to your work. You can remove and switch PC Cards in your PowerBook 500 series computer without restarting your system. Icons for PC Cards appear on the screen in the same way that floppy disk icons do. To eject a PC Card, simply click the Quick Eject module on the Control Strip shown on the screen. These features make using PC Cards in a PowerBook 500 series computer exceptionally convenient and easy.

A structured implementation plan. Apple will introduce PCMCIA for PowerBook 500 series computers in two phases. The initial release of the PowerBook PCMCIA Expansion Module will include basic driver software that enables PowerBook 500 series computers to accommodate PC Cards that provide the three most popular capabilitiesstorage capacity, modem capability, and cellular functionality. Soon afterward, the PowerBook PCMCIA Expansion Module will be able to accept third-party software drivers and cards, for an even wider range of capabilities. In addition, Apple is investigating the integration of PC Card technology into its desktop computers and printers.

Question: Will PC Cards developed for other platforms work in PowerBook 500 series computers?

Answer: Most modem and storage PC Cards that are available for other operating systems, such as DOS or Windows, and that conform to PCMCIA standards will work with the PowerBook PCMCIA Expansion Module. The Newton Fax Modem Card also works in the PowerBook PCMCIA Expansion Module. Other PC Cards require software drivers provided by the developer (these drivers are typically system extensions, which you simply drag into the System Folder). For a list of currently available cards, call the number below, or contact the card manufacturer directly for compatibility information.

For more information.

To receive a list of currently available PC Cards via fax, call 1-800-462-4396 in the United States, or 1-800-263-3394 in Canada. Request document number 10307.

PowerBook PCMCIA Expansion Module Technical Specifications:

PCMCIA standard

PCMCIA Release 2.1 compliant

PC Card Manager: Apple implementation of Card and Socket Services

Apple-proprietary PCMCIA host adapter ASIC Standard device drivers

(clients)

Modem and ATA drivers stored in flash ROM on Expansion Module (software

upgradable)

PC Card connector

Two slots support two Type I or Type II cards or one Type III card

Software-activated PC Card ejection mechanism

Processor-direct slot (16-bit data, 15.7-MHz bus)

Power requirements

In idle mode (no cards inserted): 8 mA at 5 volts

With cards inserted: 13 mA plus the card requirement

Maximum current available: 600 mA between both card slots

Size and weight

Height: 0.96 in. (24.3 mm) at bezel; 0.79 in. (20 mm) at top and bottom

of case

Length: 4.76 in. (120.7 mm)

Width: 3.35 in. (85 mm) at bezel; 3.05 in. (77.4 mm) at top and bottom of

case

Weight: 3.8 ounces (113 grams)

Environmental requirements

Operating temperature: 50 degrees F to 104 degrees F

(10 degrees C to 40 degrees C)

Storage temperature: 13 degrees F to 140 degrees F

(25 degrees C to 60 degrees C)

Relative humidity: 20 percent to 80 percent noncondensing

Operating altitude: 0 to 10,000 ft. (0 to 3,048 m)

Maximum storage altitude: 15,000 ft. (4,722 m)

Order number

M2995LL/C

Article Change History:

11 Sep 1996 - Added information about discontinued date.

31 May 1996 - Updated part number.

03 Apr 1995 - Reviewed for technical accuracy.

Published Date: Feb 19, 2012

Writing Center: Difficulty Quitting the Application (8/95)

The Writing Center application freezes almost every time I select Quit. It does not seem to make any difference whether I am running in At Ease or the Finder.

This article has been archived and is no longer updated by Apple.
After checking with The Learning Company and Hewlett Packard, it appears that the Hewlett Packard drivers for the all the 500 series Deskwriters are not compatible with any version of The Writing Center previous to 1.05. The problem with the drivers lies in the way they deal with color graphics.

The Learning Company has an update available to update your copy of The Writing Center to version 1.05. If you already have version 1.05 of the Writing Center, then the update may have been performed incorrectly and you should contact The Learning Company.

This article provides information about non-Apple products. Apple Computer, Inc. is not responsible for its content. Please contact the vendors mentioned for additional information.

The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.

Article Change History:
22 Aug 1995 - Added information about updater availability.
03 Mar 1995 - Reviewed for technical accuracy.

Support Information Services

Published Date: Feb 19, 2012

PCMCIA Expansion Module: Where to Find Available Cards

Where can I get information on what PCMCIA cards will work with my PCMCIA Expansion Module?
This article has been archived and is no longer updated by Apple.
Most modem and storage PC Cards that are available for other operating systems, such as DOS or Windows, and that conform to PCMCIA standards will work with the PowerBook PCMCIA Expansion Module.

The Newton Fax Modem Card also works in the PowerBook PCMCIA Expansion Module. Other PC Cards require software drivers provided by the developer (these drivers are typically system extensions, which you simply drag into the System Folder).

For a list of currently available cards, call the number below, or contact the card manufacturer directly for compatibility information.

To receive a list of currently available PC Cards via fax, call 1-800-462-4396 in the United States, or 1-800-263-3394 in Canada. Request document number 10307.
Published Date: Feb 19, 2012

PowerBook: AC adapter, battery, and charger identification

This document provides information for power adapters, batteries, and battery chargers for PowerBooks that are more than seven years old. For computers manufactured in the last seven years, see articles 75448, PowerBook and iBook: Identifying the right power adapter and power cord and 86797, PowerBook and iBook: Identifying the right battery.
This article has been archived and is no longer updated by Apple.
Apple offers several AC adapters, batteries, and battery chargers for PowerBook and iBook computers. Use the information in the table below to identify which adapter, battery, and charger works with which PowerBook computer.

Although many adapters may have the same power rating, use only the power adapter that came with your computer.

AC Adapters
For computers manufactured in the last seven years, see article 75448, PowerBook and iBook: Identifying the right power adapter and power cord.

Computer	Model No.	Notes
PowerBook 100 Series	M5140	The first AC adapter, 15 W, came with PowerBook 100, 140, and 170 computers. **Note**: This adapter was replaced by model M4662.
	M5651	The second AC adapter, 19 W, came with the PowerBook 145b, 160, 165, and 180. This adapter works with PowerBook 140, 145, 145b, 160, 165, 170, and 180 computers. **Note**: This adapter was replaced by model M4662.
	M5652	The third AC adapter, 24 W, is identified with 24 W on the AC adapter tip. This adapter came with PowerBook 165c and 180c computers, and works with PowerBook 140, 145, 145b, 160, 165, 165c, 170, 180, and 180c computers. **Note**: This adapter was replaced by model M4662.
	APS-17adp	The fourth AC adapter, 17 W, came with PowerBook 150 computers, and works with PowerBook 100 or 150 computers. **Warning:** Using an AC adapter that produces more than 19 W with a PowerBook 100 or 150 computer will damage the computer's logic board.
PowerBook 500 Series	M1910 or M1893	AC adapter for Macintosh PowerBook 500 series computers.
PowerBook 190 and 5300 Series	M3747 or M3037	AC adapter for Macintosh PowerBook 5300 and 190 series computers.
PowerBook (Duo) 200 and 2300 Series	M7783 (Duo Adapter)	PowerBook Duo 210, 230, 250, 270c, and 280 computers include a 25 W power adapter.
	M2693 (Duo Adapter)	The PowerBook Duo 280c included a 36 W power adapter that works with all PowerBook Duo computers.
	M4174 (Duo Adapter)	The PowerBook Duo 2300c includes a 36 W power adapter that works with all PowerBook Duo computers.
PowerBook 1400 Series	M4895 or M4896 (see Note 2)	AC adapter for Macintosh PowerBook 1400 series computers. **Note:** The M4402 adapters may also be used for this model.
PowerBook 2400	M5937	36 W AC adapter for the Macintosh PowerBook 2400c computer.

PowerBook 3400 PowerBook G3	M4896 or M4895	45 W AC adapter for Macintosh PowerBook 3400 series and PowerBook G3 computers. **Note:** The M4402 adapters may also be used for this model.

Batteries

For computers manufactured in the last seven years, see article 86797, PowerBook and iBook: Identifying the right battery.

The following table identifies the battery used in each PowerBook and iBook computer.

Battery type legend:
Sealed Lead Acid (SLA)
Nickel Cadmium (NiCad)
Nickel Metal Hydride (NiMH)
Lithium Ion (LiIon)

Computer	Battery Type	Ampere Hours (Ah)	Service Part	Model No. on Battery
Macintosh Portable	SLA	5.4	076-0376	M5137
100	SLA	2.3	661-0782	M3053
140/145/170	NiCad	2.5 (see Note 1)	661-0013	M5417
145B	NiCad	2.5 (see Note 1)	661-0013	M5653
150	NiCad	2.5 (see Note 1)	661-0013	M5653
160/165/180	NiCad	2.5 (see Note 1)	661-0013	M5654
165c/180c	NiCad	2.5 (see Note 1)	661-0013	M5654
190	NiMH	1.9	661-1028	M3254
Duo 210/230	NiMH Type I	.95	661-1656	M7782
Duo 250/270c	NiMH Type II	1.4	661-1735	M1499 (see Note 3)
280	NiMH Type II	1.4	661-1735	M1499 (see Note 3)
280c	NiMH Type III	1.6	661-0053	M1499 (see Note 3)
520/520c	NiMH (see Note 2)	1.8	661-0055	M1906
540/540c	NiMH (see Note 2)	1.8	661-0055	M1906
1400	NiMH	3	922-3078	M4507, M4915
2300c	NiMH Type III	1.6	661-0053	M1499 (see Note 3)
2400	LiIon	2.5	922-3076	M5876
3400	LiIon	2	922-2471	M5139
5300	NiMH	1.9	661-1028	M3254

Notes

1. These computers are also compatible with model M5654 2.9 Ah battery.
2. Uses PowerBook Intelligent Battery.
3. Type II and Type III batteries used in the 200 and 2300 series (Duo) use model M1499, but have "Type 2" or "Type 3" printed on them.

Battery Chargers

This table lists Apple battery chargers for various PowerBook computers. Computers for which Apple did not sell a battery charger are not listed.

Computer	Charger	Notes
PowerBook 100 Series	M1027**/A	Use this model with the AC adapter that comes with the PowerBook. This charger works with PowerBook 140, 145b, 150, 160, 165, 165c, 170, 180, and 180c computers.
	M5130**/A	The battery charger for the PowerBook 100.

PowerBook 500 Series	M1910	Macintosh PowerBook 500 Series AC Adapter.
PowerBook 190 & 5300 Series	M3747	Macintosh PowerBook Power Adapter for 5300 and 190 series computers
PowerBook (Duo) 200 & 2300 Series	M7778	The first PowerBook Duo battery charger. This charger only charges Type I batteries.
	M4178**/B	The second Duo battery charger. This battery charger charges Type I, II, and III batteries. To achieve full compatibility with Type III batteries, you must update the firmware in the charger. See question six of technical document 18241: "**PowerBook: Power and Battery Frequently Asked Questions, Part 1**".
	M4178	The third Duo battery charger. This battery charger charges Type I, II, and III batteries.

Published Date: Feb 19, 2012

System 7.5: ATM Upgrade to Version 3.8 Info (2/95)

Our customers are wondering why Adobe Type Manager (ATM) 3.8 was not included in System 7.5 and why Apple does not provide the upgrade to ATM 3.8.

This article has been archived and is no longer updated by Apple.
Adobe Technical Support has indicated that customers can call Adobe (800-833-6687) to upgrade from version 3.7 to 3.8.

The upgrade costs $29.95 and includes 30 fonts. Primarily, only Power Macintosh customers should be interested in the 3.8 version as it now has native code.

Article Change History:
15 Feb 1995 - Reviewed for technical accuracy, revised System 7.5 keyword.

Support Information Services
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System 7.5 MUK: About CD Extras Read Me (4/97)

The following article is the "CD Extras ReadMe" from the System 7.5 Multi-Pack Upgrade Kit.
This article has been archived and is no longer updated by Apple.
About CD Extras

IMPORTANT If you have questions about third-party application programs in the CD Extras Folder, contact the software vendor directly. The telephone number or address for each vendor is located with the software program.

The Apple and third-party utilities included in this folder add powerful functionality to System 7.5. The various tours in this folder will help you learn and use new System 7.5 features. The folder includes the following:

PowerTalk Extras

* Personal gateways from third-party vendors let you take advantage of PowerTalk's Mailbox for sending to and receiving from a variety of sources, including CompuServe, faxes, the Internet, pagers, and QuickMail. When installed on your Macintosh or PowerBook computer, a personal gateway and provides direct access to a specific communication service.

* Apple's PowerTalk Direct Dialup Mail lets you exchange mail with PowerTalk users everywhereðnot just on your computer network. If you have a modem and a telephone line, you can connect to other PowerTalk users and exchange mail and documents.

* The PowerTalk Tour gives you an overview of PowerTalk features.

QuickDraw GX Extras

* QuickDraw GX Print Extensions by Pierce Software, Inc. enhance your QuickDraw GX printing capabilities. With programs that support QuickDraw GX, the print extensions let you print watermarks in the background of each page and print 2,3,4, 6, 9, or 16 pages on each printed page.

* Linotype-Hell's QuickDraw GX Type Expo is a tour of new features found in QuickDraw GX fonts. Your computer must be configured correctly to run the Type Expo, or the system crashes. For configuration information, see the Read Me file that comes with the software.

Other Extras

* a solitaire game called Eric's Solitaire Sample that includes Klondike and Eight-off (by Delta Tao Software, Inc.)
* Macintosh QuickTime 2.0 extras
* software to upgrade to PlainTalk version 1.3 and At Ease version 2.0.3

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Article Change History:
01 May 1997 - Removed out dated on line references.
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TA32396_System_MUK_About_CD_Extras_Read_Me__(TIL16171).pdf

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System 7.5 MUK: Administrator Tools Read Me (2/95)

The following article is the "Administrator Tools ReadMe" from the System 7.5 Multi-Pack Upgrade Kit.

This article has been archived and is no longer updated by Apple.
Read Me for Administrator Tools

The Administrator Tools folder contains utilities that help a network administrator or other expert perform the group upgrade to System 7.5.

The following items are included in this folder:

* User Instructions : printable instructions that help the user connect to the upgrade server.

* Basic Connectivity Set: tools to be used with the Communications Toolbox installed as part of System 7.5. (Some application programs use one or more of these tools; see the Read Me file in the Basic Connectivity Set folder for information.)

* Disk Images: the disk image files and the Disk Copy program with which you create installation disks for System 7.5.

* LaserWriter Namer: a new version of the utility used to name a LaserWriter printer.

* Network Access: the Network Access Disk contains minimal system software and network software that can be used to start up any Macintosh (newer than Macintosh Plus) and to connect to a server by means of a LocalTalk or EtherTalk network connection.

* AppleShare 3.0.3 Patch: double-click the icon of the AppleShare 3.0.3 Patch if you have are not using AppleShare 4.0 and you plan to continue using version 3.0 of this software.

For more information about the contents of each folder, see the Read Me files in each folder or consult the System 7.5 Group Upgrade Handbook in the System 7.5 upgrade package. For a summary of new features in System 7.5, see Chapter 6, "What's New," of the System 7.5 Upgrade Guide (also in the upgrade package).

Article Change History:
16 Feb 1995 - Reviewed for technical accuracy, revised System 7.5 keyword.

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System 7.5 MUK: MacLink■Plus Version 7.52 Read Me (2/95)

The following article is the "MacLink¿Plus Version 7.52 ReadMe" from the System 7.5 Multi-Pack Upgrade Kit.

This article has been archived and is no longer updated by Apple.
MacLink¿Plus Version 7.52
System 7.5 Upgrade Kit Installation Notes

The MacLinkPlus Installer

Just double-click on the MacLinkPlus Installer. It will check your system configuration, select the most likely installation options, and lead you through the installation process. Descriptive information is provided for each option, and you will have the opportunity to review, and if necessary, change the selected options.

Installing from a CD

The MacLinkPlus Installer suggests you install after restarting your Macintosh with Extensions turned off to avoid any conflicts with your existing Extensions. If you wish to install with Extensions off and you are installing from a CD, you should first copy the entire "DataViz Translators" installation folder to your hard drive, then restart with your Extensions off. After you have restarted, open the installation folder from the hard drive and double-click the MacLinkPlus installer.

Special Considerations

There are special considerations to be aware of for certain translations, such as when translating between frame-based and flat word processors, or between 2-D and 3-D spreadsheets.

We strongly advise you to read the Read Me document that is installed in your MacLinkPlus folder, especially if you will be using files from one or more of the following programs: ClarisWorks; Lotus WK3; MacWrite Pro; Nisus; or WordPerfect 6.0.

The Read Me document is also available as "Late Breaking News" in your installer's completion window.

DataViz, Inc.
55 Corporate Drive
Trumbull, CT USA 06611
(203) 268-0030

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System 7.5 MUK: GeoPort Update Information Read Me (2/95)

The following article is the "GeoPort Update Information ReadMe" from the System 7.5 Multi-Pack Upgrade Kit.

This article has been archived and is no longer updated by Apple.
GeoPort Update Information

Version 1.0.1 of "GeoPort for Power Macintosh" was not available for this version of the CD.

GeoPort will be updated in it's next release to work with Macintosh System 7.5. We expect the release to be available by the end of 1994. Apple apologizes for any inconvenience this may cause you in the interim.

You may contact the Apple Assistance Center at 1-800-SOS-APPL for ordering information.

NOTE

This is not part of the Read Me file. GeoPort for Power Macintosh 1.0 and 1.0.1 will function with System 7.5, but there are outstanding bugs customers need to work around:

* 1.0 has two problems with virtual memory:
- Network file transfers will fail when VM is on.
- Data connections will fail when VM is on.

* 1.0 and 1.0.1 will crash the computer on restart if there are any Faxes
waiting to be sent in the Waiting to be Faxed folder.

* The modem speaker must be turned off at all times through the Express
Modem control panel to prevent intermittent crashing.

This article can help you locate the GeoPort for Power Macintosh 1.0.2 update, it is available on online services:

* "Where To Find Apple Software Updates"
Lists online services for "free" Apple software updates.

Article Change History:
16 Feb 1995 - Reviewed for technical accuracy, revised System 7.5 keyword.
05 Oct 1994 - Added NOTE section to article.

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System 7.5 MUK: Printer Update Read Me (2/95)

The following article is the "Printer Update ReadMe" from the System 7.5 Multi-Pack Upgrade Kit.

This article has been archived and is no longer updated by Apple.
Read Me for Printer Update

This folder contains the Installer program and new printer software for computers on your network that will continue to use System 6.

If you are using System 6 and you share a printer with people who are using System 7 (version 7.0 or later), you need to upgrade your printer software. (When a System 7 computer prints on a LaserWriter than has been initialized with an earlier printer driver, its driver causes the printer to restart. Although this process is harmless, it is time-consuming and also clears fonts from the printer's memory.)

You don't need to upgrade your printer software if you are upgrading from system software version 7.0 or 7.1 to System 7.5, or if you don't share a printer with anyone who uses System 7 or 7.1.

To upgrade your printer software:

1. Double-click the Installer icon in this folder.
2. When the Welcome screen appears, press Return.
3. When the Installer dialog box appears, make sure the name of your startup disk appears next to the hard disk icon. If necessary, click Switch Disk until the correct name appears.
4. Click Install.
5. When the installation is complete, click Quit.

If you need help using the Installer, see your network administrator.

Article Change History:
16 Feb 1995 - Reviewed for technical accuracy, revised System 7.5 keyword.

Support Information Services
Published Date: Feb 19, 2012

System 7.5 MUK: Before You Install 7.5 Read Me

The following article is the "Before You Install 7.5 ReadMe" from the System 7.5 Multi-Pack Upgrade Kit.
This article has been archived and is no longer updated by Apple.

Read Me

Before you install Macintosh system software version 7.5, read the important information below.

Disk First Aid and HD SC Setup

To ensure a smooth upgrade to system software version 7.5, make sure you use Disk First Aid to verify the hard disk and Apple HD SC Setup to update the hard disk before installing the system software. For instructions, see "Before You Install System 7.5" in the Macintosh System 7.5 Group Upgrade Handbook.

IMPORTANT If you are installing software on a PowerBook 150, Macintosh Quadra 630, or Macintosh LC 630, you should just run Disk First Aid to verify the hard disk. You do not need to update your hard disk.

RAM Disk

If you use a RAM disk, turn it off before you install system software version 7.5. When the RAM disk is active during software installation, it uses too much memory and prevents your system from starting up.

Quit All Applications

Before you begin installing system software, quit all applications.

Installation Time

Depending on your model of Macintosh, installation may take fifteen minutes to about an hour.

PowerBook 150 with Internal Modem

There is a compatibility problem with the PowerBook 150 with an internal modem and some communication software programs. We have included a fix for this problem in the Before You Install folder (inside the Installation folder). After you install System 7.5 on a PowerBook 150 with an internal modem, open the Before You Install folder, drag PB 150 Modem Patch to the System Folder icon, and then restart your computer.

Server or Network Programs

Any time you upgrade or re-install your Macintosh system software, you should also re-install your server or network programs, such as AppleShare or Apple Remote Access. For instructions, see the information that came with your server or network software.

Important If you have Workgroup Server 95, do not upgrade to system software version 7.5. Workgroup Server 95 works only with system software version 7.0.1 and System Update 3.0.

Possible Startup Problem on Quadra 900 & 950

After you install System 7.5 on a Macintosh Quadra 900 or 950, it is possible that you may encounter a problem starting up your computer. If you have trouble starting up your computer, do these steps to solve the problem:

1. Restart your computer while holding down the Shift key (to start up without extensions).
2. When the computer is ready, open your Extensions folder (inside the System Folder) and drag SCSI Manager 4.3 out of the Extensions folder.
3. Restart your computer again.
4. After you've started up successfully, if you need the functionality that SCSI Manager 4.3 provides move SCSI Manager 4.3 back to your Extensions folder and restart. Your computer should behave normally.

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System 7.5 MUK: QuickDraw GX Installation Read Me

The following article is the "QuickDraw GX Installation ReadMe" from the System 7.5 Multi-Pack Upgrade Kit.
This article has been archived and is no longer updated by Apple.
URGENT--Read Me!

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Before You Install QuickDraw GX

Printing and Faxing from QuickDraw GX

To print with QuickDraw GX, you need a QuickDraw GX printer driver for your printer.

* If you have an Apple printer, the QuickDraw GX versions of your currently installed printer drivers are installed with the QuickDraw GX software. All Apple printers (except the Apple Color Printer, and Color StyleWriter Pro) have GX drivers. The Color StyleWriter Pro will have a GX driver available soon.

* If you have a non-Apple printer, check with your Apple-authorized dealer or contact your printer vendor directly to make sure that you have the right printer driver for your printer. For printer vendor contact information, see the "QuickDraw GX Printer Driver Upgrade Information" section below.

* At the time of shipping, System 7.5 does not carry a QuickDraw GX version of a fax driver. These will be available very soon. For fax driver information, contact Apple Customer Assistance at 1-800-SOS-APPL or contact your fax vendor. For more information, see the "QuickDraw GX Fax Information" section later in this file.

QuickDraw GX and WorldScript II

Make sure that you are using WorldScript II version 7.2 or later. QuickDraw GX is not completely compatible with versions of WorldScript II prior to 7.2.

QuickDraw GX and At Ease

Make sure that you are using At Ease version 2.0.3.

QuickDraw GX Printer Driver Upgrade Information

If you are using a non-Apple printer, use the information below to contact the vendor about a printer driver upgrade. If your printer's vendor is not listed here, see the manual that came with your printer for contact information.

CalComp
PostScript compatible printers from CalComp should work with the standard LaserWriter GX PostScript driver. If you have any problems using QuickDraw GX with CalComp products and are within the United States or Canada, call CalComp at 800-451-7568. Outside the United States or Canada, contact the office in your area as listed in an appendix of your User's Guide.

Epson America
For information about Epson QuickDraw GX drivers, call the Epson End User Support Center at 1-800-922-8911 after October 1, 1994.

GCC Technologies
For information about GCC QuickDraw GX drivers and upgrade information contact GCC Technical Support at one of these numbers:

Phone Number: 617-276-8620
Fax Number: 617-275-1115
CompuServe: 67004,2302
GEnie: GCC.TECH
America OnLine: GCC TECH

GDT Softworks Inc.
For upgrade information about GDT Softworks products (PowerPrint 2.5, PowerPrint/GX 3.0, PowerPrint/LT 3.0, PowerPrint/NW 3.0, PLOTTERgeist 3.0, PowerPlot 2.0, PowerPlot/LT 2.0, StyleScript 2.0), contact GDT:

GDT Softworks Inc.
Customer Service Upgrades
4664 Lougheed Highway, Suite 188
Burnaby, BC V5C 6B7 Canada

Phone Number: 1-800-663-6222 or 604-291-9121
Fax Number: 604-291-9689
CompuServe: 72137,3246
Internet: customer_service@gdt.com

Hewlett-Packard
If you need Post-Sale Assistance, Technical Assistance, or if you have any kind of questions about H-P peripherals, contact the H-P Computer Products Customer Support Center at 208-323-2551.
For users of DeskWriter 500 series printers, the fastest way to get a QuickDraw GX printer driver is from one of these electronic on-line services:

CompuServe: HP Peripherals forum (HPPER) Library 9
Internet: IP address - 192.6.71.2
Name - Anonymous
Password - Send User Identification
HP Download Service: 208-344-1691 (modem settings: parity,N; data bits, 8; stop bits, 1)

To receive detailed instructions on accessing these on-line services, contact HP FIRST, Hewlett-Packard's document FAX retrieval service: Inside the U.S. and Canada: 1-800-333-1917 (Then press 1 for HP FIRST.) Outside the U.S. and Canada: 208-344-4809

To receive a disk with the QuickDraw GX printer driver, contact the HP Software Distribution Center at 303-339-7009. A nominal charge for materials and shipping applies.

Kodak
Call 1-800-CDKODAK, for technical support. To update and provide discussion for EKC drivers and print utilities, log on to CompuServe and 'go kodak'. In the Library menu, select browse and in the browse sections, select Kodak Printers. You can download these upgrades from

CompuServe!

Lasermaster
For QuickDraw GX driver updates from Lasermaster, call Lasermaster Technical Support at 612-944-8509.

Lexmark International
Lexmark/IBM customers can get the latest QuickDraw GX drivers from:

Technical Support: 606-232-3000
Lexmark Bulletin Board: 606-232-5238
Internet: anonymous ftp at ftp.lexmark.com
CompuServe: Go Lexmark

Microspot
For information about "MacPlot Raster GX" and "MacPlot Pen Plotter Professional GX" Chooser level GX drivers or upgrade information, contact the Sales Department:

Microspot
12380 Saratoga-Sunnyvale Road, Suite 6
Saratoga, CA 95070
Phone Number: 1-800-622-7568 (1-800-MACPLOT) or 408-257-4000
America OnLine: MICROSPOT1
CompuServe: 70274,3650

NEC Technologies
Contact NEC Technical Support at 800-388-8888 or use one of the following:

NEC Bulletin Board: 508-635-4706
Main Phone Number: 508-264-8000
Main FAX Number: 508-264-8673

QMS, Inc.
For assistance with QMS printers, drivers, and driver updates, call QMS Customer Technical Assurance:

Phone Number: 205-633-4500
FAX Number: 205-633-3716

Seiko Instruments
QuickDraw GX is supported by Seiko Instruments for the ColorPoint PostScript printer line with four drivers:

Printer Names Required GX Driver
--- ---
ColorPoint PS, PSX or PSN ColorPoint PS/PSX/PSN GX driver
ColorPoint PSE ColorPoint PSE GX driver
ColorPoint PSH ColorPoint PSH GX driver
ColorPoint PSF ColorPoint PSF GX driver

All driver upgrades are free and are available now:
Technical Support Department: 1-800-553-5312 (inside USA)
Technical Support Department: 408-922-5800
Seiko Bulletin Board: 408-428-9810

SuperMac Technology
For the SuperMac ProofPositive and the SuperMac Splash, contact SuperMac Technical Support at 1-800-541-7680.

Tektronix
In the US and Canada, call Customer Support at 1-800-835-6100 or use the following:

Fax Number: 503-682-2980
Tektronix Bulletin Board: 503-685-4505
International Customers: Please contact your local Tektronix office

Xerox
Xerox offers QuickDraw GX printer drivers for Xerox DocuTech Network Publisher Model 90 and Xerox DocuTech Network Publisher Model 135. For information on how to obtain the driver, customers can send an electronic mail message to: GX.Roch817@Xerox.com

QuickDraw GX Fax Information

To fax with QuickDraw GX, you need a QuickDraw GX fax driver for your modem. Use the information below to contact the vendor about a fax driver for your modem.

Express Modem
At the time of shipping, the Express Modem faxing capability is not compatible with QuickDraw GX. The express modem fax driver for QuickDraw GX will be available very soon.

GeoPort
GeoPort 1.2 is not QuickDraw GX compatible. The next version of GeoPort will be QuickDraw GX compatible.

Global Village
Global Village plans to add QuickDraw GX support to a future version of GlobalFax, and will send out a press release and an online-services announcement when it is available. To find the latest information on Global Village products, check Global Village forums on the following online services:

America Online: global
CompuServe: go global
Global Village BBS: 415-390-8334

Cypress Research
If you use Cypress Research FaxPro II, call 408-752-2700 and ask for Technical Support.

STF Technologies
For information about our "FaxPrint GX" printer driver contact STF Customer Service.

Using Fonts

Type 1 Fonts Enabled During Installation

During installation, QuickDraw GX enables any Type 1 fonts found in the System Folder, the Fonts folder, or the Extensions folder. However, you must ensure that each Type 1 font family is in its own suitcase. The installer enabler will not enable your Type 1 fonts if multiple font families are contained in one suitcase. QuickDraw GX does the following:

* creates a new folder called *Archived Type 1 fonts* in your Fonts folder
* moves all suitcases referring to Type 1 fonts to the *Archived Type 1 fonts folder
* moves all Type 1 outline font files to the *Archived Type 1 fonts folder
* makes a copy of the original suitcase and puts the copy in the Fonts folder
* creates one or more 'sfnt' font resources from the corresponding Type 1 outline font files and places the resources into the suitcase in the Fonts folder

The 'sfnt' (scalable font) resource was originally specified to contain TrueType font data. When QuickDraw GX enables a font, the 'sfnt' resource may contain either TrueType font data or PostScript Type 1 font data.

You can find instructions for installing QuickDraw GX in the Macintosh System 7.5 Group Upgrade Handbook.

Adobe Type Manager version 3.7 (ATM GX)

ATM version 3.7 (ATM GX) is installed with QuickDraw GX. Type 1 fonts will display and print properly only if ATM 3.7 is installed and turned on. As with previous versions, ATM 3.7 rasterizes Type 1 font data from the POST resource in conventional outline font files (file type LWFN). In addition, ATM 3.7 rasterizes Type 1 font data from the 'sfnt' resource in suitcase files (file type FFIL). ATM 3.7 does not include font substitution capability.

Enabling Type 1 Fonts After Installation

You may need to enable Type 1 fonts that are not located in the System Folder, the Fonts folder, or the Extensions folder. Or you may need to enable Type 1 fonts installed after you install QuickDraw GX. To enable Type 1 fonts, use the Type 1 Enabler (one of the QuickDraw GX Utilities). You must ensure that each Type 1 font family is in its own suitcase. The Type 1 Enabler will not enable your Type 1 fonts if multiple font families are contained in one suitcase.

To install the QuickDraw GX Utilities and enable Type 1 fonts, see the instructions in Chapter the sections named "Installing QuickDraw GX" in the Macintosh System 7.5 Group Upgrade Handbook or the Macintosh System 7.5 Upgrade Guide.

The Type 1 Enabler supports only Type 1 fonts. If the Type 1 Enabler program encounters a suitcase containing Type 3 fonts, it displays the message "Contains a Type 3 font program" and does not enable the suitcase.

The Type 1 Enabler does not enable hybrid fonts. If you see the message "Contains a hybrid font program (see README file for details)" when the Type 1 Enabler attempts to enable Optima or ITC Eras, it may be because you have an old version of these fonts. These fonts cannot be enabled because they are hybrid fonts. If you are a registered owner of Optima or ITC Eras, call Adobe Systems Technical Support to obtain an upgrade to the non-hybrid versions of these families.

Removing Duplicate Fonts

To make sure that QuickDraw GX properly manages currently installed fonts, you should make sure you have no duplicate fonts installed in the System Folder. Remove any duplicates that you find.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

The following Tech Info Library article can help you search for a particular vendor's address and phone number:

Article 17159: "**Locating Vendor Information**"
Published Date: Feb 19, 2012

System 7.5 MUK: User Instructions Read Me

The following article is the "User Instructions ReadMe" from the System 7.5 Multi-Pack Upgrade Kit.
This article has been archived and is no longer updated by Apple.
Read Me for User Instructions

The two versions of the User Access Template in this folder contain instructions for connecting to a group upgrade file server.

You can customize either version of this template with the names of the zone, server, and volume containing the installation software, then distribute the instructions to users.

The template is provided in two formats: a Microsoft Word 5.0 document and a MacWrite II document.

Published Date: Feb 19, 2012

MacWorks 3.0: Boot Problem

This article has been archived and is no longer updated by Apple.
When booting from the hard drive using MacWorks 3.0 the following Message may appear:
Cannot Build the DeskTop. Unlock the disk! O.K.
When you click O.K. the unit shuts down.

This is the result of a system with an old I/O Rom. Appropriate ROM versions are Mac XL: 88, Lisa 2: A8.
Published Date: Feb 19, 2012

System 7.5 MUK: What is MacLinkPlus Read Me

The following article is the "What is MacLinkPlus ReadMe" from the System 7.5 Multi-Pack Upgrade Kit.
This article has been archived and is no longer updated by Apple.
MacLinkPlus is file translation software which allows you to:

- Easily use DOS/Windows files on your Mac
- Convert Mac files into DOS/Windows files
- Convert between different Mac formats

When translating between different Mac and PC formats, such as Word Mac and WordPerfect for Windows, MacLinkPlus makes sure the file's original formatting remains intact (i.e., bold, italics, graphics, etc.). It converts thousands of combinations of files including word processing, spreadsheet, graphics and database formats.

Who should install it?

You should install MacLinkPlus if you think you will ever have to use files from DOS/Windows users or other Mac users who use applications that are different than yours (i.e., you use Word Mac, but your colleagues use ClarisWorks or WordPerfect, etc.)

It's there when you need it - automatically!

Perhaps the best thing about MacLinkPlus is that you won't see it until you need it. Your System 7.5 Upgrade kit came with a System Extension called Macintosh Easy Open. When you double-click on a file that wasn't created by an application you have, Easy Open pops up choices of applications on your Mac you can open the file into with the help of MacLinkPlus file translation.

The MacLinkPlus QuickStart Registration card included in your System 7.5 Upgrade package provides more information on the uses of MacLinkPlus.

Published Date: Feb 19, 2012

Macintosh 630 Family: No Built-in Portrait Display Support

Can I use the Apple Portrait Display with a Macintosh Quadra 630 computer?
This article has been archived and is no longer updated by Apple.
None of the Macintosh 630 family computers provide onboard video support for the Apple Portrait Display. In order to support the Apple Portrait Display you need a separate display card. The Macintosh 630 family computers have an LC style PDS, so Apple's Portrait Display Card will not work in this computer. However, if a third party video card supports the LC style PDS and the Portrait Display, it should work.

The Portrait Display resolution is 640 pixels horizontal by 870 pixels vertical.

The following computers are in the Macintosh 630 family: Performa 630, Performa 635, Performa 636, Performa 637, Performa 638, LC 630, and Quadra 630.
Published Date: Feb 19, 2012

Multiple Scan 15 Display: Interference Causes Skewing

I have a Multiple Scan 15 Display and the top of the video image is skewed. As the is rotated around in a circle, the problem gets worse or better. This problem occurs even when the monitor is not sitting on the computer or close to the computer.
This article has been archived and is no longer updated by Apple.
The symptoms described appear to be a classic case of external interference. Your guess that it is most likely due to the earth's magnetic field is most likely correct. In any event, it seems as though something external to the display is causing the problem. Try the following:

1. Move the display/CPU to a different building and see if the problem persists. My guess is that it will then work satisfactorily --indicating a problem in the environment you have it now.

2. If there are metal objects in the area (ie. large metal cabinets, desks, or other fixtures), use a hand held degaussing coil to demagnetize these items. They can be the source of the problem.

Finally, if the problem is the earth's magnetic field there is not much you can do to correct the situation unless you move the monitor elsewhere, or swivel it on its axis to a point that minimizes the distortion. All monitors can adversely be affected by stray magnetic fields.
Published Date: Feb 19, 2012

NSI Version in System 7.5 Install (2/95)

What version of the Network Software Installer (NSI) software is included with System 7.5.

This article has been archived and is no longer updated by Apple.
The networking software installed with System 7.5 is the same found in NSI 1.4.4.

Article Change History:
15 Feb 1995 - Reviewed for technical accuracy, revised System 7.5 keyword.
Support Information Services

Published Date: Feb 19, 2012

A/UX and AppleShare PDS File (9/94)

I'm finding that an AppleShare PDS file doesn't get created when you turn on personal file sharing on a computer running A/UX (as it does on a regular Macintosh). Where do the access privileges get stored?

This article has been archived and is no longer updated by Apple.
There is no file called "AppleShare PDS" in the File Sharing implementation of the A/UX Macintosh environment.

Instead of that file, the information normally contained in the PDS file is in the files located in the folder:

System Folder
Preferences
File Sharing

The files will have names similar to:

.HfsPDF.2.41.52.PM
.HfsPDF.6.15.47.AM
.UnixRoot

The files with the name .HfsPDF.??.??.??.?? are the PDS information for each one of the Macintosh HFS volumes attached to the server. The ??.??.??.?? portion of the name reflects the creation date for the volume.

The file .UnixRoot contains the PDS information for the "/" volume. This includes other UFS mounted volumes.

The implementation is similar to the way File Sharing saves access data for Read Only media and Removable Media.

If you remove these files, the access information will be lost.

Support Information Services

Published Date: Feb 19, 2012

Japanese Language Kit: WordPerfect 3.0 and Date Format

Customer is running System 7.1, Japanese Language Kit (JLK) 1.0 or 1.1, and WordPerfect 3.0.

After quitting WordPerfect 3.0, all dates in the Finder window are displayed in Japanese (if a Japanese font is selected in the "Font for Views"). They must restart the computer to return to U.S. date formats.

STEPS TO DUPLICATE:

1. Clean install System 7.1 or System 7 Pro on any Mac.
2. Install JLK 1.0 and WordPerfect 3.0 (or 3.0a)
3. Open hard drive window, set View to "by Name," set "Font for Views" to Osaka and select "Show Date" in the Views control panel. Note the U.S. date format in the open window.
4. Open WordPerfect, type anything in English, save and quit. The Finder window now displays Japanese date formats.
5. Restart and dates return to U.S. formats.

We also observe that if you load the Chinese Language kit 1.0 or 1.1, garbage characters appear in the Japanese date format when a Chinese font is selected as the font for views.
This article has been archived and is no longer updated by Apple.
We have verified that the dates do change when WordPerfect 3.0 has been used with the Japanese Language Kit to create a document.

Updating to WordPerfect 3.1 will cure the issue. Contact Novell about the upgrade.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor, Novell, for additional information.

The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.
Published Date: Feb 19, 2012

Multiplan: Updating the system disk

This article has been archived and is no longer updated by Apple.

Multiplan's System File defaults to New York instead of Geneva for Items on the Desktop. Before updating the Multiplan system disk make a copy the Seattle fonts. Now update the Multiplan system disk, then using font mover put the Seattle fonts back into the Multiplan system file. This restores the Desktop to Geneva font while allowing Multiplan access to the Seattle font.
Published Date: Feb 19, 2012

Apple Workgroup Server 95: Recovering From a Crash

This article describes recovering from a crash on an Apple Workgroup Server (WS) 95.
This article has been archived and is no longer updated by Apple.
Apple's Workgroup Server 95 is based on the A/UX operating system. A/UX integrates the Macintosh System 7 Finder interface with industry-standard UNIX. Because the Workgroup Server 95 is running A/UX, the procedure for recovering from a system crash is different than that used to recover a Macintosh running the Macintosh operating system.

Restarting the Server

The System 7 Finder runs as an A/UX process. Therefore it is possible for the Finder to be "locked up" but still have other A/UX processes running within the server.

Complete the following steps, in the order they are given, to reduce the chance of worsening the existing problem or causing further problems with A/UX during system shutdown and restart.

1. Simultaneously press and release the three keys: COMMAND-CONTROL-E. The COMMAND-CONTROL-E key sequence forces a restart of the Macintosh Finder process running within A/UX. After pressing and releasing the keys, wait for at least one minute for the Finder to restart before proceeding. If you are able to successfully restart the Finder process, it is recommended that you immediately restart the WS 95 by selecting the Restart option under the Special menu and go to the section on Running fsck.

2. If no response is generated by COMMAND-CONTROL-E, turn the Workgroup Server 95 off using the key switch on its front panel. Turn the key counter-clockwise to the "Off" position sends a signal to the main logic board to perform an orderly shutdown of A/UX processes. As before, wait at least one minute for this action to complete before assuming it was unsuccessful. If you are successful in shutting down the server, turn the key back to the "On" position, restart the server, and go to the section on Running fsck.

The last option for restarting the server is to press the Reset button on the front panel of the server. Do this only if both the previously mentioned steps were not successful.

Running fsck

When restarting the server after a system crash, it is recommended that you perform a manual file system check (fsck) from the A/UX Startup shell. Any file system inconsistency is made worse if you continue to use the file system (thus modifying it further) without running fsck.

To enter A/UX Startup, watch for the status box that says "Welcome to the Apple Workgroup Server 95" * it appears when you turn on the system. Click the Cancel button or press Command-. (period) to cancel the A/UX startup process and display the A/UX Startup shell. Once the A/UX Startup shell window is displayed, this command-line prompt appears:

startup#

At the prompt, type this UNIX command (using lower case):

fsck -y /dev/default

Press Return to start fsck. The fsck program lets you know which phase and what file system it is in at any given time. It may take several minutes to complete the check. For a complete description of all the phases of fsck, refer to the "Server Administration with A/UX" manual that came with your Workgroup Server 95.

On completion of fsck, if you see a message that says "FILE SYSTEM WAS MODIFIED" it is recommended that you run fsck again using the same command. You want fsck to make a complete check without changing anything.

Launching A/UX

Once the file system has been checked, you need to launch A/UX. At the startup prompt type this command and press Return:

launch

The server should now launch normally.

You may want to consider manually running fsck periodically (every 2 weeks) as part of your normal server maintenance. This could help to prevent system crashes or poor server performance.

Published Date: Feb 19, 2012

Multiple Scan 15 Display: Compatibility with Macintosh II (2/96)

This article covers compatibility issues with the Multiple Scan 15 Display and Macintosh II computers.

This article has been archived and is no longer updated by Apple.

Macintosh II, IIx, IIcx

Since these computers do not have built-in video support, a video card must be used. If the video card does not support software resolution switching, a video adapter may be required to display any resolution other than 640x480.

Macintosh IIsi, IIci

Out of the box, the built-in video in these computers does not support the Multiple Scan 15 Display. To use the Multiple Scan 15 Display with these computers, you must either use a compatible third-party display adapter, or use a separate video card instead of the built-in video.

Apple 824, 824GC Video Card

The Apple 824 and 824GC video card displays a resolution of 640x480 on the Multiple Scan 15 Display. In order to use another resolution, a display adapter is required.

Macintosh II 4-bit and 8-bit Video Cards

Some third-party display adapters allow you to use these video cards with Multiple Scan 15 Display.

Display adapters are available from several third-pary companies such as Enhanced Cable Technology, Griffin Technology, and MacAdapt.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.

Article Change History:

08 Feb 1996 - Added additional information on third-party display adapters.

25 Sep 1995 - Removed 48 from incompatible video cards.

30 Jan 1995 - Corrected Enchanced Cable Technology name.

Support Information Services

Published Date: Feb 19, 2012

LaserWriter Fax Log: Contains Status Of Transmissions

Is there a way of determining the status of a fax transmission from one of the LaserWriter Select 360's optional fax cards?
This article has been archived and is no longer updated by Apple.
LaserWriter Fax Log keeps a record of all the faxes you send from your computer through your fax-capable printer. Each time you send a fax, Fax Log adds to its list information about the recipient of the fax, the printer you used to send the fax, and the status of the transmission.
Published Date: Feb 19, 2012

GeoPort Telecom Adapter: Pin assignments (9/94)

What are the pin assignments for the GeoPort Telecom Adapter?

This article has been archived and is no longer updated by Apple.
The following are the GeoPort Telecom Adapter Mini-DIN 9 pin assignments:

Pin #	Standard GeoPort Definition	DMA GeoPort Definition	Non-DMA Definition
1	HSK(0)	POD RESET/ATT	POD RESET/ATT
2	HSK(I)	SCLK(I)	SCLK(I)
3	TxDa-	TxDa-	TxDa-
4	SHIELD_GND	GND_return	GND_return
5	RxDa-	RxDa-	RxDa-
6	TxDa+	TxDa+	TxDa+
7	GPi(A)	WAKEUP/TxHS	Unused
8	RxDa+	RxDa+	RxDa+
9	+5 VDC	DC Power	DC Power (If available)

Support Information Services
Published Date: Feb 19, 2012

ImageWriter: Superscripting, Subscripting, and Underlining

This article has been archived and is no longer updated by Apple.

A set of superscripted and subscripted characters resides as an alternate font in a file on the "Imagewriter Tool Kit" diskette, which is included in the accessory kit. An option of the Tool Kit menu downloads the super/sub-scripted character font. After the download, you can invoke the alternate font with "ESC '"; "ESC $" restores the standard (switch selected) character font. In this font, symbols generate superscripted numerals, and numbers generate subscripted numerals.

Applewriter accomplishes superscripts and subscripts on Imagewriters with serial numbers 250001 or greater. If the serial number is less, the Imagewriter must be upgraded.

NOTES:

1. The word Escape in the following instructions refers to hitting the Escape key.

2. The blanks should not be keyed in; they are there to make the strings readable.

3. The command strings take up room in the line and are counted as characters when printing takes place, even though the commands themselves are not printed.

In an Applewriter file:

1. Type in [V] Escape l [V]. This enables the optional line feed function.

2. To do a superscript:
    a. Type: [V] Escape T 12 Escape r [J] [V]
    b. Enter the superscript text.
    c. Type: [V] Escape f [J] Escape T 24 [V]

3. To do a subscript:
    a. Type: [V] Escape T 12 [J] [V]
    b. Enter the subscript text.
    c. Type: [V] Escape r [J] Escape f Escape T 24 [V]

Underlining requires no printer modification. Just send "ESC X" to start underlining and "ESC Y" to stop it. Apple Writer users will probably not use this method to underline; however, if they do, note that X and Y are uppercase.

Published Date: Feb 19, 2012

HFS: Size of folders

This article has been archived and is no longer updated by Apple.
The Hierarchial File System provides faster more efficient management of large volumes. It will determine the size (contents) of a folder only when it is open, therefore size of a folder is displayed as ??K in the directory, unless the Folder is Open on the Desktop then Size will be displayed. Also using Get Info from the File Menu will reveal size.
Published Date: Feb 19, 2012

Monitors CDEV: One Resolution on Multiple Scan Display (9/94)

I have a Multiple Scan 17 Display connected to a Power Macintosh computer, however the Monitors control panel only displays one resolution. I have tried reinstalling the system software and resetting the Parameter RAM (PRAM), but neither of these fixed the problem. What could be wrong?

This article has been archived and is no longer updated by Apple.

If the resolution options do not appear in the Monitors control panel, first try to reset the monitor settings using the controls on the front of the monitor. To reset all picture controls on the monitor, follow this step:

- While holding down the Control button on the monitor, press the Reset button using the tip of a pen.*

Sometimes the monitor provides the wrong 'sense' signal to the computer causing the Monitors control panel to think that the Multiple Scan Display is not capable of different resolutions. Resetting the monitor should fix the problem.

The resolution settings are stored in RAM and created when the Macintosh starts up based on what the computer senses from the monitor. The current resolution setting selected in the Monitors Control panel is stored in the System File.

*Note: This procedure will reset all of the picture controls, including brightness and contrast, to their original levels. See the Multiple Scan 17 Display User's Guide for instructions on resetting specific controls.

Article Change History:
06 Jul 1995 - Added instructions from manual for resetting controls

Support Information Services

Published Date: Feb 19, 2012

Apple Basic Color Monitor: No Immunity Rating (9/94)

I have a lot of the Apple Basic Color Monitors, and almost all of them are experiencing EMI related interference. These monitors are used within an office building, and the building management doesn't think it's related to their building.

Are their minimum levels in Milligauss or Microtesla before the Apple Basic Color Monitor begins to experience EMF interference in the display.

This article has been archived and is no longer updated by Apple.
There is currently no accepted industry standard for magnetic field susceptibility (also known as radiated immunity). All the standards center on the amount of emissions generated by the display (radiated emissions). Therefore, we do not test for and have no records that list the amount of EMI/EMF that a particular monitor can tolerate.

I would recommend that you operate the monitors with all fluorescent lights in the area turned off--this could point you to the problem. This is the number one cause of external interference in an office environment and can usually be corrected by replacing defective bulbs.

Support Information Services

Published Date: Feb 19, 2012

Multiple Scan 15 Display: Compatibility w/ IIsi & IIci (2/96)

Why doesn't the Multiple Scan 14 or 15 Display work with the built-in video of the Macintosh IIsi and Macintosh IIci?

This article has been archived and is no longer updated by Apple.

Out of the box, the built-in video on the Macintosh IIci and Macintosh IIsi computers are not compatible with the Multiple Scan 15 Display, even though both use the 640x480 resolution. The problem is related to the sync lines. The Macintosh IIci and Macintosh IIsi were designed to work with the 13-in. HighRes RGB, which uses sync on green input. The new Multiple Scan 15 Display only accepts sync on separate input lines, one for the horizontal and one for the vertical. There is at least one third-party display adapter you can use, which enables you to use the Multiple Scan 14 or Multiple Scan 15 Display with either the Macintosh IIsi or Macintosh IIci computer.

Display adapters are available from several third-pary companies such as Enhanced Cable Technology, Griffin Technology, and MacAdapt.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.

Article Change History:

08 Feb 1996 - Added information on third-pary display adapter.

09 Jun 1995 - Corrected type of sync used.

01 Dec 1994 - Removed the Macintosh LC from discussion.

Support Information Services

Published Date: Feb 19, 2012

PowerTalk: Obtaining Certificates

The process by which an end-user obtains a Certificate involves three steps.

1) Completion of a Certificate Signing Request.

2) Validation of identity (as stated in the Certificate Signing Request) by an authorized entity.

3) Issuance of the Certificate based on the validated Certificate Signing Request.
This article has been archived and is no longer updated by Apple.

```
Overview
--------

Every PowerTalk package in the U.S.A. will include a voucher for one Signer file.

RSA Data Security Inc. is the root of all public key certificate sets. Individual users will be able to obtain
a public key certificate directly from RSA. Negotiations are underway to establish a method for overseas
customers to receive certificates. The Tech Info Library article titled "Locating Vendor Information" can help
you search for RSA Data Security's address and phone number.

Large corporations and other organizations can contract with RSA to issue certificates to their employees. By
convention, the certificate chain can only be two levels deep. Therefore, it will not be possible for a
corporation authorized by RSA to issue certificates, to in turn, authorize another organization to issue
certificates.

The DigiSign Utility is used to create a Signer Approval Request and the unapproved Signer file. Once a Signer
Approval has been issued by the issuing authority, the DigiSign Utility will again be used to merge the
unapproved Signer file with the Signer Approval file to create a final Signer file.

Completion of a Certificate Signing Request
-------------------------------------------
Every Public Key Cryptography Standards (PKCS) or Internet Privacy Enhanced Mail (PEM) compliant application
includes the functionality to generate an electronic Certificate Signing Request. The Certificate Signing
Request (hereafter, "Request") includes the necessary information to issue a Certificate.

The process of completing the Request starts with the generation of an RSA key pair. This functionality is
included in the application. Typically, the user will then provide some personal identification information
and choose an appropriate distinguished name, which will make the Certificate unique.

Validation of a Certificate Signing Request
-------------------------------------------
The next step in the process is validation of the identity of the end-user with the information contained in
the Request. How this is done depends upon the type of Certificate Issuing relationship that an organization
or individual has with RSA. The possible relationships are Certificate Issuing System (CIS)-Issuer, Co-Issuer,
or Unaffiliated.

CIS-Issuer     The end-user takes the Request, with proper ID, to the
               Organizational Notary (ON) to be validated. The ON will use
               internal procedures to confirm the authenticity of the
               user's identifying information and the uniqueness of their
               distinguished name.

Co-Issuer      The process is the same as that for a CIS-Issuer.

Unaffiliated   The end-user takes the Request, with proper ID, to be
               notarized by an official Notary Public.

Fulfilling a Certificate Signing Request
----------------------------------------
The end-user now has a Request that has been completed and validated. The final step is fulfilling the
Certificate Signing Request by issuing the Certificate based on the Request. Again, how this is done depends
upon the type of Certificate Issuing relationship that an organization enters into with RSA.

CIS-Issuer     The validated Request is taken to the Certificate Issuer
```

(CI), within the organization, who then issues the Certificate using the Certificate Issuing System (CIS).

Co-Issuer The ON sends the validated Request to the VeriSign Inc. which then issues the Certificate on behalf of the organization.

Unaffiliated The validated Request is mailed to VeriSign Inc. whose staff will verify that the Notary Public stamp/seal is valid, verify uniqueness of the distinguished name, generate the Certificate (if the request is valid) and send the user the Certificate on diskette or via E-mail.

Generating a Certificate

An example of how an unaffiliated Certificate will be generated in conjunction with typical commercial software (call it Application X), is described below.

1) Application X, a security-aware application, has been developed with one of RSA's toolkits. This application includes functionality for the generation of RSA key pairs as well as Certificate Signing Request forms.

2) The end-user (let's call him Kurt) uses the application's key generation utility on his computer to generate his own RSA key pair, and also inputs personal identifying information to be contained in his Certificate.

3) Application X produces a printed paper or electronic form, containing Kurt's public key and personal identifying information (this is his Certificate Signing Request). Kurt takes the form to a Notary Public for notarization.

4) Kurt mails the notarized form to VeriSign Inc. for processing.

5) VeriSign Inc. processes the request as an Unaffiliated Certificate Signing Request. VeriSign Inc.'s staff uses CIS to create a Certificate based on the request.

6) VeriSign Inc. sends the completed Certificate back to Kurt via diskette, or E-mail (via Internet) for use within Application X.

Generation of an end-user Certificate, utilizing RSA's Co-Issuer relationship, differs from the process described above in that there must be an Organizational Notary (ON) within the organization that completes step 5 rather than RSA. For organizations with a CIS on-site, steps 5 and 6 are completed by the organizations ON and CI, respectively.

Published Date: Feb 19, 2012

SNA■ps Gateway: Can‘t Be Used With Token Ring NB/c Card (9/94)

Can I use the Apple Token Ring NB/c card with SNA*ps Gateway, SNA*ps 5250, or SNA*ps 3270 software?

This article has been archived and is no longer updated by Apple.
No. The Apple Token Ring NB/c card is not MCP (Macintosh Coprocessor Platform) compliant. In other words, this card does not have an on-board microprocessor. The SNA*ps Gateway, SNA*ps 5250 and SNA*ps 3270 software require a coprocessor on the communications card.

The reason a coprocessor is needed is that the SNA*ps gateway software is actually downloaded onto the communications card. The card then handles all the processing necessary to establish and maintain an SNA connection with the IBM host computer.

You can run the SNA*ps 5250 GC or SNA*ps 3270 GC (gateway client) software on a Macintosh with the Token Ring NB/c card. The SNA*ps client software communicates with the SNA*ps gateway using AppleTalk protocols, which the Token Ring NB/c card supports.

The full size Apple 4/16 Token Ring NB card and Serial NB card (which are required to run the SNA*ps gateway software) will not fit inside the Centris/Quadra 610, Quadra 660AV, or Power Macintosh 6100. Therefore, these Macintosh models cannot be used as SNA*ps gateways.

Support Information Services

Published Date: Feb 19, 2012

System 7.5: Update for HP DeskWriter C Printer Driver (2/95)

My Macintosh running System 7.5 gets a System Error -14 when printing to a HP DeskWriter C. When I deactivate all "color" extensions with the extensions manager, it prints fine.

This article has been archived and is no longer updated by Apple.
HP Printer Support reports their current HP DeskWriter C driver, v5.0, is not fully compatible with System 7.5. HP is working on a revised driver that will be compatible with System 7.5, but not QuickDraw GX. This driver is anticipated to become available in the next 1 to 2 months.

Contact HP Printer Support (206-323-2551) to be placed on the driver's distribution list. The cost of the update is $5.80 to cover shipping and handling.

Article Change History:
15 Feb 1995 - Reviewed for technical accuracy, revised System 7.5 keyword.

Support Information Services
Published Date: Feb 19, 2012

Macintosh XL: Unable to Double Click

This article has been archived and is no longer updated by Apple.
Because the Macintosh XL has no battery backup for parameter memory, the Control Panel settings are lost if the system is unplugged. One symptom: the system does not respond to double clicks. It is then necessary to reset the Control Panel settings with the Control Panel desk accessory found in the Apple menu. The double click is controlled by the buttons next to the picture of the mouse in the lower left corner of the Control Panel.

Published Date: Feb 19, 2012

QuickDraw GX: Repair Utils Show Resource Fork Error (2/95)

Some disk repair utility programs are reporting that there is a problem with the QuickDraw GX extension's resource fork. Norton Utilities is reporting this problem on numerous CPUs here in Austin, but we have not noticed any decrease in performance.

The disk repair programs report it is a problem that cannot be fixed. Norton indicates that it is a serious error. Customers running disk repair utilities will be alerted to the problem. What is causing this error to be reported?

Here are sample excerpts from Norton Utilities 3.0 and Public Utilities reports:

Norton Utilities 3.0 Disk Repair Report

Serious errors were found.
Scan Catalog
An error was found in a file record in the catalog b-tree.
The resource fork for the file, "QuickDraw¬ GX", has an incorrect physical
length. (node 192, record 1) (5,6,16)
Node #192, Record Offset 1
Norton Utilities is unable to fix this problem.

Public Utilities 1.0.1 Disk Repair Report

Disk: Hard Disk
Wednesday, August 31, 1994, 11:36:44 AM
No serious errors were found.
Some errors were fixed.
System Folder
The following files in your System Folder have damaged resource forks.
Hard Disk:System Folder:Extensions:QuickDraw¬ GX
Public Utilities is unable to fix this problem.

This article has been archived and is no longer updated by Apple.
We ran Norton 3.0 on a Power Macintosh and did not get the invalid file length error for the QuickDraw GX extension. However, we had used ResEdit to look at the extension before running the Norton utility. ResEdit had to do some minor repairs before it would open the extension.

The first part of the resource fork is a header which contains information about the length of the fork. Specifically, the header contains the offset to the resource map and the length of the map. Since the resource map is at the end of the fork, the offset to the resource map and the length of the resource map should add up to the length of the resource fork.

However, the resource fork of the QuickDraw GX extension has some extra bytes added after the resource map. The data in the resource fork is not corrupted in any way and the Resource Manager is not affected by the extra bytes.

We contacted Symantec and were told that Norton compares the actual fork length to the sum of the offset to the resource map and the length of the resource map. If these values are not equal, Norton reports an incorrect physical length for the file. They are also aware of this error being reported for the QuickDraw GX extension, but have not determined what to do about it at this time.

Symantec suggests we tell anyone who calls about this message to ignore it for now, but only if the message pertains to the QuickDraw GX extension.

Apple engineering says that the extra bytes in the QuickDraw GX resource fork are due to the compression scheme used to compress the resources. They are looking into correcting the problem but it is not a high priority since the problem does not cause any side effects except for confusing some disk repair utilities.

Article Change History:
15 Feb 1995 - Reviewed for technical accuracy, revised System 7.5 keyword.

Support Information Services
Published Date: Feb 19, 2012

Power Macintosh: Compatible with Original External AppleCD SC

Is the AppleCD SC External CD drive compatible with the Power Macintosh using Apple CD Setup 4.5 that comes with the Power Macintosh?
This article has been archived and is no longer updated by Apple.
The AppleCD SC external CD-ROM drive is compatible with Power Macintosh computers. If there are problems mounting CD's, check for proper termination, that the most current version of the CD-ROM driver software is installed, and use cables that are properly shielded.
Published Date: Feb 19, 2012

Extended Keyboard: Purpose of Num/Caps/Scroll Lock LEDs (10/94)

What are the num lock, caps lock, and scroll lock LED's for on my Extended Keyboard and Extended Keyboard II? I've seen the caps lock LED come on but not the other two.

This article has been archived and is no longer updated by Apple.
The three LED's are triggered by an application, or, in the case of the caps lock LED, the activation of the caps lock function. The scroll lock and num lock are illuminated in only a few applications under the Macintosh operating system.

The num lock LED will illuminate to indicate that the numeric keypad is locked into a mode where only numerals will be recognized. Some DOS/Windows applications use the numeric keypad for functions other than entering numerals. The num lock is activated most frequently by spreadsheet applications in the Mac OS environment.

The scroll lock is not implemented in many current Macintosh applications. Some spreadsheet applications take advantage of the scroll lock to move the spreadsheet data up or down in the window. Its original purpose was to pause data scrolling by on screen in terminal emulation applications. This allowed one screen worth of information to be read by the user.

Article Change History:
10 Oct 1994 - Clarified use of the num lock and scroll lock keys.

Support Information Services
Published Date: Feb 19, 2012

System 7.5 Upgrade CD: Contents

The following article contains a list of the System 7.5 Upgrade CD contents.
This article has been archived and is no longer updated by Apple.

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.      - Speech Preferences
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.          - open Speech Setup
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.        - Introduction to Speech.cmp
.      - TTS Bruce.cmp
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.    - QuicKeys Test Drive
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.      - QuicKeys Test Drive Installer     1.0.1
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.    - What's in it for me?
.  - ExMachina Notify! Pager Gateway
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Published Date: Feb 19, 2012

MAE: Read Me File (9/94)

This article contains the MAE Read Me file.

This article has been archived and is no longer updated by Apple.
READ.ME for /pub/mae/info 5/12/94

This directory contains general information about MAE for the MAE user community.

The product-info directory contains the latest MAE product announcements and reports.

The mae-announce directory contains daily digests of articles posted to the mae-announce mailing list (see the mail-list.txt file in this directory for information on how to subscribe to this and other mailing lists).

The mae-users directory contains daily digests of user discussions from the mae-users mailing list (see the mail-list.txt file in this directory for information on how to subscribe to this and other mailing lists).

The Product FAQ contains general information about the product and licensing. This FAQ answers questions about support, pricing and product specifications.

The Technical FAQ contains information of about product performance, tuning, workarounds and other technical tips.

The Trial FAQ contains information specific to the MAE Trial.

The MAE bug-report-form is a standard form you should use to inform Apple about bugs and issues related (only) to MAE through mail address mae-bugs@medraut.apple.com. Note that if you want a response to your problem, please report it to Apple support at 1-800-SOS-APPL.

Other information willbe posted to this directory as deemed necesessary.

If you would like to post information to this directory, please place it along with a note describing how and where you'd like it posted into the /pub/mae/incoming directory for consideration.

If you would like to post an announcement related to MAE, please subscribe and send mail to the moderated mailing list mae-announce@medraut.apple.com for consideration.

Support Information Services

Published Date: Feb 19, 2012

EtherTalk: Ethernet-Microwave Link

This article has been archived and is no longer updated by Apple.

It is possible to expand an AppleTalk LAN (using Kinetics FastPath or Apple EtherTalk interfaces) onto Ethernet and from there onto a microwave transmission system. Getting the signals to a microwave system requires some hardware: a multiplexer on each end of the microwave transmit and receive stations, connected down to the Ethernet and back onto AppleTalk with an Ethernet interface.

Another (less expensive) solution is laser technology: infrared laser systems or LED (light emitting diode) systems that can be used for short-haul communication. LED systems operate up to 2 or 3 miles, while laser systems can manage up to 40 miles. This system would work in a similar fashion to the microwave transmission system.

The physical characteristics of microwave and laser communication systems can be limiting. Based on AC technology, microwave transmitters are, in principle, AC generators with a radio frequency spectrum in the 2,000-23,000 megahertz (2-23 GHz) range. Much of this range is reserved for international and special interest communications, and leaves only sections of the possible spectrum for private use. These sections are the 2, 6, 12, 18, 19, and 23 GHz bandwidths, more than enough for most digital communication needs.

Here are some vendors of microwave components and turnkey systems (for a more complete list, contact Datapro Research Corporation):

AT&T Network Systems
Avantek
Digital Microwave Corporation
Ericsson Radio Systems
Fujitsu America, Inc.
Harris Farinon
International Microwave Corporation

Published Date: Feb 19, 2012

MAE: Read Me Patch.MAE 1.0a (9/94)

This article contains the Read Me for Patch.MAE 1.0a.

This article has been archived and is no longer updated by Apple.
README.PATCH.MAE1.0a (last updated on 6/16/94)

LICENSE STATEMENT

THIS PATCH IS COVERED BY THE "SOFTWARE LICENSE FOR MACINTOSH APPLICATION ENVIRONMENT PATCH" (see the file /pub/mae/patches/mae_patch_license.txt on the ftp server ftp.support.apple.com). PLEASE READ THE LICENSE CAREFULLY BEFORE DOWNLOADING THIS SOFTWARE. BY DOWNLOADING AND/OR USING THIS SOFTWARE, YOU ARE AGREEING TO BE BOUND BY THE TERMS OF THE LICENSE. IF YOU DO NOT AGREE TO THE TERMS OF THIS LICENSE, YOU ARE NOT AUTHORIZED TO DOWNLOAD THIS SOFTWARE.

INCREMENTAL UPDATE FOR APPLE'S MAE 1.0 PRODUCT

The files in this directory allow you to update your purchased copy of the Apple MAE 1.0 product for free. By applying the latest patch, your copy of MAE 1.0 will be updated with the bug fixes from all prior patches.

IMPORTANT

MAE must NOT be running while applying this patch. This patch WILL NOT work on the Trial version of MAE.

WHAT THIS PATCH FIXES

The latest patch (patch "a") fixes the following bugs. (The letter in parenthesis indicates at which patch level the bug was fixed):

Change Depth Crash -
(a) Changing bit-depths using the Monitor Control Panel
can cause MAE to crash under certain circumstances.

Newline / CR Problems -
(a) Saving files as type TEXT in certain applications
can result in a file that is stripped of Carriage Returns.

Groups -
(a) MAE may crash at startup if the user belongs to more
than 8 UNIX groups.

Finder Desktop Rebuilds -
(a) The Finder desktop rebuild scans the users home directory
when it shouldn't.

Floppy Dialog -
(a) On Solaris, the wrong floppy dialog can be displayed
under certain circumstances.

FILES AFFECTED

appledir/bin/mae
appledir/bin/macd
appledir/lib/engine
appledir/sys/Finder (see UPDATE SYSTEM FOLDERS below)
appledir/sys/MAE Enabler (see UPDATE SYSTEM FOLDERS below)

HOW TO DOWNLOAD

On the FTP server "ftp.support.apple.com" (130.43.6.3), get the appropriate tar file [sun or hp] from the "patches" directory.

IMPORTANT: Make sure you use ftp "binary transfer" mode to get the files.

/pub/mae/patches/README.PATCH.MAE1.0a - This file.

/pub/mae/patches/mae_patch_1.0a/maepatch1.0a.hp.tar - This is the most recent incremental update for MAE 1.0 running on HP Series 700 workstations.

/pub/mae/patches/mae_patch_1.0a/maepatch1.0a.sun.tar - This is the most recent incremental update for MAE 1.0 running on Sun SPARC workstations.

Download the appropriate file for your workstation.

APPLYING THE PATCH

Place the tar file anywhere, and "untar" it by running the following command:

On HP Workstations:
% tar xovf maepatch1.0a.hp.tar

On Sun Workstations:
% tar xovf maepatch1.0a.sun.tar

IMPORTANT: The account used to install the patch should be the same as the one used to install MAE (or it must have read/write privileges to all MAE files created by the MAE 1.0 installer).

Now change directories into the newly created "maepatch1.0a.hp" or "maepatch1.0a.sun" directory, and apply the patch by running the "PATCH.SH" program as follows:

On HP Workstations:
% cd maepatch1.0a.hp
% ./PATCH.SH

On Sun Workstations:
% cd maepatch1.0a.sun
% ./PATCH.SH

Follow the on-screen instructions to PATCH.SH.

UPDATE SYSTEM FOLDERS

You must now copy the updated Finder and MAE Enabler into any existing MAE 1.0 System Folders. There are three options for doing this.

Option 1:

The script update.sysfol can be run to update individual System Folders. Replace 'appledir' with the path to your apple directory.

% cd appledir
% ./update.sysfol

Follow the on-screen instructions to update.sysfol.

Option 2:

Issue these commands (replace 'appledir' with the path to your apple directory and 'System Folder' with the path to your System Folder):

% cd System\\ Folder

```
% mv Finder Finder.bak
% cp appledir/sys/Finder Finder
% mv MAE\\ Enabler MAE\\ Enabler.bak
% cp appledir/sys/MAE\\ Enabler MAE\\ Enabler
```

Note: The backslashes ('\\') above are necessary because of the spaces in the filenames.

Option 3:

You can remove your System Folder(s), and MAE will automatically create an updated System Folder for you the next time you run MAE.

CAUTION: Doing this will remove any additional files you have installed in your System Folder.

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Support Information Services

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System 7.1: Troubleshooting Common Issues

This article describes how to troubleshoot common issues with System 7.1. A full explanation for each item is provided in the discussion.

- Getting Type 1, Type 2, or Type 3 errors when launching or using an application
- Having difficulty rebuilding the Desktop
- Desktop pattern is gone
- Cursor alternates between watch and arrow; no Desktop pattern
- Difficulty throwing away a damaged font
- "Need later version. System 7.1 is not the latest." error message
- Can't rename the hard disk drive
- Difficulty turning on File Sharing
- Slow performance
- Taking a long time for Macintosh to start up
- Date and time are wrong or missing
- Fixing corrupted volume/folder custom icons

This article has been archived and is no longer updated by Apple.

Issue: You encounter Type 1, Type 2, or Type 3 errors when launching or using an application.

Solution: These errors are generally caused by a system extension or Control Panel device that was poorly written or is corrupt. There are two possible scenarios:

1) You get the error with more than one application.

- If you can consistently generate the error, restart with extensions off (hold down the Shift key during system startup). Attempt to duplicate the error. If it no longer occurs, the issue is being caused by one of your system extensions or Control Panel devices. You must remove the extensions and Control Panel devices in an orderly fashion to isolate the one that is causing the issue.
- If you cannot consistently generate the error, were any new system extensions or Control Panel devices added to the system around the time the error started to occur? If so, remove the new extension and test to see if you still experience the issue.
- If you cannot isolate the issue down to one or two extensions or Control Panel devices, restart the Macintosh from the Disk Tools disk, trash the Finder and System files, and reinstall the system software.
- If you cannot isolate the issue, follow the procedure for a "clean" system install. A clean install builds a completely new System Folder. Before adding any third-party extensions to the new, clean system, test to be sure you cannot reproduce the original error.

2) You get the error with one application only.

- Determine if this application has ever worked correctly on this Macintosh. If not, call the company that wrote the application for further instructions. There may be some type of software incompatibility or required upgrade.
- If the application has worked properly in the past, restart with extensions off (hold down the Shift key during system startup). Attempt to duplicate the error. If it no longer occurs, the issue is being caused by one of your system extensions or Control Panel devices. You must remove the extensions and Control Panel devices in an orderly fashion to isolate the one that is causing the issue.
- If the error still occurs with extensions turned off, remove the Preferences file for the application (if it has one) and restart the Macintosh. It is possible for Preferences files to become corrupted.
- If you cannot isolate the issue, reinstall the application program from the original floppy disks or CD-ROM. You may also want to contact the company that wrote the application for further instructions.

Issue: Application and/or File icons are displayed as generic icons on the Desktop. When trying to open a file, you get an "Application unknown" error when double-clicking on it.

Solution: This issue can occur when adding Finder extensions such as PowerTalk or Adobe Type Manager. When the Finder rebuilds the Desktop file, it reads the information from all files on the directory with Read/Write access. A conflict can occur if it encounters a file that is already open. This forces the rebuild to quit without updating all files.

To correct this issue, restart with extensions off. When the message Welcome to Macintosh-Extensions Off displays, release the Shift key and hold the Option and Command keys. This forces the Desktop to be rebuilt. Once completed, restart the Macintosh.

NOTE: Under System 7.5 and later, use the Extension manager to restart with only the Macintosh Easy Open Control Panel installed, and rebuild the Desktop. MEO must also add tables to the Desktop file. It fails if any Finder extensions are open when it tries to build its own tables.

Issue: The Desktop Pattern options in the General Control Panel are missing.

Solution: This issue can occur if programs such as Desktop Patterns or Wallpaper were installed. These programs remove the resources for the General Control Panel's desktop patterns.

To correct this:

- Run the desktop program used, and "remove" the patterns. The method of doing this varies between applications, but typically the option is in the File menu.
- Restart with the Disk Tools disk and trash the Finder and System files from the System Folder. Then reinstall the System software. (Be sure there are no custom fonts or sounds in the System suitcase before trashing.)

Issue: When you restart the Macintosh, it draws a menu bar on the screen with no text, freezes, and the cursor alternates between the watch and arrow. The Macintosh never completes the startup sequence. Restarting with Extensions off and resetting the Parameter RAM (PRAM) do not help.

Solution: Startup with the Option key held down. This forces the Finder to close all open windows. The Finder is having trouble with a window coordinate. It is not able to draw the window on the screen. This causes the system to become stuck in a loop.

Issue: A font cannot be dragged out of the Font Folder.

Solution: The font has become corrupt. Drag the Font Folder to the Desktop. Drag the damaged font out to the Trash. Move the Font Folder back into the System Folder.

Issue: At startup, the error message "Need later version. System 7.1 is not the latest" displays.

Solution: The appropriate System Enabler has been removed from the System Folder. Restart from the Disk Tools disk. Locate and replace the necessary System Enabler file. You can also reinstall the system software from the original floppy disks or CD-ROM.

Issue: The hard disk drive cannot be renamed. System 7 File Sharing has been turned off.

Solution: This issue can be caused by a Macintosh running System 6.0.X accessing the Macintosh running System 7.1 via System 7 File Sharing. Run Disk First Aid v7.2 and RenameRescue. These programs can repair the drive.

Issue: You cannot turn System 7 File Sharing on.

Solution: Check the following:

- Verify that there is at least 340K of memory available on the hard disk.
- Check that there are no DOS volumes mounted through PC Exchange. If there are, eject the volume and try again.
- Reset the Parameter RAM (PRAM) by restarting the Macintosh and holding down the COMMAND-OPTION-P-R keys. Wait for the second startup chime. This resets the serial ports so you need to reactivate AppleShare on most Macintosh computers.
- Delete the User & Groups data file in the Preferences folder; restart the Macintosh; enter the Owner password in the Sharing Setup Control Panel; turn File Sharing on. When the machine is restarted, a new Users & Groups data file is created. Any old user and group information is lost.
- Delete the File Sharing folder in the Preferences folder; restart the Macintosh; turn File Sharing on.
- If any media is formatted with a third-party utility, check with the vendor to be sure it is compatible with System 7 File Sharing.
- Delete the invisible file called AppleShare PDS on the root of any volumes that are shared; restart the Macintosh; turn File Sharing on. The PDS file can be deleted by running ResEdit or a third-party utility that can view invisible files. Use the utility to unlock the file and make it visible on the desktop. It can then be trashed from the Finder.
- Backup the data and reformat the drive. The issue can be caused by bad blocks on the drive.

Issue: Macintosh system performance is slow.

Solution: Check the following:

- Turn off Virtual Memory in the Memory Control Panel
- Turn off Calculate Folder Size in the Views Control Panel
- Turn off File Sharing
- For Macintosh computers with a 68040 processor, check that the 040 Cache is on in the Cache Switch Control Panel
- Reset the Parameter RAM (PRAM)

Issue: The Macintosh is taking a long time to start up.

Solution: This can be caused by adding a large number of new fonts. Fonts are read at the time the "Welcome to Macintosh" message displays.

Issue: The date and time are incorrect or missing.

Solution: This is usually caused by a corrupted System file. Do the following:

- Restart using the Disk Tools diskette.
- Backup any non-Apple sounds and keyboard layouts.
- Drag the System suitcase file to the Trash and empty the Trash.
- Restart using the original Install disk and perform a normal system software installation.

Issue: Custom icons assigned to volumes and folders are displayed as the generic document icon. When attempting to edit the icon through Get Info, the error message "This command cannot be completed because it cannot be found" is displayed.

Solution: Custom icons are saved directly into a file's resource fork. An attribute bit is set to alert the Finder that a custom icon should be displayed. Folders and volumes do not have resource forks so custom icons are saved instead to an invisible file named ICON. This file is located at the root level of the folder or volume.

If the link between the folder or volume and the ICON file is lost, the Finder may display a generic document icon in place of the custom icon. This corrupted icon cannot be edited using Get Info. You need a program such as ResEdit to repair the damage.

- From the Finder, create another custom icon for another folder or volume.
- Using a file utility such as ResEdit, find the ICON file for this newly created custom icon and make that file visible. Remember that the new ICON file is located at the root level of the folder or volume.
- From the Finder, copy the now-visible ICON file to the folder or volume that has the damaged ICON file. You may receive the message "Are you sure you want to replace the older file..." Click OK.
- Using the file utility program, make the ICON file invisible again.
- The generic icon should now turn into the new custom icon. You should now be able to edit or delete this icon through Get Info.

Published Date: Feb 19, 2012

Do Not Use Norton Speed Disk 3.0 (6/95)

Do not use Norton Speed Disk 3.0.

This article has been archived and is no longer updated by Apple.
Symantec Corporation reports a problem running Norton Speed Disk 3.0 for the Macintosh on any hard disk. Running this program can cause data loss on the hard disk. This report comes directly from Symantec. Symantec suspended shipment of this product and, in September 1994, replaced all units in retail stores with a 3.1 version. Symantec also shipped updates automatically to registered users and upgrade customers. If you did not automatically receive an update, they are available through Symantec customer service and several online services. Contact Symantec at (800) 441-7234 for additional information.

Article Change History:
28 Jun 1995 - Reviewed.
13 Jan 1995 - Added keyword and updated with latest information.

Support Information Services
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AppleSearch: Not Recognizing Users

Customer is experiencing problems with AppleSearch 1.0.1 running on an AWS 9150 with AppleShare 4.0.2. Everything seems to be properly installed. AppleShare is working and they have turned on Program Linking in the Sharing Setup Control Panel.

However, they have found that regardless of the AppleSearch login they use (Administrator or any other user name and password) they get the error "Sorry, this user name is not recognized." Can you provide any suggestions as to what this problem might be?
This article has been archived and is no longer updated by Apple.
This error is generated when the AppleShare user profiles have not been defined to use Program Linking. The server administrator must use AppleShare Admin to open each AppleSearch user's AppleShare profile and check the "Program Linking Enabled" option.
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PowerBook: Using MacLink Plus With Only One Serial Port (3/95)

This article provides instructions on using MacLink Plus by DataViz with a PowerBook that only has one serial port.

This article has been archived and is no longer updated by Apple.
Powerbook 500 series with Internal Modem

Cable or modem connection through serial port

* Make AppleTalk inactive.
* In Powerbook Setup control panel, choose Normal (not Compatible).
* Set MacLinkPlus up for phone port.

Modem connection through internal modem

* In the Powerbook Setup control panel, choose Compatible (not Normal).
* In the PowerPort 500 control panel, turn the modem on.
* Set MacLinkPlus up for phone port.

Powerbook 500 series without Internal Modem

Cable or modem connection through serial port

* Make AppleTalk inactive.
* Select LaserWriter.
* Set MacLinkPlus up for Printer/Modem port.

Powerbook Duo with Express Modem, undocked

Cable or modem connection through serial port

* Make AppleTalk inactive.
* Select LaserWriter.
* Set MacLinkPlus to use the Printer/Modem port.

Do this by using one of the two methods below:

* In the Express Modem control panel, click on Status and change it to Settings, then choose External Modem (not Internal Modem).

Or

* If you cannot click on Status & change it to Settings, then open the Powerbook Setup control panel and choose Normal (not Compatible).

Modem connection through internal modem
---
* In the Express Modem control panel, choose Settings, then choose Internal Modem (not External Modem).
* Set MacLinkPlus up for phone port.

Note: Docked, the Duo can be treated as any other Macintosh.

Powerbook Duo without Express Modem, undocked

Cable or modem connection through serial port

* Make AppleTalk inactive.
* In Powerbook Setup control panel, choose External Modem.

Note: This control panel may be called Portable, Powerbook, or Powerbook Setup.

* Set MacLinkPlus to use the phone port.

Modem connection through internal modem
---
* In Powerbook Setup control panel, choose Internal Modem.

Note: This control panel may be called Portable, Powerbook, or Powerbook Setup.

* Set MacLinkPlus to use the phone port.

Note: When docked, the Duo can be treated as any other Macintosh.

Article Change History:
31 Mar 1995 - Reviewed for technical accuracy.

Support Information Services
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AppleTalk: Troubleshooting Ghosting Problems

Printers and file servers on my LocalTalk network sometimes disappear from the list of available devices in the Chooser. I have verified that the devices are plugged in, turned on, and properly connected to the network. Why does this happen?
This article has been archived and is no longer updated by Apple.
The phenomenon you describe is called ghosting. There are several possible causes for ghosting.

1. The total length of your network cabling may be too long. The signal reaching your Macintosh from the ghosting devices is weak. Do not exceed the published maximum cable lengths.

- LocalTalk cabling: maximum is 1000 feet (If you are using PhoneNet cabling, check manufacturer specifications).
- Ethernet Thin Coax: maximum is 600 feet per segment.
- Ethernet 10BaseT twisted-pair: maximum is 328 feet per segment.

If your cabling is too long, you should consult your network administrator or phone installer about possibly rerouting the cables. You might also want to consider the use of a star controller (if not already using one) to help boost the signal and shorten cable runs.

2. Ghosting can be caused by reflections in the signal. Reflections are like electrical echos. They can cause serious communications problems. Small reflections are caused by changes in impedance (resistance) in the wire along its length. You can have changes in impedance when the network wire changes from one wire type to another or from one wire gauge to another. It can also happen when there are kinks in twisted-pair wire. Large reflections occur when a wire has not been properly terminated. This will almost always cause problems. Verify that your network cabling is in good condition, you have no loose network connectors, and that the network is properly terminated.

3. Exceeding the maximum number of nodes (devices) on the network can cause ghosting.

- LocalTalk: the maximum number of nodes is 32.
- Ethernet Thin Coax: the maximum number of noods is 30.

Published Date: Feb 19, 2012

System 7.5: Compatible with Power Macintosh Upgrade Card (2/95)

Is System 7.5 compatible with the Power Macintosh Upgrade Card? If so, are there any special instructions for installation?

This article has been archived and is no longer updated by Apple.
Yes, System 7.5 is fully compatible with the Power Macintosh Upgrade Card.

Make sure the card is active when the install takes place so that the appropriate resources are installed for both the card and the parent Macintosh.

Article Change History:
16 Feb 1995 - Reviewed for accuracy and changed keyword.

Support Information Services
Published Date: Feb 19, 2012

Power Macintosh: No Video w/ SCSI External Devices Attached

This article discusses a possible issue with Power Macintosh computers that sometimes fail to display video via the High Performance Video Card (HPV) or the AV video card when external SCSI devices are powered on.
This article has been archived and is no longer updated by Apple.
Reference the following configuration:

- Power Macintosh 8100/80 with CD-ROM and 500 megabyte HD
- Apple 16" Color Display attached to the HPV card
- Ehman Video Card and monochrome display
- MicroTek Scanner (ID 6)
- APS Syquest (ID 2)
- Bernoulli (ID 4)

The computer would not produce video on the monitor attached to the HPV card if any one of the external SCSI devices were powered on before starting the computer. The display attached to the Ehman card would work fine. The same SCSI chain worked fine on another Power Macintosh 8100.

To troubleshoot:
- Check SCSI ID's, cable lengths, and termination
- Reset the PRAM
- Boot from the Power Macintosh System Software CD
- If the issue persists, try reseating the HPV card.

Note: Reseating the HPV card on a Power Macintosh should only be performed by an Apple Authorized Service Provider as damage to the computer's logic board can result if not done properly.
Published Date: Feb 19, 2012

System 7.5: Clean Install Fails with Sorry Button (2/95)

If you attempt to perform a "Clean Install" with System 7.5 (Command+Shift+K at the Easy Install dialog), you may get the "A clean install cannot be performed on the 'disk name' " message with a "Sorry" button.

This article has been archived and is no longer updated by Apple.
This will occur if you do not have the blessed or active system folder on the drive you are installing on. A clean install disables the active system folder, so if the active system folder is not there the install will fail.

A workaround is to perform a standard install rather than using the Command/Shift/K, clean, install procedure.

Article Change History:
15 Feb 1995 - Reviewed for accuracy and keyword.

Support Information Services

Published Date: Feb 19, 2012

System 7.5: Disk Tools Takes Longer to Load (2/95)

I noticed that the new "universal" 7.5 Disk Tools disk seems to run slower than earlier Disk Tools disk. Is there a reason for this?

This article has been archived and is no longer updated by Apple.
This can be attributed to more compressed resources on the 7.5 Disk Tools disk. It takes longer to decompress and load these compressed resources than on earlier Disk Tools disks without compressed resources.

Article Change History:
15 Feb 1995 - Reviewed for accuracy and changed keyword.

Support Information Services

Published Date: Feb 19, 2012

System 7.5: Improper Shut Down Warning Dialog Box (9/94)

After installing System 7.5, upon restarting my computer after a system error, I noticed that a dialog box warning me that my computer was not shut down properly appears. It only appears if I was unable to do a proper shut down of my computer.

How can I alleviate of this dialog box?

This article has been archived and is no longer updated by Apple.
In the General control panel, under Shut Down Warning either select, or deselect the checkbox to turn the warning dialog box on or off.

Article Change History:
15 Feb 1995 - Review for accuracy and change keyword.

Support Information Services

Published Date: Feb 19, 2012

Apple Remote Access: v1.0 Client Access to v2.0 Servers

Is there a way to dial into, and gain access to an Apple Remote Access 2.0 server from the 1.x client?
This article has been archived and is no longer updated by Apple.
A software patch is now available that lets customers using Apple Remote Access (ARA) server software 2.0.1 accept calls from ARA 1.0 clients. The patch is available immediately at no charge to ARA customers in the U.S. and enables both Apple Remote Access Personal and MultiPort Servers (version 2.0.x) to accept calls from ARA 1.0 clients.

The server software does not provide any additional enhancements beyond enabling Version 1.0 clients to access Version 2.0.x servers nor does it add ARA 2.0 functionality to the ARA 1.0 client. If you do not require connections from ARA 1.0 clients to 2.0.x servers you do not need to update your remote access server software.

The Apple Remote Access Update is available from user groups and from the following online locations:

* On the Internet at the following sites:
- Worldwide Web: <http://www.info.apple.com/swupdates>
- ftp: <ftp://ftp.info.apple.com/>

* On America Online, use keyword: applecomputer

* On CompuServe, use GO: APLSUP
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System Software: System Taking 20MB After a Clean Install (1/95)

A customer reports that no matter how many "clean" system installs they do the System Software takes up 20MB RAM, as reported in 'About This Macintosh'. This problem occurs even when booting from the CD-ROM. What can cause this to happen?

This article has been archived and is no longer updated by Apple.
First check the memory control panel settings. If the computer supports it, make sure 32-bit addressing is on or all RAM above 8MB will get allocated to the system software. Next make sure the disk cache is not too high. Disk Cache is recommended to be set at 32K per 1024K of physical RAM or lower. Memory used by the RAM Disk is allocated to the system software. Boot with extensions off to see if an extension is using the additional RAM. Lastly, under System 7.1 and later, move the fonts folder to the desktop and reboot to see if a corrupt font is using the RAM.

The System Heap and System Software partition can hold a lot of different software components. In a situation like this, after starting the CPU with a known good System Folder or after a clean install, look for incompatible device drivers as the culprit. Device drivers can be present on any SCSI device attached to the Macintosh or on NuBus/PDS expansion cards. Test by disconnecting the SCSI chain or by removing internal cards.

Article Change History:
06 Jan 1995 - Updated discussion section.

Support Information Services
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QuickDraw GX: Converting Type 1 Fonts (2/95)

During the installation of QuickDraw GX on a Macintosh running System 7.5, the installer will automatically convert any Type 1 fonts that are installed.

This article has been archived and is no longer updated by Apple.
This process will "double" the amount of disk space currently required by any installed Type 1 fonts. The reason for this is because after the installation, the Type 1 fonts will exist in their converted format and also in their original form within a "*Archived Type 1 Fonts*" folder in the System Folder.

If a customer has many megabytes of Type 1 fonts installed, this could be an issue.

Article Change History:
15 Feb 1995 - Reviewed for accuracy and change keyword.

Support Information Services
Published Date: Feb 19, 2012

System 7.5: Quadra 900/950 Boot Problem (2/95)

There have been a few reports of Quadra 900 or 950 owners having problems after upgrading to System 7.5. The system fails to complete the boot process the first time after installing 7.5. The system could hang when extensions load, when the desktop is rebuilding, or when the desktop appears. This problem is not 100% consistent and not reproducible.

This article has been archived and is no longer updated by Apple.
The work around is to boot with extensions off, remove the SCSI Manager 4.3 extension from the System Folder, then restart and let the system boot normally.

After the Quadra 900 or 950 has booted normally once, the SCSI Manager 4.3 extension can be placed back in the Extensions folder without any further problems.

Article Change History:
15 Feb 1995 - Reviewed for accuracy and changed keyword.

Support Information Services

Published Date: Feb 19, 2012

Token Ring NB/c Card: Token Ring Control Panel Not Needed-3/95

The Apple Token Ring NB/c Card Icon does not appear in the Token Ring Control Panel. The problem is consistent with six different Power Macintosh 6100 computers. The same software works fine in the Power Macintosh 7100 and 8100 computers, although the installed cards are Apple Token Ring 4/16 NB Cards. What is the problem and how does one switch to Token Ring?

This article has been archived and is no longer updated by Apple.
The Token Ring control panel does not work with the 7 inch Token Ring NB/c Card. Simply switch over to TokenTalk in the Network Control Panel and set the jumper on the card to configure speed. You must have done a "drag" install of the control panel since the installer for network software does not install this control panel for this particular card.

Article Change History:
27 Mar 1995 - Made minor corrections.

Support Information Services
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Too Many Nested Folders Error (9/94)

I have a folder with more than 99 folders inside. I'm unable to trash the folder and cannot trash the folders nested within them. The error message states "Cannot empty the trash... to many nested folders." Is there a way to get rid of this folder without having to initialize the hard drive?

This article has been archived and is no longer updated by Apple.
We were able to duplicate your problem by creating a folder on the root level of the disk and preceding to make new folders until we had a folder with 100 folders. Get Info on the parent folder showed 99 items.

The folder can be deleted as follows:

1) Opening the parent folder.
2) Choosing view by name.
3) Option-click on the triangle to display the entire hierarchy.
4) Scroll down and to the right (folders nested this deep really cause the
Finder to indent).
5) Trash the folders from the bottom up.

This does not have to be done one folder at a time, you should be able to delete at least 50 or more at a time.

Support Information Services

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System 7.5: MODE32 Now Compatible (2/95)

How can I utilize more than 8MB of memory in my Macintosh which does not have 32 bit clean ROMs?

This article has been archived and is no longer updated by Apple.
Connectix Corporation today announced a cooperative agreement with Apple Computer, Inc. to release Version 7.5 of MODE32. The new version will ship on September 16, 1994 and is fully compatible with System 7.5.

MODE32 is a system extension and control panel that enables Macintosh II, IIx, IIcx and SE/30 computers to use standard System 7 32-bit addressing. This feature is otherwise unavailable on these Macintosh models, yet is needed to run System 7.5. MODE32 is only designed for use on these four Macintosh computers.

As of this release Apple is officially dropping development support for its internally-developed 32-bit addressing solution for these models. Apple's 32-Bit System Enabler is not compatible with System 7.5, and no additional versions of this Enabler are expected to be released.

Users may obtain information about acquiring, installing, and using MODE32 from Apple at 800-SOS-APPL. Users may also continue to contact Apple Computer regarding compatibility problems of Macintosh products with 32-bit addressing. However, they should report compatibility issues appearing to relate specifically to MODE32 directly to Connectix.

MODE32 7.5 has been licensed to Apple for unlimited, free distribution. Connectix retains all right, title and interest in the product itself. As with prior versions of MODE32, users may freely download copies from the Connectix AppleLink, America Online, or CompuServe BBS forums. They may also get MODE32 from many Apple dealers, user groups, or, for a handling fee, directly from Connectix.

Users may copy and distribute System 7 compatible versions of MODE32 to others. Any handling or other commercial fees must be approved by Connectix. International users may contact their local Connectix distributor for information about how to obtain a copy.

Connectix will work to maintain MODE32 compatibility with future versions of System 7, and will revise the version number to match the highest version number of System 7 software which has been qualified as compatible with MODE32. If a version can be developed for Macintosh Systems subsequent to System 7.x, users may be asked to pay an upgrade fee or purchase a new product.

The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.

Article Change History:
15 Feb 1995 - Review for accuracy and change keyword.

Support Information Services
Published Date: Feb 19, 2012

System 7.5: Cannot Disable Desktop Printing in Finder (2/95)

I am unable to disable desktop printing when the Finder is the current application. I have GX Helper installed, so what is wrong? I am trying to utilize the 4-up printing feature of LaserWriter 8.x, with the help of GX Helper.

This article has been archived and is no longer updated by Apple.
Desktop printers cannot be disabled when the Finder is the current application, and thus the LaserWriter 8.x driver (which has 4-up printing capability) is not available. The important thing to note here is the behavior of GX Helper. Basically, GX Helper and its ability to disable desktop printing ONLY operates in the following situations:

* It can only disable desktop printing with applications that are not GX-aware. Since the Finder is GX-aware, desktop printers cannot be disabled.

* It only works with equivalent APPLE-brand printer drivers that are in the Extensions folder. For LaserWriter GX, it will use LaserWriter driver v7.2. LaserWriter 7.2 was the only version tested with GX Helper. LaserWriter driver 8.x and 8.xf seem to work with GX Helper, but they are not an Apple supported solution in the current revision. Also, any third-party printer drivers will NOT be seen by GX Helper.

Article Change History:
15 Feb 1995 - Reviewed for accuracy and changed keyword.

Support Information Services
Published Date: Feb 19, 2012

MacTest Pro: RAM Test is Greyed Out (9/94)

A technician is having problems checking the RAM in a Power Macintosh 7100/70 using MacTest Pro.

The RAM memory test is greyed out. The tech has tried three machines with memory configs as follows:

16 MB
32 MB
72 MB

The tech did not try to run the tests with Apple memory. Is there an issue here?

This article has been archived and is no longer updated by Apple.
Working with information from the Diagnostics group, we were able to duplicate the problem and solve the greyed out RAM test problem. We found that if AppleTalk is ON, the RAM test will be greyed out - turning off AppleTalk allows the test to be selected.

If this does not help the service provider please let us know. Below is the
information provided by the Diagnostics group:

(1) Copy the MacTest Pro application and desired test modules to the unit-under-test's hard drive. Check carefully that AppleTalk is OFF and that Virtual Memory is OFF. Launch MacTest Pro from the hard drive, then try again to run the memory diagnostic tests. (See MacTest Pro Ref. Guide 073-0368-B, pages 29-30 and 41-42 for more details.)

(2) If the buttons are still greyed out, please ask the technician to document as thoroughly as possible what s/he's doing, so that we can reproduce the problem ourselves. Every detail helps - eg. boot from floppy vs. launch from hard disk, sw version #'s, memory config's, any other sw running at the time...

Having the buttons greyed out tends to indicate that the problem is with MacTest Pro, not with the unit-under-test. I'm including "not knowing how to use MacTest Pro" in this category, since that indicates a possible ease-of-use, training or documentation issue.

Support Information Services
Published Date: Feb 19, 2012

QuickDraw GX: Cannot Move Desktop Printers off Desktop (2/95)

Is there any way to move desktop printer icons off of the desktop? It appears an alias may be placed in a folder, but the originals, as far as I can determine, must reside on the desktop.

This article has been archived and is no longer updated by Apple.
With the current release of QuickDraw GX, there is no way to move a "desktop printer" off the Macintosh Desktop and have it be functional. The QuickDraw GX team is aware of this issue and is looking into changing this in a future version of QuickDraw GX.

Currently, no time line exists for implementing this change if it is implemented.

Article Change History:
15 Feb 1995 - Reviewed for accuracy and changed keyword.

Support Information Services
Published Date: Feb 19, 2012

QuickDraw GX/PowerTalk Installer Disk: Choose Button (2/95)

This article describes the QuickDraw GX/PowerTalk Installer disk, and the need to select which install script you wish to install. If the script is not double clicked, a choose button allows you to navigate to the installer script you want to use.

This article has been archived and is no longer updated by Apple.
The QuickDraw GX/PowerTalk Installer disk has two scripts, "Install QuickDraw GX" and "Install PowerTalk". If you click on the installer application instead of a script, you are presented with the message, "The Installer found 2 Installer documents on the disk 'disk name'. Please open the specific document you wish to use.", along with Quit and Choose buttons.

The "Choose" button will allow you to navigate to the installer script you want to install.

Article Change History:
15 Feb 1995 - Reviewed for accuracy and changed keyword.

Support Information Services
Published Date: Feb 19, 2012

Power Macintosh: Monitor Displays the Wrong Tint (3/95)

When attaching a monitor to the built in video of a Power Macintosh, the monitors video has a pinkish color. Is this a monitor problem or a problem with the computer?

This article has been archived and is no longer updated by Apple.
First check the video cable connection. Power Macintosh computers with a monitor attached to the built in video port (HDI-45), the cable must be seated correctly. This is very important when you use the Power Macintosh Display Adapter. The Power Macintosh Display Adapter allows a standard DB-15 video connector to attach to the HDI-45 port on the computer.

If the colors displayed on your monitor are not correct, follow these steps:
1) Make appropriate monitor adjustments
2) Reseat the cable
3) Replace the Power Macintosh Display Adapter
4) Try another monitor

These steps should help isolate the problem.

Article Change History:
23 Mar 1995 - Reviewed for technical accuracy.

Support Information Services
Published Date: Feb 19, 2012

Apple Token Ring NB/c Card: Can‘t Change TR Address (9/94)

Is there a way to see and/or change the token ring address on the Apple Token Ring NB/c card?

This article has been archived and is no longer updated by Apple.
Because the Apple Token Ring NB/c card does not use the Token Ring control panel, there is no way to see the current default token ring address assigned to the card. There is also no way to change the token ring address or adjust the timer values.

The reason for this is that the NB/c card is intended for use on TokenTalk networks. With TokenTalk, there is no need to know or change the token ring address. The only way to determine the burned in token ring address for the card would be to examine a token ring line trace.

If a customer wants to be able to determine the token ring address from within the Macintosh, they must use the full size Apple 4/16 Token Ring NB card.

Support Information Services
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Using MacDraw 1.7 and 1.9 on HyperDrive

This article has been archived and is no longer updated by Apple.

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When using these versions of MacDraw, I sometimes get a gray
screen when launching the application.These specific versions
of MacDraw require the Imagewriter File or LaserWriter File
resident within the same drawer as the application.

NOTE: Apple Computer Inc. is not responsible for the contents of this
     article.
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Published Date: Feb 19, 2012

AppleShare 3.x File Server: Changing Memory Size of Locked File Issue

I have an application shared on an AppleShare 3.x File Server. The application is locked in the Get Info dialog box. I want to increase the amount of Preferred Memory allocated for the application.

I open the Get Info dialog, unlock the file, change the Preferred Memory, lock the file, and then close the Get Info dialog. However, the information in Get Info reverts back to the original memory setting.
This article has been archived and is no longer updated by Apple.
The following workaround lets you change the Preferred Memory setting on locked applications either shared by an AppleShare File Server, or on your local hard disk:

1) Open Get Info dialog box for the application file.
2) Unlock the file if it is locked.
3) Close the Get Info dialog box.
4) Open Get Info for the application file a second time.
5) Change the Preferred Memory setting.
6) Close the Get Info dialog box.
7) Open Get Info for the application file a third time.
8) Lock the file.
9) Close the Get Info dialog box.
Published Date: Feb 19, 2012

PowerTalk: There is No Custom Remove Option (2/95)

This article describes how to remove PowerTalk from your system folder, because there is no removal option in the PowerTalk Installer.

This article has been archived and is no longer updated by Apple.
When you install PowerTalk, which comes with System 7.5, you can only install, there is no option for Remove or Custom Remove. The way to de-install PowerTalk is to drag the 13 PowerTalk components from the System Folder to the Trash. By removing PowerTalk you can reduce RAM requirements and increase hard disk space.

If you have been using PowerTalk, be sure to empty your Mailbox and verify there are no items waiting to be sent before you remove PowerTalk.

Here are all of the files and folders that need to be removed:

Component

Apple Menu Items (folder)
. Mail and Catalogs (folder) 1

Control Panels (folder)
. PowerTalk Setup (control panel) 2

Extensions (folder)
. AppleTalk Service (PowerTalk extension)..... 3
. Catalogs Extension (system extension) 4
. Mailbox (system extension)..... 5
. PowerTalk Guide (Apple Guide document)..... 6
. PowerTalk Extension (system extension) 7
. PowerTalk Manager (system extension) 8

PowerTalk Data (folder) 9

Preferences (folder)
. AppleMail Letterheads (folder) 10
. PowerTalk Setup Preferences (PowerTalk Manager document) 11
. PowerTalk Startup Preferences (PowerTalk Manager document) .. 12

Apple Extras (folder)
. PowerTalk (folder) 13

Article Change History:
15 Feb 1995 - Reviewed for accuracy and changed keyword.
09 Feb 1995 - Noted to empty mailbox prior to removing PowerTalk.
03 Feb 1995 - Added generic statement on RAM and HD space.

Support Information Services
Published Date: Feb 19, 2012

QuickTake 100: Creating GIF and Screen Saver files (9/94)

Is there a way to convert a QuickTake image into a GIF file format? Also, is there a way to convert a QuickTake image into a screensaver?

This article has been archived and is no longer updated by Apple.
Files created by the QuickTake camera are simply 24 bit Macintosh PICT images. Most graphic software packages that recognize the PICT and GIF file formats will allow you to save a PICT file as a GIF file. For example, you can do this with PhotoShop or DeBabelizer. In addition, there is a wide array of public domain and shareware software available on most of the online services that also lets you do this.

One part of the conversion process is to reduce the image quality. This is necessary because the QuickTake document is stored as a 24 bit (16 million Colors) image and a GIF file is stored as an 8 bit (256 colors) image. Some programs do this automatically, others do not. Depending on the software you use to convert the image, you may need to do this.

Screen Saver

One way make a QuickTake image into a screen saver is to use the AfterDark screen saver. Slide Show, one of AfterDark's modules, will blank the screen and display one or more specified Macintosh PICT images.

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QuickTime 2.0: Movie Making Notes (11/95)

This article discusses some things to consider when making movies with QuickTime 2.0.

This article has been archived and is no longer updated by Apple.

Making Movies

QuickTime 2.0 supports movies of higher data rates, frame rates, and frame sizes than in the past. The problem for content developers of how to balance these variables to create the best possible movie still remains.

The improvements apply to all existing decompressors. Cinepak, Apple Video, Animation, and Graphics compressors will show the best result. Further, best playback result, as always, are obtained when the movie is played back at either its normal size or at exactly double size.

There is no magic formula for how to make the best movie. You need to select your target playback machine and experiment with some variables. In the following paragraphs some benchmark numbers are provided to help get you started.

To make video based movies, use the Cinepak (previously Compact Video) compressor. If you have a Power Macintosh computer with the QuickTime PowerPlug extension installed, CinePak compression runs about 2.5 times faster than on a Quadra 950.

Movies can now typically be made which take full advantage of the target device. This means you can make movies at 150k/sec and have them play back from a CD150. You can also make movies at 300k/sec and have them play back on a CD300. There are other limiting factors, however, such as frame rate and frame size. Even if you can't get the desired frame rate (due to video hardware limitations), you may be able to take advantage of the higher data rate in other ways. For example, you might choose to include higher quality audio.

The biggest limiting factor for movie playback is usually the performance of video memory. NuBus video cards are much slower than on board video memory.

On a Macintosh IIfx it is possible to play a 320x240 movie at 15 fps to 8 and 16 bit displays, and sometimes to 32 bit displays. A 320x240 movie can play on the same fx at 30fps, in most cases. There is no on board video memory on the fx, which greatly limits performance.

On an Macintosh LC 475, a 320x240 movie at up to 30fps can play to the on board video memory at 16 bits. A 240x180 can be played pixel doubled at 15fps at 16 bits, which is full screen for the 12 inch monitor. These same numbers also apply for a Duo 270c.

On any Quadra, a 320x240 movie can be played at 30fps (or more in many cases) to on board video at any depth. A 320x240 movie can also be played pixel doubled at between 15 and 24 fps, depending on the amount of motion in the content. A 320x240 movie can be played at 30 fps to most NuBus video boards.

On the Power Macintosh computers a 320x240 movie can be played at 30fps to on board video. On most Power Macintosh computers, a 320x240 movie can be played back pixel doubled at 30 fps.

To playback "full screen" movies on many machines requires a special application. When the movie plays back it must not intersect the menu bar or the rounded corners of the desktop, or performance will suffer. Currently the simplest way to play a movie full screen is using OttoPlayer, which is on the QuickTime 1.5 and 1.6 developer CD's.

When making movies, for frame rates up to about 15fps, the movie data rate should be no higher than 150k/sec. For movies at 30fps, the data rate typically needs to be close to 300k/sec.

One way to get higher performance from low end machines is to play movies back at 8 bits. Less data has to be pushed through to video memory per frame, so more frames or bigger frames can be used. Unfortunately, 8 bit video can look rather grainy. One way to improve this is to calculate a custom color table for the movie for use on 8 bit displays. Two tools are included with the seed which allow you to do this. SetMovieColorTable lets you take an existing color table and attach it to a movie. MakeMovieColorTable lets you calculate a color table for a movie. The color table attached to the movie will be used in MoviePlayer and in other applications which use the Movie Controller to control the palette. The custom color table is only used for playback to displays at 8 bits or less. At 16 and 32 bit, the color table is not used. This allows you to create a single movie which will playback well at any bit depth. The process of attaching a color table to a movie does not change the compressed data in any way.

Existing Content

Existing content will playback much more smoothly using QuickTime 2.0. Frames are now displayed at much more accurate times. This helps to eliminate the "jerkiness" associated with software based digital video.

QuickTime has always required that a movie be "pre-rolled" before being played. The pre-roll process allows the movie to allocate all the resources it needs to play the movie, and to start reading from the disk. Some applications fail to pre-roll the movie before playing. Others don't

pre-roll with the correct values. If it plays back well in MoviePlayer (and poorly in the application), the application probably isn't pre-rolling. In QuickTime 2.0 pre-rolling is much more important than in the past. With earlier versions of QuickTime, it was possible to almost get away without pre-rolling the movie. With QuickTime 2.0, not pre-rolling the movie can cause extremely bad playback. If a movie starts out playing badly, it probably has not been pre-rolled. MoviePlayer does pre-roll correctly. If a movie plays badly inside another application, try playing it in MoviePlayer.

Looping Movies

The way looping is usually handled in QuickTime is somewhat different in QuickTime 2.0. Previously, a movie in loop mode would start to accumulate all its frames in memory. This made the movie playback better once all the frames were loaded. However, if all the frames couldn't be loaded, because there wasn't enough memory, it actually made playback worse as the Memory Manager thrashed around looking for free space. In QuickTime 2.0 the frames are not ever cached in memory. However, work has been done in 2.0 to improve looping performance. Most movies should now loop extremely smoothly from hard disk. From CD movies should loop smoothly, with only a slight delay between the end and beginning.

Article Change History:
28 Nov 1995 - Corrected minor typo.
15 Feb 1995 - Reviewed for accuracy and changed keyword.

Support Information Services
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English Text to Speech Software: Read Me (4/97)

This article contains the Text to Speech Software Information - Read Me First file found in the Apple Software Updates areas on CompuServe and the Internet. English Text-to-Speech software version 1.4.1 was released on 08-Aug-95.
This article has been archived and is no longer updated by Apple.
Using the English Text-to-Speech Software.

With the English text-to-speech software installed, many Macintosh programs can read English text out loud. One of the programs that can read to you is the SimpleText program, which comes with this computer and is already installed on your hard disk. (You are probably reading this document using the SimpleText program.)

The instructions in this document tell you:

- what you need to use this software;
- how to install the software;
- how to try out the software using SimpleText;
- how to choose a standard (default) voice;
- some technical details;
- how to solve common problems.

What you need to use the English text-to-speech software.

To use the software, you need the following software and hardware.

- a Macintosh or Power Macintosh computer;
- version 6.0.7 or later of system software;
- at least 300 kilobytes of RAM in addition to what the rest of your system software takes;
- at least 5 megabytes of space available on your hard disk.

Installing the software.

To install the English text-to-speech software, follow these steps.

1. Print these instructions before you start. You will not be able to view them on screen during the installation.

2. If you have been using an earlier version of text-to-speech software, see the note for you at the end of this section.

3. Quit any programs you have been using.

4. While holding down the Shift key on the keyboard, choose Restart from the Special menu. Don't release the Shift key until you see the "Extensions Off" message on your screen.

5. To start the Installer program, double-click its icon. You can find the Installer program in the same place you found these instructions.

6. In the introductory screen that appears, click Continue.

7. In the next screen, click Install. The installation takes a few minutes.

8. When you see a message reporting that the installation was successful, click Restart.

After the computer restarts, you can start using the text-to-speech software. You can try it out using the instructions in the next section.

Note for users of PlainTalk 1.0: The improved version of MacinTalk Pro included with this text-to-speech software is intended to replace the old PlainTalk text-to-speech software. However it may not work with some computers that have a 68030 processor. If you have such a computer and want to keep using the old PlainTalk text-to-speech software, you should not use the standard Install procedure described in these steps. Instead, after step 6, choose Custom Install from the pop-up menu, select MacinTalk 2 or MacinTalk 3, then proceed with steps 7 and 8.

Trying out the text-to-speech software.

You can try out the text-to-speech software in the SimpleText program by following these steps.

1. Open any SimpleText document. Or, since this document is already open, you can do the remaining steps with it.

2. Click anywhere in the text to make sure nothing is selected.

3. Choose "Speak All" from the Sound menu. (If you cannot hear anything, you may have the sound turned all the way off. Check in the Sound or "Sound & Displays" control panel.)

4. If you want the computer to stop reading, choose Stop Speaking from the Sound menu.

You can also try the following:

►? To read a portion of the file, select the words you want to read then choose Speak Selection from the Sound menu.

►? To have the computer speak in a different voice, select a voice from the Voices sub-menu in the Sound menu, then choose the Speak All or Speak Selection command from the Sound menu.

►? To use the text-to-speech features of other programs, see the instructions that came with those programs.

Choosing a standard (default) voice.

If you have system software version 7.0 or later, you can use the Speech control panel to choose your favorite voice to be the default voice for all your programs. (To use the Speech control panel on some black-and-white 68000 computers, like the Macintosh SE, you need to have system software 7.1 or later.) To set the default voice, follow these steps.

1. Open the Control Panels window by pulling down the Apple () menu and choosing Control Panels.

2. Open the Speech control panel by double-clicking its icon in the Control Panels window.

3. Open the Options pop-up menu at the top of the Speech control panel and choose Voice.

4. To change the default voice, choose the voice you want from the Voice pop-up menu. To hear what the voice you chose sounds like, click the speaker button. If you're concerned about RAM usage, Agnes, Bruce, and Victoria take about 1,500 kilobytes of RAM; the rest take 300 kilobytes or less.

5. To change the rate at which the default voice speaks, move the slider.

6. Close the control panel.

Technical details.

The software that enables your computer to speak has these components:

►? Speech Manager, a system extension;

►? one or more of these English speech synthesizers, depending on your hardware and software:
- MacinTalk 2 for standard-quality speech,
- MacinTalk 3 for high-quality speech,
- MacinTalk Pro for highest-quality speech.

►? several voice files, each identified with one particular synthesizer;

►? the Speech control panel (if you have system software 7.0 or later).

The Installer installs the files that are appropriate for your system.

►? If you have version 6.0.7 or 6.0.8 of system software on any Macintosh, these files are installed.
- Speech Manager, in the System Folder;
- MacinTalk 2, in the System Folder;
- 9 voices, in the Voices folder, which is in the System Folder.

►? If you have version 7.0 or later of system software on a Power Macintosh or on a Macintosh with a 68040 processor, the following files are installed.
- Speech Manager, in the Extensions folder;
- the Speech control panel, in the Control Panels folder;
- MacinTalk 3 and MacinTalk Pro, in the Extensions folder;
- 19 MacinTalk 3 voices, in the Voices folder, which is in the Extensions folder;

- 3 MacinTalk Pro voices (Agnes, Bruce, and Victoria), also in the Voices folder.

* If you have version 7.0 or later of system software on a Macintosh with a 33 MHz or faster 68030 processor, the following files are installed.
- Speech Manager, in the Extensions folder;
- the Speech control panel, in the Control Panels folder;
- MacinTalk 3, in the Extensions folder;
- 19 voices, in the Voices folder, which is in the Extensions folder.

* If you have version 7.0 or later of system software on any other computer, the following files are installed.
- Speech Manager, in the Extensions folder;
- the Speech control panel, in the Control Panels folder;
(Note: On Macintosh SE computers, the Speech control panel requires version 7.1 or later of the system software)
- MacinTalk 2, in the Extensions folder;
- 9 voices, in the Voices folder, which is in the Extensions folder.

Troubleshooting (problems and solutions).

Problem ►My Macintosh won't speak.
Solution - Turn up the speaker volume in the Sound control panel.
Solution - Choose a voice that requires less random-access memory. The voices Agnes, Bruce, and Victoria take the most memory.

Problem ► The Installer program says there's a problem with the hard disk.
Solution - Re-install your system software, then try installing the English text-to-speech software again.

Problem ► The Installer program displays other error messages.
Solution - Make sure you restart the computer with extensions off, as described in "Installing the Software," above.

Problem ► I had an older version of text-to-speech software, then did a custom installation of the new software, but some of my older voices disappeared.

Solution - The custom installation you chose erased the older version of the software that can use those voices. You can install newer versions of the voices by doing another custom installation of the new software to install MacinTalk 2 or MacinTalk 3 ► whichever you used to have. (If you're not sure which you had, you can install both.)

The following Apple Tech Info Library articles can help you locate the software update mentioned here:

* "Where To Find Apple Software Updates" -- Lists online services for free Apple software updates.

* "Obtaining Apple Product Support in the USA" -- Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech Info Library.

Article Change History:
09 Apr 1997 - Removed out dated on line references.
21 Aug 1995 - Added new read me for version 1.4.1.
Published Date: Feb 19, 2012

Using MacProject 1.0 on a HyperDrive.

This article has been archived and is no longer updated by Apple.

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Occasionally I  get a gray screen when launching MacProject 1.0.
This version of MacProject requires the Imagewriter File or
LaserWriter File resident within the same drawer as the application.

NOTE: Apple Computer Inc. is not responsible for the contents of this
     article.
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Published Date: Feb 19, 2012

MacinTalk: Which Version to Use (8/95)

What is MacinTalk and which version should I install on my Macintosh?

This article has been archived and is no longer updated by Apple.
MacinTalk is used in combination with Apple's Text-to-Speech software. It enables your Macintosh to provide Text-to-Speech capabilities for applications that support Text-to-Speech. SimpleText is an example of an application that supports Text to Speech.

MacinTalk 2 is well suited for low-end environments where available memory is low and CPU bandwidth is limited. Minimum configuration is System 6.0.7 running on a Mac Plus.

MacinTalk 3 is well suited for mid-range computing environments. Minimum configuration is System 7 running on a 68030 processor running at 33Mhz or any 68040 or PowerPC processor.

MacinTalk Pro requires System 7 or greater and is intended for higher performance 68040 and PowerPC Macintosh computers.

To install the correct version of MacinTalk on your computer, download the English (or Spanish) Text-to-Speech software from an online service.

The latest Text-to-Speech software package features a new "smart installer" that automatically determines what speech resources are right for your computer. It will automatically install the correct files for your computer when you perform the Easy Install.

To Install MacinTalk

Step 1

Restart your Macintosh holding down the Shift key until you see the "Welcome to Macintosh, Extensions Off" screen.

Step 2

Double-click the Installer in the English (or Spanish) Text-to-Speech folder you downlaoded.

Step 3

Click Easy Install.

Step 4

Restart your Macintosh.

Step 5

Use SimpleText to try out the Text-to-Speech software.

The following articles can help you locate the software mentioned here:

* Where To Find Apple Software Updates
Lists online services for "free" Apple software updates.

* Obtaining Apple Product Support in the USA
Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech. Info. Library.

Article Change History:
22 Aug 1995 - Updated which file to download and installation instructions.
30 Jun 1995 - Added note indicating the software has been taken off line
19 Apr 1995 - Added information about how to find software online.

Support Information Services

Published Date: Feb 19, 2012

TA32485_MacinTalk_Which_Version_to_Use__(TIL16271).pdf

QuickDraw GX: How to Select Printer Options or Trays (1/95)

This article describes the steps necessary when using the LaserWriter GX driver to choose specific printer options or trays.

This article has been archived and is no longer updated by Apple.
When using QuickDraw GX with the LaserWriter GX driver, you may notice that you cannot find specific LaserWriter options such as PhotoGrade or DPI settings. Unlike earlier LaserWriter drivers, such as the LaserWriter 8.x driver, the operating system does not query the printer for available options when the printer is selected in the Chooser. Instead, the query happens when the first print job is sent to a specific printer using the LaserWriter GX driver.

This means that the specific printer options will not be available until after printing at least once to a desktop printer.

If you are printing from non-GX savvy applications, you should use the LaserWriter Utility included with QuickDraw GX (using custom install) to set certain printer options or bypass the LaserWriter GX driver by installing the QuickDraw GX Helper extensions (using custom install).

How to Select Specific LaserWriter Options
---
1) Create a desktop printer using the LaserWriter GX driver in the Chooser
2) Print a one page document or the desktop to the printer
3) Choose Page Setup from a QuickDraw GX savvy application.
4) Select the specific LaserWriter under the "Format For:" pop-up menu. Do NOT choose LaserWriter GX but the specific name of the LaserWriter.
5) Click on the "LaserWriter Options" icon on the left side of the window.

You should see all the options available for the LaserWriter you have chosen such as 300/600 DPI or PhotoGrade. The options available here are dependent on the printer model. Consult your printer's documentation for a complete description of features.

How to Select Multi-purpose Input Trays
---
1) Create a desktop printer using the LaserWriter GX driver in the Chooser
2) Print a one page document or the desktop to the printer
3) Select the printer on the desktop and choose "Input Trays" from the Printing Menu.
4) Make the appropriate selections.

The manual feed tray is not supported in the current version of the LaserWriter GX driver.

You will know if QuickDraw GX has queried the specific Desktop Printer properly if the dialog window that comes up for paper trays specifically mentions the printer model (example:LaserWriter Pro).

Article Change History:
19 Jan 1995 - Added information on manual feed tray.

Support Information Services
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A/UX: Swap Space Running Low Messages (9/94)

Even though I have lots of swap space and only a little bit is being used, I STILL get a lot of messages saying that my swap space is running low. Why does this occur?

This article has been archived and is no longer updated by Apple.
Unix is justifiably concerned about having adequate swap space. A system crash caused by this can be difficult to recover from. If you do a "/etc/swap -l" and see that you're only using a small portion of your swap space and have a "lot" left, then you can safely ignore the messages (just how much is a "lot" is hard to say, but if you have 25000 blocks and are only using 1000 or 2000, then I'd say you were fine). If you DO need more swap space, then you have a few options:

a. Using 'kconfig', reduce the number and size of buffers.
This isn't really a good idea since it could really degrade
performance as well as possibly causing more panics.

b. Add more swap space.
Fine, if you have it. You could either add another disk
as swap (nice) or repartition your present disk to create
a larger Swap partition (Ack!).

c. Add more memory.
If you have more memory, then this will reduce the need to
augment it with swap space... RAM's cheap too! There is an
old rule of thumb that the size of Swap should be about
2 to 3 times the amount of RAM, which would seem to contradict
the above. The thing is that if with the _present_ workload
you are swapping like crazy, then adding RAM will reduce
tha swapping. If, however, you start increasing the work-
load, then swapping will start again, and you better have
enough of it! This was the original intent of the Rule-Of-
Thumb. At the very least, Swap should always be at least
as big as the amount of RAM you have.

Support Information Services

Published Date: Feb 19, 2012

A/UX: Copy File System From One Partition to Another (9/94)

How can I copy a complete file system from one disk partition to another?

This article has been archived and is no longer updated by Apple.
You have three options: dd, dump.bsd and cpio (pax MAY work but tar won't since it won't handle special-type files). If the two partitions are the same size, you can use 'dd' (to copy c0d0s0 to c5d0s3, e.g.):

```
$ dd < /dev/rdsk/c0d0s0 > /dev/rdsk/c5d0s3
```

To use dump.bsd, you can use the following command (this assumes that the destination disk in mounted on /mnt and you want to copy the root file system which is on SCSI 0... of course, you must be root and it would be MUCH better to do this in single-user mode):

```
$ dump.bsd 0f - /dev/rdsk/c0d0s0 | (cd /mnt; restore xf -)
```

To use cpio, you must use it in a pipe with find. For example, to copy /usr (let's assume it's on it's own file system) to another disk|partition (assume it's mounted on /mnt) then you can use (you can add the "-depth" flag to 'find' if you want):

```
$ cd /usr
$ find . -print | cpio -pdmuva /mnt
```

The problem with this is that if the mount point of the destination disk falls under the file system's directory you're trying to copy, you'll load up your destination disk. For example, the following would NOT work:

```
$ cd /
$ find . -print | cpio -pdmuva /mnt
```

because 'find' would see the stuff in /mnt (which you just put in there) and try to copy in back to /mnt! To way to avoid this is by adding a little filter:

```
$ cd /
$ find . -print | grep -v '^./mnt*' | cpio -pdmuva /mnt
```

If you have GNU find, then you can use it with it's '-xdev' option, which prevents find from walking through other file systems:

```
$ cd /
$ find . -xdev -print | cpio -pdmuva /mnt
```

dump.bsd creates a "truer" copy of your file system (the access and modification dates aren't mucked with... with the find/cpio pipe, at the least the directory dates are touched) but pre-3.1 versions of restore couldn't restore named pipes. These are easy to creat though using 'mknod'. The only named pipes included in the default A/UX distribution are:

```
/usr/lib/cron/FIFO
prw------- 1 root sys 0 Oct 18 16:08

/usr/spool/lpd/AppleTalk/pipe
prw-rw---- 1 daemon daemon 0 Oct 19 06:11
```

Support Information Services

Published Date: Feb 19, 2012

A/UX: UUCP under A/UX 3.0 (9/94)

What is different about UUCP under A/UX 3.0?

This article has been archived and is no longer updated by Apple.
UUCP under 3.0 is much improved over it's previous "incarnation" under 2.0.1. 3.0 uses HDB (for HoneyDanBer) UUCP instead of standard UUCP. Some nice things are bidirectional getty (also known as uugetty in other Unixs) which allows both incoming and outgoing communication over serial lines as well as better performance and reliability.

You may consider getting Alexis Rosen's "sendmail.cf" file for use under UUCP sendmail. This config file has been modified to allow UUCP and sendmail to work beautifully together. You may also want to consider simply installing smail to replace sendmail.

Under 3.0, be sure that you are running the latest version: 1.16. It can be found on aux.support.apple.com in aux.patches/supported/3.0. Be sure that you get the new dial.o on ftp.apple.com (pub/earlw/dial) to avoid breaking syslog. Under 3.0.1 (and later) all is OK.

Support Information Services

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AppleCD 300: No CD-I Support

In the AppleCD 300i plus manual, it claims that CD-I mode 2, Forms 1 and 2 are supported. What are these, and how is CD-I Supported on the Macintosh?
This article has been archived and is no longer updated by Apple.
The CD-ROM specification provides two Modes and the CD/XA provides a specification for two Forms.

Here is some information on the modes to assist in understanding CD-ROM specifications:

MODE 1 and 2

To achieve the first level of Photo CD compatibility, Kodak's Photo CD requires a CD-ROM drive that provides Mode 2/Form 1 services.

CD-ROM Mode 1 is the standard ability to read CD-ROMs. A CD-ROM drive must support this mode to be considered a CD-ROM drive.

CD-ROM Mode 2 allows for additional capabilities. In relation to Photo CDs the CD-XA Form 1 is the most important element. Mode 2/Form 1 allows the Photo CD to be recognized and read.

CD-I

Philips CD-I CD-ROMs come in two varieties; either it is an interactive multimedia title or it is a MPEG encoded video or feature length movie.

The interactive multimedia titles need the Philips game controllers, and OS9 which would not be compatible with the Macintosh. The MPEG encoded CD-ROMs need special MPEG playback hardware that is not yet available for the Power Macintosh line.

Published Date: Feb 19, 2012

QuickTake 100: Software Development Kit Available

Is there is an API (application program interface) available for QuickTake for Windows? Is it possible to have a Visual Basic application running under Windows access automatically the camera?
This article has been archived and is no longer updated by Apple.
There seems to be some confusion over the existence of a Software Development Kit (SDK) for the QuickTake 100 camera. However, there is a SDK available for the QuickTake 100 camera. It contains all the development tools necessary for both the Macintosh and Windows environments.

The Software Development Kit is available through APDA, Apple's source for developer tools, and all support for the product comes from them.

For the most current information on what SDKs Apple offers, point your web browser to:

http://developer.apple.com/sdk/

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

The following Tech Info Library article can help you search for a particular vendor's address and phone number:

Article 17159: "**Locating Vendor Information**"
Published Date: Feb 19, 2012

LaserWriter Pro 810: Switching Emulation from Windows

Is there a way to switch the emulation on the LaserWriter Pro 810 when using the serial interface to communicate from an MS-DOS Computer?
This article has been archived and is no longer updated by Apple.
The following PostScript command allows you to switch from PostScript to HP PCL emulation on the serial port of the LaserWriter Pro 810. This code can be downloaded from any of the ports that currently have PostScript set as the language. If only the serial port is being used, then once the language of the serial port has been changed to HP PCL, you cannot return back to PostScript except by using the control panelon the printer, or by downloading the PostScript code using another port such as Ethernet, or LocalTalk.

PostScript Code

Caution:
If you choose to use the PostScript code provided in this article, you assume all risks involved in making these changes. PostScript code, if not entered correctly, can place the LaserWriter into a condition requiring service.

To select either PCL or PostScript printer job language, before sending your print job to the printer, transmit the following "emulator" command:

(%Serial%)<</Interpreter PARAMETER /Protocol TYPE>>setdevparams

Valid PARAMETER values are /PostScript and /LaserJetIIP

Valid TYPE values are /Normal when PARAMETER is /PostScript, and /Raw when PARAMETER is LaserJetIIP.

Example:

(%Serial%)<</Interpreter /LaserJetIIP /Protocol /Raw>>setdevparams

This emulator command string places the RS232 Input Port's Printer Type in LaserJetIIP emulation.

Language switching

If you would like "on-the-fly" functionality of being able to switch languages at any time on the serial port, you need to set the serial port for PostScript, and then download/include the following PostScript code at the front of the PCL job to switch temporarily to HP PCL emulation:

statusdict begin 5 setsoftwareiomode end

Upon completion of the job, the serial port's page description language will switch back to PostScript though the last line of the PCL job must have the following command string:

ESC DEL 0 (which is hex '1B 7F 30')

NOTE:
This command string contains spaces for readability--don't include spaces when entering this command in your file. For example, without spaces it reads: 'ESCDEL0' or '1B7F30'. Also, you must follow this string with a Control-D.

This PCL control string returns the printer back into the PostScript mode when the current HP PCL job is completed.
Published Date: Feb 19, 2012

Color StyleWriter Pro: Requires Color QuickDraw for Color (9/94)

The Color StyleWriter Pro specification sheet states that it requires Color QuickDraw support in order to print color. Will it print the eight standard colors supported by standard quickdraw? These eight colors are supported by the ImageWriter II and LQ drivers on the early 68000 based Macintosh computers.

This article has been archived and is no longer updated by Apple.
When using a 68000 based Macintosh (non-Power Macintosh) that doesn't support Color QuickDraw all color information is lost and the document prints in black and white. The eight basic colors that are supported on all Macintosh computers when printing to the ImageWriter II and LQ are not supported on the Color StyleWriter Pro when using a 68000 based Macintosh without color QuickDraw.

A Color StyleWriter Pro connected to a 68000 based Macintosh that is being shared will not print color even if a Color QuickDraw capable Macintosh is sending a color document to the shared printer. In order to print color the system that the Color StyleWriter Pro is physically connected to must also support Color QuickDraw otherwise the documents print in black and white.

Support Information Services
Published Date: Feb 19, 2012

System 7.5: Printer Installer May Replace PrintMonitor (2/95)

Print software installer disks may replace System 7.5 PrintMonitor with an older version.

This article has been archived and is no longer updated by Apple.
Users of System 7.5 need to know that some currently shipping Apple printer installer disks may replace the System 7.5 PrintMonitor with an older version.

Specifically, the LaserWriter Select 360 installer replaces the System 7.5 PrintMonitor v7.1.2 with v7.1. This behavior has not been documented in any other printer installers, though it may exist there also. Tests with LaserWriter driver version 8.2fc1 in this configuration have not revealed any obvious problems yet, but the effect this might have on other printer drivers has not been explored.

Plans are to fix this issue in forthcoming LaserWriter installer releases, but System 7.5 owners will be at the mercy of the large numbers of installers already in the field.

What we propose is to have a Read Me item whose substance would be to instruct the user to:

* Drag their PrintMonitor to the root level of the startup disk

* Run the printer installer normally

* Compare the 'Get Info' version number of the PrintMonitor which was placed in the Extensions folder by the printer installer to the version number of the PrintMonitor which they saved in the root before the install, and use the newer version.

This information did not get into the System 7.5 Read Me.

Article Change History:
15 Feb 1995 - Reviewed for accuracy and changed keyword.

Support Information Services
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LaserWriter Bridge v1.0: Do Not Rename

This article describes a problem which occurs if you rename the "LaserWriter Bridge" v1.0 file.
This article has been archived and is no longer updated by Apple.
The LaserWriter (LW) Bridge is a Control Panel Device that allows a LaserWriter Select 360 to be bridged to an Ethernet network. The bridge resides on a host Macintosh that is connected to Ethernet. The Select 360 is linked to the host Macintosh through LocalTalk.

The name "LaserWriter Bridge" must NOT be renamed; otherwise, it will not function properly as follows: The dialog box that appears when you shutdown your computer running the bridge software, warning you that there are uncompleted print jobs in progress will NOT display.
Published Date: Feb 19, 2012

Apple Internet Router 3.0.1 and Power Macintosh (9/94)

Does the Apple Internet Router (AIR) 3.0.1 work on a Power Macintosh 7100/66 8/250/CD computer?

This article has been archived and is no longer updated by Apple.
The Apple Internet Router 3.0.1 software is the only Apple Internet Router software compatible with the Power Macintosh systems. There is one compatibility situation to be aware of: Power Macintosh systems allow only one NuBus card to be a bus master.

Because of this, it is not possible to have more than one Apple Serial NB Card installed in a Power Macintosh system. The Ethernet NB Card and Apple Token Ring NB/c Cards are not bus master cards so there are no problems with these cards.

The Apple Token Ring 4/16 NB Card is a little more complicated. When this card is used with driver software from NSI 1.4.4 and earlier, it is a bus master card and may not be used in conjunction with another bus master card on a Power Macintosh system.

NSI 1.4.5 contains new drivers for the Apple Token Ring 4/16 NB Card. These drivers are what we would call "dumb" drivers. With the Apple Token Ring 4/16 NB Card driver, the 68000 processor on card is not used at all. This is a good thing for most situations. The driver is faster than the old driver and has an added benefit of not putting the card in bus master mode. This means more than one card can be installed in a Power Macintosh system. The only caveat here is the dumb driver does not work with the SNA*ps Gateway product. A "smart" driver is included on the NSI 1.4.5 disk just for the SNA*ps Gateway product. This driver puts the card in bus master mode.

Another issue to note here is that it is not possible to have the "dumb" and "smart" drivers for the Apple Token Ring 4/16 NB Card installed and used at the same time. If both drivers are installed, the "smart" driver will be used.

The Apple Token Ring NB/c Card is never in bus master mode and has only one driver. This driver does not support the SNA*ps Gateway product at this time.

Support Information Services
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A/UX: What is A/UX? (2/95)

What is A/UX?

This article has been archived and is no longer updated by Apple.
A/UX is Apple's implementation of UNIX (it's Apple's/UNix) for various Macintosh computers. A/UX merges two computing environments, UNIX and the Macintosh Finder OS, and provides the full functionality of both.

A/UX is based on AT&T UNIX System V.2.2 with numerous extensions from V.3, V.4 (such as streams), and BSD 4.2/4.3 (such as networking, the Fast File System, job control, lpr, NFS with Yellow Pages, SCCS, and sendmail 5.64). It also provides full POSIX compliance. A/UX provides SYSV, BSD and POSIX compatibility switches and libraries.

A/UX is fully compliant with the System V Interface Definition (SVID). A/UX provides all three standard shells: sh, csh, and ksh. X-Windows is also provided standard.

A/UX 3.0 and later incorporates System 7 for the Macintosh allowing for the use of the vast majority of Macintosh applications under A/UX. System 7 and UNIX are fully-integrated under A/UX 3.0 and later with the UNIX file system being seen as a disk drive by the Finder.

There are people who feel that A/UX is a near-perfect implementation of UNIX. Of course, every operating system has its share of devotees, so that's not a very valid scale of whether the system is any good. A/UX is UNIX -- it's not some form of pseudo-UNIX. It insulates the user from UNIX, if required, but the System Administrator needs to become UNIX-aware. Furthermore, if you want straight UNIX, you can get it. People may also complain that A/UX is based on an "obsolete" version of AT&T UNIX (V.2.2). In many ways, Apple's extensions make A/UX very V.3-like (V.3 is in many ways an enhanced V.2 -- it even uses the V.2 kernel). The list of extensions to A/UX are impressive. Compare what you get standard with other systems and you'll be shocked! On some, 'cc', 'f77', NFS, etc... are costly options.

The main consideration (and opposition) to A/UX is the platform it runs on: the Macintosh. Some consider this a boon, others a bust. As of February 1995, Apple computers with the 68030- and 68040-based workstations run A/UX. All Power Macintosh computers are not compatible with A/UX.

If you need super-fast state-of-the-art number crunching capability then A/UX may not be for you; you can get faster workstations with other platforms. Of course, you'll have to "settle" for their operating systems, but if you need it, then that's how you'll get it. Of course, this doesn't mean that A/UX "crawls".

There are very few people who need this type of performance though. If you need (or just want) a UNIX workstation with the speed and power of UNIX and the user interface and application selection of the Macintosh then A/UX is the way to go. In many ways, A/UX is the UNIX "for the rest of us" even if we are long-time UNIX users. If you love the Macintosh, you'll love A/UX; if you love UNIX, you'll love A/UX. And if you want a near-perfect marriage of the two, then you'll love A/UX.

Note: This article and a full list of frequently asked questions about A/UX can be found on the ftp server jagubox.gsfc.nasa.gov (128.183.44.1).

Article Change History:
27 Feb 1995 - Corrected address for the ftp server.

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QuickDraw GX: Desktop Printers Can‘t Be Thrown Away (9/95)

I cannot throw away my QuickDraw GX Desktop printer; an error message tells me it is busy.

This article has been archived and is no longer updated by Apple.
After creating and using a desktop printer, it cannot be moved off of the desktop or be thrown away. When you attempt to move the desktop printer to a folder or the Trash, the following error message is displayed: "The desktop printer cannot be moved off the desktop because it is busy."

In order to throw away a desktop printer, you must first quit from all of the applications that printed to it.

Article Change History:
14 Sep 1995 - Changed title.
01 Sep 1995 - Reviewed for technical accuracy.
30 Aug 1995 - Changed title.

Support Information Services
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AWS 95 and System 7.5 Client Workstations Volume Size (2/95)

Will Macintosh workstations running System 7.5 support 4 GB volumes on a Apple Workgroup Server (AWS) 95? I know that I shouldn't put System 7.5 on the "/" partition of the AWS 95, but I would like all of my System 7.5 clients the ability to access shared 4 GB volumes.

1) What are the file system limits to the 7.0.1 Macintosh process under A/UX, will it support 4 GB on the root directory?

2) What are the sharing limits in AppleShare Pro, for versions 1.0 and 1.1? Does it support sharing folders with more than 2 GBs and 32,000 files?

3) Is there a way using System 7.5 to share 4 GB volumes?

This article has been archived and is no longer updated by Apple.
As of A/UX 3.1, we support UFS file systems up to 4 GB. The A/UX Finder however, can't handle this sized volumes correctly. If you have a volume larger than 2 GB, the A/UX Finder will report the correct space available and correct disk usage. If you try to write anything to that volume, it will fail telling you that more space is needed. You will only be able to read or copy items from that volume.

The largest volume that can be shared by AppleShare Pro 1.1 is 2 GB. AppleShare Pro does not know how to deal with volumes larger than 2 GB. If, for example a volume larger than 2 GB is available, it can be shared but the reported amount of disk space available and disk space used will be incorrect.

We did some tests using System 7.1 and System 7.5, and in both cases the results were the same. The reported amount of disk space available and disk space used are incorrect from the AppleShare Pro server, you run into a similar error condition as the one described above. You can read from the volume but you are unable to write to it.

Part of my tests included sharing a 2.8 GB volume from a Power Macintosh 8100 running System 7.5. When this volume was mounted from another system running System 7.5, the volume was accessible with no problem. When mounted from a Macintosh running System 7.1 there were errors in the window information for disk space used and available. If the Macintosh running System 7.1 has the AppleShare Workstation software 3.5 installed, the window information will appear to be correct but the behavior of the system will be erroneous.

Lastly, if a site has all System 7.5 systems and uses Personal File Sharing, they will be able to share volumes up to 4 GB. The bottom line is that as of September, 1994 the only configuration with 4 GB file systems we support is Personal File Sharing under System 7.5.

Article Change History:
16 Feb 1995 - Reviewed for accuracy and changed keyword.

Support Information Services
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System 7.5: Invisible Desktop Files (2/95)

In the System 7.5 Find File dialog box, a customer used the Option key to allow selection of "visibility is invisible." Among the invisible files, she observed were two AppleShare PDS files, a desktop, two Desktop DB and two Desktop DF files.

Under what conditions do multiple Desktop files or AppleShare PDS files appear in the Find File window? Why do additional invisible files appear?

This article has been archived and is no longer updated by Apple.
It is possible to find multiple Desktop files or AppleShare PDS files in the Find File window when Find File is used to search multiple disks. If Find File is set to find items on local disks, then users may be able to see varying combinations of the "AppleShare PDS", "Desktop DB", "Desktop DF", and "Desktop" files.

The following chart shows the general rules of how and when these files appear:

. May appear on
This file... this kind of disk... Because of this software.

"AppleShare PDS" hard disk, and other System 7 File Sharing
. modifiable volumes
. (not floppy disks)

"Desktop DB" or CD-ROM, hard disk, and System 7.0, or later
"Desktop DF" other modifiable volumes
. (not floppy disks)

"Desktop" Any kind System 6.0.X, or earlier

In general, an AppleShare PDS file should appear for each hard disk volume (or other modifiable volume) which has been used with File Sharing. A Desktop DB and Desktop DF file should appear for each mounted CD-ROM volume and any other volume (except for floppy disks) which has been used with System 7.0, or later. A Desktop file should appear for each floppy disk, and any other volume that has been "touched" by System Software 6.0.X or earlier.

Article Change History:
16 Feb 1995 - Reviewed for accuracy and changed keyword.

Support Information Services
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Color StyleWriter 2400: Color Banding at Bottom of Page (9/94)

At the bottom of the page I get white horizontal lines, colors out of phase and color banding. How can this be avoided?

This article has been archived and is no longer updated by Apple.
This can occur on the bottom 0.8 inch of the page, due to the friction rollers not being in contact with the paper. Only fix is to increase margin at bottom of the page, as noted on Page 57 of the User's Manual.

Support Information Services
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Macintosh Processor Upgrade: PDS and Comm Slot Usage

I need the following information on the Macintosh Processor Upgrade:

1) Will the board fit into a Quadra 605 if an Ethernet adapter is installed in the computer's PDS?

2) Will the board fit into a Quadra 630 if any of the Comm Slot cards or Video/TV cards are installed in the computer?
This article has been archived and is no longer updated by Apple.
The Macintosh Processor Upgrade (now discontinued), containing the PowerPC 601 chip, fits in the processor socket of the 68LC040 microprocessor. In order to install the board, the 68LC040 is removed from the computer's logic board, the upgrade board is placed in the 68LC040 socket, and the 68LC040 chip is placed in the upgrade board, retaining the computer's original microprocessor. This upgrade board is different from the Power Macintosh Upgrade Card (M2843LL/A), which only fits into the 68040 PDS in Macintosh Quadra 900, 950, 800, 700, 650, and 610 computers.

Because of space and power requirements, the Macintosh Processor Upgrade cannot be used in any Macintosh computer with an LC-style expansion card such as the Apple IIe Card or the LC Ethernet card.

The communications slot in the Macintosh LC/Performa 57X, the Macintosh LC/Performa 58X, and the Macintosh 630 family computers can be used when the upgrade is installed.

The Macintosh Processor Upgrade is compatible with:

* Macintosh 630 family
* Macintosh LC 475, 575, 580

*Macintosh Quadra 605
*Macintosh Performa 475, 476, 575, 576, 577, 578, 580, and 588

The following computers are in the Macintosh 630 family: Performa 630, Performa 635, Performa 636, Performa 637, Performa 638, LC 630, and Quadra 630.

The Macintosh Processor Upgrade requires System 7.5 (included with the upgrade).

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Color StyleWriter 2400: Avoiding Ink Blobs (9/94)

Sometimes when printing with the Color StyleWriter 2400 I get a blob of ink on the paper. How can I avoid this?

This article has been archived and is no longer updated by Apple.
This problem shows up as missing dots on the page followed by a blob of ink. This situation only occurs with the the color printhead. The problem rarely occurs, because it requires three conditions:

1) Printing very heavy density color area fills across the whole page.

2) Printing at engine speed (meaning that the printer can't be pausing during printing).

3) Printing in Normal mode (not an option for transparencies, where colored backgrounds are often used).

Even when these conditions are met, the problem occurs on only 1.5% of pages printed.

The fix is to switch the printing mode to BEST.

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Apple IIGS: Reading and setting the Clock (1 of 2)

This article has been archived and is no longer updated by Apple.

Reading and writing the clock register and the clock control register is not necessarily the easiest or most proper way of accessing the time. However, there are tool calls that can perform this function for you. Included in the Miscelaneous Toolset are 3 routines, two to read and write the time in hex format and one to read the time in ASCII format. The program below shows how to use all three.

Here is a summary of the three calls:

_ReadASCIITime reads the IIGS clock and fills a specified buffer with a string that shows the time and date according to the format described in the control panel. Before the call, push the long address (4 bytes) of a buffer on the stack. Place the string in this buffer, a location in memory; the buffer can vary in size (because of the possible string formats), but it should be about 22 bytes.

_ReadTimeHex reads the IIGS clock and leaves the time and date on the stack. Before the call, push 4 words (8 bytes) of space for the result. After the call, the stack will contain the following information (specified in bytes):

```
|   previous contents   |
|       weekday         |   day of the week (0..6, with 0=Sunday, etc.)
|         null          |   unused
|         month         |   0..11, with Jan=0
|          day          |   0..30
|         year          |   current year minus 1900
|         hour          |   0..23
|        minute         |   0..59
|        second         |   0..59
|                       |   <--- Stack Pointer
```

_WriteTimeHex sets the time according to information on the stack. The information pushed onto the stack should be bytes: month, day, year, hour, minute, and second - pushed on in that order (after the data is pushed on the stack, the stack will look similar that returned by _ReadTimeHex). After the call is completed, the stack will have those parameters removed.

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PostScript Fax: Variables Influencing Speed (9/94)

When being used to receive a fax, how many pages per minute can a LaserWriter Select 360 print?

This article has been archived and is no longer updated by Apple.
Unfortunately, we have no benchmarks that provide the throughput of faxed documents. The engine print speed is rated at 10 pages per minute. This doesn't take into account factors such as: the time required for a workstation to prepare the print job, the time required to transmit the print job over a network, the time for the printer to process the print job, or any of the variables associated with faxing. It is just the throughput of the printer.

For example, if you were to print 11 copies of a 1 page document, the first page may require 40 seconds to process/print. The remaining pages might then only require 6 seconds each (60 seconds/10 pages). In this example, the 40 seconds I refer to is a number I pulled "out-of-the-air." The actual time may be more or less, and for very complex documents it may take a great deal longer (perhaps 10 minutes or more).

Additional variables to take into consideration with fax jobs are:

* whether the job is a PostScript file or a raster file
* how clean the phone line transmission is
* the fax transmission rate (4800 or 9600 baud)
* if the transmitting or receiving printer is processing other jobs
* whether there are fonts in the job that aren't resident in the printer
* if you are sending the job to one or more addresses
* the size of the job and whether it can be transmitted in one call or
if it requires multiple calls

Some of these variables are discussed in more detail below.

The fastest fax jobs will typically be PostScript fax file jobs using few built-in fonts. PostScript fax file sizes are compressed by the built-in LZW compression and decompression capability of PostScript Level 2, making PostScript fax files significantly more compact than traditional faxes, reducing the transmission time and cost. However, if the file contains complex graphics or images it is possible for the size of the PostScript file to exceed the size of a raster fax.

If the document being sent requires fonts beyond the standard 35 fonts, the PostScript Fax printer will automatically send the additional fonts along with the PostScript file to the recipient's fax printer. PostScript fonts are generally about 35KB in size and require approximately 35 seconds of additional transmission time for each font transmitted. Once the file reaches the target printer, if the document contains 35 fonts, this printer will take significantly more time to process the job as compared to a document having one font, as would be the case with any print job.

If the destination printer is busy printing a document, that printer will save away incoming faxes in memory and print them when it's done with the current job. In one test, we received and buffered more than 20 pages of PostScript fax data on a LaserWriter Select 360f with no difficulties. However, we have not tested the upper limit. We can't give you a specific number of pages or fax jobs that can be buffered as "your mileage may vary". Variables that will affect this are:

* whether the fax job is a PostScript fax file or a G3 raster job
* are fonts being downloaded
* is the job in Group 3 standard mode (200 dpi by 100 dpi) or G3 fine mode
(200 dpi by 200 dpi)
* is a hard drive connected to the printer and what is it's capacity

The transmission of a PostScript language file to a single destination is always made in a single call. Raster faxes can be transmitted in multiple calls.

Once the faxed document has been received by the printer, the processing time to complete the job is the same as if the file were sent directly to the printer from a workstation on the network.

Support Information Services
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MAE: Finder "sync" Performance Related Problems (9/94)

Why does the arrow change to a watch for long periods of time? My configuration is as follows:

MAE on HP/UX where MAE's /apple/ directory and all user files (HOME directory and everything else) are on a networked file server, and user workstations run MAE across the network. We use HP 710s as our workstations.

This article has been archived and is no longer updated by Apple.
What you're seeing is the Finder trying to reconcile its view of open folders with the underlying reality of the UNIX filesystem. Since filesystem objects can be created or destroyed without the Finder's knowledge (for example with the 'rm' command), the Finder must periodically scan all open folders. If the modification date on the directory is more recent than the Finder's last "sync" of the folder, the Finder must re-read the directory contents to find out what's really there. By default, this re-sync occurs every 10 seconds. Unfortunately, this can be a performance problem for folders on NFS servers.

All is not lost however. The sync delay is a resource in the Finder, and you can change it with ResEdit. To change this value, do the following from within MAE:

1) Open your System Folder, select "Finder", and choose Duplicate from the
File menu (this creates "Finder copy").
2) Drop "Finder copy" on ResEdit.
3) Double-click the "fval" icon in the ResEdit window.
4) Double-click resource number 128.
5) At offset 0x32, there should be a "000A". Double-click this and change
it to some greater number. For example, changing it to "0040" will cause
the Finder to perform its sync every 64 seconds.
6) Choose Quit from the File menu and answer Yes to the "Save?" dialog.
7) Create a new folder and move the current Finder into it.
8) Rename "Finder copy" to "Finder".
9) Select Shutdown from the Special menu.

From your shell, do the following:

rm ~/System\\ Folder/Preferences/Finder\\ Preferences*

When MAE is restarted, the new Finder sync delay should be in effect. Be aware that increasing the Finder's sync delay will lead to a larger time window where the Finder may have an inaccurate view of the filesystem, but it will decrease the delays that you're seeing.

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QuickTime: Music Architecture Specifications

I need to know the answers to these questions about QuickTime:

1) When QuickTime plays music, does it play a MIDI file or does it make the music track into a QuickTime movie?

2) Is QuickTime GM and GS standard (in other words, when it uses Roland files, a guitar stays a guitar and a bass stays a bass).

3) Is QuickTime 16 or 24 or some other value polyphonic.
This article has been archived and is no longer updated by Apple.
When QuickTime plays music, the music track is an embedded MIDI file within the QuickTime movie file. I have included some additional information about the Macintosh Music Architecture that further explains QuickTime music tracks:

A QuickTime music track can store several sampled sounds, and a time-ordered playback list for these sounds. In this case, the same musical output is produced every time the track is played. However, a music track might not carry the sampled sounds with it; it might only carry the name of the desired sound, such as "piano." The movie would then be considered to be playing "correctly" regardless of exactly which piano-type-sound was used to reproduce the music, as long as it was a "piano."

The Macintosh Music Architecture consists of three main pieces: the Note Allocator, the Tune Player, and various music components. Music components are sound-playing devices and softwares. Initially, we intend to support a software-only music component, and a General MIDI music component.

The Note Allocator maintains a database of what music components are presently attached to the Macintosh. This database is maintained by the user via a configuration utility (unfortunately, MIDI -- the standard communication protocol for musical synthesizers -- does not support self-configuration). Most users will not have to use this utility, since they will have no external music components, and will be using the software-only component. Most of those users who do have devices will need only click on the "General MIDI Synthesizer in Modem Port" or "General MIDI Synthesizer in Printer Port" buttons.

The Tune Player will play a time-ordered list of events into a music component. To determine which music component to use, it will negotiate with the Note Allocator.

A music component is a software or device-driver with a standard interface that produces musical notes. The component is characterized by two values: the maximum polyphony, and the maximum number of different timbres which can be produced. Unlike MIDI devices, a music component is not constrained to a multitimbrality of 16. There is no API limit to the maximum polyphony.
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LaserWriter Pro 810: DOS Fax Software On Windows Disk

Is there a manual or MS-DOS software available for the optional fax card in the LaserWriter Pro 810?
This article has been archived and is no longer updated by Apple.
The DOS Fax software for the LaserWriter Pro 810 is located on the "LaserWriter Pro 810 Fax Software for Windows" Diskette that ships with the printer. Although not readily apparent, the psfax files on the disk are in fact the DOS fax software. The LaserWriter Pro 810 uses the same PSFAX as the LaserWriter Select 360. For a list of valid commands for psfax, go to the DOS prompt and type:

psfax/?

NOTE: The LaserWriter Pro 810 fax software does not work with Windows 95 or Windows NT, you must use Windows 3.x.
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System 7.5: DayStar Accelerator Cards and Mode32 (2/95)

Customers with DayStar accelerator cards are reporting problems after installing System 7.5.

This article has been archived and is no longer updated by Apple.
According to DayStar tech support, Mode32 needs to be installed prior to System 7.5 in order to use the PowerCache cards with System 7.5. The PowerCache cards will not work in the Mac II, Mac IIx, or Mac IIcx without it. They have been doing in house testing with Mode32 v7.5 and have found no problems.

However, use of MODE32 version 1.2 with System 7.5 may cause serious file corruption. Customers need to get Mode32 v7.5 in order to use both the PowerCache card and System 7.5 on Macintosh computers that do not have 32-bit ROMs.

Article Change History:
16 Feb 1995 - Reviewed for accuracy and changed keyword.
08 Nov 1994 - Noted that MODE32 must be installed prior to System 7.5.

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System 7.5: Macintosh TV Control Panel Problem

I recently installed System 7.5 onto a Macintosh TV. When I switched to the TV Mode, all I got was some colored outlines of the television picture. A clean system software install and zapping the PRAM did not solve the problem.
This article has been archived and is no longer updated by Apple.
Version 1.0.2 the TV Setup control panel is now available from the Apple Software Updates web site at http://www.apple.com/swupdates. This version fixes the compatibility issues with the Macintosh TV and System 7.5.
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LaserWriter Pro 630: Printing Legal Landscape in Windows

When I print a legal sized document from the multipurpose tray in the landscape mode from Microsoft Windows, it looks like it was printed for a letter size document.
This article has been archived and is no longer updated by Apple.
The default setting for the multipurpose tray is letter size documents. The .WPD file, which defines the settings and adjustments, that shipped with the LaserWriter Pro 630 does not allow you to change this setting. A new version of the .WPD file allows you to setup the multipurpose tray for legal sized paper.

You can also select the generic PostScript driver as a workaround. If you use the generic PostScript driver, you may encounter situations where additional paper trays cannot be accesed. In this case, use the new .WPD files.

The new .WPD files for version 1.02 of the LaserWriter Pro 630 are available on any of the online services that Apple post software updates to.

Once you have the .WPD files on a DOS diskette, follow these steps to install them on your hard drive.

1) Exit Windows
2) Insert the diskette.
3) Assuming that the disk is in drive "A:", type xcopy a:*.wpd c:\\windows\\system
4) When the system asks you if you want to overwrite the files, enter "y" for yes.
5) Start Windows and the new driver should be in place. If you try to print legal and it doesn't work, remove the installed 630 driver by going into the Printer Control Panel, highlighting the 630, and clicking the "Remove" button.

After doing that, follow these steps:
A) Click the "Add" button
B) A list of printers appears. Double-click the "Install Unlisted or Updated Printer" choice - it is at the top of the list.
C) When it prompts for a disk, type in: c:\\windows\\system
D) Select the proper printer from the list that comes up.
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AWS 95: Partition Limit In A/UX and Workaround (3/95)

I have the following question about the Apple Workgroup Server (AWS) 95:

I need to be able to create more than 12 UNIX partitions on a drive attached to an AWS 95. My company makes large external RAID drives, in the range of 40 GB. I need to put 20 to 30 partitions on a drive, so the partition sizes are small enough to be usable by AppleShare and the Finder. The AWS 95 sees the array as a single SCSI device.

Within HDSC setup, I can create 12 Free UNIX slices, numbered 3-14. If I try to create any more, the following error: "The setup program cannot create/display any more partitions." This error would be expected, as HDSC Setup seems limited to 12 UNIX slices.

The only way I can see to create more than 12 UNIX slices would be to use "dp" and "newfs" to create the number of slices needed, and put filesystems on them. Will this work? Are "dp", "newfs", or "mount" restricted in the number of partitions they can work with? I believe there is a hard limit of about 25 UNIX slices on a drive. Is that correct?

This article has been archived and is no longer updated by Apple.
We have been able to verify your symptoms with HDSC Setup and the "dp" utility under A/UX 3.1. By default, 15 is the maximum number of disk partitions allowed on a drive before seeing the error message, "Invalid partition number. Range 0 <= n < 15", while adding more than 15 partitions in a drive under "dp".

"newfs" has nothing to do with the number of disk partitions in a drive, it creates a filesystem according to the information provided in the dpm (disk partition map). Also the "mount" command has nothing to do with the number of disk partitions in a drive, the number of mountable filesystems, however, is defined by the kernel NMOUNT parameter, which is tunable via "kconfig". The default value of NMOUNT is 32 in A/UX 3.1.

Workaround

With the "dp" program, the "U" (Uninitializes the map) command, and the "i" (Initialize the map) command under the "Command" mode allow you to change the number of disk partition map entries (dmpe) in a drive. The "U" command cleans up ALL existing partition maps including Apple_Driver and Apple_HFS partitions. The "i" command prompts you for the "Number of dpme's", which at this point you can enter the desired number, for example 32 instead of the default which is 15. Also 32 slices (logical units for the file systems) are the total allowed on a drive. Then, use the "a" (adds a partition) command to created a partition for an UNIX file system.

Care should be taken while issuing the "U" and the "a" commands. The "U" command wipes out all existing partition maps, and the "a" command ONLY creates partitions for UNIX filesystems (type of "Apple_UNIX_SVR2").

WARNING: Do NOT attempt this on the hard drive containing your startup software because it will be lost. "dp" cannot create Mac OS HFS or Apple_Driver partitions.

Below is an example of "Uninitialize", "initialize", and "adds" of a new partition on the drive, /dev/rdsk/c103d0s31

```
# dp /dev/rdsk/c103d0s31
Command? U
Command? i
Number of dpme's: 32
Command? a
Partition number ('*' for any): 17
Physical start (block #) [0]: 2900096
Physical length (blocks) [0]: 200000
Name[]: Free\\ UNIX\\ slice\\ 15
Default type? y
Logical start (block #) [0]: 0
Logical length (blocks) [0]: 200000
Cluster # [0]: 0
FS type (1=UNIX, 2=EFS, 3=SFS) [?]: 1
Root file system? n
Usr file system? n
Command? w
Command? q
```

If you plan on using the workaround above, be aware that no Mac OS HFS partition can be created under "dp", and be sure to backup you Mac

OS HFS partition before issuing the "U" command. Also, all commands entered under "dp" will not take effect until a "w" command is entered.

FYI: If you have more than 15 partitions in a drive and try to re-partition or display with HDSC Setup, it will complain with the following:

Customizing the partitions failed.

There are too many partitions on the disk for the setup program to display.

Article Change History:
31 Mar 1995 - Made minor changes.

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MODE32 Version 7.5: Release Notes and Instructions (5/96)

This Document is divided into the following sections:

"Do I need MODE32?"

Changes in Version 7.5

Summary Description

Installation

Quick Tips

Choosing and Changing Between 24-Bit and 32-Bit Modes

Which Software is 32-Bit Clean?

How to Obtain Connectix Products

This article has been archived and is no longer updated by Apple.

"DO I NEED MODE32?"

If you have a Mac II, IIx, IIcx, or SE/30 with System 7 and want to run in 32-bit addressing mode - the answer is yes; MODE32 gives your Mac the ability to run in 32-bit addressing mode under these systems.

If you have any other Macintosh model the answer is no. Your Mac either: (1) has the 32-bit addressing option built into ROM, (2) is incapable of running in 32-bit mode (has a 68000 Processor), (3) is always in 32-bit addressing mode (Power Macintosh, PowerBook 500 series and AV models), (4) is running System 6.

CHANGES IN VERSION 7.5

WARNING! DO NOT INSTALL MODE32 v1.2 WITH SYSTEM 7.5!

Use of MODE32 version 1.2 with System 7.5 may cause serious file corruption. If you have already installed version 1.2 (the control panel version) into a System 7.5 system - or even if you have already removed it - reinstall fresh System Software. Version 1.2 of MODE32 can cause file resource corruption in System 7.5. The only way to correct the problem is to reinstall a fresh version System Software 7.5. Once you have reinstalled System Software, you can use version 7.5 of MODE32 to gain 32-Bit Addressing capability.

MODE32 version 7.5 introduces a new interface and offers some compatibility improvements over version 1.2. MODE32 v7.5 has an installer that will automatically remove an old version of MODE32 control panel and replace it with MODE32 7.5 system extension. When installed, the MODE32 7.5 system extension is always enabled; you can access 32-bit addressing in the Memory control panel without having to adjust MODE32.

Connectix confirms that MODE 32 version 7.5 is compatible with System Software 7.5.3.

Other new features:

Compatibility with the Thread Manager extension (built into System

7.5 - 7.5.3).

System 7.0.1 Virtual Memory will no longer crashes with certain

combinations of NuBus cards.

Mac II without a 68851 PMMU running System 7.1 or newer won't hang on

restart

Certain hard disks that would previously cause continuous restarts can

now be used as the startup disk.

Improved performance when using virtual memory.

Compatibility with DiskLock 2.0.

Improved compatibility with some 68040 accelerators.

Improved power-on testing of memory beyond 8M.

SUMMARY DESCRIPTION

MODE32 is the utility for Mac II, IIx, IIcx, and SE/30 users who would like to use System 7 32-bit mode to access more than 8 contiguous megabytes of real or extended application memory. It is especially useful for pre-press, image processing, desktop publishing, animation, CAD, scanning, other memory-intensive applications, or use of large numbers of applications.

MODE32 enables the use of the standard 32-bit addressing mode of System 7.0. This new mode allows direct access to up to 128 megabytes of standard RAM or up to one gigabyte of extended memory, eliminating the traditional "eight megabyte barrier." 32-bit addressing would normally not be possible on the SE/30, II, IIx, and IIcx systems because of the software built into their ROMs. Those ROMs are only compatible with the less powerful 24-bit addressing mode which was standard in System 6.0. By extending the compatibility of the ROMs to the new 32-bit mode, MODE32 provides full System 7.0 32-bit functionality to these earlier machines.

Some applications and INITs are not "32-bit clean," that is, they are incompatible with 32-bit mode. Such software usually causes your system to crash immediately when run in 32-bit mode. When you need to work with any non 32-bit clean INITs or applications we recommend using Maxima (see How To Obtain Connectix Products). Maxima extends addressing of your physical memory to 14 megabytes without resorting to 32-bit addressing, so it is compatible with essentially all applications.

INSTALLATION

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1) Double-click on the MODE32 Installer.

2) Select the drive in which to install MODE32. By default, the boot drive will be selected.

3) Click the Install button.

4) Select "Register Now" and complete the registration information and click OK.

5) If you have a modem, click "Send". If you do not have a modem but have a printer, click "Print". If you do not have a printer or modem click "Don't Register" and use the toll-free phone number to register your copy of MODE32 7.5.

6) When you see a message saying that installation was successful, click "Restart" to load MODE32 or click "Quit" to return to Finder. You must restart your Mac in order to load MODE32.

7) After restart, open the Memory control panel (in the Control Panels folder in the System Folder). A 32-Bit Addressing option is now available. Click the On button and close the control panel.

8) Restart your Macintosh.

* NOTE: Not all applications, system extensions and hard disk drivers are compatible with 32-bit addressing. Follow the instructions listed in MODE32 Quick Tips or check with the manufacturer if you have

problems using a particular product with 32-bit addressing.

QUICK TIPS

After you install MODE32, remove all the Startup, Control Panel, and Chooser documents (INITs, cdevs and rdevs) that you are not sure are 32-bit clean and Restart your system before you switch into 32-bit mode. You can then go back and add the ones in question one at a time.

If you have a problem with a particular INIT or application, make sure that you have the most recent version. Many software products that were originally not 32-bit clean are being re-released in a 32-bit compatible version. Contact the publisher for compatibility details.

If you wish to temporarily disable MODE32 hold down the ESC key (the upper left key on your keyboard) during boot. Your system then automatically launches in 24-bit mode. The 32-Bit Addressing portion of the memory control panel will still be "On," so your system will automatically return to 32-bit mode after the next reboot.

MODE32 only works on Macintosh II family systems with non 32-bit clean ROMs (II, IIx, IIcx, or SE/30). It is not needed on Macintosh computers with 32-bit clean ROMs (IIci, IIsi, IIfx, LC, and so on), and it does not work on systems that have early ROM designs (128, 512, Plus, SE, Classic, Portable, and so on).

MODE32 only works with System 7.0 and later. If you want to use 32-bit addressing mode with System 6.0 you need to use the Connectix product, OPTIMA.

Do not forget to Restart your system after you change your addressing mode.

CHOOSING AND CHANGING BETWEEN 24-BIT AND 32-BIT MODES

Even though your system now has a powerful 32-bit mode, you may still wish to use 24-bit mode from time to time because of its more complete compatibility. Which mode you should use depends on how much memory you need.

32-bit Mode:

The System 7.0 implementation of 32-bit mode allows up to one gigabyte (1024 megabytes) of directly addressable memory. However, the main boards of the modular Macintosh systems are not wired to accept more than 128 megabytes of standard RAM. So you can access up to 128MB of physical memory or 1 gigabyte of extended memory in 32-bit mode.

You should be aware that 32-bit mode is only compatible with "32-bit clean" applications so you may not want to use it unless you need a lot of memory. It will only take one incompatible INIT or application to crash the system in 32-bit mode.

"32-bit addressing mode" means that all 32 bits of each address generated by the processor are interpreted by the Macintosh to be part of the address. It is often confused with 32-bit Color QuickDraw and 24-bit color video monitors, neither one of which is at all related to memory addressing modes. The 32-bit mode on your system will function in the same manner as the standard 32-bit mode on the IIci, IIsi, IIfx, LC, and newer models.

24-bit Mode:

The standard 24-bit mode allows you to access up to eight megabytes of physical RAM or up to 13 megabytes of extended memory. The advantage of 24-bit addressing mode is that it is compatible with the full range of Macintosh software, whereas only "32-bit clean" applications and INITs will run in the more powerful 32-bit mode. So, whenever your memory requirements can be adequately served by 24-bit mode, the increased compatibility of this mode may make it easier to use. By adding MAXIMA, RAM Doubler, or Virtual 3.0 to your system you can access 14 megabytes of physical or extended application memory, respectively, in 24-bit mode. However, any of this memory over eight megabytes will be fragmented, with the result that no single application can use all 13 or 14 megabytes. (In 32-bit mode, all of the memory up to one gigabyte is contiguous so that each application can access all the application memory.) Generally, if eight (or 14) megabytes of application memory is sufficient for your needs, you should consider using 24-bit mode because of its superior compatibility.

How to Change Memory Addressing Modes

Once you have installed MODE32 you can select 32-bit mode exactly the same way you would on the latest Macintosh systems. Open the standard System 7 "Memory" control panel (under the Apple menu) and click the "On" button in the 32-Bit Addressing portion. (This portion of the panel will only appear if you are using MODE32.) Then Restart your system. You can switch back to 24-bit mode at any time by following the same procedure, clicking the "Off" button instead of the "On" button.

WHICH SOFTWARE IS 32-BIT CLEAN?

The current versions of most applications are already 32-bit clean and many more clean versions will be released as System 7 becomes more widely used. However, there are enough incompatible products in use that you may still have to do some work to get your own system ready for 32-bit mode.

Start by running Apple's System 7 Compatibility Checker to see what you are using that may cause a problem. Eliminate anything it identifies as

not 32-bit (or System 7) compatible. Then, temporarily strip your system down to the bare essentials, putting the non-critical INITs in a Temporarily Disabled folder, or by turning them off with a 32-bit clean INIT chooser. It is much faster to start with a minimal set of INITs and add things one-by-one than it is to try everything and then eliminate the ones that don't work. (One of the best ways to do this is to start with a fresh System Folder in a 32-bit environment and add Startup, Control Panel and Chooser documents a few at a time.) Reboot and check the functionality of the software by exercising it a little, then add back a few more items.

If you get a crash or can't boot when you try to Startup in 32-bit mode, don't panic. Just reboot, holding down the ESC key (to temporarily switch to 24-bit mode) and start looking for the incompatible software. If you crashed while the INITs were loading, remember the last one that posted an icon to the desktop. The next one in alphabetical sequence is the most likely culprit. If you were running an application, don't use or even launch it for a while and get the rest of the system running smoothly. Then go back to that application and confirm that it was the problem. When you identify a product as non-32-bit compatible check to see if you have the current version. If not, contact the vendor as you may be entitled to a free or inexpensive upgrade. If they do not have a 32-bit clean version yet, find out if and when they plan to release one.

Even the NuBus and Process Direct Slot (PDS) cards in your machine must be running code which is 32-bit clean. Some NuBus cards have code that gets executed when the machine starts. These problems will exist even with a clean System Folder when you are in 32-bit mode. If you believe that you may have a incompatible NuBus or PDS card, try using a different card with the same functionality (for example another video card), test the suspect card in a 32-bit clean system (IIci, IIsi, IIfx, LC, and newer), or contact the manufacturer.

HOW TO OBTAIN CONNECTIX PRODUCTS

To obtain the Connectix products mentioned in this document (Maxima, OPTIMA, RAM Doubler) contact Connectix Corporation. To locate a vendor's address and phone number, use the vendor name as a search string.

Article Change History:

22 May 1996 - Updated references to Mode32 with SSW 7.5.3.

22 Nov 1994 - Added information on how to find Connectix address and phone

number.

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Apple Early Language Connections: LC 575 Use CD-ROM 5.0 (9/94)

I've had to reinstall the Apple Early Language Connections software on my Macintosh LC 575 computer, and now I cannot get the CD-ROM to recognize any CD ROMS that I put into the computer.

This article has been archived and is no longer updated by Apple.
Version 4.0 of the Apple Early Language Connections CD uses version 4.0.3 of the CD-ROM drivers. The Macintosh LC 575 and other computers that use the AppleCD 300i Plus CD-ROM Drive, require version 5.0 of the drivers. In order to install the Apple Early Language Connections CD on a Macintosh LC 575 computer, follow these steps:

1) Insert the Apple Early Language Connections CD and reinstall the software.
2) Restart your Macintosh
3) Place the Macintosh LC 575 Install Me First CD in the computer.
4) Use the Custom install option to install version 5.0 of the CD-ROM software.
5) Restart your Macintosh

Once the new CD-ROM drivers are installed, you can use the CD-ROM drive.

Note: Version 4.1 of the Apple Early Language Connections CD uses version 5.0 of the CD-ROM software, so you don't need to custom install the CD-ROM drivers.

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Apple Home Learning: Q & A

This article provides answers to commonly asked questions on Apple Home Learning (AHL).
This article has been archived and is no longer updated by Apple.
Q) Why is Apple entering the Home Learning market and what type of products will be offered?

A) Apple is uniquely positioned to enter this market due to its leadership in creating high quality technology used in K-12 schools and, due to the phenomenal success of its Performa hardware line, strong name recognition and credibility in the home market. Apple has been very successful in working with schools to provide the best hardware and software solutions aimed at helping children succeed in all aspects of the curriculum. Realizing that students engage in many learning activities at home in support of their school experience, Apple wants to help students and their parents by providing them with high quality products that engage the learner as well as make learning fun.

AppleSoft's Home Learning line will engage children by using technology to tap into their love of learning. Children will like AHL products because they are fun, because they encourage the child to explore his world, and because they provide a meaningful interactive experience. For the young child, AHL software will be as much fun as playing a video game. And for the older child, AHL software will be an acceptable alternative to video game. AHL products will be designed first for the home user, with educator input to ensure their educational value.

Apple's message to parents is that Apple delivers innovative software to bring the family a fun experience with educational value. Apple Home Learning products should be viewed as "health food for the mind." AppleSoft's At Ease gives children an alternative to the traditional Macintosh desktop and makes it easier for children to access products included in the Apple Home Learning line. In addition, AHL products will be sold for both Macintosh and MS Windows operating systems.

Q) Why did Apple choose Scholastic? Who else are you working with?

A) Scholastic is one of the premier providers of educational materials to schools. Scholastic's products are well received by parents, teachers, and, most of all, children. Apple is currently working with other developers and will be making further product announcements in 1995.

Q) Why is Apple entering the consumer software business when Claris already has entered the consumer software business with their Clear Choice line of products?

A) Claris, a subsidiary of Apple, publishes Macintosh and Windows productivity applications, with special strengths in software for generalist users in education, small business and the home. Under its Clear Choice line, Claris also publishes a variety of software for the home market. AppleSoft's Educational Products Group will focus specifically on the Home Learning market.

Q) Does this mean Apple is competing with its own home learning software developers?

A) Apple will help bring new titles to the marketplace that help to round out the total of home learning products available to parents and children. Apple will primarily seek to work with leading developers and educators in creating home learning products.

Q) Isn't this an already saturated market?

A) The home learning segment of the software marketplace is among the fastest growing areas of the software business. There are many opportunities for developers to create products that fill a variety of needs. Apple has a unique opportunity to leverage it's leadership in schools and in computers for the home to participate in this rapidly expanding segment of the software business.

Q) What channels is Apple focusing on? How will you sell it?

A) Apple Home Learning software will be sold through retail establishments including mail-order, superstores, mass merchants, consumer electronics stores, computer stores and software only establishments. AHL products will also be sold as part of hardware/software bundles and direct to K-12 schools.

Q) What's the first product and when? How many products this year?

A) The first product to come under the Apple Home Learning label is WiggleWorks, developed with Scholastic. WiggleWorks is an excellent example of a product that has the ability to engage children in learning the skills necessary to become good readers while, at the same time, provide children with a "fun" experience. WiggleWorks is unique in its combination of the engaging qualities of interactive books with educational value of a system that supports fundamental reading and writing skills.

WiggleWorks is a full system which supports young children in their reading, writing, listening, and speaking development. The books which Scholastic commissioned for WiggleWorks are high-quality, cover multiple genres, connected to school curriculum, and many are by noted authors and illustrators. Apple will add to the Apple Home Learning line based on customer and market needs. AppleSoft expects to announce additional AHL products IN 1995.

Q) Are you taking on Microsoft Home?

A) No. As mentioned earlier, AppleSoft is not announcing the publication of a large number of products aimed at competing one-on-one with existing third-party products. AppleSoft will continue to work with Microsoft and other third-party developers to ensure that the marketplace is filled with quality home learning products. Many of these products will be published by Microsoft, as well as other developers, some will be published by Apple.

Q) Is the AppleSoft Home Learning Group actively seeking developers for co-publishing/distribution?

A) Yes. AppleSoft is actively seeking further development partners for products that fit the Apple Home Learning strategy of providing children with learning experiences that make learning fun.

Q) What organizational infrastructure is in place to successfully sell, distribute and market these products to the retail channel?

A) AppleSoft has developed a complete two-tier software distribution and marketing system in the U.S., including direct relationships with all leading distributors and resellers. AppleSoft has also established software distribution in all major European, Pacific, North American and Latin American countries.

Q) What marketing/retail merchandising vehicles will AppleSoft use to position its products in the retail channel?

A) AppleSoft will use all its available creative resources to develop materials that drive demand in the retail channel. This includes attractive packaging, point-of-sale merchandising, collateral, demo disks, advertising, etc.

Q) Will Apple only acquire or will Apple also develop new products?

A) Apple plans to leverage widely recognizable names and properties whenever possible, as well as initiate innovative product development to create captivating products for children, teachers, and parents. AppleSoft will publish products developed by other developers as well as products harvested from Apple's internal development efforts.

Q) Why should competing third-party developers continue to work with Apple?

A) Our third-party developers are very important to our continued success. AppleSoft will continue to provide developers with information, technical support and marketing opportunities to help all developers become and remain successful.

Q) Why is Apple doing software products for Windows?

A) Apple's focus with the Apple Home Learning line is on strengthening the connection between the home and school. Apple computers clearly dominate in the school market. And while the penetration of Macintosh in the home continues to increase, largely due to the very successful Performa series, we do recognize that many families do have PC computers at home. Apple feels it's important to bring it's excellent educational technology and expertise to all children.

Q) Will there be any difference between your Mac and Windows products?

A) It depends on the product. There will be some minor user interface difference between the Mac and Windows versions of WiggleWorks.

Q) Will all of the AHL products be delivered for both Mac and Windows?

A) Not necessarily. Some products will take advantage of unique Macintosh capabilities that are not available on Windows.
Published Date: Feb 19, 2012

Apple Basic Color Monitor: No Support with Macintosh IIci (9/94)

I have a Macintosh IIci and cannot get the Apple Basic Color Monitor to work properly on it. I can get the Apple Color Plus display to work with the IIci and I can get Apple Basic Color Monitor to work from a DOS computers's SVGA port.

This article has been archived and is no longer updated by Apple.
The built-in video technology of the Macintosh IIci and IIsi do not support the VGA video format. The first Macintosh computer to support the VGA format was the LC.

Support Information Services
Published Date: Feb 19, 2012

Personal LaserWriter LS: No Driver with System 7.5 (2/95)

I have a Personal LaserWriter LS printer and installed System 7.5, but I cannot find the Personal LaserWriter LS printer in my Chooser. Is the Personal LaserWriter LS printer supported under System 7.5?

This article has been archived and is no longer updated by Apple.
The Personal LaserWriter LS driver that shipped with the printer does not work with System 7.5. In order to use the Personal LaserWriter LS printer under System 7.5, use the LaserWriter 300 printer driver. If you installed QuickDraw GX, use the LaserWriter 300 GX driver.

Article Change History:
16 Feb 1995 - Reviewed for accuracy and changed keyword.

Support Information Services
Published Date: Feb 19, 2012

PlainTalk and MacinTalk: Differences and When to Use

This article describes Speech Recognition and Text-to-Speech found in PlainTalk, MacinTalk 2, and MacinTalk Pro and their differences and when to use them.

The latest English Text-to-Speech software package features a new "smart installer" that automatically determines which speech resources are right for your computer. It will automatically install the correct files for your computer when you perform the Easy Install.
This article has been archived and is no longer updated by Apple.

PlainTalk

PlainTalk provides the Quadra 840AV, Centris/Quadra 660AV, and all Power Macintosh systems* seamless integration of Speech Recognition and Text To Speech technologies.

Speech Recognition

The Speech Recognition component of PlainTalk is based on the Casper technology. It is a continuous-speech system that is independent of the person speaking.

Speech Recognition enables a whole new user experience whereby you can streamline operations by simply invoking commands or complex macros by speaking them.

Text to Speech

Text to Speech component of PlainTalk gives an AV computer the ability of reading text based information and synthesizing speech using the computer's speaker.

Multiple voices at various sound quality levels are supported. This enables new capabilities such as audible proof reading or in combination with the telephony capabilities that GeoPort provides to listen to your email messages from remote locations.

Writing Speech Commands

Writing speech commands is accomplished through these methods:

- AppleEvent enabled applications commands are written using AppleScript.
- Non-AppleEvent enabled applications will use a new version of QuickKeys from CE Software that support spoken Commands.

Version Table

The following table provides information on what version of PlainTalk works with various versions of the Mac O/S and computer models:

Version	O/S Version	Macintosh Computer
PlainTalk 1.4.1	7.5	All Power Macintosh computers (excluding the 8-bit 5200 series*) with a PlainTalk microphone.
PlainTalk 1.3	7.5	Quadra 660AV and 840AV, All Power Macintosh computers (excluding the 8-bit 5200 series*) with a PlainTalk microphone.
PlainTalk 1.2	7.1.2	All Power Macintosh computers, (excluding the 8-bit 5200 series*) with a PlainTalk microphone.
PlainTalk 1.2	7.1, 7.1.1	Quadra 660AV and 840AV.

* Early versions of the Macintosh 5200/75 LC had 8-bit sound input. Use the search string '5200 and 8-bit and 16-bit' to locate the TIL article "Power Macintosh 5200/75 LC: 8-bit or 16-bit Sound?" for help determining whether your computer has 8-bit or 16-bit sound in.

MacinTalk

MacinTalk software enables any Macintosh to provide Text to Speech capabilities for applications that support Text to Speech. SimpleText is an example of an application that supports Text to Speech.

There are two options available ?? MacinTalk 2 or MacinTalk Pro ?? when installing Text to Speech software:

MacinTalk 2

MacinTalk 2 is well suited for low-end computing environments where available memory is low and CPU bandwidth is limited. Minimum configuration is System 6.0.7 running on a Macintosh Plus.

To use MacinTalk 2 you need these files:

*Speech Manager (1.4)
*MacinTalk 2 (1.4)
*MacinTalk 2 Voices (1.4)
*SimpleText (1.1)

MacinTalk 3

MacinTalk 3 is well suited for mid-range computing environments. Minimum configuration is System 7 running on a 68030 processor running at 33Mhz or any 68040 or PowerPC processor.

To use MacinTalk 3 you need these files:

*Speech Manager (1.4)
*MacinTalk 3 (1.4)
*MacinTalk 3 Voices (1.4)
*SimpleText (1.1)

MacinTalk Pro

MacinTalk Pro requires System 7 or greater. It is intended for 68040 or PowerPC processor equipped computers only. To use MacinTalk Pro you need these files:

* Speech Manager (1.4)
*MacinTalk Pro (1.4)
*SimpleText (1.1)

In addition, you need at least one of the voices from the Voices folder (not the MacInTalk2 Voices file). There are "High Quality" and "Small" versions of Agnes, Bruce, and Victoria. "High Quality" means that there is very little compression on the voice file resulting in high audio fidelity but larger size. "Small" means high compression on the voice file resulting in small voice footprint but lower audio fidelity.

These articles can help you locate the PlainTalk software mentioned here:

* "**Where To Find Apple Software Updates**"
Lists online services for "free" Apple software updates.

* "Obtaining Apple Product Support in the USA"
Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech. Info. Library.

Published Date: Feb 19, 2012

System 7.5: Shutdown DA Bypasses Shutdown Folder (2/95)

The System 7.5 "* Shutdown" Desk Accessory bypasses any items in the Shutdown Items folder during shutdown.

This article has been archived and is no longer updated by Apple.
This may cause problems for customers expecting, for example, an AppleScript to execute from the Shutdown Items folder upon shutdown.

Article Change History:
16 Feb 1995 - Reviewed for accuracy and changed keyword.

Support Information Services
Published Date: Feb 19, 2012

Finding Apple Software Updates Online

This article, once an alphabetical listing of Apple Software Updates Online, has been consolidated with article 14724.
This article has been archived and is no longer updated by Apple.
This article has been consolidated with article 14724 available **here**.
Published Date: Feb 19, 2012

AppleSingle/AppleDouble Formats: Developer‘s Note

This article contains the text from AppleSingle/AppleDouble Formats for Foreign Files Developer's Note.
This article has been archived and is no longer updated by Apple.
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Chapter 3: Filename conventions
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Appendix

Preface

This document describes version 2 of the AppleSingle/AppleDouble file formats.

To compare this version with version 1 of the AppleSingle/AppleDouble file formats, refer to Appendix B of the A/UX Toolbox: Macintosh ROM Interface manual.

You can also find a description of version 1 in the Apple II File Type Notes for file types $E0.0001-AppleSingle and $E0.0002/$E0.0003-AppleDouble. These File Type Notes are available through Apple Developer Technical Support.

Chapter 1: About AppleSingle/AppleDouble Formats

When a file is exchanged between file systems that do not support the same file attributes, some of the file's attributes are lost. Apple Computer has developed two file formats, called AppleSingle and AppleDouble, that allow files to maintain their file attributes on foreign file systems that do not support the same attributes.

The AppleSingle and AppleDouble formats were initially developed to store Macintosh files on file systems that do not support the Macintosh file structure. However, these formats can also be used to represent almost any kind of file on almost any file system. They assume only that the file systems used allow you to create a file as a set of contiguous bytes.

The AppleSingle/AppleDouble file format is not tied to a single home file system. A file is stored as a heterogeneous collection of data and attributes, which are interpreted as needed by the application reading the file.

The AppleSingle or AppleDouble format can be used

* as a standard format for transferring files among differing, or heterogeneous, computers.
* as a standard format for transferring files within a single computer.

- Choosing AppleSingle or AppleDouble -

The AppleSingle and AppleDouble formats are alike in that they use the same components to represent a file on a foreign system: data, resources, and attributes. The difference between the two formats is that the AppleSingle format stores these components in a single foreign file, and the AppleDouble format stores these components in two foreign files?one for the data, the other for the resources and attributes.

Applications may use either AppleSingle or AppleDouble when they create files on foreign file systems; however, they must understand both formats.

To find out which format is appropriate for you, examine your application. If the AppleSingle format is used, home file system data cannot be moved or deleted inconsistently; however, the AppleSingle format is harder to update. The AppleDouble format is easier to modify but one of the two AppleDouble files can be moved or deleted inconsistently.

If you are building an AppleTalk Filing Protocol (AFP) server (or any other server that supports the Macintosh computer), then you may want to use one of these formats as your application's internal or external file storage format. The choice is yours. It doesn't matter which format is used within your application, but it is suggested that you use one of these formats as your external storage format so that files can be shared by other applications running on the same machine as your application.

- Terminology -

The following terms are relevant to the discussion of AppleSingle and AppleDouble file formats.

A Macintosh file has two forks: the resource fork and the data fork. The resource fork contains data used by an application, such as menus, fonts, and icons. An executable file's code is also stored in the resource fork. The data fork contains data specific to an application.

The home file system is the primary file system for which the file's contents were created. The home file system is not necessarily the file system in which the file was created. For example, if a program running on a UNIX system creates a file that holds a MacWrite document, the file's home file system is the Macintosh file system?not the UNIX file system? because the file's contents are formatted for a Macintosh application.

In contrast to the home file system is the foreign file system, which is the other file system that stores or processes the created file. In the previous example, the UNIX file system is the foreign file system.

Chapter 2: The AppleSingle Format

In the AppleSingle format, a file's contents and attributes are stored in a single file in the foreign file system. For example, both forks of a Macintosh file, the Finder¬ information, and an associated comment are arranged in a single file with a simple structure.

An AppleSingle file consists of a header followed by one or more data entries. The header consists of several fixed fields and a list of entry descriptors, each pointing to a data entry. Each entry is optional and may or may not appear in the file.

- AppleSingle file header -

Table 2-1 describes the contents of an AppleSingle file header.

Table 2-1: AppleSingle file header

Field Length
----- ------
Magic number ------- 4 bytes
Version number ------ 4 bytes
Filler ---------- 16 bytes
Number of entries ----- 2 bytes

Entry descriptor for each entry:
Entry ID ------ 4 bytes
Offset -------- 4 bytes
Length -------- 4 bytes

Byte ordering in the file header fields follows MC68000 conventions, most significant byte first. The fields in the header file follow the conventions described in the following sections.

Magic number

This field, modeled after the UNIX magic number feature, specifies the file's format. Apple has defined the magic number for the AppleSingle format as $00051600 or 0x00051600.

Version number

This field denotes the version of AppleSingle format in the event the format evolves (more fields may be added to the header). The version described in this developer's note is version $00020000 or 0x00020000.

Filler

This field is all zeros ($00 or 0x00).

Number of entries

This field specifies how many different entries are included in the file. It is an unsigned 16-bit number. If the number of entries is any number other than 0, then that number of entry descriptors immediately follows the number of entries field.

Entry descriptors

The entry descriptors are made up of the following three fields:

* Entry ID, an unsigned 32-bit number, defines what the entry is. Entry IDs range from 1 to $FFFFFFFF. Entry ID 0 is invalid.
* Offset, an unsigned 32-bit number, shows the offset from the beginning of the file to the beginning of the entry's data.
* Length, an unsigned 32-bit number, shows the length of the data in bytes. The length can be 0.

Predefined entry IDs

Apple has defined a set of entry IDs and their values as follows:

Data Fork -------- 1 Data fork
Resource Fork ----- 2 Resource fork
Real Name -------- 3 File's name as created on home file system
Comment --------- 4 Standard Macintosh comment
Icon, B&W -------- 5 Standard Macintosh black and white icon
Icon, Color -------- 6 Macintosh color icon
File Dates Info ------8 File creation date, modification date, and so on
Finder Info -------- 9 Standard Macintosh Finder information
Macintosh File Info ---10 Macintosh file information, attributes, and so on
ProDOS File Info -----11 ProDOS file information, attributes, and so on
MS-DOS File Info ----12 MS-DOS file information, attributes, and so on
Short Name --------13 AFP short name
AFP File Info ------- 14 AFP file information, attributes, and so on
Directory ID --------15 AFP directory ID

Apple reserves the range of entry IDs from 1 to $7FFFFFFF. The rest of the range is available for applications to define their own entries. Apple does not arbitrate the use of the rest of the range.

Applications reading an AppleSingle or AppleDouble file interpret the entry IDs that are relevant to their home file system and treat the other entries as opaque data. For example, a Macintosh client application will understand entry IDs 1 through 6 and 8 through 10. A ProDOS¿ client application reading the same file will read entry ID 11 instead of entry IDs 9 and 10.

Entry IDs 1, 3, and 8 are typically created for all files; entry ID 2 only for Macintosh and ProDOS files; entry IDs 4, 5, 6, 9, and 10 only for Macintosh files; entry ID 11 only for ProDOS files; entry ID 12 only for MS-DOS files; and entry IDs 13, 14, and 15 only by AFP servers.

Macintosh Icon entries do not appear in most files because they are typically stored as a bundle in the application file's resource fork.

The File Dates Info entry (ID=8) consists of the file creation, modification, backup and access times (see Figure 2-1), stored as a signed number of seconds before or after 12:00 a.m. (midnight), January 1, 2000 Greenwich Mean Time (GMT). In other words, the start of the year 2000 GMT corresponds to a date-time of 0. Applications must convert to their native date and time conventions. When initially created, a file's backup time and any unknown entries are set to $80000000 or 0x80000000, the earliest reasonable time.

The Macintosh Finder Info entry (ID=9) consists of 16 bytes of Finder Info followed by 16 bytes of extended Finder Info; that is, the field ioFlFndrInfo followed by ioFlXFndrInfo, as returned by the Macintosh PBGetCatInfo call. (The PBGetCatInfo and the internal structures of

ioFlFndrInfo and ioFlXFndrInfo are described in Inside Macintosh.)

Newly created files have 0s in all Finder Info subfields. If you are creating an AppleSingle or AppleDouble file, you may assign 0 to any subfield whose value is unknown (most subfields are undefined if the file does not reside on a valid hierarchical file system [HFS] volume), but you may want to set the fdType and fdCreator subfields.

One additional field must be set in the directory Finder Info entry. Whenever the Finder encounters a new ("inited" bit clear) directory, it initializes the frView field of the directory Finder Info to a value indicating how the contents of the directory should be viewed when opened (by icon, by small icon, and so on). Zero is not a legal value. This is not a problem as long as the client has write permission for the directory.

The Finder will place a legal value into the frView field when it initializes the directory. However, if the directory permissions deny making changes, the initial value will remain unchanged and cause the Finder to display things strangely. Consequently, it is appropriate to set the frView field when the Finder Info is assigned to a new host directory. For example:

#define closedView 256 /* Normal view - icon, spatial *//* ... */dirFinderInfo.frView = closedView;

This results in the traditional "view by icon" display when the Finder first opens the window for that directory.

The Macintosh File Info entry (ID=10) is 32 bits that stores the locked and protected bit. Macintosh file times are stored in entry ID 8.

The ProDOS File Info entry (ID=11) consists of the file access, file type, and file auxiliary type. ProDOS file times are stored in entry ID 8.

The Access word may be used directly in ProDOS 16 or GS/OS calls; only the low byte is significant to ProDOS 8. The File Type word is the file type of the original file; only the low byte is significant to ProDOS 8. The Auxiliary Type long word is the auxiliary type of the original file; only the low word is significant to ProDOS 8.

UNIX file times are stored in entry ID 8.

The MS-DOS File Info entry (ID=12) is 16 bits that stores the MS-DOS attributes. MS-DOS file times are stored in entry ID 8.

The Short Name entry (ID=13) is the AFP short name. AFP servers must keep a mapping of short names for all foreign files. This short name is stored in entry ID 13.

If entry ID 13 does not exist, an AFP server derives a short name and creates this entry. When they derive short names, AFP servers must ensure that the derived names are unique within the directory. In order to ensure that short names for new foreign files don't conflict with existing short names, the following convention is used: AFP servers start all derived names with the character "!" ($21 or 0x21). AFP clients are not allowed to access foreign files that begin with this character (!). Except for this restriction on foreign AFP servers, the short name algorithm remains flexible.

The AFP File Info entry (ID=14) is the AFP attributes word, as shown in Figure 2-5. AFP servers should set the BackupNeeded bit whenever a file is modified, or if the AppleSingle/AppleDouble foreign file's modification time is later than the modification time in entry ID 8.

The Directory entry (ID=15) is the AFP directory ID. AFP servers keep the 4-byte directory ID in this entry. This ID is assigned when a directory is created, or when a directory AppleDouble header file without an ID entry is found. The next unused ID is kept in the volume root info file, %RootInfo, in the volume root directory. The %RootInfo file is an AppleDouble header file with entries 3, 4, 8, 9, and 15 (Real Name, Comment, Volume Dates, Finder Info, and Next File ID). It must be locked when it is updated.

- File layout -

The entry data follows all of the entry descriptors. The data in each entry must be in a single, contiguous block. You can leave holes in the file for later expansion of data. For example, even if a file's comment field is only 10 bytes long, you can place the offset of the next field 200 bytes beyond the offset of the comment field, leaving room for the comment to grow to its maximum length of 200 bytes.

The entries can appear in any order, but you can maximize the efficiency of file access by following these conventions:

* Put the data fork entry at the end of the file. The data fork is the most commonly extended entry, and it is easier to increase its length if it is the last entry in the file.

* Put the entries that are most often read, such as Finder Info, File Dates Info, and Macintosh File Info, as close as possible to the header, to increase the probability that a read of the first block or two will retrieve these entries.

* Allocate the resource fork entry in blocks of 4 kilobytes (K) in order to minimize reorganization of AppleSingle files during updates to the resource fork.

- Filename conventions -

AppleSingle name derivations for some of the file systems of interest are defined in the following sections.

ProDOS

To generate the AppleSingle filename, use character substitution or deletion to remove illegal characters, and use truncation, if necessary, to reduce the length of the name to the maximum filename length of 15 characters.

MS-DOS

To generate the AppleSingle filename, use character substitution or deletion to remove illegal characters, and use truncation, if necessary, to reduce the length of the name to 8 characters. Then add the MS-DOS extension that is most appropriate to the file (for example, .TXT for a pure text file).

UNIX and NFS

AppleSingle naming conventions for UNIX and the Network File System (NFS) are essentially the same; they vary only according to the capabilities of the foreign file system. The creating application must use the naming convention that is the most complete subset of the foreign file system, and the naming convention must be constant across a single foreign file system volume.

There are three naming conventions:

* 8-bit
* 7-bit ASCII
* 7-bit alphanumeric

With the 8-bit naming convention, the foreign file system can store at least 93 character filenames consisting of all 8-bit characters except slash ($2f or 0x2f), null ($00 or 0x00), and percent ($25 or 0x25). The slash, null, and percent characters are replaced by a percent character, followed by the two-character hexadecimal code of the escaped character. For example, the home file system name Caûada return - 20% becomes Caûada return - 20%25.

With the 7-bit ASCII naming convention, the foreign file system can store at least 93 character filenames consisting of all 7-bit ASCII characters except slash ($2f or 0x2f), null ($00 or 0x00), and percent ($25 or 0x25). The slash, null, and percent characters are replaced by a percent character, followed by the two- character hexadecimal code of the escaped character. In addition, all extended 8- bit characters ($80 ð $ff or 0x80 ð 0xff) are replaced by a percent character, followed by the two-character hexadecimal code of the escaped character. For example, the home file system name Caûada return - 20% becomes Ca%96ada return - 20%25.

With the 7-bit alphanumeric naming convention, the foreign file system can store at least 93 character filenames consisting of all 7-bit alphanumeric characters except slash ($2f or 0x2f), null ($00 or 0x00), and percent ($25 or 0x25). The slash, null, and percent characters are replaced by a percent character, followed by the two-character hexadecimal code of the escaped character. In addition, all nonalphanumeric characters except underscore ($5f or 0x5f) and the last period ($2e or 0x2e) are replaced by a percent character, followed by the two-character hexadecimal code of the escaped character. For example, the home file system name Caûada return - 20% becomes Ca%96ada%20return%20%2d%2020%25.

Since expanding characters into "%" followed by two hexadecimal digits can result in long filenames, some foreign systems may not be able to store complete 31-character filenames. Behavior under these conditions is not defined here.

- Usage -

AppleSingle files must be locked during access to ensure data integrity.

Applications that access AppleSingle files ignore all unknown entries, yet preserve the unknown entries when moving or copying files.

The Real Name entry is associated with file storage. File server applications typically use the reverse mapping of the foreign filename when they present names to the client. Servers do not create or read a Real Name entry.

When the home file system name is renamed, the foreign filename must be renamed according to the filename conventions described in the previous sections.

Chapter 3: The AppleDouble Format

The AppleDouble format uses two files to store data, resources, and attributes. The AppleDouble Data file contains the data fork and the AppleDouble Header file contains the resource fork.

The AppleDouble Data file contains the standard Macintosh data fork with no additional header. The AppleDouble Header file has exactly the same format as the AppleSingle file, except that it does not contain a data fork entry. The magic number in the AppleDouble Header file differs

from the magic number in the AppleSingle Header file so that an application can tell whether it needs to look in another file for the data fork. The magic number for the AppleDouble format is $00051607 or 0x00051607.

The entries in the AppleDouble Header file can appear in any order; however, since the resource fork is the entry that is most commonly extended (after the data fork), Apple recommends that the resource fork entry be placed last in the file. The data fork is easily extended because it resides by itself in the AppleDouble Data file.

It is possible to create a new type of entry in the AppleDouble Header file that points to the AppleDouble Data file to make it easy to find. For example, an application-defined entry might hold the name of the AppleDouble Data file. Some foreign file systems might provide a feature that allows a more permanent pointer to be created?one that would not require the pointer to be updated if the AppleDouble Data file were renamed.

- Filename conventions -

The following sections present a standard for deriving the AppleDouble Data and AppleDouble Header filenames from the file's Real Name. Because filename syntax differs in the various file systems, the standard varies by file system.

Knowing the AppleDouble name derivations for some of the file systems of interest will allow applications running on foreign file systems and users to see which files are AppleDouble pairs. Users who know the derivation can rename or move the files while preserving the connection between the two. However, there is no guaranteed way to prevent one file in the pair from being inconsistently renamed, moved, or deleted.

ProDOS

To generate the AppleDouble Data filename, use character substitution or deletion to remove illegal characters, and use truncation, if necessary, to reduce the length of the name to 13 characters, two characters less than the maximum filename length.

To generate the AppleDouble Header filename, prefix the AppleDouble Data filename with the characters uppercase-R period (R.).

MS-DOS

To generate the AppleDouble Data filename, use character substitution or deletion to remove illegal characters, and use truncation, if necessary, to reduce the length of the name to eight characters. Then add the MS-DOS extension that is most appropriate to the file (for example, .TXT for a pure text file).

To generate the AppleDouble Header filename, add the extension .ADF (for AppleDouble file) to the eight-character filename.

UNIX and NFS

AppleSingle/AppleDouble naming conventions for UNIX and NFS are essentially the same; they vary only according to the capabilities of the foreign file system. The creating application must use the naming convention that is the most complete subset of the foreign file system, and the naming convention must be constant across a single foreign file system volume.

There are three naming conventions:

* 8-bit
* 7-bit ASCII
* 7-bit alphanumeric

With the 8-bit naming convention, the foreign file system can store at least 93 character filenames consisting of all 8-bit characters except slash ($2f or 0x2f), null ($00 or 0x00), and percent ($25 or 0x25). The slash, null, and percent characters are replaced by a percent character, followed by the two-character hexadecimal code of the escaped character. For example, the home file system name Caûada return - 20% becomes Caûada return - 20%25.

With the 7-bit ASCII naming convention, the foreign file system can store at least 93 character filenames consisting of all 7-bit ASCII characters except slash ($2f or 0x2f), null ($00 or 0x00), and percent ($25 or 0x25). The slash, null, and percent characters are replaced by a percent character, followed by the two- character hexadecimal code of the escaped character. In addition, all extended 8- bit characters ($80 ð $ff or 0x80 ð 0xff) are replaced by a percent character, followed by the two-character hexadecimal code of the escaped character. For example, the home file system name Caûada return - 20% becomes Ca%96ada return - 20%25.

With the 7-bit alphanumeric naming convention, the foreign file system can store at least 93 character filenames consisting of all 7-bit alphanumeric characters except slash ($2f or 0x2f), null ($00 or 0x00), and percent ($25 or 0x25). The slash, null, and percent characters are replaced by a percent character, followed by the two-character hexadecimal code of the escaped character. In addition, all nonalphanumeric characters except underscore ($5f or 0x5f) and the last period ($2e or 0x2e) are replaced by a percent character, followed by the two-character hexadecimal code of the escaped character. For example, the home file system name Caûada return - 20% becomes Ca%96ada%20return%20%2d%2020%25.

To generate the AppleDouble Header filename, prefix the AppleDouble Data filename with the percent character (%). Conflicts between AppleDouble Header files and AppleSingle or data files that begin with "%," are resolved by the file's magic number.

Since expanding characters into "%" followed by two hexadecimal digits can result in long filenames, some foreign systems may not be able to store complete 31-character filenames. Behavior under these conditions is not defined here.

- Usage -

AppleDouble Header files must be locked during access to ensure data integrity.

Applications that access AppleDouble files ignore all unknown entries, yet preserve them when moving or copying files.

Directories are stored as AppleDouble files if they are created by the application.

The Real Name entry is associated with file storage. File server applications typically use the reverse mapping of the foreign filename when they present names to the client. Servers do not create or read a Real Name entry.

When renaming the home file system name, the foreign filename must be renamed according to the filename conventions described in the previous sections.

Applications should not create AppleDouble Header files for preexisting foreign directories or files unless this is necessary to store AppleDouble entries.

Appendix: Updating Version 1 AppleSingle/AppleDouble Files

Applications should create AppleSingle/AppleDouble files using the version 2 format and naming conventions described in this document. Applications should understand version 1 ($00010000 or 0x0010000) format and naming conventions but should not create new files in the version 1 format.

You can update version 1 files to version 2 files by performing the following steps:

* Overwrite the version number and filler fields in the AppleSingle or AppleDouble file header.

* Replace the File Info entry (ID=7) in the version 1 file with the File Dates Info entry (ID=8) and one of the following entry IDs: Macintosh File Info (ID=10), ProDOS File Info (ID=11), or MS-DOS File Info (ID=12).

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Macintosh: Using Third Party IDE Hard Disks

What solution does Apple support for using a third-party IDE drive to replace the existing IDE drive Macintosh computers? Will Apple HD Formater that comes on the Disk Tools disk format any IDE drive?
This article has been archived and is no longer updated by Apple.
You can use third-party IDE drives in Apple Products as long as the IDE drive supports the identify command, works at least at PIO mode 2 performance level, and has write caching turned on so that auto-reallocation of new spares is invoked.

Also, the highest PIO mode the Macintosh 630 family, the Macintosh and Performa 580, and the Macintosh Performa and Power Macintosh 5200, 5300, 6200, and 6300 series are capable of supporting is PIO Mode 3. The highest performance setting PIO mode the Macintosh Performa and Power Macintosh 5400 and 6400 series are capable of supporting is PIO Mode 4.

Most importantly, any IDE hard drive that is going to be used on these systems must support Logical Block Addressing (LBA). LBA is the method that drive manufacturers have adopted in order to go beyond the 520 MB DOS-BIOS limit.

Hard drives typically come pre-formatted so you do not need to worry about formatting the drive. The Macintosh system initializes the drive on startup (if it is not already done) so the system software can be installed.
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SNA■ps and IBM IN (International Information) System (9/94)

I need some information on SNA*ps and IBM IN (International Information System). I want to connect an AppleTalk LAN to a remote IBM IN System with standard IBM EDIFACT in a 3270 environment.

I also want to do mail and file transfer with the host. I'm thinking of using CCMail or WordPerfect Mail for Macintosh, because it's compatible with the mail system on the Host which is based on Memo by Verimation.

Can you suggest a compatible solution?

This article has been archived and is no longer updated by Apple.
There are several solutions from several vendors that can potentially solve your problem. You need to first establish a physical network connection and then select the software to do what you want done.

Note: We are not endorsing any of the products mentioned here. You must evaluate third-party products to best meet your needs.

To connect Macintosh computers to an IBM mainframe remotely, the customer needs to have a SNA*ps Gateway from Wall Data, here is how it works:

Mac clients ----> via AppleTalk ----> SNA*ps Gateway ----> IBM Mainframe.

The SNA*ps Gateway is software running on a Macintosh computer with Mac OS, and talks in two protocols, AppleTalk and SNA.

To have 3270 emulation on a Macintosh, use the SNA*ps 3270 GC (Gateway Client) product in conjuction with a SNA*ps Gateway. For a single user environment use the SNA*ps 3270 product. Both of these products provide file transfer using IND$FILE.

The remote connection between the SNA*ps Gateway and the IBM Mainframe can be accomplished using a pair of WAN bridges or routers that can handle SNA traffic like Cisco, WellFleet, 3Com, CrossCom, Proteon, Andrew, and so on. (Some of these vendors can encapsulate SNA inside TCP/IP.)

3270 emulation on a Macintosh will enable end-users to use the existing Memo mail system on the IBM host. This solution requires an on-line (real-time) connection between the Macintosh and the IBM Mainframe.

However, if you need a Macintosh mail client on your desktop computers, and you want a LAN client/server mail environment, then you might consider Memo LAN from Verimation, Inc. who also provides Memo on the IBM host. Also a client/server mail implementation won't have as much impact on the WAN link's bandwidth as 3270 emulation because mail clients can work off-line.

Here is some information regarding Memo:

Memo is Verimation's client/server business communication system servicing corporate computing users on multiple platforms including MVS, VSE, VM, OS/400, LAN, Windows, OS/2, DOS, and Macintosh. Memo LAN is a full-function E-mail and office automation system that can run either standalone in a LAN configuration or in cooperation with Memo mainframe or Memo AS/400 in a client/server configuration to achieve a true enterprisewide business communication system. Memo LAN features comprehensive messaging, directory and calendar services, workflow facilities, and gateways to other popoular mail systems. The workflow facilities, are incorporated into the calendaring and scheduling services to manage and track all business transactions, work commitments, and personal time. Memo LAN is a message Handling System (MHS)-based Windows application that operates on all major LAN operating systems. Communication can be established to popular mail systems including HP Desk, Profs, SNA Distribution Services (SNADS Dissos, AS/400, and so on), All-in-one, Wang Office, X.400, MS-Mail, and so on, Telex, and fax. Memo application programming interface (API) services provide powerful integration for mail-enabled applications making Memo a complete enterprisewide mail communications system. 800-967-6366

If you are interested in Lotus cc:Mail, the Verimation, Inc. product will enable a Macintosh cc:Mail client to talk to Memo on the IBM mainframes.

Here is the product information for cc:Mail:

Memo/cc:Mail allows users of the Memo enterprisewide E-mail system and users of cc:Mail to exchange messages with one another. Messages can be sent to one or several cc:Mail recipients in the same way as sending a message to another Memo user. Conversely, Memo users can receive messages from a cc:Mail originator. Memo/cc:Mail fully supports the distribution of Memo and non-Memo formats (binary files, graphics, RFT, FFT, and so on) across the gateway. Memo is an enterprisewide client/server business communication system servicing corporate computing users on multiple platforms including MVS, VSE, VM, OS/400, Windows, OS/2, DOS, and Macintosh. Comprehensive features include easy-to-use intuitive user dialog, intelligent forms, bulletin boards, application programming interfaces (API), Electronic Data Interchange (EDI), calendar and resource scheduling, a common look and feel across platforms, and gateways to other mail systems including PROFS, Distributed Office Support System (DISOSS), SNA Distribution Services (SNADS), X.400, Digital Equipment Corp., HP, Want, MS-Mail, cc:Mail, WordPerfect, Message Handling System (MHS), and so on. 800-967-6366

Another vendor that provides similar service is SoftSwitch. Here is information on them:

SoftSwitch Inc. and its Enterprise Mail Exchange (EMX) technology will enable the company to link E-mail applications with mainframe E-mail backbones and legacy data. 610-640-9600

Support Information Services
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System 7.5: "Synchronize Folders" AppleScript Droplet (10/96)

This article describes the AppleScript droplet "Synchronize Folders".

This article has been archived and is no longer updated by Apple.

System 7.5 ships with a "Synchronize Folders" AppleScript droplet located in:

Apple Extras:AppleScript:More Automated Tasks

Here is a description of the Synchronize Folders droplet: This script compares the contents of two folders and synchronizes the contents. Example: If there is a file called "Document 1" in folder A and a file called "Document 2" in folder B the script will copy "Document 1" to folder B and "Document 2" to folder A so that both folders will contain both files. If there are files of the same name in the folders then the file with the later modification date is copied to the other folder.

It's important to note that the "Synchronize Folders" AppleScript droplet only works reliably when synchronizing two folders which do not have any folders within. It should not be used to synchronize folders which have other folders within them.

With the release of System 7.5.3, Synchronize Folders AppleScript automated task handles nested folders properly.

Article Change History:
23 Oct 1996 - Added System 7.5.3 information.
16 Feb 1995 - Reviewed for accuracy and changed keyword.

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PowerBook: Color Matching with External Monitor

Is there a way to see exactly how a presentation I create on my desktop Macintosh will appear when I transfer it to my PowerBook Duo 270c? I have had problems matching certain shades of blue in the past.
This article has been archived and is no longer updated by Apple.
ColorSync 1.0.5, included with System 7.5, resolves this type of problem because it includes a ColorSync profile for the PowerBook Duo 270c.

ColorSync 1.0.5 is also available from the Apple Software Updates web site at http://www.apple.com/swupdates.

Published Date: Feb 19, 2012

PlainTalk 1.3 & Net Install From Novell Netware (2/95)

Can I net install PlainTalk 1.3 from a Novell Netware server?

This article has been archived and is no longer updated by Apple.
No. PlainTalk 1.3 will not "Net Install" from Novell Netware file servers.

Article Change History:
16 Feb 1995 - Reviewed for accuracy and changed keyword.

Support Information Services
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A/UX 3.1: /etc/fstab Corruption (9/94)

After reformatting my 2 GB hard drive and reinstalling A/UX 3.1 from the CD, I remembered that I forgot to make a copy of fstab. I then edited fstab with TextEditor, but now things don't work correctly. When I did a cat of /etc/fstab, I got nothing but garbage. What's wrong?

This article has been archived and is no longer updated by Apple.
After a fresh install of A/UX 3.1 (from the full installer CD, not the Upgrade), /etc/fstab is an AppleDouble file, typed 'TEXT', creator 'iAUX', the A/UX Installer's signature. Since the creator is not 'A/UX' or 'tefi' and the Finder cannot find the Installer application, the icon for /etc/fstab is the unknown (grey) text document. The system behaves correctly as long as /etc/fstab remains an AppleDouble file.

If /etc/fstab is then edited and saved with TeachText, TextEditor or any other Macintosh application, the A/UX file manager will convert it to AppleSingle format, which is not understood by fsck. This occurs because the "TBTRANSLATEUXONLY" environment variable is set (the default), and 'iAUX' is not a creator for which the file manager handles TEXT files specially which are 'DOS ', 'tefi', 'TextEditor', and 'A/UX'.

The problem is not with TextEditor, but with the A/UX file manager's handling of the TEXT file type and creator. This behavior was introduced in A/UX 3.1.

Workaround:

1) Open /etc/fstab with TextEditor (don't use TeachText).

2) Select and copy the contents of /etc/fstab into the cut-and-paste buffer (Command-C).

3) Open a new TextEditor document (Command-N) with a unique name (not fstab); be sure that the "Save Text Only" button is set in the dialog box (this is the default).

4) Paste the contents of /etc/fstab into the new document.

5) Save the new document and quit TextEditor.

6) From the Finder, drag /etc/fstab to the Trash and empty the Trash.

7) Rename the new document to /etc/fstab.

It won't work to just do a "Save As..."; TextEditor will preserve the incorrect file creator, 'iAUX'.

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LaserWriter: Direction of Driver Software

Here are some questions and answers about the future direction of the LaserWriter driver software.
This article has been archived and is no longer updated by Apple.
Question: Please tell me about the direction of LaserWriter 8.x software. Is Apple really promoting the use of LaserWriter 8.x? If so, why isn't it the standard driver in 7.5?

Answer: Apple is promoting the use of LaserWriter 8.x. LaserWriter 7.2 is included in System 7.5 mainly for compatibility reasons. There are still a few applications that have not been revised to take advantage of LaserWriter 8. Also, LaserWriter 8.2 (which addresses bugs with LaserWriter 8.1.1) was not available when System 7.5 was released, and so LaserWriter 7.2 was included as a "backup" driver.

Question: The Read Me of the LaserWriter 8.1.1 mentioned several compatibility problems. Are these resolved yet? The Read Me of LaserWriter 8.2 doesn't list any problems.

Answer: The majority of compatibility problems listed in the LaserWriter 8.1.1 Read Me need to be resolved in the applications themselves. We recommend that you check with the specific developers to see if they have revised their applications to resolve the problem(s) listed. LaserWriter driver 8.2 includes some bug fixes of its own, but also includes some new features as well (Please refer to the Tech Info Library article "LaserWriter 8.2: Changes to Printer Driver (9/94)").

Question: What if we go to QuickDraw GX? Wouldn't we use the QuickDraw GX driver exclusively and therefore LaserWriter 8.x is just for temporary use until we go GX? Should our company wait until we decide on the release/roll out of 7.5/GX to make the decision on LaserWriter 8.2?

Answer: In theory you can go with LaserWriter GX exclusively. However, you will not receive all of the benefits of GX printing unless the applications you are using are GX-aware. If you encounter problems or incompatibilities with QuickDraw GX, then you might consider the following two options:

* Try using GX Helper (included as a custom install item in GX) - this option allows non-GX aware applications to turn OFF desktop printing for Apple-only printers, and use LaserWriter 7.2 if it is installed in the Extensions folder. GX Helper is only tested and supported with LaserWriter 7.2, though we have verified that it seems to work with LaserWriter 8.x and 8.xf as well.

* Fall back to LaserWriter driver 8.2 with GX turned OFF.

System 7.5 and QuickDraw GX have both been released and are available in the marketplace.

Question: Why are there two LaserWriter drivers? It seems there will be support, standards, and development difficulties with two LaserWriter driver standards.

Answer: We would suggest trying out QuickDraw GX to determine if it will meet your needs given that the majority of applications are not yet GX-aware. If it does not, LaserWriter driver 8.2 is a very robust release and should provide you with the best overall functionality. In regard to longer-term strategy, the goal is to provide the functionality of both driver platforms into one, LaserWriter GX with printer extensions.
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LaserWriter 8.x: Update PPD‘s When Using PageMaker

My LaserWriter IINTX has an external hard drive attached that contains several PostScript fonts. I am using PageMaker 5.0 with the LaserWriter 8 driver. Why does the LaserWriter IINTX ignore the fonts on the external hard drive and instead download them from my System folder? This adds a significant delay when printing.

This article has been archived and is no longer updated by Apple.

Even though the fonts are available on an external hard drive PageMaker ignores the fonts until the PPD file has been updated using the Update PPD addition which can be found in the Aldus Additions menu under the Utilities menu bar. The Update PPD addition checks the external hard drive for font information and then appends it into the current PPD file. Once the PPD file is updated with the hard drive font information the printer uses the fonts on the external hard drive instead of downloading them from the system folder. Consult the PageMaker documentation for more information on the PPD Update addition.

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At Ease 2.0.3: Corrects AppleCD 300 Plus Ejection Problem

The read me file that comes with the AppleCD 300 Plus drive states:

WARNING: If you shut down your computer before you eject a disc while you are using At Ease, the tray of the CD-ROM drive opens and then closes immediately. If you attempt to remove the disc as the tray opens or closes, you may damage the disc or the tray of the CD-ROM drive. (To remove a disc from the CD-ROM drive after you have shut down your computer: Start up your computer, then choose the Eject command from the Special Menu. Remove the disc and close the tray by pushing it in or pressing the Open/Close button. Then you can shut down your computer again.)

Does this problem occur in At Ease 2.0.3?
This article has been archived and is no longer updated by Apple.
With At Ease 2.0.3, this is no longer a problem. When a CD-ROM is inserted into an AppleCD 300 Plus, and you choose Shut Down from the Special menu, the CD is left in the drive. You can still choose Eject from the Special menu and the CD is ejected from the AppleCD 300 Plus drive.
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Multiple Scan 15 Display: Explanation of Screen Dimensions 9/94

The Multiple Scan 15 manual has measurements for the display that don't correspond to this display. Is the manual wrong?

This article has been archived and is no longer updated by Apple.
This question arises across our entire monitor line. While it may be a bit confusing, the explanation is rather simple.

Since the advent of television in the 1940s, Cathode-ray tubes (CRTs) have been identified by their physical diagonal dimension. For example, a 19-in. television set has a CRT that measures 19-in. diagonally. However, part of the CRT is behind the plastic bezel so it measures something less than 19-in. diagonally when measured from the front of the television set. This method has been adopted not only by the television industry but also by the computer/monitor industry. All monitor vendors use this method and Apple is no different. If the bezel was removed and the Multiple Scan 15 Display CRT was measured diagonally it would indeed measure 15-inches. There is no deception intended--it's just the way it's be done for over fifty years.

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Macintosh: Please Insert the Disk:... Error

This article discusses possible causes for receiving the error message "Please Insert the Disk: <Hard Disk>" when shutting down.
This article has been archived and is no longer updated by Apple.

Application Specific

The combination of QuickTime 2.x, an IDE or SCSI hard drive, and various application programs can cause the error message "Please Insert the Disk: <Hard Disk>" to appear when shutting down.

This issue occurs with versions of Virex before 5.06.

Workarounds

There are several workarounds to the issue.

- Upgrade Virex to version 5.06 or later.
- Switch from QuickTime 2.x to 1.6.2. However, this negates the advantages of using the advanced features of QuickTime 2.x.
- Place a floppy disk in the drive or mount a server before shutting down. This is the simplest solution to the problem.

Hard Drive Driver Related

You may also receive this error message if you are using an incompatible driver with the installed system software.

Workarounds

- Use Apple Drive Setup 1.0.2 or Apple HD SC Setup 7.3.2 or later to update the hard drive drivers.
- If you are using a third-party driver, contact the driver vendor for compatibility information.

Updated Apple driver software is available from the Apple Software Updates Web site at http://www.apple.com/swupdates/ .
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LaserWriter 16/600 PS: Memory Upgrades

What are the memory requirments when upgrading the LaserWriter 16/600 PS?
This article has been archived and is no longer updated by Apple.
The LaserWriter 16/600 contains two 72 pin SIMM sockets which support 4, 8, and 16MB SIMMs. The speed on all SIMMs should be 80ns or faster. The specific configurations supported are listed below.

4 MB SIMM

Configuration: 1 Mbit x 32 bit (One 4 MB bank)
Refresh: 2K or 4K

8 MB SIMM

Configuration: 2 Mbit x 32 bit (Two 4 MB banks)
Refresh: 2K or 4K

16 MB SIMM

Configuration: 4 Mbit x 32 bit (One 16 MB bank)
Refresh: 2K Row (11 bit x 11 bit)

NOTE: 16 MB SIMMs with a 4K Row (10 bit x 12 bit) refresh configuration are not compatible with the LaserWriter 16/600 PS.

These are the supported memory configurations. Pay particular attention to note number 5 below which provides information about specific configurations that are not supported.

SIMM Sockets			
Left	Right	Total	Notes
8 MB	--	8 MB	(1)
8 MB	4 MB	12 MB	(2)
8 MB	8 MB	16 MB	-
16 MB	8 MB	24 MB	(3)
16 MB	16 MB	32 MB	(4)

Notes:
1) This is the standard configuration shipped from Apple.
2) This is the minimum configuration for enabling PhotoGrade.
3) This configuration requires moving the base 8MB SIMM from the left to the right SIMM socket. Due to space constraints, the left SIMM should always be installed before the right SIMM is installed.
4) This configuration requires removing the standard 8 MB SIMM.
5) Memory configurations of 16+0=16MB and 16+4=20MB are not supported by this product.
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Color StyleWriter 2400: Ink Tank vs. Ink Cartridge

This article discusses the difference between an ink cartridge and an ink tank on the Color StyleWriter 2400.

This article has been archived and is no longer updated by Apple.
The Color StyleWriter 2400 supports two different ink cartridges depending on the type of printing desired. The High-Performance Ink Cartridge (M3240G/A) is a one-piece assembly that contains the printhead and a black-only ink container. When this cartridge runs out of ink the complete ink cartridge must be replaced.

For color printing Apple sells the Color Ink Cartridge (M3328G/A) which consists of a separate printhead assembly, color ink tank, and black ink tank. The color ink tank contains the cyan, magenta, and yellow inks. The black ink tank contains only black ink. When one of the colors runs out, the empty ink tank can be replaced. The Color Ink Tank is available as M3329G/A, and the Black Ink Tank is available as M3330G/A.
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ARA & Express Fax Software With Express Modem & GeoPort

Will an Express Modem, or GeoPort with the latest Express Modem software and ARA installed, route the incoming calls to the correct application, Faxes to Fax Terminal and data to ARA?

Also if Apple Phone is running, do calls get routed to it, or if Apple Phone is not running but an answering machine and/or telephone is chained off the GeoPort, do voice calls go to it?
This article has been archived and is no longer updated by Apple.
GeoPort with Fax Software and ARA

Macintosh computers using a GeoPort are capable of auto-answering an incoming call and switching to the appropriate application: ARA, Fax Terminal, or voice to a telephone. With current versions of ARA and the GeoPort with Express Modem software, the telephone signal automatically gets switched to the correct application. There is currently no provision to switch to a "voice" or other data application although this may be possible in the future.

Express Modem with Fax Software and ARA

Macintosh PowerBook and Macintosh 630 family computers with Express modems are also capable of auto-answering an incoming call and switching to the appropriate application: ARA or Fax Terminal.

GeoPort with Apple Phone, Fax Software, and ARA

First, Apple Phone only works with Quadra 660AV and 840AV systems, and it is not currently compatible with any Power Macintosh, PowerBook, or other Macintosh computers. Apple Phone 1.0.1 is not compatible with either ARA Personal 2.0, or Fax Terminal 1.2 software. You can run only one telecommunications application at a time using the GeoPort telecommunications adapter. Remember the Express Modem software counts as one application, and you can have multiple applications that use this software running at the same time. Apple Phone, which is not modem-based, does not use the Express Modem software, so you have an either/or situation if you want to use Apple Phone software.

Auto-switching to Apple Phone may be possible with future versions but as of October 1994 it is not a feature.

Fax Machine Compatibility

Some fax machines do not send the mandatory fax "calling tone", and therefore are not recognized as a fax when the Fax Arbitrator is active and deciding whether an incoming call is fax or data.

If you are uncertain whether the sending fax machine should work with Fax Terminal and ARA, the calling tone is a one-second beep, followed by a one-second pause, followed by the "phone ring". The beep can actually occur before -- or after -- the phone ring, that is, the sequence can be ring-pause-beep instead. Regardless, this three-second sequence must start as soon as the dialing modem goes off-hook.

The following is specified in the CCITT specification:
"Calling Tone: To indicate a calling non-speech terminal. This signal is mandatory for automatic calling and optional for manual units."
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System 7.5: What‘s New In This Version of PowerTalk (2/95)

Now that System 7.5 has been released, what's new in the version of PowerTalk included with it?

This article has been archived and is no longer updated by Apple.
PowerTalk 1.1 in System 7.5 contains performance and Human Interface improvements and bug fixes. Here are some of the changes from PowerTalk 1.0 to PowerTalk 1.1:

* AppleGuide has been added for AppleMail and PowerTalk.

* The Key Chain, Personal Catalog, Find in Catalog and an alias to AppleMail are now in the "Mail and Catalogs" sub-folder in the Apple Menu Items folder.

Mailer
---
* Items can now be dragged from the type-in addressing panel to any place that is valid (for example "To:" field in mailer, personal catalogs, folders).

* The term "Catalogs" in the type-in addressing panel was changed to "Kind".

* A "postmark" symbol is added to the mailer once a letter has been sent.

Mailbox
---
* The tags dialog was changed to allow multiple tags to be added at once.

* The Mark (Un)Read command was added to the In Tray.

* The "Copy Local" confirmation dialog was removed.

* Out Tray aging of 0 days was made invalid.

* The Problem Alert button was made more visible.

KeyChain
---
* When the Key Chain is first created, it now appears in the Mail and Catalogs folder in the Apple Menu Items folder rather than on the desktop. The user is free to move the key chain to any location they prefer.

* An option was added in the PowerTalk Setup control panel to have the Key Chain prompt for a password at startup.

* The name of the "PowerTalk Key Chain" was changed to "Key Chain".

* The help dialog was added to the Key Chain window.

Catalog Browser
---
* When creating new addresses, phone numbers, or dialup service attributes, these attributes are automatically opened after the attribute is created.

* In the Group Info page, the number of members in the group is now shown.

* When a Catalog Folder is dragged and dropped in the Finder, an alert now appears to inform the user that an alias to the Catalog Folder is being created in the Finder.

Digital Signatures
---
* In the standard digital signature verification dialog, the text "Verification successful" was changed to "The signature is valid."

* The text in the digital signature Finder verify dialog was changed to read "The signature for X is valid" instead of "X was successfully verified." and the sentence "The status of the signature is valid." was removed.

AppleMail

---

* AppleMail changed from 1.0 to 1.1, the International version.

* The default memory partition for AppleMail was reduced.

* AppleMail can now save a received letter as a Letterhead. The letterhead has the same content as the original letter, but the mailer (To, Subject, Enclosures) is empty.

* The Reply option (All Recipients/Sender Only) in AppleMail was made "sticky", that is, the option that the user selects remains in effect for subsequent replies unless the user changes it.

* The text for the "Close" menu item was changed, depending on whether the "Show options when closing a letter" preference was selected and whether the option key is held down. Without the option key, if "Show options" is selected, the menu item reads "Close..." and if "Show options" is not selected the menu item reads "Close". With the option key, if "Show options" is selected, the menu item reads "Close without options" and if "Show options" is not selected, the menu item reads "Close with options".

Article Change History:
16 Feb 1995 - Reviewed for accuracy and changed keyword and format.

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Apple Media Tool: Running a Project in Windows

A customer is getting an error message when trying to run a Media Tool project in Windows. The error reads:

Cannot use media >C:/MOVTEST/MEDIA/TITLE.MOV<! {-2004}

The project contains nothing but a single QuickTime movie. The movie will play with the Movie Player, but the Media Tool project will not launch without returning this error. The project and media was copied from the Macintosh to a Novell server, then to the target PC.
This article has been archived and is no longer updated by Apple.
There are very specific steps needed to run an Apple Media Tool (AMT) project under Windows. If these steps are followed, it will work correctly. I will outline the steps needed (and which I took to verify proper operation):

Preparation:
Make sure all media files conform to the DOS naming conventions. (eight characters followed by an optional period and three character extension.). Also, make sure the QuickTime movie is saved with the "Make movie self-contained" option from the MoviePlayer (flattened).

Testing Configuration:
Macintosh: 8150 WGS w/1GB hard drive, 24MB RAM, System 7.5, AMT 1.1
PC: Intel 90MHz Pentium, 16MB RAM, 500MB...

Procedure:
1. From the Macintosh, launch AMT. A new map window is displayed.

2. Click the "Creation" tool (looks like a plus sign) and click once in the untitled map window. A new screen is created, titled "screen 1". Double-click the screen to open it.

3. Hit "cmd-y" to add a media element. A Standard File Dialog box opens. Select a QuickTime movie. In this case it was one of the samples that comes on the AMT CD. Double-click it to add it to the project.

4. At the bottom of the Macintosh screen, there are 3 windows titled, respectively from left to right: "Media", "Objects", and "Actions". In the "Media" window, you will now see the QuickTime movie that was added. Drag the QuickTime movie listed to the window "Untitled 1*Screen 1". (The open screen that was created and opened in step 3).

5. At the top of the "Actions" window, click the "Before Display" pop-up menu item and change it to "After Display".

6. Hit "cmd-h" to insert another command in the "Action" window. Click the pop-up menu for the new command, and change it to "Start".

7. Close the "Untitled 1*Screen 1" window.

8. Select "Save as text..." from the file menu. When the Standard File Dialog box comes up, there will be a check box in the bottom left corner labelled "Backup media". In order to make sure everything is included in the project when you move it to a Windows machine, I would suggest checking this box. It will create a "MEDIA" folder/directory whereever you save the file, and copy the QuickTime movie into it, along with some other needed files.

9. Type in a name, leaving the ".k" filename extension in place. Click "Save".

10. Quit AMT and run "RunTime Maker". When the dialog box for RunTime Maker appears, there will be check boxes at the bottom for Macintosh or Windows platforms. Check Windows, uncheck Macintosh.

11. Click the "Make" button, which will open the Standard File Dialog box. Select the project file (the one that ends with the ".k") you created in step 9, and double-click.

12. After a time, RunTime Maker will be finished, and you'll have several new files in the location that the project was saved in. Copy the files that have the PC icon and the "MEDIA" folder/directory to the target DOS machine. From Windows, run the .exe file that was copied over and it will run correctly.

The main point here that is not readily apparent from any documentation that I have is that the "MEDIA" folder must be copied to the target machine and reside in the same directory as the .exe file. (Please note that I call them folders on the Macintosh platform, and directories on the DOS machines - the names are interchangeable when switching platforms). Inside the "MEDIA" directory must reside the QuickTime movie (or any other media that is used). After running RunTime Maker, all the files that RunTime Maker creates, and all the files in the MEDIA directory must be copied to the target machine, making sure the MEDIA directory is where it is supposed to be (again, in the same directory as the .exe file)

Sorry to be so long winded, but by following EXACTLY the steps outlined above, the project will play consistently on the Windows machine.
Published Date: Feb 19, 2012

MAE 1.0: Window Resizing Problem And Workaround (4/96)

For some time I've been having problems resizing my MAE window and I cannot think of what else to look for. Below are my environment variables. What am I missing?

gaea(55)%env

HOME=/home/admin/worsham

PATH=/usr/openwin/bin:/opt/SUNWspro/bin:/opt/SUNWwabi/bin:/opt/X11R5/bin:/opt

/apple/bin:/opt/ioffice/bin:/opt/tex/bin:/opt/ncar/bin:/bin:/usr/bin:/usr/sbi

n:/usr/ucb:/etc:/usr/lib/nis:/usr/ccs/bin:/usr/ccs/lib:/opt/bin:/usr/ucblib:.

LOGNAME=worsham

HZ=100

TERM=sun-cmd

TZ=US/Eastern

SHELL=/bin/csh

MAIL=/var/mail/worsham

SHLVL=1

PWD=/home/admin/worsham

USER=worsham

HOST=gaea

HOSTTYPE=sun4

XAPPLRESDIR=/usr/openwin/lib/app-defaults:/opt/lib/app-defaults

OPENWINHOME=/usr/openwin

SUNPROHOME=/opt/SUNWspro

WABIHOME=/opt/SUNWwabi

APPLEHOME=/opt/apple

X11R5HOME=/opt/X11R5

TeXHOME=/opt/tex

NCARG_ROOT=/opt/ncar

NCARG_LIB=/opt/ncar/lib

GIS=/opt/grass

GISBASE=/opt/grass/grass.data

ISLANDHOME=/opt/ioffice

IDL_DIR=/opt/idl

PAGER=more

LD_LIBRARY_PATH=/opt/SUNWspro/lib:/opt/SUNWwabi/lib:/usr/openwin/lib:/usr/ccs

/lib:/usr/ucblib:/usr/lib:/opt/X11R5/lib:/opt/apple/lib

MANPATH=/usr/share/man:/opt/SUNWspro/man:/opt/SUNWwabi/man:/usr/openwin/man:/

opt/tex/man:/opt/ncar/man:/opt/man:/usr/man:/opt/X11R5/man:/opt/ioffice/man:/

opt/apple/man

EDITOR=emacs

TBFILEFORMAT=1

MYBIN=~/bin

MYPROMPT=%

DISPLAY=:0

gaea(56)%groups

staff staff

gaea(57)%

This article has been archived and is no longer updated by Apple.

The MAE 1.0 window resizing issue you've encountered was caused by the environment variable, TBFILEFORMAT, which you set to 1 in your environment variables. This, in turn, caused MAE to create two files, "Finder Preferences" and "Monitors.Preferences" in AppleDouble file format in the System\\ Folder/Preferences folder. The "Monitors.Preferences" file, in AppleDouble format, doesn't seem able to update the window size in the Finder properly. Without TBFILEFORMAT being set to 1, which is the default, MAE creates these two files in AppleSingle file format.

We were able to verified this. A SPR (Software Problem Report) will be submitted to MAE Engineering's attention.

We suggest the following to make window resizing work:

1) Login as your own account.

2) Do the command to unset the TBFILEFORMAT:

for CSH: unsetenv TBFILEFORMAT

for SH or KSH: unset TBFILEFORMAT

DO NOT set the TBFILEFORMAT environment variable to 1 in your .login

or .profile file.

3) Go to your System\\ Folder/Preferences directory and remove the Finder

and Monitors Preference files:

```
cd System\\ Folder/Preferences
rm Finder\\ Preferences Monitors.Preferences
```

4) Launch mae and resize the window normally.

Article Change History:

08 Apr 1996 - Specified this is MAE 1.0 issue.

Published Date: Feb 19, 2012

WiggleWorks Product Brief (1/95)

This article is a brief description of WiggleWorks for Macintosh.

This article has been archived and is no longer updated by Apple.
Product Description

WiggleWorks is an entertaining story collection that uses fun activities to help children learn to read and write.

Prospects

Parents of children ages three to eight.

Key Selling Points
---
* Helps children learn the basics of reading and writing
* Fun activities expand kids' creativity
* Involves parents
* Lets children work at their own pace.
* Keeps kids' attention for long-term value.

* Helps children learn the basics of reading and writing.
- Read books. Kids can read a WiggleWorks story themselves, or have the narrator read it for them. They can click on unfamiliar words to hear them read out loud. "My Words" lets children choose words from the stories to build a personal word list. With a microphone, kids can also record themselves reading, then listen to how they sound.
- Write stories. Kids can use WiggleWorks to write their own stories, which can include words from their own word list and the WiggleWorks word list. The "Story Starters" feature is available if young writers need ideas for beginning their stories. "Paint Tools" lets children create pictures to accompany their writing.
- Practice the alphabet. Kids can learn to recognize letters by playing with them on WiggleWorks' electronic "magnet board." To coach kids along, their friendly worm host can speak the letters and suggest fun things to do with them.

* Fun activities expand kids' creativity. WiggleWorks helps children become creative writers. their imagination is the only limit to what they can do with it.

To entertain and inspire kids, the WiggleWorks CD includes three books with colorful illustrations and engaging music:
- Peanut Butter Rhino. A story about a happy-go-lucky rhino who yearns for his missing peanut butter sandwich.
- Birds on Stage. Rhymes and riddles about a family of feathered friends.
- Frog's Lunch. A tale about a frog and his rather unfortunate lunch: an innocent fly.

Kids can rewrite and re-illustrate the WiggleWorks stories as much as they like, using existing characters or adding themselves and their friends as characters. They can also write and illustrate their own stories. Their guide for these and other activities is the friendly WiggleWorks worm.

* Involves parents. Each WiggleWorks story comes with a parent activity card that offers ideas for writing stories and for related reading, drawing, singing, and play activities that parents and children can participate in together. With a microphone, parents can also record ideas and words of encouragement for their kids.

* Lets children work at their own pace. With WiggleWorks, kids and their parents are in control of the learning environment. If the exercise is reading, parents can set the pace at which text is highlighted and read by the narrator; they can even customize the settings for different children. WiggleWorks also lets kids choose their own stories and signals them when its time to turn the page. In addition, kids can choose to read to themselves, read outloud, or write their own stories. If the exercise is writing, kids can take all the time they need to develop a story.

* Keeps kids' attention for long-term value. WiggleWorks combines story telling, drawing, reading, and writing activities -- typically found only in individual software packages -- on one convenient CD-ROM disc. This variety means that kids will find exciting new things to do with WiggleWorks every time they use it -- so they'll want to keep using it for a long time. And the customization features enable parents to keep WiggleWorks challenging as kids get older and increase their skills.

Product Details
* Any Apple Macintosh computer with a 68020 or later processor, including Macintosh LC, Macintosh II, Macintosh Performa, Macintosh Centris, Macintosh Quadra, Power Macintosh, and PowerBook computers.
* At least 4 megabytes of memory.
* A 12-inch or larger color display.
* A CD-ROM drive.
* System software version 7.0 or later.
* Recommended: A microphone (for recording children's and parents' voices).

Availability and Localization
* WiggleWorks will be ready for order in late September, 1994. It's presently available in U.S. English.

Article Change History:
23 Jan 1995 - Corrected spelling of WiggleWorks.

Support Information Services
Published Date: Feb 19, 2012

Power Macintosh: PCI Card Compatibility

This article discusses PCI interface card compatibility with various Macintosh computers.
This article has been archived and is no longer updated by Apple.
Most PCI cards that do not need to be active on boot (video cards would need to be active at bootup, network cards would not) will be able to function in our machines with the proper software driver loaded. Since the PCI standard is well-defined, there should not be a problem with the hardware.

Open Firmware is required for boot registration services - in other words, in order for the card to be recognized before any OS software loads, a PCI card in our computer will have to be Open Firmware compliant. This would apply to cards such as video and hard drive controller cards.

Specific compatibility questions should be directed to the vendor or manufacturer of the PCI card in question.

Published Date: Feb 19, 2012

LaserWriter Driver 8.2: Unknown PPD Files

We have just installed LaserWriter driver 8.2, and there are 3 new PPD files in the "Printer Descriptions" folder:

- LaserWriter Pro 400
- LaserWriter Pro 405
- LaserWriter Select 610

Are these new Apple printer models?
This article has been archived and is no longer updated by Apple.
All of the Apple printers mentioned above are sold only in Japan. The LaserWriter Pro 400 and 405 are OEM laser printers, and the LaserWriter Select 610 is the Japanese version of the LaserWriter Select 360. All of these printers have been optimized for Kanji font use.There are no plans to market these printers in the U.S.
Published Date: Feb 19, 2012

LaserWriter Fax: Adding a Logo to The Fax Cover Sheet

I am using the LaserWriter 8 driver with an Apple printer that has PostScript Fax capability. I would like to create a custom cover page with my company logo on it, but cannot find any information on how to create a custom cover page to use with LaserWriter 8 driver.
This article has been archived and is no longer updated by Apple.
We have verified the use of custom cover pages with a workaround we received from engineering. There are two necessary files:

- Instructions on creating a custom cover page.
- File to be imported into Adobe Illustrator.

This is a workaround, and it does have limitations. Please look at the "Important information" section below in the instructions.

Note: Using this procedure with a third party printer has not been verified, so it may not work.

Custom Cover Page Workaround Instructions:
Creating a custom cover page using Adobe Illustrator 5.0

1) Create a new file using Adobe Illustrator 5.0 by picking "New" from the file menu.

2) Pick "Place Art..." from the File menu.

3) Locate the file named "Custom Cover Page Info.EPS" (included with these instructions) and click the "Place" button to place it on the page. (A square box will appear that contains all of the standard cover page information - such as: name, company, fax number, notes, and so on).

4) Position the placed art.

5) At this point, you can draw your logo, type your company name, or whatever you want.

Note: If you need to import bitmapped images, you must first use a program like Adobe Streamline to convert the images to PostScript line art, and then save the file in Illustrator 88 format WITH an EPS header and NO preview. Pick "Place Art..." again from the File menu of Adobe Illustrator, select the file you just saved and go through the same procedure placing the image where you want on the page.

6) Pick "Save as..." from the File menu.

7) Save the file in Illustrator 88 format with: "Preview" set to "None (Include EPSF Header)". Be sure that the "Include Placed Images" checkbox is selected.

8) Illustrator will warn you that "Saving this document in older Adobe Illustrator file formats may disable some Illustrator editing features within this document when it is read back in." Click the OK button.

Note: If you think that you will want to make modifications to the cover page in the future, you might want to save a separate copy of this file in the latest Illustrator format that you can.

9) The resulting file can now be used by LaserWriter 8f as a custom cover page. When in the Fax Cover Page dialog of LaserWriter 8f, click on the popup field "Cover Page to Use" and select "Change" to locate your cover page.

Important information:

Adobe Illustrator versions:
Only version 5.0 of Adobe Illustrator works with this process. Versions 88, 3.2, or 5.5 DO NOT currently work with the cover page EPS file we have included.

Fonts:
Only printer-resident fonts can be used on a custom cover page.

Placed Images:
Bitmapped images will not work correctly when placed in the custom coverpage. Adobe Streamline must be used to convert bitmaps to PostScript line art for the resulting output to work correctly.

Copy all text between the dashed lines, paste it into a SimpleText document and save it as: "Custom Cover Page Info.EPS" -- it is important to make sure that the file is named identically.

Note: If you are knowledgeable in PostScript, the fonts and location of text can be changed by modifying the PostScript in the "Custom Cover Page Info.EPS" file you create in SimpleText.

CAUTION: If you choose to use the PostScript code provided in this article, you assume all risks involved in making these changes. PostScript code, if not entered correctly, can place the LaserWriter into a condition requiring service.

```
%!PS-Adobe-3.0 EPSF-3.0
%%BoundingBox: 0 0 361 352
%%Creator: (Dan Meader)
%%Title: (Custom Coverpage.EPS)
%%CreationDate: (04/14/94) (11:30 AM)
%%EndComments

15 dict begin
/str4 ( ) def
/tFont /Times-Bold def
/tFontSize 14 def
/tCurLineY 352 tFontSize sub def % must equal(bbox's top margin)-font size
/tCol1X 0 def
/tCol2X 115 def
/CR {/tCurLineY tCurLineY tFontSize sub def} def
/MakeShowable {dup where {exch get 100 string cvs} {pop (Unknown)} ifelse} def

/PrintTimeSent {
tCol1X tCurLineY moveto (Date: ) show tCol2X tCurLineY moveto
/TimeSent dup where
{
exch get
dup 1 get str4 cvs show (/) show
dup 2 get str4 cvs show (/) show
dup 0 get str4 cvs show ( ) show
dup 3 get str4 cvs show (:) show
dup 4 get str4 cvs show (:) show
5 get str4 cvs show
}
{
pop (Unknown) show
} ifelse CR
} def


/PrintCoverNote {
/CoverNote where
{
pop tCol1X tCurLineY moveto (Note:) show CR
CoverNote {tCol1X tCurLineY moveto show CR} forall
} if
} def

/ISOLatin1EncodedFont tFont findfont dup length dict begin {def} forall
/Encoding ISOLatin1Encoding def currentdict /FID undef currentdict end definefont tFontSize scalefont setfont

tCol1X tCurLineY moveto (To:) show tCol2X tCurLineY moveto /RecipientName MakeShowable show CR

tCol1X tCurLineY moveto (Company:) show tCol2X tCurLineY moveto /RecipientOrg MakeShowable show CR

tCol1X tCurLineY moveto (Fax:) show tCol2X tCurLineY moveto /CalleePhone MakeShowable show CR

CR

tCol1X tCurLineY moveto (From:) show tCol2X tCurLineY moveto /SenderName MakeShowable show CR
```

```
tCol1X tCurLineY moveto (Company:) show tCol2X tCurLineY moveto /SenderOrg MakeShowable show CR

tCol1X tCurLineY moveto (Fax:) show tCol2X tCurLineY moveto /CallerPhone MakeShowable show CR

tCol1X tCurLineY moveto (Voice:) show tCol2X tCurLineY moveto /SenderPhone MakeShowable show CR

CR

tCol1X tCurLineY moveto (Pages w/o Cover:) show tCol2X tCurLineY moveto /nPages MakeShowable show CR
CR

PrintTimeSent

CR

PrintCoverNote
end

%%EOF
```

Published Date: Feb 19, 2012

Power Macintosh: Print Monitor Launches Then Quits

I'm having an issue with my Power Macintosh 8100 (upgraded from a Quadra 800), every time the computer is turned on, the Print Monitor immediately begins launching and quitting over and over again. In order to do a Shut Down, I have to remove Print Monitor from the Extensions folder.

I have reformatted the hard drive, reinstalled system software, and reset PRAM, none of which helped my issue. What else can I do?
This article has been archived and is no longer updated by Apple.
This appears to be caused by corrupted Parameter RAM. It appears the system thinks there is something to print, so the Print Monitor is launched. It then determines there is nothing to print, and therefore quits.

While resetting PRAM is a good first step, sometimes it is necessary to disconnect all power from the logic board to completely clear the contents of all circuits. To resolve this issue, remove the battery for a few minutes then reinstall it and everything should work fine.

This situation could also manifest itself in other members of the Power Macintosh family such as the 6100 and 7100.
Published Date: Feb 19, 2012

Infrared Receivers: Protocol Used

What infrared protocols does the Macintosh TV and Macintosh 630 family work with? I want to use a universal remote control, but I don't know what command set I need.
This article has been archived and is no longer updated by Apple.
Both the Macintosh 630 family and Macintosh TV use the standard Sony command set. A universal remote control that supports the Sony command set can be used to control these devices.

There are no specific infrared receiver (IR) protocols published by Apple Computer, Inc.
Published Date: Feb 19, 2012

LaserWriter Pro 630: Using Non-PostScript in PS Mode

I have a LaserWriter Pro 630 connect to a Macintosh using the LocalTalk port. I also have a Sun workstation connected to the printer using the RS-232 port. I want to print both PostScript and non-PostScript files without reconfiguring the printer. Can I do this?
This article has been archived and is no longer updated by Apple.
This can be done by setting the default mode for both ports to be PostScript and then on a per job basis change the mode to be PCL (text). To change from PostScript to PCL, do the following:

1. Put the thumb-wheel selection switch to #1. This sets up both the RS-232 port and the LocalTalk port to PostScript.

2. Append the following PostScript command to the front of a text file.

```
currentfile /LaserJetIIP statusdict /emulate get exec
```

Note: The command is case sensitive.

Published Date: Feb 19, 2012

QuickTime 2.0: Supports Indeo Compression (9/94)

Does QuickTime 2.0 support Intel's Indeo compression format?

This article has been archived and is no longer updated by Apple.
Yes, QuickTime 2.0 does support the Indeo codec. However this is not done through any of the internal codecs. QuickTime is very flexible, and supports additional codecs through external means. This is how QuickTime 2.0 provides this support.

Intel has released the external plug-in codec in the form of an extension. It is available on AppleLink, Intel's FTP site, and various other online services.

Support Information Services
Published Date: Feb 19, 2012

LaserWriter: UNIX Printing through a Network

This article explains how to print to a PostScript LaserWriter that is on an AppleTalk network.
This article has been archived and is no longer updated by Apple.
You can print from a Unix workstation to any PostScript AppleTalk printer as long as the printer can be accessed on the AppleTalk network, using the AppleTalk protocol.

In order to use an Apple Postscript printer, not a StyleWriter or any other QuickDraw printer, you need additional software on the UNIX workstation to access the AppleTalk network. On the Unix workstation, you can either buy a commercial product that allows your Unix workstation to print to the AppleTalk network printer, or you can get a free software application called CAP (Columbia Appletalk Protocol) which can be obtained from various internet and online services. You will need to compile this code to use it under your UNIX environment. If you decide to use this application, make sure you get all the patches for it.

One commercial UNIX-based solution that you might look into, is K-Spool by Mt. Xinu. It allows Macintosh computers to spool documents to any serial printers connected to the UNIX host and lets the UNIX host access the LaserWriters attached to the AppleTalk network.

Information Presentation Technologies, Inc. also has products similar to K-Spool and CAP available for VMS and or UNIX operating systems called uShare and Partner. With uShare, printers are available simultaneously to Sun and Macintosh Partner users. Partner also lets the Sun function as an AFP-to-NFS gateway. Partner and uShare also can act as full Phase 1 and 2 routers, allowing the Sun to serve as a router.

To locate a vendor's address and phone numbers, use the vendor name as the search string.
Published Date: Feb 19, 2012

AV Macintosh: Blocks at startup or Menus Remain Down

I have a Power Macintosh AV computer and I'm getting strange behavior with the pull down menus. At startup, small black squares appear on the top of the screen which are evenly spaced apart by about 5 or 6 pixels. Menus stay drawn on the screen. For example, choosing the Apple menu and then the Special menu will leave both drawn on the screen.
This article has been archived and is no longer updated by Apple.
This issue has been reported on Power Macintosh computers running either System Software 7.1.2, or System 7.5. We have also had reports on Quadra AV computers. This issue has been fixed with the release of System Update 7.5 version 1.0, and you should install it.

If you do not have access to System Update 7.5 version 1.0 use the workaround shown below:

1. Open the Monitors control panel.
2. Choose 256 colors or Black & White.
3. Close the Monitors control panel.
4. Re-open the Monitors control panel and reselect the desired color depth.

We have found this problem will reset PRAM after a system crash when the colors are set to millions, and occasionally when switching to NTSC/PAL output on a Power Macintosh AV.

The key to resolving the issue is to have the Monitors control panel update PRAM and the System File.
Published Date: Feb 19, 2012

QuickDraw GX: Can‘t Disable Manual Feed Alert (5/95)

We have an automatic sheet feeder connected to the manual feed slot of our postscript laser printer, and we are using the LaserWriter GX driver.

Is there a way to turn off the manual feed notification dialogs with LaserWriter GX?

This article has been archived and is no longer updated by Apple.
Be sure you have installed QuickDraw GX version 1.1.2 or later, and turn off the alerts for manual feed printing on PostScript printers by opening the Printing menu and choose Disable Manual Feed Alerts.

Article Change History:
24 May 1995 - Updated article with new information.
16 Feb 1995 - Reviewed for accuracy and changed keyword.

Support Information Services
Published Date: Feb 19, 2012

System 7.5: Command-Option-Spacebar Application Conflict (2/95)

Pressing the Command-Option-Space Bar key sequence is a Finder Shortcut which causes the keyboard control panel under 7.x - 7.5 to switch between different keyboard layouts.

Unfortunately, this same keyboard sequence has been used by some applications for their own features such as: Adobe PhotoShop, Adobe Illustrator, and Quark XPress. Consequently, customers may experience strange behavior from their keyboards after using this keyboard sequence.

Some versions of Adobe PhotoShop and Adobe Illustrator use the Command-Option-Space Bar key sequence to zoom the picture in, while some versions of Quark XPress uses this sequence to get a special space character called em-space (used a lot among professional typographers).

NOTE: Recent versions of these applications may use a different shortcut for zooming and the em-space. Contact the appropriate vendor for more information. To locate a vendor's address and phone number, use the vendor name as a search string.

This article has been archived and is no longer updated by Apple.
There are a number of issues relative to this function as well as a workaround.

A) An easy install of System 7.5 will install the WorldScript Power Adapter as well as the international keyboard layouts (that is the International Support option under System Software). This will also occur if International Support is selected with a custom install.

B) Since this is part of System Software, it is excluded as an option during Custom Remove.

C) The only way to avoid the International Support option is to do a Custom Install and NOT select it, however, the keyboard sequence will still be present, AND there will be two available alternatives visible in the Keyboard control panel - U.S. and U.S - System 6. Therefore, there will still be problems using Command-Option-Spacebar.

Workaround

Open the system file and remove all the "non-American" keyboard layouts AND U.S. - System 6. (For custom installs without the International Support option selected, just remove U.S. - System 6.) The problem will be solved since "U.S." is the only choice available in the Keyboard control panel. Note that the regular U.S. keyboard layout is not a visible resource in the system file, so there is no risk of accidentally deleting it.

Trade-offs

There are some trade-offs to deleting keyboard layouts. For those who do wish to use non-American keyboard layouts, these options will be gone. Also, a very small number of applications do actually use the U.S. - System 6 keyboard layout. Those whose applications use this keyboard layout should call the application's developer to see if the current version uses the regular "U.S." keyboard layout.

Article Change History:
16 Feb 1995 - Reviewed for accuracy and changed keyword.
23 Jan 1995 - Added more specific information about which applications
may experience the problem.

Support Information Services
Published Date: Feb 19, 2012

Macintosh 512K/512Ke: Cable Compatibility

This article provides cable compatibility information for Apple computer systems and a variety of Apple peripherals.
This article has been archived and is no longer updated by Apple.
The left column lists the peripherals, the right column lists the cable required to connect one of the following computers to it; Macintosh 512K and the 512Ke.

Part numbers which begin with a letter are the finished goods part number, the seven digit numbers are the service part numbers.

Peripheral	Cable part number
AppleFax Modem	N/A
Apple Personal Modem Apple Data Modem 2400	M0196/590-0551
Apple Modem 300 Apple Modem 1200	M0170/590-0197
Apple ImageWriter II or II/L Apple ImageWriter LQ	M0196/590-0551 (smoke), LocalTalk optional
Apple ImageWriter Printer Apple ImageWriter 15"	590-0169
LaserWriter, Plus, IInt, IIntx, IIf, IIg LaserWriter Pro 600/630/810 Personal LaserWriter NT, NTR	LocalTalk
Personal LaserWriter LS StyleWriter & StyleWriter II Color StyleWriter/Color StyleWriter Pro	N/A
Apple LaserWriter IIsc Personal LaserWriter SC AppleCD SC Apple Hard Disk 20/40/80 Apple Tape Backup 40SC Apple Scanner Apple Color OneScanner Apple Color Printer	N/A

Published Date: Feb 19, 2012

PowerBook Duo: Cable Compatibility

This article provides cable compatibility information for Apple computer systems and a variety of Apple peripherals.
This article has been archived and is no longer updated by Apple.
The left column lists the peripherals, the right column lists the cable required to connect one of the following computers to it; PowerBook Duo.

Part numbers which begin with a letter are the finished goods part number, the seven digit numbers are the service part numbers.

Peripheral	Cable part number
AppleFax Modem	M0197/590-0552 (smoke)
Apple Personal Modem	
Apple Data Modem 2400	
Apple Modem 300	M0170/590-0197 & 590-0553
Apple Modem 1200	or 590-0121 & 590-0550
Apple ImageWriter II or II/L	M0197/590-0552 (smoke), LocalTalk
Apple ImageWriter LQ	optional
Apple ImageWriter Printer	590-0169 & 590-0553
Apple ImageWriter 15"	
All non-SCSI LaserWriter printers	LocalTalk or Ethernet
Personal LaserWriter LS	M0197/590-0552 (smoke)
StyleWriter & StyleWriter II	
Color StyleWriter/Color StyleWriter Pro	
Apple LaserWriter IIsc	M2538LL/A (HDI-30 SCSI cable)*#
Personal LaserWriter SC	
AppleCD SC	
Apple Hard Disk 20/40/80	
Apple Tape Backup 40SC	
Apple Scanner	
Apple Color OneScanner	
Apple Color Printer	

LEGEND
* Requries M3503LL/B/658-8032 Cable Terminator
# Requires MiniDock

Published Date: Feb 19, 2012

Apple IIc: Cable Compatibility

This article provides cable compatibility information for Apple computer systems and a variety of Apple peripherals.

Part numbers which begin with a letter are the finished goods part number, the seven digit numbers are the service part numbers.
This article has been archived and is no longer updated by Apple.

Peripheral	Cable Part Number
AppleFax Modem	N/A
Apple Personal Modem Apple Data Modem 2400	A2C4505/590-0554 (smoke)
Apple Modem 300 Apple Modem 1200	A2C0354/590-0121
Apple ImageWriter II or II/L ImageWriter LQ	A2C4505/590-0554 (smoke) or 590-0333 (beige)
Apple ImageWriter Printer Apple ImageWriter 15"	590-0191
LaserWriter, Plus, IInt, IIntx, IIf, IIg LaserWriter Pro 600/630/810 Personal LaserWriter NT, NTR	N/A
Personal LaserWriter LS StyleWriter & StyleWriter II Color StyleWriter/Color StyleWriter Pro	N/A
Apple LaserWriter IISC Personal LaserWriter SC	N/A
AppleCD SC Apple Hard Disk 20/40/80	N/A
Apple Tape Backup 40SC Apple Scanner Apple Color OneScanner Apple Color Printer	N/A

Published Date: Feb 19, 2012

Apple IIc Plus: Cable Compatibility

This article provides cable compatibility information for Apple computer systems and a variety of Apple peripherals.

Part numbers which begin with a letter are the finished goods part number, the seven digit numbers are the service part numbers.
This article has been archived and is no longer updated by Apple.

Peripheral	Cable Part Number
AppleFax Modem	N/A
Apple Personal Modem Apple Data Modem 2400	M0197/590-0552 (smoke)
Apple Modem 300 Apple Modem 1200	590-0197 & 590-0341
Apple ImageWriter II or II/L ImageWriter LQ	M0197/590-0552
Apple ImageWriter Printer Apple ImageWriter 15"	M0150/590-0169 & 590-0553 or A2C0352/590-0037 & A9M0333/590-0550
LaserWriter, Plus, IInt, IIntx, IIf, IIg LaserWriter Pro 600/630/810 Personal LaserWriter NT, NTR	N/A
Personal LaserWriter LS StyleWriter & StyleWriter II Color StyleWriter/Color StyleWriter Pro	N/A
Apple LaserWriter IISC Personal LaserWriter SC	N/A
AppleCD SC Apple Hard Disk 20/40/80	N/A
Apple Tape Backup 40SC Apple Scanner Apple Color OneScanner Apple Color Printer	N/A

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Apple II/II+/IIe: Cable Compatibility (9/94)

This article provides cable compatibility information for Apple computer systems and a variety of Apple peripherals.

The left column lists the peripherals, the right column lists the cable required to connect one of the following computers to it; Apple II, Apple II Plus, or the Apple IIe.

Part numbers which begin with a letter are the finished goods part number, the seven digit numbers are the service part numbers.

This article has been archived and is no longer updated by Apple.

Peripheral	Cable part number
AppleFax Modem	N/A
Apple Personal Modem	A2C0312/590-0555 (smoke) or
Apple Data Modem 2400	A9C0314/590-0556 (w/jumper on Super Serial Card)
Apple Modem 300	A2C0354/590-0121
Apple Modem 1200	
Apple ImageWriter II or II/L	A9C0314/590-0556 (smoke) or
ImageWriter LQ LocalTalk	or A2C0312/590-0555 (w/jumper to modem)
Apple ImageWriter Printer	A2C0352/590-0037
Apple ImageWriter 15"	
LaserWriter, Plus, IInt, IIntx, IIf, IIg LocalTalk	(Req. WorkStation Card)
LaserWriter Pro 600/630/810	
Personal LaserWriter NT, NTR	
Personal LaserWriter LS	N/A
StyleWriter & StyleWriter II	
Color StyleWriter/Color StyleWriter Pro	
Apple LaserWriter IIsc	N/A
Personal LaserWriter SC	
AppleCD SC	M0206/658-8031 (SCSI System cable)*
Apple Hard Disk 20/40/80	
Apple Tape Backup 40SC	N/A
Apple Scanner	
Apple Color OneScanner	
Apple Color Printer	

LEGEND
* Requries M3503LL/B/658-8032 Cable Terminator and Apple II SCSI Card.

A9M0320 or A3M0025 w/590-0037 require Super Serial Card BUT A9M0302 or A3M0025 w/590-0037 & 590-0550 doesn't (Buses Built In).

When using an ImageWriter II/LQ with the Apple IIe and cable part number 590-0555, the jumper on the Super Serial Card must be on "Modem".

Support Information Services
Published Date: Feb 19, 2012

Apple IIgs: Cable Compatibility (10/94)

This article provides cable compatibility information for Apple computer systems and a variety of Apple peripherals.

The left column lists the peripherals, the right column lists the cable required to connect one of the following computers to it; Apple IIgs, or the Apple IIgs upgrade.

Part numbers which begin with a letter are the finished goods part number, the seven digit numbers are the service part numbers.

This article has been archived and is no longer updated by Apple.

Peripheral	Cable part number
AppleFax Modem	N/A
Apple Personal Modem	M0197/590-0552 (smoke)
Apple Data Modem 2400	
Apple Modem 300	A2C0354/590-0121% & 590-0550
Apple Modem 1200	or 590-0197 & 590-0553
Apple ImageWriter II or II/L	M0197/590-0552 (smoke), LocalTalk
Apple ImageWriter LQ	optional
Apple ImageWriter Printer	M0150/590-0169 & 590-0553
Apple ImageWriter 15"	or A2C0352*/590-0037 & A9M0333/590-0550
LaserWriter, Plus, IInt, IIntx, IIf, IIg	LocalTalk
LaserWriter Pro 600/630/810	
Personal LaserWriter NT, NTR	
Personal LaserWriter LS *	
StyleWriter & StyleWriter II	
Color StyleWriter/Color StyleWriter Pro	
Apple LaserWriter IIsc	N/A
Personal LaserWriter SC	
AppleCD SC	M0206/658-8031*
Apple Hard Disk 20/40/80	
Apple Tape Backup 40SC	N/A
Apple Scanner	
Apple Color OneScanner	
Apple Color Printer	

LEGEND
* Requries M3503LL/B/658-8032 Cable Terminator
* The Apple IIgs with GS/OS ver. 6.0 will support the original StyleWriter only.

A9M0320 or A3M0025 w/590-0037 require Super Serial Card BUT A9M0302 or A3M0025 w/590-0037 & 590-0550 doesn't (Buses Built In).

When using an ImageWriter II/LQ with the Apple IIe and cable part number 590-0555, the jumper on the Super Serial Card must be on "Modem".

Article Change History:
27 Oct 1994 - Indicated that StyleWriter is supported by GS/OS ver. 6.0.

Support Information Services
Published Date: Feb 19, 2012

Macintosh: Cable Compatibility

This article provides cable compatibility information for Apple computer systems and a variety of Apple peripherals.

The left column lists the peripherals, the right column lists the cable required to connect to a Macintosh or Power Macintosh computer with either a serial or SCSI port.

Part numbers which begin with a letter are the finished goods part number, the seven digit numbers are the service part numbers.

This article has been archived and is no longer updated by Apple.

Peripheral	**Cable part number**
AppleFax Modem Apple Personal Modem Apple Data Modem 2400	M0197/590-0552 (smoke)
Apple Modem 300 Apple Modem 1200	M0170/590-0197 & 590-0553 or 590-0121 & 590-0550
Apple ImageWriter II or II/L Apple ImageWriter LQ	M0197/590-0552 (smoke), LocalTalk optional
Apple ImageWriter Printer Apple ImageWriter 15"	590-0169 & 590-0553
LaserWriter, Plus LaserWriter IInt, IIntx, IIf, IIg LaserWriter Pro 600/630/810 LaserWriter 16/600 PS LaserWriter 8500 Color LaserWriter 12/600, 12/660 Personal LaserWriter NT, NTR Personal LaserWriter 320 LaserWriter Select 360 LaserWriter Select 12/640	LocalTalk, Ethernet Optional for IIg, Pro 630, Pro 810, Select 12/640, 16/600 PS, 8500, and Color LaserWriter 12/640.
Personal LaserWriter LS Personal LaserWriter 300 LaserWriter Select 300 LaserWriter Select 310 All StyleWriter printers except the Portable StyleWriter	M0197/590-0552 (smoke) Some StyleWriters had a LocalTalk option.
Apple LaserWriter IIsc Personal LaserWriter SC Apple external CD-ROM drives Apple external hard disk drives Apple Tape Backup 40SC Apple Scanners Apple Color Printer	M0206/658-8031 (SCSI System cable)*

* Requries M3503LL/B/658-8032 Cable Terminator

Published Date: Feb 19, 2012

PowerBook: Cable Compatibility

This article provides cable compatibility information for Apple computer systems and a variety of Apple peripherals.

The left column lists the peripherals, the right column lists the cable required to connect all models of the Macintosh PowerBook computers with the exception of the PowerBook 200 and 2300 (Duo) series computers. PowerBook Duo computers may require a MiniDock or Duo Dock to utilize certain peripheral devices.

Part numbers which begin with a letter are finished goods part numbers which can be purchased from an Apple authorized reseller. The seven digit numbers are service part numbers which can only be purchased by an Apple authorized service center.

This article has been archived and is no longer updated by Apple.

Peripheral	Cable part number
AppleFax Modem Apple Personal Modem Apple Data Modem 2400	M0197/590-0552 (smoke)
Apple Modem 300 Apple Modem 1200	M0170/590-0197 & 590-0553 or 590-0121 & 590-0550
Apple ImageWriter II or II/L Apple ImageWriter LQ	M0197/590-0552 (smoke), LocalTalk optional
Apple ImageWriter Printer Apple ImageWriter 15"	590-0169 & 590-0553
LaserWriter, Plus LaserWriter IInt, IIntx, IIf, IIg LaserWriter Pro 600/630/810 LaserWriter 16/600 PS LaserWriter 8500 Color LaserWriter 12/600, 12/660 Personal LaserWriter NT, NTR Personal LaserWriter 320 LaserWriter Select 360 LaserWriter Select 12/640	LocalTalk, Ethernet Optional for IIg, Pro 630, Pro 810, Select 12/640, 16/600 PS, 8500, and Color LaserWriter 12/640.
Personal LaserWriter LS Personal LaserWriter 300 LaserWriter Select 300 LaserWriter Select 310 All StyleWriter printers except the Portable StyleWriter	M0197/590-0552 (smoke) Some StyleWriters had a LocalTalk option.
Apple LaserWriter IIsc Personal LaserWriter SC Apple external CD-ROM drives Apple external hard disk drives Apple Tape Backup 40SC Apple Scanners Apple Color Printer	M0206/658-8031 (SCSI System cable)*

LEGEND
Requires MiniDock or Duo Dock for use with PowerBook 200 and 2300 (Duo) computers

& The M2538LL/A (HDI-30 SCSI cable) is not the same as the M2539LL/A - Apple HDI-30 SCSI Disk Adapter which enables use of the PowerBook 100 as an external hard disk with another Macintosh system.

Published Date: Feb 19, 2012

ARA MultiPort Server: Using ISDN

How do I configure the Apple Remote Access (ARA) MultiPort Server for ISDN. I have an ISDN drop that I have been using with different routers, but I would like to use it with the ARA MultiPort Server.

The ARA MultiPort Server Read Me mentions the Hayes ISDN Adapter. Could you tell me how to configure this product for ISDN, what specific hardware and software is required, what speeds will the ARA MultiPort Server support with ISDN, and so on?
This article has been archived and is no longer updated by Apple.
The ISDN capabilities of the ARA MultiPort Server are fairly limited. As of September, 1994 the only way to utilize an ISDN link is to purchase an ISDN terminal adapter from Hayes. This device looks like a standard modem to the ARA MultiPort Server, it is an async to ISDN converter. You connect this device to one of the ARA MultiPort Server ports and use the Hayes ISDN Terminal adapter script included with ARA. The Hayes ISDN Terminal Adapter and ARA CCL script are fully supported by Hayes. Users should contact Hayes for any pre-sales, configuration, or user related questions regarding the product.

The MultiPort Server throughput has been tested to 14.4 Kbps per port with all 16 ports populated. We are unsure whether a 16 port configuration would offer reliable connections or meet performance expectations at speeds greater than 14.4 Kbps per port.

The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.

Here are some of the Hayes' ISDN System Adapter specifications:

* Date announced: 1991
* Compatibility: Stand alone
* Line access standard: Basic Rate Interface (2B+D)
* Reference point: S/T Interface
* Physical interfaces supported: RS-232C; V.35; RJ-11
* Rate adaption standard: V.120
* Central Office switch supported: AT&T 5ESS; Northern Telecom

Published Date: Feb 19, 2012

A/UX or AWS 95: File System Full, Error Recovery (11/96)

My Apple Workgroup Server (AWS) 95 locks up during startup. In looking at the error messages that come up, it appears that I have run out of disk space. What do I need to do?

This article has been archived and is no longer updated by Apple.

The server may crash because it has ran out of disk space on the root partition. A/UX needs less than 250K to startup. Once started, if you do anything that creates files, you will lock up if you run out of space.

Follow these steps to fix this problem after crashing:

Step 1
Restart the server and sign on as root user, when the "cancel" button appears after the A/UX launch, click it which will take you to the startup shell. You should then see the "startup#" prompt.

Step 2
Perform a manual file system check (fsck). At the prompt, type the following UNIX command:

```
fsck -y /dev/default
```

It may take several minutes to complete the check. Upon completion of fsck, if you see a message that says "FILE SYSTEM WAS MODIFIED" it is recommended that you run fsck again using the same command. You want fsck to make a complete check without making any changes.

Step 3
Usually the easiest thing to remove, if this is the first time you've had this problem, is the /FILES file. This file lists all of the files installed on the system; it is not normally needed, and takes about 600K of disk space. Use this command:

```
rm FILES
```

Step 4
Sometimes the desktop files can grow too large over time, and by rebuilding them, hard disk space can be recovered. Type the following commands to delete and then rebuild the desktop files:

```
cd "/mac/sys/System Folder"
rm "Desktop DB"
rm "Desktop DF"
rm "%Desktop DB"
rm "%Desktop DF"
launch
```

You will then see A/UX startup. Rebuilding the desktop may take some time, depending on the amount of local disk space attached.

NOTE: If the steps above do NOT provide you with enough free hard disk space, repeat steps 1 and 2 above and then continue with step 5 below (skipping steps 3 and 4).

Step 5
Change to the "\\ Documentation" directory by typing the command:

cd /\\ Documentation

Step 6
List the contents of the "\\ Documentation" directory in long format by typing the command to see what the directory contains:

ls -l

Step 7
By default, there are usually 2 to 4 MB of DocViewer documents that can be removed if desired. Things you should expect to see include DocViewer guide, Tuning Server Performance, Apple Share Pro guide, and so on. Some of the files will end in ".idx".

Step 8
To remove the files you decide are no longer necessary type the command:

rm -ir .

This will do an interactive rm on everything in the "\\ Documentation" directory, asking if you want to delete on each file. Just type a "y" for each file that you want to delete.

Step 9
To launch A/UX type the following command:

launch

The above steps usually clears enough space for the server to function. You need to continue looking for other files to clear hard disk space from the "/" partition. Often administrators will put shared folders on the "/" partition, within / Shared Data.

Step 10
Other places to look for files to delete:

/ Applications
/lost+found
/tmp

If you think this condition can happen again, you may want to create a 500K file located in the "/" directory, and name it something like "FREE.TO.DELETE" in case this happens again.

The "/ Documentation" and "/ Applications" directories are the best places to look for files to delete, because they usually contain files you can remove to free hard disk space. The files removed from these directories should be reinstallable from either the A/UX install disks, or from original application disks.

Article Change History:
07 Nov 1996 - Added command to Step 3.
24 Mar 1995 - Change title for clarity and updated format.
09 Jan 1995 - Changed title to better reflect article.

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Power Macintosh: AV Sound Output Quality Options

This article discusses why you may not hear a difference on 22 kHz and 44 kHz with Sound Out on audio CDs played on a Power Macintosh AV model.
This article has been archived and is no longer updated by Apple.
The Sound control panel can only adjust the output quality of the sound chip on the Macintosh logic board. The Macintosh cannot control or change the output of the CD Player.

The Rate pop-up menu in the Sound Out options changes the maximum frequency the playback device produces. In most cases, this is the sound chip on the Macintosh.

Changing Output Sample Rates

It is important to remember the following when changing sample rates:

- Increasing the sample rate slows performance
- Setting the Sound Out sample rate higher than a sound was recorded provides no additional benefits. However, it hampers performance.
- The sound out sample setting for 'Built In' setting does not affect devices hooked up to input ports of the computer unless the device has a sound device driver and can be adjusted by the computer. For example, some MIDI devices may show up in the 'Source' choice window.

It is important to also remember that CD audio is routed from the CD player to the Sound Output port based on the playthrough option. Selecting Playthrough in the Sound IN Options bypasses the Sound Chip on the CPU. Once you select Playthrough, changing the sample rate has no affect.

When using the CD Audio Player application, the playback rate is always 44 kHz, since the sound is coming straight from the CD player.

Capturing Audio

If you are capturing CD audio using a program like Fusion Recorder, the sound out sample option will be a factor. Fusion Recorder will 'take over' the sound settings so that you can not access them through the Sound Control Panel. They must be set within Fusion Recorder. The application is modifying the same settings that the Sound Control Panel adjust and more. Fusion Recorder tells the Macintosh's Sound Manager to route sound from the selected input source through the sound chip during recording or monitoring.

When recording with Fusion Recorder, adjust the sound settings to match the sample rate you want to capture. When choosing a sample rate, remember that the size of the file is based on the quality of the recording. Capturing audio at 44 kHz, produces a much larger file than one captured using 22 kHz.

Fusion Recorder does not have a playthrough option, so any sound you hear using the application is played at the sample rate the recording is done at which could be either 22 kHz or 44 kHz. The application is designed this way so you can 'monitor' the quality of the sound being recorded based on your sound settings. A playthrough option would not give an accurate representation of the sound being recorded.

Sound digitizing applications override the Sound control panel settings. So if you are listening to a CD using a sound application like Fusion Recorder, you may not hear the full quality of the sound.

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Apple IIe Hardware: Reference Manual Errata

Page 133 in Chapter 6: Switching I/O Memory, Table 6-5
This article has been archived and is no longer updated by Apple.
READS:

SLOTCXROM Slot ROM at $3x00 $C007 49159 -16377 Write
Internal ROM at $Cx00 $C006 49158 -16378 Write

SHOULD READ:

SLOTCXROM Slot ROM at $3x00 $C006 49158 -16378 Write
Internal ROM at $Cx00 $C007 49159 -16377 Write
Published Date: Feb 19, 2012

MacTerminal: How To Test Keyboard Output

This article has been archived and is no longer updated by Apple.

If you are having trouble with the keyboard output (control characters, for example) when using MacTerminal, here are some ways you might isolate the problem:

1. Use the Key Caps desk accessory to make sure your keyboard is working properly.

2. Connect your Macintosh to another Macintosh, using a serial cable.

3. Select the TTY, Local Echo, and Transparent options on the Terminal Settings window, under the Settings menu of the receiving Macintosh.

You will now be able to see if all of the ASCII values are being correctly transmitted.

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System 7.1.2 & 7.5: NFS/Share & Easy Open Conflicts (2/95)

Why are the desktops on our Macintosh computers getting rebuilt, under System 7.1.2 or 7.5, every time we mount a server using the InterCon NFS/Share product. It seems to use that this should not be happening every time we mount the same server. This problem did not occur when we used System 7.1 and only started with System 7.1.2 and now System 7.5.

This article has been archived and is no longer updated by Apple.
Yes, with the default settings, I am able to reproduce the problem on a Power Macintosh 8100/80AV with System 7.5 and NFS/Share 1.3.5.

According to InterCon Technical Staff, the problem was caused by Macintosh Easy Open which has "Automatic document translation" turned ON by default in System 7.5. You will see the following dialog after opening NFS/Share in the Chooser, and it then disappears quickly:

"The system keeps a record of all preferences you've indicated. Are you sure you want to delete these and select new preferences for your translation?"

InterCon is aware of the problem, and it is a high priority in their list of fixes. They hope to have a fix in the near future (either in a new release of software or a patch).

In the meanwhile, we tested the following workaround to the problem:

* Turn "Automatic document translation" OFF in the Macintosh Easy Open
CDEV in System 7.5 or 7.1.2

* In NFS/Share Chooser, after Logging In but before mounting an NFS server
do the following:

select a "Volume To Mount"
go to "Edit..." to edit the mount point
check ON "Maintain Desktop Info"
"Save" the edit
do "Mount"

* It will rebuild the desktop the first time the volume is mounted. Since
you have saves with "Maintain Desktop Info", your Macintosh won't
rebuild the desktop the next time you mount this volume.

Article Change History:
13 Feb 1995 - Reviewed for technical accuracy.

Support Information Services
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ARA 2.0 MultiPort Server: A/ROSE Extension Is Necessary

My Apple Remote Access 2.0 MultiPort Server comes up fine but I cannot configure my Serial card. What is wrong?
This article has been archived and is no longer updated by Apple.
You do not have the A/ROSE extension installed. A/ROSE is the Apple Real-Time Operating System, and It's used to download the Remote Access Server software into memory on the Apple Serial NB Card. The serial card has its own 68000 CPU to off load the communication task from the Macintosh computer's CPU.
Published Date: Feb 19, 2012

Macintosh: Responds to Third-Party Remote Controls

Some Apple products may respond to a television or other video device remote control. This article describes what models will, and how to avoid this from happening.
This article has been archived and is no longer updated by Apple.
The ability to control your computer with other brands of remote controls was an intentional part of the design plan for many Macintosh computers. It allows you to easily use universal remote control units with your computer.

The following computers have a built-in infared sensor which allow them to be controlled remotely:

- The Macintosh 630CD family: Macintosh LC 630, Quadra 630, Performa 630, Performa 635, Performa 636, Performa 637, Performa 638, and Performa 640
- The Macintosh 5200CD family: Macintosh 5200/75 LC, Performa 5200, Performa 5210, Performa 5215, and Performa 5220
- The Macintosh 6200CD family: Performa 6200, Performa 6214, Performa 6216, Performa 6218, Performa 6220, and Performa 6230
- The Macintosh Performa 5300CD and Power Macintosh 5300/100 LC
- The Macintosh Performa 6300CD series: Performa 6300 and 6290

If you do not want to control your computer with other brands of remote controls, you can work around this feature in one of the following ways:

- Remove the Video Startup system extension. This will disable all remote functions, except for the ability to turn the Macintosh on.
- Disconnect or cover up the infrared sensor on the front of the computer.
- Place the computer farther from the television being controlled.

Published Date: Feb 19, 2012

Macintosh: Sound Capabilities (9/94)

The following article provides information on a variety of topics relating to audio and the Macintosh.

This article has been archived and is no longer updated by Apple.

COMMON AUDIO TERMS

DIGITIZING SOUND (aka, SAMPLING)
Several thousand times per second, a number representing the current amplitude of the sound wave is recorded.

DIGITAL SOUND
Sound recorded in the above manner.

11KHZ, 22KHZ, 44KHZ SOUND
Refers to how many times per second information is recorded for a sound (11,000, 22,000, and 44,000 respectively). Most Macintosh computers can output at 22KHz, though some output at 44KHz. Audio CD's are played at 44KHz.

8-BIT, 16-BIT SOUND
Refers to the bit depth (how many different numbers are in the "sound palette" to form a sound). See separate section below about 8-bit vs. 16-bit sound.

STEREO SOUND
The ability to send DIFFERENT sound information simultaneously to both the left and right channels. Sending the same sound to two speakers is not stereo; it is dual-channel mono.

STEREO CAPABILITIES OF DIFFERENT MACINTOSH MODELS

Mac Plus, SE, Classic
8-bit mono sound to one channel (you'll hear only one side with stereo headphones, unless you use an adapter)

Performa 200, Performa 400-467 (not 47x), Classic II, LC II
Mixed 8-bit mono sound to both channels (you'll hear sound out of both sides with stereo headphones, but the sound won't be true stereo)

Performa 475, 476, LC 475, Quadra 605
Stereo 8-bit sound, including true stereo from non-audio CD's (connected externally). Audio CD's require external speakers, enhanced Apple Sound Chip supports stereo.

Performa 5xx, 63x, LC 5xx, 630, Quadra 630
Stereo 8-bit sound, including true stereo from audio and non-audio CD's (Enhanced Apple Sound Chip supports stereo).

Performa 600, 600CD except Mac IIvx
Mixed 8-bit mono sound to both channels, except true stereo from audio CD's (No ASIC to support stereo from software)

IMPORTANT NOTES:
1) Stereo is the ability to send DIFFERENT sound information simultaneously
to both the left and right channels. Sending the same sound to two
speakers is NOT stereo; it is dual-channel mono.
2) "Stereo sound" in the chart above means that the Macintosh SUPPORTS
stereo sound, NOT that all sounds that are played are automatically
stereo. Stereo sound requires that the application software generates
the stereo sound for the Macintosh to play.
3) All AUDIO CD's play at 16-bit stereo, regardless of which Macintosh
they're connected to. (If the CD-ROM drive is external, you'll need
external speakers to hear audio CD's.)
4) For a NON-audio CD (or software on the hard drive) to play sound in
either stereo or at 16-bits, two things are required:
A- The application software must generate stereo or 16-bit sound
(rare).
B- The Macintosh it is played on must support stereo or 16-bit sound.
(Recent Macintosh models support stereo; only AV, Power Macintosh,

and PowerBook 500 series computers support 16-bit sound.)
5) All the Macintosh computers in the chart above can play sound sampled as high as 22KHz (except for audio CD's which play at 44KHz).

8-BIT VS. 16-BIT SOUND

8-bit or 16-bit sound refers to the "depth" of the sound (e.g., how many different possible numbers are in the "sound palette" to form a sound). Most Macintosh computers output 8-bit sound, though some support 16-bit. Audio CD's are 16-bit.

8-bit: 256 different numbers can be used to form a sound.
16-bit: 65,536 different numbers can be used to form a sound.

Software CD-ROMs could have stereo 8- or 16-bit sound files at any sampling rate (11KHz, 22KHz, 44KHz), but most of them are 8-bit mono 22KHz since that's what most Macintosh computers can play. Sound Manager 3.0 is capable of converting 16-bit audio to 8-bit audio on machines that don't support 16-bit audio output.

Among desktop Macintosh computers, only the 660AV, 840AV, and Power Macintosh models have 16-bit audio input and output capability because of the AT&T DSP3210 hardware circuitry and the 16-bit Singer codec circuitry in the AVs. The Audio Waveform Amplifier and Converter (AWAC) chip in the Power Macintosh performs the same 16-bit I/O functionality. The PowerBook 500 series computers support 16-bit stereo output, but only mono input.

HOW AUDIO CD'S WORK ON THE MACINTOSH

All audio CD's play at 44KHz, 16-bits, and stereo, whether in a stereo system (compact disc player) or computer CD-ROM drive.

On Macintosh computers with internal CD-ROM drives, the AppleCD Audio Player program controls the CD player, and the CD player sends the sound directly to the speaker port, bypassing the logic board. This is why you can play audio CD's with no computer performance degradation, and why you get 44KHz, 16-bit, stereo output, even if your Macintosh can't play sounds from software with that quality.

For Macintosh computers with external CD-ROM drives, external speakers are required to hear audio CD's. This is because the sound from audio CD's is not sent to the computer through the SCSI cable as data, but rather the sound is sent directly to the speaker output port of the CD-ROM drive.

SOUND QUALITY & SIGNAL-TO-ERROR RATIO

In digital audio, the main measurement of maximum expressible amplitude to error ratio is called Signal-to-Error (S/E) ratio. This expressible amplitude is also referred to as the "maximum signal" of the recorded sound. The error is what is perceived as noise. The S/E ratio specification of a digital system is closely related to the Signal-to-Noise (S/N) ratio of an analog system, although it is not identical in nature due to differences between digital and analog methods.

The S/E ratio can be expressed specifically by calculating first a maximum signal value, second an error value, and finally creating their ratio. Although there are intervening steps in the math, the final formula to use when calculating the strength of the audio signal above the noise (distortion or error) level looks like this:

$6.02 * n + 1.76$ dB

Where n is equal to the number of bits in the sample. The following results are approximate signal above noise ratios for a various number of bits in a sample. Generally, the calculated results will be slightly higher than the measured results. Also, specific implementations of hardware will affect the actual measured ratios in a downward fashion.

16-bit samples (number in audio CDs) = 98 dB
12-bit samples = 86 dB
8-bit samples (most Macintosh sound) = 48 dB

To relate the quality of these digital recordings to analog recordings, think of the 8-bit recordings as inexpensive cassette recorders with inexpensive tape. The 12-bit recordings correlate to high quality cassette recorders with noise reduction and metal tape. The 16-bit recordings equate to professional studio reel-to-reel tape recorders with noise reduction and professional tape at high tape speeds.

TA32601_Macintosh_Sound_Capabilities__(TIL16405).pdf

Support Information Services
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PlainTalk Jack: Requires 3.5 mm Plug

I am having problems using an audio cable from my stereo into my Power Macintosh computer. I cannot get a consistent signal, I sometimes have to wiggle the cable in order to hear the audio. I have tried several cables, but all of them do the same thing.
This article has been archived and is no longer updated by Apple.
The PlainTalk sound input mini-jack is a standard 3.5 mm diameter. The symptoms you describe occur if you use 1/8-in connectors instead of 3.5 mm connectors.

The differences:

- 1/8-in. plug is .125-in. in diameter
- 3.5 mm jack is .139-in. (0.014-in. bigger)

When a 1/8-in. plug is used, it is prone to cutting out and having excessive noise on the audio line. To prevent this, you should use a 3.5 mm connector instead of 1/8-in.
Published Date: Feb 19, 2012

Pascal 1.3: Compatible With IIGS RAM Disk & 3.5" Disk

This article has been archived and is no longer updated by Apple.
Pascal 1.3 for the Apple II can be loaded into the RAM disk of an Apple IIGS. Set your RAM size, and it will be formatted when you start up Pascal.

Pascal 1.3 supports 3.5" disk drives. (In fact, it's now distributed on a 3.5" disk in addition to the 5.25" disks.)
Published Date: Feb 19, 2012

MacTCP Ping Does Not Work On Loopback Address (9/94)

I am trying to ping my own IP address with MacTCP Ping but get no response. My IP address and configuration are just fine though!

This article has been archived and is no longer updated by Apple.
MacTCP Ping does not support the loopback address 127.0.0.1 or your own IP address. You will only be able to ping your address if you acquire that address from a DDP-IP gateway such as a FastPath via the EtherTalk icon in MacTCP. If you have an address assigned using the Ethernet or Token Ring icon you will not be able to ping your own address successfully.

Support Information Services
Published Date: Feb 19, 2012

What is catsearchd in A/UX (9/94)

This article describes catsearchd an A/UX system process.

This article has been archived and is no longer updated by Apple.
In A/UX, catsearchd is a system process that maintains a cache of file system information, which increases the performance of catalog searches made from the Macintosh environment or from an AppleShare client.
Memory requirements for catsearchd is approximately 200 bytes for each file it caches information for. By default catsearchd caches information for all mounted UNIX partitions, but can be directed to only cache information below a given directory.

The memory requirements of catsearchd should be accounted for when determining the sizes of each of the various caches in the system. The following formula should be used:

Catsearchd memory = 200 bytes * (# of files in effected part of the file system)

* Tuning catsearchd
To tune catsearchd the /etc/inittab entry for catsearchd can be modified as followed:

1) Add the option -f <path> to tell catsearchd to only cache information for files which exist in or below the directory specified by <path>.

2) Add the option -m <x>k to tell catsearchd how much memory must be installed on the system for catsearchd to run. For example, if -m 2048k is specified and the machine has 16 Megabytes of memory installed catsearchd will not be executed at system startup time.

For a complete description of catsearchd see UNIX man page catsearch(1M).

Support Information Services
Published Date: Feb 19, 2012

Select 310: Doesn‘t Support QuickDraw GX Helper (2/95)

I'm not able to turn off desktop printing when using QuickDraw GX with our LaserWriter Select 310. We get a message saying "...GX couldn't find a compatible driver to use with the desktop printer LaserWriter GX, choose another desktop printer." Is there any way to disable desktop printing when using a LaserWriter Select 310?

This article has been archived and is no longer updated by Apple.

It is not possible to turn OFF desktop printing for the LaserWriter Select 310 using QuickDraw GX Helper. For Apple PostScript printers, QuickDraw GX Helper only works with the network printers that use the standard LaserWriter driver (LaserWriter 7.x, 8.x). QuickDraw GX Helper first looks for the type and creator of LaserWriter 7.x in the Extensions folder. If it does not find LaserWriter 7.x, then it looks for LaserWriter 8.x next. If neither are available, then GX Helper displays the error message "...GX couldn't find a compatible driver to use...".

The only workaround is to restart your computer with QuickDraw GX disabled, and choose the original LaserWriter Select 310 driver in the chooser.

Article Change History:
16 Feb 1995 - Reviewed for accuracy and changed keyword.

Support Information Services
Published Date: Feb 19, 2012

Macintosh LC 575: Proper Way to Awaken Dimmed Display

This article discusses the proper method of waking up the Macintosh LC 575 after the screen has dimmed.
This article has been archived and is no longer updated by Apple.
It is best to awaken the computer by moving the mouse or pressing a key on the keyboard rather than pressing the mouse button.

Pressing the mouse button (without moving the mouse or touching the keyboard) to wake up the computer can cause the computer to fail to respond (freeze).

Published Date: Feb 19, 2012

Power Macintosh: Reading ProDOS Diskettes

I am trying to read ProDOS disks from my Apple II on my Power Macintosh, but I am getting the message, "This disk is Unreadable, do you want to initialize?".

I thought that my Power Macintosh floppy drive is supposed to be able to read ProDOS disks. How can I read these disks?
This article has been archived and is no longer updated by Apple.
Power Macintosh users that would like to read ProDOS disks have the following solutions:

1) Install Macintosh PC Exchange 2.0 or later.
Macintosh PC Exchange software version 1.0.4 or 1.0.5 was included with System Software 7.1.2 for Power Macintosh. Macintosh PC Exchange allows users to easily read, write, and format PC-compatible disks.

However, these versions of Macintosh PC Exchange do NOT allow users to read, write, or format ProDOS disks. In June, 1994, Apple announced Macintosh PC Exchange 2.0. In addition to formatting, reading, and writing DOS, and OS/2 disks, Macintosh PC Exchange 2.0 can format and use DOS "formatted SCSI" hard disks and removable media, such as Bernoulli and SyQuest cartridges and floptical drives. It can also format and use Apple II ProDOS floppy disks.

2) Upgrade to Macintosh System Software 7.5.
When System Software 7.5 was announced in July, 1994, Macintosh PC Exchange 2.0 was integrated into the system software.

3) Apple File Exchange Utility version 7.0.
Macintosh users have been able to read DOS and ProDOS disks using the Apple File Exchange utility since Macintosh System Software 6.0 shipped in 1988. Apple File Exchange has been part of the Macintosh System Software through System 7 Pro.

Since Macintosh PC Exchange 2.0 provides users the ability to read, write and format PC-compatible and ProDOS disks, Apple has discontinued development of Apple File Exchange. Although Apple File Exchange 7.0 may work with the Power Macintosh series, it was not fully tested by Apple and is therefore not supported on PowerPC processor based Macintosh systems.
Published Date: Feb 19, 2012

QuickDraw GX: Differentiating Various Font Types (8/95)

How do you identify which font suitcases contain scalable postscript fonts and which contain scalable TrueType fonts when using QuickDraw GX?

This article has been archived and is no longer updated by Apple.
When using QuickDraw GX, all fonts (including TrueType and PostScript) are stored in suitcase files inside the Fonts folder. On opening a suitcase with either TrueType, or PostScript fonts, you should see two types of fonts files listed -- bitmapped and scalable.

You can identify the different fonts by comparing the icons for the files. A bitmap font file has an icon with one "A" on it, while a scalable font file has an icon with three superimposed "A"s on it. A scalable font can be either a PostScript font or a TrueType font.

Unfortunately, from the Finder, there is no easy way to tell if a particular scalable font is TrueType or PostScript. The Finder lists both types of scalable fonts as "font".

There are two ways to tell the difference. One way is to open a copy of the font suitcase using ResEdit. Open the SFNT resource. The first four characters are typ1 if the font resource contains PostScript data; otherwise, it is a TrueType font.

A second way to determine whether the font is a PostScript font is to enable ATM GX (via the ATM GX Control Panel) and open the font in question. If the text on the screen is not smooth, it is a PostScript font.

This article was published in the "Information Alley":
Volume II, Issue 2, Page 14

Article Change History:
07 Aug 1995 - Made minor corrections.
18 May 1995 - Minor updates; added Info Alley information.
16 Feb 1995 - Reviewed for accuracy and changed keyword.

Support Information Services
Published Date: Feb 19, 2012

CD-ROM: CD+G and CD+MM Disc formats

I noticed that the AppleCD 300 CD-ROM drive supports the CD+G format. I tried using a CD+G CD-ROM, but I couldn't notice anything different from a standard audio format. Am I doing something wrong? Also, does the AppleCD 300 drive support the CD+MM CD-ROM discs?
This article has been archived and is no longer updated by Apple.
The CD+G format (audio + graphics), is an extension of the Compact Disc Digital Audio (CDDA) standard. It is supported by the AppleCD 300 CD-ROM, but without software to view the graphics on the disks, it acts like a standard audio CD-ROM. One application available on most online services is CD+G Player.

With the exception of Karoke CDs, the CD+G disc format never got full support from either record companies or the public. A majority of the pop CD+G discs came out in 1989 or 1990.

The CD+MM format (Audio + Multimedia) is not fully defined yet, so there isn't a standard for these discs. They can be Macintosh, Windows, or CD-I only, or they can be cross-platform. It is up to the developer of the disc to determine what platform they are going to support. These CD-ROM discs should also contain the platform requirements on the shipping box.
Published Date: Feb 19, 2012

ApplePhone 1.0: Known Issues

This article details known issues with ApplePhone when used with a Quadra AV and GeoPort Telecom Adapter.
This article has been archived and is no longer updated by Apple.
Notes: ApplePhone 1.0 and 1.0.1 is an example program that Apple does not support. The Macintosh AV team created the program to show the capabilities of the AV technology. Apple does not intend to do any further work to this example program and it has been removed from Apple Software Updates.

This ApplePhone software is NOT related in any way to the ApplePhone software that is a part of the Apple Telecom 3.x package. Apple Telecom 3.x also includes Apple Address Book and Apple Fax software.

Issues
ApplePhone is preset to answer the phone after 4 rings. This setting cannot be changed.

If you are using an Audiovision Display, you may experience feedback when using the built in microphone at the top of the display. The workaround is to use the included PlainTalk microphone by disconnecting the monitor's microphone cable and attaching the PlainTalk microphone and experimenting with placement.

ApplePhone keeps recording a phone message one or two minutes after the caller hangs up.

Sometimes ApplePhone hangs up on the caller after five seconds (fixed in ApplePhone 1.0.1).

ApplePhone only works through the left channel sound channel.

ApplePhone is not operational when speech is turned on. Turn speech off in the Speech Setup Control Panel.

If you play a CD using CD Remote or the Apple Audio CD Player, launching ApplePhone causes the sound volume to change significantly. The user can pause the audio CD while launching ApplePhone to avoid the problem.

ApplePhone only works with the Centris/Quadra 660AV and Quadra 840AV.

Published Date: Feb 19, 2012

PowerBook: Leaving Battery in Charger for Extended Time (4/95)

What is the effect of leaving PowerBook batteries in our dual-battery charger. A customer has a 180c and often leaves batteries in the charger for extended periods of time.

This article has been archived and is no longer updated by Apple.
It wasn't mentioned if the charger was powered on or not, here is some information concerning both situations.

The manual has the following note:
To preserve a battery's charge, don't leave it in the recharger if the
power adapter is not plugged into an electrical outlet.

Leaving a battery in an unpowered recharger would drain the battery. Leaving it in an unpowered charger for an extended period of time could discharge the battery to a point where damage to the battery could occur.

Leaving a battery in a powered charger for extended periods of time—will not be a problem. There are three steps in the charging process.

First a bulk charge is done if the battery voltage is below a certain level. After the bulk charge, the voltage applied to the battery is reduced to finish the recharging process. The charger then switches over to a trickle mode which is used to maintain the full charge to the battery.

Do not leave the power adapter in the PowerBook if it is not plugged into an electrical outlet.

Leaving a battery in the PowerBook with the power adaptor plugged into the electrical outlet for extended periods of time will not be a problem.

Article Change History:
25 Apr 1995 - More information added on leaving the PowerBook plugged in.

Support Information Services
Published Date: Feb 19, 2012

Macintosh 630 Family: Supports Video Cards Through PDS (10/94)

Is it possible to add a video card to the Macintosh 630 family computer in order to support a larger monitor and to get more colors?

This article has been archived and is no longer updated by Apple.
The Macintosh 630 family computers, have three unique internal expansion slots.
* One 114-pin LC compatible PDS slot
* One 112-pin communication port for modem and ethernet
* One 60-pin video-in Slot for real-time video display and capture

The communications and video-in Slot are reserved for Apple products, the LC compatible PDS slot is open for third party development.

Video cards made for the LC PDS should work fine, however you should verify compatibility with the video card manufacturer.

To verify that a particular third-party product is compatible with a specific
Macintosh, we recommend you check with the supplier of that product.

For additional information on third party compatibility with the Macintosh 630
family, search the TIL for the article: "Macintosh 630 Family: PDS Compatibility"

The following computers are in the Macintosh 630 family: Performa 630, Performa 635, Performa 636, Performa 637, Performa 638, LC 630, and Quadra 630.

Support Information Services
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LaserWriter Select Printers: Fuser Temperature (10/94)

What is the fuser temperature of the LaserWriter Select 300/310/360? I am trying to use some special labels that may be damaged if the temperature exceeds 410 degrees.

This article has been archived and is no longer updated by Apple.
The fusing temperatures for the LaserWriter Select printers are as follows:

LaserWriter Select 300/310

Paper Size Fusing Temperature (Max)
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A4, Letter, Legal 320íF (160íC)
Post Card, COM-10, Monarch, C5, DL 331íF (166íC)

LaserWriter Select 360

Paper Size Fusing Temperature (Max)
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A4, Letter, Legal 331íF (166íC)
Post Card, COM-10, Monarch, C5, DL 361íF (183íC)

Support Information Services
Published Date: Feb 19, 2012

Apple Remote Access: Geoport Settings on 660AV or 840AV

I am having trouble getting Apple Remote Access to work with Geoport on a Macintosh Quadra 660AV or 840AV.

This article has been archived and is no longer updated by Apple.
If you encounter problems with ARA and Geoport check the following settings:

* Express Modem Control Panel
- Turn Express Modem switch ON
- Modem Port is set to use External Modem

* Speech Setup Control Panel
- Turn Speech recognition OFF

* Remote Access Setup Control Panel
- Modem type is set to GeoPort Telecom
- Port is set to GeoPort

* Sound Control Panel
- Sound out - 24KHz

If, after checking all of these settings, it still does not work, do the following:

1) Remove Serial Port Arbitrator from the Extensions folder
2) Turn virtual memory off
3) Turn file sharing off
4) Reset PRAM (Command-option-P-R at startup)
Published Date: Feb 19, 2012

System 7.5: Anomaly Deleting Notes From Note Pad (2/95)

I want to delete a page from my System 7.5 Note Pad. I show the page I want deleted and selected Delete from the File menu. A dialog box appears with Cancel and Delete as selections, Delete is the default (outlined in bold). However, when I hit the return or enter key, cancel is selected instead. Why is this?

This article has been archived and is no longer updated by Apple.
There is an anomaly with the default selection. To delete the note users must click on the Delete button with the mouse.

Article Change History:
16 Feb 1995 - Reviewed for accuracy and changed keyword.

Support Information Services
Published Date: Feb 19, 2012

Restricting PowerShare Catalog Access (10/94)

Can A PowerShare catalog be created which includes more than one organization, but prevents one organization from browsing another's catalog data or sending mail to users in another organization? We tried changing access privileges for the Users and Groups folder but got our server into a state where users could not log into their PowerShare accounts.

This article has been archived and is no longer updated by Apple.
This can be accomplished using PowerShare's access privileges. The effect of changing privileges is not well documented and should be approached with caution. (Be sure to test before deployment.)

The following example shows how to protect one organization's catalog data from another organization in the same PowerShare system:

1) Open PowerShare Admin and with the Catalog Server selected in the System Monitor window, select Show Catalog from the Window menu.

2) Create a new folder for each organization.

3) Select the newly created folders one at a time and restrict access by selecting Access Privileges under the Catalog menu and then selecting Folder Members from the pull down menu next to See Records.

4) Populate each folder with users belonging to the corresponding organization. Note that original user records reside in these folders. Aliases to these records will automatically be created in the Users and Groups folder.

With this configuration users will find they will only have access to records in their own organization in the PowerShare browser. They will see names of people outside their organization in the Users and Groups folder but cannot open those business cards or send them mail since they lack the necessary privileges.

Support Information Services
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LaserWriter Select 360: Using MicroPrint on Other Printers 5/95

I noticed that Apple is selling MicroPrint for the LaserWriter Select 360 printer. Can this software be used with other LocalTalk printers? How about the LaserWriter Bridge software that is bundled with the LaserWriter Select 360?

This article has been archived and is no longer updated by Apple.
MicroPrint is being sold by Apple, and is designed for the LaserWriter Select 360. This version of is a slightly modified version of a product being sold by Sonic Systems. Apple's version of MicroPrint was not tested with other Apple LaserWriter printers. It might work with other LocalTalk printers, but Apple has not tested it with any printers other than the LaserWriter Select 360.

Apple also bundles the LaserWriter Bridge software with every LaserWriter Select 360 being sold. This software is also slightly modified from the version Sonic Systems sells. Every copy of the LaserWriter Bridge software is licensed by Apple from Sonic Systems. It is licensed for only the LaserWriter Select 360, so legally it cannot be used with other LocalTalk printers.

Support

Use this informtion if you need support on either the LaserWriter Bridge or or MicroPrint:

* LaserWriter Bridge

All support is handled by Apple -- 800-SOS-APPL.

* MicroPrint

All support is handled by Sonic Systems.

Note: If you connect MicroPrint to a LocalTalk printer other than
the LaserWriter Select 360 and have problems, Sonic Systems
would like to know about it.

The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.

This article was published in the "Information Alley":
Volume I, Issue 13, Page 19

Article Change History:
16 May 1995 - Added vendor and Info Alley references; removed address.
07 Feb 1995 - Added keyword and made several technical updates.
14 Oct 1994 - Clarified discussion.

Support Information Services
Published Date: Feb 19, 2012

QuickDraw GX: How to Remove

This article describes the steps necessary to remove QuickDraw GX.
This article has been archived and is no longer updated by Apple.
When you installed Mac OS 7.5.x or 7.6, you may have also installed all the extras, including QuickDraw GX. If you decide at some point that QuickDraw GX is not something you need or want to use, you can easily remove it from your system.

The QuickDraw GX Installer has an easy to use remove feature that removes the components of QuickDraw GX. After removing GX, it may be necessary to restore some fonts that QuickDraw GX converted.

Follow these steps for the removal procedure:

Step 1:
Quit any open applications or desk accessories.

Step 2:
Locate the QuickDraw GX Installer on either the QuickDraw GX Install floppy disk, or System Software CD-ROM disc, look in the QuickDraw GX folder on the CD.

NOTE: On Mac OS 7.6 CD-ROM, the QuickDraw GX folder is located inside the Software Installers folder.

Step 3:
Launch the Installer.

Step 4:
When you see the Installer's Welcome screen, click continue.

Step 5:
Open the pop-up menu (which says Easy Install) and choose Custom Remove.

Step 6:
Click on the check boxes for the components you want to remove.

Step 7:
Click on remove.

The installer removes the selected components. However, any PostScript fonts that were present in the System Folder before the QuickDraw GX installation no longer work properly because QuickDraw GX placed them in suitcases that standard System Software does not recognize.

Copies of the old fonts were placed in a folder called Archived Type 1 Fonts in the System Folder. Open this folder and copy all of the fonts to the Fonts folder within the System Folder. If prompted to replace any existing fonts, go ahead and replace them.

If you converted any Postscript fonts using the Type 1 Enabler application, you need to reinstall the fonts from original diskettes as that application does not place copies in the archive folder.

Finally, if you used Adobe Type Manager, you should also reinstall that application as it may have been removed when QuickDraw GX was installed.

This article was published in the 5 June 1997 "Information Alley".
This article was published in the "Information Alley": Volume II, Issue 1, Page 14
Published Date: Feb 19, 2012

QuickDraw GX: Hewlett Packard Drivers Available (3/95)

Are any third parties providing QuickDraw GX compatible drivers for their products?

This article has been archived and is no longer updated by Apple.

Hewlett-Packard (HP) plans to support the QuickDraw GX graphics model for the Macintosh computer with software drivers developed for the HP LaserJet, DeskJet, and DeskWriter printer families. QuickDraw GX-savvy drivers are currently available for the following printers:

DeskWriter
DeskWriter C
DeskWriter 510
DeskWriter 550C
DeskWriter 520
DeskWriter 560C

QuickDraw GX is supported in the DeskWriter printers by the use of DeskWriter GX software (DWGX 1.0).

The fastest way to get a QuickDraw GX printer driver is from one of several electronic online services. These include:

```
CompuServe: HP Peripherals forum (GO HPPER)
           Library 9
Internet:   ftp-boi.external.hp.com
           IP address - 192.6.71.2
           Name - Anonymous
           Password - Send User Identification
           Files are listed on the sites as: DW60.sea or DWGX10.HQX
HP Download
Service:    1-208-344-1691 Parity: N  Data Bits: 8 Stop Bits: 1
```

If you would like to receive a disk with the QuickDraw GX printer driver contact the HP Software Distribution (Fulfillment) Center in your area. A nominal charge for materials and shipping applies.

The Tech Info Library article titled "Locating Vendor Information" can help you search for the address and phone number(s) of a particular vendor, in this case, Hewlett Packard.

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QuickDraw GX Helper: Known Issues (7/95)

This article describes some known issues with the QuickDraw GX Helper.

This article has been archived and is no longer updated by Apple.

How it works

QuickDraw GX Helper is a system extension that lets you disable QuickDraw GX desktop printers. It gives you the option to select what type of printing to use from the Apple menu. The setting is preserved by applications and is stored in the QuickDraw GX Helper preferences file in the Preferences folder.

When desktop printers are inactive, the Macintosh Operating System does not use the QuickDraw GX printer driver. All printing calls are routed to the non-QuickDraw GX printer driver.

Installation

QuickDraw GX Helper is not installed as part of the Easy install option of QuickDraw GX. You must use the Custom install option and specifically choose QuickDraw GX Utilities.

QuickDraw GX Helper requires that the old print driver and the QuickDraw GX equivalent print driver both be in the Extensions folder. For example, if you are using a LaserWriter, both the drivers LaserWriter and LaserWriter GX must be in the Extensions folder.

Incompatible with Fax Modems and Non-Apple printers

QuickDraw GX Helper only works with equivalent Apple-brand printer drivers that are in the Extensions folder. For LaserWriter GX, it uses LaserWriter driver v7.2 as this was the only version tested with GX Helper. GX Helper is not compatible with any third-party printer devices.

Postscript Fonts

QuickDraw GX Helper enables a non-GX printer driver, so you must re-install the PostScript font files into the Fonts folder. These are listed in the Finder as PostScript Font when you view the files by kind. This is necessary because the older printer drivers have not been updated to support the QuickDraw GX font suitcase format (created by the GX installer) that places PostScript fonts in a suitcase.

Both the PostScript font file and the new GX compatible suitcases can be present in the Fonts folder at the same time. The only performance penalty is extra disk space being used by duplicate font data. You can find the older PostScript font files in either the "Archived Type 1 Fonts" folder in the System folder or on the original fonts disk. Note that the screen font does not need to be copied back to the Fonts folder.

Using With the LaserWriter 8 driver

You cannot use the GX helper with both the LaserWriter 8 and LaserWriter (version 7.5) printer drivers installed in the Extensions folder. This is because the QuickDraw GX helper first looks in the Extensions folder for a Chooser Extension with the type and creator of the LaserWriter 7.5 driver. If it is not found, then it looks for a Chooser Extension with the type and creator of the LaserWriter 8 driver. If it first finds the LaserWriter 7.5 driver, it does not continue to look for the LaserWriter 8 driver. The workaround is to keep only one of the LaserWriter drivers in the Extensions folder at a time. You can use the Extensions Manager in System 7.5 to disable the appropriate driver.

Using with the LaserWriter Select 310

The QuickDraw GX Helper does not allow switching back to the LaserWriter Select 310 driver. Under QuickDraw GX, you must use the LaserWriter GX driver configured for serial output with a LaserWriter Select 310 printer. GX Helper is set up only to look for the older network LaserWriter drivers (LaserWriter 7.x or LaserWriter 8.x). It does not find the LaserWriter 310 driver. Renaming the LaserWriter 310 driver to LaserWriter does not solve the problem since QuickDraw GX Helper uses the Finder's type/creator information to locate a driver.

Article Change History:
17 Jul 1995 - Added information about screen fonts.
07 Apr 1995 - Made minor technical updates.
14 Feb 1995 - Updated keyword; reworded how helper checks type/creator.

Support Information Services
Published Date: Feb 19, 2012

TA32633_QuickDraw_GX_Helper_Known_Issues__(TIL16445).pdf

QuickTake Camera: Third Party Close-up Kit Available (4/95)

Are there any close-up or telephoto kits available for the Quicktake 100 and 150 cameras?

This article has been archived and is no longer updated by Apple.
Micro World sells several different close-up lens adapters for both QuickTake cameras consisting of the following three lenses:

Copy Area	Depth of Field
8.0"x10.0"	5.0"
4.5"x5.5"	1.5"
2.0"x2.5"	0.5"

The lens system can be purchased with a special copy stand that aids taking pictures of small objects and existing photographs by maintaining a stable camera mount and the proper depth of field.

Creating a telephoto lens for the QuickTake camera is a more difficult process because the depth of field is not known, and it is significantly more difficult to aim the camera at the subject because there is no visual aiming feedback. I am not aware of any companies that have a telephoto lens system on the market.

Kaidan Systems also sells close-up lens for the QuickTake 100 and QuickTae 150 camera.

The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.

Article Change History:
21 Apr 1995 - Added Kaidan System to the article.
09 Mar 1995 - Added additional information on close-up lenses.

Support Information Services
Published Date: Feb 19, 2012

LaserWriter Pro 810: LaserJet IIP Initialization string

What is the printer initialization string (reset string) for HP II emulation on a LaserWriter Pro 810?
This article has been archived and is no longer updated by Apple.
The "Reset Escape Command" used typically for controlling manual feed printouts is "<ESC> E". It is possible that this is not supported in the LaserWriter Pro 810's emulation of the HP LaserJet IIP. Ifthis escape sequence to implement manual feed and it is not working, then we would suggest using the following escape sequence:

<esc>&l#h

<esc> = escape character
l = lowercase L
# = refer to following values
---
0 - source current (default)
1 - upper tray
2 - manual feed
4 - lower tray
5 - middle tray

Thus, to perform a manual feed job the escape sequence needed is: <esc>&l2h

In terms of what is and is not supported by the LaserWriter Pro 810's HP LaserJet IIP emulation, the following list below (taken from the LaserWriter IIf/IIg's documentation) should provide a general outline:

The LaserJet IIP emulator contained in the LaserWriter allows you to print just about anything you can print on the LaserJet IIP, with these differences:

* The LaserJet IIP omits characters that overlap the left margin of the paper, but the emulator prints the portion of the character that does not extend into the margin.

* The LaserJet IIP allows you to insert commands to halt printing so that you can insert paper or envelopes manually. The emulator interprets those commands as form feeds.

* Applications that produce justified text with the LaserJet IIP versions of Helvetica (Helv) and Times Roman (Tms Rmn) fonts may generate slightly ragged output on the emulator.

* While the LaserJet IIP prints characters in the closest available point size and pitch for each font, the emulator scales the font to the specified size.

* The line printer font, which is 16.67-pitch Courier, appears with a height of 7.2 points when printed with the emulator, rather than 8.5 points as printed by the LaserJet IIP.

*The Control-C and Control-T key combinations, which you can normally use to interrupt printing or query the status of the LaserJet IIP, cannot be used with the emulator.

* The emulator does not print nine characters from the LaserJet IIP Roman-8 symbol set. These characters are shown in the following table.

Decimal codes: 176, 179, 227, 228, 240, 241, 247, 248, and 254.
Published Date: Feb 19, 2012

Multiple Scan Display: Foot Lamberts and Luminace Ratings

What are the Foot Lamberts or Luminace ratings for the Multiple Scan 17 and Multiple Scan 20 monitors?
This article has been archived and is no longer updated by Apple.
Both displays support:
- Minimum center luminance = 25fL

Multiple Scan 17 Display maximum brightness:
- Active image 300 X 225 mm shall not exceed 50fL.

Multiple Scan 20 Display maximum brightness:
- Active image 360 X 270 mm shall not exceed 37fL.

Published Date: Feb 19, 2012

Workgroup Server 95: Blank SCSI ID Positions

The SCSI address thumbwheel on the internal hard drive carriers inside the Apple Workgroup Server 95 have two blank positions.
This article has been archived and is no longer updated by Apple.
The thumbwheel controls 4 bits (numbered 0 through 3). The hard drive only uses the first 3 bits to set the SCSI ID. The thumbwheel switches used on these drives still register a valid binary output even for the settings that are blank (they represent 8 and 9, for the curious).

Because the SCSI ID is set by bits 0, 1, and 2 (bit 3 is ignored), the two blank positions still represent valid (although useless and duplicate) SCSI ID's. See chart below.

Thumbwheel settings and their corresponding bit positions:

```
Thumbwheel      Binary value
Setting         Bits: 3 2 1 0

6                     0,1,1,0 <--- SCSI address 6
7                     0,1,1,1 <--- Obvious conflict with the CPU
8                     1,0,0,0 <--- First blank position
9                     1,0,0,1 <--- Second blank position
```

As the chart shows, thumbwheel setting 8 would equal SCSI ID 0 and 9 would be ID 1. To avoid confusion it is best not to set the SCSI ID switch to a blank value.
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Workgroup Server 95: Recreating MacPartition

When a user is doing custom partitioning on a Workgroup Server 95 startup drive and they delete the MacPartition, they can encounter a problem.
This article has been archived and is no longer updated by Apple.
It seems that HDSC Setup on the A/UX installers gets confused when there is a Mac Partition that is deleted. HDSC Setup doesn't give you the option of creating a replacement MacPartition until you remove and recreate the Apple disk driver at the top of the disk map.
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Workgroup Servers: Causes of Stuck DAT Tapes

What are some causes of stuck MRS DAT tapes in Workgroup Servers?
This article has been archived and is no longer updated by Apple.
If a tape is stuck in a DAT drive, first make sure the indicator lights on the drive are not indicating an error condition:

Left (Cassette) Light	Right (Drive) Light	Meaning
Green	Pulsing Green/Amber	Media Wear
Amber	Amber	High humidity/SCSI termination
Pulsing Amber	Amber	Self-Test Failure

In some Workgroup Server 95 systems, tapes could not be ejected because of misalignment between the DAT drive and the front bezel.

A tape could be stuck because it is broken (no tension on the tape). It is unusual for this to happen but when it does, it's usually a fault of the mechanism not seating the tape all the way before starting the drive motors.

There are 2 fingers that contact each hub to make sure the tape does not unravel while in storage or out of the drive. When you insert a tape into the DAT drive, there are 2 covers that are moved (one covering the hub holes and one covering the tape surface). Upon insertion into the drive, the mechanism makes the covers open fully, thereby retracting the interposing fingers from the hub teeth.

If the fingers aren't pulled away from the teeth before the motors attempts to retension the tape, then the tape snags and most likely snaps. If you suspect this may be the problem, follow these steps:

1. Power down the server
2. Detach the SCSI connection to the DAT drive
3. Power up the server
4. Press in on the tape cartridge while depressing the eject button.

The other possible fault of DAT drives is the failure of the sensing mechanism to sense the end of tape. If this happens on EVERY tape that is inserted, then it's likely a hardware issue; if it's occasional, it may be a stiff cartridge not seating all the way in the mechanism or a faulty mechanism.

One final thing to check is how long a tape has been in use. The MRS tapes have a lifespan of about 50-60 hours of use, and should be replaced after that point.

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Ethernet: "Could Not Switch to EtherTalk" Error

When opening the Network control panel and clicking EtherTalk, the following message appears "Could not switch to EtherTalk due to an error. Your connection will be reset to LocalTalk."

This article has been archived and is no longer updated by Apple.

Symptom

When opening the Network control panel and clicking EtherTalk, the following message appears "Could not switch to EtherTalk due to an error. Your connection will be reset to LocalTalk."

Solution

Overview

- If this message appears immediately, it is likely to be an issue with the computer's networking software.
- If this message appears three to eight seconds later, the issue is with the Ethernet network. During this time, the computer is trying to verify the network connection.

The verification of Ethernet can fail for several reasons:

- An inactive Ethernet connection (inactive network).
- AppleTalk is not activated through the Chooser (may require resetting PRAM).
- Network cabling issues such as a loose or malfunctioning transceiver, improper hub port configuration, or a faulty Ethernet cable.
- The appropriate resources and/or drivers may not be present. Run either Network Software Installer 1.5.1 or a custom install of EtherTalk software from the System Software installer.
- The System file may be corrupt. Delete the System file only and reinstall.
- An incompatible third-party hard disk driver.

Possible Resolutions

- Try resetting PRAM first to resolve the issue.
- Disconnect and then reconnect the transceiver or network cable from the computer.
- Check if network maintenance was performed, it is possible for Ethernet connections to be disturbed in a wiring closet which could impact your connection.
- Reinstall the networking software.
- Reinstall the System Software.

Apple Ethernet CS Thin Coax Card

If you have the Apple Ethernet CS Thin Coax Card (M2708Z/A) installed in your computer's communications slot, you must use Network Software Installer (NSI) 1.5.1 or later for the latest EtherTalk drivers.

Note: Keep a copy of the latest NSI present in case you need to reinstall system software. NSI 1.5.1 or later must also be reinstalled after a clean system software installation. With Mac OS 7.5.3 or later, you do not need to install NSI 1.5.1.

This article can help you locate the software update mentioned here:

- Article 14724: "**Where To Find Apple Software Updates**" - Lists online services for free Apple software updates.

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AWS 95 or A/UX: "/etc/macgetty" Is Not Executable

What should I look for if I reboot an AWS 95 or A/UX system and get the following message, "/etc/macgetty is not executable; launching getty instead."
This article has been archived and is no longer updated by Apple.
This error means that A/UX is not able to give you a Macintosh screen display. It is caused by a permissions problem that is preventing macgetty from running on startup. To determine the cause of the problem follow the steps outlined below.

1. The command:

ls -l /etc/macgetty

Should display the following line of information:

-rwxr-x--- root sys (the permissions for owner and group)

If the permissions for macgetty are not set as shown above, use the following A/UX commands to set them correctly:

chmod 750 /etc/macgetty (will change the permissions)

chown root /etc/macgetty (will change the ownership)

chgrp sys /etc/macgetty (will change the group)

2. If you notice in Step 1 above that both owner and group are set to root, issue the command

ls -l /etc

This command will give you a listing of the permissions for all the files in the /etc directory. If you notice that every file is set with root ownership and root group-ship, it is probably time to reinstall the core A/UX. The only way to tell how many files and directories are messed up is to mount the installation CD and check all the files against those on the CD. This problem is often the vestige of someone having changed permissions on a folder from the File menu's "UNIX Permissions ..." choice and having checked the "Make all currently enclosed directories..." option.

3. If the file permissions seem to be set correctly, try the command:

su sys

This will set you to be the super user. If that fails with a line like "can't execute /bin/sh", issue the commands:

cd /

ls -la

Verify that the entries for "/etc" and ".." (which is "/" itself) are set to:

drwxrwxr-x bin sys for /etc

drwxr-xr-x root root for ..

As long as they are listed as "d" for directory, you can use the commands:

chmod 775 /etc
chown bin /etc
chgrp sys /etc

This will set /etc to the correct permissions. Then use the commands:

chmod 755 /

chown root /

chgrp root /

This will set the "/" directory to the correct permissions.

4. If permissions for /etc and "/" seem to be correct, check /bin/su and /bin/sh. The directory listings for these files should be as follows:

-rwsr-xr-x 1 root root 56652 Mar 24 1993 /bin/su

-rwxr-xr-x 2 bin bin 40068 Mar 24 1993 /bin/sh

You can now log out and reboot A/UX. A/UX should start normally.

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AppleShare: Creating Visible PDS Files

Is there a way to have AppleShare create a visible PDS file?
This article has been archived and is no longer updated by Apple.
To force the AppleShare PDS files for volumes to be created in the System Folder: Preferences: File Server folder instead of invisible on the volume, create a folder on the volume called AppleShare PDS. When AppleShare tries to create the PDS file on the volume it won't be able to. It will then create a visible 'volume name PDF' file in the File Server folder. It will now be easier to back up and keep track of the permissions files.
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Apple Remote Access: Error Codes

This article lists Apple Remote Access' (ARA) error codes.
This article has been archived and is no longer updated by Apple.

USERS & GROUPS DATABASE

---
1 ugUserAlreadyExists
2 ugGroupAlreadyExists
3 ugULInfoRecNotCreated
4 ugNoMoreUGs
5 ugUserNotFound
6 ugGroupNotFound
7 ugNotAUser
8 ugNotAGroup
9 ugTooManyGroups
10 ugNotaMember
11 ugNoMoreUsers
12 ugNoMoreGroups
13 ugBadParamErr
14 ugUserAlreadyAMember
15 ugAPrmryGroupExists
16 ugServerRunning
17 ugAdminRunning
18 ugNotBtree
19 ugBadKey
20 ugDskFull
21 ugBadUID
22 ugInvalidPasswd
23 ugEOF
24 ugBOF
25 ugUserConnected
26 ugNoMoreEirs
27 ugEirNotFound
28 ugEirInternalErr
---
97 ugFSRunning
98 ugDefNameErr
99 ugFatalError

NETSHARE MANAGER

-5808 ERR_ZONEBUFBADSIZE
-5809 ERR_CONNECTTIMEDOUT
-5810 ERR_CONNECTUSERTIMEDOUT
-5811 ERR_BADPARAMETER
-5812 ERR_NOMULTINODE
-5813 ERR_ATALKNOTACTIVE
-5814 ERR_NOCALLBACKSUPPORT
-5815 ERR_NOTOPENEDBYTHISPB
-5816 ERR_NOGLOBALS
-5817 ERR_NOSMARTBUFFER
-5818 ERR_BADATALKVERS
-5819 ERR_VLD8_CALLBACK
-5820 ERR_VLD8_BADVERSION
-5821 ERR_VLD8_BADUSER
-5822 ERR_VLD8_BADPASSWORD
-5823 ERR_VLD8_BADLINK
-5824 ERR_VLD8_NOCALLBACKALLOWED
-5825 ERR_VLD8_ALLCBSERVERSBUSY - All of the Callback Clients are in use
-5826 ERR_VLD8_GUESTNOTALLOWED
-5827 ERR_VLD8_SERVERISIMPOSTER
-5828 ERR_VLD8_LOGINNOTENABLED
-5829 ERR_REMOTEPORTALREADYEXISTS

-5830 ERR_OPENNOTALLOWED
-5831 ERR_NOUSERSANDGROUPS
-5832 ERR_PORTSHUTDOWN
-5833 ERR_PORTDOESNOTEXIST
-5834 ERR_PWNEEDEDFORENABLE
-5835 ERR_DAMAGED - The ARA file has been modified
-5836 ERR_NETCONFIGCHANGED

----- tasn-all errors below this point are new as of 2.0 ------

-5837 ERR_NOSUPPORT_ATREMOTE
-5838 ERR_CANTCHANGEPW
-5839 ERR_VLD8_INVALIDAUTHMETHOD
-5840 ERR_VLD8_CONTINUE
-5841 ERR_PWCHANGECANCEL
-5842 ERR_EXTAUTH_MODULE_NOTFOUND - Client does not have a needed securtiy module
-5843 ERR_EXTAUTH_MODULE_BADVERSION - Incorrect version of a securtiy module
-5844 ERR_EXTAUTH_MODULE_BADRESULT - Client has returned some error in the result field
-5845 ERR_EXTAUTH_MODULE_REJECT_USER - Module is rejecting this user

LINKTOOL MANAGER

-5901 ERR_LTM_LISTENER_ID_IN_USE - Specified Listener identifier is in use
-5902 ERR_LTM_NO_LISTENER - Listener of specified type is not available
-5903 ERR_LTM_RESOURCE_NOT_REGISTERED - Listener of specified type is not available
-5904 ERR_LTM_PORT_NOT_CLAIMED - claim request failed because to port is busy
-5905 ERR_LTM_COMMAND_NOT_ALLOWED - LTM command not allowed on specified port
-5906 ERR_LTM_BAD_VERSION - connect failed due to incompatible LTM versions
-5907 ERR_LTM_ARBITRATION_TIMEOUT - Time out during the listener arbitration.
-5908 ERR_LTM_KODE_NOT_FOUND - kode resource not found in specified file fail.
-5910 ERR_LTM_RESOURCE_CLAIMED - call failed because resource is already claimed
-5911 ERR_LTM_PORT_RESOURCES_CLAIMED - Port's resources are already claimed
-5912 ERR_LTM_RESOURCE_NOT_CLAIMED - call failed because the resource was unclaimed
-5913 ERR_LTM_PORT_RESOURCES_NOT_CLAIMED - The LTM port's resources are NOT claimed.
-5914 ERR_LTM_PORT_UNCLAIMED - LTM listen port unclaimed
-5915 ERR_LTM_CONNECTION_REFUSED - LTM listener refused connect request
-5916 ERR_LTM_CLAIM_ABORTED - LTM claim call aborted due to LTM_ARB_CLAIM_CANCEL call
-5917 ERR_LTM_END_OF_PORT_LIST - End of open port list reached in current port status session
-5918 ERR_LTM_NOT_CONNECTED - Not connected.
-5919 ERR_LTM_CONNECTION_ABORTED - Connection request aborted
-5920 ERR_LTM_BAD_LENGTH - Length of write request exceeds maximum.
-5921 ERR_LTM_BAD_PARAMETER - Bad parameter.
-5922 ERR_LTM_COMMAND_IN_PROGRESS - Command already in progress.
-5923 ERR_LTM_CONNECTED - Connection established.
-5924 ERR_LTM_CONNECT_CANCELED - Connection request canceled.
-5925 ERR_LTM_CONNECT_TIMEDOUT - Connection time out.
-5926 ERR_LTM_NO_DEFAULTS - Could not get default info...
-5927 ERR_LTM_GOOD_BYE - The driver is going away in a rude fashion
-5928 ERR_LTM_BAD_CHECKSUM - Bad checksum in framer
-5929 ERR_LTM_BAD_PROTOCOL - Bad protocol type in PPP frame
-5930 ERR_LTM_BAD_FRAME - Bad PPP frame

AR2

-6051 ERR_MNP_NEGOTIATION_FAILURE - Connection parameter negotiation failure
-6052 ERR_MNP_CONNECT_TIME_OUT - Connect request (acceptor mode) timed out
-6053 ERR_MNP_NOT_CONNECTED - Not connected
-6054 ERR_MNP_ABORTED - Request aborted by disconnect request
-6055 ERR_MNP_ATTENTION_DISABLED - Link attention service is not enabled
-6056 ERR_MNP_CONNECT_RETRY_LIMIT - Connect (initiator mode) request retry limit reached.
-6057 ERR_MNP_COMMAND_IN_PROGRESS - Command already in progress.
-6058 ERR_MNP_ALREADY_CONNECTED - Connection already established.
-6059 ERR_MNP_INCOMPATIBLE_PROT_LVL - Connection failed due to incompatible protocol levels

-6060 ERR_MNP_HANDSHAKE_FAILURE - Connection handshake failed.

MODEM CCL

-6000 cclErr_AbortMatchRead - internal error used to abort match read
-6006 cclErr - CCL error base
-6007 cclErr_CloseError - There is at least one script open
-6008 cclErr_ScriptCancelled - Script Canceled
-6009 cclErr_TooManyLines - Script contains too many lines
-6010 cclErr_ScriptTooBig - Script contains too many characters
-6011 cclErr_NotInitialized - CCL has not been initialized
-6012 cclErr_CancelInProgress - Cancel in progress.
-6013 cclErr_PlayInProgress - Play command already in progress.
-6014 cclErr_ExitOK - Exit with no error.
-6015 cclErr_BadLabel - Label out of range.
-6016 cclErr_BadCommand - Bad command.
-6017 cclErr_EndOfScriptErr - End of script reached, expecting Exit.
-6018 cclErr_MatchStrIndxErr - Match string index is out of bounds.
-6019 cclErr_ModemErr - Modem error, modem not responding.
-6020 cclErr_NoDialTone - No dial tone.
-6021 cclErr_NoCarrierErr - No carrier.
-6022 cclErr_LineBusyErr - Line busy.
-6023 cclErr_NoAnswerErr - No answer.
-6024 cclErr_NoOriginateLabel - No @ORIGINATE label
-6025 cclErr_NoAnswerLabel - No @ANSWER label
-6026 cclErr_NoHangUpLabel - No @HANGUP label

ARA 3.0 Scripting

-7102 - Remote Access did not load properly at system startup
-7103 - Remote Access could not set up a port
-7104 - Remote Access is out of memory
-7105 - The requested action is not supported
-7106 - One or more resources are missing from Remote Access installed files
-7107 - The Remote Access Connections file is not compatible with the installed version of Remote Access
-7108 - An action requiring a connection was requested when there was no connection
-7109 - The connection attempt or established connection was terminated by the user
-7112 - An unexpected error with no useful information has occurred
-7113 - One or more of the installed Remote Access files is damaged
-7114 - The requested action could not be performed because Remote Access was busy
-7115 - The Remote Access logical port is in an unknown state
-7116 - The Remote Access logical port is in an invalid state
-7117 - The Remote Access logical port has detected an invalid serial protocol
-7118 - Login is disabled for the given user
-7120 - The server administrator requires the user to enter a password
-7122 - Remote Access could not initialize Open Transport
-7123 - The requested action could not be performed because Remote Access is not fully initialized yet
-7124 - TCP/IP is inactive and can not be loaded
-7125 - TCP/IP is not yet configured
-7126 - PPP is not selected as the TCP/IP interface in the current TCP/IP configuration
-7128 - The requested PPP protocol was rejected by the PPP peer
-7129 - User authentication failed
-7130 - PPP negotiation failed
-7131 - Connection was lost unexpectedly
-7132 - The remote side disconnected unexpectedly
-7133 - The remote side is not responding
-7151 - The Remote Access log file is not open
-7152 - The Remote Access log file is already open
-7153 - The Remote Access log entry could not be retrieved
-7155 - Remote Access cannot locate the active System Folder
-7156 - Remote Access cannot locate its Preferences folder
-7157 - There is a preexisting file using a Remote Access type or creator
-7158 - There is a preexisting folder using a Remote Access folder name and location

-7159 - The Remote Access Connections file is not open
-7161 - An unknown control protocol type was received
-7162 - Remote Access received a packet with an invalid length
-7163 - Remote Access received a negotiable option with an invalid value
-7164 - Remote Access received a negotiable option with invalid flags
-7165 - Remote Access ran out of memory while negotiating with the peer
-7169 - Remote Access encountered an error with no useful information
-7170 - Remote Access is in an invalid state
-7180 - The user canceled the password entry dialog
-7181 - The user did not respond to the password entry dialog in time
-7182 - An unknown serial port was referenced
-7183 - The Remote Access logical port is not configured
-7184 - No AppleTalk servicesÕ endpoints are available
-7185 - The modem script ASK or manual dialing dialog was canceled by the user

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PowerTalk: Duplicate Keychains (12/94)

When I delete PowerTalk Setup Preferences and restart my Macintosh, I end up having duplicate PowerTalk Keychains on the desktop.

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This arises when the PowerTalk Keychain has been renamed. Deleting the PowerTalk Setup Preferences file (which contains stored information on the key chain, preferred personal catalog, I'm at, PMSAMs, and a part of the Mailbox preferences), and restarting forces creation of a new PowerTalk Keychain. Normally this means replacement of the pre-existing desktop file with the same name.

The existence of more than one PowerTalk Keychain file on the desktop has no adverse effect. This file is merely a template for display of the Keychain information, and you will find that the duplicates contain identical information.

To remove the duplicate, just drag it to the Trash icon and empty the trash.

Article Change History:
14 Dec 1994 - Added information stored in the PowerTalk Setup Preferences file.

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PowerTalk and Windows NTAS Server (10/94)

Windows NTAS server does not show up, nor can be added, to a PowerTalk catalog.

This article has been archived and is no longer updated by Apple.
Microsoft NTAS version 3.1 sends an NBP Lookup reply that contains a an invalid number in the "enumerator" field (254 in our case), apparently the PowerTalk catalog manager is dropping this reply packet. However, the NTAS server will show up in the Chooser which seems to knows it's an invalid number, and sets it to 1.

The fix is to install the "Microsoft Windows NT 3.1 US Service Pack 2", available from the Microsoft Download Service (MSD). You can also call Microsoft concerning this collection of patches.

To locate Microsoft Corporation's address and phone number, use the vendor name as a search string. For technical and product support phone numbers, please refer to the Apple Tech Info Library article: "Microsoft Technical Support"

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Power Macintosh: SoftWindows Modem Port Arbitration (10/94)

SoftWindows locks the modem port for its own use, so other Macintosh applications cannot use the modem port.

This article has been archived and is no longer updated by Apple.
When you start up SoftWindows there is a pull down menu titled "SETUP". Under this menu you can elect to either use, or not use the communications port. The work around is to turn the communications port off.

When Insignia wrote SoftWindows they set out to deliver a DOS emulator, and DOS emulation does include port arbitration, so they didn't develop code in their emulator to share ports with a Macintosh computer. It's an inconvenience, but they feel by allowing the user to manually turn the communications port on and off is the best they could do.

Support Information Services

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Apple Multimedia Tuner: Frequently Asked Questions

The Apple Multimedia Tuner was an extension released to fix problems such as slow response and freezes with versions of QuickTime previous to 2.0 and various third-party applications.

Newer versions of QuickTime have the functionality of the Multimedia tuner built in. You should upgrade your version of QuickTime. QuickTime software and updates can be found at:

http://www.apple.com/quicktime/

This article contains frequently asked questions (FAQ) about the Apple Multimedia Tuner.

Questions answered in this FAQ

1. What is the Apple Multimedia Tuner?
2. Why is it necessary, who needs it?
3. Is Macromedia aware of the problems?
4. Is the Multimedia Tuner Specific to a bug fix for QuickTime 2.0?
5. Is a license or licensing fee required?
6. How do I get the Multimedia Tuner?
7. Was anything else added to the Multimedia Tuner?
8. Where can I find the latest Multimedia Tuner extension for QuickTime 2.1? Can the Multimedia Tuner 2.0.1 be used?
9. My Power Macintosh 9500 came with QuickTime 2.0.9 installed? Do I need to install the Multimedia Tuner extension?

This article has been archived and is no longer updated by Apple.
1) Question: What is the Apple Multimedia Tuner?

Answer: The Multimedia Tuner is a system extension that helps improve the playback performance of multimedia titles, especially those created with Macromedia Director. It is used in conjunction with QuickTime 1.6.1, 1.6.2, or 2.0 for Macintosh, or with Sound Manager 3.0. The Multimedia Tuner is no longer needed as a separate extension if you install QuickTime version 2.0.9 or later.

2) Question: Why is it necessary, who needs it?

Answer: Macromedia's implementation of the QuickTime Application Program Interface (API) was not completed according to our developer guidelines, consequently some CD-ROM titles that are created with Macromedia Director do not perform optimally in certain situations. The problems existed with previous versions of QuickTime, such as QuickTime 1.6.1, but are particularly pronounced with QuickTime 2.0.

Anyone who is using a CD-ROM title created with Macromedia Director should consider using the Multimedia Tuner extension when using QuickTime 1.6.1 or QuickTime 2.0. In some cases, the Tuner also improves performance of CD titles that have been created with other applications. Macromedia Director 4.0.4 solves these issues, but titles created with previous versions of Director should have improved performance with the Multimedia Tuner.

The Multimedia Tuner is not specific to a bug fix for QuickTime 2.0. It improves performance of titles that interact with QuickTime 1.6.1, 2.0, and in some cases, products that use the Sound Manager 3.0.

3) Question: Is Macromedia aware of the problems?

Answer: Yes. Apple has been working closely with Macromedia to solve the issues. Macromedia Director 4.0.4 will solve these issues, but titles that have been created with previous versions of Director should have improved performance with the Tuner or QuickTime 2.1.

4) Question: Is the Multimedia Tuner Specific to a bug fix for QuickTime 2.0

Answer: No. It improves performance of titles which interact with QuickTime 1.6.1, 2.0 and in some cases products that use the Sound Manager 3.0.

5) Question: Is a license or licensing fee required?

Answer: No license or licensing fee is required for the Multimedia Tuner; you can distribute it freely.

6) Question: How do I get the Multimedia Tuner?

Answer: The Multimedia Tuner is distributed at no charge, with no licensing fee or agreement required. Here are a few locations where you can obtain it:

- Macromedia - Director Bulletin Board/Patch Network

- Developers - Apple Multimedia Program (Developer CD)
- Online - Upgrade your QuickTime to a newer version, which has the Multimedia Tuner code rolled in.

7) Question: Was anything else added to the Multimedia Tuner?

Answer: A number of minor enhancements have also been added to the Multimedia Tuner, improving multimedia system performance in some situations:

- Sound Manager 3.0 required too much memory in the system heap. Sound now plays even if there is almost no system memory available.
- Includes the changes made after QuickTime 2.0 for Adobe Premier 4.0 and VideoVision Studio 2.0. This decreases memory usage when many clips are open, and increases performance for hardware decompressors.

8) Question: Where can I find the latest Multimedia Tuner extension for QuickTime 2.1? Can the Multimedia Tuner 2.0.1 be used?

Answer: The enhancements provided by the Multimedia Tuner extension have been integrated into QuickTime 2.1. It is not necessary to use this extension with this version.

9) Question: My Power Macintosh 9500 came with QuickTime 2.0.9 installed? Do I need to install the Multimedia Tuner extension?

Answer: No, QuickTime 2.0.9 is built from an early version of QuickTime 2.1 and already has the Multimedia Tuner built in.

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System 7.5: Desktop Printer Opens Applications To Print (3/95)

I have an Excel 5.0 document that I want to print using the desktop printer in System 7.5. When I drag the document to the desktop printer, it launches the application. Why is this? I thought the desktop printer did not have to launch the application to print the document.

This article has been archived and is no longer updated by Apple.
In System 7.5, when you drag a document to the desktop printer, it launches the application that created the document. This is because the only way to print a document is from within the application. There is, however, a special kind of print file that can be opened and displayed without needing the fonts or application with which it was created.

Portable Digital Documents (PDDs)

This special print file is called a Portable Digital Document (PDD). A PDD file may be dragged to a desktop printer and printed directly, without the original application or "PDD application" having to be opened.

QuickDraw GX

QuickDraw GX introduced a new type of printing from the Finder -- dragging files to a desktop printer. This feature was made backwards compatible witn non-QuickDraw GX aware applications, but they behave differently.

To avoid launching an application when printing to a desktop printer, save the files in a PDD file format. Create a PDD desktop printer then print to it, or save the file from the application in a PDD file format.

Article Change History:
06 Mar 1995 - Added keyword; updated GX explanation.
14 Feb 1995 - Updated keyword; reviewed for technical accuracy.

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Personal LW LS: Print Faster With LaserWriter 300 Driver (10/94)

Printing seems to be faster when printing to a Personal LaserWriter LS using the original Personal LaserWriter LS driver as opposed to using the LaserWriter 300 v1.2 driver. Is there any information on why printing is slower with the PLW 300 driver verses the LS driver? Are there any other things we can try to make printing faster with the newer driver?

This article has been archived and is no longer updated by Apple.
The main difference between the two drivers is the ability of the LaserWriter 300 driver to print grayscale images. It is normally takes longer to print a grayscale image as opposed to a black & white image. If the LaserWriter 300 driver is set to black & white in the Print dialog, our tests showed it to be slightly faster than the Personal LaserWriter LS driver. Here are the results of our tests:

Configuration

Power Macintosh 7100
Personal LaserWriter LS
System Software 7.1.2
MacWrite II

Test Results (in sec.)

TEXT TEXT and Graphics
---- ---
PLW LS driver 0:42 0:55
LW 300 v1.2 driver (gray) 0:41 1:48
LW 300 v1.2 driver (b&w) 0:41 0:43

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Text to Speech on an AV Macintosh (10/94)

If you have an AV Macintosh, you may want to use its capabilities in processing speech and sound. This article describes how to use your computer to generate spoken documents from typed ones.

This article has been archived and is no longer updated by Apple.
An exciting Technology available in the AV machines is Text-to-speech.
Text-to-speech lets text in applications be "spoken" by the computer. Solutions for this technology include proof reading without the user focusing on the computer and storage of many hours of "voice" (text takes up 1,000 times less space than even the lowest quality digitized speech).

The version of TeachText (7.2) on the hard drive of the Quadra 840 AV and 660 AV and the Centris 660 AV supports the PlainTalk Text-to-Speech feature. Other applications may not yet support this feature, but are expected to add it in the future where it may be useful.

Speech Recognition, or, the ability of the computer to respond to spoken commands, does not need to be active, however the PlainTalk Software, which includes the voices, must be installed for this to work.

The Speech Manager

The Speech Manager lets users switch voices within applications. Any selected text can be spoken back by selecting the appropriate command from the Edit menu and users can direct an appropriately designed application to change between voices in a body of text to create a dialog effect.

Steps to Follow

Follow these steps to convert text to speech (these steps use an example Read Me file):

STEP ACTION
---- ---
1 Launch TeachText 7.2 and notice the Voices sub-menu under the File menu. This lets you change voices between spoken selections without having to open the Speech Setup Control Panel (the default voice is Female Voice, Compressed).

2 Close the untitled window.

3 Open the Read Me document from the File menu.

4 If no text is selected, you can issue the Speak All menu command (Command-H) and the entire text is read back. If you select a portion of text, the menu changes to say Speak Selection and just that is read back. Even though some ReadMe files are not editable (so users don't change them) and therefore do not let portions of text be selected, TeachText lets the user select Speak All and have the contents of the ReadMe spoken back. To stop speech in the middle of speaking back, select Stop Speaking from the File menu.

If your applications do not have an option for Text-to-speech, you may want to check with the application developer about plans to integrate Text-to-speech into the application.

Support Information Services
Published Date: Feb 19, 2012

System 7.5: DOS Mounter Compatibility (2/95)

In the documentation we recommend against using Dayna Communications' DOS Mounter with System 7.5. However, my customer has site licensed DOS Mounter.

Is this recommendation against using it for technical reasons or because we ship 7.5 with Macintosh PC Exchange?

This article has been archived and is no longer updated by Apple.
After checking all bug reports and checking with Dayna Communications, I have not been able to discover a reason why you would not be able to use DOS Mounter with System 7.5.

Please be advised, though, that Macintosh PC Exchange has been tested by Apple, and is KNOWN to work, whereas with DOS Mounter, we just have not seen any problems or problem reports. Since Macintosh PC Exchange is shipped with System 7.5, it remains the recommended solution.

Article Change History:
14 Feb 1995 - Updated keyword; reviewed for technical accuracy.

Support Information Services
Published Date: Feb 19, 2012

System 7.5: 8■24GC Card Compatibility (12/95)

I have a Macintosh IIci, 20MB of RAM, and an 8*24 GC card.

I have upgraded from System Software 7.1 to 7.5. The computer has been running fine, but since upgrading, I get a bus error when starting up. If I use the Extensions Manager to turn off everything but the 8*24 GC software, I still get a bus error.

This article has been archived and is no longer updated by Apple.
The 8*24 GC video card's acceleration software is incompatible with System Software 7.5, when 32-bit addressing is turned on.

There are a couple of ways to use the 8*24 GC card with System 7.5 installed on your Macintosh computer. The first is to turn off 32-bit addressing. This may not be an ideal solution if the Macintosh has more than 8 MB of RAM installed.

The second choice is to remove the 8*24 GC control panel file. The video card and the Macintosh are functional after removing this control panel. However, you cannot use the accelerated graphics feature when the control panel is removed.

Article Change History:
08 Dec 1995 - Made minor grammatical corrections.
16 May 1995 - Reclassified.

Support Information Services
Published Date: Feb 19, 2012

Apple IIc: Variations in keyboard ROM

Apple IIc ROMs generate characters from differing positions on the keyboard, depending on the ROM revision.
This article has been archived and is no longer updated by Apple.
Some IIc's in Dvorak mode generate the characters from the keyboard positions shown on page 6 of the IIc reference manual.

Some of the earlier Apple IIc ROM's had errors that caused the keyboard discrepancy. The current and correct verson of the the keyboard ROM is 'D'. Page 16 of the IIc manual shows the standard Dvorak layout.
Published Date: Feb 19, 2012

DOS Compatibility Card: General Troubleshooting Tips (5/95)

This article provides troubleshooting tips for the DOS Compatibility Card.

This article has been archived and is no longer updated by Apple.

Switching Between Operating Systems
==========

With the DOS Compatibility Card you can easily switch between the MS-DOS and Mac OS without disturbing the applications running in either partition ð there is no need to restart each time or close active applications.

Once you set the PC Setup Control Panel to ON (and restart once to "activate" it), you switch between operating systems by pressing the "hot key" sequence defined in the PC Setup window. The default sequence is Command-Return.

When you press Command-Return, your system immediately switches from the current operating system to the alternate operating system. Your keyboard and mouse work with the currently active operating system.

Troubleshooting Tip
---
* MS-DOS appears to "lock-up" or "freeze", but the Mac OS works properly.

If you are using a single monitor and your monitor darkens when you switch from the Mac OS to MS-DOS, but you do not get the DOS prompt or any other visual signal that MS-DOS is operating, you need to check the video cable. The DOS Compatibility Card video cable has four connectors on it. One of the connectors plugs into the DOS Compatibility Card, one of the connectors is for a MS-DOS game port, one connector is for a VGA monitor, and the other connector is for a standard Macintosh monitor. If this cable is not connected properly, it will appear that when you switch to MS-DOS, it freezes. Refer to your DOS Compatibility Card User's Guide for instructions on properly installing the video cable.

Using Your Macintosh Mouse In MS-DOS
==========

A mouse driver is automatically installed when you use MS-Windows.

Troubleshooting Tip
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* The Macintosh mouse doesn't work in MS-DOS applications.

You must install a compatible mouse driver in MS-DOS to get the mouse to work when you are not in MS-Windows. You can use a Microsoft-compatible mouse driver on you Macintosh mouse. Two mouse drivers found on most on-line services that work properly are DRVR624.ZIP and MOUSE701.ZIP. The Tech Info Library articles titled "Pwr Mac DOS Compatibility Card: Mouse Driver for MS-DOS" and "DOS Compatibility Card: Doesn't Include DOS Mouse Driver" contain complete instructions on installing a compatible mouse driver.

Whether or not other peripherals attached to your system work in DOS depends on your particular system hardware configuration.

Copying Between Operating Systems
==========

You can easily copy a variety of information (such as text and graphics) between operating systems. Read your "Macintosh DOS Compatibility Card User's Guide" for a complete description of the types of information you can copy. You can, for example, create a graphic using a graphics tool in one operating system, and then copy and paste it into a document in the other operating system.

Troubleshooting Tip
---
* Some items you copy are not copied between the Mac OS and MS-Windows

If an application, such as Adobe PageMaker, uses a custom clipboard, you will not be able to copy and paste between the Mac OS and MS-Windows. The Tech Info Library article "DOS Compatibility Card: Cannot Convert Custom Clipboards" provides full details on this problem.

Using Separate Monitors

If you use separate monitors for DOS and Macintosh, when you press Command-Return while in the Macintosh operating system, your Macintosh screen dims, active applications continue unaffected, and your DOS monitor becomes active.

When you press Command-Return again, your Macintosh screen brightens and your keyboard and mouse again interface with the Macintosh monitor. Your DOS screen does not dim and any DOS applications you started continue running.

Using a Single Monitor

If you use a single monitor for both operating systems, when you press Command-Return, your current desktop (open folders, active windows, etc.) is saved and replaced by the desktop you are switching to.

As with multiple monitors, active applications continue running even though you cannot see them on your desktop. When you switch back, the saved desktop redisplays, showing any new information (such as a completed process that you began before switching).

Article Change History:
31 May 1995 - Added troubleshooting tips and retitled article.

Support Information Services
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StyleWriter Pro: Paper Choice and Dialog Box Settings (10/94)

The Color StyleWriter Pro printer is the first color ink jet printer offered by Apple for home use. This printer can provide you with vivid color images. This article provides ideas to help you get the most out of your Color StyleWriter Pro.

This article has been archived and is no longer updated by Apple.

Paper Choice
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You may not be getting the most out of your Color StyleWriter Pro if you use standard photocopier or laser paper. Standard paper absorbs the ink and the final output looks a bit dull. But there is a way to get much brighter images from your printer.

Use a special type of paper designed for a color ink jet printer. Most large paper outlets carry this type of paper in packages of 250 sheets. You can also find smaller packages at some of the larger computer stores that sell the Color StyleWriter Pro or the Hewlett-Packard color DeskWriter. The color ink jet paper has one side coated with a clay based substance that doesn't let the paper absorb the ink.

Print Dialog Box Settings
==========

Paper Type

Select the Paper Type that matches the type of paper you use. The choices are: Plain, Coated, Back Print, and Transparencies.

Print Quality

There are three settings that effect the output quality. Use Best for the highest quality output with little or no banding. Use Normal for high quality with some banding and increased speed. Use Draft for the greatest speed possible.

Halftone Options

The halftone options are available by clicking on the color button:

* The Halftone option determines how the printer blends the
four ink colors to create different color combinations.

* The Pattern option works well for charts and graphs.

* The Scatter option works well for photographic images.

ColorSync

The ColorSync software makes colors look the way you expect no matter what device you use to view them ð Monitor, printer, or scanner. After turning on ColorSync, choose the option from the pop-up menu that best describes your document:

* Photographic ð for complex picture with subtle tones
* Business Graphic ð when matching the vibrancy of the color
is more important than matching the exact hue
* Spot Colors ð when you're using color calibrated equipment

You may want to experiment with these options to get the best results.

Support Information Services
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PhotoFlash Version 2.0 Introduced

This article describes some of the new features in PhotoFlash 2.0.
This article has been archived and is no longer updated by Apple.
Apple announced availability of Version 2.0 of Apple PhotoFlash, a digital photo cataloging and enhancement tool that quickly and easily enables computer users to add digital photos to their documents. Apple PhotoFlash 2.0 has, in a single application, been optimized for the increased performance of Power Macintosh personal computers, while being fully compatible with Macintosh systems based on the Motorola 680x0 processor. Version 2.0 of Apple PhotoFlash also supports several key components in Apple's new operating system, Macintosh System 7.5.

This enhanced version of Apple PhotoFlash now opens and saves individual catalogs of image "thumbnails" for easy photo organization and searching. With Apple PhotoFlash 2.0, it is now possible to search for photos by their similarity to an image or a sketch made by the user, as well as to adjust the color of your photos.

The support for Macintosh Drag and Drop enables photos to be easily moved between catalogs and into applications supporting Macintosh System 7.5. In addition, the integration of Apple PhotoFlash 2.0 with Aldus PageMaker 5.0, QuarkXPress 3.2 and 3.3, Aldus Persuasion 3.0, Microsoft Word 6.0 and Claris FileMaker Pro 2.1, enables digital photos to be placed into documents in a single-step. Extensions are included for Aldus PageMaker and QuarkXPress that enable image editing and placement to be easily initiated from within those page layout applications.

Apple PhotoFlash 2.0 continues to support Apple's AppleScript scripting technology by making scripts easier to record and play, and includes ready-to-run scripts to automate common tasks. In addition, the new version of Apple PhotoFlash continues to enable users to directly control and automate the Apple QuickTake 100 camera using AppleScript from within the PhotoFlash application, which enables further customization for vertical solutions.

Apple PhotoFlash 2.0 will come bundled with a Visual Symbols Sampler Photo CD, which contains a library of 140 everyday objects whose symbolic meaning makes them useful to enhance visual communication in a variety of documents.

System Requirements:

Macintosh, Power Macintosh, Macintosh Performa or PowerBook computer with a 68020, 68030, 68040, or PowerPC processor.

8 MB of RAM (3.5 MB of application RAM).

Any version of the System 7 operating system.

Availability:

Apple PhotoFlash 2.0, is available in the United States through software resellers and Apple authorized resellers, as well as through the Apple Volume Licensing Program.

Published Date: Feb 19, 2012

A/UX 3.x.x and Apple Shared Library Manager (10/94)

Can you tell me if the Apple Shared Library Manager (ASLM) runs on an A/UX machine?

This article has been archived and is no longer updated by Apple.
According to Apple Shared Library Manager 1.1 Release Notes, the ASLM 1.1 should work with A/UX 3.x.x. However, it is not officially supported. Here is the note:

"ASLM 1.1 does not officially support A/UX, but it should work without any problem. However, you will need to do a Custom Install in order to install under A/UX. Choose "ASLM for System 7.0 and 7.0.1" from the Custom Install when installing under A/UX."

Support Information Services
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System 7.5: Stickies and Color (2/95)

All the notes in the Stickies desk accessory appear in grey scale. They used to display in color, what changed?

This article has been archived and is no longer updated by Apple.
Stickies in System 7.5 appear in color as long as your Monitors Control Panel is set to 256 colors or higher. When it is set to 16 colors or lower, Stickies appear in various shades of grey.

Article Change History:
14 Feb 1995 - Updated keyword; reviewed for technical accuracy.

Support Information Services
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Performa: File Locking Explanation (10/94)

This article describes the different ways that you can lock files on a Macintosh Perform a computer.

This article has been archived and is no longer updated by Apple.
The Macintosh Operating System provides some protection from accidentally throwing away important files. The Macintosh Performa computers provide additional protection for the System and Application folders.

Types of File Locking
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There are two ways to lock files in the System folder and the Application folder:

*╝Performa Control Panel
*╝Using Get Info

Performa Control Panel

All Macintosh Performa computers that have System software version 7.1P3 or later have the Performa control panel. (System 7.5 uses the general Control Panel to perform the same functions.) The Performa control panel lets you protect the System folder and the Application folder by "locking" files. This lets files go into the two folders, but they cannot be moved out of the folders or thrown away.

This is different from other methods of locking files. When files are locked from the Finder, you can still move them around, but you cannot totally remove them without a warning and without either unlocking them or holding down the Option key while choosing Empty Trash from the Special menu.

If System folder protection and/or Application folder protection is turned on in the Performa control panel, then when files in those folders are viewed by any view other than icon or small icon, a lock appears in the listing.
If you choose Get Info on a file that is locked from the Finder, an X appears in the Locked box. If you remove the X, the lock disappears from the file listing. However, the file is still locked. This is because the Performa control panel still has the folder protected.

Using System and Application folder protection is the easiest method of locking every item in those folders. The only disadvantage of using this method is that you cannot lock individual files. However, if you want to lock certain files, you can use the Using Get Info method.

Using Get Info

The other method of locking items on a Macintosh Performa computer, is using the Get Info from the Finder - This method lets you select files you want to lock from anywhere on your hard disk or floppy disks, not just the System folder and Application folder.

Troubleshooting Tips
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SYMPTOM SOLUTION
--- ---
You cannot remove an item Turn off System Folder and/or Application
from the System or Folder protection in the Performa control
Application folder, panel. Or, from the Finder, highlight the
because it is locked. item and choose Get Info from the File
menu (Command-i). Remove the X in the
Locked box.

X removed from Locked box Open the Performa control panel and turn
in Get Info, but the item off System or Application folder protection.
still cannot be moved
or trashed.

Support Information Services
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I/O Card Slots: Descriptions

This article reviews the basic features of popular card slot standards in the Macintosh and Intel computer architectures.
This article has been archived and is no longer updated by Apple.

NuBus

A standard designed by Texas Instruments; later updated to NuBus90. It features self-configuration and bus-mastering on a 32 data bit card. Bus-mastering means a card can take control of the bus, which allows for multi-processor computing. The card self configures using on-board ROM (Read Only Memory).

The card slot is a one-piece socket connector with two rows of pins. The card has a plug connector that plugs into the socket. This slot type is not compatible with any other slot standard.

Bus Clock - 10MHz (20MHz, card to card only using NuBus90)
Data Path - 32 Bits (often limited to 24 bits for OS compatibility with older Macintosh computers)
Max data transfer rate - 10 MB/sec, 37 MB/sec with Burst Mode

ISA-Industry Standard Architecture

The basic, most popular card slot in Intel-powered machines. First introduced in the IBM-AT as an improvement over the 8-bit slots in the IBM-XT. The ISA card slot looks something like a two part socket. The left part is the same as the original IBM-XT slot with an additional slot to the right for the new AT signals.

Bus Clock - 8.33 MHz standard (faster available from some vendors)
Data Path - 16 Bits
Max data transfer rate - 8.33 MB/sec

EISA-Extended Industry Standard Architecture

This is the next generation of the IBM-AT card slot. Two new standards emerged around this time, EISA and MCA. EISA provides a 32 bit data path and bus-mastering capability. Its data transfer rate is further increased by 32 bit DMA transfer and burst cycles. It is fully compatible with ISA cards as well. Cards auto-configure themselves using the EISA configuration utility. The slot is the same size and shape as an ISA slot but has a "two tiered" row of contacts for a total of 188.

Bus Clock - 8.33 MHz standard
Data Path - 32 Bits
Max data transfer rate - 33 MB/sec (using all optional EISA features)

MCA-MicroChannel

This is the next generation of the IBM-AT card slot from IBM. Two new standards emerged around this time, EISA and MCA. MCA provides a 32-bit data path and bus-mastering capability with priorities. Its data transfer rate is further increased by 32-bit DMA transfer and burst mode. Cards auto-configure themselves using a configuration utility. It does not differ radically from the EISA standard in capability as implemented in CISC based computers, although the card slot is incompatible. RISC systems from IBM (RS6000) have additional hardware signals on the card slot, which enables much faster data transfers. These slots are not compatible with any previous card slot standard.

There are different formats of the MCA card slot depending on the vendor's implementation of various slot extensions. The extensions are associated with the number of bits enabled for data transfer. There is an 8, 16, and 32 bit variety of a card with additional extensions for video expansion and matched memory expansion.

Bus Clock - 10 MHz standard
Data Path - 32 Bits
Max data transfer rate - 20 MB/sec, (160 MB/sec in RS6000 machines)

PCI-Peripheral Component Interconnect

This is one of two card slot standards that implement the Local Bus standard (the other is VL Bus). PCI was developed by Intel as the next generation beyond MCA and EISA. It operates with 32 data bits at a faster clock rate than previous standards. A 64 data-bit expansion to the standard is planned. This card multiplexes the address and data lines on the card for fewer pins at a slight speed penalty. PCI card slots are similar to MCA slots and are not compatible with other slots. These cards are auto configured by the BIOS of the host system.

Bus Clock - 33 MHz standard
Data Path - 32 Bits
Max data transfer rate - 66 MB/sec, 120 MB/sec with Burst Mode

VL Bus

The product of the VESA standard committee. The VL Bus is an alternative implementation of the Local Bus standard. It features 32-bit data transfer (with a planned upgrade to 64) at the CPU clock speed (maximum 66MHz). The boards typically run at a maximum of 40MHz. VL Bus cards can be designed as Local Bus Masters or Local Bus Targets. Local Bus Masters can take control of the bus.

This card slot is a standard ISA slot with an additional, in-line socket that contains the VL Bus signals. This makes this slot ISA (and EISA) compatible. A VL Bus machine typically has up to three VL Bus slots in it. These cards are auto configured by the BIOS of the host system.

Bus Clock - CPU clock speed with a 66MHz maximum. Typical design is 40MHz Data Path - 32 Bits
Max data transfer rate - 66 MB/sec, 120 MB/sec with Burst Mode (@33MHz)
Published Date: Feb 19, 2012

Apple Writer II (ProDOS): Parallel Printer Interface Issues

With parallel printer interfaces, the ProDOS version of AppleWriter II has problems somewhat like those in AppleWorks 1.1.
This article has been archived and is no longer updated by Apple.
Apple Dealers have a patch which upgrades the Apple Writer II software to version 2.1. This upgrade fixes the problems with parallel printer interfaces.

The problems are less obvious with Apple Writer than with AppleWorks because Apple Writer doesn't send as many control codes and formatting commands as AppleWorks.
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Apple II Software: Current Versions (10/94)

The table below lists current SHIPPING Apple software products for the Apple II and provides for each:

Version The current version number.
Notes Additional information

This article has been archived and is no longer updated by Apple.

Product	Version	Notes
Apple Access II	1.3.1	For Apple II
Apple II System	3.2	For Apple II systems
Apple IIGS System	6.0.1	For Apple IIGS only.
Apple IIe Card Software	2.2.1	For Macintosh computers using IIe card.
Aristotle	xxx	For Apple II
HyperMover	1.1	HyperCard IIGS

Support Information Services
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Keyboard Layouts: Availability and Installation (1/96)

I noticed I have several foreign keyboard layouts in my Keyboard control panel. Does a foreign keyboard plugged into my computer work with the proper keyboard layout selected? Where can I get international keyboard layouts?

This article has been archived and is no longer updated by Apple.

If you have System Software 7.x you can attach a Roman Language keyboard and use the Keyboard control panel to select the keyboard layout that matches that keyboard.

The keyboard layout tells the computer which characters are assigned to which keys on the keyboard. You can see the different layouts by choosing the Keyboard Control Panel and selecting the Keyboard Layout of your choice. You can also toggle through the installed keyboard layouts without opening the Keyboard control panel by pressing command-option-space bar. You can view the newly selected Keyboard Layout by choosing the Key Caps Desk Accessory located in the Apple Menu.

In countries where two or more languages are used frequently, such as in Switzerland, the system software also includes a Keyboard menu, which you can use to switch rapidly from one layout to another.

The following keyboard layouts are included with System Software 7.5.x:

- Australian
- British
- Danish
- Danish Mac Plus
- Dutch
- Finnish
- Flemish
- French
- French - numerical
- French Canadian
- German
- ISO Canadian
- Italian
- Norwegian
- Spanish
- Swedish
- Swiss French
- Swiss German

- U.S.

- U.S. - System 6

The following keyboard layouts are posted online:

- Australian

- British

- Canadian - CSA

- Canadian - ISO

- Canadian French

- Danish

- Danish Mac Plus

- Dutch

- Espanol

- Espanol ISO

- Finnish

- Flemish

- French

- French - numerical

- German

- Italian

- Norwegian

- Swedish

- Swiss French

- Swiss German

To install new keyboard layout files:

Step 1

Quit all open applications.

Step 2

Drag the desired keyboard layouts into the System file (it looks like a suitcase when you are viewing by icon) which is located in the System Folder.

Step 3

Restart your computer.

Step 4

You can now go to Keyboards under Control Panels and choose the desired keyboard layout.

These articles can help you locate the software update mentioned here:

"Where To Find Apple Software Updates" - Lists online services for free Apple software updates.

"Obtaining Apple Product Support in the USA" - Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech Info Library.

Article Change History:

26 Jan 1996 - Added online availability information.

14 Feb 1995 - Updated keyword; reviewed for technical accuracy.

Support Information Services

Published Date: Feb 19, 2012

Retrospect: Get Info & Retrospect Log Inconsistent

After doing a full backup of my hard drive with Retrospect, the Retrospect log shows fewer files and less data than what is shown on my hard drive by the Get Info command. What happened?
This article has been archived and is no longer updated by Apple.
The Finder's Get Info command totals the number of files and folders within the item you are "Getting Info" on. When you Get Info on a hard disk, the result will include System files that aren't normally backed up. These files can include AppleShare PDS, Desktop DB, Desktop DF, Desktop Folder, and Trash Folder.

Retrospect records only the files it backs up and does not count folders as items. Since Retrospect ignores some system related files and only backs up data files, this would account for the discrepancy.

The Finder also adds up the total disk space allocated for folders, while Retrospect totals only the amount of data it saves. There will almost always be a discrepancy because of ignored files such as Desktop DB & DF. Also, these files look larger to the Finder than they actually are.

Example:

The test hard disk contained only one file.

Get Info on the file indicated that it was 24K on disk (22K used).
Get Info on the RAM Disk indicated that there were 5 items on the drive.

Here is what the Retrospect log looked like:

7/29/94 12:36:49 PM: Copying Hard Disk
7/29/94 12:36:54 PM: Comparing Hard Disk
7/29/94 12:36:54 PM: Execution completed successfully
Completed: 1 files, 22 KB
Performance: 0.2 MB/minute (0.2 copy, 0.0 compare)
Duration: 00:00:05

You can check to be sure that all the data (as opposed to every last bit of information on the drive) is safe by using the Reports:Files command in the Retrospect directory. Retrospect stores the folder information with the files as they are saved. Therefore, folders and data files can both be restored from a backup.
Published Date: Feb 19, 2012

Silly Noisy House: Sound Issue (8/95)

I'm not getting any sound when I launch A Silly Noisy House from my Early Childhood Connections At Ease folder. The program plays fine, and I can navigate through the various rooms in the house, but I get no sound. All other sounds play fine from all other programs and CD-ROMs. Also, if I go to the Finder and launch A Silly Noisy House from the CD-ROM, the sound works fine.

This article has been archived and is no longer updated by Apple.
Some 500 Early Childhood Connections bundles shipped with the wrong version of the Silly Noisy House CD-ROM. They have received the LS55 version and the Early Childhood Connections package installs the LS25 version of the Silly Noisy House software on the hard drive. You can confirm the CD version by looking on the Silly Noisy House CD on the left side in the red field above the title.

When you click on the custom Silly Noisy House icon on the custom Early Childhood Connections At Ease folder, At Ease launches the old version of the Silly Noisy House software from the hard drive which is not compatible with the LS55 CD.

RESOLUTION:

The Apple Assistance Center can send SNH/ECC patch disk (1-800-SOS-APPL). This disk includes instructions for replacing the At Ease Customizer file in the At Ease items folder and replacing the Silly Noisy House application folder on the hard drive with the Silly Noisy House application folder from the LS55 CD. Once this operation is completed, the new At Ease Customizer file will launch the new software from the hard drive which will work with the new cd fine.

SNH/ECC patch disk ReadMe:

The enclosed file is used to fix a problem with A Silly Noisy House CD version LS55 and Early Childhood Connections software bundle. In order to use this version of the Silly Noisy House CD and Early Childhood Connections you must replace two components of the Early Childhood Connections software package.

Under the File menu choose Print to print this file.

Part A: Replace the Silly Noisy House folder on your hard drive
---
* With your Macintosh turned on, insert the Silly Noisy House CD-ROM.
* If you are in At Ease, under special choose "Go to Finder".
* Once in the Finder double-click on your Macintosh hard drive.
* Drag the folder "Silly Noisy House" from your Macintosh hard drive to the trash can.
* Under special choose Empty Trash.
* Click the close box in the upper left hand corner of your Macintosh hard drive window.
* Double click on the Silly Noisy House CD icon on the right hand side of the screen.
* Drag the "Silly Noisy House" folder from the CD-ROM to the hard drive icon in the upper right corner of your sc?een. When the hard drive icon becomes dark, let go of the mouse button. Now watch as your Macintosh copies the new folder.
* Drag the Silly Noisy House CD-ROM icon to the trash can to eject it.

Part B: Replace the At Ease Customizer file
---
* Double-click on your hard drive to open it.
* Double-click on the "System Folder."
* Double-click on the "At Ease Items" folder.
* Drag the "At Ease Customizer" icon to the trash.
* Drag the "At Ease Customizer" icon from this floppy disk to the "At Ease Items" folder to replace the file you just trashed.
* Go back to At Ease and under the Special menu, choose Restart.
* Under "Special", choose "Empty Trash"
* Now Silly Noisy House and Early Childhood Connections are ready to use.

NOTE: If you have to reinstall the entire Early Childhood Connections software bundle from the Early Childhood Connections backup CD, you will have to repeat Part A of this procedure once the reinstallation of Early Childhood Connections is complete.

Article Change History:
14 Aug 1995 - Corrected minor typo.
08 Aug 1995 - Added keyword; reviewed and reformatted article.

Support Information Services
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System 7.5: Use DOS Mounter or PC Exchange? (2/95)

Is there a reason that I cannot use DOS Mounter with System 7.5? Does PC Exchange offer any additional benefits over DOS Mounter?

This article has been archived and is no longer updated by Apple.
Dyna Communications says that DOS Mounter is System 7.5 compatible. However, Macintosh PC Exchange has been tested by Apple, and is known to work fine with System 7.5. With DOS Mounter, we just have not seen any problems or problem reports. Since Macintosh PC Exchange is now bundled with System 7.5, there is no additional cost involved.

Macintosh PC Exchange 2.02 has the same feature set as DOS Mounter, so there are no additional benefits other than cost.

Article Change History:
14 Feb 1995 - Updated keyword; reviewed for technical accuracy.

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Apple OneScanner: Connecting to PC w/o Accessory Kit

I have an Apple OneScanner, and want to connect it to my MS-DOS computer. The Windows Accessory kit is not available, so what type of SCSI card should I use? Also how do I obtain the Window drivers for this Scanner?
This article has been archived and is no longer updated by Apple.
Any Adaptec SCSI adapter (or compatible) will work - the Adaptec 1540 or 1542 SCSI controllers are good choices. The software that Apple ships with the OneScanner for Windows is called Ofoto. These would be the best choices, as they've been tested with the scanner.

Note: Light Source (the developer of Ofoto) no longer offers support or software upgrades, and has no plans to revise Ofoto to be compatible with current versions of the Mac OS.
Published Date: Feb 19, 2012

LaserWriter Select 310: Uses PCL4 Escape Sequences (10/94)

I am using a LaserWriter Select 310 with my custom MS-DOS application on a MS-DOS computer. The programmer who wrote the application is requesting the hex printing code for the LaserWriter Select 310, so it can be added as a selection in the application. Are these hex codes available?

This article has been archived and is no longer updated by Apple.
The LaserWriter Select 310 uses PostScript and PCL4 for printing. The hex codes the programmer wants are probably the PCL4 escape sequences. Escape sequences are typically used with PCL or dot matrix printers.

Where to Find PCL4 Escape Sequences
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* The User's Guide for the Select 310 has some information.
* Numerous books available for programming LaserWriters and
Hewlett-Packard printers, which we emulate via PCL4.
*Hewlett-Packard publishes a manual for programming in PCL

Another option available to the programmer is to use PostScript instead of PCL.

Support Information Services
Published Date: Feb 19, 2012

QuickDraw GX: X appears through icon at Startup (10/94)

Why is there an 'X' through the Quickdraw GX icon at startup and a message that states the 'graphic component of QuickDraw GX is missing' ?

This article has been archived and is no longer updated by Apple.
Usually, the load order of extensions has changed though the use of a third party extensions manager, or some of the QuickDraw GX components have been renamed.

If the ColorSync extension loads after the QuickDraw GX extension, then this message appears.

To correct this problem, change the load order of the extensions back to factory default.

Support Information Services
Published Date: Feb 19, 2012

ARA: AppleShare, Personal File Sharing and TOPS

Occasionally, users will report problems with using AppleShare or Personal File Sharing such as:

* Inability to start file sharing.
* Errors installing Apple Remote Access.
* Inability to launch or configure Apple Remote Access.
* System bombs when opening Chooser or when selecting AppleShare in Chooser.

This article has been archived and is no longer updated by Apple.
If AppleShare users running on older Macintosh computers report these types of problems, check to see if TOPS has ever been in use in the environment. TOPS was a popular pre-System 7 way of setting up an ad-hoc network with distributed file sharing.

Unfortunately, when Apple finished AFP, TOPS was not compliant. Remnants of TOPS software left in the System Folder can cause Macintosh computers running System 7 to behave abnormally.

TOPS can be completely removed by two means only -- 'De-install' from the TOPS master installation diskette (unknowable results in System 7), or by a clean system install (preferred). This is because the TOPS installer put AFP non-compliant resources into the System file directly. Installing System 7 over the top of System 6 will not eliminate these resources, and the compatibility checker doesn't report them.

We have seen more than a few situations where TOPS was the culprit causing unexpected crashes of servers and workstations, inability to run File Sharing, or inability to use AppleShare once installed.
Published Date: Feb 19, 2012

CONVERT: Revised to Eliminate MouseText Issues

The CONVERT program has been revised, see instructions below to receive your upgraded version.
This article has been archived and is no longer updated by Apple.
Customers reporting problems of receiving MouseText characters in the CONVERT program included on the ProDOS User's Disk should get their disk upgraded through the Media Exchange Program.
Published Date: Feb 19, 2012

AWS 95: Obtaining SCSI Disk Drive Information

How can I obtain more information about SCSI disk drives attached to my Workgroup Server 95?
This article has been archived and is no longer updated by Apple.
When an A/UX based computer boots, it produces many boot messages including a complete scan of the SCSI chain and what kind of drives it sees. This information is available in an alternate screen on the command console. After the machine boots, pull down the "Window" menu and select the "A/UX System Console" screen. Scrolling up in the list will show you these boot messages and SCSI chain info.
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AWS 95: Run Level Error When Booting A/UX

When booting a Workgroup Server 95 I get a prompt saying: "Enter run level: 0, 1, 2..."

Any response, except for "0" which brings up the single user mode of A/UX, ends up hanging the computer.

This article has been archived and is no longer updated by Apple.
The inittab file has been damaged. It needs to be replaced with a backup copy. If a backup does not exist you can copy it from the A/UX cd using the following command in the startup shell:

cp <scsi id of cd>,0,0/etc/inittab /etc/inittab

Note: One way this condition can be triggered is by editing inittab with TextEditor.

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AppleShare: Backing Up The PDS File

Can you provide details about how AppleShare keeps track of access privileges (file permissions) and how to backup and troubleshoot problems with privileges?
This article has been archived and is no longer updated by Apple.
Retrospect by Dantz Development Corporation will maintain information about file access privileges when you perform a backup, provided the AppleShare file server software is running during the backup and during the restore. However, you cannot restore the file access privileges only. You must restore all the shared data to correctly restore the access privileges. This can be time-consuming and often causes loss of data that was created since the last backup. Here are some alternatives that may help you avoid loss of access privileges.

There are two files to be aware of when dealing with AppleShare access privileges:

* The AppleShare PDS file, which maintains access privileges to folders, is an invisible file located at the root level of the volume being shared.

* The Users & Groups Data File, which maintains user specific information like User Names, Group Names, and Passwords, is visible and is located in the Preferences folder inside the System Folder of the server.

It is possible that the AppleShare PDS file could be accidentally reset after a clean system install. This could happen if you don't restore the old Users & Groups Data File to the root level of the new System Folder before launching AppleShare Admin. The AppleShare PDS file might also be damaged (a sign of this is the AppleShare File Server never finishes "starting up"). You can make a backup of AppleShare PDS and keep it on a floppy. To do this:

1) Using a disk utility such as ResEdit or Norton Disk Tools, locate the AppleShare PDS file at the root level of a shared volume (except for CD's).
2) Make it visible.
3) Drag copy the AppleShare PDS file to a floppy disk.

Keep this backup in a safe place in the event you have to use it to recover from a problem. As a safety measure, don't forget to make the AppleShare PDS file on the hard disk invisible again after you make the backup copy.

IMPORTANT: Whenever you make changes to your Users & Groups Data File (add or delete users), make a new backup of the AppleShare PDS file afterwards. This will keep these two files "in sync" with each other.

In the event of a reset or damaged AppleShare PDS file, to restore the backup to the server:

1) Quit the AppleShare Admin and File Server applications.
2) Make the AppleShare PDS file visible by using a disk utility program.
3) Drag the AppleShare PDS file at the root level of the volume to another folder or to the trash.
4) Insert the floppy disk that contains the AppleShare PDS backup.
5) Drag the backup AppleShare PDS file from the floppy disk to the root level of the shared volume.
6) Launch the AppleShare Admin program.

Any folders created on the shared volume since making the AppleShare PDS backup will inherit the privileges of their parent folder. Any new folders shared as separate volumes since the backup was made will need to be reshared.

If your Users & Groups Data File and AppleShare PDS file have gotten out of sync (for example, you made changes to Users & Groups without making a new backup of the PDS file), you may get errors when trying to look at or change folder privileges with AppleShare Admin. For example, if the PDS file indicates that a certain user is the owner of a folder, and that user has since been deleted, you'll get errors. However, logging in to the file server from a workstation as Administrator appears to reset privileges to those folders. You can later change them from within the Admin program.
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Installer MAE 4.0: Brief Description (10/94)

This article provides a brief description of the Installer MAE 4.0.

This article has been archived and is no longer updated by Apple.
Installer MAE 4.0 is a UNIX-savvy installer that comes with MAE. It normally lives in the appledir/Tools directory. The problem with most installers is they look at the root filesystem to determine free disk space. However, with UNIX the root filesystem often does not have very much free space. Installer MAE 4.0 is a little smarter about determining free space.

Support Information Services
Published Date: Feb 19, 2012

MAE 2.0: HP Floppy, SCSI CD-ROM, and SCSI Floppy Drives (5/96)

This article describes adding floppy, SCSI, and SCSI floppy devices on a Hewlett Packard (HP) workstation running HP-UX 9.0 & 10.0 for Macintosh Application Environment (MAE).

This article has been archived and is no longer updated by Apple.

SCSI CD-ROM

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To add devices to be used by MAE, you may have to edit the file macdisks.HP-UX. Entries for SCSI drives have the format:

scsiX:[fixed|removable]:[ro|rw]:</dev/path>

X in scsiX represents the SCSI device number, which can often be found by looking at the back of the SCSI device. On HP-UX, you can also run sam, and by examining "Disks and File Systems" and then entering "CD-ROM, Floppy and Hard Disk", look at the CD-ROM's device name and number.

Example SCSI entry:

scsi4:removable:ro:/dev/dsk/c201d4s0 (hp-ux 9.0.x)

scsi4:removable:ro:/dev/dsk/c0t2d0 (hp-ux 10.x)

Alternatively, once you know the SCSI device number, you can simply change an entry to "default," and the next time you launch MAE, the "default" will be converted into the defaults for a CD-ROM at the given SCSI address on HP-UX.

Example of the use of "default"

scsi4:default

Devices marked "ignore" WILL NOT be checked by MAE. You will not be able to read a CD in a CD-ROM drive if the entry for that SCSI device number is "ignore"

If you have other types of SCSI devices, you would like to use with MAE, you may wish to change read-only ("ro") to read-write ("rw"), and/or change "removable" to "fixed" if the device does not support ejecting the media.

This is what the entries for SCSI disks in the macdisks.HP-UX file look like:

scsi0:ignore

scsi1:ignore

scsi2:ignore

scsi3:ignore

scsi4:ignore

scsi5:ignore

scsi6:ignore

Floppies (non-SCSI)

==========

Entries for floppy drives have the format:

floppyX:[ro|rw]:</dev/path>

Configuring floppy devices is similar to configuring SCSI devices, except floppy devices generally do not have SCSI ID numbers. You simply need to enable the drive by entering whether the drive is read-only or read-write, and providing the path name.

Since HP's floppy device naming scheme varies by model, the floppy0 entry has been set to "default," and will be determined upon the first launching of MAE. Furthermore, since HP systems normally only have one floppy drive, only the floppy0 entry has been enabled.

For example:

floppy0:default

This entry will be converted, depending on HP workstation model, into either:

floppy0:rw:/dev/rfloppy/c201d0s0 (hp-ux 9.0.x)

or

floppy0:rw:/dev/rfloppy/c20Ad1s0 (hp-ux 9.0.x)

AND

floppy0:rw:/dev/rfloppy/c0t0d0

This is what the entries for floppy disks in the macdisks.HP-UX file look like:

floppy0:default

floppy1:ignore

SCSI Floppy Drives

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MAE can use a SCSI floppy drive with HP-UX as follows:

Item 1

Verify that HP-UX utilizes the drive as SCSI floppy and not generic SCSI. You can verify this with the 'ioscan -f' command. Your output should look similar to the following:

disk 2.0.1.1.0 scsifloppy ok(0x800101) ok TEAC FC-1 HF 00 (hp-ux 9.0.x)

disk 2/0/1.0.0 sflop CLAIMED DEVICE TEAC FC-1 HF 07 (hp-ux 10.x)

The SCSI drive must scan as 'scsifloppy' for the SCSI address utilized by that drive. If it does not, verify that the scsifloppy driver has been installed into the kernel, and that you have the required patches for your level of HP-UX. In addition, the chosen SCSI address cannot conflict with any other devices.

Also, ensure that you are using the proper device files with the drive. For example, the following entries were created in /dev/floppy and /dev/rfloppy respectively using 'mknod':

brw-rw-rw- 1 root sys 23 0x201100 Jun 27 18:03 c201d1s0

crw-rw-rw- 1 bin bin 106 0x201100 Jun 28 10:28 c201d1s0(hp-ux 9.x)

brw-rw-rw- 1 root sys 23 0x201100 Jun 27 18:03 c0t1d0

crw-rw-rw- 1 bin bin 106 0x201100 Jun 28 10:28 c0t1d0 (hp-ux 10.x)

Note that read and write permission is granted to all users.

Item 2

In the file 'macdisks.HPUX' (located in the Preferences folder for each user), add an entry similar to the following prior to starting MAE (or relaunch MAE after changing it if MAE is running):

floppy0:rw:/dev/rfloppy/c201d1s0 (hp-ux 9.0.x)

floppy0:rw:/dev/rfloppy/c0t1d0 (hp-ux 10.x)

The exact entry will depend upon the SCSI address utilized by the drive. In all of the examples above, SCSI address = 1 is shown. Do NOT put an entry into the SCSI section of this file -- it must be entered as a floppy drive. If you already have a floppy drive as 'floppy0', you can put the SCSI floppy as 'floppy1' instead.

NOTE: Apple tested with an ISA 1015S drive that required an upgrade from the vendor before it would be recognized by HP-UX as 'scsifloppy.' MAE will NOT be able to use the drive until HP-UX recognizes the unit as a SCSI floppy drive. We also discovered that our unit did not work if SCSI address = 0 was utilized.

Article Change History:

13 May 1996 - Complete rewrite of article.

08 Feb 1996 - Included SCSI Floppy Drive information.

10 Aug 1995 - Changed title to better reflect the article.

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Color StyleWriter 2400 & 2500: Paper Types Explained

The Color StyleWriter 2400 provides options for using different types of paper. What are the advantages of using each of the different types of paper?
This article has been archived and is no longer updated by Apple.
The following information is from the Color StyleWriter 2400 User's Guide (pages 35-37) and the Apple product listing. This guide is intended to assist you in choosing the print material that will suit your particular needs.

Choosing print materials for the StyleWriter 2400

Plain paper

Use plain paper for everyday printing.

Print quality may vary depending on the manufacturer of the paper. If you're not happy with one kind of paper, try a different brand. For consistent results, use one of the special papers designed for the Color StyleWriter 2400 printer.

You can use any plain paper, including plain copier paper. Paper weight can range from 16 to 24 pounds, though 20-pound paper is recommended.

Don't use erasable typing paper, damaged or wrinkled paper, stapled paper, or multipart forms ("Carbonless carbons").

Plain paper almost always has one side that is better for printing than the other. See the package label to determine which side is better, and load that side so that it faces you.

Premium coated paper

Use premium coated paper for exceptional print quality for example, for a final draft, a colorful notice, or the master copy of a presentation. Colors appear richer and more vibrant on such paper.

Use only coated paper designed for use with the Color StyleWriter 2400.

One side of the paper is a little whiter than the other and is better for printing. See the package label on the coated paper to determine which side is better, and load that side so that it faces you.

Premium Plus Coated Paper

Use Premium Plus Coated Paper for exceptional image quality - for example, when printing a photographic picture. Images look smoother on such paper.

Use only Apple's Premium Plus Coated Paper designed for use with the Color StyleWriter 2500 printer mechanism and the printer's inks.

One side of the paper is a little whiter than the other and is better for printing. See the package label on the coated paper to determine which side is better, load that side so that it faces you.

Glossy paper

Use glossy paper for the highest print quality you can get on opaque paper for example, for color proofs.

Use only glossy paper designed for use with the Color StyleWriter 2400.

When loading a stack of glossy paper into the sheet feeder, put a single sheet of plain paper at the back of the stack to prevent misfeeding.

Back-print film

Use back-print film for the highest print quality of allfor example, for digitized photographs or important client presentations. Back-print film has a shiny surface and works exceptionally well when displayed by backlighting.

Use only back-print film designed for use with the Color StyleWriter 2400.

Load back-print film so that the chalky side faces you.

When loading a stack of back-print film into the sheet feeder, put a single sheet of plain paper at the back of the stack to prevent misfeeding.

In the Print dialog, be sure to select Back Print as the paper type.

The printer automatically reverses the image and prints it on the film's chalky side to that the image looks correct when viewed from the shiny side.

Transparencies

Use transparencies when you want to present your document on an overhead projector.

Use only transparencies designed for use with the Color StyleWriter 2400. These special transparencies have a sheet of paper attached to them; leave the paper attached until after printing.

Load the transparencies so that the shiny side faces you and the edge where the paper and the transparencies are attached points downward.

Apple Printing Materials for Color StyleWriter 2400, Color StyleWriter Pro, and Apple Color Printer

Paper Type	Part Number	Quantity
A4 size Back Print Film	M2954G/A	
A4 size Glossy Paper	M3656G/A	
A4 size Premium Coated Paper	M2951G/A	(200/pk)
A4 size Premium Plus Paper	M4791G/A	
A4 size Transparency Film	M1959G/A	(20/pk)
Legal size Coated Paper (81/2 x 14)	T0548G/A	(200/pk)
Letter size Back Print Film	M2953G/A	(20/pk)
Letter size Glossy Paper	M3149G/A*	(50/pk)
Letter size Glossy Paper	M3655G/A	
Letter size Premium Coated Paper	M2952G/A	(200/pk)
Letter size Premium Plus Paper	M4792G/A	
Letter size Transparency Film	M2658G/A	(20/pk)

Notes:
* - M3149G/A was replaced by M3655G/A

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LaserWriter Pro 630: Buffer not cleared using PCL

I have a LaserWriter Pro 630 connected to a MS-DOS computer using the parallel port, and attached to an AppleTalk network using the EtherTalk port. The parallel port is configured for the PCL4 language.

When the MS-DOS computer is turned off, the LaserWriter Pro 630 prints blank pages. Can the problem be generated by a wrong pinout of the cable? Or is there anyway to fix this problem?
This article has been archived and is no longer updated by Apple.
When using the PCL mode, if a small document (less than one page) is sent to the printer and it doesn't fill the buffer, or the program doesn't send the proper end-of-file, the job sits in the printer buffer. It stays in the buffer until an end-of-file is sent or until something causes the printer to flush the buffer - such as shutting off the computer. This could be the problem since it is very common MS-DOS computers. Most MS-DOS based printers, such as Hewlett-Packard printers, have a front panel form-feed button that you can press to flush the buffer. This clears the buffer, but you still a blank page.

Another possibility is a bad cable. If the pinouts are off, or the cable continuity is marginal, you get symptoms like you described.

Workaround

First try a different cable. If that doesn't take care of the problem, then the application isn't sending an end-of-file or the buffer isn't getting full on the last print job. If the problem is due to the print buffer, then there is nothing you can do other than to turn off the printer, or get the blank pages.

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Apple Logo II: Specifications (Discontinued)

The following article contains the spedifications for Apple Logo II.
This article has been archived and is no longer updated by Apple.
Order #: D2D0100

Technical Specifications:
Operating System: DOS; for use with Logo II, Logo DOS files can be converted to ProDOS files with the CONVERT program on the ProDOS User's Disk or the II System Utilities Disk.

Package:
1. Disk: Apple Logo Master
2. Disk: Apple Logo Backup
3. Manual: An Introduction to Programming through Turtle Graphics
4. Manual: Apple Logo Reference

System Configuration
1. Apple II Plus, IIe or IIc personal computer
2. Apple II disk drive with controller
3. Apple Language Card
4. Video Display: television or monitor
5. Recommended: ImageWriter or other compatible printer; color display; AppleMouse
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DOS 3.3: Loading it on a Profile or Unidisk 3.5

Nortic Software at (402)-466-6502 has a program called PROFIX that allows you to place DOS 3.3 on a ProFile and Unidisk 3.5.
This article has been archived and is no longer updated by Apple.
PROFIX works on both the IIe and IIc and allows multiple DOS volumes to range from 143-400K on each drive.
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Apple Scanners: General Description

Apple Computer offers three types of scanners to use with your Macintosh computer. These are:

- Apple Scanner
- Apple OneScanner
- Apple Color OneScanner

There is also a variety of software packages and options that you can use with these scanners. This article describes these scanners and the available software.

This article has been archived and is no longer updated by Apple.

The Scanners/Software

The Apple Scanner

The Apple Scanner is a single pass black and white scanner with up to four-bit gray scale (16 levels of gray) capability. (The number of passes is only important when discussing color scanners). It uses a program called AppleScan to capture the images. AppleScan 1.0, when used with Scanner driver 1.0 or 2.0, only works with System 6. To use the Apple Scanner with System 7, you need AppleScan 1.0.2 and Scanner version 2.0 or 3.0.

The OneScanner

This scanner is an eight-bit gray scale (256 levels of gray) scanner. Apple bundles software from Light Source, Inc., called Ofoto 1.1, which is standalone gray scale scanner software.

Gray scale images won't print properly with older LaserWriter drivers, so confirm LaserWriter driver 6.0.1 or later is installed in the system folder. Ofoto also requires system software version 6.0.7 or later and 32-bit QuickDraw, which is built into System 7. It is fully compatible with System 7 or later. Ofoto is not available as a separate product from Apple. **Note:** See the section titled "Ofoto Support" later in this document for important information regarding Ofoto.

Ofoto 1.1 incorporates support for QuickTime image compression abilities. This lets you compress and decompress still image files and save them as much smaller files. The QuickTime system software extension is included with the new software. Other enhancements include the addition of an auto "sharpen" command, a simplified calibration process, and improved access to the "image-type" control.

Support for QuickTime compression/decompression abilities significantly reduces the file sizes of scanned images as much as 10 times. QuickTime provides various compression choices, including the Joint Photographic Experts Group (JPEG) industry standard method of image compression. QuickTime also makes the opening and decompression of compressed files saved in the standard PICT format automatic to all Macintosh applications. The other enhancements refine the user interface of the scanning software and improve the quality of scanned images.

HyperScan is a HyperCard stack that is bundled with the Apple Scanners specifically for users who create HyperCard stacks. It provides 1-bit (black and white) images for on-screen use. Note that HyperScan is only for use with Apple Scanners, and does not support third party scanners.

Color OneScanner

The color OneScanner is a single pass 24-bit color (16 million colors) scanner that includes Ofoto 2.0 and HyperScan 2.0. Ofoto 2.0 supports all Macintosh computers with a 68020 or higher CPU. If you own a Macintosh Classic, SE, Plus, or PowerBook 100 computer, you need a special version of Ofoto. **Note:** See the section titled "Ofoto Support" later in this document for important information regarding Ofoto.

Installation

Some of the files on the Ofoto 2.0 disks are compressed and must be expanded before you can use them. Files whose names end in .cmp cannot be drag-installed. You must use the Installer to install Ofoto 2.0 on your hard disk.

To use Ofoto 2.0 with the Apple Color OneScanner, you should have at least 10 MB of hard disk space available before installation.
Be sure to turn off any virus-checking programs and start with extensions off before attempting to install the software.

Reinstallation

Before reinstalling Ofoto 2.0, you should throw away the existing Ofoto Folder, located in the Preferences folder (in the System Folder). Throwing away this Folder also throws away all custom calibrations and templates and files you have created.

System Memory

Ofoto 2.0 software requires a system with a minimum of 4 MB of Random Access Memory (RAM). If you plan to use QuickTime to compress files, you need a system with a minimum of 6 MB of RAM available.

System Version

If you are using System 7.0.1, you must have System 7 Tune-Up 1.1.1 installed as well. From the Finder choose "About This Macintosh" from the Apple Menu. If you see a bullet (*) character following the system software version number, Tune-Up 1.1.1 has been installed. If you are using System 7.0 or later, you should be using Scanner driver version 2.0 or later for the grayscale scanners and version 3.0 for the color scanner.

Ofoto 2.0 Application Memory

The minimum memory partition size for Ofoto 2.0 is 1536K. Increasing the memory partition size (in the Get Info window) improves performance, especially in processing color images. While Apple has no specific recommendation, you may want to experiment with other settings, for example, 4096K (4 MB).

Ofoto Support

Note: Light Source (the developer of Ofoto) no longer offers support or software upgrades, and has no plans to revise Ofoto to be compatible with current versions of the Mac OS.

To Start

Turn on the scanner and wait until it is fully powered on, then start up the computer. When the computer is ready, double click on the appropriate software icon. If the scanner is properly connected the software launches. If you get "Scanner is not responding" check the scanner's green ready light (on), SCSI cabling/ID/termination, and ensure the proper scanner driver is in the Extensions folder of your System folder. If there are other SCSI devices on the bus, remove them and connect the scanner with a terminator and see if you can scan. If everything seems OK, try reinstalling the Scanner (Ofoto) software. If you still have no luck, try a clean system install, and again reinstall the Scanner software.

Scanned Images

You should be aware of the file size of scanned images. Can your computer work with it? Do you have enough RAM? Is your CPU powerful enough to modify it? Can your printer print it? Here is an example of scan sizes. You may note that none of these sizes are scanned at 300 dpi. (In PhotoShop v2.5 an 8.5 X 11 300 dpi color scan takes 24.6 megabytes of memory).

```
All Pre scans (8.5" x 14")--3.1 MB
-----------------------------------
Apple Color Printer color final scans (scan dpi of 135):

SOURCE      SCAN SIZE
---------  -------------
8" x 10"     8.6 MB
4" x  6"     2.6 MB
3" x  5"     1.7 MB

LaserWriter llg gray scale final scans (scan dpi of 150):

               SCAN SIZE
SOURCE     BEST      FASTER
---------  ------------------
8" x 10"  10.6 MB     3.6 MB
4" x  6"   3.2 MB     1.1 MB
3" x  5"   2.0 MB     700K

Linotronic 300 gray scale final scans (scan dpi of 200):

               SCAN SIZE
SOURCE     BEST      FASTER
---------  ------------------
8" x 10"  18.8 MB     6.3 MB
4" x  6"   5.7 MB     1.9 MB
3" x  5"   3.6 MB     1.2 MB
```

Scanned File Format

TIFF

Tagged Image File Format (TIFF) images are bit-mapped and support 24-bit color. The information stored is application dependent.

PICT

PICTure (PICT) format originally used to transfer object oriented graphics. The original PICT only allowed eight colors, thus the making of PICT2. Because of its versatility PICT2 replaced PICT as the standard Macintosh QuickDraw format and uses the PICT name. PICT2 supports 24-bit color.

EPS

Encapsulated PostScript (EPS) files created on the Macintosh are a combination of PostScript code and PICT files. The PICT portion displays on your screen; the PostScript code "displays" the image on a PostScript printer. EPS images created on MS-DOS or other computer platforms do not always contain a screen image in the EPS file. Most MS-DOS programs use TIFF files instead of PICT files to display images on the screen.

Compression Formats

GIF

Graphics Interchange Format (GIF) images are created by CompuServe for compression of graphic files and ease of download from electronic info boards. GIF only supports 256 colors (8 bit).

JPEG

Joint Photographic Experts Group (JPEG) images are also created by CompuServe but the compression saves 24 bits and requires QuickTime to function.

Editing a Scanned Image

Once you have scanned an image into a disk file, you can use a graphic art package, such as the following, to modify the image or even to save it to a different format (such as EPS to TIFF).

Adobe PhotoShop--Used for a variety of tasks, including photo editing and manipulating high-resolution scanned images such as those used for magazine or video production.

Fractal Design Painter--Can make a scanned photo look like a watercolor or oil painting. It can even give an image the "look" of a particular artist, such as Van Gogh.

Digital Darkroom--Use for photo retouch of scanned photos.

SuperPaint--Lets you add additional graphics to a scanned image (such as adding text and positional arrows to a computer hardware image.
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Apple Media Tool Version 1.1: FAQ

This article contains frequently asked questions (FAQ) specific to the cross-platform capability of the Apple Media Tool.
This article has been archived and is no longer updated by Apple.
Question: What are the system requirements for Microsoft Windows-compatible computers that are running Apple Media Kit runtime modules?

Answer: Here are the system requirements:

* Pentium- or 486-based Windows-compatible computer with Windows 3.1
* QuickTime for Windows
* Audio (or sound) card
* Windows-compatible video board capable of displaying at least 256 colors on a 640 by 480 pixel monitor
* CD-ROM player (if distributed on CD-ROM)
* Sufficient memory to display the desired runtime module

Question: Although the literature states that Apple supports the creation of mixed mode and Windows-only CDs with the Apple Media Tool, I have heard and read that there are known problems with being able to read such CDs in the Windows environment. Is there any additional information on this?

Answer: While some people have had problems creating mixed mode CD-ROMs, other companies have had good success. It depends on how much time they are willing to spend on development and testing. The most common reason for problems is that the media files are in the wrong formats or don't conform to the eight character restriction of DOS.

A good example of a mixed-mode disc is the "Forever Growing Garden" developed by a company called Arborescence located in San Francisco. The CD is distributed by Media Vision.

Question: My Windows runtime does not work. What could be wrong?

Answer: Although it is difficult to determine, the most common reason for this problem is that the media files are not in the right format. Media files must be converted using the converters supplied with the Apple Media Tool. Sounds must be converted into the WAV format (not "snd" or AIFF). Backgrounds saved in the PICT format (not Photoshop's native format). QuickTime movies must be "cross-platform" and "flat".

The second most common reason for problems like this is a failure for media files to conform to DOS naming conventions. You must change the file names (if necessary) and use the "Replace Media" menu command in the Apple Media Tool before doing the Save As Text command in the Apple Media Tool. If you change the names afterward (or the file names change when converted to your DOS machine), the runtime looks for the wrong file name. It cannot know what name to look for on the Windows platform because there is not a 1:1 correspondence between Macintosh file names and DOS file names.

We recommend that you convert the file formats and the file names during development and test the Macintosh version of your runtime thoroughly. When you move your project to your Windows machine, you should test all your movies to verify they work properly with QuickTime for Windows.

Question: My QuickTime movies do not work with QuickTime for Windows (QTW). I thought that all QuickTime movies work on both platforms. What is wrong?

Answer: Not all movies that work with QuickTime for Macintosh automatically work with QTW. Some aspects of QuickTime movies do not translate to other platforms. For instance:

* Macintosh movies can "point" to other movies such that a "QuickTime movie" can actually consist solely of frames from other movie files. Removing these "pointers" makes a movie "self-contained".

* Macintosh movies can store important data in Macintosh "resources", a component of files that exist only on the Macintosh platform. Moving all important data into the non-resource area makes a movie "cross-platform".

NOTE: Removing all pointers and changing resources is referred to as "flattening" a movie.

Check all the movies to make sure they are converted to the necessary "self-contained" and "cross-platform" QuickTime formats. You can do this using Adobe Premier or Video Fusion. To verify that you did it right, you should open the movies in the QuickTime for Windows "Movie Player" program (which comes with QuickTime for Windows) and see if they work. If your movies do not open properly in the Windows "Movie Player" program, then the movies are not in the correct format.

Question: For text that is part of a project created on the Macintosh using the Apple Media Tool and then compiled to run on Windows, are those fonts compiled as part of the project, or does the project rely on the Windows system fonts?

Answer: As with most font handling for all applications, if you don't have the corresponding font on the PC, a default font is used instead. You can use the PC version of StyleEdit (STYLEDIT.EXE) to look at your text on the PC and find a close match if you don't have the corresponding font. Another alternative is to create a picture, and font substitution won't be an issue.

Question: Can you compile twice (once for Macintosh and once for Windows) but use one copy of the data on a Mixed "Hybrid" Mode CD-ROM (Mac HFS and ISO 9660). Could you describe the logistics of producing the Mixed Mode CD specifically as to what data can be used in both worlds and what would have to be put on the disk twice?

Answer: You must contact specific CD-ROM makers to get details of their own software, hardware, and logistics. At least one company who makes CD-ROM-maker hardware/software estimated that the "overhead" for making a hybrid CD (compared to making the CD-ROM just for Macintosh-HFS) is less than one megabyte. All the "extra" data you would need would be the four windows files ending with .EXE, .KW1, .KW2, and .KW3 (and possibly a .INI file). The logistics vary depending on the manufacturer of the CD-ROM-maker hardware/software.

Question: When I run the runtime application on my PC, it quits after saying that transparency does not work on my Windows machine. I have even tried several video cards. What is wrong?

Answer: Use Runtime maker 1.1 and be sure to follow the instructions enclosed with it regarding copying the .INI file in the Runtime Maker folder to your PC runtime folder. If you use the AMT Programming Environment, be sure to include these lines in your PROGRAM.INI file:

[video]
transparency=bitmap

If you have renamed your PC runtime MYPROJ.EXE, then you must change the name of your .INI file to MYPROJ.INI file and put it in the same directory.
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PC Exchange: Reading DOS Formatted SyQuest Cartridges (10/94)

I can't read DOS formatted SyQuest media using Macintosh PC Exchange 2.0.1. What's wrong?

This article has been archived and is no longer updated by Apple.
There are several points to be aware of when using SyQuest drives, Macintosh PC Exchange, and DOS formatted cartridges together. They are listed in order of importance. Also, check the Tech Info Library for several articles discussing Macintosh PC Exchange and removable media drives.

1) Make sure the third party driver for the SyQuest drive isn't loading on the Macintosh, this will typically be an init or extension. Also, the driver that's written to a separate partition on the drive (when using it with a Macintosh) will need to be deleted. Do this by formatting on a DOS computer.

2) Use the latest version of Macintosh PC Exchange.

3) If the drive has been used on a Macintosh, then taken to a DOS computer and formatted, it's possible there are still driver fragments causing problems when you try it again on a Macintosh. To avoid this, use the formatting software that came with the DOS version of the drive to low-level format the drive. Note that there is a difference between low-level formatting and using the DOS format command -- make sure you low-level format the drive.

WARNING: Low-level formatting a drive will erase all data, with no chance of recovering it. Be sure to backup data first, or use this procedure on new or blank disks only.

General how-to for cross-platform use of SyQuest drive. (This will assume a standard SyQuest drive using SQPREP on a DOS computer and Macintosh PC Exchange on a Macintosh computer.)

1) Make sure both drives work in their respective computers.

2) Load the proper drivers on the DOS platform. These drivers will typically be two drivers in the config.sys file. The first one will be an APSI API (sometimes referred to as an ASPI Manager/SCSI controller driver), the 2nd one will be a driver to control the SyQuest driver. For the first driver, we're using "aspi2dos.sys" and for the 2nd driver, we're using "aspidisk.sys".

3) Make sure NO Macintosh SyQuest drivers are loaded on the Macintosh.

4) Format a cartridge using SQPREP on the DOS computer.

5) When done with SQPREP, for thoroughness also format the drive using the DOS "format" command.

6) Insert the cartridge into the Macintosh drive and restart the computer. If you are asked to initialize the disk after restarting answer "No", go to Macintosh PC Exchange Control Panel, click options, make sure a check mark is by the SyQuest drive. Close everything and restart.

Support Information Services
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AppleScript: Dates and Times Explained

Questions about coercing dates to string:

1) First, if we're trying to pluck the weekday out of a date as string, I can't use:

```
copy "9-Oct-94" to shortDate
copy (weekday of date shortDate) as string to dayOweek
```

get error "can't make Monday into a string"

2) Second, it seems confused about what class things are:

"class of (date shortDate)" returns "date"

"class of (weekday of date shortDate)" returns "class"

```
copy "9-Oct-94" to shortDate
copy date shortDate to longDate
copy weekday of longdate to Mydate
```

"display dialog (class of MyDate)" returns "pcls" but
"class of MyDate" returns "class
This article has been archived and is no longer updated by Apple.
Dates can be difficult objects to work with in AppleScript.

With regard to the listed problems:

1.) AppleScript will display interpreted values with the script editor. To do extraction of strings on dates, get the whole date value converted as a string and then extract words of that string to get the date elements. The following is a working AppleScript example.

```
get current date
copy the result to today
copy today as string to DateString
-- "Monday, October 10, 1994 12:05:51 PM"

display dialog "Today is " & word 1 of DateString
display dialog "This month is " & word 2 of DateString
display dialog "This is day " & word 3 of DateString & " of month " & word 2
of DateString
display dialog "The year is " & word 4 of DateString

set hr to word 5 of DateString
set mn to word 6 of DateString
set sc to word 7 of DateString
set AMPM to word 8 of DateString

display dialog "The time is " & hr & ":" & mn & ":" & sc & " " & AMPM
```

2.) What you see in the script editor log window is often an interpretation of AppleScript's internal representation of the data. While AppleScript may be representing something internally as an index or a number, it displays something more meaningful for the observer to interpret. What you are seeing is an example of this. Attempts to display class representations will show you the four character AppleScript internal types.

Using the following AppleScript fragment, you can compile a table of some of the AppleScript internal types.

```
(*
set x to "A" -- string
set x to 1 -- integer
set x to 1.5 -- real
set x to current date -- date
set x to false -- boolean
set x to {1, 2, "A"} -- list
set x to {text returned:"text entered", button returned:"OK"} -- record
set x to application -- class
*)
```

```
set x to {1, 2, "A"} -- list
display dialog (class of x)
get class of x
```

AppleScript Expression	Internal Type	Interpreted by Script Editor
"A"	TEXT	string
1	long	integer
1.5	doub	real
current date	Idt	date
true or false	bool	boolean
{1,2,"A"}	list	list
{fnm:"Doug",lnm:Korns"}	reco	record
application	pcls	class

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MacTest Pro: Can‘t Run RAM Test (10/94)

If I run MacTest Pro on a Power Macintosh the RAM test is grayed out. How can I get the RAM test to work on a Power Macintosh?

This article has been archived and is no longer updated by Apple.
AppleTalk must be disabled in the Chooser before running the RAM test in MacTest Pro. This is the most common cause of the RAM test being grayed out. Disable AppleTalk and run the tests again.

Support Information Services

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ISA and VESA Bus PC: Printing to LaserWriter Select (10/94)

Our customer has connected a LaserWriter Select 310 to an IBM compatible PC with ISA controller. He can print using the windows drivers no problem. As soon as he hooks the printer up to an IBM compatible PC with VESA LOCALBUS controller, the printer doesn't work.

The circuitry inside of the parallel port is mapped identically to any other parallel port on any other IBM PC. The only difference is the speed of the Bus timing. VESA is at 33MHz and ISA is at 8MHz. He can connect the printer to any other non VESA computer and it will work.

He can connect an HP, a Brother, or any other non-Apple printer, and it will work.

This article has been archived and is no longer updated by Apple.
The following discussion assumes all troubleshooting such as clean boot, trying to print from DOS, etc. has yielded negative results.

Printing does not interact with the expansion bus in any way. I suspect the problem is in the type of parallel port being used. Some computers are equipped with what is commonly referred to as a bi-directional or EPP parallel port. We have seen problems with these type of ports due to the non-standard pinout of these ports.

Sometimes it is possible to make the printer work by using a different cable with these ports - not all cables have all pins connected and by disconnecting some of the non-standard pins the printer can be made to work. This is a somewhat hit and miss proposition, so it is usually better to get another parallel port (since you can buy one for less than 20 dollars, it's a cost effective solution)

Some bi-directional or EPP ports have an option to turn off that functionality. Check the documentation to determine if that's an option.

Support Information Services
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PowerBook Duo 270c: Display Luminance Values

Is there a screen luminance measurement we can do with a light meeter on the active matrix displays used in the PowerBook Duo 270c?
This article has been archived and is no longer updated by Apple.
The specification for the brightness of the 270c display is between 14.5 and 20.5 Foot Lamberts

1) Make the measurements from a blank SimpleText document. This will provide you with a white background.

2) Turn the brightness up to the maximum.

3) Allow the display to warm up for approximately 10 minutes before taking a measurement.

The readings that I measured were:
Sekonic; Model 246 Measured between 10 to 12 on the red scale.
Sekonic; Model 248 Measured approximately 10.

Theses readings are within the specification. The light meters use a different scale then Foot Lamberts so the readings of 10 to 12 are within spec.

These Sekonic light meters are available in the Service Price Pages. Order part # 076-0310. The Sekonic Model 246 is the current model that Apple ships.
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Graphics Tablet: Internal Cable Pinouts (11/96)

Listed below are the pinouts for the Graphics Tablet internal cable.

This article has been archived and is no longer updated by Apple.

Stylus Internal Cable Pinout

5-pin Molex Stylus DB-9

1 5
2 no connection
3 2, 3, 4, 6, 8, 9
4 7
5 no connection

Tablet Internal Cable Pinout

5-pin Tablet DB-9
Connector

1 4
2 5
3 6
4 3
5 9

Article Change History:
18 Nov 1996 - Reviewed for technical accuracy, revised formatting.
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Display Enabler Overview (8/95)

What is the Display Enabler?

This article has been archived and is no longer updated by Apple.
Display Enabler is a system extension that comes with the software for Apple's new Multiple Scan Displays. Unlike previous Apple monitors, the Multiple Scan Displays are capable of displaying several different standard screen resolutions.

Whereas before the Macintosh 16" Color Monitor only displayed the Macintosh resolution of 832x624, the Multiple Scan 17 Display is able to display 640x480, 832x624, and 1024x768, among others. The resolutions that the Multiple Scan Displays are capable of depend on the model of display, and the computer to which the monitor is attached.

The Display Enabler allows some Macintosh computers to switch between different available screen resolutions, without having to restart. All Power Macintosh computers and all Macintosh 630 series computers have this function built into their ROMs, and do not need this software installed to take advantage of resolution switching. Once a desired resolution has been chosen, the Display Enabler may relocate some of the desktop icons, so they appear where you expect to find them.

Article Change History:
10 August 1995 - Added information on computers with Display Enabler built-in.

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External Apple Hard Drives from La Cie: Software

What software is installed on the Apple external hard drives manufactured by La Cie, Ltd.?

This article has been archived and is no longer updated by Apple.
Apple external hard drives manufactured by La Cie, Ltd., ship with the following pre-installed software:

* Apple HD SC Setup v.7.2
* Disk First Aid v.7.1.1
* Safe & Sound v.1.01 (Central Point)
* Central Point Backup v.2.0a
* DiskDoubler v.3.7.7i (Symantec)

These units come in 160MB, 230MB, 500MB, and 1GB configurations.

Additionally, these units utilize Quantum hard drive mechanisms and Apple ROMs, and ship with the following:

* 1 external pass-through terminator
* 1 standard high-quality SCSI cable
* Silverlining Utilities diskette

The Silverlining utilities are not currently pre-installed on the hard drive, but come on diskette.

The Silverlining hard disk driver is pre-installed on the hard drive, as is Apple's driver. Though Apple's driver is the default driver, the Silverlining software (and only this software) can be used to engage the Silverlining driver in a process termed a "friendly takeover." Until the Silverlining software is used in this manner, however, the unit will remain an Apple drive and will continue to appear so to Apple HD SC Setup.

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HyperCard 2.2: Tech Tips (8/95)

Here are some Tech Tips for HyperCard 2.2.

This article has been archived and is no longer updated by Apple.
Common Problems and their resolutions for HyperCard 2.2

1. If you're having problems installing HyperCard using the installer then simply drag the files to a folder on your hard disk and install the fonts if necessary.

2. If you get a message that certain fonts are not installed, it's because HyperCard looks for specific bitmapped sizes of fonts; if only Truetype fonts are installed, simply ignore the message or install the bitmapped fonts.

3. If you cannot make changes to a stack, then possibly the stack has been created by an earlier version of HyperCard, and needs to be converted; make a copy of the stack first, then select "Convert Stack" under the File menu. Once you convert a stack, you can't go back.

Another possibility is that the userlevel is set too low for the types of changes you want to make; check this in HyperCard Preferences, or set userlevel via the Message Box. If you can't change the userlevel, make sure you don't have HyperCard Player or other copies of HyperCard on your hard drive.

Another possibility is that the stack has been protected using the "Protect Stack..." command under the file menu. If you don't see "Protect Stack..." under the file menu, hold down the command key while selecting "File." If a password has been set, you will be prompted for it before the "Protect Stack..." options appear. If you don't know the password, you're out of luck. There's no "Apple" way to recover from a lost password.

4. Importing/Exporting Text: The address stacks have import and export scripts built into it. The import works only on other Address Stacks (the ones that came with HyperCard). Export allows you to export data to text file.

To import or export text to or from other stacks, customers will need to write a script. You may contact our scripting support group at 1-800-950-2442 for help writing your script. This is a fee based service.

5. When adding Color Tools to a stack or creating a standalone application in HyperCard you will need to increase the allocated memory to HyperCard using "Get Info" under the File Menu. 2 MB should be enough.

6. If your visual effects have stopped working, this is because you've turned on Color Tools which has it's own visual effects. Either turn off Color Tools or consider using their visual effects (which are quite good and flexible).

7. If your color stacks seem to be running slower here are several ways you
can improve performance:
- On the OpenCard message, set both lockmessages and lockrecent to true.
- Consider designing a single color background image rather than
colorizing lots of individual objects.
- Increasing your memory partition might be helpful

8. The HyperCard 2.2 standalone application builder is not supported on 68000-based Macintosh systems. This means you can't create a standalone application on a Macintosh Plus, SE, Classic, Macintosh Portable, or PowerBook 100 computers. Although you can run HyperCard 2.2 standalone applications on these computers.

9. People with monitors that display less than 16 colors can't use the Color Tools stack. On one-bit monitors, the Color Tools stack will show a card that lists its requirements, but it doesn't do this for monitors that are not in B&W mode -- so you may have problems running the stack without realizing why.

Here are the requirements for using the Color Tools stack:
* At least 2 MB of RAM allocated to HyperCard
* 32-Bit QuickDraw (included as a part of System 7 or later)
* A monitor capable of showing 16 or more colors or shades of gray

Also, when using Color Tools 1.0 with HyperCard 2.2, if you select Open Color Tools from the Color menu, and before the palette is drawn click on the desktop, and then later go back to HyperCard, you will get Color menus but no palette. The workaround is to close Color Tools and reopen it.

Article Change History:
14 Aug 1995 - Reformatted, reviewed for technical accuracy.

TA32704_HyperCard_Tech_Tips__(TIL16515).pdf

Support Information Services
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System 7.5 Tech Tips: Customers Hear on Hold (2/95)

These are the Tech Tips that customers calling in with a System 7.5 question hear while on hold.

This article has been archived and is no longer updated by Apple.
Tech Tip 1:System 7.5 Installer problems

If you are following the System 7.5 upgrade guide, attempting to update the hard drive with Apple HD SC setup and are unable to locate a suitable SCSI device, you may have used a non-Apple formatting utility for your hard drive. If you have been using a previous version of System 7, you can safely skip this step and continue on with the installation of System 7.5. If you have been running System 6 or earlier, you should check with the vendor of either your hard drive or your hard drive's formatting utility and verify compatibility.

If you have attempted to install System 7.5 and the installer fails with an error stating that your hard drive was left untouched, turn off the Macintosh, insert the Disk Tools diskette that came with System 7.5 into the floppy drive of the Macintosh and turn the Macintosh on. When the desktop appears, open your hard drive's icon (not disk tools), and open the System Folder on the hard drive. Locate the suitcase file in the Hard drive's System Folder called "System" and move it to the trash. At this point, run the System 7.5 installer again. Please note that sounds you may have recorded will be lost and if you had been running System 7.0.1 or earlier, you will need to reinstall your bitmap and TrueType fonts. If the installer fails again, follow the clean install procedure outlined in appendix B of the System 7.5 upgrade guide. Additional information about clean installs follows shortly.

If you have successfully installed System 7.5 and your Macintosh does not start up properly, or behaves erratically, you probably have an incompatible system extension or control panel. If you have not yet done so, run the Safe Install utility located on the Before you Install diskette or in the Before You Install folder of the Installation folder on the System 7.5 CD-ROM. The Safe Install utility scans your System Folder and identifies items that are or may be incompatible with System 7.5. Safe Install then offers to move the questionable items from your System Folder to another folder on your hard drive where they will not cause problems. The Safe Install utility also generates a report of the items it removed and tries to refer you to their manufacturer for upgrades or verification of compatibility. Additionally, the System 7.5 Extensions Manager can be used to troubleshoot conflicting control panels and system extensions. If you continue to have problems with System 7.5 after Safe Install has removed questionable items from the System Folder, restart your Macintosh while holding down the space bar on the keyboard. Holding down the space bar while the Macintosh is starting up causes the System 7.5 Extension Manager to appear. Once the Extension Manager appears, select the "Sets" pop up menu on the right side of the window and choose the "System 7.5 Only" option and then close the Extension Manager's window. This causes your Macintosh to start up with only the extensions and control panels that System 7.5 installed, thereby eliminating any conflicts among non-7.5 control panels and extensions. For further information on using the Extension Manager, please see Appendix C of the System 7.5 Upgrade Guide.

If you have successfully installed System 7.5 and your Macintosh does not start up properly, or behaves erratically, and you have already tried troubleshooting your System Extensions and Control Panels, you may want to try a Clean Install of the System software.

A clean install of the System software disables the existing System folder on your hard drive and renames it to "Previous System Folder", then the installer places a new System folder with only items from System 7.5 on your hard drive. A Clean install is useful for resolving conflicts among different pieces of software and for replacing damaged System software. The System 7.5 Installer has a clean install option that you can invoke by launching the installer, dismissing the "Welcome to the 7.5 Installer" dialog box and holding down the Shift, Command, and K keys simultaneously. (The Command key is the one with the Apple and Cloverleaf symbol.) Next, select the "Install New System Folder" option and click OK. Please keep in mind that the new System Folder placed on your hard drive by the clean install procedure contains only items from System 7.5. All other items such as fonts, extensions, Control Panels, and preference files that you or other installers placed in the system folder are located in the "Previous System Folder". Generally, these items are unusable unless you move them from the Previous System Folder to the new System folder. Before doing so, it is critical that you ensure that the erratic behavior you experienced before the clean install is no longer present. Also, as you move items from the previous System folder to the new System folder, only move items that are not already in the new System folder. If you attempt to replace an item, the Macintosh warns you. For further information on performing a clean install of System 7.5, please see Appendix B of the System 7.5 Upgrade Guide.

Tech Tip 2: QuickDraw GX

If you have installed QuickDraw GX, and you have a non-Apple printer, Fax modem or other output device, you need to contact the vendor of the output device and get a QuickDraw GX compatible driver. In the meantime, you can turn off QuickDraw GX with the extensions manager located in the Control Panels folder under the Apple Menu. This gives you access to the same output capabilities you had before installing System 7.5. If you have already disabled QuickDraw GX and are having trouble with printing fonts that are bit mapped, move the type 1 postscript fonts from the "Archived Type 1 Fonts" folder to the Fonts folder. Both of these folders are located within the System folder.

If you do not have a QuickDraw GX driver for your Apple Printer or Fax modem, there are two things to be aware of. First, some Apple printers work with another printer's QuickDraw GX driver. Second, some Apple QuickDraw GX drivers were not ready to ship with 7.5 and should be available shortly.

The following is a list of Apple Printers that work with other Apple QuickDraw GX drivers"

* For an Apple ImageWriter, ImageWriter II or ImageWriter 15, use the ImageWriter GX driver.

*For a Personal LaserWriter LS or LaserWriter Select 300, or Personal LaserWriter 300, use the LaserWriter 300 GX driver.

*For a Personal LaserWriter SC, use the LaserWriter II SCGX driver.

*For a StyleWriter or a StyleWriter II, use the StyleWriter GX driver.

*For a LaserWriter Select 310, use the LaserWriter GX driver and Connect via Serial and not LocalTalk.

Here is a list of the Apple QuickDraw GX drivers are not yet ready and their expected release date, we apologize for this inconvenience:

*For the Color StyleWriter Pro, a QuickDraw GX driver should be available in early 1995.

* For users of Apple Express Fax modems or GeoPorts, QuickDraw GX drivers should be available by the end of 1994.

Article Change History:
14 Feb 1995 - Updated keyword; reviewed for technical accuracy.
13 Jan 1995 - Made corrections to application name appearing in article.

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ImageWriter II: Connector cables for all Apples

With certain adjustments in software, the cable with order number A2C0311 can perform the same function as the cable with order number A9C0313.

But the cables themselves are different, with different pinouts, and the A2C0311 cable has about eleven intended functions while the A9C0313 cable has three.
This article has been archived and is no longer updated by Apple.
To keep the differences clear, keep this in mind:

1. The A2C0311 cable is primarily intended to connect the Apple II family to a Personal Modem.

2. The A9C0313 cable is only intended to connect the Apple II family to an ImageWriter II.

You can avoid confusing these cables by using them only for the primary intended functions specified below.

I. Apple IIe Modem-8 Cable

A. Number:
1. Order: A2C0311
2. Part: 590-0331-B

B. Configurations:

1. Primary - from Personal Modem to:
a. Apple II
b. Apple II Plus
c. Apple IIe

2. Secondary - from ImageWriter II or Personal Modem to:
a. Apple III
b. Macintosh XL
c. Lisa
3. Switching:
a. From Apple Super Serial Card to ImageWriter II
-- SSC jumper block pointing to "TERMINAL"
b. From Apple Super Serial Card to Personal Modem
-- SSC jumper block pointing to "MODEM"

II. Apple IIe Printer-8 Cable

A. Number:
1. Order: A9C0313
2. Part: 590-0335-A

B. Configurations:

1. From ImageWriter II to:
a. Apple II
b. Apple II Plus
c. Apple IIe

III. Macintosh Peripheral-8 Cable

A. Number:
1. Order: M0185
2. Part: 590-0332-B

B. Configurations:

1. From Macintosh to ImageWriter II or Personal Modem.

IV. Apple IIc Peripheral-8 Cable

TA32708_ImageWriter_II_Connector_cables_for_all_Apples_(TIL01652).pdf

A. Number:
1. Order: A2C4312
2. Part: 590-0333-B

B. Configurations:

1. From Apple IIc to ImageWriter II or Personal Modem.
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LaserWriter 16/600 PS: Energy Star Compliant

Is the LaserWriter 16/600 PS Energy Star compliant? If so, can the time-delay before the printer enters the energy saving mode be adjusted?
This article has been archived and is no longer updated by Apple.
The LaserWriter 16/600 PS is Energy Star compliant. The LaserWriter 16/600 PS ships with a new Apple Printer Utility program that can be used to change the time delay before the printer enters the energy saving mode. The default time is 1 hour, but the other choices are 15 minutes, 30 minutes, 2 hours, and 4 hours. The majority of energy savings occurs because the fuser bulb is shut down while the printer is in the energy saving mode.
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LaserWriters: Ethernet Printing With Windows 3.1.1

I have connected a LaserWriter to a PC-compatible computer running Windows for Workgroups. I am trying to print to the printer via ethernet. The printer prints from a Macintosh over ethernet, but how can I print over ethernet on the PC?
This article has been archived and is no longer updated by Apple.
In order to print from a Windows 3.1x machine to a LaserWriter over ethernet, you need more than just the proper cabling. You also need additional networking software that allows the computer and the printer to "talk" to each other via a common protocol. All ethernet-capable LaserWriters support the AppleTalk protocol. Some also support printing via Novell NetWare servers (IPX protocol) and lpr printing (TCP/IP protocols).

If you want to print via AppleTalk from the PC, you will need an AppleTalk software package for Windows 3.1x. Please refer to:
TIL Article 19652: "**Connectivity between PC-Compatible and Macintosh Computers on a Network**" for further information.

If you want to print via IPX from the PC, you will need a NetWare server and the NetWare client software for Windows 3.1x.

If you want to print via TCP/IP from the PC, you will need to install an LPR client and a TCP/IP software package for Windows 3.1x.
Published Date: Feb 19, 2012

LaserWriter 16/600 PS & 12/600 PS: Bi-directional Parallel Ports

The spec sheets for the LaserWriter 16/600 PS and the Color LaserWriter 12/600 PS indicate that they have a bi-directional parallel port. What does that mean?
This article has been archived and is no longer updated by Apple.
The LaserWriter 16/600 PS and the Color LaserWriter 12/600 PS contain a bi-directional port that conforms to the recently released IEEE1284 standard. On the LaserWriter 16/600 PS this is a standard 25-pin parallel connector, but on the Color LaserWriter 12/600 PS this is a mini 25-pin connector.

In addition to its bi-directional mode, the parallel port can operate unidirectionally at reduced performance with the original Centronics parallel capabilities. One advantage of the bi-directional capability is that the printer can send printer status information back to the driver. The older Centronics standard parallel port was uni-directional which left it up to the user to monitor the printer for paper jams, paper out, and error conditions.

Using the bi-directional capabilities requires a specially wired parallel cable*, bi-directional parallel port on the CPU, and driver support. Although bi-directional parallel ports are included with an increasing number of high-end Windows based systems, there are still very few applications that utilize its features. This will probably change when Windows 95 is released.

Note: The Apple Bi-directional Parallel cable (M4235ZM/A) can be used with the Color LaserWriter 12/600 PS ONLY. Apple does not supply a bi-directional parallel cable for use with the LaserWriter 16/600 PS.
Published Date: Feb 19, 2012

AppleTalk Connection for Macintosh 1.1 (10/94)

AppleTalk Connection for Macintosh provides the newest version of Apple's signature networking software for Macintosh computers.

This article has been archived and is no longer updated by Apple.
AppleTalk Connection includes the AppleTalk transport stack, along with updated software drivers for LocalTalk, Ethernet, and Token Ring. AppleTalk Connection also includes support for SNMP, the industry-standard Simple Network Management Protocol. With MacSNMP, networked Macintosh computers can be managed from a variety of available SNMP-consoles.

With AppleTalk Connection installed, users have a complete foundation for network printing and file sharing, as well as for collaborative and client-server functions such as electronic mail and database service. AppleTalk's unique Name Binding Protocol allows quick and easy access to network resources such as printers and servers by means of user-designated names.

Since it's introduction in 1984, AppleTalk has become a widely successful networking standard, with over ten million nodes worldwide. Suitable for both large and small organizations, AppleTalk remains the easiest networking system in the industry to use. AppleTalk software has been implemented on nearly every major hardware, OS, and NOS platform in the industry, including Microsoft DOS, Windows and Windows NT, Novell Netware, and IBM OS/2, as well as many UNIX systems.

Apple also offers AppleTalk Administration for Macintosh, a product that provides comprehensive documentation and utilities for centralized management of the MacSNMP software.

Available through all Apple retail channels, AppleTalk Connection for Macintosh can be purchased as a single-user package or through a convenient and economical multi-user license extension.

FEATURES

Connectivity
* Supports multiple concurrent AppleTalk services
* Supports concurrent use of multiple protocols
* AppleTalk and other protocols can share the same Ethernet or Token Ring interface
* Works with all current Macintosh computers, including Power Macintosh

Naming & Directory Services
* Provides dynamic, distributed name service
* Provides easy access to network resources using descriptive names
* Provides attributes for remote service identification

Network Management
* Provides network and system information from Macintosh computers over an AppleTalk network
* Allows administrator to preconfigure and lock the SNMP software (requires AppleTalk Administration for Macintosh)
* Built-in AppleTalk, Network, and Macintosh agents for complete management data availability
* Extensible architecture allows for additional agents and transports from Apple and third parties
* Allows access to SNMP management information over both TCP/IP and AppleTalk protocols when combined with the TCP/IP Connection for Macintosh

Other Features
* Integrated drivers support all Apple cards and on-board networking, with defined datalink interfaces for third-party cards

TECHNICAL SPECIFICATIONS

AppleTalk Details

Automatic Addressing
AppleTalk devices automatically negotiate among themselves to acquire a unique address; users don't need to learn how to set addresses. Network managers control addressing at the workgroup level, by assigning network number ranges. This significantly reduces the effort required to

configure and support AppleTalk as compared to other protocols.

Dynamic Naming
AppleTalk network services are located and selected by descriptive names from a dynamic, distributed directory service. Devices may be grouped into logical zones to allow easier access to resources in large internetworks.

Dynamic Routing
AppleTalk network routers can discover locally attached networks, other routers, and other internetwork destinations, without extensive manual configuration. AppleTalk routing dynamically adapts to changes in internetwork connectivity. In the event of a communications failure, an alternate network route will automatically be adopted.

MacSNMP Details

The SNMP agents included in AppleTalk Connection for Macintosh support the following Management Information Base (MIB) definitions:

* The LLAP, AARP, ATPort, DDP, NBP, and ATEcho groups of the AppleTalk MIB
(RFC 1243).
* The System, Interfaces, and SNMP groups of the TCP/IP MIB-II (RFC 1213).
* The Macintosh System MIB.

MacSNMP supports multiple network transports. To manage Macintosh computers using TCP/IP protocols, you need TCP/IP Connection for Macintosh.

System Requirements
---
* A Macintosh Plus or later model Macintosh computer with the appropriate
datalink such as built-in LocalTalk or Ethernet, or a networking card
such as the Apple Ethernet NB Card, Apple Ethernet LC Card, or the Apple
Token Ring 4/16 NB Card, or compatible card.
* A 1.44 MB floppy disk drive such as the Apple SuperDrive.
* To use the AppleTalk software, you need System 6 (6.0.5 or later) or
System 7 and at least 2 MB of RAM.
* To use the MacSNMP software, you need System 7 or later (4 MB of RAM
recommended). You also need an SNMP Console that supports AppleTalk,
such as those available from Neon Software (LANSurveyor) or Intercon
(WatchTower).

ORDERING AND LICENSING INFORMATION

AppleTalk Connection for Macintosh
Single-user package (Order No. M8069Z/B)
* AppleTalk protocol stack
* Datalink drivers
* MacSNMP Client
* Macintosh, AppleTalk, Network agents and MIBs
* AppleTalk Connection Installation and User's Guide
20-user license extension (Order No. M8065Z/B). License extension
contains no software.

AppleTalk Administration for Macintosh
Single-user package (Order No. M8066Z/B)
* Complete AppleTalk Connection for Macintosh
* MacSNMP Admin (SNMP configuration) software
* About AppleTalk Administration
* AppleTalk Connection Installation and User's Guide
* MacSNMP Administrator's Guide
* Planning and Managing AppleTalk Networks

TCP/IP Connection for Macintosh
Single-user package (Order No. M8113Z/B)
* TCP/IP protocol stack
* Datalink drivers
* MacSNMP Client
* Macintosh, TCP/IP, and Network agents and MIBs
* TCP/IP Connection Installation and User's Guide

20-user license extension (Order No. M8115Z/B). License extension contains no software.

MacSNMP Developer's Kit
Available on the Essentials*Tools*Objects (E.T.O.) CD-ROM from APDA.
(Order No. M0895LL)

Support Information Services
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AppleTalk 1.1 and TCP/IP 2.0.4 Connection for Macintosh

This article describes AppleTalk Connection for Macintosh 1.1 and TCP/IP Connection for Macintosh 2.0.4.
This article has been archived and is no longer updated by Apple.
AppleTalk Connection and AppleTalk Administration for Macintosh Version 1.1 of AppleTalk Connection for Macintosh provides signature networking software for Apple Macintosh computers. AppleTalk remains the easiest networking system in the industry to use and has become a networking standard for Macintosh connectivity, with over 10 million nodes worldwide. The AppleTalk Connection includes the AppleTalk (Version 58.1.4), Network Software Installer (Version 1.4.5), MacSNMP (Version 1.1), and Apple Shared Library Manager (Version 1.1.2). These components increase networking performance, improve support for Power Macintosh computers and enhance compatibility with the industry standard Simple Network Management Protocol (SNMP).

Version 1.1 of AppleTalk Administration for Macintosh, which includes all of the components of AppleTalk Connection for Macintosh (Version 1.1), also provides comprehensive documentation and utilities for centralized management of the MacSNMP software. It includes Management Information Bases (MIBs) enabling network administrators to monitor variables implemented in the MacSNMP client software using existing SNMP-based network management consoles.

TCP/IP Connection and TCP/IP Administration for Macintosh Version 2.0.4 of TCP/IP Connection for Macintosh provides standard support for all Macintosh-based TCP/IP network applications and includes a full protocol implementation, a Domain Name Resolver, support for Hosts files, and a testing/diagnostic application. The TCP/IP Connection includes MacTCP (Version 2.0.4), Network Software Installer (Version 1.4.5), MacSNMP (Version 1.1), and Apple Shared Library Manager (Version 1.1.2). Version 2.0.4 of MacTCP improves performance and features a number of enhancements to the Domain Name Resolver, programming interfaces, and interoperability with certain UNIX hosts.

Version 2.0.4 of TCP/IP Administration for Macintosh, which includes all of the components of TCP/IP Connection for Macintosh (Version 2.0.4), also provides comprehensive documentation and utilities for centralized management of TCP/IP and MacSNMP software. The product includes MacTCP configuration tools that give a network administrator the choice of controlling all configuration parameters or assigning configuration authority to users.

System 7.5 and TCP/IP
Apple has added the MacTCP software that is one component of TCP/IP Connection for Macintosh (Version 2.0.4) to Macintosh System 7.5. Macintosh System 7.5 includes MacTCP, with support for LocalTalk, Ethernet and Token Ring. Apple recommends the TCP/IP Connection for Macintosh product to customers for its network management capabilities and documentation. Customers who are interested in SNMP support, TCP/IP user documentation, and administrative utilities should consider TCP/IP Connection for Macintosh and TCP/IP Administration for Macintosh.
Published Date: Feb 19, 2012

LaserWriter 16/600 PS: Version of TCP/IP Used (10/94)

I plan to use TCP/IP and want to know what queue system the LaserWriter Pro 16/600 PS is using: FTP, BSD, IP Net or some own?

This article has been archived and is no longer updated by Apple.
The TCP/IP "spooling system" the LaserWriter Pro 16/600 PS supports is the BSD Remote LPD (which is generic to most Unix systems).

Support Information Services
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LaserWriter 16/600 PS: Laser Engine Used (10/94)

The LaserWriter 16/600 PS specification sheet states that it uses a "true laser engine". Please provide more specific information on the type of print engine used.

This article has been archived and is no longer updated by Apple.
The LaserWriter Pro 16/600 PS is based on a Canon P430 laser print engine. The overall design is very similar to the one used in the LaserWriter Pro 630, however the performance has been improved significantly to 17 US Letter pages-per-minute.

Support Information Services
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LaserWriter Pro 810: Changing Page Size & Trays in PCL

What are the PCL escape codes to change paper trays on the LaserWriter Pro 810. Also, is there a way to select page size instead of specific paper trays in PCL?
This article has been archived and is no longer updated by Apple.

Changing Paper Trays

The HP PCL escape code sequence for selecting paper trays on the LaserWriter Pro 810 follows below. Before sending the PCL code to the printer, the printer control panel "Paper Source" setting must have the asterisk on "Tray 3". In other words, set the paper source for Tray 3.

```
<esc>&l#h

<esc> = escape character
l     = lower case L
#     = paper tray selection below
       1 - upper tray
       4 - middle tray
       5 - lower tray
```

For example, if you want to use the paper in the lower tray, you would use the following escape code: `<esc>&l5h`

Changing Page Size

The HP PCL escape command for selecting the page size is:

```
<esc>&l#A

<esc> = escape character
l     = lower case L
#     = refers to the following page sizes:
        2 - letter
        3 - legal
        1 - executive
       26 - A4
       80 - Monarch Envelope
       81 - Comm. 10 Envelope
```

For example, if you wanted to print on a legal-sized page you would send: <esc>&l3A

In both of the cases above, to enter <esc>, press the Ctrl-P keys followed by the Esc key.

Note: You must use an ASCII text editor like DOS EDIT. You cannot enter the <esc> character in some Windows-based editors like Notepad.
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LaserWriter: Using Adhesive Paper With Manual Feed

Article Change History:

02/12/93 - UPDATED
* Vendor information.

There are a several good sources for LaserWriter adhesive media:
This article has been archived and is no longer updated by Apple.
Avery (labels, paper, transparencies)
Chart Pack (Drafting Applique Film)
Dennison (labels, paper, transparencies)
James River Corporation (labels, paper, transparencies)

To locate a vendor's address and phone numbers, use the vendor name as a search string.

Note: The LaserWriter II's straight paper cassette path will accomodate labels. However, it is still best to use the manual feed guide on a LaserWriter or LaserWriter Plus. The two main reasons are:

1. Label stock is too thick for the paper cassette.

2. The cassette itself could separate the protective backing from the paper, which could then stick to a roller and wind around it.

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PhotoFlash 2.0: Description

This article describes PhotoFlash 2.0 and includes the Technical Specifications.
This article has been archived and is no longer updated by Apple.
Apple PhotoFlash software quickly and easily catalogs and enhances digital photos, then places them into documents for high-impact results. The package consists of three key components:
catalog windows that simplify organization and selection of images;
unique photo-preparation tools that enhance images;
and direct links that make it easy for users to place images into popular page-layout, presentation, and word processing applications.

It also features scripting capabilities, enabling you to save time by automating routine imaging tasks.

The catalog window in PhotoFlash makes it easy to organize and find photosas well as to place them quicklyby examining or searching on thumbnails (small previews) of images that have been saved in industry-standard file formats. Catalog windows also provide a direct link to other applications, so you can simply "drag and drop" or select a script to place one or more images into page-layout or other applications.

PhotoFlash includes optimized tools to enhance images immediately, with advanced options available for finer control. You can adjust the color or brightness and contrast of photos; remove scratches and dust from pictures; straighten scans; and quickly sharpen, blur, resize, rotate, and crop images.

Because it supports AppleScript, PhotoFlash allows you to record scripts to automate tasks, as well as to link PhotoFlash to other software applications for streamlined work-flow. Using single-button scripts that are included with the product, you can automatically place photos into documents created with applications such as Aldus PageMaker, QuarkXPress, Aldus Persuasion, Microsoft Word, and Claris FileMaker Pro. In addition, the integrated script recorder makes automating repetitive tasks a snap, even for people with no scripting experience.

If you use your computer to work with photographic images whether you're a professional publisher or just beginning to work with pictures PhotoFlash can make your life a easier.

Features

Ease of use

- Lets you add color or black-and-white photos to documents quickly and easily
- Enables you to organize and browse through thumbnails of photos stored on your computer
- Includes integrated scripts that automatically place photos in documents with just a click of the mouse
- Offers unique photo-enhancement tools for removing scratches and dust, adjusting the exposure, and more

Efficient design

- Uses memory efficiently, so you can run PhotoFlash simultaneously with your page-layout, presentation, and word processing applications
- Comes with integrated image-compression capabilities, so your files take up less space on your hard disk, and your data-trans-mission costs are lower when you send files
- Provides highest performance possible in a single application that is
- PowerPC native and optimized for 68kCompatibility
- Works with images created using a digital camera or a scanner
- Is optimized for use with the Apple QuickTake 100 camera
- Is well-suited for use with images from Kodak Photo CDs and clip-art volumes
- Supports a number of industry-standard formats, including PICT, TIFF,
- JPEG, Kodak Photo CD, EPS, DCS, and Adobe Photoshop
- Supports Adobe Photoshop plug-in modules for acquisition from supporting scanners, opening and saving additional file formats, and special effects

Allows automatic placement of photos into the following applications:

QuarkXPress 3.2
Aldus PageMaker 5.0
Aldus Persuasion 3.0
Microsoft Word 6.0
Claris FileMaker Pro 2.1
Applications that support Macintosh Drag and Drop

Scriptability

Features full scriptability, allowing you to automate repetitive tasks and to link PhotoFlash with other applications

Technical Specifications

PhotoFlash catalog
View images by thumbnails in catalog window
Display filenames
Enter caption text
Create and open as many catalogs as needed
Create catalogs for individual projects or for any folder, volume CD, or remote server
Save disk space through JPEG compression of thumbnails for smaller catalog files
Search on caption text and filenames
Find photos similar to the current selection, using Search For Similar Images
Find photos similar to a sketch, using Search By Sketch
Put search results into a new catalog
Drag to rearrange thumbnails within a catalog
Drag and drop thumbnails between catalogs and other applications
Batch-process photos by selecting multiple thumbnails in a catalog
Work with PICT, TIFF, EPS, DCS, JPEG, Photoshop, and Photo CD file formats

PhotoFlash photo-enhancement tools

Automatic DeDust and DeScratch tools quickly remove dust and scratches from images
Sharpen and Blur tools increase or decrease the focus of the photo
Crop tool quickly removes the area of the photo that will not be used
Rotate/Straighten tools correct crooked scans and adjust the angle of photos
Resize function allows adjustment from 1% to 4,000%
Flip function flips photo horizontally or vertically
Zoom function allows scaling from 1.6% to 6,400% for detail work and easier viewing of large images
Balance Exposure feature corrects poorly exposed originals
Brightness/Contrast feature corrects the overall tone of a photo for best results on display or paper

Adjust Colors corrects the color balance of photos

Number of Colors feature adjusts photos from 2 to 256 grays or up to 16 million colors
A variety of selection tools allow precise selection within the photo for enhancement or correction
Full preview capability lets you view the enhancement before applying it
Integrated JPEG compression saves valuable disk space when saving your images
Photoshop plug-in support for scanner control, file formats, and filters

Direct links to page-layout and other programs

Place in QuarkXPress script automatically places the current photo(s) onto a QuarkXPress page; PhotoFlash sizes the photo to fit inside the selected frame on the page
QuarkXPress Xtension enables PhotoFlash to be launched and any selected photo(s) to be opened for editing
Place in PageMaker script automatically places the current photo(s) onto a PageMaker page at 100% of current size
PageMaker Addition enables PhotoFlash to be launched and any selected photo(s) to be opened for editing

Place in Persuasion script automatically places the current photo(s) onto the current presentation slide at 100% of size
Place in Word 6 script automatically places the current photo(s) onto a
Word document; PhotoFlash sizes the photo to fit inside the selected frame in the document
Place in FileMaker Pro script automatically places the current photo(s) into the current database record; PhotoFlash sizes the photo to fit inside the first image field in the record
Additional links can be created to other scriptable applications by writing a simple script
You can also drag and drop photos from PhotoFlash into documents created in applications that support Macintosh Drag and Drop

Automation and scripting support

Supports AppleScript, Frontier, and QuicKeys scripting systems
Features an integrated script recorder that can record any action and save it as a single-button script (recorded scripts can be added to a hierarchical menu or a floating scripts palette for easy access)
Includes the Automatic Folder a configurable folder you can use for automatic unattended batch processing of images by simply dropping the images into the folder
Includes the QuickTime and AppleScript system extensions, along with the AppleScript editor for script customization
Provides exclusive control of the Apple QuickTake 100 digital camera with automation of common tasks such as taking a picture and downloading

all photos from the camera to a hard disk drive

System requirements

Any Apple Macintosh, Macintosh Performa, Power Macintosh, or PowerBook computer with a 68020 microprocessor or later
At least 8MB of RAM (3.5MB of available RAM)
Macintosh system software version 7.0 or later

Ordering Information

PhotoFlash 2.0
Order No. M2739LL/C (in the United States)
Order No. M2739Z/C (outside the United States)
PhotoFlash software on 1.4MB floppy disks

Automated scripts for use with QuarkXPress, Aldus PageMaker, Aldus Persuasion, Microsoft Word, and Claris FileMaker Pro, as well as scripts for automating PhotoFlash functions
Automated scripts for controlling the Apple QuickTake 100 digital camera
Photo CD sampler of royalty-free stock photos
AppleScript and QuickTime system extensions
User's guide and tutorial

Optional accessories
PhotoFlash can be accelerated by PhotoFlash-compatible accelerator cards, including the ThunderStorm and Thunder ll series from SuperMac Technology and Charger series from DayStar Digital.

The information provided in this article was current as of October 13, 1994. The software described here may no longer be available for purchase.
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Power Macintosh Upgrade Card: Installing after System 7.5 (2/95)

This article describes how to update system software AFTER the upgrade card has been installed in a Macintosh already using System 7.5.

This article has been archived and is no longer updated by Apple.
If you are installing the Power Macintosh Upgrade Card into a Macintosh that already has System 7.5 installed, you need to update the system software to have resources required to run in '601' mode.

Follow these steps:

Step 1:
Perform a custom install of System 7.5 by running the installer, choosing Custom Install from the pop-up menu, and installing only the Power Macintosh Card control panel.

Step 2:
Quit the installer and use the installed control panel to turn ON the Power Macintosh Upgrade Card.

Step 3:
Shut Down the computer. This is always necessary when turning the card on or off.

Step 4:
Startup with the Disk Tools disk if using the CD version of System 7.5; otherwise, startup with the Install 1 disk of System 7.5.

Step 5:
Run the Install program off the CD or the Install 1 disk and perform an Easy Install over the existing system on the hard drive used as the startup disk.

Step 6:
If necessary, also reinstall QuickDraw GX and PowerTalk. It is required that the upgrade card be turned ON when installing GX so the native version is installed.

At this point, your system should be operational in either 601 or 68040 processor mode. The System 7.5 Easy Install only installs resources necessary to run on the Macintosh it is installed on UNLESS a custom install was performed with the choice "System Software for any Macintosh". Following the above steps adds the necessary resources because the installer sees that an upgrade card is installed.

Article Change History:
27 Feb 1995 - Revised title slightly.
14 Feb 1995 - Updated keyword; reviewed for technical accuracy.
16 Dec 1994 - Clarified instruction step number 4.

Support Information Services
Published Date: Feb 19, 2012

Internet and Online Services Jargon List (6/97)

This article is a list of common terms and phrases used when discussing online services.
This article has been archived and is no longer updated by Apple.

```
General
=======

Apple Software Updates
----------------------
Area on various online services and the Internet that contains the entire library of free Apple software
updates.

* America Online - keyword: applecomputer

* CompuServe - GO APLSUP

* Internet -
  - Worldwide Web: http://www.info.apple.com/swupdates
  - ftp: ftp://ftp.info.apple.com

Chats
-----
"Live" online discussions. Chats can be one on one or involve many people.

Discussions
-----------------
Areas where online customers can post messages for public viewing. Responses to the posted information can
usually be posted publicly, or sent privately to the person that originally posted the message.

GIF Files
---------
One of the standard formats for images transported through online services and the Internet. GIF stands for
Graphics Interchange Format and was developed by CompuServe.

Sysop (System Operator)
-----------------------
The person responsible for an online offering.

Technical Information Library (TIL)
-----------------------------------
Apple Computer's official technical database, on the Worldwide Web at:
<http://til.info.apple.com/>


CompuServe
==========

Conference Room
---------------
A private area where people meet to exchange information one on one or with many people.

Forum
-----
The initial starting point for an area on CompuServe. Similar to a home page on the World Wide Web. (See:
Internet, World Wide Web). The CompuServe Apple forum is comprised of 17 libraries, Message/Discussion board,
and conference rooms.

GO Words
--------
Let customers go directly to a desired location on the service without having to navigate through multiple
directories or levels.

Library
```

An information base within a forum on CompuServe. A Library can contain binary files, GIF images (see GIF), or text-based information.

Searchable Database

Database of text documents. Customers can perform Boolean (AND/OR/NOT) searches on these areas. The Apple Technical Information Library is a searchable database.

Internet
===

Cross-Post

See Post.

Electronic Mail (e-mail)

A system whereby a computer user can exchange messages with other computer users (or groups of users) via a communications network. An example of a common Internet e-mail address is: alley@apple.com.

File Transfer Protocol (FTP)

A protocol that lets a user on one host access, and transfer files to and from, another host over a network. Also, FTP is usually the name of the program the user invokes to execute the protocol. It is defined in STD 9, RFC 959. Guest access on an ftp site is referred to as anonymous access.

Flame

A strong opinion and/or criticism of something, usually as a frank inflammatory statement, in an e-mail message. It is common to precede a flame with an indication of pending fire (such as FLAME ON!). A flame frequently contains profanity or derogatory statements. Flames are a sociological phenomenon of Usenet (see Usenet), where individuals may feel more bold at responding in an overly emotional manner than they would if they were speaking face to face. Flame Wars occur when people start flaming other people for flaming when they should not have.

Flame War

See Flame.

Frequently Asked Questions (FAQ)

Most newsgroups (see Newsgroup) in Usenet (see Usenet) maintain a FAQ that is available to individuals who access the newsgroup for the first time. The FAQ typically includes the most common questions and answers, along with facts and trivia about the newsgroup, and netiquette (see Netiquette) guidelines for the group (such as what should and should not be posted - see Post).

Gopher

A distributed information service that makes available hierarchical collections of information across the Internet.

Gopher uses a simple protocol that allows a single Gopher client to access information from any accessible Gopher server, providing the user with a single "Gopher space" of information.

Public domain versions of the client and server are available. This protocol was the forerunner of the World Wide Web.

Home Page

The starting point for a person or entity publishing through the World Wide Web. A home page has a similar meaning to a forum (see Forum) on CompuServe.

Internet

The Internet is a worldwide network of computer networks. It is comprised of thousands of separately administered networks of many sizes and types. Each of these networks is comprised of as many as tens of thousands of computers; the total number of individual users of the Internet is in the millions. This high level of connectivity fosters an unparalleled degree of communication, collaboration, resource sharing, and information access. One of the most commonly recognized areas of the Internet is Usenet (see Usenet).

HTTP

The server side of the World Wide Web. The Macintosh server is MacHTTP. The UNIX server is HTTPd.

Killfile

A file an individual establishes on their local computer to watch for posts (see Post) that the individual does not want to receive. A killfile may watch for posts from a specific individual (in other words, a specific address) or for the occurrence of certain words in a topic line (such as to eliminate all posts in a thread (see Thread) in which the individual is not interested.

List Server (listserv mailing list)

A list of e-mail addresses (see Electronic Mail), used by a mail reflector, to forward messages to groups of people. Generally, a mailing list is used to discuss a certain set of topics, and different mailing lists discuss different topics. A mailing list may be moderated. This means that messages sent to the list are actually sent to a moderator who determines whether or not to send the messages on to everyone else. Requests to subscribe to, or leave (unsubscribe from), a mailing list should always be sent to the list's -request address.

For example, this address is for the IETF mailing list:
ietf-request@cnri.reston.va.us).

Netiquette

The written or unwritten guidelines of behavior in a newsgroup (see Newsgroup) or on the Internet as a whole. Netiquette rules for a newsgroup may include what is considered an acceptable and unacceptable topic for a post (see Post), whether or not flames (see Flame) are allowed, and whether or not profanity is used in the newsgroup. Some newsgroups have strict netiquette guidelines while others have none.

Newsgroup

A delineated area in Usenet (see Usenet) in which people discuss a particular topic or topic area. Newsgroups are identified by a descriptive path name, such as: comp.sys.mac.graphics (computers/systems/macintosh/graphics), and rec.scuba (recreation/scuba). Unlike e-mail (see Electronic Mail), a post (see Post) in a newsgroup is available for anyone in the newsgroup to read.

Path

The string that identifies how a specific system is connected to an Internet server. For example, the path for an Apple employee in Austin, Texas might be john_smith@austin.apple.com. The server path is the part of the string after the "at" sign (@); each server in the path is separated by a period (.) and the last part of the path generally identifies the type of the address (such as 'com' for 'company' and 'edu' for an educational facility, and 'gov' for government). Path is also used to identify the different newsgroups in Usenet (see Newsgroup and Usenet).

Post

A single response in a newsgroup (see Newsgroup). A post is generally an introduction of a new question or comment about the newsgroup's topic, or it is a response to a previous post (see Thread). A post generally includes a topic line that identifies what the post is about (for example, "How do I download a graphic?" or "New graphic program that works great" might be topic lines for posts in the comp.sys.mac. graphics newsgroup). A post should not violate a newsgroup's netiquette (see Netiquette). When a post is addressed to several newsgroups, it is said to be Cross-Posted.

Serial Line IP (SLIP)

A protocol used to run IP (Internet Protocol) over serial lines, such as telephone circuits or RS-232 cables,

interconnecting two systems. SLIP is defined in RFC 1055.

Spam

A term commonly used when referring to a post (see Post) that is inappropriately cross-posted to many (or even all) newsgroups (see Newsgroup). A spam is often an advertisement for goods or services or even a political or religious message.

Subscribe

See List Server.

TCP/IP Protocol Suite (the language of the Internet)

Transmission Control Protocol over Internet Protocol. This is a common shorthand that refers to the suite of transport and application protocols which runs over IP.

Thread

A series of newsgroup posts (see Newsgroup and Post) that pertain to the same comment or question (or to other comments and questions about an original post). Each subsequent post is part of that post's thread. A thread frequently maintains the same title, or a variation of the title, as the original post (for example, "RE: How do I download a graphic?" or "In response to downloading a graphic" might be responses to an original post about downloading graphics).

Unsubscribe

See List Server.

Usenet

An area of the Internet that includes many different newsgroups (see Newsgroup). Usenet is what many people think of when they think of the Internet.

Wide Area Information Servers (WAIS)

A distributed information service that offers simple natural language input, indexed searching for fast retrieval, and a "relevance feedback" mechanism that lets the results of initial searches influence future searches. Public domain implementations are available.

World Wide Web (WWW or W3)

A hypertext-based, distributed information system created by researchers at CERN in Switzerland. Users may create, edit, or browse hypertext documents. The clients and servers are freely available.

Internet Related Tools
==

Anarchie

Anarchie is a shareware agent that is able to find software titles you request by probing the Internet, then downloading them for you.

Eudora

Eudora is a popular shareware program for viewing, editing, and sending e-mail across the Internet.

Fetch

Fetch is the client software for accessing ftp sites on the Internet. Ftp sites are used for viewing software archives and downloading files.

MacTCP

MacTCP is a control panel that allows your Macintosh to speak TCP/IP and operate on the Internet.

MacWeb

MacWeb is a World Wide Web client used for browsing www pages on the Internet. This client is similar to NCSA Mosaic.

Mosaic (NCSA Mosaic)

A World Wide Web client for the Macintosh. This client is similar to MacWeb. The latest version is 1.0.3.

Turbo Gopher

Turbo Gopher is the gopher client for Macintosh. Turbo Gopher is the product of the University on Minnesota (the Golden Gophers).

Universal Resource Locator (URL)

A standard addressing scheme for locating services on the Internet. The URL for Apple's World Wide Web site is: http://www.info.apple.com

Some definitions are from the "Internet Users' Glossary", by Gary Scott Malkin and Tracy LaQuey Parker.

Published Date: Feb 19, 2012

PowerBook 540c: No Contrast Adjustment at 640X400 (10/94)

When set the screen of my PowerBook 540c is set to 640x400 at thousands of colors (16 bit), the contrast button is disabled. Is this normal?

This article has been archived and is no longer updated by Apple.
The contrast button is disabled when the 540c is set to 16 bit color. This is normal behavior. The reason that contrast is disabled is because all of the available video memory is used to support thousands of colors and there is no additional memory available to support contrast.

Contrast on the LCD of the 540c uses an off screen color table. Users cycle through the off screen table when they adjust contrast. Since there is no memory to create the off screen table the contrast can not be adjusted.

Support Information Services
Published Date: Feb 19, 2012

Macintosh XL: Connecting it to an ImageWriter II

This article has been archived and is no longer updated by Apple.
There are two ways to connect a Macintosh XL to an ImageWriter II.

1. Use cable service part number 590-0331.

2. Use cable service part number 590-0335 (finished goods order number A9C0313) and a modem eliminator cable service part number 590-0166.

Published Date: Feb 19, 2012

LaserWriter 16/600 PS: Using the Fax With Pathworks

Does the FAX option work for PC users using LANMAN queues (PathWorks and NTAS)?
This article has been archived and is no longer updated by Apple.
The fax option for the LaserWriter 16/600 PS is the same implementation as our previous PostScript fax printers (LaserWriter Select 360f and the LaserWriter Pro 810f). We have verified the functionality of PostScript fax for the NT Advanced Server.

PostScript Fax also works for PathWorks, however, only with the standard LaserWriter 8.x drivers and selecting "fax" as the destination. Using the LaserWriter 8.xf fax drivers seem to cause issues with the PathWorks print queue. When printing from the client Macintosh, you must manually select the corresponding fax PPD in order to utilize the printer's fax capability.
Published Date: Feb 19, 2012

LaserWriter 16/600 PS: Alternatives to Serial Support (10/94)

Although the LaserWriter 16/600 PS has a localtalk port, it lacks support for serial communications. Our printing environment requires the ability to print using DEC LAT. LAT support is included on the LW Pro 810, and was achieved with other LaserWriters by connecting a DEC Terminal Server to the serial port of the LaserWriter.

Although serial support is not currently included, is it possible for Apple to add such support through a patch or ROM upgrade?

This article has been archived and is no longer updated by Apple.
Serial and LAT support were considered for the LaserWriter 16/600 PS, but were not included for performance reason, as well as accounting for a relatively small share of the market. There are some viable alternatives that allow the DEC computers to communicate with the LaserWriter 16/600 PS:

* The cleanest and best solution would be to obtain a TCP/IP stack for the DEC computers and connect them using Ethernet to the LaserWriter 16/600 PS. Apparently, there are many stacks available, some of which are quite reliable and fast.

* Connect to the LaserWriter 16/600 PS using PathWorks.

* Obtain a serial to parallel converter.

* Obtain a LAT box from DEC which connects to ethernet, and provides a parallel output port.

Support Information Services
Published Date: Feb 19, 2012

Macintosh Easy Open: Problem w/ TIFF Files In PageMaker

I am having a problem with PageMaker 5.0a on my Power Macintosh 7100. When I try to place a TIFF file into PageMaker, I get an error stating it can't find the appropriate translators. If I turn off all my extensions, it works. What causes this?
This article has been archived and is no longer updated by Apple.
This problem is caused by the combination of PageMake and Macintosh Easy Open 1.1, which ships with System 7.5.

When placing, importing, or opening a file with PageMaker, Macintosh Easy Open looks in an application's resource bundle to determine what file types it supports. For applications like PageMaker that store filters such as TIFF and PICT import filters in a different location, Macintosh Easy Open assumes that the application does not support the file type and notifies the user accordingly.

While running Macintosh Easy Open they get the following message:

"The document named '[file name]' was not created with the application program "PageMaker". To open the document, select an alternate program with or without translation."

Workaround
Before placing, importing, or opening a file within PageMaker, users can temporarily disable Macintosh Easy Open by turning the "Automatic document translation" feature off. This is done using the Macintosh Easy Open Control Panel and allows PageMaker to access its filters normally, including the TIFF filter.

Adobe/Aldus has added a document to their fax system for customers. The document may be faxed by calling the FAX system at (206) 628-5737 and requesting document# 215604.
Published Date: Feb 19, 2012

PrintMonitor: Blinking Icon Troubleshooting

My PrintMonitor icon keeps blinking, what's wrong?
This article has been archived and is no longer updated by Apple.
PrintMonitor (the Notification Manager) will flash an Icon when an error occurs or as a signal when to feed paper manually, if you have configured PrintMonitor via its Preferences to do so.

When PrintMonitor signals you, typically you'd open PrintMonitor and perform the directions given in the dialog or note any error state it alerts you to. By addressing the situation this should stop the flashing icon until you print again.

Check your PrintMonitor Preferences to see what you have set by launching PrintMonitor, then selecting Preferences in the File menu. The likely reason why the PrintMonitor icon flashes is due to your settings.
Published Date: Feb 19, 2012

Mode32:Installing on Multiple System 7.5 Machines (10/94)

We have thousands of Macintosh IIcx machines that we have upgraded to System 7.5, and want to install Mode32 on them as well, but we have run into a problem:

The current installer from Connectix prompts the user to register MODE32 as shareware (fill out your name, etc. and submit to Connectix via modem), and it does NOT remove Apple 32-bit System Enabler.

Will Apple or Connectix make an installer that will do the following:

* Install MODE32 v. 7.5 (extension)
* Remove MODE32 v 1.2 and earlier if present (control panel)
* Remove 32-Bit System Enabler if present

This article has been archived and is no longer updated by Apple.
Connectix has no plans to change their installer and Apple will not be providing any kind of installer for Mode32, but there is a workaround.

You could use AppleScript to accomplish what you need by following these steps:

1. Install Mode32 on one system.
2. Copy the Mode32 extension from that system to a floppy or server.
There are no other dependencies (i.e. no System file resources
installed).
3. Use an AppleScript, like the one below to install Mode32.

```
tell application "Finder"

-- Delete Apple's "32-Bit System Enabler", if found.

if exists file "32-Bit System Enabler" in extensions folder then
delete file "32-Bit System Enabler" in extensions folder
end if

-- Delete earlier versions of Mode32, if found.

if exists file "MODE32" in control panels folder then
delete file "MODE32" in control panels folder
end if

-- Delete current version of Mode32, if found.

if exists file "MODE32" in extensions folder then
delete file "MODE32" in extensions folder
end if

-- Install Mode32 extension from floppy (could just as easily be a
server)
-- No registration dialog to deal with.

if exists file "MODE32" in disk "MODE32 Installation Disk" then
copy file "MODE32" in disk "MODE32 Installation Disk" to extensions
folder
end if

empty trash

restart

end tell
```

Connectix Tech Support will fully support installing Mode32 in this way.

A more thorough script could check file validity by looking for possible variations on the filename (if "Mode32" had been renamed "Mode32 v1.2" for example), file version, file type, etc.

Support Information Services
Published Date: Feb 19, 2012

Apple Media Tool: PICT Files in Sequence Problem

I have a series of PICT files that I want to appear in sequence, one after another. The duration of each PICT is set to the same length, but when the project is run, it only displays the first and last PICTs, disregarding the timing set in the "Duration" option. It appears that the duration clock for all objects is started when the clock is started for the first PICT.

This article has been archived and is no longer updated by Apple.

Screens may not run properly unless you close the screen window before running. Always run tests from the Map window with all Screen windows closed.

Published Date: Feb 19, 2012

At Ease: Windows NT and AppleTalk Protocol Stack

When using At Ease 2.0.3 for Workgroups with a Windows NT server, and I try to gather applications or documents off the NT server, my Macintosh stops responding. However, I can gather applications and documents from a Macintosh server with no issues.
This article has been archived and is no longer updated by Apple.
Here are two specific suggestions:

- Run the latest version of Windows NT. If you are running version 3.1, at the minimum download the US Service Package from the Microsoft Download Service. This package consists of eight disks and is similar to what Apple calls a System Update. It is important to get this because there are fixes to the AppleTalk protocol stack.
- The preferred solution would be to upgrade to version 3.5 of Windows NT server. This version is vastly superior to 3.1, with speed gains in almost every service. In addition, the AppleTalk protocol stack is implemented correctly, making it more robust.

Note: It's probable that you have version 3.1 without any patches. Again, it is preferable to upgrade to version 3.5 of Windows NT.

The article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.
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Retrospect Remote Control Panel Security Issue

This article describes a security issue where the Retrospect Remote Control Panel has been installed in your system, and Remote has not been configured by the backup server administrator.
This article has been archived and is no longer updated by Apple.
When you install the Retrospect Remote Control Panel and restart, Remote is activated and waits for the server to download a security code and serial number. If the server does not do this, anyone with a copy of Retrospect and a set of serial numbers can initialize your system, backup your hard drive to theirs, and then de-initialize your system without you noticing.

Once a Remote Control Panel has been initialized with a serial number, this is not an issue. This security issue only exists if you install the Remote Control Panel in your system and don't initialize it. Either disable the Control Panel or get it initialized by your backup administrator.

Follow these steps to see if your system is set up correctly:

1) Open the Control Panels from the Apple menu. If the Remote control panel is not present (it is the last file listed when viewed by name), it was not installed and this issue does not affect you.

2) If the Remote control panel is present, open it by double clicking. If you see "A/C xxx-xxx-xxxx" (where the "x characters" represent the serial number) in the bottom third of the Retrospect Remote window, then no one can re-initialize your Remote control panel, unless your security password is guessed. Your password is set by the backup server administrator when the serial number is downloaded. Check with the administrator to find out whether your password is good or bad.

3) If the Remote control panel is present, and it shows something other than what is described in Step 2, then drag the Remote control panel out of your Control Panels folder onto the desktop and restart your Macintosh. This removes the security hole. Also contact your backup server administrator.

Also, while you have it open, check to see when the last time your backup was preformed. If it has been a while, check with your administrator to find out why.

If you have a copy of Remote in your Control Panels folder, and you are not being backed up by Retrospect, you should remove it. There is no reason to have it installed unless it is being used to backup your system. If you are using it, and it is configured properly there is no security issue. Users who just install Remote into the Control Panels folder, or had it installed for them and forget it, are at risk.
Published Date: Feb 19, 2012

System 7.5: Install Problems on IIsi (2/95)

I am trying to install System 7.5 on my Macintosh IIsi and the install 3 disk is skipped during the installation. After installation, I am missing all of my Control Panels and Apple Menus. Find is the older, System 7.1 Find, not the new 7.5 version. What is going on here and how do I install System 7.5 on my Macintosh?

This article has been archived and is no longer updated by Apple.
There is a known problem in the System 7.5 installer script that skips some of the software resources. Most of these resources are included on the System 7.5 "Install 3" disk. This disk includes the Control Panels, Apple Menu items, and some printer drivers. The problem appears to happen only on Macintosh IIsi computers running previous versions of System 7 (System 7.0, 7.0.1, 7.1, or 7 Pro) that were originally installed using the custom install for Macintosh IIsi. The problem does not happen if the original System 7 System Folder was installed using the universal install for any Macintosh.

To avoid this problem on the Macintosh IIsi do one of the following:

Clean Install System 7.5

Clean Install System 7.5 by pressing the Command-Shift-K keys in System 7.5's installer. This gives you the option to install a new System Folder rather than update the existing System Folder.

Custom Install Control Panels

Custom install Control Panels, Apple Menus, and any printer device drivers after the installation is complete.

Article Change History:
14 Feb 1995 - Updated keyword; reviewed for technical accuracy.
20 Dec 1994 - Clarified information on what is missing.
18 Nov 1994 - Added specifics about Find.

Support Information Services
Published Date: Feb 19, 2012

System 7.5: International Systems Described (3/95)

This article describes the differences between U.S. Domestic System Software 7.5 and international versions. There appears to be some confusion about the following System 7.5 versions:

*╨The generic (Z) international version
*╨The British (UK) version
*╨The Chinese version
*╨The Japanese version
*╨The French version
* The German version
*╨The Italian version
*╨The Spanish version
*╨The Israeli and Arabic versions

This article has been archived and is no longer updated by Apple.

Z International Version of System Software 7.5
==========

The Z version is very close to the B (British) version except that:

* Date, Time, Keyboard, and Number formats are set to Australian
*╨The trash is really named Trash (instead of Wastebasket)

Differences Between B (British) and US Versions of System Software 7.5
==========

The British version of System 7.5 contains the following:

* British spellings: colour (color), wastebasket (trash), grey (gray), customise (customize), initialise (initialize), dialogue (dialog) ... plus a certain number of alternately-phrased sentences.

*╨For all printers, the default paper format is set to A4 (instead of Letter US)

*╨The default keyboard is set to British

* Date, Time, and Number formats are set to British

Localized Versions
==========

The following versions are localized: all the strings, alerts, dialogs, menus, and so on use the local language. Some of these versions (Japanese, Chinese, Hebrew, and Arabic) contain some specific fonts and input methods:

* The Chinese version of System 7.5
*╨The Japanese version of System 7.5
*╨The French version of System 7.5
*╨The German version of System 7.5
*╨The Italian version of System 7.5
*╨The Spanish version of System 7.5
* The Israeli and Arabic versions of System 7.5

Differences between the U.S. System + Japanese Language Kit and the Japanese System:

U.S. System + Japanese Language Kit

This is a U.S. system that has the ability to display, print, and edit both Roman and Japanese text (as long as you use an application that supports WorldScript).

Japanese System

This is a fully translated version of the system software. All dialogs, menus, and so on are in Japanese. Like the first U.S. System + Japanese Language Kit, you can print, display, and edit both Roman and Japanese text.

The Japanese System Software is designed for the Japanese market where most people speak only Japanese. The Japanese Language Kit is designed for the U.S. market, for people who use English as their primary language, but want to be able to write or receive documents in Japanese, English, or both languages combined. A language kit can be installed onto any localized system software, such as Spanish, French, Italian, or even Arabic.

Article Change History:
03 Mar 1995 - Reviewed and updated; added keyword.
14 Feb 1995 - Updated keyword; reviewed for accuracy; reformatted for clarity.

Support Information Services
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RAM Disk: Requires 6 MB RAM Minimum

What is the minimum amount of memory a Macintosh needs in order to enable a RAM disk?
This article has been archived and is no longer updated by Apple.
With the 7.1.3 Memory control panel, included as part of Mac OS 7.5, the RAM disk cannot be turned on with less than 4 MB of RAM. When you open the control panel, the RAM disk option appears briefly and then disappears.

At least 6 MB of RAM is required to use a RAM disk.

Published Date: Feb 19, 2012

MODE32 v.7.5: Incompatible With Launcher (5/95)

The Launcher does not work with Connectix's Mode32 v7.5 on the following CPUs:

* Macintosh II
* Macintosh IIx
* Macintosh IIcx
* Macintosh SE/30

When the Launcher is opened, the window is empty. Turning off Mode32 lets the Launcher show all of its items.

This article has been archived and is no longer updated by Apple.
This problem has be resolved by the System 7.5 Update 1.0.

These articles can help you locate the software update mentioned here:

* Where To Find Apple Software Updates
Lists online services for "free" Apple software updates.

* Obtaining Apple Product Support in the USA
Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech. Info. Library.

Article Change History:
25 May 1995 - Added information about System 7.5 Update 1.0.
14 Feb 1995 - Updated keyword; reviewed for technical accuracy.
02 Feb 1995 - Removed invalid workaround information.

Support Information Services
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Apple Presentation System: Screen Squeeze Known Issues

This article discusses known issues Screen Squeeze has when used with various Macintosh computers. Screen Squeeze is a control panel that comes with the Apple Presentation System (M2895LL/A).
This article has been archived and is no longer updated by Apple.

Bus Error on LCII

The Apple Presentation System (M2895LL/A) when used on a Macintosh LCII computer, is incompatible with v2.1 of the Screen Squeeze control panel. When the Screen Squeeze control panel loads a bus error occurs.

The problem is with v2.1 of the Screen Squeeze control panel, which comes with the Apple Presentation System. Focus Enhancements Technical Support is aware of the problem suggests replacing the Screen Squeeze Control Panel v2.1 with v2.0, or replacing v2.1 with v2.2.

The following information is from Focus Enhancements:

2.1 of Screen Squeeze requires the presence of the Display Manager. It is automatically installed on any Macintosh running System 7.5, or if the Display Enabler extension is installed. If someone experiences a startup crash with v2.1, they either need to replace it with v2.0 (they function the same), install the Display Enabler, or replace v2.0 with v2.2 of Screen Squeeze.

Blurry Image on Power Macintosh LC5200

The image on Macintosh 5200, 6200, and 5300 series computers may appear blurry or out of focus on the computer display, and thus on the television.

Focus Enhancements has released Screen Squeeze 3.0d11, which provides compatibility with Performa and Power Macintosh 5xxx/6xxx systems. It is NOT available from Apple, but can be obtained by contacting Focus Enhancements.

Screen Squeeze Version History

- 2.0: rewritten as cdev (control panel).
- 2.1: resolved conflict with Display Manager and System 7.5.
- 2.2: resolved issue requiring the presence of Display Manager.
- 3.0dll: resolved issue with 5xxx/6xxx systems.

The Apple Presentation System is the same as the Focus L-TV Portable Pro product. Technical Support for the Apple Presentation System is handled by Focus Enhancements.
Published Date: Feb 19, 2012

DOS Compatibility Card: W/ the Multiple Scan 15 Display (3/95)

Could you tell me what sense codes and pin grounding I need to do to make
a DOS Compatibility Card force the Multiple Scan 15 Display into a 16-in. mode on the Mac OS side and 800x600 on the DOS/Windows side? I was previously told
that grounding pins 4 and 10 would work, so I built an adapter. I did get 800x600 to sync on the Windows side, but the MacOS side is unable to sync with that sense code.

This article has been archived and is no longer updated by Apple.
On the DOS side, you can select super VGA (800x600) by simply entering the Windows environment (provided you have the driver installed). On the Macintosh side you must boot-up with a cable or adapter that provides the 16" resolution (832x624). The sense code for this resolution is:

pins 4 and 10 tied together--but not grounded!
pin 7 has no connection.

An adapter for this configuration (832x624) can be purchased from Enhanced Cable Technology.

To locate a vendor's address and phone numbers, use the vendor name as the search string.

Article Change History:
30 Mar 1995 - Corrected name of Mac OS.
22 Nov 1994 - Reviewed for technical accuracy and reclassified.

Support Information Services
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QuickDraw GX: Printer Sharing Between GX & Non-GX Users (7/95)

I am using the Color StyleWriter 2400 with the QuickDraw GX driver and the standard driver. Neither driver seems to let someone using the opposite driver access the printer when it is shared. Why is this option NOT available?

When using ColorShare to share the printer. QuickDraw GX users do not have access to the printer. It seems that the printer should be visible to QuickDraw GX users if they select the AppleTalk option from the Chooser.

Can you share between QuickDraw GX and non-QuickDraw GX computers? If you can what are the system requirements of the non-QuickDraw GX computer? How is sharing setup if possible? We have tried to share the printer from QuickDraw GX to non-QuickDraw GX and were unsuccessful. I was also told that if you click on the printer icon, you can choose "Share Printer" from the Printing menu. However, this option is not there.

This article has been archived and is no longer updated by Apple.
Sharing printers between QuickDraw GX and non-QuickDraw GX systems is not really possible. The "not really" is primarily because of the third point below (describing a shared PostScript network printer).

* Share this Printer Option Not in Printing Menu

The option of Share this printer is NOT located in the Printing menu. When you select a desktop printer, the sharing option is located in the File menu. You share a desktop printer just as you would any other volume or folder: by selecting the printer icon, then choosing Sharing from the File menu, and checking the Share this item box.

* Shared QuickDraw Serial Printer Options

When a QuickDraw serial printer is shared, the option Non-QuickDraw GX systems may also use this printer is grayed out. This is because the previous implementation of print sharing with PrinterShare (also known as GrayShare/ColorShare) is not compatible with QuickDraw GX. They utilize different techniques for sharing and also provide different functionality. QuickDraw printer, all clients MUST have QuickDraw GX installed, and Server must be selected in the popup field on the right side of the Chooser's window.

* Shared PostScript Network Printer Options

When a PostScript network printer is shared, the option Non-QuickDraw GX systems may also use this printer is available and works EXACTLY as the Bypass option in the AppleShare PrintServer. This lets all clients (QuickDraw GX and non-QuickDraw GX) see the printer and print to it WITHOUT having to go through the QuickDraw GX system that has captured it. For non-QuickDraw GX clients, they can directly see the printer in the Chooser. For QuickDraw GX clients, they can see the printer if they select AppleTalk in the popup field on the right side of the Chooser's window.

* Summary

In summary, when a printer is "Shared" by the QuickDraw GX computer that has captured it, to print to that printer the client Macintosh computers MUST have QuickDraw GX installed. The only slight exception to this is when a PostScript network printer is captured and the Non-QuickDraw GX systems may also use this printer option is enabled, both QuickDraw GX and non-QuickDraw GX clients can see and use the printer.

NOTE: In this case, there is no way to require non-QuickDraw GX users to have a name and password. This is because the QuickDraw GX "server" is being bypassed. There are no plans to support name/password security for non-QuickDraw GX systems due to the differences in "print sharing" architectures between QuickDraw GX and non-QuickDraw GX systems.

This article was published in the "Information Alley":
Volume I, Issue 17, Page 5 and updated in
Volume II, Issue 7, Page 16

Article Change History:
27 Jul 1995 - Updated from Info Alley.
17 Jul 1995 - Rewritten for clarity.
16 May 1995 - Added Info Alley reference information.

TA32745_QuickDraw_GX_Printer_Sharing_Between_GX_NonGX_Users__(TIL16566).pdf

Published Date: Feb 19, 2012

Bailey‘s Book House: Error Message After Printing

After I successfully print from Bailey's Book House, then I go to another screen, the computer gives me an error message, or sometimes freezes. What causes this?
This article has been archived and is no longer updated by Apple.
Baily's Book House is included in the Early Childhood Connections, bundle sold by Apple.

There are some known printing issues that the Edmark Corporation is aware of in certain version of Baily's Book House. Check the version of Bailey's Book House, if it is older than 1.0.2, call the Edmark Corporation for an upgrade.

To locate a vendor's address and phone numbers, use the vendor name as the search string.
Published Date: Feb 19, 2012

LaserWriter 16/600 PS: Read Me file (5/97)

Article Review/Updated: 22 August 1995

This article contains the Read Me file that comes with the LaserWriter 16/600 PS printer.

This article has been archived and is no longer updated by Apple.

Information About LaserWriter 8 Printer Driver Version 8.2

This document contains some important reminders and some information that is not in the manual that comes with your printer. You may want to print this document and keep it for future reference.

The software on this disk includes version 8.2 of the Apple LaserWriter 8 printer driver, which works with many Apple LaserWriter printers. This document includes information about the software, as well as about several of the printers.

Installing the Printer Driver Software

The manual that comes with your printer contains detailed installation instructions. You cannot install the software and fonts by dragging their icons; you must use the Installer program as described in the printer manual.

Please note: before installing the printer software, you should restart your system with all Extensions turned off. To do this, hold down the Shift key while you restart your computer.

The Installer does not remove versions of the LaserWriter printer driver that are older than version 8.0. You may remove these files from your System Folder if you no longer need them.

The Installer does remove older versions of the LaserWriter 8 driver (for example, LaserWriter 8.0) and replaces the PPD files for Apple LaserWriter printers with the latest versions.

When you choose Easy Install, the Installer places the following files in the System Folder on your hard disk. LaserWriter 8 and LaserWriter GX are placed in the Extensions folder. The PPD files which are used by LaserWriter 8 are in a folder called Printer Descriptions also located in the Extensions folder. TrueType fonts are installed in the Fonts folder if you have System 7.1 or later; they are installed in the System file if you have System 7.0. The Apple Printer Utility and LaserWriter Utility are placed in the System Folder.

Please note: if the Installer is unable to remove old files from your hard disk, it will terminate the installation procedure. If this happens, please remove old copies of the LaserWriter 8 driver and the PPD files. Then move your Fonts folder from the System Folder to the desktop. Run the installer again. Once completed, move the fonts from the Fonts folder on the desktop back to the new Fonts folder in your System Folder.

About PPD Files

The LaserWriter 8 driver uses PostScript Printer Description (PPD) files to determine the characteristics of the printers it uses. PPD files contain information about individual PostScript printers. For example, PPD files describe the paper-handling capabilities of printers: the number of paper trays, their capacity, and the paper sizes they handle.

To take full advantage of your printer's features, click the Setup button in the Chooser when selecting your printer for the first time, or after installing an additional option. This procedure causes the LaserWriter driver to query the printer for its characteristics and associate a particular PPD file with the printer.

About Creating EPS Files

You can create an Encapsulated PostScript (EPS) file in many application programs by clicking File in the Print dialog box, then clicking Save. When you create an EPS file, note the following:

* Creating EPS files with the All option selected in the Font Inclusion pop-up menu in the EPS dialog box can result in very large files. If

you include all fonts in an EPS file and save the file with the Unlimited Downloadable Fonts option selected, an extremely large file may be created.

* If you create an EPS file with no fonts included and open the document, fonts in the document appear on your screen, but Courier may be substituted when you print.

* When you create EPS files with preview information included, other applications that create their own PostScript code may not display the EPS file accurately on the screen.

About the LaserWriter Utility and the Apple Printer Utility

Installing the LaserWriter 8 driver and printer software places the Apple Printer Utility program in your System Folder. The Apple Printer Utility program is designed to work with the LaserWriter 16/600 PS printer and succeeding releases of new printers.

To configure and work with previously released LaserWriter models, use the LaserWriter Utility that came with your printer. The LaserWriter Utility is also provided on your printer software disks. You can install the LaserWriter Utility on your computer's hard disk by using the Custom install option of the Installer.

Using the LaserWriter 8 Driver With LaserWriter Printers

When using the LaserWriter 8 driver, you should be aware of the following situations. Some happen with all LaserWriter printers, and others happen only with specific models.

All LaserWriter Printers

* The LaserWriter 8 driver allows some printers to print using a larger imageable print area on the page. If your printer does so, you may find that text in some documents reflows or is clipped to fit the new imageable area. To maintain your document format when printing to different printer models, deselect the Larger Print Area option in the Page Setup Options dialog box.

* Some older printers with small amounts of memory will not print documents containing large numbers of fonts unless the Unlimited Downloadable Fonts option is selected in the Page Setup Options dialog box. If a document using multiple fonts doesn't print using the LaserWriter 8 driver, try selecting Unlimited Downloadable Fonts in the Page Setup Options dialog box and print again.

* Printing multiple documents with the Finder may not work if the documents have been created by different application programs.

* If you encounter a time-out (PostScript error -8993) when printing multiple copies of large and complex documents in the background, print the documents one at a time or select foreground printing to avoid this problem.

LaserWriter IIg and IIf

* When you select paper sources from the First From and Remaining From pop-up menus in the Print dialog box, selecting Manual Feed for either source sets the driver to print the first page from the manual feed tray.

* The US Legal paper size has been changed on some LaserWriter IIf/IIg printers to be more compatible with other Apple LaserWriter printers. If your legal-sized documents no longer fit on the page, select Larger Print Area in the Page Setup Options dialog box.

* Some form-printing applications cannot print forms using the Layout settings in the Page Setup dialog box.

LaserWriter IINT and IINTX

* If you select both the Smooth Graphics and the Invert Image options in the Page Setup Options dialog box, a PostScript error results.

* Do not use the B5 tray to print envelopes on a LaserWriter IINT. Use the letter tray instead.

LaserWriter Pro 600 and 630

* You cannot use Auto Select as the Paper Source in the Print dialog box to print envelopes from the optional envelope feeder.

* When you print at a resolution of 600 dots per inch (dpi), bitmapped images may appear with lines across the image.

LaserWriter Pro 810

* With some graphics applications, bitmapped graphics will be reduced by 25% in size when printed with the Precision Bitmap Alignment option in the Page Setup Options dialog box.

* When you create a PostScript file with a LaserWriter Pro 810 selected as the printer and send the file to a printer that uses PostScript Level 1, a PostScript error will occur.

LaserWriter 16/600 PS

* If Tray Switching is turned on and you have installed the optional 500-sheet feeder, and it contains the same paper size as the 250-sheet feeder, you should set up the driver to use the 500-sheet feeder as the preferred paper source for optimal printing performance. See Chapter 5 in the manual that came with your printer for instructions on selecting the 500-sheet feeder as the preferred paper source.

Using the LaserWriter 8 Driver With the Kanji System

To print Japanese characters using KanjiTalk or the Japanese Language Kit, your system must have WorldScript II version 7.1.1 or later.

Using the LaserWriter 8 Driver With Application Programs

Some application programs do not yet take advantage of the new features of the LaserWriter 8 driver or have small incompatibilities that result in printing problems. If you experience problems with a program, contact the publisher of the program. In some cases a newer version of the program may be available.

The following list describes some special cases that you should be aware of when working with some application programs. (There may be other problems with these programs, or with other programs, not mentioned in this document.)

* With many applications, you cannot use the Flip Horizontal, Flip Vertical, landscape page orientation, and Layout option in the Page Setup dialog box in combination.

Aldus Freehand 4.0

* Documents do not print correctly when you choose a page layout from the Layout pop-up menu in the Page Setup dialog box.
* EPS files created using the LaserWriter 8 driver from within Freehand cannot be used in other programs.

Aldus PageMaker 5.0

* Rotated graphics may not print correctly when you hold down the Option

key and click Print in the Print dialog box.

* You cannot print legal-size documents from the paper cassette of the Personal LaserWriter 320; print such documents by selecting Manual Feed or by holding down the Option key and clicking Print in the Print dialog box.

Aldus SuperPaint 3.5

* Rotated or filled polygons print as solid gray objects.
* Gradient fills may not print when copied into other programs.

Canvas 3.5

* When you select the Substitute Fonts option in the Page Setup Options dialog box, text may be incorrectly spaced if fonts Geneva, New York or Monaco are used.

CricketDraw III 2.01

* When you choose a page layout from the Layout pop-up menu in the Page Setup dialog box, underlined TrueType fonts may not print.

CricketPresents 2.1

* You cannot import an EPS file created with the LaserWriter 8 driver when it has been saved without preview information.

FileMaker Pro 2.1

* When you choose a page layout from the Layout pop-up menu in the Page Setup dialog box, documents that contain EPS graphics may appear clipped when printed.

Informed Manager 1.4

* When you select the Unlimited Downloadable Fonts option, some graphic elements may shift or disappear when printed.

Lotus 1-2-3 1.1

* Text printed with the Outline or Shadow text style appears filled with gray.

MacDraft 3.01 and earlier versions

* When you print using the Cut Marks option, a PostScript error results.

Microsoft PowerPoint 3.0

* Polygons and ovals filled with gradients and without a border line may shift locations on the page when printed.

Microsoft Works 3.0

* Printing documents that have rotated objects with rounded corners results in a PostScript error.

Painter 2.0

* When you print using the Invert option, images do not print inverted correctly.

PixelPaint Pro 3.0

* When printing using the Invert option, images do not print inverted

correctly.

QuarkXPress 3.3

* Be sure to use the PPDs provided with QuarkXPress when you choose a page layout from the Layout pop-up menu in the Page Setup dialog box.

RagTime 3.2

* You cannot print documents that contain PICT or TIFF files.

ReadySetGo! 6.0

* Use ReadySetGo! version 6.0 with the LaserWriter 8 printer driver; earlier versions will not work.
* You cannot print documents that use pen patterns.

Studio/8 & Studio/32

* When creating an EPS file with these programs and the LaserWriter 8 driver, you must select the QuickDraw Printer option.

WordPerfect 3.0

* When you select the Unlimited Downloadable Fonts option and print rotated text in Watermark, the entire document rotates when printed.

How to Get Updated Printer Software

The latest LaserWriter 8 software is also available from Apple's ftp site on the Internet.

These articles can help you locate software updates mentioned here:

* Where To Find Apple Software Updates
 Lists online services for "free" Apple software updates

* Obtaining Apple Product Support in the USA
 Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech. Info. Library

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ImageWriter LQ: It Is Upwardly Compatible With ImageWriter II

This article has been archived and is no longer updated by Apple.

The ImageWriter LQ is upwardly compatible with the ImageWriter II. All the functions that ImageWriter LQ shares with ImageWriter II are selected by the same commands.

The serial interface for the ImageWriter LQ is the same as for the ImageWriter II with three exceptions:

- The ImageWriter II has a baud rate range of 300, 1200, 2400, 9600. The ImageWriter LQ has a range of 1200, 2400, 9600, 19200.

- The default baud rate for the ImageWriter II is 9600. The default rate for the ImageWriter LQ is 19200.

- The ImageWriter II has a 2K input buffer. The ImageWriter LQ has a 5K input buffer (less the 32K memory option card which can be used in either printer).

Published Date: Feb 19, 2012

Multi-platform and Multi-protocol Network Questions (7/95)

We have an AS/400 with dumb terminals, an AppleTalk network of 32 Macintosh computers on two 12 port Star Controllers, and a Novell network. We want to integrate the three networks into one internet.

Our network environment is described below:

Ethernet connects the AS/400 to a two port router. Port 1 of the router contains four or five 10BaseT hubs connected predominantly to DOS/Windows workstations and a Novell 3.12 Server. There also may be several Macintosh computers on these hubs. The DOS/Windows computers will connect to the Novell Server and create sessions on the AS/400. They may occasionally access an AppleShare Volume, FileMaker Server, or print to a LaserWriter.

PORT 2 of the router connects to a Macintosh functioning as a SNA*ps gateway connected to the AS/400 through a Token Ring NB Card with 4 MB memory, then connects four or five 10BaseT hubs which predominantly support Macintosh computers and LaserWriters connected directly with Ethernet, or with EtherPrint for the older LocalTalk LaserWriters. Some DOS/Windows workstations are connected here, but most activity is AppleShare File Sharing and FileMaker Servers access. The Macintosh computers may occasionally access the AS/400 through the Gateway, or access the Novell Server.

The router's goal is to isolate most single platform traffic. Anything crossing the router will hopefully be minimal and only when necessary.

The Macintosh computers need to be able to connect to the Novell Server, SNA*ps gateway, AppleShare and FileMaker Servers, and LaserWriter Printers through Ethernet. Our main concerns are multi-platform/multi-protocol issues which raise several questions.

Question 1

Management of the hubs will likely be with SNMP, which may also have Mac Agents and DOS agents accessed through TCP/IP. Will this be a problem?

Question 2

A separate vendor is configuring the Novell Server with a Mac NLM and Ethernet Driver for 802.2 Ethernet. Is standard Apple EtherTalk Phase 2 (802.3 from my understanding) going to be happy with this when connecting and communicating with the Novell Server?

Does Macintosh Novell software install a separate Ethernet 802.2 driver on the Macintosh client just for the Novell functions? Will this separate driver coexist without conflicting with AppleTalk Phase 2 being used for other AppleTalk functions and for using the SNA*ps gateway?

This 802.2 versus 802.3 is a major issue. We would like the change over done in a weekend. Many Macintosh computers are IIsi models and therefore will not have a two Ethernet card solution option. We need to get everything working together on one Single Ethernet card in every Macintosh. We want to have straightforward AppleTalk Phase 2 using the Network Software Installer for Ethernet drivers on Macintosh computers to keep maintenance or re-installation very simple. But the Novell Server has to work with 802.2 Ethernet. Our understanding is that the SNA*ps clients communicate to the gateway just fine on Phase 2 Ethernet 802.3, so the major potential conflict appears to be with Novell and Ethernet 802.2.

Question 3

Do Macintosh computers dynamically assign network numbers, including EtherTalk? How will we make sure that the Ethernet addresses on every node, including the DOS machines, are unique, and how can we change the DOS Ethernet addresses if necessary?

Question 4

In order for the DOS/Windows workstations to mount AppleShare volumes, how do we get AppleTalk on them with the appropriate Ethernet 802.3 driver if they are being loaded with 802.2 drivers for the sake of more efficient Novell Server operation?

Queston 5

What cable will connect the Apple Token Ring NB card to an IBM 8228 MAU and then the AS/400?

Question 6

What order of magnitude in performance would be seen if the 34 Macintosh computers and 42 PCs were put on Token Ring instead of Ethernet?

What order of magnitude in maintenance and configuration would be seen if the 34 Macintosh computers and 42 PCs were put on Token Ring instead of Ethernet?

This article has been archived and is no longer updated by Apple.
Answer to Question 1

EtherTalk Phase 2 uses the SNAP protocol, which is loaded on the Novell server by specifying "ETHERNET_SNAP" in a line in the autoexec.ncf file. This protocol, as with most protocols Novell supports, can peacefully coexist with any other protocols loaded. There will be no conflict.

Answer to Question 2

When using a Macintosh on a Novell network, there are no drivers loaded onto the Macintosh other than the standard network drivers that are loaded during an "Easy Install" of system software. No Novell drivers are required. As you can see, there will be no conflict between the Novell Network and the Macintosh network because there is nothing to conflict.

The Macintosh never used, nor will ever use 802.3. Ethernet 802.3 was used by Novell Netware software before 802.2 was officially sanctioned by the IEEE 802 committee. Novell Netware 2.x and 3.1 defaulted to 802.3, however, with the advent of Novell Netware 3.12 and 4.x, the default is Ethernet 802.2.

Answer to Question 3

Concerning network addresses. The Macintosh dynamically assigns it's network NODE address on startup, not network numbers, which are different. Network numbers are assigned to a cable segment and are used for routing purposes. The manner in which the Macintosh assigns itself a node address is simply by asking if anyone else has that address. Conflicts are VERY rare and if a node address is found to be in use, the Macintosh will try a different node address and check again. DOS node addresses are burned into ROM on the network interface card (NIC). There are utilities that will allow you to change a node address on certain cards, but the necessity to do so is purely for administration reasons, for example wanting consecutive addresses. If this is not a requirement for your network, changing the DOS NIC addresses shouldn't be needed. Also, since this functionality is dependent on the NIC used, you must determine (via the documentation) whether or not the NIC supports changeable node addresses.

Answer to Question 4

The Macintosh computers on the network you described should have no problem communicating with any of the servers as far as we can see. You have not described anything out of the ordinary as far as connectivity goes. Below is a list of vendors we know of that provide DOS/Windows to Macintosh connectivity:

* Farallon Computing - PhoneNet PC product.

Farallon's PhoneNet PC enables IBM PCs or compatibles to connect to an AppleTalk network so they can share files, printers, and other AppleTalk services. PhoneNet PC provides client-side file services for PC users who wish to access files on Macintosh and other AFP-compliant servers. Access to PostScript printers and LocalTalk-equipped ImageWriters is also supported. PhoneNet PC can run concurrently with other networks, including NetWare and TCP/IP.

* Coactive Computing - Coactive Connector Release 1.0 product.

Coactive Connector provides file and print sharing among DOS, Windows, and Macintosh computers. The elegance of providing the necessary hardware in a simple external parallel port adapter sets Coactive Connector apart from other network products. It eases installation and minimizes maintenance.

* Miramar Systems - Personal MACLAN Connect product.

Personal MACLAN allows a PC running Windows 3.0 or higher to function as a file and PostScript printer server for Macintoshes. Personal MACLAN is fully compliant with the AppleTalk Filing Protocol and includes a file extension mapping feature that lets Macintosh users see files created on a PC with the same Macintosh application.

To locate a vendor's address and phone number, use the vendor name as a search string.

Answer to Question 5

Standard IBM type 1 cabling should work fine with the Apple Token Ring NB card and the IBM 8228 MAU.

Answer to Question 6

As for what numbers to put on performance gains in relation to Token Ring vs. Ethernet: A good rule of thumb is that Token Ring will be faster on high load networks, but will only give marginal performance increases on a well designed medium load Ethernet network.

As for maintenance and configuration concerns with Token Ring or Ethernet: In a well-designed network, the load on the network administrator should be similar between the two. For a good discussion on network design, try "Planning and Managing AppleTalk Networks" from Addison-Wesley (it's an Apple book). This will give you an overview of network planning, and point you in the right direction for further reading.

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18 Jul 1995 - Corrected spelling and update format.

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PowerShare: Calculating Users and Adding Servers (2/95)

This article describes how to calculate the number of users per PowerShare Mail Server.

This article has been archived and is no longer updated by Apple.
The PowerShare Mail Server has no logical limitation to the number of users per server. However, the existing Macintosh file system does impose some limitations; that is 2 GB, or 4 GB with System 7.5, maximum hard drive volume size. You may run only one copy of the PowerShare Mail Server per Macintosh accessing only one hard drive partition.

Here is a formula we recommend for sizing a server:

* (Average number of messages received per day + Average number of messages sent per day)

* Times the Average size of each message in kilobytes

* Times the Number of days users can leave mail in their mailboxes without deleting

* Divide the answer into the available hard disk storage in kilobytes

For example:

. 200 + 300 = 500
. 500 x 1000 bytes (approximately 1K) = 500,000
. 500,000 x 10 = 5,000,000
. 100 MB (100,000,000) / 5,000,000 = 20

This means that the example Mail Server can support 20 users (maximum -- you should allow an extra 10MB for "housekeeping"). If you have more users than this, you can reduce the number of days a mail message is allowed to remain on the server, add another Macintosh Mail Server, or increase the amount of storage available for messages.

If you decide you need an additional Mail Server to support more users, or there is limited free disk space on the PowerShare Mail Server, you can create another Mail Server on another computer and use it to store user queues. Because it is not possible to have more than one PowerShare Mail Server running on a Macintosh at the same time, you need to set up another server elsewhere on your network. This Macintosh must meet the basic PowerShare system requirements:

* At least one Macintosh computer (using a 68020 or later processor) with a hard disk.

*╩A minimum of 4 MB of memory for each installed PowerShare server.

*╩If both the PowerShare catalog server and the PowerShare Mail Server are installed on the same computer you require at least 8 MB.

*╩The PowerShare Server system requires system software version 7.1.1 or later. (The PowerShare Installer installs System 7.1.1 if it is needed.)

Setting up an additional Mail Server:

Step1:
Install the PowerShare software on the Macintosh where the new server will reside. On restart, the PowerShare Easy Setup application starts and displays a dialog box informing you that the Easy Setup application requires some information to set up the PowerShare System.

Step 2:
Click the Later button in the dialog box.

Step 3:
Open the PowerShare Server Folder and double-click on the PowerShare Mail Server application to start it. A dialog box appears, prompting you for an administrator name and password and asking you to select a PowerShare System to join.

Step 4:
Choose a PowerShare System from the pop-up menu at the top of the window. If the System you want to join is not listed in the menu, choose Other. The PowerShare Admin application begins searching for available catalogs on the network, displaying a dialog box that indicates that a search is in progress.

Depending on the size of the network, the search can take from a few seconds to several minutes. Click Cancel to terminate the search. When all PowerShare Systems have been located, a dialog box appears listing the names of the available PowerShare Systems.

Step 5:
Click the PowerShare system you want to use, then click OK. You are returned to the dialog box, where you must now supply an administrator name and password.

Step 6:
In the appropriate fields, type the administrator name and password that was specified when the PowerShare System was set up.

Step 7:
When the information is complete, click OK. When your identity is authenticated, a dialog box appears prompting you for a name for new Mail Server record. The new server must have a unique name.

Step 8:
In the Server Name field, type a descriptive name.

Step 9:
Click New. The new PowerShare Mail Server starts up. The new server name is registered for use on the network and a status window appears, displaying information about the server's operation.

Because the Mail Server is brand new, no users are served by it. You can now begin assigning the Mail Server to users. Take time to plan the assignment, so management of the servers is easier. You might want to divide users by department, floor, geographic location, job function, or alphabetically.

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09 Feb 1995 - Added keyword; added information from other article; updated.

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Apple RAID Software Version 1.0.1 Read Me (11/94)

This article is the Apple RAID 1.0.1 ReadMe file.

This article has been archived and is no longer updated by Apple.
Apple RAID Software Read Me

This document contains important additions to the Apple RAID Administrator's Guide. The Read Me includes the following sections:

* Locating the Apple RAID Software Files on Your Startup Disk
* Initializing Disks With Apple RAID
* Initializing Apple RAID Disks With Other Disk Utilities
* Back Up Your Data
* Extra Disk for Faster Recoveries
* Apple RAID and Third-Party SCSI Cards
* Apple RAID and Virtual Memory
* Deleting Volumes With Apple RAID
* Mirror Failures During Finder Operations
* Handling Spontaneous Mirror Failures
* Using Thousands or Millions of Colors
* Choose Screen Savers Carefully
* Using Apple HD SC Setup With Apple RAID
* Failures During Retrospect Backups
* Restoring Volumes With Retrospect
* Using the Microsoft Mail Backup Utility With Apple RAID
* Slow Startup With 2-Gigabyte Drives
* Use Shielded SCSI Cables
* Remove Switched-Off Devices From the SCSI Bus
* Do Not Use SCSI-1 Devices in a SCSI Bus Containing SCSI-2 Devices
* Rebuilding Mirrored Volumes While Running AppleShare
* Installing a Driver While Rebuilding a Mirrored Volume
* Restarting Stalled Rebuilds
* Dealing with Rebuild Failures

Locating the Apple RAID Software Files on Your Startup Disk

The Apple RAID Software program is installed in the Apple Menu Items folder in the System Folder on the startup disk. The Apple RAID Monitor is installed in the Extensions folder in the System Folder on the startup disk. The Apple RAID Software Read Me (this document) and the SimpleText text-processing program are installed in an Apple RAID folder in the top-most directory of your startup disk.

Initializing Disks With Apple RAID

Initializing a Disk and Using the Finder

Do not initialize a disk while it is in active use by the Finder, such as during a copy. Wait until the Finder operation has completed or, if possible, click the Cancel button in the progress dialog box.

Losing Power During Initialization

If a disk loses power while you are initializing it, your server might crash immediately, and your server might also crash upon startup until the disk is properly initialized. If you experience these problems, start up your server with the offending disk switched off. Switch the disk on while the Finder is active and initialize the disk with a nonðApple RAID disk utility. If the initialization is successful, reinitialize the disk with Apple RAID.

Initializing Apple RAID Disks With Other Disk Utilities

Delete or unmount the Apple RAID volumes before reinitializing an Apple RAIDðformatted disk with Apple HD SC Setup or a third-party disk utility. Non-Apple RAID disk utilities may not be able to unmount Apple RAID volumes during initialization.

Back Up Your Data

Apple RAID mirrored volumes will not protect you from all types of data loss. Equipment theft or natural disasters such as fire or flooding, for example, can result in data loss. Therefore, make sure you continue to back up all your data, including data residing in Apple RAID mirrored or

striped volumes.

Extra Disk for Faster Recoveries

An extra disk that is initialized for Apple RAID, connected to the server, and switched on will reduce the time required to recover an Apple RAID volume from a failed disk. Having such an extra disk on hand is a recommendation and not a requirement for using Apple RAID.

Apple RAID and Third-Party SCSI Cards

Apple RAID supports built-in SCSI buses only; it has not been tested with third-party SCSI accelerator cards. You may experience difficulties if Apple RAID is installed on a server with a third-party SCSI card.

Apple RAID and Virtual Memory

Apple RAID makes extensive use of direct memory access and may not work with virtual memory turned on. Make sure that virtual memory is turned off on your server.

Deleting Volumes With Apple RAID

Do not delete a volume that is in active use by the Finder, such as during a copy. Wait until the Finder operation has completed or, if possible, click the Cancel button in the progress dialog box.

Mirror Failures During Finder Operations

If a mirror failure occurs during a Finder operation, allow the operation to complete before rebuilding the mirror. When rebuilding the mirror be sure to set the rebuild rate slide bar to less than 75% of maximum.

Handling Spontaneous Mirror Failures

Sometimes a mirrored volume may fail for no apparent reason. The volume will rebuild with no problem and disk test utilities will show no defects. In most cases the disk that failed will develop a media failure within a few weeks. If a disk begins to cause spontaneous mirror failures, consider replacing the disk before it fails completely.

Using Thousands or Millions of Colors

Using thousands or millions of colors on a server may degrade performance and cause problems with Apple RAID. If you experience problems creating new volumes with Apple RAID, make sure that your server is set to 256 colors or less in the Monitors control panel. You can also try an alternative method for creating new volumes: instead of Shift-clicking disks in the Disks column and dragging them to the Volumes column in the Setup window, use the Apple RAID menu commands for creating a new volume, as explained in Chapter 3 of the Apple RAID Administrator's Guide.

Choose Screen Savers Carefully

There are many screen savers that can be used to prevent screen burn-in on Workgroup Servers. Some screen savers are quite elaborate and perform many complex calculations to draw a single picture on the screen. Since the calculations require significant amounts of CPU time, the more complex screen savers will reduce the performance of your Workgroup Server. Choose the screen saver that interferes the least with your Workgroup Server.

Some screen savers or their modules are not compatible with Apple RAID and can cause your Workgroup Server to crash or hang. Before purchasing or using a screen saver, check with the screen saver's manufacturer to determine if the screen saver will work properly with your Workgroup Server.

Using Apple HD SC Setup With Apple RAID

A message indicates an Apple RAID disk has no initialized volumes

When scanning for disks in the Apple HD SC Setup program, Apple RAIDðinitialized disks might display the message, "This disk contains no initialized Macintosh volumes." The current version of Apple HD SC Setup does not recognize Apple RAID mirrored or striped volumes and will display the above message if the disk does not contain an Apple RAID standard (HFS) volume.

Updating the driver on Apple RAIDðformatted disks

Apple HD SC Setup version 7.3 allows you to update the driver on any Apple disk, including disks formatted with Apple RAID. Regardless of the instructions for installing new versions of system software, do not update Apple RAIDðformatted disks with Apple HD SC Setup. Use the Install Driver command of the current version of Apple RAID or contact your support representative for a driver that supports new system

software releases.

If the driver of an Apple RAIDðformatted disk is updated with Apple HD SC Setup, it can be repaired if the Apple RAID partition map is intact. Start the Apple RAID program, select the disk, and choose "Install Driver" from the Disk menu. If this option is not enabled, the Apple RAID partition map has been damaged and no recovery is possible; you need to reinitialize the disk.

Failures During Retrospect Backups

If you are using Retrospect to back up files and receive either a mirror failure or a damaged catalog file error, try turning off Snapshot mode in Retrospect.

Restoring Volumes With Retrospect

The Retrospect backup software allows you to select the option "Restore Entire Disk." This option overwrites all files on the destination volume, including the invisible file that contains the Apple RAID icons. Next time you start up the server, the Apple RAID volume icon will appear as a generic document icon.

To recover the Apple RAID mirrored, striped, or standard volume icons:

1) Select an Apple RAID volume of the same type (mirrored, striped, or standard).

2) Choose Get Info from the File menu and click on the icon.

3) Choose copy from the Edit menu.

4) Select the Apple RAID volume with the missing icon and choose Get Info from the File menu.

5) Click on the generic document icon and choose Paste from the Edit menu.

The icon will be restored.

Using the Microsoft Mail Backup Utility With Apple RAID

Due to the way in which the Microsoft Mail Backup Utility shuts down the system, the automatic backup feature of Microsoft Mail causes mirrored volumes to become out of sync. The best way to back up your Microsoft Mail Server is to follow the instructions for a manual backup in the Microsoft Mail documentation.

Slow Startup With 2-Gigabyte Drives

Some 2-gigabyte disks take a long time to reach full speed. Apple RAID will wait for such disks to spin up, which may increase the time it takes to start up your server if a 2-gigabyte drive is attached.

Use Shielded SCSI Cables

Make sure all SCSI cables are shielded. You might experience I/O errors when adding additional disks to the SCSI chain if the cables aren't shielded. A shielded SCSI cable is thicker and stiffer than an unshielded SCSI cable. Check with the manufacturer if you're unsure whether the cable is shielded. All Apple SCSI cables are shielded.

Remove Switched-Off Devices From the SCSI Bus

Apple recommends that you remove SCSI devices that are switched off from the SCSI bus. Make sure all SCSI devices are switched on and remove them if they aren't. This avoids signal strength problems for the remaining devices on the bus.

Do Not Use SCSI-1 Devices in a SCSI Bus Containing SCSI-2 Devices

Older disks, usually under 200 megabytes in size, cause trouble when connected to a SCSI bus containing SCSI-2 devices. Most older disks are only SCSI-1ðcompliant and are not always compatible with a bus using SCSI-2 devices.

Rebuilding Mirrored Volumes While Running AppleShare

When rebuilding a failed or out-of-sync mirrored volume while AppleShare is running, set the AppleShare Remote User Activity slide bar to less than 50%. If AppleShare is under particularly heavy use, set the slide bar to an even smaller percentage of the processor's time. These settings ensure that Apple RAID will receive the necessary processing time to perform the rebuild. (See your AppleShare documentation for details about

setting the Remote User Activity slide bar.)

Installing a Driver While Rebuilding a Mirrored Volume

Apple recommends that you do not update the Apple RAID driver on a disk on which a mirrored volume is currently being rebuilt.

Restarting Stalled Rebuilds

If there appears to be no disk activity during a rebuild, the rebuild may be stalled. Restarting the system should cause the rebuild to continue.

Dealing with Rebuild Failures

If a rebuild failure occurs check that all devices on the SCSI bus are properly attached, terminated, and powered on. Retry the rebuild with the rebuild rate slide bar set to less than 75% of maximum.

Article Change History:
17 Nov 1994 - Updated article to release Read Me File.

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PowerBook 100 and 200 Series: Apple Modem Compatibility Between Models

This article provides information on compatibility of Apple modems between the differing PowerBook models.
This article has been archived and is no longer updated by Apple.

PowerBook Duo

The Apple modem that ships with the PowerBook Duo 210 and 230 is the Duo Express Modem. It isn't compatible with the 100 or 500 series PowerBook computers due to physical differences between the computers.

PowerBook 160, 165, 165c, 180, and 180c

The Apple modem that ships with these PowerBook models is the Express Modem. This modem isn't compatible with the PowerBook 100, 140, 145, 145B, 150 or 170.

PowerBook 140, 145, 145B, and 170

The Apple modem that ships with these PowerBook models is the PowerBook Fax/Data Modem. This modem is also compatible with the PowerBook 150, 160, 165, 165c, 180, and 180c.

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GX Helper: Cannot Disable Desktop Printing

I noticed after installing GX Helper that I do not have the option to disable Desktop Printing in some applications. Why is this?
This article has been archived and is no longer updated by Apple.
The option to turn off Desktop printing in the newest versions of Excel (4.0) and Word (6.0) or other recent applications may not appear.

These applications are "GX-friendly" and can utilize the QuickDraw GX printer drivers. Because of this, GX Helper does not let you disable Desktop Printing.

Article Change History:
14 Feb 1995 - Updated keyword; reviewed for technical accurcy.

Support Information Services
Published Date: Feb 19, 2012

Macintosh Tutorial: Not Enough Memory Error Resolution (5/95)

Whenever I launch Macintosh Tutorial Part 1 from the balloon menu on a Power Macintosh, I get the error, "Not enough memory to run Macro Media Player."

This article has been archived and is no longer updated by Apple.
There are two solutions to the "Not enough memory to run Macro Media Player" error when launching Macintosh Tutorial Part 1 from the balloon menu:

Use Fewer Colors

Open the Monitors control panel and switch to 256 or fewer colors.

Increase Memory Allocation

Open the "Tutorial Items" folder inside the Extensions folder and increase the memory allocation of the "Macintosh Tutorial Part 1" application from 2048K to 3000K.

Article Change History:
16 May 1995 - Made minor technical updates.

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System 7.5: Alarm Clock DA Not Included (3/95)

I noticed that System 7.5 does not include the Alarm Clock DA. Does the one from System 7 work?

This article has been archived and is no longer updated by Apple.
Yes, the Alarm Clock DA from System 7.x works with System 7.5. If you install System 7.5 on a Macintosh that is already running System 7, without first disabling the current system folder, the System 7.5 Installer leaves the Alarm Clock DA in the Apple Menu Items folder. It functions just as it did under System 7.

A clean install of System 7.5 does not install the Alarm Clock DA because it is not included with System 7.5. If you want to continue to use the Alarm Clock DA with System 7.5 and you have done a clean install, you must put it in the Apple Menu Items folder manually from your previous System 7 system folder or from the original System 7 diskettes.

Article Change History:
06 Mar 1995 - Added keyword; minor technical updates.
21 Feb 1995 - Reworded discussion for clarification.
14 Feb 1995 - Updated keyword; reviewed for technical accuracy.

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Pinpoint: Version 1.1

This article describes the features and changes of Pinpoint v1.1.
This article has been archived and is no longer updated by Apple.
On the Install side, five files have changed:

PINPOINT.SYSTEM - Driver restructured so as to not wipe out the interrupt vector at $FFFE. This resolves the incompatibility with Quark Catalyst.

Driver restructured so that when searching for a disk containing sufficient space for work, if Slinky, then automatically accepted.

Install detects whether /RAM has been removed from the device table, and if so, then the bitmap is not modified. This resolves the incompatibility with MouseDesk.

Install - reads "Version 1.1 November 1, 1985".

PINPOINTPROFILE - has been changed to reflect the removal of "Cut and Paste" as an option in the Pinpoint window.

INSTALL.SYSTEM - Cosmetic change to reflect new release date and version.

1. New capability for installing Pinpoint on applications that are not in a root directory. The logic is as follows:

First, all devices are searched for the desired startup program (i.e. APLWORKS.SYSTEM). If it is not located on any disk drive in a root directory, a dialog box appears. It requests for the user to insert the correct disk or press Open-Apple-P to specify explicitly the pathname of the application. If the user presses Open-Apple-P, then he is prompted for the pathname. For instance, if you Appleworks is set up on your profile disk under the APPLEWORKS path, then you would type /PROFILE/APPLEWORKS. The program would then enhance /PROFILE/APPLEWORKS/APLWORKS.SYSTEM.

BIG IMPORTANT NOTE: Quark Catalyst renames the AppleWorks startup filename to "APPLWORKS." from "APLWORKS.SYSTEM". Pinpoint searches for "APLWORKS.SYSTEM", and will not locate the renamed file. If the user is using Quark Catalyst, they must install to the 5.25" floppy diskette.

2. A warning message is now issued if you "Quit" the installation program after having changed some parmaters and not installing Pinpoint on any program.

CATALYSTDESKTOP - Cosmetic change to reflect new release number and date. In addition, cut-and-paste references have been removed.

IMAGEWRITER.0 - Imagewriter print driver was changed so as to suppress the "Z" that appeared in GraphMerge preceeding the second graphic image on an Apple IIc.

SCRIBE.0 - Same as above for Scribe.

FLIP SIDE - Several Accessory files have been changed.

CUTANDPASTE.PP - has been removed from version 1.1.

GRAPHMERGE.PP -
Graphmerge now works better with extra RAM and version 1.3 of AppleWorks. Version 1.2 of AppleWorks does not recognize the Memory, so therefore it left it alone. It now recognizes it, and uses it as part of its desktop. This slows down the performance of GraphMerge because it cannot expand. In version 1.0 of Pinpoint, work files were created and rendered unusable because of the memory usage of 1.3. The temporary work files are no longer created. In either case the user cannot really tell that there is a difference.

In addition, when going to Open a document with a memory card intact, the /RAM drive always appeared first. It will now bypass that drive.

DIALER - Now provides a broader support for modem dialing. This is done by broader serial card support.

COMM.PP - Communications has been improved to resolve some problems in release 1.0

1. There is now XON/XOFF support in PLAY mode, so that the user can send information to CompuServe, MCI, etc., correctly.

2. The code has been restructured so that it is more organized and expandable in the future.

3. There is a broader support for modems and interface cards.

4. This version will run more reliably on an enhanced IIc (that is "c" not "e"). The machine check has been improved.

CALENDAR.PP - The calendar was improved to handle the "Disk Full" condition appropriately.

1. Previously, if the disk full condition arose, an invalid pointer was left in the file. This leads to perpetual "Disk=Error" condition when the disk does not even spin.

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Published Date: Feb 19, 2012

AWS 95: Using tar with DAT Tape Drive

We have an Apple Workgroup Server (AWS) 95 and we're trying to tar and untar files from the built-in 4mm DAT tape drive. We are using the command tar -cvf /dev/rmt/tc2 <filename> to tar a file to a new tape, which gives us a tape write error. We verified that the record lock tab on the cassette was in place. We also have a tar-ed file on another DAT tape and when trying to read that file we get a tape read error also. What's wrong?

This article has been archived and is no longer updated by Apple.

The problem is the tar command being used. The A/UX tc driver has to be accessed in 8K blocks, therefore you must specify the blocking factor as part of the tar command. The command you used needs to be modified from

```
tar -cvf /dev/rmt/tc2 <filename>
```

to

```
tar -cvfb /dev/rmt/tc2 16 <filename>
```

To read the tar archive created, the command also needs to contain the specification for the block size.

List contents of tar archive:

```
tar -tvfb /dev/rmt/tc2 16
```

Extract contents of tar archive:

```
tar -xvfb /dev/rmt/tc2 16
```

Extract specific file from the contents of tar archive:

```
tar -tvfb /dev/rmt/tc2 16 <filename>
```

If you are trying to perform backups from UNIX, any of the following commands will also work. Keep in mind that none of them use the hardware compression abilities of the 4MM DAT drive, which is the reason we use the compress command as part of the examples.

The following command can be used create a backup of the root file system:

```
dump.bsd 0bsf 8k 2000m /dev/rmt/tc2 /dev/dsk/c0d0s0
```

The following command is used to restore the backup:

```
restore -xyvbf 8k /dev/rmt/tc2
```

Create Archive:

```
find . -print | cpio -ocv | tcb > /dev/rmt/tc2
```

Read Archive:

```
tcb < /dev/rmt/tc2 | cpio -icv
```

Create Archive:

```
find . -print | cpio -oc | compress | tcb > /dev/rmt/tc2
```

Read Archive:

```
tcb < /dev/rmt/tc2 | compress -d | cpio -icv
```

Create Archive:

```
tar -cvf - . | dd of=/dev/rmt/tc2 obs=8kx40
```

Read Archive:

```
dd if=/dev/rmt/tc2 ibs=8kx40  |  tar -xvf -
```

Create Archive:

```
tar -cvf - / | tcb > /dev/rmt/tc2
```

Read Archive:

```
tcb < /dev/rmt/tc2 |  tar -xvf -
```

Published Date: Feb 19, 2012

A/UX 3.0 Manual: DNS Domain Name Definition in A/UX 3.1 (10/94)

The instructions in the A/UX 3.0 manual for configuring sendmail are out of date. See page 9-4 of the "Setting up network Mail" of Network Admin manual. It says the aux.mc file should contain the following line:

define(DOMAIN, 'DDaux.apple.com')

However, A/UX 3.1 doesn't contain this line, instead it contains the line:

DOMAIN(apple-aux)dnl

What do I do?

This article has been archived and is no longer updated by Apple.
Your observation regarding the DNS Domain Name definition for the A/UX 3.0 manual on Page# 9-4 is correct, it states that users need to modify the following line:

define(DOMAIN, 'DDaux.apple.com')

This line is only available in A/UX 3.0, and is found in the "/usr/lib/sendmail.conf/cf/aux.mc" file. It does not apply for A/UX 3.1.

In A/UX 3.1, the line for "define(DOMAIN, 'DDaux.apple.com')" does not exist in "/usr/lib/sendmail.conf/cf/aux.mc". A/UX 3.1 has the line "DOMAIN(apple-aux)dnl". The word "DOMAIN" is a pre-defined Macro in A/UX 3.1.

We substitute a pre-defined Macro for "define(DOMAIN, 'DDaux.apple.com')" in A/UX v3.0. With A/UX 3.1, we add the "domain" subdirectory right below "/usr/lib/sendmail.conf" directory hierarchy.

Users should modify the "/usr/lib/sendmail.conf/domain/apple-aux.m4" file, more specifically, substitute their own DNS domain name with "aux.apple.com" in the following example:

DDaux.apple.com

Support Information Services
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LaserWriter Pro: Cycle the Power After Installing Envelope Tray

After adding the evelope feeder to a LaserWriter 16/600 PS, I could not get the printer to print to the envelope feeder. Everytime I tried printing, it pulled paper from the multi-purpose tray. I made sure that I had the LaserWriter 8.x software configured for an envelope feeder. How can I print to the envelope feeder?
This article has been archived and is no longer updated by Apple.
In order for the LaserWriter Pro 600/630 or the LaserWriter 16/600 PS printers to print to the envelope feeder, you have to cycle the power on the printer after installing the envelope feeder.

Check the startup test page and verify that it indicates that the envelope feeder is installed. If not, power off the printer, reseat the connection to the feeder, and power it back up. Once the printer recognizes the feeder, you can use the Auto Configure to list the feeder as installed.
Published Date: Feb 19, 2012

QuickDraw GX: Printing Problems With the StyleWriter II (2/95)

After Installing QuickDraw GX, when I try to print to my StyleWriter II printer, an error occurs. The error message reports that the Macintosh computer is unable to print through the printer port, and to check connections and try again. Why?

This article has been archived and is no longer updated by Apple.
We were unable to reproduce the exact problem, but we did find a couple of minor problems with the StyleWriter GX drivers. These most likely also apply to other QuickDraw GX serial drivers.

* If the printer port is being used to print to the StyleWriter II, then AppleTalk MUST be OFF. If EtherTalk is selected in the Network Control Panel, then AppleTalk can be ON.

* If AppleTalk is ON, and turned OFF to allow for printing, error messages still appear stating to "..check connections". To correct this problem, either turn the StyleWriter II off and on again, or restarting the Macintosh.

Article Change History:
07 Feb 1995 - Added keyword. Made minor technical updates.

Support Information Services
Published Date: Feb 19, 2012

System 7.5: Using With Original LaserWriter (2/95)

I am using System 7.5 and getting PostScript errors when printing from SimpleText to an original LaserWriter (v23.0). Which LaserWriter driver version should I be using?

This article has been archived and is no longer updated by Apple.
We have seen some problems when trying to print to an original LaserWriter (ROM revision 23.0) using LaserWriter 8.1.1 (as well as some older driver versions). Our suggestion is to use the LaserWriter 8.2 driver. The new driver is available through online services to which Apple publishes software updates.

You are probably getting PostScript errors because of the limited amount of memory in the original LaserWriters. If the problems still occur after upgrading to LaserWriter 8.2, then we suggest:

* Try using only the fonts available in the LaserWriter's ROM; not TrueType or Type 1.

* Enable "Unlimited Downloadable Fonts" in the options dialog of Page Setup.

Article Change History:
16 Feb 1995 - Updated and added keyword; made minor technical updates.

Support Information Services
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Pinpoint: Version 1.2

This article describes the features and changes of Pinpoint v1.2.
This article has been archived and is no longer updated by Apple.
This release of Pinpoint primarily broadens our Modem support base. It now supports the MicroModem IIe and Zoom Telephonics internal modems in the touch tone dialing mode. Please note that version 1.2 does not support the Novation modems as orignally planned. The communication package has been, once again, improved dramatically.

Version 1.2 also corrects some printing problems in GraphMerge related to headers/footers and proportional font selections.

Version 1.2 includes a brief BASIC program that can lengthen the phone dialer delay (for rotary dialing) or change the Imagewriter reset (in that Imagewriter 2 does not reset).

A more reliable check for "Something in the slot" has been added for printing. This way the Typewriter will not crash if nothing is installed in the printer slot.

Communications/Dialer changes:

The communications package has been enhanced. The XON/XOFF problem described in technical note TN-008 has been corrected. Premature disconnect when pulse dialing has been corrected (TN-014). Possible over-writing of the phone directory when recording has been corrected. Control characters are now filtered out in communications, with the exception of Control-Q.

In addition, the auto-answer mode has been corrected. Previously, a phone call had to be made within about 30 seconds, or it would have given up in despair. In addition, manual dialing can be done for those modems without auto-dialing capability.

Hidden within Version 1.2 is also a whole world of capability that will be addresses in a supplementary disk. This allows the user to define a handshake character, remap characters incoming and outgoing, etc.

Specific Modem Support:

Version 1.0/1.1 worked with an Apple Super Serial card and various external modems, such as:

Apple 300/1200 Baud
All Hayes external
Prometheus 1200 external
Prometheus 300c external
Volksmodem 12 external
Popcom X100

Now, release 1.2 also incorporates:

Hayes Micromodem IIe internal (tone dialing only)
Zoom Modem IIe (tone dialing only)

In addition, Version 1.2 broadens the interface card support beyond the Super Serial card to include:

A.S.T Multi-I/O card
Prometheus Versa Card
C.C.S. I/O card
A.I.O. I/O card
Apple Serial card

The ZAP program:

The ZAP program is a very simple BASIC program that allows the user to change two things: timing delay when dialing via a rotary dial, and reset of the Imagewriter printer.

The reason for changing the delay for rotary dialing is that rotary dialing takes significantly longer than pulse, and the phone dialer may terminate and go back to the application before even finishing dialing. The user can lengthen this time period.
1234567890123456789012345678901234567890123456789012345678901234567890123456789012345678

The reason for the Imagewriter reset disable is that we reset the Imagewriter to its startup values when we are done printing. This change will prohibit the reseting of the printer. This allows people with Imagewriter II's to maintain their near-letter-quality setting throughout.

In order to run the Zap program, the person should startup their copy of Pinpoint Install disk, and select BASIC. Once basic is selected, the user is placed in an immediate command mode. The user should type "-ZAP" followed by return. The user then chooses a menu selection item as shown below:

-ZAP

0. Quit this program
1. Run the Installation program
2. Modify ImageWriter driver for no reset
3. Change Dialer delay

TYPE CHOICE, THEN <RETURN>

Once the user has carried out their zap, they must then re-install Pinpoint on their program.

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The following Tech Info Library article can help you search for a particular vendor's address and phone number:

Article 17159: "**Locating Vendor Information**"

The following Tech Info Library article can help you find the Tech Note mentioned here:

Article 24493: "**Apple Tech Notes: What They Are, Where To Find Them**"
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Quadra/LC/Performa 630:Retrospect Crash/Patch 10/94)

Name: 630 SCSI Update
Version: 1.0
Date Released: September 29, 1994
Where to use it: Macintosh LC630, Quadra 630, Performa 630 series computers.
Description:
The 630 SCSI Update extension corrects a problem involving large block SCSI transfers (commonly used by backup programs when backing up data to SCSI DAT Tape drives) where the system may hang.
To use this extension drag it on top of your System Folder. It will be automatically placed into your Extensions folder. Reboot your Macintosh.
This article has been archived and is no longer updated by Apple.
Customers who run Retrospect Remote from Dantz Development on a Quadra/LC/Performa 630 series computer, will experience a system error that causes the computer to freeze when backing up to an external SCSI drive.

Apple has released the "630 SCSI Update" which corrects this problem.

The 630 SCSI Update is available from Apple Software Updates online: http://www.info.apple.com/swupdates

Please Note: The name of this extension should be "630 SCSI Update".
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System 7.x Aliases: Overview and Recommendations (2/95)

This article provides a description of how aliases work in System 7.x (including System 7.5) and provides recommendations for using them.

This article has been archived and is no longer updated by Apple.
An alias is a pointer to an icon. The icon can be anything: a document, application, INIT, folder, disk, file server -- even another alias. A file can have an infinite number of aliases. Aliases let you refer to documents, folders, and applications with minimal impact on disk space, but with maximum convenience of location.

An alias is a small file that "remembers" the location of the original file, rather than containing the same data as the original. An alias file is typically 1K or 2K.

Once an alias is created, either the alias or the original may be moved to another location, although the original must stay on the same volume it was on when the alias was created. The name of the alias is always in italic and has the same icon as the original file. You may change the name of the alias without affecting the original file. When you wish to open the original, double-click the alias and the system responds as if you had double-clicked the original.

Where You Can Place Aliases

When making more than one alias of a file/application, you can place them in a variety of locations for convenient opening, such as the Apple Menu folder in your System folder and the folder containing the application used to create the file.

By placing an alias of files, applications, sounds, QuickTime movies, and so on in the Startup Items folder in your System Folder, these items are automatically launched at startup. If you don't want them to load, just hold down the Shift key at startup.

Connecting to a File Server

To quickly connect to a File Server over a network, make an alias of the File Server while you are connected to it and drag the alias to some convenient place on your hard drive. For example, place the alias in the Apple Menu Items folder in your System folder and you can then access the File Server directly from the Apple Menu.

Removable Media

Aliases let you locate files on removable media such as floppy disks, CD-ROM discs, or removable cartridges. All you have to do is make an alias of the file(s) on the removable media and place the alias on your hard disk. When you double-click on the file's alias, you are asked for the disk by name that contains the original file. This also works with compression software used in archiving files to floppy disks.

Using Aliases With Remote Access

To create an alias over an Apple Remote Access connection, select the alias icon of the remote, mounted hard drive. Choose Get Info from the File menu, then click the Locked checkbox. If you do not lock the alias, the alias can be converted to call the wrong Apple Remote Access server or to try to access the service across your local network.

Aliases and Upgrading Systems

If you upgrade an existing Macintosh (such as from a Quadra 700 to a Quadra 800) and name the new machine the same name as the old machine, the existing aliases continue to work. They continue to work, as long as the machine and the volume are named the same on the Quadra 800 as they were on the Quadra 700.

The explanation of how aliases work is a little bit longer. The first step in resolving the alias is to identify the volume on which the target resides. Thus, the alias stores some volume mounting information, such as the server and zone information. The zone name and the server name must be the same in order for the alias manager to successfully resolve the alias. Additionally, if the volume is not a local volume (as is the case in this situation), the volume name must be the same.

Once the correct volume is found, there are a number of ways that the alias manager can resolve an alias. One piece of information that it uses is the file (or directory) ID. Using this, if the file moves somewhere else on the volume, the alias is able to locate it. Additionally, the alias manager uses the location and file name to resolve an alias.

When an alias is created, the file ID of the actual file, is saved within the alias record. When you then copy the actual file to another location (such as to a new drive), the file ID of the "new", copied application is different than the original application's file ID. The alias record still contains the original application's file ID. If the alias manager fails to resolve the alias by using the file ID, it attempts to use the relative path name to resolve the alias. As long as the path to the file remains the same, the alias is able to be resolved.

Once an alias is used, the alias record is updated with any information that had changed. For example, if the file ID had changed (because it was a copy of the original), once the alias is used, the new file ID is stored with the alias. After that, the file can be moved around, and the alias is still able to find it.

The bottom line is, you can copy an entire hard drive from one system to another (such as the Quadra 700 to the Quadra 800). As long as you name the machine the same in Sharing Setup, name the volume the same, and do not move any of the files (or applications) that have aliases to them, at least until all of the aliases are used, and updated, everything should work correctly.

If An Alias Fails to Work

If you open an alias and nothing happens, or you see a message reporting that the original file is not available, it means that the alias is damaged, or the original was removed. Aliases are not removed when the original icon is removed.

First, try to locate the original of the alias using the Find Original button in the Info box of the alias (or you can use the Find command). If the original still exists and the alias does not work, remove the defective alias then select the original and make another alias of it.

If you cannot locate the original file, it may have been deleted (file or folder) or unmounted (volume); or there may be a break in the network, and the alias has been left pointing to a location that contains nothing.

Article Change History:
14 Feb 1995 - Updated keyword.
08 Feb 1995 - Added keyword; combined several articles; updated for System 7.5.

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Power Macintosh Upgrade Card: Software Installation (10/94)

I installed a Power Macintosh Upgrade Card in my Macintosh and did an Easy Install of the System Software, but the Power Macintosh Card Control Panel did not get installed.

This article has been archived and is no longer updated by Apple.
There is no way for the Installer or any software to detect the presence of the Power Macintosh Upgrade Card through any gestalt calls or hardware detection, unless it is turned on and active during the time of the install.

You must be running a version of System 7.1.2 or System 7.5 that already has the Power Macintosh Upgrade Card software installed and active for an Easy Install to place Power Macintosh files in the target System Folder.

If the Power Macintosh Upgrade Card software is not already present to activate the card, then a Custom Install must be selected to force the associated Power Macintosh files to be installed.

Support Information Services

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Apple Printer Utility: Re-Open After Changing Zones

I have noticed inconsistent results with the LaserWriter 16/600 PS when attempting to change the AppleTalk zone within which the printer resides.

After selecting a new zone, and clicking the send button, the zone actually changed only about 50% of the time.
This article has been archived and is no longer updated by Apple.
When opening a printer in the "Printer Selector" window, the current printer zone selected remains constant throughout ANY changes made in Printer Information, Printer Preferences, Job Defaults, and Configure Communication (including "Printer's Network") options of the printer's window. Thus, if the zone is being changed, then you MUST close the printer's window after changing the zone, and open a new printer window by selecting the printer in its new zone before making any further changes to the printer.

This is the only option in the original Apple Printer Utility that behaves in this manner. This issue was fixed in the Apple Printer Utility 2.0 posted online.

This article can help you locate the software update mentioned here:

- Article 14724: "**Where To Find Apple Software Updates**" - Lists online services for free Apple software updates.

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GeoPort Adaptor: Multiple-Line Analog Telephone Lines

Does the GeoPort Telecom Adaptor work on multiple-line analog telephone lines? We have heard that of the four wires inside a typical phone cable (Yellow-Red-Green-Black), the GeoPort uses the red and green pair and doesn't use the yellow and black pair.

Please provide some general information about this and we also have the following specific questions:

1) Does the GeoPort, like other personal computer modems on the market today, NOT support multiple-line analog phone lines?

2) In case a multiple-line analog phone line is custom-wired so the GeoPort always accesses the pair of wires it CAN run on, does the GeoPort in fact use the red and green pair?
This article has been archived and is no longer updated by Apple.
An analog line into a building from a typical phone company is an RJ-11 public switched telephone network two-wire scheme, a tip and ring lead. These lines carry voice or data over the local loop into central office of the regional phone company that supplies the switching equipment, signaling equipment, and batteries for telephone operation, and then on to it's receiving end. Apple's GeoPort is like any other modem on the market today, it conforms to the same electrical standards used by the modem industry enabling it to communicate over public switched lines.

The GeoPort uses only a pair of the four wires. The GeoPort Telecom Adaptor is only wired for pins 2 and 3 (red/green) of the phone connector.

As for the GeoPort working on a multiple-line analog phone line: If the multiple-line analog phone line uses the telephone company standard, four conductor RJ-11 wiring, pins 2 and 3 (red/green) will be the wire pair a GeoPort will use. Pins 1 and 4 (yellow/black) will have to be switched to pins 2 and 3 for operation with a GeoPort Adaptor.
Published Date: Feb 19, 2012

Mac OS: Dimmed Options In General Controls Panel

In the General Controls control panel, the option to enable Folder Protection is dimmed. Why can't I set that option?
This article has been archived and is no longer updated by Apple.
These options are dimmed if File Sharing is turned on. This can be determined by choosing Show Balloons from the Help menu and moving the arrow pointer over the check boxes. It is possible to enable File Sharing while Folder Protection is on but this can cause some unexpected behavior. To completely disable Folder Protection, open and close the General Controls panel. Even though the check boxes are dimmed, Folder Protection will be completely disabled.

System 7.5.3 and Later

Enabling Folder Protection will lock the names of the Applications folder and the System Folder. If you enable File Sharing, you will not be able to rename the folders until you have opened and closed the General Controls control panel.

Mac OS 8.0 and 8.1

Enabling Folder Protection no longer locks the names of the Applications folder and System Folder.

Mac OS 8.5 and 8.6

Enabling Folder Protection no longer locks the names of the Applications folder and System Folder. The Applications folder is locked during Mac OS installation.

Mac OS 9.0

This feature has been removed from the General Controls control panel and is now part of the Multiple Users control panel. For information, please see Tech Info Library article 25132: "**Mac OS 9: Some Options Dimmed In General Controls Panel.**"
Published Date: Feb 19, 2012

Macintosh 630 family: Three Methods for Resetting PRAM

I need to fully clear the PRAM in my Macintosh 630 family computer, is there any other process other than holding down the Command-Option-P-R keys at startup?
This article has been archived and is no longer updated by Apple.
There are three ways to reset PRAM on the Macintosh 630 family computers.

Command-Option-P-R still resets most of it, but there is also a red button near the SCSI connector on the logic board that needs to be pressed whenever the logic board is removed or replaced. The instructions for the User Installable Video Cards all say to press it just before the board goes back in the chassis.

Lastly, one could remove the battery for ten minutes then reinstall it.

The following computers are in the Macintosh 630 family: Performa 630, Performa 635, Performa 636, Performa 637, Performa 638, LC 630, and Quadra 630.
Published Date: Feb 19, 2012

2.1 GB Hard Drive: Pin Configurations

What are the exact function of 22 pin as well as the 4 pin connectors located on the Seagate 2.1 GB hard drive?
This article has been archived and is no longer updated by Apple.

Connector J4 consists of 11 sets of pins numbered 11 to 1 from bottom to top; they are arranged horizontally in this article for readability only. Pins are jumpered in a horizontal fashion.

The pin configuration and setup configuration are as follows:

pins	11	10	9	8	7	6	5	4	3	2	1
SCSI id = 0	0	0	0	0	0	0	0	0	0	0	0
SCSI id = 1	0	0	x	0	0	0	0	0	0	0	0
SCSI id = 2	0	x	0	0	0	0	0	0	0	0	0
SCSI id = 3	0	x	x	0	0	0	0	0	0	0	0
SCSI id = 4	x	0	0	0	0	0	0	0	0	0	0
SCSI id = 5	x	0	x	0	0	0	0	0	0	0	0
SCSI id = 6	x	x	0	0	0	0	0	0	0	0	0
SCSI id = 7	x	x	x	0	0	0	0	0	0	0	0
reserved	0	0	0	x	0	0	0	0	0	0	0
Parity disable	0	0	0	0	x	0	0	0	0	0	0
enable motor start	0	0	0	0	0	x	0	0	0	0	0
delay motor start	0	0	0	0	0	0	x	0	0	0	0
write protect	0	0	0	0	0	0	0	x	0	0	0
remote LED connector	0	0	0	0	0	0	0	0	x	0	0
reserved	0	0	0	0	0	0	0	0	0	x	0
spindle sync. cable	0	0	0	0	0	0	0	0	0	0	0

Connector J01 consists of 4 pins arranged as follows:

```
Pin 3 .  . Pin 1

J01   .  . Pin 2
```

The various configurations are as follows:

```
Term power from drive           Pins 1 & 2
Term. power from SCSI bus       pins J01 & 2
Term. power to SCSI bus         pins 1 & 3
Term. power to SCSi bus & drive pins 1 & 3, 2 & J01
```

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Apple IIGS: Reading and setting the Clock (2 of 2)

This article has been archived and is no longer updated by Apple.

```
This is a simple program that will display the time and allow the user to
enter 3 keys:

 1. Escape - Exit the program
 2. Up arrow - Increment seconds
 3. Down arrow - Decrement seconds

There is a feature limitation in that the program doesn't update the minutes
when the seconds become less than zero or greater than 60. It turns out that
this is no problem when incrementing the time, but leads to interesting side
effects when decrementing it.

The 'macros' short and long should be replaced by the following instructions:

short:          long:
------          -----
sec             clc
xce             xce
sep #30         rep #30

They simply put the computer in either 8- (short) or 16- (long) bit mode,
whichever is necessary at the time.

Start
       short               ; put the computer in 8-bit mode
       lda c010            ; clear the keyboard
loop    jsr ShowTime        ; show the time and date
       jsr ReadKey         ; see if a char was typed, and act on it
       bcc loop            ; carry set if ESCAPE is hit
       rts

ShowTime
       long
       pea 0000            ; point output buffer to screen
       pea 0400
       ldx #0f03           ; _ReadAsciiTime (put ASCII time onto screen)
       jsl $e10000
       short
       rts

ReadKey
       lda c000            ; was a key hit?
       bmi KeyHit          ; yes, do something about it.
       clc                 ; no - return to main loop
       rts
KeyHit
       lda c000            ; get the key (high bit set)
       sta c010            ; clear keyboard strobe
       cmp #9b             ; Escape?
       bne NotESC
       sec                 ; Escape was hit - set Quit flag
       rts
NotESC
       cmp #9a             ; down arrow?
       beq Arrow
       cmp #9b             ; up arrow?
       beq Arrow
       clc                 ; neither, return with no error
       rts
Arrow
       sta temp            ; remember which arrow was chosen
```

```
        long
        pha                 ; push room on stack for time in hex format
        pha
        pha
        pha
        ldx #0d03           ; _ReadTimeHex (leave everything on the stack
        jsl e10000          ; for _WriteTimeHex later)
        short
        ldx 01,s            ; get the seconds
        ldx temp            ; recall which arrow was hit
        cpx #9a
        beq dnArrow
        inc a               ; increment time on up arrow
        bra cont
dnArrow
        dec a               ; decrement time on down arrow
cont
        sta 01,s            ; put it back on the stack
        long
        ldx #0e03           ; _WriteTimeHex
        jsl e10000
        pla                 ; get rid of extra stuff from _GetTimeHex
        short
        jsr ShowTime        ; update the screen
        bra ReadKey         ; see if another key was hit

Temp    ds 1                 ; temporary storage
```

The calls and usage shown in the program are described in "The Apple IIGS Toolbox Reference Manual: Parts 1 and 2" available from Addison-Wesley.

Published Date: Feb 19, 2012

Pinpoint: Auto-copy capability

Pinpoint automatically copies desktop accessories from the disk to the RAM drive if:

(a) your Apple is equipped with the Apple Memory Card, or

(b) your machine is equipped with the Applied Engineering Z-RAM or RamWorks, or Checkmate MultiRam, your memory is partitioned such that a RAM drive exists while AppleWorks is running, and Pinpoint has been enhanced so as to treat the third party cards as equivalents to the Apple Memory Cards.
This article has been archived and is no longer updated by Apple.
If you do not wish certain accessories to be copied to the RAM drive at startup, a "patch" can be applied to a file called "PINPOINTPROFILE" on the installation side of the Pinpoint disk.

The file "PINPOINTPROFILE" contains a description of each desktop accessory installed. This description entails the Accessory name (that appears in the Pop-Up window), the ProDOS system file name, the memory requirements for each accessory, as well as modem and printer parameters. In addition, a flag is set for each accessory that should be copied to the RAM drive at startup.

The file "PINPOINTPROFILE" is 768 bytes long. The last 16 bytes in the file are set to "1" or "0". A "1" means that the accessory should be copied to the RAM drive at startup if a RAM drive is available, a "0" means no. The order corresponds to the order that the accessories appear in the pop-up window.

Assume that we load the "PINPOINTPROFILE" file in memory:

```
BLOAD PINPOINTPROFILE,A$1000
PRINT PEEK(4848)
```

A "1" would print. This means that the Appointment Calendar accessory (CALENDAR.PP) should be copied to the Ram drive at startup. If this was set to "0", then it would not be.

Once the changes have been made to "PINPOINTPROFILE", the file should be save back to disk via:
12345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678

```
BSAVE PINPOINTPROFILE,A$1000,L$300
```

At that point, you can re-install Pinpoint on AppleWorks with the associated changes.

OPTIONALLY: The Ram Enhancement Kit WILL allow you to selectively choose the accessories and ProDOS files that you want to go into RAM.

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LaserWriter 16/600 PS: Fax Can Use Print Spooler (7/97)

Can the Apple LaserWriter 16/600 PS have faxes spooled to it using the AppleShare Print Server?
This article has been archived and is no longer updated by Apple.
Yes, you can spool fax jobs through an AppleShare Print Server just as you spool other print jobs. However, when Choosing an AppleShare Print Server as the "target" instead of the printer, you'll need to manually select the PPD:

1) Open the Chooser
2) Select the target server
3) Select "Setup"
4) Choose "Select PPD"
5) Select the LaserWriter 16/600 PS Fax PPD

You have to manually select the PPD because queries to the printer don't get routed through the spooler. Because of this, the print driver doesn't know what type of printer the job is sent to unless you manually select the printer.

Note: You must use the LaserWriter 8.2f driver. You cannot use any non-f version of the LaserWriter driver (including any version later than LaserWriter 8.4.x)

Published Date: Feb 19, 2012

Quadra 630 and AppleShare Are Compatible (4/95)

Is there a compatibility problem with the Quadra 630 computer running AppleShare 4.0.2?

This article has been archived and is no longer updated by Apple.
As of April, 1995 the Quadra 630 has been qualified to be an AppleShare 4.0.2 host, running Mac OS 7.1 or greater.

If your Quadra 630 running AppleShare has crashing problems, these crashes may be caused by SCSI problems that may be fixed with the 630 SCSI Update.

These articles can help you locate the 630 SCSI Update software update mentioned here:

* "Where To Find Apple Software Updates" -- Lists online services for free Apple software updates.

* "Obtaining Apple Product Support in the USA" -- Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech Info Library.

Article Change History:
19 Apr 1995 - Revised article with compatibility information.
22 Dec 1994 - Added 630 SCSI Update to article.

Support Information Services
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3270 Terminal Emulator with Netware Gateway (10/94)

I am looking for a 3270 terminal emulator with the following features:

* Functionally equivalence.
* A nice interface and bug free.
* Support for Netware SAA 1.3 gateway (not the SNA*ps Gateway).
* Support for APA graphics.

Plus the other standard features such as keyboard remapping, light pen support, IND$FILE Xfer.

This article has been archived and is no longer updated by Apple.
We have found two software packages that may be of interest. To be sure, we suggest calling the companies to verify the software package will do what you want.

A good resource is Redgate's, "Macintosh Product Registry," to research solutions.

The following companies may have software that meets your requirements. To locate a vendor's address and phone number, use the vendor name as a search string.

* Attachmate Corp. in Bellevue, Washington.

* Wall Data, Inc. in Kirkland, Washington.

Support Information Services

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PowerBook, SCSI Manager 4.3, and FWB Driver Problem (10/94)

I'm experiencing crashes when using a PowerBook attached to a Power Macintosh as a SCSI disk. I have System Software 7.5 installed, and all of my hard disks are formatted with FWB, Inc.'s Hard Disk Toolkit.

Sometimes when I try copying a file to the PowerBook's hard disk, I crash. Why does this happen, and is there a work around?

This article has been archived and is no longer updated by Apple.
The problem you are having is the result of the combination of features in the FWB driver, SCSI Manager 4.3, and PowerBook computers.

The technical circumstances appear to be as follows: Some SCSI hard disks, such as those in PowerBook computers, have the ability to "disconnect" from the SCSI bus. This allows them to do other things, such as shutting down to save power. When the PowerBook is being used, the hard disk can start and stop running as needed to save power. When the PowerBook is used in SCSI disk mode, the hard disk should remain active.

The FWB driver software is able to take advantage of the "disconnect" feature of these hard disks. When the FWB driver is installed, the ability to disconnect from the SCSI bus is enabled, as a default setting.

"Desktop" Macintosh computers didn't previously have the ability to disconnect hard disks from the SCSI bus as a normal part of the system software. However, SCSI Manager 4.3 does have support for this ability. SCSI Manager 4.3 is now able to detect that a hard disk has the ability to disconnect, and it may allow the hard disk to disconnect from the SCSI bus.

FWB's work around is to reinstall the driver with the "Allow Disconnect" feature turned off. The work around for this can be found in the "Read Me" file that came with FWB Hard Disk Toolkit v1.6. The details of the work around vary, depending on whether you are using the regular Hard Disk Toolkit or the "Personal Edition."

The details from FWB on how to do this are as follows:

For the regular product, you should run the "HDT Primer" application and choose "Configure Driver" from the "Driver" menu. The user can then disable the "Allow Disconnect" option.

For the "Personal Edition", users should hold down the Shift, Control, Option, and Command keys while clicking on the File menu of FWB's application. The user should then choose the "Update Driver" menu option. A dialog box called "Driver Configuration Parameters" will appear on the screen. At the bottom of the dialog box, there is a check box with no words next to it. Disabling this check box disables the "Allow Disconnect" functionality.

Support Information Services
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ARA: No Local Printing After Using

There is a problem with a local LaserWriter appearing in the incorrect zone after dialing into a remote network with ARA 2.0. After initiating an ARA connection, the local printer appears in the Chooser to be in the remote zone (zone a), even though it is not actually in any zone.

After selecting a remote printer and then terminating the ARA connection, the local printer still shows up in zone a. The Printer appears in the Chooser, but gives the error that it "cannot be found" when a job is sent.
This article has been archived and is no longer updated by Apple.
The problem is related to a known problem with the Chooser. The problem typically appears when attempting to connect to LaserWriters on AppleTalk networks that have no zone name; that is, those that have no routers attached. This problem could affect any Macintosh that had previously used printing services on an Ethernet network having zones.

What actually happens is the Chooser does not properly update the zone name stored in the driver when selecting a LaserWriter on a LocalTalk network with no zone name. You can verify this by looking at the 'PAPA' -8192 resource in the LaserWriter driver.

This problem is fixed in System 7.5. If you encounter this problem, you should upgrade to System 7.5.

Other than upgrading to System 7.5 you could:

* Keep two copies of the LaserWriter driver in the Extensions folder, one named "LocalLaser" and the other named "EtherLaser". Select the LocalTalk/Ethernet printer on the network having no zones with the "LocalLaser" printer driver and the other printer with the "EtherLaser" driver.

* Replace the LaserWriter driver every time the problem occurs.

* Add a router to the network that currently has none.

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System 7.5 Scrapbook: Out of Memory Messages (2/95)

After upgrading to System 7.5, I have noticed that the items I used to paste in the Scrapbook give me errors. I get multiple out of memory messages. Is the Scrapbook different in System 7.5?

This article has been archived and is no longer updated by Apple.
The Scrapbook in System 7.5 was re-written to provide greater functionality. Two of the new features are: support for drag and drop clippings, and the ability to resize. It was also rewritten as an application under System 7.5 rather than a desk accessory, which means that a certain amount of memory can be allocated for the Scrapbook application using the Get Info command in the Finder.

If you get multiple out of memory messages when opening the Scrapbook, then increase the preferred memory allocation 100-200K using the Get Info command (use the search string change program memory in Apple Guide for more information).

Article Change History:
16 Feb 1995 - Updated keyword.
09 Feb 1995 - Added keyword; made minor technical updates.

Support Information Services
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Pinpoint: RAM drive tech notes

If your machine is equipped with the Applied Engineering RamWorks Card, and you are using version 4.3 (or greater) of the Desktop Expander as well as Version 3.3 (or greater) of the Ramdrive software, you can patch Pinpoint so that it automatically copies your desktop accessories to the RamWorks card. This makes the accessories lightning fast.
This article has been archived and is no longer updated by Apple.
First, you must run the "Partition" program on the Ramdrive so as to divide memory between AppleWorks and the Ram drive. Pinpoint can use about 192K on the Ram drive if available.

Once you have set up your ProDrive and AppleWorks to run with partitioned memory, install Pinpoint on the patched AppleWorks disk.

Next, set up a startup disk with BASIC.SYSTEM on it, as well as PRODRIVE, APLWORKS.SYSTEM, and any other associated files.

The "Startup" program for basic should be as follows:

```
5 PRINT CHR$(4);"PREFIX /APPLEWORKS"
10 PRINT CHR$(4);"BLOAD PRODRIVE"
20 CALL 8192
30 PRINT CHR$(4);"BLOAD APLWORKS.SYSTEM,TSYS,A$2000"
40 FOR I=1 TO 8: READ X: POKE 10367+I,X: NEXT
50 CALL 8192
60 DATA 201,48,240,2,56,96,24,96
```

Pinpoint offers the Ram Enhancement Kit. It is more elaborate, and automates this process quite a bit.

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PowerPC: Information on New Microprocessors (10/94)

Is there any information on future PowerPC microprocessors and availability?

This article has been archived and is no longer updated by Apple.
(October 17th 1994) Motorola and IBM announced today that the first 64-bit PowerPC processor - the 620 has hit first silicon. It is expected to begin general sampling in the second quarter of 1995 with general availability set for the second half of 1995.

The chip will initially ship running at 133MHz and the companies have taken the unusual step of specifying a maximum clock-speed design point: 150MHz. At 130MHz the estimated SPECint92 for the processor is 225 and the SPECfp 300. These results are for 32-bit code and the companies say that they would not expect to see a significant speed increase under the 64-bit mode. The single-chip processor contains 7 million processors, though a good proportion of these are used in the 64kB cache; split evenly between data and instructions.

Die size is 17.1mm x 18.2mm and programmers will be able to keep their toes warm in the long, dark winter evenings since the thing dissipates a toasty 30W at 133MHz.

Perhaps the most surprising thing about the processor is the lack of a radical design change. It looks very much like an evolution of the 604. For example the 620 has exactly the same number of functional units as the 604 - three integer units (one for complex math) one floating point unit, a branch unit and a load/store unit. The chip can fetch and dispatch up to 4 instructions per cycle. A little of the 620's extra speed comes from a slightly faster transistor design, but most comes from the extra cache and a general clean-up of the functional units. The L2 cache controller has also come on-board the processor and the designers have allowed for a massive cache capacity configurable from 1MB to 128MB. There has also been a substantial design push to enhance multiprocessor support, with a new method of decoupling processing from the need to check cache-coherency on other processors. All in all, the designers say that this is a chip designed for fast transaction processing in mind.

Meanwhile IBM has announced availability and pricing for its 100MHz PowerPC 601, 100MHz PowerPC 604 and 66 and 80MHz PowerPC 603 microprocessors.

The 604 is sampling now and the company says it expects to begin full production in December.

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System 7.5: PowerCD Needs Its Own Driver

Since installing System 7.5, audio and data CDs inserted in my Apple PowerCD no longer appear on the desktop. If I open the AppleCD Audio Player, I get a message that no CD player could be detected.

Does System 7.5 have any support for the Apple PowerCD? Are there any compatibility issues associated with any version of the software bundled with the Apple PowerCD and System 7.5?
This article has been archived and is no longer updated by Apple.
System Software 7.5 does not include any drivers for the Apple PowerCD player. The PowerCD player comes with its own software, which must be reinstalled if a clean installation of System 7.5 is performed. If you use the System 7.5 installer to update an existing System Folder that already contains the PowerCD software, it should not need to be reinstalled.

We are not aware of any compatibility issues with the PowerCD software and System 7.5. We tested PowerCD Setup version 1.0.1 with System 7.5, and were not able to find any faults.

The CD-ROM software that comes with System 7.5 is the same software that comes with other Apple CD-ROM drives. The Apple PowerCD has never been compatible with this software -- a design decision made during the development of the PowerCD player. Since this software was not compatible with the PowerCD player, it was not able to recognize CD-ROMs or audio CDs that were in the PowerCD player.
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MAE 1.0a Patch Installer Script: CleanUpExit Problem (10/94)

While installing the MAE 1.0a Patch, I had a problem and canceled out of the install. I found that the installer script didn't correctly restore MAE to it's previous state. What's wrong?

This article has been archived and is no longer updated by Apple.
There is a bug in the MAE 1.0a Patch system folder update script. The CleanUpExit function in the script improperly moves "MAE Enabler.SAVE" to "Finder" instead of moving "Finder.SAVE" to "Finder".

You can correct this by manually renaming (mv) "Finder.SAVE" to "Finder". The only time this problem occurs is when something goes wrong with the update process, which should seldom happen.

The following shows the errant portion of the install script:

```
## CleanUpExit ##
function CleanUpExit
{
! /bin/mv "$sysfol_dir/MAE Enabler.SAVE" "$sysfol_dir/Finder"
/bin/mv "$sysfol_dir/MAE Enabler.SAVE" "$sysfol_dir/MAE Enabler"
exit 1
}
```

The following shows what it should be:

```
## CleanUpExit ##
function CleanUpExit
{
! /bin/mv "$sysfol_dir/Finder.SAVE" "$sysfol_dir/Finder"
/bin/mv "$sysfol_dir/MAE Enabler.SAVE" "$sysfol_dir/MAE Enabler"
exit 1
}
```

Support Information Services
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LaserWriter Pro 630: Requires LaserWriter 7.2 or Greater

I am using LaserWriter driver version 7.1.2 that came with System Software 7.1 to print to a LaserWriter Pro 630. When I select 'Print Window' or 'Print Desktop' nothing ever prints. The lights on the printer continue to blink until the printer is turned off and on again.

This article has been archived and is no longer updated by Apple.

The printer is experiencing a processing error. When printing to the LaserWriter Pro 630 on an Ethertalk network, the Macintosh should have version 8 of the LaserWriter driver, or version 7.2 supplied with the printer. Processing errors like this are common when using LaserWriter driver 7.1.2.

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Macintosh 630 Family: IDE Drive-Asynchronous Support (3/95)

Does the IDE drive in the Macintosh 630 family support asynchronous transfers?

This article has been archived and is no longer updated by Apple.
Disk drives can be either synchronous or asynchronous depending on the driver used. The driver determines if a drive will use asynchronous or synchronous communications. The IDE driver on the 630 family supports asynchronous communications. In general, Performa computers with 68040 processors running System Software 7.5, or Performa Computers with PowerPC processors, can support asynchronous drive communications.

The following computers are in the Macintosh 630 family: Performa 630, Performa 635, Performa 636, Performa 637, Performa 638, LC 630, and Quadra 630.

Article Change History:
17 Mar 1995 - Corrected PowerPC wording.

Support Information Services
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System 7.5 & QuickDraw GX: "Finder:error type 11" (2/95)

My System crashed, and now I am getting the error: "Finder:error type 11" whenever I start the system. If I remove QuickDraw GX, I do not get the error. I have reinstalled my System Software, reset the PRAM, and run Disk First Aid, and still get the error whenever I have QuickDraw GX installed.

This article has been archived and is no longer updated by Apple.
Try throwing away the Desktop Printer icon. This icon contains settings that could have gotten corrupted when your system crashed.

Support Information Services
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PowerBook 500 Series: PowerPort 500 Error on Startup (5/95)

There appears to be an issue with the Global Village Modem Software installed in the PowerBook 500 Series computers that are running System 7.5.

This article has been archived and is no longer updated by Apple.
You may encounter the following messages:

* This Macintosh may not have been shut down properly

* Incoming Fax cannot be received because internal modem could not be identified. To identify the modem open up PowerPort control panel hold down option key and click on PowerPort text.

The PowerBook then freezes.

To fix this problem

Step 1:
Restart holding down the Space Bar to open Extensions Manager.

Step 2:
Disable the PowerPort 500 control panel by removing the check mark.

Step 3:
Close the Extensions Manager window to complete the start up process.

Step 4:
Open the General Controls panel and turn off the shutdown warning.

Step 5:
Open the Extensions Manager control panel, turn the PowerPort 500 control panel back on, and restart.

If this does not solve the problem, restart with extensions off, and remove the following items from the System Folder:

* Queue Temp and GlobalFax Preferences files from the GlobalFax Personal folder
* GlobalFax Files and GlobalFax Personal folders
* PowerPort 500 control panel

Then reinstall the Global Village software from original disks. Move the GlobalFax addresses into your new folder. You may also want to save the Fax log, the cover sheets and received Faxes.

You should also be sure that the Apple Express Modem or Fax software is not installed as this may conflict with the Global Village modem.

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Volume II, Issue 1, Page 8

Article Change History:
03 May 1995 - Added keyword; made minor technical updates.
31 Mar 1995 - Reviewed for technical accuracy.
07 Feb 1995 - Corrected article to only refer to System 7.5.

Support Information Services
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LaserWriter: Wrong Screen Frequency Causes Negative Image 10/94

We are printing to a LaserWriter IINTX using Quark Xpress, and our photographed images are printing "negative" like images. Printing to a LaserWriter IINT has the same result. Our document printed fine on a previous LaserWriter printer.

This article has been archived and is no longer updated by Apple.
The reason you are getting a "negative" image is that you are probably setting too high a screen frequency (Lines Per Inch) for your document. The higher the lpi, the lower the number of grays. When selecting a Quark PDF or Apple PPD file for the LaserWriter IINTX, the default lpi (lines per inch or screen frequency) setting is 150. With 150 lpi, you can only get about five levels of grays. What you need to do is to click the checkbox "Use PDF screen values" in Page Setup which sets the lpi to a lesser value (60), and allows for a greater number of grays.

Something you might want to remember is that Page Setup settings are stored with the document, so if the printer was working with a previous document, it probably had a "correct" lpi setting.

Support Information Services
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Pinpoint: BASIC Programming Considerations

This article discusses several Basic programming considerations when also using Pinpoint.
This article has been archived and is no longer updated by Apple.
Memory Usage

When Pinpoint is installed to operate in conjunction with the ProDOS interpreter BASIC.SYSTEM, it occupies some memory space on the $300 page. It requires the memory space from $300 thru $3BA. This area is not used at all by BASIC, but is often used by small machine language programs. If a small machine language program is loaded here, you will lose control of your machine keyboard.

In addition, a 16K portion of the /RAM drive is reserved for Pinpoint, reducing the block count available on the RAM drive by 32 blocks. The Pinpoint Dispatcher is stored away in the upper 16K of the Extended memory bank.

Key trapping

If your program uses the standard BASIC character reading capability (i.e. Input, Get), then Pinpoint can trap the Solid-Apple-P key. If you call a machine language routine for keyboard input, it will not be intercepted by Pinpoint. If you wish to check the $C000 strobe in your machine language program, you can call $32D. It will return the standard result of an LDA $C000 providing that a Solid-Apple-P has not been hit.

Invoking Pinpoint directly from BASIC

If you wish, you can invoke Pinpoint directly from your program. This would allow you to re-assign the Pinpoint key. Simply CALL 883 from BASIC (JSR $373 from Machine Language). This will cause the Pinpoint Accessory Menu to appear.

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System 7.5: Some Multiple Scan Displays Show One Size

After installing Sytem 7.5 on a Macintosh Quadra 840AV, the Multiple Scan Display only allows a screen resolution of 640x480.
This article has been archived and is no longer updated by Apple.
The problem you are seeing is due to additional portions of the Display Enabler functionality added to System 7.5. If you use the Display Enabler with System 7.1, you have the same problem.

Workaround

Hold down the Option key while clicking on the Options button in the Monitors control panel. Holding down the Option key forces the Macintosh to display all available resolutions.

This issue only occurs on Macintosh Centris/Quadra 660AV and Quadra 840AV computers.

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LaserWriter Fax: Transmission Rate Supported

What is the send baud rate supported by the LaserWriter Select 360 and LaserWriter 16/600 PS printers?
This article has been archived and is no longer updated by Apple.
The fax send/receive transmission rate for the PostScript Fax Option cards are 9600 baud; however, sophisticated PostScript Level 2 compression routines enable faxes transmissions to achieve an effective higher throughput when faxing another PostScript capable fax machine. Whenever faxing another PostScript capable fax machine, select the PostScript file fax option for optimal throughput. This also prints the fax out at the target printer's resolution, such as 600 DPI on the LaserWriter Select 360f.

You can also choose from two fax raster standards, Fine for sending CCITT Fax Group 3 high resolution (200x200) rasterized images, and standard (100x200) for standard rasterized images.
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LaserWriter: Must Download Latin 2 Character Set (10/94)

I am trying to figure out how to print my Latin 2 characters and accents from the DOS side of my DOS Compatibility Card to my LaserWriter IINT. I understand that I need to use some kind of "download" program to do this. How do I do this?

This article has been archived and is no longer updated by Apple.
The problem is that the LaserWriter IINT printer does not support the Latin 2 symbol set, so it has to be downloaded to the printer.

There are several ways you can proceed. The easiest is to download the proper font from the Macintosh side and then print from the DOS side using the serial connection on the printer. This method requires you to use PostScript as your printing language.

1) Download the font in the Macintosh environment using the LaserWriter
Utility.

2) Switch to MS-DOS, make sure the font is loaded in the application,
and print as normal.

If you purchase PostScript fonts for Windows, they usually come with a utility to download the font.

Non-PostScript Program

If you are not using a PostScript capable program on the MS-DOS side, it is a little more difficult. You need to reformat the document on the Macintosh
side (if possible) and print using a Macintosh program.

Support Information Services
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LaserWriter 16/600 PS: No Interchangeable Parts (10/94)

Can I use the paper tray from the LaserWriter 600/630 on the LaserWriter 16/600 PS printer?

This article has been archived and is no longer updated by Apple.
The trays and sheet feeders for the LaserWriter 600/630 are not compatible with the LaserWriter 16/600 PS. However, the accessories for the LaserWriter 16/600 PS are backward compatible to the LaserWriter 600/630.

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LaserWriter 16/600 PS: No Upgrade From LaserWriter 600/630 10/94

Can I upgrade my LaserWriter Pro 630 to the LaserWriter 16/600 PS printer?

This article has been archived and is no longer updated by Apple.
There are no options to upgrade the LaserWriter Pro 600/630 to the LaserWriter 16/600 PS printer.

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Apple Hard Drives: Termination Requirements

Hard drives or DAT drives may need to have the termination resistors removed or made inoperative on certain configurations of multiple drive systems or WorkGroup Servers. Below is a brief description of termination requirements for the different systems or WorkGroup Servers. This article has been archived and is no longer updated by Apple.

Computer Model	Termination Requirement
Quadra/Centris 660 AV Quadra/Centris 610 Power Macintosh 6100/60 Workgroup Server 60 Workgroup Server 6150	Hard Drive needs termination
Macintosh IIvx, IIvi Quadra/Centris 650 Power Macintosh 7100/66	Hard Drive needs termination
Quadra 800/840 AV	Last drive in line needs termination. Remove termination from all other drives installed, including DAT.
Power Macintosh 8100/80 Workgroup Server 8150	Has two internal cables: 1) Internal/external cable requires that all drives have no termination. Remove termination from all internal drives (termination is on cable) 2) The internal channel cable (max 1 drive only) requires termination.
Quadra 900 Quadra 950 Workgroup Server 95 Workgroup Server 9150	Remove termination from all internal drives (termination is on cable).

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Macintosh 630 family: Trouble Setting Date and Time

This article provides information on resetting a Macintosh 630 family logic board when the date or time cannot be properly set.
This article has been archived and is no longer updated by Apple.
If you have trouble setting the date and time on a Quadra 630, the red button on the logic board needs to be pressed to reset the logic board.

Because of the possibility of damage to the logic board, this operation needs to be done by an Apple authorized service provider.
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Pinpoint 1.0: No XOFF recognition in Play Mode

When Pinpoint is in PLAY mode, it reads a file contents and transmits it. Should the reciever issue an XOFF during the process, Pinpoint continues to transmit data. This will result in lost information for the reciever. A stream of ^S (XOFF) characters may appear on the screen.
This article has been archived and is no longer updated by Apple.
User Action:

The user is stuck here. He should press the ESC key to pull down the FILE menu, and select "Play File Done".

Note: Should Pinpoint be a recording terminal, then an 8K recieve buffer is used to store incoming characters. Once the 8K buffer is full, an XOFF character is sent to the source encouraging them to suspend transmission of data. Pinpoint then flushes the 8K buffer to disk and issues an XON to resume recording.

FIXES:

There is no fix for this that can be applied by the customer. Version 1.1 will remedy this problem by recognizing XOFF from the sending terminal.

Once an XOFF signal has been sent by the host machine, then Pinpoint will hover around waiting for an XON (or an ESCAPE key pressed by the user).

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.
Published Date: Feb 19, 2012

AWS 95: Disappearing MacPartition (10/94)

I have two relatively new Apple Workgroup Server (AWS) 95 computers. I believe each has the last version of the software, including the patches that have been released. Both have been in action for about 30 to 60 days. For some unknown reason, the they no longer show the MacPartition after launching A/UX.

The computers startup normally, showing the MacPartition and auto-launch A/UX startup. Both computers launch A/UX, the finder, and auto-launch AppleShare file and print services as expected. However, the MacPartition never mounts on the desktop once UNIX is launched, and is no longer visible from the finder.

If we then run HD Setup and update the drivers on the MacPartition, the MacPartition mounts upon quitting HD Setup. After one restart, the MacPartition will again disappear.

We tried erasing the MacPartition and reinstalling the software that is normally there, but it did not solve the problem. Any suggestions?

This article has been archived and is no longer updated by Apple.
You must have had the "Password Checking" enabled in A/UX 3.1 Startup.

In A/UX 3.1 it has been reported that if the "Password Checking" was turned ON in A/UX Startup, the MacPartition (in AWS 95 boot volume) will be hidden from all users, including the root super-user. This symptom has been submitted as an enhancement request since AWS 95 A/UX 3.1 was released.

This behavior has been changed with the release of the AWS 95 Tune-Up 2.0, which is expected to be released in the next couple of weeks.

The only workaround, until AWS 95 Tune-Up 2.0, is to disable "Password Checking" in A/UX StartUp.

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LaserWriter 8.x: Cover Page Printed With Every Document

Whenever I print a document an extra page is printed with information that resembles the following:

User John Doe
Application Print Monitor
Document README- System 7
Date Sat. Oct 22 94
Time
Printer LaserWriter 16/600 PS"

Why is this page printed and how can I turn it off?
This article has been archived and is no longer updated by Apple.
The LaserWriter 8 driver allows you to specify whether or not to print a cover page with each print job.

Modifying the Settings

1) Select 'print'

2) Press the 'Options' button
The top option determines whether there should be a cover page, and whether it should print before or after the print job.

3) Select 'none' and the cover page no longer prints

The buttons are sticky so they remember the settings from the previous print job.
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Quadra 840AV: Unusual Ethernet Address

By Option-clicking on the Ethernet icon in the MacTCP Control Panel, I am getting the Ethernet hardware address of my Quadra 840AV. The address I get back is nothing like everyone else's which starts with 08.
This article has been archived and is no longer updated by Apple.
Apple provides a mechanism that allows the physical Ethernet address of a card or system to be different than the physical Ethernet address built in to the Ethernet card or Macintosh logic board.

The "aa 00 04" is registered for use by DECnet nodes. TSSnet from Thursby Software Systems changes the physical Ethernet address by adding an 'eadr' resource to the System file. Inside this resource is 6 bytes that make the physical address that is to be used.

If the customer is not using DECNet software and wants to change back to the real physical Ethernet address, they can remove the 'eadr' resource from the System file or delete the System Folder and reinstall.
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LaserWriter Select 360: Prints Extra Information Page (10/94)

When sending print jobs to my LaserWriter Select 360, I always receive an extra page with the following information printed on it:

User "User Name"
Application Print Monitrp
Document PS OHPH
Date Sat. Oct 22 94
Time 10:00 AM
Printer LaserWriter Select 360"

What is this page and can I disable it?

This article has been archived and is no longer updated by Apple.
The LaserWriter 8 and later drivers let users specify whether a cover page is or isn't printed with each print job. The information you provided in your request indicates that the cover page feature is turned on. Once selected the buttons will remember a setting from the previous print job.

To modify the settings, select print from the File Menu within any application, and click the Options button. The very top option determines whether there should be a cover page, and whether it should print before or after a print job. Click the None radio button and cover pages will no longer print.

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MAE: Floating Point (Math) Coprocessor Support (10/94)

Does MAE support applications that require a math coprocessor? If not, can I use SoftwareFPU to use those applications?

This article has been archived and is no longer updated by Apple.
No, MAE emulates a Motorola 68LC040 processor, and does NOT support applications requiring a Floating Point (math) Coprocessor (FPU). Also, SoftwareFPU does not work under MAE.

Support Information Services
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LaserWriter: Using non-AppleTalk connectors with AppleTalk

This article has been archived and is no longer updated by Apple.
With the Macintosh Plus, use the Macintosh Peripheral Cable, M-0185, and connect the 9-Pin end of the M-0185 to the LaserWriter and the Mini-8 end to the Macintosh Plus printer port.

To connect a single Macintosh or Macintosh XL to a LaserWriter without using the AppleTalk connector modules, construct a new cable using the following pinouts:

Macintosh Plus Macintosh Macintosh XL Signal LaserWriter Signal
Mini-Circular 8 DB-9 DB-25 DB-9

4 3 1 GND 3 GND
6 4 20 TXD+ 8 RXD+
3 5 2 TXD- 9 RXD-
8 8 9 RXD+ 4 TXD+
5 9 3 RXD- 5 TXD-

Set the LaserWriter's mode switch for "AppleTalk", use the control panel to "Connect" AppleTalk, and use "Chooser" to select the LaserWriter.

CAUTION! To avoid FCC Class B signal violation, this cable should be fully shielded, as the data is at a very high rate and is not attenuated by the connection boxes normally used in AppleTalk.
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System 7.5: Long Startup Times

User complains that "bootup is too long" after installing System 7.5 -- that it takes a long time for their Macintosh running System 7.5 to restart? This article describes two areas to check for possible situations that could slow down your computer.
This article has been archived and is no longer updated by Apple.

Building of the Apple Menu Submenus

When using System 7.5 and the Apple Menu Options control panel with Submenus turned on, there can be a noticeable delay as the Finder launches. What is happening is the building of the Apple menu hierarchical pop up menus. Depending on how many folders are present under the Apple menu, the delay before the Finder is ready for operation may be very noticeable. Including an alias to the hard drive itself, which allows for hierarchical navigation of the disk file system, causes the longest delay for the Finder to fully examine the disk's folder organization down to five levels.

Try turning off the Submenu option in the Apple Menu Options control panel to see if this is what is causing the delay. Removal of an alias to a hard drive is another option to try. As another alternative, you can try the many commercial utilities such as Now Menus, HAM, and MenuExtend, or shareware products like BeHierarchic, MenuChoice, and so on that support hierarchical Apple menus. These third party products offer different features from Apple Menu Options and have different approaches when they build, update, and cache the pop up menus.

Personal File Sharing

Check to see if you are running Personal File Sharing. Personal File Sharing initialization takes place in parallel with the initial availability of the Finder, but can be noticed by the sound of disk activity after the Finder is ready to use. Initialization of File Sharing can depend on the number of items shared and the complexity of access privileges.

Occasionally, the integrity of the AppleShare PDS file can become corrupted, causing long initialization and a lot of disk activity. Deletion of the AppleShare PDS file and recreation of the access privileges restores the integrity of the file and shortens File Sharing startup time.

As the file is invisible, you must delete it with ResEdit or a third-party utility that can view invisible files. Use the utility to make the PDS file visible on the desktop so that it can be trashed from the Finder.

Warning: The instructions in this article refer to using ResEdit. Apple Computer, Inc., is not liable for any damage done to your software through the use of ResEdit to alter software.
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Macintosh Performa: System 7.5 Installation Issue

This article discusses difficulty installing Macintosh System 7.5 on a Performa computer. You may receive a generic error message saying it cannot install System 7.5 on the hard drive.
This article has been archived and is no longer updated by Apple.
This may be a folder lock conflict.

Prior to System 7.5, the Macintosh Performa computers used a slightly modified version of System 7.x, including the Performa Control Panel. It provides folder protection by locking the folder so items cannot be accidentally removed. Only the System folder and the Application folder can be locked using the Performa control panel.

Before you can install System 7.5, turn off System folder protection in the Performa control panel. Under System 7.5, you can turn System and application folder protection off and on using the General control panel.

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Newton MessagePad: Types of Memory & Memory Errors

This article describes the different types of memory on the Newton MessagePad, how to get the most out of your existing memory, and memory related errors.
This article has been archived and is no longer updated by Apple.
The Newton has two kinds of memory, system memory and user storage. System memory is analogous to the RAM memory in a desktop computer, user storage to the storage space on a disk drive. The memory space reported in the Memory Preferences window is for user storage. There are shareware packages that measure system memory (heap space), but it is not displayed by the Newton system software. This system memory is further broken down into different uses, but we won't expand on what they are in this discussion. It is in the system memory that programs actually run and store the intermediate data that they create. Permanent data, as well as the packages themselves are stored in the user storage.

When an out-of-memory-restart error occurs, the Newton runs out of system memory. That is, some part of the system or a package made a request to use system memory and that request failed due to insufficient memory. The machine was unable to proceed without the memory so it did the only thing that it could, offer to reset the Newton MessagePad. In simple terms, it offered to wipe the slate clean and start again. Tapping reset in the error dialog has the same effect on system memory as opening the battery door and pressing reset.

Normally there is enough system memory to go around. For instance, many members of the PIE (Personal Interactive Electronics) division have been running MessagePad 110's since product launch and never gotten an out-of-memory-restart error. But, each time you load a package, either by downloading, or by inserting a PCMCIA card, that package is "installed". Installation integrates the package into the Newton. It uses some small amount of system memory to do this. Install enough packages, and the Newton MessagePad runs out of system memory. If this were the only cause of out-of-memory-restart errors, the problem would rarely occur. Installing a package takes up only a few hundred bytes. Installing hundreds of packages would be required to run out of memory this way.

Removing the PCMCIA card or removing the software from the card or the internal user storage removes not only the package, but also the integration information, thereby freeing up the same small amount of system memory.

Packages can do other things to make permanent use of system memory. They can create objects and then leave references to those objects around so the system can't get rid of them. Resetting the Newton removes all these objects and references until a package creates them again. It is this "garbage data" left around by packages that contributes to memory problems. There are packages that leave around 20K bytes or more of data each.

Why does this limitation exist?

On a desktop computer whenever you close or quit an application, the information for that application is eliminated and the memory space reclaimed. Only when many applications are run simultaneously does a system run out of memory . You can attempt to run one application that asks for more memory than is available, but this is a less common case. Most applications know how to live within their own memory allocation. The system only has problems when several of them are run simultaneously.

It is this issue of running simultaneously that we need to address. Not enough has been said about the Newton MessagePad architecture in the press or in the developer manuals. The Newton MessagePad is a new and different kind of platform. It has distinct advantages that are not possible with older machines (operating systems). It also has limitations, some of which are imposed by the new architecture.

Consider a Macintosh or a Windows computer. A typical user has 8 to 32 megabytes of RAM and at least 120 megabytes of disk. However, there are still many Mac Plus computers out there with 1 Meg of RAM and a 20 Meg disk. These arguments apply to them too, it's just a matter of scale. When running a program on this type of machine, memory is allocated to the program when it is loaded from the disk, perhaps a data file is loaded from the disk, and the program's function is performed. Afterward the program and the data are flushed from the RAM and the memory is reused to run the next program. When the program is not running, it's dead. It can't receive messages, it can't respond to changes in its files, it can't communicate.

Consider the size of that machine. There will be a day when 8 megabytes of RAM, 120 megabytes of disk and the power to run them will fit in the palm of your hand and cost less than $600, but that day has not arrived yet.

The Newton MessagePad architecture is targeted at machines you can hold in your hand for less than $600 today. That means that the storage of the machine must be compressed in space and cost (not to mention battery power requirements). It is this compression that led to Apple's creation of NewtonScript, an interpreted language that is far more memory efficient than C or C++.

The Newton MessagePad architecture is also targeted at being a personal assistant. As an assistant, all of its functions should be available all the time. Even more importantly, it has an object oriented database, called "soups", rather than files so that Newton functions and packages have access to all the data. Cross functional (inter-package) access to data is allowed and even encouraged.

Even when it's not "running", a Newton package can respond to changes in its soups, it can respond to incoming data from modem, network, IR, or even messages from other packages.

Newton packages can access the data in another package's soup. A fax editor package can make use of the Names soup for its address book. It can get its data from the NotePad, or from an e-mail message. A Contact Manager package can make use of the Names soup to look up contact information. It can schedule items into the To Do list, or the Calendar. Apple calls this Newton Intelligence.

There are single applications on desktop computers that integrate these sorts of cross functions. These "all in one" applications exist because desktop machines have not yet learned how to have the separate applications work together. As a result, you can't have your favorite address book program communicate with your favorite calendar program to create a contact manager function. The two programs don't talk to one another.

Newton packages need to always be active in some way. When a package is loaded into the Newton, the package tells the system about itself and its soups. It prepares itself and the system to deal with its soup data and messages it might receive. This causes the package to take up system memory even though the user has not opened it. Again, only a very small amount of memory is used up for this capability.

Not every package on the Newton, including those from Apple, has yet to exploit all of the Newton's advantages. That is why it is important to get this message out. Developers need to create packages that make use of Newton Intelligence. A package which duplicates the information in another package's soup is wasting storage space. In a sense, a package that duplicates the function of another package is also wasting space. Packages should work together, use one another's soups, and only provide the new functions that don't already exist.

Users who load packages that leave "garbage data" around will eventually see out-of-memory-restart messages. The way to minimize this problem by not loading packages that require a lot of permanent system memory. Watch out for these packages and put them on a separate card. Run these packages by themselves. When you are through running them, the Newton MessagePad should be reset. This is an extreme measure, and only applicable if you are getting a lot of out-of-memory-restart errors.

Here is another strategy. When you identify a particular package or combination of packages that causes out-of-memory-restart errors, break up that particular combination. "Break up" means don't have that combination installed simultaneously. If you install lots of packages internally, move some of them to cards that aren't normally loaded in the Newton MessagePad. If a couple of packages are suspected of causing problems, then move them to separate cards so that they are not loaded at the same time. Remove packages that have little or marginal value.

As developers learn more about the Newton MessagePad, fewer packages will waste space. Even now, the Newton performs well for the majority of customers. It offers users and developers features that electronic products have not had available before. Apple hopes more developers will take advantage of the unique Newton architecture and build products that make efficient use of existing soups and Newton functions. This will lead to a powerful integrated Newton system.

Questions & Answers

Q: How can customers identify packages that use more system memory?

A: There are various shareware packages that measure system memory (heap space). Users with access to one of these packages can measure the amount of system memory a package uses by measuring the system memory just before and just after running the package the first time. The amount that the system memory goes down is the amount used by the package. If the amount is more than one or two kilobytes then that package is using more memory than it should.

Users who don't have access to a package that measures system memory, will have to infer which packages are causing problems. When out-of-memory-restart errors are frequent, the installed combination of packages is straining the Newton. Try to break up that combination until the errors stop. It's sort of like tracking down conflicting extensions on the Macintosh or conflicting memory resident applications on the MS-DOS PC.

Q. Is removing install scripts with a soup editor such as RemoveIt, StewPot, or Souper a good or bad idea to increase system memory?

A. It's a bad idea. The install script may contain code that the package needs while running. The package authors need to be the ones to modify a package to use less system memory. It's not a good idea to try and second guess the authors of the package.
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HyperCard 2.2: Can‘t Access Tool Palette (10/94)

I am using HyperCard 2.2 on my Macintosh Quadra 630 and I want to access the Tools palette by hitting option-tab. I get the message that the Apple Video Player cannot find the appropriate hardware to activate.

This article has been archived and is no longer updated by Apple.
The option-tab key combination to access the Tools palette in HyperCard 2.2 is also the same default key combination to turn on the Apple Video Player.

The Macintosh Quadra 630 does not come with the Apple Presentation System or the Apple Video/TV System pre-installed, so the Apple Video player application cannot startup.

To avoid this error message do the following:
1) open the Apple Video Player
2) access the Setup menu
3) select Hot Keys
4) change the key combination to activate the Apple Video Player
to something other than option-tab.

The next time option-tab is used to access the Tools palette in HyperCard, the Tools palette will be activated, not the Apple Video Player application.

Support Information Services

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AppleScript: Some Control Panels are Scriptable

I want to write a script that will toggle "Show Desktop in Background" feature of 7.5 General Control Panels.
This article has been archived and is no longer updated by Apple.
The Scriptable Finder should be looked upon as a first release of product whose capabilities will increase and improve.

Control Panels are a special class of Finder objects, not applications. Currently, the General Control Panel has no scripting capability. Applications such as Desktop Patterns can be implemented with their own scripting capability. A few Control Panel such as the Views control panel have some scriptable features, and to a limited extent, so do Sharing Setup and Users & Groups. Monitors settings have been addressed through Scripting Additions.

Since Control Panels are Finder entities, their scripting definition have to be embedded into the Finder's Dictionary. The current presence of scriptability of a Control Panel function is certainly related to the probable frequency of use. For example, how often does one change the Date & Time or set the names or colors on Labels as opposed to changing a folder view or starting file sharing? Likewise, it probably would not offer a lot of additional functionality to be able to script the MacTCP Control Panel.

With respect to toggling "Show Desktop in Background", AppleScript does not provide that option. Like your Mouse Speed, this function falls in the category of a user setting it once and leaving it that way.

The many setting within Control Panels is where other OSA compliant extensions, like QuicKeys or Frontier, can step in and assist. QuicKeys and Frontier use a different model of scripting and each has weaknesses and strengths compared to AppleScript. A strength of QuicKeys is that it can script almost any application, desk accessory, or Control Panel, whether they are AppleScript-aware or not.
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PC MultiMedia Kit: Manual Install of Sound Card SW

The following are the instructions for installing the Sound Card software for the PC MultiMedia Kit.
This article has been archived and is no longer updated by Apple.
Here are the steps for a manual install:

1) Make sure you are at the c:\\ prompt, insert Spectrum disk into the drive

2) Type in "xcopy x: c:\\spectrum<cr>" where "x" is the drive the Spectrum floppy is in.

3) If the c:\\spectrum directory does not exist, the system will ask you if c:\\spectrum is supposed to be a file or a directory. Hit "d" for directory, and the files from the Spectrum disk will be copied to the newly created Spectrum directory on the c: drive.

4) After the copy is completed, type "cd c:\\spectrum<cr>". You are now in the Spectrum directory.

5) Type "lharc e programs.lzh<cr>". If it asks you if you want to overwrite any files, answer yes.

6) Edit the config.sys file by typing in "edit c:\\config.sys<cr>". Add the following two lines:
device=c:\\spectrum\\mvsound.sys d:x q:y s:1,220,1,5 M:0 J:0
device=c:\\spectrum\\tslcdr.sys d:/mvcd001
(where "x" = the DMA channel desired and "y" = the IRQ desired)
hit <alt>F, then "x", then hit <cr>. Alt-F pulls down the "file" menu, "x" is for ext, and <cr> answers yes to save the file.

7) MAKE SURE YOU BACK UP THE SYSTEM.INI FILE BEFORE DOING THIS!
Type "edit c:\\windows\\system.ini<cr>" to add the proper lines to the system.ini file if also installing the software for Windows.

8) Add the following to the system.ini file:
Under the [386Enh] section:
device=vpasd.386
dmabuffersize=64

Under the [mci] section
mixer=mcimixer.drv

Under the [drivers] section
Wave=mvproaud.drv
MIDI1=mvproaud.drv
Aux=mvproaud.drv
MIDI2=opl3.drv
Mixer=mvmixer.drv
midi=opl3.drv

Add the following sections at the end of the system.ini file, include the lines listed under the section headings:

[mvproaud.drv]
dma=x (where "x" = the DMA channels set in the config.sys file)
irq=y (where "y" = the IRQ set in the config.sys file)

[opl3.drv]
drumchannel=10
patchfile=(none)

[Multimedia.Setup]
audio=mvproaud.drv,0,0,0

9) Reboot the machine. If it hangs, then boot to floppy and change the values for "d" and/or "q" in the "mvsound.sys" line. The best thing to do again is to get a diagnostic program to tell you which DMA/IRQ channels are available, so you don't have to keep trying different combinations. The install program is NOT reliable enough to determine free DMA/IRQ channels 100% of the time. Manually loading the software as described above will work almost all of the time.

10) After a successful boot, type "cd c:\\spectrum<cr>" then type "playfile testdma.wav<cr>". This will test the sound card. If you hear sound (assuming the speakers are connected correctly), then everything is set up correctly and working properly. If you don't hear sound, check for possible DMA and/or IRQ conflict.

If you have tried a DMA/IRQ combination that you know is free and the machine still hangs, its possible you have either a corrupted driver or an old driver.

The "mvsound.sys" line is the sound card device driver.
The "tslcdr.sys" line is the cdrom device driver. Notice that you MUST add "mscdex.exe" to the autoexec.bat file to be able to access the CD-ROM drive. See the DOS documentation for information on mscdex.exe

Some things to watch out for:
1. Incompatible device drivers or tsrs. If the sound card device driver hangs the machine and you know it's set to a valid DMA/IRQ combination AND you know the driver to be good, eliminate other driver/tsr conflicts by loading the spectrum device driver by itself.

2. Board conflicts: If the machine is loaded with expansion boards (modem, network card, SCSI card, etc...) it could be that you DON'T have any DMA or IRQs left! Be sure you KNOW what all boards in the system are set to, so you can avoid conflicts.

3. Corrupted drivers.
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Pinpoint: RAM CARD Compatibility

This article discusses compatibility between Pinpoint and different vendors RAM cards.
This article has been archived and is no longer updated by Apple.
Pinpoint, AppleWorks and the Apple Extended Memory Card

Pinpoint will automatically recognize an Apple Extended Memory card installed in an Apple IIe. It will use this memory to speed up access to your desktop accessories. When you program starts up, the desktop accessories will be automatically copied over to the corresponding RAM drive on the expanded memory card. Access to the accessories will be near instantaneous.

It is advisable to start up your AppleWorks program with your accessory disk in the second drive. This way the desktop accessories can be automatically copied to the memory card.

Pinpoint can be modified to prevent certain (or all) desktop accessories from being copied to the RAM disk provided by the memory card. This may be applicable, for instance, if you don't have a modem, and wish not to have the communications package installed in memory. This modification is available from Pinpoint Publishing for a cost of $8.00, and can be ordered directly either by phone or mail. The product name is "Pinpoint RAM Enhancement Kit".

Pinpoint, AppleWorks and RamWorks/Z-Ram

If you are using the RamWorks or Z-Ram products from Applied Engineering, you will need version 4.3 (or greater) of the Super AppleWorks Desktop Expander. If you are using an earlier version, contact Applied Engineering for the most recent copy. Pinpoint will not run with earlier versions of the AE desktop expander.

Pinpoint can take advantage of the extra memory contained on your memory card if a portion is configured as a RAM drive. This will require the ProDrive software from Applied Enginering. Be sure to use the ProDOS version. By having the RAM drive available while running AppleWorks, Pinpoint will use it for creating necessary temporary files. It will provide access to your desktop accessories much more quickly.

In addition, there is a modification that you can install on Pinpoint so that it automatically copies the desktop accessories to the RAM drive when you start your AppleWorks up. This provides near-instant access to your accessories. In order to use this option with RamWorks or Z-Ram, it is recommended that your machine contains at least 512K. This modification is available from Pinpoint Publishing for a cost of $8.00, and can be ordered either by phone or Mail. The product name is "Pinpoint RAM Enhancement Kit".

Optionally, you could use the RAMDrive software Ver. 3.3+ to create the RAM drive locking out the appropriate banks for AppleWorks. Bank 0 should be locked out for use by Pinpoint. It is advisable to leave about 3 banks of memory available for use by the Ram drive. You could then use the "COPY.FILES" program provided on the ProDrive disk to copy all or some or the following files:

CALENDAR.PP	- Appointment Calendar
CALCULATOR.PP	- Calculator
COMM.PP	- Communications Window
GRAPHMERGE.PP	- GraphMerge
NOTEPAD.PP	- Notepad
QUICKLABEL.PP	- QuickLabel
TYPEWRITER.PP	- Typewriter

Pinpoint and Checkmate Technologies Board

If you are using the Checkmate MultiRam IIe, you will need version 4.0 (or greater) of the AppleWorks Memory Expander. If you are using an earlier version, contact Checkmate Technologies for the most recent copy. Pinpoint will not run with earlier versions of the memory expander.

Pinpoint can take advantage of the extra memory contained on your memory card if a portion is configured as a RAM drive. This will require the Utility software found on the flip side of the MultiRam disk. Be sure to use the ProDOS Ram drive. By having the RAM drive available while running AppleWorks, Pinpoint will use it for creating necessary temporary files. It will provide access to your desktop accessories much more quickly.

In addition, there is a modification that you can install on Pinpoint so that it automatically copies the desktop accessories to the RAM drive when you start your AppleWorks up. This provides near-instant access to your accessories. In order to use this option with MultiRam, it is recommended that your machine contains at least 512K. This modification is available from Pinpoint Publishing for a cost of $8.00, and can be ordered either by phone or Mail. The product name is "Pinpoint RAM Enhancement Kit".

Optionally, you could set up the RAM drive yourself, and user the FILER program to copy the following programs to your RAM drive:

CALENDAR.PP	- Appointment Calendar
CALCULATOR.PP	- Calculator
COMM.PP	- Communications Window
GRAPHMERGE.PP	- GraphMerge
NOTEPAD.PP	- Notepad
QUICKLABEL.PP	- QuickLabel
TYPEWRITER.PP	- Typewriter

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Published Date: Feb 19, 2012

System 7.5: Problems with Video Mirroring (2/95)

Ever since I installed System 7.5 on my PowerBook, I have been experiencing system crashes when I try to use Video Mirroring. The crash always occurs when I select a menu item from the Label menu in the Finder.

This article has been archived and is no longer updated by Apple.
This behavior seems to only occur under the following conditions:

- System Software 7.5 is installed.
- Video mirroring is enabled.
- 32-bit addressing is disabled.

It appears that the problem does not occur when 32-bit addressing is turned on. Check to see that 32-bit addressing is turned on when using the video mirroring functionality. Doing this should keep the problem from reoccurring.

Article Change History:
14 Feb 1995 - Updated keyword; reviewed for technical accuracy.

Support Information Services
Published Date: Feb 19, 2012

Color StyleWriter Pro: Vertical Lines Not Always Straight 11/94

I have a Color StyleWriter Pro and looking very closely at the output, vertical lines don't appear perfectly straight. Every 1/4-in. or so, the line seems to "notch" over. The line looks like 1/4-in. line segments joined together to form the line. This only occurs with vertical lines.

Why this is happeining?

This article has been archived and is no longer updated by Apple.
The seperation in the line segment is due to the print head being slightly tilted. You can think of the print head as having four parallel columns, each mapping to one of the CYMK colors, and each having 64 nozzles situated vertically. The nozzles, however, are not perfectly straight up and down but on a line that is slightly off from the 90-degree plane. Each column is around 1/4-in. in length, so to draw a vertical line all of the 64 nozzles fire (using the appropriate color) with each pass of the print head. So, the starting point of the top nozzle is slightly off from the dot left by the bottom nozzle's previous pass. This is what you are seeing.

In terms of getting a perfectly straight vertical line, we have found that using "BEST" mode shows very little trace of this problem.

Support Information Services
Published Date: Feb 19, 2012

LocalTalk: Using with Windows NT (11/94)

Can I connect to an AppleTalk network from a Windows NT server? Can I use a LocalTalk cabling system? Are there any sources that document how to connect to a Macintosh network from a Windows NT server?

This article has been archived and is no longer updated by Apple.
With the installation of a Daystar Digita LocalTalk PC card, you can access WindowsNT Server volumes using LocalTalk. This option is available under the "Services for Macintosh" portion of the Windows NT Advanced Server 3.1 or Windows NT Server 3.5 products.

With a LocalTalk PC card and ethernet card installed, the Windows NT Server product can also serve as a router between ethernet and localtalk.

For Windows NT support over Ethernet, install the Macintosh services from within Windows NT. The Windows NT documentation explains how to install the Macintosh services portion of Windows NT. If you find that the documentation does not give you the information you need, Windows NT Unleashed published by SAMS Publishing is available.

Article Change History:
16 Nov 1994 - Added additional information on using LocalTalk.

Support Information Services
Published Date: Feb 19, 2012

MAE and Personal LaserWriter NTR (11/94)

I'm having a problem with MAE (Macintosh Application Environment) which is installed on a HP 9000 running HP-UX. I connected an Apple Personal LaserWriter NTR to the HP computer's parallel port. I don't have problems printing on the LaserWriter NTR from UNIX, but I can't print from MAE. When I try to print, the printer receives the print job, but the output is the postscript code text. I have checked to make sure the print configuration is correct. What am I doing wrong?

This article has been archived and is no longer updated by Apple.
We were unable to reproduce your problem. We printed from MAE v1.0 to an Apple Personal LaserWriter NTR attached through the parallel port of our HP 715 running HP/UX 9.0.3. Here is what we tried:

* Print from UNIX, without MAE running, printed "/etc/hosts", which worked fine.

* Printed from MS Word 5.0 from within MAE v1.0, printed a 30K Postscript Document, which worked fine.

We suggest you try the following:

1) Please double check, using SAM (System Administration Manager), to make sure the re-configured UNIX Kernel has added the parallel NTR printer. Since you reported that UNIX is printing, we assume the configuration is correct.

Note: SAM is an HP/UX utility for system administrators to configure the HP PA-RISC workstation.

2) When configuring the printer under MAE, use the Chooser and set the printer PPD for Apple Personal LaserWriter NTR. Also, the user (UID) for the person configuring the print environment under MAE, should be the same user (UID) for the person running MAE.

3) Down load the MAE patch 1.0a from "ftp.support.apple.com", and install the patch following the instructions provided.

Support Information Services
Published Date: Feb 19, 2012

MAE 1.0a Patch Error: Patch Cannot Be Applied (11/94)

When installing the MAE 1.0a patch on my system, I got the following error:

This patch cannot be applied because your copy of MAE is invalid, or you have already applied this patch, or a newer patch. Please correct the above problems and rerun the patch program.

What's going on?

This article has been archived and is no longer updated by Apple.
Check the version of MAE currently installed on your system by launching MAE with the -version option:

~appledir/bin/mae -version

Either the MAE 1.0a patch was already installed, or you have a newer version of MAE which the patch cannot update.

Support Information Services
Published Date: Feb 19, 2012

Apple IIgs: Failure of Internal Self Diagnostics (11/94)

I initiated the self test (Command-Option-Shift-Reset) on my ROM 03 Apple IIgs and it failed. The computer seems to work fine though. A friend has a ROM 01 computer and it passes each time.

Is there something wrong with my computer?

This article has been archived and is no longer updated by Apple.
The internal self test is not a valid indicator of the health of your computer. In ROM 03 computers, the self test will fail with regularity.

If your computer is functioning normally, you should have no cause for concern. If there are abnormalities in its operation, it would be best to take it to an authorized service provider who can run disk based diagnostics to better determine the problem.

Support Information Services
Published Date: Feb 19, 2012

AppleWorks Pinpoint 1.0: Catalyst 3.0 Incompatibility

There is a problem using Pinpoint 1.0 installed on AppleWorks run from Catalyst 3.0.
This article has been archived and is no longer updated by Apple.
Symptom:

User runs AppleWorks, uses Pinpoint accessories, and everything appears correct. When he exits AppleWorks, to return to Catalyst, the Catalyst desktop appears (less any icons), and then the machine hangs. Now since Pinpoint was not being used, and he was in AppleWorks, the user may not think of itas a Pinpoint problem. In addition, since he has already exited AppleWorks, the user will probably percieve it as a Catalyst problem.

User Response: He must restart the machine via the Control Reset keys.

Resolution: Version 1.1 has corrected this problem.

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Published Date: Feb 19, 2012

Global Village Fax Extension Loads Slow at Startup (11/94)

My Global Village Fax Extension is taking an excessive amount of time to load at startup. Why is that happening?

This article has been archived and is no longer updated by Apple.
At startup, the Fax Extension is accounting for each received Fax document stored in the Received Faxes folder, (it's path is System Folder, Global Fax Files, Received Faxes). If you keep a large number of received Faxes and don't delete them, the Fax extension takes longer to load.

We advise you to delete or move as many of the received Faxes as possible to another location on your hard drive. If you need to view a relocated Fax later, you will nave to move the Fax back into the Received Faxes folder.

Support Information Services
Published Date: Feb 19, 2012

MAE Printing Tips (11/94)

I'm having trouble getting my postscript printer to print reliably under MAE. What should I do?

This article has been archived and is no longer updated by Apple.
While developing MAE, we couldn't test on all possible PostScript printers. Also, many older PostScript printers have very little memory (for example, the original Apple LaserWriter, only had 1 MB of RAM) and it is difficult to print complicated documents on them. Note that a Macintosh computer communicates directly with the printer, so it can optimize the manner in which postscript is fed into the printer and thereby limit the memory needed to print. Since MAE's LprWriter uses the underlying UNIX print spooler, direct communication with the printer doesn't occur. So it is possible for a printer to print a complex document from a Macintosh but unable to print the same document from MAE.

We will be updating LprWriter in the next version of MAE, which may help with some of these difficulties.

Other tips:

1) The LprWriter driver generates Level 1 PostScript, which should print on any "real" PostScript printer that has enough memory. (Some companies didn't license a PostScript interpreter from Adobe, they wrote their own, and often they have problems.)

2) It is very important to specify the correct PPD file for the printer. The PPD file contains information about resident fonts, memory size, page sizes, and so on. If an incorrect PPD is specified, you may have problems printing.

3) If the PPD file for a printer isn't shipped with MAE, you can try and get it directly from the printer manufacturer, or from Adobe. Adobe, the creator of PostScript maintains archives of PPD files, and technical papers about PostScript. These are available on the Internet. You can contact their ftp server, ftp.adobe.com (130.248.1.4). The login is "anonymous", and you should use your e-mail address as the password. PPD files are in the directory:

/pub/adobe/PPD/mac

Note that all spaces in PPD filenames have been replaced with tildes (~), to make it easier to retrieve the files. After downloading a PPD from this directory, change all tildes in the filename to spaces.

Or you can send mail to their e-mail server:

ps-file-server@adobe.com

Send an e-mail message with just the word "help" in the subject for instructions on how to use the e-mail server.

Support Information Services
Published Date: Feb 19, 2012

AWS 95: Workaround for Date Corruption Problem (11/94)

I'm experiencing a problem with my Apple Workgroup Server (AWS) 95 and Retrospect where the date gets changed to the year 2017. Is there any known workaround until this problem is really fixed?

This article has been archived and is no longer updated by Apple.
This problem is fixed with Tune-up 2.0, and we recommend installing it.

You may also try the following:

1) Reset the system clock (General cp will work for this).

2) Delete Retrospect scripts and rebuild them. You may need to delete the entire Retrospect folder (/mac/sys/System Folder/Preferences /Retrospect). The problem is not with Retrospect, but if Retrospect runs subsequent to the date shift, the script files are tainted by the wrong date.

3) You may want to resave any files with 2017 dates. Retrospect still backs them up, but the date information is still disconcerting in the Finder.

Support Information Services
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ImageWriter LQ: No Best Quality With QuickDraw GX (11/94)

I am using the QuickDraw GX printer driver with my ImageWriter LQ. When I print using QuickDraw GX Savvy applications, like SimpleText or Microsoft Word 6.0, and using Best quality my documents don't look as good as when I am using the non-QuickDraw GX printer driver. Why?

This article has been archived and is no longer updated by Apple.
The ImageWriter LQ GX driver, when used with GX-savvy applications, doesn't support the Best quality option. The selection is available, but it does not work. Engineering is aware of this problem and will release a new ImageWriter LQ GX driver in a future release of QuickDraw GX.

The current workarounds are to disable GX, use GX Helper, or use a non-GX-saavy application in order for the regular ImageWriter LQ print dialog to appear.

Support Information Services
Published Date: Feb 19, 2012

Video Mirroring: Use External Monitor as Main Monitor (11/94)

When I use my presentation software, such as Astound, PowerPoint, or Persuasion, in the video mirroring mode, images on my external monitor appear blurry. How can I correct this?

This article has been archived and is no longer updated by Apple.
Most presentation programs write pixel information directly to the monitor. Because of the way video mirroring works, you have to make the external monitor the main monitor. This is done in the Monitors control panel.

Setting External Monitor To Main Monitor
---
1) Open Monitors control panel
2) Set external monitor to main monitor by dragging the miniature menu
menu bar to the image of the external monitor.

Note: You have to change the monitor before you turn on video mirroring.

Support Information Services
Published Date: Feb 19, 2012

LaserWriter 16/600 PS: Custom Install NetWare Utilities (11/94)

This article discusses an error in LaserWriter 16/600 PS User's Guide.

This article has been archived and is no longer updated by Apple.
The LaserWriter 16/600 PS User's Guide states that the Window utilities LWPMAN and LWFORM are installed as part of the Express Installation. This is incorrect. These utilities are installed only when you select Network Utilities from the Custom Installation menu of the Installer.

These utilities are used to set NetWare parameters, so the default network configuration doesn't require them.

More about the Utilities

LWPMAN is only needed if the NetWare administrator wants to change anything about the printer's default PSERVER or RPRINTER configuration (for example, change the NetWare printer name, add a password, or change the queue scan time for the printer). LWFORM is only needed if the NetWare administrator wants to use NetWare Forms.

Support Information Services
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LaserWriter 16/600 PS: Output Filtering Not Supported (11/94)

I have several LaserWriter 16/600 PS printers that I want to use with our UNIX workstations. I have setup the LaserWriter as a remote host using TCP/IP, but cannot get it filtering set up on it. I want to be able to have different print queues on the printer, so people printing can pick letter, or legal size trays depending on the queue they print to. How can I define different queues on this printer?

This article has been archived and is no longer updated by Apple.
Since the LaserWriter 16/600 PS printer is used as a remote printing queue on the TCP/IP network, output filtering is not supported by the remote LPD protocol. This is common in most UNIX remote LPD implementations. Usually, output filtering is supported using a local direct connected printer. So, using a direct connection, you can have output filtering printcap entry in your system.

Some options available to you is to add PostScript code to documents in order to change paper trays. This could also be accomplished using a shell script to control the printing.

Support Information Services
Published Date: Feb 19, 2012

Pinpoint 1.0: AppleWorks/MouseDesk Incompatibility

There is a problem using Pinpoint installed on AppleWorks run from MouseDesk.
This article has been archived and is no longer updated by Apple.
Symptom:

MouseDesk removes the /RAM drive and does not install it when AppleWorks gains control. Pinpoint attempts to access the RAM drive and crashes to the monitor before AppleWorks even runs.

The user should either:

(a) Send back the Pinpoint disk to recieve a more recent version (this problem has been corrected in Version 1.1).

(b) The user can apply a minor patch to Pinpoint and re-install to AppleWorks.

The patch procedure (Version 1.0 only) is as follows:

1. Backup your Pinpoint disks.
2. Startup your Apple with ProDOS BASIC.
3. Place a copy of the Pinpoint Installation disk in drive 1, slot 6.
4. Type "PREFIX,S6" (less the quotes, of course) terminate each line with the Return key.
5. Type "BLOAD PINPOINT.SYSTEM,TSYS,A$2000"
6. Type "POKE 9203,96"
7. Type "BSAVE PINPOINT.SYSTEM,TSYS,A$2000,L15104"

Note: Version 1.1 has corrected this problem.

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Power Macintosh 8100/110: PowerPC Microprocessor Cooling

Does the PowerPC microprocessor used in the Power Macintosh 8100/110 create more heat inside the enclosure and if so, how is the additional heat being dissipated?
This article has been archived and is no longer updated by Apple.
Yes, the 110 megahertz version of the PowerPC microprocessor does generate more heat. We have incorporated a technology based on the Peltier effect to cool the processor.

The Peltier cooling effect is achieved by using a thermoelectric cooler that provides the absorption or generation of heat as a current passes through a junction of two dissimilar materials. Electrons passing across the junction absorb or give up an amount of energy equal to the transport energy and the energy difference between the disimilar-materials conduction bands.

This thermoelectric heatsink is a solid-state device that performs the same cooling functions as freon-based compression or absorption refrigeratiors, but in miniature. The benefits of using this type of device are its small size, high reliability, precision temperature control capability, DC operation, and minimal electrical noise. The Peltier device attaches directly to the microprocessor's heatsink and plugs into the logic board.
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Power Macintosh 8100/110: Differences From 8100/80

What are the specific differences between the Power Macintosh 8100/80 and the Power Macintosh 8100/110?
This article has been archived and is no longer updated by Apple.
The differences are as follows:

- New logic board with PowerPC 601 microprocessor running at 110MHz.

Specific Logic Board differences:

- PowerPC 601 microprocessor running at 110MHz
- Clock chip (CPU bus clock rate is 36.6667 MHz)
- New Thermoelectric Heatsink (Peltier device) added to microprocessor
- ROM change (memory setup, box flags)
- BART21 controller (burst transactions for specific slots, burst read transactions by NuBus masters)
- Combo of ROM/BART21 allows: support for addressing minor slot space 1-E, major slots 8-E
- 30% performance gain above Power Macintosh 8100/80

SOFTWARE

- LocalTalk driver changed to not rely on the CURIO's enhanced LocalTalk mode
- System Software:
  System ver. same as 7.5
  Finder ver. 7.1.5
  Enabler ver 1.1.1
  PPC Update (revised)
  Finder Update (revised)
  HD SC Setup (revised)

Published Date: Feb 19, 2012

Power Macintosh 8100/110: NuBus Changes and Improvements

This article describes changes to the NuBus technology or controller chip used in the Power Macintosh 8100/110.
This article has been archived and is no longer updated by Apple.
The following changes have been implemented in the BART21 controller chip:

- BART4 would not allow NuBus Master cards to perform burst reads of main memory (burst writes were fine) unless the bus frequency was a multiple of 40MHz. BART21 corrects this problem.
- BART4 would only enable bursting to a slot when the burst enables for all slots were set. BART21 provides burst enable on a slot-by-slot basis.
- BART4 only provided access to slots 9-E (and software couldn't take advantage of slot 9 support). BART21 adds standard slot spaces for slots 1-8, and superslot space for slot 8.

Published Date: Feb 19, 2012

Pinpoint: GraphMerge/IIc, superflous "Z" in printout

There is a minor problem when printing multiple graphic images from an Apple IIc with an Imagewriter or Scribe. A superfluous "Z" appears in the printout preceeding the second graphic image (and each one afterwards).
This article has been archived and is no longer updated by Apple.
The user should send back the disk for a free upgrade. Version 1.1 will resolve this problem.

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PowerBook 500 Series: Measuring AC Adapter Output

Is there any way to measure a PowerBook 500 series computer AC adapter with a multimeter to determine if it is a good AC adapter or not?
This article has been archived and is no longer updated by Apple.
To test the AC adapter for the 500 Series PowerBook computers, service providers would need to use test leads for their digital volt meter that have narrow test probes. Adapters are available to clip onto the ends of test probes that would allow the test probe to fit inside of the holes on the AC adapter connectors.

The front of the connector has four holes labeled 1 thru 4. The outer metel shield is ground. All measurements should be made with the negative or common lead of the volt meter connected/touching the outer shield. Use the positive test probe and check for the following DC voltages.

Connector No.	Signal Name	DC Voltage
1	VBATT	16.4 V to 16.6V
2	VMAIN	16.4 V to 16.6V
3	GND	0V
4	GND Sense	0V

Published Date: Feb 19, 2012

System 7.1: "!" In File Name When Copying to DOS (11/94)

Our customer has a Quadra 950 running System 7.1, with an external CD-ROM drive attached. He also has a DOS machine with a Farallon PhoneNET PC card connected to the Quadra 950.

When he logs onto the Quadra 950's shared CD-ROM drive from the DOS machine and copies files from the CD to the DOS machine, the file names are preceded with an exclamation mark "!".

This article has been archived and is no longer updated by Apple.
The ISO 9660 standard defines a filename format that includes a version number. DOS file formats do not use this version number and limit the filename to the 8.3 (xxxxxxxx.xxx) format. AppleShare passes these version numbers along to the DOS machine, which cause the name to be longer than the 8.3 format. This causes the complete filename to be truncated, and an exclamation point prefixed to the name.

Your customer can upgrade to CD-ROM Setup version 5.0. Since the majority of applications don't require strict adherence to the ISO 9660 filename format specification, CD-ROM Setup version 5.0 stopped passing file version numbers, thus preserving the filename length.

Support Information Services
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MAE Printing: HP UNIX to LaserWriter II, IINT (11/94)

I purchased MAE and installed it on my Hewlett Packard (HP) Apollo 735 workstation. I also have two Apple LaserWriters, a LaserWriter II and LaserWriter IINT. I'm experiencing difficulties in printing from MAE to both LaserWriters. I haven't been able to print from the UNIX workstation yet either.

Is there any information you can provide that will help?

This article has been archived and is no longer updated by Apple.
To print from an HP workstation running HP-UX through it's serial port to Apple's LaserWriter II, IINT, and IINTX, follow the three steps below. For example purposes only we used a LaserWriter IINTX, for a LaserWriter II or IINT, the procedure would be identical.

1) Be certain the DIP switches are set properly for the LaserWriter IINTX.

While the LaserWriter IINTX is off, set the printers DIP switches to:

1 UP
2 DOWN
3 UP
4 UP
5 UP
6 DOWN

These switch settings place the LaserWriter IINTX in:

PostScript Batch Mode
RS-232 9600 bps
RS-422 9600 bps
7 data bits
No parity
1 stop bit
DTR/DSR handshake

2) Be certain you have the correct hardware cables:

Connect an Apple 25 pin serial cable, 590-0037, to an Apple modem eliminator, 590-0166. Connect one end (of the serial cable/modem eliminator segment) to the 25 pin serial port of the LaserWriter IINTX. To the other end (of the serial cable/modem eliminator segment) connect a female to female gender changer (RS-232c), then a male DB-25 to female DB-9 adapter, and finally to the male DB-9, RS-232, connector on the HP UNIX workstation. The following illustration to help you visualize this connection:

```
(A) (F)
--------- -------------
| Laser | --- --- | HP |
| Writer |--(B)--|--(C)--|-|(D)|-|(E)|-| UNIX |
| IINTX | --- --- | workstation |
--------- -------------
```

A) Female DB-25, Apple LaserWriter IINTX
B) Apple 25 pin serial cable 590-0037
C) Apple modem eliminator 590-0166
D) Female to female gender changer (RS-232c)
E) Male DB-25 to female DB-9 adapter
F) Male DB-9, HP UNIX workstation (RS-232)

3) Use SAM (System Administration Manager, a HP-UX utility for system administrators to configure the HP PA-RISC workstation) to configure the RS-232 serial printer:

Launch SAM at the workstation, to configure the local RS-232 serial

printer, and use "laserjet" as the printer choice.

Test the printer connection with a Poscript file, send a Poscript job to the printer. Here is a sample Poscript job we used to test the printer:

```
************************************Copy below
%! Adobe-Postscript
/Helvetica findfont 30 scalefont
setfont 50 50 moveto
(Ed Garcia: How are you, fella!) show
showpage
^D
************************************Copy above
```

Also, before you can print from MAE, printing from your UNIX workstation has to work first.

Support Information Services
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MacODBC on New Mac OS SDK (Software Developer‘s Kit) CD

This article describes the announcement of the Mac OS SDK (Software Developer's Kit) CD.
This article has been archived and is no longer updated by Apple.

Apple Computer, Inc. has announced the availability of the Mac OS SDK CD, which combines most of our existing software developer kits for the Mac OS onto one convenient, low-price CD.

I'm pleased to announce that MacODBC 1.0.1, the latest release of Apple's ODBC functionality for the Macintosh, is included on this CD, with an automatic redistribution license for the ODBC client software. This means that with the purchase of the Mac OS SDK, no separate ODBC distribution license is necessary. As a bonus, current Apple Partners will receive an automatic subscription to the Mac OS SDK -- and therefore an automatic redistribution license for ODBC and many other system software components.

The updated ODBC SDK has also been posted to Apple's anonymous FTP site. Now available are the full, installable disk images as shipped on the Mac OS SDK, as well as the Adobe Acrobat-readable image of the ODBC Developer's Reference. (Note that there is no redistribution license available for the files retrieved from ftp.info.apple.com.)

MacODBC can be found on ftp.info.apple.com via the path:
ftp.info.apple.com
Apple.Support.Area
Developer_Services
System_Software_Extensions

For those of you who have previously downloaded MacODBC 1.0, the only change from 1.0 to 1.0.1 was a fix in the installer script, which was not posted to the ftp site. MacODBC 1.0.1 is functionally equivalent to 1.0.

For those of you who have previously downloaded MacODBC 1.0, the only change from 1.0 to 1.0.1 was a fix in the installer script, which was not posted to the ftp site. MacODBC 1.0.1 is functionally equivalent to 1.0.

ODBC Program Manager
AppleSoft Development Products Group
Apple Computer, Inc.

Monday, October 31, 1994

Apple Announces Mac OS Software Developer's Kit (SDK)

Responding to developer requests, Apple today announced availability of a software developer's kit that combines most of its existing software developer's kits into one convenient -- and very affordable -- package. For U.S. $299, developers can purchase an annual subscription to the new Mac OS SDK, which is available on a CD-ROM and includes quarterly updates.

Another important benefit of the Mac OS SDK is its streamlined approach to software licensing. Subscribers automatically will be able to redistribute certain system extension files and libraries with programs they develop that require these components. Previously, many developers would have had to secure additional licenses from Apple before shipping their product.

According to the vice president of AppleSoft marketing, "Apple recognizes the pressure developers have to keep overhead low and productivity high, and is committed to delivering quality products and services at competitive prices to relieve this pressure. The Mac OS SDK is only one example of this commitment, and follows recent decisions to increase the scope of our developer support services and reduce prices for our core development tools. We will continue to explore new ways to maximize the level of satisfaction for our valued Macintosh developers."

With a subscription to the Mac OS SDK, developers will receive a disc each quarter that contains the most recent versions of almost all of Apple's system-software extensions, making it convenient to track these most recent extension releases and incorporate support for them into applications. In addition to the system-software extensions, the Mac OS SDK includes programming interfaces and libraries, sample code, and technical

documentation. The software developer's kits in this collection were previously available individually for a total of approximately U.S. $2000.

A senior principal engineer of Farallon Computing, Inc., said, "Convenience is what I really like about the Mac OS SDK. I no longer have to be concerned about tracking down each new Mac OS system extension and related programming information -- they arrive automatically on a single CD. This should help boost the productivity of all Macintosh programmers."

Product Contents

The initial release of Mac OS SDK includes SDKs for the following software extensions:

Apple Guide	MacODBC
Apple Open Collaboration Environment (AOCE)	MacOSI Connection
Apple Remote Access	MacSNMP
Apple Remote Access Modem	MacTCP
Apple Shared Library Manager	MacX.400
AppleScript	MacX25
AppleSearch	MIDI Management Tools
AppleShare API	Network Software Installer
AppleTalk Wide Area	Open Transport
ColorSync	PlainTalk
Communications Toolbox	QuickDraw GX
Control Strip	QuickTime
Designing PCI Cards & Drivers	Sound Manager
File System Manager	Telephone Manager
Installer	Thread Manager
Macintosh Drag and Drop	XTND
Macintosh Easy Open	

Availability

Members worldwide of Apple's Partners Program will receive one subscription to the Mac OS SDK without charge as one of the benefits of the program. For other developers, subscriptions to the Mac OS SDK are available immediately through APDA , Apple's source for development tools and related programming products. APDA publishes the APDA Tools Catalog which describes hundreds of Apple and third-party products. Developers should contact APDA using the following address or phone numbers.

For the most current information on what SDKs Apple offers, point your web browser to:

http://developer.apple.com/sdk/

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Language Kits: Related Products Resellers

The following is a list of resellers who provide products related to the Apple Japanese Language Kit and Chinese Language Kit.
This article has been archived and is no longer updated by Apple.

CALIFORNIA

Computer Selection/Connecting Point
201 Mission Street
San Francisco, CA 94105
Dave Pinkham, Charles Hyland
(415) 543-9888; fax: (415) 777-1177
ALink: M32

Computer Selection Bus. Ctr/Connecting Point
2001 Middlefield Road
Redwood City, CA 94063
Scott Grossman
(415) 368-8828 fax: (415) 368-8803
ALink M32

Future Now
699 Corporate Point, suite 200
Culver City, CA 90230
Mike Uesugi
(310) 215-0300 ext. 127
fax: (310) 215-9666
ALink: R6781

DGM Resources Corp (VAR)
584 Castro Street, #399
San Francisco, CA 94114
(415) 252-1980
D'Wayne Gilmore
(General business apps)

Crossover Systems (VAR)
2856 W. Valley Blvd., #A
Alhambra, CA 91803
(818) 282-3899
Bryan A. Sato

Rikei Corp of America (VAR)
Vallco Park Financial Center
10051 North Wolfe Rd., SW1, Ste 290
Cupertino, CA 95014
(408) 257-7943; fax: 408-257-9001
(WAN solutions, DEC connect.)
Yoshi Honda
ALink: Rikei.RD

CCIC/System Pacifica
605 Addison Street, Suite A
Berkeley, CA 94710
510/843-5626
Izumi Nara
Scot Campbell

Nova Associates
2550 9th Street, suite 207 A
Berkeley, CA 94710
tel: 510/548-6682
fax: 510/548-6689
Toshia Hotei

NORTHWEST

Computer Stores NW
700 NE Multnomah, Ste 190
Portland, OR 97232
Bill May
(503) 238-1200
ALink: M6431

Computer Stores NW/Connecting Point
6406 Roosevelt Way NorthEast
Seattle, WA 98115
Philip Abinante, Charlotte Platnick
(206) 522-0220; fax: (206) 522-1159
ALink: M2733, R2733

Omni International
316 Westlake Ave. North
Seattle, WA 98109
Larry Owens
206/628-2924

MIDWEST

AC Computer/MicroAge
600 4th Street, 225 Terra Centre
Sioux City, Iowa 51101
Greg Axelson
(712) 279-8722; fax: (712) 279-8724
ALink: M1367

Graham Bell Industries, Inc./MicroAge
2475 Crowne Point Drive
Cincinnati, OH 45241
Jim Rhoades, Jim Barrie, Todd Graham
(513) 772-7753; (800) 582-5505; fax: (513) 772-0368
ALink: M1179

Graham Bell Industries, Inc./MicroAge
133 South Pennsylvania Ave
Indianapolis, IN 46204
Keith Callahan, Mike Hall
(317) 634-8202; fax: (317) 634-0400
ALink: M4024

AC3 Midwest Inc./MicroAge
413 East Huron Street
Ann Arbor, MI 48104
Rick Weir
(313) 994-6344

Alliance Computers/MicroAge
128 Skokie Valley Road
Highland Park, IL 60035
Keith Wagner
(708) 831-0535
Steve Feldman, Susan Takami
(708) 831-1192; fax: (708) 831-0689
ALink: M1578

Lingua Media
112 North Third Street
Suite 304

Minneapolis, MN 55401-1651
Kristine Wagner
(612) 612-349-6440; fax (612) 339-3557

Mac Center of America
148 Rockhurst Rd.
Bolingbrook, IL 60440
Stephen A. DeFreeuw
708/972-0915

NORTHEAST

Byte Shop/MicroAge
1732 Sunrise Highway
Merrick, NY 11566
Hank Tucker, Takashi Shimazu
(516) 379-2983; fax: (516) 379-2820
ALink: M375

Custom Computer Specialist/Connecting Point
1775 Express Drive North
Hauppaugh, NY 11788
Bob Schechter, Steve Manilla
(516) 582-6699 ext. 232; fax: (516) 582-6012
ALink: M3060

Language Engineering Corp.
385 Concord Avenue
Belmont, MA 02178
Glen Akers
617/489-4000 fax: 617/489-3850

Telecomet
245 Park Avenue, 24th Floor
New York, NY 10167
Shirley Parcon
212/297-1000 fax: 212/687-3118

Tomio Creations (VAR)
2050 Center Avenue, Suite 625
Fort Lee, NY 07024
(201) 461-3010
Tomio Maeda
Link: TOMIO
(Fashion design, textile, DB)

Computer Applications of America (VAR)
Rockefeller Plaza, Suite 3236
New York, NY 10112
(212) 541-8351; fax: (212) 541-8350
Doug Boltson
ALink: CAC.AMERICA

NDK International, Inc. (VAR)
1121 Avenue of the Americas, 41st Fl.
NY, NY 10036
(212) 704-6884
Bryan E. Leonard

Syscom (VAR)
45 Broadway, 6th Fl
NY, NY 10006
(212) 797-9131
Naoki Aoyama

Marubeni America
200 Park Avenue
New York, NY 10166
Hitoshi Nagai
(212) 599-3750; fax: (212) 599-7101
ALink: V0852

Mr. Sterling Beardsley
President
Harmony Sound, Inc.
1167 York Ave.
New York, NY 10021
212/319-5439 (fax)
212/751-9188

Pennsylvania House Limited
Brant Avenue Box 266
Inglmar, PA 15127
Martin Smith
412/367-7234
412/344-2253
fax: 412/344-3716
Link: PAHOUSELTD

SOUTHEAST

Connecting Point
2485 East North Street
Greenville, SC 29615
Carl Krezdorn
(803) 268-0461
Laurie Slattery
(803) 292-7071; fax: (803) 268-0461

Computer Source/Connecting Point
5775 Glenridge Drive, NE Bldg B, #300
Atlanta, GA 3032
Ron Seitz
(404) 253-3100
Jack Bornstein
(404) 952-0337; Fax: (404) 256-6054
ALink: C4081

Amano (VAR)
P.O. Box 3211
Chapel Hill, NC 27515
(919) 493-0264
Taka Amano

HAWAII

Connecting Point
1613 Nuuanu Avenue, #10A
Honolulu, HI 96817
Michael Klein
(808) 535-0900
Ruriko Inouye
(808) 523-0040; fax: (808) 531-5244
ALink: M6451

Bezier International
1103 9th Avenue, #204

Honolulu, HI 96816
(808) 733-2002; fax: (808) 733-2011
Yasuko Hacking

CPU, Inc. (VAR)
1210 Queen St., Suite 5
Honolulu, HI 96814
(808) 535-0900 fax: (808) 591-0094
Aaron Hara
Published Date: Feb 19, 2012

Connectix Desktop Utilities: License and Use Information (1/95)

What exactly is CDU that came pre-installed on my Power Macintosh 8100/110? Can I use it on other computers I own?

This article has been archived and is no longer updated by Apple.
CDU (Connectix Desktop Utilities) is bundled with the Power Macintosh 8100/110, 7100/80 and 8100/100 and is licensed for use only on those systems. You can purchase additional copies for other computers you own.

CDU provides EPA Energy Star compliance for those computers by allowing the monitor to be dimmed automatically after a user definable period of idle time. Additionally, it can be set to power off the entire system after a user definable period of idle time.

A backup diskette for CDU can be obtained from Connectix by calling them at 1-800-950-5880. There is a nominal shipping charge for the disk.

This software is supported by 800-SOS-APPL but is limited to installation or removal and the functionality of the Energy Star features. All other questions should be directed to Connectix directly.

Article Change History:
16 Jan 1995 - Updated for new Power Macintosh systems.

Support Information Services
Published Date: Feb 19, 2012

Pinpoint 1.0, 1.1: RamWorks/Print Buffer

There is a problem setting the Print Buffer on using the Applied Engineering Super Desktop Expander version 4.5. Once you access a desktop accessory, you can no longer print. For that matter, your machine will hang when attempting printing.
This article has been archived and is no longer updated by Apple.
Re-Install Desktop Expander without the print buffer option.

Until we work this out with Applied Engineering, the user should disable the print buffer option. This means that they should start again from their original AppleWorks, install AE patches, then Pinpoint.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.
Published Date: Feb 19, 2012

LaserWriter 8.2: Faxes Instead of Printing

I installed the LaserWriter 8.2 driver, and I'm still having a problem with "sticky destination" as I had with the 8.1.1 driver. I tested a Fax, then printed from SimpleText, and printed "print card" from HyperCard 2.2.

The SimpleText documents Faxed and then printed properly. The HyperCard document Faxed and did not print. If I force the print dialogue box to come up, then I can select print, and the card prints correctly. However anytime I bypasses the standard print dialogue box in HyperCard (such as when printing a card, a field, and so on) the document is sent to the recipient of the last Fax destination sent from the LaserWriter select 360. This is the identical situation I was experiencing with LaserWriter 8.1.1 drivers.

The LaserWriter 8.2 driver documentation states specifically that this "sticky destinations" problem was corrected, even when the application bypasses the standard print dialogue box. This does not appear to be the case with HyperCard 2.2 at least. It's defaulting to FAX when it should be automatically be resetting itself back to the printer.
This article has been archived and is no longer updated by Apple.
These problems are related to a known issue with some applications that do not follow the Print Manager guidelines, more specifically, with the PrJobMerge call. Print jobs not being printed are being faxed to the last person you sent a fax.

The LaserWriter driver v8.2 resolves many instances with it's "non-sticky" destination field, however, there are still some cases where applications cause the problem, not the driver. It is the application's responsibility to set the correct printing destination for each of the documents. This is performed using the Print Manager call "PrJobMerge". PrJobMerge is a print routine that applies information specified by a user in the Print dialog, to all documents selected from the Finder. Our guess is that the application is not using, or incorrectly using, PrJobMerge.

A new version of the LaserWriter 8.2 printer driver will be posted shortly to online services. The new version is LaserWriter 8.2.2. Howerver, this is an application-related issue which the driver is working around.
Published Date: Feb 19, 2012

AppleMail: Performance Issues

When using AppleMail I am seeing a slow down in performance. When I launch AppleMail the menus are slow, tabbing from one field to another is also slow. I don't have these performance problems in other programs.

I have over 40 Font families installed, and I removed QuickDraw GX but that didn't help. What's wrong?
This article has been archived and is no longer updated by Apple.
There is a problem in versions of AppleMail prior to version 1.1.2 of AppleMail. If the Fonts folder in your System Folder contains a large number of fonts earlier versions of AppleMail function slowly.

To increase the performance of AppleMail, you need to update the version of AppleMail to version 1.1.2. AppleMail 1.1.2 is part of System 7.5 Update 1.0.

This article can help you locate the software update mentioned here:

- Article 14724: "**Where To Find Apple Software Updates**" - Lists online services for free Apple software updates.

Published Date: Feb 19, 2012

Macintosh: Shortcut Does Not Prevent Hard Disk Mounting (2/95)

Sometimes when I try to bypass the mounting of the hard disk using the Command-Shift-Option-Delete keyboard combination it still mounts. Why?

For support troubleshooting, sometimes it is necessary to disable the mounting of the internal hard drive. In most cases, you can bypass the mounting of the hard disk using the Command-Shift-Option-Delete keyboard combination.

This article has been archived and is no longer updated by Apple.
(Command)-Shift-Option-Delete (CSOD) actually prevents the default boot drive, the drive selected in the Startup Disk control panel, from loading its driver. This should prevent the drive from mounting, but there is a patch that can affect this process.

The CSOD key sequence was originally implemented so corrupt drivers could be replaced on the drive. It is possible for the driver to become corrupt, so even if the drive is not the boot drive, mounting it may cause the Macintosh to crash. Without being able to prevent the driver from loading and the drive from mounting, the only way to replace the driver is to remove the power cord from the drive before booting and reconnect it once the Macintosh has booted. This is difficult to do with internal drives.

When Apple started producing faster computers with bigger hard drives, some of the larger hard drives took longer to spin up. This caused the drives not to mount during the boot process. A patch was placed in System 7.0.1 and later that corrected this problem.

This patch maintains a list of which SCSI IDs have drives connected in Parameter RAM (PRAM). The patch is utilized later in the boot process. First it checks to see which SCSI IDs have drives attached. If it finds an ID that has a drive, but the driver is not installed, the patch loads the driver and mounts the drive. So, the CSOD shortcut prevents the driver from loading and the drive from mounting, but the patch loads the driver and the drive mounts anyway.

If you really do not want the drive to mount, you can reset PRAM (Command-Option-p-r) and use the CSOD in the same boot. (Release the Command-Option-p-r key sequence after you hear the chime and immediately hold down the CSOD key sequence).

This process works because the list of drives is cleared when PRAM is reset. The hard disk only mounts when the computer is restarted and the CSOD shortcut is not used.

NOTE: This process does not work with the Quadra 700.

Article Change History:
10 Feb 1995 - Added keyword; made several technical updates.

Support Information Services
Published Date: Feb 19, 2012

AELC: Change ClarisWorks Mem Allocation for Grady Profile 11/94

When I try to print from Grady Profile I get the message that there is not enough memory to launch the program to print the report. I have 4 megabytes of memory on my Macintosh. What is causing this?

This article has been archived and is no longer updated by Apple.
The Grady Profile application program that comes with the Apple Early Learning Connection (AELC), only checks the preferred memory size of ClarisWorks (the application it uses). On a Macintosh computer with limited memory, this causes the Grady Profile application to display the not enough memory message. To correct this, change the preferred memory of ClarisWorks to 1100 K.

Support Information Services
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Lisa Pascal: Mounting and Reading Disk Directories

This article has been archived and is no longer updated by Apple.

From a Pascal program, you can indeed read the directory information of a diskette. Once you have detected the insertion of a diskette into the drive by using KeybdEvent (cf. Pascal Language Reference Manual, Appendix C), perform the following commands in order to mount and read the directory:

```
mount (error, volname, passwd, device)
reset_Catalog (error, pathname)
```

Then read the file names until done (error 848) by performing the command:

```
get_next_entry (error, prefix, filename)
```

Chapter 2 of the Operating System Reference Manual documents these and other file system calls that allow you to get information about the file: name, date, size, etc.

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Pinpoint 1.0: Rotary Dialing

The user is attempting to dial a number using a Rotary option, as opposed to the Pulse option. The dialing is not completed.
This article has been archived and is no longer updated by Apple.
Solution:

If possible, have the user to switch to pulse dialing in the installation options, and re-install.

If not possible, they have two options. First, have them send back their disk to upgrade to 1.1. This will be corrected in 1.1.

In addition, if they wish to apply an interim solution to version 1.0, the following poke will work:

1. Startup a copy of the Pinpoint installation disk. Select Basic.

2. Type the following:

BLOAD PINPOINT.SYSTEM,TSYS,A$2000
POKE 20124,128 (this number can be up to 255)
BSAVE PINPOINT.SYSTEM,TSYS,A$2000,L15104

3. Re-install Pinpoint on their AppleWorks disk.
1234567890123456789012345678901234567890123456789012345678901234567890123456789012345678

The "128" above is a delay count before reseting the modem. It's default value is 56. It's maximum value is 255.

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QuickTake: Can Use PowerBook 100 Series AC Adaptor (12/96)

Can I use a PowerBook AC power adaptor with the QuickTake 100 or QuickTake 150 Camera?

This article has been archived and is no longer updated by Apple.

The electrical specifications of the AC Line Adapter for the QuickTake 100 Camera and QuickTake 150 Camera is 4.5VDC/1.75A to 8.0VDC/1A.

The QuickTake 100 and QuickTake 150 work with any PowerBook 100 series AC adaptor. This includes models:

* M5140
* M5651
* M5652
* M4662
* APS-17adp

Article Change History:
09 Dec 1996 - Added M4662 power adapter.
28 Jun 1996 - Added QuickTake 150
11 Nov 1994 - Added PowerBook AC adapter model numbers.
Published Date: Feb 19, 2012

Excel Files: Macintosh, Windows, MAE, & Windows/UNIX (11/94)

This article describes sharing Excel files among Macintosh, Windows, MAE, and Windows/UNIX.

This article has been archived and is no longer updated by Apple.
If you sometimes need to move Excel spreadsheets among those different platforms, the multiple layers of emulation can get tricky. You can carry floppy disks between a Macintosh and a SPARCstation running MAE, share files between MAE and Wabi, and carry floppies to a PC running Windows.

To make Macintosh Excel recognize an Excel file created on Windows set the type/creator with a utility like some drag and drop auto typer, or ResEdit. Making Windows Excel recognize an Excel file created on Macintosh is harder. Macintosh Excel has a translator to open Windows Excel files, but there is no option to save in Windows Excel format. Also, Windows Excel lacks options to either open or to save in Macintosh Excel format. But Windows Excel can successfully read the Macintosh files if the first block of the file is deleted. To do this use the following UNIX command:

```
dd if=mac.xls of=win.xls skip=1
```

Other methods of moving files, like PC Exchange, may avoid the problem by automatically invoking the proper translators.

Support Information Services
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Excel 5.0: DataViz MacLink Plus Issue

I am using Excel 5.0 and System 7.5. I launch Excel and save the data as a Microsoft Workbook data file. While Excel is still open, I double click on the data file to open it, when DataViz kicks in and reports "the application cannot be found, would you like an alternative program". It seems like the following is happening:

Excel does not seem to know it is already opened, so then DataViz translators launch they do not recognize the new Workbook data files. Does DataViz have updated translators for Excel 5.0 Workbook files, or is it possible to setup the existing DataViz MacLink Plus translators to read Workbook data files?

When I uncheck the box for show only recommended choices, I get the whole hard drive, which defeats the benefit of DataViz translators.

I can use File open and then search to open the data file, but it does not want to work that way.
This article has been archived and is no longer updated by Apple.
Without Easy Open installed, whenever you double-click on a file, your Macintosh tries to find an application with a matching "signature". If there is one, the application is opened and the file is blindly given to that application to be opened. If there is no matching signature, a message appears telling you the application could not be found (sometimes with an additional option to open the file using TeachText).

With Easy Open installed, every time you double-click on a file, Easy Open searches certain resources located inside your applications with a matching "signature" as well as Easy Open's translation components to ensure that the application can open that file.

Due to the sequence in which Easy Open searches, the combination of any version of Easy Open with Excel 5.0 and MacLinkPlus for Easy Open 7.5 (which is aware of Excel 4.0 but not Excel 5.0) causes Easy Open to not allow Excel 5.0 open its own document. This is not a bug in any of these individual components, but a problem with how these components interact when they are not aware of each other.

Workarounds
==========

Short Term Solution

Turn Macintosh Easy Open off. Macintosh Easy Open is located in the Control Panels folder.

Long Term Solution

Use MacLinkPlus for Easy Open 7.52p1 (RD-MLP-EASYOPEN). This can be obtained by contacting DataViz technical support.

...or...

Use MacLinkPlus version 8.00 or higher.

...or....

Upgrade to Microsoft Excel 5.0a which fixed the problem.

The Tech Info Library article titled "Locating Vendor Information" can help you search for DataViz Inc.'s address and phone number.
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AppleSearch 1.5: Quick Reference

This article is an AppleSearch 1.5 quick reference.
This article has been archived and is no longer updated by Apple.

Overview
---
* Full-text search and retrieval
* Search results are ranked based on relevance to search criteria
* WAIS gateway feature enables searches on the Internet
* Scheduled searches automatically deliver new or changed information

Server

Hardware
AppleSearch server runs on a Power Macintosh, or any Macintosh computer with a 68040 processor, including Apple Workgroup Server, Quadra, Centris, and some Performa and PowerBook models

System Software
* Requires System 7.0 or later
* Compatible with System 7 Pro and System 7.5
* Requires Macintosh File Sharing or one of these versions of AppleShare:
* AppleShare Pro (on an Apple Workgroup Server 95)
* AppleShare 4.0.2
* AppleShare 3.0.2 or 3.0.3
* Requires MacTCP 2.0.6 (included with Installer)

Network Connections
* Requires AppleTalk connection to client
* Requires IP connection to the Internet for WAIS gateway to operate. This connection can be native IP or "IPTalk" (IP encapsulated in AppleTalk) through a gateway.
* AppleTalk connection and IP connection may or may not be the same physical network

Disk Space
* Occupied by index files: 1-2 times the text size of all information sources combined
* Used temporarily by the indexing process: an amount equal to the text size of the largest information source
* Index and temporary files may be put on any locally-attached drives

Memory
* Memory partition size of 3500K required for server software; 4000K recommended. 4000K supports up to 10 local information sources. Each information source beyond 10 requires an additional 100K.
* An additional 1000K is used transparently by the WAIS gateway.

Operations
* Program linking must be started on the server.
* Program linking must be enabled for each AppleSearch user.
* Local information sources must be shared via AppleShare or File Sharing. Access is controlled by Users & Groups.
* AppleSearch users can be registered users or guests.
* A server can support up to 50 simultaneously connected users.

Text Translation
The AppleSearch server uses XTND translators to extract text from the files in its information sources. The following DataViz XTND translators are included with the AppleSearch product:

* MacWrite versions 4.5, 5.0, and II
* WordPerfect for Macintosh versions 1.0, 2.0, and 2.1
* Microsoft Word for Macintosh versions 3.0, 4.0, 5.0, and 5.1
* Microsoft Works (word processing) versions 2.0 and 3.0
* FrameMaker MIF versions 2.0 and 3.0
* PageMaker version 4.0
* Ragtime version 3.1
* AppleWorks
* WriteNow versions 2.0 and 3.0
* Nisus version 3.0

* PICT (text extraction only)
* Excel (tab text only, no formula)
* Microsoft Word for Windows versions 1.0 and 2.0
* WordPerfect for Windows version 5.1

Stop Words
Stop words are conjunctions, pronouns, and other words that are not meaningful in a search. These are filtered out during indexing and are not used in any search. The list of stop words is contained in the editable text file "AppleSearch Stopwords," which is in the AppleSearch folder inside the Preferences folder. Examples of stop words are "and," "by," "in," "there," and "with."

Client

Hardware
AppleSearch client requires Macintosh Plus or better, with 4 MB of memory and a hard disk

System Software
Client requires System 7.0 or later

Network Connections
* Requires AppleTalk connection to server
* Client may be connected to one server at a time, and to any number of information sources on that server
* User may choose to be automatically connected to a server upon system startup
* User remains connected to the server upon quitting the client application if any scheduled searches are pending

Searching
Search requests, called "reporters," can be written in natural language 'the user's own words, phrases, sentences or key words' or they may use search operators. When search requests use natural language, AppleSearch translates them into Boolean operations by inserting an mplied "or" between all the words (except stop words).

Search requests are not case-sensitive and should not use punctuation, since some punctuation marks are taken as adjacency operators.

Saved reporters reside on the server and may be exported to other users.

Search results are ranked according to their relevance to the user's search criteria, using these parameters: frequency of query words, matches on rare words, proximity of query words, and co-occurrence of multiple query words.

Relevance ranking makes natural language searches effective by sorting out what may be a large number of documents returned by the search. The user can concentrate on the highest-ranked documents instead of needing to narrow down the search by respecifying the search criteria.

Using "stemming," AppleSearch finds the root word of a query word, and all words that can be formed from the root word.

Search expressions are evaluated left to right, and follow this order of precedence:

1) Wild characters, wild strings, and word expansion

? = single wild character, for example, s?ste? finds system, sister, and so on.
* = wild string, for example, micro* finds microbe, microbiology, micron,and so on.
! = word expansion, causes search to also return articles containing most common co-occurring words.

2) Parentheses

3) Proximity operators

W/n = within n words
Hyphen (-), period (.), apostrophe ('), comma (,) and "adj" are all equivalent adjacency operators, which allow a user to find a specific phrase.

4) Boolean operators

or - An article will match the search criteria if either of the terms separated by "or" occurs in the article.
and - An article will match if the terms separated by "and" both occur in the article.
not - An article will match only if the term preceding "not" occurs in the article, but the term following "not" does not occur.

Note: This list of operators applies to local information sources. For a list of operators applicable to WAIS searches, please refer to the AppleSearch Interface to WAIS section in this card.

╚cheduled Searches
Scheduled searches automatically deliver new or changed information to a user's hard disk at a predetermined time, in the form of a newspaper-like "update." An update contains any articles from the information source that match the search criteria and were added or changed between the last delivery of the update (or the creation of the reporter) and the most recent indexing.

To receive the update, the user must be connected at the time of the scheduled search. If the user is not connected, the update will not be delivered and any new information will appear in the next update.

Scheduled searches may be done only by registered users, not by guests.

In the case of WAIS databases, scheduled searches can only be carried out on databases that support date information.

AppleSearch Interface to WAIS

AppleSearch uses the WAIS Directory Servers file to find directory servers on the Internet. Using information from them, it builds and maintains the WAIS Data File. WAIS Directory Servers is an editable text file which lists the following servers by default:

210@wais.com
210@quake.think.com
210@cnidr.org

╫AIS Searches
Searching WAIS databases is similar to searching local information sources in AppleSearch. All WAIS databases support the "or" operator. In addition, some WAIS databases support the following AppleSearch operators:

* Boolean operators "and," and "not"
* Wild string (*)
* Parentheses
* Adjacency ("ADJ" in upper case only). In WAIS, this will locate words not only directly adjacent to each other, but near each other as well. The closer the words, the higher the relevance score.

╚cheduled Searches
Similar to scheduled searches of local information sources in AppleSearch, but applicable only to WAIS databases that support date information.

Custom Databases
Databases that are not listed in the directory server can be added by specifying the name of the database, port ID, and IP address or host name in the WAIS Custom Databases file. The custom databases will be available after the next scan for new sources.
Published Date: Feb 19, 2012

Apple IP Gateway Quick Reference (5/96)

This article is a quick reference on the Apple IP Gateway.

This article has been archived and is no longer updated by Apple.

Overview

Lets mobile, remote, and local AppleTalk network users access

Ethernet-based TCP/IP services, such as the Internet even if the

AppleTalk network does not directly support IP.

Translates packets between TCP/IP and IP encapsulated in AppleTalk (IP

network and AppleTalk network may or may not be the same physical

network).

Can be used as a stand-alone product or in conjunction with Apple

Internet Router or Apple Remote Access server.

Is an IP forwarder, not an IP router.

Can be configured as an IP address server.

Allows IP access to be restricted to specific AppleTalk networks.

Hardware and Software

Runs on Workgroup Servers (except the Apple Workgroup Server 95), Power Macintosh, or Macintosh or PowerBook with a 68020 or later processor.

Requires at least 4MB of RAM and a hard disk.

Requires System 7.1 or later.

Requires MacTCP 2.0.4 or later (included with Gateway Installer).

Requires an Ethernet connection to IP network.

Note: The Apple IP Gateway will not run on Open Transport or PCI machines.

Gateway Setup

MacTCP Configuration

This section covers MacTCP configuration for a Macintosh running the IP Gateway. Configuring the client is covered later in this document.

Select the Ethernet port in the MacTCP Control Panel that is connected to the IP network. "EtherTalk" is not used in this case because that refers to IP encapsulated in AppleTalk. Here you are configuring the IP network connection, which is native IP.

Enter the Gateway's manual address in the IP Address box.

Click "More" to get to the next dialog box.

Under Obtain Address, select Manually.

Enter the Domain Name Server information specified by the network manager.

Set the subnet mask to the value specified by the network manager.

In the Gateway Address box, enter the IP address of the subnet's IP router.

Gateway Configuration

Select Automatic addressing if the gateway will assign IP addresses to clients. Select Manual addressing if each client has a fixed address.

Select Both if both methods apply.

Each mode can support up to 253 contiguous addresses. Enter the number of addresses and the first address in the range for each method that will be used.

Specify whether or not to activate the gateway at Macintosh startup.

Specify whether or not to impose network restrictions.

Network Restrictions can be used to restrict access to the IP network from certain AppleTalk networks.

Use the radio buttons to specify whether you are allowing or denying access to listed networks.

Enter the beginning and ending numbers of each AppleTalk network range to be included.

Monitoring

Upper section of Gateway Information window shows the following:

- Number of automatic addresses available and assigned.

- Number of users connected (both automatic and fixed addresses).

- Relative levels of network activity and network errors.

Lower section lists addresses and usage statistics of connected users.

Table can be sorted by any field by clicking on heading.

Client Setup

Hardware and Software

Requires Macintosh Plus or later with at least 2MB RAM

Requires System 6.0.5 or later

Requires AppleTalk version 57.0 or later

Note it will also work with clients running Open Transport's TCP/IP control panel.

MacTCP Configuration

Select in the MacTCP Control Panel the AppleTalk port being used

(EtherTalk, TokenTalk, LocalTalk, or Remote Only), which specifies that

IP will be encapsulated in AppleTalk.

In the pop-up menu, select the zone where the IP Gateway resides.

Click "More" to get to the next dialog box.

Enter the Domain Name Server information obtained from the network

manager.

If automatic addressing is being used, select Server under Obtain

Address.

If manual addressing is being used, follow these steps:

- Select Manually under Obtain Address

- Set the subnet mask as specified by the network manager

- In the Gateway Address box, enter the IP address of this subnet's IP

router.

Article Change History:

28 May 1996 - Updated reference to Open Transport and PCI machines.

03 Nov 1995 - Corrected the Gateway Setup, MacTCP Configuration section.

09 Dec 1994 - Made correction for technical accuracy.

Published Date: Feb 19, 2012

Pinpoint 1.0: Dialing Long Distance W/Out Equal Access

Certain communication systems (not Bell, therefore a very minor market share) do not tolerate a "1" preceeding a long distance call. This is typically the case where Equal Access has not yet been supported in the state.
This article has been archived and is no longer updated by Apple.
Resolution:

The user can patch Pinpoint to bypass the "1" from being generated. This patch will vary in release 1.1. The patch below is only applicable to version 1.0.

The user should startup the Pinpoint installation disk and select Basic from the menu.

Then type: (Version 1.0 only)

```
BLOAD PINPOINT.SYSTEM,TSYS,A$2000
POKE 19550,32
BSAVE PINPOINT.SYSTEM,TSYS,A$2000,l15104
```

The user should then Re-Install Pinpoint on his AppleWorks.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.
Published Date: Feb 19, 2012

Newton MessagePad: Infrared Specifications

What protocol scheme is used on the Newton MessagePad? I want to develop an application that uses the Infrared beam.
This article has been archived and is no longer updated by Apple.
The following documents the general scheme used for Newton MessagePad units built for the United States:

- Communication Scheme: Bi-directional half-duplex
- Modulation Type: Amplitude shift keying (ASK) carrier = space, no carrier = mark
- Carrier: Infrared (900-1050 nm), 1000nm peak sensitivity
- Transmission Rate: 38,400 bps(max), under SW control, fall back to19,200 bps when error rate becomes too high. (Sharp module specified to 19.2)
- Transmission Modulation Frequency: 500kHz & 38 kHz
- Receive Modulation Frequency: 500kHz only
- Communication Range: 8 cm - 1 meter @ 19.2 kbps
- Emission directional cone +/- 13 degrees
- Receive directional cone +/- 13 degrees

Published Date: Feb 19, 2012

Apple RAID: Software Overview (3/95)

This article provides an overview of Apple RAID (Redundant Array of Independent Disks) software.

This article has been archived and is no longer updated by Apple.

Overview
==========

RAID is a method of using multiple disk drives and multiple SCSI buses to increase the reliability and/or performance of disk subsystems. There are several RAID levels available in the commercial market today. The most well known RAID levels are from 0 through 5, but other levels are emerging. Each level has its unique set of features and appropriate uses. Apple RAID Software provides RAID levels 0 and 1 (described later in this article), and was designed specifically for PowerPC-based Workgroup Servers, and provides three main features for the PowerPC-based Workgroup Servers:

* Reliability: improve server fault tolerance (RAID 1, mirroring).
* Performance: increase system performance (RAID 0, striping).
* Ease of Use: Simple graphical interface, with drag & drop features.

The Apple RAID software has three main parts:

* Apple RAID Monitor extension
* Apple RAID Driver
* Apple RAID Application

Apple RAID Monitor extension

The Apple RAID monitor is loaded at startup and monitors the condition of Apple RAID formatted disks. If a failed disk is detected, the monitor extension receives an error notification from the disk and notifies the user on the server's local desktop. (Currently, remote notification of failed disks in not available in this version of Apple RAID.)

Apple RAID Driver

The Apple RAID Driver has two main parts:

* One part is loaded with the system software at startup and acts as the interface between an application's request for data and the SCSI Manager.

* The other part is loaded onto each disk formatted by Apple RAID and interprets commands from the SCSI manager and a disk's SCSI firmware.

For example, when an application writes data to a mirrored volume, the Apple RAID Driver converts this command into two identical write commands for the SCSI Manager, one write command to each of the two disks with partitions for the mirrored volume. If the application is reading from a striped volume, the Apple RAID Driver reconnects the data stripes from each disk into the appropriate form for the requesting application.

At the disk level, the Apple RAID Driver monitors the status of each disk and reports various error conditions to the Apple RAID application.

Apple RAID Application

The Apple RAID application is the main interface as seen by users. It provides information about the type and location of connected hard disks, the created RAID volumes, and provides users the ability to create, manage, and repair volumes.

Apple RAID currently does not support SCSI/NuBus cards for additional SCSI buses, and actively attempts to turn off disk caching for connected disks. Also, Apple RAID checks to see if the system was shut down in a controlled fashion and if a mirrored volume is "out-of-sync".

Article Change History:
17 Mar 1995 - Corrected PowerPC wording.
14 Feb 1995 - Added keyword; made minor technical updates.

Support Information Services
Published Date: Feb 19, 2012

Apple RAID: Disk Compatibility (11/94)

This article provides disk compatibility for Apple Raid (Redundant Array of Independent Disks) and third-party hard drives needing to support SCSI-2 and SCSI Manager 4.3.

This article has been archived and is no longer updated by Apple.
A major requirement for Apple RAID is its ability to work seamlessly with a large number of third-party disk drives. This requirement exists because Apple RAID requires at least two disk to create a mirrored or striped volume. Because not all configurations of the PowerPC-based Workgroup Servers are configured with two disk, customers will turn to third-party disk resellers for additional disk capacity.

A design goal for Apple RAID is to be compatible with disks which support the advanced SCSI-2 features of Apple's SCSI Manager 4.3 (currently on the AV Macintosh and all PowerPC-based computers). Particular SCSI-2 features which are used by Apple RAID include disconnect/reconnect, and SCSI DMA. As these and other SCSI-2 features are not available in all disk drives, it is recommended that Apple RAID customers only use recently manufactured disk drives (1990 or later) of 200 MB and larger. These are general guidelines, as Apple cannot control firmware changes by non-Apple supplied disk drives. Apple recommends that customers check with their third-party disk supplier to be sure their disks work with Apple RAID.

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Apple RAID: RAID 1 Mirroring and RAID 0 Striping

This article describes RAID 1 - Mirroring and RAID 0 - Striping.
This article has been archived and is no longer updated by Apple.

RAID 1 - Mirroring

Because reliability and data integrity are main concerns for server administrators, Apple RAID implements RAID 1, commonly referred to as mirroring. This implementation of RAID 1 occurs at the partition level rather than mirroring a complete disk drive. This lets you create multiple partitions on the same set of physical disks, and therefore, use those disks for different types of data needs.

To create a mirrored volume, Apple RAID creates duplicate copies of information on two equally sized partitions on two separate physical disks. During a write operation, the identical information is put on both disks. For read operations, all data is taken from the "primary" disk. If either disk fails, the other disk continues to process I/O, and all reads and writes occur on the surviving disk.

This feature provides a significant increase in a system's overall fault tolerance. An additional benefit of mirroring with Apple RAID is support for disk duplexing - where the mirrored disks are connected to different SCSI controllers and are attached to the host system with physically separate cables. This feature tolerates not only a disk failure, but also a failure of a SCSI controller or a cabling system. This capability is known as SFT II (System Fault Tolerance) in NetWare.

Apple RAID also provides the system administrator protection against data on two mirrored disks from becoming different or "out-of-sync". If there is a power failure between writes to disks containing a mirrored volume, it is possible (but unlikely) that different information could exist on the two mirrored partitions. This might occur if the system was not shutdown in a controlled manner (that is; not using the Special/Shut Down command).

If something like this occurs, then after a restart, the user is warned that the mirrored volume may be "out-of-sync". Under these conditions, the system software cannot conclusively determine which disk (if either) may have incorrect data.

If this warning appears, Apple RAID lets users either "resync" the two disks, or split the mirrored volume into two separate HFS volumes, and manually determine which disk has the best information. From here, users can recreate a mirrored volume from the HFS volume with the best information. The detection recovery options for "out-of-sync" mirrored volumes is a significant benefit to customers requiring a high data integrity.

In summary, Apple RAID software's implementation of RAID 1, or mirroring, is very flexible and provides you with broad protection against disk failures.

RAID 0 - Striping

A second benefit of Apple RAID is potentially increased system performance through disk striping. A striped volume is created by spreading data across multiple disks (up to four) and multiple SCSI buses (up to two on the Workgroup Server 8150 and 9150). Instead of an I/O transaction occurring sequentially on one disk spindle, as with a normal HFS volume, striping allows for parallel access to disks in a striped volume. This may result in faster I/O transactions and/or greater data throughput. However, many factors effect the performance of a striped volume including:

* Type of disk drives.
* Software application being used.
* Size of the I/O transaction (in bytes or blocks).

For example, a graphics/imaging customer who consistently moves large sequential files (10+ MB), would configure their striped volume differently than a database user who may require many small I/O transactions (about 8 KB per I/O).

Apple RAID gives you the ability to control the size of each I/O transaction with a parameter called "Stripe Unit Size". There has been little investigation into optimizing the performance of a striped volume for different applications.

Refer to the following publications for additional information about RAID technology:

"RAID: An Introduction to Redundant Array of Independent Disks" by: Apple Computer, World Wide Performance Systems, May 1994.

"The RAID Book: A Source Book for RAID Technology" by: The RAID Advisory Board, Lino Lakes MN, June 1993, 1st Edition.

Published Date: Feb 19, 2012

Apple RAID: Hardware and Software Setup (11/94)

This article describes how to install Apple RAID (Redundant Array of Independent Disks) onto your PowerPC-based Workgroup Server server. You need to install Apple RAID onto your system so that Apple RAID can do its job.

This article has been archived and is no longer updated by Apple.

System Requirements

To use Apple RAID software, you must have:

* A PowerPC-based Apple Workgroup Server.
* Macintosh System Software Version 7.1.2.
* Disk drives with a minimum of 200 MB of storage.
* Disk drives attached through the built-in SCSI ports (Apple RAID doesn't support third-party SCSI bus channels).

The Apple RAID drivers use approximately 400K of RAM. Be sure your system has adequate RAM to serve this additional demand.

About Disk Drives

It's important to check on the compatibility of your hard disks before storing valuable data on them with Apple RAID. If a disk you which to use follows the Macintosh SCSI interface standards, and is made by a reliable vendor, it should work properly with Apple RAID. However, if you are unsure if a disk is compatible, contact the manufacturer of the disk and ask if the product has any known problems using the Apple RAID format.

IMPORTANT: Disk drives with under 200 MB of data storage are not supported by Apple RAID.

Installing Apple Raid Software

You must install the Apple RAID software program on your startup disk. The Apple RAID Installer places these files on your startup disk:

* Apple RAID Software program in the Apple menu folder on the System folder.

* System extension file, called Apple RAID Monitor, in the Extensions folder.

* Apple RAID folder in the topmost directory of your startup disk, which contains the Apple RAID Read Me and the SimpleText text processing program.

If you will be creating Apple RAID volumes on your startup disk, you'll need to initialize you startup disk with Apple RAID by following the instructions in "Initializing Your Startup Disk" before you install the Apple RAID program.

Initializing Your Startup Disk (optional)

Follow this procedure if you want to initialize your startup disk with Apple RAID. You will then be ready to create mirrored, striped, and standard Macintosh volumes on the startup disk.

1) Use the Apple RAID Planning Sheet to decide how you will apply Apple RAID to your system. Good planning speeds up the task of adding Apple RAID to a server.

2) BACK UP YOUR FILES.
The Apple RAID disk initialization erases all data on the disk. Make sure that you have backed up all your files on another disk or other media.

3) Start up the server from the Apple RAID CD-ROM disc.
Insert the CD-ROM disc and hold down the C key while restarting the server. This assures that the system software starts up from the CD-ROM.

4) Double click Apple RAID on the Apple RAID CD to start the program.

5) Select your server's startup disk and initialize it.

WARNING: Be sure you have backed up your data as initialization will erase all data on the disk.

Click OK when asked if you want to erase all the data on the disk. When initialization is complete, you'll notice that the volume has disappeared from the Volume column. The Initialize command removes the volume that was there.

6) Select you startup disk in the Disks column and choose New from the Volume menu.
The Create New Volume dialog box appears, with your selection highlighted.

Shortcut: Click a disk in the Disk column and drag it to an unoccupied area in the Volumes column. When you release the mouse button, the Create New Volume dialog box appears.

7) Select the Volume type Standard Macintosh HFS.

8) Set the size of your startup volume by entering a number in the Volume Size box.
This box is preset with the maximum available space on the disk. For your startup volume, it's a good idea to take the current size of your system folder and double it to allow space for future additions of fonts, system extensions, and so on.

9) Click OK to create a standard Macintosh volume.
The process typically takes less than a minute. When the process is complete, an icon for the volume displays on the desktop and an entry for the new volume appears in the Volume column in the Setup window.

10) Re-install your system software into the Apple RAID volume you just created.
Use the appropriate System Software Installer on your Apple RAID CD-ROM, or re-install your system files from your backup copy in order to preserve any customizations you've made to your system files.

Your new Apple RAID volume is now the startup volume.

11) Restore other files into your new RAID volume that you want to reside there.
You are ready to install the Apple RAID Software program.

NOTE: You have created an Apple RAID initialized standard Macintosh volume for your startup volume. This is the simplest means to installing Apple RAID on a RAID initialized disk. However, you may want to apply the protection of a mirrored volume to your startup volume. You can do this at any time, without shutting down or restarting your server, by using the Create Mirrored Volume command. For instructions, see "Mirroring a Standard Volume" in "Apple RAID Software User's Guide". A mirrored volume requires two disks initialized with Apple RAID.

Installing The Apple RAID Program
---
1) Insert the Apple RAID Software CD-ROM disc into the CD-ROM drive.

2) Start the Apple RAID Installer.

3) Select your startup disk and click install.

4) Click Restart to restart the server.

After restarting your server, the Apple RAID program can be found in the Apple menu.

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Apple RAID: Disks Must Be Formatted by Apple RAID (11/94)

This article describes the need to format all hard drives to be used with Apple RAID with Apple RAID software rather that HDSC Setup.

This article has been archived and is no longer updated by Apple.
To use a disk with Apple RAID, a disk must first be formatted by Apple RAID. This is because the size of the Apple RAID driver is substantially larger then the driver created by HDSC Setup. Because there is not enough space allocated at the beginning of a disk (given the current factory formatting for Apple disks), disks which are to be used by Apple RAID must be reformatted to make this additional space at the beginning of each disk.

Disks which have been formatted by Apple RAID are distinguished from non-Apple RAID formatted disks by using a different icon in the disk column of the Apple RAID setup window. For users who desire to use the Apple supplied disks with their PowerPC-based Workgroup Servers in a RAID array, each disk must be reformatted, and all System SW, applications and data will need to be reinstalled. Recommendations for how to do this will be included in the Apple RAID Users Manual.

WARNING: Formatting a hard disk will erase all data, be sure to backup any
drive before formatting it.

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MacX25: Servers Cannot Communicate

I've installed MacX25 software on two Macintosh IIX 8/80 computers. These MacX25 servers are located in two different countries (Italy and Germany), and cannot communicate with one another.

The MacX25 servers will communicate with other X.25 hosts, but cannot call one another. A special X.25 trace tool returns the following error:

Call connect failed
CLR DTE O CALL CLEARED, REMOTE DTE ORIGINATED FOR REASON 140
RETURN CODE= 0X0281=641, STATUS CODE= 0X8000=

On the Admin Log of MacX.25 appears:
Server "Dres MI" incoming call to addr "xxx" refused
call originated from address "xxx"

I tried to use and modify different parameter a file for MacX25. I have checked every setting with a technician from SPRINT.
This article has been archived and is no longer updated by Apple.
The Diagnostic code decimal 140 error is "Call with Incorrect Source Address", referring to the Network User ID or source address/DNIC. This means your calling gateway's address or address format is incorrect. The CUG number, if required, may also be incorrect.

Since you are attempting to log into another MacX25 server, that MacX25 server MUST be set up to receive calls! A MacX25 server by itself won't answer incoming calls.

* You'll need to be running the Apple Internet Router (AIR) AppleTalk/X.25 Wide Area Extension, or some other application on that server that makes MacX25 library calls to enable it to receive calls. If you are running the AIR X.25 Wide Area Extension, you'll need to set the port configuration to receive calls.

* You'll need to configure that receiving server's parameter file: open the parameter file, select Channel Allocation, select either two-way or incoming channels.

To imbed your local MacX25 server's X.25 address, launch ResEdit, open and edit the resource Xadd with your DNIC.

There are sometimes slight variations in addressee conventions used on private PDNs, such as you may need to precede the DNIC with an ASCII character, perhaps a 1 or 0. Since your calls on the public PDN work, but your calls on the point-to-point line do not, you'll want to inquire about any special calling/receiving conventions at some point required by that one PDN's "switch".
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System 7.5: Default Open & Save Dialog Box Directory (5/95)

My customer has installed System 7.5 and noticed some differences in the default directory when he goes to Open files inside his programs.

Most of the time when he goes to open a file, the Open dialog box gives him as a default directory the directory where he last opened a file. However, sometimes when he goes to open a file, the Open dialog defaults to the root directory of his boot volume (not the directory where his programs are or the root directory of the partition where his programs are). He did not see this behavior under System 7.1.

This article has been archived and is no longer updated by Apple.
Have the customer check the General Controls panel. There is a setting there for Documents that controls the behavior of the open/save dialogs.

There are 3 choices in the Documents section (bottom right corner of window):

Folder which contains the application

If you want the old behavior, select the Folder that contains the Application. It then opens all the time.

Last folder used in the Application

If you set this option to "Last folder...", when you open a file the Open dialog box gives you as a default directory the directory where you last opened a file. If set for "Last Folder..." and the application has not yet been launched, it has no last folder and defaults to the root of the hard drive.

Documents Folder

This option, when selected, will automatically default to the directory of the "Documents" folder on the desktop when saving or opening documents.

Article Change History:
19 May 1995 - Added information about Documents folder option.
06 Mar 1995 - Added keyword; minor technical updates.
16 Feb 1995 - Updated keyword; reviewed for technical accuracy.

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AWS 95 Tune-Up 2.0 Read Me

This article is the revised Apple Workgroup Server (AWS) 95 Tune-Up 2.0 Read Me.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

This article has been archived and is no longer updated by Apple.
AWS 95 Tune-Up (2.0)

The enclosed file is self-extracting archive containing a Disk Copy 1440K disk image. To use, download, double-click on the file to expand it and use Disk Copy to create the disk.

Disk Copy can be found in the Utilities folder posted here.

ABOUT THE APPLE WORKGROUP SERVER 95 TUNE-UP

To get the maximum performance and minimize problems with your server, it is important to install the Apple Workgroup Server 95 Tune-Up. This update tells you how to install the tune-up software, lists the files affected by the changes to the server software, describes in more detail the improvements provided by the tune-up, and lists changes of interest to developers.

Tune-up Installation Procedure

The tune-up Installer automatically installs the software that you need to take advantage of the enhancements.

The Apple Workgroup Server 95 Tune-Up updates the A/UX operating system from version 3.1 to 3.1.1. The installation process doesn't affect any of the current kernel parameter settings.

Before You Begin

Before you begin the installation, be sure to back up all files and notify users that you will be shutting down the server in order to install the tune-up software. During the installation process, the system quits all programs running on the server; you must restart the server to complete the installation.

To perform the installation, you must be logged in to the server as "root". If your server is set up with the default configuration for file and print services, and the Autologin feature is enabled, you should be logged in as "root" automatically when you start the server. If your server is configured as a database server, you must log in as "root" by means of the Login dialog box.

Installing the Tune-Up Software

Make sure that you are logged in as "root" and then follow these steps:

1. Insert the disk you have just created. If the CommandShell application is the active application, the system displays this message: "This is a Macintosh disk. What do you want to use it as?" If this message appears, click the button labeled "Macintosh."

2. Double-click the Installer icon. This message appears: "You can only install the AWS 95 Tune-Up on the root volume, '/.' Please click Switch Disk to choose this disk."

3. Click Switch Disk until '/' is selected.

4. Click the Install button.

5. Click Continue to automatically quit all other running applications. The tune-up installation begins, and the system displays a progress bar and status messages during the process. The kernel is reconfigured; this process may take several minutes. After your server has loaded all of the appropriate tune-up software, the message "Installation successful" appears.

6. Click the Restart button to complete the installation.

NOTE: If you routinely back up the server's system files (for example, to tape), you should make a new backup after performing the installation, as the system files will have been upgraded.

ReadMe for the Apple Workgroup Server 95

Tune-up 2.0

This document describes changes made to the latest release of the Apple Workgroup Server 95 system software, A/UX 3.1. You must be running A/UX 3.1 to install this software. If you are running an earlier version, call the Apple Order Center to order the AWS 95 Software Upgrade. After

installing A/UX 3.1, then you can install this Tune-Up.

Notes on Installing the Tune-up

Installation takes approximately 5 minutes. The installer's on-screen messages will guide you through the installation process. You will be required to restart your system after the installation has completed, so be sure to prepare any clients ahead of time for a service interruption.

IMPROVEMENTS

Application support

Use of Timbuktu Pro's v1.0.x TCP/IP connection method no longer causes the A/UX Macintosh environment to hang.

A problem which caused AppleSearch indexing to fail under heavy load has been corrected.

Color Central no longer hangs under heavy load.

BeHierarchic and NowMenus no longer cause hangs or crashes of the Mac environment.

AppleTalk

Routerless nets where the systems have unique network numbers but identical node numbers will no longer experience dropped packets which lead to major performance degradation.

The ADSP stack now correctly completes a read request when no data is available on a half closed session. Previously, the read request was queued which could cause applications utilizing ADSP to hang.

A/UX File Manager

The volume backup time is now correctly maintained for the virtual UNIX volume, `/'.

The File Manager supports file names beginning with the bullet character. However, these characters were translated into dot, `.', on the UNIX filesystem to avoid a problem with the Finder interpreting files beginning with dot as drivers. A new environment variable, TBSEEDOTS, now prevents this translation. It is NOT set by default.

Remote NFS filesystems having a space in their name no longer cause the File Manager to become confused.

Unrecoverable disk read errors no longer cause the entire Mac environment to crash.

Random failures during Finder copies and saving from applications to the server have been eliminated.

The performance when extending the resource fork of an AppleSingle file on the UNIX filesystem has been improved dramatically. Currently if this occurred during a save of a large file (via an arbitrary application), it could take up to 3 times longer to save the file than normal. There should now be no measurable difference between a normal save and one that happens to extend the resource fork.

A problem that caused save's from applications to fail with the message, 'File couldn't be saved because it couldn't be found' has been eliminated.

The creator of the file /etc/fstab has been changed to TextEditor's signature.

A 'find' of file or folder names that contain accented vowels (or other diacriticals) now works properly.

A/UX Kernel

The A/UX kernel no longer panics if more than four Ethernet interfaces are installed.

The console emulator no longer hangs if you stop <CTRL-S> the output.

A kernel bus error, which could occur under heavy file I/O, has been corrected.

Certain I/O operations no longer cause the kernel fault handler to panic the system.

The FIONREAD ioctl no longer causes the system to hang when issued from a background process.

A problem which caused the kernel's asynchronous I/O data structures to become corrupted has been fixed. NFS now maps client user IDs greater than 65533 to the anonymous user, "nobody".

UNIX Printing

Lpr(1) now prints correctly via AppleTalk to the LaserWriter 810. The lpr(1) back-end utility for PostScript printing is now enscript(1). Therefore, lpr(1) now supports eight-bit characters and the Grave character, `, on all LaserWriters.

UNIX File Locking

A problem which prevented the lock daemon from detecting contention between a process running on the server and a process running on the client has been corrected.

The lock daemon, rpc.lockd, no longer fails after a connection timeout with the status monitor on another machine.

Previously, on a system with NFS configured, some signals were ignored while a process was waiting on a lock. The lock daemon now supports version 3 of the lock protocol for PC-NFS clients.

Other UNIX Utilities

The shutdown(1m) command no longer complains about RPC port mapper failures. The default rotational delay set by newfs(1m) is now zero microseconds.

Previously, if you aborted an FTP connection to stop a transfer, the A/UX FTP server would shut down the control connection and the session would be lost.

The 'cron' daemon no longer crashes after running 17576 jobs. The status daemon, rpc.statd, will now continue to operate when it cannot re-establish connections with other servers after a crash.

Of Interest to Developers

The pap_write routine in the PAP server library now functions correctly.

A process which blocks SIGALRM and then calls the sleep(3) function, no longer sleeps forever.

The POSIX library, /lib/libposix.a, now includes versions of the lstat and fstat system calls which reference the POSIX-compliant stat structure. The strftime routine no longer hangs when called.

For improved security, the gethostbyaddr routine now cross-checks information in the host databases.

Miscellaneous

Under A/UX 3.1, if Password Checking is turned on in A/UX Startup, the MacPartition (boot volume) is hidden from all users, including the super-user. This has been corrected; the super-user (root) can always see the MacPartition.

The new 250 MB, 500 MB, and 2 GB SCSI drives are now listed in /etc/disktab.

The system date spontaneously changing to sometime in 2017 has been eliminated, along with the problem of Retrospect scripts calculating next execution times for a date and time in 2017.

A system crash/hang could occur when using a remote client to open a FileMaker database that was represented by an 'alias', but that did not exist. This has been eliminated.

The 'catsearchd' now uses roughly 15% less memory and finishes the initial scan at system startup in approximately 20% less time.

Important Note

It is important to note that for those who had installed/replaced other versions of TCP/IP daemons (most available from Internet) to provide more advanced Internet service that A/UX does not support, these customized daemons will be affected by the AWS 95 Tune_Up 2.0 since the Tune-Up 2.0 willo verwrite them. Further more, since these customized daemons may use different databases, the newly installed versions may not function correctly.

For this, these customers MUST re-install their customized daemons after installing the Tune-Up 2.0.

The TCP/IP daemons which are updated by the Tune-Up 2.0 are: inetd, in.ftpd, in.tftpd, in.remshd, and in.rlogind.

Here is the description of the changes to the TCP/IP daemons:

inetd

If inetd died, it left unbindable ports, requiring the system to be rebooted. Inetd now sets the REUSE socket option, so inetd can simply be restarted. Inetd now also caatches SIGHUP and re-reads its database, /etc/servers.

in.telnetd, in,ftpd, in,tftpd, in.remshd, in.rlogind

For improved security, the gethostbyaddr routine now cross-checks information in the host databases. These binaaries had to be re-0linked since the gethostbyaddr routine is not the sshared library.

in.ftpd (in addition to the gethostbyaddr change)

Previously, if you aborted an FTP connection to stop a transfer, the A/UX FTP server would shut down the control connection and the session would be lost. In addition, it was discovered that larger buffer sizes could increase FTP transfer rates by as much as 20%.

Files Changed or Added by The Upgrade

Files Changed or Added on the / Volume:

etc/catsearchd

etc/config.d/newunix

etc/cron

etc/disktab

etc/fs/ufs/mkfs

etc/fstab

etc/in.rlogind

etc/in.remshd

etc/inetd

etc/install.d/boot.d/ac

etc/install.d/boot.d/adsp

etc/install.d/boot.d/as

etc/install.d/boot.d/elap

etc/install.d/boot.d/nfs

etc/install.d/boot.d/ufs

etc/install.d/boot.d/svfs

etc/macgetty

etc/mount

etc/rpc.lockd

etc/rpc.statd

etc/RELEASE_ID

etc/shutdown

lib/libposix.a

lib/libc.a:gethostent.o

lib/libc.a:tempnam.o

lib/libc.a:tmpnam.o

lib/libc.a:mntent.o

lib/libc.a:strftime.o

lib/libc_s.a:gethostent.o

lib/libc_s.a:tempnam.o

lib/libc_s.a:tmpnam.o

lib/libc_s.a:mntent.o

lib/libc_s.a:strftime.o

mac/lib/Patches/Patch.067C

unix

usr/bin/atprint

usr/bin/enscript

usr/etc/in.ftpd

usr/etc/in.telnetd

usr/etc/in.tftpd

usr/lib/libat.a

usr/lib/libpaps.a

usr/lib/ps/enscript

usr/lib/sendmail

usr/spool/lpd/AppleTalk/ifilter

usr/spool/lpd/AppleTalk/nfilter

usr/spool/lpd/AppleTalk/ofilter

Published Date: Feb 19, 2012

Drive Termination for Workgroup Servers

This article describes drive termination for Workgroup Servers and shows what resistors to remove to disable it.
This article has been archived and is no longer updated by Apple.
Hard Drive or DAT drives may need to have the termination resistors removed or made inoperative on certain configurations of multiple drive systems or Workgroup Servers. Below is a brief description of termination requirements for the different systems or Workgroup Servers.

Refer to the information below the table for how to disable termination on various drives.

Computer	**Termination**
660 AV/Centris 660AV Quadra 610 / Centris 610 Power Macintosh 6100 Workgroup Server 60 Workgroup Server 6150	Hard Drive needs Termination
Macintosh IIVX, II VI Quadra 650 / Centris 650 Power Macintosh 7100	Hard Drive needs Termination
Quadra 800, and 800 AV	Last drive in line needs Termination. Remove termination from all other drives installed, including DAT
Power Macintosh 8100 Workgroup Server 8150	Has two internal cables: 1)Internal/external cable requires that all drives have no termination. Remove termination from all internal drives (termination is on cable) 2)The internal channel cable (max 1 drive only) requires termination
Quadra 900, 950 Workgroup Server 95	Remove termination from all internal drives (termination is on cable).

HP DAT Drive - Remove Term PWR jumper to disable termination.

Conner Drives - Remove resistor packs to disable termination.

Quantum Drives - Remove resistor packs to Disable termination.

IBM Drives - Remove Term PWR jumper to disable termination.

Published Date: Feb 19, 2012

A/UX: Does Not Support 1024 Sector Drive Formats (11/94)

Our customer has a Workgroup Server 95 and is trying to use two Magneto Optical drive mechanisms, one a HP-1300T, and the other a Microtek Genesis 650.

He says he can use a 512 sector formatted drive but cannot mount a 1024 sector formatted drive. He is running A/UX 3.1 and both (the 512 and 1024 sector drive) are preformatted for HFS. The problem is that it never mounts the 1024 sector unit. The customer says that he has contacted both vendors and they say that the 1024 sector unit should work.

Any Ideas why this would not work and are these units supposed to work?

This article has been archived and is no longer updated by Apple.
A/UX does not support read/write media formatted with a 1024 sector size. It only supports media formatted with a 512 sector size. Unfortunately, there is no patch or workaround to allow the usage of media formatted with a sector size different from 512.

The only exception to the 512 block limitation are CD-ROM drives. There are no plans to change this behavior in future versions of A/UX.

Support Information Services
Published Date: Feb 19, 2012

AppleScript: Maximum Script Length

When pasting code into a script in AppleScript 1.1, I got an error "Could not insert text because the text would be longer than it's maximum length." The script is ten printed pages in length.

What is the maximum number of characters in a script?
This article has been archived and is no longer updated by Apple.
The maximum number of characters is 30,000.
Published Date: Feb 19, 2012

System 7: Copying Sounds From Scrapbook to System (2/95)

How do you add a sound from the Scrapbook and make it an alert sound? I tried to copy and place it into the System suitcase but it does not work.

This article has been archived and is no longer updated by Apple.
You must first open the Scrapbook and copy the sound into the clipboard. Next, open the Sound control panel and paste the sound in. It asks you to name the sound and then inserts it into the list of alert sounds.

This process copies the System 7 sound into the System suitcase so you can then open the suitcase to move or play the sound file. This works with System 7 and higher, with or without the Sound Manager extensions.

Article Change History:
16 Feb 1995 - Updated keyword.
07 Feb 1995 - Reviewed for technical accuracy.

Support Information Services
Published Date: Feb 19, 2012

Ethernet 10T/5 Workgroup Hub: Cascade Use & Other Items (11/94)

I have the following questions about the Apple Ethernet 10T/5 Workgroup Hub:

1) Can the 10T/5 Workgroup Hub be used to cascade a network?
2) How can you tell of the 10T/5 Workgroup Hub is connected and active?
3) What is the maximum cable limits?
4) How is the 10T/5 Workgroup Hub powered?

This article has been archived and is no longer updated by Apple.
1) The Apple Ethernet 10T/5 Workgroup Hub is a 10Base-T Repeating Hub which adheres to all appropriate standards. This means there is a cascade limit of four hubs, and that no packet may traverse more than four repeating hubs between any two points on the network. If a network is set up with more than four hubs in a path it will still work, but it starts to degrade with packet collisions, runts, fragments, and so on. This degradation will be more apparent in the middle of the topology than at the ends. There is no indication on the Macintosh or Workgroup Hub that these conditions exist, other means must be used to detect it. These runts, collisions, fragments, and so on WILL be transmitted from hub to hub within a collision domain. It takes a intelligent hub (routing) to alleviate this.

2) The Ethernet 10T/5 Workgroup Hub does have a green LED associated with each port, but it works like the ones on our Ethernet transceivers. If the LED is on, it means there is an active (powered) link present, or in other words there is a connected device. The LED will blink off when it transmits data so it flashes with I/O.

3) The Ethernet 10T/5 Workgroup Hub specification allows for a 100 meter cable between each hub as a maximum.

4) The Ethernet 10T/5 Workgroup Hub must be powered. This normally comes from the computer plugged into the one AAUI connector. If this computer is off an optional external power supply is available that plugs into the wall and then into a dedicated plug on the hub. If the AAUI and the external power connector are connected, the hub will be powered from the external connector.

Support Information Services
Published Date: Feb 19, 2012

PowerTalk: Personal Catalog Limits (11/94)

What is the maximum limit for PowerTalk personal catalogs? I have found that if more than 114 items are created in a PowerTalk personal catalog, strange things start to happen. I cannot print the list, sorting often doesn't work and a variety of error messages pop up from time to time.

What is the best way to get around this limitation?

This article has been archived and is no longer updated by Apple.
PowerTalk was designed to support 99 entries in each Personal Catalog. If the customer needs more than 99 items, they can simply create additional Personal Catalogs as needed.

Support Information Services
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Pinpoint GraphMerge: Problems printing footer messages, page #s

GraphMerge would incorrectly handle page footers in an AppleWorks document. In reality, the footer was handled correctly, but the following line of text from the document would disappear from the document. In addition, the page numbering scheme would be incorrect.
This article has been archived and is no longer updated by Apple.
Solution:

1. Have the user send back the disk for version 1.2 or greater, the problem has been resolved.

2. Have the user avoid page numbers and footer messages in the interim.

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Published Date: Feb 19, 2012

LaserWriter 16/600 PS: Manual Correction Sheet (11/94)

This article contains the manual update sheet included in the LaserWriter 16/600 PS Accessory box.

This article has been archived and is no longer updated by Apple.
Update: LaserWriter 16/600 PS

Installing printer utilities for NetWare networks

Do I have to read this update? If you're a printer administrator who plans to set up the LaserWriter 16/600 PS printer on a NetWare network, you should read this update. Otherwise, you can ignore this update.

Some network administrators may need to use two DOS utilities called LWPMAN and LWFORM. However, contrary to what the manual says, these utilities are not installed as part of the express installation. To install these utilities, follow these two steps instead of the single step mentioned on page 74:

1) Install the Adobe Printer Driver as described in "Installing the Windows Printer Software" in Chapter 7.

2) Run the installer program again, but choose the custom installation instead of the express installation. When the installer program asks what you want to install, choose NetWare Utilities.

Support Information Services
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LaserWriter 16/600 PS: Using a Hard drive For Fax Storage 2/95

Page 150 of the LaserWriter 16/600 manual includes the following statement:

"...internal hard disk...provides space for font storage. If you have the LaserWriter 16/600 Postscript Fax Card installed, you can also store incoming faxes on the hard disk."

This article describes what this means and the general advantages of using hard drives attached to PostScript fax equipped printers.

This article has been archived and is no longer updated by Apple.
A hard drive connected to your PostScript fax equipped LaserWriter can also store fax jobs. In addition to all of the normal advantages of having a hard drive connected to your printer for font and print job storage, you can transmit and receive longer faxes with one phone call because there is typically more space available on a hard drive than in RAM. If the destination printer is busy printing a document, the printer saves incoming faxes in memory and/or on the hard drive. When the printer is done printing the current print job, it then prints the stored documents. Therefore, if you are using a hard drive, there is a potential for receiving and buffering more fax jobs.

However, having a hard drive attached to a fax capable LaserWriter does not let you store a fax or printing job for an extended period of time. All print or fax jobs are stored temporarily. When the printer is free to process the documents, they are printed then deleted.

If the destination printer runs out of paper, the printer buffers the queued fax print jobs until paper is provided. The printer continues to accept incoming faxes until its RAM and hard drive buffer are full, at which point it no longer accepts calls.

Faxes sent in the PostScript file format are generally more compact than traditional faxes, thus reducing the transmission time and cost. However, if the file contains complex graphics or images, then the size of the PostScript file can exceed the size of the standard raster fax. File size is reduced because PostScript Fax uses the built-in LZW compression and decompression capability of PostScript Level 2.

The memory required to handle fonts becomes an issue when the recipient's fax device is another PostScript fax device, and a PostScript fax is being sent. The sending fax device has no way of determining if the target PostScript fax device has additional fonts beyond the standard 35 fonts installed. So, if the document being sent requires additional fonts, the PostScript Fax printer automatically sends the additional fonts along with the PostScript file to the recipient's fax printer. PostScript fonts are generally about 35KB in size and require approximately 35 seconds of additional transmission time for each font transmitted.

The reality of running out of RAM is unlikely in most circumstances. Apple has not tested the upper limit. Apple has transmitted and buffered, in RAM, as many as 20 one page PostScript faxes to a PostScript Fax LaserWriter without running out of RAM. Even though 20 print jobs were buffered, additional variables such as these can cause different results:

* The fax job is a PostScript fax file

* Fonts are downloaded

* The job is in Group 3 standard mode (200 dpi by 100 dpi)

* G3 fine mode (200 dpi by 200 dpi)

If raster faxes encounter memory limitations, they can be transmitted in multiple calls. However, if the sender or receiver does not have sufficient storage to hold all of a transmitted PostScript fax, the job fails. In this case, having a hard drive connected to one or both printers may enable the transmission to succeed.

Article Change History:
10 Feb 1995 - Added keyword; made several technical updates.

Support Information Services
Published Date: Feb 19, 2012

CDU: Diffs Between Pre-Installed and Retail Versions (2/95)

Is the version of the Connectix Desktop Utilities (CDU) pre-installed on the Power Macintosh 8100/110 the same as the retail version?

This article has been archived and is no longer updated by Apple.
Yes, the versions are identical except for how CDU is configured. When installing CDU from the disk, all options are turned on. This includes the Balloon Help menu being turned off.

Installing CDU from the Apple Extras folder on the Power Macintosh 8100/110 has only two options turned on - the menu bar display, which displays the disk space available, and the Energy Star features. All other power user type options, such as Balloon Help and Desktop Picture control, are turned off.

Article Change History:
16 Feb 1995 - Updated keyword; reviewed for technical accuracy.

Support Information Services
Published Date: Feb 19, 2012

Apple Printer Utility 1.0: Can‘t See/Change Printers in Last Zone

This article describes an issue with the Apple Printer Utility version 1.0 whereby it does not update the list of printers when changing zones.
This article has been archived and is no longer updated by Apple.

Symptom

In a multi-zone network, when you select the last zone, the list of printers in the "Printers" box does not get updated and continues to display the printers that belong to the previous zone that was selected.

Products affected

- Apple Printer Utility v1.0

Solution

The original Apple Printer Utility v1.0 had an issue working with printers in the last zone of a multi-zone network, as well as networks that only have one zone (as that zone is effectively the last zone).

This issue is fixed in later versions of the Apple Printer Utility. To find the most recent version of this software, refer to the Apple Software Updates Library at **http://www.apple.com/swupdates**.

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QuickDraw GX: Problem Using Manual Feed (3/95)

This article discusses a problem using QuickDraw GX and trying to use the manual feed printing option.

This article has been archived and is no longer updated by Apple.
There is a problem with all Quickdraw GX printer drivers and using the manual feed printing option. The software only loads the notifier in the finder, so if you are working in an application, the notifier appears on the desktop behind the document window. You need to go to the desktop (Finder) to respond to the notifier box.

There is not a setting in the software to control where the notifier window appears, and you cannot turn the notifier message off.

Workaround

Go to the desktop and respond to the message or go to the printer icon and respond to the notifier within the printer software.

NOTE: If you have an alias of the desktop printer in your Apple Menu Items folder, you can use the Apple Menu instead of returning to the Desktop.

This is a known issue and engineering is working on a long-term solution.

Article Change History:
23 Mar 1995 - Made minor updates.
16 Feb 1995 - Updated keyword; reviewed for technical accuracy.

Support Information Services
Published Date: Feb 19, 2012

Apple Presentation System: Frequently Asked Questions

This article contains common questions with the L*TV Portable Pro made by Focus. This is the same device as the Apple Presentation System (M2895 & M2895ll/a). These Questions and Answers were provided by Focus Enhancements.
This article has been archived and is no longer updated by Apple.
Question: With which Macintosh Computers does the L*TV Portable Pro work?

Answer: The L*TV Portable Pro works with any Macintosh that has a VGA or Apple 13/14-inch RGB output. This list includes (but is not limited to) any PowerBook with VGA or Apple 13/14-inch RGB output, Macintosh LC, Performa 400-600 models, Centris, Quadra, or other Macintosh systems with VGA video out.

Question: Which Apple monitors work with the L*TV Portable Pro?

Answer: The L*TV Portable Pro works with Apple monitors that support the 640x480 screen resolution. Apple 13- and 14-inch monitors should work. The following monitors do not work:

- Macintosh 12-inch RGB Display
- Macintosh Portrait Display
- Macintosh 16-inch Color Display
- Two-Page Monochrome Display
- Macintosh 21-inch Color Display
- Multiple Scan Displays, when set to screen resolutions higher than 640x480

Question: Can I give my presentation on the TV and my Apple monitor at the same time?

Answer: Yes. The L*TV Portable Pro supports Presentation Mode (mirror mode) when using an Apple 13/14-inch monitor, or a VGA compatible monitor.

Question: Can I record to video tape using L*TV Portable Pro?

Answer: Yes. If your VCR has a video input jack, you may connect the L*TV Portable Pro output to the input of the VCR. Record as you normally would record off the television.

Question: Does the L*TV Portable Pro slow my computer down?

Answer: No. The L*TV Portable Pro is connected to the built in video of your Macintosh, so the television acts as if it were an Apple monitor.

Question: What kind of TV do I need to display with L*TV Portable Pro?

Answer: Any NTSC or PAL compatible television. This includes most televisions that are manufactured for use in the United States, Japan, and Europe. There are two versions of the L*TV Portable Pro one for NTSC and one for PAL signals. The broadcast signal used in your country determines which version of the L*TV Portable Pro you receive.

Question: Does L*TV Portable Pro come with cables?

Answer: Yes. The L*TV Portable Pro comes with RCA, S-Video, Audio and Macintosh video connection cables. Power supply and stand are also included.

Question: How long is the supplied cable?

Answer: 10 feet.

Question: How many colors does the L*TV Portable Pro let me display on my television?

Answer: As many as your Macintosh delivers. The L*TV Portable Pro looks like a monitor to a Macintosh, and does not hinder video

performance.

Question: How much does L*TV Portable Pro weigh?

Answer: 10 ounces.

Question: What size TV do I need?

Answer: Any standard NTSC or PAL television. All televisions have the same number of dots and lines on their screens, they are larger and smaller depending on TV size. You can use a 6-inch screen or 35-inch screen, the image is scaled to screen size.

Question: Can I hook up more than one television to the L*TV Portable Pro?

Answer: Yes. There are two ways to do this:

* Hook one TV to the S-video output, the other to the RCA/composite output.

*Some television/monitors have video input and video output jacks. By creating a "daisy chain" (in one TV, out to the next) you can have more than one TV hooked up.

Question: Does L*TV Portable Pro work with my PowerBook 100/140/170?

Answer: No. L*TV Portable Pro only works with PowerBook models that have VGA or Apple 13/14-inch RGB video output. Those models include (but are not limited to) PowerBook 160, 165, 165c and 180 models.

Question: Can I replace my Apple monitor with a television using L*TV Portable Pro?

Answer: Yes, but it is not recommended. The quality of a TV picture is almost always inferior to a computer monitor. L*TV Portable Pro is an affordable way to present to classrooms or small groups on a screen that is larger than a computer monitor.

Question: Can I use L*TV Portable Pro with a projection device?

Answer: If the projector has an RCA/composite or S-video input you can. Some LCD screens and/or projectors have VGA and composite/S-video inputs. Use the input that generates the best quality for your presentation.

Question: Does the L*TV Portable Pro work with the Macintosh LC 575?

Answer: No. The Macintosh LC 575, Performa 575/576 do not have a VGA video output to drive the L*TV Portable Pro. The L*TV Pro LC card could be mounted in the expansion slot of the LC 575 and provides an NTSC output.

Question: Can I connect two Apple monitors to my Macintosh with L*TV Portable Pro?

Answer: No. L*TV Portable Pro can drive a television and one Apple 13/14-in. or VGA compatible monitor.

Question: How do I hook L*TV Portable Pro up?

Answer: L*TV Portable Pro comes with cables to connect in this manner:

```
.   +-----------+
.   | Macintosh |
.   |   Video   |---------------+
.   |  Output   |               |
.   +-----------+               v
.                 +--------------------------+
.                 |   VGA Input Connector    |
.                 |      L*TV Portable       |
```

```
.                 | Composite/S-Video Output |
.                 +-------------+------------+
.   +------------+              |
.   | Input Jack |              |
.   |     on     |<-------------+
.   | Television |
.   +------------+
```

Question: Does the L*TV Portable Pro work with my Macintosh IIci or Macintosh IIsi?

Answer: Yes. The Macintosh IIci and Macintosh IIsi are compatible with Apple 13/14-in. monitors, enabling L*TV Portable Pro to display on the computer monitor and television simultaneously.

Question: Does the L*TV Portable Pro work with MS-DOS PC computers?

Answer: Yes. Any PC or PC notebook that has VGA video output is L*TV Portable Pro compatible.

Question: Is The L*TV Portable Pro Windows compatible?

Answer: Yes, as long as the PC system that L*TV Portable Pro is connected to is able to output VGA video.

Question: My video coming out of the presentation scrolls or is unstable and won't sync.

Answer: Be sure that your computer is putting out 648x480. Verify that you are using the cable that came with the presentation system. It will have Mac written on one end and VGA on the other.
- For 60hz operation, use the "Mac" end of the cable to the Macintosh.
- For 67hz operation, use the "VGA" end of the cable to the Macintosh.
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Pinpoint: Using Serial-To-Parallel Translators on IIc

The user has an Apple IIc and a parallel printer (i.e. Epson or Okidata) hooked up by way of a translator box. The user attempts to print and gets the message "No printer Connected".
This article has been archived and is no longer updated by Apple.
Problem:

Pinpoint (version 1.0/1.1/1.2) will not properly handle a parallel printer hooked up to a serial interface by way of a black box. This is because if a parallel printer is selected, it is assumed to be connected to a parallel interface, not a serial interface. The two interfaces handle handshaking differently.

Solution:

Until we come up with a more elaborate scheme for installing printers and interfaces, the pokes below will work. The user should start up the Pinpoint install disk, Select BASIC, and type the following commands. He should then re-install on AppleWorks.

Pokes for versions 1.0/1.1

```
BLOAD PINPOINT.SYSTEM,A$2000,TSYS
POKE 20545,128
POKE 20546,5
BSAVE PINPOINT.SYSTEM,A$2000,TSYS,L15104
```

Then have the customer re-install on AppleWorks.

Poke for version 1.2

```
BLOAD PINPOINT.SYSTEM,A$2000,TSYS
POKE 20552,128
POKE 20553,5
BSAVE PINPOINT.SYSTEM,A$2000,TSYS,L13568
```

Then have the customer re-install on AppleWorks.

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ABS Tech Note: ARA03 ARA 2.0.1 Known Issues (11/94)

This article is Technical Note ARA03, ARA (Apple Remote Access) 2.0.1 Known Issues.

This article has been archived and is no longer updated by Apple.

ARA Clients on Quadra 700 with Global Village Modem

The following problem occurs only with Global Village Modems on certain Quadra 700s. Have the Global Village modem off at startup, and the machine set to answer calls. After booting, turn the modem on, and try to connect to the server. The modems try to connect, but for some reason they don't, and you get an error. The bug is probably in the serial driver. The workaround is to turn something on and off in the ARA setup control panel. We recommend that you toggle the speaker on/off button.

ARA clients and MacTCP

If MacTCP is configured to run over AppleTalk, but the zone is set to one where there is no DDP/IP gateway (KIP server) when you try to open the driver (that is launching NCSA Telnet/Mosaic/Eudora) you get an error message. If you then switch to another zone in the MacTCP control panel and try again, everything works fine. The machine crashes the next time there is an AppleTalk Transition event (such as opening up, closing an ARA connection, going to sleep, restarting/shutting down or changing ADEVs in the Network control panel). This is a bug in MacTCP 2.0.x and probably earlier versions, it is a known bug, but it doesn't crash the machine until ARA does something, so people will think ARA crashed their machine. Workaround: restart the machine, and change zones in the MacTCP control panel before launching any TCP applications. (If applications are set to launch on startup, you have to change before restarting, probably suffer a crash at that point, and it should work properly once you finally boot without having MacTCP opened in a KIPless zone.)

ARA clients using DialAssist internationally

DialAssist works by concatenating Prefix + Long-Distance + International-Access-Code + Country-Code + City/Area-Code + Number + Suffix for international calls. Some long-distance services (Sprint for instance) make it easier on their subscribers by not requiring that long, nasty 011 "access out" code. So if I set DialAssist to dial through Sprint it generates the right domestic US string (9,1103330408974-8100 ,1234567890 for example) but the wrong string for my ARA server in London (9, 103330 011 44 71 26580 ,1234567890) because the friendly people at Sprint want me to dial (9, 103330 1 44 71 26580,1234567890) to get international access. The workaround is to edit the Access Out code for the United States and change it to 1 (instead of 011) if and only if you are using Sprint. Other carriers probably have other restrictions.

ARA clients using DialAssist within an area code

When using DialAssist to make long-distance calls either within the same area code (calling Portland, OR from Eugene, OR for example) or when the area code is the empty string (as certain calls in France are), there is a workaround to get DialAssist to dial the right number: use the first part of the phone number as a fake area code. For instance, to call Portland OR (503 965 1234) from Eugene (503 344 5075), you can tell DialAssist to dial the number 1234 in "area code" 965, and it will stick the long-distance carrier/1 into the dial string.

Net Installs using ARA and Express Modems

Users will not be able to perform network installs over ARA if they are using the Express Modem. Because Net Installs require all applications to quit and because the express modem software runs as an application, the express modem will disconnect an ARA connection if the user tries a Net Install. The workaround is to a modem other than the Express Modem for Network Installs over ARA.

Router and ARA MultiPort and one-way Choosing

If a user is running the ARA MultiPort Server on the same machine as an Apple Internet Router, users may notice that nodes on the server's network cannot "see" ARA client nodes from the Chooser. However, ARA client nodes can see the other network nodes without any problems and communication between the nodes can occur normally. If this is a problem, a workaround is to select LocalTalk for the user port of the Router (that is in the Network Control Panel). Another workaround is to separate the router and the ARA server onto different machines.

ARA MP on 840AV computers with more than 1 Serial NB card

Under stress conditions, an ARA MultiPort Server running on a Macintosh 840AV configured with more than one Serial NB card (that is more than 4 ports) may crash with a BusErr. There is no workaround at this time. As a result, ARA MultiPort with more than four ports is not supported on the 840AV.

ARA and PowerTalk Direct Dialup

If ARA is installed on a machine that has PowerTalk Direct Dialup installed, the PowerTalk Direct Dialup will no longer work. To obtain PowerTalk mail, the user should first establish an ARA connection to the network and then use PowerTalk mail. PowerTalk Direct Dialup should not be necessary.

ARA MultiPort on Power Macintosh, Workgroup Server, or 840AV computers
---
If certain conditions exist (outlined below), the ARA MultiPort Server may hang in a busy wait loop. The conditions are as follows:

* the machine is a Power Macintosh, a Workgroup Server, or an 840AV
* the administrator has set some zone restrictions
* there is more than one access to the zone information at the same time, for example global changes to the user database, global exports, or some other zone-related admin operation while a user is logging in.

These should be unusual circumstances, but if they do occur, the administrator's only option is to restart the machine. There is no workaround at this time. The development team is interested in learning if this problem does occur in the real world.

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ABS Tech Note: AWS26 Hybrid Applications (3/95)

This note describes some of the deficiencies of A/UX hybrid applications, and gives some suggestions as to alternative approaches that may be more robust and functional.

This article has been archived and is no longer updated by Apple.

A/UX Hybrid Applications

A/UX supports several different types of applications, including pure UNIX applications, pure Mac applications (which run under Mac OS as well), and hybrid applications, which combine both UNIX and Mac programming models.

There are two types of hybrid applications -- UNIX COFF -- format hybrids (such as CommandShell) and Mac hybrids. Both of these types of hybrids have proven to be architecturally weak and difficult to program robustly. Specific weaknesses will be discussed below.

Due to these limitations, it is unlikely that either type of hybrid will be supported in future Apple UNIX systems. A/UX will continue to support the current hybrid models, with all their existing deficiencies. Alternative approaches will be discussed in section 5.

UNIX COFF Hybrid Architecture

This section reviews the architecture of UNIX COFF hybrid applications to provide context for later sections.

Processes and Memory Layout:

Under A/UX, all pure Mac OS applications run within a single UNIX process called startmac. Each UNIX COFF-format hybrid, such as CommandShell, runs in its own separate UNIX process.

As part of its initialization, the startmac process creates a large shared memory segment that is set up to look like the memory of a regular Macintosh. This shared memory segment contains low memory globals, the system heap, and Macintosh application partitions. As part of its initialization, each UNIX COFF hybrid application also binds to this shared memory segment.

For pure Macintosh applications, the application partition in this shared memory segment contains the application's heap, its A5 world, and its stack. Thus, all of this memory is accessible to any other Macintosh or COFF hybrid application.

For a UNIX COFF hybrid application, though, the application partition contains only the application's heap and its A5 world. The stack is in UNIX virtual memory space, accessible only to that application.

Cooperative Multitasking:

The Macintosh uses a cooperative multitasking model. At any particular time, a single application has control of the processor (the "token of control"). That application will keep control of the processor (from the Macintosh viewpoint) until it voluntarily gives it up, by calling one of three Macintosh toolbox traps: GetNextEvent, WaitNextEvent, or EventAvail.

Note that though UNIX COFF hybrid applications are running in different UNIX processes than pure Mac OS applications, each is blocked until it receives the single "token of control".

Under A/UX, the user interface device driver (/dev/uinter0) receives notification from the Process Manager when the token of control should be passed to a UNIX COFF hybrid application. The user interface device driver then directs events to the appropriate UNIX process.

Macintosh Hybrid Architecture

Macintosh hybrid applications are pure Mac OS applications that are linked with libaux.a (supplied with the A/UX Developer's Kit) to make A/UX system calls. The A/UX Installer is an example of such an application. These applications run within the startmac UNIX process like any other pure Mac OS application.

Problems with A/UX Hybrid Applications

This section describes some of the problems that have been encountered with hybrid applications.

Can't Make Blocking UNIX Calls in a Cooperative Multitasking Environment:

A hybrid application must not make blocking UNIX calls. While waiting for the UNIX call to return, the hybrid application will be blocked. In addition, the entire Macintosh toolbox environment will be blocked, because the hybrid hasn't called one of the Macintosh toolbox routines (WaitNextEvent, GetNextEvent, or EventAvail) which allows control to pass to another Macintosh application.

Allocation of Data For Asynchronous Operations:

Various Macintosh calls result in asynchronous operations that can complete at any time. It is quite possible that these operations may complete when a different Macintosh application has the "token of control". If a hybrid application starts an asynchronous operation that completes while another application is active, it will complete within a different UNIX context than the one from which it was started.

If any memory is needed to complete the asynchronous operation, that memory must be accessible from startmac or any hybrid application process. For a COFF hybrid application, the only suitable memory for this is the application heap in the shared memory segment.

Thus, extreme care must be taken in a hybrid application to ensure that any data needed to complete an asynchronous operation is stored in the application heap, rather than on the stack or in UNIX virtual memory heap space.

It has proven difficult to ensure this for all possible asynchronous operations. In some cases, Macintosh toolbox calls internally call other routines that make asynchronous operations, and it is not always apparent that an asynchronous call will be made.

Examples of various asynchronous operations include:
* Any routine that allows asynchronous operation, such as the File Manager or Notification Manager. The code for the response procedure for such an operation must be in the application heap, rather than a hybrid application's .text COFF segment. CommandShell handles this for its Notification Manager response procedure by copying relocatable code from the .text segment into its application heap.

* File Manager routines for AppleShare volumes. Be sure to allocate all parameter blocks in the application heap rather than on the stack of a hybrid. This requires the use of low-level file manager calls, rather than high-level calls that internally allocate the parameter blocks on the stack.

* Resource Manager routines for AppleShare volumes. These routines internally call File Manager routines, but do not ensure that the parameter blocks are allocated in the heap. Thus, it is possible that these routines will fail for AppleShare volumes. There are no low-level routines for the Resource Manager to allow the application to force the parameter block to be in the heap. Calling Resource Manager routines from hybrid applications has not been fully tested for AppleShare volumes.

* Any Macintosh call that internally allocates window records or dialog records on the stack, such as the Standard File package routines or PPCBrowser. The A/UX toolbox patches the Standard File routines for hybrid applications to move the stack temporarily into the application heap. However, the PPCBrowser and other such routines have not been tested from hybrid applications and may have problems. As the Macintosh toolbox evolves, it is difficult to ensure that new toolbox routines will operate correctly within the context of A/UX hybrid applications.

COFF Hybrid Application Development Tools:

UNIX tools are used to develop COFF hybrid applications. This limits developer options. For example, MacApp or the Think class libraries can't be used to create COFF hybrid applications.

In addition, it is difficult to debug COFF hybrid applications. There are no Mac source level debuggers that understand COFF formats or symbol tables. It is possible to use MacsBug, but again without application symbols. Given an address in the COFF application, it is possible to use adb to determine which routine that address is in, but that's a kludge at best.

UNIX source level debuggers are also problematic. First, they must be used over a serial port or a remote login, because the entire Mac environment, including CommandShell, will be hung while at a break point in a hybrid application. In addition, the UNIX source level debugger has no inherent knowledge of Macintosh data structures.

Macintosh Hybrid Applications:

The Macintosh hybrid application development environment and libaux.a have not undergone intensive testing, and there is not a lot of experience with their use. Some problems which have been encountered in this domain include:
* Include file incompatibilities. There may be a need to include both Mac and UNIX include files, some of which conflicted (for example, types.h).

* Limited set of A/UX routines supported by libaux. This library supplies mainly system calls. Many A/UX library routines are not system calls, and therefore are not available through libaux. Although some of these routines, such as the printf family, are available through libraries such as those provided by MPW, many other library routines are not available.

* Certain system calls are risky from Macintosh hybrid applications. Due to the usage of various file descriptors, signals, stacks, and so on, fork'ing and exec'ing new UNIX processes from a Macintosh hybrid application running within startmac must be done carefully. In addition, pipes, waits, and exit statuses are tricky.

UNIX Security Concerns:

Hybrid applications that need any special UNIX privileges are quite risky. This is because it is quite easy to patch any Macintosh trap from an INIT. If, for example, a hybrid application is running setuid-root, any Macintosh traps that it calls could be patched by any INIT to do unknown

and dangerous things.

Alternatives to Hybrid Applications

Client-Server Applications:

Rather than developing an A/UX hybrid application, consider using a client-server model instead, with a Mac client half communicating with a UNIX server half. Various technologies can be used for communication, including ADSP or TCP/IP.

Using TCP, for example, the UNIX server portion could be written in a standard UNIX manner, such that it could be launched automatically by the inetd daemon when a client tries to establish a new connection. The Mac client portion would use MacTCP to establish the connection and communicate with the server.

The fact that the application is a client-server application can be hidden from the user, so that the user perceives only a Mac user interface running in the A/UX Macintosh environment. Alternatively, the client-server aspects can be exploited, by allowing the Macintosh client application to run on any Macintosh on the network, including remote Macintosh computers connected via ARA.

Advantages of Client-Server Applications:

This client-server model offers several advantages, including:
* Development is simplified. In each half of the application, all the standard programming rules for that type of application hold true. There are no additional restrictions as there are with hybrids (such as not making blocking UNIX calls).

* Better development tools are available. Both halves of the application can be developed with the best available tools. For example, the Mac half could be written with MacApp and debugged with SourceBug. The UNIX half could be written using standard UNIX development techniques, and debugged with a UNIX source-level debugger such as sdb.

* Better application design is encouraged. The client-server programming model encourages a clean separation of the user interface from the underlying "engine" of an application.

* As discussed above, the client-server model offers additional functional capabilities, by allowing the Macintosh client application to run on a different machine on the network than the UNIX server application.

* The UNIX server portion may be portable to other UNIX systems which do not support the Macintosh environment.

Converting a Hybrid Application to a Client-Server Application:

An existing hybrid application can be converted to a client-server application. This involves identifying those portions of the application which are specific to the Macintosh side (generally user interface code) and those which are specific to the UNIX side (anything that directly utilizes UNIX OS facilities). Some functionality, such as data crunching, could occur on either the Macintosh client side or the UNIX server side.

One way to identify UNIX-specific code in a UNIX COFF hybrid is to re-link each object file as if it were a separate executable. This will report all unresolved external symbols, including calls to UNIX library and system calls. Those files with many such calls may contain functionality which should be in the UNIX server portion, while files with few such calls may contain functionality which should be in the Mac server portion.

After identifying the Mac client-side functionality and the UNIX server-side functionality, the next step is to define the messages which will be passed between the two sides. Then, re-code the application using Macintosh tools to create a pure Macintosh client application and UNIX tools to create a pure UNIX server application. Try to unit test each side of the application as much as possible, then test to ensure that the proper communication is occurring between the two sides. It may be helpful to bootstrap the application, by getting limited client-server functionality running first, and adding more advanced capabilities once the basic communication mechanism is stable.

Article Change History:
31 Mar 1995 - Made minor corrections.

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Apple IIc Upgraded Motherboards: Diagnostics Error

After an exchange of an upgraded Apple IIc motherboard, running old versions of the Apple IIc diagnostics results in an error condition, most freqently error code number 299.

This article has been archived and is no longer updated by Apple.

The older versions of the diagnostics will not work properly with the upgraded motherbords. Use the most current version of Apple IIc diagnostics (at least Rev. C).

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ABS Tech Note: AWS30 /etc/fstab corruption (11/94)

This technical note provides a workaround to the /etc/fstab file corruption problem.

This article has been archived and is no longer updated by Apple.

Overview
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1) After a fresh install of A/UX 3.1 (from the full installer CD, not the Upgrade), /etc/fstab is an AppleDouble file, typed 'TEXT', creator 'iAUX' (the A/UX Installer's signature). Since the creator is not 'A/UX' or 'tefi' and the Finder cannot find the Installer application, the icon for /etc/fstab is the unknown (grey) text document. The system behaves correctly as long as /etc/fstab remains an AppleDouble file....

2) If /etc/fstab is then edited and saved with TeachText, TextEditor, or any other Macintosh application, the A/UX file manager will convert it to AppleSingle format, which is not understood by fsck. This occurs because the "TBTRANSLATEUXONLY" environment variable is set (the default), and 'iAUX' is not a creator for which the file manager handles TEXT files specially (these are 'DOS ', 'tefi' (TextEditor) and 'A/UX').

The problem is not with TextEditor, but with the A/UX file manager's handling of the TEXT file type and creator. This behavior was introduced in A/UX 3.1.

Workaround
---
1) Open /etc/fstab with TextEditor (don't use TeachText!).

2) Select and copy the contents of /etc/fstab into the cut-and-paste buffer (Command-C).

3) Open a new TextEditor document (Command-N) with a unique name (not fstab!); be sure that the "Save Text Only" button is set in the dialog box (this is the default).

4) Paste the contents of /etc/fstab into the new document.

5) Save the new document and quit TextEditor.

6) From the Finder, drag /etc/fstab to the Trash and empty the Trash.

7) Rename the new document to /etc/fstab.

It won't work to just do a "Save As..."; TextEditor will preserve the incorrect file creator. The installer of the patch from A/UX 3.1 to A/UX 3.1.1 will also correct this problem if it hasn't already been corrected.

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ABS Tech Note: IPG00 About IP Gateway Tech Notes (11/94)

This document accompanies each release of Apple Business Systems Technical Notes.

This article has been archived and is no longer updated by Apple.
We want Technical Notes to be distributed as widely as possible, so they are sent to all Partners and Associates at no charge; they are also posted on AppleLink in the Developer Services Bulletin Board.

We place no restriction on copying Technical Notes, with the exception that you cannot resell them, so read, enjoy, and share. We hope Apple Business Systems Technical Notes will provide you with lots of valuable information.

Technical notes are a 'living' complement to product documentation, be it Inside Macintosh or other documentation. This means that they are updated on a regular basis, so as to be accurate and up to date. New Notes are added as required.

This technical note is an index of all technical notes related to the Apple Internet Router IP Gateway and related products. It also documents all changes to the technical notes since the previous release.

Index

Technical Note	Subject	Last Revision
IPG00	About IP Gateway Tech Notes	Sep, 1994
IPG01	IP Gateway Tuning	Sep, 1994

Changes since last release: IPG00, IPG01

Updated:

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ABS Tech Note: IPG01 IP Gateway Tuning

This document describes how to tune the Apple IP Gateway's low-level parameters to suit your specific needs. You should attempt this tuning only if you are an experienced Macintosh administrator with a solid working knowledge of ResEdit, the application program that is used to make these modifications.
This article has been archived and is no longer updated by Apple.
Warning: The instructions in this article refer to using ResEdit. Apple Computer, Inc., is not liable for any damage done to your software through the use of ResEdit to alter software.

The 'cnfg' resource
All of the tuning procedures detailed here are carried out on the 'cnfg' resource, which contains configuration information about the gateway. The 'cnfg' resource in the Gateway Prefs file (stored in the Preferences folder in the System Folder) contains the current configuration. If no Gateway Prefs file exists, the gateway will create one with the default 'cnfg' resource in the Apple IP Gateway Extension.

Important: It is strongly recommended that all modifications be done to the Gateway Prefs 'cnfg' resource. By doing so, if problems arise, the defaults can be restored by throwing away the Gateway Prefs file or moving it out of the Preferences folder.

The following example shows what you might see if you opened a 'cnfg' resource with ResEdit:

```
000000     0002  11BE  2883  0002
000008     11BE  2883  0000  003C
000010     0000  0000  0000  05A0
000018     0000  0000  0000  0005
000020     0000  001E  0014  0002
000028     0004  0005  0100  01
```

Many variables within the 'cnfg' resource can be configured using the Gateway Manager program. The necessary procedures are covered in the Apple IP Gateway Administrator's Guide. This document covers those variables that you can only modify with ResEdit, not with the Gateway Manager. The following table illustrates the 'cnfg' resource and describes the modifiable fields within it. Once changes in the resource are made, the gateway will adopt those changes the next time it is started.

Hex Offset	Decimal Offset	Length in bytes	sample data	Description
$0C	12	4	0000 003C	Interval to be used for aging clients.
$10	16	4	0000 0000	Dynamic clients' idle timeout.
$14	20	4	0000 05A0	Static clients' idle timeout.
$18	24	4	0000 0000	NBP Confirm timeout.
$1C	28	4	0000 0005	PING timeout.
$20	32	4	0000 001E	How often to check for address conflicts on Ethernet.
$24	36	2	0014	Number of Ethernet ARP table entries.
$28	40	2	0004	Number of NBP Lookup retries.
$2A	42	2	0005	Timeout for each NBP Lookup.

Aging of Clients
Timing out or "aging" of clients allows automatic (dynamic) addresses to be reused. The gateway is configured by default to PING each dynamic client every minute to see if it is still up and running. If the gateway does not receive a PING response from a client within five minutes, it assumes the client is down and makes the address available for reassignment. Manual (static) addresses are never aged out. The following five fields can be used to modify how the gateway ages clients.

* Interval to be used for aging clients:

This field controls what the base interval (in seconds) is for timing out gateway clients. The next five fields in the resource (Dynamic clients' idle timeout, Static clients' idle timeout, NBP Confirm timeout, PING timeout, How often to check for address conflicts on Ethernet) depend on this field in that they are multiples of this interval. For example, if you set the base interval to 30 and the dynamic clients' idle timeout to 10, the gateway assumes a client is no longer using a particular address if a client is idle for 5 minutes (10 intervals of 30 seconds). The default is 60 seconds.

In the example 'cnfg' resource, the interval shown is a hex value of 0000003C, which translates to a decimal value of 60.

* Dynamic clients' idle timeout:

This field controls the timing out of dynamic clients based on their idle time. It is in multiples of the base interval described above. When the field is nonzero, clients who are idle for the specified amount of time are assumed to be finished using their addresses, and their addresses are made available for reassignment. This may cause a former address holder to lose connection to the gateway until the client computer is restarted. When this field is 0 (the default), dynamic clients will not be timed out based on idle time.

In the example 'cnfg' resource, the dynamic clients' idle timeout is a hex 00000000 which translates to a decimal 0. Thus dynamic clients will not be aged out based on idle time.

* Static clients' idle timeout:

This field controls the timing out of static clients based on their idle time. It is in multiples of the base interval described above. When the field is nonzero, clients who are idle for the specified amount of time are assumed to be finished using their addresses and will disappear from the Gateway Information window in the Gateway Manager program. Unlike the case with dynamic addresses, this will not cause the user to lose connection to the gateway. The entry will simply reappear in the information window when the client next uses IP services. When this field is 0 (the default), static clients will not be aged out based on idle time.

In the example 'cnfg' resource, the static clients' idle timeout is a hex 000005A0, which translates to a decimal 1440. Static clients that are idle for 24 hours (1440 X 60 seconds) will disappear from the Gateway Information window in the Gateway Manager.

* NBP Confirm timeout:

This field controls the timing out of dynamic clients based on Name Binding Protocol (NBP) Confirms. This method makes use of the fact that IP addresses are registered with NBP so long as clients are up and running. If this field is nonzero, an NBP Confirm will be sent to each client every interval (see the previous discussion under "Interval to be used for aging clients."). If the gateway does not get a Confirm response in the number of intervals specified by this field, the client is assumed to be down and the address will be made available for reassignment. If this field is 0 (the default), dynamic clients will not be aged out using this method.

In the example 'cnfg' resource, the NBP Confirm timeout is hex 00000000, thus dynamic clients will not be aged out using this method.

A major drawback of this approach is that for NBP Confirms to receive a response, clients must be in the same zone as the gateway. Clients in different zones may age out quickly. It is therefore recommended that this field stay 0 unless all clients are in the same zone as the gateway.

* PING timeout:

This field controls the timing out of dynamic clients based on ICMP ECHO or PING. If this field is nonzero (default is 5), the gateway will send out PING packets to each dynamic client every base interval. If no response is received in the number of intervals specified by the field value, the gateway assumes the client is down and makes the address available for reassignment. Loss of connection to the gateway is unlikely because the client would automatically respond to PINGs if it were still up and running. This is the recommended method for aging dynamic clients. If this field is 0, PING will not be used to time out clients.

In the example 'cnfg' resource, the PING timeout is hex 00000005, so dynamic clients will be aged out after five minutes with no PING response received.

Address Conflicts

Address conflicts are very common in the IP world because the user is often responsible for configuring his or her own address. The gateway automatically checks the IP network to make sure that none of the addresses it is allotted to assign automatically are already in use. The next field controls this check.

* How often to check for address conflicts on Ethernet:

This field controls how often the gateway checks the IP network for addresses conflicting with the gateway's automatic range of addresses. The gateway sends out Address Resolution Protocol (ARP) packets for each dynamic address after the number of specified base intervals has passed. For example, if the interval is 120 (2 minutes), and the check for address conflicts field is 10, the gateway will send out ARP packets every 20 minutes. If an ARP response is received, an entry appears in the gateway information window indicating an address conflict, and the address is removed from the pool of available addresses.

In the example 'cnfg' resource, the address-conflict check time is hex 0000001E, which translates to decimal 30, so the gateway will send out ARP packets on the IP network every 30 minutes.

ARP Table

The Ethernet addresses of IP hosts are stored in a table, the size of which is controlled by the next field.

* Number of Ethernet ARP entries:

This field controls how many Ethernet ARP entries can be stored at the same time. The default is 20. Increasing this number will incrementally increase the amount of memory the gateway uses, but will allow the gateway to "talk to" more IP hosts at the same time. This may increase performance under heavy usage.

In the example 'cnfg' resource, the number of Ethernet ARP entries is hex 00000014, which translates to decimal 20, so there is room to store 20 Ethernet addresses of IP hosts at the same time.

* Macintosh Name:

The gateway obtains Macintosh names to display in the Gateway Information window by sending NBP lookups to clients. The next two fields allow the tuning of this lookup. If nameless clients appear, increasing the frequency or number of lookups may help.

* Number of NBP Lookup retries:

This field controls how many times the NBP Lookup is tried before the gateway gives up on getting the client's Macintosh name. The default is four.

In the example 'cnfg' resource, the number of retries is hex 00000004, so the gateway will try 5 times (once plus 4 retries) to get each Macintosh name.

* Timeout for each NBP Lookup:

This field controls the time between each NBP Lookup in seconds. The default is 5.

In the example 'cnfg' resource, the timeout for each NBP Lookup is hex 00000005, so the gateway will wait 5 seconds before sending another NBP Lookup for a Macintosh name.
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System 7.5: PC Exchange Works with Easy Open (2/95)

This article discusses the how PC Exchange works in conjuction with Macintosh Easy Open in System 7.5.

This article has been archived and is no longer updated by Apple.
When you set up DOS extension mapping in the PC Exchange control panel, they work regardless of where the file is located. A file can be on a DOS floppy disk, or on the Macintosh hard drive and they work the same.

If Macintosh Easy Open is installed, it works with PC Exchange and tries to map files to the proper applications based on the PC Exchange mappings. If the file is not mapped to an application, Macintosh Easy Open attempts to translate the file.

Article Change History:
16 Feb 1995 - Changed keyword and reviewed for technical accuracy.

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LaserWriter 16/600 PS: Does Not Stay in Desired Zone (2/95)

I have a LaserWriter 16/600 PS that will not stay in the zone I place it in. I am able to change the printer's zone with the Apple Printer Utility, but the printer goes back to the previous zone if the printer is restarted.

This article has been archived and is no longer updated by Apple.
This problem is related to the configuration switch in the back of the printer. If you are changing the zone of the LaserWriter 16/600 PS from one zone to another zone, you must flip the configuration switch into the UP position prior to changing zones (if it already is not up), and leave it there. After changing the zone with the Apple Printer Utility, you should power-cycle the printer to store the change. Other than this anomaly, the configuration switch works as it is described in the manual and Apple Printer Utility.

There are only minor differences when the configuration switch is in the UP position verses being in the DOWN position. Besides the protocol used for the Parallel port the only differences are that "AutoSelect" is used more often in the Standard settings to make it easier for customers. If the only jobs going to the printer are PostScript, then either of the settings work fine. There is a diagram on page 313 of the LaserWriter 16/600 PS user manual that outlines the settings. There are no side-effects of leaving the switch in the UP position.

Article Change History:
02 Feb 1995 - Changed title and discussion to better fit the problem.
24 Jan 1995 - Replaced entire discussion
12 Dec 1994 - Added that the switch needs to stay in the UP position.

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LaserWriter 16/600 PS: How to Turn Off IPX Protocol (11/94)

Is there a way I can turn IPX protocol off on the 16/600PS laserwriter?

This article has been archived and is no longer updated by Apple.
The Apple Printer Utility that ships with the LaserWriter 16/600 PS enables you to configure the communication channels of the printer:

1) Verify the printer's configuration switch is in the up position
(p32 of the Apple LaserWriter 16/600 PS manual).
2) Launch the Apple Printer Utility and select the 16/600.
3) Choose Communication Configuration from the menu
4) Choose "Up Switch Position (Custom)"
5) Set the Netware mode to off.

When you quit the Apple Printer Utility, you'll have the option to send this change to the printer: click send.

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QuickDraw GX Compliant Applications (4/96)

This article provides a partial list of QuickDraw GX compliant applications.

This article has been archived and is no longer updated by Apple.

These terms will help you interpret the level of QuickDrawGX support provided in these applications:

Aware - Supports QuickDraw GX printing, printing extensions, and Portable Digital Documents (PDD).

Plus - Supports "Aware" features and uses GX for font and graphic handling, including advanced typographic features such as tracking, kerning, leading, and so on.

Dependent - Requires QuickDraw GX for all typography, graphics, and printing. Will not run without GX.

General

=======

Symantec Corporation's Act! 2.0 - Aware

Microsoft Corporation's Excel 5.0 - Aware

ClaireWare Software's Personal Log 2.0 - Aware

Development Tools

==========

Oracle Developer/2000 1.2 - Aware

Graphics

========

Lari Software's LightningDraw GX - Dependent

Pierce Software's ShareDraw - Aware

FirstClass NV's Tailor GX (distributed by EnFocus Software Inc. in North America) - Dependent

Pixar's Typestry 2.11 - Plus

Page Layout

==========

Manhattan Graphics Corporation's Ready, Set, Go! GX - Dependent

Video

=====

Radius' RadiusEdit - Dependent

Scitex Digital Video's VideoCube - Dependent

Word processors and text editors

==========

Bare Bones' BBEdit 3.5 - Aware

Apple's SimpleText 1.3 - Aware

Xiaolin Zhao's Unicorn Text Editor - Aware

WordPerfect 3.5 - Aware

World Soft Corporation's WorldWrite 3.0 - Aware

Microsoft Corporation's Word 6.0 - Aware

Utilities

==========

Peirce Software's Peirce Print Tools, a set of nine GX printing

extensions.

The Wollongong Group's solution for GX able printing in TCP/IP networks.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.

Article Change History:

16 Apr 1996 - Updated information.

16 Feb 1995 - Changed keyword and reviewed technical accuracy.

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QuickTake: CD ROM Software Compatibility (11/94)

After installing the QuickTake software for the Power Macintosh, a message occurs at startup: "There is not enough memory to load all of your extensions."

This article has been archived and is no longer updated by Apple.
This may result in the loss of network and other important functions. This error could result from the incorrect version, or a corrupted version of Foreign File Access which resides in the System Folder.

The version of Foreign File Access that customers should use with the QuickTake camera and Power Macintosh computers is version 5.0. The copy that is on the System 7.5 CD-ROMs and on on-line services is the latest; version 5.0.2 of ISO 9660 File Access.

Version 4.0.2 should not be used with Power Macintosh computers. Some older versions are corrupted or incompatible.

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QuickDraw GX: Line on Printout With StyleWriter GX (4/95)

When printing to a StyleWriter II from QuickDraw GX-aware applications, a faint black border line appears on the right margin. This happens only when QuickDraw GX is installed and the StyleWriter GX printer driver is being used. We are using the UK (United Kingdom) localized version of the QuickDraw GX software.

This article has been archived and is no longer updated by Apple.
Solution

This problem only occurs with non-U.S. versions of QuickDraw GX. This issue has been fixed by the StyleWriter GX 1.1.1 driver. Apple has posted this software online.

These articles can help you locate the software update mentioned here:

* Where To Find Apple Software Updates
Lists online services for "free" Apple software updates.

* Obtaining Apple Product Support in the USA
Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech. Info. Library.

Workaround

If you do not have QuickDraw GX 1.1.1 yet, try this workaround in the interim. In the Page Setup dialog of your application, there is a pop-up field called "Format For" where you should select the printer to which you are printing. If this field is set for "Any Printer," then the problem occurs. Selecting "StyleWriter GX" should solve the problem.

To reiterate, this problem ONLY occurs with QuickDraw GX-aware applications on non-U.S. versions of QuickDraw GX.

NOTE:
This problem may still occur with the Color StyleWriter 2400, although we have neither verified or received any reports of this.

Article Change History:
10 Apr 1995 - Added information about QuickDraw GX 1.1.1.
22 Feb 1995 - Added keyword; minor technical updates.
16 Feb 1995 - Changed keyword and reviewed for technical accuracy.

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Apple RAID: No Custom Icons After Volume Restore (6/96)

While setting up Apple RAID, I first backed up my volumes, re-initialized my drives with Apple RAID, and then restored the volumes. Now all of the custom icons I had before are now generic icons, and I can't paste them back when using the Get Info window. I get the following error message, "The command could no be completed, because it cannot be found." How do I get my custom icons back?

This article has been archived and is no longer updated by Apple.

If you use the volume restore instead of the restore to a folder in Retrospect, the invisible 'Icon' file with the custom icon gets removed and your drives.

You should use the "Retrieve files and folders" command instead of the "Restore Entire Disk" command in Retrospect.

The error you describe can also occur if you try to paste a custom icon on a volume icon.

To restore your custom icons, use ResEdit or some other resource utility, make an "Icon" file visible from another drive and, as a precaution, duplicate it. Copy the duplicate file to the Apple RAID drive. When the copy is complete, use ResEdit or other resource utility to make both the original and copied files invisible again (the Icon file must be invisible). Restart, and you should be able to create a custom icon.

Article Change History:

07 Jun 1996 - Updated article with more information.

Published Date: Feb 19, 2012

Quadra 610/650/800: Int. and Ext. SCSI Requirements

I have a Centris 650 and have had problems connecting certain SCSI devices. Is there a specific rule to follow regarding SCSI bus lengths and termination?

The information in this article relative to the Centris 610 and Centris 650 is also relevant to the Quadra 610 and Quadra 650.
This article has been archived and is no longer updated by Apple.

Introduction

Like the Quadra 900/950, the Quadra 800 and Centris 610 and 650 allow for multiple internal SCSI devices. The Quadra 800, Centris/Quadra 610/650, and the Quadra 900/950 have SCSI Bus and termination requirements that are different from each other -- and different from other Macintosh models.

While the Quadra 900 and 950 have termination attached to the end of the internal cable (the end of the SCSI bus), the Quadra 800 and Centris systems' SCSI bus requires internal termination to be provided by the last internal SCSI device.

Cables & Terminators

As described above, the SCSI bus and termination are different from other Macintosh systems. The Quadra 800 and Centris systems use a single SCSI driver for both internal and external devices and automatic termination on the logic board. The SCSI bus extends from the last device on the internal SCSI cable to the last device on the external SCSI Bus. The internal SCSI cable does not have built-in termination; instead, the internal SCSI device at the end of the cable must include the appropriate termination.

If you have a variety of different external SCSI cables, the computer may malfunction. Also, if you use certain external SCSI cables, future system problems may occur due to damage to the disk directory code. You should always use cables with properly matched impedance and properly terminate the SCSI Bus. The best way to match impenance is to use cables from the same vendor rather than mixing and matching them.

System Failure Symptoms

Reported symptoms that indicate SCSI bus problems are:

* The computer will not boot, and shows a "blinking "?" on screen.
* Write errors when copying large files to disk.
* Erroneous character changes in files or documents.
* Inability to empty items from the trash.
* Inability to force quit an application.

Verify Proper System Configuration

Here's what to do if a unit experiences what appears to be disk failure:

Internal SCSI Connections:

1. If the disk is accessible, immediately back up the data to another device.

2. Shut down the system, following normal shutdown procedure, and remove any external SCSI devices.

3. Remove the computer's cover.

4. Make sure that the last SCSI connector on the internal SCSI cable is connected to the internal drive supplied with the system. If it's not, remove the internal SCSI cable and connect properly.

5. If there are any other internal SCSI devices installed, make sure they are NOT terminated.

6. Replace the cover.

7. Start up the computer to verify system integrity.

8. Restart the computer from Disk Tools, and run HDSC Setup.

9. Reinitialize the disk.

10. Reinstall system software, using the appropriate system software installer.

11. Restart the computer to verify System integrity.

External SCSI Connections:

1. With the computer powered down, connect the external SCSI devices.

2. Make sure the devices are connected with cables which have properly matched impedance, it is best to use cables from one vendor.

3. Terminate ONLY the last device on the external SCSI Bus.

4. Beware of external devices with internal termination. If there is question as to whether a device is internally terminated, check with the manufacturer. No Apple SCSI device has internal termination.

5. Be sure each device has a unique SCSI ID number.

6. Power on all external SCSI devices.

7. Start up the computer system and verify proper functionality.

If the previous procedure does not result in a properly functioning computer system, the external SCSI devices may not be compatible, or may have a different hardware failure. If that occurs, you will need to contact an authorized Apple Service Provider or the manufacturer of the suspected third-party device.
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System 7.5: Sad Mac Caused by FWB Version 1.3 (2/95)

I upgraded my Macintosh to system 7.5, and the machine now gives me a 'sad mac' error 4 error tones. Doing a clean install did not help. I used FWB Hardware Toolkit version 1.3 to reformat the drive.

This article has been archived and is no longer updated by Apple.
FWB Hardware Toolkit version 1.3 is not system 7.5 compatible, and you should be using version 1.6. The newest version is 1.6 and this the version that is 7.5 compatible. Contact FWB for an upgrade.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.

Article Change History:
16 Feb 1995 - Changed keyword and reviewed for technical accuracy.

Support Information Services

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Updating The Driver on Apple RAID 1.0.1 Formatted Disks (1/95)

This article describes a serious problem when Apple RAID 1.0.1 formatted disks have their drivers updated with Apple HD SC Setup.

This article has been archived and is no longer updated by Apple.
Apple HD SC Setup version 7.3 allows you to update the driver on any Apple disk, including disks formatted with Apple RAID 1.0.1. Regardless of the instructions for installing new versions of system software, DO NOT update Apple RAID formatted disks with Apple HD SC Setup. Use the Install Driver command of the current version of Apple RAID software.

WARNING: If the driver of an Apple RAID formatted disk is updated with
Apple HD SC Setup, the Apple RAID partition map will be damaged,
and with Apple RAID 1.0.1 no recovery is possible. You will need
to re-initialize the disk and all data will be lost.

Article Change History:
26 Jan 1996 - Made correction for accuracy.

Support Information Services
Published Date: Feb 19, 2012

PowerBook: Toshiba 540 MB Hard Drive and Sleep (11/94)

I have a PowerBook running System 7.5 with a Toshiba 540 MB hard drive. When I wake my PowerBook from sleep, it locks up. It was fine before I upgraded to System 7.5.

This article has been archived and is no longer updated by Apple.
There appears to be a conflict between the Toshiba 540 MB hard drive and sleep. Reformatting with updated drivers that are compatible with System 7.5 does not help. The same versions of Third-Party drivers on other hard drives with System 7.5 does not result in this failure. It appears to be strictly related to this hard drive.

The workaround is to reinstall 7.1, 7.1.1, or 7.1.2 to alleviate this problem.

Support Information Services
Published Date: Feb 19, 2012

PowerBook 280 and 500: RAM Disk Shutdown Error

An issue has been identified on the PowerBook Duo 280 and 280c models when running System 7.5 and trying to use the Persistent RAM Disk feature.
This article has been archived and is no longer updated by Apple.
If booted to a system folder on a RAM disk, and you attempt to Shut Down, you get an error dialog with a message that there is a problem trying to write the Persistent RAM file, and data will be lost if you shut down. You are given a choice to either Shut Down, or Cancel.

The behavior has been traced to Assistant Toolbox 1.2, the extension file that manages the Persistent RAM disk. It has also been reported on the PowerBook 520 and PowerBook 540 models.

A workaround is to revert back to Assistant Toolbox 1.1 (the pre-System 7.5 version).

Published Date: Feb 19, 2012

Apple Writer WPL Manual: Erratum

There is an error on page 110 of the manual for Apple Writer DOS 3.3 disk that runs on the Apple IIe only.
This article has been archived and is no longer updated by Apple.
The instructions on running AUTOLETTER2 include the line: DO AUTOLETTER2,D1

but the appropriate file on the Apple Writer disk is named: WPL.AUTOLETTER2.

Revise the line in the program to read:

DO WPL.AUTOLETTER2,D1 (or the number of the appropriate disk drive)

The Apple Writer ProDOS disk doesn't have an AUTOLETTER2 program. Change the program or rename AUTOLETTER1 as appropriate
Published Date: Feb 19, 2012

Quadra 630 & PMac AVs: Table of Video In/Out Options

This article is a table of video in and out options for the Quadra and Power Macintosh AV computers, and Quadra 630 computer.
This article has been archived and is no longer updated by Apple.

	Centris 660AV Quadra 660AV Quadra 840AV	PMac 6100 AV PMac 7100 AV PMac 8100 AV	Quadra 630
S-Video In	Built-In	Built-In	Must buy video card
Composite Video In	Built-In	s-video/comp adapter included	Must buy video card
Bundled Software for Video In	Video Monitor FusionRecorder	Video Monitor FusionRecorder	Avid's VideoShop Must buy video card
Audio In	microphone port that accepts PlainTalk microphone	microphone port that accepts PlainTalk microphone	microphone port that accepts PlainTalk microphone, if you buy video card (has right/left)
S-Video Out	Built-In	Built-In	Must buy Apple Presentation System
Composite Video Out	Built-In	s-video/comp adapter included	Must buy Apple Presentation System
Audio Out	Speaker port	Speaker port	Speaker port
TV Play-Through	Requires TV tuner	Requires TV tuner	Must buy TV/video system or video sys & use with VCR
Bundled Software for TV Play-Through	Video Monitor FusionRecorder	Video Monitor FusionRecorder	Apple Video Player Must buy TV Tuner and video card
Record to Video Tape	Out to TV, record on VCR	Out to TV, record on VCR	Must buy Apple Presentation System (output to VCR instead of TV)
Video Mirroring	No (buy APS)	No (buy APS)	Must buy Apple Presentation System

EXTENDED TIL INFO - *The following information is for Apple Internal & Support Providers Only*
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AWS 95 Tune-Up 2.0 - Available (11/94)

This article describes where to get the AWS 95 Tune-Up 2.0.

This article has been archived and is no longer updated by Apple.
Apple Business Systems (ABS) recently completed an A/UX 3.1 tune-up kit for the Apple Workgroup Server (AWS) 95. The tune-up provides software fixes and some performance enhancements, and is free to all AWS 95 users. The Tune-up can only be used with systems that run A/UX 3.1. The kit includes about 2 MB of software and takes 5 minutes to install.

Some of the enhancements that Tune-up 2.0 offer are:

* Timbuktu with TCP/IP connection now works with the system.
* Colour Central and AppleSearch no longer hang under heavy user load.
* Improved performance when saving large files with resource forks.

You are encourage to use the Tune-up kit.

These articles can help you locate the software update mentioned here:

* "Where To Find Apple Software Updates"
Lists online services for "free" Apple software updates.

* "Obtaining Apple Product Support in the USA"
Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech. Info. Library.

Support Information Services
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QuickDraw GX: Non-Native Error on Reformatted Drive (2/95)

I have a Power Macintosh and have reformatted the Apple internal hard drive with APS Power Tools version 2.8.2. I then installed QuickDraw GX after installing 7.5. I am now getting an error message that says the non-native version of QuickDraw GX is installed.

I reformatted the hard drive with Apple HD SC Setup and QuickDraw GX worked fine.

This article has been archived and is no longer updated by Apple.
We found a similar problem with APS version 3.0.1. Version 2.8.2 of the APS Power Tools utility was written by a company called Transoft. We called Transoft and APS to inform them of this problem. Technical support at Transoft said the only problem they found was the Color Picker problem: the error "Insert <hard disk>" shows up if virtual memory is turned on and goes away when Virtual Memory is turned off when accessing the Color Picker. Transoft technical support said that no one had called them with the QuickDraw GX problem. APS said that no one had called them with the problem.

Transoft had a fix for the Color Picker problem. There is a control panel that comes with APS PowerTools called "Power Tools Assistant 1.5.7". This control panel allows the user to change options about the drive. The interface is like the Startup Disk control panel where you select the drive and then click the option button. One of the options is "Disable Finder Eject." When this option is selected, both the Color Picker and the native GX problem go away.

We tried to duplicate the problem with APS software version 3.0.5 and could not do it. This could indicate that the problem only exists with the 3.0.1 version. Contact APS for an upgrade.

Note:
This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.

Article Change History:
16 Feb 1995 - Changed keyword and reviewed for technical accuracy.
13 Jan 1995 - Made corrections to application name appearing in article.

Support Information Services
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Macintosh Tutorial: Lower Half of Screen Missing (7/95)

I have a Power Macintosh 7100/66 and a 12" RGB monitor and am running Macintosh Tutorial along with Apple Guide. When I bring it up on my 12" RGB monitor, the bottom half of window is cutoff.

This article has been archived and is no longer updated by Apple.
It was confirmed that this problem also happens on non-Power Macintosh systems, when using the 512x384 (12") resolution. It appears that any Macintosh using the 512x384 resolution may have this problem. Apple is aware of the problem.

The Macintosh Tutorial was intended to be compatible with 12" monitors. This problem should not occur when the Macintosh is set to a screen resolution larger than 512x384. Unfortunately, there does not appear to be a work around for this problem, at this time.

Article Change History:
06 Jul 1995 - Corrected typos.
07 Mar 1995 - Reviewed for technical accuracy.
16 Feb 1995 - Changed keyword and updated.

Support Information Services
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AppleScript: Editor Cursor Flashes Left of Mouse Click

An interface problem occurs when using the Apple Script Editor under System 7.5 on a Power Macintosh.
This article has been archived and is no longer updated by Apple.
When a user tries to click on the script in the script editor, the flashing cursor does not 'go' where one clicks. The cursor actually appears on a different character, usually one or two characters to the left of where the user clicked.

The immediate workaround is clicking further to the right to get the cursor where you want. Removing the WorldScript Power Adapter from the extensions folder will eliminate the problem.

Apple Engineering is aware of the situation and is working on a solution.
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LaserWriter: Windows "PS Header Not Loaded" Error

I am trying to print from a Power Macintosh with SoftWindows to a LaserWriter Select 360 printer. However, every time I try to print from within Windows I get a "PS Header Not Loaded" error. Is this a problem with the driver?
This article has been archived and is no longer updated by Apple.
The only time I have seen this symptom, and it happens in Windows on a true Windows computer too, is when the "Send Header With Each Job" option is unchecked.

Changing PostScript Header
---
1) Open the Printers control Panel
2) Click on Setup
3) Click on Options
4) click on the box that reads "Send Header With Each Job". When an 'X' appears in the box, it sends the header with each job.

Make sure the box is checked and try printing again.

I have tested SoftWindows with system software 7.5, and it prints fine from Windows. In addition, I unchecked the "Send Header With Each Job" box and tried to print. I did not get the error message that you did on the screen, instead the error message was printed and I received a general "PostScript Error" from PrintMonitor. So, checking the box should correct the problem.
Published Date: Feb 19, 2012

WiggleWorks: Unexpected Quits When Printing

Customers have reported problems when printing from the WiggleWorks program. Specifically, they report Type 1 errors and the inability to successfully print the WiggleWorks graphics to Hewlett-Packard (HP) printers, and Type 1 errors when printing to an Apple Color Stylewriter 2400 and Apple Stylewriter 1200.
This article has been archived and is no longer updated by Apple.
Scholastic has resolved this issue for both the retail version (sold under the Apple logo), as well the "school" version sold to educators (under the Scholastic logo). The fix is in the form of an updater application. If you have the Scholastic version, you should contact Scholastic, Inc. to obtain the updater. Scholastic's web site can be found on the internet at: <**http://www.scholastic.com/**>

If you have the Apple logo'd version of WiggleWorks, you download the updater application called "WiggleWorks 1.0.2 Patch" from Apple's Software Updates web site at:
ftp://ftp.info.apple.com/Apple.Support.Area/Apple.Software.Updates/

Workaround:
The following workaround has been tested on the Apple Color StyleWriter 2400 and temporarily resolves the issue until application can be patched:

1. Before launching the WiggleWorks application, open the Chooser under the Apple Menu and select a print driver other than the Color StyleWriter 2400 (such as the ImageWriter II).
2. Launch WiggleWorks, under File choose Page Setup. Click OK to close Page Setup.
3. Under the Apple Menu, choose the Chooser and select the Color StyleWriter 2400. Close the Chooser, click okay at the "You have changed your current printer..." dialog box.
4. Printing should now work fine, though ONLY for the current session.

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Lisa Pascal Compilers after v. 3.0: Using real numbers with them

This article has been archived and is no longer updated by Apple.
In order to use real numbers with Lisa Pascal compilers with version numbers greater than 3.0, do the following:

1. Include in your program the statement:

uses {$U Lisa/SaneLib} SANE

2. Link your program with:

Lisa/SaneLibAsm

Do NOT link your program with IOSFPlib.
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PATHWORKS: Printing PostScript

My LaserWriter 16/600 reports an error when printing PostScript files with PATHWORKS.
This article has been archived and is no longer updated by Apple.
It looks like your error was a configuration issue. Here are the steps we took to resolve this. Please note that we used PATHWORKS version 1.2, but we think version 1.1 should act the same.

1) Printed the file that you gave us using the LaserWriter Utility. This verified that the file was good, and that the printer could handle the PostScript level in the file. It worked fine.

2) Ran the following command procedure which deletes the queue from VMS and PATHWORKS, and then re-initializes the queues with the proper PostScript parameters.

```
$Set ver
$ set noon
$ stop/next laser_que
$ del/que laser_que
$admin/msa
stop printer/all
remove printer "LaserWriter 600 Printer"
ADD PRINTER "LaserWriter 600 Printer"/QUEUE=Laser_que -
/DESTINATION="Selway@ZONE NAME E"
/SHEET_SIZE=(A4,B5,LETTER)-
/default=(flag, Trailer, Form=ps_plain)
start printer "LaserWriter 600 Printer"
exit
$set nove
```

Note: Our old init file did not have the /sheet qualifier and the /default=(form=ps_plain) qualifier. Also, Selway = LW 16/600 name, ONE NAME E=zone name.

3) We printed your postscript file using the same command you did, $print/que=laser_que a.ps/param=(data_type=postscript), and it worked fine.

4) We then verified that the queue would still print text by using the normal print command for login.com $ print/que=laser_que login.com.

Our recommendation is that you upgrade to PATHWORKS 1.2 and then re-initialize the queues using the preceding commands.
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LaserWriter 16/600 PS: Sun Solaris Through TCP/IP

This article provides information on configuring the Apple LaserWriter 16/600 PS printer for printing from a Solaris workstation.

It includes instructions for both Solaris OpenWindows and Common Desktop Environment, and is supplemental documentation for the "LaserWriter 16/600 User's Manual" (which has no Solaris documentation) and the "LaserWriter 12/640 User's Guide" (which does not cover Common Desktop Environment).
This article has been archived and is no longer updated by Apple.
Overview of Solaris Printing

Solaris 2.x printing use lp printing available with UNIX System 5. Solaris includes two utilities that add BSD features to the lp printing system.

- lpsystem - register remote systems with the print service: This utility supports System V network printing and provides compatibility with BSD network printing (lpd)
- lpr - send job to the printer: This utility is actually version of lp that supports lpr flags, for backwards compatibility to SunOS 4.x

The following instructions are provided for Solaris (SunOS 5.x) system administrators. SunOS 4.x (sometimes called Solaris 1.x) instructions are in the printer documentation. SunOS 4.x is a version of BSD UNIX and uses lpr for printing.

Before configuring the Solaris system, the LaserWriter needs to be installed on the Ethernet network and assigned an IP address. See your the printer's documentation for detailed instructions.

Apple Computer, Inc. supports printing only from Solaris 2.x over ethernet using TCP/IP and lp to the LaserWriter. Alternative forms of printing with other protocols, such as PAP in AppleTalk, or physical connections such as direct parallel connections are possible, but not supported by Apple Computer Inc.

Overview of C and Page Description Languages

The LaserWriter 16/600 and LaserWriter 12/640 provide printing support for Postscript, PCL, and plain text. Both printers support specific modes, or an "Autoselect" mode.

This article is written assuming the printer's TCP/IP port is set for "Postscript" or "Autoselect." Most Solaris customers print only text or Postscript. These instructions use built-in Solaris print spooler features to ensure that plain text files are transmitted as Postscript to the printer. Customers wanting to print PCL from Solaris must set their printer to "Autoselect."

Steps for "Open Look":

1) Become root - use "su" to become root within an xterm, shell tool or command tool.

2) Run the Administration Tool - Type: admintool &

3) Run the Printer Manager - Click the "printer manager" button.

4) From the "Edit" Menu select "Add Printer", "Add access to remote printer"

5) Set the "Printer Name" - the printer name is the name of the printer queue referred to in lp command. For example, if you create lp - applelw <filename>

6) Set the "Printer Server" - Use the hostname or IP address of the printer. The hostname should be entered in the /etc/hosts file, NIS database or DNS.

7) Verify or change "Print Server OS" to "BSD". Click "add" when done. The new printer appears in the Print manager window.

8) Change the "File Contents" menu to "PostScript."
Select "edit" -> "modify" -> "name of printer"
Change the "file contents" to "PostScript" and click apply. The default is "any" Click "Apply" to save changes.

Setting the "file contents to PostScript" allows all files to print to the Laserwriter correctly. Without making this change, text jobs sent to the printer using lp and lpr may not be formatted correctly.

Steps for CDE:

1) Login as root

2) type admintool &

3) Select "Printers" from the "Browse" menu

4) From the "Edit" Menu select "Add Printer"

5) Select "Add access to printer"

6) Set the "Printer Name"
The printer name is the name of the printer queue referred to in lp >command. For example, if you create a printer queue called "colorlw", you would print with the using the following:

lp -d applelw <filename>

7) Set the "Printer Server"

Use the hostname or IP address of the printer. The hostname should be >entered in the /etc/hosts file, NIS database or DNS.

8) Change the file contents to PostScript.
From a terminal window, type: lpadmin -p <printer name> -I postscript

This command tells Solaris to convert all non-postscript jobs to postscript before forwarding the job to the Color Laserwriter. Without making this change, text jobs sent to the printer using lp and lpr may not be formatted correctly.

Printing from Specific Applications

If configured properly, Solaris converts text jobs to a basic PostScript job that results in plain, portrait, courier text output.

printtool - Openwindows tool for printing files
printtool creates PostScript jobs and will work normally. Users can type in path names or use drag and drop icons from the file manager to the icon well. The default format will product 2-UP landscape output that has been "prettied" in the mp utility.

MAE - The virtual Macintosh
MAE produces PostScript using lprwriter. Set lprwriter to "lp -d <printer queue name>" If AppleTalk is supported on the Ethernet, MAE users can use LaserWriter driver and print using AppleTalk as well. Newer Apple Laserwriter drivers may provide new features (ColorSync, duplex support, etc) that is not available via TCP/IP based printing.

lp - send requests to an LP print service
lp is the standard line command used for printing files in System V UNIX.

For example: lp -d applelw <filename>

lpr - send job to the printer
Although Solaris is System V, an lpr utility is provided. The lpr command is a front end to lp and is not a normal version of lpr. However the differences should not affect the use of the LaserWriter. Example print command: lpr -P applelw <filename>

For more information on configuring printing in Solaris, you should consult the Solaris documentation that came with your workstation. For more information on UNIX printing in general, you should consult a UNIX system administration book such as the "UNIX System Administration Handbook" by Evi Nemeth, Garth Snyder, Scott Seebastian, Trent R. Hein.
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System 7.x Aliases: Frequently Asked Questions

This article answers several common questions about using Aliases with your Macintosh computer.

Questions answered in this FAQ:

1) Will aliases work with disks that are not currently available on my desktop?

2) The Date Modified field of an alias does not stay in synch with the original file. If I update a file through an alias, shouldnt the date modified for the alias file be set? I have not been able to figure out the exact rules by which these dates are modified and coordinated.

3) If I delete a file, what happens to any aliases that point to the deleted file?

4) If I delete an alias, does it delete the original file?

5) I used System 7 to create aliases to items from multiple volumes on the same file server. I connect to one of the volumes and double-click an alias for something on a second volume of the same server. The second volume is connected with the same user name and password (access rights permitting) as the first volume from the server. Even if the second alias was created using a different user name, the second volume is still connected with the first user name because you cannot log on to the same server twice. Should the user be warned about this? It seems that this could cause some confusion about how a user is logged on and what privileges they have.

6) I am using System 7.5 on my Macintosh. Through the Finder I locked several aliases in my Recent Servers Folder to assure that they would not get deleted as I accessed more and more servers. I have found that my system stops working whenever I reach the limit defined by the Apple Menu Options (v 1.0) control panel, and the Finder tries to replace a locked alias. It appears that the Finder does not first check to see if the aliases are locked before replacing them.

7) Can I start up my Macintosh computer from a file server by putting aliases to the servers System and Finder files on my Macintosh computer?

8) Can I have an alias to a file on a file server?

This article has been archived and is no longer updated by Apple.
Question 1: Will aliases work with disks that are not currently available on my desktop?

Answer: Yes. When an alias to an icon is opened, and the icon that alias points to is on a disk that is not available on the desktop, the Macintosh asks you to insert the disk.

In the case of floppy disks, CD-ROMs, and removable hard disks, you are asked to insert the disk that contains the target of the alias.

If a hard disk is attached and turned on, but not on the desktop, opening the alias mounts that disk.

If the alias points to something on an unavailable file server or to another Macintosh using System 7 File Sharing, the server is automatically mounted on the desktop. If you were signed on as a registered user when the alias was created, you are prompted for a password.

Question 2: The Date Modified field of an alias does not stay in synch with the original file. If I update a file through an alias, shouldnt the date modified for the alias file be set? I have not been able to figure out the exact rules by which these dates are modified and coordinated.

Answer: Aliases are separate files. When you open a file via an alias, the alias is opened, the original is found, the alias is closed, and the original is opened. At this point, the operating system has no knowledge as to how the original file was opened. Since there is no concept as to backward links to aliases, modifications to a file are treated as they always have been. The modification date is set on the modified file, not the alias. Since the alias is a separate file, its modification date can also be changed. Cases where this might occur include having the path to the original file change or modifying the alias file within a utility such as ResEdit.

Question 3: If I delete a file, what happens to any aliases that point to the deleted file?

Answer: Nothing. The next time you try to open the alias, you will receive an alert saying that the original item could not be found. If you later place an icon with the same name in the same location, the alias will find the new icon.

Question 4: If I delete an alias, does it delete the original file?

Answer: No. Aliases and the files they point to are independent. When you rename, move, delete, or change the label of an alias you are only modifying the alias, not the target file to which it points.

Question 5: I used System 7 to create aliases to items from multiple volumes on the same file server. I connect to one of the volumes and double-click an alias for something on a second volume of the same server. The second volume is connected with the same user name and password (access rights permitting) as the first volume from the server. Even if the second alias was created using a different user name, the second volume is still connected with the first user name because you cannot log on to the same server twice. Should the user be warned about this? It seems that

this could cause some confusion about how a user is logged on and what privileges they have.

Answer: This is true but should not be an issue. There is little reason for more than one user name to be used from a particular computer (other than Guest). Since the password is not saved with the alias, the system prompts the user for it at the time they attempt connection to the volume. The dialog box displays the user name. The behavior of aliases mimics the Chooser. If you are already logged on to the server, choosing that server again gives you the opportunity to mount any other volumes you have access privileges for. The only time this becomes inconvenient is when you are logged on to a server as a guest and want to connect to a restricted volume. You must log off the server then log back on as a registered user.

Question 6: I am using System 7.5 on my Macintosh. Through the Finder I locked several aliases in my Recent Servers Folder to assure that they would not get deleted as I accessed more and more servers. I have found that my system stops working whenever I reach the limit defined by the Apple Menu Options (v 1.0) control panel, and the Finder tries to replace a locked alias. It appears that the Finder does not first check to see if the aliases are locked before replacing them.

Answer: This has been reported as a bug in System 7.5. There is a temporary workaround for the issue:

1. Instead of locking server aliases you want to keep, make a new folder for your Apple Menu (you might call it "Recent Saved Servers").
2. Drag aliases that you want to keep from your Recent Servers folder to your new Recent Saved Servers folder.
3. These aliases in your Recent Saved Servers folder are not touched by Apple Menu Options and are accessible under your Apple Menu just as your Recent Servers folder currently appears.

Question 7: Can I start up my Macintosh computer from a file server by putting aliases to the servers System and Finder files on my Macintosh computer?

Answer: No. Aliases do not do this.

Question 8: Can I have an alias to a file on a file server?

Answer: Yes. Opening the alias opens the file on the file server. When an alias points to an icon which is on a file server, but the file server is not currently on your desktop, opening that alias automatically mounting the file server.

If you were signed on as a registered user when the alias was created, you are prompted for the user's password. Apple has provided hooks for file server products that do not support the AppleTalk Filing Protocol (AFP). You should expect to see new versions of these products supporting aliases in the near future.

Published Date: Feb 19, 2012

PowerBook File Assistant: When It Is Installed (11/94)

1) I bought System 7.5 and installed it onto my Quadra. I cannot locate PowerBook File Assistant. Wasn't this part of 7.5?

2) I would like to custom install PowerBook File Assistant onto my PowerBook though I do not see it listed as an option.

This article has been archived and is no longer updated by Apple.
1) System 7.5 includes PowerBook File Assistant for file synchronization and PowerBook battery management. It is intended for PowerBook computers and will only install onto a PowerBook. If you have both a PowerBook and a desktop machine, you can install it onto the PowerBook and then copy it over to the desktop machine.

2) There is not a custom install option for PowerBook File Assistant in the 7.5 installer. Users will need to do a regular Easy Install for it to install again. After the installation, it will be located on the hard drive inside the Portables folder which resides in the Apple Extras folder.

Support Information Services
Published Date: Feb 19, 2012

Multiple Scan 15 Display: 1024 x 768 Not Supported on Macintosh

I noticed in the Appendix of Technical Information in my Multiple Scan 15 Display User's Guide (page 31) that the Resolution range says 640 x 480 to 1024 x 768. I can't seem to get 1024 x 768 as a selection in my Monitors control panel.

Can you confirm if the manual is incorrect, or document how to get 1024 x 768 out of the Multiple Scan 15"?
This article has been archived and is no longer updated by Apple.
1024x768 is not available on all Macintosh computers at this time. Availability of this resolution depends on the model of CPU, video card used and amount of available VRAM.

The Multiple Scan 15 can display this particular resolution mode when used in conjunction with the appropriate IBM PC or compatible.
Published Date: Feb 19, 2012

Adobe Color Central: Upgrade for Workgroup Servers (11/94)

I have been experiencing system hangs when running Color Central 2.2 (CC) on my PowerPC based Workgroup Server. My server is typically running an extensive array of applications and other processes.

This article has been archived and is no longer updated by Apple.
Adobe has recently released version 2.2.1 of CC. Like the previous native version, 2.2.1 ships as a fat binary. Our testing for this very specific issue, indicates that this bug fix release is much more robust when running on a heavily loaded server than 2.2.

Along with Adobe, we recommend that customers experiencing hangs should upgrade to this new version as soon as possible. CC customers should contact Adobe for the upgrade.

Support Information Services
Published Date: Feb 19, 2012

WiggleWorks: Hard Drive Space Required (3/95)

The WiggleWorks manual says that 4.5 MB (megabytes) of hard drive space is required for installation. We had a customer call who has 8.5 MB available; yet, it is still not installing. WiggleWorks seems to want more like 9.5 MB of hard drive space.

The application itself takes up approximately 4.4 MB, but the PlainTalk and QuickTime which get installed take up approximately 4 MB also.

There are no disk requirements stated on the box but the manual does indeed say 4.5 MB of disk space which is not correct.

This article has been archived and is no longer updated by Apple.
The WiggleWorks installer may stop during the installation to inform you that a file cannot be written, that the file should be deleted, and the installation started again. This type of message can occur because there is insufficient hard disk space.

When there is insufficient hard disk space, the WiggleWorks Installer should not even begin the installation. However, because the Installer is not properly checking for the amount of space required by WiggleWorks prior to actually installing it, the previously mentioned type of error can occur.

The correct hard drive space requirements for WiggleWorks are:

Easy Install

An Easy Install will install the product without the three ER movies being installed on the local drive, 8.2 MB of space is required on the hard drive.

Custom Install

A Custom Install allows you to install the three ER movies, requires an additional 2.1 MB over the 8.2 MB required by the Easy Install, resulting in a total of 10.3 MB of space being required on the hard drive.

Article Change History:
22 Mar 1995 - Reviewed for technical accuracy.

Support Information Services
Published Date: Feb 19, 2012

Apple IIgs: Dropping Off The AppleShare Network (11/94)

I have the following configuration:
* Apple IIgs running GSOS 6.0.1 or GSOS 6.0
* Connected to and AppleShare 3.x server
* AppleShare 3.x server has Apple II setup 2.2 installed.

And encounter problems with the Apple IIgs will dropping off the network. Usually within 3-5 minutes of idle time. The server window "Connected Users" will show the user connected for about 1 minute then drop them from the server. This only occurs if you boot the Apple IIgs from the server.

This article has been archived and is no longer updated by Apple.
This problem is difficult to reproduce. Sometimes it will go away simply by doing a clean install of the server and GSOS software. One resolution is to upgrade to Apple II Setup 3.0. You can obtain Apple II setup 3.0 by upgrading to GSOS 6.0.1 or obtaining it from an online service or Apple Authorized Service Provider.
Note: this software comes with GSOS 6.0.1 not AppleShare 3.x. You will need to look in the Apple II area to locate the software.

Support Information Services

Published Date: Feb 19, 2012

Color Stylewriter: Using as a Network Printer (11/94)

How do I share a Color StyleWriter Pro over a network? How do I print to a shared Color StyleWriter Pro?

This article has been archived and is no longer updated by Apple.
This article discusses setting up the Color StyleWriter Pro printer, however these steps are identical for the Color StyleWriter 2400 when using ColorShare (make sure you use the Color StyleWriter 2400 printer software instead of the Color StyleWriter Pro software). The Color StyleWriter 2400 also has an optional LocalTalk module. When this module is used, you cannot use the following steps.

Overview

Using the Color StyleWriter printer driver (which includes ColorShare), you can share your Color StyleWriter Pro with up to 21 additional computers over an AppleTalk network. There is no limit on how many people choose the printer in the Chooser, but only 21 people can print to the printer at a time. Anyone who wants to print to the shared printer needs to install the Color StyleWriter Pro printer driver.

You still retain control of the printer after sharing it because the Color StyleWriter Pro is connected to your computer. You can turn sharing on or off at any time. You can also use the Print Monitor program to view a list of pending print jobs and delete any jobs from that list.

Note: The Macintosh connected to the shared printer slows down when other users print to the shared printer because your computer is actually being used as a spooler. The information is sent from the remote computer to yours, then from your computer to the printer.

Sharing a Printer

To share a Color StyleWriter Pro with others, follow these steps:

1) In order to share a printer, you must be connected to an AppleTalk network of some type.

LocalTalk Connection

The LocalTalk connector goes into the printer port. The peripheral 8 cable (serial cable) connects the printer to the Macintosh. It needs to go into the modem port.

Ethernet or Token Ring Connection

Since both Ethernet and Token Ring connections don't require you to use a serial port on your Macintosh, you can use either the printer or modem port to connect the printer to your Macintosh.

2) Open the Chooser and select the Color StyleWriter Pro icon. A list of available printers displays.

3) Click the icon of the port to which your printer is connected. If you are using the printer port to connect your Macintosh to the network, you must connect your Color StyleWriter Pro to the modem port.

4) Click the Setup button to open the Color StyleWriter Pro Sharing Setup dialog box.

5) Place an X in the "Share this Printer" checkbox. You have the option of naming your printer and entering a password. If you type a password for the printer, only users who know the password can use the printer from their computers.

If you want a record of what is printed on your printer, place an X in the "Keep Log of Printer Usage" checkbox.

6) Click "OK" to close the Color StyleWriter Pro Sharing Setup dialog box

and close the Chooser window.

Your printer is now available to others on the network.

Printing to a Shared Printer

To print to a shared printer, follow these steps:

1) Open the Chooser and select the Color StyleWriter Pro icon. A list of available printers and communications ports will be displayed.

2) Click the name of the shared printer that you want to use.
If the printer requires a password, a dialog box appears in which you must type the password.

3) Optionally, you may click the Get Info button to see whether any fonts in your system are unavailable on the shared printer. If your documents contain such fonts, printing will be slower, because the fonts must be downloaded to the printer.

4) Close the Chooser

You are now ready to print to the shared printer.

These articles can help you locate software updates mentioned here:

* Where To Find Apple Software Updates
Lists online services for "free" Apple software updates

* Obtaining Apple Product Support in the USA
Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech. Info. Library

Support Information Services
Published Date: Feb 19, 2012

Apple IIc External Drive: PR#7 Can‘t Boot

Attempted to boot external disk drive PR#7. No boot action and the words "AppleTalk Offline" appear at the bottom of the screen.
This article has been archived and is no longer updated by Apple.
You may have a logic board which has ROMs compatible with the UniDisk 3.5 installed. Using PR#7 to boot the external drive is a feature which was discontinued in these ROMs to make room for other new features.

If you are using a UniDisk 3.5 use PR#5 instead of PR#7. If you are using any other drive, you can not boot from the external drive.
Published Date: Feb 19, 2012

ARA: Set to Auto-Answer with AOL

A customer has a Centris 660AV with System Software 7.1, Software Update 3.0, Apple Remote Access (ARA) 2.01, America On Line (AOL) 2.5.1, GeoPort 1.2.2. Express Modem control panel settings are set to external modem. Memory control panel is set to default.

He leaves ARA and FaxTerminal both set to auto-answer. He is able to log into AOL, but when he disconnects from either application, his system hangs. What's the problem?
This article has been archived and is no longer updated by Apple.
After testing, we found the following:

We were able to reproduce the customer's problem only when ARA was set to answer calls. Having Fax receive enabled did not cause the problem.

We recommend setting the Express Modem control panel to Express Modem, not external.

Finally, Express Modem 1.5.5 or Apple Telecom 2.x or later appears to fix the problem. These articles can help you locate Express Modem 1.5.5 software mentioned here:

* "Where To Find Apple Software Updates"
Lists online services for "free" Apple software updates, including:

- America Online - keyword: applecomputer
- CompuServe - GO APLSUP
- Internet -
Worldwide Web: <http://www.info.apple.com/swupdates>
ftp: <ftp://ftp.info.apple.com>

* "Obtaining Apple Product Support in the USA"
Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech. Info. Library.
Published Date: Feb 19, 2012

Apple Multimedia Tuner 2.0:Readme (11/94)

This is the Readme for Apple Multimedia Tuner 2.0

This article has been archived and is no longer updated by Apple.

Apple strives to provide maximum reliability for its customers. This update provides specific improvements that many Apple Macintosh customers will find helpful.

What is the Apple Multimedia Tuner 2.0?

The Apple Multimedia Tuner system extension includes a set of software enhancements that improve the performance and reliability of some software applications and multimedia titles that utilize Apple's QuickTime and Sound Manager software on Macintosh computers running system software versions 6.0.7, 7.0, 7.0.1, 7.1, 7.1.1 (System 7 Pro), 7.1.2 (for Power Macintosh), or 7.5.

What are the enhancements that the Apple Multimedia Tuner 2.0 provides?

QuickTime 2.0 contains enhancements that can dramatically improve QuickTime movie playback performance in software applications and multimedia titles. Some existing software applications and multimedia titles do not properly initiate movie playback and will not be able to realize the performance improvements of QuickTime 2.0. The Apple Multimedia Tuner 2.0 helps these applications and multimedia titles achieve much smoother and consistent movie playback.

In some situations, there may not be sufficient RAM available to play sounds. If you are using Sound Manager 3.0, the Apple Multimedia Tuner 2.0 will improve the system's ability to play sounds under these conditions.

The Apple Multimedia Tuner 2.0 improves the reliability of Quadra 660AV and Quadra 840AV systems running some compute-intensive applications under low-memory conditions.

How do I know if I should use the Apple Multimedia Tuner 2.0?

This system extension should be used with QuickTime 2.0 and with the Sound Manager 3.0.

The Apple Multimedia Tuner 2.0 automatically determines whether your computer can benefit from the enhancements it provides. If so, the Apple Multimedia Tuner initializes itself when your computer starts up, and its icon displays briefly at the bottom of your screen. If not, the Apple Multimedia Tuner has no effect, and its icon is not displayed during start-up.

The enhancements provided by the Apple Multimedia Tuner 2.0 will be incorporated into future versions of QuickTime and the Sound Manager.

Installing the Apple Multimedia Tuner 2.0

To install the Apple Multimedia Tuner 2.0, simply drag the Apple Multimedia Tuner system extension to the Extensions folder inside your System Folder, under System 7, or to the System Folder, under System 6. You must restart (reboot) your Macintosh to take advantage of this software.

Support Information Services

Published Date: Feb 19, 2012

AppleCD: Models Supporting 3.5-in. CD-ROMs

Is it possible to play 3.5 inch CD-ROM discs in any Apple CD-ROM drives?
This article has been archived and is no longer updated by Apple.
The following Apple CD-ROM players will correctly load a 3.5 inch CD-ROM:

- PowerCD

- AppleCD 300e Plus

- AppleCD 300i Plus

- AppleCD 600e

- AppleCD 600i

The following Apple CD-ROM players cannot play 3.5 inch CD-ROMs:

- AppleCD SC

- AppleCD SC Plus

- AppleCD 300

- AppleCD 300i

In general, the caddy-based CD-ROM drives, such as the original AppleCD SC, cannot play a 3.5 inch CD-ROM. This is because the caddy is not designed to hold a 3.5 inch CD-ROM in the correct position. Third-party companies make adaptors that attach to 3.5 inch CD-ROM discs making them compatible with standard size disc players. Though untested and unsupported by Apple, these devices may work in a caddy loaded CD-ROM drive.

The tray-loading CD-ROM drives, such as the AppleCD 300e Plus, have an indentation in the tray, which can hold a 3.5 inch CD-ROM in place.

The PowerCD has neither a caddy, nor a tray. It allows you to place a 3.5 inch CD-ROM directly onto the drive's spindle.

Published Date: Feb 19, 2012

LaserWriter 16/600 PS: No PCL5 through EtherTalk (11/94)

I am using a LaserWriter 16/600 PS printer in conjunction with an EtherShare Server. The original files are created on a Sun workstation, and sent to the EtherShare server. The LaserWriter 16/600 PS is using the Ethernet port. however, using the Ethernet port with the Ethertalk protocol, it is not possible to set up the LaserWriter 16/600 PS in Auto select mode (PostScript and PCL5 mode). The only protocol available using the Apple Printer Utility is PostScript or none.

This article has been archived and is no longer updated by Apple.
PCL5 is not supported using the EtherTalk communication channel. However, PCL5 is supported on IPX and IP network communication channels. You can configure these channels for PostScript, PCL5, or Autoselect. Since Sun workstations can use LPR over TCP/IP, you can use this method to print directly to the LaserWriter 16/600 PS printer.

Support Information Services

Published Date: Feb 19, 2012

Initializing Hard Drive: Finder & Apple HD SC Setup (2/95)

When I turn on my computer I get a blinking question mark. I insert the Disk Tools diskette and the computer starts up normally. Just before the hard drive mounts on the desktop a message appears saying the disk, meaning the hard drive, is unreadable and asks if I want to initialize it so I click the Cancel button.

The Disk Tools icon appears, but there's no hard drive icon visible. I run Disk First Aid, which reports a problem on the hard drive that can't be fixed. I then run Apple HD SC Setup, which reports it can't re-initialize the hard drive. I restart from Disk Tools again, and this time at the Disk is unreadable, do you want to initialize it? message, I go ahead and initialize it. Miraculously, the hard drive then mounts.

Why does the hard drive succeed in initializing from the Finder even though Apple HD SC Setup, which is the more specialized tool, fails?

This article has been archived and is no longer updated by Apple.
Although both the Finder and Apple HD SC Setup say they are initializing the drive, they both use different methods. The Finder initialization just creates a new, empty directory structure on hard drives. The Finder only does a complete format on floppies. HD SC Setup does a low-level format of the drive, creates new partitions, installs the drivers for the drive, and creates the empty directory structure.

NOTE: When you initialize a hard drive, all data will be lost.

The Finder can initialize any drive, whether it is an Apple drive or not, but only if it is mounted on the desktop or the Finder is trying to mount the drive. When the Finder displays the "This disk is unreadable" message, it is because the Finder is trying to mount the drive but the directory structure has become corrupted. If you click the initialize button, the Finder replaces the corrupt directory with a new one.

HD SC Setup only works on Apple drives. It does a low-level format with verification. If either the format, or verification process fails, HD SC Setup says it can't format the drive. Failure could be caused by either mechanical problems or media problems with the drive.

Some third party formatting utilities, like SilverLining or Hard Disk Toolkit, can map out bad blocks on the disk so the disk can be formatted. One of these utilities might be able to reformat the drive.

Since the drive failed to mount and could be initialized by the Finder, that would suggest that the partition map and driver on the drive are not damaged. However, the fact that HD SC Setup could not initialize the drive suggests that the drive may be failing and should be replaced. We suggest you make frequent backups of the drive just in case it is failing.

Article Change History:
20 Feb 1995 - Corrected name of software in title of article.

Support Information Services
Published Date: Feb 19, 2012

LaserWriter 16/600 PS: TCP/IP Accounting (11/94)

Communication with PostScript printers for UNIX systems is done using the TranScript package from Adobe Systems. The TranScript driver carries on a conversation with the printer that includes status queries for deadlock and failure detection, as well as accounting.

PostScript interpreters nominally keep a counter of how many 'print this page' operators have been executed. These operators generally cause a piece of paper to be cycled through the printer engine. This counter may be the same as or independent of any page counters held by the print engine.

This counter can be queried by the PostScript code

statusdict begin pagecount == end

The host driver queries the page counter before and after the job and records the difference as the number of pages that job printed. In order to query this counter a bidirectional communication link is needed.

The preferred method to connect a printer to the RJO system is through a TCP/IP bidirectional link. This allows data transfers at network speeds, letting TCP perform flow control.

Some printers (or adapters) support TCP/IP, but only implement the LPD protocol. Print jobs are sent to the printer as if it was another UNIX computer running an lpd server. This approach is not viable unless logging and accounting information can be obtained from the printer via TCP/IP. This accounting information must include the user and host identifiers from the lpd control file.

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You are correct that this isn't possible, the IP connection doesn't support bidirectional PostScript communication. The LaserWriter 16/600 PS can accept print jobs through TCP/IP, but this particular mechanism is batch oriented, with no provisions for obtaining accounting information from the printer.

Bidirectional communications is supported on the LocalTalk, EtherTalk, and the Parallel communication channels.

Support Information Services

Published Date: Feb 19, 2012

ImageWriter LQ: Things To Be Aware Of

This article has been archived and is no longer updated by Apple.

There are several things one should be aware of when using an ImageWriter LQ.

- Paper Handling Concerns -

Refer Chapter 2 pages 16 and 17 of the ImageWriter LQ Owner's Guide for proper paper loading techniques. For complete information on paper handling refer to Chapter 7: Working With Paper.

Paper Loading - The paper must be loaded correctly or there may be paper jams.

Don't use paper with staples or paper clips attached.

Do not move the paper bail manually. This will interrupt a form feed and proper paper placement. The ImageWriter LQ is designed to manipulate the paper bail automatically. Refer to Chapter 7 of the ImageWriter LQ Owners Manual for more information.

Do not back paper or labels out of the printer.

The push/pull tractors can cause many problems if not used correctly. Be sure to refer to the push/pull tractor sections in the manual for correct paper loading techniques.

Paper thickness - Never use a form, label, or envelope that is thicker than 4 sheets of 16 pound bond paper. Too much paper may cause lines to register incorrectly or may jam the printer.

Do not try to print closer than 1/4 inch to the edges of the paper. It is possible to damage the print head or the printer.

- Cut Sheet Feeder -

Refer to Appendix A on installing the Cut Sheet Feeder for complete instructions.

Do not use 4 part carbonless forms thicker than .55 mm. Thicker forms may cause the print head to lose position and and lead to possible damage to the printer.

The Cut Sheet Feeder works best with 20-pound paper and up to 100 sheets loaded. For optimal results, use uncoated paper like Antique, Laid, English, Linen, Cockle, Woven, Policy, Vellum, or Smooth.

The Cut Sheet Feeder and two expansion bins won't work unless the configuration plug is removed from the third bin. See page 163 of the ImageWriter LQ Owners Manual for complete information.

- Cut Sheet Feeder and Envelopes -

See pages 173 to 176 of the ImageWriter LQ Owners Manual for complete information on loading and using envelopes.

When loading envelopes the edge of the envelope must align with the cut sheet icon on bin 1 behind the forward collator and with the vertical red mark on the paper bail so that printing will begin no

further to the left edge than the black mark on the paper bail, at least 1/4 inch in from the edge. Proper alignment prevents print head damage.

It is very important that no attempt is made to print on the top line in the envelope's upper left corner or on the first 1/4 inch in from the envelope's left edge. Serious print head daamage can result, and the paper feed mechanism may jam. Printing one line down from the top, and in line with the black mark on the paper bail is fine and causes no problems.

- Miscellaneous Concerns -

When connecting an ImageWriter LQ to a Macintosh be sure to read Chapter 3 on connecting the printer to a Macintosh. Pay special attention to the adding of the fonts to you disks.

If using pin feed paper make sure the paper is properly aligned in the tractors.

Published Date: Feb 19, 2012

DWP Prob/Cure: On Pwr Up, Carriage Jams to Side/Printwheel Spins

This article has been archived and is no longer updated by Apple.

PROBLEM DESCRIPTION: When the DWP is turned on, the printwheel spins at high speeds or the carriage jams to the right or left side of the printer.

CAUSE:
1. The drive circuits in the printwheel servo or the carriage servo have blown.
2. If it's an old logic PCB, one of the buses may have broken connection with the PCB.

There are 4 revs of DWP Main Logic PCBs (A1,A2, B, and C). The older rev PCBs (A1, A2, and B), have very fragile busses which are light colored strips mounted lengthwise along the component side of the PCB. If the PCB is flexed lengthwise (even slightly), pins on this bus will break from contact with the PCB. Most often this break is invisible to casual inspection.

One of the most common problems a break on the bus can cause is to prevent a power supply voltage from getting to the encoder PCB. This will cause the encoder PCB to output an error voltage to the servo loop. If it's the printwheel servo loop the printwheel will spin in one direction. If it's the carriage servo, the carriage will slam to one side.

Since it is so easy to break these buses, many well intentioned techs have accidently damaged PCBs before installing them causing the same symptoms to occur after replacement as were there before.

CURE: "Carefully" replace the logic PCB.

If the above cure doesn't fix the problem, refer to the Tech Procedures to obtain the general troubleshooting for this product.

Published Date: Feb 19, 2012

AOCE: Compliant Applications

This article provides a list of AOCE (Apple Open Collaborative Environment) compliant applications. (The two products which make up AOCE are PowerTalk and PowerShare.) This list is not a complete list.

For more information see the "Apple PowerTalk/PowerShare Solutions Guide" which can be found in the following areas:

1) Internet -> Higher Education Gopher Server -> Apple Support Area -> Current Product Information

2) Internet -> ftp.info.apple.com ->Apple Support Area -> Current Product Information
This article has been archived and is no longer updated by Apple.
Agents
---
* Mainstream Newscast for PowerTalk
Mainstream Data, Inc.
420 Chipeta Way, Suite 200
Salt Lake City, UT 84108
801-584-2800

* PageNow!
Mark/Space Softworks
111 W St. John, 2nd Floor
San Jose, CA 95113
408-293-7299

* PowerAGENT
SouthBeach Software Corporation
2631 Lincoln Avenue
Coconut Grove, FL 33133
305-858-8416

Mail-Capable
---
* NetWORKS
Caravelle Networks Corporation
301 Moodie Drive, Suite 306
Nepean, Ontario K2H 9C4 Canada
613-596-2802

* QuickMail AOCE
CE Software, Inc.
1801 Industrial Circle, W.
P.O. Box 65580
West Des Moines, IA 50265
515-221-1801

* ClarisWorks
* MacWrite Pro 1.5
Claris Corporation
5201 Patrick Henry Drive
Santa Clara, CA 95052
1-800-3CLARIS

* netOctopus
HELIOS USA
10495 Bandley Drive
Cupertino, CA 95014
408-864-0690

* Microsoft Excel 5
* Microsoft PowerPoint
* Microsoft Word 6
Microsoft Corporation

One Microsoft Way
Redmont, WA 98052
(206) 882-8080

* Nisus Writer
Nisus Software, Inc.
107 S. Cedros Avenue
Solana Beach, CA 92075
1-800-922-2993

* PacerTerm
Pacer Software, Inc.
1900 West Park Drive, Suite 280
Westborough, MA 01581
1-800-PACER-02

* Useful Voice Processor for Macintosh, AOCE Edition
Useful Software Corporation
12 Page Street
Danvers, MA 01923-2825
1-800-666-9828

* WordPerfect for Macintosh and Power Macintosh
WordPerfect, The Novell Applications Group
1555 N. Technology Way
Orem, UT 84057
1-800-321-4566

PowerTalk Personal Gateways
---
* CompuServe Mail for PowerTalk
CompuServe, Inc.
5000 Arlington Centre Boulevard
P.O. Box 20212
Columbus, OH 43220
1-800-848-8990 USA
(614) 529-1340 Outside USA

* PhonePro
Cypress Research Corporation
240 E. Caribbean Drive
Sunnyvale, CA 94089
(408) 752-2700

* TeamLinks Mail for Macintosh
Digital Equipment Corporation
146 Main Street
Maynard, MA 01754-2571
1-800-DIGITAL

* ETE Communicator
ETE, Inc.
12526 High Bluff Drive, Suite 300
San Diego, CA 92130
(619) 793-5400

* NOTIFY! for PowerTalk
Ex Machina, Inc.
11 East 26th Street
New York, NY 10128
(718) 965-0309

* DSK Cataloger & Template Constructor
Graphical Business Interfaces, Inc.

R.R. 1, Box 260A
Monticello, IN 47960
1-800-424-7714

* Internet PowerClient
OpenSoft
640 Veteran Ave., Suite 201
Los Angeles, CA 90024
1-800-996-OPEN

* Mail*Link Internet for PowerTalk
* Mail*Link MS for PowerTalk
* Mail*Link QM for PowerTalk
Apple Computer, Inc.
1 Infinite Loop
Cupertino, CA 95014
(408) 996-1010

* STF PowerFax Personal Edition (PE)
* VoiceAccess
STF Technologies, Inc.
I-70 and Highway 23
P.O. Box 81
Concordia, MO 64020
(816) 463-2021

* X.500 Catalog Gateway for PowerTalk
University of Michigan
1009 Green Street
Ann Arbor, MI 48109
(313) 936-0816

PowerShare Server Gateways
---
* Mail*Link SMTP for PowerShare
* Mail*Link Directory Services for PowerShare
StarNine Technologies, Inc.
2550 Ninth Street, Suite 112
Berkeley, CA 94710
(510) 649-4949

* Fax Gateway for PowerShare
Allidator AB
Box 564
S-831 27 Ostersund
Sweden
+46 63 104430

Team Productivity
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* DataModeler
1st Desk Systems, Inc.
55-57 Cape Road
Mendon, MA 01756
1-800-522-2286

* InfoDepot
Chena Software, Inc.
905 Harrison Street
Allentown, PA 18103
(610) 770-1210

* Face to Face for Macintosh

Crosswise Corporation
105 Locust Street
Santa Cruz, CA 95060
(408) 459-9060

* Timbuktu Pro for Macintosh
Farallon Computing, Inc.
2470 Mariner Square Loop
Alameda, CA 94501
(510) 814-5000

* TeamAgenda
MacVONK Canada, Inc.
940 6th Avenue S.W., Suite 1101
Calgary, Alberta T2P 3T1 Canada
(403) 232-6545

* Office Tracker Pro
MILUM Corporation
P.O. Box 163985
Austin, TX 78716-3985
(512) 469-2966

* Things to Do!
MILUM Corporation
P.O. Box 163985
Austin, TX 78716-3985
(512) 469-2966

* Common Ground
No Hands Software, Inc.
1301 Shoreway Road, Suite 220
Belmont, CA 94002
(415) 802-5800

* PacerForum
Pacer Software, Inc.
1900 West Park Drive, Suite 280
Westborough, MA 01581
1-800-PACER-02

* Informed Foundation
Shana Corporation
9650 20th Avenue, Suite 105
Alberta T6N 1G1 Canada
(403) 463-3330

* Atlantis Data Publisher
* Snow Report Writer
Snow Development Group
2360 Congress Avenue
Water, FL 34623
(813) 784-1845

* ACT! for Macintosh
Symantec Corporation
10201 Torre Avenue
Cupertino, CA 95014
1-800-441-7234

Utilities
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* Apple Remote Access Client
* Apple Remote Access Personal Server

* Apple Remote Access MultiPort Server
Apple Computer, Inc.
1 Infinite Loop
Cupertino, CA 95014
(408) 996-1010

* AOCE Connection Kit
Graphical Business Interfaces, Inc.
R.R. 1, Box 260A
Monticello, IN 47960
1-800-424-7714

* Radius StageTwo Rocket with RocketShare
Radius, Inc.
1710 Fortune Drive
San Jose, CA 95131
(408) 954-6454
Published Date: Feb 19, 2012

Software Revisions: Why Version Numbers May Not Change (11/94)

I have downloaded the Express Modem Software version 1.5.4. However, in the About dialog box, the version is noted as 1.5.3.

Has there really been a change or is it just in name alone.

This article has been archived and is no longer updated by Apple.
A particular application or system software component can be comprised of many individual files. A version number is assigned to the whole group of files. Often times, only a few of the individual components are revised, though the version number for the group of files must be revised.

In the case of the Express Modem build, if you open the Express Modem control panel, it will display version 1.5.3. But if you were to perform a "Get Info" on the Express Modem control panel from the Finder, you will notice that the 1.5.3 control panel is part of the Express Modem Software 1.5.4 build.

Support Information Services
Published Date: Feb 19, 2012

System 7.5: System Freezes with Microsoft Office 4.2 (2/95)

Your system may occasionally freeze if you have System 7.5 and Microsoft Office 4.2 (including Word 6.0 and Excel 5.0). This happens less frequently when running "System 7.5 Only" with no Microsoft applications.

This article has been archived and is no longer updated by Apple.
Microsoft Office 4.2 comes with RAM Doubler. If you are using System 7.5 you should run RAM Doubler 1.5.1 or higher. Some versions of RAM doubler that shipped with Microsoft Office included RAM Doubler 1.0.4 and should be upgraded.

You can check your version using the following steps:

Step
Open the Extensions Folder in the System Folder.

Step 2
Click on the RAM Doubler extension once to highlight.

Step 3
Select "Get Info" and read the version number.

Although Connectix wrote RAM Doubler, if it shipped with Microsoft Office you need to call Microsoft to get the update, not Connectix. You can contact Microsoft Technical Support.

The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.

Article Change History:
16 Feb 1995 - Changed keyword and reviewed technical accuracy.
10 Feb 1995 - Added keyword; made minor technical updates.

Support Information Services
Published Date: Feb 19, 2012

LaserWriter 16/600 PS: Fax Log Status Messages (1/95)

What are the options when using the LaserWriter 16/600 PS fax log? All of the status messages I have read "Job Unknown". Also, How does the Settings section work? Were are using local area code of 516 and long distance code of 1. I am assuming that this informs the fax that the local area code is 516 and to place a 1 in front of numbers where the area code is different from 516.

This article has been archived and is no longer updated by Apple.
The fax log only lists the faxes sent from the workstation you are on. For a listing of all of the faxes sent by the printer, the LaserWriter FAX Utility should be used. The utility is capable of displaying and printing all fax jobs sent by the printer.

Concerning the status options, some of the more common status messages are: "Job Unknown", "Status Unknown", "Currently Sending", "Callee Didn't Respond", "Finished Successfully". We were able to duplicate the problem where most of the jobs state "Job Unknown". To get a correct status;

1) Select all the fax jobs in the fax log
2) Choose "Check Status" from the File menu

This causes the Laserwriter Fax Log Utility to query the Fax servers and update the log to the correct values.

You are correct, the "Long Distance Prefix" gets placed automatically in front of any area code not equal to the "Local Area Code". This only occurs when selecting an entry in the phonebook, and not when manually typing in a phone number. If a phone number is manually typed in to the "Fax Number" field, then whatever is typed is used by the printer.

Article Change History:
24 Jan 1995 - Added steps for getting the correct status of jobs

Support Information Services
Published Date: Feb 19, 2012

Power Macintosh: LAT Random Disconnect Problem Fix (5/95)

Several people have asked about a problem related to running the LAT Connection Tool on a Power Macintosh and AV computers. The configuration is normally a Power Macintosh running an application that has selected the LAT Connection Tool. The LAT session will disconnect itself randomly.

This article has been archived and is no longer updated by Apple.
The Network Software Installer (NSI) 1.5 will fix this problem, and you should find and install NSI 1.5.

These articles can help you locate NSI 1.5 mentioned here:

* "Where To Find Apple Software Updates" -- Lists online services for free Apple software updates.

* "Obtaining Apple Product Support in the USA" -- Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech Info Library.

The Read Me does not specifically state this fixes the Power Macintosh and LAT problem, however it does.

Article change History:
11 May 1995 - Updated article for NSI 1.5.

Support Information Services
Published Date: Feb 19, 2012

Power Macintosh Upgrade Card: Problem with Silverlining

There appears to be an incompatibility between Silverlining 5.6 and the Power Macintosh Upgrade Card (PMUC).

Our customer updated the internal HD and reformatted the external HD with 5.6, and when he tried booting in PowerPC 601 mode, he got Sad Mac. The Quadra 700 boots fine in 68000 (68k) mode.
This article has been archived and is no longer updated by Apple.
I put the Power Macintosh Upgrade Card into a Quadra 700 and formatted an external drive with Silverlining 5.6. The Quadra was in 68K mode when I formatted the drive. I installed the PMUC software on the external drive and set it as the startup disk. It started fine in 68K mode. I then set the Quadra to 601 mode, shut down and restarted. The Quadra booted but was really slow. I could watch each letter being drawn in "Welcome to Power Macintosh." I restarted and this time I got a system error in QuickTime Powerplug. I restarted again and this time got the Sad Mac error.

I connected the external drive to a Power Macintosh 8100/80. I used Silverlining 5.6 to reinstall the driver, leaving all the data intact. I took the drive back to the Quadra 700 and it now worked in both 68K and 601 mode. Based on this, it appears the problem is with Silverlining.

La Cie is aware of the situation and is working on a fix. There is no estimate as to when one will be available.
Published Date: Feb 19, 2012

VRAM SIMMs: Differentiating Between 256k and 512k (11/94)

Is there any method of identifying a 256k and 512k VRAM SIMM? There are no distinguishing numbers on the chips themselves which help to identify the density.

This article has been archived and is no longer updated by Apple.
The only way to differentiate VRAM SIMMs is by the number of individual chips on the SIMM itself. The 256K VRAM SIMM has two (2) 40-pin ICs, and the 512K VRAM SIMM has 4 (four) 28-pin ICs.

Do keep in mind that VRAM SIMMs comes in two different speeds, 80ns and 100ns.

Support Information Services
Published Date: Feb 19, 2012

Express Modem Does Not Support Faxing Gray Scale Images (11/94)

I've noticed when I have a document on screen with several shades of gray, and I Fax it using my Express Modem software, it results in a black and white image at the receiving end. Darker shades of gray are replaced with black, and lighter shades of gray are replaced with white. Doesn't the Express Modem software support Faxing in gray scale?

This article has been archived and is no longer updated by Apple.

No, the Express Modem software does not support Faxing in gray scale.

If your document application supports dithering, which means converting each shade of gray to a mixture of black and white dots, you can first save the image as black and white, then Fax it. The appearance may not be as good as printing the file to a printer that supports gray scale.

Support Information Services

Published Date: Feb 19, 2012

MacTCP 2.0.4 to 2.0.6 Patch: Read Me, Release Notes (11/94)

This article is the MacTCP 2.0.4 to 2.0.6 Patch ReadMe, and Release Notes.

This article has been archived and is no longer updated by Apple.
Read Me for MacTCP 2.0.6 Patches
Copyright 1994, Apple Computer, Inc.
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November 22, 1994

What Is This For?

The applications: "MacTCP 2.0.4 to 2.0.6 Patch" and "MacTCP Admin 2.0.6 Patch" are ResCompare resource patching applications. Applying the appropriate patch to a COPY OF YOUR ORIGINAL ("clean") MacTCP or MacTCP Admin control panel will upgrade your copy to version 2.0.6.

What Can Be Upgraded?

All licensed copies of MacTCP 2.0.4 can be upgraded. For users of earlier 2.x versions (2.0 and 2.0.2) must first be updated to version 2.0.4 before updating to version 2.0.6.

What Cannot Be Upgraded?

Any other version of MacTCP 2.x (for example, 2.0.1, 2.0.3, 2.0.5â), any MacTCP alpha, beta, or development version, or any version of MacTCP v1.x may not be upgraded.

What's The Difference?

The changes between MacTCP 2.0.4 and MacTCP 2.0.6 are described in the Release Notes document. MacTCP 2.0.5 was an interim release, only distributed internally at Apple.

Release Notes for MacTCP 2.0.6
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November 22, 1994

MacTCP version 2.0.6 is an update release.
MacTCP version 2.0.5 was only released internal to Apple.
MacTCP 2.0.6 contains the following improvements over MacTCP 2.0.4 and earlier versions:

Domain Name Resolver:
---
* Inbound Domain Name Server replies are now processed one Resource Record (RR) at a time in order to avoid exhausting the DNR's limited pool of memory. This allows 2.0.6 to swallow the most verbose BIND 4.9.2/3 ADDAUTH PTR replies without encountering an out-of-memory error condition.

* The DNR now only caches A and CNAME RRs from the Answer section. NS RRs from Authority and A RRs from Additional are used to recursively follow-up references if that's necessary, but they are not stored. This greatly reduces the demand placed on the DNR's limited memory pool. It also transforms the DNR almost totally into a Stub Resolver (see RFCs 1034 and 1035). As a side effect, each new query starts off with only the name server information originally configured in the control panel or from a server. This makes the choice of which server(s) to contact, and the order in which they will be contacted, much more determinate and under the control of the configuring administrator.

* Several small memory leaks have been fixed, including a corner case in MacTCP 2.0.4 in which a block of memory could be freed twice, causing indeterminate problems later on.

* The DNR is now fully up to date in terms of permitted and forbidden syntax for domain names.

* Domain name syntax checking has been extended to cover MXINFO and HINFO requests; previously only A requests (String To Address) went through this check.

Performance:

---

* Previous versions of MacTCP kept track of re-transmission timers on a per segment basis. If 4 successive segments were dropped due to congestion at a gateway, the re-transmission of each one would require a separate time-out, and each would force an additional exponential back-off. Because of this, re-transmission time-outs sometimes became excessively long. In MacTCP 2.0.6, re-transmission of a group of segments does not result in further exponential back-offs.

* Under certain conditions, MacTCP 2.0.6 will assume that a duplicate ack implies that re-transmission of data will be required, and will expedite the re-transmission process. This often results in much shorter re-transmission delays when MacTCP is sending data.

Configuration:

---

* Previous versions of MacTCP checked both the source and destination port field in Bootp configuration responses, and did not accept the response unless the source port was 67 (Bootp Server) and the destination port was 68 (Bootp Client). Because the Bootp protocol permits Bootp Relay Agents (which are Clients) to relay configuration packets from their own Client port address, MacTCP failed to accept valid Bootp responses passing through Bootp Relay Agents that implemented this feature. MacTCP 2.0.6 now only checks the destination port for validity.

* When configuring via Bootp, previous versions of MacTCP saved only the last Domain Name Server returned in a Bootp reply. In cases where only one DNS server was returned, this didn't matter. When more than one server was returned, the one saved (the last one) was usually the least desirable server. 2.0.6 is still limited by architectural constraints to using a single Bootp-configured DNS server, but it now saves the first one returned - that is, the "best" or most desirable server in the list.

* Previous versions contained a bug in the Bootp configuration code for the processing of the Default Gateway option that could have led the DNR to corrupt any portions of a Bootp reply following that option.

Support Information Services
Published Date: Feb 19, 2012

AppleTalk: Troubleshooting The Network

Even with a network as easy to use as AppleTalk, problems can still be tricky (especially as networks grow larger). Here are a few things you can do to isolate, and deal with, most of the problems that occur before calling your local Technical Support Engineer.
This article has been archived and is no longer updated by Apple.
AppleTalk problems usually have one of three causes:

1. Incompatible System and Finder versions
2. Loose connections
3. Circular or other improper connection of the network

Making sure your Macintosh users are running from the most current versions of the System and Finder is always important, but when they are networked, it's critical. Go to each Macintosh and use the Get Info command to check the version numbers of both. People who don't use hard disks must update all of their disks containing System Folders. The next thing to check is the integrity of the network connections. If the network includes a LaserWriter or AppleTalk ImageWriter printer, a simple way to isolate the problem is to open the Chooser desk accessory on each Macintosh. If the networked printer shows up in the Chooser, the connection between that Macintosh and the printer is good. By checking systems as you move away from the networked printer, you can discover where the connection is broken and isolate the problem. Remember, AppleTalk must be connected to the printer port.

Diagramming the network is a good idea even before you have problems, but it's also an excellent way of discovering circular or other improper connections. AppleTalk is a "bus" topology network, which simply means that the network should have only two end points and no circular connections. An end point (or terminator) is the last AppleTalk connector on either end of the network. The two terminators should be the only connections on the network that have only one cable attached.

Because most problems with AppleTalk are related to the three causes mentioned, these troubleshooting tips should help you most of the time. When they don't, it's time to call your local Technical Support Engineer.
Published Date: Feb 19, 2012

Macintosh 630 family: Internal Termination Specifics (11/94)

I noticed that there are no terminating resistors on the internal SCSI devices in a Macintosh 630 family computer. How is termination handled?

This article has been archived and is no longer updated by Apple.
The Macintosh 630 family has termination very near the SCSI connector on the logic board so no internal device requires termination. When adding an internal SCSI device, make sure it is free of terminating resistors. When removing an internal device, no termination concerns apply.

The existing SCSI termination rules still apply for external devices; terminate the last device in the chain.

The following computers are in the Macintosh 630 family: Performa 630, Performa 635, Performa 636, Performa 637, Performa 638, LC 630, and Quadra 630.

Support Information Services
Published Date: Feb 19, 2012

Paging Up and Down Keyboard Shortcut: No Standard Mapping(12/94)

I have a PowerBook that doesn't have page up and page down keys on the keyboard. Is there anyway to simulate these functions?

This article has been archived and is no longer updated by Apple.
There is no built in mapping to allow a user to use those functions. However, many (if not most) applications support <ctrl-k> and <ctrl-l> sequences for page up and page down, respectively. There are also a variety of utilities that will allow you to virtually macro these keys.

Support Information Services
Published Date: Feb 19, 2012

MacCheck 1.0.3: "Missing a file record..." Error (12/94)

I am using MacCheck version 1.0.3, and received the following error messages:

"Missing a file record for file thread "1184, 326", "1209, 326" , "1210,
326", and more. I ran Disk First Aid, and got no error messages. Norton Utilities found some errors that it could fix, but I would like to know what these error messages mean.

This article has been archived and is no longer updated by Apple.
The error message you are seeing is from an older version of MacCheck. It is actually giving you more detail than is necessary, or helpful. It refers to an index in the catalog tree.

We believe that error message may result from a problem in MacCheck version 1.0.3. Release 1.0.4 of MacCheck actually incorporates some Disk First Aid
code, and would not give these messages. It doesn't sound like there is an actual problem with your system because Disk First Aid would have flagged a problem.

MacCheck v1.0.5 was the last version of MacCheck to be released.

Support Information Services
Published Date: Feb 19, 2012

ImageWriter II: Fonts are Larger and Bolder (12/94)

All the print from my ImageWriter II is bolder and larger than it was before. I have the ImageWriter II is connected to a Macintosh computer.

This article has been archived and is no longer updated by Apple.
To correct this, rebuild the desktop file on the Macintosh. To rebuild the desktop file, hold down the Command and Option keys at startup.

Support Information Services
Published Date: Feb 19, 2012

LaserWriter 16/600 PS: QuickDraw GX 1.1.3 for Envelopes 11/95

We are unable to use the envelope Feeder on our LaserWriter 16/600 PS when printing with LaserWriter GX installed by QuickDraw GX 1.0. Regardless of how our desktop printer, Page Setup, or the Print dialogs are configured, all output directed to the envelope feeder gets printed from the 250-sheet cassette tray.

This article has been archived and is no longer updated by Apple.
This issue was fixed in subsequent releases of QuickDraw GX. You should update to QuickDraw GX 1.1.3 which is posted to online services.

These articles can help you locate the software update mentioned here:

* "Where To Find Apple Software Updates" -- Lists online services for free Apple software updates.

* "Obtaining Apple Product Support in the USA" -- Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech Info Library.

Article Change History:
10 Nov 1995 - Updated with latest version of QuickDraw GX.
27 Jul 1995 - Added information on updated software fixing issue.

Support Information Services
Published Date: Feb 19, 2012

QuickDraw GX: Tray Switching Possible W/ Desktop Printers 5/95

If the 810 printer has 8.5x11 paper in all three trays, and the only difference is plain, letterhead, and quality. How do I under QuickDraw GX choose the tray I want to use? Without GX I can do this in the main print window.

This article has been archived and is no longer updated by Apple.
It is possible to select the various trays of the LaserWriter Pro 810 using the LaserWriter GX software.

QuickDraw GX 1.0

There is only one minor "glitch" in doing this. You must send a print job to a newly created desktop printer before using any of the paper trays. You only need to do this once when creating a desktop printer for a networked LaserWriter. Part of this print job is a query to the printer for information on which trays it has available, as well as other options such as FinePrint, and PhotoGrade. After the print job is complete, then you can select the desktop printer for the LaserWriter Pro 810 and select the "Input Trays" menu item in the "Printer" menu of the Finder. This is where the paper sizes are defined for the various trays in the printer.

QuickDraw GX 1.1

With QuickDraw GX 1.1 and later, you do not have to print to the desktop printer prior to configuring the paper trays.

Once the paper trays are configured, all of the 810's paper trays can be accessed. Access is different depending on whether the application being used is QuickDraw GX-aware. There are currently a limited number of QuickDraw GX-aware applications. These include Microsoft Word 6.0, SimpleText, and the Finder.

QuickDraw GX-aware Applications

In QuickDraw GX-aware applications, selecting the specific paper trays can be automatic or manual. Automatic tray selection is based on the paper size selected in Page Setup, which then corresponds with the "Paper Match" option setting "Print with input paper tray matching" in the Print dialog box. For manual paper tray selection, you can select "Ignore paper match..." in the "Paper Match" options window and select a specific paper tray.

NOTE:
One thing to make sure of is that the "Format For" pop-up field in Page Setup, and "Print To" pop-up field in the Print dialog has the LaserWriter 810 desktop printer selected from the pop-up selections.

Non-QuickDraw GX-aware Applications

For a non-GX-aware application, the standard Page Setup and Print dialogs appear so you can select the LaserWriter 810 paper trays as you normally do.

Article Change History:
10 May 1995 - Added QuickDraw 1.1 information.
16 Feb 1995 - Changed keyword and reviewed for technical accuracy.

Support Information Services
Published Date: Feb 19, 2012

LaserWriters: Determining Page-Per-Minute

I am confused by "page-per-minute" calculations for Apple printers. For example, the LaserWriter NTR is rated at "maximum 4 pages per minute" according to Apple documentation. However, I can get 8 pages per minute out of the printer, after the first page is printed.

Exactly how does Apple determine page per minute calculations, and how does that compare to other printer manufacturers?
This article has been archived and is no longer updated by Apple.
The "page-per-minute" specification in all of Apple's printers reflects the maximum number of pages per minute that the print engine is capable of outputting. The key factor is the speed that the print engine can output pages. This defines the theoretical pages per minute if the I/O board can process the pages as fast as the engine can output them.

We would be very surprised if you are able to get 8 pages-per-minute from a Personal LaserWriter NTR. We printed all blank pages (to take out the variable of rasterizing the page) and verified that the printer could only print approximately 4 pages in one minute, or roughly one page for every 15 seconds.

The same page-per-minute specification denoting print engine speed is used industry-wide.
Published Date: Feb 19, 2012

ImageWriter II: Paper Feed and Detection Issues (1 of 2)

The following issues are discussed in this article.

1. ImageWriter II Prob/Cure: Paper Out is Not Detected
2. IW I/II Prob/Cure: Error Lamp Blinks When There Are No Jams
3. ImageWriter II Prob/Cure: Tractor Feed Paper Jams
4. ImageWriter II P/C: Pin Feed Paper Jams (scrunches)

This article has been archived and is no longer updated by Apple.
#1: ImageWriter II Prob/Cure: Paper Out is Not Detected

PROBLEM DESCRIPTION: The printer indicates that there is paper in the printer even when there isn't any.

NOTE: An ohm-meter will be needed for the following procedure.

CAUSES:

A: Mechanical paper out sensor may be malfunctioning.

CURE: To test the sensor's switch, perform the steps below.

1. Turn the printer off and then on to eliminate any possibility of a software problem. Then recheck for the problem.

2. Follow the procedure in the Tech Procedures to remove the Top Cover to expose the logic PCB.

3. Locate and remove CN9 (a two wire connector on the left side of the PCB as you are facing the front of the printer).

4. Insert paper into the printer and measure the resistance between the two pins on CN9 (the connector that you removed from the PCB). The resistance should be infinite with the paper inserted.

5. Continue to measure the resistance betweent the two pins as you remove the paper. The resistance should be between 0 and 50 ohms with the paper removed.

6. If both resistance checks were OK, the paper out sensor switch is "not" faulty. Replace the logic PCB.

B: Optical paper put sensor may be malfunctioning.

1. CAUSE: Platen may be dirty or covered with ink. The ink build up makes the platen surface reflective which causes platen surface to reflect the light from the optical paper sensor.

CURE #1: Clean the platen surface with a typewriter platen cleaner such as FEDRON (c).
CURE #2: Replace the platen.

2: CAUSE: Faulty optical paper out sensor. This might only be noticed when a sheetfeeder is attached to the printer. The printer will work except when the sheetfeeder is added, then the printer won't feed the paper from the sheetfeeder.

CURE: Replace the optical paper out sensor assembly.

3: CAUSE: Bad logic board.

CURE: Replace the logic board.

#2: IW I/II Prob/Cure: Error Lamp Blinks When There Are No Jams

NOTE: An ohm-meter will be needed for this procedure.

PROBLEM DESCRIPTION: Cover is correctly installed and there appear to be no paper or print mechanism jams.

CAUSE/s: 1. If the printer is an ImageWriter II, the option card DIP switch may be improperly set or the magnet on the cover may have fallen off.

2. If the printer is an ImageWriter I or II,the magnet on the cover may not be activating the magnetic "cover on" sensor switch.

CURE/s:

ImageWriter II:

1. Check the printer to see if a 32K buffer card or an AppleTalk interface card is installed. If either is installed, make sure that option card DIP switch SW2-4 is closed. If neither card is installed, make sure that option card DIP switch SW2-4 is open.

2. Remove the operation panel and confirm that the magnet is properly installed. If the magnet is OK, find the two terminals for the magnetic switch on the non-component side of the PCB. Position the magnet on the paper cover next to the magnetic switch on the component side of the PCB while checking for continuity between the two terminals as the magnet contacts the switch the switch should close and you should read a short. If the switch stays open, it is defective so replace the operation panel.

ImageWriter I:

Replace the magnetic reed switch then recheck for the problem. If the problem is fixed, that means that the magnetic "cover on" sensor switch was malfunctioning such that the magnet on the cover could not activate it

#3: ImageWriter II Prob/Cure: Tractor Feed Paper Jams

PROBLEM DESCRIPTION: Paper jams in the ImageWriter II when using tractor feed paper.

CURE/s:
1. Turn the power on so that the head centers prior to feeding the paper.

2. If using tractor feed, DON'T switch the feed setting to friction feed. The platen has overdrive, which maintains tension on the paper by moving the platen faster than the paper so if the paper is still on the tractor feed pins, it would be ripped off.

3. If using tractor feed, check that the paper is feeding in properly with the tractor. It could be catching on the back of the paper guide.

4. If using friction feed and the paper scrunches, insert a new clean sheet before using friction feed.

5. Make sure that drive select is in the proper position. Don't flip it back and forth.

6. If none of the above solves the problem, replace the logic PCB.

#4: ImageWriter II P/C: Pin Feed Paper Jams (scrunches)

PROBLEM DESCRIPTION: Paper is jamming when using pin feed.

CAUSE: Paper is 15-pound or lighter or printer has a failed logic PCB.

CURE: Check the following:

1. Be sure the paper is feeding properly and is not catching on the back of the paper guide.

2. Make sure the switch is positioned to "Tractor Feed."

3. If your are using 15 pound paper, try a different weight paper (heavier than what you are using).

4. Replace the logic PCB.

If this cure does not resolve the problem, go to "ImageWriter II Problem/Cure-Paper Feed and Detection Problems(2 of 2)"
Published Date: Feb 19, 2012

Power Macintosh AV: Super Video Cable Length (12/94)

I'm interested in using several Power Macintosh 6100/60AV computers and have video output to a TV. I plan on using the Super Video cable and need to get lengths of about 50 feet. Will the AV option on the Power Macintosh have a problem outputting though a 50 feet Super Video cable?

This article has been archived and is no longer updated by Apple.
You most likely will have a problem if you use a long video cable. The problem is referred to as line loss. The longer the cable the greater the loss of signal.

We cannot definitively state the length at which line loss will begin to have a detrimental affect on the signal, because we do not know the construction of the video extension cable being used. However, if you are using a cable 50 feet long, there will be degradation of the video signal. This is usually manifested as ghosting, smeary video, or transparent lines running through the screen. A long video cable will not damage the display or the computer. Therefore, if you find the distortion acceptable, there is no reason why he cannot use the display with a long video cable.

Support Information Services
Published Date: Feb 19, 2012

Macintosh Processor Upgrade: Frequently Asked Questions (12/95)

This article contains frequently asked questions (FAQ) on the Macintosh Processor Upgrade.

Questions Answered in this FAQ:
==========

1) I read in MacWorld (Nov. '94) that the PowerPC 601 used in the upgrade is different than that used in the regular Power Macintosh computers. Is this true?

2) What system software ships with the upgrade?

3) Will the upgrade board be supported in future system releases?

4) What computers are supported by the Macintosh Processor Upgrade?

5) Will the upgrade support full PlainTalk speech recognition and text to speech conversion?

This article has been archived and is no longer updated by Apple.

1) Question: I read in MacWorld (Nov. '94) that the PowerPC 601 used in the upgrade is different than that used in the regular Power Macintosh computers. Is this true?

Answer: The Macintosh Processor Upgrade uses the same PowerPC 601 chip that the Power Macintosh computers and upgrade cards use.

2) Question: What system software ships with the upgrade?

Answer: The Processor Upgrade ships with the Macintosh System 7.5, which contains the 601 Processor Upgrade control panel and the 601 Processor Upgrade Enabler. ClarisWorks 3.0 is also included.

3) Question: Will the upgrade board be supported in future system releases?

Answer: Yes, the Macintosh Processor Upgrade will be supported in all future Macintosh System Software releases.

4) Question: What computers are supported by the Macintosh Processor Upgrade?

Answer: The Macintosh Processor Upgrade is supported ONLY in the Macintosh Quadra 605, Performa 47X, Macintosh LC/Performa 57X, and the Macintosh LC/Quadra/Performa 63X series computers.

5) Question: Will the upgrade support full PlainTalk speech recognition and text to speech conversion?

Answer: The Macintosh Processor Upgrade does not support PlainTalk speech recognition, because speech recognition requires 16-bit sound input. None of the systems which work with the Macintosh Processor Upgrade have 16-bit sound input.

The Processor Upgrade does support the PlainTalk text-to-speech software though.

Article Change History:
08 Dec 1995 - Corrected minor typo.
27 Nov 1995 - Updated format, updated compatible computers.
04 Jan 1995 - Added info on PlainTalk compatibility.

Support Information Services
Published Date: Feb 19, 2012

Quadra 630: Internal HD Formatter Error Message (12/94)

The hard drive on my Quadra 630 didn't mount when booted from the Disk Tools floppy. Running the Internal HD Formatter gave the message that "no ATA device found in the drive queue."

Is this? Internal HD Formatter's equivalent to HD SC Setup's, "Search failed because a suitable SCSI device could not be found"?

This article has been archived and is no longer updated by Apple.
The Internal HD Formatter does not work like HD SC Setup. Internal HD Formatter looks to see if the ATA driver is loaded and if there is an entry in the drive queue for the IDE drive. Internal HD Formatter does not work directly with the drive as HD SC Setup does.

If the internal drive is set to be the startup disk in the Startup Disk control panel, booting with the command, shift, option and delete (CSOD) keys down prevents the driver from being loaded and the entry in the drive queue from being created. This is what the CSOD key sequence is designed to do.

On SCSI computers there is a patch that later mounts the drive. This patch was put in to help with mounting slow SCSI drives. The startup disk can be prevented from mounting on SCSI machines by zapping PRAM and pressing the CSOD on the same boot. This clears the patch's list of drives that are supposed to be attached.

The Macintosh OS maintains a data structure in memory called the drive queue. The queue stores information about the drives available. They do not have to be physical devices. The Mount Image control panel creates eight entries in the drive queue so it can mount eight disk images.

Since the CSOD key sequence prevents the disk driver from being loaded and drive queue entry from being created, Internal HD Formatter is lost and displays the message that no ATA device is available.

The work around for this is to boot the machine and select some other drive as the startup disk. When this is done, the CSOD key sequence does not need to be used and the internal should mount. If the Finder displays a message stating the internal drive cannot be mounted because of some error, Internal HD Formatted will still be able to work with the drive since the driver and drive queue entry exist.

Support Information Services
Published Date: Feb 19, 2012

LaserWriter Bridge version 1.0: Read Me

This article is the LaserWriter (LW) Bridge Read Me file.
This article has been archived and is no longer updated by Apple.
LaserWriter Bridge version 1.0

The LaserWriter Bridge software allows users on your extended network (such as Ethernet) to have access to a LocalTalk printer connected to your Macintosh. This file summarizes the installation procedure and provides information not covered in the documentation you received with the LaserWriter Bridge software.

About LaserWriter Bridge

LaserWriter Bridge 1.0 is intended to be used only with the type of printer you have just purchased. Do not try to use LaserWriter Bridge with other types of LocalTalk printers, or with more than one LocalTalk printer connected to a single "host" Macintosh.

Before Installing LaserWriter Bridge

Before installing LaserWriter Bridge, you need to connect your LocalTalk printer to a host Macintosh on an extended network. Refer to the manual that came with your printer for instructions on connecting it to the Macintosh.

The host Macintosh requires

* At least 4 megabytes (MB) of RAM.
* System software version 7.0 or later.
* The appropriate hardware and software for an extended network connection.

Installing LaserWriter Bridge

1) Select your extended network (for example, EtherTalk) in the Network control panel.
2) Insert the LaserWriter Bridge floppy disk.
3) Drag the LaserWriter Bridge icon to the System Folder icon.
4) When asked if you want LaserWriter Bridge placed in the Control Panels folder, click Yes.
5) Restart the host computer.
Published Date: Feb 19, 2012

Multiple Scan 17 Display: Purity Problems (12/94)

Some of our clients have mentioned a very soft blue, rose, red, or green spot near the bottom right corner of the Multiple Scan 17" monitor. If you rotate the monitor, this spot moves a little, changing its intensity.

They are aware of the "Geo-magnetic" sensitivity to the magnetic pole, especially because we are very close to the South pole. It is known that these monitors are calibrated for the different geographic hemispheres.

We think that the best solution would be to have a monitor calibrated for Australia, is there a product code? We have been told that M2611X/A represents an Australian calibration. Is this true?

This article has been archived and is no longer updated by Apple.
The correct marketing number for the Australian version of the Multiple Scan 17 display is M2611X/A. However, this is probably not going to solve your problem.

From your description, you are dealing with a purity problem. Assuming a correct display setup, poor purity is usually related to stray DC magnetic fields. We have found that over time metal objects such as desks, cabinets, or computer cases can become magnetized and adversely affect a display's purity.

You can purchase a hand held degaussing coil (about $25 to $30) and demagnetize metal objects in the proximity of the display. I have done this many times to eliminate problems like the one you are experiencing. Sometimes this is not easily remedied because of magnetized metal beams in the structure of the building. If this is the case, then the only solution is to either accept the purity problem or relocate the unit to another area of the building.

Support Information Services
Published Date: Feb 19, 2012

MacX 1.2 and Motif Window Manager Problems (12/94)

In using MacX 1.2 with Motif Window Manager (mwm) and I'm having some problems, which don't happen on other X display servers. I'm running Motif Window Manager 1.1.4 on SunOS 4.1.3. Most things are fine, however, I've noticed these three anomalies:

1) Ghosting is not working. I get pixel numbers displayed, but I don't get an outline of a window as I move it. I set the showfeedback xresource to all, and many of the other features controlled by this xresource are working, but the window outline is not. I also checked that the ghost window is not mapped to the background color.

2) The window menu button in upper left (move, resize...), if I click once with the left mouse button, the menu usually stays up. In MacX, the menu goes away when I release the mouse button.

3) The window menu button, if double clicked, the menu window is usually killed, but in MacX it just flashes a couple of times.

Any ideas why these are behaving differently than my other X servers?

This article has been archived and is no longer updated by Apple.
We do not have access a Sparc workstation running SunOS 4.1.3, we tried to locate one on campus. Therefore we tried duplicating your problem on a SparcLX running Solaris v2.3, and olwm (Sun's OpenLook Windows Manager).

We tried several different scenarios, but we could not duplicate your reported problem. We could get everything to work under Solaris v2.3, and we believe the problem lies in the SunOS 4.1.3 based olwm (v1.1.4).

1) Steps we took to set up the Sun:

Please do not start "openwin" at the Sun,

```
sparclx%csh
sparclx%setenv OPENWINHOME /usr/openwin
sparclx%setenv LD_LIBRARY_PATH /usr/openwin/lib
```

2) Steps we took to set up MacX v1.2:

under "remote":

"edit remote command":

"remote command":

csh; setenv DISPLAY "¿display"; /usr/openwin/bin/olwm -display
130.43.4.25:0.0

"color": color rooted

"output": pop up

3) Start executing "olwm", and "xterm" and some X applications.

4) We can see the window's outline when moving or resizing with xterm. We could close the "xterm" window by clicking on the upper-left-most corner.

We checked with MacX Engineering and were told that cases such as the one you reported happen in SunOS based OpenLook Windows Manager not Solaris v2.x, but it was hard to tell whether it's because of MacX or the olwm. Sometimes a particular X-application can also cause similar problems.

The MacX Engineer also recommended the use of "twm" or some other third party applications.

Also we tried the Motif Windows Manager (mwm) on HP/UX, and RS/6000 AIX v3.2.5, and things worked exactly as they were supposed to. We did not experience the problem you reported on these workstations.

Support Information Services
Published Date: Feb 19, 2012

LaserWriter Pro 810: Supports PCL4+

I'm having problems with the DOS/Windows compatibility of the LaserWriter Pro 810. The drivers supplied with the printer are unable to work in PCL5 environment which I require. Is there a solution to this?

This article has been archived and is no longer updated by Apple.

The drivers shipped with the LaserWriter 810 are PostScript only drivers. In order to get the printer to print PCL, the Hewlett-Packard LaserJet IIP driver should be used. It is important to note that the LaserWriter Pro 810 does NOT support PCL5. The LaserWriter Pro 810 supports PCL4+ only. Use the corresponding Hewlett-Packard driver to get PCL functionality, LaserJet II, IIP, or III.

Published Date: Feb 19, 2012

ImageWriter II Problem/Cure: Prints Over Perforation

When printing to the ImageWriter II, the document seems to go to the next page, prints a few lines, then leaves about 3/4 to 5/8 inch of blank lines and then starts printing again. This condition gets worse as you print until the printer starts to print over the page perforation.
This article has been archived and is no longer updated by Apple.
The cause of this problem is switch 1-5 may be in the CLOSED position. This switch activates the PERFORATION SKIP function.

To stop the problem, turn the printer off, put switch 1-5 in the OPEN position, then turn the printer on again.
Published Date: Feb 19, 2012

System 7.5: Extra Items Installed with Easy Install (2/95)

I would like to know why when installing System 7.5 and selecting "for this Macintosh," I get files for other Macintosh computers as well. It appears that software "for any (every ?) Macintosh" gets loaded rather than what should for just my Macintosh. This causes me a lot of extra work in cleaning up after the Installer. I am also concerned about having users perform installations over the network as they have a variety of machines, and I do not want to visit them all or walk them through which files to keep or to throw away.

This article has been archived and is no longer updated by Apple.
We are aware of this situation occurring via the "Custom Install" option in the System 7.5 Installer. The problem is that a top level check box item (the one that has a triangle to the left of it) installs items for all machines, regardless of whether the user has already selected a secondary checkbox item for a specific Macintosh.

Oftentimes, a user "instinctively" makes the following selections:
* System Software for this Macintosh only
* Apple Menu Options
* Control Panels

The Installer interprets these requests as "System Software for this Macintosh only" plus "All Apple Menu Items" plus "All Control Panels." This situation can be avoided by clicking on the triangles next to the top level check boxes to reveal the second level check box items. It is at this point (the second level) where a user should specify which items should be installed.

For this particular scenario, note the following:
* Selecting "System Software for this Macintosh only" by itself achieves the desired result.
* Performing an "Easy Install" is much easier. It is the recommended way to install the needed System software, and not install any unnecessary System software.

Article Change History:
16 Feb 1995 - Changed keyword and reviewed for technical accuracy.
12 Dec 1994 - Retitled and slightly modified Discussion.

Support Information Services
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QuickTake 100: Default Compression (12/94)

I need to get some VERY technical information on the QuickTake 100:

(1) I need detailed specifications on the focusing and filtering elements
and charged coupled device specifications.

(2) What is the default compression used by the QuickTake?

This article has been archived and is no longer updated by Apple.

Detailed specifications on the focusing and filtering elements, and charged
coupled device specifications are Apple Proprietary information and can't be given out.

The default compression QuickTake 100 Camera images is about 7 to 1. A special QuickTime codec is uses for the compression. Eight 640 x 480 24 bit images are stored in 1 megabit of EEPROM in the camera, and as a 128K file on disk. When this file is converted to a 24 bit PICT it is about 900K.

Support Information Services

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LaserWriter Bridge Version 1.0: Description

The following contains specific information for customers who purchased the LaserWriter Select 360 with the LaserWriter Bridge utility version 1.0.1.
This article has been archived and is no longer updated by Apple.
The LaserWriter Bridge software allows users on your extended network (such as Ethernet) to have access to a LocalTalk printer connected to your Macintosh. This file summarizes the installation procedure and provides information not covered in the documentation you received with the LaserWriter Bridge software.

About LaserWriter Bridge
LaserWriter Bridge 1.0.1 is intended to be used with the LaserWriter Select 360 only. Do not try to use LaserWriter Bridge with other types of LocalTalk printers, or with more than one LocalTalk printer connected to a single "host" Macintosh.

Before Installing LaserWriter Bridge
Before installing LaserWriter Bridge, you need to connect your LocalTalk printer to a host Macintosh on an extended network. Refer to the manual that came with your printer for instructions on connecting it to the Macintosh.

The host Macintosh requires:
- at least 4 megabytes (MB) of RAM
- system software version 7.0 or later
- the appropriate hardware and software for an extended network connection

Installing LaserWriter Bridge
1. Select your extended network (for example, EtherTalk) in the Network control panel.
2. Insert the LaserWriter Bridge floppy disk.
3. Drag the LaserWriter Bridge icon to the System Folder icon.
4. When asked if you want LaserWriter Bridge placed in the Control Panels folder, click Yes.
5. Restart the host computer.

Published Date: Feb 19, 2012

LaserWriter 8.x: Must Use System 6.0.7 or Later

I would like to know if LaserWriter 8.1.1 is compatible with System 6.0.5.
This article has been archived and is no longer updated by Apple.
LaserWriter drivers 8.0, 8.1.1, and 8.1.2 were tested with System 6.0.7, so they are compatible. However, it is not know if System 6.0.5 is compatible, since no tests were performed using this version of System 6. We would recommend upgrading all Macintosh computers using System 6 to System 6.0.7 or System 6.0.8.

Backward compatibility testing with System 6.x ended with LaserWriter 8.1.2., so LaserWriter driver 8.2 was not tested with any version of System 6.
Published Date: Feb 19, 2012

QuickDraw GX: LaserWriter GX Tray Selection Issue

I am using QuickDraw GX and the Laserwriter GX driver. I have 500 Sheet Feeder attached to my LaserWriter printer with letter size paper in both the 250 sheet feeder and the 500 sheet feeder. I cannot make the 500 sheet feeder the default tray, or even print using the tray. How can I use the 500 sheet feeder?
This article has been archived and is no longer updated by Apple.
Currently if both trays have letter paper in the trays, or have been configured for same type of paper there is no option to choose which tray to take from.

The only way to get the 500 sheet feeder to work or to be the Default tray with QuickDraw GX is to go into the Printing menu and configure the 250 sheet feeder for a paper size other than Letter, or different from the 500 sheet tray. Changing this allows you to use the 500 sheet feeder. However, once you change the paper size, the 250 sheet feeder will not be available.
Published Date: Feb 19, 2012

Hard Disk 20: Boot From HD20 Locks Up HD20 and Macintosh

PROBLEM DESCRIPTION: When trying to boot from a non-SCSI Hard Disk 20, the system fails to complete its boot. The Macintosh ejects the Sony disk, and both the hard disk and Macintosh locks-up.

CAUSE: The Finder file on the hard disk may be corrupted.

This article has been archived and is no longer updated by Apple.
CURE: Try each of the following until the problem is fixed.

1. Replace the HD-20's Finder File:
a) Turn on the HD 20. Switch off Macintosh, insert Hard Disk 20 Startup Disk in the internal disk drive, and switch the Macintosh on again.

b) When you see the "Welcome to Macintosh" prompt, hold down the mouse button until the Finder is completely displayed (the wristwatch turns into a pointer).

c) The Hard Disk 20 Startup disk is now the current startup disk. Display the contents of the System Folder on the HD Start-Up disk. Select the Finder file and go to the "File" option on the menu bar to "Get Info" for revision information on the Finder file. It should be revision 5.0 or better

d) Display the contents of the System Folder on the Hard Disk 20 to ensure that the HD 20's Finder and System files are located there. If they aren't, find them on the HD 20 and move them into the HD 20's System Folder.

e) If the HD 20 Start-Up disk's Finder file was an acceptable revision, drag it over to the System Folder on the Hard Disk 20, replacing the old HD 20 Finder file.

f) Reboot the HD 20 Start-Up disk and recheck for the problem. If it still exists, go to step 2.

2. Rebuild the HD-20's Desktop:
a) Simultaneously press the COMMAND, OPTION and TAB keys while you reboot the HD 20 Start-Up disk.

b) The Finder should ask if you want to intialize the HD-20. Make sure you select "Cancel" for this operation or you will lose all of the data stored on the HD 20.

c) The Finder will then ask you if you want to rebuild the DeskTop file. Select OK. After the finder rebuilds its desktop, recheck for the problem. If it still exists, go to step 3.

WARNING: If you perform step 3 below, all data will be erased from the Hard Disk 20. This solution should be used as a last ditch effort, for a truely mangled hard disk.

3. Initialize the Hard Disk 20
a) Press the COMMAND, OPTION and TAB keys while you reboot the HD 20 Start-Up disk.

b) The Finder should ask if you want to intialize the HD-20. Select "OK". This operation erases all of the data stored

on the HD 20.

Note that these methods will cure failures due to software Finder problems and will not get at hardware problems that may the the original cause of the problem. When finished with the above procedure, run the HD 20 Test located on the Startup disk on the hard disk.

Published Date: Feb 19, 2012

ImageWriter: How To Lubricate the Carriage Shaft (12/94)

The lubricant on my ImageWriter II carriage shaft has dried up. What steps do I need to take to replace it?

This article has been archived and is no longer updated by Apple.
As ImageWriter and ImageWriter II printers age the lubricants used on the carriage shaft accumulate dust and other contaminants. Instead of adding additional lubricants on top of the old ones it is recommended that the old lubricants and contaminants first be removed.

A small amount of WD-40 lubricant or other de-greasing solution applied to a lint free cloth can be used to remove the old lubricants. Be sure to clean the carriage shaft(s) completely to minimize carriage friction. Never spray the lubricant or de-greaser directly into the printer.

Once all of the old lubricant has been removed apply four drops of telous oil or Floil G-488 lubricant to a clean lint-free cloth and wipe it onto the carriage shaft(s). Another method is to apply four drops of oil to the felt wipers which are located under the carriage assembly.

Many hardware stores and home centers have a good selection of compatible lubricants. Local stores specializing in lubricants can be found in the phone book under lubricants.

Support Information Services
Published Date: Feb 19, 2012

Apple Built-In Ethernet 1.01: Fix For MACE Controller

Macintosh Quadra 660AV, 840AV, Power Macintosh, and PowerPC-based Workgroup Server computers may freeze and/or have data corruption related with the MACE Ethernet controller.
This article has been archived and is no longer updated by Apple.
The Network Software Installer (NSI) 1.5 contains the Apple Built-In Ethernet driver file version 1.0.1. This driver file contains drivers for all Apple built-in Ethernet implementations and is installed in the extensions folder.

The Macintosh Quadra 660AV and 840AV, Power Macintosh 6100/60, 6100/66, 7100/66, and 8100/80, and Workgroup Server 6150, 8150, and 9150 Ethernet drivers were updated to eliminate slowdowns, hangs, lost connections, and data corruptions that were possible on some Ethernet networks. Installing NSI 1.5 or later fixes this problem.
Published Date: Feb 19, 2012

AppleScript: On-Line and Printed Reference Sources

What are some good on-line and/or printed sources for Scripting Additions?
This article has been archived and is no longer updated by Apple.
There are several on-line and printed sources for scripting information or additions:

On-Line Resources
macscripting@dartmouth.edu is a great listserv for AppleScript discussion. Subscribe by sending a message to listserv@dartmouth.edu with body of message subscribe macscrpt. Send actual discussions to macscripting@dartmouth.edu

The ftp sites sumex-aim.stanford.edu and mac.archive.umich.edu have good scripting subfolders. sumex and umich.edu are worth checking as well.

Apple's Web Pages for AppleScript: "**http://applescript.apple.com**"

"The AppleScript Sourcebook" from Bill Cheeseman; includes downloadable scripts, libraries and applets.
"**http://oasis.bellevue.k12.wa.us/cheeseb/index.html**"

Subscribe to AppleScript Mailing List (or search archives): "**http://lists.apple.com/Applescript.html**"

AppleScript Finder Guide, online:
"**http://devworld.apple.com/techpubs/mac/AppleScriptFind/AppleScriptFind-2.html"**

AppleScript Language Guide, online:
"**http://devworld.apple.com/techpubs/mac/AppleScriptLang/AppleScriptLang-2.html**"

AppleScript Tutorial from Wolfram Research: "**http://www.wolfram.com/~lou/AppleScript/**"

Printed Resources
"The Tao of AppleScript" by Derrick Schneider
"Danny Goodman's AppleScript Handbook" by Danny Goodman
If you would like more information on AppleScript, you can request document 23632, "Resource Information for Apple Events and AppleScript" from the Claris Fax Answerline (1-800-800-8954).

Published Date: Feb 19, 2012

Connecting Two Macintosh Computers With a Serial Cable

I have two Macintosh computers, is it necessary to connect the two using LocalTalk or equivalent connectors, or would a serial cable like the Peripheral 8 cable work?
This article has been archived and is no longer updated by Apple.
While it is possible to connect two Macintosh computers using AppleTalk protocols with a Peripheral 8 cable, because the results may be unpredictable, Apple will only support the use of LocalTalk or equivalent cabling.

If you wish to use a serial cable, the cable needed to make the connection is the Apple System Peripheral - 8 Cable (retail part number M0197, service part number 590-0552). Part numbers are accurate as of this writing.

By using personal file sharing, you can share information between the two computers. Remember, using the Peripheral 8 serial cable will only let you create a two node network. In other words, you will lose other network services because the LocalTalk port is being used by the serial cable.

For information on connecting a LaserWriter to a Macintosh with a serial cable, search for the Tech Info Library article titled "LaserWriter: Connecting to a Macintosh via Serial Cable."

Published Date: Feb 19, 2012

Apple Built-In Ethernet Driver and DECnet (12/94)

According to the document which comes with the new Apple Built-In Ethernet drivers:

"With the release of NSI 1.5 all Ethernet drivers will reside in the "Apple Built-In Ethernet" extensions file instead of in the "System" file."

Does this also mean that the eadr resource will be moving from the system file to the an extension? Will enet moving or eadr moving to an extension break DECnet (PATHWORKS or TSSnet)?

This article has been archived and is no longer updated by Apple.
After installing NSI 1.5, the only 'enet' resources that should remain in the system file are the 'enet' 8 (old 3Com card), and any third-party Ethernet drivers. A new enet 8 is provided in the "Apple Ethernet NB" file, but it will only be used if the card is in fact an Apple card. The system file enet 8 is used for any other cards usurping our board ID 8. Going forward, this means we will never update a third-party enet 8 driver, but installing NSI 1.5 will not produce a non-working system.

The 'eadr' remains in the system file. Products that rely on this will have to be changed with OpenTransport and, new native drivers.

We hope that these changes do not cause any problems for PATHWORKS or DECnet. If they use the standard calls for opening slot drivers, everything should be fine.

It has been verified by field testing that the known problem with PATHWORKS involving disconnects with LAT on the PowerPC-based systems have been corrected in NSI 1.5.

Support Information Services
Published Date: Feb 19, 2012

StyleWriter Printers: All Printing Appears Backwards

My Color Stylewriter 2400 prints backwards.
This article has been archived and is no longer updated by Apple.
Inside the print dialog, change the Paper Type from Back Print to one of the other paper options. The Back Print option is available on any Stylewriter printer using the following drivers:

Color SW 2400
Color SW 2500
Color SW Pro
Color SW 2200
Stylewriter 1200
Stylewriter 1500

Back Print is used with a special type of media that is similar to a transparency with a smoky film covering one side. When using Back Print film, the non-glossy side is printed on. The printing is backwards so that when you view the film from the glossy side, everything appears in the proper orientation.
Published Date: Feb 19, 2012

MacTest 7.0: 500XX and 400XX Errors

After upgrading a Macintosh 512K for a Macintosh Plus disk drive, MacTest 7.0 crashes with error 500XX or 400XX (X could be any digit).
This article has been archived and is no longer updated by Apple.
The disk may be unformatted or write protected. (This information may also be found in the Technical Procedures binders).

Solution:
Find your error code below and perform the appropriate corrective action:
- 40080.0002 Internal disk write protected
- 50080.0002 External disk write protected
- 50070.0001 disk in external drive is not formatted properly

If the above cure doesn't fix the problem, search on GTS and the product's name to obtain a general troubleshooting procedure.
Published Date: Feb 19, 2012

File Assistant: For Which Computers and How To Install (1/96)

Several users are reporting that "File Assistant" is getting installed as part of the System 7.5 Easy Install. It also does not appear to be part of a clean install on some computer models. This product ships installed on many Macintosh computers, but if someone erases it there is no option in Custom Install to reinstall it.

Does Assistant Toolbox and it's companion application File Assistant work on any Macintosh computer?

What choice do users select in custom install to get File Assistant installed?

The Installer places this software on which computers during a Clean Install or Easy Install?

Which computers come with the software installed on the hard drive?

This article has been archived and is no longer updated by Apple.

File Assistant version 1.0 can be used on any Macintosh but there is a catch with Power Macintosh computers. It turns out that during an Easy Install on a Power Macintosh computer, the installer for File Assistant replaces the Finder, Finder Help, and the Network extension with older versions.

The workaround is to use the Custom Install option to install 'File Assistant' and 'Assistant Toolbox'. File Assistant then works without any problems on Power Macintosh computers.

For non-Power Macintosh computers, you can use the Easy Install option on the File Assistant 1.0 Installer Disk available online. When doing an Easy Install, File Assistant will be installed if the target computer is a PowerBook or Duo. It will also be installed during the Custom Install option if the you select Software for Any Macintosh.

File Assistant is factory installed on PowerBook and Duo computers with the Assistant Toolbox installed in the active System Folder, and PowerBook File Assistant installed in the Portables folder inside the Extras Folder. It is also included in the System 7.5 Install Folders on non-System 7.5 systems such as the 4 MB PowerBook configurations.

These articles can help you locate the software update mentioned here:

"Where To Find Apple Software Updates" -- Lists online services for free Apple software updates.

"Obtaining Apple Product Support in the USA" -- Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech Info Library.

Article Change History:

08 Jan 1996 - Corrected minor typo.

16 Feb 1995 - Changed keyword and reviewed for technical accuracy.

Support Information Services

Published Date: Feb 19, 2012

LaserWriter Pro 810: Toner Cartridge Identification

How many different toner cartridges are offered by Apple for the LaserWriter Pro 810? Once the cartridges have been removed from their packing materials how can they be identified?
This article has been archived and is no longer updated by Apple.
Apple used to offer two different toner cartridges for the LaserWriter Pro 810. The original LaserWriter Pro 810 Toner Cartridge (M1853G/A) is no longer available. This cartridge used a larger average toner particle size of 11 microns which although less expensive did not provide as much detail as the newer Extended Capacity Toner Cartridge. The original toner cartridge can be identified by the white product label on the top of the cartridge.

Apple currently offers only the newer LaserWriter Pro 810 Extended Capacity Toner Cartridge (M3602G/A) which uses an average toner particle size of 7 microns. The extended capacity toner cartridge minimizes ghosting problems and yields a higher apparent resolution due to the smaller toner particle size. It can be identified by a pale yellow label on the top of the toner cartridge.
Published Date: Feb 19, 2012

QuarkXPress: System Hang When Faxing Through GeoPort (2/95)

I am experiencing a system lock on my Power Macintosh 7100 AV when I try to fax a document from QuarkXPress 3.3.1 using my GeoPort. The document will image and it is then placed in the "Waiting to be faxed" folder. The Macintosh locks up and must be restarted with System 7.5 extensions only.

After I restart, I must reinstall the GeoPort software and restart again. Once the Macintosh restarts, the fax is sent immediately. This same procedure happens everytime I fax anything from Quark.

This article has been archived and is no longer updated by Apple.
I recommend upgrading to the latest Express Fax/GeoPort software. In this case you should first install GeoPort for Power Macintosh 1.0.2, then install Express Modem 1.5.5. This combination will provide the latest and greatest versions of the software.

There was a known bug that caused the system to crash when there were faxes waiting to be sent at startup time.

Both GeoPort for Power Macintosh 1.0.2 and Express Modem 1.5.5 are available on AppleLink or Apple's WWW site on the internet (http://www.support.apple.com/).

These articles can help you locate software updates mentioned here:

* Where To Find Apple Software Updates
Lists online services for "free" Apple software updates

* Obtaining Apple Product Support in the USA
Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech. Info. Library

Article Change History:
16 Feb 1995 - Changed keyword and reviewed for technical accuracy.

Support Information Services
Published Date: Feb 19, 2012

System 7.5: Use Apple Remote Access v2.0.x (2/95)

Can I use ARA (Apple Remote Access) 1.0 with System 7.5?

This article has been archived and is no longer updated by Apple.
ARA 1.0 was never fully tested with System 7.5. The only versions of ARA Apple supports with System 7.5 are 2.0 and later.

Article Change History:
16 Feb 1995 - Changed keyword from and reviewed for technical accuracy.
06 Feb 1995 - Total rewrite of article.
23 Jan 1995 - Added notation about ARA 1.0.
04 Jan 1995 - Added any version of ARA.

Support Information Services
Published Date: Feb 19, 2012

Express Modem 1.5.5 Read Me (12/94)

This article is the Express Modem 1.5.5 ReadMe file.
This article has been archived and is no longer updated by Apple.

```
Express Modem Disk
------------------
* Fax Cover Folder
 - Fax Cover                              1.5.2
 - Sample
 - Standard
* Fax Extension                            1.5.5
* Fax Sender                               1.5.5
* Fax Terminal                             1.5.5
* Fax Viewer                               1.5.2
* My first fax
Express Modem Folder
* Express Modem                            1.5.5
* Express Modem Tool                       1.5.5
* PowerBook                                7.3.1
* PowerBook Setup                          7.3.1
* System Enabler 131
Express Modem ReadMe                       1.5.5
Installer                                  3.4
Installer Script                           1.5.5
Modem Documents
* Express Modem 14400                      1.0
* Express Modem ARA 2.0                    1.0
* Express Modem AT Cmds                    1.5.2
* Express Modem CCL                        1.0

Read Me for Express Fax/Modem
-----------------------------
This Express/Fax Modem software can be run on the following machines with their respective modem cards:

* PowerBook 160, 165, 165c, 180, 180c using an internal Apple PowerBook
 14.4 Modem Card.

* PowerBook Duo 210, 230, 250, 270c, 280, 280c using an internal Apple
 PowerBook Duo 14.4 Modem.

* PowerBook 520, 520c, 540, 540c using an internal Apple PowerBook Express
 Modem II Card.

* LC 575, Macintosh 630 using an internal Macintosh Express Fax/Modem.

* Quadra 660 AV, 840 AV using an external GeoPort Telecom Adapter. For
 these machines you will need additional software (GeoPort rev. 1.2.1 or
 greater) provided on your GeoPort Disk.

* Power Macintosh 6100/60, 7100/66, 8100/80 using an external GeoPort
 Telecom Adapter. For these machines you will need additional software
 (GeoPort for Power Macintosh rev. 1.0 or greater) provided on your
 GeoPort Disk.

* The Express Fax software also allows you to send faxes with PowerBook
 models 100, 140, 145 and 170 when used with the Apple PowerBook Fax/Data
 Modem.

Preferred CCL scripts for AppleTalk Remote Access
-------------------------------------------------
ARA 1.0: Express Modem 14400
ARA 2.0: Express Modem ARA 2.0 (in "Modem Documents" folder on installer
```

disk)

Using QuickDraw GX with Express/Fax Modem

In order to send faxes using QuickDraw GX, you need a QuickDraw GX modem driver. A QuickDraw GX modem driver for the Express/Fax modem will be available later this year. If you have installed QuickDraw GX, you'll need to turn it off temporarily in order to use your Express Fax/Modem.

To turn off QuickDraw GX temporarily:

1. Hold down the space bar while you choose Restart from the Special menu to restart your PowerBook.

   The Extensions Manager dialog box appears on the screen.

2. Click the QuickDraw GX extension to remove the check beside it.

   This prevents the QuickDraw GX software from loading.

3. Click the close box in the Extensions Manager dialog box to resume startup.

Your fax modem should work normally. You won't be able to use any QuickDraw GX features until you turn the extension back on again.

Auto-answer setting

If Fax Terminal is set to Auto-answer, the Manual Receive is disabled.

Using Express Modem with System 7.5

This Express/Fax Modem software is fully compatible with System 7.5.

IMPORTANT: If you are using System 7.5, you can still use the shortcut for choosing Fax Sender by holding the Control and Shift keys while choosing Print from the File menu. The menu item no longer changes from Print to Fax, but the shortcut works as before. The same applies to Page Setup and Fax Setup.

Troubleshooting

If you experience unknown system crashes while using Express Modem with the PowerBook 500 series, set the Speaker setting to Modem sound always off .

To turn off the modem sound:

1. Open the Express Modem Control Panel.

2. Select Express Modem Settings in the Express Modem Settings/Status pop-up menu.

3. Select Modem sound always off in the Speaker pop-up menu.

4. Click the close box in the Express Modem Control Panel.

Fax V.17 (High Speed) reception

Some fax machines may not work well with the high-speed (V.17) fax capabilities of Express/Fax Modem. If you find you are having problems sending or receiving a fax, try turning off the V.17 option in the Fax Terminal Preferences dialog.

Published Date: Feb 19, 2012

Macintosh Plus: Serial Printer Damages SCSI Port

PROBLEM DESCRIPTION: When a serial printer is plugged into the SCSI DB-25 port of a Macintosh Plus, the logic board is damaged and the logic board must be replaced.

CAUSE: Serial printers with DB-25 connectors commonly use the RS-232 electrical interface standard. The DB-25 port on the Macintosh Plus is a SCSI port, not an RS232 port. SCSI is a high speed parallel interface and is not compatible with RS-232. The chips used by the SCSI port in the Mac Plus may be damaged by the RS-232 signals from a serial printer.
This article has been archived and is no longer updated by Apple.
CURE: Replace the Mac's logic board. To use a serial RS-232 device with the Mac Plus, use Apple's mini-circular 8 to DB-25 peripheral cable.

If the above cure doesn't fix the problem, refer to the Tech Procedures to obtain the general troubleshooting for this product.
Published Date: Feb 19, 2012

System 7.5 File Search on a Mounted Novell Volume (9/95)

Whenever I do a file search on a mounted Novell volume, Find File finds the files just fine. However, if I highlight a file I immediately get a window that says, "The file is missing and has probably been deleted, checking others", and then all the other found files immediately become grayed out and listed as missing. This does not happen to found folders, just individual files. What is wrong?

This article has been archived and is no longer updated by Apple.
This is a known problem with the new "Find..." program shipping with System 7.5. This problem has been corrected with System 7.5 Update 1.0 and after installing this update you should not have this problem.

The workaround is to hold down the Command-Shift keys while selecting "Find..." with your mouse from the File menu. You will get the "old" Find dialog box and the search will work properly. Also by holding down the Command-Shift keys you can select "Find Again" and the "old" Find Again method will work.

If this problem occurs on other remote volumes, this workaround should also work.

Article Change History:
26 Sep 1995 - Added System 7.5 Update 1.0 fix.
16 Feb 1995 - Changed keyword and reviewed for technical accuracy.

Support Information Services
Published Date: Feb 19, 2012

Graphing Calculator: Graphing Inequality Functions (12/94)

My customer is a university math professor who uses the Graphing Calculator through an overhead projector in his classroom of 400+ students.

The Graphing Calculator appears not to accept the "less than or equal to" (▒) or "greater than or equal to" (│) operators. If you press option-< or option->, nothing appears in the equation box. He wants to graph inequalities beyond "y > x + 2" and enter something like "y ▒ 4 x". Graphing Calculator help says it can graph inequalities and simple algebra.

Is support for the ▒ and the │ hidden from the user or unavailable altogether? What other operators are unavailable?

This article has been archived and is no longer updated by Apple.
Here is the answer I received from Engineering:

Graphing Calculator can graph functions of x, functions of x and y, and inequalities. The ▒ and │ characters denote equalities. Therefore, the ▒ and │ characters are unavailable altogether in Graphing Calculator.

There are ways to graph inequalities. For example, you cannot graph x = y, but you can graph |x - y| < 0, which is the same thing. To do this, you must turn on Honest 2D Plotting.

Engineering stated that if an operator is not in the Graphing Calculator help screen (accessible from the Balloon Help menu), then Graphing Calculator cannot do it. Graphing Calculator was included with the Power Macintosh to show the potential of the PowerPC chip and no Apple resources are currently allocated for development of a future version.

Support Information Services
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System 7.5: Custom Install File Listing (2/95)

We have a lot of customers that call wanting to know what the differences are between Easy install and the various custom install options available in System 7.5.

What files get placed on the hard drive for the 7.5 custom install system software options? If customers select minimal install for any Macintosh, how would the system folder differ from selecting system for any Macintosh?

This article has been archived and is no longer updated by Apple.
To answer your question about when and why you would use the different options, I have included the information below.

Question: When do I use the different Custom Install Options?

Answer:

Minimum System for This Macintosh Only

Can be used for creating a System Folder that has a small RAM and hard disk footprint. Minimum System resources are installed.

Minimum System for Any Macintosh

Can be used for creating a universal System folder that has a small RAM and hard disk footprint. Minimum System resources are installed.

System for this Macintosh

Can be used for creating a custom System Folder that picks appropriate software for a particular Macintosh.

System for any Macintosh

Can be used for creating a Universal System Folder that picks all appropriate software for many different Macintosh models.

Finally, below is the information regarding System 7.5 and what is installed after custom installs. These installs were done on a Quadra 660AV with a clean hard drive using the System 7.5 Upgrade CD.

Question: What is installed with a System 7.5 Custom - Minimum Install for this Macintosh?

Anwer: Minimum System Software This Macintosh

- Apple Menu Items
- Control Panels 7.5
- Finder 7.1.4
- Preferences
- DSP Preferences
- Finder Preferences
- System 7.5

Question: What is installed with a System 7.5 Custom - Minimum Install for Any Macintosh?

Answer: Minimum System Software Any Macintosh

- Apple Menu Items
- Control Panels 7.5
- Finder 7.1.4
- Preferences
- DSP Preferences
- Finder Preferences
- System 7.5

Question: What is installed with a System 7.5 Custom - Complete System Software Install for this Macintosh?

Answer: Complete System Software - This Macintosh Only

Apple Extras
- CPU Energy Saver 1.0.6
SimpleText 1.1.1
System 7.5 --Read Me 7.5
System Folder
- Apple Menu Items
- Calculator 7.5
- Chooser 7.5
- Control Panels 7.5
- Find File 1.0
- Jigsaw Puzzle 1.0
- Key Caps 7.5
- Note Pad 7.5
- Scrapbook 7.5
- Stickies 1.0
- * Shut Down
- Control Panels
- Apple Menu Options 1.0
- Auto Power On/Off 1.0
- Color 7.1
- Date & Time 7.5
- Desktop Patterns 7.5
- Extensions Manager 3.0
- General Controls 7.5
- Keyboard 7.1
- Labels 7.1
- Launcher 2.4
- Map 7.5
- Memory 7.5
- Monitors 7.5
- Mouse 7.3
- Network 3.0.2
- Numbers 7.1
- Sharing Setup 7.1
- Sound 8.0.3
- Startup Disk 7.3.2
- Text 7.1
- Users & Groups 7.1
- Views 7.1
- WindowShade 1.3
- Extensions
- EM Extension 3.0
- AppleShare 3.5
- Clipping Extension 7.1.4
- Color Picker 2.0.1
- Find File Extension 1.0
- Finder Help 7.1.4
- Network Extension 7.1.3
- Quadra AV Monitors Extension 7.5
- SCSI Manager 4.3 4.3
- Speech Guide Additions 1.0
- Video Guide Additions 1.0
- WorldScript¬ Power Adapter 7.5.1
- Finder 7.1.4
- Fonts
- Chicago
- Courier
- Geneva
- Helvetica
- Monaco
- New York
- Palatino
- Symbol
- Times

- Launcher Items
- Icon[13] 7.5
- Script Editor 7.5
- SimpleText 7.5
- Preferences
- Apple Menu Options Prefs
- Assistant Toolbox Prefs
- DSP Preferences
- Extensions Manager Prefs
- Finder Preferences
- General Controls Prefs
- Users & Groups Data File
- WindowShade Preferences
- Scrapbook File 7.5
- System 7.5

Question: What is installed with a System 7.5 Custom - Complete System Software Install for Any Macintosh?

Answer: Complete System Software - Any Macintosh

Apple Extras
- CPU Energy Saver 1.0.6
- Portables
- About Portables Extras 7.5
- Battery Recondition 1.2
- PowerBook File Assistant
- File Assistant 1.0
- File Assistant Guide 1.0

SimpleText 1.1.1
System 7.5 --Read Me 7.5
System Folder
- Apple Menu Items
- Calculator 7.5
- Chooser 7.5
- Control Panels 7.5
- Find File 1.0
- Jigsaw Puzzle 1.0
- Key Caps 7.5
- Note Pad 7.5
- Recent Applications
- Battery Recondition
- File Assistant
- Icon[13]
- SimpleText
- Recent Documents
- About Portables Extras
- Icon[13]
- Scrapbook 7.5
- Stickies 1.0
- * Shut Down
- Clipboard
- Control Panels
- PowerBook Display 7.5
- Apple Menu Options 1.0
- Auto Power On/Off 1.0
- AutoRemounter 1.2
- Brightness 7.0.1
- Color 7.1
- Control Strip 1.1
- Date & Time 7.5
- Desktop Patterns 7.5
- Extensions Manager 3.0
- General Controls 7.5

- Keyboard 7.1
- Labels 7.1
- Launcher 2.4
- Map 7.5
- Memory 7.5
- Monitors 7.5
- Mouse 7.3
- Network 3.0.2
- Numbers 7.1
- Power Macintosh Card 1.0
- PowerBook 7.3.1
- PowerBook Setup 7.3.1
- Screen 1.0.4
- Serial Switch 1.2
- Sharing Setup 7.1
- Sound 8.0.3
- Startup Disk 7.3.2
- Text 7.1
- Users & Groups 7.1
- Views 7.1
- WindowShade 1.3
- Control Strip Modules
- AppleTalk Switch 1.1
- Battery Monitor 1.1
- File Sharing 1.1
- HD Spin Down 1.1
- Power Settings 1.1
- Sleep Now 1.1
- Sound Volume 1.1
- Video Mirroring 1.1
- Extensions
- EM Extension 3.0
- Assistant Toolbox 1.2
- Caps Lock 7.1.3
- Clipping Extension 7.1.4
- Color Picker 2.0.1
- EtherTalk Phase 2 2.5.6
- Find File Extension 1.0
- Finder Help 7.1.4
- IIci/IIsi Monitors Extension 7.5
- LC Monitors Extension 7.5
- Network Extension 7.1.3
- PowerBook Guide Additions 1.0
- PowerBook Monitors Extension 7.5
- PowerPC Finder Update 1.0
- PowerPC Monitors Extension 7.5
- Quadra AV Monitors Extension 7.5
- Quadra Monitors Extension 7.5
- SCSI Manager 4.3 4.3
- Speech Guide Additions 1.0
- Video Guide Additions 1.0
- WorldScript¬ Power Adapter 7.5.1
- Finder 7.1.4
- Fonts
- Chicago
- Courier
- Geneva
- Helvetica
- Monaco
- New York
- Palatino
- Symbol
- Times
- Launcher Items
- Icon[13] 7.5

- Script Editor 7.5
- SimpleText 7.5
- Preferences
- Apple Menu Options Prefs
- DSP Preferences
- File Assistant Data
- Finder Preferences
- General Controls Prefs
- Users & Groups Data File
- WindowShade Preferences
- Scrapbook File 7.5
- System 7.5

Article Change History:
16 Feb 1995 - Changed keyword, reviewed for technical accuracy, reformatted.

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System 7.5: Problems With Quicken and Control Strip (2/95)

I am having a problem with the Control Strip when using Quicken 4.0 on my PowerBook running System 7.5. When the Control Strip is on top of one of the transactions or the display window and the arrows are used to scroll, the Control Strip is redrawn over each transaction line.

This article has been archived and is no longer updated by Apple.
Apple is aware of this incompatibility and there are several other applications that also have this problem.

The issue revolves around how the application is redrawing the screen. Applications that incorrectly use the 'CopyBits' QuickDraw routine to scroll are going to conflict with the Control Strip. According to Apple Developer Technical Support, developers should be using the 'ScreenRect' routine, instead, to avoid redraw conflicts.

I contacted Intuit today regarding this problem. They explained that they would look into the problem to see how they can best resolve it. They would not commit to a specific timeframe. You need to contact Intuit for further information regarding a fix.

This article provides information about a non-Apple product. Please contact the vendor for additional information.

The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.

Support Information Services
Published Date: Feb 19, 2012

System 7.5: Not All Performa Bundled Software Compatible (2/95)

Macintosh Performa computers come with a lot of software already installed. If you install System 7.5 on your Performa using the Safe Install application, Safe Install reports that some of the applications are not System 7.5 compatible. (These applications are listed in the following table.)

This article has been archived and is no longer updated by Apple.
The testing of System 7.5 and bundled software has been ongoing since August 1994. As software is tested it is either confirmed as compatible with System 7.5, updated with a compatible version, or removed. This is true for both Apple and third party software.

In regards to the specific software listed as incompatible by Safe Install, the latest information is listed in the right column of the following table.

. Product Version Developer Compatibility Information
--- --- --- ---
At Ease Startup 2.0 Apple Computer Incompatible need newer
. version 2.0.3
Billminder unknown Intuit, Inc. Should be ok;
. database needs updating
Macintosh Easy Open 1.0.4 Apple Computer Incompatible - gets replaced
. by 7.5 installer with v1.1
Performa Version 1.4P Apple Computer Gets removed by 7.5 installer
. and replaced with General
. Controls
ProDOS File System 1.2.1 Apple Computer Incompatible needs to be removed
. PC Exchange 2.0.2 includes ProDOS
. File System capabilities and is
. installed by 7.5
Video StartupVersion 1.0 Apple Computer Should be compatible;
. database needs updating

Article Change History:
16 Feb 1995 - Added/updated keyword; made several technical updates.

Support Information Services
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Express Modem 2.3: Recommended With System 7.5 (1/96)

This article describes the recommended version of Express Modem software to use with System 7.5.

This article has been archived and is no longer updated by Apple.

Express Modem software version 1.5 was the first version supported on computers running System 7.5.

Apple released Apple Telecom software v2.3 during the summer of 1995 which includes all the latest versions of extensions and communications software to use with all Apple PowerBook Express Modems, all Apple Comm Slot Express Modems, and Apple GeoPort Telecom Adaptors.

The Apple Telecom 2.3 software package installer automatically places the correct software on your hard drive for your computer's configuration. Apple Telecom 2.3 is available on online services.

These articles can help you locate the Apple Telecom 2.3 software mentioned here:

"Where To Find Apple Software Updates" -- Lists online services for free Apple software updates.

"Obtaining Apple Product Support in the USA" -- Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech Info Library.

Article Change History:

05 Jan 1996 - Corrected minor typo.

15 Dec 1995 - Added Apple Telecom 2.3 information.

16 Feb 1995 - Changed keyword and reviewed for technical accuracy.

Support Information Services

Published Date: Feb 19, 2012

LaserWriter 16/600 PS: Hard Drives Supported

I have a LaserWriter 16/600 PS customer who purchased an internal hard disk drive bracket and cable through service so that he can install an extra PowerBook hard drive in his printer. Using the Apple Printer Utility supplied with the printer he gets PostScript errors whenever he tries to format the hard drive. Which hard drives are supported by Apple?
This article has been archived and is no longer updated by Apple.
The LaserWriter 16/600 PS SCSI ports are not guaranteed to support all SCSI hard drives. In order to make customers aware of this, page 159 in the owner's guide has a note that reads: "IMPORTANT Some older model hard disk drives may not be compatible with the LaserWriter 16/600 PS.

Apple sells and supports a complete internal hard disk drive solution for the LaserWriter 16/600 PS. The mounting bracket and cable that can be ordered separately through service are intended only to be used for the service and support of the finished goods upgrade kit. Customers who purchase the brackets and cables for the sole purpose of installing a hard drive other than the one provided in the finished goods hard disk drive solution are on their own in the event they experience problems.

Engineering does not have the resources to test and qualify all of the different hard drives on the market. During their testing they found that most hard drives produced during the past 2-3 years work fine, but that some of the earlier drives may experience problems because they don't implement the complete SCSI instruction set. Most commonly these older drives will be 20, 40, and 80 megabytes in size.

For customers who are experiencing problems check the following:

1) Verify that the I/O controller serial number doesn't end in 34AA. If it does, replace it through normal service procedures and retest.

2) Remove the hard drive and carefully reinstall it. Ensure that none of the pins in the SCSI connectors have been damaged.

3) If the hard disk cannot be formatted using the Apple Printer Utility then try installing it in a PowerBook or external tester and format it using HD SC Setup or a third-party formatter. If the hard drive formats without any problems on a Macintosh, but fails on the printer then the drive is probably incompatible with the LaserWriter 16/600 PS. To verify the functionality of the I/O controller SCSI port install and format a hard drive from the M3297G/A LaserWriter 16/600 PS Internal Hard Disk Drive kit.

Hard drives that will not format properly or experience other problems during use are not supported by Apple. For best results customers should install the M3297G/A LaserWriter 16/600 PS Internal Hard Disk Drive.
Published Date: Feb 19, 2012

Monitor II: Sparking or Arcing Inside the Monitor

This article has been archived and is no longer updated by Apple.

PROBLEM DESCRIPTION: Crackling noise coming from inside the monitor's case.

WARNING: If your Monitor II exhibits the problem described above, perform the following two steps before continuing with this procedure.
1. Turn off the Monitor II and unplug it.
2. Discharge the CRT as described in the Tech Procedures binder.

CAUSE: 1. The anode connector may not be seated.
2. The CRT's tip may be broken or cracked.

CURE: 1. Check the anode connector to see that it is properly seated (refer to the Tech Procedures for the anode connector's location).
2. If the CRT's anode connector is broken or cracked, replace the CRT as described in the Tech Procedures binders.

If the above cure doesn't solve your problem refer to the Tech Procedures to obtain the general troubleshooting procedure for this product.

Published Date: Feb 19, 2012

QuickTake 100: Information Stored on Flash EPROM

I want to use the QuickTake 100 for some projects where I need to make sure that the information stored in the camera cannot be retrieved after the camera is cleared. I need to know some security questions.
This article has been archived and is no longer updated by Apple.
1) How is the information stored in the camera?

* Picture data and info are stored on flash EPROM. Flash EPROM is an electrically eraseable non-volatile memory, meaning that it does not require power to the chip to retain the data stored in it.

2) How is the information cleared (erased) from the camera?

*╩Data is erased by user command, either from the control panel on the camera or from the host application.

3) Once "erased" is there a technical means to retrieve information? (Similar to Norton Utilities for hard drives)

* No - erasing the data means overwriting each byte and filling the memory with FFs. If the memory does not overwrite with FFs, a hard failure is declared and the camera displays an error condition and does not operate.

4) If the Camera is damaged and must be returned for repair, is there a component (e.g. EPROM) that can be removed to positively ensure that the storage media is not allowed out of government control.

*╩No. The EPROM is a surface mounted device, and is soldered directly to the circuit board.
Published Date: Feb 19, 2012

Microsoft Works 4.0: Compatibility Issue w/MacLink Plus (12/94)

I have created a new document using the new 4.0 version of Microsoft Works. When reopening the document another time, I get an application error, and a message such as "This document was created with another version of Works and will have to be translated ".

What is causing this?

This article has been archived and is no longer updated by Apple.
This is caused by an incompatibility with Works 4.0 and the MacLink Plus translator package. Microsoft tech support confirms that they are aware of the problem.

The short term solution is to turn off MacLink Plus with the extensions manager or to drag it out of the Extensions folder of the System folder and restart.

The final solution will be a reversion of Microsoft Works, which, according to Microsoft, will be released in the near future.

Support Information Services
Published Date: Feb 19, 2012

LaserWriter 16/600 PS: BootP Requires Same Subnet

The LaserWriter 16/600 manual states that you must use the bootp software from a computer on the same subnet as the printer. I am using a Wellfleet's router that has the ability to interpret bootp communications, so does this negate the manual's statement or is the same subnet a hard and fast requirement?

This article has been archived and is no longer updated by Apple.

You must follow the manual, and use a computer on the same subnet as the printer. This must be done because the Wellfleet router listens on port 67 for BootP requests, and the Laserwriter 16/600 PS printer sends out a BootP request using port 68. This is a broadcast message, so the printer sends out a broadcast message to address 255.255.255.255, this is also called a limited broadcast address, any datagram which is destined for the limited broadcast address is **never** forwarded by a router under any circumstance. It only occurs on a local physical cable.

Published Date: Feb 19, 2012

Quadra 840AV: Icon Relocation Fixed In Display Enabler

All desktop icons on a Quadra 840AV or 660AV shift to the right side of the screen at resolutions higher than 640x480. This happens with both Display Enabler 1.0 or 1.1 and either Multiple Scan 17 or 20 Displays.

Leaving a Finder window open before restarting or shutting down, will usually rearrange the icons in that window, instead of on the desktop. Is there a way to correct this problem?
This article has been archived and is no longer updated by Apple.
Installing Display Software 1.2 or later corrects this problem. The software is available from the Apple Software Updates Web site at http://www.apple.com/swupdates/ .
Published Date: Feb 19, 2012

DOS Compatibility Card for Pwr Mac: No Windows NT Support (8/95)

Is it possible to set up a Windows NT file system from the DOS Compatibility Card for the Power Macintosh?

This article has been archived and is no longer updated by Apple.
Any operating system that accesses hardware directly fails on the DOS Compatibility Card. Windows NT, Windows for Workgroups 3.11, OS/2, and OS/2 Warp fall into this category. OS/2, OS/2 Warp, and Windows NT will not run on the DOS Compatibility Card.

However Windows for Workgroups 3.11 will run in a limited fashion on the DOS Compatibility Card. You can use any function of this application that does not require direct hardware access (The Tech Info Library Article "DOS Compatibility Card: Using Windows for Workgroups 3.11" Provides installation instructions).

Article Change History:
09 Aug 1995 - Updated information for accuracy.
25 May 1995 - Revised 3.11 information.
26 Jan 1995 - Added Windows for Workgroups and OS/2.

Support Information Services
Published Date: Feb 19, 2012

Macintosh : External Drive Failures

PROBLEM DESCRIPTION: Intermittent and/or solid failure during reading and writing to the external drive
This article has been archived and is no longer updated by Apple.
CAUSE: The pins on the logic board punch holes in the mylar covering on the RFI shield on the back of the logic board. When they penetrate the covering they short to the case.

CURE: 1. Install the latest revision of RFI shield orderable through Apple Service.
2. If the problem persists, replace the external drive mechanism.
3. If the problem still persists, refer to the Level I Technical Procedures.

If this cure does not resolve the problem, go back to the Word Search screen and search on the product's name and HTS and GTS to obtain a General Troubleshooting procedure.

Published Date: Feb 19, 2012

PowerBook 190,500,1400,3400,5300: Formatting ATA PC Cards

How do I format an ATA PC card for use with a PowerBook 190, 500, 1400, 3400 or 5300 series computer? Do I just pop the card in and use the system 'Erase Disk' command, or do I use the IDE HD Format Utility?
This article has been archived and is no longer updated by Apple.

Macintosh-Formatted Card

To format a ATA (rotating media) PC card (also called PCMCIA card), simply insert the card directly into the computer (PowerBook 190, 1400, 3400 or 5300 series) or into the PCMCIA expansion module (PowerBook 500 series only) and use the 'Erase Disk' command under the Special menu. An ATA PC card can be reformatted with PC Exchange active if it has already been formatted as a Macintosh volume.

DOS/Windows-Formatted Card

Most storage PCMCIA cards (PC Cards) are pre-formatted as DOS volumes. Macintosh PowerBook 190, 500, 1400, 3400, and 5300 series computers have the ability to mount these volumes because of the Macintosh PC Exchange software that ships installed on every PowerBook.

For correct results, it is necessary to use PC Exchange version 2.0.2 or greater (included with System 7.5).

Installing PC Exchange

To install a newer version of Macintosh PC Exchange:

1. Drag the PC Exchange icon into the Control Panels folder of your System Folder and click "OK" to overwrite the older version of PC Exchange.
2. Restart your Macintosh.

Reformatting a DOS PC Card

If the PC card has been formatted for DOS (as most are when purchased) Macintosh PC Exchange needs to be turned off before the card can be reformatted.

While you can use Macintosh PC Exchange to read and write data from/to DOS volumes and erase data from PC cards, it cannot be used to alter the format of a PC Card (from DOS to Macintosh or vice versa).

Macintosh PC Exchange will not allow you to reformat a Macintosh-formatted PC card as a DOS-format PC card. To do so you should use a DOS/Windows computer.

If you wish to change a DOS-formatted card to a Macintosh-formatted card, follow these steps:

1. Eject the PC Card.
2. Disable the PC Exchange control panel by opening the PC Exchange control panel and select the Off option.
3. Insert the PC card. You will be prompted to reformat the PC card as a Macintosh volume. Click Initialize.
4. Once the PC card is reformatted, you can turn PC Exchange back on from the control panel by opening the PC Exchange control panel and select the On option.

IDE HD Format Utility

The IDE HD Format Utility cannot be used to format PC cards. If you launch the IDE HD Format Utility on a PowerBook 500 Series computer, a dialog appears stating that this application cannot be used with this PowerBook. You will not get this dialog on PowerBook 190, 1400, 3400, or 5300 series computers, but you still cannot use this utility to reformat a PC card.

A Note On Ministor PC Cards

Some PC Cards from Ministor contain factory-installed compression software that is specific to DOS/Windows computers. This compression software consumes usable disk space and should be deleted for use with PowerBook computers. Select the "Erase Disk╔" command from the Finder's Special menu in order to delete this software.

Ministor is no longer in business.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content.
Published Date: Feb 19, 2012

AppleDesign Speaker II: No Built-In Noise Gate Circuit

Are the AppleDesign Powered Speakers II identical to the original AppleDesign Powered Speakers in relation to the built in noise gate?

A Tech Info Library titled AppleDesign Powered Speakers: Sound Cuts Out talks about the effect this noise gate has on sound from an audio CD. The original speakers had a 3.5 mm mini-stereo jack as well as dual RCA stereo jacks whereas the AppleDesign Powered Speakers II have two 3.5 mm mini-stereo phono jacks. One jack is identified for use with a computer and one for CD. You could bypass the noise gate in the original speakers by using the dual RCA jacks. What about the AppleDesign Powered Speaker IIs?

Is there any difference in the specifications for the 3.5 mm mini-stereo jacks on the AppleDesign Powered Speaker IIs? Do the AppleDesign Powered Speaker IIs have a noise gate?
This article has been archived and is no longer updated by Apple.
The AppleDesign Powered Speaker IIs do not have the noise gate circuitry that was in the original AppleDesign Powered Speakers. The AppleDesign Powered Speaker II does not have the problem of sound cutting out during soft passages.

You do not have to be concerned as to which jack you use on the AppleDesign Powered Speaker II.
Published Date: Feb 19, 2012

Maximum Hard Drive Partitions

How many partitions will System 7.1 recognize? I have 21 out a total of 29 partitions visible on the desktop on my server. With SCSI Probe I show all 29, and it allows access to the partitions through the network.

What are the maximum number of hard drive partitions (volumes) supported under System 7.1 or 7.5?
This article has been archived and is no longer updated by Apple.
The maximum number of partitions that can be mounted varies and is controlled by the number of file control blocks (FCB) that are allocated by the system. When a volume is mounted, there are at least four files open (the catalog file, the extents file, Desktop DB and Desktop DF). If the volume is being shared then there are also other files that are open. In addition, on the startup volume, the system, finder and font files are open as well as some extensions. All of these use file control blocks. The maximum number of FCBs is 348.

When volumes are mounted the driver for the drive containing the volume posts a disk inserted event for every Macintosh partition on the drive. When the Finder is launched and starts handling events, it processes the disk inserted events and mounts the volumes.

The reason only 21 of the 29 volumes are mounted is that the event queue only holds 20 events. Therefore one would think that only 20 volumes should be mounted, but 21 are mounted. This is because the boot volume is mounted when the system actually starts booting and not by the Finder. The other 20 volumes are then mounted by the Finder for a total of 21.

If you need all 29 volumes at startup, you can use the "Mount volumes at startup" option in SCSI Probe. Disklock also mounts all volumes, because it is looking for locked volumes. There are probably other utilities that will mount the volumes at startup. There are several that will mount volumes when the system is running including SCSI Probe and FWB Mounter.

This article was published in the 4 June 1997 "Information Alley".
Published Date: Feb 19, 2012

A/UX: Panic SBdrop Crashes Computer and Fix (12/94)

The A/UX 3.0 kernel on my Macintosh IIci, used to telnet into, hangs every two or three days. The computer writes this error to the console, "Panic SBdrop." The only way out of the hang is to manually restart the machine.

I upgraded to 3.0.1 and then to 3.0.2 using the patch I downloaded from the Apple FTP server. The system has been running now for over a month with full time usage, and I have not seen the kernel freeze since. I read once that there was a version of the A/UX kernel that did not freeze up when it received panics, and I wonder if that patch made it into A/UX 3.0.1? The only reason I ask is because I have not seen the console on the computer since I installed the new software, and I could still be getting errors but I haven't seen the computer lock up. I expect that the system upgrade solved the problem.

This article has been archived and is no longer updated by Apple.
We think your concern would be taken care of by the AWS 95 Tune-UP 2.0, however, you must first upgrade to A/UX 3.1. If you have not installed Tune-UP 2.0, it can be downloaded for our ftp sight. Also you can get the Console under the Windows menu. These articles can help you locate the software update mentioned here:

* "Where To Find Apple Software Updates"
Lists online services for "free" Apple software updates.

* "Obtaining Apple Product Support in the USA"
Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech. Info. Library.

Here are the fixes to the A/UX Kernel:

* The A/UX kernel no longer panics if more than four Ethernet interfaces are installed.

* The console emulator no longer hangs if you stop <CTRL-S> the output.

* A kernel bus error, which could occur under heavy file I/O, has been corrected.

* Certain I/O operations no longer cause the kernel fault handler to panic the system.

* The FIONREAD ioctl no longer causes the system to hang when issued from a background process.

* A problem which caused the kernel's asynchronous I/O data structures to become corrupted has been fixed.

* NFS now maps client user IDs greater than 65533 to the anonymous user, "nobody".

Support Information Services
Published Date: Feb 19, 2012

QuickTake 100: Battery Charger Not 220V Compatible (12/94)

Is the QuickTake 100 battery charger supplied in the US compatible with 220/240V AC?

This article has been archived and is no longer updated by Apple.
The battery charger supplied with the U.S. version of the QuickTake 100 camera is designed for 110V/60Hz use only. Customers who wish to use the QuickTake 100 camera in foreign countries should either purchase the correct battery charger from an authorized Apple service provider in the country that they are visiting, or purchase an over-the-counter universal ni-cad battery charger from a local electronics store. The QuickTake 100 uses standard AA ni-cad batteries, so there are many different chargers worldwide that customers can use.

Support Information Services
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LaserWriter: Why There is No Full Bleed Printing

Why don't most laser printers support full bleed (edge-to-edge) printing?
This article has been archived and is no longer updated by Apple.
Low-cost laser printers were made possible with the development of an imaging system that is safe, reliable, and allows user's to operate the printer without being exposed to hazardous chemicals and messy toner particles. Canon's all-in-one EP toner cartridge system was first introduced at Apple with the original LaserWriter. Since then, research has continued to focus on improving the image quality.

In order to control the imaging process and to ensure optimal print quality Canon print engines have a predetermined 'safe area' for each supported paper size where printing cannot take place. The 'safe area' is hard coded into the print engine controller logic and is usually set by the cassette size sensors. This safe area is a little less than 1/4 inch and is designed to prevent toner from being placed on anything other than paper during the printing process, even if the paper skews or shifts slightly in the paper path. A small amount of toner that is transferred from the photosensitive drum to a roller or other component instead of the paper significantly affects print quality and increases maintenance costs. In order to eliminate the 'safe area' the paper registration characteristics of each print engine would have to be exact, thereby significantly raising the cost and complexity of the printer. The majority of customers do not require full bleed printing support and are unwilling to pay the extra costs required for it.

Full bleed printing requires that the printing device be capable of printing edge to edge on the printing material being used. Some printer vendors have created workarounds by using print engines that support oversize printing materials. The 'safe area' still exists, but it is located in an area which will be trimmed off when the printing material is trimmed to a standard size.
Published Date: Feb 19, 2012

(Lisa)Mac XL : LisaTest V.2.2 - Error 3 in Step 7

PROBLEM DESCRIPTION: Lisa Test Error number 3 displayed during Step 7 when using version 2.2 indicates a "Parallel Port VIA Interrupt Failure".

CAUSE: The hard disk may be formatted for Macintosh software or have been partitioned for a shared Macintosh and Lisa environment when the 7/7 office system was installed. LisaTest version 2.2 does not operate with these configurations.

This article has been archived and is no longer updated by Apple.
CURE: Use LisaTest 3.0 or later for Macintosh formatted hard disks. Use Mac XL/Lisa Modification Test Version 1.0 or later for Square Pixel Screen Driver.

If this cure does not resolve the problem, go to the Lisa 2/Macintosh XL Technical Procedures, for the troubleshooting procedures for this product.

Published Date: Feb 19, 2012

Power Macintosh: Loses Color & Video Board Info (9/95)

I have a Power Macintosh 8100/80 running System 7.5 and a Multiple Scan 17 Display. After playing a game, the monitor went to black and white.

When I went to the Monitors control panel, the Color and Grays options were there, but not the number of colors. When I clicked the Options button, a dialog appeared with the message "No Board Info Available".

How can I get my system to recognize the VRAM card I have installed again?

This article has been archived and is no longer updated by Apple.
This is problem with the Slot Manager. However it was only discovered when Power Macintosh computers were running System 7.5 and virtual memory. It has also been found to occur with RAM Doubler installed. This problem is corrected in System Update 7.5.

Until you get the update, three work arounds for this problem.

1) Turn off virtual memory
2) Open and close the Monitors control panel.
a) Go to the Monitors control panel.
b) Click Options. A dialog appears with the message "No Board Info".
c) Click "OK".
d) Close the control panel.
e) SHUT DOWN (restarting doesn't correct this).
When the computer restarts, everything comes up in black and White
so you have go back into the Monitors control panel and reset
the number of colors.
3) Do a forced restart (command-control-power).

These articles can help you locate software updates mentioned here:

* Where To Find Apple Software Updates
Lists online services for "free" Apple software updates

* Obtaining Apple Product Support in the USA
Lists 800 numbers and online services for software updates, Apple
support information, and a subset of the Apple Tech. Info. Library

Article Change History:
21 Sep 1995 - Corrected minor typo.
08 May 1995 - Added keywords kppc and sys75.
15 Mar 1995 - Added System Update 7.5 information.

Support Information Services
Published Date: Feb 19, 2012

Earth Explorer: Technical Specifications (2/95)

This article provides the technical specifications on the Earth Explorer compact disc for Macintosh and Windows.

This article has been archived and is no longer updated by Apple.
Technical Specifications:
==========

Major topics

Climate: the sun, water, wind, oceans, and more
Biosphere: ecosystems, plant and animal communities, and more
Human impact: land use, energy consumption, attitudes toward nature, and more
Future: environmental law, technologies, careers, and more

Articles

- 443 articles, all verified for accuracy by the AAAS
- Hierarchical arrangement for easy access to general or detailed information
- Each article includes photos, graphics, quotes, thought-provoking questions, and/or video clips
- Specified words are linked to a glossary

Data sets

- 21 sets of environmental data on such topics as rainfall, population, whaling, and pollution
- Up to five graphic displays for each data set, including maps, color graphs, timelines, and interactive graphics

Hot Topics

- Lively discussions of 21 environmental issues such as endangered species, urban transportation, biodiversity, and nuclear power
- Entertaining "first person" format in which fictional characters describe their dilemmas
- 16 different arguments on each issue

Explore

- 12 interactive animations on such topics as ocean currents, famous naturalists, the food chain, and energy usage
- Ideal introduction to environmental concepts for younger children

System requirements?Macintosh
==========
- Apple Macintosh or PowerBook computer with 68030 or higher processor, or Apple Power Macintosh computer
- 5 MB of RAM
- Macintosh system software 7.0.1 or later
- Hard disk
- 12-inch or larger color monitor (at least 256 colors)
- CD-ROM drive (double-speed drive recommended)

System requirements?Windows
==========
- IBM-compatible computer with 25-MHz 80486 or higher processor
- 8 MB of RAM
- Windows 3.0 with Multimedia Extensions, or Windows 3.1
- Hard disk
- 12-inch or larger color monitor
- Video card capable of displaying at least 256 colors
- CD-ROM drive (double-speed drive recommended)

Ordering Information
==========
Earth Explorer for Macintosh, retail version

In the U.S., Order No. M3781LL/A
- One CD-ROM disc containing Earth Explorer, HyperCard, and QuickTime software

- User's manual

Earth Explorer for Macintosh, school version

In the U.S., Order No. M3782LL/A
- One CD-ROM disc
- Teacher's guide with lesson plans
- User's manual

Earth Explorer for Windows, retail version

In the U.S., Order No. M3783LL/A
- One CD-ROM disc containing Earth Explorer, HyperCard, and QuickTime for Windows software
- User's manual

Article Change History:
15 Feb 1995 - Reclassifed and changed format.

Support Information Services
Published Date: Feb 19, 2012

Earth Explorer: Description (2/95)

This article describes the Earth Explorer compact disc.

This article has been archived and is no longer updated by Apple.
Features:
==========

Comprehensive

- Includes more than 400 in-depth articles
- Contains nearly 1,000 color photographs
- Provides 21 sets of environmental data
- Features more than 90 minutes of audio-visual material

Interactive

- Lets children decide how to navigate through the information and exercises
- Encourages users to explore different facets of each topic
- Offers a variety of environmental games and simulations

Educational

- Uses data verified by the American Association for the Advancement of Science (AAAS)
- Provides both high-level and detailed articles
- Helps develop critical-thinking skills

Fun to Use

- Features engaging games and exercises that make environmental topics come alive
- Presents data in colorful, easy to understand charts, graphs, animations, and videos
- Lets your whole family participate together

Earth Explorer gives children the most comprehensive and up-to-date information about our planet in a fun, easy-to-use format.

Continuing the Apple tradition of making education enjoyable, Earth Explorer provides a fascinating interactive tour of our home planet. With this program, children will learn about the natural and human forces affecting Earth through a variety of informational and explorative activities: lively articles illustrated with graphics and movies, simulations based on actual environmental data, animations that explain basic environmental concepts, and games that will both challenge and amuse them.

One of Earth Explorer's most valuable features is its interactive design. Children can move from topic to topic wherever their interest leads them. They can change the assumptions in environmental data and view the results, such as how a different life expectancy would affect a country's population growth. They can compare data of their choice, such as energy usage in various countries. With Earth Explorer, your children learn in the way they most enjoy.

Earth Explorer was developed in conjunction with the American Association for the Advancement of Science (AAAS) and with support by the National Science Foundation (NSF). The program offers both objective data and a wide variety of viewpoints on controversial issues, so it helps children develop critical-thinking skills as they learn about the world around them.

Although Earth Explorer was designed for children nine years of age and older, parents and teachers will also find its encyclopedic information invaluable in learning about our environment.

Earth Explorer: It's the adventure guide to our beautiful, complex planet that your children will come back to again and again.

Product specifications are subject to change. Check with your Apple reseller for the most current information about product specifications and configurations.

Article Change History:
15 Feb 1995 - Reclassified and Changed format.

TA33054_Earth_Explorer_Description__(TIL16905).pdf

Support Information Services
Published Date: Feb 19, 2012

Apple LAN Utility: Can Find Burned-In Card Address (9/95)

How do I find the burned in Ethernet or Token Ring address on my Macintosh computer, and does the computer need to connected to the network to find it?

This article has been archived and is no longer updated by Apple.
You can use the Apple LAN Utility to report the burned in address without being connected to a network. These articles can help you locate the software mentioned here:

* "Where To Find Apple Software Updates"
Lists online services for "free" Apple software updates.

* "Obtaining Apple Product Support in the USA"
Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech. Info. Library.

Here is the Read Me file

Apple LAN Utility version 1.0b3

The Apple LAN Utility is provided to perform the following tasks for Apple LAN interfaces:

1) Obtain the burned-in address without connecting to a network.
2) Override the burned-in address with a locally-administered address (this is mostly done in SNA and DECNet environments).
3) Set the speed for token ring interfaces that are software selectable.

The utility is intended to handle all Apple ethernet and token ring interfaces, whether built-in or on cards. When run, the utility opens one window per interface present in the machine, describing what its configuration will be the next time that interface is activated. This utility makes no attempt to alter the current operation of an active interface.

To make any changes to an interface, it is necessary to choose "Allow Changes" from the Edit menu. This was provided to minimize the chance of accidentally overriding a burned-in address.

To remove a locally-administered address, either clear the entry or set it to 12 zeroes.

The utility can save a tab-delimited text file describing the machine's configuration. The file has the following format:

Line 1: The Macintosh model, machine name and user name
Line 2: Title strings
Lines 3 - n: One line per interface with bus/slot, interface name, burned-in address, local address and speed

The addresses are given in hexadecimal and are quoted to allow the file to be imported into a spreadsheet if desired.

Although the text file is rather ugly when viewed in TeachText/SimpleText, it can be made to look better when viewed in a word processor or spreadsheet program by adjusting the tabs or cell sizes appropriately.

This utility is provided free of charge on an "as is" basis. This is not an official product of Apple Computer!

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Release Notes

Version 1.0b3 includes the following changes: Support was added for the Power Macintosh 9500.

Article Change History:
01 Sep 1995 - Revised article for v.1.0b3 of the Apple LAN Utility.

Support Information Services
Published Date: Feb 19, 2012

System 7.5: Stickies Type 1 Caused By Collapsed Window (3/95)

There is an intermittent problem that can happen with Stickies v1.0 that ships with System 7.5, which causes intermittent crashes when Stickies is launched. If one of the note windows is collapsed using WindowShade or the "Zoom-box collapses window" option, a Type 1 error can appear when Stickies is launched.

This article has been archived and is no longer updated by Apple.
Engineering has reproduced and identified the problem. Unfortunately, the error is purely random and some things may make it occur more often. Since this problem is random, it is impossible to specify which setup causes the problem to occur. It is a random crash that might occur on some setups but not on others.

The following solutions are available:

* Install System 7.5 Update 1.0 to replace the older version of Stickies with version 1.0.1.

* Leave Stickies windows uncollapsed until System 7.5 Update 1.0 can be installed.

Article Change History:
21 Mar 1995 - Added more detail regarding problem and solution.
22 Feb 1995 - Correctly stated what the problem is.
13 Jan 1995 - Added way to correct problem if you saved collapsed notes.

Support Information Services
Published Date: Feb 19, 2012

PC Exchange 2.0.2: File Size Issue (12/94)

With PC Exchange 2.0.2 on my system and others, I see a variation in file size of PC files when I do Get Info from the File menu. For example it will say, "99k on disk (340,272 bytes used)". I used Extensions Manager to turn off all non-Apple extensions but PC Exchange, but I didn't see any difference. I tried DOS files from different PC's and on different disks with the same results. If I revert to an older version of PC Exchange this does not happen.

The numbers are the reverse of what I expected. I expected the size on disk to be larger than the actual file size, because a file must use complete allocation blocks even if it doesn't fill them. What's wrong?

This article has been archived and is no longer updated by Apple.
We are aware of the problem, and it is a purely cosmetic issue. Indications suggest a possible Finder problem, as opposed to Macintosh PC Exchange. It is felt that this problem affects a very small percentage of users who read that Get Info window, and there is no chance of data loss.

Support Information Services

Published Date: Feb 19, 2012

PowerBook 280c: Remote Launch of Persuasion

We have a problem launching Persuasion, which is installed on an AppleShare server, from a PowerBook 280c. It is possible to launch Persuasion (2.12 or 3) from the copy which is installed on the PowerBook 280c itself, but it is not possible to launch the one on the server.

To eliminate the possibility of network problems, other PowerBook and desktop systems could launch the program.

The version of the AppleShare Server is AppleShare 3.0. The version of System Software running on the Duo 280c is System 7.1.1. The Duo 280c hangs whenever Persuasion is launched. The problem is only with Persuasion.
This article has been archived and is no longer updated by Apple.
We are able to reproduce this problem, but **only** when the Duo 280c is running System Software version 7.1.1, **and** the AppleShare Server is at version 3.0.

If the Duo is running System Software 7.5, **or** the AppleShare Server is version 4.0 (or 4.0.1) there is no problem with remote launching of Persuasion by the Duo 280c. We tested that the Duo could successfully launch both Persuasion, version 2.12 and Persuasion, version 3.0.

We suggest that you upgrade the Duo 280c to version 7.5 of the system software, or consider upgrading the AppleShare Server to version 4.0.x or later.
Published Date: Feb 19, 2012

Macintosh Plus :Developer‘s Sw. Can Cause Resets

PROBLEM DESCRIPTION: When the developer's switch is installed on the Macintosh Plus, sometimes it will reset spontaneously.

CAUSE: Insufficient clearance between the developer's switch and logic switch on the power/sweep board.

This article has been archived and is no longer updated by Apple.

CURE: 1. Remove the developer's switch to determine if it was the cause.
2. If the machine stops resetting spontaneously, file down the developer's switch approximately 1/16 to 1/8 of an inch.
3. Replace the developer's switch onto the machine.

Published Date: Feb 19, 2012

Apple HD SC Setup: Updating SCSI Disk Drivers (1/95)

This article provides information for updating SCSI disk drivers in the following areas:

* When updating from System 6.0.x to System 7.x.
* HD SC Setup returns the message, "Unable to find a suitable SCSI drive".
* HD SC Setup "Update" button was dimmed (disabled).

This article has been archived and is no longer updated by Apple.

When updating from System 6.0.x to System 7.x

For drives initialized with Apple HD SC Setup 1.0

If the hard drive was initialized with drivers installed by Apple HD SC Setup 1.0, you don't need to update the drive to work with System 7 or later. Virtual Memory does work with the drivers installed by Apple HD SC Setup 1.0. But the drivers installed by Apple HD SC Setup 1.0 are NO LONGER SUPPORTED by Apple, and if your computer is later than a Macintosh Plus, using the drivers installed by Apple HD SC Setup 7.x gives you faster hard drive access speed.

NOTE: Hard drives initialized with Apple HD SC Setup 1.0 cannot be updated; they must be re-initialized, meaning that all the data on them would have to be placed back on later, after you have reformatted them with HD SC Setup 7.x.

WARNING: You must back up your data before reformatting your hard drive because the formatting process will delete all data.

For drives initialized with Apple HD SC Setup 2.0 or later

If the hard drive was initialized with drivers installed by Apple HD SC Setup 2.0 or later, you will want to update the hard drive with Apple HD SC Setup 7.x because:

* Bugs in the previous versions are fixed with the new driver installed by Apple HD SC Setup 7.x.

* Virtual Memory requires the new driver installed by Apple HD SC Setup 7.x. Virtual Memory does not work with drivers installed by Apple HD SC Setup versions 2.0 and later (before System version 7.0).

Apple HD SC Setup 7.x is on the System 7.x "Disk Tools" floppy disk.

HD SC Setup returns the message, "Unable to find a suitable SCSI drive"

The Read Me file that comes with System Update 3.0 has a section titled "Installing System Update 3.0". Step 3 of the installation instructions section is called "Update your Apple Drivers".

These instructions state that System Update 3.0 contains a driver update for Apple hard disk drives. This update is for Apple hard disk drives only. HD SC Setup will not update the driver software on non-Apple drives.

If you are using a non-Apple hard disk drive, skip the part about updating the driver with HD SC Setup.

With regards to formatting, the hard disk drives sold by Apple in some Macintosh systems have different firmware than the drives sold by various third-party vendors -- though the mechanisms may be the same.

This firmware contains information that allows HD SC Setup to determine the type and size of drive it is looking at. If HD SC Setup does not understand the information in the firmware of a third-party drive, it will not access the drive in any way.

HD SC Setup "Update" button was dimmed (disabled)

The version of Apple HD SC Setup shipping with System 7.5 is 7.3.2. When Power Macintosh computers first shipped with System 7.1.2, they came with Apple HD SC Setup 7.3. System Update 2.0.1 included Apple HD SC Setup 7.2.2.

TA33061_Apple_HD_SC_Setup_Updating_SCSI_Disk_Drivers__(TIL16911).pdf

You will find that Apple HD SC Setup will not let you down-level the SCSI disk drivers. For example, HD SC Setup 7.2.x or earlier cannot be used to update a disk that was formatted or updated by HD SC Setup version 7.3.x.

The number used to determine the SCSI disk driver level is the second digit. So, any member of the 7.3.x family can update anything in the same family or lower versions. Once this update has been done, HD SC Setup versions 7.2.x and lower cannot update the SCSI disk drivers, and the update button will be dimmed or grayed out.

If you wish to use an earlier version of the SCSI disk drivers supplied with Apple HD SC Setup, you must reformat the drive.

The other case where the Apple HD SC Setup update button could be disabled, is when third-party format utilities are used to write a SCSI driver on the disk. Apple's HD SC Setup will not overwrite these, unless the drive is reformatted.

WARNING: You must back up your data before reformatting a?hard drive because the formatting process will delete all data.

Support Information Services
Published Date: Feb 19, 2012

SAM 4.0: Installer Problem and Workaround (12/94)

I experienced a problem when installing SAM 4.0 on a Macintosh II. The first diskette would not eject so the install process stalled there.

Is there a workaround?

This article has been archived and is no longer updated by Apple.
Symantec Technical Support states that they are aware of some instances on older Macs where the Installer does not eject the Install 1 disk of SAM 4.0 (Symantec Antivirus for Macintosh). They informed me they have a new version of the Installer that prevents this problem from occurring.

For customers who already own SAM 4.0, there are two ways to bypass this problem:

Method #1
1. Quit the Installer.
2. Insert disk 2 of SAM.
3. Select Eject from the Special menu or press Command-E. A grayed image of disk 2 should remain on the Macintosh desktop.
4. Insert disk 1 of SAM and open the Installer. Install SAM as you normally would.

Symantec states that this has resolved the problem in nearly all instances. However, if it does not, customers can install it manually, as listed below.

Method #2 (Manual Install)
1. Print the Read Me document from disk 1.
2. The section entitled "Installed File Location" contains a list of SAM-related files and where they belong. Use this as a checklist for copying each file from the SAM Install Disks to their recommended location.

Support Information Services
Published Date: Feb 19, 2012

System 7.5: Monitor Extensions Described (2/95)

I noticed in my system folder that there are a variety of files titled xxx Monitors Extension where xxx is the name of a Macintosh computer. What are these files for and do I need all of them?

This article has been archived and is no longer updated by Apple.
The various monitors extensions add options to the Monitors control panel. The options added vary from machine to machine and depend on several factors including the Macintosh model and the video hardware that is installed.

There are six different monitors extensions. They are:

IIci/IIsi Monitors Extension
LC Monitors Extension
PowerBook Monitors Extension
Quadra Monitors Extension
Quadra AV Monitors Extension
PowerPC Monitors Extension

All the extensions contain the video card information strings such as "Macintosh II built-in video". The extensions also contain the monitor information strings that show the resolution and scan rate for the attached monitor.

The PowerPC and Quadra AV Monitors extension also include the AV video display options.

The IIci/IIsi Monitors Extension also contains the options for setting the maximum number of colors that can be displayed since these machines used RAM for the video.

The PowerBook Monitors Extension also has a gamma setting that can be used on the color PowerBook computers.

Article Change History:
16 Feb 1995 - Changed keyword and reviewed for technical accuracy.

Support Information Services
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PowerBook: Slow Presentations with Video Mirroring (12/94)

I bought a PowerBook 520c for use when making PowerPoint based presentations. We use it to drive an "n-View" LCD display panel.

When a presentation is shown that makes use of any of the "fade and dissolve" type graphics that PowerPoint offers, the PowerBook slows down to an absolute crawl. It will take 5-10 seconds for a slide to change. If you take out these features, it is acceptable, but still is much, much slower than an equivalent desktop model.

Is there a reason for this slowdown?

This article has been archived and is no longer updated by Apple.
We are aware of some performance issues regarding PowerBook computers, presentation software, and video mirroring. Video mirroring uses a toolbox routine called CopyBits, which moves information from one part of memory to another.

With complex transitions, the amount of information for CopyBits to process increases dramatically, potentially causing a performance decrease. Simpler transition effects will cause less of a burden on the system.

Customers will also see improved performance when using an external monitor as the primary display, rather than mirroring the PowerBook's display to an external monitor. This is independent of the software being used.

Optimum performance can be achieved by using some of the following suggestions in the creation of the presentations:

* keep color settings to the minimum bit depth actually needed
* reduce use of animation transition effects to a minimum
* minimize use of complicated graphics
* minimize number of individual graphics per slide
* turn off virtual memory during presentations
* disable extensions that are not required during the presentation

Support Information Services
Published Date: Feb 19, 2012

AppleScript: Use ResEdit To Change Desktop Patterns

I am trying to use AppleScript to change the Desktop Patterns. When I try using the "Set Desktop Pattern to" command in the Desktop Patterns AppleScript dictionary I get a time out error.
This article has been archived and is no longer updated by Apple.
Desktop Patterns as it shipped in System 7.5 does not support changing patterns while in the background.

To change the Desktop Patterns with AppleScript, you need to use ResEdit to modify the size resource and turn on the bit setting for "Can background". This enables Desktop Patterns to respond to AppleScript commands while it is in the background.
Published Date: Feb 19, 2012

PowerBook 150: Frequently Asked Questions

This article contains frequently asked questions (FAQ) and answers about PowerBook 150 computers.
This article has been archived and is no longer updated by Apple.
Question: What features are included in the PowerBook 150?

Answer: The PowerBook 150 features:

- Motorola 33-MHz 68030 microprocessor
- 9.5-inch (diagonal), backlit, passive-matrix, grey-scale display (four levels of grey)
- High-capacity internal IDE 120MB hard disk drive
- Slots for internal modem and additional RAM (up to 40 MB)
- Serial port for external devices and LocalTalk networking
- Built-in floppy drive
- External SCSI port for connecting up to six SCSI devices
- Integrated trackball and palm rests

Question: How much does my PowerBook 150 weigh?

Answer: The PowerBook 150 weighs 5.5 pounds.

Question: When I press the power button, my PowerBook does not start up, or flashes the display momentarily. What is wrong?

Answer: There are a couple of things that you need to try. Follow these procedures:

Plug in the AC Adapter

If the unit starts with the AC Adapter, but not with the battery in the battery compartment, you either need to charge the battery, or you may need to replace the battery.

Reset the Power Management Circuitry

To do this, follow these steps:

1. Remove the power adapter and battery from unit.
2. Push the reset button in the back of the unit with a paper clip and hold for 5 to 10 seconds.
3. Attach the power adapter and push the reset button in back again, but just briefly. You should hear a small pop from the speaker; do not be concerned.
4. Push main power button in back (large exposed button). The unit should power up.
5. We suggest charging the battery for at least 8 hours before running on battery power.
6. If the PowerBook powers on, the battery may be reinserted. If it fails to start, the PowerBook likely needs service.
7. If the machine does not start with a recharged or new battery, or does not start with the AC Adapter alone (with the battery removed), your PowerBook may need servicing. Please call 1-800-SOS-APPL or see your local Apple Authorized Service Provider.

Question: My battery lasts only a very short time. What can I do?

Answer: Follow this procedure

1. Reset the power manager, following the procedure detailed in the previous question and answer.
2. Let the battery charge for eight (8) hours. This procedure should resolve the problem.
3. Completely discharge the battery after approximately 15 to 20 recharges.

How to Completely Discharge a Battery

Let the battery discharge until the PowerBook goes into sleep mode. Three battery warning dialog boxes appear before this occurs. This process "recycles" the nickel cadmium (NiCad) battery and eliminates a "memory effect," which makes the battery appear depleted when it is not.

Question: Since I installed a modem, the battery seems to get depleted very quickly. What can I do to save battery power?

Answer: Apple released the PowerBook 150 Update to correct this problem. When the PowerBook 150 has an internal modem, the modem continues to draw power when not in use. This shortens the battery life. The update is available through online services on which Apple publishes software updates.

Question: My PowerBook 150 does not always eject floppy disks; what is the problem?

Answer: The drive may not be properly aligned. If you can see the metal frame sticking up more than a couple of centimeters behind the floppy drive door, you should either have an Authorized Apple Service Provider adjust this, or call the Apple Assistance Center to arrange for this repair.

Question: I just bought my PowerBook 150 and the battery is missing. How can I get a replacement?

Answer: Check the packaging. The battery is in the accessory box. An extra door over the battery compartment keeps dirt out; the battery is shipped separately to prevent draining the battery charge during shipment.

Question: My PowerBook 150 display is blurry or sometimes has shadowing and ghosting effects. What can I do to correct this?

Answer: There are a number of methods to reduce shadowing. Among them, adjust the viewing angle, adjust the brightness and contrast levels, or adjust the desktop to a mostly white pattern. If those do not work, change to black and white in the Monitors control panel temporarily for your application.

Question: I try to use SCSI Disk Mode on my PowerBook 150, and it does not seem to work. What is wrong?

Answer: That mode is not supported on the PowerBook 150. It is supported in a lot of other PowerBook models, but not in the PowerBook 150.

Question: Can I hook up an external monitor to my PowerBook 150?

Answer: Apple does not provide a solution for external monitor support on the PowerBook 150. There may be third party vendors who provide devices to do this. Apple recommends checking with your Apple reseller or the trade magazines.

Apple Software updates can be found at: http://www.apple.com/swupdates .

Published Date: Feb 19, 2012

Manzanita Software Systems: BusinessWorks v5.10

Manzanita Software Systems released version 5.10 of BusinessWorks on January 22 with two new features.
This article has been archived and is no longer updated by Apple.
New Features:

1) The ability to load onto a RAM card with a minimum of 512K (1mb recommended). BusinessWorks programs are loaded into the RAM card memory, while company data is maintained on the 3 1/2" disk, so there's no chance of loss of data in case of power failure. A variety of RAM cards can be used, including Apple's Memory Expansion Card.

2) The ability to work with Pinpoint from Pinpoint Publishing, Inc. BusinessWorks users can access the Pinpoint desk accessories such as the calculator, calendar, clock, etc., while using BusinessWorks.

BusinessWorks users can get the new version directly from Manzanita Software.
Published Date: Feb 19, 2012

Multi Media Applications Not Fully Launching (12/94)

I have noticed a few of my multi media type applications fail to fully launch. They used to work fine.

This article has been archived and is no longer updated by Apple.

If you have moved the QuickTime PowerPlug out of your Extensions folder, this could be part of the problem.

It is possible that your application is looking for resources available in the QuickTime PowerPlug, not finding what it's looking for, and then quitting without providing any feedback whatsoever.

Make sure that all the originally installed QuickTime files are in your system folder and all should be fine.

Support Information Services

Published Date: Feb 19, 2012

Apple Internet Router Modem Scripts (6/95)

Is there a manual or documentation that tells how to write modem CCLs for the Apple Internet Router (AIR)? Should Apple Remote Access (ARA) modem CCLs ALWAYS work for the Internet Router?

This article has been archived and is no longer updated by Apple.
AIR and ARA modem CCLs are the same. Please note that AIR uses ARA 1.0 CCL scripts and should ignore ARA 2.0.x CCL calls but may not. What you need is the Apple Remote Access Modem Toolkit v2.0 available from APDA, part #RO129LL/C. To locate APDA's address and phone number, use APDA name as a search string.

Article Change History:
08 Jun 1995 - Added more information on which version of ARA CCLs.

Support Information Services
Published Date: Feb 19, 2012

MacTCP 2.0.6: Invalid Domain Name, Syntax Error (12/94)

We have discovered a problem when running MacTCP 2.0.6. We have duplicated the error on a PowerBook Duo 270c, Macintosh IIci, and Macintosh IIfx. System software involved is System 7.5 and System 7.0.1 (on IIfx).

When we attempt to connect to an IP host with an underscore character in the name, we get a MacTCP error. For example, when we use Telnet 2.6 to connect to an IP host with a valid name of hlan_pager.pnl.gov.

The error returned was "The connection to <hostname> cannot be opened because the domain name given was invalid. Internal error 0. Mac OS error -23041". Error -23041 is a name syntax error. This naming convention caused no problems with MacTCP 2.0.4, what's wrong?

This article has been archived and is no longer updated by Apple.
MacTCP 2.0.6 was changed to adhere to RFC 1034 (Section 3.5) and RFC 1035 (Section 2.3.1) in regards to domain name syntax.

Here is section 3.5 from RFC 1034:

3.5. Preferred name syntax

The DNS specifications attempt to be as general as possible in the rules for constructing domain names. The idea is that the name of any existing object can be expressed as a domain name with minimal changes. However, when assigning a domain name for an object, the prudent user will select a name which satisfies both the rules of the domain system and any existing rules for the object, whether these rules are published or implied by existing programs.

For example, when naming a mail domain, the user should satisfy both the rules of this memo and those in RFC-822. When creating a new host name, the old rules for HOSTS.TXT should be followed. This avoids problems when old software is converted to use domain names.

The following syntax will result in fewer problems with many applications that use domain names (e.g., mail, TELNET).

<domain> ::= <subdomain> | " "

<subdomain> ::= <label> | <subdomain> "." <label>

<label> ::= <letter> [[<ldh-str>] <let-dig>]

<ldh-str> ::= <let-dig-hyp> | <let-dig-hyp> <ldh-str>

<let-dig-hyp> ::= <let-dig> | "-"

<let-dig> ::= <letter> | <digit>

<letter> ::= any one of the 52 alphabetic characters A through Z in
upper case and a through z in lower case

<digit> ::= any one of the ten digits 0 through 9

Note that while upper and lower case letters are allowed in domain names, no significance is attached to the case. That is, two names with the same spelling but different case are to be treated as if identical.

The labels must follow the rules for ARPANET host names. They must start with a letter, end with a letter or digit, and have as interior characters only letters, digits, and hyphen. There are also some restrictions on the length. Labels must be 63 characters or less.

For example, the following strings identify hosts in the Internet:

A.ISI.EDU XX.LCS.MIT.EDU SRI-NIC.ARPA

As you can see, host and domain names that start with a period or that contain underscore characters are illegal. MacTCP is not going to be changed to allow illegal host and domain names. The only options we see for the customer is to revert back to MacTCP 2.0.4 or change their host and domain naming conventions to be in line with the RFCs. We suspect the latter option is the right one to take.

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System 7.5 Startup Disk With Minimal Network Software (2/95)

How do I make a floppy disk that can start my Macintosh and then access the network for system software network installations?

This article has been archived and is no longer updated by Apple.
On the Macintosh System 7.5 Group Upgrade CD, in the Administrator Tools folder, in the Network Access folder is the Network Access.image Disk Copy file. With this file you can create a startup floppy disk with network software for doing network installs from a server. The Read Me file is below.

Read Me for Network Access Disk

The Network Access Disk is a startup disk that works on all Macintosh computers. It also contains the minimum software required to connect to a server. This disk will allow you to perform a net install of system software and other simple tasks, such as "blessing" a system folder.

IMPORTANT: This disk does not have a full system on it and may not properly support all applications. It was designed for starting up all Macintosh computers (newer than the Macintosh Plus), running the Finder, the Chooser, and the Installer.

This disk contains the software necessary to connect to a server using LocalTalk cable. The LocalTalk connection must be to the printer port. The Responder resources are not on the disk.

The disk also contains the software necessary to connect to a server using EtherTalk. All Apple Ethernet cards are supported.

The Network Access disk does not contain any of the software necessary to support token ring network connections.

The only sound on the disk is the Simple Beep. The Sound control panel is not provided, but it will work if you open it from another disk. The only action you can take is setting the volume for the single alert sound.

The fonts on the disk are Chicago 12, Geneva 9 and 12, and Monaco 9. These fonts and sizes will support most any situation that this disk supports. If a window is set to display a different font or size, substitution and scaling may make the text look less than ideal; this is only cosmetic and will do no harm.

The system on this disk does not support printing.

Neither Apple Guide nor Balloon help is on the disk.

How to use this disk

For situations in which the system has become corrupted, but the hard disk is usable, it is possible to reinstall the system software by starting up from this disk. When startup is complete, you can select the Chooser from the Apple Menu and connect to a remote server that has the net install software. (You can also use an alias to the server instead of the Chooser.)

If the hard disk is not usable, try repairing it with the Disk Tools disk, then restart with the Network Access Disk.

In some cases, you may wish to install a completely new system on the hard disk while leaving the existing System Folder intact. To do this, first open the existing System Folder and drag the System file into any other folder. This "de-blesses" the current system folder. (Note: Previously hiding the Finder would accomplish this, but hiding the System file is now the only acceptable method.) To complete the de-blessing, you must close the System Folder and verify that the Finder no longer displays the special System Folder icon. Finally, change the System Folder's name. During the installation, the Installer will create a new System Folder.

Specific disk contents

The disk contains the same minimum core system file that is used on the Disk Tools disk and the Install 1 disk. The system additionally contains the resources for LocalTalk Port B and EtherTalk.

The Finder is the same minimum compressed version that is used on the Disk Tools disk.

The other supporting files are the Chooser, the Network control panel, AppleShare, and EtherTalk Phase 2. All of these files are identical to the versions included in System 7.5, except that they are compressed and have had their color icons removed for space. These files will not work with any system version prior to 7.5.

There is also an alias to the Network control panel in the Apple Menu Items folder for your convenience.

Tips and shortcuts

If you always install from the same server, consider making an alias for it and adding it to the Apple Menu Items folder or the Startup Items folder.

If you only use aliases to connect to servers, you may remove the Chooser from the disk.

If you never have to switch between LocalTalk and EtherTalk, you may remove the Network control panel. You may also remove the alias to it from the Apple Menu Items folder.

If you use only LocalTalk, you may remove the EtherTalk Phase 2 file from the disk.

After analyzing your needs and removing files that you don't need, you may be able to free enough space for other files that are more important to you. For example, consider trading the Network control panel for the Apple CD-ROM driver from the Disk Tools disk.

Be aware of the need for applications and control panels to write preference files to the disk; there is very little free space.

If you use the Chooser, the disk must remain unlocked for it to write the AppleShare Prep file.

WARNING:
The Chooser writes configuration data to itself that may require as much as 7K of disk space. If there is not enough disk space available, the Chooser may become corrupted. If this happens, the next time you attempt to use the Chooser, you will see error code -39. To correct this, you will need to create another copy of this disk from the original image.

Article Change History:
16 Feb 1995 - Changed keyword and reviewed for technical accuracy.

Support Information Services
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Power Macintosh 6100/66: Description (8/95)

The Power Macintosh 6100/66 is a high performance Macintosh model incorporating the PowerPC 601 RISC processor.

This article has been archived and is no longer updated by Apple.

Overview

The Power Macintosh 6100/66 and Power Macintosh 6100/66AV are the most affordable members of the high-performance line of Macintosh computers that use the revolutionary PowerPC chip technology. With this technology, they deliver the performance that business and education users demand while maintaining the legendary Macintosh ease of use and the ability to run virtually all existing Macintosh applications. And the current generation of Power Macintosh 6100 computers offers performance increases of up to 30 percent over the previous 6100 models.

In addition, they run applications accelerated for Power Macintosh computers at two to six times the speed of Macintosh computers based on the 68040 chip. Both computers also support MS-DOS and Windows applications when using Insignia Solutions' SoftWindows software, or with the installation of the Power Macintosh 6100 DOS Compatibility Card.

Based on the 66-megahertz PowerPC 601 microprocessor co-developed by Apple, IBM, and Motorola, the Power Macintosh 6100/66 and 6100/66AV both have built-in, floating-point math coprocessors and come with 8 megabytes of RAM, expandable to 72 megabytes. They provide on-board high-speed Ethernet support as well.

Both computers support most Apple and third-party displays, including monochrome, color, VGA, and SVGA. The 6100/66AV supports 32,000 colors on all Apple displays and also supports NTSC and PAL monitors.

Both computers can easily be expanded. The Power Macintosh 6100/66 has eight built-in ports and one expansion slot. The Power Macintosh 6100/66AV has 11 built-in ports and supports a second simultaneous display.

Support for GeoPort telecommunications (integrating your computer and phone services), speech recognition, and text-to-speech capabilities is built into both computers. The 6100/66AV adds S-video and composite video input as well as output for use with televisions, video cameras, and video recorders.

The Power Macintosh 6100/66 and Power Macintosh 6100/66AV provide an affordable gateway to Power Macintosh technology and the future of personal computing.

Power and Speed
---
* 66-MHz PowerPC 601 microprocessor with floating-point processor and 32K cache
* 256K level-2 cache

Memory
---
* 4 MB ROM
* 256 bytes of non-volatile parameter memory
* 8 MB of RAM standard, expandable to 72 MB
* 2 SIMM slots
* SIMMs can be 4 MB, 8 MB, 16 MB or 32 MB, but must be installed in pairs of the same size AND speed. For example, you should install two 8 MB SIMMs in first two adjoining slots.
* Possible RAM configurations are 8 MB, 16 MB, 24 MB, 40 MB, and 72 MB.
* 80 ns SIMMs or faster
* L2 Cache Slot for Optional Macintosh Cache Card

RAM note: All 8MB RAM configurations come with 8MB of RAM soldered onto the logic board

Display
---
* 640k of non-expandable DRAM-based video display support
* 2MB of non-expandable VRAM for second display (6100/66AV only)
* Support for NTSC and PAL input and output (6100/66AV only)
* Video input/output (6100/66AV only)

Audio System

---
* Custom sound circuitry, including stereo generator capable of driving stereo miniplug headphones or audio equipment. Also includes stereo sampling hardware for recording samples.

Expansion
---
* Eight built-in ports to support a wide range of peripherals (6100/66AV has eleven)
* Slot for processor-direct or NuBus adapter card (6100/66 only)
* Optional internal CD-ROM drive
* On-board Ethernet (AAUI)
* PlainTalk microphone

System software

System 7.5 software
* Makes working with applications consistent so they're easier to learn and use
* Allows easy customization of your Macintosh to fit the way you work
* Apple Guide provides active assistance in learning new features
* Lets you open and use MS-DOS and Windows documents

Networking
---
* Built-in AppleTalk networking
* File sharing without a dedicated server
* On-board Ethernet networking

Compatibility
---
* Runs Macintosh applications
* Runs MS-DOS and Windows applica- tions (special configurations only)
* Reads Macintosh, Windows, MS-DOS, OS/2, and ProDOS floppy disk formats

What's in the box:

Each unit includes a power cord, keyboard cable, mouse, microphone, and system software.

System software includes System 7.5 for Power Macintosh, System Enabler, Color Macintosh Basics, AppleScript 1.1, QuickTime 2.0, and HyperCard Runtime 2.2.

System software shipped on a bootable CD-ROM, the "Install Me First CD" which can double as a rescue disk.#

Documentation included with the Power Macintosh 6100/60:
* Power Macintosh Getting Started
* Technical Information
* Macintosh Reference
* AppleCD 300i Plus User's Guide#

CD-ROM and AppleCD 300i Plus User's Guide bundled with configurations which include an internal CD-ROM drive.

Configurations and Ordering Information:

Power Macintosh 6100/66*
Order No. M3631LL/A
Power Macintosh 6100/66 computer with 8MB of RAM, built-in 1.4MB Apple SuperDrive, internal 350MB hard disk drive, and Power Macintosh Display Adapter

Order No. M3632LL/A
With 8MB of RAM, 350MB hard disk, and internal CD-ROM drive

Order No. M3972LL/A
With 16MB of RAM, 500MB hard disk, and DOS Compatibility Card for Power Macintosh 6100 (see separate data sheet)

Power Macintosh AV Card
Order No. M3447LL/A

Upgrades the Power Macintosh 6100/66 to a Power Macintosh 6100/66AV computer

Power Macintosh 6100/66 NuBus Adapter Card
Order No. M2337LL/A

Power Macintosh Display Adapter
Order No. M2681LL/A For use with 6100/66AV built-in video support

Power Macintosh GeoPort Telecom Adapter
Order No. M3127LL/A

Macintosh Memory Expansion Kits
(Must be installed in pairs by an authorized service provider)

Order No. M3651LL/A
4MB (1ð4MB SIMM)

Order No. M3652LL/A
8MB (1ð8MB SIMM)

Order No. M3372LL/A
16MB (1ð16MB SIMM)

Article Change History:
29 Aug 1995 - Added information about DRAM.
03 Jan 1995 - Made article public.

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Lisa Office System 7/7 Version 3.1: Migrating documents

This article has been archived and is no longer updated by Apple.
There is only one version of the Migration software and it is intended to be used with Office System 7/7 Version 3.1.

When the Migration software is not properly installed, there are problems of functions not being available, such as the "Make Text File" option in the "File/Print" menu as per page 11 of the Macintosh XL Migration Kit manual. Drag copying the Migration Tool icon off of the second install disk without running the installation as described in the manual is a classic example of an improper installation of the Migration software

First off, make sure to install the Lisa-to-Macintosh application in the Lisa 7/7 or Lisa Workshop environment as per page 5 of the Macintosh XL Migration Kit manual. There are many files, invisible from the desktop, that are loaded during installation. Remember, installation requires you to boot the Lisa from the Install 1 diskette.

If error messages about unavailable functions appear while the Install disk is booting, replace the software with a new copy.
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GeoPort/Express Modem: Does Not Connect To Some Modems (2/95)

Sometimes a GeoPort does not connect to modems that do not support data compression, unless the GeoPort modem is not using data compression. This article discusses some possible reasons for this.

This article has been archived and is no longer updated by Apple.
The default setting on Express Modem software and GeoPort is for the modem to attempt a high-speed, error correcting, data compressed connection and fall back as necessary to what the other modem is set to (AT command &q5). Also, modem register S47 is set to 7, which enables the Express Modem to negotiate with the other modem on features such as compression.

The Problem

If you are having problems with the Express Modem connecting or negotiating a connection with another modem, make sure register S47 is not set to 0. This causes the Express Modem to drop a connection when the other modem is incapable of data compression connections (v42bis).

The application being used may be making settings without your knowledge. You can test connections by using a basic terminal program. Enter AT&F and press Return in the terminal window. Dial the other modem by entering one of these commands and pressing Return:

* ATDT <phone number> (digital)
* ATDP <phone number> (pulse/rotary)

For example: ATDT 555-4567

You should see the message 'CARRIER XXXX' followed in a few seconds by the message 'CONNECT XXXX'.

Some applications are written to immediately send data after seeing the CARRIER message. This behavior causes the Express Modem software to drop the connection because it is receiving data from the terminal program before the CONNECT message. The CARRIER message only means that the Express Modem/GeoPort has detected another modem on the line. By design, the Express Modem software disconnects if it receives data before it has a chance to print the CONNECT message. Some terminal programs send data before the CONNECT message to command the modem to abort a connection. The Express Modem is duplicating this behavior.

A Workaround

A workaround if your application expects CARRIER to signify a connection is to add a 'W0' (a zero, not the letter 'O') command to the application's modem initialization string. This instructs the Express Modem to not provide the CONNECT message and allow the application to use the CARRIER message as a valid connection signal.

Refer to the document titled Express Modem AT Commands installed by the Express Modem software installer for a complete description of modem commands.

Article Change History:
22 Feb 1995 - Added keyword; made minor technical updates.

Support Information Services
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Power Macintosh: Using Sony Monitor with AV Card (12/94)

I am trying to use a Sony Multiscan 15-in. Display on my Power Macintosh 6100AV. I can get video from the HDI-45 connector, but not when I use the AV card.

This article has been archived and is no longer updated by Apple.
With the Sony Multiscan display, you need to change some of the settings on the video adapter. According to Sony, the settings you need on the wheel selector should be set to J with the DIP switches 4,7,8, and 9 set to the ON position.

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LaserWriter 16/600 PS: Disabling Energy Saver W/ PS Code

Is there a way to disable the Energy Saver feature on the LaserWriter 16/600 PS printer using PostScript?
This article has been archived and is no longer updated by Apple.
The code for disabling the energy saver mode on the LaserWriter 16/600 PS is shown below. Paste the code into a text document and then use the LaserWriter Utility or Apple Printer Utility to download it to the printer.

Caution: If you choose to use the PostScript code provided in this article, you assume all risks involved in making these changes. PostScript code, if not entered correctly, can place the LaserWriter into a condition requiring service.

```
%=========================================================
% Begin PostScript code
%
(%Engine%)  << /Password 0 /TimeToStandby  0 >> setdevparams
%
% End PostScript code
%=========================================================
```

In order to re-enable the energy saving mode use the built-in power saving options menus built into the LaserWriter Utility and Apple Printer Utility.
Published Date: Feb 19, 2012

System 7.5: Hard Drive and RAM Footprint

This article provides the memory and hard drive space usage for the following install configurations of System 7.5.

- 7.5 Easy Install
- 7.5 Minimum Install for this Macintosh
- 7.5 Easy Install + QuickDraw GX
- 7.5 Easy Install + PowerTalk
- 7.5 Easy Install + QuickDraw GX + PowerTalk

This article has been archived and is no longer updated by Apple.

.

.		7.5 Min.		7.5		7.5+PT		7.5+GX		7.5+PT+GX	
Model	**Total Mem.**	**HD**	**RAM**	**HD**	**RAM**	**HD**	**RAM**	**HD**	**RAM**	**HD**	**RAM**
IIcx	8	2.5	1,362	13.8	2,007	16.6	2,576	17.9	3,695	21.0	4,192
IIci	8	2.4	1,615	13.5	2,241	16.6	2,815	17.9	3,877	21.0	4,445
IIx	8	2.5	1,365	13.5	1,984	16.6	2,564	17.9	3,659	21.0	4,192
IIfx	8	2.4	1,266	13.5	1,918	16.6	2,473	17.9	3,585	21.0	4,097
IIsi	9	2.4	1,631	13.5	2,254	16.6	2,832	17.9	3,921	21.0	4,449
LC575	8	2.4	1,354	13.6	2,085	16.7	2,638	18.0	3,715	21.0	4,280
MacTV	8	2.4	1,373	13.5	2,049	16.6	2,626	17.9	3,702	21.0	4,278
8100/80AV	16	1.9	1,971	14.8	2,872	18.0	3,356	20.7	5,110	23.8	5,814
7100/66AV	16	2.0	1,947	14.8	2,728	18.0	3,382	20.7	5,146	23.9	5,801
6100/60AV	16	2.0	1,949	14.8	2,705	17.9	3,472	20.7	5,131	23.9	5,717

Legend	
Total Mem.	RAM configuration in megabytes
HD	Space used, in megabytes
RAM	Total Memory minus Largest Unused Block, in kilobytes
7.5 Min	Minimal System Software 7.5 installed for this Macintosh
7.5	Easy Install of System Software 7.5 for this Macintosh
GX	Easy Install of QuickDraw GX 1.0.1 for this Macintosh
PT	PowerTalk 1.1
Disk Cache	Set to 32K
No. of colors	Set to 256, if available
32-bit Addressing	On, if available
AppleTalk	Active
Additional Notes	No additional cards installed. No SCSI devices attached. Built-in video used, if available.

Published Date: Feb 19, 2012

Adj. Keyboard: Caps Lock LED Goes Off w/Microsoft Apps (1/95)

When using the Apple Adjustable Keyboard with Caps Lock active, I launch Microsoft Word. Halfway thru launching, the LED indicating that Caps Lock is active goes off.

The keyboard remains in Caps Lock although the LED is off. If I press the Caps Lock key again, the LED comes on and Caps Lock is still active. If you press Caps Lock again, it will go to lowercase.

Is there a fix to this problem?

This article has been archived and is no longer updated by Apple.
This problem only appears to occur with the Apple Adjustable Keyboard and Microsoft Word 6.0, Excel 4.0, and Excel 5.0. It does not occur with Word 5.1a.

Microsoft Technical Support is aware of this issue and states that it is currently under investigation.

Support Information Services
Published Date: Feb 19, 2012

ImageWriter II: Common Causes of Paper Jams (1/95)

I am having problems with the paper feed on numerous Imagewriter II printers. I have done everything I can think of including cleaning the platen and under the platen, fanning the paper, and checking the paper guide and print head. But these printers still continually jam. Is there anything you could suggest that might alleviate this problem?

This article has been archived and is no longer updated by Apple.
The two most common causes of paper jamming in early white ImageWriter II printer's were caused by the old style mechanical paper out sensors, and the older style paper guides which had a stainless steel ribbon shield instead of the amber colored plastic. If either of these are present then they should be upgraded. The optical paper out sensor kit is available as part number 076-0250, and the paper guide is part number 949-0029.

Other possibilities are that the platen has been configured for single sheets which creates a feed rate slightly different than the tractor feed. This can lead to the paper jumping off of the tractor mechanism. To test for this problem remove the tractor feed paper from the printer and then try inserting a single piece of paper into the printer under the platen. There should be very little resistance. If there is resistance then check to make sure that the platen is configured for tractor feed paper, that there are no labels or adhesive residue stuck to the black paper guide, and that the optical paper guide has been installed and the old metal paper-out sensor plate removed.

If the problem still persists then try temporarily removing the paper guide and then printing several pages. If the problem disappears then the paper guide is adjusted too close to the platen. Insert 4 sheets of paper into the printer to use as a spacer when reinstalling the paper guide, then retest. Inspect the tractor mechanism for signs of damage and replace if necessary.

Support Information Services
Published Date: Feb 19, 2012

Power Macintosh: Running Native Apps From a Server (1/95)

I want to launch Microsoft Office 4.2 applications over the network from Novell servers. I have installed the fat binary versions (both 680x0 and PowerPC based code) of Microsoft Office, and the applications load slowly on my Power Macintosh 6100 computers. There also seems to be some unusual behavior with the memory usage on the Power Macintosh computers when launching Excel 5.0 over the network.

Here is a typical installation of fat Excel 5.0 on a Novell server:

680x0-based computer PowerPC-based computer
--- ---
Quadra 800 Power Macintosh 8100
Plain System 7.5 Plain System 7.5
16 MB RAM 16 MB RAM
Time to launch: 15 seconds Time to launch: 60 seconds
System Heap Size: grew about 400K System Heap Size: grew about 6 MB

This article has been archived and is no longer updated by Apple.
Apple has recommended turning on virtual memory on Power Macintosh computers to get better memory management for native applications. The Power Macintosh has a feature called file-mapped virtual memory. File-mapping allows most of the native application's code to remain on the disk and only currently executing code is RAM. The amount of RAM savings is different for each application. To see how much RAM will be saved by turning on virtual memory, open the Get Info window for the native application and the RAM savings will be displayed in the bottom of the window.

The above paragraph pertains only to native applications on local volumes and not on file servers. File-mapping is not supported on remote volumes. What happens in this case is that the application's code is loaded into RAM in the system heap. This is not a major problem with small applications. However, Excel has a 6500k code fragment, which is why the system heap grows about 6MB when Excel is launched from the server. It is also why it takes longer for Excel to launch on the Power Macintosh since all that data has to travel across the network.

If virtual memory is turned off, the application's code fragment is loaded into the application's heap. In the case of Excel, the application heap grows by 6MB and the system heap grows by 4MB, a total of 10MB, when virtual memory is turned off. The system heap grows in this case because of the shared libraries that are installed with Excel. These shared libraries are located in the extensions folder and are loaded into the system heap when Excel is launched.

When virtual memory is turned on and Excel is run from a server, Excel's 6MB of code is loaded into the system heap but the shared libraries are file-mapped since they are on the local volume. This results in a RAM savings of 4MB over running the same application with virtual memory disabled.

The conclusion is that virtual memory should be enabled regardless of where the application resides. However, greater RAM savings can be achieved by running applications from the local drive since the application's code can be file-mapped.

68000 (68k) based applications are not subject to the above behavior. For a detailed explanation about the differences between 68k and PowerPC code management, read the Tech Info Library article entitled "Power Mac and Unusual Memory Usage with Some Applications (12/94)

Support Information Services
Published Date: Feb 19, 2012

LaserWriter Bridge Software 1.0: AppleShare Print Server

1. Does the LaserWriter Bridge 1.0 software work with AppleShare print server?

2. Can I print to a printer on LocalTalk captured by an AppleShare Print Server on Ethernet using the LaserWriter Bridge 1.0 software bridge?
This article has been archived and is no longer updated by Apple.
1. Question: Does the LaserWriter Bridge 1.0 software work with AppleShare print server?

Answer: The LaserWriter Bridge v1.0 and AppleShare Print Server 4.x were not tested together running on the same Macintosh and do not work together. Other Apple options include running LaserWriter Bridge on another client, using MicroPrint (the hardware Ethernet to LocalTalk bridge), or running Apple Internet Router on your print server.

2. Question: Can I print to a printer on LocalTalk captured by an AppleShare Print Server on Ethernet using the LaserWriter Bridge 1.0 software bridge?

Answer: The symptom you described is due to a limitation of the LaserWriter Bridge software, assuming the print spooler is on the Ethernet segment and you have disabled Bypass printing.

Three workarounds are:

1. Place the spooler on the same LocalTalk segment the printer is located on.
2. Enable Bypass printing allowing Macintosh computers and the spooler to print to the LaserWriter.
3. Use the LocalTalk Bridge.

Background:
The LocalTalk Bridge enables devices of "Type" LaserWriter on the LocalTalk segment to be available to devices on the EtherTalk segment. When you capture a printer with the AppleShare Print Server (or possibly other spoolers) and disable Bypass printing, the spooler instructs the printer to change its Type to LaserShared; thereafter, the printer only responds to NBP LkUps with Type LaserShared which coincidentally only spoolers with Bypass disabled typically use. This forces users wishing to print to a printer having a Type of LaserShared to use the spooler that captured it. However, since the bridge does not pass any packets to devices except to those with a Type of LaserWriter, the spooler on Ethernet will not be able to access the printer either.

To recover from a spooler changing the printer Type to LaserShared, power the printer off and back on, delete and reinstate the print queue with Bypass printing enabled or use one of the other workarounds above.

Note: This applies to all versions of LaserWriter Bridge up to and including v2.0.1.
Published Date: Feb 19, 2012

LaserWriter IINTX and LaserWriter Driver 8.2 Problem (8/95)

Article Review/Updated: 22 August 1995

When printing to a LaserWriter IINTX from any application on a Macintosh with LaserWriter 7.1.2 or 8.2 drivers, and using the manual sheet feeder, the data appears "garbled" on the printed page. What is the problem?

This article has been archived and is no longer updated by Apple.
We were able to verify that the LaserWriter 8.2 driver does in fact have a problem when using the manual tray on a LaserWriter IINTX. We tested previous versions of the LaserWriter driver and they seem to work fine.

NOTE:
Manual feed does work with LaserWriter 7.1.2 drivers, but background printing must be turned on.

Driver Result
-------- ------
LW 7.1.2 Works
LW 8.1.1 Works
LW 8.2 Fails - We tried 8.2 with the 8.1.1 NTX PPD file just in case
this might work, however, it did not work with any
older PPD files.

For now you will have to use a LaserWriter driver prior to the LaserWriter 8.2 driver. This problem has been reported, however, there is no commitment to a fix date.

Article Change History:
22 Aug 1995 - Made minor corrections.

Support Information Services
Published Date: Feb 19, 2012

Power Macintosh: Generic System, Finder & Enabler Icons (5/95)

I rebuilt my desktop and then I noticed that icons for the System, the Finder, and the PowerPC Enabler files in my new Power Macintosh 8100/110 are generic in appearance. Everything seems to work fine and rebuilding the desktop again did not resolve the problem.

What can I do to restore the proper icons?

This article has been archived and is no longer updated by Apple.
Problem

This is a cosmetic issue involving the system software which affects the Power Macintosh 6100/66, 7100/80, 8100/100, and 8100/110 computers. Even with the generic icons, the computers are fully functional, and the issue causes no damage to the system software.

Solution

Install the System 7.5 Update 1.0 to correct the issue.

These articles can help you locate the System 7.5 Update 1.0 mentioned here:

* Where To Find Apple Software Updates
Lists online services for "free" Apple software updates.

* Obtaining Apple Product Support in the USA
Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech. Info. Library.

Article Change History:
17 May 1995 - Added Power Macintosh 6100/66 and System 7.5 Update 1.0 info.
17 Mar 1995 - Corrected PowerPC wording.

Support Information Services
Published Date: Feb 19, 2012

Performa 611x: QuickTime 1.6.1 and Groliers Issue

I am trying to use the Grolier Encyclopedia CD with my Performa 6115CD computer and it will not work. After I copied the 1.6.1 version of QuickTime from to the CD I started getting Type 1 errors when I try to run the CD.

What is wrong?
This article has been archived and is no longer updated by Apple.
Replacing QuickTime 2.0 which comes with System 7.5 and is preloaded on the Performa 6115CD with the QuickTime 1.6.1 (which comes on the Grolier Encyclopedia CD) is likely the issue. To correct this issue, update to QuickTime 2.1 or newer, which includes fixes for several issues encountered when working with multimedia titles. QuickTime software can be found at:

http://www.apple.com/quicktime/

This same issue could occur with any member of the Performa 611xCD family of computers.
Published Date: Feb 19, 2012

System 7.5: Menus Disappear to the Left (5/95)

I recently upgraded to System 7.5 and now some of the left-most application menus disappear from time to time. These are usually the Apple, File and Edit menus and sometimes a few Application-specific menus.

This has occurred with several applications (Microsoft Excel, AppleLink, and others) on three different machines which are all running System 7.5 (A Quadra 950, a Centris 650, and a Quadra 800).

Because the file menu is no longer available, there is no way to quit the application, and you need to "force quit" (Command-Option-Esc) to get out of the application.

Is this a known issue? If so, how do I workaround it?

This article has been archived and is no longer updated by Apple.

Symptoms

As you may have noticed, the menus disappear under two different circumstances. The first is by clicking in the menu bar before the application has finished loading. The second is by clicking in a part of the menu bar that does not have any menus.

Cause

A problem has been identified in the Apple Menu Options (AMO) control panel that causes menus to disappear. The problem has been identified and is scheduled to be corrected in a new version of Apple Menu Options.

Issue Resolution

Apple Menu Options version 1.0.2 has corrected this issue. It is posted online to Apple SW Updates. When installed with System 7.5 or with the System 7.5 Update 1.0 (7.5.1), this update to Apple Menu Options provides enhancements for problems encountered by some Macintosh computer users. System 7.5 or System 7.5.1 must be installed on your computer before Apple Menu Options 1.0.2 is installed.

These articles can help you locate the software update mentioned here:

* Where To Find Apple Software Updates
Lists online services for "free" Apple software updates.

* Obtaining Apple Product Support in the USA
Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech. Info. Library.

Workaround

If you cannot download the update right away, try this workaround:
To avoid the disappearing menus, either do not do any of the above or simply, remove the AMO control panel from the Control Panels folder.

Technical Explanation

AMO installs four menus when you click in the menubar and deletes the four menus when you release the mouse button. Some applications cause AMO to change the ID numbers for its menus. When this happens, clicking in the menubar at the wrong time will cause AMO to delete the application's menu.

This problem appears every time you click in the menubar while the application is still loading. For example, click in the menubar while Microsoft Word's splash screen is still on the monitor and Microsoft Word's menus disappear. One of the most bizarre aspects of this problem is that the application that causes AMO to renumber its menus, is not necessarily the application that has its menus disappear.

You may have noticed that when the menus are deleted, clicking in the menubar causes the wrong menu to be pulled down. For example, clicking the Apple menu will cause the Edit menu to display. When the problem application is moved to the background and brought back to the foreground the menubar is updated to reflect the missing menus.

Article Change History:
24 May 1995 - Reviewed for technical accuracy.

TA33092_System_Menus_Disappear_to_the_Left__(TIL16957).pdf

19 May 1995 - Added Issue Resolution information .
04 Apr 1995 - Added more details and reviewed for technical accuracy.

Support Information Services
Published Date: Feb 19, 2012

Microsoft Works 4.0 or 4.0a: Typing Displays Double (1/95)

When typing in Microsoft Works 4.0 or 4.0a while at the same time listening to an audio CD the keyboard will display double characters. In other words, when you press a key once, two characters are displayed.

This article has been archived and is no longer updated by Apple.
Microsoft is aware of this, and Microsoft Works version 4.0b should correct it. For more information contact Microsoft Corporation. To locate a vendor's address and phone number, use the vendor name as a search string.

Support Information Services
Published Date: Feb 19, 2012

Built-In CD-ROM: Separate CD-ROM Software Installation (1/95)

There is some confusion about which 7.1 backup Install Me First CDs have the CD Setup files as a separate installation. Which computers do you have to install the CD files separately after installing the operating system.

This article has been archived and is no longer updated by Apple.
There are six systems, that we are aware of, that include CD-ROM drives, but do not get the CD-ROM software installed as part of a system software installation. These systems are:

* Centris 610
* Centris 650
* Quadra 610
* Quadra 650
* Quadra 800
* LC 575

Support Information Services
Published Date: Feb 19, 2012

Macintosh: Switching Systems Without Restarting

NOTE: The information in this article refers to system software versions prior to System 7.0, and is of most use to those using floppy-based Macintoshes.

How do I switch system files on the desktop without booting an application?

This article has been archived and is no longer updated by Apple.
Hold down the Command and Option keys and double click on the Finder that you want to activate. The disk that this Finder is on will now be the startup disk.

To make the System and Finder active on the disk that an application resides: hold down the Option key while launching the application by double clicking on it .

As an additional note, holding down the Command and Option keys while double clicking on MultiFinder inside the System Folder allows you to launch MultiFinder without restarting your Macintosh.

Published Date: Feb 19, 2012

MAE 1.0: PrintMonitor Cannot Print To a File (1/95)

I have the Solaris version of MAE 1.0 (without the patch), and Excel 5 installed with MS Office 4.2. When trying to print an Excel document to a file, the file does not get saved in the selected directory. It gets saved in the PrintMonitor Documents folder.

As a test, I attempted to print the Finder window to a file, and selected my home directory as the location to save it. The file did get saved there, as expected.

What is the problem, and are there any workarounds?

This article has been archived and is no longer updated by Apple.
We have verified the symptom you described above with MAE 1.0. Printing an Excel 5 document to a file does not get saved in the desired directory, it is saved in the PrintMonitor Documents folder. Printing the Finder window to a file also works as you described.

The "Print to a file" feature of PrintMonitor does NOT seem to work properly in MAE 1.0, since we have also verified this with other applications, like Word 6.0, which does not work as expected. This feature should be fixed with the next release of MAE.

A Software Problem Report has been submitted on this problem.

Support Information Services
Published Date: Feb 19, 2012

68LC040 Processor: SoftwareFPU Compatibility Statement (1/95)

I understand that some 68LC040 microprocessors will not function with the SoftwareFPU software which emulates a floating point unit in software. Is Apple planning any upgrade to the chip to provide this compatibility?

This article has been archived and is no longer updated by Apple.
An incompatibility exists between the shareware utility SoftwareFPU developed by John Neil & Associates and the Motorola 68LC040 microprocessor installed in certain Macintosh computers. SoftwareFPU is a control panel that is intended to allow most applications expecting a math coprocessor to work properly on Macintosh computers without one.

The Motorola 68040 microprocessor has an integrated hardware math coprocessor built into it. The 68LC040 microprocessor is a low cost version of the 68040 and does not have the integrated hardware math coprocessor included.

SoftwareFPU may not be compatible with Macintosh models which utilize the 68LC040 microprocessor. It has never been Apple's intention for the 68LC040-based Macintosh computers to have math coprocessor capability. The incompatibility between SoftwareFPU and the 68LC040 is unfortunate, but does not affect the normal functionality of the computer as marketed by Apple.

Customers who wish to add hardware math coprocessor capability to their 68LC040 equipped desktop Macintosh computer have three alternatives:

a) replace their 68LC040 microprocessor with a 68040 microprocessor;
b) obtain a third party upgrade that utilizes a 68040 microprocessor;
c) upgrade to a 68040 equipped Macintosh.

At this time it is not possible for PowerBook customers to upgrade to a 68040 microprocessor.

Support Information Services
Published Date: Feb 19, 2012

System 7.5: Custom Installation Selections (7/95)

I'm using System 7.5 and I want to reinstall a single control panel which I believe is corrupted.

This article has been archived and is no longer updated by Apple.
The following is a list of the items available when selecting CUSTOM INSTALL from System 7.5 Installer. That list will only show the main topics.

Clicking on the triangle to the left of the topic will reveal the subtopics. Each main topic may be selected, which will install all the sub items, or any individual item may be selected for installation.

SYSTEM SOFTWARE
---
* System for this Macintosh only
* System for any Macintosh
* Minimum system for this Macintosh only
* Minimum system for any Macintosh
* International support

PRINTING
---
* Apple ImageWriter
* ImageWriter
* LaserWriter
* LaserWriter 8
* Apple ImageWriter
* LaserWriter 300
* LaserWriter select 310
* Personal LaserWriter SC
* StyleWriter I/II
* LaserWriter Utility

NETWORKING SOFTWARE
---
* Filesharing
* EtherTalk
* TokenTalk
* MacTCP

UTILITY SOFTWARE
---
* Apple Guide
* AppleScript
* ColorSync

MULTIMEDIA SOFTWARE
---
* CD-ROM
* QuickTime

COMPATIBILITY SOFTWARE
---
* Macintosh Easy Open
* PC Exchange

FONTS
---
* Chicago
* Courier
* Geneva
* Helvetica
* Monaco
* New York
* Palatino

* Symbol
* Times

APPLE MENU ITEMS
---
* AppleCD Audio Player
* Calculator
* Chooser
* Find File
* Jigsaw Puzzle
* Key Caps
* Note Pad
* ScrapBook
* Stickies

CONTROL PANELS
---
* Apple Menu Items
* Auto Power On/Off
* AutoRemounter
* Brightness
* Button Disabler
* CPU Energy Saver
* Cache Switch
* CloseView
* Color
* Control Strip
* Date and Time
* Desktop Pattern
* Easy Access
* Extensions Manager
* File Sharing Monitor
* General Controls
* Keyboard
* Labels
* Launcher
* Map
* Memory
* Monitors
* Mouse
* Network
* Numbers
* PowerMac Card
* PowerBook
* PowerBook Display
* PowerBook Setup
* Screen
* Serial Switch
* Sharing Setup
* Sound
* Startup Disk
* Text
* Trackpad
* Users and Groups
* Views
* WindowShade

Article Change History:
06 Jul 1995 - Corrected typos.
16 Feb 1995 - Changed keyword and reviewed technical accuracy.

Support Information Services
Published Date: Feb 19, 2012

Apple OneScanner: Driver Not SCSI Manager 4.3 aware (2/95)

Is our scanner driver SCSI Manager 4.3 aware?

This article has been archived and is no longer updated by Apple.
No, the Apple Scanner extension 3.0 that ships with OneScanner Software 2.0.2 does not support multiple SCSI buses available with SCSI Manager 4.3.

At this time, there are no plans to revise the Apple Scanner extension to support this feature of SCSI Manager 4.3.

Article Change History:
16 Feb 1995 - Changed keyword and reviewed technical accuracy.

Support Information Services
Published Date: Feb 19, 2012

LaserWriter Fax: Does Not Support Two Faxs On One Line

Are there any solutions for connecting two fax devices to one phone line so that they do not interfere with each other?

I am using a LaserWriter 16/600 PS with the fax option, and another standard fax machine connected to the same phone line. Even though the printer fax option is set to answer after eight (8) rings and the fax machine is set for two (2) rings the fax printer connects as soon as the standard fax machine answers the incoming call. It sounds like both devices try to communicate and then the line is dropped. I want to use the fax in the printer for out-going faxes only, and then use the second fax machine for incoming faxes and faxes that need to be sent manually.
This article has been archived and is no longer updated by Apple.
This configuration is non-standard. Only one fax device should be connected at a time to prevent a carrier signal from activating the second device. Even though the printer has been set to answer after eight (8) rings, it probably senses an 'off hook' condition when the standard fax machine answers and then detects the carrier tone causing both fax devices to respond. When neither device can connect properly they both hang up.

We are not aware of a PostScript solution for preventing this problem, however there is a third-party device which may work. The device is not intended for this exact situation, but it should work fine. A company called Command Communications Incorporated produces a line of products called Comshare which allow a single phone line to automatically switch between fax, modem, answering devices, and voice modes. By connecting the standard fax to the fax port and the printer fax to the modem or voice port the problem should be resolved. The Comshare device intercepts incoming calls when the phone rings and listens for signals that are characteristic of a fax, modem, or voice call. It then quickly connects the appropriate device.

To locate a vendor's address and phone numbers, use the vendor name as the search string.
Published Date: Feb 19, 2012

DOS Compatibility Card: Troubleshooting Sound Problems (2/95)

I have a DOS Compatibility Card installed in my computer, but for some reason am not able to get any sounds to play from DOS or Windows. Even the DOS system beep does not work. My PC Setup control panel has the sound set to Auto Enable. All the Macintosh sounds play correctly. What is wrong?

This article has been archived and is no longer updated by Apple.
Check the following:

Ensure first that the PC Setup control panel has the sound set to Auto Enable.

Make sure that the audio cable is correctly attached between the DOS Compatibility Card and the Macintosh logic board.

Check the Sound control panel's Sound In settings:
Step 1: Click the Options button.
Step 2: Click on the CD icon (visible even if you do not have an internal CD).
Step 3: Click the PlayThrough button.

This lets you play DOS and Windows sounds through the Macintosh speaker.

Artiole Change History:
22 Feb 1995 - Added keyword; minor updates.

Support Information Services
Published Date: Feb 19, 2012

LTV Portable Pro: Some Units Do Not Produce PAL Signal

We received a Focus Enhancements LTV Portable Pro as part of our Apple Presentation System. This unit should be producing a PAL video signal, and we are attaching it to a PAL television. When we try to use the LTV Portable Pro, the image on the television is black and white -- we cannot get any color.

Is it possible that we received a NTSC version of the LTV Portable Pro?
This article has been archived and is no longer updated by Apple.
Some PAL versions of the LTV Portable Pro were configured incorrectly during the manufacturing process. This problem causes the LTV Portable Pro to send a black and white image to a PAL television.

The few units that were incorrectly configured must be repaired by an authorized technician. Customers who obtain one of these units should contact Focus Enhancements for warranty repair.
Published Date: Feb 19, 2012

Macintosh: Using Print Buffers With ImageWriters

The article below is adapted from Dan Cochran's column "Answers from the Mac Team" in MacUser, February 1986, page 117.

This article has been archived and is no longer updated by Apple.
A 32K print buffer has little or no effect when used with the Macintosh printing anything but text in Draft quality. For instance, if all MacWrite needed to do was send out a single byte of information for each character that it wanted to print, a serial buffer with 64K of memory would be able to receive and hold at least 20 pages of material and free up your Macintosh for other work while the printer was busy. If you're content with selecting Draft quality from the Print Dialog box, such a buffer device should work just fine. In Draft mode, the ImageWriter, acting like most serial printers, simply receives a sequence of single character codes (the ASCII set), one code for each character that is to be printed. For example, a typical MacWrite page of Geneva 12-point font will rarely exceed 3000 characters. The ImageWriter II optional buffer can handle the printing of up to 10 such pages in Draft Quality mode.

Because of the way the Macintosh sends information to the printer in the Standard and High Quality modes, a 32K buffer would not be large enough to hold even one page of information. To produce print quality better than Draft, the ImageWriter must receive much more information than simply a one-byte code per character.

Say you select High quality text from the Print dialog box and Tall Orientation form the Page Setup dialog box. This means that the ImageWriter will be printing 160 dots per inch horizontally and 144 dots per inch vertically. For an 8 inch by 10 inch printed page, the Macintosh has to send enough information to the printer so that it can image (160*8)*(144*10) or 1,843,200 dots. Each dot to be printed takes a bit of information to tell the printer whether the dot is supposed to be black or white. The printer can receive this information in 8-bit words, which, divided into the 1,843,200 dot/bits of the page, results in 230,400 words of memory (approximately 225K) needed in a print buffer device for storing even one page of MacWrite information. A buffer that could handle a 20-page document would need 2 megabytes of memory.

Some third party buffers have enough memory to make them effective print buffers on the Macintosh.

Published Date: Feb 19, 2012

Color StyleWriter Pro: Using Ink Refill Kits

This article discusses the use of ink refill kits with the Color StyleWriter Pro and StyleWriter II printers.
This article has been archived and is no longer updated by Apple.
The ink formulation used in the Color StyleWriter Pro and the StyleWriter II is proprietary. The manufacturer has spent millions of dollars on research and development to overcome problems that can develop with ink-jet technology including clogged nozzles, ink overspray, evaporation, slow firing rate, water fastness, drying time, and so forth.

Refilling used cartridges or using of non-Apple or non-Canon ink cartridges in either printer voids the warranty if problems occur as a result of their use. There have been numerous cases where Color StyleWriter Pro customers have experienced clogged print nozzles or poor quality printing after refilling ink cartridges.

These Canon ink cartridges are compatible with the Color StyleWriter Pro:

BJI 201C
BJI 201Y
BJI 201M
BJI 201K

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QuickTime for Windows 2.0: Increasing Performance

This article contains help increasing the performance of QuickTime for Windows 2.0. This article assumes that you are a developer using the QuickTime for Windows Developers Kit available from APDA.
This article has been archived and is no longer updated by Apple.

Read the readme.exe File
This document is part of the QuickTime for Windows 2.0 distribution, and contains important information that you should be aware of concerning performance on various Windows platforms. For instance, the document provides a list of all supported video chips and video hardware.

Check Out the Environment
Some of the PC video and audio cards might cause the issue. Make sure that the you have double checked the issue by running the QuickTime movie on another different QuickTime for Windows environment, and that the cards used in the environment are mentioned in the QuickTime for Windows 2.0 README file as cards supported by Apple for QuickTime for Windows.

Video Chip Sets Supported
The following video chip sets are currently supported:

- Western Digital 90C23
- Cirrus GD542X
- ATI Mach 8
- ATI Mach 32
- ATI Wonder XL
- ATI 28800
- ET 4000 (TSENG)
- Headland 208,209
- P9000
- XGA
- WD90C3X
- S3934, S3801, S386C911, 924, S3801805

NOTE: If the card is a PCI card, direct video chip access is not currently support.

Minimum Configuration
The minimum PC configuration for QuickTime for Windows 2.0 is:

- 386SX at 20Mhz
- 4MB RAM
- 80MB hard disk
- VGA or better display card*
- A Sound Card for playback of movies with sound
- Windows 3.1 or later
- DOS 5.0, MS-DOS 6.0 and 6.2 with and without double space is supported

* NOTE: QuickTime provides best quality and performance on cards displaying 32768 colors (16 bit) or more.

DMA and IRQ conflicts
Check that none of the installed additional boards (CD-ROM, Sound boards, or any other boards) use the same IRQ level. If these card do, the cards try to race for IRQ interrupts and slow down the performance. You should also be able to sometimes see or hear unexpected behavior due to such conflicts (such as interrupted sound, or the system will not function properly).

Similarly, make sure that none of the installed or built-in boards use the same DMA channel. If this is the case, you will have huge performance issues due to two boards trying to use the same channel at the same time. If there's no way to change the DMA channel, then you need to disable DMA support of either board.

Check Out the Throughput of the QuickTime Movie
If the movie requires a lot of throughput due to massive amounts of video or audio (For example, large window, 16-bit stereo sound, or Cinepak throughput of 400kbps or more), make sure this is the real issue. For instance, if the sound is disabled, there's less bytes the system needs to pump out. Also, slow CD-ROM drives or slower systems, and/or badly written device drivers for CD-ROM units might cause performance issues. Test is again to test the movie using a well-behaving PC environment.

If you disable the sound track (volume down to 0) and the movie plays fine from the CD, and enabling the movie sound track causes audio drops and video frame skipping, then there's a good chance that you have issues related to handling the throughput of the movie.

Check if your CD-ROM drive is a single speed (150kbps) or double-speed (300kpbs) system. If you have issues with playing back movies using a single-speed CD-ROM unit, then there's a likelihood that the movies were indeed optimized for a double-speed (or better) CD-ROM environment. If you move movies with bad playback to the hard disk, and the playback works just fine, then the issue has to do with throughput and various parameters that impact the playback rate.

Better Throughput
QuickTime for Windows 2.0 has better throughput than QuickTime for Windows 1.1.1. If the developer could fix throughput issues by switching to QuickTime for Windows 2.0. In some cases it also helps to disable the cache for the CD-ROM driver.

GDI or Driver Use
If the configuration specified is to use either the video driver or the GDI environment without directly using the video chip, then this might be the issue with performance in general.

CD-ROM DRIVERS
In some cases it helps to disable the cache for the CD-ROM driver. For example, you could add a /U at the end of the smartdrv.sys line in AUTOEXEC.BAT.

Driver and System File Issues
- SYSTEM.INI FILE

In some cases (for instance, the ATI Graphics cards) changing the device bitmap setting helps performance. To change the device bitmap, use:

Device bitmap=off

MSACM called drivers might cause additional resampling of sounds that could slow down the system. For testing purposes, leave these files in:

- timer
- midimapper
- wave
- aux
- midi1
- midi

To test this, comment out or delete the following drivers: msacm.drv (usually set to the wavemapper parameter), this disables the Microsoft audio compression manager so that QuickTime uses its own faster compression scheme.

CONFIG.SYS File
You could try to change the amount of file control blocks in the CONFIG.SYS file so that the system has at least 16:

FCBS=16,0

QTW.INI File
In some rare cases the QTW.INI file from a former QuickTime for Windows 1.1.1 installation is not removed when the QuickTime for Windows 2.0 installation script is run. If you suspect this is the case, remove the QTW.INI file from the Windows folder and re-run SETUP.EXE.

If the video parameter specifies hardware, then QuickTime for Windows tries to directly access the video chip, resulting in the best possible performance. If the video parameter specifies GDI, then the playback will not be optimal as it tries to use the GDI environment. This is the case with an Windows/NT installation.

Also check that after the installation the Optimize parameter is set to BMP.

Sound Cards
In some cases increasing the buffer of the sound card improves on the playback performance. For example, you could increase the buffer size from 32k to 64k to provide a smoother playback of sound. This usually also improves the quality of the sound. You have to check how each sound board handles the buffer settings.

Sound Sampled At a Non-multiple of 20.050KHz
If the sound is sampled using a Macintosh, and it's sampled at a non-multiple rate of 22.050kHz, then QuickTime for Windows needs to resample the sound during playback of the movie. This can cause poor performance. Usually you hear clear pops and cracking sounds when you playback movies with a non-11.025kHz rate (or multiples of this).

Interleave Factor
The default interleave factor for audio/sound is 1.5 seconds when the movie is recompressed using MovieShop. You could try to increase this to

1.9 seconds (Preferences:Sound... menu in MovieShop) to see if this improves playback.

Using MovieAnalyzer you can figure out the current interleave factor (Info:Playability menu entry).

Contact Apple Developer Support*
Provide a configuration list of systems used and an explanation of the issue including test files used to re-produce the issue. Make sure you have specified the following information:

Hardware used including the sound card, CD-ROM drive, video card and anything that is dependent on the multimedia environment.

Software used (including any specific drivers for the environment)
- QTW.INI file
- WIN.INI file
- AUTOEXEC.BAT file
- CONFIG.SYS file
- SYSTEM.INI file

A clear example of how to reproduce the issue, including references to a QuickTime movie available from the Developer SDK kit.

*** Note:** You must an Apple Certified Developer in order to contact Apple Developer Support.
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At Ease 2.0.3 for Workgroups: Setting Up

The following instructions are provided to help you set up your network using AppleShare 3.0.3 and At Ease for Workgroups 2.0.3, they assume a good understanding of how AppleShare works (please see the manual).
This article has been archived and is no longer updated by Apple.
AppleShare 3.0.3 setup

Please follow the manual for installing and setting up the AppleShare server software. DO NOT install At Ease on the server, however you will need to create a user (for example, "At Ease User") that has write access to the root level of the shared volume. This user can be restricted (via AppleShare Admin) to the access of the folders on the shared volume, but must have at least write privileges to the root level).

If you have designated an administrator's Macintosh for the At Ease workgroup, set up that computer first (any of your workstations could be used for this), to look just as you would like other users' computers to look, since you will be putting the same information on all the computers in the workgroup. If you are using At Ease on an AppleTalk network, you can set up the other computers in the group from the administrator's Macintosh.

To begin, double-click the At Ease Setup for Workgroups icon on the startup disk. A window will appear, indicating that At Ease is turned off. Do not turn At Ease on yet. You will turn it on when you have completed the setup procedure.

Designating a File Server

At Ease will need to have a single AppleShare ID in order to access a file server. There is no relationship between the At Ease user names and the AppleShare user names.

If At Ease uses the AppleShare volume as the startup disk:

* All At Ease users will be using the same AppleShare name and password.

* At Ease remembers the AppleShare name and password from when you set it up and automatically connects to the server when At Ease users log into At Ease on the workstation.

To designate a file server as the At Ease disk:

1) Choose Chooser from the Apple menu.

2) Use the AppleShare user name (again "At Ease User" is recommended) to connect to the file server that you want to use as the At Ease disk.

3) Select the name of the server volume that you want to use as the At Ease disk. Close the Chooser window.

4) Go back to the At Ease Setup program and choose At Ease Disk... from the Options menu.

5) Click the radio button next to Mounted Server, then select the server you're using. Click OK.

Adding Users

Create a list of all the users who will have access to At Ease, and enter their names. To do this:

1) Open the At Ease Setup program on the startup disk (it may already be open).

2) Click New to add new users.

3) Type the name of the first new user, and a password (optional). If you add a password, be sure to notify the user that you have done this.

4) Click Next User to add another user. When you have added all the users, click Done.

5) A list with all the users you added appears. At this point, you can remove any users by selecting their names and clicking Remove if necessary.

6) Click Done.

CREATING A SETUP

A Setup is a subsection of the entire workgroup that will be using At Ease. Each Setup consists of users who are all associated by definition (a class, a business team, a company division). All the users in a single Setup have access to the same programs, menus, and options within At Ease.

Naming a New Setup
---
1) Click New in the At Ease Setup window.

2) Type the name of the new Setup in the box.

Adding Users to a Setup
---
1) Click the Users button.

2) Click the name of the user(s) you want to add to this Setup, and click Add. Click OK when you are done.

Adding Programs and Documents to a Setup
---
1) Click the Items button.

2) Click Add Applications.

NOTE: Please be aware that most software licensing agreements require a separate copy for each user, therefore, having one legal copy accessed by many users is still a violation of the agreement

3) Click the pop-up menu to see all available disks from which you can select applications.

4) Click the name of the program(s) you want to add, then click Add. The names that appear under "Items for this Setup" are actually aliases for the originals, which remain in their original location. (Users do not need to have the actual application on their systems to have access to items on a file server in an AppleTalk network.)

5) Click OK when you are done.

6) Click Add Documents.

NOTE: You cannot add a common folder from the server. You can, however, add your folder (for example, Clip Art) to the user folder in the Documents folder on the root level of the server hard drive. It will then appear as a folder in the user's document page in At Ease. Please be aware that At Ease works similar to the Finder, if you click on a document and it cannot find the application that created it, it will tell you this. You will then have to open the application (such as ClarisWorks) that supports it and then open the document from the application's Open... menu selection.

7) Click the Disk pop-up menu to see all available disks from which you can select documents.

8) Click the Kind pop-up menu and drag down to the application that created the document(s) you want to add. A list of documents created in that application and available on the disk you selected (in the Disk pop-up menu) appears.

9) Click the document(s) you want to add, and click Add.

10) When you are done adding documents, click OK.

NOTE: If you do not know the full name or location of an item you want to add to the Setup, Click Find Items in the New Setup window and type the name or partial name of the item. Click Find. Click Add to add the item to the Setup.

11) Click OK when you are done.

Choosing Menus and Options for a Setup

The administrator can control what users are able to do from their desktops by configuring the menus for each Setup.

1) Click the Menus button in the At Ease Setup window.

2) Click the box next to the item you want to make available to users of this Setup. An X appears next to the menu items available to users of this Setup.

3) Click the Options button in the At Ease Setup window.

4) You can set other options for the users of the setup.

Updating the other Workstations

TA33109_At_Ease_for_Workgroups_Setting_Up_(TIL16973).pdf

Please refer to page 91 of the At Ease for Workgroups Administrator's Guide for directions.

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Clean System Install on a Workgroup Server 60 or 80

This article describes how to do a clean system install of the Mac OS on an AppleShare server and preserve privileges. This procedure will work on Workgroup Server and other Macintosh computers.

Note: This will not cure problems due to corrupted Users & Groups Data File or AppleShare PDS file.

This article has been archived and is no longer updated by Apple.
This is the procedure to use if your system software on a Mac OS AppleShare server has become damaged, and you want to replace it while preserving privileges and sharing information.

First, Restart with either a Disk Tools floppy, or the Workgroup Server CD-ROM and run Disk First Aid and allow any fixes. If Disk First Aid cannot repair the drive, you should back up your data, format the drive, and then restore the data.

WARNING: Be sure to back up data BEFORE formatting a drive because all data will be lost during the formatting process.

If your problem was starting the file server software itself, or in any way involved with privileges, you will want to attempt to compact volume access privileges with the AppleShare Admin software prior to resorting to the clean install. This will frequently fix privilege problems. If the server still will not start, follow these steps:

Clean Server Install

1. Startup with the Install Me First CD CD-ROM disc that came with your computer by pressing and holding the command-option-shift-delete keys after restarting until seeing the Welcome To Macintosh screen, or other startup floppy or volume.

2. Open existing System Folder.

3. Drag the System suitecase to the Preferences folder.

4. Make a new folder at the root level of the internal hard disk titled "Old System Contents".

5. Drag the remaining contents of the System Folder to Old System Contents folder EXCEPT for the Preferences Folder.

6. Make a new Preferences Folder inside the Old System Contents folder.

7. Open the ORIGINAL Preferences Folder and drag the contents EXCEPT for the Users & Groups Data File to the new Preferences folder inside the Old System Contents folder. What you should have at this point is the original System Folder, empty EXCEPT for the original Preferences folder, which in turn is empty except for the Users & Groups Data File. Make a backup COPY of the Users & Groups Data File.

8. Install system software from the Install Me First CD you started from.

9. Restart and install AppleShare Software.

10. Restart again and start the Server. (You may be prompted for server name and admin key.)

Note: This methodology will preserve the original System Folder's hierarchy in the Old System Contents folder. At this point you can transfer any items from your Old System Contents folder to your new one if necessary. Those items which were either installed during the install process, or are unnecessary may be placed in the Trash.
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Power Macintosh Upgrade Card: Video Problem w/Quadra 700

Our customer has the Power Macintosh Upgrade card installed in a Quadra 700 with a Multiple Scan 17 Display. If they turn the card off via the control panel, shut the unit down, then restart, they get no video on their Multiple Scan 17-inch display.

Is there a workaround for this?
This article has been archived and is no longer updated by Apple.
The Power Macintosh Upgrade card allows the use of the 1024 X 768 resolution when using a 17-inch Multiple Scan monitor. When the Power Macintosh Upgrade card is disabled and the resolution is left at 1024 x 768, the Quadra 700 will lose video on restart. Customers will lose video in 68040 mode if they turn off the Power Macintosh Upgrade card after they have set the video resolution to 1024 x 768.

Removing the battery for 30 minutes will reset the PRAM so that the Quadra 700 would output video to the 17-inch Multiple Scan monitor at 640 x 480. The following workaround eliminates the need to pull the backup battery.

Workaround

1. Shut down the Quadra 700 and remove the video cable from the Quadra 700.
2. Restart the unit and allow it to run approximately one minute.
3. Power down the Quadra with the power on/off button on the back of the unit.
4. Plug the video cable back in and power up the Quadra.

Video will be restored at the 640 x 480 resolution.
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MAE: Support for 24-bit Color (1/95)

Does MAE (Macintosh Application Environment) support 24-bit color?

This article has been archived and is no longer updated by Apple.
Yes, MAE 1.0 supports 24-bit color on a Sun running Solaris or HP (Hewlett-Packard) running HP-UX workstations, as long as the underlying X display server and the window manager support 24-bit color in the X Window environment. Most X display servers on Solaris and HP-UX are X11R5 or X11R6 based, which are capable of supporting 24-bit color.

Here is a summary of MAE's graphics concept:

MAE (Macintosh Application Environment) is a software implementation of Macintosh that runs on UNIX workstations from Sun Microsystems and Hewlett-Packard. Through the use of 68LC040 emulation and some native codes, MAE provides the Macintosh System 7.1 environment in an X Window. This gives UNIX workstation users the ability to run "off-the-shelf" Macintosh applications on their workstations.

Graphics in MAE differ from graphics on an Macintosh because MAE has no physical Macintosh video card or monitor directly involved. MAE creates a virtual Macintosh monitor that applications draw to. MAE takes advantage of the fact that virtually all Macintosh applications make calls to QuickDraw to do their graphics. When the Macintosh application makes a QuickDraw call, QuickDraw updates the virtual monitor and tells MAE which part of bitmap changed; MAE then makes the appropriate X Window System calls to update the X Window.

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System 7.5: Menu Bar Clock Anomaly After Installation (2/95)

When System 7.5 was installed over the original System 7.1 on my PowerBook 180, I got some strange behavior from the clock. That is, the time and date continuously change with a change delay of about half a second.

This article has been archived and is no longer updated by Apple.
We are aware of some Macintosh computers exhibiting this type of problem when System 7.5 is installed on a Macintosh with the SuperClock control panel previously installed.

We recommend disabling SuperClock, or any extension that puts the time/date in the menu bar. The Date & Time control panel offers this type of functionality. As an alternative, you can turn off the Menubar Clock in the Date & Time control panel.

Article Change History:
16 Feb 1995 - Changed keyword and reviewed technical accuracy.

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GeoPort Telecom Adapter: Frequently Asked Questions

This article is the most frequently asked questions (FAQ) about the GeoPort Telecom Adapter.

Questions answered in this FAQ:

1. Why does the GeoPort sometimes connect to a service and immediately disconnect?
2. What is the difference between the modem port on a Macintosh and the GeoPort?
3. What is the maximum number of addresses that the same fax can be sent to simultaneously using the GeoPort for Power Macintosh (version 1.0) software?
4. What is the ringer equivalence and ring signal frequency range of the GeoPort Adapter?
5. What is the difference between the GeoPort Telecom Adapter and the Express Modem?
6. Which software do I need for my GeoPort Telecom Adapter and where can I find it?

This article has been archived and is no longer updated by Apple.
1. Question: Why does the GeoPort sometimes connect to a service and immediately disconnect?
Answer: Make sure you are using the software that comes with the GeoPort Telecom Adapter. The Express Modem Software 1.1.2 is compatible, but there's much more software installed by the GeoPort Express Modem Installer than by the normal one. Software installed includes the Shared Library Manager, ASLM Resources, GeoPort Extension, GeoPort Telecom Adapter, and GeoPort Telecom. Without these files, you can't use the GeoPort Telecom Adapter.

If you installed the proper software and still experience problems with disconnects or aren't connecting at all, try turning off error correction. You can do this with the modem command &Q0 in the modem string.

2. Question: What is the difference between the modem port on a Macintosh and the GeoPort?
Answer: There are two primary differences:

- The standard modem port has connectors (pins) for in and out signals, timing, and handshaking. The GeoPort adds a ninth pin for power to an external device.
- The GeoPort also takes advantage of the power of the processor (either the DSP processor in the Macintosh AV computers or the PowerPC chip itself) to do telephone - either data or fax, or even voice. A modem is just a line interface to the telephone wire, a DSP to create the tones used, and software to run it. The DSP is on the motherboard, an inexpensive line interface (like a GeoPod Telephone Adapter) can be used, with software to run the modem.

  This makes it cheaper to add a modem to a machine, and makes it easy to enhance the modem through software to increase performance or to accommodate new standards.

3. Question: What is the maximum number of addresses that the same fax can be sent to simultaneously using the GeoPort for Power Macintosh (version 1.0) software?
Answer: Testing showed the Send To field can hold up to 145 recipients, although there is no specifically defined limit.

4. Question: What is the ringer equivalence and ring signal frequency range of the GeoPort Adapter?
Answer: The Ringer Equivalence Number (REN) for the GeoPort Adapter is 0.7. In most areas, the total of the RENs of all devices connected shouldn't exceed 5.0. Contact your local phone company to determine your local maximum. Exceeding the recommended maximum can cause unreliable operation of all devices on the line. In other words, if a call comes in, all of the devices may not ring or detect the call.

The GeoPort Adapter uses a ring frequency range from 14 Hz to 1200 Hz (wider than required by FCC Part 68).

5. Question: What is the difference between the GeoPort Telecom Adapter and the Express Modem?
Answer: The Express Modem is an internal modem installed in specific PowerBook, Power Macintosh, and Performa computers. The GeoPort Telecom Adapter is an external communication adapter supported on the serial port of the computer that support the GeoPort including the Performa, Power Macintosh, Quadra 660 AV, and Quadra 840AV computers, except the Power Macintosh 5200/75 LC, Performa 5200 and 6200 (6200 in Europe only.)

6. Question: Which software do I need for my GeoPort Telecom Adapter and where can I find it?
Answer: The Apple Telecom software supports both the Express Modem and GeoPort Telecom Adapter. The latest Apple Telecom software updates can be found online at Apple Software Updates. The software can also be ordered through the **Original System Software Fulfillment** process.
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TA33118_GeoPort_Telecom_Adapter_Frequently_Asked_Questions_(TIL16986).pdf

Macintosh 630 family: Video Memory Allocation

This article explains why a Macintosh LC 475 with 1,024K of VRAM support the 832 x 624 screen size at thousands of colors, but the LC 630 cannot support thousands of colors at 800 x 600.
This article has been archived and is no longer updated by Apple.
The video memory for the Macintosh 630 series is split into two sections. The first section holds the graphics data -- the standard display that is generated by the computer. The second section holds the video data from the video input module.

The second section uses 300K of video memory for gathering video-in images. This leaves 724K of video memory available for displaying the standard graphics screen. There is no way to use the 300K of video memory from the second section for displaying 16-bit color at screen sizes larger than 64 0x 480.
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Macintosh: Mini Circular 8 Serial Port Pinouts (6/94)

What are the pinouts for the mini circular 8 serial ports on the Macintosh Plus and later?

This article has been archived and is no longer updated by Apple.
The two serial ports used on Macintosh computers since the Macintosh Plus are
RS-422 mini-circular 8 pin connectors:

Pin Signal
1 - HSKo (Data Terminal Ready)
2 - HSKi (Clear To Send)
3 - TxD- (Transmit Data -)
4 - GND (Ground)
5 - RxD- (Receive Data -)
6 - TxD+ (Transmit Data +)
7 - GPi (General-Purpose input); connected to SCC Data Carrier
Detect (or to Receive/Transmit Clock if the VIA1 SYNC signal
is high). Not connected on the Macintosh Plus, Classic,
Classic II, LC, LC II, or IIsi.

8 - RxD+ (Receive Data +)

Looking at the end of a MALE mini-circular connector, the pins are:

6 7 8
3 4 5 The space is between pin 4 and 5
1 2

All Macintosh computers since the Macintosh Plus have the same mini-circular 8
pin connectors for their serial ports.

Article Change History:
23 Jun 1994 - Revised formatting and wording.

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Power Macintosh DOS Compatibility Card & LAN Manager (5/96)

I have several Power Macintosh computers with DOS Compatibility cards at a site where LAN Manager is used for networking our PCs. I realize that there is currently only an ODI driver for built-in Ethernet available, but I'm trying to find a way to make NDIS-based LAN Manager work.

I came across some information which recommends installing Novell Netware client software on the DOS Compatibility Card, but I do not know how to get it to work. What can I do?

This article has been archived and is no longer updated by Apple.

First, Apple does not support any protocols other than TCP/IP and IPX on the Apple DOS Compatible Card.

In a DOS PC environment, there are typically two standards by which network protocol stacks can access network interface cards, NDIS and ODI. The current release of the Apple DOS Compatibility Card software (v1.0.3) ships only with MACODI, an ODI compliant driver that lets the DOS Compatibility Card run PC network software over the Power Macintosh 6100 computer's built-in Ethernet. Since the DOS Compatibility Card does not have an NDIS driver, it has not been obvious how to run network clients that cannot directly operate with ODI drivers. Microsoft LAN Manager is one such system, LAN Manager is NOT supported by Apple. It is possible to run LAN Manager over MACODI on the DOS Compatibility Card. There may be two ways for you to do this, though to date we have had success with only one. It may be possible to run other NDIS-based PC software on the DOS Compatibility Card using these methods. We want to stress that both methods require a user to run additional client software that they are not running now.

Solution #1:ODINSUP

One way we have been able to solve this problem is with Novell's ODINSUP adapter, which provides NDIS support over ODI drivers. This adapter, or shim, has been around for a while. This shim intercepts calls from NDIS and re-routes them through an ODI driver. By installing the Novell Link Support Layer, the MACODI driver, and ODINSUP we have successfully run LAN Manager v2.2 on the DOS Compatibility Card.

We have had success with either the older, or newer versions of Novell's client software. The current versions are available on Novell's Internet server (ftp.novell.com) in the NetWire section. We have used LSL.COMv2.05 and ODINSUP 1.22 running on DOS 6.22 and Windows 3.11. We have also had success using LSL v2.12 and ODINSUP v2.0 together without problems.

Below are the installation steps we followed:

1) Install DOS 6.22 &video drivers.

2) Install Windows 3.11.

3) Install Apple DOS Compatibility Card software.

4) Install SoundBlaster software.

5) Create NOVELL directory and copy the LSL.COM, MACODI.COM, ODINSUP.COM;

created NET.CFG as shown below.

6) Install LANManager 2.2a with LMSETUP. Pick a driver like NE2000 when

the installer prompts you, then edit LAN Manager's .INI files replacing

NE2000 with MACODI. The LAN Manager installer won't show you MACODI

since it's looking for NDIS drivers.

7) Edit AUTOEXEC.BAT, CONFIG.SYS, and NET.CFG as shown below.

Since this solution requires some pieces of Novell's Netware client for DOS, it is not an ideal solution, however, it does not use much memory and it's inexpensive. If the user has any Novell servers at their site, they already have a license to use the required client pieces. If they don't, Novell will sell a site-wide license to use the Netware client by calling 1-800-UPDATE1.

NOTE: You do not need to load Novell's NETX (Netware 3.x clients) or VLM (4.x clients) to use ODINSUP.

We have also used ODINSUP and LANManager to run a DOS NDIS TCP packet driver that the DOS version of NCSA Telnet uses.

Solution #2: Windows for Workgroups v3.11

We haven't tried this approach, but it appears Windows for Workgroups version 3.11 includes an adapter that's similar to ODINSUP, called ODIHLP.EXE. Chapter 8 of the Windows for Workgroups v3.11 Resource Kit goes into details about this approach in the section entitled "Configuring Windows for Workgroups with Novell Netware", which begins on Page 8-9. You should be able to skip installing the Windows for Workgroups applications like Mail, Schedule, and so on and use the Network setup part of the installer to get the software you need.

Simultaneous TCP/IP in DOS and Mac OS

The Apple DOS Compatibility Card introduces one more complication that is easily solved. Since a PowerMac 6100 DOS system is really two computers in one, it is not possible to run the same network protocol stack on the same network adapter, under DOS and Mac OS, at the same time. It is, however, possible to run two completely different protocol stacks at the same time, which is very useful. For example, a customer mounts an HP series 800 HP-UX server from their PCs via LAN Manager/X using TCP/IP, but accesses the same server from their Macintosh computers using an AppleTalk-based Xinet server package that runs on the same host. Since the DOS Compatibility Card is using TCP/IP, and Mac OS is using AppleTalk, there's no problem with simultaneous access to the file server from both sides at the same time.

However, the customer also runs NCSA Telnet on both DOS and Mac OS. Normally, this would not be possible simultaneously. While few people will want or need to run Telnet on DOS and Mac OS at the same time, planning problems (common in computer labs or computer classrooms) can easily lead to that result. For example, user A walks up, starts using the DOS card which connects to the LAN Manager server via TCP/IP, then leaves. User B walks up, switches back to Mac OS and tries to start NCSA Telnet. Since the PC is still connected to the LAN Manager server via TCP/IP, problems will occur if the user doesn't shut down the PC before starting the Mac NCSA Telnet. User B is trying to run two TCP/IP stacks on the same network card at the same time. The best solution allows a user to walk up to any Power Macintosh, and switch to DOS or to Mac OS without worrying about the state of the machine from the last user and without the need to shut down the PC. If the DOS PC is always using TCP/IP, via LAN Manager, for file server access, any attempt to use MacTCP-based Macintosh applications will cause file server access problems on the PC.

An excellent solution, which avoids the need to shut down the PC, is using the Apple IP Gateway software to provide MacTCP services under Mac OS via AppleTalk. In this scenario, MacTCP wraps TCP/IP packets within AppleTalk packets and sends the AppleTalk packets to the gateway. The gateway strips off the AppleTalk wrapper and sends the TCP/IP packets to the appropriate address. This solution does require both "machines", Macintosh and DOS Compatibility Card, to have their own TCP/IP addresses. The Apple IP Gateway and MacTCP can be

configured so the addresses are assigned manually or dynamically from an allowable range. Setting up MacTCPto use the gateway is simple:open MacTCP, select the "Ethertalk"icon, and use the pop-up menu to choose the zone containing your IP Gateway. Using the Apple IP Gateway provides a complete, stateless solution that does not affect network administration of the PC side and does not require any changes in TCP/IP applications on the Macintosh side since the AppleTalk-IP encapsulation is handled transparently by MacTCP.

Further Reading

For more information the following may be helpful:

Novell Netware Workstation for DOS and Windows (Part 100-001623-001)

Microsoft LANManager Installation and Configuration Guide (Part 24945)

Windows 3.11 Resource Kit (from a book store or computer store)

Windows for Workgroups 3.11 Resource Kit (from a book store or computer

store)

Edited: AUTOEXEC.BAT, CONFIG.SYS, NET.CFG, PROTOCOL.INI, and LANMAN.INI

==========

AUTOEXEC.BAT

```
@ECHO OFF

SET SOUND=C:\\SB16
SET BLASTER=A220 I5 D1 H1 T6
C:\\SB16\\MIXERSET /P /Q

PROMPT $p$g
PATH C:\\WINDOWS;C:\\DOS;C:\\NOVELL;C:\\;C:\\APPLE;C:\\LOCAL\\BIN
SET TEMP=C:\\DOS
SET TMP=C:\\TEMP

REM Do we really need this for ODINSUP??
REM
```

```
LH SETVER C:\\DOS NETX.EXE 6.00 > NUL:


REM The following server may be necessary under DOS 6.22...
REM see the LANMAN v2.2b README.TXT.
REM
LH SETVER C:\\DOS NETWKSTA.EXE 6.00 > NUL:
VER


REM
REM The following allow the "MacDOS card" run LAN Manager over its
REM ODI driver (MACODI.COM)...
REM
CD \\NOVELL
LH LSL
LH MACODI
LH ODINSUP
CD \\


@REM == LANMAN 2.2a == DO NOT MODIFY BETWEEN THESE LINES == LANMAN 2.2a =
SET PATH=C:\\LANMAN.DOS\\NETPROG;%PATH%
C:\\LANMAN.DOS\\DRIVERS\\PROTOCOL\\tcpip\\umb.com
NET START WORKSTATION
LOAD TCPIP
SOCKETS
DNR
@REM == LANMAN 2.2a == DO NOT MODIFY BETWEEN THESE LINES == LANMAN 2.2a =


REM Load Windows packet driver...
REM
LH WINPKT 0x60


REM Connect to UMD server...
REM
```

```
NET LOGON lmguest ""

REM CALL C:\\ACSUPWIN.BAT

C:\\DOS\\SMARTDRV.EXE /X

REM Load "MacDOS card" pieces...
REM
LH C:\\Apple\\ApplePC
REM LH C:\\Apple\\MacShare
REM LH C:\\DOS\\MSCDEX /D:CDDRVR /L:E
REM LH C:\\Apple\\DOSClip

CD \\WINDOWS
WIN
```

REMARKS: The order in which the networking pieces load is important: LSL must come first, then MACODI, then ODINSUP. For LANMgr v2.2, you don't appear to need to run NETBIND; NETSTARTWORKSTATION seems to take care of that. There was a remark in Microsoft's LAN Manager documentation that you want to run NETBIND early, so I assume that means NETSTART should happen fairly early, too. This AUTOEXEC is for a customer who's using MS TCP/IPin LAN Manager. This also loads a TCP driver for NCSA Telnet. MacShare and DOSClip were disabled to leave memory for other things. We didn't spend any time optimizing the use of memory under DOS.

CONFIG.SYS

```
----------
DEVICE=C:\\DOS\\SETVER.EXE
DEVICE=C:\\DOS\\HIMEM.SYS /TESTMEM:OFF
REM If you are using PC Setup 1.0.7, the lines are:
REM DEVICE=C:\\DOS\\EMM386.EXE NOEMS X=C800-CFFF RAM=D000-EFFF
REM or
REM DEVICE=C:\\DOS\\EMM386.EXE X=C800-CFFF RAM=D000-EFFF
REM
REM For PC Setup 1.5, the command lines are:
REM DEVICE=C:\\DOS\\EMM386.EXE NOEMS I=CA00-CBFF X=CC00-CFFF RAM=D000-EFFF
```

```
REM or

REM DEVICE=C:\\DOS\\EMM386.EXE I=CA00-CBFF X=CC00-CFFF RAM=D000-EFFF

REM

DEVICE=C:\\DOS\\EMM386.EXE I=CA00-CBFF X=CC00-CFFF RAM=D000-EFFF

DOS=HIGH,UMB

FILES=60

BUFFERS=40

LASTDRIVE=Z

STACKS=9,256


DEVICE=C:\\LANMAN.DOS\\DRIVERS\\PROTMAN\\PROTMAN.DOS /i:C:\\LANMAN.DOS

DEVICE=C:\\LANMAN.DOS\\DRIVERS\\PROTOCOL\\tcpip\\tcpdrv.dos /i:C:\\LANMAN.DOS

DEVICE=C:\\LANMAN.DOS\\DRIVERS\\PROTOCOL\\tcpip\\nemm.dos

DEVICEHIGH=C:\\LANMAN.DOS\\DRIVERS\\DIS_PKT.DOS


DEVICE=C:\\Apple\\CDROM.SYS /D:CDDRVR



NET.CFG

-------

link driver macodi

frame ethernet_II

frame ethernet_802.3

frame ethernet_802.2

frame ethernet_snap

protocol IP 800 ethernet_II

protocol arp 806 ethernet_II

port 300

int 6


protocol odinsup

bind macodi

buffered
```

Remarks: The "buffered" keyword is important; see the attached document on ODINSUP for more info.Note that NET.CFG is only used for basic configuration; all of the protocol configuration still happens within LAN Manager. Drop the DIS_PKT.DOS if you're only interested in LAN Manager. Again, we didn't spend any time optimizing the use of memory under DOS. Any suggestions would be appreciated.

PROTOCOL.INI

[PROTMAN]

DRIVERNAME = PROTMAN$

DYNAMIC = YES

PRIORITY = NETBEUI

[TCPIP_XIF]

DRIVERNAME = TCPIP$

IPADDRESS0 = 130 219 034 200

SUBNETMASK0 = 255 255 255 000

DEFAULTGATEWAY0 = 130 219 034 001

NBSESSIONS = 11

; the following two parameters added after documentation was completed

TCPSEGMENTSIZE = 1450

TCPWINDOWSIZE = 1450

LOAD = tcptsr[c],tinyrfc[c],emsbfr[cr]

UNLOAD = "unloadt /notsr[dc]"

BINDINGS = "macodi"

LANABASE = 0

;[NE2000_NIF]

; protocol.ini section for the Novell NE2000 Card

; IOBASE = 0x300

; INTERRUPT = 3

; DRIVERNAME = MS2000$

Remarks: Note the NE2000 section has been commented out and BINDINGS was changed from NE2000 to MACODI.

LANMAN.INI

```
;*****************************************************************;
;** Microsoft LAN Manager **;
;** Copyright(c) Microsoft Corp., 1993 **;
;*****************************************************************;
[networks]
netservices = chknet, minses

[workstation]
wrkservices = encrypt,messenger,minipop
computername = acsn200
domain = STANDALONE
othdomains = langroup
numdgrambuf = 3
lanroot = C:\\LANMAN.DOS

[netshell]
username = lmguest

[version]
lan_manager = 2.2b

[messenger]

[services]
chknet = netprog\\chknet.exe
```

minses = netprog\\minses.exe /n

workstation = netprog\\netwksta.exe

messenger = services\\msrv.exe

netpopup = services\\netpopup.exe

encrypt = services\\encrypt.exe

minipop = services\\minipop.exe

Remarks: By setting domain to STANDALONE and othrdomain to the customer's domain name, we made a significant difference in LAN Manager performance.

Article Change History:

23 May 1996 - Added New PC Setup CONFIG.SYS Information.

19 Apr 1995 - Corrected INT setting.

30 Mar 1995 - Corrected name of Mac OS.

Support Information Services

Published Date: Feb 19, 2012

DOS Compatibility Card: Apple Adjustable Keyboard Works (2/95)

There is an error on page 61 of the "DOS Compatibility Card for the Power Macintosh User's Guide".

This article has been archived and is no longer updated by Apple.
On page 61 the manual reads "Using the Apple Adjustable Keyboard: If you are using the Apple Adjustable Keyboard, you cannot use key combinations made up of keys from the main keyboard and function keys (for example, Shift-F1)".

This is incorrect; the Apple Adjustable keyboard works properly with a DOS Compatibililty Card.

Article Change History:
22 Feb 1995 - Added keyword; made minor updates.

Support Information Services
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DOS Compatibility Card: AfterDark v3.0 Causes Crash (2/95)

When using Switch on Startup with AfterDark v3.0 for the Macintosh, the DOS Compatibility Card freezes.

This article has been archived and is no longer updated by Apple.
If you select Switch at Startup in the PC Setup control panel, when you choose Restart from the Special menu your Macintosh freezes. If you have two monitors and you are running Macsbug, a Macsbug error appears on the Macintosh monitor and the MS-DOS monitor is frozen. With only one monitor, you switch to the DOS side, but the system freezes and you are unable to return to the Macintosh OS.

This is a problem with AfterDark and not the DOS Compatibility Card. There are only two workarounds at this time:

* Disable Switch at Startup in the PC Setup control panel.

* Turn off AfterDark if you want to use the Switch at Startup option.

Article Change History:
22 Feb 1995 - Added keyword; minor updates.

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DOS Compatibility Card: PC Network Extension Error Message 8/95

I have a DOS Compatibility Card and am getting an error message at startup: "PC Network Extension: AgentOpen () returned -1." What is wrong?

This article has been archived and is no longer updated by Apple.
The PC Network Extension lets the DOS Compatibility Card access built-in Ethernet. The error message results when the PC Network Extension is looking for a network that is not present. Usually this is because AppleTalk is off. To eliminate the error at startup, you have three options.

(1) Upgrade to version 1.0.7 of the PC Setup software.*

(2) Use the Chooser to turn AppleTalk on.

(3) Drag the PC Networking Extension from the Extensions folder to the Trash (provided that you are not using a PC network).

The PC Network Extension is not required unless you plan on using network services on the DOS Compatibility Card. If you are using the DOS Compatibility Card's networking capabilities, make sure AppleTalk is active.

*NOTE:
PC Setup software v1.0.7 is not compatible with the DOS Compatibility Card for the Macintosh Quadra 610 or Centris 610.

Article Change History:
29 Aug 1995 - Added information about turning on AppleTalk.
10 Aug 1995 - Added info about PC Network Extension version 1.0.7.
22 May 1995 - Updated article with more complete information.

Support Information Services
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DOS Compatibility Card: Do Not Lock Drive Container (2/95)

This article discribes an error in the Readme file from the DOS Compatibility Card for the Power Macintosh.

This article has been archived and is no longer updated by Apple.
On Page 6 of the Readme file, it is recommended that you lock the Drive File.

Do not lock the Drive File.

If you lock the Drive File using Get Info, the PC does not startup and several error messages appear.

Article Chagne History:
22 Feb 1995 - Added keyword; made minor updates.

Support Information Services
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DOS Compatibility Card: DOSClip Not Compatible In EGA Mode 2/95

I have a DOS Compatibility Card installed in my Power Macintosh 6100 and I am having problems copying information using DOSClip when I am in the EGA mode.

This article has been archived and is no longer updated by Apple.
You cannot use DOSClip when in EGA mode. The DOS Compatibility Card only supports VGA modes 0, 1, 2, 3, 4, 5, 6, 7, 14, 16, 17, 18, and 19.

Article Change History:
22 Feb 1995 - Added keyword; minor updates.

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DOS Compatibility Card: Cannot SUBST Shared Drives (2/95)

I have a DOS Compatibility Card and when I try using the MS-DOS Command SUBST on a shared drive, I get an error. The error message reads "Cannot SUBST a network drive". Is this normal?

This article has been archived and is no longer updated by Apple.
Yes, this is normal. There are many things that MS-DOS does not let you do with a networked drive, including using the SUBST command. This is how MS-DOS works.

Article Change History:
22 Feb 1995 - Added keyword; minor updates.

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DOS Compatibility Card: Do Not Restart While Copying (2/95)

Is there a way to prevent the DOS Compatibility Card from restarting before it is finished copying a file?

This article has been archived and is no longer updated by Apple.
There are no safety checks in MS-DOS to prevent you from restarting MS-DOS while a copy is in progress. Since the Macintosh OS cannot determine if files are open in the DOS container, there is no way to prevent this.

The only way to prevent zero length or corrupted files is not to press the Control-Alt(Option)-Del keys when the computer is copying files.

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22 Feb 1995 - Added keyword; minor updates.

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Macintosh 128K and 512K: Modem cable pinouts

Below is the wiring diagram of the connection between a Macintosh 128K/512K and an Apple Modem.
This article has been archived and is no longer updated by Apple.

Macintosh Modem Cable 590-0197

Macintosh Connector (DB-9)			Apple Modem Connector (DB-9)			
Comments	Signal Name	Pin	Pin	Signal Name	Comments	NOTES
Chassis/frame Ground	GND	*1	8	GND	Chassis/Frame Ground	There are many variations on connecting pins 1, 3 and 8, but the basic intent is to bring all three of those pins to ground on the Macintosh side. Connect Signal Ground to Chassis Ground if you want a slightly better noise margin.
Signal Ground	SGND	*3	3	SGND	Signal Ground	
		*8	1			
Output; Transmit Data	TXD-	5	9	RCD	Input; Receive Data	
+12-Volt Line		6	6	DTR	Input; Data Terminal Ready	
Input; Handshake	HSK	7	7	DCD	Output; Data Carrier Detect	
Input; Receive Data	RCD-	9	5	TXD	Output; Transmit Data	

If you wish to connect the DB-9 Modem port connector on the Macintosh 128K/512K to a DB-25 connector on a non-Apple modem, a Macintosh Imagewriter cable connected to the Modem Eliminator cable works in most cases. Here are the pinouts for that configuration:

DB-9 Macintosh DTE		DB-25 Modem DCE	
Signal	Pin	Pin	Signal
Chassis Ground	1	1	Chassis Ground
Signal Ground	3	7	Signal Ground
Output; Transmit Data	5	2	Input; Transmit Data
Input; Handshake	7	6	Output; Data Set Ready
Input; Receive Data	9	3	Output; Receive Data

If this configuration doesn't work, try these additional cable connections:

DB-9 Macintosh DTE		DB-25 Modem DCE	
Signal	Pin	Pin	Signal
+12-Volt Line	6	20	Input; Data Terminal Ready
Output; Handshake	2	20	Input; Data Terminal Ready
Output; Handshake	2	4	Input; Request to Send
Input; Handshake	7	8	Output; Data Carrier Detect

You will have to make a cable to try these additional connections one by one or in combination. If you have the pinouts of your modem, make a cable that matches up the Apple Modem signals with the appropriate pins on the other modem's connector, e.g., connect pin 1 on the DB-9 connector to pin for Chassis/Frame Ground on the modem's DB-25 connector, and so on.

Refer to the RS-232 standard for the connection signals and corresponding pin numbers.
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80-Column Text Card: Applesoft Control Codes

When you write BASIC programs while the 80-Column Text Card is active, there are a number of functions you can use by pressing the CTRL key in conjunction with another key. Functions activated by pressing these two-key combinations are called control character functions. Some control character functions work when you type them in from the keyboard as well as when used within PRINT statements in BASIC programs. This article has been archived and is no longer updated by Apple.

Table of Control Character Codes:

Control Character	ASCII Name	Apple IIe Name	ASCII Decimal Code	Notes	What is Executed
CTRL-G	BEL	bell	7	-	Produces a 1000 Hz tone for 0.1 second
CTRL-H	BS	backspace	8	-	Moves cursor position one space to the left; from left edge of window, moves to right end of line above.
CTRL-J	LF	line feed	10	-	Moves cursor position down to next line in window; scrolls if needed.
CTRL-K	VT	clear EOS	11	1	Clears from cursor position to the end of the window.
CTRL-L	FF	clear	12	1	Moves cursor position to upper-left corner of window and clears window.
CTRL-M	CR	return	13	-	Moves cursor position to left end of next line in window; scrolls if needed.
CTRL-N	SO	normal	14	1,3	Sets display format normal.
CTRL-O	SI	inverse	15	1,3	Sets display format inverse.
CTRL-Q	DC1	40-column	17	1,3	Sets display to 40 columns.
CTRL-R	DC2	80-column	18	1,3	Sets display to 80 columns.
CTRL-S	DC3	stop list	19	1,2	Stops sending characters to the display until a key is pressed.
CTRL-U	CTRL-U	quit	21	1,3	Deactivates 80-column Text Card, homes cursor, and clears screen.
CTRL-V	SYN	scroll	22	1	Scrolls the display down one line, leaving the cursor in the current position.
CTRL-W	ETB	scroll up	23	1	Scrolls the display up one line, leaving the cursor in the current position.
CTRL-Y	EM	home	25	1	Moves cursor position to upper-left corner of window (but doesn't clear).
CTRL-Z	SUB	clear line	26	1	Clears the line the cursor position is on.
CTRL-\\	FS	forward	28	1	Moves cursor position one space to the right; from right edge window, moves it to left end of line below.
CTRL-]	GS	clear EOL	29	1	Clear line from cursor position to the right edge of the window.
CTRL-^	RS	gotoXY	30	1,4	Using the next two characters, minus 32, as one-byte X and Y values, moves the cursor postion to CH=X, CV=Y.

Key to Notes codes:

1 - Only available when 80-Column Text Card is active
2 - Only works from the keyboard, not in a program
3 - Only works in a program, doesn't work from the keyboard
4 - Not supported under BASIC

The Apple 80-Column Card in an Enhanced IIe has some additional features documented in the Programmer's Guide to the Enhanced IIe.

Important Information About CTRL-U

A "CHR$(21)" response (Control-U) to a "GET A$" input statement in a BASIC program may disable the 80-column card on an Apple IIGS, Apple IIe, Apple IIc, and Laser 128 (but not an Apple II Plus with Applied Engineering's Viewmaster 80).

To halt the CONTROL-U function, the CONTROL-U keystroke needs to be trapped on input. Using the "GET A$" method:

```
10 GET A$
20 IF A$ = CHR$(21) THEN A$ = "" :REM traps the CONTROL-U, sets it to blank
30 PRINT A$;
40 GOTO 10
```

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DOS Compatibility Card: No Support for Multiple CD-ROMs (2/95)

I cannot get my DOS Compatibility Card in my Power Macintosh 6100 to recognize my external CD-ROM drive. I can get the internal CD-ROM drive to operate properly, but not the external.

This article has been archived and is no longer updated by Apple.
The current software for the DOS Compatibility Card does not support multiple CD-ROM devices. If you have an internal CD-ROM, then you cannot use your external CD-ROM drive when you are using MS-DOS.

Article Change History:
22 Feb 1995 - Added keyword; minor updates.

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DOS Compatibility Card: Windows Calc. Uses Leading Space (2/95)

I am using the DOS Compatibility Card and I am having problems pasting a number from the Windows Calculator application into the Macintosh Calculator. The Macintosh Calculator doesn't accept the number.

This article has been archived and is no longer updated by Apple.
When you copy a number from the Windows Calculator, it places a leading space in front of the number, which prevents you from pasting the number in the Macintosh Calculator. One workaround is to paste the number into a Macintosh application, then delete the space. Once you delete the space, you can paste the number into the Macintosh Calculator.

Article Change History:
22 Feb 1995 - Added keyword; made minor updates.

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A/UX: Overview and Description (01/95)

This article is from an A/UX Frequently Asked Questions (FAQ) list maintained at a NASA Internet ftp site.

A/UX is Apple's implementation of UNIX (it's Apple's/UNix) for various Macintosh computers. A/UX merges two computing environments, UNIX and the Macintosh Finder OS, and provides the full functionality of both.

This article has been archived and is no longer updated by Apple.
A/UX is based on AT&T UNIX System V.2.2 with numerous extensions from V.3, V.4 (such as streams), and BSD 4.2/4.3 (such as networking, the Fast File System, job control, lpr, NFS with Yellow Pages, SCCS, and sendmail 5.64). It also provides full POSIX compliance. A/UX provides SYSV, BSD and POSIX compatibility switches and libraries.

A/UX is fully compliant with the System V Interface Definition (SVID).
A/UX provides all three standard shells: sh, csh, and ksh. X-Windows is also provided standard.

A/UX 3.0 and later incorporates System 7 for the Macintosh allowing for the use of the vast majority of Macintosh applications under A/UX. System7 and UNIX are fully-integrated under A/UX 3.0 and later with the UNIX file system being seen as a disk drive by the Finder.

There are quite a few people who feel that A/UX is a near-perfect implementation of UNIX. Of course, every operating system has its share of devotees, so that's not a very valid scale of whether the system is any good.
A/UX _is_ UNIX ð it's not some form of pseudo-UNIX. It insulates the user from UNIX, if required, but the System Administrator needs to become UNIX-aware. Furthermore, if you want straight UNIX, you can get it. People may also complain that A/UX is based on an "obsolete" version of AT&T UNIX (V.2.2). In many ways, Apple's extensions make A/UX very V.3-like (V.3 is in many ways an enhanced V.2 ð it even uses the V.2 kernel). The list of extensions to A/UX are impressive. Compare what you get standard with other systems and you'll be shocked! On some, 'cc', 'f77', NFS, etc... are costly options.

The main consideration (and opposition) to A/UX is the platform it runs on: the Macintosh. Some consider this a boon, others a bust. At present, Apple's top-level workstation is the Quadra 800, a 33MHz 68040-based system. Some consider this underpowered; others consider it overkill; others consider it, like Goldilocks, "just right".

If you need super-fast state-of-the-art number crunching capability then A/UX may not be for you; the Q800 benchmarks at maybe 10-16 SPECmarks (depending on compiler used, external cache size, etc...) and you can get lots faster with other platforms. Of course, you'll have to "settle" for their operating systems, but if you need it, then that's how you'll get it. Of course, this doesn't mean that A/UX "crawls".

There are very few people who need this type of performance though. If you need (or just want) a UNIX workstation with the speed and power of UNIX and the user interface and application selection of the Macintosh then A/UX is the way to go. In many, many ways, A/UX is the UNIX "for the rest of us" even if we are long-time UNIX junkies. If you love the Macintosh, you'll love A/UX; if you love UNIX, you'll love A/UX. And if you want a near-perfect marriage of the two, then you'll love A/UX.

Support Information Services
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DOS Compatibility Card: Does Not Support AppleCD SC Drive

I am having problems getting a AppleCD SC drive connected to my Power Macintosh 6100 with the DOS Compatibility Card installed to recognize DOS CD-ROM discs. The show up correctly on the Macintosh desktop, but when I try reading them O, and I cannot get DOS CD-ROM discs to read correctly in when I switch to MS-DOS.
This article has been archived and is no longer updated by Apple.
You can use the AppleCD SC drive for Macintosh CD-ROM discs, but not for MS-DOS CD-ROM discs.

This problem only occurs with the AppleCD SC drive. The AppleCD SC Plus, AppleCD 150, AppleCD 300, or AppleCD 300 Plus drives work without a problem.

With the AppleCD SC drive, you can sometimes read directories, however trying to run applications from the disc results in the error message "CDR101: Not ready reading drive E, with Abort/Retry/Fail."
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DOS Compatibility Card: Press ESC Twice to Bypass RAM Test 2/95

I have an 8 MB SIMM installed in my DOS Compatibility Card, and I cannot bypass the memory test when I startup MS-DOS. The screen instructs me to "Press ESC To Bypass Memory Test". Can I bypass the memory test?

This article has been archived and is no longer updated by Apple.
To bypass the RAM memory test when you startup MS-DOS, you have to press the Esc (Escape) key twice, even though the screen instructs you only to "Press ESC to Bypass Memory Test". At this time it is not known why you must press the ESC twice, but it does let you bypass the memory test.

Support Information Services
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DOS Compatibility Card: All Display Modes Not Supported (2/95)

I have a SuperMatch 20-inch monitor connected to the DOS Compatibility Card, but I cannot get the PC Setup control panel to recognize the monitor. The VGA resolution option is dimmed.

This article has been archived and is no longer updated by Apple.
The DOS Compatibility Card does not support all multiscan displays. If the PC Setup Control Panel does not recognize your monitor, and the VGA resolution option is dimmed, your monitor may not be supported. In this case, your monitor only works in the mode the hardware recognizes.

Article Change History:
22 Feb 1995 - Added keyword; minor updates.

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System 7.5: PowerBook Processor Cycling Location

This article explains how to adjust the Processor Cycling function on PowerBook computers using System 7.
This article has been archived and is no longer updated by Apple.
The following information applies to any PowerBook computer running System 7.1.1, 7.5.x, or 7.6.x.

As of System 7.1.1, various PowerBook Control Panels changed significantly. To turn on (or off) Processor Cycling for System 7.1.1, 7.5.x, or 7.6.x:

1. Open the "PowerBook" control panel.
2. Press and hold down the Option key.
3. Select "Custom" from the Easy/Custom slide switch in the upper right corner.
4. After the control panel display enlarges, click in the checkbox box titled "Options". Processor Cycling is now on. If you wish to turn it off, click the checkbox again.

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PowerBook 500 series: Global Village Modem and MacPPP (1/95)

I have a PowerBook 500 with a Global Village Mercury modem and am trying to use a serial protocol like MacPPP. The line drops shortly after I connect. Is there anything I can do about this?

This article has been archived and is no longer updated by Apple.
If you have trouble maintaining a carrier using MacPPP or another PPP using a PowerPort 500, try upgrading to MacTCP 2.0.6 and try using the initialization string AT&F%C0\\N0 to turn off all compression and error correction.

Support Information Services
Published Date: Feb 19, 2012

AppleCD 300: Jumper Settings

What are the jumper settings on the AppleCD 300 drive?
This article has been archived and is no longer updated by Apple.
The AppleCD 300 Jumpers are:

```
Ground---------------------------------
      1|    2|    3|    4|    5|    6|    7|
       *     *     *     *     *     *     *

       *     *     *     *           *     *
      8|    9|   10|  11|          13|   14|
Parity-----  |     |     |            |     |--- Test Mode
            0     2     3            |
              SCSI Select       Prevent/Allow
```

Parity Enabled (jumper installed)
SCSI ID Set to Apple specified ID
Prevent/Allow Allow manual eject switch (jumper installed)
Test Mode Disabled (no jumper)

Pin Signal

1 Ground
2 Ground
3 Ground
4 Ground
5 Ground
6 Ground
7 Ground
8 Parity
9 SCSI Select 0
10 SCSI Select 2
11 SCSI Select 3
13 Prevent/Allow
14 Test Mode
Published Date: Feb 19, 2012

Apple Personal Diagnostics 1.1.3: Computers Supported

This article contains the list of Apple Computers supported by Apple Personal Diagnostics (APD). This list is supplied with Apple Personal Diagnostics v1.1.3.
This article has been archived and is no longer updated by Apple.
LIST OF APPLE COMPUTERS SUPPORTED BY
APPLE PERSONAL DIAGNOSTICS (AS OF AUGUST 1995):
==========

Apple Workgroup Server 60
Apple Workgroup Server 80
Apple Workgroup Server 95
Workgroup Server 6150
Workgroup Server 6150/66
Workgroup Server 8150
Workgroup Server 8150/110
Workgroup Server 9150
Workgroup Server 9150/120

Macintosh Plus
Macintosh Portable
Macintosh SE
Macintosh SE/FDHD
Macintosh SE/30
Macintosh Classic
Macintosh Classic II
Macintosh Color Classic
Macintosh Color Classic II
Macintosh TV

Macintosh II
Macintosh IIx
Macintosh IIfx
Macintosh IIci
Macintosh IIcx
Macintosh IIsi
Macintosh IIvi
Macintosh IIvx
Macintosh IIvm

Macintosh LC
Macintosh LC II
Macintosh LC III
Macintosh LC 475
Macintosh LC 520
Macintosh LC 550
Macintosh LC 575
Macintosh LC 630

Macintosh Centris 610
Macintosh Centris 650
Macintosh Centris 660AV

Macintosh Performa 200
Macintosh Performa 250
Macintosh Performa 275
Macintosh Performa 400
Macintosh Performa 405
Macintosh Performa 410
Macintosh Performa 430
Macintosh Performa 450
Macintosh Performa 460 series
Macintosh Performa 475
Macintosh Performa 476

Macintosh Performa 520
Macintosh Performa 550
Macintosh Performa 560
Macintosh Performa 570 Series
Macintosh Performa 580 Series
Macintosh Performa 600 Series
Macintosh Performa 630 Series
Macintosh Performa 640 Series
Macintosh Performa 5200 Series
Macintosh Performa 6100 Series
Macintosh Performa 6200 Series

Macintosh PowerBook 100
Macintosh PowerBook 140
Macintosh PowerBook 145
Macintosh PowerBook 145B
Macintosh PowerBook 150
Macintosh PowerBook 160
Macintosh PowerBook 165
Macintosh PowerBook 165c
Macintosh PowerBook 170
Macintosh PowerBook 180
Macintosh PowerBook 180c
Macintosh PowerBook 500 Series
Macintosh PowerBook Duo 200 Series

Macintosh Quadra 605
Macintosh Quadra 610
Macintosh Quadra 610 DOS Compatible
Macintosh Quadra 630
Macintosh Quadra 650
Macintosh Quadra 660AV
Macintosh Quadra 700
Macintosh Quadra 800
Macintosh Quadra 840AV
Macintosh Quadra 900
Macintosh Quadra 950

Power Macintosh 5200 LC/75
Power Macintosh 6100 Series
Power Macintosh 7100 Series
Power Macintosh 8100 Series
Power Macintosh 9500 Series

Note: APD also tests the Power Macintosh Upgrade and Macintosh Processor Upgrade cards. APD does not test the DOS Compatible Upgrade Card or DOS Compatibility Upgrade Card.
Published Date: Feb 19, 2012

Apple Personal Diagnostics 1.1: Read Me

This article contains the Read Me First document from Apple Personal Diagnostics 1.1.
This article has been archived and is no longer updated by Apple.
The purpose of this document is to provide late-breaking information as a supplement to the Apple Personal Diagnostics User's Guide. Please refer to the User's Guide for operating instructions and other important and time-saving troubleshooting tips when using Apple Personal Diagnostics (APD). Also, be sure to fill out and return your software registration card so that Apple can notify you of future upgrades to APD 1.1 as they become available.

System Requirements
APD 1.1 runs on Apple computers starting with the Macintosh Plus and is fully compatible with system software versions 6.0.7 through 7.5 (including Performa system software). Installing and using the Automated Diagnostics functionality of APD 1.1 requires that your system is running system software version 7.0 or greater.

New Features

APD 1.1 provides the following major enhancements:

* Support of Power Macintosh computers has been added. APD now supports over 116 Macintosh computers. (See the "Computers Supported by APD" file on the Application Disk for a complete listing.) Also, the number of Emergency disks has been reduced, making it easier to select the one to use on your Macintosh. The two emergency disks included with APD 1.1 provide startup and emergency repair software for all computers that have either an 800K or a 1.4 MB floppy drive.

* The Overall Benchmark Checks now include a broader range of CPUs (including the Power Macintosh). Also, the Overall Benchmark Checks display a numeric value that indicates the relative performance of your Macintosh (compared to a Macintosh Plus). If you run benchmarks on a Power Macintosh, the scale of the Overall Benchmark Checks changes (the maximum performance value changes from 150 to 2000) to reflect the higher performance of Power Macintosh computers. Also note that when running benchmarks on a Power Macintosh (native mode), all comparisons of floating-point math operations include the FPU test because FPU functionality is built-in.

* The SCSI Devices portion of System Info now displays information on both SCSI and IDE hard drives. If you have an IDE drive installed in your computer, drive information similar to that provided for SCSI devices displays in a framed region near the bottom of the SCSI Devices screen.

Installation Instructions

1. Insert the Application Disk into your floppy drive.

2. Drag the APD application icon from the floppy drive onto your hard drive.

3. To install the Automated Diagnostics (System 7 or later only), drag the Automated Diagnostics system extension from the floppy drive onto the closed System Folder of your hard drive. Allow the system software to place the extension in the proper folder (the Extensions folder within the System Folder).

In most cases, you'll want to start up your computer and run APD from your computer's hard drive, which allows the diagnostics to run faster and also lets you collect information about your hard drive.

File Sharing Alert

Turn off File Sharing before you start the APD application. If File Sharing is on, you will receive an on-screen alert or see dimmed selection buttons. To switch File Sharing off, go into the Sharing Setup control panel and click on the stop button.

Turn Off Extensions, Applications, and Other Programs

For best results, start your system with all extensions, applications, and other programs off before launching APD (or use an extensions manager to disable extensions at startup). To turn extensions off, shut down your system, then switch on the system while holding down the Shift key (System 7.0 and later). You should then see a message saying "Welcome to Macintosh, Extensions Off." To perform the equivalent operation on a computer running System 6.0.7 or 6.0.8, please refer to the "Software Remedies" section in the Troubleshooting chapter of the Apple Personal Diagnostics User's Guide.

Using the Emergency Disks

This package contains two emergency disks that allow you to perform certain system software repairs and to boot from a floppy disk when you are unable to boot from your system's hard drive. Each disk provides the APD Emergency application, as follows:

APD Emergency Disk 1 is a 1.4 MB bootable startup and repair disk for all Macintosh computers with a 1.4 MB floppy drive released through January 1995 (excluding Workgroup Server 9150 computers and computers in which the Macintosh Processor Upgrade card is installed).

Note: To create emergency disks to test Workgroup Server 9150 computers or the Macintosh Processor Upgrade card, see "Creating New Emergency Disks" below.

APD Emergency Disk 2 is an 800K bootable startup and repair disk providing the APD Emergency application for Macintosh computers that did not originally come with, or were not upgraded to include, a 1.4 MB floppy drive (Macintosh Plus, SE, SE/30, II, IIx, and IIfx computers).

The system software on these disks has been minimized to reduce disk requirements. Do not use the software on these disks to install system software on your computer's hard drive. Also, make copies of the original disks to use when you need to start your computer from an emergency disk, and keep your original disks in a safe place. Please refer to the "Getting Started" section of the Apple Personal Diagnostics User's Guide for detailed instructions on the proper use of these disks.

Note: If you have installed a Power Macintosh Upgrade Card, you can use APD Emergency Disk 1 to start your Macintosh computer with the Power Macintosh Upgrade Card on or off at startup. However, if you have a problem, you may want to reset PRAM first and then use APD Emergency Disk 1 to boot your computer. (Refer to the "Software Remedies" section in the Troubleshooting chapter of the Apple Personal Diagnostics User's Guide for instructions on resetting PRAM.)

Creating New Emergency Disks

Workgroup Server 9150 computers and computers with the Macintosh Processor Upgrade card installed require different system software from that provided on APD Emergency Disk 1. To make an emergency startup disk to test the Workgroup Server 9150 or the Macintosh Processor Upgrade card:

1. Insert the Apple Macintosh CD or locked Disk Tools disk that came with your computer or processor upgrade card. Create a temporary folder named Emergency Disk on your computer's hard drive and copy the System file and the system enabler file from the Apple Macintosh CD or Disk Tools disk to the Emergency Disk folder. Eject the Apple Macintosh CD or Disk Tools disk.

2. Insert APD Emergency Disk 1 and copy the APD Emergency application to the Emergency Disk folder. Then eject the APD Emergency Disk 1.

3. Format a 1.4 MB floppy disk and label the disk APD Emergency Disk. Optionally, you may want to add "9150" or "Processor Upgrade Card" to the label.

4. Copy the System file, the system enabler file, and the APD Emergency application file from the Emergency Disk folder to the new emergency disk.

5. On the floppy disk, rename the APD Emergency application to Finder. (Changing the application's name to Finder lets you start up using the APD Emergency application instead of the System Finder.)

6. Eject the new emergency disk and lock the disk. Drag the Emergency Disk folder on your computer's hard drive to the Trash and empty the trash (select Empty Trash from the Special menu).

7. Check the new emergency disk you've created to make sure that your system boots correctly and that you can run the APD emergency application from the new disk.

Automated Diagnostics

Installing and running the Automated Diagnostics functionality of APD software requires that your system is running System Software version 7.0 or greater. The startup delay for Automated Diagnostics has been set to 20 minutes (default). Certain extensions and third-party software programs that perform functions considered to be system activities may prevent Automated Diagnostics from starting up. Also, some third-party utilities may interfere with Automated Diagnostic's operation.

Automated Diagnostics runs in non-native or emulation mode on Power Macintosh computers, so it does not perform an FPU test (since Power Macintosh emulation does not provide FPU functionality).

Help Window

The default setting for the Help window is to have it hidden from view. You can activate the Help window from the Windows menu in the Menu bar. Note: In addition to hiding and showing the Help window, you can move it or change its size to suit your preferences.

Accelerator Cards

If you've installed a third-party accelerator card, you may want to remove or disable the card before running APD to avoid possible

incompatibilities.

Video Mirroring

Turn off video mirroring before running APD.

RAM Test Conflicts

Turn off virtual memory and disable RAM optimization utility applications before you run APD RAM tests. (Some RAM optimization utility applications cause your system to behave as if virtual memory were on. The virtual memory setting in your system's Memory control panel cannot disable these applications.)

Low-Memory Alerts

APD returns a low-memory alert when it does not have enough memory to run or is running low on memory, for example, if you've created a report that requires more memory than is currently available. To allocate more memory to the APD application, you can do one or more of the following:

If you are using System 7, or System 6 with MultiFinder:

* Quit other applications that may be running at the same time as APD.

* If you have sufficient RAM installed in your system, quit the APD application, open the APD Get Info box and increase the "preferred" application memory size to 1500K. (The application memory size is initially set to 1200K.)

* Close any open report.

* Reduce the size of any installed RAM disk and the system RAM cache.

If you are using System 6 with Finder rather than MultiFinder:

* Close any open report.

* Reduce the size of any installed RAM disk and the system Disk cache.

AppleTalk Zones

Under certain conditions (for example, during periods of heavy network activity) System Information may report an AppleTalk zone to be "Unknown."

System Info and Partitioned Hard Drives

The SCSI Device display in System Info does not provide information on multiple drive partitions. Typically, the display lists the name of a single partition on the drive corresponding to the SCSI device, however, the exact information that appears depends on the software used to partition the hard drive.

Looping the Floppy Drive Test

Running the Floppy Drive test for more than approximately 50 loops can cause the floppy drive to temporarily overheat and induce a test failure.

Power Macintosh Upgrade Cards

Basic Info identifies the CPU type as Power Macintosh when a computer with a Power Macintosh Upgrade or Macintosh Processor Upgrade card is operating in "Power Macintosh" mode; however, the card does not appear in Video and Expansion Card Information displays.

Creating Report Log Files

Using APD 1.1, you can create log files and then reload them later to compare with updated reports. Due to changes in the information included in reports, APD 1.1 cannot read log files created by APD 1.0.

Basic Info Reporting of Startup Devices

Basic Info lists the startup device selected in the Startup Disk control panel when APD was launched. If no device is selected in the Startup Disk control panel, or if you've disconnected (or unmounted) the original startup device, Basic Info will not reflect the current setting or may report it as an unknown device.

Benchmark Check Results

The results you get from running Benchmark checks may vary, depending on a range of different factors (see the User's Guide for more information). Therefore, it may be helpful to run Benchmark checks several times and average the results to obtain an accurate comparison for your computer. Also note that the results of the Individual Checks reflect the true speed of your system compared to a Macintosh computer chosen by you from the pull-down menu. The Overall Check graph, on the other hand, is a performance ratio that uses a relative scale of zero to 150 (or zero to 2000 on a Power Macintosh), where a Macintosh Plus equals 1. For example, if the score for your computer is 80, then you can infer that, overall, your computer is 80 times faster than a Macintosh Plus. All scores are relative to a Macintosh Plus.

In addition, benchmark results may be affected by currently active applications and whether you are using FPU emulation software, video mirroring, accelerator cards, virtual memory, or RAM optimization utilities, etc. Turn off all of these items before running APD.

Display Patterns

For a PowerBook with an external display, the Display Patterns Test uses patterns designed for an LCD display on the external monitor, rather than the specific patterns that would otherwise appear.

When using System 7.5 or third-party clock utilities, the clock may appear when test patterns display on your screen. The clock does not affect the operation of the Display Patterns checks.
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PlainTalk: What is CEToolbox? (2/95)

What is CEToolbox? Why is it installed with PlainTalk? Can you take it out without creating problems?

This article has been archived and is no longer updated by Apple.
With most versions of PlainTalk, Apple supplies a Test Drive version of QuicKeys from CE Software.

This version of QuicKeys has a two month expiration time. Supplied samples demonstrate capabilities and integration with speech that go beyond what AppleScript alone can do. Examples show off things QuicKeys can do with Control Panels and applications that cannot be done with AppleScript.

CEToolbox is a system extension that makes QuicKeys available in the Apple menu or the menu bar. It performs other managerial functions for QuicKeys and various products in the CE Software product line. These are usually common interface routines to the Macintosh Toolbox.

The version of CEToolbox supplied with the QuicKeys Test Drive is sufficient to demonstrate the capabilities of the product. Updating to a higher version of CEToolbox does not create problems. Removing CEToolbox does not cause PlainTalk to stop working, although it may cause some speakable phrases not to work if they use the QuicKey OSA language.

There is usually a file called QuicKeys Script Examples, which is a Speech Macro Editor document, placed in the Extensions folder. It contains definitions of recognizable speech phrases to turn Virtual Memory on or off, and copy a selection to the Scrapbook. These are actions that could not be done with just AppleScript functionality, and show off QuicKeys extended capabilities.

Article Change History:
22 Feb 1995 - Added keyword; made minor technical updates.

Support Information Services
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System 7.5: MYST Install Overwrites QuickTime 2.0 (01/95)

When the included installation procedures are followed for the MYST CD-ROM, produced by Broderbund Software, the System 7.5 QuickTime 2.0 is replaced with an older version. According to Broderbund's Tech Support the MYST game should be used with QuickTime 2.0.

This article has been archived and is no longer updated by Apple.
If the user has already followed the MYST Installation instructions, then the simplest solution may be a Custom System Software install. The user should select only the QuickTime software (in the Multimedia Software folder), which replaces the older QuickTime 1.X from the MYST install with the 2.0 version from Apple.

Prior to installing MYST, the user can make a copy of the QuickTime file in the System Folder to a new file name (such as QuickTime Save). After installing MYST, the user can copy the QuickTime Save file back over the QuickTime file in the System Folder.

Other Tips

Broderbund also says that Multimedia Tuner 2.0 is required. This should be available through fulfillment, online services, and Apple Authorized dealers.

Sound Manager 3.0 is also added with a MYST installation. Some other older applications/extensions may not be compatible with Sound Manager.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

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SCSI Manager 4.3: Compatibility and Features

This article provides compatibility and feature information of Small Systems Computer Interface (SCSI) Manager 4.3.
This article has been archived and is no longer updated by Apple.
SCSI Manager 4.3 adds several new features to the SCSI architecture of the Macintosh. These features include:

- SCSI-2 compliance
- Concurrent asynchronous I/O
- Disconnect and reconnect

SCSI Manager 4.3 is supported on all Power Macintosh, and 68040 Macintosh desktop computers. However, the Macintosh 630 family* requires SCSI Manager 4.3.1 which is included in System 7.5.1 and later. SCSI Manager 4.3 is not supported on Macintosh PowerBook computers, prior to the PowerBook 3400, including Duos.

SCSI Manager 4.3 is part of the ROM in all Power Macintosh and Quadra AV computers. Other 68040 Macintosh computers require the SCSI Manager 4.3 extension (System 7.5) or the SCSI Manager extension (System 7.5.1 or later).

SCSI-2 Compliance
All mandatory SCSI-2 messages and protocol actions, as defined by the initiator, are supported. However, optional hardware features of SCSI-2, such as fast SCSI and wide SCSI, are supported by the interface but not by the Macintosh hardware. This means that expansion cards can be designed to offer this functionality and SCSI Manager 4.3 supports these cards.

Concurrent Asynchronous I/O
Concurrent asynchronous I/O means that reads and writes can be requested and the processor is free to do other things until the device completes the request and notifies the SCSI Manager by using an interrupt. Multiple drivers can issue multiple requests; SCSI Manager 4.3 tries to overlap the operations as much as possible. Applications need to call the File Manager asynchronously to take advantage of the asynchronous operation of SCSI Manager 4.3.

Disconnect and Reconnect
Disconnect and reconnect lets devices disconnect from the SCSI bus while processing a command and reconnect when needed. With this feature requests can be sent to multiple devices and executed in parallel. For example, a driver for a disk array can send a request to one disk, which disconnects, then issue another request to a different disk. The two disks can then process the requests simultaneously, reducing the time needed to accomplish the task.

Direct Memory Access
Direct memory access is also used by SCSI Manager 4.3. This capability is available on the Quadra 660av, Quadra 840av and all Power Macintosh computers. This allows direct transfer of data from the SCSI bus to memory without going through the main processor. This frees the main processor to do something else at the same time as the data transfer.

Multiple SCSI Bus Support
SCSI Manager 4.3 also supports multiple SCSI buses. Some Macintosh models (such as the Power Macintosh 8100/80) have dual SCSI buses. These Macintosh computers support 14 SCSI devices (7 on each bus) as long as the drivers for these devices support SCSI Manager 4.3. Also, Nubus and PDS cards can be developed to add even more SCSI buses.

Parity Detection
Parity detection is now used to check for errors in data received by the SCSI Manager. This feature can be enabled or disabled on a per transaction basis for compatibility. The original SCSI Manager did not check for parity errors of incoming data. All Macintosh computers generate parity for write operations.

Compatibility
SCSI Manager 4.3 is backward compatible with the original SCSI Manager. All of the original SCSI Manager functions and TIB instructions are supported except for scComp (compare).

Additional and programming information can be found in "Chapter 4 - SCSI Manager 4.3" of "Inside Macintosh: Devices".

***Note:** The following computers are in the Macintosh 630CD family: LC 630, Quadra 630, Performa 630, Performa 635, Performa 636, Performa 637, Performa 638, and Performa 640.
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Instant Pascal: RGB Color

For the current release of Instant Pascal, the Extended 80 Column Color card is not activated at boot time. This was a deliberate design decision. Double high-res text, even with the 40 column option selected, does not look satisfactory on a Color 100 monitor (or other RGB monitors).
This article has been archived and is no longer updated by Apple.
However, for customers who already have RGB monitors and who wish to use Instant Pascal in color, there is a pre-boot workaround to turn on the card.

From ProDOS Basic, type and save the following program:

```
10 D$ = CHR$(4)
20 PRINT D$;"PR#3": PRINT
30 POKE 49246,0
40 POKE 49247,0
50 POKE 49246,0
60 POKE 49247,0
70 POKE 49246,0
80 CALL 50688
```

LOAD the program into your IIe and place the Instant Pascal STARTUP disk in the drive configured to Slot 6, Drive 1 and RUN the program. Instant Pascal will function as usual with the addition. Text will be difficult to read.
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System 7.5: Desktop Patterns Control Panel (2/96)

With the new Desktop Patterns control panel in System 7.5, Apple gives you greater control than ever before over the patterns that you can use to decorate your desktop.

This article has been archived and is no longer updated by Apple.

When you first access the Desktop Patterns control panel, a 3.25" by 4" window opens up. This initial "scrapbook" contains 64 patterns that you can view by clicking repeatedly on the horizontal scroll bar beneath the patterns themselves. When you find a pattern that you would like to transfer to your desktop, click the Set Desktop Pattern button.

You can design your own patterns by using a paint-type program (or the paint module within a program like ClarisWorks). The pattern area measures 128 x 128 pixels, so you can create a design up to that size, select it with a marquee tool, cut the selection from the paint document, and paste it into the Desktop Patterns window without distortion. If you paste a pattern smaller than 128x128 pixels, the smaller pattern is duplicated without distortion across the desktop after you click on the Set Desktop Patterns button. If you paste a pattern larger than 128 pixels in either direction, a reduced version of the pattern appears in the Desktop Patterns window.

Every time you paste something into the Desktop Patterns window, a new pattern is added to the collection. (You cannot paste text into the Desktop Patterns window, although you can paste an image of text from a paint program.) Regardless of which pattern is open at the time you paste, the new pattern appears after all the others. The pattern that was open at the time of pasting is not deleted. To remove a currently visible pattern from the collection, use Cut from the Edit menu or type Command-X.

The Desktop Patterns control panel supports a maximum image size of 64K. The maximum number of patterns that can be stored is 226. The patterns are stored in a file called Desktop Pattern Prefs in the Preferences folder inside of the System Folder. If the current Desktop Pattern Prefs file is removed from the Preferences folder and placed elsewhere, a new Prefs file is created the next time you call up the Desktop Patterns control panel. The new Desktop Patterns Prefs file contains the basic collection of 64 patterns. The old file, with all its saved patterns, can be kept and substituted for the current Prefs file whenever desired.

When patterns are cut from the control panel, they disappear from view but remain hidden and inaccessible in the Desktop Pattern Prefs file, where they take up space. Over time, if you do lots of cutting and pasting of patterns, the Prefs file can become quite large. If this happens, you may want to discard it and start over.

In addition to the traditional copying and pasting of images, the Desktop Patterns control panel supports Apples new drag-and-drop feature. If you drag a pattern out of the control panel window and into a Finder window or onto the Desktop, a file called picture clipping is created. This file can be dragged into any Macintosh program that supports drag-and-drop, such as the new Scrapbook. Similarly, you can drag picture clipping files into the Desktop Patterns control panel window from drag-and-drop-compatible programs like the Scrapbook.

Here's one last feature of the Desktop Patterns control panel: if you hold down the Option key on your keyboard, the Set Desktop Pattern button changes to Set Utilities Pattern. When you click on this alternate button, the selected design is used as a background pattern in various Apple utilities. These utilities include Calculator, Find File, Jigsaw Puzzle, Key Caps, and Scrapbook. ** NOTE **: This option does not show up if the Macintosh is limited to Black and White.

With all of these features, the new Desktop Patterns control panel can make your Macintosh more attractive than ever before.

Article Change History:

28 Feb 1996 - Added note about option not available with black & white.

03 Aug 1995 - Corrected minor typo.

16 Feb 1995 - Changed keyword and reviewed for technical accuracy.

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LaserWriter 16/600 PS: Problems With Quark Xpress EPS files 5/95

If I import an EPS file that is resized or cropped in Quark XPress 3.3, it prints out in its entirety on a LaserWriter 16/600 PS, not cropped as it appears on the screen. How can I fix this?

This article has been archived and is no longer updated by Apple.
The fix to this problem, a patch, created by Quark, gets downloaded automatically with each print job. The patch is in the form of a Quark PDF file.

This PDF file is currently available on several online services. The following are the locations from which QuarkXPress users can obtain the PDF for LaserWriter 16/600 PS:

America Online

Mac = Keyword: Quark -> Quark Software Libraries -> Misc. Downloads -> filename: LaserWriter 16/600 PDF

Win = Keyword: Quark -> Quark Software Libraries -> QXP Windows XTensions ->
filename: WN16-600.PDF

Compuserve

Mac = Go: Quark -> Software Libraries -> library section 6 (PDFs/PPDs) ->
filename: M16600.PDF

Win = Go: Quark -> Software Libraries -> library section 6 (PDFs/PPDs) ->
filename: L16600.PDF

Applelink

(Macintosh version only)
Software Sampler
. >3rd Party Demos/Updates
. >Software Updates
. >Companies K-R
. >Quark
. >Mac Software Libraries
. >Printer Description Files
. LaserWriter 16/600 PDF

Alternately if customers do not have access to any online services, they can call Quark. When they call customers merely need to mention that they have the LaserWriter 16/600 PS - Quark Xpress clipping problem and that they have been informed that Quark has a fix for the problem. Then they can request that fix be sent to them.

The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.

This article was published in the "Information Alley":
Volume II, Issue 3, Page 9

Article Change History:
31 May 1995 - Added Info Alley information; made minor updates.
17 Mar 1995 - Added solution to the problem.
21 Feb 1995 - Added more detail about the resolution.

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Earth Explorer: Overview (6/95)

What is Earth Explorer?

This article has been archived and is no longer updated by Apple.
Earth Explorer is a CD-ROM based product that sets the user off on an interactive tour of our planet, from the countless microorganisms that give us oxygen to breathe, to the abysses of the oceans where strange life forms thrive, to the human world that has been transforming the planet for thousands of years.

Earth Explorer covers it all - the science of climate and life, the history of human exploration and migration, the rise of technology, even the thoughts of artists and writers on our natural world.

Users will discover how life evolved from single-celled organisms billions of years ago to the countless species that exist today. Users will be able to examine the fascinating chemical processes that spell the difference between life and death. How do plants make their own food-and why is their food-making process vital to nearly all other life on earth? Users will learn how the oceans influence earth's climate-or even how the decay of organic material millions of years ago affects the air over Mexico City today.

But Earth Explorer goes deeper. It helps users think through how we'll solve today's environmental problems. Users will discover that pollution and overuse of the land re not modern "inventions." They plagued some of the earliest civilizations. So who's responsible for fixing the ozone hole? How can we preserve endangered species? What about population growth? Sort the facts from the fiction, the wishes from the reality. From wetlands protection to biodiversity to renewable energy, Earth Explorer lets users compare conflicting points of view and draw one's own conclusions.

Hundreds of richly illustrated articles make up the backbone of Earth Explorer. Almost 1,000 photographs and more than 400 original graphic art pieces-infographics-make complex ideas more clear. Explore Screens let users (literally!) play with the building blocks of basic environmental concepts. In Hot Topics games, users can listen to people's opinions on 21 controversial issues of the day-then decide which ones best support a particular point of view. (The solutions are not clear-cut, so users get a chance to score themselves on their reasoning and knowledge.) Users will also find Puzzlers-challenging questions that invite them to think logically or look at a subject in a new light.

In Data Sets, users view environmental data in different graphic combinations for their own analysis. Whether it's tracing the decline of the Blue Whale, estimating the population of Peru 2,000 years ago, or figuring out why some pollutants are getting better and while others are getting worse-users can find the numbers they need in a Data Set.

More than 90 minutes of Movies and Videos provide an added dimension of drama-a "you are there" feel to earth's people and places. One can see how the Pangea of 600 million years ago became the continents we know today. Users can walk with a naturalist on their daily adventures. They can listen to the poetry of Langston Hughes.

Earth Explorer includes other writers and artists as well, expressing their views on nature and the environment. Here users may find that "just right" quotation for a report, or a piece of fine art that is a springboard to a new thought.

There's much, much more. Laws and treaties, and what they mean. Biographies. Careers that can make a difference. For all its wealth of information and activities, Earth Explorer is easy to use. It's all cross-linked. Users can go anywhere, from anywhere. Users will master it in a flash, making endless discoveries.

Earth Explorer features:
- 433 In-Depth Articles
- 21 Hot Topic Interactive Activities
- 21 Datasets
- 12 Exploration Activities
- 165 quotes
- 406 info graphics
- More than 1200 Color Photographs
- More than 90 minutes of audio-visual presentations including slide shows, QuickTime movies, animation's and audio clips
- Colorful and Easy-To-Read Charts and Graphs
- Data Verified by the American Association for the Advancement of Science
- Printable Student Notebook
- Includes Case Studies
- Interactive Activities
- Teachers' Materials including Guide Book, Lesson Plans, and Worksheets (School Version)

Article Change History:

TA33152_Earth_Explorer_Overview__(TIL17024).pdf

28 Jun 1995 - Lowered security now that product is released.

Support Information Services
Published Date: Feb 19, 2012

Quadra 800/840av/Wrkgrp Srvr 80: No Memory from Apple

I noticed that on the latest Apple Product List does not list the Quadra 800, Quadra 840AV, or Workgroup Server 80 as supported products for the 4MB, 8MB, or 16MB memory upgrade kits. Will these Macintosh memory kits work in these computers?
This article has been archived and is no longer updated by Apple.
Apple's memory offerings recently went through a slight change. Our current Macintosh memory upgrades are all 70ns.

Quadra 800, Quadra 840AV and Workgroup Server 80 customers requiring 60ns SIMMs should purchase SIMMs through 3rd party sources.

Apple currently offered 4MB, 8MB, and 16MB 72-pin SIMM upgrade kits.

M3651LL/A Macintosh 4MB Memory Exp. Kit (1-4MB SIMM)

M3652LL/A Macintosh 8MB Memory Exp. Kit (1-8MB SIMM)

M3372LL/A Macintosh 16MB Memory Exp. Kit (1-16MB SIMM)

These kits may be used in the following systems:
* LC III, 475, 520, 550, 575
* Performa 450, 460, 466, 467, 475, 476, 550
* Macintosh TV
* Centris 610, 650, 660AV
* Quadra 605, 610, 630 family, 650, 660AV
* Power Macintosh 6100, 7100, 8100
* Apple Workgroup Server 60

Note: The Quadra 800, 840AV, and Workgroup Server 80 require 60 nanosecond SIMMs and thus will not be supported by the new DRAM Upgrade Kits. Upgrade Kits for these systems can be purchased from a variety of 3rd party sources.
Published Date: Feb 19, 2012

LaserWriter 16/600 PS: Use Manual Feed For Labels

I am using a LaserWriter 16/600 PS for printing labels almost exclusively. I am using the normal paper tray. However, the labels jam all the time. The manual says to use the manual feed, but I have not found a way to make the Page Setup default to manual feed. Also, the manual feed also does not allow as many labels as the paper tray does.

Are there any tips to printing labels with the LaserWriter 16/600 PS? Is there a way to default always to the manual feed?

This article has been archived and is no longer updated by Apple.
The LaserWriter 16/600 PS print engine is not designed to handle labels from either the 250 or 500 sheet cassette trays. Trying to do so results in a higher than normal number of misfeeds, label separations, and paper jams.

Workaround

The LaserWriter 8.x driver does not have a "sticky button" feature that remembers the last paper source chosen. However, there is a PostScript level workaround that may be acceptable since you use the printer mainly for labels. It is important to note that the workaround involves modifying a value stored on the I/O controller, which stores the default paper tray information. The default tray is always set to the 250 sheet cassette tray when the printer ships from the factory, however it can be changed.

The paper out LED (Light Emitting Diode - the small amber light on the side of the printer) is activated whenever there is no paper detected in the default tray. If the default tray is set to the multi-purpose tray then the paper out LED turns on whenever there is no paper present in the multi-purpose tray, even if there is paper in the 250 sheet cassette. To prevent confusion a note should be placed on the printer explaining that a paper out condition means that paper should be added to the multi-purpose tray.

Defining the Default Paper Tray

Any of the paper trays (Multipurpose, 250-sheet, 500-sheet, or Envelope) can be set as the default paper tray if Auto Select is selected as the paper source from within the print dialog box, if the PostScript code below is downloaded to the printer. The default paper tray is the default paper tray setting for print jobs coming from any Macintosh since this value is modified at the printer hardware level.

PostScript Code

If you decide to use the PostScript code below, you need to be very careful in selecting the default tray. If the multipurpose tray is set as the default and there is no paper in it, the paper out LED will light for EVERY PRINT JOB until paper is placed in the tray. This problem has caused some users (others on the network) to think that the printer is malfunctioning and needs to be repaired. Please forewarn users about this so they can understand, that the printer's behavior has changed.

Caution! If you choose to use the PostScript code provided in this article, you assume all risks involved in making these changes. PostScript code, if not entered correctly, can place the LaserWriter into a condition requiring service.

Here is the PostScript Level 1 code to set the default paper tray:

```
%=========================================================
% Begin PostScript Code
%
serverdict begin 0 exitserver
statusdict begin 1 setdefaultpapertray end
%
% End PostScript Code
%=========================================================
```

The preceding example has a 1 as the Tray Selection option, before the PostScript operator:

1 setdefaultpapertray

This indicates that the default changes to the multi-purpose tray. If the default tray needs to be reset to the factory default at a later date then the value should be changed to 0.

To download the PostScript file to the LaserWriter copy the two lines of PostScript code into any text processor and save it as a text file. Use the Apple Printer Utility or other PostScript utility to download the file to the printer.

The following table lists the values for the Tray Selection option:

```
VALUE    TRAY SELECTION
-----    ------------------
```

```
0        250 Sheet Cassette

1        Multi-purpose tray

2        500 Sheet Cassette

3        Envelope tray
```

This is the equivalent PostScript Level 2 code:

```
%==========================================================
% Begin PostScript Code
%
serverdict begin 0 exitserver
1 dict dup /InputAttributes 1 dict dup /Priority [2 1 0] put put setpagedevice
%
% End PostScript Code
%==========================================================
```

This sets the paper tray priority to:
1st Priority - Cassette (500 Sheets) - designated by the "2" in the array above.
2nd Priority - Multipurpose Tray - designated by the "1" in the array above.
3rd Priority - Cassette (250 Sheets) - designated by the "0" in the array above.

You can change the paper tray priority order by changing the values in "/Priority [2 1 0]". For example, /Priority [0 1 2] makes the 250 sheet cassette first priority, then the Multipurpose tray next, then the 500 sheet cassette.

NOTE: Remember to reset the default value back to its original setting when you are done.

Published Date: Feb 19, 2012

Instant Pascal: Transferring files to and from Apple II Pascal

To transfer source code files from Instant Pascal (IP) to Apple II Pascal, you can make use of AppleWorks to massage the IP file type.
This article has been archived and is no longer updated by Apple.
Follow these steps:

1) Boot AppleWorks and load the IP source file into the word processor as "an ASCII file from disk."
2) Still using AppleWorks, print the file back to disk as an ASCII file.
3) Boot System Utilities 2.1 and copy the "printed" file from the ProDOS disk to an Apple II Pascal disk.

To transfer source code from Apple II Pascal to Instant Pascal, follow these steps:

1) Boot System Utilities 2.1.
2) Put the Apple II Pascal disk in one drive.
3) Put a ProDOS formatted disk in a second drive.
4) Select the Copy Files option from the System Utilities menu and copy the source code files from the Pascal disk to the ProDOS disk.
5) The source file on the ProDOS disk will be recognized by Instant Pascal as a "Text" file, but you can open it into the Program window. If you save the file under Instant Pascal, it becomes an "IP" type file.

Note: System Utilities 2.1 supports file copying between two differently formatted disks.
Published Date: Feb 19, 2012

DOS Compatibility Card: TCP/IP in Both Environments (10/96)

Is there a way to have the TCP/IP protocol stack active in both the Macintosh and DOS environments on computers which are using a DOS Compatibility Card, but which do not have the Curio Prime controller?

This article has been archived and is no longer updated by Apple.

With the introduction of the Power Macintosh 7200/90 (in Europe ONLY), 7200/120, 7600/120, 8500/132, 8500/150, and 9500/150 a new Ethernet controller ASIC called Curio Prime (or Curio II) is used. This chip implements two hardware Ethernet addresses for the single built-in Ethernet interface. One address is used by the Mac OS and the other is used by only the DOS Compatible Card. Since these computers have two hardware addresses the DOS compatible architecture can now deliver a particular frame type to different addresses which removes the limitation of each frame type going to only one environment.

Prior to the implementation of the Curio Prime ASIC, the built-in Ethernet controller could have only one Ethernet hardware address. Because of this, only one incidence of a given protocol can be in use over the Ethernet interface. If TCP/IP is in use in the DOS environment, it's unique IP address is tied to the hardware address of the Ethernet controller. Another IP address cannot be linked to the same Ethernet hardware address, so TCP/IP could not be active in the Macintosh environment at the same time.

Workaround

Two possible workarounds exist for those who need to have TCP/IP in both the Macintosh and DOS environments on computers without the Curio Prime ASIC.

Workaround 1:
Add an additional Ethernet card to the computer. With this card present, the Macintosh environment could be configured to use TCP/IP on the added card while the DOS environment could be configured to use the built-in Ethernet controller.

Workaround 2:
Configure the Macintosh environment to use MacIP. This requires the presence of a DDP/IP Gateway, like the Apple IP Gateway, Shiva FastPath, or Cayman GatorBox, on the network. With MacIP, TCP/IP packets from the Macintosh environment would be encapsulated in EtherTalk. The encapsulation process does reduce TCP/IP performance in the Macintosh environment, but provides full TCP/IP connectivity for both environments.

Article Change History:
01 Oct 1996 - Complete revision of article.
22 Feb 1995 - Added keyword; made several technical updates.
25 Jan 1995 - Added section on IP numbers and so on.

Published Date: Feb 19, 2012

Pwr Mac DOS Compatibility Card: Read Me File

This article contains the Power Macintosh DOS Compatibility Card Read Me file.
This article has been archived and is no longer updated by Apple.
Using DOS and Windows Applications with the DOS Compatibility Card for Macintosh

This document contains important information about using your DOS Compatibility Card that is not included in your user's guide.

Contents

-Using the Clipboard
-Using the Serial Ports on the Macintosh
-Using Backup Programs
-Using the Floppy Drive
-Booting the PC from Floppy
-Configuring the Memory
-Using the Drive Files
-Using Shared Folders
-Strange Text Characters in a Document
-Rebuilding the Desktop
-Sound Control Panel Settings
-Using the Sound Blaster Card
-Using CD-ROM Drives
-Multimedia, MIDI, Game Applications
-Video Configurations
-Setting General Controls
-Bypassing the CONFIG.SYS and AUTOEXEC.BAT files
-Installing Corel Draw
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-Using After Dark 3.0
-Using Debabilizer
-Using SAM 4.0
-Using PC Tools Pro 9.0
-Using MWUNDEL
-Networking
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-Printing
-Printing to a Postscript Printer
-Printing to a QuickDraw Printer
-Printing to a PCL Printer
-AppleShare Print Server
-Other Notes

Using the Clipboards

The DOSClip utility provides a limited emulation of the clipboards available with the Mac OS and Windows.

With the DOS Compatibility Card fully installed, you'll have three separate clipboards to work with: the Mac OS clipboard, the Windows clipboard, and DOSClip. Translation between the clipboards takes place each time you switch between the PC and Macintosh environments. When using these clipboards there are a few things to keep in mind:

* Copying items to the Macintosh clipboard, switching to Windows and copying items to the Windows clipboard, will write over the original Macintosh clipboard contents. To prevent this, remove the PC Clipboard extension from the System Folder.

* In order to translate the contents of the Macintosh clipboard to the Windows clipboard, Windows must be already running when you switch environments. If you switch to DOS, then launch Windows, the Macintosh clipboard will be translated into DOSClip, and the Windows clipboard will be blank.

* In order to translate the contents of the Macintosh clipboard to DOSClip, the PC should be running without Windows when you switch environments. This means that you must have already quit Windows. Running the "MSDOS Prompt" command from Windows won't work either. In short, If Windows is running when you switch to the PC, the Macintosh clipboard will be translated into the Windows clipboard, and DOSClip will be blank.

* DOSClip contents cannot be pasted into Windows, or vice versa.

* Graphics can be copied from a DOS application to DOSClip, but graphics cannot be pasted into a DOS application from DOSClip.

* After copying a graphic from DOS using DOSClip, you may experience difficulty in pasting the graphic into a Macintosh application. If this happens, trying increasing the Macintosh application's memory:
- Highlight the application's icon
- Select Get Info from the File Menu
- Adjust the Preferred Size setting
- Close the Get Info window

* Sounds are not translated between the Macintosh and the PC.

* Plain text is automatically translated from one environment to another, but in order to retain font and style information, additional Macintosh Easy Open translators must be used (for example, MacLink Plus from DataViz).

When using DOSClip from within certain applications, it may not be possible to select the text using the mouse. In these cases, either:
* Use the keyboard to select your text, or
* Check that the Standard DOS Mouse Driver is NOT loaded

When the PC environment is active, all Macintosh applications are put in the background to allow PC Clipboard to run in the foreground. If you do not want your Macintosh applications to run in the background while you are in the PC environment, you must disable the clipboard translation.
* Remove the PC Clipboard Extension from the Extensions Folder.

Using the Serial Ports on the Macintosh
The maximum baud rate supported by the DOS Compatibility Card when a COM port is mapped to a Macintosh serial port is 19,200. However, when the "MODE" command is issued in DOS and the serial port is set at 19,200 baud, the erroneous message "Function not supported on this computer" is returned. This occurs because DOS is looking for specific hardware (a PC UART) that is not emulated by the DOS Compatibility Card. The DOS Compatibility Card WILL support 19,200 baud, and can be set by a number of communication applications.

Using Backup Programs
To back up the drive files on your Macintosh, either make a copy of the files by duplicating them in the Finder, or use a Macintosh backup application program. Do not use PC backup programs. PC backup programs do not work with the DOS Compatibility Card because these applications require direct access to PC disk drive hardware. The disk disk drive on this system is controlled by the Macintosh.

Using the Disk Drive
Both PC and Macintosh disks are automatically mounted when inserted into the disk drive, in either operating environment.* This mounting process takes a few seconds. Macintosh users are familiar with this process; PC users will find that they should wait a few seconds before accessing the data on the disk disk.

Certain DOS or Windows disk disk utilities will not work with the DOS Compatibility Card. These utilities attempt to exercise direct control over the disk drive, which they cannot do, since it is a Macintosh-controlled disk drive. Instead, Macintosh disk utility applications should be used.

An unlocked DOS disk (e.g. an install disk) inserted while running in the Mac environment will not be visible from the DOS environment. You must switch to the DOS environment before inserting the disk for it to be accessible to the PC. This is especially important to remember during DOS installation. However, locked DOS disks inserted in the Mac environment WILL be visible to both the DOS and Macintosh environments.

Disk Copy won't read a DOS-formatted disk unless it is unlocked.

Disk disks formatted by the DOS Compatibility Card in DOS 720K format are not readable by some DOS computers. Instead, format the disk in the Macintosh environment:
* Switch to Macintosh environment
* Insert an unlocked, low-density disk disk
* Select "Erase Disk" from the Special menu
* Select the "DOS 720K format" from the dialog box
* Click "Erase"

Booting the PC from disk
To reboot the PC environment with a disk, insert the disk in the disk drive and press <Ctrl-Alt-[keypad] period>. Selecting the "Restart PC" option from the PC Setup Control Panel, or pressing <Cmd-Ctrl-Alt-[keypad] period> will eject the disk from the drive. Alternatively, the user may select either of the two latter options and immediately reinsert the disk after it is ejected.

Configuring the Memory
On pg. 73 of the User's Guide, it states: "The SIMM that your card uses is the same type of SIMM that your computer uses." "Your computer" refers to your Macintosh.

Many DOS and Windows applications require "conventional memory" to run. At the same time, many device drivers and "TSR's" may be loaded into conventional memory. You may find that you do not have enough conventional memory to run some of your DOS or Windows applications. To correct this we recommend:

To increase Upper Memory Block (UMB) space to 122K instead of 64k:

DEVICE=C:\\WINDOWS\\EMM386.EXE RAM=D000-EFFF FRAME=D000 in CONFIG.SYS

To load DOS into the UMB (high memory):

DOS=HIGH, UMB in the CONFIG.SYS file

Insert LH before all TSRs/device drivers in the AUTOEXEC.BAT. For example:

LH C:\\DOS\\SMARTDRV.EXE /X
This will load these into UMB (high memory). If you run out of UMB space, you may see an error message like this during the boot process:

Run time error R6009
-not enough space for environment.

In this case, remove "LH" from TSRs/device drivers one or two at a time, and try again until the error message does not appear.

If a DOSClip copy command is executed from within Harvard Graphics 3.0 then the PC crashes when Harvard Graphics is quit. To prevent this, use the steps outlined above, making sure that SMARTDRV is one of the drivers preceded with LH.

Important:
To prevent the System BIOS from becoming corrupted when the DOS Compatibility Card is configured for 2 MB of memory, set the switch in the CONFIG.SYS file to turn memory testing off:

DEVICE=C:\\DOS\\HIMEM.SYS /TESTMEM:OFF

The DOS Compatibility Card does not support memory management utilities for DOS/Windows as mentioned on pg. 38 of the User's Guide. In addition, RAM Doubler, and similar applications, are not supported.

When sharing memory with the DOS Compatibility Card, the Macintosh allocates a portion of its memory to the PC. Because of this, the Macintosh may not be able to load all extensions desired by the user.
If this problem occurs, try:

* Adding memory to the DOS Compatibility Card.
* Decreasing shared memory setting
* Do not use PowerTalk
* Reducing the number of System Extensions loaded
* Removing CloseView from the Extensions folder
* Do not use QuickDraw GX. QuickDraw GX prefers 16MB of RAM.
* Do an Easy Install of System 7.5, or, if you need to do a custom install, install only what you need
* Renaming the "PC Setup" Control Panel to "!PC Setup" so that it loads first.

Note: Start your Macintosh with the SHIFT key held down during the boot-up process. Extensions will not be loaded and you will be able to relocate those extensions that are not desired to a location outside of the System Folder. Restart the Macintosh to have the new extension configuration take effect.

You may find that, even when SIMMs are added to the Power Macintosh 6100 DOS Compatible main logic board, you get less shared memory (MB) than you requested from the PC Setup Control Panel.

SET	ALLOCATED
8	4

16	8
32	8

The design of some memory SIMMs do not permit the DOS Compatibility Card to utilize the full capacity of the memory.

When sharing memory other than 8 MB (e.g. 2,4,16, etc.), the Modern Memory Manager must be turned on. This is done through the Memory Control Panel. There are applications which are incompatible, to varying degrees, with the Modern Memory Manager. If shared memory must be set at a level other than 8MB, there are two options for problems occurring with these applications:

* Add a memory SIMM to the DOS Compatible Card
* Upgrade the application to a version compatible with the Modern Memory Manager

If the DOS Compatibility Card shares 16MB or more and Disklight of Norton Utilities 3.1.1 is installed, the system will hang during startup. This does not occur with 8MB or less shared memory.

Using the Drive Files
Use caution when handling the Drive File. Erasing one of these is equivalent to reformatting the hard drive it is emulating! To prevent this, lock the Drive File using Get Info.

Correction to the User's Guide, pg. 43:
A PC-formatted SCSI drive may be used as the C: drive, as long as it is formatted to be bootable by using the FORMAT C: /S command.

When using a PC-formatted SCSI device as the PC's C: or D: drive, ensure that the driver for that device is not loaded by PC Exchange. This would cause PC Exchange to mount the drive instead of the DOS Compatibility Card.
To correct this, open the PC Exchange control panel, and click the Options button. Make sure the SCSI driver for the device is not checked. Then click OK. This will ensure that the DOS Compatibility Card will be able to load the C: drive.

Using Shared Folders
Because two operating systems have access to each shared folder, there may be a noticeable slowdown in performance when using these folders for high-speed PC applications, such as multi-media programs, or during large file transfers between them. For optimum performance, place the PC applications and their files on the C: or D: drive rather than on a shared folder. The performance of Macintosh applications is unaffected by placing them in shared folders.

Since the PC doesn't understand the concept of resource forks the same way the Macintosh does, information in a Macintosh file's "resource fork" is lost when it is copied by the PC. For example, if a Macintosh file is copied between two shared folders using the COPY command in DOS, that file's original icon will be lost, and the file itself may be unusable.

Many document files do not have resource forks and can be copied between shared folders with no problems. The applications that created the files contain the resource information for these files. However, QuickTime files cannot be successfully copied between shared folders.
Refer to PC Exchange documentation for more information.

In some Microsoft applications, there is a misrepresentation of the shared drive icons. When you open a file from a shared folder in Microsoft Excel or Microsoft Word, the shared drive icon may appear as a disk or CD. This does not affect the file's functionality.

Do not attempt to use shared folders from a DOS shell run from Windows.

Strange Text Characters in a Document
When using shared folders to exchange documents between your Macintosh and the DOS Compatibility Card, in some cases a Macintosh application program may not be able to interpret the file format of a PC document. When this happens, the document's formatting is displayed incorrectly and you may see strange characters in the document:

* Try using a different application program
* Translate the document into a different file format using one of the file format translation utilities available for the Macintosh (such as MacLinkPlus/Easy Open Translators from DataViz).
* Transfer the text using DOSClip
* Use the "Export" feature found in many applications
* Use a PC-Macintosh translation utility. There are many shareware applications available.

Rebuilding the Desktop
If you need to rebuild the Macintosh desktop, you must either wait for the desktop to rebuild while in the Macintosh environment, or switch to the DOS environment and remain there until the rebuild is complete. Switching back to the Macintosh environment during rebuild will cause the Macintosh to crash.

Sound Control Panel Settings
For sounds generated by the Sound Blaster card and for sounds from the PC, the Sound Control Panel must be set with the Internal CD playthrough enabled. The User's Guide will explain how to make this setting (see pg. 54). With System 7.1.2, however, the setting is lost after each reboot. Install the System Update 3.0 software to correct this problem so that the playthrough setting is retained after each reboot.

QuickTime also turns off the playthrough option. This has the effect of cutting off all PC and Sound Blaster card sounds. QuickTime v1.6.2 will turn off playthrough and not restore it, while v2.0 will restore playthrough back to its original state.

Using the Sound Blaster Card
The PC Sound control in the PC Setup control panel does not effect sounds produced by the Sound Blaster card. Only PC-generated sounds such as the system beep are affected by this control. Use the master volume control of the Mixer Control application from the Audio program group, or turn off the Internal CD playthrough to turn off both PC and Sound Blaster generated sounds (see pg. 54 of the User's Guide).

The Sound Blaster daughter-card included on your DOS Compatibility Card will play sounds as expected, but is not able to record them.

The DOS Compatibility Card does not fully support Sound Blaster 8-bit, Sound Blaster 2.0 or Sound Blaster Pro drivers. If problems occur, select the Sound Blaster 16 driver that comes with the DOS Compatibility Card.

Using CD-ROM Drives
Simultaneous use of multiple CD-ROM drives is not supported.

Audio CDs cannot be controlled from both Windows and the Macintosh environment at the same time. One or the other must be used.

The PC side sets up a drive letter (E:) for a CD-ROM drive although no drive is attached. If no CD-ROM drive is connected to your system, this drive letter can be freed up (and some memory) by editing these files:

AUTOEXEC.BAT
REM LH C:\\DOS\\MSCDEX /D:CDDRVR /L:E

CONFIG.SYS
REM DEVICE=C:\\Apple\\CDROM.SYS /D:CDDRVR

Prefacing these commands with "REM" will make DOS ignore them.

Playing an audio CD in Windows while running low-level media tools, such as PC Tools or Microsoft Anti-Virus, may cause a crash. It is best to reduce computer activity to a minimum while using such tools.

Multimedia, MIDI, Game Applications
These types of applications, whether they are run in the PC or Macintosh environments, will see a marked performance improvement with the installation of a memory SIMM onto the DOS Compatibility Card. QuickTime application performance is especially improved with the addition of a SIMM.

Some DOS-based MPEG players require a VGA monitor to output video. All VGA modes can be displayed on Macintosh monitors supported by the DOS Compatibility Card. In a two monitor configuration, if the monitor specified to display the PC is a VGA monitor, simply select "VGA" in the Display box in the PC Setup Control Panel. You cannot select VGA for a shared monitor configuration from the PC Setup Control Panel if your monitor is not capable of displaying VGA. Multi-scan monitors are VGA-capable.

The Flightstick Pro Joystick for the Macintosh triggers the System beep 'Indigo' when entering the DOS environment. It also triggers this sound twice upon bootup. To correct this:
* Remove the Indigo sound from the System file in the Macintosh System Folder.

Video Configurations
If you have a 16" monitor, the PC doesn't use the entire screen unless you install a display driver for the program that you're using. See "Installing Video Drivers" pg. 39 of the User's Guide for more information.

On pg. 39 of the User's Guide: "Installing video drivers", select "Windows 3.1" as the application during the installation process.

If you are working with two monitors, make sure that both monitors are connected before booting the Macintosh and PC. The monitor dedicated to the Macintosh environment should be connected to the video port on the back of your Macintosh. The monitor dedicated to the PC should be connected to your DOS Compatibility Card. If your DOS-dedicated monitor is a 14", and you connect this monitor to the DOS Compatibility Card after you have booted the PC, you may see interference on the monitor or the PC will hang at the DOS prompt. This is because, when no monitor is connected, the PC defaults to expect a 16" monitor. If this should happen, select 14" from the "Display" menu in the PC Setup Control Panel and restart the PC.

Setting General Controls
Using the "Switch at Startup" Option:

This applies to System 7.5 users only. The "Shut Down Warning" in the General Control Panel should be disabled. If the "Switch at Startup" option in the PC Setup Control Panel is set to switch over to the DOS environment during startup, the switch from the Macintosh to DOS takes place before the "improper shutdown" dialog is displayed on the Macintosh. If a System 7.5 user has this option set and has either a system crash, or used the on/off switch instead of selecting Shut Down from the Menu Bar, the user will be unable to return to the Macintosh environment from DOS. The user with two monitors will see this dialog box in the dimmed Macintosh environment but will be unable to switch back to the Macintosh environment immediately. The user with only one monitor will not be able to return to the Macintosh to see this dialog box. This dialog box WILL go away after a few minutes. At this time, the user can return to the Macintosh environment and should disable the "Shut Down Warning" in the General Controls control panel.

Using the "Show Desktop when in background" Option:

This applies to System 7.5 users only. The "Show Desktop when in background" control in the General Control Panel should be "ON". If it is "OFF", desktop folders, Trash, etc, will not be visible when an application is running on the Macintosh. If there is an application running in the background on the Macintosh, and the user switches to the DOS environment, switching back to the Macintosh shows the application now in the foreground. All desktop icons are hidden. This can be confusing to the user.

Bypassing the CONFIG.SYS and AUTOEXEC.BAT files
To bypass these DOS startup files during the boot-up process, press and hold the F5 key (Command-5 on non-extended keyboards) after the memory testing is complete.

Installing Corel Draw
If you allow Corel Draw to update the AUTOEXEC.BAT file, the line:
LH C:\\Apple\\MacShare

is replaced with the line:
C:\\DOS\\SHARE.EXE /L:500 /F:5100

If the former line is needed, you should edit the AUTOEXEC.BAT file to add it back.

Using Norton Utilities
If Norton Utilities for the Macintosh v3.0 or v3.1 is being used, the "More Compatible" option should be chosen:

1. Go into Control Panels and Open FileSaver
2. Click More Choices
3. Click Preferences and Update Now
4. Click More Compatible and Save

Using After Dark 3.0
The use of After Dark's 3.0 for Macintosh external screen saver modules in a single-monitor configuration can cause a crash. Unless you have a dual-monitor configuration, you must use one of After Dark's built-in modules, such as Starry Night.

Additionally, do not use the PC Setup control panel "Switch at Startup" option when using After Dark.

Using Debabilizer
If Debabilizer (for the Macintosh) is running when switching to the PC environment, the system crashes. You can avoid this by quitting Debabilizer

before switching. Items copied to the clipboard before quitting are still translated to the PC environment

Using SAM 4.0
When using SAM 4.0 for the Macintosh with the "Prompt: 'Skip' is the default button" check box selected in the disk Drive preferences, inserting a disk while in the PC environment causes the system to hang. The disk cannot be accessed nor can the user switch to the Macintosh environment. To avoid this, select the "Always scan" option.

Using PC Tools Pro 9.0
The CPTASK.EXE utility (Central Point Task Manager) is incompatible with the DOS Compatibility Card.

Using MWUNDEL
MWUNDEL does not work on shared folders, so files deleted by the PC in shared folders will not be recoverable. However, files in shared folders can be recovered if they are deleted from the Macintosh. Use a Macintosh utility such as Norton Disk Doctor.

Support of Operating Systems

Only MS-DOS and Windows 3.1 are supported by the DOS Compatibility Card.

DESQview 2.6 has problems with certain memory configurations.

Networking
The DOS Compatibility Card supports network drivers that conform to Novell's Open Data-Link Interface (ODI). For help in installing these drivers, please refer to README.NET, located in the C:\\APPLE directory.

Network performance is improved by adding a SIMM to the DOS Compatibility Card.

Using the Serial Port
If you are using communications software that uses the serial port, the following are known errors:

* For Procomm, the auto-answer mode does not work.

* For LapLink, transferring files between two computers may not work, especially for large files.

Printing
For DOS or Windows printing on the DOS Compatibility Card, we recommend using LPT1.DOS or LPT1. In general you must use printers that are Macintosh compatible, and use their corresponding printer extension for the Macintosh, selectable in the Chooser. However, in a PC Novell Netware¬ environment you can print to a PC-compatible printer attached to a Novell network (refer to the Network Installation Guide on how to set up a Novell client).

Printing to a Postscript Printer
If you have a Postscript printer, open the Printers icon in the Windows Control Panel and select a Postscript driver. We recommend the Laserwriter IINT driver or Windows Postscript driver. In the Macintosh Chooser, select the corresponding printer extension for your type of printer.

Printing to a QuickDraw Printer
If you have a QuickDraw (non-Postscript, non-PCL printer) such as an Apple's ImageWriter or StyleWriter, or HP's DeskJet printer:

* Open the Printers icon in the Windows Control Panel and select the Epson LQ-2500 driver.
* In the Macintosh Chooser, select the corresponding printer extension for your type of printer.
* In the Macintosh Extension folder, launch the PC Print Spooler by double-clicking its icon in the Extension folder.
* From the File menu, select "Preferences".
* Click on the Epson option for "Interpret non-Postscript As" to enable the Epson emulator.

The Epson emulator works by first translating the DOS text to a similar Macintosh font, then interpreting that text into a series of QuickDraw commands. Some characters in the original DOS character set may not have exact translations to a Macintosh font. The use of a PostScript font is recommended in these cases, since use of the PostScript standard requires no translation.

The Epson emulator does not support color or greyscale. When printing from the PC to a Color or Grayscale printer, make sure to select the Black & White option from the Print dialog.

Printing to a PCL Printer
If you have a PCL (Page Control Language) printer, printing is limited to text-only or graphics-only when printing using AppleTalk. To print text only:

* Open the Printers icon in the Windows Control Panel and select your printer's driver.
* In the Macintosh Chooser, select the corresponding printer extension for your type of printer.
* In the Macintosh Extension folder, launch the PC Print Spooler by double-clicking its icon in the Extension folder.
* From the File menu, select "Preferences".
* Click on the PCL option for "Interpret non-Postscript As" to enable PCL printing.

To print graphics only, apply the steps listed above, except choose the LaserJet III driver from the Windows Control Panel instead.

If you need to print mixed graphics and text, many Windows applications "bit-map" their text so that it becomes a graphic. Such programs include Paintbrush, Corel Draw & Adobe Illustrator.

Additionally, PCL printing of text and graphics together is possible when printing over a Novell network, where a PC print server is connected to the PCL printer and handles the printing job. Select your printer's own driver in the Windows Control Panel.

On pg. 69 of the User's Guide, it states: "If you try to print a file and you're using a PostScript printer driver for a non-postscript printer, your file will not be printed. Instead, the file will be moved to a folder called "Spooler Rejected" in the Mac OS." This happens only with Non-Postscript set to Epson. If you have Non-Postscript set to PCL, the file is sent to the printer without the "spooler rejected" dialog.

AppleShare Print Server
The AppleShare Print Server should not be installed in a DOS Compatibility system, as the server's software would conflict with the PC Print Spooler. You may, however, connect your DOS Compatibility system to a network that uses the AppleShare Print Server.

Other Notes
If you have purchased the DOS Compatibility Card as a separate product for the Power Macintosh 6100, it will be necessary to install the required software. After installation, the Macintosh must be restarted for the new software to be enabled. The Desktop will be automatically rebuilt. This is normal.

The components of the card become very hot, therefore, operate your Macintosh with the cover on.

*This information is incorrect. Macintosh formatted disks are automatically ejected in the MS-DOS environment. The correct information is documented in the "DOS Compatibility Card for Macintosh User's Guide" on page 59.
Published Date: Feb 19, 2012

AppleScript: Using AppleScript Documentation

This article contains the Using AppleScript Documentation supplied with versions of AppleScript shipped as part of the Macintosh Operating System.
This article has been archived and is no longer updated by Apple.
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Preface

Welcome to AppleScript

This manual is your introduction to the AppleScript application program. Use it to begin working with AppleScript. You can use AppleScript on Macintosh computers that use system software version 7.0 or later. If you're new to the Macintosh, read the information that came with your computer before you install the AppleScript application program. You'll need to know basic Macintosh operations and vocabulary to use AppleScript.

What is AppleScript?

When you use your Macintosh computer, you use the mouse and keyboard to open documents and application programs, move documents and file folders, enter information, print, and perform any other actions you want. AppleScript gives you a whole new way to work: You can give the computer a list of things you want it to do*a script*and let the computer do everything on your list.

You can create a script by simply turning on the recorder and performing a set of actions. AppleScript keeps a list of what you do while the recorder is turned on. When you turn the recorder off, you can see the recorded script. When you run the script, your computer repeats your actions automatically.

You can use the Finder and many application programs with AppleScript. Scripts can make the Finder or the program do many things for you. For example, a script might format a letter the way you want, save it in a particular folder, and print it.

You can also use AppleScript to combine the capabilities of application programs. For example, a script might use the calculation capabilities of a spreadsheet and the formatting capabilities of a word processor to assemble an invoice.

Scriptable application programs and the Scriptable Finder
You can create scripts to control any scriptable application programs you have installed on your Macintosh. An application is scriptable when you can use AppleScript to control it. Many Macintosh programs are scriptable. If you're not sure your program is scriptable, contact the program's manufacturer for information.

With system software version 7.5, the Finder (inside the System Folder) is scriptable. When you begin working with the Script Editor, you can use the Finder to try recording and playing a script.

About this guide
This guide tells you how to use the Script Editor to record scripts and how to change a script to do something different. The Script Editor is an application program you use to open and run scripts, make new scripts by recording or writing them, and save scripts. You don't need to know how to write computer programs to do anything described in this manual.

Balloon Help
You can use Balloon Help with the application program that come with AppleScript (the Script Editor). Choose Show Balloons from the Guide menu (near the right end of the menu bar).

Note: When you point to any feature of the Script Editor application program, a balloon appears explaining the feature.

Where to go from here
For more information about using the Script Editor to work with scripts, open the file called "Using AppleScript part 2" to see Chapter 1 ("Using the Script Editor") and Chapter 2 ("Script Editor Command Reference").

If you wish to create more complex scripts, see an authorized Apple dealer for information about the AppleScript Scripter's Kit. The Scripter's Kit contains additional AppleScript software and manuals.

Section 1

Using the Script Editor
Use this chapter to find out how to use the Script Editor to:

- open scripts that have been saved
- record new scripts
- make changes in scripts you record
- check scripts for errors
- format scripts
- save scripts in several formats (that is, as different kinds of documents)
- run scripts
- view the AppleScript terms you can use with a scriptable application
- use different scripting systems
- use different AppleScript dialects
- display the Result window
- paste an object reference into a script

The instructions in this chapter assume that the Script Editor is active and that you have at least one script and the Scriptable Finder on your hard drive.

Opening a script
You can use the Script Editor to open any script except those that have been saved as run-only scripts. (For more information about formats for saving scripts, see "Saving a Script" later in this chapter.)

To open a script, follow these steps:

1. Choose Open Script from the File menu.
2. In the dialog box that appears, select the script you want to open and click Open.

You can open one of the scripts in the Automated Tasks folder (inside the AppleScript folder). The script appears in a new script window.

Recording a script

You can use the Script Editor to record a series of actions. You can only record actions in a recordable application. For example, you can't record anything you do in SimpleText, because SimpleText isn't scriptable or recordable. In system software version 7.5, the Finder (inside the System Folder) is scriptable and recordable.

An application is scriptable when you can use AppleScript to control it. It is recordable when you can use the recorder with it. An application can be scriptable without being recordable.

Not all actions are recorded. If you move the mouse in circles, for example, it won't be recorded in your script. That's because moving the mouse doesn't result in a change in your document. The recorder records only things you do that change your document in some meaningful way. For example, typing a message in a text window is a meaningful change, because it makes something about the document different. Saving a file also results in a meaningful change. Clicking somewhere in the document doesn't result in a change in the document and isn't recorded.

To start recording your actions as a script:

- Open the File menu and choose New Script.
- Click the Record button in the active script window. (You can also choose Record from the Controls menu.)
- Open a scriptable application and perform the actions you want to record.

To stop recording:

1. Click the script window to make it active (or choose Script Editor from the Application menu).
2. Click the Stop button.

You can also choose Stop from the Controls menu.

Editing a script

You can edit a script much as you would edit any text document on your Macintosh computer. The editing actions you can take include:

Action	Result
Click	Places an insertion point in the text at the location you clicked.
Click and drag	Selects the portion of the script you drag across.
Double-click	Selects a word.
Triple-click	Selects an entire line.
Press arrow key	Moves the insertion point in the direction of the arrow.
Option*Left Arrow key	Moves the insertion point to the beginning of the line.
Option*Right Arrow key	Moves the insertion point to the end of the line.
Option*Up Arrow key	Moves the insertion point to the beginning of the script.
Option*Down Arrow key	Moves the insertion point to the end of the script.
Option*Return	Inserts a line continuation character (*).
Shift*Return	Moves the insertion point to the beginning of the next line.

Checking the syntax of a script

You can use the Script Editor to check the syntax of a script. If the syntax is correct, the script is then compiled.

When you record a script and don't make any changes to it, the Check Syntax button is not available. This is because the Script Editor does not record scripts with incorrect syntax. When you make a change to a recorded script, or when you write a script, you can use the Check Syntax button.

When you write a script, all of the terms you type appear in the same font and size (the default is 10-point Courier). When you check the syntax, the Script Editor applies different fonts, sizes, styles, and colors to the different kinds of terms in your script. You can choose the formatting applied to the terms in your script. To find out how to make changes to script formatting, see the next section, "Formatting a Script."

To check the syntax of a script:

Click the Check Syntax button in the script window.

The Script Editor identifies the first syntax error it finds for you by selecting the text that appears to contain the error. When the Script Editor finds a syntax error in a script, it does not apply any formatting to the script.

If the syntax of the script is correct, the Script Editor compiles the script.

Checking syntax won't find all the problems a script can have, but it will identify AppleScript expressions that are put together incorrectly. A script containing syntax errors can be saved only as text, not as a compiled script or script application.

Formatting a script

Scripts have a number of different parts, including operators such as "+" and "=," keywords, comments, and more. The Script Editor keeps track of these different parts for you, and applies formatting to help you identify them.

You can change the fonts, sizes, styles, and colors used for parts of scripts. The changes you make apply to all of your scripts, not just the active script.

To change script formatting:

1. Choose AppleScript Formatting from the Edit menu.
2. In the dialog box that appears, click a script element to select it.
3. Use the Font and Style menus to choose a font, size, style, and color for the script element you selected.

The following table describes the kinds of terms you can format.

Category	What It Means
New text	Any portion of a script you type before saving, running, or checking syntax, or an entire script that will not compile due to syntax errors.
Operators	Operators perform actions ("operate") on values. For example, the "+" operator adds two values together.
Language keywords	The scripting terms built into AppleScript and available to all scripting applications.
Application keywords	The scripting terms specific to an application.
Comments	Explanations about things in your script. You can use them yourself and for people who read your scripts. The computer ignores comments.
Values	A kind of data (information) that AppleScript can use. Numbers and words can be values.
Variables	Terms that are used as containers for values (such as a number or a word).
References	Phrases that specify an object that a script can identify. For example, "word 2 of document 1" is a reference. Reference formatting is applied only in the Result window, not in the script window.

To format a script you must use the AppleScript Formatting command; you can't select part of a script and choose an item from the Font or Style menus. This is so that the formatting is consistent throughout the whole script. You can, however, use the Font and Style menus to format text in the description area of the script window. If you save the script as an application, the formatting you apply to its description appears in the script's startup screen.

In addition to formatting your script by choosing fonts, sizes, styles, and colors, the Script Editor automatically indents some lines of your scripts. All lines within compound statements are indented. (A compound statement is one that takes up more than one line and includes other statements within it.)

You can use the Tab key to indent lines in your scripts. If you use the Tab key in the middle of a line, however, the tab will be replaced by a space when you check syntax.

To indent your scripts automatically, press Return at the end of each line.

To force the next line of your script to begin at the left margin, hold down the Shift key and press Return.

Lines in a script are sometimes too long to fit in the active window. You can make a line shorter by breaking it up into two lines with the continuation character. To insert a continuation character into a line in your script, hold down the Option key and press Return. A line broken into two or more lines with a continuation character is treated as a single line when you run your script.

Saving a script

You can save a script as one of three kinds of document:

- as a text file, for opening in the Script Editor or other Macintosh applications
- as a compiled script, for opening in the Script Editor
- as an application, for using by itself without the Script Editor

You can also save a script in two run-only formats. See "Saving a Script As Run-Only" later in this chapter.

To save a script:

1. Choose Save or Save As from the File menu.
2. In the dialog box that appears, choose a location, specify a name, and choose a format for the script.
3. Click Save.

Saving a script without compiling it
When you save a script, it is usually compiled before it is saved. To save a script without compiling it:

- Hold down the Shift key while choosing Save from the File menu.

The Save dialog box appears, but you can only save the script as a text document.

Save options for script applications
When you save a script as an application, two additional buttons appear in the dialog box:

- Stay Open. Choose this option when you want your script to remain available after it runs (instead of quitting automatically). This can be useful when you want to send commands from another script to the open script.
- Never Show Startup Screen. Choose this option when you don't want the startup screen to appear. The startup screen displays the description of the script you write in the top part of the Script Editor window.

Saving a script as run-only
You can save a script in a format that can be run but cannot be opened in the Script Editor (or any other application). This is called a run-only script.

To save a script as run-only:

- Choose Save As Run-Only from the File menu.
- In the dialog box that appears, choose a location, specify a name, and choose a format for the script.
- Click Save.

Note: You can save run-only scripts as compiled scripts or as applications. You cannot save a run-only script as text.

Running a script
To run a script that's in the active script window: Click the Run button.

You can also choose Run from the Controls menu.

To stop a script that's running, press the Stop button (or hold down the command key and type a period).

To run a script application
Double-click the icon of the script application.

You can force the script's startup screen to appear by holding down the Control key when you open the script application.

Viewing AppleScript terms
The Scriptable Finder and every scriptable application has its own dictionary, which is a set of AppleScript terms that you can use with it. You can open the Finder's dictionary or an application's dictionary in order to find out what terms are available and their syntax. To open a dictionary, follow these steps:

- Choose Open Dictionary from the File menu. A dialog box appears in which you can select the Finder (inside the System Folder) or a scriptable application.
- Select the Finder (inside the System Folder) or application you want and click Open. (The Dictionary window opens.)
- To see the details about using a term, click it.

The details for using the term appear in the window.

A suite is a set of AppleScript terms that are related. The required suite is the most basic set of AppleScript terms. The standard suite is the set of terms that every scriptable application should support. Most scriptable applications (such as the Scriptable Finder also have their own suite of commands.

The terms available in a dictionary are organized into suites. For example, the Finder Dictionary includes the required suite, the standard suite, and the Finder suite.

Using different scripting systems
You can use the Script Editor to write scripts for scripting systems other than AppleScript.

A scripting system is software that lets you write scripts using a set of terms put together according to rules of syntax. AppleScript has one set of terms and syntactic rules. Other scripting systems offer different terms and rules.

To use a different scripting system, you must first install the system. To find out how to install a specific scripting system, see the documentation that came with it. To use the Script Editor with an installed scripting system, choose the scripting system from the pop-up menu at the bottom of the Script Editor window.

For more information about a scripting system you have on your Macintosh, see the information that came with the scripting system.

Using different AppleScript dialects
The examples in this guide are based on the English dialect of AppleScript. If you have the proper software installed on your Macintosh computer, you can use a different AppleScript dialect in the Script Editor.

An AppleScript dialect is a version of AppleScript based on the words and syntax of a particular language (a human language or a computer language). The English dialect is based on the English language. AppleScript can resemble any language if there is an AppleScript dialect for that language.

To choose a different AppleScript dialect, follow these steps:

1. Choose AppleScript Formatting from the Edit menu.
2. In the dialog box that appears, choose a dialect from the pop-up menu if more than one exists.

Note: Be sure you understand the dialect you choose. When you choose a dialect, all the AppleScript terms in the Script Editor appear in that dialect. This can present problems if you don't understand the dialect.

Displaying the Result window
When a script runs, some of its expressions can produce an outcome or a result. For example, the expression "2+2" produces the result "4." When a script produces a result, it appears in the Result window. Some error messages also appear in the Result window.

You can open the Result window at any time when you use the Script Editor.

To open the Result window choose "Show Result" from the Controls menu.

The Result window opens. If the open script ran and produced a result, the result appears in the window.

Pasting an object reference into a script
You can use the Paste Reference command (in the Edit menu) to paste an object reference into your script. An object reference is an AppleScript phrase that identifies an object in an application program. For example, the phrase "word 3 of document 1" identifies an object in the Scriptable Text Editor.

To paste an object reference into your script, follow these steps:

- Select an object in the Finder or in an application program. (For example, to select a Finder object you can click the icon for your startup disk.)
- Choose Copy from the Edit menu.
- Make a Script Editor window the active window. (You can choose Script Editor from the Application menu, or you can click an open Script Editor window.)
- Choose Paste Reference from the Edit menu.

The reference phrase is pasted into your script at the location of the insertion point. For example, you can paste the reference phrase for your startup disk (a Finder object.)

You can paste references only from applications that support this particular feature. An application can be scriptable and recordable without allowing pasting of object references.

Section 2

Script Editor Command Reference

File menu

New Script - Opens a new script window in which you can write or record a new script.

Open Script - Opens the script you select.

Open Dictionary - Opens a window containing all the AppleScript

terms you can use with an application program you select.

Close - Closes the active window.

Save - Compiles and saves the script in the active script window.
If you have not saved the script before, you choose the format in which to save the script, the name, and the location.

In the dialog box that appears, you can save a script in one of three formats:

Compiled Script. This is the normal format. When you open a script saved as a compiled script, you see the script in the active script window of the Script Editor.

Text. You can open a script saved as text in SimpleText or in most word-processing and text-editing application programs. This is the only format in which you can save a script that contains syntax errors.

Application. This format saves your script as its own application program. When you open a script saved as an application, you see a window (or "startup screen") containing the description of the script. The description is the information you entered in the description area of the window for that script. When you click the Run button in the startup screen, the script runs. You do not see a script window for the script.

When you save a script as an application, you have two additional choices: Stay Open and Never Show Startup Screen.

If you check Stay Open, the script stays open after you run it (instead of closing automatically after it is run).

If you check Never Show Startup Screen, the script runs immediately when you open it, rather than displaying its description first.

Note: To save a script without compiling it, hold down the Shift key while you choose the Save command.

Save As - Saves a copy of the script in the active script window.
You specify a name and a location and choose the format in which to save the script. The new copy becomes the active script.

Save As Run-Only - Saves a copy of the script in the active script window as a compiled script or an application that cannot be edited. You specify a name and a location in which to save it.

Revert - Returns the script in the active script window to the way it was the last time you saved it. Any changes you made since the last time you saved the script are lost.

Page Setup - Opens a dialog box in which you can choose page size, orientation, and other printing options. The options you can choose depend on the printer you have selected in the Chooser.

Print - Prints the script in the active script window. The name of the script and its description are also printed. Different parts of the script are printed in the font, size, style, and color you choose in the AppleScript Formatting dialog box. (To open the AppleScript Formatting dialog box, choose AppleScript Formatting from the Edit menu.)

Set Default Window Size - Sets the size of the active script window as the default. New script windows you open (by choosing New Script from the File menu) are automatically opened at the default size.

Quit - Quits the Script Editor.

Edit menu

Undo - Reverses the effects of your last action. If you choose Undo while recording a script, the last line you see in the script window is removed.

Cut - Removes selected text and places a copy on the Clipboard.

Copy - Places a copy of selected text on the Clipboard.

Paste - Places a copy of the text that's on the Clipboard at the location of the insertion point, in either the description area or the script area of the active script window.

Clear - Removes selected text without placing a copy on the Clipboard.

Paste Reference - Pastes an AppleScript expression from the Clipboard into the script area of the active script window, at the location of the insertion point. The AppleScript expression is a reference*a phrase that identifies something in an application program. For example, "startup disk of application Finder" is a reference that is used with the Scriptable Finder. You can use the Paste Reference command only with application programs that support it.

Select All - Selects all the text in the description area or script area of the active script window, whichever contains the insertion point.

AppleScript Formatting - Opens a dialog box in which you select the font, size, style, and color of text indicating various parts of scripts.

Controls menu

Record - Starts recording your actions as a script. Choosing Record is the same as clicking the Record button in the active script window.

Run - Checks the script in the active script window for syntax errors, and if no errors are found, compiles and runs the script. Choosing Run is the same as clicking the Run button in the active script window.

Stop - Stops the script that is currently running.

Show Result - Opens the Result window. The Result window displays the outcomes of some types of expressions in scripts. (For example, a script with the expression "2+2" would display "4" in the Result window.)

Font and Style menus

You use the Font and Style menus to change the font, size, style, and color of:

* selected text in the description area of a script window
* text indicating different parts of a script

Any changes you make to the formatting of the text in the description area also appear in the startup screen when the script runs.

To change the font, size, style, or color of selected text in the description area:

1. Select the text in the description area of the active script window.

2. Choose the font and size you want from the Font menu.

3. Choose the style and color you want from the Style menu.

To change the font, size, style, or color of text indicating different parts of scripts:

1. Choose AppleScript Formatting from the Edit menu.

2. In the window that appears, click to select one of the parts of a script.

3. Choose the font and size you want from the Font menu.

4. Choose the style and color you want from the Style menu.

5. If you want, select another part of a script, then repeat steps 3 and 4.

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Apple II High-Speed SCSI Card: Setting SCSI ID (11/96)

This article discusses how to change the Apple II High-Speed SCSI Card's SCSI ID switch settings.

This article has been archived and is no longer updated by Apple.

Switch 1 turns on and off DMA (Direct Memory Access). See the article "Apple II High-Speed SCSI Card: Setting DMA" for more information on this subject.

The computer's SCSI ID number is determined by the positions of switches 2, 3, and 4 on the SCSI card. Follow these steps to reset the computer's SCSI ID number:

1. Switch the computer off, but leave the power cord plugged in.

2. Choose an appropriate SCSI ID number for the computer. If you are using a LaserWriter IISC, Personal LaserWriter SC or Apple Scanner, use the settings for SCSI ID 2.

3. Refer to the information that follows for the correct position of switches 2, 3, and 4.

Switch indication
---
0 = Open or off x = Closed or on

SCSI SCSI SCSI SCSI SCSI SCSI SCSI SCSI
ID 0 ID 1 ID 2 ID 3 ID 4 ID 5 ID 6 ID 7

OPEN OPEN OPEN OPEN OPEN OPEN OPEN OPEN
1234 1234 1234 1234 1234 1234 1234 1234
---- ---- ---- ---- ---- ---- ---- ----
000 00 0 0 0 00 0 0
x x x x x x xx xx xx x xxx xxxx

4. Be sure to follow the installation instructions in the Apple II High-Speed SCSI Card Owners Guide to install the SCSI card.

Article Change History:
15 Nov 1996 - Reviewed for technical accuracy, revised formatting.
Published Date: Feb 19, 2012

Apple II High-Speed SCSI Card: Setting DMA (11/96)

This article discusses how to change the Apple II High-Speed SCSI Card's PDMA (pseudo direct memory address) switch settings.

This article has been archived and is no longer updated by Apple.

The computer's SCSI ID number is determined by the positions of switches 2, 3, and 4 on the SCSI card. See the article "Apple II High-Speed SCSI Card: Setting SCSI ID."

Switch 1 turns DMA on or off.

DMA is a feature that allows the SCSI card to read or write information directly to a storage device (such as a hard disk drive) without having to depend on the computer's microprocessor to manage the operation.

The Apple II High-Speed SCSI Card comes with the DMA switch already in the closed (on) position. However, if you have another card (such as an accelerator card) that uses its own DMA, you may need to turn off the SCSI card's DMA. Follow these instructions to turn DMA off:

1. Switch the computer off, but leave the power cord plugged in.
2. Locate Switch 1 on the SCSI card and carefully move Switch 1 to the open (off) position.
3. Refer to the information in the article entitled "Apple II High-Speed SCSI Card: Setting SCSI ID" if you want to set the rest of the switches.
4. Be sure to follow the installation instructions in the Apple II High-Speed SCSI Card Owners Guide to install the SCSI card.

Article Change History:
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Published Date: Feb 19, 2012

All Characters of the Skia Font Only Print w/QuickDraw GX (2/95)

Is it not possible to print the Norwegian characters "¥┐ î «»ü" with the Apple TrueType font Skia even though the Skia font displays correctly on the screen?

I am using Norwegian System 7.5, LaserWriter driver 8.2, and a LaserWriter Pro 630.

This article has been archived and is no longer updated by Apple.

Because Skia is a QuickDraw GX font, GX must be turned on in order for it to print. Turn on QuickDraw GX using the Extensions Manager Control Panel.

Article Change History:
16 Feb 1995 - Changed keyword and reviewed technical accuracy.

Support Information Services
Published Date: Feb 19, 2012

Instant Pascal: Using the Apple DMP

Will Instant Pascal work with an Apple DMP?
This article has been archived and is no longer updated by Apple.
If the Apple II is equipped with an Apple Parallel Interface card, printing text to a DMP will work fine. Text output is also supported on Okidata and Epson printers.

Graphic output requires an Imagewriter, Imagewriter II, or Scribe Printer.
Published Date: Feb 19, 2012

Macintosh Printing To Netware Queue For An Epson Printer (1/95)

1) Can a Macintosh print to a Novell Netware queue that is configured for an Epson LQ-1050 or EX-1000 printer?

2) What are the steps necessary to do this?

This article has been archived and is no longer updated by Apple.
1) Yes, it is possible to print to an Epson LQ-1050 or EX-1000 via a Novell Netware queue. In order to do this, you need a Macintosh driver for the printers. GDT SoftWorks currently sells a package called PowerPrint NW, which has the drivers needed for the printers you have asked about.

2) The PowerPrint NW package will go into details concerning setting up their drivers to work with Novell Netware. The general steps are as follows:

1) Set up the printer and queue in Novell Netware as per the Novell Netware documentation.

2) Add the following line to the "atps.cfg" printer configuration file: -o "Queue_Name" -wb (where "Queue_Name" is the name of the queue you want the Macintosh to print to".

Again, the documentation for the PowerPrint NW will tell you how to set up their drivers. To locate a vendor's address and phone number, use the vendor name as a search string.

Support Information Services
Published Date: Feb 19, 2012

AppleSearch 1.5 Administrator Guide: Troubleshooting

This article describes potential problems you may encounter while setting up or maintaining your AppleSearch server, it tells you the probable cause for each problem, and offers likely solutions.

If you can read the server log, check there first for detailed status and troubleshooting messages. For descriptions of messages that may appear in the log, and suggestions for resolving the problems they indicate, see "Using the Server Log" in Chapter 2 of the AppleSearch Administrator's Guide.

For descriptions of and solutions for problems related to AppleSearch reporters and updates, see Appendix B, "Troubleshooting," in the AppleSearch User's Guide.
This article has been archived and is no longer updated by Apple.

Problems Opening the AppleSearch Server Program

* A server message indicates that the application is already running when it is not.

You tried to open a copy of the AppleSearch Server program when another copy was already running. You cannot have two copies of AppleSearch Server running on the same computer.

Use the copy of AppleSearch that is already running. If that does not work, restart your server computer.

* When you start AppleSearch Server, a warning message appears that reads as follows: "Some system resources are not set to optimal values for the AppleSearch Server. To reset the values of these resources, reinstall the server software using the AppleSearch Server Installer."

AppleSearch modifies the PPC (Program-to-Program Communications) tuning resource in the System file during the AppleSearch installation process. If you have not run the AppleSearch Installer, or you installed operating system software after installing AppleSearch, then the alert message appears.

Re-install the AppleSearch software by using the AppleSearch Installer program.

* Users whose log-on name exceeds 30 characters are unable to log on to the AppleSearch Server.

The PPC browser, which asks users to select an AppleSearch server, does not accept more than 30 characters. Change the user's log-on name so that it does not exceed 30 characters. Notify the user of his or her new user ID and have the user try logging on to the server again.

* AppleSearch Server unexpectedly quits or crashes.

Restart the server machine.

Problems Using or Adding Information Sources

No Matches After Conducting a Search

The user does not get any article matches after conducting a search on a particular information source.

* The user has See Folders privileges but does not have See Files privileges.

If you're using AppleShare, open the Access Information window and click the See Files checkbox so that a checkmark appears in it. If you're using file sharing, select the folder that is designated as the information source; then choose Sharing from the File menu to assign the correct access privileges for that user.

* There are no documents in the information source that answer the user's search request.

Add documents to that information source that answer the user's search request, direct the user to another information source that answers the user's search request, or advise the user to rephrase the search request to provide greater potential for article matches.

* The local information source contains document formats for which there are no corresponding XTND translators.

Examine the AppleSearch server log to identify the troublesome document; then refer to Appendix A of the AppleShare Administrator's Guide to determine whether an XTND translator that supports each document's format came with AppleSearch. If an XTND translator is not present for that particular document format, contact the developer of the application, or a developer of XTND translators, to see if one is available and where

you might purchase it.

* The information source has been added but not yet indexed.

Open the Information Sources window, select the information source whose content cannot be accessed, and click the Index button; or inform the user to wait and try the search again after the next scheduled indexing procedure is performed.

Foreign-Language Characters Do Not Yield Results

Searches made for or using foreign-language characters do not yield the expected results.

The user typed a search request using non-English characters, or searched an information source that contained non-English characters. AppleSearch currently supports the U.S. English character set, with some character-mapping exceptions. These exceptions allow the AppleSearch Server program to provide limited recognition of accented characters and double characters (ligatures). Accented characters are mapped to the corresponding U.S. English characters; for example, Ä is recognized by AppleSearch as e, so the French ÄlÅve is recognized by AppleSearch as eleve; î is recognized by AppleSearch as a. Double characters (ligatures) are mapped to the first character; for example, « is recognized as A.

Explain to users what exceptions AppleSearch allows in supporting non-English characters. In some cases the user may get slightly more information than requested because of the diacritical marks, but the information returned will still answer the search request.

Information Source Does Not Open

AppleSearch does not let an information source to be opened.

The AppleSearch Server program does not have enough memory to open the specified information source. The AppleSearch Server program has a default value of 3500K allocated to it. The recommended memory allocation is 4000K, which is typically sufficient to support ten information sources. The application requires 100K for each information source beyond ten.

Quit AppleSearch Server by choosing Quit from the File menu. Then select the AppleSearch Server program icon from the Finder and choose Get Info from the File menu. In the Preferred Size box, enter the value that meets your needs.

Server Is Not In "Select an AppleSearch server" Dialog Box

An AppleSearch server does not show up in the user's "Select an AppleSearch server" dialog box.

* Program linking is not enabled on the server.

Open the Sharing Setup control panel on the AppleSearch server and click the Start button under Program Linking.

* The AppleSearch Server program is not running.

Start the AppleSearch Server program.

* The user is running a version of the AppleSearch Client program that is not compatible with the installed version of the AppleSearch Server program.

Upgrade the AppleSearch Client program on the user's computer.

Problems Establishing Information Sources (Sharing Volumes or Folders)
==========

Status Information in Information Source Window is Zero (0) K

The status information displayed in the Information Sources window when a source is selected indicates zero (0) K of text.

* The information source has not yet been indexed.

Open the AppleSearch Information Sources window, select the information source whose text size does not show up in the status information, and click the Index button; or check the status information after the next scheduled indexing time. The text of an article can be generated and therefore show up in the information source status only after its information source has been indexed.

* The information source contains document formats for which there are no corresponding XTND translators.

Confirm that XTND translators are present in your Claris Translators folder for each of the document formats present in the specified information

source. Open the AppleSearch folder (found in the Preferences folder inside your System Folder) to confirm that it contains the MacLinkPlus/AppleSearch Trans1 file. This file contains a basic set of XTND translators for many document formats. The supported document formats are listed in Appendix A or the AppleSearch Administrator's Guide. If you have purchased other XTND translators, check the documentation that came with them for a list of supported document formats. If the troublesome information source contains a document format for which no XTND translator is present, you need to purchase the corresponding translator.

Status Information For an Information Source is Zero (0) Documents
---
The status information for a particular information source indicates zero 0 documents.

* The specified information source does not contain any documents.

Add any documents to the information source that you want to be available to AppleSearch users. Also, make sure that an XTND translator is present for each document format you add to the information source.

* No XTND translator is present for any of the existing document formats in the information source.

Check the AppleSearch server log to identify the documents that were not indexed. Then purchase and install an XTND translator for each document format that didn't get indexed.

* The MacLinkPlus/AppleSearch Trans1 file is not present.

Open the AppleSearch folder (found in the Preferences folder inside your System Folder) to confirm that it contains the MacLinkPlus/AppleSearch Trans1 file. If the file is absent, re-install the AppleSearch server software.

Indexing Takes a Long Time
==========

* The corresponding information source probably contains many documents, or documents containing graphics and detailed formatting instructions. For each information source, indexing typically takes 10 to 20 MB per hour.

Choose Preferences from the Server menu and schedule indexing to occur when you expect search traffic to be light.

* The processing power of your particular server is insufficient for the speed you require.

Upgrade your server. For help, contact your authorized Apple dealer.

* An AppleSearch reporter is conducting a search at the same time that the information source is being indexed. Concurrent indexing and searching reduce server performance, resulting in both functions' operating at slower speeds than usual.

Do nothing. Indexing will continue, but not as quickly as it would if no searches were taking place. If a user scheduled a reporter to conduct a search at the same time that you scheduled indexing, you might want to check the reporter list to identify the user who scheduled the reporter. Advise the user to schedule the reporter to conduct searches after the scheduled indexing procedure is complete.

Some Matched Words in an Article Are Not Highlighted
==========

Users report that when they conduct a wildcard search, only some of the matched words are highlighted in the article viewing window.

The maximum number of distinct search words that can be highlighted has been reached. Only 50 distinct search words in each information source can be highlighted. However, each distinct word may appear highlighted any number of times.

Tell the user that his or her search request found more than 50 distinct search words. The user should modify the search request, avoiding the wildcard (*) character so that only 50 words or fewer are available for highlighting.

Problems Setting Up Users and Groups
==========

AppleSearch users cannot log on to the AppleSearch server
---
* File sharing is not active or AppleShare is not running.

Activate file sharing or start AppleShare. See Appendix C of the AppleSearch Administrator's Guide for more information, or see the AppleShare Administrator's Guide or the Macintosh User's Guide or Macintosh Reference manual that came with your computer.

* The user name is refused.

Open the Users & Groups control panel or the AppleShare Admin program and confirm that the names of registered users and groups are entered correctly. See Appendix C of the AppleSearch Administrator's Guide for more information, or see your Macintosh User's Guide, Macintosh Reference, or AppleShare Administrator's Guide.

Activate program linking for the user. See Appendix C of AppleSearch Administrator's Guide. For more detailed information see your AppleShare Administrator's Guide or the Macintosh User's Guide or Macintosh Reference that came with your computer.

An AppleSearch user cannot log on to the AppleSearch server as a guest
---
Guest access was not specified.

For AppleShare, open the Any User icon and click Login Enabled to activate this option.

For Macintosh file sharing, open the Users & Groups control panel and create a guest user. Open the Guest User window and click "Allow guests to connect" to activate this option. In addition, click "Allow guests to link to programs on this Macintosh" to activate this option.

Refer to Appendix C of AppleSearch Administrator's Guide for more information.

WAIS Databases Do Not Appear
==========

* The WAIS Gateway file is missing from the AppleSearch folder in the Preferences folder (inside the System Folder).

Quit the AppleSearch Server program, drag the WAIS Gateway file from the AppleSearch Server installation disk to the AppleSearch folder in the Preferences folder (inside the System Folder) to copy it there, and then restart your server and AppleSearch Server program. (Simply dragging this file to the System Folder will not put the file into the correct folder.)

* The physical connection to the Internet is malfunctioning.

Check with your network support professionals.

* The TCP/IP software is not installed or is configured incorrectly.

Ensure that you have the MacTCP software and that it is installed correctly. With the Macintosh Operating System, you must have MacTCP version 2.0.6 or greater.

IMPORTANT: If you are running A/UX, you must use the version of MacTCP that shipped with your system. Do not replace it with another version, even though that version may seem newer.

Ensure that you know the correct values for your Internet address, your Internet gateway address, your domain name server address, and your subnet mask (if any).

Check the configuration information in the MacTCP and MacTCP Admin control panels.

If you are using A/UX, ensure that you are running a kernel configured for Berkeley networking (BNET) services, and check the configuration information in the following files:

/etc/inittab
/etc/HOSTNAME
/etc/hosts
/etc/NETADDRS
/etc/rc
/etc/resolv.conf
/etc/SYSNAME
Published Date: Feb 19, 2012

Macintosh: Description of NoEject Extenstion (7/95)

I was looking through the System folder on the CD-ROM disc I received with my Power Macintosh 6100, and discovered a NoEject extension. What is this extension used for?

This article has been archived and is no longer updated by Apple.
The System Folder on the CD-ROM disc that you receive with your Power Macintosh computer may include a NoEject extension. The NoEject extension exists exclusively in the System Folder on bootable CD-ROM discs. It prevents a CD-ROM that is used as the startup disk from automatically being ejected when you restart your Power Macintosh computer.

This extension is only on CD-ROM discs capable of being used as a startup disk. The NoEject extension should not be moved into the System Folder on your hard disk.

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Volume II, Issue 5, Page 14

Article Change History:
19 Jul 1995 - Updated from Info Alley.

Support Information Services
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Macintosh: Serial Port HSKo Voltages (1/95)

I am trying to determine what voltages should be on the Macintosh serial connector.

This article has been archived and is no longer updated by Apple.
As you look at the Macintosh serial connector, it is numbered like this:

8 7 6
5 4 3
2 1

Pin Signal Name Voltage Specification
---
1 HSKo Vouth 3.6V Voutl -3.6V Rl= 450ohms
2 HSKi Vinh 0.2V Vinl -0.2V Ri= 12Kohms
3 TxD- Vouth 3.6V Voutl -3.6V Rl= 450ohms
4 GND Signal Ground
5 RxD- Vinh 0.2V Vinl -0.2V Ri= 12Kohms
6 TxD+ Vouth 3.6V Voutl -3.6V Rl= 450ohms
7 Gpi Vinh 0.2V Vinl -0.2V Ri= 12Kohms
8 RxD+ Vinh 0.2V Vinl -0.2V Ri= 12Kohms

Absolute values of specified voltages are minimums.
Ri is a minimum, Rl is a maximum.

Support Information Services
Published Date: Feb 19, 2012

Color StyleWriter 1500, 2400 & 2500: Waste Ink Absorbers Full Error

My Color StyleWriter 2400 keeps giving me an error indicating that the waste ink absorbers are full and will not allow me to print. Why am I getting this error message and how do I correct it?
This article has been archived and is no longer updated by Apple.

Color StyleWriter 2400

Under normal circumstances the ink absorbers should last for approximately 80,000 sheets of paper using the black cartridge and 13,000 pages using the color cartridge. Heavily used printers may require replacement of the ink absorbers which can be ordered using part number 076-0470. In the event of a false error, and after replacement of the ink absorbers the contents of the EEPROM can be cleared using the following procedure:

1) Make sure there is paper in the printer
2) Install a high-performance black ink cartridge (color will not work)
3) Open the front door of the printer
4) Press and hold down the power button while connecting the power cord
5) Release the power button
6) Press the power button again and close the front door

A test pattern prints once the EEPROM has been reset. There should be a white box on the lower right corner of the test page indicating that the contents of the EEPROM have been cleared.

Color StyleWriter 2500

The Color StyleWriter 2500 also exhibits the same symptoms as the Color StyleWriter 2400 printer. However, the steps for clearing the EEPROM are different from the Color StyleWriter 2400.

1. Disconnect the power cord from the printer.
2. Make sure the High Performance Black ink cartridge is installed and the power cord is plugged into the wall.
3. Open front door.
4. Press and hold down the power button while connecting the power cord to the printer, and then release the power button.
5. Close the front door.
6. A pattern page is printed that has a series of small boxes in the top left corner. The last box will be white, showing the EEPROM has been reset.

Color StyleWriter 1500

1. Disconnect the power adapter from the printer.
2. Make sure the ink cartridge is installed and the power adapter is plugged into the wall.
3. Press and hold down the power button while connecting the power adapter to the printer and release the power button.
4. Press and hold the power button and until the power indicator blinks once, then release the power button. If the printer is allowed to blink more than once, the printer goes into manufacturing test mode. This mode is not for service use.
5. A pattern page now prints and the EEPROM data is reset. The last bar on the pattern will be white, which shows that the data has been reset.
6. Press the power button to turn off the printer and then disconnect the power adapter from the printer.

Published Date: Feb 19, 2012

PlainTalk Microphone: Assembly Not Available (1/94)

I would like to know where I can get the extended plug and socket assembly used on the PlainTalk microphone. I have not been able to locate this assembly anywhere, and want to build an extension cable.

This article has been archived and is no longer updated by Apple.
The plug on the microphone cable and the socket used on the logic boards are a custom part for Apple. The extended plug is how power is supplied to the microphone.

No information is available on how to get the plugs or sockets.

There are two possible workarounds to get a longer cable. First, you could splice in an added length of cable to the PlainTalk Microphone. However, that voids the warranty. Another work around would be to use a different type of microphone from a different vendor. This may be a bit more costly than splicing the cable but, depending on the microphone used, you may receive a better quality signal.

Support Information Services
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Deleted AppleMail Messages Reappear After Server Crash (3/95)

After a PowerShare Mail Server crash we found that hundreds of previously read and deleted mail messages reappeared in our users' inboxes. There were also messages that appeared in the Administrator's inbox.

This article has been archived and is no longer updated by Apple.
PowerShare stores mail messages in the Server Bin folder in the PowerShare Mail Data folder. Also within this folder is a file named QMgrCatalog. This file, in conjunction with the catalog data files in the PowerShare Catalog Data folder, keeps track of what messages have been read and by whom.

In the event of a server crash PowerShare does its best to rebuild this information from the available files. If the QMgrCatalog is damaged or deleted, a new QMgrCatalog is created with all messages in the Server Bin Folder are marked as unread.

The PowerShare mail server performs message purging at startup, and then once an hour after startup. It follows the criteria specified by the administrator, for example remove no, read, or all messages that are at least X days old. However, the purging process functions for five seconds before it terminates, which means all of the mail may not be deleted on each purge cycle.

NOTE: For a message to be deleted from the Server Bin folder all recipients must have read the message (and deleted it if the server is not doing so automatically). If the server crashes between the time the last recipient has read the message and the time set for deleting messages, then it is possible for that message to show up again (even though it was read by everyone). This explains why messages with large distribution lists are more likely to appear. The chance that at least one of the recipients had not read or deleted the message is much higher with a large distribution list.

Article Change History:
27 Mar 1995 - Added section on purge process.
22 Feb 1995 - Added keyword; made minor technical updates.

Support Information Services
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Power Macintosh 8100/100: Differences from 8100/80

What are the specific differences between the Power Macintosh 8100/80 and the Power Macintosh 8100/100?
This article has been archived and is no longer updated by Apple.
The differences are as follows:

- New logic board with PowerPC 601 microprocessor running at 100MHz.
- All configurations come with System Software 7.5 (updated Finder and PowerPC Enabler version 1.1.1).

Specific Logic Board differences

- PowerPC 601 microprocessor running at 100MHz
- Clock chip (CPU bus clock rate is 33.333 MHz)
- New Thermoelectric Heatsink (Peltier device) added to microprocessor
- ROM change
- BART21 NuBus controller
- 20% performance gain above Power Macintosh 8100/80

Software

- LocalTalk driver changed to not rely on the CURIO's enhanced LocalTalk mode
- System Software release:
  System ver. same as 7.5
  Finder ver. 7.1.5
  Enabler ver 1.1.1
  PPC Update (revised)
  Finder Update (revised)
  HD SC Setup (revised)

In Box (Accessory Kit) changes

- PlainTalk Microphone added
- Apple Macintosh CD
- Technical Information booklet for Power Macintosh 8100/100

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DuoDisk Problem/Cure: Copy Protected Disk Damaged During Boot

This article has been archived and is no longer updated by Apple.

PROBLEM DESCRIPTION: When inserting a copy protected application or game into the DuoDisk and starting up the Apple II, II+, or IIe system, the disk fails to boot. The disk may be damaged in the process.

CAUSE: If capacitors C29 and C30 are present on the analog PCB, they can allow unintential writing to the disk. This problem can be triggered by certain copy protection schemes.

CURE: Clip off the capacitors C29 and C30 at locations B1 and A1 on the Duodisk Analog PCB.

If the above cure doesn't solve the problem, search on HTS and GTS and the product name to obtain the general troubleshooting procedure for the product.

Published Date: Feb 19, 2012

System 7.5: No Fax Sender in the Chooser (5/95)

Since I installed System 7.5 I can no longer find Fax Sender in the Chooser. I did find the Fax Sender Chooser extension in my Extensions folder. What is wrong?

This article has been archived and is no longer updated by Apple.
It sounds like you may have installed QuickDraw GX. Since there is no QuickDraw GX driver for the Express Modem or GeoPort at this time, the Fax Sender would not be visible in the Chooser when the QuickDraw GX extension is active.

Using QuickDraw GX with Express/Fax Modem

To send faxes using QuickDraw GX, you need a QuickDraw GX modem driver. A QuickDraw GX modem driver for the Express/Fax modem will be available later this year. If you have installed QuickDraw GX, you need to turn it off temporarily to use your Express Fax/Modem or GeoPort. Follow these steps to turn off QuickDraw GX temporarily:

Step 1:
Hold down the Space Bar while you choose Restart from the Special menu to restart your Macintosh computer. The Extensions Manager dialog box appears on the screen.

Step 2:
Click the QuickDraw GX extension (remove the check beside it) to prevent the QuickDraw GX software from loading.

Step 3:
Click the Extensions Manager Close box to resume startup.

Your fax modem should work normally. You cannot use any QuickDraw GX features until you turn the extension back on and restart again.

Issue Resolution
==========

Fax Sender GX Available With QuickDraw GX 1.1 & Apple Telecom 2.0

The Fax Sender GX extension is now available with Apple Telecom Software 2.0. It can only be used with QuickDraw GX 1.1 or later.

If you need to send complex greyscale images, you should use Fax Sender GX instead of previous versions of Fax Sender. The image quality is superior.

NOTE:
The Control-shift shortcut used to select Fax Sender without going through the Chooser is not available when using Fax Sender GX. However, you can create a desktop printer icon for Fax Sender GX and use drag-and-drop to accomplish the same thing.

These articles can help you locate the software updates (QuickDraw GX and Apple Telecom 2.0) mentioned here:

* Where To Find Apple Software Updates
Lists online services for "free" Apple software updates.

* Obtaining Apple Product Support in the USA
Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech. Info. Library.

Article Change History:
24 May 1995 - Added information about resolution.
22 Feb 1995 - Added keyword; made minor updates.

Support Information Services
Published Date: Feb 19, 2012

System 7.5: EtherTalk Not Available After Installing 7.5 (1/95)

I just installed System 7.5 on my PowerBook 540c. Since the installation, when I open the Network Control Panel I can no longer switch from LocalTalk Built in to EtherTalk Built in.

I know that my EtherTalk cable and transceiver are OK because I tested them on another Macintosh. Also, EtherTalk used to work fine on my PowerBook 540c before I upgraded to System 7.5. What happened?

This article has been archived and is no longer updated by Apple.
The networking software may have been corrupted. This problem could occur on any PowerBook 500 series computer or any other Macintosh computer. If EtherTalk cannot be turned on, then reinstall the System 7.5 Networking software using the following steps. First Custom Remove the Networking Software then Custom Install it.

Test the Hard Drive
---
1) Shut down your computer.
2) Insert the Disk Tools disk into the floppy drive and turn on your computer.
3) Double-click on the Disk Tools disk icon on the desktop to open it.
4) Double-click on the Disk First Aid icon.
5) Select the Hard Drive icon.
6) Click Verify and follow the instructions on the screen.
7) When you are finished, click Quit.
8) Double-click on the Apple HD SC Setup icon.
9) Click Update and follow the instructions on the screen.
10) When you are finished, click Quit.

Reinstall the Networking Software
---
1) Shut down you computer.
2) Insert the Install 1 disk into the floppy drive and turn on your computer.
3) Double-click on the Install 1 disk icon on the desktop to open it.
4) Launch the Installer by Double-clicking on its icon.
5) When you see the Installer's welcome screen click Continue.
6) Make sure the Destination Disk indicated on the screen is the one on which you want to install system software.
7) Click on the pop-up menu in the upper left corner of the installation window that says Easy Install on it. Pull down the menu and select Custom Remove.
8) Click to put an x in the Networking Software box.
9) Click Remove and follow instructions on the screen.
10) When Removal is complete. Choose Continue for further installation.
11) Click on the pop-up menu in the upper left corner of the installation window that says Custom Remove on it. Pull down the menu and select Custom Install.
12) Click to put an x in the Network Software box.
13) Select Install and follow directions.
14) When you are finished, click Quit and Restart.

You should now be able to switch from LocalTalk to EtherTalk in the Network Control Panel.

Support Information Services
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LaserWriter Pro 630: Changing Paper Options Using PCL

What are the PCL escape codes to change paper trays on the LaserWriter Pro 630 printer?
This article has been archived and is no longer updated by Apple.

Changing Paper Trays

The HP PCL escape code sequence for selecting paper trays is:

```
<esc>&l#h

<esc> = escape character
   l = lowercase L
   # = refer to following values below:
       0 - source current (default)
       1 - 250 sheet cassette
       2 - Multipurpose tray
       4 - 500 sheet cassette
       6 - Envelope Feeder
```

For example, if you wanted to use the 500 sheet cassette, you would use the following escape code: `<esc>&l4h`

Changing Page Size

The HP PCL escape command for selecting the page size is:

```
<esc>&l#A

<esc> = escape character
   l = lower case L
   # = refers to the following page sizes:
        2 - letter
        3 - legal
        1 - executive
       26 - A4
       80 - Monarch Envelope
       81 - Comm. 10 Envelope
```

For example, if you wanted to print on a legal-sized page you would send: `<esc>&l3A`

In both of the examples above, to enter <esc>, press the Ctrl-P keys followed by the Esc key.

Note: You must use an ASCII text editor like DOS EDIT. You cannot enter the <esc> character in some Windows-based editors like Notepad.
Published Date: Feb 19, 2012

LaserWriter 16/600 PS: Changing Paper Options Using PCL

What are the PCL escape codes to change paper trays on the LaserWriter 16/600 PS printer?
This article has been archived and is no longer updated by Apple.
PCL (Printer Control Language) is the language Hewlett-Packard printers use for MS-DOS/Window print jobs. You use PCL escape codes for printer instructions such as changing the default paper tray or page size. On Apple LaserWriter printers, you can only use PCL when you are printing from MS-DOS or Windows. You cannot use PCL from a Macintosh computer.

PCL codes are used within the application you are using, or you can create a file that contains the PCL code and send it to printer before you send a print job to the printer.

To enter <esc>, press the Ctrl-P keys followed by the Esc key.
Note: You must use an ASCII text editor like DOS EDIT. You cannot enter the <esc> character in some Windows-based editors like Notepad.

Changing Paper Trays
The HP PCL escape code sequence for selecting paper trays is:

```
<esc>&l#h

<esc> = escape character
   l = lowercase L
   # = refer to following values below:
       0 - source current (default)
       1 - 250 sheet cassette
       2 - Multipurpose tray
       4 - 500 sheet cassette
       6 - Envelope Feeder
```

For example: To use the 500 sheet cassette, you use this escape code: `<esc>&l4h`

Changing Page Size
The HP PCL escape command for selecting the page size is:

```
<esc>&l#A

<esc> = escape character
   l = lower case L
   # = refers to the following page sizes:
        2 - letter
        3 - legal
        1 - executive
       26 - A4
       80 - Monarch Envelope
       81 - Comm. 10 Envelope
```

For example: To print on a legal-sized page, you send this escape code: `<esc>&l3A`

This article was published in the "Information Alley": Volume I, Issue 24, Page 14
Published Date: Feb 19, 2012

Macintosh: Determining File Sharing Access Levels (2/95)

This article contains a description of how to determine folder access levels of folders contained on file servers.

This article has been archived and is no longer updated by Apple.

Types of access privileges
==========

Access privileges govern what you and other users of a file serer can see or alter. The following table lists the access privileges that you must have in order to perform the listed actions:

Function	See Folders	See Files	Make Changes
Copy a file to a folder	X		
Copy a file from a folder	X	X	
Copy a folder to a folder	X	X	
Copy a folder from a folder	X		
Create a file	X	X	X
Create a folder	X	X	
Delete a file	X	X	
Delete a folder	X	X	
Move a folder to a folder	X	X	
Move a folder from a folder	X	X	
Open and use a file	X		
Save changes to a file	X		

Finding Out What Privileges You Have
==========

You can determine your access privileges by looking at the folder icons:

. Owner of	Some Folder Access	No Folder Access	Only Make Changes
AppleShare 3.0	Tabbed Plain	Dimmed	Dimmed w/Arrow
AppleShare 4.0	Tabbed Plain	Strapped	Strapped w/Arrow
System 7.x*	Tabbed Plain	Strapped	Strapped w/Arrow

* System 7.x Personal File Sharing

NOTE: A folder with a custom icon does not always indicate access privileges.

Article Change History:
22 Feb 1995 - Added keyword; added note; minor technical updates.

Support Information Services
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Macintosh Family: Upgrade History

Do you have a matrix that shows the upgrade paths for past and current Macintosh computers?
This article has been archived and is no longer updated by Apple.
The following chart shows all past and present logic board upgrade kits. Due to the dynamic nature of upgrades, refer to the latest finished goods price list or service price list for availability.

Compact Macintosh Computers			
Macintosh Computer	Logic Board Upgrade Kit	Currently Available	Part Number
128K (1)	Mac Plus Logic Bd. Upgrade	NO	M2518
512K, 512Ke (1)	Mac Plus Logic Bd. Upgrade	NO	M2518
Plus	N/A	N/A	N/A
SE	Macintosh SE/30 Upgrade	NO	M1102LL/A
SE/30	N/A	N/A	N/A
Classic	Classic II Logic Bd. Upgrade	NO	M1545LL/A
Classic II	N/A	N/A	N/A
Color Classic	N/A	N/A	N/A
(1) Mac 128K and 512K requires 800K floppy drive upgrade in addition (p/n M2516)			

Macintosh II Computers			
Macintosh Computer	Logic Board Upgrade Kit	Currently Available	Part Number
II	Mac IIx Logic Bd.Upgrade Kit Mac IIfx Logic Bd.Upgrade Kit	NO NO	M0271 M0375LL/B
IIx	Mac IIfx Logic Bd.Upgrade Kit	NO	M0375LL/B
IIcx	Mac IIci Logic Bd. Upgrade Kit Quadra 700 Logic Bd. Upgrade Kit	NO NO	M5816LL/A M5950LL/A
IIci	Quadra 700 Logic Bd. Upgrade Kit	NO	M5950LL/A
IIfx	N/A	N/A	N/A
IIsi	N/A	N/A	N/A
IIvx	Centris 650 Logic Bd. Upgrade Power Mac 7100/66 Logic Bd Upgrd Power Mac 7100/66/AV Logic Bd Upg	NO NO NO	M1330LL/A M2474LL/A M2840LL/A

Macintosh LC Computers			
Macintosh Computer	Logic Board Upgrade Kit	Currently Available	Part Number
LC	LC II Logic Bd. Upgrade Kit LC III Logic Bd. Upgrade Kit	NO NO	M1710SC/A M1386LL/A
LC II	LC III Logic Bd. Upgrade Kit LC 475 Logic Bd. Upgrade Kit	NO NO	M1386LL/A M2139LL/A
LC III	LC 475 Logic Bd. Upgrade Kit	NO	M2139LL/A
LC 475	Macintosh Processor Upgrade Card	NO	M3397LL/A
LC 520	Performa 575 Logic Bd. Upgrade 520/LC 550 Pwr Macintosh Logic Bd	NO NO	M2479LL/A M3395LL/A
LC 550	Performa 575 Logic Bd. Upgrade 520/LC 550 Pwr Macintosh Logic Bd	NO NO	M2479LL/A M3395LL/A
LC 575	Macintosh Processor Upgrade Card	NO	M3397LL/A
LC 580	Macintosh Processor Upgrade Card	NO	M3397LL/A
LC 630	Macintosh Processor Upgrade Card 5300/6300 Logic Board Upgrade	NO NO	M3397LL/A M4447LL/A
Macintosh TV	N/A	N/A	N/A
5200/75 LC	5300/6300 Logic Board Upgrade	NO	M4447LL/A

Macintosh Performa Computers

TA33185_Macintosh_Family_Upgrade_History_(TIL17055).pdf

Macintosh Computer	Logic Board Upgrade Kit	Currently Available	Part Number
Performa 200	N/A	N/A	N/A
Performa 400,405, 430,450	LC 475 Logic Bd. Upgrade Kit	NO	M2139LL/A
Performa 460,466, 467	LC 475 Logic Bd. Upgrade Kit	NO	M2139LL/A
Performa 475, 476	Macintosh Processor Upgrade Card	NO	M3397LL/A
Performa 550	Performa 575 Logic Bd. Upgrade 520/LC 550 Pwr Macintosh Logic Bd	NO NO	M2479LL/A M3395LL/A
Performa 575,577, 578	Macintosh Processor Upgrade Card	NO	M3397LL/A
Performa 580	Macintosh Processor Upgrade Card	NO	M3397LL/A
Performa 600	Centris 650 Logic Bd. Upgrade Kit Power Mac 7100/66 Logic Bd. Upgrd Power Mac 7100/66/AV Logic Bd.	NO NO NO	M1330LL/A M2474LL/A M2840LL/A
Performa 630 Series	Macintosh Processor Upgrade Card 5300/6300 Logic Board Upgrade	NO NO	M3397LL/A M4447LL/A
Performa 640 DOS	N/A	N/A	N/A
Performa 5200CD	5300/6300 Logic Board Upgrade	NO	M4447LL/A
Performa 5300CD Series	N/A	N/A	N/A
Performa 6100	Power Mac 6100/60/AV Logic Bd.	NO	M2901LL/A
Performa 6200CD Series	5300/6300 Logic Board Upgrade	NO	M4447LL/A
Performa 6300CD Series	N/A	N/A	N/A
Performa 640 Series	N/A	N/A	N/A

Macintosh Centris/Quadra Computers			
Macintosh Computer	Logic Board Upgrade Kit	Currently Available	Part Number
Quadra 605	Macintosh Processor Upgrade Card	NO	M3397LL/A
Quadra/Centris 610	Power Macintosh Upgrd Crd. Quadra 660AV Logic Bd. Upgrd. Power Mac 6100/60 Logic Bd. Upgrd Power Mac 6100/60/AV Logic Bd.	NO NO NO NO	M2843LL/A M1534LL/AM2343M2901LL/A
Quadra 630	Power Macintosh Upgrade Card Power Mac 53/6300 Logic Bd. Uprd	NO NO	M2843LL/A M4447LL/A
Quadra 650	Macintosh Processor Upgrade Card	NO	M3397LL/A
Quadra 660AV	Power Mac 6100/60 Logic Bd. Upgrd Power Mac 6100/60/AV Logic Bd.	NO NO	M2343LL/A M2901LL/A
Quadra 700	Power Macintosh Upgrade Card	NO	M2843LL/A
Quadra 800	Power Macintosh Upgrade Card Quadra 840AV Logic Bd. Upgrade Power Mac 8100/80 Logic Bd. Upgrd Power Mac 8100/80/AV Logic Bd. Power Macintosh 8500 Logic Bd.	NO NO NO NO NO	M2843LL/A M1848LL/A M2344LL/A M2902LL/A M3807LL/B
Quadra 840AV	Power Mac 8100/80 Power Mac 8100/80/AV Power Macintosh 8500 Logic Bd.	NO NO NO	M2344LL/A M2902LL/A M3807LL/B

Quadra 900	CD-Rom Upgrade AWS Cache Upgrade Tape Drive Upgrade Five-Drive Upgrade Power Macintosh Upgrade Card Quadra 950 Logic Board Upgrade Workgroup Server 95 PDS Card Workgroup Server 95 PDS Card Workgroup Server 9150 Logic Bd.	NO NO NO NO	M2843LL/A M6940Z/A M6945Z/A M3262LL/A
Quadra 950	Power Macintosh Upgrade Card Workgroup Server 95 PDS Card Workgroup Server 95 PDS Card Workgroup Server 9150 Logic Bd.	NO NO NO NO	M2843LL/A M6940Z/A M6945Z/A M3262LL/A

Power Macintosh Computers			
Macintosh Computer	Logic Board Upgrade Kit	Currently Available	Part Number
5260/100	N/A	N/A	N/A
5400/120	N/A	N/A	N/A
6100 CD Family	Power Macintosh AV Card	NO	M3447LL/A
7100/66	Power Macintosh AV Card	NO	M3447LL/A
7100/66	Power Macintosh AV Card	NO	M3447LL/A
7200	Power Macintosh 7600 Logic Board	NO	M3842LL/A
7300	Power Macintosh 233 MHz Proc. Upg Kit	NO	M6223LL/A
7500	Power Macintosh 120 MHz Proc. Upg Power Macintosh 132 MHz Proc. Upg Power Macintosh 7600 Logic Board Power Macintosh 233 MHz Proc. Upg Kit	NO NO NO NO	M4731LL/A M4875LL/A M3842LL/A M6223LL/A
7600	Power Macintosh 120 MHz Proc. Upg Power Macintosh 132 MHz Proc. Upg Power Macintosh 233 MHz Proc. Upg Kit	NO NO NO	M4731LL/A M4875LL/A M6223LL/A
8100/80	Power Macintosh AV Card	NO	M3447LL/A
8100/100	Power Macintosh AV Card Power Macintosh 8500 Logic Bd	NO NO	M3447LL/A M3807LL/B
8100/110	Power Macintosh 8500 Logic Bd	NO	M3807LL/B
8500	Power Macintosh 132 MHz Proc. Upg Power Macintosh 233 MHz Proc. Upg Kit	NO NO	M4875LL/A M6223LL/A
8600	Power Macintosh 233 MHz Proc. Upg Kit	NO	M6223LL/A
9500	Power Macintosh 132 MHz Proc. Upg Power Macintosh 233 MHz Proc. Upg Kit	NO NO	M4875LL/A M6223LL/A
9600	Power Macintosh 233 MHz Proc. Upg Kit	NO	M6223LL/A

Apple Workgroup Servers			
Macintosh Computer	Logic Board Upgrade Kit	Currently Available	Part Number
WGS 60	Workgroup Server 6150/60 Logic Bd	NO	M2913LL/A
WGS 80	Workgroup Server 8150/80 Logic Bd Workgroup Server 8150/110 Lgc Bd Workgroup Server 8550/132 Lgc Bd	NO NO NO	M2915LL/A M4046LL/A M4607LL/A
WGS 95	Workgroup Server 9150/80 Logic Bd Workgroup Server 9150/120 Lgc Bd	NO NO	M3262LL/A M4047LL/A
WGS 6150/60	N/A	N/A	N/A
WGS 7350	Power Macintosh 233 MHz Proc. Upg Kit	NO	M6223LL/A
WGS 8150/80	Workgroup Server 8550/132 Lgc Bd	NO	M4607LL/A

WGS 8150/110	Power Macintosh 7600 Logic Board	NO	M3842LL/A
WGS 8850/132 WGS 8850/200	Power Macintosh 233 MHz Proc. Upg Kit Power Macintosh 233 MHz Proc. Upg Kit	NO NO	M6223LL/A M6223LL/A
WGS 9150/80	Workgroup Server 9150/120 Lgc Bd	NO	M4047LL/A

PowerBook Computers			
Macintosh Computer	Logic Board Upgrade Kit	Currently Available	Part Number
Duo 200 series	100-MHz PowerPC 603e Logic Board	NO	M3171LL/A
190 series	100-MHz PowerPC 603e Logic Board	NO	M3881LL/A
500 series	100-MHz PowerPC 603e Daughter Bd	NO	M3081LL/A

Notes
The following computers are in the Macintosh 630CD family: LC 630, Quadra 630, Performa 630, Performa 635, Performa 636, Performa 637, Performa 638.
The following computers are in the Macintosh 6100CD family: Macintosh 6100/60, Macintosh 6100/66, Macintosh 6100 DOS Compatible, Performa 6110, Performa 6112, Performa 6115, Performa 6117, and Performa 6118.
The following computers are in the Macintosh 5200CD family: Macintosh 5200/75 LC, Performa 5200, Performa 5210, Performa 5215, and Performa 5220.
The following computers are in the Macintosh 6200CD series: Performa 6200, Performa 6214, Performa 6216, Performa 6218, Performa 6220, and Performa 6230.

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Color Stylewriter 2400 & ClarisWorks: FPU Not Installed

I get an error message that states, "Floating Point Coprocessor Not Installed" when I launch the database function of ClarisWorks.

I have a Performa 636CD, System 7.5, and ClarisWorks 2.x. The Color StyleWriter 2400 driver is selected in the Chooser.
This article has been archived and is no longer updated by Apple.
We were able to duplicate your problem with Clarisworks 2.x. When we installed ClarisWorks 3.0 the problem was resolved. To solve this problem, you have two options available:

1) You can contact Apple for a maintenance upgrade of 2.1 (2.1.4 is the version you need).

2) You can upgrade to a newer version of ClarisWorks.
Published Date: Feb 19, 2012

PowerBook 500 series: Using the LaserWriter Select 310 (4/95)

I am using a PowerBook 500 series computer, without an internal modem, and a LaserWriter Select 310. I just installed the printer software and cannot get it to print. Any ideas?

This article has been archived and is no longer updated by Apple.
The PowerBook 500 series computers were introduced after the LaserWriter Select 310, so you need to use the LaserWriter Select 310 printer driver that comes pre-installed on the hard disk. Installing the LaserWriter Select 310 software that came with your printer can cause compatibility problems since it places older versions of the chooser, printer drivers, and other software on your hard disk.

Setting Up The Printer
---
1) In the Chooser, select the LaserWriter 310 icon.
2) Select the serial port with the telephone icon.

Using With an Internal Modem

If you have an internal modem, in the PowerBook Setup control panel set the Modem section to Normal. In the PowerPort 500 v2.5 software, this setting is located in the Modem control panel under Configure Port. Set it to Normal.

Article Change History:
27 Apr 1995 - Reformatted and corrected driver name.
09 Mar 1995 - Reflected change made by new version of modem software.

Support Information Services
Published Date: Feb 19, 2012

LaserWriter P/C:Smudges 80-90mm From Print‘s Left Edge

This article has been archived and is no longer updated by Apple.

PROBLEM DESCRIPTION: A print is made with a known-good, broken-in toner cartridge. The print is smeared or smudged in one spot or in a vertical column on the page approximately 80 to 90 millimeters (3 to 3 1/2 inches) from the left edge of the page.

CAUSE: 1. The thermoprotector on the fuser assembly may not be positioned improperly on the top fuser roller (see Figure 2-29 on page 2.44 of the LaserWriter Technical Procedures for proper thermoprotector positioning). Over time the toner builds up and because of the heat of the fuser assembly fuses to the thermoprotector. The mass of fused toner increases until it contacts the paper as it is entering the fuser smearing the print.

2. The four screws mounting the feeder guide may be unevenly adjusted causing the feeder guide to bend.

3. The feeder guide may be bent.

4. The paper may be charged with static.

CURE: 1. Check the thermoprotector for improper positioning against the upper fuser roller and toner build-up (refer to the LaserWriter Technical Procedures. Figure 16, item 4, on page 6.32 gives location and Figure 2-29 on page 2.44 for proper thermoprotector positioning). If the thermoprotector does not exhibit these symptoms, go to step 2. If it does, perform the following:
Use MEK (methyl ethyl ketone) copier cleaner/solvent solution (locally purchasable) to clean the thermoprotector.
Do not replace the thermoprotector to solve the problem.

2. Completely tighten (DO NOT STRIP) all four screws mounting the feeder guide, back them off about a half turn so that all have approximately equal torque, then recheck for the problem. (refer to the LaserWriter Technical Procedures, Figure 2, item 2, on page 6.9 for location). If the problem remains, go to step 3.

3. Replace the feeder guide. Tighten the screws as described in step 2.

4. Fan the paper to help reduce any static charge that it may have accumulated.

If the above cure doesn't fix the problem, refer to the LaserWriter Tech Procedures to obtain the general troubleshooting procedure for this product.

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LaserWriter Bridge: PowerBook 500 Series Compatibility

Is it true that the LaserWriter Bridge is not compatible with PowerBook 500 series computers? Does the same problem exist for the new products LaserWriter Bridge 2.0 or LocalTalk Bridge?
This article has been archived and is no longer updated by Apple.
LaserWriter Bridge 1.0 IS NOT compatible with the PowerBook 500 series computers, however, LaserWriter Bridge 2.0 is compatible. Customers can obtain LaserWriter Bridge 2.0 free; it is included in the Network Software Installer (NSI) 1.5 disks.

LocalTalk Bridge is also fully compatible with the PowerBook 500 series computers, and is sold as a separate product.

These articles can help you locate the NSI 1.5 software mentioned here:

* "Where To Find Apple Software Updates" -- Lists online services for free Apple software updates.

* "Obtaining Apple Product Support in the USA" -- Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech Info Library.

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ARA Personal Server: Log Stops Adding Entries

My Apple Remote Access (ARA) Personal Server is able to dial out and users can dial in, but the log has stopped logging any activity.
This article has been archived and is no longer updated by Apple.
Drag both the Apple Remote Access Preferences and the Apple Remote Access Log, in the Preferences Folder within the System Folder on the Server, to the trash, then restart the Server. Apple Remote Access should start logging activity.

WARRING: Be certain you throw away both files mentioned above. Dragging only one file to the trash will cause the server to crash when using ARA.
Published Date: Feb 19, 2012

Apple Remote Access: PowerBook Duo 230 and Error -23

When I use Apple Remote Access (ARA) on my PowerBook 230 with an Express Modem, and I attempt to open a connection; I get the following error message:

"The connection attempt has failed. An unknown error of type -23 has occurred.", or "The connection attempt has failed. An unknown error of type -20 has occurred."

What is causing this?
This article has been archived and is no longer updated by Apple.
System 7.5 has the Extensions Manager control panel, which lets a user turn extensions and/or control panels on or off. The Express Modem control panel has been disabled through the Extensions Manager. Enabling the Express Modem control panel and restarting will correct the error.
Published Date: Feb 19, 2012

System 7.5: The Print Shop ATM Errors and ATM GX (1/95)

Customers may call experiencing an Adobe Type Manager (ATM) error when using Broderbund's The Print Shop with System 7.5.

This article has been archived and is no longer updated by Apple.
According to Broderbund tech support, customers using The Print Shop 1.0 and 1.1 may get an ATM error indicating that a certain font cannot be found, at which point the Macintosh may crash. This occurs when ATM is not installed.

Recently Broderbund tech support has erroneously been recommending that customers run a Custom Install of QuickDraw GX and install only ATM GX, without the other QuickDraw GX software.

However, QuickDraw GX enables fonts upon installation. Font enabling still occurs with the custom install of ATM GX making Type 1 fonts unusable if the customer does not have QuickDraw GX installed, thus creating other problems for the customer.

Broderbund tech support has been made aware of the issues involved with a QuickDraw GX installation and should be modifying their tech database and no longer instructing customers to perform a QuickDraw GX custom install.

The recently released Print Shop Deluxe CD Ensemble includes The Print Shop 1.1.1 and does not appear to exhibit this problem. The Print Shop Companion 1.0 (included on floppies with the CD Ensemble) also does not seem to exhibit this problem. The Print Shop 1.1.1 is not currently available on floppies for customers already owning 1.0 or 1.1. They do, however, have an upgrade path available to the CD Ensemble.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

To locate a vendor's address and phone number, use the vendor name as a search string.

Support Information Services
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System 7: Network Control Panel Pre-Installed or Not? (1/95)

Is the "Network Control Panel" pre-installed on all System 7 or later Macintosh computers? Please include Macintosh Performa models in this discussion.

This article has been archived and is no longer updated by Apple.
The Network Control Panel is not normally pre-installed on a Macintosh system that only has LocalTalk capability.

On a machine, such as a Quadra or Power Macintosh that comes with built-in Ethernet, it will be pre-installed since there are two network interfaces to choose between: LocalTalk or EtherTalk.

In the Macintosh Performa line of computers, Ethernet is usually an optional capability. The exception to this rule is the Performa 61xx series which all have built-in Ethernet. However, unlike most Macintosh models, the Performa models usually will have the Network control panel pre-installed whether they have built-in Ethernet or not.

How to install the Network Control Panel:

* It can be installed from a Network Software Installer disk.
* It can be installed by selecting a Custom Install from the System Software disks.
- If installing from System 7.0, 7.1, or System 6.0.x disks, choose EtherTalk from the custom install selections.
- If installing from System 7.5, choose Network from the Control Panel options in the custom install selections
* It can also be installed by running the installer for any one of several Apple Remote Access products.

Support Information Services
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LaserWriter Select: DOS Compatibility Card Print Issue

I have the DOS Compatibility Card for the Power Macintosh and when I try to print to the LaserWriter Select 300 from Windows, the Macintosh side freezes. I have to restart my Macintosh.

This article has been archived and is no longer updated by Apple.

This is a known problem with the LaserWriter Select printer driver and Background printing. In order to print properly, turn off Background printing and do not use the QuickDraw GX printer driver.

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512K Macintosh 800K External Drive P/C: Sad Mac error 0F0004.

This article has been archived and is no longer updated by Apple.

BACKGROUND: The Apple 800K drive for the Macintosh requires
the following software to run on a 128K or 512K Macintosh:
/HD20 Driver File
/System File Revision 3.0 or greater
/Finder File Revision 5.0 or greater.
A Macintosh Plus does not require the above listed software.

PROBLEM DESCRIPTION: Connect 800K external drive to
Macintosh 512K (NOT upgraded to a Macintosh Plus). Boot
up using Finder 5.0 or greater and System 3.0 or greater.
Attempt to read an 800K disk from the external drive: Mac
bombs with error ID=4. Attempt to initialize a 400K disk in
the 800K external drive: Macintosh displays "Initialization Failed"
dialog box. Attempt to boot an 800K disk on the external
drive: Macintosh bombs with "sad Mac" error 0F0004.

CAUSE: The system file "Hard Disk 20" (the Hard Disk
20 driver) and the other files listed in "BACKGROUND"
(above) are needed for the "old ROM" Macintosh to
communicate with volumes (drives) larger than 400K.
The necessary files may not be on the startup disk.

CURE: Install the files listed in "BACKGROUND" on your
startup disk. If you don't have the files available, contact
your local support center for copies. They are free of charge.

If the above cure doesn't fix the problem, refer to the
Tech Procedures to obtain the general troubleshooting
for this product.

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DOS Compatibility Card: DOSClip Causes DOS Crash (5/96)

I am using Harvard Graphics v3.0 on the DOS Compatibility Card and when I try to copy from the MS-DOS environment to the Macintosh OS, and then go back to the MS-DOS environment, the system crashes. The message I get is:

"Memory allocation error
Cannot load COMMAND, system halted"

This article has been archived and is no longer updated by Apple.

This problem is caused by not loading the SmartDrive into high memory. To correct this you need to change your CONFIG.SYS and AUTOEXEC.BAT files.

In the CONFIG.SYS File
==========

Add the following line:

If you are using PC Setup 1.0.7 lines are:

DEVICE=C:\\DOS\\EMM386.EXE NOEMS X=C800-CFFF RAM=D000-EFFF

or

DEVICE=C:\\DOS\\EMM386.EXE X=C800-CFFF RAM=D000-EFFF

For PC Setup 1.5, the lines are:

DEVICE=C:\\DOS\\EMM386.EXE NOEMS I=CA00-CBFF X=CC00-CFFF RAM=D000-EFFF

or

DEVICE=C:\\DOS\\EMM386.EXE I=CA00-CBFF X=CC00-CFFF RAM=D000-EFFF

Also change the following line:

From - DOS=HIGH to DOS=HIGH,UMB

In the AUTOEXEC.BAT File
==========

Placed LH before C:\\DOS\\SMARTDRV.EXE /X in the autoexec.bat.

Article Change History:
22 May 1996 - Added new config.sys memory lines for PC Setup 1.0.7
Published Date: Feb 19, 2012

DOS Compatibility Card: IRQ settings Hard Coded (1/95)

I have the option in a MS-DOS application program to change the Sound Blaster IRQ setting through the software. However when I do, I still hear music. Why?

This article has been archived and is no longer updated by Apple.
IRQ settings on the DOS Compatibility Card for the Power Macintosh are hard coded. However, the Synthesis portion of the card still functions with the invalid IRQ settings. If you Select digital sound with the invalid IRQ settings, you will not hear anything. You need to select the proper IRQ settings for the card in order to use both part of the Sound Blaster card.

Support Information Services
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DOS Compatibility Card: Macintosh Must Have Some RAM (1/95)

I have a Power Macintosh 6100 with the DOS Compatibility Card and when I set the Shared Memory to 8 MB I get an error when I restart. The message explains that there is not enough memory to load all of the extensions.

This article has been archived and is no longer updated by Apple.
The Macintosh OS needs enough memory to operate normally. If you assign a large portion of memory as shared memory, you need to make sure that you still have enough memory left for the Macintosh operating system (OS) to operate normally. The PC Setup control panel does not do any verification of how much memory you have assigned as shared memory. You must make sure that you are not assigning more memory than you have available as shared memory. For example, if you have 8MB of RAM installed in your Macintosh and set the PC Setup control panel to 4 MB of shared memory you could run into problems if the Macintosh OS takes up more than 4 MB of RAM. If you run into this problem, the best solution is to purchase additional RAM. You can also try to reduce the number of extensions and control panels. This reduces the amount of RAM the Macintosh OS requires.

Support Information Services
Published Date: Feb 19, 2012

DOS Compatibility Card: Older SYSINFO Causes Crash (1/95)

I am using Norton Utilities SYSINFO on the DOS Compatibility Card for the Power Macintosh and it causes the system to crash.

This article has been archived and is no longer updated by Apple.
You need to use v8.0 or higher of SYSINFO. Earlier version can cause the DOS Compatibility Card to freeze or crash.

Support Information Services
Published Date: Feb 19, 2012

DOS Compatibility Card: Cannot Convert Custom Clipboards (1/95)

I have a DOS Compatibility Card for the Power Macintosh and I am trying to copy Adobe PhotoShop clipboard contents to the Macintosh. But, when I copy the contents from Windows and switch over to the Macintosh there is nothing in the clipboard.

This article has been archived and is no longer updated by Apple.
Adobe PhotoShop and a few other high-end Window paint application programs use their own clipboard instead of the Windows clipboard. Some applications have ways of setting the preferences so that they convert things into the Windows clipboard format. In applications like Adobe PhotoShop that do not allow you to change the clipboard settings, there are a couple of options.

1) Open the Window application Clipboard Viewer before you switch between the Windows and Macintosh platforms. This forces Adobe PhotoShop to convert the clipboard into a standard Windows format.

2) Minimize Adobe PhotoShop. This also forces Adobe PhotoShop to convert the clipboard into a standard Windows format.

Support Information Services
Published Date: Feb 19, 2012

DOS Compatibility Card: PowerCD Not Compatible with DOS (1/95)

Can I use the Apple PowerCD with the DOS Compatibility Card?

This article has been archived and is no longer updated by Apple.
You can use the Apple PowerCD when you are using the Macintosh OS, but you cannot use the Apple PowerCD when you are running MS-DOS or Windows. The PowerCD requires special drivers that are not available for MS-DOS or Windows.

Support Information Services
Published Date: Feb 19, 2012

AppleShare & GraceLAN: Network Trash Prevents Disconnect

As the administrator of our AppleShare server, I'm using GraceLAN to limit the time clients can access the server. The users have discovered that if they put something in the trash from the server but not empty it, GraceLAN will not disconnect them. Is there a workaround to this?

This article has been archived and is no longer updated by Apple.

Yes, do not give the client users write access to the root level. This will prevent the Network Trash from creating a folder. AppleShare needs write access to the whole volume to create the Network Trash Folder (which is invisible). When the client puts anything in the trash they will get the message: "Filename cannot be left in the trash. Do you want to delete it immediately?"

Published Date: Feb 19, 2012

Desktop Macintosh Computers: Security Lock Ports

This article describes the type of security lock ports desktop Macintosh computers use, and their location.
This article has been archived and is no longer updated by Apple.
Security lock ports are used to physically lock desktop Macintosh computers to a desk or other stationary object using some kind of cable locking system.

Apple uses four different types of security lock ports on Macintosh computers. They are as follows:

PORT TYPE	DESCRIPTION
Large rectangular port	The original security port is a rectangular port that measures approximately 6mm x 35mm at the opening.
Small rectangular port	A slightly smaller rectangular port that measures approximately 6mm x 22mm at the opening.
1/4" Mini-slot port	A 3mm x 7mm opening without latches of any kind. It uses a different type of security device than the previous security lock ports.
Cable Slotted port	A plastic loop on the bottom of the unit that is intended to have a security cable fed through it.

Use the following chart to determine which type of security device you need for your Macintosh computer.

Note: Generally, security lock ports are located on the back panels of most Macintosh computers or, in the case of the cable slotted port, on bottom panels.

Compact Macintosh		
Macintosh 128K	Large rectangular port	Right center
Macintosh 512K, 512Ke	Large rectangular port	Right center
Macintosh Plus	Large rectangular port	Right center
Macintosh SE	Small rectangular port	Center
Macintosh SE/30	Small rectangular port	Center
Macintosh Classic	Small rectangular port	Left center
Macintosh Classic II	Small rectangular port	Left center
Macintosh Color Classic	Small rectangular port	Center
Macintosh II		
Macintosh II	Small rectangular port	Lower right corner
Macintosh IIx	Small rectangular port	Lower right corner
Macintosh IIcx	Small rectangular port	Next to Nubus slots
Macintosh IIci	Small rectangular port	Next to Nubus slots
Macintosh IIfx	Small rectangular port	Lower right corner
Macintosh IIsi	Small rectangular port	Lower left corner
Macintosh IIvx	Small rectangular port	Next to Nubus slots
Macintosh IIvi	Small rectangular port	Next to Nubus slots
Macintosh LC Series		
Macintosh LC	Cable Slotted port	Bottom right corner
Macintosh LC II	Cable Slotted port	Bottom right corner
Macintosh LC III	Cable Slotted port	Bottom right corner
Macintosh LC 475	Cable Slotted port	Bottom right corner
Macintosh LC 520	Small rectangular port	Center
Macintosh LC 550	Small rectangular port	Center
Macintosh LC 575	Small rectangular port	Center

Macintosh TV	Small rectangular port	Center
Macintosh LC 580	Small rectangular port	Center
Macintosh LC 5200	Cable slotted port	Center
Performa Series		
Performa 200		
Performa 400, 405, 430, 450	Cable Slotted port	Bottom right corner
Performa 475 & 476	Cable Slotted port	Bottom right corner
Performa 550	Small rectangular port	Center
Performa 575	Small rectangular port	Center
Performa 577	Small rectangular port	Center
Performa 578	Small rectangular port	Center
Performa 600	Small rectangular port	Next to Nubus slots
Quadra and Centris Series		
Quadra 605	Cable Slotted port	Bottom right corner
Quadra/Centris 610	1/4" Mini-Slot	Next to AC receptacle
Macintosh 630 family	1/4" Mini-Slot	Next to AC receptacle
Quadra/Centris 650	Small rectangular port	Next to Nubus slots
Quadra/Centris 660AV	1/4" Mini-Slot	Next to AC receptacle
Quadra 700	Small rectangular port	Next to NuBus slots
Quadra 800	Small rectangular port	Lower right corner
	1/4" Mini-Slot	Lower right corner
Quadra 840AV	Small rectangular port	Lower right corner
	1/4" Mini-Slot	Lower right corner
Quadra 900	Small rectangular port	Lower left corner
Quadra 950	Small rectangular port	Lower left corner
Power Macintosh		
Power Macintosh 6100	1/4" Mini-Slot	Next to AC receptacle
Power Macintosh 7100	1/4" Mini-Slot	Next to Nubus slots
Power Macintosh 8100	Small rectangular port	Lower right rear
	1/4" Mini-Slot	Lower right rear
Power Macintosh 9500	Small rectangular port	Lower right rear
	1/4" Mini-Slot	Lower right rear
Apple Workgroup Servers		
Workgroup Server 60	1/4" Mini-Slot	Next to AC receptacle
Workgroup Server 80	Small rectangular port	Lower right corner
Workgroup Server 95	Small rectangular port	Lower left corner
Workgroup Server 6150	1/4" Mini-Slot	Next to AC receptacle
Workgroup Server 8150	Small rectangular port	Lower right corner
	1/4" Mini-Slot	Lower right corner

Workgroup Server 9150	Small rectangular port	Lower left corner

Published Date: Feb 19, 2012

Macintosh Plus : Won‘t Boot With SCSI Peripheral Off

PROBLEM DESCRIPTION: The Macintosh Plus won't boot with a powered off SCSI device connected.

This article has been archived and is no longer updated by Apple.

CAUSE: Macintosh Plus boot ROM checks the SCSI port upon boot-up. If there is a SCSI device connected, the Macintosh tries to communicate with it. Of course, if the device is off, it will not respond and the Macintosh Plus will hang while it is waiting for a response from the SCSI device.

CURE: Disconnect the deactivated SCSI device or turn it on.

Published Date: Feb 19, 2012

PowerBooks: Scrolling Speed - Color vs Black & White (1/95)

I have a PowerBook 170 which I want to replace with a PowerBook 280c. However, I cannot understand why the text scrolling in Microsoft Word 5.1 on the PowerBook 280c seems slower than on my PowerBook 170. On the other hand, I found that the performance of Microsoft Excel is faster on the PowerBook 280c than on my PowerBook 170.

I understand that the PowerBook 170 and the PowerBook 280c are each running at different processor speeds and operating on different system software, but could you provide a technical answer describing why the scrolling on PowerBook 280c seems slower?

This article has been archived and is no longer updated by Apple.
The reason why scrolling may appear faster on a PowerBook 170 is due to the color, or lack thereof. A PowerBook 170 can only display black and white, so a pixel on the screen of a 170 is represented by 1 bit. A PowerBook 280c can display 256 colors, so a pixel on the screen of a PowerBook 280c is represented by 8 bits (16 bits in thousands of colors). This means that QuickDraw has to keep track of that much more information when scrolling which makes it slower.

A better comparison in performance would be to set the PowerBook 280c (or any PowerBook whose screen is set to display grays or colors) to black and white using the Monitors control panel, and then compare application performance. This will give you a truer comparison of the actual processing speed of each machine.

Support Information Services
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PowerBook: Wake On Ring Explanation (6/97)

What exactly is the Wake on Ring feature of my PowerBook and how do I use it?
This article has been archived and is no longer updated by Apple.
The Wake on Ring feature is designed to wake the computer from sleep when a phone call is received by the internal modem. After the computer wakes up via this feature, it will not go to sleep again automatically. When a modem is set to receive a fax, the computer will not sleep because the serial port is busy monitoring for an incoming phone call.

All of the PowerBook 100 series computers (except the 150 and 190) support the Wake on Ring feature. This includes the PowerBook 100, 140, 145, 145B, 160, 165, 165c, 170, 180, and 180c.

PowerBook 500 series computers equipped with a Global Village PowerPort Mercury modem also support the Wake on Ring feature. (The Wake on Ring feature is activated through the PowerPort control panel.)

All other PowerBook computer models (including the 150 and 190) do not have this same "Wake on Ring" feature. Instead they have a "Wake-up At" feature which wakes the computer from sleep at a specified time rather than when the phone rings.

Published Date: Feb 19, 2012

PowerBook: Hard Drive Spins Up After Spin Down Command (4/95)

When I use the Control Strip on my PowerBook to "Spin Down Internal Hard Disk," my hard drive will spin up after a minute or so. Why does it spin up when I'm not actually saving or accessing the hard drive at the time?

This article has been archived and is no longer updated by Apple.
There are two types of files that may cause this to happen.

1. If you are running any applications that automatically update a file or monitor activity, the hard drive may spin up to either read or save. Such programs include anti-virus, backup, spell checkers, and compression software.

The application may also need to load in resources which were not loaded when it launched. The same could hold true for system software resources that become needed after the drive spins down.

2. Some Extensions and Control Panels may cause the hard drive to spin up. When running on battery power, use the Extensions Manager to turn off as many Extensions and Control Panels as possible. This may help to eliminate spurious background activity.

Article Change History:
03 Apr 1995 - Additional reasons for spin up documented.

Support Information Services
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LaserWriter 16/600 PS: Disable NetWare If Not Needed (1/95)

If you are connected to a Novell network, and do not properly configure the LaserWriter 16/600 PS for Netware an IPX bindery request is broadcast every 30 seconds.

This article has been archived and is no longer updated by Apple.
In order to prevent the bindery request, configure the printer for Netware or disable IPX using the Apple Printer Utility.

Disabling Netware
---
1) Place the Configuration switch in the UP position
2) Launch the Apple Printer Utility
3) Use Custom Switch option
3) Select Ethernet Port, NetWare, Mode, Off.

Support Information Services
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PlainTalk: Additional Files Installed Description

After installing System 7.5 from my Upgrade CD, I noticed the following files were also installed in my Extensions folder:

- InlineFilter
- CEToolbox
- QuicKeys

What are these files?
This article has been archived and is no longer updated by Apple.
These three files are installed when PlainTalk is installed. A description of each follows:

- **InlineFilter**: Provides in line text editing for non arabic languages such as Kanji or Chinese. It is related to AppleScript.
- **CEToolbox**: Is used by CE Software's QuicKeys.
- **QuicKeys**: A keyboard macro utility.

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VideoSync: Not Supported on Power Macintosh (3/95)

I have a Power Macintosh 6100AV and I want to tape the output of the screen. VideoSync is available for this purpose, but I cannot get it to work on the Power Macintosh 6100AV. Is there a newer version of this utility that works on the Power Macintosh AV computers?

This article has been archived and is no longer updated by Apple.
There is no officially supported solution available for using VideoSync with a Power Macintosh AV system. But, there is a workaround that you may want to use.

You could could use a third-party sense code adapter, such as the MacLiberty Adapter from Enhance Cable Technology. This adapter has an adjustable dial allowing it to send the Macintosh video card the correct sense codes for a variety of different screen configurations.

By selecting the appropriate setting for VGA or SVGA, a Power Macintosh AV system makes two video modes available, which will display at a 60 Hz scan rate. These video modes are the VGA resolution of 640x480, and the SVGA (also sometimes called VESA) resolution of 1024x768. These modes can be selected by clicking on the "Options" button in the Monitors control panel.

Because these video modes use a 60 Hz scan rate, these resolutions are suitable for filming and video taping. This enables you to use a sense code adapter as an alternaltive to the VideoSync software. Be aware that 60 Hz is definitely not suited for filming and that 60 Hz will create a visible, though slight, roll to the picture.

The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.

Article Change History:
28 Mar 1995 - Changed information on 60 Hz filming and taping.
03 Mar 1995 - Added information on using VGA and SVGA modes.

Support Information Services
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Newton OS: No Audible Beep Moving Sound Slider

If I have the volume level of the Newton OS at the lowest level, then I move the volume level slider, in the Extras drawer, to another level it does not make the corresponding audible beep.
This article has been archived and is no longer updated by Apple.
If you use the use the Sound section of the Prefs instead of the Volume level in the Extras drawer, you get the audible beep.
Published Date: Feb 19, 2012

System 7.5, Adjustable Keyboard, and Key Caps (1/95)

Using Key Caps in System 7.5 with an Adjustable Keyboard, I only see the keypad, not the keyboard. Does the original software for this keyboard need to be installed?

This article has been archived and is no longer updated by Apple.
No, the software for the Adjustable Keyboard was included in the System Update 3.0, which in turn is in System 7.5. The Installer for the Adjustable Keyboard software will put up a warning dialog box indicating that newer software already exists. The solution is to press a key on the keyboard and Key Caps will switch its display to it. In other words, if Key Caps brings up the keypad, press a key on the keyboard and it will then display it, and vice versa.

Support Information Services
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Global Village Fax: Using Shortcuts Make Faxing Easier (1/95)

Each time I want to send a fax with my PowerBook 540c and Global Village Mercury modem, I have to open the Chooser and select Global Fax. Then when I want to print, I have to again open the Chooser and select my printer. Is there an easier way to do this?

This article has been archived and is no longer updated by Apple.
When you make a selection between either Global Fax, or printer in the Chooser then close it, you save that setting as your default printer. By using this method you are changing the Default Printer every time.

An easier way would be to select your printer in the Chooser as the default printer. When you want to send a fax, first press and hold the Option key, then from the File menu select Print or Fax (Fax will appear if the application you are using supports this feature). After you have finished sending your fax, system software will automatically switch back to your default printer.

The Option key can also be changed to the Command key in the Chooser by selecting Global Fax and hitting the radio button Shortcut.

Support Information Services
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Global Village: GlobalFax 2.5 Software Upgrade (3/95)

Global Village has upgraded their GlobalFax software to version 2.5. This upgrade includes many bug fixes, and also provides better support for System 7.5 and QuickDraw GX.

This article has been archived and is no longer updated by Apple.
GlobalFax 2.5 began shipping with Global Village TelePort and PowerPort modems, and OneWorld Fax and OneWorld Combo servers in January 1995. GlobalFax 2.5 software was rolled into bundles that contain Global Village modems in February, 1995 for PowerBook, and is scheduled for March, 1995 for Performa computers. For current GlobalFax users, special low-cost upgrades are available directly through Global Village at 800-736-4821 (select menu option #2). GlobalFax 2.5 Upgrades are priced at $24.95. GlobalFax Cover Sheets are available separately for $24.95.

NOTE: The GlobalFax 2.5 software update is NOT available from Apple Computer; it is available only from Global Village.

The GlobalFax 2.5 upgrade for TelePort serial modems replaces the Performa Receive upgrade previously offered by Global Village. With the new software, owners of Global Village TelePort Bronze for Performa fax modems can now add the original receiving, group address lists, and scheduling capabilities of Performa Receive along with all the new features of GlobalFax 2.5 for one-half the price of the original.

Article Change History:
23 Mar 1995 - Made minor technical updates.
01 Feb 1995 - Changed a small piece of information for clarity.

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DOS Compatibility Card: Printing is Slow in MS-DOS

I have the DOS Compatibility Card for the Power Macintosh 6100 connected using Ethernet to a LaserWriter Pro 630. When I am printing from within any Windows applications, it prints without any problems. However, when I use MS-DOS applications, specifically FoxPro, it is extremely slow printing. It can take up to 10 minutes for something I send to the printer to start printing. I have changed settings in the Macintosh PC Spooler application from PCL to Epson emulation, but that has not increased the printing speed.

I am also concerned about the typeface used when printing from MS-DOS applications. The font looks like Geneva, and I need the font to be in a mono-spaced font like courier. How can I change this?

This article has been archived and is no longer updated by Apple.

There are two possible solutions to increase the speed; connect the LaserWriter Pro 630 directly to the DOS Compatibility Card using a custom serial cable, or print from MS-DOS using a utility from LaserTools. Printing from MS-DOS to the LaserWriter Pro 630 over a network can be extremely slow.

```
Hardware Configuration
======================

In order to print to a LaserWriter 630 connected to the DOS Compatibility Card, a serial cable like the one
below needs to be built.

Cable Pinouts No Handshaking
----------------------------

      DB9                     Din-8
(LaserWriter Pro 630)       (Macintosh)
---------------------       -----------

  DCD 1----|
  DTR 4----|--------------------|----1 HSKo (DTR)
  RTS 7----|                    |----2 HSKi (CTS)
  CTS 8----|
     TxD 3------------------------5 RxD-
     RxD 2------------------------3 TxD-
 SIG GND 5----------------------|----4 SIG GND
                                |----7 GPi
     DSR 6 - No Connection
     RI  9 - No Connection

This cable is a straight through connection without handshaking. Pins 1,4,7, and 8 on the DB9 are connected to
pins 1 and 2 on the Din-8. Pin 5 on the DB9 is connected to both pins 4 and 7 on the Din-8. On this cable
everything is grounded except for transmit and receive. The HSKo and HSKi on the Macintosh are not used, so a
more straight forward cable like the one below can be used instead.

Alternate Cable Pinouts
-----------------------

      DB9                      Din-8
      ---                      -----
DCD     1 No Connection           1  HSKo (DTR) No Connection
DTR     4 No Connection           2  HSKi (CTS) No Connection
RTS     7 No Connection
CTS     8 No Connection
TxD     3-------------------------5  RxD-
RxD     2-------------------------3  TxD-
SIG GND 5 No Connection           4  SIG GND  No Connection
DSR     6 No Connection           7  GPi      No Connection
RI      9 No Connection


Both of these cables work in Windows and MS-DOS. You can use these cables in
Windows at either 19,200 or 9600 baud. However, you can only use 9600 baud when you are using MS-DOS.
```

Software Configuration

Once the LaserWriter Pro 630 is connected to the Macintosh, you need to configure the printer port in the Macintosh OS as: COM1 for MS-DOS and Windows. Here is how to configure the printer port.

Mac Control Panel PC Setup

1. Open the PC Setup control panel
2. Change the Mapping for COM1 to Printer Port. **Note:** If you prefer you can use COM2 instead of COM1.
3. Click the Restart PC button
4. A dialog appears. Click OK to confirm you want to continue.
5. Close the PC Setup control panel

Printing From Windows

1. In Windows, double-click the Main Group icon
2. Double-click the Control Panels icon
3. Double-click the Printers icon
4. Install the appropriate driver for the LaserWriter Pro 630 printer. The printer drivers for Windows are provided with the LaserWriter Pro 630.
   Note: Consult the Windows or LaserWriter Pro 630 manual for driver installation.
5. After driver installation, click the "Connect" button in the Printers Control Panel.
6. Select the appropriate COM port, click the check box marked "Fast Printing Direct to Port"
7. Click the "Settings" button
8. Set the COM port parameters to:
   Baud Rate: 19200
   Data Bits: 8
   Parity: None
   Stop Bits: 1
   Flow Control: Xon/Xoff
9. Click either "Set As Default Printer" or "Close" and Windows is setup to print to a DOS serial printer without having to go through emulation.

Printing in MS-DOS Using Printer Control Panel

The best option printing in MS-DOS is to use a printer mode switching utility from LaserTools. The Printer Control Panel software was licensed and originally included in specific LaserWriters for Windows products. In LaserWriter printers not specifically marketed as Windows printers, this software was not included. If your LaserWriter Pro 630 did not come with the Printer Control Panel software, you need to purchase a copy of it.

The product is a TSR (terminate and stay resident) called Printer Control Panel and works for both DOS and Windows environments. It supports the LaserWriter Pro 600 and 630, Personal LaserWriter NTR, and the LaserWriter Select 310.

The product checks all print jobs from the PC and downloads the appropriate emulation switching PostScript commands to the printer. Thus, the "automatic" emulation switching takes place at the PC-level and not at the LaserWriter, since the LaserWriter cannot automatically sense the type of jobs coming in.

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LaserWriter 16/600 PS: Setting the IP Address from Bootp (2/95)

On the LaserWriter 16/600 PS printer an incorrect IP address (0.0.0.0) is printed on the start-up page. The printer can be printed too, and pinged but the IP address cannot be extracted with bootp (in one situation, the Ethernet hardware address from another device was being associated with the IP address of the LaserWriter). The only way to set the IP address was manually.

This article has been archived and is no longer updated by Apple.
The following is a list of the configuration files that used to set up the
IP addressing through BootP to the Laserwriter 16/600.

```
#Make sure the IP address is the same in the "/etc/hosts" file and the the
#BootP server configuration file

grep printtest /etc/hosts
130.43.4.210 printtest


#Set up the BootP server configuration file

%more /etc/bootptab

test:\\
bf=bp.conf:\\
hd=/etc:\\
hn:\\
ht=ether:\\
vm=rfc1048:\\
ha=1000E02B4531:\\
ip=130.43.4.210:\\
gw=130.43.4.0:\\


#Set up a configuration file with the printer's Ethernet MAC address
# and the intended Ip address:

%more /etc/bp.conf
# printer_name ethernet_address IP_address
testprint 10:00:e0:2b:45:31 130.43.4.210

#To see whether BootP server takes its configuration file or not
%tail /usr/adm/syslog

Jan 25 15:42:31 hp715 bootpd[1341]: reading "/etc/bootptab"
Jan 25 15:42:31 hp715 bootpd[1341]: read 1 entries from "/etc/bootptab"
Jan 25 15:53:24 hp715 bootpd[1374]: bootpd 2.1 #1.16.193.3: Wed Jul 7


#IP configuration for the BootP server
%ifconfig lan0
lan0: flags=63<UP,BROADCAST,NOTRAILERS,RUNNING>
inet 130.43.4.220 netmask ffffff00 broadcast 130.43.4.255



#Please make sure that BootP services are entered and running:

%netstat -a | grep bootp
udp 0 0 *.bootps *.*
```

```
#/etc/services
bootps 67/udp # Bootstrap Protocol Server
bootpc 68/udp # Bootstrap Protocol Client
```

Support Information Services
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Macintosh Software: Microsoft BASIC support of the Toolbox

This article has been archived and is no longer updated by Apple.

Microsoft BASIC, prior to release 2.0, supported a mouse in a very limited manner, with limited use of windows and menu bars. Because it uses MBASIC commands, Microsoft BASIC (pre-2.0) does not support QuickDraw. If you wish access to QuickDraw and Toolbox routines such as windows and menu bars, upgrade your Microsoft BASIC to the latest release.

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Apple Chip Service Part Numbers: Trivial Discrepancies

Quite often customers discover discrepancies in packing lists and actual parts received, most recently with the Apple IIe ROM Enhancement Kit. The story behind this problem also applies to ALL other Apple Chip part numbers, often called the service part number.
This article has been archived and is no longer updated by Apple.
If (and only if) there are two chips:

1. when the four final digits of the part numbers are identical

and

2. when the the first three digits of the part numbers are 341 and 342,

then the chip with part number beginning with 342 has been burnt-in and the other has not.

Note: Do not infer that all chips with part numbers beginning with 342 have been burnt-in.
Published Date: Feb 19, 2012

Newton MessagePad: System Update 1.3 Read Me File

This article contains the Read Me file for the Apple MessagePad System Update 1.3.
This article has been archived and is no longer updated by Apple.
Newton System Update 1.3 for MessagePad 100 and MessagePad 110
==========

This document describes the feature enhancements of System Update 1.3 for the MessagePad 100 and the MessagePad 110, along with installation instructions. This System Update 1.3 is for all MessagePad 100 and MessagePad 110 owners in the United States and Australia.

Changes in This System Update:
==========

* Alarm windows are no longer closed when the Newton goes to sleep. This will prevent you from missing notifications that occur when your Newton is unattended.

* A recognition problem was corrected that may have caused accuracy of handwriting recognition to gradually degrade for some users.

* PCMCIA cards can now be recognized without a soft reset.

* You can use the '*' and '#' characters when dialing phone numbers while in the call slip. (For example, you can set the dialing prefix to "*70" to turn off call waiting if your phone system allows it.)

* If your handwriting style is set to "Printed Only" in Prefs, when you switch to guest mode, then back again, your letter styles settings are restored.

* The PackageMover application is included to install the system update.

CHANGES TO THE MESSAGEPAD 100 SYSTEM SOFTWARE ONLY:

* When you have more than 30 items visible in the Extras Drawer, icons are displayed properly.
* The current date is at the top of all Calendar and To Do printouts and faxes.

CHANGES TO THE MESSAGEPAD 110 SYSTEM SOFTWARE ONLY:
* You can now dial a number using a modem if your location is set to a city in Japan.
* The reliability of erasing flash PCMCIA card memory has been improved.

Installing the System UPDATE 1.3
==========

* If you have a Newton MessagePad 100, install System Update 1.3 (414313).
This version will install over the earlier MessagePad 100 System Update version 1.3 (414059).

* If you have a Newton MessagePad 110, install System Update 1.3 (345025).
This version will install over the following earlier MessagePad 110 System Updates:
- version 1.3 (344052)
- version 1.3 (344138)
- version 1.2.0

If you need to determine the system software version your MessagePad has:

1) Tap Extras to open the Extras Drawer.
2) Tap Prefs.

The system software version number is at the bottom of the screen.

Notes:
* Installing this system update will not affect your handwriting recognition and will not erase any information currently stored on your MessagePad.
* The Newton System Update 1.3 will not damage your MessagePad 110 if you have already installed it, and install it again, or if you install it on an original MessagePad or MessagePad 100.

If you have any questions about installing the System Update 1.3, contact the Apple Assistance Center at (800) SOS-APPL (767-2775).

If you have the Newton Connection Kit 2.0 for Macintosh or the Newton Connection Kit 2.0 for Windows, follow the instructions in "Using the Newton Connection Kit 2.0". If you have a Macintosh or a PC and a serial cable, follow the instructions in "Using a Serial Cable".

Using the Newton Connection Kit 2.0

To install this update, you need the following:

* The System Update 1.3 for the MP100 and MP110 for Macintosh or the System Update 1.3 for the MP 100 and MP110 for Windows disk

* The Newton Connection Kit 2.0 for Macintosh or the Newton Connection Kit 2.0 for Windows

* One of the following:
-- a Macintosh computer with a 68030 processor or better, running system software version 7.1 or later
-- a PC-compatible computer with a 80386DX processor or better, running Windows 3.0 or later

If you have a Macintosh computer, see "Macintosh Users." If you have a PC running Windows, see "Windows Users."

Macintosh users

IMPORTANT: You should synchronize your MessagePad with the Newton Connection Kit or back up to a storage card (PCMCIA card) before you install this system update.

Follow these steps to transfer information:

1) Connect your MessagePad to your Macintosh.

Use the cable that came with your Newton Connection Kit. (It has mini DIN-8 connectors on both ends.) For more information, see the Newton Connection Kit 2.0 for Macintosh User's Guide.

2) Turn your MessagePad and your Macintosh on.

3) Insert the System Update 1.3 for MP 100 and MP110 for Macintosh disk into your Macintosh.

4) On your computer, double-click the disk icon to open it.

5) Click the PackageMover.pkg and drag it to the Newton Package Installer. The Newton Package Installer opens.

6) In the window that appears, select the type of connection you made, and click OK.

7) On your MessagePad, tap Extras to open the Extras Drawer, then tap Connection.

8) Select the kind of connection you made in the list of options. The Newton Package Installer then installs the PackageMover.pkg.

9) On your computer:

* If you have a Messagepad 100, drag the MP100 1.3(414313).pkg file to the Newton Package Installer.
* If you have a MessagePad 110, drag the MP110 1.3(345025).pkg file to the Newton Package Installer.

10) In the window that appears, select the type of connection you made, and click OK.

11) On your MessagePad tap Extras to open the Extras Drawer, then tap Connection.

12) Select the kind of connection you made in the list of options. The selected System Update 1.3 file is installed on your MessagePad. A message appears saying "New system software has been installed. Please tap Restart".

13) Tap Restart.

14) On your MessagePad, tap Extras to open the Extras Drawer.

15) Tap Prefs.
The version number at the bottom of the screen should be 1.3 (414313) if you installed the software successfully on a MessagePad 100, or 1.3 (345025) if you installed the software successfully on a MessagePad 110.

Windows users

IMPORTANT: You should synchronize your MessagePad with the Newton Connection Kit or back up to a storage card (PCMCIA card) before you install this system update.

Follow these steps to transfer information:

1) Connect your MessagePad to your PC. Use the cable that came with your Newton Connection Kit. (a 9-pin serial connector at one end and a mini DIN-8 connector at the other.) If you have a 25-pin serial port, use the adapter that came with your Newton Connection Kit. For more information, see the Newton Connection Kit 2.0 for Windows User's Guide.

2) Turn your PC and MessagePad on.

3) Insert the System Update 1.3 for MP 100 and MP110 for Windows disk into your PC.

4) On your PC, double-click the File Manager icon to open it, and select the A or B drive, depending on which drive the disk is in.

5) Double-click the NEWTINST.EXE icon. The Newton Package Installer opens.

Note: Follow steps 6-9 exactly as stated. You must always select Install Package on your PC first, before tapping Connection on your MessagePad.

6) From the File menu, choose Install Package.

7) Select PCKGEMVR.PKG to install, and click OK.

8) On your MessagePad, tap Extras to open the Extras Drawer, then tap Connection.

9) Tap DOS or Windows PC in the list of options, then tap Connect. PCKGEMVR.PKG is installed on your MessagePad.

10) From the File menu, choose Install Package.

11) Select a System Update 1.3 file to install, and click OK.
* If you have a MessagePad 100, select the MP100.pkg file.
* If you have a MessagePad 110, select the MP110.pkg file.

12) On your MessagePad, tap Extras to open the Extras Drawer, then tap Connection.

13) Tap DOS or Windows PC in the list of options, then tap Connect.
The selected System Update 1.3 file is installed on your MessagePad. A message appears saying "New system software has been installed. Please tap Restart".

14) Tap Restart.

15) On your MessagePad, tap Extras to open the Extras Drawer.

16) Tap Prefs. The version number at the bottom of the screen should be 1.3 (414313) if you installed the software successfully on a MessagePad 100, or 1.3 (345025) if you installed the software successfully on a MessagePad 110.

USING A SERIAL CABLE

To install this update, you need the following:

* the System Update 1.3 for MP 100 and MP110 for Macintosh or for Windows disk

* One of the following:

--a Macintosh computer with a 68030 processor or better, running system software version 7.1 or later, and a serial cable (mini DIN-8 connectors on both ends.)
--a PC-compatible computer with a 80386DX processor or better, running Windows 3.0 or later, and serial cable (a 9-pin serial connector at one end and a mini DIN-8 connector at the other, if you have a 25-pin serial port, use an adapter).

TA33226_Newton_MessagePad_System_Update_Read_Me_File_(TIL17100).pdf

If you have a Macintosh computer, see "Macintosh Users." If you have a PC running Windows, see "Windows Users."

Macintosh users

IMPORTANT: You should synchronize your MessagePad with the Newton Connection Kit or back up to a storage card (PCMCIA card) before you install this system update.

Follow these steps to transfer information:

1) Connect your MessagePad to your Macintosh.
Plug one end of a serial cable (mini DIN-8 to mini DIN-8) into the communication port on your MessagePad and plug the other end into the printer or modem port on your Macintosh.

2) Turn your Macintosh and MessagePad on.

3) Insert the System Update 1.3 for MP 100 and MP110 for Macintosh disk into your Macintosh.

4) On your computer:
* If you have a MessagePad 100, double-click the System Update 1.3 for MP 100 for Macintosh disk icon to open it.
* If you have a MessagePad 110, double-click the System Update 1.3 for MP110 for Macintosh disk icon to open it.

5) Drag the Apple Modem Tool icon to your System Folder.
A message appears telling you that the file will be placed in the Extensions folder.

6) Click OK.
Apple Modem Tool is placed in the Extensions Folder within your System Folder.

7) Click on PackageMover.pkg and drag it to Newton Package Installer.
The Newton Package Installer opens.

8) In the window that appears, select the serial connection you made, and click OK.

9) On your MessagePad, tap Extras to open the Extras Drawer, then tap Connection.

10) Select the kind of connection you made in the list of options.
The Newton Package Installer then installs the PackageMover.pkg from the disk.

11) On your computer, select a System Update 1.3 file to install, and drag it to Newton Package Installer.
* If you have a MessagePad 100, select the MP100 1.3(414313).pkg file.
* If you have a MessagePad 110, select the MP110 1.3(345025).pkg file.

12) In the window that appears, select the type of connection you made, and click OK.

11) On your MessagePad, tap Extras to open the Extras Drawer, then tap Connection.

12) Select the kind of connection you made in the list of options.
The selected System Update 1.3 file is installed on your MessagePad. A message appears saying "New system software has been installed. Please tap Restart".

14 Tap Restart.

15 On your MessagePad, tap Extras to open the Extras Drawer.

16 Tap Prefs. The version number at the bottom of the screen should be 1.3 (414313) if you installed the software successfully on a MessagePad 100, or 1.3 (345025) if you installed the software successfully on a MessagePad 110.

Windows users

IMPORTANT: You should synchronize your MessagePad with the Newton Connection Kit or back up to a storage card (PCMCIA card) before you install this system update.

Follow these steps to transfer information:

1) Connect your MessagePad to your PC.
Use a cable that has a 9-pin serial connector at one end and a mini DIN-8 connector at the other. (If you have a 25-pin serial port, use a 9-pin to

25-pin adapter, along with the above cable.) Choose an available serial port on your PC and connect the end of the cable with 9 holes to the appropriate port. Plug the other end of the cable into the MessagePad's communication port.

2) Turn your PC and your MessagePad on.

3) Insert the System Update 1.3 for MP 100 and MP110 for Windows disk into your PC.

4) On your PC, double-click the File Manager icon to open it, and select the A or B drive, depending on which drive the disk is in.

5) Double-click the NEWTINST.EXE icon.
The Newton Package Installer opens.

Note: Follow steps 6-9 exactly as stated. You must always select Install Package on your PC first, before tapping Connection on your MessagePad.

6) From the File menu, choose Install Package.

7) Select PCKGEMVR.PKG to install, and click OK.

8) On your MessagePad, tap Extras to open the Extras Drawer, then tap Connection.

9) Tap DOS or Windows PC in the list of options, then tap Connect. PCKGEMVR.PKG is installed on your MessagePad.

10) From the File menu, choose Install Package.

11) Select a System Update 1.3 file to install, and click OK.
* If you have a MessagePad 100, select the MP100.pkg file.
* If you have a MessagePad 110, select the MP110.pkg file.

12) On your MessagePad, tap Extras to open the Extras Drawer, then tap Connection.

13) Tap DOS or Windows PC in the list of options, then tap Connect. The selected System Update 1.3 file is installed on your MessagePad. A message appears saying "New system software has been installed. Please tap Restart".

14) Tap Restart.

15) On your MessagePad, tap Extras to open the Extras Drawer.

16) Tap Prefs. The version number at the bottom of the screen should be 1.3 (414313) if you installed the software successfully on a MessagePad 100, or 1.3 (345025) if you installed the software successfully on a MessagePad 110.
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Security Lock Ports On Apple Displays

What type of security lock ports do the Apple displays have and where are they located?
This article has been archived and is no longer updated by Apple.
Security lock ports are used to physically lock Apple displays to a desk or other stationary object using some kind of cable locking system.

Apple generally uses four different types of security lock ports on their hardware products. They are as follows:

Port Type	Description
Large rectangular port	This security port is a rectangular port that measures approximately 6mm x 35mm at the opening.
Small rectangular port	This is a slightly smaller rectangular port. It measures approximately 6mm x 22mm at the opening.
1/4-inch Mini-slot port	This is the most recent security lock port. This port is a small, 3mm x 7mm, opening without latches of any kind. It uses a different type of security device than the previous security lock ports.
Cable Slotted port	This is a plastic loop on the bottom of the unit that is intended to have a security cable fed through it.

Use the following chart to determine which type of security device you need for your Apple display.

Note: Generally, security lock ports are located on the back panels of most Apple displays or, in the case of the cable slotted port, on the bottom panels.

Product	Port Type	Location (when viewed from rear)
12-inch Monochrome	Small rectangular port	lower left corner
12-inch RGB	Small rectangular port	lower left corner
Performa Display	No Security	--
Performa Plus Display	No Security	--
Hi-Resolution Monochrome	Small rectangular port	between power and video
Hi-Resolution RGB	Small rectangular port	between power and video
Macintosh Color Display	Cable slotted port	security on base
Portrait Display	Small rectangular port	lower right corner
16-inch Color Display	Small rectangular port	lower left corner
Two-Page Monochrome	Small rectangular port	lower left corner
21-inch Color Display	Small rectangular port	lower left corner
Apple Basic Color Display	No Security	--
AudioVision 14-inch Display	Cable slotted port	security on base
Apple Color Plus	No Security	--
Multiple Scan 15-inch	Cable slotted port	right-side middle
Multiple Scan 17-inch	Small rectangular port	lower left corner
Multiple Scan 20-inch	Cable slotted port	security on base
Studio Display (17-inch)	1/4-inch Mini-slot port	lower right corner
Multiple Scan 720	Cable slotted port	lower right corner
Multiple Scan 15AV	Cable slotted port	lower right corner
ColorSync 17-inch Display	Cable slotted port	rear
ColorSync 20-inch Display	Cable slotted port	rear

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Apple Mobile Messaging System: Description (7/95)

This article provides an overview of the Apple Mobile Message System.

This article has been archived and is no longer updated by Apple.

Overview

The Apple Mobile Message System is an easy-to-use wireless messaging system that lets users of Apple PowerBook computers, Apple MessagePad units, and DOS Windows-compatible notebook computers manage, while mobile, the following types of communications:

* Telephone
* Voicemail
* Fax
* Paging
* e-mail

This all-in-one-box solution helps mobile computing professionals stay in touch and informed by providing all of the necessary hardware, software and service components in one package.

The contents of the Apple Mobile Message System include:

* The Apple Notification Service, a "one-stop" activation, billing, and support program

* A PageCard wireless message Type II PCMCIA card receiver with LCD screen from Socket Communications

* Update! receive software and Notify! send software from Ex Machina

* DateBook and TouchBase Pro Bundle software from Adobe Systems

* Message transmission via the PageNet nationwide wireless network

* Wireless gateway services by the National Dispatch Center (NDC)

How It Works

Users of the Mobile Message System receive a PageCard dual-mode display pager from Socket Communications that lets them:

Multiple Sources

Receive and view wireless messages from multiple sources including the Internet

Use when Inserted in PowerBook

Receive, view, store, and transfer messages when the PageCard is inserted in their 500-series PowerBook, where they can:
* View and respond to messages on larger display
* Have their mail automatically uploaded to their PowerTalk universal mailbox
* Receive automatic calendar updates to Aldus DateBook via AppleScript
* Send pages via PowerTalk AppleMail and a modem

Use Integrated Send/Receive Application

Receive, view, and send messages with their Apple MessagePad (with a modem) using integrated send/receive application from Ex Machina

Use IBM PC or Compatible

Receive, view, and send messages on an IBM PC or compatible notebook computer (with a PCMCIA slot and a modem) running Windows using integrated send/receive application from Ex Machina

Notification Services

To take advantage of the capabilities of the Apple Mobile Message System, users must sign up with a vendor that routes transmissions to them. Apple is offering its own low-cost service (as part of the Mobile Message System), the Apple Notification Service. The service is available for a basic monthly fee of $19.95.

Information about how to subscribe to the Apple Notification Service can be found in two places: in the Apple Notifications Service guide and in the Activation flyer, both of which are included in the package.

As part of the basic Apple Notification service, customers receive a personal 800 number through which they can receive:

*Numeric messages
* Alphanumeric (full text) messages
* Voice mail messages
* Fax documents

The Notification Service routes the numeric and alphanumeric messages directly to customers' PageCards and notifies them that they have received voice mail messages and fax documents.

As part of the basic Apple Notification Service, customers receive the following:

Message Notification
---
* Nationwide roaming coverage
* Personal 800 number message center
* No separate PIN number needed
* Toll-free fax and voice mailboxes, 30 minutes of use
* 60 messages with 80 alphanumeric characters
* Internet, page send s/w or phone keypad access
* Appoint/calendar updates for DateBook
* Optional operator or on-line access

Internet Notification
---
* Address is your personal 800 number?e.g. 18008772961@NOTIFICATION.COM
* Message includes sender, subject and text up to 500 characters

QuickMail Notification
---
* Optional gateway software from Ex Machina: QM-Notify!
* Allows other QuickMail users to send wireless messages to your pager, PageCard
* Receive mail headers and/or body text of message

Users who purchase the Apple Notification Service also have the opportunity to subscribe to the following optional notification services for an additional fee:

Call Notification

All the features of Message Notification, plus
* Live call routing to any desk or cell phone
* Page notification of live call
* Optional outbound calling

Securities Notification (available April 1995)
---
* Personally selected securities (stocks, bonds, and options) quotes
* Current quotes based on chosen parameters (e.g., price delta, time, volume, high, low, close)
* Breaking news on selected companies
*Updates to portfolio applications are possible

News Notification (available April 1995)
---
*Five news categories: headline, business, weather, sports, entertainment
* Optional routing, via AppleScript to news folders on the PowerBook

Bundled Items

Included in the Mobile Message System are the following items:

Physical Device

* Socket PCMCIA T2 Display PageCard
* Small carrying case for card

System Software

* System 7.5 with PowerTalk
* Send/Receive gateways for PowerTalk from Ex Machina
* Send/Receive software for Newton and Windows from Ex Machina
* Other gateways (CompuServe, FaxSTF, QuickMail, Internet)

Application Software

* PowerBook: Aldus/Adobe DateBook/TouchBase

Services

* Apple Notification Service
* Personal 800 number
* Toll free fax mail box
* Receive short messages from the Internet
* Optional nationwide roaming
* Calendar updates to DateBook

Other items in the bundle

* One Apple integrated manual to cover PageCard, software for three platforms
* System 7.5 Upgrade Guide, Apple Guide Help
* Apple Notification activation flyer, Services manual, Quick Reference Card
* Apple Notification Service manual

System Requirements

To use the Apple Mobile Message System, users will need one or more of the following:

* An Apple PowerBook 500 series computer with at least 8MB of RAM and an Apple PowerBook PCMCIA Expansion Module

* An Apple Newton MessagePad 100 or 110 personal digital assistant

* An IBM or IBM-compatible computer with Microsoft Windows version 3.1 or later, at least 4MB of RAM, a Type II PCMCIA expansion slot, and Card Services software version 2.0 or later

* A Hayes-compatible modem (if you want to send messages)

Availability & Pricing

The Apple Mobile Message System may be purchased only at authorized Apple Value Added Resellers and select Apple authorized resellers.

The ApplePrice for the Apple Mobile Message System (M3516LL/A) is $549. The basic monthly fee for the Apple Notification Service is $19.95.

For more information and/or a list of authorized resellers, customers should call the Apple Mobile Message System fax-back number 1-800-510-4955.

Part Number Description ApplePrice
M3516LL/A Apple Mobile Message System $549.00
. Apple Notification Service $ 19.95/month

Article Change History:
06 Jul 1995 - Corrected typos.
07 Apr 1995 - Made minor technical updates; reformatted.

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SCSI Manager 4.3: Purpose of Extension File (9/96)

I understand that the SCSI Manager 4.3 is part of the ROM in my Power Macintosh computer. After I upgraded to System 7.5, I noticed an extension called SCSI Manager 4.3 in the Extensions folder. What is this for?

This article has been archived and is no longer updated by Apple.

SCSI Manager 4.3 is part of the ROM in all versions of the Power Macintosh computer. System 7.5, when installed from the upgrade CD-ROM disc, places the extension in your Extensions folder, but it is not required.

The absence or presence of the SCSI Manager 4.3 extension has no bearing on the performance of your Power Macintosh computer.

The extension normally provides the benefits of the new SCSI Manager to computers that do not have it in their ROM.

The SCSI Manager 4.3.1 extension from System 7.5 Update 1.0 contains software fixes needed only on 68040-based Macintosh computers and the PowerPC Upgrade Card. The 68040-based PowerBook computers do NOT need SCSI Manager 4.3.1 extension because PowerBook computers do not support SCSI Manager 4.3.

Mac OS 7.5.3 and later have the SCSI Manager 4.3 functionality included in the system software, so the extension is not needed.

Article Change History:
04 Sep 1996 - Updated article to include System 7.5.3.
30 Mar 1995 - Added information on System 7.5 Update 1.0.
22 Feb 1995 - Added keyword; made minor technical updates.
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Intelligent Battery Recondition Software Troubleshooting (2/95)

When I run the Intelligent Battery Recondition application on my PowerBook 540c I get the message "Status: Please attach AC adapter." I already plugged in the AC power adapter, but the installer still will not go past this message. What could be the problem?

This article has been archived and is no longer updated by Apple.
The Intelligent Battery Recondition application will not run if it cannot detect any AC power. The problem you describe indicates that your PowerBook 500 Series AC power adapter may be the reason you cannot charge your battery.

At this point, you may want to have the AC power adapter voltage checked by an authorized Apple Service Provider.

If you have another AC adapter, try to run the Intelligent Battery Recondition application again using this AC power adapter. If the Intelligent Battery Recondition application runs without getting the same error message, you will know that the problem is with your other AC power adapter, not with your battery.

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AppleWorks: Standard and Custom Printer Interfaces

Versions of AppleWorks earlier than version 1.2 don't allow you to run Appleworks using any other interface card but the Apple Super Serial card. If you wish to use a different interface card, you must upgrade to 1.2 or later versions.
This article has been archived and is no longer updated by Apple.
For a new owner of an Apple IIe with AppleWorks, dealers should include only those interface cards that work. The Silentype has its own interface card. Aside from that, there are two interface cards, the Apple II Parallel Interface Card (A2B0021) and the Apple Super Serial Card (A2B0044), that work correctly with all of the printers on AppleWorks' Add a Printer list:

1. Apple Printers

    - Dot Matrix Printer (DMP). AppleWorks is set up for the Apple DMP. If you have any other printer, you must set up AppleWorks for it.
    - Imagewriter
    - Scribe

2. Epson (tm) Printer Series: MX, MX with Graftrax+, RX, and FX
3. Qume (r) Sprint 5 and Sprint 11

For new owners of a IIc, dealers should make sure that the customer's printer is compatible with a IIc running AppleWorks.

For a IIe owner considering AppleWorks, make sure the owner has a configuration compatible with AppleWorks. If the owner doesn't have such a configuration, the owner's only recourse to buy an interface card that is compatible.

Using AppleWorks with cards and printers not on the standard list:

If you're using a card or a printer not on AppleWorks' standard list, you must add a custom printer to your AppleWorks configuration and specify the characteristics of the card or printer.

To choose the following options, type the number and press the RETURN key.

1) From AppleWorks' main menu, choose "5. Other Activities".

2) From the "Other Activities" menu, choose "7. Specify information about your printer(s)".

3) From the "Printer Information" menu, choose "2. Add a printer".

4) From the "Add a Printer" menu, choose "12. Custom printer".

a. Enter the name you wish to use for the printer.
b. Press RETURN.
    - Apple IIe: Choose the slot of the printer's interface card.
    - Apple IIc: Choose the port of the printer.
d. Press RETURN.

5) Press the ESC key: now the printer has been added to AppleWorks.

6) Now you must give AppleWorks what the printer needs to perform, specifying requirments for:

- a line feed after each carriage return
- a top-of-page command
- stopping at the end of each page
- platen width
- interface card settings
- codes for special functions of the printer.

Items 1 to 4 are self-explanatory and can readily be changed to meet the requirements of different jobs. You can do this from the "Printer Information" menu, choosing the printer you named under "Add a Printer".

7) With the Apple IIe, choose "5. Interface Cards". Now AppleWorks asks for a code to send to the printer interface card to prepare the card for sending data to the printer. Consult the table below for the appropriate keystrokes. (Note that [CTRL-] and the character in the bracket means that you must hold the CTRL key down while you type the character; do not type the brackets.)

Interface card	Code string
Apple Parallel Card (2PIC)	[CTRL-I]80N
Apple Super Serial Card	[CTRL-I]80N
Apple Centronix Parallel Card	[CTRL-I]255N
Grappler Plus	[CTRL-I]0N
Microtek RV-611C	[CTRL-I]255N
Pkaso	[CTRL-I]0N
MPC AP Graph and Graphwriter	[CTRL-I]255N

If your card isn't on this chart, look in the card manual; it should have the code string.

It's important to note that, although some printer manuals give code strings in the form of keystrokes, some other manuals give code strings in numerical form, either decimal (0 to 9) or hexadecimal (0 to F). AppleWorks won't accept a code string simply typed in as one of these numbers; you must use a keystroke or combination of keystrokes to send the number from the keyboard to AppleWorks. Look up the decimal or hexidecimal form of the number in an Apple II ASCII chart; the appropriate keystrokes are on the right.

Suppose, for example, the manual states that the decimal code string 09464878 initializes the card. On an Apple II ASCII chart, 09 is [CTRL-I], 46 is the eight key, 48 is the zero key, and 78 is capital N; altogether, that's [CTRL-I]80N. To put this into AppleWorks you would:

1. Choose "5. Interface Card"
2. Hold down the CTRL key and type I
3. Type 80
4. Hold down the SHIFT key and type N
5. Hold down the SHIFT key and type 6; this ends the string with the carat or '^' AppleWorks requires.

8) With the Apple IIc and the Apple IIe, you must give AppleWorks what the custom printer needs to perform special functions. For each special function of the printer, you will have to enter a code using a combination of keystrokes that may not be immediately obvious. If you don't know the codes, have your printer manual nearby, and follow the instructions on pages 252 to 258 of the AppleWorks Reference Manual. Choose the option, perform the keystrokes that send the codes to AppleWorks, and then end the string by typing '^'.

Example: To configure the custom printer driver to turn on the underline function of the fictitious printer, the ByteSpitter 1000 follow these steps:

1. From AppleWorks' main menu, choose "5. Other Activities".
2. From the "Other Activities" menu, choose "7. Specify information about your printer(s)".
3. From the "Printer Information" menu, choose the name of your custom printer under "Change printer specifications".
4. Choose "6. Printer Codes"
5. From Printer Codes choose "4. Underlining" (see note below)

Note: By checking with the ByteSpitter 1000 Reference Manual, we know that in order to turn on Underline Mode, the ByteSpitter 1000 requires the character string 'ESC U'. The command to stop underlining is 'ESC N'.

6. From Underlining choose "2. Printer has start/stop underline commands"
7. Choose "1. Underline begin"

The display will then show
Underline Begin
Current control characters are None
'Type the exact control characters required (^ = End):' appears at the bottom of the screen.

8. Press and release the 'ESC' key
9. Hold down the SHIFT key and type U.

Note: Case is very significant here. If the manual states that the printer needs a capital letter then it must be entered in upper case.

10. Hold down the SHIFT key and type '6' this ends the string with the carat or '^' AppleWorks requires for the end of the command string.
11. Choose "1. Underline end"

The display will then show
Underline End
Current control characters are None
'Type the exact control characters required (^ = End):' appears at the bottom of the screen.

12. Press and release the 'ESC' key
13. Hold down the SHIFT key and type N.
14. Hold down the SHIFT key and type '6' this ends the string with the carat or '^' AppleWorks requires for the end of the command string.

Press the escape key five times to return to the main menu. To turn on underline in a Word Processing document, position the cursor on the first letter to be underlined, press Open-Apple-O and then type UB (underline begin). Underline will be in effect until the UE (underline end) command is entered or a carriage return is reached.

Try printing a document to your printer. If all is well, you can return to the printer setup portion of AppleWorks at any time and enter keystrokes to change or add codes for the printer's special features: superscripting, subscripting, boldface and different CPI. This information will be stored on the AppleWorks program disk for future use.

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Adobe PhotoShop: Determining Scratch Disk Size (2/95)

I am using Adobe PhotoShop 3.0 and when I open a file I get an error message that reads "The scratch disk is full". What is the problem?

This article has been archived and is no longer updated by Apple.
When opening a file, PhotoShop creates a scratch disk three to four times the size of the actual file. For example, if you try and open a 10MB file, the scratch disk it attempts create ranges from 30MB to 40MB. There may not be enough acutual room on the hard disk to open large files. If you have an external hard drive, with enough storage space, you can set the prefrences in PhotoShop to create the scratch disk using a different drive with more storge space. If the problem persists you need to talk to Adobe Technical Support.

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StyleWriter: Using Manual Feed With StyleWriter II Driver (2/95)

I am using a StyleWriter with the StyleWriter II printer driver. When I try to print an envelope, the manual feed option is dimmed. How do I use the manual feed option?

This article has been archived and is no longer updated by Apple.
The StyleWriter II printer driver is backward compatible to support the original StyleWriter. Starting with System 7.1.2, the StyleWriter II printer driver is the only driver installed in the Macintosh OS. In order for the printer driver to activate the manual feed option, you must first print to the StyleWriter using the sheet feeder option. After this procedure, the printer driver recognizes that an original StyleWriter is attached to your Macintosh, and the next time you print the manual feed option is available.

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DOS Compatibility Card: Bit-Depth Causes Slow AVI Movies (2/95)

I have a DOS Compatibility Card for the Power Macintosh 6100, and I am trying to use AVI files on it. However, when I try playing these files, they drop both frames and lose sound. The same files work fine on a IBM 486 DX2-50 computer. How can I improve performance? Would performance increase using QuickTime for Windows 2.0?

This article has been archived and is no longer updated by Apple.
The probable cause of the problem is that the AVI movie was compressed as a 16-bit (32,000 colors) or 24-bit (16 million colors) movie and you are trying to play it back on an unaccelerated 8-bit display (256 colors), and the on-the-fly conversion taking place is slowing down the movie.

You can try converting the movie to 8-bit Video for Windows or converting it to QuickTime for Windows 2.0 with the AVI converter, for better frame rate and audio performance. One application that works well for this type of conversion is Adobe Premiere for Windows.

QuickTime for Windows 2.0 is a for-sale product available from APDA, Apple Software Licensing, and online through ZiffNet/Mac and ZiffNet. ZiffNet/Mac and ZiffNet are the online information services all about computing, from Ziff-Davis Interactive, hosted on the CompuServe Information Service. Ziffnet/Mac members can type GO MACSTORE and ZiffNet members can type GO STORE to download the new version of QuickTime for Windows.

Support Information Services
Published Date: Feb 19, 2012

Color StyleWriter Pro: Changes in Printer Driver v1.5.2 (2/95)

This article describes the changes made in Color StyleWriter Pro v 1.5.2 printer driver.

This article has been archived and is no longer updated by Apple.
Version 1.5.2 of the Color StyleWriter Pro printer driver fixes two problems found in version 1.5.

* Fixes a problem where Power Macintosh computers would freeze when trying
to print to the Color StyleWriter Pro the very first time. The freeze
would typically occur while printing the calibration page.

* Fixes a problem involving certain Macintosh computers with 32MB or more
of RAM installed would generate an error type -39 when trying to print
to a Color StyleWriter Pro.

The Color StyleWriter Pro v1.5.2 update can be found on the online services Apple publishes software updates on.

These articles can help you locate software updates mentioned here:

* Where To Find Apple Software Updates
Lists online services for "free" Apple software updates

* Obtaining Apple Product Support in the USA
Lists 800 numbers and online services for software updates, Apple
support information, and a subset of the Apple Tech. Info. Library

Support Information Services
Published Date: Feb 19, 2012

Power Macintosh: Bus Speeds

This article provides the bus speeds of Macintosh computers manufactured more than seven years ago. For more recent computers, see document 86802.
This article has been archived and is no longer updated by Apple.
Below are the processor and bus speeds for Macintosh computers prior to the Power Macintosh G3.

Computer	Processor Speed	Bus Speed
Power Macintosh 4400/200	200 MHz	40 MHz
Power Macintosh 5200/75, Macintosh Performa 5200 Series	75 MHz	37.5 MHz
Power Macintosh 5260/100 & 5300/100 & Performa 5300 Series	100 MHz	40 MHz
Macintosh Performa 6200 Series	75 MHz	37.5 MHz
Macintosh Performa 6290CD,	100 MHz	40 MHz
Macintosh Performa 6300CD Series, Macintosh Performa 6320CD		
Power Macintosh 5400/120	120 MHz	40 MHz
Power Macintosh 5400/180	180 MHz	40 MHz
Power Macintosh 5400/200	200 MHz	40 MHz
Power Macintosh 6400/200	200 MHz	40 MHz
Macintosh Performa 6400/180	180 MHz	40 MHz
Macintosh Performa 6400/200	200 MHz	40 MHz
Macintosh Performa 6360/100	160 MHz	40 MHz
Power Macintosh 5500/225	225 MHz	50 MHz
Power Macintosh 6500/225	225 MHz	50 MHz
Power Macintosh 6500/250	250 MHz	50 MHz
Power Macintosh 6100/60	60 MHz	30 MHz
Power Macintosh 6100/66	66 MHz	33 MHz
Power Macintosh 7100/66	66 MHz	33 MHz
Power Macintosh 7100/80	80 MHz	40 MHz
Power Macintosh 7200/75	75 MHz	37.5 MHz
Power Macintosh 7200/90	90 MHz	45 MHz
Power Macintosh 7200/120	120 MHz	40 MHz
Power Macintosh 7300/166	168 MHz	48 MHz
Power Macintosh 7300/180	180 MHz	45 MHz
Power Macintosh 7300/200	200 MHz	50 MHz
Power Macintosh 7500/100	100 MHz	50 MHz
Power Macintosh 7600/120	120 MHz	40 MHz
Power Macintosh 7600/132	132 MHz	44 MHz
Power Macintosh 8100/80	80 MHz	40 MHz
Power Macintosh 8100/100	100 MHz	33 MHz
Power Macintosh 8100/110	110 MHz	36.67 MHz
Power Macintosh 8500/120	120 MHz	40 MHz
Power Macintosh 8500/132	132 MHz	44 MHz
Power Macintosh 8500/150	150 MHz	50 MHz
Power Macintosh 8500/180	180 MHz	45 MHz
Power Macintosh 8600/200	200 MHz	50 MHz
Power Macintosh 9500/120	120 MHz	40 MHz
Power Macintosh 9500/132	132 MHz	44 MHz
Power Macintosh 9500/150	150 MHz	50 MHz

Power Macintosh 9500/180MP	180 MHz	45 MHz
Power Macintosh 9500/200	200 MHz	50 MHz
Power Macintosh 9600/200	200 MHz	50 MHz
Power Macintosh 9600/200MP	200 MHz	50 MHz
Power Macintosh 9600/233	233 MHz	46.6 MHz
PowerBook Computers	**Processor Speed**	**Bus Speed**
PowerBook 1400cs	117 MHz	25 MHz
PowerBook 1400c	117 MHz	25 MHz
PowerBook 1400c	133 MHz	25 MHz
PowerBook 2300c	100 MHz	33 MHz
PowerBook 5300	100 MHz	33 MHz
PowerBook 5300cs	100 MHz	33 MHz
PowerBook 5300c	100 MHz	33 MHz
PowerBook 5300ce	117 MHz	33 MHz

Published Date: Feb 19, 2012

ImageWriter II: Single Sheets of Paper Require Manual Feed 2/95

Whenever I try printing to my ImageWriter II using single sheets of paper, the top margin is not what I specified in my application. How can I get the proper margin in my document?

This article has been archived and is no longer updated by Apple.
This occurs when you select Automatic in the Print dialog. Instead, select Hand Feed or Manual Feed depending on the printer configuration. You should Automatic only when you are using tractor feed paper.

Support Information Services
Published Date: Feb 19, 2012

Color StyleWriter 2400: Printing Problems with Print Shop (1/97)

I am having problems trying to print to my Color StyleWriter 2400 from Print Shop Deluxe.

This article has been archived and is no longer updated by Apple.

If you having problems printing to the Color StyleWriter 2400, you need to upgrade your version of PrintShop Deluxe. Both Print Shop Deluxe 1.1.1 and Print Shop Deluxe CD Ensemble v1.0, by Broderbund, provide support for printing to the Color StyleWriter 2400 printer.

The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.

Article Change History:
09 Jan 1997 - Corrected the product name of Print Shop Deluxe.
21 Mar 1995 - Reviewed for technical accuracy.
Published Date: Feb 19, 2012

Macintosh Software Updates: Order for Installation (5/95)

I have System 7.1, System Update 3.0, Network Software Installer, and Express Modem Software to install on my Macintosh. What order should these products be installed.

This article has been archived and is no longer updated by Apple.
Installation of Macintosh system software is pretty flexible. After installing the Mac OS System Software, examine the Read Me file for any additional packages that you intend to install. Check to see if any order dependencies are mentioned (usually there are none). If there are no dependencies, you can usually install packages in any order.

The Apple Installer program will check to see if the system has later versions of software installed already. Generally, it will not let you downgrade, or go backwards, with respect to versions of software already installed as this could cause problems and is not what users would want to happen. Take, for example, a file like the Apple Shared Library Manager (ASLM), which comes with GeoPort, QuickTake, AppleShare 4.x, ARA MultiPort Server, Apple Internet Router, Apple IP Gateway, Open DB Connectivity, and MacSNMP. Not that you would want to install all of these products, but the order you install any set of them is unimportant. In this case, after installing some set of packages, the Installer will have placed the latest version of ASLM in the Extensions folder from whatever package contained the latest version.

Occasionally, the installer script will recognize that software could be downgraded by the installation and you will be presented with a warning stating that you are trying to install software that is older than what's already installed. That warning will allow you to cancel the whole installation or choose the Older or Newer component. We would recommend selecting Newer unless you are trying something out of the ordinary.

NOTE: Any version of ASLM greater than 1.1 is compatible with all software that utilizes the manager. There are no compatibility problems other than those for software written to the 1.0 ASLM API, of which all (that we are aware of) have been revised to the current API.

If you desire more of a roadmap, you should install packages in the order that they were released, as each package will have probably been tested with all packages before its release. To install packages in the order that they were released chronologically, note the modification date on the Installer script file, (not the installer application), by doing a Get Info of the Installer script document. These dates should correspond closely to the release date of the package. Installing in the order of release date should be a safe installation technique.

Article Change History:
01 May 1995 - Added note to article on ASLM 1.1 compatibility.

Support Information Services
Published Date: Feb 19, 2012

DOS Compatibility Card: Ethernet Drvr Does Not Use IRQ‘s (2/95)

I need to know the Ethernet IRQ settings for the DOS Compatibility Card. I have a DOS application that needs to know the IRQ settings.

This article has been archived and is no longer updated by Apple.
The ethernet driver (MACODI.COM) used for the built-in Ethernet on the DOS Compatibility Card does not use IRQs. It conforms to the ODI specification for a Multiple Link Interface Driver (MLID), which do not use IRQs. You are probably trying to use a NDIS application, whose drivers DO use IRQs. If this is the case, you need to use Novell's ODI to NDIS translator (odinsup.com) to configure the software to function in an ODI environment. For more information on odinsup.com, contact Novell Inc.

To locate a vendor's address and phone numbers, use the vendor name as the search string.

Support Information Services
Published Date: Feb 19, 2012

Apple WorkGroup Server: Meaning of DAT drive LEDs

This article explains why the status lights on the DAT drive blink, even without a tape inserted.
This article has been archived and is no longer updated by Apple.
After every 25 hours of use, the head cleaning light sequence flashes even without a tape until the cleaning cartridge is inserted. The cleaning tape resets the lights.
Published Date: Feb 19, 2012

Newton OS: General Performance Hints

I have an Apple MessagePad and it seems slow particularly when moving between folders. Is there anything I can do to improve performance?
This article has been archived and is no longer updated by Apple.
To help increase performance, the first thing you should do is clean up your folders and notes. You should also limit the number of folders you have to seven (7). Doing these two things helps improve the overall performance of the Newton OS.
Published Date: Feb 19, 2012

PostScript: Daisywheel emulator for the LaserWriter (1 of 2)

This article provides PostScript information for building a daisy wheel emulator for the LaserWriter. This information is provided by Adobe Customer Support. Apple Computer Inc. is not responsible for the contents of this article.

This article has been archived and is no longer updated by Apple.
Caution

If you choose to use the PostScript code provided in this article, you assume all risks involved in making these changes.PostScript code, if not entered correctly, can place the LaserWriter into a condition requiring service.

Below is a generalized PostScript program that provides a framework for building ANY daisy wheel emulator. Anyone with knowledge of PostScript will be able to figure out how to customize this program to meet their special needs. Unfortunately the sensitivity to ^C^D^T^S^Q,CR,LF is not avoidable.

```
%!
%Copyright (c) 1985, Adobe Systems Incorporated, Palo Alto, CA.
%"Used with permission."
%This program may be reproduced, used, and sold, as long as the above copyright
%notice appears in all copies (in any media) and on labels of machine-readable
%media.
%
%Definitions for program "Daisyprint".
%Last revision: MJF 1/29/86.
%
% Generic daisy-wheel emulator. Current parameters are set up for Vanilla.
% None of the following defs should be changed. Procs and defs that can be
% safely changed are those in the second half of this program, following the
% double bar line: ═══════════════════════════════════════════════════════
% Instructions for use at end of this listing.

/DaisyEmDict 30 dict def
/Daisyprint {DaisyEmDict begin printfile end} def

DaisyEmDict begin %-----------------------------------------------------

/printfile %main job loop
{ initjob
CmdDict begin
{currentfile read %Read one byte at a time.
%Be sure not to send ^c,^d,^t,^s,^q

{printchar} {showpage exit} ifelse
}loop
popCmdStack end %CmdDict
}def

/initjob
{ RomanFont setfont
/linect 1 def
/charct 0 def
/CmdDictBase countdictstack 1 add def
initpage
}def

/initpage
{ orientpage
LeftMargin FirstLine moveto
/linect 1 store
/charct 0 store
}def
%Caution - This program stacks dictionaries. It is therefore wise to use
```

```
%"store" rather than "def" to assign new values to old variables.

/printchar %( n -- ) This routine actually does the emulation.
{ dup cmd?
{doCmd} {emit} ifelse
} def

/cmd? %( n -- b ) Looks for command only in topmost dictionary
{ currentdict exch known } def

/doCmd %as per the topmost dictionary, since doCmd is only invoked
%if cmd? finds the command in the topmost dict.
%default top dict: CmdDict

{load exec} def

/emit %( n -- ) convert char code to printable char, and show it.
{ charct MaxCharCt ge
{ (\\\\) show CR LF } if
workstring dup 0 4 -1 roll put show
/charct charct 1 add store
} def

/CmdError %To handle errors during multi-character command sequences,
%"emit" is redefined, thanks to dictionary stacking and
%late-binding. See /EscDict later on in this listing.

{ popCmdStack emit } def

/popCmdStack %clean up dict stack after completion or interruption of
%multi-character command sequences.
%CmdDictBase was defined in initjob.
%CmdDict is never popped off the dict stack.

{ countdictstack CmdDictBase sub {end} repeat } def


% Routines to assist page handling ----------------------------------------

/orientpage
{ setlandscape?
{ 8.5 72 mul 0 translate 90 rotate }
{}
ifelse
} def

/workstring 1 string def

/CR % cr only (no linefeed)

{ LeftMargin currentpoint exch pop moveto
/charct 0 store
} def

/LF % linefeed without cr -- ff if needed.
% linect was def'ed in initjob.

{ linect MaxLineCt lt
{ /linect linect 1 add store
currentpoint LnHt sub moveto }
{ currentpoint pop FirstLine
FF moveto }
ifelse
} def
```

```
/FF %showpage and formfeed

{ showpage initpage }def
```

Article Change History:
08 Feb 1995 - Added PostScript caution.

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Color OneScanner: Difference Between Rev A and Rev B (2/95)

Is there any way to tell the difference between the Apple Color OneScanner rev. A and rev. B from the outside?

This article has been archived and is no longer updated by Apple.
Yes, the Apple Color OneScanner Rev.A has a lamp replacement access door on the right side of the scanner. This door is absent on the Apple Color OneScanner Rev.B.

The removal of the access door is the only difference (both internal and external) between the Rev. A and Rev. B Apple Color OneScanner .

Support Information Services
Published Date: Feb 19, 2012

LaserWriter 16/600 PS: Envelope Feeder Capacity (2/95)

This article describes the LaserWriter 16/600 PS envelope feeder capacity and envelope sizes.

This article has been archived and is no longer updated by Apple.
Here are the envelope sizes supported:

Envelope	Weight	Size
COM 10	24 pound	4 1/8 in. X 9 1/2 in. (104.7 mm x 241.3 mm)
Monarch	24 pound	3 7/8 in. x 7 1/2 in. (98.4 mm x 190.5 mm)
DL	80 g/square meter	110 mm x 220 mm
C5	90 g/square meter	162 mm x 229 mm

The envelope feeder will hold up to 75 standard business envelopes.

Both the new envelope feeder and the optional second sheet feeder are backwards compatible with the LaserWriter 630 printer. The accessories for the LaserWriter 630 are NOT forward compatible to the LaserWriter 16/600 PS printer.

Support Information Services
Published Date: Feb 19, 2012

System 7.5: Clean Installation from the Hard Drive (9/95)

This article presents the steps necessary to perform a clean installation of system software version 7.5 when the installer software has been pre-loaded on the hard drive. Follow these instructions in the order presented.

This article has been archived and is no longer updated by Apple.

Purpose of a Clean Installation

A normal system software installation modifies and updates the existing System Folder. A clean installation disables the existing System Folder, leaving most files in place, and forcing the Installer to create a new System Folder.

A clean system installation brings the system software back to the standard configuration. This is necessary when system software has been damaged or modified, preventing a normal installation. It is also useful in troubleshooting.

Follow these instructions in the order presented.

Restart with Disk Tools

Shut down your Macintosh computer, insert Disk Tools in the floppy drive, and turn on the computer. At the desktop, the Disk Tools floppy disk's icon should be in the upper-right corner of your screen with your hard disk's icon below it.

If the computer ejects the Disk Tools disk, make sure you have the Disk Tools specified for your model Macintosh.

Run Disk First Aid

Disk First Aid can detect and repair problems with a hard disk.

1) Open the Disk Tools disk, and double-click on the Disk First Aid icon.
In the window that appears, select the main hard drive.

2) Click once on Verify. Disk First Aid will check your hard disk for any
potential problems. If it finds problems, you should let the software
repair them.

3) Repeat this procedure for each hard disk attached to the system.

4) When you're finished verifying the hard disks, choose Quit from the
File menu to return to the desktop.

If Disk First Aid cannot repair a hard disk, you should back up the hard disk and reinitialize it using the appropriate formatting utility for that drive. For Apple SCSI drives, use Apple HD SC Setup. If you have an Apple IDE drive, use Intrneal HD Formatter or Drive Setup 1.0.2.

Update Hard Disk Drivers

If you do not have an Apple hard drive, or you use third-party software to format your hard disk, do not use the Apple HD SC Setup utility. However, you should contact your hard drive vendor to verify that your formatting software is compatible with system software version 7.5.

If you have an Apple SCSI hard drive, you should update the drivers with the version of Apple HD SC Setup that is in the System 7.5 folder, following these steps:

1) Double-click the Apple HD SC Setup icon on the Hard Drive to open it.

2) Click on the Update button.

3) When you're finished, click Quit to return to the desktop.

Sometimes HD SC Setup can not update the hard disk driver (indicated by a "dimmed" Update button). Here are some possible causes and solutions:

* If a third-party utility formatted your hard disk, you should obtain
the latest version of the utility to update your hard drive.

* If a version of Apple HD SC Setup more recent than the version on the Disk Tools disk formatted your hard drive, do not update the hard disk drivers.

* If an earlier System 6 version of Apple HD SC Setup formatted the drive, it may not have left enough room for the updated driver. You do not have to update the hard disk drivers. However, if you intend to use file sharing or have a Macintosh that can use virtual memory, then you need to back up the disk and reinitialize it with HD SC Setup. This erases the disk, so be certain you back up the hard disk first.

* If the driver is corrupt, the Macintosh does not recognize the drive (that is, the drive doesn't show on the desktop when you start from a floppy disk). You may wish to reinitialize it with HD SC Setup. This erases the disk, so be certain you back up the hard disk first.

* If the driver was modified with disk compression or security software you may not be able to update the SCSI drive with Apple HD SC Setup. Contact the vendor for any special instructions.

* If your internal hard drive is not a SCSI hard drive, but an IDE drive, you should use Internal HD Formatter or Drive Setup 1.0.2. These utilities are available from online services and are able to test and update the drivers on IDE drives.

Check Available Hard Disk Space

Be sure you have at least 21MB available on the hard disk where you plan to install the system software. Open the hard disk's window. Open the Views control panel and select "Show disk info in header." The amount of available disk space appears in the upper-right corner of any open window.

If there's less than 21MB available, you'll need to delete some unnecessary files by moving them to the Trash. Choose Empty Trash from the Special menu, and you will have more disk space available. Also you can copy files onto floppy disks or other media before moving them to the Trash.

Performing a Clean Install
---
1. Start up the computer while holding down the Shift key until you see the message "Welcome to Macintosh, Extensions Off."
2. Double-click the Installer located on the Hard Drive. Pass through the Welcome to System 7.5 dialog box.
3. Check the destination drive and make sure the Hard Drive is selected.
4. Press the Command-Shift-K keys simultaneously.

You are presented with a small dialog box with two selections:

- Update existing system folder
- Install new system folder

For a clean install, select Install new system folder. This installs a new system folder and renames your current folder to "Previous System Folder".

After performing a System 7.5 Clean Install, when About This Macintosh is selected under the Apple menu, it no longer displays the specific Macintosh name. Instead, it displays only "Macintosh", "Macintosh Powerbook", or "Power Macintosh" depending on which system it is running on.

If System 7.5 is installed over an existing system (pre 7.5), it retains the specific Macintosh name for the About This Macintosh window. This holds true for future Macintosh computers also.

Restart Your Computer

Choose Restart from the Special menu. The system automatically ejects the Disk Tools disk, and it should boot on the Hard Drive normally.

Verify Problem Resolution

After performing a clean installation, verify that you resolved the problem before adding anything to the new System Folder. Adding items to the System Folder before resolving your problem defeats the purpose of this procedure.

Install Non-Standard Items

You can now reinstall the non-standard items from the old System Folder (now named "Previous System Folder") such as fonts, screen savers, device drivers, and so on. If possible, you should reinstall these items from their original disks.

If the original disks are not available, you may move the non-standard items from the Previous System Folder to the new System Folder. Be careful not to replace anything that is already in the new System Folder. Only move items that are not already in the new System Folder.

1) Open each corresponding folder within the System Folder and the Previous System Folder then compare the contents.

2) Move anything that is not already in the new System Folder and its subfolders from the Previous System Folder and its subfolders.

3) Restart your Macintosh.

Troubleshooting Extension Conflicts

If you have installed any system extensions or control panels, you will probably see their icons line up across the bottom of the screen when you restart. They load into memory at startup time and modify the standard behavior of the operating system.

Verify INIT Conflict

If the Macintosh fails to restart or behaves erratically, you probably have an incompatible or conflicting INIT (also known as a system extension or control panel). To verify this problem, follow these steps:

1) Be sure the Caps Lock key is off.

2) Restart, and after you see the picture of a computer with a smile, hold down the Space Bar key.

3) Release the Space Bar key when the "Extensions Manager" window appears.

4) Select "All Off" in the Sets pull down menu then close Extensions Manager.

5) When the Macintosh is ready, try to recreate the erratic behavior.

If the problem no longer occurs, then you have a conflicting extension or control panel. Continue with the steps in the next section.

Turn On and Turn Off INITs in System Folder
---
1) Using the Extensions Manager turn on your Extensions and Controls Panels one at a time.

2) Close the Extensions Manager, and restart the Macintosh.

3) Attempt to recreate the original problem.

Repeat steps 1 through 3 for each item in the Extensions Manager until the problem reoccurs. The last item activated in the Extensions Manager is probably the cause of the problem.

Final Steps

Verify that your applications are performing normally. If not, refer to the application manual or contact the vendor.

When the Macintosh behaves as expected, move the Previous System Folder to the Trash, and choose Empty Trash from the Special menu.

Article Change History:
06 Sep 1995 - Reviewed for technical accuracy, corrected minor typo.

TA33254_System_Clean_Installation_from_the_Hard_Drive__(TIL17137).pdf

Support Information Services
Published Date: Feb 19, 2012

PostScript: Daisywheel emulator for the LaserWriter (2 of 2)

This is part 2 of an article that describes how to build a daisywheel emulator for a LaserWriter printer. This information is provided by Adobe Customer Support. Apple Computer, Inc. is not responsible for the content of this article.

This article has been archived and is no longer updated by Apple.

Caution:
==========

If you choose to use the PostScript code provided in this article, you assume all risks involved in making these changes. PostScript code, if not entered correctly, can place the LaserWriter into a condition requiring service.

```
%==========================================================================
% Parameters and procedures defined after this point may be customized
% without harm (?) to the program.

/setlandscape? false def
/TopOfPage 10.5 72 mul def
/LeftMargin .25 72 mul def
/fsize 11 def %fontsize
/LnHt 11 def %line leading
/MaxLineCt 66 def
/MaxCharCt 80 def
/FirstLine TopOfPage fsize sub def

%The following three lines define actual fonts, NOT font-finding procedures.
/BoldFont /Courier-Bold findfont fsize scalefont def
/ItalicFont /Courier-Oblique findfont fsize scalefont def
/RomanFont /Courier findfont fsize scalefont def

/HT %horiz tab -- typical implementation
%tab set every 8 spaces, fixed.
{ 8 charct 8 mod sub
{ 32 emit } repeat
}def

%--------------------------------------------------------------------------
%The following parameters define CmdDict and its sub-dictionaries.
%They can be customized to any extent.

/CmdDict 30 dict def %May need to be enlarged if you add a lot to it.
CmdDict begin %Store the defs in CmdDict, rather than clutter
%DaisyEmDict with all this stuff.

12 {FF} def
9 {HT} def
10 {LF CR} def %Note: The serial port has a "feature" at this time which
%forces all Linefeeds, CR-LF pairs, and CR's to appear as
%simple LF's to the "read" operator.

13 {CR LF} def %cr with auto-linefeed
27 {ESC} def

/EscDict 10 dict def %May need to be enlarged if you add a lot to it.
/ESC %Handle two-character "escape" sequences.
{ EscDict begin }def

% Rules for creating Command sub-dictionaries:
% Sub-dictionaries of CmdDict may be nested to handle multi-character
% command sequences of arbitrary length. EscDict is an example, which
% handles 2-char sequences beginning with "escape". Note that EscDict
% is created entirely within the dictionary (CmdDict) which may invoke it.
% Each sub-dictionary must contain the re-definition of "emit" shown below.
```

```
% This takes care of invoking popCmdStack when a multi-char command
% becomes unrecognizable in the middle of the sequence. That's all the
% error-handling there is, folks!
% Each leaf in any command sub-dictionary (i.e., the procedure def for
% any command character that ends a command sequence) must end with
% an invocation of popCmdStack.
% That probably isn't clear, so please observe the use of "popCmdStack"
% in the following defs, and do likewise!
% Defs that do NOT need to popCmdStack:
% -- words like ESC which are not "leafs" because they lead on to
% further sub-dict nesting.
% -- words in the root command dict, "CmdDict".


EscDict begin %-------------------------------------------------------

/emit { CmdError }def
34 { RomanFont setfont popCmdStack }def
33 { BoldFont setfont popCmdStack }def
88 { ItalicFont setfont popCmdStack }def
89 { RomanFont setfont popCmdStack }def

end %EscDict ----------------------------------------------------------

%=========================================================================


end %CmdDict
end %DaisyEmDict %End of program "Daisyprint".

%*************************************************************************

%Proper format for use:
%
% Daisyprint CR
% data data data data .....
% ...data data ^D ^D
```

Article Change History:
08 Feb 1995 - Added PostScript caution.
Published Date: Feb 19, 2012

LaserWriter Pro 630: Windows Driver Available Online

I have a LaserWriter Pro 630 connected to my MS-Windows computer, but I cannot find the proper printer driver for it. There are four Apple LaserWriter drivers that ship with Windows, which driver should I use?
This article has been archived and is no longer updated by Apple.
For the LaserWriter Pro 600 and LaserWriter Pro 630, you can either use the LaserWriter IINTX driver that ships with Windows, or you can download the LaserWriter Pro printer drivers from online services. If you use the LaserWriter IINTX driver, you will not be able to specify paper and tray options. The LaserWriter Pro 600/630 printer drivers are available from Online services which Apple publishes software updates on.

If you are printing from MS-DOS applications, usually you will use the generic PostScript printer driver. Apple does not provide drivers for specific MS-DOS applications.

These articles can help you locate software updates mentioned here:

* Where To Find Apple Software Updates
Lists online services for "free" Apple software updates

* Obtaining Apple Product Support in the USA
Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech. Info. Library.

The following information is for Apple Internal & Support Providers Only
Published Date: Feb 19, 2012

Microsoft Office 4.2.1: Command-Option-Tab Switches Apps

I just installed System 7.5 and Microsoft Office 4.2.1 and I notice that hitting the Command-Option-Tab key combination switches between applications.

Where did this feature come from?
This article has been archived and is no longer updated by Apple.
Microsoft Office installs a Control Panel with an option called QUICKSWITCH that allows you to do this-it can be toggled on or off.
Published Date: Feb 19, 2012

Newton Power Organizer Pack: Instruction Addendum

This article contains the Newton Power Organizer Pack Instruction Addendum.
This article has been archived and is no longer updated by Apple.
Newton Power Organizer Pack Instruction Addendum

For Macintosh users:
These instructions replace the section "Installing Newton Package Installer" in the pamphlet "Installing Newton Packages Using Your Computer."

1) Unlock the Notion and NPI floppy disk by sliding the black tab in the upper-right corner of the disk so that it covers the square hole.

2) Insert the floppy disk into your disk drive.

3) Choose Empty Trash from the Special menu. Emptying the Trash will remove an outdated version of the software. You will not lose anything that you need on the disk.

4) Open the floppy disk icon.

5) Open the Newton Package Installer folder.

6) Select the Apple Modem Tool and the AppleTalk ADSP Tool and drag them to the icon of the System Folder on your startup disk.

7) You'll see a message asking whether you want to install these items in the Extensions folder. Click OK.

8) You may see a message asking whether you want to replace items with the same name click OK.

9) If you wish to use NPI to install other Newton packages, drag the NPI icon from the Newton Package Installer folder to your hard disk.

Note: NPI is automatically placed on your hard disk when you install the ExpensePlus software (contained in the other envelope you received). If you plan to install ExpensePlus, you don't need to copy NPI to your hard disk.

10) Restart your computer by choosing Restart from the Special menu. The floppy disk is ejected.

11) After the Welcome to Macintosh screen appears, push the floppy disk back into the disk drive.

12 Newton Package Installer is now ready to use. Turn now to the section "Installing the Notion Software on Your Newton" in the pamphlet" Installing Newton Packages Using Your Computer."

For Windows Users:

You can ignore or delete the "!desktop.fol" folder on the Notion disk. It contains an outdated version of the software. Proceed as instructed in the pamphlet "Installing Newton Packages Using Your Computer."
Published Date: Feb 19, 2012

At Ease 2.x: Cannot "Lock Startup Volume" on IDE drives

I installed At Ease 2.x for Workgroups on my Macintosh 630 computer, and I cannot select the "Lock Startup Volume" option. I have tried upgrading from At Ease for Workgroups version 2.0 to 2.0.1 and 2.0.3, but the option is dimmed regardless of the version.
This article has been archived and is no longer updated by Apple.
The hard disk drivers used on Apple computers with IDE drives are not currently compatible with this feature of At Ease. As indicated in the At Ease Read Me file, the dimmed security option is the correct behavior for At Ease when it detects a hard disk with an incompatible driver or when the hard disk has been partitioned with A/UX.

There is no workarounds for this problem. A new hard disk driver needs to be installed on the drive. Apple's formatting utility for IDE drives currently does not install a compatible driver.
Published Date: Feb 19, 2012

Who Built America CD and Type 15 Error (2/97)

When I try to launch the application on my "Who Built America?" CD I get a Type 15 error. I got this CD with the Apple Education Series Elementary Reference Bundle. I installed a new version of QuickTime (2.0), but that didn't fix the problem. What's wrong?

This article has been archived and is no longer updated by Apple.

The CD (compact disc) you have, "Who Built America? From the Centennial to the Great War, 1876ð1914 by The American Social History Project," is produced by the Voyager Company.

The Type 15 error will occur regardless of which version (1.6.1 or 2.0) of QuickTime is installed in your system.

The reason you are getting a Type 15 error message is that the "Who Built America?" HyperCard stack needs a higher memory allocation. The Voyager Company has stated that the HyperCard Player application needs to have 5MB of RAM allocated to it in order to open their HyperCard stack.

HyperCard Player is available on the "Who Built America?" CD and in the Extras folder of the System 7.5 CD. Copy it from one of these CDs to your Macintosh Hard Drive.

To Allocate More Memory to HyperCard Player
---

1) Quit out of the HyperCard Player application if it is running.

2) Locate and click on the HyperCard Player application icon on your
  Macintosh hard drive (not the HyperCard Player application on the CD).

3) Choose "Get Info" from the File menu and increase the amount of
  memory allocated to the HyperCard Player application in the "Preferred
  size" box to 5000.

4) Close the "Get Info" window and double-click the HyperCard stack
  "Who Built America?" on the CD.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

The Tech Info Library article titled, Locating Vendor Information, can help you search for a particular vendor's address and phone number.

Article Change History:
24 Feb 1997 - Reviewed for technical accuracy.
09 Mar 1995 - Changed title to clarify problem.

Published Date: Feb 19, 2012

Newton MessagePad 110: System 1.3 Update Read Me

This article contains the Read Me file that comes with the Newton System Update 1.3.
This article has been archived and is no longer updated by Apple.
Information about a modem-related problem with the MessagePad 110 and System Update 1.3 (345025):

When you have used a modem to initiate a telephone call to someone and you click the close box on the MessagePad 110 to tell the modem that it can hang up (because you have lifted the telephone receiver to begin talking with the person), the modem does not hang up and the buttons on the bottom of your MessagePad screen don't respond to taps.

To be able to use the buttons on your MessagePad screen again, press the Reset button inside the battery compartment on the MessagePad. (Pressing Reset does not erase the information in your MessagePad.)

If you used an Apple external modem to initiate the call, you also need to remove and then reinsert one of the batteries in the modem to hang up the modem (to stop the modem from depleting its battery power).

Note: This problem does not occur when you use the modem for other purposes, such as faxing or NewtonMail.
Published Date: Feb 19, 2012

Global Village TelePort Fax Software: QuickDraw GX Aware (10/95)

The Global Village TelePort Fax/Modem software, GlobalFax, for versions earlier than 2.5 are not accessible when QuickDraw GX is active. How do I get my Fax software to work with QuickDraw GX?

This article has been archived and is no longer updated by Apple.
GlobalFax versions earlier that 2.5 are not recognized by QuickDraw GX. It is not an incompatibility, but rather non-GX aware software that is not available when QuickDraw GX is active. One solution is to turn QuickDraw GX off in the Extensions Manager control panel and then restart when wanting to send a Fax. To turn QuickDraw GX back on, select it in the Extensions Manager control panel and restart.

Another solution is to upgrade to GlobalFax 2.5.2P or later, which is available on online services.

These articles can help you locate the software update mentioned here:

* "Where To Find Apple Software Updates" -- Lists online services for free Apple software updates.

* "Obtaining Apple Product Support in the USA" -- Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech Info Library.

Article Change History:
04 Oct 1995 - Added the GlobalFax 2.5.2P Update is online.

Support Information Services
Published Date: Feb 19, 2012

StyleWriter II Driver: Print Head Cleaning Feature

Is the StyleWriter II driver feature that allows the user to specify a print head cleaning prior to a print job, available when printing to the original StyleWriter?

This article has been archived and is no longer updated by Apple.

The print head cleaning feature of the StyleWriter II driver is NOT available when printing to the original StyleWriter printer. The first print job sent to the printer will list it as an option. During the first print job, the driver determines which type of StyleWriter is being used. If the driver detects an original StyleWriter then all subsequent print jobs will show the options button grayed out.

If a StyleWriter II printer is later connected, the options button will remain grayed out until one print job has been sent to the printer, thereby giving the driver the opportunity to determine what type of printer is connected.

Published Date: Feb 19, 2012

HyperCard: Changing and Printing Card Headers (2/95)

How can I add, change, or remove a header when I print a single card from my HyperCard stack?

This article has been archived and is no longer updated by Apple.
The Print Card command in HyperCard gets its header information from the header text box in the Print Stack dialog box.

To Add, Change, or Remove a Header from a Card
==========

Step 1

Pull down the File Menu and choose Print Stack. The Print Stack dialog box will open.

Step 2

Type the desired header text in the text window at the bottom of the dialog box.

Step 3

Click the Print button. The Print dialog box will open.

Step 4

Since you do not actually want to print the whole stack, you only want to print a single card, click the Cancel button. The changes you made to the header text will be saved.

Step 5

Pull down the File Menu and choose Print Card. You will now see the header text that you entered in the Print Stack dialog box at the top of the card.

NOTE: If you click the Cancel button in the Print Stack dialog box instead of the Print button (Step 3), your changes to the header text will not be saved.

Support Information Services
Published Date: Feb 19, 2012

LaserWriter: LaserWriter Fax Tune-Up Read Me

This article contains the LaserWriter Fax Tune-Up Read Me file.
This article has been archived and is no longer updated by Apple.
Using LaserWriter Fax Tune-Up

WHY
The fax tune-up program prevents certain problems when you print out oversize faxes on your LaserWriter printer.

* If you receive banner-size or legal-size faxes, your printer will reduce the fax to fit the paper size that's in the largest-size paper tray you have installed (letter, A4, or legal).

* If you receive letter-size faxes with no margins, your printer will reduce the fax to fit letter-size paper with margins.

HOW
1. Open the Chooser and make sure that the printer you use for your faxes is selected.

2. Open the fax tune-up program.

IMPORTANT: If you have restarted your printer, or turned it off and then on again, you have to open the fax tune-up program AGAIN before using your printer to print out oversize faxes. The printer keeps the instructions it receives from the fax tune-up program in its memory, and it loses those instructions when it is turned off or restarted.
Published Date: Feb 19, 2012

PCMCIA Expansion Module: Can Read DOS Formatted Volumes

I have noticed that many storage PCMCIA cards (PC Cards) are formatted for use with DOS systems. Is it possible to use these PC Cards with my PowerBook 500 series computer and Apple PCMCIA Expansion Module?
This article has been archived and is no longer updated by Apple.
Most storage PCMCIA cards (PC Cards) are pre-formatted as DOS volumes. PowerBook 500 series computers have the ability to mount these volumes thanks to the Macintosh PC Exchange software that ships with every PowerBook.

For correct results, it is necessary to use PC Exchange version 2.0.2 or greater. To install a newer version of Macintosh PC Exchange, drag the PC Exchange icon into the Control Panels folder of your System Folder and click "OK" to overwrite the older version of PC Exchange. Restart your Macintosh.

Note: While you can use PC Exchange to read and write data from/to DOS volumes and erase data from PC cards, it cannot be used to alter the format of a PC Card (from DOS to Macintosh or vice versa). If you wish to change a DOS-format card to a Macintosh format, simply turn PC Exchange off (open the PC Exchange control panel and select the Off option) and then reinsert the PC card. You will then be prompted to reformat the PC card as a Macintosh volume. Once the PC card is reformatted, you can turn PC Exchange back on from the control panel.

Macintosh PC Exchange will not allow you to reformat a Macintosh-format PC card as a DOS-format PC card. To do so you should use a DOS/Windows computer.

A note on Ministor PC Cards:
Some PC Cards from Ministor contain factory-installed compression software that is specific to DOS/Windows computers. This compression software consumes usable disk space and should be deleted for use with PowerBook computers. Select the Erase Disk command from the Finder's Special menu in order to delete this software.

Published Date: Feb 19, 2012

Apple IIGS: 5.25" System Utilities

This article has been archived and is no longer updated by Apple.
To organize a user's disks, the Apple IIGS System Utilities program formats and copies disks and can copy, rename, and delete files, performing most of these functions on 4 of the Apple II operating systems: DOS 3.3, ProDOS, Pascal, and CP/M. Distributed on a 3 1/2" disk, the program works only on the Apple IIGS.

You can create a 5 1/4" floppy disk version of the program using the System Utilities in the following steps:

1. Format a 5 1/4" disk

2. Copy these 5 files from System Utilities to the 5 1/4" disk:

a. P8
-- This is ProDOS - found in the SYSTEM sub-directory.
b. SYSUTIL.SYSTEM *
c. GSSU0 *
d. GSSU1 *
e. GSSUE1 *

* These 4 files comprise the System Utilities program, and can be found in the SYS.UTILS sub-directory. They must be kept in the same directory.

3. Rename the file 'P8' to 'PRODOS'

System Utilities may now be booted from the floppy disk. The files take up around 180 blocks and leave about 100 blocks for extra file storage.
Published Date: Feb 19, 2012

PowerTalk and System 7.5: -15064 Error (2/95)

We have two computers set up with System 7.5 and PowerTalk. One is new with clean system software, the other is an existing computer. Everything works fine except for PowerTalk. The situation is as follows:

* We use several mail services like CompuServe, MS Mail, and Eudora.

* On the clean computer, when we select "I'm at..." and then click on any of the options, there is no problem.

* On the existing computer, when we select either MS Mail, or Direct Dial from "I'm at...", an error, -15064, appears.

We tried to resolve the problem by start the existing computer with only system 7.5 extensions loaded. We added one extension at a time, then tried selecting MS Mail or Direct Dial until the error appeared. The error still appeared and we couldn't track it down to any one extension. What is does the -15064 error signify?

The version of MS Mail used is 3.1d client and 3.1a server. We thought at first it was a Microsoft problem, but with the error appearing on Direct Dial also, it looks more like a system error.

Any help you could give, would be gratefully received.

This article has been archived and is no longer updated by Apple.
In the course of testing with Direct Dialup, we also got the -15064 error when trying to enable Direct Dialup in the I'm at... menu. The only way we got around this error was to open the setup for Direct Dialup in the Key Chain and enter the phone number for the Modem Telephone. We suspect there may be a similar problem with the MS Mail setup. Error -15064 is: kMailSetFailed.

Support Information Services
Published Date: Feb 19, 2012

System 7 Sound Control Panel: Volume Level Anomaly

I have the Built-in Headphones slider set all the way up and the Built-In slider set in the middle. When I restart, the sound is lower, but the Headphones slider still shows that it set to the maximum setting. Why does the sound volume change after I restart my computer?

After the restart, all I need to do is move the Built-In Headphones slider slightly and the volume is reset to the level indicated by the Built-in slider. The startup chime will also use this setting.

This article has been archived and is no longer updated by Apple.
There is inconsistent visual feedback between the Built-in Headphones slider setting in the Sound control panel and the actual level heard through the external speakers to the Power Macintosh.

The purpose of the two separate sliders is to provide the ability to control the sound output for the internal speaker versus the headphones. That is, you may wish to have the sound play very softly (or no sound at all) out of the internal speaker, but you may also want to have the the sound play loudly out of the headphones.

The workaround is to set both the Built-in and Built-in Headphones sliders to the same position. Later revisions of the Mac OS have only one volume slider.

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Macintosh: Erasing Parameter RAM

How do you erase parameter RAM in a Macintosh.?
This article has been archived and is no longer updated by Apple.
Just as Preferences in the Lisa keeps the settings, the Parameter Memory chip or Parameter RAM in the Macintosh maintains system information: Clock, date, and alarm settings, some Control Panel settings, and Serial port configurations.

If necessary, Parameter RAM may be erased entirely:

1. Turn off the Macintosh
2. Unplug the Macintosh
3. Remove the battery (do not try to draw off charge by placing the battery back in upside down)
4. After at least 10 minutes, reinsert battery

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AppleScript: Script Editor Error "Source Not Available"

The script below, gives the error "Source not available" on repeated runs when the events log window is open and "Show Event Results" is checked. The script worked fine for a period of time, until suddenly this error started occurring.

set FinderLib to load script (alias ((path to ┬ extensions folder as string) & "Scripting Additions:finderLib"))
This article has been archived and is no longer updated by Apple.
This script is actually getting a -1756 error. This can be determined by surrounding the given statement with an AppleScript try / on error processing statement. This error code is returned from a call to OSAGetSource function to decompile the script data, and obtain the equivalent source data. The problem is that finderLib is compiled and saved with Save As Run-Only which does not save the AppleScript text with the object for later editing and display.

FinderLib was intended to be used with the "barely-scriptable" Finder of System 7.1 or the Finder 7.0 after ResEditing an aete resource into the Finder. AppleScript 1.0 came with Script Editor 1.0.1 and the finderLib facility. This version of the Script Editor did not have the event window logging capability that came with AppleScript 1.1 and Script Editor 1.1 and later.

The Script Editor's event logging facility depends on being able to access the source AppleScript, to do event logging, AND show event results against a compiled AppleScript.┴As you found, if Show Event Results are not selected, the Script Editor can run the script just fine against a saved as Run-Only compiled script, since not as much logging detail is being requested.

What probably happened is, you have upgraded to AppleScript 1.1 where the error will be noticed with finderLib, or you saved other loaded and compiled scripts as Run-Only. To use the full debugging facilities of the Script Editor against loaded compiled scripts, the scripts must be saved with the AppleScript source, for example not as Run-Only. In a compiled AppleScript, you can tell with a resource editor, whether it's saved as Run-Only or not by the presence of an "scpt" resource, which is where the compiled text is saved.

The following event logs demonstrate what's happening. If you want to reproduce this, compile the miniFinderLib AppleScript, place it in the Scripting Additions folder and run the driving AppleScript from the Script Editor with full event logging. You will see the results similar to the first log. Note how the saved AppleScript text is displayed in the event logging window. Recompile miniFinderLib, save it as Run-Only and rerun the driving AppleScript. This will give the -1756 error or sources not available.

The driving AppleScript:

```
try
set FinderLib to load script (alias ((path to ┬
extensions folder as string) & "Scripting Additions:miniFinderLib"))
tell FinderLib to emptyTrash()
on error ErrMsg number ErrNmbr
log ("Error " & ErrNmbr & ": " & ErrMsg)
display dialog "Error " & ErrNmbr & ": " & ErrMsg
end try
```

The miniFinderLib script:

```
on emptyTrash()
--
-- Asks the Finder to empty the trash
--
tell application "Finder" to empty trash
end emptyTrash
```

Script Editor log with Show Event Results against a compiled library with the source saved:

```
tell current application
path to extensions folder as string
--> "Macintosh HD:System Folder:Extensions:"
load script ┬
alias "Macintosh HD:System Folder:Extensions:Scripting Additions:miniFinderLib"
--> on emptyTrash()
--
-- Asks the Finder to empty the trash
--
tell application "Finder" to empty trash
```

```
end emptyTrash
end tell
tell application "Finder"
empty trash
end tell
```

Script Editor log without Show Event Results ?gainst a compiled library saved as Run-Only:

```
tell current application
path to extensions folder as string
load script ┬
alias "Macintosh HD:System Folder:Extensions:Scripting Additions:miniFinderLib"
end tell
tell application "Finder"
empty trash
end tell
```

Script Editor log with Show Event Results against a compiled library saved as Run-Only:

```
tell current application
path to extensions folder as string
--> "empty trash:Extensions:"
load script ┬
alias "Macintosh HD:System Folder:Extensions:Scripting Additions:miniFinderLib"
(*Error -1756: Source not available.*)
display dialog "Error -1756: Source not available."
--> {button returned:"OK"}
end tell
```

Published Date: Feb 19, 2012

System 7.5: Folder Protection Option Not Available

Why is the System Folder "locking feature" not available on all of my Macintosh computers that are running System 7.5? It works on some of my Macintosh computers, but not all of them.

Can I enable System Folder "locking feature" on one of my computers and then copy the General Controls control panel from that computer onto all of my other computers instead of resetting each of their General Controls control panels?
This article has been archived and is no longer updated by Apple.
System 7.5

This folder "locking feature" you describe is called Folder Protection. It gives you the ability to protect the System Folder or Applications folder from change or accidental deletion. It is a function of System 7.5, not of the hardware. In other words, this function will work on any Macintosh computer running System 7.5 if the system software is set up correctly and operating properly.

Most likely, what is "wrong" on some of your Macintosh computers is that File Sharing is turned on. Folder Protection will not work if File Sharing is on. When File Sharing is on, the Folder Protection options in the General Controls control panel are unavailable, and therefore are dimmed.

Check the Sharing Setup control panel to see whether File Sharing is on or off. If it is on, you will have to turn it off if you want to enable the Folder Protection feature. File Sharing and Folder Protection cannot be on at the same time; you can use one or the other. File Sharing automatically turns off the Folder Protection feature when it is turned on.

Copying the General Controls control panel to lock all of your computers' System Folders will not work because the system settings will be reset as soon as File Sharing is turned on.

System 7.5.3

With System 7.5.3, if folder protection is turned on for both the System Folder and Applications folder, these folders cannot be renamed because of the protection feature. If File Sharing is subsequently turned on, the folder protection options in the General Controls control panel are dimmed. However, the System Folder and Applications folder cannot be renamed as if folder protection had not been turned off.

By opening and closing the General Controls control panel you can then rename the protected folders.

Turning on File Sharing does not actually turn off folder protection if it had been previously turned on. Because File Sharing is turned on, however, opening and closing the General Controls control panel turns it off because the buttons are disabled.

Published Date: Feb 19, 2012

Power Macintosh: Norton Utilities and Wrong Processing Speed

I have a Power Macintosh 8100/100 and Norton Utilities. When I run the SYSINFO utility that comes with the Norton Utilities bundle, it tells me that my Power Macintosh 8100/100 is running at 61 MHz and it performs all tests in emulation mode.

Is there something wrong with my computer?
This article has been archived and is no longer updated by Apple.
In an attempt to reproduce your problem, I installed the "System Info" portion of Symantec Corporation's Norton Utilities bundle version 3.1.1, onto a Power Macintosh 8100/100. When I ran the tests, the report said that the CPU is a "PowerPC 601 @ 100 MHz", and that "all the tests were run in native PowerPC code."

You didn't specify the actual version number of the Norton Utilities software that you have. One way to tell if you have this version of the software is to check your original Norton Utilities disks. There should be a document named "Norton 3.1.1 ReadMe" on one of these disks.

If you have version 3.1 rather than 3.1.1, I would recommend that you upgrade to version 3.1.1 and run the SYSINFO utility again. You should then receive the correct and expected results.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

The following Tech Info Library article can help you search for a particular vendor's address and phone number:

Article 17159: "**Locating Vendor Information**"
Published Date: Feb 19, 2012

Macintosh AV: S-Video Connector Pinouts

I am trying to purchase an S-Video cable to attach a VCR to my Quadra 840AV. I noticed that the S-Video input connector on the back of my VCR has four pins and the S-Video input connector on the back of my Quadra 840AV has seven pins.

Do I need a special cable with seven pins to hook up my VCR to my Quadra 840AV?

This article has been archived and is no longer updated by Apple.
The standard 4-pin S-Video connector used on most video and television equipment is functionally identical and fully compatible with the 7-pin S-Video input connector used on the Quadra 660AV, 840AV and Power Macintosh 6100, 7100, 8100 AV card.

The only difference between the two connectors is that Apple provides three additional inputs, I^2C clock, +12V, I^2C data, that were intended for future products and expansion.

A standard 4-pin S-Video cable available at most electronics stores will fit into the Apple 7-pin S-Video input connector without a problem. No adapter cable is necessary because pins 5, 6, and 7 are unused.

Below is a chart showing the pinouts of both the 4-pin and 7-pin connectors:

Pin #	Description	Pin #	Description
1	AGND (signal)	1	AGND (signal)
2	AGND (power)	2	AGND (power)
3	Video Y	3	Video Y
4	Video C	4	Video C
		5	I^2C clock
		6	+12 V
		7	I^2C data

Published Date: Feb 19, 2012

DOS Compatibility Card: No Support for Non-Apple CD-ROMs (2/94)

I have a DOS Compatibility Card in my Macintosh and I want to use my non-Apple brand CD-ROM player. I talked to the vendor of the CD-ROM drive about getting MS-DOS drivers for it, and they told me that their drivers were designed for a specific SCSI controller card. What SCSI controller card is the DOS Compatibility Card emulating?

This article has been archived and is no longer updated by Apple.
The Macintosh is not emulating a SCSI controller. The CDROM.SYS CD-ROM driver is not really a SCSI driver, it simply reroutes certain CDROM calls from the DOS side to the Macintosh cdrom drive. Apple wrote CDROM.SYS specifically to reroute the calls. A standard MS-DOS CD-ROM driver will not work, because it is not written to reroute the calls to the Apple CD-ROM extension.

You may be able to use parts of a CD-ROM disc by using the folder sharing feature on the CD-ROM. This is the only way to use non-Apple CD-ROM drives unless the vendor creates a specific DOS driver to transfer CD-ROM calls from the DOS side to the third-party CD-ROM driver on the Macintosh side.

Support Information Services
Published Date: Feb 19, 2012

LaserWriter: Installing it on the HD 20

This article has been archived and is no longer updated by Apple.
When installing the LaserWriter on the HD 20, it is important to follow the directions in the HD 20 manual in the section titled "Installing the LaserWriter". Many people forget to hold down the OPTION key while double clicking on the Install program, an action that avoids System Error 0,0.
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PrintMonitor: Randomly Changes Order of Print Jobs

We are printing single and multi-copy pages of scanned images containing single and multiple instances of a 12 page document. The PrintMonitor should display the documents waiting to print in the numerical order of receipt, but sometimes, for some unknown reason, it displays documents randomly.
This article has been archived and is no longer updated by Apple.
PrintMonitor lists and prints jobs in a different order than they were "received" when the total number of print jobs queued exceed approximately 39 jobs. For example, if you queue 50 print jobs, jobs 39 to 50 may not be listed and processed in the same order that they were "sent to PrintMonitor." All of the jobs will eventually print without problems; they just will not print in the order they were sent. Apple is aware of this problem and intends to fix it in a future version of software.

Problem Verified with:

- PrintMonitor 7.1.2
- System 7.5 (QuickDraw GX turned off)
- LaserWriter 8.2f

Published Date: Feb 19, 2012

Desktop Positioning of an External Volume (2/95)

I have an external SyQuest volume that always mounts on the desktop and then displays in the middle of the screen behind open windows. This always happens even though I previously moved it to the desired place on the desktop the last time it was mounted.

There are a lot of other icons on my desktop. I have already rebuilt the desktop file. Is there some way I can control the desktop positioning of my external volume icons when they are mounted?

This article has been archived and is no longer updated by Apple.
While the Finder's Desktop database file, does keep information about icon placement within windows and on the desktop, rebuilding the desktop file will not cause any change of positioning.

The grid choice of the Views control panel has affect on the method used by the Finder in displaying a mounted volume. The Finder will always position a mounted volume Icon as if snap to grid option is chosen even if it is not. If you do have the snap to grid option selected, the Finder will position icons within the confines of the Straight or Staggered grid selection you have chosen.

We suspect the problem you are experiencing is related to other Finder Desktop Icons, of which you say there are a many. The Finder will try to show a mounted disk (volume) somewhere on its invisible grid in the column of Icons at the right-most side of the display screen working down from the top. The Finder tries to locate the mounted volume icon so that there is no overlap of names on the desktop. If the name of the disk is very long, that may cause the Finder to search further to the left to avoid overlapping existing Icons.

If there are other icons in the right most column, whether they be RAM disk, Catalog, Mailbox, server volumes, floppy disks, or any file Icons, this may force the Finder to move its search for an empty display area one column to the left and start searching from the top again, and so on further and further to the left.

One would expect the same positioning result to happen on your system, if you inserted a floppy diskette with the same name as the SyQuest cartridge or if you saved a file by that same name from an application onto the Desktop. The Finder's Icon positioning algorithm for the Desktop includes avoiding overlap with existing neighbor Icons.

Suggestions:

Step 1
Clean out the right most column of icons to make room for mounted volumes.

Step 2
Examine the next column to the left for files with long names. Shorten
their names or move them further to the left, so their names do not extend
into the right most column.

Step 3
Shorten the name of the SyQuest volume name.

Some combination of the above steps should clear up this situation.

Support Information Services
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Direct Dialup 1.1.1 Extension (2/95)

This article describes the Direct Dialup 1.1.1 extension and where to get it.

This article has been archived and is no longer updated by Apple.

The Direct Dialup extension, version 1.1.1 is intended only for users who already have PowerTalk Direct Dialup 1.1 installed. Version 1.1 is a System 7.5 version only, it is not supported on System 7 Pro (7.1.1).

If you send large messages or enclosures via PowerTalk Direct Dialup Mail 1.1, you may encounter a known problem. Direct Dialup 1.1 will begin sending the letter, but it will disconnect before completing the letter. The letter will not appear in the recipients In Tray. Direct Dialup 1.1 will retry sending the letter according to the parameters set in the Direct Dialup 1.1 key in the Key Chain, without success. The letter will then be marked as "Done" in the Out Tray and you will receive a Non-Delivery Report in the In Tray. This problem has been corrected in version 1.1.1 of the Direct Dialup extension.

To use, download, double-click the downloaded file (this decompresses it). Drag the Direct Dialup extension on top of your System Folder and it will be automatically placed in your extensions folder.

These articles can help you locate the software update mentioned here:

* "Where To Find Apple Software Updates" - Lists online services for free Apple software updates.

* "Obtaining Apple Product Support in the USA" - Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech Info Library.

Support Information Services
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DOS Compatibility Card: Connection On Banyan VINES

I want to connect my Power Macintosh 6100 with a DOS Compatibility Card to a Banyan VINES network. Is this supported on the DOS Compatibility Card?
This article has been archived and is no longer updated by Apple.
It should work if Banyan can use ODI drivers. It is important to note that this is not a DOS Compatibility Card specific issue. This is a third party software configuration problem normally handled by Banyan.

Here is a configuration that a customer has successfully used to configure the Power Macintosh 6100/DOS compatible as a Banyan client:

1. The Banyan Macintosh client runs on top of NDIS and uses Ethernet II frames with a magic number of 0xBAD. So to run it with the DOS Compatibility Card, you must first set up the NET.CFG file to reflect this. The following is a sample Banyan NET.CFG file for DOS Compatibility Card.

```
Link Driver MACODI
Frame ETHERNET_802.3
Frame ETHERNET_802.2
Frame ETHERNET_II
Frame ETHERNET_SNAP
Protocol BANYAN BAD ETHERNET_II
int 6
port 300

Protocol ODINSUP
Bind MACODI
```

2. Run the following to set up the DOS Compatible for Banyan. This has been tested with lsl v2.05 and ODINSUP v1.22. These files are not included with the DOS Compatibility Card and must be obtained from a Novell client installation.

```
LSL
MACODI
ODINSUP
```

3. Configure VINES. Include following the line in the CONFIG.SYS file.

```
DEVICE=C:\\BAN\\PROTMAN.DOS /I:C:\\BAN
```

If you've installed the software somewhere instead of C:\\BAN, substitute your directory here. The configuration file for PROTMAN.DOS is called PROTOCOL.INI. It should be in the C:\\BAN directory and should contain the following:

```
[protocol manager]
drivername = PROTMAN$

[VINES_XIF]
DRIVERNAME = NDISBAN.DOS$
BINDINGS = MACODI
```

4. - Run PCCONFIG, the Banyan configuration program.
- Choose the first option, "Network Card Settings".
- Choose "NDIS Ethernet."
- In the configuration screen, configure IRQ 10, driver name MACODI.
- Press F10 to save the changes.
- Choose the second option, "Login Environment Settings".

- Configure NDIS Ethernet.
- Press F10 to save the changes.

5. Restart your computer, then type the following to get VINES running (from the Banyan directory, or wherever you have put it).

```
BAN /NC NDISBAN NETBIND ARSWAIT REDIR4 Z: LOGIN
```

Note: Ignore the "network driver not enabled" message. This message means it is working.

If you can run everything, but cannot access files on the Z: drive, make sure the protocol line is in the NET.CFG file.

Published Date: Feb 19, 2012

TA33290_DOS_Compatibility_Card_Connection_On_Banyan_VINES_(TIL17184).pdf

Portable StyleWriter: Insert Sheet of Paper Message (2/95)

When I print anything on my Portable StyleWriter, I get a message telling me to insert a sheet of paper and click OK to continue. I have to do this every time I print.

This article has been archived and is no longer updated by Apple.
This message is normal. One workaround to avoid this message is to select "Automatic" as the paper source in the print dialog. Normally this option is used when there is an Automatic Sheet Feeder attached, but you can select it even if you do not have one. This prevents the message from appearing.

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Portable StyleWriter: Background Printing Not Available (2/95)

When I go to the Chooser, the background printing option is not available for the Portable StyleWriter. Background printing is available for all other printers. Can I print in the background?

This article has been archived and is no longer updated by Apple.
Background printing on the Portable StyleWriter works differently than on other Apple printer. The Portable StyleWriter uses an application called SpoolMaster instead of the PrintMonitor for background printing. In order to use SpoolMaster, the SpoolLauncher extension must load at startup. If this extension is missing or not loaded at starutp, the background printing option is not available for the Portable StyleWriter.

Note:

Restarting with extensions off disables SpoolMaster but not the PrintMonitor.

Support Information Services
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Macintosh Easy Open: Show Only Recommended Sources (2/95)

Why is Macintosh Easy Open not giving me the option to select "Show only recommended sources" on my first attempt to open a document? I want this option active so that Macintosh Easy Open will filter out all the unnecessary choices.

I can sometimes select this option after opening and closing the Macintosh Easy Open control panel several times. I use it for PC files. I have DataViz translators that open the files and translate them.

This article has been archived and is no longer updated by Apple.
The Macintosh Easy Open "Show only recommended sources" option is greyed out (not selectable) because the list always contains all the recommended choices when it is first opened.

The "Show only recommended sources" option is only there to try to reduce the list when it may be filled with unusual choices.

Support Information Services
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Power Macintosh: DART 1.5.3, -64 Error (2/95)

Why do I get a -64 error when launching DART 1.5.3 on my Power Macintosh?

This article has been archived and is no longer updated by Apple.
This is a known issue with DART 1.5.3 on any Power Macintosh. DART version 1.5.3 does run a Power Macintosh. The error message is displayed when DART is launched, but if you click OK, DART will continue and everything works as expected. We have not experienced any problems with DART 1.5.3 on a Power Macintosh.

As an alternative to DART, we recommend using Disk Copy, with or without a third party compression utility.

Support Information Services
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LaserWriter 16/600 PS: Envelope Feeder Grayed Out (2/95)

I just installed the envelope feeder on to my LaserWriter 16/600 PS (the same applies to a LaserWriter Pro 630 with its envelope feeder). I tried to print from the envelope feeder, but the option was grayed out in the print dialog box. How do I print to envelopes in the feeder?

This article has been archived and is no longer updated by Apple.
Follow these steps to print an envelope from your LaserWriters envelope feeder:

Step 1
Make sure the printer is restarted after physically installing the Envelope Feeder. The feeder will not be recognized unless it is connected to the printer at startup.

Step 2
You must either use the LaserWriter 7.2, or LaserWriter 8.x driver. From the Chooser select one of these print drivers, select a printer, and click the Setup... button. A dialog box appears with several button options, click the Configure button. Another dialog box appears, look for the text Envelope Feeder and a pop-up menu with the options of "Not Installed" or "Installed". You will need to choose "Installed".

Step 3
For the Envelope Feeder to be available in the Paper Source pop-up menu of the Print dialog box, you must have an envelope selected in Page Setup. Many programs let you provide templates or options to print envelopes without having to select an envelope in the print dialog box.

Support Information Services
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DOS Compatibility Card: Mouse Driver for MS-DOS

This article describes how to use the Macintosh mouse in the MS-DOS environment on the DOS Compatibility Card for the Power Macintosh 6100, Macintosh LC 630 DOS Compatible, Performa 640 DOS Compatible, and the PC Compatibility Cards for Power Macintosh Computers (running Windows 3.1).
This article has been archived and is no longer updated by Apple.
The solution provided below is not supported by Apple Computer, and it is recommend that you contact Microsoft Corporation for the appropriate mouse driver. This solution may provide functionality until the proper mouse driver is obtained.

The MS-DOS 6.2 software, which comes with the DOS Compatibility Card, does not have drivers for any mouse pointing devices. Window 3.1, also included with the DOS Compatibility Card, does provide a driver that you can use. The driver is located on Windows Disk 4.

The driver is called MOUSEHP.CO_, and you need to copy it from the disk to your hard disk. This file is compressed, so you also need to expand the file. To expand the file, insert the "Microsoft Windows 3.1 Disket 4 of 6" and type the following command:

```
expand a:\\mousehp.co_ c:\\windows\\mousehp.com
```

This creates the MOUSEHP.COM file on the hard disk. You can use this file from the MS-DOS Command line, or from a batch file such as the AUTOEXEC.BAT file. If you place the MOUSEHP.COM line in your AUTOEXEC.BAT file, it loads the mouse driver every time you start MS-DOS.

To test the installation of the driver, switch to the Windows directory and type `mousehp.com` at the c prompt. This will load the mouse driver into DOS.

If you would like the mouse driver to load at startup, edit the autoexec.bat file and add the line `LH C:\\WINDOWS\\MOUSEHP.COM`

Note: MS-DOS applications must support a mouse in order to use the mouse. In some MS-DOS applications, the mouse does not look like an arrow. Instead, the mouse may appear as a square block.

The Tech Info Library article titled "**Locating Vendor Information**" can help you search for a particular vendor's address and phone number.
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Power Macintosh: SCSI Problems Related to Cable Quality (5/95)

I am using a Power Macintosh without an internal hard disk. Instead, I am using external hard disks. When I connect up to two hard disks, everything works without any problems. However, when I connect three or more SCSI devices, all of the devices will not mount. Changing the SCSI ID or position in the SCSI chain does not solve the problem. I am using well made third-party SCSI cables, so I don't think cabling is the problem.

This article has been archived and is no longer updated by Apple.
The Power Macintosh computers have a higher performance SCSI bus which is more susceptible to noise and signal integrity than other Macintosh computers.

We have found that, in most cases, after installing all Apple brand SCSI cables and an Apple brand terminator, the abnormal behavior of the external SCSI devices is reduced or eliminated.

It is strongly recommended that Apple cables or third party cables which match Apple's double shielding (wire braid and copper sheath) be used to assure maximum performance and trouble free operation.

Article Change History:
30 May 1995 - Minor typographical correction.

Support Information Services
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Power Macintosh 8100/110: No Official AV Card Support

This article discusses compatibility of the Power Macintosh AV video card and the Power Macintosh 8100/110.
This article has been archived and is no longer updated by Apple.
While designed to function in any Processor Direct Slot (PDS) equipped Power Macintosh computer, the Power Macintosh AV Card was never thoroughly tested in the Power Macintosh 8100/110. Therefore, Apple does not support the use of the AV card in the Power Macintosh 8100/110.

Due to the similarity of the design of the Power Macintosh 8100/80, 8100/100, and 8100/110, it is unlikely you will experience a problem when installing the AV card into a Power Macintosh 8100/110.

However, because this configuration was not thoroughly tested by Apple, we cannot officially support this configuration if a problem arises.
Published Date: Feb 19, 2012

SoftCard III (CP/M): Microsoft BASIC Reference Manual Errata

This article has been archived and is no longer updated by Apple.

In Appendix D: Disk Errors, page 174 reads:

```
    67     Too many files       An attempt is made to create a
                                new file (using SAVE or OPEN)
                                when all 255 directory entries
                                are full.
```

It should read:

```
     67    Too many files       An attempt is made to create a
                                new file (using SAVE or OPEN)
                                when all directory entries are
                                full.  The CP/M limitation for
                                a diskette is 48 files; the
                                hard disk limitation is 512.
```

However, if you use files larger than 16K you will have two directory entries for the file. If the file happens to be over 32K there will be three entries. This 16K is a file boundary for CP/M, irregardless of block size.

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Parallel Interface Card: 3rd Party Printers (11/96)

This article discusses connecting the Parallel Interface card to different 3rd party printers.

This article has been archived and is no longer updated by Apple.

Epson FX 80
==========

General Settings

Parallel Interface
8 Data Bits
Linefeeds required

Epson DIP switches

Switch Bank 1 Switch bank 2

1 OFF 1 ON
2 OFF (see notes) 2 ON
3 OFF (see notes) 3 OFF
4 OFF 4 OFF (see notes)
5 OFF (see notes)
6 ON
7 ON
8 ON

Bank 1

Switch 2 is set for open zero character; for slashed zero, turn switch 2 on.
Switch 3 is set for continuous paper; for cut sheet, turn switch 3 on.
Switch 5 is set for normal density printing at power on; for emphasized printing, turn switch 5 on.

Bank 2

Switch 4 is set for computer generated carriage return linefeed; for carriage return only, turn switch 4 on.

Parallel Interface

All switches on the Apple interface card need to be set to factory default settings.

Cable Pinouts

Apple II Parallel Epson
CABLE SHIELD ---- 1
5 ---------- 14
6 ---------- 13
8 ---------- 12
11 ---------- 9
12 ---------- 15
13 ---------- 16
22 ---------- 11
23 ---------- 10
15 ---------- 3
16 ---------- 22
4 ---------- 7
7 ---------- REMOVE PIN

Centronics 702 or 703

The Centronics printer interface was originally designed to be used with the Centronics microP-1 printer. That printer required a control character to set it into 80-column mode. The firmware on the Centronics printer interface, PROM P9-00, sends a $1D when ever it receives the <CTRL-I>80N command. This control character is part of a VFU command on a Centronics 702 or 703 and usually deselects the printer. The fix is to send a re-select code, but since the deselected printer doesn't return the Apple's handshake, the reselect will have to be POKEd to the interface, as follows:

```
100 FOR J = 1 TO 5
110 POKE -16256 + 16 * SL, 17
120 NEXT
```

Comrex CR-1 P

Card COMREX CR-1 P

```
5----------------- DB0------2
6----------------- DB1------3
8----------------- DB2------4
11-----------------DB5------7
12-----------------DB6------8
13-----------------DB7------9
15-----------------STB------1
16-----------------ACK------10
22-----------------DB3------5
23-----------------DB4------6
24-----------------SG------ 16
```

Dip Switch settings

For Parallel card: All down except 4,5
For Comrex: all down except 8

Article Change History:
19 Nov 1996 - Reviewed for technical accuracy, revised formatting.
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Personal LaserWriter 320: Universal Cassette Paper Sizes (2/95)

What paper sizes does the Personal LaserWriter 320 100 Sheet Universal Paper Cassette support?

This article has been archived and is no longer updated by Apple.
Here are the specifications for the Personal LaserWriter 320 100 Sheet Universal Paper Cassette.

Paper Capacity: Maximum stacking height of 10mm (100 sheets of Xerox 4024 DP 20#)

Paper Sizes	Width	Length
A4	210.0 mm (8.27 in.)	297.0 mm (11.69 in.)
US Letter	215.9 mm (8.5 in.)	279.4 mm (11 in.)
B5 (JIS)	182.0 mm (7.17 in.)	257.0 mm (10.12 in.)
Executive	184.2 mm (7.25 in.)	266.7 mm (10.5 in.)
US Legal	215.9 mm (8.5 in.)	355.6 mm (14 in.)

Paper Weights
==========

Minimum 64 gr/sq m (16.0#)
Maximum 90 gr/sq m (24.0#)

Illustrated instructions are located inside the Personal LaserWriter 100 Sheet Universal Paper Cassette demonstrating the correct procedure for adjusting the cassette.

Support Information Services
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Color StyleWriter 2400: Test Page Not Generated (2/95)

I have a Color StyleWriter 2400 printer and I cannot get it to print a test page.

This article has been archived and is no longer updated by Apple.
There are two conditions where the Color StyleWriter 2400 does not generate a test page

LocalTalk Cable
==========

If you are using LocalTalk cable instead of a standard System/Peripheral 8 cable (Apple Part # M0197), the printer sends a blank page through the printer when power is applied to the printer. This is due to a sensor located in the port on the printer.

Solution:

Disconnect LocalTalk cables and use the System/Peripheral 8 cable that came with the printer

New Ink Cartridge
==========

Unlike previous versions of the StyleWriter ink cartridges, you cannot shake the Color StyleWriter 2400 ink cartridges to get the ink started.

Solution:

Listen for clicking sounds while printing the test page. Sometimes the printout looks like an imprint, or very light text. This is corrected by using the clean option available in the Utilities section of the print dialog.

Creating a Test Page
==========

1) Holding down the power button on startup until the yellow orange light comes on and then goes off.

2) Release the power button.

Support Information Services
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DOS Compatibility Card: 2 MB of RAM Corrupts BIOS

After installing the DOS Compatibility Card in a Power Macintosh 6100, I received a memory error when I tried to start MS-DOS. I am sharing 2 MB of RAM from my Power Macintosh 6100.
This article has been archived and is no longer updated by Apple.
Corruption of ROM BIOS is a real possibility as documented on page 58 of the DOS Compatibility Card User's Guide. If the DOS Compatibility Card only has 2 MB of RAM and the TESTMEM switch is not off, the card is unusable because the ROM BIOS becomes corrupted during the memory test.

The minimum memory requirements for the 6100 DOS Compatibility Card are at least 8 MB RAM with 2 MB shared for the PC. This is documented on page 90 of DOS Compatibility Card User's Guide. The requirements listed on the box for the DOS Compatibility Card are 4 MB for the card plus the memory required for the Macintosh OS. Since System 7.5 requires 8 MB on the Power Macintosh computers, there should be a minimum of 12 MB of RAM in a Power Macintosh using System 7.5. The memory requirements are lower when System 7.1.2 is used because 7.1.2 only require 4 MB RAM.

The F5 and F8 keys do work on the DOS Compatibility Card. You have to wait for the "Starting MS-DOS..." message to appear before you press the function keys. If the keys are pressed before this message is displayed, they are ignored by MS-DOS. Other MS-DOS computers also have this same behavior.
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LaserWriter Pro 810: 802.2 Novell Ethernet Frame Types

Does the LaserWriter Pro 810 support 802.2 Novell Ethernet frame types?

This article has been archived and is no longer updated by Apple.

The LaserWriter Pro 810 does not support 802.2 frame types, only 802.3 and Ethernet_II. For this printer to function in a Novell NetWare environment (and 802.2 is the default with Netware 3.12 and 4.x), the NetWare autoexec.ncf file must have an entry for one of these other protocols to support a LaserWriter Pro 810 printer.

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Power Macintosh Upgrades: Processor Speed After Upgrade

The following table compares the processor speed after installing the Power Macintosh Upgrade Card or the Macintosh Processor Upgrade. This article has been archived and is no longer updated by Apple.

Current Macintosh model	Current clock speed	Speed with Power Macintosh Upgrade Card	Speed with Macintosh Processor Upgrade
Quadra 950	33 MHz	66 MHz !	N/A
Quadra 900	25 MHz	50 MHz !	N/A
Quadra 840av	40 MHz	N/A	N/A
Quadra 800	33 MHz	66 MHz !	N/A
Quadra 700	25 MHz	50 MHz !	N/A
Quadra 660av	25 MHz	N/A	N/A
Quadra 650	33 MHz	66 MHz !	N/A
Quadra 630	33 MHz	66 MHz !	66 MHz
Quadra 610	25 MHz	50 MHz	N/A
Quadra 605	25 MHz	N/A	50 MHz
Centris 660av	25 MHz	N/A	N/A
Centris 650	25 MHz	50 MHz	N/A
Centris 610	20 MHz	40 MHz	N/A
Macintosh IIvi	16 MHz	N/A !	N/A
Macintosh IIvx	32 MHz	N/A !	N/A
Macintosh IIci	25 MHz	N/A !	N/A
Macintosh IIsi	20 MHz	N/A !	N/A
LC 630	33 MHz	N/A !	66 MHz
LC 575	33 MHz	N/A !	66 MHz
LC 475	25 MHz	N/A !	50 MHz
Performa 630 series	33 MHz	N/A !	66 MHz
Performa 600	32 MHz	N/A	N/A
Performa 575, 577 & 578	33 MHz	N/A !	66 MHz
Performa 475 & 476	25 MHz	N/A !	50 MHz

KEY:
! - Separate Upgrade Card offered by DayStar Digital.

NOTES:

- Power Macintosh Upgrade Cards are customer installable.
- Macintosh Processor Upgrade includes a PowerPC 601 Processor with 256K level-2 cache, expandable to 1MB. The upgrade must be installed by an Apple authorized service provider.

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Sound In Options: Dimmed on Some Macintosh Models

When in the Sound In section of the Sound control panel, the Options button is disabled (it appears dimmed or "grayed out").
This article has been archived and is no longer updated by Apple.
The Options button was added to the Sound control panel to provide a place for users to control access to sound channels and the Playthrough option. The affected models listed below were released before these options were put into use.

The systems that exhibit this behavior are:

* Performa 475/476
* Quadra 605
* Centris 610
* Centris 650
* Quadra 610
* Quadra 650
* Quadra 800

When these computers were released, the CD-ROM drive was set up to always play audio CDs through the built-in speaker (or the sound out port). The CD player was chosen as the sound source whenever the microphone was not plugged into the Sound In port. In other words, the features that you control by clicking on the Options button are controlled automatically on these systems.

There is no way to let these systems control their sound channels and playthrough options using software, like other Macintosh systems do. That is why the Options button has been disabled.

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LaserWriter Pro 630: Macintosh Serial Connection

I want to use a serial cable to connect a Macintosh to a LaserWriter Pro 630 printer. I want to use the RS-232 port (DB-9) on the LaserWriter Pro 630, does Apple have a pre-built cable for this purpose? If not can you provide me with the pinouts?
This article has been archived and is no longer updated by Apple.
Apple doesn't recommend using a serial cable to connect to a LaserWriter printer but in some cases it is unavoidable. Using the RS-232 port (DB-9) on the LaserWriter Pro 630 means you cannot use the standard LaserWriter printer driver.

Connecting the System/Peripheral 8 cable (Apple Part # M0197) to the LocalTalk port (Din-8) is a better solution because you can use the standard LaserWriter driver. This doesn't provide you with asynchronous communications to the printer, but using the standard LaserWriter printer driver is the method Apple recommends.

If you want to use the RS-232 port to use PostScript in the interactive mode, here are the pinouts:

```
Macintosh (Din-8)        LaserWriter Pro (DB-9)
-----------------        ----------------------
Signal    Pin#           Pin#   Signal
GND        4  ---------- 5      GND
TxD-       3  ---------- 2      RxD
TxD+       6  ---------- 1      DCD
HSKo       1  ---------- 4      DTR
RxD+       8  ---------- NC
RxD-       5  ---------- 3      TxD
```

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Power Macintosh: Macintosh Print Pack Not Compatible

Is the Macintosh Print Pack compatible with Power Macintosh computers or QuickDraw GX?
This article has been archived and is no longer updated by Apple.
The current version of the Macintosh Print Pack is not compatible with QuickDraw GX or Power Macintosh computers. Macintosh Print Pack "may" work with System 7.5, but has not been tested.

GDT Softworks makes PowerPrint which provides the same functionality as the Macintosh Print Pack. You can contact GDT Softworks for additional information on PowerPrint. The current version of PowerPrint was tested with Power Macintosh computers.

Apple currently has no plans to update or upgrade the Macintosh Print Pack.

The Tech Info Library article#17159: "Locating Vendor Information", can help you search for a particular vendor's address and phone number.
Published Date: Feb 19, 2012

Color StyleWriter 2400: Extending Ink Cartridge Life (2/95)

Why can I only get approximately 25 pages of printing from my Color StyleWriter 2400 black ink cartridge when I print? I am trying to print some simple black and white PICT documents.

This article has been archived and is no longer updated by Apple.
The number of pages that can be printed from an ink tank varies significantly depending on the type of document being printed, the mode of printing (Best, Normal, or Draft), and the type of material being printed on.

Select Best when printing requires significantly more ink than the Normal mode. Using the Best mode can cut the ink cartridge life almost in half depending on the documents being printed. When printing black and white documents it is more cost-effective and faster to print using the black-only ink cartridge (M3240G/A) because it contains a much larger supply of black ink.

Suggestions for Extending Ink Cartridges
==========

The Color StyleWriter 2400 User's Guide (page 66) contains several suggestions for extending the printing life of ink cartridges. The section reads as follows:

Ink tanks and cartridges run out of ink too quickly

To Extend the life of your ink cartridges, try the following:

- Select Draft print quality in the Print dialog box whenever you can.
- Do not clean the print head unless necessary.
- Do not print solid background colors unless necessary.
- Do not open the printer's cover unnecessarily. (After you shut the cover, the printer cleans the print head, which uses up ink.)
- Do not unplug the printer or otherwise discontinue power frequently.
- Do not print the test page unless necessary.

Support Information Services

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PB 500 Series: Global Village Mercury 2.5 Software Change (2/95)

I just installed the new Global Village Modem software 2.5 into my Powerbook 500 series and the Compatible/Normal settings in the Powerbook Setup control panel are gone. Is this no longer and option?

This article has been archived and is no longer updated by Apple.
Global Village has moved these settings into the Powerport 500 control panel. It now has the same feel as the Apple Express Modem 1.5.5 software in this respect.

Support Information Services
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Macintosh Networks: No Way to Calculate Real World Speed (2/95)

Is there a method as to how I can determine the correlation between a networking file transfer speed specification in mbits/sec and as to what I should see in a real world setting in regards to file transfer speed in mbytes/min across a given network. If this is not enough info to go on I'll be glad to supply any needed.

This article has been archived and is no longer updated by Apple.
The short answer to this question is "no".

Let's take Ethernet as an example. The 10Mbps is the actual bandwidth of the cable. 40% average utilization of an Ethernet network would be considered high. At times a single node may use up to 60% of the available bandwidth but this is uncommon.

Then there are hardware and software issues. How efficient are the hardware and software? Is the data being read from disk or RAM?

There is no way to say how fast a given computer will be at doing network transfers unless you actually test it. There is no test data for Apple's Macintosh systems.

Support Information Services
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LaserWriter Pro 16/600 PS: Printer Reduces Size of Faxes (2/95)

I am faxing a full length page to my LaserWriter 16/600 PS Fax printer and the printer is reducing the document by about 5-7%, is this normal?

This article has been archived and is no longer updated by Apple.
Yes, a small amount of resizing is normal. The document must be resized so that the header on fax can be placed on the document properly. The width gets resized proportionally, so the document does not appear distorted. The overall reduction is approximately 5%.

Support Information Services
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DOS Compatibility Card: VTCPIP Error w/ Windows

I have installed LAN WorkPlace for DOS on my DOS Compatibility Card for the Power Macintosh 6100. Now when I restart the MS-DOS environment and try loading Windows I get the following error message:

VTCPIP: Device load failed.
TCPIP is not installed or not the right version. hit any key to continue.

Despite this error, Windows seems to load properly.
This article has been archived and is no longer updated by Apple.
This error occurs if you have installed the Windows portion of LAN Workplace. If Windows runs before TCPIP.EXE is loaded, you get this error. This error doesn't prevent Windows from loading and working properly, however your TCP/IP software will not work.

The most common cause of this error is running Windows before loading network software. You may encounter this error because the CALL C:\\LANWP.BAT is added as the last line of the AUTOEXEC.BAT file. Apple ships the DOS Compatibility Card with WIN as the last line in AUTOEXEC.BAT. To correct this error, move WIN after CALL C:\\LANWP.BAT, or comment it out altogether.

If you have further questions about Microsoft Windows, please contact Microsoft's technical support. If you have further questions about LAN Workplace for DOS, please contact Novell.

The Tech Info Library Article 17159: "**Locating Vendor Information**" can help you search for a particular vendor's address and phone number.
Published Date: Feb 19, 2012

DOS Compatibility Card: How to Access Upper Memory (5/96)

I have a Power Macintosh 6100 with a DOS Compatibility Card installed. I am unable to get EMM386 working. The user's manual discourages the use of memory management tools, so I'm wondering if the DOS Compatibility Card supports EMM386? If so, how do I get it working?

This article has been archived and is no longer updated by Apple.

The DOS Compatibility card supports upper memory. To access upper memory make the following change to your config.sys file:

If you are using PC Setup 1.0.7, the lines are:

DEVICE=C:\\DOS\\EMM386.EXE NOEMS X=C800-CFFF RAM=D000-EFFF

or

DEVICE=C:\\DOS\\EMM386.EXE X=C800-CFFF RAM=D000-EFFF

For PC Setup 1.5, the command lines are:

DEVICE=C:\\DOS\\EMM386.EXE NOEMS I=CA00-CBFF X=CC00-CFFF RAM=D000-EFFF

or

DEVICE=C:\\DOS\\EMM386.EXE I=CA00-CBFF X=CC00-CFFF RAM=D000-EFFF

Depending on how you have configured the file, config.sys should look similar this:

```
DEVICE=C:\\DOS\\SETVER.EXE
DEVICE=C:\\DOS\\HIMEM.SYS /TESTMEM:OFF
DEVICE=C:\\DOS\\EMM386.EXE X=C800-CFFF RAM=D000-EFFF
DOS=HIGH,UMB
FILES=30
LASTDRIVE=M
```

This information is also provided in the DOS Compatibility Card Read Me File.

Article Change History:
22 May 1996 - Added new config.sys line for PC Setup 1.0.7
28 Feb 1995 - Reformatted article.

Published Date: Feb 19, 2012

Macintosh Portable: How to Identify Backlit Model (4/95)

Is there a outward way to differentiate between the backlit and original Macintosh Portable? I know I can open the rear cover and look at the memory configuration since the Backlit Portable has fewer memory chips on the left side of the logic board, but can I identify them from the outside?

This article has been archived and is no longer updated by Apple.
The easiest way to tell the difference between a backlit and non-backlit Portable is, of course, to see if there is a light emanating from the display.

Another way to tell is to check the model number, located on the bottom of the unit. The Backlit Portable was model number M5126 and the non-backlit was M5120.

Note: If the non-backlit model had an upgrade to the backlit, it would retain the old model number, M5120 and have the backlight upgrade card installed in the J10 ROM slot and have inprinted on it "PORTABLE BACKLIGHT UPGRADE".

Article Change History:
26 Apr 1995 - Added more info on how to differentiate between models.

Support Information Services
Published Date: Feb 19, 2012

LocalTalk: Alternate Sources For Cable

This article has been archived and is no longer updated by Apple.

Many large accounts are installing AppleTalk networks. For custom length LocalTalk cables, there are two resources, Apple dealers and third-party vendors.

Apple dealers have Apple's LocalTalk Custom Wiring Kit. You must consider if the account has the assembly skills required by the kit. Even though this kit was introduced with large installations in mind, it may fall short of fulfilling the account's requirements. Each kit contains the necessary materials to construct 8 cables of varied lengths. Unfortunately, the account must buy a second kit just for its connectors if more than 8 are needed (and the total network does not exceed 1000 feet). Sometimes buying supplementary 10 meter cables solves this problem.

Third-party vendors will accept specifications for custom cables. These cables are pre-assembled and using them requires nothing beyond the usual skills needed for a normal installation. The higher cost of this cable can bring up the cost of total installation, however.

Here are some vendors of custom length cables:

Advanced Electronics Support Products, Inc.
18909 N. E. Fifth Avenue
North Miami, FL 33179
(305) 653-0898

Montrose Corporation - Telephone 415/487-3933
-Telephone numbers as of 4/1/87:
1-800-423-3014 (except California)
1-800-423-4224 (California only)
-Cable lengths same
-PVC Cale Part #CBL6242
-Teflon Cable Part #CBL6228
-Assembly Plugs Part #815-0878A
-Both cabling and assembly plugs now in stock

Belden Corporation - Telephone 1-(800)-Belden-1

-Cable lengths available in 500, 1,000, and 2,000 foot lengths.
-PVC Cable Part #9999
-Teflon Cable Part #8999
-Assembly Plugs Part #815-0878A
-Some cabling now in stock, assembly plugs available.

Published Date: Feb 19, 2012

Drive7: Compatibility with Power Macintosh and System 7.5 (2/95)

What version of Drive7 should I use on my Power Macintosh? Is it System 7.5 compatible?

This article has been archived and is no longer updated by Apple.
Casa Blanca Works, makers of Drive7, strongly recommend that customers use at least version 3.0 of Drive7 for full Power Macintosh compatibility.

They stated that there are known Power Macintosh compatibility issues with Drive7 versions previous to 3.0. The current version of Drive7 is 3.0.9. Version 3.0 and later is also System 7.5 compatible.

Support Information Services
Published Date: Feb 19, 2012

System 7.5: Recovering Deleted Text from Stickies (2/95)

I saved some important info using the Stickies DA and then I accidently deleted it. Is there any way to get it back?

This article has been archived and is no longer updated by Apple.
Stickies supports the Undo command from the Edit menu. If you accidentally delete text, this is the only reliable way to retrieve it. Note that the Undo command will only undo the last text editing task.

Support Information Services
Published Date: Feb 19, 2012

Apple Personal Diagnostic: False Directory Problem Report

Apple Personal Diagnostics reports a disk or directory problem with my hard disk, but when I run Disk First Aid, no problems are found.

What is causing this contradiction?
This article has been archived and is no longer updated by Apple.
Under some circumstances, Apple Personal Diagnostics may incorrectly report disk or directory problems, but drive diagnostics such as Disk First Aid may not find these problems. This situation is usually caused by extension conflicts with the diagnostics.

For best results, when running Apple Personal Diagnostics, disable Extensions by holding down the Shift key at start up, then run the diagnostics.
Published Date: Feb 19, 2012

GPi and Super-Fast Modems: Overview

This article describes the GPi (General Purpose input) line of the serial port on a Macintosh computer and how it works with super-fast modems. This article has been archived and is no longer updated by Apple.

What is GPi?

GPi is a signal pin that is used on the serial connector of a DIN-8 (DIN-9 on Geoport enabled Macintosh computers). It was intended to provide a way for the Macintosh to support communication devices that needed to pass along pacing information (an external clocking signal).

This signal was typically needed several years ago by modems that were synchronous serial modems. This "class" of modems is typically used for specialized purposes, as into tying into certain computer data networks or directly into a remote communications controller.

Today, the vast majority (98% or better) of personal computer remote communications are done via asynchronous modems. The need for GPi to be used as a synchronous external clock input is rare. Asynchronous serial modems today go as fast as 28,800 bps over the communication link, and if the data going over that link is highly compressible, it is theoretically possible that the actual data rate (because of the gain in compression) can approach 115,000 bps.

However, there is a more practical use for the GPi control line - hardware handshaking. Hardware handshaking is a method of signaling used between hardware devices (computer and modem) to pace the "conversations" over the serial line to help ensure that characters and other information do not get "dropped". Typically speaking, most Macintosh computers that are communicating serially to a modem only require a special cable called a "high speed hardware handshaking cable" to speak at serial port speeds of 9600 bps or higher.

In Macintosh computers that support the GPi connection, the GPi line goes to the "Data Carrier Detect" or DCD signal line of the serial control chip. It is located at pin 7 on the DIN-8 serial connectors, and connects to the DCD input of the Z8530 Serial Communications Controller (SCC). Some machines that do not support GPi include the Macintosh Plus, Macintosh Classic, and Macintosh LC. On these machines, pins 7 of the DIN-8 serial connectors are not connected.

There is no one correct way to institute a hardware handshaking protocol as it relies heavily on a combination of events: the software requiring serial communications, the cable used to connect the computer and the external serial communications device (typically a modem of sorts), and the communications device itself (again, typically a modem).

In Macintosh software, the choice of using GPi is up to the programmer of the software. The software producer should tell you in the documentation whether their software relies on GPi and other configuration information. In most Macintosh serial communications software, the use of GPi is minimal or non-existent.

A few Macintosh computers (such as the Macintosh IIfx and Macintosh Quadra 950) are exceptions to certain hardware trends and require the use of special compatibility software to allow the use of communications software that require GPi control.

GPi signal use can be instituted to allow for one form of Hardware handshaking control. However, the use of the GPi line is not required for the use of other hardware handshaking control schemes on the Macintosh. In fact, many "Super High Speed" modems do not use GPi to hardware handshake.

Can you use a "high Speed" modem with your Macintosh?

Yes, you can use a "Super High Speed" modem for your Macintosh. The general technical classification for these modems are:

- V.32 for 9600baud
- V.32bis for 14,400
- V.32ter for 19,200
- V.34 for 28,800

The data rate specified is typically the best data for that class of modem (for example, V.32 will never go faster than 9600, but it can communicate at 4800, 2400, and 1200 baud speeds) taking into account certain factors like quality of telecommunications line, how much "attention" your Macintosh can pay to the serial line, and other tasks that it needs to be doing at the same time.

In fact, for most Macintosh computers that are not equipped with the Geoport capability, the fastest ideal speed that you can expect the computer can speak at the serial connector is 57,600 bps. Geoport-equipped Macintosh computers can potentially go up to 230Kbps at the serial port.

Further Reference

For additional information about GPi technology, refer to the following publications:

- "Inside Macintosh, Volume III - The Macintosh Hardware"
- "Inside Macintosh, Volume VI - Compatibility Guidelines"

- "Guide to the Macintosh Family Hardware - Serial I/O Ports"
- "Technical Note M.OV. GestaltSysenvirons - Gestalt and Sysenvirons: A Never Ending Story"
- "Technical Note M.HW.MacIIfx - Macintosh IIfx: The Inside Story"
- "Technical Manual: Z8530 SCC Serial Communications Controller (contact Zilog or AMD)"

The following Tech Info Library article can help you find the Tech Notes mentioned here:
Article 24493: "**Apple Tech Notes: What They Are, Where To Find Them**"
Published Date: Feb 19, 2012

Chinese Language Kit v1.1: Full Custom Install

What is the difference between a Simplified Custom install and a Traditional Custom Install of the Chinese Language Kit v1.1?
This article has been archived and is no longer updated by Apple.
Listed below are the software components and the hard disk space they require that are installed onto a hard disk from Chinese Language Kit v1.1 using the Customize button in the Installer and selecting all the options. Both the Simplified Installation and Traditional Installation are shown here.

Note: The items installed for the Chinese Language Kit v1.0 are the same as v1.1 listed below, but the version numbers of the items may vary.

Chinese Language Kit v1.1 Simplified Input Full Custom Install:

Hard Disk:
Read Me 5k
TeachText 36k v7.1

Apple Extras:
Simp. Chinese Language Register 39k v7.1.1

System Folder:
Beijing 16L1 128k
Beijing 16L2 96k
Simplified Chinese Fonts 2k
Song 16 236k
Song 24 527k

Extensions:
FarEast Addition 33k v1.0.1
InputBackSupport 107k v7.2.1
Language Kit Extension 72k v7.1.2
Roman Support 5k v7.1
Simplified Chinese Input Method 209k vCH1-1.0.2
Simplified Chinese Support 5k vCH1-7.1
WorldScript II 78k v7.2
WorldScript Power Adapter 29k v7.2.1
Chubun 81k vCH1-1.0

Fonts:
Beijing 18k
Song 5,858k

Preferences:
Langauge Kit Preferences
SCIM

Chinese Language Kit v1.1 Traditional Input Full Custom Install:

Hard Disk:
Read Me 5k
TeachText 36k v7.1

Apple Extras:
Trad. Chinese Language Register 39k v7.1.1

System Folder:
Apple LiSung Light 16L1 189k
Apple LiSung Light 16L2 243k
Apple LiSung Light 24L1 422k
Apple LiSung Light 24L2 543k
Taipei L1 188k
Taipei L2 242k
Traditional Chinese Fonts 2k

Extensions:
Cangjie 170k v2.0.9
Da yi 176k v2.0.9
FarEast Addition 33k v1.0.1
InputBackSupport 107k v7.2.1
Language Kit Extension 72k v7.1.2
Parrot 14k vTA1-2.0
Pin Yin 81k vTA1-2.0.9
Roman Support 5k v7.1
Traditional Chinese Support 5k vTA1-7.1
WorldScript II 78k v7.2
WorldScript Power Adapter 29k v7.2.1
Zhuyin 81k vTA1-2.0.9
Chubun 81k vCH1-1.0

Fonts:
Apple LiSung Light 6,749k
Taipei 18k

Preferences:
Langauge Kit Preferences
SWM Preferences
SCIM
Published Date: Feb 19, 2012

Power Macintosh Upgrade Card: Blank Desktop at Start Up (2/95)

After installing Power Macintosh Upgrade Card in my Centris 650, my extensions load properly on startup but the desktop comes up blank.

Restarting in 68040 mode works fine. What is the problem?

This article has been archived and is no longer updated by Apple.
If you have a Radius Lemans GT card installed, you will need to reconfigure the card properly to match the Power Macintosh hardware (after switching to PowerPC mode) by holding down the letter "u" on startup.

You may wish to contact Radius should the problems persist.

To locate a vendor's address and phone number, use the vendor's name as a search string in the Tech Info Library.

Support Information Services
Published Date: Feb 19, 2012

Japanese Language Kit v1.1: Full Custom Install

What does the Japanese Language Kit 1.1 install when you use the Customize button in the Installer and select all the options?
This article has been archived and is no longer updated by Apple.
Below is a list of the items that the Japanese Language Kit 1.1 installs onto a hard drive when you choose the Customize button in the Installer you select all the options:

Note: The items installed for the Japanese Language Kit v1.0 are the same as v1.1 listed below, but the version numbers of the items may vary.

Japanese Language Kit v1.1 Full Custom Install:

Hard Disk:
Read Me 5K
TeachText Japanese 39k vJ1-7.1

Apple Extras:
Japanese Language Register 39k v7.1.1

System Folder:
ChuGothic L1 399k
ChuGothic L2 380k
HonMincho GX 20k
Kanji Fonts 5k
MaruGothic GX 14k
Osaka L1 221k
Osaka L2 141k
SaiMincho L1 515k
SaiMincho L2 488k

Control Panels:
Text 15k v7.1

Extensions:
Koteri 566k vJ1-1.1.1
Kotoeri (Main Dictionary) 453k vJ1-1.1
Kotoeri (Name Dictionary) 254k vJ1-1.1
Kotoeri (Users Dictionary) 42k vJ1-1.0
Kotoeri (Help) 153k vJ1-1.1.1
Kotoeri (Seals) 119k J1-1.1.1
Kotoeri (...Dictionary) 263k vJ1-1.1
Font Extension 23k v1.0
InputBackSupport 107k v7.2.1
Japanese Support 6k v7.1
Language Kit Extension 72k v7.1.2
Roman Support 5k v7.1
WorldScript II 78k v7.2
WorldScript Power Adapter 29k v7.2.1

Fonts:
ChuGothic 27k
HonMincho 8,114k
MaruGothic 6,734k
Osaka 14k
SaiMincho 29k
Tohaba Gothic 17k
Tohaba Mincho 17k
Tohaba Osaka 9k

Preferences:
Language Kit Preferences 2k
Published Date: Feb 19, 2012

Express Modem and PBX System Compatibility (2/95)

Can I plug a PowerBook 14.4 Express Modem or Duo 14.4 Express Modem into a PBX phone system?

This article has been archived and is no longer updated by Apple.

From the "Macintosh Express Modem User's Guide":

* Preface, page ix - The PowerBook Duo 14.4 Modem and PowerBook 14.4 Modem will not work with party lines, cannot be connected to a coin-operated telephone, and may not work with a digital private exchange (PBX) system.

* Chapter 1, page 4 - To use your Express Modem, you need an ANALOG telephone line. Most hotels and other buildings use an exchange system (PBX) with digital extensions. If the office or hotel room has a digital extension, consult the office telephone manager or telephone service provider to determine if an analog line can be installed.

CAUTION: Be sure to request an analog telephone line, because higher voltage than recommended may cause damage to your Express Modem, and the repair will not be covered under warranty.

Support Information Services
Published Date: Feb 19, 2012

LaserWriter 16/600 PS: HP/UX PCL Printing Over TCP/IP (2/95)

I have a LaserWriter 16/600 PS connected over the network to an HP/UX 9.0.x computer. I followed the instructions in the LaserWriter manual to configure the printer under HP/UX and everything prints fine, except I need to print reports from an application in landscape format.

What's the best way to configure the printer so it can take full advantage of landscape mode? Should I set it up as a HP LaserJet using PCL?

This article has been archived and is no longer updated by Apple.
To print to a LaserWriter 16/600 from HP/UX, you configure the printer to either auto-select, or use PCL emulation over TCP/IP.

You seem to have set up the printer queue correctly via "sam" on the HP workstation. However, to print a PCL print job from your workstation in landscape mode, you need the correct escape sequence to specifically tell the printer how to set the print job output. Use of the "lp" or "rlp" command will not make a difference.

To set the correct escape sequence to print in landscape mode, you have to know how to embed an escape sequence in a PCL job. For example, /etc/hosts tends to be an ASCII file, and you can create ASCII files like /etc/hosts, then embed the escape code in the beginning of the text. Below is the escape sequence:

^[&l1O

* The symbol "^", a carrot, in "vi" requires holding down the CONTROL-key and letter "v" at the same time.

* The symbol "[", an open bracket, can be obtained by holding down the CONTROL-key and the "{/[" key at the same time.

* The symbol "&" is SHIFT-7.

* The "l" is the lower-case letter "L".

* The "1" is a numeric one

* The "O" is upper-case letter "O"

Support Information Services
Published Date: Feb 19, 2012

Personal LW NT: LaserJet Emulation Page Layout Codes (2/95)

I'm trying to use a Personal LaserWriter NT to print reports from our DEC VAX via a serial port.

The printer responds to our requests. However, it prints in a font that is too large to have all the text appear on the page. I'm not sure if it is related to the communication software, VAX print que, or the NT settings. I've tried using the printer's HP LaserJet and Diablo settings, same result. I have tried modifying printer settings in the software, same result.

I've been told that I need to set the printer to 66 lines of output. I don't really know what this means. Any words of wisdom?

This article has been archived and is no longer updated by Apple.
There are at least two parameters that need to be changed (Lines per page and character size) to achieve the page layout that you want. Optionally you may need to set top and bottom margins. To do this in LaserJet emulation you need to pass certain escape sequences to the printer to change these parameters.

If you do not have access to a text/binary editor such as EDT, request your MIS department to send the following information to the printer.

Commands

Page length:

ESC&1#P # = NUMBER OF LINES PER PAGE
ESC&1#E # = NUMBER OF LINES AT TOP MARGIN
ESC&1#F # = NUMBER OF LINES AT BOTTOM MARGIN

Font Selection:

ESC(s7C 7 point charcter size
ESC(s8C 8 point charcter size
ESC(s8.5C 8.5 point charcter size
ESC(s10C 10 point charcter size
ESC(s12C 12 point charcter size
ESC(s14.4C 14.4 point charcter size

Support Information Services
Published Date: Feb 19, 2012

LaserWriter Pro 630: Virtual Memory Error

I have a LaserWriter Pro 630 with 8MB of RAM being used in a school lab on an Ethernet network. Occasionally the printer displays a virtual memory error when documents are printed that use TrueType fonts not present on the printer. If I reset the printer, every works fine. Later in the day however, the error may reappear.
This article has been archived and is no longer updated by Apple.
You are getting the virtual memory error because the printer is running out of memory. Even with 8MB of RAM, the majority of it is taken up by the page buffer (especially with PhotoGrade or 600dpi). Power-cycling the printer clears out all temporary items in memory such as fonts, so it is not surprising that the print jobs work for a while, and then fail again once the fonts fill up memory.

Since it seems that you are downloading quite a few fonts to the printer, we would suggest enabling "Unlimited Downloadable Fonts" in the Page Setup Options dialog. This option purges each font from the printer's memory after it is used. As a result, print jobs will probably take longer to process, however, this should get rid of the PostScript errors.

If you will be constantly downloading fonts to the printer, you might want to purchase additional RAM, or even a hard drive for the printer to store the TrueType fonts.

Published Date: Feb 19, 2012

Pwr Mac DOS Compatibility Card: LSL.COM Not Included (2/95)

I have a DOS Compatibility Card for the Power Macintosh, I am trying to use it on a network. Our support personnel keeps asking me for a link support layer LSL.COM. Where can I get this?

This article has been archived and is no longer updated by Apple.
LSL.COM is part of Novell Netware client software. If you are running a Novell Netware network, the distribution disks will have LSL.COM. If not, you can get LSL.COM from Novell's ftp site (ftp.novell.com) or by calling Novell and ordering a site-license.

Support Information Services
Published Date: Feb 19, 2012

Color StyleWriter Pro: Margin Limitations and Solutions (2/95)

I have a Color StyleWriter Pro and when I print to it from various applications, it seems that all of the margins are offset from what I specify in the application. As an example, the top margin seems to be offset anywhere from 1/8-in. to 3/16-in. so the entire page is moved up towards the top by that amount.

This article has been archived and is no longer updated by Apple.
There are some known problems with the margins on the Color StyleWriter Pro printer. We have outlined some workarounds below.

With the right and left margins, the printable area of the page is offset from the center. The driver does its best to inform applications of this offset, however, applications that do not use the information provided by the driver and assume the page is centered produce incorrect margins.

Top and bottom margins will typically be from 1/8-in. to 3/16-in. off (moved toward the top of the page). This problem is due to the hardware limitations of the printer, specifically, with the paper roller mechanism. The best workaround for this issue is to add 1/8-in. or 3/16-in. to the margin when specifying this value in the application's margin settings.

Support Information Services
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Apple EtherNet AUI Adapter: Not FCC Certifiable (2/95)

I noticed that the Apple Ethernet AUI Adapter does not carry any FCC labeling to indicate that it has been tested and certified by the FCC. Is the AUI adapter certified by the FCC?

This article has been archived and is no longer updated by Apple.

The Apple Ethernet AUI Adapter is considered a power supply by the FCC and is NOT certifiable. The device is within the FCC Class A limits for emissions but it does not require certification nor the FCC label. The FCC will not certify this type of device.

The Apple Thin Coax transceiver is a Class B compliant device and carries both the FCC ID and the FCC 'interference' statement.

The Apple Ethernet Twisted-Pair Transceiver is a Class A compliant device and is required only to carry the FCC 'interference' statement and does not require its own FCC ID.

Also see the related TIL Article: "Apple Hardware: FCC Compliance"

Support Information Services
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Retrospect: How To Interpret Performance Shown in Log

Please clarify the way Dantz Development Corporation's Retrospect software computes its throughput in this example:

8:56:53 AM: Copying
8:57:00 AM: Comparing
8:57:04 AM: Execution completed successfully

Total Completed: 31 files, 861 KB
Performance: 4.5 MB/minutes (7.2 copy, 12.6 compare)
This article has been archived and is no longer updated by Apple.
The log gives the impression that the copy took 7.2 seconds and the compare took 12.6 seconds. This is not correct. These times are instead accumulative. In other words, after 7.2 seconds the copy was completed and after 5.4 more seconds the compare was completed.

Here are the calculations used to get the number above:

Duration: 00:00:11
Throughput = kbytes backed up / duration
4.5 MB/minute = 861 KB/11 sec * 60 sec / 1 minute * 1 MB/1000 KB
7.2 MB/minute = 861 KB/7.2 sec * 60 sec / 1 minute * 1 MB/1000 KB
9.9MB/minute = 861 KB/5.2 sec * 60 sec / 1 minute * 1 MB/1000 KB

Note: The total performance is based on the total time of the backup and compare procedures. If you compute just backup or compare time, you seem to have a higher throughput.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.
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Macintosh Easy Open and Generic System File Icons (2/95)

Since I installed System 7.5, both the Finder icon on the System Folder and the System icon in the About this Macintosh window are showing up as a generic document icons (a little piece of paper with the upper left corner folded over).

Everything seems to function normally. I have already rebuilt my desktop with extensions off, but that did not change it. How can I fix this?

This article has been archived and is no longer updated by Apple.
Make sure that Macintosh Easy Open is the first control panel to load before all other extensions and control panels. You can do this by adding a space before the control panel's name so, instead of "Macintosh Easy Open" the name will be " Macintosh Easy Open".

If this does not correct your problem, you may need perform a clean installation of the System software.

Support Information Services
Published Date: Feb 19, 2012

Display Card 24AC: Power Macintosh Can Use Acceleration

I installed v1.2 of the Display Card 24AC software, which is compatible with Power Macintosh systems, but I cannot find the acceleration options in the Monitors control panel. Is acceleration available on Power Macintosh computers?

This article has been archived and is no longer updated by Apple.

There should be no problems using the Display Card 24AC with any Power Macintosh computer that has an available NuBus slot.

The icons which allow Power Macintosh users to activate video acceleration on the Display Card 24AC should appear in the Options section of the Monitors control panel under the following conditions:

- A Display Card 24AC is installed in the Power Macintosh, and a monitor is attached to the card.

- The "Apple Macintosh 24AC" file is in the Control Panels folder of the current System Folder. The installer for the Display Card 24AC places this file in the Control Panels folder automatically.

- The monitor that is attached to the Display Card 24AC is selected in the Monitors control panel, before the "Options" button is selected. The top left corner of the Options window should read "Apple Macintosh 24AC".

Any time the icons which allow you to activate video acceleration are not visible, video acceleration has not been activated for that monitor.

If the acceleration option is not available, verify all the conditions listed above. If you meet these conditions, then there may be a conflict with other software and you should remove perform basic system software troubleshooting procedures.

Published Date: Feb 19, 2012

System 7.5: Failure After Partial Installation (4/95)

While installing System 7.5 from CD or floppy disks, I get part way through the install, usually to Disk 2, then an error message asks me to insert Disk 1. Next an error message says the installation could not be completed.

What can be causing this problem?

This article has been archived and is no longer updated by Apple.
The Installer always asks for Disk 1 to be inserted if it finds a problem during the installation process, this behavior is normal. The error message is actually contained in the Installer code on Disk 1.

Possible Causes

There are two possible causes of the problem:

*A bad diskette, or a dirty or damaged CD
*A corruption in the internal PRAM of the computer

If the CD is dirty, clean it with a soft cloth and water. Be careful to wipe directly from the center out towards the edge; never in a circular path around the CD.

To determine if the problem is related to the diskette itself, first make sure all network, printer, third party Apple Desktop Bus (ADB), and external SCSI devices are disconnected. Clear PRAM by holding down the Command-Option-P-R keys at startup. You will hear the computer chime normally when it restarts. Continue holding the keys down until you hear three more chimes, then release the keys.

Retry the installation process, if it fails again at the same point, the floppy disk or CD you are using is probably damaged and should be replaced. Call 1-800-SOS-APPL or your local dealer for help.

Article Change History:
07 Apr 1995 - Made minor technical updates.

Support Information Services
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Pwr Mac DOS Compatibility Card: NetBeui Not Supported (8/95)

I have a DOS Compatibility Card for the Power Macintosh 6100 connected to a network. When I have NetBeui only selected in Windows for Workgroups 3.11 as the communications protocol, the DOS Compatibility Card cannot communicate with other NetBeui only based Windows for Workgroups 3.11 workstations.

This article has been archived and is no longer updated by Apple.
The MACODI MLID does not support NetBeui. As stated in the User's Manual, The Power Macintosh DOS Compatibility Card only supports IPX and IP protocols.

Article Change History:
10 Aug 1995 - Revised article by author.

Support Information Services
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DOS Compatibility Card: Macintosh Conflicts Affect MS-DOS (2/95)

I have a DOS Compatibility Card in my Macintosh, and I am having a problem with the MS-DOS side. This problem seems related to a Macintosh extension. Is it possible for a Macintosh extension to cause problems on the MS-DOS side? I am thinking that the extension in question is maping the modem port, which is causing problems under MS-DOS.

If this is the case, would adding dedicated memory to the DOS Compatibility Card provide any help to me?

This article has been archived and is no longer updated by Apple.
It is possible to have an init conflict on the Macintosh that affects the DOS Compatibility Card. Since the DOS Compatibility Card relies on the slot manager to function, any Macintosh system problem that 'locks up' the slot manager will also hang the DOS Compatibility Card.

Your hypothesis regarding your problem is correct. The problem is the result of both PC Setup and the modem extension trying to capture the modem port. The modem init replaces the normal serial driver with a network modem driver. The problem occurs at startup when PC Setup attempts to take control of the serial port. Since the modem port is busy (the modem init has 'captured' the port) the configuration process fails and the DOS card hangs. However, since the Macintosh startup process continues, both systems are operating at the same time, the Macintosh system continues to startup.

Adding more memory to the DOS card will not resolve this problem.

Workaround
==========

The work around is to set 'configure comm ports at startup' to none in the PC Setup control panel. If you want to use a network modem, you can configure the appropriate comm port as needed. You can configure the comm ports with PC Setup running.

Support Information Services
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PrinterShare: Not Enough Memory Error (International)

I am having problems using PrintShare with my StyleWriter II printer. Whenever I try to print, an error message appears on the screen stating that there is not enough memory to share the printer. I am using PrintShare v1.1.1 that ships with the French-Canadian version of System 7.5.
This article has been archived and is no longer updated by Apple.
This is a know issue with the French-Canadian version of PrintShare v1.1.1. However, there is a simple workaround. You can install PrintShare v1.1.1 that ships with the French-Canadian version of the Color StyleWriter 2400 software. Once you install this version of PrintShare, you can share your printer.
Published Date: Feb 19, 2012

Power Macintosh 6100 DOS Compatible: Video Modes Supported

What is the maximum bit-depth (number of colors) I can obtain from a Power Macintosh 6100 DOS Compatible with a Color Plus, Multiple Scan 15, or Multiple Scan 17 Display?
This article has been archived and is no longer updated by Apple.

```
Power Macintosh 6100 Video Support (Macintosh OS)
=================================================

           13/14-in. Displays    16-in. Color Display  MS 17,20 Display
Video Port  MS Display @ 640x480  MS Display @ 832x624  @ 1024x768
----------  --------------------  --------------------  ---------------
HDI-45      32,768 Colors         256 Colors            N/A


Power Macintosh 6100 Video Support (MS-DOS/Windows)
===================================================

           13/14-in. Displays    16-in. Color Display  MS 17,20 Display
Video Port  MS Display @ 640x480  Multple Scan Display  @ 1024x768
----------  --------------------  --------------------  ---------------
DOS Card    VGA, SVGA             VGA, SVGA @ 640x480   N/A
           @ 640x480 **          & 800x600 **
```

** Note: If you intend to run Windows with 256 Colors at a resolution of 640x480 pixels or use an Apple Multiple Scan Display, Apple 16-Inch RGB or VGA display with 16 colors at a resolution of 800 x 600 you must install a display driver for the program you are using. See "Installing Video Drivers" page 39 of the User's Guide for more information.

From page 39 of the User's Guide: "Installing video drivers", select "Windows 3.1" as the application during the installation process.

If you are working with two monitors, make sure that both monitors are connected before starting the Macintosh and DOS Compatibility Card. The monitor dedicated to the Macintosh environment should be connected to the video port on the back of your Macintosh. The monitor dedicated to MS-DOS should be connected to your DOS Compatibility Card.

Troubleshooting

Symptom
Interference and no video on 13 or 14-in. display.

Solution
When you have a monitor dedicated to the DOS Compatibility Card, it must be connected to the DOS Compatibility Card prior to turning on your Macintosh. If the monitor is not connected first, you will only see the interference. In the PC Setup control panel, the monitor selection displays 16-in. The 14-in. is not available. To correct this problem, shut down your Macintosh. You must shut down your computer, restarting it will not correct the problem. Once the computer is turned off, turn it back on. You can now open the PC Setup control panel and set the Display to 14-in. and start the DOS Compatibility Card.

Published Date: Feb 19, 2012

PaperType Editor: Description, Installation, and Usage (2/95)

I see in the QuickDraw GX custom install, that you can install a utility called PaperType Editor. What is it and how do I use it?

This article has been archived and is no longer updated by Apple.

```
Description
-----------
The PaperType Editor is a utility which allows you to define your own custom paper types and sizes. With the
PaperType Editor you can create a custom menu item for any non-standard paper size that you use; such as, a
strange stationary size or unusual envelope size. Once you have created your own custom paper definition, you
will be able to print a document using your own custom-defined paper dimensions.*

Note:
This program will only run with QuickDraw GX installed.


Install the PaperType Utility
-----------------------------
Step 1
Launch the QuickDraw GX Installer from your system 7.5 disk or CD by double-clicking its icon.

Step 2
Select Custom Install from the pop-up menu in the upper left corner.

Step 3
Click the arrow to the left of the QuickDraw GX Utilities box which is pointing to the right. It should now
point down and reveal a list of utilities from which you can choose.

Step 4
Click an X in the box next to PaperType Utility.

Step 5
Click the Install button. This will place a copy of the utility on your hard drive.


Create a Custom Paper Definition
--------------------------------
Step 1
Launch the PaperType Editor utility by double-clicking its icon.

Step 2
Enter the parameters for the paper: paper size, print area, and margins.

Step 3
Click on Save As. A navigation box will open.

Step 4
Type in a name for your custom paper definition in the text box beneath the words, "Save Paper Type as:". The
default name will be "untitled 1," but you might want to give it a descriptive name, such as: note card,
invitation, or small envelope.

Step 5
Click on Extensions. Then click Save. This will save the information into the Extensions Folder inside the
System Folder.

Step 6
Quit PaperType Editor by pulling down the File menu and selecting Quit from the list.


Print a Document Using Your Custom Paper Definition
---------------------------------------------------
```

Step 1
Open the application from which you want to print (such as, SimpleText).

Step 2
Pull down the File menu and select Page Setup from the list. This will open the Page Setup dialog box.

Step 3
Pull down the Paper Type pop up menu in the Page Setup dialog box and select your newly defined custom paper name from the list.

The selection of this custom menu item tells the application from which you are printing the correct parameters for your custom paper.

* Note:
Not all applications support the PaperType custom-defined paper feature. The application must be QuickDraw GX aware to use this feature.

Support Information Services
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Multimedia Starter CD Asks For Install Disk 2 (2/95)

This article describes how the Multimedia Starter CD asks for "Install Disk 2" while installing the Hardware System Update (HSU) 2.0 included on the CD.

This article has been archived and is no longer updated by Apple.
The Multimedia Starter CD comes with every Multimedia Kit, and it contains a folder called Macintosh System Updates. A user is instructed to Install HSU 2.0 on their system as part of the process. There is an Installer in the Macintosh System Updates folder which users are supposed to run. When a user runs this installer, he or she may be instructed to insert Install Disk 2, but there is no Disk 2.

If a user has already installed System 7.5, HSU 2.0 DOES NOT need to be installed.

A workaround is to view the Macintosh System Update folder by name under the View menu, and look for a folder called, Extensions and Control Panels. The contents of this folder can be moved by selecting the folder contents and dragging them to the active System folder.

Support Information Services
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A/UX "adduser: passwd file busy, try later." Message (2/95)

I'm getting, "adduser: passwd file busy, try later.", when I try to add a user to my AWS (Workgroup Server) 95 with A/UX 3.0.1. Do you know what this is? Have I exceeded my license count? Below is the message along with the active processes, and my /etc/passwd file.

```
AWS95.root # adduser
adduser: passwd file busy, try later.
AWS95.root # ps -ef
UID PID PPID C STIME TTY TIME COMMAND
root 0 0 0 12:29:46 ? 0:00 swapper
root 1 0 0 12:29:46 ? 0:00 /etc/init
root 2 0 0 12:29:46 ? 0:00 vhand
root 3 0 0 12:29:46 ? 0:00 kmemd
root 4 0 0 12:29:46 ? 0:00 asiod
root 5 0 0 12:29:46 ? 0:00 asiod
root 6 0 0 12:29:46 ? 0:00 asiod
root 7 0 0 12:29:46 ? 0:00 asiod
root 8 0 0 12:29:46 ? 0:00 syncd
root 156 1 0 12:30:13 console 0:01 -sh -c /mac/bin/mac32
root 11 1 0 12:29:47 ? 0:00 /etc/fidd
root 154 1 0 12:30:12 ? 0:00 /usr/lib/sendmail -bd -q30m
root 127 1 0 12:30:09 ? 0:00 /usr/lib/errdemon
root 153 1 0 12:30:11 ? 0:28 /etc/catsearchd
root 132 1 0 12:30:09 ? 0:00 /etc/portmap
root 135 1 0 12:30:10 ? 0:00 /etc/cron
root 138 1 0 12:30:10 ? 0:00 /etc/in.routed
root 142 1 0 12:30:10 ? 0:00 /etc/inetd
root 157 1 0 12:30:13 iw2 0:00 /etc/getty tty1 at_9600
root 145 1 0 12:30:10 ? 0:00 /etc/syslogd
root 171 156 0 12:30:17 console 0:00 sh /mac/bin/mac32
root 173 171 2 12:30:17 console 2:16 /mac/bin/startmac
root 174 171 22 12:30:17 console 0:20 /mac/bin/CommandShell -u
root 175 142 0 12:31:09 ? 0:00 rpc.mountd
root 187 174 0 12:34:29 C1 0:00 /bin/sh
root 196 174 0 12:39:49 C2 0:00 /bin/sh
root 225 196 2 13:09:03 C2 0:00 ps -ef
AWS95.root # cat /etc/passwd
root:EZGqjZTuZJ8Ns:0:0::/:/bin/sh
daemon:*:1:1::/:
bin:*:2:2::/bin:
sys:*:3:3::/bin:
adm:*:4:4::/usr/adm:
uucp:*:5:5:UUCP Administrator:/usr/lib/uucp:
nuucp:*:10:10:UUCP User:/usr/spool/uucppublic:/usr/lib/uucp/uucico
lp:*:7:7:lp:/usr/spool/lp:
nobody:*:60001:60001:NFS generic user:/tmp:/bin/noshell
dan:elw5oOC71pmU2:1000:1000:Dan S,,,:/users/dan:/bin/csh
eddie:jnb7McFx5xnaI:1001:1001:Eddie L,,,:/users/eddie:/bin/csh
elut:woXd0MzMJTw76:1002:1002:Eddie L,,,:/users/elut:/bin/csh
manuel:EYOOGuBmQxPnU:1003:1003:Manuel S,,,:/users/manuel:/bin/csh
eric:flwBFKi07P.tI:1005:1005:Eric D,,,:/users/eric:/bin/csh
rick:MIaUtdPAJ6/F6:1006:0:Rick H,,,:/users/rick:/bin/csh
pat::1007:1006:Pat S,,,:/users/pat:/bin/csh
charles:iEsGPQynYEm8c:1008:1007:Charles B,,,:/users/charles:/bin/csh
dave::1009:1008:David S,,,:/users/dave:/bin/csh
andres:pwENfvAx3Wago:1010:1009:Andres,,,:/users/andres:/bin/csh
sofia:Fkzh0A8Rt50JA:1012:1011:Sof,,,:/users/sofia:/bin/csh
rich:wmnERRhZmwaFA:1013:1012:Richard H,,,:/users/rich:/bin/csh
brinkley::1014:1013:Brinkley,,,:users/brinkley:/bin/csh
```

```
steve:wHfLlYSHyAl/k:1015:1014:Steve B,,,:/users/steve:/bin/csh
mark:sho7IYFHj.Lr6:1016:1015:,,,:/users/mark:/bin/csh
hackett:FAlsZeEsY.3FU:1017:1016:Elaine W,,,:/users/hackett:/bin/csh
chuck:.DTH.csvi4oQY:1018:1017:Chuck P,,,:/users/chuck:/bin/csh
mart:tESvwlB14R4/A:1019:1018:Mart S,,,:/users/mart:/bin/csh
AWS95.root #
```

This article has been archived and is no longer updated by Apple.
We believe you unsuccessfully added a user with "adduser" involving "vipw" while setting the user password, or there was other user or process activity modifying the password file at the same time. This in turn, created a "ptmp" or "gtmp" locked file in the /etc directory.

We suggest stopping other users or processes from modifying the password file, and removing the /etc/ptmp or /etc/gtmp locked file, if there are any. This should take care of your problem.

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Apple IP Gateway: -344 Error (6/96)

I am having problems starting the Apple IP Gateway. I am using an SE/30, System 7.1, Asante SCSI-to-Ethernet adapter box, MacTCP 2.0.4, and ARA 2.0.1. I have a working TCP/IP connection on the SE/30, and I want to use this computer as an ARA dial in connection to the IP network.

I have attempted both Custom and Easy installs of IP Gateway software. Whenever I start the IP Gateway, I get the error, "Gateway cannot start because of a system error -344". This corresponds to a Start Manager error*-- No more sResources.

In Chapter 1 of the IP Gateway manual, it states that the software will work with SCSI, NuBus, or PDS Ethernet interfaces. Why does this error occur?

This article has been archived and is no longer updated by Apple.

The Apple IP Gateway 1.0 was not tested with any third-party SCSI Ethernet adapters. In the original design specifications, supporting third-party SCSI Ethernet adapters was anticipated. The manual should not state, the Apple IP Gateway supports third-party SCSI Ethernet adapters. The Apple IP Gateway team is aware of this and will either change the documentation, or revise the software to work with third-party SCSI Ethernet adapters.

If you are seeing this error, obtain the Apple IP Gateway 1.0.1 Patch, which can be found on Apple Computer's software update locations. The Apple IP Gateway 1.0.1 Patch Read Me states, "The IP Gateway now works with external SCSI Ethernet devices." However, the Apple IP Gateway may not work with ALL third-party SCSI Ethernet adapters.

These articles can help you locate the software update mentioned here:

* "Where To Find Apple Software Updates" -- Lists online services for free Apple software updates.

* "Obtaining Apple Product Support in the USA" -- Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech Info Library.

Article Change History:
04 Jun 1996 - Updated for accuracy and changed distribution status.
22 May 1996 - Added reference to Apple IP Gateway Patch 1.0.1.

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TA33352_Kagi_(TIL17255).pdf

Kagi

Kagi
This article has been archived and is no longer updated by Apple.
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Collects shareware fees for applications purchased over the Internet.
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Power Macintosh AV: Displaying PAL Video at 768 x 576 (2/95)

When using a Power Macintosh AV with PAL video output, I can't select the PAL standard resolution of 768 x 576. I can only select the 640 x 480 resolution. With this resolution selected, a black border is visible around the screen image.

We have many customers with this problem. Do you have any suggestions?

This article has been archived and is no longer updated by Apple.
When outputting a Power Macintosh AV's screen as a PAL video signal, the 768 x 576 screen resolution may not be visible in the Monitors control panel.

To set the Power Macintosh AV card to this resolution, try these steps:

- Open the Monitors control panel
- Click on the Options button
- Check the Display Video on Television button
- Select PAL video
- Select Upon Restart Display Video on Television
- Restart the Power Macintosh

The Power Macintosh AV system should display the 768 x 576 resolution on the PAL monitor after restarting the computer. After restarting, you may want to reopen the Monitors control panel to adjust your video settings.

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DOS Compatibility Card: PC Dongles May Not Work (10/96)

I have a DOS Compatibility Card and want to know if a PC hardware dongle works with this card. Also will hardware keys, like the kind used with 3D Studio which connects to the parallel port, work with the DOS Compatibility Card?

This article has been archived and is no longer updated by Apple.

Many PC dongles or hardware keys are parallel devices and connect to LPT1. These will not work with the DOS Compatibility Card because the card does not have a parallel port. Dongles or hardware keys that use the serial port may work depending on how they receive power.

The Macintosh serial ports are RS-422 ports and do not support all RS-232 signals. In particular, the Carrier Detect (CD), Data Set Ready (DSR), Request To Send (RTS), and Ring Indicator (RI) signals are not available. On page 71 of the DOS Compatibility Card user's manual (or page 105 of the PC Compatibility Card user's guide), there is additional information about using PC peripherals. Included is a chart listing the Macintosh serial port signals and Mini DIN-8 pinouts along with corresponding DB-9 and DB-25 pinouts.

If you have tried using the dongle and it did not work, you will need to contact the vendor to obtain specific information about how the dongle receives power. If it gets power from any of the four unsupported signals, it will not work. However, if it is powered by a signal, other than the four unsupported signals, then you may be able to get it working by using the information on page 71 along with pinout information supplied by the vendor.

We are not aware of any dongles that will work with the game port.

Article Change History:
03 Oct 1996 - Modified manual page reference information.
10 Oct 1995 - Combined articles.
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ARA 1.0 & 2.x: Connection Document Compatibility

I have upgraded from Apple Remote Access (ARA) 1.0 to 2.x. I want to know if I can continue to use the connection documents saved under ARA 1.0, or do I have to create new connection documents for ARA 2.x?
This article has been archived and is no longer updated by Apple.
ARA 2.x connection documents contain additional resources not found in 1.0 connection documents. These resources are used to provide the additional functionality offered by ARA 2.x such as using Dial Assist, dialing an alternate number, and compatibility with 1.0 servers. Despite these differences the documents are interchangeable, ARA 1.0 simply ignores the additional resources. When a user upgrades from 1.0 to 2.x the old connection documents can be used. It is not necessary to create new connection documents. The first time an old document is saved under 2.x it will be updated to contain the new resources.

CCLs written for ARA 1.0 can be used with ARA 2.x but will not support the added features in 2.x such as blind dialing. For example, the Express Modem software provides two CCL files, one for use with 1.0 and one for 2.x. Check with the modem manufacturer for the proper CCL to use.
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AppleSearch: Quick Start Instructions

This article will help you install your AppleSearch software. While this information will get you started quickly and easily, the documentation that came with AppleSearch contains important additional information.
This article has been archived and is no longer updated by Apple.
In order to set up your server for AppleSearch you need to name your server, specify its owner, and enable program linking using the Sharing Setup control panel, if you haven't already done so.

Installing the AppleSearch Server Software

Follow the steps in this section to perform an Easy Install (all components) of the AppleSearch Server software.

Step 1
Insert the disk AppleSearch Server 1 into your disk drive and open the Installer program.

Step 2
Select the disk where you want to install AppleSearch, then click Install.

Step 3
Remove the AppleSearch Server 1 disk and insert the AppleSearch Server 2 disk when prompted by the Installer software.

Step 4
Remove the AppleSearch Server 2 disk and re-insert the AppleSearch Server 1 disk.

Step 5
Click the Restart button when the installation is finished.

NOTE: If you're using a version of AppleShare earlier than 3.0.2, run the AppleShare 3.0.2 patch located on the AppleSearch Server 3 disk. Only AppleShare 3.0.2 or later is supported with AppleSearch.

Starting Up AppleSearch

Follow these steps to start up the AppleSearch Server program.

Step 1
Open the AppleSearch Server folder.

Step 2
Double-click the AppleSearch Server icon.

Adding Shared Volumes or Folders as Information Sources

To designate a shared volume or folder of documents as an AppleSearch information source, simply add the shared item (volume or folder) to the list of information sources, as described in this section.

IMPORTANT: Before proceeding, make sure that you have sufficient disk space, equal to the size of the information source, for storing temporary files. If you don't have enough room on your startup disk, the default location for storing temporary files, choose Preferences from the Server menu and select another locally connected disk for the temporary files.

The AppleSearch Server application allocates 3500 KB of RAM to support 10 information sources. You need to allocate an additional 100 KB to the AppleSearch Server application for each information source beyond 10 that you add. Follow these steps to designate shared items as information sources:

Step 1
Choose Information Sources from the Server menu.

Step 2
Click the shared volume or folder that you want to designate as an information source. Use the pull-down menu, if necessary, to find the correct item.

Step 3
Click the Add button to designate the volume or folder as an information source.

Step 4
Select where you want to store the index files associated with the specified information source using the "Store index on" pop-up menu. The pop-up menu contains a list of all locally connected volumes on your server.

Step 5
Click the OK button.

Indexing Information Sources

When you index an information source, AppleSearch makes a list (an index) of every distinctive word contained in the source. A separate index must be created for each information source. Follow these steps to perform immediate indexing of an information source:

Step 1
Select the information source on the right side of the Information Sources window.

Step 2
Click the Index button.

NOTE: The information sources are indexed at an average rate of 10 to 20 MB per hour when the information source is on a hard disk.

Moving an Index

You can move the index of an information source from one hard disk volume to another as your needs determine. If you're using a pre-indexed CD-ROM as an information source, you may want to copy its index to a hard disk to improve the speed of information searching. You may also want to move the index from one volume to another if storage space on the current volume is becoming limited.

Moving an Index from CD-ROM to Hard Disk

Step 1
Mount the pre-indexed CD-ROM on your server desktop.

Step 2
Create a new folder called "AppleSearch Indexes" (if one doesn't already exist) at the root level of the volume where you want to move the index.

NOTE: Do not change the name of the AppleSearch Indexes folder. The AppleSearch Server software looks for a folder that is specifically named AppleSearch Indexes.

Step 3
Open the CD-ROM and its AppleSearch Indexes folder.

Step 4
Locate the information source index that you want to move.

NOTE: The index consists of three files. Each file has the same name as its information source plus the suffix .def, .pls, or .sif.

Step 5
Copy the three index files from the CD-ROM to the AppleSearch Indexes folder that you created in Step 2.

Step 6
Open the Information Sources window.

Step 7
In the left side of the window, locate the information source on the CD-ROM and select its name.

Step 8
Click the Add button.

Step 9
Click the pop-up triangle by the volume name and use the directory list to select the hard disk that contains the newly copied index.

Step 10
Click OK.

Moving an Index from One Hard Disk to Another

Step 1
Quit the AppleSearch Server application.

Step 2
Create a new folder called "AppleSearch Indexes" (if one does not already exist) at the root level of the volume where you want to move the index.

NOTE: Do not change the name of the AppleSearch Indexes folder. AppleSearch Server software looks for a folder that is specifically named AppleSearch Indexes.

Step 3
Open the original AppleSearch Indexes folder at the location you specified when you first added the information source.

Step 4
Locate the index of the information source that you want to move.

NOTE: The index consists of three files. Each file has the same name as its information source plus the suffix .def, .pls, or .sif.

Step 5
Copy the three index files from the source volume to the destination volume.

Step 6
Delete the older set of index files from the source volume by dragging their icons to the trash.

Step 7
Restart the server.

Step 8
Use the directory list in the pop-up menu to find the new AppleSearch Indexes folder and open it.

Step 9
Select the name of the index file, then click the Open button.

Setting Preferences
==========

By setting preferences you can schedule automatic indexing, designate a location for the storage of temporary files associated with indexing, and set an optional password required for server administration. To set server preferences, follow these steps:

Step 1
Choose Preferences from the Server menu.

Step 2
Specify the days of the week and times of the day when you want indexing to occur.

Step 3
Specify the folder or volume where you want the temporary files to be stored by using the "Store temporary files on" pop-up menu.

IMPORTANT: To avoid running out of storage space, be sure that you select a location that has available disk space equal to approximately 1.5 times the size of the information source.

NOTE: If you specify a different volume on which to store temporary files, the change will not take effect until the server is restarted.

Step 4
If you want to restrict access to server administration windows, click Always Require Password.

Step 5
To set a password, click the Set Password button.

* Type a password in the "New password" box.

* Type the password again (for confirmation) in the "Confirm new" box.

* Click the OK button.

NOTE: The password goes into effect only after you click the Always Require Password button. In other words, you may set a password and confirm it, but it will not become active until you click Always Require Password.

Working with the AppleSearch Stopwords List

While creating an index for the information source, AppleSearch filters out certain non-distinctive words, called stopwords, such as articles (for example: "the", "an", "a"), and prepositions (for example: "with", "of", "on"). You can modify the contents of the stopwords list to add or delete specific stopwords, as your needs determine.

NOTE: Unless you have very special needs, you should not modify the AppleSearch Stopwords file. The file conforms to established conventions for standard information search-and-retrieval systems.

Follow these steps to modify the stopwords file:

Step 1
Shut down the AppleSearch Server program by choosing Quit from the File menu.

Step 2
Open the AppleSearch folder within the Preferences folder of your System Folder.

Step 3
Open the AppleSearch Stopwords file.

IMPORTANT: Keep the words in alphabetical order. The stopwords file is sorted alphabetically and must be kept in alphabetical order.

Step 4
Add words to the list or remove them as needed. You can also modify existing stopwords.

NOTE: If you modify the stopwords list, you should delete the indexes that used the old stopwords list; then, re-index all the corresponding information sources.

Step 5
Save the stopwords list as a text-only file but do not change its name.

Step 6
Restart the server.

Installing the AppleSearch Client Software

Follow the steps in this section to install the AppleSearch client software on your computer.

Step 1
Insert the AppleSearch Client Installer disk into your floppy disk drive, open the disk, and double-click the Installer icon.

Step 2
Select the disk where you want to install AppleSearch, then click install.

Step 3
Click the Restart button to restart your computer.

Connecting to an AppleSearch Server

Step 1
Open your AppleSearch Client folder and then open the AppleSearch Client application.

Step 2
If your network contains zones, they are listed in the lower-left corner of the Select an AppleSearch Server window. Select the name of the zone in which your AppleSearch server resides.

Step 3
Select the name of the Apple Workgroup Server that you want to use in the top-left corner of the window, then select the AppleSearch Server program on the right side of the window.

Step 4
Click the OK button.

Step 5
Connect as a registered user or guest.

Creating an AppleSearch Reporter

An AppleSearch Reporter is an electronic search agent that actively finds the information you want on the AppleSearch server and makes it available to you. To create a Reporter you need to tell it where to look, what to look for, and when to look for the information. You can do this by doing the following:

Step 1
From the AppleSearch window, click the New Reporter button to open a new Reporter window.

Step 2
Click the Info Sources button or choose Info Sources from the Search menu.

Step 3
Review the available information sources in the left side of the Information Sources window and click the ones that are most relevant to your search.

Step 4
Click the Add button to specify that the selected sources should be searched by the AppleSearch Reporter.

NOTE: If you decide that a source you selected is not appropriate, select its name in the right side of the window, then click Remove.

Step 5
Click Done when you have finished adding or removing information sources.

Step 6
Type a search request in the "Search for" box.

IMPORTANT: If you copy and paste words into the "Search for" box, use only alphanumeric characters (letters and numbers) and avoid using the words and, or, and not. Your Reporter translates the search request from your own words into Boolean operations; and, or, and not, and certain non-alphanumeric characters have specialized meanings in AppleSearch. For more information see chapter 3 of your "AppleSearch User's Guide."

Step 7
Specify the Minimum Rank (for relevance ranking) in the Search Options box. See Chapter 3 of the "AppleSearch User's Guide" for detailed information on relevance ranking.

Step 8
Specify the Maximum Returns in the Search Options box.

Step 9
Specify the After Date in the Search Options box to limit how far back in time you want your reporter to search.

Obtaining Immediate Search Results

TA33356_AppleSearch_Quick_Start_Instructions_(TIL17262).pdf

To obtain immediate search results perform the following steps:

Step 1
Click the Start Search button in the top of the Reporter window.

Step 2
Double click the information source icon or name in the lower part of the window, or click the adjacent triangle.

Step 3
Double click any article title to view its content.

Step 4
To close the Article Viewer click the close box.

Additional Options

Once you have a reporter that you want to save, all you have to do is click the Save Reporter button on the right side of the Reporter window or choose Save Reporter from the Search menu, type a name for your Reporter in the "Save as" box, and then click Save.

See chapter 2, Schedul******0*receiving an update, in your "AppleSearch User's Guide" to learn how to schedule a Reporter to retrieve information on a regular basis.

Your "AppleSearch User's Guide" also contains additional valuable information that will increase the usefulness of your AppleSearch software.

Where to Get More Information
==========

For additional information about AppleSearch, you have two other sources of information: The "AppleSearch Administrator's Guide" and the "AppleSearch User's Guide."
Published Date: Feb 19, 2012

Extra Pages When Printing a Window From the Finder (2/95)

When I print a list (View by Name) of a window from the Finder I get pages of text alternating with "blank" sheets that only have a header on each page. Why is it printing these pages with nothing but headers on them? Is there something wrong with my printer?

This article has been archived and is no longer updated by Apple.
This situation occurs because the window being printed is wider than a single sheet of letter size (8 1/2 x 11) paper. The "blank" pages that only have headers on them are actually the right sides of a left and right sided two page width window. In other words, if you were to line up all of the pages side by side in two columns each, you would see that, in at least one instance, some text from the left page would "run-over" onto the right page.

To prevent this from occurring:
---
* Pull down the File Menu and select Page Setup. Change the orientation from Portrait to Landscape. Then print.

or

* Use the Views control panel to turn off various window elements, such as: Show size, Show kind, Show label, Show date, Show version, and Show comments. If you remove enough of these elements, you will decrease the width of the window, so that it will no longer be more than one page across.

Support Information Services
Published Date: Feb 19, 2012

System 7.5: Daystar Turbo Card Compatibility (2/95)

I'm having problems installing System 7.5 on my Macintosh IIci. I discovered that this was due to an incompatibility with my Daystar Turbo 040 card. Do you know what's wrong?

This article has been archived and is no longer updated by Apple.
In Daystar's forum on CompuServe, there is information that a ROM upgrade is needed for their 68040-base card. There is a small charge for the replacement, you need to contact Daystar. The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.

Daystar's 68030-based cards do not need to be upgraded.

The ROM upgrade comes as a field upgrade, meaning the end user is responsible for the installation. For those who don't mind opening their Macintosh, removing cards, and then replacing a chip it's pretty easy. Daystar provides you with a chip removing tool and a grounding strap. On the Turbo 040 card, the ROM chip is the only one that is socketed, the rest of the chips are soldered. In addition to the instructions and the pictures, it would be extremely difficult to get the wrong chip.

Support Information Services
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MacTCP: DNS (Domain Name Server) Configuration Problems

I'm having a problem with the MacTCP Domain Name Server (DNS). Below is the problem and some attempts to resolve it.

If I set up the MacTCP DNS information like this:

Domain	IP Address	Default
colby.edu	137.146.210.37	X
.	137.146.210.33	

If the server 137.146.210.33 goes down, and I query the name "colby.edu"; the name doesn't resolve but all other names do. This is a problem because everyone queries the name "colby.edu" to receive email.

However if I add another host to the end of the DNS info like this:

Domain	IP Address
.	137.146.210.39

I can access "colby.edu", at least as long as that server is up.

I have two questions:

Question 1:
Is the use of a period in the domain still valid for the MacTCP DNS information? The documentation we have for MacTCP 1.x says that using a period will substitute the Domain Name above. The documentation for 2.x doesn't mention using the period. If I replace the period in the above example that didn't work, the "colby.edu" address does resolve.

Question 2:
How exactly does MacTCP determine which server to query first and the order for querying?

I've tried this with MacTCP 2.0.4 and 2.0.6. Here is the situation:

If I set up MacTCP with domain name servers like this:

Domain	IP Address	Default
colby.edu	137.146.210.37	X
.	137.146.210.33	

Everything resolves properly when both machines are up. However, when 137.146.210.33 goes down names like "server.colby.edu" are resolved properly but the name "colby.edu" is not resolved.

Later last week we had another situation. MacTCP was set up like:

Domain	IP Address	Default
colby.edu	137.146.1.5	X
.	137.146.210.37	
.	137.146.210.33	

The name server 137.146.1.5 crashed, and the other two servers weren't being used to look up the address "colby.edu". This can be frustrating for users, one setup of MacTCP DNS will work because it doesn't have an entry for the server that is "down" while another user won't work because they do have an entry for the server that is down.

In the first case above, if I replaced the period with "colby.edu" the address "colby.edu" would resolve properly. However that isn't true for the second example.

Basically, if a name server in the Domain Name Server list goes down and you query on a name that appears in the domain name list that name may not get resolved to its IP address. I say may because in example #1 if I add the entry:

Domain	IP Address
.	137.146.210.37

to the DNS information then "colby.edu" does resolve to its proper IP address.
This article has been archived and is no longer updated by Apple.
There are several ways to setup MacTCP to handle domain name servers:

Method 1

Domain	IP Address	Default
colby.edu	137.146.210.37	X
.	137.146.210.33	

With this configuration, all DNS lookups within the domain of "colby.edu" (for example, ftp.colby.edu) will be made to 137.146.210.37. Lookups with any other domain (for example, ftp.support.apple.com) will go to 137.146.210.33. The "." ends up being a wild card that matches anything that "colby.edu" does not.

The draw back to this method is that 137.146.210.37 is not used for all lookups. This can be a real problem if the second name server is slow or unreliable.

Also, if you have a machine with the same name as the domain, MacTCP will look for it in the parent domain. In your situation, the host "colby.edu" has the same name as the domain. So MacTCP thinks the host is in the "edu" domain and uses 137.146.210.33 for the lookup. This is okay as long as 137.146.210.33 is up. If it is down, the name lookup will fail even though 137.146.210.37 is up.

This is the most likely the problem you are experiencing.

Method 2

Domain	IP Address	Default
.	137.146.210.37	X
.	137.146.210.33	

This method works well in most respects. 137.146.210.37 would be used for all DNS lookups unless it was down. If 137.146.210.37 were down, then 137.146.210.33 would be used instead.

The only problem with this method is that you must use fully qualified domain names even when addressing hosts in your domain. For example, if you were using the host "test.colby.edu" and wanted to telnet to ftp.colby.edu, you would have to type "telnet ftp.colby.edu". If MacTCP were setup as in example 1 above, all you would have to type is "telnet ftp".

Method 3

Domain	IP Address	Default
colby.edu	137.146.210.37	X

This method is a good way to go if your primary domain server never goes down.

Method 4

Domain	IP Address	Default
colby.edu	137.146.210.37	X
.	137.146.210.37	
.	137.146.210.33	

This method is the best way to go and the one we recommend using. It will use 137.146.210.37 for all lookups unless it is down and still allows you to use partially qualified domain names.

This method should solve your problem.

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PowerBook 145B &150: Backup and Restore Instructions

Does Apple provide any software for backing up the hard drive of the Macintosh PowerBook 145B or PowerBook 150?
This article has been archived and is no longer updated by Apple.
There is a program on the hard disk of both of these computers. On the PowerBook 145B it is called PowerBook 145B Backup. The PowerBook 150 also contains a similar Backup program. The instructions for use are almost identical for both applications on both computers.

This program will back up all the files on your hard drive to be used if some or all of your data become damaged. It is important to perform the backup on a regular basis to insure you against the unlikely event of any data loss. Be sure to have a supply of high density diskettes for the backup process.

Backup Process

Step 1
Launch the PowerBook Backup program by double-clicking its icon. The program is located on the hard disk.

Step 2
Click the Continue button.

A message appears, telling you how many high-density diskettes you need to make the backup and approximately how long it will take. Make sure you have enough time and disks to complete the backup. If you stop the process before it is finished, you will have to start over.

Step 3
Click the appropriate button. The first time through, select Copy System Folder. The second time through, select Copy All Files.

Step 4
Insert a high-density floppy disk into the disk drive.

Step 5
Follow the instructions on the screen until a message tells you that you are finished. As you remove each disk from the computer, label each disk in an ascending order so they can be inserted in the proper order for the restore operation.

Step 6
Repeat steps 1-5 and select Copy All Files to make a backup of all files on your hard disk.

When you are finished, be sure the floppy disks are properly labeled and locked, then store them in a safe, cool place.

Restore Process

Step 1
Get the floppy disk labeled Disk Tools (or Utilities disk if you are using the PowerBook 150) that came with your computer and the floppy disks that you used to backup up your hard disk.

Step 2
Make sure your PowerBook is powered off.

Step 3
Insert the Disk Tools diskette (or Utilities disk) into the PowerBook and turn on your computer.

Step 4
After the comptuer starts up, locate the PowerBook Restore icon on the Disk tools disk (or Utilities disk).

Step 5
Open the PowerBook Restore application.

Step 6
Read the information on the screen and click the Continue button.

Step 7
Insert the first backup disk. The restoration proceeds automatically from there.

Step 8
Respond to any messages you see on the screen. If PowerBook Restore finds an item on your hard disk that is newer than an item with the same name on the floppy disk, you are asked whether you want the older version of the item to replace the newer version. Select the choice you want.

Step 9
Repeat steps 7 and 8 for the next disk in your stack of backup disks. Make sure you insert disks in the correct order.

Step 10
The PowerBook Restore program lets you know when you are finished. Store your backup disks in a safe, cool place.

Step 11
Restart your PowerBook and make sure that everything is back on your hard drive.
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QuickTime: Directing Playback to a MIDI Device

How do I direct QuickTime movie information to my MIDI device? Does it require additional software, and if so, where can I obtain it?
This article has been archived and is no longer updated by Apple.
There are two sources of the Music Device Configuration software required to switch from the Macintosh Built In Software Synthesizers and Modem output to other MIDI hardware equipment.

The first source is a CD-ROM bundled with the book - "QuickTime - The Official Guide for Macintosh Users" - by Judith Stern and Robert Lettieri from Hayden books. $45.00

The second source is the QuickTime 2.0 Software Developer Kit available from APDA. $195.00.
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Retrospect Remote: Throughput Varies During Backup

I'm seeing highly variable rates of throughput when doing a backup over the network with Retrospect Remote. It's taking 3 to 12 hours to run a daily incremental backup of all my workstations. What is taking this so long?

This article has been archived and is no longer updated by Apple.

One thing to check is that your workstations are not logged onto file servers during the backup process. When a user chooses Shut Down and goes into Retrospect's wait mode, the computer does not dismount file servers which causes a slowdown of file transfer. We have been told that backup throughput can increase from 0.5 MB/second to 5+ MB/second when file servers are mounted on a workstation.

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Macintosh AV: Video Depth Set In Applications (2/95)

When recording video on both a Power Macintosh AV or Quadra AV, with the monitor set to 256 gray levels, the recording is actually in 16 gray levels. Why?

This problem does not appear to be software related since I have tried this with two different applications and had both with the same results.

This article has been archived and is no longer updated by Apple.
The color settings for the main monitor do not necessarily influence the way video recording applications, such as Fusion Recorder, capture QuickTime movies. The color depth used for recording movies can be adjusted separately, using the video settings window.

To adjust the color level video applications use to record QuickTime movies, open the video settings dialog box. In Fusion Recorder, this is accessed by choosing "Video Settings..." from the "Record" menu.

Choose "Compression" from the pop-up menu in the upper-left corner of this window. Then choose a compression option from the "Compressor" pop-up menu. If no compression is desired, choose "None".

Depending on which compressor was chosen, the available color depth options appear in the "Depth" pop-up menu. The video compressors "Component Video", "Component Video -- YUV", and "Video" only work in color.

After adjusting these settings, the video application should record movies at the chosen color depth. If the compressor's color depth was set to "256 grays", the video application will record an 8-bit grayscale movie, regardless of the settings in the monitor control panel. Even if the monitor was set to "Black & White", the video application can record in 8-bit grayscale as long as the options in the video settings window were set correctly.

Support Information Services
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Multiple Scan Displays: Power Consumption Ratings

This article contains the power consumption ratings for the Muliple Scan 15, 17, and 20 Displays.
This article has been archived and is no longer updated by Apple.

Multiple scan Model	Maximum	Energy Saver Mode
MS 20 Display	180 Watts	10 Watts
MS 17 Display	150 Watts	10 Watts
MS 15 Display	90 Watts	<5 Watts

Published Date: Feb 19, 2012

Pwr Mac DOS Compatibility Card: PC/TCP Does Not Function (7/95)

I cannot get the PC/TCP software to function properly on my Power Macintosh DOS Compatibility Card. When I try to ping a good location, I get an ARP failure. How can I solve this problem? Also are there other PC products that would let me mount NFS partitions?

This article has been archived and is no longer updated by Apple.
This a problem with FTP's software, there are two known workarounds. Use the workaround that corresponds to the version of PC/TCP you are using.

PC/TCP v2.3
==========

Step 1

Start the MS-DOS/Windows environment. This loads all the IP software. If you try to PING at this point you get an ARP failure. At this point you must add the following lines to the NET.CFG file:

Protocol IP 800 Ethernet_II
Protocol ARP 806 Ethernet_II
Protocol RARP 8035 Ethernet_II

Step 2

Perform warm-restart (ctl-alt-del)

Step 3

Remove the lines added in step 1 from the net.cfg and warm-boot again.

After step 3, FTP's PC/TCP software functions correctly. If you restart your Macintosh, you must perform all three steps again.

PC/TCP v3.1
==========

Step 1

Start the MS-DOS/Windows environment. This loads all the IP software. If you try to PING at this point you get an ARP failure. At this point you must unload network drivers down to LSL.COM.

Step 2

Add following lines to NET.CFG:

Protocol IP 800 Ethernet_II
Protocol ARP 806 Ethernet_II
Protocol RARP 8035 Ethernet_II

Step 3

Load network drivers again.

Step 4

Unload network drivers.

Step 5

Remove lines added in step 2 from the NET.CFG file

Step 6

Reload network drivers.

After step 6, FTP's PC/TCP software functions correctly. If you restart your Macintosh, you must perform all six steps again.

The easiest solution is to follow the directions for v.2.3. Unloading and loading the network drivers has the same affect as doing a warm boot of the DOS Card. In version 3.1 of PC/TCP, the drivers should be able to be unloaded from memory, then reloaded. If that is not the case, then a warm boot will suffice.

If for some reason you cannot unload the network drivers, this may be because "idrive" has no "unload" function. If you can possiblily load this function before the networking software, you should be able to unload all of the networking software, and not have to reboot. It is our understanding that version 3.x of ethdrv.exe does in fact support unloading network drivers from memory.

NetManage's Chameleon software has NFS volume support, and has shown to be stable in the testing we have done. Also, we have successfully used the InterCon Systems' products.

Article Change History:
05 Jul 1995 - Updated for clarity and added more information.
27 Mar 1995 - Added problem is with FTP software.

Support Information Services
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ImageWriter: Printing Bi-directional

This article describes uni-directional and bi-directional printing on the ImageWriter and ImageWriter II.
This article has been archived and is no longer updated by Apple.
ImageWriter (original) - all Driver Versions, cannot be overridden:

High	Bi-Directional	Always
Standard	Uni-Directional	Always
Draft	Bi-Directional	Always

ImageWriter II - with Driver Version 2.0, cannot be overridden:

High	Bi-Directional	Always
Standard	Bi-Directional	Always
Draft	Bi-Directional	Always

ImageWriter II - with Driver Version 2.1, 2.2, 2.3, 2.5, 2.6 or 7.0.1:

High	Bi-Directional	Always
Standard	Uni-Directional	Default
	Bi-Directional	In the Print Dialog box: hold down the OPTION, SHIFT, and CAPLOCKS while clicking OKAY
	Undo Bi-Direct	In the Print Dialog box: hold down the COMMAND (Feature) key while clicking OKAY
Draft	Bi-Directional	Always

Note: Screen dumps are always Uni-directional.
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AppleShare 4.0.2: Compatibility with Empower Software

This article describes two compatibility issues between AppleShare 4.0.2 and Empower security software.
This article has been archived and is no longer updated by Apple.
There are known issues with AppleShare 4.0.2 running on Power Macintosh computers and Empower security software.

First, the computer will lockup when the Empower screen saver mode comes on. This is a known and reproducible issue with Empower.

Second, Empower can restrict access to individual folders much like file sharing does. If a user tries to access one of these restricted folders while AppleShare is running, unusual problems of an unknown nature, may occur.

For security, Apple recommends that file servers be kept behind closed and/or locked doors. This should reduce the need for security software.
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MAE Compatibility 1.0 Extension Available By ftp (2/95)

This article an announcement of MAE Compatibility 1.0 Extension available by way of ftp.

This article has been archived and is no longer updated by Apple.
The MAE Compatibility 1.0 extension has been designed to fix a compatibility problem between MAE 1.0a and Microsoft PowerPoint 4.0. This extension is available via anonymous ftp from the following server:

ftp.support.apple.com (130.43.6.3)

Please read the README.MAE_Compatibility file before downloading. The Extension and README are located in the following directory:

pub/mae/patches/mae_1.0a_updates

From this directory, download file MAE_Compatibility.tar by anonymous ftp (binary transfer) and un'tar it using the following UNIX command:

tar -xvf MAE_Compatibility.tar

To install, copy the "MAE Compatibility" extension to your Extensions folder (inside your System Folder) and restart MAE.

This extension should fix the problem which inhibits PowerPoint 4.0 from loading successfully under MAE.

Support Information Services
?end
nt terminator. The IIfx and some LaserWriter printers still require the black terminator.

Support Information Services

Published Date: Feb 19, 2012

ARA: Performa 611x and Global Village Gold II Modem

This article describes a problem with users of the Performa 611x computer typically choosing the wrong Apple Remote Access (ARA) connection script, GV TP Gold/Silver. This modem script does not work with the Gold II modem that ships with the Performa 611x. However, the correct connection script is on the computers hard disk.
This article has been archived and is no longer updated by Apple.
The Performa 611x like most Performa computers, comes with a modem. This modem is a TelePort Gold II for Performa from Global Village. It has both 14,400 bps send and receive fax plus 14,400 bps data. This modem also requires a special connection script or CCL for ARA. Here is the hard drive path to the CCL:

Hard Disk:Applications:GV TelePort Gold II:Scripts:ARA 2.0 Script:GV TelePort Gold II for ARA 2.0

The CCL, GV TelePort Gold II for ARA 2.0, must be placed in the extensions folder within the System Folder, and chosen in the Remote Access Setup control panel for the modem to work properly with ARA.
Published Date: Feb 19, 2012

Radius Pivot Displays: Compatibility Information (2/95)

Which Radius Pivot monitors work on the Power Macintosh? Where can I get the latest software? Is it System 7.5 compatible?

This article has been archived and is no longer updated by Apple.
Radius Technical Support states that the Power Macintosh supports the following:

* Radius Precision Color Pivot displays
* Late model Radius Grayscale and Color Pivot displays

The Radius Pivot displays that are not compatible with Macintosh built-in video will not work on Power Macintosh computers, such as:

* Original Black & White SoftPivot (Model 0194)
* ColorPivot LE

For System 7.5 compatibility, customers should use version 3.2 or later of the SoftPivot control panel. The RadiusWare control panel is not System 7.5 compatible. For System 7.5 compatibility, use version 3.2 or later of Dynamic Desktop control panel.

This software is available on the Radius BBS, (408) 541-6190, and on the internet at ftp.radius.com.

The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.

Support Information Services
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ED 3.5 Diskette Labelled As 4 MB, Formats As 800K

The Extended Density (ED) 3.5 inch floppy disk (which is labelled as 4 MB, but formats at 2.88 MB), is NOT supported on any Apple Macintosh computer as of February 1995. The floppy drive mechanism that supports this disk is primarily found in MS-DOS/Windows and UNIX workstation computers.

This article has been archived and is no longer updated by Apple.

While holding the diskette with the shutter in the up position, you will notice two square holes on the disk. The one on the lower left is for locking, and the other on the lower right indicates the density.

```
.           Shutter
.              |
.              V
.   +---+--+----------+--+       +---+--+----------+--+
.   |   |  |      +-+ |   \\      |   |  |      +-+ |   \\
.   |   |  |      | | |   |      |   |  |      | | |   |
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.   |   \\__\\_________/    |      |   \\__\\_________/    |
.   |                      |      |                      |
.   |   +-------------+   |      |   +-------------+   |
.   |   |             |   |      |   |             |   |
.   |   |             |   |      |   |             | @ |<--Extended
.   |   |             |   |      |   |             |   |   Density
.   | @ |             | @ |<-+   | @ |             |   |   hole
.   +---+-------------+---+  |   +---+-------------+---+
.     ^                      |
.     |                      |
.   Locking hole      High Density hole
```

HD (High Density) disks also have an ID hole. The HD disk ID hole is parallel to the locking hole. The ED ID hole is offset about a 1/4 inch closer to the shutter. Since the ID hole is in a different location, the Apple SuperDrive treats the ED disk like an 800K disk, which does not have a density hole.

Published Date: Feb 19, 2012

Power Macintosh 6100: Converting From SoftWindows to DOS Compatibility Card

I have a Power Macintosh 6100/60 running SoftWindows, and I have now purchased a DOS card. I want to maintain my applications and data files on the SoftWindows partition. PC Setup will recognize the SoftWindows partition, but when I switch to the DOS Compatibility screen I get a message saying, "Missing Operating System". How do I access the SoftWindows partition?
This article has been archived and is no longer updated by Apple.
A SoftWindows/Soft PC drive file cannot be used as the C: drive for the DOS Compatibility Card. However, the SoftWindows/Soft PC drive file can be used as the D: drive. The following steps show how to access the that file with the DOS Compatibility Card.

1. Install the DOS Compatible Card software including DOS.
2. Use the PC Setup control panel and choose the SoftWindows drive file for the D: drive.
3. Switch to the PC and the SoftWindows/Soft PC drive file is now accessible as drive D:

Published Date: Feb 19, 2012

Quadra 630: SAM 4.0 Compatibility

Are you aware of any problems with SAM 4.0 on a Quadra 630 running System 7.5?
This article has been archived and is no longer updated by Apple.
Norton Technical Support states that they are not aware of any specific problems with that configuration but that there are some inherent problems with SAM 4.0. Version 4.0.1 is the update, and version 4.0.2 adds a virus definition file.
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KanjiTalk: Frequently Asked Questions

This article contains the answers to frequently asked questions (FAQ) on KanjiTalk.
This article has been archived and is no longer updated by Apple.
1) Question: What is KanjiTalk?

Answer: KanjiTalk is the fully translated, Japanese version of the Macintosh operating system. All of its menus, dialog boxes and system messages are in Japanese. KanjiTalk is designed for those users who need to work in a full Japanese environment. KanjiTalk is sold and supported in Japan predominantly, but there are a few resellers in the United States who can order it for you. For more information on resellers in the United States see the Tech Info Library article titled "KanjiTalk: Authorized U.S. Dealers and VARs (3/95)".

To use your current English applications under KanjiTalk, you would need to purchase their equivalent Japanese version to ensure compatibility and smooth operation. Contact the vendor of your favorite applications to see if they offer a Japanese version.

2) Question: What is the Japanese Language Kit?

Answer: In contrast to KanjiTalk, the Apple Japanese Language Kit (JLK) is for customers who wish to exchange, edit and read Japanese documents, but work in the language of their original operating system. For example, say someone lives in Spain and once in a while exchanges Japanese files with someone in Japan. They would only need to install the JLK to read the files, but be able to operate in Spanish at all other times.

3) Question: How much does it cost?

Answer: There are several Apple dealers and Value Added Resellers (VARs) in the United States who sell KanjiTalk. They set their price for KanjiTalk, and they should be contacted for their current price. For more information on resellers in the United States see the Tech Info Library article titled "KanjiTalk: Authorized U.S. Dealers and VARs".

4) Question: Who provides technical support?

Answer: KanjiTalk is supported in Japan, and for a fee, by some third party companies such as AsiaSoft at 407-234-5366. Apple does not provide toll free KanjiTalk technical support in the United States.

The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.
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Macintosh: Pioneer CD Requires Lower SCSI ID

I installed a Pioneer DRM-600 CD changer with driver v3.0 on my Macintosh. After installing the Pioneer driver the internal CD drive can no longer be seen by the system.
This article has been archived and is no longer updated by Apple.
According to Pioneer you need the 3.0 version of the driver for System 7.5 compatibility and replaces the Apple CD-ROM driver.

Pioneer has also discovered that their DRM-600 drive needs to have a lower SCSI ID than the SCSI ID of the internal CD-ROM from Apple. Apparently, this contradicts the recommendations in their read me.

If your internal CD-ROM drive is set to SCSI ID 3 (the ID set by Apple at the factory), set the Pioneer DRM-600 drive to SCSI ID 1 or 2.

For additional information on this problem, contact Pioneer.
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Macintosh: RMS, Peak-to-Peak, Line Level Definitions

This article contains questions and answers concerning microphones and definitions related to them.
This article has been archived and is no longer updated by Apple.
Question: I am looking for information about audio input and output voltages to different Macintosh computers. Some specifications show the value in Peak-to-Peak while others are in RM" and I have also heard of a term Line Level. What do these terms mean?

Answer: Peak-to-Peak and RMS are ways of measuring the voltage of an audio or AC signal. Line Level is an industry standard used in audio equipment.

Question: Are Peak-to-Peak and RMS the same thing? Can the terms be used interchangeably?

Answer: No. Peak-to-Peak is the measurement of any signal from the positive most peak to its negative most peak, in other words, its extremes. RMS stands for Root Means Square and it is the value of a signal's "Effective Value" or the work it can do.

Question: How do I convert from one to the other?

Answer: There are two simple equations that you can use based on the assumption that the signal is a sine wave.

To Find Peak-to-Peak use the equation RMS * 2.828

To Find RMS use the equation Peak-to-peak * 0.3535

RMS is defined first by the "means" of the "square" (^2) of every angle through a given wave. With sine waves the mean is 0.707 which is 1 divided by the square root of 2. Therefore, the (1/SQRT 2) is the root means of the squares of all the angles.

The RMS of one half of a sine wave is 70.7% of the peak value or [Peak * 0.707 = RMS].

The Peak value of a sine wave is 1/2 of the peak-to-peak value.

Question: What is the voltage rating of "Line Level" in, RMS or Peak-to-peak?

Answer: Line Level has no voltage standard. It is actually an impedance or "Signal Resistance" value set at 47,000 Ohms. There is no way of converting this information alone into any voltage specification.

Line Level provides an industry standard so that all audio and other electronic equipment can operate properly together. Most VCRs, including both home and professional audio equipment use Line Level as a standard. They are commonly used where you find an "RCA" connector. The RCA plug looks similar to a four leafed flower with a center single conductor pole. The RCA jack usually sticks out about 1/4-inch from the chassis and is about 1/4-inch around with a 1/8-inch center hole.

Question: How do I convert my microphone signal to a Line Level signal?

Answer: The easiest way is to use any home audio equipment that accepts microphone inputs. Tape recorders, audio tuners, audio mixers, and video cameras are all common equipment that usually provide a microphone input.

Published Date: Feb 19, 2012

LaserWriter 16/600 PS: PostScript For Changing Paper Tray (1/96)

How can I obtain the PostScript code for changing the default paper tray on the LaserWriter 16/600 PS printer?

This article has been archived and is no longer updated by Apple.

The following PostScript code can be used to make changes to the default paper tray. The example below changes sets the optional 500 sheet cassette as the default.

Caution:

If you choose to use the PostScript code provided in this article, you assume all risks involved in making these changes. PostScript code, if not entered correctly, can place the LaserWriter into a condition requiring service.

Use this PostScript code at your own risk. You are responsible for the support of any problems associated with changing the default tray. You should also inform others using the printer that you have changed the default tray. Changing the default tray on the printer may cause the paper out LED to light if there is no paper present in the default tray, or if the wrong size paper is used in the tray. When this happens, there is nothing wrong with the printer's hardware.

PostScript code is case-sensitive so the information should be entered exactly as seen below.

```
%═══════════════════════════════════════════════════════
% Begin PostScript code -- This is PostScript Level 2
%
serverdict begin 0 exitserver
1 dict dup /InputAttributes 1 dict dup /Priority [0 1 2] put put setpagedevice
%
% End PostScript code
%═══════════════════════════════════════════════════════
```

The above code makes the 250 sheet cassette (0) the default tray to use when:

1) Auto Select is chosen as the Paper Source in the Print dialog AND
2) the 250 sheet cassette has the same paper size as set in Page Setup.

To set the 500 sheet cassette (2) as default, you would change the matrix above to [2 0 1]. To make the MultiPurpose tray (1) default, the matrix should be [1 0 2].

After downloading the code verify that the change was made by printing the configuration page. The lower left corner of the configuration page lists all of the trays, their tray numbers, and an indicator showing which one is the current default tray. The LaserWriter 8.2 driver and later provides additional paper handling features which are better suited for the Macintosh environment. Consult your LaserWriter 16/600 PS user's manual for more detailed information on the 'installed and preferred' and automatic paper tray switching capabilities.

It is important to note that the paper out LED only indicates the paper out condition in the default paper tray. If the default tray is changed, it will cause the paper out LED to stay on even though paper is in the 250 sheet cassette. Setting the default tray back to the 250 sheet cassette will restore the printer back to its default setting.

Article Change History:
10 Jan 1997 - Updated the PostScript code to Level 2 PostScript.
21 Apr 1995 - Added additional information to caution message.

Published Date: Feb 19, 2012

Pwr Mac DOS Compatibility Card: Only Uses MS-DOS 6.x (3/95)

I recently tried using some older software, which required an older version of MS-DOS, with our 6100 DOS Compatible computer. I kept getting "Incompatible Version of DOS" when I tried running the application. If I tried using a disk that had the older version of MS-DOS on it, I got a "Wrong DOS Version, Cannot Load COMMAND.COM" error message. Can the DOS Compatibility Card use older versions of MS-DOS?

Also can the DOS Compatibility Card display CGA graphics on Apple Displays? When I tried the screen lost sync and the image was unusable.

This article has been archived and is no longer updated by Apple.
Only DOS 6.0 and higher are supported on the DOS Compatibility Card. These versions are the only ones tested and supported. There are no plans to test older versions of MS-DOS, or try to get them running on the DOS Compatibility Card.

The problems with CGA applications is that Apple monitors do not support this display mode. The documentation for the DOS Compatibility Card explains that the VGA controller is backward compatible with EGA, CGA and MDA. But in order to use it in other modes, you need a third party monitor capable of displaying CGA graphics.

Support Information Services
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Applesoft: Stopping the Apple IIe cursor from blinking

You prefer a solid non-flashing cursor over the flashing "checkerboard" that the Apple IIe normally provides?
This article has been archived and is no longer updated by Apple.
If you have Apple's 80-column Text Card just type PR#3, then ESC-4. The system will have the eighty column cursor (a solid non-flashing blank) and will be in 40-column mode.

If you do not have a Text Card, fear not; just type:

POKE 49162,0: PRINT CHR$(4);"PR#3"

and you can get the same effect.

You can use this next sample routine as the startup program on a diskette or the startup routine in an Applesoft program. Line 14 determines whether it is on an Apple IIe or an Apple II. If, by the time Line 16 executes, no Apple Text Card is detected in the system, then Line 18 enables the 80-column firmware.

NOTE: The firmware is enabled by the monitor during Cold Boot (i.e., power-on startup or OPEN-APPLE-CTRL-RESET) if there is a Text Card installed].

Line 18 activates the firmware now that it is enabled. The 80-column firmware maintains a mode status byte in RAM at location 1275 ($04FB). Bit 7 of this byte determines whether Lowercase Restrict mode is active or not. Line 28 guarantees that this bit is set to enable the mode. Lowercase Restrict mode is normally only available in direct mode typing Escape-R and cannot be done other wise in a program.

```
10 TEXT : SPEED= 255
12 D$ = CHR$(4): REM CTRL-D
14 IF NOT ( PEEK (64435) = 6) GOTO 30: REM NOT APPLE IIE
16 IF NOT ( PEEK (49162) < 128) GOTO 20: REM TEXT CARD INSTALLED
18 POKE 49162,0: REM ENABLE 80-COLUMN FIRMWARE
20 PRINT D$;"PR#3": PRINT : REM ACTIVATE FIRMWARE
22 PRINT CHR$(17): REM SWITCH TO 40-COLUMN MODE
24 MB = 1275: REM 80-COLUMN FIRMWARE MODE BYTE ($04FB)
26 MS = PEEK (MB): REM READ CURRENT MODE STATUS
28 IF (MS < 128) THEN POKE MB,MS + 128: REM SET BIT-7 TO ENABLE LOWER CASE RESTRICT MODE
30 NORMAL : HOME
```

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LaserWriter 8.x: Update Guide No Longer Available

I am looking for a document called the LaserWriter 8.0 update guide. How can I get a copy of this?
This article has been archived and is no longer updated by Apple.
Apple no longer produces the LaserWriter 8.0 update guide, and so it is no longer available.
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Format vs. Initialize: Difference Between Them (4/95)

The terms format and initialization are often used interchangably. With regards to Apple HD SC Setup, what is the difference between format and initialization?

This article has been archived and is no longer updated by Apple.
Formatting is a process that prepares a disk for storing information. Formatting can be low-level which prepares a disk by dividing it into tracks and sectors where information can be stored or high-level where only a directory is created.

Low-Level Formatting

Low-level formatting is also commonly referred to as simply formatting. During formatting, sector addresses, byte gaps, sync gaps, drivers, and partitions are created on the disk.

High-Level Formatting

High-level formatting, commonly referred to as initialization, creates a directory but does not write any sector information on to the hard drive.

This can get confusing because drive utilities vary greatly in the way they handle initialization and formatting. Apple HD SC Setup, for example, performs both initialization and formatting in the same operation while other utilities, such as SiliverLining, Norton Utilities, and FWB Hard Disk Toolkit separate initialization and formatting into two distinct operations.

The Erase Disk command from the Mac OS Finder can perform both a low-level format and a high-level format if the disk is a floppy disk. On hard drives, Erase Disk can only do a high-level format.

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Article Change History:
21 Apr 1995 - Added keyword; made minor technical updates.

Support Information Services
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PowerBook: Single Serial Port and GV Teleport II Conflict (3/95)

Since I installed the software for my new Global Village Teleport II modem on my PowerBook 520, I can no longer print to my StyleWriter II. What's wrong? How can I fix it?

This article has been archived and is no longer updated by Apple.
The Teleport II software that ships with the new Global Village Teleport II series of modems will not allow a PowerBook with a single serial port [such as: a PowerBook 200 series (Duo), PowerBook 100, PowerBook 150 or PowerBook 500 series] to print to a serial printer while the modem driver is present in the Extensions folder within the System Folder.

The Teleport II software, if present, will constantly occupy the shared port. You will get various error messages indicating that the port is busy when you attempt to print.

The only workaround we are aware of at this time is to disable the modem software every time you want to print. You can do this by either using the an extensions or startup manager control panel device to disable the modem software or by actually removing the modem extension from the Extensions folder.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor, Global Village, for additional information.

The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.

Support Information Services
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AudioVision 14 Display: Built-In Microphone Audio Quality

This article describes a workaround for less than optimal performance from the AudioVision 14 display's built-in microphone.
This article has been archived and is no longer updated by Apple.
We recommended that customers use a PlainTalk microphone connected directly to the Macintosh 630 family computer instead of the built-in microphone on the AudioVision 14 Display. As an alternative, disabling the ~AudioVision control panel may improve the recording quality of the AudioVision 14 microphone.

The following computers are in the Macintosh 630 family: LC 630, Quadra 630, Performa 630, Performa 635, Performa 636, Performa 637, and Performa 638.
Published Date: Feb 19, 2012

PowerBook 150: Does Not Start Up (3/96)

When I press the power button, my PowerBook 150 either does not start up, or flashes the display momentarily and goes blank. What is wrong?

This article has been archived and is no longer updated by Apple.

Possible Causes
==========

This situation can occur when a battery is fully depleted and then left in the PowerBook without having the AC adapter connected. The battery will continue to discharge until there is not enough power left to boot the unit.

This situation can also occur when the power adapter is left attached to the computer, but no power is applied to the power adapter.

Examples
---
* A power strip is powered off at the end of the day.
* The power adapter is unplugged from the wall outlet, but not disconnected from the computer first.
* A wall light switch is turned off shutting off power to the wall power outlet (hence the computer's power is cut off).

Startup Procedures
==========

Users should be able to startup their PowerBook 150 by following these procedures:

Plug in the AC Adapter

If the unit starts with the AC Adapter connected, but not with the battery inserted, you need to charge the battery. If, after charging the battery, the same symptom appears, you may need to reset the power manager or replace the battery.

Reset the Power Management Circuitry

To do this, follow these steps:

Step 1

Remove the power adapter and battery from unit.

Step 2

Push the Reset button in the back of the unit with a paper clip and hold for 5 to 10 seconds.

Step 3

Attach the power adapter and push the Reset button in back again, but just briefly. You should hear a small pop from the speaker; do not be concerned.

Step 4

Push the main power button in back (large exposed button). The unit should power up.

Step 5

Charge the battery for at least 8 hours before attempting to run on battery power.

If the PowerBook powers on, the battery may be reinserted. If it fails to start, the PowerBook probably needs service.

If the machine does not start with a recharged or new battery, or does not start with the AC Adapter alone (with the battery removed), your PowerBook may need servicing. For help in obtaining service, please call 1-800-SOS-APPL or see your local Apple Authorized Service

Provider.

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Article Change History:
29 Mar 1996 - Added more reasons why this may occur.
07 Aug 1995 - Added reasons why this may occur.
31 May 1995 - Added Info Alley information; made minor updates.

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QuickDraw GX: PostScript Font Handling Tips (4/95)

This article contains some pointers about using QuickDraw GX with PostScript fonts and PostScript savvy applications.

This article has been archived and is no longer updated by Apple.
Using QuickDraw GX with PostScript fonts and applications that manipulate PostScript font data can sometimes lead into some compatibility issues. First, QuickDraw GX is a new, emerging technology that not all applications can take advantage of. This article describes some procedures that let you keep QuickDraw GX installed and still use applications that do not support QuickDraw GX.

Background

The following is a simplified explanation of fonts. See Font Facts in Information Alley Volume I, Issue 3 for further information on how fonts are handled on the Macintosh.

To understand how QuickDraw GX handles PostScript fonts, it is first necessary to understand how System 7, without QuickDraw GX, handles PostScript fonts. Under System 7.5, fonts are stored in the fonts folder. There are three types of fonts supported by the Mac OS:

* Bitmap
* TrueType
* PostScript

Bitmap and TrueType fonts are stored in the Fonts folder inside the System Folder. A bitmap file has a single letter A on the icon, a TrueType file has three successively smaller letter As on the icon. PostScript fonts consist of two or more files per font -- a suitcase file that contains bitmaps and a printer outline font file.

To determine what type of font you are looking at, when in the Fonts folder, select View by Kind from the View menu. Use the same procedure to determine the type of font contained within a font suitcase. Open the suitcase and select View by Name from the View menu.

Installing QuickDraw GX and Enabling PostScript Fonts

QuickDraw GX brings to PostScript fonts the same benefit TrueType has had for years - the ability to store the printer font data in the font suitcase along with the bitmap data for a PostScript font.

The benefits are:

* Less confusion about what files go with what font since the PostScript Font files (printer fonts) are no longer needed

* Consistent way of handling all fonts whether they are TrueType or PostScript

Using QuickDraw GX, you can open a suitcase and see the (printer) outline portion of the font (either TrueType or PostScript) and the bitmap portion of the font. To have this ability, QuickDraw GX must first enable the PostScript font. Enabling involves combining the bitmap and printer font files into a font suitcase.

The QuickDraw GX installer enables all PostScript fonts installed in the Fonts folder. Copies of the unmodified fonts (both suitcases and printer font files) are placed in a folder called *Archived Type 1 Fonts* inside the System Folder. The installer does not delete any fonts.

Tip #1

If you use a lot of PostScript fonts, use the QuickDraw GX customize option and install the QuickDraw GX utilities. This provides you with the latest version of the LaserWriter Utility, QuickDraw GX helper, and the Type 1 Enabler application. The Type 1 Enabler application should be used to convert any PostScript fonts you add to the system after installing QuickDraw GX. It performs the same operation as the QuickDraw GX installer, combining bitmap and PostScript font files into a font suitcase.

Using Your PostScript Fonts and the GX Helper

Most of the QuickDraw-compatible applications work fine with QuickDraw GX and PostScript fonts. QuickDraw GX comes with printer drivers for most Apple printers. QuickDraw GX printer drivers check if applications support QuickDraw GX, and revert back to older QuickDraw

printer features (usually referred to as compatibility mode), if applications do not support QuickDraw GX.

The programs that could take advantage of QuickDraw GX fonts, such as PageMaker, Quark XPress, Illustrator, Freehand, and FrameMaker, are not QuickDraw GX compatible yet, and often do not work in the compatibility mode. You should check with the application's vendor for QuickDraw GX compatibility information.

When using these applications with QuickDraw GX on, you get messages like "You will be unable to print since no outline fonts are present" and "Font Mismatch Helveobl..." and "No PostScript fonts are present" along with other miscellaneous messages. Usually these are applications that manipulate PostScript data (especially font data). The applications are not QuickDraw GX compatible and usually either come with their own printer drivers or make assumptions about where font data is stored (believing that PostScript fonts are still kept in separate files).

Tip #2

Use the QuickDraw GX Helper extension, installed by the Customize option in the QuickDraw GX installer, to print from non-GX compatible applications. QuickDraw GX Helper is a system extension that lets you disable QuickDraw GX desktop printing. It gives you the option to select what type of printing to use from the Apple menu. The setting is preserved by applications and is stored in the QuickDraw GX Helper preferences file in the Preferences folder.

When desktop printers are inactive, the Mac OS does not use the QuickDraw GX print driver. All printing calls are routed to the non-QuickDraw GX print driver. The non-QuickDraw GX print driver acts as if QuickDraw GX is not installed, and looks for PostScript printer outline fonts files in their previous location. The printer driver is not aware of QuickDraw GX enabled font suitcases.

Tip #3

QuickDraw GX Helper uses a non-GX printer driver, so you must re-install the PostScript font files into the Fonts folder. These are listed in the Finder as PostScript Font when you view the files by kind. This is necessary because the older printer drivers have not been updated to support the QuickDraw GX font suitcase format (created by the GX installer) that places PostScript fonts in a suitcase.

Both the PostScript font file and the new QuickDraw GX compatible suitcases can be present in the Fonts folder at the same time, and there are no performance problems, however extra disk space is required for the duplicate fonts.

You can find the original PostScript font files in either the *Archived Type 1 Fonts* folder in the System Folder, or on the original fonts disk. Do NOT copy suitcase files from the archived folder, or from fonts disks to the fonts folder -- this removes the enabled fonts required when QuickDraw GX helper is not being used. Use the Type 1 enabler application to enable and install fonts.

Tip #4

If you are using a non-Apple printer, do not use Apple print drivers. You need to contact the manufacturer to obtain a QuickDraw GX compatible driver. There are no workarounds to use the older QuickDraw print driver unless you turn off QuickDraw GX.

Turning QuickDraw GX Off and using PostScript Fonts
==========

If you have an application that does not work even with GX Helper, or have decided to wait until your applications are QuickDraw GX compatible and you turn off QuickDraw GX, you have problems using your PostScript fonts. Without QuickDraw GX, the non-QuickDraw GX Printer drivers cannot find the PostScript font data inside the enabled suitcases.

Tip #5

If you are sure you will not be using QuickDraw GX again, use the remove option in the QuickDraw GX installer to remove QuickDraw GX. The removal process cannot un-enable PostScript fonts. Copy the PostScript fonts and the other fonts files from the *Archived Type 1 Fonts* folder in the System folder or from the original fonts disk. Reinstall the fonts in their prior format -- a font suitcase of the bitmaps and a separate PostScript font (outline) file.

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21 Apr 1995 - Added keyword; made minor technical updates.

Support Information Services
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Apple Menu Options: Slow Initial Server Mounting (7/95)

I notice that when mounting a server volume with Apple Menu Options (AMO) active, it takes a particularly long time to draw the icons from that remote volume. Why is this?

This article has been archived and is no longer updated by Apple.
When the option of remembering recent servers is checked in the Apple Menu Options control panel, an alias to a recently accessed server is placed in the recent servers folder. Since this server alias could potentially be navigated with hierarchical menus starting at Recent Servers:<server alias>, Apple Menu Options enumerates and caches all files and folders on the server. Up to four levels of menus could be extended (five is the maximum menu hierarchy, and the first level is used to navigate to the Recent Servers folder), so AMO acquires HFS structure information for the top four levels of folders and files. Depending on the access of the given user to this server, this can result in slow connect time.

Since each server user can have different folder access privileges to the volume, the time it takes for AMO to acquire and cache the information for one user might be vastly different from another. The Administrator with access to all folders, might experience longer waits than a user with only access to a single drop folder. Apple Menu Options will only access folder information that the user has privileges to. The interior of a drop folder cannot be seen, so nothing beyond the first level is acquired. This represents the two most extreme cases.

Another simple example between two users might be when each has access to just a single folder to store their files. One user may create a wide and deep folder structure inside their user folder. The second user may not use any folder hierarchy, but just store files at the top level. User one will have a longer connect time to the server than user two.

The width and depth of the folder structure that the user has access to on a server affects how much information AMO needs to acquire from that server.

If you wish to avoid these slowdowns, rather than disabling and removing Apple Menu Options completely, disable the Recent Servers option in the Apple Menu Options Control Panel. This enables the user to still use hierarchical menus to access Control Panels, Recent Files and Recent Applications. Aliases to servers can still be created by the user and stored somewhere other than the Apple Menu Items or a subfolder. This will keep Apple Menu Options from "exploring" the server file system.

Article Change History:
31 Jul 1995 - Added information on server access.

Support Information Services
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Workgroup Server 95: Cache Optimization, Basic Formula

This article provides a basic formula for optimizing the cache memory on an Apple Workgroup Server (AWS) 95, which runs the A/UX operating system.

This article has been archived and is no longer updated by Apple.

Formula

Buffer cache = Z - VM

```
Element                 Description
-------   ---------------------------------------
Z          Total Ram - X

          Where X = (Kernel=5 MB) +
          (CatsearchD=1 MB for every 10,000 files)

VM        Retrospect + System Software + AppleShare Caches + Print Server +
         any other Macintosh software
```

IMPORTANT: These calculations assume no other UNIX processes are being started besides the ones started in the system by default. If this is not the case, add the memory requirements for those processes to the calculation of X.

NOTE: Make sure Z is greater than or equal to Buffer Cache + VM.

- The System Software value can be obtained by selecting the "About this Macintosh" option under the Apple Menu before launching AppleShare.
- The AppleShare Caches value can be obtained from the Dialog "File Server Cache Preferences" in the AppleShare Pro Admin application.

Published Date: Feb 19, 2012

AppleShare File Sharing: Permission To See Grayed Volume

With AppleShare file sharing a user enters the correct name and password, but can't get the volume they want. They get to the "Select the items you want to use:" window, but the volume they want is grayed out.

What permissions need to be set to let the user mount this volume?
This article has been archived and is no longer updated by Apple.
Users need either See Folders or See Files permissions at the top level of the shared volume. Make Changes is not relevant in this situation.

AppleShare administrators may want to consider several strategies for the top level permissions.

* Create a group that includes all users who can access a volume, and give that group See Files and/or See Folders in the User/Group level.

* Set everyone to See Files and/or See Folders at the top level, and then provide security to each folder in the top level.

For more information on determining access levels, see Tech Info Library article "Macintosh: Determining File Sharing Access Levels."
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Apple IP Gateway: Cannot See Other Clients on Same Server (5/96)

I have set up two Macintosh systems on Appletalk that use the Apple IP Gateway to get IP connections to the Internet. Both machines can connect to Internet services and visa-versa, but the machines cannot talk to each other. For example, a machine on the Internet can ping these two machines. These two machines can ping any machine on the Internet. However, neither of these two machines can ping each other. Why?

This article has been archived and is no longer updated by Apple.

This issue was resolved with the IP Gateway 1.0.1 patch. This patch can be obtained from the following sources.

* Web: www.info.apple.com/Apple Support Area
Apple.Software.Upadates/US/Macintosh/Networking_and_Communications/Other_N-C

* FTP: ftp.info.apple.com/Apple Support Area
Apple.Software.Upadates/US/Macintosh/Networking_and_Communications/Other_N-C

* Applelink: through the path, Support/Developer Support/Developer Services/Technical Documentation/ABS Technical Notes

* Developer CD: Technical Documentation/ABS Technical Notes (on the reference library disk)

Article Change History:
07 Apr 1995 - Made minor technical updates.
28 May 1996 - Issue resolved with patch, provided sources.

Published Date: Feb 19, 2012

DOS Compatibility Card: Using TCP/Connect II for Windows

This article provides information on using TCP/Connect II for Windows with the DOS Compatibility Card for the Power Macintosh.
This article has been archived and is no longer updated by Apple.

Introduction

This document assumes a working knowledge of DOS and Windows. This document will focus on aspects of network software installation that deviates from normal DOS/Windows installations. This document is not a substitute for and should be used in conjunction with product documentation!

Simultaneous Macintosh and DOS networking

Your Power Macintosh 6100 DOS Compatible can have simultaneously active connections in both environments, provided different networking prtocols are used. You cannot have two identical protocols running in both environments. If identical protocol support in both environments is needed, the only solution at this time is to encapsulate one protocol inside a different protocol, referred to as "tunneling". For example, there are various options to have TCP/IP active on both the Macintosh and the DOS side; They all require some form of gateway to either route IP encapsulated in AppleTalk, or IP encapsulated in IPX. One solution is to set MacTCP for EtherTalk and put an Apple IP Gateway on the network.

DOS networking and Memory

If you will be using the Power Macintosh 6100 DOS Compatible networking functions, it is recommended that you maximize conventional memory by removing unecessary device drivers and TSRs. Also, load the remaining device drivers and TSRs high if possible. Windows for Workgroups 3.11 requires greater than 540K of conventional memory for it's Browser to function properly.

Windows for Workgroups: Installation considerations

If you will be installing Windows for Workgroups 3.11, the Novell Netware client, AND TCP/IP support, install the NetWare client first, Windows for Workgroups 3.11 second, and the IP stack third.

ODI to NDIS translation issues

Novell provides an ODI to NDIS translator called "ODINSUP.COM", which is copied to the same directory as the client software. This allows ODI drivers to be used in an NDIS environment. When using ODINSUP.COM, you must specify an interrupt in the NET.CFG file. Use the statement:

INT 6

in the Link Driver section of the NET.CFG file. Failure to do this results in the following error message:

"ERROR: "First Mac ODI MLID does not conform to the latest ODI MLID
specification. Call adapter manufacturer and request a newer MLID that
preserves the PIC mask bit."

For a complete discussion of ODINSUP.COM and configuration information for it, please contact Novell.

Windows for Workgroups 3.11

If Windows for Workgroups 3.11 is to be installed, it is recommended that you become familiar with the protocol.ini file, which Windows for Workgroups 3.11 uses for setting up the networking environment. Without the proper entries in this file, Windows for Workgroups 3.11 networking will not function properly. The installer for Windows for Workgroups 3.11 does NOT modify the PROTOCOL.INI or NET.CFG file correctly, which means they must be manually edited. A suggested resource is the Windows for Workgroups 3.1 Resource Kit, available from Microsoft.

MACODI

MACODI.COM is located on the DOS Compatibility Card Installer Disk for DOS Environment.

It is important to note that the Power Macintosh 6100 DOS Compatible does not require any special settings where networking is concerned. The DOS side functions as would any DOS machine using ODI drivers. The only special consideration is to be sure the same protocols are not running in both environments unless tunneling is used.

Binding TCP/IP protocols in NET.CFG

For any TCP/IP setup, you MUST bind IP and ARP in the NET.CFG file. The only notable exception to this that we know of is FTP Software's PC/TCP. If the IP protocol stack you use requires RARP, you MUST bind this also. The entries that bind IP, ARP, and RARP will ALWAYS be the same, unless you are binding to a frame type other than Ethernet_II, which is unlikely. This is the standard IP, ARP, and RARP listing that MUST be in the NET.CFG file for IP support:

Link Driver MACODI
Frame Ethernet_II
Protocol IP 800 Ethernet_II
Protocol ARP 806 Ethernet_II
Protocol RARP 8035 Ethernet_II

As a general rule, do not add PORT or INT statements to the NET.CFG file. ODI drivers do not necessarily require them, and MACODI does not use interrupts. If using odinsup.com for NDIS compatibility, set the INT value to 6.

Example Installation and Settings Files

The following are some examples of networking configurations on the Power Macintosh 6100 DOS Compatible. Note that for all of these installations, Novell Netware was loaded. Also note that defaults were selected in all of these scenarios, which may not be valid for your environment. These are included as examples only. In some situations, the installer may not respond as outlined due to differences in files loaded into memory at the time of the installation. If that occurs, proceed per the software's documentation for using the software with ODI drivers. For the sake of brevity, only portions of files specific to the discussion will be listed. For further help in setting up the various networking environments, please contact the vendor of your network operating system.

InterCon TCP/Connect II for Windows

You must have successfully installed the NetWare client software and Windows before performing this step. "Successfully" means you are able to connect to a NetWare server and you are able to run Windows. Windows comes preinstalled on the Power Macintosh 6100 DOS Compatible. If you are not able to connect to a NetWare server, check your files against those listed above. Make sure all of the programs needed (called) are in the proper location. Also, make sure you don't have networking software loaded on the Macintosh that would cause a conflict, such as MacIPX. Once you have successfully connected to a server, follow these steps to load InterCon's TCP/Connect II for Windows. Again, only the steps that deviate from standard installations will be thoroughly outlined. Please note that for this installation, Windows for Workgroups 3.11 was installed.

Before beginning the installation, you will need to have the following information:

IP ADDRESS:

SUB-NET MASK:

DEFAULT ROUTER IP ADDRESS:

DOMAIN NAME:

DOMAIN NAME SERVER IP ADDRESS:
(If DNS services will be used)

1. Follow the directions in InterCon's documentation for installing the software. The installer is self-explanatory, as is the settings it asks you for. There is nothing Power Macintosh 6100 DOS Compatible specific in the installation of this software. The Power Macintosh 6100 DOS Compatible uses ODI drivers, so that is the choice when prompted for the type of driver.

2. Listed below is the NET.CFG file for TCP/Connect support. Notice that IPX is also loaded, set for 802.2 frame type. Only networking specific entries are listed in the AUTOEXEC.BAT. Note the Windows for Workgroups 3.11 entries in the AUTOEXEC.BAT are not listed, as they aren't modified by the InterCon installer.

NET.CFG

Link Driver MACODI

Frame Ethernet_802.2

Frame Ethernet_802.3
Frame Ethernet_SNAP
Frame Ethernet_II
PROTOCOL IPX E0 ETHERNET_802.2
PROTOCOL IP 800 ETHERNET_II
PROTOCOL ARP 806 ETHERNET_II
PROTOCOL RARP 8035 ETHERNET_II

LINK SUPPORT
Buffers 8 1600
MemPool 4095

AUTOEXEC.BAT

C:\\NWCLIENT\\LSL.COM
C:\\NWCLIENT\\MACODI.COM
C:\\NWCLIENT\\IPXODI.COM
C:\\TCPCONN\\ODIPKT.COM 3 107

For further help with installing InterCon TCP/Connect II for Windows, please call InterCon.

Description of Files

C:\\NWCLIENT\\LSL.COM

Link support layer driver. Supplied by Novell client software

C:\\NWCLIENT\\MACODI.COM

Network interface card driver. Supplied by Apple.

C:\\NWCLIENT\\IPXODI.COM

IPX Protocol stack layer. Supplied by Novell client software

C:\\TCPCONN\\ODIPKT.COM 3 107

ODI Packet driver. The first number selects the frame type from the entries in the net.cfg file. The first frame listed in the net.cfg is considered 0. Since we are using Ethernet_II, and it is the last of 4 frame types specified in the net.cfg file, this number is 3 in this example. The second number is the "line number" and should always be set to 107 for Ethernet. Supplied by InterCon software.

Published Date: Feb 19, 2012

DOS Compatibility Card: Using LAN WorkPlace for DOS

This article provides information on using LAN WorkPlace for DOS with the DOS Compatibility Card for the Power Macintosh.
This article has been archived and is no longer updated by Apple.
This article focuses on aspects of network software installation that deviates from normal DOS/Windows installations and assumes a working knowledge of DOS and Windows. This article is not a substitute for and should be used in conjunction with product documentation!

Introduction

Simultaneous Macintosh and DOS Networking

Your Power Macintosh 6100 DOS Compatible can have simultaneously active connections in both environments, provided different networking protocols are used. You cannot have two identical protocols running in both environments. If identical protocol support in both environments is needed, the only solution at this time is to encapsulate one protocol inside a different protocol, referred to as "tunneling". For example, there are various options to have TCP/IP active on both the Macintosh and the DOS side; they all require some form of gateway to either route IP encapsulated in AppleTalk, or IP encapsulated in IPX. One solution is to set MacTCP for EtherTalk and put an Apple IP Gateway on the network.

DOS Networking and Memory

If you will be using the Power Macintosh 6100 DOS Compatible networking functions, it is recommended that you maximize conventional memory by removing unnecessary device drivers and TSRs. Also, load the remaining device drivers and TSRs high if possible. Windows for Workgroups 3.11 requires greater than 540K of conventional memory for its Browser to function properly.

Windows for Workgroups: Installation Considerations

If you will be installing Windows for Workgroups 3.11, the Novell Netware client, AND TCP/IP support, install the NetWare client first, Windows for Workgroups 3.11 second, and the IP stack third.

ODI to NDIS Translation Issues

Novell provides an ODI to NDIS translator called ODINSUP.COM, which is copied to the same directory as the client software. This lets ODI drivers be used in an NDIS environment. When using ODINSUP.COM, you must specify an interrupt in the NET.CFG file. Use the statement in the Link Driver section of the NET.CFG file: INT 6

Failure to do this results in the following error message:
"ERROR: "First Mac ODI MLID does not conform to the latest ODI MLID specification. Call adapter manufacturer and request a newer MLID that preserves the PIC mask bit."

For a complete discussion of ODINSUP.COM and configuration information for it, please contact Novell.

Windows for Workgroups 3.11

If Windows for Workgroups 3.11 is to be installed, it is recommended that you become familiar with the protocol.ini file, which Windows for Workgroups 3.11 uses for setting up the networking environment. Without the proper entries in this file, Windows for Workgroups 3.11 networking does not function properly. The installer for Windows for Workgroups 3.11 does NOT modify the PROTOCOL.INI or NET.CFG file correctly, which means they must be manually edited. A suggested resource is the Windows for Workgroups 3.1 Resource Kit, available from Microsoft.

MACODI

MACODI.COM is located on the DOS Compatibility Card Installer Disk for DOS Environment. It is important to note that the Power Macintosh 6100 DOS Compatible does not require any special settings where networking is concerned. The DOS side functions as would any DOS machine using ODI drivers. The only special consideration is to be sure the same protocols are not running in both environments unless tunneling is used.

Binding TCP/IP protocols in NET.CFG

For any TCP/IP setup, you MUST bind IP and ARP in the NET.CFG file. The only notable exception to this that we know of is FTP Software's PC/TCP. If the IP protocol stack you use requires RARP, you MUST bind this also. The entries that bind IP, ARP, and RARP are ALWAYS the same, unless you are binding to a frame type other than Ethernet_II, which is unlikely. This is the standard IP, ARP, and RARP listing that MUST be in the NET.CFG file for IP support:

. Link Driver MACODI
. Frame Ethernet_II
. Protocol IP 800 Ethernet_II
. Protocol ARP 806 Ethernet_II
. Protocol RARP 8035 Ethernet_II

As a general rule, do not add PORT or INT statements to the NET.CFG file. ODI drivers do not necessarily require them, and MACODI does not use interrupts. If using odinsup.com for NDIS compatibility, set the INT value to 10.

Example Installation and Settings Files

The following are some examples of networking configurations on the Power Macintosh 6100 DOS Compatible. Note that for all of these installations, Novell Netware was loaded. Also note that defaults were selected in all of these scenarios, which may not be valid for your environment. These are included as examples only. In some situations, the installer may not respond as outlined due to differences in files loaded into memory at the time of the installation. If that occurs, proceed per the software's documentation for using the software with ODI drivers. For the sake of brevity, only portions of files specific to the discussion will be listed. For further help in setting up the various networking environments, please contact the vendor of your network operating system.

LAN WorkPlace for DOS Setup

You must have successfully installed the NetWare client software before performing this step. "Successfully" means LSL.COM and MACODI.COM are loading without errors. Make sure you do not have networking software loaded on the Macintosh that would cause a conflict, such as MacTCP. If you are going to install Windows for Workgroups 3.11, do so before performing this step. Follow these steps to load LAN WorkPlace for DOS. Again, only the steps that deviate from standard installations will be thoroughly outlined.

1. Before beginning the installation, you need to have the following information:

- IP ADRESS:
- SUB-NET MASK:
- DEFAULT ROUTER IP ADDRESS:
- DOMAIN NAME:
- DOMAIN NAME SERVER IP ADDRESS (If DNS servicess will be used):

2. Run the Lan WorkPlace for DOS installer, and follow the prompts. Enter the information as it is asked. Let it modify the files for you, although you will have to modify them again.

3. Edit the NET.CFG file. The version of LAN WorkPlace for DOS used in this example did not enter the proper values into the Link Driver MACODI heading of the net.cfg file, meaning you must enter them in manually. This is what it should read after editing it manually. Note that the addresses listed are for illustrative purposes ONLY. LAN WorkPlace for DOS enters the proper information under the Protocol TCPIP heading. The main concern is the Link Driver MACODI heading:

. * NET.CFG (without Windows for Workgroups 3.11 installed)
.
. Link Driver MACODI
.
. FRAME ETHERNET 802.2
. FRAME ETHERNET II
. PROTOCOL IPX E0 ETHERNET 802.2
. PROTOCOL IP 800 ETHERNET II
. PROTOCOL ARP 806 ETHERNET II
.
. Link Support
.
. Buffers 8 1500
. MemPool 4096
.
. Protocol TCPIP
.
. PATH SCRIPT C:\\NET\\SCRIPT
. PATH PROFILE C:\\NET\\PROFILE
. PATH LWP_CFG C:\\NET\\HSTACC

```
. PATH TCP_CFG C:\\NET\\TCP
. ip_router 130.43.4.1
. ip_netmask 255.255.255.0
. ip_address 130.43.4.45
.
. * NET.CFG (with Windows for Workgroups 3.11 installed)
.
. Link Driver MACODI
.
. FRAME ETHERNET_II
. FRAME ETHERNET_802.2
. FRAME ETHERNET_802.3
. FRAME ETHERNET_SNAP
.
. PROTOCOL IPX E0 ETHERNET_802.2
. PROTOCOL IP 800 ETHERNET_II
. PROTOCOL ARP 806 ETHERNET_II
.
. Link Support
.
. Buffers 8 1500
. MemPool 4096
.
. Protocol TCPIP
.
. PATH SCRIPT C:\\NET\\SCRIPT

. PATH PROFILE C:\\NET\\PROFILE
. PATH LWP_CFG C:\\NET\\HSTACC
. PATH TCP_CFG C:\\NET\\TCP
. ip_router 130.43.4.1
. ip_netmask 255.255.255.0
. ip_address 130.43.4.45
```

4. Save the NET.CFG file, restart the computer, and answer yes when it asks you if you want to load the TCP/IP software. Ping a known good address by typing:

ping address (where address is a known good IP address)

LAN WorkPlace for DOS modifies the autoexec.bat file by adding the following line:

CALL C:\\LANWP.BAT

LANWP.BAT simply asks you if you want to load the TCP/IP transport, then loads it if you answer yes. The transport file is called TCPIP.EXE and is located in:

C:\\NET\\BIN

For further help with installing LAN WorkPlace for DOS, please call Novell. The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.

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DOS Compatibility Card: Using Microsoft‘s TCP/IP-32 IP

This article provides information on using Microsoft's TCP/IP-32 IP with the DOS Compatibility Card for the Power Macintosh.
This article has been archived and is no longer updated by Apple.

Introduction

This document assumes a working knowledge of DOS and Windows. This document will focus on aspects of network software installation that deviates from normal DOS/Windows installations. This document is not a substitute for and should be used in conjunction with product documentation!

Simultaneous Macintosh and DOS networking

Your Power Macintosh 6100 DOS Compatible can have simultaneously active connections in both environments, provided different networking prtocols are used. You cannot have two identical protocols running in both environments. If identical protocol support in both environments is needed, the only solution at this time is to encapsulate one protocol inside a different protocol, referred to as "tunneling". For example, there are various options to have TCP/IP active on both the Macintosh and the DOS side; They all require some form of gateway to either route IP encapsulated in AppleTalk, or IP encapsulated in IPX. One solution is to set MacTCP for EtherTalk and put an Apple IP Gateway on the network.

DOS networking and Memory

If you will be using the Power Macintosh 6100 DOS Compatible networking functions, it is recommended that you maximize conventional memory by removing unecessary device drivers and TSRs. Also, load the remaining device drivers and TSRs high if possible. Windows for Workgroups 3.11 requires greater than 540K of conventional memory for it's Browser to function properly.

Windows for Workgroups: Installation considerations

If you will be installing Windows for Workgroups 3.11, the Novell Netware client, AND TCP/IP support, install the NetWare client first, Windows for Workgroups 3.11 second, and the IP stack third.

ODI to NDIS translation issues

Novell provides an ODI to NDIS translator called "ODINSUP.COM", which is copied to the same directory as the client software. This allows ODI drivers to be used in an NDIS environment. When using ODINSUP.COM, you must specify an interrupt in the NET.CFG file. Use the statement:

INT 6

in the Link Driver section of the NET.CFG file. Failure to do this results in the following error message:

"ERROR: "First Mac ODI MLID does not conform to the latest ODI MLID
specification. Call adapter manufacturer and request a newer MLID that
preserves the PIC mask bit."

For a complete discussion of ODINSUP.COM and configuration information for it, please contact Novell.

Windows for Workgroups 3.11

If Windows for Workgroups 3.11 is to be installed, it is recommended that you become familiar with the protocol.ini file, which Windows for Workgroups 3.11 uses for setting up the networking environment. Without the proper entries in this file, Windows for Workgroups 3.11 networking will not function properly. The installer for Windows for Workgroups 3.11 does NOT modify the PROTOCOL.INI or NET.CFG file correctly, which means they must be manually edited. A suggested resource is the Windows for Workgroups 3.1 Resource Kit, available from Microsoft.

MACODI

MACODI.COM is located on the DOS Compatibility Card Installer Disk for DOS Environment.
It is important to note that the Power Macintosh 6100 DOS Compatible does not require any special settings where networking is concerned. The DOS side functions as would any DOS machine using ODI drivers. The only special consideration is to be sure the same protocols are not running in both environments unless tunneling is used.

Binding TCP/IP protocols in NET.CFG

For any TCP/IP setup, you MUST bind IP and ARP in the NET.CFG file. The only notable exception to this that we know of is FTP Software's PC/TCP. If the IP protocol stack you use requires RARP, you MUST bind this also. The entries that bind IP, ARP, and RARP will ALWAYS be the same, unless you are binding to a frame type other than Ethernet_II, which is unlikely. This is the standard IP, ARP, and RARP listing that MUST be in the NET.CFG file for IP support:

Link Driver MACODI
Frame Ethernet_II
Protocol IP 800 Ethernet_II
Protocol ARP 806 Ethernet_II
Protocol RARP 8035 Ethernet_II

As a general rule, do not add PORT or INT statements to the NET.CFG file. ODI drivers do not necessarily require them, and MACODI does not use interrupts. If using odinsup.com for NDIS compatibility, set the INT value to 10.

Example Installation and Settings Files

The following are some examples of networking configurations on the Power Macintosh 6100 DOS Compatible. Note that for all of these installations, Novell Netware was loaded. Also note that defaults were selected in all of these scenarios, which may not be valid for your environment. These are included as examples only. In some situations, the installer may not respond as outlined due to differences in files loaded into memory at the time of the installation. If that occurs, proceed per the software's documentation for using the software with ODI drivers. For the sake of brevity, only portions of files specific to the discussion will be listed. For further help in setting up the various networking environments, please contact the vendor of your network operating system.

Microsoft's TCP/IP-32 IP Protocol stack

You must have successfully installed the ODI drivers and Windows for Workgroups 3.11 before performing this step. "Successfully" means you are able to connect to a server and you are able to run Windows for Workgroups 3.11. If you are not able to connect to a server, check your files against those listed above. Make sure all of the programs needed (called) are in the proper location. Also, make sure you don't have networking software loaded on the Macintosh that would cause a conflict, such as MacIPX. Once you have successfully connected to a server, follow these steps to load Microsoft's TCP/IP-32 IP protocol stack into Windows for Workgroups 3.11. Again, only the steps that deviate from standard installations will be thoroughly outlined. It is advisable that you be thoroughly familiar with the entries in the protocol.ini before editing it. See the Windows for Workgroups 3.1 Resource Kit for a complete discussion of the protocol.ini file and its entries.

1. Before beginning the installation, you will need to have the following information:

IP ADDRESS:

SUB-NET MASK:

DEFAULT ROUTER IP ADDRESS:

DOMAIN NAME:

DOMAIN NAME SERVER IP ADDRESS:
(If DNS services will be used)

2. Follow the directions in Microsoft's documentation for installing the IP networking protocol. Once you have installed TCP/IP-32, Windows for Workgroups 3.11 will prompt you to restart. Don't, because you will need to edit the NET.CFG and PROTOCOL.INI files.

3. Listed below are the NET.CFG and PROTOCOL.INI files for TCP/IP-32 support. Notice that IPX is also loaded. Edit your files to look similar to these, depending on your configuration. Note that the TCP/IP-32 installer cannot detect what ODI driver is being used, so it inserts "XXXX" for the driver name. Remove any redundant entries, and change "XXXX" to "MACODI".

NET.CFG

Link Driver MACODI
Frame Ethernet_802.2
Frame Ethernet_802.3
Frame Ethernet_II

Frame Ethernet_SNAP
PROTOCOL IPX E0 ETHERNET_802.2
PROTOCOL IP 800 ETHERNET_II

```
PROTOCOL ARP 806 ETHERNET_II
PROTOCOL RARP 8035 ETHERNET_II

LINK SUPPORT
Max Boards 4
Buffers 4 1500
MemPool 4095


PROTOCOL.INI
----------
[network.setup]
version0x3110
netcardms$odimac,1,MS$ODIMAC,4
transportms$nwlinknb,NWLINK
transporttcpip-32n,MSTCP32
lana0ms$odimac,1,ms$nwlinknb
lana1ms$odimac,1,tcpip-32n

[net.cfg]
PATHC:\\NWCLIENT\\NET.CFG

[MS$ODIMAC]

[Link Driver MACODI]
dataFrame Ethernet_SNAP
dataFrame Ethernet_802.2
dataFrame Ethernet_II
dataFrame Ethernet_802.3
dataLink Driver MACODI

[NWLINK]

BINDINGSMACODI
FRAMEETHERNET_802.2

[MSTCP32]
BINDINGSMACODI
LANABASE1
```

For further help with installing Microsoft's TCP/IP-32, please call Microsoft.

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DOS Compatibility Card: Using Chameleon/NFS

This article provides information on using NetManage's Chameleon/NFS with the DOS Compatibility Card for the Power Macintosh.
This article has been archived and is no longer updated by Apple.

Introduction

This document assumes a working knowledge of DOS and Windows. This document will focus on aspects of network software installation that deviates from normal DOS/Windows installations. This document is not a substitute for and should be used in conjunction with product documentation!

Simultaneous Macintosh and DOS networking

Your Power Macintosh 6100 DOS Compatible can have simultaneously active connections in both environments, provided different networking prtocols are used. You cannot have two identical protocols running in both environments. If identical protocol support in both environments is needed, the only solution at this time is to encapsulate one protocol inside a different protocol, referred to as "tunneling". For example, there are various options to have TCP/IP active on both the Macintosh and the DOS side; They all require some form of gateway to either route IP encapsulated in AppleTalk, or IP encapsulated in IPX. One solution is to set MacTCP for EtherTalk and put an Apple IP Gateway on the network.

DOS networking and Memory

If you will be using the Power Macintosh 6100 DOS Compatible networking functions, it is recommended that you maximize conventional memory by removing unecessary device drivers and TSRs. Also, load the remaining device drivers and TSRs high if possible. Windows for Workgroups 3.11 requires greater than 540K of conventional memory for it's Browser to function properly.

Windows for Workgroups: Installation considerations

If you will be installing Windows for Workgroups 3.11, the Novell Netware client, AND TCP/IP support, install the NetWare client first, Windows for Workgroups 3.11 second, and the IP stack third.

ODI to NDIS translation issues

Novell provides an ODI to NDIS translator called "ODINSUP.COM", which is copied to the same directory as the client software. This allows ODI drivers to be used in an NDIS environment. When using ODINSUP.COM, you must specify an interrupt in the NET.CFG file. Use the statement:

INT 6

in the Link Driver section of the NET.CFG file. Failure to do this results in the following error message:

"ERROR: "First Mac ODI MLID does not conform to the latest ODI MLID
specification. Call adapter manufacturer and request a newer MLID that
preserves the PIC mask bit."

For a complete discussion of ODINSUP.COM and configuration information for it, please contact Novell.

Windows for Workgroups 3.11

If Windows for Workgroups 3.11 is to be installed, it is recommended that you become familiar with the protocol.ini file, which Windows for Workgroups 3.11 uses for setting up the networking environment. Without the proper entries in this file, Windows for Workgroups 3.11 networking will not function properly. The installer for Windows for Workgroups 3.11 does NOT modify the PROTOCOL.INI or NET.CFG file correctly, which means they must be manually edited. A suggested resource is the Windows for Workgroups 3.1 Resource Kit, available from Microsoft.

MACODI

MACODI.COM is located on the DOS Compatibility Card Installer Disk for DOS Environment.

It is important to note that the Power Macintosh 6100 DOS Compatible does not require any special settings where networking is concerned. The DOS side functions as would any DOS machine using ODI drivers. The only special consideration is to be sure the same protocols are not running in both environments unless tunneling is used.

Binding TCP/IP protocols in NET.CFG

For any TCP/IP setup, you MUST bind IP and ARP in the NET.CFG file. The only notable exception to this that we know of is FTP Software's PC/TCP. If the IP protocol stack you use requires RARP, you MUST bind this also. The entries that bind IP, ARP, and RARP will ALWAYS be the same, unless you are binding to a frame type other than Ethernet_II, which is unlikely. This is the standard IP, ARP, and RARP listing that MUST be in the NET.CFG file for IP support:

Link Driver MACODI
Frame Ethernet_II
Protocol IP 800 Ethernet_II
Protocol ARP 806 Ethernet_II
Protocol RARP 8035 Ethernet_II

As a general rule, do not add PORT or INT statements to the NET.CFG file. ODI drivers do not necessarily require them, and MACODI does not use interrupts. If using odinsup.com for NDIS compatibility, set the INT value to 10.

Example Installation and Settings Files

The following are some examples of networking configurations on the Power Macintosh 6100 DOS Compatible. Note that for all of these installations, Novell Netware was loaded. Also note that defaults were selected in all of these scenarios, which may not be valid for your environment. These are included as examples only. In some situations, the installer may not respond as outlined due to differences in files loaded into memory at the time of the installation. If that occurs, proceed per the software's documentation for using the software with ODI drivers. For the sake of brevity, only portions of files specific to the discussion will be listed. For further help in setting up the various networking environments, please contact the vendor of your network operating system.

NetManage's Chameleon/NFS installation

You must have successfully installed the NetWare client software and Windows before performing this step. "Successfully" means LSL.COM and MACODI.COM are loading without errors. Make sure you don't have networking software loaded on the Macintosh that would cause a conflict, such as MacTCP. Windows comes preinstalled on the Power Macintosh 6100 DOS Compatible. Follow these steps to load Chameleon/NFS. Again, only the steps that deviate from standard installations will be thoroughly outlined. Windows for Workgroups 3.11 was installed for this configuration.

1. Before beginning the installation, you will need to have the following information:

IP ADDRESS:

SUB-NET MASK:

DEFAULT ROUTER IP ADDRESS:

DOMAIN NAME:

DOMAIN NAME SERVER IP ADDRESS:
(If DNS services will be used)

2. Follow the directions in the NetManage manual for running the Chameleon/NFS installer, and follow the prompts. Enter the information as it is asked.

3. After adding the information requested, you should go under the "Services" menu and add any other information required for your environment such as router address, DNS address, etc. When done, save the configuration, quit, and restart.

NetManage adds the following to the AUTOEXEC.BAT file:

C:\\NETMANAG\\NMODI

The directory listed will match whatever you told NetManage to install into.

NetManage changes the NET.CFG file, which looks like this after the
Chameleon/NFS install:

NET.CFG

Link Driver MACODI

FRAME Ethernet_802.2

FRAME ETHERNET_II

PROTOCOL IP 800 ETHERNET_II

PROTOCOL ARP 806 ETHERNET_II
PROTOCOL RARP 8035 ETHERNET_II

For further help with installing NetManage's Chameleon/NFS, please call NetManage.

Published Date: Feb 19, 2012

DOS Compatibility Card: Using Trumpet Winsock

This article provides information on using Trumpet Winsock with the DOS Compatibility Card for the Power Macintosh.
This article has been archived and is no longer updated by Apple.

Introduction

This document assumes a working knowledge of DOS and Windows. This document will focus on aspects of network software installation that deviates from normal DOS/Windows installations. This document is not a substitute for and should be used in conjunction with product documentation!

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Your Power Macintosh 6100 DOS Compatible can have simultaneously active connections in both environments, provided different networking prtocols are used. You cannot have two identical protocols running in both environments. If identical protocol support in both environments is needed, the only solution at this time is to encapsulate one protocol inside a different protocol, referred to as "tunneling". For example, there are various options to have TCP/IP active on both the Macintosh and the DOS side; They all require some form of gateway to either route IP encapsulated in AppleTalk, or IP encapsulated in IPX. One solution is to set MacTCP for EtherTalk and put an Apple IP Gateway on the network.

DOS networking and Memory

If you will be using the Power Macintosh 6100 DOS Compatible networking functions, it is recommended that you maximize conventional memory by removing unecessary device drivers and TSRs. Also, load the remaining device drivers and TSRs high if possible. Windows for Workgroups 3.11 requires greater than 540K of conventional memory for it's Browser to function properly.

Windows for Workgroups: Installation considerations

If you will be installing Windows for Workgroups 3.11, the Novell Netware client, AND TCP/IP support, install the NetWare client first, Windows for Workgroups 3.11 second, and the IP stack third.

ODI to NDIS translation issues

Novell provides an ODI to NDIS translator called "ODINSUP.COM", which is copied to the same directory as the client software. This allows ODI drivers to be used in an NDIS environment. When using ODINSUP.COM, you must specify an interrupt in the NET.CFG file. Use the statement:

INT 6

in the Link Driver section of the NET.CFG file. Failure to do this results in the following error message:

"ERROR: "First Mac ODI MLID does not conform to the latest ODI MLID
specification. Call adapter manufacturer and request a newer MLID that
preserves the PIC mask bit."

For a complete discussion of ODINSUP.COM and configuration information for it, please contact Novell.

Windows for Workgroups 3.11

If Windows for Workgroups 3.11 is to be installed, it is recommended that you become familiar with the protocol.ini file, which Windows for Workgroups 3.11 uses for setting up the networking environment. Without the proper entries in this file, Windows for Workgroups 3.11 networking will not function properly. The installer for Windows for Workgroups 3.11 does NOT modify the PROTOCOL.INI or NET.CFG file correctly, which means they must be manually edited. A suggested resource is the Windows for Workgroups 3.1 Resource Kit, available from Microsoft.

MACODI

MACODI.COM is located on the DOS Compatibility Card Installer Disk for DOS Environment.

It is important to note that the Power Macintosh 6100 DOS Compatible does not require any special settings where networking is concerned. The DOS side functions as would any DOS machine using ODI drivers. The only special consideration is to be sure the same protocols are not running in both environments unless tunneling is used.

Binding TCP/IP protocols in NET.CFG

For any TCP/IP setup, you MUST bind IP and ARP in the NET.CFG file. The only notable exception to this that we know of is FTP Software's PC/TCP. If the IP protocol stack you use requires RARP, you MUST bind this also. The entries that bind IP, ARP, and RARP will ALWAYS be the same, unless you are binding to a frame type other than Ethernet_II, which is unlikely. This is the standard IP, ARP, and RARP listing that MUST be in the NET.CFG file for IP support:

Link Driver MACODI
Frame Ethernet_II
Protocol IP 800 Ethernet_II
Protocol ARP 806 Ethernet_II
Protocol RARP 8035 Ethernet_II

As a general rule, do not add PORT or INT statements to the NET.CFG file. ODI drivers do not necessarily require them, and MACODI does not use interrupts. If using odinsup.com for NDIS compatibility, set the INT value to 10.

Example Installation and Settings Files

The following are some examples of networking configurations on the Power Macintosh 6100 DOS Compatible. Note that for all of these installations, Novell Netware was loaded. Also note that defaults were selected in all of these scenarios, which may not be valid for your environment. These are included as examples only. In some situations, the installer may not respond as outlined due to differences in files loaded into memory at the time of the installation. If that occurs, proceed per the software's documentation for using the software with ODI drivers. For the sake of brevity, only portions of files specific to the discussion will be listed. For further help in setting up the various networking environments, please contact the vendor of your network operating system.

Trumpet WinSock

You must have successfully installed the NetWare client software and Windows before performing this step. "Successfully" means you are able to connect to a NetWare server and you are able to run Windows. Windows comes pre-installed on the Power Macintosh 6100 DOS Compatible. If you are not able to connect to a NetWare server, check your files against those listed above. Make sure all of the programs needed (called) are in the proper location. Also, make sure you do not have networking software loaded on the Macintosh that would cause a conflict, such as MacIPX. Once you have successfully connected to a server, follow these steps to load Trumpet WinSock. Again, only the steps that deviate from standard installations will be thoroughly outlined. Please note that for this installation, Windows for Workgroups 3.11 was installed. Note the Windows for Workgroups 3.11 entries in the AUTOEXEC.BAT are not listed, as they are not modified by the Trumpet WinSock.

Before beginning the installation, you will need to have the following information:

IP ADDRESS:

SUB-NET MASK:

DEFAULT ROUTER IP ADDRESS:

DOMAIN NAME:

DOMAIN NAME SERVER IP ADDRESS:
(If DNS services will be used)

1. This document assumes you have gathered all the pieces necessary for Trumpet WinSock install.

2. For the sake of brevity, it is assumed that all Trumpet WinSock files are in the same directory. In this example, the files are located in C:\\TRUMPET. Since there is no installer for Trumpet Winsock, edit the NET.CFG and whatever batch file you use to call the networking software to match the files listed below.

NET.CFG

Link Driver MACODI

Frame Ethernet_802.2
Frame Ethernet_802.3
Frame Ethernet_SNAP
Frame Ethernet_II
PROTOCOL IPX E0 ETHERNET_802.2
PROTOCOL IP 800 ETHERNET_II
PROTOCOL ARP 806 ETHERNET_II
PROTOCOL RARP 8035 ETHERNET_II

LINK SUPPORT
Max Stacks 8
Buffers 8 1600
MemPool 4095

AUTOEXEC.BAT

C:\\NWCLIENT\\LSL.COM
C:\\NWCLIENT\\MACODI.COM
C:\\NWCLIENT\\IPXODI.COM
C:\\TRUMPET\\ODIPKT.COM 3 107
C:\\TRUMPET\\WINPKT.COM 107

Description of Files

LSL.COM

Link support layer driver. Supplied by Novell client software.

MACODI.COM

Network interface card driver. Supplied by Apple.

IPXODI.COM

IPX Protocol stack layer. Supplied by Novell client software.

ODIPKT.COM 3 107

ODI Packet driver. The first number selects the frame type from the entries in the net.cfg file. The first frame listed in the net.cfg is considered 0. Since we are using Ethernet_II, and it is the last of 4 frame types specified in the net.cfg file, this number is 3 in this example. The second number is the "line number" and should always be set to 107 for Ethernet.

C:\\TRUMPET\\WINPKT.COM 107

Windows Virtual Packet Driver. Takes the line number as an argument. Must be the same as the line number for the packet driver.

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DOS Compatibility Card: Using Windows for Workgroups 3.11

This article provides information on using Microsoft's Windows for Workgroups 3.11 with the DOS Compatibility Card for the Power Macintosh. This article has been archived and is no longer updated by Apple.

Introduction

This document assumes a working knowledge of DOS and Windows. This document will focus on aspects of network software installation that deviates from normal DOS/Windows installations. This document is not a substitute for and should be used in conjunction with product documentation!

Simultaneous Macintosh and DOS networking

Your Power Macintosh 6100 DOS Compatible can have simultaneously active connections in both environments, provided different networking prtocols are used. You cannot have two identical protocols running in both environments. If identical protocol support in both environments is needed, the only solution at this time is to encapsulate one protocol inside a different protocol, referred to as "tunneling". For example, there are various options to have TCP/IP active on both the Macintosh and the DOS side; They all require some form of gateway to either route IP encapsulated in AppleTalk, or IP encapsulated in IPX. One solution is to set MacTCP for EtherTalk and put an Apple IP Gateway on the network.

DOS networking and Memory

If you will be using the Power Macintosh 6100 DOS Compatible networking functions, it is recommended that you maximize conventional memory by removing unecessary device drivers and TSRs. Also, load the remaining device drivers and TSRs high if possible. Windows for Workgroups 3.11 requires greater than 540K of conventional memory for it's Browser to function properly.

Windows for Workgroups: Installation considerations

If you will be installing Windows for Workgroups 3.11, the Novell Netware client, AND TCP/IP support, install the NetWare client first, Windows for Workgroups 3.11 second, and the IP stack third.

ODI to NDIS translation issues

Novell provides an ODI to NDIS translator called "ODINSUP.COM", which is copied to the same directory as the client software. This allows ODI drivers to be used in an NDIS environment. When using ODINSUP.COM, you must specify an interrupt in the NET.CFG file. Use the statement:

INT 6

in the Link Driver section of the NET.CFG file. Failure to do this results in the following error message:

"ERROR: "First Mac ODI MLID does not conform to the latest ODI MLID
specification. Call adapter manufacturer and request a newer MLID that
preserves the PIC mask bit."

For a complete discussion of ODINSUP.COM and configuration information for it, please contact Novell.

Windows for Workgroups 3.11

If Windows for Workgroups 3.11 is to be installed, it is recommended that you become familiar with the protocol.ini file, which Windows for Workgroups 3.11 uses for setting up the networking environment. Without the proper entries in this file, Windows for Workgroups 3.11 networking will not function properly. The installer for Windows for Workgroups 3.11 does NOT modify the PROTOCOL.INI or NET.CFG file correctly, which means they must be manually edited. A suggested resource is the Windows for Workgroups 3.1 Resource Kit, available from Microsoft.

MACODI

MACODI.COM is located on the DOS Compatibility Card Installer Disk for DOS Environment.

It is important to note that the Power Macintosh 6100 DOS Compatible does not require any special settings where networking is concerned. The DOS side functions as would any DOS machine using ODI drivers. The only special consideration is to be sure the same protocols are not running in both environments unless tunneling is used.

Binding TCP/IP protocols in NET.CFG

For any TCP/IP setup, you MUST bind IP and ARP in the NET.CFG file. The only notable exception to this that we know of is FTP Software's

PC/TCP. If the IP protocol stack you use requires RARP, you MUST bind this also. The entries that bind IP, ARP, and RARP will ALWAYS be the same, unless you are binding to a frame type other than Ethernet_II, which is unlikely. This is the standard IP, ARP, and RARP listing that MUST be in the NET.CFG file for IP support:

Link Driver MACODI
Frame Ethernet_II
Protocol IP 800 Ethernet_II
Protocol ARP 806 Ethernet_II
Protocol RARP 8035 Ethernet_II

As a general rule, do not add PORT or INT statements to the NET.CFG file. ODI drivers do not necessarily require them, and MACODI does not use interrupts. If using odinsup.com for NDIS compatibility, set the INT value to 10.

Example Installation and Settings Files

The following are some examples of networking configurations on the Power Macintosh 6100 DOS Compatible. Note that for all of these installations, Novell Netware was loaded. Also note that defaults were selected in all of these scenarios, which may not be valid for your environment. These are included as examples only. In some situations, the installer may not respond as outlined due to differences in files loaded into memory at the time of the installation. If that occurs, proceed per the software's documentation for using the software with ODI drivers. For the sake of brevity, only portions of files specific to the discussion will be listed. For further help in setting up the various networking environments, please contact the vendor of your network operating system.

Windows for Workgroups 3.11 installation

This assumes you are starting with a standard configuration; ie. Windows 3.1 is already on the machine. If you have not installed the NetWare client, do so before this step. Detail are listed only for the steps that deviate from the standard Windows for Workgroups 3.11 install.

1. Run the Windows for Workgroups 3.11 installer and select the express setup.

2. When you get to the Network Setup, click "Advanced", then click "Drivers", then click "Add Adapter", then scroll down the list that's displayed and highlight "IPXODI Support Driver (Ethernet)" and click "OK".

3. Click on the "IPX/SPX Compatible Transport With NetBIOS" and click "Setup". Click "Frame Type", select the proper frame type for your application, and click OK.

4. Set the default protocol and click "Close" to continue with the installation.

5. After entering the information on the next screen, it will ask you if you want to replace the Novell Netware drivers. Answer NO.

That's it - the installer will take care of the rest.

Windows for Workgroups 3.11 adds two commands to the AUTOEXEC.BAT file. One is "net start" which initializes Windows for Workgroups 3.11's network functions. The second is "odihlp.exe" which is Microsoft's ODI to NDIS mapper. Since Microsoft's networking functions work with NDIS drivers only, ODI drivers must be translated to NDIS. Microsoft's translator is supported by Microsoft, not Apple.

For further help with installing Windows for Workgroups 3.11, please call Microsoft. For further reading on Windows for Workgroups 3.11, a suggested resource is the Microsoft Windows for Workgroups 3.11 Resource Kit available from Microsoft or your local book seller. Here's a listing of the net.cfg, autoexec.bat, and protocol.ini file after the above Windows for Workgroups 3.11 install, with a Frame type of ETHERNET_802.2 selected. Note that NetBeui was NOT installed in this listing:

NET.CFG

Link Driver MACODI
FRAME ETHERNET_802.2
FRAME ETHERNET_802.3
FRAME ETHERNET_SNAP
FRAME ETHERNET_II

AUTOEXEC.BAt

C:\\WINDOWS\\NET START
@CALL C:\\NWCLIENT\\STARTNET

```
C:\\WINDOWS\\ODIHLP.EXE
@ECHO OFF
LH C:\\DOS\\SMARTDRV.EXE /X
PROMPT $p$g
PATH C:\\WINDOWS;C:\\DOS
PATH=C:\\NWCLIENT\\;%PATH%
SET TEMP=C:\\DOS
SET SOUND=C:\\SB16
SET BLASTER=A220 I5 D1 H1 T6
LH C:\\SB16\\MIXERSET /P /Q
LH C:\\Apple\\ApplePC
LH C:\\Apple\\MacShare

LH C:\\DOS\\MSCDEX /D:CDDRVR /L:E
LH C:\\Apple\\DOSClip
set tmp=C:\\Temp
```

protocol.ini

```
[network.setup]
version=0x3110
netcard=ms$odimac,1,MS$ODIMAC,4
transport=ms$nwlinknb,NWLINK
lana0=ms$odimac,1,ms$nwlinknb

[net.cfg]
PATH=C:\\NWCLIENT\\NET.CFG

[MS$ODIMAC]

[Link Driver MACODI]
data=Frame Ethernet_SNAP
data=Frame Ethernet_802.2
data=Frame Ethernet_II
data=Frame Ethernet_802.3
data=Link Driver MACODI

[NWLINK]

BINDINGS=MACODI
FRAME=ETHERNET_802.2
```

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Apple Media Tool: How To Create a Slide Show

This article describes how to create a slide show presentation using the Apple Media Tool.
This article has been archived and is no longer updated by Apple.

Step 1 - The Basics

Launch the Apple Media Tool application program and create one screen. Import the media, place the media inside the screen (creating objects), and align the coordinates for each object.

Note: This article assumes you already know how to import media, create a screen, align coordinates, change actions, create commands, change commands, and other basic media tool procedures. If you do not know how to do this, please refer to the user's manual.

Step 2 - Setting duration times

You need to set the length of time you want each object to appear on the screen. This is done using the duration command in the object menu. Highlight the object for which you want to set the duration, then go to the object menu and select Duration. A window opens showing you the name of the object you have selected as well as On and Off buttons. Click the On button and enter a duration time in ticks (60 ticks = 1 second). Once you set the duration, click OK. Do this for each object you want in your sequence.

Step 3 - Assigning commands for the objects

Here is a chart of the action/commands for each object:

Object	Before Display	Finished
Object 1	Disable itself Show itself Start itself	Hide itself Show obj. 2 Start obj. 2
Object 2	Disable itself Hide itself	Hide itself Show obj. 3 Start obj. 3
Object 3	Disable itself Hide itself	Hide itself Show obj. 4 Start obj. 4
Object 4	Disable itself Hide itself	Hide itself Show obj. 5 Start obj. 5
Object 5	Disable itself Hide itself	

Note: The reason the finished action and the start command is used (usually for movies), is because once you assign a duration to an object, the media tool treats it similarly to the way it treats a movie.

Once you have assigned the commands for the objects, you are finished. Close the screen window, and run the presentation.

This article only provides the groundwork for creating a simple slide show project. Once you are comfortable with the procedure, you can add effects and change the duration to suit your needs.

Published Date: Feb 19, 2012

Macintosh Performa: Where is CloseView? (4/95)

Is the CloseView control panel software preinstalled in the Control Panels folder on all Macintosh Performa computers?

If it is not, how can I install it? Is it inside another folder somewhere on a disk or on the hard drive?

Is there any difference between installing CloseView on a computer running System 7.5 and installing it on any other version of the Macintosh Performa system software?

This article has been archived and is no longer updated by Apple.
CloseView is not installed in the Control Panels of the active System Folder on Macintosh Performa computers. It is included in the Apple Extras folder on the hard drive.

Installation of CloseView is easy from within the Finder. There is no installer, so you can just drag the CloseView icon on top of your System Folder.

If you are using At Ease, you need to launch the Finder before you can install CloseView.

Installing CloseView:

Step 1
Open the hard drive.

Step 2
Open the folder called Apple Extras.

Step 3
Click on the CloseView icon and hold the mouse button down.

Step 4
Drag the CloseView icon on top of the System Folder and release the mouse button.

Step 5
An alert box appears telling you that CloseView will be placed in Control Panels. Click the OK button.

Step 6
Pull down the Apple Menu and open Control Panels.

Step 7
Open the CloseView control panel and make the necessary changes to turn on and configure CloseView the way you want it.

Step 8
Close the CloseView control panel.

Installation is the same for System 7.5 and other Performa computers assuming that the user is working within the Finder.

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Volume I, Issue 25, Page 15

Article Change History:
21 Apr 1995 - Added keyword; made minor technical updates.

Support Information Services
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Macintosh: Can a Diskette Have a Capacity of 2 MB

Does a Macintosh format HD (High Density) floppy disks from 3 MB to hold 2 MB of data?
This article has been archived and is no longer updated by Apple.
A 2 MB Floppy can be perceived in one of two ways:

* 2 MB is the unformatted rated capacity of an HD diskettes. Once a 2 MB unformatted diskette is formatted, its capacity is 1.44 MB. These diskettes may have the "HD" logo impressed on the diskette somewhere, and there are two holes at the rear, or on the side opposite the diskette shutter, that are read by the drive mechanism to identify a diskette as an HD diskette.

* There is another format that has recently been release called ED (Extended Density). This diskette has an unformatted rated capacity of 4 MB, and a formatted capacity of 2.88 MB.

As of March, 1995 Apple does NOT manufacture computers that read or write to this format. These drives are found in the PC marketplace primarily.
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Global Village Mercury Problem Receiving Faxes (3/95)

I cannot receive Faxes with my Global Village Mercury modem. What can I do to fix this?

This article has been archived and is no longer updated by Apple.
If you cannot receive Faxes with a Global Village Mercury, please check the following:

* Make sure the modem is set to answer Faxes.

* Make sure the modem status box reads Ready to answer Fax calls. If it does not, turn the modem off and turn it back on from the control panel.

Support Information Services
Published Date: Feb 19, 2012

Macintosh: Lose AppleTalk When Printing To StyleWriter (3/95)

When I try to configure my Color StyleWriter 2400 using the chooser I get a message that reads, "Access to current network services will have to be reestablished. Are you sure you want to make it inactive?"

The problem only occurs when I try to use the printer port, but everything works fine when using the modem port. I am using the Ethernet port for networking so the printer port should be available for other uses. What is the problem and how do I correct it?

This article has been archived and is no longer updated by Apple.
In many cases a software control panel extension creates this conflict. The LaserWriter Bridge software by Sonic Systems is a control panel which is provided with the LaserWriter Select 360 printer and is probably preventing the printer port configuration from being changed unless AppleTalk is turned off first. The LaserWriter Bridge software resides in the control panels folder and allows a networked LocalTalk device such as the LaserWriter Select 360 to be visible on an Ethernet network. Apple ships the LaserWriter Bridge software with all LaserWriter Select 360 printers so it is possible that the LaserWriter Bridge was installed on one or more of these systems. The software can be turned off from within the control panel itself, but the system must be restarted for the changes to take effect. If the LaserWriter Bridge software features are not required then simply turning it off from within the control panel will allow the printer port to be used with the Color StyleWriter 2400, Color StyleWriter Pro, StyleWriter II, and other serial based printers.

Support Information Services
Published Date: Feb 19, 2012

Portable StyleWriter: Configurable DIP Switch Settings (3/95)

I need to get the dip switch settings for the Portable StyleWriter.

This article has been archived and is no longer updated by Apple.
The are 11 configurable DIP switches. Depending on the position of DIP switches 10 and 11, the meaning of switches 6 to 10 change, so the following list includes the values of these switches first. The rest of this article describes the remaining options.

DIP Switches 10 and 11
==========

. SW 10 and 11 Sets Printer Modes SW 10 SW 11
. ---------- ----- -----
.
. BJ-lOe (IBM Proprinter X24E (default)) OFF OFF
. BJ-10e (Canon BJ-130e) ON OFF
. LQ Epson LQ-510 _ ON

BJ10e Emulation Mode
==========

If the printer is in BJ-lOe emulation mode then the following switch settings are used.

. Dip Function ON OFF NOTES
. --- ---------- ------- ------- -----
. 1 AutoSheetFeeder Enable Disable A
. 2 TextScale Enable Disable B
. 3 Automaticlinefeed CR=CR+LF CR=CR C
. 4 Page length 305 mm 279 mm D
. (12") (11")
. 5 Character set Set 2 Set 1
. 6 Automatic carriage return LF = LF+CR LF=LF E
. 7 Alternate Graphics Mode (AGM) Enable Disable F
. 8 Receivebuffer/download buffer 3K/34K 37K/OK G
. 9 Code page Multilingual USA437 H
. 850
. 10 Printer emulation BJ-130e X24E s

NOTES:

A) Set this switch to ON if the optional Auto Sheet Feeder is used.

B) When this switch is ON, the printer will reduce the line spacing by a factor of 29/30 (from 63 lines/page to 66 lines/page if line spacing is set to 1/6). If you want to print on letter-size paper with 6 lines/inch line spacing and 66 lines/page, set this switch to ON. This _ function is available only when line spacing is 1/6 or 1/8.

C) When this switch is ON, the printer automatically adds a linefeed (LF) code when it receives a carriage return (CR) code.

D) When this switch is OFF, the page length is 11 inches -- the appropriate length for using letter-size paper. When this switch is ON, the page length is 12 inches -- the appropriate length for using A4-size paper.

E) When this switch is ON, the printer automatically adds a carriage return (CR) code when it receives a linefeed (LF) code.

F) When AGM (Alternate Graphics Mode) is enabled, the printer accepts high resolution 2; dot all-point-addressable graphics commands similar to those used with conventional 24-pin printers.

G) When this switch is ON, the printer allocates 34K bytes of buffer for downloaded fonts. Change this setting to ON when using downloaded fonts.

H) Select multilingual code page 850 for European character set.

LQ (Laser Quality) Mode
==========

If the printer is in LQ emulation mode then the following switch settings are used.

. Dip Function ON OFF NOTES
. --- ---------- ------- ------- -----
. 1 AutoSheetFeeder Enable Disable I
. 2 TextScale Enable Disable J
. 3 Automaticlinefeed CR=CR+LF CR=CR K
. 4 Page length 305 mm 279 mm L
. (12") (11")
. 5 Character set Set 2 Set 1
. 6 \\
. 7 >International character set (see the table following the notes)
. 8 /
. 9 \\ Font selection (see the Font Selection Table below)
. 10 /

NOTES:

I) Set this switch to ON if the optional Auto Sheet Feeder is used.

J) When this switch is ON, the printer reduces the line spacing by a factor of 29/30 (from 63 lines/page to 66 lines/page if line spacing is set to 1/6). If you want to print on letter-size paper with 6 lines/inch line spacing and 66 lines/page, set this switch to ON. This function is available only when line spacing is 1/6 or 1/8.

K) When this switch is ON, the printer automatically adds a linefeed (LF) code when it receives a carriage return (CR) code.

L) When this switch is OFF, the page length is 11 inches -- the appropriate length for using letter-size paper. When this switch is ON, the page length is 12 inches -- the appropriate length for using A4-size paper.

Switches 6-7-8 International Character Set Table

. Character Set SW6 SW7 SW8
. ---------- --- --- ---
. USA OFF OFF OFF
. UK OFF OFF ON
. Germany OFF ON OFF
. France OFF ON ON
. Denmark ON OFF OFF
. Sweden ON OFF ON
. Italy ON ON OFF
. Spain ON ON ON

Font Selection Table

If the application specifies use of a different font, then that font is used for printing, and the font table settings are ignored.

. Font SW9 SW10
. ---------- --- ----
. Roman OFF OFF
. Sans Serif OFF ON
. Draft ON N/A (See Note)

NOTE: When switch 9 is ON, the painter is always in economy mode, regardless of the status of the DIP switch 10.

Support Information Services

TA33417_Portable_StyleWriter_Configurable_DIP_Switch_Settings__(TIL17334).pdf

Published Date: Feb 19, 2012

Apple Wireless Messaging Service: No Area Code In PIN (3/95)

I am using the Apple Wireless Messaging Service to send and receive pages. However, when the Notify software dials the paging service number and connects, an error message appears. The error states that the PIN (Personal Identification Number) or Service is not correct in the Pager Address. When opening the returned message an error appears that states "This letter could not be delivered to the marked addresses." I know I entered my PIN correctly.

This article has been archived and is no longer updated by Apple.

The User's Manual has an error. You are not required to use your area code as part of your PIN. Your PIN is your beeper number (7-digit number).

Support Information Services
Published Date: Feb 19, 2012

LaserWriter Fax: Customizing The Fax Cover Sheet

I have a LaserWriter 16/600 PS with an optional PostScript fax card and want to easily customize the cover pages - adding company logo, changing English text to French and so forth. We also need to modify the date format so it makes sense to French Canadians, which, is in month day year format with commas instead of slashes.

1) Can you help with the format of the date on the cover page.
2) How can I change the English text to French.
3) Is there any outlook for a software solution to the problem of cover pages with LaserWriter 8f software?
This article has been archived and is no longer updated by Apple.
Using the "Alternate Cover Page.PS" file that is installed with the LaserWriter Fax software, here is how to change the date to month-day-year format with commas instead of slashes. This change is very easy and can be performed by the following:

1) Open the "Alternate Cover Page.PS" file from SimpleText.

2) Look for the following two lines of PostScript:

TimeSent 1 G str cvs S (/) S
TimeSent 2 G str cvs S (/) S

3) Change the "/" character inside the parenthesis to a comma. (,)

The lines should look like:

TimeSent 1 G str cvs S (,) S
TimeSent 2 G str cvs S (,) S

4) Save the file.

5) Select the file as your cover page in the Fax Cover Page dialog that comes up when faxing a document. In the Fax Cover Page dialog, click on the "Cover Page To Use" popup field and select the file you saved.

Changing English Text Into Another Language
You can change the English text to French, by doing the following:

1) Open the "Alternate Cover Page.PS" file from SimpleText

2) Around the middle of the 5th page, look for the line:

% Program:

3) Beyond this point, you will see the text that actually appears on fax cover sheet. The text will be enclosed in parenthesis, and can be modified to anything you want - in your case this can be French. The parenthesis must remain, but the text inside can be modified. Here are the strings that can be changed:

(Facsimile Transmission)
(To:)
(Organization:)
(Fax Number:)
(From:)
(Organization:)
(Fax Number:)
(Phone Number:)
(Date:)
(Pages:)
(, excluding cover sheet.)

Caution: You need to be very careful about the length of the replacement text. Make sure that it is not too much longer than the original english text or it will overwrite the data in the fields.

4) Save the file.

5) Select this file as your cover page in the Fax Cover Page dialog that comes up when faxing a document. In the Fax Cover Page dialog, click on the "Cover Page To Use" popup field and select the file you saved.

Adding a logo to the Cover Sheet

You can add a logo to the cover page by following the process described in the TIL article "LaserWriter Fax: Adding a Logo to The Fax Cover Sheet".

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Newton MessagePad: What Items Get Erased

I am confused on how to properly erase information and what gets erased from my Apple MessagePad. I performed erase procedure outlined on page 110 of the MessagePad 120 Handbook, and now I cannot find the Notion package that came on my Apple MessagePad. The Handbook states "This does not remove Newton's programs or operating system software (including system updates)."

Is this correct?
This article has been archived and is no longer updated by Apple.
The handbook is a bit confusing on this topic.

After Erasing Your Messagepad:

These Files Remain:

- The Calendar
- To Do List
- Notes
- Names programs
- Newton operating system
- System updates

These Files are Erased:

- Notions
- Notions templates
- Newton Mail modules
- PackageMover
- Other installed programs
- All data in the internal memory

NOTE: Information on any storage card is unaffected when you erase.

How To Erase Your Apple MessagePad:

1. Press and hold down the Power switch.
2. Press and release the Reset button while holding down the Power switch.
3. Continue to hold down the Power switch until the message appears asking if you want to erase data completely.
4. Release the Power switch.
5. Tap on the YES button and then tap on the OK button.

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MacWorks: Rebooting without turning the machine off

This article has been archived and is no longer updated by Apple.

If you wish to reboot in MacWorks without turning the machine off, simply hold down the Command key while pressing the lighted on-off button. This procedure also causes the internal diagnostics to be skipped.

Published Date: Feb 19, 2012

LaserWriter 16/600 PS: Setting the Paper Tray (4/97)

I am having multiple problems with LaserWriter 16/600 with 500 sheet optional trays. They do not pull from the 500 sheet tray all the time. For example, in Microsoft Word printing using the keys Command-P pulls paper from 500 sheet tray. Using the print option in the tool bar, pulls paper from multi-purpose tray. Using the File menu and choosing Print, pulls paper from the 500 sheet feeder. I have had similar problems in both Microsoft Works and Microsoft Excel. The 500 sheet feeder is installed and preferred in the Chooser.

This article has been archived and is no longer updated by Apple.

This is an application problem where the vendor is using different
print records when doing a "Print One" as opposed to using the pull-down Print menu.

To correct this problem, follow these steps:

Step 1

Create a SimpleText file and enter the following lines of PostScript
code.

Note:
PostScript is case sensitive. The PostScript code must be entered exactly as it shown.

This is PostScript Level 1 code:

```
%═══════════════════════════════════════════════════════
% Begin PostScript Code
%
serverdict begin 0 exitserver
statusdict begin 2 setdefaultpapertray end
%
% end PostScript Code
%═══════════════════════════════════════════════════════
```

The following values for the number before "setdefaultpapertray" above:

0 250 Sheet Cassette
1 Multi-purpose tray
2 500 Sheet Cassette
3 Envelope tray

This is the equivalent PostScript Level 2 code:

```
%═══════════════════════════════════════════════════════
% Begin PostScript Code
%
serverdict begin 0 exitserver
1 dict dup /InputAttributes 1 dict dup /Priority [2 1 0] put put setpagedevice
%
% End PostScript Code
%═══════════════════════════════════════════════════════
```

This sets the paper tray priority to:
1st Priority - Cassette (500 Sheets) - designated by the "2" in the array above.
2nd Priority - Multipurpose Tray - designated by the "1" in the array above.
3rd Priority - Cassette (250 Sheets) - designated by the "0" in the array above.

You can change the paper tray priority order by changing the values in "/Priority [2 1 0]".
For example, /Priority [0 1 2] makes the 250 sheet cassette first priority, then the Multipurpose tray next, then the 500 sheet cassette.

Step 2

Save the file and quit SimpleText.

Step 3

Launch Apple LaserWriter Utility, under the Utilities menu, choose Download PostScript File.

Article Change History:
14 Apr 1997 - Added PostScript Level 2 code.
Published Date: Feb 19, 2012

LW Select 360: Low Memory Causes ‘In Use‘ Light to Blink

I am trying to print my Desktop using QuickDraw GX with System 7.5. The document is getting spooled to the hard disk and the LaserWriter's 'Ready/In Use' light blinks, but it never prints. If I use the LaserWriter 8.1.1 printer driver, the Desktop prints within a minute.
This article has been archived and is no longer updated by Apple.
In low memory situations when using QuickDraw GX this problem may appear. In order to correct this, send the following PostScript code to the printer.

Caution: If you choose to use the PostScript code provided in this article, you assume all risks involved in making these changes. PostScript code, if not entered correctly, can place the LaserWriter into a condition requiring service.

```
%==========================================================
% Begin PostScript Code
%
0 serverdict begin exitserver
<< /FactoryDefaults true >> setsystemparams
systemdict begin
realtime 10000 add
{ dup realtime le { pop exit } if } loop
quit
%
% end PostScript Code
%==========================================================
```

Published Date: Feb 19, 2012

PowerBook File Assistant: Data Can‘t Be Opened (7/95)

When I try and run PowerBook File Assistant, I get a message that says "The file assistant data can't be opened." I used PowerBook File Assistant yesterday. What's wrong?

This article has been archived and is no longer updated by Apple.
The file assistant data has become corrupted. You can either restore it if you have made backups or simply throw it away and recreate it. "File Assistant Data" can be found in the preferences folder, in the system folder.

Article Change History:
20 Jul 1995 - Corrected minor typo.

Support Information Services
Published Date: Feb 19, 2012

AppleWorks: ImageWriter II Color Printing

Apple Works can print in color on the ImageWriter II. To enable color printing, configure a custom printer, and select printer codes that you do not expect to use, e.g. 4 character per inch, superscript start and stop, etc. Define those codes with the escape sequences for the color you wish to implement. For the correct codes, refer to Appendices F and G in the ImageWriter II Owner's Manual and the ImageWriter Quick Reference Card in the rear of same.
This article has been archived and is no longer updated by Apple.
A typical set up is as follows:

Code	Effect
CTRL-N	4 CPI
CTRL-O	10 CPI
ESC K 2	5 CPI used for Red
ESC K	6 CPI used for Blue
ESC !	Boldface begin
ESC "	oldface end
ESC y	Sub begin
ESC z	Sub end
ESC x	Super begin
ESC z	Super end

With this set up, printing a portion of text in red requires the following steps:

1. Move the cursor to the beginnning of the desired text.
2. Select printer options.
3. Choose 5 CPI.
4. When you wnat to return to black printing, select printer options and choose 10 CPI.

To set the printed text to blue, select printer options and choose 6 CPI.

Don't forget to select printer options and choose 10 CPI to return printing to black.

Use these steps to produce color printing of one word or a couple of words. To make a whole paragraph color, the only command that seems to work consistently is underline. If you configure the underline command as a color, you'll get the whole paragraph in that color. If you configure the superscript-subscript command as a color, you'll only get the first line in color; all subsequent lines will be black. Margins will be wrong if you set up things like 4 CPI for color.
Published Date: Feb 19, 2012

Macintosh System 7.5 Update 1.0 ReadMe

The following article is the ReadMe document for Macintosh System 7.5 Update 1.0.
This article has been archived and is no longer updated by Apple.

What is the Macintosh System 7.5 Update 1.0?
==========

System 7.5 Update 1.0 is a set of software enhancements that improves the performance and reliability of Macintosh computers running System Software 7.5.

When installed after Macintosh System Software version 7.5, this update provides enhancements to the system software (Launcher, system extensions, and control panels), applications, and it also provides solutions for problems encountered by some Macintosh computer users.

Before you install System 7.5 Update 1.0, review the section called "What the Update Provides" later in this Read Me. It explains the problem fixes and new features for your system, the Launcher, system extensions, control panels, and applications. For information about problems that System 7.5 Update 1.0 does not fix, see the "Tips" section.

Installing System 7.5 Update 1.0 from Disks
==========

During the update, the Installer automatically determines what software your model of Macintosh needs. However, if you want to install specific items you can choose Custom Install (see step 5 below).

Step 1
Before you install System 7.5 Update 1.0, make sure that Macintosh System Software Version 7.5 is installed on your computer.

Step 2
Insert the "System 7.5 Update 1.0 - 1" disk.

Step 3
Double-click the Installer icon to open it.

Step 4
Read the first screen, then click OK.

Step 5
At the next screen, do one of the following:

* To allow the Installer to automatically determine what software your computer needs, check the pop-up menu to make sure that Easy Install is displayed.

* To select specific items to install, open the pop-up menu and choose Custom Install.

Step 6
Click the Install button. Follow the messages presented, inserting disks as requested.

Step 7
When you see a message that the installation was successful, click the Restart button.

Step 8
Installing the LaserWriter 8 version 8.2 printer driver removes the LaserWriter 8 Prefs file from your system. If you use the LaserWriter 8 printer driver, you need to restore your printer settings by following the instructions below:

* Open the Chooser.
* Click the LaserWriter 8 icon.
* Click the printer name.
* Click the Setup button.

Installing System 7.5 Update 1.0 Over a Network

To update Macintosh computers that are connected on a network, you can create a net install folder and install over the network. Using a net install makes updating networked computers faster and simpler.

Creating a Net Install Folder

Step 1
Create a folder on the server called "System 7.5 Update Net Install".

Step 2
Insert the first disk titled "System 7.5 Update 1.0 - 1" into the floppy disk drive.

Step 3
Open the disk and drag the following items into the "System 7.5 Update Net Install" folder:

* the Installer
* the Install System Update file
* the "System 7.5 Update 1.0 - 1" disk icon

Step 4
Do the following for each of the 3 remaining installation disks:

* Insert the disk in the floppy disk drive.
* Drag the disk icon into the "System 7.5 Update Net Install" folder.

Step 5
Verify that the "System 7.5 Update Net Install" folder contains the following icons:

* Installer
* Install System Update
* System 7.5 Update 1.0 - 1 (folder)
* System 7.5 Update 1.0 - 2 (folder)
* System 7.5 Update 1.0 - 3 (folder)
* System 7.5 Update 1.0 - 4 (folder)

Step 6
Close the "System 7.5 Update Net Install" folder.

Running the Installer Over a Network

During the update, the Installer will automatically determine what software your model of Macintosh needs. However, if you want to install specific items you can choose Custom Install (see step 6 below).

To install System 7.5 Update 1.0 over a network, follow the instructions below:

Step 1
Before you install System 7.5 Update 1.0, make sure that Macintosh System Software Version 7.5 is installed on your computer.

Step 2
From the computer onto which you want to install the System 7.5 Update 1.0, log onto the server that contains the "System 7.5 Update Net Install" folder.

Step 3
Open the "System 7.5 Update Net Install" folder.

Step 4
Double-click the Installer icon to start the Installer.

Step 5
Read the first screen, then click OK.

Step 6
At the next screen, do one of the following:

* To allow the Installer to automatically determine what software your computer needs, check the pop-up menu to make sure that Easy Install is displayed.

* To select specific items to install, open the pop-up menu and choose Custom Install.

Step 7
Click the Install button.

Step 8
When you see a message that the installation was successful, click the Restart button.

Step 9
Installing the LaserWriter 8 version 8.2 printer driver removes the LaserWriter 8 Prefs file from your system. If you use the LaserWriter 8 printer driver, you need to restore your printer settings by following the instructions below:

* Open the Chooser.
* Click the LaserWriter 8 icon.
* Click the printer name.
* Click the Setup button.

WHAT THE UPDATE PROVIDES

The System 7.5 Update File

The update installs a file called System 7.5 Update in your System Folder. The new file provides the following enhancements to System 7.5:

Low Memory Situations

Improves system stability when memory is very low

Japanese Systems w/QuickTime 2.0

Fixes a potential crash problem when shutting down or restarting Japanese systems with QuickTime 2.0 installed

Pasting Large Data Blocks

Fixes a potential crash problem when pasting large blocks of data

Alias Opens Correct Original

No longer opens the wrong original when you select an alias on the desktop of a disk other than the startup disk.

Custom Colors In Applications

No longer interferes with custom colors that some applications use in the Open and Save dialog boxes

Keyboard Power Key

The keyboard Power key can now be used to turn the computer off. To shut down the computer, press the Power key. When the dialog box appears, you can shut down your computer, restart your computer, put it to sleep (if it supports sleep) or cancel the shutdown.

PowerBook 100 Series

These computers do not have a Power key on their built-in keyboard. However, if you attach an external

keyboard, the keyboard Power key can now be used to turn the computer off. To shut down the computer, press the Power key. When the dialog box appears, you can shut down your computer, restart your computer, put it to sleep, or cancel the shutdown.

PowerBook Duo Docks

Pressing the eject button automatically launches items in the Shutdown Items folder and shuts down the computer. No dialog box appears.

PowerBook 500 Models

Improves trackpad performance

PowerBook 150

The update extends battery life by reducing power requirements during sleep mode. It also fixes a potential system freeze problem that occurs when you use the internal modem several times without restarting the computer. The PowerBook 150 Update system extension is no longer needed and is automatically removed from the Extensions folder (inside the System Folder) during installation.

Power Macintosh

Native QuickDraw speeds up operations such as scrolling, image filtering, and pattern and text drawing. The updated Serial Driver fixes a potential crash problem.

Power Macintosh

(including Macintosh computers w/the Power Macintosh upgrade card and the Centris 660AV, Quadra 660AV, and Quadra 840AV)
Updated video software prevents scrambled video when the computer starts up.

Macintosh: Performa 630 series, PowerBook 150, Quadra 630, and LC 630

(models with internal IDE hard disks):
The update fixes a problem that prevents the internal IDE disk from appearing on the desktop. The problem occurs when the internal IDE disk is the selected startup disk, but the computer is started up from an external hard disk by holding down the Command*Shift*Option*Delete keys during startup. The MountIDE system extension is no longer needed and is automatically removed from the Extensions folder (inside the System Folder) during installation.

Macintosh Quadra 700

An Apple Desktop Bus (ADB) patch fixes a potential problem that can slow down the mouse or trackball.

Macintosh Quadra 840AV

The updated Display Manager ensures that a multi-sync monitor is set to the correct resolution when you restart the computer.

Launcher Enhancements
==========
Launcher version 2.7 supports Macintosh Drag and Drop so that it is easier to add or remove items:

To Add An Item

Open the Launcher and drag the item into the Launcher window or onto a category button. The system creates a new Launcher button for the item by placing an alias in the Launcher Items folder. The original item remains on your hard disk.

To Remove An Item

Open the Launcher, hold down the Option key and drag the button out of the Launcher.

To Move A Launcher Button Into A New Category

Hold down the Option key and drag the button to a category (grouping) button along the top of the Launcher window.

To Open A File

Drag the file's icon onto a Launcher button that represents an application program. For example, you can open a SimpleText file by dragging its icon onto the SimpleText button. If the program the button represents can open the file, the button is highlighted when you drag the file to it.

To Put A File Into A Folder

Drag the file's icon onto a Launcher button that represents a folder.

To Re-size The Currently Visible Launcher Buttons

Hold down the Command key and click inside the Launcher window. Then choose a new size from the pop-up menu.

To Open A Category Button's Folder

(located in the Launcher Items folder)
Hold down the Option key and click the grouping button.

System Extension Enhancements
==========

File Sharing

File Sharing version 7.6.1 improves overall performance and provides new functionality. When file sharing is turned on, removable disks and CD-ROMs will automatically be shared*except for audio CDs, which will no longer be shared. You no longer have to turn off file sharing in order to eject a removable disk or CD-ROM.

Apple Guide

Apple Guide version 1.2.5 improves performance, runs native on Power Macintosh models, and is compatible with At Ease.

SCSI Manager

SCSI Manager version 4.3.1

* works with Performa 630 series, PowerBook 150, Quadra 630, and LC 630.

* fixes a potential data corruption problem on Quadra 840AV and Quadra 660AV models.

* Fixes a potential crash problem when using some external hard disks.

Speech Manager

Speech Manager version 1.3 is provided. (It was not provided on the System 7.5 upgrade disks.)

Power Macintosh Models With PowerTalk And At Ease Installed

PowerTalk Mailbox version 1.1.1 fixes a potential crash problem that occurs when you select Go To At Ease from the File menu. PowerTalk and At Ease now work together cleanly.

Update File Replaces Some Extensions

The System 7.5 Update file contains the functionality of and removes the following extensions: EM Sound Update, PowerBook 150 Update, and Mount IDE Drive.

Threads Library

The updated Threads Library (ThreadsLib) provides additional information for developers on Power Macintoshes.

Math Functions Library

The updated Math Functions Library (MathLib) boosts performance of math operations on Power Macintoshes.

Control Panel Enhancements
==========

General Controls

General Controls version 7.5.3 improves Application folder and System Folder locking and provides more specific error messages for folder locking.

Apple Menu Options

Apple Menu Options version 1.0.1 improves performance and shows non-AppleShare servers in the Recent Servers submenu.

Keyboard

Keyboard version 7.5.1, by default, does not allow a keyboard shortcut for changing keyboard layouts. To turn on the shortcut, open the Keyboard control panel and click the Command*Option*space bar checkbox to put a check in it.

WindowShade

WindowShade version 1.3.1 fixes a potential crash problem that occurs when memory is very low.

MacTCP

MacTCP version 2.0.6 provides the following enhancements:

* shortens re-transmission delays
* prevents potential out-of-memory errors
* makes configuring communications easier
* gives you more control over the choice of which server(s) to contact and
the order in which they are contacted

PC Setup

Centris 610 and Quadra 610 with the 610 PC Card installed: PC Setup version 1.0.2 is provided. (It was not provided on the System 7.5 upgrade disks.)

TV Setup

Macintosh Easy Open version 1.1.1 works better with drag and drop on document converters and fixes problems with cut and paste between Macintosh and PC applications on Macintosh computers with a PC Card installed.

Application Enhancements
==========

SimpleText

SimpleText version 1.2 provides the following enhancements:

* Large documents, PICT files, and page ranges (such as, pages 2 and 3 of a 5-page document) print correctly.

* Page Up, Page Down, and scrolling work better with Portable Digital Documents (PDDs) and other documents.

* Editing features (such as Cut, Copy, the forward delete key on extended keyboards, underlining, and selected text highlighting) work correctly.

* SimpleText documents that use a system font now retain their fonts when opened on a Macintosh with a

different system font.

* In the Don't Save/Save/Cancel dialog box, you can type "D" or Command*D for Don't Save.

* If you Quit with an unsaved document, choose Save in the Don't Save/Save/Cancel dialog box, then choose Cancel in the Save dialog box, SimpleText now cancels the Quit rather than quitting.

* Remote program linking (controlling SimpleText with AppleScript from another Macintosh) is enabled by default.

Find File

Find File version 1.1.1 handles restricted-access disks better.

Synchronize Folder AppleScript

The Synchronize Folders AppleScript automated task handles nested folders properly.

Share a Folder AppleScript

A new AppleScript automated task*Share a Folder (No Guest)*lets you automatically share a folder with the Guest access disabled.

Stickies

Stickies version 1.0.1 fixes a potential crash problem that occurs when Stickies launches with a "collapsed" note window.

Jigsaw Puzzle

Jigsaw Puzzle version 1.0.1 fixes sound problems caused by a third-party extension.

PowerTalk Catalogs

PowerTalk Catalogs Extension version 1.1.1 no longer displays an out-of-memory error when you open the Catalog.

PowerTalk AppleMail

PowerTalk AppleMail version 1.1.2 works better on systems with many fonts installed and defaults to "sender only" for mail replies.

PowerTalk DigiSign Utility

PowerTalk DigiSign Utility version 1.1.1 improves printing on Hewlett Packard (HP) DeskWriter C and 550-style printers.

Direct Dialup

Direct Dialup version 1.1.1 works better when dialing using a long string and won't time out while sending a large letter or a letter with a large enclosure.

LaserWriter version 8.2 Printer Driver
==

Enhancements

The LaserWriter version 8.2 printer driver provides the following enhancements:

* The new Setup button in the Chooser automatically looks for the selected printer, selects the appropriate PostScript Printer Definition (PPD) file, and configures the paper trays. If you wish, you can manually configure the PPDs and papers trays manually by clicking the Setup button

a second time.

* The destination in the Print dialog box resets to "Printer" instead of retaining the previous print job destination. For example, if the previous destination was "Fax," the destination automatically resets to "Printer" for the next job.

* You can tab backwards through the fields in all print dialogs by pressing Shift*Tab.

Printer Set Up

Installing the LaserWriter 8 version 8.2 printer driver removes the LaserWriter 8 Prefs file from your system. After you install, you need to set up your printer. Follow the steps below:

Step 1
Open the Chooser.

Step 2
Click the LaserWriter 8 icon.

Step 3
Click the printer you want to use.

Step 4
Click the Setup button.

Tips
====

Problem with PC Setup 1.0.2

(on the Macintosh SE, Plus, Classic, Portable, and PowerBook 100 Series)
If you use the Custom Install option, do not install PC Setup on a Macintosh SE, Plus, Classic, Portable, or PowerBook 100 (models with the 68000 processor). When installed on these models, PC Setup causes the system to crash. Easy Install will not install PC Setup on any of these models.

Apple Menu Options "Recent Documents" and Application Launch Time
---
"Recent Documents" tracking in Apple Menu Options monitors all files that are opened, even those opened by an application as part of its launch sequence (for example, drop-in filters used by desktop publishing packages). This can significantly slow down the launching of such applications. At present, the solutions are to disable "Recent Documents" tracking in the Apple Menu Options control panel or turn off Apple Menu Options in the Extensions Manager.

Reset Apple Menu Options

The update returns all settings in the Apple Menu Options control panel to their default values. If you have made any changes to Apple Menu Options, you will need to select them again.

Macintosh Centris/Quadra 660AV, Quadra 840AV, and Alert Sounds
---
If you have a Macintosh Centris/Quadra 660AV or Quadra 840AV, some system alert sounds may not play correctly with the Alert Volume turned down. To avoid the problem, keep the Alert Volume turned all the way up and adjust the Built-in system volume. (To adjust Built-In volume, open the Sound control panel and choose Volumes from the pop-up menu.)

Problem with Guides on Some Power Macintosh Models

If you have a Power Macintosh and have trouble opening the Tutorial, Macintosh Guide, Shortcuts, or other Apple Guide databases, you may have extra files that don't belong on your computer. To solve the problem, follow the steps below:

Step 1

Open the Extensions folder (inside the System Folder) and drag the PowerBook Guide Additions file to the Trash.

Step 2
Unless your computer is an AV model, drag the following items to the Trash:

* Video Guide Additions
* Video Player Guide Additions
* Speech Guide Additions

Step 3
Choose Empty Trash from the Special menu.

Step 4
Restart your computer.

MathLib Installed on Non-Power Macintosh Systems

The update installs the Math Functions Library, which is intended for Power Macintosh systems, on some non-Power Macintosh systems (in the Extensions folder). Unless you have a Power Macintosh or plan to install a Power Macintosh upgrade card, you may remove the file by dragging it to the Trash.

Setting AppleTalk to Inactive while FileSharing is on

If you set AppleTalk to Inactive, either through the Chooser or the Control Strip, while File Sharing is on, the Sharing Setup control panel will show File Sharing is on. File Sharing is actually off.

Removing PowerTalk
==========
If you wish to remove PowerTalk software from your computer, follow the steps below:

Step 1
Do the following to clean out your mailboxes:

* Save any important messages as text to your hard disk.
* Check your out box to make sure that all mail has been sent.

Step 2
Restart your computer with all extensions off by holding down the Shift key during startup.

Step 3
When the computer is ready, open the System Folder and drag the PowerTalk Data folder to the Trash.

Step 4
Open the Apple Menu Items folder (inside the System Folder) and drag the Mail and Catalogs folder to the Trash.

Step 5
Open the Control Panels folder (inside the System Folder) and drag PowerTalk Setup to the Trash.

Step 6
Open the Extensions folder (inside the System Folder) and drag the following items to the Trash:

* AppleTalk Service (the PowerTalk extension)
* Catalogs Extension (system extension)
* Mailbox Extension (system extension)
* PowerTalk Extension (system extension)
* PowerTalk Guide (Apple Guide document)
* PowerTalk Manager (system extension)

Step 7
Open the Preferences folder (inside the System Folder) and drag the following items to the Trash:

```
* AppleMail Letterheads (folder)
* PowerTalk Setup Preferences (PowerTalk Manager document)
* PowerTalk Startup Preferences (PowerTalk Manager document)

Step 8
Close the System Folder.

Step 9
Open the Apple Extras folder (on your hard drive) and drag the PowerTalk folder to the Trash.

Step 10
Choose Empty Trash from the Special menu.

Step 11
Restart your computer.
```

Published Date: Feb 19, 2012

Network Software Installer ZM-1.5 Read Me

This article is the Network Software Installer (NSI) Version ZM-1.5 Read Me file.

This article has been archived and is no longer updated by Apple.

```
PLEASE NOTE: "ZM"indicates multicountry.  This disk can be used to install NSI on systems with international
versions of System Software as well as U.S. System Software.

Contents:
---------
1) Interactions with other products
- If you are using System 6.0.8 or earlier
- If you are using MacIPX
- If you are using SoftWindows
- If you are using the Apple Internet Router
- If you are using the SNA*ps gateway
- If you are using 3rd party ethernet cards
- If you are using a system with a 68040 microprocessor

2) What the Network Software Installer disk includes:
----------------------------------------------------
- Release notes
- LaserWriter Bridge version 2.0
- AppleTalk version 58.1.5
- Apple Built-In Ethernet driver file version 1.0.1
- Apple Ethernet NB driver file version 1.0.1
- Apple Ethernet LC driver file version 1.0.1
- Apple Ethernet CS driver file version 1.0.1
- Apple Token Ring NB driver file version 1.0.2

1) Interactions with other products:
------------------------------------
* If you are using System 6.0.8 or earlier: This installer works on only System 7 or later Macintosh
computers. The last version of the Network Software Installer to support System 6 was version 1.4.5.

* If you are using MacIPX: The new token ring driver is not compatible with MacIPX versions 1.1 and older.
Contact Novell(r) Technical Support to obtain an update to newer MacIPX software which will work with this
token ring driver.

* If you are using SoftWindows:  SoftWindows versions 1.0 and 1.0.1 using SMB (NetBEUI) protocols over Token
Ring are not 100% compatible with the AppleTalk version included on this disk. Contact Insignia Solutions
regarding availability of an update to the SoftWindows software which will work with this driver.

* If you are using the Apple Internet Router: If this release of the Network Software Installer is being used
in conjunction with an Apple Internet Router v.3.0 Installer, Apple Internet Router 3.0 must be installed
first.  This will ensure that the Router installation does not overwrite the newer AppleTalk software
contained on NSI 1.5.

The LaserWriter Bridge cannot be used on a Macintosh that has any version of the Apple Internet Router
software installed.

* If you are using the SNA*ps gateway: To use this release of the Network Software Installer with a SNA*ps
gateway, a special custom install option is provided that installs a compatible token ring driver for the
Token Ring 4/16 NB card. SNA*ps gateway is not currently supported on the TokenTalk NB or Token Ring NB/c
cards. A future version of the SNA*ps gateway will not require the custom-installed driver.

* If you are using 3rd party ethernet cards: The drivers contained in the new driver files do not support 3rd
party ethernet cards. A 3rd party card that has duplicated an Apple ethernet board will use the appropriate
ethernet driver from the system file instead of the Apple driver in the extensions folder file. A system with
a 3rd party ethernet card will continue to operate using the previously-installed driver after installing this
version of the Network Software Installer. Such systems will get the benefit of all of the other updates
installed by this Network Software Installer, including the ability to install and use the LaserWriter Bridge.
```

* If you are using a system with a 68040 microprocessor: Some programs may quit unexpectedly or cause the computer to freeze when you attempt to open them over the network. This problem, as well as others, is fixed by installing the System Update 3.0. This fix has also been incorporated into System 7.5.

2) What the Network Software Installer disk includes:

You can use this Network Software Installer to install the following networking products:

* LaserWriter Bridge version 2.0

* AppleTalk version 58.1.5

* Network Control Panel version 3.0.2

* EtherTalk version 2.5.7

* Apple Ethernet NB file version 1.0.1, containing drivers for all Apple NuBus ethernet cards

* Apple Ethernet LC file version 1.0.1, containing drivers for all Apple LC ethernet cards

* Apple Ethernet CS file version 1.0.1, containing drivers for all Apple Comm Slot ethernet cards

* Apple Built-In Ethernet version 1.0.1, containing drivers for all built-in ethernets

* TokenTalk version 2.5.7

* Token Ring Control Panel version 1.0.1

* Token Ring driver version 2.5.2 for the TokenTalk NB Card

* Token Ring driver version 1.0.2 for the Token Ring 4/16 NB and Token Ring NB/c Card

* A/ROSE 1.2.1, for use in some token ring configurations

Release notes:

The following section provides some more technical information on the updates provided by this installer. Many readers will not be interested in these details.

LaserWriter Bridge version 2.0
This control panel provides for activating the LocalTalk port while ethernet or token ring is in use. AppleTalk traffic can be passed from the ethernet or token ring to a LaserWriter connected to the LocalTalk port. The LaserWriter Bridge can only be used in conjunction with this version of the Network Software Installer and is not supported on System 6. The LaserWriter Bridge can only be installed from the custom installation area of the Network Software Installer. Please see the "LaserWriter Bridge User's Guide" document for more information on this program.

AppleTalk version 58.1.5
An address-mapping problem that could cause slowdowns in EtherTalk or TokenTalk networks was fixed.

The LAP Manager was fixed to avoid sending corrupted TEST and XID response packets in certain heavy traffic situations.

A bug that passed a corrupted length indication to multi-node clients was fixed.

A VM problem that could cause hangs was fixed (this could also have occurred when Connectiix Ram Doubler was active).

A LocalTalk problem on Power Macintosh computers was fixed that prevented LaserWriter Bridge from working properly.

An additional LocalTalk problem on Power Macintosh computers was fixed that caused slow performance when both LocalTalk and GeoPort were in use.

Apple Built-In Ethernet driver file version 1.0.1
This driver file contains drivers for all Apple built-in ethernet implementations and is installed in the extensions folder.

The Macintosh Quadra 840AV and 660AV, Power Macintosh 6100, 7100 and 8100 andWorkgroup Server 6150, 8150 and 9150 ethernet drivers were updated to eliminate slowdowns, hangs, lost connections and data corruptions that were possible on some ethernets.

The Duo Dock II driver was updated to properly support locally-administered addresses, which are often used in DECnet environments.

A VM problem that could cause hangs was fixed (this could also have occurred when Ram Doubler was active).

The driver configuration now properly supports machines with Macintosh Processor Upgrade with PowerPC 601 Processor cards.

Changed DMA parameters for the Macintosh Quadra 610, 650, 700, 800, 900 and 950 and Macintosh Centris 610 and 650 and Workgroup Server 60 and 80 to avoid packet loss when sharing the bus with other DMA masters such as SCSI cards and codec cards.

Apple Ethernet NB driver file version 1.0.1
This driver file contains drivers for all Apple NuBus ethernet cards and is installed in the extensions folder.

A VM problem that could cause hangs was fixed (this could also have occurred when Ram Doubler was active).

Apple Ethernet LC driver file version 1.0.1
This driver file contains drivers for all Apple LC PDS ethernet cards and is installed in the extensions folder.

A VM problem that could cause hangs was fixed (this could also have occurred when Ram Doubler was active).

Apple Ethernet CS driver file version 1.0.1
This driver file contains drivers for all Apple Comm-Slot ethernet cards and is installed in the extensions folder.

A VM problem that could cause hangs was fixed (this could also have occurred when Ram Doubler was active).

Apple Token Ring NB driver file version 1.0.2
This token ring driver file handles all Apple Token Ring cards for the NuBus -the TokenTalk NB, Token Ring 4/16 NB and Token Ring NB/c. The file is installed into the extensions folder. The new driver for the Token Ring 4/16 NB and Token Ring NB/c cards has significantly better performance and fewer problems in large source-routed environments than earlier drivers.

Version 1.0 had a problem when used with Token Ring 4/16 NB cards in 24-bit memory mode - attempting to create a resource file on a network volume would fail. Version 1.0.2 fixes this problem.

Version 1.0 uncovered a problem with the LLC implementation on NetWare servers using certain token ring cards. Version 1.0.2 provides a work-around for the problem.

This version fixes a hanging problem that could occur when a token ring cable was disconnected while the Macintosh was active on the token ring. This could have happened when either the Token Ring 4/16 NB card or the Token Ring NB/c card was in use.

This version now attempts to work-around a problem that occurs when a NetWare server using a version of APPLETLK.NLM prior to version 4.50C without a functioning ATTOKLLC.NLM installed. Lack of ATTOKLLC.NLM in such a NetWare server prevents the normal source route discovery process from working (as documented in the IBM¿ Token Ring Architecture Reference). NetWare servers using APPLETLK.NLM version 4.50C or later require the LLC8022.NLM for proper operation.

Published Date: Feb 19, 2012

DOS Compatibility Card: DOS SCSI Drive Retry Error (3/95)

I have a DOS Compatibility Card and I have installed a DOS formatted SCSI hard drive on my Macintosh. When I switch to MS-DOS and attempt to read or write to the DOS SCSI drive, I frequently get "X: Drive Unavailable" errors, Drive retry errors, and general protection errors. Why do I get these problems so often?

This article has been archived and is no longer updated by Apple.
To find out what is causing the problem, first turn off filesharing in the Mac OS. Restart the DOS Compatibility Card and try to access the programs you had problems with. While doing this, do not insert any floppy disks and make sure nothing in the Mac OS is accessing the hard disk. You should also run CHKDSK or SCANDISK to make sure the drive media, file allocation tables and directory structure is in proper working order. If CHKDSK and SCANDISK do not find problems, the errors you are receiving may be related to the fact that only one operating system can access the SCSI bus at one time. If you are working in DOS/Window and some Macintosh operation needs to read or write to the SCSI drive, the Mac OS has priority and forces the DOS/Windows software to wait. This can cause the errors you mentioned. If filesharing is on and someone is accessing your hard disks while a program on the DOS/Windows side is reading or writing to its SCSI drive, it is forced to wait for the Mac OS to complete its tasks. In some cases, if you insert a floppy disk while DOS/Windows is doing a read or write, the Mac OS again takes precedence and force DOS/Windows to wait, sometimes causing the errors you described. In most cases, selecting "retry" may allow the DOS/Windows program to access to the SCSI resources it is trying to read or write to. However, DOS/Windows still has to wait for the Mac OS to finish using the SCSI bus.

If you have a problem starting up windows or you are getting errors with the windows swap file (sometimes its OK and Windows just thinks it's corrupted), examine the same items discussed above. Remember, the MacOS has priority over the SCSI Bus and if Windows is trying to startup using its files while a Mac OS application is reading or writing, Windows is forced to wait causing an error.

Article Change History:
30 Mar 1995 - Corrected Mac OS name.

Support Information Services

Published Date: Feb 19, 2012

Macintosh 630 family: Low Audio Level When Recording (9/95)

After using the Sound control panel or various third-party applications to record 8-bit sound into my Macintosh 630 family computer, I notice a lower audio level and some hiss when played back.

When I record with the TV/Tuner Card, the sound is normal. What is causing this and what can I do to get higher quality recordings?

This article has been archived and is no longer updated by Apple.
Lower quality recording of sounds is normal when recorded as you describe because the Macintosh 630 series computers record sound at 8-bit, 22khz. However, since you can play back audio at 16-bit, noise not audible at 8-bit will become audible at 16-bit.

To record higher quality audio tracks, use the QuickTime Movie Import component to open audio CD tracks from QuickTime's Standard File Preview dialog.

If you have an AppleCD 300 or 300i drive, you can use QuickTime 1.6, or later, to convert tracks from audio compact discs directly into QuickTime movies.

The Tech Info Library article titled "QuickTime 1.6: Saving Sound in a QuickTime Movie", provides additional information on recording sound at higher quality levels.

The following computers are in the Macintosh 630 family: Performa 630, Performa 635, Performa 636, Performa 637, Performa 638, Performa 640, LC 630, and Quadra 630.

Article Change History:
07 Sep 1995 - Made minor correction.

Support Information Services
Published Date: Feb 19, 2012

MS-DOS/Windows: Downloading Executable Macintosh Files

I downloaded two Macintosh SEA (Self-Extracting Archive) files to my Windows computer, then transferred the files to my Macintosh through our local area network. Now when I try to double-click the files, they do not work. Why?
This article has been archived and is no longer updated by Apple.
Macintosh files consists of two parts -- a resource fork and a data fork. When you download files on a MS-DOS computer, you loose resource fork since MS-DOS/Windows only understands how to handle the data portion of the file. However since Macintosh files are upload using the MacBinary file format, you can occasionally fix the file (this does not always work).

The MacBinary format places a 128 byte header on the uploaded file. This header, if not removed from the file, makes the file unusable on the Macintosh. There are some public domain and commercial application programs for the Macintosh that can remove the 128 byte MacBinary header to make the file usable again. Sometimes after transferring the file from one platform the file is corrupted and there is nothing you can do to fix the file other than download the file again using a Macintosh computer.
Published Date: Feb 19, 2012

Newton MessagePad 110/120: Battery Recharging Explanation

Is there a difference between the way the Rechargeable Battery Packs are recharged in the Apple MessagePad 110 and Apple MessagePad 120 while connected to the AC Power Supply verses being left in the MessagePad Charging Station? Also, is there a difference between the two previous methods and putting the battery packs into the charging station?
This article has been archived and is no longer updated by Apple.
The Rechargeable Battery Packs charge in the same manner whether they are recharged in the Apple MessagePad 110 or Apple MessagePad 120 connected to the AC Power Supply, left in the MessagePad Charging Station, or if the battery packs themselves are put into the Charging Station.

The Charging Station, MessagePad 110, and MessagePad 120 have a smart charging circuitry that limits the damage of the fast charge cycle so the battery can last a long time. This means that if the batteries are recharged using either method, this circuitry is protecting the batteries. This lets you place batteries back on the recharger with more than a 50% charge without affecting the overall battery life.

The manual states that the Rechargeable Battery Pack should be 50% discharged before a recharge. While this is still important, the statement is misleading. The charging technology used in the current circuitry lets you charge the batteries at any time. Current information on NiCad and recharging technology, memory effect, and life problems of NiCad batteries, is the basis for this statement.

Memory Effect

NiCad rechargeable batteries suffer from an effect commonly called "memory", where if the battery is partially discharged, then recharged, it reachs a point where the perceived capacity of the battery is that level to which it has been draining to. If the battery is fully drained periodically, this effect can be minimized or eliminated.

Batteries Used In Apple MessagePad

The batteries used with the Apple MessagePad 110 and MessagePad 120 are of a higher quality than commercial NiCad batteries you can purchase. Quality is measured with a "C" value. The "C" refers to the amount of time and current a battery needs for a "fast charge." The more times a battery has to go through the fast charge, the shorter its life before it needs replacing. The batteries used for the original MessagePad and MessagePad 100 were a C10, and the new batteries are a C20. The batteries used in the MessagePad 110 and MessagePad 120 can sustain a faster "fast" charge than the older batteries. This lets the new batteries charge faster even under a trickle charge.

The Charging Station and MessagePad 110/120 will trickle charge, or adjust the amount it charges, as the battery comes close to full. Most commercial NiCad batteries last 9-12 months if you recharge them when they still have 50% or more charge. The MessagePad 110/120 batteries typically last 12-16 months. These batteries last longer if you recharge them with 50% or more life left. This is because the Charging Station and the MessagePad 110/120 do a full fast charge once the batteries are over 50% full, which prolongs their life. In addition, you can get additional battery life by occasionally letting the batteries drain all the way, then recharging them.

This article was published in the "Information Alley": Volume II, Issue 1, Page 15
Published Date: Feb 19, 2012

Apple Mobile Messaging System: Replacement Batteries (3/95)

What batteries do I need to use in the Apple Mobil Messaging System PageCard? Where can I get these batteries?

This article has been archived and is no longer updated by Apple.

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Replacement Batteries
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Duracell: DA630
Panasonic: 1662

You can find these batteries at most electronic stores or you can order replacements by calling Wireless
Messaging Accessories at (415) 424-8485.
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Support Information Services

Published Date: Feb 19, 2012

Apple Guide 1.2.5: Older Guide Files Issue (10/95)

After installing System 7.5 Update 1.0 onto my Power Macintosh, I cannot open any of my Apple Guide files. What can I do to use Apple Guide?
This article has been archived and is no longer updated by Apple.
If you have a Power Macintosh and have trouble opening the Tutorial, Macintosh Guide, Shortcuts, or other Apple Guide databases, you may have extra files that do not belong on your computer. To solve the problem, follow the steps below:

1. Open the Extensions folder (inside the System Folder) and drag the PowerBook Guide Additions file to the Trash

2. Unless your computer is an AV model*, drag the following items to the Trash:

- Video Guide Additions
- Video Player Guide Additions
- Speech Guide Additions

3. Choose Empty Trash from the Special menu

4. Restart your computer

* If you have a Power Macintosh 6100 AV, 7100 AV, or 8100 AV, you should remove these files. Even though it may work, Video Player is not supported on these computers.

What has happened is that an older guide file has been found by the new version of Apple Guide and it will not load the database. Removal of the above mentioned files will resolve the issue.

Article Change History:
05 Oct 1995 - Added information on early Power Macintosh AV models.

Support Information Services
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AppleScan: Does Not Print In Grayscale (3/95)

Will the AppleScan software allow me to print grayscale?

This article has been archived and is no longer updated by Apple.

The AppleScan software will not print greyscale images, since it was not designed to offer this option. AppleScan gives you the ability to scan grayscale images, which can be used in other application programs that support grayscale printing.

It is possible to scan different images as "line art" or "halftones" and then print them directly from AppleScan. However, when images are scanned as "grayscale" there is no option for printing them from AppleScan.

Support Information Services

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Fat Binary: What Is It? (7/95)

What exactly is a fat binary in relation to a particular software application?

This article has been archived and is no longer updated by Apple.
A fat binary is any executable file, such as an application or code resource, that contains both 680x0 and PowerPC code. Creating a fat binary requires a little more work for the software developer, but the reward is optimal code performance in either environment.

A fat application contains PowerPC code in its data fork and a 680x0 version of the same code in its resource fork. You can run a fat application on both types of Macintosh computers.

Remember that PowerPC code is stored in the data fork of the application file by default when you build a PowerPC application. This makes building fat applications possible.

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Volume II, Issue 5, Page 11

Article Change History:
19 Jul 1995 - Updated from Info Alley.

Support Information Services
Published Date: Feb 19, 2012

Apple Shared Library Manager and Shared Libraries (7/95)

This article describes the Apple Shared Library Manager (ASLM) and shared libraries.

This article has been archived and is no longer updated by Apple.
Apple Shared Library Manager is a piece of code that lets other programs share common code. Historically each application was required to link in any necessary library modules at compile time. The shared library manager lets any common code be loaded into memory only once by all running applications and then shared by others who also need to make the same calls thus reducing the memory foot print for application.

ASLM ships with several Apple as well as some third-party products. Any application that requires ASLM ships with a copy of the application. ASLM maintains the relationship of applications to shared libraries at the system level.

Shared Libraries

A shared library is a library of functions or classes (for C++ programmers) that are compiled, linked, and stored separately from the clients (applications) that use them. By accessing the functions or classes that are stored in a shared library, a client (application) can call functions that are not part of its executable code. Furthermore, functions or classes that are stored in a shared library can be called by different applications that are running at the same time.

Because shared libraries can contain shared code and are loaded and linked at run time, they save enormous amounts of RAM and disk space. Shared libraries eliminate the necessity for keeping multiple copies of code in memory when multiple applications use the same code. Shared libraries help software developers design independent, modular, compact libraries that applications can share. It also helps software designers develop their products faster, and it makes the products easier to improve and maintain.

A shared library file is a binary file that can contain object code for functions, classes, methods (member functions), data, and resources. A shared library file can contain one or more shared libraries. When a shared library file is made available, developers can share, and dynamically link with, the code stored in the shared library.

Clients

A client is any application or library that creates objects or uses methods or functions that are implemented in shared libraries. Clients can include applications, system extensions, INITs, CDEVs, XFCNs, and XCMDs, other kinds of stand-alone code resources, and even shared libraries themselves, because shared libraries typically use other shared libraries.

A client written in a non-object-oriented language, such as C or Pascal, can call routines that are stored in a shared library in the same way that it would call any other function. A C++ client can instantiate objects from classes that are stored in the shared library in the same way that it would instantiate objects from any class.

This article was published in the "Information Alley":
Volume II, Issue 2, Page 4

Article Change History:
06 Jul 1995 - Corrected minor typos.
18 May 1995 - Updated to reflect Info Alley information. Other minor changes.
05 May 1995 - Changed title and added more information on ASLM.

Support Information Services
Published Date: Feb 19, 2012

MAE 2.0: Has Modified Macintosh Network Resources (3/95)

This article describes the presence of several modified Macintosh extensions and control panels used in AppleTalk for Macintosh Application Environment (MAE).

This article has been archived and is no longer updated by Apple.
AppleTalk for MAE 2.0 relies on the presence of several modified Macintosh extensions and control panels to provide AppleTalk network services. These extensions and control panels, shown below, are different from those of Mac OS system releases and should not be replaced, modified, or upgraded. If these files are corrupted, they can be recreated by removing the System Folder and restarting MAE.

AppleTalk System Resources
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* AppleShare: A Chooser extension that lets clients access to AppleShare File Servers.

* LaserWriter 8: A Chooser extension that enables Printing to AppleTalk Laser Printers.

* File Sharing Extension: An extension that implements System 7 Personal File Sharing.

* EtherNet Phase 2: A network extension that implements AppleTalk over an Ethernet data link.

* Network Extension: An extension that implements additional AppleTalk drivers.

* Sharing Setup control panel: Lets the user set owner name, password, and Machine Name, and to disable or enable Program Linking and File Sharing.

* File Sharing Monitor control panel: Monitors the use of File Share volumes by remote users.

* Users & Groups control panel: Lets the Macintosh owner create users and groups to control access to File Share volumes.

* Network control panel: Lets the Macintosh user set the zone and select an AppleTalk interface.

Article Change History:
22 Mar 1995 - Made correction for technical accuracy.

Support Information Services
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MAE 2.0: AppleTalk Protocols Implemented (3/95)

This article describes the AppleTalk protocols implemented in Macintosh Application Environment (MAE).

This article has been archived and is no longer updated by Apple.
AppleTalk, a network system designed and developed by Apple Computer, provides an easy way to share network resources such as printers, file servers, and groupware services.

AppleTalk for MAE is an implementation of the AppleTalk version 56 protocol specification, based on streams, which makes AppleTalk functionality available to Macintosh applications and system software running under MAE. It is compatible with other versions of AppleTalk Phase 2.

Implementation

AppleTalk for MAE maintains the Macintosh Toolbox Application Programming Interface to AppleTalk routines, as described in "Inside Macintosh: Networking."

AppleTalk consists of a number of protocols that correspond roughly to the layers of the OSI model. AppleTalk for MAE uses streams to configure the following AppleTalk protocols into the UNIX kernel:

* AppleTalk Address Resolution Protocol (AARP)
* AppleTalk Data Stream Protocol (ADSP)
* AppleTalk Echo Protocol (AEP)
* AppleTalk Transaction Protocol (ATP)
* Datagram Delivery Protocol (DDP)
* EtherTalk Link Access Protocol (ELAP)
* Name Binding Protocol (NBP)
* Routing Table Maintenance Protocol (RTMP)
* Zone Information Protocol (ZIP)

The remaining protocols are implemented as Macintosh-style drivers and extensions:

* AppleTalk Filing Protocol (AFP)
* AppleTalk Session Protocol (ASP)
* Printer Access Protocol (PAP)

AppleTalk for MAE implements the version 56 specification of AppleTalk, which does NOT include support for some extensions found in later versions, such as:

* Apple Open Collaboration Environment (AOCE)
* AppleTalk Remote Access
* AppleTalk SNMP MIB

AppleTalk for MAE maintains compatibility with all versions of AppleTalk that conform to the AppleTalk Phase 2 specification (see "Inside AppleTalk, Second Edition"). Workstations using AppleTalk for MAE can interact with any device that uses AppleTalk Phase 2.

AppleTalk for MAE does not support the use of AppleTalk outside of the Macintosh Application Environment. There is no API available to UNIX processes for accessing AppleTalk services. Applications that rely on the availability of both Macintosh and UNIX APIs, such as AppleShare Pro, will not run on MAE.

AppleTalk for MAE cannot be used if a third-party AppleTalk stack is installed on the host workstation, and AppleTalk services will not be available to MAE running on a machine that does not have AppleTalk kernel modules for MAE installed.

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AppleTalk For MAE 2.0: Troubleshooting (5/95)

Article Review/Update: 18 May 1995

This article provides help for common problems with AppleTalk for Macintosh Application Environment (MAE).

This article has been archived and is no longer updated by Apple.

No AppleTalk Zone list in the Chooser

If the Chooser does not display a list of zones when MAE is used on a network with multiple zones, then the AppleTalk kernel stack is not communicating properly with the router. Please check your router configuration and network interface.

No Personal File Sharing

Many networks with only UNIX workstations will be routing IP. If you cannot see another MAE application or Macintosh doing Personal File Sharing on the network, try using the "appleping" utility to make sure AppleTalk is getting through.

Using network diagnostic tools

Standard AppleTalk diagnostic tools can be used to investigate the behavior of AppleTalk for MAE. However, most Macintosh-based tools that diagnose low-level hardware drivers cannot be run on MAE itself.

Reinstalling AppleTalk for MAE

If an AppleTalk streams module is corrupted or deleted, it is safest to shut down all MAE processes that may be executing and then reinstall the AppleTalk Kernel Module package with the MAE Installer.

Restoring network extensions

Do not replace the network extensions that ship with MAE. These extensions are specially tailored for the MAE environment. If these extensions are removed, corrupted, or altered, you can restore them by removing the current System Folder and restarting MAE. This will cause the entire System Folder to be recreated.

Other extensions, such as Chooser extensions, may be added without conflict.

An AppleTalk router comes up

If you are administering an MAE server and you change the network topology while the AppleTalk kernel stack is active, one of the following messages may appear:

An AppleTalk Router just came up.
This Node's address is in startup range.
Shutdown or Restart MAE to use full AppleTalk functionality.

or:

An AppleTalk Router just came up.
This Node's address is invalid for this cable.
Shutdown or Restart MAE to use full AppleTalk functionality.

Quit all active MAE sessions, ensuring that the kernel stack is inactive (run appletalk -D and appletalk -s), and then restarting the sessions.

Booting HP-UX from the saved kernel

When you install MAE onto a Hewlett Packard (HP) workstation, MAE alters the kernel and saves the old HP-UX kernel in a file called hp-ux.save. If you need to reboot from the old kernel (for example, if the altered HP-UX kernel has become corrupted), you may do so either by copying /hp-ux.save to /hp-ux, and then rebooting, or rebooting from the /hp-ux.save kernel.

To reboot from the /hp-ux.save kernel, follow these instructions:

Step 1

Shut down the workstation.

Step 2

Restart the workstation. When the power goes on, the console displays a message similar to the following:

"Search for potential boot devices."

To terminate search, press and hold the ESCAPE key.

Step 3

Press and hold the (Esc) key until you see the following message:

"Selection process stopped."
"Searching for potential boot devices."

After a moment, the console displays a list of SCSI device options from which to boot.

Step 4

Choose the appropriate boot device. For example, if SCSI device 6 is the appropriate option, enter the following:

"b scsi.6.0 ipl"

This will cause an ISL prompt (ISL>) to be displayed.

Step 5

At the ISL prompt, enter the following:

"hpux boot disc(;0)/hp-ux.save"

This will result in booting the alternate kernel in /hp-ux.save.

Article Change History:
18 May 1995 - Added section on Personal File Sharing.

Support Information Services
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MAE 2.0: Personal File Sharing and root Directory (3/95)

This article provides a description of personal file sharing in Macintosh Application Environment (MAE) and an important notice about not sharing the root directory.

This article has been archived and is no longer updated by Apple.
The File Sharing extension included with MAE allows any MAE workstation with AppleTalk active to act as a personal file sharing server. Macintosh personal file sharing is an AppleTalk-based network file system that is separate and distinct from other network file systems, such as NFS. However, MAE's integration of UNIX file systems into the Macintosh Finder enables users to share both UNIX and HFS volumes and folders from their MAE workstations. These directories can be mounted by authorized AppleShare clients on the AppleTalk network.

IMPORTANT: In most cases, a user should NOT share the root directory without careful configuration of access privileges. For example, sharing the root directory with read only permission allows remote users to view files such as /etc/passwd. Users should be especially cautious when sharing folders on NFS volumes via file sharing.

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MAE 2.0: Running Several MAE Sessions Simultaneously (3/95)

This article provides information on running several Macintosh Application Environment (MAE) sessions simultaneously on a workstation.

This article has been archived and is no longer updated by Apple.
Users can run several MAE sessions simultaneously on a workstation. The first MAE session constructs an AppleTalk kernel stack that remains active until the final MAE session is shut down. Each session appears to the user as an independent Macintosh.

The sessions share the AppleTalk kernel stack and consequently have the same AppleTalk address and the same set of AppleTalk DDP sockets. These DDP (Datagram Delivery Protocol) sockets are allocated on a first-come first-serve basis from a pool of 125 sockets.

Since the AppleTalk zone and network interface are associated with the AppleTalk kernel stack, they cannot differ among concurrent MAE sessions. Also, a user cannot change the AppleTalk zone and network interface while another MAE session running AppleTalk is active.

When a single MAE session is active, you can use the Network control panel to select an AppleTalk zone and a network interface. However, you cannot change the Network control panel when several MAE AppleTalk sessions are running concurrently. You should set the zone and network interface before making the node available to several concurrent users.

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MAE 2.0: AppleTalk Access Privileges (3/95)

This article describes AppleTalk access privileges and UNIX permissions when sharing files (directories) under Macintosh Application Environment (MAE) 2.0.

This article has been archived and is no longer updated by Apple.
When you share a folder or a disk, by default anyone on the network can open it, read it, or change it. However, you can set access privileges to files and folders you own (that is, those that you have created or whose ownership has been transferred to you) to specify who can use your shared items. You can also allow access to guest users; see "Naming Specific Users," later in this section.

There are three types of FileShare access privileges:

* See Folders: You can open the folder.

* See Files: You can open any file within the folder.

* Make Changes: You can change the contents of any file within the folder.

IMPORTANT: When MAE users export part of a UNIX file system via file sharing, they can grant FileShare access only to the extent that the UNIX permissions allow them that access. For example, if an MAE user does not have write access to a file, the user cannot export that file with FileShare write access. Thus, the privileges another user has when accessing files are the most restrictive combination of the UNIX permissions and the file sharing privileges.

Differences between UNIX and Macintosh access permissions

The differences between UNIX permissions and Macintosh file-sharing privileges can be summarized as follows:

* Macintosh file-sharing privileges affect file sharing over AppleTalk. UNIX permissions affect permissions across all UNIX networks.

* All files and folders (directories) created within UNIX are assigned default UNIX permissions automatically. Folders and their contents are assigned Macintosh file-sharing permissions only if the owner of the folder has made the folder available to others.

* UNIX permits the owner to assign different permissions to every item within a directory; Macintosh file sharing allows the owner to set privileges for the folder. These privileges are transferred to all the contents of the folder collectively.

* In most cases, a user should not share the root directory without careful configuration of access privileges. For example, sharing the root directory with read-only permission allows remote users to view files such as /etc/passwd. Users should be especially cautious when sharing folders on NFS volumes via file sharing.

The following table shows UNIX permissions compared with file sharing privileges:

If UNIX permissions are			Then file sharing privileges are	
Read	Write	Execute	See Folders and See Files	Make Changes
No	No	No	No	No
No	No	Yes	No	No
No	Yes	No	No	Yes
No	Yes	Yes	No	Yes
Yes	No	No	No	No
Yes	No	Yes	Yes	No
Yes	Yes	No	No	Yes
Yes	Yes	Yes	Yes	Yes

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MAE 2.0: Release Notes and Read Me, Part 1 of 2

This article is part 1 of 2 of the README.TXT file for Macintosh Application Environment (MAE) version 2.0. This Read Me document should be read before installing or using MAE 2.0.
This article has been archived and is no longer updated by Apple.

About This Document
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READ THIS DOCUMENT BEFORE INSTALLING OR USING MAE 2.0! It is a road map to the other MAE documentation and the MAE installation process. It is the only source for some information, including last-minute tips, and cautions relating to the software and the documentation. You may want to keep a printed copy of this document; it is designed to be printed directly by lp or lpr at 66 lines per page.

Supported Workstations And Operating Systems
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This release of MAE is compatible with Sun workstations running Solaris 2.3 and later, and with Hewlett Packard (HP) workstations running HP-UX 9.0x. Ross HyperSPARC processors are also supported. Recommended RAM is 32MB or more; configurations smaller than 16MB are not supported. This version has not been tested with HP series 800 machines.

What's New In MAE 2.0
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- FULLY SUPPORTED APPLETALK NETWORKING: You can use the Chooser desk accessory to access other machines running MAE as well as Macintoshes. You can use AppleTalk printers, share files with other users, and run popular AppleTalk applications such as mail, scheduling and database group-ware. See Chapter 7 of the MAE USER'S GUIDE, "Networking with MAE."
- PERFORMANCE ENGINEERING: Sophisticated software techniques substantially improve the performance of most applications under MAE 2.0.
- MACINTOSH SOUND OUTPUT SUPPORT: Most applications that produce sound work with MAE 2.0. See Appendix B of the MAE USER'S GUIDE, "Using Sound."
- AFS AND NFS FILE SYSTEM SUPPORT: Significantly enhanced network file system support; performance is improved for all file system types.
- DYNAMIC RESIZE: Resizing the MAE desktop does not require restarting MAE.
- IMPROVED APPLICATION INSTALLATION: A "Temporary Installer Volume" (TIV) is a virtual Macintosh hard disk on your MAE Desktop. Normally, applications that could not be readily installed in MAE 1.0 install correctly to a TIV. See Chapter 3 of the MAE USER'S GUIDE, "Installing Macintosh Applications."
- MacTCP SUPPORT: MAE 2.0 supports MacTCP applications such as NCSA Telnet.
- EXTENSION MANAGEMENT: The Extensions Manager Control panel turns on and off startup programs, and switches between sets of extensions.
- SIMPLIFIED PROGRAM LAUNCH: The Launcher control panel opens a window that lets you launch frequently-used programs with one click.
- STICKIES: On-screen "yellow stickies" let you add notations to your desktop. They need not even all be yellow. Look for "Stickies" in the Apple Menu.
- WINDOW SHADE CONTROL PANEL: This new control panel allows you to reduce screen clutter by shrinking windows.
- SOFTWARE FPU: Support for SoftwareFPU (a shareware virtual 68881).
- CONTROL PANELS: New look for MAE General Control Panel; Network Control Panel for MAE allows the user to choose a default zone and to pick a network interface if the user has more than one; default RAM in Memory control panel is now 8MB (up from 5MB); the Desktop Patterns control panel provides a larger set of desktop patterns and textures.
- SOFTWARE TOOLS AND UTILITIES: HyperCard Player (apple/Tools); MoviePlayer (apple/Tools); third party utilities: Fetch, SoftwareFPU, and Disinfectant (apple/tools/Shareware); appleping and atlookup, AppleTalk debugging utilities (apple/bin).

MAE 2.0 Information Resources
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This Read Me File

This document contains vital last-minute notes on this version of MAE and its documentation. Please read the entire document before installing MAE. It is included as README.TXT in the root directory of the CD-ROM. In addition, when MAE 2.0 is installed on your workstation, a copy of this Readme file is made in the file "MAE_ReadMe_2.0" within the "apple" directory.

MAE Documentation

MAE 2.0 includes three manuals:

- MAE USERS GUIDE ("Macintosh Application Environment User's Guide")
- MAE INSTALLATION MANUAL ("Macintosh Application Environment Setup and Installation Guide")

- MAE SYSTEM ADMINISTRATOR'S MANUAL ("Macintosh Application Environment System Administrator's Guide")

A printed copy of the Installation manual accompanies the product CD-ROM. The other two documents, in Apple DocViewer format, are located in the subdirectory "DOCS" of your "apple" directory, and can be printed once MAE 2.0 is installed.

The MAE Internet Server Site

The MAE project maintains up-to-date MAE related information on world-wide-web and ftp servers, as follows:
www site: <**http://www.mae.apple.com/**>
ftp site: <**ftp.support.apple.com**>.

The following information is available:

* MAE Tech Notes: The most up-to-date list of current issues applicable to MAE 2.0
* Frequently-Asked Questions (FAQ): The questions most often asked by MAE users

MAE email Resources

Two mailing lists and one email address support MAE users:

* mae-announce is a moderated mailing list that will be used to distribute "official" product announcements and information about MAE from Apple. It is a very low traffic mailer aimed at people who want to keep informed on the product, but don't want to sift through all of the mail that is distributed through an open mailing list.

IMPORTANT: Apple strongly suggests that all MAE users subscribe to mae-announce. This mailing list is the primary means Apple will use to inform the MAE customer base about updates, patch availability and other significant MAE news.

* mae-users is an unmoderated mailing list that allows users to discuss the product in an informal atmosphere. mae-users will let users assist each other and distribute hints and other information about the product.

* mae-bugs is a "one-way" email address to MAE Engineering. Its purpose is to allow users to submit comments, bugs and suggestions about MAE to Apple. Note that mae-bugs is NOT a replacement for your standard support channel. If Apple decides to respond to an mae-bugs submission, it will be done through the general mae-users mailing list.

To request information about how to subscribe to mae-announce or mae-users, or about submitting reports to mae-bugs, please send mail to "mae-info-mail@webster.mae.apple.com".

How To Proceed
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Before installing MAE, read the MAE INSTALLATION MANUAL, then the balance of this document. After you have installed MAE, you may find the information on the MAE ftp server, in the FAQ and MAE Tech Notes useful for solving commonly-encountered problems.

Tips, Cautions, And Last-Minute Release Notes
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The remainder of this document is functionally organized:

I. Installing The Required Vendor Patches In Your Workstation Software
II. Running The MAE Installer
III. Running MAE For The First Time After Installation
IV. Starting and Exiting MAE
V. Issues Related To AppleTalk and Networking
VI. Issues Related To Sound
VII. Installing and Working With Application Programs
VIII. Floppy Disks and CD-ROM Discs
IX. Other Issues

Items applicable only to Sun workstations are labeled "(Sun only)"; those applicable only to HP workstations are labeled "(HP only)". All other items apply to all workstation types.

I. Installing The Required Vendor Patches In Your Workstation Software
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The following patches for HP_UX and Solaris are the earliest versions that have been tested with MAE; Apple suggests that your system administrator apply the latest patch releases recommended by Sun and HP.

* (HP only): Copies of all HP patches can be obtained from the HP Support WWW server, whose URL is:
<http://support.mayfield.hp.com/>

The Patch Browse/Search/Download screen itself can be found at this URL:
<http://support.mayfield.hp.com/slx/html/ptc_hpux.html>

* (Sun only): Copies of Solaris patches are available on the Sun FTP site sunsite.unc.edu. Sun also maintains a WWW site, whose home page is at URL:

SunSolve home page: <http://sunsolve1.sun.com/>

The URL of the patches pages is:
SunSolve patches: <http://sunsolve1.sun.com/sunsolve/patches.html>

* (HP only): AppleTalk requires that the HPStreams module be installed in HP-UX. The STREAMS file sets are supplied on the CD in a "tar" file in directory STREAMS. Do not un-tar this file! The /etc/update program understands how to read the tar format. Two STREAMS packages are included: 3STREAMS.TAR and 5STREAMS.TAR. Please install 3STREAMS.TAR on HP-UX 9.03 and 5STREAMS.TAR on HP-UX 9.05.

The following file sets are included:

- STREAMS
- STREAMS-DLPI
- STREAMS-MAN
- TLI-XTI-MAN

Install all four file sets by using the /etc/update command:

/etc/update -rs /cdrom/STREAMS/3STREAMS.TAR '*'
-or-
/etc/update -rs /cdrom/STREAMS/5STREAMS.TAR '*'
WARNING: This command will reboot your workstation!

* (HP only): The recommended patches can be found in a single tar archive named HP_PATCH.TAR on the MAE CD-ROM in the PATCHES directory. Do not un-tar this file! The /etc/update program understands how to read the tar format.

The four patch file sets are listed below. (The versions of these patches may not be the latest available from HP, but have been tested with this release.)

PHKL_4605: This is a kernel "mega-patch" that fixes a number of important performance and reliability bugs, including an NFS memory leak and several bugs that can lead to kernel panics. This patch is relevant for users of HP-UX 9.03-9.05.

PHNE_3939: Kernel networking patch.

PHSS_4341: This patch fixes bugs in HP's audio server. "Issues Related to Sound" details the procedure required to install and enable this patch.

PHSS_4485: An X server patch.

To install any of these file sets, use the /etc/update command. This command requires the absolute path of the tar file and a list of the file sets to be installed. Use the '-r' option flag to tell update to reboot the system after installing the patches.

To install all four patches, use the following command: /etc/update -rs /cdrom/PATCHES/HP_PATCH.TAR '*'

WARNING: This command will reboot your workstation!

* (Sun only): SOLARIS 2.4 SYSTEMS: ask your system administrator to verify that volume manager patch 102077 has been installed. This patch must be in place before you install MAE.

SOLARIS 2.3 SYSTEMS: we recommend you install Kernel Jumbo Patch 101318-59 (Sun has recalled version -60 through -68 of this patch)

These Solaris patches are available on the Sun FTP site sunsite.unc.edu. Sun also maintains a WWW site, whose home page is at URL:

SunSolve home page: <**http://sunsolve1.sun.com/**>

The URL of the patches pages is:
SunSolve patches: <**http://sunsolve1.sun.com/sunsolve/patches.html**>

II. Running The MAE 2.0 Installer
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* BACK UP ALL IMPORTANT FILES ON YOUR WORKSTATION. If you are upgrading an existing MAE installation, be sure to back up your MAE files. Beware: some UNIX backup utilities are incompatible with Macintosh file names (which contain spaces and 8-bit special characters, for example). Test yours!

* Read Chapter 1 of the MAE INSTALLATION MANUAL before running the installer.

* The most straightforward way to install MAE is to run the installer while logged onto your workstation as root. If you run as an ordinary user, it will be impossible for the installer to install system-level facilities, such as the Solaris Volume Manager Extensions and the AppleTalk kernel modules. You will also have to be root to install vendor patches on either Sun or HP.

* When you use the MAE 2.0 Installer to remove packages (such as the documentation of Reference Man Pages packages) you will be asked "In which directory do you want to install the <package>?"

This question should read "In which directory is the <package> installed?"

* If you have previously installed any version of MAE, and do not have a system folder, remove the file ~/.mac/hostname/sm.vpram

* IMPORTANT: RE-INSTALLING APPLETALK: If you have previously installed any release of MAE 2.0 (including any Beta release), be sure to use the MAE 2.0 Installer to remove AppleTalk BEFORE INSTALLING THIS RELEASE. Follow this procedure:

Step 1: Shut down any MAE sessions currently running.

Step 2: Log in as root.

ON HP, CONTINUE AS FOLLOWS:

Step 3: Rename the AppleTalk command in your target install directory. Example: mv /u/MAEuser/apple/bin/appletalk /u/MAEuser/apple/bin/appletalk.old

Step 4: Use the Installer to remove the old AppleTalk kernel modules. Invoke the installer with ./INSTALL.SH -r, then, when prompted, verify that you want to remove the AppleTalk component.

Step 5: Use the installer to install the latest MAE in its entirety, including the new AppleTalk kernel modules.

Step 6: REBOOT your workstation.

Step 7: Remove the OLD AppleTalk command created in step 3 above. Example: rm /u/MAEuser/apple/bin/appletalk.old

ON SOLARIS, FROM STEP 2 ABOVE:

Step 3: Use the installer to install the latest MAE in its entirety, including the AppleTalk new kernel modules.

Step 4: Reboot your machine to unload dynamically loaded AppleTalk kernel modules.

On either workstation type, the resulting MAE will come up with AppleTalk when the first session is invoked.

IMPORTANT: If you are running MAE off a (remote) NFS file server, you must still install the AppleTalk kernel modules on the local machine, if you want to use AppleTalk. For example, if you are running the MAE process on workstation A, using a copy of apple/bin/MAE on workstation B, you must have the AppleTalk kernel modules installed on workstation A.

* The installer correctly upgrades your existing MAE 1.0 "apple" directory, if it exists, to version 2.0. The installer also updates the MAE documents and manual pages. Applications you have stored in the apple/Tools directory will not be removed. (However, if you have modified the MAE 1.0 versions of files that are replaced during the MAE 2.0 installation, your modifications will not be preserved during the installation.)

* If you are upgrading an existing MAE installation and will be installing new demo applications, remove the old directories "ClarisWorks", "FileMaker Pro", and "MacProject Pro" from the apple/Demos directory. Files from the old Demos directories that are not part of the new Demo set will otherwise be merged with the new Demo versions.

* MAE apple directories and System Folders cannot be cross-shared between Sun and HP workstations (as Macintosh applications and documents can).

* Installing MAE on an AFS volume may be problematic. MAE cannot be installed on an AFS volume at all unless the installing user is the superuser and has AFS administration privileges. Possible workarounds for residual difficulties: (1) upgrade to the latest release of AFS, which supports 8-bit characters in file names (2) install MAE onto a local or NFS mounted volume and then copy the MAE apple directory onto your AFS volume. (Remember: if you move the "apple" directory, you must use the "-appledir" command line option to start MAE.)

* (Sun only): During installation of MAE 2.0 into an AFS file system, very long AFS path names, or very large AFS volumes, may cause the installer to fail. The installer parses the output from the command "df -k"; the failure condition occurs when the path name or volume size fields run together without an intervening space. Before executing the installer, execute a "df -k" command to verify that these two fields are properly space-separated.

* (HP only) If you are running automounter and install MAE 2.0 into an automounted directory, specify the path in /tmp_mnt rather than /net (for example /tmp_mnt/net/foo/apple instead of /net/foo/apple).

* When running the installer, do not use destination directory names ending in special characters such as +, -, or &.

* Customizing the Install process for mass installation: Some sites have installed MAE on a central NFS or AFS server. Before undertaking support of such an installation, read Chapter 2 of the System Administrator's Guide, "Customizing MAE and Your Workstation."

* Problems with ISO 9660 format CD-ROM discs.

Some CD-ROM drivers (for example IBM, Data General) may translate filenames on ISO 9660 format CD's (such as the MAE CD) to lower case. If this occurs, the MAE Installer will not be able to find the files needed for installation.

To work around this, copy the files from the CD to a local volume and manually change the filenames to upper case before installing MAE. A shell script will be made available via anonymous ftp at some future time to automate the conversion of these file names.

This translation does not occur for Macintosh CDs.

The Tech Info Library article#17159: "**Locating Vendor Information**", can help you search for a particular vendor's address and phone number.
Published Date: Feb 19, 2012

MAE 2.0: Release Notes and Read Me (Part 2 of 2)

This article is part 2 of 2 of the README.TXT file for Macintosh Application Environment (MAE) version 2.0. This Read Me document should be read before installing or using MAE 2.0.
This article has been archived and is no longer updated by Apple.

III. Running MAE For The First Time After Installation
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* Before you can run MAE successfully, you must run the LICENSE BINDER utility, "license_binder". When you run the license binder, it will ask you to input a serial number. Your MAE 2.0 serial number is printed in two places: on the inside of the CD-ROM package, and on the plastic CD-ROM sleeve.

* The first time you launch MAE, it creates several files in your home directory:

These two directories are required to run MAE:

"System Folder"
".mac"

These are Macintosh aliases to the corresponding files inside the apple directory. Which aliases are created depends on which packages are installed; for example, if no demo packages were installed, there will not be a "demos" alias. These aliases are there for convenience to the MAE user, and may be removed at any time. To control which aliases are created, you can modify the AliasList file found in apple/lib and described in the MAE System Administrator's Guide.

"docs"
"demos"
"Tools"
"lib"
"man1"

* When MAE 2.0 is launched for the first time in a new installation, and encounters a System Folder from MAE 1.0 or from a beta version of MAE 2.0, it automatically converts the System Folder to the format correct for MAE 2.0. If you have installed a previous version of MAE 2.0, MAE will not create backup versions of the files it replaces in this process. (Upgrading from MAE 1.0, the updater will back up your original files.) In the unlikely event that you have trouble running MAE after the System Folder update occurs, follow this procedure:

Step 1
Quit MAE.

Step 2
Rename your System Folder; for example, 'mv System\\ Folder old.system.folder

Step 3
Relaunch MAE to create a new System Folder.

Step 4
If you need Extensions or other files from the renamed System Folder, copy them to the new System Folder one at a time, restarting MAE after each new file is added to verify correct operation.

IV. Starting and Exiting MAE
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* Do NOT delete or move any of the MAE files or folders located in the "apple" directory.

* Shift-Control-E forces MAE to quit

If you cannot quit MAE by using the Shut Down command in the Special menu (on the MAE desktop) or by using the capabilities provided by your X window manager, force MAE to terminate by pressing Shift-Control-E.

* If the Message "Can't open X display" Appears on Startup

If you are running MAE on the same workstation that you are running the X Server, set the DISPLAY environment variable to be "local:0" before running MAE. If you are running MAE on a machine other than the X Server, set the DISPLAY environment variable to the string "X_server_hostname:0" where X_server_hostname is the network hostname of the X server.

If MAE still will not open the display, run the program "xhost" on the X Server machine to ensure that you have access to the server; see the man

page for xhost. If MAE is running on a workstation named WORKSTATION and the X-Server is on a machine named TERMINAL, then on TERMINAL run the command "xhost +WORKSTATION". This allows MAE on WORKSTATION to open a display on TERMINAL.

* If a message appears on startup similar to "Unable to locate <directory>; please use the -appledir option to give the path to the apple directory."

When you start MAE, it expects the directory containing the MAE files to be in a directory specified at installation (by default, the directory is named "apple"). You can also specify the location of the "apple" directory to MAE by using the -appledir command option when you start MAE (see Chapter 2 of the MAE USER'S GUIDE). Alternatively, you can specify an alternate location of the "apple" directory in your X Resources file. To edit your X Resources file, open your .Xdefaults file and edit the line that begins with "Apple.appleDirectory." Replace the name of the directory that appears in the line with the name of the directory that contains the MAE files. For example, if the MAE files are located in /usr/local/apple, the line would look like this:

Mae.appleDirectory: /usr/local/apple

V. Issues Related To AppleTalk and Networking
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* MAE is not compatible with third-party AppleTalk stacks. If you run on a machine with one of these stacks, you cannot use AppleTalk with MAE. If you want to run AppleTalk on MAE, you must first remove any third-party stacks.

* (HP only): MAE AppleTalk requires streams. To determine whether streams is installed on your system, run the command 'strvf' (normally in /usr/bin). To see which version of streams is installed, inspect the file /system/STREAMS-DLPI/index and look for the version in the 'fv:' field.

* (Sun only): If you have a single network interface configured, and this interface is not le0, you will see the following message if you open the Network Control panel:

The AppleTalk connection is unknown. Please select a different AppleTalk connection, or built-in LocalTalk will be the AppleTalk connection when you restart.

This message is incorrect. Click 'OK'; the Network Control panel lets you switch between zones normally. AppleTalk and EtherTalk are unaffected, and will be normal after restart.

* By default, when you enable FileShare, anyone connecting as "owner" can see the entire "/" directory and its descendants. To allow access to only explicitly shared items, open the "Users & Groups" control panel, and turn off the option "Allow user to see entire disk" for the File Share owner.

* If multiple users invoke MAE and FileShare on the same workstation, some coordination is required in exporting filesystems with FileShare. If two users independently export a single directory or volume under two different names, then a second workstation, unable to recognize that the two exported names refer to the same volume, can mount them both independently, referring to them by different names. This has potentially serious consequences, including loss of files.

Sites that use multiple instances of MAE on a single workstation should provide guidelines for exporting filesystems via FileShare. These guidelines should follow one of two models:

Item a
Run a single FileShare on the workstation, and set up Users&Groups to allow clients appropriate access to the File system.

Item b
Allow each user to run a FileShare server, but to export only parts of the file system they "own" in the UNIX sense. Default sharing of the root volume should be disabled.

* When using some MacTCP applications, erroneous login information may cause all subsequent connection attempts to fail. Work around this problem by restarting the application (it is not necessary to restart MAE).

* MacTCP and multiple network interface cards: MacTCP uses the first configured network interface card and ignores any others.

* Wrong zone: if the Chooser displays no network-visible entities (NVEs) (printers, servers, etc), the Chooser indicates that you are in an invalid zone, restart MAE.

* AppleTalk installation/initialization errors

If you see problems with AppleTalk initialization (for example, "Lap Init: ..."), do the following in order to determine the source of the problem:

Step 1
Check the system console messages.

Step 2
Verify that the AppleTalk kernel modules are installed correctly. See "Installing AppleTalk for MAE" in Chapter 5 of the MAE SYSTEM ADMINISTRATOR'S GUIDE.

Step 3
Be sure you have write permission to the /tmp directory.

Step 4
Look for error messages in the window from which you launched MAE. If AppleTalk is unable to open a file, an error message will appear here.

Step 5
Open the Network Control Panel; verify that you are running AppleTalk on the correct network interface.

Step 6
The MAE installer may have informed you that a log file was written. Please consult this file.

Step 7
For more information, see "Troubleshooting" and "UNIX AppleTalk commands" in Chapter 5 of the MAE SYSTEM ADMINISTRATOR'S GUIDE.

* This release includes three UNIX-style commands for troubleshooting network problems. These commands are located in the apple/bin directory:

- appletalk
- appleping
- atlookup

Man pages for all three are included in the product release.

VI. Issues Related To Sound
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* (HP only): MAE 2.0 will not support sound on HP-UX 9.01.

* (HP only): MAE 2.0 will not support sound on HP-UX workstations that are not connected to a network. If your HP workstation is not attached to a network, include the -nosound option on the MAE command line.

* MAE sound quality depends on the quality of the source sound, the processor speed, and the settings of the Sound control panel.

* MAE 2.0 does not support sound input.

* (HP only): Sound on HP workstations may include brief audio hesitations. This effect is most pronounced with higher sampling rates and slower machines.

* (Sun only): When changing sound rate on Sparc5s by using the Sound Out subpanel in the Sound control panel, there may be a slight delay during which your cursor stops moving. This is normal.

* (Sun only): The external mute and volume controls on the Sparc speaker box have no effect under MAE; sound is controlled only from the Sound Control panel.

* If multiple instances of MAE are run on the same workstation, only the first to be executed will play sounds normally. The other copies of MAE play no sounds until the first MAE terminates -- then they play all queued sounds at once. To avoid this, add the -nosound option to the MAE command line whenever another copy of MAE is already executing on the same workstation. This disables sound completely for all but the first copy of MAE to be executed.

* (HP only): UNIX applications that attempt to play sounds while MAE is running will have those sounds queued. These queued sounds will be played after the (first) MAE session quits.

This occurs because MAE takes exclusive control of the audio server in order to achieve acceptable sound performance. If you do not want this situation to occur and do not require sound support from MAE, start up MAE with the "-nosound" command line option.

* (HP only): If you don't get sound out of your machine even though it is sound capable, check the following:

Step 1

Make sure the AUDIO environment variable is set to your local machine. That is, AUDIO=hostname:0

Step 2
Install HP Patch "PHSS_4341" and reboot. This patch is necessary for correct sound operation.

Step 3
Make sure the LLBD (local location broker daemon) is running. As root, edit the /etc/netncsrc file and make sure the line START_LLBD=1 is there, and reboot.

Step 4
Make sure the audio server is running (ps -e | grep -i aserver). There should be two Aserver processes running. Use the command "/usr/audio/bin/Aserver" to start the audio server if necessary.

Step 5
Make sure you have access to the Aserver. "/usr/audio/bin/asecure -C" creates an audio access file. Then "/usr/audio/bin/asecure -d" disables security (or read the man page and enable for the users to whom you wish to grant access).

Step 6
To get audio out of the output jacks (rather than the internal speaker) set the environment variable SPEAKER="external".

Step 7
If you're still having problems, try to get HP's audio tools to work following their documentation. When HP's audio tools work, MAE sound should work.

* (Sun only): Sound problems related to running MAE as a user different from the one who is logged in at the console:

Change the permissions of the /dev/audio and /dev/audioctl audio devices. To change the permissions of /dev/audio, execute the command "ls -l /dev/audio" and follow the symbolic links to the actual device (expect three or four levels of indirection). Change the permissions on the audio device for read/write access.

VII. Installing and Working With Application Programs

* Using Temporary Installer Volumes (TIVs) to ease application installation: Installation of some applications can be complicated by space and permissions constraints on the UNIX root volume. The resulting problems are likely to produce error messages such as

"Not enough free space on <directory>"

"Cannot create directory <directory>"

MAE 2.0 provides a workaround: a TIV, which is a virtual hard disk on the MAE desktop. By creating, and installing to, a TIV, you can sidestep problems associated with the root volume.

Detailed instructions for creating and using TIVs are in Chapter 3 of the MAE USER'S GUIDE.

* Installation of certain software packages can be done only by using a TIV that contains a copy of your System folder. Attempts to install on a TIV without a System Folder result in various error messages, depending on the installer. See Chapter 3 of the MAE USER'S GUIDE.

* TIV size: We recommend a TIV size greater than 10 Megabytes.

* If you get a message such as "ClarisDraw requires a hard disk" when installing a Claris application

Some Claris applications require that the destination volume have more than 10 MB free space, even though the application does not require that much space. To work around the problem, install to a TIV whose size is greater than 10 Megabytes.

* Resizing MAE while an application is running

Some applications may not correctly handle an MAE resize while the application is running.

* Colors Are Not Displayed Accurately in Certain Applications

In certain applications that use color extensively (for example, Adobe Photoshop), colors used in the document may not be displayed correctly. To fix this problem, open the MAE General control panel; click the button "use standard Mac colors" under "Color flash reduction" and restart MAE.

* Use only printer drivers that are shipped with MAE

Some Macintosh applications (for example, Aldus PageMaker 5.0) install their own printer drivers (and related files) when installed. The only printer drivers that have been tested for compatibility with MAE are shipped with the product: LprWriter and LaserWriter 8. Other printer drivers have not been tested with MAE and may not work.

For instructions for setting up and using the LprWriter and LaserWriter drivers, see Chapter 4 of the MAE USER'S GUIDE, "Printing in MAE."

* PPD files for non-Apple printers

Apple supports only PPD files for Apple printers. It is a printer vendor's responsibility to make PPD files for its printers available. If the PPD for your non-Apple printer isn't shipped with MAE, contact the printer vendor or use the ftp archive at ftp.adobe.com. See Chapter 4 of the User's Guide for more information.

* Problems with Microsoft Office

The specialized Microsoft Office Control panel "Microsoft Office Manager" is not compatible with MAE. If you install Microsoft Office, remove this control panel from the System Folder before you restart MAE.

* Use the Option Key When Printing PageMaker 5.0 Documents with LprWriter

There is an incompatibility between the LprWriter driver and PageMaker. If you are printing using the LprWriter driver, you must hold down the Option key while you choose Print from the File menu in PageMaker. There is no incompatibility with the LaserWriter 8 driver.

VIII. Floppy Disks and CD-ROM Discs
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* (Sun only): Volume manager patch

Solaris 2.4 users: Before using floppy or CD-ROM with MAE on Sun, you must install the Solaris Volume Manager Patch.

* Problems mounting CD-ROM discs and floppy disks

Read "Mounting CD-ROM Discs and Floppy Disks" in Chapter 6 of the User's Guide. If your problem is not covered, read on (this material assumes that you know the concepts covered in the User's Guide).

You need to know the exact path name of the device file that references the CD-ROM or floppy (ask your system administrator). On HP, the command:

ioscan -f

Lists the available devices on your workstation. On Solaris, you should be able to determine the path name(s) by looking in the /etc/vold.conf file for the lines that start with "use floppy" or "use cdrom".

The driver for the device in question may not be configured in your kernel. Ask your administrator for help if this is the case.

Once you know the path name of the device file, try to access the floppy drive from UNIX. Once you have determined that the floppy drive works, enter full path name for the floppy in the macdisks.OS file (where OS is 'hpux' or 'solaris').

Example SCSI entry for a CD-ROM drive:
scsi6:removable:ro:<PUT PATH NAME HERE>

Example line for a floppy drive:
floppy0:rw:<PUT PATH NAME HERE>

Common path names for devices:
On HP, CD-ROM drives are often at SCSI address 2. The following example line should work if your CD-ROM drive is at SCSI address 2:
scsi2:removable:ro:/dev/dsk/c201d2s0

On HP, Floppy drives are often one of the following:
floppy0:rw:/dev/rfloppy/c201d0s0
floppy0:rw:/dev/rfloppy/c20Ad1s0

In some cases, you may need to restart MAE before the modifications to the macdisks.OS file will be taken into account, especially if you specify "default" for one of the devices.

* Do not eject a diskette and physically remove it from the drive until MAE is finished with it (that is, until MAE shuts down, requests another disk with a dialog, or deletes the floppy disk icon from the desktop). Disregarding this caution risks physical diskette damage.

* (HP only): If you manually eject a floppy without dismounting it first (dismount it by dragging its icon to the trash, or selecting Put Away from the File menu), and then insert another floppy, the second floppy may be corrupted.

IX. Other Issues
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* Find File and UNIX file systems

The "Find File" facility included with MAE 2.0 is optimized for searching Macintosh HFS volumes and is not well suited to large UNIX filesystems. Avoid using this facility to search UNIX volumes as it will traverse the entire volume and any mounted filesystems within it. This behavior is especially noticeable when "Find File" is invoked by a remote client to search a UNIX volume exported from MAE via File Sharing. Using "Find File" on HFS volumes (such as TIV files or remote HFS volumes) should present no difficulties.

* File System anomalies

If MAE fails to show items in a UNIX directory (possibly even after the window is closed and re-opened), use the touch command to update the time on some item in the directory. (This anomaly is the result of a difference in basic assumptions between UNIX and the Macintosh: Using UNIX, it is possible to replace an entire directory, with entirely new contents, without updating its modification date or time.)

* Using -memory Option When Starting MAE

When you start MAE with the -memory command option, memory size is set to the specified value. (See "Adjusting the Memory Size of MAE" in the MAE USER'S GUIDE, Chapter 10.) If MAE is restarted, this stipulation will remain in effect unless it has been subsequently changed by using the Memory Control panel.

* OPTION and SHIFT keys after MAE restart

After an MAE restart (not a startup), MAE may appear not to respond fully to the Option and Shift keys. A simple workaround technique is effective: click anywhere OUTSIDE THE MAE WINDOW on your X screen, then click inside the MAE window. Thereafter the problem disappears.

* Scrapbook conversion: The Scrapbook file format of MAE 2.0 is not compatible with that of MAE 1.0. If you update from MAE 1.0, your Scrapbook file will be unusable. To work around this, copy the new Scrapbook file from apple/sys into your System Folder, replacing the one there. To recover the contents of your MAE 1.0 Scrapbook:

- run MAE 1.0, using your old MAE 1.0 appledir and System Folder; the old system folder is saved in "MAE 1.0 System Files", within your MAE 2.0 System Folder.

- Paste the Scrapbook contents into an application document and save it.

- Terminate MAE 1.0, run MAE 2.0, open the application, and paste the contents into the Scrapbook.

* MEMORY CONTROL PANEL: Allocating the maximum memory allowed in the Memory control panel may result in an MAE crash with "mmap failed" or other error messages.

* ALIASES: installing this release invalidates Macintosh aliases from the previous installation. Discard these aliases and re-create them.

* WARNING: Some versions of AFS support only 7 bit characters in filenames, while MAE supports 8 bit characters. This may cause problems in some situations: BEWARE!

* MAE does not support changing the date and time settings in the General Controls and Date & Time control panels.

* SCSI device compatibility problems

Workstations that support MAE 2.0 typically use the SCSI 2 interface Standard. Depending on how your workstation is configured, you may have problems using a SCSI or single-ended SCSI 2 peripheral. Before attempting to connect an Apple or other third-party peripheral to your HP or Sun workstation, see your system administrator or the documentation that came with your workstation for information.

* (HP only): Problems Using CD-ROM Discs on HP 712 Workstations

If you try to mount a CD-ROM disc on certain HP 712 workstations attached to some CD-ROM drives, MAE may display an alert message, asking if you want to initialize the disk. Click Cancel in the alert box. For information about possible solutions to this situation, see your HP dealer or contact technical support at Hewlett-Packard.

* If MAE "hangs" when an NFS server goes down:

MAE 2.0 no longer hangs on NFS mounts when an NFS server goes down, unless the server was mounted "hard/nointr." Hard/nointr mounts cannot be interrupted while hard/intr are interruptible. To prevent NFS-related hangups, verify that all NFS mounts on your workstation are interruptible.

* If you need to refer to the wide-area part of a distributed AFS filesystem:

MAE does not permit the Finder or applications to see the wide-area part of the distributed AFS filesystem. To access a file contained in the wide-area part of an AFS system, use a UNIX shell to copy the file to a directory within the local cell, such as your home directory.

* If resizing the MAE window when CloseView is active causes MAE problems:

This is a known problem in the current version. Avoid resizing the MAE window when CloseView is active.

* (Sun only): If you are using OpenLook

If you are having trouble importing X data into the MAE environment (for example, text in an xterm window), make sure that you do not click on any olwm title bar after you have selected the X data. If you do so, the X Windows selection may become lost, and MAE will not be able to import it. To work around this problem, position the MAE window so the "Import from X" button (on the MAE toolbar) is visible, select the X data, then before clicking on any olwm titlebar, select the "Import from X" button.

* Displaying MAE on a Macintosh using MacX.

MAE may hang when its display appears on a Macintosh via MacX, when MAE is also mounting a fileshared volume from the same Macintosh.

* AfterDark 3.0

The files "Screen Posters" and "Bad Dog" in AfterDark version 3.0 are incompatible with MAE 2.0. After installing After Dark, remove these two files from your System Folder before restarting MAE.

* Shareware/freeware issues

MAE 2.0 includes three shareware/freeware programs, in the directory apple/Tools/Shareware. Observe these points when using these shareware programs:

- Third party software posted to this CD may be protected by federal copyright laws which prohibit copying unless authorized by the copyright owner. Before using any posted software, refer to the start up screen of the software, to the accompanying software license, or to the individual an/or company posting the software to determine if copying is authorized. Posted software is the sole responsibility of the individual and/or company posting it. Apple Computer, Inc. does not endorse, warrant, guarantee, or make any representations, express or implied, with respect to software posted to this CD, its quality, performance, merchantability, or fitness for a particular purpose. In no event will Apple be liable for direct, indirect, special, incidental, or consequential damages resulting from the use of posted software.

- Somre software in this folder is shareware; if you use a shareware utility, please honor its shareware fee.

- FETCH: Using Fetch to "get" and "put" non-text Macintosh files from or to UNIX filesystems requires special care to ensure the files are transferred in a usable state by MAE (that is preserving their AppleSingle format).

When "get"ing a non-text Macintosh file, always select "binary" transfer mode. When "put"ing a non-text Macintosh file, always select "AppleSingle" as the file format when prompted by the dialog. Macintosh and UNIX text files should always be transferred by selecting "text" (ASCII) transfer mode.

For complete instructions about using Fetch, read the online "Fetch Help".

- SOFTWAREFPU - Floating Point Unit Extension

This extension simulates the FPU coprocessor chip found in some Macintoshes and integrated into certain 68K CPU's. It is only useful for (the very few) Macintosh applications that require this FPU.

Complete instructions about using SoftwareFPU are included with the utility.

- DISINFECTANT - Virus Utility

MAE is susceptible to the same viruses that plague the Macintosh. However, there is no need to scan your entire UNIX filesystem for Macintosh viruses. When scanning with Disinfectant, hold down the Option key and press the "Scan" button, this will display a dialog that will allow you to limit the scope of the search.

For complete instructions about using Disinfectant, please read the online "Disinfectant Help".

For information on downloading the latest version of Disinfectant refer to:
TIL aritcle 30487: "**Disinfectant: Macintosh Anit-Viral Utility**"

The Tech Info Library article#17159: "**Locating Vendor Information**", can help you search for a particular vendor's address and phone number.
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PowerMac DebugServices 2.0b12 Incompatibility (3/95)

This article describes a PowerMac DebugServices 2.0b12 and Macintosh System 7.5 Update 1.0 incompatibility.

This article has been archived and is no longer updated by Apple.

PowerMac DebugServices 2.0b12 is not compatible with Macintosh System 7.5 Update 1.0. You need to upgrade to PowerMac DebugServices 2.0b14. This version of PowerMac DebugServices may not work with hosts earlier than those found on ETO 16. Please contact the manufacturer of your development environment if you encounter a problem using PowerMac DebugServices 2.0b14 with your development environment.

Support Information Services
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MAE 2.0: Using the Sound Manager (3/95)

This article describes the Sound Manager in Macintosh Application Environment (MAE) version 2.

This article has been archived and is no longer updated by Apple.
The Sound Manager in MAE version 2 acts transparently, much like the sound manager on the Macintosh. However, there are some setup issues and concerns for the different platforms. In addition, MAE is constrained by the host resources, which add performance issues.

Most current Macintosh programs that utilize sound use a sampling rate of 22kHz or less. The MAE Sound control panel allows you to set the audio output resolution to whatever the hardware allows. For best performance, set the sampling rate to 11 or 22kHz.

When executing multiple instances of MAE on a single workstation, only the first MAE instance will be able to use sound.

Hewlett Packard (HP) workstations

The Hewlett Packard sound implementation uses the Audio Server that is available on all sound-enabled HP platforms. The Audio Server should be updated with HP's patches to the latest level in order to make sound work correctly. The patch PHSS_4341 is currently necessary for correct operation. See the Read Me file (README.TXT) on the MAE CD-ROM for the latest information on patches.

Sound is not supported in HP-UX releases earlier than 9.03.

To determine if the patch has been installed, check for the file /usr/audio/bin/asecure. If this file is present, it is likely that the patch has been installed and MAE should function correctly.

HP audio will work only locally on the host Audio Server, by default. To enable a remote Audio Server, set the AUDIO environment variable to the Audio Server to which you want to send sound output.

There are a number of useful environment variables for sound.

* AUDIO specifies the Audio Server to send data to; for example, set the AUDIO environment variable to <hostname>:0.

* SPEAKER specifies destination for the sound. Set the SPEAKER variable to INTERNAL (which is the default) to use the internal speaker. Set it to EXTERNAL to send the sound to an output jack.

Troubleshooting for HP workstations

A list of potential problems and their solutions follows.

* Problem: Audio Server has been updated but no sound is produced.

Solution 1: Audio security may be enabled. Refer to the man page for the asecure command to enable sound output. The default configuration for the audio security is to disable sound output for all users. The asecure program enables access for any or all users of the target machine.

Solution 2: Increase the system volume. Use the program /usr/audio/bin/acontrol and increase the playback volume.

* Problem: MAE is running remotely, but no sound is produced.

Solution: If the display server is not equipped with an Audio Server (that is, it is not an HP workstation) you cannot get sound on it. If it is, before launching MAE set the AUDIO environment variable to the name of your display (that is, export AUDIO=<hostname>:0) on the machine that will run the MAE process.

* Problem: MAE sound hesitates; that is, there are intermittent silent portions in the sound output.

Solution: Run MAE on a faster machine or turn down the sampling rate in the Sound control panel. The higher the resolution of the sound, the more resources are necessary to produce the sound. Reduce the resources necessary by lowering the sampling rate.

Sun workstations

If the Sun workstation is sound capable, MAE sound will work with it. If the user who is running MAE is different from the one logged into the console, you must change the permissions of the audio devices with the following command line:

ls -la /dev/audio

Then follow the links to find the actual device (there are three or four levels of symbolic links). As superuser, you will need to change the permissions of the audio device to read/write access in order to enable sound.

NOTE: You must change the permissions for both /dev/audio and /dev/audioctl for sound to operate.

Troubleshooting for Sun workstations
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* Problem: MAE does not produce sound.

Solution 1: Make sure you are logged into the console or have the permissions on /dev/audio and /dev/audioctl set correctly for your user. See the first two paragraphs under "Sun Workstations," above, for details about permissions on added devices.

Solution 2: Press the mute button on the speaker box (if available). If the speaker box is muted, no sound is available.

Solution 3: Turn up the volume on the speaker box or in the Sound control panel.

* Problem: MAE sound hesitates.

Solution: Run MAE on a faster machine or turn down the sampling rate in the Sound control panel. The higher the resolution of the sound, the more resources are necessary to produce the sound. Reduce the resources necessary by lowering the sampling rate.

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Power Performa: Flashing Phone Icon in Menu Bar (3/95)

I have a flashing, green telephone icon over the date and time on my menu bar. When I click on the telephone icon, a message states "Select a contact file...". Another dialog box then asks me to "Select a contact file...".

I have a Power Performa 611X. What is this and how do I turn it off?

This article has been archived and is no longer updated by Apple.
The Power Performa computers have the Now Contact software installed. A part of the Now Contact software is a control panel called QuickContact. When the QuickContact menu icon is turned on in the control panel, this flashing telephone icon appears over the date and time on the menu bar. It's purpose is to allow quick access to a user's contact files.

To turn it off, open the QuickContact control panel and click off on the QuickContact menu icon setting.

This issue will hold true for any computer running Now Contact 1.1.

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LaserWriter 16/600 PS: Fuser Temperature

What is the fuser temperature for the LaserWriter 16/600 PS?
This article has been archived and is no longer updated by Apple.
The target fuser temperatures for the LaserWriter 16/600 PS are as follows:

	Normal Temp. Control	Initial Warm-Up Control
NON-PRINTING		
Wait	175 degree C (347 degree F)	190 degree C (374 degree F)
Standby	175 degree C (347 degree F)	190 degree C (374 degree F)
Auto Delivery	175 degree C (347 degree F)	190 degree C (374 degree F)
Initial Rotation	175 degree C (347 degree F)	190 degree C (374 degree F)
PRINTING		
Long Interval Printing	195 degree C (383 degree F)	195 degree C (383 degree F)
Continuous Printing	200 degree C (392 degree F)	205 degree C (401 degree F)
Intermittent Printing	185 degree C (365 degree F)	195 degree C (383 degree F)
Envelopes (<25)	190 degree C (374 degree F)	190 degree C (374 degree F)
Envelopes (>25)	180 degree C (356 degree F)	190 degree C (374 degree F)
B5 Envelope	200 degree C (392 degree F)	205 degree C (401 degree F)
1st Print from MP Tray	195 degree C (383 degree F)	195 degree C (383 degree F)

The initial warm-up control is initiated for the first 5 minutes whenever the initial temperature detected by the thermistor is 50¡C (122¡F) or less to improve fusing.

The fuser is not kept warm whenever the printer is in the Energy Saver mode.
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HyperCard: MacPaint Setting Prints 4 Pages Per Card (5/95)

I am having some difficulty printing from HyperCard. I create a stack with the card size set to MacPaint. Then I choose Print Card from the File menu. Multiple pages print out for each card! The first page has the card with all the correct information. The second, third, and fourth pages will be blank.

Is this the way HyperCard is suppose to work? Why does it print out 4 pages for every 1 card? Is there a fix for this, or some workaround?

This article has been archived and is no longer updated by Apple.
This HyperCard behavior is not entirely unexpected because some applications have a large print area (for example, the typical MacPaint card size has a fairly large print area). This can result in each card actually requiring more than a single page to print.

Examples Using Different Printers

This example uses a one card stack with a MacPaint sized card. The paint bucket tool was used to fill in a fairly dense pattern on the card to help see what is being printed. Two pages printed on a LaserWriter Pro 630.

The MacPaint card size is 576 pixels by 720 pixels. This card image is a little wider than the image area of the LaserWriter Pro 630, so the second page held a "sliver" of the right hand side of the card.

When resizing the card size of a stack, HyperCard forces pixel sizes of a multiple of 32 pixels for the width and 8 pixels for the height.

By resizing the card width from 576 pixels down to 544 pixels, the card printed on one page. A stack sized at 544 pixels wide by 736 pixels high printed on two pages with a sliver of the bottom of the card on the second page. A stack sized at 576 pixels wide by 736 pixels high, printed on four pages with a slivers of the right and bottom of the card on the second and third pages and the fourth page had a tiny square from the lower right of the card.

Depending on the printer used, a large sized card may need to be spread over multiple pages to show the whole card image. If there is not any kind of pattern near the right and bottom of the cards then the extra pages may appear to be just extra blank pages, when actually they represent boundaries of the card image. Be sure after resizing a stack that the fill pattern extends to the bottom of the newly sized cards. The pattern does not propagate just because the card is made larger.

The way the card prints out depends on the pixel imaging size of your printer. Another factor that could have an effect on this printing situation, in a non-QuickDraw GX environment, is whether you have set the Page Setup Options to have a larger imaging area available by choosing fewer downloadable fonts.

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At Ease Version 2.0.4 Not Available in the U.S.

I have heard about an At Ease version 2.0.4. How do I get it, or does it even exist?

This article has been archived and is no longer updated by Apple.

It does exist, however, it is not supported or available in the United States. It was created specifically to fix some problems with At Ease unique to the Japanese version. It has no new features as compared to version 2.0.3. At Ease version 2.0.3 is the latest version intended for and supported in U.S. markets.

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Application Size: Different for Native PowerPC and 680x0 (5/95)

I have noticed that the amount of memory in use by an application in the "About This Macintosh" dialog box does not always match the memory allocated to the application in the Get Info dialog. This only seems to occur with PowerPC native applications when running with Extensions off.

For example, using ClarisWorks 3.0, the preferred memory size shown in the Get Info dialog box is 950K, but after launching the application, "About this Macintosh" shows it using 2,054K.

This article has been archived and is no longer updated by Apple.
A PowerPC native application has different memory requirements when running on a 680x0 or a PowerPC based computer. Additionally, the Finder does not recognize the memory allocation settings of native applications. To do so, it requires the PowerPC Finder Update (7.1.2 or 7.5) or Finder Update (7.5 with System 7.5 Update 1.0). Starting your computer with extensions off disables the Update. Without the Update active, the Get Info dialog box shows the memory allocation for the application as if it were running on a 680x0 based computer.

The system software, however, sees the proper memory allocation for the native application and allocates the correct amount of memory to the application when it loads. This is why the higher memory usage appears in the About This Macintosh dialog box.

In the preceding example, ClarisWorks on a 680x0 computer has a preferred size of 950K by default. On a Power Macintosh, because it is a native application, it has a preferred size of 2,054K. Without the Finder Update, the Finder reports the first preferred size in the Get Info dialog but the System uses the second size.

Always make sure that the proper Finder Update has loaded at startup before trying to adjust memory allocation on a native Power Macintosh application. The Finder Updates also generate the message at the bottom of the Get Info dialog explaining that memory allocations go up or down if you turn virtual memory on or off. If you do not see this message when looking at the Get Info dialog of native application, the Finder Update did not load.

The Update does not show up in the Extensions Manager control panel. You must look in the Extensions folder to confirm its presence.

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03 May 1995 - Added keyword; made minor technical updates.

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Macintosh Tutorial: Where is Part II? (5/95)

Some customers have reported that they can find Part I of the Macintosh Tutorial on their hard drives, but cannot find Part II anywhere either on the System 7.5 CD-ROM or on the hard drive.

This article has been archived and is no longer updated by Apple.
Part I and Part II of the Macintosh Tutorial were created in different applications and saved as different types of documents, which is causing the confusion.

Installation

To make sure that the Macintosh Tutorial runs correctly, you must first run the Macintosh Tutorial Installer from the System 7.5 CD that came with your Macintosh computer. To run the Installer, double-click its icon and select Install (onto your hard drive).

Note:
The Macintosh Tutorial does not come on the System 7.5 floppy disks; it only comes on the System 7.5 CD.

The software installs a file called Macintosh Tutorial (an Apple Guide file) and a folder called Tutorial Items into the Extensions folder inside the System Folder. You cannot run the Macintosh Tutorial program directly from the CD.

Correct Way to Run Tutorial

From the Finder, At Ease Not Installed

Select the Macintosh Tutorial option in the Help menu (the balloon with a question mark in the upper right of the Menu Bar). This opens an Apple Guide screen giving you the option to open Part I or Part II. If you select Part I, Apple Guide automatically opens the MacroMind Director file and runs through it.

When you quit or finish Part I, it takes you back to the initial Apple Guide Macintosh Tutorial screen, where you can select either Part I or Part II. If you select Part II, the tutorial starts into an Apple Guide tutorial (not MacroMind Director). In other words, Part II is encapsulated in the Macintosh Tutorial Apple Guide file while Part I is a stand-alone MacroMind Director file.

From the Finder, At Ease Installed

If At Ease is installed, the computer must be set to Go to the Finder at startup in order to properly access the Macintosh Tutorial through Apple Guide. If you are running At Ease, and your computer goes into At Ease at startup rather than the Finder, then you do not have access to the Apple Guide. In this case, the only access to Macintosh Tutorial is through the Tutorial Items folder, which does not find Part II because it is an Apple Guide file, not a MacroMind Director file.

NOTE:
See the TIL article titled "System 7.5: At Ease, KidDesk & Apple Guide Are Compatible" for more information about using Apple Guide with At Ease.

Incorrect Way to Run Tutorial

Many users try to run the tutorial from within the Tutorial Items folder instead of using the Help menu. This folder contains a MacroMind Director file called Macintosh Tutorial Part I and its associated data files. If you double click on Part I, it opens and runs Part I of the tutorial. When you get to the end or quit in the middle, it takes you back to the Finder without the option of going to Part II. This is not the way the Macintosh Tutorial was intended to be used. It was only intended to be run from within Apple Guide.

Summary

You cannot run the tutorial from the CD-ROM without first installing it onto your hard drive. Nor can you properly run the Macintosh Tutorial from inside the System Folder by double-clicking on the Part I MacroMind Director file. For the tutorial to run properly, you must run it from the Help Menu. This is the only way you can "find" and run Part II of the tutorial.

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05 May 1995 - Added information about Macintosh Tutorial only coming on CD.
03 May 1995 - Added keyword; made minor technical updates.
31 Mar 1995 - Added information about At Ease.

Support Information Services
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AWS 95: Install Oracle on Raw Slice or Free Slice 3 (3/95)

On an Apple Workgroup Server (AWS) 95 I have a question about an Oracle installation and partitions. I've been told that Oracle data drives require a raw partition, and are not mounted as a mount point. Is this true?

This article has been archived and is no longer updated by Apple.
Oracle does work in a raw partition, however, Oracle does NOT require a raw partition. Oracle will work fine on a free UNIX Slice 3 partition.

Oracle Tech Support suggests using a Slice 3 partition instead of a Raw partition. They claim the increase in speed with a Raw partition is not worth the trouble for Macintosh users to deal with UNIX directly. It's much easier for most users to be in the familiar Macintosh environment to manipulate their Oracle Database files.

Below are some of the advantages and disadvantages of both:

Raw Slice

Advantages:
* Fastest access to hard drive (no file system overhead)

Disadvantages:
* Have to use tar or other UNIX utilities to backup partition
* Can't use Finder to see directory structure

Free UNIX Slice 3

Advantages:
* Can use Retrospect to backup the partition
* Can use finder to navigate file structure

Disadvantages:
* Slightly slower

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PowerBook 500 series: Battery Identification (3/95)

This article describes the differences between the PowerBook 500 series batteries.

This article has been archived and is no longer updated by Apple.
Rev A

BP416 or earlier, no dot.

Rev B

BP417 or later, no dot.

Rev C

BSxxx, BP with black dot

Rev D

BSxxxxxxxxD

Manufacturer code

BP = Panasonic
BS = Sanyo

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ProDOS: Error Codes

The table below contains a listing of ProDOS error codes.
This article has been archived and is no longer updated by Apple.

Code	ProDOS message	Most common cause
2	RANGE ERROR	Command option too small or large
3	NO DEVICE CONNECTED	Command option too small or large
4	WRITE PROTECTED	Write-protect tab on disk
5	END OF DATA	Read beyond end of file or record
6	PATH NOT FOUND	No file with indicated pathname
7	PATH NOT FOUND	No file with indicated pathname
8	I/O ERROR	Door open or disk not formatted
9	DISK FULL	Too many files on a disk
10	FILE LOCKED	Attempt to write to a locked file
11	INVALID OPTION	Option inappropriate for command
12	NO BUFFERS AVAILABLE	Memory full; file can't be opened
13	FILE TYPE MISMATCH	Disk file wrong type for command
14	PROGRAM TOO LARGE	Apple II's memory too small (CHAIN)
15	NOT DIRECT COMMAND	Comand must be in a program
16	SYNTAX ERROR	Bad filename, option, or comma
17	DIRECTORY FULL	Volume directory has 51 files
18	FILE NOT OPEN	Attempt to open a closed file
19	DUPLICATE FILENAME	RENAME, CREATE name already used
20	FILE BUSY	File already open
21	FILE(S) STILL OPEN	Last program didn't close file(s)

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IIe Startup: Version 2.2.2d1 Description (3/95)

What is the purpose of version 2.2.2d1 of the IIe Card Startup application?

This article has been archived and is no longer updated by Apple.

The 2.2.2d1 version is intended for use with the Macintosh LC 575/Performa 575 computers to resolve an issue at startup. This version provides no additional functionality to computers using the IIe Card.

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System 7.5.1: Installs Older Version of PC Setup

Installing System 7.5 Update 1.0 also installs an older version of the PC Setup Control Panel.
This article has been archived and is no longer updated by Apple.
The System 7.5 Update 1.0 includes PC Setup control panel version 1.0.2, which is older than the PC Setup control panel that came with Macintosh DOS Compatible computers.

If you choose the Custom Install option for the Macintosh DOS Compatible when you run the System 7.5 Update 1.0 Installer, your newer version of the PC Setup control panel is replaced. The Easy Install option leaves the newer version in your system untouched.

Older Control Panel Not Compatible

PC Setup Control Panel version 1.0.2 is not compatible with the Power Macintosh 6100, Macintosh LC 630, or Performa 640 DOS Compatible computers. The Macintosh Quadra 610 DOS Compatible, however, works fine with PC Setup Control Panel 1.0.2 or earlier, so installing the System 7.5 Update 1.0 on this computer has no affect on compatibility of the PC Setup control panel.

Reinstalling the System 7.5 Update

If you need to reinstall System 7.5 Update 1.0, please note the following installation order. To avoid reinstalling PC Setup v.1.0.2, reinstall System Software in the following order:

1. Install System 7.5.
2. Install software for your DOS Compatibility card. Follow the installation instructions in the DOS Compatibility ReadMe.
3. Install System 7.5 Update 1.0 (Easy Install).
4. Install any other software.

Note: Installing System 7.5 Update 1.0 prior to the installation of your DOS Compatibility software will first install PC Setup v.1.0.2, which may prevent you from proceeding with DOS installation.

Custom Install
Doing a Custom Install of either System 7.5 Update or control panels installs PC Setup v.1.0.2 on your system. This control panel is not compatible with your system. If you need to do a custom install, you must specifically exclude PC Setup v.1.0.2 by expanding the Custom Install menu selections and selecting all control panel items with the exception of PC Setup v.1.0.2. Refer to your User's Guide for instructions on using the Custom Install option.

Easy Install
An Easy Install of System 7.5 Update 1.0 does not install over the more current version of the PC Setup control panel that shipped with your system.
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Macintosh IIci: System Update and Daystar Digital Compat. (3/95)

Are there any known issues with the DayStar Digital Turbo 601 and the System 7.5 Update 1.0?

This article has been archived and is no longer updated by Apple.
A Macintosh IIci with the DayStar Digital Turbo 601 will not boot with the System 7.5 Update 1.0 installed if you are using a version earlier than 1.1 of the "Turbo 601" control panel.

Please contact DayStar Digital for an update.

The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number. You can also search the Tech Info Library using the vendors name as a search string.

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System 7.5 Update 1.0: Apple Guide Doesn‘t Work After System Update

After installing System 7.5 Update 1.0, Apple Guides does not work.
This article has been archived and is no longer updated by Apple.
This is a known issue with AppleGuide 1.2.5, installed by System 7.5 Update 1.0, on Power Macintosh computers. Mixins installed for features that are not present in the computer (like AV Mixins installed on a computer which has no AV technology) will cause Apple Guide to "lose contact" with the Macintosh Guide and Tutorial files, thus causing all of the Guides to no longer work.

A "Mixin" is an Apple Guide content file that merges with the main Apple Guide file to add extra options. On any Macintosh computer running System 7.5 there is a standard Apple Guide file and there may also be another Apple Guide file added to the system depending on the features of that particular Macintosh computer.

The solution is to remove the extra unnecessary Mixins that do not belong on your Macintosh computer.

The only way to mistakenly install Mixins that are not needed by your computer is to do a Custom Install of the System 7.5 Update 1.0 for ANY Macintosh. An Easy Install or Custom Install for your particular Macintosh computer will not install unnecessary Mixins.

This issue is documented in the System 7.5 Update 1.0 Read Me file. The following text is an excerpt from that ReadMe file.

Problem with Guides on Some Power Macintosh Models

If you have a Power Macintosh and have trouble opening the Tutorial, Macintosh Guide, Shortcuts, or other Apple Guide databases, you may have extra files that don't belong on your computer. To solve the problem, follow the steps below:

1. Open the Extensions folder (inside the System Folder) and drag the PowerBook Guide Additions file to the Trash.

2. Unless your computer is an AV model, drag the following items to the Trash:
* Video Guide Additions
* Video Player Guide Additions
* Speech Guide Additions

3. Choose Empty Trash from the Special menu.

4. Restart your computer.

Other Guide Mixins from Apple or third party applications may prevent the Macintosh Guide from opening. In some cases, you may need to choose which Guide is more important to you and remove any extra guides which are causing the problem.
Published Date: Feb 19, 2012

DOS Compatibility Card: Adapter for Projection Equipment (3/95)

I am having problems getting the DOS Compatibility Card to sync properly to the projection equipment I am using. Is there a way to do this?

This article has been archived and is no longer updated by Apple.
You can use the Sony MacView Cable Adapter (part # T-9985-647-1) to get the proper sync from both DOS and Windows. You need to use these settings on the MacView Cable Adapter:

Adapter Setting: M
Dip Switches: 1-6 OFF, 7-9 ON

The adapter can be purchased from Sony Service Parts at (800) 488-7669.

Support Information Services
Published Date: Feb 19, 2012

Apple IP Gateway: Incompatible with Some Ethernet Cards (3/95)

Is the IP Gateway incompatible with some Ethernet cards?

This article has been archived and is no longer updated by Apple.
Yes, the IP Gateway seems to be incompatible with some Ethernet cards. Whenever the IP Gateway software is invoked, some Ethernet cards may cause the computer on which it is installed to lock up. You must press the restart button to get the machine running again.

The Apple IP Gateway was tested with some third-party Ethernet cards (no list is available) but obviously not with all. If you are having difficulty with your particular Ethernet card, contact the vendor for your specific card.

The Tech Info Library articled titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.

Support Information Services
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AppleWorks 2.0: Booting it on the Apple IIe

This article discusses booting AppleWorks 2.0 on an Apple IIe.
This article has been archived and is no longer updated by Apple.
You MUST have an Extended-80 Column card installed in the Apple IIe to boot AppleWorks 2.0, even if you have a 1 Megabyte Memory Expansion Card installed. AppleWorks 2.0 requires a 128K Apple IIe or Apple IIc to boot and does not recognize the IIe unless you have the Extended-80 Column Card.
Published Date: Feb 19, 2012

Extended 80-Column RGB Card: Color Monitor 100 Pinouts (11/96)

Does the Extended 80-column card work in the Apple II or Apple II Plus? If not, is there any way to upgrade an Apple II or Apple II Plus to 80-Column?

This article has been archived and is no longer updated by Apple.

The 80-Column Card and Extended 80-Column Card work only in the Apple IIe; they cannot be used in any other computer.

Our databases do not show an 80-column interface for the Apple II or Apple II Plus. There were once several on the market, but the demand for this type of card has almost disappeared. You might still be able to find these 80-column cards through some of the computer remarketing companies, or where use computer equipment is sold.

An alternative is to purchase an Apple IIe or Apple IIGS computer. You need to to contact computer remarketing companies, or look where use computer equipment is sold.

Article Change History:
14 Nov 1996 - Reviewed for technical accuracy, revised formatting.
Published Date: Feb 19, 2012

PowerBook 500 series: Audio Playthrough from External CD (3/95)

I have a customer who wants to play audio CD's through his internal speakers. He has a PowerBook 500 series computer and a CD300 external drive. He has the audio cables connected to the sound input port. When he attempts to select the Play Through option as described in the Macintosh guide, he does not have that option available.

How can he play audio CDs through the internal speaker? I know that this is an option on AV units and Power Macintosh computers. Why can't he get this selection on the PowerBook 500 series?

This article has been archived and is no longer updated by Apple.
The Audio playthrough option will appear in Macintosh models which have an internal CD player which has the audio input connected to the logic board of the Macintosh via an internal audio cable. This connector is a four prong connector which essentially supplies the same capability as the positive and negative terminal on standard home stereo speakers right and left channel.

The computer will acknowledge this audio connector being present and provide the option for playthrough in the Sound Control panel. The PowerBook 500 series does not provide a connection for audio on it's logic board (the microphone connector does not count, see below). Because of this, it cannot monitor an audio signal from an external audio connector.

An audio connection made to the microphone port on the PowerBook 500 is unable to be monitored by the speakers of the PowerBook 500, until the signal is digitized and then played back through the speakers.

All Macintosh computers with internal CD support have the internal audio connection which will allow the playback of audio CDs through the internal speaker.

Support Information Services
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Macintosh: About This Computer vs. Actual RAM Installed

I have a Macintosh with 32 MB of RAM installed, but when I look in the About This Computer, it shows I have 32 768 KB installed. I don't have virtual memory enabled or RAM Doubler installed.

Where did the extra 768 K of memory come from?
This article has been archived and is no longer updated by Apple.
The discrepancy arises in the translation from base 2, which the computer uses, to base 10 which people use. In base 10 the easiest number to deal with divide easily by 10 such as 100, 1000, 10 000 etc. In base two the easiest number to deal with differ such as 128, 256, 1024, etc.

A thousand bytes, commonly called a kilobyte, is not exactly a 1000 bytes (base 10) but rather 1024 bytes (base 2). Likewise a million bytes, commonly called a megabyte, is not 1000 kilobytes (base 10) but 1024 kilobytes (base 2).

As the amount of RAM installed increases the differences between the two numbers compounds as the table below shows:

Megabytes	Kilobytes
1 MB	1024 KB
2 MB	2048 KB
3 MB	3096 KB
16 MB	16 384 KB
24 MB	24 576 KB
32 MB	32 768 KB
64 MB	65 536 KB

Multiplying the number or megabytes of RAM installed by 1024 gives the total kilobytes of RAM shown in the About This Computer window.
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Power Macintosh: Oscillator Chip & Warranty Implications

I have seen several advertisements for 'clock chipping' devices, sometimes referred to as "Clipper Chips", "Clock Boosters", or "Oscillator Chips" that will increase the speed of my Power Macintosh. Does Apple support the use of these products in its systems? Will they affect my Apple warranty?
This article has been archived and is no longer updated by Apple.
Apple has tested its products under the conditions and environments that they were designed and intended to be used. Installing a clock accelerator device that increases the clock speed of the Power Macintosh may introduce conditions that the Power Macintosh was not designed and/or tested to handle. The results may be unpredictable or produce unreliable operation and may also cause damage to the computer.

Clock chipping devices make assumptions about the software and hardware of the systems that they are installed into. Due to slightly varying tolerances of individual components used inside the Power Macintosh, some of these assumptions prevent such a device from working properly.

In addition, installing an add-on device may present additional stresses on the Power Macintosh that may cause premature failure of certain components. There are also risks involved in the installation of a clock chipping device. As outlined in the Apple Limited Warranty included with Apple products, Apple's warranty "does not apply to damage caused by accident, abuse, misuse, misapplication, or service (including upgrades and expansions) performed by anyone who is not an Apple Authorized Service Provider; if the product has been modified without the written permission of Apple..." Any damage caused by the installation of such a device will not be covered under the Apple limited warranty.

For more information on hardware changes and warranty implications, please see Tech Info Library article 25097: "**Unauthorized Changes To Hardware Voids Warranty**"

Published Date: Feb 19, 2012

QuickDraw GX: Installing Printing Extensions (3/95)

This article describes installing the QuickDraw GX printing extensions that come with System 7.5 CD-ROMs (both Personal and Multi-User Kits).

This article has been archived and is no longer updated by Apple.
In order to use QuickDraw GX printing extensions you must have QuickDraw GX installed. If you are not using QuickDraw GX, you cannot use the printing extensions.

Peirce Software, Inc. in conjunction with Apple Computer, provides a free copy of Peirce Paper Saver and Peirce Watermark. Peirce Paper Saver and Peirce Watermark are QuickDraw GX printing extensions that enhance your printing capabilities when using QuickDraw GX printing and applications that support the new GX printing dialogs. Peirce Paper Saver allows you to print multiple pages on a single sheet of paper. You can print handouts or thumbnail printouts in configurations of 2, 3, 4, 6, 9, or 16 pages per printout, saving you paper and hassles when printing out handouts or proofing pages. Peirce Watermark lets you choose between six different text "Watermarks" to print in outline style on top of your pages.

Installations instructions
==========

Step 1

Drag the Peirce Paper Saver and Peirce Watermark files from the QuickDraw GX Extras folder on the System 7.5 CD to your system folder (or to the extensions folder inside your system folder).

Step 2

Restart your Macintosh.

Step 3

After doing this you will be able to use Peirce Paper Saver and Peirce Watermark with any applications that support the new QuickDraw GX printing dialogs (such as the Finder, SimpleText, and third party applications) by clicking on the "More Choices" button on the left side of the printing dialog to see the installed GX printing extensions. You will also be able to access additional instructions and information directly from the Peirce Paper Saver and Peirce Watermark dialogs by clicking on the "More Info" button.

For technical support on Peirce Paper Saver or Peirce Watermark call Peirce Software, Inc.

The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.

Support Information Services

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LaserWriter 8.2: Read Me File (8/95)

Article Review/Updated: 22 August 1995

This article contains the LaserWriter 8.2 Read Me file.

This article has been archived and is no longer updated by Apple.
Information About LaserWriter 8 Printer Driver Version 8.2

This document contains some important reminders and some information that is not in the manual that comes with your printer. You may want to print this document and keep it for future reference.

The software on this disk includes version 8.2 of the Apple LaserWriter 8 printer driver, which works with many Apple LaserWriter printers. This document includes information about the software, as well as about several of the printers.

Installing the Printer Driver Software

The manual that comes with your printer contains detailed installation instructions. You cannot install the software by dragging their icons; you must use the Installer program as described in the printer manual.

Please note: before installing the printer software, you should restart your system with all Extensions turned off. To do this, hold down the Shift key while you restart your computer.

The Installer does not remove versions of the LaserWriter printer driver that are older than version 8.0. You may remove these files from your System Folder if you no longer need them.

The Installer does remove older versions of the LaserWriter 8 driver (for example, LaserWriter 8.0) and replaces the PPD files for Apple LaserWriter printers with the latest versions.

When you choose Easy Install, the Installer places the following files in the System Folder on your hard disk. LaserWriter 8 is placed in the Extensions folder. The PPD files which are used by LaserWriter 8 are in a folder called Printer Descriptions also located in the Extensions folder. The Apple Printer Utility and LaserWriter Utility are placed in the System Folder.

Please note: if the Installer is unable to remove old files from your hard disk, it will terminate the installation procedure. If this happens, please remove old copies of the LaserWriter 8 driver and the PPD files. Run the installer again.

About PPD Files

The LaserWriter 8 driver uses PostScript Printer Description (PPD) files to determine the characteristics of the printers it uses. PPD files contain information about individual PostScript printers. For example, PPD files describe the paper-handling capabilities of printers: the number of paper trays, their capacity, and the paper sizes they handle.

To take full advantage of your printer's features, click the Setup button in the Chooser when selecting your printer for the first time, or after installing an additional option. This procedure causes the LaserWriter driver to query the printer for its characteristics and associate a particular PPD file with the printer.

About Creating EPS Files

You can create an Encapsulated PostScript (EPS) file in many application programs by clicking File in the Print dialog box, then clicking Save. When you create an EPS file, note the following:

* Creating EPS files with the All option selected in the Font Inclusion pop-up menu in the EPS dialog box can result in very large files. If you include all fonts in an EPS file and save the file with the Unlimited Downloadable Fonts option selected, an extremely large file may be created.

* If you create an EPS file with no fonts included and open the document, fonts in the document appear on your screen, but Courier may be substituted when you print.

* When you create EPS files with preview information included, other applications that create their own PostScript code may not display the EPS file accurately on the screen.

About the LaserWriter Utility and the Apple Printer Utility

Installing the LaserWriter 8 driver and printer software places the Apple Printer Utility program in your System Folder. The Apple Printer Utility

program is designed to work with the LaserWriter 16/600 PS printer and succeeding releases of new printers.

To configure and work with previously released LaserWriter models, use the LaserWriter Utility that came with your printer. The LaserWriter Utility is also provided on your printer software disks. You can install the LaserWriter Utility on your computer's hard disk by using the Custom install option of the Installer.

Using the LaserWriter 8 Driver With LaserWriter Printers

When using the LaserWriter 8 driver, you should be aware of the following situations. Some happen with all LaserWriter printers, and others happen only with specific models.

All LaserWriter Printers

* The LaserWriter 8 driver allows some printers to print using a larger imageable print area on the page. If your printer does so, you may find that text in some documents reflows or is clipped to fit the new imageable area. To maintain your document format when printing to different printer models, deselect the Larger Print Area option in the Page Setup Options dialog box.

* Some older printers with small amounts of memory will not print documents containing large numbers of fonts unless the Unlimited Downloadable Fonts option is selected in the Page Setup Options dialog box. If a document using multiple fonts doesn't print using the LaserWriter 8 driver, try selecting Unlimited Downloadable Fonts in the Page Setup Options dialog box and print again.

* Printing multiple documents with the Finder may not work if the documents have been created by different application programs.

* If you encounter a time-out (PostScript error -8993) when printing multiple copies of large and complex documents in the background, print the documents one at a time or select foreground printing to avoid this problem.

LaserWriter IIg and IIf

* When you select paper sources from the First From and Remaining From pop-up menus in the Print dialog box, selecting Manual Feed for either source sets the driver to print the first page from the manual feed tray.

* The US Legal paper size has been changed on some LaserWriter IIf/IIg printers to be more compatible with other Apple LaserWriter printers. If your legal-sized documents no longer fit on the page, select Larger Print Area in the Page Setup Options dialog box.

* Some form-printing applications cannot print forms using the Layout settings in the Page Setup dialog box.

LaserWriter IINT and IINTX

* If you select both the Smooth Graphics and the Invert Image options in the Page Setup Options dialog box, a PostScript error results.

* Do not use the B5 tray to print envelopes on a LaserWriter IINT. Use the letter tray instead.

LaserWriter Pro 600 and 630

* You cannot use Auto Select as the Paper Source in the Print dialog box to print envelopes from the optional envelope feeder.

* When you print at a resolution of 600 dots per inch (dpi), bitmapped images may appear with lines across the image.

LaserWriter Pro 810

* With some graphics applications, bitmapped graphics will be reduced by 25% in size when printed with the Precision Bitmap Alignment option in the Page Setup Options dialog box.

* When you create a PostScript file with a LaserWriter Pro 810 selected as the printer and send the file to a printer that uses PostScript Level 1, a PostScript error will occur.

LaserWriter 16/600 PS

* If Tray Switching is turned on and you have installed the optional 500-sheet feeder, and it contains the same paper size as the 250-sheet feeder, you should set up the driver to use the 500-sheet feeder as the preferred paper source for optimal printing performance. See Chapter 5 in the manual that came with your printer for instructions on selecting the 500-sheet feeder as the preferred paper source.

Using the LaserWriter 8 Driver With the Kanji System

To print Japanese characters using KanjiTalk or the Japanese Language Kit, your system must have WorldScript II version 7.1.1 or later.

Using the LaserWriter 8 Driver With Application Programs

Some application programs do not yet take advantage of the new features of the LaserWriter 8 driver or have small incompatibilities that result in printing problems. If you experience problems with a program, contact the publisher of the program. In some cases a newer version of the program may be available.

The following list describes some special cases that you should be aware of when working with some application programs. (There may be other problems with these programs, or with other programs, not mentioned in this document.)

* With many applications, you cannot use the Flip Horizontal, Flip Vertical, landscape page orientation, and Layout option in the Page Setup dialog box in combination.

Aldus Freehand 4.0

* Documents do not print correctly when you choose a page layout from the Layout pop-up menu in the Page Setup dialog box.
* EPS files created using the LaserWriter 8 driver from within Freehand cannot be used in other programs.

Aldus PageMaker 5.0

* Rotated graphics may not print correctly when you hold down the Option key and click Print in the Print dialog box.
* You cannot print legal-size documents from the paper cassette of the Personal LaserWriter 320; print such documents by selecting Manual Feed or by holding down the Option key and clicking Print in the Print dialog box.

Aldus SuperPaint 3.5

* Rotated or filled polygons print as solid gray objects.
* Gradient fills may not print when copied into other programs.

Canvas 3.5

* When you select the Substitute Fonts option in the Page Setup Options dialog box, text may be incorrectly spaced if fonts Geneva, New York or Monaco are used.

CricketDraw III 2.01

* When you choose a page layout from the Layout pop-up menu in the Page Setup dialog box, underlined TrueType fonts may not print.

CricketPresents 2.1

* You cannot import an EPS file created with the LaserWriter 8 driver when it has been saved without preview information.

FileMaker Pro 2.1

* When you choose a page layout from the Layout pop-up menu in the Page Setup dialog box, documents that contain EPS graphics may appear clipped when printed.

Informed Manager 1.4

* When you select the Unlimited Downloadable Fonts option, some graphic elements may shift or disappear when printed.

Lotus 1-2-3 1.1

* Text printed with the Outline or Shadow text style appears filled with gray.

MacDraft 3.01 and earlier versions

* When you print using the Cut Marks option, a PostScript error results.

Microsoft PowerPoint 3.0

* Polygons and ovals filled with gradients and without a border line may shift locations on the page when printed.

Microsoft Works 3.0

* Printing documents that have rotated objects with rounded corners results in a PostScript error.

Painter 2.0

* When you print using the Invert option, images do not print inverted correctly.

PixelPaint Pro 3.0

* When printing using the Invert option, images do not print inverted correctly.

QuarkXPress 3.3

* Be sure to use the PPDs provided with QuarkXPress when you choose a page layout from the Layout pop-up menu in the Page Setup dialog box.

RagTime 3.2

* You cannot print documents that contain PICT or TIFF files.

ReadySetGo! 6.0

* Use ReadySetGo! version 6.0 with the LaserWriter 8 printer driver; earlier versions will not work.
* You cannot print documents that use pen patterns.

Studio/8 & Studio/32

* When creating an EPS file with these programs and the LaserWriter 8
driver, you must select the QuickDraw Printer option.

WordPerfect 3.0

* When you select the Unlimited Downloadable Fonts option and print rotated text in Watermark, the entire document rotates when printed.

How to Get Updated Printer Software

If you need to update your printer software and you have an AppleLink account, you can obtain the latest versions of the LaserWriter 8 software from AppleLink.

Follow this path to locate the LaserWriter 8 software:

Apple Products
Apple Software Updates
Macintosh
Printing Software

The latest LaserWriter 8 software is also available from Apple's ftp site on the Internet. The path is:

/ftp/dts/mac/sys.soft/laserwriter.8.2.

Article Change History:
22 Aug 1995 - Made minor corrections.

Support Information Services
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System 7.5: Progress Bar and Welcome To Macintosh Screen (3/95)

I have noticed that in System 7.5, when I invoke the Extensions Manager during startup, only the progress bar shows up and not the complete Welcome to Macintosh screen. The same thing happens if I have a StartUpScreen file in my system folder.

Does this indicate a problem?

This article has been archived and is no longer updated by Apple.
System 7.5 Update 1.0 resolves the problems you described. We have verified that a 32 bit color StartUpScreen on a PowerBook 540c with System 7.5 Update 1.0 has the start up process displayed as expected.

also, when you invoke Extensions Manager at startup, there is no floating progress bar when the Extensions Manager window closes and the startup process is continued.

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LaserWriter 16/600: Printing From UNIX, Troubleshooting (3/95)

The files I send to my LaserWriter 16/600 PS are not being printed, or they are not being printed correctly. How can I correct this?

This article has been archived and is no longer updated by Apple.
The first thing to check is the LaserWriter setup. UNIX administrators know how to set up the /etc/printcap file, but they assume the printer does not need configuration for text.

The LaserWriter 16/600 PS defaults to PostScript as the TCP/IP mode, however, PostScript cannot handle text files. PCL5 handles text files, so the TCP/IP mode should to be changed to PCL5. If PostScript is also expected from this printer, choose AutoSelect. Here are the instructions:

Step 1
Move the configuration switch located above the Parallel port on the back of the printer to the up position.

Step 2
Launch the Apple Printer Utility.

Step 3
Open the Communication Configuration category.

Step 4
Open the Up Switch Position category (Custom)

Step 5
Set the TCP/IP mode to AutoSelect

Step 6
Press the Send button

Also check the /etc/printcap file. Follow the example on page 125 of the "Apple LaserWriter 16/600 PS: Setting Up, Connecting, and Using Your Printer" manual that came with your LaserWriter 16/600 PS. More specifically, check the type to which "rp" is set. If "rp=text" and the printer is not working correctly, try "rp=raw", or visa-versa.

More in-depth information on setting up the /etc/printcap file can be found in the Tech Info Library article "LaserWriter 16/600 PS & Sun Solaris Through TCP/IP".

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PowerTalk Direct Dialup Read Me (3/95)

This article is the PowerTalk Direct Dialup Read Me.

This article has been archived and is no longer updated by Apple.
PowerTalk Direct Dialup Mail allows you to send mail between two computers connected via modem. For instructions on the use of PowerTalk Direct Dialup Mail, please refer to the "PowerTalk User's Guide." To use Direct Dialup mail, you need to have PowerTalk and Direct Dialup mail installed and a modem connected to your Macintosh or PowerBook.

Installation and Compatibility

Apple Remote Access (ARA) 1.0 is not compatible with Direct Dialup mail. It is automatically removed from your hard disk when you install Direct Dialup mail. To use ARA with Direct Dialup mail, you must upgrade to Apple Remote Access version 2.0 or later.

ARA MultiPort Server is not compatible with Direct Dialup mail. Do not install both ARA Multiport Server and Direct Dialup mail on the same computer.

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Macintosh Pascal 1.0: Error ID=02 on 512K with no external drive

This article has been archived and is no longer updated by Apple.
On a 512K Macintosh with no external drive attached and any Finder (1.1, 4.1, or 5.0), Macintosh Pascal bombs with a system error ID=02 when executing the following Pascal program:

```
program Bomb;
var
r : real;
outfile : text;
begin
rewrite(outfile, 'Data Disk:Sample File');
r := 0;
writeln(r : 5 : 2);
writeln(outfile, r : 5 : 2);
end.
```

Using the step-step feature of Macintosh Pascal, the next line to be executed when the bomb occurs is "r :=);".

To get this error:

1. Insure that the external drive is not connected. The system must have one drive only.

2. Boot with Macintosh Pascal disk.

3. At the desktop, eject the Macintosh Pascal disk.

4. Insert a blank disk and name it "Data Disk".

5. Eject this disk. Do NOT put it in the trash - the disk must still exist on the system.

6. Open Pascal document "Bomb", the program above.

7. Execute the program either with the command "go" or "step-step".

8. Insert the disk "Data Disk" when the message asking for it appears.

This problem has two work arounds:

1. Move the statement "r := 0;"
before the statement "rewrite(outfile, 'Data Disk:Sample File');

2. As a general practice, place the File definition var FIRST.
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QuickDraw 3D: Questions and Answers

This article provides the following questions (and answers) about QuickDraw 3D:

1. What are you announcing?
2. What is QuickDraw 3D?
3. Why is Apple doing 3D?
4. When will it be available?
5. How will it be distributed?
6. What about 680x0 Macintosh computers?
7. Will it be cross-platform?
8. What are developers saying about it?
9. What is the minimum configuration?
10. Will QuickDraw 3D support OpenDoc?
11. What is the difference between QuickDraw 3D and QuickTime VR?
12. How does QuickDraw 3D compare to OpenGL?

This article has been archived and is no longer updated by Apple.

Question 1: What are you announcing?

Answer: The February 1995 announcement is a technology announcement with regards to QuickDraw 3D and Apple's new 3D metafile format (3DMF)

Question 2: What is QuickDraw 3D?

Answer: QuickDraw 3D is a system extension for creating, manipulating , rendering, and sharing 3D graphics. It consists of human interface guidelines and toolkit, a 3D file format, a high-level geometry engine, a shading and rendering architecture, and a device and acceleration manager for hardware acceleration.

Question 3: Why is Apple doing 3D?

Answer: The addition of 3D graphics technologies to the platform will enable Apple to extend its lead in the markets where we are currently strong, including publishing, multimedia authoring, and education, by providing these customers with next-generation 3D solutions. It will also make Apple even more competitive in the technical markets as well as in the rapid growing consumer markets, where games and entertainment are all using 3D graphics.

Question 4: When will it be available?

Answer: Apple expects to ship the software this summer.

Question 5: How will it be distributed?

Answer: QuickDraw 3D will be licensed to developers for shipment with their applications, and shipped on the hard disk of new Power Macintosh computers.

Question 6: What about 680x0 Macintosh computers?

Answer: QuickDraw 3D is the first new software designed to take advantage of the PowerPC chip, and as such is not designed to run on 68K machines. However, the file format is designed for ANY platform; therefore, 68K-based applications will be able to read and write 3D data-they will display and manipulate the data with their own software, as they do today.

Question 7: Will it be cross-platform?

Answer: Yes. Apple has made the commitment to release a Windows version QuickDraw 3D roughly six months after the release of QuickDraw 3D 1.0 for versions of MacOS running on PowerPC.

Question 8: What are developers saying about it?

Answer: To date, developer support has been outstanding. Both major hardware and software developers are announcing support to the technology. QuickDraw 3D has also attracted some new players to the MacOS running on the Power Macintosh platform.

Question 9: What is the minimum configuration?

Answer: The minimum configuration is:

- A PowerPC processor
- Macintosh System 7.1.2 (or later)
- A hard drive
- 16MB of DRAM

Question 10: Will QuickDraw 3D support OpenDoc?

Answer: Yes. If a developer decides to make a 3D part with QuickDraw 3D, then any OpenDoc container will get 3D functionality without further modification!

Question 11: What is the difference between QuickDraw 3D and QuickTime VR?

Answer: QuickDraw 3D helps developers in the creation and rendering of synthetic 3D graphics. QuickTime VR is a very sophisticated playback engine that enables developers to stitch together either photographs or pre-rendered 3D scenes so that they can be "navigated" interactively.

Question 12: How does QuickDraw 3D compare to OpenGL?

Answer: The QuickDraw 3D API addresses the needs of developers and customers by providing user interface guidelines, a high-level geometry engine, an extensible shading and rendering architecture, and a file format. OpenGL provides support for low-level geometry and rendering.
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Apple Education Series: Early Versions Require Password (12/95)

I cannot seem to reinstall my Apple Early Childhood Connections software without a password. I do not remember the password and it does not seem to be published anywhere. Where can I get it?

This article has been archived and is no longer updated by Apple.
Early versions of Apple Education Series bundles required a password for reinstalling the software from the backup CD-ROM discs.

These bundles include:

* The Apple Early Language Connections bundle
* The Apple Early Childhood Connections bundle
* The Biology Bundle

You can call the Education Support Group at the Apple Assistance Center (800-SOS-APPL). They will provide the password for the time frame during which the bundle was purchased. Due to security reasons, Apple does not publish these passwords.

Beginning in October 1995, the following software bundles were no longer pre-installed on your hard drive and shipped on CD-ROM disc only. Versions of these bundles released after October 1995 can be installed or reinstalled without a password:

* The Apple Early Language Connections bundle
* The Apple Early Childhood Connections bundle
* The Apple Spanish Language Connections bundle

Article Change History:
20 Dec 1995 - Updated support group's official name.
28 Nov 1995 - Updated which bundles require password.

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QuickDraw GX 1.1.1: System Crashes at Finder Launch (3/95)

I am experiencing a consistant crash at the Finder launch after installing QuickDraw GX 1.1.1. I have tried removing all of my extensions and nothing has changed.

This article has been archived and is no longer updated by Apple.
Start up with Shift key held down. Then remove the Finder Preferences file from the System Folder's Preferences folder.

If you have and know how to use ResEdit or a similar editing program you can just remove all 'sgci' resources from a copy of the Finder Preferences file and replace it. This latter approach preserves all other Finder preferences.

WARNING:
The instructions in this article refer to using ResEdit to alter your system software. Apple Computer, Inc., is not liable for any damage done to your software through the use of ResEdit to alter the software. The User Assistance Center phone representatives (at 800-SOS-APPL) do not provide technical support for ResEdit. It is supported by APDA. For contact information on APDA, search the Tech Info Library under "APDA".

Support Information Services
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Blind Dialing Problem With Express Modem II v1.5.4 (3/95)

I have a problem concerning the blind dialing capability of the Express Modem (version 1.5.4). When I check the box "without dial tone detection," the modem does not dial. Instead a dialog box appears in the screen saying that modem could not acquire dial tone.

This problem appears only in the PowerBook 500 Series (520 and 540c tested). Also we believe that the problem appears only in the European modem version because we have tested it in the U.S. and the European modem was (Express Modem II) working properly.

Could you please tell me if there is any possible workaround for this?

This article has been archived and is no longer updated by Apple.
The problem you are experiencing is not tied to a specific Express Modem hardware. It depends on what country settings you are currently using with your Express Modem software. On a PowerBook 200 Series (Duo) the country settings are controlled by an external DAA country code. On a PowerBook 500 Series with Express Modem II the System software country code controls the settings.

There are countries like France and Spain where PTT protocols do not allow blind dialing. Hence, the atx3 command or EM CDEV checkbox have no effect in these countries. If you are using Express Modem v1.5.4, only the ';d' "hack" works to enable blind dialing in this situation.

In next release of the Express Modem software (v2.0) the checkbox will not be displayed when you are in a country where the feature is not allowed.

Workaround

Put ;d in the Dial Prefix box or as the first two characters of the phone number (for example, ;d5551212). This will force the modem to blind dial.

Support Information Services
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PowerBook: Text to Speech from PlainTalk (3/95)

I used to be able to have my PowerBook read files out loud using SimpleText, but now the Sound menu items are dimmed. I've reinstalled the System software but SimpleText won't talk anymore.

What file is missing and how do I get it installed?

This article has been archived and is no longer updated by Apple.
The PlainTalk Product consists of two parts. Part one is related to speech input and only functions on Quadra AV models and Power Macintosh computers. Part two is related to speech output and is referred to as TTS or Text-to-Speech.

Text-to-Speech is currently shipping with PowerBook 200 & 500 models. It can be acquired from an Apple Software updates site and installed on any PowerBook, though.

The TTS software is included in the Extras / Apple Extras folder. A minimum installation is just the Speech Manager extension which supplies the built-in "Fred" voice. If more voices are desired and the machine has enough memory to support them, then the MacinTalk Pro extension and the Voices folder can be copied to the Extensions folder for additional voices.

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Power Macintosh 6100 DOS Compatible Card: Memory Map

This article provides a memory map of the DOS Compatibility Card for the Power Macintosh 6100.
This article has been archived and is no longer updated by Apple.
Here is a table of the DOS Card memory map.

Region	**Address Range Hex**	**Address Range KB**	**Address Size KB**
BIOS	F000-FFFF	960-1024	64
Free UMB	E000-EFFF	896-960	64
EMS Frame/Free UMB	D000-DFFF	832-896	64
Read-only Block	C980-CFFF	806-832	26
Option BIOS	C800-C97F	800-806	6
Video BIOS	C000-C7FF	768-800	32
Video Buffers	A000-BFFF	640-768	128
Conventional RAM	0000-9FFF	0-640	640 1024

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Composite/S-Video: Maximum Cable Length

I have a customer who wants to use the Apple Presentation System in their school. They want to wire the building for S-Video. Is there a maximum S-Video cable length restriction for the Apple Presentation System, from the box to the video monitor?
This article has been archived and is no longer updated by Apple.
Generally speaking, the video industry has not defined limits for the maximum length of composite or S-video cables (whether they are attached to the Apple Presentation System, or any other video source, like a VCR).

Composite and S-video cables carry an analog video signal. Due to the characteristics of these signals, they can travel over much longer cables, with much less degradation, than, for example, digital data on a Macintosh SCSI bus.

As longer cables are used, an analog video signal will become weaker and have less quality. How weak the signal gets depends on the quality of the cable. If the customer connected a 500-foot cable to the Apple Presentation System, a week video signal may still be visible on the attached video monitor.

Since digital signals cannot usually afford to "lose" data due to low quality, the cables must have a specified maximum cable length, over which 100% of the data is guaranteed to travel. This is why there are cable length specifications for technologies like SCSI, ADB, and LocalTalk.

Here's the bottom line:

Although we are not aware of a length specification for this kind of cable, it is probably a good idea to use cables that are shorter than about 50 feet. However, it's possible to use high quality cables that are 100 feet, or longer, without a perceptible loss in signal quality. The customer will see the "best" performance when using the shortest cables.

If your customer finds that they are unable to get a high quality video signal using longer cables, they could also consider using a video distribution amplifier. Video distribution amplifiers take an incoming video signal, such as from the Apple Presentation System, and boost it, so that it can travel over greater distances. These devices are usually available from high-quality video equipment dealers.
Published Date: Feb 19, 2012

MacTerminal 2.0: Issuing Breaks

This article has been archived and is no longer updated by Apple.
A Macintosh Plus can run MacTerminal 2.0, but the new Macintosh Plus keyboard cannot produce a "Break" in the same way.

Among others, users of Northern Telecom SL-1 PBX are affected by this change.

To work around the problem:

1. Use the 'Option' key on the new Macintosh Plus keyboard.

a. Break (0.2 sec): Option, Enter

b. Long Break (2 sec): Option, Shift, Enter

2. For short Break (0.2 sec), use the Apple Cluster Controller's "Attn" on the Pull-Down-Keypad.

3. When using the OLD keyboard: use the Enter key on the Keyboard only. (NOT on the Numeric Keypad):

a. 3278 mode: Long Break (2 sec): Shift, Enter

b. VT-100 mode:
1. Break (0.2 sec): Enter
2. Long Break (2 sec): Shift, Enter
Published Date: Feb 19, 2012

Apple Adjustable Keyboard: Caps Lock with Microsoft Apps (3/95)

I am using the Apple Adjustable Keyboard with Caps Lock active. I launch Microsoft Word and halfway thru launching, the LED indicating that Caps Lock is active goes off.

The keyboard remains in Caps Lock although the LED is off. If I press the Caps Lock key again, the LED comes on and Caps Lock is still active. If you press Caps Lock again, it will go to lowercase and the LED turns off.

Is there a fix to this problem?

This article has been archived and is no longer updated by Apple.
This problem only seems to occur with the Apple Adjustable Keyboard and Microsoft Word 6.0, Excel 4.0, and Excel 5.0. It does not occur with Word 5.1a.

Microsoft Technical Support stated that the problem with the Caps Lock on the Apple Adjustable Keyboard has not been addressed at this time. The upcoming Microsoft Word and Excel maintenance releases do not fix this problem.

Microsoft Technical Support added that they expect to resolve this problem in a future release of their software.

Support Information Services
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QuickTake 2.0 Software: List of Files Installed (3/95)

What are the different files installed by the QuickTake 2.0 software?

This article has been archived and is no longer updated by Apple.
The QuickTake 2.0 software installs two main sets of files.

First, it installs the PhotoFlash 2.0 application software, which is now used to access and manipulate the images stored in a QuickTake camera. PhotoFlash is now used instead of the QuickTake application, which came with version 1.0 of the QuickTake software.

Second, the QuickTake installer also puts several files in the System Folder. Here is a brief explanation of those system files:

* ColorSync 1.0.5 (system extension) -- The ColorSync software is used to get the best quality color output from your QuickTake digital camera.

* ColorSync System Profile 1.0.5 (control panel) -- This file is used to choose the ColorSync System Profile that matches the main monitor to which the Macintosh is attached.

* Foreign File Access 5.0 (system extension) -- This file is used for mounting non-Macintosh volumes in the Finder. It is used with the "QuickTake Access" file to read images from the QuickTake camera.

* GeoPort Serial Driver 2.0 (Shared Library Manager document) -- This file contains the serial driver needed for the Macintosh to communicate with the QuickTake digital camera.

* PhotoFlash Camera Utilities 2.0.1 (AppleScript scripting addition) -- This file contains QuickTake Scripting Additions used by PhotoFlash scripts for accessing a QuickTake digital camera.

* QuickTake Access 2.0 (Foreign File Access document) -- This file works with Foreign File Access to access the QuickTake camera as a volume on the desktop, just like an AppleShare volume. This file gives Foreign File Access the necessary information to access the camera as a regular Macintosh volume.

* QuickTake Camera 2.0 (system extension) -- This file contains the driver needed for your Macintosh to communicate with the camera.

* QuickTake Image 2.0.1 (system extension) -- This file contains the QuickTime decompressor component for viewing QuickTake images.

* QuickTake Image Access 2.0 (control panel) -- This file makes it possible to mount the camera on your desktop.

* QuickTime 2.0 (system extension) -- This file contains the software necessary for decompressing QuickTake images with the QuickTake Image extension.

* Serial Extension 2.2 (Shared Library Manager document) -- This file contains additional serial port configuration information, so that the Macintosh can communicate with the QuickTake digital camera.

* Shared Library Manager 1.1.2 (system extension) -- This file is used to load the GeoPort Serial Driver and Serial Extension files.

Support Information Services
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Extension Versions Inconsistent After Update (4/95)

Users who have updated their operating system with Network Software Installer 1.5 or System 7.5 Update 1.0 may have versions of extensions and control panels inconsistent with the installed update.

This article has been archived and is no longer updated by Apple.
One likely cause can be that disabled extensions and control panels are NOT being updated. The installer does not look for extensions or control panels in unusual locations like the Extensions (Disabled) or Control Panels (Disabled) folders. Users who use Extension Manager or similar third-party software should complete the following steps to ensure a proper and complete update when running the installer:

Step 1
Turn all extensions and control panels ON with the Extension Manager control panel.

Step 2
Restart and hold the shift key down to keep extensions from loading. Even though extensions do not load into RAM during startup, they reside in the Extensions folder where the installer can find them.

Step 3
Run the update installer.

Article Change History:
07 Apr 1995 - Made minor technical updates.

Support Information Services
Published Date: Feb 19, 2012

AppleSearch 1.5: Searches with Wildcards

We have an issue with AppleSearch using wildcards. We are attempting to put our HR records into AppleSearch. We have noticed a number of occurrences of wildcards not working very well. One glaring example is the variations of the word manage. For example, management will not be found with any wildcards except for managemen*, and even then does not find many of the hits that using management will find. What am I doing wrong?
This article has been archived and is no longer updated by Apple.
At the heart of this issue is the stemming technique used by AppleSearch for search strings. When you enter a wildcard string, you expect AppleSearch to use the entire string, as entered, and the wildcard to find matches. Unfortunately AppleSearch does not do this. It first stems the string and then places the wildcard. It then uses this string to search the index, where the index is composed of stemmed references to document text.

This is how a search for "representing" can find such words like represent, represents, and representative. AppleSearch stems representing to "repres", as do the words represent, represents, and representative. In essence, AppleSearch believes these words are the same, because its index only contains the stemming results, not the whole string.

Unfortunately, stemming is not always a predictable science. From your example, we will use the manage* string. Stemming of this string produces "manage*". However, many of the words desired by the search (such as management, manager, managing, and so on) stem to manag, which is why many of the expected hits are not returned.

Here is a general guideline that should be useful for users that are having problems with search strings:

In general, wildcards are not necessary for AppleSearch queries as stemming provides the same results. When wildcards are unavoidable, try to make the provided information as small as possible, usually four or five characters maximum.
Published Date: Feb 19, 2012

System 7.5: PageMaker Can‘t Place From Scrapbook Files

When running PageMaker 5.0 on a Macintosh Centris 610 running System Software 7.1. One of the features of PageMaker is its ability to open the scrapbook file in the System Folder thereby allowing the user to place PICT and TEXT files one at a time from the scrapbook file. Under System 7.1 this PageMaker feature was working fine.

After upgrading to a Power Macintosh 8100/100AV running System Software 7.5, when you choose the Place command, you can no longer see the scrapbook file in the System Folder.
This article has been archived and is no longer updated by Apple.
Issue Description

Scrapbook versions 7.0 through 7.1.2 are Desk Accessories that look for a scrapbook file of type 'scbk' in the System Folder. With the introduction of System Software 7.5, a new version of the Scrapbook is included. Scrapbook version 7.5 is now an application (instead of a DA) which looks for a scrapbook file of type 'sbkt'. New features of the Scrapbook 7.5 application include:

* A Growable/resizable window
* Application is now Drag and Drop Aware
* Gives more information about data types

PageMaker 5.0 only knows how to open the older type of scrapbook files: 'scbk'. It has not yet been updated to open the newer type of scrapbook files: 'sbkt'. PageMaker will need to be updated by Adobe/Aldus to support this new file type.

The Power Macintosh 8100/100AV ships standard with System Software 7.5 and the new Scrapbook application. This Macintosh will not run on any operating system other than System Software 7.5. This explains why this particular user is unable to open their scrapbook file.

Workaround
Until Adobe/Aldus updates PageMaker, a solution is to change the file type of the new scrapbook file to 'scbk'. This can be done fairly easily with ResEdit or some shareware applications like File Buddy and Drop*GetInfo. After changing the file type of the Scrapbook file, PageMaker should be able to open it just as it would the older type of file.

Note: If the user launches the Scrapbook application and the scrapbook file is in the System Folder, the Scrapbook application will automatically update the file and creator type to the newer type. In other words, if the customer is going to alter the scrapbook file as suggested in the workaround above, they should not keep the scrapbook file in the System Folder because the next time they open the application the file type will change back to the new file type.

Warning: The instructions in this article refer to using ResEdit to alter your software. Apple Computer, Inc., is not liable for any damage done to your software through the use of ResEdit.
Published Date: Feb 19, 2012

System 7.5 Update 1.0 Install: Lose Fax LW Driver (3/95)

I just installed the System 7.5 Update 1.0, and lost the capability to access the Fax phone book through the LaserWriter (LW) 8.2 driver.

Where is the Fax phone book capability? Was the functionality removed?

This article has been archived and is no longer updated by Apple.
System 7.5 Update 1.0 contains the "generic" LaserWriter 8.2 driver not a fax version. This driver does enable you to fax documents if you have the proper PPD for your PostScript fax equipped printer, you do not have access to the Fax Phone Book and, therefore, cannot store multiple fax destinations. The 8.2 driver will remember the last phone number you Faxed to, but if you wish to fax to a different destination, you will need to enter that phone number.

To gain access to the Fax Phone Book, you will need to use the fax LaserWriter driver that came with your printer, such as 8.1.2f or the newer 8.2f.

Support Information Services
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Scribe: Printing the apostrophe in letter quality mode

This article has been archived and is no longer updated by Apple.
When the apostrophe appears in a almost horizontal position on a Scribe printing in letter quality mode, some people feel that:

1. there is something wrong with their Scribe
2. the Scribe has old ROM's which surely have been upgraded to take care of such a noticable problem.

Neither explanation is true. In regular mode, the Scribe prints a conventional apostrophe.
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PowerBook 280c: Hangs at Shutdown or Eject

When I try to shut down my Powerbook 280c Duo it closes all open applications and then the pointer freezes. I have to use the reset button to power down the computer. Why?
This article has been archived and is no longer updated by Apple.
You are using an older version of the Express Modem software. To correct this problem, use Express Modem software version v1.6 or later.

These articles can help you locate the software update mentioned here:

- Article 14724: "**Where To Find Apple Software Updates**" - Lists online services for free Apple software updates.

Published Date: Feb 19, 2012

Macintosh Finder 4.1: Maximum of 25 Selected Icons

This article has been archived and is no longer updated by Apple.

TOPIC ----------

Why does selecting numerous icons under Finder 4.1 produce an error message?

DISCUSSION ----------

When you use Finder 4.1 to select and move a group of more than 25 icons to another icon (folder, Trash can, floppy disk, and so on.), the system responds with error ID=02, regardless of the view. You've reached the upper limit.

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PowerBook 280c: Global Village Power Up Issue

The PowerBook Duo 280 and 280c have seen intermittent power up difficulties with Global Village PowerPort Mercury modems installed. Affected units have a difficulty starting up on battery power. Most cases also have a large memory card installed.
This article has been archived and is no longer updated by Apple.
Global Village recommends loading their modem software before installing their modem. You may need to start up using AC power the first time after installing the modem, but after that first startup, things should work fine. Here are the recommended steps to correctly install the modem.

1. Make sure all Express Modem software has been removed (if applicable).
2. Install Global Village modem software (v 2.08a or 2.5) **BEFORE** installing the modem.
3. Shut down the PowerBook Duo and install the Global Village Mercury modem following the installation instructions provided by Global Village.
4. Start up the PowerBook Duo with AC adapter plugged in or in Duo Dock. You may have to try the reset button two or three times to get the machine to start up. When the PowerBook has completed the startup process, the Global Village extension downloads new power management code to correct the situation.

If you have a PowerBook with the modem installed already, Step 2 and 4 above can be done with the same end result. The only problem is getting the unit to start up to load the modem software from disk, and then restarting again to download the new power management software. The main reason to load the modem software first, is to avoid the symptoms associated with trying to get the unit to startup with Global Village modem and no Global Village software installed.

Other possible workarounds include:

- Reset the power manager by holding these keys down while starting up: Command-Escape-d. This power manager is similar to pressing the power button in the back of the computer for 30 seconds.
- Reset the power manager by holding these keys down while starting up: Command-Option-front power on key. This power manager reset is similar to disconnecting the internal backup battery of the computer.
- Install an Apple Express Modem.
- Replace the large RAM card with an Apple 8 MB RAM card.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

The following Tech Info Library article can help you search for a particular vendor's address and phone number:

Article 17159: "**Locating Vendor Information**"
Published Date: Feb 19, 2012

MAE 2.0: KeyAccess Is Compatible (3/95)

Is KeyAccess compatible with MAE 2.0?

Can I hold the shift key down while launching MAE and get the same result (all extensions off) as holding the shift key down while restarting a Macintosh computer?

This article has been archived and is no longer updated by Apple.
Yes, MAE 2.0 is compatible with KeyAccess which lets users access applications on a KeyServer.

No, holding the shift key down does NOT disable extensions while launching MAE. An alternative is to use either the -noextensions option on the mae command line, or the Extensions Manager in MAE 2.0 which turns extensions on or off.

Support Information Services
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DOS Compatibility Card: Two-Button Mouse Available (3/95)

Are there any two-button mouse devices available for the DOS Compatibility Card that work in both the Mac OS and Windows?

This article has been archived and is no longer updated by Apple.
There are several ADB multi-button mouse devices available for the Macintosh that support the DOS Compatibility Card. Logitech offers a three button version, while Kensington offers the Turbo Mouse and a new model called Thinking Mouse which is a 4 button mouse.

Both of the Logitech three button mouse and the Kensington Turbo Mouse have been tested and work with the DOS Compatibility Card. Each of these mouse devices use a control panel to map the button functions, so to use these with the DOS Compatibility Card, you need to set up the right button to represent '=' in the control panel. The configuration changes when the Control Panel is closed.

The Thinking Mouse product literature says it works with PC and Macintosh. The Control Panel appears to provide more options than other multi-button mouse devices, however it has not been tested with the DOS Compatibility Card.

The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.

Article Change History:
30 March 1995 - Corrected Mac OS name.

Support Information Services
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ImageWriter I: Problems with ImageWriter II driver version 2.0

This article has been archived and is no longer updated by Apple.

If the ImageWriter I starts printing normally and ends printing nonsense, the printer may be mistakenly driven by the new ImageWriter II driver version 2.0. Do NOT use this new driver with the old ImageWriter; the new driver takes up more space and gives you no new features because the old printer doesn't take color ribbons, doesn't print bidirectionally, and doesn't work with the single sheet feeder.

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Apple MultiMedia Tuner: What it does and what it fixes (3/95)

This article describes the Apple Multimedia Tuner extension and what it does.

This article has been archived and is no longer updated by Apple.
Apple Multimedia Tuner 2.0.1

What is the Apple Multimedia Tuner?
==========

The Apple Multimedia Tuner system extension includes a set of software enhancements that improve the performance and reliability of some software applications and multimedia titles that utilize QuickTime 2.0 and Sound Manager 3.0 software.

System software compatibility

The Tuner is compatible with all system software versions from System 6.0.7 through System 7.5.

Hardware compatibility

The Tuner is compatible across all CPU families that support QuickTime.

Specific problems addressed by the Apple Multimedia Tuner
==========

Provided workaround for incorrect movie pre-rolling by some applications
---
Several applications and titles, most notably titles created using Macromedia's Director, have not been properly pre-rolling movies to prepare them for playback. This resulted in jerky movie playback. Prior versions of QuickTime were tolerant of this application bug; however, QuickTime 2.0 with its higher performance requires that movies be pre-rolled. The Tuner will help these applications by automatically pre-rolling movies under many situations.

Fixed some performance problems that resulted in "jerky" movie playback
---
Under low-memory conditions, some parts of the movie toolbox were not managi memory efficiently and movie playback performance was degraded. These problems were showing up in Adobe Premiere 4.0.x..

Fixed DrawPicture problem on 68K systems

Fixed problem in DrawPicture where qdErr was not being cleared in all cases. The Tuner patches DrawPicture to ensure that qdErr is always cleared on entry. This patch is only installed on 68K CPUs.

DSP Manager problem on 660AV & 840AV systems

The DSP Manager calls the Memory Manager from interrupt level. This is completely illegal to do and was causing some memory mgr errors to be lost. The Tuner patches the DSP Manager to detect and avoid this situation. Problem was originally driven by Adobe Premiere 4.0.x.

Fixed problem where some images were not being decompressed

Fixed a problem (originally driven by the New Grolier Multimedia Encyclopedia) that resulted in some compressed images not being decompressed due to a bug in the Image Compression Manager. The problem resulted in blank pictures instead of the desired image.

Unable to open Sound Channels in some "low-memory" situations
---
Several developers reported problems being able to open Sound Channels under certain memory conditions (mainly when there was very little System Heap available). The Tuner installs code that helps the Sound Manager find the needed memory by attempting to allocate out of the application heap.

Fixed flatten movie problem

Flattening certain types of movies would result in movies that had garbled video tracks.

Sound "break-up" problems fixed

Fixed some performance problems that were causing sound drop outs in certain situations.

Fixed problem decompressing some types of pictures

Some types of images were garbled when decompressed.

Other Problems fixed

Fixed problem importing some types of picture files
Fixed problem saving looped movies
Fixed problem with garbled movie preview displays
Fixed problem sending QuickTime movies in AppleMail

Support Information Services
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Apple 350 MB Hard Disks: Buzz Sound Normal

Periodically the hard disk in my Macintosh Performa 6115CD makes a buzzing sound. The hard drive is a 350 MB drive. Is this drive defective?
This article has been archived and is no longer updated by Apple.
If you have a Macintosh computer with a 350, 500, or 700 MB hard drive, you may find that the drive periodically makes a buzzing sound. There is nothing wrong with the drive. The 350 MB drives have a feature that performs a small set of seeks after 10 minutes of idle spinning activity. This is done to increase the reliability of the drive by preventing heads from staying on a single track for a prolonged period. These seek to help to avoid accelerated wear, flying characteristics changes because of debris buildup on the head or lubrication being affected. You may hear a brief buzz sound when this seek activity happens. It does not affect the drive's ability to respond quickly to host requests during that period.

Data integrity and system operation are NOT compromised by this activity, and there is no reason to replace the hard disk because of the buzzing sound.

The same mechanism is used in 500 MB and 700 MB 3.5-in. SCSI drives, so this feature is also included on these hard disks.
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LaserWriter Select 310: Legal Paper Requires RAM Upgrade (3/95)

I am trying to print a legal size page on my LaserWriter Select 310 using the multi-purpose tray, but the bottom three inches of the page are always blank. It looks like the printer is printing only on a letter size page. What is required to print on legal paper?

This article has been archived and is no longer updated by Apple.
The LaserWriter Select 310 shipped with a standard 1.5 megabyte memory configuration. This is sufficient for printing standard letter size documents, but does not provide sufficient memory for PostScript to create a legal size page buffer. Attempting to print legal size pages on a LaserWriter Select 310 that only has 1.5 megabytes of memory causes the bottom few inches of the page to be clipped. To enable legal size printing, install either the 1MB or 4MB memory upgrade. The LaserWriter Select 310 uses standard 72 pin, 100ns or faster memory SIMMs.

Once the memory upgrade has been performed the LaserWriter Select 310
preference file must be updated. To do this perform the following steps:

Step 1

Open the chooser and select the LaserWriter Select 310 driver and port

Step 2

Press the 'Setup' button to obtain the current printer configuration

Step 3

Press the 'Done' button to save the current configuration information

To confirm that the memory has been properly installed and the driver configured try printing a legal size page. If the page prints properly then the additional memory has been recognized by the printer. For further confirmation, the Technical Information Library article titled "LaserWriter Select 310: Determining Configuration" contains PostScript code you can download to the printer to confirm the memory amount.

Support Information Services
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LaserWriter 16/600 PS: Minimum Print Margins

What are the minimum margins on the LaserWriter Pro 16/600 PS printer?
This article has been archived and is no longer updated by Apple.

The default minimal margin area for all papaer sizes (in inches) on the Laserwriter 16/600 are as follows:

Margins	Right	Bottom	Left	Top
Letter/US Letter	0.16	0.197	0.18	0.138
Legal/US Legal	0.16	0.197	0.18	0.138
A4	0.148	0.197	0.169	0.139
B5	0.16	0.198	0.18	0.138
A5	0.147	0.197	0.14	0.139
LetterSmall/US Letter Small	0.431	0.431	0.403	0.431
A4Small/A4 Small	0.403	0.431	0.389	0.417
LegalSmall/US Legal Small	0.889	0.75	0.889	0.75
Com10/Comm10 Envelope	0.158	0.197	0.18	0.138
Monarch/Monarch Envelope	0.14	0.197	0.162	0.138
C5/C5 Envelope	0.163	0.197	0.185	0.139
DL/DL Envelope	0.157	0.197	0.177	0.138

```
-------------------------------------------
I     I       Top Margin               I   I
I-----+--------------------------------+---I
I     I                                I   I
I     I                                I   I
I     I                                I   I
I     I                                I   I
I  L  I                                I R I
I  e  I                                I i I
I  f  I                                I g I
I  t  I                                I h I
I     I                                I t I
I  M  I                                I   I
I  a  I                                I M I
I  r  I                                I a I
I  g  I                                I r I
I  i  I                                I g I
I  n  I                                I i I
I  s  I                                I n I
I     I                                I s I
I     I                                I   I
I-----+--------------------------------+---I
I     I      Bottom Margin             I   I
-------------------------------------------
```

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ImageWriter II: Cable pinouts to Super Serial Card

This article has been archived and is no longer updated by Apple.
Product # A9C0313
Part # 590-0335-A
ImageWriter II Super Serial Card
Circular 8 DB 25
1 <---> 20
2 <---> 6,8
3 <---> 2
4 <---> 7
5 <---> 3
6 <---> NC
7 <---> NC
8 <---> 7
Shield <---> Shield
Published Date: Feb 19, 2012

GeoPort 2.0 Telecom Adapter: Read Me

This article is the GeoPort Telecom Adapter ReadMe file.
This article has been archived and is no longer updated by Apple.
Software included in the GeoPort Telecom Adapter Kit

Apple Telecom Software

This includes all software necessary to use the GeoPort Telecom Adapter with the following Macintosh systems:

- Centris 660AV, Quadra 660AV, and Quadra 840AV
- Power Macintosh 6100/60, 6100/66, 7100/66, 7100/80, 8100/80, 8100/100, and 8100/110.

The Apple Telecom User's Guide contains complete information about installing and using this software. An electronic Apple Telecom Upgrade Manual is included in the Telecom Documents folder so you can learn about the new features if you upgraded electronically and don't have the Apple Telecom User's Guide. Disks 1 and 2 can also be used to install Apple Telecom 2.0 software on Macintosh systems equipped with an Express Modem card.

MegaPhone

This is a screen-based telephone application that delivers full support of the telephony capabilities of the Apple Telecom 2.0 software, including support for dialing from a graphical keypad, copying and pasting telephone numbers, dragging and dropping business card information, and voicemail functions.

The GeoPort Telecom Adapter Kit also includes a free 30-day trial of call logging, MegaDial dialing manager, intelligent synchronization with directory information (saving telephone numbers to a PowerTalk catalog, for example), and other extended capabilities.

See also: the MegaPhone electronic manual included on Disk 3 (Telecom Applications).

Note: MegaPhone is not installed by the Apple Telecom Installer program. You must install it separately.

Note: MegaPhone is not included with free upgrades.

SITcomm SE/GTA

This is a terminal emulator application. With SITcomm SE/GTA (Special Edition for GeoPort Telecom Adapter), your Macintosh can communicate with a variety of other computers, linked by serial cables or by telephone lines.

With SITcomm you can exchange information with:

- A colleague who is using another computer with similar communications software.
- Text-based information and electronic mail services, such as CompuServe or MCI Mail.
- Your company or school's remote minicomputer or mainframe.

See also: the SITcomm SE electronic manual included on Disk 4 (Telecom Applications).

Notes:

SITcomm is not installed by the Apple Telecom Installer program. You must install it separately.

Disk 4 is not included with free upgrades. You can order the full upgrade, including SITcomm SE and the Apple Telecom User's Guide manual, by calling the Apple Order Center. Ask for the Apple Telecom software version 2.0 upgrade for use with your GeoPort Telecom Adapter.

Upgrading from Previous Releases of GeoPort Telecom Adapter Software

If you are installing this version of the software over an older version, you should use the Easy Install option rather than the Custom Install option. This ensures that all files are updated as necessary.

Note: if you have installed any customized fax cover pages and renamed the fax folder (called Express Fax in previous versions), the Installer moves them to the new Fax Folder. You can still use them, but if you want to keep them in a different folder, you'll need to drag them there manually.

When you have installed over an older version, the folders "Modem Documents" and "Express Fax" and the file "GeoPort ReadMe" may still be left on your hard disk from the earlier version. These are not necessary for using the newer version; you may delete them.

Connection (CCL) scripts for Apple Remote Access

TA33518_GeoPort_Telecom_Adapter_Read_Me_(TIL17460).pdf

Use the following connection scripts with Apple Remote Access:

ARA 1.0: GeoPort Telecom ARA 1.x (in Extensions folder in System Folder)

ARA 2.0: GeoPort Telecom ARA 2.x (in Extensions folder in System Folder)

Note: These files are placed directly in the Extensions folder by the Installer program. You do not need to move or copy them there as stated in Appendix C of the Apple Telecom User's Guide. Apple Remote Access 1.0 does not support Power Macintosh computers. You can obtain information on upgrades for Apple Remote Access at **"Locating Vendor Information"**, can help you search for a particular vendor's address and phone number.

Published Date: Feb 19, 2012

VBL Task: What Is It? (4/95)

What is a VBL task?

This article has been archived and is no longer updated by Apple.
VBL refers to Vertical Blanking. The Macintosh video circuitry generates a vertical retrace interrupt (also known as the vertical blanking interrupt) 60 times a second when the beam of the display tube returns from the bottom of the screen to the top of the screen. This interrupt can be used to schedule periodic or recurrent tasks.

The vertical Retrace Manager of the Mac OS defines an Application Program Interface (API) to install or remove a routine that is to be executed during these interrupts. The Mac OS registers (installs) several Vertical Blanking (VBL) tasks to manage activities. Examples of System VBL tasks are:

* Increment the number of ticks (1/60 of a second) since system startup time.
* Check whether the stack has expanded into the heap.
* Handle cursor movement.
* Recognize a change in state of mouse button up or mouse button down.
* Recognize that a floppy disk has been inserted.
* Reset the keyboard if its is reattached.

Applications can also install VBL tasks that exist while it is running or are persistent in the System after its termination.

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Article Change History:
21 Apr 1995 - Added keyword; made minor technical updates.

Support Information Services
Published Date: Feb 19, 2012

ImageWriter II: Problem When Using A/B Switchbox (6/97)

Our customer currently has an ImageWriter II and Color StyleWriter Pro connected to their computer via an A/B switch box. They are able to print to the StyleWriter, then switch and print to the ImageWriter, but when they switch back to print to the StyleWriter, they get the message "The serial port is currently in use by another program, please quit that program and try printing again."

This message will continue to appear until they restart the machine and then it prints fine.

What is the problem?
This article has been archived and is no longer updated by Apple.
This has been a long-standing issue with the ImageWriter driver where it captures the serial port for its use and then does not release it. The workaround you provided for your customer is the best suggestion, and should work but listed below are additional workarounds to try.

Other Possible Workarounds

- Use the ImageWriter GX driver from within QuickDraw GX
- Use CommCloser or serialCloser shareware release the serial port so that another driver can use it. (See note)

NOTE: This software can be found on www.shareware.com. These apps should work, but they are not an Apple-supported solution. Please refer to the shareware app developer for support.

There are currently no plans to revise the ImageWrier driver.
Published Date: Feb 19, 2012

ARA 2.0 & MS Mail 3.1d: Remote Server Connection Issue

This article is a Microsoft Product Support Services Application Note (Text File). The following information applies to Microsoft Mail for AppleTalk Networks, version 3.1d and Apple Remote Access (ARA) version 2.0.

This information is provided by Microsoft Corporation. Apple Computer, Inc. is not responsible for its content. Please contact Microsoft for additional information. This Microsoft Product Support Services Application Note and MM1048: REMOTE SERVER CONNECTION--ARA 2.0 COMPATIBILITY PATCH software can be found on Microsoft's ftp site at ftp.microsoft.com or the Web site at www.microsoft.com.
This article has been archived and is no longer updated by Apple.

Introduction

The disk provided with this Application Note contains a patch program for use with version 3.1d of Microsoft Mail for AppleTalk Networks. This patch program fixes a compatibility problem that exists between Remote Server Connection and Apple Remote Access (ARA) version 2.0. In order to use Remote Server Connection with ARA 2.0, you must run the patch program to update the Mail server.

NOTE: If you do not plan to use Remote Server Connection with ARA 2.0, this patch is not necessary. No other changes to the Mail Server are made by this patch.

Running the Patch Program

This patch was designed to update version 3.1d of the Mail server. If you have an earlier version of Mail, you must upgrade to 3.1d before you run this patch.

1) While holding down the M key, restart the Mail server.

NOTE: This prevents the Mail server from loading.

2) Insert the enclosed MM1048 disk in your floppy disk drive.

3) If you are running your server as an Application, double-click the Mail 3.1d Application Patch icon. If your server is running as an INIT, double-click the Mail 3.1d INIT Patch icon.

NOTE: The default for the Mail server is to run as an INIT. If you have not converted your server to an Application using Mail Tools, then it is running as an INIT.

4) Read the information displayed and click OK.

5) When you are prompted to "Please Locate the Microsoft Mail Server," select the Mail server and choose Patch. The patch will run and update the Mail server. It will not affect any other parts of the server or the Microsoft Mail Data file.

6) Restart the Macintosh to enable the Mail server.

NOTE: Although this patch addresses compatibility issues with ARA 2.0, version 3.1d of Mail for AppleTalk Networks is not designed to take advantage of the new DialAssist feature in ARA 2.0. Any additional information entered in the DialAssist Control Panel will be ignored when Remote Server Connection connects to a remote site.
Published Date: Feb 19, 2012

Communications Toolbox Tools: Basic Connectivity Set

This article describes the Communications Toolbox basic connectivity set of tools. Basic Connectivity Set 1.1.1 (Contains All Files Except Apple Modem Tool 1.5) is available on the Apple Support Web site, Software Updates.
This article has been archived and is no longer updated by Apple.
Communications Toolbox tools are designed to be used with Communications Toolbox aware applications. There are three types of tools; connection, terminal, and file transfer. The Basic Connectivity Tools are available via AppleLink, the Internet, and other online services. Most software packages that support the use of Communication Toolbox Tools will include some basic tools, for example MacTerminal 3.0 and ClarisWorks. There are also additional tools available from third parties, for example Kermit, LAT Tool and VT 320. For details on using these tools see the documentation for the Communications Toolbox aware application you will be using them with.

The Basic Connectivity Tools include:

Connection tools

Serial Tool
Modem Tool
AppleTalk ADSP Tool

Terminal tools

TTY
VT-102

File Transfer tools

Text
XMODEM

These articles can help you locate the software mentioned here:

* "Where To Find Apple Software Updates" -- Lists online services for free Apple software updates.

* "Obtaining Apple Product Support in the USA" -- Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech Info Library.
Published Date: Feb 19, 2012

AppleSearch 1.5: Max. Users & Terminate Inactive Users

I'm evaluating AppleSearch 1.5 Server running on a Power Macintosh 8100/100 to serve a client base of approximately 4,000 users. I need confirmation of the maximum number of simultaneous connected clients. I assume this number would be 150 since that is the number supported by AppleShare 4.0.x. Is this assumption correct? If not, are they limited by the number of clients signed on to the server or by the number of clients actually performing searches?

Also, is there any recommended way to force AppleSearch clients off the server after a specified period of inactivity?
This article has been archived and is no longer updated by Apple.
AppleSearch has a limit of 50 simultaneous user connections, in other words, users logged into AppleSearch. See page 50 of the "AppleSearch Administrator's Guide."

As of March, 1995 there is no mechanism that would terminate inactive AppleSearch clients from the server. Scheduled reporters and the way they work make terminating inactive clients difficult to implement. This is because users need to be connected to the server in order to receive the data obtained from a scheduled reporter, so users could be inactive for extended periods of the time.
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PlainTalk: No Custom Voices, An Explanation & Description (1/96)

Did you ever wonder how to make your Macintosh speak what you have typed? The technology does exist. This article answers some commonly asked questions about PlainTalk and Text to Speech technology.
This article has been archived and is no longer updated by Apple.
Question: Can I record a voice or create a new voice for Text to Speech? If yes, can I speak into the microphone to record this voice?

Answer: It is not possible for users to create PlainTalk voices by speaking into the microphone and recording their own speech. Creating PlainTalk voices is considerably more complex than that.

Question: In how many different voices can the Text-to-Speech/PlainTalk software speak?

Answer: The number of different voices available depends on the number of voices installed in the Voices folder, which is stored in the Extensions folder of your System Folder. Any application that has Text-to-Speech capabilities, such as SimpleText, can speak in any of the different voices in this folder.

Question: How does Text to Speech work?

Answer: Applications initiate speech generation by sending a set of words to the Speech Manager. The Speech Manager is responsible for sending the text to a speech synthesizer, the piece of software that manages all of the communication between the Speech Manager and the Sound Manager.

This synthesizer is like a speech engine. It uses built-in dictionaries and pronunciation rules to help determine how to pronounce text. The speech synthesizer uses these rules and the available PlainTalk voices to convert typed text into different kinds of sound, with different tonal qualities, to produce speech.

Synthesizers have different rules, depending on the quality of the voices that are available. Users who have more RAM and processing power may choose a higher-quality voice, which may use a higher-quality synthesizer. A higher-quality synthesizer spends more time analyzing the original text, to try and produce sound that we more easily recognize as regular speech.

Question: How many words does the Text to Speech/PlainTalk dictionary know?

Answer: Because synthesizers use a combination of pronunciation rules and dictionaries,*there is not necessarily a limit to the number of words that it can pronounce. The pronunciation rules are used to speak many of the words that are sent to the synthesizer.

The speech technology is not limited to a certain number of words the dictionary "knows". The dictionary mainly handles exceptions to the rules. For example, the dictionary is probably used to store the pronunciations for the abbreviation "St.". Depending on the context, PlainTalk pronounces this as "Saint" or "Street". Likewise, "Dr." could be pronounced "Doctor" or "Drive". Other exceptions, like the difference between pronouncing the vowel sounds in the words "height" and "weight" are included here as well.

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Article Change History:
04 Jan 1996 - Added voice option information.
03 May 1995 - Added keyword; made minor technical updates.

Support Information Services
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PowerBook: Sizes and Suppliers for Torx Drivers (1/97)

Where can I obtain the Torx drivers used on the PowerBook computers?

This article has been archived and is no longer updated by Apple.

PowerBook 100 computers use the Torx #8 and Torx #10 driver size.

PowerBook 200 and 2300 series computers use the Torx #8 and either Torx #6 driver size or phillips screws (for the floppy mechanism).

PowerBook 500 series computers use the Torx #6 and Torx #8 driver size.

PowerBook 5300 series computers use the Torx #8 driver size.

PowerBook 1400 series computers use the metric phillips screws 00 and 01.

Suppliers for these tools include:
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* Apple Computer: (available through your local Service Provider)
Torx #6 077-0064
Torx #8 077-0677
Torx #10 077-0676

* Parts Express 800-338-0531

* Snap-On Tools (call 800-555-1212 for local Snap-On office)

* Jensen Tools, Inc. 800-426-1194

Article Change History:
24 Jan 1997 - Added new models and reseller info.
14 Nov 1995 - Updated reseller information.
Published Date: Feb 19, 2012

A/UX Error: Cannot Mount Drive, Dirty File System (3/95)

I'm having problems re-installing the A/UX core. I get a message from the installer when I select software stating, "cannot mount drive c300d0s0: dirty file system".

Here is the procedure I followed to correct this:

1) In single user mode, I got hung trying to continue boot process.

2) Shut down with key.

3) From the startup shell, I used the fsck command on the drive with the -b16 option, which fixed a bad block count. I then ran fsck again with no -b16 option and it all went through fine

4) I opened the computer and verified that this wasn't an improperly terminated system, that all connectors are properly seated, and that I indeed had but one drive.

5) I attempted again to install A/UX, and I still got the error message.

6) I checked the partition map, and found that this drive is formatted as follows:

* Mac Partition 133 MB
* Slice 0 204 MB
* Slice 3 6xx MB

I ran the installer again, but got the same error, file system is marked as dirty, slice 0 160030 used; 31961 free. What is wrong?

This article has been archived and is no longer updated by Apple.
You should check to make certain your drive isn't full (both slice 0 and slice 3), and then use the fsck (file system check) command on BOTH slices on the drive. You can only fsck the root partition from within the startup shell, in order to fsck any other slices you will need to launch A/UX and use the fsck command. If this does not work, you will need to reformat the drive and re-install A/UX.

WARNING: You need to have a back up of your hard drive before formatting. The format process will erase all data.

You may find when you run the fsck command on slice 0 again, it will report dirty even though it was not used since the previous clean up. Then run the fsck command on slice 3. On completion of fsck, if you see a message that says "FILE SYSTEM WAS MODIFIED" it is recommended that you run fsck again using the same command. You want fsck to make a complete check without any changes.

You should now be able to install A/UX.

If your hard drive has slice 0, and also has a slice 3 data partition which is dirty, the installer may believe that slice 0 is dirty too. Somehow, slice 0 gets flagged as dirty as a result. You will need to run the fsck command on both partitions. This is an anomalous behavior.

Support Information Services
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MAE: PPD File For The HP LaserJet 4M Printer (3/95)

I'm using MAE 1.0 and I'm trying to use the HP 4M PPD file. I've gone into the Chooser, clicked on "lprwriter", clicked setup, then clicked select PPD, and selected HP LASERJET 4M.

I get a dialog that states, "Does not appear to be a valid Postscript Printer Description file." What is wrong?

This article has been archived and is no longer updated by Apple.
The file you are selecting is NOT a Postscript Printer Description (PPD) file. It is a text file that reads:

Only Hewlett-Packard (HP) is distributing the PPD file for the LaserJet 4M. To receive this file, you must call 303-353-7650 and ask for the PPD Disk for LaserJet 4M.

Support Information Services
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System 7.5: Quadra 900/950 Sound Input Not Correct (8/95)

Article Review/Updated: 25 August 1995

I have just upgraded to System 7.5 from System 7.1 on my Quadra 900 and 950 computers in our office. Now when I try to record sound from the external RCA jack via the Sound Control Panel, I do not get any sound until we choose the "Internal CD" sound option.

I have installed System 7.5 Update 1.0 and the problem still exists. Why?

This article has been archived and is no longer updated by Apple.
All of the sound input drivers were changed in System 7.5. Unfortunately on a Macintosh Quadra 900 and 950, the "Internal CD" and "External Audio" Sound input options were inadvertently switched. This means that Macintosh Quadra 900 and 950 users need to select the "Internal CD" Sound input option to record audio from external audio sources via the RCA jack. Users who have an internal CD-ROM drive installed need to choose the "External Audio" input option to record audio from their internal CD-ROM drive.

System 7.5 Update 1.0 does not correct the problem. This problem will be corrected in the next update to System 7.5.

Article Change History:
25 Aug 1995 - Made minor corrections.

Support Information Services
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Apple RAID: Generic Document Icon On Users Workstation (3/95)

If I define an Apple RAID volume on a server, and set permissions to See Folder privileges, when users mount the volume from a client workstation they get a generic document icon on their desktop instead of the Apple RAID volume icon. How do I get the regular Apple RAID icon to appear?

This article has been archived and is no longer updated by Apple.
Seeing a generic document icon will happen with any AppleShare server volume with a custom icon. Apple RAID's icon gets created as a custom icon. When you create a custom icon for a hard drive, the system creates an invisible file on the drive named "Icon" where the icon is stored. If the user is not allowed to see this file, they get no custom icon. Enabling a user to See Files permission will show the custom icon on the client's workstation.

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LocalTalk Bridge, LaserWriter Bridge 2.x: How To Use

This article describes how to use the LocalTalk Bridge or LaserWriter Bridge software to connect LocalTalk devices to an extended network. This article has been archived and is no longer updated by Apple.
Apple LocalTalk Bridge enables a Macintosh computer (the host) to function as a bridge between a LocalTalk network and an Ethernet, token ring, or infrared network. It bridges all LocalTalk devices connected to the host, enabling devices on both sides of the network to see each other.

Apple LaserWriter Bridge functions similarly, but only bridges one LaserWriter- or LaserWriter 8-compatible Apple LaserWriter printer. It enables computers on the extended network to use the LocalTalk printer attached to the host computer. It may not work with third party printers compatible with Apple's LaserWriter drivers.

Installation

Both products are control panels to be placed in the Control Panels folder of the System Folder. If the standard Ethernet, token ring, or infrared network software is already installed, the control panel is the only software required. The control panels appear below in Figures 1 and 2, followed by an example of a small Ethernet and LocalTalk network suitable for bridging (Figure 3).

Figure 1: LocalTalk Bridge control panel

Figure 2: LaserWriter Bridge control panel

Figure 3: A network configuration suitable for bridging

Step One
Connect both networks to the host computer. The LocalTalk network should be connected to the printer port of the host. **Important:** Only the host computer should have the Bridge installed, and no other bridges or routers can exist on the LocalTalk network.

If using LaserWriter Bridge, make the LaserWriter to be bridged the first LocalTalk device on the chain. Other LocalTalk devices will be ignored.

Step Two
Open the Chooser from the Apple Menu. Ensure that AppleTalk is set to "Active," as shown in the lower-right corner of the Chooser window.

Step Three
Depending upon the version of Mac OS installed, use either the Network control panel or the AppleTalk control panel to configure the host computer for Ethernet, token ring, or infrared as appropriate. Do not configure for LocalTalk.

Step Four
Open the LocalTalk Bridge or LaserWriter Bridge control panel and click the "On" button to enable it. Restart the computer if instructed to do so. Depending upon which Bridge is installed, the LaserWriter printer or the LocalTalk network will now be bridged, but will remain so only while the host computer is up and running.

How It Works

In the example shown in Figure 3, the LocalTalk printer and computer appear as regular Ethernet devices to computers on the Ethernet side of the network.

To configure for printing to the LocalTalk printer from any computer, proceed as normal, by first selecting the printer driver from the Chooser's icon list, then its name from the device list on the right. If the network has multiple zones, the printer will appear in the same zone as the host computer.

To connect to a shared LocalTalk volume (LocalTalk Bridge only), select AppleShare from Chooser's icon list, then the shared volume name from

device list on the right. If the network has multiple zones, the LocalTalk volume will appear in the same zone as the host computer.

Public mode

LocalTalk Bridge: Computers on both sides of the network can see each other and all networked printers.

LaserWriter Bridge: The LocalTalk LaserWriter printer can be seen by all computers on both sides of the network.

Private mode

LocalTalk Bridge: Computers on the LocalTalk side can see both sides of the network, but the other side cannot see the LocalTalk side.

LaserWriter Bridge: The LocalTalk LaserWriter printer can be seen only by the host computer and computers on the LocalTalk side of the network.

Important Compatibility Issues

Versions of LaserWriter Bridge and LocalTalk Bridge prior to 2.1 are not compatible with Open Transport, and version 2.1 is not fully compatible with Mac OS 8.5 and later. There are no plans as of this writing to update either product. As a possible workaround to the Mac OS 8.5 compatibility issue, users are advised to first disable the bridge control panel and restart before switching network settings in the Network or AppleTalk control panels. Those looking for a compatible solution are advised to obtain a hardware bridge or a compatible software bridge from another manufacturer.

Software Bridges Versus Hardware Bridges

Hardware bridges compare with software bridges as follows:

- A software bridge requires the host computer to be on in order for any bridged LocalTalk devices to be available to the other side of the network. A hardware bridge does not depend upon a host computer to function.
- The performance of the host computer is affected when the software bridge passes information from one side of the network to the other. A hardware bridge does not affect the performance of any computer.
- A software bridge is practically unlimited in the number of LocalTalk devices it can bridge. A hardware bridge is limited by the number of ports it offers.

A number of hardware and software bridge solutions are listed in the Mac OS Software & Hardware Guide at:

http://www.macsoftware.apple.com/
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Newton MessagePad: MessagePad 110/120 Differences

What are the differences between the Apple MessagePad 110 and the Apple MessagePad 120?
This article has been archived and is no longer updated by Apple.
The Apple MessagePad 120 contains all the features of the Apple MessagePad 110. In addition to these features, the Apple MessagePad 120 includes:

- 1 or 2 Mb configurations
- A nonglare screen
- A removable flip-top display cover
- An accessible PCMCIA card lock switch
- Socketed ROM
- Incremental improvements in System Software 1.3
- Bundled software, including Notion and Pocket Quicken
- The external 2400/9600 bps Newton Fax Modem (for the 2MB version only)

Published Date: Feb 19, 2012

LaserWriter: Printing areas differ for printer engine and driver

This article has been archived and is no longer updated by Apple.

While the Canon engine has the capability of printing a 10.9 inch page, the LaserWriter driver sets the maximum image size to less than 10.9 inches. This is a feature of the LaserWriter driver dated February 10, 1986. The date appears in the Get Info window of the driver icon.
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What is a System Error 25? (4/95)

My system crashes into MacsBug and each time, I am being dumped into the same routine. The current instructions look like this:

System Error 25 at 408314A _Jackson
_Jackson
+0000 408314A *Debugger
+0002 408314C _NewHandle, Immed
+0004 408314E BNE.S _DisposeCIcon+0032

It looks like I am hitting debug code. What is happening?

This article has been archived and is no longer updated by Apple.
What you are running into is not debug code. The area of code you are seeing here is in the Macintosh ROM.

The label _Jackson is an abbreviated label for _JacksonPollack. Jackson Pollack was the development name for Color QuickDraw project and this area of ROM contains routines of Color QuickDraw.

A System Error 25 is a stack and heap collision detection. The Mac OS registers a routine to run on a periodic basis to check for the stack and heap overrunning each other. When the periodic routine runs, it checks two pointers that indicate the boundaries of the heap and stack. If, while the Vertical Blanking (VBL) task is running, it finds the bottom of the stack to be less than the top of the heap, an error 25 is reflected. If it was not for the routing checking performed by the periodic routine, this error could go undetected.

If MacsBug is installed, these error 25 problems usually show up in MacsBug as being at the _Jackson entry point. Without Macsbug installed, you may get a System Error 25 message or the "bomb" dialog box containing the Restart button.

The meaning of System Error 25 is often listed as "out of memory." It is usually an indication that the stack has temporarily overrun the heap and the computer should be restarted. The error might be eliminated by increasing the application's partition size (memory allocation) in the Get Info window to allow for more heap and stack space for that application. It could also be that the application is being driven into some improper calling sequence that causes the stack to grow until it overlaps the heap. If this is the case, you would need to contact the vendor of that application for further information about their software.

For more information about VBL technology see TIL article titled "VBL Task: What Is It?".

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Article Change History:
21 Apr 1995 - Added keyword; made minor technical updates.

Support Information Services
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AWS 95: Server Disappearing From Network (5/95)

My Apple Workgroup Server (AWS) 95 cannot be seen from certain zones. It appears in the chooser, but after a few seconds gives a "no response from server" error when trying to access it.

I have completely rebuilt the AWS 80 computers that are serving as routers, with no change in this situation.

I have run the Update 2.0 on the AWS 95, with no change in this situation.

The trace I sent is for two attempts to access the AWS 95, when network traffic was very low. Could you please tell me what to do.

This article has been archived and is no longer updated by Apple.
Trace of Access Attempts

From the following network trace, you can see a problem with the Apple Internet Routers on the network. However, the actual problem is with the AppleTalk stack, not with the Apple Internet Router code. This problem happens with other AppleTalk based services also, and is not exclusive to the AWS 95.

The problem can be see early in the trace in packets 3 - 10.

Packet 3 is an RTMP broadcast from Router 1
Packet 4 is an NBP LkUp from Router 2 requested by the end node
Packet 5 is an NBP Repl sent to Router 1
Packet 6 is the forwarded packet from Router 1 to Router 2
Packet 7 is an NBP LkUp from Router 2 requested by the end node
Packet 8 is an NBP Repl sent to Router 1
Packet 9 is the forwarded packet from Router 1 to Router 2
Packet 10 is an echo packet sent from Router 2 to the Ethernet address of Router 1 with the AppleTalk address of the AWS 95

Here Router 1 looks at the packet and determines it is not its packet. Since there is no need to forward it, the packet is dropped.

The problem is with the Address Mapping Table (AMT) in Router 2 that has gotten an erroneous entry in its cache. The problem occurred when the Server responded to Router 1 and Router 1 forwarded the Packet to Router 2. At which point Router 2 cached the AppleTalk address of the Server with the Ethernet address of Router 1.

Workaround

The workaround is to install the Network Software Installer (NSI) 1.5 on the Macintosh computers that are running the Apple Internet Router software. You might also want to consider moving the server behind a router; in other words to a segment of the network with only one router. If you do this, be sure the router is fast enough to handle the traffic to and from the server.

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31 May 1995 - Added Info Alley information; made minor udpates.

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Macintosh 630: TV Tuner Card only for U.S.

I want to purchase the Macintosh 630 TV Tuner card, but I also want to use it when I travel to Europe and Australia. Can I use the TV Tuner Card outside the United States?
This article has been archived and is no longer updated by Apple.
The United States uses an NTSC video signal, Australia and most European countries use a PAL video signal, which makes it impossible to use the Macintosh 630 family TV Tuner Card outside the United States.

The U.S. tuner module for the Power Macintosh 5400, 6400, 5500, and 6500 as well as the Performa 6400 also cannot be used with PAL or SECAM video signals.

However, the video input modules can accept PAL and SECAM input signals through the S-video or RCA input jacks.

Note: The following computers are in the Macintosh 630 family: Performa 630, Performa 635, Performa 636, Performa 637, Performa 638, LC 630, and Quadra 630.
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Apple Software: System 7.1 Compatibility

IMPORTANT NOTE:
The following information is correct as of March 31, 1995. There will be NO further updates to this article. System 7.5 is currently the standard operating system for all Macintosh computer systems. Hence, all testing of any new Apple software updates will be done with System 7.5, the current desktop standard, not with System 7.1.

A separate article will be maintained and updated regularly with information pertaining to compatibility of all shipping Apple software products and System 7.5. See the article titled "Apple Software: Current Versions" for more information.

The table below lists "current" Apple software products (both Apple II and Macintosh) and provides for each:

* Version The "current" version number as of 3/95.
* 7.1? Whether the product is compatible with System 7.1.
* Notes Additional information on the product

If it is not 32-bit clean, it will be noted in the notes section.

Additional articles in the Tech Info Library describe many of the products listed below. This article does not cover any announced Apple products which are not currently shipping.
This article has been archived and is no longer updated by Apple.

Product	Version	7.1?	Notes
32-Bit System Enabler	1.0.3	ONLY	For Mac II, IIx, IIcx, SE/30
3270 API Developer's Kit	2.0	N/A	APDA
8*24 GC (Extension)	7.0.1	YES	
950 Color Addition	1.0	----	Only for Quadra 950 running 7.0.1, fix is included in SSW 7.1.
A/UX	3.0.1	N/A	Incompatible with Centris 610, 650. With optional FPU installed in Centris 650, it is compatible.
A/UX	3.1	N/A	Only supports the AWS 95.
A/ROSE	1.2.1	YES	On NSI 1.4.4
ADSP	1.5.1		Not required, built-in part of SSW 7.0 & higher
Apple Backup	1.1	7.1P	Part of Performa OS only
Apple Color Printer	1.0	YES	Printer System Extension
Apple DocViewer	1.1.1	YES	Apple Extras folder of Power Macs
Apple Event Manager	1.0.3	YES	Part of AppleScript 1.1
Apple File Exchange	7.0	YES	Part of SSW 7.1
Apple Font Pack	1.0	YES	See separate article in Tech Info Library for contents
Apple Access II	1.3.1	N/A	For Apple II
Apple II System	3.2	N/A	For Apple II systems
Apple IIGS System	6.0.1	N/A	For Apple IIGS only.
Apple IIe Card Software	2.2.1	YES	
Apple Guide	1.2	NO	System 7.5 only
Apple Internet Router	3.0.1	YES	3.0.1 is a patch to 3.0
Apple Media Tool	1.0.1	YES	Ships with QT 1.6.1
Apple Modem Tool	1.5.3	YES	
Apple Personal Diag	1.1.1	YES	
Apple Phone	1.0.1	YES	Application bundled with AV models.
Apple Photo Access	2.0	YES	System Ext. comes w/ CD-ROM SW
Apple Restore	1.1	7.1P	Performa OS only, restores Apple Backup items
AppleScript	1.1	YES	Available from APDA or reseller
AppleSearch Client	1.0	YES	Part of AppleSearch package
AppleSearch Server	1.1	YES	1.1 patch for Power Macintosh
AppleShare File Server	3.0.3	YES	For any Macintosh, patch
AppleShare Print Server	3.0.2	YES	For any Macintosh, patchU
AppleShare File Server	4.0.1	YES	For most 68040 based Macintosh models
AppleShare File Server	4.0.2	YES	Version for Power Macintosh

AppleShare Print Server	4.0.1	YES	For most 68040 based Macintosh models
AppleShare Print Server	4.0.2	YES	Version for Power Macintosh
AppleShare Pro (File Svr)	1.1	N/A	Apple Workgroup Server 95 only
AppleShare Pro (print)	1.1	N/A	Apple Workgroup Server 95 only
Apple Shared Library Mgr	1.1	YES	1.0 ships with SSW 7.1.2. Used to make system more efficient For developers
AppleTalk	v.58.1.4	N/A	Use Network SW Installer 1.4.5
AppleTalk ImageWriter	7.0.1	YES	
Apple Remote Access	2.0.1	YES	Separate Client, Personal Server & Multiport Server versions.
AppleTalk-DECnet Tool	1.1	YES	
AppleTalk-LAT Gateway	1.0	YES	
AppleTalk-LAT Tool	1.0	YES	
Aristotle	xxx	N/A	For Apple II
Assistant Tidbit 1	1.0	YES	Part of PowerBook File Assistant 1.0
Assistant Tidbit 2	1.0	YES	Part of PowerBook File Assistant 1.0
Assistant Toolbox	1.0	YES	Part of PowerBook File Assistant 1.0
At Ease	2.0.3	YES	
At Ease for Workgroups	2.0.3	YES	
AudioVision (extension)	1.0	YES	Extension for AudioVision 14 Monitor
AutoRemounter	1.2	YES	PowerBook control panel
AV Serial Extension	1.0	YES	
AW Server 95	1.1	N/A	Part of AWS 95 Update 1.1
AWS 95 Tune-Up	1.0	N/A	System update disks (2) for the Apple Workgroup Server 95
Basic Color Monitor	1.0	YES	Eliminates overly green color on monitors attached to Macintosh Centris and Quadra models. Not required if HSU 2.0.1 is installed.
Basic Connectivity Set	1.1.1	YES	
Battery DA	7.1.1	YES	
Battery Recondition	1.0		
CD-ROM Setup	5.0.1	YES	
Chinese Language Kit	1.0	YES	Includes WorldScript II 7.1.2
Chooser	7.3	YES	For Jan 93 Printers Only
CloseView	7.1	YES	SSW 7.1, Fixes problems in 7.0 with Virtual Memory
ColorSync	1.0.5	YES	Color Imaging System Extension
Compatibility Checker	7.1.1	YES	SSW 7.1
CPU Energy Saver	1.0.1	YES	
Curare	1.0	YES	APDA Product
DAL Software	N/A		Contact ITI at 510-438-2095
DART	1.5.3	YES	
Disk Copy	4.2	YES	7.1 MUK
Disk First Aid	7.2.2	YES	Part of Software Utility Update 2.0.1
Display Enabler	1.2	YES	Part of Apple Multiple Scan Display SW 1.0DOS
DocViewer	1.1.1	YES	
Compatibility Software	1.0	YES	Quadra 610 DOS Compatible
Duo Battery Patch	1.0	YES	For Duo 210, 230, 250
Easy Access Ctrl Panel	7.2	YES	
Energy Saver	1.0	YES	Control panel
EtherTalk	2.5.6	YES	Use Network SW Installer 1.4.4
Express Modem**	1.5.5	YES	Control panel for Express Modem, GeoPort
Express Modem Tool**	1.5.3	YES	CTB Extension for Express Modem, GeoPort
Express Modem 14400**	1.0	N/A	AppleTalk Remote Access CCL file
Extension Manager	3.0	YES	
Fax Extension**	1.5.2	YES	PB Modem, Express Modem, GeoPort
Fax Sender**	1.5.2	YES	PB Modem, Express Modem, GeoPort
Fax Terminal**	1.5.2	YES	PB Modem, Express Modem, GeoPort
Fax Viewer**	1.5.2	YES	PB Modem, Express Modem, GeoPort

Fax Cover**	1.5.2	YES	PB Modem, Express Modem, GeoPort
Font/DA Mover	4.1		Not required, built into System 7.x Finder
GeoPort Extension	1.2	YES	For Quadra and Power Macintosh
GeoPort for Power Mac	1.0.2		Diskette containing GeoPort Software
Hardware System Update	2.0.1	YES	Obsolete-should use System Update v 3.0
HD SC Setup	7.3.1	YES	
HyperCard	2.2	YES	APDA, reseller
HyperCard IIGS	1.1	N/A	
HyperCard Player	2.2	YES	Bundled with Power Macintosh
HyperMover	1.1	N/A	HyperCard IIGS
HyperScan	2.0	YES	OneScanner
ImageWriter	7.0.1	YES	
ImageWriter GX	1.0.1	NO	Part of QuickDraw GX
ImageWriter LQ GX	1.0.1	NO	Part of QuickDraw GX
Installer	3.4.3	YES	
Inter*Poll	1.0.1	YES	
ISDN	1.0	YES	APDA
Japanese Language Kit	1.1	YES	(Includes WorldScript II 7.1.1)
LaserWriter	8.1.1	YES	For LaserWriter Pro family
LaserWriter GX	1.0.1	NO	Part of QuickDraw GX
LaserWriter IISC GX	1.0.1	NO	Part of QuickDraw GX
LaserWriter Pro Energy Star Software			Postscript document
LaserWriter Pro Windows	1.0	N/A	
LaserWriter Utility	7.6.1	YES	LaserWriter Pro family support
LAT	1.1	YES	APDA
LaserWriter Select 300	1.2	YES	Shipped with LaserWriter Select 300
LaserWriter 300 GX	1.0.1	NO	Part of QuickDraw GX
LaserWriter Select 310	1.0.1	YES	Shipped with LaserWriter Select 310
LaserWriter Select 360	1.1	YES	Shipped with LaserWriter Select 360
LaserWriter Select 360 Fax	1.1	YES	Shipped with LaserWriter Select 360
Likewise	1.0.1	YES	Discontinued 12/93
LW Select 310 for Windows	1.0	N/A	
MacApp	3.0.1	YES	APDA
MacCheck	1.0.5	YES	Part of Software Util. Update 2.0.1
Macintosh Basics	5.0	YES	Tour, bundled with Macintosh
Macintosh Common Lisp	2.0.1	YES	APDA
Macintosh Easy Open	1.1.1	YES	Shipped with System 7.5
Macintosh Networking Basics	1.0	YES	"Tour" disk
Macintosh PC Exchange	2.0.1	YES	See separate TIL article
Macintosh Quadra Extra	1.0	YES	Quadra 950 only rolled in SSW 7.1
Macintosh TV Setup	1.0.1	YES	Control Panel for Macintosh TV model
Macintosh Visca Driver	1.2	YES	ADPA
MacODA	1.0	YES	
MacOSI Transport	1.0	YES	
MacsBug	6.2.2	YES	APDA, not compat. w/Centris/Quadra 610 models without FPU.
MacSNMP Admin	1.0.2	YES	
MacSNMP Client	1.0.2	YES	
MacTCP	2.0.4	YES	
MacTCP Admin	2.0.4	YES	
MacTCP Developer's Kit	N/A	N/A	APDA Product
MacTCP Token Ring Ext.	2.0.2	YES	System extension
MacTerminal	3.0	YES	
MacX	1.2	YES	
MacX.400	1.0	YES	
MacX25	1.2	YES	Patch from v1.1
Monitor Energy Saver	1.0	YES	Control Panel
Mouse Basics	4.5	YES	"Tour" disk
MPW	3.3	YES	APDA
MPW 411	N/A	YES	APDA
MPW C++	3.2	YES	APDA
NetTrax	1.2	YES	APDA
Network Launch Fix	1.0.2	YES	See separate TIL arcicle

Network Software Installer	1.4.5	YES	See separate TIL article
Newton Connection	2.0	YES	For Macintosh
Newton System Update	1.0.5	N/A	For Newton MessagePad 100
Ofoto	2.0.1	YES	Color OneScanner Support
OfotoColor	1.0	YES	System Extension
PC Exchange	2.0.2	YES	
Personal LaserWriter 300	1.2	YES	Printer Extension
Personal LaserWriter 320	1.0.1	YES	Printer Extension
Personal LaserWriter NTR	2.0	YES	Printer Extension
PhotoFlash	1.0	YES	
PhotoFlash Browser	1.0	YES	Bundled with PhotoFlash
PlainTalk	1.3	YES	Bundled with AV/Power Macs in USA, Purchase separately outside USA.
PDD Maker GX	1.0.1	NO	Part of QuickDraw GX
PowerBook Control Panel	7.3.1	YES	Comes with System Update v 3.0
PowerBook/DOS Companion			See separate TIL article
PowerBook Display	1.1	YES	Control panel for PowerBook Video output control.
PowerBook File Assistant	1.1	YES	
PowerBook Setup Ctl Pnl	7.3.1	YES	
PowerCD Setup	1.0.1	YES	
PowerShare Collaboration Server	1.0	YES	
PowerTalk	1.0	YES	Part of System 7 Pro (v7.1.1)
PowerTalk for PowerPC	1.0.2	YES	Requires System 7 Pro Kit
Portable StyleWriter	1.0.1	YES	
PrinterShare	1.1	YES	System extension, part of GrayShare
Quadra 950 Color Addition	1.0	YES	For Quadra 950 only
QuickDraw GX	1.0.1	NO	Requires System 7.5.
QuickTake	1.0	YES	
QuickTake	1.1	YES	Power Macintosh compatible
QuickTime	2.0	YES	
QuickTime for Windows SDK	1.1	N/A	Apple SW Licensing
QuickTime Starter Kit	1.0	YES	
Rename Rescue	1.0	YES	Apple's UNLOCKFOLDER
ResEdit	2.1.3	YES	APDA
Responder	1.1.1		Not required, built into System 7.x
SADE	1.3.2	YES	APDA
Scanner	3.0	YES	Color OneScanner Support
Screen	1.0.4	YES	Comes with System Update v 3.0
Script Editor	1.0	YES	AppleScript Developer's Kit
Scriptable Text Editor	1.0	YES	AppleScript Developer's Kit
Serial Switch	1.1	YES	For Macintosh IIfx only
Serial Tool	1.0.2	YES	Basic Connectivity Set 1.1.1
SimpleText	1.1	YES	System Update Disk v 3.0
SNA*ps APPC Developer's	N/A	N/A	APDA Kit
SNA*ps	N/A		Contact Wall Data at 800-927-8622
Sound Control Panel	8.0.1	YES	
Sound Effects	1.0	YES	System Ext bundled w/ AV Macintosh models.
Sound Manager	3.0	YES	Part of HSU 2.0.1
Speech Manager	1.1.1	YES	System Ext bundled with AV Macintosh models.
StyleWriter GX	1.0.1	NO	Part of QuickDraw GX
StyleWriter II	1.2	YES	Printer Extension
System 7.1	7.1	N/A	
System 7.1.1 Pro	7.1.1	N/A	Includes PowerTalk, AScript 1.1
System 7.1.2	7.1.2	N/A	
System 7.5	7.5	N/A	Current base release
System 7 Tune-Up	1.1.1	YES	Built into System 7.1 & higher.
System Enablers - Please see separate			Tech Info Library article: "System Enablers: Current Versions"
System Picker	1.0	YES	NOT APPLE SOFTWARE use at own risk
System Update	3.0	YES	Update for all Macintosh Computers

TeachText	7.2	YES	New version for AV Computers & Text to Speech
Telephone Manager	1.1.1	YES	APDA/System 7.5
Thread Manager	2.0.1	YES	Comes with PowerTalk/System 7.5
Token Ring	1.0.1	YES	Control Panel, Use NSI 1.4.4
TokenTalk	2.5.6	YES	Use Network SW installer 1.4.4
TV Setup Cntl Panel	1.0.1	YES	System Update Disk v 3.0
Video (control panel)	1.0	YES	Cntl pnl for AudioVision 14 Monitor
Video Monitor	1.0.1	YES	Bundled with AVs and Power Macs
VideoSync	1.0	YES	APDA
Virtual Monitor Switch	1.0	YES	
Virtual User	2.0.1	YES	APDA
WorldScript II	7.1.2	YES	
Xmodem Tool	1.1	YES	Basic Connectivity Set 1.1.1

NOTES:
* System Enablers provide machine specific support for new Macintosh Computers introduced beginning in October 1992. System 7.5 introduced a universal enabler which eliminates the need for a machine specific enabler.

**All of these Express Modem files are part of the Express Modem 1.5 release of March, 1994.

For the most current information on what SDKs Apple offers, point your web browser to:

http://developer.apple.com/sdk/

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WS 6150/66, 8150/110, and 9150/120: Q & A

This article answers common questions about the Workgroup Server (WS) 6150/66, 8150/110, and 9150/120.
This article has been archived and is no longer updated by Apple.

General Questions

Question: How are these new Workgroup Servers different from their predecessors?

Answer: Apple's enhanced line of PowerPC-based Workgroup Servers are different from their predecessors (the Workgroup Server 6150, 8150 and 9150) because the new products offer faster processors, high performance CD ROM, larger capacity hard disks, faster AppleShare 4.1 software, new bundled server software, and the new AppleShare Client for Windows.

Question: How much faster are the enhanced Workgroup Servers over their predecessors?

Answer: The enhanced Workgroup Servers offer faster processor speeds than their PowerPC 601 CPU predecessors: The 6150 runs at 66 Mhz, formerly 60 Mhz, the 8150 runs at 110 Mhz, formerly 80 Mhz, and the 9150 runs at 120 Mhz, formerly 80 Mhz. New higher capacity hard disks and quad-speed CD ROM players are available.

Question: What new server software comes with the Workgroup Servers? How much does it cost?

Answer: For Apple customers in the USA, Apple now bundles a server management tools for the network manager and productivity tools for the network user. For the network manager Server Manager from Santorini, Apple RAID, FileWave from Wave Research, and Retrospect Remote are included. For the network user Now Up To Date, Now Contact and Viper from IT Designs are included. The bundled software, included at no additional cost, brings a great deal of added-value to the Workgroup Server.

Question: What is the future of NuBus equipped Workgroup Servers?

Answer: Apple is building Workgroup Servers today to use the NuBus bus architecture to allow Workgroup Server customers to plug-and-play any of the hundreds of NuBus-based expansion options, including network interface adapters, WAN connectivity solutions, and publishing-related peripherals. As part of Apple's commitment to improve the performance of the server line, future Workgroup Servers will come equipped with the new high-performance PCI (Peripheral Connect Interface) bus adaptor. PCI-based expansion options are expected to offer throughput several times faster than equivalent NuBus-based cards. Apple will continue to sell NuBus-based Workgroup Servers as long as customers demand.

Vision Questions

Question: What is the compelling difference between a Workgroup Server and a Macintosh?

Answer: In the early 1990's Apple found that workgroups increasingly needed sophisticated network-based features to get their work done although they did not necessarily have an experienced network manager to run the workgroup's network. Apple Business Systems built a business around the Workgroup Server product family to deliver inexpensive servers that are easy to use and administer while offering high performance processors with high capacity disks, high reliability from bundled hardware (RAID, DAT Tape Backup) and software (Retrospect Remote), lifetime comprehensive customer technical support, and valuable bundled network management and client software. These features offer a compelling difference between a Workgroup Server as a network solution for workgroups and Macintosh for desktop computing.

Question: Will a Workgroup Server support services beyond those running on AppleTalk, such as IPX and TCP/IP?

Answer: Network managers in workgroups needing easy-to-manage network solutions may believe that they have to choose between TCP/IP, IPX or AppleTalk solutions. Ethernet or Token Ring networks allow TCP/IP, IPX and AppleTalk network transport protocols to coexist beautifully on the same network. AppleTalk-based network products and technologies are the easiest to use of any network standard. Apple customers find a whole industry devoted to delivering a wide range of supporting AppleTalk-based network products, such as routers, hubs, and network adapters. Consequently, Apple Workgroup Servers play an important part in providing workgroups with solutions that make use of the AppleTalk, TCP/IP and IPX network transport protocols. Workgroup Servers can speak all of these protocols to enable server applications to serve Macintosh and Windows users using any or all of the network protocols.

Question: How long will it be before you introduce even faster or more powerful Workgroup Servers?

Answer: Although Apple continues today to work towards even faster and more powerful Workgroup Servers, Apple customers need a longer selling cycle - usually up to six months - to evaluate and adopt server products over the rapid introduction of new Macintosh desktop systems.

Delivery of the new AppleShare 4.1 demonstrates Apple's continued commitment to increase the value and performance of a Workgroup Server.

Question: How will Workgroup Servers provide more valuable services in the future?

Answer: Apple is building new services that deliver sophisticated network features to workgroups using Workgroup Servers. Apple's commitment to Workgroup Server customers will make these new services available at a nominal cost, sometimes at no cost. For example, the new AppleShare 4.1 server software is available to Workgroup Server 6150, 8150, 9150 customers at no cost to the customer. Apple is also working closely with developers to bring their client/server applications onto the PowerPC processor.

Question: Why will Workgroup Servers performance increase in the future?

Answer: Apple is developing optimized operating system technology and faster network application software to enhance the performance of Workgroup Servers. Apple's commitment to Workgroup Server customers will make these new services available at a nominal cost, sometimes at no cost.

Question: Will Microsoft Windows NT for PowerPC be available for Workgroup Servers?

Answer: Apple has made no announcement that Windows NT for PowerPC will be available for Workgroup Servers. Apple continues to evaluate the needs of customers in its core marketplaces.

Question: What products are entering the end of their lives and how will you support those customers?

Answer: Apple supports its customers with logic-board upgrades to Workgroup Servers that are entering the end of their life, including an upgrade from the Workgroup Server 9150/80 (or Quadra 950) to the 9150/120, from the Workgroup Server 8150 to the 8150/110, and from the Workgroup Server 60 or 80 (both 680x0-based servers) to the 6150/66 and 8150/110 respectively. Apple will offer System 7.5 and Apple RAID to Workgroup Server customers wanting to upgrade their system software for the existing Workgroup Server 6150, 8150 and 9150.

Apple will provide Workgroup Server 60 customers upgrades to the Workgroup Server 6150/60 until demand wanes. There is no upgrade from the Workgroup Server 6150/60 to the 6150/66 because Apple found it was not cost effective considering the small incremental difference in processor performance. However, Workgroup Server 6150/60 customers will see a tremendous performance increase when running the new AppleShare 4.1 software.

Question: What is happening to the Workgroup Server 95? Are you abandoning Unix?

Answer: Apple continues selling and supporting the Workgroup Server 95, the Workgroup Server that runs the A/UX UNIX-based operating system. Apple found that customers purchase the Workgroup Server 95 either as a fast platform to run AppleShare or as a Unix platform running applications such as Oracle7. AppleShare 4.1 on a Locomotion server is now the fastest AppleShare server. In 1994, Apple announced a strategic alliance with IBM under which Apple intends to offer AIX-based servers in the future.

Compatible Equipment Questions

Question: Which Windows machines are compatible with the AppleShare Client for Windows?

Answer: The AppleShare Client for Windows software is designed to run on any IBM PC 100% compatible with 80386, 80486 or Pentium processor and 4 MB of RAM, running Windows 3.1, 3.11, and Windows for Workgroups 3.11, equipped with network adaptor cards with NDIS 3.0 and ODI network drivers on ISA, MC, VISA, PCI, PCMCIA and EISA internal buses.

Question: Will the AppleShare Client for Windows run under Windows 95?

Answer: The Windows client software will not install on PCs running prerelease versions of Windows 95. Apple is planning to release a Windows 95 update after Windows 95 finally ships.

Question: Are previous AppleShare clients for Macintosh compatible with the new AppleShare 4.1 server software?

Answer: The new AppleShare 4.1 server software is backwardly compatible with previous versions of the AppleShare client for Macintosh. However, only the new AppleShare 4.1 client used with the new 4.1 server will provide increased performance. The AppleShare 4.1 server

software is compatible with the AppleShare Client for Windows 1.0.

Question: Can I run AppleTalk-based network software on the same network as Netware applications?

Answer: You can run AppleShare using the AppleTalk-protocol, NetWare using the IPX-protocol, Internet services using the TCP/IP-protocol, and others using the same physical network if you are using the Ethernet or Token Ring standards. Modern networks like these let all protocols and services coexist beautifully.

Server Software Bundle Questions

Question: What software is now bundled with the Workgroup Servers?

Answer: Although the bundled software will vary by configuration, geography, market, and reseller, Apple USA customers will find a library of network software for the network manager and the network user. For the network manager Server Manager from Santorini, Apple RAID, FileWave from Wave Research, and Retrospect Remote (bundled only with DAT equipped Workgroup Servers) are included. For the network user Now Up To Date, Now Contact and Viper from IT Designs are included. The software is included at no additional cost.

Question: Is Apple bundling the complete version of each software product? What do these bundled software products offer to customer?

Answer: The bundled software is feature complete, as if the Workgroup Server customer purchased the stand-alone software product, with the following notes:

Apple RAID now provides software RAID level 0 and level 1. RAID level 0 is disk striping does not protect data but will improve disk performance in certain applications by writing data across two or more disks. RAID level 1 protects data by mirroring data to another disk drive. Since disks are vulnerable components, RAID can save customers from disk crashes.

Retrospect Remote supports Macintosh clients. Dantz is working towards a Windows client.

Santorini Server Manager, formerly GraceLan Server Manager from Techworks, comes bundled with AppleShare-based configurations. Server Manager allows a customer to manage their server locally or remotely. Server Manager includes automatic notification via beeper/QuickMail and tools to manage users and groups.

FileWave automates software distribution across the network and helps manage compliance with software license agreements. The bundled FileWave includes a license for 10 clients. Additional client packs are available from Wave Research.

Now Up-To-Date is a server-based calendar that provides scheduling and to-do list management. Now Contact provides network access to contact database and is integrated with Up-To-Date. These products ship with 10 user licenses. Additional client packs are available from Now.

Viper is a client/server application (similar to Apple's internal employee information DA Directory), that provides easy delivery of customer business information from a database on the server to clients across the network. For example, Viper could provide users with a common directory of employee phone numbers and addresses. The bundled Viper includes a license for 10 clients. Additional client packs are available from IT Designs.

Adobe Acrobat enables platform and application independent document publishing.

Question: How will Apple deliver documentation for the bundled software?

Answer: Apple will deliver the software and product documentation on a CD-ROM with the Workgroup Server. Adobe Acrobat reader will give access to on line documentation such as the Server User Guide and the Apple RAID user guide.

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Newton MessagePad: Problem Viewing Consecutive Day Notes

I have entered several birthdays as day notes on my Apple MessagePad 120. However, when I select several consecutive days in the calendar that contain some of them, none of them are displayed. If I select the day the day note is created on, the day note is displayed. I'm following the example on page 93 in the 120 MessagePad Handbook.
This article has been archived and is no longer updated by Apple.
The Handbook is not clear. Only, non-repeating day notes can be viewed in this manner.

Workaround

If it is important to view day notes in this way, change the frequency in the day note to "Don't Repeat". Please be aware that these will only occur once after changing this.
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Macintosh 128K and 512K: Data transfer and processing rates

The following article provides information on data transfer and processing rates for the Macintosh 128K and Macintosh 512K.

This article has been archived and is no longer updated by Apple.

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Following are the data transfer rates for the Macintosh:

 Serial Port (external):

   AppleTalk:         230.4K baud
   Asynchronous:      57.6K baud (maximum rate)
   Synchronous:       920K baud (maximum rate with external clock)

 Disk Drive Port:  500K baud

 68000 Processor Access Rates (internal):

   ROM at: 8 MHz
   RAM at: 6 MHz

NOTE: The BlockMove Routine in ROM allows you to move blocks of data from
     one location of memory to another at ROM speed (8 MHz).  Otherwise, the
     normal RAM transfer rate is 6 MHz.

 Processing Data Rate

   13.3 megabits per second

NOTE: This rate is calculated using the definition in Federal Register,
     Volume 49 Number 252, page 50619.

Refer to the Motorola 68000 User's Manual for address calculation times as
well as for processing and instruction execution times.
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Macintosh Plus SCSI Port: No Termination Power

If a Macintosh Plus attached to a SCSI device hangs on power up, make sure that at least one device attached to the SCSI port is powered on.
This article has been archived and is no longer updated by Apple.
Most other Macintoshes with the exception of PowerBooks, provide termination power (pin 25). The Macintosh Plus does NOT supply termination power because of power supply limitations. In a situation where the Macintosh Plus and the SCSI device don't boot properly, check with the SCSI device manufacturer to make sure the device is not expecting termination power from the Macintosh Plus.

Note also that even though the SCSI port is a DB-25 connector, it should not be used to connect any other serial or parallel devices. ONLY SCSI DEVICES should be attached to the SCSI port.

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Multiple Scan 15 Display: No 512x384 Resolution (3/95)

I want to use the Multiple Scan 15 Display in a resolution of 512x384. I tried using Display Enabler 1.2 and the System 7.5 Update 1.0, however we still cannot get a resolution of 512x384.

This article has been archived and is no longer updated by Apple.
We are not aware of any software that will allow the Multiple Scan 15 Display to correctly display a 512x384 signal. Loading Display Enabler 1.2 or System 7.5 Update 1.0 will not help.

The video signal used by the 512x384 resolution is not compatible with the Multiple Scan 15 Display. This resolution uses a vertical frame rate of 60.15 Hz, and a horizontal line rate of 24.48 kHz. However, the Multiple Scan 15 Display only supports vertical rates from 60 to 75 Hz, and horizontal rates from 31 to 57 kHz. The Multiple Scan 15 monitor cannot display any video signal with a horizontal rate under 31 kHz.

Support Information Services
Published Date: Feb 19, 2012

System 7.5: Improper Shutdown Message (3/95)

When I see the System 7.5 improper shutdown message dialog box, why does it not include as one of my options "Shutdown via the Special Menu" in the Finder? Is Apple is going to make this menu option command obsolete? Is Apple discouraging the use of Shutdown from the Finder?

This article has been archived and is no longer updated by Apple.
Apple is not discouraging the use of the Shutdown menu item from the Finder's Special menu. We are simply offering system shut down alternatives and allowing the customer to choose the most convenient method to shut down.

At this time, Apple has not made definite plans whether the Shut Down menu item from the Finder's Special menu will be implemented or made obsolete in future System software releases.

Support Information Services
Published Date: Feb 19, 2012

LaserWriter Utility: Can‘t Print Windows PostScript File

I saved a Postscript file from Windows and I'm trying to download it to the LaserWriter using the LaserWriter Utility, but the file will not print. Have you heard of this problem?
This article has been archived and is no longer updated by Apple.
The PostScript file does not print because the Windows driver inserts the control character ^D at the beginning and the end of the file. Just delete the hidden control character ^D before "%!" and after "%%EOF".

Some versions of the Windows PostScript driver also have a setting to turn off the sending of control-D characters.
Published Date: Feb 19, 2012

Color StyleWriter 2400: Random Network Printer Selected (4/95)

I have four Color StyleWriter 2400 printers on my network. When I send a print job to a printer while it is asleep or busy printing another job, the print job I sent is sent to another printer at random. What causes this?

This article has been archived and is no longer updated by Apple.
You must rename each printer. What you see is normal if the printers are named the same (default is "Color Stylewriter 2400"). If one printer is sleeping or busy it starts printing to one of the other Color StyleWriter 2400 on the network. If the printers have unique names, a standard error message appears indicating that the printer is busy and the file will print soon.

Renaming Your Printer
==========

Step 1

Open the Chooser

Step 2

Click Setup

Step 3

Change the name of the printer in the Name area and click OK.

Support Information Services
Published Date: Feb 19, 2012

AppleShare Print Server: DOS Jobs and Correct Logging

When I spool print jobs from the DOS Compatibility Card to an AppleShare Print server, the print spooler log does not report the user name. However, print jobs from the Macintosh are logged correctly. How do I get the DOS Compatibility card to log the user's name in the print spooler log?

This article has been archived and is no longer updated by Apple.

As of April, 1995 there is no workaround for this. The Macintosh LaserWriter driver looks for the computer name in the AppleShare name field from the Sharing Setup control panel, and puts it into the PostScript job in a field called %%FOR. The AppleShare Print Server reads this field and reports it in the log when a file is spooled.

The PostScript output from the DOS Compatibility card does not have the %%FOR field therefore, the print spooler has no name to report.

Published Date: Feb 19, 2012

System 7.5 Update: Control Panels & Extensions Not Replaced 3/95

First Scenario:
A Power Macintosh already had System 7.5 installed and running. In the Extension Manager control panel the Apple Menu Options control panel was disabled. Easy Install option was used to install System 7.5 Update 1.0. But when Extensions Manager is used to turn Apple Menu Options back on, version 1.0 is still installed, not the 1.0.1 version that comes with the update.

Second Scenario:
A Power Macintosh already had System 7.5 installed and running. In the Extension Manager cdev the Apple Menu Options control panel was disabled. Using the Custom Install option, Apple Menu Options control panel portion of System 7.5 Update 1.0 was installed. After restarting, Apple Menu Options is running. But if Extensions Manager is opened, it lists Apple Menu Options twice, and asks if the duplicate should be replaced. It gives no indication of which is the later version.

Nowhere in the Installer or in the Read Me is there a warning about either of these situations.

This article has been archived and is no longer updated by Apple.
This interaction between the Extensions Manager and the System 7.5 Update 1.0 installer is normal (that is; it functions as it was intended to). Before installing System 7.5 Update 1.0, open the Extensions Manager and choose the "System 7.5 only" extension set. This will help to ensure that any disabled extensions are updated, when the System 7.5 Update 1.0 is installed.

Support Information Services
Published Date: Feb 19, 2012

Startup Items Won‘t Load If Initial Item Is Cancelled (4/95)

A customer has an alias to a server, a document, and an application in his Startup Items folder in his System Folder. If he cancels the connection to the server at startup, then the rest of the start up items do not open.

This article has been archived and is no longer updated by Apple.
The behavior the customer is encountering is correct. If an alias to a server is launched from the Startup Items folder, and the user presses the cancel button when asked to connect, the rest of the startup items will not launch.

This behavior is common to the startup items folder, and is not specific to server connections. For example, if a series of startup sounds are placed in the Startup Items folder, and the user presses Command-period to cancel the playback while the first sound is playing, the remaining sounds will not be played.

There are a couple of ways for this customer to work around this behavior. The first is to use AppleShare's server mounting feature. When the customer uses the Chooser to mount a server volume, he should check the box next to the name of the server volume he wants mounted at every startup. Cancelling a password dialog generated by this method will have no effect on the file in the Startup Items folder.

Second, the customer could change the names of the server aliases in his Startup Items folder, so that they appear alphabetically after any other files, such as applications, that must always be loaded.

Third, the customer could use a third-party macro utility, which might be able to use a macro sequence to mount a server volume at startup.

Support Information Services
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QuickDraw GX: Corrupt Fonts and Error -27,949 (4/95)

I just installed QuickDraw GX and now I get an error -27949 when I print. What's wrong?

This article has been archived and is no longer updated by Apple.
The error you are getting (-27949 internal_font_error) is caused by a corrupted or GX-incompatible font. One way to troubleshoot this error would be as follows:

Step 1
Drag the Fonts folder from the System Folder to the desktop and restart the computer.

Step 2
Try to print the desktop. If successful, go to step 3; if not, perform a clean install of System Software.

Step 3
Move 5-10 fonts back into the System Folder and restart.

Step 4
Try to print the desktop. If successful, repeat steps 3-4; if not, one of the last fonts installed is the problem. Isolate the bad font and remove it.

Once the bad font is found, reinstall a clean copy. If problem persists with the fresh copy of the font, contact the developer of that font for a GX-compatible update.

Support Information Services
Published Date: Feb 19, 2012

Color StyleWriter 2400: Printer Port In Use Error (9/95)

Some Color StyleWriter 2400 customers are receiving a 'Printer Port In Use' or other similar error message when trying to select the printer port. Here are some suggestions for eliminating the problem.

This article has been archived and is no longer updated by Apple.
The 'Printer Port In Use' message indicates that there may be a software conflict that can be easily corrected.

In many cases a software control panel creates this conflict. The LaserWriter Bridge 1.0 and 2.0 software by Sonic Systems is a control panel which is installed with the LaserWriter Select 360 printer software and the Network Software Installer 1.5. The LaserWriter Bridge software is automatically turned 'on' when installed and can prevent the user from selecting the printer port unless AppleTalk is turned off first.

The LaserWriter Bridge software resides in the Control Panels folder and allows a networked LocalTalk device such as the LaserWriter Select 360 to be visible on an Ethernet network. If the LaserWriter Bridge software features are not required then simply turning it off from within the control panel allows the printer port to be used with the Color StyleWriter 2400, Color StyleWriter Pro, StyleWriter II, and other serial based printers.

Article Change History:
5 Sep 1995 - Reviewed and reformatted Discussion.

Support Information Services
Published Date: Feb 19, 2012

System 7.5 Update 1.0: Why Skip Disk 4? Disk Contents List 4/95

Can you tell me what pieces of system software are on the fourth disk of the new System 7.5 Update 1.0 disk set?

I have several customers who are concerned that the Installer does not ask for the fourth disk during installation. Although they and I both know that the Installer is smart enough to only ask for what it needs, I would like to calm their concerns about this installation.

This article has been archived and is no longer updated by Apple.
After a little bit of experimentation with the installation diskettes, I have found what each disk contains. I have listed the results at the bottom of this article.

As you can see, most of the information on the fourth disk, "System 7.5 Update 1.0 - 4", pertains to PowerTalk updates with the exception of the Automated AppleScript updates. So, if a user is not using PowerTalk or AppleScript on their system, the Installer is smart enough to know this, hence, it does not ask for the fourth disk.

System 7.5 Update 1.0 Installation Disk Contents
==========

System 7.5 Update 1.0 - 1

Description Version Where Installed?
--- --- ---
System 7.5 Update 1.0.2 System Folder
Finder 7.5.1 System Folder
Finder Update 1.1 Extensions Folder
7.5 Update Read Me N/A Hard Drive (Top Level)
SimpleText 7.5.1 Hard Drive (Top Level)

System 7.5 Update 1.0 - 2

Description Version Where Installed?
--- --- ---
Apple Guide 1.2.5 Extensions Folder
Color StyleWriter Pro 1.5.2 Extensions Folder
File Sharing Extension 7.6.1 Extensions Folder
LaserWriter 8 8.2 Extensions Folder
Printer Descriptions N/A Extensions Folder
SCSI Manager 4.3.1 Extensions Folder
Speech Manager 1.3 Extensions Folder

System 7.5 Update 1.0 - 3

Description Version Where Installed?
--- --- ---
Find File 1.1.1 Apple Menu Items
Find File Extension 1.1.1 Extensions Folder
Jigsaw Puzzle 1.0.1 Apple Menu Items
Stickies 1.0.1 Apple Menu Items
*Shut Down DA 1.1 Apple Menu Items
Apple Menu Options 1.0.1 Control Panels Folder
General Controls 7.5.3 Control Panels Folder
Keyboard 7.5.1 Control Panels Folder
Launcher 2.7 Control Panels Folder
MacTCP 2.0.6 Control Panels Folder
Macintosh Easy Open 1.1.1 Control Panels Folder
Monitors 7.5.1 Control Panels Folder

PC Exchange 2.0.3 Control Panels Folder
PC Setup 1.0.2 Control Panels Folder
WindowShade 1.3.1 Control Panels Folder
MathLib 2.0.1 Extensions Folder
ThreadsLib 2.1 Extensions Folder

System 7.5 Update 1.0 - 4

Description Version Where Installed?
--- --- ---
Mailbox Extension 1.1.1 Extensions Folder
DigiSign Utility 1.1.1 Apple Extras -> PowerTalk
. Folder
Apple Mail 1.1.2 Apple Extras -> PowerTalk
. Folder
Catalogs Extension 1.1.1 Extensions Folder
Direct Dialup 1.1.1 Extensions Folder
Synchronize Folders 7.5.1 Apple Extras ->
. AppleScript ->
. More Automated Tasks
. folder
Share a Folder 7.5.1 Apple Extras ->
. AppleScript ->
. Automated Tasks folder
Share a Folder (no Guest) 7.5.1 Apple Extras ->
. AppleScript ->
. Automated Tasks folder

Support Information Services
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Shutdown Items Can Be Disabled By Shift Key (4/95)

Does holding the Shift key down during startup prevent the Shutdown Items from activating like it does for the Startup Items folder?

This article has been archived and is no longer updated by Apple.

Yes, the Finder Scripting extension activates the System 7.5 Shutdown Items folder. Both Shift down and the Extensions Manager will deactivate Finder Scripting extension.

Support Information Services
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PowerBook 500: Method For Best Quality When Recording (4/95)

I'm trying to record a signal from an external CD-ROM to my PowerBook 500 but the record level is quite low. I have selected "Line In" in the Sound control panel but that doesn't help. This even happens when recording beep sounds in the Sound control panel.

This article has been archived and is no longer updated by Apple.
To get the best recording from an external audio source, it is best to use a capable piece of software to do it, preferably software with an "auto gain" feature.

You can use the software you're recording with to amplify the sound after it's been recorded, although this may create some distortion. The Sound control panel does not have an "auto gain" feature so it will not be sufficient to record sounds at the best quality.

Support Information Services
Published Date: Feb 19, 2012

Power Macintosh: System 7.5 Update 1.0 and APD 1.1 Issue

Apple Personal Diagnostics (APD) 1.1 will incorrectly report problems with the logic board on any Power Macintosh with System 7.5 Update 1.0 installed. This problem is fixed in version 1.1.1.

This article has been archived and is no longer updated by Apple.

The current version of Apple Personal Diagnostics, version 1.1.3, is available for downloading from the Apple Software Updates web site at **http://www.apple.com/swupdates**.

Published Date: Feb 19, 2012

Launcher Closes With Close All Windows Command (9/95)

When you perform the "close all" command (press the Option key and click the Close box) all the windows on your desktop, including the Launcher, close. Is there away to close all except Launcher.

This article has been archived and is no longer updated by Apple.
Since the Launcher is a window, it closes when you perform the "close all" command.

Here are two ways of easily reopening the Launcher and an AppleScript solution:

Create an Alias on the Desktop

You can create an alias of the Launcher on the desktop, which would normally be hidden under the Launcher window when it is open. Any time you close all of the windows, you could then simply double-click the Launcher alias, now visible, and open it again.

Create an Alias in the Apple Menu

You can create an alias to the Launcher and put it in the Apple Menu Items folder in the System Folder. You then easily access it by pulling down the Apple Menu.

AppleScript Solution

If you have System 7.5 and AppleScript, you can create a script to close all windows except Launcher with the following statements:

```
tell application "Finder"
close (every window whose name is not "Launcher")
end tell
```

Place the saved Applet in the Apple Menu so you can invoke it readily. This Applet does exactly what is desired without having to reopen the Launcher!

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Volume II, Issue 2, Page 14

Article Change History:
07 Sep 1995 - Added AppleScript workaround.
18 May 1995 - Reworded workaround to clarify; added Info Alley information.

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MacX: How To Choose A Missing Font (4/95)

I've got a client program that works fine on my friend's host, but displays garbled text in MacX. I know I need to load the missing fonts on my Macintosh for MacX, but I don't know which fonts I need because the host computer has about 300 fonts. How do I find out which fonts to copy to my Macintosh?

This article has been archived and is no longer updated by Apple.
Most well designed X clients will support your choice of fonts or document which fonts are required. Program documentation should also explain what fonts are being used by the clients.

If you need to find the name of a font manually, you can use xfontsel, the font display program that comes with most X windows software.

Run xfontsel on the host computer, and use the menus to change fonts until you find the font you are interested in. Locate that font on your host computer, and then transfer the file to your Macintosh. You can then move that font to your Macintosh and install the it under the MacX Font Director.

For more information on MacX and fonts, consult Chapter 5 of the "Apple MacX" manual or see the "MacX Users Guide."

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LaserWriter Pro 810: HP/UX Configuration

The LaserWriter Pro 810 can print using three types of print jobs: text, PCL, or PostScript. If you plan on using only one type of print job, you can configure your printer directly with SAM, the Hewlett Packard (HP) administration tool. This article describes how to configure a LaserWriter Pro 810 and HP/UX workstation to print using only one print job type either text, or PCL, or PostScript.
This article has been archived and is no longer updated by Apple.
HP/UX and LaserWriter Pro 810 for only one type of print job.

Part 1 - Configure the LaserWriter Pro 810
==========

These instructions assume your LaserWriter Pro 810 has an IP address already assigned.

Step 1

Using the LaserWriter Pro 810 control panel (located on the printer), print the virtual printer list by doing the following:

1) Press the "online" button to deactivate the printer temporarily.
2) Press the "print status" button to print the printer status pages.
3) Press the "online" button to restore the printer to service.

Step 2

Examine the Virtual Printers report (second sheet to print). There will be a virtual printer entry called "lpd." Look for the Interpreter entry, top row, left most column. The different values can be; none, PCL4, or PostScript. The table below shows the print job type with its corresponding Interpreter entry:

Interpreter entry	Print job
PCL4 or none	Text
PCL4	PCL
PostScript	Postscript

Step 3

If you need to change the Interpreter setting, you must connect to the LaserWriter Pro 810 through either NCP, or Telnet, or the maintenance port. Sign on as the super user, and use the following command:

change service lpd <PCL or PostScript>

If you want to print text, you should use PCL in the command line.

Step 4

Turn the printer off and back on. Then confirm your changes by again printing the printer status pages as done in step 1.

Part 2 - Configure the HP workstation
==========

1) Login as root

2) Run SAM

3) Open "printers and plotters"

4) Open the "printers/plotters" menu

5) Select "actions: add remote printer/plotter"

6) Fill in the fields of "add remote printer window"

7) Printer name: <the local name of the printer the users will see.>

8) Remote system name: <hostname of your printer from DNS or /etc/hosts>

9) Remote printer name: <PASSTHRU or TEXT> "PASSTHRU" if you are sending postscript, and "TEXT" if you are sending text or PCL.

NOTE: PASSTHRU or TEXT must be in upper case.

10) Click on "remote printer is on a BSD System"

11) Click okay

If you need to print all job types: text, PCL, and Postscript. You will need to configure a virtual printer on the LaserWriter Pro 810 for each, and install the UNIX apprint software that comes with the LaserWriter Pro 810.
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LaserWriter 16/600 PS: HP/UX Configuration (4/95)

I want to print to my LaserWriter Pro 16/600 PS from my HP/UX workstation.
How do I configure it?

This article has been archived and is no longer updated by Apple.
The LaserWriter 16/600 PS auto-recognizes text, PCL, or PostScript, and it emulates a Berkley Remote Printing lpd. However, you need to route your text/PCL print jobs to a different remote printer than PostScript.

HP/UX uses SAM, the Hewlett Packard (HP) administration tool, to configure the System V printing facilities. You can use SAM to create two remote printers, one for text/PCL, and the other for PostScript.

Part 1- Configure LaserWriter 16/600 PS

This article assumes your LaserWriter 16/600 PS has an IP address already assigned.

If the configuration switch, located above the Parallel port on the back of the printer, is in the down position no further LaserWriter 16/600 PS configuration is necessary.

If the configuration switch is in the UP position:

1) Launch Apple Printer Utility

2) Open Communications Configuration category

3) Open the Up Switch Position (Custom)

4) Set TCP/IP menu to Autoselect
If you plan to send only text or PCL, you may set the TCP/IP menu to PCL5. If you plan to send only PostScript, you may set the menu to PostScript.

5) Click "Send"

6) Quit from Apple Printer Utility

7) Turn the printer off and back on. Then confirm your changes by reading the test page.

Part 2- configure the HP workstation

You will create one entry for text/PCL and one for PostScript.

1) Login as root

2) Run SAM

3) Open "printers and plotters"

4) Open the "printers/plotters" menu

5) Select "action: add remote printer/plotter"

6) Fill in the fields of "add remote printer window"

7) Printer name: <the local name of the printer the users will see.>

8) Remote system name: <hostname of your printer from DNS or /etc/hosts>

9) Remote printer name: <raw or text>
"raw" if you are sending postscript, and "text" if you are sending text or PCL

NOTE: You must use lower case for raw or text.

10) Click on "remote printer is on a BSD System"

11) Click okay

If you need to create a second remote printer entry, repeat from step 5.

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Color StyleWriter 2400: Will Not Print In Color (9/95)

I cannot get my Color StyleWriter 2400 to print in color, it only prints in black and white.

This article has been archived and is no longer updated by Apple.
You should be able to print in color, however if you are using a program that does not support color printing you will not be able to use color. For example, the Grolier's Encyclopedia which is included with certain Performa computers, does not support color printing. So, you should make sure your application supports color printing. You should also make sure you have the print driver configured for color, the color ink cartridge has ink, and the color ink cartridge is properly installed.

In order to determine the cause of the problem perform the following tasks:

1) Generate a test page by powering on the printing and holding the power button until the power light starts to blink. See page 15-16 of the user's manual for more information.

If the test page appears in full color then the printer is working fine.

If the page is normal but the only color is black then the color ink cartridge is not installed in the printer. Install the color ink cartridge for color printing.

If the black sections of the test page appear normal, but the color sections are missing or more of the colors then the color ink tank is either missing or empty.

2) Try printing a simple document that has color in it. Make sure that the user selects 'Color' instead of 'Grayscale' or 'Black & White' in the print dialog box. If the document doesn't print in color then try printing another color document from a different application. If the inability to print in color is specific to an application, customers should also contact the vendor of that application for assistance.

Note:
This situation can occur with any color printers, including other Apple printers such as the ImageWriter II, Apple Color Printer, Color StyleWriter Pro, Color StyleWriter 2400, or the Color LaserWriter 12/600.

Article Change History:
05 Sep 1995 - Reviewed and reformatted Discussion.
28 Jul 1995 - Updated information

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LaserWriter Select 310: No Upgrades to LaserWriter 360 (4/95)

Can I upgrade my LaserWriter Select 310 to the LaserWriter Select 360?

This article has been archived and is no longer updated by Apple.
While the LaserWriter Select 310 and 360 look similar from the outside, internally these printers are very different. They have different I/O boards, controller boards, fuser assemblies, and print engines. While it is possible to replace all these items, it would end up costing more than purchasing a new LaserWriter Select 360.

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LC 630 DOS Compatibility Card: Read Me (4/95)

This article contains the Read Me file from the Macintosh LC 630 DOS Compatibility Card.

This article has been archived and is no longer updated by Apple.
Addendum to the Macintosh User's Guide
for the Macintosh LC 630 DOS Compatible

This document contains important information about using your Macintosh LC 630 DOS Compatible that is not included in your user's guide.

Contents
-Using the Floppy Drive
-Use of Floppy Disks as Drive Containers
-Startup Folder/Auto-start PC Conflict
-MIDI Transfers Supported on Macintosh Only
-Use of Two Button Mouse
-Using a Flightstick Pro Joystick
-Bypassing the CONFIG.SYS and AUTOEXEC.BAT files
-Installing Corel Draw
-Using Norton Utilities
-Amendments to Appendix E of the Macintosh User's Guide
-Using SAM 4.0
-SAM Intercept v4.0.2 Virus Checking
-Reinstalling DOS/Windows Software - WB.EXE File
-Rebuilding the Desktop
-Using PC Tools Pro 9.0
-Using MWUNDEL
-Using After Dark 3.0
-Using the Serial Port

Using the Floppy Drive

Both PC and Macintosh floppies are automatically mounted when inserted into the floppy drive, in either operating environment. This mounting process takes a few seconds. Macintosh users are familiar with this process; PC users will find that they should wait a few seconds before accessing the data on the floppy disk.

Certain DOS or Windows floppy disk utilities will not work with the DOS Compatibility Card. These utilities attempt to exercise direct control over the floppy drive, which they cannot do, since it is a Macintosh-controlled floppy drive. Instead, Macintosh disk utility applications should be used.

Use of Floppy Disks as Drive Containers

The LC630 DOS Compatible does not support the use of 3.5" floppy disks as drive containers. Floppy disks are intended for data use only.

Startup Folder/Auto-start PC Conflict

When two or more Macintosh applications are included in the Startup folder, be sure that the "Auto-start PC" is not selected in the PC Setup control panel. Under this circumstance you must switch to the PC mode manually and you must switch only after all Macintosh startup applications have finished launching.

MIDI Transfers Supported on Macintosh Only

The LC 630 DOS Compatible does not have the capability of sending and receiving MIDI data through the serial port for DOS and Windows. MIDI data does travel internally on the PC side, but when connected direct for use with a MIDI instrument, no data will transfer. MIDI transfers are fully supported on the Macintosh side.

Use of Two Button Mouse

The standard Apple mouse has no right button and users must press the "extended =" key whenever they intend to use right button functions in one of their PC applications. However, users of a third party programmable mouse or trackball, such as Kensington Turbo Mouse 4.0 or Logitech MouseMan ADB, can use the utilities included with their mouse to map the "extended =" key to the right hand button.

The Kensington Turbo Mouse 4.0 includes two utilities to configure its buttons. They are: "Turbo Mouse Control 4.0.2" and "Turbo Mouse Basics 4.0.2". "Turbo Mouse Control 4.0.2", an application that requires an extension, does not effectively map the "extended =" key to the right button and should not be used. "Turbo Mouse Basics 4.0.2", a control panel, correctly maps the "extended =" key to the right button and should be used instead.

Using a Flightstick Pro Joystick

The Flightstick Pro Joystick for the Macintosh triggers the System beep 'Indigo' when entering the DOS environment. It also triggers this sound twice upon bootup. To correct this, remove the Indigo sound from the System file in the Macintosh System Folder.

Bypassing the CONFIG.SYS and AUTOEXEC.BAT files

To bypass these DOS startup files during the boot-up process, press and hold the F5 key (Command-5 on non-extended keyboards) after the memory testing is complete.

Installing Corel Draw

If you allow Corel Draw to update the AUTOEXEC.BAT file, the line:
LH C:\\Apple\\MacShare

is replaced with the line:
C:\\DOS\\SHARE.EXE /L:500 /F:5100

If the former line is needed, you should edit the AUTOEXEC.BAT file to add it back.

Using Norton Utilities

If Norton Utilities for the Macintosh v3.0 or v3.1 is being used, the "More Compatible" option should be chosen:

1. Go into Control Panels and Open FileSaver
2. Click More Choices
3. Click Preferences and Update Now
4. Click More Compatible
5. Click Save

Amendments to Appendix E of the Macintosh User's Guide

On page 164 of the Macintosh User's Guide, certain steps may not exactly apply to more recent versions of the Novell Netware Client disk set. For steps 4 through 7 of the procedure in the manual, all that matters is that the following exceptions apply:

The Netware directory is: C:\\NWCLIENT
The LASTDRIVE setting in the CONFIG.SYS file is: LASTDRIVE=Z
The AUTOEXEC.BAT file contains the line: CALL C:\\NWCLIENT\\STARTNET.BAT
And be sure to load the Windows support in the directory where you have loaded Windows.

In steps 5 and 6, the defaults are already preset; you should not be required to edit the CONFIG.SYS file to set the LASTDRIVE setting or the

AUTOEXEC.BAT file to add the CALL line.

In steps 8 through 10 of the same procedure:
Step 8 should read "To select the driver for the network board, press return".
The disk required in step 9 is the "DOS Compatibility Installer Disk for PC Environment" disk that came with your computer.
In step 10 select the "Macintosh DOS Compatible Ethernet Adapter" and press return.

In the section entitled "Conserving Memory", you should not need to edit the AUTOEXEC.BAT file. The CALL line should already be included.

Using SAM 4.0

When using SAM 4.0 for the Macintosh with the "Prompt: 'Skip' is the default button" check box selected in the Floppy Drive preferences, inserting a floppy while in the PC environment causes the system to hang. The floppy cannot be accessed nor can the user switch to the Macintosh environment. To avoid this, select the "Always scan" option.

SAM Intercept v4.0.2 Virus Checking

If you have SAM Intercept 4.0.2 running on your LC630 DOS Compatible, and you attempt to mount a drive container on the desktop, the mouse cursor will indicate that you have control when, in fact, you do not. (SAM Intercept is checking the drive container for viruses but has not displayed the spinning "beach ball" cursor.) It takes approximately two minutes to complete the virus scan, after which the LC630 DOS Compatible will function normally. Version 4.0 of SAM Intercept does not exhibit this behavior.

To avoid this delay, turn off the autoscan feature as follows:

1. Launch the SAM Intercept program
2. Select "Scan" in the "Options" menu
3. Deselect the"Scan for known viruses" option.

Reinstalling DOS/Windows Software - WB.EXE File

Should it become necessary for you to re-install the DOS/Windows software, you will also need to install the WB.EXE file for execution when DOS boots. To install WB.EXE on the LC630 DOS Compatible follow these steps from the Macintosh desktop:

Step 1

Select the PCSetup control panel and select "Shut Down PC".

Step 2

Open the PC drive container, located on your internal hard drive, by double clicking the file "PC Drive File".

Step 3

A hard drive icon labeled "PC BOOTDISK" will appear on the desktop. Double click on PC BOOTDISK to open the volume.

Step 4

Insert the disk labeled "DOS Compatibility Installer Disk for PC Environment". Double click on the diskette icon to open the main window and locate the file WB.EXE.

Step 5

Drag it to the folder labeled "Apple".

Step 6

When the Macintosh is finished copying the WB.EXE file, press command-return.

Step 7

When DOS has finished booting, type:
EDIT C:AUTOEXEC.BAT

Step 8

Add the following line to the end of the AUTOEXEC.BAT file:
C:\\APPLE\\WB.EXE

Step 9

Press option-f to select the file menu.

Step 10

Select the Exit option (using the up-arrow key) and press return.

Step 11

Press return again to save the AUTOEXEC.BAT file and exit the DOS editor.

Step 12

At the DOS prompt type command-return to re-enter the Macintosh desktop.

Step 13

Unmount the PC drive container by dragging the PC BOOTDISK icon to the trash.

Step 14

Select "Shut Down PC" in the PCSetup control panel.

Step 15

Start the PC using the PCSetup control panel or by pressing command-return.

The WB.EXE program runs and exits when DOS boots. It does not stay resident in memory. The WB.EXE program enables the write back mode and prints a string that reads:

"WB.EXE Enable CPU internal cache to Write-Back.", and exits.

Rebuilding the Desktop

If you need to rebuild the Macintosh desktop, you must either wait for the desktop to rebuild while in the Macintosh environment, or switch to the DOS environment and remain there until the rebuild is complete. Switching back to the Macintosh environment during rebuild will cause the Macintosh to crash.

Using PC Tools Pro 9.0

The CPTASK.EXE utility (Central Point Task Manager) is incompatible with the DOS Compatibility Card.

Using MWUNDEL

MWUNDEL does not work on shared folders, so files deleted by the PC in shared folders will not be recoverable. However, files in shared folders can be recovered if they are deleted from the Macintosh. Use a Macintosh utility such as Norton Disk Doctor.

Using After Dark 3.0

Do not use the PC Setup control panel "Switch at Startup" option when using After Dark.

Using the Serial Port

If you are using communications software that uses the serial port, the following are known errors:

* For Procomm, the auto-answer mode does not work.

* For LapLink, transferring files between two machines may not work, especially for large files.

Support Information Services
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System 7.5 Update 1.0:Quadra 840AV Updated Display Manager

In the Technical Note for System 7.5 Update 1.0 it reads, "Display Manager update - Quadra 840AV computers did not remember the resolution a multisync monitor was set to between restarts. The monitor would resync as at 640x480 regardless of the value set by the user."

In the System 7.5 Update 1.0 Read Me file it says, "Quadra 840AV: The updated Display Manager ensures that a multi-sync monitor is set to the correct resolution when you restart the computer."

What changed? Customers are calling with questions, because they have installed the System 7.5 Update 1.0 on their Quadra 840AV, and their Multiple Scan monitors do not switch to the higher resolution any sooner.
This article has been archived and is no longer updated by Apple.
The change referred to in the Technical Note for System 7.5 Update 1.0 and the Update's Read Me file is a little-known and infrequent problem which occurred in System 7.5. This problem prevented some Macintosh Quadra AV systems from switching to resolutions higher than 640x480 under certain conditions.

After releasing System 7.5, some users reported that their Macintosh Quadra 840AV would sometimes end up with a screen resolution of 640x480 after restarting, instead of the resolution they had chosen before restarting.

As reported in the Technical Note for System 7.5 Update 1.0, it appeared as though the Macintosh Quadra 840AV did not remember the chosen screen resolution. In order to fix this problem, a change was made to the display manager. This change was included in Display Enabler 1.2 and System 7.5 Update 1.0.

Installing System 7.5 Update 1.0 will not allow the Quadra 840AV to switch to a higher screen resolution earlier in the startup process.

The following Tech Info Library article can help you find the Tech Note mentioned here:

Article 24493: "**Apple Tech Notes: What They Are, Where To Find Them**"
Published Date: Feb 19, 2012

RS-232 Cables: Maximum acceptable length depends on data rate

This article has been archived and is no longer updated by Apple.

TOPIC ----------

Is there a way to figure out the maximum length of RS-232 cables?

DISCUSSION ----------

The maximum length of RS-232 cables is related to the data rate. Thus, you can calculate maximum cable length based on the data rate. The table below provides the maximum length of RS-232 cables (average cable and special cable) for the various data rates.

Data rate (baud)	Maximum acceptable Feet of average cable	Maximum acceptable Feet of special cable
19200	50	83
9600	100	163
4800	200	326
2400	400	652
1200	800	1304
600	1600	2608
300	3200	5216

Average cable is defined by its capacitance, 50 picofarads (pf) per foot. Special cable is defined by a lower capacitance, 30 pf/foot, which makes special cable more costly.

The top line of the table is defined by interface standard RS-232C. We have made the remaining lines stay within the standard by taking the next highest line and halving the baud rate to double the length.

How the Top Line Was Determined

The RS-232C interface standard was set by and is available from the Electronic Industries Association (EIA), Engineering Department, 2001 Eye St., Washington, D.C., 20006. Several data reference manuals and booklets also contain and explain the standard. Apple uses the EIA RS-232C interface standard for all of its serial printer and communications interface equipments (excluding any parallel interface or item on AppleTalk).

We have used this standard to determine maximum cable length by referring to the specified amount of integrity of the transmission of data through the cable. This amount of integrity is specified in terms of maximum signal distortion at the maximum cable capacitance and at the maximum data rate.

For cables, the standard specifies the following maximum limits:

* Time Data Signal Distortion: 1 millisecond or 4 percent, whichever is greater.

* Cable Capacitance: 2500 picofarads (pf)

* Data Rate: 20,000 bits/sec.

Because the highest supported data rate is 20Khz (only the Macintosh can go as fast as this), there is some "fudging" allowed for cable distance. As no maximum distance between units is called out, all the cable has to do is provide a connection that meets the distortion and capacitance limits while supporting the data rate.

Most data cable has an average capacitance of 50 picofarads per foot. 50 feet of such cable would have a capacitance of 2500 picofarads, the maximum allowable capacitance.

Special, more costly, low-capacitance cable with less than 30 pf/foot would have a capacitance of 2500 pf or less in a length of around 83 feet. Depending on the actual capacitance, the low capacitance cable could be a lot longer, as long as its total capacitance stayed under 2500 pf.

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Apple LocalTalk Bridge: Troubleshooting

This article offers some guidelines for handling common problems with the Apple LocalTalk Bridge.
This article has been archived and is no longer updated by Apple.

General Troubleshooting

The bridge computer becomes unresponsive

Each time a LocalTalk device starts up, the Bridge obtains an address (node ID) from the Ethernet or Token Ring network, and assigns that address to the LocalTalk device in order to make the device visible on the extended network. The bridge computer might become unresponsive (it could "hang" or "freeze") if it is unable to acquire the node ID. To fix this problem, the network administrator needs to reconfigure the router to make more node IDs available for the Ethernet or Token Ring segment on which the Bridge is running.

The bridge computer cannot access Token Ring zones

If you install the Apple Internet Router and the Apple LocalTalk Bridge on the same computer, and both are running simultaneously, the bridge computer won't have access to Token Ring zones. To remedy this problem, remove either the router or the Bridge.

Error messages

Macintosh printer port already in use

During startup, there are three ways in which the bridge computer's printer (or serial) port can be in use:

* You set the current AppleTalk port to LocalTalk in the Network control panel.

* You selected EtherTalk or TokenTalk in the Network control panel, but an error occurred while switching to the selected network, so the bridge computer used the default AppleTalk port (LocalTalk) instead.

* You installed a software product that reserves the printer (or serial) port before the LocalTalk Bridge is activated.

In order for the LocalTalk Bridge to work, you need to select either EtherTalk (if the bridge computer is connected to an Ethernet network) or TokenTalk (if the bridge computer is connected to a Token Ring network) in the Network control panel. If you installed software that reserves the printer (or serial) port, you need to deactivate the conflicting software in order for the LocalTalk Bridge to run.

LocalTalk Bridge cannot start because the printer port is in use

Please select another AppleTalk connection in the Network control panel, then try again. The printer port automatically uses LocalTalk Built-In as the network connection. To use the LocalTalk Bridge, you need to select either EtherTalk (if the bridge computer is connected to an Ethernet network) or TokenTalk (if the bridge computer is connected to a Token Ring network) in the Network control panel.

LocalTalk Bridge cannot start because AppleTalk is not active

Please use the Chooser to activate AppleTalk, then restart the Macintosh. AppleTalk must be active on the bridge computer. You turn AppleTalk on by opening the Chooser and clicking the AppleTalk Active button to select it. You may need to restart your computer for the change to take effect.

LocalTalk Bridge requires AppleTalk version 58 or later

Please install AppleTalk version 58 or later, then try again. The LocalTalk Bridge requires AppleTalk version 58.1.5 or greater to function. Reinstalling system software or installing a third-party card (with its accompanying driver software) might also install a version of AppleTalk that is too old for the LocalTalk Bridge. To remedy this problem, reinstall the LocalTalk Bridge software, using the Installer on the Apple LocalTalk Bridge floppy disk.

LocalTalk Bridge cannot continue because of a network number conflict

Please restart the Macintosh. The non-LocalTalk network (Ethernet or Token Ring) can have one or more active routers, and additional routers might become active on the network after the LocalTalk Bridge is turned on. The additional routers might cause the network number conflict. If restarting the bridge computer does not fix the problem, contact your network administrator; the remedy may involve network reconfiguration.

LocalTalk Bridge cannot start because of an AppleTalk error

AppleTalk errors are rare, but may be caused by file or resource corruption. Check that network cables are securely attached and that all devices are properly terminated. If the problem persists, you may need to reinstall system software, then reinstall the LocalTalk Bridge.

LocalTalk Bridge could not obtain a LocalTalk address because all addresses are in use by other network devices

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Please contact your network administrator. Try restarting the bridge computer. If restarting does not remedy the problem, contact your network administrator. The remedy may involve reconfiguring the network.

LocalTalk Bridge was unable to start because of an unspecified error

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This message occurs if you install the LocalTalk Bridge on a 68000-based Macintosh. The LocalTalk Bridge requires at least a 68020 processor.

Making AppleTalk inactive or switching network connections has stopped LocalTalk Bridge services

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Open the Chooser and turn AppleTalk on, then restart the bridge computer.

There is a router or a Macintosh running LocalTalk Bridge software on this LocalTalk network

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LocalTalk Bridge cannot run on a LocalTalk network that has a router or another LocalTalk Bridge. You can only use the LocalTalk Bridge on a LocalTalk segment that does not already have an active AppleTalk Internet Router, LaserWriter Bridge, or LocalTalk Bridge. If the LocalTalk Bridge software detects a router or another Bridge on the LocalTalk segment, the LocalTalk Bridge will not start up. This error message also occurs if you install the LocalTalk Bridge on a computer that also has a router installed. In order for the LocalTalk Bridge to run, you need to remove the router software, then reinstall the LocalTalk Bridge.

There is not enough memory available to start LocalTalk Bridge

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The LocalTalk Bridge driver requires approximately 70K of RAM to run. You can try removing unnecessary system extensions (programs that start automatically when the computer is turned on) or installing more memory.

Token Ring driver not compatible with MacIPX

The Token Ring driver is not compatible with MacIPX versions 1.1 and older. Contact Novell Technical Support to obtain newer MacIPX software that works with the Token Ring drivers. If you are not using Token Ring, remove the MacIPX Token Ring components.

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Power Macintosh 5200/75 LC: Video In/Out Options

This article documents video in and out options for the Power Macintosh 5200/75 LC and Performa 5200 series computers.
This article has been archived and is no longer updated by Apple.

Built-in Monitor

The Power Macintosh 5200 uses a built-in 15-inch multi scan monitor as its output display device. The monitor supports three pixel display sizes: 640x480, 800x600, and 824x632. The initial power-on display size is 640x480. The monitor's resolution is switchable on the fly from the Control Panel menu.

Optional Video Mirror

Video on the Power Macintosh 5200/75 LC includes an optional feature called video display mirror output. This feature makes the video information concurrently available to the built-in display and to the external display port. Connection for the video mirroring is made possible by installing the Apple External Video Connector (P/N M4099LL/A) to the logic board using a 22-pin connector. This connector adds a standard DB-15 video port to the back of the Power Macintosh 5200 for connecting an external monitor or LCD panel.

When using video mirroring, the image on the second monitor is the same as that on the built-in monitor. This mode is a very useful tool for presentations, so the presenter and audience see the same thing.

The video mirroring port supports several external monitor sizes: 640x480 14-inch color, 800x600 15-inch multi scan, 640x480 VGA, and 800x600 SVGA.

Note: The Apple 12-inch RGB color monitor (512x384) is not supported on the Apple External Video Connector.

Optional Video Input

The Apple Video In System (p/n M2894LL/C) accepts video from an external source and displays it in a window on the computer's internal display. This is the same card used in the Quadra 630 and LC 630 computers. The card installs in a dedicated slot in the Power Macintosh 5200 LC and adds composite video in, S-video in, and stereo audio in ports to the back of the computer.

The card accepts the following video formats: NTSC, PAL, and SECAM. The card's AV features are functionally the same as the Macintosh Quadra 660 AV with one exception: the video input card digitizes color video using a digital YUV format, not the 16-bit RGB format used by the Macintosh Quadra 660 AV.

This digitizing technique provides a cleaner picture because it leverages the strength of the transmission signal, the chrominance channel. The standard television signal carries more signal information in the chrominance channel than it carries in the luminance channel.

The Apple Video In System accepts input from external sources, such as a VCR or camcorder, or it can accept input from the optional internal TV tuner.

The default window size used to display the video input picture is 320 x 240; it can be resized up to 640 x 480 full screen on a 14 inch monitor. Pixel-doubling is used on the large screen to enhance the 320 x 240 pixel image.

Note: The Power Macintosh 5200/75 LC cannot display live video from the video input module on monitors larger than 800 x 600 pixels.

Note: The video input card does not work with all monitors.

The optional Apple Video In System has a separate input connector named the DAV (digital audio/video) connector. The DAV connector makes the digitized data available to a card in the expansion slot a card such as a video compressor or some other type of video processor card.

Note: The DAV connector on the Video-In card only provides limited functionality. It is not compatible with the Power Macintosh and Quadra AV DAV connector.

Optional TV Tuner

The optional TV tuner is a plug-in module that enables the computer, in conjunction with the video input module, to function as a television receiver with a remote control. The software associated with the TV tuner provides customized channel selection, password protection for disabled channels, frame capture, and video recording as a QuickTime movie. The TV Tuner requires the Video In card to work. The Apple Video/TV System (p/n*M2896LL/C) includes both the Video in card (p/n M2894LL/C) and the TV tuner module.

These are the same modules used in the Macintosh Quadra 630 and LC 630 computers. The tuner is available in NTSC, PAL, and SECAM versions.

Features include:
* 181 channel tuner (US version)
* Coaxial antenna connector (F-type for U.S. and Japan, ICE-type for Europe)
* TV picture in a resizable and movable window
* YUV format for improved clarity
* Support for closed caption and teletext
* Software password protection
* Automatic and manual channel programming
* Single remote control for TV and audio CD

Part numbers mentioned in this article are accurate as of this writing. Before ordering, verify that they are still correct as they are subject to change.

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Color StyleWriter 2400: Feeds Multiple Sheets of Paper (4/95)

Sometimes my Color StyleWriter 2400 picks up multiple sheets of paper when it prints. Why does this happen?

This article has been archived and is no longer updated by Apple.

Overview
==========

Multi-feeds occur when the paper pick-up mechanism pulls multiple sheets of paper out of the sheet feeder and attempts to feed them through the printer. Depending on how many sheets are picked up the printer may experience paper jams or grinding noises if the carriage assembly binds against the extra sheets of paper.

In order to prevent multi-feeds it is important to properly load paper in the Color StyleWriter 2400 sheet feeder. The paper loading procedures are outlined below, and additional information can be found on pages 22-23 of the Color StyleWriter 2400 User's Guide.

- Move the paper select lever located on the right side of the sheet feeder to the correct position for the type of paper being used (envelopes or paper).

- Open the front cover and adjust the internal paper selector lever for the correct printing style and paper type (envelopes or paper). The center position is best for color printing, heavy black ink coverage, and heavier paper.

- Extend the plastic paper support on the sheet feeder so that the paper in the sheet feeder remains flat.

- Do not overload the sheet feeder. The sheet feeder can hold up to 100 sheets of 20 pound paper.

- Adjust the paper guide so that it touches the left edge of the paper. Do not allow the paper to bow out from too much pressure.

- Use only those printing materials that meet the specifications outlined in the user's guide.

- Open the paper output tray.

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Newton MessagePad: International Dialing Using Names

This article describes how to dial international numbers on the Apple MessagePad using the Names application.
This article has been archived and is no longer updated by Apple.
This tip makes international dialing using the Names application easier, especially if you travel outside your own country.

For example purposes, assume that you are located in Austin, Texas and that you want to call someone in the Apple office in Oslo, Norway.

Follow these steps:

1) Tap on Extras, then Time Zones.

If the "I'm here" location does not match the country you are in, set your location as explained in the "Apple MessagePad User's" manual. Use the nearest large city if your city is not listed in the Newton. Since you are located in Austin Texas, your MessagePad is set to Dallas, TX.

2) Tap on Extras, Prefs, and Personal, and set your country.

Assume you have selected "USA" from the pop-up list. (If your country appears in the pop-up list, select it from the pop-up, rather than writing it in.)

3) In the Names application, go to the "Show All Info" view.

4) Enter the country's name on the card, even if it does not appear in the pop-up list. Assume you select "Norway" from the pop-up list.

5) Enter the phone number as you would dial it while in that country. Assume you entered "259 1800".

6) Go to "Show Card" or "Show Card & Notes" and tap twice on the phone number.

This brings up the Call Slip. The phone number should appear with the correct international dialing codes. In this example, your Newton shows "011 47 2591800".

If you traveled to Norway you would set your Time Zone to Oslo, and your Personal Prefs to Norway. Tapping twice on the number again from within the Names application produces a Call Slip with "259 1800".

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At Ease: Finder Access Issues & Extensions Manager

I have an issue controlling my At Ease users while running System 7.5.

When running System 7.5 and the user holds down the space bar at startup, the Extensions Manager control panel activates. This creates a issue because I use At Ease for some measure of system protection.

The issue is that opening the Extensions Manager window at startup allows the user to deselect At Ease Startup, which turns At Ease off. After deselecting At Ease and closing the Extensions Manager window, the computer will boot normally into At Ease until the computer is restarted. When it is restarted, it goes right to the Finder. With At Ease disabled the user has complete access to everything. I can't allow this.

How can I prevent my students from getting access to the Finder, yet still run System 7.5 and At Ease?
This article has been archived and is no longer updated by Apple.
Workarounds:

Remove Extensions Manager From the Control Panels folder
Move the Extensions Manager control panel out of the Control Panels folder. This will prevent the spacebar from activating the Extensions Manager at startup.

Users with access to the Finder, such as yourself, can still open the Extensions Manager and use it without it actually residing in the Control Panel folder. Moving it out of the Control Panel folder will not disable it entirely, it will only disable the spacebar access to it at startup.

Remove Extensions Manager From the Extensions folder
You can also remove the EM Extension itself, which also prevents the spacebar from opening the control panel window at startup. If you do remove the EM Extension, it will no longer be functional. However, At Ease will not let users open this control panel even if they have access to other control panels.

Notes:

1) The EM extension will be at the top of your Extensions folder list if you are viewing by name. It has an extra space in front of its name so that it will load first, before the other extensions.

2) This issue is resolved in the At Ease 3.0.
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Apple LocalTalk Bridge: Devices on LocalTalk Segment (4/95)

How many LocalTalk devices can be connected to an Apple LocalTalk Bridge?

This article has been archived and is no longer updated by Apple.
There is no hard limit imposed by the code on the number of devices that can be attached to the LocalTalk segment. However, the number of devices is limited by the LocalTalk network architecture. If the LocalTalk network is properly repeated or bridged, there could be as many as 254 devices attached to the LocalTalk side of the bridge.

NOTE: The LocalTalk bridge will not function if a router is detected on the LocalTalk network.

"Inside AppleTalk, 2nd Edition" states: "The physical characteristics of the LocalTalk twisted-pair cable allow it to reliably support a recommended maximum of 32 devices." So, without a bridge or repeater, the limit is 32 devices.

However, 20 is the recommended number of devices supported when the bridge is also being used as a workstation. For more devices than that the Macintosh should run as a stand-alone bridge, because there will not be enough computing cycles available to process the user's requests in a prompt manner.

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Pascal III: Mapping of SOS error codes

This article has been archived and is no longer updated by Apple.
Pascal III maps SOS error messages 1 to 5 as Pascal error numbers 123 to 127 because of a numbering conflict.

For example, a user of Great Plains software, a Pascal III-based software package, posted Accounts Receivable and encountered a system crash during the merge or printing of the sorted sales journal. The system reported SOS error 123, so the error was really SOS error 01, Invalid SOS call number.
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Apple Token Ring NB/c Card: LED States (4/95)

This article describes how to determine the state of the Token Ring NB/c card by the state of the LED (light-emitting diode) on the card.

This article has been archived and is no longer updated by Apple.
The LED on the Token Ring NB/c Card upon power-up or any type of reset, will clear, indicating that the card is off-line. If the card is set for 16 Mbps (megabits per second) and you have a good network connection, the LED will be green. If the card is set for 4 Mbps, the LED will be yellow/orange. If the LED is not on, or is not showing the correct color, check the guidelines for handling common problems in "Troubleshooting" in the "Apple Token Ring NB/c Card User's Guide."

Support Information Services
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Internet Server For WWW: Documentation

This article describes the documentation on the CD-ROM included with the Apple Internet Server Solution for the World Wide Web.
This article has been archived and is no longer updated by Apple.
Most CD-ROM software is fully documented. The applications come with electronic versions of their standard documentation. Some of the applications, have had their documentation edited and expanded for this release.

Documentation for the Internet Server Solution will be in one of two formats:

HyperText Markup Languagate (HTML) or Adobe Acrobat (PDF)

HTML documentation can be read from Netscape with the "Open File" command. Netscape is automatically configured to point to the "Apple Internet Server Solution"
file//:<Name of drive>/Applications/WebSTAR/HTMLpages/docs/Welcome.html)

This page has a link "Online Documentation" that points to a page that refers to all documentation.

The following documentation is in HTML format and can be viewed by browsing the pages with Netscape:

Some documentation is stored in Portable Document Format (pdf) and requires the installation of Adobe Acrobat Reader or Exchange. The documents are referenced with HTML links, which triggers the launching of Reader or Exchange:

- Widgets documentation
- Adobe Acrobat 2.1
- AppleSearch Server
- AppleSearch Client
- Webmaster

The CD-ROM contains the following software:

- WebStar server software
- BBEdit - a hypertext markup language (HTML) editor
- Netscape client software
- Domain Name Server (DNS) software for the Mac OS
- HyperCard software and sample data*
- FileMaker Pro software and sample data*
- Butler SQL software and sample data*
- AppleSearch 1.5 and AppleSearch CGI
- Adobe Acrobat Pro
- Clickable Maps and Electronic Mail Common Gateway Interfaces (CGIs)
- Web "page" that points to a number of client helper applications
- Customizable Web pages and forms.

* Does not include complete application package. Software allows users to modify data, but not the structure of the database.
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ProDOS: Saving the LoRes Screen Image

ProDOS gives the 'NO BUFFERS AVAILABLE' message when you try to load a file, such as a saved text or LoRes screen image, into already used memory.
This article has been archived and is no longer updated by Apple.
Since the text screen area is marked as inuse by the system, ProDOS can not load the saved screen shot.

A solution makes that memory show as free while loading the picture:

```
10 A=PEEK(48984) : REM save the current memory bitmap area
20 POKE 48984,192 : REM Tell ProDOS that the Screen memory is not used
30 PRINT CHR$(4);"BLOAD IMAGE,A$400" : REM load in the screen file
40 POKE 48984,A :REM and put the bitmap back the way we found it
```

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LaserWriter Select 360 Fax Card Outside The U.S.A. (4/95)

I live in the U.K. and I have a LaserWriter Select 360. The Fax card is not available here, and I would like to know if the Select 360 Fax card that is sold in the U.S. will work here?

Can I get information on what counties the Fax card is support? Also, is there any reason why the Fax cards are not available in certain countries?

This article has been archived and is no longer updated by Apple.
The LaserWriter Select 360 and LaserWriter Pro 810 Fax cards are FCC compliant in the U.S. and Canada only. Therefore, they are not legally usable elsewhere because they have only been "certified" for the U.S. and Canada.

Certification by the equivalent FCC organization in the countries, in addition to providing hardware such as DAAs (Data Access Arrangements) to match the country's physical phone jacks, are the limiting factors to making the cards available to all countries.

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System 7.5 Update 1.0: Incompatible w/Stuffit SpaceSaver (4/95)

If the Stuffit SpaceSaver control panel does not load before General Controls, users may not be able to see all the files on a mounted file server; only a small percentage of files will appear in the Finder.

This article has been archived and is no longer updated by Apple.
Aladdin Systems, Inc., the creator of Stuffit, has recognized an issue involving their software, Stuffit SpaceSaver, and the Apple General Controls control panel (ver 7.5.3), which is the version included with System 7.5 Update 1.0.

To fix the problem, you can force the Stuffit SpaceSaver control panel to load before General Controls by inserting a blank space or other character in its filename as the first character. (For example, any letter prior to "g" in the alphabet would work in this case). This will cause Stuffit SpaceSaver to load before General Controls because control panels load in alphabetical order.

Removing either the SpaceSaver control panel or General Controls control panel also resolves the issue.

NOTE:
This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor, Aladdin Systems, Inc., for additional information.

The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.

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ColorSync 2.0: Older Profiles Not Compatible

My third-party monitor profile does not seem to be working after installing ColorSync 2.0
This article has been archived and is no longer updated by Apple.
ColorSync 1.x Profiles are not compatible with ColorSync 2.0. You need to get a new profile from your display's manufacturer in order to use ColorSync 2.0. You may be able to substitute one of the other Apple profiles until then.
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Power Macintosh AV: TV Output In Black & White (4/95)

I have a Power Macintosh with an AV card installed and I can only get a black and white signal from the AV card to the television. Why?

This article has been archived and is no longer updated by Apple.
You need to switch the S-Video adapter cables around. You are using the S-Video adapter cable designed for the input signal on the output of the Power Macintosh AV card. If you examine the adapter cables, one is marked IN and the other is marked OUT. You can only get a color signal when you use the OUT adapter on the output of the AV card.

This symptom appears only on Power Macintosh AV computers and not Quadra AV computers since the Quadra AV card has a composite output source instead of the S-Video adapter cables.

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Color StyleWriter 2400: Difficulty Installing Cartridge (4/95)

I find that replacing the ink cartridges on my Color StyleWriter 2400 difficult because the carrier assembly is not automatically moving to the center position where it can be easily accessed. What am I doing wrong and how can it be corrected?

This article has been archived and is no longer updated by Apple.
Under normal conditions, whenever the front cover is opened and the power is 'on', the Color StyleWriter 2400 moves the carrier assembly to the center position for easy ink cartridge replacement.

Printers which power up with the error LED on (solid LED), keep the carrier assembly in the home position (the right side of the printer) making ink cartridge access difficult.

In the event that the carrier assembly does not move to the center position, power down the printer and gently move the carrier to the center position. Next, check the ink cartridge to make sure it was properly installed and there are no obstructions preventing movement of the carrier assembly. If the problem persists then contact a service provider for further assistance.

Additional ink cartridge replacement information can be found on pages 42-45 of the Color StyleWriter 2400 User's Guide.

Support Information Services
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Daylight Saving Time: Locations That Do Not Observe

I have a PowerBook 520c which is running System 7.5. I set the Date & Time control panel to Honolulu, with no Daylight Saving Time (because Hawaii does not use Daylight Saving Time).

When I open the Map control panel, and type in Los Angeles, the time is one hour off; that is, it is only a 2 hour time difference instead of a 3 hour time difference.

It seems like the Map control panel does not support states that do not use Daylight Saving Time. Is there any way to change this?
This article has been archived and is no longer updated by Apple.
The setting in the Date and Time control panel for Daylight Saving Time (DST) is a universal setting. That is, it assumes everybody in the world is observing DST when its checkbox is selected.

If other areas of the world are not observing DST when the checkbox is selected in the Date & Time control panel, then the Map control panel will be off by an hour for those areas not on DST.

Conversely, if you set the Map control panel to an area that does not observe DST and deselect/uncheck the checkbox for DST in the Date & Time control panel, then time in all areas celebrating DST will be off by an hour in the Map control panel.

In the case of Hawaiians, sometimes they are three hours behind Pacific Standard Time (PST) and sometimes two hours behind Pacific Daylight Time (PDT). The Map control panel can only calculate differences between time zones relative to Greenwich Mean Time (GMT). Hawaii will always show up as three hours past the Pacific time zone and five hours past the Central time zone.

When Hawaiians are not observing DST, but the rest of the country is, there is no combination of settings in Map and Date & Time control panels which will enable you to display Hawaiian local time correctly AND concurrently display the correct time in other places that do observe DST.

The knowledge about which countries observe DST and which do not is not built into the Map control panel, so it does not allow for such a complex calculation.

This same situation also occurs in other parts of the world besides Hawaii. Phoenix, Arizona is an example of an area of the U.S. which also does not observe DST.
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Super Serial Card: Cable for ImageWriter II and APM (12/96)

Listed below are the pinouts for connecting the Super Serial Card to an ImageWriter II printer or Apple Personal Modem.

This article has been archived and is no longer updated by Apple.

ImageWriter II
or
Apple Personal Modem Super Serial Card

Circular 8 DB 25
1 <---> 6,8
2 <---> 20
3 <---> 3
4 <---> 7
5 <---> 2
6 <---> NC
7 <---> NC
8 <---> 7
Shield <---> Shield

For more information, search the Tech Info Library article "ImageWriter II: Connector cables for all Apples".

Article Change History:
16 Dec 1996 - Reviewed for technical accuracy, revised formatting.
Published Date: Feb 19, 2012

Internet Server For WWW: Getting Started

This article is a getting started article for Apple Internet Server Solution for the World Wide Web.
This article has been archived and is no longer updated by Apple.
To start learning about and then building your Web server, your first step is to fill out the Installation Checklist and then install and configure all the software you need. Remember, you must have MacTCP installed and running, and have access to an Internet connection to get on the World Wide Web (WWW). Without a connection, you can use the CD, but you cannot go any farther. We provide full MacTCP information, but some of the data you will need to enter is specific to your Internet connection. There are many ways to get an Internet connection. Generally it's obtainable through your network administrator or from a commercial source. It's up to you to find out what you need.

The package contains all the software you need to make a presence on the Internet. However, you must provide the connection to the Internet. If your site does not already have a connection to the Internet, you need to purchase this service from an Internet access provider in your area. Internet access is generally offered in two forms, a dial-up connection through the access provider's server, or a continuous connection through a server at your site. Call your local phone company for the access providers in your area. They will assign you an IP address which you need for the Installation Checklist.

While waiting for an Internet connection, you can get started with the Apple Internet Server Solution for the World Wide Web by opening the sample pages and beginning the process to create the documents you want to publish on the Internet, such as your home page. All the tools necessary to designing and create your home page are on the CD.

Installation Checklist
You must obtain the following information about your network from your network administrator or access provider before proceeding with installation. This information is required to configure MacTCP; the Macintosh version of the TCP/IP networking protocols required by all systems using the Internet.

Get this information:

- IP address
- Gateway address
- Domain Name

A Domain Name maps an Internet address to a name for your site, for example, apple.com. You can type a period (.) in this field and the server will search all IP addresses and use the first one that matches your Internet address.

Domain Name Server Address (or addresses if there are multiple servers)

You do not need to enter a Class of Address because it is automatically determined from your IP address.

Test Your MacTCP Connection
Test your MacTCP connection to make sure your local host, and hosts and gateways successively farther away are working properly before you enter the Internet. This helps to isolate potential problems. MacTCP Ping is a utility, in the Applications folder on your Internet Server, to help isolate problems.

If you need more information on MacTCP Ping utility, see the "MacTCP Administrator's Guide" on the CD-ROM.

Installation instructions

1) Insert the CD-ROM.

2) Double click Install Internet Server.

3) Click Install to install the applications and documentation. Installation requires a minute or two. All applications are placed in your Applications folder.

4) Restart your server. WebStar is launched, along with Netscape which displays the default Home page.

Note: If you install the software before configuring MacTCP, you'll see an error message such as "unable to Initialize Network! MacTCP may not be loaded", or when you are using Netscape "Could not create socket, insufficient system resources, or network down." These messages indicate that the applications are unable to reach the Internet and the messages will disappear once MacTCP is configured properly.
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Internet Service Providers In Europe (4/95)

This article provides a list of Internet service providers in Europe.
This article has been archived and is no longer updated by Apple.

Internet Service Common Terms
==========

Below are some terms and definitions to common Internet terms and connection methods:

* Shell
Offers a basic connection running on top of an UNIX environment. Services include eletronic mail, Usenet news, FTP, telnet, gopher, IRC, and so on. Most providers have a menu-driven interface as well.

* UUCP
Offers a method for computers to transfer files from machine to machine without user intervention.

* SLIP
Allows computers to be temporarily connected the Internet. You can run services such as FTP and telnet directly from a computer. This also allows you to run some of the popular graphical user interface software (such as Mosaic and other World Wide Web clients).

* PPP
Similar to SLIP but a much better protocol.

* FTP
Offers anonymous FTP space.

* LAN
This is for connecting a local area network to the Internet.

* WWW
Offers space for maintaining Web pages.

* ISDN
High-speed network connections that are offered as dial-up access via digital modems.

* 56-T1
These cover the 56K through T3 speeds. These are dedicated line connections that are high-speed and high-bandwidth.

Internet Service Providers
==========

Internet Service Providers in your local area connect you to an Internet account through a regular phone line. This list is not complete, and should not be considered a recommendation from Apple Computer. It is provided for your reference.

Belgium

BELNet Tel : +32.2 2383470
DPWB-SPPS Fax : +32.2 2305912
Wetenschapsstraat, 8 email: helpdesk@belnet.be
1040 Bruxelles, Begium

EUnet Belgium Tel : +32.16.236099
. Fax : +32.16.232079
. email: postmaster@belgium.Eu.net

Switzerland

Active-Net Tel : 055 24 13 42
Eschenweg 4 Fax : 055 24 13 41
CH-8645 Jona email: altorfer@active.ch
. URL : http://www.active.ch/

EUnet Tel : 01 291 45 80
Zweierstrasse 35 Fax : 01 291 46 42
CH-8004 Zfrich email: info@eunet.ch
. URL : http://www.eunet.ch/

Internet ProLink Tel : 022 788 85 55
ICC Fax : 022 788 85 60
C.P. 1863 email: help@iprolink.ch
CH-1215 GenÅve 15 URL : http://www.iprolink.ch/

M&C Management & Communications SA Tel : 037 22 06 36
Grand-Places 16 Fax : 037 22 06 38
CH-1700 Fribourg email: office@mcnet.ch
. URL : http://www.mcnet.ch/

Ping Net GmbH Tel : 01 768 53 16
Albisstrasse 48 Fax : 01 768 53 19
CH-8932 Mettmenstetten email: admin@ping.ch
. URL : http://www.ping.ch/

SWITCH Tel : 01 268 15 15
Limmatquai 138 Fax : 01 268 15 68
CH-8001 Zurich, email: info@switch.ch
. URL : http://www.switch.ch/

Thenet Tel : 031 998 41 41
NetConsult AG Fax : 031 998 41 50
Morgenstrasse 129 email: support@thenet.ch
CH-3018 Bern URL : http://www.marktplatz.ch/
. netconsult/thenet-home.html

TINET Tel : 091 50 81 18
Centro Galleria 2. Via Cantonale Fax : 091 50 81 19
CH-6928 Manno-Lugano email: info@tinet.ch
. URL : http://www.tinet.ch/

France

Compuserve Information Services Tel : (1) 47 14 21 60
Centre ATRIA Fax : (1) 47 14 21 51
Rueil 2000
21, Avenue Edouard Belin
92566 RUEIL MALMAISON Cedex

DX-Net Tel : 88 83 20 66
21, Rue des Bosquets Fax : 88 83 20 31
67300 SCHILTIGHEIN

EUNet Tel : (1) 53 81 60 60
52, avenue de la Grande-ArmÄe Fax : (1) 45 74 52 79
75017 PARIS

FranceNet Tel : (1) 40 61 01 76
49, Rue du Faubourg-PoissonniÅre Fax : (1) 47 83 92 17
75009 PARIS

FRANCETEASER Tel : (1) 47 50 64 50
17, Rue Corot Fax : (1) 47 50 62 93
92410 VILLE D'AVRAY

FRENCHDATA NETWORK Tel : (1) 44 62 90 64
8, Rue Belgrand Fax : (1) 47 97 58 72
75020 PARIS

Internet Way Tel : (1) 41 43 21 10
204, Bld Bineau Fax : (1) 41 43 21 11
92200 NEUILLY SUR SEINE

OlÄane Tel : (1) 43 28 32 32
Groupe APYSOFT Fax : (1) 43 28 46 21
35, Bld de la LibÄration
94300 VINCENNES

Renater Tel : (1) 44 27 26 12
GIP RENATER Fax : (1) 44 27 26 13
UniversitÄ Pierre et Marie Curie
Bëtiment A, 7í Ätage
4, Place Jussieu
75250 PARIS Cedex 05

RÄseau CALVACOM (Calvanet/ Calvacom 2) Tel : (1) 34 63 19 19
RÄseau Calvacom / STI Fax : (1) 34 63 19 48
8-10, Rue Nieuport
78140 VâLISY

Transpac Direction Commerciale Tel : (1) 45 38 88 88
Tour Maine Montparnasse Fax : (1) 45 38 71 47
33, Avenue du Maine
75755 PARIS Cedex 15

WORLD-NETSCT Tel : (1) 60 20 85 14
20, Avenue Daguerre Fax : (1) 64 21 65 35
77500 CHELLES

The Netherlands

Antenna Tel : +31 (80) 235 372
P.O. Box 1513 Fax : +31 (80) 236 798
6501 Nijmegen email: support@antenna.nl

Stichting Dataweb email: info@dataweb.nl
P.O. Box 13433
2501 EK The Hague

De Digitale Stad (the Digital City) Tel : +31206200294
Postbus 22864 Fax : +31206222753
1100 DJ Amsterdam email: helpdesk@dds.hacktic.nl
. Dialup access: +31206225222
. telnet: dds.hacktic.nl
. (193.78.33.69)

EMSwitch Tel : +31.20.668.6262
Postbus 139
1000 AC Amsterdam

EUnet The Netherlands Tel : +31.20 5924245
. Fax : +31.20 5924199
. email: beheer@Netherlands.EU.net

EuroNet Internet Tel : +31 20 625 6161
Prins Hendrikkade 48 Fax : +31 20 625 7435
1012 AC Amsterdam email: info@euro.net

GDS Tel : 015-624493
postbus 473 email: beheer@gds.nl
2600 AL Delft

Hobbynet Tel : +31-36-5361683
H.A. Dijkstra email: henk@hgatenl.hobby.nl
Satiestraat 9
1323 SL Almere

INFOboard Tel : +31.4752-5858
Veldweg 33 Fax : +31.4752-6584
6075 NL Herkenbosch

Internet Distributie Nederland (IDN) Tel : 050 - 189149
. email: Gregor Tee (Gregor@idn.nl)
. Dialup: 050 - 133623

NEABBS Tel. BBS: 020.5733533

NetLand Tel : 020.6943664
Bart de Ligtstraat 4 Dialup: 020.6940350 (5 ln)
1097 JE Amsterdam Telnet: netland.nl

NLnet (EUnet Netherlands) Tel : +31.20.6639366
Kruislaan 419 Fax : +31.20.6655311
1098 VA Amsterdam email: info@NL.net

Openworld foundation Tel : +31-(0)1720-40005
PObox 297, Fax : +31-(0)1720-30979
2400AG, Alphen aan den Rijn, email: info@ow.org, staff@ow.org
The Netherlands

PSYLINE FidoNet: 2:500/276
Postbus 38036 email: psyline@psyline.nl
6503 AA Nijmegen

Stichting Internet Access Tel : +031 15 566108
Postbus 444 email: voorzitter@iaf.nl
9600 AK Hoogezand

Stichting Knoware Tel : 030.896775
Oldambt 69 email: info@knoware.nl
3524 BD Utrecht

Stichting NEST Tel : 020.6265566
postbus 441 email: info@nest.nl
1000 AK Amsterdam

Simplex email: simplex@simplex.nl
postbus 36068
1020 MB Amsterdam

The Delft Connection (TDC) email: info@tdcnet.nl
p/a Nieuwe Plantage 115
2611 XV Delft

WLINK (Waterland BBS) Tel/Fax : 029.9043030
Postbus 1196 BBS: 029.9040202 (12 ln)
1440 BD Purmerend email: joop@wlink.nl

XS4ALL (Access for All) Tel : +31206200294
Postbus 22864 Fax : +31206222753
1100 DJ Amsterdam email: helpdesk@hacktic.nl

Sweden

Telia Tel : +46 (0)8 90 200
. : +46 (0)8 90 400

. email: internet-info@telia.se

Tele2 Tel : +46 (0)8 562 64 000
. : +46 (0)8 562 64 335
. email: info@swip.net

France Telecom Tel : +46 (0)8 619 31 00
. email: info@transpac.se

Telegate Tel : +46 (0)8 750 30 20
. email: inet-info@telegate.se

Personal Internet Tel : +46 (0)8 783 20 40
Services Dial-up (PPP and SLIP) email: adm@pi.se

Algonet Tel : +46 (0)8 799 30 11
. email: info@algonet.se

Everyday Online Tel : +46 (0)8 15 88 10
. : +46 (0)8 15 88 30
. email: info@everyday.se

Italy

Agorê, Tel : 06/69917432-3

Galactica, Tel : 02/29006150

i.net, Tel : 02/26162258-9

iUnet (ex i2u) Tel : 02/27001719

Mc-Link, Tel : 06/418921

Video online Tel : 167-014630

United Kingdom

Demon Tel : 0181 371 1234

Pipex Tel : 01223 250120

UKNet Tel : 01227 266466

Support Information Services
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Power Macintosh 7500, 8100, 8500, 9500: SCSI Termination Explained

This article explains the differences between the internal SCSI termination on Power Macintosh 8100 series computers and Power Macintosh 7500, 8500, and 9500 series computers.
This article has been archived and is no longer updated by Apple.
Power Macintosh 8100 series and Power Macintosh 7500, 8500, and 9500 series computers have dual-channel asynchronous SCSI interfaces, which results in two separate SCSI buses: an internal/external SCSI bus, Bus 1, and an internal SCSI bus, Bus 0. However, the specifications and configurations of the two buses differ slightly.

Power Macintosh 8100 Series Computers

Bus 1

Bus 1 consists of a 50-pin flat ribbon cable with two 50-pin connectors on the end of the cable. The CD-ROM drive, if installed, occupies the first connector. The second connector has a 50-pin terminator connector installed on it. To add a second SCSI device to Bus 1, you must remove the 50-pin terminator connector and install a terminated SCSI device.

Bus 1 has automatic termination, which means that circuitry on the logic board senses whether or not there are any external SCSI devices attached. If there are no external SCSI devices connected, the logic board automatically terminates itself at the 50-pin logic board connector, thus terminating both ends of the SCSI chain.

Once an external SCSI device is connected to the 25-pin external connector, the circuitry senses the device and disables termination at the 50-pin logic board connector. The computer then relies on the external SCSI device to provide the proper termination.

Bus 0

Bus 0 is a completely separate SCSI bus with its own SCSI controller. This bus has a 50-pin flat ribbon cable with two 50-pin connectors on it. Power Macintosh 8100 series computers ship with the internal hard drive connected to this SCSI bus. The internal hard drive is terminated, which terminates the SCSI bus.

Unlike Bus 1, Bus 0 does not have automatic termination because it is exclusively an internal SCSI bus. If additional devices are added to Bus 0, only the last device should contain termination resistors.

Power Macintosh 7500, 8500, and 9500 Series Computers

Bus 1

Unlike Bus 1 in Power Macintosh 8100 computers, there are no devices attached internally to Bus 1 in Power Macintosh 7500, 8500, and 9500 series computers.

Bus 1 has automatic termination, which means that circuitry on the logic board senses whether or not there are any external SCSI devices attached. If there are no external SCSI devices connected, the logic board automatically terminates itself at the 50-pin logic board connector, thus terminating both ends of the SCSI chain.

Once an external SCSI device is connected to the 25-pin external connector, the circuitry senses the device and disables termination at the 50-pin logic board connector. The computer then relies on the external SCSI device to provide the proper termination.

Bus 0

Bus 0 is a completely separate SCSI bus with its own SCSI controller. On Power Macintosh 7500, 8500, and 9500 series computers, Bus 0 provides Fast SCSI communications up to 10 MB per second.

This bus has a 50-pin flat ribbon cable with two 50-pin connectors on it. Power Macintosh 7500, 8500, and 9500 series computers ship with the internal hard drive and CD-ROM drive connected to this SCSI bus. The internal hard drive is terminated, which terminates the SCSI bus.

Unlike Bus 1, Bus 0 does not have automatic termination because it is exclusively an internal SCSI bus. If additional devices are added to Bus 0, only the last device should contain termination resistors.

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Power Macintosh AV: Greyscale Output from S-Video Port

I am ouputting video from a Power Macintosh AV to an external video source using the S-Video port. The Monitors control panel is set for 256 colors yet the video appearing on the television monitor is in shades of grey.
This article has been archived and is no longer updated by Apple.
There are two different S-Video cable adapters provided with the Power Macintosh AV computer. Using the S-Video cable adapter marked IN instead of the adapter marked OUT will produce this result.

Externally, the adapters look identical except for the IN/OUT markings on the flat part of the connector. Internally, they have different wiring which will cause the loss of color signal.
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Workgroup Server 95: Tech Tips

This article contains Apple Workgroup Server Tech Tips.
This article has been archived and is no longer updated by Apple.

Tech Tip 1: Recovering From A Crash

The following steps can be followed to recover from a crash on a WorkGroup Server 95. Attempting these steps in the order they are given will assure that the least trouble is encountered with the UNIX file system.

First depress Command-Control-E simultaneously and wait for at least one minute before proceeding. Depressing these three keys simultaneously forces a restart of the Macintosh process running within UNIX.

If no response is generated by Command-Control-E, turn the server off using the key switch on its front panel. Turning the key switch counterclockwise to the "off" position sends a signal to the main logic board to perform an orderly shutdown of UNIX processes. As with Command-Control-E, wait at least one minute for this action to complete before assuming it is unsuccessful.

The last resort for restarting the server involves pressing the reset switch on the front of the server.

After any abrupt restart of the server, it is recommended that a manual file system check be performed from the A/UX Startup Shell. Entering the Startup Shell involves restarting the server and clicking the "Cancel" button OR depressing the Command and Period keys when the Dialog Box appears saying "Welcome to the Apple WorkGroup Server...Launching". This will present a command line interface.

At the prompt type the following UNIX command:
fsck -y /dev/default
This command will perform a file system check of the default boot drive. It may take a few minutes to complete. If upon completion, a message indicating the file system was modified is displayed, it is a good idea to run the same command once more.

If a message indicating the file system was modified is NOT encountered, entering the command:
launch
will boot the server into its normal operating mode.

Tech Tip 2: Rebuilding the DeskTop

There are two ways to rebuild the desktop on an Apple WorkGroup Server 95: the Apple way and the UNIX way. Both approaches give the same result, but they also bear some explanation.

You may have already discovered that depressing Command and Option simultaneously while booting the server rebuilds the desktop for the MacPartion but not for the UNIX file system. The latter requires holding down the Command and Option keys as the Finder process is loading within A/UX. A simple way to accomplish this is to select LOGOUT from the Special Menu and depressing Command and Option simultaneously as the Finder loads. A dialog box will then appear asking if you want to rebuild the desktop.

The UNIX approach for rebuilding the desktop involves use of the command line interface. Use the rm command to delete each of the four files in /mac/sys/System Folder which include "desktop" in their name. Once these files have been deleted, the Desktop will automatically be rebuilt the next time the Finder loads.
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GeoPort and Express Modem: ARA CCL Scripts

This article describes the preferred modem scripts for Apple Remote Access (ARA) when using the GeoPort Telecom Adapter or Express Modem.
This article has been archived and is no longer updated by Apple.
GeoPort 2.0 Telecom Adapter connection (CCL) scripts

ARA 1.0: GeoPort Telecom ARA 1.x (in Extensions folder in System Folder)
ARA 2.0: GeoPort Telecom ARA 2.x (in Extensions folder in System Folder)

Two additional, optional connection (CCL) files, named GeoPort Telecom ARA 1.x/CNG and GeoPort Telecom ARA 2.x/CNG, are installed as well. When you use them, the GeoPort Telecom Adapter transmits data calling tones after dialing. Data calling tones allow the remote machine to detect automatically that an incoming call is a data modem call. If you are dialing into a system that supports data, fax and voice calls (such as another GeoPort Telecom Adapter) you should select it in the Apple Remote Access Setup control panel.

Note: The GeoPort Telecom ARA 1.x/CNG and GeoPort Telecom ARA 2.x/CNG files are installed in the Telecom Documents folder. Should you decide to use these optional files, you'll need to drag or copy them to the Extensions folder.

Express Modem connection CCL scripts

ARA 1.0: Express Modem 14400
ARA 2.0: Express Modem ARA 2.0 (Modem Documents folder on installer disk)
Published Date: Feb 19, 2012

ARA MultiPort X.25 Extension: CompuServe X.25 Network

I am setting up an Apple Remote Access (ARA) MultiPort X.25 Extension server through CompuServe's X.25 network, and I'm getting a "Could not connect to host" error. What is wrong?
This article has been archived and is no longer updated by Apple.
The key piece of data that is not being provided by CompuServe on the client is an ASCII string that gets placed in the Call Request Packet. The string should be "ARAX25".

The problem is CompuServe sets up their X.25 services in such a way that all their PAD parameters are set up ahead of time. The client logs into the CompuServe network and is authenticated to use a predetermined service. Other X.25 service providers allow the client to issue PAD commands, therefore the scripts for them look very different than the script for CompuServe. As a comparison look in the Sprint CCL script that comes with ARA MultiPort Server X.25 Extension software to see how the "ARAX25" string gets sent to the PAD. In X.25 terminology, the "ARAX25" string goes in the Call User Data field which ends up being the last 6 bytes of the Call Request packet.
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MAE 2.0: MacInTax 1994 Cannot Save To Hard Disk (4/95)

This article describes a workaround when MacInTax initially saves a file to the UNIX hard disk with MAE 2.0.

This article has been archived and is no longer updated by Apple.
Here is a workaround, save the MacInTax file to a floppy disk instead of the hard disk. You can then copy the MacInTax file in the Finder from the floppy disk to the UNIX hard disk.

It appears that MacInTax has a problem creating the file on the hard drive but not a floppy disk. Once the file has been dragged to the hard disk, MacInTax can open and update it without difficulty.

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Apple Color Printer: Uneven Margins in Printer Driver (4/95)

When I print from my Apple Color Printer, the top and bottom margins are shifted slightly. How can I correct this?

This article has been archived and is no longer updated by Apple.
When printing from the original Apple Color Printer, the top margin may actually print 1/8-in. less than expected, and the bottom 1/8-in. larger. For example, a margin of 1-in. on all sides may yield a top margin of 7/8-in. and the bottom 1 1/8-in.

The problem is actually with the Apple Color Printer driver. There are no plans to revise the Apple ColorPrinter driver. However, one possible solution is contact GDT Softworks. GDT Softworks makes PowerPrint. PowerPrint contains a newer version of the Apple Color Printer Driver. This may resolve the problem, however Apple does not guarantee this solution).

Another solution would be to adjust for the margin difference through the application being used.

The problem may be more prevalent when printing from Postscript programs.

The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.

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QuickTime for Windows: Differences Between 2.0 and 2.0.1

This article describes the differences between QuickTime of Windows 2.0 (QTW) and QuickTime for Windows 2.0.1.
This article has been archived and is no longer updated by Apple.
The main difference between 2.0 and 2.0.1 is a QuickTime for Windows 1.x/2.0 installation issue that has been fixed. Other issues corrected are:

1) Resource leak in sample codec component fixed by extern "C"

2) Resource leaks in components based on sample code in (1)

3) Data handler performance enhancements

4) Installer changes for ATI Mach 64 compatibility

5) Installer now removes [video] optimize= key, to ensure that auto-video speed determination in QTW is re-enabled for QTW 2.0

6) Updated memory utilization for enhanced performance during rate conversion/audio decompression

7) Updated all components to peacefully coexist with previous versions of the quicktime binaries. (Issue resolved for Premiere 1.x, and some CD-ROM titles which run QTW binaries from the CD-ROM instead of from the default QTW binary)

8) Component manager now supports two entry points to identify component:
- THNGIDENTIFY
- THNGIDENTIFY2
- This allows QTW 1.x to safely ignore newer components which use QTW 2.0 specific features. (see item 7)

9) Byte-swap public macros now use 2-byte XCHG instead of 3-byte ROL instruction

10) New support for casting an HGLOBAL handle to a PicHandle on all API calls which take a PicHandle as a parameter. This allows a programmer to read from a file into a Global memory object, then have QTW interpret the contents of memory as a PICT.

11) Correct the usage of CLUTID = -1 to be the same as on Macintosh.

12) Added preference to QTW.INI to allow user to indicate that their windows sound driver is lying about its ability to perform volume control.

13) Added preference to QTW.INI to allow QTW to reset the sound hardware everytime the audio output channel is opened.

14) Improved audio sync under low memory conditions.

15) Improved audio decompression performance.

16) NewMovieFromDataFork parsing improved when there are multiple 'moov' resources in the data fork.

17) Switching between multiple sound tracks is now supported at runtime under application control.

18) Prevent various malformed JPEG images from causing GPF.

19) Corrected editlist processing when media timescale was different from movie timescale.

20) Bypass more GDI bugs related to SetBitmapBits.
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LaserWriter 16/600 PS: Europe Uses a Blacklist Option (4/95)

We have a customer in Spain who is experiencing random problems with a LaserWriter 16/600 PS Fax. Sometimes, when trying to send a fax, the error "El telÄfono estç en una lista negra" which means "The telephone is on a black list" appears. This does not always happen with the same phone number, what is going on?

This article has been archived and is no longer updated by Apple.
"El telÄfono estç en una lista negra" means that the user has reached the limit for retrying the connection. The maximum number for redialing the same phone number is four. This number is set by the customer's Spanish phone company, and once you have exceeded this number you get the error "this phone number is black listed". You must wait a certain amount of time before trying again.

This code is not often used in Spain; it is more prevalent in other European countries.

Support Information Services
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Macintosh: IDE Volume Sizes

What is the largest volume size that the IDE interface, which is used in the PowerBook 150, Macintosh 630-series, and Power Macintosh 5200/75 LC, can support?

Does the IDE interface (ANSI proposal X3T9.2/90-143, Revision 3.1.) have the same limit as the ATA interface specification which I believe is approximately 500 MB, or does this interface support a larger volume size?
This article has been archived and is no longer updated by Apple.
According to Engineering, the IDE interfaces in the PowerBook 150, Macintosh 630-series, and Power Macintosh 5200/75 LC use a built-in driver that works with volume up to 2 GB in size. However, it's important to note that any IDE drive that is going to be used on these systems must support Logical Block Addressing (LBA). LBA is the method that drive manufacturers have adopted in order to go beyond the 520 MB DOS-BIOS limit.

As long as the IDE drives support Logical Block Addressing, it should be possible to install drives larger than 500 MB in these systems.
Published Date: Feb 19, 2012

What Is The PowerBook 150 Update Extension? (4/95)

I have a PowerBook 150 which is running System 7.5. Since I installed a modem, the battery seems to get depleted very quickly. What can I do to save battery power?

This article has been archived and is no longer updated by Apple.
PowerBook 150 Update Extension

When the PowerBook 150 has an internal modem, the modem continues to draw power when not in use. This shortens the battery life. Apple released the PowerBook 150 Update extension to correct this problem.

The update extends battery life by reducing power requirements during sleep mode. It also fixes a potential system freeze problem that occurs when you use the internal modem several times without restarting the computer.

System 7.5 Update 1.0

If you have installed the System 7.5 Update 1.0, you will no longer need the PowerBook 150 Update extension. The same software fix has been incorporated into the System 7.5 Update file. This file resides "loose" in the System Folder.

The System 7.5 Update file contains the functionality of and removes the following extensions: EM Sound Update, PowerBook 150 Update, and Mount IDE Drive.

Since the PowerBook 150 Update system extension is no longer needed, it is automatically removed from the Extensions folder (inside the System Folder) during installation of the System 7.5 Update 1.0.

These articles can help you locate the software update mentioned here:

* Where To Find Apple Software Updates
Lists online services for "free" Apple software updates.

* Obtaining Apple Product Support in the USA
Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech. Info. Library.

Support Information Services
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Changing Size Of Launcher Buttons (12/95)

How do I change the size of the buttons in the Launcher? Can I make the buttons a custom size?

This article has been archived and is no longer updated by Apple.
No you cannot make your own custom sized buttons, but you can change their sizes.

The ability to change button sizes in each panel was added with Launcher version 2.5. Previous versions do not support this feature.

Changing Launcher Button Size:

Step 1
Hold down the Command key and press the mouse button while the pointer is over a section of the background pattern in the Launcher window.

Step 2
A menu will appear, with the choices of small buttons, medium buttons, or large buttons.

Step 3
Select the desired size and release the mouse button and the Command key.

NOTE: To change each panel to the same button size, you must change each panel individually. Each panel is independent of the others.

Article Change History:
21 Dec 1995 - Added information on panel independence.

Support Information Services
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Macintosh 128K and 512K: Using the Calculator and Keypad

This article has been archived and is no longer updated by Apple.

On the original Macintosh Numeric Keypad, the keys ENTER, comma, plus, and minus do not seem to correspond with the keys on the Calculator desk accessory. However, although the keycap graphics do not match the Calculator keys, there is a calculator function for each keycap. For instance, the ENTER key on the keypad corresponds to the plus key on the Calculator. So, if your fingers are accustomed to a 10-key numeric keypad, you can use the Macintosh keypad and look at the screen and not the keys. Otherwise, please bear in mind the differences between the keys on the Calculator and those printed on the keycaps.

Published Date: Feb 19, 2012

Macintosh Plus: Using the AppleTalk DB-9 connection module

To use the DB-9 AppleTalk connection module (used with Macintosh 128K and 512K models) with the Macintosh Plus you will need to either use the Apple DB-9 to circular 8 adapter cable (part 590-0553 or 590-0341) or make an adapter cable with the following pinouts.

This article has been archived and is no longer updated by Apple.

Macintosh Plus: Circular 8 to DB-9 Adapter Pinouts

Circular 8 Signal DB-9
1 HSKo (+12V) 6
2 HSKi 7
3 TXD- 5
4 GND 3*
5 RXD- 9
6 TXD+ 4
7 No Wire
8 RXD+ 8
GND 1*

* Pins 1 and 3 on the DB-9 end are jumpered together.

The pins on the male end of the circular 8 connector are numbered as shown:

6 7 8
3 4 5
1 2

The pin assignments for the DB-9 connector on the AppleTalk connection module are as follows:

Signal Name Pins
DB-9
RXD+ 8
TXD+ 4
RXD- 9
TXD- 5
Case ground DO NOT DIRECT CONNECT CASE GROUND TO CABLE SHEILD.

The case ground signal goes from the connector module shell through a ground isolation network in the connector module to the shield of the cable. The ground isolation network isolates grounds and helps prevent ground currents. No further case grounding should be made.

Published Date: Feb 19, 2012

Macintosh 630 Family: 16 Bit Sound Information

This article discusses how to get 16-bit playback of audio CDs from a Macintosh 630 family computer.
This article has been archived and is no longer updated by Apple.
When Macintosh 630 family computers play CD audio, the sound source is 16-bit digital audio (virtually all CD players are 16-bit). Since a Macintosh 630 family computer just passes the CD-ROM drive's audio signal to its sound output ports (adjusting only the volume), the audio is still a 16-bit digital audio signal when it comes out of these ports.

The quality of the CD audio signal that the Macintosh 630 family computer passes through its sound ports is unaffected by the choice a user makes in the "Sound Out" portion of the Sound control panel. This section of the Sound control panel affects the sounds that come from a Macintosh system's internal sound digitization circuitry.

In other words, the Macintosh 630 family is not capable of 16-bit audio by itself. The 16-bit rating referred to in the literature for Macintosh 630 family computers refers to the playback capabilities of the built-in CD-ROM drive.
Published Date: Feb 19, 2012

Workgroup Server: Using Multiple Servers w/One Monitor (4/95)

Are there any specific considerations I should take into account when using multiple Apple Workgroup Server computers with one monitor?

This article has been archived and is no longer updated by Apple.
The major consideration to be aware of occurs when using a switch box between the computers and the monitor. The Workgroup Server uses sense line information from the monitor to determine what size monitor is connected.

When a Workgroup Server powers on, it checks to see if a monitor is attached to the video port; if no monitor is attached, it disables the video port. When a switch box is used, there is a direct connection between the monitor and only one of the computers, so the video ports on the other servers are disabled since they do not detect a monitor connected to the video port. When you switch to the other computers, no video is available.

There are several solutions but it helps to understand what is happening to understand what can be done to solve the problem.

The Workgroup Server identifies the type of monitor (scan rate and image size) through sense lines in the monitor.

When you are connecting one or more Workgroup Servers to a single monitor through a switch box, the sense line signals can be provided at three different locations; in the monitor cable coming out of the Workgroup Server, in the monitor, or in the switch box.

The best solution is to make sure that you purchase a switch box that provides sense line signals to the Workgroup Servers when the monitor is not connected. The next best solution is to obtain monitor cables for VGA monitors and run them into a switch box. The VGA cables have the sense signal information wired into them.

Support Information Services
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LaserWriter Pro 810: Problems Logging Into Virtual Printer

I am having problems logging into the virtual printer server on the LaserWriter Pro 810 printer. I have checked to make sure I am using the proper cable, and I am using VT-100 emulation software set to 9600 baud, no parity and 1 stop bit. What might cause this problem?
This article has been archived and is no longer updated by Apple.
Be sure that any terminal emulation software settings that add characters to keyboard input are OFF. If the virtual printer server sees any invisible characters, such as line feeds, after the user name or password, access is denied.

It is important that the terminal emulation software does not send characters other than the required username of 'su', and privileged password of 'system'; any characters are acceptible as a username, whether valid or not, but if EITHER OR BOTH fields are incorrect, access is denied after entering the password.

Sample Session
==========

```
username> su
Server> su
password> system
Server>>
```

Once the 'Server>>' prompt appears, you are logged into supervisor access.

Other Help
==========

Online help is also available to assist you. For example, 'show services' displays the current services. amd 'help show services' displays all the arguments to 'show services' and what they do.
Published Date: Feb 19, 2012

LW Pro 810: Postscript Using lp From Solaris 2.3

How to I print to a LaserWriter Pro 810 from a Solaris 2.3 workstation?
This article has been archived and is no longer updated by Apple.
Follow the steps below to print to a LaserWriter Pro 810 from a Solaris 2.3 workstation:

Step 1

Do an ftp to "ftp.support.aple.com"

Path apple SW Updates/US/UNIX/Printing software for Unix

Step 2

Get enstall utility solaris.tar.z and its read me

Decompress and then Untar the utility.

Step 3

Put enstall utility in current directory.

Step 4

Run enstall with 'enstall -b'

When running the "enstall -b" script, please choose "none" for the predefined printer model interface, not "standard".

Step 5

Use "admintool" to change the File Content from ASCII into Postscript.

Step 6

Now copy(cp) or move(mv) "/home/apple/printcap" to "/usr/apple/printcap".

Step 7

After you get the "printcap" file into "/usr/apple", please delete anything above the line "# ** |UnixExpress| entry maintained by Apple Printer Installation Program **" in "printcap", in other words, the "printcap" file should look like this:

```
# ** |UnixExpress| entry maintained by Apple Printer Installation Program *
# printer type =PRO810
# printer interface type =Ethernet
# printer physical port number =1
# UnixExpress model =standard
UnixExpress|UnixExpress|Apple remote printer on port 1:
. :lp=UnixExpress:
. :apple_n=128.252.171.16:
. :mx#0:
. :sf:
. :sh:\\
. :pw#0:
. :apple_text=disable:
. :apple_pcs=:
. :apple_scs=:
. :apple_p=3102:
```

When you issue a "lpstat -p your_printer_queue_name -l" command, you should get the following result:

The file Content Types should be "Postscript", it should not be "simple."
Published Date: Feb 19, 2012

Apple LocalTalk PC Card DIP Switch Settings (4/95)

What are the DIP switch settings for the original Apple LocalTalk PC Card.

This article has been archived and is no longer updated by Apple.
Here are the recommended settings:

Switch number: 1 2 3 4 5 6 7 8
. --- --- --- --- --- --- --- ---
Switch position: Off Off Off Off On Off On On

Below is a detailed explanation of each switch setting.

Switch 1 2 3
. IRQ4 IRQ3 IRQ2

Selects Interrupt Request (IRQ) priority level.

Only one of these switches can be set to the On position. The other two must be Off. Switch 1 is IRQ4, the same as serial port COM1. Switch 2 is IRQ3, the same as port COM2. Switch 3 is IRQ2, determines the priority level at which the card will interrupt the IBM computer whenever it changes state. Level 2 has the highest priority and level 4 the lowest. Do not use switch 3 if you have an IBM PC-AT computer.

Switch 4 6
. DRQ3 DAK3

DMA Request and DMA Acknowledge on DMA channel 3.

Both of these switches must be on (and switches 5 and 7 must be off) for the card to communicate with the IBM computer via channel 3.

Switch 5 7
. DRQ1 DACK1

DMA Request and DMA Acknowledge on DMA channel 1.

Both of these switches must be on (and both switches 4 and 6 must be off) for the card to communicate with the IBM computer via DMA channel 1.

Switch 8
. $24x/$22x

Selects the address range of the card.

If this switch is on, the card will respond to control signals sent to addresses in the range $240 to $247. If this switch is off, the card will respond to control signals in the range $220 to $227. The IBM addressing scheme allows each card to respond to 32 addresses, but the LocalTalk PC Card uses only 8 of them.

Support Information Services
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Macintosh Computers: DMA Support

Which Macintosh models support Direct Memory Addressing (DMA)? From what I can tell Power Macintosh computers support it, some Macintosh Quadras may, and the Macintosh IIfx does to a limited degree. Am I right?
This article has been archived and is no longer updated by Apple.
Direct Memory Access (DMA, also called Direct Memory Addressing) is used extensively in computer systems design to help improve performance. It allows systems to transfer large amounts of data into the computer's memory, without burdening the main microprocessor.

For example, the premise behind SCSI (Small Computer System Interface) DMA is that files can be retrieved from a SCSI hard drive and loaded into memory by a SCSI DMA controller. While the DMA controller is loading files in the background, the main processor (for example: a 68030, 68040, or PowerPC processor) can continue to work on other tasks.

DMA has been used in several Macintosh products, without specifically being called out. There are several interface areas in which Apple has chosen to use DMA techniques to improve performance. These are Apple Desktop Bus (ADB), Ethernet, Floppy drive access, SCSI, serial communications, sound input, sound output, and some other I/O operations.

Standard Implementations
==========
The following is a summary of some Macintosh systems' DMA capabilities:

Apple Desktop Bus (ADB)

Apple has used ADB DMA in the following systems:

* Macintosh IIfx
* Quadra 900
* Quadra 950

Ethernet

Apple has used DMA to improve the performance of Quadra and Power Macintosh systems with built-in Ethernet ports. If a NuBus Ethernet board is used, then the system's built-in DMA capabilities are not used. The following systems use Ethernet DMA:

* Centris and Quadra systems with built-in Ethernet
* Performa 611x series
* Power Macintosh 6100, 7100, and 8100 series
* Workgroup Server 6150, 8150, 9150 series

Floppy

Some systems use DMA to improve performance when accessing files on a floppy drive. Systems which use DMA for the floppy disk drive controller include:

* Macintosh IIfx
* Centris and Quadra 660AV
* Quadra 840AV
* Quadra 900
* Quadra 950
* Performa 611x series
* Power Macintosh 6100, 7100, and 8100 series
* Workgroup Server 6150, 8150, 9150 series

SCSI

Apple has used DMA to improve SCSI performance in some systems. The following systems have SCSI DMA capability:

* Macintosh IIfx (only with A/UX 2.0 or later)
* Centris and Quadra 660AV
* Quadra 840AV
* Performa 611x series
* Power Macintosh 6100, 7100, and 8100 series

* Apple Workgroup Server 95
* Workgroup Server 6150, 8150, 9150 series

Serial

Several Macintosh systems have DMA support for serial communications. DMA is also used with GeoPort communications on appropriate systems. Systems which use DMA with the serial communications controller include:

* Macintosh IIfx
* Centris and Quadra 660AV
* Quadra 840AV
* Quadra 900
* Quadra 950
* Performa 611x series
* Power Macintosh 6100, 7100, and 8100 series
* Workgroup Server 6150, 8150, 9150 series

Sound

With the introduction of the Centris and Quadra AV systems, Apple started using DMA for sound input and output. This improves the performance and allows greater performance when recording and playing back sound. Systems which use DMA for sound input and output include:

* Centris and Quadra 660AV
* Quadra 840AV
* Performa 611x series
* Power Macintosh 6100, 7100, and 8100 series
* Workgroup Server 6150, 8150, 9150 series

Special Cases
==========
DMA is also used in the following special cases:

Macintosh SE PC Floppy Drive

The Macintosh SE PC 5.25" Floppy Disk Controller Card uses DMA to transfer PC file data from the 5.25" floppy drive directly to the memory of a Macintosh SE.

DOS Compatibility Card

The Macintosh DOS Compatibility Card uses one 32-bit DMA channel. DMA for shared memory support is provided through Macintosh system software.
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Apple Monitors: How Often Do They Degauss? (4/95)

When does an Apple monitor degauss? If not every time the monitor is powered on, how do we know the degauss circuit is functional? Do any monitors have a manual degauss feature?

This article has been archived and is no longer updated by Apple.
All of Apple's displays activate the degauss coil each time the monitor is powered on. The display can be degaussed by turning it off and powering back up again after waiting 15 minutes to 1/2 hour. After the waiting period, the display will degauss at power-up.

Generally speaking, in comparison to leaving a display on all the time with a screen saver, it's a good idea to power a monitor off and back on occasionally. This will activate the degauss coil to help remove any residual magnetic fields that may reduce CRT performance.

If the degauss coil has failed, magnetic fields may build up around the CRT causing purity and color shift problems in the display. The magnetic fields would be quickly noticed in the display indicating a failure and the need for service. The degauss coil and circuitry components are very reliable and failures are rare.

The older Apple High-Res RGB has a degauss button on the back of the display. Even with a degauss switch, this unit cannot activate the degauss coil any more than about once every 15 minutes to half hour.

Support Information Services
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AppleShare: Expired Password and Auto Log On

With AppleShare 4.0.2, I have my users' passwords set to expire after 90 days. I also have the users set to auto log-on at start up. When a user's password expires and their computer tries to log-on during startup, they receive no notification that their password has expired, unless they connect to the server through the Chooser. Is this normal?
This article has been archived and is no longer updated by Apple.
Yes, this non-response is normal activity when a password expires and your computer is set to auto log-on to the server. This happens with AppleShare 3.0.x, 4.0.x, and 4.1. The password has expired message from the server is not seen by a user until they select the server through the Chooser.

Also a server's alias will report that it can't find the server on the network when a users password has expired. In either case you can choose the Chooser from the Apple menu, select the server, and enter your new password when prompted from the password has expired message.
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Macintosh Plus: Imagewriter I Cable Pinouts

Article Change History

05/25/93 - CORRECTED
* To update pinouts for the DB-25 to Circular-8 Cable

Below is the wiring diagram of the connection between a Macintosh Plus and an Apple Imagewriter I. Cables #1 and #2 may be used together for the connection or custom cable #3 may be constructed.

This article has been archived and is no longer updated by Apple.
CABLE 1
Macintosh Imagewriter Cable
590-0169

Macintosh Imagewriter
Connector Connector
(DB-9) (DB-25)

Comments Signal Pin Pin Signal Comments
Name Name

Chassis Ground GND 1 <----> 1 GND Chassis/Frame Ground
Signal Ground SGND 3, 8 <--> 7 GND Signal Ground
Transmit Data Tx 5 ----> 3 Rx Receive Data
Ready to Send HSK 7 <---- 20 DTR Data Terminal Ready
Signal Ground SGND 8 (Connected to pin 3 on the Macintosh side)
Receive Data Rx 9 <---- 2 Tx Transmit Data

CABLE 2
Macintosh Plus Circular 8 to DB-9 Adapter
699-0372

Circular 8 Signal DB-9
1 HSKo (+12V) 6
2 HSKi 7
3 TXD- 5
4 GND 3*
5 RXD- 9
6 TXD+ 4
7 No Wire
8 RXD+ 8
GND 1*

* Pins 1 and 3 on the DB-9 end are jumpered together.

The pins on the male end of the circular 8 connector are numbered as shown:

6 7 8
3 4 5
1 2

CABLE 3

Macintosh Plus Circular 8 to DB-25 Custom Cable

Circular 8 DB-25
1 HSKo (+12V) 6 & 8
2 HSKi 20 DTR
3 TXD- 3 RxD

4 GND 7 GND
5 RXD- 2 TxD
6 TXD+ No Wire
7 No Wire No Wire
8 RXD+ 7 GND

Published Date: Feb 19, 2012

PowerBook: Video Out Scan Rates (4/95)

What are the Horizontal and Vertical scanning frequencies for the PowerBook family computers which support video output?

This article has been archived and is no longer updated by Apple.
The video output port supports 8-bit video output (512 KB of non-expandable VRAM) for 256 colors on Apple 12-inch, 13-inch, and 16-inch RGB monitors; and 4-bit video with 16 shades of gray on the Apple Portrait Display. VGA and SVGA modes are supported with appropriate adapter cables. The video controller emulates a NuBus card in slot $E, so the video output system appears to software as a standard video card.

An adapter cable included with the computer allows users to attach a standard Apple video cable. The external video interface is enabled by attaching a monitor and restarting the computer. To connect a VGA monitor to the Macintosh video port, an adapter cable is required. Third-party cable vendors should have these cables available for purchase.

During the boot process, ROM code tests the monitor sense lines and activates the video output system if a recognized monitor is attached. If no monitor is found, the video output system is deactivated to conserve power. Because the video output circuitry consumes additional power, Apple recommends that customers use the AC adapter when using an external monitor.

* Video Scan Rates:

Monitor Resolution Dot clock
. Width (pixels) Height (pixels) Depth (bits) (MHz)
12-inch RGB 512 384 8 15.6672
13-inch RGB 640 480 8 30.2400
VGA 640 480 8 25.1750
SVGA 800 600 8 36.000
Portrait 640 870 4 57.2832
16-inch RGB 832 624 8 57.2832
The AudioVision 14 Display is also compatible.

In normal operation the video output circuitry acts like a second monitor to extend the user's desktop. Alternatively, the user can select video mirroring mode, in which the external monitor mirrors the internal LCD. In mirror mode, software blanks the edges of the larger screen to match the horizontal and vertical pixel resolution of the smaller screen.

Support Information Services
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LaserWriter 16/600 PS: Using the Envelope Feeder W/ QDrw GX 4/95

I am using QuickDraw GX 1.1 and a LaserWriter 16/600 PS printer. I want to print envelopes from the envelope feeder, but I have not been able to print from the envelope feeder. Is it possible to print from this feeder?

This article has been archived and is no longer updated by Apple.
Yes, you can use the envelope feeder with QuickDraw GX 1.1. Here are the steps required to setup and use the envelope feeder.

Step 1

Print something from the desktop printer. Until you use the desktop printer, you will not get the options you need to use the envelope feeder.

Step 2

Highlight the LaserWriter 16/600 GX desktop printer icon, and choose Input Trays from the Printing menu.

Step 3

Select Envelope - Edge Fed.

Step 4

Configure the internal paper trays for the paper size installed, and click OK.

Step 5

From the File menu, select Page Setup. For paper type select Envelope - edge fed, and select landscape (sideways) orientation.

Step 6

To the right of Format For, select LaserWriter 16/600 PS and click Format.

Step 7

From the File menu select Print, then click Paper Matching.

Step 8

Make sure that the option Ignore paper matching and direct all document pages to is selected.

Step 9

Select No. 10 Envelope. Do not select Envelope - Edge Fed (Envelope Feeder); If you select this, the printer uses the 250-sheet cassette.

Step 10

Select Print

Step 11

In a few seconds, a message appears explaining that the document size No. 10 Envelope is not installed. Highlight the option Change paper in internal tray to No. 10 Envelope. The words Internal Tray are dimmed. Next, select Make change permanent.

Step 11 only appears the first time you print an envelope. After you print to the envelope feeder, the message no longer appears.

Support Information Services
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Macintosh Plus: Modem 300 & Modem 1200 cable pinouts

Below is the wiring diagram of the connection between a Macintosh Plus and an Apple Modem 300 & 1200. Cables 1 and 2 may be used together for the connection or a custom cable 3 may be constructed.

This article has been archived and is no longer updated by Apple.

CABLE 1
Macintosh Modem Cable
590-0197

Macintosh Apple Modem
Connector Connector
(DB-9) (DB-9)

Comments Signal Pin Pin Signal Comments
Name Name

Chassis,frame Ground GND 1 <-+-> 8 GND Chassis,Frame Ground
|
Signal Ground SGND 3 <-+-> 3 SGND Signal Ground
Output; Transmit Data TXD 5 <---> 9 RCD Input; Receive Data
12-Volt Line 6 <---> 6 DTR
Output; Ready to Send RTS 7 <---> 7 DCD Input; Data Carrier Detect
Input; Receive Data RCD 9 <---> 5 TXD Output; Transmit Data

NOTE: There are many variations on connecting pins 1, 3 and 8, but the basic intent is to bring all three of those pins to ground on the Mac side.
Connect Signal Ground to Chassis Ground if you want a slightly better noise margin.

CABLE 2
Macintosh Plus Circular 8 to DB-9 Adapter
699-0372

Circular 8 Signal DB-9
1 HSKo (+12V) 6
2 HSKi 7
3 TXD- 5
4 GND 3*
5 RXD- 9
6 TXD+ 4
7 No Wire
8 RXD+ 8
GND 1*

* Pins 1 and 3 on the DB-9 end are jumpered together.

The pins on the male end of the circular 8 connector are numbered as shown:

6 7 8
3 4 5
1 2

CABLE 3

Macintosh Plus Circular 8 to DB-9 Custom Cable

Circular 8 DB-9
1 HSKo (+12V) 6 DTR
2 HSKi 7 DCD
3 TXD- 9 RCD
4 GND 3,8 SGND,GND
5 RXD- 5 TXD

6 TXD+ No Wire
7 No Wire No Wire
8 RXD+ 8 GND

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What‘s New In Apple HD SC Setup 7.3.5? (6/95)

I just downloaded Apple HD SC Setup 7.3.5 from an online service, but the Read Me document did not explain what is new?

This article has been archived and is no longer updated by Apple.
Apple HD SC Setup was updated to provide support for 4 GB (gigabyte) Apple hard disk drives. Apple HD SC 7.3.5 now handles the initialization and mounting of 4 GB drives. A 4 GB hard drive is available with the Workgroup Server 8150/110 and 9150/120*. Each of those systems (and the Power Macintosh 8100/110) can accommodate volumes up to 4 GB. The HD SC Setup 7.3.5 utility and the hard disk driver that is installed when a user performs an "Update Driver" command with this utility is appropriate for use on all Macintosh computers.

Additionally, Apple HD SC Setup 7.3.5 adds a new supported feature letting users partition their Apple hard drive into additional Macintosh volumes.

By choosing Partition from the opening dialog box in Apple HD SC Setup 7.3.5, the user is given the following options for a partition:

* Maximum Macintosh
* Minimum Macintosh
* 50% Macintosh
* Standard A/UX
* A/UX System, 40MB Macintosh, Free A/UX
* A/UX System, Maximum Macintosh
* Maximum Free A/UX
* 50% Macintosh, 50% A/UX
* 10MB ProDOS, Maximum Macintosh

If the user chooses Custom from within the Partition dialog box and drags in gray area to create a new partition, the user is given the following options for a custom partition:

* Macintosh Volume
* Scratch
* A/UX Autorecovery
* A/UX Root&Usr slice 0
* A/UX Swap slice 1
* A/UX Root slice 0
* A/UX Usr slice 2
* Free A/UX slice 3
* Free A/UX slice 4
* Free A/UX slice 5
* *Additional Mac Volume*
* Misc A/UX
* ProDOS Volume

* NOTE: Although the Server configurations with 4 GB drives mentioned above do not appear specifically on the Apple Products list, these configurations will be available to customers under Apple's Build-To-Order purchase program. For more information regarding Build-To-Order configurations, customers may call 1-800-GO APPLE.

These articles can help you locate the software update mentioned here:

* "Where To Find Apple Software Updates" -- Lists online services for free Apple software updates.

* "Obtaining Apple Product Support in the USA" -- Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech Info Library.

Article Change History:
28 Jun 1995 - Added information about multiple Macintosh volume support.
27 Apr 1995 - Corrected minor typo.

Support Information Services
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Newton Connection Kit: Disks Different Between Versions

I just purchased the Newton Connection Kit for the Macintosh, and I only received one disk. My friend purchased the Newton Connection Kit several months ago and received three disks. I returned the Newton Connection Kit and got another one. It also contained only one disk. Where are the other disks?

This article has been archived and is no longer updated by Apple.

The Newton Connection Kit for the Macintosh version 2.0 came with three disks. Version 2.0.2 of the Newton Connection Kit comes with only one disk. The additional disks are not needed in the new version of the Newton Connection Kit.

Published Date: Feb 19, 2012

LaserWriter Printers: Toner and Fonts for MICR Printing

I am trying to determine if any of the Apple LaserWriter printers support MICR printing.
This article has been archived and is no longer updated by Apple.
MICR (magnetic ink character recognition) is commonly used in the banking industry to print information on checks that can be read quickly by both machines and humans. Although the toner used in all of Apple's black and white LaserWriter printers is magnetic, the formulation is not appropriate for MICR use. Special MICR toner cartridges for some Apple LaserWriter printers can be purchased from third-party vendors such as Printerm Datascribe, Inc.

MICR fonts which are machine readable can be ordered from most of the larger font houses such as Adobe Systems.

The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.
Published Date: Feb 19, 2012

World Wide Web Consultants (4/95)

In light of all the recently released information about World Wide Web (WWW) access to the internet, I was wondering if there is a listing of any consultants out there who can help a small company or individual set up their own Web site?
This article has been archived and is no longer updated by Apple.
You might try the following Universal Resource Locator (URL):

http://macweb.batnet.com/

MACWEB.COM contains information helpful to companys and organizations considering the Macintosh as a platform for electronic publishing on the Internet's World Wide Web.

There is a link on this page to a consultants listing:

http://macweb.batnet.com/macwww/consultants.acgi

This Web site lists consultants available throughout the world who are experts in electronic publishing on the Internet's World Wide Web using Apple Macintosh and compatible computers.

This article provides information about a non-Apple supported internet site. It is subject to change without notice. Apple Computer, Inc. is not responsible for its content. Please contact the site administrator for additional information.

Support Information Services
Published Date: Feb 19, 2012

Apple Workgroup Server 95: Autologin File

Regarding the Autologin file on the Apple Workgroup Server (AWS) 95, what is the purpose of the file and can I set up the computer to automatically login when turned on? Also, why does the computer automatically login as root when turned on?
This article has been archived and is no longer updated by Apple.
When the AWS 95 is first powered on it will immediately launch A/UX through an alias in Startup Items of the Macintosh partition. A/UX 3.x.x will usually go straight to the Finder, logging in as root if (and only if) there is no password on the root account, which is the default installation. If the administrator chooses to add a password to the root account, A/UX 3.x.x will stop at the standard A/UX Login screen and wait for a password. In the default File/Print server configuration there is a text file called "Autologin", in the Preferences Folder of the Login System Folder, which contains the name of the account for the system to automatically login to. By default it is set to root. If this file does not exist, here is how to recreate one.

1. Open any text editor in the Mac OS or in the CommandShell.
2. Create a new file and name it "Autologin".
3. The first line should only contain the word "root".
4. Save this file in /mac/sys/Login System Folder/Preferences.
5. Quit the text editor.

With this file present, the next time the server starts up, it will automatically log in and (if the proper alias is in the default System Folder) launch AppleShare File or Print services. For security reasons, many administrators may NOT want the file server to automatically log in as root. To prevent this from happening, remove this file from the /mac/sys/Login System Folder/Preferences folder.

Note: This file is not usually present in default database configurations.

Published Date: Feb 19, 2012

MAE: Show Patches Installed on Solaris 2.3 or 2.4 (4/95)

What is the line command to show the patches installed on Sun Solaris 2.3 or 2.4?

This article has been archived and is no longer updated by Apple.
The Sun Solaris command used to display what patches have been installed in the system is:

showrev -p

For more information on showrev, type "man showrev"

Support Information Services
Published Date: Feb 19, 2012

AppleShare 3.0.1 and System Error -35 (4/95)

We are using AppleShare 3.0.1 with System 7.0.1 on a Macintosh SE/30 with an 80 MB hard drive. When attempting to view access privileges in AppleShare Admin, I get the following message:

"The Access privileges on this volume have been lost. AppleShare will attempt to recreate them. System error -35."

We tried deleting the AppleShare PDS file but continue to get the same error.

This article has been archived and is no longer updated by Apple.
The Error -35, "no such volume" may come from problems in the volume information block, and could indicate other problems with the directory structure of the hard drive.

Use a disk utility, like Disk First Aid or a third-party utility, to correct the problem. If that fails, reformat the drive.

WARNING: Be sure to backup your data before reformatting the drive. The format process will erase all data from your hard disk.

Support Information Services
Published Date: Feb 19, 2012

Apple IIc: ImageWriter II & APM Cable pinouts

The following article gives the cable pinouts for the Apple IIc, the ImageWriter II and the Apple Personal Modem.
This article has been archived and is no longer updated by Apple.
Product # A2C4312
Part # 590-0333-B

ImageWriter II Apple IIc
or 5 pin
Apple Personal Modem Serial Port

Circular 8 <----------> DIN 5

1 <----------> 1
2 <----------> 5
3 <----------> 2
4 <----------> 3
5 <----------> 4
6 <----------> NC
7 <----------> NC
8 <----------> 3
Shield <----------> Shield
Published Date: Feb 19, 2012

Calculator: Small Errors in Calculations (4/95)

When I type the following equation into the graphing calculator, the calculator returns FALSE when it should return TRUE:

762.50 -191.69 - 63.87 - 28.89 = 478.05

Why is this happening?

This article has been archived and is no longer updated by Apple.
The reason for the calculator's behavior is the fact that you are trying to do decimal math on a binary processor. Not all decimal fractions can be represented exactly in binary form. This leads to very small errors in calculations and is demonstrable in most computers.

The way around this is to keep the error to an insignificant amount and round the result to desired number of decimal places. For example, if calculations are being done in dollars and cents, only two decimal places are needed. So when the calculator reports that 5.00 - 4.90 - 0.10 = 8.80914E-20
(0.00000000000000000000880914), the result is rounded to 0.

There is an article on page 42 in the February 20, 1995 issue of MacWeek that
also explains this behavior.

Support Information Services
Published Date: Feb 19, 2012

Multiple Scan Display: High Pitched Whine at Highest Resolution

I've noticed a high pitched whine emanating from my Multiple Scan 17 display. It seems to get worse when I change to the highest resolution. What can be done to resolve this issue?
This article has been archived and is no longer updated by Apple.
If the screen on the display is operating normally while the noise is occurring, then the problem is most likely related to a sub-harmonic of the horizontal sweep frequency, which is why the noise occurs only in one resolution.

This suggests that the monitor's flyback transformer is probably the culprit. Replacement of the monitor's main board is the best way to resolve this issue; there are no adjustments to reduce or remove the noise.

NOTE: This article applies to other Apple Multiple Scan Displays, such as the Multiple Scan 15 Display and Multiple Scan 20 Display.
Published Date: Feb 19, 2012

Duo Dock: Multiple Scan Resolution Switching

This article discusses a situation where a PowerBook Duo 280c with a Duo Dock with 1Mb of VRAM and PowerBook Duo enabler 2.0 connected to a Multiple Scan 17 Display only shows the 640 x 480 resolution.
This article has been archived and is no longer updated by Apple.
The release of System Software (7.1.1 or 7.5) makes a significant difference when a Duo is inserted into an original Duo Dock. In comparison, the Duo Dock II offers multiple resolutions, when either version of System Software (7.1.1 and PB Duo Enabler 2.0, or 7.5) is installed.

In an original Duo Dock with System Software 7.1.1, the additional VRAM offers additional colors, but not additional resolutions. In order to access additional resolutions on the Multiple Scan 17 Display, you either need a display adapter (because the Dock does not recognize the sense pins on the monitor cable), or you need a newer version of System Software.

Display adapters do not increase the number of resolutions a Duo Dock can handle, but they do give you access to all the resolutions that the Duo Dock can support. The highest resolution supported on the original Duo Dock is the 16-in. monitor resolution of 832 x 624.

Published Date: Feb 19, 2012

TrueType Fonts: No resolution limitations (4/95)

Is it true that TrueType fonts have a limit of 600 dots per inch (DPI) ? How does this relate to PostScript fonts? Are the technologies similar?

This article has been archived and is no longer updated by Apple.
There is no maximum resolution, nor any specific scaling rules, that apply for TrueType fonts. TrueType fonts are based on a relative, fundamental coordinate system (called an em square), with mathematical equations to "grid-fit" the characters in that coordinate system. To scale and/or print the font, a transformation is made from relative to absolute values based on the output device's resolution in pixels.

Likewise, PostScript fonts do not have a DPI limitation. They are also based on coordinate systems and mathematical equations (like TrueType) to translate between relative and absolute values, in order to "map" to the resolution of the output device.

In terms of comparing the technologies, PostScript is a full-fledged page description language, whereas TrueType only deals with font technology - fonts are only a subset of more major technologies. It would be more appropriate to compare PostScript to QuickDraw GX as they are both the major technologies.

Support Information Services

Published Date: Feb 19, 2012

MessagePad 120: Changing the Default Font

I am using an Apple MessagePad 120 and want to change the font from plain 12 to fancy 12. I already made the change in the Styles box, but the new text still appears plain. If I select the text to change, and then change the style, it works. How can I change the style without having to specify the change each time?

This article has been archived and is no longer updated by Apple.

The default font for Notes is set in the Styles area of the Extras drawer when a new Note is created. If your default font style was Simple 12 point plain when you created the Note, you can select the type and change it using Styles, but it will not be the default font for that Note. If you set Styles to Fancy 18 point Bold, then create a new Note, the default font will be Fancy 18 point Bold.

The Names, Dates and ToDo font are preset to specific defaults. The default font in these areas cannot be changed.

Published Date: Feb 19, 2012

AudioVision: System 7.5 Requires AppleVision 1.0.1 or Later

I just upgraded from System 7.1 to System 7.5, and noticed that my Sound control panel no longer shows the AudioVision option. I have reinstalled the AudioVision software using the Installer disk that originally came with my AudioVision 14 Display, but it did not solve this problem. How can I get the AudioVision option back?
This article has been archived and is no longer updated by Apple.
Neither System 7.5 or System 7.5 Update 1.0 come with the required ~AudioVision extension you need. The supported display software for your monitor on a System 7.5.x computer is AppleVision Display Software 1.0.1 or later.

This software is available from the Apple Software Updates Web site at http://www.apple.com/swupdates/ .

Published Date: Feb 19, 2012

Native Microsoft Applications: Issue w/QuickDraw GX (6/96)

This article documents an issue with native applications from Microsoft, the solution, and a temporary workaround.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

The Tech Info Library article titled "Locating Vendor Information" can help you search for Microsoft's address and phone number.
This article has been archived and is no longer updated by Apple.
After an extensive debugging effort put forth by Apple and Microsoft, we have located the cause of the crashes or freezes that many of you see in the native Microsoft Word 6, Word 6.0.1, and Excel 5 when QuickDraw GX is installed on PowerPC computers. These crashes can generate several error messages including "Type 11" and "No FPU Installed".

The problem is believed to be caused by a bug in a piece of PowerPC code used by Microsoft in their native versions of both Microsoft Word and Excel use. The bug is NOT in QuickDraw GX, System 7.5, System 7.5 Update 1.0, or System 7.5 Update 2.0.

The nature of the bug makes it somewhat random whether or not your computer will crash, but the solution or temporary workaround guidelines are listed below. Apple and Microsoft engineers are discussing this problem, and Microsoft's Customer Support staff should have more information in a few days. This problem has been resolved by Microsoft.

Solution
==========
Microsoft has made available a file called MC1164 which can be obtained from their Customer Support or online services.

Workaround
==========

Tips

If you are running the native versions of the Microsoft products along with QuickDraw GX, then you may experience crashes during printing. In fact, this problem could result in crashes even when QuickDraw GX is not installed, although we are not currently aware of any such reports. To fully avoid the problem (especially if you are using QuickDraw GX), run the non-native versions of these Microsoft products.

If you feel the need to use the native versions of these products, along with QuickDraw GX, and you are using a US system, then you can reduce your risk of crashes by doing the following. (Note that non-technical Macintosh users should ask one of their technical friends to help them out.)

Step 1

Copy (option drag) the Fonts folder from your System Folder to your desktop.

Step 2

Make another folder on your desktop called "Disabled fonts".

Step 3

Using ResEdit, open each file in the Fonts folder that's on your desktop. If any file doesn't contain 'sfnt' resources, close the file and move it to the "Disabled fonts" folder using the Finder.

Step 4

Drag the Fonts folder from your system folder to the trash.

Step 5

Drag the Fonts folder that's on your desktop to your system folder.

Step 6

Reboot.

NOTE: If after step 5 you do not have the Chicago, Geneva, and Monaco fonts in your system folder's Fonts folder, then reinstall your fonts using

the system 7.5 installer.

If you are running the native versions of these applications, the fonts in the "Disabled fonts" folder must be temporarily removed in order to avoid this bug. If you cannot bear to part with these fonts, reconsider installing the emulated versions of the applications. Be sure to hold onto the disabled fonts for when a fix is available. There is nothing wrong with these fonts, but having them installed causes a high risk code path to be taken. Without these fonts installed, your risks of crashing drop significantly.

Microsoft customer support should be able to answer your questions about this issue or explain how to get their latest MC1164 software update.

Article Change History:
05 Jun 1996 - Updated for technical accuracy.
21 Nov 1995 - Reviewed for technical accuracy.
17 Aug 1995 - Made format changes.

Published Date: Feb 19, 2012

Multimedia Tuner Extension: Red Check Mark Through Icon

When I start up my Macintosh PowerBook 540c and my extensions appear across the bottom of the display, there is an extension with a red check mark over the icon.

I know that a red *X* over an icon means that the extension did not load for some reason. What does a red check mark mean?
This article has been archived and is no longer updated by Apple.
The Apple Multimedia Tuner 2.0.1 extension starts up with a red check mark over the icon. This is the normal appearance of Multimedia Tuner icon.

The Multimedia Tuner addressed some performance issues which occurred with some multimedia applications when used with versions of QuickTime previous to 2.1. You should update to QuickTime 2.1 or newer, which includes the fixes in the Multimedia Tuner. QuickTime software can be found at:

http://www.apple.com/quicktime/
Published Date: Feb 19, 2012

HFS: Running applications under the Hierarchial File System

This article has been archived and is no longer updated by Apple.
Some applications have difficulty accessing their files when stored on an HFS volume. If an application has trouble finding files, try storing the files in one of the following locations:

1. root level
2. system folder
3. in the folder containing the application
4. on a MFS diskette/volume containing the application.

Some applications may not work with the HFS at all. In these cases, contact the software company to find out if there is a workaround or when their product will be revised to work with HFS.
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QuickTake 150: Windows Troubleshooting (4/95)

This article provides help with problems you might encounter connecting the QuickTake 150 to an IBM-compatible computer running Microsoft Windows.

This article has been archived and is no longer updated by Apple.
PROBLEM: The computer doesn't recognize the camera.

SOLUTION: Different devices and programs may compete with the camera for the use of a serial port on your computer. If there's a problem, a message tells you that the camera is not responding.

- Make sure the serial cable is connected properly, the camera is turned on, and the batteries have enough power.

- If you connect the QuickTake camera to COM3 or COM4 and experience communication problems, you need to check the Windows Ports control panel settings. (The Control Panel group is located in the Main window.)

To Check Windows Ports control panel settings:

Step 1

Open the Windows Ports control panel.

Step 2

Select COM3 or COM 4

Step 3

Click the Settings button

Step 4

In the dialog box that appears, click the Advanced button.

Step 5

In the Advanced Settings dialog box, make sure the settings are:
. - COM1 3F8 IRQ4
. - COM2 2F8 IRQ3
. - COM3 3E8 IRQ4
. - COM4 2E8 IRQ3

Step 6

Click OK

If you changed the settings, you must restart Windows for the new settings to take effect. When you click OK, a message lets you choose to restart now or delay the restart.

If you are using several serial devices with your computer, make sure that the line IRQSharing=ON exists in the [386enh] section of the SYSTEM.INI file.

PROBLEM: Your computer reboots when you try to communicate with the camera.

SOLUTION: The Windows software on some computers cannot receive data at the speed the camera sends it and can cause a reboot. To remedy the problem, you must change the speed.

To change the speed:

Step 1

On your computer, double-click the QuickTake Serial Ports icon to run the application.

Step 2

In the dialog box that appears, change the baud rate to 9600.

Step 3

With the camera connected to your computer and turned on, click Test.
If your computer communicates successfully with the camera at 9600 baud, a message tells you so. If you computer cannot communicate with the camera at 9600 baud, there is one way to fix the problem: Install a low-cost, high-speed serial card equipped with a buffered 16550 UART. (High-speed serial cards with this feature clearly advertise it on the box).

Step 4

Repeat steps 2 and 3, gradually raising the baud rate and testing the result.
For example, change the baud rate from 9600 to 19,200.

Step 5

If a test causes the computer to reboot, run the QuickTake Serial Ports application again and change the baud rate back to the next lower number. For example, if the computer reboots when the baud rate is 38,400, change it back to 19,200.

At slower baud rates, it takes longer to transfer images from the camera to your computer. If this is a problem, see the next item.

PROBLEM: It takes too long to transfer images from the camera to your computer.

SOLUTION: If you think it takes too long to transfer images from your camera to your computer, you can upgrade your hardware to avoid the problem. Install a low-cost, high-speed serial card equipped with a buffered 16550 UART. (Most high-speed serial cards come with this feature clearly advertised on the box.)

Support Information Services

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QuickTime for Windows 2.0.2: Changes from version 2.0.1

This article provides a list of changes in QuickTime for Windows 2.0.2 from version 2.0.1. A separate article covers changes made between versions 2.0 and 2.0.1.
This article has been archived and is no longer updated by Apple.
Changes
==========

1. Updated enum {hintsScrubMode} to be consistent with Inside Macintosh (does not affect any known applications).

2. Added enum {hintsLoop} to public interfaces.

3. Added new selector to VHDW components to hint the bounds rect for image drawing.

4. Movie controller component update to differentiate between UI and program requests.

5. Movie controller does not preroll from start when looping.

6. Movie controller uses enum {hintsloop} while looping.

7. MCI controller now uses "NULL_BRUSH" instead of "WHITE_BRUSH" to paint background prior to video display. This avoid white flash during preroll of movie.

8. Viewer can be installed multiple times in the same windows session.

9. Added more BMP types to QTCodec.h.

10. Modified PICT decompression to behave more closely to Macintosh toolbox when malformed PICTs are decompressed.

11. Eliminated sound popping of IMA audio on Forte-16 sound cards.

12. Added QTW.INI setting "[sound] channelcontrol={8 or 16} that allows user to force 8-bit audio even when they have a 16-bit audio card. This allows users to avoid hardware DMA conflicts without reconfiguring their hardware.

13. Improved performance of IMA audio compression.

14. Allow same application to use QTW APIs and MCI/QT APIs simultaneously.

15. Changed AlignWindow to movie down/right instead of up/left.

16. Initialize EDI instead of DI in WHDW components.
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AppleShare Workstation 3.5 and 3.6 Changes

What are the changes for AppleShare Workstation client 3.5 and 3.6 software with the release of AppleShare 4.1 and Workgroup Servers 6150/66, 8150/110, and 9150/120?
This article has been archived and is no longer updated by Apple.

AppleShare 3.5 Changes

- The allocation block size calculation was changed so server volumes larger than 2 GB will get the correct allocation block size.
- A GetVolParms call was changed to return the correct information.
- The .AFPTranslator driver was changed to a "ROM based" driver (the DCE's RAM-based bit is cleared and the dCtlDriver field changed to a pointer). This change was made to prevent the Device Manager from calling _HLock and _Unlock on the driver during calls to it, which could potentially be done at interrupt time.
- An 'afps' gestalt selector is now defined by the workstation that gives information about the characteristics of the workstation and the current version, independent of the 'vers' version. This was because the 'vers' version could be confusing with changes in the workstation software.
- A new Status call that returns session information when doing your own AFP calls on an existing AppleShare session.
- Some changes to some underlining code, the checkbox drawing code, and the password bullet code to handle 2-byte scripts better and to make it easier to localize, especially for KanjiTalk.

Major changes from AppleShare 3.5 client to AppleShare 3.6 client

- The workstation defines two new gestalt selectors that make the 7.5.1 Finder use larger I/O during copies to or from a remote volume. The 7.5.1 Finder checks the 'afps' selector to see if the workstation version is correct, then gets the value of the 'fnd°" and 'fndá' selectors. If copying to or from a remote volume with a volume grade is less than the value in 'fndá', it will use a buffer size specified by the 'fnd°" selector. This makes Finder Copy performance faster.
- The workstation also now implements a read ahead/write behind cache for sync read/write calls done by the Finder. This also helps increase Finder copy performance.
- The workstation has a small desktop database cache (that is GetAPPL calls and GetIconInfo calls) to help cut down on extraneous network traffic on many Finder operations.

In general, there are some changes made that work only if the Finder is requesting the I/O and that are geared toward improving Finder performance. The 7.5.1 Finder was also changed to take advantage of some of these changes.
Published Date: Feb 19, 2012

Apple Telecom 2.0 and Express Modem (4/95)

I've seen that Apple Telecom 2.0 has been released. From looking at the Read Me, I cannot tell for sure what I'm gaining if I have an Express Modem. Can you please describe the features from a PowerBook standpoint, for example, does MegaPhone work with the Express Modem?

This article has been archived and is no longer updated by Apple.
No, MegaPhone does not work with the Express Modem. You do get QuickDraw GX support, and the network shared Fax feature. We recommend the use of the latest software available, so updating to Apple Telecom 2.0 is advisable.

Also QuickDraw GX support requires QuickDraw GX 1.1 or later. This does not come with System 7.5 Update 1.0 or with the Apple Telecom 2.0 software. These articles can help you locate the QuickDraw GX software mentioned here:

* "Where To Find Apple Software Updates" -- Lists online services for free Apple software updates.

* "Obtaining Apple Product Support in the USA" -- Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech Info Library.

Support Information Services
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Print Server: Net Traffic After Turn Off Capture Printer

I have noticed that the network traffic light becomes very active after turning off a printer captured by an AppleShare Print Server. Can you provide any information as to why this happens.
This article has been archived and is no longer updated by Apple.
If a printer is turned off after being captured by an AppleShare Print Server, the server will start sending out AARP (AppleTalk Address Resolution Protocol) packets at a rate of 10 every second. This causes some extra traffic on the network, but by most network standards this extra traffic is not considered excessive.

If this traffic becomes a concern, here are three options to workaround it:

* Select the printer in the Printer Server, release the printer before powering it off, then re-capture the printer on the Print Server after powering it back on.

* After powering the printer on, send a print job to the spooler. This will reconnect the printer and change the device type back to LaserShare, which will stop the AARP packet broadcasts.

* The problem will only arise if the printer is powered off. The third option is to not power off the printer.
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AWS95 & A/UX: tar To Transfer Files On Different Systems

This article describes how to backup a UNIX file system, which is not an Apple Workgroup Server (AWS) 95, with a DAT tape drive, and restore that data onto an AWS 95.
This article has been archived and is no longer updated by Apple.
Transfer Files

The tc driver under A/UX is limited to reading 8K blocks, so in order for tapes created on other UNIX systems to be read under A/UX the tapes must be created with this block factor. For example, if tapes created on a Hewlett Packard (HP) workstation do not specify an 8K block factor, an AWS 95 will not be able to read these tapes.

In the past, we have successfully create tapes on other UNIX systems using the following command:

tar -cvf - . | dd of=/dev/rmt/tc2 obs=8kx40 (to create the archive)

Used the following command on the AWS 95 to read the tapes:

dd if=/dev/rmt/tc2 ibs=8kx40 | tar -xvf - (to read the archive)

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AWS 95 & A/UX: tc Driver and Specify the Tape Size

This article describes how the tc driver works with regard to block sizes and how to specify the exact size of the tape to tc from the command line.
This article has been archived and is no longer updated by Apple.
The following command will create a tape on an Apple Workgroup Server (AWS) 95:

tar cvlbBf 16 4500 /dev/rmt/tc2 /MI48585

However, this command tells the driver the tape capacity is 2MB not 2GB. This is because the 'B' option argument is the number of 512 byte blocks in the active media. The DAT drive has about 2GB in capacity which is calculated as follows:

2*1024*1024*1024 = 2147483648 bytes.

Therefore the number of 512 byte blocks would be 4194304 and the command should be:

tar cvlbBf 16 4194304 /dev/rmt/tc2 /MI48585

The capacity of the DAT drive returned by the command, mt -f /dev/rmt/tc2 status, is 1992271053 bytes which is 3891154 blocks, so the tar command should be:

tar cvlbBf 16 3891154 /dev/rmt/tc2 /MI48585
Published Date: Feb 19, 2012

MAE 2.0: Loud Startup Sound (4/95)

When MAE starts up under Solaris 2.4, SPARCstation 5, it about blasts me out of my chair with the sound volume. Is there a way to set the startup sound volume?

This article has been archived and is no longer updated by Apple.
In the Sound control panel, there are various sub-panels. Clicking on the Alert Sounds pop-up menu will bring up the choices Alert Sounds, Sound In, Sound Out, and Volumes. The volume control in the Alert Sounds sub-panel controls the volume of alert sounds (error beeps). In the Volumes sub-panel is the system volume control. It defaults to 50% volume which, even so, can be quite loud. If you lower that volume, all sounds will be scaled down in volume, including the startup sound.

Unsupported feature

If you do not want the startup sound at all, but you do want other Macintosh sounds, you can set an environment variable TB_NOSTARTUPSOUND to 1 and no startup sound will occur.

Otherwise, if you want no sound at all, you can set TB_SOUND_OFF to 1 (or add command line option -nosound) and MAE will be silent with the exception of using the standard XBell() for Alert sounds.

Support Information Services
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Apple SW Updates: Worldwide Language Codes Defined

All software posted in the Apple SW Updates Worldwide area will be identified using the Language Codes listed below. The Language code is a one or two character prefix applied to each posting. For example "F-7.5 Update 1.0" software is localized software for the French Mac OS.
This article has been archived and is no longer updated by Apple.

Language	Region	Code
Arabic	Arabia	AB
Bulgarian	Bulgaria	BG
Bengali	Bangladesh	BD
Byelorussian	Byelorussia	BY
Catalan	Catalunya, Spain	CA
Croatian	Croatia	CR
Cyprian	Cyprus	CY
Czech	Czechoslovakia	CZ
Danish	Denmark	DK
Dutch	Netherlands	N
English, American	United States	<none>
English, Australian	Australia	X
English, British	United Kingdom	B
Estonian	Estonia	ES
Faeroese	Faeroe Islands	FA
Far East (Generic)		FE
Finnish	Finland	K
Flemish	Belgium/Lux	FN
French	France	F
French, Belgian	Belgium	BF
French, Canadian	Canada	C
French, Swiss	Switzerland	SF
French, Universal		FU
German	Germany	D
German, Austrian	Austria	AU
German, Swiss	Switzerland	SD
Hanzi (Simplified)	PRC	CH
Hanzi (Traditional)	ROC	TA
Greek	Greece	GR
Hangul	Korea	KH
Hebrew	Israel	HB
Hindi (Devanagari)	India	HN
Hungarian	Hungary	MG
Icelandic	Iceland	IS
International (For any international English system)	International	Z
International, Multicountry (For any localized system)		ZM
Irish	Ireland	ER
Italian	Italy	T
Italian, Swiss	Switzerland	ST
Kanji	Japan	J
Latvian	Latvia	LT
Lithuanian	Lithuania	LH
Luxembourg	Luxembourg	LX

Maltese	Malta	MA
Macedonian	Yugoslavia	MD
Norwegian	Norway	H
Persian	Iran	PS
Polish	Poland	PL
Portuguese	Portugal	PO
Portuguese, Brazilian	Brazil	BR
Romanian	Rumania	RO
Russian (Cyrillic)	Russia	RS
Serbian	Yugoslavia	SR
Slovak	Czechoslovakia	SL
Slovenian	Yugoslavia	SV
Spanish	Spain/Latin America	E
Swedish	Sweden	S
Thai	Thailand	TH
Turkish	Turkey	TU
Ukranian	Ukrane	UA
Urdu	Pakistan	UR
	Yugoslavia	YU

Published Date: Feb 19, 2012

HyperCard 2.3: Description and Specifications (4/95)

The following article gives a brief overview of and lists technical specifications for HyperCard 2.3.

This article has been archived and is no longer updated by Apple.

Description
==========

HyperCard 2.3, is the latest version in Apple's tool for creating custom software solutions for business, education, and multimedia. The software is intended for commercial developers, consultants, in-house programmers, and end users to display information in any way they need to.

HyperCard organizes information into easy-to-use "stacks" of cards through which users can navigate and search for the information they need. Simply by clicking on a button, they can view related text, see a graphic, hear a sound, watch a QuickTime movie, or listen to text spoken out loud.

HyperCard provides an easy mechanism for distributing the stacks you have created. You can save any stack as a stand-alone, double-clickable Macintosh application that can be distributed without software royalty fees.

Technical Specifications
==========

Usage Requirements
---
* Macintosh, Power Macintosh, or PowerBook computer
- QuickTime tools require 68020 processor or greater
- Text-to-speech requires 68040 processor or grater
* Hard Drive
* 2MB RAM minimum with systems previous to System 7
* 4MB RAM minimum with System 7
* 5MB RAM recommended when using color tools
* System 6.0.5 or later
- 6.0.7 required for color tools
- 7.1 or later required for AppleScript, Button Tasks, Stand-alone application builder.
* QuickTime Tools require QuickTime system extension
* Text-to-Speech requires PlainTalk software (included)
* Multilingual HyperCard Applications may require WorldScript software and/or international versions of AppleScript software.

Support For Scripting Languages
---
* Add power and versatility to HyperCard applications using HyperTalk (HyperCard's scripting language) or any scripting language compatible with the Open Scripting Architecture (OSA), such as AppleScript.

* Attach AppleScript scripts to HyperCard objects such as buttons to launch and control other applications, exchange data with them, and so on-even over a network.

* Link HyperCard stacks with any of more than 100 scriptable applications, such as Claris FileMaker Pro 2.0 and Microsoft Excel 4.0 (applications must be running under System 7).

* Use localized versions of AppleScript system extensions to script in Japanese, French, or other languages (requires additional software).

Multimedia Features
---
* Add QuickTime movies to stacks using the QuickTime Tools stack

* Include sound, animation, and graphics in your stacks

* Have HyperCard text read aloud by your computer

Color Drawing And Painting Tools
---

* Choose from 256 colors to apply to buttons, fields, backgrounds, and cards

* Import 24-bit color or grayscale PICT graphics

* Resize, reposition, and edit graphics on the card

* Create PICT images with 24-bit color painting tools

Automated Button Tasks
---
* Automatically assign tasks to buttons without writing a single script

* Go to another destination (first card, previous card, home, or others)

* Play a QuickTime movie

* Play a sound

* Have text read aloud (using PlainTalk software)

* Launch another application

* Apply visual effects for transitions between cards

Development Features
==========
* Third-party external commands (XCMDs) let you control a wide variety of systems and equipment, including mainframe computers, networks, videodisc players, and CD-ROM drives.

* Hypertext applications can be created by linking a word or group of words.

* Modeless script editor lets you view several scripts and stacks at once and quickly copy and paste HyperTalk or AppleScript code between them.

* Debugging menu lets you set checkpoints in, and step and trace through, a HyperTalk script while it's running, for fast and easy troubleshooting.

* Background processing lets you continue working in other applications while complex scripts are running or while you compact or sort a stack.

* Variable Watcher shows how variables are used and changed and lets you edit variables while debugging your script.

* Message Watcher lets you view HyperTalk messages as they're sent, so you can see how your program's logic really works.

* "Save as" options let you create stand-alone applications or ones that can run using HyperCard Player (widely available on Macintosh systems).

Flexible Formatting And Reporting
---
* Design multiple report layouts for each stack-and copy and paste report formats between stacks.

* Control the content, appearance (including font, size, and style), and placement of text elements in report formats

* Create card sizes ranging from 1 by 1 inch to 18 by 18 inches.

* Print individual fields, selected parts of a card, a single card, selected cards (containing a certain word, button, or background), or an entire stack

Support
=====
HyperCard 2.3 is supported by the Apple Assurance Software Support group at 1-800-SOS-APPL (767-2775).

Support Information Services
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HyperCard 2.3: Read Me (4/95)

The following article is the ReadMe document for HyperCard 2.3.

This article has been archived and is no longer updated by Apple.
Please read this entire "Read Me" file. It contains important information and tips that will enhance your experience with HyperCard 2.3. We recommend that you print a copy.

Installing HyperCard

To install HyperCard 2.3 on your hard drive, insert the disk called "HyperCard Installer," double-click the file called "Installer" and then follow the instructions on your screen.

The "Easy Install" option of the HyperCard Installer installs the version of HyperCard 2.3 that's optimized for your Macintosh computer.

If you have a Macintosh computer with a PowerPC upgrade card and the card is enabled, the "Easy Install" option will install the version of HyperCard that's optimized for any Macintosh. If the PowerPC upgrade card is disabled, the Installer will install the version of HyperCard that's optimized for a Macintosh computer with a 680x0 microprocessor.

You can choose which version of HyperCard to install by using the "Custom Install" option of the HyperCard Installer. This option gives you three choices:

1) HyperCard optimized for Macintosh computers with PowerPC microprocessors

2) HyperCard optimized for Macintosh computers with 680x0 microprocessors.

3) HyperCard optimized for any Macintosh. If you install one of these versions and then change your mind, delete the version that you installed and run the Installer again.

System And Memory Requirements

Hardware Requirements

* An Apple Macintosh, Power Macintosh, or PowerBook computer; QuickTime Tools require a 68020 or later microprocessor; text-to-speech function requires a 68040 or later microprocessor.

* A hard disk drive.

* At least 2MB of RAM; 4MB of RAM required for system software version 7.0 or later; 5MB of RAM recommended when using Color Tools; 8MB of RAM required for Macintosh Computers with PowerPC microprocessors.

* HyperCard's memory partition should be set to at least 2200K to use the Color Tools (5120K on Macintosh Computers with PowerPC microprocessors with virtual memory off). HyperCard's memory partition should be set to 3072K, or more, to use the Color Painting Tools (5120K on Macintosh Computers with PowerPC microprocessors with virtual memory off).

Software Requirements

HyperCard 2.3 requires system software version 6.0.5 or later. System software 7.0 or later is required for AppleScript and the Color Paint Tools. The HyperCard Button Tasks and the standalone application builder require system software 7.0 together with either the AppleScript or the QuickTime system extension. The Button Tasks will also work with system software 7.1 or later with or without the QuickTime or AppleScript system extensions. On Macintosh computers with PowerPC, the HyperCard Button Tasks and the standalone application builder require the AppleScript system extension, the AppleScriptLib file and the ObjectSupportLib file. These items will automatically be installed in your system extensions folder when you choose easy install or when you choose custom install and install AppleScript.

QuickTime Tools requires the QuickTime system extension.

Text-to-speech requires the Speech Manager system extension (included) or the PlainTalk software package.

Multilingual HyperCard applications may require WorldScript software and/or international versions of AppleScript software.

WorldScript software requires system software 7.1 or later.

Button Task Requirements

On Macintosh computers with PowerPC microprocessors, the Button Tasks require the AppleScript system extension, the AppleScriptLib file and the ObjectSupportLib file. These items will automatically be installed in your system extensions folder when you choose easy install or when you choose custom install and install AppleScript.

On Macintosh computers with 680x0 microprocessors, the Button Tasks require system software 7.0 together with either the AppleScript or the QuickTime system extension. The Button Tasks will also work on Macintosh computers with 680x0 microprocessors running system software 7.1 or later with or without the QuickTime or AppleScript system extensions.

The Movie Button Task requires the QuickTime system extension. The task will not appear if the QuickTime system extension is not present.

The Speech Button Task requires the Speech Manager system extension (included) or the PlainTalk software package. The task will not appear if the Speech Manager system extension or the PlainTalk software package is not present.

The Sound Task requires sound input hardware in order to record.

Notes On Using HyperCard 2.3 For The First Time After Installation
==========

The first time you use HyperCard 2.3, it is possible that double-clicking a stack that you already have on your machine will fail to launch HyperCard, or will launch an earlier version of HyperCard. If this happens to you, simply open the HyperCard 2.3 folder. Once you have done this, double-clicking a stack will launch HyperCard 2.3.

It is also possible that you will not see stack icons on the stacks on your system after you install HyperCard 2.3 for the first time. If this happens to you, simply open the HyperCard 2.3 program folder and restart your Macintosh computer. After you have restarted, the stack icons will appear correctly.

New HyperCard Features
==========

HyperCard 2.3 contains some new and exciting features. For this release of HyperCard we have added:

* Support for Macintoshes with PowerPC microprocessors. This includes the ability to generate standalone applications which are optimized for Macintoshes with PowerPC microprocessors.

* New Button Tasks which allow you to generate HyperTalk scripts without scripting.

We have included tasks for:
- playing movies
- playing and recording sounds
- moving from card to card
- using text-to-speech
- adding visual effects
- opening applications

We expect third-party developers to develop additional button tasks.

* Text-to-Speech capabilities. (only for Macintoshes with 68040 or better microprocessors)

* Enhancements to the Color Tools including a new color painting environment.

Notes On HyperCard
==========

Users with 9-inch screens may have problems viewing the task window associated with the new Button Tasks. When editing a stack with standard size cards, if you open the task window by choosing the "Tasks..." button in the Button Info dialog, and then bring another window forward, the tasks window will go behind the card window. It will look as though the task window has disappeared even though it is still present. Select "Next Window" to bring the task window forward.

The tilde key "~" no longer takes you back in HyperCard. Command-tilde will still take you back.

HyperCard 2.3 includes the necessary system extension for performing text-to-speech. The Installer will only install this software on Macintoshes with 68040 or better microprocessors. Text-to-speech is restricted to Macintoshes with 68040 or better microprocessors.

In low memory situations, stacks with card sizes larger than 512 by 342 pixels will not open to their full size. Additionally, you will not be able to use HyperCard's Color Paint Tools or the Color Tools, and you will not be able to print cards.

External commands may cause HyperCard to think that it is in a low memory state. If you are using system 7.5 and your stacks are not opening to full size after increasing HyperCard's memory partition, try disabling the Macintosh Easy Open extension.

Notes On Color Tools

The Color Paint Tools require system software 7.0 or greater.

The Color Paint Tools can require large amounts of memory depending on the size and bit depth of the pictures that you are editing or creating. We recommend against using the Color Paint Tools on a Macintosh computer with less than 5MB of RAM or when HyperCard has a partition smaller than 3072K. Many of the Color Paint operations will not work properly in low memory. If you are seeing frequent messages about low memory while using the Color Paint Tools, exit HyperCard and increase its memory allocation. We recommend increases of at least 300K. Continue increasing the allocation until you no longer see the out of memory messages or until you have exceeded the available memory on your machine. For instructions on how to increase HyperCard's memory allocation, see "Preparing a Color Standalone Application" in Chapter 3 of the "Getting Started" guide.

The Color Tools Demo in the Color Tools Stack does not work when the stack has been locked with the Finder.

The Color Tools stack requires a monitor with at least 256 colors or shades of gray.

We recommend against coloring your Home stack. If not scripted correctly, a colored Home stack will cause HyperCard to run slower than it would with a non-colored Home stack.

When using the Color Paint Tools, operations that cause the picture to extend beyond the bounds of the window may cause parts of the image to be lost. This happens when rotating and scaling. You can prevent this problem by expanding the size of the window before performing the operation. Note that expanding the window will increase the memory needed to display the picture.

After editing a picture that has been placed on a card, the picture may be displayed in a different scale. If you want the picture to be displayed at a 1-1 scale, double-click the picture and select "Original Size."

With the "Rotate by degree" feature of the Color Paint Tools, rotations are measured from the orientation of a graphic at the time it was selected. If you rotate a selection and then rotate it again, the rotations do not accumulate. If you want cumulative rotations, deselect the graphic after rotating it the first time, re-select it and rotate it again.

If you place pictures onto cards and subsequently delete the picture resource from the stack, you must ensure that each instance of the picture in the stack is also deleted. Otherwise you will see the following message at the location of each instance of the deleted picture in the stack: "Cannot display this image. There may not be enough memory or the image could not be found."

The AddColor XCMD has an undocumented selector, "Depth," which returns the current bit depth of the color buffers in the result.

When a stack colored with Color Tools 1.0 is opened for the first time with Color Tools 2.0, the color will disappear momentarily. The disappearance occurs during the conversion of your stack from AddColor 1.0 to AddColor 2.0. Thereafter the color will by displayed normally.

Building Standalone Applications With Color

When color is first applied to a HyperCard stack using Color Tools, a set of resources are copied into the stack. The copying of resources is not actually complete until the stack is closed. If a standalone application is built from the colored stack before the resources have been copied, the standalone application will not work correctly. To avoid this problem, be sure that you have closed and reopened your colored stack at least once before turning it into a standalone application. You should also be certain that the default partition of your standalone application is set to at least 2048K in order for it to display color properly.

Changes To The Getting Started Guide

On page 54 the manual states that images you create or edit in the PICT editor are automatically saved as resources in the current stack. This is true unless you are editing a PICT file which has been placed on a card. Changes made to PICT files which have been placed on a card will be reflected in the file itself and will not be saved as resources in the stack.

On page 57 the manual states that double-clicking the current color indicator in the Color Paint Tools palette will launch the color picker. Actually, it will allow you to edit patterns or gradients.

On page 67 the manual refers to the Paint menu. There is no Paint menu, the specified items are in the Options menu.

On page 71 the picture of the palette is slightly different from the one you will see in the software. The functionality is the same. Additionally, the manual states that you can import MacPaint images with the PICT editor. This is not true. Only PICT files can be imported into the PICT editor. If you wish to use and color a MacPaint file, you can Cut/Paste it into an edit window and then color it.

On page 76 the instructions for quitting the Color Paint Tools are incorrect. To exit the Color Paint Tools, close all paint windows, or choose "Close Paint Tools" from the "File" menu. Closing the Color Paint Tools will return you to the color editor environment.

Support Information Services
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PowerShare: Error Code -1660, and Troubleshooting

I received the following PowerShare error message, "Problem: The server was unable to open folder ID #xx(Error code: -1660)", from the Log window. I also found that the error-catalog-folder does not have a Reliable Trans Log file.

What's causing this to happen? Does the error-catalog-folder need a "Reliable Trans log" file? Do you know any troubleshooting tips?
This article has been archived and is no longer updated by Apple.
The error code -1660 is an internal error (kOCECorruptItemFound) which indicates a corruption was found in the either the Items file or the index to the Items file (ItemsBT). If the problem is in the ItemsBT file, this file can be deleted from the HFS folder, and the server will rebuild it upon restart. If the problem is in the Items file, there is nothing you can do to recover it. You will have to delete the folder from that server and re-replicate (if it was replicated). Otherwise, restore the folder from a backup.

The server only uses the reliable trans log while the server is running. This file is deleted when the server is shut down. It is therefore expected there is no Reliable Trans Log in the HFS folder for the catalog folder that is having the problem as you reported.
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Color STW 2400: Driver Supports Serial & LocalTalk

I added the LocalTalk module to my Color StyleWriter 2400 printer, and there was no additional software with the LocalTalk module. Do I need a new printer driver for the LocalTalk option?
This article has been archived and is no longer updated by Apple.
Because the Color StyleWriter 2400 printer software supports both serial and LocalTalk, no additional printer driver is required.

When you select Color SW 2400 icon in the chooser, the chooser displays available serial ports (printer, modem, or printer/modem) and all networked Color Stylewriter 2400 class printers. This includes the Color StyleWriter 2400 with the localtalk module installed, or GrayShare Color StyleWriter 2200, which are using GrayShare.

All versions of the Color StyleWriter 2400 driver work with all types of networked StyleWriter printers mentioned previously. However, Apple recommends upgrading to version 2.1 or greater of the Color StyleWriter 2400 printer driver. Use the latest version of the Color StyleWriter 2400 printer driver available from the Apple Software Updates Web site at http://www.apple.com/swupdates/ .
Published Date: Feb 19, 2012

LaserWriter 16/600 PS: Correct Way To Use lpr in UNIX

This article contains a correction to the LaserWriter 16/600 PS Setting Up, Connecting, and Using Your Printer manual.
This article has been archived and is no longer updated by Apple.
In Chapter 4 "Setting Up the Printer for UNIX Users", on page 129 the manual states:

```
12) Test printing with the following command:
.   lp -d printer_IP_name   filename
```

This is incorrect. In order to print properly, you need to use the following:

```
lp -d print_queue_name   filename
```

In other sections of the manual, it states to use lpr -P printer_IP_name. This is also incorrect, you need to use

```
lpr -P print_queue_name
```

For "lpr", the "print_queue_name" is the entry name in the "printcap" file.

For "lp", the "print_queue_name" is generated by the underlying UNIX printer spooler facility.

Published Date: Feb 19, 2012

Macintosh: No Standard RGB Colors (5/95)

I am trying to determine what the RGB values used when the Macintosh monitor is set to 256 colors? I want to use these values for a project, and need to know if there is a table of these values available.

This article has been archived and is no longer updated by Apple.

There really are no 'standard colors' used when you set the control panel to 256 colors. Colors are loaded by each individual application when launched on the Macintosh or when an individual file is opened by an application.

The circuitry that controls the colors that are displayed on the screen has a color look-up table (CLUT) and digital to analog converter (DAC). Computer software provides information to the CLUT, which provides color values to the DAC, which provides the correct signals to the display.

The DAC converts the digital number representation of a color pixel into the proper (analog) signal that is used by the display. The digital number is a 24 bit value. The output of the DAC provides the analog Red, Green, and Blue voltage levels that the monitor uses to display the proper colors for each pixel.

The CLUT, when the monitor control panel is set to 256 colors, will display up to 256 different colors that are 24 bits each. In other words, out of an approximate 16 million colors, you can select and display up to 256. The 256 (24 bit) colors that are selected and used are stored and 'looked up' for each pixel that you see on the screen. So what you really have instead of having to choose from only 256 colors is a choice of millions - but you can only select and use 256 colors at a time from the millions that are available.

A DIFFERENT WAY TO LOOK AT IT

It is kind of like having millions of different colored crayons in a storage room to choose from, but for each individual picture you draw, you have a box that only holds 256 crayons. You can only select 256 crayons or colors to use because the box won't hold any more. If you want to draw another picture, you can go back, return the original crayons, and select a completely different group of 256 crayons or colors. The storage room is like the computer and the crayon box that limits the number of crayons you can use for a single picture is the VRAM (if you have more VRAM, you can get more colors).

Support Information Services

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QuickTime: Where to Get QuickTime Tools

I just installed QuickTime 2.0 which came on my system software CD. However, I found out that QuickTime 2.0 did not have QT Convert as did QuickTime 1.0. So I tried to install the QT Convert which came with QuickTime 1.0. However, that didn't work. How can I perform the function of QT Convert with QuickTime 2.0?
This article has been archived and is no longer updated by Apple.
Note: This article describes components of an older release of QuickTime, 2.0.

I am not sure what you mean by QT Convert. I cannot find QT Convert on any CD-ROMs that Apple has distributed. Did you mean Convert to Movie 1.0 or Movie Converter 1.0?

If so, the latest version of these tools is ConvertToMovie and it is available in a book and CD-ROM bundle called "QuickTime - The Official Guide for Macintosh Users" by Judith Stern & Robert Lettieri from Hayden Books. This CD-ROM also has several other good QuickTime tools such as MovieShop and MovieAnalyzer.

There are additional developer QuickTime tools available from APDA and online from Apple Computer.

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Apple Telecom: Using Fax, Voice and Data Call Detection

I'm trying to get PowerTalk using the GeoPort Telecom Adapter and the Apple Telecom 2.0 Software to work together. It's about 80% working but I've run into the following snags.

When dialing in over Apple Remote Access (ARA), MegaPhone answers but fails to recognize that the call is from ARA, or data, and continues with a voice announcement, then it hangs up after about 9 seconds. Outgoing ARA works OK.

I switched the Advanced Settings to Data Application and the GeoPort did answer the call, but when a voice call comes, it was answered with the MegaPhone message and then the modem squeal.

How do I get this to work?
This article has been archived and is no longer updated by Apple.
This problem is documented in the GeoPort, Telecom Adapter 2.0 Read Me. The Apple Telecom software requires data calling tones in order to automatically detect that an incoming call is a data modem call. The best solution is:

* Set the ARA or data application from which the call originates to send calling tones.

With ARA, if you are using an Express Modem or GeoPort Telecom Adapter with Apple Telecom software, use the 'GeoPort Telecom ARA 2.x/CNG' CCL file. Drag the file from the Telecom Documents folder to your Extensions folder and select this CCL file in the pull down menu of your Remote Access Setup control panel.

With a data application like a BBS or terminal emulation software, if you are using an Express Modem or GeoPort Telecom Adapter with Apple Telecom software, add an 'ATS113=1' to the modem initialization string.

For non-Apple modems, the modem may support the data calling tones necessary for Apple Telecom to perform data call detection. Most 14.4 and 28.8 modems now support the calling tones. The Hayes standard is to add a '^' to the dialing string. For example, with the Hayes 28.8 and Global Village Gold IIv modems, use the command 'ATDT^ 555-1212' to activate the calling tones. Check with your modem manufacturer for support of calling tones or just try a '^' in the phone number.

Two other workarounds are:

* Quit the voice application when you expect a data call.

* Temporarily select Data as the default call type in the advanced options panel of the Express Modem control panel.
Published Date: Feb 19, 2012

PowerTalk/PowerShare, Digital Signatures, & IP Gateways (5/95)

An AppleMail message can be signed using the RSA digital signature and sent to other users through PowerTalk or PowerShare with no problem. However, the same message sent through an IP Gateway and back into PowerTalk from the Internet loses its signature.

This article has been archived and is no longer updated by Apple.
The digital signature information is included in the header of a file. This header information cannot be properly handled by external mail systems and is stripped when forwarded through a gateway.

A workaround is to send signed files as AppleMail enclosures.

Support Information Services
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PowerShare Mail Delivery Fails with Restricted Privileges (5/95)

We have a PowerShare system which is not delivering AppleMail. The Catalog browser seems to be working okay since users can see one another and select recipients for messages. However, mail messages remain in the Out Tray. The warning triangle appears in the window indicating the need to resolve a PowerShare error, and clicking on it indicates that the PowerShare server cannot be reached and the error seems unresolvable. PowerShare Admin indicates the Mail Server is running fine.

This article has been archived and is no longer updated by Apple.
Privileges within the PowerShare Catalog can easily be modified in such a way that Mail services will cease. In this case the aoce mailslots, aoce MessageQs, aoce prefMessageQ, and aoce pref mailslot had access privileges set so only the Administrator could see these attributes.

The default settings for these attributes allow Catalog Members to see the records. While in some cases there may be a need to change access privileges for user records, but for most installations the defaults suit their needs.

Support Information Services
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HyperCard: Using With Video Tape

Can HyperCard be used with video tape?
This article has been archived and is no longer updated by Apple.
HyperCard can be used for composing interactive videos by doing the following:

1. Use a high end VCR or VTR (3/4 inch tape) that allows you to accurately control tape position.

2. Record frame number information on a frame control track along with the video signal. If the VCR or VTR does not have this feature, HyperCard can not accurately control what is played from the video recorder.

3. Write your own custom HyperCard XCMD commands to control the VCR or VTR.

For further information on compatible VCR or VTR units, search under: Sony Corporation of America.
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Earth Explorer Issue With CE Toolbox (5/95)

I found a problem with Earth Explorer. I have a clean system (7.5), with
only QuicKeys 3.0.1 installed. My machine is a Power Macintosh 6100/60 with 8 MB of RAM.

The problem is that after I launch Earth Explorer, and choose a sub-topic from one of the topics on the main menu (such as "Explore" or "Hot Topics"), as soon as it is supposed to "link to Explore/Topics", the computer bongs 3 times and the application quits, completely and immediately.

This article has been archived and is no longer updated by Apple.
I have reproduced the problem on a Power Macintosh 8100/100, with 16 MB of
RAM, and noticed that both the CE Toolbox and the QuicKeys Toolbox inits were "greyed out" during the init display at startup.

System 7.5 Update 1.0

Installation of the System 7.5 Update 1.0 will resolve this issue. You do not need a new version of QuicKeys.

These articles can help you locate the software update mentioned here:

* Where To Find Apple Software Updates
Lists online services for "free" Apple software updates.

* Obtaining Apple Product Support in the USA
Lists 800 numbers and online services for software updates, Apple
support information, and a subset of the Apple Tech. Info. Library.

System 7.5 Only

If you do not yet have the System 7.5 Update 1.0, but you need to use Earth Explorer right away, try this workaround:

I used the Extensions Manager to turn off the following items, which allowed me to use Earth Explorer successfully after restart:

CEToolbox -- extension
QuicKeys Toolbox -- extension
QuicKeys -- control panel

This article provides some information about a non-Apple product. Apple Computer, Inc. is not responsible for any content referring to this non-Apple product. Please contact the vendor, CE Software, for additional information.

The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.

Support Information Services
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ColorSync 2.0: Compatible Version of LaserWriter Driver

What LaserWriter driver should I be using to be compatible with the ColorSync 2.0 format? I have a non-Apple PostScript color printer that was ColorSync 1.0 compatible.
This article has been archived and is no longer updated by Apple.
The LaserWriter driver version 8.3 has ColorSync 2.0 support. Unless you already have it, you will also need to acquire a ColorSync 2.0 profile from the manufacturer of the printer.

This article can help you locate the latest version of ColorSync:

- Article 14724: "**Where To Find Apple Software Updates**" - Lists online services for free Apple software updates.

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DOS Compatibility Card: Use VLM.EXE With NetWare

I am trying to connect to a Novell NetWare 3.12 server using a DOS Compatibility Card. However, when I use NETX 3.32 with ETHERNET_802.3 from MS-DOS, I get the error message "Can't connect to a server", and then the application quits.
This article has been archived and is no longer updated by Apple.
Apple has tested NETX.EXE and it seems to function properly, however both Apple and Novell recommend upgrading the workstations to VLM.EXE because of its versatility and smaller memory footprint. Also Novell no longer supports NETX.EXE, so you should use VLM.EXE.

Following is a list of version numbers of the various components Apple Computer tested:

```
MACODI.COM     v0.23
LSL.COM        v2.01 and v2.14
IPXODI.COM     v2.11 and v3.01
NETX.EXE       v3.32
VLM.EXE        v1.20
NETX.VLM       v4.20
```

NETX.EXE or NETX.VLM is the DOS requester shell. A configuration error is the likely cause of the error. Typically, "Can't find a server" error messages are almost always related to frame type settings in the link driver section of the NET.CFG file. Here is an sample NET.CFG file to compare with what you are using.

```
Note:
-----
In the NET.CFG tabs are important.

--------------------------------------------------
SAMPLE NET.CFG
--------------------------------------------------

Link Driver MACODI
    Protocol IPX 0 ETHERNET_802.3
    FRAME ETHERNET_802.3

Netware DOS Requester
    FIRST NETWORK DRIVE = F

Link Support
    Buffers 8 1500
    MemPool 4096


Notice that tabs were used to indent.
```

Connecting a DOS/Windows computer into the same drop and having them operate correctly only indicates that the hardware is functioning correctly. The link driver section has to explicitly name the driver -- in this case MACODI. If you copied a NET.CFG file from another computer, it will not work. Novell Netware 3.x servers default to Ethernet 802.3, while 4.x servers default to 802.2.

Published Date: Feb 19, 2012

AppleShare 4.1: How To Optimize Speed

This article describes how to get the best performance from AppleShare 4.1 on a PowerPC-based computer.
This article has been archived and is no longer updated by Apple.
To get the best performance from AppleShare 4.1 and a PowerPC-based computer, use the following guidelines.

Server
* PowerPC-based Workgroup Server or Power Macintosh

* AppleShare 4.1

* System 7.5 with System 7.5 Update 1.0

* Network Software Installer (NSI) 1.4.5 or later

* Do not have multiple applications running on the server. For example run AppleShare 4.1 alone, not in conjunction with the Apple Internet Router, Apple Remote Access (ARA), or other server applications.

NOTE: This does not mean you cannot run multiple applications with AppleShare 4.1, this item is specific to those users who want the best possible performance.

* The server should have no less than 5 MB of RAM dedicated to cache, and a starting point toward optimizing cache allocation as follows:

- 1/4 File buffer cache
- 1/2 Folder cache
- 1/4 Icons

AppleShare 4.1 handles and queues up to three requests from each client. AppleShare's maximum File cache is now 1 MB per user, up from 128 KB. The caching algorithms are also more efficient, and the Icon cache now holds all of the server's desktop files in RAM, rather than just the icons.

Client
* AppleShare Workstation 3.6 client which comes with AppleShare 4.1

* System 7.5 with System 7.5 Update 1.0

* NSI 1.4.5 or later

* On Power Macintosh clients use NSI 1.5, or Built-In Ethernet MACE patch

* SCSI Manager 4.3 or later, and the latest HD drivers

NOTE: Running a remote client on ARA to the network server negates any performance increases, because of the modem connection.

AppleShare Workstation 3.6 uses up to 128 KB of RAM for both read and write caches. Also, the Finder in System 7.5 Update 1.0 copies files in varied portions up to 128 KB instead of 4 KB in earlier versions of the Finder.

This article was published in the "Information Alley":
Volume II, Issue 5, Page 15
Published Date: Feb 19, 2012

ColorSync: Manual Installation & Setting Up

This article describes ColorSync manual installation and setup.
This article has been archived and is no longer updated by Apple.

Overview of ColorSync

ColorSync is an extension to QuickDraw. It facilitates color conversion from the color space (method of mathematically describing a color) of one device to the color space of another device. It does this while maintaining consistent visual representation. In simple terms, ColorSync displays and prints the same image that it scanned.

A detailed overview of ColorSync is available in the Tech Info Library article titled "ColorSync Software: Overview".

Installing ColorSync

ColorSync is automatically installed when you install the software from System 7.5, Apple Multiple Scan Displays, Color StyleWriter printers, and QuickTake cameras. It is also available from non-Apple sources that have licensed the ColorSync from Apple.

Installing ColorSync Manually

ColorSync consists of three main components:
- ColorSync extension
- ColorSync System Profile control panel
- ColorSync Profile

You can install ColorSync manually by:

- dragging the ColorSync extension into the Extensions folder.
- dragging the System Profile control panel into the Control Panels folder.
- dragging the ColorSync Profiles folder, with the ColorSync Profiles inside, into the Preferences folder.

Once the components are installed, you need to restart to activate ColorSync.

Note: If you have a non-Apple ColorSync profile, you need to drag it into the ColorSync Profiles folder located in the Preferences folder.

Setting Up ColorSync

Once you ColorSync is installed, you need to open the ColorSync System Profile control panel and select the correct profile for your output device (monitor, printer, camera, or other device).

Note: If you have a non-Apple output device, you need to contact the product vendor to obtain the proper ColorSync profile.
Published Date: Feb 19, 2012

System 7.5.1: Printing Problems with DeskWriter 560c (5/95)

I have a Hewlett-Packard DeskWriter 560c and I cannot get it to print from Microsoft Word 6.0. I am using System 7.5 with the System 7.5 1.0 Update (7.5.1), and I do not have this problem with other applications.

This article has been archived and is no longer updated by Apple.
When combining the large memory size of Word 6.0 and Mac OS version 7.5.1, it seems to cause problems with the HP driver. You need to either turn on virtual memory from the Memory Control panel, or raise the amount of memory in the Word 6.0 Get Info window. You will need to change both the preferred and minimum size areas.

Support Information Services
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Apple IIC: Numeric Keypad

Apple makes no numeric keypad for the IIc, but Computers & More has developed an Apple IIc numeric keypad with 10 numerals, period, return(+), minus, tab, left arrow, right arrow, and down arrow.
This article has been archived and is no longer updated by Apple.
It is installable by any Tech, requiring no soldering and a case modification only if a disconnect plug is desired in the IIc. Retail is suggested at $ 99.95 with customary margins. A disconnect kit is available for an additional $ 20.00 . For information and availability contact:

Computers & More
C & M Mfg. Div.
2400 Ave I
Huntsville, Tx 77340
(409)291-6005
10-6 CST
Published Date: Feb 19, 2012

Macintosh 630: No Sound in Left Channel

After installing the Apple Video Input Module card in my Macintosh 630 family computer, I get sound only from the right channel (red) on the Video Input Module card.
This article has been archived and is no longer updated by Apple.
Grounding the left sound channel on the Video Input Module card is one possible cause of this symptom. The Video Input Module card has an EMI shield around the S-video port that can touching the left sound channel (white) port. This sends the signal to the electrical ground, instead of the speaker.

To correct this, pull the card out of the computer, bend back the EMI shield prongs, so they are no longer touching the left sound channel port, then reinstall the card.

The following computers are in the Macintosh 630 family: Performa 630, Performa 635, Performa 636, Performa 637, Performa 638, LC 630, and Quadra 630.
Published Date: Feb 19, 2012

Power Macintosh: How to Determine if L2 Cache is Installed

This article describes how to determine if L2 cache is installed in a computer.
This article has been archived and is no longer updated by Apple.
Apple System Profiler will check for the presence of backside L2 cache. Look under the System Profile tab.
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QuickDraw GX 1.1.2: Read Me (5/95)

This article contains the ReadMe file for QuickDraw GX 1.1.2.

This article has been archived and is no longer updated by Apple.

What Changed in QuickDraw GX 1.1.2
==========

QuickDraw GX 1.1.2 fixes several problems found since the release of the previous version.

Installation Over Previous Versions
==========

There is no longer a need to delete the Finder Preferences file when installing over a previous version of QuickDraw GX.

Finder Out of Memory Alerts
==========

Some users were encountering multiple Finder out of memory alerts while printing with QuickDraw GX 1.1.1. This problem is fixed in QuickDraw GX 1.1.2.

Crash When Canceling Printing From Power Macintoshes to Networked PostScript Printers
==========

Some users were encountering problems when canceling a print job to a networked PostScript printer. This problem is fixed in QuickDraw GX 1.1.2.

Unable to Print to Tektronix and Hewlett-Packard PostScript Printers
==========

Some users were unable to print to Tektronix and Hewlett-Packard PostScript printers with QuickDraw GX 1.1.1. This problem is fixed in QuickDraw GX 1.1.2.

What Changed in QuickDraw GX 1.1.1
==========

QuickDraw GX 1.1.1 provided performance improvements, a user interface change, and new features.

Performance Improvements

- no "lock out" when downloading fonts to PostScript printers

- font downloading progress shows in the desktop printer window

- prints large character sets, such as Japanese, on printers that do not have these fonts built in

- prints large character sets faster than GX 1.0.2 or the non-GX LaserWriter 8.2 printer driver

- printing dialogs for non-QuickDraw GX applications display more quickly

User Interface Change

When a desktop printer queue is empty (such as after the last job has printed) the page icon goes away rather than turning into the dog-eared page icon.

New Features
==========

Manual Feed Alerts

To turn off the alerts for manual feed printing on PostScript printers, open the Printing menu and choose Disable Manual Feed Alerts.

LaserWriter GX Features

In the PostScript printing dialog box for non-QuickDraw GX applications, two new menus allow you to choose paper types. Use the "First Page On" menu to choose a paper type for the first page. Use the "Remaining Pages On" menu to choose a paper type for the rest of the document.

N-Up Printing Options

The N-Up Printing extension (in your Extensions folder) lets you print up to 16 pages on a single sheet of paper. You can also put an optional border around each page drawn on a sheet.

- To set pages-per-sheet and border defaults for a desktop printer, click the printer icon to select it then choose N-Up Printing Options from the Printing menu.

- To select pages-per-sheet and border options when you print a document created in a QuickDraw GX-aware application, click the N-Up printing extension icon in the Print dialog box.

- To select pages-per-sheet and border options for a document created in an application that does not support QuickDraw GX, choose Page Setup in the File menu.

PostScript File Options

EPSExtension (in your Extensions folder) lets you configure the PostScript file that is created whenever you print using the LaserWriter GX printer driver.

- You can use the saved file as Encapsulated PostScript for importing graphics into applications that do not support QuickDraw GX, such as Aldus PageMaker, QuarkXPress, and Adobe Illustrator.

- To set EPS options, choose PostScript File Options from the Printing menu.

- EPSExtension is not installed by Easy Install. To get it, you must open the QuickDraw GX Installer and choose Custom Install from pop-up menu. Click the arrow next to QuickDraw GX Utilities to see the list of utilities, and click the checkbox next to EPSExtension to select it. Then click the Install button.

Paper Types

QuickDraw GX 1.1.1 include 3 new paper types for use in configuring the paper tray selections for desktop printers: Letterhead, Stationery, and 3-Hole Punch.

- The new paper types are installed by Easy Install For more information on editing the new papers types or creating your own paper type, you must install the PaperType Editor.

- The PaperType Editor is not installed by Easy Install. To install it, open the QuickDraw GX Installer and choose Custom Install from pop-up menu. Click the arrow next to QuickDraw GX Utilities to see the list of utilities, and click the checkbox next to PaperType Editor to select it. Then click the Install button.

Tips
===

Envelope Paper Types and the LaserWriter GX Driver

The LaserWriter GX printer driver handles three types of No. 10 envelopes. However, each of the three types is designed for a different type of LaserWriter printer. Your choice of envelope should be based on how your printer feeds envelopes from the paper input tray:

- "Envelope - Center Fed" is for printers that feed the envelope in the center of the paper input tray.

- "Envelope - Edge Fed" is for printers that feed the envelope on the left edge of the paper input tray.

- "No. 10 Envelope" is for certain new printers (e.g., the LaserWriter 16/1600PS) that use a different method of determining paper size.

Restoring Type 1 Fonts to Their Original State

If you remove QuickDraw GX from your system, you need to restore your Type 1 fonts.To restore Type 1 fonts, follow these steps:

1. Open the System Folder.
2. Open the Fonts folder.
3. Drag any suitcases that have been enabled to the Trash.
4. Open the *Archived Type 1 Fonts* folder.
5. Move the contents of the *Archived Type 1 Fonts* folder to the Fonts folder.
6. Drag the *Archived Type 1 Fonts* folder to the Trash.

Tekton Plus RegularSC Prints as Courier From Some Applications
---
In application programs which do not take advantage of QuickDraw GX, Tekton Plus appears as two fonts: Tekton Plus Regular and Tekton Plus RegularSC. Applications such as Adobe Illustrator, QuarkXPress, and Aldus PageMaker print characters from Tekton Plus RegularSC as Courier on PostScript printers.

Troubleshooting
==========

QuickDraw GX and Memory

On a Macintosh with 8 MB of available memory with Macintosh system software version 7.5, QuickDraw GX, and PowerTalk, you can enable only a limited number of printing extensions and desktop printers. More than 7 of each at the same time may cause a low-memory alert to appear. If you want to have more than 7 desktop printers, removing a printing extension will help alleviate memory difficulties and vice-versa. If a low-memory alert does appear, try deactivating printing extensions or removing desktop printers. For more information about desktop printers and printing extensions, see the Macintosh System 7.5 Upgrade Guide.

QuickDraw GX and Application Programs

If possible, do not use the QuickDraw GX Helper (to turn off desktop printing) with WordPerfect versions 3.0 and earlier. In WordPerfect, when you turn desktop printing off, the third item on the Apple Menu (which corresponds to the first alphabetic item in the Apple Items folder) opens. WordPerfect versions 3.1 and later are compatible with QuickDraw GX.

- In PageMaker version 5.0, documents containing PICTs will print without the PICTs and an extra blank page may be printed at the end of some documents. To print correctly, hold down the Option key when you choose Print from the File menu.

- To print on a PostScript printer using Insignia Solutions' SoftPC and SoftWindows versions earlier than 1.0.2a, you must turn off desktop printing or use the Epson LQ-2500 output option. To turn off desktop printing, use the QuickDraw GX Helper (one of the QuickDraw GX Utilities). To install the QuickDraw GX Utilities, see the instructions in Chapter 3 ("Installing QuickDraw GX") of the Macintosh System 7.5 Upgrade Guide. SoftWindows versions 1.0.2a and later are compatible with QuickDraw GX.

- Adobe Acrobat Reader versions earlier than 2.0.1 and all versions of Adobe Acrobat Exchange are incompatible with QuickDraw GX 1.1.2. Please contact Adobe Systems for upgrade information.

- The substitution fonts included with Adobe Illustrator 5.5 and SuperATM are not compatible with QuickDraw GX 1.1.2. If you install QuickDraw GX 1.1.2 on a Macintosh where these substitution fonts have already been installed, you will see a dialog box which says "The substitution fonts necessary for Acrobat and SuperATM are missing. Please re-install either software package." QuickDraw GX-compatible versions of these fonts are available as part of the Adobe Acrobat Reader 2.0.1 package. Please contact Adobe Systems for more information.

- You should print documents that use the Al-Nashir Al-Sahafi font (Arabic Design Studio) on raster (non-PostScript) printers. If you try to print an Al-Nashir Al-Sahafi document on a PostScript printers, no document will print.

Installing QuickDraw GX with the Power Macintosh Upgrade Card
---
When you install QuickDraw GX on a Macintosh with the Power Macintosh Upgrade Card, make sure that the upgrade card is enabled before installing QuickDraw GX.

Manual Feed and the LaserWriter IISC GX driver

When you print a manual feed job to a printer using the LaserWriter IISC GX driver, wait for the manual feed alert to appear before inserting the next page. If you insert the page before the alert appears, your printer will print the first page twice and then stop printing. Opening and closing the cover on your printer will clear it.

QuickDraw GX with the Vector Imaging System on the Power Macintosh
---
There is a problem with the Vector Imaging System and Power Macintosh. If you have problems plotting, turn off Modern Memory in the Memory control panel.

Support Information Services

Published Date: Feb 19, 2012

AWS 95: Problems Pinging nameserver (5/95)

I'm setting up a WAIS server on an Apple Workgroup Server (AWS) 95, and I'm having problems pinging nameserver, but not the gateway router.

I can usually ping nameserver right after bringing up the AWS 95, but this capability disappears shortly thereafter. Characteristically when I fire up AppleSearch, the outside Ping and nameserver Ping capability go away.

I have checked the rc and resolv.conf files, and these appear to properly define both the nameserver and the gateway router address.

This article has been archived and is no longer updated by Apple.
The AWS 95 is sending packets to the default route as assigned in the /etc/rc file, but it gets confused when your Telebit NetBlazer router sends out its routing tables every 30 seconds.

The in.routed is the routing software for UNIX, and the AWS 95 comes configured with in.routed set to wait in its /etc/inittab file. When in.routed gets an update from the NetBlazer, in.routed is changing its internal routing tables which means it can no longer reach anything outside of its local subnet.

The solution is to go into /etc/inittab and turn the in.routed to off.

Change the line:

net4:2:wait:/etc/in.routed # set to "wait" for routing

to

net4:2:off:/etc/in.routed # set to "wait" for routing

Now the AWS 95 will ignore all outside routing information.

Support Information Services
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Power Macintosh DOS Compatibility and Personal Netware (5/95)

We have a Power Macintosh 6100/66 DOS Compatible computer, and we've installed Personal Netware on their DOS machine. We have experienced numerous freezing problems since, and we believe this is associated with Personal Netware. The README.NET that comes with the 6100/66 DOS Compatible computer says "Personal Netware is not supported at this time."

Are there any details on Personal Netware with the Power Macintosh DOS Compatibility Card? Is it unsupported, untested, and/or incompatible? If it is incompatible, can you describe specific behavior?

This article has been archived and is no longer updated by Apple.
As of May 1995, Personal Netware is unsupported and untested on the Power Macintosh DOS Compatibility Card, so we have no specific behaviors to report. Also there are no plans for testing this software.

Support Information Services
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Apple Remote Access: "Remote Only" And Serial Printer Difficulties

I am using Apple Remote Access (ARA) on my remote Macintosh computer, and I have a StyleWriter II attached to the printer port. When I want to print, I get an error message saying that the port is in use by another program. When I go to the Chooser to make sure the StyleWriter II is set to the printer port, it tells me I cannot do this while AppleTalk is active. I need AppleTalk to be active when I use ARA. How can I print from my StyleWriter (or any serial printer) from ARA?

I noticed a "Remote Only" option within the Network control panel. I'm confused--what is the purpose of this option?
This article has been archived and is no longer updated by Apple.
The situation you describe may occur with any serial device connected directly to your serial port.

The Remote Only option directs AppleTalk traffic to only the serial port in use by ARA. The other network options allow AppleTalk traffic to go to both the ARA serial port and the network connection defined in the Network or AppleTalk control panel.

The Remote Only option is needed in two situations. The first situation, and most likely, is where an individual has an ImageWriter printer or other local serial device connected to the Printer serial port and has no networking card installed. When using ARA the Remote Only option must be selected since the default networking option is LocalTalk Built-In. If AppleTalk is made active and the Remote Only option is not selected, the serial device plugged into the Printer port will receive the AppleTalk data packets. The only possible way to use that serial device when using ARA is to use the Remote Only option. If another network option is selected, such as Ethernet or Token Ring, then the AppleTalk traffic is directed to the Ethernet or Token Ring card and the ARA serial port, not the Printer port.

The second situation occurs when a network service on the remote network has the same network identity as a service on the local network. In this case the remote service is not seen, only the local one. In order to see the remote service the Remote Only option must be selected. This will hide all the local network services and allow the ARA client to see everything on the remote network.

Use the following steps to change the AppleTalk connection to Remote Only when using Open Transport or Classic AppleTalk networking software. Be sure you are not connected through ARA when you start.

If You Are Using Open Transport Networking

1. Open the AppleTalk control panel and click Remote Only.
2. Open the Chooser, select your serial printer, and highlight the port to which you have connected the printer.
3. Open the AppleTalk control panel. For the next step, the control panel software must be in Advanced or Administration mode. (You can change the user mode by selecting User Mode from the Edit menu when the AppleTalk control panel is open.)
4. Verify that AppleTalk is active (by clicking on the Options button in the AppleTalk control panel). If AppleTalk is not active, click the button to make AppleTalk active. Then click OK.

If You Are Using Classic AppleTalk Networking

1. Open the Network control panel and click Remote Only. It will give you a message stating that network services will be disconnected. Click OK.
2. Open the Chooser, select your serial printer, and highlight the port to which you have connected the printer.
3. Verify that AppleTalk is active (by looking at the AppleTalk setting in the Chooser window).

You should now be able to print to your local serial printer while either connected, or not connected to ARA.

Note: It is not possible to change a network connection while using ARA. The ARA session must be disconnected, the network connection changed, and the ARA session re-established.
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AppleTalk On AWS 95: Cannot Upgraded With NSI 1.5 (5/95)

We recently looked at a client's Apple Workgroup Server (AWS) 95 and found it is running AppleTalk version 56, while the other servers and computers at the site had AppleTalk version 58. Is there any reason not to upgrade the AWS 95 to AppleTalk 58?

Is the process of upgrading the AWS 95 to AppleTalk version 58 any different than on a standard Macintosh?

This article has been archived and is no longer updated by Apple.
Do NOT try to install the latest Mac OS version of AppleTalk from the Network Software Installer (NSI) 1.5 as it is not compatible with A/UX. The AWS 95 uses a special version of AppleTalk, which is designed to run on A/UX. The version will report version 56 when polled, however it is compatible with the latest AppleTalk version 58.

Support Information Services
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Macintosh 512K: Problems installing new drivers on the HD20

This article has been archived and is no longer updated by Apple.

When you use Installer to install new drivers on an HD20 using a Macintosh 512K, an error is generated ("File System not found on System Tools for..."). This problem may have its origin in HFS. There are three workarounds for it:

1. Drag a copy of the System Folder from the Tools Disk to update the HD20,

2. Move the System file outside of the System Folder when using Installer 2.0, or

3. Use Printer Installation v1.0, part number 690-5075-A.

NOTE: This problem has been fixed in the Macintosh Plus.
Published Date: Feb 19, 2012

A/UX: ftp Autologin (5/95)

The A/UX man pages provide instructions for setting up the ftp Autologin process by creating a .netrc file. However, I can't seem to get this file to work.

This article has been archived and is no longer updated by Apple.
The documentation provides a description for entries in the .netrc file, but fails to note the order of execution. For the file to work, the machine name of the remote system needs to be the first entry. This would be followed by login, password, and then any macdef entries for ftp macros.

Support Information Services
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LaserWriter 16/600 PS: NetWare 4.1 Printing Issues (1/96)

I cannot set up our LaserWriter 16/600 PS printer to work on a NetWare 4.1 Server. Everything worked fine under Netware 3.1x.
This article has been archived and is no longer updated by Apple.
You can configure the printer in PSERVER mode by using PCONSOLE. The steps are outlined below.

Note:
You can only print with the banner page turned "off", and you must verify that the Netware Ethernet port is set to "AutoSelect" using the Apple Printer Utility.

You also have the option to print to the LaserWriter 16/600 by installing and configuring Netware for the Macintosh. You should contact Novell for instructions on how to do that.

NetWare v4.10 QuickStart
==========

Setting up PSERVER operating mode

Background:

The change from NetWare v3.xx to NetWare v4.xx introduced the concept of a hierarchical tree database, called NetWare Directory Services (NDS). This object-oriented database is significantly different than the flat file style of database used in NetWare v3.xx (called the Bindery). In order for NDS to be backward compatible with the old Bindery, and code that may rely on the Bindery (such as printer ROM code), NetWare has a command called SET BINDERY CONTEXT, that allows a single level of the NDS directory tree to be specified as a virtual Bindery location. A NetWare v4.xx server's bindery context can be found by typing SET BINDERY CONTEXT at the console prompt.

The super user account name has changed with NetWare v4.xx to Admin from NetWare v3.xx's name of Supervisor. The Supervisor account still exists in NetWare v4.xx for backwards compatibility, but it can't actually be seen in the NDS directory tree. The Admin account gives you full access to the entire NetWare Directory Services tree, the Supervisor account will only let you see objects that are in its Bindery context location in the tree. To follow the steps listed below, you should use the Admin NDS account.

Summary:

- Create a print server.

- Create a printer from within the print server configuration menu options.

- Create a print queue from within the printer configuration menu options.

- Turn printer off and then back on to have changes take effect.

QuickStart:

Step 1

Use the Apple Printer Utility to print a configuration page.

Note:
There are occassions when the printer name on the startup page differs from the printer name on the configuration page. If this happens, the name on the configuration page is the correct name of the printer.

Step 2

Type SET BINDERY CONTEXT at the server's console prompt, to ensure that the context has been set. Write the context down, as it will be needed later.

Step 3

Login to a file server from a DOS client using the Admin account.

Step 4

At the DOS prompt, type PCONSOLE, and press Enter.

Step 5

Use the arrow keys to highlight Change Context in the menu, and press Enter.

Step 6

Change the PCONSOLE utility's context to match the context set on the server (what you wrote down earlier), by pressing the Insert key, and selecting the correct context.

Step 7

Use the arrow keys to highlight Print Servers in the menu, and press Enter.

Step 8

Press the Insert key, then type the NetWare Printer Name (provided on the printer's startup page), and press Enter.

Note:

Even though the startup page calls this name the NetWare Printer Name,
it really will be used as the NetWare Print Server name.

Step 9

Select the name of the print server you specified in the previous procedure and press Enter.

Step 10

Use the arrow keys to highlight Printers in the Print Server Information menu, and press Enter (this will let you configure the new print server).

Step 11

Press the Insert key to display printers in your current context in the NetWare Directory Services tree. For this example, we will create a new printer.

Step 12

Press the Insert key to create a new printer in the NetWare Directory Services tree (the context listed at the top of the screen should still list the server's bindery context that was set earlier, if not, change to the correct context *before* creating the printer!).

Step 13

At the prompt, type the new printer name and press Enter. This name will be used for reference, so use a name that will be meaningful to the NetWare administrator, or other users who may wish to check on the printer's status. This step will create the printer object in the NDS tree.

Step 14

Select the name of the printer you specified in the previous procedure and press Enter (this will add the printer to the Serviced Printer list of the print server).

Step 15

From the Serviced Printers menu list, select the name of the printer you specified in the previous procedure, and press Enter. This will bring up a Printer Configuration menu.

Step 16

From the Printer Configuration menu, use the arrow keys to highlight Printer type, and press Enter.

Step 17

From the Printer Type menu, use the arrow keys to highlight Other/Unknown, and press Enter. This will make your selection active, and bring you back to the Printer Configuration menu.

Step 18

If most of the printing to this printer will be Postscript, and not PCL, then from the Printer Configuration menu, use the arrow keys to highlight Banner type, and change the banner type from Text to Postscript. This will limit the number of times the printer will have to switch modes between PCL and PostScript.

Step 19

From the Printer Configuration menu, use the arrow keys to highlight Print queues assigned, and press Enter. This will bring up the Print Queue menu list.

Step 20

Press the Insert key to display print queues in your current context in the NetWare Directory Services tree. For this example, we will create a new queue.

Step 21

Press the Insert key to create a new print queue in the NetWare Directory Services tree (the context listed at the top of the screen should still list the server's bindery context that was set earlier, if not, change to the correct context *before* creating the print queue!).

Step 22

At the prompt, type the new queue name and press Enter. You will then be asked for the NetWare volume to store your NetWare print queue jobs on. With NetWare v4.xx, the NetWare queue does not have to exist on the SYS volume -- you can place the queue on any volume you want. Use the insert key to select the volume from the directory tree (you may need to navigate to a different context to select the volume desired).

Step 23

Select the name of the queue you specified in the previous procedure and press Enter (this will add the queue to the Print Queue list of the printer).

Step 24

Press the Escape key until you are prompted to save your changes.

Step 25

Turn the printer off, and then back on again, to initialize the printer, and have it connect to its printer definition within NetWare.

Step 26

Submit a print job to the printer to ensure it is working. If printing from a PC, it is highly recommended that you use the FONTLIST.PS file in SYS:SYSTEM\\NW-MAC\\PSUTILS, since it is a known good file, and you will not add additional variables like misconfigured applications or drivers. Once you know that printing is working through the queue, you can use more complex print setups to ensure your environment is configured correctly.

Note:

These series of steps is only one of many ways that can be used to create the same configuration. For example, rather than creating all the printers and print queues from within the print server main menu option, many administrators may choose to create the queues and printers from the main menu options first, then connect the queues and the printers to the print server afterward. The same result will be reached in each case, as long as the information in each entry is entered the same way in whatever approach is taken.

The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.

Article Change History:
24 Jan 1996 - Changed title to better reflect article contents.
19 Jul 1995 - Reworded for clarity and technical accuracy
15 May 1995 - Updated for clarity.

Support Information Services
Published Date: Feb 19, 2012

AWS95 & A/UX Compatible: LaserWriter & LocalTalk Bridge (6/95)

Can I use the Apple LocalTalk Bridge 2.0, Apple LaserWriter Bridge 2.0, or LaserWriter Bridge 1.0 on an Apple Workgroup Server (AWS) 95 or A/UX system?

This article has been archived and is no longer updated by Apple.
The LaserWriter or LocalTalk Bridge software is not compatible with A/UX, therefore this bridge software cannot be run on A/UX or AWS 95 systems. This Bridge software needs AppleTalk version 57 or higher to operate, while the AppleTalk implementation in A/UX is based on AppleTalk version 56. If you install the software, you will receive a message like the following:

A/UX machines can be setup to router TCP/IP packets. However, the UNIX features do not include AppleTalk routing. A/UX does not support the Apple Internet Router either.

However, an A/UX system can print to a printer connected to a LocalTalk network via the LaserWriter or LocalTalk Bridge.

Article Change History:
02 Jun 1995 -
Support Information Services
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NSI 1.5 and Third-Party Ethernet Cards (5/95)

We have several different types of third-party Ethernet Cards. Does the Network Software Installer (NSI) 1.5 support any third-party Ethernet Card? If yes, please tell us which company's one would be supported ?

This article has been archived and is no longer updated by Apple.
Below is an excerpt from the NSI 1.5 Read Me:

"If you are using 3rd party ethernet cards: The drivers contained in the new driver files do not support 3rd party ethernet cards. A 3rd party card that has duplicated an Apple ethernet board will use the appropriate ethernet driver from the system file instead of the Apple driver in the extensions folder file. A system with a 3rd party ethernet card will continue to operate using the previously-installed driver after installing this version of the Network Software Installer. Such systems will get the benefit of all of the other updates installed by this Network Software Installer, including the ability to install and use the LaserWriter Bridge."

This means NSI 1.5 does not support any third-party Ethernet cards. However, installation of NSI 1.5 will not disable a third-party card that has previously been working with older Apple Ethernet drivers.

With NSI 1.5, Ethernet drivers are now individual files located in the Extensions folder. These files are loaded at startup by a new network software loading mechanism. Previously, Ethernet drivers were resources located in the System file that were loaded at startup.

This new mechanism only works with Apple Ethernet cards or Built In Ethernet. The mechanism will only load the new Ethernet driver files if an Apple Ethernet card/Built In is detected. If a non-Apple Ethernet card is detected, the mechanism will not load the new Ethernet driver files for the card. Instead, it will check for the presence of a suitable driver within the system file. If one is found, it will be loaded for the card. Otherwise, no driver will load for the card and the card will not function.

Support Information Services
Published Date: Feb 19, 2012

LaserWriter Bridge v2.0: Using With Non-Apple Printers

I'm having a problem with the LaserWriter Bridge software v2.0 included with the Network Software Installer (NSI) 1.5 seeing a Hewlett Packard (HP) LaserJet 4ml printer on a Power Macintosh 6100/60. When I switch to LocalTalk the printer works properly. I have also tried an Apple LaserWriter connected to the Power Macintosh and that worked properly through the LaserWriter Bridge software. I'm using the LaserWriter 8 driver.

Are there any known compatibility problems with third-party printers and the LaserWriter Bridge v2.0 software?
This article has been archived and is no longer updated by Apple.
There are no known issues involving third-party printers and the LaserWriter Bridge 2.0. A printing device that responds to an NPB lookup as type "LaserWriter" should work.

Try using the LaserWriter 8.2.2 driver to see if that makes any difference, this version of the LaserWriter driver addresses an issue when clients and printers are located in different zones with the same network number. Since you did not provide any details of your network, this may or may not help.
Published Date: Feb 19, 2012

AppleShare 4.1: Power Macintosh Upgrade Not Supported

Is the new AppleShare 4.1 compatible with Power Macintosh Upgrade Card?
This article has been archived and is no longer updated by Apple.
No version of AppleShare File Server or Print Server is supported on computers equipped with either the Power Macintosh Upgrade Card or the Macintosh Processor Upgrade. Although the software may run without crashing, it is untested and therefore, unsupported.

There is little to be gained by running a server on a system with an upgrade card since all the upgrade card does is increase the processor's power. The server is heavily dependent on the I/O subsystems, which are unchanged, and therefore the performance increase is not significant.
Published Date: Feb 19, 2012

Power Macintosh 7100: CD Audio Connect Pinouts

This article lists the Power Macintosh 7100/66 CD-ROM audio connector pinouts.
This article has been archived and is no longer updated by Apple.

Power Macintosh 7100/66 CD-ROM Audio Connector Pinouts

Pin	Signal
1	CD in Left
2	CD Common
3	CD Common
4	CD in Right

The logic board connector is a J19, this connector is located behind the drive bays.
Published Date: Feb 19, 2012

Macintosh: Models Containing 68LC040 Processor

This article provides a list of Macintosh computers using the Motorola 68LC040 microprocessor.
This article has been archived and is no longer updated by Apple.
The following Macintosh computers contain the Motorola 68LC040 processor:

Macintosh LC 475
Macintosh LC 575
Macintosh LC 580
Macintosh LC 630
Macintosh LC 630 DOS Compatible

Macintosh Centris 610
Macintosh Centris 650

Macintosh Quadra 605

Macintosh Performa 475
Macintosh Performa 476
Macintosh Performa 570
Macintosh Performa 630
Macintosh Performa 635
Macintosh Performa 636
Macintosh Performa 637
Macintosh Performa 638
Macintosh Performa 575
Macintosh Performa 577
Macintosh Performa 578
Macintosh Performa 580

Macintosh Powerbook Duo 280
Macintosh Powerbook Duo 280C
Macintosh Powerbook 520
Macintosh Powerbook 520C
Macintosh Powerbook 540
Macintosh Powerbook 540C
Published Date: Feb 19, 2012

MAE: HP700 & Moving /users To New Disk (5/95)

What is the best way to move the /users to a new disk on a Hewlett Packard (HP) Series 700 Workstation? As MAE creates System Folders in each user's directory, there is a need to increase storage. What concerns are there with MAE in respect to a new file system?

This article has been archived and is no longer updated by Apple.
While Apple does not support this task, it is important to be sure that the new a File System supports more than 14 characters. When using the utility called SAM (System Administration Manager) to create a new File System, it will default to supporting file names up to 14 characters. Be sure that when adding a File System within SAM, that the option for Long File Names is selected.

Here are the steps for moving /users to a new disk and creating a new file system with SAM:

Step 1

Create a temporary directory and move the contents of /users to /users.temp:

```
#mkdir /users.temp
#cd /users
#find . | cpio -pdumv /users.temp
#cd /
#rm -rf /users/*
```

Step 2

Start SAM to create a new File System:

```
#sam &
-Select "Disks & File Systems" -> "CD-ROM, Floppy and Hard Disks"
-Select the new SCSI Drive, highlight 'Action' and select 'Add a Hard Disk'
-Select 'Modify Defaults' and select "Use Long File Names"
-Select OK and mount the new File system to /users
-exit SAM
```

Step 3

Move contents from /users.temp to /users and remove the temp directory:

```
#cd /users.temp
#find . | cpio -pdumv /users
#cd /
#rm -rf /users.temp
```

The /users is now located on the new file system that supports long file names, allowing MAE to properly create long file names on that file system.

Support Information Services
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MAE: File Names Are Truncated To 14 Characters (5/95)

Running HP-UX, we mounted /users on a separate physical file system. I am able to create a new System Folder within my home directory, however, some of the file names are shortened to 14 characters. This is apparent in the System Folder, where the Apple Menu Items folder has been reduced to "Apple Menu Ite". After renaming the file, and restarting MAE the same problem remains. What is happening?

This article has been archived and is no longer updated by Apple.
Using the SAM (System Administration Manager) utility in HP-UX, creation of File Systems will default to a limit of 14 characters (referred to as 'compatible' in SAM).

SAM lets you convert the File System to the Long File Names without having to reformat the drive. Follow these steps:

Step 1

Start SAM as root

#sam

Step 2

Select "Disks and File Systems"->"Local File Systems", highlight the SCSI disk that contains the /users directory.

Step 3

Highlight 'Actions' and choose 'Convert to Long File Names'

SAM will convert the file system to accept file names longer than 14 characters.

Support Information Services
Published Date: Feb 19, 2012

PowerBook 500 & 150 Series:How To Backup System 7.5 Disks

This article describes how to create backup System 7.5 installation disks from the pre-loaded system installation folders on a PowerBook 500 series hard disk.
This article has been archived and is no longer updated by Apple.
Macintosh PowerBook 500 series computers that are configured with less than 12 MB of RAM ship with a System 7.5 Installation folder pre-loaded on the hard drive. In the accessory kit which comes with these computers you will find a set of System 7.1.1 floppy disks.

System 7.1.1 is the version of the system software installed on Macintosh PowerBook computers with less than 12 MB of RAM. To make 7.5 installation disks from the System 7.5 Installation folder on the hard drive follow these steps:

Step 1
Locate the Install Disk 1 folder. Copy the contents of that folder to a disk with the same name as the folder.

Step 2
Rename Installer on Disk 1 to "Finder". This will allow the disk to be a startup disk.

Step 3
Repeat Step 1 for each of the following:

```
Install Disk 1
Extensions (folder)
 Finder (previously named Installer)
Preferences (folder)
 System
 System 7.5 Installation

Install Disk 2
Installation Tome 2
System Morsels

Install Disk 3
Installation Tome 3

Install Disk 4
Installation Tome 4

Install Disk 5
Installation Tome 5

Install Disk 6
Installation Tome 6

Install Disk 7
Installation Tome 7
```

Creating a Disk Tools Disk

1. Unlock and initialize a floppy disk. Name it Disk Tools.
2. Make a folder on the Disk Tools called "System Folder" and put the system and finder in it. (Otherwise you get 7 other items created beside the HD SC Setup and Disk First Aid)
3. Drag the system file from the Install Disk 1 folder to the newly initialized Disk Tools disk. The pathway on the PowerBook hard drive is: System 7.5>Installation>System Install>Install Disk 1.
4. Drag Apple HD SC Setup and Disk First Aid to the Disk Tools disk. The pathway on the PowerBook hard drive is: System 7.5>Installation/Disk Tools.
5. Drag the Finder from the System Folder to the disk (Finder is version 7.1.3).
6. Drag the Disk Tools disk to the Trash to eject it.
7. Restart from the Special menu and immediately insert the Disk Tools disk. The PowerBook will start up from the disk.
8. You should get a message asking if you want to rebuild the desktop. Click yes.
9. Shut down from the Special menu. The Disk Tools disk will eject.
10. Lock the disk.

Note: An alternate way to make a System 7.5 Disk Tools disk is to use a disk duplication application, such as Apple Disk Copy, to make a duplicate of the 7.1.1 Disk Tools. Then on the copied Disk Tools disk throw away the Disk First Aid and HD SC Setup applications and replace them with the ones in the Disk Tools folder on the PowerBook hard drive.

Published Date: Feb 19, 2012

MacTerminal 2.0: Changes that affect 3278 emulation

This article has been archived and is no longer updated by Apple.
Following are some of the changes in Macterminal 2.0 that affect 3278 emulation:

1. 25th LINE: For status line. You need, of course, to re-configure your AppleLine.

2. NEW LINE: Now supported! The "Return" key is now NEW LINE. The "Enter" key retains its old function, ENTER.

3. NUMERIC KEYPAD: Remapped to include all 3278 keys--no numeric keys!

4. PASTE in PROFS: Now you can paste data into a PROFS file as well as any other IBM application that does not use line numbering. (Only through an AppleLine, though.) Pasting multi-line text selections into IBM 3278 documents with MacTerminal 1.1 caused ENTER to be sent after each line. This problem has been fixed.

5. RECORD SCREENS: More trap-conditions were added. You still can't see your ISPF screens, but at least in plain TSO you can LIST a file, and it'll be recorded.

NOTE: The selection box for Recording Screens appears under FILE TRANSFER!

6. CURSOR POSITIONING OVERRUN: If you work with a protocol converter that can't handle the big burst of characters sent on cursor positioning (up to 312 chars...), put some DELAY BETWEEN CHARS!

7. DELETE on Pull-Down Keypad: Now sends the right sequence ('7F'). There is no way to produce '1F'.

8. SHIFT-TAB for BackTab has been added.

9. APPLE CLUSTER CONTROLLER: Full support now exists for Pull-Down Keypad.

10. Increased throughput: This is probably more noticable at higher baud rates, but MacTerminal 2.0 receives and displays characters about 1.5 times more quickly as version 1.1.

Additional MacTerminal 2.0 differences are documented in the Tech Info Library
article entitled "MacTerminal 2.0: Differences."
Published Date: Feb 19, 2012

Color StyleWriter 2400: Vertical Lines in printouts (2/96)

I am having problems with my Color StyleWriter 2400 printer. When I print certain documents, I have vertical lines running through the images in the document. The lines appear to be thin strips of the image picked up and moved a little to the right. These artifact lines are most easily seen in Black & White mode, however the lines also occurs with color images.
This article has been archived and is no longer updated by Apple.
Vertical lines in your printouts occur only if ALL the following are true:

- Documents have bitmapped (PICTs or TIFFs) images in them.
- Page Setup orientation is set to Landscape.
- Best Mode is used.
- A Power Macintosh computer is Used.

Any other combinations of print settings do NOT reproduce vertical lines.

To prevent the vertical lines, use the Color StyleWriter 2400 v2.1 or greater printer software.

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Volume II, Issue 10, Page 15

Article Change History:
27 Feb 1996 - Updated the discussion, changed title.
27 Sep 1995 - Added Info Alley information; updated article.

Published Date: Feb 19, 2012

DOS Compatibility Card: Windows For Workgroups Q&A (5/95)

This article contains Q & A pairs about using Windows for Workgroups on a Power Macintosh DOS Compatibility Card.

This article has been archived and is no longer updated by Apple.
Question: Which network drivers and frame types need to be used Windows for Workgroups in order to communicate with a Windows NT server? Can I just load Ethernet_II and Ethernet_802.3 frame types, or must I load all four frame types?

Answer: Windows for Workgroups 3.11 adds all 4 frame types to both the NET.CFG and the PROTOCOL.INI file. This seems to indicate all 4 frame types are required. In addition, Chapter 8 of the "Microsoft Windows for Workgroups Resource Kit - Addendum for Operating System Version 3.11" indicates all 4 frame types are needed. The specific driver needed in the Network Setup for Windows NT connectivity is "IPX/SXP Compatible Transport With NetBIOS". A complete discussion of your questions are in Chapter 8 of the "Microsoft Windows for Workgroups Resource Kit - Addendum for Operating System Version 3.11".

Question: I was told that it is important to load the various frame types in the same sequence in both the NET.CFG and the PROTOCOL.INI files. Is this true?

Answer: We have not seen behavior that would indicate this is the case, but it is considered good form to have them listed in both files in the same order. Again, see Chapter 8 of the "Microsoft Windows for Workgroups Resource Kit - Addendum for Operating System Version 3.11"

Question: Are there any issues we need to be aware of concerning the various files that are listed after "network", "netmisc", and "transport" in the [386Enh] section of SYSTEM.INI? Some documentation I have seen from Novell suggests that some of these files perhaps should be replaced with others of different names.

Answer: Chapter 8 of the "Microsoft Windows for Workgroups Resource Kit - Addendum for Operating System Version 3.11" contains all the information you need on this topic.

Question: I understand that the latest Netware Client from Novell includes many of "patches" and replacement drivers for both its products and for Microsoft's Windows and Windows for Workgroups. I also know that both Microsoft and Novell make "patches" and replacement drivers available to users. Is it generally a good idea to used the most recent versions of the "patches" and replacement drivers, or should we use specific versions only?

Answer: Unless Apple finds problems with new drivers and the DOS Compatibility Card, it is always good to use the latest versions of software from the original vendors. If there are problems with drivers, they will be published in the Tech Info Library.

See Chapter 8 of the "Microsoft Windows for Workgroups Resource Kit - Addendum for Operating System Version 3.11" for a listing of version number requirements for Windows for Workgroups 3.11 and Novell Netware connectivity.

Support Information Services
Published Date: Feb 19, 2012

HyperCard: Popup Buttons And Shared Hilite (7/95)

In HyperCard versions 2.2 and 2.3, the "shared hilite" feature of the popup buttons does not seem to be working as expected. We expect that when this option is off, that each card can have its own value selected from the popup list, and it will stay that way for that card. But we see is that when one changes the value on one card, all the other cards change as well.

Is this a bug in Hypercard, or am I misunderstanding what this feature is supposed to do?

This article has been archived and is no longer updated by Apple.
Shared Hilite Overview
--

Shared Hilite is primarily intended for use with check boxes and radio buttons. Using Shared Hilite only affects the behavior of the boolean "hilite" property. Popup menus do not use the hilite property for selecting their values, but instead use the selectedLine, selectedLoc, and selectedText properties. Since Shared Hilite only affects the value of the hilite property, you need to write a script to change the selected value of your popup menus from one card to the next.

How It Works

The sharedHilite property controls whether background buttons use a common value for the highlight state on each card of a background (determined by the hilite property), or that value is unique for each card in the background. The key part in this explanation is that sharedHilite only controls the behavior of the hilite property. The hilite property is boolean -- it is either true or false.

* If a button's hilite property is set to "true", then the button
appears highlighted (unless it is a popup menu).

* If a button's hilite property is set to "false", then the button
appears normally (not highlighted).

Popup buttons do not have a highlighted state, so they look the same, regardless of hilite's value. Although their appearance does not change, HyperCard remembers the settings of the hilite property for popup buttons. (Note that clicking on a popup menu or selecting an item from a popup does not affect the value of the hilite property.)

Every version of HyperCard since version 2.2 can treat buttons as containers, which lets them store values, just like fields. This is the basis for popup buttons. When you click on a popup button, it displays the contents of the button in the popup menu. When you select a value from the popup, it selects that value and records the appropriate information into selectedLine, selectedLoc, and selectedText.

HyperCard does not have the ability to automatically change a popup menu's selection as a user switches cards. You need to write your own scripts to change the button's value.

If a stack had a popup menu called "theButton", the user could create a field called buttonValue and use the following background script:

```
on closeCard
put the selectedLine of bg btn theButton into fld buttonValue
end closeCard

on openCard
get word 2 of fld buttonValue
select line it of bg btn theButton
end openCard
```

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19 Jul 1995 - Updated from Info Alley.

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nel.

With a data application like a BBS or terminal emulation software, if you are using an Express Modem or GeoPort Telecom Adapter with Apple Telecom software, add an 'ATS113=1' to the modem initialization string.

For non-Apple modems, the modem may support the data calling tones necessary for Apple Telecom to perform data call detection. Most 14.4 and 28.8 modems now support the calling tones. The Hayes standard is to add a '^' to the dialing string. For example, with the Hayes 28.8 and Global Village Gold IIv modems, use the command 'ATDT^ 555-1212' to activate the calling tones. Check with your modem manufacturer for support of calling tones or just try a '^' in the phone number.

Two other workarounds are:

* Quit the voice application when you expect a data call.

* Temporarily select Data as the default call type in the advanced options panel of the Express Modem control panel.

Article Change History:
11 Jul 1995 - Update information on ARA detection.

Support Information Services

Published Date: Feb 19, 2012

MAE: Forcing AppleDouble File Format (5/95)

I'm copying a TIFF file from a Macintosh CD-ROM into MAE and then trying to view it, but my viewer application will not work. What can I do?

This article has been archived and is no longer updated by Apple.
This sounds to us like an AppleSingle, AppleDouble file format problem. MAE is converting the file from HFS format from the Macintosh CD-ROM to a format compatible with the UNIX file system. The Macintosh file system has a resource fork and data fork which the UNIX file system does not have or understand.

We think you are trying to view the TIFF file with a UNIX TIFF viewer, if you had an Macintosh-based TIFF viewer, the file would open properly because MAE stores most files and can read AppleSingle file format. Text documents and an exception, which are stored AppleDouble file format.

You can force MAE to save files in AppleDouble format by using one of the following:

* Launch MAE with the -filedouble option.

mae -filedouble

* You can force MAE to write in AppleDouble format by setting environment variable TBFILEFORMAT to 1.

NOTE: This feature is NOT supported.

Published Date: Feb 19, 2012

MAE: Umlauts and Other UNIX Compose Key Characters (5/95)

I'm using MAE 1.0 on a Sparc20 with Solaris 2.4. My keyboard has a US layout, so I selected sun.type5.US in the MAE Keyboard control panel.

How do you type umlauts with a US keyboard? I have already tested all combinations of ctrl-, cmd- and shift-keys.

This article has been archived and is no longer updated by Apple.
You can use Key Caps from the Apple menu. Key Caps shows you the keys settings when holding down the shift, option, or shift and option together. For example if you hold down the Option key, you can see how the mapping changes.

The umlaut is a "dead key" and is properly mapped by the Mac OS. That is, when you press the key combination to get an umlaut, you don't see the character until you press the letter that the umlaut is to appear over. For example, the keystrokes Option-u, followed by "u" will produce an umlaut over the letter "u".

Make sure you know where the Option and Command keys are mapped in MAE. For convenience, you may want too map them to the same physical location on the workstation keyboard as they are on a Macintosh keyboard, but this is not necessary. You can use the MAE Keyboard control panel to check their location and remap them if desired.

Several third-party Macintosh developers provide Apple menu item and control panel device utilities that also provide this functionality.

You can also try to map the same key combination you normally use in X Windows, for example map the dead key or compose key that X Windows use in MAE. Search for Tech Info Library article titled "MAE: Keypad Mapping On Solaris & Some Mac Applications" for more information

Support Information Services
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MAE: Keypad Mapping On Solaris & Some Mac Applications (5/95)

When I run certain applications with keypad shortcuts in MAE on a Solaris workstations, the mapping is not correct. For example, some of Microsoft Word's keyboard shortcuts require the keypad, but the Solaris workstation maps the keypad to arrow keys and dead keys. I have tried several MAE Keyboard control panel settings to remap the keypad without luck. What can I do to change the keypad mapping?

This article has been archived and is no longer updated by Apple.
To change the settings in MAE you need to change the keyboard mappings for the entire Open Windows environment. Follow the steps below to configure the keyboard map to let the keypad function in MAE

NOTE: Doing this may effect applications that have dependencies on those default settings.

Step 1

Create a file in the home directory titled ".Xmodmap" with this command:

```
xmodmap -pke > $HOME/.Xmodmap
```

Step 2

Edit the file you just created, by locating each keycode that references the keypad, listed as KP_x, where x is either the numeric or function key. Remove entries to the right of the "=" sign, with the exception of the value you wish to keep. Here are some examples from a $HOME .Xmodmap file:

```
keycode 53 = KP_Divide
keycode 54 = KP_Multiply
keycode 97 = KP_Enter
keycode 98 = KP_4
keycode 99 = KP_5
```

NOTE: If you do not intend to use applications that require the keypad, or need the default map for other applications, you will not need to edit the .Xmodmap file.

Step 3

Add the follow entries to /usr/openwin/lib/Xinitrc.

* Add these lines after the reference to "xrdb" which is the first section of the Xinitrc file. This dumps the default mapping to a holding file, and loads your modified mapping:

```
xmodmap -pke > $HOME/.Xmodmap.default
xmodmap $HOME/.Xmodmap
```

* Add this line after the reference to "wait $wmpid", this removes the configured mappings and returns to the default:

```
xmodmap $HOME/.Xmodmap.default
```

You should open Key Caps in the Apple menu after the next log in to MAE, to make sure the keys selected on the keypad are properly mapped by seeing the same key highlighted in Key Caps.

Support Information Services
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DOS Compatibility Card: Lantastic Not Supported (5/95)

I am trying to get Lantastic to work on the DOS Compatibility Card for the Power Macintosh. However, when I try to get it to connect on the network, it cannot see any other MS-DOS computers. I connected the DOS Compatibility Card to a Novell network, and everything worked properly. How can I get the DOS Compatibility Card to work with Lantastic?

This article has been archived and is no longer updated by Apple.
Lantastic has not been tested, nor is it supported on the Power Macintosh 6100 DOS Compatible or DOS Compatibility Card. While it may be possible to get it to work, Apple does not have any information on how to do so. You should contact Artisoft and work with them on finding a solution. Since Lantastic is an unsupported software package on the DOS Compatibility Card, Apple cannot provide you with any additional support.

Support Information Services

Published Date: Feb 19, 2012

LaserWriter Fax: Reducing VMerrors Sending to Lrg Groups

Occasionally I get a VMerror when sending a fax to large groups (a group fax of about 240 people). I have to turn the printer off and on for the next job to continue, but then after another 10 jobs I get the VMerror again.

Is this something that should work? Any reason why we get these VMerrors on the printer?
This article has been archived and is no longer updated by Apple.
There is no limitation set by the driver to the number of addresses you can send at one time. It does, however, depend on how the printer handles the addresses and sends the information.

You should try using the Broadcast option next time you have to fax to a large group. This might help you alleviate the problem. After selecting "Fax" as the destination in the Print dialog, the next dialog that appears (Fax Destinations) has the "Broadcast using" popup field at the bottom where you can select "Computer" or "Printer". If "Computer" is selected, a separate fax job is created in PrintMonitor for each person in the group. If "Printer" is selected, then only one print job (for the entire group) is sent in PrintMonitor, and the printer handles sending the faxes to the individuals in the group.

Overall, this appears to be a VM (printer's Virtual Memory) constraint. Adding more VM in the printer, by adding more RAM, should increase the number of addresses per job.
Published Date: Feb 19, 2012

Apple Modem 300/1200: Configuring it with the Apple IIe

This article has been archived and is no longer updated by Apple.

I. Switch settings

A. For 300 baud:

1. Super Serial Card:

1 2 3 4 5 6 7 1 2 3 4 5 6 7
ON X X X X X ON X X X X
SW1 SW2
OFF X X OFF X X X
1 2 3 4 5 6 7 1 2 3 4 5 6 7

-- Jumper Block to MODEM

2. Modem:

UP X
DOWN X
1 2 3
CD BC DTR

-- Switch 2 can be up or down; it isn't used.

B. For 1200 baud:

1. Super Serial Card:

1 2 3 4 5 6 7 1 2 3 4 5 6 7
ON X X X X X X ON X X X X
SW1 SW2
OFF X OFF X X X
1 2 3 4 5 6 7 1 2 3 4 5 6 7

-- Jumper Block to MODEM

2. Modem:

UP X X
DOWN X
1 2 3
CD BC DTR

II. Connection:

A. Cable IIe: Apple Service Part Number 590-0121

Super Serial Apple
Interface Card Modem 300/1200
DB-25 DB-9

1 8
2 9
3 5
6 2
7 3
8,5 7
20 6

Published Date: Feb 19, 2012

GeoPort 1.x: System 7.1.x and System Update 3.0 Install (5/95)

This article details the install order for GeoPort software on System 7.1.x with the System Update 3.0.

This article has been archived and is no longer updated by Apple.
There is a conflict between the GeoPort 1.x installer for Power Macintosh and Quadra AV computers with System Update 3.0.

The GeoPort software installer will hang or freeze, usually after clicking the OK button, at the "Welcome to the GeoPort Installer" window. You may get further in the install process and receive an error indicating the installation could not continue, then hang or freeze after clicking the OK button in the error window.

The workaround is to follow the install order below:

1) Install System 7.1.x
2) Install GeoPort 1.x
3) Install the System Update 3.0

The key is to install System Update 3.0 last. If you have a problem installing the GeoPort software, start by doing a clean system software installation, then follow the order shown above.

Support Information Services
Published Date: Feb 19, 2012

PCI Expansion Bus Architecture Description

This article contains basic information about Peripheral Component Interconnect (PCI), why Apple is incorporating PCI into its new machines, a comparison of PCI with NuBus, and answers to some commonly asked questions.
This article has been archived and is no longer updated by Apple.

What is PCI?

PCI (Peripheral Component Interconnect) is a high-performance expansion bus architecture that was originally developed by Intel to replace the traditional Industry Standard Architecture (ISA) and Enhanced Industry Standard Architecture (EISA) buses found in many 80x86-based PCs.

To promote its widespread acceptance, Intel turned the specification over to a broad-based committee of industry leaders whose function is to define and market PCI. This committee consists of 12 voting members, 11 of whom are elected on an annual basis, with Intel retaining a permanent voting position. Apple is currently a voting member.

Turning the PCI specification over to a committee opened it up for free licensing and use by any vendor. Vendors have responded with enthusiasm. Currently, more than 200 vendors are producing PCI cards, and more than 500 cards are available for this bus architecture.

Why is Apple moving to PCI?

PCI is a computer industry standard. By moving to PCI, Apple continues to demonstrate its commitment to "fitting in" in the industry. The majority of personal computers based on 80486 or Pentium processors already incorporate the PCI architecture. Apple's adoption of PCI for its new Power Macintosh computers and Workgroup Servers will support and strengthen the specification's status as a standard in the industry. And, in the future, PowerPC processorÑbased computers from IBM and Motorola will also use this bus architecture. AppleÑs full implementation of the PCI 2.0 specification lets any existing PCI 2.0 compliant card work in an Apple computer when combined with a software diver specific to the Mac OS.

Going with an industry standard provides a number of benefits. Because Apple fully implemented the PCI 2.0 specification, in conjunction with a software driver specific to the Mac OS, any existing PCI 2.0-compliant card will work in an Apple computer with PCI. This compatibility gives users of Power Macintosh and Workgroup Server systems with PCI slots access to the many PCI cards available today. It also enlarges the potential market for PCI cards, which should both encourage their future proliferation and drive their cost down further.

In addition, the PCI bus will allow Apple to use more industry-standard components in the future, which will make Power Macintosh computers and Workgroup Servers even more affordable.

PCI provides high performance. PCI offers significantly higher performance than NuBus, the bus architecture used in previous Macintosh models. More specifically, a PCI card can provide performance up to three times faster than that of a similar card on even the fastest computers with NuBus slots.

PCI is a very scalable technology and will offer further performance gains in the future. Plans for extending the bus include support for 64-bit extensions and a higher clock speed across the bus.

PCI on a Power Macintosh or Workgroup Server will provide outstanding performance, made possible because these computers are designed with performance in mind. More specifically, the fact that these systems contain only PCI slots allows Apple to take full advantage of the power of the RISC (Reduced Instruction Set Computing) architecture, enabling all PCI cards to run at the maximum speed of 33 megahertz. In contrast, many 80x86-based PCs offer mixed slots, which run at a range of speeds.

PCI promotes new solutions. PCI will also attract new solutions to the Power Macintosh platform. Developers of specialized cards who found the NuBus market too small or the technical side of developing for NuBus too complex will find it easy to adapt their products for Power Macintosh computers with PCI. Instead of a massive hardware and software effort to move to Macintosh, these developers will be able to take their existing PCI hardware and simply add a Mac OS specific software driver.

PCI and NuBus: A comparison

The following chart/table provides a feature-by-feature comparison between the PCI and NuBus specifications:

PCI	NuBus

Bus Speed	33 MHz	10 MHz
Theoretical Maximum Throughput	132 MB per second	40 MB per second
Maximum Number of Slots	4 per bridge; 256 bridges	6 per bridge; 14 bridges
Real Throughput	90 MB per second writes; 45 MB per second reads	32 MB per second writes; 20 MB per second reads
Software	Name Registry, Open Firmware	Slot Manager
Form Factor	12.283 in. and 6.875 in.	12 in. and 7 in.

One point that is especially significant is the change in software that the move to PCI represents. All Apple computers with PCI will have built-in Open Firmware software, which is a standard (IEEE 1275) for booting PCI cards in an OS-independent environment. Using Open Firmware gives Apple flexibility in its choice of future operating systems.

Finally, the runtime environment for PCI cards is also being rewritten to allow for growth in the future. The new expansion manager will allow PowerPC and 80x86 drivers to coexist in the PCI cards' ROM. This ability to accommodate multiple drivers permits the performance of I/O activities conducted via cards to improve significantly in the future.

Questions and Answers

Question: Can NuBus cards be used in an Apple computer with PCI slots?
Answer: Yes. To preserve customer investments in NuBus technology, a NuBus expansion chassis for PCI will be available from a third-party. This chassis will enable users to continue to use their existing NuBus cards in Power Macintosh computers and Workgroup Servers with PCI, if they so choose.

However, because PCI offers both higher performance and more solutions, we anticipate that users will embrace the new bus technology. In addition, the built-in graphics acceleration capabilities of the new Power Macintosh computers should allow these systems to meet the needs of many customers without the addition of an acceleration card.

Question: Can any PCI card be used in a Power Macintosh computer or Workgroup Server with PCI?
Answer: Yes. However, a Mac OS-, NetWare-, or AIX-specific software driver is required for each card. Many manufacturers of existing PCI cards have already committed to producing these drivers.

Question: What kind of industry support exists for PCI on the Power Macintosh?
Answer: A number of companies in both the United States and Europe have committed to producing PCI cards for the Power Macintosh. These companies include Apple, Adaptec, AsantÑ, ATI, ATTO, Data Translations, Diamond Multimedia, DPT, Farallon, FWB, Hermstedt GmbH, Interphase, Matrox, MicroNet, miro, National Instruments, Neutral, Orange Micro, Precision Digital Images, Q-Logic, Rockwell, Second Wave, Spectra Systems, and Yarc.

Question: What PCI cards will Apple provide?
Answer: Apple will provide several PCI networking cards, including the Apple PCI Ethernet 100BaseTX Card, Apple PCI Token Ring Card, Apple PCI Ethernet Twisted-Pair Card, and Apple PCI Ethernet Thin Coax Card.

Question: Will Apple's move to PCI be reflected across its product lines?
Answer: Yes. Apple will offer PCI not only in desktop systems and Workgroup Servers, but also in PowerBook notebook computers.

This article was published in the "Information Alley":

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Power Macintosh: Erase ROM Message (5/95)

I have a file called Erase ROMs in the Apple Extras folder. When I double-click it, a dialog box appears with a message, "You are about to initiate a process that will permanently erase your ROMs. Do you want to continue?", and "Go for It" and "Never Mind" buttons with the second button dimmed.

Where is this message coming from?

This article has been archived and is no longer updated by Apple.
Apple shipped a Connectix utility called Connectix Destop Utilities (CDU) with Power Macintosh computers starting in the Fall of 1994. This utility was in the Apple Extras folder. It's purpose was to provide customers with a more robust Energy Star solution. This dialog box is being generated from one of the desktop pattern documents included with CDU.

In order to see this dialog you must:

1) Open the CDU folder within Apple Extras folder.
2) Open the Sample Desktop Pictures folder.
3) Extract the CDU Sample Pictures.sea file.
4) Locate the CDU Sample Pictures folder and open it.
5) Open the B/W folder.
6) Double-click the Erase ROM document.

This "dialog box" is not really a dialog box, but a document on your hard drive which CANNOT erase the ROMs on your computer. Macintosh ROMs cannot be erased by software running on the computer.

Support Information Services
Published Date: Feb 19, 2012

At Ease for Workgroups 3.0: Read Me

This article contains the ReadMe file for At Ease for Workgroups 3.0.

Note: The At Ease 3.0.3 Updater is available for download. Please see Software Updates Document Number 10173, or use the following URL to access the article directly:

http://asu.info.apple.com/swupdates.nsf/artnum/n10173

The Read Me document for At Ease 3.0.3 Updater is contained in the following Tech Info Library article:

Article 20661: "**At Ease 3.0.3 Updater: Read Me**"
This article has been archived and is no longer updated by Apple.
This document reflects the latest information on At Ease for Workgroups 3.0. Please read this document carefully. The software may have changed slightly since the manual was printed.

Installing At Ease

You should use the Installer program to install At Ease for Workgroups. Do not attempt to install At Ease by dragging files onto your hard disk. The Installer places the files in the correct locations on the disk.

Before using the At Ease Installer program, make sure you have quit all other application programs. If you have trouble installing, temporarily turn off all extensions by holding down the Shift key while you restart your computer. Then try installing again.

If you install At Ease for Workgroups 3.0 on a computer running system software version 7.0 or 7.1 and you later install version 7.5 on your computer, use the Custom Install option of the At Ease Installer to install the At Ease Guide.

Installing Mouse Practice

Install Mouse Practice immediately after installing At Ease for Workgroups.

Removing At Ease

If you decide to remove At Ease for Workgroups, use the At Ease Installer program. Never attempt to remove At Ease from your System Folder while At Ease is turned on. See the manual for more information on removing At Ease.

Getting Help in At Ease

In addition to the manual and this Read Me file, there are two ways of obtaining online help in At Ease for Workgroups.

Apple Guide (System 7.5 Users)

If you are using system software version 7.5 or later, you can use Apple Guide to get instructions for using At Ease. At Ease Guide, the Apple Guide for the At Ease panels, is available from the Guide menu whenever At Ease is the active application program.

Balloon Help

Balloon Help is available for almost every function of At Ease. To activate Balloon Help, choose Show Balloons from the Guide menu (system software version 7.5) or the Help menu (system software version 7.0 or 7.1). When you are finished using Balloon Help, choose Hide Balloons from the Guide menu or Help menu.

Some Changes From At Ease 2.0

You can now register a maximum of 4000 users in up to 200 setups. (The maximum number of users allowed in a single setup is 1000.) For best performance, however, Apple recommends a limit of 1000 users total and 300 users per setup. For networked setups, performance depends on the speed of your network, the server, and each computer using At Ease.

In previous versions of At Ease for Workgroups, the log sometimes showed successful attempts to open the At Ease Setup program even when no one had tried to open it. This bug has been fixed in version 3.0.

Upgrading From Earlier Versions of At Ease
==========

For most upgrades, your administrator password (if you had one) will remain the same in the At Ease Setup program in At Ease for Workgroups 3.0. When the At Ease Setup program asks for an administrator name, type "At Ease Administrator," which is the default administrator name.

Upgrading From Version 1.x

If you are upgrading from At Ease version 1.x to At Ease for Workgroups 3.0, you must first remove the old version by using the At Ease Installer program that came with the old version. When the Installer screen is displayed, hold down the Option key to change the Install button to Remove. Then click Remove to remove the old version.

*** The information above is incomplete. The correct procedure to remove At Ease 1.0 is:

Step 1

Double-click the At Ease 1.0 Installer.

Step 2

Click OK to pass the "Welcome to the At Ease Installer".

Step 3

Click on the Customize button.

Step 4

Select At Ease in the window on the left.

Step 5

Hold down the option key to change the Install button to a Remove button. ***

Any items you created in version 1.x are automatically assigned to a setup or user named At Ease 1.0.

Upgrading From Version 2.x

Upgrading from version 2.x to version 3.0 occurs automatically when you first run the At Ease Setup program of version 3.0. At Ease turns itself off at the end of the installation process, so you must run the At Ease Setup program to turn At Ease back on.

If you upgrade from any version of At Ease for Workgroups 2.0, you must run At Ease Setup on each computer to update the preferences files and databases before you can add the computer to the list of updated computers. (If a computer is already in the list, this step is unnecessary.)

Read Me correction: The information directly above is incomplete. It should state:

To update At Ease 2.x machines to At Ease 3.0, you must first follow the normal installation process. You should first startup your computer with extensions off by holding down the shift key while starting your Macintosh until it says "Welcome to Macintosh, Extensions Off". Run the installer program from the installer disk.

After upgrading the first computer to At Ease 3.0, you should be careful not to start any of the 2.x workstations that use the same At Ease server. If this is done, the 2.x workstation will get caught in a loop, displaying an error message that states that the machine should be restarted with an 'OK' button; after clicking on the button, the message re-appears and the only way out of the loop is to physically turn off the computer; force quit does not work.

When updating your workstations, be sure that no one is currently using At Ease from the server.

End Read Me correction.

Upgrading From Non-Workgroup (2.x or 3.0) to At Ease for Workgroups 3.0

At Ease creates setups in the new version for each user in the old version; the new setups have the same names as the old users. For example, if you had two users named Billy and Sally in the non-workgroup version, the At Ease Setup program of At Ease for Workgroups will now show two setups (Billy and Sally) and two users (also Billy and Sally). You can rename users and setups.

Installing Other Programs While Running At Ease

You should not install programs onto your hard disk while running At Ease for Workgroups. Before you install programs, turn At Ease off in the At Ease Setup program and restart your computer. When you finish installing programs, turn At Ease back on and restart the computer again. Programs you install onto your hard disk are not automatically added to At Ease setups or users; you must use the At Ease Setup program to provide access to the new programs.

If some program buttons are not displayed properly in At Ease after you install new software, you should rebuild your desktop. To do so, turn At Ease off and restart your computer. While the computer is restarting, hold down the Command and Option keys until you see a message asking whether you want to rebuild the desktop file. Click OK. When the computer has finished starting up, turn At Ease back on in the At Ease Setup program and restart the computer again.

Disk Security

At Ease for Workgroups 3.0 includes an option for locking the startup disk. If you turn on this feature in the At Ease Setup program, do not attempt to update your disk driver, repair the startup disk, or install any other security software onto the startup disk. Doing so may cause you to lose all information on your startup disk. If you need to alter the startup disk in any of these ways, you must first turn off the Lock Startup Volume setting in the At Ease Setup program.

The startup disk security feature in At Ease does not work with some computers because of disk driver incompatibilities. If the feature is unavailable on your computer, the Lock Startup Volume checkbox is usually dimmed in the At Ease Setup program.

Shared Folder

At Ease for Workgroups 3.0 includes a setting for preventing users of a setup from saving files in the shared folder. However, a user who is allowed to open and save documents anywhere will be able to save to the shared folder even if this setting is selected. To prevent users of a setup from saving to the shared folder, you must also limit their location for opening and saving.

Restricted Finder Users

There are several things you should know about the restricted Finder environment.

Security in the Restricted Finder

In trying to maintain compatibility with other programs, the restricted Finder environment can sometimes allow programs to bypass some of the security features you selected in the At Ease Setup program. If programs you use seem to pose security problems, you may want to remove them from your hard disk.

Security is maintained for restricted Finder users by creating a list of "approved" application programs, desk accessories, and control panels that can be opened by the user. This list includes

* all items in the current setup folder
* items in the Apple Menu Items folder (if you have given access to them)
* the Chooser (if you have given access to it)
* the Print Monitor
* items in the Startup Items folder (only if the setup will open them)
* items in the Shutdown Items folder
* items in the Control Panels folder (if you have given access to them)
* the At Ease Setup program (administrator password required)
* approved sub-launched programs (for more information, see "Sub-Launching Programs" later in this Read Me file)

If a document exists in any of these places, the application that created the document can also be opened.

The At Ease Setup program can always be opened because the administrator password restricts access.

The list of approved programs does not include programs in the user's own documents folder. (If it did, a user could copy a program from a floppy disk to his or her documents folder and attempt to open it without permission.)

Macintosh Guide and the Restricted Finder

Because of changes in the Finder made for restricted Finder users, instructions in Macintosh Guide (available from the Guide menu in system software version 7.5 or later) may not always be accurate. For example, when users who do not have access to control panels use Macintosh Guide to request instructions on adjusting the sound volume, they will not be able to complete the required steps.

Desktop Items and the Restricted Finder

When a user connects to (mounts) a disk other than the startup disk, items on the desktop of the disk are placed in a folder called "Items for Desktop," located at the top level of that disk. When the user disconnects from (unmounts) the disk, the items are not replaced on the desktop.

Copying in the Restricted Finder

If a user drags a folder for which he or she doesn't have access (such as another user's folder) into his or her own folder, the computer will not copy any files from the dragged folder, but it will add an empty folder of the same name to the hierarchy for the user's folder.

File Sharing and the Restricted Finder

File sharing does not work with the restricted Finder. When a restricted Finder user logs in, At Ease turns off file sharing. The next regular Finder user who logs in and wants to use file sharing must return to the Sharing Setup control panel and turn file sharing on again.

Do not use file sharing on computers that will be updated via the Update Computers command in At Ease Setup.

RAM Disks and the Restricted Finder

Do not use RAM disks if any user works in the restricted Finder; doing so may cause your computer to crash.

Sub-Launching Programs

Sub-launching is the process by which one program opens another program (called a subprogram) without the user having directly opened the subprogram. The security features of At Ease can sometimes interfere with a program's ability to sub-launch necessary subprograms. When a program attempts to sub-launch a subprogram to which a user has not been given access, the computer will usually display a -5000 error code.

There are two ways to allow programs to sub-launch the subprograms they need. In either case, the subprogram bypasses the security that At Ease provides.

* In the At Ease Setup program, open the Settings menu and choose Application Preferences. Add the necessary subprograms to the list, and then select each subprogram and click the checkbox labeled "Can be launched by other applications." This setting applies to all users and setups, so you need to follow this procedure only once. You should be aware that this setting allows all users-including restricted Finder users-to open the subprogram.

* In the At Ease Setup program, give access to all the necessary subprograms. This procedure allows you to specify which users or setups have access to the subprograms. The disadvantage of this procedure, however, is that users see a button for each subprogram even though they normally won't need to open the subprograms directly.

At Ease for Workgroups 3.0 and Kid Pix Studio

Kid Pix Studio sub-launches each subprogram a child uses. But because of a software incompatibility, At Ease does not view these subprograms as application programs. To allow Kid Pix Studio to sub-launch its subprograms successfully, choose Application Preferences from the Settings menu of At Ease Setup and click the Custom button in the screen that appears. In the Custom Add screen, add each of the following subprograms:

Name	File Creator
KPS 0	Kid0
KPS 1	Kid1
KPS 2	Kid2
KPS 3	Kid3
KPS 4	Kid4

KPS 5	Kid4

Read Me correction:

1. The above table is incorrect. The original Read Me states to type Kid4 again for the KPS 5 name, it should read Kid5.
2. Note: Due to web browser limitations, certain characters are not viewable. Therefore, in the table above Kid0 to Kid5 have an "option i" rather than an "i" character.

To type the i character in the file creator names, hold down the Option key while you type the letter i, then release the Option key and immediately type the letter i again.

For more information on using the Custom Add screen, see "Application Preferences" later in this Read Me file.

At Ease for Workgroups 3.0 and Control Panels

Users who start out in the At Ease panels and switch to the Finder may experience problems when opening control panels. If they choose Control Panels from the Apple menu of the Finder, the Control Panels folder appears as expected. If they choose a particular control panel from the Control Panels submenu, however, they are returned to the At Ease panels. In most cases, the selected control panel appears in front of the At Ease panels. But for certain control panels, such as the Extensions Manager in system software version 7.5, a message appears saying that the selected control panel can't be opened in At Ease.

To avoid these problems, At Ease users who switch to the Finder should not use the Control Panels submenu. Instead, they should choose Control Panels from the Apple menu of the Finder and then double-click the control panel they want in the Control Panels window that appears.

At Ease for Workgroups 3.0 and File Servers

Do not install At Ease for Workgroups 3.0 on an AppleShare server or a computer with file sharing turned on if you plan to use that computer as the At Ease server for your workgroup. If At Ease is installed on that computer, you can't use that computer as a member of the workgroup.

The At Ease Items folder contains important information about your At Ease setups. On most computers, this folder is located inside the System Folder. If you are using an AppleShare server to store your At Ease information, however, the folder is located at the top level of the selected server volume. Do not move or remove the At Ease Items folder; At Ease will not operate correctly if it is missing from the proper location.

You should use the Update At Ease Computers command any time you have changed the primary administrator's password. (Other computers on the network may not recognize the new password unless you update them.) If you use an At Ease server, the new password will be required the next time any user returns to the login screen.

When a user whose documents folder is on a server uses the Command-Shift-3 keystroke sequence to make a screen capture (a "snapshot" of what appears on the screen), the computer may take a minute or longer to save the screen capture in the user's documents folder. During that time, the screen will be frozen and the computer may seem to have crashed.

At Ease for Workgroups 3.0 and CD-ROM Discs

At Ease for Workgroups 3.0 includes a security feature for preventing users from ejecting CD-ROM discs without first entering the administrator password. However, it is possible on many CD-ROM drives to physically eject a CD-ROM disc by pressing an eject button on the drive itself. At Ease cannot prevent users from ejecting CD-ROM discs in this way.

At Ease can display only one CD-ROM panel at a time. If a user inserts another CD-ROM disc to which he or she has access, a message appears indicating that the disc can be accessed using buttons. If the user ejects the first CD-ROM disc, the second CD-ROM disc appears as a panel.

The CD-ROM Preferences feature does not work properly with audio CDs.

At Ease for Workgroups 3.0 and the Find File Feature in System 7.5

While At Ease is running, Find File finds only those items in locations to which the user has complete access, including the user's documents folder and the Trash folder. Most other locations (including server volumes and the user's setup folder) do not return any information when Find File is used.

At Ease for Workgroups 3.0 and the Startup Items Folder in System 7.5

Any item in the Startup Items folder will be opened at startup, even if you didn't give the user access to the item or to the program used to create it. If you don't want all users to have access to an item, don't place the item in the Startup Items folder.

Application Preferences

The Custom button in the Application Preferences screen should be used only when At Ease security settings are interfering with a program's ability to sub-launch other programs that it needs and the "Can be launched by other applications" setting doesn't solve the problem. It is very unlikely that you will need to use the Custom button.

When you click the Custom button, the Custom Add screen appears. You provide a name (which can be anything you like, since it's needed only for display in the list of applications) and the file creator for each subprogram you are having difficulty sub-launching. You must type the file creator exactly, including any spaces and special characters. (You can usually get the name of the file creator from the developer of the software.)

The Custom button also allows you to remove programs from the Application Preferences list-even programs that you added to the list using the Add Other button. To do so, click a program's name in the list and click the Custom button. If the Custom Add screen does not already include a name and file creator for the program, type the program's name (exactly as it appears in the list) and its file creator. Then click Remove.

Importing Users

If your user list is in a format that cannot be read by At Ease, save it as a standard 'TEXT' file. At Ease will then be able to read in the information.

Database Consistency Checking

At Ease for Workgroups 3.0 uses a sophisticated database for handling user information. If a problem is detected, the At Ease Setup program alerts the administrator and asks whether it should verify the database files. When the verification is complete, a file called Consistency Check Report appears on the startup disk.

The administrator can also manually start the verification process by holding down the Command key while starting the At Ease Setup program.
Published Date: Feb 19, 2012

Workgroup Server 8150: "Getting Started" Manual Error

This article describes an error in the Getting Started manual for the Workgroup Server 8150.
This article has been archived and is no longer updated by Apple.
The Workgroup Server (WS) 8150 "Getting Started" manual states on page 15, "it is recommended that you lock the power switch on by turning it to the horizontal position. In the case of power failure, the server will start up automatically. ... When the power switch is locked on, you cannot turn the computer off by choosing Shut Down."

Engineering reports that the Power Macintosh 8100 and WS 8150 computers are behaving correctly. The documentation is not correct. If you choose the Shut Down command the computer will shut down, no matter if the power switch is locked on or not.

Published Date: Feb 19, 2012

At Ease 3.0 For Workgroups: Description & Overview

This article contains a list of usage requirements, descriptions of new features, and service and support information for At Ease 3.0 For Workgroups.
This article has been archived and is no longer updated by Apple.

Overview
========

At Ease for Workgroups 3.0 is a network security and access management software. At Ease for Workgroups 3.0 is intended to control access to files and applications on shared Macintosh systems in classrooms, university computer labs, and other networked educational environments.

Usage Requirements
==========

At Ease for Workgroups 3.0 requires:

* Macintosh, PowerBook, or Power Macintosh computer
* 4 MB RAM minimum
* System 7.0 or later
* Hard disk
* Apple SuperDrive 1.4 MB floppy disk drive

(The At Ease for Workgroups 3.0 installer is available only on High Density disks.)

Workgroups, non-server based At Ease 3.0 requires:
---
* AppleTalk network
* Sufficient disk space for storage of user's documents

Workgroups, server-based At Ease 3.0 requires:
---
* AppleShare version 3.0 or later
* AppleTalk network
* Sufficient space for storage of user's documents

New Features
==========

Finder Security

Users can use the standard Finder with its familiar interface without bypassing security limitations set by the administrator.

Middle Level Administration

The main administrator (Superuser) can designate users to be Middle Level Administrators (MLAs). The superuser assigns a limited subset of administrator privileges according to need. For example, the school network administrator can set up a teacher with the ability to change access privileges for their class only.

Better CD-ROM Support

Administrators can more simply allow users access to CD ROMs so that users inserting a CD-ROM will see the CD appear in the At Ease panel or in the At Ease limited Finder. Administrators can also restrict CD access to only designated CD-ROMs.

User Documents Location

Instead of requiring user's documents to be stored on the local hard drive, floppy, or the At Ease server drive, At Ease for Workgroups 3.0 allows the administrator to designate any AppleShare volume in addition to those listed above. For example, an administrator can assign a different document server for each classroom.

Drop Boxes

Each setup can have a drop box designated to it for electronic submission of assignments or other collaborative style efforts.

Shared Folders

Each setup can be assigned a shared folder where administrators can download information for access by all users of groups with access to the shared folder. For example, instead of making several copies of an assignment for each user, the administrator can place an electronic assignment in the shared folder for students to access complete and turn in (possibly in the drop box).

Service and Support

General User

The Apple Assurance Software Support group will support general use customers with questions concerning At Ease for Workgroups 3.0.

Schools

The Apple Assurance K12 support group will support schools with questions concerning At Ease for Workgroups 3.0.

How to Get Support

For more information about how to get support for At Ease for Workgroups 3.0, please reference the Technical Information Library article titled, "Obtaining Apple Product Support in the USA." This article lists 800 numbers and online services available for software updates and Apple support information.

Published Date: Feb 19, 2012

At Ease For Workgroups 3.0: Definitions of Basic Terms

This article lists the definitions of some basic At Ease For Workgroups 3.0 terminology.
This article has been archived and is no longer updated by Apple.

Workgroups

Takes the basic version and adds network capability to allow schools and other lab-based customers to more easily manage a number of At Ease 3.0 machines. The workgroups version is also more customizable, and allows for many more users and setups.

Setups

In At Ease 3.0 for Workgroups, a setup is a group of users, their files, and other setup specific options. The fundamental grouping of preferences in At Ease is done at the setup level.

Users

This is a person that "logs into" At Ease 3.0 for Workgroups. Usually this means a specific individual, but can also be a group of people who all share the same access to documents. Users can belong to multiple setups. (Note that the basic product redefines setups to users. Thus, a User in the basic product is implemented as a paired combination of a Setup and a User.)

Finder Security

Also known as desktop security, or restricted Finder security, this feature allows for some limited security imposed by At Ease while running the Finder.

Panels

For At Ease 2.0, this was the two large folder-like windows that contained the buttons. In At Ease 3.0 for Workgroups, additional panels are being added for CD-ROM and floppy support.

Panes

Not to be confused with panels, a pane is used in the At Ease Setup for Workgroups application to represent the various palette window states when editing a setup.

Superuser

The primary administrator of At Ease 3.0 for Workgroups. This individual has all rights, including the ability to add Middle Level Administrators.

Middle Level Administrator (MLA)

An individual, assigned to a particular setup, that can handle some routine administration. The actual rights are assigned by the superuser.

Published Date: Feb 19, 2012

AudioVision 14-in. Display: Requires Omni Microphone

I am trying to get a PlainTalk microphone to work on the AudioVision 14-in. Display. When I connect the PlainTalk microphone to my Power Macintosh 8100, everything works properly. However, when I connect the microphone to the microphone plug on the AudioVision display, the microphone is not recognized. Why?
This article has been archived and is no longer updated by Apple.
There are two different microphones shipping with Macintosh computers: Omni and PlainTalk. They are both require a power or voltage source to operate properly. The power source for these microphones is provided through the microphone connector when you plug the microphone into the connector on the rear panel of the computer.

The PlainTalk microphone that ships with Macintosh AV computers will not work with the AudioVision display because the display connector does not provide the power the microphone needs.

The proper microphone for the AudioVision Display is the Omni microphone. If you want to use a PlainTalk microphone, you must connect to a computer that supports it.
Published Date: Feb 19, 2012

ImageWriter II: Networking Options Available

This article describes the networking options available for the ImageWriter II Printer.
This article has been archived and is no longer updated by Apple.
The LocalTalk option card for the ImageWriter II makes the ImageWriter II a shared resource on an AppleTalk network. The option lets you distinguish individual printers by assigning them unique names using the Namer accessory. If more than one printer of the same name resides on the same network, the option appends a number to the name.

Using the LocalTalk Bridge software, you can also tie your LocalTalk Option Card equipped ImageWriter II Printer to an Ethernet or Token Ring network -- eliminating the need to install a router or repeatedly switch network connections. The LocalTalk Bridge software uses a host computer as a bridge between the LocalTalk portion of a network and either Ethernet, or Token Ring portion of a network.

The Apple LocalTalk Bridge (M3246Z/A) comes with the LocalTalk Bridge software, installer, and User's Guide and has the following requirements:

- A Macintosh or Workgroup Server running Mac OS version 7.0 or later
- At least 70K of RAM
- An available LocalTalk port
- A LocalTalk connector and cable
- An Ethernet connection or Token Ring connection
- Appropriate network cables

Published Date: Feb 19, 2012

Network Software Installer: System 6.0.x Support

What is(are) the proper version(s) of Network Software Installer that I should use to upgrade the networking software on all of my Macintosh computers?
This article has been archived and is no longer updated by Apple.
All Macintosh computers running System 6.0.x should be upgraded with Network Software Installer (NSI)1.4.5.

Network Software Installer ZM-1.5, is not supported for System 6. This installer works on only System 7 or later Macintosh computers.

All Macintosh computers running System 7.x should be upgraded with NSI ZM-1.5, which can only be installed on Macintosh computers running System 7.
Published Date: Feb 19, 2012

PrintMonitor: Incorrectly Named Spooled Documents

When I view documents I have queued in the PrintMonitor, all the documents are named Button Bar. Why?
This article has been archived and is no longer updated by Apple.
This is the name of some of the floating windows in WordPerfect. When you print or fax from WordPerfect this name is passed to the PrintMonitor application as the document name.
Published Date: Feb 19, 2012

System 7.5: Corrupt Fonts Cause Installation problems (5/95)

When installing new printer software on my Macintosh with System 7.5 installed, I get one of the following error messages:

"there is a problem with the disk you are trying to install onto"
"An error occurred while installing onto the active startup disk..."

Why am I getting these messages?

This article has been archived and is no longer updated by Apple.
These error messages can occur if there is an extension conflict, or a corrupt font suitcase. To install your printer software follow these steps:

Step 1

Restart your Macintosh and hold down the shift key. This turns off all your extensions

Step 2

Run the installation program.

Step 3

If you still get the error message, quit the installation, then repeat Step 1, and skip Step 2.

Open your System folder and drag the Fonts folder to your desktop, then repeat Steps 1 and 2. If you still have problems after following these steps, you should call (800) SOS-APPL for additional assistance.

After the installation of the printer software, open the Fonts folder on your desktop and move the suitcases and any PostScript printer fonts you may have installed into the new Font folder inside your System folder.

Support Information Services
Published Date: Feb 19, 2012

How To Remove Global Village Software (5/95)

I recently bought a third-party Fax modem for my Performa. I constantly get the error message, "the serial port is in use," or I can only use my new modem off my printer port. What should I do?

This article has been archived and is no longer updated by Apple.
Your new Fax software is probably conflicting with the original TelePort Bronze or TelePort Gold II software that shipped with your computer. You may want to remove the old TelePort software completely from the computer.

Global Village TelePort Bronze

The software to remove is stored in the following locations:

System Folder: Apple Menu Items: Fax Center
System Folder: Extensions: GlobalFax
System Folder: Control Panels: TelePort/Bronze (may be called Fax Modem)
System Folder: GlobalFax Files
System Folder: GlobalFax Personal

Global Village TelePort Gold II

The software to remove is stored in the following locations:

System Folder: Apple Menu Items: Fax Center
System Folder: Control Panels: TelePort Serial
System Folder: Extensions: Global Village Toolbox
System Folder: Extensions: GlobalFax
System Folder: GlobalFax Files
System Folder: GlobalFax Personal

NOTE: The GlobalFax Files folder contains any Faxes you have sent, you may want to retain it and the Fax Center folder to later review any messages.

You can move the above files to single folder on your hard disk, and they will be deactivated after you restart your computer. You do not need to throw them away, unless you want to reclaim the disk space. If you do throw them away, be sure you make a backup of the software.

Support Information Services
Published Date: Feb 19, 2012

Apple IIc: Configuring for Brother HR-15 Printer

The Brother HR15 printer requires +15 volts on several of its lines to accept data from the Apple IIc. This voltage is not available on any of the Apple IIc's serial port lines, so the existing cable for the Apple IIc does not work with the Brother HR15 printer.
This article has been archived and is no longer updated by Apple.
Companies sell to dealers ready made cables that connect the Brother HR15 printer to the Apple IIc. One such company is Belkin Components; they suggest a retail cost of $24.95 for the cable.

If you wish to constuct your own cable, here are the pinouts:

Apple IIc Brother printer
1 6,8
2 3
3 7
4 2
5 20
Shield 1
4,5

The switches on the HR15 should be set as follows:

Switch 1 - Rear Switch 2 - Rear

1-CLOSE 1-CLOSE
2-CLOSE 2-CLOSE
3-CLOSE 3-OPEN (read 8 bits, no parity)
4-CLOSE 4-CLOSE
5-CLOSE 5-CLOSE
6-CLOSE 6-CLOSE
7-CLOSE 7-CLOSE
8-CLOSE 8-CLOSE

The serial port on the Apple IIc should be configured as follows:

PIN 146/1111

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

The Tech Info Library Article 17159: "**Locating Vendor Information**" can help you search for a particular vendor's address and phone number.
Published Date: Feb 19, 2012

Views Settings Not Remembered Between Restarts

My views of folders in windows and the type of information displayed are not retaining their settings between shutdowns (font, snap to grid, size of icons, and so on). I used the Views control panel to change the different views, but my computer does not remember the settings when I restart. What can I do to resolve this?
This article has been archived and is no longer updated by Apple.
Under System 7 and above, these settings are stored in the Finder Preferences file. It is located in the Preferences folder inside the System Folder.

If this file has become damaged or corrupted, you should move it to the Trash so that another one can be created. Once the file has been moved to the Trash, restart your Macintosh computer. A new Finder Preferences file will automatically be created. Empty the Trash after you restart. This should allow your system to remember the settings.

For a complete list of what is stored in the Finder Preferences file, see Technical Information Library (TIL) article # 17981, named "System 7.5 : Default System Preferences".
Published Date: Feb 19, 2012

Disabled QuickDraw GX: Generic Fax Sender GX Icon (5/95)

After disabling QuickDraw GX with Extensions Manager and restarting, the desktop printer icons change to printer icons with an X through them but the Fax Sender GX icon changes to a generic document icon.

If I use ResEdit, I can see that an icon for Fax Sender GX with an X through it does exist, but is not being accessed. Rebuilding the Desktop and trashing Finder Preferences does not fix the generic icon problem.

This article has been archived and is no longer updated by Apple.
The issue you mention was reproduced on a Power Macintosh computer in our lab. At the time of testing this Power Macintosh computer was running System 7.5.1 (System 7.5 plus the System 7.5 Update 1.0) and QuickDraw GX 1.1.1.

This situation has been reported to engineering. It will be fixed in a future version of the Apple Telecom software.

QuickDraw GX users who are using Apple Telecom software 2.0, can avoid this cosmetic bug by doing either of the following:

1) Avoid disabling QuickDraw GX while using the Fax Sender GX desktop printer.

2) Do not install QuickDraw GX at all. This allows the user to use the non-QuickDraw GX Fax Sender driver.

Support Information Services
Published Date: Feb 19, 2012

LaserWriter 16/600 PS: Problem w/ Novell Services on WANs (5/95)

I ran into some problems with the Apple LaserWriter 16/600 PS, corrected by turning off the Novell option in the printer. Here is the problem I had with the LaserWriter 16/600 PS on my Novell WAN (Wide Area Network).

The Novell traffic generated by two LaserWriter 16/600 printers may have been generating as much as 40% or more of our traffic back to our backbone, and our T1 has been "bumping" 100% utilization on occasion, which is unusual for our network. We noticed a dramatic drop in traffic after to turning off the Netware support on these printers.

The captures with a network sniffer show the printers attempting to configure themselves as queue servers for Netware. To do this they attach to each Novell Netware server advertising print services and see if any queues match those on the print server. If they do not succeed they in one pass of all servers they try each again, and again, and again. It looks like the printers poll continually.

Is there a way to change this behavior?

This article has been archived and is no longer updated by Apple.
The IPX implementation on the LaserWriter 16/600 PS has a potential problem on some networks. The problem is a potential degradation of network performance, especially across WAN links, when the Netware mode on the Apple LaserWriter 16/600 PS is enabled (the default) and the Novell server(s) have PSERVER queues.

When the LaserWriter 16/600 PS first starts up and periodically thereafter, it tries to attach to each Novell Netware server that is advertising print services to see if any queues on the server should be serviced by the printer. On a large, multiple server or multiple printer network, these informational packets can consume a large amount of bandwidth. The impact can be greater if the network is also on a WAN, because the informational packets stretching across slower speed WAN links may have greater impact on those links.

The solution is to use LWPMAN to configure the printer for specific servers that are local to the printer, to prevent unnecessary traffic from being sent everywhere. As a temporary fix, or a secondary fix, you can adjust the queues scan time defaults from within LWPMAN as well (if the queue is scanned less often, less packets are transmitted, but the job remains in the queue, unserviced for a longer stretch of time).

Support Information Services

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TouchWindow: Supported with Early Childhood Connections? (5/95)

Edmark TouchWindow, which ships with Apple Early Language Connections, locks up when used on a Macintosh LC575 with Early Childhood Connections. Why?

This article has been archived and is no longer updated by Apple.
Using TouchWindow with Early Childhood Connections is not a configuration supported by Apple. There are currently several issues with this configuration:

* Early Childhood Connections ALWAYS locks/hangs when the TouchWindow hardware is connected.

* Early Language Connections (System 7.1) works with the software that ships with the CPU (version 2.1 of TouchWindow) but NOT with the software that might ship with the hardware (TouchWindow 2.00).

* Early Language Connections (System 7.5) works with the hardware connected and the software that comes in the bundle.

Early Childhood Connections does NOT ship with either the software or hardware for TouchWindow.

You can contact Edmark Corporation for additional information about TouchWindow. The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.

Support Information Services
Published Date: Feb 19, 2012

HyperCard 2.3: Manual Error Wrong Instructions On Pg 137 (5/95)

This article describes an error in the new "Getting Started" manual for HyperCard 2.3.

This article has been archived and is no longer updated by Apple.
On page 137 of the Getting Started manual for HyperCard 2.3 it says the following:

"You need to change the stack's openStack handler. Replace the line
addColor install with addColor install, 24 or
addColor install with addColor install, 24,
depending on the bit depth you want."

This instruction is telling you to do the same replacement twice.

In reference to the note on page 56, it is obvious that the note on page 137 should say addColor install, 16 or addColor install, 24.

This error in the HyperCard "Getting Started" manual has been forwarded to the HyperCard team for review and revision in future releases.

Support Information Services
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Easy Install: When This Option Installs Everything (6/95)

Sometimes the Easy Install option in the system software installer installs only those items needed on a particular Macintosh as it is supposed to do. Other times, it does a generic install.

The generic install places items that do not belong or work with the particular Macintosh, such as Powerbook control panels on a desktop CPU. Doing a custom install also does not help. It may do this on one unit, but not on an identical unit, even when using the same installation disks. What is happening?

This article has been archived and is no longer updated by Apple.
When the installer builds a System suitcase it places within it an invisible copy of the installer script. Each successive installer uses the script in the System suitcase. After once doing an install using the "software for any Macintosh" option each successive installer uses that first script as well. This process maintains consistency across numerous installs.

To prevent repeating the generic install, boot from the Disk Tools Disk and remove the System suitcase from the System Folder on the hard drive before rinning the installer again.

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Volume II, Issue 4, Page 15

Article Change History:
14 Jun 1995 - Added Info Alley information; made minor technical udpates.

Support Information Services
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HyperCard 2.3: Installs AppleScript 1.1 not 1.1.1 (5/95)

The installer for HyperCard 2.3 says that it will install AppleScript 1.1.1. However, the AppleScript installed on my Macintosh PowerBook Duo 280c by the HyperCard 2.3 installer is version 1.1. Why?

This article has been archived and is no longer updated by Apple.
Apple is aware of this issue. The installer is incorrect in reporting that it will install AppleScript 1.1.1. This has nothing to do with which computer you have or how you ran the HyperCard 2.3 installer. AppleScript 1.1 is the correct version.

Support Information Services

Published Date: Feb 19, 2012

Telecom Adapter 2.0 & Calling In To Get Messages (5/95)

When using the Telecom Adaptor 2.0 and not forwarding to the PowerTalk Mailbox, I had a problem with calling in to get messages. What do I need to do?

This article has been archived and is no longer updated by Apple.
There was an omission in the enclosed documentation. While the greeting message is playing press "*" (asterisk) on the phone and you will be asked to enter the password, then press "#" (pound) to continue.

Support Information Services
Published Date: Feb 19, 2012

AppleShare Client For Windows 1.0: Read Me

This article is the AppleShare Client For Windows 1.0 Read Me file.
This article has been archived and is no longer updated by Apple.
This document provides late-breaking news about AppleShare Client for Windows. It contains the following sections:

* For More Information
* IMPORTANT PRE-INSTALLATION INFORMATION
- Windows for Workgroups 3.11 and unsupported network adapters
- Windows 3.1 and 3.11 and unsupported network adapters
* Changing the location of print spool files
- Viewing Mac OS-formatted files from Windows and DOS applications
* Text-file differences between Mac OS and Windows
* Saving the battery charge on your portable computer
* Supported printer drivers
* Obtaining updated LaserWriter printer drivers
* Useful network utilities
- Obtaining information about Apple products for DOS and Windows
* Removing the Farallon PhoneNET PC product

For More Information

Refer to the following documentation for more information:

"Getting Started With AppleShare Client for Windows"-This printed manual describes how to install the AppleShare Client application.

AppleShare Client Installer Help - This file describes installing, remove, and re-installing the AppleShare Client application. AppleShare Client Installer Help is available through the AppleShare Client Installer.

AppleShare Client Help - This file describes the features of the AppleShare Client application and how you use it to share network resources. AppleShare Client Help is available through the AppleShare Client application.

PROBLEMS.WRI - This file describes potential problems you might encounter while installing and using the AppleShare Client application, describes possible causes for those problems and provides suggested solutions to those problems. PROBLEMS.WRI is stored on the AppleShare Client for Windows Disk 1. During installation, it is copied into the C:\\APPLE\\A_SHARE directory by default.

USERINST.WRI - This file, located on the AppleShare Client for Windows Disk 2, describes how to install the AppleShare Client application. This file is provided to allow the system administrator to modify the installation instructions for site-specific purposes and distribute them to users. During installation, it is copied into the C:\\APPLE\\A_SHARE directory by default.

IMPORTANT PRE-INSTALLATION INFORMATION

Before installing AppleShare Client for Windows, you should determine whether you are using supported Ethernet network adapter hardware. If your network adapter is not in the following list, you may still be able to use AppleShare Client for Windows. For more information, see the section "Windows for Workgroups 3.11 and Unsupported Network Adapters" or "Windows 3.1 and 3.11 and Unsupported Network Adapters," as appropriate for your version of Windows.

AppleShare Client for Windows supports the following network adapters:

AE2MC . . . . . Artisoft AE-2 MCA Ethernet
ANR . . . . . Artisoft Noderunner 2000 (NE2000)
ARTAE3 . . . . . Artisoft LANtastic Ethernet AE-3 (NE2000)
ARTAE2 . . . . . Artisoft LANtastic Ethernet AE-2 (NE2000)
ASANTENW . . Asante NWMLID Ethernet
ASANTEMC . . .Asante 2100 series MCA Ethernet (NE2100)
ASANTE . . . . . Asante 2000 series Ethernet (NE2000)
EII . . . . . .3Com EtherLink II Adapter (3C503)
EII16 . . . . . 3Com EtherLink II/16 Adapter (3C503)
EIII . . . . . 3Com EtherLink III Adapter (3C5x9, 3C509)
EIIIEISA . . . . .3Com EtherLink III (3C5x9, 3C579 EISA)

ELIIIMC . . . . . 3Com EtherLink III (3C529 MicroChannel)
EL1616 . . . . . 3Com EtherLink 16 (3C507 in 16 bit slot)
EL168 . . . . . 3Com EtherLink 16 (3C507 in 8 bit slot)
ELMC . . . . . 3Com EtherLink/MC (3C523 MicroChannel)
EXP16 . . . . . .Intel EtherExpress 16 Ethernet
NE2000 . . . . . Novell NE2000 or compatible Ethernet
SMC8003 . . . . SMC EtherCard PLUS Elite (8Bit)
SMC8013 . . . . SMC EtherCard PLUS Elite16C,& 8216
XIRCOM . . . . . Xircom Pocket Ethernet
XIRCOM2 . . . . . Xircom Pocket Ethernet II
XIRCOM3 . . . . . Xircom Pocket Ethernet III
XIRCOMC . . . . . .Xircom Creditcard Ethernet

Windows for Workgroups 3.11 and Unsupported Network Adapters

If you are using Windows for Workgroups 3.11, use your Windows for Workgroups installation disks to install your network adapter. Once the network adapter is working in Windows, you can install the AppleShare Client for Windows software using the normal installation procedures.

Windows 3.1 and 3.11 and Unsupported Network Adapters

If you are using Windows 3.11 or Windows 3.1 without Windows networking software, and you have an a vendor-supplied ODI driver for your unsupported network adapter, you may be able to use the procedures in this section to install AppleShare Client for Windows.

WARNING: Installing your system for networking requires that you manually install the network adapter driver and edit your driver configuration file and your DOS startup batch files. Performing these procedures incorrectly can cause your computer to fail.

Before performing the following procedures, you should locate the software and documentation that came with your network adapter. As you perform the procedures, you will need information from the documentation.

1) If your network adapter is not already installed, install and test it, following the instructions in your network adapter documentation.

2) Restart your computer and run Windows.

3) Run the INSTALL.EXE program on the AppleShare Client for Windows Disk 1.

4) In the Installation Options dialog box, choose the Standard Installation option and click Continue. The Select Adapter dialog box appears.

5) Select the line at the end of the adapter list that reads "[Other] Unlisted Adapter Option," and click OK. The Network Adapter Settings dialog box appears.

6) Enter the configuration settings for your network adapter. If possible, select values that match the adapter configuration settings you used in completing step 1 above. If no matching settings are displayed, simply continue with step 7. If you are already running ODI-based networking software, AppleShare Client for Windows Installer will use your existing network adapter configuration settings.

7) Complete the AppleShare Client for Windows installation.

8) Exit Windows and restart your computer as instructed by the Installer. If your computer was not already running ODI-based networking software, continue with step 11.

9) If your computer was already running ODI-based networking software using your network adapter card, edit the file ATDRIVER.BAT (in the C:\\APPLE\\A_SHARE directory by default). Remove the word "REM" from the beginning of the last line so that it reads "C:\\APPLE\\A_SHARE\\ODI.EXE".

10) Restart your computer. AppleShare Client for Windows is completely installed and should run when you start Windows. Skip the rest of this procedure.

11) Use DOS to copy the ODI driver and any supporting files for your network adapter to your AppleShare Client for Windows directory. The default directory path is C:\\APPLE\\A_SHARE.

12) Edit the NET.CFG file in the C:\\APPLE\\A_SHARE directory. First, replace all strings of four consecutive X characters (that is, XXXX) with the file name of your driver, excluding the .COM extension for the file. Next, change any parameters that do not match your adapter configuration settings. Check the values for the following parameters:
- the interrupt request level, a one- or two-digit number preceded by
INT #1
- the I/O port number, a 3-digit value such as 300, preceded by PORT #1

- the direct memory access channel, a value of 1 or 2 preceded by DMA
- the memory access address, a data address value such as D8000, preceded by MEM You should consult your network adapter card documentation to determine if other parameters are required for your system. Finally, save the NET.CFG file.

13) Edit the file ATDRIVER.BAT (in the C:\\APPLE\\A_SHARE directory by default). First, remove the word "REM" from the beginning of every line. Next, replace the string "XXXX" in the second line of the file with the filename of your network adapter driver. Be sure to include the filename extension.

14) Save the ATDRIVER.BAT file.

15) Restart your computer by turning it off and then on. AppleShare Client for Windows is completely installed and should run when you start Windows. If you experience any problems after completing these instructions, see the file C:\\APPLE\\A_SHARE\\PROBLEMS.WRI.

Changing The Location Of Print Spool Files

You may want to change the location of the spool files used by the AppleShare Client to store PostScript print jobs until they can be sent to the networked LaserWriter printer. For example, you may want to store these files in their own directory or on a disk with more free space. Do not change the spool file location to a floppy disk or to a CD-ROM disc. It is recommended that you do not change the spool file location to a removable cartridge drive or a network drive unless you are certain that it will be available at all times.

To change the location of the spool files, you must edit the [ports] section of the WIN.INI file. There are three spool files, each on its own line, in the form C:\\LWx.PRN=. Edit each line to change the pathname of the file. Do not change the filename itself (LWx.PRN). Also be sure to retain the equal sign (=) at the end of the line. Do not add a colon before the equal sign; it is a special identifier only for ports such as LPT1: and COM1:.

Viewing Mac OS-Formatted Files From Windows and DOS Applications

AppleShare Client for Windows hides Macintosh files that contain resource forks to prevent their being damaged by an incompatible application or operating system. See the section "Macintosh File Formats" in AppleShare Client Help for additional information.

AppleShare Client for Windows can be prevented from marking these files as hidden, thereby allowing access to the portions of these files that Windows applications might be able to use. To prevent hiding these files, add the following lines to the ASHARE.INI file (C:\\WINDOWS\\ASHARE.INI):

```
[FileRedir]
HIDERESFILES=FALSE
```

WARNING: Changing this value does not change the format of Macintosh files; you should use these files only with great care.

Text File Differences Between Mac OS and Windows

A Mac OS-formatted text file contains a single character to indicate the end of a line of text. Windows text files contain two characters for this purpose. Some Windows-based text-viewing programs like NOTEPAD and WRITE require text files to contain the DOS/Windows two-character ASCII combination (line feed and carriage return) to indicate the end of a line. Consequently, an entire text file created on the Macintosh may appear as a single line of text to such applications.

If a text file that you create under Windows is opened and then saved (even as a text file) by a Mac OS-based application, the file will be formatted for the Mac OS. Many word processing applications can process multiple file formats. Other low-cost file- and text-translation utilities are readily available for converting text files and other types of documents.

Saving The Battery Charge On Your Portable Computer

Most portable computers minimize battery drain by running the hard disk only when necessary. To provide timely printing of your files, the AppleShare Client print spooler checks the disk every five seconds for pending print jobs. This level of disk activity can significantly shorten the battery charge time. If your computer is not printing to a network printer, you may want to disable the print spooling temporarily.

One easy way to disable the print spooler is to disconnect all assigned network printers. To disconnect printers, click the print services button in the main AppleShare Client window, select each printer, and click Disconnect.

Supported Printer Drivers

* Provided with Windows installation disks
Apple LaserWriter
Apple LaserWriter Plus
Apple LaserWriter IINT
Apple LaserWriter IINTX

* Provided with AppleShare Client for Windows
Adobe Default Printer
Apple LaserWriter 16/600 PS
Apple LaserWriter Pro 600
Apple LaserWriter Pro 630
Apple LaserWriter Select 320

Obtaining Updated LaserWriter Printer Drivers

* Windows LaserWriter drivers available
LaserWriter Pro 810
LaserWriter Select 360
LaserWriter Select 310
Personal LaserWriter NTR
LaserWriter Pro 600/630

* CompuServe
(go aplsup) Apple Support Forum:
Browse Libraries: DOS/Windows SW

* Apple FTP
Apple Support (ftp.support.apple.com)
PUB:APPLE SW UPDATES:US:DOS & WINDOWS

Useful Network Utilities

The PC Exchange utility from Apple computer allows you to use your Macintosh computer to format floppy disks for PC computers and to store PC-formatted files on your floppy disks and SCSI hard drives. PC Exchange can be purchased at Apple dealers, and it is included for free in the Mac OS System 7.5.

The PC Net Exchange utility associates a PC icon with PC files stored on a Macintosh server. If you have PC Exchange installed, adding PC Net Exchange allows you to specify document-to-application and document-to-icon mapping based on the filename extension. PC Net Exchange can be downloaded for free from the following sources:

* America Online
keyword: applecomputer

* CompuServe
(go aplsup)

* Apple on the Internet
Worldwide Web: <http://www.info.apple.com/swupdates>
ftp: <ftp://ftp.info.apple.com>

Obtaining Information About Apple Products For DOS & Windows

* CompuServe:
(go apltil) Apple Tech Info Library

* The Apple Support and Information Web Server, www.info.apple.com
Web URL <http://www.info.apple.com>
Web IP address 204.96.16.2

* The Apple Support FTP site
Apple Software Updates <ftp://ftp.info.apple.com>
IP address 204.96.16.4

Removing The Farallon PhoneNet PC Product

Farallon PhoneNET PC cannot be used on the same computer with AppleShare Client for Windows. To avoid disabling your existing network services, the AppleShare Client for Windows Installer currently will not run if PhoneNET PC is already installed. If you want to replace PhoneNET PC with AppleShare Client for Windows, you must first remove PhoneNET PC from the system. At the time this Read Me file was written, no commonly available utility is known to successfully remove the entire PhoneNET PC. This section details how to remove the product so that you can install AppleShare Client for Windows. (You must perform steps 2 and 5 at a minimum to install AppleShare Client for Windows successfully.)

IMPORTANT: Before you remove any network software, you should ensure that no important application depend on that software.

The files that you will change or delete are located in four directories:

C:\\
C:\\PHONENET
C:\\WINDOWS
C:\\WINDOWS\\SYSTEM

To remove the PhoneNET PC product, perform these steps:

1) Back up all PhoneNET PC files and all system files that contain references to them:

* In the directory C:\\
CONFIG.SYS
AUTOEXEC.BAT

* In the directory C:\\PHONENET
All files. Especially important are the NET.CFG file and the network adapter driver file. You can recognize the driver by the .COM extension of its filename. When you install AppleShare Client for Windows, you will re-install the driver, and you may need to enter the settings for your network adapter card that are contained in the NET.CFG file.

* In the directory C:\\WINDOWS
SYSTEM.INI
WIN.INI
PROGMAN.INI
DOSAPP.INI
PHONENET.INI
PHONENET.GRP
TIMBUKTU.BMP
TIMBUKTU.HLP

* In the directory C:\\WINDOWS\\SYSTEM
ADSP.DLL
PNTPROTO.DLL
PNTDATA.DLL
FPRINT.386
PNTALK.DRV

2) Delete or "remark out" any command lines in the AUTOEXEC.BAT file that reference or call PhoneNET PC batch files. For example, if your system is configured to start PhoneNET PC when your system boots, your AUTOEXEC.BAT probably contains the following command line, which must be deleted:

CALL C:\\PHONENET.BAT

You should delete or remark any command lines calling the following batch files and executables:

AARP.COM
ABOTH.BAT
AFILES.BAT
APRINT.COM
APRNT.BAT
ASHARE.COM
ASP_WS.COM
ATALK.COM
EXTEND.BAT
PNTVDD.EXE

3) Edit the C:\\CONFIG.SYS file.
In the command line beginning "LASTDRIVE=" set the drive letter to P.

4) Delete the C:\\PHONENET directory and all the files in it. These files are as follows:

3C509.COM
AARP.COM
ABOTH.BAT
AFILES.BAT
ANET.EXE
APRINT.COM
APRNT.BAT
ASHARE.COM
ASP_WS.COM
ATALK.COM
ATNET.DLL
CHOOSER.EXE
CHOOSER.HLP
COMPAT.COM
DA.DTA
DA.EXE
DA.HLP
DESPOOL.EXE
EXTEND.BAT
LSL.COM
MAKECFG.EXE
MINSES.EXE
NET.CFG
PAP_WS.COM
PHONENET.BAT
PHONENET.WRI
PNSN
PNTVDD.EXE
QIAO.DLL
README.DOC
REDIR.EXE
ROUTE.COM
SETUP.LOG
SPOOL (a subdirectory)
TB2.EXE
TB2RECPB.DLL
TB2TOOLS.DLL
TIMBUKTU.WRI

5) Edit the C:\\WINDOWS\\SYSTEM.INI file.
In the [boot] section, change "network.drv=pntalk.drv" to "network.drv="

In the [boot.description] section, change "network.drv=PhoneNET PC" to "network.drv=No Network Installed"

In the [386Enh] section, remove the following lines:
"device=fprint.386"
"PhoneNETMemoryPool=n" (where n is any number)

Remove the entire [fprint] section.

6) Edit the C:\\WINDOWS\\WIN.INI file.
In the [windows] section, delete the following line:
"load=PNNOTIFY.EXE"

Delete the entire [MacintoshToPC] section
Delete the entire [PCToMacintosh] section

7) Edit the C:\\WINDOWS\\PROGMAN.INI file.

In the [Groups] section, find the following line:

"Group(n)=C:\\WINDOWS\\PHONENET.GRP"
Make a note of the group number (n).

In the [Settings] section, edit the line beginning "Order=" to delete the group number (n) that you noted.

In the [Groups] section, delete the Group line:
"Group(n)=C:\\WINDOWS\\PHONENET.GRP"

8) Edit the C:\\WINDOWS\\DOSAPP.INI file.

In the [DOS Applications] section, delete all lines that refer to the C:\\PHONENET directory. These include the following:

C:\\PHONENET\\ANET.EXE=1
C:\\PHONENET\\ASHARE.COM=1 C:\\PHONENET\\APRINT.COM=1

9) From the C:\\WINDOWS directory, delete the following files:

PHONENET.INI
PHONENET.GRP
TIMBUKTU.BMP
TIMBUKTU.HLP

10) From the C:\\WINDOWS\\SYSTEM directory, delete the following files:

ADSP.DLL
PNTPROTO.DLL
PNTDATA.DLL
FPRINT.386
PNTALK.DRV
Published Date: Feb 19, 2012

AppleShare Client For Windows: Installation Troubleshooting

This article describes potential issues you might encounter while installing and using AppleShare on your Windows computer. It tells you possible causes of each problem, and suggests steps you can take to resolve the problem.
This article has been archived and is no longer updated by Apple.

Issues Installing AppleShare Client For Windows
==========

The Installer doesn't automatically detect the network adapter card type and settings.

Microsoft Windows versions 3.1 and 3.11, and Windows for Workgroups versions 3.1 and 3.11, do not support self-configuring network adapter cards that provide this information. You must configure your card by installing jumpers or by using a software utility, and you must provide the card settings to applications that require them. Ask your network administrator for this information or see the documentation that came with your network adapter card.

During the installation process one of the following messages appears:
---
* Your system is configured with an incompatible AppleTalk network driver.
- You must remove the driver from your system before installing AppleShare. Please check the README.TXT file for information about removing incompatible drivers.

- AppleTalk is the set of network protocols or communications rules that AppleShare clients and servers use to communicate with each other. By default, the AppleShare Client for Windows Installer tries to install the version of AppleTalk included in the product. Only one version of AppleTalk can run on a single network adapter card. If the previously installed AppleTalk software is incompatible with AppleShare Client for Windows, you should cancel the installation process, remove the incompatible version of AppleTalk, and re-install AppleShare Client for Windows. For instructions on how to remove the Farallon PhoneNET version of AppleTalk, see the README.TXT file. The README.TXT file is located in the same directory in which you installed AppleShare Client for Windows (C:\\WINDOWS\\A_SHARE, by default).

* This product requires Windows to be running in Enhanced Mode.

- AppleShare Client for Windows requires Windows 3.1 running on a 386 or greater Intel-compatible computer. Windows on 286 computers runs in standard mode. Enhanced mode is a feature of 386 and greater Intel-compatible computers and is the default mode for Windows, however a WIN /S or WIN /2 command may be forcing your Windows system into standard mode. Check your WIN launch command in your AUTOEXEC.BAT file. If the WIN launch command appears as WIN /S or WIN /2, then the /S or /2 parameter should be removed or the command should be changed to WIN /3 to install and run AppleShare Client for Windows. For information about the WIN /S, WIN /2, and WIN /3 commands, see your Microsoft Windows documentation.

* The Installer cannot be run while virtual DOS boxes are open. Please close all open DOS boxes prior to running the Installer.

- If you are running a DOS application or have started a DOS session from within Windows, then the DOS program or session must be closed before installing.

* A message appears, similar to the following: <a driver name or batch file name>

- The preceding reference to an incompatible driver was found in file: C:\\AUTOEXEC.BAT

- This message appears if you have PhoneNET Talk installed on your computer. (PhoneNET Talk is version of AppleTalk manufactured by Farallon Computing, Inc., which is incompatible with AppleShare.) The driver or batch file name identified by the error message must be removed from the AUTOEXEC.BAT file before you can install AppleShare Client for Windows.

WARNING: Removal of this drive or batch file name will disable PhoneNET Talk. You should make this modification to the AUTOEXEC.BAT file only if you are sure you (or applications on your computer) no longer need to use PhoneNET Talk.

Issues Starting DOS After You Install AppleShare Client For Windows
==========

An error message appears after the following text is displayed:

NetWare Link Support Layer v2.14

<identity of your card driver>

ODI LAP TSR for AppleTalk, Version 1.0, Copyright (c) 1995 Miramar Systems Inc., Santa Barbara, CA.

An error message concerning the AppleShare Client software then appears. You have probably installed AppleShare Client for Windows for a network adapter card that is not supported by AppleShare Client for Windows, or the incorrect configuration information for your network adapter card was specified during installation. Make sure your network adapter card is supported by AppleShare. For information about the supported cards, see the Getting Started With AppleShare Client for Windows guide and the README.TXT file. The README.TXT file is located in the same directory in which you installed AppleShare Client for Windows (C:\\WINDOWS\\A_SHARE, by default). Check your NET.CFG file to ensure that you specified the correct network adapter card type, interrupt request level (IRQ), and memory address. To check your NET.CFG file you can use the DOS EDIT.COM program or the Windows NOTEPAD.EXE program. You may need to consult your network adapter card documentation or your network administrator to obtain the correct information for your card. Make the appropriate changes to the NET.CFG file and restart your computer.

The following error message appears while DOS is starting on your computer:

LSL out of resources.

This message occurs while the NetWare Link Support Layer (LSL) module is loading. If you had ODI-based networking software installed on your computer before you installed AppleShare Client for Windows, it is probable that one of the networks will not load properly when you start your computer. More memory is required by the LSL module. Add the following line to the LINK SUPPORT section of the NET.CFG file:

MAX STACKS 6

If the MAX STACKS statement already exists and its value is 6 or greater, then increase the number by two.

Issues Using Windows After You Install AppleShare Client For Windows
==========

You experience problems using Windows or Windows crashes when you try to start it.

One or more of the following problems may exist:

* The wrong network adapter card was selected during installation. Check which network adapter card you have in your computer, then re-install AppleShare.

* The network adapter card is set for a different interrupt, I/O port, or memory address setting than was selected during the installation process. Check the proper settings for your network adapter card, then re-install AppleShare.

* Your network cables are damaged or improperly installed. Check for loose connections, damaged connectors, improper cable termination, and damaged cables and fix any of the problems that exist.

* A startup batch file is loading the network adapter card driver twice or with conflicting settings. See your system administrator.

* The NET.CFG or the ATDRIVER.BAT files were improperly modified. For AppleShare Client for Windows to run properly, certain files must be in the right places and entries in batch files must be correct. Use the information provided in the README.TXT file and the installation log (ATINSTAL.LOG). The README.TXT file is located in the same directory in which you installed AppleShare Client for Window (by default, C:\\APPLE\\A_SHARE) and the installation log file is copied to the top level of your C: drive.

* An incompatible version of AppleTalk is already installed on your computer. AppleShare Client for Windows allows only one version of AppleTalk software to be running on a single network adapter card. The Installer will not install AppleShare Client for Windows if it detects another version of AppleTalk already installed. Problems can occur, however, if an incompatible product is installed after AppleShare Client for Windows is installed. Examples of incompatible products include Farallon's PhoneNET Talk and network software based on PhoneNET Talk such as FileMaker Pro for Windows from Claris. Either remove the incompatible software or AppleShare for Windows.

NOTE: Your incompatible product may have been updated to work with the AppleShare Client for Windows; contact the manufacturer. MacLan Connect users should contact Miramar Systems, Inc. in Santa Barbara for a version of their software that is compatible with AppleShare Client for Windows.

* You have performed a custom installation on a computer with a Token Ring or LocalTalk network adapter card. Token Ring and LocalTalk network adapter cards are not supported by AppleShare for Windows. Use the Installer to remove AppleShare for Windows from your computer. Obtain a network adapter card that is supported, then re-install AppleShare. See Getting Started With AppleShare Client for Windows and the README.TXT file for information about supported network adapter cards. The README.TXT file is located in the same directory in which you installed AppleShare Client for Windows (by default, C:\\APPLE\\A_SHARE).
Published Date: Feb 19, 2012

AppleShare Client for Windows: Troubleshooting

This article describes potential issues you might encounter while using AppleShare on your Windows computer. It tells you possible causes of each problem, and suggests steps you can take to resolve the problem.
This article has been archived and is no longer updated by Apple.
Issues With Other Network Software
==========

NETX.EXE, the NetWare connection utility, does not work with AppleShare Client for Windows.

NETX, and similar network connection utilities, are written for other networks and are specific to their respective networks. These utilities cannot be used for connecting to a server of another type, such as an AppleShare server.

After installing AppleShare Client for Windows on a Windows system with existing networks, access to AppleShare Client for Windows is not available from the File Manager or other Windows network interfaces.

Unfortunately, Windows limits the number of network interfaces that can be integrated into the Windows environment to one for Windows 3.1. In Windows for Workgroups 3.11 you are limited to the Microsoft Network and one other network. If the Microsoft Network is not installed as the default network, then once again you are limited to a single network that may be integrated into Windows. If you are considering using multiple networks within Windows you should consider the lack of support for multiple network interfaces within Windows before installing a new network. When installing AppleShare Client for Windows using a custom install you may retain your current network interfaces while still using AppleShare Client for Windows. However, you will not be able to connect to and disconnect from servers or administer and view file and folder information from within the Windows File Manager or Network Control Panel. A connection utility has been provided for the AppleShare Client for Windows to allow you to connect to network services if AppleShare Client for Windows is not accessible from the File Manager. The connection utility can be accessed from the Apple Network Services Program group as the AppleShare Client for Windows program item. An example configuration would be Windows 3.1 with NetWare installed as the default network and AppleShare Client for Windows.

An existing network (such as NetWare) is no longer available from the File Manager.
---
* Windows 3.1 allows access through the File Manager and the Network control panel to only one network. Installing AppleShare Client for Windows has assigned that access to the AppleTalk network. When installing AppleShare Client for Windows and you wish to keep your existing network, select keep current network configuration when asked whether to replace the existing network.

* Windows for Workgroups 3.11 allows access through the File Manager and the network control panel to only one network other than the Microsoft network. Installing AppleShare Client for Windows has assigned that access to the AppleTalk network. When installing AppleShare Client for Windows and you do not wish to remove your existing network select keep current network configuration when asked whether to replace the existing network.

Issues Running AppleShare Client For Windows
==========

The following message appears:

The AppleTalk driver was not loaded. Please reinstall AppleShare.

As this message indicates, the AppleTalk driver is not being loaded properly while Windows is starting up. Without the AppleTalk software, AppleShare Client for Windows will not function properly. One or more of the following situations may be the cause of the problem:

* Your network adapter card is not supported by AppleShare Client for Windows. Determine which card is installed and ensure that it is in the list of supported cards in the Getting Started With AppleShare Client for Windows guide and the README.TXT file. The README.TXT file is located in the same directory in which you installed AppleShare Client for Windows (C:\\WINDOWS\\A_SHARE, by default).

* Your network adapter card was not configured properly during installation on a Windows 3.1 ODI-based network. Check your NET.CFG file to ensure that you specified the correct network adapter card type, interrupt request level (IRQ), and memory address. To check your NET.CFG file you can use the DOS EDIT.COM program or the Windows NOTEPAD.EXE program. You may need to consult your network adapter card documentation or your network administrator to obtain the correct information for your card. Re-install AppleShare Client for Windows using the correct configuration information.

* Your network adapter card is damaged or improperly installed. The network adapter card must be properly installed in a slot on the main logic board and connected to the network with the proper cabling and connectors. Consult the documentation that came with your network adapter card for installation instructions. Ensure that the card is seated correctly in its slot, that any required jumpers are set correctly, and that the software configuration is complete and correct. Run any diagnostic provided for the card.

* Your network cables are damaged or improperly installed. Check for loose connections, damaged connectors, improper cable termination, and damaged cables and fix any problems that exist.

* Your computer was not restarted after the AppleShare Client for Windows software was installed. If you are running Windows 3.1, most of the AppleShare Client for Windows software runs within DOS; simply restarting Windows does not restart the underlying DOS operating system. For AppleShare Client for Windows to run, you must restart (reboot) DOS by turning your computer off and back on.

* You have just removed all of the AppleShare Client for Windows software and reinstalled AppleShare Client for Windows on a Windows 3.1 system and you did not restart your computer. Uninstall AppleShare, then restart you computer, then install AppleShare again.

* When Windows 3.1 is starting up, the startup sequence in your AUTOEXEC.BAT file or other startup batch files may be interfering with the loading or configuration of the AppleShare Client for Windows. This can happen with systems using a DOS menu or special execution sequence for different DOS and Windows environments. You can identify whether this is true if during the DOS startup process, the following message does not appear on your computer screen:

NetWare Link Support Layer v2.14
<identity of your network adapter card driver>

ODI LAP TSR for AppleTalk, Version 1.0, Copyright (c) 1995 Miramar Systems Inc., Santa Barbara, CA.

The NetWare Link Support Layer (LSL) module and network adapter card driver are executed from the ATDRIVER.BAT file by the following statement in the AUTOEXEC.BAT file:

CALL C:\\APPLE\\A_SHARE\\ATDRIVER.BAT

See your system or network administrator, or your DOS documentation, for information on how to modify your AUTOEXEC.BAT file to properly place the ATDRIVER.BAT execution command before your command to launch Windows.

issues Connecting To A Server
==========

The following message appears:

The AppleTalk stack cannot connect to an ODI or NDIS network driver. Please reinstall AppleShare.

See the section titled "Problems Running AppleShare Client for Windows," earlier in this document.

No zones appear in the AppleShare Client application window.
---
* Your computer is on a network that is not divided into zones. Ensure that you know the correct location of the server to which you wish to connect.

* Network hardware (such as cables, transceivers, and routers) is malfunctioning. Check with your network administrator.

Only some of the network's zones appear in the AppleShare Client application window.

Network hardware (such as cables, transceivers, and routers) is malfunctioning. See your network administrator.

No servers, or only some servers, appear in the AppleShare Client application window.
---
* There are no servers available in the currently selected zone. Ask your network administrator where the server you are interested in is located and select that zone in the AppleShare Client application window.

* The servers are shut down. See the network administrators who manage the servers.

* Network hardware (such as cables, transceivers, and routers) is malfunctioning. See your network administrator.

Names of zones and servers appear corrupted.

Mac OS and Windows use different schemes to display extended text characters (characters beyond the standard keyboard characters). Therefore, names of zones and servers may appear corrupted, but this is just how the names are interpreted by Windows. When viewed from a Mac OS client, the names appear normal. If you can't find the servers you need by using the browsing capabilities of AppleShare Client for Windows, ask your network administrator for help. (To avoid this problem, network administrators should use only standard keyboard characters for zone, server, volume, directory (folder), and file names whenever possible.)

Your user name or password is not accepted.
---
* You have entered your user name or password incorrectly. Check your typing carefully, especially for your password, which may include uppercase characters or spaces.

* You have entered the wrong user name for that server. You may have different user name/password combinations for different servers.

* You are not a registered user for that server. The server administrator must register your user name and password on each server you want to use.

* Your password has expired. The server administrator can require that you change your password periodically to maintain the security of the server.

* You have been locked out for repeatedly entering the wrong password. This condition can occur if, for example, the caps lock key is pressed on your keyboard.

Issues Using Files And Directories
==========

You receive the following warning:

Warning! You have opened one or more Mac OS-formatted files that are not compatible with your Windows system. See the information about Macintosh file formats in the AppleShare help system.

You have moved, copied, accessed properties, or opened a file that is formatted for use only on the Mac OS. Such files are usually not usable on Windows systems and are hidden by default. See the AppleShare Client for Windows online help topic "Guidelines for Sharing Network Resources" for further details.

A file or several files on the server appear to have a file size of 0, but when viewed on a Macintosh, the file size is larger.

You are viewing a Macintosh specific program or data file. The data and the size of the data are not available to the Windows File Manager. These files are marked as hidden and do not normally appear. The files are visible if you have selected the "View by file type" menu selection and have turned on the hidden/system files preference within the Windows File Manager. To see the actual file size from Windows use the properties item in the File Manager's File menu.

A file or directory on the server does not appear in the File Manager directory window.
---
* You do not have sufficient access privileges to gain access to that file or directory. See the server administrator.

* You have connected to the server using the wrong user name and password. You can have two or more user name/password combinations with different access privileges. Try your other name/password combinations.

* The file is a Macintosh program or document that may be incompatible with the Windows File Manager and is hidden by default to prevent accidental damage. See the AppleShare Client for Windows online help topic "Guidelines for Sharing Network Resources" for further details.

* Names of files on the AppleShare server begin with an exclamation point (!). These filenames have been processed to allow them to be displayed by Windows. This condition is normal. See the AppleShare Client Help topic "Guidelines for Sharing Network Resources" for further details.

Your coworkers using Macintosh computers complain that the names and icons of a document has changed.

You have moved or saved a Macintosh file on the server from your Windows computer. The Windows File Manager does not preserve Mac OS file attributes during file operations. Copy the file to your computer, work on it there, and save it to the server under a new name. See the AppleShare Client for Windows online help topic "Guidelines for Sharing Network Resources" for further details.

Macintosh users can't tell what type of application they should use to open one of your files.

AppleShare servers and Macintosh desktop systems running System 7.5 or systems with the PC Exchange control panel installed will map all Windows and DOS files to a generic PC icon for the Macintosh desktop. If the system extension called PC Net Exchange is also installed, then your files will be mapped by their extension to the application icon specified in the PC Exchange control panel. Macintosh users will be able to double-click your mapped documents to automatically open the file with an appropriate application. AppleShare servers and Macintosh desktop systems without PC Exchange or PC Net Exchange will see a blank file icon for all PC files created by an AppleShare Client for Windows. See the AppleShare Client for Windows online help topic "Guidelines for Sharing Network Resources" for further details.

A file's size changes after you copy or move it.

Some Macintosh specific files have data that is not accessible by the Windows File Manager. Using the Windows File Manager or DOS commands to manipulate such files can remove data from the file, making the file smaller.

You can't find a file using the Windows universal naming convention notation (\\\\Server\\directory\\file).

This notation is not supported by the AppleShare Client for Windows. You should use the drive letter followed by the path to specify a file using a path name.

You can't find a file using the full path name.

A Windows-compatible filename has not yet been created for the file or one of its enclosing directories. Windows does not support Mac OS file-naming conventions. When you use a server file from your Windows client computer, AppleShare creates and saves a Windows-compatible name for that file. Until that name is created, the File Manager may not be able to find the file. To ensure that all server files accessible to you have Windows-compatible names, choose Search from the File Manager's File menu, enter *.* in the Search For box, enter the drive letter of the connected server, check the Search All Subdirectories checkbox, and click OK.

Problems Using Print Services
==========

After connecting to a printer, the printer type is always "unavailable."
---
* If you are printing to an AppleShare print server, the printer type being spooled is not reported by the server. There is no mechanism in AppleShare Client for Windows version 1.0 for identifying the AppleShare print server.

* Printers actively printing a document, missing a paper tray or in a service state (as when opened to replace a toner cartridge) will display a printer status of "busy" and type "unavailable" after the printer has been selected in the AppleShare Client for Windows connection dialog. Before reassigning a printer port, you should check if all previously spooled files have finished printing. The simplest method is to check your printer but you can also check to see if your print files have finished printing by examining your print directory for files named LWx.PRN or LWnn.~0x where x is the number of the port (that is, LW1.PRN and LW08.~01).

If some print files have not finished printing, then reassigning a printer will delete the active print file and reassign any additional spooled print files to the new network printer connection. The active print file for port LW1 will be the file LWxx.~01 where xx is the lowest number of all the files following the same naming convention (for example, among the files LW01.~01, LW02.~01, LW03.~01, the file LW01.~01 will be the active file). These files can be deleted manually if necessary or renamed to another printer port by changing the number in the file extension. An example is to rename a spool file LW01.~01 to LW01.~02 to cause the spooled print document to be printed to the printer connected on port LW2.

A document did not print successfully, but the Print Manager or the application print command indicates that it did.
---
* AppleShare Client for Windows has spooled the document (stored it to disk) while the printer is printing other documents. Storing the document causes the Print Manager to indicate that has finished printing before the AppleShare Client for Windows has completed the printing operation. Wait until printing stops. If the document has still not been printed, try printing it again, then see you network administrator.

* The file to which a document was spooled has been damaged. See your system administrator.

* A supported printer driver has not been installed. Install the driver by following the instructions in the AppleShare Client for Windows online help.

* A supported printer driver has not been associated with an AppleShare spool file. Associate the driver with the spool file by following the instructions in the AppleShare Client for Windows online help.

* No network printer is connected to the LW port to which you are printing. Connect to a network printer by following the instructions in the AppleShare Client for Windows online help. Check your application print setup and examine your C:\\ directory. If you are printing to port C:\\LW1.PRN and you see a file titled LW1.PRN stored in the C:\\ directory and is not renamed after 5 seconds, then it is likely that the port has not been assigned to a network printer.

* Your application is printing to the wrong port. The AppleShare Client for Windows allows applications to print to only the printer ports LW1.PRN, LW2.PRN, and LW3.PRN. These ports represent AppleShare spool files.

* The network printer is busy or turned off. Check from within the connection dialog of AppleShare Client for Windows whether your printer is available on the network. You may have to wait until the printer has finished printing the current document before your document will be printed.

* The Printers control panel "Send Header with Each Job" check box is not selected. The location of this check box depends on the PostScript printer driver you are using. If you are using the Apple LaserWriter IINTX printer driver that comes with Windows, for example, the "Send Header with Each Job" checkbox is located in the Options dialog box. To display the Options dialog box for this printer driver:

1) Open the Printers control panel.

2) Click the Setup button.

3) In the dialog box that appears, click the Options button.

Select the "Send Header with Each Job" checkbox and then print.

* Fonts are not being downloaded to the printer. Selecting the Printers control panel "Print To: Encapsulated Postscript File" option. The file specified must contain the same drive, directory path, and filename as specified for the port (for example, Port C:\\LW1.PRN Encapsulated PostScript file C:\\LW1.PRN). The location of this check box depends on the PostScript printer driver you are using. If you are using the Apple LaserWriter IINTX printer driver that comes with Windows, for example, the "Print To: Encapsulated Postscript File" checkbox is located in the Options dialog box. To display the Options dialog box for this printer driver:

1) Open the Printers control panel.

2) Click the Setup button.

3) In the dialog box that appears, click the Options button.

Select the "Print To: Encapsulated Postscript File" checkbox and then print.

* The DOS print screen command and redirected commands, such as TYPE file > LPT1, do not work with printers to which you connected using AppleShare Client for Windows. DOS does not support printing to PostScript printers.

* DOS programs without PostScript drivers cannot print to printers to which you connected using AppleShare Client for Windows. DOS programs running under Windows can print documents to an AppleShare Client for Windows printer by printing to one of the network connected spool files (for example, C:\\LW1.PRN) with an Apple LaserWriter or compatible PostScript printer driver. The user must be aware that a DOS program cannot print at the same time as a Windows application.

* AppleShare Client for Windows checks the disk at a minimum of once every 5 seconds for new spooled print files. Once detected, spooled files are renamed to unique file names. If a document is printed before a previous spool file could be detected and renamed, then the previous file will be replaced. AppleShare Client for Windows can be made to check every second to help avoid accidental loss of the waiting print file. One second is the smallest allowable interval. To change the interval time, edit the ASHARE.INI file in the Windows directory.

Add the following text:

[PrintRedir]
NewJobFileInterval=1

This will cause the spool file directory to be checked at least every second for new print jobs.

* The disk does not have enough space to store spool files. See the following troubleshooting item.

When printing a document, you receive the following message:

Insufficient Disk Space

* The disk does not have enough space to store spool files. AppleShare Client for Windows stores a PostScript version of the document in a file (known as a spool file) while the document is being printed. The amount of disk space usually required is roughly equal to the size of the document being printed, but for complex documents or very small documents the overhead for fonts and PostScript information can be as much as 10 times or more the original document size.

Verify that enough space is available on the current disk or specify a different disk on which to save spool files. To specify a different disk or directory, open the WIN.INI file in the Windows directory using a program like NOTEPAD. Search for LW1.PRN in the file. You can change the path of the file to another disk (for example, from C:\\LW1.PRN to D:\\PRINT\\LW1.PRN). Reassign the printer port in the Printers control panel. You must quit and restart Windows for the change to take affect. You cannot spool files to floppy disks and CD-ROM discs. You can spool to removable media and network drives, but the user must take care not to disconnect or remove the disks from the system while printing or prior to printing.

Note: Windows 3.1 has a problem clearing memory when a print job fails while it is spooling to disk. If you are using Windows 3.1 and you have

run out of disk space you should exit Windows as soon as possible and delete the print file, as it is probably a partial print file. Then restart Windows and try printing again.

* The Print Manager is being used. There is little advantage to using the Print Manager with AppleShare Client for Windows. The Print Manager stores an additional copy of each document on the disk before passing the file to AppleShare Client for Windows.

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System 6: File Names Starting w/Period Can Confuse System (5/95)

In my classroom my students are creating folders called ".Sony" (without quotes) on the hard drives of our school's Macintosh computers. According to the book "MacWorld Secrets," doing this will trash the hard drive. Is this true? If so, how can the damage be repaired?

This article has been archived and is no longer updated by Apple.
The ".Sony" folder name only causes a minor problem on systems running System 6 or earlier. It is definitely not a problem with systems running System 7 or higher. Under any circumstance, naming a folder in this way will not "trash" or otherwise corrupt the data on the hard drive.

The cause of the problem is the way the System 6.0.x and earlier file systems dealt with files and drivers. Opening files and opening drivers used the same toolbox routine. The system would look at the name of the "file" and if it began with a period, would send the open call to the Device Manager. If the file name did not begin with a period, the call was passed to the File Manager. Unfortunately, ".Sony" is the name of the floppy driver so trying to open a file with this name will confuse the system.

Naming a folder ".Sony" should not cause a problem on any Macintosh computer, no matter which system software is running, since only the Finder itself "opens" directories and that is not done with the an "Open" call. The Finder simply searches the catalog file for the names of files and folders whose parent ID is equal to the ID of the folder. No files are actually opened.

In my testing with System 6, I created a new file in TeachText and tried to save it with ".Sony" as the file name. The file would be created but TeachText said it could not open the file to save the data. I tried double-clicking the file and TeachText would launch but I still received the error dialog stating the file could not be opened. I could not trash my hard drive as stated in the MacWorld Secrets book. I could not duplicate this problem under System 7 at all.

Support Information Services
Published Date: Feb 19, 2012

At Ease: What To Do After Deleting At Ease Items Folder

To resolve an At Ease issue, I was instructed to delete the At Ease Items folder or delete At Ease Preferences, At Ease Setups, and At Ease Users. After this is done, how should I proceed?
This article has been archived and is no longer updated by Apple.
The result at this point is that you have a "fresh" At Ease, with no users. You now need to re-create those users.

Before doing so, you need to recover information (files) belonging to the previous users.

User Application Access Information
At Ease stores information in a variety of places. In the System Folder, the At Ease Items folder contains a folder called At Ease Setups. This contains the "application" side of your users' set-ups. For example, if one of your users is "John", and John has access to ClarisWorks and Quicken, aliases for these two applications are in a folder named "John" within At Ease Setups. Aliases are just pointers to the original items and are completely disposable. In other words, if you throw the aliases away, you will not be throwing away or in any way damaging the actual applications.

User Personal File Storage Folder
The files that John has created are in a different folder, which is also called "John". This folder is elsewhere on your system. If you have a Macintosh Performa computer, this folder is in the Documents folder. The files John created could include things such as homework assignments, correspondence, Quicken ledgers, and so on.

Recreating At Ease User Information
You need to be careful as to what you do with this data, both to ensure that the data is not lost, and that when you reconfigure At Ease, the user has access to the data again. The "John" folder containing all the original data is intact, which is exactly what we want.

When you open the At Ease Setup application to recreate "John", you will see an error message, because the "John" folder is still in your Documents folder. It will not let you re-use that name until something is changed about the "John" folder. Something must be done about that "John" folder, but you do not want to throw it away, since it contains original data.

Rename The User's Data Folder
The solution is to rename the "John" folder to something else, such as "John-Backup".

1. Locate the folder, which, again, is in the Documents folder.
2. Click once on the name. The name should highlight (white rectangle around it). If it does not, try pressing the Return key once. Just tap it. This should highlight it. Once highlighted, whatever you type replaces what is there. Type "John-Backup".
3. Next, go back to At Ease Setup, and re-create "John". Add all necessary applications and otherwise configure it according to your tastes.
4. When finished, quit At Ease Setup.
5. Restart the computer. A new folder called "John" is created; there is nothing in it.
6. If you are not already in the Finder (a way to tell if you are in the Finder is that the Trash can is visible), select "Go to Finder" from the Special menu.
7. If you look inside your Documents folder, you will notice there is a new "John" folder.
8. Open the "John-Backup" folder. Move the files that are inside the "John-Backup" folder to the "John" folder.
9. Throw away the "John-Backup" folder.
10. Restart your computer.
11. Open the "John" folder in the Documents folder. You should now see all of John's original documents.

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Apple Menu Options 1.0.2: What It Fixes & How To Install

I just downloaded the Apple Menu Options (AMO) control panel version 1.0.2. Can I get more details on what this fixes? Also, how do I install this new version?

This article has been archived and is no longer updated by Apple.

```
Problems That Have Been Fixed
=============================

There are three problems that were fixed in AMO 1.0.2:

Throwing Away Locked Aliases
----------------------------
If you locked aliases inside the "recent" folders, AMO could hang when trying to delete locked aliases. Now it
ignores them if they are locked.

Throwing Away AMO Prefs File
----------------------------
If you dragged the "Apple Menu Options Prefs" file to the trash, AMO could hang. The prefs file can now be
safely trashed.

Disappearing Menus
------------------
When installed with System 7.5 or System 7.5 with the System 7.5 Update 1.0 (7.5.1), this update to Apple Menu
Options (1.0.2) provides enhancements for menu problems encountered by some Macintosh computer users.

System 7.5 or System 7.5.1 must be installed on your Macintosh computer before Apple Menu Options 1.0.2 can be
installed.

The problem reported in earlier versions involved left-most application menus disappearing. The menus could
disappear under two scenarios:

* The first is by clicking in the menu bar before the application has finished loading.

* The second is by clicking in a part of the menu bar that does not have any menus. This problem has been
corrected in Apple Menu Options 1.0.2.


Installation Steps:
===================

Step 1
Drag the Apple Menu Options (1.0.2) control panel onto your closed System Folder.

Step 2
Your Macintosh will ask in a dialog box if it can place the control panel into the Control Panels folder.
Select the OK button.

Step 3
If you have an earlier version of Apple Menu Options, you will be asked if you want to replace it. Select the
OK button.

Step 4
Restart your Macintosh computer. Once the control panel has been copied to your System Folder, you must
restart for changes (fixes) to take effect.
```

Published Date: Feb 19, 2012

System 7.x: Black Tab on Folder Icons (5/95)

Why is there a black tab on some folder icons under System 7 and later?

This article has been archived and is no longer updated by Apple.
The black tab on a normal folder icon indicates that file sharing is enabled for that folder. If you turn off file sharing on the folder, the tab color returns to normal.

Note that you cannot see the black tab on the shared folders when you are in the View by Smallest Icon Finder mode. Change to View by Icon to see the black tabs.

Article Change History:
31 May 1995 - Added information about viewing icons.

Support Information Services
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Native, Conventional, & Fat Applications: Description (6/95)

This article clarifies the terminology used in referring to Power Macintosh-compatible applications.

This article has been archived and is no longer updated by Apple.
The Power Macintosh can run two kinds of compatible software:

* Native
* Conventional

Native Applications

Native software is software written for specifically the PowerPC chip; it only runs on a computer that has a PowerPC chip on its logic board.

Conventional Applications

On Power Macintosh computers, conventional software is software written for Macintosh computers that have a 68000, 68020, 68030, or 68040 chip on their logic boards. Conventional software is sometimes referred to as "68K" software. It runs on Macintosh computers that have either a 680xx chip or a PowerPC chip.

Emulation Mode

Conventional software runs in an "emulation" mode, which is functionally similar to the 68020 processor. The main differences between the 68020 processor and later processors (68030 and 68040) are:

* It does not have a PMMU (Paged Memory Management Unit)

This point is necessary because the PowerPC has a newer, better,
memory management model.

* It does not support the SWAP16 instruction

This point is addressed by improvements in the PowerPC chip.

* It does not support a floating point unit

This point requires different steps to work around; such as
software emulation of an FPU, or, more commonly, software
floating-point routines.

Even though the speed of emulation mode is compared to the speed of a Macintosh with a 68020 processor, conventional software generally runs faster in emulation mode than a Macintosh with a 68020 chip. The performance depends on how many references the software can make to native routines in the computer's software "toolbox". The more native routines that are performed; the faster the software runs.

"Fat" Applications

As new software is written, you will find references to "fat" applications. These are programs that can be run on either a 68K or Power Macintosh computers without modification. The operating system automatically determines which part to use.

Since "Fat" applications are really two programs in one, many installers offer either a "Power Macintosh" or "Conventional" installation. If you have installed a software application that claims to be "Accelerated for Power Macintosh", and it does not recognize features that definitely exist (such as an FPU), make sure you have installed the correct version.

Both versions run on the Power Macintosh, but only the "native" version benefits from all the special features of the Power Macintosh.

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Article Change History:
14 Jun 1995 - Added Info Alley information; made several technical updates.

TA33753_Native_Conventional_Fat_Applications_Description__(TIL17767).pdf

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System SW Clean Restore:Macintosh Performa Computers w/CD

This article describes the procedure for a Clean Restore (Install) for CD-ROM based Macintosh Performa computers including the: Macintosh Performa 500, 630, 5200, 6100, or 6200 series.
This article has been archived and is no longer updated by Apple.
You may wish to perform a "clean install" when normal extensions troubleshooting fails or when the troubleshooting process becomes too complex.

The process essentially allows you to "start over" with a new System Folder. You will not lose any data, but any software or fonts or configuration information which was stored in the old System Folder will become inactive.

This clean install procedure provides you with a stable foundation from which you can proceed to troubleshoot an abnormal situation.

A regular system software installation modifies and updates the existing System Folder. A clean installation disables the existing System Folder, leaving most files in place, and forces the restoration software to create a new System Folder.

A clean system installation brings the system software back to the standard configuration. This is necessary when system software has been damaged or modified, preventing a normal installation. It is also useful in troubleshooting.

Restart From the Apple Performa CD

1. Start your computer and insert the Macintosh Performa CD. Once the system has finished starting up, "shut down" or turn off the computer. If the computer does not start completely, do not worry. We mainly wish to make sure the CD is in place.

2. Next, make sure your Caps Lock key is in the UP position, so that the Caps Lock function is turned off. If you have an AppleDesign Keyboard, the position of this key does not matter.

3. Start the computer, then immediately hold down the Option, Apple (Command), Shift, and Delete keys. Hold them down until you see "Welcome to Macintosh."

The desktop pattern will change. This is normal, and is a consequence of having started the system with a different startup volume. In this case, we are starting from the Macintosh Performa CD.

When the system finishes starting up, you will see a different Launcher at the bottom of the screen.

If you do not see your hard disk icon (normally called "Hard Disk"), try the above procedure again, this time releasing the Option, Apple, Shift and Delete keys sooner than you did before. If you still do not see the hard disk, try the above, but this time holding down the "c" key (lower-case "C") instead of Option, Apple, Shift, and Delete.

If you cannot start with the CD-ROM (that is, you do not see your Performa CD icon on the top right hand side of the screen, above the hard disk; and you do not a different Launcher window at the bottom of the screen), do not proceed. Call 800-SOS-APPL for further assistance.

Run Disk First Aid
Disk First Aid can detect and repair problems with a hard disk's directory sturcture. Before proceeding with further troubleshooting, it is important to verify that the underlying directory structure is functioning satisfactorily.

1. Click once on the Disk First Aid icon in the Launcher.

2. When Disk First Aid opens, click on the hard disk icon within the Disk First Aid window. Click on the Verify button.

3. If the system finds a problem, click on the Repair button.

4. If you receive a note stating that Disk First Aid cannot repair the hard disk, you should back up any irreplaceable data or application software on the hard disk and re-initialize it using the appropriate formatting utility for that drive. For Apple drives, use Apple HD SC Setup, which is also in the Launcher. If you have a Performa 580 or a Performa 630 or 5200 series computer, use Internal Drive Format.
Select "Quit" from the File menu.

Update Hard Disk Driver
You should update the drivers with the version of Apple HD SC Setup that is on the Performa CD, following these steps:

Note: If you have a Performa 580 or a Performa 630, 5200, or 6200 series computer, ignore this step. Because you have an IDE drive instead of a SCSI drive, you do not have any drivers to update.

1. Click on the HD SC Setup icon in the Launcher.

2. Click on the Update button. If the Update button is not hilited, or you see a message that "Drive Selection Failed," you should verify whether your hard disk has been reformatted with a third-party driver or uses driver-level compression or security software.

3. When you are finished, click Quit to return to the desktop.

4. Select "Restart" from your Special menu. If the CD fails to eject, right after you hear the startup chime, press the Eject button to remove the CD.

Check Available Hard Disk Space
Be sure you have at least 25MB available on the hard disk where you plan to install the system software. If there's less than 25MB available, you'll need to identify and delete some unnecessary files by moving them to the Trash.

Make sure you do not delete anything you do not have a back-up for. If necessary, copy the files onto individual diskettes or other media before moving them to the Trash.

You can identify the amount of hard disk space available by double-clicking on your hard disk icon on the right hand side of the screen. At the top of the hard disk window, you should see a legend which indicates how much space is available. If you do not, select "by Icon" from your View menu.

Once you identify and remove redundant items, choose Empty Trash from the Special menu, and you'll have more disk space available.

Disable the System Folder
You disable the System Folder by moving the Finder and renaming the System Folder to something else.

1. Open your hard disk's icon and locate the System Folder.

2. Open the System Folder and locate the Finder.

3. Move the Finder to the Trash. (If you get an error message saying that items cannot be moved to the desktop because it is locked, try again: you probably missed the Trash. This time be sure that the cursor (arrow) is on top of the Trashcan and that the Trashcan turns black before you release the mouse button. The Trash should get fat.)Move your System suitcase (the icon with a small suitcase) to the Preferences folder. We keep the System suitcase in case there are sounds inside it you may wish to recover later on.

4. Close the System Folder's window and rename the System Folder to "Storage." Do this by first clicking on the closed System Folder icon, then pressing the Return key. This should hilite the words "System Folder," surrounding them with a white rectangle. Whatever you type will replace what is there. You can also hilite "System Folder" by clicking ONCE in the middle of those words, then waiting for the words to hilite.

5. Close any open windows on your desktop.

Restart Your Computer
Choose Restart from the Special menu. Right after you hear the startup chime, if the CD has not automatically ejected, press the eject button, if you have one. After a few seconds you should see a picture of a disk with a flashing question mark.

If your Macintosh starts up from the hard drive, you have an extra System Folder on the hard disk. You need to locate it (use the "Find" option from the File menu in the Finder) and delete it or disable it as described in the previous section, then restart.

When you get the disk with the flashing question mark on your screen, you can continue.

Restoring The System

1. When you see the disk with a flashing question mark, insert the Performa CD. The computer should start up with the system software on the CD. If the system doesn't start up, turn off the computer, then use the Option-Apple-Shift-Delete method, described above.

2. Locate the "Restore System Software" and "Restore All Software" icons in the Launcher.

"Restore System Software" restores ONLY the Apple software which was bundled with the computer. This will build a new System Folder, but it will not have any third-party software in it, nor will it have any third-party Launcher aliases.

"Restore All Software" restores ALL software. It will not delete anything: but it will end up creating a brand new System Folder, which will include

all bundled Launcher aliases and bundled third-party software. This is ordinarily the option you wish to select.

3. Click on the appropriate "Restore" icon.

4. Click the Continue button, or press the Return key on your keyboard.

5. Respond to any messages you see on the screen.

6. When the system is finished, click the Restart button or press the Return key on your keyboard. You will have then successfully restored your files.

If the CD-ROM does not automatically eject, you will need to press the eject button on the CD-ROM drive right after you hear the startup chime.

7. Select Empty Trash. The old Finder will be in there.

Verify Problem Resolution
After performing a clean installation, verify that you resolved the problem before adding anything to the new System Folder. Adding items to the System Folder before resolving your problem defeats the purpose of the clean restore procedure. You may wish to use your computer for a few days before re-introducing any other extensions or fonts.

Install Non-Standard Items
You can now reinstall the non-standard items from the old System Folder (now named "Storage") such as fonts, screen savers, device drivers, and so on. If at all possible, we strongly recommend that you reinstall these items from their original disks, just in case one of the items had become corrupted and contributed to the problem.

If the original disks aren't available, you may move the non-standard items from the Storage folder to the equivalent place in the new System Folder. Be careful not to replace anything that's already in the new System Folder. Only move items that aren't already in the new System Folder.

1. Open each corresponding folder within the System Folder and the Storage folder and then compare the contents.

2. Move an item that isn't already in the new System Folder and its subfolders from the Storage folder and its subfolders.

3. Restart your Macintosh.

It is recommended you proceed slowly when doing this. This is part of the troubleshooting process, so you do not want to move everything back at once: instead, move a few at a time, restart, and test to make sure the original problem has gone away.

If you move the items back and the problem should recur, you probably have an extensions conflict. Done properly, you will know which set of extensions cause the problem, but sometimes intermittent extensions conflicts will require more troubleshooting.

Final Steps
Verify that your applications are performing normally. If not, refer to the application manual or contact the vendor.

We normally recommend you keep the Storage folder around for a couple of months, or until you're *completely* certain that you do not need any files from it.

When the Macintosh behaves as expected, move the Storage folder to the Trash, and choose Empty Trash from the Special menu.
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A/UX 2.0.1 Hard Disk: Making A Copy

I purchased A/UX 2.0.1 a long time ago, on hard disk only. Now I need to transfer A/UX from one hard drive directly to another. I'm also using third party formatting software on the new disk, and my vendor believes the software should work with A/UX 2.0.

Mounting a new disk and copying the files sounds relatively straight forward, but creating the device drivers is something I don't understand. I have some experiences that leads me to believe that I can't simply copy the /dev directory, although most of the rest of A/UX is easily movable.

How do I do this?

This article has been archived and is no longer updated by Apple.

```
A/UX 2.0 is basically the same as A/UX 3.x.  The main change is the version of the Macintosh System Software
used in the Mac environment.

The following sequence of commands will create a duplicate of the directory structure of the source drive onto
the target drive.

While logged in as root, follow these steps:

Step 1
------
Mount the drive you want to copy to (target) on /mnt

mount /dev/dsk/c5d0s0 /mnt  (Replace SCSI ID and partition as appropriate)

Step 2
------
Go to the "/" directory, perform the copy, create the mnt directory in /mnt

cd /
find . -print | grep -v /mnt | | grep -v /lost+found | cpio -pdlmuv /mnt
mkdir /mnt/mnt
chmod 777 /mnt

Step 3
------
When the copy is finished, unmount the target disk and perform an fsck

umount /mnt
fsck /dev/dsk/c5d0s0

Now you have a copy of the source drive, complete with the /dev directory.
```

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Macintosh 512K: Using external 800K drives without a ROM upgrade

Will the external 800K drive work on a Macintosh 512K?

This article has been archived and is no longer updated by Apple.
The external 800K drives will work on a Macintosh 512K that does NOT have a ROM upgrade. However, to use the external 800K drive with the Macintosh 512K, copy these three files:

1. System
2. Finder 5.1 or greater
3. Hard Disk 20

to your startup disk from the disk "Macintosh System Update for Macintosh 512K".

Published Date: Feb 19, 2012

File Sharing: Cannot Share Drive With A Shared Folder (6/95)

I am trying to start file sharing, but when I select the drive to share an error message, "Cannot share selected drive because there is a shared folder contained within it." appears

How can I find the shared folder without physically checking each folder, is there a sort shortcut?

This article has been archived and is no longer updated by Apple.
You must first turn off file sharing for all shared folders before you can turn file sharing on for an entire drive.

Try these steps to identify which folders have been shared on your hard drive:

Step 1
Select Control Panels from the Apple menu.

Step 2
Double-click the File Sharing Monitor control panel. In a box on the left side of this window is a names list of all shared items.

Step 3
Select the Find command from the File menu. Type in the name of one of the shared items and click the Find button.

- System Software 7.0 to 7.1.2 finds and highlights an item with that name.
- For System Software 7.5 or later, the Find File application presents a hit list of items found. Click the item with the name you are looking for.

Step 4
Select the Sharing... command from the File menu. The Sharing window for that item appears on the screen.

Step 5
If this item is shared, the Share this item and its contents check box is selected. Click on this check box to deselect it.

Step 6
If the Share this item... check box is not selected, close the Sharing window and select the Find Again command from the File menu in System 7.0 to 7.1.2, or click another item in the hit list in System 7.5. Repeat steps 4, 5, and 6 until you identify the shared item and it is no longer being shared.

Step 7
Repeat steps 2 through 6 until all shared items are no longer being shared. When no items are being shared, the Shared Items list in the File Sharing Monitor should be empty.

You may now share your hard drive. You may still assign different file sharing permissions (for different users or groups) to folders on the shared drive.

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Article Change History:
13 Jun 1995 - Added kalley keyword; made minor technical updates.

Support Information Services
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Macintosh Apple Desktop Bus Device ID Numbers (5/95)

I just got a new keyboard and trackball for my Macintosh computer. These devices came with installation software. I am supposed to enter the Apple Desktop Bus (ADB) device ID number for my keyboard and mouse, but I cannot find this information anywhere in the User's Guide that came with my Macintosh computer. What are the ADB ID numbers?

This article has been archived and is no longer updated by Apple.
Some third party vendors of ADB devices use software that ask the user for the ADB ID numbers of the keyboard and mouse.

Keyboard

On all Macintosh computers the primary keyboard (including built in keyboards for PowerBooks) is ADB device 2.

Pointing Device

The primary pointing device (whether it is a mouse, a trackball, or a trackpad) is ADB device 3.

Support Information Services
Published Date: Feb 19, 2012

Apple Telecom 2.0 and Fax/Data Modem Compatibility (8/96)

Is Apple Telecom 2.0 software compatible with an Apple Fax/Data Modem?
This article has been archived and is no longer updated by Apple.
Apple Telecom 2.x is not supported on the Apple Fax/Data Modem, shipped with early PowerBook computers like the PowerBook 170. The most recent software that is supported on the Fax/Data Modem is the Express Modem 1.5.5 release.

Article Change History:
02 Aug 1996 - Updated after review for technical accuracy.

Published Date: Feb 19, 2012

AWS95 & A/UX: Disk/Disk or Directory/Directory Copy

This article tells how to copy all the files in the root (/) partition from one disk to another without losing access privileges and without having to recreate the /dev directory.

This article has been archived and is no longer updated by Apple.
The following sequence of commands creates a duplicate of the directory structure of the source disk onto the target disk. The same basic command sequence can be used to copy a directory tree from one directory to another.

To Copy The Complete Contents Of A Partition

While logged in as root:

Step 1

Mount the partition you want to copy to (target) on /mnt:

```
mount /dev/dsk/c5d0s0 /mnt
```

(Replace SCSI ID and partition as appropriate)

Step 2

Go to the / directory:

```
cd /
```

Step 3

Perform the copy preventing the copy from becoming recursive and without overwriting the lost+found directory in the target partition:

```
find . -print | grep -v /mnt | grep -v /lost+found | cpio -pdlmuv /mnt
```

Step 4

Create the mnt directory in /mnt:

```
mkdir /mnt/mnt

chmod 777 /mnt
```

Step 5

Unmount the target disk and perform an fsck:

```
umount /mnt

fsck /dev/dsk/c5d0s0
```

Now you have a copy of the source disk, complete with the /dev directory.

To Create A Duplicate Copy Of A Directory Structure

Step 1

Go to the directory containing the source directory to be copied:

```
cd /a_directory
```

Step 2

Perform the copy of the source_dir to the directory where you want the source_dir structure to be moved to:

```
find source_dir -print | cpio -pdlmuv /target_dir
```

This results in a directory named source_dir inside of target_dir.

Published Date: Feb 19, 2012

MacX Clipboard and Interleaf Clipboard (7/95)

I'm having a problem with operations that involve the Interleaf clipboard, which also then involves the MacX clipboard. As a result, I'm losing all but the plain text from the Interleaf clipboard. I have a Power Macintosh, System 7.5, MacX 1.2, and 24 MB of RAM, along with Interleaf 6.0.3 (DTP program) client running on a SPARCstation server 1000 with Solaris 2.3.

Have you heard of this type of problem before? Is there a way to disable the Mac/X clipboard?

This article has been archived and is no longer updated by Apple.
One obvious symptom here is that only text and not graphics is being copied to the clipboard. This has to do with how the X client implements the cut/copy/paste mechanism. The problem is most likely due to a conflict between the X11R4 xclipboard (used by the X client) and the Macintosh Clipboard (used by MacX). This conflict was reported in the MacX 1.1.7 Release Notes:

"Conflicts between xclipboard and the Macintosh Clipboard:

MacX uses the built-in Macintosh Clipboard when you cut and paste text. If you run the xclipboard client application with MacX, it conflicts with the Macintosh Clipboard. To avoid this problem, do not use xclipboard while running MacX. (In other words, do not open the xclipboard client application)."

If this is the case, we suggest that the X client modify their client's xclipboard code to support Macintosh clipboard for copy and paste.

Also regarding the MacX cut/copy/paste Mechanism:

"MacX uses the CLIPBOARD selection. Whenever someone gets ownership of the CLIPBOARD selection, MacX asks that it be converted to STRING and puts the result into the Macintosh scrap (clipboard). If your application does select things with this selection, it will work.

MacX supports both the old fashioned and modern style of clipboard selection. However, for X clients to work with MacX, they need to use the 'CLIPBOARD Selection' instead of selecting XA_PRIMARY."

Article Change History:
20 Jul 1995 - Made corrections for clarity.

Support Information Services
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System 7.5: Defaults for Labels Control Panel Colors (7/95)

I am using system 7.5. How can I reset the colors of my Labels settings to the original defaults?

This article has been archived and is no longer updated by Apple.
To reset the colors, you have to either remove the existing System file and reinstall System 7.5, or you can manually reset the color values. To manually reset the color values, follow these steps:

Step 1
Open the Labels control panel. Each label has a color box on the left and the name on the right.

Step 2
Click on the color box to open the "color picker."

The Color Picker is slightly different from the one used in System 7. The newer version uses Hue Angle, Saturation, and Lightness settings in the default position. Selecting "more Choices" lets you select Apple HSL or Apple RGB Color Monitor options. Either one can be used to reset the colors.

NOTE: System 7.1 used Hue, Saturation, and Brightness which had different values. See related article, "System 7: Defaults for Labels Control Panel Colors" for more information.

Color for "Essential"
Hue Angle: 23
Saturation: 100.00%
Lightness: 50.50%
Red:100%
Green:39%
Blue:1%

Color for "Hot"
Hue Angle: 1
Saturation: 94.18%
Lightness: 44.54%
Red:86%
Green: 3%
Blue: 3%

Color for "In Progress"
Hue Angle: 328
Saturation: 93.36%
Lightness: 49.06%
Red: 95%
Green: 3%
Blue: 52%

Color for "Cool"
Hue Angle: 196
Saturation: 97.85%
Lightness: 46.40%
Red: 1%
Green: 67%
Blue: 92%

Color for "Personal"
Hue Angle: 240
Saturation: 100
Lightness: 41.41
Red: 0%
Green: 0%
Blue: 83%

Color for "Project 1"

Hue Angle: 131
Saturation: 100.00%
Lightness: 19.66%
Red: 0%
Green: 39%
Blue: 7%

Color for "Project 2"
Hue Angle: 29
Saturation: 88.85%
Lightness: 18.00%
Red: 34%
Green: 17%
Blue: 2%

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19 Jul 1995 - Update from Info Alley.
18 May 1995 - Correct color values.

Support Information Services
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Macintosh Plus: Distribution of Features in System File and ROMs

This article has been archived and is no longer updated by Apple.
To distinguish between the contents of the new ROMs on the Macintosh Plus logic board and the contents of the new System file (3.0 and greater), keep in mind the locations of the following features:

New ROMs only:

1. HD 20 Driver
2. Zoom Box
3. HFS

Both new ROMs and new System file (3.0 and greater):

4. AppleTalk Driver
5. System Font
6. Serial Driver
7. Numerics Package
8. Elementary Functions Package

Features 4 through 8 are contained in BOTH the ROMs and the System file in order to maintain compatibility with the old ROMs.

Published Date: Feb 19, 2012

Slow Start Up: LocalTalk with Printing Errors (7/95)

I have a Macintosh that takes a long time to start up (3 to 5 minutes), and I sometimes get printer communication errors, or the printer is not available after seeing it in the Chooser. What can I do to fix this?

This article has been archived and is no longer updated by Apple.
Removing the LocalTalk connector may help identify a "slow boot" issue. A replacement LocalTalk connector may re-establish proper network operations.

Part of a Macintosh computer's start up sequence is to connect to the network. The steps vary, depending on which type of networking is being done (LocalTalk, EtherTalk, or TokenTalk). If there is a problem with a LocalTalk connector or Ethernet Transceiver, the start up process may appear slower than normal.

When EtherTalk is selected in the Network control panel and a network problem arises, an error message is issued about not being able to connect to Ethernet, and LocalTalk is used. This lets the user know they have an Ethernet problem of some kind. However, if LocalTalk is selected in the Network control panel and a problem exists, there is no equivalent error message. The Macintosh appears to do nothing for about two minutes while it attempts to establish a network connection, then give up assuming the network is not functioning.

When troubleshooting start up problems, or doing clean System Software installs, it is a good idea to remove all of the cables from your Macintosh, EXCEPT the monitor, keyboard, and mouse cables. Doing this can help identify potential problems associated with external connections.

NOTE: Slow start up times may also happen when you have a serial printer, which is turned off and not plugged into power, connected to either the modem or printer port.

Article Change History:
20 Jul 1995 - Made corrections for clarity.

Support Information Services
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MegaPhone: -93 Error Bomb (5/95)

This article describes the MegaPhone -93 error bomb.

This article has been archived and is no longer updated by Apple.
We spoke with Cypress and they are aware of this bug planning a fix for around the end of June 1995. This only occurs when MegaPhone tries to forward a call to PowerTalk on a network with no Zones (the '*' zone) in the Chooser. You can put a router on the network.

If you need demonstrate MegaPhone and PowerTalk, try this: Do not use the Universal Mailbox to get mail on networks with no zones, and pre-load the mailbox with voice messages prior to running the demo on a zone-less network.

Support Information Services
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MAE: Setting Up An Application For Multiple Users (8/95)

We are trying to get MS Office to run under MAE. We want all the accounts to run the same copy of the application, to minimize set up and configuration time. We couldn't find any advice in the manuals.

Has anyone set up an environment where a single copy of an application which generates preferences is used by multiple accounts simultaneously?

Has anyone been able to create a standard build that can be propagated to multiple MAE users?

This article has been archived and is no longer updated by Apple.
Setting up an application this way lets you reduce the amount of server RAM and disk space required for the application. It also lets you minimize set up and configuration time.

Here are the steps to set up an application for multiple users:

Step 1

As "root", create a directory called Applications in the /usr/apple directory. Place all the applications that users will have access to in this directory.

Be sure to instruct users NOT to copy these applications to their home directory, since this would use more disk space and defeat the purpose for doing this.

Step 2

After adding applications to the Application directory in the apple Directory, it is best to rebuild the desktop letting MAE add the applications to the desktop files. To do so, start with the -rebuild option.

Step 3

Add the following line to the /usr/apple/lib/AliasList file:

persistent|desk|/usr/apple/Applications

This ensures that an alias of the Applications directory is on the user's MAE desktop.

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Article Change History:
28 Aug 1995 - Made corrections for technical accuracy.
27 Jul 1995 - Updated from Information Alley

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PowerTalk Aware Applications in Startup Items Folder (5/95)

My PowerTalk aware applications do not recognize PowerTalk when they launch from the Startup Items folder at start up. Usually, the mail option is disabled or an error message appears saying PowerTalk is not available. Quitting the application and launching it again resolves this, but why don't the applications work with PowerTalk when launched at start up?

This article has been archived and is no longer updated by Apple.
Applications launched from the Startup Items folder may not find PowerTalk available because at start up, the Finder launches PowerTalk after the items in the Startup Items folder start. When the applications look for PowerTalk while starting up, PowerTalk is not available. You can either quit and then launch the applications again, or launch the applications after the computer has finished its start up process.

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MAE: Files In MAE Not Same Size As Reported In UNIX (5/95)

I have noticed that when I copy files from a CD, the file size on the UNIX File system is larger. What is happening?

This article has been archived and is no longer updated by Apple.
This is due to MAE's default way of storing files in AppleSingle format. Mac OS files have both a resource and data fork, and MAE must handle these files differently on a UNIX File system. To accomplish this, AppleSingle is used where the resource fork information is pre-appended to the data fork and creates one file. This combining of files creates the larger file you see in UNIX.

You can change this default, from AppleSingle to AppleDouble, by launching MAE with the "-filedouble" option. This keeps Mac OS files as separate data and resource forks. From within MAE, AppleDouble files will appear as one file, however within UNIX, you will see a file name "name" (the data fork) and "%name" (the resource fork). Then the file "name" will then report the same size in UNIX as in the Finder.

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Starting MAE From X Client As User Other Than Login User (5/95)

When I log into our X Client as "USER1", and then 'su -l' to "MAEUSER" to start MAE from the X Client, I am unsuccessful. Our current setup has a particular user named "MAEUSER" which is setup to start MAE, we also want to keep this setup. What is wrong?

This article has been archived and is no longer updated by Apple.
When you 'su -l' to a different user, some environment variables do not transfer to the new user, one of them being DISPLAY. For this to function, follow the steps below:

Step 1

After 'su -l' to the user that has access to MAE, set the DISPLAY variable in this manner:

#ksh
#DISPLAY=IP address of X Server:0.0 <- You may also use the X Server name
. rather than IP Address.
#export DISPLAY

Step 2

Start MAE with extensions off with this command:

#./apple/bin/mae -noextensions

Step 3

When trying to use MAE in this environment, CloseView will cause MAE to hang during launch. After starting MAE with extensions off, remove the CloseView control panel (or use the Extension Manager). If you have several users with this setup, it would be advisable to remove the CloseView control panel from ./apple/sys/Control Panels/CloseView so that any system folder created will not have this control panel.

Support Information Services
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Mac OS: Connecting Windows For Workgroups

I have a network with DOS/Windows computers running Windows for Workgroups. I want to hook up my Macintosh to share the resources available on the network, how do I do it?

This article has been archived and is no longer updated by Apple.

Windows for Workgroups uses the NetBEUI protocol. There currently is no software available for a Macintosh to utilize the NetBEUI protocol.

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Netware and 999 MB Size on Volumes Larger Than 4 GB (7/95)

I have a Macintosh with System 7.5, and when I connect to our Novell file server the reported volume size is 999 MB. I talked to our Novell administrator and was informed that the volume is a 9 GB partition. I also checked another Macintosh with System 7.1 and the same Novell file server volume reports 999 MB. Doesn't System 7.5 see 4 GB volumes and System 7.1 and earlier see 2 GB volumes?

This article has been archived and is no longer updated by Apple.
A Novell server does not use HFS (Hierarchical File System) as its file system; it has the ability to emulate HFS. Novell implemented a workaround to the HFS 2 GB (pre-System 7.5) and 4 GB (System 7.5) limit in the Netware 3.12 and 4 versions of their network operating system.

The workaround essentially interprets the AFP (AppleTalk Filing Protocol) calls and returns a volume size of 999 MB. This is NOT a bug, but a Novell adjustment to the HFS volume size limit. File transfer and other server functions should operate correctly for the whole volume. What happens is Netware shows 999 MB of the multi-GB volume at a time. It is like a scrolling window within the volume window.

To illustrate, if you double click the volume icon you are presented a window showing you the files and folders on the volume (just like any other volume). The difference is you are seeing only a 999 MB portion of the volume. If you scroll down to the bottom of the window, or the end of this first 999 MB portion, Netware then presents to you the next 999 MB portion of the multi-GB volume. This process continues, 999 MB portion by 999 MB portion, making the entire multi-GB volume visible and usable.

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19 Jul 1995 - Updated with Info Alley information.

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AWS 95 and/or A/UX 3.x: Desktop Rebuilds Every Time (5/95)

Every time I restart my Apple Workgroup Server (AWS) 95 or start Mac32, my desktop file rebuilds. I've run fsck, deleted the desktop files, and created a new system folder, all to no avail.

This article has been archived and is no longer updated by Apple.
To keep the Desktop from rebuilding, look for a file or folder called /Desktop. In some cases, the file will be visible in the finder, if its not visible, go to the command shell and type:

ls -l /

The output should include a line similar to:

-rw-r--r-- 1 root root 5 May 16 19:24 Desktop

NOTE: If the first character is a "d" instead of a "-", the Desktop file is a directory.

We believe that Mac32 is seeing the Desktop file or folder as a System 6 desktop file, and is trying to convert the desktop file for use in System 7.

Normal Mac OS behavior would rebuild the desktop once. However, A/UX does not handle this correctly and rebuilds the desktop file every time Mac32 is started. The solution is to remove the file or folder. If the file or folder is visible, throw "Desktop" in the trash. Otherwise, go to command shell:

* If /Desktop is a file, remove the file with:

rm /Desktop

* If /Desktop is a directory, remove the directory with:

rm -r /Desktop

WARNING: We recommend checking the contents of the directory before using the remove command. Once the directory is deleted, the files will be lost forever.

Support Information Services
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Telecom 2.0: Different Features Depending on Computer (7/95)

This article explains the general feature set of the Telecom 2.0 software.

This article has been archived and is no longer updated by Apple.
The latest GeoPort and Express Modem software releases prior to the Telecom 2.0 software were:

- GeoPort for 68000-based Macintosh AV computers 1.2.2
- GeoPort for Power Macintosh computers 1.0.2
- Express Modem 1.5.5

General Description
==========

Although the software for GeoPort Telecom Adapter and Express Modem hardware share the same code base and have common installer disks, the feature set depends on the hardware you are using.

Common Features For PowerBook, 68000 Macintosh AV,
and Power Macintosh Computers

- Single installer for Apple Fax/Data Modem, Express Modem, Express
. Modem card, GeoPort for Quadra AV, GeoPort for Power Macintosh

- QuickDraw GX fax driver

- Fax Terminal with System 7.5 freeze bug fixed

- Fax MSAM for PowerTalk

- OCR

- Fast Fax Printing

- Improved fax compatibility

Common 68000-based Macintosh AV and Power Macintosh Features

- Telephone Manager 2.0

- Telephone Tool for CTB support

- Sound Drivers for telephone line and telephone Speakerphone

- Bundled Screen Based Telephone and Voice Message Machine

- Simplified interface for port selection

- Bundled Terminal Emulator (SitComm SE) <- only in kit and via
. UCA upgrade

Power Macintosh Only Features

- Native V.42/V.42bis (error correction/compression) for higher data
. throughput and lower CPU overhead

- Optimized LocalTalk performance when using GeoPort Telecom Adapter

Power Macintosh and PowerBook features

- V.17 Fax giving 14.4 Kbps send/receive (currently fax is 9600 and
. data is already 14.4 Kbps)

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27 Jul 1995 - Updated from Info Alley.

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GeoPort Adapter: Conflict with DOS Compatibility Card

When I try connecting to the GeoPort Telecom Adapter from my Power Macintosh DOS Compatibility Card, the DOS Compatibility Card hangs. If I use my Macintosh communication applications or temporarily use an external modem with the DOS Compatibility Card, everything works properly.
This article has been archived and is no longer updated by Apple.
The GeoPort has not been tested with any version of Apple Computer's DOS Compatibility products, and it is not supported in this environment.

Affected Products

- DOS Compatibility Card for Power Macintosh 6100 or Performa 6100 Series.
- 7-in. and 12-in. PC Compatibility Cards for Power Macintosh Computers.
- GeoPort Telecom Adapter (includes ALL versions internal and external).

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LaserWriter Pro 810: Netware 4.1 RPRINTER Mode

How do I set up a LaserWriter Pro 810 in RPRINTER mode on a Netware 4.1 server?
This article has been archived and is no longer updated by Apple.
Here is the NetWare v4.10 LaserWriter Pro 810 QuickStart

Summary
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* Create a print server.

* Create a printer from within the print server configuration menu options.

* Create a print queue from within the printer configuration menu options.

* Turn printer off and then back on to have changes take effect.

QuickStart
═══════════

Step 1

Turn printer off, then on, and retrieve the printer's startup page.

Step 2

Type SET BINDERY CONTEXT at the server's console prompt, to ensure that the context has been set. Write the context down, as it will be needed later.

Step 3

Login to a file server from a DOS client using the Admin account.

Step 4

At the DOS prompt, type PCONSOLE, and press Enter.

Step 5

Use the arrow keys to highlight Change Context in the menu, and press Enter.

Step 6

Change the PCONSOLE utility's context to match the context set on the server (what you wrote down earlier), by pressing the Insert key, and selecting the correct context.

Step 7

Use the arrow keys to highlight Print Servers in the menu, and press Enter.

Step 8

Press the Insert key, then type a descriptive name for your print server. This can be any name but in general you should be able to glance at the object and know what it's purpose is. IE: "810_Server".

Step 9

Select the name of the print server you specified in the previous procedure and press Enter.

Step 10

Use the arrow keys to highlight Printers in the Print Server Information menu, and press Enter (this will let you configure the new print server).

Step 11

Press the Insert key to display printers in your current context in the NetWare Directory Services tree.

Step 12

Press the Insert key to create a new printer in the NetWare Directory Services tree (the context listed at the top of the screen should still list the server's bindery context that was set earlier, if not, change to the correct context *before* creating the printer!).

Step 13

At the prompt, type the new printer name and press Enter. The printer name "must" be the virtual printer name that is displayed under virtual printers when you print the startup page. The name beginning PSL20N.... is the postscript Virtual Printer. The name beginning LJL20N.... is the PCL4 Virtual Printer.

Step 14

Select the name of the printer you specified in the previous procedure and press Enter (this will add the printer to the Serviced Printer list of the print server).

Step 15

From the Serviced Printers menu list, select the name of the printer you specified in the previous procedure, and press Enter. This will bring up a Printer Configuration menu.

Step 16

From the Printer Configuration menu, use the arrow keys to highlight Printer type, and press Enter.

Step 17

From the Printer Type menu, use the arrow keys to highlight Other/Unknown, and press Enter. This will make your selection active, and bring you back to the Printer Configuration menu.

Step 18

If most of the printing to this printer will be Postscript, and not PCL, then from the Printer Configuration menu, use the arrow keys to highlight Banner type, and change the banner type from Text to Postscript. This will limit the number of times the printer will have to switch modes between PCL and PostScript.

Step 19

From the Printer Configuration menu, use the arrow keys to highlight Print queues assigned, and press Enter. This will bring up the Print Queue menu list.

Step 20

Press the Insert key to display print queues in your current context in the NetWare Directory Services tree. For this example, we will create a new queue.

Step 21

Press the Insert key to create a new print queue in the NetWare Directory Services tree (the context listed at the top of the screen should still list the server's bindery context that was set earlier, if not, change to the correct context *before* creating the print queue!).

Step 22

At the prompt, type the new queue name and press Enter. You will then be asked for the NetWare volume to store your NetWare print queue jobs on. With NetWare v4.xx, the NetWare queue does not have to exist on the SYS volume -- you can place the queue on any volume you want. Use the insert key to select the volume from the directory tree (you may need to navigate to a different context to select the volume desired).

Step 23

Select the name of the queue you specified in the previous procedure and press Enter (this will add the queue to the Print Queue list of the printer).

Step 24

Press the Escape key until you are prompted to save your changes.

Step 25

Start PSERVER on your 4.1 File Server by typing "LOAD PSERVER <Print Server Name>"

Step 26

Turn the printer off, and then back on again, to initialize the printer, and have it connect to its printer definition within NetWare.

Step 27

Submit a print job to the printer to ensure it is working. If printing from a PC, it is highly recommended that you use the FONTLIST.PS file in SYS:SYSTEM\\NW-MAC\\PSUTILS, since it is a known good file, and you will not add additional variables like misconfigured applications or drivers. Once you know that printing is working through the queue, you can use more complex print setups to ensure your environment is configured correctly.

Note:

These series of steps is only one of many ways that can be used to create the same configuration. For example, rather than creating all the printers and print queues from within the print server main menu option, many administrators may choose to create the queues and printers from the main menu options first, then connect the queues and the printers to the print server afterward. The same result will be reached in each case, as long as the information in each entry is entered the same way in whatever approach is taken.

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Business BASIC III: RENUMBER 1.01

This article has been archived and is no longer updated by Apple.

Here is a corrected version of the Business BASIC Renumber program. Just EXEC this file and save it on the Business BASIC Master Diskette.

```
10   INVOKE"Renumber.INV"
20   HOME
30   PRINT USING"76c";"--  RENUMBER 1.01 --"
50   PRINT:PRINT TAB(8);"Your options are:":PRINT
60   PRINT TAB(26);"1   Line References"
70   PRINT TAB(26);"2   Append/Merge Programs"
80   PRINT TAB(26);"3   Renumber a Program"
90   PRINT TAB(26);"4   Quit"
100   PRINT
110   PRINT TAB(8);:INPUT"Which option? ";a$:x=ASC(a$)-48
120   ON x GOTO 150,250,360,140
130   PRINT TAB(8);"Please enter 1, 2, 3, or 4":
     VPOS= VPOS-2:GOTO 110
140   TEXT:HOME:END
150   REM --- XREF
160   TEXT:HOME:PRINT USING"76c";"-- XREF --":PRINT
170   INPUT"Name of Source File: ";i$:IF LEN(i$)=0 THEN 20
180   INPUT"Output file name?
     (Press RETURN for output to .CONSOLE) ";o$
190   IF LEN(o$)=0 THEN o$="temp.xref"
200   INPUT"Should unreferenced lines be displayed?";r$:
     IF ASC(r$)=ASC("y") OR ASC(r$)=ASC("Y") THEN 230
210   PERFORM xref(@i$,@o$)
211   IF o$<>"temp.xref" THEN 20
212   ON ERR GOTO 218
213   OPEN#1,"temp.xref"
214   INPUT#1;a$
215   GOSUB 620
216   IF l=20 THEN GOSUB 670
217   GOTO 214
218   OFF ERR:CLOSE#1:DELETE"temp.xref":GOSUB 670
220   GOTO 20
230   PERFORM xlist(@i$,@o$)
240   GOTO 211
250   REM --- MERGE
260   TEXT:HOME:PRINT USING"76c";"-- APPEND/MERGE --":PRINT
270   INPUT"Name of the first Program? ";i$:
     IF LEN(i$)=0 THEN 20
280   INPUT"Which Program should be merged with it? ";i2$:
     IF LEN(i2$)=0 THEN VPOS= VPOS-2:PRINT CHR$(29);:GOTO 270
290   INPUT"Output file name? ";o$:
     IF LEN(o$)=0 THEN VPOS= VPOS-3:PRINT CHR$(29);:GOTO 270
300   INPUT"Should I allow interleaving of program lines? ";a$
310   IF ASC(a$)=ASC("Y") OR ASC(a$)=ASC("y") THEN 340
320   PERFORM append(@i$,@i2$,@o$)
330   GOTO 20
340   PERFORM merge(@i$,@i2$,@o$)
350   GOTO 20
360   REM --- RENUMBER
370   TEXT:HOME:PRINT USING"76c";"-- RENUMBER --":PRINT
380   INPUT"Name of Program to be Renumbered? ";i$:
     IF LEN(i$)=0 THEN 20
390   INPUT"Save with what file name? ";o$:
     IF LEN(o$)=0 THEN VPOS= VPOS-2:PRINT CHR$(29);:GOTO 380
400   INPUT"What line number should I start renumbering at?
     (Default=0) ";low$:
     IF LEN(low$)=0 THEN low=0:GOTO 420
410   IF ASC(low$)<48 OR ASC(low$)>57 THEN VPOS= VPOS-1:
```

```
     GOTO 400:ELSE low=VAL(low$)
420   INPUT"What line number should I renumber up to?
     (Default=63999) ";high$:
     IF LEN(high$)=0 THEN high=63999:GOTO 440
430   IF ASC(high$)<48 OR ASC(high$)>57 THEN VPOS= VPOS-1:
     GOTO 420:ELSE high=VAL(high$)
440   INPUT"Starting value for the renumbered lines?
     (Default=10) ";start$:
     IF LEN(start$)=0 THEN start=10:GOTO 460
450   IF ASC(start$)<48 OR ASC(start$)>57 THEN VPOS= VPOS-1:
     GOTO 440:ELSE start=VAL(start$)
460   INPUT"What increment between each line? (Default=10) ";
     bump$:IF LEN(bump$)=0 THEN bump=10:GOTO 480
470   IF ASC(bump$)<48 OR ASC(bump$)>57 THEN VPOS= VPOS-1:
     GOTO 460:
     ELSE bump=VAL(bump$)
480   REM Map numbers larger than 32767 into standard
     two's complement form.
490   low=TEN(HEX$(low)):
     high=TEN(HEX$(high)):
     start=TEN(HEX$(start))
500   INPUT"Should I allow lines to be moved? ";a$:
     IF ASC(a$)=ASC("Y") OR ASC(a$)=ASC("y") THEN 530
510   PERFORM renum(@i$,@o$,%low,%high,%start,%bump)
520   GOTO 20
530   PERFORM reseqnce(@i$,@o$,%low,%high,%start,%bump)
540   GOTO 20
620   IF LEN(a$)<80 THEN PRINT a$:l=l+1:RETURN
630   PRINT MID$(a$,1,80):s=80:e=74:l=l+1:
     IF l=20 THEN GOSUB 670
640   IF LEN(a$)-80=>74 THEN HPOS=6:
     PRINT MID$(a$,s,e):s=s+74:l=l+1:
     IF l=20 THEN GOSUB 670:GOTO 640
650   IF LEN(a$)-s>0 THEN HPOS=6:PRINT MID$(a$,s)
660   RETURN
670   VPOS=23:
     PRINT USING"76c";"-- press RETURN to continue --";
680   GET a$
690   IF ASC(a$)<>13 THEN 690
700   HOME:PRINT USING"76c";"--  XREF --":PRINT:l=0:RETURN
```

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Mini DIN-8: Serial pinouts for Hayes modems

What are the cable pinouts for a Macintosh Plus or later connected to a Hayes modem (Mini DIN-8 to DB-25)?
This article has been archived and is no longer updated by Apple.

Signal	Direction	Din-8 Connector	Hayes DCE Connector	Signal	Direction
HSKo	Out	1	6	DSR	In
(DTR)			20	DTR	In
HSKi	In	2	8	DCD	Out
(CTS)			5	CTS	Out
TxD-	Out	3	2	TxD	Out
Gnd		4	1	Gnd	
		8	7		
RxD-	In	5	3	RxD	In
		6	No connect		
		7	No connect		

Connect pins:

1. Macintosh side of cable: 4 and 8

2. Hayes side of cable:

a. 6 and 20
b. 8 and 5
c. 1 and 7

The pins on the male end of the circular Mini DIN-8 connector are numbered as shown:

6 7 8
3 4 5
1 2

You could also use the Apple II Printer - Mini DIN-8 Cable (part number 590-0556 or 590-0335), although the pinouts are slightly different.

Below are the pinouts for connecting the Hayes V series 9600 baud modems to the Macintosh with a DIN-8 serial port, direct from Hayes:

Hayes 9600 V Macintosh
1-7 4-8
2 3
3 5
5 2
4 1
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Macintosh: Is Enhanced IDE Supported?

Is computer IDE Interface used in some Macintosh computers, such as the Macintosh 5200 series, Performa 6200 series, Macintosh 630 family, and the Macintosh LC and Performa 580, the same as the Enhanced IDE interface? If not what are the differences?
This article has been archived and is no longer updated by Apple.
IDE's basic design is limited to magnetic media and does not work for tape, optical, or CD-ROM devices. PC vendors have addressed IDE's problems with an Enhanced IDE specification, which supports more drive units, greater throughput, and higher-capacity mechanisms. It also permits easier attachment of CD-ROM drives. The Enhanced IDE Interface is also known as the ATA (AT attachment) Interface.

Apple's implementation of the ATA interface is a subset of the ATA interface specification, ANSI proposal X3T9.2/90-143. Revision 3.1. Current IDE capable Macintosh systems support IDE drives that include a feature called Logical Block Addressing (LBA). LBA is the method that drive manufacturers have adopted in order to go beyond the 520 MB DOS-BIOS limit.

In summary, the Apple IDE Interface supports IDE and Enhanced IDE drives. However, any IDE drive that is going to be used on Macintosh computers must support Logical Block Addressing (LBA).

The following information is for Apple Internal & Support Providers Only
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Apple Internet Mailing Lists: How to Subscribe

Apple Computer, Inc. provides a number of mailing lists that can keep you informed of the latest information in the following areas. Any customer with an Internet email address or a commercial online service account with Internet email access can subscribe and unsubscribe to any of Apple's public mailing lists.

This article has been archived and is no longer updated by Apple.

For complete details on the lists that are available, please consult http://lists.apple.com/.

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StyleWriter II/StyleWriter 1200: Levels of Gray

How many levels of gray can one expect to get when printing from the StyleWriter 1200? Is it different from the StyleWriter II?
This article has been archived and is no longer updated by Apple.
The StyleWriter 1200 is identical to the StyleWriter II as far as its gray level printing capability. Both the printers are capable of printing 138 levels (shades) of gray at 360 x 360 dpi resolution.
Published Date: Feb 19, 2012

AWS 95: Opening Files Above the Finder Limit (5/95)

I have seen that an Apple Workgroup Server (AWS) 95 can open a maximum of 5000 files. Is this only under certain conditions, or is the finder required to open these files or does an application open them?

This article has been archived and is no longer updated by Apple.
AppleShare and the Finder cannot use the maximum number of open files available by an AWS 95 running A/UX. However ORACLE, INFORMIX, and other applications along with A/UX shell scripts can use the higher open file limit. For example, a 5000 open file limit may let the server concurrently serve ftp, NFS, and AppleShare (this configuration is not officially supported).

Support Information Services
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ATI Technologies, Inc.

ATI Technologies, Inc.
This article has been archived and is no longer updated by Apple.
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Company Profile:
Manufacturers of PCI (Peripheral Component Interconnect) cards including the mach64 family of graphics accelerators.
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ProDOS Assembler EdAsm 1.1: Loading Relocatable Files

Before you use ProDOS Assembler EdAsm 1.1 or 1.0 to load relocatable routine files, make sure the files are longer than 1K in code.
This article has been archived and is no longer updated by Apple.
For example, the following program uses the files RBOOT and RLOAD under the ProDOS enviroment to load a relocatable routine file READBITS.0, file type REL, 87 bytes long:

```
10 AD=0
20 PRINT CHR$(4);"BRUN RBOOT"
30 AD=USR(0),"READBITS.0"
```

However, when the program runs, the error "No Buffers Available / Break in 30" occurs under BASIC.SYSTEM version 1.1, ProDOS version 1.1.1, and ProDOS EdAsm, release 1.0 dated 15-JAN-84.

To workaround the problem, insert: DS 1024,$EA
at the end of the program.
Published Date: Feb 19, 2012

CloseView: Does Not Magnify Video Monitor Window

I am visually impaired and want to use CloseView to magnify the Video Monitor window. I have a Power Macintosh (8011/80 AV) running System 7.5. How do I do this?
This article has been archived and is no longer updated by Apple.
CloseView works on a Power Macintosh running System 7.5, but it does not magnify the Video Monitor window. Apple is aware and has it under investigation.

Workaround

You can view magnified video input using Apple Video Player and CloseView. This workaround does not work in thousands of colors, but it does work in 256 and 16 colors.

Please note that Apple Video Player has not been tested on a Power Macintosh and this configuration is not supported by Apple at this time.

Note: CloseView is written as a single word, not as Close View.
Published Date: Feb 19, 2012

QuickTake 150 For Windows: Read Me

This article comprises the QuickTake 150 for Windows README.TXT file.
This article has been archived and is no longer updated by Apple.
This Read Me contains information about:

- Special settings for serial ports COM3 and COM4
- PICT QuickTake file format
- Sharing QuickTake images with a Macintosh computer
- Printing slide tables

SETUP FOR COM3 AND COM4

If you connect the QuickTake camera to COM3 or COM4 and experience communication problems, you need to check the Windows Ports control panel settings. (The Control Panel group is located in the Main window.)

1. Open the Windows Ports control panel.

2. Select COM3 or COM4. (Repeat this process for both COM ports.)

3. Click the Settings button.

4. In the dialog box that appears, click the Advanced button.

5. In the Advanced Settings dialog box, make sure the settings are:
- COM1 3F8 IRQ4
- COM2 2F8 IRQ3
- COM3 3E8 IRQ4
- COM4 2E8 IRQ3

6. Click OK.

If you changed the settings, you must restart Windows for the new settings to take effect. When you click OK, a message lets you choose to restart now or delay the restart.

If you are using several serial devices with your computer, make sure that the line IRQSharing=ON exists in the [386enh] section of the SYSTEM.INI file.

Consult the manual that comes with your computer (or card) if the above settings do not work.

PICT QUICKTAKE(.QTK) FILE FORMAT

The PICT QuickTake(.QTK) is not the Macintosh standard PICT(.PIC) file format. You will not be able to open QuickTake(.QTK) images with PICT(.PIC) supported applications. Our recommendation is to save it in JPEG or TIFF format to transfer images to other applications.

SHARING QUICKTAKE IMAGES WITH A MACINTOSH COMPUTER

To transfer QuickTake images from a Macintosh to a Windows computer:

1. Make sure PC Exchange (or a similar program) has been installed on the Macintosh.

2. Insert a DOS formatted disk into a floppy disk drive on the Macintosh.

3. Copy the Macintosh QuickTake files to the disk, and move them to your computer.

Note: You can only transfer images that are in PICT QuickTake or TIFF format.

To transfer QuickTake images from a Windows computer to a Macintosh:

1. Make sure PC Exchange (or a similar program) has been installed on the Macintosh.

2. Insert a DOS formatted disk into a floppy drive on the Windows computer.

3. Copy the QuickTake files to the disk, and move them to the Macintosh.

Note: You can transfer PICT QuickTake images (with the QTK extension). Next, so you can open the images on the Macintosh, you need to assign the file type:

1. Open the PC Exchange control panel on the Macintosh.
2. In the dialog box that appears, click Add.
3. In the DOS Suffix box, type .QTK.
4. In the scrollable list, find TeachText, SimpleText, or your favorite image editing application and select it.
5. Choose PICT from the Document Type pop-up menu.
6. Click OK. The first PC Exchange dialog box reappears, and the QTK file type has been assigned to the selected application as a PICT file type. Now you can open and view the files in any Macintosh application that reads PICT. In addition, if you open an image in the QuickTake application, you can save it in the other file formats available on the Macintosh (PICT, JPEG, and TIFF).

Note: If you are transferring Macintosh files to a Windows computer on a network, only transfer images that are in PICT QuickTake or TIFF format. If you are transferring Windows files to a Macintosh on a network, only transfer images with the QTK extension.

PRINTING SLIDE TABLES

Before you print a slide table, be sure to use the highest resolution available for your printer. When you choose the Print command, the dialog box that appears shows the current setting for print resolution.

To print full-size images you can use any resolution.

Published Date: Feb 19, 2012

Power Macintosh 5200/75 LC: 8-bit or 16-bit Sound? (10/95)

Does the Power Macintosh 5200/75 LC use 8-bit or 16-bit sound?

This article has been archived and is no longer updated by Apple.
The original Power Macintosh 5200/75 LC supported 8-bit mono sound input and 8-bit stereo sound output at 11.127 or 22.254 kHz sample rates. When playing audio CDs, the Power Macintosh 5200/75 LC plays the audio using 16-Bit stereo at 44 kHz, retaining the CD quality sound.

In July 1995, the Macintosh 5200/75 LC and Performa 5200 series computers began shipping with 16-bit sound input as well. You can tell which input options your computer has by following this procedure:

Step 1

Choose Control Panels from your Apple menu.

Step 2

Open the Sound control panel.

Step 3

Choose "Sound Out" from the "Alert Sounds" pull down menu. If the 16-bit sound input radio button is grayed out, you only have 8-bit input.

If 16-bit is not grayed out, make sure there is a dot in the radio button next to it.

Step 4

Use the close box in the upper left corner to close the Sound control panel.

Article Change History:
23 Oct 1995 - Added test to check sound input option.

Support Information Services
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Apple Floppy Drives: How Many Heads?

I just bought a disk head cleaning kit. It asks if I have a single or dual head drive. How many heads do Apple floppy drives have?
This article has been archived and is no longer updated by Apple.
All Apple floppy drives since the Apple SuperDrive (FDHD) have two heads -- one on the top and one on the bottom. Floppy drives before the Apple SuperDrive usually had one head.
Published Date: Feb 19, 2012

AppleWorks IIe: Diablo 620 API Printer Setup

This article gives the AppleWorks and Apple IIe settings for connecting to a Diablo 620 API Printer.
This article has been archived and is no longer updated by Apple.

Apple IIe

1. Super Serial Interface Card settings

Switch1

Position	1	2	3	4	5	6	7
Closed (On)	-	x	x	x	-	X	x
Open (Off)	X	-	-	-	X	-	-

Switch2

Position	1	2	3	4	5	6	7
Closed (On)	X	x	-	-	-	-	x
Open (Off)	-	-	X	X	X	X	-

Note: Jumper block points to TERMINAL

2. AppleWorks settings

a. Carriage: 11"
b. Linefeed after carriage return: YES
c. Underlining: The Diablo 620 API makes an underlines by printing the character, backspacing one character, and printing the underline.
d. Special Codes

Check the printer manual for additional codes:

Description	Begin	End
Boldface	Esc W	Esc &
Underline	Esc R	Esc R
Superscript	Esc U	Esc D
Subscript	Esc D	Esc U
Proportional Spacing 1	Esc P	Esc Q

Cabling

Super Serial Interface Card	Diablo 620
DB-25	DB-25
2	2
3	3
6	6
7	7
20	20

Diablo 620
Switch settings:

1 - On
2 - Off
3 - Off
4 - On
5 - Off
6 - Off
7 - Off
8 - On

(1200 baud, no parity, 8 data bits, 1 stop bit)

Published Date: Feb 19, 2012

AppleShare 4.2: How to Update

This article describes how to update to AppleShare 4.2.
This article has been archived and is no longer updated by Apple.
AppleShare 4.x is no longer distributed by Apple Computer, Inc.

Information on upgrading to current AppleShare products is available at **http://www.apple.com/appleshareip/text/purchasing.html**.
Published Date: Feb 19, 2012

AudioVision 14 Display: Monitor requires ADB connection (5/95)

I have an AudioVision 14 Display that I am using with the AudioVision adapter on my Power Macintosh computer. However when I power on the computer, I get a X through the ~AudioVision extension. Why?

This article has been archived and is no longer updated by Apple.
When using the AudioVision adapter, you must also have the ADB cable connected to the ADB port on the AudioVision 14 Display. The ~AudioVision extension polls the ADB port on the computer to see if the display is connected. If the extension does not sense the AudioVision 14 Display, an X appears over the extension at startup.

If you are using the AudioVision 14 Display connected to the HDI-45 video connector on a Power Macintosh, then there will be an ADB connection built in to the HDI-45.

However, if you are using the AudioVision adaptor (a cable with multiple cables and connectors on it), make sure the ADB part of the adaptor is connected to the computer. Otherwise, if there is no ADB cable going from the computer to display, the extension will not detect the monitor. Once you connect an ADB cable from your computer to the AudioVision 14 Display, you can connect your keyboard to one of the other ADB ports on the display.

In cases where the ADB cable is connected, and you still get the AudioVision extension loading with an 'X', you may need to reset the AudioVision 14 Monitor using the procedure described in the Tech Info Library article titled "AudioVision 14" Display: How to Reset the Monitor." Another Tech Info Library article titled "AudioVision Display: "X" Displayed Through the Video INIT" describes other conditions under which the extension loads with an 'X' through it.

Support Information Services
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LaserWriter 8.x: Compatible With Level 1 PS

We have a Quadra 800 running system 7.5.1 with LaserWriter driver 8.2.2. When we print to an original LaserWriter, we get frequent PostScript errors. Prints fine from LaserWriter Driver 7.2

A related article "LW Driver 8.1.1: PostScript Errors with Bitmapped Fonts" says that there are problems printing from the LaserWriter 8 driver to the original LaserWriter due to shortage of RAM. It sees to indicate that this problem is specific to the original LaserWriter. I've heard that Apple does not recommend using the LaserWriter 8 driver with any PostScript Level 1 printer because they are not fully supported, and the customers with level 1 printers should use the 7.2 driver. Is this true? It seems to me that LaserWriter 8 should work as long as the printer has sufficient RAM (such as a LaserWriter IINTX or Personal LaserWriter NT with 4+ MB of RAM).
This article has been archived and is no longer updated by Apple.
You are correct that using LaserWriter 8.x with PostScript Level 1 printers should work just fine. This is because LaserWriter 8 queries the printer at the beginning of the print job to determine if it is a PostScript Level 1 or Level 2 printer. LaserWriter 8.x is able to generate PostScript Level 1 code if it finds it is speaking to a PostScript Level 1 printer.

We are not aware of any performance tests that compare printing to a Level 1 printer from LaserWriter 7.2 and LaserWriter 8.x. Our suggestion would be to use the print driver that is more compatible with version of system software running (for example, LaserWriter 8 with systems 7.5). If you run into trouble with this, then you can try using LaserWriter 7.2 to see if it helps.

In using LaserWriter 8.x with the original LaserWriter printers, here are some suggestions that might help in printing:

- Try using ONLY the fonts available in the LaserWriter's ROM; not TrueType or Type 1.

- Enable "Unlimited Downloadable Fonts" in the options dialog of Page Setup.

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LaserWriter: Registration Can Vary

I have a LaserWriter Select 300 and when I print five identical pages, no two pages align perfectly. These pages vary up to 2 mm. Why?
This article has been archived and is no longer updated by Apple.
It is very common for LaserWriter registration to vary from page to page. Some print engines may have a larger degree of variation than others depending upon the design of the engine. Several variables have affect the registration and the difference between pages; paper alignment in the paper cassette, mechanical components of the printer itself, and imperfections in the paper. Also realize that it is next to impossible to align the pages exactly as they were when they went through the printer.

Also keep in mind that the LaserWriter Select family of printers were not designed for camera-ready artwork. The engine was designed for small business and home use. The transfer roller, for example, has a spring on each side to regulate the tension of the roller against the paper and the toner drum. As the printer operates, there could be a degree of variation from page to page. Also realize that small imperfections in the roller materials which can affect paper travel, as well as the paper alignment in the cassette. The paper, as it lies in the cassette, can be registered differently from one page to the next.

The 2 mm degree of registration difference is well within Apple's specifications for this print engine.
Published Date: Feb 19, 2012

QuickDraw GX: No Cover Sheet with Remote Only Install (5/95)

I have two Macintosh computers using QuickDraw GX that are connected using EtherTalk. I am trying to use the Fax Sender GX, from the remote computer. I have the full Telecom software installed on one of the computers, the other one I installed the Remote Only option. From the host I can send faxes and cover pages without any problems. But on the remote computer I cannot get the cover page option to display.

This article has been archived and is no longer updated by Apple.
The Telecom User's Guide states that "sending a fax as a network client is no different from sending a fax from you local computer." But what the User's Guide fails to mention is that you must use a complete installation of the Telecom software, not just the Remote Only installation for full functionality. So, you must reinstall the complete telecom software on the remote computer if you want to send cover sheets and faxes from the remote computer.

Support Information Services

Published Date: Feb 19, 2012

Fax Terminal: Character Limitation In Notes Field (5/95)

I am using the Express Modem and the Fax Terminal software v7.5 and I am having problems using the notes field. The notes field allows me to enter text into the notes field for a while (about a quarter of the way down), then I get a system beep and characters are no longer entered into the notes field. Why?

This article has been archived and is no longer updated by Apple.
You are running into a limitation of the notes field on the cover page. This field can hold up to 255 characters, which is typically about 5 lines of text.

Support Information Services
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AppleWorks IIe: NEC 3510 Letter Quality Printer Setup

This article gives the AppleWorks and Apple IIe settings for connecting to a NEC 3510 Letter Quality Printer.

This article has been archived and is no longer updated by Apple.

Apple IIe

1. Super Serial Interface Card settings

Switch1

Position	1	2	3	4	5	6	7
Closed (On)	-	-	-	x	-	X	X
Open (Off)	X	X	X	-	X	-	-

Switch2

Position	1	2	3	4	5	6	7
Closed (On)	X	x	-	-	-	-	x
Open (Off)	-	-	X	X	X	X	-

Note: Jumper block points to TERMINAL

2. AppleWorks settings:

a. Carriage: 11"
b. Linefeed after carriage return: YES
c. Underlining: The NEC 3510 LQP makes an underlines by printing the character, backspacing one character, and printing the underline.
d. Special Codes

Check the printer manual for additional codes:

Description	Begin	End
Boldface	Esc *	Carriage Return
Underline	Esc -	Esc '
Superscript	Esc ;	Esc :
Subscript	Esc :	Esc ;
Proportional Spacing 1	Esc H	Esc I

Cabling

Super Serial Interface Card	NEC 3510
DB-25	DB-25
2	2
3	3
7	7
19	19

NEC 3510 Switch settings:

Front Panel

Position	1	2	3	4	5	6	7	8
Closed (On)	-	-	X	-	X	-	-	-
Open (Off)	X	X	-	X	-	X	X	X

Back Panel

Position	1	2	3	4
Closed (On)	-	-	-	-
Open (Off)	X	X	X	X

(9600 baud, no parity, 8 data bits, 1 stop bit)
Published Date: Feb 19, 2012

LaserWriter Bridge: Use 802.2 Frames With SoftWindows

Is it possible to use SoftWindows and IPX on the Windows side parallel with the LaserWriter Bridge? I cannot access my Novell server when LaserWriter Bridge is on, if I turn it off, I can access the server.
This article has been archived and is no longer updated by Apple.
There is a known issue with LaserWriter Bridge 1.0/2.0.1 and SoftWindows, specifically with trying to access Novell servers while within SoftWindows. It is currently unclear where the problem lies though basically it appears that both products have listener sockets for the 802.3 frame type, and only one is possible. Since LaserWriter Bridge is the first to obtain the socket, SoftWindows is unable to get a socket and the error occurs. The workaround to this situation is to configure the Novell server to utilize 802.2 frame types in addition to 802.3. This way, communications between the Novell server and clients can operate using 802.2.

Here is how to configure the Novell server for 802.2 use:

This goes in the AUTOEXEC.NCF file in addition to the commands already there.

AUTOEXEC.NCF Example:

```
IPX Internal Net 34BE3556A
Load NE2000 INT=3 PORT=300 DMA=5 Frame=Ethernet_802.3 Name=Fred
Load NE2000 INT=3 PORT=300 DMA=5 Frame=Ethernet_802.2 Name=Bob
Bind IPX to Fred NET=100
Bind IPX to Bob NET=105
```

All you are doing is adding the 3rd and 5th line to the AUTOEXEC.NCF file. Pretend the other lines (1st, 2nd, and 4th) already exist; they will probably vary with how you have your server configured.
Published Date: Feb 19, 2012

Mac OS: Maximum Number of Items in the Launcher

What is the maximum number of items that I can put in the Launcher window?
This article has been archived and is no longer updated by Apple.
The Launcher control panel supports a total of eight buttons, created by naming folders with a bullet (Option-8) as the first character. If there are aliases in the root level of the Launcher Items folder, then only seven new buttons can be created. The Application button is created by default for the 'loose' aliases. However, if there are only folders whose names start with a bullet, then eight custom buttons can be created.

There is a 40 item limit under each of the eight buttons. Additional items do not display, even if they are placed inside the Launcher Items folder in the System Folder.

This information is current as of October 1998 and version 2.7 (System 7.5) and version 3.1 (Mac OS 8.5) of the Launcher control panel.

Published Date: Feb 19, 2012

PowerBook 500: Does Not Come with CloseView Control Panel (5/95)

Do the PowerBook 500 series computers that ship with System 7.1.1 come with the CloseView control panel?

This article has been archived and is no longer updated by Apple.
No. The CloseView control panel does not come with these systems. It is not on the hard drive or the backup disks.

The CloseView control panel does work on these systems, however.

Support Information Services
Published Date: Feb 19, 2012

LaserWriter IINTX: Poor Image Quality with Manual Feed (6/95)

I have IINTX printers with Postscript interpreter version 47 and the LaserWriter driver 8.2.2.

When I use manual feed, I encounter poor image quality (it looks like dot matrix) from a variety of CPUs and OS versions. Output from the cassette feed on these printers is okay. What is wrong and why is it only happening with manual feed?

This article has been archived and is no longer updated by Apple.
We were able to duplicate the problem printing to a Laserwriter IINTX with Rev. 1.0 ROMs. The problem has to do with how the version of PostScript in the printer handles graphics. Apple LaserWriter printers with PostScript versions prior to 51.8, such as the LaserWriter IINTX with revision 1 ROMs (PostScript 47) and the LaserWriter IINT (PostScript 47), have been known to experience problems when printing complex graphics.

We tested LaserWriter drivers 7.1.2, 8.2, 8.2.2, and 8.3. All LaserWriter 8 drivers exhibited the same anomoly when printing manual feed documents. The output from Rev. 8.x manual feed documents is noticeably distorted. The Postcript information being sent to the printer is adversely affected by the driver when manual feed is chosen as the paper source.

Workarounds

There are a couple of ways to resolve your issue:

* Switch to the LW 7.1.2 driver.

* Upgrade the Laserwriter to the 3.0 ROMs.

Since the Postcript version contained in your ROMs has been known to exhibit problems printing graphics, it would be best to upgrade to the current ROM revision and eliminate conflict between the Postcript revision and the Laserwriter driver.

Support Information Services
Published Date: Feb 19, 2012

DOS Compatibility Card: All NT Servers Don‘t Appear

I am having a problem running Windows for Workgroups (Windows 3.11) on a Power Macintosh with a DOS Compatibility Card installed. The problem is, only 11 of the 30 Windows NT servers show up in the Windows File Manager. I can log into any of the 11 servers listed as network drives, but there are 19 other file servers that are not listed.

I have restarted Windows for Workgroups several times, and on two occasions had four other file servers listed, for a total of fifteen. But I was never able to get all of the servers listed; it was always the same 11, OR the 11 plus the four additional drives. All of the Gateway 2000 computers on the network that run Windows for Workgroups can list all 30 servers.

This article has been archived and is no longer updated by Apple.

Here are possible solutions to the problems you are experiencing. It is important that ALL of the solutions be implemented, as they are all directly related to the proper functioning of the Browser in Windows for Workgroups 3.11. It is important to note that all of this information comes from Microsoft's TechNet CD, so if you will be doing further work with Windows for Workgroups 3.11 and Window NT, you should get a subscription to this resource. Contact Microsoft for subscription information.

Step 1

Make sure the following files have the same or later creation dates. These are the versions you should be using:

Name	Size	Date
NDIS.386	27,846 Bytes	9/4/94
NET.EXE	450,262 Bytes	9/4/94
NETAPI.DLL	109,120 Bytes	9/4/94
NWNBLINK.386	37,964 Bytes	9/4/94
VNETSUP.386	14,647 Bytes	9/4/94
VREDIR.386	85,746 Bytes	9/4/94

NET.EXE should be in the Windows directory, and the rest should be in the WINDOWS\\SYSTEM directory. If the files you have are older, contact Microsoft to get the updated files.

Step 2

Make sure you have enough conventional memory -- the Windows for Workgroups 3.11 Browser requires a minimum of 540K of free conventional memory. See the Microsoft DOS documentation for memory optimization techniques.

You need to determine what you will not be using, as far as DOS-Macintosh functionality, and remove those pieces from memory, which is at a premium in the DOS Compatibility Card environment. To increase the amount of conventional memory, you need to remove terminate and stay resident (TSR) application programs. For example, if you are not going to be using the clipboard function, you can remove DOSClip. You may be able to remove other TSRs from your DOS startup.

Step 3

The (Link Driver MACODI) section that should look like this:

```
(Link Driver MACODI)
data=Frame Ethernet_802.3
data=Frame Ethernet_II
data=Frame Ethernet_SNAP
data=Frame Ethernet_802.2
data=Link Driver MACODI
```

Step 4

Remove the (NetBeui) section from the PROTOCOL.INI file. It is not a required protocol for Windows networking and may cause some problems since it cannot be routed.

Step 5

Comment out or remove the following line:

TimerCriticalSection=10000

in the system.ini file

Step 6

Make sure all NT servers are either version 3.5, or if they are 3.1, that they have the latest service pack from Microsoft installed. Contact Microsoft for additional information on both the upgrade and Service Pack.

Step 7

Comment out the following lines if they appear in your SYSTEM.INI file:

InDosPolling=True
TimerCriticalSection=<any value>
V86ModeLanas=<any value>

Step 8

If all of the above steps do not work, then add the following line to the (network) section of the SYSTEM.INI file on at least one Windows for Workgroups 3.11 machine in each workgroup:

MaintainServerList=yes

You may notice some decrease in speed, but it should correct the problem.

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Power Macintosh: Bad Disk 3 Image on Install Me First CD (6/95)

I am using the Apple Macintosh CD SSW version 7.5, CD version 2.0. I have made a set of disks from the disk images on the CD-ROM. However, I cannot successfully get these disks to install System 7.5 on my Macintosh. Every time it reaches the Install 3 disk, the installation fails. If I run the installation from the CD-ROM, it works properly. How do I make a set of functional disks?

This article has been archived and is no longer updated by Apple.
Thank you for your questions about the System 7.5 disk images on version 2.0 of the Power Macintosh CD-ROM. A minor problem was identified with one of the "Disk 3" images on the Power Macintosh CD-ROM. This disk image should be fixed in the next release of this CD-ROM.

Fortunately, there is another Disk 3 image on that CD, which you can use to make a working "Install Disk 3".

Step 1

Insert the Power Macintosh CD, and open the "Disk Images" folder.

Step 2

Open the "System Software" folder. Scroll the window to the bottom.

Step 3

Two new folders appear, called "Disk Set 1", and "Disk Set 2". The corrupt "Install Disk 3.image" file is in the Disk Set 2 folder.

Step 4

Open the "Disk Set 1" folder.

Step 5

Make a new floppy disk from the "Install Disk 3.image" file in this folder.

As an alternative, you can also run the system software installation directly from the CD-ROM. This installation can be found in the "System Software Install" folder.

Support Information Services
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Macintosh 500 Family: No Nubus Cards Available

This article discusses installing a Nubus card in a Macintosh Performa 550 computer.
This article has been archived and is no longer updated by Apple.
The Macintosh 500 family has a processor direct slot (PDS) for expansion. While Apple does make a Nubus adapter card to allow a Nubus card to be used with the PDS in other computers, the design of the Macintosh 500 series does not allow enough room to insert the adapter card.

Macintosh computers the 500 family include:

Macintosh LC 520
Macintosh LC 550
Macintosh LC 575
Macintosh LC 580

Macintosh Performa 550
Macintosh Performa 560
Macintosh Performa 575
Macintosh Performa 577
Macintosh Performa 578
Macintosh Performa 580
Published Date: Feb 19, 2012

Mac LC 580 & Pwr Mac 5200/75 LC: Optional Video-Out Card (10/95)

I want to connect an external monitor to my Macintosh LC 580 or Power Macintosh 5200/75 LC, how do I do this?

This article has been archived and is no longer updated by Apple.

Both the Macintosh LC 580 and Power Macintosh 5200/75 LC can use the optional Apple External Video Connector (M4099LL/A) to provide a video-out source. The Apple External Video Connector plugs into the main logic board, and allows you to connect to a second Macintosh compatible 14-inch display. The external video source mirrors the built-in display. If you need to project the image to a TV or LCD panel, then you need the Apple Presentation System.

The Apple External Video Connector does not use the communications or PDS slot, leaving these slots open for other expansion.

Article Change History:
02 Oct 1995 - Added part number for video card.
28 Jun 1995 - Added Power Macintosh 5200/75 LC.

Support Information Services
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AppleShare Client for Windows: Truncated File Name

This article describes the truncating of Macintosh file names by AppleShare Client for Windows users.
This article has been archived and is no longer updated by Apple.
The Macintosh Hierarchical File System (HFS) file system uses 31 characters in file names. Also all DOS special characters (except the colon) are valid HFS file name characters.

The AppleShare Client for Windows sees the truncated name, based on the DOS 8.3 file system naming convention. The Windows client implements a file name truncating algorithm, however the real file name is still the long Macintosh file name. This can be viewed in the File Manager's Properties dialog box.

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AppleShare Client for Windows: File Size Differences

This article describes how to find the actual size of a file on both Macintosh and Windows platforms.
This article has been archived and is no longer updated by Apple.
To view the true file size from a Macintosh highlight the file, and choose the Get Info command in the File menu. In the Get Info window, the actual file size is listed in parentheses with bytes used.

To view the amount of AppleShare File Server disk space used for a given file from a Windows client, highlight the desired file, select the Properties item from File Manager, and click on the AppleShare... option. The disk statistic appears in the Size field of this dialog.

The Windows File Manager shows the actual number of bytes of the file. A Macintosh Finder window reports the number of bytes allocated on the disk to store the file.

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AppleShare Client for Windows: Losing Resource Forks

This article describes how Macintosh resource forks can be damaged when making them visible on Windows clients.
This article has been archived and is no longer updated by Apple.
Macintosh files with resource forks are hidden from a Windows client user to protect them from damage. To view hidden files, select the Views/By File Type menu item in the File Manager and select the Show Hidden/System Files item.

WARNING: Hidden files can be made visible, if these hidden files are modified, they can be permanently destroyed.

Macintosh files copied or moved on the server by a Windows client can lose their icon information, and Macintosh long names because the Windows File Manager does not support these file attributes. The workaround is to open the file within the Macintosh application while icon information can either be replaced by using ResEdit, or pasting the appropriate icon into the Get Info box for the desired file.

Macintosh files where all data is contained in the data fork can be modified, and no data is lost. However like before the Icon appears as a generic icon, and the file name is shortened.

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AppleShare Windows Client: Best Routing & Lost Packets

This article describes a problem with NSI 1.5 installed on AppleShare File Servers when AppleShare Client for Windows PCs transfer large amounts of data.
This article has been archived and is no longer updated by Apple.
The AppleShare Client does not use Best Routing completely. Without Best Routing, a problem may occur which causes the router to pass the returning packet to another router, rather than to the PC workstation. The Network Software Installer (NSI) 1.5.1 installed on the AppleShare server fixes this. Be sure NSI 1.5.1 is installed on the server.

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AppleShare Client for Windows: Questions & Answers

This article provides a brief list of common AppleShare Client for Windows questions and answers.
This article has been archived and is no longer updated by Apple.
Question: What does the error message "Your System is configured with an incompatible network driver" mean?

Answer: Only one AppleTalk stack can be loaded on a workstation. See PROBLEMS.WRI located on installer Disk 1 for step-by-step instructions for removing Farallon's PhoneNet PC.

Question: What does the error message "AppleTalk Driver was not loaded. Please reinstall AppleShare" mean when Windows is starting up?

Answer: This error message is indicative of the following:
* Incorrect NET.CFG parameters
* Conflicting NET.CFG files
* Unsupported NIC
* Computer was not restarted after installation
* The call to ATDRIVER.BAT is located after Windows is executed in the AUTOEXEC.BAT.

Question: Why does the File Manager's Properties button not always show the type and creator?

Answer: The AppleShare Client looks to see if the application used to create the document is on the same volume.

Question: Why do certain applications sometimes crash when saving?

Answer: This occurs when saving documents with applications that have been configured with a different AppleTalk stack like Claris's FileMaker Pro.

Question: Can I Mount a volume on Drive B?

Answer: Yes, AppleShare Client lets you do this, however File Manager does not see any files on this drive. "DIR" from a virtual DOS computer sees the files.

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MacTCP and Different Connection Configurations (6/95)

I have a PowerBook 540c 12/320, with System 7.5, and MacTCP 2.04. I use an Ethernet connection at work and a PPP connection at home. When I was at work the other day, I clicked on the Ethernet icon in the MacTCP control panel to change the addressing configurations, clicked OK, and then checked the PPP configuration.

When I clicked on the PPP icon, the configuration had changed to the EXACT SAME THING as the Ethernet configuration. It's as though the Ethernet configuration just swallows up the PPP configuration. Do you know what is going on?

This article has been archived and is no longer updated by Apple.
MacTCP writes it configuration information to a file in the preferences folder called MacTCP Prep. When you make any kind of change in the MacTCP control panel, it will write that change to the MacTCP Prep file. This can be a problem if you are working with a couple of different configurations.

One work around it to save copies of your MacTCP Prep file and copy in the one you want to use. There is also a program called MacTCP Netswitch written by David Walton of the University of Notre Dame that automates this process. To find MacTCP Netswitch the URL is:

http://www.nd.edu/~dwalton1/netswitch.html

Support Information Services
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Apple CD-ROM Drives: Designed For Horizontal Operation

Will the AppleCD 300 or AppleCD 600 drives operate on their sides? I am not able to get it to work on its side.
This article has been archived and is no longer updated by Apple.
Although you may have been successful in getting the AppleCD 300 and 600 to operate on its side, these mechanisms were not designed, tested, nor intended to be operated in the vertical orientation and therefore operating the drives in this position is not supported by Apple.
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Macintosh: Cable or Pin Connections to Hayes External Modems

This article has been archived and is no longer updated by Apple.

TOPIC ----------

What cable do I use to connect my Macintosh II to a Hayes external modem? Can you give me information on how to build my own?

DISCUSSION ----------

An Apple-manufactured cable, part number A9C0314, connects a Macintosh Plus, Macintosh SE, or Macintosh II to any Hayes external modem. This cable also works with most Hayes-compatible external modems. The cable is listed on product sheets as the Apple II Printer - 8 Cable.

You can also build your own cable with these pin connections:

Mini Din-8 Male DB-25 Male
--- ---
1 HSK 20 DTR
3 TXD - 2 RXD
4 GND 7 GND
5 RXD - 3 TXD

Published Date: Feb 19, 2012

Multiple Scan 15 Display: Display Adapter Required for PC (9/96)

I want to use the Multiple Scan 15 Display on a PC compatible computer. The Multiple Scan 17 Display ships with a PC adapter, but not the Multiple Scan 15 Display. Is the Multiple Scan 17 Display adapter compatible with the Multiple Scan 15 Display?

This article has been archived and is no longer updated by Apple.

Yes, the PC Adapter from the Multiple Scan 17 Display is compatible.

You need purchase the PC Adapter as a service part from an Apple reseller. The PC adapter is service part number 922-0736.

The Tech Info Library article "Multiple Scan 15 Display: Technical Specifications" contains additional information on video resolutions supported by the Multiple Scan 15 Display.

Article Change History:
11 Sep 1996 - Clarified the discussion, changed distribution.
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LaserWriter PostScript Fax: Needs QuickDraw GX Helper (6/95)

I am using QuickDraw GX 1.1.2 but have had to turn it off in order to use the PostScript fax card option in my printer. Is there any other way around this?

This article has been archived and is no longer updated by Apple.
If you custom install QuickDraw GX Helper you can use the LaserWriter 8f driver by turning OFF Desktop Printing (ONLY works with non GX-saavy applications). Here is a quick procedure for setting it up:

Step 1

Before installing QuickDraw GX Helper, make sure that the only LaserWriter extension in the Extensions folder is LaserWriter 8f. If others are installed, then GX Helper defaults to those first.

Step 2

Select LaserWriter 8f in the Chooser and click "Setup" on the desired printer; this selects the correct PPD.

Step 3

Install GX Helper by doing a custom install for GX, and then restart your Macintosh computer.

Step 4

Once the system is up, launch the desired non-QuickDraw GX aware application and select "Turn off desktop printing" from the Apple menu. A dialog appears stating that LaserWriter 8f will be used instead.

Support Information Services

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Apple Internal HD Format: Version History

Could you please detail the difference between each of the versions of Internal HD Format that Apple has released, including which machine each has shipped with?

Does the version 1.3 of Internal HD Format have any additional benefits for Macintosh 630 family computers?

The following computers are in the Macintosh 630 family: Performa 630, Performa 635, Performa 636, Performa 637, Performa 638, LC 630, and Quadra 630.
This article has been archived and is no longer updated by Apple.
Internal HD Format History

The Internal HD Format utility ships with Macintosh computers that have an internal IDE drive. The first Macintosh computers to include an internal IDE drive were the PowerBook 150 and the LC/Quadra/Performa systems.

The version history is as follows:

1.0 - Initial release for the PowerBook 150

1.1 - Released with the LC/Quadra/Performa 630
* Updated version string information to reflect System Software 7.1.2 and File Version 1.1

1.2 - Never officially released
* Never released because the version string information was changed incorrectly.

1.3 - Released with the Performa 5200/Power Macintosh 5200/75 LC
* Updated version string information to reflect System Software 7.5.1 and File Version 1.3

NOTE: Later versions of the Performa and Power Macintosh 5200/6200 computers had a new formatting scheme that Internal HD format was unable to read or initialize. Drive Setup 1.0.2 is the supported formatting software for these IDE hard drive equipped computers. Use the search string 'hd format and drive setup' to locate the TIL article "Internal HD Format: Cannot See IDE Drives" for additional information.

Functionally, the Internal HD Format utility versions 1.0 through 1.3 are the same. There is no benefit to using 1.3 over 1.1 or 1.0. Macintosh Users with internal Apple IDE hard drives may use any of the above versions.
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At Ease 2.0.3 for WG: Searching for At Ease Server

I have At Ease for WorkGroups, and this morning all the workstations have the following message on the screen, "Searching for the At Ease Server volume". I can see the server in the Chooser on the workstations when they're in the Finder, but At Ease doesn't see it. How do I fix this?
This article has been archived and is no longer updated by Apple.
You should follow the steps below to resolve your problem:

1) Set the At Ease Disk to be the startup volume
2) Restart
3) Reset the At Ease Disk to be the server
4) Restart and verified that the computer is using the server
5) Updated all the other computers on the network
6) Ran At Ease Setup on each computer to use the new preferences file

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At Ease 2.0.3 for WG: Lock Hard Disk & Driver Software

To lock a hard drive within At Ease for Workgroups v2.03 the hard drive must be formatted with formatting software compatible with At Ease. The manual does not list which format software is compatible. Which format software can be used?
This article has been archived and is no longer updated by Apple.
The formatting software known to be compatible is Apple HD SC Setup and Drive7. Many others do work but engineering does not have a list of compatible formatters.

At Ease will provide immediate feedback on whether a specific drive is compatible or not. If At Ease detects an incompatible hard disk, the Lock Startup Volume checkbox is dimmed. You will need to contact the publisher of the driver software to see if a compatible version is available.

Here is some information from the At Ease 2.0.3 Read Me:

Locking the startup disk
==========

When you choose this option, At Ease locks your startup disk by installing security software on it. This security software cannot be installed on hard disks that have been initialized by driver software that is not compatible with At Ease 2.0.3 for Workgroups.

If At Ease detects an incompatible hard disk, the Lock Startup Volume checkbox is dimmed. Contact the publisher of the driver software to see if a compatible version is available. The At Ease security software cannot be installed on any hard disk partitioned with A/UX.

Updating disk drivers
==========

If you need to update the driver software for a locked disk, first choose Security from the Options menu in the Setup program and click the Lock Startup Volume checkbox to remove the X.

Changing the startup disk
==========

If you lock the startup volume, do not change the startup disk selected in the Startup Disk control panel. If you change the startup disk, your At Ease startup volume will not appear on the desktop when you restart the computer, and you will not be able to reselect it from within the Startup Disk control panel.
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Macintosh Scrapbook File: Maximum Size

What is the maximum size of the Macintosh Scrapbook file?

This article has been archived and is no longer updated by Apple.
The Scrapbook, located in the Apple Menu, has a maximum limit of 255 items. The Scrapbook stores items as resources in the resource fork. All Macintosh resource files have a maximum limit of 2727 resources, however the Scrapbook was designed to hold a maximum of 255 resources.

In addition to only being able to store 255 resources, there is a maximum size limit of the combined resources. The total combined resources of the Scrapbook cannot exceed 16 MB. This limit of 16 MB on the resource fork of a file is a Macintosh Hierarchical File System standard, so it applies to all files, not just the Scrapbook.

For information on working around these limitations, please see Tech Info Library article 25127: "**Using Multiple Note Pads and Scrapbooks**"

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Volume II, Issue 7, Page 7

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WiggleWorks: Reading Style and Documentation Error (6/95)

There is a feature in WiggleWorks for changing the pace of the Reading Style. In the manual where changes to settings made through the parent menu are described, it refers to this as the read-aloud pace. It should state it as the READ pace. The setting only affects the Read pace for the READ Button.

This article has been archived and is no longer updated by Apple.
Within WiggleWorks when a book is selected, the user is presented with two read buttons. One is labeled READ-ALOUD, where the program reads the text aloud and highlights text as it does so. The other is labeled READ, where the children can read the text on their own or have it read to them.

The READ-ALOUD option is pre-programmed with reading style and voice. Changes to the Reading style do not affect the READ-ALOUD option. The changes to the reading style ONLY affect the Read Button. A change to reading style can be made by the user during the current run of the program. If a parent or teacher wants the change to the reading style to be permanent they must go through the Parent menu.

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Apple Media Tool: QuickTime VR Compatibility

Can QuickTime VR movies be incorporated into multimedia projects created with the Apple Media Tool?
This article has been archived and is no longer updated by Apple.
The Apple Media Tool 1.x does not currently support QuickTime VR. However, QuickTime VR is supported using the Apple Media Tool 2.x software. If you want to incorporate QuickTime VR movies into your project, you should upgrade to Apple Media Tool 2.x. The only way to use QuickTime VR movies with Apple Media Tool 1.x would require you to write custom code into QuickTime VR, using traditional programming methods, which could then be incorporated into a Media Tool project using the Apple Media Tool Programming Environment.

An error message, " Error: not a cross-platform movie" occurs while converting QuickTime media through the Check Media of the Apple Media Tool 2.0 Converter application.

The Apple Media Tool Converter application cannot convert QuickTime VR movies to cross-platform. Use the QuickTime Utilities to convert the media. Once the QuickTime VR movie is in a cross-platform format, the movie should play correctly, even if the error appears.
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Color LaserWriter 12/600 PS: Preventing Toner on Paper

I have an Apple Color LaserWriter 12/600 PS, and I am getting small amounts of toner on the printed page. What can I do to prevent it?
This article has been archived and is no longer updated by Apple.
Cleaning the excess toner from the following areas should eliminate the problem:

- Clean density sensor and separation discharge wire with the brush provided. This procedure is described on page 223 of the user's guide.
- Clean the paper pickup area as described on page 226 of the user's guide.
- Printing 10 blank pages will help clean toner off rollers.

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Color LaserWriter 12/600 PS: What the BEST Mode Does

I have an Apple Color LaserWriter 12/600 PS, and want to know what the BEST print quality selection does for the printer?
This article has been archived and is no longer updated by Apple.
Selection of the BEST mode changes the initial paper path from four rotations to five rotations of the transfer drum. This additional rotation allows the paper to fully adhere to the transfer drum before any transfer of the image to the paper takes place. This corrects small registration problems that occur during the imaging of the first color (magenta).

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Color LaserWriter 12/600 PS: Cause of Banding

When I print from Color LaserWriter 12/600 PS, I can see banding. What causes banding?
This article has been archived and is no longer updated by Apple.
Banding is very difficult to measure with instruments, but the human eye is very good at discerning it. With the Color LaserWriter 12/600 PS or the Color LaserWriter 12/660 PS printer it can arise from a number of areas. These include software, image development area, high voltage power, and basic mechanical factors.

Software

One cause of banding is when applications generate colors that do not exist in the printer colorspace*. When this happens, substitute colors are placed next to colors the printer does not have. Some software applications can read the output devices' colorspace, so they will warn you if you are selecting a color outside the colorspace of the device. Unfortunately at time, only a limited number of applications can do this, most will not warn you if you chose a color outside the colorspace of the device.

- Colorspace: The term for the range of colors a device can produce. In general, a monitor has a larger colorspace than a printer. You will see the banding effect with artwork where blends are used since the colors are adjacent to each other. Images that use a lot of shading, such as photographs, also make this effect more apparent.

A "stepping" effect, which can be confused as banding, can be caused by blends where not enough steps are sent to the printer. If the artwork is created with large gaps between color gradations, blends will develop. Some programs automatically generate the number of steps that should exist between the two colors. Changing this value is not recommended, even if it decreases the file size. As a general rule, 256 steps should minimize the effect when blending between two solid primary colors.

The best way to test for banding problems, is to use the test print function on the Color LaserWriter 16/600 PS control panel on the back of the printer.

How To Create A Test Page On The Color LaserWriter

Test Page Pattern Selection

This feature allows you to select one of six test page patterns based upon which pattern would best confirm a print quality issue. Test pattern selection is non-persistent, and after restarting, the test page reverts to the vertical line pattern.

1) Hold down the COLOR SELECT button and press the ENTER button eight times. The four toner lights flash to indicate that you are in the test pattern selection mode.

2) Using the plus or minus buttons, advance the density gauge to illuminate the LED corresponding to the desired pattern. The density gauge flashes when the selected setting differs from the previously entered setting.

NOTE: Only LEDs 4 through 9 on the density gauge correspond to available patterns.

3) Press the TEST PAGE button to choose the desired test pattern.

Note: You can press the TEST PAGE button before or after pressing the ENTER button.

4) Press the ENTER button to engage the setting. If you make no further adjustments, the panel exits from the test pattern selection mode in 30 seconds.

Usage Tips

Once the printer has entered the Energy Saving Mode, a test page is no longer produced, and you must restart the printer in order to print additional test pages. You can either use the printer utility, or cycle the power switch to restart the printer.

Hardware

The engine manufacturer and Apple have worked very hard to minimize the banding. No band that repeats on the page should be greater than 2mm in width. To evaluate the banding print out large vertical solid areas of each color (CMYK) at about 60% coverage, from an application. Look at each and determine if one color is banding worse than the other colors.

NOTE: The human eye does not detect banding in yellow, so do not expect to see it there.

You should expect to see small bands of variations because of mechanical factors. If there are predominate bands about 50mm apart in any one

color it is likely the developer roller in the toner cartridge is causing the banding. If the predominate bands are spaced 38mm or 129mm the cause is likely the Photoconductor cartridge. For additional details on photoconductor banding see the Tech Info Library article titled "Color LW 12/600 PS: Image Defects at Regular Intervals".

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Color LaserWriter 12/600 PS: DeskTop Printing Reqs 7.1.1

The DeskTop Printing Software was not installed with my Apple Color LaserWriter 12/600 PS installation. How can I get the Desktop Printing option?
This article has been archived and is no longer updated by Apple.
If you have System 7.1 then Print Monitor 7.1.2 has been installed. DeskTop Printing software requires System 7.1.1 or higher. Specifically the Finder needs to be 7.1.3 or higher. After installing System 7.1.1 or greater, reinstall the Color LaserWriter 12/600 PS software and DeskTop Printing will be installed.

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Color LaserWriter 12/600 PS: Halo in Bitmapped Text

I have an Apple Color LaserWriter 12/600 PS, and text, created with TrueType or PostScript fonts, prints fine, but equivalent bitmapped text sometimes prints blurry and exhibits a fuzzy halo effect. What is the problem?
This article has been archived and is no longer updated by Apple.
When an object gets a full saturation of two colors, the haloing effect, which is normal to all laser imaging, is compounded. To offset this, the I/O controller checks incoming fonts and decrease their saturations slightly in cases where unacceptable haloing would otherwise occur. For example, a green font (pure cyan with pure yellow) might be adjusted to 80% cyan and 80% yellow. This adjustment does not visually alter the color. Since font ID drives this process, bit-mapped text is ignored and will be imaged as a normal graphic. To offset haloing in graphics, you must make adjustments by hand in the source application.

This information is also applicable to the Color LaserWriter 12/660 PS printer.

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Color LaserWriter 12/600 PS: Matching Color w/ Two Printers

I have two Apple Color LaserWriter 12/600 PS printers, and I get slightly different colors from them. Is there any way to adjust the printers?
This article has been archived and is no longer updated by Apple.
The printer is adjusted at the factory to produce the best possible image quality. All Color LaserWriter 12/600 PS printers come with these default settings in effect. To change the color balance refer to page 254 of the user's guide. This should only be used to make subtle changes to match multiple printers.

NOTE:
One correction to that page of the User's Guide is in the Read Me. On returning to factory default (Step #7), the manual says to first select a color and hold the + and - buttons together. Instead, just hold down the + and - buttons for about 5 seconds and all colors return to the factory default settings.

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Macintosh Plus External 800K Disk Drive: Formatting environments

This article has been archived and is no longer updated by Apple.

Whenever possible, you should update your application disks with the latest System and Finder files.

Below is a list of environments and the consequences for formatting, either in erasing or initializing.

1. Finder 4.1 with System less than 3.0

a. Initalizing: Does not initialize a blank diskette in either drive and displays the message "Init failed".

Using Finder 4.1 with System 2.0, we were able to initialize double-sided disks with no failures. This environment always formatted the disk as an 800K volume.

b. Erasing: When you choose to erase, the Macintosh Plus erases a disk as an 800K volume, even if the disk was previously formatted as a 400K volume.

2. Finder 4.1 with System 3.0

a. Initalizing: Asks if you want single- or double-sided.

b. Erasing: Only double-sided disks (800K)

2. Finder 5.1 with System 3.0

a. Initalizing: Asks if you want single or double sided.

b. Erasing: Single- or double-sided
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Color LaserWriter 12/600 PS: Reducing Oil on Paper

I have an Apple Color LaserWriter 12/600 PS, and I am getting oils spots on the paper. What can I do to prevent this?
This article has been archived and is no longer updated by Apple.
The silicon oil is there to prevent the layers of toner from sticking to the fuser rollers. From time to time an oil spot may appear. Things that may cause it to happen with greater frequency are:

* Not having removed the orange spacers from inside the fuser access door.

* Turning the printer On and Off a number of times in a short period of time. For example, five times in an hour.

* After leaving the printer in idle mode for a long period of time, you may get a few spots of oil on the first couple of pages printed.

* Using recycled paper can plug the fuser's oil filter and cause long oil streaks on the back of the paper. Apple recommends that you use a good quality, non-fibrous paper. You will have to replace the fuser if you continue to use fibrous paper.

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LaserWriter 4/600 PS: Description (11/95)

This article contains a description of the Apple LaserWriter 4/600 PS printer.

This article has been archived and is no longer updated by Apple.

Features
==========

Outstanding Print Quality
---
* Offers 600-dpi resolution
* Supports Adobe PostScript Level 2
* Comes with 64 PostScript and TrueType fonts

Ease of Ownership
---
* Connects simply via the Macintosh computer's built-in LocalTalk port
* Complies with the EPA's Energy Star guidelines for energy-efficient operation
* Prints extremely quietly, and makes no noise at all when not in use
* Features a compact, attractive design
* Desktop printing software allows drag-and-drop printing

Affordability and Expandability
---
* Provides advanced functionality at an affordable price
* Offers memory expansion
* Includes LaserBridge software 2.0 for EtherTalk network connection

Description
==========

The Apple LaserWriter 4/600 PS is an affordable PostScript laser printer that offers a number of advanced print capabilities. It's ideal for individual home, education, and small-business users who require outstanding print quality, PostScript capability and who desire future RAM expansion options.

As easy to own as it is to buy, the LaserWriter 4/600 PS connects simply, via the Macintosh computer's built-in LocalTalk port, and features an attractive, compact design. It also provides state-of-the-art energy efficiency. There's no on/off switch; instead, the printer "wakes up" when needed, operating the remainder of the time in an electricity-saving-and completely silent-standby mode.

Yet for all of its simplicity of set up and operation, the LaserWriter 4/600 PS offers a host of advanced capabilities. It features outstanding print quality, using Adobe PostScript Level 2. And the LaserWriter 4/600 PS comes with 64 PostScript and TrueType fonts.

As your printing needs become more sophisticated, the LaserWriter 4/600 PS is designed to grow to meet them. It supports a 4MB RAM Upgrade, which expands both the printer's memory cache and its ability to print documents that contain large numbers of downloadable fonts. Simply put, the LaserWriter 4/600 PS offers the PostScript printing capabilities you need-now and in the future.

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LaserWriter 4/600 PS: Technical Specifications

This article provides the technical specifications for the Apple LaserWriter 4/600 PS printer.
This article has been archived and is no longer updated by Apple.

Technical Specifications

Print Engine and Controller

- True laser engine
- AMD 29200 RISC processor

Print Quality

- 600-dpi resolution
- 106-line screen
- 122 shades of gray

Memory

- 2MB of RAM standard with Adobe memory booster compression technology which allows printing of complex pages with less memory
- Expandable to 6MB with optional upgrade

Interface

- Connects using the LocalTalk port
- EtherTalk and TokenTalk connectivity through LaserWriter Bridge 2.1 software

Print Speed

- Four pages per minute maximum (actual speed varies depending on images printed and computer used)

System Requirements

- Macintosh computer with a 68020 or higher central processing unit (CPU). Any Macintosh except a Macintosh Plus, SE, Classic, Portable, or PowerBook 100 will work with the LaserWriter 4/600 PS.
- System software version 7.1.1 or later
- 4MB of RAM or more recommended

Software

- 64 scalable TrueType and 35 PostScript fonts included
- LaserWriter driver utility and new desktop printing with new print monitor

Fonts

- Apple Font Library (64 fonts total)
- Compatible with any TrueType or PostScript font

35 fonts in ROM from the following font families:		
Avant Garde	Bookman	Courier
Helvetica	Helvetica Narrow	New Century Schoolbook
Palatino	Symbol	Times
Zapf Chancery	Zapf Dingbats	

29 fonts on Macintosh disk from the following font families:		
Chicago	Delphian	Garamond Narrow
Geneva	Helvetica Black	Helvetica Compressed
Lubalin Graph	Lucida Bright	Machine

Monaco	Nadianne	New York
Old English Text	Onyx	Oxford
Swing	Zeal	

Paper Capacities

- Standard
  - Manual feed tray
  - 100-sheet universal cassette

Print Materials

- 16- to 28-lb. (60 to 80 g/m2) bond
- Paper: U.S. letter, U.S. legal, A4, executive
- Most letterhead and colored stock, labels, and envelopes
- Medium-weight photocopier transparencies

Power Requirements

- U.S./Japan: 100 to 115 V, 50 to 60 Hz
- Europe/Australia: 220 to 240 V, 50 Hz

Power Consumption

- Operating mode: 120 W average
- Standby mode: <10 W

Environmental Requirements

- Temperature: 50 to 90 deg. F (10 to 32 deg. C)
- Humidity: 20% to 80% noncondensing
- Toner cartridge transit environment: -4 to 104 deg. F (-20 to 40 deg. C)

Size and Weight

- Height: 6.3 in. (16.1 cm)
- Width: 15.2 in. (38.5 cm)
- Depth: 14.9 in. (37.9 cm)
- Weight: 15.4 lb. (7 kg) not including cartridge

Maximum Printable Area

The maximum margins and imageable area for Letter and Legal paper on the LaserWriter 4/600 are:

Maximum Margins		
Margins	Letter	Legal/US Legal
Left	.10	.10
Right	.19	.19
Top	.17	.15
Bottom	.13	.13

Maximum Imageable Area	
Letter	Legal/US Legal
8.21 x 10.7	8.21 x 13.72

Note: The results are posted in fractions of an inch.

Ordering Information

TA33845_LaserWriter_PS_Technical_Specifications_(TIL17883).pdf

- Apple LaserWriter 4/600 PS: M3898

- Apple LaserWriter 4/600 PS
- User's guide
- Limited warranty card and toner

- Apple 4MB RAM Upgrade*: M4166G/A
- Toner Cartridge: M2045G/B
- 100-Sheet Universal Cassette: M2079G/B

*** NOTE:** Requires dealer installation.

Published Date: Feb 19, 2012

Third-Party NuBus DOS and Windows Options

I have a Power Macintosh and some earlier Macintosh Quadra computers, is there a hardware option for running DOS and Windows applications on them?
This article has been archived and is no longer updated by Apple.
Yes, below are a few options you might consider. Apple does not recommend any third-party product over another.

OrangePC from Orange Micro
This is a NuBus card powered by a user selection of Intel 486 processors up to the DX 4/100. Additional features include up to 32 MB of onboard RAM, Super VGA graphics, file sharing, printing to the network printer and cut and paste between the Macintosh and PC environments. Optional features include serial and parallel ports and a PCMCIA slot for PC network connections.

DOS on MAC from Reply Corporation
This is a PDS Card powered by a user selection of Intel 486 processor up to DX 4/100 or Intel Overdrive DX/4. This card is currently available for Power Macintosh 7100/66, Centris 610, 650, Quadra 610, 650, 700, 800, 900 and 950 Macintosh systems. Additional features include up to 64MB of onboard RAM, second level cache, VGA and SVGA graphics, support for second monitor, printing to network printer and cut and past between Mac and PC environments. Optional features include serial and parallel ports, Network support including Novell Netware, TCP/IP, Windows for Workgroups for Ethernet and Token Ring and Creative Labs Sound Blaster 16 support.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.
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Macintosh 630 Series Computers and SCSI Manager 4.3.1

Customers who have a Macintosh LC 630, Quadra 630, or Performa 630 series computers and are performing large transfers of data to an external SCSI drive will need to install the "630 SCSI Update" extension in order to alleiviate a potential system error from occuring.
This article has been archived and is no longer updated by Apple.
The 630 SCSI Update was rolled into SCSI Manager 4.3.1 which is installed as part of System 7.5 Update 1.0. The installer for System 7.5 Update 1.0 will remove the 630 SCSI Update extension but will fail to install the SCSI Manager 4.3.1 extension unless a custom install is performed. A user must perform this custom installation by:

1. Double Click on Install System 7.5 Update document.
2. Click the Continue... button at the information screen.
3. Select the Custom Install command from the pop-up menu in the upper left portion of the Install window.
4. Scroll down to Extensions in the list of features to install and click on the triangle to the left, a sub listing will appear underneath.
5. Locate SCSI Manager in this list and click the checkbox to the left to select it.
6. Click the Install button and follow the instructions.

This will install the SCSI Manager 4.3.1 extension into the extensions folder located in the System folder.
Published Date: Feb 19, 2012

MAE 2.0 and Volumes Larger Than 2 GB Problem (6/95)

MAE 2.0 on Solaris 2.4 shows negative file sizes on volumes larger than 2 GB. Some of my application's installers will not install because there is not enough disk space. My home directory is a volume larger than 2 GB.

This article has been archived and is no longer updated by Apple.
This is a known issue and has been reported to engineering for investigation. As of June 1995 there is no time table for resolution.

Support Information Services
Published Date: Feb 19, 2012

Apple Displays: Gamma Numbers Associated w/ Gamma Tables (6/95)

I am looking for the specific gamma numbers associated with the gamma tables; standard, uncorrected, and page white.

This article has been archived and is no longer updated by Apple.
I assume you are referring to the gamma option settings in the Monitor control panel. Below is a little background for gamma correction and the Monitor control panel choices.

Background

All CRTs have a non-linear relationship between light output and the video (cable) voltage input. The Monitor control panel gamma settings are used to correct non-linear light output for CRT type displays.

The gamma values that the Monitor control panel uses were originally derived for the first Macintosh RGB display from Apple. These values have been used since then, but may vary depending on the DAC/CLUT used in different Macintosh video circuitry. Also, many displays of the same model of any RGB monitor may show variances in gamma response due to the nature of CRTs and analog circuitry. Any mass produced display (Apple or non Apple) will have these variances.

The only method of obtaining accurate gamma response with any color display will be to use specialized light measurement devices with individual displays. The corrected gamma values that are given below are approximate values and can only be considered to be best estimates.

Uncorrected Gamma

Uncorrected gamma provides a linear output for each of the red, green and blue video lines for stepped gray bars. This uncorrected gamma refers to the video signaling provided by the CPU and not the gamma value for the display. Uncorrected or linear gamma always has a value of 1.0.

Corrected Gammas

Macintosh Standard Gamma

The gamma value of the Macintosh Standard gamma refers to the video signaling provided by the computer and not the gamma value for the display. Macintosh Standard Gamma provided a video output that would help to correct for the Apple Color RGB Displays non-linear gamma. The Macintosh Standard Gamma had a value of 0.7 when using an original Mac video card. This corrected for the displays gamma of 1.4.

Page-white Gamma

Page White Gamma provides a non-linear gamma video output to correct for
display non-linearity similar to Macintosh standard gamma. The original Page White Gamma had a value of 0.7. This corrects for a display gamma of 1.4. Additionally, Page-White Gamma provides a shift in color balance attempting to maintain a 6500 degree white point and colorless gray shades with the Apple Color RGB Display. This color balance shift was designed to correct for the displays original white point of 9300 degrees.

When reading the above, it is important to differentiate between the gamma value of the video signal and the gamma value of the display. The corrected gamma in the video signal is designed to couteract the non-linear gamma response of a particular display. If someone needs values for a color correction application, any monitor gamma parameter value between 1.4 and 1.8 should be sufficient. If a specific value is desired, a safe choice would be 1.4 or 1.6.

I would recommend not to get concerned about specific and exact numbers because display variances are probably larger than the fractional differences between these numbers. Screen measurement and calibration products are much better if you need exact corrections.

Support Information Services

Published Date: Feb 19, 2012

QuickTime: QuickTimeLib Not Available Message

When I launch a program on my Power Macintosh, it tells me that it cannot find QuickTimeLib. I have searched my hard drive but cannot find it. What is it and how do I get it?
This article has been archived and is no longer updated by Apple.
QuickTimeLib is a code fragment that is part of the QuickTime PowerPlug extension. If QuickTime PowerPlug is disabled, damaged, or deleted you may get this message. The QuickTime PowerPlug extension can be reinstalled by performing a custom installation of QuickTime in the System 7.5 installer. For additional information on Power Macintosh code fragments, please see the following Tech Info Library article:

Article 14865: "**Power Macintosh: Run Time Environment**"

QuickTime 2.5
With the release of QuickTime 2.5 the QuickTimeLib not available message may be occurring because the Extensions Manager control panel is not recognizing the QuickTime PowerPlug (as well as QuickTime Musical Instruments) as part of the "System 7.5.x Only" set. If a user restarts with the "System 7.5.x Only" set, the Extensions Manager will not recognize these two extension and they will not load. Users need to make sure these extensions are active.

The reason for this is because, with QuickTime 2.5, the creator types for QuickTime PowerPlug and QuickTime Musical Instruments changed so these extensions could have their own individual icons. Since the creator types are different, and the Extensions Manager uses the creator type to recognize system extensions as part of the "System 7.5.x Only" set, the new creator type is not recognized as part of the "System 7.5.x Only" set.
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MacTerminal 2.0 3278 emulation: Functions on different keys

This article has been archived and is no longer updated by Apple.
With AppleLine:
(Hexidecimal equivalance of Enter: 0D0A or 1B4F4D)

Function: Break Enter Long Send Answerback
Break Message

key or keys:

Pull-down
keypad ---- ---- ---- ----

on Macintosh
OLD KEYBOARD see Enter Shift Command
note Enter Enter

OLD KEYPAD ---- Enter ---- ----

on Macintosh XL
KEYBOARD see Enter Shift Command
note Enter Enter

XL KEYPAD ---- Enter ---- ----

on Macintosh Plus
KEYBOARD see Enter ---- ----
note

Note: Connected to an AppleLine, MacTerminal 2.0 has no 3278 "Break" function
on the Macintosh, Macintosh XL, and Macintosh Plus.

With Apple Cluster Controller:

Function: Break Enter Long Send Answerback
Break Message

key or keys:

Pull-down
keypad ---- ---- Attn ----

on Macintosh
OLD KEYBOARD ---- Enter Shift
Enter

OLD KEYPAD ---- Enter ---- ----

on Macintosh XL
KEYBOARD Enter Shift Control
Enter Enter

XL KEYPAD ---- Enter ---- ----

on Macintosh Plus
KEYBOARD ---- Enter ---- ----
Published Date: Feb 19, 2012

7.5 Update 1.0 CD: Does Not Include MegaPhone or SITComm

I recently received the System 7.5 Update 1.0 CD from the Apple Order Center which has Apple Telecom 2.0 software, however the CD does not include MegaPhone or SITComm. How do I get them?

This article has been archived and is no longer updated by Apple.

MegaPhone is available for download from the Apple Software Updates web site at **http://www.apple.com/swupdates**. Enter Megaphone in the search field to locate the software.

Published Date: Feb 19, 2012

PlainTalk 1.3: Speech Macro Editor Missing Documentation (6/95)

The Introduction to Speech Guide with PlainTalk 1.3 refers users to the Appendix in the PlainTalk manual that comes with the computer. However, no PlainTalk 1.3 information comes with this manual.

This article has been archived and is no longer updated by Apple.
This is a documentation error. All necessary PlainTalk 1.3 information is included in Balloon help.

For more scripting information, refer to the QuicKeys Guide for QuicKeys if you have QuicKeys, or an AppleScript scripting help book available in book or computer stores.

Support Information Services
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Performa 5200: Global Village TelePort & Busy Serial Port

Every time I start up my Macintosh Performa 5200 computer I get a message stating that the modem cannot be found. When I try to reset the modem from the TelePort control panel the computer tells me the serial port is busy.
This article has been archived and is no longer updated by Apple.
The following issue has been reported on Macintosh Performa 5200, 580, 640, and Power Macintosh 6100 series computers. On startup, when the Global Village Registration software launches, it puts up a stop alert stating:

"Can't find or can't access a modem to use for registration. Make sure you have Global Village software installed correctly, reboot your computer, and try again. If you want to use a specific modem for registration, select it from Chooser."

If you try to reset the modem in the TelePort control panel, you get a warning alert stating:

"The current port is busy and cannot be opened. Quit any open communication application, or turn off AppleTalk in the Chooser (if the modem is connected to the Printer port), and then reopen the TelePort control panel."

Extensive testing indicates that the situation can be reproduced simply by restarting the computer while the network is set to anything besides AppleTalk active in the Chooser, and LocalTalk as the network in the Network control panel.

Solution

The "Busy Serial Port" issue is a software problem. Not a hardware problem. Global Village has provided Apple with an update, GlobalFax 2.5.2P Update, which will correct the problem.

Install the update following these steps:

1. Restart the computer with Extensions Off by holding down the Shift key at startup.
2. Double-click on the Performa GlobalFax 2.5.2 Update icon.
3. Click the Update button and watch for an update confirmation window.
4. Restart the computer.

While these steps will update the Global Village software currently on their computers, users should be advised to keep a backup copy of the Update program in case they reinstall the software from their backup CD. At that time, they would need to run the Update program again.
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Apple Media Tool: Styled Text Requires Additional Filters

Does the Apple Media Tool support more than one text style in a text media element? If so, how can I import formatted (styled) text from word processors like MacWrite Pro, Microsoft Word, or others?
This article has been archived and is no longer updated by Apple.
The Apple Media Tool is very limited in the text it supports. You cannot import formatted text from MacWrite Pro, Microsoft Word, or other word processors. This is because of the cross-platform requirements of the Apple Media Tool. Art of Memory Ltd. (+44 (0) 1386 841496 or AppleLink UK0304) has an Apple Media Tool Programming Environment package called TextPak, which allows much greater text handling capability when using the Apple Media Tool Programming Environment.

Because all text used within TextPak is held as plain ASCII, with embedded style commands, the texts used in your project can be easily maintained separately from your program code, in the same way that the Apple Media Tool separates media items from code.

Tech Info Library Article 17159: "**Locating Vendor Information**" can help you search for a particular vendor's address and phone number.

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Art of Memory Ltd.

Art of Memory Ltd.

This article has been archived and is no longer updated by Apple.

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Company Profile: Makers of TextPak, an application that allows users of the Apple Media Tool Programming Environment to implement high quality text handling on both Macintosh and Windows platforms.

Support Information Services
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DOS Compatible Products: Frequently Asked Questions

This document contains the answers to frequently asked questions (FAQ) about Apple's cross-platform (DOS compatible) products.

Questions In this FAQ:

1. I have an AppleCD 300e Plus CD-ROM drive and want to use it on a PC-compatible computer. Where can I get the drivers for it?

2. I have a DOS Compatibility Card and am getting an error message at startup: "PC Network Extension: AgentOpen () returned -1." How can I stop this?

3. I have a DOS Compatibility Card and when I try to switch to the PC side, I get an this error, "Diskette error-correct problem and press any key to retry." Why?

4. What operating systems does the DOS Compatibility Card support?

5. What kind of memory does the DOS Compatibility Card use?

6. How do I install the DOS mouse driver on my DOS compatible?

7. Can I use a third-party CD-ROM drive with my DOS Compatibility Card?

8. I have a DOS Compatibility Card and when I try to switch to the PC side, I get an this error, "Write Protect error writing drive C Abort,Retry, Fail?" Why?

This article has been archived and is no longer updated by Apple.

1. I have an AppleCD 300e Plus CD-ROM drive and want to use it on a PC-compatible computer. Where can I get the drivers for it?

Answer: Apple does not write MS-DOS software drivers for any AppleCD player. MS-DOS drivers are written by other developers for Apple. The Apple Multimedia Kit for Windows includes a third-party SCSI adapter card with the appropriate CD-ROM driver software. The software can only be distributed with the Apple Multimedia Kit. You may want to look in the Redgate Macintosh Product Registry to locate a possible third-party solution. Corel and Trantor are two possible suppliers of CD-ROM driver software.

2. I have a DOS Compatibility Card and am getting an error message at startup: "PC Network Extension: AgentOpen () returned -1." How can I stop this?

Answer: The PC Network Extension lets the DOS Compatibility Card access built-in Ethernet. The error message results when the PC Network Extension is looking for a network that is not present. Usually this is because AppleTalk is off. To eliminate the error at startup, you have three options.

- Upgrade to version 1.0.7 of the PC Setup software.
- Use the Chooser to turn AppleTalk on.
- Drag the PC Networking Extension from the Extensions folder to the Trash (provided that you are not using a PC network)

The PC Network Extension is not required unless you plan on using network services on the DOS Compatibility Card. If you are using the DOS Compatibility Card's networking capabilities, make sure AppleTalk is active.

NOTE: PC Setup software v1.0.7 is not compatible with the DOS Compatibility Card for the Macintosh Quadra 610 or Centris 610.

3. I have a DOS Compatibility Card and when I try to switch to the PC side, I get an this error, "Diskette error-correct problem and press any key to retry." Why?

Answer: You are getting the disk error because there is no drive container selected. Open the PC Setup control panel and make sure that the C:\\> option does not say None. If it does, pull down that C:\\> menu and select another drive file. Look for a file named PC Drive File. That is the factory installed drive container. If you can not find it, you need to create a new drive container. Consult your DOS Compatibility Card User's Manual for complete instructions.

4. What operating systems does the DOS Compatibility Card support?

Answer: The operating systems certified for use in the various PC Compatibility Cards / Computer Models are:
MS-DOS 6.22, Windows 3.11, Windows 95

- Power Macintosh 6100/60 DOS Compatible

- LC 630 DOS Compatible
- Performa 640CD DOS Compatible
- Performa 641CD DOS Compatible.
- Power Macintosh 7200/120 DOS Compatible.
- 12" Pentium PC Compatibility Card/100Mhz
- 7" Cyrix 586 PC Compatibility Card/100Mhz
- 12" Pentium PC Compatibility Card/166Mhz,
- Power Macintosh 7200/120 DOS Compatible.
- Quadra 610 DOS Compatible and Centris 610 with 486SX PC card are not compatible with Windows 95.

Notes:

- Windows NT, Windows for Workgroups, OS/2, and Apple OPENSTEP are not certified on any of the existing PC Compatibility Cards.
- Although Windows 95 is compatible with Apple's DOS Compatibility Card, it is supported by Microsoft, not by Apple.
- Windows for Workgroups works in a limited fashion on the DOS Compatibility Card, however Apple does not support this operating system on the DOS Compatibility Card.

5. What kind of memory does the DOS Compatibility Card use?

Answer: The DOS Compatibility Card has a slot for one SIMM. It can be filled with a 72-pin, 80 nanosecond, non-Composite SIMM. The DOS Compatibility Card can accommodate up to 32 MB of RAM.

6. How do I install the DOS mouse driver on my DOS compatible?

Answer: The following information has not been fully tested by Apple, so this method is not supported by Apple Computer. You can install a DOS mouse driver by inserting Windows disk #4 into the floppy drive and typing the following at the c:\\> prompt:

EXPAND A:MOUSEHP.CO_ C:\\WINDOWS\\MOUSEHP.COM <RETURN>

Then add the following line to the end of your AUTOEXEC.BAT file: MOUSEHP

7. Can I use a third-party CD-ROM drive with my DOS Compatibility Card?

Answer: Some third-party drives work and others do not, depending on the software provided by the vendor. You should call the vendor of any peripheral you plan on purchasing to verify compatibility with your other products.

8. I have a DOS Compatibility Card and when I try to switch to the PC side, I get an this error, "Write Protect error writing drive C Abort,Retry, Fail?" Why?

Answer: You are getting the disk error because the currently selected drive container is mounted on the Macintosh desktop. You must switch back to the Macintosh side and unmount the drive container before switching over to the PC environment.

For more information on DOS Compatibility see TIL Article 18528:
"**DOS Compatibility Card: Windows 95 Compatibility**"

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MacTest Pro 1.2 and Power Macintosh Upgrade (6/95)

This article describes using MacTest Pro 1.2 with both the Power Macintosh Upgrade Card and the Macintosh Processor Upgrade Card.

This article has been archived and is no longer updated by Apple.
When testing the Power Macintosh Upgrade Card (PDS upgrade M2843LL/A) with MacTest Pro, the Card must be turned off.

When testing the Macintosh Processor Upgrade Card (M3397LL/A) with MacTest Pro, the proper enabler must be installed and the card must be on.

Support Information Services
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ProDOS: Using /RAM and Double High-Resolution Graphics

Whenever ProDOS is booted, it checks the environment; if ProDOS finds a 128K Apple II system, it configures the auxiliary 64K memory bank as a RAM disk named /RAM. This "disk" is catalogued as slot 3, drive 2, since it's comprised of memory on the 80-column card in slot 3.
This article has been archived and is no longer updated by Apple.
If you plan to use this auxiliary memory for high-res graphics, you must protect yourself from /RAM. To construct a space for protecting high-res pages in auxiliary memory while maintaining /RAM as an online storage device, perform the following two steps:

1. Save a "dummy" 8K file as the first entry in /RAM; this file will always be saved at $2000 to $3FFF.

2. Immediately afterwards, save a second "dummy" 8K file to /RAM; this file will be saved at $4000 to $5FFF.

IMPORTANT NOTES:

1. There is no formula for determining where the blocks of /RAM physically reside in memory.

2. The logical blocks in /RAM are not physically contiguous.

3. There is no guaranteed way to protect any other fixed portions of auxiliary memory by means of the "dummy" file method.

If you wish to protect all auxiliary memory not reserved for use by Apple, you must disconnect /RAM. The following three areas of the system global page are of interest to anyone who wishes to disconnect /RAM:

$BF10-$BF2F contains the disk device driver addresses.
$BF31 contains the number of devices minus one.
$BF32-$BF3F contains the list of disk device numbers.
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MacTerminal 2.0 VT-100 emulation: Functions on different keys

This article has been archived and is no longer updated by Apple.
MacTerminal 2.0 uses different keys and combinations of keys for the VT-100 "Break" function on the Macintosh, Macintosh XL, and Macintosh Plus. The Macintosh and Macintosh XL have a main keyboard and a numeric key pad; the Macintosh Plus has a keyboard that performs differently.

Function: Break Enter Long Send Answerback
Break Message
key or keys:

on Macintosh
OLD KEYBOARD Enter ---- Shift Command
Enter Enter

OLD KEYPAD ---- Enter ---- ----

on Macintosh XL
KEYBOARD Enter Return Shift, Option, Command
Enter Enter

XL KEYPAD ---- Enter ---- ----

on Macintosh Plus
KEYBOARD Option Enter Shift, Option Command, Option
Enter Enter Enter

Function: Break Enter Long Send Answerback
Break Message

Note: To use arrow keys on the pull-down or regular keypad, hold down the command key then click on or press the arrow key of your choice.
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MAE & Solaris 2.4 and Later: Mounting Mac CD-ROM Discs (1/97)

When running Solaris 2.3, I was able to edit my macdisk.solaris preference file and mount my Macintosh formatted CD-ROM discs and floppies without difficulty. However, since upgrading to Solaris 2.4, I am not able to mount my Macintosh formatted CD-ROM discs and floppies, even though my macdisk.solaris file is set the same way. What is the problem?

This article has been archived and is no longer updated by Apple.

To have CD-ROM discs mount in MAE while running Solaris 2.4 and later (this occurs with Solaris 2.5 also), follow these steps:

Step 1 - (For Solaris 2.4 Only)

Verify that Volume Manager patch 101907-05 has been loaded. Sun recommends this patch when using the Volume Manager. The following UNIX command lists all installed patches:

/etc/showrev -p

Step 2

Under Solaris 2.4 and later, modify the macdisk.solaris file in this manner (scsi6 should be replaced with the correct SCSI ID# of the CD Drive):

scsi6:removable:ro:/vol/dev/aliases/cdrom0

NOTE: After inserting a CD-ROM disc, wait 10 seconds before attempting to mount it in MAE. The Volume Manager must first create an entry in aliases for cdrom0 before MAE can read the alias directory.

NOTE: MAE will only mount MacHFS CD-ROM discs. If it is a UNIX or ISO formatted CD-ROM, you will need to navigate to the /cdrom directory to see the CD-ROM.

This article was published in the "Information Alley":
Volume II, Issue 11, Page 19

Step 3

Relaunch MAE and you will be able to access CD-ROM discs.

Article Change History:

08 Jan 1997 - Made correction for technical accuracy.
30 Jul 1996 - Added step 3.
28 May 1996 - Edited article for clarity.

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LW Bridge 2.0: LocalTalk Printing For Ethernet Users Only

I've loaded the LaserWriter Bridge 2.0 software on a computer connecting the LocalTalk to Ethernet segments of my network. Users on the LocalTalk segment can see the printers on LocalTalk in the Chooser, but they cannot see printers on Ethernet in the Chooser. All of the Ethernet users can access the LocalTalk printers.

Shouldn't the LaserWriter Bridge 2.0 software let my LocalTalk users print to LaserWriters on the Ethernet segment of the network?
This article has been archived and is no longer updated by Apple.
The LaserWriter Bridge 2.0 software is designed to let Ethernet users print to LocalTalk connected printers only.

If you are interested in having LocalTalk access to network services on an Ethernet segment, use the LocalTalk Bridge 2.0 product. This product provides full connectivity in both directions.
Published Date: Feb 19, 2012

Newton MessagePad: LocalTalk Bridge 2.0 Connectivity

I've got an Apple MessagePad which has built in LocalTalk, and an Ethernet network in my office. How can I get my Apple MessagePad to work with Ethernet devices?
This article has been archived and is no longer updated by Apple.
Apple MessagePad users often want to print to Ethernet printers or access the Connection kit on Macintosh computers on Ethernet.

The LocalTalk Bridge 2.0 should work in your situation. This software will allow devices on LocalTalk (including the Apple MessagePad) to see Ethernet devices (like LaserWriter printers or Macintosh computers running the Newton Connection kit).

Remember to set you Newton Connection Kit preferences to "allow connection via network" and do not configure "allow connection via serial port to use the printer port".
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LaserWriter Bridge 1.0 Functions as a LocalTalk Bridge (6/95)

Does the LaserWriter Bridge 1.0 do more than just bridge one LaserWriter? Customers sometimes say they are using it to bridge PowerBook computers, Apple MessagePads, and so on.

This article has been archived and is no longer updated by Apple.
Testing indicates that the LaserWriter Bridge 1.0 functions as a full LocalTalk bridge, however bridging occurs for only the first device the bridge recognizes. Use of the LaserWriter Bridge 1.0 for anything other than a LocalTalk network with one LaserWriter Select 360 is not supported.

Testing indicates that MicroPrint hardware functions as a full LocalTalk bridge as well. Again, Apple supports the MicroPrint for use with only the LaserWriter Select 360, although Sonic's documentation indicates that it works with all printers.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

Support Information Services
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Macintosh Easy Open: MS Word Not Showing In List (7/95)

I am having problems opening MS-DOS document files on a Novell Server using AppleShare and Macintosh Easy Open. All of the files I am trying to open are text files, and when I double-click on the documents, the Macintosh Easy Open dialog appears. However, the list in the dialog box does not include Microsoft Word. Microsoft Excel is listed, and I can open the documents with Microsoft Excel through the Macintosh Easy Open dialog, or by dragging and dropping the files on Microsoft Word. Why is Microsoft Word not a choice in the Macintosh Easy Open dialog?

This article has been archived and is no longer updated by Apple.
In testing this problem, I installed Microsoft Word on a PowerBook 520c and a Performa 636. Microsoft Word would show up in the Macintosh Easy Open list when trying to open 'TEXT' files. However, when I rebuilt the desktop, Word was no longer in the list of applications. I deleted Word, rebuilt the desktop and reinstalled Word. Word appearred in the list of applications again. The installer for Word adds the information it wants to the desktop database which is why Word appears in the application list. However, when the desktop is rebuilt, Macintosh Easy Open adds additional information and Word no longer appears in the list.

The reason Translation Manager (Macintosh Easy Open) behaves like this is because it only uses the 'FREF' resources if the application does not have an 'open' resource. Macintosh Easy Open uses two new resources. These are the 'open' and 'kind' resources.

The 'open' resource is supposed to contain a list of file types that the application can open without any external help, like MacLinkPlus. Another purpose of the 'open' resource is to allow an application to have custom icons for files that it does not want the user to open and prevents the Finder from launching the application when the user tries to open one of these documents. For example, an application can have a settings file with a custom icon by putting the type of the settings file in the 'FREF' and 'BNDL' resources but by not putting the type in the 'open' resource, the Finder does not launch the application if the user tries to open the settings file.

The 'kind' resource contains kind strings the Finder displays. For example, the kind string for a read only SimpleText document is "SimpleText read-only document."

Some applications have a 'FREF' resource for files of type '****'. This is wildcard file type and means any file can be dropped on the application. However, in the 'open' resource, Macintosh Easy Open treats this as a file type and not a wild card type. Microsoft Word's 'open' resource only contains the '****' file type. For example, when attempting to open a file with a creator type of '****', Word shows up in the Macintosh Easy Open application list. However, when attempting to open a file with a creator type of 'ZZZZ', Microsoft Word was not in the list of applications.

According to the Macintosh Easy Open engineer, having only '****' in the 'open' resource is a mistake. However, the Translation Manager documentation does not indicate if '****' is a valid file type; there is no mention of wild card file types. Wild card file types are described in the Finder Interface documentation.

It appears Microsoft thought that by putting the wild card file type in the 'open' resource, Word would show up in the list no matter what file the user was trying to open. However, Macintosh Easy Open does not support wild card file types. Other applications have the '****' type in the 'open' resource but they also have other types as well. Microsoft Word seems to be the only application that has only the '****' type in the 'open' resource. Please contact Microsoft at (206) 454-2030 for additional help with this problem.

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Volume II, Issue 7, Page 14

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27 Jul 1995 - Updated from Info Alley.

Support Information Services
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Global Village Modems: Frequently Asked Questions

This document contains the answers to frequently asked questions (FAQ) about Global Village modems, which are bundled with Macintosh Performa computers.
This article has been archived and is no longer updated by Apple.
Question: Did my Macintosh Performa computer come with software that lets me connect to a local bulletin board system (BBS)?

Answer: All Performa computers come with a "Works" style package, such as ClarisWorks, Microsoft Works, Symantec Greatworks, or WordPerfect Works. These applications include a terminal emulator, usually under the heading of "communications". They let you use your Macintosh computer as a terminal. See your "Works" documentation for more information. There are also many software packages available commercially and as shareware on online services, such as CompuServe and America Online as well as Internet Web sites such as http://shareware.com/

Question: I have a TelePort Bronze modem, and it does not appear to receive faxes. What should I do?

Answer: Your modem is capable of receiving faxes, but your computer must be equipped with software that can support this capability. Your computer currently comes with a "send only" capability. The "receive" fax capability is sold and supported directly by Global Village. Please contact their sales department at 800-736-4821 for sales and additional information on this product.

Note: All Macintosh Performa 6100 series computers, the Performa 637, and the Performa 560 come with a "receive" capability as part of the software bundle. The following computers are in the Macintosh Performa 6100 series: Performa 6110, Performa 6112, Performa 6115, Performa 6117, and Performa 6118.

Question: Can I upgrade my TelePort Bronze to a faster modem?

Answer: Global Village offers an upgrade program for Performa customers. For more details, call their sales number at 800-736-4821.

Question: Where can I obtain the Global Village 2.5 upgrade, and what does it do?

Answer: Global Village sells this upgrade directly to their customers for a nominal fee. You need to call their sales number at 800-736-4821 for pricing and specifications.

Question: I am having trouble connecting to my internet service provider with my PPP and SLIP utilities. How can I correct this?

Answer: If the modem works in other respects, such as connecting to online services, BBSs, or as a fax modem, then the difficulty is likely caused by the configuration of the Internet software. You should contact your internet service provider for support in configuring the software.

Question: I bought a new fax modem, and I get an error message stating the serial port is in use whenever I try to use America Online or try to fax. What should I do?

Answer: The modem port can only be in use by one application at a time, so you need to make sure that no other program (such as America Online) is currently running. If the problem persists, the old fax software may be conflicting with your new software. To correct this, you should remove the old fax software and restart.

* If you have a Global Village TelePort Bronze, the old software is stored here:
- System Folder: Apple Menu Items: Fax Center
- System Folder: Extensions: GlobalFax
- System Folder: Control Panels: TelePort/Bronze (called "Fax Modem" on some computers)
- System Folder: GlobalFax Files
- System Folder: GlobalFax Personal

* If you have a Global Village TelePort Gold II, the software is stored here:
- System Folder: Apple Menu Items: Fax Center
- System Folder: Control Panels: TelePort Serial
- System Folder: Extensions: Global Village Toolbox

- System Folder: Extensions: GlobalFax
- System Folder: GlobalFax Files
- System Folder: GlobalFax Personal

Note: "GlobalFax Files" contains any faxes you may have sent with the Global Village modem. You may wish to retain that folder, and Fax Center, so you can review any messages you may have sent if necessary.

If you move all of the above files to a single folder, they are "de-activated" by the system software after you restart. There is no need to throw them away, unless you want to reclaim the hard disk space. If you throw them away, make sure you have made a backup of the software or your System Folder. If this does not solve the problem, it could be a configuration issue with your third-party software, and you should contact the manufacturer for support.

Question: I would like to receive faxes, but do not want to leave the computer on. Can I do this?

Answer: No. The computer must be on and the fax software must be loaded in order to receive faxes.

Question: I want to use my Global Village modem with SoftWindows. Can I do this?

Answer: The modem itself works with SoftWindows or the DOS Compatibility Card. In fact, the hardware works on any type of computer you can physically connect the modem to. However, the Global Village software does not work under MS-DOS/Windows. If you want to use the modem on some other type of modem other than a Macintosh computer, you need to use different software.

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Newton MessagePad: Different Types of Reset

What are the different types of reset on the Apple MessagePad?
This article has been archived and is no longer updated by Apple.
There are four types of reset on the Apple MessagePad; Soft Reset, Power Reset, Hard Reset, and Cold Boot. Instructions for performing all four types of resets are included below.

Soft Reset
A Soft Reset resets the Newton OS. It does NOT erase any data or handwriting training on the Apple MessagePad. However, you should check the Time in the Date and Time Prefs preferences file. The clock in the Apple MessagePad may lose some time when you press the Reset button.

1. Press and release the Reset button in the battery compartment for two seconds.
2. If the Apple MessagePad is on, it restarts itself. If the MessagePad is off, it turns itself on.

Power Reset
A Power Reset resets the Newton OS and the Power Manager. No user data, Preferences, or handwriting training is erased.

1. Press and hold down the Reset button in the battery compartment.
2. Continue holding the Reset button and pull down on the power switch. Continue holding the Reset button down for 2 more seconds.
3. Release the Reset button, and continue holding the power switch down until a dialog box appears asking: "Do you want to erase data completely?"
4. Tap on the "No" button.

Hard Reset
A Hard Reset erases all data in the internal memory. Pen alignment is required the next time you use your Apple MessagePad. In addition to pen alignment, the Time Zone, Date, Time, and Prefs need to be set up. Any System Update installed is NOT erased.

WARNING: You should backup your data prior to a Hard Reset.

1. Remove any PCMCIA storage card that may be in the MessagePad.
2. Press and hold down the Reset button in the battery compartment.
3. Continue holding the Reset button and pull down on the power switch. Continue holding the Reset button down for 2 seconds.
4. Release the Reset button, and continue holding the power switch down until a dialog box appears asking: "Do you want to erase data completely?"
5. Tap on the "Yes" button when it asks to erase data. This erases all user data in the internal memory and sets the Newton OS back to factory defaults.

Cold Boot
A Cold Boot erases all data, any System Update installed, and sets the Newton OS back to factory defaults. There are two methods to do this.

WARNING: You should backup your data prior to a Cold Boot.

Method 1

1. Disconnect any AC power.
2. Remove the main batteries.
3. Remove the round Lithium backup battery.
4. Hold the power switch down for 5 seconds.
5. Release the power switch.
6. Repeat steps 4 and 5 four more times.

Method 2

1. Disconnect any AC power.
2. Remove the main batteries.
3. Remove the round Lithium backup battery.
4. Let the Apple MessagePad sit this way for 15 minutes.

NOTES:

- On a MessagePad 120: No data is erased since data is stored in the internal non-volatile Flash RAM.
- On the MessagePad 120, a Cold Boot resets the Power Manager. Pen alignment is required on the next use.
- The Time Zone, Date, Time, and Prefs need to be set up.

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Published Date: Feb 19, 2012

Power Macintosh 9500 Series Video Card:Max. Color Depths

Some Power Macintosh 9500 series computers include an accelerated display card based on the mach64 graphics accelerator from ATI Technologies, Inc. Higher color depths can be obtained in high resolution modes by upgrading from 2 MB to 4 MB with a 2 MB VRAM upgrade module.
This article has been archived and is no longer updated by Apple.
The following table defines the maximum color depths available for a given resolution and memory size.

Monitor	Resolution	Max Colors 2 MB VRAM*	Max Colors 4 MB VRAM*
12-in. Monochrome	640x480	256 grays	256 grays
12-in. RGB**	--	--	--
13-in. Color	640x480	Millions	Millions
15" Portrait Monochrome	640x870	256 grays	256 grays
16-in. Color	832x624	Millions	Millions
Multiple Scan 15	640x480 832x624	Millions Millions	Millions Millions
Multiple Scan 17	640x480 832x624 1024x768	Millions Millions Thousands	Millions Millions Millions
19-in. RGB	1024x768	Thousands	Millions
Two-Page Monochrome Monitor (21-in.Mono)	1152x870	256 grays	256 grays
21-in. Color	1152x870	Thousands	Millions
Multiple Scan 20	640x480 832x624 1024x768 1152x870 1280x1024	Millions Millions Thousands Thousands 256	Millions Millions Millions Millions Thousands
VGA	640x480	Millions	Millions
SVGA	800x600	Millions	Millions
VESA Standard Modes	800x600 1024x768 60Hz 1024x768 70Hz 1280x1024 60Hz 1280x1024 75Hz	Millions Thousands Thousands 256 256	Millions Millions Millions Thousands Thousands
*256 = image depth of 8 bits, thousands = image depth of 16 bits, millions = image depth of 32 bits. **The Macintosh 12-in. RGB display cannot be used with the Power Macintosh 9500 series.			

NOTE: The "Technical Information: Specifications for Power Macintosh 9500 Series Computers" booklet that ships with the Power Macintosh 9500 contains some minor inaccuracies:

- The Macintosh 12-in. RGB display is incorrectly listed as compatible.
- The maximum color depth at 1280x1024 with 2 MB of VRAM is 256 colors.
- The maximum color depth at 1024x768 with 2 MB of VRAM is "Thousands."

IMPORTANT NOTE:
To order a VRAM memory module upgrade please call ATI Technologies, Inc. This upgrade is not available from Apple Computer, Inc. It is not supported or serviced by Apple Computer, Inc. At the time of this writing the 2 MB VRAM upgrade was ATI part number 100-31602-00. This information is subject to change. Please call the vendor for changes and details.

The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.
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MacTerminal: 3278/2 Keyboard Translation Table

This article has been archived and is no longer updated by Apple.
Following is the MacTerminal 3278/2 Keyboard Translation Table:

3270 PULL-DOWN HEX ASCII MANUAL
KEYS KEYPAD EQUIVALENT SEQUENCE KEY SEQ

ENTER NO '1B 4F 4D' ESC O M *ENTER
ENTER NO '0D 0A' CR LF **ENTER
NEW LINE (RETURN) NO '0D' CR RETURN or CTRL M
PF1 YES '1B 31' ESC 1 ESC 1
PF2 YES '1B 32' ESC 2 ESC 2
PF3 YES '1B 33' ESC 3 ESC 3
PF4 YES '1B 34' ESC 4 ESC 4
PF5 YES '1B 35' ESC 5 ESC 5
PF6 YES '1B 36' ESC 6 ESC 6
PF7 YES '1B 37' ESC 7 ESC 7
PF8 YES '1B 38' ESC 8 ESC 8
PF9 YES '1B 39' ESC 9 ESC 9
PF10 YES '1B 30' ESC 0 ESC 0
PF11 YES '1B 2D' ESC - ESC -
PF12 YES '1B 3D' ESC = ESC =
PF13 YES '1B 21' ESC ! ESC !
PF14 YES '1B 40' ESC @ ESC @
PF15 YES '1B 23' ESC # ESC #
PF16 YES '1B 24' ESC $ ESC $
PF17 YES '1B 25' ESC % ESC %
PF18 YES '1B 5E' ESC ^ ESC ^
PF19 YES '1B 26' ESC & ESC &
PF20 YES '1B 2A' ESC * ESC *
PF21 YES '1B 28' ESC (ESC (
PF22 YES '1B 29' ESC) ESC)
PF23 YES '1B 5F' ESC _ ESC _
PF24 YES '1B 2B' ESC + ESC +
PA1 YES '1B 5B' ESC [ESC [
PA2 YES '1B 5D' ESC] ESC]
PA3 NO '1B 5C' ESC \\ ESC \\
ATTN YES '01' SOH CTRL A
PRINT YES '10' DLE CTRL P
HOME YES '1C' FS CTRL \\
ERASE EOF YES '06' ACK CTRL F
DELETE YES '7F' DEL CTRL BACKSPACE
ERASE INPUT YES '0C' FF CTRL L
INSERT YES '1D' GS CTRL]
RESET YES '12' DC2 CTRL R
SYS REQ YES '02' STX CTRL B
CLEAR YES '05' ENQ CTRL E
TEST NO '14' DC4 CTRL T
DUP NO '15' NAK CTRL U
FIELD MARK NO '19' EM CTRL Y
TAB NO '09' HT TAB
BACK TAB NO '0B' VT SHIFT TAB or CTRL K
UP ARROW NO '1B 4F 41' ***ESC O A UP ARROW OR ESC O A
DOWN ARROW NO '1B 4F 42' ***ESC O B DOWN ARROW OR ESC O B
RIGHT ARROW NO '1B 4F 43' ***ESC O C RIGHT ARROW OR ESC O C
LEFT ARROW NO '1B 4F 44' ***ESC O D LEFT ARROW OR ESC O D
CURSR SEL NO '04' EOT CTRL D
IDENT NO '16' SYN CTRL V
DEV CNCL NO '18' CAN CTRL X

Additional Commands:

XON NO '11' DC1 CTRL Q

XOFF NO '13' DC3 CTRL S
REPAINT SCREEN NO '03' ETX CTRL C
LINE FEED NO '0A' LF CTRL J

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*ENTER on Macintosh main keyboard (not on Macintosh Plus keyboard).
**ENTER on Numeric Keypad (Macintosh and Macintosh Plus).
***Arrow keys on Macintosh Plus keyboard only.
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Turn Virtual Memory Off Message and RAM Doubler (6/95)

When I launch some of my programs (The 7th Guest, and Myst for example) I'm shown a dialog box requesting me to turn virtual memory off. When I checked the Memory control panel, virtual memory is already off. What could be causing this?

This article has been archived and is no longer updated by Apple.
Check to see if you are using RAM Doubler by Connectix. Many of the functions of RAM Doubler are similar to the way virtual memory operates. A temporary workaround is to remove RAM Doubler from your Extensions folder and restart. You should contact Connectix for further information about RAM Doubler.

The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.

Article Change History:
28 Jun 1995 - Made minor grammatical changes.

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Eidetic Newton Utilities: Brief Description

The following is a brief description of Eidetic Newton Utilities which is available on both Macintosh and Windows diskettes.
This article has been archived and is no longer updated by Apple.
Eidetic Newton Utilities helps the user move information directly from the internal RAM to storage cards and back with the Software Manager. The user may also boost memory instantly with Memory Manager. It also provides users with Shortcuts.

Eidetic Newton Utilities is a StarCore product. Support for this software used with an Apple MessagePad is provided by the Apple Assurance Newton Support Group at 1-800-SOS-APPL (767-2775).
Published Date: Feb 19, 2012

Fodor‘s Europe: Brief Description

The following is a brief description of Fodor's Europe which is available on both Macintosh and Windows diskettes.
This article has been archived and is no longer updated by Apple.
This software provides information on Top European Cities such as: viewing locations, restaurant and business information, and it also helps in planning routing while traveling.

Fodor's Europe is a product of GeoSystems, a Unit of R.R. Donnelley & Sons Company. Support for this software, when it is used with an Apple MessagePad, is provided by the Apple Assurance Newton Support Group at 1-800-SOS-APPL (767-2775).
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Motile: Brief Description (6/95)

The following is a brief description of Motile software. This software is available on PCMCIA media, not on Macintosh or Windows diskettes.

This article has been archived and is no longer updated by Apple.
Motile challenges you to manipulate an animated player through labyrinths in which you must scrub out and construct walls and avoid traps to direct the animated player to the end goal. It features 120 levels to keep you busy.

PCMCIA media Motile is a StarCore product. Support for this software when used with an Apple MessagePad is provided by the Apple Assurance Newton Support Group at 1-800-SOS-APPL (767-2775).

Article Change History:
12 Jun 1995 - Corrected name of product.

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Great Meetings: Brief Description

The following is a brief description of Great Meetings which is available on both Macintosh and Windows diskettes.
This article has been archived and is no longer updated by Apple.
Great Meetings provides mobile executives with the tools to effectively improve the productivity of any meeting, including preparing agendas, setting time goals, recording notes, scheduling follow-up, preparing minutes and tracking action items using their Newton.

Great Meetings is a StarCore product. Support for this software, when it is used with an Apple MessagePad, is provided by the Apple Assurance Newton Support Group at 1-800-SOS-APPL (767-2775).
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Color LaserWriter 12/600 PS, LaserWriter 8500: New Windows Parallel Cable

The Color LaserWriter 12/600 PS specification sheet lists a 1284 Parallel I/O cable (M4235M/A). Do I need this cable, or can I use a "standard" parallel cable? Also, how what is the length of this cable?
This article has been archived and is no longer updated by Apple.
You cannot use the old style parallel cable on either the Color LaserWriter 12/600 PS or the LaserWriter 8500. The parallel interface on these printers' controller side is new. The physical connector is different from the old style parallel port. The Color LaserWriter 12/600 PS and LaserWriter 8500 use a IEEE-1284 cable. This cable is not interchangeable with the older style parallel cables.

The old style parallel cables used a 1284-A style plug, which use a 1284-B connector. The Color LaserWriter 12/600 PS and LaserWriter 8500 controllers use the newer 1284-C style connector. This new connector fully supports the 1284 ECP transfer mode (Fast mode), which is why Apple uses it.

There may be some third-party adapters that will allow you to convert the older 1284-B to the newer 1284-C connector. However, Apple will not support such a configuration.

The 1284 Parallel I/O cable (M4235M/A) is 10-feet in length, if you need longer length cables, you will need to find a third-party vendor who sells IEEE-1284 compliant cables.

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Power Macintosh 9500 Series: Drive Setup Information (6/95)

This article contains information on how Logical Unit Numbers (LUNs) are used in the Drive Setup software included on Power Macintosh 9500 series computers.

This article has been archived and is no longer updated by Apple.
There are a number of columns on the setup window listing drive SCSI, BUS number, and one listing LUN .

LUN (Logical Unit Number)
==========

This column identifies the Logical Unit Number of the device on the bus. For SCSI this could range from 0 - 16. This column is undefined for IDE since IDE does not implement LUNs.

In SCSI each target ID may have 8 logical units which are LUNs. The range of SCSI target ids is 0-7 for all SCSI busses implemented in Macintosh hardware today. If a user has a third-party SCSI card installed which implements 'Wide SCSI' then the target ID range can be from 0 to 16.

Article Change History:
21 Jun 1995 - Reworded for clarification
20 Jun 1995 - Corrected minor typo.

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Inside Macintosh: Hardcover version missing a page

This article has been archived and is no longer updated by Apple.
The hardcover, all-in-one Inside Macintosh manual from Addison Wesley is missing a page. Page 91 of Volume II was left out (containing a description of the FSOPEN File Manager call), and in it's place is Page 73 of Volume II (summary of OS Event Manager and data types). The page numbering is correct--it's just the page's contents that are wrong. So the manual contains two of the same page (pg. 73, vol. II), and none of another (pg. 91, vol. II).

Addison-Wesley is sending copies of the missing page to their bookstores for updating customers; we too will be receiving copies for distributing in our technical mailing. Permission has been granted to make as many copies of the errata as needed.

If someone insists upon receiving a corrected Inside Macintosh, refer them to Linda O'Brien at Addison-Wesley, (617) 944-3700, x2643, who will make arrangements for them to exchange their old copy.

Published Date: Feb 19, 2012

MacTCP: Not Installed or Disabled Error (6/95)

Why does my application indicate MacTCP is not installed or disabled?

This article has been archived and is no longer updated by Apple.
Many applications will report that MacTCP is not installed or that it has been disabled if the connection attempt via MacTCP fails. This could be due to a variety of reasons.

First verify that the network you are connected to supports MacTCP. Next, the configuration information for the MacTCP control panel should be verified with your TCP/IP network administrator or internet service provider. If PPP or SLIP is being used, you would also need to verify that those components are in working order. If all this has been verified and the error still occurs, you may want to try making a connection with another application like MacTCP Ping.

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MacX and Display Postscript (6/95)

I'd like to use MacX on my Macintosh to do work on our various UNIX machines. Most systems seem to work, but I can't get certain programs from the Suns to work.

This article has been archived and is no longer updated by Apple.
Solaris 2.3 has support for display postscript, and applications that use display postscript write directly to the screen bypassing the X windows interface in OpenLook. Because X windows is not used, the screens can not be drawn over the network onto a MacX window server. This is not a limitation of MacX, but of all X terminals, including Suns SPARCclassic X terminals which have the same behavior.

The manual, "Desktop SPARC: Using a SPARCclassic X Terminal", provides some examples of this restriction. They are the pageview application; the viewing of Postscript files from within File Manager and Mail Tool; and the usage of Solaris AnswerBook documentation and Help Viewer.

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At Ease 3.0: Read Me

The following article is the Read Me file for At Ease 3.0.

Please note the information enclosed in bullets "*" is not part of the original Read Me file but has been added here to clarify some of the procedures described in the original Read Me file.**

Note: The At Ease 3.0.3 Updater is available for download. Please see Software Updates Document Number 10173, or use the following URL to access the article directly:

http://asu.info.apple.com/swupdates.nsf/artnum/n10173

The Read Me document for At Ease 3.0.3 Updater is contained in the following Tech Info Library article:

Article 20661: "**At Ease 3.0.3 Updater: Read Me**"
This article has been archived and is no longer updated by Apple.
This document reflects the latest information on At Ease version 3.0. Please read this document carefully. The software may have changed slightly since the manual was printed.

Installing At Ease
You should use the Installer program to install At Ease. Do not attempt to install At Ease by dragging files onto your hard disk. The Installer places the files in the correct locations on the disk.

Before using the At Ease Installer program, make sure you have quit all other application programs. If you have trouble installing, temporarily turn off all extensions by holding down the Shift key while you restart your computer. Then try installing again.
If you install At Ease 3.0 on a computer running system software version 7.0 or 7.1 and you later install version 7.5 on your computer, use the Custom Install option of the At Ease Installer to install the At Ease Guides.

Installing Mouse Practice
If your version of At Ease came with Mouse Practice, install it immediately after installing At Ease.

Removing At Ease
If you decide to remove At Ease, use the At Ease Installer program. Never attempt to remove At Ease from your System Folder while At Ease is turned on. See the manual for more information on removing At Ease.

Getting Help in At Ease
In addition to the manual and this Read Me file, there are several ways of obtaining online help in At Ease.

Apple Guide (System 7.5 Users)
If you are using system software version 7.5 or later, you can use Apple Guide to get instructions for using At Ease. At Ease Guide, the Apple Guide for the At Ease panels, is available from the Guide menu whenever At Ease is the active application program. At Ease Setup Guide, the Apple Guide for the At Ease Setup program, is available from the Guide menu whenever At Ease Setup is the active program.

At Ease Setup Help (System 7.0 or 7.1 Users)
If you are using system software version 7.0 or 7.1, At Ease includes online help for the At Ease Setup program. To use At Ease Setup Help, click the question mark button than appears on each page of the At Ease Setup program.

Balloon Help

Balloon Help is available for almost every function of At Ease. To activate Balloon Help, choose Show Balloons from the Guide menu (system software version 7.5) or the Help menu (system software version 7.0 or 7.1). When you are finished using Balloon Help, choose Hide Balloons from the Guide menu or Help menu.

Upgrading From Earlier Versions of At Ease
For most upgrades, your administrator password (if you had one) will remain the same in the At Ease Setup program in version 3.0. When the At Ease Setup program asks for an administrator name, type "At Ease Administrator," which is the default administrator name.

Upgrading From Version 1.x
If you are upgrading from At Ease version 1.x to version 3.0, you must first remove the old version by using the At Ease Installer program that came with the old version. When the Installer screen is displayed, hold down the Option key to change the Install button to Remove. Then click Remove to remove the old version.

***** The information above is incomplete. The correct procedure to remove At Ease 1.0 is:**

1. Double-click the At Ease 1.0 Installer.
2. Click OK to pass the "Welcome to the At Ease Installer".
3. Click on the Customize button.
4. Select At Ease in the window on the left.
5. Hold down the option key to change the Install button to a Remove button. ***

Any items you created in version 1.x are automatically assigned to a setup or user named At Ease 1.0.

Upgrading From Version 2.x
Upgrading from version 2.x to version 3.0 occurs automatically when you first run the At Ease Setup program of version 3.0. At Ease turns itself off at the end of the installation process, so you must run the At Ease Setup program to turn At Ease back on.

***** The information above is incomplete. It should state that:**
To update At Ease 2.x machines to At Ease 3.0, you must first follow the normal installation process. You should first startup your computer with extensions off by holding down the shift key while starting your Macintosh until it says "Welcome to Macintosh, Extensions Off". Run the installer program from the installer disk. ***

Installing Other Programs While Running At Ease
You should not install programs onto your hard disk while running At Ease. Before you install programs, turn At Ease off in the At Ease Setup program and restart your computer. When you finish installing programs, turn At Ease back on and restart the computer again. Programs you install onto your hard disk are not automatically added to At Ease setups or users; you must use the At Ease Setup program to provide access to the new programs.

If some program buttons are not displayed properly in At Ease after you install new software, you should rebuild your desktop. To do so, turn At Ease off and restart your computer. While the computer is restarting, hold down the Command and Option keys until you see a message asking whether you want to rebuild the desktop file. Click OK. When the computer has finished starting up, turn At Ease back on in the At Ease Setup program and restart the computer again.

Restricted Finder Users
There are several things you should know about the restricted Finder environment.

Security in the Restricted Finder
In trying to maintain compatibility with other programs, the restricted Finder environment can sometimes allow programs to bypass some of the security features you selected in the At Ease Setup program. If programs you use seem to pose security problems, you may want to remove them from your hard disk.

Security is maintained for restricted Finder users by creating a list of "approved" application programs, desk accessories, and control panels that can be opened by the user. This list includes:

- all items in the current setup folder
- items in the Apple Menu Items folder (if you have given access to them)
- the Chooser (if you have given access to it)
- the Print Monitor
- items in the Startup Items folder (only if the setup will open them)
- items in the Shutdown Items folder
- items in the Control Panels folder (if you have given access to them)
- the At Ease Setup program (administrator password required)
- approved sub-launched programs (for more information, see "Sub-Launching Programs" later in this Read Me file)

If a document exists in any of these places, the application that created the document can also be opened.
The At Ease Setup program can always be opened because the administrator password restricts access.

The list of approved programs does not include programs in the user's own documents folder. (If it did, a user could copy a program from a floppy disk to his or her documents folder and attempt to open it without permission.)

Macintosh Guide and the Restricted Finder
Because of changes in the Finder made for restricted Finder users, instructions in Macintosh Guide (available from the Guide menu in system software version 7.5 or later) may not always be accurate. For example, when users who do not have access to control panels use Macintosh Guide to request instructions on adjusting the sound volume, they will not be able to complete the required steps.

Desktop Items and the Restricted Finder
When a user connects to (mounts) a disk other than the startup disk, items on the desktop of the disk are placed in a folder called "Items for Desktop," located at the top level of that disk. When the user disconnects from (unmounts) the disk, the items are not replaced on the desktop.

Copying in the Restricted Finder
If a user drags a folder for which he or she doesn't have access (such as another user's folder) into his or her own folder, the computer will not copy any files from the dragged folder, but it will add an empty folder of the same name to the hierarchy for the user's folder.

File Sharing and the Restricted Finder
File sharing does not work with the restricted Finder. When a restricted Finder user logs in, At Ease turns off file sharing. The next regular Finder user who logs in and wants to use file sharing must return to the Sharing Setup control panel and turn file sharing on again.

Do not use file sharing on computers that will be updated via the Update Computers command in At Ease Setup.

RAM Disks and the Restricted Finder
Do not use RAM disks if any user works in the restricted Finder; doing so may cause your computer to crash.

Sub-Launching Programs
Sub-launching is the process by which one program opens another program (called a subprogram) without the user having directly opened the subprogram. The security features of At Ease can sometimes interfere with a program's ability to sub-launch necessary subprograms. When a program attempts to sub-launch a subprogram to which a user has not been given access, the computer will usually display a -5000 error code.

There are two ways to allow programs to sub-launch the subprograms they need. In either case, the subprogram bypasses the security that At Ease provides.

- In the At Ease Setup program, open the Settings menu and choose Application Preferences. Add the necessary subprograms to the list, and then select each subprogram and click the checkbox labeled "Can be launched by other applications." This setting applies to all users and setups, so you need to follow this procedure only once. You should be aware that this setting allows all users-including restricted Finder users-to open the subprogram.
- In the At Ease Setup program, give access to all the necessary subprograms. This procedure allows you to specify which users or setups have access to the subprograms. The disadvantage of this procedure, however, is that users see a button for each subprogram even though they normally won't need to open the subprograms directly.

At Ease 3.0 and Kid Pix Studio
Kid Pix Studio sub-launches each subprogram a child uses. But because of a software incompatibility, At Ease does not view these subprograms as application programs. To allow Kid Pix Studio to sub-launch its subprograms successfully, choose Application Preferences from the Settings menu of At Ease Setup and click the Custom button in the screen that appears. In the Custom Add screen, add each of the following subprograms:

```
Name File Creator
----- ------------
KPS 0 Kîd0
KPS 1 Kîd1
KPS 2 Kîd2
KPS 3 Kîd3
KPS 4 Kîd4
KPS 5 *** Kîd4
```

This information is incorrect the original Read Me states to type Kîd4 again for the KPS 5 name, it should read Kîd5 ***
To type the î character in the file creator names, hold down the Option key while you type the letter i, then release the Option key and immediately type the letter i again.

For more information on using the Custom Add screen, see "Application Preferences" later in this Read Me file.

At Ease 3.0 and Control Panels
Users who start out in the At Ease panels and switch to the Finder may experience problems when opening control panels. If they choose Control Panels from the Apple menu of the Finder, the Control Panels folder appears as expected. If they choose a particular control panel from the Control Panels submenu, however, they are returned to the At Ease panels. In most cases, the selected control panel appears in front of the At Ease panels. But for certain control panels, such as the Extensions Manager in system software version 7.5, a message appears saying that the selected control panel can't be opened in At Ease.

To avoid these problems, At Ease users who switch to the Finder should not use the Control Panels submenu. Instead, they should choose Control Panels from the Apple menu of the Finder and then double-click the control panel they want in the Control Panels window that appears.

At Ease 3.0 and CD-ROM Discs
At Ease can display only one CD-ROM panel at a time. If a user inserts another CD-ROM disc to which he or she has access, a message appears indicating that the disc can be accessed using buttons. If the user ejects the first CD-ROM disc, the second CD-ROM disc appears as a panel.

The CD-ROM Preferences feature does not work properly with audio CDs.

At Ease 3.0 and the Find File Feature in System 7.5
While At Ease is running, Find File finds only those items in locations to which the user has complete access, including the user's documents folder and the Trash folder. Most other locations (including server volumes and the user's setup folder) do not return any information when Find File is used.

At Ease 3.0 and the Startup Items Folder in System 7.5
Any item in the Startup Items folder will be opened at startup, even if you didn't give the user access to the item or to the program used to create it. If you don't want all users to have access to an item, don't place the item in the Startup Items folder.

Application Preferences
The Custom button in the Application Preferences screen should be used only when At Ease security settings are interfering with a program's ability to sub-launch other programs that it needs and the "Can be launched by other applications" setting doesn't solve the problem. It is very unlikely that you will need to use the Custom button.

When you click the Custom button, the Custom Add screen appears. You provide a name (which can be anything you like, since it's needed only for display in the list of applications) and the file creator for each subprogram you are having difficulty sub-launching. You must type the file creator exactly, including any spaces and special characters. (You can usually get the name of the file creator from the developer of the software.)

The Custom button also allows you to remove programs from the Application Preferences list-even programs that you added to the list using the Add Other button. To do so, click a program's name in the list and click the Custom button. If the Custom Add screen does not already include a name and file creator for the program, type the program's name (exactly as it appears in the list) and its file creator. Then click Remove.

Database Consistency Checking
At Ease 3.0 uses a sophisticated database for handling user information. If a problem is detected, the At Ease Setup program alerts the administrator and asks whether it should verify the database files. When the verification is complete, a file called Consistency Check Report appears on the startup disk.

The administrator can also manually start the verification process by holding down the Command key while starting the At Ease Setup program.
Published Date: Feb 19, 2012

PC Exchange: How To Turn Off (7/95)

If you click the "off" button in PC Exchange and restart, the PC Exchange control panel turns back on. Is there a way to make the on/off button "sticky" through reboots?

This article has been archived and is no longer updated by Apple.
The off button in the PC Exchange control panel is intended for temporarily disabling PC Exchange. If you turn off PC Exchange this way, on restart PC Exchange turns back on.

To disable PC Exchange each time the Macintosh is restarted, Apple recommends using Extensions Manager in System 7.5 to prevent the PC Exchange control panel from loading.

If you are using System 7.1, drag the PC Exchange control panel out of the System Folder before restarting.

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Volume II, Issue 7, Page 8

Article Change History:
27 Jul 1995 - Updated from Info Alley.
28 Jun 1995 - Made minor grammatical changes.

Support Information Services
Published Date: Feb 19, 2012

System 7.5: What The External CD Sound Extension Does (8/95)

On the Macintosh 630 family, Power Macintosh 5200/75 LC, Performa 5200, and Performa 6200 series of computers there is an extension called "External CD Sound" in the Apple Extras folder. I have not been able to find anything in my manuals which tells me what it does.

What is this extension used for?

This article has been archived and is no longer updated by Apple.
The External CD Sound extension lets users connect an external CD-ROM drive to these computers and play audio CDs through their internal speakers (see Note).

Without the External CD Sound extension, you are able to select the external CD-ROM drive using the AppleCD Audio Player, but you do not hear the audio. The External CD Sound extension solves this problem.

The following is the text that should be included in the About Apple Extras SimpleText document on these computers.

"External CD Sound: You may need to use this extension if you connect an external CD-ROM drive to your Performa and wish to play audio CD-ROMs using AppleCD Audio Player. To use the External CD Sound extension, drag it from the Apple Extras folder to the Extensions folder."

NOTE: If you want to hear the audio from the external CD-ROM through the internal speakers of the Power Macintosh 5200, you need to use a Y-Adapter cable (not included with the Power Macintosh/Performa) to connect from the external CD drive's RCA audio jacks to the Sound In (Microphone) jack on the back of the Power Macintosh or Performa 5200 computer.

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Article Change History:
23 Aug 1995 - Updated to include other computers that ship with the extension.
27 Jul 1995 - Updated from Info Alley.
05 Jul 1995 - Made minor grammatical changes.

Support Information Services
Published Date: Feb 19, 2012

Manzanita Software: Using on hard disks other than ProFile

To install The Advanced Business Accountant or BusinessWorks on a hard disk other than the Profile, the hard disk must be accessed before booting The Advanced Business Accountant Startup Diskette or the BusinessWorks BW.HARDDISK diskette.
This article has been archived and is no longer updated by Apple.
For example, if installing software on a Sider hard disk, boot the hard disk and select the ProDOS option and then select Basic. Insert the Startup diskette or BW.HARDDISK and enter PR#6 (or whatever slot the floppy disk drive is located in). Then follow the installation instructions provided. Once the software has been installed it may be selected by entering -TABA for The Advanced Business Accountant or -BW for BusinessWorks at the Basic prompt.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

The Tech Info Library article#17159: "**Locating Vendor Information**", can help you search for a particular vendor's address and phone number.
Published Date: Feb 19, 2012

Power Macintosh DOS Card: Video Sync For LCD Panels

This article describes how to synchronize the Power Macintosh 6100/66 DOS Compatible in DOS mode when using a variety of LCD panels. This article has been archived and is no longer updated by Apple.
We took measurements using a digital scope with automated time and frequency calculation. The Power Macintosh DOS Compatibility Card produces timing signals which drive Apple monitors, and includes flexibility to work with non-Apple multiple scan monitors. In some of the Power Macintosh DOS Compatibility Card video modes there are slight timing differences between Macintosh and Windows. This is usually not a problem because most monitors can work within specific timing variances. In other words, if the frequencies are off by a small amount, monitors can still synchronize and provide a stable image.

General Suggestions and Background

If possible, test the LCD panel at various video scan rates. When using an LCD panel with the Power Macintosh 6100/66 DOS Compatible computer, test the panel with both the manufacturer provided adapter and no adapter (direct). Using an Enhance video adapter with a multiple scan display lets you test more configurations and frequencies. You may have to adjust the LCD controls (horizontal and vertical position, sync polarity, and so on) to center the image, remove tearing, or properly synchronize the LCD image. Using an Apple 14-inch display or setting the Enhance video adaptor to "J" is the recommended video timing for Macintosh, DOS, or Windows when connecting to an LCD panel.

The following describes the video signaling for different display connections:

* Apple 14-inch display (640x480)
Video modes for Macintosh, DOS, and Windows will be similar but not exactly the same (horizontal = 35 kHz, vertical = 67 Hz).

* Apple 16-inch display (832x624)

Video modes for Macintosh, DOS, and Windows will be similar but not exactly the same (horizontal = 49.75 kHz, vertical = 74.5 Hz).

* VGA (using Enhance video adapter "G")
Video modes for Macintosh and Windows will be similar, but not exactly the same (horizontal = 31.45 kHz, vertical = 60 Hz). DOS will operate at its normal video rate (horizontal = 31.75 kHz, vertical = 71 Hz).

Published Date: Feb 19, 2012

System 7.5: Changing and Restoring Jigsaw Puzzle PICT

This article describes how to change and then restore the PICT that System 7.5 uses for the Jigsaw Puzzle.
This article has been archived and is no longer updated by Apple.

Changing the Jigsaw Puzzle

You can easily paste a different picture into your System 7.5 Jigsaw Puzzle. Simply copy any PICT graphic and paste it into the open Jigsaw Puzzle application. You may receive a message telling you to increase the puzzle application's memory. The message includes a minimum recommended size.

Restoring the Jigsaw Puzzle

The changed picture is stored in the Preferences Folder in a file called "Jigsaw Picture". Dragging this file to the Trash and relaunching the Jigsaw Puzzle application returns it to the picture stored in the resource fork of the application.

This should be a map of the world unless the PICT resource has been modified using a resource editing utility like ResEdit. If this is the case, you need to remove and reinstall the "Jigsaw" application and remove the "Jigsaw Picture" preferences to return the picture to the world map.

Published Date: Feb 19, 2012

System 7.5: How Apple Menu Options Affects Performance (9/95)

My system seems to have a delay or pause of a few seconds doing many simple things. For example, when an open file/save as dialog box appears on the screen it is often a few seconds before you can click OK, or Save or whatever. Creating, deleting or moving files and folders also seems to have a delay associated with the operation.

This problem arose after I placed an alias to the hard drive in the Apple Menu Items folder. Simply removing the alias from the Apple Menu Items folder brings back instant response.

This article has been archived and is no longer updated by Apple.
Apple Menu Options (AMO) can slow your system operations when an alias to a hard drive is placed in the Apple Menu Items folder. Placing an alias to a top level folder (with many subfolders and files) in the Apple Menu Items folder can produce a similar slowdown, but more limited impact. Placing many folder aliases or actual folders in the Apple Menu Items folder can also lead to a slowdown, depending on their depth and contents.

There are different methods used in creating a hierarchical Apple Menu.

One method is to acquire the folder information and build the hierarchical menu when you select the folder through the Apple Menu. This makes the menus less responsive, particularly if the path leads off to a mounted server volume. You will see the AppleTalk arrows flash in the upper left corner of your screen as you navigate the hierarchical Apple Menu for a server volume. This is the approach used by NOW menus, MenuExtend from AlSoft, and the shareware extension BeHierarchic, and others.

The approach used by AMO is to pre-build all the hierarchical menus through five folder layers for every folder and folder aliases in the Apple Menu Items folder. If an alias to a hard drive or server volume is in the Apple Menu Items folder, the top five layers of folders are acquired and cached. This is what is done by AMO as the Finder launches and it causes a delay making the Finder Desktop available. The Apple Menu Options then has to continually "watch" for a folder being modified with a file or folder being created or removed and rebuild the cached menu. This approach makes the Apple menu very responsive, because the menus are all cached. It has the long term effect of imparting a system slowdown during such things as emptying the trash, moving folders, and so on.

AMO has a side effect which exacerbates the issue. Since it creates the Recent Servers folder with aliases to mounted volumes, these volumes are also searched and menus cached. The Apple Menu Options Prefs file grows in size as multiple server volumes are mounted and their folder structure cached in this file. This file can grow to 300-400Kb in size.

The workaround for this problem is not to use an alias to your hard disk in the Apple Menu. The slowdown affect can be lessened by limited use of aliases to certain folders that you wish to navigate hierarchically. Another option is to use one of the alternative products with the other method of creating a hierarchical menu.

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Article Change History:
29 Sep 1995 - Added Info Alley information; updated article.

Support Information Services
Published Date: Feb 19, 2012

MacX and Power Macintosh DOS Compatibility Card (6/95)

My Power Macintosh DOS Compatible computer is successfully networked to my Netware server using IPX, and I am using TCP/IP software on my Macintosh successfully. However, whenever I run MacX, I see a variety of connection tool errors and freezing when I switch to DOS.

This article has been archived and is no longer updated by Apple.
This is a known issue with the Power Macintosh DOS Compatibility Card and MacX. This issue is different from, only one protocol stack between two CPU's limitation in Tech Info Library article, "DOS Compatibility Card: Using Two IP Stacks (2/95)."

Any DOS networking activated by having VLM.EXE connect to the PC Networking Extension will result in MacX failures and/or DOS card freezing.

Suggested workarounds
---
* Turn off DOS networking by removing the PC Network Extension from the Extensions folder in the System Folder, or do not load DOS networking software of any kind.

* Use another X windows package that does not use the MacTCP tool. We have not tested any other packages, but we believe the MacTCP tool is the source of the problem.

* Use an X windows servers on the DOS card.

Note that MacX works fine with a Power Macintosh DOS Compatible computer, only DOS networking is incompatible.

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MAE 2.0: Freeze at "Welcome to Macintosh" on Solaris (5/96)

I just loaded MAE 2.0 on a SPARCstation that is not connected to a network. MAE starts fine, but after the "Welcome to Macintosh" screen, MAE will hang. I am unable to quit out of MAE by way of the Window Manager, and must kill the MAE process in a shell. I have tried -nosound and -noextensions, with no effect. If the same machine is added to a network, MAE starts up fine.

This article has been archived and is no longer updated by Apple.

First, to be sure of the specific issue, do the following:

1) Start MAE and wait for it to hang
2) Open a shell and remove /tmp/at
3) MAE should continue to startup

If this corrects this issue, below is the solution to the issue depending on the version of Solaris you are using:

* Solaris 2.4: Install patch 101945-37 on your workstation. This patch is found at sunsite.unc.edu

* Solaris 2.5: Update MAE to 2.0.2 (Patch 2) from www.mae.apple.com or ftp.support.apple.com.

There are no reports of this issue with Solaris 2.3.

Article Change History:
11 May 1996 - Complete update of article.
30 Jan 1996 - Updated patch version to 101945-36.

Published Date: Feb 19, 2012

MAE: Multiple Ethernet Connects, Can‘t Select AppleTalk (1/96)

When opening the Network control panel, I get an alert box with the message "The AppleTalk Interface is not supported, please switch to LocalTalk." After saying OK, I see no interfaces in the Network control panel. How can I have MAE recognize a network interface card for use with AppleTalk?

This article has been archived and is no longer updated by Apple.

The system currently has a network interface card other than le0 set as the default network. Therefore, MAE is unable to properly view the network interfaces available to the system.

To correct this, obtain Patch 2 from one of Apple Computer's internet sites:

* ftp.support.apple.com (130.43.6.3)
* www.mae.apple.com (17.255.216.51)

MAE 2.0.2 will support all network interfaces that support the dlpi framework.

Article Change History:
30 Jan 1996 - Updated article with MAE 2.0.2 from Patch 2.

Support Information Services
Published Date: Feb 19, 2012

QuickTake 150 Close-Up Lens Works With QuickTake 100 (6/95)

Can I use the close-up lens that comes with the QuickTake 150 with the QuickTake 100?

This article has been archived and is no longer updated by Apple.
The QuickTake 150 for Macintosh (M3790LL/A) and the QuickTake 150 for Windows (M3791LL/A) come with a close-up lens attachment that provides:

* Accurate image capture from 10-inches to 14-inches
* Parallax error correction
* Flash diffusion
* Built-in rangefinder

The close-up lens attachment will work with the QuickTake 100, as well. However, the close-up lens attachment is available ONLY as a service part (922-1371).

Part numbers mentioned in this article are accurate as of this writing. Before ordering, verify that they are still correct as they are subject to change.

Support Information Services
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Manzanita Software: Payroll Tax Updates

This document provides a list of changes from the 1985 payroll tax tables to 1986 tables. The following list shows the status of federal and state tax tables in Manzanita Software Systems' Payroll modules for The Business Accountant, The Advanced Business Accountant and Payroll Plus. The first column lists the names of the states. Users should locate their state, then check the column to the right for the product they use. An "E" in the column indicates that changes have been made in that state's parameters and/or tax tables. The user should update his or her parameters and tax tables from the state-provided tax table information. An "*" in the column indicates that the state has changed calculation methods, so the user must get a Tax Table Update from Manzanita Software Systems. Without this update, payroll in that state will not calculate correctly. An "ok" in the column indicates that there have been no changes to the tables and no updating is required.

Users should also note that there are changes in the federal tax tables. All federal tax information can be changed by the user, with the exception of the earned income credit tables. If you have any employees who receive advanced earned income credit payments, then you must get a tax table update from MSS.
This article has been archived and is no longer updated by Apple.
Tax Table updates are available for $100.

Summary Report: As of: 2 / 27 / 86

Tax Table	TBA Parms/Tables	TABA Parms/Tables	BW coming soon	PR PLUSParms/Tables
Federal	E/E	E/E		E/E
AK - Alaska	E/ok	E/ok		E/ok
AL - Alabama	ok	ok		ok
AR - Arkansas	ok	ok		ok
AZ - Arizona	ok	ok		ok
CA - California	E/E	E/E		*
CO - Colorado	ok	ok		ok
CT - Connecticut	ok	ok		ok
DC - Dist. of Col.	ok	ok		ok
DE - Deleware	E/E	E/E		*
FL - Florida	ok	ok		ok
GA - Georgia	E/ok	ok		E/ok
HI - Hawaii	E/ok	E/ok		E/ok
ID - Idaho	E/ok	E/ok		E/ok
IL - Illinois	ok	ok		ok
IN - Indiana	ok	ok		E/ok
KS - Kansas	* 2/86	* 2/86		* 2/86
KY - Kentucky	ok	ok		ok
LA - Louisiana	ok	ok		E/ok
MA - Massachusetts	* 2/86	* 2/86		* 1/86
MD - Maryland	ok	ok		ok
ME - Maine	E/ok	E/ok		E/ok
MI - Michigan	E/ok	E/ok		E/ok
MN - Minnesota	E/ok	E/ok		E/ok
MO - Missouri	ok	ok		E/ok
MS - Mississippi	ok	ok		ok
MT - Montana	E/ok	E/ok		E/ok
NC - North Carolina	E/ok	E/ok		E/ok
ND - North Dakota	E/ok	E/ok		E/ok
NE - Nebraska	E/ok	E/ok		E/ok
NJ - New Jersey	E/ok	E/ok		E/ok
NM - New Mexica	E/ok	E/ok		*
NV - Nevada	E/ok	E/ok		E/ok
NY - New York	ok	ok		ok

OH - Ohio	ok	ok		ok
OK - Oklahoma	E/ok	E/ok		E/ok
OR - Oregon	*	*		*
PA - Pennsylvania	ok	ok		ok
RI - Rhode Island	E/E	E/E		E/E
SC - South Carolina	ok	ok		ok
SD - South Dakota	ok	ok		ok
TN - Tennessee	ok	ok		ok
TX - Texas	ok	ok		ok
UT - Utah	E/ok	E/ok		E/ok
VA - Virginia	ok	ok		ok
VT - Vermont	E/ok	E/ok		E/ok
WA - Washington	E/ok	E/ok		E/ok
WI - Wisconsin	*	*		*
WV - West Virginia	ok	ok		ok
WY - Wyoming	E/ok	E/ok		E/ok

E = End-user can edit
* = Update from Manzanita required
ok = okay, no update required

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The Tech Info Library article#17159: "**Locating Vendor Information**", can help you search for a particular vendor's address and phone number.
Published Date: Feb 19, 2012

8■24 GC Software Must Have Correct Name To Load (6/95)

I installed the 8*24 GC software for my Macintosh IIfx running System 7.0.1, but at startup, the icon has a red circle and slash through it. How do I get the software to load?

This article has been archived and is no longer updated by Apple.
This may be due to the control panel not being named correctly. Make sure the control panel has this exact name, "8*24 GC" (without the quotes).

Support Information Services
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Dark Side of the Mac 4.2: Not Supported By Apple (6/95)

I'm using the Dark Side of the Mac version 4.2 screen saver, is this a supported product.

This article has been archived and is no longer updated by Apple.
Dark Side of the Mac is not produced or supported by Apple Computer. This product is, however, supported by the author, and you should contact the author for more information. The author provides contact information in the Read Me file that comes with Dark Side of the Mac 4.2.

Although Apple does not support the product, a copy of Dark Side of the Mac version 4.2 is posted on "ftp.apple.com". It can be found via the following path:

/dts/mac/hacks/darkside-of-the-mac-4-2.hqx

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LaserWriter Memory Management (6/95)

This article provides information on LaserWriter memory management.

This article has been archived and is no longer updated by Apple.
Memory allocation on PostScript LaserWriters varies greatly depending on many factors such as allowable paper sizes, standard amount of RAM, PhotoGrade/Fineprint capability, DPI, and so on. There are a few articles in the Tech Info Library that go into some discussion about how memory is handled for some printers. Here's a list of the ones we found:

"LaserWriter Pro 630: How Memory is Allocated"
"LaserWriter Pro 810: How Memory is Allocated"
"LaserWriter IINTX: Calculating Font Caching RAM"
"LaserWriter IINT and IINTX: How Its 2MB RAM Is Allocated"
"PostScript LaserWriter and Font RAM Availability"
"LaserWriter IINTX: RAM Allocation"

You could use these articles as "guidelines" in determining how RAM is allocated. Here are some excerpts from the articles, including some general information on how memory is handled in our Postscript LaserWriters:

* The MAJORITY of RAM in a PostScript LaserWriter is allocated for the page buffer (the area where the actual page is rendered before being printed).

* Page sizes and dpi values supported by the printer greatly determine the page buffer size. For example, to print a tabloid sized page at 800 dpi on a LaserWriter Pro 810 requires 14.1 MB of RAM for the page buffer alone. Thus, a LaserWriter Pro 810 with 16MB of RAM will only have approximately 1.9MB left for the PostScript interpreter, dictionaries, fonts, font caching, and so on.

* You can determine the amount of available VM by downloading the following PostScript code:

```
/Helvetica findfont 12 scalefont setfont
72 720 moveto
(Available VM: ) show
vmstatus exch sub 10 string cvs show
showpage
```

CAUTION:
If you choose to use the PostScript code provided in this article, you assume all risks involved in making these changes. PostScript code, if not entered correctly, can place the LaserWriter into a condition requiring service.

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NSI 1.5.1: Read Me File (5/96)

This article is the Network Software Installer (NSI) 1.5.1 ReadMe file.
This article has been archived and is no longer updated by Apple.
Contents
==========

Interactions with other products
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* If you are using System 6.0.8 or earlier
* If you are using MacIPX
* If you are using SoftWindows
* If you are using the Apple Internet Router
* If you are using the SNA*ps Gateway
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* If you are using a system with a 68040 microprocessor

What the Network Software Installer disk includes
---
* Release notes
Network Software Installer 1.5.1
LaserWriter Bridge version 2.0.1

* Release notes from NSI 1.5
AppleTalk version 58.1.5
Apple Built-In Ethernet driver file version 1.0.1
Apple Ethernet NB driver file version 1.0.1
Apple Ethernet LC driver file version 1.0.1
Apple Ethernet CS driver file version 1.0.1
Apple Token Ring NB driver file version 1.0.2

Interactions With Other Products

* If you are using System 6.0.8 or earlier: This installer works on only System 7 or later Macintosh computers. The last version of the Network Software Installer to support System 6 was version 1.4.5.

NOTE: This note is not part of the original Read Me file. NSI 1.5.1 should not be installed after installing System 7.5 Update 2.0, or computers with System 7.5.3.

* If you are using MacIPX: The new Token Ring driver is not compatible with MacIPX versions 1.1 and older. Contact Novell Technical Support to obtain an update to newer MacIPX software which will work with this Token Ring driver.

* If you are using SoftWindows: SoftWindows versions 1.0 and 1.0.1 using SMB (NetBEUI) protocols over Token Ring are not 100% compatible with the AppleTalk version included on this disk. Contact Insignia Solutions regarding availability of an update to the SoftWindows software which will work with this driver.

* If you are using the Apple Internet Router: If this release of the Network Software Installer is being used in conjunction with an Apple Internet Router v. 3.0 Installer, Apple Internet Router 3.0 must be installed first. This will ensure that the Router installation does not overwrite the newer AppleTalk software contained on NSI 1.5.1.

The LaserWriter Bridge cannot be used on a Macintosh that has any version of the Apple Internet Router software installed.

* If you are using the SNA*ps Gateway: To use this release of the Network Software Installer with a SNA*ps Gateway, a special custom install option is provided that installs a compatible Token Ring driver for the Token Ring 4/16 NB card. SNA*ps Gateway is not currently supported on the TokenTalk NB or Token Ring NB/c cards. A future version of the SNA*ps Gateway will not require the custom-installed driver.

* If you are using third-party Ethernet cards: The drivers contained in the new driver files do not support third-party Ethernet cards. A third-party card that has duplicated an Apple Ethernet board will use the appropriate Ethernet driver from the system file instead of the Apple driver in the extensions folder file. A system with a third-party Ethernet card will continue to operate using the previously-installed driver after installing this version of the Network Software Installer. Such systems will get the benefit of all of the other updates installed by this Network Software Installer, including the ability to install and use the LaserWriter Bridge.

* If you are using a system with a 68040 microprocessor: Some programs may quit unexpectedly or cause the computer to freeze when you attempt to open them over the network. This problem, as well as others, is fixed by installing the System Update 3.0 available from AppleLink or the Internet (ftp.apple.com). This fix has been incorporated into System 7.5.

What the Network Software Installer disk includes

You can use this Network Software Installer to install the following networking products:

* LaserWriter Bridge version 2.0.1

* AppleTalk version 58.1.5

* Network Control Panel version 3.0.2

* EtherTalk version 2.5.7

* Apple Ethernet NB file version 1.0.1, containing drivers for all Apple NuBus Ethernet cards

* Apple Ethernet LC file version 1.0.1, containing drivers for all Apple LC Ethernet cards

* Apple Ethernet CS file version 1.0.1, containing drivers for all Apple Communications Slot Ethernet cards

* Apple Built-In Ethernet version 1.0.1, containing drivers for all built-in Ethernets

* TokenTalk version 2.5.7

* Token Ring Control Panel version 1.0.1

* Token Ring driver version 2.5.2 for the TokenTalk NB Card

* Token Ring driver version 1.0.2 for the Token Ring 4/16 NB and Token Ring NB/c Card

* A/ROSE 1.2.1, for use in some Token Ring configurations

Release Notes

The following section provides some more technical information on the updates provided by this installer. Many readers will not be interested in these details.

Network Software Installer 1.5.1

This release corrects several installer problems that were present in version 1.5. Specifically,

* Localization is included for Swiss-German and Swiss-French systems

* The Finder attribute bits on the system file are no longer cleared. This could have caused the loss of the system, Finder and clipboard file icons. A desktop rebuild may be required to restore the icons after installing NSI 1.5.1 if the icons had been previously lost due to installing NSI 1.5.

* Crashes no longer occur on Power Macintoshes when Ethernet fails to initialize during startup, such as when the Ethernet is disconnected.

Apple Token Ring NB driver file version 1.0.2

There is a known problem with the new Token Ring driver introduced in NSI 1.4.5. The Token Ring control panel, which can be used to select the ring speed of the 4/16 NB card, is unable to set a locally-administered address. At this time, the free, unsupported "Apple LAN Utility" can be used to set a locally-administered address for all current Apple Ethernet and Token Ring interfaces. "Apple LAN Utility" can be downloaded from various Apple support areas. The Token Ring control panel does work properly in conjunction with the old driver used with SNA*ps gateways.

LaserWriter Bridge version 2.0.1

This control panel provides for activating the LocalTalk port while Ethernet or Token Ring is in use. AppleTalk traffic can be passed from the Ethernet or Token Ring to a LaserWriter connected to the LocalTalk port. The LaserWriter Bridge can only be used in conjunction with this

version of the Network Software Installer and is not supported on System 6 or systems using Open Transport. The LaserWriter Bridge can only be installed from the custom installation area of the Network Software Installer. Please see the *LaserWriter Bridge User*s Guide* document for more information on this program.

Release notes from NSI 1.5
==========

AppleTalk version 58.1.5

An address-mapping problem that could cause slowdowns in EtherTalk or TokenTalk networks was fixed.

The LAP Manager was fixed to avoid sending corrupted TEST and XID response packets in certain heavy traffic situations.

A bug that passed a corrupted length indication to multi-node clients was fixed.

A VM problem that could cause hangs was fixed (this could also have occurred when Ram Doubler was active).

A LocalTalk problem on Power Macintosh computers was fixed that prevented LaserWriter Bridge from working properly.

An additional LocalTalk problem on Power Macintosh computers was fixed that caused slow performance when both LocalTalk and GeoPort were in use.

Apple Built-In Ethernet driver file version 1.0.1

This driver file contains drivers for all Apple built-in Ethernet implementations and is installed in the extensions folder.

The Macintosh Quadra 840AV and 660AV, Power Macintosh 6100, 7100 and 8100 and Workgroup Server 6150, 8150 and 9150 Ethernet drivers were updated to eliminate slowdowns, hangs, lost connections and data corruptions that were possible on some Ethernets.

The DuoDock II driver was updated to properly support locally-administered addresses, which are often used in DECnet environments.

A VM problem that could cause hangs was fixed (this could also have occurred when Ram Doubler was active).

The driver configuration now properly supports machines with Macintosh Processor Upgrade with PowerPC 601 Processor cards.

Changed DMA parameters for the Macintosh Quadra 610, 650, 700, 800, 900 and 950 and Macintosh Centris 610 and 650 and Workgroup Server 60 and 80 to avoid packet loss when sharing the bus with other DMA masters such as SCSI cards and codec cards.

Apple Ethernet NB driver file version 1.0.1

This driver file contains drivers for all Apple NuBus Ethernet cards and is installed in the extensions folder.

A VM problem that could cause hangs was fixed (this could also have occurred when Ram Doubler was active).

Apple Ethernet LC driver file version 1.0.1

This driver file contains drivers for all Apple LC PDS Ethernet cards and is installed in the extensions folder.

A VM problem that could cause hangs was fixed (this could also have occurred when Ram Doubler was active).

Apple Ethernet CS driver file version 1.0.1

This driver file contains drivers for all Apple Communications-Slot Ethernet cards and is installed in the extensions folder.

A VM problem that could cause hangs was fixed (this could also have occurred when Ram Doubler was active).

Apple Token Ring NB driver file version 1.0.2

This Token Ring driver file handles all Apple Token Ring cards for the NuBus - the TokenTalk NB, Token Ring 4/16 NB and Token Ring NB/c. The file is installed into the extensions folder. The new driver for the Token Ring 4/16 NB and Token Ring NB/c cards has significantly better performance and fewer problems in large source-routed environments than earlier drivers.

Version 1.0 had a problem when used with Token Ring 4/16 NB cards in 24-bit memory mode - attempting to create a resource file on a network volume would fail. Version 1.0.2 fixes this problem.

Version 1.0 uncovered a problem with the LLC implementation on NetWare servers using certain Token Ring cards. Version 1.0.2 provides a work-around for the problem.

This version fixes a hanging problem that could occur when a Token Ring cable was disconnected while the Macintosh was active on the Token Ring. This could have happened when either the Token Ring 4/16 NB card or the Token Ring NB/c card was in use.

This version now attempts to work-around a problem that occurs when a NetWare server using a version of APPLETLK.NLM prior to version 4.50C without a functioning ATTOKLLC.NLM installed. Lack of ATTOKLLC.NLM in such a NetWare server prevents the normal source route discovery process from working (as documented in the IBM Token Ring Architecture Reference). NetWare servers using APPLETLK.NLM version 4.50C or later require the LLC8022.NLM for proper operation.

Article Change History:
15 May 1996 - Added note on System 7.5.3 and System 7.5 Update 2.0.

Published Date: Feb 19, 2012

Macintosh 630 Family: Processor Upgrade and Video/TV System

This article discusses the use of both the Apple Video/TV System and the PowerPC upgrade (Macintosh Processor Upgrade) in my Macintosh 630 series computer?
This article has been archived and is no longer updated by Apple.
Yes, all of the Macintosh 630 family of computers will accept both the Apple TV/Video System and the Macintosh Processor Upgrade. However, the Macintosh LC 630 DOS Compatible computer will accept the Apple Video/TV System, but not the Macintosh Processor Upgrade.

The following computers are in the Macintosh 630 family: Performa 630, Performa 635, Performa 636, Performa 637, Performa 638, LC 630, and Quadra 630.
Published Date: Feb 19, 2012

Modem AT Command Set: S Registers

This article describes the S registers set and retrieved by the modem AT commands.

NOTE: Refer to the TIL articles titled "Modem AT Command Set: Description Part 1/2" and "Modem AT Command Set: Description Part 2/2" for a complete list of the AT commands.

This article has been archived and is no longer updated by Apple.
The S register descriptions are formatted in the following manner:

S register Function

Default Range Units
Description

S0 Auto answer
---
0 0:255 Number of rings
The S0 register sets auto-answer. If the parameter value is non-zero, auto-answer is enabled at the program level. If the number of rings is zero, auto-answer is disabled at the program level. Auto-answer at the system level is controlled in the Express Modem control panel. The number of rings is also set in the Express Modem control panel. For the S0 setting, values from 1 to 255 are equivalent.

S1 Ring counter
---
0 0:255 Number of rings
The S1 register is cleared if no rings are detected throughout an 8-second interval. S1 is automatically set by the modem.

S2 Escape Character
---
43 <+> 0:127 ASCII Decimal
The S2 register determines the ASCII character to be used as the escape character. The escape sequence is used to force the modem from the online state to the local command state.

S3 Line-termination character
---
13 <CR> 0:127 ASCII Decimal
The S3 register determines the ASCII character to be used as the line-termination character. No matter what value S3 is set to, ASCII 13 is always recognized.

S4 Line-feed character
---
10 <LF> 0:127 ASCII Decimal
The modem returns the ASCII character programmed in the S4 register as the line-feed character when the modem sends response codes to the computer.

S5 Backspace character
---
8 <BS> 0:127 ASCII Decimal
The S5 register determines the ASCII character to be used as the backspace character.

S6 Initial blind dialing wait
---
2 2:255 Seconds
The S6 register determines the number of seconds your modem waits between the time it takes the telephone off-hook and when it actually begins dialing. If the modem is not blind dialing, this register is ignored.

S7 Carrier wait
---
50 1:255 Seconds
The S7 register determines how many seconds the modem waits for a carrier signal from a remote modem after the dial command line is executed, or when answering an incoming call. If your modem does not receive a carrier tone from the remote modem in the specified amount of time, it hangs up and sends the NO CARRIER message.

S8 Pause time
---
2 0:255 Seconds
The S8 register determines the delay time for each comma (,) encountered in the dial command line during the execution of the D (dial) command.

S9 Carrier detect response time
---
6 1:255 1/10 second
The S9 register determines how long the carrier must be present before it is recognized by the modem.

S10 Disconnect timing
---
14 1:255 1/10 second
The S10 register allows you to specify how long an interruption is necessary before the modem interprets the disruption as a loss of carrier and hangs up.
If you enter 255, the modem ignores carrier detect status.

S11 Duration and spacing for DTMF dialing
---
95 50:255 Milliseconds
Register S11 is preset and should remain unchanged to ensure correct dialing.

S12 Escape code guard time
---
50 20:255 1/50 second
This value determines the length of time to wait for typing commands before and after issuing the escape sequence, as well as between the escape characters.

S18 Self-test duration
---
0 0:255 Seconds
The S18 register determines the duration of the AT&T diagnostic self-tests. If a non-zero value is chosen, the modem automatically halts the test after the time period specified and returns to command state. You must then issue an AT&T0 to actually exit the test. If S18 is zero, the self-test continues until it is ended by issuing the escape sequence to return to command mode followed by AT&T0.

S36 Negotiation failure treatment
---
5 0/3/4/5 Settings
Specifies action that should be taken when an attempt to connect in error-control mode fails.
0 Attempts V.42 connection. Hangs up if remote modem does not
support V.42.
3 Makes asynchronous connection. No error control. Same as AT&Q0.
4 Attempts V.42 connection. If this fails, attempts MNP 2-4
connection. If this fails, hangs up.
5 Attempts V.42 connection. If this fails, attempts MNP 2-4
connection. If this fails, attempts asynchronous connection.

S37 Desired DCE connection speed
---
0 0/3/5:11 Settings
This value is used in conjunction with the ATN and ATB values to determine which modulations are attempted when connecting.
0 Auto-mode Attempts to connect at the highest possible speed.
3 Attempts to connect at 300 bps.
5 Attempts to connect at 1200 bps.
6 Attempts to connect at 2400 bps.
7 Attempts to connect at 4800 bps.
8 Attempts to connect at 7200 bps.
9 Attempts to connect at 9600 bps.
10 Attempts to connect at 12000 bps.
11 Attempts to connect at 14400 bps.

S38 Delay before hang up
---
0 0:254 Seconds
Specifies the delay before hanging up when the user issues the ATH command. When S38 is set to 255, the modem delivers all the data in its

buffers before hanging up.

S46 V.42 bis data compression selection
---
138 136/138 Settings
136 V.42 only
138 V.42 with V.42 bis compression

S48 Feature negotiation action
---
7 0/3/7/128 Settings
Selects which error control features are allowed when making connections.
0 Negotiation disabled: try only V.42.
3 Negotiation enabled without detection phase.
7 Negotiation enabled with detection phase.
128 Negotiation disabled: try MNP only. V.42 disabled.

S95 Error control negotiation message option
---
32 4/8/32 Bits
A bit map to enable different result codes. Linked to ATW when ATW=1.
Bit Value Meaning
0-1 1 Not used.
2 4 Enables CARRIER messages only.
3 8 Enables CARRIER+PROTOCOL messages only.
4 16 Not used.
5 32 Enables CARRIER+PROTOCOL+ COMPRESSION messages.

S113 Data calling tone
---
0 No data calling tone
1 Enables data calling tone.

Support Information Services

DID THIS HELP?
<- Click here if this helped answer your question!
Published Date: Feb 19, 2012

AppleCD 600e: Mounting Hard Drive When Starting From CD

When I follow the instructions in my AppleCD 600 manual and startup my computer from the CD-ROM Setup disc by holding down Command-Option-Shift-Delete, the CD-ROM mounts on the desktop, but the internal hard drive does not. When I try to run the installer, the disc is the default drive and switch disk is grayed out.

I get the same results when I change the startup disk to the CD-ROM drive using the Startup Disk control panel.
This article has been archived and is no longer updated by Apple.
If the internal hard drive, or whatever drive you want to install onto does not show on the Desktop, then it will not be available to the Installer either.

Here are two alternate ways to bootstrap the CD drive into operation. While the machine is booted up from the CD-ROM Setup CD:

Method 1 - Use HDSC Setup to mount the hard drive.

1. Insert a Disk Tools floppy disk and double click on Apple HD SC Setup.
2. The internal hard drive should be seen by this utility. Click the internal hard drive to highlight it. Click Update.

When the update operation is complete, the internal hard drive will be mounted on the desktop. After quitting from HD SC Setup, resume by running the CD-ROM installer from the CD-ROM Setup Disk.

A floppy disk with a third party mounting utility, such as SCSIProbe, may also be used to mount the internal drive on the Desktop, in order to use the installer.

Method 2 - Drag copying the minimum CD-ROM drive resources file.

1. Open the folder called "CD-ROM Software" from the CD-ROM Setup disk.
2. Drag copy the file called "Apple CD-ROM" to a floppy disk.
3. Choose Restart from the Special menu and let the Macintosh start up from the normal startup drive.
4. Insert the floppy disk holding the "Apple CD-ROM" file copied from the CD-ROM Setup disk and drag it onto the closed System Folder on the hard drive. Click "OK" to the dialog indicating it will be placed in the extensions folder.
5. Select Restart from the Special menu again.
6. The CD-ROM Setup CD can be inserted after starting up from the hard drive and the CD volume will mount on the Desktop.
7. Run the Installer from the CD-ROM Setup volume to finish installing all files from the CD-ROM Setup volume.

When the Installer is done, it will present an "Installation Complete" dialog with a Restart button. After restarting, your computer will have full support for the AppleCD 600e.

The following information is for Apple Internal & Support Providers Only

Published Date: Feb 19, 2012

Manzanita Software: Customer Support Service

Customers purchasing Manzanita Software are entitled to 90 days of free support. Customers will be provided with a toll-free number and access code upon receipt of registration cards.
This article has been archived and is no longer updated by Apple.
Products must be registered to qualify for support. After the initial 90 days, support is available for $150 per year. Information on our Customer Support Services is included in each package.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

The Tech Info Library article#17159: "**Locating Vendor Information**", can help you search for a particular vendor's address and phone number.
Published Date: Feb 19, 2012

GeoPort: Virtual Memory Compatible With Megaphone Program?

Will Megaphone Voice Messaging software work with virtual memory turned on?
This article has been archived and is no longer updated by Apple.
Cypress Research's Megaphone software will work with Virtual Memory turned on, but if you are experiencing choppy or intermittent sound then try turning off virtual memory.

Note: Macintosh Users
MegaPhone for the Macintosh is now distributed and supported by Bing Software. If you need technical support, please contact Bing Software directly:

Monday through Friday, 9 am to 5pm Pacific time.
Technical Support: (714) 888-6639
Fax: (714) 888-6635
For Sales, call: (714) 888-6633
E-mail:bingsoftware@mindspring.com
Web:"**http://www.BingSoftware.com**"

The extra hard drive access traffic that results from Virtual Memory operations can throw off the critical timing requirements of telephony applications.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

The Tech Info Library Article 17159: "**Locating Vendor Information**" can help you search for a particular vendor's address and phone number.
Published Date: Feb 19, 2012

MoviePlayer: Availability (5/96)

Is MoviePlayer 2.x considered to be public domain software and can it be distributed freely, or is there a purchasing option for this software component?

This article has been archived and is no longer updated by Apple.

A beta version of MoviePlayer 2.0 was first made available on the QuickTime 2.0 Software Developer's Kit which is available from the Apple Programmers & Developers Association (APDA). The first public release of the new MoviePlayer software was on the Power Macintosh 7500 and 8500 computers.

You can get MoviePlayer 2.0 by purchasing one of the new Power Macintosh 7500 or 8500 computers, or the QuickTime Developer Kit from APDA. MoviePlayer 2.1 is available as a software update from online services Apple publishes software updates on.

The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.

These articles can help you locate the software update mentioned here:

Ñ "Where To Find Apple Software Updates" - Lists online services for free Apple software updates.

Ñ "Obtaining Apple Product Support in the USA" - Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech Info Library.

Article Change History:
23 May 1996 - Updated for technical accuracy.
22 Sep 1995 - Added information on obtaining MoviePlayer 2.1.
15 Aug 1995 - Added information on MoviePlayer 2.0 availability.

Published Date: Feb 19, 2012

System 7.5: "Not Enough Access Privileges" Message (6/95)

I get a message saying I do not have enough access privileges when I try to move anything from either the System Folder or from my Applications Folder. What is causing this?

This article has been archived and is no longer updated by Apple.
This message is caused by a folder protection feature of System 7.5. This feature is designed to prevent users from inadvertently deleting essential system software files or installed programs from your hard drive. You can use the General Controls control panel to disable either folder's protection. To do this:

. Open the General Controls control panel.
. Locate the section named "Folder Protection" in the lower left corner.
. Click the box to the left of either or both sections to remove the "X".

NOTE:
If the words "Protect System Folder" and "Protect Applications Folder" are grayed or dimmed, then you will need to turn File Sharing off in the Sharing Setup control panel before you can change the folder protection features.

You can now remove items from the folders you have changed.

Updating to System 7.5.1 with System 7.5 Update 1.0 changes the text of the message to be clearer and indicates how to turn off the protection feature.

Support Information Services
Published Date: Feb 19, 2012

Macintosh 5200,5300,6200,6300: No GeoPort (12/95)

Are any of the following computers compatible with the Apple GeoPort Telecom Adapter?

* Power Macintosh 5200/75 LC
* Power Macintosh 5300/100 LC
* Macintosh Performa 5200 series
* Macintosh Performa 5300 series
* Macintosh Performa 6200 series
* Macintosh Performa 6300 series

I've heard these computer do not support GeoPort, but they have a ninth pin on the connector in back which indicates it would work.

This article has been archived and is no longer updated by Apple.
Although the modem ports* on these computers do have nine pins, the ninth pin is not functional; the port is not a GeoPort. The GeoPort Telecom Adapter is the interface to the phone system and requires a GeoPort connection on the computer. Because these computers do not have a GeoPort, you cannot use the either the GeoPort Telecom Adapter or the Apple Telecom 2.0 software.

*Note: Some of the Macintosh Performa computers mentioned here may include an internal modem. When an internal modem is installed on these computers, the modem port is covered.

Article Change History:
04 Dec 1995 - Updated title.
29 Nov 1995 - Added additional computers.

Support Information Services
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Plaintalk 1.4: Using Speech Recognition ReadMe (8/95)

The following article is the Read Me document for Plaintalk 1.4 Speech Recognition.

This article has been archived and is no longer updated by Apple.
Using Speech Recognition

With the English Speech Recognition package and the proper hardware, your computer can respond to spoken commands. The software that enables your Macintosh to recognize speech is called Speakable Items.

This document explains how to set up and use speech recognition and the Speakable Items software.

What is Speakable Items?

Speakable Items is a software package that lets you speak commands to your computer. It enables the computer to understand commands that do such things as tell you what time it is, close windows on the screen, or tell you a joke. Speakable Items comes with a set of commands ("speakable items") the computer already understands. You can also create your own speakable items.

The Speakable Items software has three parts you'll often interact with: the Speakable Items control panel, the feedback window, and the Speakable Items folder.

* With the Speakable Items control panel, you turn speech recognition on and off and specify when the computer listens and how it gives you feedback.

* With the feedback window (which is open whenever speech recognition is turned on), you check whether the computer is listening and how it has responded to your command. (The command you gave is displayed in italics and followed by the computer's response.)

* The Speakable Items folder contains all the items whose names the computer can recognize. When you say the name of an item in this folder, the computer acts as if you double-clicked its icon. You can adjust the computer's vocabulary by adding and deleting items to this folder or by changing the names of the items. The folder is in the Apple Menu Items folder, which is in the System Folder. You can open it quickly by choosing the Speakable Items command from the Apple menu.

What you need to use Speakable Items

To use Speakable Items speech recognition, you need these pieces of hardware and software:

* a Power Macintosh computer

* system software version 7.5 or later

* a 16-bit microphone, such as the Apple PlainTalk Microphone or the microphone built into some Apple audio-visual monitors

* the Speakable Items software, which is included on this hard disk

Preparing the microphone

If you don't have an audio-visual monitor with a built-in microphone, you must plug in an Apple PlainTalk Microphone or similar microphone into the microphone jack on your computer. Position the microphone as follows:

* Center the microphone on top of your monitor (if possible), with the microphone's Apple icon facing you.

* Make sure that the microphone is between 1 and 3 feet directly in front of you when you're giving spoken commands.

* Adjust the microphone cord so it is not looped around itself or any other cord.

Preparing the sound software

To make sure the microphone is turned on and set up correctly, you must use the Sound control panel or the Sound & Displays controls panel-

whichever you have-to select your microphone as the sound input source:

1. Open the Control Panels window by pulling down the Apple menu and choosing Control Panels.

2. Open the Sound (or Sound & Displays) control panel by double-clicking its icon in the Control Panels window.

3. Use the control panel to select your sound input source:
* If you have the Sound control panel, click the Options button. In the Options dialog box that opens, click Microphone; or, if you are using the microphone built into an AudioVision 14 Display, click AV Connector instead.
* If you have the Sound & Displays control panel, click an item in the Sound In list to indicate which source you're using.

Note: If you get an error message while you're using the Sound (or Sound & Displays) control panel, you may need to turn off the speech recognition software (if you've already installed it). To do so, open the Speech control panel and choose Speakable Items from the Options pop-up menu, then click Off. When you're finished setting the sound options, you can turn speech recognition back on.

4. Close the Sound (or Sound & Displays) control panel.

Installing the Speakable Items software

You install the Speakable Items software by using the Installer programs, as described in these steps:

1. Print these instructions before you start. You won't be able to view them on screen during the procedure.

2. Quit any programs you are running.

3. While holding down the Shift key on the keyboard, choose Restart from the Special menu. Don't release the Shift key until you see the "Extensions Off" message on your screen.

4. To start the Installer program, double-click its icon. You can find the Installer icon in the same place you found these instructions.

5. In the initial screen that appears, click Continue.

6. In the next screen, click Install. The installation takes a while.

7. When you see a message that installation was successful, click Restart.

8. After the computer restarts, you will notice that speech recognition is on. Shortly after you restart, you will see two windows on the screen at once: the feedback window and an Apple Guide window containing the first panel of a brief introduction to speech recognition. (Note: You may also see a message telling you the standard microphone is not selected. If so, you need to check your sound input settings, as described in "Preparing the Sound Software," above.)

9. To go through the introduction, follow the instructions in the Apple Guide window.

At installation, speech recognition is turned on. You can turn it off in the Speech control panel, within the Speakable Items option.

Speaking commands

To make the computer respond to your spoken commands, follow these steps:

* Make sure the computer is listening and that you have said the computer's name if that's required. When you first install the software, it's set up so the computer is listening all the time for commands that start with the computer's name. (Note: This listening method is convenient, but it can be confusing if background sounds are mistaken for commands. You may want to change to the most reliable method, as described in "Determining How the Computer Listens," below.)

* Speak clearly. Wait for a moment of silence, then speak in a normal tone of voice at a normal rate of speed. For more information, see "Tips on Speaking to Your Computer," below.

* Use a spoken command that the computer understands. The computer can understand the name of any item in the Speakable Items folder.

Determining how the computer listens

The computer recognizes spoken commands only when it is listening for them. You use the Speech control panel to determine which of these

listening methods it will use:

* The computer listens all the time, but it only recognizes commands after it hears its name. (This is the default method, the method that is standard if you don't change it in the Speech control panel. The default name is "Computer.")

* The computer listens all the time for commands. (This is the most convenient but least reliable method.)

* The computer listens only while you are holding down the listening key. (This method is recommended because it is the most reliable method.)

When the Speakable Items software is first installed, it is set up so the computer will listen all the time. If you want to change it to the most reliable method, follow these steps:

1. Open the Control Panels window by pulling down the Apple menu and choosing Control Panels.

2. Open the Speech control panel by double-clicking its icon in the Control Panels window.

3. Open the Options pop-up menu and choose Listening.

4. Within the Listening option, choose a listening key by pressing a key. You may combine the key you choose with any combination of the Shift, Option, or Control keys. Do not choose a key or key combination that you use in any of your application programs. If accepted, the listening key you choose appears in the Key(s) box.

5. Click the button labeled "Listen only while key(s) are pressed." The control panel will look like this:

Now that you've selected these options, you just press and hold your listening key whenever you speak a command and then release the key when you finish speaking the command. If you forget which listening key you chose, look below the character in the feedback window.

Note: You can also choose another method from the Listening area of the Speech control panel. For more information, see "How do I tell the computer when to listen?" in the Speech topic area of Macintosh Guide, available in the Guide menu on some Macintosh systems.

Tips on speaking to your computer

When you talk to your computer, keep the following tips in mind:

* Speak at a normal volume. Don't shout or speak loudly.

* Speak naturally. Don't exaggerate the pronunciation of words.

* Pause before giving a command. Don't give one command immediately after another. (If there are no sound waves drawn next to the feedback character, the computer is ready to hear the command.)

* Speak the name of items in the Speakable Items folder exactly. Don't add extra words or sounds.

Finding out more about Speakable Items

You can find out more information about how to use speech recognition by opening Macintosh Guide from the Guide (Question Mark) menu or by clicking the Question Mark button in the Speech control panel.

Within Macintosh Guide, check for the topic "Speech." If it's available, explore the information in that topic area. (The Speech topic is not available on some Macintosh systems.)

If you see a message that there isn't enough memory available

If you see a message that the Speech Recognizer is having trouble due to lack of memory, save all your open documents and quit the application programs you have open.

To avoid running out of memory while using speech recognition

* Quit the application programs you have open.

* Use the Speech control panel to choose a voice that requires less memory, or turn off voice feedback altogether. (The voices named "Agnes,"

"Bruce," and "Victoria" take up the most memory.)

* Use the Memory control panel to turn on virtual memory. (With virtual memory on, voices may be slightly distorted and, with some programs, speech performance may decrease.)

* Add more memory to your computer. (If you are running System 7.5 or later on a Power Macintosh with PowerTalk, QuickDraw GX, and English speech recognition installed, then it is recommended that your computer have at least 16 megabytes of RAM.)

Note on using the speech recognition software with application programs

Certain programs may interfere with speech recognition. For example, the speech recognition software sometimes cannot recognize spoken commands for 10-15 seconds after you have been typing in Microsoft Word.

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Plaintalk 1.4: Using English Text-to-Speech ReadMe (8/95)

This is the Read Me file for using Text-to-Speech in Plaintalk software version 1.4.

This article has been archived and is no longer updated by Apple.
About the English Text-to-Speech Software.

This document contains two parts:

* "Installation Notes for This Computer," which discusses which pieces of the text-to-speech software are already installed on this computer and explains how to install the optional additonal software

* "Using English Text-to-Speech," which is a verbatim copy of the Read Me document that comes with the English text-to-speech software (and which will be installed on your hard disk if use the Installer in this folder)

Installation Notes for This Computer.

The folder in which you found this document contains the complete set of files needed to install English text-to-speech software. Most of the software, including MacinTalk 3, is already installed in your System Folder. MacinTalk 3 provides 19 high-quality voices. However, MacinTalk Pro, which comes with three even higher-quality voices, is not yet installed.

The Read Me document copied below, "Using English Text-to-Speech Software," explains more about the English text-to-speech software. You may want to read the following sections of "Using English Text-to-Speech Software":

* To learn how to use the software, go straight to the section "Trying Out the Text-to-Speech Software." Because all the software you need is already installed, you don't need the instructions in the section "Installing the Software."

* If you decide you want to install the MacinTalk Pro software to add the three higher quality voices to the 19 voices you already have, follow the instructions in "Installing the Software." Remember that MacinTalk Pro voices require more random-access memory (RAM) than MacinTalk 3 voices.

Using the English Text-to-Speech Software.

With the English text-to-speech software installed, many Macintosh programs can read English text out loud. One of the programs that can read to you is the SimpleText program, which comes with this computer and is already installed on your hard disk. (You are probably reading this document using the SimpleText program.)

The instructions in this document tell you:

- what you need to use this software;
- how to install the software;
- how to try out the software using SimpleText;
- how to choose a standard (default) voice;
- some technical details;
- how to solve common problems.

What you need to use the English text-to-speech software.

To use the software, you need the following software and hardware.

- a Macintosh or Power Macintosh computer;
- version 6.0.7 or later of system software;
- at least 300 kilobytes of RAM in addition to what the rest of your system software takes;
- at least 5 megabytes of space available on your hard disk.

Installing the software.

To install the English text-to-speech software, follow these steps.

1. Print these instructions before you start. You will not be able to view them on screen during the installation.

2. If you have been using an earlier version of text-to-speech software, see the note for you at the end of this section.

3. Quit any programs you have been using.

4. While holding down the Shift key on the keyboard, choose Restart from the Special menu. Don't release the Shift key until you see the "Extensions Off" message on your screen.

5. To start the Installer program, double-click its icon. You can find the Installer program in the same place you found these instructions.

6. In the introductory screen that appears, click Continue.

7. In the next screen, click Install. The installation takes a few minutes.

8. When you see a message reporting that the installation was successful, click Restart.

After the computer restarts, you can start using the text-to-speech software. You can try it out using the instructions in the next section.

Note for users of PlainTalk 1.0: The improved version of MacinTalk Pro included with this text-to-speech software is intended to replace the old PlainTalk text-to-speech software. However it may not work with some computers that have a 68030 processor. If you have such a computer and want to keep using the old PlainTalk text-to-speech software, you should not use the standard Install procedure described in these steps. Instead, after step 6, choose Custom Install from the pop-up menu, select MacinTalk 2 or MacinTalk 3, then proceed with steps 7 and 8.

Trying out the text-to-speech software.

You can try out the text-to-speech software in the SimpleText program by following these steps.

1. Open any SimpleText document. Or, since this document is already open, you can do the remaining steps with it.

2. Click anywhere in the text to make sure nothing is selected.

3. Choose Speak All from the Sound menu. (If you cannot hear anything, you may have the sound turned all the way off. Check in the Sound-or Sound & Displays-control panel.)

4. If you want the computer to stop reading, choose Stop Speaking from the Sound menu.

You can also try the following:

- To read a portion of the file, select the words you want to read then choose Speak Selection from the Sound menu.

- To have the computer speak in a different voice, select a voice from the Voices sub-menu in the Sound menu, then choose the Speak All or Speak Selection command from the Sound menu.

- To use the text-to-speech features of other programs, see the instructions that came with those programs.

Choosing a standard (default) voice.

If you have system software version 7.0 or later, you can use the Speech control panel to choose your favorite voice to be the default voice for all your programs. To set the default voice, follow these steps.

1. Open the Control Panels window by pulling down the Apple menu and choosing Control Panels.

2. Open the Speech control panel by double-clicking its icon in the Control Panels window.

3. Open the Options pop-up menu at the top of the Speech control panel and choose Voice.

4. To change the default voice, choose the voice you want from the Voice pop-up menu. To hear what the voice you chose sounds like, click the speaker button. If you're concerned about RAM usage, Agnes, Bruce, and Victoria take about 1,500 kilobytes of RAM; the rest take 300

kilobytes or less.

5. To change the rate at which the default voice speaks, move the slider.

6. Close the control panel.

Technical details.

The software that enables your computer to speak has these components:

- Speech Manager, a system extension;

- one or more of these English speech synthesizers, depending on your hardware and software:
- MacinTalk 2 for standard-quality speech,
- MacinTalk 3 for high-quality speech,
- MacinTalk Pro for highest-quality speech.

- several voice files, each identified with one particular synthesizer;

- the Speech control panel (unless you have system software version 6.0.7 or 6.0.8).

The Installer installs the files that are appropriate for your system.

- If you have version 6.0.7 or 6.0.8 of system software on any Macintosh, these files are installed.
- Speech Manager, in the System Folder;
- MacinTalk 2, in the System Folder;
- 9 voices, in the Voices folder, which is in the System Folder.

- If you have version 7.0 or later of system software on a Power Macintosh or on a Macintosh with a 68040 processor, the following files are installed.
- Speech Manager, in the Extensions folder;
- the Speech control panel, in the Control Panels folder;
- MacinTalk 3 and MacinTalk Pro, in the Extensions folder;
- 19 MacinTalk 3 voices, in the Voices folder, which is in the Extensions folder;
- 3 MacinTalk Pro voices (Agnes, Bruce, and Victoria), also in the Voices folder.

* If you have version 7.0 or later of system software on a Macintosh with a 33 MHz or faster 68030 processor, the following files are installed.
- Speech Manager, in the Extensions folder;
- the Speech control panel, in the Control Panels folder;
- MacinTalk 3, in the Extensions folder;
- 19 voices, in the Voices folder, which is in the Extensions folder.

* If you have version 7.0 or later of system software on any other computer, the following files are installed.
- Speech Manager, in the Extensions folder;
- the Speech control panel, in the Control Panels folder;
- MacinTalk 2, in the Extensions folder;
- 9 voices, in the Voices folder, which is in the Extensions folder.

Troubleshooting (problems and solutions).

- My Macintosh won't speak.
- Turn up the speaker volume in the Sound control panel.
- Choose a voice that requires less random-access memory. The voices Agnes, Bruce, and Victoria take the most memory.

- The Installer program says there's a problem with the hard disk.
- Re-install your system software, then try installing the English text-to-speech software again.

- The Installer program displays other error messages.
- Make sure you restart the computer with extensions off, as described in "Installing the Software," above.

- I had an older version of text-to-speech software, then did a custom installation of the new software, but some of my older voices disappeared.
- The custom installation you chose erased the older version of the software that can use those voices. You can install newer versions of the voices by doing another custom installation of the new software to install MacinTalk 2 or MacinTalk 3 - whichever you used to have. (If you're not sure

which you had, you can install both.)

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Plaintalk 1.4: Spanish Text-to-Speech Software ReadMe (8/95)

The following article is the Read Me document for Plaintalk 1.4 Mexican Spanish Text-to-Speech Software.

This article has been archived and is no longer updated by Apple.
Using the Mexican Spanish Text-to-Speech Software.

With the Mexican Spanish text-to-speech software installed, many Macintosh programs can read Spanish text out loud. One of the programs that can read to you is the SimpleText program, which comes with this computer and is already installed on your hard disk. (You are probably reading this document using the SimpleText program.)

The instructions in this document tell you the following:

- what you need to use this software;
- how to install the software;
- how to try out the software using SimpleText;
- how to choose a standard (default) voice;
- some technical details;
- how to solve common problems.

What you need to use the Mexican Spanish text-to-speech software.

To use the software, you need the following hardware and software:

- a Power Macintosh computer or a Macintosh computer with a 68020, 68030, or 68040 processor;
- version 7.0 or later of system software;
- at least 1.3 megabytes of RAM in addition to what the rest of your system software requires;
- at least 2 megabytes of space available on your hard disk.

Installing the software.

To install the Mexican Spanish text-to-speech software, follow these steps.

1. Print these instructions before you start. You will not be able to view them on screen while you're installing the software.

2. Quit any programs you have been using.

3. While holding down the Shift key on the keyboard, choose Restart from the Special menu. Don't release the Shift key until you see an "Extensions Off" message on your screen.

4. To start the Installer program, double-click its icon. You can find the Installer program icon in the same place you found these instructions.

5. In the introductory screen that appears, click Continue.

6. In the next screen, click Install. The installation may take a while.

7. When you see a message reporting that the installation was successful, click Restart.

After the computer restarts, you can start using the text-to-speech software. You can try it out using the instructions in the next section.

Note for users of older English text-to-speech software. Installing Mexican Spanish text-to-speech software may remove some or all of your older English text-to-speech voices. You can restore those voices by installing the new version of the English text-to-speech software.

Trying out the text-to-speech software.

You can try out the text-to-speech software in the SimpleText program by following these steps.

1. Use the SimpleText program to open any document that contains Spanish text. This document contains some appropriate text (after step 3 in this section).

2. Choose one of the two Spanish voices-named Carlos and Catalina-from the Voices sub-menu of the Sound menu.

3. Select some Spanish text, like the text below.

Las tecnologias de computo y telecomunicaciones tienen el potencial para permitir que muchas personas, que actualmente tienen poco o nulo acceso a informacion valiosa, tengan acceso a los tipos de informacion que pueden tener una diferencia positiva en sus vidas. Puede ser la informacion que necesitan para ser granjeros mas productivos para que se puedan alimentar a si mismos en vez de depender de ayuda exterior para su supervivencia. O pueden ser las herramientas e informacion que necesitan para alcanzar su pleno potencial humano como participantes auto-suficientes y creativos en el sistema educativo y en sus sociedades.

4. Choose Speak Selection from the Sound menu. (If you cannot hear anything, you may have the sound turned all the way off. Check in the Sound or "Sound & Displays" control panel.)

5. If you want the computer to stop reading, choose Stop Speaking from the Sound menu.

Note: To use the text-to-speech features of other programs, see the instructions that came with those programs.

Choosing a standard (default) voice.

You can use the Speech control panel to choose your favorite voice to hear in all your programs. To set this default voice, follow these steps.

1. Open the Control Panels window by pulling down the Apple menu and choosing Control Panels.

2. Open the Speech control panel by double-clicking its icon in the Control Panels window.

3. Open the Options pop-up menu at the top of the Speech control panel and choose Voice.

4. To change the default voice, choose the voice you want from the Voice pop-up menu. The two Mexican Spanish voices are Carlos and Catalina. To hear what the voice you chose sounds like, click the speaker button.

5. To change the rate at which the default voice speaks, move the slider.

6. Close the control panel.

Technical details.

The software that enables your computer to speak has the following components.

- Speech Manager, a system extension;
- MacinTalk Espanol Mexicano, a system extension that creates Mexican Spanish speech;
- two Mexican Spanish voice files, in the Voices folder, which is in the Extensions folder;
- the Speech control panel.

Troubleshooting (problems and solutions).

- My Macintosh won't speak.
. - Turn up the speaker volume in the Sound control panel.

- The Installer program says there's a problem with the hard disk.
. - Re-install your system software, then try installing the Mexican Spanish text-to-speech software again.

- The Installer program displays other error messages.
. - Make sure you restart the computer with extensions off, as described in "Installing the Software," above.

- After I installed the Mexican Spanish text-to-speech software, my old English voices disappeared.
. - You can restore the voices by installing the new English text-to-speech software.

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Plaintalk 1.4: Questions and Answers (8/95)

This article describes the new features and improvements of Plaintalk 1.4.

This article has been archived and is no longer updated by Apple.
PlainTalk is a collection of software that enables your Macintosh to speak written text and respond to spoken commands. PlainTalk 1.4 includes three components, each with its own installer: English Text-to-Speech, Mexican Spanish Text-to-Speech, and English Speech Recognition.

This document describes each of these three software packages, and discusses the differences between PlainTalk 1.3 and PlainTalk 1.4.

English Text-to-Speech

With the English text-to-speech software installed, many Macintosh programs can read English text out loud. To install the English Text-to-Speech software, you need the following software and hardware:

* any Macintosh or Power Macintosh computer
* version 6.0.7 or later of system software
* at least 300 kilobytes (K) of RAM in addition to what the rest of your system software requires
* at least 5 megabytes (MB) of space available on your hard disk

For more information about the English Text-to-Speech software, see the Using English Text-to-Speech document or the About English Text-to-Speech document in the English Text-to-Speech folder.

Mexican Spanish Text-to-Speech

With the Mexican Spanish text-to-speech software installed, many Macintosh programs can read Spanish text out loud. To install the Mexican Spanish text-to-speech software, you need the following hardware and software:

* a Power Macintosh computer or a Macintosh computer with a 68020, 68030, or 68040 processor
* version 7.0 or later of system software
* at least 1.3 MB of RAM in addition to what the rest of your system software requires
* at least 2 MB of space available on your hard disk

For more information about the Mexican Spanish Text-to-Speech software, see the Using Mexican Spanish TTS document in the Mexican Spanish Text-to-Speech folder.

English Speech Recognition

With the English Speech Recognition package and the proper hardware, your computer can respond to spoken commands. The English Speech Recognition package includes the Speech Recognition system extension, the Speech control panel, and a utility called Speakable Items. With Speakable Items, whenever you say the name of an item inside the Speakable Items folder (which is inside the Apple Menu Items folder), the computer acts as if you double-clicked the item.

You can turn Speakable Items on and off using the Speech control panel. You can also use the Speech control panel to set several preferences for how Macintosh Speech Recognition programs listen and respond. For example, you can set the Listening options in the Speech control panel so that the recognizer only listens while you hold down a key of your choice. When you use this option recognition accuracy is improved and misfires (when the computer thinks you spoke a command but you didn't) are eliminated.

To install and use the English Speech Recognition software, including the Speakable Items software, you need the following hardware and software:

* a Power Macintosh computer
* system software version 7.5 or later
* a 16-bit microphone, such as the Apple PlainTalk Microphone or the microphone built into some Apple audiovisual displays (Note: this version of PlainTalk does not work very well with the microphone built into some AudioVision 14 displays.)

For more information about the English Speech Recognition software and the Speakable Items utility, see the Using Speech Recognition document in the English Speech Recognition folder.

TA33915_Plaintalk_Questions_and_Answers__(TIL17959).pdf

Differences between PlainTalk 1.4 and PlainTalk 1.3

Earlier versions of the PlainTalk software had a single installer program that installed both text-to-speech and speech recognition. This version (1.4) contains three different installers to make it easier to install just the parts that are appropriate for your needs: English Text-to-Speech, Mexican Spanish Text-to-Speech, and English Speech Recognition. It doesn't matter what order you install them in, and you don't have to install them all. However, if you install version 1.4 of English Speech Recognition or Mexican Spanish Text-to-Speech then you should also install version 1.4 of English Text-to-Speech instead of using an older version of English Text-to-Speech.

Deciding whether to upgrade to version 1.4

In general, version 1.4 offers a more robust and flexible set of features than earlier versions. However, some people in special circumstances may do better with version 1.3.

* If you have a Macintosh AV computer that has a 68040 processor and you use PlainTalk 1.3's speech recognition capabilities, Apple recommends that you continue using version 1.3 of the PlainTalk software. Though the new text-to-speech software works with these computers, the new speech recognition software does not (because it runs on Power Macintosh computers only). It is not recommended that you mix versions, using the old recognition software with the new text-to-speech software. (Note: all the new software works with Power Macintosh AV computers.)

* If you have an Apple AudioVision 14 display, Apple recommends that you keep using version 1.3, unless you have an Apple PlainTalk microphone. Version 1.4 of the speech recognition software does not work well with the microphone built into some AudioVision 14 displays.

* If you make extensive use of PlainTalk 1.3's Speech Macros, the Speech Macro Editor, or the ability to speak menu commands, then you might want to continue using version 1.3. As part of the effort to make the software more robust, version 1.4 of English Speech Recognition supports Apple's standard AppleScript ScriptEditor instead of the Speech Macro Editor, and it does not support the ability to speak menu items. This is discussed more below.

What's new in English Text-to-Speech

English text-to-speech software version 1.4 is very similar to earlier versions. The main differences are:

* English Text-to-Speech 1.4 has its own installer.

* English Text-to-Speech 1.4 includes a Speech control panel that lets you select a system-wide default voice and rate, which is used by many text-to-speech programs, including SimpleText and the Speakable Items utility.

What's new in Mexican Spanish Text-to-Speech

PlainTalk 1.4 is the first version of PlainTalk to include support for Mexican Spanish text-to-speech.

What's new in English Speech Recognition

English Speech Recognition version 1.4 has some significant differences from the speech recognition software in earlier versions of PlainTalk. Some features have been eliminated to simplify speech recognition and make it more robust and usable. Other options have been added to increase accuracy and eliminate misfires.

* Version 1.4 offers a new listening option in the Speech control panel, "Listen only while key(s) are pressed," that lets you leave Speakable Items on all the time without worrying about misfires. It also improves the accuracy of recognition.

* Version 1.4 works in a wider range of environments thanks to its greatly improved adaptation to room acoustics.

* Version 1.4 does not include or support Speech Macros, the Speech Macro Editor, or Speech Rules. It still supports speaking dialog buttons and the Speakable Items folder. Any item you place inside the folder becomes speakable-saying the name of the item launches or opens the item. You can use the AppleScript ScriptEditor to create scripts that are launched by speaking a command: just save the scripts inside the Speakable Items folder. To see examples, look inside the Speakable Items folder.

* Version 1.4 runs on Power Macintosh computers only, and does not support Macintosh AV computers with 68040 processors. You can continue to use PlainTalk 1.3 on 68040 Macintosh AV computers.

* Version 1.4 does not include automatic support for recognizing the spoken names of menu commands. You can still manipulate scriptable programs, such as the Finder, using AppleScript commands. To see examples, look inside the Speakable Items folder.

Known bugs and workarounds in PlainTalk 1.4

TA33915_Plaintalk_Questions_and_Answers__(TIL17959).pdf

This section describes a few bugs found at the last minute in PlainTalk 1.4, along with workarounds where possible. More troubleshooting information can be found in the documents in the three installer folders.

Apple AudioVision 14 displays. Version 1.4 of English Speech Recognition does not work well with the microphones built into some Apple AudioVision 14 displays. If you have problems using speech recognition with the microphone built into this display, you can use the Apple PlainTalk Microphone (part # M9060Z/A) or you can go back to using PlainTalk 1.3. To go back to version 1.3, use the 1.4 installers to deinstall the new version, then use your old 1.3 installers to reinstall version 1.3.

Mixing Text-to-Speech 1.4 with Speech Recognition 1.3. Apple does not recommend using version 1.4 of text-to-speech with version 1.3 of speech recognition. The PlainTalk 1.4 speech recognition options are visible in the Speech control panel but do not work with the PlainTalk 1.3 speech recognition software. If you do mix them, remember to use the correct control panel for your task: to configure speech recognition version 1.3, use the Speech Setup control panel; to configure text-to-speech version 1.4, use the Voice option of the Speech control panel. You should ignore all the other options of the Speech control panel.

Wrong name in the Using English Speech Recognition document file. In the Using English Speech Recognition document, the phrase "Speakable Items control panel" is sometimes used where what is meant is "Speech control panel."

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Manzanita Software: Printer Switch Settings

The Business Accountant, The Advanced Business Accountant, and BusinessWorks require 10 characters per inch to properly align on preprinted forms.
This article has been archived and is no longer updated by Apple.
Imagewriter switch settings:

Switch 1	1	2	3	4	5	6	7	8
On/Closed	-	-	-	-	x	-	-	-
Off/Open	x	X	X	x		x	x	X

Switch 2	1	2	3	4
On/Closed	X	X	-	-
Off/Open	-	-	X	X

Refer to page 40 and 41 of the Imagewriter Manual.

Imagewriter II:

Switch settings same as for Imagewriter. Be sure the perforation skip switch is off.

Interface Cards:

Grapler Plus: Must be version 3.2. To test for version, boot computer and enter PR#1 (be sure the printer is on and on-line). With the caps lock key on, enter Control-I V. The version of the card will print to the printer. Enter Control-I 80N for special character string in "Change Line Printer Configuration" option of System Setup and Configuration Menu.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

The Tech Info Library article#17159: "**Locating Vendor Information**", can help you search for a particular vendor's address and phone number.
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Open Transport: Availability and Distribution (8/95)

How will Open Transport be made available to customers?

This article has been archived and is no longer updated by Apple.
Open Transport v1.0 ships as a component of the Mac OS on the Power Macintosh 9500. Later, as Open Transport v1.1 is released to support other Mac OS systems it will be made available through a wide range of channels and distribution options including:

* A no-charge upgrade to customers with MacTCP software maintenance agreements.

* A no-charge upgrade to customers with System Software maintenance agreements.

* Single-user and 20-user shrink-wrap retail products.

* A volume license agreement through the Apple Volume Licensing program.

In addition, Open Transport will be made available to developers who have adopted the technology and wish to ship it as a part of their products.

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Open Transport: Benefit of Open Transport (9/95)

How will Open Transport benefit users, network managers and organizations, and developers?

This article has been archived and is no longer updated by Apple.
Open Transport provides individual computer users with many benefits. Two of the most visible and important benefits relate to making networking more accessible:

Ease of Switching Network Configurations

Open Transport makes it easy to switch from one network configuration to another. A computer user "on the go" might want to connect to the Internet in various locations, each requiring a different network configuration. With Open Transport, settings for each network location can be stored for easy access and use. Changed settings are available immediately -- no restart of the computer is required to use the new configuration.

Integrated Online Help

Open Transport integrates online help, based on Apple Guide technology, to make it easier for an individual to connect to a network, with fewer demands on network manager and support resources.

Open Transport provides significant new flexibility in setting up network configurations. A network manager can recommend or require configuration settings for users on the network, or allow users to determine their own settings.

Open Transport also improves support for centralized configuration management. For example, Open Transport/TCP supports the Dynamic Host Configuration Protocol (DHCP), letting network managers administer addressing and other TCP/IP configuration information from a central server.

Open Transport makes it easier and more cost-effective to develop Macintosh-based applications for a wide variety of customers. With Open Transport, the Mac OS has built-in networking and communications based on cross-platform industry standards, including the POSIX compliant X/Open Transport Interface (XTI), Unix STREAMs and Data Link Provider Interface (DLPI). Applications written to support Open Transport can directly support a wide range of networking environments (serial, dial-up network, LAN, and WAN), and multiple protocols (AppleTalk, TCP/IP, serial, and others) from a common code base.

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Open Transport: Compatibility Q & A

This article is a series of questions and answers on compatibility for Apple Open Transport.

Open Transport 1.1 is now available, and Apple recommends upgrading to it. Also refer to Open Transport 1.1 Reference Questions and Answers Tech Info Library articles for the most recent information.
This article has been archived and is no longer updated by Apple.
Question: Is Open Transport interoperable with installed AppleTalk or TCP/IP networks?

Answer: Open Transport is compatible with existing AppleTalk and TCP/IP network and network applications at the "packets on the wire" level. Organizations can introduce one, a few, or hundreds of new Macintoshes running Open Transport into their environment without worrying about interoperability with existing networking services.

Question: Will Open Transport require organizations to make changes in network administration, planning, or design?

Answer: The first Open Transport protocols -- AppleTalk and TCP/IP -- offer new features that give a network manager more flexibility and control. Some of these features, when implemented in a network environment will require additional thought and planning by a network manager.

In particular, Open Transport/AppleTalk adds support for the use of static (manually assigned) AppleTalk node addresses. If implemented, a network manager may prefer to assign addresses based on a pre-designed protocol address management plan.

Open Transport/TCP adds support for the Dynamic Host Configuration Protocol (DHCP). DHCP allows network managers to allocate TCP/IP addresses and other configuration information from a DHCP server. Optimum deployment of DHCP services within an enterprise does require planning.

Question: Which DHCP servers are supported by Open Transport/TCP?

Answer: DHCP is an Internet Engineering Task Force (IETF) standards-track protocol. Apple's implementation conforms to the current versions of the applicable RFCs. To date, Open Transport/TCP has been tested successfully against the following DHCP server implementations:
* Competitive Automation (CA)
* FTP Software
* Hewlett Packard HP-UX
* Microsoft Windows NT Advanced Server
* Silicon Graphics (SGI)
* Sun Solaris
* Sun SunOS
* TGV

Question: What about compatibility with existing applications and network extensions?

Answer: Open Transport provides "backward compatibility" services in five areas:
* To support existing AppleTalk applications
* To support existing MacTCP applications
* To support existing Chooser devices
* To support existing applications dependent on the Mac*OS LAP Manager
* To support existing applications dependent on the Mac*OS classic network driver architecture.

Open Transport also provides compatibility software to ease the transition from classic NuBus NIC drivers to the new DLPI drivers and PCI bus cards.

Apple is working with developers to compile and publish a detailed compatibility and solutions guide for Open Transport. This is expected to be available later this calendar year.

Question: How is backward compatibility for AppleTalk implemented?

Answer: AppleTalk applications backwards compatibility is accomplished by intercepting all AppleTalk networking calls at the ".ddp" driver API. Above this protocol layer, applications written to the classic AppleTalk APIs continue to rely on the classic (680x0 based) implementation of AppleTalk. Calls to the ".ddp" driver are translated to the corresponding Open Transport XTI calls and are then passed to the new native implementation of DDP for processing. The process is reversed for incoming packets.

Using this approach, backwards compatibility is very robust - the classic implementations of ADSP, ASP, ATP, NBP, ZIP, and PAP are actually present (vs. simply mimicked). This also decreases the total memory footprint of backwards compatibility as compared to an implementation based on individual adaptation layers for each of the AppleTalk protocols. The primary disadvantage of this approach is that applications relying on backwards compatibility do not gain any meaningful performance increases on Power Macintosh; only native DDP is actually in use in these cases.

Open Transport/AppleTalk also includes broad support for existing applications and devices that rely on the existing Chooser or the Network Control Panel software for selection and configuration, known as "cdevs" and "adevs" respectively.

Question: How is backward compatibility for MacTCP implemented?

Answer: TCP/IP (MacTCP) applications backwards compatibility is accomplished by intercepting all MacTCP networking calls at the ".ipp" driver level. Calls to the ".ipp" driver are translated to corresponding Open Transport XTI calls and then passed to the native TCP/IP stack for processing. The process is reversed for incoming packets.

This approach allows all TCP/IP applications to benefit from the native implementation of the TCP/IP protocols on Power Macintosh, at least to some degree. While the backwards compatibility layer itself must run as 680x0 code, most of the handling of the packet happens in the new native Open Transport/TCP implementation. The drawback of this implementation is that "warts and all" backward compatibility is potentially less robust; applications depending on idiosyncrasies of MacTCP are more likely to need an update.

TCP/IP backward compatibility also includes targeted support for existing software products that rely on the MacTCP (or AdminTCP) Control Panel software for configuration. Support for these software modules, known as "mdevs", is more limited than that provided for "adevs", for certain technical considerations. A listing of supported "mdevs" is included with the Open Transport release documentation.

Question: Are there other known limitations to backward compatibility?

Answer: Yes, a few. Applications that rely on undocumented APIs or examine private memory data structures in the current AppleTalk or MacTCP implementations will not be fully compatible with Open Transport. Examples of this include the MacSNMP AppleTalk Agent and the shareware utility MacTCP Watcher. Updated versions of such software will be required.

For dial-up TCP/IP access, current implementations of SLIP and PPP (known as "mdevs") will not be able to auto-dial (automatically connect to the service provider when launching a TCP/IP application). Connections can, however, be made manually. New versions of SLIP and PPP will be able to support auto-dial.

Certain networking extensions - such as MacIPX from Novell, or PATHWORKS from Digital Equipment Corp. - as well as a few applications such as Insignia Solutions SoftWindows bypass AppleTalk and MacTCP networking APIs, and talk directly to the Macintosh OS Ethernet driver software. With the introduction of Open Transport and PCI bus to the Macintosh, this driver architecture and software has changed.

Open Transport backward compatibility allows these existing networking extensions and applications to communicate with the new DLPI based Ethernet driver as if it were a "classic" Ethernet device. This aspect of backward compatibility is limited to the built-in Ethernet adapter of Power Macintosh systems with PCI bus. Thus, current versions of such network extensions and applications (those that write directly to the Ethernet driver) cannot access PCI based network interface cards.

Apple is working directly with developers to identify and address all problems as quickly as possible.

Question: What about MacSNMP? When will it be revised to work with Open Transport?

Answer: MacSNMP v1.5 is under development and is planned to ship early in 1996. This release will include support for MIB II statistics from the Open Transport/TCP stack, transport of SNMP data over Open Transport/TCP, and support in the Macintosh System MIB for PCI interface cases.

Question: Is the Power Macintosh 9500 with Open Transport recommended as an AppleShare or PowerShare server platform?

Answer: Not at this time. As is discussed elsewhere in this document, to meet customer expectations in regards to anticipated increases in flexibility and performance, the AppleShare and PowerShare server applications need to be accelerated for Power Macintosh and adopt the new Open Transport APIs. Also, Apple must complete development and ship Open Transport version 1.1. Work on these projects is under way; additional details available will be available at a later date.
Published Date: Feb 19, 2012

Open Transport 1.0.8: Component Technologies Q & A

This article is a series of questions and answers on the component technologies in Apple Open Transport.

Open Transport 1.1 is now available, and Apple recommends upgrading to it. Also refer to Open Transport 1.1 Reference Questions and Answers Tech Info Library articles for the most recent information.
This article has been archived and is no longer updated by Apple.
Question: What technology components comprise Open Transport?

Answer: Open Transport supports LANs and WANs and will integrate serial communications, modems, and remote (dial-up) networking in a consistent model for end-users, network managers, and developers. The Open Transport architecture consists of:

* standards-based programming interfaces for applications developers and for network interface controller developers,
* a new cross-platform development model for integration of networking with the underlying operating system,
* new implementations of Mac OS protocol stacks,
* new human interface applications and control panels, and
* a set of backward-compatibility support modules.

Question: What standards are implemented in the Open Transport architecture?

Answer: Open Transport brings standards-based networking into the Mac OS with support for:

* the X/Open Transport Interface (XTI), the POSIX compliant API for support of networking applications,
* a port of a UNIX System V release 4.2 compatible STREAMs environment for network protocol developers, and
* the Datalink Provider Interface (DLPI), for development of networkinterface controller (NIC) drivers.

Question: Did Apple develop the STREAMs environment for Open Transport?

Answer: To maximize the stability, performance, and robustness of Open Transport, Apple selected Mentat Inc. -- the leading supplier of high performance kernel-level network software -- to supply both the STREAMs environment and the code base for Open Transport/TCP.

Mentat Portable STREAMs (MPS) is an independent fast, full-featured, multiprocessor safe version of the UNIX System V Release 4 STREAMs environment. Its inclusion in Open Transport provides a reliable platform for Open Transport protocols, including Apple's own implementation of a STREAMs-based AppleTalk stack. MPS also allows easy porting from other platforms of third party protocols. MPS is the same implementation of STREAMs found inside many UNIX operating systems including those from IBM and OSF, as well as other platforms such as Novell NetWare.

Mentat TCP (MTCP) is a robust implementation of TCP/IP that conforms with all industry standards, and makes a significant contribution to the performance and functionality of Open Transport/TCP.

Question: Is there more information available about Mentat Inc. and its products?

Answer: Mentat maintains a presence on the world wide web at: http://www.mentat.com

Question: Which protocols are supported by Open Transport?

Answer: Open Transport version 1.0.x includes new, native implementations of AppleTalk, and TCP/IP, and new consistent API access to serial communications.

Apple and third parties are working to add support to Open Transport for Point to Point Protocol (PPP), NetWare (NCP/IPX), Windows 95 (SMB/TCP/NetBIOS), DECnet, LAT, and X.25. Some of these additional capabilities may be incorporated or bundled with future releases of Apple Open Transport (see Future Directions).

Question: What current Mac OS technologies, components, and products will Open Transport replace?

Answer: When installed Open Transport replaces the current Mac OS implementations of AppleTalk and TCP/IP (including the protocols and the "Network", "MacTCP", and "Admin TCP" control panels).

TA33920_Open_Transport_Component_Technologies_Q_A_(TIL17963).pdf

Question: What key files are present when Open Transport has been installed on a Mac OS system?

Answer: When installed, Open Transport adds the following Extensions to the Mac OS System Folder:

* Open Transport Library
Open Transport code resource for 680x0-based Macintosh systems.
* Open Tpt AppleTalk Library
Code resource for AppleTalk communication protocol for 680x0-based Macintosh systems.
* Open Tpt Internet Library
Code resource for TCP/IP communication protocol for 680x0-based Macintosh systems.
* OpenTransportLib
Open Transport code resource for PowerPC-based Macintosh systems.
* OpenTptAppleTalkLib
Code resource for AppleTalk communication protocol for PowerPC-based Macintosh systems.
* OpenTptInternetLib
Code resource for TCP/IP communication protocol for PowerPC-based Macintosh systems.
* Ethernet (Built-In)
Code resource to allow access to built-in Ethernet port.
* Serial (Built-In)
Code resource to allow access to built-in serial port.

Question: Are there any changes in AppleTalk or TCP/IP with Open Transport?

Answer: Yes. The new Open Transport/AppleTalk and Open Transport/TCP protocol stacks both have been implemented as Open Transport STREAMs modules and as native code on Power Macintosh computers. They support the new XTI APIs, and their shared libraries can be dynamically loaded and unloaded as needed.

Both protocols also support dynamic reconfiguration (changed settings without requiring reboot), and feature new configuration applications offering Basic, Advanced, and Administrator tools. The new configuration applications -- AppleTalk and TCP/IP -- replace the older control panel implementations -- Network, MacTCP, and AdminTCP. For backward compatibility purposes, the new applications continue to be stored in the Control Panels folder in the System Folder.

Each protocol stack also offers addition protocol-specific feature enhancements.
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Open Transport: General Information Q & A

This article is a general information questions and answers for Apple Open Transport.

Open Transport 1.1 is now available, and Apple recommends upgrading to it. Also refer to Open Transport 1.1 Reference Questions and Answers Tech Info Library articles for the most recent information.
This article has been archived and is no longer updated by Apple.
Question: What is Open Transport?

Answer: Open Transport is the new modern networking and communications subsystem for the Mac*OS. Open Transport is based on industry standards and brings a new level of networking connectivity, control, and compatibility to Macintosh customers, while preserving and enhancing the Mac*OS, built-in support for easy-to-use networking.

Question: What long-range Apple goals are advanced through Open Transport?

Answer: Apple believes that communications and collaboration technologies are integral and fundamental to personal and workgroup computing. With Open Transport, our goal is to make the Mac*OS the best desktop OS for multiprotocol networking, anywhere.

Question: What needs must be addressed to be "the best"?

Answer: Networking and communications technologies are mission critical, so reliability is a base-level requirement. Organizations require interoperability in heterogeneous environments; full compliance with standards is necessary. High performance is also key. Increasing file sizes*-- often related to the rich media types found in graphics and publishing, multimedia, video production, and technical markets -- create a demand for effective use of higher bandwidth communications technologies such as ISDN, FDDI, fast Ethernet and ATM.

Beyond these base-level requirements, network managers, end-users, and developers each have additional needs.

Network managers need networked systems to support a flexible model of administration that accommodates both centralized and decentralized management models.

Users are typically more interested in using communications as a basis for productivity applications. As such, they are interested in networking that is easy to set up and easy to use. This becomes even more important when users are mobile, needing access to networking services from wherever they may be -- without requiring complex reconfiguration for each connection type.

Developers need to address the broadest possible markets with minimum incremental investment. In short, they need standards-based, cross-platform APIs and development tools.

Question: What were some of the key goals driving the development of Open Transport?

Answer: Apple began with two key assumptions: that networking is inherently a multi-platform, multi-protocol proposition; and that customers cannot start over to achieve networking interoperability. This lead us to adopt five key design goals:

* Open Transport must protect customer and developer investments in existing network infrastructure and applications.

* Open Transport must be based on existing cross-platform industry standards.

* Open Transport must provide users with an easy to set-up, easy to use abstraction of the underlying complexity of multi-protocol networking.

* Open Transport must also provide a complementary abstraction of networking and communications services for applications developers.

* Open Transport must offer a flexible run time model -- one that lets a specific protocol be configured and selected at run time, rather than statically linked at compile time.
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Open Transport 1.0.8: Performance Q & A (3/96)

This article is a series of questions and answers on performance for Apple Open Transport.

Open Transport 1.1 is now available, and Apple recommends upgrading to it. Also refer to Open Transport 1.1 Reference Questions and Answers Tech Info Library articles for the most recent information.
This article has been archived and is no longer updated by Apple.
Question: Is Open Transport native on Power Macintosh? Does this make networking faster?

Answer: Open Transport is written to take advantage of the PowerPC processor -- it is native code. This provides the necessary foundation for increased networking performance in the Mac OS. To realize performance gains, however, it is equally important that networking applications also be accelerated for Power Macintosh, and that applications adopt the new Open Transport XTI-based programming interfaces.

The built-in "backward compatibility" support for existing AppleTalk and TCP/IP applications must continue to run as 680x0 code in emulation on Power Macintosh. This protects a customer's investment in networking applications, but also obscures underlying performance increases from the native protocol implementations.

Question: Will existing networking applications see performance improvements with Open Transport on Power Macintosh?

Answer: In general, current Mac OS networking applications are written for the 680x0 processor, and use the "classic" (680x0-based) networking programming interfaces. These are not likely to see performance boosts with Open Transport, as most of the performance potential is based on the move to native code for the PowerPC processor. Even for Power Macintosh native applications, a continued use of the Open Transport backward compatibility libraries offsets most of the performance gains in the low level protocol handling.

Users that select Power Macintosh native applications that are Open Transport-ready will realize the greatest performance gains. Performance of specific network applications may also be significantly influenced by the underlying processor speed of the system. Customers with demanding, network I/O intensive applications should give strong consideration to the higher performance PowerPC-based Macintosh systems.

However, even with 680x0 emulated applications using backward compatibility, TCP/IP users are more likely to see some performance improvements with Open Transport. This is because of the differences in the way compatibility is provided for MacTCP vs. AppleTalk, and differences in the two protocol architectures.

Question: Does the native code include Ethernet drivers for Macintosh onboard Ethernet adapters?

Answer: PCI-bus Power Macintosh systems ship with a PowerPC native DLPI Ethernet driver for built-in Ethernet. Power Macintosh 6100, 7100, and 8100 models currently have 680x0-based drivers.

Question: When will new or updated applications that support the native Open Transport APIs become available?

Answer: New applications and updated versions of existing applications that are native and use Open Transport are available now. Users are urged to contact the specific third party vendor of interest for more details on their specific product release plans.

Question: How much faster will native Open Transport applications be?

Answer: Networking performance is influenced by many factors. As noted above, customers will see the highest performance networking when using Power Macintosh native applications that fully support Open Transport APIs. Performance will be greater with protocols that use larger datagram sizes, such as TCP/IP, than with AppleTalk (which has a fixed and limited datagram size). On high-speed datalinks such as fast Ethernet, FDDI, and ATM, the performance of the network interface card (NIC) driver code is also a significant factor. Comparative shopping for NICs -- based on price, service, reliability, and performance -- will be in order.

Open Transport -- running on the built-in Ethernet of the Power Macintosh 9500 -- has been clocked at 9.3 Mbps throughput using low-level TCP/IP benchmarks. A pre-release version of a third party Open Transport-native implementation of 'NFS' protocols was benchmarked at 8.4 Mbps. Both figures approach theoretical maximum performance for 10 Mbps Ethernet. AppleTalk performance is somewhat lower, with low-level benchmarking coming in at a bit over 7.5 Mbps throughput.

Question: What about high-speed networking connections like fast Ethernet, ATM, and FDDI?

Answer: The Open Transport engineering team is continuing to work with NIC developers to realize high-performance DLPI drivers for high-speed datalinks. This is a cooperative effort, with work being done on both driver code and on Open Transport. We expect that high-speed

datalink NIC drivers based on Open Transport v1.1 can be fully competitive with other PCI networking products. Of course, performance tuning will be an ongoing priority, as Apple intends to always offer a platform capable of industry leading network performance.

Benchmarking on these types of datalinks, with pre-release Open Transport v1.1 is in progress. Preliminary testing results are very promising:

* 48 Mbps with a Rockwell fast Ethernet card and driver
* 75 Mbps with a Rockwell FDDI card and driver
* 93 Mbps with an Interphase ATM-155 card and driver

These tests are based on Open Transport/TCP running on a Power Macintosh 950/132, and reflect memory to memory, point to point transfers on a dedicated test bed. Additional upside is anticipated as performance tuning continues in preparation for the final release of Open Transport 1.1.

AppleTalk performance is expected to be lower than TCP/IP performance due to various technical issues, including DDP packet size, and the ATP retry-acknowledgment algorithm. Current testing on fast Ethernet is turning in figures around 35-40 Mbps with a PowerPC native AFP server running against a group of still emulated AFP clients. This is a significant performance improvement over current AppleTalk solutions, and further progress should be realized as client code is revised to take advantage of Open Transport and PowerPC.

Question: Will developers ship NICs for fast datalinks based on Open Transport v1.0.x, or wait for tuning planned for v1.1?

Answer: Each developer will make an independent decision to bring their product to market at such time as they are satisfied with the combined performance and reliability of their product with Open Transport. Several vendors are currently shipping PCI solutions for 100BaseTX, ATM, and FDDI. Contact the developer of interest for current availability information (see Developer Adoption).

Article Change History:
26 Mar 1996 - Added statement on Open Transport 1.1 release.
15 Nov 1995 - Updated several answers.
27 Oct 1995 - Updated for OT 1.0.8.

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Color LaserWriter 12/600 PS: Consumables That Stop Printer

When consumables reach end-of-life, does the printer stop?
This article has been archived and is no longer updated by Apple.
Printer operation stops only for three consumables whose ends-of-life might otherwise cause damage to the printer. They are the toner disposal box, fuser oil (printer stops 50 pages after warning light first appears), and the fuser assembly (printer stops 500 pages after warning light first appears).

Ends-of-life for toner and photoconductor cartridges do not stop the printer although image quality will begin to degrade. For example, toner end-of-life is evident by uneven or incomplete toner coverage. Photoconductor end-of-life is evident when you begin to see thin vertical black lines starting about 8 mm from the top and running to the bottom of the page.
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Color LaserWriter 12/600 PS: Fuser Oil Pump Error

I just moved my Color LaserWriter 12/600 PS to a new location and now the status panel is showing an error that the Read Me file identifies as a fuser oil pump error (the paper-jam and paper-out lights flash, the yellow toner light illuminates, and one maintenance light is on). What happened?
This article has been archived and is no longer updated by Apple.
The oil may not have been properly extracted from the fuser before you moved the printer. If oil is present in a printer that is being moved and tilted, the oil overflow sensor can become contaminated, which will cause the oil pump error you describe. When the fuser oil pump error occurs, servicing is required.

Before moving your Color LaserWriter 12/600 PS follow the extraction procedures found in Appendix E of the user's guide.
This information is also applicable to the Color LaserWriter 12/660 PS printer.

This article was published in the "Information Alley":
Volume II, Issue 5, Page 8
Published Date: Feb 19, 2012

ImageWriter: Spooling Available With QuickDraw GX (12/94)

Is there a way to use background printing with an ImageWriter II printer?

This article has been archived and is no longer updated by Apple.
With QuickDraw GX, you can use background printing on the entire ImageWriter series. This includes the ImageWriter, ImageWriter II, and ImageWriter LQ printers.

Non-QuickDraw GX printer drivers do not support background printing.

Article Change History:
07 Dec 1994 - Updated to include QuickDraw GX.
25 May 1994 - Updated with current information.

Support Information Services
Published Date: Feb 19, 2012

At Ease 3.0 Workgroups: Upgrading From Earlier At Ease

I am about to install At Ease 3.0 for Workgroups on my systems that already have At Ease users and set-ups installed. Will I lose all my users and set-ups?
This article has been archived and is no longer updated by Apple.
For most At Ease upgrades, your administrator password (if you have one) remains the same in the At Ease Setup program in At Ease for Workgroups 3.0. When the At Ease Setup program asks for an administrator name, type At Ease Administrator, which is the default administrator name.

Upgrading From Version 1.x

If you are upgrading from At Ease version 1.x to At Ease for Workgroups 3.0, you must first remove the old version by using the At Ease Installer program that came with the old version. When the Installer screen is displayed, hold down the Option key to change the Install button to Remove. Then click Remove to remove the old version.

Any items you created in version 1.x are automatically assigned to a setup or user named At Ease 1.0.

Upgrading From Version 2.x

Upgrading from version 2.x to version 3.0 occurs automatically when you first run the At Ease Setup program of version 3.0. At Ease turns itself off at the end of the installation process, so you must run the At Ease Setup program to turn At Ease back on.

If you upgrade from any version of At Ease for Workgroups 2.0, you must run At Ease Setup on each computer to update the preferences files and databases before you can add the computer to the list of updated computers. (If a computer is already in the list, this step is unnecessary.)

Upgrading From Non-Workgroup Version 2.x or 3.0 to At Ease for Workgroups 3.0

At Ease creates setups in the new version for each user in the old version; the new setups have the same names as the old users. For example, if you had two users named Billy and Sally in the non-workgroup version, the At Ease Setup program of At Ease for Workgroups will now show two setups (Billy and Sally) and two users (also Billy and Sally). You can rename users and setups.

This article was published in the "Information Alley": Volume II, Issue 9, Page 9
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HyperCard 2.2: Creating a Home Button Script (6/95)

This article describes why a script from the HyperCard 2.2 Reference manual does not work and the fix.

This article has been archived and is no longer updated by Apple.
In the HyperCard 2.2 Reference Manual there is an exercise to write a script for a button that goes to the Home stack. If you enter the script verbatim from the manual, every time you try to use the button, you will get a "Where is "Home".?" message.

Step 3 of the script appears on page 3-8 of the manual as follows:

. 3. Type go to stack "Home".

If you type in the script exactly as you see it, including the period, then the script will fail. You must delete the period from the script in order for it to run properly.

Support Information Services
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SimpleText: CAP Incompatible

We have several Macintosh computers with System 7.5, and a Hewlett Packard (HP) 9000 with HP-UX 9.04 running the Columbia AppleTalk Program (CAP) 6.0 pl 192, and UAR (Unix AppleTalk Router) 1.0 as a file server. With SimpleText open if I save a file to a CAP volume (a volume on the Unix file server) the save appears OK (no error reported), but the file does not get saved. It's not visible from either a Macintosh on the network or from within UNIX.

We have tried a variety of versions of SimpleText -- those that come with Mac OS 7.1, 7.5 (SimpleText 1.1.1), and 7.5.1 (SimpleText 1.2). They all exhibit the same problem.

The only application that seems to have this problem is SimpleText. ClarisWorks saves on CAP volumes, and if we save a file from SimpleText onto the local hard drive, then use the Finder to copy it to the CAP volume, that works too. Is there an incompatibility problem between SimpleText and CAP?
This article has been archived and is no longer updated by Apple.
According to the symptoms you describe, it appears a compatibility problem exists between CAP and SimpleText. We have reported this to engineering for evaluation. We have no known date for a solution, or if a solution will be implemented.
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Extended Keyboard II & AppleDesign Keyboard Differences

This article describes the differences between the Apple Extended Keyboard II and the Apple Design Keyboard.
This article has been archived and is no longer updated by Apple.
The US versions of the AppleDesign Keyboard and the Extented Keyboard II have the same key layout. However, there are some subtle differences in the overall design of the keyboard.

- The Extended Keyboard II has two ADB connections, one on the right side, and one on the left side. The AppleDesign Keyboard has one ADB connection on the underside of the keyboard for a mouse or other pointing device. There is a 6-foot long cable permanently attached at the front of the keyboard for connecting it to the Macintosh.
- The Extended Keyboard II has a multi-position switch at the back of the keyboard for adjusting the keyboard angle to several positions. The AppleDesign Keyboard has two feet on the underside for raising the keyboard angle.
- The AppleDesign Keyboard is slightly smaller and lighter.

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About the PCMCIA Update 1.0.1

This article is the About the PCMCIA Update file.
This article has been archived and is no longer updated by Apple.
You should install the PCMCIA Update on your PowerBook 500 series computer if you use a PC Card (PCMCIA) modem, the PowerBook PCMCIA Expansion Module (Model No. M2864 V1), and are experiencing performance problems. The PCMCIA Update can substantially increase modem driver performance when operating at speeds greater than 9600 bps. It also provides necessary compatibility and performance improvements when you use some 28.8 kbps modem cards.

The PCMCIA Update revises the modem driver software that is permanently stored inside the PowerBook PCMCIA Expansion Module. The software you received on the PowerBook PCMCIA Software disk provided with the module has not changed, so you do not need to reinstall it.

Installing the PCMCIA Update

1. To install the PCMCIA Update, you use the Updater program. Follow these steps:
2. Make sure your PCMCIA Expansion Module is installed in your PowerBook.
3. Remove all PC Cards from the PC Card slots.
4. Double-click the PCMCIA Updater icon.
5. Click Update when you are ready to update the module. Follow the instructions on the screen.
6. Click Quit when the update is complete to quit the Updater program.
7. Choose Shut Down from the Special menu.
8. Restart your computer.

NOTE: It is important that you shut down your computer first, and then restart (rather than choosing Restart from the Special Menu) for the PCMCIA Update to work properly.

You may want to make a note that you updated your module, since there is no way to tell if a module has been updated or not. (However, updating your module more than once should not damage it.)

Using DOS-formatted PC Cards

NOTE: This section explains how to use DOS-formatted PC Cards in a PowerBook 500 series computer with PC Exchange installed. This information is not necessary for using the PCMCIA Update.

Most storage PC Cards are preformatted in a DOS format. PowerBook 500 series computers have the ability to use DOS-formatted cards because of the Macintosh PC Exchange software that ships with every PowerBook.

You need to use Macintosh PC Exchange version 2.0.2 or greater when using DOS-formatted PC Cards. (This version is included with System 7.5).

Installing a newer version of Macintosh PC Exchange

To install a newer version of Macintosh PC Exchange, follow these steps:

1. Drag the PC Exchange icon into the Control Panels folder of your System Folder.
2. Click OK to replace the older version of PC Exchange.
3. Restart your Macintosh.

Reformatting a DOS-formatted PC Card

Macintosh PC Exchange cannot be used to change the format of a PC Card from DOS to Mac OS, or from Mac OS to DOS. If you wish to change a DOS-formatted card to a Mac OS-formatted card, follow these steps:

1. Eject the card you want to reformat.

2. Turn PC Exchange off (open the PC Exchange control panel and select the Off option).

3. Reinsert the PC card.

You are prompted to reformat the PC card as a Macintosh volume. Once the PC Card is reformatted, you can turn PC Exchange back on from the control panel. You cannot reformat a Mac OS-formatted PC card as a DOS-formatted PC Card with PC Exchange. To do so you need to use a DOS/Windows computer.

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Applesoft: Internals--Where to find routines

The following list combines all the routines in the INTERNALS series of Apple Tech Notes with the title of the AppleLink article where the routine description appears. The list is arranged alphabetically by the name of the routine.
This article has been archived and is no longer updated by Apple.

Name	Address	Applesoft: Internals--Title
ABS	EBAF	Floating Point Math Package (2 of 3)
ADDON	D998	Miscellaneous Routines
ARG	A5-AA	Introduction (1 of 2)
		Floating Point Math Package (1 of 3)
		Floating Point Math Package (2 of 3)
ATN	F09E	Floating Point Math Package (2 of 3)
AYINT	E10C	Floating Point Math Package (3 of 3)
BKGND	F3F6	High Resolution Graphics Routines
CHKCLS	DEB8	Error Processor Routines
CHKCOM	DEBE	Floating Point Math Package (3 of 3)
		Error Processor Routines
CHKNUM	DD6A	Error Processor Routines
CHKOPN	DEBB	Error Processor Routines
CHKSTR	DD6C	Error Processor Routines
CHKVAL	DD6D	Error Processor Routines
CHRGET	00B1	TXTPTR Routines (2 of 3)
		Floating Point Math Package (3 of 3)
CHRGOT	00B7	TXTPTR Routines (2 of 3)
CLEARC	D66C	Miscellaneous Routines
COMBYTE	E74C	Floating Point Math Package (3 of 3)
CONINT	E6FB	Floating Point Math Package (3 of 3)
CONT	D898	Miscellaneous Routines
CONUPK	E9E3	Floating Point Math Package (2 of 3)
COS	EFEA	Floating Point Math Package (2 of 3)
CRDO	DAFB	Device I/O Routines
DATA	D995	Miscellaneous Routines
DATAN	D9A3	Miscellaneous Routines
DIV10	EA55	Floating Point Math Package (2 of 3)
DRAW	F601	High Resolution Graphics Routines
ERRDIR	E306	Error Processor Routines
ERROR	D412	Error Processor Routines
EXP	EF09	Floating Point Math Package (2 of 3)
FAC	9D-A2	Introduction (1 of 2)
		Floating Point Math Package (1 of 3)
		Floating Point Math Package (2 of 3)
		Floating Point Math Package (3 of 3)
FADD	E7BE	Floating Point Math Package (2 of 3)
FADDH	E7A0	Floating Point Math Package (2 of 3)
FADDT	E7C1	Floating Point Math Package (2 of 3)
FCOMP	EBB2	Floating Point Math Package (2 of 3)
FDIV	EA66	Floating Point Math Package (2 of 3)
FIDVT	EA69	Floating Point Math Package (2 of 3)
FIN	EC4A	Floating Point Math Package (3 of 3)
FLOAT	EB93	Floating Point Math Package (3 of 3)

FMULT	E97F	Floating Point Math Package (2 of 3)
FMULTT	E982	Floating Point Math Package (2 of 3)
FNDLIN	D61A	Miscellaneous Routines
FOUT	ED34	Floating Point Math Package (3 of 3)
FPWRT	EE97	Floating Point Math Package (2 of 3)
FREFAC	E600	String Utilities (2 of 2)
FRESTR	E5FD	String Utilities (2 of 2)
FRETMP	E604	String Utilities (2 of 2)
FRETMS	E635	String Utilities (2 of 2)
FRMEVL	DD7B	Floating Point Math Package (3 of 3)
FSUB	E7A7	Floating Point Math Package (2 of 3)
FSUBT	E7AA	Floating Point Math Package (2 of 3)
GARBAG	E484	Miscellaneous Routines
GDBUFS	D539	Device I/O Routines
GETADR	E752	Floating Point Math Package (3 of 3)
GETARYPT	F7D9	Miscellaneous Routines
GETBYT	E6F8	TXTPTR Routines (2 of 3)
GETNUM	E746	Floating Point Math Package (3 of 3)
GETSPA	E452	String Utilities (2 of 2)
GETSPT	DA7B	String Utilities (1 of 2)
GIVAYF	E2F2	Floating Point Math Package (3 of 3)
GOTO	D93E	Miscellaneous Routines
GTBYTC	E6F5	TXTPTR Routines (2 of 3)
HANDLERR	F2E9	Error Processor Routines
HCLR	F3F2	High Resolution Graphics Routines
HFIND	F5CB	High Resolution Graphics Routines
HFNS	F6B9	TXTPTR Routines (2 of 3)
HGR	F3E2	High Resolution Graphics Routines
HGR2	F3D8	High Resolution Graphics Routines
HLIN	F53A	High Resolution Graphics Routines
HPLOT	F457	High Resolution Graphics Routines
HPOSN	F411	High Resolution Graphics Routines
INCHR	D553	Device I/O Routines
INLIN	D52C	Device I/O Routines
INLIN+2	D52E	Device I/O Routines
INPRT	ED19	Device I/O Routines
INT	EC23	Floating Point Math Package (2 of 3)
ISCNTC	D858	Error Processor Routines
ISLETC	E07D	Error Processor Routines
LET	DA46	Miscellaneous Routines
LINGET	DA0C	TXTPTR Routines (2 of 3)
LINPRT	ED24	Device I/O Routines
LOG	E941	Floating Point Math Package (2 of 3)
MOV1F	EB21	Floating Point Math Package (2 of 3)
MOV2F	EB1E	Floating Point Math Package (2 of 3)
MOVAF	EB63	Floating Point Math Package (2 of 3)
MOVFA	EB53	Floating Point Math Package (2 of 3)
MOVFM	EAF9	Floating Point Math Package (2 of 3)
MOVINS	E5D4	String Utilities (1 of 2)
MOVMF	EB2B	Floating Point Math Package (2 of 3)

MOVML	EB23	Floating Point Math Package (2 of 3)
MOVSTR	E5E2	String Utilities (1 of 2)
MUL10	EA39	Floating Point Math Package (2 of 3)
NEGOP	EED0	Floating Point Math Package (2 of 3)
NEWSTT	D7D2	Miscellaneous Routines
OUTDO	DB5C	Device I/O Routines
OUTQST	DB5A	Device I/O Routines
OUTSPC	DB57	Device I/O Routines
PARCHK	DEB2	Error Processor Routines
PLOTFNS	F1EC	TXTPTR Routines (2 of 3)
PRNTFAC	ED2E	Device I/O Routines
PTRGET	DFE3	Miscellaneous Routines
PUTNEW	E42A	String Utilities (2 of 2)
QINT	EBF2	Floating Point Math Package (3 of 3)
REASON	D3E3	Miscellaneous Routines
REMN	D9A6	Miscellaneous Routines
RESTOR	D849	Miscellaneous Routines
RESUME	F317	Error Processor Routines
RND	C9-CD	Floating Point Math Package (1 of 3)
		Floating Point Math Package (2 of 3)
RND	EFAE	Floating Point Math Package (2 of 3)
RUN	D566	Miscellaneous Routines
SCRTCH	D64B	Miscellaneous Routines
SETHCOL	F6EC	High Resolution Graphics Routines
SGN	EB90	Floating Point Math Package (2 of 3)
SHLOAD	F775	High Resolution Graphics Routines
SIGN	EB82	Floating Point Math Package (2 of 3)
SIN	EFF1	Floating Point Math Package (2 of 3)
SNGFLT	E301	Floating Point Math Package (3 of 3)
SQR	EE8D	Floating Point Math Package (2 of 3)
STKINI	D683	Miscellaneous Routines
STRINI	E3D5	String Utilities (1 of 2)
STRLIT	E3E7	String Utilities (2 of 2)
STRLT2	E3ED	String Utilities (2 of 2)
STROUT	DB3A	Device I/O Routines
STRPRT	DB3D	Device I/O Routines
STRSPA	E3DD	String Utilities (1 of 2)
STRTXT	DE81	String Utilities (2 of 2)
STXTPT	D697	Miscellaneous Routines(2 of 3)
SYNCHR	DEC0	Error Processor Routines
TAN	F03A	Floating Point Math Package (2 of 3)
TEMP1	93-97	Floating Point Math Package (1 of 3)
TEMP2	98-9C	Floating Point Math Package (1 of 3)
TEMP3	8A-8E	Floating Point Math Package (1 of 3)
XDRAW	F65D	High Resolution Graphics Routines

Published Date: Feb 19, 2012

System 6: Default System Preferences (6/95)

You can customize your Macintosh in a variety of ways to suit your own personal style. For example, you can change ways in which information is displayed, the sounds your system makes, and how it handles file management.

This article has been archived and is no longer updated by Apple.
In System 6, you use the Control Panel under the Apple Menu to adjust functions like mouse-tracking speed. These settings are stored in a chip on the logic board of your computer in a dedicated place called Parameter RAM (PRAM).

You can reset your computer's PRAM in System 6 by holding down the Shift-Option-Command(Apple) keys simultaneously while selecting Control Panels under the Apple Menu. The computer will present you with a dialog box informing you that you are about to reset the Parameter RAM. The Date and Time settings are actually read out of PRAM before it is zapped, then written back in afterwards. The next time you restart your computer the Control Panel will be set as follows:

PREFERENCE	LOCATION	DEFAULT
Disk cache size	General Control Panel	32K
Cursor blink rate	General Control Panel	Middle setting
Menu blink count	General Control Panel	1 times
Date, time, and displayed format	General Control Panel and Alarm DA	None
Keyboard repeat rate and repeat delay	Keyboard Control Panel	For repeat: One away from Fast For delay: One away from Long
Monitor settings and location of extra monitors	Monitors Control Panel	Primary monitor only; set to Black & White
Mouse tracking and double-click speeds	Mouse Control Panel	For tracking: Fast For double-click: Middle setting
Beep sound	Sound Control Panel	Simple beep, though it is not highlighted
Startup disk choice	Startup Disk Control Panel	None set, uses standard volume search method
Map	Map Control Panel	Empty
Volume	Sound Control Panel	5

Support Information Services
Published Date: Feb 19, 2012

Internet Server For WWW: BBEdit HTML Extension Issue

A issue has been identified with the BBEdit 3.1.1/AWS HTML Extension v1.3 which ships with the Apple Internet Server Solution for the World Wide Web.

The problem occurs when using any HTML extension which allows you to select a file as a source (using the ÊfileË button in the dialog). When you select a file the first character of the pathname is missing.

Example:
Getting: /owerbook/images/my.gif
Instead of: /Powerbook/images/my.gif

This will render the HTML useless unless the user manually corrects the problem by adding the first character back.
This article has been archived and is no longer updated by Apple.
The following solution to this problem has been suggested by Lindsay Davies, the author of the BBedit HTML extensions.

Set the Utilities HTML extension preferences to Root directory. The problem will no longer manifest itself.

Additionally, Lindsay suggests the following:
"One suggestion though to make the most of these two tools. Set up the prefs (Root folder, server address, and path), and create a document using a BASE HREF. This will allow you to use all the addressing methods (full, root, and relative). Relative addressing will default to the root address if no BASE HREF is present."
Published Date: Feb 19, 2012

System 7: Frequently Asked Questions

This article contains a list of frequently asked questions (FAQ) about System 7. It is not necessarily applicable to System 7.5.

Questions in this FAQ:
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* How do I create a net install for System 7.x?

* Where can I get a copy of MacTCP?

* How do PC Exchange and Macintosh Easy Open (MEO) work together?

* How can I get System 7.0.1 on 800K disks?

* Where is Apple File Exchange located? I thought it came with my system.

* What steps should I follow to perform a reinstallation of System 7.1? What about System 6.0.x? Can you "clean install" System 6?

* Who needs to install the System 7 Tune-Up?

* There seems to be a corrupt font in my fonts folder. When I double-click the font suitcase, I get a -39 error. I can't seem to get rid of this font suitcase! What can I do?

* I recently upgraded to System 7, and am confused about fonts. What's the difference between TrueType and PostScript fonts?

* I occasionally encounter system errors on my Macintosh. There is usually a message that says an error of type 1 or 3 occurred. Where can I find an explanation of what these error numbers mean?

This article has been archived and is no longer updated by Apple.

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Question:
How do I create a net install for System 7.x?

Answer:
Follow these steps:

Step 1:
Create a folder called Net Install on a shared volume.

Step 2:
Drag all disk images needed for the installation (all disks except the Disk Tools disk) to the Net Install
folder. A folder will be created inside the Net Install folder that corresponds to each diskette.

Step 3:
Drag the Installer and the Install script from the Install Me First or Install 1 diskette to the top level of
the Net Install folder.

Step 4:
The Net Install folder is now prepared for remote users to use for performing system software installations.
Once they log into the remote volume, they double click the Installer icon and the installation process will
run.
```

Typically, this setup will allow you to install other software packages using the Apple Installer over a network. For more information, review the article "Software Installation Over a Network", in the online Apple Technical Information Library. Use the search string "net install setup" to locate this article.

Question:
Where can I get a copy of MacTCP?

Answer:
You can obtain MacTCP by purchasing the Macintosh TCP Connection Kit or by upgrading to System 7.5. Only the update applications for MacTCP are posted to online services.

Your local dealer can help you obtain these software packages. You can locate a local dealer by calling the Apple Referral Center at 1-800-538-9696.

Question:
How do PC Exchange and Macintosh Easy Open (MEO) work together?

Answer:
When you set up DOS extension mapping in the PC Exchange control panel, they work regardless of where the file is located. A file can be on a DOS floppy disk, or on the Macintosh hard drive and they work the same.

If Macintosh Easy Open is installed, it works with PC Exchange and tries to map files to the proper applications based on the PC Exchange mappings. If the file is not mapped to an application, Macintosh Easy Open attempts to translate the file.

The above information states how it should be working. If it is not working this way then try the following procedures:

1) Use your extensions manager control panel to turn off all extensions and control panels except for PC Exchange and MEO. Restart and see if you have same problems. If not then you have an extension conflict.

2) While every control panel is off except for MEO and PC Exchange, restart the computer and hold down the Command and Option keys to rebuild the desktop.

3) Delete and custom reinstall the PC Exchange and MEO control panels.

NOTE: MEO is for use when you don't know what application you want to open a document. If you already know this, as in the Word example above, open the application first and then locate the document via File Menu Open (Command-O).

In the online Apple Technical Info Library, use the search string "Macintosh Easy Open and sys75" to locate the article "System 7.5: PC Exchange Works with Easy Open"

Question:
How can I get System 7.0.1 on 800K disks?

Answer:
System software version 7.0.1 is not available on 800K disks.

Question:
Where is Apple File Exchange located? I thought it came with my system.

Answer:
Apple File Exchange ships with System 7.0, 7.0.1, and 7.1. It is on the system disks, but not installed on the hard drive. To install Apple File Exchange, insert the Tidbits disk from your system software.

In System 7.0 and 7.0.1 Tidbits disk, you will see an Apple File Exchange folder. Copy this folder to your hard drive. In the System 7.1 Tidbits disk, you will see an Apple Utilities folder. This folder contains the Apple File Exchange folder. Open Apple Utilities, and copy the Apple File Exchange folder to your hard drive.

Question:
What steps should I follow to perform a reinstallation of System 7.1? What about System 6.0.x? Can you "clean install" System 6?

Answer:
Instructions for reinstalling System 6.0.x and System 7.x are available in the online Technical Information Library.

Use the search string "clean install and instructions" to locate the articles "System 7.1: Clean Installation from 1.44Mb Disks" as well as "System 6.0.x Installation".

Question:
Who needs to install the System 7 Tune-Up?

Answer:
System 7 Tune-Up 1.1.1 should be installed on any Macintosh using System 7.0 or 7.0.1. The tune-up's changes are incorporated into System 7.1 and later systems.

Question:
There seems to be a corrupt font in my Fonts folder. When I double-click the font suitcase, I get a -39 error. I can't seem to get rid of this font suitcase! What can I do?

Answer:
Corrupt fonts can account for a number of system crashes. Here is how to remove a damaged font suitcase from your Fonts folder:

Step 1:
Move the Fonts folder to the desktop.

Step 2:
Create a new Fonts folder in the System Folder.

Step 3:
Drag the known good Fonts from the desktop Fonts folder to the newly created Fonts folder.

Step 4:
Restart your Macintosh.

Step 5:
Drag the Fonts folder on the desktop, with the corrupted font suitcase, to the Trash.

Step 6:
Drag a "good" copy of the corrupted font suitcase from a backup copy or from the original font disk to the closed System Folder.

For more information, review the article "System 7.1: Damaged Font Suitcase Message" in the online Technical Information Library. Use the search string "font and damaged" to locate this article.

Question:
I recently upgraded to System 7, and am confused about fonts. What's the difference between TrueType and PostScript fonts?

Answer:
For an overview of fonts and your Macintosh, check out the article "Bitmap, PostScript, and TrueType Fonts Compared", available in the online Apple Technical Information Library." Use a search string of "truetype and postscript and compare".

Question:
I occasionally encounter system errors on my Macintosh. There is usually a message that says an error of type 1 or 3 occurred. Where can I find an explanation of what these error numbers mean?

Answer:
System error codes are intended to be an aid to programmer's debugging software. They aren't always very helpful when trying to determine the cause of a system crash.

For an overview of the error types and their meaning, review the article "Macintosh System Error Codes Explained", available in the online Apple Technical Information Library. A search string of "system errors and explanation" will find this article.

The Tech Info Library article titled "Locating Vendor Information" can help you search for the Apple Order Center's phone number.

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QuickDraw GX: Frequently Asked Questions (5/96)

This article contains a list of frequently asked questions (FAQ) about QuickDraw GX.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.

Questions in this FAQ:
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* I noticed after installing GX Helper that I don't have the option to disable Desktop Printing in some applications. Why is this?

* How do I select specific LaserWriter Options?

* How do I Select Multi-purpose Input Trays?

* I have a number of non-QuickDraw GX print and fax drivers in my extensions folder yet they do not appear in the Chooser. How can I access them?

* How do I print to an output device that does not have a QuickDraw GX compatible print driver?

* I installed QuickDraw GX, but I do not have a GX driver for my printer. How can I remove QuickDraw GX?

* I noticed my desktop printer icon has an X through it when viewed through the Save or Open dialog box. Is this normal? It looks fine on the Desktop.

* How do I disable the Manual Printing Alert?

This article has been archived and is no longer updated by Apple.
Question:
I noticed after installing GX Helper that I don't have the option to disable Desktop Printing in some applications. Why is this?

Answer:
The option to turn off Desktop printing in the newest versions of Excel (5.0) and Word (6.0) or other recent applications may not appear. These applications are "GX-friendly" and can utilize the QuickDraw GX printer drivers. Because of this, GX Helper does not allow you to disable Desktop Printing.

Question:
How do I Select Specific LaserWriter Options?

Answer:
a) Create a desktop printer using the LaserWriter GX driver in the Chooser
b) Print a one page document or the desktop to the printer
c) Choose Page Setup from a QuickDraw GX savvy application.
d) Select the specific LaserWriter under the "Format For:" pop-up menu. Do NOT choose LaserWriter GX but the specific name of the LaserWriter.
e) Click on the "LaserWriter Options" icon on the left side of the window.

You should see all the options available for the LaserWriter you have chosen such as 300/600 DPI or PhotoGrade. The options available here are dependent on the printer model. Consult your printer's
documentation for a complete description of features.

Question:
How do I Select Multi-purpose Input Trays?

Answer:
a) Create a desktop printer using the LaserWriter GX driver in the Chooser

b) Print a one page document or the desktop to the printer
c) Select the printer on the desktop and choose "Input Trays" from the Printing Menu.
d) Make the appropriate selections.

You will know if QuickDraw GX has queried the specific Desktop Printer properly if the dialog window that comes up for paper trays specifically mentions the printer model (example:LaserWriter Pro).

Question:
I have a number of non-QuickDraw GX print and fax drivers in my extensions folder yet they do not appear in the Chooser. How can I access them?

Answer:
QuickDraw GX drivers show up in the Chooser when QuickDraw GX is active. When QuickDraw GX is disabled, the non-QuickDraw GX drivers appear in the Chooser. They are hidden when QuickDraw GX is active because they are incompatible with QuickDraw GX technology.

Question:
How do I print to an output device that does not have a QuickDraw GX compatible print driver?

Answer:
If you have a non-GX driver you can disable QuickDraw GX via the Extensions Manager control panel and restart. This will let you print using the original driver. The only other alternative is to check with the vendor of the output device to see if they are planning a QuickDraw GX compatible driver.

If you have a PostScript output device, you can print your output to a PostScript file using the application EPSExtension. Refer to the QuickDraw GX ReadMe file for more details on the EPSExtension. Most PostScript devices come with utilities that allow you to download a PostScript file to that device. Two examples of such utilities are Adobe's SendPS or the Apple Printer Utility (for printers that use the Apple LaserWriter driver).

ON Page by COMPUTER:applications, Inc. will parse a PostScript printer description (PDD) for a PostScript or PCL device and make a compatible QuickDraw GX driver.

PowerPrint/GX by GDT Softworks adds the advantages of QuickDraw GX to their collection of printer drivers allowing you to print to over a thousand different PC based printers from the Macintosh desktop.

DOS/Windows-Compatible Printers

MacJET GX (Universal PCL/ HP compatible laser printers) is a universal QuickDraw GX driver for PCL and HP-compatible laser printers.

UNIX print servers

Pathway Print Redirector by The Wollongong Group, Inc. takes advantage of the QuickDraw GX printing capabilities to provide TCP/IP network printing capabilities.

Question:
I installed QuickDraw GX, but I do not have a GX driver for my printer. Where do I get QuickDraw GX drivers?

Answer:
You can contact your printer manufacturer or fax software vendor to see if they have a QuickDraw GX compatible driver available. If there is no QuickDraw GX driver available your can remove QuickDraw GX until a driver is available.

The QuickDraw GX Installer has an easy to use remove feature that will remove the components of QuickDraw GX. After removing GX, it may be necessary to restore some fonts that QuickDraw GX converted. Follow these steps for the removal procedure:

- Quit any open applications or desk accessories
- Locate the QuickDraw GX Installer on the QuickDraw GX Install Diskette or System 7.5 CD. It is located on the Install disk or in the QuickDraw GX Install folder on the CD.
- Launch the Installer.
- When you see the Installer's Welcome screen, click continue.
- Open the pop-up menu (which says Easy Install) and choose Custom Remove.
- Click on the check boxes for the components you wish to remove.
- Click on remove.

The installer will remove the selected components. However, any PostScript fonts that were present in the System folder before the QuickDraw

GX installation will not work properly because QuickDraw GX placed them in suitcases that standard System Software will not recognize.

Copies of the old fonts were placed in a folder called *Archived Type 1 Fonts* in the System Folder. Open this folder and copy all the fonts to the Fonts folder within the System Folder. If prompted to replace any existing fonts, go ahead and replace them.

If you converted any Postscript fonts using the Type 1 Enabler application, you will need to reinstall the fonts from original diskettes as that application does not place copies in the archive folder.

Finally, if you used Adobe Type Manager, you should also reinstall that application as it may have been removed when QuickDraw GX was installed.

Question:
I noticed my desktop printer icon has an X through it when viewed through the Save or Open dialog box. Is this normal? It looks fine on the Desktop.

Answer:
The desktop printer icon is a container, similar to a folder, but it cannot be saved to. QuickDraw GX and the Finder work together to place an X through the icon in the Save or Open dialog box so that the
user cannot open it or save anything to it.

Question:
How do I disable the Manual Printing Alert?

Answer:
You need to be using QuickDraw GX 1.1.1 or later. Click on the Desktop Printer icon and a Printing menu will appear. Go to the Printing menu and select "Disable Manual Feed Alerts".

Article Change History:
10 May 1996 - Updated with third party PostScript applications.

Published Date: Feb 19, 2012

At Ease 3.0: Unlock Utility on Disk 2

This article describes an error in the At Ease for Workgroups 3.0 Administrator's Guide.
This article has been archived and is no longer updated by Apple.
The At Ease for Work Groups 3.0 manual indicates on page 110 that the Unlock program is on "At Ease WG Install 1" disk. The Unlock utility is actually found on "At Ease WG Install 2" disk.

This article was published in the "Information Alley": Volume II, Issue 6, page 12
Published Date: Feb 19, 2012

QuickTime 2.x: Converting MIDI & Karaoke Files

This article describes how to convert a Standard MIDI file (SMF) or karaoke file to QuickTime format.
This article has been archived and is no longer updated by Apple.
If you want to convert Standard MIDI files to QuickTime format, you need to have QuickTime 2.0 or greater installed on your Macintosh computer. If you want to convert karaoke files, you need to have QuickTime 2.5 or greater installed. You should also have the QuickTime Musical Instruments extension installed. You cannot convert MIDI files to QuickTime movies using QuickTime for Windows at this time.

Conversion Procedure For MIDI Files

SimpleText version 1.1.1 or later

1) Launch SimpleText
2) Select Open from the File menu
3) Choose a Standard MIDI file -- The Open button changes to Convert

An additional dialog box appears for the placement of the QuickTime file, which features an "Options" button providing you the ability to change MIDI instrument settings during the transition from the Standard MIDI format to the QuickTime format.

If the file is not a Macintosh Standard MIDI file, when you try to open the MIDI file, SimpleText reads it as a text file. Also, the Open button will not change to Convert.

To force SimpleText to convert the file to a QuickTime MIDI file, you need to change the file Type. The TYPE must be: Midi (the Creator should be either ttxt or Moov)

In order to change the Type of any Macintosh file, you must use a utility application, such as ResEdit that allows you to change the Type and Creator of files.

MoviePlayer 2.x

1) Launch MoviePlayer
2) Select either Open or Import
3) Choose a Standard MIDI File
4) Click on Convert. A dialog appears asking the name of the converted file.
5) Name the file
6) Click Save

The file is converted to a QuickTime movie.

IMPORTANT NOTE FOR QUICKTIME 2.0:
If the MIDI file has a (.) in the filename, it triggers QuickTime to open the file as a Text Track instead of a MIDI Track. To correct this issue, rename the file so it doesn't contain a (.) in the filename. QuickTime 2.5 can convert MIDI files without renaming them.

Converting Karaoke Files
One of the new features in QuickTime 2.5 is the ability to convert and use karaoke file. These files usually have a .kar file extension. You follow the same procedure for converting MIDI files, however there is an additional option for changing the way the text is displayed on the screen. The default screen option is to display the text on a black background with white letters in 12 point Geneva. The text is not anti-aliased.

Changing Text Options

1. After selecting the karaoke file you want to convert, select options in the open dialog. A new dialog appears with a section for changing the text options in karaoke files.

2. Click the Text Options button.

A new dialog appears with a list of fonts installed on your Macintosh computer. Options for making the text anti-aliased, and changing the background and text colors.

NOTE:
Opening the Text Options can take up to several seconds if you have a lot of fonts installed on your computer.

3. Make any changes to the text you want and Click OK.

The standard Open File dialog appears requesting the name of the file you are saving.
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At Ease 3.0: Labels and Views Control Panels Issue

This article describes an issue with At Ease 3.0 and how the Labels or Views control panels can affect later users.
This article has been archived and is no longer updated by Apple.
At Ease users in the Restricted Finder environment cannot open most control panels, however they can open the Labels and Views control panels.

Below are possible side affects to this access:

* Users may change the name and/or color in the Labels control panel. This control panel changes the items in the Labels menu so the next user may select the Label menu and see unacceptable words that fit into the Label text field.

* Users may change the Font for views in the Views control panel to Symbol, so the file and folder names become unreadable to the next user.

* Users may select Calculate Folder Sizes in the List Views section of the Views control panel, which will cause the computer to calculate the size of each folder in an open window. This selection could slow the computers operations, depending upon how many folders are present and the amount of files/folders in each folder.

The following information is for Apple Internal & Support Providers Only
Published Date: Feb 19, 2012

New bnet Patch For The AWS 95 (6/95)

This article describes the new bnet patch for the Apple Workgroup Server (AWS) 95.

This article has been archived and is no longer updated by Apple.
The AWS 95 bnet patch has been released to the internet. It is in the following folder:

<ftp://abs.apple.com/pub/abs/aws95/patches/bnet>

Read Me
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BNET Networking module patch May 13, 1995

This module replaces the existing bnet networking module for A/UX releases 3.1 and 3.1.1. It should not be used with previous releases.

This module has the following functionality changes
---
1) Fixes a problem in the TCP/IP code that could cause crashes under high load conditions when a remote machine times out a connection.

2) Adds support for traceroute.

To install
---
1) Copy the existing file "/etc/boot.d/bnet" file to a safe place

2) Put 'bnet' into /etc/boot.d

3) Run 'newconfig' (with no arguments) as root

4) Reboot the system

Support Information Services
Published Date: Feb 19, 2012

Color StyleWriter Pro: New Black Ink Tank (8/95)

I tried to order a replacement Color StyleWriter Pro Black Ink Cartridge (M1952G/A) using the information provided in my user's guide, but according to my local dealer it was discontinued by Apple. The cyan, magenta, and yellow cartridges are still available. How do I obtain a replacement black ink cartridge?

This article has been archived and is no longer updated by Apple.
The original Black Ink Cartridge (as specified in the printer's user's guide) was discontinued by Apple so that an improved version with an extended life could be introduced. The new ink cartridge is called the Color StyleWriter Pro Black High Capacity Ink Tank, and it can be ordered using finished goods model number M3822G/A.

The Black High Capacity Ink Tank is slightly larger in size, which nearly doubles the ink carrying capacity for the black ink. The new ink tank design uses extra space next to the black ink tank to allow for the larger ink tank.

This article was published in the "Information Alley":
Volume II, Issue 8, Page 4

Article Change History:
28 Aug 1995 - Added Info Alley information.

Support Information Services
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LaserWriter 8.3: Desktop Printing & PostScript Fax (6/95)

Is there going to be a LaserWriter 8.3f fax driver for LaserWriter 8.3? I realize that LaserWriter 8.3 mainly provides support for ColorSync 2.0, but I don't want to have to switch between two printer drivers (8.2.2f and 8.3) in the Chooser. I would also like to take advantage of the new "Desktop Printer" capability of LaserWriter 8.3 when faxing from my fax-capable PostScript printers (LaserWriter Select 360, LaserWriter Pro 810, LaserWriter 16/600 PS).

This article has been archived and is no longer updated by Apple.

As of June, 1995 there are no plans to produce a LaserWriter 8.3f fax driver. The latest version of the LaserWriter "f" driver is LaserWriter 8.2.2f which is available in Software Sampler.

Having two different LaserWriter drivers installed and switching between them is in some ways easier. By having both drivers (for example the LaserWriter 8.2.2f and LaserWriter 8.3), if one is set for a specific fax printer and the other for the Color LaserWriter 12/600, then you can select the desired print driver in the Chooser. When the driver is selected, your specific printer is automatically highlighted (if previously selected for that printer driver) so there is no need to "re-choose" or "Setup" the printers when selecting the different drivers.

With regard to desktop printing, the Desktop PrintMonitor software IS compatible with previous versions of the LaserWriter driver (including the fax versions). Thus, LaserWriter 7.x, 8.x, and all QuickDraw print drivers (LaserWriter Select 300, StyleWriter I/II, and so on) that use PrintMonitor are compatible. We tried running a simple PostScript Fax job using LaserWriter 8.2.2f and the Desktop PrintMonitor software; it faxed without problem via a desktop printer we created for our LaserWriter 16/600 PS.

Support Information Services

Published Date: Feb 19, 2012

LaserWriter FAX Printer & Rings Before Answering Setting (6/95)

We are not able to change the number of "Rings Before Answering" using the LaserWriter Fax Utility to any number above 10. We have a LaserWriter 16/600 PS w/fax card, and when we select "Incoming Fax Settings" and type in any number above 10, the LaserWriter Fax Utility states that value has been changed. Selecting "incoming Fax Settings" again shows that the number has defaulted back to the previous number between 1 and 10. The manual states that you can type in a value from 1 to 30.

This article has been archived and is no longer updated by Apple.
You are correct, the only settings possible are between 1 and 10 inclusive. We have reported this problem to engineering for verification.

Our own testing via PostScript code interrogation of the printer indicates that the only fax card values accepted for "Rings Before Answering" are only from 1 to 10 inclusive.

These limits will apply to all Apple Postscript Fax capable printers including the LaserWriter Select 360, LaserWriter Pro 810, and LaserWriter 16/600 PS.

Support Information Services
Published Date: Feb 19, 2012

AppleShare For Windows: TCP/IP and Winsock

I'm having a problem with AppleShare Client for Windows not working with TCP/IP on a Windows computer. AppleShare runs fine, but an earlier installation of TCP/IP and Winsock no longer function when the AppleShare Client is loaded by the system during startup. The manual that comes with the AppleShare For Windows Client does not address this issue. Have you heard anything about this and a solution to it?
This article has been archived and is no longer updated by Apple.
The solution is to add the following in the Link Support section to the net.cfg file:

max stacks 8

When you load a packet driver IP stack, the default value of 4 stacks the link support layer (lsl.com) can handle is not enough. Increasing the number of stacks serviced from 4 to 6 or 8 will ensure proper operation.

Note: You cannot run AppleShare Client for Windows over TCP/IP, but you can run both TCP/IP and AppleShare Client for Windows off of the same Ethernet card with Windows 3.1 or Windows for Workgroups. AppleShare Client for Windows is not supported for use with Windows 95.
Published Date: Feb 19, 2012

AppleCD 600e CD-ROM Software Read Me (6/95)

This article is the AppleCD 600e CD-ROM Software ReadMe.

This article has been archived and is no longer updated by Apple.
Installing the AppleCD 600e CD-ROM software

If you follow the instructions in the manual for installing the CD-ROM software, but installation is not successful, use the instructions here. Before you begin, make sure there are no CD-ROM discs in any other CD-ROM players connected to your computer. Then follow these steps:

Step 1
Turn on the CD-ROM player by pressing the on/off switch on the back panel of the player.

Step 2
Press the Open/Close button of the CD-ROM player to open the tray.

Step 3
Place the CD-ROM Setup disc in the tray, with the disc label facing up.

Step 4
Push the tray in or press the Open/Close button to close the tray.

Step 5
Start up or restart your Macintosh computer.

Step 6
When the disc icon appears on your screen, double-click the icon to open it.

Step 7
Double-click the Installer icon to open it. The Install dialog box appears. Make sure the destination disk named is your startup disk. If it's not, click Switch Disk until the correct disk is named.

Step 8
Click Install.

Step 9
When you see a message reporting that installation was successful, click Restart.

That's it. You've installed the CD-ROM software. Make sure to remove the CD-ROM Setup disc after installing the CD-ROM software.

Problems installing with System 7.1 and an AppleCD 300i player
---
If you are having problems installing the CD-ROM software with System 7.1 and an internal AppleCD 300i player, follow these steps:

Step 1
Restart your Macintosh computer.

Step 2
Hold down the Command, Option, P, and R keys. As soon as you hear the computer restart again, let go of the keys.

Step 3
Go back and repeat the installation procedure above.

Support Information Services
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Apple Scanner: Frequently Asked Questions

This article contains the following frequently asked questions (FAQ) about Apple Scanners and answers to those questions.

1. What are the current versions of the scanning software?

2. Where can I get updates to the current versions of Apple scanner software?

3. Are Apple scanners TWAIN compliant? Is there a way to scan directly into Adobe Photoshop?

4. How can I scan in text documents for use in a word processor?

This article has been archived and is no longer updated by Apple.

1. Question: What are the current versions of the scanning software?

Answer: The most current configurations are as follows:

.

Scanner Software Configurations			
Scanner Model	**Scanner Driver**	**Scanning Software**	**HyperScan Software**
Apple Scanner	4.2	AppleScan 1.0.2	2.0.1
Apple OneScanner	4.3	Ofoto 2.0.2	2.0.1
Color OneScanner	4.3	Ofoto 2.0.2	2.0.1

Note: The current version of the Apple Scanner driver (v4.3) is not compatible with the original black and white Apple Scanner. Apple Scanner 4.3 requires Ofoto v2.0.1 or later, and Apple Color OneScanner software v2.0 or later. The original Apple Scanner uses Applescan 1.0.2 or Hyperscan 2.0.1.

Customers attempting to use Scanner 4.3 with the original Apple Scanner may have the scanner extension X'ed out at startup and be unable to communicate with the scanner.

Customers who wish to use the original Apple Scanner with a G3 Blue and White and the Apple SCSI card should use Scanner v4.2. Dispatcher/Ofoto Driver version 4.2 can be downloaded from the Apple Software Updates Web site at http://www.apple.com/swupdates .

2. Question: Where can I get updates to the current versions of Apple scanner software?

Answer: These articles can help you locate the software mentioned in this article:

Knowledge Base article: 14724 "**Where To Find Apple Software Updates**" - Lists online services for free Apple software updates

Knowledge Base article: 26184: **Support for Apple Scanners.** This article has been created to direct customers to technical support for Apple's Imaging products: Apple Scanners.

3. Question: Are Apple scanners TWAIN compliant? Is there a way to scan directly into Adobe Photoshop?

Answer: Apple scanners are not TWAIN compliant. However, there are third-party plug-ins available for this purpose. Here are three:

- OneScan (shareware)
- Art Scan Professional, by DPI Electronic Imaging Systems
- Scantastic, by Second Glance Software

4. Question: How can I scan in text documents for use in a word processor?

Answer: The process you are referring to is optical character recognition (OCR). Apple does not write any OCR software. However, there are many third-party vendors of OCR software.

Published Date: Feb 19, 2012

Multimedia: Frequently Asked Questions

This article contains the answers to frequently asked questions (FAQ) concerning issues with Apple Multimedia products.

Questions in this FAQ:

1) Will the closeup lens included with the QuickTake 150 be sold separately for use with the QuickTake 100?

2) Since the QuickTake 100 and the QuickTake 150 share the same housing, will there be an upgrade path available?

3) What is the difference between the AppleDesign Powered Speakers (M4575LL/A) and the AppleDesign Powered Speakers (M4475LL/B)?

4) What is the difference between the AppleDesign Powered Speakers and AppleDesign Powered Speakers II?

5) What is the difference between running applications directly from a CD-ROM drive and copying them to the hard disk and running them from there?

6) When playing normal audio CDs, sound cuts off regularly even when my computer is not running any other software. AppleDesign Powered Speakers are being used. What is causing this?

7) Which AC Adapter can I use with the QuickTake 150 digital camera?

8) I have an AppleCD 300e Plus CD-ROM drive and want to use it on a DOS-based PC. Where can I get the drivers for it?
This article has been archived and is no longer updated by Apple.
1) Question: Will the closeup lens included with the QuickTake 150 be sold separately for use with the QuickTake 100?

Answer: The close-up lens attachment is available as a service part from Apple (922-1371). The attachment works with both the QuickTake 100 and QuickTake 150. There are also a number of companies that manufacture close-up lenses for the QuickTake 100. You can search the Redgate Macintosh Product Registry (shortcut "redgate") for possible solutions from third-party companies.

2) Question: Since the QuickTake 100 & QuickTake150 share the same housing, will there be an upgrade path available?

Answer: There was a QuickTake 100 Upgrade Program in effect from August 2 to November 30, 1995. However, this program is no longer available.

3) Question: What is the difference between the AppleDesign Powered Speakers (M4575LL/A) and the AppleDesign Powered Speakers (M4475LL/B)?

Answer: The difference between these products is the /B speaker includes an output jack for a sub-woofer, which is a low frequency speaker designed to enhance the bass response of small speakers. The /A speaker does not include this jack.

4) Question: What is the difference between the AppleDesign Powered Speakers and AppleDesign Powered Speakers II.

Answer: The AppleDesign Powered Speakers II are slightly smaller than the original AppleDesign Powered Speakers. The AppleDesign Powered Speakers II are designed to stay on all the time and do not have a power switch. There is little difference in sound quality between the AppleDesign Powered Speakers and AppleDesign Powered Speakers II.

5) Question: What is the difference between running applications directly from a CD-ROM drive and copying them to the hard drive and running them from there?

Answer: The main difference is that CD-ROM drive access is much slower than hard drive access. If the application you are running requires frequent access, it will run much more slowly from the CD-ROM drive than from the hard drive.

The CD-ROM disc should contain documentation as to which files you need to copy to your hard drive and which you can run directly from the CD-ROM disc.

6) Question: When playing normal audio CDs, sound cuts off regularly even when my computer is not running any other software. AppleDesign Powered Speakers are being used. What is causing this?

Answer: This is probably due to the noise gate circuitry of the AppleDesign Powered Speakers. The noise gate reduces the amount of noise heard through the speakers while the speakers are just amplifying the sounds from the CPU, such as alert beeps. This noise gate turns off the sound to the speakers when the input level (at the CPU input jack, located on the AppleDesign Powered Speakers) falls below a set voltage level. This circuitry is only connected to the 1/8" stereo jack (CPU Input Jack) and not to the dual phono plugs (CD Stereo Cable Jacks) on the speakers.

You can avoid this through one of the following methods:

Turn Up the Volume:
The best way to handle this situation without having to buy any new cables is to turn up the volume in the Sound control panel and use the volume knob on the speakers to control the speakers volume. If you do this, most sound drop outs will be eliminated. During some soft passages, like those found in classical music, the noise gate may still drop the audio.

Use a Different Cable:
Using a Y adapter cable from the computer's sound out port to the CD Stereo Cable/RCA Jacks on the speakers will eliminate the sound drop outs, but you will lose the benefits of the noise gate.

You can get a Y adapter cable at electronics stores.

7) Question: Which AC Adapter can I use with the QuickTake 150 digital camera?

Answer: You can use the QuickTake AC Adapter (M2851LL/A) and the Macintosh PowerBook AC Adapter (M4662LL/A) with the camera. Use of other AC adapters could result in damage to the camera.

8) Question: I have an AppleCD 300e Plus CD-ROM drive and want to use it on a DOS-based PC. Where can I get the drivers for it?

Answer: Apple does not write the software drivers for the AppleCD 300e Plus for use on a DOS-based PC. They are written by other developers. When Apple ships a Multimedia Kit for Windows, we include a third-party adapter card. The CD-ROM software comes with that card. The software is only licensed to be distributed with the kit. You may want to look in the Redgate Macintosh Product Registry (shortcut "redgate") to locate possible third-party solution. Corel and Trantor are two possible suppliers of such software.
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Japanese Language Kit: Common Troubleshooting Steps

This document contains the answers to frequently asked questions (FAQ) about the Japanese Language Kit (JLK).
This article has been archived and is no longer updated by Apple.
Question 1: I'm installing the Japanese Language Kit using the floppy disks instead of the CD-ROM. Why doesn't the Installer ask for disk Font 12?

Answer: The SaiMincho and ChuGothic fonts found on Font Disk 12 are available only through a customized installation. These fonts are PostScript compatible bitmaps for use with the LaserWriter NTX-J.

Question 2: I'm installing the Japanese Language Kit on an older Macintosh (with 32-bit addressing off). The Installer crashes while merging the TrueType fonts. Why?

Answer: This happens only when installing on Macintosh computers (Macintosh II, IIx, SE/30, IIcx) that also have the 32-bit System Enabler installed. Turn on 32-bit addressing in the Memory Control Panel while installing the Japanese Language Kit with these types of Macintosh computers (Macintosh II, IIx, SE/30, IIcx).

Question 3: I see unreadable garbage text instead of Japanese characters. What's wrong?

Answer: If you see unreadable Japanese text, check the following basic points to make sure the Japanese fonts system is complete:

- The fbit/fdef Kanji bit-map fonts (the one with the Kanji character "kan" and the circle behind its icon) are located at the System Folder root level (not Fonts folder). At minimum, the Osaka font must be installed.
- The InputBackSupport extension is present in the Extensions folder.

Question 4: In the Keyboard menu (Diamond Menu) and the Pencil menu the Japanese text is displayed as garbage.

Answer: The Japanese Language Kit uses the Osaka font to display some menus properly. Some third-party menu enhancement software may override the Japanese font used for some menus. If you have installed software that customizes the menu font, a workaround is to specify Osaka as the menu font, or disable the conflicting software.

Question 5: I double click on a Japanese TeachText file and the data appears as garbage.

Answer: The English version of TeachText opened the document instead of the Japanese version. The only work around is to open the Japanese version of TeachText, then open the file from within TeachText. Alternatively, you can use SimpleText, which is WorldScript savvy.

Question 6: I enter text in Hiragana, but it does not convert to Kanji. Why not?

Answer: The Main dictionary needs to be opened in the JLK preferences.

Question 7: Some of my keyboard shortcuts don't work since I installed JLK. What's wrong?

Answer: System 7.1 or later uses the sequence Command-Option-Spacebar to switch keyboard layouts. Some third-party applications or utilities may also attempt to use this key combination. The System Software takes precedence in all cases so you have to find an alternative for the conflicting program.

Question 8: The JLK is working fine in my applications, but I can't view or input Japanese file names in the Finder. The file names are garbage text, and the input method is dimmed in the Keyboard menu. How do I view and input Japanese file names in the Finder?

Answer: To view Japanese text in the Finder, set the Finder's Views Font. The location of the setting is different, depending on which version of Mac OS you are using.

System 7.1 through 7.6

1. Open the Views control panel.
2. Set the Views Font to Osaka.

Mac OS 8.0 and 8.1

1. In the Finder, select Preferences from the Edit menu.
2. In the Font for views pop-up menu, choose the Osaka font.

Mac OS 8.5 and 8.6

1. Open the Appearance control panel, select the Fonts tab.
2. In the Views Font pop-up menu, choose the Osaka font.

Question 9: I've set the Finder Views Font to Osaka. When I rename a file or folder, the Keyboard Menu automatically switches from US (a blue diamond icon) to the Japanese Input Method (called Kotoeri, an icon of a red sun with an apple). If I re-select U.S. keyboard layout, I can enter the name in English. Why does the keyboard layout switch occur?

Answer: With the Japanese Language Kit installed, if you click in any editable text field (such as editing folder names in the Finder, or editing text in a word processor), Mac OS automatically switches the keyboard layout depending on whether the current font is a Japanese or English Font. This is called Font and Keyboard Synchronization. For example, if you select text that is using Osaka, the keyboard layout will switch to Kotoeri. If the selected text is using an English font like Times or Geneva, the keyboard layout will switch back to U.S.

While some users find this automatic switching feature to be convenient, other users do not. Mac OS 8.5 and later provide the option to turn this feature off. The option to disable Font & Keyboard Synchronization is located in the Keyboard control panel.

Question 10: I have a Performa computer and the JLK. Windows such as help and the input window do not show up when I try to enter Japanese text. What's wrong?

Answer: If you have System 7.1P4 or later, open the Performa Control Panel and turn off Finder Hiding. Then restart your computer to enter Japanese through the input window. If you have System 7.1P3 or earlier, remove the Launcher from the Control Panels folder, and place it in the Startup Items folder. Restart your computer; Finder Hiding is deactivated.

Question 11: When I look in the Extensions Manager control panel, the names of some of the extensions installed by the JLK are listed as garbage text instead of Japanese characters.

Answer: The font that the Extensions Manager uses to display the extensions list is determined by the primary System Script, in this case the U.S. Script. The default views font for the U.S. Script is Geneva, which does not display Japanese characters properly. The Language Register does not support registering the Extensions Manager as a Japanese application.

Question 12: I have the JLK installed, along with the another Language Kit. I set the Views Font to Osaka. I can read English and Japanese file names in the Finder, but file names typed in the other language (Korean, for example) are unreadable.

Answer: The fonts included with each Language Kit are designed to support English characters and each Kit's specific language only. The Language Kits do not currently support viewing multiple languages (for example, Japanese and Korean) simultaneously with the same font. If you are using a WorldScript-aware word processing application like SimpleText, you can display multiple languages in the same document by ensuring that the text of each language is displayed in its correct font.
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Apple III: Apple Disk Drives and Emulation Mode

This article discusses the Apple III emulation mode and disk drive configuration.
This article has been archived and is no longer updated by Apple.
The Apple II emulation mode on the Apple III is configured so that the internal drive looks like Slot 6, Drive 1 and the first external drive looks like Slot 6, Drive 2. Emulation mode can't access the third or the fourth external drive.
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ProDOS: Product Overview

ProDOS is Apple's new disk operating system for the Apple IIe and II+. It is now included with Apple's Disk II drives with controller and the DuoDisk.
This article has been archived and is no longer updated by Apple.
Apple designed ProDOS as a transition from DOS 3.3 and for the greater sophistication and enhanced capabilities demanded by more professional applications. ProDOS provides compatibility between the Apple III and the Apple II line of computers, since ProDOS and SOS share similar file naming conventions and file formats.

ProDOS requires a 64K Apple II+ or IIe, with Applesoft in ROM. Integer BASIC is not supported. Listed below are some of the features of ProDOS.

--Hierarchical file system similar to SOS.

--Up to 51 files in a volume directory; the number of files in subdirectories is limited only by the space on the disk.

--20 different file types; 10 are user-defineable.

--Up to 8 files may be open at one time.

--A defined, usable machine language interface.

--Interrupts up to 4 levels are supported and processed sequentially.

--Compatibility between files created on an Apple III.

--Fast transfer speed to and from disk; about 8K per second from Disk II.

--All disk devices supported by Apple will work automatically.

--Direct block access.

--Enhanced BASIC command structure.

--Easier Assembly Language program development and maintenance.

--Up to 32 megabytes per volume, 16 megabytes per file.

--Multiple logical volumes per physical volume.

--Pseudo disk emulator using the Apple Extended Text Card, enabling fast file access and graphics screen switching.
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BASIC: Printing with properly aligned comma TABbing

Applesoft BASIC comma formatting is only available for screen output. Comma formatting is not intended for printer output, and, with some combinations of a printer and its interface card, commas produce unwanted results such as misaligned fields.
This article has been archived and is no longer updated by Apple.
To tab for printer output, use the command POKE 36,POS.

For example, these commands send the data in A, B, and C for printing in columns starting at 10, 30, and 50:

```
100 POKE 36,10:PRINT A; : REM Go to column 10 and print A
110 POKE 36,30:PRINT B; : REM Column 30, print B
120 POKE 36,50:PRINT C : REM Last tab - no semicolon ends line
```

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The Information Alley: Description (9/96)

This article provides a brief description of the "Information Alley" technical news magazine.
This article has been archived and is no longer updated by Apple.

What is the Info Alley?

The "Information Alley" is a publication of Apple Computer, Inc., Service and Support Engineering. It is available to all Apple customers and Apple computer users through electronic mail (e-mail).

The goal of the "Information Alley" is to help Apple computer users get full use of their Apple computers, peripherals, and software. You are welcome to distribute the "Information Alley" to anyone.

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Information Alley Contents

The contents of Information Alley come from Apple's Technical Information Library (TIL). This library consists of over 12,000 articles related to Apple products and technologies. The TIL is available through various online sources including: America Online, CompuServe, AppleLink, the Internet: (gopher) or World Wide Web.

Where to Find the Information Alley

The Information Alley is available free to anyone through a variety of online services and Internet list server capability. Below is a current list of the online services where the Information Alley is posted.

For a complete list of where to find the Information Alley, search the TIL with "information alley" or "kol" as the search string. Select article title "Information Alley: Where to Find Online".

Article Change History:
16 Sep 1996 - Updated information.
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Easy Access: Features and How to Use

This article describes the features of the Easy Access control panel.
This article has been archived and is no longer updated by Apple.
Easy Access is a control panel intended to help physically challenged users interact with their computer. Easy Access lets you:

- Set the computer so you can control the pointer from the numeric keypad instead of using a mouse (Mouse Keys)
- Type keyboard shortcuts without having to press the modifier keys at the same time (Sticky Keys)
- Type very slowly (Slow Keys)

You can activate these modifications using preassigned keyboard shortcuts or by opening the Easy Access control panel.

Mouse Keys--Controlling the Pointer from the Keyboard

Within the Easy Access Control Panel is a feature called Mouse Keys. You can use the numeric keypad on the right-hand side of the keyboard (instead of the mouse) to control the movement of the pointer on the screen.

To turn Mouse Keys on, press Command-Shift-Clear (the Clear key is on the numeric keypad.)

To turn Mouse Keys off, press Clear.

With Mouse Keys on, you can click, drag, and perform all the usual mouse actions from the numeric keypad. The 5 key serves as the mouse button: press once to click; press twice to double-click. The 0 key locks the mouse button down for dragging. The decimal point key (to the right of 0) or the 5 key unlocks the mouse button. The numbers 1, 2, 3, 4, 6, 7, 8, and 9 move the pointer on the screen.

You can adjust how quickly the pointer moves on the screen and how long the delay is before the pointer starts moving when you press a mouse key. You can make these adjustments in the Easy Access Control Panel.

Sticky Keys--Making Keyboard Shortcuts Easier to Type

The Easy Access Control Panel also includes a feature called Sticky Keys. You can type keyboard shortcuts (such as Command-S for Save) without actually pressing the keys simultaneously.

To turn Sticky Keys on or off, press the Shift key 5 times without moving the mouse.

With Sticky Keys on, you can type a keyboard shortcut by first pressing the modifier key (Command, Control, Shift, Option, and Caps Lock) and then pressing the character key. An icon in the right end of the menu bar (to the right of the Application menu icon) changes to indicate whether Sticky Keys is on and whether a modifier key has been pressed or locked.

You can have Sticky Keys make an alert sound when a modifier key is pressed. You set this option in the Easy Access Control Panel.

Slow Keys--Adjusting the Keyboard for Very Slow Typing

Within the Easy Access Control Panel is a feature called Slow Keys. You can type very slowly and the computer ignores accidental keystrokes by delaying the acceptance of the next keystroke.

To turn Slow Keys on or off, hold down the Return key for about 4 seconds, until an alert sound indicates that the feature is on or off.

You can adjust how long you want Slow Keys to delay acceptance of the next keystroke. You can also set Slow Keys to make an audible click each time a key is pressed. You make these adjustments in the Easy Access Control Panel.

Easy Access only works if it is in the Control Panels folder inside the System Folder when the Macintosh starts up.
Published Date: Feb 19, 2012

QuickDraw GX 1.1.2: Which Drivers Are New?

This article lists which drivers are updated by QuickDraw GX software version 1.1.2.
This article has been archived and is no longer updated by Apple.

```
The following GX printer drivers are included with QuickDraw GX 1.1.2:

Printer Driver          Version
-------------------------------
Color SW 2400 GX         1.0.1
ImageWriter GX           1.1.1
ImageWriter LQ GX        1.1.1
LaserWriter GX           1.1.2
LaserWriter IISC GX      1.1.1
LW 300/LS GX             1.1.1
StyleWriter GX           1.1.1
```

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LaserWriter: Page counter is for maintenance only

This article has been archived and is no longer updated by Apple.

You can't reset the LaserWriter's page counter because it is part of the printer's firmware.

Use the page counter to determine:

1. when to change the toner cartridge (approximately 2,500 pages)
or
2. when to have routine service performed (approximately 100,000 pages).

Published Date: Feb 19, 2012

LaserWriter 4/600 PS: Mac OS Requirements (6/95)

The specifications for the LaserWriter 4/600 PS state that it requires System 7.1.1. but the manual indicates that it requires System 7.1. Can you please clarify this?

This article has been archived and is no longer updated by Apple.
The LaserWriter 4/600 PS requires System 7.1 or later. However, in order to use the desktop printing feature, System 7.1.1 or later is needed.

Support Information Services
Published Date: Feb 19, 2012

Color LaserWriter 12/600 PS: Maximum Page Count

What is the maximum page count value for the Color LaserWriter 12/600 PS?
This article has been archived and is no longer updated by Apple.
The maximum page count for the Color LaserWriter 12/600 PS is a 32-bit number with a maximum value of 4,294,967,296.

This value could be reached in approximately 1,047,553 days (2,870 years) assuming these conditions:

- Maximum throughput of 3 pages per minute
- 30 second pause to reload paper every 250 pages
- Overhead for replacing the consumables
- Printing occurring 24 hours per day
- Daily output of 4,100 pages per day

This estimate does not take into account the fact that the printer is rated to print a minimum of 300,000 black and white pages, or 150,000 color pages.
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Internet Server For WWW: Errors in Documentation

This article describes an error in the documentation for the Apple Internet Server Solution for the World Wide Web.
This article has been archived and is no longer updated by Apple.

Configure MacTCP

Error

Steps 2 to 4 are out of order. You cannot type in an IP number until you set addressing for manual.

Correction

When installing MacTCP it defaults to manual addressing.

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MAE 2.0: Technical Frequently Asked Questions

This article is the MAE 2.0 Technical Frequently Asked Questions (FAQ) for users of Macintosh Application Environment (MAE).
This article has been archived and is no longer updated by Apple.

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* File System
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Entire document is new for version 2.0 of MAE.

See Also:

* MAE 2.0 Tech Notes, available on http://www.mae.apple.com or via anonymous ftp from ftp.support.apple.com in directory /pub/mae/technotes.

* MAE 2.0 README.TXT (on MAE 2.0 product CD-ROM)

File Systems

Question: How do I show files and directories whose names begin with "." in MAE Finder windows?

Answer: You can show/hide these files and directories by setting the appropriate check box in the Views control panel.

Question: Why are file sizes different in MAE and UNIX?

Answer: Using MAE to copy files from a CD or from network-based volumes can result in source and destination files of different sizes, as viewed by the UNIX file system. This is due to MAE's default of storing files in AppleSingle format. Since Mac OS files have both resource and data forks, MAE handles these files differently on a UNIX File system, in a format called "AppleSingle". For more details, refer to "AppleSingle and AppleDouble File Formats" in the MAE 2.0 Tech Notes (see "See Also" following the table of contents of this document).

Question: Why won't my UNIX applications recognize files from MAE applications?

Answer: This is related to the previous question. By default, UNIX files are written by MAE in AppleSingle format. Since UNIX and its applications know nothing about the Macintosh "resource headers" tacked onto the beginning of files in their AppleSingle representation, UNIX applications may see these files as corrupted. For more details, refer to "AppleSingle and AppleDouble File Formats" in the MAE 2.0 Tech Notes.

This "corruption" can occur in a number of different ways. For example, under FileShare, if a UNIX file is dragged from a Macintosh to MAE, the file will be written by MAE in AppleSingle format, which may make it unusable. This occurs because the Macintosh doesn't know anything about UNIX files, so when it sends one to MAE, MAE thinks it's a Macintosh file and writes it to disk accordingly.

This situation does not occur between two MAE sessions that are sharing files, since MAE recognizes UNIX files for what they are and does not store "resource" information about them. When dragging a UNIX file between two MAE sessions, MAE correctly treats the file as a UNIX file.

Using ftp utilities such as Fetch from MAE can also be problematic. When "getting" a file, Fetch will pass the file to MAE to be written to disk. This works fine for Macintosh files since they will be written as AppleSingle files. However, when "getting" a UNIX file, MAE will likewise write this file as an AppleSingle file, which can make it unusable by UNIX applications.

Text files are handled differently by MAE. Text files are always written by MAE in AppleDouble format to

facilitate reading and writing by both Macintosh and UNIX applications (newline characters are automatically translated by MAE; they are stored on disk as UNIX newlines). So in the examples above, when dragging a text file from a Macintosh to MAE or when Fetch gets a file using ftp "Text" mode (i.e., ASCII mode), MAE will write the file in AppleDouble format.

NOTE: Fetch 3.0 and higher will not work with MAE 2.0.2, use version 2.x.x.

As a rule of thumb, it's best to use UNIX to work with UNIX files and MAE to work with Macintosh files. If your environment requires the same (non-text) files to be regularly handled by both MAE and UNIX, then you're probably a candidate for running MAE in AppleDouble mode, by launching it with the -filedouble option.

Question: Can I run UNIX commands located on Macintosh floppy disks?

Answer: MAE does not support execution of UNIX commands from Macintosh floppy disks.

Networking

Question: I like to have the Chooser open and available throughout my MAE session. Does this generate unnecessary network traffic?

Answer: The Chooser generates significant traffic only when it is the foreground application and a Chooser device (such as AppleShare) is selected. It generates minimal traffic when it is the foreground application and no Chooser devices are selected. It generates no traffic when it is in the background. Keeping the Chooser open when using other applications should not generate network traffic or impact network performance.

Question: I just launched MAE. I see the message "Unable to open the file '/dev/appletalk/lap/ethertalk0/control, please be sure the file exists'" in the UNIX window from which I launched MAE. What does this mean?

Answer: AppleTalk is not installed properly. AppleTalk installation must be done as root on each system on which you want to run MAE. You cannot simply copy your MAE binaries from machine to machine. The AppleTalk installation correctly configures your kernel and creates device files used by AppleTalk.

Question: Whenever I use Find File to search a folder exported via FileSharing from a workstation running MAE 2.0, both the client and the server appear to hang. Is this a bug?

Answer: This is a file system problem. FindFile uses PBCatSearch to search the entire volume anytime a search is done. For large volumes with nested mountpoints, PBCatSearch can take a very long time. It is best not to use FindFile to search remote volumes.

Question: I have two ethernet cards installed on my workstation; can I select either card for my MacTCP interface?

Answer: No. The MacTCP driver will use the first interface detected by the ifconfig command. If more than one ethernet card is installed, MacTCP will be configured for the first card.

Question: Can I use the MacTCP control panel to set my MacTCP ip address?

Answer: No. When you run MacTCP on MAE, it uses the host and ip configuration of the UNIX workstation on which you are running MAE. This control panel is for information only. As a user, you cannot reset your workstation's ip/host information using MacTCP.

Question: We use File Sharing to share files between Macintoshes and workstations running MAE 2.0. We have experienced problems when accessing files exported from an MAE workstation while performing server maintenance chores on that workstation. In particular, changing access permissions or ownership seems to adversely affect clients accessing the file server. Is there any way we can prevent this?

Answer: It is best not to attempt to alter the sharing status of a folder while it is being used by a remote

client. If you want to alter the status of a shared folder (by changing its access permissions, changing its owner, or unsharing it) you should check the "File Sharing Monitor" to see that no one is using the folder before changing its sharing status.

Floppy Disks and CD-ROMS

Question: (Sun only) I'm having difficulty mounting CD-ROM discs on Solaris 2.4.

Answer: MAE may be unable to mount CD-ROMs under Solaris 2.4, even though the file macdisk.Solaris is unchanged from Solaris 2.3, where CD-ROMs can be mounted without difficulty.

For mounting CD-ROMs in MAE while running Solaris 2.4, follow these steps:

Step 1
Verify that Volume Manager patch 101907-05 has been loaded.
(/etc/showrev -p will list all installed patches.)

Step 2
Under Solaris 2.4, modify the macdisks.Solaris file in this manner (scsi6 should be replaced with the correct SCSI ID# of the CD-ROM Drive):

scsi6:removable:ro:/vol/dev/aliases/cdrom0

NOTE: After inserting the CD-ROM, wait 5 seconds before attempting to mount it in MAE. The Volume Manager first must create an entry in aliases for 'cdrom0' before MAE will be able to read the alias directory.

This will properly allow MAE to mount CD-ROMs without modifying the /etc/vold.conf directory, thereby allowing the user to mount UNIX CD-ROMs with the Volume Manager.

Question: Is there any way of accessing a Mac-formatted hard disk from MAE if I connect it to the SCSI bus on my workstation?

Answer: No. MAE does NOT support HFS format hard disks (only CD-ROMs and floppies). You may potentially damage your workstation or Mac disk if you try to connect the two.

Question: What kinds of removable media are compatible with MAE?

Answer: The current release of MAE only supports Macintosh formatted CD-ROMs and Macintosh formatted 1.4 Meg floppy disks.

Question: Are ISO 9660 format CD-ROMs compatible with MAE?

Answer: No. Do not add the "ISO 9660 File Access" extension (or any of the other Mac CD-ROM extensions) to your System Folder.

If ISO 9660 CD-ROMs are mounted under UNIX (Solaris 2.3 does this automatically), the mounted directory should be accessible to MAE. (It does not appear as an icon on the desktop.)

Performance

Question: Can MAE be run as an X Application over the network?

Answer: Yes. However, MAE was optimized to run as a local application and be displayed on the local workstation console. While MAE is certainly an X application and can be run remotely, it is graphics intensive and may run significantly slower over the network. MAE performance is highly dependent upon the X server, X client, and network bandwidth/traffic.

Question: Can I increase the performance of MAE when using a remote X-Client over the network?

Answer: Yes. Changing the Monitors Control Panel to "Black and White" will reduce the amount data sent over the network to the X-Client. This can make a significant difference when running remotely, especially with graphics intensive applications.

Question: Will performance be affected if my home directory is located on a remote volume?

Answer: Yes. The "System Folder", which contains the Mac OS system files, is built in your home directory when you start MAE for the first time. Performance will be affected since the code in this folder must be executed to run MAE and it will run more slowly when the System Folder is located on a remote volume.

Question: Can I run MAE with my home directory physically located on a machine running SunOS 4.1.x and NFS mounted to a Solaris 2.x workstation running MAE?

Answer: Yes, but be careful with your permissions. Performance may also be significantly affected.

Keyboard and Display

Question: Why does the cursor sometimes disappear from the screen, when I'm using MAE with a black and white monitor?

Answer: The MAE cursor can "disappear" when it enters an area of the MAE screen that is the same color as the cursor. This is most prevalent when running MAE in monochrome mode and you move an all black cursor (for example, the I-beam cursor) over an all black region of the screen. If your X Server supports color cursors, you can control the foreground and background colors of the MAE cursor by setting the TBFGCURSORCOLOR and TBBGCURSORCOLOR environment variables, as in the following c-shell example:

```
setenv TBFGCURSORCOLOR red
setenv TBBGCURSORCOLOR blue
```

Question: When I try to abort an MAE application by pressing Command-Option-Escape, MAE hangs. What's the problem?

Answer: This feature is not implemented in MAE 2.0. Avoid trying to abort applications with Command-Option-Escape on both Sun and HP.

Printers and PostScript

Question: I'm having trouble getting my PostScript printer to print reliably under MAE. What should I do?

Answer: While developing MAE, we couldn't test on all possible PostScript printers - there are just too many. Also, many older PostScript printers have very little memory (for example, the original Apple LaserWriter(tm), only had 1 Mbyte of RAM), making it difficult to print complicated documents on them. A Macintosh computer, by communicating directly with the printer, can circumvent this memory limitation by optimizing the feeding of PostScript to the printer. MAE's LprWriter, however, uses the underlying UNIX print spooler, and does not communicate directly with the printer. It is therefore possible for a printer to be unable to print a complex document from MAE that it can print successfully from a Mac.

Other tips:

1) The LprWriter driver generates Level 1 PostScript, which should print on any "real" PostScript printer that has enough memory. (Some companies didn't license a PostScript interpreter from Adobe but wrote their own; these often have problems.)

2) It is very important to specify the correct PPD file for the printer. The PPD file contains information about resident fonts, memory size, page sizes, etc. An incorrect PPD specification can create many problems.

3) If the PPD file for a printer isn't shipped with MAE, you can try to get it directly from the printer manufacturer, or from Adobe. Adobe, the creator of PostScript, maintains archives of PPD files, and technical papers about PostScript. These are available on the Internet, at Adobe's ftp server, ftp.adobe.com (130.248.1.4). The login is "anonymous" (without the quotes), and you should use your email address as the

password. PPD files are in the directory : /pub/adobe/PPD/mac

NOTE: all spaces in PPD filenames have been replaced with tildes (~), to make it easier to retrieve the files. After downloading a PPD from this directory, change all tildes in the filename to spaces.

You can also send mail to their email server:
ps-file-server@adobe.com

Send an email message with just the word "help" in the subject for
instructions on how to use the email server.

Other

Question: Why won't my Solaris 2.4 machine successfully run MAE unless it is connected to a network? Without a network, MAE hangs after the "Welcome to Macintosh" screen, and I must kill MAE from a UNIX shell. If the same machine is added to a network, MAE starts up fine.

Answer: Solaris 2.4 workstations not connected to a network require Sun's patch 101945-27 (this "megapatch" is newer than the patches recommended in the MAE 2.0 README). connected to a network. This patch can be found at sunsite.unc.edu. After installing the patch, remove the file /tmp/at if it exists.

Question: Why won't MAE 2.0 produce sound on my HP Workstation?

Answer: See ISSUES RELATED TO SOUND in the README file delivered with MAE 2.0. Final check: be sure the AUDIO environment variable is set to the target audio server.

Question: Using Aldus Persuasion 3.0 with MAE, I can open documents, but can't save them. What's the problem?

Answer: You will have to save your Persuasion 3.0 documents under a name different from their original name. This workaround is necessitated by an incompatibility between MAE and Persuasion 3.0 that causes Persuasion to think the original document is locked; it therefore opens a copy, with a generic 'untitled' name. Because it thinks the original document is locked, you can't save the modifications under the original name.

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Color LaserWriter 12/600 PS: Pantone Software

The Color LaserWriter 12/600 PS includes a card referring to Pantone calibration software. What is this software, and where is it available?
This article has been archived and is no longer updated by Apple.
The PANTONE software basically consists of PANTONE color palettes that have been "tuned" for the Color LaserWriter 12/600 PS. The palettes have been created in application-specific file formats for the most popular desktop publishing applications that use the PANTONE color matching system. Loading these color palettes into the specified applications allows you to closely match screen colors to output colors on the Color LaserWriter 12/600 PS.

The PANTONE files for the Color LaserWriter 12/600 PS are available on online services.

This article can help you locate the software update mentioned here:

- Article 14724: "**Where To Find Apple Software Updates**" - Lists online services for free Apple software updates.

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At Ease for Workgroups 3.0: Mounted Volumes

This article describes a security issue in At Ease for Workgroups 2.0.3 that was fixed in At Ease for Workgroups 3.0.
This article has been archived and is no longer updated by Apple.
If the At Ease disk, in At Ease for Workgroups 2.0.3, is a mounted volume and a User's privileges are Go To Finder, the user will find the mounted volume on the desktop when they are in the Finder.

In At Ease for Workgroups 3.0, a mounted volume is dismounted when a user executes the Go To Finder command. The volume will have to be re-mounted after they are in the Finder.
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NCK for Macintosh, v.2.0: Creating Import Template

How do I create a template to import data from another Macintosh application in the Connection Kit for Macintosh 2.0?

Note: NCK 2.0 for Macintosh is compatible with Newton OS 1.x systems only
This article has been archived and is no longer updated by Apple.
Template creation should follow these general steps:

Step 1
Export the data from the Macintosh application in a delimited ASCII (text) format file. The field delimiting character can be a TAB or any ASCII character, and the record delimiting character can be a Carriage Return or any ASCII character.

Step 2
Open the text file in a word processor to view the sequence of the exported data. Note the sequence of the fields and the ASCII character that separates the fields and the records.

Step 3
Create the template in the Connection Kit matching the EXACT sequence of the fields in the exported data. Follow the steps on pages 6 through 9 in the Newton Connection 2.0 Update addendum on how to create a template. Note the sequence of the fields you Add to the right hand window of the Template window, it must match exactly the sequence of the exported data.

Step 4
Once the template is created, import the text file and verify the data is placed in the correct fields in the Connection Kit. If the data is not placed in the correct field(s), the template will need to be edited to match the sequence of the delimited ASCII text file.

Specific template field information follows for the applications within the Connection Kit.

Names Template Fields

Ms./Mr.
First Name
Last Name
Title
Company
Address
Address2
City
State
Zip Code
Country
E-Mail
Phone1
PhoneKey1
Phone2
PhoneKey2
Phone3
PhoneKey3
Phone4
PhoneKey4
Birthday
Folder
List By
Card Style
Notes

Names template fields defined:

PhoneKey - Description of Phone fields (choices are Home, Work, Fax, Car, Beeper, Mobile and other) Any other information in this field will be ignored when imported into the MessagePad.

Folder - The folder name where you would like the data to reside once the data is on the MessagePad. The folder name must match exactly the folder name on the MessagePad. For instance, if you have a folder name of "Personal" in this field and you have a folder name of "Personal" on the MessagePad, the Name card will be placed in this folder. If you do not have a "Personal" folder on the MessagePad, the note will be placed in the

"Unfiled" folder.

List By - How the Name cards will be listed in the MessagePad. List By will be either Last Name or Company. Any other information in this field will be ignored when brought over to the MessagePad.

Card Style - There are 4 card styles for the Apple MessagePad. These styles are Style1, Style2, Style3 and Style4. Any other information in this field will be ignored when brought over to the MessagePad.

Notes - These are text notes attached to the Name cards.

Names Example:

Mr. (TAB) John (TAB) Doe (TAB) Apple Computer, Inc. (TAB) 1200 West Orion (TAB) Anytown (TAB) Texas (TAB) 78456 (TAB) 213-555-9999 (carriage return)

Notes Template Fields

Created
Text
Folder

Notes template fields defined:

Created - The creation date of the Note.

Text - The text of the Note.

Folder - The folder name where you would like the data to reside once the data is on the MessagePad. The folder name must match exactly the Folder name on the MessagePad.

Notes Example:

5/24/95 (TAB) Buy groceries before lunch (TAB) Personal Folder

Dates

All Dates data to be imported MUST have a Type of "Meeting", "Day Note", or "To Do Item". The data will not be imported if the text of the Type does not match exactly. Note that importing Repeating Meetings into the Connection Kit is not supported. Repeating Meetings can only be exported from the Connection Kit.

Meeting Template Fields

Type
Title
Date
Start Time
Duration (minutes)
Notes

Meeting template fields defined:

Type - Type will always be Meeting.

Title - The title of the Meeting.

Date - The date the meeting is on.

Start Time - The time the meeting starts in Military Time format.

Duration - Length of the meeting in minutes.

Notes - Any notes attached to the Meeting Slip.

Meeting Example:

Meeting (TAB) Lunch (TAB) 5/24/95 (TAB) 12:00:00 (TAB) 60 (TAB) Discuss business (Carriage Return)

Day Note Template Fields

Type
Title
Date
Notes

Day Note template fields defined:

Type - Type will always be Day Note.

Title - The title of the Day Note.

Date - The date the Day Note is on.

Notes - Any notes attached to the Meeting Slip.

Day Note Example:

Day Note (TAB) Vacation (TAB) 5/24/95 (TAB) Trip to the beach (Carriage Return)

To Do Item Template Fields

Type
Title
Date
Priority
Done

To Do Item template fields defined:

Type - Type will always be To Do Item.

Title - The title of the To Do Item.

Date - The date the To Do Item is on.

Priority - The priority of the To Do Item; either 1, 2, or 3

Done - Whether or not the To Do Item is completed or not. Completed = True, Not completed = False

To Do Item Example:

To Do Item (TAB) Buy Groceries (TAB) 5/24/95 (TAB) 2 (TAB) False (Carriage Return)
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NCK for Macintosh, v.2.0: Exporting Application Data

I would like to download data from a Macintosh database to my MessagePad. The Connection Kit for Macintosh 2.0 does not have a built-in translator for my application. I understand I need to export the application data in a delimited ASCII (text) file, but I am unsure how to do this.

Note: NCK 2.0 for Macintosh is compatible with Newton OS 1.x systems only.
This article has been archived and is no longer updated by Apple.
The data export process will vary from application to application. In general terms, you can follow the guidelines below to export your data in an delimited text file. For specific information on how to export data from an application, always consult the manual or contact the developer of the application for information. After the data is exported, you will need to import it into a Newton Connection Kit template you create.

Overview

Database information can be defined in general terms by Fields and Records. Groups of fields often compose a single record. A business card can be used to visualize fields and records. The individual pieces of information on the business card such as First Name, Last Name, Company, Address, City, State, Phone Number can be viewed as fields. The entire business card with all of the information on it can be viewed as a record. A group of business cards in a rolodex can be viewed as multiple records in a database.

Export Process

To begin the export process, choose the command to export data in the database or contact manager. In most cases, you will then need to choose the export file type. A Tab or Comma Separated ASCII Text format will work well with the Connection Kit. The Tab or Comma character is used to separate the data fields and is known as a delimiter. Any other ASCII character can also be used as a delimiter to separate the data into distinct fields.

After selecting the export format file type, the application may ask you to select the data fields to export and to indicate an export order, or it may just export the data in the order it is currently in. Applications will vary on the amount of control you have to export the data. Again, for specific information on how to export data from an application, always consult the manual or contact the developer of the application for information.

In general terms, what happens next is the application goes to the first record in the database, takes all information in the first field (for example First Name) and copies it to the text file. The application then enters a delimiter into the text document, goes back to the first record, copies the data in the second field (for example Last Name), and places this data back into the text file AFTER the delimiter. This cycle repeats itself until all of the field data in the first record is placed in the text file. After the first record has been exported, many applications will place a carriage return between it and all subsequent records until all records are exported. Any other ASCII character can also be used as a delimiter to separate the data into distinct records.

Export Example:

An example of how a contact database with the fields first name, last name, address, city, state, zip and phone number would look after exported in a tab delimited text (tab separated) format.

Record 1:
John (tab) Doe (tab) 1200 West Orion (tab) Anytown (tab) Texas (tab) 78456 (tab) 213-555-9999 (carriage return)

Record 2:
Joanne (tab) Doe (tab) 1200 East Big Dipper (tab) Some-town (tab) Texas (tab) 78346 (tab) 213-555-1212 (carriage return)

Once the data has been exported into the delimited text file, the file is ready to be imported into the Connection Kit via a template you create.

For information on how to create a template in the Connection Kit, see the following TIL article: "Connection Kit for Macintosh 2.0: Create Import Template"
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Macintosh Plus Upgrade: Removing The Security Kit

The following provides an explanation on removing the secuirty kit from a Mac Plus.

This article has been archived and is no longer updated by Apple.

Removing the security kit from the housing and keyboard is fairly simple once you've opened the case. From the inside of the case, merely pry the retaining prongs apart with a flatblade screwdriver and slip the plug out.

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PC Net Exchange: Read Me File

This article contains the ReadMe file for PC Net Exchange software.
This article has been archived and is no longer updated by Apple.
PC Net Exchange 1.0.1

PC Net Exchange is a utility program that helps users of Mac OS computers share DOS/Windows files, over an AppleTalk network, with users of AppleShare Client for Windows software. This document describes PC Net Exchange and how it works with AppleShare Client for Windows and PC Exchange. PC Net Exchange is distributed free of charge-see the notice at the end of this document for details. For information about purchasing AppleShare Client for Windows and PC Exchange, see your authorized Apple dealer.

Note: None of the products described in this document translates or converts DOS/Windows data files into Macintosh data files, or Macintosh data files into DOS/Windows data files.

AppleShare Client for Windows

The AppleShare Client for Windows software provides file services and print services for Windows computer users on an AppleTalk network. The file services let you share files from your Windows computer with Mac OS computer users on the network. You can use AppleShare Client for Windows to create, copy, use, and delete files on a Mac OS-based computer that is running either AppleShare or Macintosh file sharing.

PC Exchange

The PC Exchange utility lets you use PC-formatted floppy and SCSI disks on a Macintosh computer just as you would use Macintosh-formatted disks. PC Exchange automatically identifies PC disks and files with "PC" icons, and you can save, delete, copy, and open files as usual. PC Exchange internally labels these files as text files, and you can open these files from within any Mac OS-based application that supports text files. (If they are indeed text files, you will be able to use them from within the application you opened. If they are not text files, then the Mac OS-based application will open the files but will not be able to display the contents of the files properly.)

You use PC files other than text files with your Mac OS applications by using the PC Exchange control panel to map PC filename suffixes to Mac OS application document types. (A PC filename suffix is the three characters following the "dot" in a DOS/Windows filename.) Once you have mapped a PC filename suffix to a document type, the Mac OS treats any PC file whose name ends with this suffix as a Mac OS document of that type. You see the file in the Finder represented by the appropriate Mac OS document icon. You can open the document directly from the Finder, automatically starting the appropriate Mac OS application. If the file's format is the type you specified in the mapping process, you will be able to use the file just as if it had been created by the Mac OS-based application.

PC Net Exchange

You can install PC Net Exchange with PC Exchange on your Mac OS servers to extend this suffix-based file-mapping capability to your network. If PC Net Exchange is installed, you can map such files on the Mac OS-based system to Mac OS documents in the same way that you map PC files on locally attached PC disks. Any mapping that you've previously defined is automatically implemented.

If PC Net Exchange is installed on a server, files that users have copied or saved to that server by using AppleShare Client for Windows appear as "PC" (text) files, and you can map these files to Mac OS application document types with the PC Exchange control panel. If PC Exchange is not installed, such files appear on the server as "PC" (text) files, but you cannot map these files to Mac OS document types.

System Requirements

Windows system
* AppleShare Client for Windows version 1.0 or later

Mac OS system
* Macintosh system software version 7.1 or later
* Macintosh PC Exchange 2.0.3 or later

Installing PC Net Exchange

To install PC Net Exchange on your Mac OS system:
1. Drag the PC Net Exchange icon into the Extensions folder inside your System Folder.
2. Restart your computer.

Known Limitations

Some DOS/Windows applications store changes to a document in a temporary file, then rename that file to the original document name when the

user saves the document. PC Net Exchange cannot detect this type of file activity, and therefore cannot assign the correct icon to the file. To allow PC Net exchange to assign the "PC" icon to such a file, drag the file into another folder, then back to its original location, or copy the file from the Windows computer to the Mac OS computer using the Windows File Manager.

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System Software: Version Matrix, System 6.0.x to 7.0.1

This article lists all Macintosh computers that can run system software previous to System 7.1.

For information on System software after 7.0.1, search the TIL using search string "system and enabler and matrix" to locate "System Software: 7.1 and Later Enabler Matrix"

This article has been archived and is no longer updated by Apple.

Use the following chart to determine which version of system software you should be using on your Macintosh computer:

KEY:

! - Not supported

OK - Works with this version of system software

Macintosh	7.0.1	7.0	6.0.8	6.0.7	6.0.5	6.0.4	6.0.3	6.0.2
128K*	!	!	!	!	!	!	!	!
512K*	!	!	!	!	!	!	!	!
512Ke*	!	!	!	!	!	!	!	!
XL/Lisa*	!	!	!	!	!	!	!	!
Plus	OK	OK	OK	OK	OK	OK	OK	OK
SE	OK	OK	OK	OK	OK	OK	OK	OK
SE/30	OK	OK	OK	OK	OK	OK	OK	OK
Classic	OK	OK	OK	OK	!	!	!	!
Classic II	OK	!	!	!	!	!	!	!
Portable	OK	OK	OK	OK	OK	OK	!	!
II	OK	OK	OK	OK	OK	OK	OK	OK
IIx	OK	OK	OK	OK	OK	OK	OK	OK
IIcx	OK	OK	OK	OK	OK	OK	OK	!
IIci	OK	OK	OK	OK	OK	OK	!	!
IIfx	OK	OK	OK	OK	OK	!	!	!
IIsi	OK	OK	OK	OK	!	!	!	!
LC	OK	OK	OK	OK	!	!	!	!
LC II	OK	OK	OK	!	!	!	!	!
Quadra 700	OK	!	!	!	!	!	!	!
Quadra 900,950	OK	!	!	!	!	!	!	!
PowerBook 100	OK	!	!	!	!	!	!	!
PowerBook 140, 145,145B,170	OK	!	!	!	!	!	!	!

All the systems not listed above require System 7.1 or later. Use search string "system and enabler and matrix" to locate "System Software: 7.1 and Later Enabler Matrix" for more information.

*NOTE: These early Macintosh computers will not operate with System 6, use system 3.2 instead.

Published Date: Feb 19, 2012

LaserWriter Pro 810: Utility Cannot Configure IP Address

I am trying to set the IP address of my LaserWriter Pro 810 with the Apple Printer Utility. My LaserWriter 16/600 PS works fine, but I can't get the same dialogs to come up.
This article has been archived and is no longer updated by Apple.
The Apple Printer Utility does not support the LaserWriter Pro 810, although the LaserWriter Pro 810 has enough common characteristics for some information to be retrieved. You should refer to the LaserWriter Pro 810 documentation to configure its various features.

You can also search the Tech Info Library for more information, use the search string, "Pro 810 and TCP/IP".
Published Date: Feb 19, 2012

GeoPort 2.1 Telecom Adapter: Read Me

This article is the GeoPort Telecom Adapter 2.1 Read Me file.
This article has been archived and is no longer updated by Apple.
Software Included in the GeoPort Telecom Adapter Kit

Apple Telecom Software 2.1

This includes all software necessary to use the GeoPort Telecom Adapter with the following Macintosh systems:

* Centris 660AV, Quadra 660AV and Quadra 840AV.

* Power Macintosh 6100 series, 7100 series, 8100 series, and 9500 series.

The Apple Telecom User's Guide contains complete information about installing and using this software. An electronic Apple Telecom Upgrade Manual is included in the Telecom Documents folder so that you can learn about the new features if you upgraded electronically and don't have the Apple Telecom User's Guide. Disks 1 and 2 can also be used to install Apple Telecom 2.1 software on Macintosh systems equipped with an Express Modem card.

NOTE: For Power Macintosh 9500 series, version 2.1 or higher of Apple Telecom Software is required. If you are using a GeoPort Telecom Adapter on these Power Macintosh models, you must disable LocalTalk. To do this, disconnect any devices attached to the printer port (except serial printers, which can remain attached).

IMPORTANT: If you select "Sleep" from the Special Menu available on some Power Macintosh models while there is an active GeoPort connection, the GeoPort Telecom Adapter will automatically disconnect the call without warning.

MegaPhone

This is a basic screen-based telephone application that delivers support of the telephony capabilities of the Apple Telecom 2.x software, including support for dialing from a graphical keypad, copying and pasting telephone numbers, and dragging and dropping business card information.

The full-featured version of MegaPhone is included in the GeoPort Telecom Adapter Kit, which can be purchased separately. The Kit also includes the GeoPort Telecom Adapter, Apple Telecom 2.x software, and SITcomm SE/GTA, which is a terminal emulator application.

Upgrading From Previous Releases of GeoPort Telecom Adapter Software

If you are installing this version of the software over an older version, you should use the Easy Install option rather than the Custom Install option. This ensures that all files are updated as necessary.

NOTE: If you have installed any customized fax cover pages and renamed the fax folder (called Express Fax in previous versions), the Installer moves them to the new Fax Folder. You can still use them, but if you want to keep them in a different folder, you'll need to drag them there manually.

When you have installed over an older version, the folders "Modem Documents" and "Express Fax" and the file "GeoPort ReadMe" may still be left on your hard disk from the earlier version. These are not necessary for using the newer version; you may delete them.

Connection (CCL) Scripts for Apple Remote Access

Use the following connection scripts with Apple Remote Access:

ARA 1.0: GeoPort Telecom ARA 1.x (in Extensions folder in System Folder)
ARA 2.0: GeoPort Telecom ARA 2.x (in Extensions folder in System Folder)

These files are placed directly in the Extensions folder by the Installer program. You do not need to move or copy them there as stated in Appendix C of the Apple Telecom User's Guide. Apple Remote Access 1.0 does not support Power Macintosh computers.

Two additional, optional connection (CCL) files, named GeoPort Telecom ARA 1.x/CNG and GeoPort Telecom ARA 2.x/CNG, are installed as well. When you use them, the GeoPort Telecom Adapter transmits data calling tones after dialing. Data calling tones allow the remote machine to detect automatically that an incoming call is a data modem call. If you are dialing into a system that supports data, fax and voice calls (such as another GeoPort Telecom Adapter), you should select it in the Apple Remote Access Setup control panel.

NOTE: The GeoPort Telecom ARA 1.x/CNG and GeoPort Telecom ARA 2.x/CNG files are installed in the Telecom Documents folder. Should you decide to use these optional files, you'll need to drag or copy them to the Extensions folder.

Using Remote Access Dial Back

If your Remote Access server uses a "Dial Back" feature, the server's return call back to your machine may be inadvertently directed to an open telephone application. To avoid this situation, either close these applications or open the Express Modem control panel and choose "Data" as the

default call type when you expect an incoming call from another computer.

Using Fax Sender GX With QuickDraw GX 1.1

The Fax Sender GX extension described in Chapter 8 of the Apple Telecom User's Guide can only be used with QuickDraw GX 1.1 or later. Depending on your location, QuickDraw GX 1.1 may not be available in your area at the time this software is released.

If you need to send complex grayscale images, you should use Fax Sender GX instead of Fax Sender. The image quality is superior.

NOTE: The Control-shift shortcut used to select Fax Sender without going through the Chooser is not available when using Fax Sender GX. However, you can create a desktop printer icon for Fax Sender GX and use drag-and-drop to accomplish the same thing.

Fax Sender GX initially defaults to Standard quality. If you plan to use a desktop printer and want to change the default to Fine quality, print a document from any GX-aware application (SimpleText, for example) and select Fine quality from the Fax Sender GX print dialog.

Please refer to the About Fax Sender GX electronic manual installed in the Telecom Documents folder or Chapter 8 of the Apple Telecom User's Guide for more information about this software.

Sharing Fax Sender GX on an AppleTalk Network

Using Fax Sender GX, you can set up one machine on an AppleTalk network to be a central server for sending faxes. Other users on the network can send faxes without having the modem hardware installed in their computers.

In order to do this, the server must have the appropriate hardware installed, and both the server and client machines must have QuickDraw GX (version 1.1 or later) and the fax software installed. To install the fax software on a client machine, select the "Fax Sender GX Client Software" Custom Install option in the Apple Telecom Installer.

Note: If you are sharing your Express Modem or GeoPort Telecom Adapter on an AppleTalk network, try to minimize the time you spend in Fax preview. While you are previewing, other Fax Sender GX users may be paused.

Using the Apple Fax Gateway with PowerTalk 1.1

The Apple Fax Gateway extension should be used with PowerTalk 1.1 or later. PowerTalk 1.1 is included in the System 7.5 system software release.

Note: Apple Fax Gateway only sends AppleMail-compatible letters, text-only files, and PICT files. If you enclose a formatted document (for example, a word processor document), it will be skipped and not be included in the fax.

See also: The About Apple Fax Gateway electronic manual installed in the Telecom Documents folder.

FastPrint

The Fax Viewer program included with this package implements a new FastPrint feature. The speed of printing can be significantly improved but is only available if the preferred memory size setting of the Fax Viewer application is set to at least 1500K (the default is 290K). To enable FastPrint, select the FastPrint checkbox in the Fax Viewer print dialog box. Note that this feature only works with PostScript printers.

Troubleshooting

Connecting to Online Services That Do Not Support Data Compression or Error Correction

First check to see if your software uses a "modem initialization string". If so, locate and remove "S48=0", if it appears in the string. If this does not work or it is not present, add "%C0S46=136" to the end of your modem initialization string (this disables compression). If this still does not work, try adding "&Q0" instead (this disables compression and error correction).

Another potential connection problem is your application getting confused by the CARRIER message. Some applications misinterpret this as a CONNECT message and begin sending data. This will cause the GeoPort Telecom Adapter to drop the connection. Since it is still negotiating the connection, it will abort the call if it receives any data prior to the CONNECT message. If this is the case, you may want to add a W0 command in the application's initialization string (this suppresses the CARRIER message).

Communication settings

If you are using a terminal emulator or communications program that supports the Apple Communications Toolbox, you should select the "Express Modem Tool" from the connection settings menu item. This tool's default settings will always try to establish connections at the highest possible speed with error correction and compression enabled.

Identifying incoming calls

When answering your phone line, the GeoPort Telecom Adapter will attempt to determine the type of incoming call (fax, voice, or data) before transferring the call to a telephony application. Incoming fax calls are easily detected since the sending fax machine usually transmits a fax calling tone. Incoming data and voice calls are more difficult to detect since in many countries modems typically do not transmit a tone.

In the Express Modem control panel, you can set the default call type for situations where no calling tone is detected. If you are using a voice telephony application (such as MegaPhone), we recommend that you select Voice as the default call type. If you are using a data telephony application (such as Apple Remote Access server), we recommend that you select Data as the default call type.

If you expect to receive both voice and data calls, ask your callers to send a data calling tone when calling your machine. Use of these features is explained in detail in the Apple Telecom Upgrade Manual electronic document installed in the Telecom Documents folder.

If you have problems receiving calls from data modems (when using the Apple Remote Access dial back feature, for example), try decreasing the number of rings to Auto-answer in the Express Modem control panel (if permitted in your country). Some calling modems may time out and disconnect before your modem answers if the number of rings is too high.

Removing Fax Storage Folders

To protect your fax documents, the fax storage folders ("Fax Waiting To Be Sent", "Received Fax Documents", "Sent Fax Documents") are protected from accidental deletion. To bypass this mechanism, drag these folders to the trash, restart your computer, and then empty the trash. New, empty folders are created for you.

Using a Centris 660AV or Quadra 660AV/840AV

If you are using a Centris 660AV or Quadra 660AV/840AV and experience errors when attempting to establish a connection, you may need to change the audio settings on your computer. The default setting of 24.000 kHz is compatible with the GeoPort Telecom Adapter. To change this setting, open the sound control panel, choose "Sound Out" and select the "24.000 kHz" sampling rate.

Resetting a blacklisting error message

Regulations in France, Japan, and a few other countries require that the Express Modem software blacklist recently dialed numbers when the connection fails. If you receive a "BLACKLISTED" error message when dialing, you can reset the BLACKLISTED condition by turning the Express Modem control panel off and then on. This software reset, equivalent to turning off and on a hardware modem, is compliant with PTT regulations.

Clicking Sound from GeoPort Telecom Adapter

If your machine freezes, the GeoPort Telecom Adapter can lose its connection with your machine and may generate a rapid clicking sound. This sound is a temporary side-effect of the lost connection. To stop the clicking, unplug the adapter for a few seconds or restart your machine.

Port Selection

The interface for selecting the correct communications port has been simplified since GeoPort Telecom Adapter software versions 1.0.2 (Power Macintosh) and 1.2.2 (660AV/840AV). The "Use internal modem instead of modem port" checkbox has been removed from the Express Modem Control Panel. The Express Modem control panel now automatically detects whether a GeoPort Telecom Adapter is actually attached to the Modem port. If so, all serial communications are first processed by the Express Modem software and transmitted through the GeoPort Telecom Adapter. If not, serial communication passes through the modem port directly.

GeoPort has been removed from the list of ports. The Express Modem control panel now automatically detects whether a GeoPort Telecom Adapter is actually attached to the Modem port. Select Modem Port whenever you wish to communicate through the GeoPort Telecom Adapter.

What Goes Where

When you install the software using the Easy Install option of the Installer program, the following files and resources are installed on your hard disk.

Hard Disk:
* GeoPort Telecom Adapter ReadMe
* SimpleText 1.2

Hard Disk: Telecom Applications: Fax Folder:
* Fax Terminal
* Fax Viewer
* Fax Cover
* Sample (cover document)
* Standard (cover document)
* My First Fax (PICT sample)

Hard Disk: Telecom Documents:
* About OCR (OCR manual for users who upgrade electronically)
* About Apple Fax Gateway (Manual for users who upgrade electronically)
* About Fax Sender GX (Manual for users who upgrade electronically)
* Apple Telecom Upgrade Manual
* Express Modem CCL (AppleLink CCL)

* Modem AT Command Set
* GeoPort Telecom ARA 2.x/CNG (optional, transmits data calling tone)

* GeoPort Telecom ARA 1.x/CNG (optional, transmits data calling tone, 660/840AV only)

Hard Disk: System Folder: Control Panels:
* Express Modem

Hard Disk: System Folder: Extensions:
* Apple Fax Gateway
* Apple Telecom Modem
* Express Modem Tool
* Fax Extension
* Fax Sender
* Fax Sender GX
* GeoPort for Power Macintosh (Power Macintosh only)
* GeoPort Extension (660/840AV only)
* GeoPort Serial Driver
* GeoPort Telecom Adapter
* GeoPort Telephone Tool
* GeoPort Telecom ARA 1.x (Apple Remote Access 1.0 CCL, 660/840AV only)
* GeoPort Telecom ARA 2.x (Apple Remote Access 2.0 CCL)
* Serial Extension
* Shared Library Manager
* Telephone Manager Extension

Hard Disk: System Folder: Mimetics:
* EasyReader Fax
* Neuroneye
* US Dictionary
* UK Dictionary

Hard Disk: System Folder: System:
* Bell Telephone (sound resource)
* Electronic Telephone (sound resource)

The Tech Info Library article 17159: "**Locating Vendor Information**", can help you search for a particular vendor's address and phone number.

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Apple Media Tool: v2.0 Frequently Asked Questions

This article contains the following frequently asked questions (FAQ) about Apple Media Tool version 2.0 and answers to those questions.

1) Does the Apple Media Tool (AMT) support QuickTime VR and QuickDraw 3D?

2) Does the AMT come with some simple editing tools (like Persuasion, to create a colored background, simple graphics, etc.)?

3) What is involved in making a truly cross platform application? (I'm using AMT as an example of developing on the Mac and deliver on anything, from Mac to Windows to Pippin to SetTop boxes.)

4) What is involved in making a single CD that would be able to be read from a Macintosh or a Windows machine?

5) Do I always have to have the "Media" folder? Isn't there an option to make it a single document that could be sent over a network?
This article has been archived and is no longer updated by Apple.
1) Question: Does the Apple Media Tool (AMT) support QuickTime VR and QuickDraw 3D?

Answer: Apple Media Tool 2.0 supports QuickTime 2.0, QuickTime VR, and QuickDraw 3D much better than version 1.2.

2) Question: Does the AMT come with some simple editing tools (like Persuasion, to create a colored background, simple graphics, etc.)?

Answer: The Apple Media Tool will probably never come with editors built-in because third party products almost always do a better job. You can use Persuasion as a simple editor from within the Apple Media Tool to create PICTs as backgrounds.

Examples of applications with built-in color graphics editors are Director and HyperCard 2.2/2.3. Not many people use these to build shipping multimedia projects. Most developers use PhotoShop or Fractal Design Painter as the graphics editor for anti-aliased text and more control over gradient ramps, textures, color control and file formats.

3) Question: What is involved in making a truly cross platform application? (I'm using AMT as an example of developing on the Mac and deliver on anything, from Mac to Windows to Pippin to SetTop boxes.)

Answer: Apple Media Tool is one of the only truly cross-platform development tools. It creates files that can be used on ISO 9660 CD-ROMs that will play on Macintosh computers, computers running Windows, Pippin products, and ITV setup boxes.

4) Question: What is involved in making a single CD that would be able to be read from a Macintosh or a Windows machine?

Answer: Creating an ISO 9660 CD-ROM is something that most CD-R authoring software does as one of its output options. Examples of CD-R authoring applications included Hybrid 1.1.2 from Sony, and Toast from Catalogic in Mountain View, California, which will create bootable CD-ROMs*and Enhanced CD-ROMs that will play in audio CD players. There are many other packages on the market.

5) Question: Do I always have to have the "Media" folder? Isn't there an option to make it a single document that could be sent over a network?

Answer: You always have to create media assets that reside in folders separate from the project that you create. That is the way the Apple Media Tool was designed. This feature makes it better than Macromedia Director. You can change the media assets at any time in the future without changing the source code to the project and re-compiling everything.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

The Tech Info Library article titled "**Locating Vendor Information**" can help you search for a particular vendor's address and phone number.

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Personal LaserWriter LS: Time Out Error

I am using System 7.5 and a Personal LaserWriter LS printer. When I attempt to print from any application, I intermittently get an error message stating that there is a receive time out error and to check the Peripheral-8 cable.
This article has been archived and is no longer updated by Apple.
This error occurs when using the LaserWriter LS driver and System 7.5. The correct driver to use with the LaserWriter LS and System 7.5 is the LaserWriter 300 driver (v. 1.2). This version of the LaserWriter 300 driver is included with System 7.5, and it is also available on the online services.

These articles can help you locate the software update mentioned here:

- Article 14724: "**Where To Find Apple Software Updates**" - Lists online services for free Apple software updates.
- Article 16332: "**US Apple SW Updates Available Online**" - An index to USA Apple Software Updates showing the current software location on the Internet.
- Article 17664: "**WW Apple SW Updates Available Online**" - An index to International Apple Software Updates showing the current software location on the Internet.

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Color LaserWriter 12/600 PS, 12/660 PS: Memory Configuration

This article describes the memory configuration and expansion on the Color LaserWriter 12/600 PS and Color LaserWriter 12/660 PS printers. This article has been archived and is no longer updated by Apple.
The Color LaserWriter 12/600 PS and Color LaserWriter 12/660 PS printers include 8 MB on the logic board as well as two SIMM expansion slots.

The standard RAM configuration of the Color LaserWriter 12/600 PS is 12 MB, which includes a 4 MB SIMM installed in one of the two SIMM slots. The Color LaserWriter 12/660 PS printer has 16 MB of RAM, which includes two 4 MB SIMMs in both of the SIMM slots.

The memory of both Color LaserWriter printers is expandable to 40 MB using standard 72-pin, 60ns SIMMs, 2K and 4K refresh in 1, 4, or 16 MB configurations. It is possible to mix SIMMs of different sizes in the two slots.

The table below lists the possible DRAM configurations for 1 MB, 4 MB, and 16 MB SIMMs installed in the printer.
DRAM configurations for the Color LaserWriter 12/600 PS and Color LaserWriter 12/660 PS:

SIMM slot J10	SIMM slot J11	Total Installed DRAM	Notes
4 MB	0 MB	12 MB	Color LaserWriter 12/600 PS shipped configuration
4 MB	1 MB	13 MB	
4MB	4 MB	16 MB	Color LaserWriter 12/660 PS shipped configuration
16 MB	0 MB	24 MB	
16 MB	1 MB	25 MB	
16 MB	4 MB	28 MB	
16 MB	16 MB	40 MB	

Note: When installing memory simms of different sizes, the larger simm always goes in slot J10.

It is important to remember, however, that you must use single-sided memory SIMMs when upgrading the printer's memory, if you intend to fill both memory slots. Double-sided SIMMs are recognized as two individual memory banks and could, therefore, cause problems when the printer attempts to address the memory SIMM in the other slot.

Important: You cannot use 8 MB SIMMS in either the Color LaserWriter 12/600 PS or the Color LaserWriter 12/660 PS printer.
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Power Macintosh 9500 Series: Frequently Asked Questions

This article contains the following frequently asked questions (FAQ) about Power Macintosh 9500 series computers and answers to those questions.

1. If I add more memory to my system, what kind do I need?
2. Which DIMMs are supported?
3. How much benefit is gained from interleaving?
4. Does this Power Macintosh use the same self-terminating connectors as the original Power Macintosh?
5. Is the Power Switch a "hard switch"?
6. Can NuBus cards be used with these Power Macintosh computers?
7. Can these Power Macintosh computers accommodate any PCI card?
8. Are these computers PCI card plug-and-play?
9. Which version of Mac OS should be used with the Power Macintosh 9500/120 and 9500/132 computers?
10. How does "processor upgradeability" work?
11. My computer came with Open Transport 1.0, and my PPP software says I need version 1.0.7. How can I get version 1.0.7?
12. I started my Power Macintosh computer from the startup CD, but Disk First Aid says "files are open" and won't allow me to click on Repair. How can I close those files and repair the directory?
13. I have an old program that requires fewer than 256 colors, but in the Monitors control panel I cannot select anything lower than 256 colors.
14. As my computer starts up, my display flashes off and back on again. Why?
15. How can I obtain the built-in Ethernet address for my computer?
16. I have a GeoPort Telecom Adapter. What version of the Apple Telecom software should I be using?
17. What causes Type 11 errors?
18. I need to run DOS software on my Power Macintosh 9500 series computer. What are my options?

This article has been archived and is no longer updated by Apple.

1. Question: If I add more memory to my system, what kind do I need?

Answer: You need Dual Inline Memory Modules (DIMMs) that are 64-bit-wide, 168-pin, fast-paged mode, 70 nanosecond RAM.

2. Question: Which DIMMs are supported?

Answer: 4, 8, 16, 32, and 64 MB DIMMs are supported.

3. Question: How much benefit is gained from interleaving?

Answer: Interleaving provides maximum performance to you. If the DIMMs are not paired in the A and B slots, the system does not perform to its capability. Interleaving lets the computer read and write data to memory at the same time other reads and writes are occurring. This improves performance. DIMMs need to be the same size for interleaving to work.

4. Question: Does this Power Macintosh use the same self-terminating connectors as the original Power Macintosh?

Answer: Yes, the self-terminating connector is the same.

5. Question: Is the Power Switch a "hard switch"?

Answer: No. It is a "smart switch". You cannot turn off power by just pressing the power actuator button. If you press the Power Key, it quits all applications and shuts down the machine.

6. Question: Can NuBus cards be used with these Power Macintosh computers?

Answer: NuBus cards cannot be used in this Power Macintosh. However, to preserve your investment in NuBus technology, a NuBus expansion chassis for PCI will be available from Second Wave, Inc. This chassis will enable you to continue to use your existing NuBus cards in Power Macintosh systems with PCI slots.

7. Question: Can these Power Macintosh computers accommodate any PCI card?

Answer: These systems support any PCI 2.0-compliant card. However, a Mac OS-specific software driver is required for each card, just as PCI drivers are required for any other operating system.

8. Question: Are these computers PCI card plug-and-play?

Answer: For the most part, yes. The PCI card needs to include either a Mac OS driver or a new ROM so the Mac OS can recognize it.

9. Question: Which version of Mac OS should be used with the Power Macintosh 9500/120 and 9500/132 computers?

Answer: The minimum system software these computers use is Mac OS version 7.5.2. However, we recommend using the System 7.5 Update 2.0 to upgrade to Mac OS version 7.5.3. The update is available online for download from the Apple Software Updates areas.

If you do not have access to an online service or the Internet, then you can order the update on CD-ROM or floppies in the U.S. for a $13 shipping and handling fee. The number to call in the United States to order the update is 1-800-293-6617, ext. 984.

10. Question: How does "processor upgradeability" work?

Answer: Power Macintosh 9500 series computers are equipped with a removable processor card. This processor card can be replaced with a more powerful processor card.

Power Macintosh 9500 series computers that are capable of accepting processor upgrade cards will be able to support cards of up to 200 MHz, as they become available.

11. Question: My computer came with Open Transport 1.0 and my PPP software says I need version 1.0.7. How can I get version 1.0.7?

Answer: We recommend updating to Open Transport 1.1 which is installed by the System 7.5 Update 2.0. See the answer to question 9 on how to obtain a copy of the update.

12. Question: I started my Power Macintosh computer from the startup CD, but Disk First Aid says "files are open" and won't allow me to click on Repair. How can I close those files and repair the directory?

Answer: Virtual memory is active when started from the Power Macintosh CD. Here are two ways to disable virtual memory:

- Insert the CD into the computer. Open the Startup Disk control panel and select the Power Macintosh CD. Restart the computer and hold down the Shift key. Release the Shift key when you see the Extensions Off message at the Welcome to Macintosh screen. Virtual memory is now off and Disk First Aid should be able to attempt repairs.

- Start the computer with the Power Macintosh CD in the drive and hold down the C key. When you see the happy Macintosh on the screen, immediately release the C key and hold down the Shift key. Release Shift when you see the Extensions Off message at the Welcome to Macintosh screen. Virtual memory is now off and Disk First Aid should be able to attempt repairs.

13. Question: I have an old program that requires fewer than 256 colors, but in the Monitors control panel I cannot select anything lower than 256 colors. What can I do?

Answer: The built-in video does not support fewer than 256 colors or grays. If you have a program that requires black and white, 4, or 16 colors to run, then you cannot run these programs. Check with the software vendor for availability of a compatible version. You could also check with video card vendors to see if any offer support for fewer than 256 colors.

14. Question: As my computer starts up, my display flashes off and back on again. Why?

Answer: The software video driver for the monitor is loading up. This is normal and is addressed in the Power Macintosh 7200/9500 Read Me file.

15. Question: How can I obtain the built-in Ethernet address for my computer?

Answer: With Mac OS 7.5.2, the Apple LAN Utility version 1.0b4e1 can obtain the built-in Ethernet address in the Power Macintosh 9500 series computers. While this utility is not supported by Apple, it is available on the online services.

The Knowledge Base article, "Power Macintosh 9500: Can't Get Ethernet Address", has additional steps to get the hardware address if you connect to a UNIX host.

We recommend updating to Mac OS 7.5.3 using the System 7.5 Update 2.0. With the update install you can then choose Get Info from under the File menu when in the AppleTalk and TCP/IP control panels to get the built-in Ethernet address.

16. Question: I have a GeoPort Telecom Adapter. What version of the Apple Telecom software should I be using?

Answer: You should use at least Apple Telecom 2.2. To find the most recent version of this software, refer to the Apple Software Updates Library at **http://www.apple.com/swupdates**.

Note: Apple Telecom 2.2 or later will install the Audio Tuneup extension into the Extensions folder. This is not needed when the System 7.5 Update 2.0 is installed and the installer will remove it if present. If you install the Apple Telecom software after installing the update, then remove

the Audio Tuneup file from the Extensions folder or reinstall the update.

17. Question: What causes Type 11 errors?

Answer: Type 11 errors are typically due to one of a variety of factors:

- Font problems: you are using a bad font.
- Incompatible software running in emulation.
- SCSI chain problems: bad driver or cable.
- Cache SIMM problems (if you have installed one on your Power Macintosh computer).
- RAM problems: bad RAM has been installed.

For more information on how to troubleshoot such problems, please see the following Knowledge Base articles:

Article 16004: "**Power Macintosh: Meaning of Error Type 11**"
Article 14343: "**Troubleshooting Macintosh INIT Conflicts**"

18. Question: I need to run DOS software on my Power Macintosh 9500 series computer. What are my options?

Answer: With a Power Macintosh 9500 series computer, there are several ways to accomplish this.

* Apple offers two PC Compatibility cards featuring either a Pentium 100-megahertz processor on a 12-inch card (M4092LL/A) or a 586 100-megahertz processor on a 7-inch card (M4091LL/A). These PC Compatibility Cards let you run MS-DOS and Windows applications directly on your Power Macintosh computer. You can switch instantly between Mac OS, Windows, and MS-DOS environments with a single keystroke.

* Orange Micro has announced a version of their Orange PC card for PCI based Power Macintosh computers. The Orange PC cards use an expansion slot inside of your Power Macintosh 9500 series computer. You can get more information by contacting Orange Micro directly. Their phone number is 714-779-2772.

*Reply, Inc. has also announced a version of their DOS on Mac card for PCI based Power Macintosh computers. The Reply cards use an expansion slot inside of your Power Macintosh 9500 series computer. You can get more information by contacting Reply directly. Their phone number is 800-801-6898.

* You can use Insignia Solutions' SoftWindows emulator. This is a Macintosh application which emulates a PC DOS/Windows environment. You can get more information, such as pricing, performance, system requirements, and compatibility information from Insignia by calling them at 800-848-7677.

These Knowledge Base articles can help you answer additional questions you may have about Power Macintosh 9500 series computers:

Article 18196: "**Power Macintosh 9500 Series: Memory Questions & Answers**"
Article 19618: "**Power Macintosh Processor Upgrade Card: Specifications**"
Article 17902: "**Power Macintosh 9500/120 & 132: Technical Specifications**"
Article 19549: "**Power Macintosh 9500/150: Technical Specifications**"
Article 20209: "**Power Macintosh 9500/180MP and 9500/200: Specifications**"
Article 20297: "**Power Macintosh 9500/180 & 9500/200: Memory Configuration**"

Published Date: Feb 19, 2012

LaserWriter 8.3: Read Me

The following article is the Read Me document for the LaserWriter 8.3 driver software.
This article has been archived and is no longer updated by Apple.

About Your Apple Macintosh LaserWriter Printer Software
==========

This document contains some important reminders and some information that is not in the manual that comes with your printer. You may want to print this document and keep it for future reference. The topics are:

* Installing the Printer Driver Software

* Using the Apple Color LaserWriter 12/600 PS Printer

* Obtaining Printer Supplies for the Apple Color LaserWriter 12/600 PS

* Desktop PrintMonitor Version 1.0.1

* Apple Printer Utility Version 2.0

* LaserWriter 8 Printer Driver Version 8.3

Installing the Printer Driver Software
==========

The manual that came with your printer contains detailed installation instructions. You cannot install the software and fonts by dragging their icons to your hard disk; you must use the Installer program as described in the printer manual. Your Macintosh must have System 7.1 or later. The printer software does not support QuickDraw GX systems.

IMPORTANT: Before installing the printer software, restart your system with all Extensions turned off. To do this, hold down the Shift key while you restart your computer. Hold the Shift key down until you see the message "Extensions off" or until your normal desktop appears.

The Installer does not remove versions of the LaserWriter printer driver earlier than version 8.0. If you no longer need these files, you may remove them from your System Folder.

The Installer does remove earlier versions of the LaserWriter 8 driver (for example, LaserWriter 8.0) and replaces the PPD files for Apple LaserWriter printers with the latest versions.

When you choose Easy Install, the Installer places the following files in the System Folder on your hard disk:
* LaserWriter 8.3 is placed in the Extensions folder.
* The PPD files used by LaserWriter 8 are placed in the Printer Descriptions folder inside the Extensions folder.
* TrueType fonts are installed in the Fonts folder.
* The Apple Printer Utility and this Read Me file are placed in the Apple LaserWriter Software folder.
* For desktop printing, Desktop Print Monitor, Desktop Printer Spooler, and Desktop Printer Extension are placed in the Extensions folder.
* ColorSync 2.0 is placed in the Extensions folder. The ColorSync profiles are placed in a folder called ColorSync Profiles (in the Preferences folder inside the System Folder). The ColorSync System Profile control panel is placed in the Control Panels folder (inside the System Folder).
* If your system has System Software 7.1.1, Finder 7.1.3 is placed in your System Folder, and Finder Help 7.1.3 is placed in the Extensions folder.
* If your system has System 7.1.1 or 7.1.2, these files are placed in the Extensions folder: Thread Manager 2.1, Network Extension 7.1.3, Macintosh Drag and Drop 1.1, and Dragging Enabler.

IMPORTANT: If the Installer is unable to remove old files from your hard disk, it will terminate the installation procedure. If this happens, please remove old copies of the LaserWriter 8 driver and the PPD files. Then move your Fonts folder from the System Folder to the desktop. Run the Installer again. Once installation is complete, move the fonts from the Fonts folder on the desktop back to the new Fonts folder in your System Folder.

Using the Apple Color LaserWriter 12/600 PS Printer
==========

This section provides additional information on using the Color LaserWriter 12/600 PS Printer.

About the Demonstration Page

When the power is turned on, the Color LaserWriter 12/600 PS automatically prints a startup page and a demonstration page. For legal and B5 paper sizes, only the startup page prints; the demonstration page is not printed. You can use the Apple Printer Utility to turn off the printing of the startup and demonstration pages.

About the Apple Color LaserWriter 12/600 PS Status Panel

As described in the Color LaserWriter 12/600 PS manual, Appendix G, the status panel lights aid in indicating hardware service problems found during printer startup. If the Alert light is flashing and all the door lights are flashing, check all the printer doors; one of them is open. If the Paper Out and Paper Jam lights are blinking alternately, a hardware problem has been detected. To identify the problem, notice which toner lights (C, M, Y, Bk) and how many of the maintenance lights (in the area on the right-hand side of the status panel) are on, and refer to the table below. Each area listed under "Problem" represents a general circuit area for the service technician to investigate, not necessarily the exact cause of the problem.

If you have an external SCSI hard disk drive attached but don't turn it on before you turn on the printer's power, the printer may indicate a hardware failure. To correct the problem, turn the hard disk drive on and restart the printer.

Obtaining the Best Results for Business Graphics

To obtain the best results for business graphics, colors should be 100% saturated. For example, to print pure yellow, define yellow as 100% red and 100% green without any blue. Then print your document, selecting the Color/Grayscale option in the Print Options dialog.

Printing on Legal-Size Paper

In the standard memory configuration, the Color LaserWriter 12/600 PS uses a higher compression technique for legal-size paper using only the cyan, magenta, and yellow colors. As a result of this compression technique, very complex pages may show missing pixels in fine lines or small text, "jaggies" (edges with low-resolution appearance), and color changes. To improve the image quality of such pages, you can increase the printer's memory to 16 MB or more. With at least 16 MB of printer memory, the Color LaserWriter 12/600 PS can achieve the same quality with legal-size pages as with letter and A4 sizes using all four colors (cyan, magenta, yellow, and black.)

Printing Images on the Color LaserWriter 12/600 PS Printer

The Color LaserWriter 12/600 PS Printer's highest resolution for printing images is 150 x 150 dpi. No gain in image quality is achieved if higher resolution images are used. All other types of documents print at 600 x 600 dpi.

Avoiding Hue Shifts When Printing to File

When you save an image in an Encapsulated PostScript (EPS) file all the PostScript settings relating to the original output device in effect are saved along with the image data. When the image is printed later, the settings that were in effect may cause major hue shifts. To prevent these hue shifts save the image in TIFF format instead of EPS.

The Density Control Panel

The Color LaserWriter 12/600 PS has been adjusted at the factory to produce the best possible image quality. However, small variations exist among different printers. To make subtle changes to image quality, you can use the Density Control Panel on the back of the printer. NOTE: If changing the settings produces inferior image quality, return to the factory settings by following these steps: Select each color using the Color Select button, then press the - or + button to move the indicator light to the center position. When the indicator is in the center, press Enter to make the setting permanent. Repeat this procedure for all four colors.

Printer's Processor Speed

In the printer manual, Appendix A contains a typographical error: the microprocessor speed is 30 MHz, not 25 MHz as printed.

Setting Your ColorSync System Profile for Best Printing Results

Before using ColorSync color matching to print to the Color LaserWriter 12/600 PS printer, set the ColorSync System Profile for the monitor connected to your system. To do this, open Control Panels in the System Folder and double-click ColorSync System Profile. Make sure the following settings are selected:

* Set the profile for the monitor connected to your system. For the best color match when printing, select the "page-white" or "D50" system profile for your type of monitor if one is available.
* For the best visual match between the colors on your monitor and printed colors, select the Page-White Gamma option in the Monitors control panel. To select a gamma option, open the Monitors control panel, then hold down the Option key while you click the Options button. In the Options window, click the Use Special Gamma checkbox to put an X in it. Then choose Page-White Gamma from the list.
* On a multiscan monitor, make sure that the color temperature, or intensity, is set to 9300K (the default setting). See the monitor manual for instructions. If the Page-White Gamma option is selected with a color temperature other than 9300K, your monitor colors could look too red or too blue compared to printed colors.

Obtaining Printer Supplies for the Apple Color LaserWriter 12/600 PS

To order printer supplies for the Color LaserWriter 12/600 PS direct from Apple, call 1-800-600-7805. For order numbers, see Appendix A of the printer manual:

* toner cartridges
* transparencies
* photoconductor cartridge (includes toner disposal boxes)
* fuser oil
* fuser

Instructions for replacing the fuser are in Appendix F of the printer manual. Instructions for replacing other printer parts come in the new packages.

For the location of the nearest Apple-authorized dealer, call 1-800-538-9696, extension 525.

Desktop PrintMonitor Version 1.0.1

Creating Desktop Printers

You create desktop printers by selecting a printer in the Chooser. When you close the Chooser, the desktop printer icon is created.

System Software Requirements for Desktop Printing

Desktop printing requires System 7.1.1 (System 7 Pro) or greater. If you have System 7.1 and you want to use desktop printing, you can upgrade your Macintosh to use a later version of System software. Contact your Apple-authorized dealer.

Using Desktop PrintMonitor on a Non-English System

If no desktop printer icon appears after you install the printer software, it may mean the Installer installed PrintMonitor 7.1.2 and did not install the Desktop PrintMonitor. (PrintMonitor 7.1.2 is installed if you have an earlier version of the PrintMonitor. Later versions of the PrintMonitor are not replaced.) You have three choices:

* Use PrintMonitor 7.1.2 (or a later version).
* Obtain a set of installation disks for the printer software in the language of your system software from your Apple-authorized dealer and install it.
* Upgrade your system software to System 7.5 and install the printing software again. An English language version of the Desktop PrintMonitor is installed.

Removing the Desktop Printing Software

The desktop printing software uses both the Desktop PrintMonitor and the PrintMonitor software. The Desktop PrintMonitor requires 200-400K of memory in addition to the memory required by the PrintMonitor. If you don't want to use the desktop printing software, you can remove it. Follow these steps:

1. Drag any print spool files found in the PrintMonitor Documents folder (in the System Folder) to the Trash. Warning: these jobs will not be printed.
2. Restart your computer with the extensions off by holding down the Shift key and choosing Restart from the Special menu. Hold the Shift key down until the message "Extensions off" appears or until your normal desktop

appears.
3. Drag the following files from the Extensions folder to the Trash:
    Desktop PrintMonitor 1.0.1
    Desktop Printer Spooler 1.0.2
    Desktop Printer Extension 1.0.1.
4. Restart your computer.

Using Save or Open With Desktop Printers

When you choose Save or Open in your application programs, you will see your desktop printers listed as if they were folders, but you should not save or open any documents in them. If you do, you will not be able to access your documents.

Having More Than Five Desktop Printers

If you want to have more than five or six desktop printers, you must increase the Desktop PrintMonitor memory allocation by 10K for each additional desktop printer you want. To do so, select the Desktop PrintMonitor icon (it's in the Extensions folder inside the System Folder), choose Get Info, type a larger number in the Preferred Size box, then close the Get Info window.

Apple Printer Utility Version 2.0

Installing the printer software creates the Apple LaserWriter Software folder containing this Read Me file and the Apple Printer Utility program version 2.0. The Apple Printer Utility program works with all Apple PostScript Level 2 printers.

Downloading PostScript Fonts on a GX System With the Apple Printer Utility
---
When GX is installed, any PostScript fonts (often called Type 1 fonts) in the Fonts folder are converted to GX fonts, and the original PostScript fonts are copied to a new folder called Archived Type 1 Fonts in the System Folder. If you want to download these fonts to your printer, use the Apple Printer Utility to send the fonts in the Archived Type 1 Fonts folder, not the GX-converted versions in the Fonts folder.

Removing Fonts From a Hard Disk Attached to the Printer

If a font is downloaded to both the printer's RAM and the printer's hard disk with the same name, and you remove the font on the hard disk, the RAM font will also be removed. If you remove the RAM font, the font on the hard disk will not be removed.

LaserWriter 8 Printer Driver Version 8.3

The software includes version 8.3 of the Apple LaserWriter 8 printer driver, which works with many Apple LaserWriter printers. This section contains information about the software and information on using it with several of the printers.

What's New in Version 8.3
==========
LaserWriter 8 now provides support for color matching and for embedded JPEG-compressed documents. LaserWriter 8 now supports ColorSync 2.0, Apple's latest system software for device-independent color-matching services, and PostScript Level 2 color matching.

Using Color Matching

When ColorSync 2.0 is installed and the ColorSync Profiles folder contains printer profile(s), there are two new options in addition to color/grayscale output:

* ColorSync Color Matching invokes the ColorSync system software to perform color matching for the printed document, matching your monitor and printer's profile and sending the correct CMYK information to the printer. With ColorSync Color Matching, most of the work is done by your Macintosh.

* PostScript Color Matching is an alternative to ColorSync Color Matching. When you are printing to a PostScript Level 2 printer, and it is efficient to let the printer do most of the work, this option is a good choice.

Here are some tips on using color matching:

* Color output will vary depending on the application you are using.

* Documents that use ColorSync 1.0 embedded profiles convert to the profile set up in the ColorSync 2.0 System Profile control panel.

* When you print with PostScript Color Matching selected and ColorSync 2.0 is not installed, the driver uses the Apple 13" RGB Standard profile.

* Application programss that generate their own PostScript may have problems color matching EPS or TIFF images correctly. Converting the image to a PICT corrects the problem.

PPD Files
=========
The LaserWriter 8 driver uses PostScript Printer Description (PPD) files to determine the characteristics of the printers it uses. PPD files contain information about individual PostScript printers. For example, PPD files describe the paper-handling capabilities of printers: the number of paper trays, their capacity, and the paper sizes they handle.

To take full advantage of your printer's features, you need to go through a simple setup procedure. When selecting your printer for the first time, or after installing an additional option, click the Setup button in the Chooser. This procedure causes the LaserWriter driver to query the printer for its characteristics and associate a particular PPD file with the printer.

Creating EPS Files
==================
You can create an Encapsulated PostScript (EPS) file in many application programs by clicking File in the Print dialog box, then clicking Save. When you create an EPS file, note the following:

* Creating EPS files with the All option selected in the Font Inclusion pop-up menu in the EPS dialog box can result in very large files. If you include all fonts in an EPS file and save the file with the Unlimited Downloadable Fonts option selected, you may create an extremely large file.

* If you create an EPS file with no fonts included and open the document, fonts in the document appear on your screen, but Courier may be substituted when you print.

* When you create EPS files with preview information included, other programs that create their own PostScript code may not display the EPS file accurately on the screen.

Using the LaserWriter 8 Driver With LaserWriter Printers
==
When using the LaserWriter 8 driver, you should be aware of the following situations. Some happen with all LaserWriter printers, and others happen only with specific models.

All LaserWriter Printers
----
* The LaserWriter 8 driver allows some printers to print using a larger imageable print area on the page. If your printer does so, you may find that text in some documents reflows or is clipped to fit the new imageable area. To maintain your document format when printing to different printer models, deselect the Larger Print Area option in the Page Setup Options dialog box.

* Some older printers with small amounts of memory will not print documents containing large numbers of fonts unless you select the Unlimited Downloadable Fonts option in the Page Setup Options dialog box. If a document using multiple fonts doesn't print using the LaserWriter 8 driver, try selecting Unlimited Downloadable Fonts in the Page Setup Options dialog box and print again.

* Printing multiple documents with the Finder may not work if the documents have been created by different application programs.

* If you encounter a timeout (PostScript error -8993) when printing multiple copies of large and complex documents in the background, print the documents one at a time or select foreground printing to avoid this problem.

LaserWriter 16/600 PS

If Tray Switching is turned on and you have an optional 500-sheet feeder that contains the same size paper as the 250-sheet feeder, use the 500-sheet feeder as the preferred paper source for optimal printing performance. See the manual that came with your printer for instructions on selecting the 500-sheet feeder as the preferred paper source.

LaserWriter Pro 810
---

* With some graphics programs, bitmapped graphics printed with the Precision Bitmap Alignment option in the Page Setup Options dialog box will be reduced in size by 25%.

LaserWriter Pro 600 and 630
---

* When you print envelopes from the optional envelope feeder, you cannot use Auto Select as the Paper Source (in the Print dialog box).

* When you print at a resolution of 600 dots per inch (dpi), bitmapped images may appear with lines across the image.

LaserWriter II NT and II NTX
---

* If you select both the Smooth Graphics and the Invert Image options in the Page Setup Options dialog box, a PostScript error results.

* Do not use the B5 tray to print envelopes on a LaserWriter II NT. Use the letter tray instead.

LaserWriter IIg and IIf
---

* When you select paper sources from the First From and Remaining From pop-up menus in the Print dialog box, selecting Manual Feed for either source sets the driver to print the first page from the manual feed tray.

* The US Legal paper size has been changed on some LaserWriter IIf/IIg printers to be more compatible with other Apple LaserWriter printers. If your legal-size documents no longer fit on the page, select Larger Print Area in the Page Setup Options dialog box.

* Some form-printing application programs cannot print forms using the Layout settings in the Page Setup dialog box.

Using the LaserWriter 8 Driver With the Kanji System
==

To print Japanese characters using KanjiTalk or the Japanese Language Kit, your system must have WorldScript II version 7.5.1 or later.

Using the LaserWriter 8 Driver With Application Programs

Some application programs do not yet take advantage of the new features of the LaserWriter 8 driver or have small incompatibilities that result in printing problems. If you experience problems with a program, contact the publisher of the program. In some cases a newer version of the program may be available.

The following list describes some special cases that you should be aware of when working with some application programs. (There may be other problems with these programs, or with other programs, not mentioned in this document.)

* Color output will vary depending on the application you are using.

* With many application programs, you cannot use the Flip Horizontal, Flip Vertical, landscape page orientation, and Layout option in the Page Setup dialog box in combination.

* Some programs may not be able to print from the Finder or use the Drag and Drop printing feature.

* Some programs may print in color when Black and White mode is selected.

* Programs that generate their own PostScript may have problems color matching EPS or TIFF images correctly. Converting the image to a PICT corrects the problem.

Adobe Illustrator 5.5

---

* Multiple-page documents may not print correctly when you choose a page layout from the Layout pop-up menu in the Page Setup dialog box.

Aldus Freehand 4.0 & Freehand 5.0
---

* Documents do not print correctly when you choose a page layout from the Layout pop-up menu in the Page Setup dialog box.
* Some paper sizes in Freehand may not be supported by the printer and may generate Postscript errors.

Aldus PageMaker 5.0
---

* Documents that have been set up using a page layout from the Layout pop-up menu may not print correctly with the Print-Option command; use the Print command with PageMaker's Thumbnail option.

* When using a page layout from the Layout pop-up menu with the Print-Option command, the document will be printed in reverse order.

* Rotated graphics may not print correctly when you hold down the Option key and click Print in the Print dialog box.
* You cannot print legal-size documents from the paper cassette of the Personal LaserWriter 320; print such documents by selecting Manual Feed or by holding down the Option key and clicking Print in the Print dialog box.

Aldus Personal Press 2.02
---

* Using several font style combinations in text can result in spacing problems.

Aldus SuperPaint 3.5
---

* Rotated or filled polygons print as solid gray objects.
* Gradient fills may not print when copied into other programs.

Canvas 3.5.2
---

* When you select the Substitute Fonts option in the Page Setup Options dialog box, text may be incorrectly spaced if you use the Geneva, New York, or Monaco fonts.

ClarisDraw 1.0
---

* Some shapes that contain gradients may not print correctly.

CricketDraw III 2.01
---

* When you choose a page layout from the Layout pop-up menu in the Page Setup dialog box, underlined TrueType fonts may not print.

CricketPresents 2.1
---

* You cannot import an EPS file created with the LaserWriter 8 driver when it has been saved without preview information.

DeltaGraph Pro 3.0.4
---

* Printing with Unlimited Downloadable Fonts may cause some elements to be shifted and fonts to substitute Courier.

FileMaker Pro 2.1
---

* When you choose a page layout from the Layout pop-up menu in the Page Setup dialog box, documents that contain EPS graphics may appear clipped when printed.

Informed Designer/Manager 1.4.2
---

* Do not print documents that contain JPEG images in Black and White mode; your system will restart.

* When you select the Unlimited Downloadable Fonts option, some graphic elements may shift or disappear when printed.

MacDraft 3.01 and earlier versions
---
* When you print using the Cut Marks option, a PostScript error results.

MacDraw Pro 1.5
---
* Rotated text within a frame that is placed in another application program may not print correctly.

MacWrite Pro
---
* Colored text with colored underlines may not print correctly from the Finder.

Microsoft Excel 5.0
---
* Colored horizontal cell borders will often not appear in the printout. This happens with any color printing option and on most printers.

Microsoft PowerPoint 3.0
---
* Polygons and ovals filled with gradients and without a border line may shift locations on the page when printed.

Microsoft Works 3.0
---
* Printing documents that have rotated objects with rounded corners results in a PostScript error.

Microsoft Works 4.0
---
* There are 24 new shapes available through the tools palette. Colored shadows for any of these shapes will appear correctly on screen. But these colored shadows will only print in gray, regardless of what the print color options might be.

Painter 3.0
---
* When you print using the Invert option, images do not print inverted correctly.

PixelPaint Pro 3.0
---
* When you print using the Invert option, images do not print inverted correctly.

Publish It!
---
* Use a pre-LaserWriter 8 version of the driver, or contact the publisher of the application program.

QuarkXPress 3.3.1
---
* Be sure to use the PPDs provided with QuarkXPress when you choose a page layout from the Layout pop-up menu in the Page Setup dialog box.
* Some imported JPEG files may not print correctly.

RagTime 3.2
---
* You cannot print documents that contain PICT or TIFF files.

ReadySetGo! 6.0
---
* Use ReadySetGo! version 6.0 or later with the LaserWriter 8 printer driver; earlier versions will not work.
* With the Unlimited Downloadable Fonts option selected, you may not be able to print complex documents.
* Documents that use pen patterns will print patterns as solid gray.

Studio/8 & Studio/32

---

* When creating an EPS file with these programs and the LaserWriter 8 driver, you must select the QuickDraw Printer option.

WordPerfect 3.0
---

* When you select the Unlimited Downloadable Fonts option and print rotated text in Watermark, the entire document rotates when printed.
* When you select the Unlimited Downloadable Fonts option, Watermark option, and Color/Grayscale option, black text prints as gray.

How to Get Updated Printer Software
==========

The latest LaserWriter 8 software is posted to the following commerical online services and Internet sites.

* On the Internet at the following sites:
 - Worldwide Web: <http://www.info.apple.com/swupdates>
 - ftp: <ftp://ftp.info.apple.com/>

* On America Online, use keyword: applecomputer

* On CompuServe, use GO: APLSUP

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Adobe and PostScript are trademarks of Adobe Systems Incorporated, which may be registered in certain jurisdictions.

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HyperCard: Printing White Text on Black in Quickdraw GX (8/95)

I am printing a HyperCard card with white text on a black background. The printed card comes out all black with no text shown. If I select some other fill pattern, the outline of the text shows but the fill pattern is inside the character outlines.

This only happens when I use the LaserWriter GX driver.

This article has been archived and is no longer updated by Apple.
This is the correct behavior when using a QuickDraw GX driver. HyperCard is using black & white QuickDraw, which does not let the background pattern show through. The non-GX LaserWriter drivers also use the black & white QuickDraw. QuickDraw GX, however, uses the Color QuickDraw model, which lets the patterns behind outlined text show through. If you print your card with the non-GX StyleWriter and LaserWriter 300 drivers, while set to grayscale, they give you the same result as QuickDraw GX drivers because of Color QuickDraw.

The workaround is to use the non-GX print drivers. Another alternative is to use the QuickDraw GX Helper to turn off desktop printing for the application during this print operation.

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Support Information Services
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Postscript Errors Printing From MAE to Sparc Printer (6/95)

I'm having a problem printing from MAE 2.0 on a Sun workstation with SunOS Solaris 2.3 using Newsprint 2.5 to a Sun Sparcprinter. This printer works fine in UNIX. I've tried both lp and lpr, and selected LPRWriter with the Generic printer description, and I get the following error printed without any other text: error offending command, f3-_1. Do you know what is wrong?

This article has been archived and is no longer updated by Apple.
This Sun configuration ships with only the courier font enabled. For additional postscript fonts to be used (as needed by MAE), the Font Password must be ordered from Sun which licenses these fonts.

Support Information Services
Published Date: Feb 19, 2012

Power Macintosh 8500/120: Technical Specifications (9/96)

This article contains a list of technical specifications for the Power Macintosh 8500/120 computer.

This article has been archived and is no longer updated by Apple.

Upgradable Microprocessor
---
* PowerPC 604 microprocessor running at 120 MHz, upgradable to 250 MHz processor when available
* Integrated floating-point unit, 32K cache, and three integer units
* High-speed system bus (up to 50 MHz)

Memory
---
* RAM: 16 MB of RAM, expandable to 512 MB via 8 DIMM sockets (Note: There is no RAM soldered to the logic board. The DIMM sizes installed at the factory will vary according to availability; there will be either two 8 MB DIMMs or one 16 MB DIMM. If you are installing more RAM, the DIMMs should be 64-bit-wide, 168-pin fast-paged mode, with 70-ns RAM access times or faster.)
* Standard Level 2 (L2) Cache: 256K L2 cache on a 160-pin DIMM (Theoretical support for up to 4 MB of L2 cache.)
* VRAM: DIMMs must be 32-bit-wide, 112-pin fast-paged mode with 70ns RAM access time or faster. Do not use the 256 K or 512 K VRAM SIMMs used in older Macintosh computers
* 4 MB of ROM

Disk Drives
---
* Internal 1 GB or 2 GB Fast SCSI hard disk
* Internal Apple SuperDrive floppy disk drive
- Accepts high-density 1.4 MB disks and 800K disks
- Reads, writes, and formats Macintosh, Windows, MS-DOS, OS/2, and ProDOS disks
* Internal AppleCD 600i quadruple-speed CD-ROM drive
* Expansion bay for additional 3.5-inch hard disk

Interfaces
---
* Three PCI expansion slots compatible with PCI 2.0-compliant cards (Note: These slots are not NuBus-compatible)
* Two high-speed DMA serial (RS-232/RS-422) ports compatible with LocalTalk and GeoPort cables
* 10Base-T and AAUI-15 Ethernet connectors
* Internal Fast SCSI bus (up to 10 MB/s)
* External SCSI bus (up to 5 MB/s)
* Apple Desktop Bus (ADB) expansion port
* RCA phono jacks for line-level stereo audio input and output
* Mini jacks for stereo audio input and output
* All sound ports support 16-bit audio and up to 44.1-kHz sampling rate
* DB-15 connector for monitor
* Composite connectors (RCA phono jacks) for composite video input and output
* S-video input and output connectors
* Internal digital audio/video (DAV) connector for video compression/decompression cards

Audio System
---
* Custom sound circuitry, including stereo generator (digital-to-analog converter, or DAC)-capable of driving stereo miniplug headphones or audio equipment-and stereo sampling hardware (analog-to-digital converter, or ADC) for recording stereo sound
* 16-bit stereo input and output

* Sample rates of 44.1 and 22.05 kilohertz (kHz)
* Sound input connector line level: 2.8 volts peak-to-peak (Vpp) nominal, into 3.0-kilohm (k¢) impedance (minimum)
* RCA-type input connector line level: 2.4 Vpp nominal, into 13.5-k¢ impedance (minimum)
* Sound output connector line level: 2.7 Vpp nominal, into 32-k¢ impedance
* RCA-type output connector level: 2.9 Vpp nominal into 2-k¢ impedance (minimum)
* Sound input signal-to-noise ratio (SNR): >83 decibels (dB) A-weighted with no audible discrete tones
* RCA-type input SNR: >77 dB A-weighted with no audible discrete tones
* Sound output SNR: >84 dB A-weighted with no audible discrete tones
* RCA-type output SNR: >84 dB A-weighted with no audible discrete tones
* Bandwidth: 10 Hz to 18 kHz (+0.1 dB, -3.0 dB) at 44.1-kHz sample rate
* RCA-type input total harmonic distortion plus noise (THD + N): less than 0.018 percent A-weighted; measured 10 Hz to 30 kHz with a 2.4-Vpp sine wave input

Video Input/Output Subsystem
---
* 24-bit video input
- Real-time video playthrough of up to 640 by 480 pixels with NTSC; 768 by 576 pixels with PAL and SECAM
- Up to 320- by 240-pixel capture at 25 frames per second with NTSC (with 2 GB drive)
- Maximum capture size of 640 by 480 pixels with NTSC
* 24-bit video output
- Support for NTSC and PAL
- Convolution for flicker reduction at all bit depths

Graphics Support
---
* 2 MB of VRAM, expandable to 4 MB
* Fast 64-bit data path to VRAM
* Support for display resolutions of up to 1,280 by 1,024 pixels
* 24-bit color up to 1,152- by 870-pixel resolution
* Refresh rate of up to 75 Hz

GeoPort Telephony*
---
* 14.4-Kbit/s modem support
* V.17 fax support
* GeoPort Fax and GeoPort Telephony software included
* Speakerphone and answering-machine capability

* Note: Requires GeoPort Telecom Adapter

Clock/Calendar
---
* Custom integrated circuit with long-life battery

Keyboard And Mouse
---
* Supports ADB keyboards with numeric keypads
* Comes with an ADB Mouse II

Electrical Requirements And Compliance
---
* Line voltage: 100 to 240 V AC, RMS single phase, automatically configured
* Frequency: 50 to 60 Hz, single phase
* Power: 225 W maximum, not including display

ADB Power Requirements
---
* Maximum current draw for all devices: 500 mA

(a maximum of three ADB devices is recommended)
* Mouse draws 10 mA
* Keyboard draws 25 to 80 mA (varies with keyboard used)

Size And Weight
---
* Height: 14 in. (35.6 cm)
* Width: 7.7 in. (19.6 cm)
* Depth: 15.75 in. (40.0 cm)
* Weight: 25 lb. (11.3 kg)

Operating Environment
---
* Operating temperature: 50 degrees to 104 degrees F
(10 degrees to 40 degrees C)
* Storage temperature: -40 degrees to 116 degrees F
(-40 degrees to 47 degrees C)
* Relative humidity: 5% to 95% noncondensing
* Maximum altitude: 10,000 ft. (3,048 m)

Article Change History:
18 Sep 1996 - Updated speed of processor card support.
17 Sep 1996 - Clarified energy information.
12 Jul 1996 - Modified title.

Published Date: Feb 19, 2012

Applesoft BASIC: Displaying & Printing Text in 80 Columns

The Apple II permits input and output to only one device at a time, including the 80-Column Text Card in slot 3.

Here is a BASIC program that will send information to the printer, and then to the screen.
This article has been archived and is no longer updated by Apple.
Basic Program:

```
10 D$ = CHR$(4)
20 PRINT D$;"PR#1" : REM Turn on the printer in slot 1
30 PRINT "This sentence will be sent to the printer. Make it a long sentence, so we can see if the printer uses 80 columns."
40 PRINT D$;"PR#3" : REM Turn off the printer; return to 80 column screen
50 PRINT "This sentence will appear on the screen."
60 END
```

If you find that the printer doesn't use 80 columns, then the interface card in the Apple IIe is set for 40 columns. Check the manual for that card, and change the DIP switches for 80 columns.

Use these techniques within any Applesoft BASIC program to turn a printer on and off, and still maintain disk drive access.

This short program shows how to print lines longer than 80 characters without overprinting. An explanation follows the listing.

```
10 D$=CHR$(4)
20 PRINT D$;"PR#1"
30 PRINT CHR$(9);"80N"
40 PRINT CHR$(9);"C"
50 LIST
60 S2$ = "We get a lot of calls regarding a problem with the Imagewriter I and the Imagewriter II overprinting when using the PRINT command from AppleSoft BASIC with lines that are longer than 80 characters. Here is a workable solution."
70 PRINT D$;"PR#3"
```

In the statement PRINT CHR$(9); "80N", (which sends Control-I 80N) the number 80 sets the printer card so that it sends a carriage return after sending 80 characters to the printer. The choice of the number, 60, 72, 80, or 132, to name a few options, depends on how you want to use the features of the printer and its interface card. This works for an Apple Super Serial Card, Apple Parallel Interface Card, and other popular interface cards.

After sending Control-I 80N to set the SSC to end its lines at 80 columns, it's still necessary to tell the SSC when that Control-I 80N command should work. That's what Control-I C does: it tells the SSC to issue a carriage return on column overflow.

Column overflow occurs when the SSC detects it has reached the end of the column as set by switches 2-3 and 2-4 or by Control-I 80N. The addition of a line like line 40 should correct similar overstriking problems, especially with listings of BASIC programs. If you run this program, it will correctly print S2$ on an Imagewriter or an ImageWriter II.

On an Apple IIGS, the Control-I C would need to be a Control-I CE.
Published Date: Feb 19, 2012

Open Transport 1.0.1 Patch Information (7/95)

I'm having problems using Open Transport 1.0 with some network applications like Fetch, Eudora, or Netscape. How can I get them to work?

This article has been archived and is no longer updated by Apple.
A patch to Open Transport version 1.0 has been released. Users who are experiencing problems sending files (using programs such as Fetch) or using SLIP and PPP LAPs should try installing, Open Transport 1.0.1 patch.

These articles can help you locate the software update mentioned here:

* "Where To Find Apple Software Updates" -- Lists online services for free Apple software updates.

* "Obtaining Apple Product Support in the USA" -- Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech Info Library.

Information From the Read Me File
==========

Problems Truncating Data When Sending and Open Transport 1.0.1

This patch fixes a problem truncating data when sending, which occurred with the Open Transport TCP backward compatible (MacTCP) interface. Using Open Transport 1.0 in certain situations, the connection could be closed before all of the data was transferred. In this case, the receiver would get a short file, missing some of the bytes at the end, and may not have (depending on the application used) received an error indicating this problem had occurred.

Changes in Open Transport 1.0.1 for SLIP/PPP LAPs From Open Transport 1.0
---
* Fixed a crash that would occur shortly after the completion of automatic connection with some LAPs (Link Access Protocol) like MacPPP and MacSLIP. This would occur when the LAP displays a dialog box during its connection establishment.

NOTE: With Open Transport 1.0 and 1.0.1, automatic connections are possible only for direct connections or very rapid modem connections (less than 15 seconds).

* Open Transport now works correctly with InterPPP or MacPPP when they coexist in the same System Folder with other SLIP and PPP LAPs. With Open Transport 1.0, InterPPP or MacPPP could be selected in the TCP/IP control panel, but they couldn't connect if they existed in the same System Folder. For example, the connect button of the Config PPP control panel of MacPPP would be dimmed.

* Fixed problem with MacSLIP. With Open Transport 1.0, MacSLIP could be selected in the TCP/IP control panel, but opening a TCP/IP endpoint would fail. Typically an application would display an alert like "Cannot open name resolver".

Support Information Services
Published Date: Feb 19, 2012

MAE 2.0: Timbuktu Pro Does Not Work With TCP/IP (7/95)

I have MAE 2.0 and I'm running Timbuktu Pro which works properly with AppleTalk, but fails when using TCP/IP. Why is this happening?

This article has been archived and is no longer updated by Apple.
The reason Timbuktu Pro does not work with MAE 2.0 and TCP/IP is due to the version of MacTCP in MAE 2.0. According to the Timtukbu Pro release notes, Timtukbu Pro requires at least MacTCP version 2.x. The version shipped with MAE 2.0 is based on MacTCP 1.1.x.

This issue has been reported to Engineering as a compatibility problem. We have no information on if or when this issue will be addressed.

Support Information Services
Published Date: Feb 19, 2012

LaserWriter 16/600 PS: Cannot Receive Faxes with ECM (7/95)

What causes the LaserWriter 16/600 PS to only receive the first inch of a sent fax? When this happens, the sender also receives an error message. This occurs when sending a fax from different fax machines, such as the Canon t400, Canon 630, Canon Fax 270, and a Pitney Bowes 9550. Faxes sent from other machines are received properly.

This article has been archived and is no longer updated by Apple.
Apple worked with Canon to verify that this is related to an option on the sending machines called ECM (Error Correction Mode). When the sender selects ECM, the fax fails. However, the same fax job is completed successfully with ECM turned off.

The work around is to turn off error correction on the sending machines. Please note that this problem potentially could happen from other fax machines besides those listed above.

Support Information Services
Published Date: Feb 19, 2012

LaserWriter 8: Tray Selection Printing from Finder (9/95)

On a LaserWriter Pro 600 or 630 and the LaserWriter 16/600 PS with the 500-sheet cassette, printing from the Finder only applies tray selections to the first print job. This is apparent using SimpleText if one selects the following options in the Print window:

First From: Cassette (250) Sheets
Remaining From: Cassette (500) Sheets

If you use different paper in both cassettes, you will notice that after it prints the first file correctly (first page from 250, successive from 500), it then starts printing every page from the 250 sheet cassette. Printing each file individually from within SimpleText works fine.

This article has been archived and is no longer updated by Apple.
This is a known issue and is due to how various applications and the LaserWriter driver manipulate the print record. In simple terms, it is up to the application and print driver to store information (such as paper tray use) so that it can be used for successive jobs in a scenario such as the one you described. There has been some past confusion in the developer community with regard to this. As a result, engineering has decided to resolve this issue by modifying the next version of the LaserWriter driver (beyond 8.3) to ensure that paper tray information is saved and used appropriately.

In the interim, there is only one good workaround we are aware of:

* Use QuickDraw GX.

If QuickDraw GX is being used, this is NOT a problem. QuickDraw GX is very feature rich with respect to paper tray usage, as each individual page of a document has its own "definition" or paper type. For example, you can define the first page of a document to be LetterHead and a second page to be plain paper, and if the 250-sheet and 500-sheet cassette have been defined respectively as such then tray selection is automatic -- the first page of each document comes from the 250-sheet cassette, and the second from the 500-sheet cassette.

Paper types such as LetterHead can be defined/created with the QuickDraw GX Paper Type editor that ships with QuickDraw GX. In terms of "setting" each page of a document to be of a defined paper type, this functionality is ONLY present with QuickDraw GX aware applications (such as WordPerfect 3.1) via the "Custom Page Setup" menu item in the File menu. Custom Page Setup is the recommended user interface for utilizing GX paper types.

One less graceful workaround is to print the files individually.

Article Change History:
01 Sep 1995 - Revised for technical accuracy.
25 Aug 1995 - Added still more info. to discussion; retitled.
27 Jul 1995 - Added additional info. to discussion; retitled for clarity.

Support Information Services
Published Date: Feb 19, 2012

LaserWriter 8.3: Does Not Create Desktop Fax Sender (8/95)

After installing LaserWriter 8.3 software and using the new desktop printing functionality without QuickDraw GX, the Fax Sender chooser item does not create a desktop printer.

I am confused because Fax Sender does not have a corresponding desktop printer yet it does work.

Are there any compatibility issues with 3rd party print drivers and desktop printers?

This article has been archived and is no longer updated by Apple.
The new Desktop Printing software?only supports Apple print drivers, and specifically, only the ones that use PrintMonitor. The ability to create a desktop icon for the Fax Sender driver is being considered for the next version of Desktop Printing software.

The new Desktop Printing software is designed to replace the old PrintMonitor, therefore, any driver that uses PrintMonitor is compatible with the new Desktop Printing software.

The Desktop Printing software has been tested with all of the Apple PostScript and QuickDraw "PrintMonitor-saavy" print drivers including: LW 7.x, 8.x, 8.xf, LaserWriter Select 300, StyleWriter II, and others. Apple ran some simple tests with LaserWriter 8.2.2f and successfully sent PostScript fax jobs via the desktop printer. Tests were also run with Adobe's PS Printer drivers 8.2 and 8.3 with no problems found. The only print drivers that will not have a desktop printer created are third party drivers that have their own printmonitor-type applications. It is only these 3rd party QuickDraw direct connect drivers where Desktop Printing is bypassed and the third party software takes precedence.

With regards to PostScript/network printers, the LaserWriter 8.x driver uses the PPD files of the 3rd party PostScript printer, and then creates a desktop printer.

Support Information Services
Published Date: Feb 19, 2012

DMF Formatted Disks: Second Disk Installation Fails

I am trying to install Word 6.0 for Windows on my DOS Compatible Macintosh. The first disk installs correctly but then fails on the second disk. I have gotten a new copy of the software but this copy does not read from drive A, I get a message saying, "System Error". When I try to cancel the installation, I get a message saying the compressed file can't be decompressed, and it may be corrupted.

I am also unable to mount the disks with PC Exchange.
This article has been archived and is no longer updated by Apple.
Microsoft uses a disk format, DMF (Distributed Media Format) that lets them ship their software on a small number of disks by using a 1.6 MB floppy disk format. The current PC Compatible (360K/720K/1.4MB) or Apple (400K/800K/1.4MB) floppy drives cannot read this type of format.

The disk set for Microsoft Word 6.0 for Windows contains one 1.4 MB disk with an installer program and other 1.6 MB formatted disks. Although the 1.6 MB disks cannot normally be read by the floppy drive, the installer modifies the hardware-level floppy driver and DOS BIOS calls, which enables the PC to read the new format.

The Microsoft DMF installer program may be incompatible with the Macintosh DOS Compatible computers, as well as the Insignia SoftWindows product. The installer attempts to modify the DOS BIOS and hardware-level floppy driver, which can not be done in these hardware emulation implementations.

There is a Fix
PC Exchange 2.0.7 lets DMF formatted disks be used with Macintosh DOS Compatible computers. PC Exchange 2.0.7 available with the DOS Compatibility 1.5 Software Update for Power Macintosh/Performa 6100 DOS Compatible, Macintosh Performa 630, 640CD DOS Compatible, and Macintosh LC 630 DOS Compatible computers. The DOS Compatibility 1.5 update is available at Apple Computer's Software Updates locations online, or a disk set can be mailed for a shipping and handling charge by contacting 1-800-SOS-APPL (1-800-767-2775).

The DOS Compatibility 1.5 Software Update is not supported on the Quadra or Centris 610 DOS Compatible computers.

This article can help you locate the software update mentioned here:

- Article 14724: "**Where To Find Apple Software Updates**" - Lists online services for free Apple software updates.

Published Date: Feb 19, 2012

HyperCard 2.3: Errors in Documentation (9/95)

This article describes errors in the Reference Manual for HyperCard 2.3.

This article has been archived and is no longer updated by Apple.
Page 6-33

In describing using Linkto, instructs the user:

2. With the Button tool still selected, double-click the button you want
to link.

The problem is that the Button Info dialog box does not display the Link to button, unless you hold down the option key while double-clicking the button you want to link. Per the instruction, the Button Info dialog box shows the Tasks button.

The manual should read:

2. With the Button tool still selected, hold down the Option key on your
keyboard and double-click the button you want to link.

Pages 3-22 and 6-37

In describing adding visual effects, instructs the user:

1. Choose the button tool and double-click the Next button.

The Button Info Dialog box appears.

2. Click the Effect button.

There is no Effect button unless the user holds down the Option key while double-clicking on the Next button.

The manual should read:

1. Choose the button tool, hold down the Option key on your keyboard, and
double-click the Next button

The Button Info Dialog box appears.

2. Click the Effect button.

Incorrect Screen Shots

Pages 2-29, 4-20, 6-3, and 6-17 of HyperCard Reference manual show screen shots of the incorrect version of the Button Info window.

Appendix B, page 141 of the Getting Started manual documents the replacement of the LinkTo and Effects buttons with the Tasks button and shows the correct screen shot.

This article was published in the "Information Alley":
Volume II, Issue 9, Page 17

Article Change History:
26 Sep 1995 - Added Info Alley information; updated article.
06 Jul 1995 - Clarified what the Appendix section shows.

Support Information Services
Published Date: Feb 19, 2012

AppleWorks: Using with the Apple II UniDisk 3.5

This article discusses using AppleWorks with the UniDisk 3.5.
This article has been archived and is no longer updated by Apple.
To catalog a disk in a Unidisk 3.5 on an Apple IIc with system utilities 2.1, you may choose 4 options on the menu screen:

1. built-in drive
2. external disk 3.5 #1
3. external disk IIc
4. Prodos Pathname

When choosing to format a disk, of course, the first 3 options are present.

Users of AppleWorks versions previous to version 1.3 may be confused by the menu screen shown when they choose to catalog a disk or change current disk:

1. Drive 1
2. Drive 2
3. Profile or other ProDOS directory

Choose option 3 to use the Unidisk 3.5 with AppleWorks before version 1.3. In these earlier versions, you can refer to the UniDisk 3.5 only by its pathname, such as /appleworks/business.

Refer to page 9 the pamphlet "Using AppleWorks on the Apple II Unidisk 3.5" for further explanations of how to load, save and list data files with Appleworks and the 3.5 disk.
Published Date: Feb 19, 2012

Power Macintosh 7200/75 & 7200/90: Specifications (9/96)

This article contains a list of technical specifications for the Power Macintosh 7200/75 and 7200/90.
This article has been archived and is no longer updated by Apple.

Microprocessor
---
* PowerPC 601 microprocessor running at 75 MHz (7200/75 model)
* PowerPC 601 microprocessor running at 90 MHz (7200/90 model)
* Integrated floating-point unit and 32K cache

Memory
---
* 8 MB of RAM, expandable to 256 MB via 4 DIMM sockets
(Note: There is no RAM soldered to the logic board. The DIMM sizes installed at the factory will vary according to availability; there will be either two 4 MB DIMMs or one 8 MB DIMM.)
* Level 2 (L2) Cache: L2 Cache Slot for Optional 256KL2 cache on a 160-pin DIMM. (These computers theoretically support 512K and 1 MB of L2 cache, but these configurations have not been tested and are not supported by Apple.)
* 4 MB of ROM
* 1 MB of Video RAM (VRAM) in both the Power Macintosh 7200/75 & 7200/90 models

Disk Drives
---
* Internal 500 MB SCSI hard disk
* Internal Apple SuperDrive floppy disk drive
* Accepts high-density 1.4 MB disks and 800K disks
* Reads, writes, and formats Macintosh, Windows, MS-DOS, OS/2, and ProDOS disks
* Internal AppleCD 600i quadruple-speed CD-ROM drive
* Expansion bay for additional 3.5-inch hard disk

Interfaces
---
* Three PCI expansion slots compatible with PCI 2.0-compliant cards
(Note: These slots are not NuBus-compatible)
* Two high-speed DMA serial (RS-232/RS-422) ports compatible with LocalTalk and GeoPort cables
* 10Base-T and AAUI-15 Ethernet connectors
* Internal and external SCSI bus (up to 5 MB/s)
* Apple Desktop Bus (ADB) expansion port
* Mini jacks for stereo audio input and output
* 16-bit audio
* Up to 44.1-kHz sampling rate
* DB-15 connector for monitor

Audio System
---
* Custom sound circuitry, including stereo generator (digital-to-analog converter, or DAC)*capable of driving stereo miniplug headphones or audio equipment*and stereo sampling hardware (analog-to-digital converter, or ADC) for recording stereo sound
* 16-bit stereo input and output
* Sample rates of 44.1 and 22.05 kilohertz (kHz)
* Input line level: 2 volts peak-to-peak nominal, into 6.5-Kilohm (k*) impedance
* Output line level: 2.2 volts peak-to-peak nominal, into 1 k* impedance
* Input through output SNR*: >74 decibels (dB) typical
* Bandwidth: 10 Hz*19 kHz (+/* 2 dB) at 44.100 kHz sample rate
* THD+N*: Less than 0.06%; measured 30 Hz*16 kHz with a 2-Vpp sine wave input

*SNR is signal-to-noise ratio; THD+N is total harmonic distortion plus noise.

Graphics Support
---
* VRAM-based accelerated graphics
* 1 MB of VRAM, expandable to 4 MB
* 64-bit data path to VRAM (with 2 MB of VRAM)
* Support for display resolutions of up to 1,280 by 1,024 pixels
* 24-bit color of up to 1,024- by 768-pixel resolution
* Refresh rate of up to 75 Hz

GeoPort Telephony*
---
* 14.4-Kbit/s modem support
* V.17 fax support
* GeoPort Fax and GeoPort Telephony software included
* Speakerphone and answering-machine capability
* Requires GeoPort Telecom Adapter

Clock/Calendar
---
* Custom integrated circuit with long-life battery

Keyboard And Mouse
---
* Supports ADB keyboards with numeric keypads
* Comes with an ADB Mouse II

Electrical Requirements And Compliance
---
* Line voltage: 100 to 240 V AC, RMS single phase
* Frequency: 50 to 60 Hz, single phase
* Power: 150 W maximum, not including display
* Energy Star compliant

ADB Power Requirements
---
* Maximum current draw for all devices: 500 mA
. (a maximum of three ADB devices is recommended)
* Mouse draws 10 mA
* Keyboard draws 25 to 80 mA (varies with keyboard used)

Size And Weight
---
* Height: 6.15 in. (15.6 cm)
* Width: 14.37 in. (36.5 cm)
* Depth: 16.93 in. (43.0 cm)
* Weight: 22 lb. (9.97 kg)

Operating Environment
---
* Operating temperature: 50 degrees to 104 degrees F
(10 degrees to 40 degrees C)
* Storage temperature: *40 degrees to 116 degrees F
(*40 degrees to 47 degrees C)
* Relative humidity: 5% to 95% noncondensing
* Maximum altitude: 10,000 ft. (3,048 m)

Article Change History:
10 Sep 1996 - Clarified cache information.
12 Jul 1996 - Modified title.
08 Feb 1996 - Added VRAM info for 7200/90.

Published Date: Feb 19, 2012

Macintosh Duo MiniDock: Description (7/95)

This article describes the features of the Macintosh Duo MiniDock.

This article has been archived and is no longer updated by Apple.

Overview
==========

The Macintosh Duo MiniDock provides expansion capabilities for the Macintosh PowerBook Duo computers.

When you are away from your office and want to work with desktop resources, you can use the portable Macintosh Duo MiniDock. It provides standard Macintosh connections to large displays, a modem, and other peripherals.

Apple's new PowerLatch docking technology ensures easy, automatic docking between the Macintosh PowerBook Duo and the Duo MiniDock, so there is no need to plug and unplug cables or to reconfigure the system each time you insert the PowerBook Duo into the Duo MiniDock.

Macintosh Duo MiniDock Features
==========

* Small size and weight for easy portability

* PowerLatch docking technology

* Built-in video support for 256 colors

* Supports most Apple displays, including the Macintosh 16" Color Display,
. as well as some VGA and SVGA displays

* 9 built-in ports, including SCSI port

* Slot for a security cable

* Port for connecting external floppy disk drive

Ordering Information
==========

Macintosh Duo MiniDock
---
* Order No. M4181LL/A
* Macintosh Duo MiniDock
* Complete setup, learning, and reference documentation (U.S., Japan)
* Limited warranty statement

Macintosh PowerBook Duo Floppy Adapter
---
* Order No. M4180LL/A
* Macintosh PowerBook Duo Floppy Adapter
* Plastic case for storage and travel
* Limited warranty statement

Macintosh HDI-20 External 1.4MB Floppy Disk Drive

Order No. M8061LL/A

Apple HDI-30 SCSI Disk Adapter Cable

Order No. M2539LL/A

Apple HDI-30 SCSI System Cable

TA33996_Macintosh_Duo_MiniDock_Description__(TIL18086).pdf

Order No. M2538LL/A

Support Information Services
Published Date: Feb 19, 2012

Open Transport 1.0.1 Patch: Read Me

This article is the Open Transport (OT) 1.0.1 ReadMe file.
This article has been archived and is no longer updated by Apple.
Open Transport 1.0.1 Patch for Power Macintosh 9500
---
1) Problems truncating data when sending and Open Transport 1.0.1

This patch fixes a problem truncating data when sending, which occurred with the Open Transport TCP backward compatible (MacTCP) interface. Using OT 1.0 in certain situations, the connection could be closed before all of the data was transferred. In this case, the receiver would get a short file, missing some of the bytes at the end, and may not have (depending on the application used) received an error indicating this problem had occurred.

2) Changes in OT 1.0.1 for SLIP/PPP LAPs since OT 1.0

* Fixed a crash that would occur shortly after the completion of automatic connection with some LAPs (Link Access Protocol) like MacPPP and MacSLIP. This would occur when the LAP displays some dialog during its connection establishment. NOTE: with OT 1.0 and 1.0.1 automatic connections are possible only for direct connections or very rapid modem connections (< 15 seconds).

* OT now works correctly with InterPPP or MacPPP when they coexist in the same System Folder with other SLIP and PPP LAPs. With OT 1.0, InterPPP or MacPPP could be selected in the TCP/IP control panel but they couldn't connect if they existed in the same System Folder. For example the connect button of the Config PPP control panel of MacPPP would be gray (inactive).

* Fixed problem with MacSLIP. With OT 1.0, MacSLIP could be selected in the TCP/IP control panel but opening a TCP/IP end point would fail. Typically an application would display an alert like "Cannot open name resolver".

Miscellaneous TCP/IP LAP Information

Because of the fundamental architectural differences between MacTCP and Open Transport, we cannot ensure a 100% compatibility when using SLIP and PPP Link Access Protocol (LAP) modules written for MacTCP.

The following SLIP and PPP LAPs are supported with various levels of success:

* InterSLIP
- Version 1.0.1 is not compatible with Open Transport, you need a later version. InterCon should be contacted directly.

- The version 1.0.1 of InterSLIP is very unstable on Power Macintosh 9500 and the version 1.0.2d2 should be used instead.

* InterPPP 1.2.9
- With some Internet providers, the user would experience a crash with HTML readers (Netscape, NCSA Mosaic, MacWeb) when receiving large picture.

* MacSLIP 2.0.6
- Connect at System Startup doesn't work.

* MacPPP 2.0.1
- The way that MacPPP 2.0.1 opens a connection is mostly incompatible with OT. The same problem exits with MacPPP 2.1 SD and MacPPP 2.0.1 cm4. New releases of MacPPP will fix this problem.

- The open button doesn't work. The only way to open a connection is by opening a TCP/IP application. However, OT might time-out before the completion of the connection so that it cannot get the correct IP address from the LAP.

- Cannot re-connect after disconnecting MacPPP without restarting the System first.

Known General TCP/IP LAP Limitations
---
* There is currently no way to report a change of IP address to OT from a SLIP or PPP LAP. Change of IP address happens when the SLIP or PPP connection goes down or up after using a TCP/IP application. The work around is to restart the Macintosh.

* Once a TCP/IP application is opened over a SLIP or PPP LAP, one cannot use another SLIP or PPP LAP without first restarting the Macintosh. This is the same limitation as with MacTCP except that the TCP/IP control panel does not warn you to restart the System.

* When a SLIP or PPP LAP is selected in the TCP/IP control panel, and "Manually" is selected in the Configure pop-up menu, the value of the IP address entered in this control panel is ignored by OT. If you get assigned a static IP address by your SLIP or PPP provider you should set it in the LAP configuration program. If the IP address is assigned dynamically, you should configure the LAP configuration program for dynamic addressing.

* BootP configuration may time-out for SLIP and PPP connection if the BootP server is busy or the connection speed is too low.

* OT TCP/IP 1.0/1.0.1 supports only LAPs that have been verified to work (with some caveats) with OT. A list of supported LAPs (identified by their creatorId) is hard coded in the product. LAPs that are not in the list will not appear in the TCP/IP control panel (in Connect Via:). The list of supported LAPs currently is comprised of: InterSlip, MacPPP, InterPPP, and MacSLIP. Note that some PPP products share the same creatorId (and actually same source base) as InterPPP and as a result appear in the TCP/IP control panel as "InterPPP". If more than one such products is installed, only the first one will be shown in the popup. Note that the user has no way of telling which one was actually selected.
Published Date: Feb 19, 2012

LW 16/600 PS, TCP/IP, LPD, and Multiple Copies Problem (6/95)

I'm trying to print multiple copies of a document to a LaserWriter 16/600 PS from a Sun Workstation using the following command:

lpr -#3 -Progue.txt

My problem is only one copy prints, however the queue shows multiple copies to be printed. Is there a fix or workaround for this?

This article has been archived and is no longer updated by Apple.

We test and were able to reproduce this problem. We believe this is a problem with the LaserWriter 16/600 PS printer's built-in LPD printing facility through TCP/IP. We were able to print multiple copies of a file (with the same lpr -#n command) to a LaserWriter 16/600 PS printer with AppleTalk from an A/UX machine however.

A workaround to print multiple copies of a file is to repeat the file name on the command line, as shown below:

```
lpr -Plw16 foo foo foo
```

We have informed engineering of this issue, however we have no information if or when a fix will be implemented.

Support Information Services

Published Date: Feb 19, 2012

Disk II: Connecting it to a Unidisk

This article has been archived and is no longer updated by Apple.
To connect a Disk II to the back of a Unidisk, use a Unidisk cable, service part number 590-0327.

To install this cable on the Disk II:
1. Open the case of the Disk II
2. Pull out the old cable
3. Plug in the new cable.
4. File or drill a small half circle into the top of the case of the Disk II.
5. Reinstall the case, inserting the new cable into the half circle.

This modification should only be done by an Apple dealer, and will void the customers warranty.

The old and new cables are electrically the same; therefore, no other modification need be done.

To use a UniDisk on the Disk II controller card use a cable available from Quark, Inc., (303) 934-2211. Quark makes the cable to connect the Quark QC10 to the Apple IIc.

Published Date: Feb 19, 2012

Multiple Scan 15 Display: No Sound From Speakers (7/95)

I have a Multiple Scan 15 Display, and I do not get any sound out of the built-in speakers.

This article has been archived and is no longer updated by Apple.
In order to have sound output from the speakers on the Multiple Scan 15 Display, the sound output cable, which is included with the display, must be connected. To properly connect the cable, follow these steps:

1. Attach one end of the included sound output cable to the sound outpout port on the back of the computer.

2. Attach the other end of the sound output cable to the sound output port on the back of the monitor.

Support Information Services
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QuickTake 100: Upgrade to QuickTake 100 Plus (Discontinued)

This article describes the QuickTake 100 Upgrade Program, which has been discontinued.

This article has been archived and is no longer updated by Apple.

The QuickTake 100 Upgrade Program was in effect from August 2 to December 15, 1995. It was a firmware upgrade only; there was not any upgrade to the external housing or plastics, but the upgraded camera included a QuickTake 100 Plus label. The specific features and items included were:

- Increased storage capabilities. 1 MB of FLASH EPROM, which stores up to 32 standard-resolution images, 16 high-resolution images or a combination of high- and standard-resolution images
- Close-up Lens. Capable of providing accurate image capture from 10 to 14 inches
- Larger image size. 640 X 480 resolution (for both high- and standard-quality)
- QuickTake 150 Manual
- PhotoFlash 2.0 (for owners of the QuickTake 100 for Macintosh)
- PhotoNow! (for owners of the QuickTake 100 for Windows)

The upgraded firmware has a one-year warranty.

Article Change History:
15 Dec 1995 - Updated information.
07 Aug 1995 - Reviewed for technical accuracy.
25 Jul 1995 - Updated with latest information

Support Information Services
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At Ease 3.0 WorkGroups: Gray Buttons In At Ease Setup

I am in the At Ease Setup program in At Ease 3.0 for WorkGroups and I cannot select certain items. Sometimes the On and Off buttons are gray and other times, I am unable to select a Setup or a User from the lists because they are grayed out. Why is this happening?
This article has been archived and is no longer updated by Apple.
You have logged into At Ease Setup as a Middle Level Administrator (MLA). The SuperUser can allow MLAs different privileges, and depending on those privileges different parts of At Ease Setup may not be available.

For example, no MLA can turn At Ease on or off, or access the network menu so these options are grayed out for every MLA. Another MLA may not be able to add or modify Setups, so when they log on the Setup list will be grayed out in addition to the On/Off buttons.
Published Date: Feb 19, 2012

PC Net Exchange: Difference Between 1.0 and 1.0.1

What is the difference between version 1.0 and 1.0.1 of PC Net Exchange?
This article has been archived and is no longer updated by Apple.
PC Net Exchange 1.0.1 corrects an issue where your Macintosh would hang if you tried to copy a DOS file which had a three or four character name and no file name extension.
Published Date: Feb 19, 2012

Apple RAID Software 1.0.2 Read Me (7/95)

This article is the Apple RAID Software, version 1.0.2, ReadMe file.

This article has been archived and is no longer updated by Apple.
This Read Me contains important additions to the Apple RAID Software Administrator's Guide, and includes the following sections:

* 4 GB Volume Support
* Locating the Apple RAID Software Files on Your Startup Disk
* Reinstalling Apple RAID Software
* Back Up Your Data
* Initializing Apple RAID Disks With Other Disk Utilities
* Losing Power During Initialization
* Using Apple HD SC Setup With Apple RAID
* Extra Disk for Faster Recoveries
* Apple RAID and Third-Party SCSI and PDS Cards
* Apple RAID and Virtual Memory
* Using Thousands or Millions of Colors
* Choose Screen Savers Carefully
* Restoring Volumes With Retrospect
* Using the Microsoft Mail Backup Utility With Apple RAID
* Slow Startup With 2-Gigabyte Drives
* Use Shielded SCSI Cables
* Remove Switched-Off Devices From the SCSI Bus
* Do Not Use SCSI-1 Devices in a SCSI Bus Containing SCSI-2 Devices
* Handling Spontaneous Mirror Failures
* Rebuilding Mirrored Volumes While Running AppleShare
* Installing a Driver While Rebuilding a Mirrored Volume
* Restarting Stalled Rebuilds
* Dealing with Rebuild Failures

4 GB Volume Support

Apple RAID now supports volumes as large as 4 GB (rather than 2 GB as stated in the manual).

Locating the Apple RAID Software Files on Your Startup Disk

The Apple RAID Software program is installed in the Apple Menu Items folder in the System Folder on the startup disk. The Apple RAID Monitor is installed in the Extensions folder in the System Folder on the startup disk. The Apple RAID Software Read Me (this document) and the Simple Text text-processing program are installed in an Apple RAID folder in the top-most directory of your startup disk.

Reinstalling Apple RAID Software

The files for reinstalling Apple RAID are on the Workgroup Server Software CD-ROM disc (not on the Apple RAID Software CD-ROM disc as stated in the manual.

Back Up Your Data

Apple RAID mirrored volumes will not protect you from all types of data loss. Equipment theft or natural disasters such as fire or flooding, for example, can result in data loss. Therefore, make sure you continue to back up all your data, including data residing in Apple RAID mirrored or striped volumes.

Initializing Apple RAID Disks With Other Disk Utilities

Use Apple HD SC Setup or a third-party disk utility to delete or unmount the Apple RAID volumes before reinitializing an Apple RAID-formatted disk. Non-Apple RAID disk utilities may not be able to unmount Apple RAID volumes during initialization.?
Losing Power During Initialization

If a disk loses power while you are initializing it with Apple RAID, it may cause your server to crash immediately or later when the system starts up. If you suspect that your server is crashing due to this problem, start up your server with the offending disk switched off. Turn the disk on while the Finder is active and initialize the disk with Apple HD SC Setup or a third-party disk utility. If this initialization is successful, then reinitialize the disk with Apple RAID.

Using Apple HD SC Setup With Apple RAID
---
* Updating the Driver on Apple RAID-formatted Disks

Always use the "Install Driver" command on the Disk menu in Apple RAID if you need to update the driver file on Apple RAID-formatted disks. Never use Apple HD SC Setup to update the driver on an Apple RAID-formatted disk, even though version 7.3.4 of Apple HD SC Setup allows you to do this, and the instructions for installing new versions of system software instruct you to do this. If you use Apple HD SC Setup instead of Apple RAID to update the driver file, you will lose all data contained in the RAID volumes on the disk. However, you can retrieve your data if the Apple RAID partition map is intact. Start the Apple RAID program, select the disk, and choose "Install Driver" from the Disk menu. If this option is not enabled, the Apple RAID partition map has been damaged and no recovery is possible; you need to reinitialize the disk.

* A Message Indicates an Apple RAID Disk has no Initialized Volumes

When scanning for disks in the Apple HD SC Setup program, Apple RAID-initialized disks might display the message "This disk contains no initialized Macintosh volumes." The current version of Apple HD SC Setup does not recognize Apple RAID mirrored or striped volumes and will display the above message if the disk does not contain an Apple RAID standard (HFS) volume.

Extra Disk for Faster Recoveries

An extra disk that is initialized for Apple RAID, connected to the server, and switched on will reduce the time required to recover an Apple RAID mirror volume from a failed disk. (The extra disk must be large enough to hold the mirror volume.) Having such an extra disk on hand is recommended but not required for using Apple RAID Software.

Apple RAID and Third-Party SCSI and PDS Cards

Apple RAID supports built-in SCSI buses only; it has not been tested with third-party SCSI accelerator cards. You may experience difficulties if Apple RAID is installed on a server that contains a third-party SCSI card. The same is true for SCSI PDS cards.

Apple RAID and Virtual Memory

Apple RAID makes extensive use of direct memory access and may not work with virtual memory turned on. Make sure that virtual memory is turned off on your server.

Using Thousands or Millions of Colors

Using thousands or millions of colors on a server may degrade performance and cause problems with Apple RAID. If you experience problems creating new volumes with Apple RAID, set your server to 256 colors or fewer in the Monitors control panel. You can also try an alternative method for creating new volumes: instead of Shift-clicking disks in the Disks column and dragging them to the Volumes column in the Setup window, use the Apple RAID menu commands for creating a new volume, as explained in Chapter 3 of the Apple RAID Software Administrator's Guide.

Choose Screen Savers Carefully

There are many screen savers that can be used to prevent screen burn-in on Workgroup Servers. Some screen savers are quite elaborate and perform many complex calculations to draw a single picture on the screen. Since such calculations require significant amounts of CPU time, more complex screen savers reduce the performance of your Workgroup Server. Choose a screen saver that interferes least with your Workgroup Server, such as a screen saver built-in to an application that you run.

Some screen savers or their modules are not compatible with Apple RAID Software and can cause your Workgroup Server to crash or hang. Before purchasing or using a screen saver, check with the screen saver's manufacturer to determine if the screen saver will work properly with your Workgroup Server and with Apple RAID.

Restoring Volumes with Retrospect

If your Apple RAID volume icon appears as a generic hard disk icon after you restore with Retrospect, you can recover the Apple RAID volume icon as follows:

1) Select an Apple RAID volume of the same type (mirrored, striped, or standard).

2) Choose Get Info from the File menu, click on the icon, and choose Copy from the Edit menu.

3) Select the Apple RAID volume with the generic icon.

4) Choose Get Info from the File menu, click on the icon, and choose Paste from the Edit menu.

The icon will be restored.

Using the Microsoft Mail Backup Utility With Apple RAID

Due to the way in which the Microsoft Mail Backup Utility shuts down the system, the automatic backup feature of Microsoft Mail causes mirrored volumes to become out of sync. The best way to back up your Microsoft Mail Server is to follow the instructions for a manual backup in the Microsoft Mail documentation.

Slow Startup With 2-Gigabyte Drives

Some 2-gigabyte disks take a long time to reach full speed. Apple RAID might wait for such disks to spin up, which may increase the time it takes to start up your server if a 2-gigabyte drive is attached.

Use Shielded SCSI Cables

Make sure all SCSI cables are shielded. You might experience I/O errors when adding additional disks to the SCSI chain if the cables aren't shielded. A shielded SCSI cable is thicker and stiffer than an unshielded SCSI cable. Check with the manufacturer if you're unsure whether the cable is shielded. All Apple SCSI cables are shielded.

Remove Switched-Off Devices From the SCSI Bus

Apple recommends that you remove from the SCSI bus, SCSI devices that are switched off and unncessary for your work. Removing unused devices avoids signal strength problems for the remaining devices on the bus.

Do Not Use SCSI-1 Devices in a SCSI Bus Containing SCSI-2 Devices
---
Older disks, usually under 200 megabytes in size, cause trouble when connected to a SCSI bus containing SCSI-2 devices. Most older disks are only SCSI-1-compliant and are not always compatible with a bus using SCSI-2 devices.

Handling Spontaneous Mirror Failures

Sometimes a mirror volume may fail for no apparent reason. The volume will rebuild with no problem and disk test utilities will show no defects. In most cases the disk that failed will develop a media failure within a few weeks. If a disk begins to cause spontaneous mirror failures, consider replacing the disk before it fails completely.

Rebuilding Mirror Volumes While Running AppleShare

When rebuilding a failed or out-of-sync mirror volume while AppleShare is running, set the AppleShare Remote User Activity slide bar to less than 50%. If AppleShare is under particularly heavy use, set the slide bar to an even smaller percentage of the processor's time. These settings ensure that Apple RAID will receive the necessary processing time to perform the rebuild. (See your AppleShare documentation for details about setting the Remote User Activity slide bar.)

Installing a Driver While Rebuilding a Mirror Volume

Apple recommends that you do not update the Apple RAID driver on a disk on which a mirrored volume is currently being rebuilt.

Restarting Stalled Rebuilds

If there appears to be no disk activity during a rebuild, the rebuild may be stalled. Restarting the system should cause the rebuild to continue.

Dealing with Rebuild Failures

If a rebuild failure occurs, check that all devices on the SCSI bus are properly attached, terminated, and powered on. Retry the rebuild with the rebuild rate slide bar set to less than 75% of maximum.

Support Information Services
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Apple Color Plotter: Configuring it to an Apple IIe

This article has been archived and is no longer updated by Apple.

The following describes the connection between the Apple IIe and the Apple Color Plotter. DO NOT USE the High Speed Serial Card with the IIe.

I. Apple IIe

1. Super Serial Card (SSC)

A. Circuit Configuration

Near the internal cable (Part 590-0021) of the SSC there is a removable block of pins with a triangle on its top face. Make sure this jumper block is plugged into its socket so that the triangle points to the word TERMINAL printed on the card.

This configuration, called modem elimination, compensates for the standard RS-232-C pin assignments so that the internal cable of the SSC can transmit signals to the Imagewriter through the appropriate pins.

B. IIe Motherboard Slot

a. Preferred: Slot 1
b. Range: Any slot EXCEPT AUX

C. SSC Switch Settings

```
SW1:  1 2 3 4 5 6 7    SW2:  1 2 3 4 5 6 7
     | | | |X| |X|X|        |X| | |X| | | | (ON)
     |X|X|X| |X| | |        | |X|X| |X|X|X| (OFF)
```

These switch settings are for: 9600 baud (SW1: 1-4), Printer Mode (5-6), Normal Clear To Send (7), 8 data bits and 1 stop bit (SW2: 1), no delay after CR (2), video off with an 80 character line (3-4), no LF after CR (5), Disabled ACIA-CPU interrupts (6), and Normal Clear To Send (7).

No parity is set automatically in the Printer Mode.

II. The Connection

1. Cable

Serial and Communications Cable
(Part 590-0037)

From			To	
Super Serial Card IIe Back panel DB-25 connector			Apple Color Plotter DB-25 connector	
signal -	pin	wiring	pin -	signal
Frame Ground	1	<->	1	Frame Ground
Tx	2	<->	2	Tx
Rx	3	<->	3	Rx
RTS	4	<->	4	RTS
Signal Ground	7	<->	7	Signal Ground

```
DTR            20      <->    20    DTR
```

2. Signal

1. Levels from Super Serial Card:

a. True (asserted): 0 volts
b. False: +5 volts

III. Apple Color Plotter

1. Switch settings

```
 1 2 3 4 5 6 7 8
| | | | |X|X|X|X| (ON)
|X|X| |X| | | | | (OFF)
```

These switch settings are for: 8 data bits (SW 1), no parity (SW 2), 1 stop bit (SW 4-5), 9600 baud (SW 6).

2. Test

A. Set paper width to 8.5 inches or larger.

B. Assemble and install pen head.

C. Turn on Plotter and insert paper to paper set mark.

D. Press pen up/down (test) button.

Plotter will run automatic test routine.

Some applications may not give you all the features of the Apple Color Plotter.

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Instant Pascal: Transferring Programs to & from Mac Pascal

The Instant Pascal Master Program disk contains a file called "A2.TO.MAC." Use this file to transfer programs between a Macintosh and an Apple IIe or Apple IIc. A modem is not necessary.
This article has been archived and is no longer updated by Apple.
Follow these steps, but first, if you have not already done so, delete some of the demonstation files from your master program disk before trying to use the file "A2.TO.MAC."

A. Open the file "A2.TO.MAC" on the Master Program side of the disk.

B. Print the file to a printer to obtain hard copy output.

C. Enter the A2.TO.MAC program on your Macintosh using Macintosh Pascal. Save the program.

D. To set up an Apple IIe or Apple IIc to send files to a Macintosh:

1. If you are sending files from an Apple IIe to a Macintosh:
   a. Connect a Macintosh printer cable to the Super Serial Card installed in the Apple IIe.

   b. On the Apple IIe, check to make sure the constants (CONST) are set at APPLE2C = FALSE and MAC = FALSE.

   c. On the Macintosh, change the constant (CONST) default setting from MAC = FALSE to MAC = TRUE.

   d. You must run A2.TO.MAC on both systems, beginning with the Apple IIe. Start A2.TO.MAC running on the Apple IIe BEFORE you start it running on the Macintosh.

2. If you are sending files from an Apple IIc to a Macintosh:
   a. Connect a female-to-female adapter to modem port of the Apple IIc.

   b. On the Apple IIc, change the constant (CONST) default setting from APPLE2C = FALSE to APPLE2C = TRUE.

   c. On the Macintosh, change the constant (CONST) default setting from MAC = FALSE to MAC = TRUE.

   d. You must run A2.TO.MAC on both systems, beginning with the Macintosh. Start A2.TO.MAC running on the Macintosh BEFORE you start it running on the Apple IIc.

E. A2.TO.MAC asks for the name of the file that you wish to transfer.

1. On your Apple IIe or IIe, either:
   -- Type in the file name and press Return
   or
   -- Select the appropriate box with your mouse and click the mouse button.

2. On your Macintosh:

   -- Type in the file name and select the appropriate box with your mouse and click the mouse button.

F. Check to see that the file you just transferred is actually on your disk.

This procedure is similar to that for transferring Macintosh Pascal files to Instant Pascal files and Apple IIe Instant Pascal files to Apple IIc Instant Pascal files. Read the instructions on A2.TO.MAC. Remember to run your Macintosh A2.TO.MAC program first.
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Macintosh: Resetting PRAM Resets Some Video Cards

I have a SuperMac video card in my Macintosh computer. When I rese PRAM (Parameter RAM), the monitor became out of sync.
This article has been archived and is no longer updated by Apple.
SuperMac cards must be configured for the specific display they are connected to. If you move the card to a different slot in your Macintosh, connect a different monitor to it, or reset PRAM, you need to reconfigure the card to output the proper signals and timings required by your display.

How To Reconfigure

1. Hold down the Option key on your keyboard at startup.

2. Release the Option key when the "Round Robin" configuration cycle begins.

3. When you see an image of a keyboard, on your screen, that is clear, centered, and at the resolution you want to use, press the Space bar. The computer restarts, and the card and display should now be properly configured.

Published Date: Feb 19, 2012

Apple Multiple Scan Displays: X-Ray Level Emitted

I have an Apple Multiple Scan 17 Display and an Apple Multiple Scan 20 Display. Do these monitors emit X-Rays?
This article has been archived and is no longer updated by Apple.
All CRTs (cathode ray tubes) in displays emit some level of X-rays. X-rays are emitted as a byproduct of the high (anode) voltage that is needed to develop an image on the face (front) of the tube. X-rays are reduced using a variety of techniques like adding certain metals to the CRT glass to add shielding and reducing or limiting the anode voltage.

In most countries, the level of X-radiation from displays and televisions are legally controlled or regulated. In the United States, acceptable X-ray levels are defined by the FDA (Food and Drug Administration) CFR-21 regulations for consumer safety. The definition usually contains levels or thresholds that define acceptable vs. unacceptable limits to protect consumers.

The FDA CFR-21 dictates that X-ray levels for monitors must be lower or less than 5 milliroentgens per hour. The FDA has also defined another level in CFR-21 that is better than the acceptable limit by a factor of ten (at 0.5 milliroentgens per hour). The Apple Multiple Scan 17 and 20 Displays have X-ray levels below 0.5 milliroentgens per hour.

Published Date: Feb 19, 2012

Apple Media Tool: Slow QuickTime When Controller Enabled

I am using the Apple Media Tool, and I get slow, jerky playback of my QuickTime movie when the QuickTime controller bar is enabled. Movies play fine if the controller bar is not present.
This article has been archived and is no longer updated by Apple.
The slower playback is normal when running a project from within the Apple Media Tool program. Controller performance is corrected when the project is made into a runtime.

To check true QuickTime performance:

1. Save project as text.
2. Use Runtime Maker to compile the saved text file (.k file) into a runtime.
3. Evaluate QuickTime performance in the runtime.

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Sound Manager 3.1: ReadMe File (7/95)

This article contains the Read Me file for the Sound Manager 3.1 extension.
This article has been archived and is no longer updated by Apple.
WELCOME TO SOUND MANAGER 3.1

The Sound Manager 3.1 software consists of

- the Sound Manager system software extension
- a new version of the Sound Control Panel
- a technical note explaining some of the new features

Available since the introduction of the Macintosh II in 1987, the Sound Manager is Apple's digital audio software solution that allows any application to play and record sounds using the built-in sound hardware found on Macintosh computers. Sound Manager 3.0, released in 1993, added support for 16-bit CD-quality audio, redirection of sound to third-party hardware cards, and plug-in audio compression/decompression software (codecs).

Sound Manager 3.1 adds two new audio codecs, significant performance increases on the Power Macintosh line of computers, better integration with QuickTime, and asynchronous alert sounds. It is completely backwards compatible with previous versions of the Sound Manager.

INSTALLING SOUND MANAGER 3.1

To install Sound Manager 3.1:

1. If you received a floppy disk labeled "Sound Manager", insert it into your computer and open it. If you downloaded Sound Manager 3.1 electronically, make sure the Sound Manager files you downloaded are visible.
2. Drag the Sound Manager and Sound control panel icons from the Sound Manager disk onto your System Folder icon (not into the open folder).
3. Click OK in the dialog box that appears.
4. Restart your Macintosh.

NEW FEATURES OF SOUND MANAGER 3.1

1.) New audio codecs
The Sound Manager previously supported only MACE audio compression at ratios of 3:1 and 6:1. Sound Manager 3.1 adds two new compression formats: IMA and uLaw.

The IMA 4:1 audio compression format is based on a standard proposed by the Interactive Multimedia Association, and is used to compress 16-bit sound with a ratio of 4:1. It is particularly good at compressing CD-quality music and is fully integrated into QuickTime.

The uLaw 2:1 format (pronounced "mu-law") is an international standard for compressing voice-quality audio (typically 16-bit, 8 kHz speech) with a ratio of 2:1. It is often used in telephony applications, and also on the Internet as the encoding format for ".au" sound files.

2.) Better performance on Power Macintosh
Sound Manager 3.1 is much faster on Power Macintosh computers --in many cases 4-7 times more efficient than previous versions. This means that your application can do more while sound is playing or recording. Sound Manager 3.1 is also more robust: many bugs have been fixed and a number of commonly requested features have been added. Refer to the Technical Note for more information.

3.) Improved integration with QuickTime
QuickTime 2.1 uses the new audio codecs included in Sound Manager 3.1 to allow compressed audio capture in the IMA and uLaw formats and compressed audio export from a movie to an AIFF file. QuickTime 2.1 will also use Sound Manager 3.1 to directly import common audio file formats such as ".wav" and ".au".

4.) Support for asynchronous alert sounds
The Sound Manager previously tied up your Macintosh while playing an alert sound, forcing you to wait until the sound was done playing before you could continue. Sound Manager 3.1 removes this limitation by playing alert sounds asynchronously, so alert dialogs and other interface elements can continue processing while the alert sound is playing.

Support Information Services
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AppleCD 300e Plus & CD 600: Button Will Not Open Tray

I have a Macintosh computer with an AppleCD 300 Plus. My CD-ROM tray does not always open when I press the eject button. Is this normal?
This article has been archived and is no longer updated by Apple.
On tray loading CD-ROM drives like the AppleCD 300 Plus and the AppleCD 600, the tray can only be opened with the button when:

- There is nothing in the drive.
- The CD-ROM software has not loaded.

At all other times, you must request that the system software eject the CD. This can be done by dragging the CD to the Trash, or by clicking on the CD icon, and then choosing "Put Away" from the File menu.

To eject a CD from a computer at start up, press and hold the eject button until the CD is ejected.
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Desktop Printing: Allocating Memory (9/95)

What is the benefit of changing the Desktop PrintMonitor's or a given Desktop Printer's preferred memory size?

This article has been archived and is no longer updated by Apple.
This article describes the benefit of changing the preferred memory size of the Desktop PrintMonitor or a given Desktop Printer.

Desktop PrintMonitor's Preferred Memory

The Desktop PrintMonitor requires approximately 6K for each Desktop Printer created on a 680x0 Macintosh computer and 9K for each Desktop Printer on a Power Macintosh computer. The default setting of 160K lets you create approximately eight Desktop Printers on a 680x0 Macintosh and four on a Power Macintosh.

If you create more Desktop Printers than can be supported by the Desktop PrintMonitor, an appropriate alert is given the next time you attempt to print. This alert instructs you to increase the memory size of the Desktop PrintMonitor, but does not indicate by how much. If you follow the 6K per printer for 680x0 Macintosh computers and 9K per printer for Power Macintosh computers rule of thumb when adjusting memory, you will avoid further low memory problems with the Desktop PrintMonitor.

Desktop Printer's Preferred Memory

Increasing the preferred memory size in a Desktop Printer's Get Info window lets the Desktop Printer handle larger, more complex print jobs without asking you to increase memory to the printer. Most of the time, you never have to make adjustments to a Desktop Printer's memory size.

The default memory size for Desktop Printers will be ample for most printing tasks. When it is not, the Desktop Printer temporarily increases its memory size by 50%. If this adjustment is not adequate, a message appears asking if you would like the Desktop Printer to temporarily adjust its size an additional 50%.

You may need to permanently increase a Desktop Printer's memory if you regularly print large, complex documents. A typical document of this type might include a full page, true color image, employ ColorSync, and print to a color laser printer.

This article was published in the "Information Alley":
Volume II, Issue 11, Page 12

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29 Sep 1995 - Added Info Alley information; updated article.

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Desktop Printing: Identified Issues

This article describes several identified issues when using desktop printing.
This article has been archived and is no longer updated by Apple.
Issue: If you try to create a Desktop Printer when the Desktop Printer Spooler is not in the System Folder, multiple Desktop Printers are generated. The only way to stop this is to reboot with extensions off.
Status: Fixed with Desktop PrintMonitor v1.0.2 and later.

Issue: A similar problem can occur if your system crashes while a spool file is being generated. The only resolution if this happens is to restart with extensions off and remove the spool file from the PrintMonitor Documents folder.
Status: Currently under investigation.

Issue: The Finder crashes if you try to create a Desktop Printer in the "Restricted Finder" of At Ease 3.0.
Status: Fixed in Desktop Printer software v1.0.3.

Issue: Scheduled, non-network backups crash Retrospect if version 1.0 of the Desktop Printing software is installed. This version shipped with a limited number of StyleWriter 1200 Printers.
Status: Fixed in Desktop Printer software version 1.0.1 and later.

Issue: A generic Desktop Printer is created when PDF Writer v.2.0 creates a PDF in the background.
Status: This printer is fully functional, but is not supported.

Issue: The View menu is available when a Desktop Printer's Get Info window is in the foreground. If you try to use this menu, a bus error results.
Status: Fixed in Desktop Printer software v1.0.3.
Published Date: Feb 19, 2012

"Apple Macintosh CD: v1.0,1.0.1,2.0 Extras Folder ReadMe (4/97)"

The following article is the Read Me document for the Extras folder on the Apple Macintosh CD--versions 1.0, 1.0.1, and 2.0.

It is different than the ReadMe file found in the Apple Extras folder on the Power Macintosh CD--versions 1.0 and 2.0 (for that ReadMe file see TIL Article: "Power Macintosh CD: v1.0, 2.0 Extras Folder ReadMe").
This article has been archived and is no longer updated by Apple.
The Extras folder contains several application programs and control panels for you to try on your Power Macintosh computer. You can use these programs to learn about new System 7.5 features. The programs are listed below. Most of the programs are in individual folders, and are accompanied by information explaining how to use the programs.

IMPORTANT If you have questions about third-party application programs in the Extras Folder, you should contact the software vendor directly. The telephone number or address for each vendor is located with the software program.

Eric's Solitaire Sample

The solitaire games include Klondike and Eight-off (by Delta Tao Software, Inc.).
Important: In order to run this application, you must be booted off the hard drive rather than the CD.

Video Monitor

To use the Video Monitor program, you must have a Power Macintosh 6100/60AV, 7100/66AV, or 8100/80AV; and you must have video equipment connected to your computer's video ports. You can use the Video Monitor program to display video images in a window and to capture or print one frame of a video image. For basic instructions for using Video Monitor, pull down the Guide (question mark) menu and choose Macintosh Guide. You'll find information about Video Monitor in the Macintosh Guide index. The Video Monitor Read Me file inside the Video Monitor folder contains additional information.

FusionRecorder

This audio and video capture program records and plays high-quality sound and, if you have an AV-equipped Power Macintosh, QuickTime video movies. For instructions, see the FusionRecorder Read Me files.

HyperCard Player

HyperCard Player is an application program that lets you balance your checkbook, play games, organize addresses, and accomplish many other tasks. Read "What is HyperCard?" in the HyperCard Player 2.2 folder for more information.

QuickTime

QuickTime lets you add video, animation, sound, and other effects to your documents. See the QuickTime Read Me file for more information.

Graphing Calculator

This is a handy calculator program which demonstrates your Power Macintosh computer's speed, and shows how speed can improve a Macintosh application program's performance. For more information about this program, start the program and select Help from the Equation menu. You can also view a self-running demonstration program by selecting Full Demo from the Demo menu.

Text-to-Speech

A feature that allows your Macintosh to speak to you. See About Text-to-Speech in the Text-to-Speech folder for information on trying the text-to-speech feature.

PlainTalk for Power Macintosh

This software offers you speech recognition and text-to-speech. With speech recognition, you can speak standard Macintosh menu commands out loud, and create your own speech-activated commands. IMPORTANT: You must have an Apple AudioVision Monitor or a PlainTalk Microphone to use speech recognition. Text-to-speech lets your Macintosh speak to you. For more information, see the "About Text-to-Speech" file in the Text-to-Speech folder. In order to install QuicKeys¬, you must be booted off the hard drive rather than the CD.

PowerTalk Extras Folder

Apple's PowerTalk Direct Dial-up Mail lets you exchange mail with PowerTalk users everywhere?not just on your computer network. If you have a modem and a telephone line, you can connect with other PowerTalk users and exchange mail and documents.

You can use PowerTalk's universal mailbox for sending to and receiving from a variety of sources, including CompuServe, faxes, the Internet, pagers, and QuickMail. When installed on your Macintosh or Powerbook computer, a personal gateway provides direct access to a specific communication service.

For more information, open the Apple PowerTalk Tour folder and double-click the PowerTalk Tour icon.

QuickDraw GX Extras Folder

QuickDraw GX Print Extensions by Peirce Software, Inc. enhance the QuickDraw GX printing capabilities. With these print extensions you can print watermarks in the background of each page, and print 2,3,4, 6, 9, or 16 pages on each printed page. For more information, see the "Peirce Instructions & Info" file in the Peirce Watermark & Paper Saver folder.

Linotype-Hell's QuickDraw GX Type Expo is a tour of new features found in QuickDraw GX fonts. See "About the GX Type Expo" in the GX Type Expo folder for more information.

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(8/11/94)

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Power Macintosh CD: v1.0, 2.0 Extras Folder Read Me

The following article is the Read Me document for the Apple Extras folder on the Power Macintosh CD--versions 1.0 and 2.0.

It is different than the Read Me file found in the Extras folder on the Apple Macintosh CD--versions 1.0, 1.0.1, and 2.0 (for that Read Me file see TIL Article: "Apple Macintosh CD: v1.0,1.0.1,2.0 Extras Folder Read Me").
This article has been archived and is no longer updated by Apple.
The Apple Extras folder contains several application programs and control panels for you to try on your Power Macintosh. Each program is in its own folder, along with a document that explains how to use the program.

* AppleScript: Use AppleScript to automate any actions you do repeatedly on your computer-like opening a document, reformatting it, and printing it out. AppleScript can record your actions so you can do them in one step next time, using a single keyboard command. AppleScript is explained in detail in "Getting Started With AppleScript," which you'll find in the AppleScript folder. (You'll use DocViewer to view "Getting Started With AppleScript." DocViewer is explained at the end of this document.)

The version of AppleScript that you received with your computer includes AppleScript basics. With this version, you can create scripts to control any scriptable application programs you have installed on your Macintosh. If you want additional scripting options, see an Apple-authorized dealer for information about the AppleScript Scripter's Kit. The Scripter's Kit contains additional AppleScript software and manuals. (Macintosh software developers may also wish to order the "AppleScript Developer's Toolkit 1.1," available from APDA.)

* CPU Energy Saver (for Power Macintosh 7100/66, 7100/66AV, 8100/80, and 8100/80AV computers): You can set the computer to turn on or off automatically, using the CPU Energy Saver control panel. The CPU Energy Saver Read Me file explains how to install and use this control panel. IMPORTANT: CPU Energy Saver does not work on Power Macintosh 6100/60 or 6100/60AV computers.

* Energy Saver (for monitors): This control panel lets you set your monitor to go into low power mode after your computer has been idle for a specified amount of time. The Energy Saver Read Me file explains how to install and use this control panel.

* FusionRecorder: This audio and video capture program records and plays high-quality sound and, if you have an AV-equipped Power Macintosh, QuickTime video movies. For instructions, see the FusionRecorder Read Me file. (You'll use DocViewer to view the FusionRecorder Read Me file. DocViewer is explained at the end of this document.)

* LaserWriter 8.1.1: The LaserWriter 8.1.1 program is special software (called a "driver") that your Macintosh uses when you print documents. To install LaserWriter 8.1.1, follow the instructions in the LaserWriter 8.1.1 Read Me file.

* Graphing Calculator: This program demonstrates your Power Macintosh computer's speed, and shows how speed can improve a Macintosh application program's performance. For more information about this program, start the program and select Help from the Equation menu. You can also view a self-running demonstration program by selecting Full Demo from the Demo menu.

* Video Monitor: To use the Video Monitor program, you must have a Power Macintosh 6100/60AV, 7100/66AV, or 8100/80AV; and you must have video equipment connected to your computer's video ports. You can use the Video Monitor program to display video images in a window and to capture or print one frame of a video image. Basic instructions for using Video Monitor are provided in the Getting Started manual that came with your computer. The Video Monitor Read Me file contains additional information.

* DocViewer: To view the AppleScript Guide or the FusionRecorder Read Me file, you use a program called DocViewer. DocViewer displays files for you to read on the screen. You can also use it to search for specific topics in files, and print out pages of information. The DocViewer Read Me file explains how to use DocViewer.

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Macintosh Plus: Transferring Data To And From An Apple IIc

This article has been archived and is no longer updated by Apple.

Use the Apple IIc Peripheral - 8 Cable to connect the Apple IIc to the Macintosh Plus. You can transfer ASCII data successfully with Access II and MacTerminal or another compatible communications program.

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Apple Media Conference: Using TCP/IP w/ PowerTalk Installed 8/95

I cannot use TCP/IP addresses in Apple Media Conference with PowerTalk Collaboration Services activated. I have to open the PowerTalk Setup control panel deactivate Collaboration Services, then restart my Macintosh. Is there any way to use both PowerTalk and TCP/IP from within Apple Media Conference?

This article has been archived and is no longer updated by Apple.

Although you can select TCP/IP as the default for watching or broadcasting, this preference is not used when PowerTalk Collaboration Services is activated. With PowerTalk active, the PowerTalk dialog always appears when trying to watch or broadcast a QuickTime Conference. To enter TCP/IP addresses instead of using the PowerTalk dialog, hold down the OPTION key when choosing Broadcast or Watch from the File menu.

Article Change History:
15 Aug 1995 - Changed access information.

Support Information Services
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DOS Compatibility Card: Playing Audio CD-ROMs

I have a Power Macintosh 6100 DOS Compatible with a built-in AppleCD 300i plus CD-ROM drive. Can I play audio Compact Discs from within Microsoft Windows?
This article has been archived and is no longer updated by Apple.
With the DOS Compatibility Card in the Power Macintosh 6100 series, Macintosh Performa 6100 series, or Macintosh 630 series, you have the ability to play audio Compact Discs in Microsoft Windows if you are using an AppleCD 150, AppleCD 300, or AppleCD 300 Plus CD-ROM drive. Before you can play an audio CD, however you must configure Windows to play them.

Another option is to the Mac OS to play Audio CD-ROM discs using the AppleCD Audio Player. When you switch back to MS-DOS or Windows environment, the Audio CD-ROM will continue playing.

Configuring Windows For Audio CD-ROM Discs

1. Open the Main group.
2. Open the Control Panel and Double-Click the Drivers icon.
3. Click on Add
4. Select [MCI] CD Audio
5. Insert Windows disk 5 and type in `A:\\` in the dialog box that appears.
6. Click the 'OK' button to install the driver from the floppy disk. A dialog appears informing you that one CD-ROM drive was detected.
7. Click the 'OK' button, and close all open windows except the Program Manager window.

Microsoft Windows is now configured to play Audio Compact Discs.

Playing Audio CD-ROM Discs

1. Open the Accessories group.
2. Double-click on the Media Player icon.
3. Insert an Audio CD into the CD-ROM drive.
4. Choose CD Audio from the Device menu.
5. Click the Play button.

The following computers are in the Macintosh 630 family: Performa 630, Performa 635, Performa 636, Performa 637, Performa 638, Performa 640, LC 630, and Quadra 630.

The following computers are in the Macintosh Performa 6100 series: Performa 6110, Performa 6112, Performa 6115, Performa 6117, and Performa 6118.
Published Date: Feb 19, 2012

Macintosh: Startup from CD-ROM & Hard Disk Does Not Mount (7/95)

When I start up my Macintosh computer from a CD-ROM disc while pressing Command-Option-Shift-Delete, my hard disk fails to mount on the desktop along with the CD-ROM volume.

This article has been archived and is no longer updated by Apple.
The failure of the hard disk to mount in this circumstance can be caused by a number of specific factors, such as the ROMs of the particular Macintosh computer being used and the system software version on the CD-ROM. In general, however, this occurs by pressing Command-Option-Shift-Delete longer than necessary. When held down for an extended time, these keys may be interpreted differently during startup, which can produce undesired effects such as the hard disk not mounting.

The timing of this key sequence is essential in properly mounting the disk drive. There is no need to keep the keys pressed once the "happy Macintosh" appears on the screen. At this point, the startup volume has already been chosen and continuing to keep the keys held down past this point may cause further undesired effects.

Support Information Services
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DOS Compatibility Card: Maximum Amount of Shared RAM

I have a Power Macintosh DOS Compatibility Card, and I am sharing memory from the Macintosh logic board. How does the PC Setup control panel determine which memory choices to make available?
This article has been archived and is no longer updated by Apple.
Memory allocated in the PC Setup Control Panel is shared in the following increments: 2, 4, 8, 16, 32, and 64 MB. The PC Setup control panel allows you to choose any one of these settings with the following constraints:

- The DOS Compatibility Card can only share up to half of the Macintosh logic board's RAM.
- Based on the one half constraint and the amount of RAM available, the PC Setup offers the next lowest increment.
- Memory sharing only works if no SIMM is installed on the DOS Compatibility Card .

Examples

RAM Installed on Macintosh Logic Board	PC Setup control Panel Offers
8 MB	2 and 4 MB
16 MB	2, 4, and 8 MB
24 MB	2, 4, and 8 MB
40 MB	2, 4, 8, and 16 MB*

Note: one half of 40 MB is 20 MB and the next lowest increment is 16 MB.
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Power Macintosh 9500: Problems With ATI Display Card (11/95)

I have a Power Macintosh 9500/120 computer that came with the ATI display card. I have two monitors, a Sony GDM-1932, and a Radius Pressview 21SR. I cannot get either of these monitors to synchronize correctly. Radius has explained that their monitor uses Sync on green. The Sony monitor will sync to other resolutions, but not the 1280x1024.

Is there a difference in the sense codes for this resolution? Is there a way to get the Radius monitor to work with the ATI display card?

I have contacted a few manufacturers of display adapters for Macintosh computers, but they have not been able to help me. They claim the 1280x1024 resolution has not been supported on any Apple Macintosh Computers in the past.

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The ATI display card does not support sync on green, this is why the Radius monitor does not work properly. However, the workaround section of this article provides some level of support for both your monitors. You also need to purchase a BNC to VGA cable for the Radius monitor before you can use the workaround.

Normally, on a Power Macintosh 9500 with the standard display card and a non-Apple display (such as a Sony GDM-1932), you would also need a multiple scan display. This display would have to be able to synchronize to 640 x 480 at 60Hz to set up a higher resolution, such as 1024 x 768. Once the higher resolution was set, you could disconnect the multiscan display and connect the non-Apple display. Then the computer would start using the new video scan rate each time the computer is powered on.

This is because the computer uses sense codes to detect the type of monitor that is connected to it. The computer only starts up at 1280 x 1024 scan rates after you set the Monitors control panel and the settings are stored in PRAM. With no setup information in PRAM, the computer starts at the best scan rate and resolution for the detected display (usually 640 x 480). If you do not have an Apple display to use for setup, you must use a workaround to set the Monitors control panel to the 60Hz scan rate.

Workaround
==========

Step 1

Using a display adaptor, set the display type to VGA/SVGA. (This is 'G' for the video adaptor from Enhance Cable Technology.) Starting up the Macintosh computer with the display adaptor attached between the display and the Macintosh video port starts by default at 640x480 at 60Hz resolution.

Step 2

Open the Monitors control panel. Normally, the control panel Options button only allows safe operating resolutions.

Step 3

Hold down the Option key on the keyboard when you select the Options button in the Monitors control panel. The options panel also shows unprotected scan rates that the video card supports.

Step 4

You can select the 1280x1024 @ 60Hz scan rate from the list. The video scan rate changes, depending on whether you have selected Rearrange on Close or Rearrange on Restart on the bottom of the Monitors control panel window.

Step 5

If you have selected Rearrange on Close and you select a scan rate currently not supported by an Apple display, you are prompted with a dialog box that asks if the monitor display is correct. The dialog only appears if you select an unprotected scan rate.

If you do not select the OK button within about 10 seconds, the system assumes that you do not have a properly synchronized display and reverts back to the previous scan rate.

Following the above procedure, you should be able to set your display to the 1280 x 1024 at 60Hz resolution and scan rate. Please contact

Enhance Cable Technology for additional information.

NOTE:
This article provides some information about a non-Apple product. Apple Computer, Inc. is not responsible for content referring to that product. Please contact the vendor, Enhance Cable Technology, for additional information.

The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.

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Volume II, Issue 9, Page 12

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17 Nov 1995 - Reviewed.
26 Sep 1995 - Added Info Alley information; updated article.
24 Aug 1995 - Added information on sync on green.

Support Information Services
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Performa with Backup CD: Need to Back Up Hard Drive? (9/95)

My Macintosh Performa computer came with a backup CD with all the software already on it. Do I still have to run Apple Backup to copy my software to floppy disks?

This article has been archived and is no longer updated by Apple.
Everything that came pre-loaded on your Performa computer is included on the Macintosh Performa CD. It is not necessary for you to run the Apple Backup program to back up your pre-loaded software. However, you should still back up your personal files and any other software you add later. This can be done by simply copying files to disks or if they are too large to fit in 1.44 MB segments, use a third party backup utility to backup only designated or modified files.

If at some time you remove software from your computer, you will need to run the Apple Restore program and restore the software. The Apple Restore program includes options for restoring just your System software or all the extra software that came pre-loaded on your hard drive. This will restore all the programs, but will replace them so that there are no duplicate copies on your hard drive. You will not lose any personal files.

Computers that include the Performa Backup CD are:

Macintosh Performa 550 (later versions)
Macintosh Performa 575, 577, 578
Macintosh Performa 630CD, 635CD, 636CD, 637CD, 638CD
Macintosh Performa 5200 series
Macintosh Performa 6110CD, 6112CD, 6115CD, 6116CD, 6118CD, 6200CD, 6216CD, 6218CD, 6220CD, 6230CD

Article Change History:
08 Sep 1995 - Added additional Performa models that include the CD.

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ProDOS Access Unit: Volume not found error

The original release of SANE uses an early version of the ProDOS Access Unit. This version of the Access Unit checks the ProDOS disk for the version of ProDOS that formatted the disk, accepting versions of ProDOS equal to 1.0 or less. If the version on the ProDOS disk is greater than 1.0, such as 1.1.1, the Access Unit returns a 'volume not found' error.
This article has been archived and is no longer updated by Apple.
For example, if you initialize a ProDOS disk using ProDOS V1.1.1 and then use SANE2 disk to build a custom FP library for ProDOS, the machine alternately:

1. reboots during the build
2. tries to access the disk after which the Access Unit returns a 'volume not found' error.

Workarounds

1. format the ProDOS disk from ProDOS 1.0

or

2. update to the latest version of the ProDOS Access Unit, available on SANE2 through Media Exchange.

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AppleShare for Windows: Install Issue w/Ethernet Pro NIC

I have an Ethernet Pro Network Interface Card and am trying to run Appleshare for Windows. Whenever I launch Appleshare for Windows, I get the message, "AppleTalk Driver was not loaded. Please reinstall AppleShare".
This article has been archived and is no longer updated by Apple.
If the workstation has an Intel Ethernet Pro Network Interface card installed when the Appleshare for Windows installation takes place, the Installer omits a necessary parameter for protocol AARP.

You must edit the NET.CFG file and change the line:

PROTOCOL AARP ETHERNET_SNAP

to this:

PROTOCOL AARP 80F3 ETHERNET_SNAP
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Japanese Language Kit: Subscript Katakana Characters

The Japanese written language uses Katakana characters to phonetically spell out many American English words for which there is no Japanese equivalent. Neither Kanji nor Hiragana are used for phonetically translated American English words.

Is there a way to use the Japanese Language Kit to input a subscript vowel behind a Katakana character?

For example, the word 'party' is written phonetically 'pa-tei'. Te is a Katakana character that needs the subscript vowel 'i' behind it to achieve the correct pronunciation.
This article has been archived and is no longer updated by Apple.
As of the date of this article, the Japanese Language Kit does not have the capability to subscript a vowel behind a Katakana character.

You will need to use a word processor application to subscript the character or reduce the size of the font to get the desired effect.
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LaserWriter 4/600 PS: Maximum Printable Area

What are the maximum printable areas for Letter and Legal size paper on the LaserWriter 4/600 PS? Is additional memory required to achieve these results?

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The maximum margins for Letter and Legal paper on the LaserWriter 4/600 are:

	Letter	Legal/US Legal
Left	.10	.10
Right	.19	.19
Top	.17	.15
Bottom	.13	.13
Max Imageable Area	8.21 x 10.7	8.21 x 13.72

The results are posted in fractions of an inch.

The Laserwriter 4/600 PS does not require additional memory to perform edge-to-edge printing because of the use of Adobe memory booster compression technology which allows printing of complex pages with less memory.

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LaserWriter 4/600 PS: Advantages of Increasing Memory (11/95)

What are the advantages to adding additional memory to the LaserWriter 4/600?

This article has been archived and is no longer updated by Apple.
Adding memory to the Laserwriter 4/600 has the following advantages:

* More fonts can be downloaded at one time

* More space is available to store the calculations needed for large or complex images

* More space is available for font caching, which maintains recently used fonts in memory for faster access.

Support Information Services
Published Date: Feb 19, 2012

Power Macintosh 9500:Incompatible w/Energy Saver Software

Why can I not get the Ecologic module in Berkley System's After Dark 3.0 to work with my Power Macintosh 9500 computer?
This article has been archived and is no longer updated by Apple.
This module in After Dark relies on Apple's Energy Saver software. The Energy Saver software in System 7.5.2 is incompatible with the Power Macintosh 9500 series of computers.

Ecologic module of After Dark 3.0 is compatible with the Energy Saver software in System 7.5.3 or later. You should update your system software with system software updates which can be found at Apple Computer's online software update locations.

This article can help you locate the software update mentioned here:

- Article 14724: "**Where To Find Apple Software Updates**" - Lists online services for free Apple software updates.

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Power Macintosh: Interleaving & DIMM Population Guidelines

How do I populate DIMMs in my PCI-based Power Macintosh Computer to maximize performance using memory interleaving? If I have an odd number of DIMMS, where should I place the odd DIMM to get the best performance from memory interleaving?
This article has been archived and is no longer updated by Apple.
Memory interleaving is accomplished by installing two DIMMs in corresponding slots. That is, one DIMM in A1, and another DIMM in B1 will set the machine up to use memory interleaving.

If you have an odd number of DIMMs, the matched pairs will run the memory interleaved. The odd DIMM will then run non-interleaved. For the interleaving to be most effective, the DIMMs must be the same size and speed, (usually, should be of the same manufacturer, but not necessary). In reference to the memory addressing, the A1/B1 will be the lower addresses, going up to the A6/B6 being the highest address.

In relation to performance, it really does not matter where the DIMMs are placed. The software is intelligent enough to figure out which banks are being used, and is able to "stitch" the memory together as required.

Note: Memory interleaving is only available in the Power Macintosh 7500, 7600, 8500, and 9500 series computers. Other Power Macintosh computers do not support interleaving and no performance gain will be realized by populating memory in pairs.
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PowerBook 500 Series: Slow External Mouse (9/95)

When I connect an external mouse to my PowerBook 540c the mouse tracks very slowly. When I open the Mouse control panel is shows it is set to Fast. Sometimes when I select Fast in the Mouse control panel and it will track fast. I usually plug my external mouse in when I'm tired of using the built in Trackpad. Why does this happen?

This article has been archived and is no longer updated by Apple.
It is very important that you do not plug the mouse into the ADB port when the computer is "powered on". This may damage the ADB port or mouse. However, it is safe to plug in the ADB device when the Macintosh PowerBook 540c is in the sleep mode.

Plugging in a mouse device on any Macintosh computer while the unit is powered on can result in slow mouse (cursor) movement and possible damage to the ADB port. In addition, the Macintosh PowerBook 500 series computers have two control panels influencing the speed of movement of the cursor: the Trackpad and Mouse. Their settings are related to each other. When you make a change in the Trackpad control panel, the Mouse control Panel also changes.

Check to make sure the Trackpad and Mouse control panels are set to the same speed. Open the Mouse control panel and click on the speed you want, even if the speed is already selected. By clicking on the speed you will be sure to save that setting. Do the same for the Trackpad control panel.

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26 Sep 1995 - Added Info Alley information; updated article.

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Color LaserWriter 12/600 PS: Intermittent Printing

The technical specifications for the Color LaserWriter 12/600 PS listed in Appendix A of the user's manual state that the photsensitive drum life expectancy is:

- 40,000 pages in black and white or 10,000 pages in color, continuous printing.
- 13,000 pages in black and white or 6,500 pages in color, intermittent printing.

What is intermittent printing?
This article has been archived and is no longer updated by Apple.
Intermittent printing occurs when the printer receives a job after it has entered sleep mode. When the printer wakes from sleep mode, it performs a warm-up sequence. During the warm up sequence, the transfer drum and photosensitive drum are both rotated several times creating friction between the two. This friction causes wear on the photosensitive material causing the photosensitive drum to eventually wear out. Thus, life expectancy of the photosensitive drum is determined by the thickness of the photosensitive material, which is reduced very slightly every time the printer warms up.

One method for monitoring the effectiveness of the photoconductor is to print the startup and demonstration pages after a new photoconductor is installed and record the current date and page count on the top of the page. Compare the original print samples with those printed later on to determine whether the photoconductor should be replaced.
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Macintosh Performa 6200 Series: Description

This article provides a description of the Macintosh Performa 6200 series computers.

The following computers are in the Macintosh Performa 6200 series: Performa 6200, Performa 6216, Performa 6218, Performa 6220, and Performa 6230.
This article has been archived and is no longer updated by Apple.

Overview

The Apple Macintosh Performa 6200CD computer brings multimedia to life in a modular system that is easy to set up. With its PowerPC processor technology, it offers high performance now, yet can grow with your multimedia and general computing needs for years to come.

Packed in one box are the computer (with Apple's System 7.5 operating software already loaded), a color display, a keyboard, and a mouse. In addition, the Performa 6200CD comes with a variety of home, education, and home-business programs, plus CD multimedia titles?just a sampling of the thousands of Macintosh applications the computer can run. Like all Macintosh computers, the Performa 6200CD is very easy to set up, learn, and use.

This affordable system includes features that are expensive add-ons with other computers. A quadruple-speed CD-ROM drive accesses CD-based data quickly. Stereo 16-bit sound provides high-quality playback from audio CDs. An internal 14.4 Kbps fax send/receive modem also functions as a speakerphone and digital answering machine. An audio-input port lets you record your own sounds. And AppleTalk networking gives you easy access to printers, electronic-mail servers, and file servers.

Every Performa 6200CD system also offers advanced multimedia expansion options. With a video-in card, you can connect to an external video source such as a VCR or cam-corder to capture video images and use them in your Macintosh applications. A video-out interface box lets you connect the computer to a large-screen TV for presentations. The optional internal TV tuner shows television channels in a window on your computer's display. An MPEG (Motion Picture Experts Group) provides full-motion, VHS quality playback from CD-ROM drives.

The Macintosh Performa 6200CD computer, with its wealth of ready-to-use features and software, adds up to an expandable, flexible multimedia system.

Power and speed

- PowerPC 603 RISC microprocessor running at 75 MHz
- 256K Level 2 cache on 64-bit PPC bus

Memory

- 8 MB or 16 MB RAM expandable up to 64 MB

Display

- 1 MB DRAM video frame buffer
- 16-bit color at 640x480, 8-bit color at 800x600, 832x624

Expansion

- Comes with built-in ports for hard drives, printers, scanners, and modems
- Supports most processor-direct cards compatible with Macintosh Quadra 605 and Macintosh LC series of computers via an internal expansion slot
- Includes a communications slot with a 14.4 Kbps fax send/receive Global Village IIv modem installed
- Has video slot for NTSC, PAL, and SECAM video-input card
- Includes expansion bay for television tuner
- External drop box provides expansion for NTSC or PAL video output

Audio System

- Stereo 16-bit sound capable of driving stereo headphones or other stereo equipment through the sound jacks
- Stereo 16-bit CD playback
- One sound-in port
- Front and rear headphone jacks

System Software

- Mac OS System 7.5.1 with Apple Guide, AppleScript and PC Exchange included

Third-party software bundles

Entire 6200CD series

- At Ease
- MacLinkPlus/Easy Open Translators
- ClarisWorks
- Widget Workshop
- Quicken
- ClickArt Performa Collection
- Newton Tour
- MacTess Home Learning Software
- WealthBuilder
- MacGallery Clip Art
- Mangia
- American Heritage Dictionary
- Virex
- Power Pete
- Global Fax software
- Megaphone for Performa
- Global Village Tour

Performa 6200CD & 6218CD

- The Writing Center
- Fine Artist
- Expresso

Performa 6216CD

- Expresso

Performa 6220CD

- Fine Artist

Performa 6230CD

- The Writing Center
- Fine Artist
- Expresso
- Personal Assist

CD bundles

Entire 6200CD series

- 1995 Grolier's Multimedia Encyclopedia
- Smithsonian's America
- Family Doctor

Performa 6200CD

- Thinkin Things 2
- Professor Piccolo
- Club KidSoft
- 3D World Atlas
- My First Incredible Amazing Dictionary

Performa 6216CD

- Time Almanac Reference Edition
- Trivial Pursuit
- MusicNet CD
- Microsoft Bookshelf

Performa 6218CD

- Trivial Pursuit
- The Even More! Incredible Machine
- Professor Piccolo
- Felix The Cat CD

- Club KidSoft CD
- CardShop Plus/StickerShop Plus
- 3D World Atlas
- Earth Explorer
- The Way Things Work
- Time Almanac Reference Edition
- My First Incredible Amazing Dictionary
- Hometime: Weekend Home Projects
- Sharks!
- Thinkin Things 2

Performa 6220CD

- Avid VideoShop
- Professor Piccolo
- Club KidSoft CD
- 3D World Atlas
- Thinkin Things 2

Performa 6230CD

- Thinkin Things 2
- Professor Piccolo
- My First Incredible Amazing Dictionary
- 3D World Atlas
- Club KidSoft CD
- Ocean Life: Hawaiian Islands (MPEG)
- Time Almanec (MPEG)

Configurations and Ordering Information

Macintosh Performa 6200CD 8/1 GB

- Macintosh Performa 6200 computer with 8 MB of RAM, 1 MB of video memory, built-in AppleCD 600i internal quadruple speed CD-ROM player, 1.4 MB Apple SuperDrive floppy disk drive, internal 1 GB IDE hard disk drive
- Apple Multiple Scan 15 Display
- Global Village internal 14.4 Kbps fax/send modem
- Bundled third-party software and CDs
- AppleDesign Keyboard
- Order No. M4100LL/A

Macintosh Performa 6216CD 8/1 GB

- Macintosh Performa 6216 computer with 8 MB of RAM, 1 MB of video memory, built-in AppleCD 600i internal quadruple speed CD-ROM player, 1.4 MB Apple SuperDrive floppy disk drive, internal 1 GB IDE hard disk drive
- Global Village internal 14.4 Kbps fax/send modem
- Bundled third-party software and CDs
- AppleDesign Keyboard
- Order No. M4105LL/A

Macintosh Performa 6218CD 16/1 GB

- Macintosh Performa 6218 computer with 16 MB of RAM, 1 MB of video memory, built-in AppleCD 600i internal quadruple speed CD-ROM player, 1.4 MB Apple SuperDrive floppy disk drive, internal 1 GB IDE hard disk drive
- Apple Multiple Scan 15 Display
- Global Village internal 14.4 Kbps fax/send modem
- Bundled third-party software and CDs
- AppleDesign Keyboard
- Order No. M4102LL/A

Macintosh Performa 6220CD 16/1 GB

- Macintosh Performa 6220 computer with 16 MB of RAM, 1 MB of video memory, built-in AppleCD 600i internal quadruple speed CD-ROM player, 1.4 MB Apple SuperDrive floppy disk drive, internal 1 GB IDE hard disk drive
- Video In and TV Tuner cards installed
- Global Village internal 14.4 Kbps fax/send modem
- Bundled third-party software and CDs
- AppleDesign Keyboard

- Order No. M4104LL/A

Macintosh Performa 6230CD 16/1 GB

- Macintosh Performa 6230 computer with 16 MB of RAM, 1 MB of video memory, built-in AppleCD 600i internal quadruple speed CD-ROM player, 1.4 MB Apple SuperDrive floppy disk drive, internal 1 GB IDE hard disk drive
- MPEG card installed
- Video In card installed
- Global Village internal 14.4 Kbps fax/send modem
- Bundled third-party software and CDs
- AppleDesign Keyboard
- Order No. M4103LL/A

Optional Enhancements

- Apple Video System Order No. M2894LL/C
- Apple TV/Video System Order No. M2896LL/C
- Apple Presentation System Order No. M2895LL/A
- Apple Ethernet CS Thin Coax Card Order No. M2708ZLL/A
- Apple Ethernet CS Twisted-Pair Card Order No. M3065Z/A
- Apple Ethernet CS AAUI Card Order No. M3066Z/A
- Apple MPEG Media System Order No. M4243LL/A

Note: Product specifications are subject to change. Check with an Apple reseller for the most current information about product specifications and configurations.

Published Date: Feb 19, 2012

Open Transport: Duplicate IP Address on Network

I have a new Power Macintosh 9500 and I have been unsuccessful in determining an IP address for the Power Macintosh 9500. I used a piece of software that allows me to assign an IP address to machines on my network to paste an address from a Centris 610 to my Power Macintosh 9500.

I have been successful in downloading files from the Internet to both machines with the same address on the same sub-node simultaneously.

How is this possible?
This article has been archived and is no longer updated by Apple.
You should never have two machines on the same network with the same IP address. You may encounter trouble with lost packets and dropped connections later on if you continue to use your machine in this configuration.

Normally, if any computer has the same IP address as a host on the network the host will shut down the connection. The first release of Open Transport in System 7.5.2 did not check to see if there was a duplicate IP address and therefore would not present you with a warning or dialog that the condition existed.

This issue has been resolved. You should update to Open Transport 1.1 or newer.
Published Date: Feb 19, 2012

StyleWriter 1200: Freezes When Printing Arabic or Hebrew

I have been using Macintosh computers with both U.S. System 7.1 and System 7.5 and the resources for Arabic and Hebrew for some time without a problem. After purchasing and installing an Apple StyleWriter 1200, whenever I print, the computer seems to hang several seconds after the print dialog closes. It occurs even when I try "Print Window" in System 7.1 or "Print Desktop" in System 7.5. Is there something wrong with my printer?

This article has been archived and is no longer updated by Apple.

If you are using a StyleWriter 1200 and WorldScript I with Arabic or Hebrew resources, you may notice the following behavior: Whenever you attempt to print, the computer seems to hang for several seconds after the print dialog closes. This happens when you try to Print Window (in System 7.1) or Print Desktop (in System 7.5).

This is caused by a known conflict between the WorldScript I software and StyleWriter 1200 v.2.0 software. Printing with the StyleWriter 1200 v2.0 printer driver freezes your 1-byte international system a few seconds after the print dialog box closes.

Your system becomes a 1-byte international system when you install the secondary language resources. These resources include the WorldScript I software. The system does not freeze when printing if WorldScript I is not installed, but then you will not be able to see or print Arabic or Hebrew properly. Only the Arabic and Hebrew Language Kits are affected by this conflict.

The behavior was fixed in the StyleWriter 1200 v2.1 and also in the Color StyleWriter 2400 v2.1 software which are both available from online services.

These articles can help you locate the software update mentioned here:

- Article 14724: "**Where To Find Apple Software Updates**" - Lists online services for free Apple software updates.

Published Date: Feb 19, 2012

System 7.5: Easy Open, Translators and Desktop Rebuild

I am running At Ease 3.0 and System 7.5.1 on my Macintosh LC 575. I recently upgraded to ClarisWorks 4.0. I have a WriteNow file that ClarisWorks 3.0 used to translate perfectly whenever I double-clicked the file. Now when I double-click a WriteNow, or any other file that ClarisWorks previously was able to translate, I get a message stating that ClarisWorks could not find the appropriate translators. When I look in my System Folder, all the translator files are in the ClarisWorks Translators folder within the Claris folder.
This article has been archived and is no longer updated by Apple.
The issue you are experiencing here is not related to At Ease or the newer version of ClarisWorks. You can test this by turning off At Ease using the At Ease Setup application and restarting. If the same failure occurs, then you have ruled out At Ease interfering with ClarisWorks' translators.

Since the ClarisWorks Translators folder has all the necessary translation files available, the issue is related to access and interaction with those files.

System 7.5 includes a control panel called Macintosh Easy Open (MEO), which builds a table of file types, applications, and the translators available to those applications that give them the ability to open different file types. When you double-click a file, the Finder checks with MEO to see what application it should use to to launch, or perhaps translate, a file.

Since you installed the new version of ClarisWorks, MEO now needs to update this table. This can be done by rebuilding the Desktop file of your Macintosh in the following way:

1. Make sure you have turned off At Ease using the At Ease Setup program.
2. Restart your Macintosh and hold down the Space Bar until the Extensions Manager control panel opens.
3. Use the pull down menu in the Extensions Manager to choose "All Off"
4. Scroll down to the Control Panels section of the Extensions Manager window and click the Macintosh Easy Open item to put a check mark by it.
5. Close the Extensions Manager window by clicking on the close box in the upper left corner.
6. Immediately hold down the Command (Apple) and Option keys until you see the dialog box, "Are you sure you want to rebuild the desktop file?"
7. Click Okay.

After the desktop rebuilds you can test to see if you have been successful by double clicking the file in question. Once you have determined everything is working normally, you can go back to the Extensions Manager and turn on all the extensions you usually use including At Ease. You need to restart to have the reactivated extensions load.

It is a good idea to rebuild the desktop file this way after installing any new software.
Published Date: Feb 19, 2012

MAE 2.0: Serial Port Commtoolbox Not Supported (7/95)

I am running the Macintosh Application Environment (MAE) 2.0 on a Sun Sparcstation (Solaris). When I try to run the Newton Connection Kit via the serial port I get a "Commtoolbox cannot be found" error.

This article has been archived and is no longer updated by Apple.
The current version of MAE 2.0 does not support serial port communication on the Unix workstation (Sun or HP). The commtoolbox or Newton Connection/Tool Kit were not fully tested to work in MAE.

Serial port support has been on the feature request list of future MAE releases.

Support Information Services
Published Date: Feb 19, 2012

Power Macintosh: Native Excel Libraries Not Loading (7/95)

When I try to launch the PowerPC native version of Excel, the Power Macintosh displays an error message stating that a certain library cannot be found. All the Microsoft files are installed but I still get the message. What is wrong?

This article has been archived and is no longer updated by Apple.
The error message is somewhat misleading because the problem Microsoft Excel is having when launching is due to running out of RAM. On a 16 MB Power Macintosh running System 7.5 and Excel for Power Macintosh, there is not enough RAM to load all of the libraries that Excel requires. When the Code Fragment Manager tries to load the libraries, the load fails due to lack of RAM, and the Code Fragment Manager reports the library cannot be found.

One solution is to turn on Virtual Memory (VM) in the Memory control panel to at least 17 MB total. The Get Info window for Excel states the application requires 9300 KB RAM when not using VM. However, the libraries make up the other 4 MB of the RAM requirement when not using VM. Virtual memory starts file-mapping, which lowers the memory requirement for Excel from about 13 MB to about 4 MB.

Another solution is to add more physical RAM to the Power Macintosh.

Article Change History:
24 Jul 1995 - Made minor grammatical changes.

Support Information Services
Published Date: Feb 19, 2012

Apple IIc Plus: How It‘s Different From The Apple IIc

Listed below are some of the new hardware changes in the Apple IIc Plus computer.
This article has been archived and is no longer updated by Apple.
Hardware Changes:

- 800K Internal Drive
- Accelleration Circuit
- Built-in Power Supply
- Other Changes

800K Internal Drive

Support for the 800K internal drive is accomplished by a custom chip and dedicated RAM which interfaces with the IWM (intergrated Woz machine-disk controller chip) and the Apple 3.5" disk drive. The custom gate array is called the MIG (magic interface glue). A RAM buffer and the MIG are necessary to replace the circuit that is contained in the UniDisk 3.5 to provide support for the Apple 3.5" disk drive.

An additional 8K of ROM code was necessary to support the Apple 3.5" disk drive. The ROM does not provide support for copy-protection on the UniDisk 3.5" disk drive. There may be applications that used copy protection that worked on the UniDisk 3.5 but will fail on the Apple IIc Plus due to use of the Apple 3.5" disk drive.

Accelleration Circuit

New hardware has been added to the Apple IIc Plus to allow operation up to 4MHz. This circuit includes two 8K of static RAMs, a 65C02 running at 4MHz, and an 84-pin custom gate array to control access between the static RAM and the rest of the computer. The static RAM acts as a data cache for the 4MHz 65C02, and is controlled by the gate array.

Most programs run the same routines repeatedly. Using a cache is an ideal way of allowing these routines to be run faster, while letting the rest of the Apple IIc Plus continue at the normal 1MHz rate.

The gate array is the chip that enables the fast cache RAM method speed-up of the Apple IIc Plus computer. This chip is specific to the 65C02 and the Apple IIc Plus memory map. On one side of the gate array sits the 65C02 (4MHz) and two SRAMs for data cache. On the other side of the gate array is the rest of the Apple IIc Plus (video, I/O, memory, disk drive, ROM, etc.). The gate array knows which parts of Apple memory may be cached and which may not be (e.g. I/O), and keeps track of which bank of switched memory areas are switched in.

The cache RAM is transparent and not directly addressable. Data that fills the cache RAM can come from most areas of memory; main RAM, aux RAM, ROM, Language card RAM.

Built-in Power Supply

The Apple IIc Plus uses a built-in power supply to operate the computer. A battery power supply would have to provide the SUPPLY VOLTAGES. Due to the new design, an existing battery power supply for the Apple IIc will not work in the Apple IIc Plus. The internal power supply operates using the following paramaters:

Electrical Requirements:
- Line voltage: 90 to 130 volts AC
- Line frequency: 50 to 60 hertz
- Maximum power consumption: 20 watts continuous

- Supply voltages:
+ 5 volts (+- 5%)
+12 volts (+-10%)
-12 volts (+-10%)

- Maximum supply currents:
+ 5 volts = 1.5 amps
- 5 volts = 30 milliamps
+12 volts = 0.9 amps continuous (1.5 amps intermittent)
-12 volts = 100 milliamps

Other Changes

There were a number of small changes to the Apple IIc Plus. These include:

TA34045_Apple_IIc_Plus_How_Its_Different_From_The_Apple_IIc_(TIL01814).pdf

- Volume Control slide located above the keyboard and replaces the 40/80 switch
- Rear handle locks in place
- Uses Apple standard mini-din 8 connectors
- Normal speed operation. (Hold down Esc key before you press Command-Control-Reset, Release the Reset Key, then release the ESC key when you see the word NORMAL on the screen, then release the other keys.)
- Headphone jack has been removed

Published Date: Feb 19, 2012

Open Transport: LocalTalk in Appletalk Panel (8/95)

I have a new Power Macintosh 9500 computer. In the AppleTalk control panel under "Connect via", I have an option for "LocalTalk" in addition to "Ethernet", "Printer port", and "Modem port". Where did that come from?

This article has been archived and is no longer updated by Apple.
You have installed the Apple Internet Router software, which is not compatible with the new Open Transport software in System 7.5.2.

Remove the "Router", "LocalTalk (Built-in)", and "LocalTalk (Modem)" files from your Extensions folder and restart you Power Macintosh.

Article Change History:
22 Aug 1995 - Changed title.
08 Aug 1995 - Made minor technical corrections.

Support Information Services
Published Date: Feb 19, 2012

Pwr Mac 9500 Series: Incompatible w/ Newton Toolkit

This article discusses compatibility between the Newton Toolkit and Power Macintosh 9500 computers.
This article has been archived and is no longer updated by Apple.
The Newton Toolkit v1.0.1 and v1.5.1 are not compatible with Power Macintosh 9500 computers. There is an updater available from online services and the Internet which updates the Newton Toolkit to a beta version of 1.5.2. Newton Toolkit is a Newton software development program available through Apple Programmers and Developers Association (APDA).

In addition to the update, the latest System Enabler is needed on the Power Macintosh 9500. This enabler can be found on v2.0 of the Power Macintosh 9500 compact disc. Open Transport v1.0.6 and later also installs the latest System Enabler.

Symptom: Error Message - "Could Not Obtain Required Resource" when opening the Newton Toolkit Application.
Solution: Updated Power Macintosh 9500 Enabler and Newton Toolkit.

Symptom: Newton Toolkit Application crashes without an error.
Solution: Updated Power Macintosh 9500 Enabler and Newton Toolkit.
Published Date: Feb 19, 2012

DOS Compatibility Card: Which SIMMs To Use?

The DOS Compatibility Card Read Me states the following:

"You may find that, even when SIMMs are added to the Power Macintosh 6100 DOS Compatible main logic board, you get less shared memory (MB) than you requested from the PC Setup Control Panel.

SET	ALLOCATED
8	4
16	8
32	8

The design of some memory SIMMs do not permit the DOS Compatibility Card to utilize the full capacity of the memory."

What type of SIMMs should be used in order to fully utilize the capacity of the memory?
This article has been archived and is no longer updated by Apple.
Non-composite SIMMs can be fully utilized. The DOS Compatibility Card uses 72-pin, 80 ns or faster, non-composite SIMMs. Thus, if the correct SIMMs are used, the DOS Compatibility Card should be able to utilize the full capactiy of the memory.

Apple SIMMs are non-composite. Contact the manufacturer or vendor of the SIMM to determine whether any added SIMMs are composite or non-composite.
Published Date: Feb 19, 2012

Newton MessagePad: Flash RAM Cards Do Not Completely Erase

When I erase a 2 MB flash RAM card in my Apple MessagePad, there is 2k in use and 1865k free. What happened to the rest of the 2 MB of RAM?
This article has been archived and is no longer updated by Apple.
The RAM loss is caused by the nature of flash RAM.

Flash RAM is allocated in blocks, and unlike static RAM, flash RAM cannot be erased. Instead, if you want to erase a bit in a block of flash RAM, the entire block minus the bit must be copied to another block of flash RAM. Thus, there must always be at least one block of free flash RAM at all times.

The Apple MessagePad actually keeps a few blocks free for performance reasons. These free blocks account for the missing RAM.

This article was published in the "Information Alley": Volume II, Issue 9, Page 19
Published Date: Feb 19, 2012

MAE: Problems Using MS-DOS or Solaris Disks (7/95)

I am having difficulty mounting or reformatting MS-DOS or Solaris disks on my Sun Workstation running MAE.

This article has been archived and is no longer updated by Apple.
If you insert a floppy disk formatted for MS-DOS or Solaris into a Sun workstation and try to mount it in MAE by clicking the Mount Floppy/CD button, MAE displays an alert box. The alert box appears because the Solaris file manager mounts the floppy disk before MAE has the opportunity to mount it preventing MAE from accessing the floppy disk. The icon for the floppy disk appears on your Solaris desktop. You can not reformat MS-DOS disks as Macintosh disks, and can not use them on the MAE desktop.

You have several options for dealing with this situation:

* If you want to use the files on the disk, the contents of the disk will show up as UNIX files in /floppy in your Solaris file system.

* If you do not want to use the files on the disk, and you want to format it as a Macintosh disk, you can eject the disk, insert it into a Macintosh computer, and reformat it as a Macintosh disk.

* If you do not want to use the files on the disk, and you want to format it as a UNIX disk, you can try to reformat the disk on a UNIX workstation that is not running the Solaris File Manager.

Support Information Services
Published Date: Feb 19, 2012

PowerBook 500 Series: Global Village 2.5/PCMCIA Conflict

I have a PowerBook 500 series computer. I just installed the Global Village PowerPort 2.5 for 500 & Duo software. Since I installed this software I have been getting a -29 error during startup and the PowerPort software has not been loading. This only happens when I have the PCMCIA Expansion Module installed. It happens even if the PCMCIA cage is empty. What is wrong?
This article has been archived and is no longer updated by Apple.
This issue is caused by lack of memory available for the PCMCIA Expansion Module drivers when they load during startup. Installing Network Software Installer (NSI) 1.5 corrects the problem. NSI 1.5 causes the drivers to load differently. After you install NSI 1.5 the conflict will no longer occur.

You should also install the latest version of the Global Village software for the PowerBook 500 & 2300 series (PP500Duo 2.5.5). Contact Global Village for more details.

This article can help you locate the NSI 1.5 software update mentioned here:

- Article 14724: "**Where To Find Apple Software Updates**" - Lists online services for free Apple software updates.
-

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

The Tech Info Library article titled "**Locating Vendor Information**" can help you search for a particular vendor's address and phone number.
Published Date: Feb 19, 2012

PowerBook 200 Series: Type III Battery and System 7.5.1

I have a Macintosh PowerBook Duo (200 series). Since I installed the System 7.5 Update 1.0, the external recharger gives a red light when I try to charge a Type III battery. This occurs even after following the instructions for loading the proper power management code into the charger. This happened with a brand new battery.
This article has been archived and is no longer updated by Apple.

Resolution

You need to install the Type III battery extension into the System folder. Do not remove this extension even after you have installed System 7.5 and the System 7.5 Update 1.0. The extension is on a disk called Battery Tools, which ships with the Type III battery.

Background

When the System 7.5 Update 1.0 extension loads, it replaces the PG&E (battery management) code. This PG&E code then reloads to the external battery charger. Because of this, the external recharger does not recognize the Type III batteries and you get the red light. However, the batteries charge fine in the computer itself.

Conclusion

You need to use the Type III Battery extension to get the external charger to work with System Software 7.5.1 (System 7.5 plus the System 7.5 Update 1.0) and Type III batteries.

These articles can help you locate the software (Type III Battery extension) mentioned here:

- Article 14724: "**Where To Find Apple Software Updates**" - Lists online services for free Apple software updates.

Published Date: Feb 19, 2012

Apple IIe: If Built-in Diagnostics Run on Power-Up

This article describes what to do if an Apple IIe's built-in diagnostics run when the system is powered on.

PROBLEM DESCRIPTION: When the Apple IIe is turned on, the system's built-in diagnostic program starts. (This program is normally initiated by pressing Control, Reset, Open Apple, and Closed Apple -- or by holding down Open Apple and Closed Apple at power on.) This is repeated until the system is powered off.

This article has been archived and is no longer updated by Apple.

CAUSE: Keyboard or Keyboard Cable

BEFORE YOU START: Remove all peripheral cards from the Apple IIe to eliminate them as a possible problem.

CURE:

1) Remove any attached Joystick. The five buttons correspond to the Open Apple keys.

2) Verify that the keyboard cable is securely attached to the logic board and to the keyboard.

3) If the problem persists, replace the keyboard cable.

4) If the problem persists, replace the keyboard.

5) If the problem persists, refer to the Level I Technical Procedures.

To see a General Troubleshooting procedure, search on the product's name and HTS and GTS.

Published Date: Feb 19, 2012

Apple HD SC Setup: How to Initialize an Apple Hard Drive

This article describes what to do if you run Disk First Aid and it finds a problem, but it says it cannot repair it. Before you decide that you need to reformat your hard drive, there are a few other things to check.
This article has been archived and is no longer updated by Apple.
Warning! You must back up all of your data before reformatting a hard drive because the formatting process deletes all data.

Verify Your Process

You should first verify that you are running Disk First Aid correctly. You cannot repair the boot volume (the startup disk) with Disk First Aid. In other words, if you are started up from your hard drive, Disk First Aid cannot repair the problems with the hard drive until you restart your Macintosh computer from another startup disk. For Disk First Aid to be able to repair a volume, make sure you are starting up from any one of the following disks:

- The Disk Tools floppy disk which came with your computer.
- A bootable floppy disk or CD-ROM which contains your current system software (correct System Enabler) and utility programs.
- Any other bootable disk (floppy or hard) from which you can start up your computer and run Disk First Aid.

Disk First Aid also cannot repair a disk on which it is located (basically, it cannot repair itself), or any disk on which File Sharing is active.

Run Disk First Aid

1. Start up from the Disk Tools disk or CD-ROM.
2. Open the Disk Tools disk or the Apple Macintosh CD. Apple Macintosh CD users should open the Utilities Folder.
3. Double-click the Disk First Aid icon. Select the main hard drive's icon at the top of the Disk First Aid window.
4. Click Verify. Disk First Aid checks your hard disk for any potential problems. If it finds a problem, click Repair. It attempts to fix the problem.
5. When you are finished verifying the hard disk, choose Quit from the File menu to return to the desktop. If you get a message that states that Disk First Aid cannot repair the problems with your hard drive, you should reformat it.

Reformatting Using Apple HD SC Setup

1. Locate the Apple HD SC Setup application icon on the Disk Tools disk or CD-ROM and open it.
2. If the "volume name" or the SCSI ID number shown does not belong to the hard disk you want to initialize, click the Drive button until the hard disk you want to initialize is the selected hard disk. The internal hard drive should be ID 0. Remember, you cannot initialize your current startup disk or the disk on which the Apple HD SC Setup program is located.
3. When the SCSI ID number (and name, if any) of the hard disk you want to initialize is shown, click the Initialize button. A dialog appears in which you must confirm or cancel your decision to erase all the data on the drive.
4. Click the Init button to initialize the hard disk. A message displays to update you on the initialization process. If a message reports that initialization failed, begin the process again.
5. In the dialog box that appears asking you to name the disk, type in the name you want and click OK.
6. Click Quit when the message reports that initialization was successful.
7. If initialization fails, you should have your hard drive checked by an authorized Apple Service Technician.

Non-Apple Hard Drives

If you have a non-Apple hard drive, you will get a message that says, "Unable to find a suitable SCSI drive". The use of Apple HD SC Setup is supported for Apple hard disk drives only. HD SC Setup does not update the driver software on or reformat non-Apple drives. If you are using a non-Apple hard disk drive, you must use third party formatting software to reformat the drive. If you have a question about a specific third-party hard disk or driver version, contact the vendor.

It is important to note that the hard disk drives sold by Apple in some Macintosh computers have different firmware than the drives sold by various third-party vendors, even though the manufacturer of the mechanisms may be the same.

This firmware contains information that lets HD SC Setup determine the type and size of the drive it is reading. If HD SC Setup does not understand the information in the firmware of a third-party drive, it will not access the drive in any way.

CAUTION: A/UX USERS

If you purchased a hard disk with the A/UX operating system installed on it, DO NOT initialize that disk; doing so erases A/UX. Refer to the instructions that came with the A/UX operating system before you proceed.

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Power Macintosh 7200 Series: Using a Microphone Read Me (8/95)

This article contains the Using a Microphone ReadMe file for the Power Macintosh 7200 series computers.

This article has been archived and is no longer updated by Apple.
If the sound produced by your microphone is at mic-level, you can use the Sound control panel to turn on microphone amplification.

First you must install the Sound Input Amplification extension. Follow these steps:

Step 1

Drag the Sound Input Amplification icon to the System Folder on your hard disk. Do not open the System Folder.

Step 2

When a message appears asking if you want the file placed in the Extensions folder, click OK.

The amplification type for most standard microphones, which do not include pre-amplifiers, is mic-level. The Apple PlainTalk microphone has a pre-amplifier, and the sound it produces is at line-level. Other sources, such as CD and cassette tape players, also produce sound at line-level. (Refer to the material that came with your microphone if you are not sure whether or not it has a pre-amplifier.)

To choose an amplification type:

Step 1
Open the Sound control panel.

Step 2
Use the pop-up menu to choose Amplification.

Step 3
Click Microphone Amplification On.

Your choice takes effect immediately.

The Apple PlainTalk microphone comes with a pre-amplifier and produces sound at line-level. If you use this microphone, you can leave the Amplification setting at the default setting (Microphone Amplification Off).

For more information about these settings, open the Sound control panel, choose Amplification from the pop-up menu, and turn on Balloon Help.

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PlainTalk is a trademark of Apple Computer, Inc.

Article Change History:
04 Aug 1995 - Reviewed for technical accuracy.

Support Information Services
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Power Macintosh 7200 Series: Pointer Mode Read Me (8/95)

This article contains the Pointer Mode Read Me file for the Power Macintosh 7200 series computers.

This article has been archived and is no longer updated by Apple.
Including the Pointer in Screen Captures

If you take a screen shot and the pointer does not appear in the captured graphic, you can use the Pointer Mode control panel to ensure that the screen-capture program includes the pointer.

To install the Pointer Mode control panel, follow these steps:

1. Drag the Pointer Mode control panel icon to the System Folder icon on your hard disk (do not open the System Folder).

2. When a message appears asking if you want the control panel placed in the Control Panels folder, click OK. Your computer recognizes that this is a control panel and automatically places it in the Control Panels folder.

To use the Pointer Mode control panel:

1. Open the Apple menu and choose Control Panels.

2. Double-click the Pointer Mode control panel to open it.

3. Click the checkbox to set the pointer to standard mode.

If you find that the pointer flashes a lot when you place it over graphics, you may want to use the Pointer Mode control panel to turn off standard mode.

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Open Transport: Networking Read Me (11/95)

The following article is the ReadMe file for Open Transport, which is included on the Power Macintosh 7200 and 9500 series computers.
This article has been archived and is no longer updated by Apple.
About Open Transport Networking

MacTCP

If you have problems with TCP/IP application after installing new networking software, open the Control Panels folder and look for the MacTCP control panel. If one is there, remove it from the Control Panels folder and restart your computer. Each time you install new networking software, you may want to verify whether or not the software*s installer also installed MacTCP, and follow this procedure.

Application Compatibility Comments

- FTPd: Application currently is experiencing sporadic failures with TCP/IP MacTCP compatibility. These failures are rare and generally do not result in loss of data or other problems.

- MacTCP Watcher, TCP/Connect II, MacTCP Switcher, and Anarchie are applications that are known to be incompatible with Open Transport. Developers are revising their products to be compatible with Open Transport.

- Timbuktu works only with AppleTalk using Open Transport.

- Eudora: Open Transport supports commercial version 2.11 and shareware version 1.5.1 of Eudora.

- FileMaker Pro TCP/IP networking throughput is noticeably slower than with classic MacTCP.

- NFS/Share for large file transfers must have a blocksize of 16K or smaller.

TCP/IP LAP (Link Access Protocol) Support Caveats

- Only the following MacTCP Link Access Modules are supported: "InterSLIP", "InterPPP", *InterPPP II*, *TCP/IP PPP*, "MacSLIP", and "MacPPP".

- Open Transport does not support SLIP and/or PPP connections occurring automatically when the networking application is executed with the currently available MacTCP Link Access Modules (e.g. MacPPP, InterSLIP, InterPPP, MacSlip). SLIP/PPP connections must be started up using the 3rd-party-supplied control panel before running the TCP/IP application.

- InterSLIP: Version 1.0.1 is not compatible with Open Transport, you need a later version. InterCon should be contacted directly.

- InterPPP 1.2.9: May crash when receiving a large graphic file via HTML readers.

- MacSLIP 2.0.6: Connect at System Startup doesn't work.

- MacPPP: MacPPP versions 2.0.1, 2.0.1 cm4, and 2.1 SD exhibit incompatibilities with Open Transport in opening connections. Future versions (e.g. MacPPP 2.2.0) will address this incompatibility. The MacPPP "Open" button does not work; the only way to open a connection is by opening a TCP/IP application. However, Open Transport might time-out before the completion of the connection so that it cannot get the correct IP address from the LAP. After disconnecting MacPPP, you must restart your Macintosh in order to connect again.

- Once a TCP/IP application is opened over a SLIP or PPP LAP, you cannot use another SLIP or PPP LAP without restarting the Macintosh.

- When a SLIP or PPP LAP is selected in the TCP/IP control panel, and

"Manually" is selected in the Configure pop-up menu, the value of the IP address entered in this control panel is ignored by Open Transport. If you are assigned a static IP address by your SLIP or PPP provider, you should set it in the LAP configuration program. If your IP address is assigned dynamically, you should configure the LAP configuration program for dynamic addressing.

PowerShare Mail Server

There is a known compatibility problem between Open Transport and version 1.0 of the PowerShare Mail Server. If you set up the PowerTalk Universal Mailbox to read mail on the same machine on which the PowerShare Mail Server is running, the Mail Server may crash some time later, usually on shutdown. The workaround is to use another machine to read mail. This problem will be fixed in PowerShare Collaboration Servers version 1.1.

Article Change History:
15 Nov 1995 - Correct InterSLIP information.
04 Aug 1995 - Reviewed for technical accuracy.

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Power Macintosh 7200 and 9500 Series: Read Me

The following article is the ReadMe file for the Power Macintosh 7200 and 9500 series computers.
This article has been archived and is no longer updated by Apple.
Important Information About Your Power Macintosh 7200 or 9500

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Apple Personal Diagnostics

To use Apple Personal Diagnostics (APD) on this Power Macintosh computer, you should upgrade to APD v1.1.3 or greater. An upgrade patch for owners of APD v1.1 and APD v1.1.1 is available.

If you run the Logic Board tests in APD v1.1, your computer may freeze and need to be restarted; or APD v1.1 may falsely report a logic board

error when none has actually occured. APD v1.1.1 and v1.1.3 correct these Logic Board test errors. APD v1.1.3 also corrects a reporting error regarding processor speed in the System Info/Basic Info screen.

***Note: This note is not in the original Read Me file.
Apple Personal Diagnostics 1.1.3 is not supported on the Power Macintosh 7200 computer. As of the modification date of this article, the Power Macintosh 9500 is the latest released computer supported by Apple Personal Diagnostics. Apple has no plans to support the Power Macintosh 7200 in future releases of APD.***

AppleShare Server Software
We do not recommend using version 4.1 or earlier of AppleShare Server Software on the Power Macintosh 7200 & 9500. Version 4.1 is intended only for Apple Workgroup Servers, and earlier versions will not work.

Energy Saver Control Panel (Power Macintosh 7200 Only)

Do not remove the Energy Saver extension from the Extensions folder. If you remove it, you cannot turn off any energysaving features the control panel is currently set to provide, such as automatic sleep or shutdown.

Installing Acrobat Reader Software from the Bootable CDROM

When you install Acrobat Reader 2.0.1 software onto your hard drive, make sure that the bootable CDROM disk that came with your Power Macintosh is not the startup disk. Then open the appropriate Installer to install Acrobat Reader 2.0.1 software.

Japanese and Chinese Language Kits

To use the Japanese Language Kit with your Power Macintosh, make sure you use version 1.2 or later. In the United States, you can obtain an upgrade, with proof of purchase, by calling the Apple Order Center. Customers outside the US should contact their local Apple representative.

To use the Chinese Language Kit with your Power Macintosh, make sure you use version 1.1.1 or later. To install the Chinese Language Kit version 1.1.1, first install the WorldScript Updater 1.0. Then install the Chinese Language Kit version 1.1. Finally, install the Chinese Language Kit Updater to update your software to version 1.1.1.

Pointer Mode Control Panel (Power Macintosh 7200 Only)

The Pointer Mode control panel lets you control the way the mouse pointer works with certain types of graphics software and screen capture programs. For more information, read the document titled "Pointer Mode Read Me" in the Pointer Mode folder (inside the Apple Extras folder).

Reconnecting to a Server

If you unexpectedly lose a connection to a server on which you have items in use, and then choose the server from the Recent Servers item in the Apple menu once power is restored, you get a message that the disk could not be opened because you do not have enough access privileges. Before you can reconnect to the server, you must close any open files. If you need to save work in a file, use "Save As..." to save it on a different disk.

Software for the GeoPort Telecom Adapter

For Power Macintosh 7200 series, 7500/100, 8500/120, and 9500 series computers, the software necessary to use the GeoPort Telecom Adapter is Apple Telecom software version 2.1 or later. Apple Telecom 2.1 is included in the Apple Telecom folder within the Apple Extras folder, and on the Power Macintosh CD.

The Apple Telecom folder also contains MegaPhone¬ 1.0.2, a screenbased telephone application that supports the telephone capabilities of the Apple Telecom 2.1 software, including dialing from a graphical keypad, copying and pasting telephone numbers, and dragging and dropping business card information.

If you previously purchased the Apple Telecom 2.0 upgrade package or a Geoport Telecom Adapter Kit that included Apple Telecom 2.0, you also received SITcomm SE/GTA (a terminal emulation program). SITcomm is compatible with the Power Macintosh 7200, 7500, 8500, and 9500 series.

If you are using a GeoPort Telecom Adapter with Apple Telecom 2.1 software, be sure to disable LocalTalk. To do this, disconnect any devices attached to the printer port (except serial printers, which can remain attached).

Apple Telecom 2.2 is available as part of the GeoPort Telecom Adapter Kit, which can be purchased separately. The kit includes MegaPhone as well as SITcomm SE/GTA. Apple Telecom 2.2 along with MegaPhone (but without SITcomm) will also be available as a free upgrade on CompuServe, America Online, and all Apple Internet sites.

StyleWriter and StyleWriter II Printers

If you use a StyleWriter or StyleWriter II printer with your Power Macintosh, use the StyleWriter 1200 printer software (called a "printer driver") that's already installed on this computer with System 7.5.2. Do not install your older StyleWriter driver; it is not compatible with Power Macintosh computers. For more information about choosing a printer and printing, choose Macintosh Guide from the Guide (question mark) menu, and choose the Printing & Fonts topic area.

Using a Microphone (Power Macintosh 7200 Only)

If you attach a microphone to your Power Macintosh 7200, read the document titled "Using a Microphone" in the SoundInput Level folder (inside the Apple Extras folder). This document explains how to use the Sound control panel to choose the amplification type appropriate for your microphone.

Using MIDI Products

MIDI users may experience slight performance issues due to the new serial architecture of this computer. MIDI Drivers written specifically for this new technology are currently being developed which will resolve these issues. Please check with the distributor of your MIDI product about the availability and necessity of an update compatible with the serial architecture of the Power Macintosh 7200 & 9500.

Important Information About Document AutoSave (Power Macintosh 7200 only)

The Energy Saver control panel that comes installed on the Power Macintosh 7200 contains a feature named "Document AutoSave". The purpose of this feature is to automatically quit all open applications during an idle or scheduled shutdown, while saving changes to any open documents in each application. Below are some helpful tips for working with Document AutoSave. For more information about Energy Saver & Document AutoSave, choose Macintosh Guide from the Guide (question mark) menu, and choose the Power & Energy Saving topic area.

Compatibility with Your Applications

Since there are literally thousands of applications available for the Macintosh (with new ones always arriving), we cannot guarantee that Document AutoSave will be compatible with every application. This is especially true for any application that does not use standard routines to implement the alerts or dialog boxes that ask the user to save changes to new or modified documents. When an application is incompatible with Document AutoSave, it will either not automatically quit, or it displays alerts or dialog boxes which Document AutoSave does not recognize and therefore does not dismiss.

If you intend to turn Document AutoSave on, we recommend that you monitor its operation during the first attempted idle or scheduled shutdown and note if any of your applications are not compatible. You can avoid problems with incompatible applications simply by making sure you leave no documents open that are new or modified before an idle or scheduled shutdown is to occur. Alternatively, you can modify the Document AutoSave preferences in the Energy Saver control panel to sleep instead of shutting down when unsaved documents are open.

Other Document Saving Products

There are conflicts when nonApple documentsaving control panels or extensions are used in conjunction with Energy Saver's Document AutoSave. Examples of such products are NowSave and SuperBoomerang. For best results, use the documentsaving features of only one control panel or extension.

Applications That AutoSave

Document AutoSave performs more quickly and efficiently if you have enabled autosaving in the applications that support it. For example, Microsoft Word has an option available that will save your changes at predetermined time intervals. It is recommended that you take advantage of application autosaving whenever possible.

RAM Disks

Do not choose a folder on a RAM disk for autosaving untitled documents unless you have installed a product which preserves the RAM disk contents before shutdown. Otherwise, your autosaved documents will be lost when an idle or scheduled shutdown occurs.

Self-Dismissing Dialogs

Under some rare conditions, the Energy Saver control panel may continuously dismiss dialog boxes if the Document AutoSave feature unexpectedly fails during an idle or scheduled shutdown. (Whenever a dialog box appears, it is dismissed as if you have pressed the Return key.) To return things to normal, simply click the mouse button or press the space bar.

Stickies Windows

If you are using the Document AutoSave feature of the Energy Saver control panel, and you have any Stickies notes open during an idle or scheduled shutdown, an extra carriage return is inserted in the active (frontmost) Stickies note window. No other Stickies windows will be

affected.

Important Information About Macintosh PC Exchange

Apple File Exchange and Macintosh PC Exchange

The Apple File Exchange software is not compatible with Macintosh PC Exchange and should not be used while PC Exchange is installed. Version 2.0 of PC Exchange contains an easier method for accessing DOS and Apple II ProDOS disks on a Macintosh.

AutoDoubler

To use AutoDoubler with Macintosh PC Exchange, you must first open the AutoDoubler control panel and turn off the "Show DD on Compressed Files" option from the DD menu.

Compressed PC Disks and Files

Macintosh PC Exchange does not work with DOSformat floppy disks or SCSI hard disks that have been compressed using Stacker or other DOS or Windows diskcompression utilities. Before transferring compressed DOS files to a Macintosh, you must decompress the files and save them to a noncompressed DOSformat floppy disk.

Working With Disks Containing Multiple Partitions

If a SCSI hard disk or removable media cartridge has been formatted to contain multiple partitions, you can use PC Exchange to mount the Macintosh, DOS, or ProDOSformat partitions as individual volumes on the Macintosh desktop. If the disk contains both Macintosh and DOSformat partitions, PC Exchange will only recognize the Macintosh partition. In addition, PC Exchange will recognize ProDOSformat partitions only on SCSI hard disks that are less than 32 megabytes.

You can use PC Exchange to erase existing individual partitions on a SCSI hard disk or removable media cartridge if they have the same format. However, you cannot use PC Exchange to reformat and resize individual partitions contained on the disk. Nor can you format a Macintoshformat hard disk or removable media cartridge as a DOSformat disk. To resize or reformat multiple Macintosh, DOS, or ProDOS partitions, you need to use thirdparty software designed for partitioning hard disks and removable media cartridges.

Working with DOS Format SCSI Removable Media Devices

In order for PC Exchange to recognize any SCSI removable media device, you must turn on the device and eject any cartridges before you turn on your Macintosh computer.

Do not install the device driver software that came with your removable media device. Instead, open the PC Exchange control panel, click the Options button, select your SCSI device from the list, and then restart your Macintosh. PC Exchange will install its own device driver for that SCSI device.

The Eject Disk command is unavailable when you are working with removable media devices. To unmount and eject a removable media cartridge, drag the device's icon to the Trash. Once the device has spun down and the red light goes out, you can manually eject the cartridge from the drive. To access a removable media cartridge that has been ejected, simply reinsert the cartridge in the drive.

When initializing and formatting Bernoulli and SyQuest cartridges on a DOS or DOScompatible computer, use the disk setup and partitioning software that came with the SCSI controller card installed in your PC or that came with your Bernoulli or SyQuest device. (Do not use the MSDOS FDISK command.) Also, use the MSDOS FORMAT command to format a newly intialized removable media cartridge on a DOS or DOScompatible personal computer (PC) before you copy DOS files onto it.

When you initialize a removable media cartridge on a DOS or DOScompatible PC, you must fully partition, initialize, and erase the cartridge using the software that came with your SCSI controller card or removable media drive. If you do not, PC Exchange may not recognize the new DOSformat partitions on that cartridge.

Working with DOS Format SCSI Hard Disk Drives

In order for Macintosh PC Exchange to recognize SCSI hard disk drives, you must turn on the drive before you turn on your Macintosh.

Do not install the device driver software that came with your removable media device. Instead, open the PC Exchange control panel, click the Options button, select your SCSI device from the list, and then restart your Macintosh. PC Exchange will install its own device driver for that SCSI device.

When initializing and formatting an external SCSI hard disk connected to a DOS or DOScompatible PC, use the MSDOS FDISK command or the disk setup and partitioning software that came with the SCSI controller card installed in your PC. In addition, you should use the MSDOS

FORMAT command to format and erase the disk before you copy DOS files to a new SCSI hard disk connected to a PC.

Tips and Problems

* A "Sad Mac" icon may appear on your Macintosh screen at startup if a removable media cartridge has been left in the drive. To keep this problem from occurring, manually eject removable media cartridges from their drives before you turn on your Macintosh.

* Macintosh PC Exchange cannot recognize SCSI hard disks, removable media devices, or drive container files that contain more than one gigabyte of disk space.

Important Information About Virtual Memory

Virtual memory (VM) is a feature of the Macintosh that lets you use part of your hard disk as additional memory. If you are using an application program designed especially for Power Macintosh computers (often called a "native" application program), turning on virtual memory may help you avoid running out of memory.

Your computer comes with virtual memory turned on. With virtual memory turned on, a Power Macintosh program uses less memory than when virtual memory is turned off. If you check the program's Get Info box before and after turning on virtual memory, you'll see that the numbers in the Memory Requirements box change. That is because turning on virtual memory allows the program to use memory more efficiently.

If you notice performance problems (such as your computer's responses seeming unusually slow) using certain application programs, you may want to turn off virtual memory. For information on how to turn virtual memory on and off, choose Macintosh Guide from the Guide (question mark) menu, and click the Memory topic area. Then click "How do I use hard disk space as memory?" and "How do I manage Power Macintosh memory?"

For best performance, try setting virtual memory to no more than 150% of the memory (RAM) installed in your computer, or no more than 50% of your currently available hard drive space, whichever number is lower. For example, if your computer has 16 MB of RAM and your hard drive has 50 MB of available space, set virtual memory to a maximum of 24 MB (this is 150% of your 16 MB of RAM, and less than 50% of the available space on your hard drive). A maximum of 1 gigabyte (GB) of disk space can be used as virtual memory. If your hard disk has additional disk space available, the amount over 1 GB cannot be used as virtual memory.

To improve performance, you can also add memory (RAM) to your computer. See the user's manual that came with your computer for more information.

Troubleshooting

AppleShare Displays Incorrect Information for Large Drives

If you use File Sharing to connect to a disk attached to another computer, and the shared disk is larger than 2 gigabytes (GB), the Get Info box for that disk shows an incorrect size. (Get Info reports the disk to be 2 GB in size, even if it is larger.)

Incorrect Balloons for Guide File Icons

System 7.5.2 includes Apple Guide documents, which provide the onscreen instructions and other information that help you use your computer. However, if you turn on Balloon Help*by choosing Show Balloons from the Guide (question mark) menu*and point to a Guide file icon (any icon with the Guide question mark on it) on the hard disk, the balloon may give you the wrong information about where the file belongs or how to use it. To avoid being misled by incorrect balloons, follow the guidelines below:

* Leave Guide files where they are. Some Guide files (for example, the Guide file named "Macintosh Guide") belong in the Extensions folder. Other Guide files do not belong in the Extensions folder*and will not work if they are put there.

* Keep application programs that have Guide files in the same folder as the Guide file. For example, keep the file named "File Assistant Guide" in the same folder as the File Assistant program. If you move a Guide file that belongs with an application program, you won't be able to get help while using the program.

PowerTalk and PowerTalk Direct Dialup Mail

If you use PowerTalk Direct Dialup Mail and have trouble sending a fax, it may be because both Direct Dialup and STF PowerFax PE are set to autoanswer. To turn off STF autoanswer, open the STF Setup window and set 'n' to "never" (in the "Answer on 'n' rings" section).

Presenting QuickTime Movies at Double Size

Using MoviePlayer 2.0, you can play a movie at double (2X) size. You cannot present a movie (that is, play the movie on a second monitor) at double size. Presenting a movie at 2X size results in the MoviePlayer application quitting without warning.

**NOTE: This is not in the original ReadMe file.
The early releases of the Power Macintosh 7200 and 9500 shipped with MoviePlayer 1.0 installed on the hard drive.**

Printing With Apple PhotoFlash

If you have problems printing images with the PhotoFlash software, make sure that you choose a printer in the Chooser before you choose the Print command from the File menu.

Quark XPress

To use Quark XPress with System 7.5 or later on a Power Macintosh, you must upgrade to QuarkXPress version 3.3.1 or later.

Screen Flashes at Startup

You may see the screen flash during startup of your Power Macintosh. The flash is normal. It occurs because software needed to use the monitor is being loaded.

The Assistant Toolbox and Non-Networked Printers

The Print Later option (LaterLaser) of the Assistant Toolbox extension is not compatible with some non-networked PostScript printers. If you have the Assistant Toolbox extension installed on your computer and you want to print with a non-networked printer, you may want to turn off the Assistant Toolbox extension.

For example, if you want to print with a LaserWriter Select 310 printer, you need to turn off the Assistant Toolbox extension (in the Extensions Manager control panel) to be able to use the Print Later option.

Using a RAM disk

If your computer has 8 megabytes of RAM (random access memory), and you wish to set up a RAM disk, allocate no more than 500K to the RAM disk. Otherwise, when you start your Macintosh you may see the message, "This disk is unreadable by this Macintosh. Do you want to initialize the disk?" (Important: This message applies to the RAM disk only. Your hard disk will not be initialized.)
Published Date: Feb 19, 2012

At Ease for Workgroups 2, 3: Unable to Access Documents Folder

I am running At Ease for Workgroups and using a server as the At Ease disk. When I turn on any of my client Macintosh computers running At Ease for Workgroups, I get the message "Unable to access the documents folder on the At Ease disk. Please contact your server's administrator." The server shows up on the network, but no computer in the workgroup is able to find the documents folder.
This article has been archived and is no longer updated by Apple.
This message is indicating that At Ease cannot find the server, since the server does show up on the network, the preferences file for At Ease has become corrupted.

You can correct this by following these steps:

1. Restart one of your client computers while holding down the Shift key until you see the message, "Welcome to Macintosh, Extensions off".
2. Enter the administrator's password when At Ease asks you to do so.
3. Drag the At Ease Prefs file from the At Ease folder in your System Folder to the Trash.
4. Choose Restart from the Special menu.
5. On the server you are using as the At Ease disk, open the At Ease folder.
6. Drag the At Ease Prefs file to the Trash.
7. On the client computer, mount the At Ease server volume.
8. Launch At Ease Setup.
9. If you are using At Ease 2.0, 2.0.1 or 2.0.3, under Options Choose "At Ease Disk...". Next, click the radio button next to Mounted Server, select the mounted volume, click Okay. (If you are using At Ease 3.0, under Network choose At Ease Server, click the button next to Mounted Server, select the mounted volume, click Okay.)

You next need to update all the other computers on the network using the Remote Administration features of At Ease. If the computers you wish to update are unable to launch At Ease, follow the above procedure omitting steps 5 and 6.

If some of your At Ease client computers are able to launch into At Ease, update them using the following procedure. From within At Ease Setup on the first client you just reconfigured, follow these steps:

If you are using At Ease 2.0, 2.0.1, or 2.0.3

1. Under Options choose Update Computers... A dialogue box appears with a list of all the computers running At Ease with Allow Remote Administration checked in the Security window under the Options menu.
2. Select each computer you want to update, click Okay.

If you are using At Ease 3.0

1. Under Network choose At Ease Computers, a dialogue box appears with a list of all the computers running At Ease with Allow Remote Administration selected in the User Settings window under the Security menu.
2. Click each computer you want to update, click Okay.

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MAE: Freezes in AutoContent Wizard in PowerPoint 4.0 (7/95)

I am using Office 4.2.1 on a SPARC running MAE 2.0. When I launch the Wizard software within PowerPoint 4.0, MAE locks up.

I increased the PowerPoint's memory to 3.5 MB and the Wizard starts to load but then gives an error message that the Cue Cards did not load.

This article has been archived and is no longer updated by Apple.
Engineering has been able to duplicate the similar hanging situation at the final step after choosing the "AutoContent Wizard" way for creating a new presentation.

Engineering has also encountered the following error message if the Microsoft Office Manager control panel was placed in the Control Panels folder:

"Microsoft Office Manager could not start due to a memory error."

We did not get the "Cue Cards did not load..." message though.

Engineering is investigating this compatibility problem.

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Apple III : Powers Up Into RAM/ROM Diag (But No Inverse "1"s)

BEFORE YOU START: Remove all peripherals cards from the Apple III to eliminate them as possible problem causes and boot the computer.

PROBLEM DESCRIPTION: The Apple III displays the Diagnostic RAM/ROM Test when booted. The RAM/ROM test is displayed as a Matrix of dots located at the upper left corner of the screen display. The Apple III will automatically display inverse "1"s (indicating bad memory chip/s) in the Diagnostic RAM/ROM Test if it has a "real" memory problem (which this problem isn't). With this problem, there are no inverse "1"s in the matrix of dots. If there are inverse "1"s, refer to the Tech Procedures for help in isolating the memory problem.

CAUSE: If inverse 1's are NOT displayed, the Apple III may have a keyboard problem or the power lamp may be burned out.

This article has been archived and is no longer updated by Apple.
CURE: 1. Make sure that the keyboard is properly connected to the logic PCB.
2. If the keyboard is properly connected, check the power on lamp at the third key position from the lower left corner of the keyboard. If it is off, that is the problem so replace it.
3. If the lamp is OK, insert a boot disk into the internal drive and try to boot the system depressing just the Reset key.
4. If the system boots and seems to run normally, swap the keyboard.
5. If replacing the keyboard seems to cure the problem,try going go a step further and replace the Reset key.

If this cure does not resolve the problem, go back to the Word Search screen and search on the product's name and HTS and GTS to obtain a General Troubleshooting procedure.

Published Date: Feb 19, 2012

QuickDraw GX: Paper Type Editor (7/95)

I am having trouble creating paper types using Paper Type Editor 1.0.2, with QuickDraw GX 1.1.2. When I go to select LWP 630 (change from Any Printer) from Printer option, I get the message "Editor cannot switch printer settings: Printer doesn't contain any paper types." Why is this happening?

This article has been archived and is no longer updated by Apple.
This is a known issue identified in the original version of the Paper Type Editor. There were plans to allow individual printers to have paper types, however, this feature was never implemented. The Paper Type Editor was never changed to reflect this, and so the reason for the message "...Printer doesn't contain any paper types" when selecting a specific printer.

The Paper Type Editor will be revised (in the next major release of QuickDraw GX) so that specific printers WILL NOT show up in the list. In the interim, the simple workaround is to ignore individual printers and select "LaserWriter GX" for any network LaserWriter printer.

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QuickTime VR: Processing Time To Create VR Movie

This article illustrates some typical steps you would take to create a QuickTime VR movie and the processing time involved.
This article has been archived and is no longer updated by Apple.
Apple has done some testing to help you get an idea of the performance and time needed for post production work on a VR project. Here are some typical times for the steps that you perform creating a VR movie.

The estimated times for each command are from a Power Mac 8100 and a 33 MHz RC68040. The numbers indicate that native tools really benefit the Power Macintosh user.

	Processing Time Required On...		
VR Action	**Power Macintosh 8100**	**33MHz 68040 w/FPU**	**Notes**
Stitching 2 PICTS together	2 minutes	20 minutes	You could have as many as 18 stitches for one panorama, typically 12 for a 15-18mm lens.
Dicing one panorama node	2 minutes	20 minutes	Time is per dice. One node might require 24 dices.
Linking	2 minutes	20 minutes	To link nodes, time per link. You need to link twice to move back and forth between nodes.
Compression per node	2 minutes	20 minutes	

Power Macintosh Example

If you were stitching 12 PICTs for a single node, that computation could take 24 minutes for the entire node.

If you then diced that node, it would probably take 48 minutes.

For linking this node to another, 4 minutes.

Compression of this node, 2 minutes.

The grand total for post production time on one node is around 78 minutes. This doesn't include planning, shooting, or learning the tools.

A QuickTime VR movie of rotation around a stationery object would require similar steps to those shown above, but may include many more shots. To do a complete rotation of an object (24 shots around the object at 0 degrees, 24 shots at +10 degrees, 24 shots at +20 degrees, and so on) the movie would consist of over 600 PICTs.
Published Date: Feb 19, 2012

Power Macintosh 9500: Worldscript Updater 1.0 Issue

I installed Chinese Language Kit (CLK) 1.1 and Chinese Language Kit Updater 1.1.1 on my Power Macintosh 9500/120 computer. Why doesn't it work?
This article has been archived and is no longer updated by Apple.
WorldScript Updater 1.0 must be installed first for the Chinese Language Kit to work on the Power Macintosh 7200/7500/8500/9500 series of computers.

Installation Steps

You must perform the installation in the following order:

1. Install WorldScript Updater 1.0
2. Install Chinese Language Kit 1.1
3. Install Chinese Language Kit Updater 1.1.1

If you install WorldScript Update 1.0 last, your System file could end up being corrupted. If this occurs, you need to perform a "clean install" of the System Software, then reinstall the preceding items in that order.

Additional Information

Refer to the article titled System 7.5 Clean Install in the "Information Alley" Volume I, Issue 18, Page 8. Or, see the following Tech Info Library article:

Article 16095: "**System 7.5: Clean Install Procedure**"

This article was published in the "Information Alley":
Volume II. Issue 8, Page 11
Published Date: Feb 19, 2012

Macintosh Performa 6116CD: Description

This article provides a description of the Macintosh Performa 6116CD computer.

DISCUSSION

This article has been archived and is no longer updated by Apple.

Overview
==========

The Macintosh Performa 6116CD brings together the performance of Power PC technology with world class ease-of-set up and use and price/performance in a complete system. It is targeted at families and individuals looking for a complete high performance multimedia com-puter system. All systems include the CPU, monitor, fax modem, Apple Design Keyboard and Mouse as well as leading third party software applications.

In addition, the Macintosh Performa 6116CD with PowerPC Technology is bundled with 18 software applications to take advantage of Power Macintosh capabilities of two to six times the speed of previous Macintosh computers based on the 040 chip. It also supports MS-DOS and Windows applications when using SoftWindows software or when using an optional DOS Compatibility card.

Based on the 60-megahertz PowerPC 601 microprocessor co-developed by Apple, IBM, and Motorola, the Macintosh Performa 6116CD has built-in, floating-point math coprocessors and comes with a 700 MB hard disk with 8 megabytes of RAM, expandable to up to 72 megabytes in addition to a built in CD-ROM. It also provides on-board high-speed Ethernet support.

Additionally, the Performa 6116CD can easily be expanded as it includes eight built-in ports and one expansion slot.

This affordable computer includes an Apple 14" diagonal high-resolution color display along with a fast, Global Village 14.4k-bps modem or GeoPort Express Modem, as well as speech-recognition, and text-to-speech capabilities that are built into the computer. With an AV expansion kit the Macintosh Performa 6116CD can add the functionality of S-video and composite video input as well as output for use with televisions, video cameras, and video recorders. The Macintosh Performa 6116CD provides an affordable gateway to Power PC technology and the future of personal computing.

Features
==========

Fast, easy setup
---
* Simple to set up and learn; your system is ready to go the first time you turn it on
* Includes 14" color display (11.9 inch diagonal viewable image size), keyboard, mouse, digital sound, and internal speaker all in one box
* Built-in, double speed, tray-loading CD-ROM player
* Includes 14.4K-bps Global Village modem

Compatibility
---
* Runs Macintosh applications
* Reads Macintosh, Windows, MS-DOS, OS/2, and ProDOS floppy disk formats Communications
* GeoPort- and LocalTalk-compatible serial ports
* 16-bit stereo audio input and output
* Built-in AppleTalk networking
* Built-in Ethernet networking

Power and memory
---
* PowerPC 601 RISC microprocessor
* 8 MB of RAM standard, expandable to 72 MB

Audio System
---
* 16-bit stereo in and out
* Output port for stereo compact disc audio and stereo computer-generated sound.
* Input port for stereo sound input (supports 16-bit stereo audio)

System 7.5 software
---
* PC Exchange for reading and writing MS-DOS and Windows disks
* AppleScript for scripting in and between Macintosh applications
* QuickTime for working with video and sound as easily as text and graphics
* TrueType fonts for outstanding results on the screen and the page

* Apple Guide

Third-party software bundle
---
* At Ease
* American Heritage Dictionary
* ClarisWorks
* Click Art Performa Collection
* MacGallery Clip Art Treasure Pak
* MacLink Plus/Easy Open Translators
* Now Contact
* Now Up-To-Date
* Quicken
* Spectre Challenger
* Spin Doctor Challenge
* TelePort Gold II for Mac Performa
* TelePort Modem Legend Tour

CD bundle
---
* 3D Atlas
* 1995 Groiler's MM Encyclopedia
* Club KidSoft Sample
* TIME Almanac Reference Edition
* The Family Doctor
* Around the World in 80 Days

Configurations and Ordering Information
==========

Macintosh Performa 6116CD 8/700
* Order No. M4094LL/A
---
* Macintosh Performa 6116 computer with 8 MB of RAM, built-in AppleCD 300 Plus internal double speed CD-ROM player, 1.4 MB Apple SuperDrive floppy disk drive, 700 MB internal hard disk drive
* Performa Plus 14 Display
* Global Village external 14.4 Kbps fax/send modem or GeoPort Express modem
* Bundled third-party software and CDs
* AppleDesign Keyboard

Optional Enhancements
---
* DOS Compatibility Card
Order No. M3581LL/A

* Power Macintosh 6100/60 NuBus Adapter Card
Order No. M2337LL/A

* Power Macintosh GeoPort Telecom Adapter
Order No. M3127LL/C

* PlainTalk for Power Macintosh
Order No. M2844LL/A
Published Date: Feb 19, 2012

Macintosh Performa 636CD: Description (4/97)

This article provides a description of the Macintosh Performa 636CD computer.
This article has been archived and is no longer updated by Apple.

Overview
==========

The Apple Macintosh Performa 636CD computer is one of the most affordable and flexible Apple multi-media system. It is upgradeable to take advantage of PowerPC technology, so it can bring you multimedia opportunities for years to come.

Packed in one box are the computer, keyboard, mouse, and fax/modem, as well as operating system software. Configured specifically for higher education, the computer includes useful education and personal productivity programs. Like all Macintosh computers, the Performa is very easy to learn about and use, and it runs thousands of Macintosh education, business, and multimedia programs.

The Performa 636CD also has advanced multimedia expansion options that offer new ways to interact with information. You can connect it to an external video source such as a VCR or camcorder to cut and paste video images. You can also add an option to connect your computer to a large-screen TV for displaying presentations. And you can add an internal TV tuner to view television channels in a window on your display.

This affordable computer in-cludes many standard features that are expensive add-ons for other computers. It provides 16-bit CD stereo sound; support for Apple and third-party displays; and AppleTalk networking for access to printers, electronic mail, and file sharing. With its wealth of software, the Macintosh Performa 636CD computer adds up to expandable, flexible multimedia systems.

Features
==========

Complete system
---
* Ready to run, right out of the box
* Easy to set up, learn, and use
* Includes built-in, double-speed, tray-loading CD-ROM player
* Includes energy-saving feature that reduces power consumption by 50 percent for EPA Energy Star compliance

Expansion
---
* Ready for PowerPC upgrade
* Comes with built-in ports for hard drives, printers, scanners, and modems * Supports most processor-direct cards compatible with Macintosh Performa 400 and 500 series and Macintosh LC computers via internal expansion slot
* Includes a communications slot for an Ethernet connection or 14.4K bps fax/data modem
* Has video slot for NTSC, PAL, and SECAM video-input cards
* Standard monitor port also provides expansion via external drop box for NTSC or PAL video output
* Includes connector for TV tuner

Power and speed
---
* 66/33-MHz Motorola 68LC040 with 32-bit data bus
(66-MHz processor/33-MHz data bus)

Memory
---
* 8 MB RAM expandable up to 52 MB

Display
---
* Supports Apple displays of up to 15 inches
* Works with a wide range of third-party VGA and SVGA displays
* 1MB DRAM display support, independent from system DRAM
* Standard 16-bit color for display of up to 32,768 colors on monitors of
up to 14 inches and on 15-inch monitors at 640- by 480-pixel resolution
* Standard 8-bit color for display of 256 colors on 15-inch monitors at
800-pixel by 600-pixel resolution

Audio System
---
* 8-bit on-board Stereo sound output and mono sound in
* Stereo 16-bit CD playback

* One sound-in port
* Front and rear headphone jacks

Software
==========

System software
---
* Mac OS System 7.5.1 with Apple Guide, AppleScript and PC Exchange included

Third-party software bundle
---
* At Ease
* ClarisWorks
* Click Art Performa Collection
* MacGallery Clip Art T reasure Pak
* MacLink Plus Easy Open T ranslators
* Spectre Challenger
* Spin Doctor Challenge
* The American Heritage

CD bundle
---
* Grolier's Multimedia Encyclopedia
* TIME Almanac Reference Edition

Configurations and Ordering Information
==========

Macintosh Performa 636CD 8/500
---
* Macintosh Performa 636 computer with 8 MB of RAM, 1 MB of video memorybuilt-in AppleCD 300 Plus internal double speed CD-ROM player, 1.4 MB Apple SuperDrive floppy disk drive, 500 MB IDE internal hard disk drive
* Global Village internal 14.4 Kbps fax/send modem
* Bundled third-party software and CDs
* AppleDesign Keyboard
* Order No. M4156LL/A

Optional Enhancements
---
* Apple Video System
Order No. M2894LL/C

* Apple TV/Video System
Order No. M2896LL/C

* Apple Presentation System
Order No. M2895LL/A

* Apple Ethernet CS Thin Coax Card
Order No. M2708ZLL/A

* Apple Ethernet CS Twisted-Pair Card
Order No. M3065Z/A

* Apple Ethernet CS AAUI Card
Order No. M3066Z/A

* Apple MPEG Media System
Order No. M4243LL/A

Article Change History:
28 Apr 1997 - Removed out dated on line references.
05 Oct 1995 - Updated video option part numbers.

Published Date: Feb 19, 2012

Apple III : Won‘t Boot AII Disk Calibrate in AII Emulation

PROBLEM DESCRIPTION: Apple II Disk Calibration Program will not boot on the Apple III in Apple II Emulation mode.

CAUSE: Peripheral cards may be interfering with the Apple II Disk Calibration program.

This article has been archived and is no longer updated by Apple.
CURE: Power down the Apple III and remove ALL interface cards, (especially the ProFile interface card). Reboot the Apple II Emulation Disk then load and run the Apple II Disk Calibration Program.

If this cure does not resolve the problem, go back to the Word Search screen and search on the product's name and HTS and GTS to obtain a General Troubleshooting procedure.

Published Date: Feb 19, 2012

Macintosh Performa 640CD DOS Compatible: Description (4/97)

This article provides a description of the Macintosh Performa 640 DOS Compatible computer.
This article has been archived and is no longer updated by Apple.

Overview
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The Apple Macintosh Performa 640CD DOS Compatible computer is the perfect choice for your family when you want to keep your compatibility options open. It runs DOS, Windows, and Macintosh applications simultaneously, which essentially makes it two advanced CD multimedia computers in one.

The Performa 640CD DOS Compatible features dual microprocessors. Its 68LC040 processors provide excellent performance for easy-to-use Mac OS applications, while its 486DX2 processor delivers strong performance for DOS and Windows applications.

Because it's DOS-compatible, you can now easily use DOS and Windows applications, CDs, and games on a Macintosh. You can instantly switch between the Macintosh operating system (Mac OS) and the DOS or Windows environment. You can even cut, copy, and paste information between them. And it allows you to use Macintosh printers and peripherals with both operating systems.

Packed in one box are the computer, display, keyboard, mouse, fax/modem, and operating system soft-ware. In addition, this Performa in-cludes useful home, education, and home-business software programs, as well as CD-ROM reference titles.

Its advanced multimedia expansion options let you tailor it to fit your needs. You can connect it to an external video source such as a VCR or camcorder to cut and paste video images. You can also add an option to connect your computer to a large-screen TV for displaying presentations. And you can add an internal TV tuner to view television channels in a window on your display.

The Macintosh Performa 640CD DOS Compatible computer delivers DOS and Windows compatibility, Macintosh usability, and advanced multimedia capabilities?making it one of the most versatile and capable multimedia computers ever built.

Features
═══════

Complete, compatible system
---
* Ready to run Macintosh, DOS 6.22, and Windows 3.1 programs, right out of the box
* Includes Microsoft MS-DOS 6.22, Windows 3.1, and Macintosh System 7.5 software
* Easy to set up, learn, and use
* Includes Macintosh and DOS-compatible computer capabilities, color 15-inch display (13.3-inch viewable image size), built-in tray-loading CD-ROM player, keyboard, mouse, digital sound, and internal speaker all in one box
* Comes with external fax/modem that supports both Macintosh and Windows
* Requires no additional software or cables

Compatibility
---
* Built-in 68LC040 and 486DX2 micropro-cessors allow it to run MS-DOS, Windows 3.1, and Macintosh applications simultaneously
* Runs MS-DOS and Windows 3.1 applications, games, and CD-ROM discs directly on a 486 processor
* Supports Sound Blaster 16 sound output for PC multimedia compatibility
* Supports VGA and SVGA monitors
* Includes ODI driver for Novell NetWare IPX and TCP/IP support in the DOS and Windows environments
* Supports DOS-formatted floppy disks
* Includes PC game port

Integration
---
* Lets you copy and paste between Mac OS and DOS or Windows environments
* Allows you to share folders and disks between Mac OS and DOS or Windows environments
* Includes Macintosh PC Exchange, which you can customize to launch Mac OS applications when opening a DOS or Windows file
* Lets you print from either environment with a Macintosh-compatible printer

Processor and Memory
---
* 66/33 MHz 68LC040 microprocessor
- 8MB of RAM (expandable to 52 MB of RAM)
* 1MB ROM
* 66 MHz 80486 DX2 microprocessor

- 4MB of RAM (expandable to 32 MB of RAM)

Audio System
---
* 8-bit stereo sound in Macintosh environment
* Stereo 16-bit CD playback in Macintosh environment
* Sound Blaster 16ðcompatible 16-bit stereo sound output in DOS and Windows environments
* One sound-in and one sound-out port for Macintosh environment
* Front and rear headphone jacks
* Front panel push-button volume control

Upgrades
---
* The DOS-Compatibility Card uses the single PDS slot. Thus, the Macintosh Performa 640 DOS Compatible cannot be upgraded to a PowerPC processor.

Software
==========

System software
---
* Mac OS 7.5.1
* MS-DOS 6.22
* Windows 3.1.1
* SoundBlaster

Third-party software
---
* American Heritage Dictionary * At Ease
* MacLink Plus/Easy Open Translators * Quicken
* MacGallery Clip Art Treasure Pak * Expresso
* Click Art Performa Collection * ZipZap
* TelePort Gold II for Performa * Global Village
* TelePort Modem Legend Tour

CD bundle
---
* 1995 Grolier Multimedia Encyclopedia * 3D Atlas
* Club KidSoft CD * Sticker Shop Plus/Card Shop Plus
* TIME Almanac CD-ROM titles included

Configurations and Ordering Information:
==========

Macintosh Performa 640CD 12/500
---
* Macintosh Performa 640 computer with 12 MB of RAM, 1 MB of video memorybuilt-in AppleCD 300 Plus internal double speed CD-ROM player, 1.4 MB Apple SuperDrive floppy disk drive, 500 MB IDE internal hard disk drive
* Multiple Scan 15 Display
* Global Village internal 14.4 Kbps fax/send modem
* Bundled third-party software and CDs
* AppleDesign Keyboard
* Order No. M3939LL/A

Optional Enhancements
---

* Apple Video System
Order No. M2894LL/C

* Apple TV/Video System
Order No. M2896LL/C

* Apple Presentation System
Order No. M2895LL/A

* Macintosh Ethernet CS Thin Coax Card
Order No. M2708Z/A

* Macintosh Ethernet CS Twisted-Pair Card
Order No. M3065Z/A

* Macintosh Ethernet CS AAUI Card
Order No. M3066Z/A

Article Change History:
01 May 1997 - Removed out dated on line references.
05 Oct 1995 - Updated video option part numbers.

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MacTCP: Error Codes Defined

The following list defines error message name-to-number mapping, Internet Control Message Protocol(ICMP), and other miscellaneous types throughout the MacTCP driver.
This article has been archived and is no longer updated by Apple.

```
These error messages DO NOT apply to Open Transport.

Error Messages
--------------

-23000  ipBadLapErr            Unable to initialize the local network
.                              handler.

-23001  ipBadCnfgErr           The manually set address is configured
.                              improperly.

-23002  ipNoCnfgErr            A configuration resource is missing.

-23003  ipLoadErr              Not enough room in the application
.                              heap (Macintosh 512K enhanced only)

-23004  ipBadAddr              Error in getting an address from a
.                              server or the address is already in use
.                              by another machine.

-23005  connectionClosing      A TCPClose command was already issued
.                              so there is no more data to send on this
.                              connection.

-23006  invalidLength          The total amount of data described by
.                              the WDS was either 0 or greater than
.                              65,535 bytes.

-23007  connectionExists       The TCP or UDP stream already has an
.                              open connection.

-23008  connectionDoesntExist  The TCP stream has no open connection.

-23009  insuuficientResources  64 TCP or UDP streams are already
.                              open.

-23010  invalidStreamPtr       The specified TCP or UDP stream is not
.                              open.

-23011  streamAlreadyOpen      An open stream is already using the
.                              receive buffer area.

-23012  connectionTerminated   The TCP connection was broken; the
.                              reason will be given a terminate ASR.

-23013  invalidBufPtr          The receive buffer area pointer is 0
.                              (nil).

-23014  invalidRDS             The RDS refers to receive buffers not
.                              owned by the user.

-23014  invalidWDS             The WDS pointer was 0 (nil).

-23015  openFailed             The connection came halfway up and
.                              then failed.

-23016  commandTimeout         The specified command action was not
.                              completed in the specified time period.
```

```
-23017  duplicateSocket        A stream is already open using the
.                               local UDP port or a TC connection
.                               already exists between the local IP
.                               address and TCP port, and the specified
.                               remote IP address and TCP port.

-23032  ipDontFragErr           The pack is too large to send without
.                               fragmenting and the Don't Fragment flag
.                               is set.

-23033  ipDestDeadErr           The destination host is not responding
.                               to address resolution requests.

-23035  icmpEchoTimeoutErr      The icmp echo packet was not responded
.                               to in the indicated timeout period.

-23036  ipNoFragMemErr          Insufficient internal driver buffers
.                               available to fragment this packet on send.

-23037  ipRouteErr              No gateway available to manage routing
.                               of packets to off-network destinations.

-23041  nameSyntaxErr           The <<hostname>> field had a syntax
.                               error. The address was given in dot
.                               notation (that is, W.X.Y.Z) and did
.                               not conform to the syntax for an IP
.                               address.

-23042  cacheFault              The name specified cannot be found in
.                               the cache.  The domain name resolver
.                               will now query the domain name server
.                               and return the answer in the callback
.                               procedure.

-23043  noResultProc            No result procedure is passed to the
.                               address translation call when the
.                               resolver must be used to find the
.                               address.

-23044  noNameServer            No name server can be found for the
.                               specified name string.

-23045  authNameErr             The domain name does not exist.

-23046  noAnsErr                None of the known name servers are
.                               responding.

-23047  dnrErr                  The domain name server has returned an
.                               error.

-23048  outOfMemory             Not enough memory is available to
.                               issue the needed DNR query or to build
.                               the DNR cache.
```

Published Date: Feb 19, 2012

MacTCP: How It Uses FTP Address to Connect (9/95)

I am beginning to use MacTCP and some Internet software for the first time. I have noticed that many times I type a hostname and do not connect to the server I intended to.

This article has been archived and is no longer updated by Apple.

When you ask MacTCP to connect to a hostname, several steps occur before MacTCP connects.

If the Name is "Fully Qualified"

MacTCP checks the hostname for a period. If the hostname ends in a period, MacTCP looks up exactly what was typed. This applies to names of any length. The default domain in MacTCP is ignored.

Examples

If you ftp to ftp.info.apple.com, MacTCP always connects you to
ftp.info.apple.com. (since it ends in a period).
If you ftp to ftp. MacTCP looks for ftp. (it also ends in a period).

If the Name is "Partially Qualified"

If the name typed is longer than one word (separated by periods), MacTCP connects to whatever was typed. The default domain in MacTCP is ignored.

Examples

If you type ftp.info.apple.com, MacTCP looks for ftp.info.apple.com.
If your default domain is apple.com and you type ftp.info, MacTCP
ignores the domain and looks for ftp.info.

NOTE: Most Macintosh users expect this behavior, but it is important to remember that other TCP/IP software (UNIX, Open Transport, DOS software) may behave differently. Ideally, the second example would have resulted in a lookup for ftp.info.apple.com.

If the Name is Just a Hostname

If the name is one word, then add the "default domain" from the MacTCP control panel.

Example

If your domain is info.apple.com and you type ftp, MacTCP looks for
ftp.info.apple.com.
If the hosts file or domain name servers have information on the host
and the host is working, you should connect to the desired machine.

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Volume II, Issue 9, Page 13

Article Change History:
26 Sep 1995 - Added Info Alley information; updated

Support Information Services
Published Date: Feb 19, 2012

System 7.5: Installing From Non-Apple CD-ROM Drive

I have installed System 7.5 from CD on my Macintosh computer and when I restart, my computer crashes immediately. I have tried starting with extensions off, but it still fails to get to the "Welcome to Macintosh" screen. I want to reinstall the System 7.5 software again but, I have a non-Apple CD-ROM drive and the CD will not mount when I start up off Disk Tools. How can I reinstall from the CD-ROM drive?
This article has been archived and is no longer updated by Apple.
The proper way to install any system software is to start up your computer from a volume other than the one to which the software is to be installed. This is most commonly done by starting up from the Disk Tools disk and installing onto the volume you want to upgrade. When you want to install from a CD-ROM disc, you start up from the Disk Tools disk and then put in the CD-ROM disc and install on the hard drive. This procedure works only for Apple CD-ROM Drives because Apple's Disk Tools disk may not have the neccesary drivers to mount a third party CD-ROM drive.

Because you have a third party CD-ROM drive, you were forced to insert the CD-ROM disc after you already were running your computer off the System software on your hard drive. You were then installing new system software over your existing active system software which may not execute properly.

The steps to remedy this situation are to re-install the previous system software and then to re-install the CD-ROM drive software which came with the your third party CD-ROM drive. You can now access the System 7.5 CD-ROM disc and use the disk images to make floppy disks of the System 7.5 install disks. You can then use these disks to follow the procedure for installing System 7.5 from floppies.

Page 10 of the System 7.5 Upgrade Guide contains the following:

"IMPORTANT: If you are installing from a CD onto a Macintosh with a non-Apple CD-ROM drive, make a backup copy of the System 7.5 software before your begin installation. If you encounter problems during installation, you can install System 7.5 from the backup disks. (You won't be able to use your CD-ROM drive again until the System 7.5 software is installed on your computer. The startup disk that comes with your CD recognizes only Apple CD-ROM drives.) For instructions and disk images, see the Back-up CD folder on your CD."
Published Date: Feb 19, 2012

LaserWriter 8.3: Desktop Print Spooler Causes Lockup

When I start up my computer, I am unable to select any menus or click on anything without the computer locking up. This started after installing the LaserWriter 8.3 driver.
This article has been archived and is no longer updated by Apple.
These symptoms can occur when using PowerTalk on a Macintosh computer that is not a Power Macintosh. The solution is to update the Desktop Print Spooler, which was included with the LaserWriter 8.3 driver. The latest version is 1.0.2, and it is available on many online services.

This article can help you locate the software update mentioned here:

- Article 14724: "**Where To Find Apple Software Updates**" - Lists online services for free Apple software updates.

Published Date: Feb 19, 2012

Speech Setup Characters: Changing Names

Customer has asked if any of the cartoon characters used in the Speech Set Up Menu can be changed along with their names.
This article has been archived and is no longer updated by Apple.
Although it is NOT supported by Apple Computer, Inc., it is possible to change the character names and icons using ResEdit. You will need to modify the "SR Monitor" extension.

Character names can be found in the "STR " resource. Character icons can be found in the "PICT" resource.

***** WARNING *****
The instructions in this article refer to using ResEdit to alter your system software. Apple Computer, Inc., is not liable for any damage done to your software through the use of ResEdit to alter the software. The User Assistance Center phone representatives (at 800-SOS-APPL) do not provide technical support for ResEdit. They will not help you to perform the procedure described here. ResEdit is supported by APDA. For contact information on APDA, search the Tech Info Library under "APDA".
Published Date: Feb 19, 2012

Apple IIe: Vertical Bars or Hissing after Logic PCB Replacement

PROBLEM DESCRIPTION: After the logic PCB is replaced, the Apple IIe displays vertical bars on the monitor or makes a hissing sound.

CAUSE: The speaker wire may be shorting against the logic PCB.

This article has been archived and is no longer updated by Apple.
CURE: 1. Check to see if the speaker wire is running under the Logic Board. If this is the case the wire may have been punctured by one of the IC pins protruding from the bottom of the logic board.

2. Route the wire over the top of the board and reconnect the speaker. If this cures the problem, replace the speaker with a new one.

3. Follow the Level I Tech Procedures to replace the Logic Board.

If this cure does not resolve the problem, go back to the Word Search screen and search on the product's name and HTS and GTS to obtain a General Troubleshooting procedure.

Published Date: Feb 19, 2012

Multiple System Folders On A Single Volume

Is it alright to have a copy of the System in a folder labeled "Copy of System?"
This article has been archived and is no longer updated by Apple.
With System 6.0.x, it was **not** alright to have two different System Folders, even if the names of the folders were different.

With System 7.x, it is possible to have multiple System Folders on a volume, as long as one folder is the "blessed" System Folder (that is, the blessed folder has a small Macintosh icon inside the icon of the folder). However, Apple Computer, Inc. still recommends using only one System Folder per volume.Any other situation is entered at your own risk. Apple Assistance Phone representatives will not help you manage multiple System Folders on one volume during troubleshooting.
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Color LaserWriter 12/600 PS: Order of Toner Application

What is the order of application in which the colored toner is applied to the paper on the Color LaserWriter 12/600 PS ?
This article has been archived and is no longer updated by Apple.
The Color LaserWriter 12/600 PS uses monocomponent toner cartridges to tranfer each individual color to the Organic Photo Conductor (OPC). This process is referred to as CMYK (or, C=Cyan, M=Magenta, Y=Yellow, and K=Black). CMYK is often confusing to some customers who interpret CMYK as the order in which the monocomponent toner is attracted to the OPC and then imparted to the paper. The order in which the toner is applied and attracted to the paper is:

Normal Print Mode
---
1. Magenta monocomponent toner
2. Cyan monocomponent toner
3. Yellow monocomponent toner
4. Black monocomponent toner
5. Fuser assembly, exit path

Best Print Mode
---
1. Paper attached to transfer drum for one complete revolution
2. Magenta monocomponent toner
3. Cyan monocomponent toner
4. Yellow monocomponent toner
5. Black monocomponent toner
6. Fuser assembly, exit path

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LW 16/600 and 12/600: Install Drivers on Windows NT (12/95)

This article explains how to install the LaserWriter 16/600 PS and Color LaserWriter 12/600 PS drivers on Windows NT 3.5.

This article has been archived and is no longer updated by Apple.

```
Step 1
------
From Windows NT 3.5, choose Create Printer from the Print Manager's Printer menu. The Create Printer dialog
box appears.

Step 2
------
Select Other (at the bottom of the list) in the Driver Combo box.

Step 3
------
Insert the Apple Windows Printer Disk 2 into the floppy disk drive.

Step 4
------
Verify that the correct floppy drive is indicated in the Install Driver dialog box and click OK. A list of
printer drivers appears.

Step 5
------
Select the printer driver that corresponds to your printer and click OK.

Step 6
------
Follow the instructions on the screen. If you are installing software from the Windows NT 3.5 CD, you may need
to type the path for your driver location. The path may be similar to this:

  "c:\\windows\\system32\\spool\\drivers\\w32x86\\1\\".
  Click Continue and OK to complete the installation.

Step 7
------
If you are installing Windows NT 3.5 software from floppy disks, you copy the following files (followed by
their locations) to the path of your driver location:

  PSCRIPTUI.DLL (Disk 13)
  PSCRIPT.DLL (Disk 13)
  PSCRIPT.HLP (Disk 18)


Article Change History:
05 Dec 1995 - Included Color LaserWriter 12/600 PS.
08 Aug 1995 - Reformatted for readability.

Support Information Services
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Published Date: Feb 19, 2012

Power Macintosh 9500 Series: Cannot Print to HP Printer (7/95)

I have a Power Macintosh 9500 computer, and I cannot print to my Hewlett Packard 550c printer when connected via the serial port.
This article has been archived and is no longer updated by Apple.
There is a known problem with serial printing to a 500 series based HP (Hewlett Packard) printer from a Power Macintosh 9500/120. As a workaround, you can print with LocalTalk. To do this, follow these steps:

1. Use LocalTalk connectors and cable; do not use a serial cable.

2. Verify that the correct port is selected in the Chooser. For example, if the LocalTalk cable is connected to the printer port, the printer port must be chosen in the Chooser.

3. Select the HP AppleTalk driver in the Chooser. Be sure to have the printer turned on before selecting the driver, or the printer may not appear in the chooser.

Hewlett Packard and Apple are working together on this issue, and this
article will be updated when more information is available.

Support Information Services
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Power Macintosh 5200/75 LC: Mirrored Video Port Pin-Outs

Could you provide the Mirrored Video Port (MVP) pin-out information for the Macintosh 5200/75 LC and Performa computers?
This article has been archived and is no longer updated by Apple.
Because the MVP Video output is a mirrored version of the internal video, the display resolution is set by the internal monitor setting. The MVP port retains the same monitor size as is set for the internal monitor.

The pin-outs are as follows:

Mirrored Video Port (MVP)

DB-15	MVP Con	Description
1	1	Ground
2	3	Red Video
3	5	Composite Sync
4	7	NO Connection
5	9	Green Video
6	11	Ground
7	13	NO Connection
8	15	Attn Dot Clk Signal
9	2	Blue Video
10	4	NO Connection
11	6	Ground
12	8	Vertical Sync
13	10	Ground
14	12	Ground
15	14	Horizontal Sync
Shell	16	Ground

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How De-installing QuickDraw GX Affects Fonts (7/97)

The following discussion is a list of common Questions and Answers (Q&A) about how fonts are handled when QuickDraw GX is de-installed.
This article has been archived and is no longer updated by Apple.

QUESTION: What is the preferred way to remove QuickDraw GX if I am not going to use the software?

ANSWER: There are two considerations when removing QuickDraw GX. First, removing all installed software. Second, re-enabling Type 1 fonts or moving archived Type 1 fonts back into the Fonts folder.

To remove QuickDraw GX completely:

1) Launch the QuickDraw GX Installer.

2) At the "Install" screen, select "Custom Remove" from the "Easy Install" pop-up menu. The Custom Remove screen will display a list of options that can be selected by putting an "x" to the left of the option desired.

3) Place an "x" in each box down the list. Note that some options may be grayed out.

4) After selecting all available options, click on the "Remove" button in the bottom right corner of the Custom Remove screen.

5) After successfully removing the software, the installer will ask you to Restart the computer.

The Custom Remove process will delete any "converted" fonts from your Fonts folder and move fonts stored in "archived" folders back into the Fonts folder located in your System Folder.

Note, if you have any x'd out icons on your desktop as a result of disabling QuickDraw GX, you may remove them after custom removing the software.

QUESTION: Does De-installing QuickDraw GX un-convert the fonts, or does it simply copy the archived fonts back into the Fonts folder?

ANSWER: Performing a "Custom Remove" of ATM GX using the QuickDraw GX Installer deletes the "converted" Type 1 font(s) and copy back the screen and printer Type 1 fonts from the Archived Type 1 fonts folder to the Fonts folder.

The only fonts "converted" when installing QuickDraw GX are Type 1 fonts. However, these fonts were actually not converted, but instead a new font is created from the screen and printer fonts. The screen and printer fonts are then placed into the Archived Type 1 fonts folder.

NOTE: This process ONLY takes place if ATM GX is selected as part of the QuickDraw GX installation, otherwise the Type 1 screen and printer fonts are left unprocessed in the Fonts folder.

QUESTION: Are the QuickDraw GX-modified fonts which are trashed during De-installation from the removed Fonts folder?

ANSWER: They are not "trashed" -- the originals are moved back as explained in the previous answer.

QUESTION: What if non-QuickDraw GX-converted fonts are in the System Folder's Fonts folder?

ANSWER: If there are "non-converted" screen and printer Type 1 fonts in the Fonts folder when the de-install takes place, they are left alone. The only fonts deleted are the "converted" Type 1 fonts in the Fonts folder.

QUESTION: Is this process of converting the fonts the same as the Type 1 Enabler program?

ANSWER: Yes.

QUESTION: How are the fonts modified?

ANSWER: A totally new font is created from the screen and printer Type 1 fonts. Basically, the screen font is duplicated and the Type 1 data is added to the new font.

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Volume II, Issue 10, Page 16

Article Change History:
28 Sep 1995 - Added Info Alley information; updated article.

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Color StyleWriter Pro: Watermark, N-up, Desktop Printing

Will the print drivers for the StyleWriter 1200, 2200 and 2400 work on a Color StyleWriter Pro and allow the use of Desktop Printing, WaterMarking and N-up printing? If so, which driver?
This article has been archived and is no longer updated by Apple.
None of the new drivers will work with the Color StyleWriter Pro. Watermark and N-up features are built in to these specific drivers so those functions are not available for the Color StyleWriter Pro.

However, you can use your original Color StyleWriter Pro print driver and still get desktop printing capability. The desktop printing software is backward compatible with and supported on any Apple print driver that uses PrintMonitor.

The desktop printing software is not currently available separately. However, it is included with the LaserWriter 8.3 software. The software is also included in the original disk sets of the StyleWriter 1200, 2200, and 2400 printers.

Note: Desktop printing REQUIRES Finder version 7.1.3 or greater to operate, thus requiring Systems 7.1.1 or greater.
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Network: One Macintosh Can‘t See LaserWriter; Others Can

One Macintosh node can't talk to the LaserWriter but all others on the network can. We know that the problem has something to do with the nodelocation because when a known good Macintosh is used at the node locationthe problem still occurs. Also, when using the Chooser from the problemnode location, the LaserWriter sometimes disappears.
This article has been archived and is no longer updated by Apple.
There may either be noise built up on the LocalTalk cable due to animproper termination at one of the LocalTalk connection boxes or morelikely, if you are using bulk roll cable in large 1500 rolls, there may bea cable problem.

You may want to use Node Check 1.0 from Apple or a similar product likeNode Informer from Cayman Systems to help you find the problem. Load andrun one of these programs on all of the Macintoshes installed on thenetwork. As the program is running, check and see which node can see whichnode and the LaserWriter. (Note that Node Check was NOT designed to workwith EtherNet. The current version of Node Check, 1.0, will not be updatedin the future. Node Informer would be a better choice in this situation.)

Each Macintosh should show all LaserWriters, AppleTalk ImageWriters (onlythe ImageWriters which have the LocalTalk card installed), and Macintoshesrunning the node program on the network.

When a problem is found, try swapping cable and connector boxes. The ideais to find the culprit junction by patiently swapping the systems on andoff the net until everybody sees everybody else on Node Check.

Node Informer is available on AppleLink through Cayman Systems. Use CaymanSystems as a search string for contact information.
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Color LaserWriter 12/600 PS: 4-Pass and 1-Pass Printing

When I print a grayscale picture on the Color LaserWriter 12/600 PS, I notice that the printer still uses the four-pass printing mode. Why is this, and is there any way around this? Also, what does the printer look for when determining if it is going to use the single-pass or four-pass mode?
This article has been archived and is no longer updated by Apple.
Four-pass printing (which uses all the cartridges, CMYK) is not automatic when Color/Grayscale is selected in the Print dialog of the LaserWriter 8.3 driver. On the Color LaserWriter 12/600 PS, the printer controller primarily determines whether to switch between single-pass and four-pass printing modes. It does this by parsing the PostScript input stream for any "color information". If found, the printer is placed into four-pass mode by the controller. The following should help in characterizing the manner in which the Color LaserWriter 12/600 PS is placed into four-pass mode:

The Color LaserWriter 12/600 PS WILL be placed into four-pass mode IF:

- The document to be printed contains a bitmapped image, black and white or color (in other words, if the PostScript "image" operator is used).
- It would take an enormous amount of "processing" time in the printer to look at the bitmapped data to check for any color information.
- The document to be printed contains one or more non-black pixels.
- If the entire page has only black and white data, but there is one color pixel in the page, then the printer will go to four-pass mode.
- An EPS file being printed contains any references to color usage.
- If the EPS file uses PostScript "color operators" such as "setcmyk", the printer will go into four-pass mode even if "Black and White" is selected in the driver.
- The document to be printed is a Legal-sized page, and there is only 12 MB of RAM in the printer.
- An application uses anything other than the PostScript "setgray" operator.

Note: An exception to this occurs if only black and white text is being printed. In that case, the printer will use single-pass mode. Otherwise, the reasoning for going into four-pass mode is strictly for less memory usage.
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Color LaserWriter 12/600 PS:Duplex Printing Not Supported

Can I print on both sides of the paper using a Color LaserWriter 12/600 PS?
This article has been archived and is no longer updated by Apple.
Duplex printing is not supported on the Color LaserWriter 12/600 PS. Using duplex printing can cause complications with the printer.

The toner material, if already applied and fused to the paper, can become sticky if passed through the fuser assembly again. It could then possibly adhere iteself to the heater rollers in the fuser making it very difficult to remove. Damage to the fuser's heater rollers is possible.

Once the paper passes through the fuser assembly, and moisture is evaporated from it by the fuser's heater bulbs, the paper may tend to curl slightly. This may also cause potential paper jams or misfeeds.
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Color LaserWriter: Changing Communications Settings

How do I change the communications settings on my Color LaserWriter 12/600 PS? Is that the purpose of the toggle switch on the back of the printer?

This article has been archived and is no longer updated by Apple.

You can adjust many of the Color LaserWriter 12/600 PS communication settings. Though the standard (factory default) communication settings work well for most environments, you might want to customize communication settings to turn off network interfaces you do not need. For example, if you know the printer will never receive a NetWare message over the network, you can turn off the interface and stop the printer from sending out unnecessary NetWare packets.

There is a small toggle switch on the back of the Color LaserWriter 12/600 PS. It is located on the right of the I/O board on the top rear of the printer, has a solid square box to the left of it and an outlined box to the right. Using this switch and the Apple Printer Utility, you can change the default communications settings of the printer.

When the switch is set to the right, the Apple Printer Utility can be used to change the default settings. However, when the switch is set to the left, settings cannot be changed. Settings for some of the options, such as the startup page for example, are not affected by the position of the switch.

If you attempt to change the settings while the switch is in the left position, you get a message stating that some settings will not be saved on the next power cycle.

To reset the printer to the default settings, use the Printer Utility and click on the Set Defaults option. If you do not have access to the Printer Utility, move the switch to the left, and restart the printer. Keep the switch in this position while the printer starts up. Then, move the switch back to the right to change the settings. Moving the switch while the printer is on does not harm the printer. Resetting the switch will not erase the IP number assigned through a printer utility.

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QuickDraw GX 1.1.2: Desktop Printer Icons Won‘t Stay Put

It appears that the latest QuickDraw GX 1.1.2 does not retain the positions of the desktop printer icons on the Finder Desktop like QuickDraw GX 1.1.1 did. How can I fix this?
This article has been archived and is no longer updated by Apple.
This is a known issue with QuickDraw GX 1.1.2, and will be addressed in the next major release of QuickDraw GX.

Workaround

Fortunately, there is a quick workaround for this problem. Follow these steps:

1. Start up with Extensions off.
2. Move the desktop printer icons to where you want them on the desktop.
3. Restart.

The desktop printers should remain where you have placed them.

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Volume II, Issue 8, Page 12

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Power Macintosh: Composite DIMMs Not Recommended

Are there any issues with Power Macintosh computers using Composite or Non-Composite DIMMs?
This article has been archived and is no longer updated by Apple.
Apple does not recommend or support composite DIMMs in any Macintosh model which uses 168-pin DIMMs.

Composite DIMMs, like composite SIMMs, are made up of lower-density components to construct a single bank of memory. Combining multiple chips to achieve a larger sum of memory can load down the signal to a point where the signal becomes unreliable.

Apple's Developer Note states the following:

The number of DRAM devices in a RAM DIMM for the Power Macintosh 9500 computers is constrained by the load limits of the unbuffered signals. On each DIMM, a maximum of two devices can be connected to each data line and a maximum of eight devices can be connected to each /RAS line.

DIMMs used with Apple's products are to meet the following JEDEC Joint Electron Device Engineering Council standards. Its mechanical design is defined by the MO-161 specification published by the JEDEC JC-11 committee; its electrical characteristics are defined by the JEDEC Standard No. 21-C.
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Power Macintosh 9500 Series: Memory Questions & Answers (1/96)

Article Review/Updated: 24 January 1996

The following is a list of common questions and answers (Q&A) concerning the new type of RAM, DIMMs (Dual Inline Memory Modules) used in the Power Macintosh 9500 series computers.

Questions Answered in this Article:
==========

1) How many SIMM (Single Inline Memory Module) slots are available in the Power Macintosh 9500 computers?

2) What are the sizes and specifications of the DIMMs that I can use in the Power Macintosh 9500?

3) Is the 16 MB standard configuration of these computers using up any slots or is the RAM soldered onto the logic board?

4) Does memory (DIMMs) have to be installed in pairs?

5) Are there any guidelines I should follow if I want to take advantage of memory interleaving?

This article has been archived and is no longer updated by Apple.

1) Question: How many SIMM (Single Inline Memory Module) slots are available in the Power Macintosh 9500 computers?

Answer: There are no SIMM slots in the Power Macintosh 9500 computers. Memory expansions slots on the Power Macintosh 9500 are called Dual Inline Memory Module (DIMM) slots, not SIMM slots. There are 12 DIMM slots total in the Power Macintosh 9500.

2) Question: What are the sizes and specifications of the DIMMs that I can use in the Power Macintosh 9500?

Answer: Your computer can use any DRAM configuration with DIMMs of these sizes:
8, 16, 32, or 64 MB. The exact configuration depends on the density of the DRAM chips that are mounted on the DIMMs. (The DIMMs support both 2K and 4K refresh rates.)

You can increase you computer's DRAM to up to 768 MB using 16-megabit (Mbit) DRAM technology. The main logic board has 12 slots (each with a 64-bit data bus) where DIMMs can be installed.

Note: The Power Macintosh 9500 series is designed to expand to a DRAM capacity of up 1.5 gigabyte (GB) using 128 MB DIMMs. However, these DIMMs are not currently readily available and have not been tested by Apple Computer, Inc. for use in the Power Macintosh 9500 series computers.

IMPORTANT
The DIMMs should be 5-volt, 64-bit-wide, 168-pin fast-paged mode, with 70- nanosecond (ns) RAM access time or faster. DIMMs taller then 1.25 inches cannot fit in to the Power Macintosh 9500 computer. The Single Inline Memory Modules (SIMMs) from older Macintosh computers are not compatible with the 9500 and cannot be used.

3) Question: Is the 16 MB standard configuration of these computers using up any slots or is the RAM soldered onto the logic board?

Answer: The Power Macintosh 9500 series computers come standard with 16 MB of memory. Since there is no memory soldered on to the logic board Apple currently configures the computer with either two 8 MB DIMMs or one 16 MB DIMM depending on availability.

4) Question: Does memory (DIMMs) have to be installed in pairs?

Answer: Unlike the original Power Macintosh computers, the Power Macintosh 9500 DIMMs do not have to be installed in pairs. If you decide to have additional DRAM installed in your computer, the DIMMs can be installed one-at-a-time in any order in any of the memory slots.

However, if you intend to take advantage of the increase in performance that memory interleaving offers, you will need to install the DIMMs in identical pairs. With memory interleaving you can see up to an 8% increase in performance depending on various factors including the applications being used.

One of the main reasons that the SIMMs have to be installed in pairs on the original Power Macintosh computers is that the 72-pin SIMMs used in those computers are 32-bit wide SIMMs. However, the data buses of the Power Macintosh computers prior to the 9500 series are 64-bits wide. Thus you have to install two SIMMs to accommodate the 64-bit wide data bus.

The Power Macintosh 950, on the other hand, uses 168 pin, 70ns or faster DIMMs which are 64-bit wide. Therefore, it only takes one DIMM to meet the 64 bit wide data bus requirement, and you only have to install one DIMM at a time.

5) Question: Are there any guidelines I should follow if I want to take advantage of memory interleaving?

Answer: if you wish to take advantage of the Power Macintosh 9500 series computers' memory interleaving capability, which provides maximum performance, you must have the DIMMs installed in pairs, and in paired slots. (A1 and B1 are the first pair of slots, A2 and B2 are the second, and so on.) Memory interleaving allows the computer to read or write its memory while other memory reads or writes are occurring, thus providing faster performance.

Paired DIMMs should be the same size and speed. DIMMs purchased for different manufacturers can be paired as long as they are the same size and speed.

Article Change History:
24 Jan 1996 - Added information about memory interleaving and revised format.
08 Aug 1995 - Added information about size of DIMMs included.
28 Jul 1995 - Added explanation on number of DIMM slots

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Power Mac 7500,7600,8500,9500 Series: SCSI-2 Compliance

This article contains the answers to questions about the SCSI (Small Computer Systems Interface) buses in the Power Macintosh 7300, 7500, 7600, 8500, 8600, 9500, and 9600 series computers.

Questions Answered in this Article

1. How many SCSI buses do the Power Macintosh 7300, 7500, 7600, 8500, 8600, 9500, and 9600 series computers have?
2. What are the speeds of the SCSI buses?
3. How many SCSI devices can I attach to these computers internally?
4. How many SCSI devices can I attach to these computers externally?
5. Does one SCSI bus have precedence over the other?
6. Is the external SCSI port SCSI-2 or Fast SCSI-2?
7. Is our MESH Fast SCSI controller fully compliant with the SCSI-2 'Fast' specification as defined in the SCSI-2 spec?
8. Since the Power Macintosh 7300, 7500, 7600, 8500, 8600, 9500, and 9600 series computers are SCSI-2 compliant will we see better SCSI performance?
9. Did Apple implement SCSI disconnect/reconnect?
10. Will third-party manufacturers be able to optimize their equipment to take advantage of Fast SCSI-2?
11. If I remove the internal Apple hard drive, is the internal SCSI bus terminated or not?
12. Are the internal hard drives included with the Power Macintosh 7300, 7500, 7600, 8500, 8600, 9500, and 9600 series computers Fast SCSI devices?
13. What is meant by "dual-channel asynchronous SCSI"? How does this affect the internal SCSI termination on these computers?

This article has been archived and is no longer updated by Apple.

1) Question: How many SCSI buses do the Power Macintosh 7300, 7500, 7600, 8500, 8600, 9500, and 9600 series computers have?

Answer: There are two SCSI buses on the Power Macintosh Power Macintosh 7300, 7500, 7600, 8500, 8600, 9500, and 9600 series computers. There is an internal bus and an external bus.

2) Question: What are the speeds of the SCSI buses?

Answer: The internal bus has a maximum transfer rate of 10 MB/sec. The external bus has a maximum transfer rate of 5 MB/sec.

3) Question: How many SCSI devices can I attach to these computers internally?

Answer: There is a connector for the external bus inside the computer on the logic board, however, it is generally easier to simply hook internal devices to the internal bus.

There are 4 drive bays inside the Power Macintosh 7300, 7500, 7600, 8500, 8600, 9500, and 9600 series computers but one is used by the floppy drive. If your computer has a hard drive and CD-ROM drive you will have room for one more internal SCSI device for a maximum of three (3) on the internal SCSI chain due to physical constraints.

4) Question: How many SCSI devices can I attach to these computers externally?

Answer: The external bus can have up to 7 SCSI devices attached to it. Make sure that you do not exceed the maximum cable length (6 meters or 20 feet) including the cables inside the devices. Additionally all SCSI devices must be powered on when your Macintosh is on.

5) Question: Does one SCSI bus have precedence over the other?

Answer: Because you can have two SCSI devices at the same SCSI address (one on each bus) the internal bus (all addresses) is set up to take precedence over the external bus. For startup drives the setting in the Startup Disk control panel is used.

6) Question: Is the external SCSI port SCSI-2 or Fast SCSI-2?

Answer: The external SCSI channel on the Power Macintosh 7300, 7500, 7600, 8500, 8600, 9500, and 9600 series computers is SCSI-2 compliant but does not support Fast SCSI-2. The external SCSI channel supports the SCSI-2 standard at 5 MB per second. The internal SCSI channel supports the Fast SCSI-2 standard at 10 MB per second for a hard disk array. Both internal and external buses are 8-bit only, not wide.

7) Question: Is the MESH Fast SCSI controller fully compliant with the SCSI-2 'Fast' specification as defined in the SCSI-2 spec?

Answer: The Fast mode is completely SCSI-2 compliant.

8) Question: Since the Power Macintosh 7300, 7500, 7600, 8500, 8600, 9500, and 9600 series computers are SCSI-2 compliant will we see better SCSI performance?

Answer: By itself, SCSI-2 does not mean added performance, although, generally speaking SCSI-2 products are newer and tend to be faster just because they take advantage of the latest software and hardware advances. Optional SCSI-2 modes like 'FAST' and 'WIDE' offer improved SCSI performance.

9) Question: Did Apple implement SCSI disconnect/reconnect?

Answer: Yes, Apple implemented disconnect/reconnect per the SCSI-2 standard.

10) Question: Will third-party manufacturers be able to optimize their equipment to take advantage of Fast SCSI-2?

Answer: Apple cannot comment on the compatibility of third-party products. Please check with the manufacturer of your third-party products for compatibility with the Fast SCSI-2 standard on the internal SCSI channel of these Power Macintosh computers.

11) Question: If I remove the internal Apple hard drive, is the internal SCSI bus terminated or not?

Answer: The Apple internal drive supplies termination to the internal SCSI bus when it ships from the factory. If the drive is removed and another drive is installed, then that drive should be terminated. If no drive is installed on the internal SCSI bus, then the ribbon cable should be removed from the logic board to prevent problems with termination.

12) Question: Are the internal hard drives included with the Power Macintosh 7300, 7500, 7600, 8500, 8600, 9500, and 9600 series computers Fast SCSI devices?

Answer: Yes, the internal hard disks shipped with the Power Macintosh 7300, 7500, 7600, 8500, 8600, 9500, and 9600 are Fast SCSI devices capable of up to 10 MB per second transfer rates. However, transfer rates may be less than the maximum rating of the drives.

13) Question: What is meant by "dual-channel asynchronous SCSI"? How does this affect the internal SCSI termination on these computers?

Answer: Computers with dual-channel asynchronous SCSI have a single SCSI controller which manages SCSI communications across two separate SCSI buses: an internal/external SCSI bus (Bus 1) and an internal SCSI bus (Bus 0).

There are no devices attached internally to Bus 1 in Power Macintosh 7300, 7500, 7600, 8500, 8600, 9500, and 9600 series computers.

Bus 1 has automatic termination, which means that circuitry on the logic board senses whether or not there are any external SCSI devices attached. If there are no external SCSI devices connected, the logic board automatically terminates itself at the 50-pin logic board connector, thus terminating both ends of the SCSI chain.

Once an external SCSI device is connected to the 25-pin external connector, the circuitry senses the device and disables termination at the 50-pin logic board connector. The computer then relies on the external SCSI device to provide the proper termination.

Bus 0 is a completely separate SCSI bus with its own SCSI controller. In Power Macintosh 7300, 7500, 7600, 8500, 8600, 9500, and 9600 series computers, Bus 0 provides Fast SCSI communications up to 10 MB per second.

This bus has a 50-pin flat ribbon cable with two 50-pin connectors on it. Power Macintosh 7300, 7500, 7600, 8500, 8600, 9500, and 9600 series computers ship with the internal hard drive and CD-ROM drive connected to this SCSI bus. The internal hard drive is terminated, which terminates the SCSI bus.

Unlike Bus 1, Bus 0 does not have automatic termination because it is exclusively an internal SCSI bus. If additional devices are added to Bus 0, only the last device should contain termination resistors.
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Apple II: "Understanding the Apple II"

This article has been archived and is no longer updated by Apple.

"Understanding Your Apple II", an in-depth Apple II and II+ hardware manual, is now available from Quality Software or from your local dealer. The book, by Jim Sather, has a foreword by Steve Wozniak. Some of the book's features:

--Documents all motherboard circuits, including some discussed nowhere else.

--Describes disk controller operation, including previously undocumented details of the logic state sequencer.

--Explains RAM and ROM card operation.

--Reveals previously unnoticed features of Apple graphics.

--Contains 23 software and hardware Application Notes including the shift key mod, disk write protect mod, and EPROM mods.

--Includes a chapter on simple user troubleshooting and maintenance.

--Contains over 100 figures and illustrations, including more than 20 schematics, ten appendices, a glossary and index.

This book runs 352 pages in all! A companion text, "Understanding Your Apple IIe", is also available from:

Quality Software
21601 Marilla Street
Chatsworth, CA - 91311
(818) 709-1721

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Apple IIc : Logic PCB Bad After IIc Starts By Itself

The system won't boot or exhibits diagnostic RAM failure after turning itself back on about 10 to 20 minutes after it was turned off.

NOTE: This usually occured the first time the Apple IIc was turned and did not occur on all of the power supplys in the serial number range. Most of the power supplys in the serial number range work properly and will not show any of the described symptoms. If the Apple IIc is working properly there is no need to replace the power supply. All of the replacment module power supplys made by TDK have had this problem corrected. Refer to the Apple IIc Technical Procedures for more information on identifying reworked TDK power supplys.
This article has been archived and is no longer updated by Apple.
Some TDK Apple IIc power supplies have a problem that causes them to turn back on spontaneously 10 - 20 minutes after the power switch has been turned "OFF". The power supply may have blown the RAM on the logic PCB when it turned itself back on.

To check for this problem locate the serial number/name plate on the power supply. Identify the vendor and date code for the power supply. The information on the plate is in the following order.

(Vendor)
699-0230
CE-0453
(Date Code)
(Serial Number) Japan

If the vendor is TDK, the power supply shows a date code between 8501 and 8526, and displays the problem stated above, replace the power supply and the logic PCB. Be sure to refer to the Apple IIc Technical Procedures for complete information.

If this cure does not resolve the problem, go to the Technical Procedures to obtain a general troubleshooting procedure for this product.
Published Date: Feb 19, 2012

Color StyleWriter 2400: Installing LocalTalk Option (7/95)

This article describes the Color StyleWriter 2400 LocalTalk Option (M3458LL/A).
This article has been archived and is no longer updated by Apple.
The Color StyleWriter 2400 LocalTalk Module allows Color StyleWriter 2400 users to connect their printers directly to LocalTalk networks, thereby eliminating the need for a dedicated host, as is necessary with ColorShare. The LocalTalk Module is user installable; it plugs directly into the printer's serial port.

This prodecure covers the installation of the optional LocalTalk module, which enables the printer to connect to a LocalTalk network.

Using a small flat-blade screwdriver, release the mounting tab and remove the interface cover from the rear case.

Plug the LocalTalk connector into the serial port on the printer.

Insert the upper edge of the LocalTalk module into the rear case of the printer, and then snap the bottom into place.

Part numbers mentioned in this article are accurate as of this writing. Before ordering, verify that they are still correct as they are subject to change.

Article Change History:
28 Jul 1995 - Added part number.

Support Information Services
Published Date: Feb 19, 2012

Imaging: Glossary of Terms

This article describes some of the common terms used when discussing imaging technology.
This article has been archived and is no longer updated by Apple.

1 bit

A bit is the smallest quantity of data. One bit of information can have two possible values: 1 or 0.

4 bits
---
4 bits of information have 16 possible values.
Application Programming Interface An architecture that allows applications and drivers to request functions from a specific program or system extension.

ASIC

Stands for Application Specific Integrated Circuit. ASICs are designed to either reduce cost by putting many functions in one piece of silicon or improve performance by putting software functionality into hardware.

Bilevel data

Data that represents objects that have one of two states: typically black or white. Text and line art are examples of bilevel data.

Binary data

Objects that are represented by combinations of 1s and 0s. The other common form of data is ASCII, where objects are described by a combination of numbers and letters.

Bitmap

A pixel-by-pixel representation of an object.

CIE Committee

Commission International de IEclairage (International Commission on Illumination).

CIE XYZ and LaB

Device-independent color spaces defined by the CIE committee.

CMYK

Cyan, Magenta, Yellow and blacK. The three subtractive primary colors, plus black make the process printing colors.

Color Electronic Publishing Systems, or CEPS

Computer-based systems for inputting, manipulating, assembling and outputting data, both color and black and white, in various forms of media. Examples are from Linotype, Scitex, and Crosfield.

Color Management System

A system for communicating color fidelity across devices, such as input, display, and output devices.

Color Matching Method

The routine used by a color management system to apply transformations to color data.

Color separation

The process of separating color into the primary process colors in preparation for printing.

Color space

A set of parameters that describe color values, such as RGB (red, green, blue) or CMYK (cyan, magenta, yellow, black).

Colorants

The colors used by a color device to reproduce color. A printing press uses the CMYK colorants.

Continuous tone

An image that has no apparent steps between one shade and the next.

Controller

A circuit board that controls what the print engine outputs.

Decompress

The process of restoring a compacted version of an object to its full size.

Device calibration

The process of adjusting a device to compensate for differences due to manufacturing, age, environmental conditions, and media inconsistencies.

Device characterization

The process of creating a device profile, which involves measuring colors with a highly sensitive measuring device.

DPI

Dots per inch; the number of dots that can be placed horizontally and vertically. This is also known as printer resolution.

Fat Binary

An application that supports both PowerPC and 68000 processors.

Gamma

The overall darkness of a gray ramp.

Gamut

The range of colors that a device can reproduce.

Gamut mapping

The process of altering a color so that it can be reproduced on a particular device.

Gray

The intensity of a black-and-white object.

Grayscale

A range of gray levels.

Halftone

The process of converting multilevel data into bilevel data.

Halftone cell

The pattern of white-and-black pixels that is repeated.

Halftone screen

See halftone cell

Halftone screen dot

The black portion of the halftone cell. The most common halftone cells grow from the center so a dot-like structure is formed as darker grays are formed.

Halftone screen elements

The pixels that make up the halftone cell.

Halftone screen pattern

The shape that all of halftone elements form when combined.

Halftone screen (line screen)

A term to describe how many lines (dots) of resolution are available with a particular halftone cell. For example on a 300-dots-per-inch printer, a 3 x 3 halftone cell at 0 degrees gives a 100-dots-per-inch halftone screen. This can be calculated by dividing the resolution of the printer by the number of elements in the halftone cell.

Hi-Fi color process

The use of more than the four basic colors in the printing process to produce more vibrant color.

ICC profile

A cross-platform standard used to represent the color capabilities of device.

Ideal edge

The line the high-definition ASIC calculates to be the best edge for a particular segment of text or line.

Images

The term used to describe multibit scanned data.

Intermediate gray levels

Gray levels obtained by turning on less than a 300-dots-per-inch pixel.

International Color Committee (ICC)

A committee formed in 1993 to establish standards for electronic color publishing. The first standard is the ICC profile, which is a cross-platform specification for color management profiles.

Line screen

See halftone screen.

Lines per inch

Same as line screen.

Linear toner response

See grayscale linearity.

Multibit data

Objects that contain more than one bit of information (color or gray) per pixel.

Page buffer

Printer memory set aside to store the image prior to sending it to the laser printer.

Photosensitive drum

A cylinder coated with a material that holds a charge when exposed to light. A photosensitive drum is what the laser strikes in the toner cartridge of a laser printer.

Pixel

The smallest area that can be addressed in both the horizontal and vertical direction.

PostScript

A language that is used to described graphic objects. A PostScript interpreter is software that executes a PostScript language program and turns the description of an object into bits in a frame buffer.

Process colors

The four primary colors used in the printing process. These are CMYK (Cyan, Magenta, Yellow, and Black).

Profile

A file containing the color reproduction capabilities of a given input, display, or output device. Color management systems use profiles to interpret color data between devices.

Pulse

The term used to describe turning on the laser beam for a period of time. The laser can be pulsed for each pixel. With high definition, the laser is pulsed for a shorter period of time (or multiple times) to turn on less than one whole pixel.

Rendering styles

The method in which color is reproduced, taking into consideration the intent of the color. For example, photographic colors require less saturated rendering than business graphics do.

RET (Resolution Enhancement Technology)

Hewlett-Packards technique to rapidly pulse the laser to smooth the edges of fonts and lines. RET is included in the Hewlett-Packard LaserJet III printer.

RGB

The additive colors Red, Green, and Blue. Combined, these colors make white and are usually used in color displays.

Screen angle

The angle at which the halftone cell repeats. Typically 45-degree halftone cells are used because they mask banding that the eye picks up with zero-degree cells.

Screen frequency

See line screen.

Simulation

Using one device to predict the results another device, usually a printing device.

Spectrophotometers

A device that measures the wavelength of a color.

Spot colors

Colors used in printing that are not part of the process ink set. These are usually used in addition to the process colors. Examples are Pantone, Toyo, and Focoltone.

Toner

The substance that is used in laser printers to form the black dots.

Published Date: Feb 19, 2012

PowerPC: SPEC ratings for 601 and 601+ Chips

This article contains the SPEC ratings for the PowerPC 601 and 601+ chips used in Power Macintosh computers. MIPS (Millions of Instructions Per Second) ratings are not provided for PowerPC chips.

Note: This information comes from Motorola and IBM. For additional information, contact Motorola or IBM's PowerPC web sites at:

Motorola: **http://www.mot.com/SPS/PowerPC/**
IBM: **http://www.chips.ibm.com/products/ppc/index.html**

For additional information about SPEC ratings, contact **http://www.specbench.org/**
This article has been archived and is no longer updated by Apple.

PowerPC Chip	601	601+
Technology	0.6 micron CMOS	0.5 micron CMOS process
Die Size	10.95mm x 10.95mm	8.6mm x 8.6mm (74mm^2)
Transistors	2.8 mil - 1 mil for logic	2.8 mil - 1 mil for logic
Cache	32K Unified	32K Unified
Temp. Range	0 to 85 degrees C	0 to 85 degrees C
Performance	60+ SPECint92 @ 66MHz 80+ SPECfp92 @ 66MHz 85 SPECint92 @ 80MHz 105 SPECfp92 @ 80MHz	105 SPECint92 @ 100MHz (est.) 125 SPECfp92 @ 100MHz (est.)
Signal I/Os	184	184
Power Supply	3.6V ±5%	5.0V ±5% & 2.5V ±.2V or 3.3V ±5% & 2.5V ±.2V
Power Dissipation	5.6W @ 50MHz 7.0W @ 66MHz 8.0W @ 80MHz	4W @ 100MHz
Packaging	Ceramic quad flat pack (304 pins)	Ceramic quad flat pack (304 pins)

Published Date: Feb 19, 2012

PowerPC: SPEC Ratings For 603 & 603e Chips

This article contains the SPEC ratings for the PowerPC 603 and 603e chips used in Power Macintosh computers. MIPS (Millions of Instructions Per Second) ratings are not provided for PowerPC chips.
This article has been archived and is no longer updated by Apple.

PowerPC Chip	603	603e
Technology	0.5 micron CMOS process	0.5 micron CMOS process
Die Size	7.4mm x 11.5mm (85mm^2)	8.4mm x 11.67mm (98mm^2)
Transistors	1.6 million	2.6 million
Cache	16K Split	32K Split
Temp. Range	0-105 deg. C	0-105 deg. C
Performance	75 SPECint92 @ 80 MHz	120 SPECint92 @ 100 MHz
	65 SPECfp92 @ 80 MHZ	105 SPECfp92 @ 100 MHz
	62 SPECint92 @ 66 MHz	
	54 SPECfp92 @ 66 MHz	
Signal I/Os	165	165
Power Supply	3.3V +/- 5%	3.3V +/- 5%
Power Dissipation	2.5W @ 80 MHz	3W @ 100 MHz
	2.2W @ 66.67 MHz	
Packaging	C4 Ceramic quad flat pack (240 pins)	C4 Ceramic quad flat pack (240 pins)

Published Date: Feb 19, 2012

PowerPC: SPEC ratings for 604 & 620 chips

This article contains the SPEC ratings for the PowerPC 604 and 620 chips used in Power Macintosh computers. MIPS (Millions of Instructions Per Second) ratings are not provided for PowerPC chips.

Note: This information comes from Motorola and IBM. For additional information, contact Motorola or IBM's PowerPC web sites at:

Motorola: **http://www.mot.com/SPS/PowerPC/**
IBM: **http://www.chips.ibm.com/products/ppc/index.html**

For additional information about SPEC ratings, contact **http://www.specbench.org/**

This article has been archived and is no longer updated by Apple.

PowerPC Chip:	604	620
Technology:	0.5 micron CMOS process	0.5 micron CMOS process
Die Size:	12.4mm x 15.8mm (196mm^2)	17.1mm x 18.2mm (311mm^2)
Transistors:	3.6 million (1.5 million for logic)	7 million
Cache:	32K Split	64K Split
Temp. Range:	Not Available	Not Available
Performance:	160 SPECint92 @ 100MHz(proj) 165 SPECfp92 @ 100MHz(proj)	225 SPECint92 @ 133MHz(est) 300 SPECfp92 @ 133MHz(est)
Signal I/Os:	171	482
Power Supply:	3.3V	3.3V▒0.3V
Power Dissipation:	<10W @ 100MHz (est)	30W @ 133MHz
Packaging:	Ceramic quad flat pack (256 pins)	25 x 25 Ball Grid Array

Published Date: Feb 19, 2012

Power Macintosh 9500: Pinouts

This article presents the pinouts for Power Macintosh 9500 series computers. These pinouts include: ADB, GeoPort, SCSI, a floppy disk drive, built-in Ethernet, high-quality 16-bit stereo sound, and various levels of monitor support depending on the model.
This article has been archived and is no longer updated by Apple.

```
Apple Desktop Bus (ADB)
-----------------------
One connector is located on the back panel of Power Macintosh computers. It is a 4-pin mini-DIN socket.

Pin    Description
---    -----------
1     Data; grounded by an open collector or pulled to +5 V through 470
2     Power on, fed by +5 V through 100 k; connect to pin 4 to turn on
      the system
3     +5 V at 500 mA maximum drain; protected by a 1.25-A circuit breaker
4     Ground return


Ethernet
--------
All models of Power Macintosh contain built-in Ethernet.  The 9500's offer two types of connection.

One AAUI-15 Ethernet connector

Pin          Description           Pin          Description
---          -----------           ---          -----------
1           +5 V                   8           +5 V
2           DI+                    9           DO+
3           DI-                   10           DO-
4           Ground                11           Ground
5           CI+                   12           No Connection
6           CI-                   13           No Connection
7           +5 V                  14           +5 V

And One 10Base-T Ethernet connector (NOTE: If both 10BASE-T and AAUI connectors are plugged in, the computer
uses the 10BASE-T connector by default.)

The pin configurations for 10BASE-T are as follows:

 RJ-45 Connector
 ----------------------------
|   1  2  3  4  5  6  7  8    |
|   -----------------------   |
|  |\\\\ \\\\ \\\\ \\\\ \\\\ \\\\ \\\\ \\\\|  |
|  |                       |  |
|  |                       |  |
|  |                       |  |
|  -----               -----  |
|       |              |      |
|        ---        ---       |
|           |      |          |
|            ------           |
-------------------------------

Contact:      Signal:
  1            TD+
  2            TD-
  3            RD+
  4            Not Used by 10BASE-T
  5            Not Used by 10BASE-T
  6            RD-
  7            Not Used by 10BASE-T
  8            Not Used by 10BASE-T
```

Serial Ports

The back panel of all Power Macintosh models contain two I/O ports for serial telecommunication data. Both sockets accept 9-pin plugs allowing either port to be independently programmed for asynchronous or synchronous communication formats up to 9600 bps. This includes AppleTalk and the full range of Apple GeoPort protocols.

Pin	Name	Function
1	SCLK(out)	Reset pod or get pod attention
2	Sync(in)/SCLK(in)	Serial clock from pod (up to 920 Kbit/sec.)
3	TxD-	Transmit -
4	Gnd/shield	Ground
5	RxD-	Receive -
6	TxD+	Transmit +
7	Wakeup/TxHS	Wake up CPU or do DMA handshake
8	RxD+	Receive +
9	+5 V	Power to pod (350 mA maximum)

SCSI Connection

The SCSI interface in Power Macintosh computers exists in two forms: an internal 50-pin ribbon connector for internal devices and an external DB-25 connector for external devices.

Pin Number		Description	Pin Number		Description
Internal	External		Internal	External	
1	7	Ground	2	8	/DATA0*
3	9	Ground	4	21	/DATA1
5	14	Ground	6	22	/DATA2
7	16	Ground	8	10	/DATA3
9	18	Ground	10	23	/DATA4
11	24	Ground	12	11	/DATA5
13		Ground	14	12	/DATA6
15		Ground	16	13	/DATA7
17		Ground	18	20	/DATAP
19		Ground	20		No connection
21		Ground	22		No connection
23		Ground	24		No connection
25		No connection	26	25	TERMPWR
27		Ground	28		No connection
29		Ground	30		No connection
31		Ground	32	17	/ATN
33		Ground	34		No connection
35		Ground	36	6	/BUSY
37		Ground	38	5	/ACK
39		Ground	40	4	/RST
41		Ground	42	2	/MSG
43		Ground	44	19	/SEL
45		Ground	46	15	/C/D
47		Ground	48	1	/REQ
49		Ground	50	3	/I/O

* A slash (/) before a signal name indicates that it is in the low state when active.

Floppy Disk Drive Connection

All Power Macintosh models contain one internal Apple superDrive floppy disk drive, which supports GCR and MFM formats for 1.44 MB disks.

Pin	Signal	Description	Pin	Signal	Description
1	GND	Ground	11	+5 V	+5 V

2	PH0	Phase 0 state control	12	SEL	Head select
3	GND	Ground	13	+12 V	+12 V
4	PH1	Phase 1 state control	14	/ENBL*	Drive enable
5	GND	Ground	15	+12 V	+12 V
6	PH2	Phase 2 state control	16	RD	Read data
7	GND	Ground	17	+12 V	+12 V
8	PH3	Phase 3 register write strobe	18	WR	Write data
9	NC	No connection	19	+12 V	+12 V
10	/WRREQ	Write data request	20	NC	No connection

* A slash (/) before a signal name indicates that it is in the low state when active.

Monitor Support

The Power Macintosh 9500/120 includes an accelerated display card based on the mach64 graphics accelerator from ATI Technologies, Inc.

Pin	Description	Pin	Description
1	Red ground	9	Blue video signal
2	Red video signal	10	Monitor sense 2
3	Composite synchronization	11	Synchronization ground
4	Monitor sense 0	12	Vertical synchronization
5	Green video signal	13	Blue ground
6	Green ground	14	Horizontal synchronization ground
7	Monitor sense 1	15	Horizontal synchronization
8	No connection		

The Power Macintosh 9500/132 requires a third-party (non-Apple) graphics accelerator for display support.

Sound I/O

All Power Macintosh computers contain external stereo 3.5mm jacks for sound I/O, connected through amplifiers to the AWAC chip.

Panel label	Description
Audio In	8 k impedance, 2 V rms maximum, 22.5 dB gain available
Audio Line Out	37 impedance, 0.9 V rms maximum, attenuated -22,5 dB (crosstalk degrades from -80 to -32 dB when the audio output is connectedto 32 headphones)

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Power Macintosh: Apple Accelerated Graphics Card Pinouts (7/95)

This article presents the pinouts for the Apple Accelerated Graphics Card available in the Power Macintosh 9500/120 computer.
This article has been archived and is no longer updated by Apple.

The Apple Accelerated Graphics Card is based on the mach64 Graphics Accelerator card from ATI Technologies, Inc.

Pin	Description	Pin	Description
1	Red ground	9	Blue video signal
2	Red video signal	10	Monitor sense 2
3	Composite synchronization	11	Synchronization ground
4	Monitor sense 0	12	Vertical synchronization
5	Green video signal	13	Blue ground
6	Green ground	14	Horizontal synchronization ground
7	Monitor sense 1	15	Horizontal synchronization
8	No connection		

Note: The Power Macintosh 9500/132 computer does not come with the Apple Accelerated Graphics Card. It requires a third-party (non-Apple) graphics accelerator for display support.

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Power Macintosh 9500/120: Portrait Monochrome Display

Does the video card that comes pre-installed in the Power Macintosh 9500/120 support the Apple Portrait Display? If so, does the card support 256 shades of gray?

This article has been archived and is no longer updated by Apple.

The Apple Portrait Display (a monochrome 15-inch display) is supported by the Power Macintosh 9500/120 Apple Accelerated Graphics Card (ATI). The Technical Specification booklet which came with the computer lists the Portrait Display incorrectly as an RGB monitor. The color depth is also incorrect for both memory configurations.

Monitor	Resolution	Maximum Colors (2MB)	Maximum Colors (4MB)
15-inch Portrait Display	640 x 870	8 bits per pixel (256 shades of gray)	8 bits per pixel (256 shades of gray)

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ImageWriter I: Blown Fuses on the Logic Board

PROBLEM DESCRIPTION: The printer doesn't power up, or the power light comes on but the carriage assembly doesn't move. Inspection of the logic board reveals that either one or more of the fuses is blown.

CAUSE: The small screw holding the screw which mounts the printer cable to the logic board may have dropped free and be shorting out pins.

This article has been archived and is no longer updated by Apple.
CURE: 1. Carefully check the logic board and the inside of the printer for this small screw holder. Remove it.
2. Replace the fuses.
3. If the problem persists, refer to the Level I Technical Procdures.

If this cure does not resolve the problem, go back to the Word Search screen and search on the product's name and HTS and GTS to obtain a General Troubleshooting procedure.

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LaserWriter Pro 630: Not Appearing on Novell 4.1 Network

Our Novell server was just recently upgraded from NetWare 4.0.2 to 4.1. Since the upgrade, I am no longer able to see any of the LaserWriter 630 printers on the network even though other printers appear normally. The LaserWriter 630 printers do not appear using ATCON, nor do they appear from the Macintosh clients. What is causing this?
This article has been archived and is no longer updated by Apple.
This situation can occur when NetWare OS versions are upgraded, but the Network Interface Card (NIC) driver on the NetWare server is not the current version. The upgrade from NetWare 4.0.2 to 4.1 involved a number changes to the Appletalk protocol stack and the network interface ODI and supporting NLM's (NetWare Loadable Module), which may require an updated driver.

The network interface card manufacturer should be contacted to obtain the most current driver. You should also verify that the driver supports NetWare 4.1.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

Published Date: Feb 19, 2012

LaserWriter 360f: Fax Speed Unrelated to RAM Size

How does the amount of RAM affect the faxing capabilities of LaserWriter 360f? Will more RAM allow this printer to send faxes faster (by imaging them faster)?

This article has been archived and is no longer updated by Apple.

Adding RAM will not significantly increase the speed of Fax jobs. Please note that in the tests we ran it seems to have run "slightly" faster with 16 MB. However, when you take into consideration switched phone lines and retrys to the printer the time differences noted are insignificant.

Here are the results of the benchmark test.

Test 1 - One page document
==========

	From Start to dial tone	From Dial Tone to EOJ
7 MB	1 Minute 15 seconds	39 seconds
16 MB	1 Minute 5 seconds	38 seconds

Test 2 - Five page document
==========

	From Start to dial tone	From Dial Tone to EOJ
7 MB	3 Minute 19 seconds	2 Min 46 seconds
16 MB	3 Minute 15 seconds	2 Min 46 seconds

Published Date: Feb 19, 2012

Grolier‘s Encyclopedia: Map and Timeline Issues (1/96)

I have a Macintosh Performa computer, which included the Grolier's Multimedia Encyclopedia '95 CD. However, the Maps and Timelines do not display on my computer.

This article has been archived and is no longer updated by Apple.

This issue is documented in the 1995 Grolier Multimedia Encyclopedia Read Me file, which is included on the CD. If you have a Power Macintosh computer set to display in 256 colors, you may not see the timelines or maps. In order to properly view the CD on a Power Macintosh computer, the Monitors control panel must be set to thousands of colors or higher.

Note that with a multiple scan display if you have the monitor set at a high resolution, you can display fewer colors. If you view at a lower resolution, you can display more colors. So, you may need to change the resolution in order to view in thousands of colors. Follow these steps to change the number of colors being displayed:

Step 1

Open the Monitors control panel.

1. If Thousands is an option, select it, and close the Monitors control panel. You should be able to view the timelines and maps.

2. If Thousands is not an option, follow Step 2.

Step 2

Click on the Options button.

Step 3

Note what the current monitor setting is and try the next lower resolution. For example, if it is set to 832 x 624, try 640 x 480. Click on the OK button.

Step 4
---
1. If you can then select thousands, follow Step 5.

2. If you still cannot select Thousands, repeat Steps 2-3 until you can select Thousands.

Step 4

Once you are able to select Thousands in the Monitors control panel you should be able to view the timelines and maps. If not, contact Mindscape, the publisher of the Groliers encyclopedia, for additional assistance.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.

Article Change History:
04 Jan 1996 - Changed title.
05 Dec 1995 - Revised wording.

Support Information Services

Published Date: Feb 19, 2012

Apple Displays: Frequently Asked Questions

This article contains frequently asked questions (FAQ) regarding Apple displays, with answers to those questions.

This article has been archived and is no longer updated by Apple.
Questions answered in this article:

1. I have an Apple Multiple Scan 15 Display and a Macintosh IIsi and IIci. The monitor will not work with either computer. Do I need an adapter?
2. I attached an Apple Multiple Scan Display to my computer and I am not able to switch resolutions, even though the computer I am using supports the different resolutions. What is causing this?
3. I have a monitor that uses a Sony Trinitron picture tube. About a third of the way from the top and/or bottom of the monitor, I see a very thin gray line. Is there something wrong with my monitor?
4. There is a large black border around the edge of the viewable area of my monitor and the picture does not fill the entire screen. Is there something wrong with my monitor?
5. I have a monitor experiencing one of the following symptoms:
   - a jittering or shaking picture
   - discolored areas in the picture
   - horizontal lines cycling across the screen
   - distorted image

   What is causing this?
6. I purchased an Apple monitor and I cannot plug the power cable into the wall outlet. It has a shield around it that prevents this. How do I plug this monitor in?
7. I have changed some of the settings on my Apple Multiple Scan Display. How can I restore the monitor to the factory settings?
8. I connected my Multiple Scan 15 Display to my computer and I cannot get sound to play through the speakers on the monitor. Why is this?

Question 1: I have an Apple Multiple Scan 15 Display and a Macintosh IIsi and IIci. The monitor will not work with either computer. Do I need an adapter?

Answer: Out of the box the Apple Multiple Scan 15 Display is not compatible with the Macintosh IIsi and IIci. The problem is related to the sync lines. The IIci and IIsi were designed to work with the 13-inch HighRes RGB, which uses a composite sync input. The Multiple Scan 15 Display only accepts sync on separate input lines, one for the horizontal and one for the vertical.

To use the monitor with either of these computers, you must either use a video card that is compatible with the Apple Multiple Scan 15 Display, or use a special display adapter available from some third-party companies.

Display adapters are available from several third-pary companies such as Enhanced Cable Technology, Griffin Technology, and MacAdapt.

Question 2: I attached an Apple Multiple Scan Display to my computer and I am not able to switch resolutions, even though the computer I am using supports the different resolutions. What is causing this?

Answer: Many older Macintosh computers did not support resolution switching using software and require a cable adapter to produce different resolutions. Other computers do not provide the proper sync signals to work with the monitor and require an adapter to get any picture. The table below gives details for what is needed to use Apple computers with Apple Multiple Scan Displays.

The following (B revision) video cards can provide 832 x 624 resolution when used with a video adapter:

- Macintosh 4/8
- Macintosh 8/24
- Macintosh 8/24GC

The following computers do not produce the proper sync signal to produce a picture on the monitor. An adapter must be used to view a correct video signal on these computers. These computers can support a maximum 640 x 480 video signal.

- Macintosh LC
- Macintosh LC II
- Macintosh Performa 400, 405, 410, 430
- Performa 600, 600CD
- Macintosh IIvx
- Macintosh IIsi
- Macintosh IIci

The following computers and video cards require a cable adapter to provide 832 x 624 resolution:

- PowerBook 180, 180c, 160, 165, 165c
- PowerBook 500 Series
- PowerBook MiniDock and DuoDock (the DuoDock does not require an adapter when used with System 7.5)
- Macintosh LC III
- Macintosh Performa 450, 460, 466, 467
- Macintosh Display Card 4*8, 8*24, and 8*24 GC

The following computers and video card do not require an adapter:

- Macintosh Quadra Series
- Macintosh Centris Series
- Macintosh LC 475
- Macintosh Performa 475 and 476
- Macintosh 630 family
- Power Macintosh Family
- Macintosh Display Card 8*24AC

Multiple Scan 17 and 20 Displays

To get higher resolutions, your computer must support that resolution. The number of colors at the various resolutions depends on the amount of Video RAM (VRAM) you have in your Macintosh.

The following computers and video cards require a cable adapter to provide different resolutions:

- Macintosh II series
- PowerBook 180, 180c, 160, 165, 165c
- PowerBook 500 Series
- PowerBook MiniDock and DuoDock (the DuoDock does not require an adapter when used with System 7.5)
- Macintosh LC, LC II, LC III
- Macintosh Performa 450, 460, 466, 467
- Macintosh Display Card 4*8, 8*24, and 8*24 GC

The following computers and video card do not require an adapter:

- Macintosh Quadra Series
- Macintosh Centris Series
- Macintosh LC 475
- Macintosh Performa 475 and 476
- Macintosh 630 family
- Power Macintosh Family
- Macintosh Display Card 8*24AC

Display adapters are available from several third-pary companies such as Griffin Technology and MacAdapt.

Question 3: I have a monitor that uses a Sony Trinitron picture tube. About a third of the way from the top and/or bottom of the monitor, I see a very thin gray line. Is there something wrong with my monitor?

Answer: When you display a white or light background on some Apple color displays, you may notice a thin gray horizontal line or lines across the screen. These thin lines are supporting or stabilizing wires inside the CRT and are part of Sony's Trinitron CRT technology.

Sony Trinitron CRTs have a specially constructed aperture grill that improves the CRT's convergence and produces a sharp and clear image. The aperture grill is a grid of vertical wires located just behind the CRT screen. These CRTs require a horizontal stabilizing wire or wires to help support the aperture grill. The supporting wires, which are thinner than a human hair, stabilize the aperture grill against shocks.

The Macintosh 13-inch Hi-Res RGB Monitor and 14-inch Macintosh Color Display have a single support wire across the bottom third of the display. Other Apple displays that feature Sony's Trinitron or Mitsubushi's Diamondtron CRT's have two support wires visible across the top and bottom thirds of the screen.

Note: These are not screen defects. Their presence cannot be adjusted out or eliminated by repairing or replacing modules in the display.

Question 4: There is a large black border around the edge of the viewable area of my monitor and the picture does not fill the entire screen. Is there something wrong with my monitor?

Answer: It is normal for your monitor to have a black border around the displayed picture. The closer an image gets to the edges of a display, the lower its quality. The black border will vary in size, depending on the type of monitor you have. Some Apple displays allow you to fill most of the screen using a button on the front of the display.

Question 5: I have a monitor experiencing one of the following symptoms:

a jittering or shaking picture
discolored areas in the picture
horizontal lines cycling across the screen
distorted image

What is causing this?

Answer: These symptoms can all be caused by electromagnetic interference. All monitors are subject to electromagnetic interference. Larger monitors are affected more by this than smaller ones.

If your monitor is exhibiting any of the above symptoms, try temporarily moving it to a different location to check for interference. If the symptom does not occur after moving the monitor, then there was likely a source of interference in the area where the monitor was originally located.

Possible sources of electromagnetic interference include:

- other monitors
- fluorescent lights
- anything with a motor (fans, air conditioners, and so on)
- anything with a magnet (some mobile phones, speakers, and so on)

Question 6: I purchased an Apple monitor and I cannot plug the power cable into the wall outlet. It has a shield around it that prevents this. How do I plug this monitor in?

Answer: The power cable you are describing is designed to be connected to the power outlet on the back of your computer. Look on the back of the computer just above where the computer's power cord is connected. There will usually be a receptacle there with three prongs in it. Plug the shielded end of the monitor's power cable into this receptacle.

If your computer does not have such a receptacle (many older Macintosh models did not), you can obtain a regular power cord from most computer dealers and electronic stores. If you take the power cord you have to the location from which you purchased it, they may be able to swap it for the power cable you need.

Question 7: I have changed some of the settings on my Apple Multiple Scan Display. How can I restore the monitor to the factory settings?

Answer: You can restore the monitor to factory settings as follows:

- Multiple Scan 15 Display: open the front panel and press the Recall button.
- Multiple Scan 17 and 20 Displays: Open the front panel. On the extreme left, you will see a recessed button with a triangle icon over it and next to it, a button with a circle icon. Using a pen tip or something similar, hold in the button with the triangle and while holding it in, press the button with the circle.

This procedure may also help if the monitor is out-of-focus, has a tilted raster, is experiencing pin-cushioning, and so on.

Question 8: I connected my Multiple Scan 15 Display to my computer and I cannot get sound to play through the speakers on the monitor. Why is this?

Answer: To get computer sounds to play through the speakers of an attached Multiple Scan 15 Display, you must connect the sound out cable that came with the monitor from the sound output port on the back of your computer (the one with the speaker icon) to the sound port on the monitor.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

The following article can help you search for a particular vendor's address and phone number:

Article 17159: "**Locating Vendor Information**"

TA34111_Apple_Displays_Frequently_Asked_Questions_(TIL18216).pdf

Published Date: Feb 19, 2012

Apple IDE Hard Disk: Creating Partitions

Is it possible to make partitions on an Apple IDE hard disk? What kind of software can I use?
This article has been archived and is no longer updated by Apple.
Yes, it is possible to partition an IDE hard drive on a Macintosh. You may use Apple's Drive Setup software to accomplish this task. Drive Setup supports the following computers:

Power Macintosh computers
Drive Setup is supported on all of the current Power Macintosh computers. This includes all the original Power Macintosh computers as well as the PCI-based Power Macintosh computers.

Important: Drive Setup is not supported with the Macintosh Processor Upgrade. If the upgrade is installed in a 68040- or 68LC040-based desktop computer with an IDE drive, use the 601 Processor Upgrade control panel to turn the card off before using Drive Setup.

The original Power Macintosh upgrade card is not supported either.

Desktop computers with IDE drives
Drive Setup is supported on 68040- or 68LC040-based desktop computers that have IDE drives installed, which includes:

- Macintosh LC 580
- Macintosh 630 series (LC 630, Quadra 630, Performa 630, Performa 635, Performa 636, Performa 637, Performa 638, and Performa 640)

Important: Drive Setup is not supported on any 68LC040 processor equipped computers without IDE drives, even if the computer has a Power Macintosh Upgrade Card installed. If Drive Setup is launched on a computer that is not supported, a dialog box appears with the message, "Drive Setup cannot be launched on this computer," and an OK button.

PowerBook computers with IDE Drives
Drive Setup is supported on most PowerBook computers with an IDE drive, which includes:

- PowerBook 190
- PowerBook Duo 2300
- PowerBook 5300

Important: The only exception is the PowerBook 150, which must use the Internal HD Format utility.

This article can help you locate the software update mentioned here:
Article 14724: "**Where To Find Apple Software Updates**" - Lists online services for free Apple software updates.

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Apple LaserWriter Printers: Frequently Asked Questions

This document contains the answers to frequently asked questions (FAQ) about Apple LaserWriter printers.

Questions in this FAQ:
1. How do I share a printer on a network using Grayshare?

2. Some of my page size options don't show up (such as the 500-sheet tray) and/or, I get frequent PostScript errors when printing. What is causing this?

3. I have a PowerBook 500 series computer and a QuickDraw LaserWriter Printer. When I try to print, I get messages telling me to check my connections. My connections appear to be OK, what is causing this?

4. When I try to install the software for my Personal LaserWriter 300, I get a message saying that System 7 or greater is needed, but I already have system 7 installed.

5. When I select the LaserWriter icon in my Chooser, no printer name appears on the right. Why is this?

6. When I print from the manual feed tray with background printing on, I get a message telling me to select the PrintMonitor from the Applications Menu and then have to click OK. Is there any way to avoid these steps?

This article has been archived and is no longer updated by Apple.
Question: How do I share a printer on a network using Grayshare?

Answer: QuickDraw LaserWriters cannot be directly connected to a network with LocalTalk cables. Some, however, can be shared on a network with Apple's Grayshare technology.

The following QuickDraw LaserWriters can use this technology:

LaserWriter Select 300
Personal LaserWriter 300
Personal LaserWriter LS (when using the LaserWriter 300 driver)

Note: The computer to which the printer is directly attached should have at least a 68020 processor.

Sharing a Printer

To share one the above LaserWriters with others, follow these steps:

1. In order to share a printer, you must be connected to an AppleTalk network.
   - LocalTalk Connection - The LocalTalk connector goes into the printer port. The peripheral-8 cable (serial cable) connects the printer to the Macintosh. It goes into the modem port.
   - Ethernet or Token Ring Connection - Since both Ethernet and Token Ring connections don't require you to use a serial port on your Macintosh, you can use either the printer or modem port to connect the printer to your Macintosh.

2. Open the Chooser and select the appropriate printer icon.

3. Click the icon of the port your printer is connected to. If you
are using the printer port to connect your Macintosh to the network, you must connect your LaserWriter to the modem port.

4. Click the Setup button to open the Sharing Setup dialog box.

5. Select the "Share this Printer" checkbox. This places an "X" in the checkbox. You have the option of naming your printer and entering a password. If you use a password for the printer, only users who know the password can use the printer from their computers.

If you want a record of what is printed on your printer, select the "Keep Log of Printer Usage" checkbox.

6. Click "OK" to close the Sharing Setup dialog box, then close the Chooser window.

Your printer is now available to others on the network.

Printing to a Shared Printer

To print to a shared printer, follow these steps:

1. Open the Chooser and select the appropriate printer icon. A list of available printers displays.

2. Click the name of the shared printer that you want to use. If the printer requires a password, a dialog appears, and you must enter the password.

3. Close the Chooser

You are now ready to print to the shared printer.

Question: Some of my page size options do not show up (such as the 500-sheet tray) and/or, I get frequent PostScript errors when printing. What is causing this?

Answer: Symptoms like this can occur when you are using a PostScript printer with LaserWriter 8 Driver, and you have not setup the printer properly in the Chooser. Follow the instructions below to properly setup your printer.

1. Open the Chooser

2. Select the LaserWriter 8 icon

3. Select the name of the printer from the list that appears on the right

4. Select the Setup button

5. Select Auto Setup

6. The driver selects a PostScript Printer Description (PPD) for the printer. a message appears on the screen that reads "PostScript Printer Description File Selected:" followed by the name of your printer. If the name of your printer does not appear, use the Select PPD button to manually select the proper PPD. If the PPD is not listed, reinstall your printer software and try the process again.

7. If you have added any paper trays or RAM to the printer, you may need to configure them before they will be accessible. Select the Configure button. If this button does not appear, select the More Choices button. You will see options for the various paper trays. If you have added a particular tray, make sure to change the option near the tray's name to read "Installed". If you have added additional RAM, make sure you change the option next to the RAM button to the closest value.

8. Select OK to leave the Chooser

Your printer is now setup properly.

Question: I have a PowerBook 500 series computer and a QuickDraw LaserWriter Printer. When I try to print, I get messages telling me to check my connections. My connections appear to be OK, what is causing this?

Answer: The PowerBook 520c and 540c computers use a single serial port which is a combination Printer/Modem port. In order to use this port for serial printing, use the following information to properly configure your PowerBook 500 series computer:

1. If the Express Modem is installed:

    1. Open the Express Modem control panel and select Use External Modem.

    2. Open the PowerBook Setup control panel and select Normal.

2. Open the Chooser and do the following:

    1. If you are using the PowerBook 200 series, turn OFF AppleTalk. If you are using the PowerBook 500 series, you do not have to disable AppleTalk. If you are using Ethernet; you MUST verify that the Network Control Panel is set for Ethernet.

    2. Select the serial printer driver.

    3. Select the "printer/modem" icon (or the modem icon if the printer/modem icon is not available).

3. If the Assistant Toolbox extension is enabled, disable it using the Extensions Manager control panel.

Note: U.S. PowerBook 500 series computers will have a Global Village PowerPort Mercury modem installed, not an Express modem, and therefore will only need to have the PowerBook Setup control panel set to normal for step #1.

A similar situation can also occur when using other serial printers. If you see no port selection choices, make sure the PowerBook Setup control panel is set for Normal.

Question: When I try to install the software for my Personal LaserWriter 300, I get a message saying that System 7 or greater is needed, but I already have System 7 installed.

Answer: This message usually occurs when you are trying to install the printer software on a computer on which the driver is already installed.

1. Check the Chooser to verify the driver is not already there. If it is not, install the printer software.
2. Insert the printer installation disk and double-click the Installer
3. When the Welcome to the Installer screen appears, click OK
4. When the Install screen appears, select Customize or Custom Install
5. Choose the individual portions of software you want to install.
6. Click Install

Question: When I select the LaserWriter icon in my Chooser, no printer name appears on the right. Why is this?

Answer: There could be many things causing this. Try the following (these steps apply only to PostScript LaserWriters which use the LaserWriter or LaserWriter 8 driver):

- Check the cable connection. Disconnect the cables and re-connect them. Be sure you are using the correct type of cables. Many older LaserWriters use LocalTalk cables and have not been tested with serial cables. Check the printer manual to see if this is the case.
- If you are using AppleTalk, make sure the printer is connected to the printer port and not the modem port.
- Make sure AppleTalk is set to Active in the Chooser. If it is inactive, make it active and restart.
- Make sure your Network control panel is set correctly. If you are using AppleTalk, set it to "LocalTalk Built In". If you are using EtherTalk, make sure it is set to EtherTalk.
- Verify the switch setting on the printer. Most printers have some method of setting the port settings on the printer. Depending on the type of printer, it may be a SCSI-ID type switch, a set of DIP switches, or a dial. Set the switch as follows:

- For an original LaserWriter or LaserWriter Plus, set it to AppleTalk
- If the printer has a SCSI-ID type switch, set it to 0 (zero)

- For a LaserWriter IInt or IIntx set all DIP switches up
- For a LaserWriter 16/600 PS, set the switch down

The above steps will resolve most problems. If the cable is damaged the above steps will not let you see the printer, and you must replace the damaged cable.

Question: When I print from the manual feed tray with background printing on, I get a message telling me to select the PrintMonitor from the Applications Menu and then have to click OK. Is there any way to avoid these steps?

Answer: To disable the notification message, do this:

1. Open the System Folder and then open the Extensions folder
2. Double-click the PrintMonitor application
3. Select Preferences from the File menu
4. Where it says "When manual feed job starts:" select "Give no notification"

This disables the message.
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ImageWriter: Carriage Locks,Doesn‘t Go Left At Power On

PROBLEM DESCRIPTION: The ImageWriter performs the Self Test OK. But, when an interface cable is connected and the printer is turned on, the carriage locks and does not return to the left of the platen. The printer gives no other response. The cable may or may not be connected to the computer.

CAUSE: A carrier drive transistor may have blown.

This article has been archived and is no longer updated by Apple.
CURE: 1. If you haven't already replaced the logic PCB, replace it to eliminate it as a possible problem.

2. Replace the carrier drive transistor array.

If this cure does not resolve the problem, go to the Technical Procedures to obtain a general troubleshooting procedure for this product.

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PowerBook Software: Frequently Asked Questions

This document contains the answers to frequently asked questions (FAQ) about PowerBook software.

1. What is the Control Strip and how can I get it?

2. I am using System 7.1, can I use the Control Strip?

3. I want to use the Control Strip software on my desktop Macintosh. Is this possible?

4. The Control Strip is stuck in the middle of the screen. How can I move it?

5. Whenever I hit a key on my keyboard I hear a beep sound and the character does not register on the screen. What's going on?

6. What is a system enabler, why do I need it, and which version should I use?

7. I just installed a screen saver but I've noticed that after the screen saver kicks in, it slows down significantly. What is causing this?

8. What is processor cycling and how do I turn it off?

9. What does the Assistant Toolbox extension do?

10. What does PowerBook File Assistant do?

11. I am trying to use PowerBook File Assistant to synchronize two files but I get the error message that they do not have the same creation date. How can I get around this?

12. Sometimes I can't seem to use my internal modem and print at the same time. Why is this?

13. Sometimes I get errors when printing to my StyleWriter (or any serial printer). Why is this?

14. I have connected a 14" display to my PowerBook, but I am only getting a 640 x 400 image on the external monitor. What should I do?

15. How do I back up the files on my PowerBook 145B or 150?

16. I made a backup of the information on my PowerBook 145B/150 hard drive. Now I would like to restore just one of my control panels. Can I restore a single file from the backup?

17. I did not make a backup of the system software on my PowerBook 145B (or PowerBook 150), and now I think I need to reload the operating system. I do not want to upgrade to System 7.5. Where can I get a new copy of the software that came with my PowerBook?

18. I am upgrading my PowerBook with Express Modem to System 7.5. What version of the Express Modem software should I be using?

19. Do I need the Duo Battery Patch?

20. What ColorSync System Profile should I use on my PowerBook?

21. What is an extension conflict and how do I know if I have one?

22. How do I troubleshoot an extension conflict?

23. What is resetting PRAM and when should I do it?

24. Where else can I go for answers?

This article has been archived and is no longer updated by Apple.

Question 1: What is the Control Strip and how can I get it?

Answer: The Control Strip is a PowerBook-specific feature (until recently, see below) that allows easy access to AppleTalk, file sharing, hard disk spin down, the PowerBook control panel, PowerBook sleep, and sound volume. The Control Strip also gives an indication of the battery level, estimated battery time remaining, and battery usage level. The Control Strip is a thin, horizontal bar that can be easily dragged to any part of the screen, resized, reordered, or closed. In addition to the Apple Control Strip modules, there are many other Control Strip modules available as shareware at online services. To add a Control Strip module, drag the module into the Control Strip Modules folder in the System Folder and restart the computer. The Control Strip comes with system software versions 7.1.1 and later.

Question 2: I am using System 7.1, can I use the Control Strip?

Answer: The Control Strip only works with system software version 7.1.1 and later. If you try to drag the Control Strip modules and control panel into a System 7.1 (or earlier) System Folder, the Control Strip will not show up.

Question 3: I want to use the Control Strip software on my desktop Macintosh. Is this possible?

Answer: Until recently, Apple has only supported the use of the Control Strip software on PowerBooks. There are third-party patches to allow use of the Control Strip on a desktop Macintosh, but this solution is not supported by Apple. The only desktop configuration currently supported with the Control Strip is a desktop Macintosh using the AppleVision 1710 Display, which comes with software that allows the Control Strip to be used on any Macintosh.

Question 4: The Control Strip is stuck in the middle of the screen. How can I move it?

Answer: You can drag the Control Strip vertically and horizontally at any time by holding down the Option key while dragging it. You can also rearrange the order of the Control Strip modules by holding down the Option key while dragging the modules in the Control Strip.

Question 5: Whenever I press a key on my keyboard I hear a beep sound and the character does not register on the screen. What's going on?

Answer: You have invoked the Slow Keys feature of the Easy Access control panel. Slow Keys is designed to make typing easier for disabled persons and requires that you hold down a key for several seconds before it is recognized. Slow Keys is activated by holding down the Return key for more than 5 seconds. You can turn Slow Keys off in the Easy Access control panel or remove Easy Access from the control panel folder altogether and restart the computer.

Question 6: What is a system enabler, why do I need it, and which version should I use?

Answer: A system enabler provides system software code for your specific PowerBook to work with system software. An enabler is not required if you are using a version of the system software that was released after your particular model of PowerBook was released. For instance, if you are using a PowerBook 160 and System 7.5, you do not need a system enabler. If the enabler is needed and is missing, the computer will start up with an error message about the version of the system software being incorrect. The correct enabler can usually be found in the System Folder on the Disk Tools disk that came with the PowerBook.

Question 7: I just installed a screen saver but I have noticed that after the screen saver begins, it slows down significantly. What is causing this?

Answer: It is most likely the case that processor cycling is activating and causing the screen saver to slow down. For instructions on turning processor cycling off, see the question (below) on processor cycling.

Question 8: What is processor cycling and how do I turn it off?

Answer: All PowerBook models implement a feature called processor cycling (formerly known as processor rest) intended to save battery life. This feature activates when the computer detects that the keyboard, mouse, trackball, or Trackpad has not been used for more than a few seconds. At this time, the processor speed is reduced to about 3 MHz and all processing functions become extremely slow. Processor cycling will not activate while the computer is doing any sort of data transfer.

Note that by default processor cycling is on, and although it is intended to for battery life conservation, it will also activate while running off AC power.

The method of turning off processor cycling will depend on the version of the system software you are using:

System 7.0.1

1. Open the Portable control panel.
2. While holding down the Option key, click on the word "Minutes".
3. Select Don't Rest and click OK.

System 7.1

1. Open the PowerBook control panel.
2. While holding down the Option key on the keyboard, click the Options... button in the control panel.
3. Select "Don't allow cycling".

System 7.5 or later

1. Open the PowerBook control panel.
2. Make sure the toggle switch in the control panel is set to Easy.
3. While holding down the Option key on the keyboard, drag the toggle switch from Easy to Custom and let go.
4. Uncheck the "Allow processor cycling - more battery savings" checkbox.

Question 9: What does the Assistant Toolbox extension do?

Answer: The Assistant Toolbox extension adds several features and functionalities to a PowerBook:

- **Battery Management:** The Assistant Toolbox adds to the base system's ability to manage battery life.
- **Persistent RAM disk:** Gives the PowerBook the ability to save RAM disk data to the hard disk when shutting down and read it back in when starting up. Normally, a RAM disk is lost when the PowerBook is completely shut down.
- **Sleep Fkey:** Using the key sequence Command (Apple)-Shift-0 (the number), you can quickly put the PowerBook to sleep.
- **Later Laser:** Later Laser allows deferred printing of documents when the PowerBook is disconnected from a printer or network. When you reconnect, the documents print when the printer is available. Later Laser is only active when a laser printer is chosen.
- **SCSI Sleep:** SCSI Sleep mounts any previously connected hard drives as a PowerBook comes out of sleep.
- **Anti-Submarining Cursor:** The Anti-Submarining Cursor feature is a software fix for the "submarining" cursor effect on the gray-scale passive-matrix screens. "Submarining" is when the cursor disappears as it is moved quickly. This is an important feature for all passive-matrix gray-scale PowerBooks.
- **Always AppleTalk:** The Always AppleTalk feature lets you activate AppleTalk without restarting the computer.

All of these features are built in to the Assistant Toolbox extension and are loaded automatically when the extension is loaded.

Question 10: What does PowerBook File Assistant do?

Answer: PowerBook File Assistant, now simply named File Assistant, is a program that can automatically synchronize a file, a folder, or an entire volume between two computers. This program can be very useful for PowerBook owners that often find themselves in the situation where they are maintaining a database on a central computer and then updating the information on the road with the PowerBook. When the user comes back with the updated information, they simply connect the two computers and run the File Assistant program and all files on both computers are up to date and synchronized. The File Assistant program is bundled on the hard drive of all currently available PowerBook computers.

Question 11: I am trying to use the File Synchronization control panel to synchronize two files but I get the error message that they do not have the same creation date. How can I get around this?

Answer: File Synchronization will not synchronize two files that have the same name but different creation dates. If File Synchronization generates this message in error, remove the file named "File Sync Data" from the Preferences folder within the System Folder, and set up the synchronization again.

Question 12: Sometimes I can't seem to use my internal modem and print at the same time. Why is this?

Answer: On most PowerBook models that have only one serial port (200's, 2300's, 190's, 5300's), the serial port is mapped as a modem port. Under normal conditions this isn't an issue--the internal modem can be used at the same time as a serial device such as a printer is being used. The exception to this is if you are using a communications program that does not use the Apple Communications Toolbox (CTB). If this is the case, you will need to respectively set the PowerBook, PowerBook Setup, or Express Modem control panel to Internal, Compatible, or "Use internal modem instead of modem port". The location of this setting will depend on what version of the modem and system software you have. When the PowerBook is set like this, the serial port cannot be used with serial devices. However, it can be used with LocalTalk devices.

The vast majority of communications programs that are developed for Macintosh use the CTB. If you find that you have an older communications

program, contact the manufacturer to see if there's an update.

Question 13: Sometimes I get errors when printing to my StyleWriter (or any serial printer). Why is this?

Answer: As discussed in the previous question, a PowerBook with a single serial port (200's, 2300's, 190's, 5300's) introduces some variables to serial printing. Three things must be true to print to a serial printer with a single serial port PowerBook:

- AppleTalk must be set to inactive in the Chooser or something other than LocalTalk must be selected in the Network control panel.
- If you have an internal modem you must respectively set the PowerBook, PowerBook Setup, or Express Modem control panel to External, Normal, or uncheck "Use internal modem instead of modem port" (see above). The location of this setting will depend on what version of the modem and system software you have.
- When selecting the serial printer in the Chooser, you must select the modem port or the combined printer/modem port. Do not select the printer port.

Question 14: I have connected a 14-inch display to my PowerBook, but I am only getting a 640 x 400 image on the external monitor. What should I do?

Answer: It sounds like you have video mirroring enabled. Open the PowerBook Display control panel and see if mirroring is on. If so, it generates the same image on both displays. Since many PowerBooks have a screen resolution of 640 x 400, the external monitor mirrors that resolution.

Turn off mirroring, then check your settings in the Monitors control panel. To make your external monitor the main monitor, drag the menu bar in the Monitors control panel from monitor 1 to monitor 2.

Question 15: How do I back up the files on my PowerBook 145B or 150?

Answer: The instructions are detailed in the User's Guide that comes with both computers. Additionally, instructions for backing up the information on the PowerBook 145B or PowerBook 150 are available online. Please see the following article in the Knowledge Archive:

Article 17269: "**PowerBook 145B & 150: Backup And Restore Instructions**"

Question 16: I made a backup of the information on my PowerBook 145B/150 hard drive. Now I would like to restore just one of my control panels. Can I restore a single file from the backup?

Answer: No. The PowerBook 145B and 150 backup does not allow for restoring single files.

Question 17: I did not make a backup of the system software on my PowerBook 145B (or PowerBook 150), and now I think I need to reload the operating system. I do not want to upgrade to System 7.5. Where can I get a new copy of the software that came with my PowerBook?

Answer: You can order a pre-made backup of the operating system for a PowerBook 145B and 150 by contacting Apple at 800-767-2775. A shipping and handling fee will apply.

Question 18: I am upgrading my PowerBook with Express Modem to System 7.5. What version of the Express Modem software should I be using?

Answer: You should upgrade your Express Modem software to at least version 1.5.3. Earlier versions may not work properly with System 7.5.

Question 19: Do I need the Duo Battery Patch?

Answer: The Duo Battery Patch should be installed on any PowerBook Duo 210, 230, or 250 that is using PowerBook Duo Enabler 1.0, and has an Express Modem installed. This is the only configuration of PowerBook Duo which receives any benefit from the presence of the Duo Battery Patch. System software versions 7.1.1 and later do not require the patch.

Question 20: What ColorSync System Profile should I use on my PowerBook?

Answer: If you have a PowerBook 180c, 540c, 5300c, 5300ce use PowerBook 180c Standard.

If you have a PowerBook 165c, 520c, 190cs, 5300cs use PowerBook 165c Standard.

If you have a PowerBook 270c, 280c, 2300c use PowerBook 270c Standard.

Non-color PowerBooks do not use ColorSync.

Question 21: What is an extension conflict and how do I know if I have one?

Answer: The resources that are added to your system software by programs and utilities are typically called extensions or INITs and are kept in the Extensions folder or the Control Panels folder in the System Folder. If these extensions are not completely compatible, they can cause the computer to do strange things.

With PowerBooks, symptoms that are typical of being caused by an extension conflict are: freezing, Type XX errors (where XX is a number), "floating point coprocessor not installed" errors, not coming out of sleep properly, not auto-dimming the display, not auto-sleeping, not spinning down the hard drive, not reading floppy disks correctly, displaying anomalous information or "garbage" on the screen, getting errors when printing, not accessing external devices, modem not connecting properly or dropping the line, not connecting to a network properly, and many others.

Question 22: How do I troubleshoot an extension conflict?

Answer: If a fault is consistent and "testable," it is very easy to determine if the fault is being caused by an extension conflict.

If you are using System 7.1 or earlier, try starting up the computer with the Shift key held down to turn the extensions off. You should see the message "Welcome to Macintosh, Extensions Off." If the symptoms go away when the extensions are off, then you have an extension conflict.

Identifying the Conflicting Extension:

1. Create a new folder on the desktop called "Removed Extensions."

2. Move all items of Kind "system extension," "control panel," or "Chooser extension" from the System Folder, Extensions folder, and Control Panels folder to this new folder. When you open these folders, choose "by Kind" from the View menu to help identify the files you need to move.

3. Close the System Folder, and restart the Macintosh. Test for the fault. Note: If it still occurs, check your System Folder to make sure you've removed all the extensions and control panels.

4. Move a few items from the new folder on the desktop to the closed System Folder and restart the Macintosh. Make sure you note which items you moved.

5. Attempt to recreate the original fault.

Repeat steps 4 and 5 for each item in the Removed Extensions folder until the fault recurs. The last item returned to the System Folder is likely to be the cause.

If you are using System 7.5 or later, you have the luxury of having a built-in Extensions Manager in the Control Panels folder. Select the System 7.5 Only set of extensions from the Extensions Manager control panel, then restart. If the symptoms go away, then you have an extension conflict. You can then use the Extensions Manager to turn a few extensions and control panels off at a time, then restart the computer. When the fault comes back, one of the items you last selected is most likely causing the situation. You can also activate the Extensions Manager by holding down the Space Bar while the computer is starting up.

Question 23: What is resetting PRAM and when should I do it?

Answer: Resetting PRAM (parameter RAM) resets most of the information in the PRAM chip to its default value. This chip is powered by the backup battery and is used to hold settings that you want to be set even after the computer has been turned off, such as the time (although the time is not reset when resetting the PRAM). Many control panel settings such as sound, mouse speed, and memory are kept in the PRAM as well as many network, SCSI, and screen settings.

To reset the PRAM, restart the computer and hold down the Command (Apple), Option, P, and R keys. Wait for the computer to make its startup chime twice. You may then release the keys. Be aware that resetting the PRAM will reset such settings as the sound volume and mouse speed to their default value, and will purge the contents of a RAM disk if you are using one.

You should only reset the PRAM if you are having difficulties that you think could be caused by corrupted information in the PRAM chip. A good tip that the PRAM might be corrupted is if a certain control panel won't hold it's setting or isn't operating correctly, the computer is having trouble printing, or there is difficulty with networking.

Question 24: Where else can I go for answers?

Answer: If you haven't done so already, check the other PowerBook FAQ documents in Apple's Knowledge Base. The Knowledge Base contains thousands of technical articles which are easily searchable using boolean search strings.

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PowerBook 200 series: Frequently Asked Questions

This document contains the answers to the following frequently asked questions (FAQ) about PowerBook (Duo) 200 series computers.

1) What is a PowerBook Duo?

2) Do I need to buy a dock?

3) What are the differences in the different Duo Docks that Apple has sold?

4) I have an Apple Multiple Scan 17" monitor connected to an original Duo Dock but the only resolution I'm getting is 640x480. What's going on?

5) My external monitor is not displaying an image when I start up my PowerBook.

6) Before connecting a MiniDock, should the PowerBook be on, off, or sleeping?

7) My PowerBook display is blurry or sometimes has shadowing and ghosting effects. What can I do to correct this?

8) Sometimes when using my PowerBook in a Duo Dock, the mouse will freeze even though the system is still working. I know the system is still working because I can see the clock in the corner ticking away. How can I fix this?

9) I just bought a Duo Dock with an internal hard drive. When I tried to start up my PowerBook in the dock, I got a flashing question mark on the screen, yet the PowerBook starts up fine on its own. Why is this?

10) When starting up, my PowerBook with Express Modem displays the Fax Modem extension icon with an "X" through it. I can't use my modem to send a fax. What's wrong?

11) Sometimes I can't seem to use my internal modem and print at the same time. Why is this?

12) Sometimes I get errors when printing to my StyleWriter (or any serial printer). Why is this?

13) I am upgrading my PowerBook 200 series computer with Express Modem to System 7.5. What version of the Express Modem software should I be using?

14) Do I need the Duo Battery Patch?

15) I am trying to connect a SCSI device to my PowerBook. However, when I start up the PowerBook, a diamond icon with a number appears on my screen.

16) I'm trying to connect my Duo as an external hard drive (SCSI Disk Mode) to another Macintosh. When I turn on my PowerBook, I get a flashing question mark or a "Sad Mac" instead of the diamond icon with a SCSI ID number.

17) Are current dock products, modems, and RAM compatible with a PowerBook 200 series computer upgraded to PowerPC?

18) Can the Duo be inserted into the Duo Dock while in sleep mode?

19) Where else can I go for answers?

This article has been archived and is no longer updated by Apple.

1) Question: What is a PowerBook Duo?

Answer: A PowerBook Duo is Apple's smallest and lightest PowerBook computer. Unlike most other PowerBooks, it has no floppy disk drive, no SCSI port, no external video out port, no audio in or out ports, and no ADB port for external mice or keyboards. It does have a serial port, phone jack (with internal modem), and a 152-pin 32-bit PDS (processor direct slot) in the back.

The PDS allows docks to connect directly to the PowerBook Duo's logic board. These adapters let you add further expansion to the Duo - something you can't do with any other PowerBook. You can add Ethernet, video output, SCSI, PCMCIA, more serial ports, audio in/out, and more.

The beauty of a PowerBook Duo is that it allows the user the freedom of using the same computer in functionally different environments. You might have a Duo Dock II at home with a 17" monitor, a printer, and several SCSI devices connected, allowing you to use the computer just like any other desktop Macintosh. When it's time to go to the office/library/park, you simply eject the PowerBook from the dock, and you have the same processing power in a ~5 pound computer the size of a textbook.

2) Question: Do I need to buy a dock?

Answer: No. If you live or work in an environment where you have networked access to other computers, you can always install software via a "net install." The only time you will absolutely need a floppy disk drive is if a system file gets corrupted and the computer will not start up. Then you will need a floppy disk drive to start the computer from a Disk Tools disk. But even in this situation, an Apple dealer can restore the system for a fee.

If you regularly use SCSI devices, multiple serial devices, external monitors, external ADB devices, and audio devices, then you will probably want to get a MiniDock or a full Duo Dock to compliment your PowerBook Duo.

3) Question: What are the differences in the different Duo Docks that Apple has sold?

Answer: There have been three implementations of the full Duo Dock from Apple: the Duo Dock, Duo Dock II, and Duo Dock Plus. As of this writing, the Duo Dock II and Duo Dock Plus are the only full dock products available from Apple. All three versions can potentially have 1 MB of VRAM, an internal SCSI hard drive, and all versions have the same expansion ports - video, audio in/out, ADB, SCSI (HDI-30), two serial ports, two NuBus slots, and a phone jack for the modem.

The Duo Dock Plus and Duo Dock II come with 1 MB of VRAM standard. The original Duo Dock came with 512k VRAM soldered but can be upgraded to 1 MB by installing a 512k VRAM SIMM.

The Duo Dock II comes standard with a 32k RAM cache and a math coprocessor (FPU) installed, an FPU can be added to the original Duo Dock. An FPU is not an option on the Duo Dock Plus. Note that the PowerBook Duo 280 and 280c cannot take advantage of an FPU in any Duo Dock or the 32k RAM cache in the Duo Dock II because they use the 68LC040 processor. The Duo Dock II and Duo Dock Plus can support screen sizes up to 1024x768 at 256 colors while the original Duo Dock (even with 1 MB of VRAM) can only support up to 832x624 at 256 colors.

4) Question: I have an Apple Multiple Scan 17" monitor connected to an original Duo Dock but the only resolution I'm getting is 640x480. What's going on?

Answer: The Apple Multiple Scan monitors can only switch screen resolutions on the fly on the original Duo Dock if System 7.5 (or later) is installed. A display adapter is available from Enhance Cable Technologies that will "trick" the Duo Dock into using the 832x624 screen size, but this size will still be fixed, i.e. the adapter would need to be removed to go back to 640x480. The Duo Dock II and Duo Dock Plus can switch resolutions regardless of which operating system they are running and do not need any display adapter.

5) Question: My external monitor is not displaying an image when I start up my PowerBook.

Answer: Follow this procedure:

1. Shut down the PowerBook.
2. Make sure the video cable connected to both the PowerBook video port and the Monitor video port is secure.
3. Make sure the PowerBook is plugged into the AC adapter, which is required to use an external monitor.
4. Start up the PowerBook and open the Monitors control panel. You should see images of two monitors, representing the PowerBook display and the external monitor. If you don't see the image of the external monitor, repeat steps 1 and 2.
5. In the Monitors control panel, click (and hold) the "Identify" button. A large 2 should be displayed on the external monitor icon.

Tip: If you wish to use the external monitor as your primary monitor, open the Monitors control panel and drag the menu bar from the top of the internal display (labeled 1) to the top of the external monitor (labeled 2).

6) Question: Before connecting a MiniDock, should the PowerBook be on, off, or sleeping?

Answer: Do not try to connect the MiniDock to the PowerBook while the PowerBook is on. At best the PowerBook will shut off, at worst you will damage the logic board.

The PowerBook can be in sleep mode if you are connecting to a MiniDock with serial, ADB, audio, or modem connections.

The PowerBook should be off if you are connecting to a MiniDock with SCSI devices or a monitor connected.

7) Question: My PowerBook display is blurry or sometimes has shadowing and ghosting effects. What can I do to correct this?

Answer: The technology used on the passive-matrix displays is susceptible to shadowing and ghosting, since it does not individually address each pixel on the display. Gray-scale passive-matrix displays are particularly susceptible to the symptoms. The PowerBook 100, 140, 145, 145B, 150, 160, 165, 210, 230, 520, 190, and 5300/100 all use a gray-scale passive-matrix display.

Some suggestions to reduce the effects of the shadowing:

- Adjust the brightness and contrast settings of the display. Usually a lighter contrast setting will look better.
- Use a darker desktop pattern. The effects of the shadowing will not be as apparent with the darker background.
- Open the Monitors control panel and select "Black & White" instead of 16 Shades of Gray.

Although these tips can help mitigate the effects of the shadowing, some amount of screen anomalies will always be present.

8) Question: Sometimes when using my PowerBook in a Duo Dock, the mouse will freeze even though the system is still working. I know the system is still working because I can see the clock in the corner ticking away. How can I fix this?

Answer: Older PowerBook models had an issue with ADB devices cutting out when connected to a Duo Dock. If you are using System 7.1, make sure you have the PowerBook Duo Enabler v1.0 installed in the System Folder to correct the problem, this enabler is installed by the System Update 3.0. System software versions after 7.1 do not have this problem.

9) Question: I just bought a Duo Dock with an internal hard drive. When I tried to start up my PowerBook in the dock, I got a flashing question mark on the screen, yet the PowerBook starts up fine on its own. Why is this?

Answer: The version of the hard drive driver on the Duo Dock hard drive is having a conflict with the hard drive driver on the PowerBook hard drive. As a temporary fix you can hold down the Command (Apple) key while the computer is starting up to force it to boot correctly. The permanent fix is to update both drivers to the same version using a recent (System 7.1.1 or later) Disk Tools disk.

10) Question: When starting up, my PowerBook with Express Modem displays the Fax Modem extension icon with an "X" through it. I can't use my modem to send a fax. What's wrong?

Answer: Open the Preferences folder inside your System Folder and trash the Fax Preferences file, empty the Trash, and restart your PowerBook. The Fax Preferences file can be corrupted due to a system error or screen freeze, disabling the Fax Modem extension as a result.

11) Question: Sometimes I can't seem to use my internal modem and print at the same time. Why is this?

Answer: On most PowerBook models that have only one serial port (200's, 2300's, 190's, 5300's), the serial port is mapped as a modem port. Under normal conditions this isn't a problem - the internal modem can be used at the same time as a serial device such as a printer is being used. The exception to this is if you are using a communications program that does not use the Apple Communications Toolbox (CTB). If this is the case, you will need to respectively set the PowerBook, PowerBook Setup, or Express Modem control panel to Internal, Compatible, or "Use internal modem instead of modem port". The location of this setting will depend on what version of the modem and system software you have. When the PowerBook is set like this, the serial port cannot be used with serial devices. However, it can be used with LocalTalk devices.

The vast majority of communications programs that are developed for Macintosh right now will use the CTB. If you find that you have an older communications program, contact the manufacturer to see if there's an update.

12) Question: Sometimes I get errors when printing to my StyleWriter (or any serial printer). Why is this?

Answer: As discussed in the previous question, a PowerBook with a single serial port (200's, 2300's, 190's, 5300's) introduces some variables to serial printing. Three things must be true to print to a serial printer with a single serial port PowerBook:

1. AppleTalk must be set to inactive in the Chooser or something other than LocalTalk must be selected in the Network control panel.

2. If you have an internal modem you will need to respectively set the PowerBook, PowerBook Setup, or Express Modem control panel to External, Normal, or uncheck "Use internal modem instead of modem port" (see above). The location of this setting will depend on what version of the modem and system software you have.

3. When selecting the serial printer in the Chooser, you must select the modem port or the combined printer/modem port. Do not select the printer port.

13) Question: I am upgrading my PowerBook 200 series computer with Express Modem to System 7.5. What version of the Express Modem software should I be using?

Answer: You should upgrade your Express Modem software to at least version 1.5.3. Earlier versions may not work properly with System 7.5.

14) Question: Do I need the Duo Battery Patch?

Answer: The Duo Battery Patch should be installed on any PowerBook Duo 210, 230, or 250 that is using PowerBook Duo Enabler 1.0, and has an Express Modem installed. This is the only configuration of PowerBook Duo which receives any benefit from the presence of the Duo Battery Patch. System software versions 7.1.1 and later do not require the patch.

15) Question: I am trying to connect a SCSI device to my PowerBook. However, when I start up the PowerBook, a diamond icon with a number appears on my screen.

Answer: You are most likely using the wrong SCSI cable. You should be using the HDI-30 SCSI System Cable (M2538LL/A), which is a light gray color and only has 29 pins (there is a pin missing). You are most likely using the HDI-30 SCSI Disk Adapter cable (M2539LL/A) which is dark gray and has all 30 pins.

16) Question: I'm trying to connect my Duo as an external hard drive (SCSI Disk Mode) to another Macintosh. When I turn on my PowerBook, I get a flashing question mark or a "Sad Mac" instead of the diamond icon with a SCSI ID number.

Answer: You may have the wrong cable. Use the Apple HDI-30 SCSI disk adapter cable, part number M2539LL/A, in conjunction with an Apple SCSI System Cable appropriate to your other Macintosh along with proper SCSI termination.

17) Question: Why does my trackball appears to "stick" or "jump" when rolled? I tried to clean it but it is not smooth.

Answer: Most PowerBook trackball problems are due to contamination of the rollers. The trackball is just like the standard Apple mouse in that dust and debris can accumulate on the rollers and impede smooth movement of the trackball.

Symptoms of a Dirty Trackball

- The trackball appears to "stick" or "jump" when rolled.
- The cursor will not track horizontally or vertically.
- It sometimes seems like the cursor is "hitting a wall."
- The movement of the cursor on the screen isn't smooth.
- The trackball is physically difficult to roll.

How to Clean the Trackball

1. Remove the trackball retaining ring by turning it counterclockwise until it pops out (about 1/4 turn). You don't need tools for this; you can just press against the two small ridges on the ring with your fingernails.

2. Lift the retaining ring and trackball out of its cavity.

3. Locate the small rubber rollers at the left and bottom sides of the trackball cavity. Depending on your model, they may look like small rings or wheels.

4. Use any reasonably clean, blunt object (such as your finger or a cotton swab) to wipe off the rollers. Do not use any liquid, including any amount of cleaning fluid or water, inside the computer.

5. Locate the three bearings located at approximately clockwise 4:00, 7:00, and 11:00. Using a fingertip, dry cotton swab, or other blunt object, clean them of any debris.

6. Replace the trackball and the retaining ring.

17) Question: Are current dock products, modems, and RAM compatible with a PowerBook 200 series computer upgraded to PowerPC?

Answer: Most, if not all docking products, internal modems, and RAM used with a PowerBook 200 series should still be compatible after the PowerPC 603e upgrade. All Apple products are. Check with the vendor of third-party products to be sure.

18) Question: Can the Duo be inserted into the Duo Dock while in sleep mode?

Answer: The Duo can be inserted into the Duo Dock while in sleep but the Duo will be ejected when the Duo Dock is powered on. When you bring the Duo out of sleep mode a dialogue box will appear informing you the Duo must be shut down, not in sleep mode, before it is inserted into the Duo Dock.

19) Question: Where else can I go for answers?

Answer: If you haven't done so already, check the other PowerBook FAQ documents. Also, depending on where you found this FAQ, you should have access to Apple's Technical Information Library (TIL). This library contains thousands of technical articles which are easily searchable using boolean search strings.

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Macintosh Performa 6100: Frequently Asked Questions

This document contains the answers to the following frequently asked questions (FAQ) about Macintosh Performa 6100 series computers.

1. What is the difference between native software and conventional software?
2. I bought a Macintosh Performa 6100 series computer and added an AV card. Can I get software that supports the video digitizer?
3. My computer does not remember sound settings from restart to restart. I continually have to go back to the Sound control panel and reset the CD input source.
4. What causes Type 11 errors?
5. Does my Power Macintosh have an FPU? I see errors that an FPU is not installed.
6. Can you install the Apple TV/Video System in a Performa 6115?
7. What is the difference between a Power Macintosh 6100 and a Macintosh Performa 6100 series computer?
8. I need to run DOS software on my Performa 6100 series computer. What are my options?
9. My microphone from my LC II does not work on my Performa 6100 series computer. What's wrong?
10. I have an old program which tells me to turn off 32-bit addressing. But I don't see this as an option in my Memory control panel. Why?
11. The sound from my 15" Multiple Scan Display is very low. Sometimes, I can only hear sound out the left speaker. What is wrong?
12. I have a Macintosh Performa computer which was shipped with a CD-ROM. I have purchased a third-party disk management utility or virus detector which states I should use a "Disk Tools" disk in order to create an emergency disk. I did not receive one with my computer. Should I have?
13. My computer recently stopped displaying any video. It appears to start up normally, but nothing appears on the monitor. What could be causing this?

This article has been archived and is no longer updated by Apple.

1) Question: What is the difference between native software and conventional software?

Answer: The Power Macintosh runs in two modes, without any further assistance from the user: it can run "native" software, which is software written for the PowerPC chip, or "conventional" software, which is software written for an older 68000, 68020, 68030, or 68040-based computer. Conventional software is sometimes referred to as "68K" software.

Conventional software runs in an "emulation" mode, which is functionally similar to the 68020 processor. The main differences between this processor and later processors are: (a) it does not have a PMMU (Paged Memory Management Unit), (b) it does not support the SWAP16 instruction, and (c) it does not support a floating point unit. The first point is necessary because the PowerPC has a newer, better, memory management model. The second point is also addressed by improvements in the PowerPC chip. The third point requires different steps to work around; see the FAQ question below. Conventional software will generally run faster than a 68020, probably between Macintosh IIci and Quadra 605 performance, depending on how many references the software makes to the native "toolbox" in the computer.

As new software is sold, you will find reference to "Fat" applications. These are programs that can be run on either a 68K or Power Macintosh computer without modification. The operating system automatically determines which part to use.

Since "Fat" applications are really two programs in one, many installers will offer either a "Power Macintosh" or "Conventional" install. If you have installed a software billing itself as "Accelerated for Power Macintosh" and, once installed, it does not recognize features which definitely exist, such as an FPU, make sure you have installed the correct version and build. Both versions will run on the Power Macintosh, but only the "native" version will benefit from all the special features of the Power Macintosh.

2) Question: I bought a Macintosh Performa 6100 series computer and added an AV card. Can I get software that supports the video digitizer?

Answer: You should contact the Apple Assistance Center at 800-538-9696. They can determine what software you are entitled to receive with the card.

3) Question: My computer does not remember sound settings from restart to restart. I continually have to go back to the Sound control panel and reset the CD input source.

Answer: If the Sound Preferences file, which stores much of this information, is corrupted, the settings may not be getting saved. To resolve this, open your System Folder, then your Preferences folder. Throw away Sound Preferences, and restart. Try to reproduce the problem.

If you have installed any type of disk compression or disk management software, check to make sure that it is not manipulating any of your Preferences files.

4) Question: What causes Type 11 errors?

Answer: Type 11 errors are typically due to one of a variety of factors:

- Font problems: you are using a bad font.
- RAM problems: you've installed bad RAM.

- SCSI chain problems: bad driver or cable.
- Cache SIMM problems (if you have installed one on your Performa computer).
- Incompatible software running in emulation.

For steps on how to troubleshoot such problems, please see the following Knowledge Base article:

Article 16004: "**Power Macintosh : Meaning Of Error Type 11**"

5) Question: Does my Power Macintosh have an FPU? I see errors that an FPU is not installed.

Answer: All PowerPC chips, which are used on Power Macintosh computers, have a floating point unit.

You may be seeing the "FPU not installed" error for two reasons:

* You are running "conventional" software in 68K emulation. This operating mode does not provide access to the computer's floating point unit. Thus, the program does not work. Certain software "bridges" exist to allow conventional software access to the PowerPC's FPU. See the Redgate Communications area to search for such products.

* You are using software, in either emulation or native mode, which is simply failing. Since the PowerPC supports pipelining instructions, a number of errors are occurring simultaneously. They are eventually percolating out as an "FPU not installed" error. An error did occur, but it has nothing whatsoever to do with the need for a floating point unit. You should apply standard troubleshooting steps to resolve this issue.

6) Question: Can you install the Apple TV/Video System in a Performa 6115?

Answer: No. The Apple TV/Video System is designed for the Performa 630 series of computers.

You can, however, install an Apple AV Technologies Video Card in the Performa 6115.

7) Question: What is the difference between a Power Macintosh 6100 and a Macintosh Performa 6100 series computer?

Answer: The Macintosh Performa 6100 series computers use the basic architecture of a Power Macintosh 6100/60. They all include CD-ROM drives, while CD-ROM drives are optional equipment on a Power Macintosh. Different Performa models come with different sized hard disks, depending on the market. Performas also come with a variety of software and CD bundles, while the Power Macintosh computers only come with the basic system software. All Performas come with a Global Village Gold II modem, while Power Macintosh computers do not come with any at all. And all Performas come with a 15" Multiple Scan Display, while Power Macintosh users are free to choose their own monitor.

As you can conclude from the above, the Performas are popular with people just starting out with computing, or who have needs that can be nicely satisfied by a complete bundle. Power Macintosh computers are favored by people who may have hardware or software left over from a previous computer, or who have very specific applications they wish to use, and who wish to "build" their own, custom configuration.

8) Question: I need to run DOS software on my Performa 6100 series computer. What are my options?

Answer: There are two ways to run DOS software:

* Use Insignia Solutions' SoftWindows emulator. This is a Macintosh application which emulates a PC DOS/Windows environment. You can get more information, such as pricing, performance, system requirements, and compatibility information from Insignia.

* You can use the Apple DOS Compatibility Card. This is a hardware solution, providing a 486 DX2 processor running at 66 MHz, SoundBlaster support, alternative video support, and up to 32 MB of on-board memory. This effectively produces a "dual processor" environment for your computer, in which Macintosh and DOS applications can run at full processor efficiency, simultaneously.

This card plugs into your single Processor Direct Slot. If you opt to use this card, you will not be able to use other PDS cards, such as an Apple AV Technologies Card, without removing this card, first.

9) Question: My microphone from my LC II does not work on my Performa 6100 series computer. What's wrong?

Answer: The microphone used with an LC II is called the Apple Omnidirectional Microphone. It comes with a 1/2-inch plug. The one used with the Performa 6100 series computers (as well as all Power Macintosh computers, the Performa 475/6, 500 series computers, 600 series computers, and Quadra 660AV and 840AV) is called a PlainTalk microphone. It has a 3/4-inch plug, the extra 1/4-inch of which is to reach a power source which drives an internal amplifier in the microphone.

You need to get a PlainTalk microphone. Our part number is M9060Z/A. You can order this through many Apple-authorized service providers and catalog resellers.

For further information on the PlainTalk microphone, please see the following Knowledge Base article:

Article 15699: "**Macintosh: PlainTalk Audio Port Microphone Support**"

10) Question: I have an old program which tells me to turn off 32-bit addressing. But I don't see this as an option in my Memory control panel. Why?

Answer: The Power Macintosh always runs in 32-bit mode. There is no way to turn it off; therefore, there is no switch in the Memory control panel.

11) Question: The sound from my 15" Multiple Scan Display is very low. Sometimes, I can only hear sound out the left speaker. What is wrong?

Answer: Most likely, the cable is not plugged in securely on the monitor's side. Remove it, then plug it back in, firmly. If this does not help, completely unplug the cable from both the Macintosh side and the monitor side, then exchange the ends.

You may also wish to check your "Volumes" setting in the Sound control panel. Select "Control Panels" from the Apple menu, then open the Sound control panel. You will see a window which lets you set your alert volumes. Click on the pop-up menu at the top of the window, then select "Volumes." Make sure your speaker volume is set to a non-low value.

12) Question: I have a Macintosh Performa computer which was shipped with a CD-ROM. I have purchased a third-party disk management utility or virus detector which states I should use a "Disk Tools" disk in order to create an emergency disk. I did not receive one with my computer. Should I have?

Answer: Apple currently ships a CD-ROM drive as part of many Performa computers. If you received a Macintosh Performa CD as part of your bundle, that effectively replaces a conventional Disk Tools disk: in addition to containing conventional disk diagnostic software, it also contains a complete back-up of your system.

In many cases, you can still use the Performa CD as a start-up disk, then insert a diskette containing whatever disk-based software you need to run.

If the software you are using does not support the use of a Performa CD, or does not contain instructions on how to use the Performa CD with that product, you should contact the manufacturer of the software for further assistance.

13) Question: My computer recently stopped displaying any video. It appears to start up normally, but nothing appears on the monitor. What could be causing this?

Answer: The loss of video signal can be caused by a worn out lithium battery. For more information on this topic, please see the following Knowledge Base article:

Article 20328: "**Macintosh Computers: Low Battery Can Cause No Video**"
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Apple QuickTime VR: White Paper (7/95)

This article contains the QuickTime VR White Paper.
This article has been archived and is no longer updated by Apple.
Putting the Reality in Virtual Reality

An Overview of Apple's QuickTime VR Technology
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Walking through the corridors of the Louvre, you suddenly find yourself held in the captivating gaze of the Mona Lisa herself... Toes in the shallow tide pool, your daughter picks up a bright orange starfish and turns it every which way there is, to see what it's all about... Strolling down San Francisco's Lombard Street, you become dizzy on what you are surely convinced is the world's most crooked street... Your clients nod in approval after walking down the corridors of their planned office building from the comfort of their own boardroom.

And you do all of this from your personal computer.

Welcome to the new promise of virtual reality. Thanks to an exciting new software technology in development at Apple Computer called QuickTime VR, real-world experiences like these are now possible on an ordinary personal computer. They require no special hardware or accessories, nor any special software.

In this paper we explain the concept of virtual reality for the rest of us, and introduce the innovative new QuickTime VR software technology that makes it possible.

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I. QuickTime VR: An Overview
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Just what is Virtual Reality?

Virtual Reality describes a range of experiences that enable a person to interact with and explore a spatial environment through a computer. These environments are typically artistic renderings of simple or complex computer models. More often than not, VR applications require specialized hardware or accessories, such as high-end graphics workstations, stereo displays, 3D goggles or gloves. As an alternative to virtual reality, video has been used to view real world spaces.

Apple's QuickTime VR is system software that allows Macintosh and Windows users to experience these kinds of spatial interactions using only a personal computer, with a mouse or trackball, and a keyboard. Furthermore, through an innovative use of 360 panoramic photography, QuickTime VR enables these interactions using real-world representations, as well as computer simulations.

QuickTime VR has two components: a panoramic movie technology that allows users to explore spaces, and an object movie technology that allows users to examine objects close up and interactively.

With QuickTime VR, viewers can explore "real" spaces and objects as if they were there. As users change their view of a sceneturning left or right, looking up or down, or zooming in or outcorrect perspective is always maintained, providing the effect of actually looking around. Users can also manipulate objects, looking at them from the front, back, top, bottom, or any other angle of interest.

The three defining characteristics of QuickTime VR are
1) it can use real-world images as well as computer-generated images;
2) it does not require additional hardware; and
3) it is an extension of the QuickTime architecture.

II. What You Can Do with QuickTime VR

QuickTime VR is a technology that Apple is planning to license to third parties in the form of a runtime engine and authoring tools. It enables content developers, production companies and software developers to create exciting new multimedia products, typically in the form of CD-ROM titles, in a wide range of markets. These opportunities can include:

Education -- An application that can allow students to explore Mayan
. ruins, or the habitat of a beaver.
Engineering -- Airplanes and buildings that have not been built yet
. can be explored and analyzed.
Museums -- Tour museums in parts of the world you can't visit in
. person, and see works not normally on public display.
Kiosks -- Malls and theme parks can use QuickTime VR to provide
. interactive, real-world directions to help orient a shopper
. or visitor.
Architecture -- QuickTime VR can enable an interactive walk-through
. of a new house or office building.
Surrogate Travel -- If you can't go there on a tour, QuickTime VR can
. bring a tour of Venice to you.
Games -- Exploration and mystery games can use QuickTime VR to allow
. people to go through a fun house or visit a crime scene.

III. The Advantages of QuickTime VR

The biggest difference between QuickTime VR and most virtual reality systems is its ability to use high-quality photographic representations of a space, in addition to computer-rendered representations. This, along with other innovations, results in significant advantages for both developers and users of QuickTime VR versus competing multimedia formats.

Advantages for Developers

Easy panoramic image capture Using only a standard 35mm camera and tripod, a real-world 360 scene can be photographed in a few minutes, eliminating the need for expensive panoramic cameras or long video-taping sessions. Because of the increased resolution that film offers over video, the images that QuickTime VR uses will have richer colors and sharper details. Alternatively, computer-generated scenes can be rendered using any off-the-shelf rendering package.

Faster performance QuickTime VR incorporates a revolutionary new compression/decompression algorithm that for the first time delivers the performance necessary to make the photographic-based experience realistic. The performance is independent of the complexity of the scene. And since there are no frame boundaries, QuickTime VR allows for smoother panning as well.

Small file size The capture of a single 360 view of a real scene using video techniques, such as navigable movies, would require tens of megabytes. The QuickTime VR process can store the complete 360 photographic representation in less than one megabyte. The storage required for a computer-rendered scene is even smaller.

Flexible interaction QuickTime VR provides built-in "hot spots" that enable the content developer to make any part of the 360 scene interactive. When the user clicks on a hot spot, a wide variety of actions can be triggered, including the presentation of a photograph, an audio recording, display text, or another QuickTime VR scene.

Extension to the QuickTime family QuickTime is currently available for Macintosh and Windows personal computers, and is also being developed for consumer electronics devices, such as game players and interactive TV. Because QuickTime VR is part of the QuickTime family of products, it can be delivered on nearly 10 million QuickTime capable machines worldwide, enabling QuickTime VR authors to develop content once and deliver it many times.

In addition, QuickTime VR files can be embedded in hundreds of applications that support QuickTime. A few examples are multimedia authoring tools, presentation packages, word processors, and databases.

Advantages for Users

Realistic simulations Thanks to the use of panoramic photography, scenes built with QuickTime VR enable users to experience 360 real-world simulations. The software provides correct perspective of every view in a scene in real time, giving the user the sense of being there and looking around. Similarly, QuickTime VR maintains correct perspective with complex rendered scenes. QuickTime VR also offers the user the simulated experience of turning an object with their hand.

Intuitive usage Prior to QuickTime VR, video has been used to capture real world spaces, with the limitation that the user must view the scene in the sequence in which the video was recorded. QuickTime VR frees the user to look directly at any view of a scene or an object through a simple, intuitive user interface.

Accessibility In contrast to most virtual reality systems, which require high-end computers or specialized hardware, QuickTime VR runs on most QuickTime-capable Macintosh or Window computers and requires no specialized accessories, making it accessible to a much wider range of users. QuickTime VR requires a system running QuickTime 2.0, which makes the VR files available to any application that uses QuickTime 2.0, and ensures that all VR files may be used with a wide variety of user applications.

IV. Building QuickTime VR Applications

There are three discrete steps in creating a QuickTime VR file: capture, image input, and authoring/composition.

Capture

For real-world representations of scenes, QuickTime VR uses 360 degree panoramic photography. For rendered scene representations, standard, off-the-shelf rendering packages are used.

A 360 panoramic photograph represents the view that one would see by standing in a single spot and turning full circle. Until now, taking such a photograph required an expensive, special purpose camera. With QuickTime VR authoring tools, that same 360 panoramic view can be captured using a standard 35mm camera to take a series of adjacent photographs. In addition to enabling many more developers to create applications, the use of commercially available 35mm cameras allows for much greater exposure control over the 360 view. The use of standard cameras also permits a wider range of effects due to the large number of existing lenses and filters that may be employed. The actual number of panoramic photographs taken for a particular scene depends on the type of experience the content developer wants to provide the end user. Capturing more panoramic images within a fixed space will yield a smoother navigational experience within that space, but will generate larger storage requirements.

For a 360 rendered view, the panorama may be created directly by the rendering package, or by generating rendered scenes equivalent to the series of photographs used in capturing a real-world panorama.

The representation of virtual objects requires that images of the object be captured from all viewpoints. These images can be rendered or photographic.

Input

Once the photographs have been taken, they are input into a personal computer using a Photo-CD scanner or other standard, commercially available image input devices.

Authoring/Composition

QuickTime VR authoring tools incorporate proprietary software that can automatically stitch together a series of photographs to produce a single, seamless digital panoramic photograph on the Macintosh. Developers can also use an interactive stitching mode, for greater control. The source images can be photographic or computer rendered. Rendering applications that can output panoramic views directly, bypass this step.

Once the panoramic image has been created, it can be post-processed using standard, commercially available painting applications.

With QuickTime VR's pixel-accurate "hot spot" technology, the content developer can enable certain objects within a scene to be interactive. This allows the user to select the object for close up viewing, and view all sides of it by turning it around using a standard pointing device such as a mouse. The combination of scenes and objects simulates to a very high degree the experience of actually being there.

QuickTime VR objects can be used independently of the panoramic scene technology as well.

V. The Run-Time Engine and Software Tools

Apple is planning to license to third-party developers both the QuickTime VR run-time software (for Macintosh and Windows), and authoring tools (Macintosh-based). The availability and license structures for these tools is anticipated to be disclosed before the end of 1994.

QuickTime VR will support 8-, 16-, and 24-bit video.

VI. Platform Requirements for QuickTime VR

The minimum Macintosh system required for the run-time software is
QuickTime 2.0,
System 7.1 or later,
QuickTime-capable Macintosh with a 68030, 25 MHz processor,
8-bit video,
5 MB available RAM.
Double-speed CD-ROM is recommended for CD-based software titles.

The minimum Windows system required for the run-time software is
QuickTime 2.0 for Windows,
Windows 3.1,
MPC 2 configuration:
. - 80386, 33 MHz processor,
. - 8-bit video,
. - 8 MB available RAM.
Double-speed CD-ROM is recommended for CD-based software titles.

VII. The State of the Software and Next Steps

In developing the QuickTime VR software, Apple Computer worked closely with Simon & Schuster Publishing to develop an interactive CD-ROM application based on "Star Trek: The Next Generation," released in the Fall of 1994.

As of this writing, QuickTime VR technology is in the final stages of completion. More specific disclosures concerning the availability and opportunities for evaluation and licensing of QuickTime VR are anticipated prior to the end of 1994.

Support Information Services

Published Date: Feb 19, 2012

ImageWriter 8 And 15 Problem/Cure: Erratic Carrier Motion

PROBLEM DESCRIPTION: During printouts, the carrier makes a clattering noise and letters are printed over each other.

CAUSE: The pitch and the character size may not be properly specified in the software causing the carrier assembly to run into the left margin sensor. The carrier reaches the left margin, but in attempting to follow software controls, continues printing on the same line.

This article has been archived and is no longer updated by Apple.
CURE: 1. Verify that the software being used is correctly set, for example, 80 characters with 10 pitch, etc.

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PowerBook Modem & Telecom: Frequently Asked Questions

This document contains the answers to frequently asked questions (FAQ) about common PowerBook computer's modem and telecommunication issues.

Questions in this document:

1. I am going to be travelling overseas with my PowerBook computer which has an internal Express Modem. Will I be able to use it to send faxes to friends in the United States?
2. I recently purchased a new external modem, but cannot seem to find an appropriate Apple Remote Access (ARAscript for it. Can I get one from Apple?
3. I have a PowerBook 140/145/170 with the Apple Fax/Data Modem. Can I use any version of the Express Modem software?
4. Where can I find AT commands for my Express Modem?
5. When starting up, my PowerBook computer which has an internal Express Modem displays the Fax Modem extension icon with an "X" through it. I cannot use my modem to send a fax. What is wrong?
6. If I install Apple Telecom 2.x, can I use the Cypress Megaphone software to turn my PowerBook computer into an answering machine and speaker phone?
7. I have a computer at work running Apple Remote Access (ARAserver software and it has full access to the Internet. I would like to call in from my PowerBook using ARA client and have full access to the Internet as well. Is this possible?
8. I am trying to use Apple Remote Access (ARAon a single serial port PowerBook (200/2300/500/5300/190 seriescomputer with an external modem. When I try to connect I get an error saying that the modem could not be detected. How do I get around this?
9. I want to use an external modem with my PowerBook 500 series computer. According to the manual that came with my PowerBook computer, I need to check Normal in my PowerBook Setup control panel. I open the control panel, and the setting is not there. What is wrong?
10. Sometimes I cannot seem to use my internal modem and print at the same time. Why is this?
11. I have a PowerBook 500 series computer with a Global Village PowerPort Mercury modem. Can you tell me how to send and receive faxes?
12. I have a PowerBook 200 series computer with an Apple Express Modem. Can you tell me how to send and receive faxes?
13. I have a PowerBook 500 series computer running System 7.5, with a Global Village PowerPort Mercury modem installed. At startup, I see the message "This Macintosh may not have been shut down properly," followed by the message "Incoming Fax cannot be received because internal modem could not be identified. To identify the modem open up PowerPort control panel hold down Option key and click on PowerPort text." Then the PowerBook locks up. What can I do?
14. My modem (any modemis dropping the connection after a few minutes. Is there anything I can do to keep this from happening?
15. I am upgrading my PowerBook computer with Express Modem to System 7.5. What version of the Express Modem software should I be using? And what is the latest version of software for the Apple Express Modem?
16. I just upgraded to System 7.5, now I cannot get Apple Remote Access (ARAto connect. What is going on?
17. Where else can I go for answers?

This article has been archived and is no longer updated by Apple.

Question 1: I am going to be travelling overseas with my PowerBook computer which has an internal Express Modem. Will I be able to use it to send faxes to friends in the United States?

Answer: The PowerBook Express Modem is designed and rated to be used in the United States. There are both technical and legal barriers to operating this modem overseas. It meets FCC standards, but may not meet requirements to be used in your country of destination.

On the technical side, there are third-party vendors such as TeleAdapt and Global Village who provide solutions to adapting a modem designed for one country to use in another.

As mentioned, there may be legal issues in operating your modem overseas. It is recommended you acquaint yourself with any national, regional, or local laws and conditions on using modems.

Question 2: I recently purchased a new external modem, but cannot seem to find an appropriate Apple Remote Access (ARA) script for it. Can I get one from Apple?

Answer: Some ARA Control Command Language (CCL) scripts come with the AppleTalk Remote Access application, however, if your modem is not in the pop up menu, you need to contact the modem vendor. If you have a third-party modem and do not have the correct script for ARA, contact your modem vendor.

You can also develop your own CCLs.

Question 3: I have a PowerBook 140/145/170 with the Apple Fax/Data Modem. Can I use any version of the Express Modem software?

Answer: You can use any version of the Express Modem software, up to 1.5.5, with your modem. You do, however, need to have the Serial Tool installed in your Extensions folder.

If you already have the older Fax Sender software installed on your system, the Serial Tool will remain on your system after installing the new Express Modem software.

Alternately, you can download the Serial Tool and manually drag it to your Extensions folder. To find the most recent version of this software, refer to the Apple Software Updates Library at **http://www.apple.com/swupdates**.

Question 4: Where can I find AT commands for my Express Modem?

Answer: When your Express Modem software is installed, it copies a document titled "Express Modem AT Cmds" to your hard drive. This contains AT commands for the Express Modem. If you have installed Apple Telecom 2.0, look for it inside a folder labeled "Telecom Documents". An appendix of the Express Modem manual will also have the AT command set.

Question 5: When starting up, my PowerBook computer which has an internal Express Modem displays the Fax Modem extension icon with an "X" through it. I cannot use my modem to send a fax. What is wrong?

Answer: Open the Preferences folder inside your System Folder and drag the Fax Preferences file to the Trash, empty the Trash, and restart your PowerBook. The Fax Preferences file can be corrupted due to a system error or screen freeze, disabling the Fax Modem extension as a result.

Question 6: If I install Apple Telecom 2.x, can I use the Cypress Megaphone software to turn my PowerBook computer into an answering machine and speaker phone?

Answer: No, this capability is only available on Power Macintosh, Quadra 660AV, and Quadra 840AV computers using the GeoPort Telecom Adapter.

Question 7: I have a computer at work running Apple Remote Access (ARA) server software and it has full access to the Internet. I would like to call in from my PowerBook using ARA client and have full access to the Internet as well. Is this possible?

Answer: Yes, to do this you will need to install the Apple IP Gateway on the computer running the ARA server software. Then the PowerBook (or any remote Macintosh computer) will have equal access to the Internet when dialing into the ARA server with ARA software.

Question 8: I am trying to use Apple Remote Access (ARA) on a single serial port PowerBook (200/2300/500/5300/190 series) computer with an external modem. When I try to connect I get an error saying that the modem could not be detected. How do I get around this?

Answer: Since ARA requires AppleTalk to be active, the single serial port will, by default, be designated for LocalTalk, not for the external modem. To get around this, open the Network control panel and select Remote Only. This will allow you to have AppleTalk active and use external serial devices, such as an external modem, at the same time. Remember to set the Network control panel back to LocalTalk if you will be using LocalTalk devices or connecting to a LocalTalk network.

Question 9: I want to use an external modem with my PowerBook 500 series computer. According to the manual that came with my PowerBook computer, I need to check Normal in my PowerBook Setup control panel. I open the control panel, and the setting is not there. What is wrong?

Answer: If you do not have an internal modem, this setting will not appear in the PowerBook Setup control panel. If you want to use an external modem with your PowerBook 500 series, simply make certain AppleTalk is inactive in the Chooser and select the modem port in your communications software. You can leave AppleTalk active if you select something other than LocalTalk in the Network control panel.

Question 10: Sometimes I cannot seem to use my internal modem and print at the same time. Why is this?

Answer: On most PowerBook models that have only one serial port (PowerBook 200, 2300, 190, and 5300 series computers), the serial port is mapped as a modem port. Under normal conditions this is not a problem - the internal modem can be used at the same time as a serial device such as a printer is being used. The exception to this is if you are using a communications program that does not use the Apple Communications Toolbox (CTB). If this is the case, you will need to respectively set the PowerBook, PowerBook Setup, or Express Modem control panel to Internal, Compatible, or "Use internal modem instead of modem port". The location of this setting will depend on what version of the modem and system software you have. When the PowerBook is set like this, the serial port cannot be used with serial devices. However, it can be used with LocalTalk devices.

The vast majority of communications programs that are developed for Macintosh right now will use the CTB. If you find that you have an older communications program, contact the manufacturer to see if there is an update.

Question 11: I have a PowerBook 500 series computer with a Global Village PowerPort Mercury modem. Can you tell me how to send and receive faxes?

Answer: Instructions for sending a fax are detailed on pp. 77-89 of your PowerPort 500 Series User's Guide.

Sending a Fax

Sending a fax is a lot like printing. You can follow these instructions to send your first fax:

- Open whatever document you would like to fax. You can fax from within the application SimpleText, for example.
- Hold down the Option key on your keyboard, and choose the command Fax from your File menu.
- The Send Fax Setup dialog box will appear. Here you can enter your Station Name and Station Fax Number. Click OK when you are done.
- The GlobalFax dialog will appear. Enter the number you wish to call in the Fax field, and enter the recipient's name in the To field. You can also choose a cover sheet at this window.
- Once you have entered the fax number and name of the recipient, click the Send... button. Your software should image and fax the document.

Receiving a Fax

Instructions for receiving a fax are detailed on pp. 99-105 of your PowerPort 500 Series User's Guide.

- You can configure your PowerBook to receive faxes automatically. Of course, it will have to be connected to an analog phone line. To set your PowerBook up to receive faxes automatically, follow these steps:
- Open the "Global Village Fax Center" under the Apple menu.
- Under the Fax menu, choose Setup and Receiving.
- In the Receive Fax Setup dialog box, put an X next to Receive Fax... Click OK when done.
- After this, the Global Village Fax Center will answer incoming calls to receive faxes.

Question 12: I have a PowerBook 200 series computer with an internal Apple Express Modem. Can you tell me how to send and receive faxes?

Answer: Instructions for sending a fax are detailed in your Express Fax/Modem User's Guide.

Sending a Fax

Sending a fax is a lot like printing. To send a fax, follow these steps:

- Open the application from which you wish to send a fax. You can send a fax from the application SimpleText, for example.
- Press and hold the Control-Shift keys while clicking on the File menu. Select Print... (or Fax...).
- The Fax Sender dialog will appear. Here you can add names and phone numbers to your address book, select a cover page, or simply type a phone number in the "Fax Quick Send" field.
- When your setup in Fax Sender is complete, simply click on the Send button. The Fax Sender window will vanish, and your document will be imaged and faxed.

Receiving a Fax

Instructions for receiving a fax are detailed in your "Express Fax/Modem User's Guide".

To enable automatic receiving of faxes, open the application Fax Terminal. In Fax Terminal, choose Preferences... from the Fax menu. In the Preferences... window, click on the "Answer calls to receive faxes" checkbox. You can also set the number of rings before answering here. The Express Modem will now answer incoming calls to receive faxes, even when the Fax Terminal application is not open.

With Express Modem versions 1.5 and later, you can enable fax receiving by checking the "Answer calls" checkbox in the Express Modem control panel.

Question 13: I have a PowerBook 500 series computer running System 7.5, with a Global Village PowerPort Mercury modem installed. At startup, I see the message "This Macintosh may not have been shut down properly," followed by the message "Incoming Fax cannot be received

because internal modem could not be identified. To identify the modem open up PowerPort control panel hold down Option key and click on PowerPort text." Then the PowerBook locks up. What can I do?

Answer: This occurs due to a conflict between the shutdown warning message in system software and the version of the Global Village modem software you have installed. Follow these steps to remedy the situation:

- Allow the computer to start up as normal. You will receive a message saying "This Macintosh may not have been shut down properly." Click "OK". Then you will receive a message that says "Incoming Fax cannot be received because internal modem could not be identified. To identify the modem open up PowerPort control panel hold down Option key and click on PowerPort text.".
- Perform a Force Quit. Hold down all three of the keys Option-Command (Apple)-Esc and release them all at the same time. A dialog box will appear, either click in the Force Quit button or hit the return key on the keyboard. The computer will finish starting up and the desktop will appear.
- Open the General Controls control panel and uncheck the Shut Down Warning. Close the General Controls.
- Restart your computer.
- This disables the warning message if the computer is again shut down improperly and will prevent the lock up with the Global Village Mercury Modem software.

If you wish to have the warning message enabled in the system software, you will want to contact Global Village and obtain the latest version of their Powerport Mercury Modem software.

If for some reason the above procedure does not work then you should reinstall the Global Village Modem software. Restart with extensions off, and remove the following items from the System Folder and place them on the desktop:

- Queue Temp and GlobalFax Preferences files from the GlobalFax Personal folder
- GlobalFax Files and GlobalFax Personal folders
- PowerPort 500 control panel

Then reinstall the Global Village software from original disks. Move the GlobalFax addresses from the GlobalFax Personal folder on your desktop into your new GlobalFax Personal folder in your System Folder. You may also want to save the Fax log, the cover sheets and received Faxes in the GlobalFax Files and GlobalFax Personal. The other items that you have dragged out onto your desktop you can throw away.

Question 14: My modem (any modem) is dropping the connection after a few minutes. Is there anything I can do to keep this from happening?

Answer: If the modem is disconnecting unexpectedly, a standard fix is to turn off error correction and data compression. You can do this by using the initialization string AT&F%C0\\NO. Note that this might make the modem a little slower because of the lack of data compression, but it will make the connection more stable.

Question 15: I am upgrading my PowerBook computer with Express Modem to System 7.5. What version of the Express Modem software should I be using? And what is the latest version of software for the Apple Express Modem?

Answer: You should upgrade your Express Modem software to at least version 1.5.3. Earlier versions may not work properly with System 7.5. To find the most recent version of this software, refer to the Apple Software Updates Library at **http://www.apple.com/swupdates**.

Question 16: I just upgraded to System 7.5, now I cannot get Apple Remote Access (ARA) to connect. What is going on?

Answer: System 7.5 requires version 2.0 or later of ARA. Earlier versions will not connect or will not work properly.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

The following Knowledge Base article can help you search for a particular vendor's address and phone number:

Article 17159: "**Locating Vendor Information**"
Published Date: Feb 19, 2012

Apple StyleWriter Printers: Frequently Asked Questions

This document contains the answers to frequently asked questions (FAQ) about Apple StyleWriter printers, including the portable and color models.

Questions in this FAQ:

1. How do I share a StyleWriter on a network?

2. When I print anything on my StyleWriter II, there are thin white lines through all the letters. What is causing this?

3. Is it OK to use ink cartridge refill kits with my StyleWriter family printer?

4. I have a Color StyleWriter Pro and when I print, I get -39 errors. What is causing this?

5. I have a Color StyleWriter Pro connected to my Power Macintosh. When I try to print anything, it starts to print the configuration page and freezes halfway through the process. What is causing this?

6. I have a PowerBook 500 series computer and a StyleWriter Printer. When I try to print, I get messages telling me to check my connections. My*connections appear to be sound. What is causing this?

7. When I print to my StyleWriter, I get a message saying there is no paper in the printer. If I then click OK, I get a message saying the paper in the printer is the wrong size. What is causing this?

8. When I try to install the software for my StyleWriter, I get a message saying that System 7 or greater is needed and I already have System 7 installed.

9. When I print to my StyleWriter, I get a message telling me to check my connections and print again. The connections appear to be secure. What is causing this?

10. I noticed on the StyleWriter4100 and 4500 printers there is an option for printing back to front. What is this option for?

This article has been archived and is no longer updated by Apple.

1) Question: How do I share a StyleWriter on a network?

Answer:
The StyleWriter family of printers (except for the Portable StyleWriter) can be shared via Apple's grayshare technology as long as the computer to which their printer is directly attached has at least a 68020 processor.

They cannot be connected directly to a network with LocalTalk cables (The Color StyleWriter 2400 can be directly connected to a LocalTalk network if you purchase and attach the LocalTalk module for the printer) If you do not have this module, or have any other shareable StyleWriter, you can share the printer by following the instructions below.

NOTE: With the original StyleWriter, you must use the StyleWriter II driver to share the printer). Instructions for sharing the printer appear below.

Sharing a Printer:
To share a StyleWriter printer with others, follow these steps:

Step 1
In order to share a printer, you must be connected to an AppleTalk network of some type.

LocalTalk Connection

The LocalTalk connector goes into the printer port. The peripheral-8 cable (serial cable) connects the printer to the Macintosh. It needs to go into the modem port.

Ethernet or Token Ring Connection

Since both Ethernet and Token Ring connections don't require you to use a serial port on your Macintosh, you can use either the printer or modem port to connect the printer to your Macintosh.

Step 2
Open the Chooser and select the appropriate printer icon.

Step 3

Click the icon of the port to which your printer is connected. If you are using the printer port to connect your Macintosh to the network, you must connect your printer to the modem port.

Step 4
Click the Setup button to open the Sharing Setup dialog box.

Step 5
Place an X in the "Share this Printer" checkbox. You have the option of naming your printer and entering a password. If you type a password for the printer, only users who know the password can use the printer from their computers.

If you want a record of what is printed on your printer, place an X in the "Keep Log of Printer Usage" checkbox.

Step 6
Click "OK" to close the StyleWriter II Sharing Setup dialog box and close the Chooser window.

Your printer is now available to others on the network.

Printing to a Shared Printer

To print to a shared printer, follow these steps:

Step 1
Open the Chooser and select the appropriate printer icon. A list of available printers and communications ports will be displayed.

Step 2
Click the name of the shared printer that you want to use. If the printer requires a password, a dialog box appears in which you must type the password.

Step 3
Close the Chooser

You are now ready to print to the shared printer.

2) Question: When I print anything on my StyleWriter II, there are thin white lines through all the letters. What is causing this?

Answer:
This can be caused by a number of things:

1. The cartridge may be running low on ink. The cartridge can print about 300 pages at 5% coverage (100 pages of double-spaced text in 12 point type). If you are nearing the end of the cartridge's life, try replacing it.

2. Make sure you are using an Apple or Canon ink cartridge and make sure the cartridge has not been refilled.

3. The ink jets may be clogged or have air bubbles in them. This can occur even with new ink cartridges. Try cleaning the ink cartridge as follows:

Remove the ink cartridge and cover the area at the bottom of the cartridge (you will see a silver strip) with a wet paper towel. Then shake the cartridge vigorously as if you were shaking down a thermometer. This should force some ink out of the jets and may eliminate the lines

4. Open up the front of the printer and move the ink cartridge assembly to the left. Underneath where the ink cartridge was, you will see a clear plastic wiper blade and a small rectangular area with spongy material. If any lint has accumulated in this area, use your finger to wipe it off.

If you leave paper in the printer for a long time without printing, lint can build up on the paper and get inside the printer, causing the white lines.

5. You may have a defective ink cartridge. Try replacing it with a new one.

3) Question: Is it OK to use ink cartridge refill kits with my StyleWriter family printer?

Answer:
Apple StyleWriter Ink Cartridges are made by Canon for Apple and meet Apple's rigid specifications.

Physical damage to the printer caused by the use of a third-party printhead cartridge or ink refill kits that DO NOT meet Apple*s rigid standards WILL void the warranty.

Apple recommends the use of only Apple or compatible Canon ink cartridges with its StyleWriter printers.

4) Question: I have a Color StyleWriter Pro and when I print, I get -39 errors. What is causing this?

Answer:
This will occur with the Color StyleWriter Pro driver v1.5 if you have more than 32 MB of available RAM. It is documented in the Color StyleWriter Pro v1.5 ReadMe document. To correct this, use the Color StyleWriter Pro driver v1.5.2.

This update can be obtained online from various locations where Apple posts its software. For a list of these locations, search Apple's Tech Info Library using the shortcut "software updates and online" to find the article "Where To Find Apple Software Updates"

5) Question: I have a Color StyleWriter Pro connected to my Power Macintosh. When I try to print anything, it starts to print the configuration page and freezes halfway through the process. What is causing this?

Answer:
This can occur with the Color StyleWriter Pro driver v1.5 and Power Macintosh computers. To correct this , use the Color StyleWriter Pro driver v1.5.2.

This update can be obtained online from various locations where Apple posts its software. For a list of these locations, search Apple's Tech Info Library using the shortcut "software updates and online" to find the article "Where To Find Apple Software Updates"

6) Question: I have a PowerBook 500 series computer and a StyleWriter Printer. When I try to print, I get messages telling me to check my connections. My*connections appear to be sound. What is causing this?

Answer:
The PowerBook 520c and 540c computers employ a single serial port which is a combination Printer/Modem port. In order to use this port for serial printing, use the following information to properly configure your PowerBook 500 series computer:

Step 1
If the Express Modem is installed:
- Open the Express Modem control panel and select Use External Modem.
- Open the PowerBook Setup control panel and select Normal.

Step 2
Open the Chooser and do the following:
- If using the PowerBook 200 series, turn OFF AppleTalk. If using the PowerBook 500 series, you do not have to disable AppleTalk.
- If you are using Ethernet; you MUST verify that the Network Control Panel is set for Ethernet.
- Select the serial printer driver.
- Select the "printer/modem" icon (or the modem icon if the printer/modem icon is not available).

Note: Domestic PowerBook 500 series computers will have a Global Village Powerport Mercury modem installed, not an Express modem, and therefore will only need to have the PowerBook Setup control panel set to normal for step #1.

A similar situation can also occur when using the Color StyleWriter 2400 or other serial printer. If you see no port selection choices, make sure the PowerBook Setup control panel is set for Normal.

Step 3
Disable the Assistant Toolbox extension with the Extensions Manager control panel, if it is enabled.

7) Question: When I print to my StyleWriter, I get a message saying there is no paper in the printer. If I then click OK, I get a message saying the paper in the printer is the wrong size. What is causing this?

Answer:
This symptom had two major causes:

1. You are using the wrong type of cable, have a loose cable connection, or have a defective cable. You must use a Macintosh Peripheral-8 cable to connect the StyleWriter series of printer to your Macintosh Computer. You cannot use LocalTalk cables (the only exception is when you have a Color StyleWriter 2400 with the LocalTalk module installed).
You should also disconnect the cable and reconnect it to be sure it is plugged in securely.

2. You have the printer set up incorrectly in the Chooser. Go to the Chooser and select the printer icon for your printer from the list on the left.

Note that the StyleWriter II uses the "StyleWriter II" driver, not the one named simply *Stylewriter.*

After selecting the correct icon, you should see a box on the right labelled "Connect To:" with the icons of the printer port and the modem port. Click on the icon that corresponds to the icon above the port to which the printer is physically attached.

8) Question: When I try to install the software for my StyleWriter, I get a message saying that System 7 or greater is needed and I already have system 7 installed.

Answer:
This message usually occurs when you are trying to install the printer software on a computer on which the driver is already installed.

Check the Chooser to make sure the driver is not already there. If it is not, you*can install the printer software as follows:

Step 1
Insert the printer installation disk and double click the Installer

Step 2
When the Welcome to the Installer screen appears, click OK

Step 3
When the Install screen appears, select Customize or Custom Install

Step 4
Choose the individual portions of software you want to install. If you have System 7.5, elect to install software for system 7.1.

Step 5
Click Install

This will allow you to install the software.

9) Question: When I print to my StyleWriter, I get a message telling me to check my connections and print again. The connections appear to be secure. What is causing this?

Answer:
First, make sure you are using the correct type of cable. You must use a Macintosh Peripheral-8 cable to connect the StyleWriter series of printer to your Macintosh Computer. You cannot use LocalTalk cables (the only exception is when you have a Color StyleWriter 2400 with the LocalTalk module installed).

If you are using the correct cable and have checked to make sure it is plugged in securely, you should next check to see that the printer is set up correctly in the Chooser.

Go to the Apple Menu and select Chooser, then select the printer icon for your printer from the list on the left. Note that the StyleWriter II uses the "StyleWriter II" driver, not the one named simply *Stylewriter.*

After selecting the correct icon, you should see a box on the right labelled "Connect To:" with the icons of the printer port and the modem port. Click on the icon that corresponds to the icon above the port to which the printer is physically attached. You may have to turn the computer around so that you can see to which port the printer is connected.

If you have the printer connected to the printer port, make sure that AppleTalk is set to "Inactive"

The printer should now be set up correctly for printing.

10) I noticed on the StyleWriter4100 and 4500 printers there is an option for printing back to front. What is this option for?

Answer:
This option allow the printer to print starting from the last page of the document instead of the first. This way when the document is completed page 1 will be on top.

Note: Several third party vendors offer products, such as PrintChef from Mindgate, which enhance the available print options for StyleWriters..
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FTP Software‘s PC/TCP: Which Works With DOS Compatible (9/95)

What version of FTP Software's PC/TCP IP suite works with the Power Macintosh 6100 DOS Compatible computer?
This article has been archived and is no longer updated by Apple.
The version of FTP Software's PC/TCP IP suite that works with the Power Macintosh 6100 DOS Compatible computer is OnNet v1.2. This version has been tested with the Power Macintosh 6100 DOS Compatible computer. Manual editing of the net.cfg file must be done after installing the software.

Add the following lines to the net.cfg file:

Link Support
Max stacks 8

Add the following lines to the end of the Link Driver MACODI section of the net.cfg file:

Protocol IP 800 Ethernet_II
Protocol ARP 806 Ethernet_II
Protocol RARP 8035 Ethernet_II

NOTE: The software allows installation of either DOS TSRs or vxd files. In testing, only the vxd files were loaded. See the product documentation for further information.

Also, see the Tech Info Library article titled, "Pwr Mac DOS Compatibility Card: PC/TCP Does Not Function (7/95)", for a discussion of using earlier versions of FTP Software's PC/TCP packages with the Power Macintosh 6100 DOS Compatible computer.

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MAE 2.0: 16 Bit Sound Not Supported (7/95)

I am unable to get 16 bit sound on my SPARCstation 5 with 16 bit sound support, Solaris 2.4, and MAE 2.0. My system supports 16 bit sound, as other UNIX applications can play 16 bit sounds on my internal speaker.

The Sound control panel appears to loads properly, and the sound out option is available. However, the 16 bit and Stereo option is grayed out.

Do you have any recommendations to resolve this? Also, is it possible to modify any of the UNIX files to allow MAE to properly recognize the sound capabilities of my workstation?

This article has been archived and is no longer updated by Apple.

We tested with our SPARCstation 5 workstation's built-in speaker, and 16 bit sound does not seem to be compatible with MAE 2.0. The Sound control panel is grayed out.

According to Engineering, although Apple did not state MAE 2.0 supports 8 bit or 16 bit sound in our documentation, they did confirm that only 8 bit sound is supported. There is no 16 bit sound support under MAE 2.0.

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ImageWriter P/C: "Growling" Sounds When Printing

PROBLEM DESCRIPTION: Printer makes "growling" sounds when printing. Poor horizontal registration on self test. Characters don't line up evenly. Printer powers up fine. When checked with power off, carriage moves freely along guides and does not appear to bind.

CAUSE: Rubber bushings on carriage stepper motor may not be properly fitted on the carriage stepper motor.

This article has been archived and is no longer updated by Apple.
CURE: Check the rubber bushings for a proper fit. Refer to the Illustrated Parts in the Tech Procedures for location information. Correct as necessary.

If this cure does not resolve the problem, go back to the Word Search screen and search on the product's name and HTS and GTS to obtain a General Troubleshooting procedure.
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System 7.1P6: Clean Restore Macintosh Performa Computers (7/95)

This article describes the procedure for a Clean Restore (Install) for a Macintosh Performa computer with no built-in CD-ROM drive and which is running System 7.1P or System 7.1.2P for Performa computers. This article assumes that you have backed up your system with Apple Restore, and have a Utilities disk and the backup disks.

This article applies to all Macintosh Performa 400 series computers, as well as some Performa 600 and 630 series computers.

If you are using System 7.5, follow the clean install instructions for System 7.5, listed elsewhere in the Tech Info Library.
This article has been archived and is no longer updated by Apple.
You may wish to perform a "clean install" when normal extensions troubleshooting fails or when the troubleshooting process becomes too complex.

The process essentially allows you to "start over" with a new System Folder. You will not lose any data, but any software or fonts or configuration information which was stored in the old System Folder will become inactive.

This clean install procedure provides you with a stable foundation from which you can proceed to troubleshoot an abnormal situation.

A regular system software installation modifies and updates the existing System Folder. A clean installation disables the existing System Folder, leaving most files in place, and forces the restoration software to create a new System Folder.

A clean system installation brings the system software back to the standard configuration. This is necessary when system software has been damaged or modified, preventing a normal installation. It is also useful in troubleshooting.

Restart From the Utilities Disk

Step 1
Shut down or turn off your computer and insert the Utilities disk.

Step 2
Turn it back on. After a while, the computer will have started by using the system software on the Utilities disk. This will take longer than normal, perhaps up to three minutes.

The desktop pattern may change. This is normal, and is a consequence of having started the system with a different startup volume. In this case, we are starting from the Utilities disk.

If you cannot start with the Utilities disk (that is, you do not see your Utilities disk icon on the top right hand side of the screen, above the hard disk, do not proceed. Call 800-SOS-APPL for further assistance.

Run Disk First Aid

Disk First Aid can detect and repair problems with a hard disks directory structure. Before proceeding with further troubleshooting, it is important to verify that the underlying directory structure is functioning satisfactorily.

Step 1
Click on the Disk First Aid icon in the Utilities window, then select Open from the File menu. You can also double-click on the Disk First Aid icon. The Disk First Aid icon looks like a little ambulance.

Step 2
There are two distinct ways that Disk First Aid might appear.

If your version has a row of disk icons at the top of the window, and a button labeled Verify, click on the hard disk icon within the Disk First Aid window. Click on the Verify button.

If your version has four buttons, marked Drive, Eject, Open, and Cancel, check the name of the volume in the window. If it says Utilities, click the Drive button ONCE. It should then have the name of your hard disk. Click on the Open button. Another window will appear: click on the Start button. Nothing dramatic will happen while it is testing, but within a minute, the Start button will either hilite again, and a message will appear saying everything is fine, or it will report a problem.

Step 3
If Disk First Aid finds a problem, click on the Repair button.

If you receive a note stating that Disk First Aid cannot repair the hard disk, you should back up any irreplaceable data or application software on the hard disk and re-initialize it using the appropriate formatting utility for that drive. For Apple drives, use Apple HD SC Setup, which is also in the Launcher. If you have a Performa 630 series computer, use Internal Drive Format.

Step 4
Select "Quit" from the File menu.

Update Hard Disk Driver

You should update the drivers with the version of Apple HD SC Setup that is on the Utilities disk, following these steps:

Note:
If you have a Performa 630 series computer, ignore this step. Because you have an IDE drive instead of a SCSI drive, you do not have any drivers to update.

Step 1
Click on the HD SC Setup icon in the Launcher.

Step 2
Click on the Update button. If the Update button is not hilited, or you see a message that "Drive Selection Failed," you should verify whether your hard disk has been reformatted with a third-party driver or uses driver-level compression or security software.

Step 3
When you are finished, click Quit to return to the desktop.

Step 4
Select "Restart" from your Special menu. The Utilities disk will eject; push it right back in.

Check Available Hard Disk Space

Be sure you have at least 20 MB available on the hard disk where you plan to install the system software. If there's less than 20 MB available, you'll need to identify and delete some unnecessary files by moving them to the Trash.

Make sure you do not delete anything you do not have a back-up for. If necessary, copy the files onto individual diskettes or other media before moving them to the Trash.

You can identify the amount of hard disk space available by double-clicking on your hard disk icon on the right hand side of the screen. At the top of the hard disk window, you should see a legend which indicates how much space is available. If you do not, select "by Icon" from your View menu.

Once you identify and remove redundant items, choose Empty Trash from the Special menu, and you'll have more disk space available.

Disable the System Folder

You disable the System Folder by moving the Finder and renaming the System Folder to something else.

Step 1
Open your hard disk's icon and locate the System Folder.

Step 2
Open the System Folder and locate the Finder.

Step 3
Move the Finder to the Trash. If you get an error message saying that items cant be moved to the desktop because it is locked, try again: you probably missed the Trash.

Step 4
Move your System suitcase (the icon with a small suitcase) to the Preferences folder. We keep the System suitcase in case there are sounds inside it you may wish to recover later on.

Step 5
Close the System Folder's window and rename the System Folder to "Storage." Do this by first clicking on the closed System Folder icon, then pressing the Return key. This should hilite the words "System Folder," surrounding them with a white rectangle. Whatever you type will replace

what is there. You can also hilite "System Folder" by clicking ONCE in the middle of those words, then waiting for the words to hilite.

Step 6
Close any open windows on your desktop.

Restart Your Computer

Choose Restart from the Special menu. This will automatically eject your Utilities disk.

After a few seconds, you should see a picture of a disk with a flashing question mark.

If your Macintosh computer starts up from the hard drive, you have an extra System Folder on the hard disk. You need to locate it (use the "Find" option from the File menu in the Finder) and delete it or disable it as described in the previous section, then restart.

When you get the disk with the flashing question mark on your screen, you can continue.

Restoring The System

Step 1
When you see the disk with a flashing question mark, insert the Utilities disk again. The computer should start up with the system software on the Utilities disk

Step 2
Once the computer has finished starting, double-click on Apple Restore.

Step 3
Read the welcome screen, then click on the Continue button.

Step 4
Respond to any messages you see on the screen. At this point, you will need all of your backup disks.

Step 5
When the system is finished, click the Restart button or press the Return key on your keyboard. You will have then successfully restored your files.

Step 6
After the computer finishes restarting, select Empty Trash. The old Finder will be in there, and we can get rid of it at this point.

Verify Problem Resolution

After performing a clean installation, verify that you resolved the problem before adding anything to the new System Folder. Adding items to the System Folder before resolving your problem defeats the purpose of the clean restore procedure. You may wish to use your computer for a few days before re-introducing any other extensions or fonts.

Install Non-Standard Items

You can now reinstall the non-standard items from the old System Folder (now named "Storage") such as fonts, screen savers, device drivers, and so on. If at all possible, we strongly recommend that you reinstall these items from their original disks, just in case one of the items had become corrupted and contributed to the problem.

If the original disks aren't available, you may move the non-standard items from the Storage folder to the equivalent place in the new System Folder. Be careful not to replace anything that's already in the new System Folder. Only move items that aren't already in the new System Folder.

Step 1
Open each corresponding folder within the System Folder and the Storage folder and then compare the contents.

Step 2
Move an item that isn't already in the new System Folder and its subfolders from the Storage folder and its subfolders.

Step 3
Restart your Macintosh.

It is recommended you proceed slowly when doing this. This is part of the troubleshooting process, so you do not want to move everything back at once: instead, move a few at a time, restart, and test to make sure the original problem has gone away.

If you move the items back and the problem should recur, you probably have an extensions conflict. Done properly, you will know which set of extensions cause the problem, but sometimes intermittent extensions conflicts will require more troubleshooting.

Final Steps

Verify that your applications are performing normally. If not, refer to the application manual or contact the vendor.

We normally recommend you keep the Storage folder around for a couple of months, or until you're *completely* certain that you do not need any files from it.

When the Macintosh behaves as expected, move the Storage folder to the Trash, and choose Empty Trash from the Special menu.

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PowerBook: Power and Battery Frequently Asked Questions, Part I

This article contains frequently asked questions (FAQ) regarding PowerBook batteries and power issues, with answers to those questions.

For Part II of this FAQ, please see article 88104: "**PowerBook: Power and Battery Frequently Asked Questions, Part II**"

This article has been archived and is no longer updated by Apple.
Questions answered in this article:

1. How do I reset the power manager for my PowerBook?
2. I do not seem to be getting the battery life I once did with my PowerBook. What should I do?
3. What are the various types of PowerBook batteries? Are they interchangeable?
4. Through troubleshooting, I have come to the conclusion my PowerBook battery is unusable. It is my understanding that this battery contains unpleasant chemicals. How can I safely dispose of this battery?
5. What is battery memory? Should I buy a reconditioner for my battery to address battery memory?
6. Why does a red light appear on the external battery recharger when I insert a Type 3 battery for a PowerBook Duo 230 computer?
7. It is my understanding that Apple no longer sells the PowerBook 100 battery. What can I do when my faithful PowerBook 100 needs a new battery?
8. I recently purchased a new battery for my 500 series PowerBook. My PowerBook isn't charging/recognizing this battery. What should I do?
9. How long can I store my PowerBook battery?
10. My PowerBook will not start off battery at all. Should I just buy a new battery, or is there something else I can do?

Question 1: How do I reset the power manager for my PowerBook?

Answer: A separate Knowledge Base article titled **PowerBook: Resetting Power Manager** describes how to reset the power manager for all PowerBook computers. Resetting the power manager is recommended when the computer is not powering on, not waking from sleep, not charging the battery, or not seeing the AC Adapter.

Question 2: I do not seem to be getting the battery life I once did with my PowerBook. What should I do?

Answer: The Apple Knowledge Base contains some good articles on maximizing battery life. Use the search string "PowerBook and tips" to find the article "PowerBook: Power and Battery Saving Tips." In general, for all PowerBook computers experiencing decreasing battery life, you will want to reset the PowerBook power manager, and check power conservation settings in the PowerBook control panel.

Next, with the PowerBook 140-190, 200, 2300, 500, and 5300 series computers, recondition the battery. To do this, operate as long as possible off the PowerBook battery, then shut down and charge the battery overnight. If performance is still not as good as should be expected, you are likely dealing with a bad battery. The PowerBook 270c, 280, 280c, 2300, 190, and 5300 can use the Battery Reconditioning software (included on the Battery Tools disk or in the Utilities Folder on the Hard Drive) to recondition the battery automatically. The PowerBook 500 series can use the Intelligent Battery Update.

You can download the Intelligent Battery Update at Apple Software Updates.

Note that the PowerBook 200 and 2300 series computers use a different version of the Battery Reconditioning program than the PowerBook 5300 and 190 series computers do. The version that the PowerBook 5300 and 190 series computers use is not currently available on-line.

Question 3: What are the various types of PowerBook batteries? Are they interchangeable?

Answer: For the most up to date information on battery types for various PowerBook computers, refer to article 86797, PowerBook and iBook: Identifying the right battery.

Question 4: Through troubleshooting, I have come to the conclusion my PowerBook battery is unusable. It is my understanding that this battery contains unpleasant chemicals. How can I safely dispose of this battery?

Answer: Apple utilizes lead-acid, nickel metal hydride, nickel-cadmium, and lithium ion batteries in our portable products. These batteries should be returned to Apple for recycling or proper disposal.

Customers can take their failed batteries to an Apple-authorized service provider who return the failed batteries to Apple for proper disposal.

If the battery is physically damaged, do not attempt to return them to Apple. Dispose of them according to your local ordinances.

Question 5: What is battery memory? Should I buy a reconditioner for my battery to address battery memory?

Answer: For an overview of battery memory and proper charging techniques, refer to article 10970: "**PowerBook: Recharging Batteries**".

Question 6: Why does a red light appear on the external battery recharger when I insert a Type 3 battery for a PowerBook Duo 230 computer?

Answer: First, check the model number on the bottom of your battery recharger. A recharger with a model number of M7778 will only charge Type 1 batteries. A recharger with a model number of M1812 will charge Type 1, 2 or 3 batteries, but may need to be updated to use a Type 3 battery.

To update your battery recharger for a Type 3 battery, follow these steps:

- If a red light appears when you place a Type 3 battery into the recharger, the recharger is either the older model or the recharger needs to be updated.
- If you have a recharger model M1812 and you need to update it, follow these steps:

    1. Shut down the PowerBook Duo computer, make sure the Type 3 battery and any necessary software has been installed. If you're running System 7.5.1 the Type III Battery extension must be installed.

    2. Plug the power adapter into an AC outlet using the power cord that came with the computer.

    3. Snap the recharger onto the side of the power adapter.

    4. Plug the power adapter cable into the power adapter port on the back of the Duo computer.

    5. Turn on the PowerBook Duo to download the update to the charger.

Question 7: It is my understanding that Apple no longer sells the PowerBook 100 battery. What can I do when my faithful PowerBook 100 needs a new battery?

Answer: Apple continues to make PowerBook 100 batteries available as a service part and any Apple authorized service provider can order it. The service part number for a PowerBook 100 battery is 661-0782. Additionally, a number of third-party companies make batteries for the PowerBook 100.

Question 8: I recently purchased a new battery for my 500 series PowerBook. My PowerBook isn't charging/recognizing this battery. What should I do?

Answer: Try running the Intelligent Battery Update on your battery. This will update and fix the battery if needed, or let you know that the battery needs to be replaced. The Intelligent Battery Update can be found at Apple Software Updates.

If the Intelligent Battery Update does not alleviate the symptoms, try resetting the power manager on the PowerBook by following these steps:

1. Shut down the PowerBook using the Special menu.

2. Press the Command-Option-Control-Power On keys simultaneously and let go. Pressing the keys will not appear to do anything.

3. Press the Power On key to start up the PowerBook. Your brightness and contrast settings may be reset and you may need to adjust them in order to see the screen.

If the symptom is still not resolved, the battery may need replacement. You can contact the Apple Assistance Center at 800-SOS-APPL (800-767-2775) or contact the Apple Referral Center at 800-538-9696 to obtain a phone number for an Apple-authorized service provider in your area.

Question 9: How long can I store my PowerBook battery?

Answer: Apple uses different types of batteries in the PowerBook series of computers, but all computers since the PowerBook G3 use Lithium Ion batteries.

A lead acid battery should retain the minimal charge needed to operate a PowerBook for 2-3 months. Once a lead acid battery becomes fully discharged, it may experience sulfation. Sulfation occurs when the lead electrodes inside the battery convert to lead sulfate. This destroys the battery making it unable to hold a charge.

A Nickel Cadmium battery should retain the minimal charge needed to operate a PowerBook for1-2 months. A NiCad battery stored up to 12 months should still be able to accept a charge.

A Nickel Metal Hyydride battery should retain the minimal charge needed to operate a PowerBook for1-2 months. A NiHy battery stored up to 12 months should still be able to accept a charge. In the case of the Intelligent Battery used by the PowerBook 500 series, the Intelligent Battery Recondition software is often needed to revive a battery that has discharged fully while in storage.

A Lithium Ion battery should retain a minimal charge needed to operate a PowerBook for 1-2 months. A LiIon battery stored for up to 12 months

should still be able to accept a charge.

Refer to article 10571: "**PowerBook: Battery Shelf Life**" for more information on storing PowerBook batteries.

Question 10: My PowerBook will not start off battery at all. Should I just buy a new battery, or is there something else I can do?

Answer: Generally when a PowerBook battery goes bad, it provides less operating life over a period of time. If your PowerBook suddenly will not work with its battery at all, this could be an issue with the battery itself, or the logic board of your PowerBook. If possible, try your battery with another PowerBook, or try a verified-good battery in your PowerBook to help isolate the issue.

If you are not in a position to try a known good battery or verify your own battery with another PowerBook, there are still some steps you can take. First, reset the power manager of your PowerBook. Instructions for resetting the power manager on various model PowerBook computers are available in this document or at the online Knowledge Base. Use the search string "power manager and reset" to locate the article "PowerBook: Resetting Power Manager." Charge the battery overnight following this reset.

If your PowerBook still will no longer work with its battery after this process, you should seek service. Contact your local Apple-authorized service provider, or call 800-767-2775 for further assistance.

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Color LaserWriter 12/600 PS: Thin Line Next to Black Area

Using a Color LaserWriter 12/600 PS, I have noticed that there appears to be a thin white line next to the black imaged area. Is the black plate printing out of register?
This article has been archived and is no longer updated by Apple.
This effect is not caused by the paper being moved within the printer. It is a result of the Color Photograde technology creating colors from patterns of dots. The pattern is more noticeable with lighter colors next to solid black. This effect will also happen when using solid cyan or solid magenta. Most users use colors that are a combination of these pigments, such as blue, which is made of 100% Cyan and 100% Magenta so this effect is not usually noticeable.

To prevent the white line from appearing, you can create black out of Magenta, Yellow, and Cyan in 100% shades. However, this increases the cost per page and produces a more charcoal colored black.

If the line appears to be more than 1/16th of an inch, try using a different paper type and selecting Best from the Options menu in the Print dialogue box.

Note: Other laser printers and solid wax printers will display this effect, but sublimation printers will not because they actually create continuous tone images by varying the heat applied to solid pigment.
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QuickTime Conferencing: Read Me

This article contains the ReadMe file included with the QuickTime Conferencing software.
This article has been archived and is no longer updated by Apple.
QuickTime Conferencing

Introduction

The QuickTime Conferencing folder/disks contain video conferencing and collaboration software you can install on your computer.

QuickTime Conferencing is a system software extension. It comes with Apple Media Conference, an application program you use to set up video conferences, collaborate with others, exchange live video and sound, and share information over a network. Apple Media Conference takes advantage of the networking capability already built into your computer so you can connect with other video conferencing systems over a local or wide area network, such as an AppleTalk local area network or the TCP/IP Internet.

The instructions below explain how to install and use QuickTime Conferencing and Apple Media Conference. To print these instructions, choose Print from the File menu, and click the Print button in the dialog box that appears.

System Requirements

Quadra 660AV or 840AV, Power Macintosh AV computer, or Power Macintosh computer with AV card upgrade
System software version 7.5 or newer
16 megabytes of DRAM (memory)
Video source (for instance, a video camera or VCR)
Audio source (for instance, a PlainTalk microphone or VCR)
Network connection (for instance, Ethernet or ISDN)
Network Software Installer version 1.5 or newer.

Note: QuickTime Conferencing supports Apple built-in video. Apple cannot guarantee compatibility with third-party video input cards.

Installing QuickTime Conferencing Software

Follow these steps to install the QuickTime Conferencing software.

Step 1

Locate the QuickTime Conferencing Install folder and open it. Double-click the Installer icon located in the folder.

Step 2

Read the message that appears, then click Continue.

Step 3

In the Easy Install dialog box, click Install. All the necessary software will be installed on your computers hard disk.

Step 4

When installation is complete, click Restart.

Opening Apple Media Conference

After QuickTime Conferencing has been successfully installed, you will find the Apple Media Conference program in a folder named QuickTime Conferencing, located on your hard disk. (If you have more than one disk, the folder is located on the disk you specified in the Easy Install dialog box.) To open Apple Media Conference, double-click its icon.

When you start Apple Media Conference for the first time, youll see a message asking if you want to go directly to Apple Media Conference

Guide, an Apple Guide online help system.

Click the Guide button to see instructions that lead you through setting up your equipment and network. These instructions are part of Apple Media Conference Guide, a complete online reference to answer any questions you may have about Apple Media Conference.

Getting Help and Information

Apple Media Conference Guide answers common questions about setting up and using Apple Media Conference. When you need help or instructions, choose Apple Media Conference Guide from the Guide menu (at the upper-right-corner of your screen) while you are using Apple Media Conference.

For detailed troubleshooting information, and tips on improving the performance of Apple Media Conference, refer to the Troubleshooting topic in Apple Media Conference Guide.

For general Macintosh help, go to the Finder by clicking anywhere on the desktop (the background area on your screen). Then open the Guide menu and choose Macintosh Guide.

For Power Macintosh 5200 LC and 5300 LC Users

Users of the Power Macintosh 5200 LC and 5300 LC series computers should note the following:

Sound compression and sound sample rate
Sound compression is not available if the selected sound sample rate is 11.127 kHz. Sound compression is available if the selected sound sample rate is 22.255 kHz. The sound compression and sound sample rate settings are found in Sound Settings under the Settings menu. For example, if the sound sample rate is set to 22.225 kHz and you wish to change it to 11.127 kHz you must make sure the sound compression is set to "None" or you will not be able to select 11.127 kHz.

Large window sizes and low memory problems
You may encounter memory problems when using double size windows for the self view and remote view. Increasing the amount of application memory for Apple Media Conference from 3,000 kbytes to 4,000 kbytes will solve this problem. A description of changing the amount of memory for Apple Media Conference is described below in the Troubleshooting section of this document.

PPCPlayThru extension conflict
If the PPCPlayThru extension is present in the Extensions folder of the System Folder the volume control in Apple Media Conference will not operate properly. Removing the PPCPlayThru extension will correct the problem.

For At Ease 3.0 and At Ease Workgroups 2.0.3 Users

For QuickTime Conferencing to operate properly certain conditions under At Ease must be set properly.

- If the user is restricted to At Ease Panels, Apple Media Conference and MoviePlayer must be enabled under "Items for this User."

- File open and save privileges must be enabled under the "Security" setup. Both the user's folder and/or floppy should be set for these privileges. The user should also be allowed to perform screen captures.

- Apple Media Conference will not save preference settings based on individual users. Each individual user should check to make sure the settings are appropriate for their conferencing needs. To change the name of the user in Apple Media Conference choose Preferences/Conference from the Settings menu. Type your name in the user name box.

- Drag and Drop onto the desktop does not operate in the At Ease Panels level.

- You cannot share movies or sounds in the Shared Window in Apple Media Conference.

Troubleshooting

Apple Media Conference Guide contains more detailed information about the problems listed here, and other problems you may encounter.

You see low memory warnings while using Apple Media Conference
Increase the amount of memory allocated for the Apple Media Conference program. To do this, quit Apple Media Conference, go to the Finder, click the Apple Media Conference program icon, choose Get Info from the File menu, and increase the value in the Preferred Size box. For more

detailed instructions on increasing the memory allocated to a program, go to the Finder, open the Guide menu located in the upper-right-corner of your screen, choose Macintosh Guide, click the Topics button, click the Memory topic area, and double-click the "change a program's memory size" phrase.

You see an error message when you plug or unplug video or audio cables during a connection

Do not plug or unplug camera, microphone, or other sound and video cables while you are connected to another caller, or viewing or sending a broadcast. This can temporarily disable the QuickTime software. You should always turn off your computer before you plug or unplug any cables.

The video image is distorted

Make sure the settings are correct in the Video Settings dialog box. The settings should specify the video format supplied by your camera (NTSC, PAL, or SECAM). To adjust the settings, choose Video Settings from the Settings menu, choose Source from the top pop-up menu in the Video Settings dialog box, and choose the correct video format (NTSC, PAL, or SECAM) from the Format pop-up menu.

Apple Media Conference Guide contains more detailed instructions on adjusting the video (and sound) settings.

If you are using a Power Macintosh 6100AV, 7100AV, or 8100AV computer, attach your display to the monitor port located on the AV video card instead of the monitor port located on the computer's logic board. (Shut down the computer and turn off the power before you change your displays connection.) See the manual that came with your computer for more information.

Calling TCP/IP Users with Dynamic Server-Based Addresses

If you are connecting using TCP/IP from a machine using a static IP address to a machine using MacIP (KIP) server supplied addresses, you must have a clear TCP/IP pathway between the Macintosh computer with the static address and the MacIP (KIP) server.

If you plan to use a MacIP server to allocate TCP/IP addresses, the MacIP requires a clear AppleTalk pathway from all Macintosh computers requiring an IP address to the MacIP server.

A Note Regarding Interoperability

QuickTime Conferencing is the foundation for a broad range of Apple and third-party video and document conferencing solutions.

QuickTime Conferencing supports open standards for interoperability, so developers can use it to create software that works with a variety of network transports, compression technologies, and media devices (cameras, microphones, and so forth). QuickTime Conferencing provides consistent standards that encourage software developers to create application programs that look and act the same from a users point of view, regardless of the computer, network service, or devices being used.
Published Date: Feb 19, 2012

ImageWriter II: Paper Jams Issues

The article contains solutions for different types of ImageWriter II paper jams.
This article has been archived and is no longer updated by Apple.
There are four major reasons that paper jams occur with the ImageWriter II.

Those are:
a) the platen release lever is not in the correct position (released)
b) possible obstruction(s) in the paper path (labels etc...)
c) the paper has become deformed because of its being curved under the platen for an extended period of time
d) the paper guide is defective.

With most rear tractor feed printers it's not possible to just load the paper into the tractors and hit form feed to load the paper. You must guide the paper under the platen, then lock it into the tractors or use the procedure outlined in the IMAGEWRITER II owner's manual page 19. If this is the Problem reported, there isn't any 'fix', rear tractor feed printers don't do this gracefully.

PROBLEM: Paper jams or "paper folding" between the paper blade and paper bail assembly with the ImageWriter II.

CURE: Use the following procedures to troubleshoot this problem.

1. Remove the paper from the printer and tear off the first page. Sometimes the first page of perforated paper is deformed from its being curved under the printer for an extended period of time (see Note 1). Reinsert the fresh paper and test the printer. Continue to the next step if the Problem still persists.

2. Check that the platen has been released from friction feed mode. Release the platen if the lever is in friction mode and test. Continue to Step 3 if the Problem still persists.

3. Check for the presence of obstructions in the paper path. One very common obstruction is that of a label that has adhered to the metal blade located under the platen. Clear any obstructions and test the printer. Proceed to Step 4 if the problem persists.

4. Check the paper guide and make sure that it is not damaged. Sometimes the foil will peel from the plastic part of the paper guide assembly. Remove and replace the paper guide assembly if you find it to be defective. Proceed to the next steps if the problem persists.

Problem: The printer will print fine for several lines. Suddenly the carriage will stop and make grinding sounds. Home position is lost and the carriage crashes into either side of the printer. There is no error light.

Cure: Adjust the paper guide to be farther from the platen per Technical Procedures.

Problem: The paper jams in the printer and does not feed properly.

Cure: Adjust the paper guide to be farther from the platen per Technical Procedures.

Problem: The tractor assembly can be misaligned causing the paper to feed improperly.

Cure: Replace the tractor assembly

Problem: Paper guide is either too close to the platen, or damaged. The silver piece in front of the dot head could be torn

Cure: Replace paper guide

Problem: The paper out sensor is interfering with the paper path. You can really tell this when you insert a single sheet and the left hand side under the platen is 'tighter' than the right side.

Cure: Adjust the paper out sensor so it sits lower in the platen cradle, but high enough to detect paper out. To adjust the paper out sensor, take a screw driver and bend the sensor downward.

Problem: Paper bail is not aligned or one side is loose.

Cure: Adjust paper bail or replace

Problem: The metal plate on the left of the platen, which holds the platen in place on the left side is loose or out of adjustment.

See Technical Procedures, IMAGEWRITER II illustrated parts, page 6.36, part 'A'

Cure: Metal plate needs to be adjusted or tightened

Note: This step is listed first because deformity of the paper is quite common. Checking the friction lever is normally the first step performed when troubleshooting most other printers.
Published Date: Feb 19, 2012

Power Macintosh: Modem Port Disabled w/Internal Modem Present

I have noticed that the modem serial port is covered up with a piece of plastic on Macintosh Performa computers with PowerPC, and on many newer "consumer model" Power Macintosh systems. Why is this? Is it possible to uncover it and use it?
This article has been archived and is no longer updated by Apple.
Certain Macintosh Performa systems with PowerPC, and Power Macintosh computers may have an internal modem installed in the communications slot. The presence of the internal modem disables the external modem port. Because this port is inactive, it is covered with a piece of plastic.

The following computers were bundled with an internal modem installed in the communications slot:

- Performa 52xx
- Performa 53xx
- Performa 62xx
- Performa 63xx
- Performa 64xx

The following computers may have an internal modem installed in the communications slot, depending upon the bundle configuration. Check to see if the card in the comm slot is an ethernet card instead of a modem card. (Look for a green LED near the ethernet port.)

- Power Macintosh 4400
- Power Macintosh/Performa 5400
- Power Macintosh 5500
- Power Macintosh/Performa 6360
- Power Macintosh/Performa 6400
- Power Macintosh 6500
- Power Macintosh G3

If you need to use the external modem port, the internal modem must be removed. Instructions for installing a card into the communications slot are included in the User's Guide. You can follow these instructions for removing the internal modem as well. Although such cards are typically user-installable, you may want to contact an Apple-authorized service provider for assistance with this procedure.

Warning: Any damage caused by the addition or removal of the modem is not covered under the warranty.

Note: Any Macintosh desktop computer which has a communications slot will also have the external modem port disabled if an internal modem is installed. However, the external modem port is available if a network card is installed in the communications slot. The following computers have a communications slot:

- 57x family: LC 575, Performa 57x
- 580 family: LC 580, Performa 580CD
- 63x family: LC 630, Quadra 630, Performa 63x
- 64x family: LC 640, Performa 64x
- 5xxx family: 5xxx/xxx LC, Performa 5xxx
- 62xx family: Performa 62xx
- Performa 6300
- Performa 6360
- 64xx family: Power Macintosh 6400, Performa 6400
- Power Macintosh 6500

This article was published in the Information Alley on 26 April 1996.
Published Date: Feb 19, 2012

Power Macintosh: Microsoft Software, VM, and System Hangs (8/95)

I am having some difficulty running a few Microsoft products on my Power Macintosh running System 7.5.1. While I am using one of these programs, it crashes giving me a Type 11 error and the computer hangs.

I also get similar problems when printing with QuickDraw GX 1.1.2 or 1.1.2.

I have had these type of crashes with Microsoft Office 4.2 and 4.2.1, Microsoft Word 6.0 and 6.0.1, and Microsoft Excel 5.0 and 5.0a.

A clean install of the system software and turning off extensions does not help.

This article has been archived and is no longer updated by Apple.

Microsoft reports these freezes most often occur when using Virtual Memory. Microsoft has released an extension called "Office 4.2x Update for Power Mac" to remedy these system hangs.

This Update is available from online services. Contact Microsoft for more information.

The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

Article Change History:
08 Aug 1995 - Clarified extension name.

Support Information Services
Published Date: Feb 19, 2012

Power Macintosh: Norton‘s Reports Directory Errors

I have just received 24 new Power Macintosh 7100/80 computers. I immediately ran Norton Utilities 3.1 on them to make sure the hard drives were working properly. On all the computers I tested, Norton's reports "An error was found in the alternate master directory block, the volume name listed does not match the volume name stored in the catalog b-tree."

Symantec says their software is fully compatible with the Power Macintosh. Neither Apple Personal Diagnostics nor Disk First Aid find problems on these same computers.
This article has been archived and is no longer updated by Apple.
The alternate directory block is a "backup copy" of the main directory and is used if the directory block becomes damaged. The volume name in the alternate directory is only updated when the disk is formatted and not when you change the volume name. All the other information in the alternate directory block is updated correctly. Any time you change your hard drive name Norton will report this minor error.

This is a cosmetic problem and does not affect the operation of your computer. There is no directory damage. The discrepancy between the volume names in the two directories on your new Power Macintosh computers occurred when the software bundle on your hard drive was created on a disk with a name other than "Macintosh HD" and the name was changed to "Macintosh HD" before the disk was cloned.

The following information is for Apple Internal & Support Providers Only
Published Date: Feb 19, 2012

At Ease 3.0: PC Exchange Will Not Mount PC Disks

I am running At Ease for Workgroups 3.0 on my Macintosh computer. When I am in the Restricted Finder and insert a PC formatted disk, the Macintosh does not recognize it as a PC formatted disk and asks to initialize it. Macintosh disks mount fine in the restricted finder.

When I switch to the normal finder, PC disks mount fine. I can give the user access to the control panels in the Restricted Finder and the Macintosh will then mount PC disks, but that defeats the purpose of At Ease.
This article has been archived and is no longer updated by Apple.
If a Restricted Finder Setup does not allow the user to have access to the Control Panels, PC Exchange does not work, and the Macintosh treats the disk as a non-Macintosh formatted disk.

You can work around this by adding the PC Exchange Control Panel to the Restricted Finder Items folder. This gives the setup access to only that particular control panel. Once this control panel is put in the "Items for this Setup", PC disks mount without a problem.
Published Date: Feb 19, 2012

Power Macintosh: Using Apple Serial NB Card (7/95)

Can I use an Apple Serial NB card on a Power Macintosh computer? Can I use more than one Apple Serial NB card on a Power Macintosh computer?

This article has been archived and is no longer updated by Apple.

The Apple Serial NB card can be used on a Power Macintosh computer. The A/ROSE extension, version 1.2.1 or later, needs to be installed. This extension comes with the Network Software Installer (NSI) 1.4.2 or later. The A/ROSE extension can also be custom installed from the System Software installer, version 7.1.2 or later.

Only one Apple Serial NB card can be used on a Power Macintosh computer since Power Macintosh computers allow only one NuBus card to be a bus master. Because of this, it is not possible to have more than one Apple Serial NB Card installed in a Power Macintosh system.

Support Information Services
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CPU Energy Saver: ReadMe File

This is the Read Me file included with the CPU Energy Saver 1.0.6 software.
This article has been archived and is no longer updated by Apple.

CPU Energy Saver Read Me
Version 1.0.6

The CPU Energy Saver control panel allows you to set your computer to shut down automatically.

You can set your computer to shut down automatically when the computer has been idle for a specified amount of time.

You can set your computer to shut down at a specific time of day on one or more days of the week. CPU Energy Saver notifies you several minutes before it shuts down the computer. You can specify the notification time.

You can specify the conditions under which CPU Energy Saver does not shut down the computer, including any or all of the following:

--You're connected to a shared disk on the network.
--A serial port is in use by a telecommunications program or a printer.
--A "busy" pointer (that is, a watch) is on the screen.
--A sound is playing.

SYSTEM REQUIREMENTS

CPU Energy Saver works with all Macintosh Quadras, Power Macintoshes and upgrade cards and requires system software version 7.1 or later.

NOTE:
The original Read Me file does not note all of the incompatibilities for the software. The CPU Energy Saver is not compatible with the Quadra 605, Centris/Quadra 610, Centris/Quadra 660AV, Performa 6100-series, Power Macintosh 6100-series and the Power Macintosh 9500-series computers. Please refer to the article titled "Energy Saving Control Panels: Description and Compatibility" for more details.

INSTALLING CPU ENERGY SAVER SOFTWARE

1. Drag CPU Energy Saver to the System Folder icon on your startup disk.
2. Click OK in the dialog box that appears.
3. Choose "Restart" from the Special menu.

COMPATIBILITY AND USE NOTES

If you have the NOW Utilities software on your system, make sure the Screen Locker component loads before CPU Energy Saver when you turn on the system. Otherwise, Screen Locker and CPU Energy Saver are incompatible. Use Startup Manager (included in NOW Utilities) to set Screen Locker to load before CPU Energy Saver.

CPU Energy Saver cannot shut down a monitor that is not plugged into the computer's power supply. Also, it cannot shut down external devices, such as hard disks or CD-ROM drives.

CPU Energy Saver may not be able to detect special "busy" pointers used by some programs.

Some screen savers may interfere with CPU Energy Saver's shutdown notification window.

In most cases, CPU Energy Saver cannot shut down your computer if a dialog box is on the screen.

CPU Energy Saver cannot determine whether the computer is doing something in the background (such as printing). However, you can set CPU Energy Saver not to shut down the computer if a serial port is being used (for printing, telecommunications, or networking, for example).

Published Date: Feb 19, 2012

MacTCP: Configuration of Domain Name Server Information (11/95)

This article describes how to enter the Domain Name Server Information in the MacTCP control panel and how MacTCP uses that information to query those servers.

This article has been archived and is no longer updated by Apple.

You need the following information to configure the Domain Name Server Information section of the MacTCP control panel:

Required: A list of 1 or more domain nameserver.
Optional: A default domain.

One name server configuration
==========

This configuration will send all requests to the single nameserver.

Step 1

Enter your default domain in the "domain" field.

Step 2

Enter the IP address of the nameserver in the "IP address" field.

Step 3

Click the default button.

Step 4

Enter a "." (period) for the second "domain" field.

Step 5

Enter the IP address of the nameserver in the "IP address" field.

The result should contain two entries for the same nameserver, and look like:

Domain IP Address Default
<default domain> <IP number> (*) <- click default radio button
. <IP number> ( ) <- type a period for domain

Two or more nameserver configuration
==========

Follow the same steps for entry of the first nameserver
For each additional nameserver, enter the following information:

Step 1

Enter a "." (period) for the second "domain" field.

Step 2

Enter the IP address of the nameserver in the "IP address" field.

Thus, the first nameserver is entered twice, and each additional nameserver is entered once.

Domain IP Address Default
<default domain> <Primary IP#> (*) <- click default radio button
. <Primary IP#> ( ) <- type a period for domain

. <Secondary IP#> ( ) <- type a period for domain

If you use the configuration mentioned above, MacTCP will generally ask the primary nameserver first. It will also always ask the other nameserver if the first nameserver is down or unavailable.

How MacTCP queries nameservers
==========

The actual rules MacTCP uses to establish query order in DNS are somewhat complicated. The Domain Name Server Information list functions as a list of nameservers and their trusted domain. For example:

apple.com 1.2.3.4
info.apple.com 5.6.7.8
microsoft.com 9.10.11.12

A nameserver 1.2.3.4 is trusted for any hostnames that exist in apple.com.
A nameserver 5.6.7.8 is trusted for any hostnames that exist in info.apple.com.
A nameserver 9.10.11.12 is trusted for any hostnames that exist inside
microsoft.com.

When MacTCP DNR is given a hostname, it uses a 3 step process to ask nameservers for the matching IP address:

1. Build list of trusted nameservers.

When MacTCP DNR is given a hostname, it compares each nameserver's domain to the hostname. If the hostname appears within the trusted domain of the nameserver, the nameserver is put in the list of nameservers to query.

If no nameservers are trusted for a host, then the nameserver listed by the "default" radio button will be asked as a last resort.

Note: The default radio button has two functions in MacTCP:

* The "IP address" field provides the nameserver of last resort, if no other nameservers are trusted.
* The "domain" field provides the default domain added onto single hostnames.

For example, if you tried to connect to "www.info.apple.com", the "info.apple.com" and "apple.com" nameservers are considered trusted.
The "microsoft.com" nameserver cannot be trusted, because "www.info.apple.com" is not a name within "microsoft.com"

Note: This is why nameservers should be entered with their domain as "dot" (period) because you are telling MacTCP that nameserver is trusted for the entire Internet.

2. Sort nameservers for search order.

MacTCP will ask the query the nameservers with longer trusted domains first. If two nameservers are trusted for the same domain, any nameservers on the local network will be queried first.

Continuing the example, the "info.apple.com" server is considered "closer" to "www.info.apple.com" than "apple.com". MacTCP will ask "info.apple.com" and then "apple.com".

3. Resolves names (give nameserver hostname, receive IP address in return).

MacTCP asks each nameserver for the IP number of the hostname one at a time. When one nameserver failes to resolve or time out, MacTCP moves to the next nameserver. If MacTCP runs out of nameservers, it will return an error unless the hosts file can provide information.

Article Change History:
21 Nov 1995 - Reviewed for technical accuracy.

Support Information Services
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Color LaserWriter 12/600 PS: PANTONE Files Read Me

The following article is the Read Me document for the PANTONE Calibrated Support files for the Color LaserWriter 12/600 PS printer.
This article has been archived and is no longer updated by Apple.

Overview
==========

The PANTONE support files enable you to load the PANTONE color table calibrated for your Apple Color LaserWriter 12/600 PS printer as a usable color palette in the most popular Pantone-licensed desktop publishing programs.

Custom CMYK combinations for almost every color in the PANTONE MATCHING SYSTEM can be selected. The only exceptions are specialty colors such as metallics, fluorescents and double impressions. For best results, be sure to use papers recommended in the printer manual.

Note: The tables and palette files provided for the Apple Color LaserWriter 12/600 PS printer are calibrated only for this printer. If you plan to create color separations, you must re-color the graphics using the built-in PANTONE color tables supplied by the PANTONE-licensed application.

Installation on a Macintosh
==========

Follow the instructions below to install the files in the PANTONE Color Charts folder. For the files in the Application Support folder, see the installation instructions for each application provided in this document in the Application Support section.

Installing and Printing the Color Charts on a Macintosh

Installing the Color Charts requires about 1.7 megabytes of hard disk space. To install the Color Charts, first open the PANTONE Color Charts folder. Then, double-click on the ColorCharts.sea file. Press Continue. The self-extracting archive application asks you for the volume and folder name that you want to use. By default the application uses the current hard disk and the folder "ColorCharts Folder". When you've selected the hard disk and the name you want to use, press the Save button. The files are decompressed. When finished the self-extracting archive application displays the message "Installation was successful!". Press Quit.

Printing the Color Charts on a Macintosh

Four versions of the Color Chart are available:
- PostScript file
- Adobe Acrobat file
- Encapsulated PostScript files
- TIFF files

You use the color chart for the Apple Color LaserWriter 12/600 PS to select the PANTONE colors that you want to use. To use the color chart, you first print it on the Apple Color LaserWriter 12/600 PS. Be sure to allow enough time to print the chart; it takes about forty-five minutes to print the complete chart.

Printing the PostScript Version of the Color Chart

Follow these steps to print the PostScript version of the Color Chart:

1. To print the PostScript version of the Color Chart, you use the Apple Printer Utility that came with your Apple Color LaserWriter 12/600 PS. Double-click the Apple Printer Utility icon located in the Apple LaserWriter Software folder to open it.
2. In the dialog box that appears, select the Apple Color LaserWriter 12/600 PS on which you want to print the color chart and press Open Printer.
3. Choose Send PostScript File from the utility's File menu.
4. In the dialog box that appears, select the color chart file, Clr LW 12/600.ps, located in the Raw PostScript folder.
5. Click Add
6. Click Send. The chart is printed on the selected printer.

Printing the Adobe Acrobat Version of the Color Chart

If you have Adobe Acrobat Reader, you can use it to print all or part of the color chart for the Apple Color LaserWriter 12/600 PS. Make sure that you have selected the desired Apple Color LaserWriter 12/600 PS printer in the Chooser first. Next, double-click the Apple Color LaserWriter.pdf file in the Adobe Acrobat folder in the ColorChart Folder. Adobe Acrobat Exchange opens the color chart. With this chart, you can print all PANTONE Colors calibrated for your printer (or print a range of pages if you dont need them all). It takes approximately forty-five minutes to print all pages.

TA34144_Color_LaserWriter_PS_PANTONE_Files_Read_Me_(TIL18259).pdf

Printing the Encapsulated PostScript Version of the Color Chart
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If you have an application that uses encapsulated PostScript, you can use it to print the Color Chart for the Apple Color LaserWriter 12/600 PS. Make sure that you have selected the desired Apple Color LaserWriter 12/600 PS printer in the Chooser first. Double-click on your application and then Open the desired file in the 11x17 Charts as EPSF folder. The suffix of each file corresponds to the range of PANTONE colors contained in the file.

Printing the TIFF Version of the Color Chart

If you have an application that can read TIFF files, such as Adobe Photoshop 3.0, you can use it to print the TIFF version of the Color Chart for the Apple Color LaserWriter 12/600 PS. Make sure that you have selected the desired Apple Color LaserWriter 12/600 PS printer in the Chooser first. Run your application and then Open the desired file in the Tiff folder within the ColorCharts Folder. You may need to reduce the size of the image before printing to the Apple Color LaserWriter 12/600 PS.

The files are named with the pages where you can find the PANTONE colors in the PANTONE Process Color Imaging Guide. For example, a file named "1-11.tif" includes PANTONE colors which appear on pages 1 through 11 in the PANTONE Process Color Imaging Guide. This book is a fan guide, displaying side-by-side color squares: one square being the solid PANTONE Color and another representing the way that color prints as a process (CMYK) color. The PANTONE Process Color Imaging Guide does not come with the PANTONE Calibrated support files; it is purchased separately.

Note: These TIFF files can be used in any image processing software that supports CMYK TIFF and CMYK image editions.

Caution: Do not convert these images to RGB. If you do, the colors will not print properly.

Extras
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Two additional files are included on the PANTONE disk. First, the file labeled Clr LW 12/600.lut is an Excel spreadsheet containing each PANTONE color's cmyk values. You can optionally use this as an aid in creating cmyk separations. The second file, contained within the PANTONE ColorDrive Support folder, is a color palette for the Color LaserWriter 12/600 PS for PANTONE's ColorDrive application available separately from PANTONE.

Application Support
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This section explains how to load calibrated palettes for the Apple Color LaserWriter 12/600 PS printer into Pantone-licensed applications.These instructions assume you are thoroughly familiar with the correct operation and usage of the given software application.

Adobe Illustrator

The PANTONE Calibrated support files include a color file that is similar to the standard PANTONE Colors file included with Illustrator, except that the CMYK values are calibrated for the Apple Color LaserWriter 12/600 PS printer. This file, Clr LW 12/600.ai, is located within the Illustrator folder within the Adobe folder located in the Application Support folder.

To use the file follow these instructins. Open Illustrator 5.0, and then, use Open from the File menu to open the Clr LW 12/600.ai file. Once the file is loaded, select the Show Paint Style item from the Windows menu.The Paint Style floating window appears. Click the solid color button. The named color list then appears in the scrolling window. Scroll down until you see the PANTONE Colors appear with a CH suffix. This suffix distinguishes these colors from the default PANTONE Colors in Illustrator which have a CV suffix. You may now apply these colors to your document.

In older versions of Adobe Illustrator, you may select the calibrated PANTONE Colors through the Paint Style and Custom Color dialog boxes.

Adobe Photoshop 3.0

You can use the TIFF version of the Apple Color LaserWriter 12/600 color chart to select PANTONE colors within Photoshop. The TIFF version of the color chart is a set of files located in the Tiff folder within the ColorCharts Folder. Open the desired TIFF file from Photoshop's File menu and use the Eyedropper tool to select each PANTONE color.

Alternatively, you can use the Clr LW 12/600.aco swatch file from within Photoshop to select the desired PANTONE color.

First, move the Clr LW 12/600.aco file to the Color Palettes folder in the Goodies folder in the Photoshop folder. Next, open Photoshop. To use the swatch file, select Palettes from the Window menu; then, select Show Swatches. The swatches dialog appears. Press the arrow on the right to display the available swatch files. Select the Clr LW 12/600. Use the Eyedropper tool to select the desired PANTONE color.

Aldus FreeHand 3.1

For users of FreeHand 3.1, PANTONE color support provides a calibrated PANTONE Color Palette in the form of a loadable color library.

Select the Colors menu item from the View Windows menu.

The Colors window appears. Click the arrow on the right-hand side of the Colors window and select "Import." Find and open the file "Apple Color Laser.clib". Select the PANTONE Colors from the scrolling list. (To select multiple colors, hold down the shift key.) The calibrated PANTONE colors you selected now appear in the Colors window. You may now apply them to your document.

Macromedia FreeHand 4.0/5.0

These instructions apply to both Freehand 4.0 and 5.0. Move the file named Apple Color Laser.ACF in the FreeHand folder to the Color Folder in the Aldus Folder inside the System Folder.

Open FreeHand. Create a new FreeHand document. Select Color List from the Window menu.The Color list window appears. Pull down under Options and then select the Apple Color Laser palette. The library of colors for the Apple Color LaserWriter 12/600 PS appears. Choose a desired PANTONE color and click OK.

You can use the Color Mixer item within FreeHand to identify the CMYK values for a particular PANTONE color. Choose Color Mixer from the Window menu. The Color Mixer window appears. Drag the desired PANTONE color from the library of colors for the Apple Color LaserWriter 12/600 PS into the Color Mixer box, and the CMYK values for that particular color will appear.

Aldus PageMaker 5.0

PageMaker uses the same color file as FreeHand 4.0 and 5.0.

Move the file named Clr LW 12/600.BCF in the Pagemaker folder to the Color Folder in the Aldus Folder inside the System Folder.

Open PageMaker 5.0. Select the Define Colors item from the Element Menu. On the Define Colors dialog box click the New... button. In the Edit Color dialog box that appears click on the Libraries: arrow button and select the Apple Color Laser item that appears in the hierarchical list. The library of colors for the Apple Color LaserWriter 12/600 PS appears. Holding down the shift key, click on the PANTONE colors you want to add to your working colors palette and click OK. The colors you selected will now appear in your Define colors list. You can now use these in your PageMaker documents.

Canvas

PANTONE color support provides a special palette for Canvas named Clr LW 12/600.Canvas.

To load the palette, in Canvas, choose PANTONE Colors from the Windows menu. The PANTONE Colors dialog appears. Choose Load... from the Color Sets pop-up menu. Enter the name of the Apple Color Laser palette. These colors may now be used in your artwork.

MacDraw Pro

First, move the Apple Color LW 12/600 file from the floppy's MacDraw Pro folder to the PANTONE Palettes folder in the MacDraw Pro folder on your hard disk.

To use the new color palette follow these steps:

1. Open MacDraw Pro or double-click on your MacDraw Pro document.
2. Tear off the Color palettes floating window from the blend icon.
3. Choose Open Palette from the Color palettes File menu.
4. Then open the MacDrawPro palette provided.

Note: This palette may work with other Claris products. Since PANTONE does not support these products, do not use the Apple Color Laser palette for separations.

Quark XPress 3.3x

As Quark XPress does not support loadable palettes except as part of a document, PANTONE color support provides Quark XPress 3.3 native files instead. The maximum number of colors in each Quark document is 200. PANTONE provides a series of files each containing a range of PANTONE colors. The file name contains the PANTONE color range contained in each file. For example, a file named PANTONE 100-249 contains PANTONE colors from PANTONE 100 to PANTONE 249.

To use these files, use Open from the Quark Express File menu to open the desired palette file.

Note: The PANTONE names in the Quark XPress Apple Color Laser palettes have a space character in front of PANTONE. Do not rename these colors without the space or Quark will re-map its default CMYK color values for PANTONE colors into your calibrated PANTONE Colors for the Apple Color LaserWriter 12/600 PS.

TA34144_Color_LaserWriter_PS_PANTONE_Files_Read_Me_(TIL18259).pdf

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ImageWriter II: SheetFeeder Causes Top/Bottom Margin Issues

The ImageWriter II SheetFeeder pulls the paper in about a 1/4" too much. The end result is a document that has a 1.25" margin at the top and a .25" margin at the bottom. How can I stop this from happening?

This article has been archived and is no longer updated by Apple.

This may be caused by the DIP switch being set incorrectly. Setting Switch 5 on the ImageWriter II to "open" should cure the problem.

Published Date: Feb 19, 2012

PC Exchange: Reason for Versions 2.0.4 and 2.0.5 (8/96)

This article describes the changes made to the PC Exchange control panel, including compatibility.
This article has been archived and is no longer updated by Apple.
Macintosh PC Exchange 2.0 has been updated slightly to correct for a minor bug encountered during testing of the Power Macintosh 7200, 7500, 8500, and 9500 computers.

Here are the changes that are included with PC Exchange 2.0.4 and 2.0.5. These versions are specifically for the Power Macintosh 7200, 7500, 8500, and 9500 computers.

Software Version 2.0.4

**Included on Power Macintosh 9500 computers*

* It fixed a stack overflow in the PC Exchange ProDOS component that was caused by the new native driver model. PPC code needs more stack space and used up the 8K that ProDOS allocated for itself when doing large copies.

Software Version 2.0.5
---
* Included on Power Macintosh 7200, 7500, 8500, and 9500 computers*

* Includes the above fix

* Fixed a deadlock condition caused by the change in how the Finder copied files to and from ProDOS disks. The Finder now does async copies and the PC Exchange ProDOS component would issue a sync read during a "completionProc" call causing a deadlock. The change does away with the calls to the driver to do reads and use FSM's CacheUtil routines.

These issues may occur when a customer uses a ProDOS disk on one of the aforementioned computers. These issues do not occur when working with DOS disks.

* The Power Macintosh 9500 originally shipped with PC Exchange 2.0.4 installed. System 7.5.3 Revision 2 includes PC Exchange 2.0.5 and it is supported an all Macintosh computers running System 7.5.x.

Article Change History:
15 Aug 1996 - Updated article with System 7.5.3 Revision 2.
31 May 1996 - Changed distribution status.
04 Dec 1995 - Reviewed for technical accuracy.

Published Date: Feb 19, 2012

OpenDoc: Overview

This article includes excerpts from "OpenDoc for Macintosh -- An Overview for Developers".
This article has been archived and is no longer updated by Apple.

OpenDoc is a cross-platform software architecture that enables the development of component software. Component software is a term used to describe reusable, compatible building blocks of code that work seamlessly with applications--called "part editors"--from different vendors. OpenDoc consists of five functional layers:

* Compound Document Services
* Component Services
* Automation Services
* Object Management Services
* Interoperability Services

These technologies are being licensed to CI Labs, an organization established to provide open access to OpenDoc source code and specifications. CI Labs is responsible for adopting, licensing, validating, and promoting essential OpenDoc technologies. By providing reference source code for these foundation technologies, CI Labs facilitates the adoption of a common component software architecture across all major industry platforms. CI Labs also provides developers and system vendors with test suites and a conformance validation process, to ensure that software enabled by OpenDoc interoperates properly. OpenDoc will be available for Macintosh, Windows, OS/2, and UNIX systems.

OpenDoc Terminology

Document

A collection of OpenDoc parts, assembled by a user or developer. A part becomes a document if dragged from its document to the desktop. A document becomes a part if dragged from the desktop into an open document.

Part

The fundamental building block of an OpenDoc document. This is the content that users see in their documents. The functionality in the associated part editor or part service allows the user to manipulate the part. Part viewers allow the user to view, but not edit, the part.

Container Application

A monolithic application that has been modified to support embedded OpenDoc part editors and part services.

Part Editor

A part editor displays a part*s content, facilitates manipulation of the content, and provides a user interface for modifying that content. This user interface may include menus, controls, tool palettes, rulers, and other modes of interaction. (For example, a text editor is a part editor.)

Part Service

A part service provides "back-ground" functionality for a part, and provides the necessary user interface for manipulating that part's content. For instance, database access functionality would be a part service that could be added to an OpenDoc document. Its user interface could be a menu item or a database query screen.

Part Viewer

A part viewer offers a subset of a part editor's functionality; it allows users to display and print a part*s content, but not to edit it. Viewers can be useful in document--sharing situations--for example, when the recipient of a document doesn*t hold a license to some of the kinds of parts included in the document, or when the person sending the document doesn*t want the recipient to alter it.

How OpenDoc Works

By enabling users to work in a task-centric rather than an application-centric manner, OpenDoc makes it easier for them to create and edit content-rich documents. With OpenDoc, users can purchase or build a "container" document that includes all the functionality needed to complete a task. They no longer have to launch separate applications, worry about incompatible data types, and manually create links to update data. They will have the freedom to buy preassembled OpenDoc software solutions, just as they buy application suites today, or they can mix and match part editors from a variety of vendors to suit their specific needs. No matter where the part editors are obtained, the user will be able to focus on a single solution that contains all needed functionality.

The OpenDoc model also improves upon the current drag-and-drop method of manipulating data. For example, a user can drag a desktop file icon into a document window, and it will automatically open and embed itself within the document. This contrasts sharply with today*s way of doing things: opening one application, selecting an item to be edited and moved, copying it onto the Macintosh Clipboard, opening a second application, and then pasting the results into the window of this second application.

OpenDoc also supports irregularly shaped, overlapping parts, and the ability to have a variety of different parts active concurrently. What's more, between OpenDoc parts, data can be "linked" together. A link is a permanent reference from one part to another. When data in the first part changes, the link notifies the second part to change. Suppose, for example, a company creates an investment portfolio pie chart with a link to stock market data. Each time stock prices change, the chart adjusts accordingly. Before creating software enabled by OpenDoc, programmers will need to become familiar with some new naming conventions.

The Anatomy of an OpenDoc Document

The fictional document below illustrates several unique features of OpenDoc. This oil industry report uses many OpenDoc part editors and services: a text editor, a graphics editor, a page layout editor, live buttons, a grammar checker, and a window that displays live oil commodity prices from the New York Mercantile Exchange:

```
          +---------------------------------------------+  Drag-and-
          | THE OIL REPORT       +-------------------+ |  drop part
          |                      |   What's Inside   | |  services
Live data | Today's oil price:   |                   | |  into
 feed --->|  [ nnnnnnn.nnn ]     | OPEG Report    -->| |  documents
          |                      | Futures Prices -->| |
          | The History of Oil   | Congressional     | |
          |    Takeovers         |   Record       -->| |
          |                      | West Texas Crude  | |
          | Text text text text  |   Hits New Low -->| |<--- Embed
          | text text text text  +-------------------+ |  buttons
          | text text text text text text text text te |  that link
          | xt text text text text text text text text |  to other
          |     @ text text text text text text text t |  parts
Create &  |    /|\\  ext text text text text text text  |
overlap   |   | | |  text text text text text text te  |
irregular-|  / \\|/ \\  xt text text text text text text |
ly shaped |  |/\\|/\\|  text text text text text    ---> |
parts --->| /\\/\\|/\\/\\ +-------------------------------+ |
          | |/\\/|\\/\\| |     CRUDE OIL PRODUCTION     | |
          | /\\/\\|/\\/\\ | 25_________________________ | |<--- Edit
          | |/\\/|\\/\\| | 20____________________+---+__ | |  parts while
          | /\\/\\|/\\/\\ | 15___________+---+___|   |__ | |  other parts
          | |/\\/|\\/\\| | 10___+---+___|   |___|   |__ | |  remain
          | /\\/\\|/\\/\\ |  0___|___|___|___|___|___|__ | |  active
          | |/\\/|\\/\\|      1970    1980    1990    | |
          | |___|___| +-------------------------------+ |
          +---------------------------------------------+
```

You do not need a separate application to work on each part -- just click on an area to edit it. As you click on another object, its own menu bar and tool palette appear. Parts like the live oil market commodity quotes shown in the document stay active even while others are being edited.

The ability of software enabled by OpenDoc to have multiple parts concurrently active allows the author of this newsletter to edit the crude oil production chart while the current oil prices roll across the top of the page. The editor can wrap text around the irregularly shaped oil derrick graphic part. Live buttons within the "What's Inside" field allow readers to click on a button to call up a feature article. And by dragging the "Grammar Checker" icon into the document, the part service can check grammar throughout the entire newsletter.

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Volume II, Issue 7, Page 9
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At Ease 3.0: How to Install on 800K Drive Macintosh

I want to install At Ease 3.0 on my Macintosh computer, but it only has a 800K drive. Is there a way to get At Ease 3.0 on 800K floppy disks?
This article has been archived and is no longer updated by Apple.
At Ease 3.0 and At Ease 3.0 for WorkGroups are available only on high density floppy disks. The outside of the box explains that the media is on 1.4 Mb floppy disks and an Apple SuperDrive floppy disk drive is required.

If your 800K drive equipped Macintosh computer is on a network, you can install At Ease 3.0 by doing a network install. The At Ease 3.0 for WorkGroups Administrator's Guide explains how to do this starting on page 20. You can also refer to the TIL article "Software Installation Over a Network" for a description of how to do this procedure.
Published Date: Feb 19, 2012

Macintosh 5200/6200 Series: Stereo Input? (7/95)

Is it true that the Macintosh 5200 and 6200 series computers do not support stereo input? I have been unable to record a stereo system beep and have heard that the stereo input is converted to mono by the logic board.

This article has been archived and is no longer updated by Apple.

The IC chip that controls sound input on the Macintosh 5200 and 6200 series computers has one input buffer and two output buffers. Because there is only one input buffer, there is only mono sound input. Output is always stereo.

You can, however, record CD stereo sound using MoviePlayer and QuickTime. With QuickTime, the sound data is read directly from the disk. The data is then converted to a QuickTime sound format. The data is not played back through the sound circuitry; it is read from the disk. Since the sound file is not played, sound does not go through the sound IC chip which would limit input to mono sound.

Additionally, CD discs play in stereo because sound is routed from the CD player to the sound output jack and bypasses the sound chip.

Support Information Services
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Color LaserWriter 12/600: Some Color Files Print in B&W

I am using a Color LaserWriter 12/600 on a Macintosh network. Some files I create display in color on the screen, but they print in black and white. Why?
This article has been archived and is no longer updated by Apple.
Your Macintosh is only able to send color information to the printer if all the software for the printer is loaded and functioning properly. You should first make sure you are not experiencing any extension conflicts or corrupted software. For help doing this, search the TIL for the article "System 7.5: Troubleshooting Extension Conflicts". Once you are confident that you have good printing software installed, you can proceed to considering the following.

Color Tables are included in PostScript Level II which is built into the Lasewriter 8.3 driver as well as the ROM of the Color LaserWriter 12/600. Postscript is a computer/printer language used in imaging and Encapsulated PostScript (EPS) files. The printer also supports PICT and JPEG file formats in ROM.

TIFF Files

Some programs build options on top of the LaserWriter 8.3 print dialogue box. If a non-color PostScript Printer Description (PPD) file is selected, TIFF files will print in black and white because the color information in the file format is not included in the driver or the printer. You must make sure you select the Color Laserwriter 12/600 or compatible color profile. The Generic Color profile will work, but Generic Black and White will not.

The Laserwriter 8.3 Read Me recommends you use TIFF format for your files rather than EPS if you are not physically connected to a Color LaserWriter 12/600 when you create the file. This is because an EPS format creates a Table based on the type of printer in the Lasewriter 8 Prefs file and hue shifts can occur when printing to a different device later on.

Windows

Color documents will print in black and white if you copy artwork between applications using the Windows clipboard. The Macintosh clipboard will retain color information when copied between programs while the Windows clipboard will not.
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Lisa/Macintosh XL: Configuration Table

This article has been archived and is no longer updated by Apple.

To line up the items in the table below, print it in Monaco 9.

BASIC LISA/MAC XL CONFIGURATION TABLE

```
Systems:-> | LISA 2 | MACINTOSH XL | MODIFIED
Basic | (LISA 2/5 if | (LISA 2/10) | MACINTOSH XL
Features: | connected to | |(Screen Mod
(Below) | ProFile) | | Kit Installed
=====================|=================|=================|============
INTERNAL Present: | NO | YES | YES
HARD ---------|-----------------|-----------------|------------
DISK Notes: | Runs Lisa 7/7 | Runs Lisa 7/7 | Runs MacWorks
| Office System | Office System | only
| and MacWorks | and MacWorks |
=====================|=================|=================|=============
MICRODISK Present: | YES | YES | YES
DRIVE ---------|-----------------|-----------------|-------------
Notes: | Requires Lisa | |
| Lite adapter | |
| board in disk | |
| drive chamber | |
=====================|=================|=================|==============
BUILT-IN Present: | YES | NO | NO
PARALLEL ---------|-----------------|-----------------|--------------
PORT Notes: | Can connect Pro-| Must install | Must install
| File or other | parallel inter- | parallel
| parallel device | face card in | interface card
| to motherboard | expansion cham- | in expansion
| | ber to access | chamber to
| | parallel device | access par-
| | | allel device
| | |
| Can install Mac |When using Lisa | Internal hard
| Works and/or |7/7 Office System| disk runs
| Lisa7/7/ Office |internal hard | MacWorks only:
| on a connected |disk can access | cannot access
| ProFile |ProFile and other| ProFile, but
| |parallel devices | can access
| | | parallel prin-
| | | ter if driver
| | | is installed
| | |
| | When using Mac- |
| | Works, internal |
| | hard disk |
| | cannot access |
| | ProFile, but |
| | can access |
| | parallel prin- |
| | ter if driver |
| | is installed |
=====================|=================|=================|==============
TWO Present: | YES | YES | YES
BUILT-IN ---------|-----------------|-----------------|--------------
SERIAL Notes: | Has three DB-25 | Only two DB-25 | Only two DB-25
PORTS | connectors in | connectors in | connectors in
| back | back | back
=====================|=================|=================|==============
8-AMP Present: | YES | NO | NO
POWER | | |
```

SUPPLY - rated | | |
at 1.2 amps AC | | |
==========|==========|==========|==========
10-AMP Present: | NO | YES | YES
POWER | | |
SUPPLY - rated at | | |
1.8 amps AC | | |
==========

Interpreting the Basic Lisa2/Macintosh XL Configuration Table

The top row (across) lists the system names for three basic configurations of the Lisa2/Macintosh XL. The first column (down) lists the names of basic hardware components. The YES or NO listed under each system indicates whether the hardware component is or is not a required part of that system. The "Notes" provide important information about software compatibility and hardware configuration for each system.

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Modern Memory Manager: Frequently Asked Questions

This article contains frequently asked questions (FAQ) on the Modern Memory Manager.

Questions in this FAQ

What is the Modern Memory Manager?

What is the expected performance increase by turning on the Modern Memory Manager on a Power Macintosh?

Should Modern Memory Manager be turned OFF on Power Macintoshes that are not running lots of native applications?

Does Modern Memory Manager cause crashes if the system is not running native applications?
This article has been archived and is no longer updated by Apple.
Question: What is the Modern Memory Manager?

Answer: The Modern Memory Manager is a completely rewritten native version of the previous Memory Management code found in operating systems previous to System 7.1.1. It offers better performance than the previous 680x0 assembly code because it runs in the native PowerPC environment. In addition, performance enhancements were made by significantly improving the heap management algorithms.

It is possible to disable this new Memory Manager and revert to the old Memory Manager in ROM. This is done through the Modern Memory Manager panel in the Memory control panel. The default setting is Modern Memory Manager On.

Question: What is the expected performance increase by turning on the Modern Memory Manager on a Power Macintosh?

Answer: When you turn off Modern Memory Manager, you are essentially running the Memory Manager in emulation mode, rather than in native PowerPC mode. Engineering has stated that activating Modern Memory Manager will yield a performance increase of about 20 to 30 percent, although with some applications, that number can be as high as 200 percent.

Question: Should Modern Memory Manager be turned OFF on Power Macintoshes that are not running lots of native applications?

Answer: All Power Macintosh systems ship from the factory with the Modern Memory manager turned ON. There are many benefits to leaving the Modern Memory Manager ON. The new Memory Manager uses native PowerPC code and better algorithms for faster performance. The Modern Memory Manager should only be turned OFF if a user's application or extension is experiencing compatibility issues.

Question: Does Modern Memory Manager cause crashes if the system is not running native applications?

Answer: The Modern Memory Manager does NOT cause crashes if the user is not running native or FAT applications. Non-native applications and other software written according to Inside Macintosh guidelines for the original Memory Manager should be compatible with the Modern Memory Manager. Non-native applications and other software that do not follow the Inside Macintosh guidelines could potentially crash while calling on the Modern Memory Manager's services. You can test compatibility by turning off the Modern Memory Manager in the Memory control panel.

Apple Developer Technical Support issued Technical Notes ME13 & ME14 back in 1993 to help developers write compatible software. These Technical Notes are publicly available via the internet via Apple's Web site.

This article can help you locate the software update mentioned here:

- Article 14724: "**Where To Find Apple Software Updates**" - Lists online services for free Apple software updates.

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Power Macintosh 7200 & 7500: Tall PCI Cards Do Not Fit (3/96)

Apple revised the baffle which helps stablize Peripheral Component Interconnect (PCI) cards in the Power Macintosh 7200 and 7500 series computers. A modified baffle was used prior introduction of these computers, however in isolated cases some customers may have the previous baffle design. This article contains information to help you identify which baffle the customer has in their Macintosh computer.
This article has been archived and is no longer updated by Apple.
Initially some PCI cards were too tall, and did not fit properly in the Power Macintosh 7200 and 7500 series computers. This often occurred when the PCI card had a SCSI or similar connector on the top of the card.

Identifying Modified Baffle
==========

There is a modified baffle, which can help with tall PCI cards. The modified baffle can be identified by examining the baffle. The bottom surface has a curved ribbing. If baffle has missing or non-continuous horizontal ribs between the two vertical curved ribs, you have a modified baffle. This helps with some PCI cards, but depending on the location of the card's connectors, the modified baffle still may not allow customers to use taller PCI cards.

The PCI specification Apple followed when creating the Power Macintosh 7200 and 7500 series computers was not specific enough about the height of the cards. Apple interpreted the PCI specification in one manner while some third parties interpreted the specification in another way. After investigation, it has been determined that Apple followed the specification properly. It is possible that the third-party vendors whose cards do not fit properly may have interpreted the height specification incorrectly.

To workaround the problem, try removing the plastic 'baffle' cover used to cover the top edge of the cards. Be extremely careful to check for proper clearance when re-attaching the Macintosh computer's top case cover. If it still does not fit, check with the third-party vendor in question for reports of the issue and a possible resolution.

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Volume II, Issue 10, Page 5

Article Change History:
15 Mar 1996 - Added information on modified baffle design.
28 Sep 1995 - Added Info Alley information; updated article.
05 Sep 1995 - Made minor corrections.

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Power Macintosh 7200/90: Processor Fan Power Connector (8/95)

Where does the processor fan power connector attach to the logic board of the Power Macintosh 7200/90 computer? I cannot seem to find it.

This article has been archived and is no longer updated by Apple.

For the Power Macintosh 7200/90 computers that come with processor fans (not all of them do), the power connector for the fan attaches at J70, very near the upper left corner of the microprocessor on the logic board.

Article Change History:
04 Aug 1995 - Reviewed for technical accuracy.

Support Information Services
Published Date: Feb 19, 2012

Power Macintosh: Energy Saver Message at Startup

Every time I start my new Power Macintosh 7200, 7500, or 8500 I get a message that describes my Energy Saver software. There are two options: OK, or Specify Settings. What should I do?
This article has been archived and is no longer updated by Apple.
The Power Macintosh 7200, 7500, and 8500 computers include energy conservation software called Energy Saver. As configured by Apple, these systems are set to automatically shut down after 30 minutes of inactivity.

These settings can be easily modified with the Energy Saver application. Each time you start your Macintosh, a message is displayed explaining the Energy Saver settings and providing an option to open the application. This message displays each time the computer starts until you click Specify Settings to open the application.

If you do not want to see this message each time you start up, click the Specify Settings button and configure the Energy Saver control panel. The message will no longer appear at startup unless the Energy Saver control panel preference file is removed from your system folder.

Apple does not recommend removing the Energy Saver program from your system folder. Since the Energy Saver application is an integral part of the operating system, removing its components prevent you from changing the current settings. The system continues to use these settings even when the application has been removed. If you want to disable the Energy Saver features, keep the Energy Saver software installed on the system and use the application settings to turn off the various features.

The Energy Saver application is not a control panel and does not function on any operating system prior to System 7.5.2.

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Lisa/Macintosh XL: Module Compatibility?

This article has been archived and is no longer updated by Apple.
To line up the items in the table below, print it in Monaco 9.

SYSTEM BOARDS COMPATIBILITY TABLE

```
=================================================================================
Systems: -> | LISA 2 | MACINTOSH XL | MODIFIED
| (Lisa 2/5 if| | MACINTOSH XL
SYSTEM BOARDS:| connected to | (LISA 2/10) | (Screen
(below) | ProFile | | Modification
| | | Kit Installed)
=================================================================================
MOTHERBOARD | | Same for MacXL and Modified MacXL
Board Eng # | 620-0108-X | 620-X141
--------------|-----------------|---------------------------------
Apple P/N | 661-93106 | 661-93170
--------------|-----------------|---------------------------------
Notes: |1. Has parallel | 1. No parallel connector
| connector | 2. Has total of 2 DB-25 connectors
|2. Has 3 DB-25 |
| connectors |
=================================================================================
I/O BOARD | | Same for MacXL and Modified MacXL
Board Eng # | 620-0117-X | 620-X142-X
--------------|-----------------|---------------------------------
Apple P/N | 661-93198 | 661-93171
--------------|-----------------|---------------------------------
Disk Contro-| |
ller ROM | |
P/N | 341-0290 | 341-0281
Rev | B | D
Location | 1-A | 2-A
--------------|-----------------|---------------------------------
Notes: |1. Resistor at |1. Resistor at R-47
| R-47 is NOT | IS present
| present |
|2. Has batteries |2. No batteries
=================================================================================
CPU BOARD | Same for Lisa 2 and Macintosh XL |
Board Eng # | 620-0119-X | 620-0119-X
-------------|----------------------------------|----------------
Apple P/N | 661-03203 | 661-0298 or
| | 661-03103
--------------|----------------------------------|----------------
Boot ROMs | |
P/Ns | 341-1075 and 341-1076 |341-0347 & 341-0346
Rev | H H | 3A 3A
Locations | 13-D 14-D | 13-D 14-D
--------------|----------------------------------|----------------
Serialized ROM| |
(Video State | |
ROM) P/N | 620-0003 | 341-0348
--------------|---------------------------------------------------
Notes: |1. The serialized ROM must be transferred to the
| customer's replacement CPU board.
|2. The Macintosh XL (Lisa 2/10) CPU board can be used in
| the Modified Macintosh XL, provided the correct boot
| ROMs and serialized ROM are installed.
=================================================================================
MEMORY BOARDS | Same for Lisa 2, Mac XL (Lisa 2/10), and Modified Mac XL
(2 identical) |
Board Eng # | 620-01XX-X
```

----------|----------
Apple P/N | 661-93105
==========

VIDEO BOARD | Same for Lisa 2, Mac XL (Lisa 2/10), and Modified Mac XL
(2 identical) |
Board Eng #	620-0121-X
Apple P/N	661-93107
==========

Interpreting the System Boards Compatibility Table

The top row (across) lists the system names for three basic configurations of Lisa 2/Macintosh XL. The first column (down) lists the names of the boards contained in the card cage and video chamber. The boxes under each system list the engineering numbers (printed near the edges of each board) and the Apple part numbers for each system board. The part numbers and rev. level for ROM on the CPU and I/O boards are included.

When inspecting or replacing system boards, use the System Boards Compatibility Table to make sure boards and ROM (part numbers and rev. level) match the information pertaining to the system you are working on.

NOTE: Any number can be in place of the "X" in the engineering numbers listed on the table.

NOTE: Refer to the Module Identification Manual for pictures of the system boards.

Published Date: Feb 19, 2012

LaserWriter 8.3:Color LaserWriter 12/600 PS Read Me

This article contains the Read Me file included with LaserWriter 8.3 software which ships with the Color LaserWriter 12/600 PS Printer.

This article has been archived and is no longer updated by Apple.

About Your Apple Macintosh LaserWriter Printer Software

This document contains some important reminders and some information that is not in the manual that comes with your printer. You may want to print this document and keep it for future reference. The topics are:

* Installing the Printer Driver Software

* Desktop PrintMonitor Version 1.0.1

* Apple Printer Utility Version 2.0

* LaserWriter 8 Printer Driver Version 8.3

* Using the Apple Color LaserWriter 12/600 PS Printer

* Obtaining Printer Supplies for the Apple Color LaserWriter 12/600 PS

Installing the Printer Driver Software

The manual that comes with your printer contains detailed installation instructions. You cannot install the software and fonts by dragging their icons to your hard disk; you must use the Installer program as described in the printer manual. Your Macintosh must have System 7.1 or later. The printer software does not support QuickDraw GX systems.

IMPORTANT Before installing the printer software, restart your system with all Extensions turned off. To do this, hold down the Shift key while you restart your computer. Hold the Shift key down until you see the message "Extensions Off" or until your normal desktop appears.

The Installer does not remove versions of the LaserWriter printer driver that are older than version 8.0. If you no longer need these files, you may remove them from your System Folder.

The Installer does remove older versions of the LaserWriter 8 driver (for example, LaserWriter 8.0) and replaces the PPD files for Apple LaserWriter printers with the latest versions.

When you choose Easy Install, the Installer places the following files in the System Folder on your hard disk:
* LaserWriter 8.3 is placed in the Extensions folder.
* The PPD files which are used by LaserWriter 8 are placed in a folder called Printer Descriptions also located in the Extensions folder.
* TrueType fonts are installed in the Fonts folder.
* The Apple Printer Utility and this Read Me file are placed in the Apple LaserWriter Software Folder.
* For desktop printing, Desktop Print Monitor, Desktop Printer Spooler, and Desktop Printer Extension are placed in the Extensions folder.
* ColorSync 2.0 is placed in your Extensions folder. The ColorSync profiles are placed in a folder called ColorSync Profiles in the Preferences folder in the System Folder. The ColorSync System Profile control panel is placed in the Control Panels folder in the System Folder.
* If your system has System Software 7.1 or 7.1.1, Finder 7.1.3 is placed in your System Folder and Finder Help 7.1.3 is placed in the Extensions folder.
* If your system has System 7.1, 7.1.1, or 7.1.2, these files are placed in the Extensions folder: Thread Manager 2.1, Network Extension 7.1.3, Macintosh Drag and Drop 1.1.1, and Dragging Enabler 1.1.1.

IMPORTANT If the Installer is unable to remove old files from your hard disk, it will terminate the installation procedure. If this happens, please remove old copies of the LaserWriter 8 driver and the PPD files. Then move your Fonts folder from the System Folder to the desktop. Run the installer again. Once installation is complete, move the fonts from the Fonts folder on the desktop back to the new Fonts folder in your System Folder.

Desktop Print Monitor Version 1.0.1

Creating Desktop Printers

You create desktop printers by selecting a printer in the Chooser. The desktop printer icon is created when you close the Chooser.

Using Desktop Print Monitor on a non-English System

If no desktop printer icon appears after you install the printer software, it may mean the Installer installed PrintMonitor 7.1.2 and did not install the Desktop PrintMonitor. (PrintMonitor 7.1.2 is installed if you have an older version of the PrintMonitor. Newer versions of the PrintMonitor are not replaced.) You have three choices:
* Use PrintMonitor 7.1.2 (or a later version)
* Obtain a set of installation disks of the printer software in the language of your system software from your Apple-authorized dealer and install it.
* Upgrade your system software to System 7.5 and install the printing software again. An English language version of the Desktop PrintMonitor is installed.

Removing the Desktop Printing Software

The desktop printing software uses both the Desktop PrintMonitor and the PrintMonitor software. The Desktop Print Monitor requires 200-400K bytes more free system memory in addition to the memory required by the PrintMonitor. If you don't want to use the desktop printing software, you can remove it. Follow these steps:

1. Drag any print spool files found in the PrintMonitor Documents folder (in the System Folder) to the Trash. Warning: these jobs will not be printed.
2. Restart your computer with the extensions off by holding down the Shift key and choosing Restart from the Special menu. Hold the Shift key down until the message "Extensions Off" appears or until your normal desktop appears.
3. Drag the following files from the Extensions folder to the Trash:
. Desktop PrintMonitor 1.0.1
. Desktop Printer Spooler 1.0.1
. Desktop Printer Extension 1.0.1.
4. Restart your computer.

Using Save or Open with Desktop Printers

When you choose Save or Open in your application programs, you will see your desktop printers listed as if they were folders, but you should not save or open any documents in them. If you do, you will not be able to access your documents.

Having More Than Five Desktop Printers

If you want to have more than five or six desktop printers, you must increase the Desktop PrintMonitor memory allocation by 10K for each additional desktop printer you want. To do so, select its icon--it's in the Extensions folder inside the System Folder--choose Get Info, type a larger number in the Preferred Size box, then close the Get Info window.

Apple Printer Utility Version 2.0

Installing the printer software creates the Apple LaserWriter Software folder and places within it this Read Me file and the Apple Printer Utility program version 2.0. The Apple Printer Utility program is designed to work with all Apple PostScript Level 2 printers.

Downloading PostScript Fonts on a GX System with the Apple Printer Utility

When GX is installed any PostScript fonts (often called Type 1 fonts) in the Fonts folder are converted to GX fonts, and the original PostScript fonts are copied to a folder called *Archived Type 1 Fonts* which is created in the System Folder. If you want to download these fonts to your printer using the Apple Printer Utility, you must send the fonts in the *Archived Type 1 Fonts* folder, not the GX-converted versions in the Fonts folder. Downloading GX fonts that have not been converted by GX works correctly.

Removing Fonts from a Hard Disk Attached to the Printer

If a font is downloaded to both the printer's RAM and the printer's hard disk with the same name, and you

remove the font on the hard disk, the RAM font will also be removed. If you remove the RAM font, the font on the hard disk will not be removed.

LaserWriter 8 Printer Driver Version 8.3

The software includes version 8.3 of the Apple LaserWriter 8 printer driver, which works with many Apple LaserWriter printers. This section includes information about the software and information on using it with several of the printers.

What's new in version 8.3

LaserWriter 8 now provides support for color-matching and for embedded JPEG-compressed documents. LaserWriter 8 now supports ColorSync 2.0, Apple's latest system software for device-independent color-matching services, and PostScript Level 2 color-matching.

Using Color-matching

When ColorSync 2.0 is installed and when the ColorSync Profiles folder contains printer profile(s) there are two
options for color/grayscale output:

* ColorSync Color Matching invokes the ColorSync system software to perform color matching for the printed document, matching your monitor and printer's profile and sending the correct CMYK information to the printer. With ColorSync Color Matching, most of the work is done by your Macintosh.

* PostScript Color Matching is an alternative to ColorSync Color Matching. This option is a good choice when printing to a PostScript Level 2 printer and when it is efficient to let the printer do most of the work.

* Documents that use ColorSync 1.0 embedded profiles convert to the profile set up in the ColorSync 2.0 System Profile control panel.

* When printing with PostScript Color Matching selected and ColorSync 2.0 is not installed, the driver uses the Apple 13" RGB Standard profile.

* Applications that generate their own PostScript may have problems color matching EPS or TIFF images correctly. Converting the image to a PICT corrects the problem.

PPD Files

The LaserWriter 8 driver uses PostScript Printer Description (PPD) files to determine the characteristics of the printers it uses. PPD files contain information about individual PostScript printers. For example, PPD files describe the paper-handling capabilities of printers: the number of paper trays, their capacity, and the paper sizes they handle.

To take full advantage of your printer's features, click the Setup button in the Chooser when selecting your printer for the first time, or after installing an additional option. This procedure causes the LaserWriter driver to query the printer for its characteristics and associate a particular PPD file with the printer.

Creating EPS Files

You can create an Encapsulated PostScript (EPS) file in many application programs by clicking File in the Print dialog box, then clicking Save. When you create an EPS file, note the following:

* Creating EPS files with the All option selected in the Font Inclusion pop-up menu in the EPS dialog box can result in very large files. If you include all fonts in an EPS file and save the file with the Unlimited Downloadable Fonts option selected, an extremely large file may be created.

* If you create an EPS file with no fonts included and open the document, fonts in the document appear on your screen, but Courier may be substituted when you print.

* When you create EPS files with preview information included, other applications that create their own PostScript code may not display the EPS file accurately on the screen.

Using the LaserWriter 8 Driver With LaserWriter Printers

When using the LaserWriter 8 driver, you should be aware of the following situations. Some happen with all LaserWriter printers, and others happen only with specific models.

All LaserWriter Printers

* The LaserWriter 8 driver allows some printers to print using a larger imageable print area on the page. If your printer does so, you may find that text in some documents reflows or is clipped to fit the new imageable area. To maintain your document format when printing to different printer models, deselect the Larger Print Area option in the Page Setup Options dialog box.

* Some older printers with small amounts of memory will not print documents containing large numbers of fonts unless you select the Unlimited Downloadable Fonts option in the Page Setup Options dialog box. If a document using multiple fonts doesn't print using the LaserWriter 8 driver, try selecting Unlimited Downloadable Fonts in the Page Setup Options dialog box and print again.

* Printing multiple documents with the Finder may not work if the documents have been created by different application programs.

* If you encounter a time-out (PostScript error -8993) when printing multiple copies of large and complex documents in the background, print the documents one at a time or select foreground printing to avoid this problem.

LaserWriter 16/600 PS

If Tray Switching is turned on and you have an optional 500-sheet feeder that contains the same size paper as the 250-sheet feeder, use the 500-sheet feeder as the preferred paper source for optimal printing performance. See Chapter 5 in the manual that came with your printer for instructions on selecting the 500-sheet feeder as the preferred paper source.

LaserWriter Pro 810

* With some graphics applications, bitmapped graphics printed with the Precision Bitmap Alignment option in the Page Setup Options dialog box will be reduced in size by 25%.

* When you create a PostScript file with a LaserWriter Pro 810 selected as the printer and send the file to a printer that uses PostScript Level 1, a PostScript error will occur.

LaserWriter Pro 600 and 630

* When you print envelopes from the optional envelope feeder, you cannot use Auto Select as the Paper Source (in the Print dialog box).

* When you print at a resolution of 600 dots per inch (dpi), bitmapped images may appear with lines across the image.

LaserWriter II NT and II NTX

* If you select both the Smooth Graphics and the Invert Image options in the Page Setup Options dialog box, a PostScript error results.

* Do not use the B5 tray to print envelopes on a LaserWriter II NT. Use the letter tray instead.

LaserWriter IIg and IIf

* When you select paper sources from the First From and Remaining From pop-up menus in the Print dialog box, selecting Manual Feed for either source sets the driver to print the first page from the manual feed tray.

* The US Legal paper size has been changed on some LaserWriter IIf/IIg printers to be more compatible with other Apple LaserWriter printers. If your legal-sized documents no longer fit on the page, select Larger Print Area in the Page Setup Options dialog box.

* Some form-printing applications cannot print forms using the Layout settings in the Page Setup dialog box.

Using the LaserWriter 8 Driver With the Kanji System

To print Japanese characters using KanjiTalk or the Japanese Language Kit, your system must have WorldScript II version 7.5.1 or later.

Using the LaserWriter 8 Driver With Application Programs

Some application programs do not yet take advantage of the new features of the LaserWriter 8 driver or have small incompatibilities that result in printing problems. If you experience problems with a program, contact the publisher of the program. In some cases a newer version of the program may be available.

The following list describes some special cases that you should be aware of when working with some application programs. (There may be other problems with these programs, or with other programs, not mentioned in this document.)

* With many applications, you cannot use the Flip Horizontal, Flip Vertical, landscape page orientation, and Layout option in the Page Setup dialog box in combination.

* Some applications may not be able to print from the Finder or use the Drag and Drop printing feature.

* Some applications may print in color when Black and White mode is selected.

* Applications that generate their own PostScript may have problems color matching EPS or TIFF images correctly. Converting the image to a PICT corrects the problem.

Adobe Illustrator 5.5

* Multiple-page documents may not print correctly when you choose a page layout from the Layout pop-up menu in the Page Setup dialog box.

Adobe Photoshop 2.5 and 3.0

* Photoshop may print in color when black-&-white mode is selected.

Aldus Freehand 4.0 & Freehand 5.0

* Documents do not print correctly when you choose a page layout from the Layout pop-up menu in the Page Setup dialog box.
* Some paper sizes in Freehand may not be supported by the printer and may generate Postscript errors.

Aldus PageMaker 5.0

* Rotated graphics may not print correctly when you hold down the Option key and click Print in the Print dialog box.
* You cannot print legal-size documents from the paper cassette of the Personal LaserWriter 320; print such documents by selecting Manual Feed or by holding down the Option key and clicking Print in the Print dialog box.

Aldus Personal Press 2.02

* Using several font style combinations in text can result in spacing problems.

Aldus SuperPaint 3.5

* Rotated or filled polygons print as solid gray objects.
* Gradient fills may not print when copied into other programs.

Canvas 3.5.2

* When you select the Substitute Fonts option in the Page Setup Options dialog box, text may be incorrectly spaced if you use the Geneva, New York, or Monaco fonts.

ClarisDraw 1.0

* Some shapes that contain gradients may not print correctly.

CricketDraw III 2.01

* When you choose a page layout from the Layout pop-up menu in the Page Setup dialog box, underlined TrueType fonts may not print.

CricketPresents 2.1

* You cannot import an EPS file created with the LaserWriter 8 driver when it has been saved without preview information.

DeltaGraph Pro 3.0.4

* Printing with Unlimited Downloadable Fonts may cause some elements to be shifted and fonts to substitute Courier.

FileMaker Pro 2.1

* When you choose a page layout from the Layout pop-up menu in the Page Setup dialog box, documents that contain EPS graphics may appear clipped when printed.

Informed Designer/Manager 1.4.2

* Do not print documents that contain JPEG images in Black and White mode; your system will restart.

* When you select the Unlimited Downloadable Fonts option, some graphic elements may shift or disappear when printed.

MacDraft 3.01 and earlier versions

* When you print using the Cut Marks option, a PostScript error results.

MacDraw Pro 1.5

* Rotated text within a frame that is placed in another application may not print correctly.

MacWrite Pro

* Colored text with colored underlines may not print correctly from the Finder.

Microsoft Excel 5.0

* Colored horizontal cell borders will often not appear in the printout. This happens with any color printing option and on most printers.

Microsoft PowerPoint 3.0

* Polygons and ovals filled with gradients and without a border line may shift locations on the page when printed.

Microsoft Works 3.0

* Printing documents that have rotated objects with rounded corners results in a PostScript error.

Microsoft Works 4.0

* There are 24 new shapes available through the tools palette. Colored shadows for any of these shapes will appear correctly on screen. But these colored shadows will only print in gray, regardless of what the print color options might be.

Painter 3.0

* When you print using the Invert option, images do not print inverted correctly.

PixelPaint Pro 3.0

* When you print using the Invert option, images do not print inverted correctly.

Publish It!

* Use a pre-LaserWriter 8 version of the driver, or contact the publisher of the application program.

QuarkXPress 3.3.1

* Be sure to use the PPDs provided with QuarkXPress when you choose a page layout from the Layout pop-up menu in the Page Setup dialog box.
* With some PPDs (LW 630, PLW 320), cropped graphics may not print correctly.
* Some imported JPEG files may not print correctly.

RagTime 3.2

* You cannot print documents that contain PICT or TIFF files.

ReadySetGo! 6.0

* Use ReadySetGo! version 6.0 with the LaserWriter 8 printer driver; earlier versions will not work.
* When Unlimited Downloadable Fonts option is selected, ReadySetGo! will not print a document containing a JPEG, text, and polygons.
* You may not be able to print documents that contain layers of text, graphics, then text with Unlimited Downloadable Fonts option selected.

* You cannot print documents that use pen patterns.

Studio/8 & Studio/32

* When creating an EPS file with these programs and the LaserWriter 8 driver, you must select the QuickDraw Printer option.

WordPerfect 3.0

* When you select the Unlimited Downloadable Fonts option and print rotated text in Watermark, the entire document rotates when printed.
* When you select the Unlimited Downloadable Fonts option,Watermark option, and Color/Grayscale option, black text prints as gray.

How to Get Updated Printer Software

The latest LaserWriter 8 software is posted to the following commerical online services and Internet sites.

* On the Internet at the following sites:
 - Worldwide Web: <http://www.info.apple.com/swupdates>
 - ftp: <ftp://ftp.info.apple.com/>

* On America Online, use keyword: applecomputer

* On CompuServe, use GO: APLSUP

Using the Apple Color LaserWriter 12/600 PS Printer

This section provides additional information on using the Color LaserWriter 12/600 PS Printer.

About the Demonstration Page

When the power is turned on, by default the Color LaserWriter 12/600 PS prints a startup page and a demonstration page. For legal and b5 paper sizes only the startup page prints; the demonstration page is not printed.

About the Apple Color LaserWriter 12/600 PS Status Panel

As described in the Color LaserWriter 12/600 PS manual, Appendix G, the status panel lights aid in indicating hardware service problems found during printer startup. If the Paper Out and Paper Jam lights are blinking alternately, a hardware problem has been detected. To identify the specific problem, notice which toner lights (C, M, Y, Bk) and how many of the maintenance lights (in the area on the right-hand side of the status panel) are lit, and refer to the table below:

Toner Lights ON	# Maintenance Lights ON	Problem
C	0	I/O Controller Board
C	1	SIMM, Slot J11
C	2	SIMM, Slot J10
M	2	Hard Drive
M	3	I/O Controller ROM
Y	0	Fuser
Y	1	Oil Pump in Fuser
Y	2	Thermal Sensor in Fuser
Y	3	Paper Feed Unit
K	0	DC Controller
K	1	Power Supply
K	2	Toner Carousel
K	3	Laser/Scanner Circuit
M & Bk	0	Main Motor
M & Bk	1	Drum Motor
M & Bk	2	Laser/Scanner
C & Bk	0	Controller Fan
C & Bk	1	Fuser Fan
C & Bk	2	Main Fan

Obtaining the Best Results for Business Graphics

To obtain the best results for business graphics, colors should be 100% saturated. For example, to print pure yellow, define yellow as 100% red and 100% green without any blue. Then print your document, selecting the Color/Grayscale option in the Options Print dialog.

Printing on Legal-sized Paper

In the standard memory configuration, the Color LaserWriter 12/600 PS uses a higher compression technique for legal-sized paper using only the cyan, magenta and yellow color planes. As a result of this compression technique, very complex pages may show missing pixels in fine lines or small text, "jaggies" (edges with low-resolution appearance) and color changes. To improve the image quality of such pages, you can increase the printer's memory to 16 MB or more. With at least 16 MB of printer memory, the Color LaserWriter 12/600 PS can achieve the same quality with legal-size pages as with letter and A4 sizes using all four color planes (cyan, magenta, yellow and black.)

Printing Images on the Color LaserWriter 12/600 PS Printer

The Color LaserWriter 12/600 PS Printer's highest resolution for printing images is 150 x 150 dpi. No gain in image quality is achieved if higher resolution images are used. All other types of documents print at 600 x 600 dpi.

The Density Control Panel

The printer has been adjusted at the factory to produce the best possible image quality. There are always small variations in color between different printers. You can use the density control panel on the back of the printer to make subtle changes. Changing the settings however may produce images of an inferior quality. To return to the factory settings, press both the + and - buttons on the density control panel together.

Setting Your ColorSync System Profile for Best Printing Results

Before using ColorSync color-matching to print to the Color LaserWriter 12/600 PS printer, set the ColorSync System Profile for the monitor connected to your system. To do this open Control Panels in the System Folder and double-click ColorSync System Profile. Make sure the following settings are selected:
* Set the profile for the monitor connected to your system. For the best color match when printing, select the

"page-white" or "D50" system profile for your type of monitor if one is available.
* For the best visual match between the colors on your monitor and printed colors, select the Page-White Gamma option in the Monitors control panel. To select a gamma option, open the Monitors control panel, then hold down the Option key while you click the Options button. In the Options window, click the Use Special Gamma checkbox to put a check in it. Then choose Page-White Gamma from the menu.
* On a multiscan monitor, make sure that the color temperature, or intensity, is set to 9300K (the default setting). See the monitor manual for instructions. If the Page-White Gamma option is selected with a color temperature other than 9300K, your monitor colors could look too red or too blue compared to printed colors.

Obtaining Printer Supplies for the Apple Color LaserWriter 12/600 PS**

To order printer supplies for the Color LaserWriter 12/600 PS direct from Apple, call 1-800-600-7805. For order numbers, see Appendix A of the printer manual:
* toner cartridges
* transparencies
* photoconductor cartridge (includes toner disposal boxes)
* fuser oil
* fuser

Instructions for replacing the fuser are in Appendix F of the printer manual. Instructions for replacing other printer parts come in the new packages.

For the location of the nearest Apple-authorized dealer, call 1-800-538-9696, extension 525.

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Adobe and PostScript are trademarks of Adobe Systems Incorporated, which may be registered in certain jurisdictions.

End Read Me FIle

**This is not included in the original Read Me file:
Here are the parts available through 1-800-600-7805:

Color LaserWriter Cyan Toner Cartridge:	M3757G/A
Color LaserWriter Magenta Toner Cartridge:	M3760G/A
Color LaserWriter Yellow Toner Cartridge:	M3758G/A
Color LaserWriter Black Toner Cartridge:	M3756G/A
Color LaserWriter Photoconductor Replacement Kit:	M3761G/A
Color LaserWriter Fuser Oil:	M3755G/A

Cassettes, transparencies, and networking options are not available through this number.

Part numbers mentioned in this article are accurate as of this writing. Before ordering, verify that they are still correct as they are subject to change.

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Color LaserWriter 12/600 PS: Paper Specifications

What weight of paper can be used in the Color LaserWriter 12/600? What type of paper can be used in the Color LaserWriter 12/600?
This article has been archived and is no longer updated by Apple.
There are two different ratings for paper weight. "Book" or "Offset" paper is measured on a system based on weight per thousand sheets. This is the type of paper used by printing companies and most often used with letterhead. "Bond" or "Stock" is measured on paper content. The paper specifications on the 12/600 are listed in "Bond" measurements (16 to 28 pounds). The equivalent offset paper would measure about 40 to 80 pounds. You should use the multi-purpose tray for weights over 24 pound Bond or 70 pound Book.

The Color LaserWriter is designed only for Plain Paper use. Plain paper is copier paper or paper designed for laser use. For better looking output than that achieved by using plain copier paper, a number of high quality "laser" papers like Legacy, Nekoosa, and Hammermil are available at office supply or graphic arts stores. These papers offer a higher reflectance and thus brighter colors.

Rag content or linen paper will cause problems when printed on the Color LaserWriter 12/600 PS. The bottom portions of printed pages will have vertical streaks of white. Subsequent printouts will have the toner from the previous printed page. This is a result of the fibers of the paper being pulled off the paper onto the fuser rollers. Once on the fuser, they still have particles of toner attached and will leave colored marks on later pages.

NOTE: Do not use coated Ink Jet paper as it has a clay coating that melts and jams in the fuser region -- a problem that will require service attention and possibly a new fuser.
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Color LaserWriter 12/600 PS: QuickTake Images Print Red

I have a QuickTake 150 and a Color LaserWriter 12/600 PS. My printer prints color images fine except when I try to print my QuickTake files, they appear to have a reddish tint.
This article has been archived and is no longer updated by Apple.
The Quicktake software and the application Photoflash are both programs that work in the Red, Green, Blue (RGB) mode. This is called additive color. A printer operates in Cyan, Mangenta, Yellow, Black (CMYK) which is subractive color. The difference being that a monitor emits light (a lightsource) where as a piece of paper reflects light (from exisiting light). Ink on paper is colored by light reflecting off the paper back up through the toner. That is why paper types can change the color printed on it.

To fix this, use the adjust colors function in Photoflash to increase the blue and green slider bars. Some image editing programs have built in "color balancing" filters which do the same thing. Sharpening the image and keeping the image set to "millions of colors" will also help.
Published Date: Feb 19, 2012

Newton MessagePad: Frequently Asked Questions

This document contains the answers to frequently asked questions (FAQ) about the Apple MessagePad.

Questions in this FAQ:

1) Does the Newton Connection Kit for Macintosh support Claris Organizer direct transfers?

2) Is it possible to print to an Apple Color StyleWriter 2400 from my Apple MessagePad?

3) Why does the Apple MessagePad put zeros or other characters as prefixes to phone numbers?

4) How much system heap should I have on my Apple MessagePad 120? How can I increase the available heap space?

5) Does the current AC Power Adapter being sold for the Apple MessagePad work for all models?

6) Can I use an Apple MessagePad 110 rechargeable battery pack in an Apple MessagePad 120?

7) How can I get the upgrade to Newton Connection Kit for Macintosh version 2.0.2?

8) Can I upgrade an Apple MessagePad 100 to an Apple MessagePad 120?

9) What is the status of the Apple MessagePad upgrade program for the Apple MessagePad 100?

10) What do I need in order to use a non-Apple modem with my Apple MessagePad?
This article has been archived and is no longer updated by Apple.
1) Question: Does the Newton Connection Kit for Macintosh support Claris Organizer direct transfers?

Answer: No. The current version of the Newton Connection Kit for Macintosh, version 2.0, does not have a translator for Claris Organizer. However, you can create custom templates that may allow you to import and export information to your Newton Connection Kit file. The instructions are included in the addendum that accompanies the Newton Connection Kit for Macintosh User's Guide.

2) Question: Is it possible to print to an Apple Color StyleWriter 2400 from my Apple MessagePad?

Answer: Currently, printing to the Color Stylewriter 2400 is not supported. Here is a list of Apple printers support by the MessagePad:

StyleWriter,
StyleWriter II,
Personal LaserWriter LS,(Use the Personal LaserWriter 300 driver)
Personal LaserWriter 300,
LaserWriter Plus,
LaserWriter IINT and NTX,
LaserWriter IIf and IIg,
LaserWriter Select 360
LaserWriter Pro 600 and 630,
Personal LaserWriter NT and NTR.

Portable StyleWriter is supported by the Newton Print Pack - use the Canon BJ10e option.

3) Question: Why does the Apple MessagePad put zeros or other characters as prefixes to phone numbers?

Answer: The Apple MessagePad uses the information you have entered in the Personal Preference screen to determine how the phone number needs to be formatted for dialing.

When you set your Country preference in your Personal Preferences, you must tap Country, then select a country from the list that appears. In this case, you are in the United States, so you will select USA.

If you write the country name in the Country preference blank instead of selecting from the list, your Apple MessagePad does not understand what country you are in, and this problem occurs.

To set your access code, tap the Options button in the Call Slip window. Write in the access code needed to use your European account.

4) Question: How much system heap should I have on my Apple MessagePad 120? How can I increase the available heap space?

Answer: The Apple MessagePad has 110k of heap space. Apple is not aware of any application that increases the amount of heap space on an Apple MessagePad. If you have any soups on the Apple MessagePad, which are left from items that are no longer being used, you should remove them. There are various shareware utilities available that let you see and remove them.

Here are some tips regarding managing heap space.

- Remove programs that you no longer use, including programs that reside on a memory card. Each additional program, besides those located in the Apple MessagePad's ROM, takes up an additional 2K of heap memory.
- Close the Extras drawer after running any application. This saves another 3K of system memory.
- Avoid using a large number of programs that run continuously after installation. These programs consume large amounts of system memory and slow performance.

You can identify these types of programs by the way they work. If you have a program that always adds a button on a particular screen or has a "floating" window that is always available, it may be a program that is always running.

5) Question: Does the current AC Power Adapter being sold for the Apple MessagePad work for all models?

Answer: H0003Z/A is the Apple part number for the AC Adapter for the Apple MessagePad in the United States. It is compatible with all Apple MessagePad models and the Newton Charging Station, which are used in the United States.

Please contact the Apple Referral Center at 800-538-9696 to obtain a phone number for a local Apple-authorized Reseller.

6) Question: Can I use an Apple MessagePad 110 rechargeable battery pack in an Apple MessagePad 120?

Answer: Yes, you can use the rechargeable battery pack from the Apple MessagePad 110 in the Apple MessagePad 120. The accessories for the Apple MessagePad 110 and Apple MessagePad 120 are identical and interchangeable.

7) Question: How can I get the upgrade to Newton Connection Kit for Macintosh version 2.0.2?

Answer: Apple does not offer an upgrade to this version of the Newton Connection Kit for Macintosh. Version 2.0.2 only differs from previous versions in that it corrects an issue some customers experienced when importing large notes from Microsoft Word. There is no new functionality.

If you are experiencing problems importing very large notes into the Connection Kit from Microsoft Word, please the Apple Assistance Center at 1 800-SOS-APPL.

8) Question: Can I upgrade an Apple MessagePad 100 to an Apple MessagePad 120?

Answer: Apple offers no option to upgrade the Apple MessagePad 100 or 110 to an Apple MessagePad 120. You can, however, update to Newton System Update 1.3 (the system update that comes with the 120)

9) Question: What is the status of the upgrade program for the Apple MessagePad 100?

Answer: The upgrade program for owners of the original Newton MessagePad has ended.

10) Question: What do I need in order to use a non-Apple modem with my Apple MessagePad?

Answer: In conjunction with a modem setup package, the Newton Modem Enabler 1.0 allows the use of a non-Apple modem with an Apple MessagePad 110 or 120. The Modem Enabler has not been tested with previous Apple MessagePad models and is not supported on them.

The Newton Modem Enabler 1.0 may be downloaded from the USA Apple Software Updates on any of the following online services:

- America Online - keyword: applecomputer
- CompuServe - GO APLSUP
- Internet -
  - Worldwide Web: <http://www.info.apple.com/swupdates>
  - ftp: <ftp://ftp.info.apple.com>

Each modem has its own modem setup package, which is typically provided by the modem manufacturer. The modem setups supplied with the enabler include:

- HayesCompatible.pkg
- HayesErrorCorrecting.pkg
- MotoCELLect14.4.pkg
- MotoCELLectCellular.pkg

The Read Me document that accompanies the Modem Enabler explains what you need to do before installing Modem Enabler 1.0 and modem setup packages, what to do to install them, and how to work with them after they are installed.

Check with the manufacturer of your modem to verify its compatibility with the Apple MessagePad.
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AppleShare Client for Windows: AARP Issue

On a Windows client, when AppleTalk is initializing, a response to the first AARP (AppleTalk Address Resolution Protocol) Probe packet causes the stack to transmit another AARP Probe packet with a different tentative node address. If this second probe packet receives a response, the Windows stack continues to transmit AARP Probe packets with this same tentative node address. Is there a way to workaround this?
This article has been archived and is no longer updated by Apple.
This problem will be addressed in the next release of the AppleShare Client for Windows software. As of this writing, there is no known date when this software will be available.

In the meantime, a workaround is to manually edit the AppleTalk node parameter in the SYSTEM.INI file. This address is under the [AppleTalk] heading, as can be seen in the following example:

[APPLETALK]
NODE=74

Below is a brief description of how dynamic address assignment works:

Each protocol stack in a given node must have a protocol address. This address is usually assigned when the stack is initialized. AARP is used at AppleTalk startup time to find a unique node ID on the network. AARP must then make sure that the address it selects is not being used by another node on the data link. It does so by using the data link to broadcast a number of AARP Probe packets, which contain the tentative protocol address. When a node's AARP receives a Probe packet corresponding to one of its protocol stacks, it examines the protocol address of that stack. If the Probe's tentative protocol address matches the receiving node's address, AARP sends back an AARP Response packet to the probing node.

If the probing node receives an AARP Response packet, then the tentative protocol address is already in use and the node must pick a new tentative address and repeat the probing process.
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MAE 2.0.1: Patch Release "1" for MAE 2.0 (1/96)

This article describes MAE 2.0.1 obtained through Patch Release "1" for Macintosh Application Environment (MAE) V2.0.
This article has been archived and is no longer updated by Apple.
Apple has released MAE Patch 2, a newer patch. For more information on MAE Patch 2, search for the following Tech Info Library article, "MAE: Where to Find MAE Patch 2."

Apple has created and is distributing MAE V2.0.1, the first patch release for Macintosh Application Environment (MAE) 2.0. This patch release will alleviate several problems that have been identified.

The patch can be obtained over the Internet via FTP on the ftp.support.apple.com server, in the /pub/mae/patches directory. You will also find a README file with complete details on what is contained in the patch release as well as how to download and install the patch.

Please be aware that the patch is covered by a license agreement. You MUST read and agree to the license agreement before downloading and/or using the patch software.

NOTE: This patch cannot be used with the MAE V1.0 trial.

Changes In MAE 2.0.1

The following changes were made to MAE 2.0.1.

Updated Man Page

The online manual pages now reflect changes and features of MAE 2.0 that were omitted from the man pages supplied with the MAE 2.0 distribution.

Network Control Panel

Opening the Network Control Panel will no longer result in an error message.

(Sun only) Attention Packets

Urgent ADSP (Apple Data Stream Protocol) messages are now delivered promptly to the MAE process. Previously, there was a delay in delivering these messages.

(Sun only) ADSP Close

Custom applications that send ADSP close packets now work correctly.

Utilization of Selected AppleTalk Zone

A previously-selected AppleTalk zone is now being used as the default zone. In addition, a list of eligible devices is presented when selecting a network resource (for example, a printer). This problem only occurred under isolated circumstances.

File Transfers Under TCP

Fetch or other applications now receive large (greater than 100K) files utilizing TCP correctly. (Smaller files were not affected.)

Saving Documents When Using MacinTax

MacinTax is now able to save documents.

(HP only) Users' Guide Updated

The online Users' Guide for MAE now reflects features and changes present in v2.0 which were omitted from the MAE 2.0 distribution.

Debugging Options

Additional command line options have been added to assist in debugging MAE 2.0 problems.

(Sun only) Support for CacheFS

New functionality was added to support CacheFS, a new file system introduced with Solaris 2.4.

Support For AFS (Andrew File System)

Additional features have been added to support local cells for AFS.

Other Fixes

Various minor bugs in MAE 2.0 are corrected in MAE 2.0.1.

This article was published in the "Information Alley":
Volume II, Issue 10, Page 6

Article Change History:
30 Jan 1996 - Updated with MAE Patch 2 information.
28 Sep 1995 - Added Info Alley information; updated article.

Support Information Services
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LaserWriter Problem/Cure: New Cartridge Gives Lighter Print

PROBLEM DESCRIPTION: After a new toner cartridge is installed, the LaserWriter prints lighter than it did with the other toner cartridge.

CAUSE: The new toner cartridge's print may seem lighter, but it is actually still within specification. However see "CURE" below for the things you can do to improve print quality.

This article has been archived and is no longer updated by Apple.
CURE: 1. Turn the Print Density dial located on the back of the printer, one graduation higher.
2. Make 100 to 200 copies to break in the toner cassette.
3. Return the Print Density dial to its normal range for the remaining life of the toner cartridge.
4. Make sure that the paper being used is 16 to 20 pound paper stock.

If this cure does not resolve the problem, the problem may be with the LaserWriter itself. Go to the LaserWriter Technical Procedures to obtain a general troubleshooting procedure for this product.

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Performa 500 Series: Frequently Asked Questions

This document contains the answers to frequently asked questions (FAQ) about Macintosh Performa 500 series computers.

Questions in this FAQ:

1) Why can't I get a microphone from an earlier Macintosh computer to work on my Performa 500 series computer?

2) Can I upgrade my Performa 575, 577, 578, or 580 to a PowerPC processor?

3) Can I upgrade my Performa 550 to the PowerPC processor?

4) Can I add a floating-point unit (FPU) to my computer?

5) Can my Performa 580 support an Apple IIe card? Can the other 500 series computers?

6) Can I install the Apple TV/Video System on my Performa 500 series computer?

7) I accidentally lost a program that came with my Macintosh Performa. How do I get it back?

8) Where can I get the latest Apple software updates?

This article has been archived and is no longer updated by Apple.

1) Question: Why can't I get a microphone from an earlier Macintosh computer to work on my Performa 500 series computer?

Answer: The microphone used with many early Macintosh computer models is called the Apple Omnidirectional Microphone. It comes with a 1/2" plug. The microphone used with the Performa 600 series computers (as well as all new Macintosh models) is called a PlainTalk microphone. It has a 3/4" plug, the extra 1/4" of which is used to reach a power source that attenuates the microphone.

The correct microphone for use with the Macintosh Performa 630 series is the PlainTalk microphone, part number M9060Z/A. You can order this through many Apple-authorized retailers and catalog resellers. Their numbers can be obtained by contacting our 24-hour referral service at 800-538-9696.

For further information on the PlainTalk microphone, consult the online Apple Technical Info Library on the Internet at <http://til.info.apple.com/>. Use the search string "plaintalk microphone" to locate the article "Macintosh: PlainTalk Audio Port Microphone Support".

2) Question: Can I upgrade my Performa 575, 577, 578, or 580 to the PowerPC?

Answer: The Macintosh Processor Upgrade Card (M3397LL/A, discontinued) upgrades Macintosh 570 and 580 series computers to Power Macintosh performance by replacing the 68LC040 processor with a PowerPC 601 processor.

The Macintosh Processor Upgrade Card, part number M3397LL/A (discontinued), must be installed by an Apple-authorized service provider, who can also tell you the current price. To locate an Apple-authorized service provider in your area, please call 1-800-538-9696.

For more information on the upgrade, use the Tech Info Library on the Internet at <http://til.info.apple.com/> Use the search string "upgrade and kppc and 575" to locate related articles.

3) Question: Can I upgrade my Performa 550 to the PowerPC?

Answer: No, the Macintosh LC/Performa 520/550 series PowerPC Upgrade (M3395LL/A) is no longer available. The upgrade was available for several months, but has since been removed from the Apple price list.

4) Question: Can I add a floating-point unit to my computer?

Answer: A floating point unit (FPU) or math coprocessor does not always give you a speed increase. An FPU is useful only when running programs that do extensive mathematical calculations that call for an FPU to be used.

If you have a Performa 550 or 560 computer, you may have a math coprocessor or floating point unit (FPU), Apple Service p/n 922-0107, installed in a special socket on the logic board. If you own a Performa 57x, the only way to add an FPU is to completely remove and replace the 68LC040 chip on the logic board. This upgrade is not available from Apple but may be available from a third party vendor. Apple does not

recommend or support replacing the CPU chip.

From the online Apple Technical Info Library on the Internet at <http://til.info.apple.com/> - use the search string "FPU Upgrade" to locate the article "Macintosh Performa: FPU Upgrade Options."

5) Question: Can my Performa 580 support an Apple IIe card? Can the other 500 series computers?

Answer: The Apple IIe card is only compatible with computers that have the LC style processor direct slot (PDS). This includes the Macintosh Color Classic, Performa 400 series, LC/Performa 500 series computers (except the Macintosh LC 580 and Performa 580), and all Macintosh LC series computers except the Macintosh 630 family and Power Macintosh 5200 LC and 5300 LC computers.

The Macintosh LC 580, Macintosh 630 Family, and Power Macintosh 5200 LC and 5300 LC only operate in 32-bit addressing mode. Since the Apple IIe card is not compatible with 32-bit addressing, the Apple IIe Card is not compatible with these computers.

From the online Apple Technical Info Library (go shortcut "TIL") - use the search string "Apple IIe card and compatibility" to locate the article "Apple IIe Card: Macintosh Compatibility."

6) Question: Can I install the Apple TV/Video System on my Performa 500 series computer?

Answer: The Apple TV/Video System requires a special connection on the logic board. This connection is available only in the Macintosh 630 series and Power Macintosh or Performa 5200, 5300, 6200, and 6300 series of computers.

7) Question: I accidentally lost a program that came with my Macintosh Performa. How do I get it back?

Answer: If you have lost or removed a program that originally shipped on your Macintosh Performa, you can restore it with the program Apple Restore. This will copy files back to your computer's hard drive. To copy the files back, you will need backup disks. You were instructed to make a backup copy of your programs on floppy disks when you first purchased your computer. You will need these disks.

Using the Utilities disk which came with your computer, you can run Apple Restore in order to restore the data. This process is described in detail in Chapter 11 of your Macintosh User's Guide.

If your computer came with a built-in CD-ROM drive, you may not need to use the above process. The Macintosh Performa CD contains a complete backup of all the software which originally came with the computer. To restore this software, use the instructions included in the small pamphlet which accompanied the CD-ROM disc.

8) Where can I get the latest Apple software updates?

- Worldwide Web: <http://www.info.apple.com/swupdates>

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Performa 630 Series: Frequently Asked Questions

This document contains the answers to frequently asked questions (FAQ) about Macintosh Performa 630 series computers.
This article has been archived and is no longer updated by Apple.
Question: Is there an upgrade path for the Macintosh Performa 630 series to a PowerPC?

Answer: The Macintosh Performa 630 series computers can be upgraded to the PowerPC using the Macintosh Processor Upgrade (discontinued). The Processor Upgrade includes a PowerPC 601 Processor with floating-point processor and 256K level-2 cache that is expandable to 1MB. The Macintosh Processor Upgrade lets you switch back and forth between the PowerPC 601 and 68040/68LC040 processors upon restart.

The Macintosh Processor Upgrade Card, part number M3397LL/A (discontinued), must be installed by an Apple Authorized Service Provider. To locate an Apple-authorized service provider in your area, please call 1-800-538-9696.

Question: Can I add a second IDE drive or replace the original internal drive with a larger capacity IDE drive?

Answer: The Performa 630 series computer will only support only one internal IDE drive. It is possible to replace the internal IDE drive with a larger capacity hard disk, provided the drive is compatible with the computer.

To find out what features a third-party IDE hard drive must have to be compatible with a Macintosh 630-series computer, you can consult the Tech Info Library. Use the search string "ide" to locate the article "Macintosh 630: Using Third Party IDE Hard Disks." Check with the maker of the specific third-party IDE hard drive to see if that model meets the criteria outlined in the article.

Question: Can I add a DOS Compatibility card to my Performa 630 series computer?

Answer: Apple does not make a separate DOS Compatibility Card for the Macintosh Performa 630 series computer. There are Macintosh 630 series systems available with the DOS compatibility card, but they must be purchased with the card already installed because of modifications to the logic board.

Question: If I purchase a Performa 630 series computer with the Apple Video/TV System card installed, can I output the video to an NTSC device such as a television or VCR?

Answer: Video output to a TV or other NTSC device is handled by a separate component unrelated to the Apple Video/TV System. The Apple Presentation System (part number M2895LL/A) is an external portable device that connects to any Macintosh computer with a DB-15 standard video output port. Without the Apple Presentation System, you cannot display the video from the Performa 630 series computer to an NTSC device. A PAL version of the Apple Presentation System is also available.

Question: If my computer has been idle for a period of time and I move the mouse to turn off my screen saver, the computer will freeze momentarily and beep for several seconds. Then the computer returns to normal. What is causing this symptom to occur?

Answer: This is caused by the energy saver software installed on your computer. The software is designed to reduce the amount of power that your monitor is using when the computer is idle. When you move the mouse after the computer has been idle the computer will beep until the monitor has returned to full power. The energy saver control panel which is supported on the Performa 630 series computers is called Energy Saver. If you do not want to use the energy saver feature, you can de-select the appropriate option in the control panel. If you have a control panel named "Screen," remove it from your Control Panels folder since it is not supported on your computer.

Question: I have an old program which tells me to turn off 32-bit addressing. But I don't see this as an option in my Memory control panel. Why?

Answer: The Performa 630 always runs in 32-bit mode. There is no way to turn it off; therefore, there is no switch in the Memory control panel. You will probably need to upgrade your software.

Question: The sound from my 15" Multiple Scan Display is very low. Sometimes, I can hear sound only out of the left speaker. What is wrong?

Answer: Most likely, the audio patch cable is not plugged in securely on the monitor's side. Remove the cable, then plug it back in, firmly. If this does not help, completely unplug the cable from both the Macintosh side and the monitor side, then exchange the ends and plug the cable back in.

You may also wish to check your "Volumes" setting in the Sound control panel. Select "Control Panels" from the Apple menu, then open the Sound control panel. You will see a window which lets you set your alert volumes. Click on the pop-up menu at the top of the window, then select "Volumes." Make sure your speaker volume is set to a high value.

Question: I have a Macintosh Performa computer which shipped with a CD-ROM drive. I have purchased a third-party disk management utility or virus detector which states I should use a "Disk Tools" disk in order to create an emergency disk. I did not receive one with my computer. Should I have?

Answer: Apple currently ships a CD-ROM drive as part of many Performa computers. The Macintosh Performa CD you received as part of your bundle, effectively replaces the usual Disk Tools floppy disk. In addition to containing conventional disk diagnostic software, the CD-ROM disc also contains a complete back-up of your system software and application programs.

In many cases, you can still use the Performa CD as a start-up disk, then insert a diskette containing whatever disk-based software you need to run.

If the software you are using does not support the use of a Performa CD, or does not contain instructions on how to use the Performa CD with that product, you should contact the manufacturer of the software for further assistance.

Question: The microphone from my older Macintosh computer does not work on my Performa 630 series computer. What's wrong?

Answer: The microphone used with an LC II is called the Apple Omni-directional Microphone. It comes with a 1/2" plug. The microphone used with the Performa 600 series computers (as well as all Power Macintosh computers, the Performa 475/6, Performa 6100 series computers, 500 series computers, and Quadra 660AV and 840AV) is called a PlainTalk microphone. It has a 3/4" plug, the extra 1/4" of which is used to reach a power source that attenuates the microphone.

The correct microphone for use with the Macintosh Performa 630 series is the PlainTalk microphone, part number M9060Z/A. You can order this through many Apple-authorized retailers and catalog resellers. Their numbers can be obtained by contacting our 24-hour referral service at 800-538-9696.

Question: Can I install an Apple IIe card in my computer?

Answer: Unfortunately, the Macintosh Performa 630 series computers do not support the Apple IIe card. Apple IIe card software is not compatible with the 32-bit addressing mode that your Macintosh Performa computer requires.

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PowerBook Duo 2300c/100: Description

This article contains a description of the Macintosh PowerBook Duo 2300c/100 computer.
This article has been archived and is no longer updated by Apple.
Overview

The Macintosh PowerBook Duo 2300c/100 is Apple's smallest, lightest PowerBook computer, delivering PowerPC processor performance in a compact, flexible, and expandable system. With complete compatibility with existing PowerBook Duo 200 series peripherals and accessories, the PowerBook Duo 2300c/100 provides advances in performance without sacrificing your investment in batteries, memory, modems, or docking solutions.

The PowerBook Duo 2300c/100 brings a new level of power and performance to subnotebook computing. It includes an integrated 9.5-inch active-matrix display that offers two modes►?640 by 480 pixels with 256 colors, and 640 by 400 pixels with up to thousands of colors.

An improved Apple trackpad provides increased functionality. The PowerBook Duo 2300c/100 comes with a large hard disk drive, and its memory can be easily expanded to 56 megabytes. Its advanced 100-megahertz PowerPC 603e processor not only gives this PowerBook Duo the power to handle the most complex tasks easily, but also enables it to run Insignia Solutions SoftWindows emulation software for DOS and Windows compatibility.

With the PowerBook Duo 2300c/100, you can connect to a wide range of resources►?no matter where you are. Its file-transfer options include System 7 file sharing (with LocalTalk or other serial cables), as well as a configuration with an internal Express Modem for using Apple Remote Access or other on-line services. When you're back at the office, simply insert your PowerBook Duo computer into a PowerBook Duo Dock Plus, and you're instantly working with a complete desktop Macintosh system. And with third-party docking solutions, you can take advantage of PC Card expansion capabilities and DOS compatibility solutions.

The PowerBook Duo 2300c/100 also comes with the PowerBook Mobility Bundle, a combination of communications, compatibility, power management, security, file-transfer, and entertainment software.

In short, the PowerBook Duo 2300c/100 provides outstanding performance and innovation in the smallest, lightest PowerBook computer making it the ideal solution for mobile computing.

Features

High Performance
* Uses a 100-MHz PowerPC 603e RISC processor
* Provides Power Macintosh performance in a subnotebook computer
* Provides 8 MB or 20 MB of RAM, expandable to 56 MB
* Includes an internal 750 MB or 1.1 GB hard disk drive

Innovative New Design
* Provides a 9.5-inch (diagonal), backlit, active-matrix color display for easy viewing in up to thousands of colors
* Includes improved Apple trackpad for increased functionality
* Is the smallest, lightest PowerBook computer
* Gives you the flexibility to carry just what you need

Broad Expansion Capabilities
* Comes with a built-in serial port for peripheral devices and networking
* Includes slots for an internal modem and additional RAM
* Features a docking connector for connection to a variety of docking devices that provide desktop computing capabilities
* Provides complete compatibility with existing PowerBook Duo 200 series peripherals and accessories

Easy Communications Capabilities

* Comes equipped with Apple Remote Access and PowerTalk client software
* Is available with PowerBook Duo Express Modem

Pre-installed Software
* Comes with System 7.5
* Provides active assistance in learning new features through Apple Guide
* Comes with the PowerBook Mobility Bundle, software designed to enhance mobile computing

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Telecom Software 2.3.2: Fax for PC Card Modems Read Me (4/97)

This article is the Fax for PC Card Modems ReadMe file included with Apple Telecom Software version 2.3.2.
This article has been archived and is no longer updated by Apple.
Fax for PC Card Modems Read Me

Apple Telecom Software
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This software runs on the following machines with their respective PC Card modems:

* PowerBook 500 models equipped with a PCMCIA Expansion Module and a PC Card modem. The software can be used with or without the PowerBook Processor Card Upgrade Kit with PowerPC 603e installed.

* PowerBook 5300 models using a PC Card modem.

* PowerBook 190 models using a PC Card modem.

Important information about using the Apple Telecom software

This software provides fax services for use with fax class 2-compatible PC Card modems. Before using the software you should read the Apple Telecom Installation file that comes with it.

Supported Modems

The Apple Telecom software should be compatible with most fax class 2-compatible PC Card modems. The software has been specifically tested for compatibility with the cards listed below:

* COM1?MC217 and MC218 models.
* PNB?Danube V32bis and Danube V34 models.
* TDK?DF2814 model.

Check with your Apple-authorized service provider to verify if a particular card is compatible with the software.

AppleTalk and modem use

If you are connected to an AppleTalk network, you may get better fax transmission performance if you turn off AppleTalk in the Chooser.

Apple Remote Access use

CCL (connection control language) script files for Apple Remote Access are provided for most popular modems are installed with your system software or your Apple Remote Access software (in the Extensions folder in the System folder). Additionally, an Apple Remote Access CCL, "PC Card Modems ARA 2.0", is installed in the Telecom Documents folder when you install your Apple Telecom software. To use it, you need to drag it to the Extensions folder. This CCL has been tested with the PC Card modems listed above. If it does not work correctly with your modem, you may be able to use one of the other CCL files that is already in your Extensions folder.

If you are using the TDK DF2814 Card, use the TDK DF2814 ARA 2.0 modem file.

What goes where

When you install the Apple Telecom software using the Easy Install option of the Installer program, the following files are installed on the hard disk of your choice.

Hard Disk:
* Fax for PC Card Modems Read Me
* Apple Telecom Installation
* SimpleText 1.2

Hard Disk: Telecom Applications: Fax Folder:
* Fax Terminal
* Fax Viewer
* Fax Cover

* Sample (cover document)
* Standard (cover document)
* My First Fax (PICT sample)

Hard Disk: Telecom Documents:
* PC Card Modems*Alink (AppleLink CCL)
* PC Card Modems ARA 2.0 (Apple Remote Access 2.0 CCL)
* TDK DF2814*Alink (AppleLink CCL)
* TDK DF2814 ARA 2.0 (Apple Remote Access 2.0 CCL)

Hard Disk: System Folder: Extensions:
* Apple Fax Gateway
* Fax Extension
* Fax Sender
* Fax Sender GX
* PCMCIA Class2
* Serial Tool

Hard Disk: System Folder: Mimetics:
* EasyReader Fax
* Neuroneye
* US Dictionary
* UK Dictionary

Hard Disk: System Folder: Apple Menu Items:
* Fax Terminal (alias of Fax Terminal)

Apple Telecom Installation
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Installing the Apple Telecom Software for use With PC Card Modems

This document provides information on installing the Apple Telecom software that comes on your computer, and in accessing the Fax & Telephony Solutions User's Guide that you will need to use the software. You may want to print this document to keep with your user's manual.

Discovering the Apple Telecom software

The Apple Telecom software brings a complete set of fax functions to your desktop. This document tells you how to install and configure it for use with a PC Card modem. The software is designed to work with most class 2-compatible PC card fax modems and has been tested with a number of different cards. Check with your Apple-authorized service provider to verify if a particular card is compatible with the software.

Before you begin

Make sure that you are familiar with the basic operation of your Macintosh. If you are not familiar with the basic concepts, go through the Macintosh Tutorial to learn the basics. See Chapter 1 of the user's manual that came with your PowerBook for instructions on taking the Macintosh Tutorial.

Accessing the Fax & Telephony Solutions User's Guide

The documentation for the Apple Telecom software is included in a file called "Fax & Telephony User's Guide" in the Fax Software Install folder (in the Apple Extras folder) on your computer's hard disk. To print this file, connect your PowerBook to a printer and follow these steps:

Step 1

Open the Apple Extras folder.

Step 2

Open the Fax Software Install folder inside the Apple Extras folder.

Step 3

Double-click the Fax & Telephony User's Guide icon.

The cover of the manual appears on your screen.

Step 4

Choose Print from the File menu.

What you need

In order to send and receive faxes using the Apple Telecom software and a PC card modem, you need the following materials:

* a Macintosh model with built-in PC card slots or PCMCIA Expansion Module

* the Apple Telecom software

* a PC Card modem that is fax class 2-compatible

* the appropriate connector cable between PC Card modem and telephone line (furnished with your modem card)

* the Serial Tool connection tool (comes with your computer's system software and is in the Extensions folder inside the System Folder)

Installing the hardware

You need to install the modem card and connect it to the telephone line in order to use your Apple Telecom software.

1. Insert the modem card into either the upper or lower card slot.

If you do not know how to install a card, refer to the manual that came with your computer.

2. Connect the modem card to the telephone line using the appropriate cable. The cable should be provided with your PC Card modem.

Refer to the documentation that came with your modem card for information on how to connect it to the telephone line.

Installing the software

This section tells you how to install the software you need to send and receive faxes.

The Apple Telecom software is in the Apple Extras folder on your hard disk. You need to run the Installer application program included with the Apple Telecom software before using it with your PC Card modem. The Installer places all the files you need in the appropriate places on your hard disk.

To install the software:

Step 1

Open the Apple Extras folder.

Step 2

Open the Fax Software Install folder inside the Apple Extras folder.

Step 3

Double-click the Installer program icon.

Step 4

If the hard disk that you want to install the software onto is not selected, click Switch Disk until the correct hard disk appears.

Step 5

Click Install.

The Installer places all the files needed to use the Apple Telecom software in the appropriate places on your hard disk.

Step 6

When the Installation is complete, click Restart.

When your Macintosh restarts, you'll have everything you need to begin using the fax functions of the Apple Telecom software.

Setting preferences for the fax software

Once you have completed the hardware and software installations described above, you can quickly get started using some of the features of your Apple Telecom software. In order to use your Apple Telecom software for fax send and receive functions, you need to configure Fax Terminal for your hardware setup.

To configure Fax Terminal:

Step 1

Choose Fax Terminal from the Apple menu.

Step 2

Choose Preferences from the Fax menu.

The Fax Terminal Preferences dialog box appears.

Step 3

Choose PCMCIA Class 2 from the Modem Select pop-up menu.

Step 4

Choose the slot (upper or lower) that contains your modem card from the Port Select pop-up menu.

This configuration allows the Apple Telecom software to work with most available PC card modems, provided that they are fax class 2-compatible. The first chapter of the Fax &Telephony Solutions User's Guide also covers these configuration steps and shows you how to send your first fax. If you have a problem using your modem, recheck the installation of your PC card and then go through the configuration steps again.

For more information on using the Apple Telecom software, refer to Chapters 1 through 6 of the Fax &Telephony Solutions User's Guide.

Article Change History:
02 April 1997 - Updated online references, removed specific references.
10 Jan 1996 - Updated with latest Read Me file.
20 Oct 1995 - Added correct information on the TDK-DF2814 model PC modem.

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Color LW 12/600 PS: Printing Problems From Windows

I am having difficulties printing from a PC to a LaserWriter 12/600 PS over a parallel connection. Documents containing text print OK, but when I attempt to print a document containing graphics, the Ready/In Use light on the printer will flash for a few minutes but nothing ever prints.
This article has been archived and is no longer updated by Apple.
The factory default settings for the parallel port is TBCP (binary). However, each time the Configuration switch on the printer is changed the protocol TBCP inadvertently gets changed to Normal (ASCII), which is why image data, which is typically binary data, cannot be printed.

Fortunately, you can easily work around this problem by either resetting the protocol on the printer or by configuring your PC to print all jobs in ASCII.

To Reset Printer's Protocol:

1. Relocate the configuration switch back to its default position (to the right; refer to page 40 in the Apple Color LaserWriter 12/600 PS manual).
2. Reset the protocol back to TBCP via the Macintosh or Windows version of the Apple Printer Utility. (**Note**: If you are use the Apple Printer Utility for Windows that came with your printer, restart your PC before printing or launching the Apple Printer Utility again.)

To Configure the PC to Print ASCII:

1. In the Printer Control panel click on Setup,.
2. Select Apple Color LW 12/600 PS.
3. Click on the PostScript subheading, then deselect Send Data In Binary checkbox.

Thereafter, all print jobs will be sent to the printer in ASCII, including graphical data, which the Normal protocol accepts.

Upgrading ROMs

The parallel communications printing difficulty described above exists only with Apple Color LaserWriter 12/600 PS printers having v1.0 ROMs.

Therefore, a third option exists for resolving the situation. Obtain the Color LaserWriter v2.0 ROM upgrade, service part number 076-0621. This ROM upgrade may be purchased from your service provider.

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Power Macintosh 6100 Series: Frequently Asked Questions

This document contains the answers to the following frequently asked questions (FAQ) about Power Macintosh 6100 series computers.

1. What is the difference between native software and conventional software?
2. My computer does not remember sound settings from restart to restart. I continually have to go back to the Sound control panel and reset the CD input source.
3. What causes Type 11 errors?
4. Does my Power Macintosh have an FPU (Floating Point Unit/Math coprocessor)? I see errors that an FPU is not installed.
5. I need to run DOS software on my Power Macintosh 6100 series computer. What are my options?
6. The microphone from my former Macintosh computer model doesn*t work on my Power Macintosh 6100 series computer. What's wrong?
7. I have an old program that tells me to turn off 32-bit addressing, but I do not see this as an option in my Memory control panel. Why?
8. My computer recently stopped displaying any video. It appears to start up normally, but nothing appears on the monitor. What could be causing this?

This article has been archived and is no longer updated by Apple.

1) Question: What is the difference between native software and conventional software?

Answer: The Power Macintosh runs in two modes, without any further assistance from the user: it can run "native" software, which is software written for the PowerPC chip, or "conventional" software, which is software written for an older 68000, 68020, 68030, or 68040-based computer. Conventional software is sometimes referred to as "68K" software.

Conventional software runs in an "emulation" mode, which is functionally similar to the 68020 processor. The main differences between the 68020 processor and later processors are: (a) it does not have a PMMU (Paged Memory Management Unit), (b) it does not support the SWAP16 instruction, and (c) it does not support a floating point unit. The first point is necessary because the PowerPC has a newer, better, memory management model. The second point is also addressed by improvements in the PowerPC chip. The third point requires different steps to work around; see the FAQ question below. Conventional software will generally run faster than a 68020, probably between Macintosh IIci and Quadra 605 performance, depending on how many references the software makes to the native "toolbox" in the computer.

As new software is sold, you will find reference to "Fat" applications. These are programs that can be run on either a 68K or Power Macintosh computer without modification. The operating system automatically determines which part to use.

Since "Fat" applications are really two programs in one, many installers will offer either a "Power Macintosh" or "Conventional" install. If you have installed a software billing itself as "Accelerated for Power Macintosh" and, once installed, it does not recognize features which definitely exist, such as an FPU, make sure you have installed the correct version and build. Both versions will run on the Power Macintosh, but only the "native" version will benefit from all the special features of the Power Macintosh.

2) Question: My computer does not remember sound settings from restart to restart. I continually have to go back to the Sound control panel and reset the CD input source.

Answer: If the Sound Preferences file, which stores much of this information, is corrupted, the settings may not be getting saved. To resolve this, open your System Folder, then your Preferences folder. Throw away Sound Preferences, and restart. Try to reproduce the problem.

If you have installed any type of disk compression or disk management software, check to make sure that it is not manipulating any of your Preferences files.

3) Question: What causes Type 11 errors?

Answer: Type 11 errors are typically due to one of a variety of factors:

- Font problems: you are using a bad font.
- RAM problems: you have install bad RAM.
- SCSI chain problems: bad driver or cable.
- Cache SIMM problems (if you have installed one on your Power Macintosh computer).
- Incompatible software running in emulation.

For steps on how to troubleshoot such problems, please see the following article:

Article 16004: "**Power Macintosh : Meaning Of Error Type 11**"

4) Question: Does my Power Macintosh have an FPU? I see errors that an FPU is not installed.

Answer: All PowerPC chips, which are used on Power Macintosh computers, have a floating point unit.

You may be seeing the "FPU not installed" error for two reasons:

* You are running "conventional" software in 68K emulation. This operating mode does not provide access to the computer's floating point unit. Thus, the program does not work. Certain software "bridges" exist to allow conventional software access to the PowerPC microprocessor's FPU. See the Redgate Communications area to search for such products.

* You are using software, in either emulation or native mode, which is simply failing. Since the PowerPC supports pipelining instructions, a number of errors are occurring simultaneously. They are eventually percolating out as an "FPU not installed" error. An error did occur, but it has nothing whatsoever to do with the need for a floating point unit. You should apply standard troubleshooting steps to resolve this issue.

5) Question: I need to run DOS software on my Power Macintosh 6100 series computer. What are my options?

Answer: There are two ways to run DOS software:

* Use Insignia Solutions' SoftWindows emulator. This is a Macintosh application which emulates a PC DOS/Windows environment. You can get more information, such as pricing, performance, system requirements, and compatibility information from Insignia Solutions.

* You can use the Apple DOS Compatibility Card. This is a hardware solution, that provides a 486 DX2 processor running at 66 MHz, SoundBlaster support, alternative video support, and up to 32 MB of on-board memory. This effectively produces a "dual processor" environment for your computer, in which Macintosh and DOS applications can run at full processor efficiency, simultaneously.

This card plugs into your single Processor Direct Slot. If you opt to use this card, you will not be able to use other PDS cards, such as an Apple AV Technologies Card, without removing this card, first.

The Apple part number for the DOS Compatibility Card is M3581LL/A. You can order one from any Apple-authorized reseller or Apple-authorized service provider, who can also tell you the current price.

6) Question: The microphone from my former Macintosh computer model doesn't work on my Power Macintosh 6100 series computer. What's wrong?

Answer: The microphone used with many early Macintosh computer models is called the Apple Omnidirectional Microphone. It comes with a 1/2-inch plug. The microphone used with the Performa 600 series computers (as well as all Power Macintosh computers, the Performa 475/6, Performa 6100 series computers, 500 series computers, and Quadra 660AV and 840AV) is called a PlainTalk microphone. It has a 3/4" plug, the extra 1/4-inch of which is used to reach a power source that attenuates the microphone.

The correct microphone for use with the Power Macintosh 6100 series is the PlainTalk microphone. Our part number is M9060Z/A. You can order this through many Apple-authorized retailers and catalog resellers. Their numbers can be obtained by contacting our 24-hour referral service at 800-538-9696.

For further information on the PlainTalk microphone, please see the following article:

Article 15699: "**Macintosh: PlainTalk Audio Port Microphone Support**"

7) Question: I have an old program that tells me to turn off 32-bit addressing, but I do not see this as an option in my Memory control panel. Why?

Answer: The Power Macintosh always runs in 32-bit mode. There is no way to turn it off; therefore, there is no switch in the Memory control panel.

8) Question: My computer recently stopped displaying any video. It appears to start up normally, but nothing appears on the monitor. What could be causing this?

Answer: The loss of video signal can be caused by a worn out lithium battery. For more information on this topic, please see the following article:

Article 20328: "**Macintosh Computers: Low Battery Can Cause No Video**"
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MPW/MacApp: Versions, availability, compatibility

This article has been archived and is no longer updated by Apple.

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MacApp 1.0B2 is compatible with MPW 1.0. In order to use the resource files
interchangeably, though, the user must modify resource files as discussed in
the paragraphs below.

Using MacApp Release 1.0B2 with MPW Release 1.0

The resource files for MapApp 1.0B2 are not compatible with the standard MPW
1.0 Rez include file Types.r. To compile MacApp, you can either use the MPW
1.0B2 Types.r file or change the MacApp resource files. To change the sample
resource files, first replace all occurences of zoomProc with zoomDocProc,
then modify the 'ALRT' resources so that the stages lists have the following
format:

 {
 OK, Visible, Silent;
 OK, Visible, Silent;
 OK, Visible, Silent;
 OK, Visible, Silent
 }

MacApp release 1.0 resource files will have the correct format.

The released version of MPW software, which APDA is now shipping, is 1.0. The
manuals included with APDA shipments are not final at this point; they are
missing the graphics, an index, etc. Final manuals are scheduled to be
available this spring; they will be made available through APDA at that time.
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LaserWriter Problem/Cure: Only Prints Top Half of Page

PROBLEM DESCRIPTION: The LaserWriter only prints the top half of the page.

CAUSE: A failed toner cartridge or DC Controller PCB.

This article has been archived and is no longer updated by Apple.
CURE: Perform the User and Service Test prints to eliminate a failed I/O PCB as described in steps 1 and 2 of the LaserWriter Functional Check in the LaserWriter Technical Procedures.

If the problem is with the I/O PCB, follow the procedure located in the LaserWriter Technical Procedures to perform the repair.

If the problem is with the print engine replace the toner cartridge first and recheck for the problem. If the problem still remains, replace the DC controller PCB.

If this cure does not resolve the problem, go to the LaserWriter Technical Procedures to obtain the general troubleshooting procedure for this product.

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Power Macintosh 7200/7500/8500: New Items in Sys Folder

This article lists the updated Apple software components on the new Power Macintosh 7200, 7500 and 8500 computers in comparison to standard System 7.5 components. The new components of System 7.5.2 are designed to run on these Power Macintosh computers only.

The article "Apple Software: Current Versions" will be updated as appropriate as future releases of our system software are made available.

"n/a" - not applicable

"-" - no version number

This article has been archived and is no longer updated by Apple.

Ships with:	7.5	7200	7500/8500
System Folder			
Finder	7.1.4	7.5.3	7.5.3
System Enabler 701	n/a	1.1	1.2
Scrapbook File	7.5	7.5	7.5
System	7.5	7.5.2	7.5.2
System Folder:Apple Menu Items			
AppleCD Audio Player	2.0	2.1	2.1
Apple Video Player (* alias)	n/a	n/a	1.3
Automated Tasks (* alias)	7.5	7.5	7.5
Calculator	7.5	7.5	7.5
Chooser	7.5	7.5.3	7.5.3
Control Panels (* alias)	7.5	7.5	7.5
Find File	1.0	1.1.1	1.1.1
Graphing Calculator	1.0	1.0	1.0
Jigsaw Puzzle	1.0	1.0.1	1.0.1
Key Caps	7.5	7.5	7.5
Note Pad	7.5	7.5	7.5
Scrapbook	7.5	7.5	7.5
Stickies	1.0	1.0.1	1.0.1
* Shut Down	1.0P	1.1	1.1
System Folder:Control Panels			
Apple Menu Options	1.0	1.0.2	1.0.2
AppleTalk	n/a	1.0.6	1.0.6
Color	7.1	7.1	7.1
ColorSync System Profile	1.0.5	2.0	2.0
Control Strip	-	-	1.3
Date & Time	7.5	7.5	7.5
Desktop Patterns	7.5	7.5	7.5
Energy Saver		2.0	2.0
Extensions Manager	3.0	3.0.2	3.0.2
File Sharing Monitor	7.1	7.1	7.1
General Controls	7.5	7.5.5	7.5.5
Keyboard	7.1	7.5.1	7.5.1
Labels	7.1	7.1	7.1
Launcher	2.4	2.7	2.7
Macintosh Easy Open	1.1	1.1.1	1.1.1
Map	7.5	7.5	7.5
Memory	7.5	7.5.4	7.5.4
Monitors	7.5	7.5.3	7.5.3
Mouse	7.3	7.3.1	7.3.1
Numbers	7.1	7.1	7.1
PC Exchange	2.0.2	2.0.5	2.0.5
Sharing Setup	7.1	7.1	7.1
Sound	8.0.3	8.0.3	n/a
Sound & Displays	n/a	n/a	1.0

Startup Disk	7.3.2	7.3.2	7.3.2
TCP/IP	n/a	1.0.5	1.0.6
Text	7.1	7.1	7.1
Users & Groups	7.1	7.1	7.1
Views	7.1	7.1	7.1
WindowShade	1.3	1.3.1	1.3.1

System Folder:Control Strip Modules Folder

AppleTalk Switch	n/a	n/a	1.3
File Sharing	n/a	n/a	1.3
Sound Volume	n/a	n/a	1.3
Monitor Bit Depth	n/a	n/a	1.0
Monitor Resolution	n/a	n/a	1.0
Video Mirroring	n/a	n/a	1.3

System Folder:Extensions

7200 Graphics Accelerator	n/a	1.0	n/a
7200 & 9500 Guide Additions	n/a	1.0	n/a
7500 & 8500 Guide Additions	n/a	n/a	1.0
About Apple Guide	1.2	1.2	1.2
Apple CD-ROM	5.0.2	5.1.1	5.1.1
Apple Color SW Pro CMM		1.0	1.0
Apple Guide	1.2	1.2.7	1.2.7
Apple Photo Access	2.0	2.1	2.1
AppleScript		1.1	1.1
AppleScript	1.1	1.1	1.1
AppleScriptLib	1.1	1.1	1.1
AppleShare	3.5	3.5	3.5
Audio CD Access	5.0.2	5.1	5.1
AV Setup	n/a	n/a	1.0
Clipping Extension	7.1.4	7.1.4	7.1.4
Color Picker	2.0.1	2.0.1	2.0.1
Color SW 2000 Series CMM	n/a	1.0	1.0
Color SW 2400	n/a	2.1	2.1
Color SW Pro	n/a	1.5.2	1.5.2
ColorSync	1.0.5	2.0	2.0
Display Guide Additions	n/a	n/a	1.0.1
EM Extension	7.5	3.0.2	3.0.2
Energy Saver Extension	n/a	2.0	2.0
Energy Saver Guide Additions	n/a	1.0	1.0
Ethernet (Built-In)	n/a	1.0.1	1.0.1
File Sharing Extension	7.1.1	7.6.2	7.6.2
Find File Extension	1.0	1.1.1	1.1.1
Finder Help	7.1.4	7.5.3	7.5.3
Finder Scripting Extension	1.2	7.5.3	7.5.3
Finder Update	n/a	7.5.3	7.5.3
Foreign File Access	5.0.2	5.1	5.1
High Sierra File Access	5.0.2	5.1	5.1
ImageWriter	7.0.1	7.0.1	7.0.1
ISO 9660 File Access	5.0.2	5.1	5.1
LaserWriter	7.2	7.2	7.2
LaserWriter 8	8.1.1	8.2.2	8.2.2
LaserWriter 300	1.2	1.2	1.2
Macintosh Guide	1.2	1.2	1.2
Network	n/a	7.1.3	7.1.3
Network Extension	7.1.3	7.1.3	7.1.3
ObjectSupportLib	1.0.2	1.0.2	1.0.2
Open Tpt AppleTalk Library	n/a	1.0.6	1.0.6
Open Tpt Internet Library	n/a	1.0.6	1.0.6
Open Transport Library	n/a	1.0.6	1.0.6
Open TransportLib	n/a	1.0.6	1.0.6
OpenTptAppleTalkLib	n/a	1.0.6	1.0.6
OpenTptInternetLib	n/a	1.0.6	1.0.6

Printer Share	1.1.1	1.1.2	1.1.2
PrintMonitor	7.1.2	7.1.2	7.1.2
QuickTime	2.0	2.0	2.0.9
QuickTime PowerPlug	2.0	2.0	2.0.9
Serial (Built-In)	n/a	1.0.2	1.0.2
Shared Library Manager	n/a	2.0	2.0
Shared Library Manager PPC	n/a	2.0	2.0
Shortcuts	1.2	1.2	1.2
SimpleText Guide	n/a	n/a	1.0.1
Sound & Display Guide Additions	n/a	n/a	1.0.1
Speech Manager	1.3	1.3	1.3
StyleWriter 1200	n/a	2.1	2.1
ThreadLib	2.1	2.1.2	2.1.2
WorldScript Power Adapter	7.5.1	7.5.2	7.5.2

System Folder:Extensions:Printer Descriptions

LaserWriter	3.2	3.3	3.3
LaserWriter 16/600 PS	n/a	1.0	1.0
LaserWriter 16/600 PS Fax	n/a	1.0	1.0
LaserWriter II NT	3.7	3.7	3.7
LaserWriter II NTX	3.5	3.5	3.5
LaserWriter II NTX v50.5	1.2	1.2	1.2
LaserWriter II NTX v51.8	2.5	2.5	2.5
LaserWriter II NTX-J v50.5	1.5	1.5	1.5
LaserWriter IIf v2010.113	3.0	3.0	3.0
LaserWriter IIf v2010.130	3.1	3.1	3.1
LaserWriter IIg v2010.113	3.0	3.0	3.0
LaserWriter IIg v2010.130	3.1	3.1	3.1
LaserWriter Personal 320	1.10	1.11	1.11
LaserWriter Personal NT	2.8	2.8	2.8
LaserWriter Personal NTR	1.9	1.9	1.9
LaserWriter Plus v38.0	3.7	3.7	3.7
LaserWriter Plus v42.2	3.5	3.5	3.5
LaserWriter Pro 400 v2011.110	n/a	1.1	1.1
LaserWriter Pro 405 v2011.110	n/a	1.0	1.0
LaserWriter Pro 600 v2010.130	1.15	1.15	1.15
LaserWriter Pro 630 v2010.130	1.14	1.14	1.14
LaserWriter Pro 810	1.3	1.3	1.3
LaserWriter Pro 810f	1.3	1.3	1.3
LaserWriter Select 360	1.10	1.10	1.10
LaserWriter Select 360f	1.10	1.10	1.10
LaserWriter Select 610	n/a	1.30	1.30

System Folder:Extensions:Scripting Additions

AGStart	1.0	1.0	1.0
Beep	1.1	1.1	1.1
Choose Application	1.1	1.1	1.1
Choose File	1.1	1.1	1.1
Current Date	1.1	1.1	1.1
Display Dialog	1.1.1	1.1.1	1.1.1
File Commands	1.1	1.1	1.1
Load Script	1.1	1.1	1.1
MonitorDepth	1.0	1.0	1.0
New File	1.1.1	1.1.1	1.1.1
Numerics	1.1	1.1	1.1
Read/Write Commands	1.1.1	1.1.1	1.1.1
Run Script	1.1.1	1.1.1	1.1.1
Set Volume	1.0	1.0	1.0
Store Script	1.1	1.1	1.1
String Commands	1.1	1.1	1.1
Time to GMT	1.1.1	1.1.1	1.1.1

System Folder:Extensions:Scripting Additions:Dialects

English Dialect	1.1	1.1	1.1

System Folder:Extensions:Voices Folder

Albert	n/a	n/a	1.4
Bad News	n/a	n/a	1.4
Bahh	n/a	n/a	1.4
Bells	n/a	n/a	1.4
Boing	n/a	n/a	1.4
Bubbles	n/a	n/a	1.4
Cellos	n/a	n/a	1.4
Deranged	n/a	n/a	1.4
Fred	n/a	n/a	1.4
Good News	n/a	n/a	1.4
Hysterical	n/a	n/a	1.4
Junior	n/a	n/a	1.4
Kathy	n/a	n/a	1.4
Pipe Organ	n/a	n/a	1.4
Princess	n/a	n/a	1.4
Ralph	n/a	n/a	1.4
Trinoids	n/a	n/a	1.4
Whisper	n/a	n/a	1.4
Zarvox	n/a	n/a	1.4

System Folder:Fonts

Chicago	-	-	-
Courier	-	-	-
Geneva	-	-	-
Helvetica	-	-	-
Monaco	-	-	-
New York	-	-	-
Palatino	-	-	-
Symbol	-	-	-
Times	-	-	-

System Folder:Launcher Items

Script Editor (alias)	1.1.1	1.1.1	1.1.1
SimpleText (alias)	1.1.1	1.2	1.2

System Folder:Preferences

System Folder:Preferences:ColorSync Profiles

Apple 12" RGB Standard	1.0.3	2.0	2.0
Apple 13" RGB Standard	1.0.3	2.0	2.0
Apple 16" RGB Page-White	1.0.3	2.0	2.0
Apple 16" RGB Standard	1.0.3	2.0	2.0
Apple 21" RGB Page-White	1.0.3	2.0	2.0
Apple 21" RGB Standard	1.0.3	2.0	2.0
Apple Multiple Scan 17 - 9300	1.0.3	2.0	2.0
Apple Multiple Scan 17 - D50	1.0.3	2.0	2.0
Apple Multiple Scan 17 - D65	1.0.3	2.0	2.0
Apple Multiple Scan 20 - 9300	1.0.3	2.0	2.0
Apple Multiple Scan 20 - D50	1.0.3	2.0	2.0
Apple Multiple Scan 20 - D65	1.0.3	2.0	2.0
Apple Performa Display	1.0.3	2.0	2.0
Apple Performa Plus Display	1.0.3	2.0	2.0
Apple Color SW Pro SN	n/a	1.0.3	1.0.3
Apple Color SW Pro	n/a	1.0.3	1.0.3
Color SW 2000 Series Pattern	n/a	1.0.3	1.0.3
Color SW 2000 Series Scatter	n/a	1.0.3	1.0.3

```
Mac Color Display Standard                  n/a         2.0         2.0

MacintoshHD:
------------
SimpleText                                 1.1.1        1.2         1.2
MacintoshHD:Apple Extras
------------------------
MacintoshHD:Apple Extras:Plaintalk
----------------------------------
Plaintalk                                    n/a        n/a         1.4
MacintoshHD:Apple Extras:Telecom Software
-----------------------------------------
Apple Telecom                                n/a        2.1         1.2
Apple Telecom 2.1 Install                    n/a        2.1         2.1
Geoport Telecom Adapter Read Me              n/a        2.1         2.1
Apple Telecom Disk 1                         n/a          -           -
Fax Software                                 n/a          -           -
MegaPhone                                    n/a      1.0.2       1.0.2
Megaphone                                    n/a      1.0.2       1.0.2
Megaphone Read Me
MacintoshHD:Apple Extras:Sound Input Amplification
--------------------------------------------------
Sound Input Amplification                    n/a        1.0         1.0
Using A Microphone Read Me
MacintoshHD:Apple Extras:Pointer Mode Control Panel
---------------------------------------------------
Pointer Mode                                            1.0          -
Pointer Mode Read Me
MacintoshHD:Apple Extras:Extra Alert Sounds
-------------------------------------------
Basil                                        n/a        1.0         1.0
Bend Me                                      n/a        1.0         1.0
Blue Dust                                    n/a        1.0         1.0
Bye!                                         n/a        1.0         1.0
Dewdrop                                      n/a        1.0         1.0
Jacaranda                                    n/a        1.0         1.0
Natal                                        n/a        1.0         1.0
Ryan's Hope                                  n/a        1.0         1.0
Sheet                                        n/a        1.0         1.0
Solly                                        n/a        1.0         1.0
Transvaal                                    n/a        1.0         1.0
Extra Alert Sounds Read Me                   n/a        1.0         1.0
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Apple Personal Diagnostics 1.1.3 Updater: Read Me

This article contains the Read Me file included with the Apple Personal Diagnostics Updater 1.1.3 program available from online services.
This article has been archived and is no longer updated by Apple.
This file provides step-by-step instructions on how to apply the APD 1.1.3 update to your copy of Apple Personal Diagnostics. There are two parts to updating Apple Personal Diagnostics: both the Apple Personal Diagnostics application and the APD Emergency application need to be updated.

If you have a problem launching one of the updater applications because there is not enough memory, you may want to reboot your machine with extensions turned off. To do this simply hold down the Shift key on your keyboard during the boot process.

Apple Personal Diagnostics

To update the Apple Personal Diagnostics application use the file APD 1.1.3 Updater. This application will update Apple Personal Diagnostics versions 1.1 or 1.1.1 to the latest release version 1.1.3. This document provides the step-by-step procedure on how to update your copy of Apple Personal Diagnostics.

Important: Do NOT use this application to update your original disk! Always work with a copy.

1) Use either the Search button or the Select File button to locate your copy of Apple Personal Diagnostics to be updated. Search will scan your disk automatically and locate any copies of Apple Personal Diagnostics. Select File will present a standard Open dialog which lets you navigate to your copy of Apple Personal Diagnostics.

The file(s) found will then appear in the scrollable area above the buttons.

2) Select the file you want to update from the scrollable list.

3) Click the Update button.

4) Once the update process is complete, a dialog saying "The file has been successfully updated" will appear.

5) Click the Quit button.

Your copy of Apple Personal Diagnostics is now updated to version 1.1.3.

6) Launch the updated copy of Apple Personal Diagnostics to make sure it's working correctly.

If there are any problems you can recover your old copy of Apple Personal Diagnostics from the Trash. If you have updated more than one copy of Apple Personal Diagnostics, there may be multiple copies in the trash. The file name "Apple Personal Diagnostics" is the copy you just updated.

APD Emergency
To update the APD Emergency application use the file APDE 1.1.3 Updater. This application will update APD Emergency versions 1.1 or 1.1.1 to the latest release version 1.1.3. This document provides a step-by-step procedure on how to update your copy of APD Emergency.

Important: Do NOT use this application to update your original disk! Always work with a copy.

1) Locate the correct APD Emergency disk for your computer. Use the instructions that follow to make a copy of this disk.

2) Launch Disk Copy 4.2.

3) Lock your APD Emergency disk and then insert it into your floppy drive.

4) Click on the Read Master Floppy button. Disk Copy will read the files from your disk into memory. When it's complete your disk will be ejected.

5) Now click on the Make A Copy button. Disk Copy will flash the message "Please insert a disk to COPY ONTO". Insert a new blank disk into your floppy drive. (Use a blank disk because anything on this disk will be erased. If the disk has been used previously, a dialog asking if you want to erase this disk will appear.)

6) Click the Duplicate button. When the copy is complete the disk will be ejected.

7) Label the disk appropriately and quit the Disk Copy program.

8) Create a folder on your hard drive called "APDE".

9) Insert the new disk you just created back into the floppy drive.

10) Copy the file APD Emergency from the floppy to the APDE folder on your hard drive.

11) Launch the APDE 1.1.3 Updater application.

12) Use the Select File button to locate your copy of APD Emergency to be updated. Select File will present a standard Open dialog which lets you navigate to your copy of APD Emergency.

The file selected will then appear in the scrollable area above the buttons.

13) Click the Update button.

14) Once the update process is complete, a dialog saying "The file has been successfully updated" will appear.

15) Click the Quit button.

16) Now copy the file APD Emergency from the APDE folder on your hard drive to the floppy still in your floppy drive.

17) When asked if you want to replace the existing file, press OK.

18) Drag the APDE folder on your hard drive into the trash.

Your copy of APD Emergency is now updated to version 1.1.3.

19) In order to verify that the updated copy of APD Emergency is working correctly, boot your computer from the new APD Emergency disk and run the tests. If there are any problems, repeat the above process again.
Published Date: Feb 19, 2012

Apple Personal Diagnostics 1.1.3: Read Me

This article contains the Read Me file included with Apple Personal Diagnostics 1.1.3.
This article has been archived and is no longer updated by Apple.
APPLE PERSONAL DIAGNOSTICS 1.1.3

The purpose of this document is to provide late-breaking information as a supplement to the Apple Personal Diagnostics User's Guide. Please refer to the User's Guide for operating instructions and other important and time-saving troubleshooting tips when using Apple Personal Diagnostics (APD). Also, be sure to fill out and return your software registration card so that Apple can notify you of future upgrades to APD 1.1.3 as they become available.

System Requirements

APD 1.1.3 runs on Apple computers starting with the Macintosh Plus and is fully compatible with system software versions 6.0.7 through 7.5.2 (including Performa system software). Installing and using the Automated Diagnostics functionality of APD 1.1.3 requires that your system is running system software version 7.0 or greater.

What's New

APD 1.1.3 includes the following changes and enhancements:

APD 1.1.3 is required for the recently released Power Macintosh 9500 series computers. If you attempt to run previous versions of APD on any Macintosh with the new PCI-bus architecture (which has replaced NuBus), APD will give false RAM Test results and may crash. Note that APD 1.1.3 will not display PCI-bus information in the "Video and Expansion Cards" window of the System Info screen and will not test VRAM installed in a Power Macintosh computer.

APD 1.1.3 now supports over 140 Macintosh computers. (See the "Computers Supported by APD" file on the Application Disk for a complete listing.)

The two emergency disks included with APD 1.1.3 continue to provide startup and emergency repair software for most Macintosh computers, but not Macintosh computers which require Mac OS System 7.5.1 or 7.5.2. (See "Creating New Emergency Disks" later in this document for a complete list of the exceptions.)

The option settings allowed by APD 1.1.3 (such as turning test selections on or off) are now saved in the preferences file, so that you do not have to reset these options each time you run APD.

APD Emergency 1.1.3 has a new on-screen log window which displays the status and results of diagnostic tests, as well as additional hardware information.

The APD Emergency 1.1.3 bootable disks contain the international version of the Mac OS. When you boot from an APD Emergency disk, the international time and date formats will appear in the on-screen log window.
- Time will be displayed using a 24-hour clock (instead of a 12-hour clock which is more common in the United States). For example, "13:23" is the equivalent to "1:23 pm".
- Dates will be displayed in the DD/MM/YY format (instead of MM/DD/YY). For example, "02/03/95" is equivalent to "March 2, 1995" rather than "February 3, 1995".
If you prefer to use another time and date format, please see "Creating New Emergency Disks" to create an emergency disk using the System Software from Apple Macintosh CD or Disk Tools disk that came with your Macintosh computer.

APD 1.1.3 and APD Emergency 1.1.3 now display the location of duplicate System Folders and corrupted System files found by the System Software test.

APD 1.1.3 now supports file checking and directory structure repair of larger volumes (over 2 GByte).

The System Software test in APD 1.1.3 and in APD Emergency 1.1.3 will now only run once, even if it is selected as one of a suite of tests for looping. This allows more time for tests where looping is effective in finding intermittent problems.

When you launch APD Emergency 1.1.3 from a floppy, the System Software test now deselects the floppy drive by default. (There is generally no reason to run the System Software test on the APD Emergency disk.)

APD 1.1.3 and APD Emergency 1.1.3 System Software test now also checks for duplicate System Folders on non-boot drives.

APD 1.1.3 and APD Emergency 1.1.3 now limits the looping of tests to a maximum of 24 hours.

Installation Instructions

1. Insert the Application Disk into your floppy drive.

2. Drag the APD application icon from the floppy drive onto your hard drive.

3. To install the Automated Diagnostics (System 7 or later only), drag the Automated Diagnostics system extension from the floppy drive onto the closed System Folder of your hard drive. Allow the system software to place the extension in the proper folder (the Extensions folder within the System Folder).

In most cases, you'll want to start up your computer and run APD from your computer's hard drive.

File Sharing Alert

Turn off File Sharing before you start the APD application. If File Sharing is on, you will receive an on-screen alert or see dimmed selection buttons. To switch File Sharing off, go into the Sharing Setup control panel and click on the stop button.

Turn Off Extensions, Applications, and Other Programs

For best results, start your system with all extensions, applications, and other programs off before launching APD (or use an extensions manager to disable extensions at startup).

To turn extensions off, shut down your system, then switch on the system while holding down the Shift key (System 7.0 and later). You should then see a message saying "Welcome to Macintosh, Extensions Off." To perform the equivalent operation on a computer running System 6.0.7 or 6.0.8, please refer to the "Software Remedies" section in the Troubleshooting chapter of the Apple Personal Diagnostics User's Guide.

There is a known conflict between APD and Thunder 7 spell checking software from Baseline Publishing. Before using APD or APD Emergency, use the Thunder 7 control panel to turn off spell checking.

Using the Emergency Disks

This package contains two emergency disks that allow you to perform certain system software repairs and to boot from a floppy disk when you are unable to boot from your system's hard drive. Each disk provides the APD Emergency application, as follows:

APD Emergency Disk 1 is a 1.4 MB bootable startup and repair disk for most Macintosh computers with a 1.4 MB floppy drive released through January 1995 (excluding Workgroup Server 9150 computers, computers in which the Macintosh Processor Upgrade card is installed, and computers requiring System Software 7.5.1 or 7.5.2).

Note: To create emergency disks for these computers see "Creating New Emergency Disks" below.

Note: If you have installed a Power Macintosh Upgrade Card, you can use APD Emergency Disk 1 to start your Macintosh computer with the Power Macintosh Upgrade Card on or off at startup. However, if you have a problem, you may want to reset PRAM first and then use APD Emergency Disk 1 to boot your computer. (Refer to the "Software Remedies" section in the Troubleshooting chapter of the Apple Personal Diagnostics User's Guide for instructions on resetting PRAM.)

APD Emergency Disk 2 is an 800K bootable startup and repair disk providing the APD Emergency application for Macintosh computers that did not originally come with, or were not upgraded to include, a 1.4 MB floppy drive (Macintosh Plus, SE, SE/30, II, IIx, and IIfx computers).

The system software on these disks has been minimized to reduce disk requirements. Do not use the software on these disks to install system software on your computer's hard drive. Also, make copies of the original disks to use when you need to start your computer from an emergency disk, and keep your original disks in a safe place. Please refer to the "Getting Started" section of the Apple Personal Diagnostics User's Guide for detailed instructions on the proper use of these disks.

Creating New Emergency Disks

Workgroup Server 9150 computers, computers with the Macintosh Processor Upgrade card installed, and computers requiring System 7.5.1 or 7.5.2 require different system software from that provided on APD Emergency Disk 1. To make an emergency startup disk for these computers:

1. Insert the Apple Macintosh CD or Disk Tools disk that came with your computer or Processor Upgrade Card. Create a temporary folder named Emergency Disk on your computer's hard drive and copy the System file and the System Enabler file from the Apple Macintosh CD or Disk Tools disk to the Emergency Disk folder. Eject the Apple Macintosh CD or Disk Tools disk.

2. Insert APD Emergency Disk 1 and copy the APD Emergency application to the Emergency Disk folder. Then eject the APD Emergency Disk 1.

3. Format a 1.4 MB floppy disk and label the disk APD Emergency Disk. Optionally, you may want to add your computer's model name to the

label.

4. Copy the System file, the System Enabler file, and the APD Emergency application file from the Emergency Disk folder to the new emergency disk.

5. On the floppy disk, rename the APD Emergency application to Finder. (Changing the application's name to Finder lets you start up using the APD Emergency application instead of the System Finder.)

6. Eject the new emergency disk and lock the disk. Drag the Emergency Disk folder on your computer's hard drive to the Trash and empty the trash (select Empty Trash from the Special menu).

7. Check the new emergency disk you've created to make sure that your system boots correctly and that you can run the APD emergency application from the new disk.

Automated Diagnostics

Installing and running the Automated Diagnostics functionality of APD software requires that your system is running System Software version 7.0 or greater. The startup delay for Automated Diagnostics has been set to 20 minutes (default).

Certain extensions and third-party software programs that perform functions considered to be system activities may prevent Automated Diagnostics from starting up. Also, some third-party utilities may interfere with Automated Diagnostic's operation.

Automated Diagnostics runs in non-native or emulation mode on Power Macintosh computers, so it does not perform an FPU test (since Power Macintosh emulation does not provide FPU functionality).

Automated Diagnostics may erroneously report problems with drives that support removable media, if the media is removed after the Macintosh is booted.

Help Window

The default setting for the Help window is to have it hidden from view. You can activate the Help window from the Windows menu in the Menu bar. Note: In addition to hiding and showing the Help window, you can move it or change its size to suit your preferences.

Accelerator Cards

If you've installed a third-party accelerator card, you may want to remove or disable the card before running APD to avoid possible incompatibilities.

Video Mirroring

Turn off video mirroring before running APD.

RAM Test Conflicts

Turn off virtual memory and disable RAM optimization utility applications before you run APD RAM tests. (Some RAM optimization utility applications cause your system to behave as if virtual memory were on. The virtual memory setting in your system's Memory control panel cannot disable these applications.)

Low-Memory Alerts

APD returns a low-memory alert when it does not have enough memory to run or is running low on memory, for example, if you've created a report that requires more memory than is currently available. To allocate more memory to the APD application, you can do one or more of the following:

If you are using System 7, or System 6 with MultiFinder:

Quit other applications that may be running at the same time as APD.

If you have sufficient RAM installed in your system, quit the APD application, open the APD Get Info box and increase the "preferred" application memory size to 1500K. (The application memory size is initially set to 1200K.)

Close any open report.

Reduce the size of any installed RAM disk and the system RAM cache.

If you are using System 6 with Finder rather than MultiFinder:

Close any open report.

Reduce the size of any installed RAM disk and the system Disk cache.

AppleTalk Zones

Under certain conditions (for example, during periods of heavy network activity) System Information may report an AppleTalk zone to be "Unknown."

System Info and Partitioned Hard Drives

The SCSI Device display in System Info does not provide information on multiple drive partitions. Typically, the display lists the name of a single partition on the drive corresponding to the SCSI device, however, the exact information that appears depends on the software used to partition the hard drive.

Looping the Floppy Drive Test

Running the Floppy Drive test for more than approximately 50 loops can cause the floppy drive to temporarily overheat and induce a test failure.

Power Macintosh Upgrade Cards

Basic Info identifies the CPU type as Power Macintosh when a computer with a Power Macintosh Upgrade or Macintosh Processor Upgrade card is operating in "Power Macintosh" mode; however, the card does not appear in Video and Expansion Card Information displays.

Creating Report Log Files

Using APD 1.1.3, you can create log files and then reload them later to compare with updated reports. Due to changes in the information included in reports, APD 1.1.3 cannot read log files created by APD 1.0.

Basic Info Reporting of Startup Devices

Basic Info lists the startup device selected in the Startup Disk control panel when APD was launched. If no device is selected in the Startup Disk control panel, or if you've disconnected (or unmounted) the original startup device, Basic Info will not reflect the current setting or may report it as an unknown device.

If you run System Software Check on the boot disk before you run System Info, then the Basic Info screen may report the startup device as an unknown device.

Benchmark Check Results

The results you get from running Benchmark checks may vary, depending on a range of different factors (see the User's Guide for more information). Therefore, you can obtain more accurate and consistent comparisons if you run Benchmark checks several times, and then average the results.

The results of the Individual Checks reflect the true speed of your system compared to a Macintosh computer chosen by you from the pull-down menu. The Overall Check graph, on the other hand, is a performance ratio that uses a relative scale of zero to 150 (or zero to 2000 on a Power Macintosh), where a Macintosh Plus equals 1. For example, if the score for your computer is 80, then you can infer that, overall, your computer is 80 times faster than a Macintosh Plus. All scores are relative to a Macintosh Plus.

Benchmark results may be affected by currently active applications and whether you are using FPU emulation software, video mirroring, accelerator cards, virtual memory, RAM optimization utilities, etc. Turn off all of these items before running APD to obtain more accurate and consistent results from the Benchmark checks.

On Macintosh Centris AV and Quadra AV computers, there is a known conflict between the Benchmark FPU checks and Express Modem software. Disable the Express Modem extension before running Benchmark checks.

Display Patterns

For a PowerBook with an external display, the Display Patterns Test uses patterns designed for an LCD display on the external monitor, rather than the specific patterns that would otherwise appear.

When using System 7.5 or third-party clock utilities, the clock may appear when test patterns display on your screen. The clock does not affect the operation of the Display Patterns checks.

TA34184_Apple_Personal_Diagnostics_Read_Me_(TIL18303).pdf

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Apple Media Kit: Spinning Cursor Issue on Power Macintosh

When I launch an Apple Media Tool (AMT) project on a Power Macintosh 7200, 7500, 8500, or 9500 running System 7.5.2 with a PowerPC 604 processor, it crashes with a Type 11 error or I get a spinning cursor and the machine hangs.

This same hang occurs with my finished project when launched from its CD-ROM disc.
This article has been archived and is no longer updated by Apple.
At this time, there are different solutions for what is known as the "AMK Spinning Cursor Bug" depending whether you are a user or developer. The solutions have been posted to Apple Online SW Update areas.

This issue can occur when a media application created with the Apple Media Tool is run on any Power Macintosh or PowerBook computer with System 7.5.2. The symptom is you have just clicked to go to a new screen (or launched an AMK (Apple Media Kit) program) and the computer hangs. The problem is caused by the spinning color cursors that AMK uses to indicate that processing is occurring.

The three solutions below address different audiences:

Solution 1 - for developers

Developers with existing titles should distribute the "AMK Launch'NPlay" application to customers who report crashes. Double-click the AMK Launch'NPlay application to use it, you will then be prompted with a standard get-file dialog. Navigate to your AMK application and open it. The title will be launched and will not crash -- you will notice there are no spinning cursors. You must use AMK Launch'NPlay to open a title EVERY TIME you want to play it. AMK Launch'NPlay will not run on non-PowerPC-based computers because it is only required for PowerPC-based computers.

Solution 2 - for developers

If you are an Apple Media Tool developer currently working on titles, use the "PROGRAM" file from the Apple Online SW Update areas. This is a replacement for one of the files in the AMT:Runtime Maker:CODES folder. Drag this new version to the folder and replace the old PROGRAM. Rebuild any titles you are currently working on.

Solution 3 - for programmers

If you are an Apple Media Tool Programming Environment user, replace the cursor.c file in your key:RUNTIME folder with the one from the Apple Online SW Update areas.

Solution 4 - for end users

If you are trying to use a media title such as a CD-ROM disc, and you are experiencing the symptoms described above on a Power Macintosh computer, download the AMK Spinning Cursor Bug Fix available from online services. Double-click the included AMK Launch'NPlay application to use it, you will then be prompted with a standard get-file dialog. Navigate to your AMK application and open it. The title will be launched and will not crash, you'll also notice there are no spinning cursors. You must use AMK Launch'NPlay to open a title EVERY TIME you want to play it.

Please contact AppleLink: DEVSUPPORT if you experience any problems with any of these solutions.

These articles can help you locate the software update mentioned here:

- Article 14724: "**Where To Find Apple Software Updates**" - Lists online services for free Apple software updates.
- Article 16332: "**US Apple SW Updates Available Online**" - An index to USA Apple Software Updates showing the current software location on the Internet.
- Article 17664: "**WW Apple SW Updates Available Online**" - An index to International Apple Software Updates showing the current software location on the Internet.

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AppleShare Client for Windows: Fax Through Ethernet

Is it possible to fax from a PC running AppleShare Client for Windows to a LaserWriter 16/600 PS through an Ethernet card?
This article has been archived and is no longer updated by Apple.
No. Faxing is done via the PSFax software, that ships with the LaserWriter 16/600 PS, which looks for a serial or parallel port.
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AppleShare Client for Windows: Intel Ethernet Pro Card Issue

This article describes an installer issue on PCs which have the Intel Ethernet Pro Card.
This article has been archived and is no longer updated by Apple.
During the installation process, if the workstation has an Intel Ethernet Pro network interface card, the installer omits a necessary parameter for the AARP protocol. This necessary parameter is the network number. Manually edit the NET.CFG file and insert the 80F3 address as follows:

The affected line reads:

PROTOCOL AARP ETHERNET_SNAP

It should read:

PROTOCOL AARP 80F3 ETHERNET_SNAP
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400K Drive Problem/Cure: Fails to Read/Write or MacTest

PROBLEM DESCRIPTION: When running MacTest with a 400K drive the test says that the drive has failed.

CAUSE: Possible incompatability between the drive and the boot ROM on the Macintosh. There are two revisions of stepper motors for the Macintosh 400K drive.

One of them, is compatible with any rev of ROM on the Macintosh.

The other is not compatible with revision A. It is only compatible with revisions B or later.

This article has been archived and is no longer updated by Apple.
CURE:

1. Remove the drive case and examine the drive mechanism. Locate the label on the drive's stepper motor. If the label is circular and on the flat end of the stepper motor facing the rear of the drive, then the stepper motor is compatible with any rev of Macintosh boot ROM and if the drive fails MacTest, it should be replaced .

2. If the label is square and on the curved part of the stepper motor, then you need to check the ROM in the Macintosh to make sure it they are revision B or later. A square labelled stepper motor is not compatible with revision A ROM in the Macintosh. If the customer's Macintosh has revision A ROM installed, install revision B ROM to make it compatible with the disk drive.

If this cure does not solve the problem, go to the Technical Procedures to obtain a general troubleshooting procedure for this product.

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MacX 1.5: Product Description (9/95)

This article describes MacX 1.5.
This article has been archived and is no longer updated by Apple.
MacX software from Apple Computer delivers high-performance X Window computing for Macintosh and other Mac OSbased systems. This easy-to-use software helps increase users' productivity by enabling them to run both Macintosh applications and network-based X client applications on one Macintosh computer.

MacX enables a Mac OSbased computer to act as an X Window System display server. It supports the latest widely adopted standard for the X Window System: Version 11, Release 5 (X11R5). MacX 1.5 is optimized for accelerated performance on Power Macintosh computers while maintaining high performance on 680x0-based Macintosh systems.

With MacX, software developers, engineers, scientists, higher-education faculty and students, support personnel, and other users can access the rich application and development environments of network-based UNIX and VMS systems without sacrificing the productivity of the Mac OS environment.

With MacX, you can run X Window applications including OSF/Motif, OpenLook, and DECWindows programs at the same time as your familiar Macintosh applications. And MacX extends popular Macintosh features to the X Window System. For example, you can customize the software so that you can launch frequently used X Window applications simply by choosing commands from pull-down menus.

Support for multiple network protocols allows MacX to use all major X Window protocols, including TCP/IP, DECnet, and AppleTalk.

Features

Compatibility
Support for X11R5
Access to all X Window client applications, including OSF/Motif, OpenLook, and DECWindows
Seamless integration between Macintosh and X Window applications
Extensive font capabilities including font server, XLFD, and R6 font support
Support for login via xdm/xdmcp or rsh/rexec

High performance
Accelerated for Power Macintosh systems
Industry-standard Backing Store/Save Under capabilities

Ease of use
One-button installation
Full support for Macintosh System 7 user-interface features
Ability to copy and paste text and PICT files between X Window and Macintosh applications
Customizable pull-down menus

Article Change History:
22 Sep 1995 - Revised with current information.

Support Information Services
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System 7.5 Update: Startup Chime is Too Loud (8/95)

I just upgraded my Macintosh computer to System 7.5.1. Now when I restart the startup chime is extremely loud.
This article has been archived and is no longer updated by Apple.
The System 7.5 Update 1.0 sets the alert volume to maximum during installation. Follow these steps to lower the alert volume:

Step 1

Under the Apple menu, choose Control Panels.

Step 2

Double-click on the Sound control panel.

Step 3

From the pull down menu, choose Volumes.

Step 4

Use the slider bar to adjust the sound to a desired level.

If you have a Macintosh Centris/Quadra 660AV or Quadra 840AV, some system alert sounds may not play correctly with the Alert Volume turned down. In these cases you will have to keep it at full volume.

Support Information Services
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Finder: Black Apple Menu and Colored Desktop? (8/95)

My Apple in the upper left corner of my menu bar is black. The rest of my desktop is in color. What is wrong?
This article has been archived and is no longer updated by Apple.
This happens on Macintosh computers that can support 16, or 24 bit color. If you select the grays radio button in the Monitors control panel, the Apple will display solid black because of guidelines for displaying the Apple logo.

The reason that the rest of the screen is not in shades of gray, is because in addition to having selected grays, you have also set the control panel to either thousands or millions of colors. Since there are only 256 grays available to the system, everything over the 256 grays is displayed in color.

Support Information Services
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Pointer Mode Control Panel: ReadMe File (11/95)

This article contains the Read Me file for the Pointer Mode control panel that ships with System 7.5.2 on Power Macintosh 7200 computers.

This article has been archived and is no longer updated by Apple.

Including the Pointer in Screen Captures

If you take a screen shot and the pointer does not appear in the captured graphic, you can use the Pointer Mode control panel to ensure that the screen-capture program includes the pointer.

To install the Pointer Mode control panel, follow these steps:

1. Drag the Pointer Mode control panel icon to the System Folder icon on your hard disk (do not open the System Folder).

2. When a message appears asking if you want the control panel placed in the Control Panels folder, click OK. Your computer recognizes that this is a control panel and automatically places it in the Control Panels folder.

To use the Pointer Mode control panel:

1. Open the Apple menu and choose Control Panels.

2. Double-click the Pointer Mode control panel to open it.

3. Click the checkbox to set the pointer to standard mode.

If you find that the pointer flashes a lot when you place it over graphics, you may want to use the Pointer Mode control panel to turn off standard mode.

Article Change History:
22 Nov 1995 - Updated title
20 Nov 1995 - Reviewed for technical accuracy.

Support Information Services

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Power Macintosh 7500/8500: ReadMe File

This article contains the Read Me file that came with the Power Macintosh 7500 and Power Macintosh 8500 computers.
This article has been archived and is no longer updated by Apple.
Important Information About Your Power Macintosh 7500 or 8500

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Reconnecting to a Server

If you unexpectedly lose a connection to a server on which you have items in use, and then choose the server from the Recent Servers item in the Apple menu once power is restored, you get a message that the disk could not be opened because you do not have enough access privileges.

Before you can reconnect to the server, you must close any open files. If you need to save work in a file, use Save As to save it on a different disk.

Software for the GeoPort Telecom Adapter

For Power Macintosh computers, the software necessary to use the GeoPort Telecom Adapter is Apple Telecom software version 2.1 or later. Apple Telecom 2.1 is included in the Apple Telecom folder within the Apple Extras folder, and on the Power Macintosh CD.

The Apple Telecom folder also contains MegaPhone 1.0.2, a screen-based telephone application that supports the telephone capabilities of the Apple Telecom 2.1 software, including dialing from a graphical keypad, copying and pasting telephone numbers, and dragging and dropping business card information.

If you previously purchased the Apple Telecom 2.0 upgrade package or a Geoport Telecom Adapter Kit that included Apple Telecom 2.0, you also received SITcomm SE/GTA (a terminal emulation program). SITcomm is compatible with the Power Macintosh 7500 and 8500 series computers.

If you are using a GeoPort Telecom Adapter with Apple Telecom 2.1 software, be sure to disable LocalTalk. To do this, disconnect any devices attached to the printer port (except serial printers, which can remain attached).

Apple Telecom 2.2 is available as part of the GeoPort Telecom Adapter Kit, which can be purchased separately. The kit includes MegaPhone as well as SITcomm SE/GTA. Apple Telecom 2.2 along with MegaPhone (but without SITcomm) will also be available as a free upgrade on CompuServe, America Online, and all Apple Internet sites.

Using an AudioVision 14 Monitor

It is recommended that you use the buttons on the front of the monitor, instead of the AudioVision control panel, to adjust sound and picture. See the AudioVision 14 Display user's guide for instructions on using the buttons.

About Video Capture

For best video capture performance, you need at least 16 megabytes (MB) of random-access memory (RAM) installed in your computer.

You can increase the speed of video capture by taking one or more of the following actions:

* Turn off virtual memory (VM).
* Set the screen bit depth to millions of colors.
* Reduce the size of the capture window (320x240 and smaller are the best sizes).
* Make sure that your capture program has enough extra memory allocated for one second of video at the size and bit depth that you are using to record. For example, to record 30fps at 320x240 in millions of colors requires at least 4500K (4.5 MB) free in the application partition. About This Macintosh (located under the Apple Menu) will allow you to estimate memory usage.

* Do not allocate all of the available memory to the capture application. When your capture program is running, you should have an unused block size of at least 500K in About This Macintosh.
* Do not run programs other than the capture application while capturing video. If feasible, turn off AppleTalk, the menu bar clock, and all extensions except for QuickTime. (Use the Extensions Manager control panel and restart.)
* Make sure that your hard drive has enough free space to record and is not fragmented. If you notice a performance degradation, running a disk optimizer may help.

When working with applications that support adjusting video and sound settings, the following settings will allow the highest video capture performance:

* Use the Component Video video compressor. Do not use post-compression.
* Set sound input sampling to 16 bits, stereo, and 44.1 KHz. Do not use a sound compressor.

Troubleshooting

Energy Saver Control Panel

Do not remove the Energy Saver extension from the Extensions folder. If you remove it, you cannot turn off any energy-saving features the control panel is currently set to provide, such as automatic sleep or shutdown.

AppleShare Displays Incorrect Information for Large Drives

If you use File Sharing to connect to a disk attached to another computer, and the shared disk is larger than 2 gigabytes (GB), the Get Info box for

that disk shows an incorrect size. (Get Info reports the disk to be 2 GB in size, even if it is larger.)

AppleShare Server Software version 4.1

If you purchase AppleShare server software version 4.1, make sure to choose Custom Install (instead of Easy Install) when you install it.

*** Note: The following is not included in the original ReadMe file:
We do not recommend using version 4.1 or earlier of AppleShare Server Software on the Power Macintosh 7500 & 8500. Version 4.1 is intended only for Apple Workgroup Servers, and earlier versions will not work. At the time of this writing Apple does not recommend using a PCI based Macintosh as an AppleShare Server.***

Printing With Apple PhotoFlash

If you have problems printing images with the PhotoFlash software, make sure that you choose a printer in the Chooser before you choose the Print command from the File menu.

PowerTalk and PowerTalk Direct Dialup Mail

If you use PowerTalk Direct Dialup Mail and have trouble sending a fax, it may be because both Direct Dialup and STF PowerFax PE are set to auto-answer. To turn off STF auto-answer, open the STF Setup window and set 'n' to "never" (in the "Answer on 'n' rings" section).

Using a RAM disk

If your computer has 8 megabytes of RAM (random access memory), and you wish to set up a RAM disk, allocate no more than 544K to the RAM disk. Otherwise, when you start your Macintosh you may see the message, "This disk is unreadable by this Macintosh. Do you want to initialize the disk?" (Important: This message applies to the RAM disk, not to your hard disk, which will not be initialized.)

Using Virtual Memory

A maximum of 1,000 megabytes of disk space can be used as virtual memory. If your hard disk has additional disk space available, the amount over 1,000 megabytes cannot be used as virtual memory.

The Assistant Toolbox and Non-Networked Printers

The Print Later option (LaserLaser) of the Assistant Toolbox extension is not compatible with some non-networked PostScript printers. If you have the Assistant Toolbox extension installed on your computer and you want to print with a non-networked printer, you may want to turn off the Assistant Toolbox extension.

For example, if you want to print with a LaserWriter Select 310 printer, you need to turn off the Assistant Toolbox extension (in the Extensions Manager control panel) to be able to use the Print Later option.

Japanese and Chinese Language Kits

To use the Japanese Language Kit with your Power Macintosh, make sure you use version 1.2 or later. In the United States, you can obtain upgrade information in the Mac OS section at **http://www.apple.com/products**.

To use the Chinese Language Kit with your Power Macintosh, make sure you use version 1.1.1 or later. To install the Chinese Language Kit version 1.1.1, first install the WorldScript Updater 1.0. Then install the Chinese Language Kit version 1.1. Finally, install the Chinese Language Kit Updater to update your software to version 1.1.1.

Apple Personal Diagnostics

To use Apple Personal Diagnostics (APD) on this Power Macintosh computer, you should upgrade to APD v1.1.3 or greater. An upgrade patch for owners of APD v1.1 and APD v1.1.1 is available on online services and AppleLink.

If you run the Logic Board tests in APD v1.1, your computer may freeze and need to be restarted; or APD v1.1 may falsely report a logic board error when none has actually occurred. APD v1.1.1 and v1.1.3 correct these Logic Board test errors. APD v1.1.3 also corrects a reporting error regarding processor speed in the System Info/Basic Info screen.

***Note: This note is not in the original Read Me file.
Apple Personal Diagnostics 1.1.3 is not supported on the Power Macintosh 7500 or 8500 computers. As of the modification date of this article, the Power Macintosh 9500 is the latest released computer supported by Apple Personal Diagnostics. Apple has no plans to support the Power Macintosh 7500 or 8500 in future releases of APD.***

QuarkXPress

To use QuarkXPress with System 7.5.2 on a Power Macintosh, you must upgrade to QuarkXPress version 3.3.1 or later.

Incorrect Balloons for Guide File Icons

System 7.5.2 includes Apple Guide documents, which provide the on-screen instructions and other information that help you use your computer. However, if you turn on Balloon Help ?by choosing Show Balloons from the Guide (question mark) menu?and point to a Guide file icon (any icon with the Guide question mark on it) on the hard disk, the balloon may give you the wrong information about where the file belongs or what you can do with it. To avoid being misled by incorrect balloons, follow the guidelines below:

* Leave Guide files where they are. Some Guide files (for example, the Guide file named "Macintosh Guide") belong in the Extensions folder. Other Guide files do not belong in the Extensions folder?and will not work if they are put there.

* Keep application programs that have Guide files in the same folder as the Guide file. For example, keep the file named "File Assistant Guide" in the same folder as the File Assistant program. If you move a Guide file that belongs with an application program, you won't be able to get help while using the program.

Screen Flashes at Startup

You may see the screen flash during startup of your Power Macintosh. The flash is normal. It occurs because software needed to use the monitor is being loaded.

StyleWriter and StyleWriter II Printers

If you use a StyleWriter or StyleWriter II printer with your Power Macintosh, use the StyleWriter 1200 printer software (called a "printer driver"). Do not install your older StyleWriter driver; it is not compatible with Power Macintosh computers. For more information about choosing a printer and printing, choose Macintosh Guide from the Guide (question mark) menu, and choose the Printing & Fonts topic area.

Presenting QuickTime Movies at Double Size

Using MoviePlayer 2.0, you can play a movie at double (2X) size. You cannot present a movie (that is, play the movie on a second monitor) at double size. Presenting a movie at 2X size results in the MoviePlayer application quitting without warning.

Important Information About Virtual Memory

Virtual memory (VM) is a feature of the Macintosh that lets you use part of your hard disk as additional memory. If you are using an application program designed especially for Power Macintosh computers (often called a "native" application program), turning on virtual memory may help you avoid running out of memory.

Your computer comes with virtual memory turned on. With virtual memory turned on, a Power Macintosh program uses less memory than when virtual memory is turned off. If you check the program's Get Info box before and after turning on virtual memory, you'll see that the numbers in the Memory Requirements box change. That is because turning on virtual memory allows the program to use memory more efficiently.

If you notice performance problems (such as your computer's responses seeming unusually slow) using certain application programs, you may want to turn off virtual memory. For information on how to turn virtual memory on and off, choose Macintosh Guide from the Guide (question mark) menu, and click the Memory topic area. Then click "How do I use hard disk space as memory?" and "How do I manage Power Macintosh memory?"

For best performance, try setting virtual memory to no more than 150% of the memory (RAM) installed in your computer, or no more than 50% of your currently available hard drive space, whichever number is lower. For example, if your computer has 16 MB of RAM and your hard drive has 50 MB of available space, set virtual memory to a maximum of 24 MB (this is 150% of your 16 MB of RAM, and less than 50% of the available space on your hard drive).

To improve performance, you can also add memory (RAM) to your computer. See the user's manual that came with your computer for more information.

Important Information About Document Auto-Save

The Energy Saver control panel that comes installed on the Power Macintosh 7200 contains a feature named "Document Auto-Save". The purpose of this feature is to automatically quit all open applications during an idle or scheduled shutdown, while saving changes to any open documents in each application. Since there are literally thousands of applications available for the Macintosh (with new ones always arriving), we

cannot guarantee that Document Auto-Save will be compatible with every application. This is especially true for any application that does not use standard routines to implement the alerts or dialog boxes used to save changes to new or modified documents. When an application is incompatible with Document Auto-Save, it will either not automatically quit, or it displays alerts or dialog boxes which Document Auto-Save does not recognize and therefore does not dismiss.

If you intend to turn Document Auto-Save on, we recommend that you monitor its operation during the first attempted idle or scheduled shutdown and note if any of your applications are not compatible. You can avoid problems with incompatible applications simply by making sure you leave no documents open that are new or modified before an idle or scheduled shutdown is to occur. Alternatively, you can modify the Document Auto-Save preferences in the Energy Saver control panel to sleep instead of shutting down when unsaved documents are open.

For more information about Energy Saver & Document Auto-Save, choose Macintosh Guide from the Guide (question mark) menu, and choose the Power & Energy Saving topic area. Below are some additional helpful tips.

Reopening Auto-Saved Documents

Document Auto-Save will automatically reopen a maximum of 10 documents per application when starting up after a scheduled or idle shutdown. If more than 10 documents were saved for any application during the idle or scheduled shutdown, the additional documents must be reopened manually.

Other Document-Saving Products

There are conflicts when non-Apple document-saving control panels or extensions are used in conjunction with Energy Saver's Document Auto-Save. Examples of such products are NowSave and SuperBoomerang. For best results, use the document-saving features of only one control panel or extension.

Applications That Auto-Save

Document Auto-Save performs more quickly and efficiently if you have enabled auto-saving in the applications that support it. For example, Microsoft Word has an option available that will save your changes at pre-determined time intervals. It is recommended that you take advantage of application auto-saving whenever possible.

RAM Disks

Do not choose a folder on a RAM disk for auto-saving untitled documents unless you have installed a product which preserves the RAM disk contents before shutdown. Otherwise, your auto-saved documents will be lost when an idle or scheduled shutdown occurs.

Self-Dismissing Dialogs

Under some rare conditions, the Energy Saver control panel may continuously dismiss dialog boxes if the Document Auto-Save feature unexpectedly fails during an idle or scheduled shutdown. (Whenever a dialog box appears, it is dismissed as if you have pressed the Return key.) To return things to normal, simply click the mouse button or press the space bar.

Stickies Windows

If you are using the Document Auto-Save feature of the Energy Saver control panel, and you have any Stickies notes open during an idle or scheduled shutdown, an extra carriage return is inserted in the active (frontmost) Stickies note window. No other Stickies windows will be affected.

Important Information About Macintosh PC Exchange

Apple File Exchange and Macintosh PC Exchange

The Apple File Exchange software is not compatible with Macintosh PC Exchange and should not be used while PC Exchange is installed. Version 2.0 of PC Exchange contains an easier method for accessing DOS and Apple II ProDOS disks on a Macintosh.

AutoDoubler

To use AutoDoubler with Macintosh PC Exchange, you must first open the AutoDoubler control panel and turn off the "Show DD on Compressed Files" option from the DD menu.

Compressed PC Disks and Files

Macintosh PC Exchange does not work with DOS-format floppy disks or SCSI hard disks that have been compressed using Stacker or other DOS or Windows disk-compression utilities. Before transferring compressed DOS files to a Macintosh, you must decompress the files and save

them to a noncompressed DOS-format floppy disk.

Working With Disks Containing Multiple Partitions

If a SCSI hard disk or removable media cartridge has been formatted to contain multiple partitions, you can use PC Exchange to mount the Macintosh-, DOS-, or ProDOS-format partitions as individual volumes on the Macintosh desktop. If the disk contains both Macintosh- and DOS-format partitions, PC Exchange will recognize only the Macintosh partition. In addition, PC Exchange will recognize ProDOS-format partitions only on SCSI hard disks that are less than 32 megabytes.

You can use PC Exchange to erase existing individual partitions on a SCSI hard disk or removable media cartridge if they have the same format. However, you cannot use PC Exchange to reformat and resize individual partitions contained on the disk. Nor can you format a Macintosh-format hard disk or removable media cartridge as a DOS-format disk. To resize or reformat multiple Macintosh, DOS, or ProDOS partitions, you need to use third-party software designed for partitioning hard disks and removable media cartridges.

Working with DOS-Format SCSI Removable Media Devices

In order for PC Exchange to recognize any SCSI removable media device, you must turn on the device and eject any cartridges before you turn on your Macintosh computer.

Do not install the device driver software that came with your removable media device. Instead, open the PC Exchange control panel, click the Options button, select your SCSI device from the list, and then restart your Macintosh. PC Exchange will install its own device driver for that SCSI device.

The Eject Disk command is unavailable when you are working with removable media devices. To unmount and eject a removable media cartridge, drag the device's icon to the Trash. Once the device has spun down and the red light goes out, you can manually eject the cartridge from the drive. To access a removable media cartridge that has been ejected, simply reinsert the cartridge in the drive.

When initializing and formatting Bernoulli and SyQuest cartridges on a DOS or DOS-compatible computer, use the disk setup and partitioning software that came with the SCSI controller card installed in your PC or that came with your Bernoulli or SyQuest device. (Do not use the MS-DOS FDISK command.) Also, use the MS-DOS FORMAT command to format a newly initialized removable media cartridge on a DOS or DOS-compatible personal computer (PC) before you copy DOS files onto it.

When you initialize a removable media cartridge on a DOS or DOS-compatible PC, you must fully partition, initialize, and erase the cartridge using the software that came with your SCSI controller card or removable media drive. If you do not, PC Exchange may not recognize the new DOS-format partitions on that cartridge.

Working with DOS-Format SCSI Hard Disk Drives

In order for Macintosh PC Exchange to recognize a SCSI hard disk drive, you must turn on the drive before you turn on your Macintosh.

Do not install the device driver software that came with your removable media device. Instead, open the PC Exchange control panel, click the Options button, select your SCSI device from the list, and then restart your Macintosh. PC Exchange will install its own device driver for that SCSI device.

When initializing and formatting an external SCSI hard disk connected to a DOS or DOS-compatible PC, use the MS-DOS FDISK command or the disk setup and partitioning software that came with the SCSI controller card installed in your PC. In addition, you should use the MS-DOS FORMAT command to format and erase the disk before you copy DOS files to a new SCSI hard disk connected to a PC.

Tips and Problems

* A "Sad Mac" icon may appear on your Macintosh screen at startup if a removable media cartridge has been left in the drive. To keep this problem from occurring, manually eject removable media cartridges from their drives before you turn on your Macintosh.

* Macintosh PC Exchange cannot recognize SCSI hard disks, removable media devices, or drive container files that contain more than one gigabyte of disk space.

Important Information About Open Transport Networking

MacTCP

After you install new networking software on your hard disk, if you have problems with TCP/IP applications, look in the Control Panels folder for

a MacTCP file. If one is there, remove it from the Control Panels folder and restart your computer. Each time you install new networking software, you may want to verify whether or not the software's installer also installed MacTCP, and follow this procedure.

Application Compatibility Comments

FTPd: Application currently is experiencing sporadic failures with TCP/IP MacTCP compatibility. These failures are rare and generally do not result in loss of data or other problems.

MacTCP Watcher, TCP/Connect II, MacTCP Switcher, and Anarchie are applications that are known to be incompatible with Open Transport. Developers are revising their products to be compatible with Open Transport.

Timbuktu works only with AppleTalk using Open Transport.

Eudora: Open Transport supports commercial version 2.11 and shareware version 1.5.1 of Eudora.

FileMaker Pro TCP/IP networking throughput is noticeably slower than with classic MacTCP.

NFS/Share for large file transfers must have a blocksize of 16K or smaller.

TCP/IP LAP (Link Access Protocol) Support Caveats

Only the following MacTCP Link Access Modules are supported: "InterSLIP", "InterPPP", "InterPPP II", "TCP/IP PPP", "MacSLIP", and "MacPPP".

Open Transport does not support SLIP and/or PPP connections occurring automatically when the networking application is executed with the currently available MacTCP Link Access Modules (e.g. MacPPP, InterSLIP, InterPPP, MacSlip). SLIP/PPP connections must be started up using the 3rd-party-supplied control panel before running the TCP/IP application.

InterSLIP: Version 1.0.1 is not compatible with Open Transport, you need a later version. InterCon should be contacted directly.

InterPPP 1.2.9: May crash when receiving a large graphic file via HTML readers.

MacSLIP 2.0.6: Connect at System Startup doesn't work.

MacPPP: MacPPP versions 2.0.1, 2.0.1 cm4, and 2.1 SD exhibit incompatibilities with Open Transport in opening connections. Future versions (e.g. MacPPP 2.2.0) will address this incompatibility. The MacPPP "Open" button does not work; the only way to open a connection is by opening a TCP/IP application. However, Open Transport might time-out before the completion of the connection so that it cannot get the correct IP address from the LAP. After disconnecting MacPPP, you must restart your Macintosh in order to connect again.

Once a TCP/IP application is opened over a SLIP or PPP LAP, you cannot use another SLIP or PPP LAP without restarting the Macintosh.

When a SLIP or PPP LAP is selected in the TCP/IP control panel, and "Manually" is selected in the Configure pop-up menu, the value of the IP address entered in this control panel is ignored by Open Transport. If you are assigned a static IP address by your SLIP or PPP provider, you should set it in the LAP configuration program. If your IP address is assigned dynamically, you should configure the LAP configuration program for dynamic addressing.

PowerShare Mail Server

There is a known compatibility problem between Open Transport and version 1.0 of the PowerShare Mail Server. If you set up the PowerTalk Universal Mailbox to read mail on the same machine on which the PowerShare Mail Server is running, the Mail Server may crash some time later, usually on shutdown. The workaround is to use another machine to read mail. This problem will be fixed in PowerShare Collaboration Servers version 1.1.

Published Date: Feb 19, 2012

LaserWriter 16/600 PS: Legal Size & QuickDraw GX 1.1.3 (5/96)

When trying to print legal size documents from the manual feed or multi-purpose tray on a LaserWriter 16/600 PS using QuickDraw GX 1.1.3, the document is getting cut off at 11 inches (letter size); where part of the top and three inches from the bottom are not printed. To some, it may appear that the image is moved up the page.

This article has been archived and is no longer updated by Apple.

This problem has been duplicated and reported to engineering. Setting the Multi-purpose tray for Legal-sized pages using the Apple Printer Utility will resolve this issue, however, LaserWriter GX doesn't realize that the tray has been set for Legal. When printing, this results in a dialog stating that it can't find a Legal-sized tray. Selecting "Manually feed all US Legal pages" will print the page correctly.

To set the Multi-purpose tray for Legal, launch the Apple Printer Utility, open a printer, select "Job Defaults," then "Paper Handling." Select "Legal" from the pop down menu for "Default paper size for Multipurpose Tray."

Setting the Multi-purpose tray for Legal-sized paper does not affect printing Letter-sized documents from the same tray.

This problem does not occur using the standard LaserWriter 8.x driver.

Article Change History:
31 May 1996 - Updated for QuickDraw GX 1.1.3
08 Aug 1995 - Removed misleading information.

Published Date: Feb 19, 2012

AppleVision 1710AV Display: Power Light Not Visible (8/95)

My AppleVision 1710AV display has an image on the screen, but the power light does not appear to be on. If I am sitting directly in front of the AppleVision 1710 AV monitor, I can see the power light. If I move my head more than 30 degrees in any direction, I cannot tell if the light is on.

This article has been archived and is no longer updated by Apple.

This is a common problem with some plastic lenses that cover LED power indicators. Some lenses refract light better than others, resulting in a greater angle of view from the side. On the AppleVision 1710 AV display, the plastic lens has an angle of view of about 60 degrees.

Article Change History:
17 Aug 1995 - Made minor grammatical changes.

Support Information Services
Published Date: Feb 19, 2012

Color Laserwriter 12/600 PS: Cost Per Page

What is the cost per page on the Color LaserWriter 12/600PS printer?
This article has been archived and is no longer updated by Apple.
The exact cost per page depends on the percentage of black and color coverage you want. Below is a chart containing some sample page coverage amounts with the estimated street price for consumables factored in.

Type of Printout	Page Coverage	Cost per page
Black & White	5% (Typical business letter)	$.03 US
Black & White	7.5% (Informal letter)	$.05 US
Color	20% (Typical proposal including a chart, a small graphic, and text)	$.13 US
Color	58% (Complex desktop publishing page)	$.35 US
Color	77% (Presentation page with a large photo or background, graphic, and text)	$.46 US

Costs may vary. The color blue is made from different percentages of cyan and magenta. If a file contains blue instead of cyan, the cost is higher as more magenta is applied. There is no 100% coverage information since 100% of all colors would produce a solid "muddy" brown/black page.
Published Date: Feb 19, 2012

Macintosh Problem/Cure: Sporadic Loss of Parameter Memory

PROBLEM DESCRIPTION: The problem Macintosh is at least 2 years old and begins to sporadically use the paramaters set into its parameter memory.

CAUSE: The Macintosh's battery is only designed to last two years and may be losing its charge.

This article has been archived and is no longer updated by Apple.
CURE: Check the Macintosh's serial number for the below date information.

Typical serial number = F4325HR
F = Built in Fremont
4 = The last digit of the year built. In this case 84
32 = The week of production. In this case the 32nd week in 1984
5HR = Information is not necessary for this article.

IMPORTANT: If you replace the battery, make sure that you record the date on a sticker or something. Then two years from the date you replaced the batteries, the troubleshooter will be able to determine the date when those batteries were installed.

If this cure does not resolve the problem, go back to the Word Search screen and search on the product's name and HTS and GTS to obtain a General Troubleshooting procedure.

Published Date: Feb 19, 2012

Megaphone for Performa: Cannot Dial Long Distance

When using MegaPhone to dial long distance on a Macintosh Performa 6200 series computer, there is a ring, then silence, then a short sound, then silence, and then a busy signal. Finally, an error dialog box appears. This happens repeatedly whenever we try to dial long distance.
This article has been archived and is no longer updated by Apple.
The Macintosh Performa 6200 series computer comes with a Global Village Teleport Gold IIv 14.4 Kbps fax send/receive modem installed in the Communications slot. These computers are also bundled with the MegaPhone for Performa software, which lets the computer function as a speakerphone and digital answering machine.

Cypress Research released an update to the MegaPhone software which addressed some intermittent problems with MegaPhone and Global Village Gold IIv and Platinum IIv modems. MegaPhone v1.0.3P is available from Cypress Research's FTP site and from the Apple Software Updates on the online services.

You should also follow these steps to make sure your MegaPhone software is configured properly:

Note: MegaPhone for the Macintosh is now distributed and supported by Bing Software. If you need technical support, please contact Bing Software directly:

Monday through Friday, 9 am to 5pm Pacific time.
Technical Support: (714) 888-6639
Fax: (714) 888-6635
For Sales, call: (714) 888-6633
E-mail:bingsoftware@mindspring.com
Web: http://www.BingSoftware.com

1. Open the Telephone Setup control panel. In the General Setup area, there is an option for tone dialing. Make sure it is not checked if you are using a pulse phone line.
2. If you were trying to make a call from your home, make sure that you do not have the option set to dial "9" or any other numbers before dialing a call. To check, open MegaPhone and select Preferences from the File menu. In the "General" Topic, make sure that you have not selected the option to dial a "9" before calling. Make sure it is set to dial a "1" before making a long distance call.

This article can help you locate the software update mentioned here:

- Article 14724: "**Where To Find Apple Software Updates**" - Lists online services for free Apple software updates.

The Tech Info Library Article 17159: "**Locating Vendor Information**" can help you search for a particular vendor's address and phone number.
Published Date: Feb 19, 2012

PowerShare Server and Workgroup Servers (7/95)

I get a fatal error when trying to install the PowerShare Server software (the whole disk set) on my Workgroup Server 6150, running System Software version 7.5 or later. How can I install this successfully?

This article has been archived and is no longer updated by Apple.

The disk set you describe was issued in two sets: either as a pre-Power Macintosh 10-disk set or 11-disk set for installing onto a Power Macintosh. The error is occurring because the installer script on these disks is trying to install 7.1.2 resources over your active System 7.5 software.

Follow these steps to manually install the Powershare Server software on a Workgroup Server 6150, 8150, or 9150.

Step 1

Start up from the Workgroup Server CD and run the installer for PowerTalk. (To bypass the currently selected start-up device, start or restart the computer while holding down the Command-Option-Shift-Delete key.)

Step 2

Insert the PowerShare Server Install Disk 3 and install the PowerShare Catalog Server and the PowerShare Mail Server applications.

Step 3

Place aliases to the PowerShare Catalog Server and the PowerShare Mail Server applications in the Startup Items folder of the System folder.

Step 4

Restart your Macintosh computer to make the PowerShare Server software active.

Step 5

Setup the server as per the instructions in the "PowerShare Collaboration Servers System Manager's Guide."

NOTE:
The PowerShare Admin program is on the Powershare Server Install Disk 2.

Support Information Services
Published Date: Feb 19, 2012

SimpleSound: Creating Clickable Sound Files (5/96)

The SimpleSound application, which resides in the Apple Menu Items folder on Power Macintosh 7500, and 8500 (with System 7.5.2 update) systems, creates sound files that must be opened with SimpleSound in order to be played. Double-clicking on these sound files does not play back from the Finder, but launches SimpleSound instead. These sound files cannot be dropped on the System Folder and used as an alert sound.

This article has been archived and is no longer updated by Apple.

On the Power Macintosh 7500, and 8500 computers, the Sound & Displays control panel replaces the current Monitors, Sounds, and AV Setup control panels, providing a simplified interface that makes all of the video, monitor, and sound input and output much more accessible and usable. It does not provide the utility to add sounds to the System file. Sounds can be recorded to the System file using the SimpleSound application.

Sound Types

SimpleSound can create two types of sounds.

SimpleSound Documents

The first type of sound files that can be created are those that are identified by the Finder as SimpleSound documents. These are recorded directly to disk as standard AIFF files. The AIFF files can be opened and used by QuickTime-compatible applications, such as MoviePlayer and Avid VideoShop, as well as standard Macintosh sound editing applications (such as SoundEdit 16).

To create an AIFF sound file, open the SimpleSound application and click on SimpleSound in the Apple Menu Items. The Alert Sounds window appears.

Select New from the File menu and record a sound as before. The standard File dialog box appears and lets you save the sound to disk.

System Sounds

The second is "System" sounds -- standard Macintosh sound files that can be played by opening them in the Finder. SimpleSound can save these directly into the System file of the current System Folder. SimpleSound cannot save these directly as "System" sound files to the Finder.

Steps for Creating Clickable "System" Sound Files

This addresses an issue on how to create clickable "System" sound files. To use SimpleSound to create System sounds, do the following:

Step 1
To open the SimpleSound application, choose SimpleSound in the Apple Menu Items. The Alert Sounds window appears.

Step 2
Click the Add... button.

Step 3
Record a sound and click the Save button.

Step 4
Quit all open applications.

Step 5
Open the System file of the current System Folder.

Step 6
Drag the newly recorded sound to another area.

You now have a clickable "System" sound file. These files can be dropped back on to the System Folder to be used as an alert sound.

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Volume II, Issue 11, Page 4

Article Change History:
20 May 1996 - Removed references to the Power Macintosh 9500.
29 Sep 1995 - Added Info Alley information; updated article.

Published Date: Feb 19, 2012

Macintosh External Drives: Disks Only Insert About 1/2 in.

PROBLEM DESCRIPTION: The disks will only insert about 1/2 inch and then stop.

CAUSE: The power may have been turned off during the eject cycle or a paper clip may have been used to eject the disk and was not pushed in far enough for the cycle to be completed.

This article has been archived and is no longer updated by Apple.
CURE: On the front of the drive, there is a little hole to the lower right of the disk entrance. Insert a paper-clip firmly into this hole and hold it until the eject cycle is completed

If this cure does not resolve the problem, follow the recommended Apple repair policy for this product.

Published Date: Feb 19, 2012

Plaintalk 1.4: About Plaintalk 1.4 ReadMe file(8/95)

This article contains the Read Me file for the Plaintalk 1.4 Customer Speech Recognition software package.
This article has been archived and is no longer updated by Apple.
About PlainTalk 1.4

PlainTalk is a collection of software that enables your Macintosh to speak written text and respond to spoken commands. PlainTalk 1.4 includes three components, each with its own installer: English Text-to-Speech, Mexican Spanish Text-to-Speech, and English Speech Recognition.

This document describes each of these three software packages, and discusses the differences between PlainTalk 1.3 and PlainTalk 1.4.

English Text-to-Speech

With the English text-to-speech software installed, many Macintosh programs can read English text out loud. To install the English Text-to-Speech software, you need the following software and hardware:

any Macintosh or Power Macintosh computer
version 6.0.7 or later of system software
at least 300 kilobytes (K) of RAM in addition to what the rest of your system software requires
at least 5 megabytes (MB) of space available on your hard disk

For more information about the English Text-to-Speech software, see the Using English Text-to-Speech document or the About English Text-to-Speech document in the English Text-to-Speech folder.

Mexican Spanish Text-to-Speech

With the Mexican Spanish text-to-speech software installed, many Macintosh programs can read Spanish text out loud. To install the Mexican Spanish text-to-speech software, you need the following hardware and software:

a Power Macintosh computer or a Macintosh computer with a 68020, 68030, or 68040 processor
version 7.0 or later of system software
at least 1.3 MB of RAM in addition to what the rest of your system software requires
at least 2 MB of space available on your hard disk

For more information about the Mexican Spanish Text-to-Speech software, see the Using Mexican Spanish TTS document in the Mexican Spanish Text-to-Speech folder.

English Speech Recognition

With the English Speech Recognition package and the proper hardware, your computer can respond to spoken commands. The English Speech Recognition package includes the Speech Recognition system extension, the Speech control panel, and a utility called Speakable Items. With Speakable Items, whenever you say the name of an item inside the Speakable Items folder (which is inside the Apple Menu Items folder), the computer acts as if you double-clicked the item.

You can turn Speakable Items on and off using the Speech control panel. You can also use the Speech control panel to set several preferences for how Macintosh Speech Recognition programs listen and respond. For example, you can set the Listening options in the Speech control panel so that the recognizer only listens while you hold down a key of your choice. When you use this option recognition accuracy is improved and misfires (when the computer thinks you spoke a command but you didn't) are eliminated.

To install and use the English Speech Recognition software, including the Speakable Items software, you need the following hardware and software:

a Power Macintosh computer
system software version 7.5 or later
a 16-bit microphone, such as the Apple PlainTalk Microphone or the microphone built into some Apple audiovisual displays (Note: this version of PlainTalk does not work very well with the microphone built into some AudioVision 14 displays.)

For more information about the English Speech Recognition software and the Speakable Items utility, see the Using Speech Recognition document in the English Speech Recognition folder.

TA34208_Plaintalk_About_Plaintalk_ReadMe_file_(TIL18330).pdf

Differences between PlainTalk 1.4 and PlainTalk 1.3

Earlier versions of the PlainTalk software had a single installer program that installed both text-to-speech and speech recognition. This version (1.4) contains three different installers to make it easier to install just the parts that are appropriate for your needs: English Text-to-Speech, Mexican Spanish Text-to-Speech, and English Speech Recognition. It doesn't matter what order you install them in, and you don't have to install them all. However, if you install version 1.4 of English Speech Recognition or Mexican Spanish Text-to-Speech then you should also install version 1.4 of English Text-to-Speech instead of using an older version of English Text-to-Speech.

Deciding whether to upgrade to version 1.4

In general, version 1.4 offers a more robust and flexible set of features than earlier versions. However, some people in special circumstances may do better with version 1.3.

If you have a Macintosh AV computer that has a 68040 processor and you use PlainTalk 1.3's speech recognition capabilities, Apple recommends that you continue using version 1.3 of the PlainTalk software. Though the new text-to-speech software works with these computers, the new speech recognition software does not (because it runs on Power Macintosh computers only). It is not recommended that you mix versions, using the old recognition software with the new text-to-speech software. (Note: all the new software works with Power Macintosh AV computers.)

If you have an Apple AudioVision 14 display, Apple recommends that you keep using version 1.3, unless you have an Apple PlainTalk microphone. Version 1.4 of the speech recognition software does not work well with the microphone built into some AudioVision 14 displays.

If you make extensive use of PlainTalk 1.3's Speech Macros, the Speech Macro Editor, or the ability to speak menu commands, then you might want to continue using version 1.3. As part of the effort to make the software more robust, version 1.4 of English Speech Recognition supports Apple's standard AppleScript ScriptEditor instead of the Speech Macro Editor, and it does not support the ability to speak menu items. This is discussed more below.

What's new in English Text-to-Speech

English text-to-speech software version 1.4 is very similar to earlier versions. The main differences are:

English Text-to-Speech 1.4 has its own installer.

English Text-to-Speech 1.4 includes a Speech control panel that lets you select a system-wide default voice and rate, which is used by many text-to-speech programs, including SimpleText and the Speakable Items utility.

What's new in Mexican Spanish Text-to-Speech

PlainTalk 1.4 is the first version of PlainTalk to include support for Mexican Spanish text-to-speech.

What's new in English Speech Recognition

English Speech Recognition version 1.4 has some significant differences from the speech recognition software in earlier versions of PlainTalk. Some features have been eliminated to simplify speech recognition and make it more robust and usable. Other options have been added to increase accuracy and eliminate misfires.

Version 1.4 offers a new listening option in the Speech control panel, "Listen only while key(s) are pressed," that lets you leave Speakable Items on all the time without worrying about misfires. It also improves the accuracy of recognition.

Version 1.4 works in a wider range of environments thanks to its greatly improved adaption to room acoustics.

Version 1.4 does not include or support Speech Macros, the Speech Macro Editor, or Speech Rules. It still supports speaking dialog buttons and the Speakable Items folder. Any item you place inside the folder becomes speakablesaying the name of the item launches or opens the item. You can use the AppleScript ScriptEditor to create scripts that are launched by speaking a command: just save the scripts inside the Speakable Items folder. To see examples, look inside the Speakable Items folder.

Version 1.4 runs on Power Macintosh computers only, and does not support Macintosh AV computers with 68040 processors. You can continue to use PlainTalk 1.3 on 68040 Macintosh AV computers.

Version 1.4 does not include automatic support for recognizing the spoken names of menu commands. You can still manipulate scriptable programs, such as the Finder, using AppleScript commands. To see examples, look inside the Speakable Items folder.

Known bugs and workarounds in PlainTalk 1.4

This section describes a few bugs found at the last minute in PlainTalk 1.4, along with workarounds where possible. More troubleshooting information can be found in the documents in the three installer folders.

Apple AudioVision 14 displays. Version 1.4 of English Speech Recognition does not work well with the microphones built into some Apple AudioVision 14 displays. If you have problems using speech recognition with the microphone built into this display, you can use the Apple PlainTalk Microphone (part # M9060Z/A) or you can go back to using PlainTalk 1.3. To go back to version 1.3, use the 1.4 installers to deinstall the new version, then use your old 1.3 installers to reinstall version 1.3.

Mixing Text-to-Speech 1.4 with Speech Recognition 1.3. Apple does not recommend using version 1.4 of text-to-speech with version 1.3 of speech recognition. The PlainTalk 1.4 speech recognition options are visible in the Speech control panel but do not work with the PlainTalk 1.3 speech recognition software. If you do mix them, remember to use the correct control panel for your task: to configure speech recognition version 1.3, use the Speech Setup control panel; to configure text-to-speech version 1.4, use the Voice option of the Speech control panel. You should ignore all the other options of the Speech control panel.

Wrong name in the Using English Speech Recognition document file. In the Using English Speech Recognition document, the phrase "Speakable Items control panel" is sometimes used where what is meant is "Speech control panel."

Popup menus in HyperCard 2.3. On some Power Macintosh computers, version 1.4 of the Speech control panel interferes with popup menus in HyperCard 2.3. If you experience this problem, you can move the Speech control panel out of the Control Panels folder (and out of the System Folder), restart your computer, and still use text-to-speech and speech recognition. If the Speech control panel is not in the Control Panels folder then Speakable Items will not turn on automatically when your computer restarts (but you can still use the Speech control panel to turn it on), and the Speech control panel's default voice and rate options will be ignored.

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Updated June 21, 1995

Support Information Services
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At Ease 3.0: Rebuild Desktop After ClarisWorks 4.0 Install

I have recently installed ClarisWorks 4.0 on my Macintosh computer running System 7.5.1. When I try to launch a ClarisWorks document, I get a message stating that the application cannot be found.
This article has been archived and is no longer updated by Apple.
There have been reports of messages like this one and "Unable to locate appropriate translator" from users after installing ClarisWorks 4.0. This problem can be remedied by rebuilding the desktop file.

Apple recommends rebuilding the desktop file after any new software installation.
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Apple Telecom 2.1: SITcomm ReadMe File (8/95)

This article contains the combined SITcomm and SITcomm SE Read Me files. SITcomm ships with the AppleTelecom 2.1 software package.
This article has been archived and is no longer updated by Apple.
SITcomm Read Me
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"Read Us First!" Folder

Now that the software is installed, you might want to refer to your User's Guide Addendum in the "Read Us First!" folder on your hard disk. This file contains additional information which will aid your understanding of the product as well as explaining any new features and enhancements that have occurred since the printing of the User's Guide.

Register Your Software

If you have not already done so, please complete and mail your postage-paid Registration Card. Registered users are entitled to free technical support, upgrade notices, and special offers on Aladdin products. The registration number for personalizing the application can be found inside of the "Quick Start" card located in your package. After personalizing, be sure to write the registration number someplace where you can reference it later.

The User's Guide

Even though the software is easy to use, the comprehensive User's Guide covers every feature of the software. An addendum to the User's Guide can be found in the "Read Us First!" folder.

The Quick Reference Card

See the Quick Reference Guide for a brief description and overview of the software. Please keep the Quick Start card in a safe and easily accessible place. Your SITcomm registration number is on the back of this card and must be provided when you contact Aladdin Systems for assistance.

Thanks

We at Aladdin Systems would like to thank you for purchasing our product and for your continued support.

The rest of this document

Listed below are sections on known issues, potential conflicts and workarounds for SITcomm.

==========

Known Issues

Apple Express Modem Tool - Limitations

Users of the Apple Express Modem Tool should be aware of the following limitations:
1) The Express Modem Tool does not support auto-redialing.
2) The Express Modem Tool does not support listening for a connection (listen mode).
3) The Express Modem Tool does not support canceling of a dialing operation once it has begun.
If you need any of these features, it is suggested that you use the Apple Modem Tool instead, which does support them.

Apple Express Modem Tool - Display Modem Monitor Window

When this option is enabled, the tool will improperly create the Modem Monitor window between the SITcomm toolbar and the current connection window. After the window is created, nothing will be drawn in the window until after the modem connection is established.

Keypad and Cursor Windows in the Frontier Runtime Scripting Menus
---
Occasionally, the VT102 keypad and cursor control windows will erroneously appear in the Runtime scripting menus. If you quit Runtime, and then relaunch it, the problem should correct itself.

Apple Modem Tool - 14400 baud rate speeds

Owners of 14.4 KB modems should not be alarmed that there is not a 14400 baud rate setting in the Apple Modem Tool. Just set the the Apple Modem Tool to the 38400 setting. This will automatically optimize the speed your 14.4 KB modem can send and receive data by automatically turning on high speed transfer protocols.

Possible Conflicts & Workarounds

Userland's Frontier & Frontier Runtime

Users of Frontier and Frontier Runtime should increase the application memory size of SITcomm by 100K.

Apple VT320 Terminal Tool

Users of the Apple VT320 Terminal Tool should increase the memory application size of SITcomm by 100K.

Pacer320 Terminal Tool

Users of the Pacer320 Terminal Tool should increase the memory application size of SITcomm by 100K.

SITcomm Special Edition Read Me
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"Read Us First!" Folder

This file contains additional information which will aid your understanding of the product.

Register Your Software

If you have not already done so, please complete and mail your postage-paid Registration Card. Registered users are entitled to technical support, upgrade notices, and special offers on Aladdin products.

License Agreement

You should not run SITcomm Special Edition until you have read the document called "License Agreement" which will be installed on your hard drive in the "Read Us First" folder. By running SITcomm Special Edition, you signify that you agree to the terms of the License Agreement.

The rest of this document

Listed below are sections on known issues, potential conflicts and workarounds for SITcomm Special Edition.

Known Issues

Possible Conflicts & Workarounds

Apple VT320 Terminal Tool

Users of the Apple VT320 Terminal Tool should increase the memory application size of SITcomm Special Edition by 100K.

Pacer320 Terminal Tool

TA34210_Apple_Telecom_SITcomm_ReadMe_File__(TIL18332).pdf

Users of the Pacer320 Terminal Tool should increase the memory application size of SITcomm Special Edition by 100K.

Support Information Services

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Third-Party Extensions Managers & Possible Bus Errors (8/95)

After disabling most of my extensions and control panels with a third-party extensions manager, I get the following error:

"Sorry, a system error occurred. Bus error. To temporarily turn off extensions, restart and hold down the shift key."

If I restart with the shift key down, the system starts up without an error. What is the problem?

This article has been archived and is no longer updated by Apple.

Your problem may be due to certain extensions not loading. When EtherTalk is selected in the network control panel, you may see this error on a Power Macintosh 8100/80 if the EtherTalk Phase 2 extension fails to load after the Apple Built-In Ethernet extension. Other Macintosh models may also exhibit this behavior. Both of these extensions are installed by the Network Software Installer (NSI) 1.5 of later.

Several third-party extension managers recognize the EtherTalk Phase 2 extension, but not the Apple Built-In Ethernet extension. So it may be possible to disable EtherTalk Phase 2 and not Apple Built-In Ethernet, resulting in the above error message. This situation does not occur when using the Extensions Manager, which comes with System 7.5.x, since the Extensions Manager does not present either extension as a choice to be deselected.

This problem can also arise when using a third-party extensions manager to execute the recommended procedure for rebuilding the desktop file with Macintosh Easy Open (MEO) installed. Normally you would disable all extensions and control panels except MEO before rebuilding the desktop file. When using a third-party extensions manager, you should disable all extensions and control panels except EtherTalk Phase 2 and MEO.

Support Information Services
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Color LaserWriter 12/600 PS: Does Not Support SNMP

This article describes Apple Laserwriter SMNP support.
This article has been archived and is no longer updated by Apple.
Except for the LaserWriter Pro 810, none of our printers presently supports SNMP.

The "Laserwriter Pro 810 Protocol and Command Reference" contains full documentation in Section 3.7 "SMNP Setup" (page 3-21) and Section 5.5.2 "SMNP Protocol Support" (page 5-48).
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Macintosh: Cure for Wrong System Font

PROBLEM DESCRIPTION: Some applications occasionally cause desktop icons and window information to be displayed in the wrong system font. The same disks work fine on other Macintoshes. Turning the Macintosh off then back on again does not usually clear the problem.

CAUSE: Parameter memory contains the wrong information.

This article has been archived and is no longer updated by Apple.
CURE: For 128K, 512K, 512Ke, or Plus unplug the Macintosh and remove its battery for 15 seconds or so. This will clear the Macintosh's parameter RAM.

For NuBus or System 7 Macintosh, hold down Command-option-R-P until the system sounds the startup chord a second time. Release the keys.

For SE or SE/30, hold down Command-option-shift and open the control panel. Release the keys and acknowledge any dialog boxes.

Finally, reset the Control Panel settings.

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Color LaserWriter 12/600 PS: System Error at Address 0x132460

When printing a complex document to the Color LaserWriter 12/600 PS, the printer does not print the document but instead prints a page that reads "printer restarted due to system error at address 0x132460". Displayed on the Macintosh is an error message that the document could not be printed due to "connection closed". Sometimes an error 4100 will be displayed as well. What does this mean?
This article has been archived and is no longer updated by Apple.
This is caused by a 16-bit overflow in the floating point arithmetic required to produce graphic objects.

Workarounds

* Rotate the graphics slightly (by as little as 0.1 degree).
* Resize the graphic, larger or smaller, by 1% increments.

(Adjusting the graphics in these ways results in new calculations that may be different enough not to cause the overflow.)

* Obtain the v2.0 ROM upgrade, service part number 076-0621, that may be purchased from your service provider.

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Sound In Options Not Available Message (9/95)

I have a Power Macintosh running System 7.5 and can not play audio CD's. I can mount audio CD's, see the counter working in the AppleCD Audio Player, and hear audio from multimedia CD's and alert sounds without any problems. Pressing the "Options" button in the Sound In portion of the Sound control panel brings up the message "Sound input devices could not be accessed at this time." What is happening here?
This article has been archived and is no longer updated by Apple.
This is an issue involving accessing sound options while running Speech Recognition. When you turn Speech Recognition on, it "listens" for commands captured by the microphone. Because of this, Speech Recognition will not allow you to select the Audio CD as the input source. Therefore, you cannot play an audio compact disc through your internal speakers while speech recognition is turned on.

Once Speech Recognition is turned off via the Speech Setup control panel, the sound in options of the sound control panel can again be accessed in the Sound In portion. Click the radio button under Audio CD and put an X in the playthrough option to hear your audio cd through your internal speakers.

Article Change History:
15 Sep 1995 - Added clarifying information.

Support Information Services
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AppleCD 600: Compatible with DOS Compatibility Card

Are the AppleCD 600i and 600e drives supported with the DOS Compatibility Card?
This article has been archived and is no longer updated by Apple.
Yes, both the AppleCD 600i and 600e drives are supported using the DOS Compatible card. However you must use the Apple CD-ROM extension v5.1.1, PC Setup 1.0.7, and System 7.5.1. Both the CD-ROM Setup 5.1.1 and PC Setup 1.0.7 are available from online services. PC Setup 1.0.7 is only designed for the DOS Compatibility Card on Power Macintosh, and Macintosh 630 family computers. Apple does not recommend or support PC Setup 1.0.7 on Centris or Quadra 610 computers with a DOS Compatibility Card.

The following computers are in the Macintosh 630 family: Performa 630, Performa 635, Performa 636, Performa 637, Performa 638, Performa 640, LC 630, and Quadra 630.

There are some types of compact discs which are not supported in the MS-DOS/Windows enviroment, including Photo CD, and multisession compact discs. In addition to these types of discs, you cannot use multiple CD-ROM drives in the MS-DOS/Windows environment.

Audio CDs cannot be controlled from both the Windows and Macintosh environment at the same time.

The MS-DOS sets up a drive letter (E:) for a CD-ROM drive, even if there is not a drive attached. If you do not have a CD-ROM drive connected to your computer, you can gain additional memory by removing drive setup strings in the CONFIG.SYS and AUTOEXEC.BAT files.

What to Change

AUTOEXEC.BAT
REM LH C:\\DOS\\MSCDEX /D:CDDRVR /L:E

CONFIG.SYS
REM DEVICE=C:\\Apple\\CDROM.SYS /D:CDDRVR

The REM in front of the command makes MS-DOS ignore the line.

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Transfer QuickTake Files From Macintosh to Windows (8/95)

I need to move some QuickTake files from my Macintosh to my PC. However, if I edit them on my Macintosh, I can no longer get the QuickTake files to open in Windows, why?

This article has been archived and is no longer updated by Apple.

When you double click on a QuickTake file on a Macintosh, PhotoFlash opens the QuickTake file as the selected application. You can view the QuickTake file, but if you edit and save the file, and then want to move it to a Windows system, you will have to save the file in TIFF format. PhotoFlash can not save a document in QuickTake format.

For TIFF format files, save the file as a TIFF for Windows. Then add the suffix ".tif" to the file.

For QuickTake files, rename the file with a ".qtk" suffix.

More information is included in the manual on page 53.

NOTE: There is a summary of how to name the files in the QuickTake Read Me file, but not about using PhotoFlash. Also, you can view QuickTake format files, but not edit them. The advantage of using the QuickTake format, is the size of QuickTake files, which usually is 20% less than TIFF.

Support Information Services

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System Update 2.0.1: ReadMe File (8/95)

This article contains the Read Me file for the System 2.0.1 Update for use on System 7.1 and System 7 Pro.
This article has been archived and is no longer updated by Apple.
WHAT IS SYSTEM UPDATE 2.0.1?

System Update 2.0.1 is a set of software enhancements that improves the performance of Macintosh computers running system software version 7.1 and System 7 Pro.

System Update 2.0.1 provides the enhancements of Hardware System Update 2.0 and Hardware System Update 1.0, plus the following additional enhancements:

Includes Apple HD SC Setup version 7.2.2, which gives you more flexibility to format large Apple hard disks between 1 and 2 gigabytes.

More efficiently manages the way fonts use memory.

Includes AutoRemounter 1.2. This release significantly reduces network traffic compared to version 1.0.

Includes Apple Disk First Aid 7.2, a utility that repairs damaged disks.

Updates the Macintosh PowerBook Control Panel to version 7.1.3 and Express Modem software to version 1.1.2, which includes support for communications that do not use the Apple Communications Toolbox.

Updates System Enabler 131 (version 1.0.3) for the PowerBook 160, 165, 165c, and 180 to support 12" monitors and improve reliability. (NOTE: There is a very small chance that your PowerBook may not boot when you turn it on for the first time after the update. If this happens, turn the computer off and back on, and press Command-Option-P-R while the computer starts up.)

Corrects color problems with the Apple Basic Color monitor on Macintosh Centris and Macintosh Quadra computers. (NOTE: If Hardware System Update 1.0 or Hardware System Update 2.0 extensions or the Basic Color Monitor extension are already installed on your computer, this update replaces them. The 2.0.1 update removes the Basic Color Monitor and the ADBReInit extensions and replaces them with a System Update 2.0.1 extension.)

For a review of the Hardware System Update 2.0 and Hardware System Update 1.0 enhancements, see "What Other Enhancements Does System Update 2.0.1 Provide?" at the end of this document.

KNOWN ISSUES

If you install System Update 2.0.1 on a Powerbook 100 with Express Modem software installed, your Powerbook 100 may not start up properly. If this happens, turn the computer off and back on, and hold down the Shift key while the computer starts up (to start up without using extensions). When the computer is ready, drag the Express Modem extension to the Trash. (NOTE: The Powerbook 100 is not designed to use the Express Modem.)

WHO SHOULD INSTALL SYSTEM UPDATE 2.0.1?

You should install this update only if you have Macintosh system software version 7.1 or System 7 Pro installed on your computer. (NOTE: This update is not intended for Macintosh Performa users.)

If you have already installed the earlier updates, you should still install System Update 2.0.1 in order to have the latest version of all system software. System Update 2.0.1 provides additional functionality and fixes problems that the earlier updates did not address.

HOW DO I INSTALL SYSTEM UPDATE 2.0.1?

To install the 2.0.1 update, do three tasks:

1. Install the System Update
2. Update your Apple utilities
3. Update your Apple drivers

See the step-by-step instructions below.

TASK 1INSTALL THE SYSTEM UPDATE

The Easy Install process for System Update 2.0.1 automatically determines what elements of the updated system software your computer needs, if any. There are also two optional enhancements which you can install (in step 6 below) after the Easy Install process is complete.

To install the software update, follow these steps:

1. If you currently have the Connectix Enabler Patch on your hard disk, remove it from your hard disk before proceeding with this installation.

2. Insert the System Update 2.0.1 disk in your floppy disk drive.

3. Double-click the Installer icon.

4. Read the Welcome screen, and then click OK.

5. Click the Install button.

6. When you see a message that installation is complete, do one of the following:

a. If you want to install the Sound Manager Update, the 720K Floppy Disk Formatter Extension, or both, click the Continue button. (See "What Other Enhancements Does System Update 2.0.1 Provide?" at the end of this document for descriptions of these enhancements.) Then click Customize and select "Sound Manager Update," "720K Floppy Disk Formatter Extension," or both from the list on your screen. When you see a message that installation is complete, click the Restart button.

b. If you do not want the additional enhancements, click the Restart button.

7. When you finish, continue with "Task 2Update Your Apple Utilities" below.

TASK 2UPDATE YOUR APPLE UTILITIES

The Utilities folder on the System Update 2.0.1 disk contains Apple HD SC Setup version 7.2.2 and Apple Disk First Aid version 7.2. These updates are intended to permanently replace the copies of Apple HD SC Setup and Apple Disk First Aid on your System 7.1 or System 7 Pro Disk Tools disk. This update is recommended even if you have already installed Hardware System Update 2.0. Follow the steps below to update your utilities:

1. Insert the System Update 2.0.1 disk in your floppy disk drive.

2. Choose Eject Disk from the Special menu.

3. Insert the Disk Tools disk in your floppy disk drive.

4. Click the Utilities window to make it active.

5. Drag the HD SC Setup and the Disk First Aid icons to the Disk Tools disk.

6. When your Macintosh warns you that the files on your Disk Tools disk have the same names as the items that you are moving, click OK.

7. Insert specific disks as requested until the files are fully copied.

8. When you finish, continue with "Task 3Update Your Apple Drivers" below.

TASK 3UPDATE YOUR APPLE DRIVERS

System Update 2.0.1 also contains a driver update for Apple hard disk drives. You should install the driver update even if you have already installed Hardware System Update 2.0. Follow the steps below to install the driver update on each Apple hard disk drive you own:

1. With your computer off, insert the Disk Tools disk in your floppy drive.

2. Turn on your computer.

3. Double-click the Disk Tools icon.

4. Double-click the Disk First Aid icon in the Disk Tools window. (NOTE: The Disk First Aid utility on your Disk Tools disk should be version 7.2 if you completed "Task 2Update Your Apple Utilities" above.)

5. Click on the driver icon which corresponds to your Apple hard disk drive. If you have more than one Apple hard disk drive, hold down the shift key and click on all of the drivers.

6. Click the Repair button. Disk First Aid will now run its tests and make any necessary repairs on your drive. This may take a few minutes depending on the size of your drive.

7. Select Quit from the File menu.

8. Double-click the Apple HD SC Setup icon in the Disk Tools window. (NOTE: For more information on Apple HD SC Setup, see your Macintosh user's guide.)

9. Click the Drive button until the name of the hard drive you want to update appears.

10. Click the Update button.

11. Repeat steps 9 and 10 for any other Apple hard disk drives you own.

12. Click the Quit button.

WHAT OTHER ENHANCEMENTS DOES SYSTEM UPDATE 2.0.1 PROVIDE?

System Update 2.0.1 includes the enhancements from Hardware System Update 2.0 and Hardware System Update 1.0 (listed below). Some enhancements are Macintosh-model specific while others apply to a range of models. The first two enhancements described below are optional for any model of Macintosh computer. (See step 6 of "Task 1Install the System Update" for instructions to install the optional enhancements.)

Optional: Installs the 720K Floppy Disk Formatter Extension to allow you to format low-density floppy disks as 720K MFM disks.

Optional: Installs the Sound Manager Update to improve sound performance on most Macintosh computers. (NOTE: When this software is installed, your system sound will revert to the Simple Beep. After installation, you may wish to reset the beep in the Sound control panel to your preferred sound.)

Provides system-level improvements to increase overall system reliability on most Macintosh models.

Improves the reliability of high-speed modems and similar devices connected to Macintosh LC, LC II, IIsi, IIvx, IIvi, Macintosh Classic II, Macintosh Quadra 900, and Macintosh Quadra 950 computers.

Improves the accuracy of the system's clock in Macintosh LC, LC II, IIsi, IIvx, IIvi, Macintosh Classic II, Macintosh Quadra 900, and Macintosh Quadra 950 computers.

Corrects problems ejecting floppy disks when the computer is shut down on Macintosh IIsi, IIci, IIvx, IIvi, Macintosh Quadra 700, and Macintosh Quadra 950 computers.

Addresses possible floppy disk drive and hard disk problems with the Macintosh IIsi, IIci, IIvx, IIvi, Macintosh Centris, Macintosh Quadra, and Macintosh PowerBook and PowerBook Duo computers.

Removes horizontal white lines that may appear while scrolling on Quadra and Centris systems with a Macintosh 16" Color Display.

Adds software for the Apple Adjustable Keyboard, allowing you to connect the keyboard to any Macintosh computer without separately installing special keyboard software.

Updates the Memory control panel to version 7.1.1, fixing possible memory problems using large RAM disks with System 7.1.

Updates the Macintosh Color Classic System Enabler (System Enabler 401, version 1.0.5), which lets you add the Apple IIe Card and software to the Color Classic. In addition, the System Enabler improves mouse performance with the Color Classic. (NOTE: To use the Apple IIe Card with system software version 7.1 on a Color Classic, you need to have version 2.2.1 of the Apple IIe Card software. You can obtain an upgrade package for the Apple IIe Card software by contacting an Apple-authorized dealer, or by using the AppleLink path Apple Products: Apple SW

TA34220_System_Update_ReadMe_File__(TIL18344).pdf

Updates: Macintosh: Peripheral Software: Apple IIe Card for Macintosh LC.)

Apple strives to provide maximum reliability for its customers. This update provides specific improvements that many Apple Macintosh customers will find helpful.

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Support Information Services
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Macintosh LC 630 DOS Compatible: ReadMe File (8/95)

This article contains the Read Me file for the Macintosh LC 630 DOS Compatible. This version of the Read Me file was included with the PC Setup 1.0.7 update software package.
This article has been archived and is no longer updated by Apple.
Addendum to the Macintosh User's Guide
for the Macintosh LC 630 DOS Compatible

This document contains important information about using your Macintosh LC 630 DOS Compatible that is not included in your user's guide.

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- Using the Floppy Drive
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Using the Floppy Drive

Both PC and Macintosh floppy disks are automatically mounted when inserted into the floppy drive, in either operating environment. This mounting process takes a few seconds. Macintosh users are familiar with this process; PC users will find that they should wait a few seconds before accessing the data on the floppy disk.

Certain DOS or Windows floppy disk utilities will not work with the DOS Compatibility Card. These utilities attempt to exercise direct control over the floppy drive, which they cannot do, since it is a Macintosh-controlled floppy drive. Instead, Macintosh disk utility applications should be used.

Use of Floppy Disks as Drive Containers

The LC630 DOS Compatible computer does not support the use of 3.5" floppy disks as drive containers. Floppy disks are intended for data use only.

Startup Folder/Auto-start PC Conflict

When two or more Macintosh applications are included in the Startup folder, be sure that the "Auto-start PC" is not selected in the PC Setup control panel. Under this circumstance you must switch to the PC mode manually and you must switch only after all Macintosh startup applications have finished launching.

MIDI Transfers Supported on Macintosh Only

The LC 630 DOS Compatible does not have the capability of sending and receiving MIDI data through the serial port for DOS and Windows.

MIDI data does travel internally on the PC side, but when connected direct for use with a MIDI instrument, no data will transfer. MIDI transfers are fully supported on the Macintosh side.

Using the Two-Button Mouse

The standard Apple mouse has no right button and users must press the "extended =" key whenever they intend to use right button functions in one of their PC applications. However, users of a third party programmable mouse or trackball, such as Kensington Turbo Mouse 4.0 or Logitech MouseMan ADB, can use the utilities included with their mouse to map the "extended =" key to the right hand button.

The Kensington Turbo Mouse 4.0 includes two utilities to configure its buttons. They are: "Turbo Mouse Control 4.0.2" and "Turbo Mouse Basics 4.0.2". "Turbo Mouse Control 4.0.2", an application that requires an extension, does not effectively map the "extended =" key to the right button and should not be used. "Turbo Mouse Basics 4.0.2", a control panel, correctly maps the "extended =" key to the right button and should be used instead.

Using a Flightstick Pro Joystick

The Flightstick Pro Joystick for the Macintosh triggers the System beep 'Indigo' when entering the DOS environment. It also triggers this sound twice upon bootup. To correct this, remove the Indigo sound from the System file in the Macintosh System Folder.

Bypassing the CONFIG.SYS and AUTOEXEC.BAT files

To bypass these DOS startup files during the startup process, press and hold the F5 key (Command-5 on non-extended keyboards) after the memory testing is complete.

Installing Corel Draw

If you allow Corel Draw to update the AUTOEXEC.BAT file, the line:
LH C:\\Apple\\MacShare

is replaced with the line:
C:\\DOS\\SHARE.EXE /L:500 /F:5100

If the former line is needed, you should edit the AUTOEXEC.BAT file to add it back.

Using Norton Utilities

If Norton Utilities for the Macintosh v3.0 or v3.1 is being used, the "More Compatible" option should be chosen:

1. Go into Control Panels and open FileSaver
2. Click More Choices
3. Click Preferences and Update Now
4. Click More Compatible
5. Click Save

Installing Microsoft Office, Word, or Excel

When you install Microsoft Office 4.2c or later, Microsoft Word 6.0c or later, or Microsoft Excel 5.0c or later, make sure that you use a CD-ROM installation disc or floppy disks that are non-DMF. (DMF is Distribution Media Format, Microsoft's recently changed installation disk format. DMF disks store 1.7 MB of data rather than the 1.44 MB on a single 3.5 inch high-density disk. During installation with DMF disks, an error will be reported when installing the second disk, and you won't be able to complete the installation.)

Non-DMF installation disks can be obtained from Microsoft by calling 1-800-426-9400.

Amendments to Appendix E of the Macintosh User's Guide

On page 164 of the Macintosh User's Guide, certain steps may not exactly apply to more recent versions of the Novell Netware Client disk set. For steps 4 through 7 of the procedure in the manual, all that matters is that the following exceptions apply:

The Netware directory is: C:\\NWCLIENT
The LASTDRIVE setting in the CONFIG.SYS file is: LASTDRIVE=Z
The AUTOEXEC.BAT file contains the line: CALL C:\\NWCLIENT\\STARTNET.BAT
And be sure to load the Windows support in the directory where you have loaded Windows.

In steps 5 and 6, the defaults are already preset; you should not be required to edit the CONFIG.SYS file to set the LASTDRIVE setting or the AUTOEXEC.BAT file to add the CALL line.

In steps 8 through 10 of the same procedure: Step 8 should read "To select the driver for the network board, press return". The disk required in step 9 is the "DOS Compatibility Installer Disk for PC Environment" disk that came with your computer. In step 10 select the "Macintosh DOS Compatible Ethernet Adapter" and press return.

In the section entitled "Conserving Memory", you should not need to edit the AUTOEXEC.BAT file. The CALL line should already be included.

Using SAM 4.0

When using SAM 4.0 for the Macintosh with the "Prompt: 'Skip' is the default button" check box selected in the Floppy Drive preferences, inserting a floppy while in the PC environment causes the system to hang. The floppy cannot be accessed nor can the user switch to the Macintosh environment. To avoid this, select the "Always scan" option.

SAM Intercept v4.0.2 Virus Checking

If you have SAM Intercept 4.0.2 running on your LC630 DOS Compatible, and you attempt to mount a drive container on the desktop, the mouse cursor will indicate that you have control when, in fact, you do not. (SAM Intercept is checking the drive container for viruses but has not displayed the spinning "beach ball" cursor.) It takes approximately two minutes to complete the virus scan, after which the LC630 DOS Compatible will function normally. Version 4.0 of SAM Intercept does not exhibit this behavior.

To avoid this delay, turn off the autoscan feature as follows:

1. Launch the SAM Intercept program
2. Select "Scan" in the "Options" menu
3. Deselect the"Scan for known viruses" option.

Reinstalling DOS/Windows Software - WB.EXE File

Should it become necessary for you to re-install the DOS/Windows software, you will also need to install the WB.EXE file for execution when DOS boots. To install WB.EXE on the LC630 DOS Compatible follow these steps from the Macintosh desktop:

1. Select the PCSetup control panel and select "Shut Down PC".
2. Open the PC drive container, located on your internal hard drive, by double clicking the file "PC Drive File".
3. A hard drive icon labeled "PC BOOTDISK" will appear on the desktop. Double-click PC BOOTDISK to open the volume.
4. Insert the disk labeled "DOS Compatibility Installer Disk for PC Environment". Double-click on the diskette icon to open the main window and locate the file WB.EXE.
5. Drag it to the folder labeled "Apple".
6. When the Macintosh is finished copying the WB.EXE file, press command-Return.
7. When DOS has finished booting, type:

EDIT C:AUTOEXEC.BAT

8. Add the following line to the end of the AUTOEXEC.BAT file:

C:\\APPLE\\WB.EXE

9. Press Option-f to select the file menu.
10. Select the Exit option (using the up-arrow key) and press Return.
11. Press return again to save the AUTOEXEC.BAT file and exit the DOS editor.
12. At the DOS prompt type Command-Return to re-enter the Macintosh desktop.
13. Unmount the PC drive container by dragging the PC BOOTDISK icon to the Trash.
14. Select "Shut Down PC" in the PCSetup control panel.
15. Start the PC using the PCSetup control panel or by pressing Command-Return.

The WB.EXE program runs and exits when DOS boots. It does not stay resident in memory. The WB.EXE program enables the write back mode and prints a string that reads:

"WB.EXE Enable CPU internal cache to Write-Back.", and exits.

Printing

For DOS or Windows printing on the DOS Compatibility Card, we recommend using LPT1.DOS or LPT1. In general you must use printers that are Macintosh compatible, and use their corresponding printer extension for the Macintosh, selectable in the Chooser. However, in a PC Novell Netware environment you can print to a PC-compatible printer attached to a Novell network (refer to the Network Installation Guide on how to set up a Novell client).

Printing to a Postscript Printer

If you have a Postscript printer, open the Printers icon in the Windows Control Panel and select a Postscript driver. We recommend the Laserwriter IINT driver or Windows Postscript driver. In the Macintosh Chooser, select the corresponding printer extension for your type of printer.

Printing to a QuickDraw Printer

If you have a QuickDraw (non-Postscript, non-PCL printer) such as an Apple's ImageWriter or StyleWriter, or HP's DeskJet printer:

Open the Printers icon in the Windows Control Panel and select the Epson LQ-2500 driver.
In the Macintosh Chooser, select the corresponding printer extension for your type of printer.
In the Macintosh Extension folder, launch the PC Print Spooler by double-clicking its icon in the Extension folder.
From the File menu, select "Preferences".
Click on the Epson option for "Interpret non-Postscript As" to enable the Epson emulator.

The Epson emulator works by first translating the DOS text to a similar Macintosh font, then interpreting that text into a series of QuickDraw commands. Some characters in the original DOS character set may not have exact translations to a Macintosh font. The use of a PostScript font is recommended in these cases, since use of the PostScript standard requires no translation.

The Epson emulator does not support color or grayscale. When printing from the PC to a Color or Grayscale printer, make sure to select the Black & White option from the Print dialog.

Printing to a PCL Printer

When printing to a PCL (Page Control Language) printer, printing is limited to text-only when printing over an AppleTalk connection. To set up this configuration:

Open the Printers icon in the Windows Control Panel and select your printer's driver.
In the Macintosh Chooser, select the corresponding printer extension for your type of printer.
In the Macintosh Extension folder, launch the PC Print Spooler by double-clicking its icon in the Extension folder.
From the File menu, select "Preferences".
Click on the PCL option for "Interpret non-Postscript As" to enable PCL printing.

Additionally, PCL printing of text and graphics together is possible when printing over a Novell network, where a PC print server is connected to the PCL printer and handles the printing job. Select your printer's own driver in the Windows Control Panel.

Sound Control Panel Settings

For sounds generated by the Sound Blaster card and for sounds from the PC, the Sound Control Panel must be set with the Internal CD playthrough enabled. The User's Guide will explain how to make this setting (see pg. 69). With System 7.1.2, however, the setting is lost after each reboot. Install the System Update 3.0 software to correct this problem so that the playthrough setting is retained after each reboot.

QuickTime also turns off the playthrough option. This has the effect of cutting off all PC and Sound Blaster card sounds. QuickTime v1.6.2 will turn off playthrough and not restore it, while QuickTime v2.0 will restore playthrough back to its original state.

Using the Sound Blaster Card

The PC Sound control in the PC Setup control panel does not effect sounds produced by the Sound Blaster card. Only PC-generated sounds

such as the system beep are affected by this control. Use the master volume control of the Mixer Control application from the Audio program group, or turn off the Internal CD playthrough to turn off both PC and Sound Blaster generated sounds (see pg. 69 of the User's Guide).

The Sound Blaster daughter-card included on your DOS Compatibility Card will play sounds as expected, but is not able to record them.

The DOS Compatibility Card does not fully support Sound Blaster 8-bit, Sound Blaster 2.0 or Sound Blaster Pro drivers. If problems occur, select the Sound Blaster 16 driver that comes with the DOS Compatibility Card.

Using CD-ROM Drives

Simultaneous use of multiple CD-ROM drives is not supported.

Apple 600i and Apple 600e CD-ROM drives are supported with Apple DOS Compatible cards when used with Apple CD-ROM extension version 5.0.4. Standard installations of System Software 7.5.1 or earlier do not include the Apple CD-ROM 5.0.4 driver. This driver is included with Apple 600e CD-ROM's or can be obtained from Apple Technical Support.

Audio CDs cannot be controlled from both Windows and the Macintosh environment at the same time. One or the other must be used. Photo CD's can not be read on the PC side of the DOS Compatible.

The PC side sets up a drive letter (E:) for a CD-ROM drive although no drive is attached. If no CD-ROM drive is connected to your system, this drive letter can be freed up (and some memory) by editing these files:

AUTOEXEC.BAT
REM LH C:\\DOS\\MSCDEX /D:CDDRVR /L:E

CONFIG.SYS
REM DEVICE=C:\\Apple\\CDROM.SYS /D:CDDRVR

Prefacing these commands with "REM" will make DOS ignore them.

Playing an audio CD in Windows while running low-level media tools, such as PC Tools or Microsoft Anti-Virus, may cause a crash. It is best to reduce computer activity to a minimum while using such tools.

Multimedia and Game Applications

These types of applications, whether they are run in the PC or Macintosh environments, will see a marked performance improvement with the installation of a memory SIMM onto the DOS Compatibility Card. QuickTime application performance is especially improved with the addition of a SIMM.

Rebuilding the Desktop

If you need to rebuild the Macintosh desktop, you must either wait for the desktop to rebuild while in the Macintosh environment, or switch to the DOS environment and remain there until the rebuild is complete. Switching back to the Macintosh environment during rebuild will cause the Macintosh to crash.

Using PC Tools Pro 9.0

The CPTASK.EXE utility (Central Point Task Manager) is incompatible with the DOS Compatibility Card.

Using MWUNDEL

MWUNDEL does not work on shared folders, so files deleted by the PC in shared folders will not be recoverable. However, files in shared folders can be recovered if they are deleted from the Macintosh. Use a Macintosh utility such as Norton Disk Doctor.

Using After Dark 3.0

Do not use the PC Setup control panel "Switch at Startup" option when using After Dark. When switching to the PC side, make sure After Dark 3.0 for the Macintosh is turned off.

Using the Serial Port

If you are using communications software that uses the serial port, the following are known errors:

For Procomm, the auto-answer mode does not work.

For LapLink, transferring files between two machines may not work, especially for large files.

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Support Information Services
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PC Exchange 2.0.3: ReadMe File (8/95)

This article contains the Read Me file for PC Exchange 2.0.3. This version of the Read Me file was included with the PC Setup 1.0.7 update software package.

This article has been archived and is no longer updated by Apple.

Important Information About Macintosh PC Exchange 2.0

This document contains important information about Macintosh PC Exchange 2.0 (version 2.0.3) that is not included in your user's guide.

IMPORTANT

Macintosh PC Exchange 2.0 requires Macintosh system software version 7.0.1 or later.

What is Macintosh PC Exchange 2.0?

Macintosh PC Exchange 2.0 is a System 7 compatibility utility that lets you use DOS-format disks on your Macintosh. PC Exchange makes it easy to work with DOS data files on your Macintosh and to transfer files back and forth between a Macintosh and a PC-compatible computer simply by copying the files between disks.

Please note that PC Exchange will not translate or convert DOS data files into Macintosh data files. In addition, PC Exchange does not allow you to work with MS-DOS or Windows application programs on your Macintosh.

New Features

Macintosh PC Exchange 2.0:

* now works with DOS-format and Windows-format SCSI fixed and removable media storage devices (such as Iomega Bernoulli and SyQuest cartridge drives).

* now works with Apple II ProDOS-format floppy disks.

* now works with NEC DOS-format 640K floppy disks.

* lets you access DOS-format drive container files created on a Macintosh Quadra 610 DOS-Compatible computer.

* uses minimal random-access memory (less than 5K) when not in use.

* includes an on/off switch in the control panel that allows you to turn off the PC Exchange disk-mounting capability temporarily.

* comes with built-in device drivers to support a wide variety of SCSI hard disk and removable media drives.

* works on Power Macintosh systems in Macintosh 68000 emulation mode.

Software Fixes in Version 2.0.3

* Earlier versions of Macintosh PC Exchange would fail to recognize and display DOS files on DOS-format disks when the filename contained certain international characters. In this new version, DOS filenames containing international characters will be recognized by PC Exchange. However, in most cases, the DOS international characters will be replaced with alternate Macintosh international characters.

* Earlier versions of Macintosh PC Exchange 2.0 would not allow File Sharing to be turned on when a DOS-format hard disk or removable media drive were mounted on the Desktop. This new version will allow you to turn on File Sharing while a DOS-format disk is mounted on the Desktop. However, the DOS-format disk cannot be shared using the File Sharing software.

* Macintosh PC Exchange 2.0.3 now accurately recognizes WorldScript 2-byte character DOS file and volume names.

* When erasing 800K floppy disks on a Macintosh Quadra AV system, the format popup menu would list the Macintosh 800K format option twice. This problem has been corrected in version 2.0.3 of PC Exchange.

Known Problems in Version 2.0.3 of Macintosh PC Exchange

* A "Sad Mac" error may occur on your Macintosh if a removable media cartridge is left in the drive during startup. To keep this problem from occurring, manually eject removable media cartridges from the drive before you turn on your Macintosh.

* PC Exchange cannot recognize SCSI hard disks, removable media devices, or drive container files which contain more than one gigabyte of disk space.

SCSI Hard Disk and Removable Media Drives Not Supported

The following disk drives are not supported by Macintosh PC Exchange 2.0:

* Apple 5.25-inch floppy disk drive
* Maxtor 230MB SCSI hard disk drive
* Pinnacle Micro PMO-650 SCSI magneto optical drive

Installation Information

If you have already installed another PC disk-mounting utility on your Macintosh, be sure to remove it before installing Macintosh PC Exchange.

You install Macintosh PC Exchange by dragging the PC Exchange icon into the Control Panels folder of your System Folder and restarting your Macintosh.

NOTE: If you are installing Macintosh PC Exchange on a Japanese Kanji-localized Macintosh system, you must remove the "DOS640K Driver" software extension from your Extensions folder before installing version 2.0.3 of PC Exchange. If you do not remove the DOS640K Driver, you will experience difficulties when trying to read NEC DOS-format 640K floppy disks.

Strange Text Characters in a Document

In some cases your Macintosh application program may not be able to interpret the file format of a PC document. When this happens, the document's formatting is displayed incorrectly and you may see strange characters in the document. Try using a different application program or translate the document into a different file format using one of the file format translation utilities available for the Macintosh (such as MacLinkPlus/Easy Open Translators from DataViz).

Paint Programs

Some paint programs, such as MacPaint and SuperPaint, save documents on DOS-format floppy disks very slowly. To avoid this problem, always save paint documents on your computer's hard disk. If you like, you can then copy the documents to a DOS-format floppy disk.

Apple File Exchange and Macintosh PC Exchange

The Apple File Exchange software is not compatible with PC Exchange and should not be used while PC Exchange is installed. Macintosh PC Exchange 2.0 contains an easier and more intuitive method for accessing DOS and Apple II ProDOS disks on a Macintosh.

AutoDoubler

To use AutoDoubler with Macintosh PC Exchange, you must first open the AutoDoubler control panel and turn off the "Show DD on Compressed Files" option.

ClarisWorks (Version 1.0v2 or Earlier)

Some versions of ClarisWorks cannot read or write files on DOS-format floppy disks. To open a PC document in ClarisWorks, you must first copy the document to your computer's hard disk. Always save ClarisWorks documents on your Macintosh hard disk. If you like, you can then copy the documents to a PC-format floppy disk. Contact Claris to obtain version 1.0v3 or later of ClarisWorks.

Directory Assistance II

Directory Assistance II should not be used while the Macintosh PC Exchange control panel is open. You can turn off Directory Assistance II from the PC Exchange control panel by holding down the Option key while you click the Add or Change button in the control panel window. Directory Assistance II will be turned off temporarily while you use the PC Exchange control panel and will be reactivated when you close the PC Exchange control panel.

Compressed PC Disks and Files

Macintosh PC Exchange does not work with DOS-format floppy disks or SCSI hard disks that have been compressed using Stacker or other MS-DOS or Windows disk-compression utilities. Before transferring compressed DOS files to a Macintosh, you must decompress the files and save them to a noncompressed DOS-format disk.

Working With PC-Format Disks Containing Multiple Partitions

If a SCSI hard disk or removable media cartridge has been formatted to contain multiple partitions, you can use PC Exchange to mount the Macintosh-, DOS-, or ProDOS-format partitions as individual logical drives on the Macintosh Desktop. If the disk contains both Macintosh and DOS-format partitions, PC Exchange will only recognize the Macintosh partition. In addition, PC Exchange will only recognize ProDOS-format partitions on SCSI hard disks that are less than 32 megabytes.

You can use PC Exchange to erase existing individual partitions on a SCSI hard disk or removable media cartridge to the same format. However, you cannot use PC Exchange to reformat and resize individual partitions contained on the disk. Nor can you format a Macintosh-format hard disk or removable media cartridge as a DOS-format disk. To resize or reformat multiple Macintosh, DOS, or ProDOS partitions, you need to use third-party software designed for partitioning hard disk and removable media drives.

Tips for Working with DOS-Format SCSI Removable Media Devices

In order for PC Exchange to recognize SCSI removable media devices, you must turn on the device and eject any cartridges before you turn on your Macintosh system.

Do not install the device driver software that came with your removable media device. Instead, open the PC Exchange control panel, click the Options button, select your SCSI device from the list, and then restart your Macintosh. PC Exchange will install it's own device driver for that SCSI device.

The Eject Disk command is unavailable when working with removable media devices. To unmount and eject a removable media cartridge, drag the device's icon to the Trash. Once the device has spun down and the red light goes out, you can manually eject the cartridge from the drive. To access a removable media cartridge that has been ejected, simply reinsert the cartridge in the drive.

When initializing and formatting Bernoulli and SyQuest cartridges on a PC-compatible computer, use the disk setup and partitioning software that came with the SCSI controller card installed in your PC or that came with your Bernoulli or SyQuest device. Do not use the MS-DOS Fdisk command to initialize a removable media cartridge. In addition, you should use the MS-DOS Format command to format the disk before you copy DOS files to a newly initialized removable media cartridge on a PC.

When you initialize a removable media cartridge on a PC-compatible computer, you must fully partition, initialize, and erase the cartridge using the software that came with your SCSI controller card or removable media device. If you do not, PC Exchange may not recognize the new DOS-format partitions on that cartridge.

Tips for Working with DOS-format SCSI Hard Disk Drives

In order for PC Exchange to recognize SCSI hard disk drives, you must turn on the drive before you turn on your Macintosh system.

Do not install the device driver software that came with your SCSI hard disk. Instead, open the PC Exchange control panel, click the Options button, select your SCSI device from the list, and then restart your Macintosh. PC Exchange will install it's own device driver for that SCSI device.

When initializing and formatting an external SCSI hard disk on a PC-compatible computer, use the MS-DOS Fdisk command or the disk setup and partitioning software that came with the SCSI controller card installed in your PC. In addition, you should use the MS-DOS Format command to format and erase the disk before you copy DOS files to a new SCSI hard disk on a PC.

Additions to the User's Guide

If you change the volume name of a DOS-format disk to a name that is longer than 11 characters, the disk name will be shortened when you view

it on a PC-compatible computer.

If Macintosh PC Exchange encounters a problem while formatting a floppy disk, an Updating Disk dialog box may appear. This dialog box shows the status of the updating process. To stop the disk from being updated, you can click the Cancel button. This cancels the initialization process and the disk is ejected from the disk drive.

You cannot create an assignment with a blank DOS suffix in the PC Exchange control panel.

Common MS-DOS File Suffixes

.BAK Backup document (used by word processing programs)
.BAS BASIC program (cannot be used on a Macintosh)
.BAT Executable DOS program (cannot be used on a Macintosh)
.BMP Windows Bitmap graphic
.CDR CorelDraw graphic
.CGM Computer Graphics Metafile graphic
.COM Executable DOS file (cannot be used on a Macintosh)
.CWK Clarisworks document
.DBF dBASE database file
.DIF Data Interchange Format (used by spreadsheet and database programs)
.DLL Windows Dynamically Linked Library (cannot be used on a Macintosh)
.DOC Microsoft Word document
.DOX Multimate v4.0 document
.DWG Autocad drawing
.DXF Autocad drawing in exchange format
.EPS Encapsulated PostScript file
.EXE Executable DOS file (cannot be used on a Macintosh)
.INI Windows preference file
.OBJ Compiled object file (cannot be used on a Macintosh)
.PCC PC Paintbrush graphics file
.PCX PC Paintbrush graphics file
.PIC Lotus 1-2-3 graphics file
.PM3 PageMaker 3.0 document
.PM5 PageMaker 5.0 document
.PM4 Pagemaker 4.0 document
.PRG dBASE program file (cannot be used on a Macintosh)
.PRN DOS 'Print' file
.RFT DisplayWrite Revisable Form Text (DCA format)
.SAM AmiPro document
.STY Microsoft Word style sheet
.SYL SYLK format (used by spreadsheet and database programs)
.SYS DOS system file (cannot be used on a Macintosh)
.TIF TIFF graphics file
.TXT ASCII text file
.WDB Microsoft Works database
.WKS Lotus 1-2-3 spreadsheet, version 1
.WK1 Lotus 1-2-3 spreadsheet, version 2
.WK3 Lotus 1-2-3 spreadsheet, version 3
.WMF Microsoft Windows Metafile
.WP OfficeWriter or WordPerfect document
.WPF WordPerfect document
.WPG WordPerfect graphics file
.WPS Microsoft Works word processing document
.WQ1 Quattro Pro spreadsheet
.WS WordStar document
.XLA Microsoft Excel add-in macro
.XLT Microsoft Excel template
.XLC Microsoft Excel chart
.XLM Microsoft Excel macro
.XLS Microsoft Excel spreadsheet
.XY XyWrite document

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Support Information Services

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MacsBug 6.5.3: Read Me

This article contains the Read Me file included with MacsBug 6.5.3. The most current version of software is available at the following URL: **http://developer.apple.com/tools/debuggers/MacsBug/**. For more information on MacsBug versions, please see the following Tech Info Library article:

Article 24204: **Mac OS 8: Support For MacsBug**

Note: MacsBug is a developer tool, and is not required to use Mac OS.

This article has been archived and is no longer updated by Apple.
About MacsBug 6.5.3

POWERPC STACK CRAWL

Two bugs were fixed in Mixed Mode SC6 stack crawls. The stack crawl would always terminate when it encountered a 68K to PowerPC switch frame. It would also terminate with no output in the PowerPC to PowerPC case if the current routine's frame hadn't yet been set up.

DISASSEMBLY

When MacsBug is entered because of a crash, it no longer tries to disassemble instructions around the current PC if it is at an invalid address (odd, unmapped, etc.). This means that if a program somehow jumps into hyperspace, MacsBug won't eat itself alive with another exception. Instead, it will display a helpful message in the PC window area.

The PlayMem 512-byte scratch area will now disassemble with a name and offsets.

The '...' character (Option-;) is now a shortcut for the address in the comment field at the current PC. This is most useful when you want to disassemble at the target of a branch at the current PC. With this shortcut, you no longer have to type the actual address.

The IL, IP, and ID commands support a '-c' parameter, which means current ISA. For example, il...-c (where '...' means branch target effective address) disassembles using the correct disassembler automatically. This feature is best used inside of a macro, and the new standard macro IT takes advantage of it (see the Macro section below).

POWERPC DISASSEMBLY

Fixed a bug in the PowerPC disassembler front-end logic which would only let you disassemble code at addresses after the system heap start and below the last byte of contiguous RAM (not logically remapped memory), in PowerPC file mapped space, or in the ROM. Any other location would get you an unable to access that address message.

Rolled in the latest version of the disassembler. It's a little smaller, and it fixes a problem where the extended mnemonic mr. was incorrectly disassembled as mr.

The disassembler now calls the full symbol lookup code when performing effective address replacement. This fixes two problems; 1) bls to C++ functions now shows the unmangled name, 2) bls to functions not owned by CFM which contain traceback symbols will correctly find and use the names.

68K DISASSEMBLY

In 68K disassembly, MacsBug no longer says will set to ones for the $50FF instruction (it's an illegal 68K instruction). Added will trap and will not trap for the various trap instructions.

POWERPC EXCEPTIONS

Taking a PowerPC exception no longer trashes the 68K registers D0, A0 and A1. This meant that as you stepped PowerPC code, some 68K registers were silently changing.

MacsBug now tries to protect itself from installing its PowerPC exception handler twice. This fixes the problem on certain Performa 5200/6200 configurations where you couldn't set breakpoints or step in PowerPC code.

SYMBOL LOOKUP

Sped up the PowerPC and 68K embedded symbol lookup when using the Command-: pop-up and when evaluating any name in an expression.

Significantly reworked the embedded symbol lookup code to better deal with areas of code that are PowerPC, but aren't known by CFM (such

as accelerated resources). In the past, if code wasn't known by CFM, it was assumed to be 68K, and the PowerPC traceback code was never given a chance to find symbols. That could give very misleading information since quite often parts of PowerPC tracebacks look like old fixed-length 8-character MacsBug names.

Reduced the character space for valid traceback symbols to match embedded 68K symbols. This should remove a number of invalid symbols.

When showing what PowerPC fragment an address is within, we now show the byte offset into the fragment. This helps when you're in VM file mapped space and thus not in a heap block.

Rolled in the latest C++ symbol unmangler. It's way cool, and attempts to make sense out of the varying mangling schemes in the ARM, xlC, MrC, Symantec, and CFront. It does a very good job, too.

Refreshing the scrollback area after the Command-: symbols pop-up is dismissed now correctly accounts for a scrolled history buffer and doesn't redraw the wrong text.

REGISTER EVALUATION

I can't believe this has been broken for so long (all previous versions of MacsBug 6.5). When running with VM on, the value to which SP and A7 evaluate was the interrupt stack pointer, which is wrong. They now correctly evaluate to the value displayed in the regster area for A7.

All 68K Dn and An registers are now valid when in PowerPC code. This means you can now display and change them, regardless of the current instruction set. I could go on about how this took some serious voodoo magic, but it didn't.

BREAKPOINTS

Added support for a low-level PowerPC Debugger trap that will stop on the instruction after the trap, without modifying any registers. This is useful for stopping in arbitrary locations within hand-written assembly code. With this special trap, you don't have to make a cross-TOC call to the high-level Debugger implementation which destroys the volatile registers. The trap instruction is:

#define kPowerPCLowLevelDebuggerTrap 0x7F800008 // tw LT|GT|EQ,r0,r0

This trap instruction behaves much like the high-level Debugger call in that it can be enabled and disabled with the DX (Debugger Exchange) command.

The BRM command (Breakpoint Multiple) works again for the first time in years. It was broken in the first version of MacsBug 6.5.

STEPPING

Fixed a bug in the mode switching step logic. If you stepped across a PowerPC to 68K boundary with a step count or expression (ie. Step until PC = blah), the 68K code on the other side was disassembled as PowerPC. The instruction set associated with the current PC, which is passed into the disassembler, was synchronized only when a 68K to PowerPC switch occurred.

After a step, we now show things of interest that may have changed. Currently MemErr, ResErr, and QDErr are watched. If there's anything else cool we should watch, let us know. Here's a sample line of output when the value of ResErr changed when a Step Over was executed:

```
Step (over)
'CODE 0002 08D2'
+0274C 00CCFDBC _GetResource ; 00049BAE | A9A0
… ResErr changed to #-192 (from #0)
```

For drivers that like to call the Memory Manager, we need to save and restore MemErr around all of the video driver calls in the step code path. This means MemErr won't get reset to zero as you step.

A-TRAP ACTIONS

Fixed A-Trap actions when tracing over a trap to actually work again. For example, if you break on MountVol, and then set an ATB on Read, and then trace over the MountVol, you won't break on Read even though it's being called a number of times. This was broken in MacsBug 6.5.2 in an attempt to fix anther bug. Both are now fixed.

A-Trap disassembly and breaking has been significantly enhanced to support all variants of each trap word. For example, we now correctly disassemble the trap word 0xA22E as BlockMoveData, and you can now break on it by name. We'd suggest using the new API command to browse the full namespace that MacsBug supports for trap display and breaking.

Updated trap selectors for DisplayDispatch, ColorSync 2.0, HFSUtil, FSM, ReleaseFolder, QuickTime and SoundDispatch.

API COMMAND

Added a new command, API. This command shows anything MacsBug knows about a given trap or trap range. It shows if the trap has selectors, what those selectors are, and if they are implemented in 68K code, PowerPC, or both. It's way cool, and will show even more info in the future.

HEAP DUMPING

The HD command (Heap Dump) has new options that can greatly reduce the number of heap blocks you need to examine during debugging. The '-s' and '-e' options allow you to constrain the range of addresses that are dumped within the current heap. The ' -s' option lets you specify the starting address, and '-e' lets you specify the ending address. If you use the two options together, '-e' can optionally be used as a byte count. If the end is less than the start, it's a length.

To limit display to blocks of certain sizes, you can use up to two options of the form ,<20. The possible tests are <, =, >, <=, and >=. For example, HD RS,>1K,<5K shows resource blocks with sizes between 1K and 5K.

COMMAND LINE

The macro GG (clear breaks and Go) no longer gets saved into the command-line history.

Made the command line history logic sensitive to case. This is useful such as when you capitalize a case-sensitive CFM symbol incorrectly and then repeat the command. The corrected version now gets saved in the command history.

Parameter parsing works much better, because binary '-' (subtraction, not negation) can no longer have a blank before it. This means that commands such as RD -f 2 -i 3 now work, for example. Previously, it would try to evaluate 2-i.

MACSBUG PREFERENCES FOLDER

The MacsBug Preferences folder can now be located in the same folder as MacsBug (the System Folder) or within your Preferences folder (actually whatever it's called, we're international-savvy). You can place your various preferences files within either or both of these folders. As before, up to 32 files will be opened (this is the sum total of both folders, not 32 per folder).

DCMDS

The PC window now redraws if a dcmd modifies the current PC.

Updated the Errors dcmd to match the latest Errors.h header file. I also rewrote it in C because I was bored one night (yes, that bored).

Fixed two problems in the Leaks dcmd which could cause it to crash on 68K machines. It now does Mixed Mode stack crawls only if it's on a PowerPC machine. The PowerPC crawl now validates the back chains as it climbs over switch frames. Updated the display of ISAs to be more consistent with MacsBug.

The Gestalt dcmd has been enhanced, and now takes two options. It can be asked to just show one selector as in Gestalt 'sysa', and it can just dump the installed selectors without calling them as in Gestalt -n.

The RD dcmd has a new option, '-o', which turns on display of resource data offsets. Some labels have been abbreviated to save space.

The functionality of the StopIf dcmd is now part of MacsBug as a built-in command. The external implementation was quite lame in that it poked MacsBug's globals (incorrectly, for the last couple of years).

Fixed a problem where the A7 register as passed to dcmds with VM on is the wrong stack. It was always passing the interrupt stack pointer, when it really should be the one shown in
the register display area as A7.

Universalitized dcmd.h and dcmd.p. All constants are now enums, rather than #defines. The input strings to callbacks that are constant are now declared properly. The files are now
wrapped in the standard C++ and structure alignment goo.

Added the FSInfo dcmd (by Jim Luther), and made it format 3. It has a new option, '-t', which shows a summary table of all installed external file systems.

When warning that you have duplicate dcmds, the compare is now case-insensitive, so we don't miss any.

Updated all of the sample dcmds sample build commands to be current.

Included the latest PowerPC dcmds in their own file, PowerPC dcmds.

MACROS

Added MPW SetKey-style key bindings for all extended keyboard function keys. You can define macros that get executed when any of the keys are hit. The macros expected are of the following form (where 'n' is the function key from 1 through 15):

DoFn
DoCmdFn
DoOptFn
DoCmdOptFn

The extended keyboard keys Help, Home, Page Up, Forward-Delete, End, and Page Down are now supported. With Help you can type a command name and then Help, and you'll get that specific reference section. Help alone gives you the entire help text (pressing Help places a '?' as the first character on the command line and then presses return for you).

Added cw and cwp macros for breaking into the Metrowerks debugger in 68K and PowerPC code, respectively.

The size of the buffer in which you can create macros at runtime has been increased from 256 bytes to 1K.

The MC command (Macro) now wraps output properly, rather than having it extend off of the right side of the screen.

Added comments to some common macros, which are now shown if you get help on a macro.

Added a macro named IT which disassembles the target effective address at the current PC. This is a shortcut for typying ILP ... or IL ... (the macro does the right thing and gets the instruction set correct).

Added a TimeTasks macro for walking though all of the currently pending Time Manager tasks.

TEMPLATES

Added some new basic types: SECONDS, ATRAPWORD, BINARY8, BINARY16, BINARY32, and OSTYPE. A number of the standard templates were changed to use these new types.

The CGrafPort template now references the portPixMap as a PixMap, rather than a handle.

The IOREFNUM basic type now displays driver names as well as file names.

Duplicate definitions of DCtlEntry and Driver were removed from the standard templates.

LOGGING/STDLOG

MacsBug now knows what version of the system it's running on when you break into it right after it loads. This means log files at boot time will go to the desktop by default (among other internal behaviour changes).

The log mechanism has been enhanced to be as robust as it can be, given the runtime MacsBug lives in. We now make sure interrupts are enabled when both printing and logging. We no longer write data to the log file when the file system is busy (as best as we can tell), and you'll get a warning message if it is. This should clean up a lot of lockups if you NMI with logging on. Writes to the log no longer go into the file system cache. When writing to the log file, we now flush the volume as well as the file. This way all logging actions should stick even if you crash with the file still open.

The StdLog macro (and any others that use the SET SUSPENDPROMPT feature) no longer randomly starts prompting you to press return again after a dcmd executes.

Fixed the StdLog macro so it doesn't change your current TargetZone (the calls to HX are now balanced).

The STAT command now displays the Gestalt 'sysu' (System Update version) value if it's present.

MISCELLANEOUS

Help on the Help command works reliably now.

Added a new SET option, SIMPLIFIED. This allows you to toggle the display of PowerPC extended mnemonics.

If MacsBug is running on a PowerPC machine, it now ignores what Gestalt says and records that the ROM is really 4 MB. This means that using the WH command (Where) in the last 1 MB of the ROM will say it's in ROM, because it really is. Previous versions of MacsBug thought ROMs on PowerPC machines were 3 MB (that's the size of the 68K portion).

The U.S. KCHR that we distrbute is now the System 7.x one instead of 6.x.

A command of # (pound sign followed by a blank) means the rest of the line is a comment. This is useful in macros.

If we have a '#' in front of a decimal constant and fail to convert it, that's an immediate syntax error. We no longer incorrectly proceed to look it up as a symbol.

The machine names list had an incorrect 'mach' value for the 8100/100.

Blank Return just scrolls display by one line, so you can now insert blank lines into the history if you wish.

The internal processor cache range flush routine now goes to extra efforts to make sure that the cache flushing A-Trap it calls is implemented before calling it. This makes SM (Set Memory) and breakpoints work at boot on older Mac IIs.

The 6100/7100/8100 sound driver bus error fix now only runs on 7.5, 7.5.1, and 7.5.2. The real bug has been fixed in System 7.5.3.

The CS command (Checksum) now shows the checksum value. The trivially simple 68K assembly code to do the checksum is:

```
*****************************************************************
;
; pascal long ComputeChecksum(Ptr lowAddr, Ptr highAddr);
;
; Calculate checksum over specified address range. Checksum is
; calculated by summing one byte at a time into a long word
; starting from the low address, and rotating left 1 bit (high
; order bit rotates to low order bit) after each byte is added.
;

ComputeChecksum FUNC EXPORT

move.l (sp)+, d0 ; Return address
movea.l (sp)+, a1 ; High address
movea.l (sp)+, a0 ; Low address
move.l d0, -(sp) ; Restore return address
moveq #0, d0

; Sum bytes in long word, rotating left one bit after each byte is added.

@loop add.b (a0)+, d0
rol.l #1, d0
cmpa.l a1, a0
ble.s @loop
move.l d0, 4(sp)

rts

ENDF
```

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Power Macintosh 6100 DOS Compatible: ReadMe File

This article contains the Read Me file for the Power Macintosh 6100 DOS Compatible. This version of the Read Me file was included with the PC Setup 1.0.7 update software package.
This article has been archived and is no longer updated by Apple.

```
Using DOS and Window Applications
With the DOS Compatibility Card for Macintosh

This document contains important information about using your DOS Compatibility Card that is not included in
your user's guide.

Contents:
- Using Memory Management Utilities
- Using the Serial Ports on the Macintosh
- Using Video
- Using the Apple Adjustable Keyboard
- Using Backup Programs
- Using MacShare
- Using PC Drives and Partitions
- Using Floppy Disks and CD-ROM Discs
- Installing Microsoft Office, Word, or Excel
- Using the Two-Button Mouse
- Sound Control Panel Settings
- Using the Sound Blaster Card
- Multimedia and Game Applications
- Printing
- Using After Dark 3.0
- Caches
- Serial Port Pinout

Using Memory Management Utilities

If you use a memory management utility such as EMM386 or QEMM, you need to configure it to be compatible with
your DOS Compatibility Card.

* If you will be using EMM386 (included as part of DOS) and you don't require expanded memory, set CONFIG.SYS
to:

DEVICE=C:\\DOS\\EMM386.EXE NOEMS RAM=D000-EFFF

If you require expanded memory, set CONFIG.SYS to:

DEVICE=C:\\DOS\\EMM386.EXE RAM=D000-EFFF FRAME=D000

* If you use QEMM, it is recommended that you use the frame option (ST:F):

DEVICE=C:\\QEMM\\QEMM386.SYS RAM ST:F ARAM=B080-B7FF ARAM=C900-DFFF R:1

* If you choose to use the Stealth mapping option (ST:M), set CONFIG.SYS to:

DEVICE=C:\\QEMM\\QEMM386.SYS RAM ST:M X=C800-CFFF X=FC00-FCFF X=FE00-FFFF ARAM=B080-B7FF ARAM=C900-DFFF R:2

For other memory management utilities, configure them so that the only areas in the BIOS that can be mapped to
upper memory are from D000 through EFFF.

Make sure you verify that the HIMEM.SYS line in the CONFIG.SYS file has the switch to turn memory testing off.
 If the  HIMEM.SYS line doesn't turn memory testing off, the ROM BIOS may become corrupted when the DOS
Compatibility Card is configured for 2 MB of memory:

DEVICE=C:\\DOS\\HIMEM.SYS /TESTMEM:OFF

NOTE  Apple does not recommend using automated memory configuration utilities with the DOS Compatibility Card
because they can require more memory than management utilities you configure manually.  They can also be
incompatible with the DOS Compatibility Card.
```

Using the Serial Ports on the Macintosh

The maximum baud rate supported by the DOS Compatibility Card when a COM port is mapped to a Macintosh serial port is 19,200. If you're capturing serial output to a Macintosh file, there is no limit.

Due to the RS-232 implementation of the Macintosh, not all RS-232 signals are available. These signals are not available: Carrier Detect (CD), Data Set Ready (DSR), Request to Send (RTS), and Ring Indicator (RI). If your application or serial device requires these signals, it will not work.

NOTE See "Serial Port Pinout" later in this document for a list of the Macintosh and PC connectors.

The DOS Compatibility Card does not support Carrier Detect (CD). You must configure your communications applications so they do not use CD. Most communications applications can be set to respond to the CARRIER string sent back by most modems.

Using Video

* Correcting Video Synchronization (Video Synch)

Some application programs that write directly to the hardware (especially games) may cause the Apple 13", 14", and 16" monitors to lose video synch when you start the program. If this happens, call the software company to see if one of the following conditions exists:

1. There is a switch to force the application program to make BIOS calls.

2. There is an upgrade available with this feature.

These applications will run on a standard VGA, SVGA, or MultiSync monitor.

* Getting Color on Your VGA Monitor

Due to the way some programs check for color VGA, they may be installed in VGA monochrome. In these cases check the documentation that came with your software to see if there is a setup option to install standard VGA. If the setup option is available, install the software with the standard VGA option. Once a program is installed with standard VGA, it will always display in color.

If you are installing Windows, even though the SETUP program comes up in color, the express setup may install in VGA monochrome. To avoid this you can use the custom setup and verify the video is set to VGA in the configuration screen.

Another way to avoid installing in VGA monochrome is to use the INSTALL.BAT file located on the DOS Compatibility Card Installer (for the DOS Environment) disk. Follow these steps:

1. Run the INSTALL.BAT command, but choose not to install.
The Installer places WINSETUP.BAT and a hardware information file on your C:/ volume.

2. Use the WINSETUP.BAT file to install Windows.
This will force Windows to install in color. You can also use the Windows SETUP program to change the video at any time.

* Using the Video Drivers

Included with your DOS Compatibility Card are video drivers for Windows and third-party applications. These drivers allow you to run Windows with 256 colors at 640 by 480, or if you are using an Apple 16" or VGA display, 16 colors at 800 by 600. Follow these steps:

1. Insert the Display Driver Disk 1 disk in the floppy disk drive while the PC is in the foreground.

2. From DOS, set the current drive to A by typing:

A:

3. Run the setup program by typing:

SETUP

Follow the instructions on the screen to install the video drivers.

NOTE If you are using an Apple 16" monitor, DOS will always be displayed at 640 by 480 centered on your monitor.

Using the Apple Adjustable Keyboard

If you are using an Apple Adjustable Keyboard, you cannot use key combinations that combine keys from the main keyboard with function keys at the same time (such as shift-F1). For this reason, you cannot restart the DOS Compatibility Card using the Control, Alt, and Delete key combination. If you need to restart the DOS Compatibility Card, use the Reset button in the PC Setup control panel.

Using Backup Programs

To back up the drive files on your Macintosh, either make a copy of the files by duplicating them in the Finder, or use a Macintosh backup application program. Do not use PC backup programs. PC backup programs do not work because the floppy disk drive is controlled by the Macintosh.

Using MacShare

MacShare is a PC application program included with your DOS Compatibility Card software that allows the PC to view Macintosh folders and volumes as drive letters on the PC. MacShare allows as many shared drives as there are drive letters. To specify the number of drive letters, modify your CONFIG.SYS to include a LASTDRIVE statement:

LASTDRIVE=x

x must be a letter between E and Z because the PC reserves drives A through D for its floppy and hard disk drives. For example, if you use M as your LASTDRIVE value, you could have up to nine extra drives (using drives labeled E through M). The CD-ROM driver, if installed, will use one letter.

NOTE Each additional drive letter uses 100 additional bytes of PC memory.

Using PC Drives and Partitions

The PC Setup control panel allows you to use PC SCSI drives and partitions with the DOS Compatibility Card. If you use a PC drive or partition and you have a utility that mounts these devices on the Macintosh, be sure to unmount the drive or partition before starting the PC by dragging its icon to the Trash. If you don't unmount the drive or partition, you may lose data since both the Macintosh and the PC may write to the device at the same time.

NOTE If you are using Apple's Macintosh PC Exchange 2.0 to mount PC devices, the software alerts you if you try booting the PC while the device is mounted.

If you intend to mount your PC drive file, partition, or disk on the Macintosh using a utility such as Apple's Macintosh PC Exchange, do not use a PC compression program. Drives that are compressed cannot be mounted.

Using Floppy Disks and CD-ROM Discs

Simultaneous use of multiple CD-ROM drives is not supported. When the PC is in the foreground, you cannot insert Macintosh floppy disks into the floppy disk drive. The PC ejects a Macintosh floppy disk if one is inserted. Also, Photo CDs can not be read on the PC side of the DOS Compatible.

Apple 600i and Apple 600e CD-ROM drives work with the DOS Compatibility card when used with Apple CD-ROM extension version 5.0.4. Standard installations of system software version 7.5.1 or earlier do not include the Apple CD-ROM 5.0.4 driver. This driver is included with Apple 600e CD-ROMs or can be obtained from Apple

Technical Support.

Write-protected PC floppy disks can be accessed by both the PC and the Macintosh. Write-enabled floppy disks can be accessed only by the environment that was in the foreground when the floppy disk was inserted.

To eject a floppy disk while the PC is in the foreground, press Command-E.

NOTE Using Command-E works only when the PC can access the floppy disk. Otherwise switch to the Macintosh and eject the floppy disk from the Macintosh.

CD-ROM discs can be accessed by both the Macintosh and PC (if the included PC software is installed). To eject a CD-ROM disc from the PC, press Command-Y. If the CD-ROM disc cannot be ejected (because a file is in use or the CD-ROM is being shared), the Macintosh beeps to notify you and will not eject the CD-ROM disc.

Audio CDs cannot be controlled from both Windows and the Macintosh environment at the same time. One or the other must be used.

The PC side sets up a drive letter (E:) for a CD-ROM drive although no drive is attached. If no CD-ROM drive is connected to your system, this drive letter (and some memory) can be freed up by editing these files:

AUTOEXEC.BAT
REM LH C:\\DOS\\MSCDEX /D:CDDRVR /L:E

CONFIG.SYS
REM DEVICE=C:\\Apple\\CDROM.SYS /D:CDDRVR

Prefacing these commands with "REM" will cause DOS to ignore them.

Playing an audio CD in Windows while running low-level media tools, such as PC Tools or Microsoft Anti-Virus, may cause a crash. It is best to reduce computer activity to a minimum while using such tools.

Installing Microsoft Office, Word, or Excel

When you install Microsoft Office 4.2c or later, Microsoft Word 6.0c or later, or Microsoft Excel 5.0c or later, make sure that you use a CD-ROM installation disc or floppy disks that are non-DMF. (DMF is Distribution Media Format, Microsoft's recently changed installation disk format. DMF disks store 1.7 MB of data rather than the 1.44 MB on a single 3.5 inch high-density disk. During installation with DMF disks, an error will be reported when installing the second disk, and you won't be able to complete the installation.)

Non-DMF installation disks can be obtained from Microsoft by calling 1-800-426-9400.

Using the Two-Button Mouse

The standard Apple mouse has no right button and users must press the "extended =" key whenever they intend to use right button functions in one of their PC applications. However, users of a third party programmable mouse or trackball, such as Kensington Turbo Mouse 4.0 or Logitech MouseMan ADB, can use the utilities included with their mouse to map the "extended =" key to the right hand button.

The Kensington Turbo Mouse 4.0 includes two utilities to configure its buttons. They are: "Turbo Mouse Control 4.0.2" and "Turbo Mouse Basics 4.0.2". "Turbo Mouse Control 4.0.2", an application that requires an extension, does not effectively map the "extended =" key to the right button and should not be used. "Turbo Mouse Basics 4.0.2", a control panel, correctly maps the "extended =" key to the right button and should be used instead.

Sound Control Panel Settings

For sounds generated by the Sound Blaster card and for sounds from the PC, the Sound Control Panel must be set with the Internal CD playthrough enabled. The User's Guide will explain how to make this setting (see pg. 54). With System 7.1.2, however, the setting is lost after each reboot. Install the System Update 3.0 software to correct this problem so that the playthrough setting is retained after each reboot.

QuickTime also turns off the playthrough option. This has the effect of cutting off all PC and Sound Blaster

card sounds. QuickTime v1.6.2 will turn off playthrough and not restore it, while QuickTime v2.0 will restore playthrough back to its original state.

Using the Sound Blaster Card

The PC Sound control in the PC Setup control panel does not effect sounds produced by the Sound Blaster card. Only PC-generated sounds such as the system beep are affected by this control. Use the master volume control of the Mixer Control application from the Audio program group, or turn off the Internal CD playthrough to turn off both PC and Sound Blaster generated sounds (see pg. 54 of the User's Guide).

The Sound Blaster daughter-card included on your DOS Compatibility Card will play sounds as expected, but is not able to record them.

The DOS Compatibility Card does not fully support Sound Blaster 8-bit, Sound Blaster 2.0 or Sound Blaster Pro drivers. If problems occur, select the Sound Blaster 16 driver that comes with the DOS Compatibility Card.

Multimedia and Game Applications

These types of applications, whether they are run in the PC or Macintosh environments, will see a marked performance improvement with the installation of a memory SIMM onto the DOS Compatibility Card. QuickTime application performance is especially improved with the addition of a SIMM.

Printing

The recommended print driver to use with your DOS or Windows application when printing to a QuickDraw (non-PostScript) printer is the Epson LQ-2500.

If the top and bottom of your document gets clipped when you are printing from your PC, follow these steps:

1. Double-click the System Folder on your Macintosh and open the Extensions folder.

2. Double-click the PC Print Spooler.

3. Choose Preferences from the File Menu.

4. Click the button for "Gaps between pages (60 lines)" (under "When emulating an Epson printer").

You can also set notification and status options in this dialog box.

For DOS or Windows printing on the DOS Compatibility Card, we recommend using LPT1.DOS or LPT1. In general you must use printers that are Macintosh compatible, and use their corresponding printer extension for the Macintosh, selectable in the Chooser. However, in a PC Novell Netware environment you can print to a PC-compatible printer attached to a Novell network (refer to the Network Installation Guide on how to set up a Novell client).

Printing to a Postscript Printer

If you have a Postscript printer, open the Printers icon in the Windows Control Panel and select a Postscript driver. We recommend the Laserwriter IINT driver or Windows Postscript driver. In the Macintosh Chooser, select the corresponding printer extension for your type of printer.

Printing to a QuickDraw Printer

If you have a QuickDraw (non-Postscript, non-PCL printer) such as an Apple's ImageWriter or StyleWriter, or HP's DeskJet printer:

* Open the Printers icon in the Windows Control Panel and select the Epson LQ-2500 driver.
* In the Macintosh Chooser, select the corresponding printer extension for your type of printer.
* In the Macintosh Extension folder, launch the PC Print Spooler by double-clicking its icon in the Extension folder.

* From the File menu, select "Preferences".
* Click on the Epson option for "Interpret non-Postscript As" to enable the Epson emulator.

The Epson emulator works by first translating the DOS text to a similar Macintosh font, then interpreting that text into a series of QuickDraw commands. Some characters in the original DOS character set may not have exact translations to a Macintosh font. The use of a PostScript font is recommended in these cases, since use of the PostScript standard requires no translation.

The Epson emulator does not support color or greyscale. When printing from the PC to a Color or Grayscale printer, make sure to select the Black & White option from the Print dialog.

Printing to a PCL Printer

When printing to a PCL (Page Control Language) printer, printing is limited to text-only when printing over an AppleTalk connection. To set up this configuration:

* Open the Printers icon in the Windows Control Panel and select your printer's driver.
* In the Macintosh Chooser, select the corresponding printer extension for your type of printer.
* In the Macintosh Extension folder, launch the PC Print Spooler by double-clicking its icon in the Extension folder.
* From the File menu, select "Preferences".
* Click on the PCL option for "Interpret non-Postscript As" to enable PCL printing.

Additionally, PCL printing of text and graphics together is possible when printing over a Novell network, where a PC print server is connected to the PCL printer and handles the printing job. Select your printer's own driver in the Windows Control Panel.

Using After Dark 3.0

Do not use the PC Setup control panel "Switch at Startup" option when using After Dark. When switching to the PC side, make sure After Dark 3.0 for the Macintosh is turned off.

Caches

Your DOS Compatibility Card works best with the Macintosh computer's caches enabled. Follow these steps to enable the caches:

1. Choose Control Panels from the Apple menu.

2. Open the Cache Switch control panel.

3. Click the button for Faster (caches enabled).

4. Close the Cache Switch control panel.

Serial Port Pinout

To connect existing PC serial devices to your Macintosh, you need cables with the correct pinout. The following chart matches the Macintosh pin (Mac Mini DIN-8) with the corresponding PC pin (DB-25):

Mac Signal	Mac Mini DIN-8	DB-25	RS-232 Name
HSKo	1	20	DTR
HSKi	2	5,8	CTS, DTS
TXD-	3	2	TXD
GND	4	7	GND
RXDA-	5	3	RXD
TXDA+	6	N/C	
GPi	7	N/C	
RXD+	8	7	GND

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Published Date: Feb 19, 2012

At Ease: Are "Hot Keys" Still Active?

While using At Ease 3.0 for Workgroups or At Ease 2.0.3, switching to DOS using a DOS Compatible card.
This article has been archived and is no longer updated by Apple.
Although At Ease will prevent you from launching a control panel, At Ease will not prevent hot keys from being activated. The purpose of a control panel is to give functionality to the Macintosh and if the functionality includes the use of a hot key, only the control panel can set whether or not it is active. However, for security reasons, At Ease does disable the space bar hot key from opening the Extensions Manager at startup time.

Currently, the hot key to toggle between Macintosh and DOS cannot be disabled (only changed) and therefore if PC Setup is loaded at startup time the hot key will be active.

Other Apple control panels that are activated or affected by hot keys are WindowShade, Easy Access, CloseView, and Keyboard. The hot keys are active if the control panel loads at startup time and the hot keys are required to use or activate that control panel.
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Megaphone: Caller Hears Me, I Can‘t Hear Them (5/96)

This article gives suggestions for troubleshooting a problem encountered when using the MegaPhone software. After establishing a telephony connection with another person, you cannot hear the other party, but they can hear you.
This article has been archived and is no longer updated by Apple.
This appears to be a conflict between the telephony software and the External CD Sound extension. The External CD Sound extension allows you to connect an external CD-ROM player and play audio CD-ROM discs through the internal speaker. See the TIL article "System 7.5: What The External CD Sound Extension Does" for more information on what this extension does.

You can work around this issue by disabling the External CD Sound extension by either removing it from your Extensions folder in your System Folder or using the Extensions Manager control panel to turn it off. In either case, you will have to restart your Macintosh before the changes will take effect.

You should also make sure that the Internal Modem Sound extension is present in your Extensions folder. If you have a Macintosh Performa 5300 or 6300 series computer, or have installed the Audio Volume Installer update, instead of the Internal Modem Sound extension, you should verify that the Audio Volume extension has not been removed.

The appropriate file can be found on your startup disc using the path: Hard Disk Files -> System Software files -> Extensions ->.

Once you copy the file to your hard disk, drag the file over your closed System Folder. Click OK when the system software asks to place the file in its proper folder.

Since your Performa has an internal CD-ROM drive, the presence or absence of the External CD Sound extension should not affect the operation of the computer. If you want to hear audio CD-ROM discs played on an external CD-ROM player through your computer's internal speaker, you will have to reinstall the External CD Sound extension or turn it back on in the Extensions Manager and restart.

Article Change History:
23 May 1996 - Changed wording for clarity.
25 Jan 1996 - Corrected minor typo.
18 Jan 1996 - Clarified Performa 6300 information.

Published Date: Feb 19, 2012

Quicktime 2.0: About QuickTime Extras ReadMe File (8/95)

This article contains the Read Me file included with the Quicktime Extras folder in the new Power Macintosh 7200, 7500, 8500, and 9500 computers.
This article has been archived and is no longer updated by Apple.
Welcome to QuickTime

The QuickTime system software extension enables you to integrate graphics, sound, video, text, music, and animation into documents. By providing a standard way for all Macintosh programs to control these multimedia elements, QuickTime makes them easier to use. QuickTime 2.0 includes support for larger, smoother, video, as well as time-code, 16-bit audio compression, and MPEG. It also includes support for synthesized music.

You do not interact directly with the QuickTime extension. It works behind the scenes as part of your system software, providing new features to application programs that support QuickTime. The specific features of QuickTime and how they are presented depend on the programs you use.

The QuickTime Extras folder includes:

- sample movie files
- the QuickTime Musical Instruments extension (on the CD)
- Movie Player 1.0

NOTE: This is not included in the original Read Me file.
The Power Macintosh 7500 and 8500 shipped with MoviePlayer 2.0 on the hard drive.

To play sample movies:

To play a sample movie, double-click the movie's icon, then click the Play button of the Movie Controller.

QuickTime Musical Instruments:

The QuickTime Musical Instruments file contains many musical instrument samples that you can use in QuickTime movies.

To Install QuickTime Musical Instruments:
1. Drag the QuickTime Musical Instruments icons from the CD to your hard disk's System Folder icon (not into the open folder).
2. Click OK in the dialog box that appears.
3. Restart your Macintosh.

For Software Developers:

The QuickTime 2.0 Developer Kit includes tools for creating and editing movies, compressing audio, and adding time code to movies. It also includes sample movies such as music movies, MPEG movies, time-code movies, and technical documentation. It is available from the Apple Programmers and Developers Association (APDA) for $195.

APDA:
1-800-282-2732 in the U.S
1-800-637-0029 in Canada
1-716-871-6555 for other countries

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Support Information Services
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Performa with Backup CD: Where is Apple Backup? (8/95)

I cannot find Apple Backup on my new Performa computer. Was I supposed to receive it?
This article has been archived and is no longer updated by Apple.
Since a backup of all the software that came pre-loaded on your Performa is provided on the Macintosh Performa CD-ROM disc, and making floppy disk backups would require over 100 floppy disks, Apple Backup has been removed from the Summer 1995 release of Macintosh Performa models. This includes the Performa 631, Performa 640 DOS Compatible, 5200 series, and 6200 series computers.

If you need to back up individual files, you can drag-copy the files to floppy disks.

If you need to restore applications or your system software, you can do so from your Macintosh Performa CD, following the instructions in your Macintosh Performa User's Guide. You can also use the search string "performa adj backup" to locate the TIL article: "Performa: Backing Up and Restoring" for additional tips.

Support Information Services
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PM7200/9500: Virtual Memory On with System CD (3/97)

Virtual memory (VM) is turned on when starting up from the Power Macintosh 7200 system CD or the Power Macintosh 9500 CD version 2.0. This prevents Disk First Aid and Drive Setup from performing their operations on the hard drive. The CD titles are "Apple Macintosh CD for Power Macintosh 7200/75 and 7200/90" and "Apple Macintosh CD for Power Macintosh 9500/120 and 9500/132." The part number for the 7200 CD is 691-0415-A, SSW Version 7.5.2, CD Version 1.0 and the part number for the 9500 CD is 691-0738-A, SSW Version 7.5.2, CD Version 2.0.
This article has been archived and is no longer updated by Apple.

Background
==========

Users running Drive Setup while started up from the CD sometimes receive a message that says: "Cannot modify a disk used by Virtual Memory. To turn Virtual Memory off, consult the Macintosh Guide."

When running Disk First Aid while started up from the CD, users sometimes
receive a message that says: "Some of the volumes you selected can't be repaired. You cannot repair the startup disk, the Disk First Aid disk, a write protected disk, a disk with open files, or any disk when File Sharing is active. You may still verify these disks."

Product Technical Support has confirmed that this problem occurs on any of the Power Macintosh 7200, 7500, 8500 and 9500 systems when started up from the Power Macintosh 7200 CD or 9500 CD version 2.0.

When the Power Macintosh 7200/75 and 7200/90 CDs were produced, and when the 9500/120 and 9500/132 version 2.0 CDs were produced, virtual memory was inadvertently turned on and set to 33 MB. This preference was stored in the System file on the CD. When users start up with the CD, the system software saves its 33 MB VM Storage file out to the user's hard disk. Since this VM Storage file is in use, Disk First Aid and Drive Setup are unable to repair or format the hard drive that contains the VM Storage file. Since the System file on the CD is write protected, the VM settings cannot be modified using the Memory control panel from the hard disk when started up from the CD.

Workarounds
==========

Keyboard commands

Step 1

Insert the CD-ROM disc.

Step 2

Choose Shut Down from the Special menu.

Step 3

Hold down the "c" key (lower-case C; if the keyboard has a physical latch for the Caps Lock key, make sure the Caps Lock key is in the "up" position).

Step 4

Start up the computer.

Step 5

Hold down the "c" key until the "happy Macintosh" icon appears.

Step 6

Immediately release the "c" key and hold down either the Command key or the Shift key.

This process is rapid, lasting only about three seconds. Waiting until the "Welcome to Macintosh" screen appears before holding down the Command or Shift key does not work.

Holding down the command key at startup disables virtual memory, while holding down the Shift key at startup disables virtual memory and extensions. In either case, users are able to run Disk First Aid and Drive Setup on the their Apple hard drive.

Create a Disk Tools Disk

Users can also create a Disk Tools disk from the disk images on the CD, and restart their computer from the Disk Tools Disk. Once started up from the Disk Tools disk, users are able to use Disk First Aid and Drive Setup normally.

Rename Hard Drive to Something Other Than "Macintosh HD"

When starting up from the Apple Macintosh CD, the system file on the CD looks for a volume named "Macintosh HD" to store its virtual memory storage file. If the system cannot find a volume by this name, it ignores the internal hard drive, allowing Drive Setup and Disk First Aid to work normally.

Article Change History:
13 Mar 1997 - Changed distribution status.
03 Jan 1996 - Corrected several typos and misspellings.
22 Sep 1995 - Added an additional workaround.

Published Date: Feb 19, 2012

Power Macintosh 7500/8500: Maximum Color Depths

The Power Macintosh 7500 and 8500 series computers come with 2 MB of VRAM, expandable to 4 MB. The 7500 and 8500 have 4 VRAM DIMM slots (2 in use and 2 available). VRAM DIMMs must be installed 2 at a time. A VRAM upgrade can be accomplished via two third party 1 MB VRAM DIMMs.
This article has been archived and is no longer updated by Apple.
The Power Macintosh 7500 and 8500 series computers have a fast 64-bit data path to VRAM. Both can also support display resolutions of up to 1,280 by 1,024 pixels with 24-bit color of up to 1,152 by 870-pixel resolution.

DIMMs must be 32-bit-wide, 112-pin fast-paged mode with 70ns RAM access time or faster. Do not use the 256K or 512K VRAM SIMMs used in older Macintosh computers.

If your Power Macintosh 8500 computer is equipped with 2 MB of VRAM, you can switch between a monitor and a television, but you cannot view the desktop on both at the same time. For more information regarding video out to television, please refer to page 58 of the "Power Macintosh 8500 Series User's Guide".

The following table defines the maximum color depths available for a given resolution and memory size. Lower color depths are supported down to 8 bit or 256 colors. This is the same information that is reproduced in the guide that comes with each computer -- "Technical Information: Specifications for Power Macintosh 7500 series computers."

Note: The maximum visible number of colors is millions. In the past, Apple has also labeled millions as 24 bit color. On AV and Power Macintosh computers, 24 bit or 32 bit can be used interchangeably to mean support for millions of colors. In some literature, you may see 32 bit shown in place of 24 bit or millions. Think of this as 24 plus 8: 24 bit for displaying millions of colors plus 8 bit for special uses, such as alpha channel support (transparency, masking, opaque and tranlucent information) and chroma key support.

Monitor	VIS*	Resolution	2 MB VRAM maximum** colors	4 MB VRAM maximum** colors	Refresh rates Vert (Hz)	Refresh rates Horiz (kHz)
12" RGB	N/A	512x384	millions	millions	60	24.48
12" Monochrome	N/A	640x480	256	256	67	34.971
13" RGB Hi-Res	N/A	640x480	millions	millions	67	34.971
14" RGB Hi-Res	11.5"	640x480	millions	millions	67	34.971
VGA	***	640x480	millions	millions	60	31.505
		800x600	millions	millions	60	39.921
		800x600	millions	millions	72	48.1
		800x600	millions	millions	75	47.933
		1024x768	thousands	millions	60	48.294
		1024x768	thousands	millions	72	58.286
		1024x768	thousands	millions	75	60.093
Full-page Monochrome	N/A	640x870	256	256	75	68.773
Full-page RGB	***	640x870	thousands	millions	75	68.773
14" AudioVision	11.5"	640x480	millions	millions	67	35
16" color	14.8"	832x624	millions	millions	75	49.670
19" color	***	1024x768	thousands	millions	75	60.060
Two-page Monochrome	N/A	1152x870	256	256	75	68.476
Two-page RGB	11.5"	1152x870	thousands	millions	75	68.476

Multiple Scan 15	13.3"	640x480	millions	millions	67	34.971
		832x624	millions	millions	75	49.670
Multiple Scan 17	16.1"	640x480	millions	millions	67	34.971
		832x624	millions	millions	75	49.670
		1024x768	thousands	millions	75	60.060
Multiple Scan 20	19.1"	640x480	millions	millions	67	34.971
		832x624	millions	millions	75	49.670
		1024x768	thousands	millions	75	60.060
		1152x870	thousands	millions	75	68.476
		1280x1024	256	thousands	75	79.964

* Viewable Image Size
** 256=image depth of 8 bits (bpp), thousands=image depth of 16 bits (bpp), millions=image depth of 32 bits (bpp).
*** Refer to the manual that came with your monitor to determine VIS.
N/A not available

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Disk III P/C: Calibration Using an Apple IIe

BEFORE YOU START: Read the Disk II Adjustment and Calibration sections in the Tech Procedures.

PROBLEM DESCRIPTION: Drive exhibits problem(s) that you think can be attributed to improper adjustment or calibration.

CAUSE: You may not have an Apple III or III+ available to adjust and calibrate the Disk III.

This article has been archived and is no longer updated by Apple.
CURE: 1. Remove and replace the Disk III analog card with a Disk II analog card.
2. Attach the Disk II analog card to the Disk III's controller card with the Disk II's analog card to controller card cable
3. Perform the adjustment and/or calibration procedures as described in the Tech Procedures for Disk II.

If the above cure doesn't fix the problem, search on GTS and the product's name to obtain a general troubleshooting procedure.

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Internal HD Format: Cannot See IDE Drives

I have a Performa 6200 series computer. When I startup from my CD-ROM disc and try to run Internal HD Format, I get a message stating that this software will not work on this hard disk and I should use Apple HD SC Setup. Apple HD SC Setup does not recognize the hard drive either which makes sense because the Performa 6200 has an IDE drive. What is wrong?
This article has been archived and is no longer updated by Apple.
A change was made to the way IDE hard drives are formatted during the manufacturing process. IDE drives now include partitioning information, which the Internal HD Format application does not recognize. When the Internal HD Format application checks the partitioning information, it does not recognize the format and, by default, reports that the hard disk is a SCSI drive, thus it displays the error message referring you to Apple HD SC Setup.

This problem can occur on any IDE hard drive-equipped computer, including the Power Macintosh 5200 series, Power Macintosh 6200 series, Macintosh 630 family, and Macintosh 580 family of computers.

The Drive Setup utility that originally shipped on System 7.5.2 computers is able to correctly reformat these IDE hard drives without any problem. Use Drive Setup 1.0.3 (or higher), which is available for download from Apple Software Update sites.

Once you have downloaded Drive Setup, you can use it to reformat your hard disk by following these steps:

WARNING: Reformatting or reinitializing your hard drive erases all information on your disk. Make sure you have a backup of all files you may have created and any preinstalled software that came with your computer.

1. Copy the Drive Setup utility to a 3.5 inch Macintosh-formatted floppy disk.

2. Insert your Macintosh Performa CD. Restart the computer, while holding down the C key on your keyboard. Once the computer has finished starting, confirm that the Performa CD is the topmost item in the upper right corner of your screen. This means its system software is running your computer.

3. Insert the floppy disk containing Drive Setup 1.0.3 (or higher). Double-click the floppy disk icon to open it. Double-click on the Drive Setup utility in the floppy disk window.

4. Select the name of your internal hard disk (its type is IDE, and its name is normally Hard Disk).

5. Click on the Initialize button. A second dialog appears, asking for confirmation.

6. Click on Initialize again to confirm that you do want to initialize the hard drive.

Visit Apple Software Downloads for available software downloads:

http://www.info.apple.com/support/downloads.html
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AppleVision 1710AV Display: Control Modules on a PowerBook 8/95

How do I get the new control strip modules that come with the ApppeVision 1710AV display onto a PowerBook?

Do the control strip modules only work with the 1710AV display?
This article has been archived and is no longer updated by Apple.
You can run the installer from the original AppleVision 1710AV Display disks to install the Monitor BitDepth and Monitor Resolution Control Strip modules on your PowerBook.

Alternatively, you can drag the two Control Strip modules into the Control Strip Modules folder in your System Folder. You also need to drag the Display Enabler v2.0 or later into the Extensions folder of your System Folder. You need to restart your computer for the modules to show up in the Control Strip.

These modules work with all displays including the PowerBook on-board display.

Support Information Services
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Power Macintosh 5300/100 LC: Description (1/96)

This article contains a description of the Power Macintosh 5300/100 LC computer.

NOTE: This computer is only available through educational channels.
This article has been archived and is no longer updated by Apple.

Overview
==========

The Power Macintosh 5300/100 LC is a Power PC processor-based multimedia workstation for the educational market. With this introduction, Apple delivers its most powerful technology to education. By uniting a high-speed, high-performance RISC processor with advanced multimedia features in an innovative all-in-one design, Apple has created the most advanced multimedia workstation for educators and students available today.

Apple, the number one worldwide vendor of multimedia systems, has been a pioneer in the integration of multimedia capabilities into its Macintosh personal computers. With the introduction of the Power Macintosh 5300/100 LC, educators can take advantage of the power of multimedia in a system designed especially for schools. Its PowerPC 603e processor not only provides the high performance required for multimedia authoring and playback, but also optimizes other curriculum and classroom productivity applications.

An extremely powerful system right out of the box, the Power Macintosh 5300/100 LC also offers room to grow. With two expansion slots--including one that can be used to add a low-cost, high-speed, Ethernet networking connection--this system is not only extremely useful today, but is an investment in the future as well.

The announcement of the Power Macintosh 5300/100 LC follows the April 1995 introduction of the highly successful Power Macintosh 5200/75 LC, which was the first Power Macintosh designed specifically for education.

The Power Macintosh 5300/100 LC features a 100 MHz PowerPC RISC 603e processor with 256K Level 2 Cache, 16 MB of RAM (expandable to 64MB) and a 1.2 GB hard disk drive. It also includes an Apple SuperDrive floppy disk drive, two expansion slots--including one that can be used to add a low-cost, high-speed Ethernet networking connection, and an internal AppleCD 600I Plus tray-loading quad-speed CD-ROM drive. Built-in multimedia technologies include a video-out connector, video capture card, TV tuner, and 16-bit stereo sound in and out.

Features
==========

Power and Speed
---
* 100-MHz PowerPC 603e processor with 256K Level 2 Cache

Memory and Storage
---
* 16MB of RAM (expandable to 64MB)
* 1 MB DRAM frame buffer (separate from RAM) for video memory, not expandable
* Apple SuperDrive floppy disk drive (reads and writes Mac OS, Windows, DOS, OS/2, and ProDOS files)
* Internal 1GB hard disk drive
* Internal AppleCD 600i Plus tray-loading quad-speed CD-ROM drive

Display
---
* 15-inch multiple-scan color display (supports more than 32,000 colors)

Expansion
---
* Macintosh LC-compatible processor direct slot
* I/O communications slot for Ethernet networking (accepts Twisted Pair, Thin Coax, or AAUI Ethernet Cards)

Built-in Multimedia Technologies
---
* Video-out connector for connecting to an LCD projection panel or a second monitor
* Video capture card lets you record video from camcorder, VCR, or laserdisc

* Built-in TV Tuner
* 16 bit sound in/out

System Software
---
* System 7.5.1 with Apple Guide, Drag and Drop, AppleScript, Macintosh PC Exchange, Macintosh Easy Open, and more

Networking
---
* Built-in AppleTalk networking
* File sharing without a dedicated server
* Optional Ethernet networking with Ethernet card

Ordering Information
==========

Power Macintosh 5300/100 LC 16/1.2 GB
---
* Power Macintosh 5300/100 LC (16/1 GB) with built-in 15-inch multiple-scan color display, AppleCD 600i Plus CD-ROM drive, stereo speakers, microphone, MVP, video-in option, AppleDesign Keyboard, and mouse.
* M4364LL/A

Article Change History:
19 Jan 1996 - Corrected bundle information.
25 Oct 1995 - Corrected System Software requirements.
05 Oct 1995 - Added video memory information.

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Power Macintosh 7500/8500: Geoport Clock Connector (8/95)

What is the purpose of Geoport Clock Connector on the logic boards of the Power Macintosh 7500 and 8500 computers? Does it make the Geoport perform at a faster clock speed?

This article has been archived and is no longer updated by Apple.

The Geoport Clock Connector has nothing to do with updating the Geoport to higher clock speeds. This connector is used by Peripheral Component Interconnect (PCI) cards that perform some type of network interaction with the Geoport. It provides the network clock to which the Geoport is talking. Most of the PCI cards that utilize the Geoport Clock Connector are some type of video conferencing cards, such as the H.320 card.

Apple added the Geoport Clock Connector to the logic board because not all PCI cards are physically connected to the network. Without this physical connection the PCI cards would have a difficult time synching with the network clock. If, on the other hand, the network is directly connected to the PCI card, the Geoport Clock Connector is not used at all. By synching to the network clock, the PCI card can determine what kind of timing is needed to execute certain sequences or to provide a refresh to the screen.

There are three pins in the Geoport Clock Connector. One pin is the ground. The other two pins are signal pins. The two signal pins are Serial Clock (SCLK) and Transmit Handshake (TxHs). The GeoPort specification recommends that the GeoPort device provide network synchronized clocking on either SCLK or TxHs. The H.320 card, for example, can then use the appropriate signal to synchronize its video and audio compression/decompression processing to the network.

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LaserWriter 16/600 PS: Resetting Using UNIX (8/95)

This article describes how to change subnet mask of the LaserWriter 16/600 from a UNIX workstation.
This article has been archived and is no longer updated by Apple.
Follow these steps to reset the LaserWriter 16/600 PS to its default values using UNIX:

Step 1

Remove the printer and a UNIX workstation from the network.

Step 2

Connect the UNIX workstation directly to the printer

Step 3

Terminate both ends of the connection between the workstation and the printer.

Step 4

Set the subnet mask on the workstation to be the same as the printer.

Step 5

Set the default gateway on the workstation to the IP address of the printer.

Step 6

Logon onto the printer as normal using TELNET.

Step 7

Select the option to reset to factory specs.

Step 8

Set the work station back to the proper address masking

Step 9

Reconnect all hardware to the network.

Article Change History:
15 Aug 1995 - Updated for technical accuracy and changed title.

Support Information Services
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Apple Workgroup Server (AWS): DAT Drive Status Lights

How do I read the status lights on the DAT drive on the Apple Workgroup Server 95, 80?
This article has been archived and is no longer updated by Apple.
The front panel has two bi-color lights (LEDs). Green is used to indicate normal operation and Amber is used to imply warning conditions. Pulsing usually shows activity between the drive and the SCSI bus. If the cassette
Light (Left) shows steady Amber, this indicates that the cassette is write protected. If the Drive Light (Right) shows steady Amber, this indicates a fault condition.

The following table lists the possibilities:

State	Cassette Light	Drive Light	Meaning
Read/Write States	Pulse Green	Pulse Green	Cassette (Unloading)
	Green	Green	Cassette Loaded/Online
	Green	Pulse Green	Cassette Loaded/Activity
	Green	Off (No Light)	Cassette Loaded/Offline
Write-Protect Status	Pulse Amber	Green	Casette (Unloading)
	Amber	Green	Cassette Loaded/Online
	Amber	Pulse Green	Cassette Loaded/Activity
	Amber	Off (No Light)	Cassette Loaded/Offline
Error States	Green	Pulse Amber	Media Wear (Caution)
	Amber	Amber	High Humidity, No termination on SCSI bus
	Pulse Amber	Pulse Amber	Self Test (Normal)
	Pulse Amber	Amber	Self Test (Failure)
Other States	Off (No Light)	Off (No Light)	No cassette loaded
	Off (No Light)	Green	Error (illegal state)
	Off (No Light)	Pulse Green	Error (illegal state)
	Off (No Light)	Amber	Error (illegal state)
	Off (No Light)	Pulse Amber	Error (illegal state)
	Pulse Green	Off (No Light)	Error (illegal state)
	Pulse Green	Green	Error (illegal state)
	Pulse Green	Amber	Error (illegal state)
	Pulse Green	Pulse Amber	Error (illegal state)
	Pulse Amber	Off (No Light)	Error (illegal state)
	Pulse Amber	Pulse Green	Error (illegal state)
	Green	Amber	Error (illegal state)
	Amber	Pulse Amber	Error (illegal state) (Write Protect on)

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Power Macintosh: Display Shaking when Changing Color (8/95)

When using the Monitors control panel, the Control Strip, or the Sound and Displays control panel to change the color resolution on a 13 Apple RGB Display, the image flashes off and back on during the change in color. The color change is not smooth. As the computer switches colors, the image shakes and jumps as if it was resyncing.
This article has been archived and is no longer updated by Apple.
This behaviour can appear on any model of Power Macintosh including the 7200, 7500, 8500 or 9500 series computers. It has also been known to occur on other Power Macintosh computers. For a particular model of monitor, one display may exhibit the issue while another display may not.

The behaviour depends upon a combination of conditions. The differences can be from a number of factors: CPU clock differences (video circuitry in different models can have different dot clocks and timing circuitry) or component variance (clocks, countdown cicuitry, also in circuitry the display). A display that exhibits this issue on one CPU may not exhibit the issue on another CPU.

The issue is cosmetic and no damage is occuring to the CPU or the display. There is no disruption in video sync and systems have stable video signals during the color depth transition.

The image bounce or flash on the display as the color depth is changed is normal for some display and CPU combinations. The display or CPU should not be replaced or serviced. Some combinations may show the effect, but it may not be present on all displays (for a certain model) or all CPUs.

Support Information Services
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AppleTalk Remote Access: CNG Modem CCL Scripts

I'm trying to connect to an AppleTalk Remote Access (ARA) Server 2.x with my PowerBook Duo and Express Modem using Telecomm 2.0 software.

The Remote Access Status Window shows I'm communicating at 14.4 kbps, but then gives me the following error message, "The connection attempt has failed. The modems did not connect properly. Please try again." ARA worked fine with my other PowerBook Duo with an Express Modem using the same password, user name, and software.

I have tried a clean install of the Operating System, Express Modem, and ARA software but it still does not work. What is wrong?
This article has been archived and is no longer updated by Apple.
Check your Remote Access Setup control panel to see which ARA CCL script you are using. Sometimes if the modem you are connecting to does not support CNG signals, and you have selected the Express Modem 2.x/CNG in the Access Setup control panel, it will give you this type of error. Simply using the script Express Modem 2.x instead will let you connect.

So what is CNG
When you use the CNG scripts, the Express Modem will transmits data calling tones after dialing. Data calling tones allow the remote machine to detect automatically that an incoming call is a data modem instead of a FAX or Voice call, so the call can be routed to the appropriate software supporting the service.
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Apple IIe : Double Characters Displayed in 80 Column Mode

PROBLEM DESCRIPTION: Apple IIe exhibits double characters in 80 column mode.

CAUSE: Possible bad HAL chip.

This article has been archived and is no longer updated by Apple.
CURE: Remove and replace the logic board (HAL not replaceable part) chip and test system.

If the above cure doesn't fix the problem, search on GTS and Apple IIe to obtain a general troubleshooting procedure.

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Apple Workgroup Server 95 Read Me

This article is the ReadMe Apple Workgroup Server 95 Software upgrade.
This article has been archived and is no longer updated by Apple.
This Read Me file describes the changes made to the Apple Workgroup Server 95 since its original release. You can use the Software Upgrade to upgrade your system either from the original release or from the Tune Up release. This software upgrade includes the following software.

A/UX 3.1
AppleShare Pro 1.1 (installed only when an earlier version of
AppleShare Pro is found on the system)
Apple DocViewer 1.1
Retrospect 2.0Ci

Notes On Installing The Software Upgrade

Installation takes approximately 20 minutes. The installation instructions on the back cover of the Apple Workgroup Server 95 Software Upgrade CD, along with the on-screen messages, will guide you through the installation process. The following notes provide important additional information.

Space Requirements
The software upgrade requires 10 MB of free space on the root (/) volume. To complete the software upgrade process, you temporarily need approximately 20 MB of free space on the / volume. To check the amount of free space available, double-click the icon for the / hard disk. Then, if you aren't already viewing the window by icons, choose By Icon from the View menu. The amount of available space on / is shown in the upper-right corner of the window that displays the contents of /.

Before Installing, Check Your Applications Folder
Before installing the upgrade software, make sure that the following applications reside in the Applications folder on the root (/) volume; succesful upgrading of these applications depends on it: AppleShare Pro Admin, AppleShare Pro File Server, Retrospect, TextEditor, Apple HD SC Setup, and Apple DocViewer

Note that the Applications folder name starts with a leading space: "<space>Applications". If you change the name of the folder that contains the these applications, you must include the leading space at the beginning of the name for the upgrade to install completely.

Prompts for Older Versions
You will be prompted to replace newer versions of the LaserWriter and Chooser files on the root (/) volume with older ones; the older version is actually newer -- the creation dates on these files were incorrect in the original AWS 95 software.

Preferences in A/UX Startup
The upgrade software returns the preferences to their default settings. If you had modified the settings in the Preferences menu in the A/UX Startup application, you'll need to reenter your settings. These preferences determine whether A/UX automatically boots upon startup, the command that the system runs to check the root file system at startup time, whether parity checking is enabled, etc.

User Accounts on the Server
If you have created user account(s) on your server, and given them personal system folders, you must manually update the personal system folder for each user account after installing your system software. To update a personal system folder, log in to the user account and start the AWS 95 Upgrade Installer application. Use the Custom Install option to install the package "AWS 95 A/UX System Folder Upgrade" to the personal system folder for that account. This must be done for each personal system folder on your server.

Size of the A/UX Buffer Cache
If you had previously adjusted the size of the A/UX buffer cache on your server, check that your setting has not been changed by the installation procedure. If it has been changed, you'll need to reenter it.

Re-linking On-line Manuals
After completing the software upgrade, you may need to re-link the on-line manuals in the new DocViewer collection document called "AWS 95 Documentation." To re-link the files, open the collection document in the Documentation folder. Then double-click on one of the on-line manuals. When the "can not be found" dialog box appears, click the Locate button. Locate the DocViewer file, then use the Save command from the File menu to save the collection document. Repeat this procedure for each on-line manual in the collection document.

Network Launch Fix File
You'll notice a file called Network Launch Fix on your AppleShare Pro CD. This file fixes a bug that affects AppleShare client machines of the Macintosh Quadra, Centris, and Performa 470 series of computers (which all have the 040 microprocessor). You don't need to add this file to

client machines other than the 040 series, or to your server.

GENERAL NOTES

The upgrade software improves performance in several areas, including a 400 percent increase in the speed of AppleShare Pro over AppleShare 3.0 in certain areas. See the new guide, "Tuning Server Performance and Adding Internal Drives" to learn about measuring and tuning the performance of your Apple Workgroup Server 95.

Software Enhancements
The "config_server" script for preparing the system for database or file and print services. UNIX Library for AppleTalk Printer Access Protocol (PAP) servers. Support for UNIX file systems of 4 GB in size (AppleShare Pro is limited to 2 GB) A version of sendmail that offers more security. The capability to disable the autologin feature by pressing CONTROL-X when the system is about to start the Finder environment.

Hardware Enhancements
Support for automatic mounting and unmounting of removable media SCSI drives from the Finder. The Apple Ethernet NB Twisted-Pair Card. Support for up to five internal hard drives, and for the 2 GB Apple internal drive.

A/UX Buffer Cache Default
The setting of -1 is still the default setting for the server offering file and print services. However, the action triggered by this setting has been changed to prevent the occurrence of paging of virtual memory when AppleShare Pro and Retrospect are run simultaneously.

Don't Install CD-ROM Driver Files
CD-ROM driver files are delivered with Apple CD-ROM drives and with third-party drives. Don't copy these files to your A/UX System Folders; installing these drivers is unnecessary and will prevent your system from starting up the Finder environment.

Apple 2 GB Drive at System Startup
If your server is equipped with an Apple 2 GB hard drive, there is a slight chance that the system software might check for the hard drive before the drive has reached full speed, and as a result, the system might not start up correctly. If this situation arises, no icon for the startup disk will appear. Restart your system; the hard drive will be recognized the second time.

Symbolic Links Changed to Increase Security
To increase system security when AppleShare Pro is running, a change has been made to the behavior of symbolic links when the symbolic link involves files in more than one folder. The change causes the check for access permissions to treat the Macintosh environment as having the level of permissions of "NOBODY". This change affects the Finder and Macintosh applications, only occurs when AppleShare is running, and does not affect the CommandShell application.

Some MacDriver Partitions Incorrectly Recognized
Apple Computer has recently released HD SC Setup Version 7.2.2. This versrion of the disk partitioning application creates a MacDriver partition that is not understood as a valid MacDriver partition by the A/UX version of HD SC Setup. (The A/UX version of HD SC Setup is the version used by the AWS 95.) The partition that creates the problem is called MacDriver and has the partition type "Apple Driver43". The misunderstood partition causes the following behavior when using the HD SC Setup application or using HD SC Setup from within the AWS 95 Installer:

You cannot update the partition; in the main dialog box of HD SC Setup, the Update button is greyed out. You can create a second MacDriver partition; after selecting "Partition...", the dialog boxes allow you to create an additiona MacDriver partition. If you encounter one of these problem MacDriver partitions, remove it and create a new one using the A/UX version of HD SC Setup delivered with the AWS95.

Limit on File System Check Command
When the Apple Workgroup Server 95 starts up, the fsck command is run from the A/UX Startup application. When the fsck command is run from the A/UX Startup application, it cannot check a file system larger than 2 GB. Therefore, limit the size of your root file system to 2,097,151 KB so that the root file system can be checked at system startup. Once A/UX is running, the fsck command can check file systems as large as 4 GB.

Install Driver for the Apple Ethernet NB Twisted-Pair Card

If you are using this new interface card, install the driver on the volume named MacPartition. Installing the file on MacPartition assures that the server will use EtherTalk rather than switching to LocalTalk each time you restart the server.

CORRECTIONS TO MANUAL PAGES
A few commands are incorrect as they appear onscreen in the manual pages. The corrections are as follows.

"newconfig" manual page
If you're adding support to your system for an Ethernet card, these are the modules you need to specify in the "newconfig" command:

ao - Built-in interface for Apple Ethernet.
as - Apple Ethernet NB Card (a half-length card).
ae6 - Apple EtherTalk NB Card (a full-length card).
ac - Apple Ethernet NB Twisted-Pair Card.

An error appears in the last paragraph of the Descriptions section: "bnet_dr" should be "bnet".

"NETADDRS" manual page
The value of interface_id is as follows:
ao0 - for built-in interface for Apple Ethernet (which is found in the AWS 95)
ae0 through ae5 - for Apple EtherTalk NB Cards
as0 through as5 - for Apple Ethernet NB Cards
ac0 through ac5 - for Apple Ethernet NB Twisted Pair Cards

BUG FIXES

A/UX Kernel
AppleShare Pro servers will now appear correctly in the Chooser on client machines. AWS 95 no longer crashes if NFS clients have more than eight active supplementary groups. The server can recognize the first eight group IDs only. Heavy use of the UNIX file system no longer causes system or process deadlock/panics.

A/UX Macintosh Environment
The Finder now maintains information properly on file systems containing more than 160,000 items. The File Manager allows you to change the case of a filename containing a slash character ('/'). Text files that contain both CR's and LF's are no longer interpreted as UNIX binary files. They are now interpretted as DOS TEXT files. The Finder no longer terminates after rebuilding the desktop. Aliases to UNIX symbolic links resolve to the target file, not the sym-link. You can subscribe to a publisher that has a slash character ('/') in its name.

Retrospect
The Macintosh environment no longer hangs because of loss of communication with a Retrospect Remote client. Scheduled backups now occur at the correct time.

Compatibility With Other Applications
Think C now runs under A/UX. Adobe Photoshop no longer crashes with a disk error when it creates files bigger than the available free space on the volume.

UNIX Utilities
The "catsearchd" utility is now set to "respawn" instead of "once" in "/etc/inittab." fsck The "fsck" utility no longer ignores the -y option when the -p option is also specified. By default, both the "A/UX Startup" application and the A/UX system startup script "/etc/bcheckrc" invoke "fsck" with both of these options.
For Developers
The Printer Access Protocol (PAP) server library is included in the software. The PAP server library is contained in the file "/usr/lib/libpaps.a". For information on the PAP Server Library, see the Tech Notes for the AWS 95. The "popen(3)" subroutine now supports 128 files, the maximum number of files supported by the standard I/O library routines. In the previous release this support was limited to 20 files. Float and double support were fixed in the RPC library routines (libc). When the current directory is a mount-point and a symbolic link is in the same directory, the "getwd(3)" routine returns the target file instead of the symbolic link as it did before.

FILES CHANGED OR ADDED BY THE UPGRADE

Files Changed or Added on the / Volume
Applications/Apple DocViewer/Apple DocViewer
Applications/Apple DocViewer /Apple DocViewer Guide
Applications/Apple DocViewer /Apple DocViewer Guide.idx

Applications/Apple DocViewer /Read Me - DocViewer 1.1
Applications/Apple HD SC Setup
Applications/AppleShare Pro Admin
Applications/AppleShare Pro File Server
Applications/Retrospect/Retrospect Intl A/UX
Applications/Retrospect/Read Me
Applications/Retrospect/Remote WorkStation/Read Me
Applications/Retrospect/Remote WorkStation/Remote
Applications/Retrospect/Remote WorkStation/Workbook
Applications/Retrospect/Remote WorkStation/For 6.0.x/Read Me - 6.0.x

Applications/Retrospect/Remote WorkStation/For Mac Plus/Read Me - MacPlus
Applications/Retrospect/Retrospect Extras A:UX/Retrospect Help
Applications/Retrospect/Retrospect Extras A:UX/Update from 1.3
Applications/TextEditor
bin/cp
bin/cpio
bin/csh
bin/date
bin/df
bin/ls
bin/make
bin/mt
bin/mv
bin/passwd
bin/pstat
bin/remlogin
bin/rm
bin/rmdir
bin/rsh
bin/sh
bin/su
bin/sync
Documentation/AWS 95 Documentation
Documentation/Tuning Server Performance
Documentation/Tuning Server Performance.idx
Documentation/Upgrade ReadMe
etc/bcheckrc
etc/config.d/newunix
etc/catsearchd

etc/disktab
etc/etheraddr
etc/fidd
etc/fs/svfs/restore
etc/fs/svfs/rrestore
etc/fs/ufs/fsck
etc/fs/ufs/dump.bsd
etc/fs/ufs/mkfs
etc/fs/ufs/newfs
etc/fs/ufs/rdump
etc/fs/ufs/restore
etc/fs/ufs/rrestore
etc/fs/ufs/tunefs
etc/fsck
etc/init
etc/install.d/bnet
etc/install.d/boot.d/ac
etc/install.d/boot.d/adsp
etc/install.d/boot.d/ae6
etc/install.d/boot.d/ao
etc/install.d/boot.d/as
etc/install.d/boot.d/at_atp
etc/install.d/boot.d/bnet
etc/install.d/boot.d/ddp
etc/install.d/boot.d/elap
etc/install.d/boot.d/nfs
etc/install.d/boot.d/svfs
etc/install.d/boot.d/tc
etc/install.d/boot.d/toolbox
etc/install.d/boot.d/ufs
etc/install.d/init.d/devscsi
etc/install.d/master.d/ac
etc/install.d/startup.d/ac
etc/install.d/startup.d/ae6
etc/install.d/startup.d/ao

etc/install.d/startup.d/as
etc/macgetty
etc/mount
etc/powerdown
etc/reboot
etc/settimezone
etc/shutdown
etc/telinit
etc/uninstall.d/bnet
etc/RELEASE_ID
lib/libc.a
lib/libc_s.a
lib/libdb.a
lib/libposix.a
lib/libp/libc.a
mac/bin/launch
mac/bin/setfile
mac/lib/Patches/Patch.0178

mac/lib/Patches/Patch.067C
mac/lib/SystemFiles/private/System
mac/lib/SystemFiles/private/Extensions/LaserWriter
mac/lib/SystemFiles/private/Extensions/StyleWriter II
mac/lib/SystemFiles/shared/Apple Menu Items/Chooser
mac/lib/SystemFiles/shared/Control Panels/Memory
mac/lib/SystemFiles/shared/Extensions/AppleIco
mac/lib/SystemFiles/shared/Extensions/AppleIcoTwo
mac/lib/SystemFiles/shared/Extensions/AppleShare
mac/lib/SystemFiles/shared/Extensions/System 7 Tuner
mac/sys/Login System Folder/%Login
mac/sys/Startup System Folder/System
newunix
shlib/libc1_s
usr/bin/rcp
usr/catman/a_man/man1/sendmail.1m.Z
usr/catman/u_man/man3/btree.3.Z
usr/catman/u_man/man3/dbopen.3.Z
usr/catman/u_man/man3/hash.3.Z
usr/catman/u_man/man3/mpool.3.Z
usr/catman/u_man/man3/recno.3.Z
usr/catman/u_man/man4/Autologin.4.Z
usr/etc/rpc.rstatd
usr/etc/config_server
usr/include/compat.h
usr/include/db.h
usr/include/limits.h
usr/include/mpool.h
usr/include/ndbm-db.h
usr/include/string.h
usr/include/at/at_atp.h
usr/include/sys/buf.h
usr/include/sys/cdefs.h

usr/include/sys/gdkernel.h
usr/include/sys/mtio.h
usr/include/sys/nvram.h
usr/include/sys/param.h
usr/include/sys/proc.h
usr/include/sys/scsireq.h
usr/include/sys/ss_scan.h
usr/include/sys/time.h
usr/include/sys/uinter.h
usr/include/sys/user.h
usr/include/sys/vfs.h
usr/lib/libat.a

usr/lib/libpaps.a
usr/lib/sendmail
usr/lib/sendmail.cf
usr/lib/sendmail.st
usr/lib/sendmail.hf
usr/lib/sendmail.conf
usr/lib/sendmail.conf/README
usr/lib/sendmail.conf/cf
usr/lib/sendmail.conf/cf/Makefile
usr/lib/sendmail.conf/cf/aux.mc
usr/lib/sendmail.conf/cf/alpha.mc
usr/lib/sendmail.conf/cf/auspex.mc
usr/lib/sendmail.conf/cf/chez.mc
usr/lib/sendmail.conf/cf/clientproto.mc
usr/lib/sendmail.conf/cf/cogsci.mc
usr/lib/sendmail.conf/cf/cs-exposed.mc
usr/lib/sendmail.conf/cf/cs-hidden.mc
usr/lib/sendmail.conf/cf/hpux-cs-exposed.mc
usr/lib/sendmail.conf/cf/hpux-cs-hidden.mc
usr/lib/sendmail.conf/cf/knecht.mc
usr/lib/sendmail.conf/cf/mail.cs.mc
usr/lib/sendmail.conf/cf/mail.eecs.mc
usr/lib/sendmail.conf/cf/osf1-cs-exposed.mc
usr/lib/sendmail.conf/cf/osf1-cs-hidden.mc

usr/lib/sendmail.conf/cf/python.mc
usr/lib/sendmail.conf/cf/s2k.mc
usr/lib/sendmail.conf/cf/sunos3.5-cs-exposed.mc
usr/lib/sendmail.conf/cf/sunos3.5-cs-hidden.mc
usr/lib/sendmail.conf/cf/tcpproto.mc
usr/lib/sendmail.conf/cf/sunos4.1-cs-exposed.mc
usr/lib/sendmail.conf/cf/sunos4.1-cs-hidden.mc
usr/lib/sendmail.conf/cf/ucbarpa.mc
usr/lib/sendmail.conf/cf/ucbvax.mc
usr/lib/sendmail.conf/cf/udb.mc
usr/lib/sendmail.conf/cf/ultrix4.1-cs-exposed.mc
usr/lib/sendmail.conf/cf/ultrix4.1-cs-hidden.mc
usr/lib/sendmail.conf/cf/uucpproto.mc
usr/lib/sendmail.conf/cf/vangogh.mc
usr/lib/sendmail.conf/cf/obj
usr/lib/sendmail.conf/cf/obj/alpha.cf
usr/lib/sendmail.conf/cf/obj/auspex.cf
usr/lib/sendmail.conf/cf/obj/chez.cf
usr/lib/sendmail.conf/cf/obj/cogsci.cf
usr/lib/sendmail.conf/cf/obj/cs-exposed.cf
usr/lib/sendmail.conf/cf/obj/cs-hidden.cf
usr/lib/sendmail.conf/cf/obj/knecht.cf
usr/lib/sendmail.conf/cf/obj/mail.cs.cf
usr/lib/sendmail.conf/cf/obj/mail.eecs.cf
usr/lib/sendmail.conf/cf/obj/python.cf
usr/lib/sendmail.conf/cf/obj/s2k.cf

usr/lib/sendmail.conf/cf/obj/sunos3.5-cs-exposed.cf
usr/lib/sendmail.conf/cf/obj/sunos3.5-cs-hidden.cf
usr/lib/sendmail.conf/cf/obj/sunos4.1-cs-exposed.cf
usr/lib/sendmail.conf/cf/obj/sunos4.1-cs-hidden.cf
usr/lib/sendmail.conf/cf/obj/tcpproto.cf
usr/lib/sendmail.conf/cf/obj/ucbvax.cf
usr/lib/sendmail.conf/cf/obj/ultrix4.1-cs-exposed.cf
usr/lib/sendmail.conf/cf/obj/ultrix4.1-cs-hidden.cf
usr/lib/sendmail.conf/cf/obj/uucpproto.cf
usr/lib/sendmail.conf/cf/obj/vangogh.cf
usr/lib/sendmail.conf/cf/aux_uucp.mc
usr/lib/sendmail.conf/cf/aux.cf
usr/lib/sendmail.conf/cf/aux_uucp.cf

usr/lib/sendmail.conf/cf/cs-hidden.cf
usr/lib/sendmail.conf/cf/cs-exposed.cf
usr/lib/sendmail.conf/cf/hpux-cs-exposed.cf
usr/lib/sendmail.conf/cf/hpux-cs-hidden.cf
usr/lib/sendmail.conf/cf/sunos3.5-cs-exposed.cf
usr/lib/sendmail.conf/cf/sunos3.5-cs-hidden.cf
usr/lib/sendmail.conf/cf/sunos4.1-cs-exposed.cf
usr/lib/sendmail.conf/cf/chez.cf
usr/lib/sendmail.conf/cf/sunos4.1-cs-hidden.cf
usr/lib/sendmail.conf/cf/ultrix4.1-cs-exposed.cf
usr/lib/sendmail.conf/cf/ultrix4.1-cs-hidden.cf

usr/lib/sendmail.conf/cf/mail.cs.cf
usr/lib/sendmail.conf/cf/mail.eecs.cf
usr/lib/sendmail.conf/cf/ucbvax.cf
usr/lib/sendmail.conf/cf/vangogh.cf
usr/lib/sendmail.conf/cf/knecht.cf
usr/lib/sendmail.conf/cf/cogsci.cf
usr/lib/sendmail.conf/cf/alpha.cf
usr/lib/sendmail.conf/cf/s2k.cf
usr/lib/sendmail.conf/cf/auspex.cf
usr/lib/sendmail.conf/cf/python.cf
usr/lib/sendmail.conf/cf/clientproto.cf
usr/lib/sendmail.conf/cf/tcpproto.cf
usr/lib/sendmail.conf/cf/uucpproto.cf
usr/lib/sendmail.conf/domain
usr/lib/sendmail.conf/domain/Berkeley.m4
usr/lib/sendmail.conf/domain/cs.exposed.m4
usr/lib/sendmail.conf/domain/cs.hidden.m4
usr/lib/sendmail.conf/domain/eecs.hidden.m4
usr/lib/sendmail.conf/domain/s2k.m4
usr/lib/sendmail.conf/domain/apple-aux.m4
usr/lib/sendmail.conf/domain/Apple.m4
usr/lib/sendmail.conf/feature
usr/lib/sendmail.conf/feature/allmasquerade.m4
usr/lib/sendmail.conf/feature/always_add_domain.m4
usr/lib/sendmail.conf/feature/bitdomain.m4
usr/lib/sendmail.conf/feature/domaintable.m4
usr/lib/sendmail.conf/feature/mailertable.m4

usr/lib/sendmail.conf/feature/nocanonify.m4
usr/lib/sendmail.conf/feature/nodns.m4
usr/lib/sendmail.conf/feature/notsticky.m4
usr/lib/sendmail.conf/feature/nouucp.m4
usr/lib/sendmail.conf/feature/nullclient.m4
usr/lib/sendmail.conf/feature/redirect.m4
usr/lib/sendmail.conf/feature/use_cw_file.m4
usr/lib/sendmail.conf/feature/uucpdomain.m4
usr/lib/sendmail.conf/hack
usr/lib/sendmail.conf/hack/cssubdomain.m4
usr/lib/sendmail.conf/m4
usr/lib/sendmail.conf/m4/cf.m4
usr/lib/sendmail.conf/m4/nullrelay.m4
usr/lib/sendmail.conf/m4/proto.m4
usr/lib/sendmail.conf/m4/version.m4
usr/lib/sendmail.conf/mailer
usr/lib/sendmail.conf/mailer/fax.m4
usr/lib/sendmail.conf/mailer/local.m4
usr/lib/sendmail.conf/mailer/smtp.m4
usr/lib/sendmail.conf/mailer/usenet.m4
usr/lib/sendmail.conf/mailer/uucp.m4
usr/lib/sendmail.conf/ostype
usr/lib/sendmail.conf/ostype/aix3.m4
usr/lib/sendmail.conf/ostype/aux.m4
usr/lib/sendmail.conf/ostype/bsd4.3.m4

usr/lib/sendmail.conf/ostype/bsd4.4.m4
usr/lib/sendmail.conf/ostype/hpux.m4
usr/lib/sendmail.conf/ostype/irix.m4

usr/lib/sendmail.conf/ostype/linux.m4
usr/lib/sendmail.conf/ostype/nextstep.m4
usr/lib/sendmail.conf/ostype/osf1.m4
usr/lib/sendmail.conf/ostype/riscos4.5.m4
usr/lib/sendmail.conf/ostype/solaris2.m4
usr/lib/sendmail.conf/ostype/sunos3.5.m4
usr/lib/sendmail.conf/ostype/sunos4.1.m4
usr/lib/sendmail.conf/ostype/svr4.m4
usr/lib/sendmail.conf/ostype/ultrix4.1.m4
usr/lib/sendmail.conf/sh
usr/lib/sendmail.conf/sh/makeinfo.sh
usr/lib/sendmail.conf/siteconfig
usr/lib/sendmail.conf/siteconfig/uucp.cogsci.m4
usr/lib/sendmail.conf/siteconfig/uucp.old.arpa.m4
usr/lib/sendmail.conf/siteconfig/uucp.ucbarpa.m4
usr/lib/sendmail.conf/siteconfig/uucp.ucbvax.m4
usr/spool/ftp/shlib/libc1_s
usr/ucb/mailstats
usr/ucb/mailq
usr/ucb/newaliases
usr/ucb/rdist
usr/ucb/tip

Files Changed or Added in the Active A/UX System Folder
Extensions:LaserWriter
Extensions:StyleWriter II
Apple Menu Items:Chooser
Extensions:File Server Extension
System

Files Changed or Added in MacPartition

A/UX Startup
bin:fsck
bin:ufs:fsck
System Folder:Control Panels:Date & Time
System Folder:Extensions:Hardware System Update
System Folder:System Enabler 040

Published Date: Feb 19, 2012

Apple Telecom 2.x and Batch Faxing or Broadcast Faxing (8/95)

What is batch faxing and broadcast faxing? Does the software included with the Apple GeoPort Telecom Adapter, Apple Telecom 2.x, support these features?
This article has been archived and is no longer updated by Apple.
Neither broadcast faxing, nor batch faxing are supported by Apple Telecom 2.x software.

Below is a brief description of the broadcast faxing process:

In a typical fax, the common body is rasterized and compressed only once. The prepared material is then transmitted multiple times - one copy to each different recipient specified. The mechanism used to send a fax containing a document to multiple addresses is called a Distribution List. Broadcast transmissions are not broken into multiple calls.

Although the Apple Telecom 2.x software will allow multiple destinations to be selected in the Fax Sender dialog box, the document will be rasterized and compressed for each destination chosen. For example, if 20 destinations are chosen, the document being faxed will be rasterized and compressed 20 times.

Below is a brief description of the batch faxing process:

The process of batch faxing creates an envelope containing several different rasterized images or documents into one master file. For example, an envelope could be a report containing a cover letter, spreadsheet, chart, and graphics created within separate applications. The envelope containing these separate documents can then be faxed as one transmission.

Support Information Services
Published Date: Feb 19, 2012

Netscape Communications Corporation

Products include: Netscape Communicator and Netscape Navigator.
This article has been archived and is no longer updated by Apple.
501 East Middlefield Road
Mountain View, CA 94043

(650) 254-1900 (Phone)
(650) 254-2601 (Fax)

URL: **http://www.netscape.com/**

Company Profile:
Server and client software for exploring the World Wide Web (WWW).
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A/UX: MacTCP Services Unsupported (8/95)

Do TCP/IP network services that run on MacTCP run in the Mac32 process of A/UX?

I've tried ftpd, mailshare, and Webstar, and none of them ever accept connections.

This article has been archived and is no longer updated by Apple.

A/UX does support MacTCP calls in Mac32, which allows Mac OS programs to make outgoing connections. However, A/UX does not have any support for incoming sessions to connect to software that is listening as a server in MacTCP.

A/UX, being a form of UNIX, already has facilities to route incoming connections to UNIX processes (such as ftpd, telnetd, and sendmail), but does not provide any support for handing off connections to programs that use MacTCP.

Support Information Services
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LaserWriter Pro 810: UNIX Printing Outline

I have an UNIX environment that is a collection of many vendors UNIX workstations. What systems and configurations are supported with the LaserWriter Pro 810.
This article has been archived and is no longer updated by Apple.
The LaserWriter Pro 810 is supported for printing via TCP/IP using two methods:

lpr - Berkeley Line Printing

Using lpr is the fastest and simplest way for UNIX printing. LPR configuration is supported for any system that has lpr and a printcap file.

Systems known to support lpr include: A/UX, SunOS, and NeXTStep. This list is not comprehensive. If you do not know if your system supports lpr, consult your documentation or type "man lpr".

Follow the instructions in Network Installation and Configuration Manual:
Rev A Part 2, Section 4.1-2, (p 4-1 to 4-3)
Rev B Part 3, Section 4.1-2, (p 4-1 to 4-3)

For more details on lpr configuration, consult the article, "LaserWriter Pro 810: Postscript using lpr from Unix".

Systems emulating lpr (such as Solaris) are not officially supported for LPR, although there maybe TIL articles that describe their configuration. Many systems which are System V printing (lp) based retain support or emulation for lpr. Consult your system documentation for further assistance.

apprint - Apple Supplemental Printing Utilities

Apprint is supported for: AIX, AT&T Sys V386, NCR Sys V 386, SCO Unix, Solaris 2.x, SunOS 4.1.x, DEC ULTRIX.

Apple provides pre-compiled binaries for these systems in:

ftp.support.apple.com:/pub/apple_sw_updates/US/Unix/Printing Software for Unix

Follow the instructions in Network Installation and Configuration Manual:
Rev A, Part 2 "Software Installation Guide for UNIX-based Load Hosts"
Rev B, Part 3 "Software Installation Guide for UNIX-based Load Hosts"

The utility set, apprint, shipped as C code and an installation shell script. Although Apple does not support other UNIX systems and apprint, customers may have success compiling the apprint software on other systems.
Published Date: Feb 19, 2012

System 7.5: Unable to Drag Items from Find File Window (8/95)

I am running System 7.5.1 on my Macintosh computer. I noticed I am no longer able to drag items from the top half of the Items Found window when I use Find File to search my hard drive. I used to be able to do this. What is wrong?

This article has been archived and is no longer updated by Apple.

The Find File application uses AppleScript to execute some of its functions. It also requires an extension called the Finder Scripting extension to perform these functions.

You should make sure the Finder Scripting Extension is in the Extensions folder of your System Folder and that it has not been disabled in the Extensions Manager control panel.

If you cannot locate the Finder Scripting extension on your hard drive, you will need to reinstall it by reinstalling your system software.

Support Information Services
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MAE: Installing Chinese or Japanese Language Kits

When trying to install either the Chinese, or Japanese Language Kit version 1.0 the following error appears:

"The installer cannot update the version of Performa system software on the disk '/'. Please read the file 'Read Me' on the disk 'Install 1' for more information."
This article has been archived and is no longer updated by Apple.
To properly install the Chinese or Japanese Language Kits (CLK or JLK), remove the Launcher from the System Folder or use the Extension Manager to deselect the Launcher. After restarting, the installer should work properly.
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MAE: Installing Microsoft Office (8/95)

What is the best way to install Microsoft (MS) Office 4.2.x onto my workstation to use with MAE?
This article has been archived and is no longer updated by Apple.
There are several options to installing Microsoft Office on MAE.

If using the Microsoft CD

Mount the CD-ROM within MAE, launch the Microsoft Setup program, and proceed with the installation. When it asks for a destination directory for the install, locate a directory that has sufficient disk space and which the user has write-access to; then create a new folder called Microsoft Office to be the destination folder. Following the installation, if you choose to move the Microsoft Office package to a new location, do so keeping in mind the permissions of the folder.

Create a Net Install from another Macintosh

Using AppleShare with MAE 2.0, you can mount the folder and begin the install. Locate a directory with sufficient space and where the user has write-access, and create a new folder called Microsoft Office that will be the destination folder.

If you are running MAE 1.0

If you are running MAE 1.0, or you are not sure of the amount of disk space, and it is not possible to install with the CD or floppy; use Fetch on a Macintosh to copy the programs to your workstation.

NOTE: After you install Microsoft Office and if you installed it into your HOME directory, be sure to remove the Microsoft Office control panel from the MAE System Folder. The Microsoft Office control panel is not compatible with MAE.

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Plaintalk 1.4.1: ReadMe File (8/95)

This article contains the Read Me file included with the Plaintalk 1.4.1 software package.
This article has been archived and is no longer updated by Apple.
PlainTalk is a collection of software that enables your Macintosh to speak written text and respond to spoken commands. PlainTalk 1.4.1 includes three components, each with its own installer: English Text-to-Speech, Mexican Spanish Text-to-Speech, and English Speech Recognition.

This document describes each of these three software packages, and discusses the differences between PlainTalk 1.4.1 and earlier versions of PlainTalk.

English Text-to-Speech

With the English text-to-speech software installed, many Macintosh programs can read English text out loud. To install the English Text-to-Speech software, you need the following software and hardware:

any Macintosh or Power Macintosh computer
version 6.0.7 or later of system software
at least 300 kilobytes (K) of RAM in addition to what the rest of your system software requires
at least 5 megabytes (MB) of space available on your hard disk

For more information about the English Text-to-Speech software, see the Using English Text-to-Speech document or the About English Text-to-Speech document in the English Text-to-Speech folder.

Mexican Spanish Text-to-Speech

With the Mexican Spanish text-to-speech software installed, many Macintosh programs can read Spanish text out loud. To install the Mexican Spanish text-to-speech software, you need the following hardware and software:

a Power Macintosh computer or a Macintosh computer with a 68020, 68030, or 68040 processor
version 7.0 or later of system software
at least 1.3 MB of RAM in addition to what the rest of your system software requires
at least 2 MB of space available on your hard disk

For more information about the Mexican Spanish Text-to-Speech software, see the Using Mexican Spanish TTS document in the Mexican Spanish Text-to-Speech folder.

English Speech Recognition

With the English Speech Recognition package and the proper hardware, your computer can respond to spoken commands. The English Speech Recognition package includes the Speech Recognition system extension, the Speech control panel, and a utility called Speakable Items. With Speakable Items, whenever you say the name of an item inside the Speakable Items folder (which is inside the Apple Menu Items folder), the computer acts as if you double-clicked the item.

You can turn Speakable Items on and off using the Speech control panel. You can also use the Speech control panel to set several preferences for how Macintosh Speech Recognition programs listen and respond. For example, you can set the Listening options in the Speech control panel so that the recognizer only listens while you hold down a key of your choice. When you use this option recognition accuracy is improved and misfires (when the computer thinks you spoke a command but you didn't) are eliminated.

To install and use the English Speech Recognition software, including the Speakable Items software, you need the following hardware and software:

a Power Macintosh computer
system software version 7.5 or later
a 16-bit microphone, such as the Apple PlainTalk Microphone or the microphone built into some Apple audiovisual displays.

For more information about the English Speech Recognition software and the Speakable Items utility, see the Using Speech Recognition document in the English Speech Recognition folder.

Differences between PlainTalk 1.4.1 and PlainTalk 1.4

TA34252_Plaintalk_ReadMe_File__(TIL18378).pdf

PlainTalk 1.4.1 is a minor update to PlainTalk 1.4. It includes a few bug fixes, including the following:

English Speech Recognition 1.4.1 works better than 1.4 worked with microphones built into Apple AudioVision 14 displays.

Version 1.4.1 of the Speech control panel (which is installed by version 1.4.1 of English Text-to-Speech, Mexican Spanish Text-to-Speech, and English Speech Recognition) contains a fix to incompatibilities that version 1.4 of the Speech control panel had with HyperCard 2.3's popup menus when running on PowerMacintosh computers.

Version 1.4 of the Speech control panel failed to run on some 68000 Macintosh computers (including Macintosh SE computers). Version 1.4.1 of the Speech control panel runs on all Macintosh computers with system software version 7.1 or later.

Differences between PlainTalk 1.4.1 and PlainTalk 1.3

Version 1.3 and earlier versions of the PlainTalk software had a single installer program that installed both text-to-speech and speech recognition. This version (1.4.1) contains three different installers to make it easier to install just the parts that are appropriate for your needs: English Text-to-Speech, Mexican Spanish Text-to-Speech, and English Speech Recognition.

You don't have to install them all. However, if you are going to install version 1.4.1 of English Speech Recognition or Mexican Spanish Text-to-Speech then you should first install version 1.4.1 of English Text-to-Speech, even if you already have an older version of English Text-to-Speech installed.

Deciding whether to upgrade to version 1.4.1

Version 1.4.1 of PlainTalk is a minor update to version 1.4. It fixes a few bugs discussed above in the section titled "Differences between version PlainTalk 1.4.1 and PlainTalk 1.4". If you are using version 1.4 and are experiencing any of those bugs, then you should update to version 1.4.1.

In general, version 1.4.1 offers a more robust and flexible set of features than version 1.3 or earlier versions. However, some people in special circumstances may do better with version 1.3.

If you have a Macintosh AV computer that has a 68040 processor and you use PlainTalk 1.3's speech recognition capabilities, Apple recommends that you continue using version 1.3 of the PlainTalk software. Though the new text-to-speech software works with these computers, the new speech recognition software does not (because it runs on Power Macintosh computers only). It is not recommended that you mix versions, using the old recognition software with the new text-to-speech software. (Note: all the new software works with Power Macintosh AV computers.)

If you make extensive use of PlainTalk 1.3's Speech Macros, the Speech Macro Editor, or the ability to speak menu commands, then you might want to continue using version 1.3. As part of the effort to make the software more robust, version 1.4.1 of English Speech Recognition supports Apple's standard AppleScript ScriptEditor instead of the Speech Macro Editor, and it does not support the ability to speak menu items. This is discussed more below.

What's new in English Text-to-Speech

English text-to-speech software version 1.4.1 is a minor update to version 1.4, as discussed above. English text-to-speech software version 1.4.1 is also very similar to version 1.3 and earlier versions. The main differences are:

English Text-to-Speech 1.4.1 has its own installer.

English Text-to-Speech 1.4.1 includes a Speech control panel that lets you select a system-wide default voice and rate, which is used by many text-to-speech programs, including SimpleText and the Speakable Items utility.

What's new in Mexican Spanish Text-to-Speech

Mexican Spanish text-to-speech software version 1.4.1 is a minor update to version 1.4, as discussed above. PlainTalk 1.4 was the first version of PlainTalk to include support for Mexican Spanish text-to-speech.

What's new in English Speech Recognition

English speech recognition software version 1.4.1 is a minor update to version 1.4, as discussed above. The most notable improvement from version 1.4 is that version 1.4.1 of English speech recognition works better than version 1.4 did with microphones built into Apple AudioVision 14 displays.

English Speech Recognition version 1.4.1 has some significant differences from the speech recognition software in version 1.3 and earlier versions of PlainTalk. Some features have been eliminated to simplify speech recognition and make it more robust and usable. Other options have been added to increase accuracy and eliminate misfires.

Version 1.4.1 offers a new listening option in the Speech control panel, "Listen only while key(s) are pressed," that lets you leave Speakable Items on all the time without worrying about misfires. It also improves the accuracy of recognition.

Version 1.4.1 works in a wider range of environments thanks to its greatly improved adaption to room acoustics.

Version 1.4.1 does not include or support Speech Macros, the Speech Macro Editor, or Speech Rules. It still supports speaking dialog buttons and the Speakable Items folder. Any item you place inside the folder becomes speakablesaying the name of the item launches or opens the item. You can use the AppleScript ScriptEditor to create scripts that are launched by speaking a command: just save the scripts inside the Speakable Items folder. To see examples, look inside the Speakable Items folder.

Version 1.4.1 runs on Power Macintosh computers only, and does not support Macintosh AV computers with 68040 processors. You can continue to use PlainTalk 1.3 on 68040 Macintosh AV computers.

Version 1.4.1 does not include automatic support for recognizing the spoken names of menu commands. You can still manipulate scriptable programs, such as the Finder, using AppleScript commands. To see examples, look inside the Speakable Items folder.

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Support Information Services

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MAE: Macintosh Viruses Within MAE

Is there any concern for computer viruses within Macintosh Application Environment (MAE)? Will a Macintosh computer virus affect only my Macintosh files, or could it also harm the UNIX files as well? What application can be used to check for viruses?
This article has been archived and is no longer updated by Apple.
Macintosh viruses can damage UNIX files that the user has permissions to. Normally, a Macintosh virus attacks the resource fork which does not exist for UNIX files. However, there may be the possibility of damage if the virus attacks the data file.

MAE includes Disinfectant 2.5, located in ./apple/tools/shareware. Using the selected scan option (hold down the Option key) in Disinfectant should scan for any virus affected files.

Using products like SAM Intercept may work, however, SAM Intercept has not been fully tested. Also Norton Utilities has not been tested, because of certain hardware and disk assumptions that will not match with UNIX workstations.

For information on downloading the latest version of Disinfectant refer to:
TIL aritcle 30487: "**Disinfectant: Macintosh Anit-Viral Utility**"

The Tech Info Library article#17159: "**Locating Vendor Information**", can help you search for a particular vendor's address and phone number.
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GeoPort 2.2 Telecom Adapter: Read Me

This article is the GeoPort Telecom Adapter 2.2 Read Me file.
This article has been archived and is no longer updated by Apple.
Software included in the GeoPort Telecom Adapter Kit

Apple Telecom Software 2.2

This includes all software necessary to use the GeoPort Telecom Adapter with the following Macintosh systems:

* Centris 660AV, Quadra 660AV and Quadra 840AV.
* Power Macintosh 6100 series, 7100 series, 7200 series, 7500/100, 8100 series, 8500/120, and 9500 series.

The Apple Telecom User's Guide contains complete information about installing and using this software. An electronic Apple Telecom Upgrade Manual is included in the Telecom Documents folder so that you can learn about the new features if you upgraded electronically and don't have the Apple Telecom User's Guide. Disks 1 and 2 can also be used to install Apple Telecom 2.x software on Macintosh systems equipped with an Express Modem card.

NOTE: For Power Macintosh 7200 series, 7500/100, 8500/120, and 9500 series, version 2.1 or higher of Apple Telecom Software is required. If you are using a GeoPort Telecom Adapter on these Power Macintosh models, you must disable LocalTalk. To do this, disconnect any devices attached to the printer port (except serial printers, which can remain attached).

IMPORTANT: If you select "Sleep" from the Special Menu available on some Power Macintosh models while there is an active GeoPort connection, the GeoPort Telecom Adapter will automatically disconnect the call without warning. When a Power Macintosh 7200 series model is in the low-power mode, the GeoPort Telecom Adapter will wake up the machine if the telephone rings and the machine is awaiting an incoming call. The monitor will remain in the low-power mode. While a connection is open via a GeoPort Telecom Adapter, your Power Macintosh will not enter the low-power mode, but the monitor will dim the screen.

MegaPhone (for United States, Canada, and Japan only)

This is a screen-based telephone application that delivers full support of the telephony capabilities of the Apple Telecom 2.x software, including support for dialing from a graphical keypad, copying and pasting telephone numbers, and dragging and dropping business card information, and voice-mail functions.

The GeoPort Telecom Adapter Kit also includes a free 30-day trial of call logging, MegaDial dialing manager, intelligent synchronization with directory information (saving telephone numbers to a PowerTalk catalog, for example), and other extended capabilities.

See also: the MegaPhone electronic manual included on Disk 3 (Telecom Applications).

NOTE: MegaPhone is not installed by the Apple Telecom Installer program. You must install it separately.

SITcomm SE/GTA (for United States and Canada only)

This is a terminal emulator application. With SITcomm SE/GTA (Special Edition for GeoPort Telecom Adapter), your Macintosh can communicate with a variety of other computers, linked by serial cables or by telephone lines.

With SITcomm you can exchange information with
* A colleague who is using another computer with similar communications software.
* Text-based information and electronic mail services, such as CompuServe or MCI Mail.
* Your company or school's remote minicomputer or mainframe.

See also: the SITcomm SE electronic manual included on Disk 4 (Telecom Applications).

NOTE: SITcomm is not installed by the Apple Telecom Installer program. You must install it separately.

NOTE: SITcomm (Disk 4) is not included with free upgrades. You can order the full upgrade, including SITcomm SE and the Apple Telecom User's Guide manual, by calling the Apple Order Center. Ask for the Apple Telecom software version 2.x upgrade for use with your GeoPort Telecom Adapter.

Upgrading from previous releases of GeoPort Telecom Adapter software

If you are installing this version of the software over an older version, you should use the Easy Install option rather than the Custom Install option. This ensures that all files are updated as necessary.

NOTE: If you have installed any customized fax cover pages and renamed the fax folder (called Express Fax in previous versions), the Installer moves them to the new Fax Folder. You can still use them, but if you want to keep them in a different folder, you'll need to drag them there manually.

When you have installed over an older version, the folders "Modem Documents" and "Express Fax" and the file "GeoPort Read Me" may still be left on your hard disk from the earlier version. These are not necessary for using the newer version; you may delete them.

Connection (CCL) scripts for Apple Remote Access

Use the following connection scripts with Apple Remote Access:

ARA 1.0: GeoPort Telecom ARA 1.x (in Extensions folder in System Folder)
ARA 2.0: GeoPort Telecom ARA 2.x (in Extensions folder in System Folder)

These files are placed directly in the Extensions folder by the Installer program. You do not need to move or copy them there as stated in Appendix C of the Apple Telecom User's Guide. Apple Remote Access 1.0 does not support Power Macintosh computers. You can order an upgrade for Apple Remote Access by calling the Apple Order Center.

Two additional, optional connection (CCL) files, named GeoPort Telecom ARA 1.x/CNG and GeoPort Telecom ARA 2.x/CNG, are installed as well. When you use them, the GeoPort Telecom Adapter transmits data calling tones after dialing. Data calling tones allow the remote machine to detect automatically that an incoming call is a data modem call. If you are dialing into a system that supports data, fax and voice calls (such as another GeoPort Telecom Adapter), you should select it in the Apple Remote Access Setup control panel.

NOTE: The GeoPort Telecom ARA 1.x/CNG and GeoPort Telecom ARA 2.x/CNG files are installed in the Telecom Documents folder. Should you decide to use these optional files, you'll need to drag or copy them to the Extensions folder.

Using Remote Access Dial Back

If your Remote Access server uses a "Dial Back" feature, the server's return call back to your machine may be inadvertently directed to an open telephone application. To avoid this situation, either close these applications or open the Express Modem control panel and choose "Data" as the default call type when you expect an incoming call from another computer.

Using Fax Sender GX with QuickDraw GX 1.1

The Fax Sender GX extension described in Chapter 8 of the Apple Telecom User's Guide can only be used with QuickDraw GX 1.1 or later. Depending on your location, QuickDraw GX 1.1 may not be available in your area at the time this software is released.

If you need to send complex greyscale images, you should use Fax Sender GX instead of Fax Sender. The image quality is superior.

NOTE: The Control-shift shortcut used to select Fax Sender without going through the Chooser is not available when using Fax Sender GX. However, you can create a desktop printer icon for Fax Sender GX and use drag-and-drop to accomplish the same thing.

Fax Sender GX initially defaults to Standard quality. If you plan to use a desktop printer and want to change the default to Fine quality, print a document from any GX-aware application (SimpleText, for example) and select Fine quality from the Fax Sender GX print dialog.

Please refer to the About Fax Sender GX electronic manual installed in the Telecom Documents folder or Chapter 8 of the Apple Telecom User,s Guide for more information about this software.

Sharing Fax Sender GX on an AppleTalk network

Using Fax Sender GX, you can set up one machine on an AppleTalk network to be a central server for sending faxes. Other users on the network can send faxes without having the modem hardware installed in their computers.

In order to do this, the server must have the appropriate hardware installed, and both the server and client machines must have QuickDraw GX (version 1.1 or later) and the fax software installed. To install the fax software on a client machine, select the "Fax Sender GX Client Software" Custom Install option in the Apple Telecom Installer.

NOTE: If you are sharing your Express Modem or GeoPort Telecom Adapter on an AppleTalk network, try to minimize the time you spend in Fax preview. While you are previewing, other Fax Sender GX users may be paused.

Using the Apple Fax Gateway with PowerTalk 1.1

The Apple Fax Gateway extension should be used with PowerTalk 1.1 or later. PowerTalk 1.1 is included in the System 7.5 system software release.

NOTE: Apple Fax Gateway only sends AppleMail-compatible letters, text-only files, and PICT files. If you enclose a formatted document (for example, a word processor document), it will be skipped and not be included in the fax.

See also: The About Apple Fax Gateway electronic manual installed in the Telecom Documents folder.

FastPrint

The Fax Viewer program included with this package implements a new FastPrint feature. The speed of printing can be significantly improved but is only available if the preferred memory size setting of the Fax Viewer application is set to at least 1500K (the default is 290K). To enable FastPrint,

select the FastPrint checkbox in the Fax Viewer print dialog box. Note that this feature only works with PostScript printers.

Troubleshooting

Connecting to Online Services That Do Not Support Data Compression or Error Correction

First check to see if your software uses a "modem initialization string". If so, locate and remove "S48=0", if it appears in the string. If this does not work or it is not present, add "%C0S46=136" to the end of your modem initialization string (this disables compression). If this still does not work, try adding "&Q0" instead (this disables compression and error correction).

Another potential connection problem is your application getting confused by the CARRIER message. Some applications misinterpret this as a CONNECT message and begin sending data. This will cause the GeoPort Telecom Adapter to drop the connection. Since it is still negotiating the connection, it will abort the call if it receives any data prior to the CONNECT message. If this is the case, you may want to add a W0 command in the application*s initialization string (this suppresses the CARRIER message).

Communication Settings

If you are using a terminal emulator or communications program that supports the Apple Communications Toolbox, you should select the "Express Modem Tool" from the connection settings menu item. This tool's default settings will always try to establish connections at the highest possible speed with error correction and compression enabled.

Identifying Incoming Calls

When answering your phone line, the GeoPort Telecom Adapter will attempt to determine the type of incoming call (fax, voice, or data) before transferring the call to a telephony application. Incoming fax calls are easily detected since the sending fax machine usually transmits a fax calling tone. Incoming data and voice calls are more difficult to detect since in many countries modems typically do not transmit a tone.

In the Express Modem control panel, you can set the default call type for situations where no calling tone is detected. If you are using a voice telephony application (such as MegaPhone), we recommend that you select Voice as the default call type. If you are using a data telephony application (such as Apple Remote Access server), we recommend that you select Data as the default call type.

If you expect to receive both voice and data calls, ask your callers to send a data calling tone when calling your machine. Use of these features is explained in detail in the Apple Telecom Upgrade Manual electronic document installed in the Telecom Documents folder.

If you have problems receiving calls from data modems (when using the Apple Remote Access dial back feature, for example), try decreasing the number of rings to Auto-answer in the Express Modem control panel (if permitted in your country). Some calling modems may time out and disconnect before your modem answers if the number of rings is too high.

Removing Fax Storage Folders

To protect your fax documents, the fax storage folders ("Fax Waiting To Be Sent", "Received Fax Documents", "Sent Fax Documents") are protected from accidental deletion. To bypass this mechanism, drag these folders to the trash, restart your computer, and then empty the trash. New, empty folders are created for you.

Using a Centris 660av or Quadra 660av/840av

If you are using a Centris 660av or Quadra 660av/840av and experience errors when attempting to establish a connection, you may need to change the audio settings on your computer. The default setting of 24.000 kHz is compatible with the GeoPort Telecom Adapter. To change this setting, open the sound control panel, choose "Sound Out" and select the "24.000 kHz" sampling rate.

Resetting a Blacklisting Error Message

Regulations in France, Japan, and a few other countries require that the Express Modem software blacklist recently dialed numbers when the connection fails. If you receive a "BLACKLISTED" error message when dialing, you can reset the BLACKLISTED condition by turning the Express Modem control panel off and then on. This software reset, equivalent to turning off and on a hardware modem, is compliant with PTT regulations.

Clicking sound from GeoPort Telecom Adapter

If your machine freezes, the GeoPort Telecom Adapter can lose its connection with your machine and may generate a rapid clicking sound. This sound is a temporary side-effect of the lost connection. To stop the clicking, unplug the adapter for a few seconds or restart your machine.

Port Selection

The interface for selecting the correct communications port has been simplified since GeoPort Telecom Adapter software versions 1.0.2 (Power Macintosh) and 1.2.2 (660av/840av). The "Use internal modem instead of modem port" checkbox has been removed from the Express Modem Control Panel. The Express Modem control panel now automatically detects whether a GeoPort Telecom Adapter is actually attached to the Modem port. If so, all serial communications are first processed by the Express Modem software and transmitted through the GeoPort Telecom Adapter. If not, serial communication passes through the modem port directly.

GeoPort has been removed from the list of ports. The Express Modem control panel now automatically detects whether a GeoPort Telecom Adapter is actually attached to the Modem port. Select Modem Port whenever you wish to communicate through the GeoPort Telecom Adapter.

What Goes Where

When you install the software using the Easy Install option of the Installer program, the following files and resources are installed on your hard disk.

Hard Disk:
* GeoPort Telecom Adapter ReadMe
* SimpleText 1.2

Hard Disk: Telecom Applications: Fax Folder:
* Fax Terminal
* Fax Viewer
* Fax Cover
* Sample (cover document)
* Standard (cover document)
* My First Fax (PICT sample)

Hard Disk: Telecom Documents:
* About OCR (OCR manual for users who upgrade electronically)
* About Apple Fax Gateway (Gateway manual for users who upgrade electronically)
* About Fax Sender GX (Fax Sender GX manual for users who upgrade electronically)
* Apple Telecom Upgrade Manual
* Express Modem CCL (AppleLink CCL)
* GeoPort Telecom ARA 1.x/CNG (optional, transmits data calling tone, 660/840AV only)

* GeoPort Telecom ARA 2.x/CNG (optional, transmits data calling tone)
* Modem AT Command Set

Hard Disk: System Folder: Control Panels:
* Express Modem

Hard Disk: System Folder: Extensions:
* Apple Fax Gateway
* Apple Telecom Modem
* Express Modem Tool
* Fax Extension
* Fax Sender
* Fax Sender GX
* GeoPort for Power Macintosh (Power Macintosh only)
* GeoPort Extension (660/840AV only)
* GeoPort Serial Driver
* GeoPort Telecom Adapter
* GeoPort Telephone Tool
* GeoPort Telecom ARA 1.x (Apple Remote Access 1.0 CCL, 660/840AV only)
* GeoPort Telecom ARA 2.x (Apple Remote Access 2.0 CCL)
* Serial Extension
* Shared Library Manager
* Telephone Manager Extension

Hard Disk: System Folder: Mimetics:
* EasyReader Fax
* Neuroneye
* US Dictionary
* UK Dictionary

Hard Disk: System Folder: System:
* Bell Telephone (sound resource)
* Electronic Telephone (sound resource)

The Tech Info Library article 17159: "**Locating Vendor Information**", can help you search for a particular vendor's address and phone number.

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Color LaserWriter 12/600 PS: Photoconductor LED Turns On Prematurely

The photoconductor LED (error light) on my Color LaserWriter 12/600 PS turned on after printing only 3,000 pages even though the print quality looks fine. Do I need to replace the photoconductor as directed by the user's manual? Will my printer shut down?
This article has been archived and is no longer updated by Apple.
Apple recommends replacing the photoconductor (OPC -- Organic Photoconductor) only when there is a noticeable degradation of print quality. To assist in monitoring the print quality keep the startup and demonstration pages that print when a new photoconductor is installed in the printer. These pages represent the print quality that can be expected with a new photoconductor. Periodically printing the startup and demonstration pages allows the print quality to be compared with the pages generated when the photoconductor was new. If the print quality has degraded to an unacceptable level (ie. overexposed, lack of contrast, scratches, or spots) then the photoconductor should be replaced. Under normal circumstances the life of the photoconductor can be in excess of 6,500 pages depending on the type of printing being done.

The photoconductor LED on the status panel is activated by an internal counter after 3,000 color pages have been printed. The Color LaserWriter controller uses a photosensitive drum thickness circuit to determine when a new photoconductor has been installed so that the photoconductor LED can be turned off for another 3,000 pages. The thickness detection is performed every 100 printed pages, at power on, and whenever the front door is opened and closed. Removing and reinstalling the original photoconductor will not reset the LED because the printer engine controller compares the current drum thickness data with the drum thickness data stored on the DC controller to determine whether a new photoconductor has been installed.

Though a worn out photoconductor begins to impact print quality, it should not shut down the printer.

If the Color LaserWriter 12/600 PS or Color LaserWriter 12/660 PS printer is shutting down, check for other error LEDs and consult the user's guide for recommendations. In some cases the waste toner LED may blink which indicating that the waste toner bottle is full. Every new photoconductor comes with two waste toner bottles because at least one of them is expected to fill up and require replacing during the life of the photoconductor.

Remove the waste toner bottle to see if it is full. Also inspect the clear plastic cap on the waste toner bottle to make sure that it is not contaminated with toner that might be blocking the photosensor light beam. Toner contamination can trigger a waste toner alert, when the waste toner bottle is not full.
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MAE 2.0: Is AppleScript Supported (1/96)

Is AppleScript supported in MAE 2.0?
This article has been archived and is no longer updated by Apple.
AppleScript is not supported in MAE, and there is no plan for it to be in the near future.

Article Change History:
30 Jan 1996 - Revised article to show no support.

Support Information Services
Published Date: Feb 19, 2012

MAE 2.0: The license_binder Program (8/95)

This article describes license_binder, a program used with MAE 2.0.
This article has been archived and is no longer updated by Apple.
The purpose of license_binder is to create a license file to help Administrators keep track of MAE licenses. The location of license_binder is, ./<apple dir>/bin, where <apple_dir> is the location the user installed MAE. After installing MAE, follow the steps below to properly set up MAE licensing.

Step 1

Execute ./<apple_dir>/bin/license_binder

Step 2

Input the serial number found on the inside cover of the MAE package or on the CD cover.

Step 3

Depending on the license, input the "user" or "display" that are licensed to use MAE.

If you license the user, then that user can logon to any display and use MAE. If you license the display (by host name or IP Address), any user that resides on that display can use MAE.

Step 4

After using all licenses per serial number, the license_binder will exit. A directory called ./<apple dir>/license_dir will now have the license file with the user and/or display information.

Central Administration of Licenses

System Administrators can choose where the license file resides. This lets large installations have a centrally maintained license_dir directory that is shared among all MAE users. When MAE is installed, by default, the license_binder data files are stored in ./<apple dir>/license_dir. To place the license_binder data files in a central location (whether the central location is local to the users or out on the network), follow these steps:

Step 1

Install MAE in the machine that is to contain the centrally located license_binder data files, and execute the license_binder program. Export the ./license_dir directory via NFS. Be sure that all users have access to the location of the exported license_dir.

Step 2

On systems that will have MAE running, create a directory called license_dir in the <apple dir> and then mount via NFS the exported license_dir to the license_dir mount point.

If the license files are to be located elsewhere in the file system, set the MAE_LICENSES environment variable to the location at which the data files are to be placed.

NOTE: Setting the MAE_LICENSES environment variable to a pathname causes MAE to create a new directory if needed, and places the data files in that directory if license_binder is run after setting MAE_LICENSES. Be sure that all users set and export MAE_LICENSES on their workstations to the appropriate location.

Support Information Services
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DOS Compatibility Card: Less RAM Than Set In PC Setup (10/95)

I have 40 MB of RAM in my Macintosh, and I have selected 16 MB for my DOS Compatibility Card in the PC Setup control panel. However, my DOS Compatibility Card will only access 8 MB of RAM. I thought I could access half of the RAM. Why does this happen?

This article has been archived and is no longer updated by Apple.

Yes, it is true that you can allocate half of the total physical RAM to the DOS Compatibility Card using shared memory. However, the only choices are the ones in the menu of the PC Setup control which are: 2, 4, 8, 16, 32. There are choices for 1 and 64 but none of these are ever available, even with a full load of RAM. Since you have 40 MB RAM, the closest number to 20 (half of 40) is 16. Therefore, you can, at most, share 16 MB RAM with the DOS Compatibility Card.

You cannot share virtual memory (VM) to the DOS Compatibility Card. If the system only has 16 MB RAM and you set VM to 32 MB, you can still only share a maximum of 8 MB RAM.

There are two situations that must be kept in mind when sharing RAM between a Macintosh and DOS Compatibility Card. Both can affect the DOS Compatibility Card, they are as follows:

When changing the RAM allocation in the PC Setup control panel, you must restart the Macintosh before the RAM change will take effect.

During startup, if you have several extensions or control panels load before PC Setup, a reduced amount of RAM will be available for the DOS Compatibility Card. For example, having a large RAM Disk mount at startup may allocate enough memory before PC Setup loads forcing it to reduce its memory allocation below the control panel setting. If this happens, you must evaluate whether all of your extensions and/or control panels are necessary, and turn those off which are not.

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Volume II, Issue 12, Page 13

Article Change History:
09 Oct 1995 - Added Info Alley information; updated article.

Support Information Services
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Open Transport: Not Compatible With AppleTalk Phase 1 (8/95)

Is Open Transport compatible with AppleTalk Phase 1 networks?
This article has been archived and is no longer updated by Apple.
No. Open Transport will not work with AppleTalk Phase 1 networks, or with the AppleTalk Phase 2 Upgrade Utility. Customers using AppleTalk Phase 1 will have to upgrade to AppleTalk Phase 2.

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Macintosh XL: Screen Kit Notes

This article has been archived and is no longer updated by Apple.

1. The Macintosh XL Screen Kit alters the video display of a Macintosh XL (Lisa 2/10 or Lisa 2) so that the video display pixels are square (as on the Macintosh screen) as opposed to the pixel ratio on the Lisa (2 units wide by 3 units tall). This eliminates the distortion experienced by XL users when running Macintosh software under MacWorks XL. The video display is changed from 720 x 364 to 608 x 431 pixels.

2. The kit contains 4 components:

1 transformer installed in line with the yoke of the CRT (yellow and green wires)

Video State ROM P/N 341-0348 installed in location C 6 (CPU Board)
Boot ROM (High) P/N 341-0347 installed in location D 13 (CPU Board)
Boot ROM (Low) P/N 341-0346 installed in location D 14 (CPU Board)

3. The version of the boot ROM that is displayed in the upper left corner of the XL while booting is 3A. On an XL the I/O ROM is still 88; on the Lisa 2 the I/O ROM is A8.

4. A new version of Mac XL Test, P/N 077-0206 is required to run diagnostics on a pixel modified Macintosh XL. Earlier versions of XL Test will not run properly on a modified XL.

5. A full screen dump on a Macintosh XL still wraps the right part of the screen around to the left side of the printer page, but due to the reduced number of pixels horizontally, 720 vs. 608, the printing does not actually overwrite the left side of the screen dump.

6. The pixel fix kit greatly improves the performance of Microsoft Chart. The printed graph does not show up in unexpected locations on the printed copy after it looked perfect on the screen of your XL.

7. Very important: Once the pixel fix kit is installed, the customer will be unable to run Lisa software. Since the first part of the Lisa-to-Mac migration is run under the Lisa Office System, which cannot be done on a system that has been modified with the Screen Kit, install the pixel fix after you use the migration utility to transfer your Lisa software to the Macintosh environment.

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Color LaserWriter 12/600 PS: Do Not Bypass PageMaker Driver

When I bypass the PageMaker print driver, using Option-Print, PageMaker does not seem to send the correct black color information to the color LaserWriter 12/600 PS printer. However, I get the correct black color information using the PageMaker print driver; Print from the File menu.

Because the PageMaker driver is sometimes the cause of difficulties, I sometimes try printing with Apple's LaserWriter driver using Option-Print. Is there a way to get the correct colors from PageMaker using the Apple LaserWriter printer driver?
This article has been archived and is no longer updated by Apple.
You don't get dark blacks from PageMaker using the Option-Print because of the way Adobe sends the information to the Apple Printer Driver. Adobe technical support is aware of the issue, but state that using the OPT-PRINT is NOT a supported solution. If you are encountering difficulties printing using PageMaker's print command, you should contact Adobe technical support. Instead of using Opt-Print, Adobe Technical Support will assist you in determining your printing difficulty.
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Open Transport: TCP/IP Control Panel Simplified

This article provides a simplified explanation of the elements of the Open Transport TCP/IP control panel settings.
This article has been archived and is no longer updated by Apple.
Question: What does the TCP/IP control panel let me do?
Answer: The Transmission Control Program/Internet Protocol (TCP/IP) control panel lets your Macintosh speak the protocol or "language" of the Internet. The Mac OS uses AppleTalk, the protocol of Apple Macintosh computers and LaserWriter printers. But the Internet uses the TCP/IP protocol suite, which is the "language" of UNIX systems.

Question: What is an IP address?
Answer: Each machine or "host" connected to the Internet must have a unique IP address in order to communicate with other hosts. It is like a telephone number. An IP address is a 32-bit number, usually expressed in dotted decimals, for example: 128.1.1.24

Question: What is the significance of the dotted decimals in an IP address?
Answer: Similar to the way a telephone number is divided into area code, exchange, and individual phone number, an IP address is also subdivided into octets (each "octet" is 8 bits, 8 bits X 4 octets = 32 bits) that designate network, subnetwork, and node.
The network is like the area code; it describes a certain piece of the Internet where your Macintosh is connected. A subnetwork is similar to an exchange; it further breaks down the network into smaller chunks, and each subnetwork can have its own range of nodes, like the individual phone numbers on that exchange. Note that not all networks use subnetworking to further divide their network.

Question: What is the subnet mask?
Answer: This mask is what is used to indicate which bits of your 32-bit IP address designate the "network", and which bits designate the "node". Remember that the dotted decimal format is just an easy way of expressing the 32-bit address. If you were to write out the example address, 128.1.1.24, in binary numbers, it would look like this:

10000000.00000001.00000001.00011000

The subnet mask is also a 32-bit number; when superimposed over the IP address, every bit that matched a "1" would be part of the "network", and every bit that matched a "0" would be part of the node. For example, a subnet mask of 255.255.0.0 would look like this:

11111111.11111111.00000000.00000000

This would indicate that the first two octets of the IP address (128.1) indicated the network. The last two octets (1.24) are the node on the network 128.1.0.0.

There are three main classes of IP addresses and each class has a default subnet mask. The class is determined by the first few bits of the 32-bit IP address, as indicated below. For example, because the first bit of a class A address must be 0, when expressed in decimal numbers, the first octet will be 127 (01111111) or lower, because 128 in binary numbers starts with a "1": 10000000.

```
Class   Identified by 1st Octet           Default Subnet Mask

A       First bit = 0 (0-127)             255.0.0.0
B       First two bits =10 (128-191)      255.255.0.0
C       First three bits = 110 (192-223)  255.255.255.0
```

Each organization can use the bits for their nodes to define subnets at their routers. For example, a class A address has the first 8 bits defining the network. An organization might decide to take the two middle octets * 16 bits * to define subnets, and then the final 8 bits would define a node on the subnet on the network.

This information is used by routers to determine how to route the IP packets to the network you are attached to.

Question: What are the different ways I can connect to the Internet?
Answer: If you are connected to a LAN that has access to the Internet, you simply use that LAN connection for your Internet communications. If you are on an Ethernet or Token Ring LAN, you can select either Ethernet or Token Ring, respectively, in the connect via field of the TCP/IP control panel. These types of networks support different protocols, so you can direct AppleTalk and TCP/IP, as well as other protocols such as IPX, over these networks at the same time.

If you are on a LocalTalk LAN, or connecting via Apple Remote Access, then you are limited to using AppleTalk protocols. However, TCP/IP packets can be encapsulated in AppleTalk packets for transmission over these connections. This is referred to as "MacIP". To use MacIP, you need a MacIP server, which sits on both an AppleTalk and a TCP/IP network, and acts as a middleman between you and the Internet. You send

your AppleTalk encapsulated IP packet to the MacIP server using AppleTalk protocols; it strips off the AppleTalk encapsulation, and places the IP packet out on the Internet. When packets are destined to you from the Internet, it does the reverse.

If you are not on a LAN that has connections to the Internet, then you can gain access through Internet Service Providers (ISPs). SLIP (Serial Line IP) or PPP (Point-to-Point Protocol) connections give you access to the Internet, using your modem and phone lines.

Question: Where do I get an IP address and a subnet mask?
Answer: This information must come from the person who is in charge of the network you are physically connecting to. If you are connected to a LAN that has a connection to the Internet, talk to your network administrator. If you are using a SLIP or PPP connection, talk to your Internet Service Provider (ISP).

The network administrator or ISP will also tell you the manner in which you can obtain your IP address (whether you are assigned one that you have to enter manually, or whether you get one from a server), in addition to the other information you need to configure TCP/IP.

Question: What are BOOTP, RARP, and DHCP?
Answer: These terms stand for Bootstrap Protocol, Reverse Address Resolution Protocol, and Dynamic Host Configuration Protocol. These protocols let a computer obtain its IP address (and sometimes other information, such as subnet mask) from a server. In the simplest terms, when a machine needs an IP address (on a Macintosh, this might be when you first attempt to launch an application that uses TCP/IP protocols), it asks the server for an IP address. Depending on the type of server, you are either assigned an address that has been set aside especially for your machine, or you are given one from a pool of available addresses.

These protocols are used to make administration of large networks easier.

Question: What is a domain name and a domain name server?
Answer: Because it is difficult for humans to remember a series of somewhat meaningless numbers, we assign names to them. Apple Computer's domain is apple.com; it also has lots of subdomains, such as corp.apple.com, and austin.apple.com. The subdomains simply define smaller areas within the apple domain. A machine called max on the subdomain info.apple.com would have a fully qualified domain name of max.info.apple.com, and its IP address might be 204.16.92.4. A domain name server in each domain is in charge of keeping a table of the machines in its network and their IP addresses. If you want to talk to max you can address it with either its IP Address or with its name. If you use its name, you need to resolve the name by asking a domain name server for that machine's IP address. This is all done behind the scenes.

Question: How does domain name resolution work?
Answer: Your network administrator or ISP should give you the IP addresses of one or more domain name servers. You list these in the field called Name server addr: in the TCP/IP control panel.

Here is an example which shows how a name is resolved. Assume that Sue's TCP/IP control panel is configured with a domain name of drc.corp.apple.com. Her admin domain is apple.com. Also in her search domain names, she has entered info.apple.com.

She has listed three different IP addresses in the Name server addr field.

When Sue attempts to connect to a machine using its domain name, max.austin.apple.com., her Macintosh computer contacts the first domain name server in the list to see if it can resolve the name (if it can give her the machine's actual IP address). If it cannot do so, the other name servers are tried, in the order Sue has listed them.

Note that max.info.apple.com. is a "fully-qualified" domain name; the period at the end indicates this. Using simply max is possible, but because max is not fully qualified (and this is clear because it does not contain a single "."), a domain name must be appended to it before a domain name server can resolve it.

First, Sue*s own domain is tried: max.drc.corp.apple.com. If a search on this name fails, other attempts to resolve the name are made by dropping off one subdomain at a time, until she reaches her admin domain. For example, the searches are conducted on the following names, in the order given:

max.drc.corp.apple.com
max.corp.apple.com
max.apple.com

If the name is not found, it attempts to resolve the name using the domain name in the Search domain names field, in this case:

max.info.apple.com

Question: What is the host file?
Answer: A host file is a text file that resides at the root level of your System Folder, and contains a table of domain names and IP addresses. This table can also be used for domain name resolution, but domain name servers are more commonly used, because they are easier to manage and maintain. If your network administrator gives you a host file to use, simply place it within your System Folder.

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Power Macintosh 5300/100 LC:Technical Specifications (3/96)

This article contains a list of technical specifications for the Power Macintosh 5300/100 LC computer.

NOTE: This computer is only available through educational channels.
This article has been archived and is no longer updated by Apple.

Microprocessor
---
* 100-MHz PowerPC 603e
* 256K Level 2 Cache

Memory
---
* 16 MB of RAM, expandable to 64 MB (Two 72-pin, 70ns DRAM SIMM slots, no RAM soldered on-board). Usually ships with one 16 MB SIMM in one slot.

Storage
---
* Built-in removable Apple SuperDrive 1.4 MB floppy disk drive, which uses high-density floppy disks and reads, writes, and formats Macintosh, Windows, MS-DOS, OS/2, and ProDOS disks
* Internal 1.2 GB IDE hard disk drive

Expansion Slots
---
* One 114-pin LC 030 PDS slot
* One 112-pin Communications slot for modem or Ethernet card supporting these Apple Ethernet cards:
- Apple Ethernet CS Twisted Pair Card
- Apple Ethernet CS Thin Coax Card
- Apple Ethernet CS AAUI Card
* One 60-pin video input slot for realtime video display

Ports
---
* One Video output port
* One Mono sound input port
* One Stereo sound output port (16-bit)
* One Apple Desktop Bus (ADB) port
* Two serial (RS-422) ports (do not support GeoPort)
* One SCSI port for connecting as many as six external devices (including CD-ROM)

Video
---
* Video Modes: 640x480 @ 16-bit, 800x600 @ 8-bit (and 832x624 @ 8-bit with no video-in support)
* Video mirror output for second monitor
* TV Tuner
* One Video capture card

Sound
---
* 16-bit on-board stereo sound output and mono sound in (16-bit CD and video)

Article Change History:
05 Mar 1996 - Expanded info about expansion slots.
15 Jan 1996 - Corrected minor typo.
29 Nov 1995 - Corrected video-out information.

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Power Macintosh 7200: Maximum Color Depths

The Power Macintosh 7200 series computers come with 1 MB of VRAM on the logic board, expandable to 2 MB or 4 MB. The 7200 has 3 VRAM DIMM slots. The article below describes the number of colors available based on the amount of VRAM installed.
This article has been archived and is no longer updated by Apple.
The Power Macintosh 7200 series computers comes with 1 MB of VRAM on the main logic board. You can increase VRAM to 2 MB by installing one 1 MB DIMM in the first VRAM slot, or to 4 MB by filling all three VRAM slots with 1 MB DIMMS. A VRAM upgrade can be accomplished with third party 1 MB VRAM DIMMs.

The Power Macintosh 7200 has a 64-bit data path to VRAM (with 2 MB or 4 MB of VRAM). It will support display resolutions of up to 1280x1024 pixels and 24-bit color (millions of colors) of up to 1024x768 pixel resolution.

IMPORTANT: The VRAM DIMMs must be 112-pin fast-paged mode, with 70ns RAM access time or faster. Do not use 256K VRAM SIMMs.

The following table defines the maximum color depths available for a given resolution and memory size. Lower color depths are supported down to 8 bit or 256 colors. This is the same information that is reproduced in the technical specification guide that comes with the computer.

NOTE: The maximum visible number of colors is millions. In the past, Apple has also labeled millions as 24 bit color. On AV and Power Macintosh computers, 24 bit or 32 bit can be used interchangeably to mean support for millions of colors. In some literature, you may see 32 bit shown in place of 24 bit or millions. Think of this as 24 plus 8: 24 bit for displaying millions of colors plus 8 bit for special uses, such as alpha channel support (transparency, masking, opaque and tranlucent information) and chroma key support.

			Maximum Color**/VRAM			Refresh rates	
Monitor	VIS*	Resolution	1 MB	2 MB	4 MB	(Hz)	(kHz)
12" RGB	N/A	512x384	mil	mil	mil	60	24.48
12" Mono-chrome	N/A	640x480	thous	mil	mil	67	34.971
13" RGB Hi-Res	N/A	640x480	thous	mil	mil	67	34.971
14" RGB Hi-Res	11.5"	640x480	thous	mil	mil	67	34.971
VESA Standard	***	640x480	thous	mil	mil	60	31.505
		800x600	thous	mil	mil	60	37.921
		800x600	thous	mil	mil	72	48.1
		800x600	thous	mil	mil	75	46.9
		1024x768	256	thous	mil	60	48.4
		1024x768	256	thous	mil	72	60.0
		1024x768	256	thous	mil	75	80.0
		1280x1024	NA	256	thous	75	79.976
Full-page Monochrome	N/A	640x870	256	256	256	75	68.9
Full-page RGB	***	640x870	thous	thous	mil	75	68.9
14" Audio-Vision	11.5"	640x480	thous	mil	mil	67	35
16" color	14.8"	832x624	thous	mil	mil	75	49.670
19" color	***	1024x768	256	thous	mil	75	60.060
Two-page Monochrome	N/A	1152x870	256	256	256	75	68.476

Two-page RGB	11.5"	1152x870	256	thous	thous	75	68.476
Multiple Scan 15	13.3"	640x480	thous	mil	mil	67	34.971
		832x624	thous	mil	mil	75	49.670
Multiple Scan 17	16.1"	640x480	thous	mil	mil	67	34.971
		832x624	thous	mil	mil	75	49.670
		1024x768	256	thous	mil	75	60.060
Multiple Scan 20	19.1"	640x480	thous	mil	mil	67	34.971
		832x624	thous	mil	mil	75	49.670
		1024x768	256	thous	mil	75	60.060
		1152x870	256	thous	thous	75	68.476
		1280x1024	N/A	256	thous	75	79.964
21" Color	***	1152x870	256	thous	thous	75	68.7
NTSC (underscan)		512x384	thous	mil	mil	60	15.7
NTSC (overscan)		640x480	thous	mil	mil	60	15.7
PAL (underscan)		640x480	thous	mil	mil	50	15.625
NTSC (overscan)		768x576	thous	mil	mil	50	15.625

* Viewable Image Size
** 256=image depth of 8 bits (bpp), thousands=image depth of 16 bits (bpp), millions=image depth of 32 bits (bpp).
*** Refer to the manual that came with your monitor to determine VIS.
N/A not available

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Apple Multiple Scan 14 Display: Macintosh Video Support

This article gives the video modes supported on each Macintosh computer with the Apple Multiple Scan 14 Display, and which computers require display adapters. This display supports resolutions of 640x480 to 800x600.
This article has been archived and is no longer updated by Apple.

Apple Multiple Scan 14 - Macintosh Video Support			
Product Family	Model	Resolution Supported	
		640 x 480	800 x 600 (1)
Power Macintosh	6100, 7100, 7200, 7500, 8100, 8500, 9500	Yes	No
Quadra/Centris	605, 610, 630, 650, 700, 800, 900, 950, 660AV, 840AV	Yes	Yes
Macintosh II	IIci	Yes (2)	Yes (2)
	IIsi	Yes (3)	Yes (3)
	IIvi, IIvx	Yes (4)	Yes (2)
	II, IIx, IIcx, IIfx	Yes (2)	Yes (2)
Macintosh LC	LC 475, LC 630	Yes	Yes
	LC 520, LC 575	No	No
	LC, LC II	Yes (4)	No
	LC III	Yes	No
	LC 5200	Yes (5)	Yes (5)
Macintosh TV	Macintosh TV	No	No
Performa	400, 405, 410, 430	Yes (4)	No
	450, 460, 466, 467	Yes	No
	475, 476	Yes	Yes
	550, 560, 575, 577, 578	No	No
	600, 600CD	Yes (4)	Yes (2)
	630 series	Yes	Yes
	5200	No	No
	6100 series	Yes	No
	6200 series	Yes	No
PowerBook	160, 165, 165c, 180, 180c	Yes	No
	100, 140, 145, 170	No	No
	190, 190cs	No	No
	190, 190cs with video out upgrade kit installed	Yes	Yes
	520, 520c, 540, 540c	Yes	Yes
	5300, 5300cs, 5300c, 5300ce	Yes	Yes
PowerBook Duo	210, 230, 250, 270c, 2300c	No	No
	MiniDock, Duo Dock, Duo Dock II	Yes	Yes (2)
Apple Display Cards	24AC	Yes	Yes
	4*8, 8*24, 8*24 GC	Yes	No

	Mac II video card 2-Page Mon video card Mac II Mon video card Mac II Portrait video card Mac II HiRes video card Mac II Ext HiRes video card	No	No

Notes:
(1) - Non-Macintosh "hidden" resolutions, auch as 800x600 and 640x400 are not available with System 7.5.1 and higher.

(2) - Requires compatible display card or display adapter.

(3) - Requires compatible display card and Macintosh IIsi NuBus Adapter card or display adapter.

(4) - Requires a display adapter.

(5) - Requires the Apple External Video Connector (p/n M4099LL/A). Only supports video mirroring. When using video mirroring, the image on the second monitor is the same as that on the built-in monitor.

Display Adapters
The adapters, available through Apple resellers and the third-party companies, contain a sense code that tricks the Macintosh into believing that the display is fixed frequency display. Without the adapter, the display will be fixed at a 640x480 resolution. The display adapter also provides the proper sync signal from some computers built-in video to the Multiple Scan 14 Display.

Display adapters are available from several third-pary companies such as Enhanced Cable Technology, Griffin Technology, and MacAdapt.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.

Published Date: Feb 19, 2012

Apple Personal Diagnostics: Which Models Supported

Which Macintosh models do the various versions of Apple Personal Diagnostics (APD) support?
This article has been archived and is no longer updated by Apple.
Version 1.0 of APD did not support Power Macintosh computers. Version 1.1.1 added support for some Power Macintosh models. Version 1.1.3 is the most current version of APD.

Apple has not announced plans to update Apple Personal Diagnostics to support future computer releases. Below is a comprehensive list of Macintosh computers supported by APD 1.1.3, spanning over 140 different models from the Macintosh Plus up through the Power Macintosh 9500/132, excluding the 7200, 7500, and 8500 series.

List of Apple Computers Supported by Apple Personal Diagnostics Version 1.1.3:
==========

Apple Workgroup Server 60
Apple Workgroup Server 80
Apple Workgroup Server 95
Workgroup Server 6150
Workgroup Server 6150/66
Workgroup Server 8150
Workgroup Server 8150/110
Workgroup Server 9150
Workgroup Server 9150/120

Macintosh Plus
Macintosh Portable
Macintosh SE
Macintosh SE/FDHD
Macintosh SE/30
Macintosh Classic
Macintosh Classic II
Macintosh Color Classic
Macintosh Color Classic II
Macintosh TV

Macintosh II
Macintosh IIx
Macintosh IIfx
Macintosh IIci
Macintosh IIcx
Macintosh IIsi
Macintosh IIvi
Macintosh IIvx
Macintosh IIvm

Macintosh LC
Macintosh LC II
Macintosh LC III
Macintosh LC 475
Macintosh LC 520
Macintosh LC 550
Macintosh LC 575
Macintosh LC 630

Macintosh Centris 610
Macintosh Centris 650
Macintosh Centris 660AV

Macintosh Performa 200
Macintosh Performa 250
Macintosh Performa 275
Macintosh Performa 400
Macintosh Performa 405
Macintosh Performa 410

Macintosh Performa 430
Macintosh Performa 450
Macintosh Performa 460 Series
Macintosh Performa 475
Macintosh Performa 476
Macintosh Performa 520
Macintosh Performa 550
Macintosh Performa 560
Macintosh Performa 570 Series
Macintosh Performa 580 Series
Macintosh Performa 600 Series
Macintosh Performa 630 Series
Macintosh Performa 640 Series
Macintosh Performa 5200 Series
Macintosh Performa 6100 Series
Macintosh Performa 6200 Series

Macintosh PowerBook 100
Macintosh PowerBook 140
Macintosh PowerBook 145
Macintosh PowerBook 145B
Macintosh PowerBook 150
Macintosh PowerBook 160
Macintosh PowerBook 165
Macintosh PowerBook 165c
Macintosh PowerBook 170
Macintosh PowerBook 180
Macintosh PowerBook 180c
Macintosh PowerBook 500 Series
Macintosh PowerBook Duo 200 Series

Macintosh Quadra 605
Macintosh Quadra 610
Macintosh Quadra 610 DOS Compatible
Macintosh Quadra 630
Macintosh Quadra 650
Macintosh Quadra 660AV
Macintosh Quadra 700
Macintosh Quadra 800
Macintosh Quadra 840AV
Macintosh Quadra 900
Macintosh Quadra 950

Power Macintosh 5200 LC/75
Power Macintosh 6100 Series
Power Macintosh 7100 Series
Power Macintosh 8100 Series
Power Macintosh 9500 Series

Note: APD also tests the Power Macintosh Upgrade and Macintosh Processor Upgrade cards. APD does not test the DOS Compatible Card or DOS Compatibility Upgrade Card.
Published Date: Feb 19, 2012

MegaPhone: Frequently Asked Questions

This article contains frequently asked questions (FAQ) on the Megaphone software that ships with Apple Telecom 2.x.

Questions in this FAQ:
==========

1) Is MegaPhone compatible with Power Macintosh computers and all AV equipped Macintosh computers?

2) Is MegaPhone compatible with PowerBook computers?

3) Why is there a 5 second lag after a caller hangs up and MegaPhone stops recording?

4) Can MegaPhone answer the phone if it is not running?

5) Can MegaPhone launch itself when a call comes in?

6) How do I set the number of rings to answer on?

7) If I answer a call from another phone in the house and it is a fax call, how can I receive it?

8) If someone is leaving a message, can I still talk to them?

9) Can I still use Call Waiting?

10) Where are saved messages kept?

11) Can I get a voice message back after I delete it?

12) The messages people are leaving are too loud or too soft. Can I adjust for this?

13) People are getting cut off when they are leaving messages. Can I adjust for this?

14) People leaving messages are saying they hear two beeps to start recording.

15) Can I use MegaPhone with Call ID?

16) Is MegaPhone Apple Scriptable?

17) Is MegaPhone Recordable?

18) People I am talking to complain of hearing an echo. Can I adjust for this?

19) When I make or receive calls the other party cannot hear me.

20) What modems are supported by MegaPhone?

21) What Apple bundles include MegaPhone?

22) What do these version numbers mean?

23) Where do I get support for MegaPhone?

24) When I try to make a call I don't get a dial tone and incoming calls are not getting answered. I'm sure my phone line is working and connected properly because I can use data communications applications. Is there something wrong with my modem or my computer?

25) Is a specific version of Apple Telecom software required to used MegaPhone with a GeoPort Telecom Adapter?

26) Is a specific version of GlobalFax software required to used MegaPhone with Global Village modems?

27) When should I use the Internal Modem Sound extension and when should I use the Audio Volume extension?

28) Can MegaPhone answer a call if the CPU has been put to sleep?

29) What is the relation between the volume control in MegaPhone and the Sound control panel?

30) Can I listen to an audio CD and use MegaPhone at the same time?

This article has been archived and is no longer updated by Apple.

1) Question: Is MegaPhone compatible with Power Macintosh computers and all AV equipped Macintosh computers?

Answer: Yes. Note that earlier versions of MegaPhone are not supported on newer CPUs. For example, versions prior to MegaPhone 1.0.2 are not supported on the Power Macintosh 7200, 7500, 8500, and 9500. Cypress Research and Apple both strongly recommend always using the latest version of both software packages on all CPUs.

2) Question: Is MegaPhone compatible with PowerBook computers?

Answer: Not yet. Contact Cypress Research for more information on this.

3) Question: Why is there a 5 second lag after a caller hangs up and MegaPhone stops recording?

Answer: MegaPhone is detecting the silence or dial tone on the line and needs to ensure the line is really silent before hanging up. Otherwise it might prematurely hang up on your callers. You can tell your callers to press # after their message if you want to minimize this delay.

4) Question: Can MegaPhone answer the phone if it is not running?

Answer: No. However, it can answer the phone if it is running in the background.

5) Question: Can MegaPhone launch itself when a call comes in?

Answer: No. However, it can answer the phone if it is running in the background.

6) Question: How do I set the number of rings to answer on?

Answer: In the Telephone Setup or Express Modem control panel in the general settings. This sets the number of rings for MegaPhone, Fax Software, and any other telephone software.

7) Question: If I answer a call from another phone in the house and it is a fax call, how can I receive it?

Answer: The best way to do this is to go to your computer and force a manual receive.

8) Question: If someone is leaving a message, can I still talk to them?

Answer: The GeoPort Telecom Adapter will allow switching between speaker phone and answering machine but due to the Comm Slot architecture, the Global Village modems must either answer the call or record a message.

9) Question: Can I still use Call Waiting?

Answer: Yes. When you hear the audible tone indicating you have another call, click on the Flash button or type "!". You will then switch to the other call. Click the flash button to switch back to the original call. There may be up to a five second delay before the line switches to the other call.

10) Question: Where are saved messages kept?

Answer: Saved messages are kept in a folder on your hard drive. Messages which you have already heard but not deleted can be found by following this path:

System Folder -> Preferences folder -> Cypress folder -> MegaPhone folder -> Messages folder.

You can double-click the messages to hear them again.

11) Question: Can I get a voice message back after I delete it?

Answer: No.

12) Question: The messages people are leaving are too loud or too soft. Can I adjust for this?

Answer: If you are using MegaPhone with a Global Village Teleport Gold IIv or Teleport Platinum V you can adjust the recording level. Go to the "Record/Playback" pane of the Telephone Setup control panel and adjust the mic gain level. Version 1.0.3P of MegaPhone slightly increased the recording volume. See the appendix in the MegaPhone for Performa manual for more details.

If you are using a GeoPort Telecom Adapter there are no user definable settings. The GeoPort software adjusts the recording level automatically.

13) Question: People are getting cut off when they are leaving messages. Can I adjust for this?

Answer: MegaPhone assumes a call has been terminated if it detects 5 seconds of silence or a fast busy tone.

If you are using MegaPhone with a Global Village TelePort Gold IIv or TelePort Platinum V you can adjust the silence threshold. Go to the "General" pane of the Telephone Setup control panel and adjust the silence threshold level. See the appendix in the MegaPhone for Performa manual for more details.

If you are using a GeoPort Telecom Adapter there are no user definable settings. The GeoPort software adjusts the silence threshold automatically.

14) Question: People leaving messages are saying they hear two beeps to start recording.

Answer: The "Use recording beeps" feature is turned on in the Telephone Setup control panel. This feature should not be on because MegaPhone emits its own beeps.

Note: This does not apply when using a GeoPort Telecom Adapter since there is no Telephone Setup control panel.

15) Question: Can I use MegaPhone with Call ID?

Answer: Not yet because the modem hardware does not support it.

16) Question: Is MegaPhone Apple Scriptable?

Answer: Yes. It supports the standard suite of Telephony Apple Events such as make call, dial digits, and answer.

17) Question: Is MegaPhone Recordable?

Answer: No, not at this time. Contact Cypress Research about future product plans for this.

18) Question: People I am talking to complain of hearing an echo. Can I adjust for this?

Answer: Yes, if you have a separate microphone, speakers, or both. Usually adjusting the relative positioning of these changes the echo characteristic. This can particularly be a problem in an acoustically hot room.

19) Question: When I make or receive calls the other party cannot hear me.

Answer: It is likely that you have the input device in the Sound control panel set to some device other than the microphone. If you have verified that you have selected the microphone as your input device in the Sound control panel and you are able to input sound through the microphone in other programs, then use the search string "megaphone and performa" to locate the TIL article "Megaphone for Performa: I Hear Caller, They Cannot Hear Me" for more troubleshooting information. A frequent cause of this problem is the incorrect use of the External CD Sound extension.

20) Question: What modems are supported by MegaPhone?

Answer: At this time the only supported modems are the GeoPort Telecom Adapter from Apple, the TelePort Gold IIv and the TelePort Platinum V from Global Village.

Note 1: The TelePort Gold IIv is installed internally in the Comm Slot. In the past, Apple has bundled the TelePort Gold II which is an external modem and does not have voice capability.

Note 2: The TelePort Gold IIv and Platinum V are sold only by Apple as part of a Performa bundle. Global Village does not sell these modems anywhere else. Apple is responsible for supporting these modems, not Global Village.

21) Question: What Apple bundles include MegaPhone?

Answer: MegaPhone 1.0.x is bundled with all GeoPort Telecom Adapters, MegaPhone 1.0.xSP is bundled with the Power Macintosh 7200, 7500, 8500, and 9500 computers, and MegaPhone 1.0.xP is bundled with several Performa bundles. See related TIL article: MegaPhone Version History.

22) Question: What do these version numbers mean?

Answer: The version numbers can be interpreted in the following way:

x.y.zL

x = major version number; increases with major feature set changes
y = minor version number; increases with minor feature set changes
z = bug fix version number; increases when a new release is made for bug fixes only
L = configuration modifier which can have the following values
P = Performa
SP = Power Macintosh 7200, 7500, 8500, and 9500
N = no security
J = localized for Japanese

All releases with the same x.y.z values are from the same set of code and therefore would have the same fixes and the same bugs. Every time a version is released, one of the x, y, or z numbers is increased even if not all configurations (L value) are released. Therefore, it is possible to have a 1.0.1P but no 1.0.1 out in customers* hands.

The feature sets for each configuration (L value) can differ. Briefly, the version without an L value has all features enabled for thirty days, at the end of thirty days it reverts to the Basic mode. The full feature set can be permanently activated by entering a code provided by Cypress upon payment of the upgrade fee. The SP configuration contains the Basic feature set only, and the P configuration falls somewhere between the Basic and full feature set. For more details please see related article: MegaPhone Version History.

Note: Macintosh Users
MegaPhone for the Macintosh is now distributed and supported by Bing Software. If you need technical support, please contact Bing Software directly:

Monday through Friday, 9 am to 5pm Pacific time.
Technical Support: (714) 888-6639
Fax: (714) 888-6635
For Sales, call: (714) 888-6633
E-mail:bingsoftware@mindspring.com
Web:http://www.BingSoftware.com

23) Question: Where do I get support for MegaPhone?

Answer: Apple supports all versions of MegaPhone that are bundled with Apple products. Apple posts the MegaPhone software to many online services and is responsible for supporting those customers as long as they are using a supported configuration (e.g. Neither Apple or Cypress would support MegaPhone on a Quadra 800). A customer that has purchased the full upgrade from Cypress is entitled to technical support from Cypress. Apple is not responsible for supporting the following versions: 1.0.xN and 1.0.xJ.

24) Question: When I try to make a call I don't get a dial tone and incoming calls are not getting answered. I'm sure my phone line is working and connected properly because I can use data communications applications. Is there something wrong with my modem or my computer?

Answer: It is very unlikely something is wrong with your modem. Go to the MegaPhone General Preferences in the File Menu and make sure that you have the proper hardware selected. The Telephone Setup control panel may have the proper tool selected but unless the right tool is selected within the MegaPhone Preferences the application may not function. When you are using a Global Village modem, make sure you can send or receive a fax. Many data applications access the modem directly and do not use the Global Village software. By using the fax capabilities you can verify that the Global Village software is correctly installed. If the Global Village software is installed and you are unable to send a fax, then there may be something wrong with the modem.

The DemoDialer Telephone Tool is selected by default if an error is encountered or another tool is not available. The DemoDialer Telephone Tool will generate dialing tones that can be used to dial a phone by holding the receiver up to the computer's speaker.

The correct tool for the Global Village modems is the CRC TelePort TelTool. The correct tool for the Geoport Telecom Adapter is the GeoPort Telephone Tool.

25) Question: Is a specific version of Apple Telecom software required to used MegaPhone with a GeoPort Telecom Adapter?

Answer: MegaPhone 1.0 does not work with Apple Telecom 2.1 or later. MegaPhone 1.0.2 and later work with all versions of Apple Telecom 2.x. In general, both Apple and Cypress strongly recommend using the latest version of both MegaPhone and Apple Telecom.

26) Question: Is a specific version of GlobalFax software required to used MegaPhone with Global Village modems?

Answer: GlobalFax 2.5.4 or later should be used for the TelePort Gold IIv modem and GlobalFax 2.5.5 or later should be used for the TelePort Platinum V modem.

27) Question: When should I use the Internal Modem Sound extension and when should I use the Audio Volume extension?

Answer: The Audio Volume extension fixes some problems with "scratchy" sound on the 5200, 6200, 5300, and 6300 (see the TIL article "Performa 5200, 5300, 6200, 6300: Static Sound"). Apple recommends using the Audio Volume extension.

28) Question: Can MegaPhone answer a call if the CPU has been put to sleep?

Answer: Yes, for the Power Macintosh CPUs that support the sleep function (7200, 7500, 8500, 9500) the GeoPort will wake the CPU up when it receives an incoming call. Note: MegaPhone must be running at the time the CPU is put to sleep and you will hear more rings before the phone is answered due to the time it takes the CPU to wake up.

29) Question: What is the relation between the volume control in MegaPhone and the Sound control panel?

Answer: The volume slider in the MegaPhone application controls the volume for speaker phone functions independently of the settings in the Sound control panel.

30) Question: Can I listen to an audio CD and use MegaPhone at the same time?

Answer: If you are using a GeoPort, the audio program will be silent while MegaPhone is in use. If you are using a Global Village modem the audio from the CD will be mixed with the MegaPhone audio. It is recommended that you pause your CD while using MegaPhone in this situation.

The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.

Published Date: Feb 19, 2012

Performa: Installers for QuickDraw GX and PowerTalk (8/95)

Where can I find the QuickDraw GX and PowerTalk installers on my Macintosh Performa computer?
This article has been archived and is no longer updated by Apple.
If you have a Macintosh Performa 5200 or 6200 series computer, the installers are located on your Macintosh Performa CD. Follow the path:

System Software Files -> Apple Extras Files

If you have any other Macintosh Performa computer bundled with System 7.5, the installers will be on your hard disk. Follow the path:

Apple Extras -> System Software Extras

Support Information Services
Published Date: Feb 19, 2012

MacTCP: Routing Information Gateway Address (8/95)

What is the function of the "Routing Information: Gateway address" in the MacTCP control panel? What should I enter if I have multiple routers on the subnet? Why do I have trouble connecting even when I've entered this information correctly?

This article has been archived and is no longer updated by Apple.

The Routing Information Gateway Address should be filled with the default router. Your network administrator will be able to give you that information based on the configuration of your network.

If you have multiple routers on a subnet, you should enter the router that is designated as the default router by the network administrator. If the network is not designed with a preference, have the administrator pick the router you should use.

Although MacTCP uses the default router for connecting to remote addresses that are not on the local subnet, MacTCP will obey any extra router information transmitted via RIP (Routing Information Protocol) broadcasts.

RIP response packets contain information on router addresses and the networks they route to. MacTCP stores RIP response packets as they arrive and uses any routing information provided.

Occasionally users find that MacTCP does not connect to hosts on remote networks. One possible cause is, a network with have routers that advertise incorrect RIP information, which causes MacTCP to use other, non-default routers. Restarting the Macintosh will temporarily clear the information, however, RIP broadcasts are usually sent every 30 seconds, and this is only a short term solution. The long term remedy is to have the network administrator properly configure any devices advertising RIP responses.

Support Information Services
Published Date: Feb 19, 2012

Apple Telecom 2.2 Fixes AudioTuneUp In Apple Telecom 2.1 (8/95)

This article describes an issue with Internationally localized Apple Telecom 2.1 and AudioTuneUp which is installed on PCI-based Power Macintosh computers.

This article has been archived and is no longer updated by Apple.

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Below are the symptoms of a problem in AudioTuneUp installed by Apple Telecom 2.1, that were fixed by
AudioTuneUp 1.0.1 in Apple Telecom 2.2. Anyone who has installed a localized version of Apple Telecom 2.1
should replace AudioTuneUp with version 1.0.1 which is included as part of Apple Telecom 2.2

The Sound control panel functions do not work as follows:

Alert sounds:
 - The add button does not function.
 - A beep is not output when the alert volume slider is dragged up
   and down.

Sound In: There is no sound source.

Sound Out: Rate, Size, and Use are dimmed.

Volumes:
 - The headphone volume scales disappear.
 - Mute doesn't work.
 - The volume's slider is fixed at MAX.


Article Change History:
31 Aug 1995 - Grammar correction.
21 Aug 1995 - Made minor correction.

Support Information Services
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Published Date: Feb 19, 2012

Internet Server For WWW: About WebSTAR

This article provides information about WebSTAR a product of StarNine Technologies which is included on the Apple Internet Server For WWW.
This article has been archived and is no longer updated by Apple.
WebSTAR is an HTTP server that lets you publish hypertext and multimedia documents to millions of World Wide Web (WWW) users around the world, right from your Macintosh computer. You can use WebSTAR to put any Macintosh file on the Web, including GIF and JPG images and even QuickTime' movies.

WebSTAR is completely compatible with all WWW clients, on any platform, including Mosaic', which started the Web revolution, and Netscape Navigator', the most popular Web client available today. WebSTAR is also fully compatible with any HTML (HyperText Markup Language) files you may have already developed. Just copy them onto your WebSTAR server Macintosh and you're set.

Through the power of AppleScript' and Apple events, WebSTAR can communicate with other applications on your Macintosh to publish any information contained in those programs. For example, if your company information is in a FileMaker" Pro database, Web client users can query it via HTML forms to get the data using the FileMaker CGI (Common Gateway Interface) for WebSTAR. It's powerful and easy to use.

StarNine also offers several add-on products for WebSTAR, including the Security Toolkit and the Commerce Toolkit. The Security Toolkit provides authentication and encryption capabilities for the WebSTAR server using the Secure Sockets Layer protocol to ensure that connections between Web clients and WebSTAR are completely private. The Commerce Toolkit adds support for commercial transactions via the First Virtual Internet Payment System'. Internet customers simply connect to the server and fill in an online order form. First Virtual automatically verifies the buyer and then notifies WebSTAR to complete the transaction. It's completely secure and reliable, and requires no additional hardware or software. Other Internet payment schemes, including credit card transaction processing, will be supported in future releases.

WebSTAR comes with everything you need to create a killer Web site on any Macintosh. The WebSTAR CD-ROM Pack includes FTP and Gopher servers for sharing files across the Internet as well as a free evaluation copy of StarNine's ListSTAR, a companion product to WebSTAR that lets you create automated mailing lists (Listservers) and Email-On-Demand systems on the Internet. Sample AppleScripts and CGIs to connect WebSTAR with external applications are also included, and we've provided an online copy of WebMaster Macintosh, by Bob Levitus and Jeff Evans, the definitive reference for Macintosh Web site developers.

Some History
WebSTAR started out as MacHTTP, which has been widely used on the Web for several years. WebSTAR includes these long-standing features, which will be familiar to users of MacHTTP:

Allows you to serve information to all WWW clients that support the HTTP/1.0 standard.

Handles URL requests for text and binary documents, for example, for HTML (HyperText Markup Language) documents as well as GIF, JPEG, and other binary format files.

Can execute AppleScripts and CGI applications, and can link to other external applications (such as FileMaker Pro, AppleSearch, or HyperCard") and return results to clients.

Allows you to control access to the server by clients' domain name or IP address.

Supports complete user name/password security for all files it serves.

PowerPC native server.

Additional Information Resources

To access the WebSTAR Home Page
- The WebSTAR Home Page provides information about tools that work with WebSTAR, additional examples, product update information, and the latest versions of WebSTAR. To access the WebSTAR Home Page, use a WWW client to connect to the following URL:
http://www.starnine.com/webstar.html

For MacTCP configuration
- If you need to configure MacTCP, see the MacTCP Administrator's Guide. This document is included on the WebSTAR CD-ROM. Or, to access it on the World Wide Web, see the WebSTAR Home Page.

For a complete reference on creating your Web site
- See WebMaster Macintosh, by Bob Levitus and Jeff Evans, for a detailed information about creating your Web site. This document is included on the WebSTAR CD-ROM. Or, to access it on the World Wide Web, see the WebSTAR Home Page.

For information about URL

- See the URL Primer, available from at this Web site: http://www.ncsa.uiuc.edu/demoweb/url-primer.html

For information about writing HTML documents
- See the HTML Primer, available at this site: http://www.ncsa.uiuc.edu/demoweb/html-primer.html

For details about the Common Gateway Interface Standard
- See the CGI overview, available at this site: http://hoohoo.ncsa.uiuc.edu/cgi/overview.html

For AppleScript tutorials
- For information about writing AppleScripts and CGI applications for WebSTAR, see the Tutorials folder. This folder is included on the WebSTAR CD-ROM. Or, to access it on the World Wide Web, see the WebSTAR Home Page.

For an ongoing discussion of WebSTAR issues
- See the WebSTAR Home Page for details about how to subscribe to the following very active mailing list, which is dedicated to WebSTAR: machttp

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information. The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.
Published Date: Feb 19, 2012

Apple Media Tool: Cross-Platform Issues W/ Corrupt Desktop

I am having two problems with the Apple Media Tool. First, when I drop media onto the Cross-Platform Check applet, the icon does not highlight.

The second problem I am having is that the Cross-Platform Check session log reports errors that are not applicable to the type of media I am using. For example, the session log reports that a PICT file needs a .MOV file extension and it is in the wrong format.
This article has been archived and is no longer updated by Apple.
Both problems are caused by corrupt desktop files. You need to disable Macintosh Easy Open and rebuild your desktop file. Apple Media Tool is incompatible with Macintosh Easy Open, so do not use them together.
Published Date: Feb 19, 2012

Apple Media Tool: Dissolve Effects Require 256 colors

When working in an Apple Media Tool project, I cannot get the dissolve effect to work. Why?
This article has been archived and is no longer updated by Apple.
In order to use the dissove effect you must set both the project and your monitor to 256 colors. If you set the project to 256 colors, but your monitor is set to thousands or millions of colors, your projects work, but without the dissolve effects.

A 256-color project runs correctly after being compiled as a runtime because the runtime automatically switches the monitor to the correct settings. Runtime projects created with thousands or millions of colors will not display dissolve effects.

Changing Color Depth On A New Project
==========

Apple Media Tool

To change your project to a different color depth

1) Choose Preferences from the File menu
2) From the hierachical menu choose Screen

Monitors Control Panel

To change your monitor to a different color depth

1) Open your Monitors control panel
2) Select the number of colors or grays you want
3) Close the Monitors control panel

Changing Color Depth On An Existing Project
==========

1) Create a New Project by choosing New from the File menu.
2) Set the preferences to the required settings
a) Choose Preferences from the File menu
b) From the hierachical menu choose Screen
3) Open the orignal project and choose Select All from the Edit menu
4) Choose Copy from the Edit menu
5) Switch to the Map window of the new project and Choose Paste from the Edit menu.
Published Date: Feb 19, 2012

Apple Media Tool: Project Won‘t Run on PowerBook

I created a project in Apple Media Tool to run on a PowerBook 540c. The screen preferences are set to 640x400 pixels, and the PowerBook is set to thousands of colors, but when I run the projects I get an error message saying that I need a larger monitor, or a monitor that supports thousands of colors.

This article has been archived and is no longer updated by Apple.

Some PowerBooks actually have a vertical resolution of only 399 pixels instead of 400. In these cases, a 640x400 project will not run. To correct this, the project must be created or altered for a vertical resolution of 399 pixels.

Published Date: Feb 19, 2012

Apple Media Tool: ISO 9660 Format CD Won‘t Play Runtime

I have a project created in Apple Media Tool, that works properly on the Macintosh, but after placing it on an ISO 9660 formatted Compact Disc, the project reports that it cannot locate certain files. All files are present and appear in the Media folder when viewed in the Finder.
This article has been archived and is no longer updated by Apple.
The ISO 9660 file specification requires files to have a name of eight characters or less, plus a three-letter file extension. If you omit the file extension, the ISO 9660 requirement is not met and the Apple Media Tool runtime will not be able to locate the files.
Published Date: Feb 19, 2012

Apple Media Tool: Runtime Maker Fails To Compile

I created a project in the Apple Media Tool and tried to compile it for both the Macintosh and MS Windows by clicking the appropriate checkboxes in the Runtime Maker. In some cases, the Runtime Maker fails to compile. In other cases, the finished runtime does not work. Why?
This article has been archived and is no longer updated by Apple.
You should not compile a runtime for both the Macintosh and MS Windows at the same time. Create a runtime for one platform, then create the runtime for the other platform.
Published Date: Feb 19, 2012

Apple Media Tool: Runtime Doesn‘t Reset Display Depth

The display settings have changed after running a program created with the Apple Media Tool. Is there a way to have the display settings swiched back their original state?

This article has been archived and is no longer updated by Apple.

Runtime applications created by the Apple Media Tool automatically switch monitor settings to the color depth specified in the runtime. However, it does not switch them back to the original settings after quitting the runtime, so you must switch them back manually.

Published Date: Feb 19, 2012

Extended 80-Column Text Card: Sample Program Error (11/96)

Article Change History: 14 November 1996

There is an error in the example program on Page 45 of the Extended 80-Column Text card manual.

This article has been archived and is no longer updated by Apple.

The manual reads:

```
1000 PI = 3.14159265: P2 = PI 2
1010 SP = P2 9: REM
1020 EP = SP 5: REM
1030 DT = PI 15:REM
```

The arithmetic operands are missing.

The lines should read:

```
1000 PI = 3.14159265: P2 = PI * 2
1010 SP = P2/9: REM
1020 EP = SP/5: REM
1030 DT = PI/15: REM
```

Article Change History:
14 Nov 1996 - Reviewed for technical accuracy, revised formatting.
Published Date: Feb 19, 2012

Apple Media Tool: Project Fails to Compile or Run

I am having two problems with the Apple Media Tool. First, a project created in Apple Media Tool and saved as text will not compile using the runtime maker. Various errors occur, usually indicating an out-of-memory condition. Other times, a project created in Apple Media Tool and compiled with the Runtime Maker will not run. It quits immediately after opening.
This article has been archived and is no longer updated by Apple.
The project may be too large to compile without the use of the Apple Media Tool Programming Environment. First try standard troubleshooting techniques, including:

1) Turn off all extensions except for QuickTime (and QuickTime Power Plug if using a Power Macintosh)

2) Remove, then reinstall the Apple Media Tool and Runtime Maker.

3) Allocate more memory to the Runtime Maker Application. It is not recommended to use virtual memory.

If none of the above methods correct the problem, check how many screens and media elements are contained in the project. If there are more than 200 screens and/or more than 1000 media elements, your project may be too large for the Runtime Maker to compile. These numbers are not "fixed", and may vary depending on the individual project.

The workaround is to decrease the number of screens or media elements used in the project.

The Apple Media Tool Programming Environment provides the ability to compile larger projects. The Apple Media Tool Programming Environment is available from APDA.

Tech Info Library Article 17159: "**Locating Vendor Information**" can help you search for a particular vendor's address and phone number.
Published Date: Feb 19, 2012

Apple Media Tool: Tips for Reducing Project Sizes

This article provides tips for reducing the size of Apple Media Tool project sizes. It also provides information that helps decrease the problems you may experience during compiling because of the number of screens or media elements in a project.
This article has been archived and is no longer updated by Apple.
To reduce the number of screens, you should try combining the contents of two screens onto one. You can then use the Hide and Show commands to control which objects are visible and which are hidden.

Examples
==========

To reduce two screens to one, select the contents of the second screen, copy them to the clipboard, then paste them onto the first screen.

Use the Hide Itself command under the Before Display action to hide all of the second screen objects.

Change the action that previously linked to the second screen to instead show the "second screen" contents while simultaneously hiding the "first screen" contents.

Here is what the original two screen project might look like.

Screen	Object	Action	Command/Link
1	Picture1.PIC	Before Display	Disable Itself Show Itself
	Button.PIC	Before Display	Enable Itself Show Itself
		Mouse Up	Go to Screen 2
2	Picture2.PIC	Before Display	Disable Itself Show Itself

Here is what the combined screen project might look like.

Screen	Object	Action	Command/Link
1	Picture1.PIC	Before Display	Disable Itself Show Itself
	Picture2.PIC	Before Display	Disable Itself Hide Itself
	Button.PIC	Before Display	Enable Itself Show Itself
		Mouse Up	Show Picture2.PIC Hide Picture1.PIC Hide Itself

To reduce the number of media elements, you may want to try combining two PICT files of the same size into one two-frame QuickTime movie. The two frames can be addressed individually by using the "Go To Beginning" and "Go To End" commands.

Here is what the original two-PICT screen might look like.

Object	Action	Command/Link
Picture1.PIC	Before Display	Disable Itself Show Itself
Picture2.PIC	Before Display	Disable Itself Hide Itself
Button.PIC	Before Display	Enable Itself Show Itself
	Mouse Up	Show Picture2.PIC Hide Picture1.PIC

Here is what the same screen might look like after combining the two PICT files into a two-frame QuickTime movie.

Object	Action	Command/Link

Movie.MOV	Before Display	Disable Itself Go To Beginning of Itself Show Itself
Button.PIC	Before Display	Enable Itself Show Itself
	Mouse Up	Go To End of Movie.MOV

NOTE: When consolidating screens, it is important to remember that increasing the number of media elements on a screen slows the overall performance of a project, so it is recommended that no more than two screens be combined into one.

By combining these two techniques, you can potentially reduce the number of screens and PICT media elements by as much as one half.
Published Date: Feb 19, 2012

Sound Manager 3.1: Improves Power Macintosh Sound

Will I notice any improvement in the sound performance on my Power Macintosh computer after upgrading to Sound Manager v3.1?
This article has been archived and is no longer updated by Apple.
The following table shows the real time usage of the central processor on a Power Macintosh 6100/60 computer under various test cases playing a single sound. The percentage refers to how much of the processor's time is spent executing the code to play the sound in the given case. This compares the emulated 68040 processor code of the previous Sound Manager with the new fully native PowerPC code of Sound Manager 3.1 software.

You can expect the new Sound Manager to perform 4-6 times faster on your Power Macintosh computer. The sound input interrupt handler was also optimized, and you can expect it to be 7-9 times faster.

PowerMac 6100/60	Emulated 68k	Native PowerPC*
8bit, mono	5%	1.6%
8bit, mono, w/sample rate conversion	12%	2.2%
16bit, stereo	13%	1.9%
16bit, stereo, w/sample rate conversion	26%	2.3%
16bit, stereo, w/sample rate conversion, IMA	41%	6.6%
* Overall performance may be affected by other extensions or control panels.		

For more information on how to get Sound Manager see the following article:

- Article 24455: "**Sound Manager: Where To Get It**"

Published Date: Feb 19, 2012

At Ease 3.0: Shut Down from Login Panel Hangs

I am experiencing a problem with my At Ease for Workgroups 3.0 lab. When I click the Shut Down button in the At Ease login panel, the pane disappears and the only items on my screen are the spinning cursor and menu bar. The spinning cursor continues until I either turn the power to the computer off or disconnect the workstation from the AppleShare 4.1 server.

This problem occurs on any workstation that is the first to try to shut down from this login panel. While the cursor is spinning, all other computers on the At Ease 3.0 network can shut down from this panel without any problem. If I interrupt the spinning cursor, the next machine that I try to shut down from the login pane exhibits the same thing.

I can shut down from the Finder or the At Ease panels without any problems.
This article has been archived and is no longer updated by Apple.
If you click the Shut Down button on the At Ease login pane while there is an active connection to the file server, the computer hangs with a spinning cursor. If you are disconnected from the server, the At Ease machine completes its shutdown. This occurs on both LocalTalk and Ethernet networks.

This only occurs when AppleShare Workstation (client) version 3.6 or 3.6.1 is installed on the client At Ease 3.0 computer.

This has been fixed in At Ease for Workgroups 3.0.1. The At Ease for Workgroups Updater 3.0.1 is available from online services.

These articles can help you locate the software update mentioned here:

- Article 14724: "**Where To Find Apple Software Updates**" - Lists online services for free Apple software updates.
- Article 16332: "**US Apple SW Updates Available Online**" - An index to USA Apple Software Updates showing the current software location on the Internet.
- Article 17664: "**WW Apple SW Updates Available Online**" - An index to International Apple Software Updates showing the current software location on the Internet.

Published Date: Feb 19, 2012

Plaintalk 1.4.1: AppleScript for "Universal Quit"

Is it possible to create a universal "Quit" (like Close Window) for any application using PlainTalk?
This article has been archived and is no longer updated by Apple.
A first attempt at an AppleScript to quit an application is as simple as the following:

tell application "Finder"
set AppName to name of every process whose frontmost is true
end tell
tell application AppName to quit

Call it "Quit Application", since speech recognition seems to be able to better discern things that are more than one syllable.

This worked fine for most cases. Other cases to handle are desk accessories (not scriptable at all), old applications that do not support the core AppleEvents and the Finder itself. This involved more checking and trapping of errors. Instead of putting up dialogs to display error messages, these additional lines of code will cause the Macintosh to speak the error messages in response to a spoken command.

By adding more error checking, the script evolved into:

```
property SpeakErrs : true -- false => display dialog

try
  set AppScriptable to false
  set AppName to "the current process" -- initialize from leftover values
  tell application "Finder"
  set ProcName to every process whose frontmost is true
  if ProcName is not {} then --something other than Finder
  set AppName to the name of every process whose frontmost is true
  --kinds are "application program", "desk accessory"
  set ProcKind to kind of file of every process whose frontmost is true
  with timeout of 5 seconds -- sluggish section for unresponsive applications
  if ProcKind is "application program" then
  set AppScriptable to
       the scriptable of file of every process whose frontmost is true
  else
  set Msg to "Sorry, cannot quit " & ProcKind & AppName &
        ". It does not support scripting."
  end if
  end timeout
  else
  set AppName to "Finder"
  set Msg to "You should not quit the Finder."
  end if
  end tell

  -- note: this section operates in the context of the frontmost application
-- in case dialogs are displayed
  if AppScriptable then
  with timeout of 3 seconds
  tell application AppName to quit
  end timeout
  else
  GiveError(Msg)
  end if

on error ErrMsg number ErrNmbr
  -- - 903 = no PPC port; i.e. not scriptable
  -- -2704 = application not scriptable
  if ErrNmbr = -903 or ErrNmbr = -2704 then
  set Msg to AppName &
     " is not scriptable or does not support the quit AppleEvent."
  GiveError(Msg)
```

```
  else
  log ("Error " & ErrNmbr & ": " & ErrMsg)
  display dialog "Error " & ErrNmbr & ": " & ErrMsg
  end if
end try

on GiveError(TheMsg)
  if SpeakErrs then
  say TheMsg
  else
  display dialog TheMsg buttons {"OK"} default button 1
  end if
end GiveError
```

Published Date: Feb 19, 2012

Plaintalk 1.4.1: Speakable Items Application Creation (8/95)

How are the standalone applications in the Speakable Items folder, with the diamond & ear icon, created? Can I create these?

This article has been archived and is no longer updated by Apple.

The little speakable applications with an ear on the icon are custom applications designed for PlainTalk on PowerMac only. They have no code resource that you would find on a 680x0 application. If launched on a 68K machine, they produce a -192 error (resource not found). You could write similar applications in C, C++, or Pascal that make general toolbox calls or send AppleEvents to perform actions.

The "What time is it?" and "What day is it?" applications perform actions that were similar to the QuicKeys functions supplied with previous versions of PlainTalk using the Speech Macro Editor. You could write similar Applets in AppleScript to perform these functions.

The "Tell me a joke" application picks one of 22 different Knock Knock jokes stored internally. A custom application performs faster than a corresponding AppleScript could, doing the same function.

The "Close window" application operates for any application environment, whether the application is scriptable or not. This function could not be performed across all applications using AppleScript.

The "open Speech Introduction" application simply opens the Guide file and could also be performed in AppleScript using the AGStart Scripting addition.

Support Information Services
Published Date: Feb 19, 2012

Northern Telecom‘s LANStar/PTE: General Information

This article provides general information on Northern Telecom's LANStar/PTE.
This article has been archived and is no longer updated by Apple.
Northern Telecom's LANStar technology is based on the data handling capabilities of a central "frame" known as the packet transport equipment (PTE). The standard PTE resembles a full-height rack-mount frame in which earlier DEC minicomputers were mounted. It is divided into "shelves" and each shelf contains slots or tracks into which "modules" can be inserted.

Northern Telecom makes several different sorts of modules for this frame, most of which have nothing to do with LANs, but are related to voice processing, i.e., voice messaging, etc. One LANLink assembly, made up of two cards, is the basis for the local area networking capabilities of the PTE. Each assembly supports 16 nodes through the PTE. There are currently two versions of the PTE. The large one, known simply as the PTE, addresses 1,344 nodes. A smaller one, the PTE/S, can address 112 nodes. The smaller PTE can support ONLY the LAN modules, and not the other voice processing modules available for the large frame.

Communications between the PTE and the desktop workstation is via two twisted pairs (four wires). If the wiring must also support voice, a third twisted pair is required. Thus, buildings wired with at least three pair to each desktop are best suited for LANStar technology. Of course, there is a LANStar card in the desktop works MS-DOS based PCs (traditional slots, not MicroChannel). Data transfer between the workstation LAN card and the LANLink card in the PTE is at 2.56 Mpbs. There is absolutely no contention for this 2.56 Mbps bandwidth, as there is only one workstation attached to each PTE-LANLINK card. It appears from some of the materials available that this communications may be full duplex.

Back at the PTE, each PTE LANLINK card is plugged into a backplane bus. The PTE LANLINK cards communicate between themselves at 40Mbps, 8 bits wide. Obviously, as there could be 1,344 cards wanting to talk at 2.56 Mbps all at once, and 40 Mbps won't go around, there must be some "link access protocol managing access" to the 40 Mbps bus. This is where the telephone heritage of the PTE shows through. Rather than using CSMA/CA, CSMA/CD, or token passing, the PTE bus uses a form of time division multiplexing that Northern Telecom calls "Perfect Scheduling". The 40 Mbps bandwidth is divided into time slices during which certain sorts of tasks are allocated/guaranteed bandwidth. This time slicing is controlled externally to the data bus. There is virtually no bandwidth consumed by link access overhead, even under very heavy loads.

In some ways, this access scheme is similar to token passing, in that a given data transmission will have to wait its turn for bus access. But unlike token rings, a LANLink card failure cannot result in loss of the token. And no data bus time is consumed in simply passing the token around. The bandwidth is also sliced very fine: 8,000 slices per second, with 640 frames per slice (each frame carries 8 bits), so the wait should never be long.

As already stated, the PTE is wired as a star: a separate set of twisted pair goes from each workstation back to a corresponding LANLink card in the PTE. However, within the PTE the network takes on a more bus-link structure. Billed as one of LANStar's security features, packet address interpretation is all done inside the PTE bus, with each PTE LANLink recognizing its own address (note that the address, at least at this level, is the address of the PTE LANLink card, not the address of the LANStar card or the workstation itself) and capturing ONLY packets intended for it. Thus, anyone tapping into a leg of the star will see ONLY the data traffic for the workstation attached to that leg - not any of the traffic for any of the other legs. Broadcasts, of course, still go to all legs.

The PTE LANStar technology is also available to the MS-DOS world. The LANLink PC card goes in a standard MS-DOS slot, and connects to the same PTE equipment as is used with LANStar AppleTalk. In the Macintosh world, LANStar AppleTalk has (separately) been tested with MacServe, TOPS, and AppleShare. In the MS-DOS world, LANStar is in use with MS-Net and Banyan's Vines/286 servers.

It appears possible to attach both Macintosh computers and MS-DOS PCs to a single PTE LAN. However, similar to running multiple protocols over Ethernet, the Macintosh computers and their AppleShare will not see the PCs and their MSNet, etc. AppleShare PC, TOPS for PC, or Tangent Share do not solve this problem, because they all require an AppleTalk board for the MS-DOS PC -- not a PC LANLink card. Initial testing of this multiple protocol PTE LAN seems to run well. Apparently there is some performance degradation on the MS-DOS side, having to do with the number of broadcast packets used by AFP, vs. the number of broadcast packets expected by the Vines/286 server. The problem is not severe, as it was detected only through use of performance monitoring tools on the network.

Bridging between the different protocols seems to the best possibility for a mixed MS-DOS-Macintosh LANStar network. At least one of the MS-DOS PCs could run both TOPS and LANLINK and republish volumes as a gateway. Or, when the LANStar Bridge becomes available, PCs running an AFP based network could bridge onto a LANStar AppleTalk network to get to an AFP server. Long term, some further integration between MSNet based networks and AFP networks would be desirable.
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Macintosh PowerBook 5300/100:Technical Specs (Discontinued)

This article contains a list of technical specifications for the Macintosh PowerBook 5300/100 computer.
This article has been archived and is no longer updated by Apple.

Microprocessor
---
* 100-MHz PowerPC 603e

Memory
---
* 8 MB of RAM, expandable to 64 MB
(Note: The 8 MB from Apple is soldered onto the logic board. There is one RAM card expansion slot for expanding memory.)

Storage
---
* Built-in removable Apple SuperDrive 1.4 MB floppy disk drive, which uses high-density floppy disks and reads, writes, and formats Macintosh, Windows, MS-DOS, OS/2, and ProDOS disks
* Internal 500 MB hard disk drive
* Expansion bay for third-party solutions such as an additional hard disk drive or magneto-optical drive (PC Card storage tray included in box may be inserted into this bay to reduce weight by 0.4 lb.)

Display
---
* 9.5-in. (diagonal) backlit, passive-matrix display
* Resolution: 640 by 480 pixels with 16 levels of gray

Battery
---
* Nickel-Metal-Hydride battery provides 2.5 to 4.5 hours of use before recharge
* Battery recharges in 2 hours while computer is shut down or in sleep mode; 4 hours while running
* PowerBook Control Strip lets you monitor time remaining, charge status, and battery usage

PC Card slots (PCMCIA)
---
* Two PC Card slots that can accommodate two Type I or II PC Cards or one Type III PC Card
* Lets you add industry-standard PC Cards such as Ethernet networking, a wired or wireless modem, storage, or other capabilities Expansion bay
* IDE connector for third-party solutions such as an additional hard drive, a magneto-optical drive, and other devices
* Power lines for connection of an internal AC adapter and other third-party solutions

Ports
---
* One Apple Desktop Bus (ADB) port
* One serial (RS-422) port
* One SCSI port for connecting as many as six external devices (including CD-ROM)
* One power adapter port
* Stereo sound input port
* Stereo sound output port
* Video output port

Networking
---
* Serial/LocalTalk port for AppleTalk connections to networks and printers
* Ethernet networking through PC Cards
* Ultra-easy file sharing through infrared technology*without cable

connections or time-consuming setup; supports AppleTalk protocol

Built-in stereo sound
---
* 16-bit, CD-quality stereo sound capable of driving headphones or external speakers
* Built-in speaker and integrated microphone
* Digital-to-analog conversion sampled at 44.1, 22.05, or 11.025 kHz
* 16 bit, audio line-in for recording

Video output
---
* 8-bit video output port to support external color displays*compatible with most Apple, VGA, and SVGA monitors (upgradable to greater bit depths through third-party solutions)

Security
---
* Includes a security slot that secures the system, battery, and expansion bay (requires a third- party accessory)
* Includes password protection software

Keyboard and Apple trackpad
---
* Built-in, full-size keyboard with 76 (U.S.) or 77 (ISO) keys, including 12 function keys and integrated palm rest
* Power button on keyboard
* Solid-state Apple trackpad provides precise cursor control in response to the movement of the user*s fingertip over its surface; sensing of movement and acceleration is easily adjustable through a control panel

Disability access
---
* System software includes CloseView and Easy Access, and provides the ability to substitute visual cue for beep

Electrical requirements
---
* Line voltage: 100 to 240 volts AC
* Frequency: 50 to 60 Hz

ADB power requirements
---
* Maximum current draw for all ADB devices: 200 mA

Environmental requirements
---
* Operating temperature: 41 degrees to 95 degrees F (5 degrees to 35 degrees C)
* Storage temperature: *13 degrees to 140 degrees F (*25 degrees to 60 degrees C)
* Relative humidity: 20% to 80% noncondensing
* Operating altitude: 0 to 10,000 ft. (0 to 3,048 m)
* Maximum storage altitude: 15,000 ft. (4,722 m)

Size and weight
---
* Height: 2.0 in. (5.1 cm)
* Width: 11.5 in. (29.2 cm)
* Depth: 8.5 in. (21.6 cm)
* Weight: 5.9 lb. (2.7 kg)

Article Change History:
26 Aug 1996 - Changed title.

TA34293_Macintosh_PowerBook_Technical_Specs_Discontinued_(TIL18422).pdf

01 Aug 1996 - Added keyword.
04 Oct 1995 - Updated battery information.
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Retrospect: How To Backup All Duplicate Files

Customer wants to back up entire drive every day, even if the files are unchanged. Using a "Full" backup works, but it does so by deleting the previous backups that occurred in the storage set.
This article has been archived and is no longer updated by Apple.
The method you want, is to use a single storage set with specific options selected. You should configure Retrospect to do a normal backup to the same storage set every time. Also you should not choose the "Don't match duplicates" option (this is selected by default, be sure to deselect it).

Here are the steps used in an example:

1. Create new script for backing up one file.

2. Run backup the first time. Check the log, the file was backed up.

3. Immediately run backup again and check the log. Since there are no changes, the file was not backed up.

4. Edit the script's options. Select, More Options. Select, Matching. Turn off Don't add duplicates to storage set.

5. Immediately run backup again. Notice the file was backed up, even though no changes were made to the file.

Below is a sample log file:

```
* Retrospect version Apple Servers 2.0Ci A/UX
launch at 7/11/95 6:19 PM

+ Normal Backup using <support> duplicate backup at 7/11/95 6:51 PM
To StorageSet <support>

- 7/11/95 6:51:01 PM: Copying Guest
7/11/95 6:51:10 PM: Comparing Guest
7/11/95 6:51:11 PM: Execution completed successfully
Completed: 6 files, 7 KB
Performance: 0.1 MB/minute (0.1 copy, 0.4 compare)
Duration: 00:00:10

+ Normal Backup using <support> duplicate backup at 7/11/95 6:51 PM
To StorageSet <support>

- 7/11/95 6:51:28 PM: Copying Guest
7/11/95 6:51:28 PM: no files need to be copied
7/11/95 6:51:36 PM: Execution completed successfully
Duration: 00:00:07

+ Normal Backup using <support> duplicate backup at 7/11/95 6:52 PM
To StorageSet <support>

- 7/11/95 6:52:27 PM: Copying Guest
7/11/95 6:52:35 PM: Comparing Guest
7/11/95 6:52:36 PM: Execution completed successfully
Completed: 6 files, 7 KB
Performance: 0.1 MB/minute (0.1 copy, 0.4 compare)
Duration: 00:00:09
```

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A/UX or AWS 95: Starting From Install CD-ROM (8/95)

A/UX or AWS 95: Starting From Install CD-ROM (8/95)

What files and information are needed to boot from the Installation CD-ROM? I would like to configure my MacPartition to boot my installer CD-ROM if necessary. I also want to know how to properly configure my floppy drive.
This article has been archived and is no longer updated by Apple.
The boot floppy used to startup from the CD-ROM is different from your MacPartition in three ways:

The extensions folder of the system folder contains a file "CD hack"

The disk level contains a A/UX startup document called "boot_CD"

The Preferences Booting dialog box in A/UX startup are configured:
- Automatically boot at startup, is selected.
- Autorecovery is set for "boot_cd -d" as custom command.
- Autolaunch is set for shutdown.

NOTE: The A/UX installer startup is slightly different than the A/UX startup application, however, A/UX startup does support booting from CD-ROM.

Support Information Services
Published Date: Feb 19, 2012

PowerTalk: Frequently Asked Questions (11/95)

This document contains the answers to frequently asked questions (FAQ) about PowerTalk.

Questions in this FAQ
---
* I just did a Clean Install. What files should be dragged over from the old system to the new one to retain the PowerTalk settings, passwords, and Mail?

* Either through the Key Chain, or initially setting up PowerTalk, I select to search for a PowerShare server where I have an account setup, but it tells me that there are no PowerShare services. I know that the server is up. What is going on?

* There are items in my Out Tray whose status show as "waiting." I need these mailed immediately. What's wrong?

* I forgot my Access Code (keychain password). How can I reset it?

* I cannot find the Mailbox or the Catalogs icon, they are gone. What happened?

* My AppleTalk or PowerShare catalogs are dimmed in the Catalogs window. What is wrong?

* I get a message that the system can no longer access a server on my network. In some cases a Resolve button appears in the notification dialog box. What do I do?

* When I try to open mail or delete mail from the In Tray, a message comes up "The Command can't be completed because it cannot be Found." What is happening?

* How do I recover missing mail?

* How do I use PowerTalk to retrieve mail from other services (Internet, fax, other mail applications)?

This article has been archived and is no longer updated by Apple.

Question: I just did a Clean Install. What files should be dragged over from the old system to the new one to retain the PowerTalk settings, passwords, and Mail?

Answer: Be sure that PowerTalk has been installed on the new System Folder. Drag the PowerTalk Data Folder from the root level of the System Folder, and the PowerTalk Setup and PowerTalk Startup preferences from the Preferences folder to the new System Folder.

Question: Either through the Key Chain, or initially setting up PowerTalk, I select to search for a PowerShare server where I have an account setup, but it tells me that there are no PowerShare services. I know that the server is up. What is going on?

Answer:
* Check to make sure that they are in fact connected to the network.

* Check Network control panel and make sure the Chooser does see at least a LaserWriter Printer or other servers.

* Check that your Date & Time Control Panel is correct (PowerTalk services will not work if your date is reset to 1904)

Question: There are items in my Out Tray whose status show as "waiting." I need these mailed immediately. What's wrong?

Answer: See Question #2 above. When there are problems with the Out Tray, a Problem Alert box will sometimes appear in the upper right corner of the In Tray and or Out Tray window. Selecting the button will bring up the "MailBox Problems" window, describing the problem and also some solutions. There is also a button called Resolve that will attempt to correct the issue.

Question: I forgot my Access Code (keychain password). How can I reset it?

Answer: Follow these steps to reset your password:

Step 1

Turn off collaboration services in the PowerTalk control panel.

Step 2

Throw the two PowerTalk Setup Preferences files in the Preferences folder away.

Step 3

Restart the computer.

Step 4

Double-click on the mailbox to re-define PowerTalk services.

WARNING: All key chain information is lost when you delete the PowerTalk Setup Preferences.

Question: I cannot find the Mailbox or the Catalogs icon, they are gone. What happened?

Answer: PowerTalk may be turned off or the PowerTalk extensions may have been removed from the system folder. Try troubleshooting with the following suggestions:

* Check to see that the PowerTalk Extension and PowerTalk Manager are present in the Extensions Folder.

* Check to see if Extension Manager was used to deactivate the PowerTalk Extension and PowerTalk Manager.

* Go to the PowerTalk Setup Control Panel and make sure it is active.

Question: My AppleTalk or PowerShare catalogs are dimmed in the Catalogs window. What is wrong?

Answer: AppleTalk is inactive. Go to the Chooser and activate AppleTalk.

Question: I get a message that the system can no longer access a server on my network. In some cases a Resolve button appears in the notification dialog box. What do I do?

Answer:
* Click the button to reconnect.

* Check the cable connection on the back of your computer.

* Check that your Date & Time Control Panel is correct (PowerTalk services will not work if your date is reset to 1904)

Question: When I try to open mail or delete mail from the In Tray, the following message appeared, "The Command can't be completed because it cannot be Found." What is happening?

Answer: You have an account on a PowerShare Server, and have two PowerTalk-equipped systems accessing the same account. The mail has been removed from the In Tray on one system, yet the In Tray of the other system shows the mail. Two solutions:

* Click "OK" when throwing away the item to remove it from the system.

* See "How to recover missing mail" (question 10) for details. Basically, drag the blank icon(s) from the IPM Bin folder on top of the AppleMail application, and AppleMail will launch and either show the document, or enclose the item that was mailed.

Question: How do I recover missing mail?

Answer: There are two ways to recover the missing mail:

* Look in System Folder:PowerTalk Data:IPM Bin folder path. All of the messages are still there with blank icons and 8-digit file names. You can simply drag the files over the AppleMail application and they will launch and display your messages, attachments included. You can also open the files within AppleMail, and do a Save As to restore the original type and creator so the files are double-click able AppleMail documents again. Although untested, this procedure should apply to messages created by other PowerTalk applications.

* Change the file type and creator of the files with the 8-digit file names found in System Folder:PowerTalk Data:IPM Bin using a file utility such as

FileType, Disk Top or ResEdit. Original type: lttr and creator:lap2. Then move the files out of "IPM Bin", and open them with AppleMail (or appropriate mail application). NOTE: Disk and resource editors are not supported by Ask Apple or 800-SOS-APPL.

Question: How do I use PowerTalk to retrieve mail from other services (Internet, fax, other mail applications)?

Answer: You need a PSAM. PSAM stands for Personal Message Access Module. These are extensions that offer connections to other mail services, such as QuickMail and Internet gateways. To the PowerTalk user, the MailBox metaphor remains the same but data is seemlessly passed to other services. Two examples of PSAMs would be StarNine's Mail*Link for PowerTalk/QM and Mail*Link for PowerTalk/MS

Article Change History:
09 Nov 1995 - Change article title.

Support Information Services
Published Date: Feb 19, 2012

AppleCD 600i: Compatible Macintosh Models

Which computers can use the AppleCD 600 CD-ROM drive?
This article has been archived and is no longer updated by Apple.
Apple has tested the AppleCD 600 quad-speed drive with all Macintosh computers currently shipping and many older Macintosh computers. Apple is supporting the AppleCD 600 CD-ROM drives on Macintosh computers with 25 MHz 68030 processors or faster, with the exception of the Macintosh IIvi.* Slower computers may still work with the AppleCD 600, but are not supported based on our current information.

Several Macintosh computers ship with the AppleCD 600i already installed, including:
Power Macintosh 5400/120
Power Macintosh 7200 series
Power Macintosh 7500 series
Power Macintosh 7600 series
Power Macintosh 8500 series
Power Macintosh 9500 series
Power Macintosh 5300/100 LC
Macintosh Performa 5300
Macintosh 5200 series**
Macintosh Performa 6200 series**
Macintosh Performa 6300, 6290, 6320

The AppleCD 600i internal upgrade kit (M4070LL/A) is available and can be installed using the same mounting brackets as the AppleCD 300i.

*NOTE: This computer listing does not include these Macintosh models: 128k, 512k, 512ke, Plus, SE, SE FDHD, Classic, Classic II, Mac II, IIx, IIcx, SE/30, LC, LC II, IIsi, Portable, Portable Backlit, PowerBook 100, PowerBook 140, Color Classic.

**Note:The following computers are in the Macintosh 5200CD family: Macintosh 5200/75 LC, Performa 5200, Performa 5210, Performa 5215, and Performa 5220.

The following computers are in the Macintosh 6200CD family: Performa 6200, Performa 6214, Performa 6216, Performa 6218, Performa 6220, and Performa 6230.

Published Date: Feb 19, 2012

Apple IIGS: Hard Drive Speed is Limited by System Speed

This article has been archived and is no longer updated by Apple.

Will a 29ms hard drive perform twice as fast as a 65ms hard drive if both are run on an Apple IIGS with the Apple SCSI card? In other words, is the hard drive the slower component, or the Apple IIGS with the Apple SCSI card?

The maximum data transfer rate for the SCSI bus is 1.25 MBytes per second. If the disk accesses the data faster than that, it is not apparent to the user. The determining factor for data transfer is system overhead. In this case, the system is the slower component.

System overhead consists of: operating system timings, interface timings, and the interleave factor for the disk (which is 3 to 1 for the Apple IIGS). If the 65ms drive is waiting for the Apple IIGS system, then changing to a 29ms drive will probably not increase performance.

Published Date: Feb 19, 2012

Color LaserWriter 12/600: No Support for Envelopes

Can I print envelopes on my Color LaserWriter 12/600 PS printer?
This article has been archived and is no longer updated by Apple.
Apple does not support the printing of envelopes or labels on the Color LaserWriter 12/600 PS printer. On page 203 of the Color LaserWriter 12/600 PS User's Guide, it states that doing so could cause damage to the printer.
Published Date: Feb 19, 2012

LaserWriters: Printing Envelopes

The following article discusses the printing of envelopes on Apple's LaserWriter printers.
This article has been archived and is no longer updated by Apple.
LaserWriter and LaserWriter Plus

Place the long, top edge of the envelope face up against the right side of the manual feed guide.

Personal LaserWriter 300, 320, 4/600 PS

Align the envelope along the left edge of the manual feed tray. Insert the envelope lengthwise, face up.

Personal LaserWriter NT, NTR, NTX, LS, SC

When using the cassette, move paper guide in from the 8-1/2 x 11 inch position. The cassette can handle up to 15 envelopes. Insert the envelopes face up. When using the manual feed, adjust the guide on the manual feed tray so the envelope will feed on the right side of tray. Insert the paper lengthwise, face up.

LaserWriter II

For all LaserWriter II printers, use the manual feed guides to adjust to the size of the envelope. The guides will center envelopes in the manual feed tray. Insert the envelope lengthwise, face up. An optional envelope feeder is available.

LaserWriter Selects

Use the guides to center the envelope on the manual feed tray. Insert envelope lengthwise, face down.

LaserWriter Pro 600, 630

Adjust guide on the multipurpose tray to fit the envelope. Insert the envelope lengthwise, face up. The envelope will feed on the left side of the tray. An optional envelope feeder is available.

LaserWriter Pro 810

Adjust guides on multipurpose tray (located on the back of the printer) to fit the envelope. Insert paper lengthwise, face up. A Power Feeder, which can feed envelopes, is available.

LaserWriter 16/600PS

Adjust guide on the multipurpose tray to fit envelope. Insert envelope lengthwise, face up. The envelope will feed on the left side of tray. An optional envelope feeder is available.

LaserWriter 12/640 PS

Open multipurpose tray nad adjust the width quide to fit the envelope. Tuck the envelope flap inside the envelope and insert envelope lenghtwise and set you program to print lengthwise on the envelope. There is an optional envelope cassette available for this printer.

Color LaserWriter 12/600PS

Use of envelopes are not supported on this printer.
Published Date: Feb 19, 2012

Newton MessagePad: Password Reset or Removal

I forgot my Newton password. Is there a way to reset or remove the password?
This article has been archived and is no longer updated by Apple.
The user's guide for earlier versions of the Apple MessagePad stated that the MessagePad could be sent in for service to have the password removed. That is incorrect. There is no supported method for removing or resetting the password and preserving the data and user settings on Apple MessagePads.

The following method, called a hard reset, will remove the password, but will also result in the loss of all user's data and settings:

1. Press and hold down the power switch.
2. Press the reset switch inside the battery compartment.
3. When a warning dialog is presented on the screen, release the power switch.
4. Follow instructions presented by the warning dialog.
5. All data and user settings, including the password, will be erased.Any System Update installed is NOT erased.

For more information, on other reset procedures see "Apple MessagePad: Different Types of Reset" and "Apple MessagePad: How to Reset."
Published Date: Feb 19, 2012

Sound & Displays Control Panel: Requires AppleScript 11/95

When I try to open the Sound & Displays control panel on my Power Macintosh 7500 or 8500 computer, I get the message "Sorry... Sound & Displays cannot operate correctly on this Macintosh. Please consult your Sound & Displays documentation for a description of what your Macintosh needs for Sound & Displays. (Quit)". This came with my computer and it used to work. How can I resolve this?

This article has been archived and is no longer updated by Apple.

The Sound & Displays control panel that comes with Power Macintosh 7500 and 8500 computers requires AppleScript in order to operate properly. The Sound & Display control panel will not launch and will report this error message if AppleScript is missing, damaged, or disabled.

Make sure AppleScript has not been disabled by opening the Extensions Manager in your Control Panels folder under your Apple Menu. If there is not a check to the left of the AppleScript Extension, click on the extension to put a check there, close the Extensions Manager, and restart you computer.

If the Sound & Displays control panel still fails to launch, you should reinstall AppleScript using the custom install feature of your Power Macintosh disc.

Article Change History:
09 Nov 1995 - Changed title to better reflect article content.

Support Information Services
Published Date: Feb 19, 2012

Macintosh PowerBook 190cs/66:Technical Specifications (9/96)

This article contains a list of technical specifications for the Macintosh PowerBook 190cs/66 computer.
This article has been archived and is no longer updated by Apple.

Microprocessor
---
* 66/33-MHz Motorola 68LC040

Memory
---
* 4 MB or 8 MB* of RAM, expandable to 36 MB or 40 MB
[Note: The 4 MB or 8 MB (depending on the model) from Apple is soldered to the logic board. There is one RAM card expansion slot.]

NOTE:
* The PowerBook 190cs/8/500 configuration was discontinued in 9/96.

Storage
---
* Built-in removable Apple SuperDrive 1.4 MB floppy disk drive, which uses high-density floppy disks and reads, writes, and formats Macintosh, Windows, MS-DOS, OS/2, and ProDOS disks
* Internal 500 MB hard disk drive
* One expansion bay for third-party solutions such as an additional hard disk drive or magneto-optical drive

Display
---
* 10.4-in. (diagonal) backlit, dual-scan, color display
* Resolution: 640 by 480 pixels with 256 colors

PC Card slots (PCMCIA)
---
* Two PC Card slots that can accommodate two Type I or II PC Cards or one Type III PC Card
* Lets you add industry-standard PC Cards such as Ethernet networking, a wired or wireless modem, storage, or other capabilities

Expansion bay
---
* IDE connector for third-party solutions such as an additional hard drive, a magneto-optical drive, and other devices
* Power lines for connection of an internal AC adapter and other third-party solutions

Battery
---
* Nickel-metal-hydride battery provides 2.5 to 4.5 hours of use before recharge
* Nickel-metal-hydride battery recharges in 2.5 hours while computer is shut down, in sleep mode, or running
* PowerBook Control Strip lets you monitor time remaining, charge status, and battery usage

Ports
---
* One Apple Desktop Bus (ADB) port
* One serial (RS-422) port
* One SCSI port for connecting as many as six external devices
* One power adapter port
* Stereo sound output port
* Video output port (optional)

Networking

---
* Serial/LocalTalk port for AppleTalk connections to networks and printers
* Ethernet networking through PC Cards
* Optional infrared technology allows for ultra-easy file sharing through infrared technology*without cable connections or time-consuming setup; supports AppleTalk protocol

Built-in stereo sound
---
* 16-bit, CD-quality stereo sound capable of driving headphones or external speakers
* Built-in speaker and integrated microphone

Security
---
* Includes a security slot that secures the system, battery, and expansion bay (requires a third-party accessory)
* Includes password protection software

Keyboard and improved Apple trackpad
---
* Built-in, full-size keyboard with 76 (U.S.) or 77 (ISO) keys, including 12 function keys and integrated palm rest
* Power button on keyboard
* Solid-state improved Apple trackpad lets you use the trackpad to select, open or close, and drag without using the trackpad button

Upgrades
---
* 100-MHz PowerPC 603e
* 10.4-in. active-matrix, color display (requires PowerPC upgrade)
* Infrared technology for easy file sharing
* Video-out to support external displays*compatible with most Apple VGA, and SVGA monitors (Apple 8-bit solution available; third-party solution for greater bit depths)

Disability Access
---
* System software includes CloseView and Easy Access, and provides the ability to substitute visual cue for beep

Electrical Requirements
---
* Line voltage: 100 to 220 volts AC
* Frequency: 50 to 60 Hz

Environmental Requirements
---
* Operating temperature: 41 degrees to 95 degrees F (5 degrees to 35 degrees C)
* Storage temperature: 14 degrees to 140 degrees F (*10 degrees to 60 degrees C)
* Relative humidity: 20% to 80% noncondensing
* Operating altitude: 0 to 10,000 ft. (0 to 3,048 m)
* Maximum storage altitude: 15,000 ft. (4,722 m)

Size And Weight
---
* Height: 2.2 in. (5.3 cm)
* Width: 11.5 in. (29.2 cm)
* Depth: 8.5 in. (21.6 cm)
* Weight: 6.3 lb. (2.9 kg)

Article Change History:
11 Sep 1996 - Added information about discontinued configuration.

TA34305_Macintosh_PowerBook_csTechnical_Specifications__(TIL18447).pdf

05 Oct 1995 - Updated battery information.
25 Aug 1995 - Reviewed for technical accuracy.
Published Date: Feb 19, 2012

Open Transport 1.0.7: Read Me

This article is the Open Transport Read Me file.
This article has been archived and is no longer updated by Apple.
Name: Open Transport 1.0.7 Patch
Version: n/a
Released: August 21, 1995
Description: This application updates Open Transport from version 1.0.6 to version 1.0.7. Please see below for further information.

The enclosed file is a self-extracting archive. To use, download, double-click the downloaded file (this decompresses it).

From the "Open Transport 1.0.7 Patch Read Me"

What is this patch?
The Open Transport 1.0.7 patch consists of a patching application called Open Tpt 1.0.6 -> 1.0.7 Patcher, a new TCP/IP Control Panel, and this Read Me file.

Open Tpt 1.0.6 -> 1.0.7 Patcher is a self-contained application that provides an update to the Open Transport software already installed on your system. To use this update application you must have Mac OS version 7.5.2 installed on your computer, and you must have Open Transport version 1.0.6 already installed on your system.

When successfully completed, the Open Transport Internet Library and the TCP/IP control panel will have been updated to Open Transport version 1.0.7. All other components of Open Transport will remain at version 1.0.6.

Who needs this patch?
This update is recommended for all Power Macintosh systems with the PCI bus, including the Power Macintosh 7200, 7500, 8500, and 9500. It will be especially valuable if you use SLIP or PPP to access the Internet or other TCP/IP resources.

This update CANNOT be used with any beta or test versions of Open Transport, or on the Power Macintosh 6100, 7100, 8100, or 680x0-based Macintosh computers.

How do I use this patch?

1. Copy Open Tpt 1.0.6 -> 1.0.7 Patcher and the TCP/IP control panel to your desktop.

2. Choose Restart from the Special menu. While your computer starts up, hold down the Shift key (to turn off any extensions).

3. Drag the TCP/IP control panel to the icon of your System Folder (not to the open System Folder window). In the dialog box that appears, click OK. Another dialog box opens, asking if you want to replace the older version of the control panel. Click OK to copy the new TCP/IP control panel to the Control Panels folder inside your System Folder.

4. Double-click the Open Tpt 1.0.6 -> 1.0.7 Patcher icon to open it.

5. Read the information in the dialog box that appears.

6. Click the Patch button.

7. In the dialog box that appears, select your Open Tpt Internet Library in your Extensions folder (inside the System Folder on your startup disk). Then click the Patch button.

8. A message appears telling you the patch was successful.

9. Choose Restart from the Special menu. Allow your computer to start up normally, without holding down the Shift key.

10. Drag the "Open Tpt 1.0.6 -> 1.0.7 Patcher" from the desktop to the trash and empty it.

What are the differences between Open Transport 1.0.6 and 1.0.7

* Slip/PPP Configuration Change

When using SLIP or PPP over Open Transport 1.0.7, either with Manual or BOOTP configuration mode, you are no longer required to configure a Router address or a Subnet Mask. When these are not manually configured, they will be generated automatically based on the IP address

assigned by the SLIP/PPP server or by the BOOTP server.

In general, it is recommended that these fields be left blank when using SLIP or PPP unless your network manager has specified otherwise. If you do manually configure these items, you must enter a Subnet Mask that places your Router's IP address and your own assigned IP address on the same subnet. If these two addresses are on different subnets, you won't be able to send data to remote hosts.

*** Improved SLIP or PPP*Performance**

SLIP or PPP throughput performance has been improved by changing the interrupt level at which inbound SLIP or PPP data is processed.

*** Networks with more than 256 zones**

The TCP/IP control panel now works correctly with networks having more than 256 zones. Previous versions of the control panel sometimes crashed when selecting a zone on a network with more than 256 zones.

Question:
I have a Power Mac 9500 with an earlier version of Open Transport software. How do I get a copy of Open Transport version 1.0.6 so that I can use this patch?

Answer:
Users who previously bought a Power Macintosh 9500 can get upgrade information from the Apple Software Updates web site at **http://www.apple.com/swupdates**.

Published Date: Feb 19, 2012

ARA: How Do Remote Systems Get Assigned Node Addresses

How does a remote system get assigned an AppleTalk node address when dialing in through Apple Remote Access (ARA)? Is the AppleTalk address dynamically assigned at connection, or does the ARA MultiPort (MP) Server assign the node address?
This article has been archived and is no longer updated by Apple.
AppleTalk node address allocation occurs when an ARA MP Server's ports are configured at startup. When a port is turned on, the ARA MP Server goes on the network to see what node addresses are available and allocates one per port based on that availability, in other words, dynamic address allocation. That is why configuring the ports takes some time.

A port will retain this same node address for all calls made to that port, even if someone dials in, disconnects, and then dials back to the same port. The same node address will be used. If the port is turned off, the node address may get used by another computer on the network. When you turn the port back on, the process mentioned above is repeated.

So, to answer the question, the node address is "static" as long as the port is on.
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IBM PC: How to use the LaserWriter with it

This article has been archived and is no longer updated by Apple.

Serial Port (for software that supports PostScript)

1. Begin by detaching all connections to the LaserWriter and make sure the LaserWriter has been turned off.

2. Take your null modem cable and connect one end to the 25 pin plug on the LaserWriter and the other end to the RS232 serial port on the IBM .

3. Look for the switch on the LaserWriter and set it to 9600.

4. Turn on the LaserWriter.

5. Wait for the test page to eject, then follow the instructions for you application. (See Note)

Diablo 630 Emulation (for software that does not support PostScript)

1. Begin by detaching all connecions to the LaserWriter and make sure the LaserWriter has been turned off.

2. Take your null modem cable and connect one end to the 25 pin plug on the LaserWriter and the other end to the RS232 serial port on the IBM.

3. Look for the switch on the LaserWriter and set it to Special.

4. Turn on the LaserWriter.

The connections have been made and you may now set up the software package to the Diablo printer driver. No test page will appear. (See Note.)

AppleTalk PC MacBridge Tangent Technology Card

1. Begin by placing the Tangent Technology card in an available slot.

2. Connect the AppleTalk cables to the Tangent port on the IBM and to the AppleTalk connection on the LaserWriter.

3. Look for the switch and set it to AppleTalk.

4. Turn on the LaserWriter.

5. Wait for the test page to eject, then follow the MacBridge menu instructions for communications.

NOTE: These DOS commands must be executed before using the LaserWriter from the serial port. (They may be included in a batch file for ease of execution.)
The DOS file MODE.COM must also be on the disk for these commands to work properly.

```
MODE COM1:9600,N,8,1,P
MODE LPT1:=COM1:
```

Applications that do not support Xon/Xoff communication protocol may have problems with large files.

NOTE: Apple Computer Inc. is not responsible for the contents of this article.

TA34308_IBM_PC_How_to_use_the_LaserWriter_with_it_(TIL01845).pdf

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Color LaserWriter 12/600 PS: Lines Per Inch

What is the line screen (lpi) capability of the Color LaserWriter 12/600 PS? Can you change it with programs that can edit the linescreen?
This article has been archived and is no longer updated by Apple.
The default line screen, on the Color LaserWriter 12/600 PS and the Color LaserWriter 12/660 PS printers, is 200 lpi. At that line screen, the printer can image "122 levels of gray." However, Color Photograde changes the line screen based on the type of image and actually gives you more levels of gray (or color to be more precise) and much better image quality through Apple's proprietary technology.

Lighter areas of a file are imaged at a lower line screen (141 lpi) which produce more shades of color, but have a lower image resolution. Darker areas are imaged at a higher line screen which produces fewer shades of color but a higher resolution.

The line screen angle (the angle at which the actual dots are placed) is also changed to try and minimize an effect called "white dropout " which comes up with very light colors and the "white gap" effect that comes up with darker color plates next to each other.

This is done when the image is processed by the ROM of the printer. A file is separated into four color plates and analyzed for image quality. The line screen and angle change so that lighter areas are printed with some color visible, since our eye can see color at low percentages but can not see the actual edges of the colored objects. In darker areas, our eyes can see the edges of objects very well, but have trouble seeing the differences between darker shades of color.

Although the September 1995 "MacUser" article infers that you can change the line screens, Color Photograde overrides any of these settings to produce it's patterns. You may be able to incorporate a line screen into the actual file when you scan it or edit it.

For more information on lpi and dpi see "Printing Differences: Lines Per Inch and Dots Per Inch" and "Apple LaserWriters: Screen Frequency and Gray Levels."
Published Date: Feb 19, 2012

LW 16/600 PS: Input/Output Processor (IOP) ROM Upgrade

Several LaserWriter 16/600 PS network issues are addressed by version 2.0 of the Input/Output Processor (IOP) ROM (service part number 922-1856). Please read the following symptoms to determine whether a customer will benefit by updating their LaserWriter 16/600 printer's IOP ROM.

The current IOP ROM revision is 3.0 (922-2458). This article outlines changes between IOP ROM 1.0 and 2.0.

For information about IOP ROM 3.0, see:
Tech Info Library Article 20305: "**LaserWriter 16/600 PS: IOP 3.0 Release Notes**"
This article has been archived and is no longer updated by Apple.
NOTE:
PostScript ROMs are unaffected by this IOP upgrade. The PostScript ROMs in the LaserWriter 16/600 printer are unchanged; the current version is version 1.0, which is the same version that originally shipped with the printer.

Printer Not Available in Chooser
==========

The Apple LaserWriter 16/600 PS does not respond to Ethernet traffic. It can not be seen in the Chooser.

Restarting the printer temporarily resolves this problem. There are presently two shipping LaserWriter 16/600 PS IOP ROM versions, version 1.0 and 2.0. Recommend customers upgrade their LaserWriter 16/600 PS printer's IOP to v2.0.
These ROM revisions are printed on the startup page, vertically on the right margin.

You can also use the Apple Printer Utility to check what version of the IOP ROM the LaserWriter has installed:

Step 1

Launch the Apple Printer Utility, select the zone in which the LaserWriter 16/600 is located, click to select the printer, click Open Printer.

Step 2

Click the arrow to the left of Printer Information, and note the version of the PostScript and IOP ROMs listed under ROM Revision. The I/O ROM should be 2.0.

Printer Available in Chooser
==========

The Apple LaserWriter 16/600 PS can be seen in the Chooser, but you cannot print to it.

Restarting the printer may temporarily resolve this issue, as will updating to v2.0 IOP ROM.

NOTE:
The printer may require another solution instead, as similar symptoms may be caused by some versions of printer drivers or routers. Follow the workarounds below if the two suggestions above do not address the symptoms.

* The symptom may be caused by earlier versions of the LaserWriter 8.x drivers. Upgrade to LaserWriter 8.2.2 or later driver software.

* Similar symptoms are caused by a Name Binding Protocal (NBP) gleaning problem in some routers, including Cisco routers and the Apple Internet Router 3.0. To work around this problem with Cisco routers, upgrade the Cisco software to v10.2 or later or turn NBP gleaning off. To work around this problem with an Apple Internet Router, update the Ethernet driver with Network Software Installer 1.5 or later. Both these routers induce the symptoms only under specific circumstances.

NOTE:
LaserWriter driver or gleaning problems are not specific to the LaserWriter 16/600 PS printer. Other printers or devices may also be affected.

Symptoms Occurring with Dayna PathFinder Routers
==========

The LaserWriter 16/600 PS is not visible on networks routed by Dayna PathFinder Routers.

This symptom is caused by the LaserWriter 16/600 PS booting with a source network of 1 and the PathFinder not asserting itself to tell the printer what network range it should be in (most likely a number other than 1). In turn, the PathFinder does not respond to the printer's request for zone information, resulting in devices not being able to locate the printer.

Other symptoms may occur when multiple routers exist in addition to the Dayna PathFinder (including not being able to locate the printer in the Chooser, not being able to open a connection with the Chooser, and receiving PostScript errors when printing). A network trace may reveal that the PathFinder is not responding to the printer's Zone Information Protocal/Get Net Info (ZIP GNIs).

These symptoms are addressed in the v2.0 IOP ROM. Service Providers should replace the ROM.

Slow Printing

The LaserWriter 16/600 PS is slow when using Farallon PhoneNET Star Controllers.

When a LaserWriter 16/600 PS is connected to a Farallon PhoneNET StarController, print jobs sent to the printer take a long time to print (typical) or may fail (rare) with PostScript errors. The reason for this symptom is that the LaserWriter 16/600 PS begins transmitting prematurely after receiving the StarController's LocalTalk Link Access Protocal (LLAP) packet.

This symptom is addressed in the v2.0 IOP ROM. Service Providers should replace the ROM.

IOP Does Not Close Jobs Correctly

The IOP does not close jobs correctly (that is, when a PostScript error is encountered) without an End of File (EOF) message; a second job following the first gets flushed by the PostScript interpreter (to the second job's EOF), so neither the first job having the error nor the second job prints. A third job will print fine.

This symptom is addressed in the v2.0 IOP ROM. Service Providers should replace the ROM.

LED Continues to Blink

The Ready/In Use LED continues to blink for five minutes when spooling jobs from an AppleShare print server.

The LaserWriter 16/600 PS printer's Ready/In Use light will blink for five minutes following a print job spooled to it from an AppleShare Print Server, until the "wait timeout" timer actually times out. If the printer is released from within the print server, the blinking stops immediately. If jobs are sent directly to the printer, the printer stops blinking as soon as the job is printed. This symptom does not interfere with printing.

This cosmetic symptom is resolved by updating to the v2.0 IOP ROM.

Symptoms Not Associated with IOP ROM

The following issue is unrelated to the IOP ROM: The LaserWriter 16/600 PS returns to the default zone after being turned on.

The configuration switch on the LaserWriter 16/600 PS must be in the up position if you want zone changes made with the Apple Printer Utility to be persistent across power cycles.

NOTE:
The version v2.0 IOP ROM addresses only the symptoms listed in previous sections. If the LaserWriter 16/600 PS printer is experiencing other symptoms, follow standard troubleshooting procedures outlined on the Service Source CD-ROM (Path: Laser Printers, LaserWriter 16/600 PS, Troubleshooting). Service Source is only available to Apple Service Providers.

Part numbers mentioned in this article are accurate as of this writing. Before ordering, verify that they are still correct as they are subject to change.

The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.
Published Date: Feb 19, 2012

Open Transport: Brief File Description (7/96)

This article provides a brief description of Open Transport files and their functions. The following files are covered:

Open Tpt AppleTalk Library
Open Tpt ATalk 68K Library
Open Tpt Internet Library
Open Tpt Inet 68K Library
Open Transport Library
Open Transport 68K Library
OpenTptAppleTalkLib
OpenTptInternetLib
OpenTransportLib

Ethernet (built-in)
Serial (built-in)

AppleTalk
TCP/IP

AppleTalk Preferences
TCP/IP Preferences

Shared Library Manager
Shared Library Manager PPC

This article has been archived and is no longer updated by Apple.
The following files contain code resources for Open Transport:

Open Tpt AppleTalk Library
Open Tpt ATalk 68K Library
Open Tpt Internet Library
Open Tpt Inet 68K Library
Open Transport Library
Open Transport 68K Library
OpenTptAppleTalkLib
OpenTptInternetLib
OpenTransportLib

The files with names that contain the word "AppleTalk" have code resources specific to AppleTalk. The files with names that contain the word "Internet" have code resources specific to TCP/IP. The files with names that do not contain the words "AppleTalk" or "Internet" contain code resources for Open Transport in general. If you do not want to run AppleTalk on a system, all you have to do is remove all the files with the word "AppleTalk" in the file name. If you do not want to run TCP/IP on a system, all you have to do is remove all the files with the word "Internet" in the file name.

OpenTransportLib and Open Transport Library are shared libraries that implement core Open Transport services on PowerPC systems. The first library contains the modules and APIs for PowerPC native applications; the second for 680x0 applications running in emulation on PowerPC systems.

OpenTptAppleTalkLib and Open Tpt AppleTalk Library are shared libraries that implement Open Transport AppleTalk protocols and services on PowerPC systems. The first library contains the modules and APIs for PowerPC native applications; the second for 680x0 applications running in emulation on PowerPC systems.

OpenTptInternetLib and Open Tpt Internet Library are shared libraries that implement Open Transport TCP/IP protocols and services on PowerPC Mac OS systems. The first library contains the modules and APIs for PowerPC native applications; the second for 680x0 applications running in emulation on PowerPC systems.

Open Transport 68K Library is a shared library that implements core Open Transport on 680x0 systems.

Open Tpt ATalk 68K Library is a shared library that implements Open Transport AppleTalk protocols and services on 680x0 Mac OS systems.

Open Tpt Inet 68K Library is a shared library that implements Open Transport TCP/IP protocols and services on 680x0 Mac OS systems.

The "Ethernet (built-in)" and "Serial (built-in)" are files that contain code to make it possible to access the respective ports with Open Transport. If

you do not want to use the built-in Ethernet port with Open Transport, you could remove the "Ethernet (built-in)" file. The same is true if you do not want to use the built-in serial ports with Open Transport; you would remove the "Serial (built-in)" file.

AppleTalk is the control panel application replacing the classic Network control panel.

TCP/IP is the control panel application replacing the classic MacTCP and AdminTCP control panels.

The "AppleTalk Preferences" and "TCP/IP Preferences" contain the preferences for the AppleTalk and TCP/IP control panels.

Shared Library Manager and Shared Library Manager PPC are extensions that implement the Apple Shared Library Manager for 680x0 and PowerPC, respectively.

Article Change History:
15 Jul 1996 - Updated to reflect additional files in Open Transport 1.1

Published Date: Feb 19, 2012

PC Exchange: Copying Large DOS Files Issue

I have a Power Macintosh 6400/200 running Mac OS 8.0 which ships with PC Exchange 2.1.1. I have attached an Iomega Jaz drive to my Power Macintosh. After inserting a Jaz disk that was previously formatted on a PC under Windows 95, the disk mounts in the Finder correctly.

The PC formatted Jaz disk shows that is has 1,020.6 MB of storage space available. I'm trying to copy a very large document that is larger than 510 MB in size to the Jaz disk from my internal hard drive. I keep getting an error message that says, "The file 'xxxxxx' couldn't be written, because the disk is full. Do you want to continue copying?". Clicking continue does not work. I have found that any file that is less than 510 MB copies normally. Is this problem with the file I'm using?
This article has been archived and is no longer updated by Apple.
PC Exchange 2.1.1 and earlier has a problem when trying to copy a file that is approximately half the size of the available free space or larger to a DOS formatted volume. Currently, the only work around is to copy files that are smaller than half the size of the available free space of the DOS formatted volume. In some cases, it may be necessary to segment a very large file into smaller pieces.

Apple is aware of the issue and is working to correct this problem in future versions of PC Exchange and the Mac OS.
Published Date: Feb 19, 2012

Power Macintosh 9500: MacroMedia FreeHand 5.0 Needs Update 8/95

When I run MacroMedia FreeHand 5.0 on my Power Macintosh 9500, the Xtras do not load. How can I get these to run?
This article has been archived and is no longer updated by Apple.
You need to update to version FreeHand 5.0.2, which specifically addresses this issue. MacroMedia has separate updaters from 5.0 to 5.0.1, and from 5.0.1 to 5.0.2, so you need to update FreeHand 5.0 with both. Contact MacroMedia for update information.

The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.

Support Information Services
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Macintosh Plus: Using Microsoft applications on an 800K disk

This article has been archived and is no longer updated by Apple.

With the release of the Mac+ and double sided disk drives, many people will want to put Microsoft applications on 800K disks. The following information will take you through the steps needed to prepare an 800K disk for use with Microsoft applications.

The following information assumes that you already know how to perform basic operations with your Apple Macintosh. You should know how to use the Finder and the mouse, eject disks, and copy files. If you are not familiar with these operations, please refer to your Macintosh users manual. The following steps assume you are using a Mac+ with an 800K external disk drive.

1. Start the computer with the system disk that came with your computer. This system disk should contain a system file (v3.0 or higher), and a Finder (v5.1 or higher).

2. Insert a blank disk into the external disk drive and initialize it to be an 800K disk.

3. Copy the system folder from the Mac+ system disk to the initialized 800K disk.

4. Now eject the system disk from the internal disk drive and insert the Microsoft application disk. (If you are setting this disk up for Microsoft Excel, insert the program disk marked 1 of 2).

5. Copy the program and any other files such as printer drivers, help files etc., to the newly formatted 800K disk in the external disk drive. DO NOT COPY THE SYSTEM FOLDER. You have already copied the system folder from the Mac+ system disk.

The process is now complete. You may shut down and reboot the computer with the 800K disk that you just prepared. When you start one of our applications, the program will start to load and then ask for the master. You will have to insert the master once when you start the program.

SETUP FOR 512K MAC AND 800K EXTERNAL DISK DRIVE

The following steps will allow you to set up your 800K disks with Microsoft applications to run on a 512K mac.

1. Start the computer by inserting the new system disk into the internal drive. The system disk must be on a 400K disk and contain a system file (v3.0 or higher), Finder (v5.1 or higher), and an HD 20 file.

2. Insert a blank disk into the external 800K disk drive and initialize it for 800K.

3. Make a copy of the system folder (containing the system, Finder, and HD20 files) onto the 800K disk in the external disk drive.

4. Now eject the system disk from the internal disk drive and insert the Microsoft application disk. (If you are setting this disk up for Microsoft Excel, insert the program disk marked 1 of 2).

5. Copy the program and any other files such as printer drivers, help files etc. to the newly formatted 800K disk in the external disk drive. DO NOT COPY THE SYSTEM FOLDER. You have already copied the system folder from the Mac+ system disk.

The process is now complete. When using a 512K mac with 800K external disk

drive, you must always start the computer with the 400K system disk, containing the system, Finder, and HD20 files) in the internal disk drive. Insert the newly prepared 800K application disk into the external drive and start the application. The system disk in the internal drive will be ejected and the program will ask for the master. After you insert the master, it will be ejected and the internal drive will be free. You will be able to save data files to the internal drive.

NOTE: Apple Computer, Inc. is not responsible for the contents of this article.
Published Date: Feb 19, 2012

Open Transport Patch 1.0.1/1.0.7: Which File Is Updated (10/95)

After applying either the Open Transport (OT) Patch 1.0.1, or Patch 1.0.7, the info dialog box on selected Open Transport files will not be updated from Open Transport 1.0 or 1.0.6. Why hasn't the version number changed and how can I tell which version I have?

This article has been archived and is no longer updated by Apple.

Open Transport 1.0.1 Patch

The Open Transport Patch 1.0.1 patches the Open Tpt Internet Library file located in the System Extensions folder, and does not update the version of either the AppleTalk, or TCP/IP control panel. To see if the patch has been applied, single click on the Open Tpt Internet Library file and select the Get Info command from the File menu.

Open Transport 1.0.7 Patch

The Open Transport 1.0.7 Patch Read Me file states: "When successfully completed, the Open Transport Internet Library and the TCP/IP Control Panel will have been updated to Open Transport version 1.0.7. All other components of Open Transport will remain at version 1.0.6."

After applying the Open Transport 1.0.7 Patch, selecting the Get Info command from the File menu on the files below will report the this version information:

TCP/IP control panel reports: Open Transport 1.0.6, TCP/IP 1.0.7
Open Tpt Internet Library reports: version 1.0.7

Open Transport stays at version 1.0.6, only the versions of the TCP/IP control panel and the Open Tpt Internet Library change to version 1.0.7.

Article Change History:
03 Oct 1995 - Added Open Transport 1.0.7.

Support Information Services
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Plaintalk 1.4.1: Can‘t Install Recognition on 8-bit Mac

When I try to install English Speech Recognition (ESR) on my Performa 5200 or Performa 6200 series computer, I get an error message stating that "English Speech Recognition requires 16-bit sound input. It cannot be used on this Macintosh."
This article has been archived and is no longer updated by Apple.
First, make sure that your computer supports 16-bit sound input:

1. Choose Control Panels from your Apple menu.

2. Open the Sound control panel.

3. Choose "Sound Out" from the "Alert Sounds" pull down menu. If the 16-bit sound input radio button is grayed out, you only have 8-bit input, and English Speech Recognition will not work.

   If 16-bit is not grayed out, make sure there is a dot in the radio button next to it.

4. Use the close box in the upper left corner to close the Sound control panel.

Now you can follow these steps to override the error message and install the ESR software:

1. Restart your Macintosh computer, hold down the shift key on the keyboard until you get the message "Welcome to Macintosh, Extensions Off" screen.

2. Open the ESR 1.4.1 installer either from the floppy disk or the folder you downloaded, ignore the error message you saw before.

3. Select "Custom Install" from the "Easy Install" pull down menu. Make sure the check-box next to "English Speech Recognition Software" has an X in it, then click on the Install button in the bottom right hand side of the window.

4. Restart your Macintosh computer. Plaintalk is ready to use.

5. Under the Apple Menu, choose Control Panels. Click on the button with the question mark on the yellow background to go through an Introduction to Speech Recognition.

Published Date: Feb 19, 2012

AppleShare 4.1: Apple Internet Router 3.0.1 Issue

Since installing Apple Internet Router 3.0.1 software on an Apple Workgroup Server, AppleShare 4.1 fails to launch with the this error message, "coprocessor not installed error".
This article has been archived and is no longer updated by Apple.
AppleShare 4.1 uses a more recent version of the Apple Shared Library Manager (ASLM) than what is installed by the Internet Router.

Apple Internet Router 3.0.1 installs Shared Library Manager 1.0. While AppleShare 4.1 needs Shared Library Manager 1.1.2 or higher.

The issue can be resolved by performing a custom install of AppleShare 4.1 and selecting Shared Library Manager.
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Open Transport 1.0.6: MacPPP 2.2.0 & SLIP/PPP Products (10/95)

I've installed MacPPP 2.2.0 on my Power Macintosh which came with Open Transport 1.0.6 installed, but MacPPP 2.2.0 does not work. Are there other SLIP or PPP products that work with Open Transport 1.0.6? If there are products, please provide a list of those that do work.

This article has been archived and is no longer updated by Apple.

Open Transport 1.0.7 supports the following MacTCP Link Access Modules (mdevs), with these known caveats.

InterSLIP

Version 1.0.1 is not compatible with Open Transport, you need a later version. InterCon should be contacted directly.

InterPPP

Use version 1.2.9 or more recent; may crash when receiving a large graphic file via HTML readers.

InterPPP II

Use the most current version.

MacSLIP

Use version 2.0.6 or more recent. "Connect at System Startup" does not work.

MacPPP

Use version 2.1.1SD or 2.1.2SD. The MacPPP "Open" button does not work; open a connection by opening a TCP/IP application. Due to technical differences between the Open Transport and "classic" networking architectures, existing mdevs used with Open Transport cannot auto-dial, that is, automatically connect to the service provider when launching a TCP/IP application; manual connections are supported. Once a TCP/IP application launches and uses a SLIP or PPP mdev, use of a different SLIP or PPP mdev requires restarting the Macintosh. Power Macintosh 9500 users are strongly encouraged to update older versions of Open Transport to v1.0.7 for improved compatibility. Apple is working with developers to better support existing mdevs. Contact the third party developer of interest for the most recent information on compatibility.

FreePPP

Is a derivative of MacPPP 2.0.1 which provides enhanced support for Open Transport. FreePPP is not an official Merit release, and its name has been changed to avoid confusion with all MacPPP derivatives. It requires System 7.1 or later and a Macintosh that supports Color QuickDraw.

Due to technical differences between the Open Transport and "classic" networking architectures, existing mdevs used with Open Transport cannot auto-dial, that is, automatically connect to the service provider when launching a TCP/IP application; manual connections are supported. Once a TCP/IP application launches and uses a SLIP or PPP mdev, use of a different SLIP or PPP mdev requires restarting the Macintosh.

Power Macintosh 9500 users are strongly encouraged to update older versions of Open Transport to v1.0.6 for improved compatibility. Apple is working with developers to better support existing mdevs. Contact the third-party developer of interest for the most recent information on compatibility.

Applying the Open Transport 1.0.6 to 1.0.7 patch changes this information somewhat. With MacPPP 2.1.2SD, it is now possible to use the "Open" button to start a connection. MacPPP 2.1.2SD is the version we recommend using at this time. We do not recommend using any of the MacPPP 2.2.0x versions.

Here is an excerpt from the "Open Tpt 1.0.7 Patch Read Me":

* SLIP/PPP Configuration Change

When using SLIP or PPP over Open Transport 1.0.7, either with Manual or BOOTP configuration mode, you are no longer required to configure a Router address or a Subnet Mask. When these are not manually configured, they will be generated automatically based on the IP address assigned by the SLIP/PPP server or by the BOOTP server.

In general, it is recommended that these fields be left blank when using SLIP or PPP unless your network manager has specified otherwise. If you do manually configure these items, you must enter a Subnet Mask that places your Router's IP address and your own assigned IP address on the same subnet. If these two addresses are on different subnets, you won't be able to send data to remote hosts.

* Improved SLIP/PPP*Performance

SLIP/PPP throughput performance has been improved by changing the interrupt level at which inbound SLIP/PPP data is processed.

* Networks with more than 256 Zones

The TCP/IP control panel now works correctly with networks having more than 256 zones. Previous versions of the control panel sometimes crashed when selecting a zone on a network with more than 256 zones.

The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.

These articles can help you locate the Open Transport 1.0.6 to 1.0.7 patch mentioned in this article:

* "Where To Find Apple Software Updates" -- Lists online services for free Apple software updates.

* "Obtaining Apple Product Support in the USA" -- Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech Info Library.

Article Change History:
05 Oct 1995 - Updated article with new information, and added FreePPP.

Support Information Services
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Universal Network Access Disk

Is there an updated Universal Network Startup disk that will start up a Power Macintosh 7100/80? Is it technically possible and if so, will we see one anytime soon?
This article has been archived and is no longer updated by Apple.
With the advent of System 7.1, it became impossible to build a start up floppy disk with System 7.1 for any machine, because of the enablers for every new machine. If you wanted something like AppleShare client and Ethernet capability on the floppy, you might be able to build one for a single machine, depending on the size of the enabler for that one machine.

System 7.5 unified all the commonality of every enabler and integrated the functionality into the System file itself. Thus, when System 7.5 was released it became possible to build, through the installer, an enabler-less, start up floppy. Squeezing the associated AppleShare and Ethernet files onto the disk was still a problem.

At that time engineering created the Network Access Disk, 7.5NAD. This was done by some custom trimming of the System file to remove as many resources as possible and compressing some remaining resources. This trimming left the System file still over 1 MB in size, but it freed space for four key files -- the Network control panel, Ethernet driver, Chooser, and AppleShare client -- with just 10 KB to spare.

With the release of the Power Macintosh 7100/80, 8100/100, and 8100/110 computers the first enablers, for System 7.5, appeared to support these systems. PCI-based Power Macintosh computers brought yet again, another enabler to support these systems. We are again heading to where we were before, with System 7.1, the need for enablers. System 7.5.x will have a growth in the number of enablers as more computers are released. The enabler for new computers will not fit on the 7.5NAD floppy based system.

When there is another unifying Mac OS release, the enabler functionality may be reincorporated into the System file again. Then it will take another effort to customize the minimum resources in the System file to allow the key network and sharing access files to also fit on a floppy disk.

Looking at the direction of the Mac OS with Open Transport, the key pieces needed to fit on the floppy now start to include Apple Shared Library Manager and associated files plus new control panels. The task, of a Network Access Disk to support Open Transport, now starts to look pretty daunting.

We may never see another universal floppy disk to start up the entire Macintosh product line. To support both 680x0 Macintosh and Power Macintosh, with NuBus or PCI, may involve a compromise using a couple disks or more, with each disk being one that addresses a subset of all Macintosh computers.

The existing Network Access Disk now supports the first generation Power Macintosh and earlier systems. Later systems (those requiring system enablers) have no comparable choice as of this writing. The best suggestion for starting up an "emergency" system on these later systems, with networking and AppleShare access, is the start up CD-ROM that comes with each system.

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AppleVision or ColorSync Display: Only resolution is 640x480

After connecting an AppleVision 1710 display to the Power Macintosh 7500/100 onboard video port, the only available resolution is 640x480. Also, the sound controls do not seem to work.

The speaker and microphone cables from the monitor are connected to the corresponding ports on the Power Macintosh. I am not using the ADB connector for the monitor because I wanted to connect the keyboard directly to my Macintosh computer.
This article has been archived and is no longer updated by Apple.
The AppleVision or ColorSync Display software uses the ADB cable to sense what kind of monitor is connected to the computer. If the integrated ADB/video cable is not used, the only resolution available is 640x480 and the speaker controls on the front of the monitor will not bring up their corresponding control strip modules. The volume and tone buttons work, but you do not see the levels on your monitor control strip.

If the AppleVision or ColorSync Display is connected without the ADB connector to a Macintosh previously using a display at a resolution higher than 640x480, the monitor displays the higher resolution during the startup process. However, when the desktop displays the resolution resets to 640x480 and does not offer you the ability to change the resolution.

Solution:
Use the integrated ADB/video cable and restart your Macintosh.

If you are still only getting the 640 x 480 resolution, follow the troubleshooting steps below.

Troubleshooting Steps

1. Verify that all cables are securely connected.
2. Verify that the AppleVision or ColorSync extension is installed and loading at startup.
3. Delete the preferences for the Finder and one or more of the following:
   - Sounds & Displays prefs
   - Monitors & Sound prefs
   - Monitors
   - Sound Preferences

     Depending on the computer and version of Mac OS installed you will find one or more of these preference files in your Preferences folder, which is located inside your System folder.
4. Remove the existing AppleVision or ColorSync software from the Extensions folder and discard it. (The file will be named "AppleVision" and may be preceded by a degree sign.)
5. Install the latest version of AppleVision or ColorSync Display software from Apple Downloads.

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Multiplan: Beware when loading files from a nearly full disk

This article has been archived and is no longer updated by Apple.

In Multiplan 1.02, 1.01 and 1.0, if you load a file from a nearly full disk and add enough that it will not fit on the disk, you will get a disk full message when you try to save. You will also lose the original copy on the disk.

What plan does during saving is first erase the old copy, then tries to save the new version. Just use "Save As ..." and save to another disk before quitting. Otherwise you will lose both copies of the file.

NOTE: Apple Computer, Inc. is not responsible for the contents of this article.
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Open Transport: Brief Review of Releases and Updates

This document outlines Open Transport releases and updates. You may locate the Read Me files for later releases in the Tech Info Library using Open Transport and Read Me as your search query.
This article has been archived and is no longer updated by Apple.
Version 1.0 was the initial release of Open Transport and was included with early Power Macintosh 9500 computers.

The Open Transport 1.0.1 patch provides improved compatibility with PPP and SLIP software and other fixes, but it is strongly recommended that all Power Macintosh 9500 customers upgrade to version 1.0.6.

Version 1.0.6 is included with all new PCI-based Power Macintosh computers. Customers who previously bought a Power Macintosh 9500 can get an upgrade to the new software by calling the Apple Order Center.

The Open Transport 1.0.7 patch provides improved compatibility with PPP and SLIP software and other fixes.

This article can help you locate the software update mentioned in this article:

- Article 14724: "**Where To Find Apple Software Updates**" - Lists online services for free Apple software updates.

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MacTCP & Open Transport: Maximum Simultaneous Connections-8/95

How many simultaneous IP connections can MacTCP handle? How many simultaneous IP connections can Open Transport handle?

This article has been archived and is no longer updated by Apple.

MacTCP has a limit of 64 sockets. Simultaneous IP connections under Open Transport will be limited by installed memory and processor power. The following paragraph is from the Open Transport press release, dated 6/20/95:

"Version 1.0 of Open Transport offers backward compatibility with existing networking client applications and significantly upgrades the feature set and performance of TCP/IP on the Mac OS. With the overwhelming acceptance of TCP/IP protocols in the marketplace, and the tremendous excitement and visibility of the Internet, Apple has elected to bring a workstation-class implementation of TCP/IP protocols to the MacOS. Support such as Dynamic Host Configuration Protocol (DHCP), for centralized IP address management; IP multicast, for participation as an MBone client; and simultaneous TCP connections limited only by installed memory and processor power, for increased functionality as an Internet or other TCP/IP network server are just a few of the new features. The architecture that supports Open Transport/TCP is itself based on a direct port of the Unix System V R4 STREAMs environment--a proven, robust and scaleable OS networking technology."

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Power Macintosh 8500: TV Video Option Does Not Disappear (8/95)

On a Power Macintosh 8500, without a television connected to the Video Out, the option to output to television in the Sound and Displays control panel still appears. Because of this, the color options for higher resolutions such as 1152x870 do not provide a choice for millions of colors.

Why is the TV option available when no TV device is connected?

This article has been archived and is no longer updated by Apple.

On the Power Macintosh 8500, the video out circuitry detects the presence of a television and the Mac OS determines the choices available for television output in the control panel. If a television is available, the Mac OS allocates some Video RAM (VRAM) for the TV output device and either mirrors the computer's main display or uses the television as a second monitor.

If the television or other video output device is not attached, but the TV option is available in Sound and Displays control panel, you need to open the unit to check the cable connection.

WARNING:
These directions are provided primarily for Apple Service providers. If you attempt to perform upgrades or repairs yourself, any damage you may cause to your equipment will NOT be covered by your warranty.

IMPORTANT:
Your computer contains electrically sensitive parts. To avoid damaging your computer, discharge static electricity that may be on your clothes or body by touching the power supply case before working with the assembly.

Examine the internal AV ribbon cable and make sure it is attached between the logic board and the external RCA video/sound connectors on the back panel of the computer. The internal ribbon connector must be attached to the logic board for the detection circuitry to operate properly. If the cable is not connected properly to the logic board, the computer assumes a television is available. If the cable is not connected properly, reconnect the internal cable to correct this problem.

Article Change History:
28 Aug 1995 - Added Warning information and clarified the disscussion.

Support Information Services
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PowerShare Admin: Cannot Delete Inverse Group Name Alias (8/95)

I'm experiencing aliases with inverse group names in my PowerTalk catalog which I cannot be deleted from PowerTalk, and I cannot see (inverse alias names) in PowerShare. For example, the group address "Shipping & Receiving", I see an alias "Receiving, Shipping &" in the PowerTalk catalog. I do not, however, see this inverse group alias when using the PowerShare Admin application. How do I delete them?

This article has been archived and is no longer updated by Apple.

Apple has been able to duplicate what you describe. After changing the name of an existing group address, PowerShare will generate an alias like it does with a personal address.

The workaround is to hold down the option key while clicking on Group in the pertinent catalog window. This will display all of the records and their aliases for that catalog folder, letting you select the errant alias and delete it by using the Delete Selected Objects command in the Edit menu.

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Quadra/Centris 605/610/650/700: Frequently Asked Questions

This article contains the answers to frequently asked questions (FAQ) on mid-range Quadra computers, including the Macintosh Quadra 605 and 700, and Macintosh Quadra/Centris 610 and 650.

Questions in this FAQ:

What is an enabler and why do I need one?

What are the expansion options for the mid-range Macintosh Quadra computers?

How do I upgrade the memory on my Macintosh Quadra 605, 610, 650 and 700?

What is an FPU and does my computer have one?

What is 32-bit addressing and when does it need to be active?

What is resetting the PRAM? Do I need to do this often?

Rebuilding the desktop file: what is it and why would I need to do it?

This article has been archived and is no longer updated by Apple.

Question: What is an enabler and why do I need one?

Answer: Rather than create a new version of the system software each time a new machine is released, Apple created system enablers. These enablers contain system software code specific to a particular Macintosh computer. Enablers provide older system software with the information necessary to run properly on a newly released Macintosh.

The Macintosh Quadra 605, 610, 650, and 700 computers do not require an enabler when using System 7.5 or later.

If you are using System 7.1 on these machines, you will need the following enablers:

Macintosh Quadra 605: System Enabler 065
Macintosh Quadra 610: System Enabler 040
Macintosh Quadra 650: System Enabler 040
Macintosh Quadra 700: no enabler

Question: What are the expansion options for the mid-range Macintosh Quadra computers?

Answer: On the mid-range Macintosh Quadra computers, Apple provided several expansion options. One type of expansion slot on all these computers is the processor-direct slot (PDS).

The PDS allows expansion cards to have direct access to the processor. Video, network and accelerator cards, among others, have been created for the PDS slots in Macintosh Quadra models.

Note: Because different Macintosh computers use different processors, there are several implementations of the processor-direct slot; not all PDS cards are compatible with the different PDS types. To ensure compatibility, contact the manufacturer of any PDS card you plan to use.

An additional NuBus expansion slot is present in the Macintosh Quadra/Centris 650 and Macintosh Quadra 700 computers. NuBus is a standard designed by Texas Instruments. It features self-configuration and bus-mastering on a 32 data-bit card. Bus-mastering means a card can take control of the bus, which allows for multi-processor computing. The card self-configures using on-board ROM (Read Only Memory).

The NuBus slot is a one-piece socket (female) connector with two rows of pins. The card has a plug (male) connector that plugs into the socket. This slot type is not compatible with any other slot standard.

Here are the expansion slots available on all mid-range Macintosh Quadra computers:

Macintosh Quadra 605: LC III compatible PDS
Macintosh Quadra 610: PDS or 7-inch NuBus card (requires adaptor)
Macintosh Quadra 650: one 68040 PDS and three NuBus expansion slots
Macintosh Quadra 700: one 68040 PDS and two NuBus expansion slots

Question: How do I upgrade the memory on my Macintosh Quadra 605, 610, 650 and 700?

Answer: TIL article 6784: "**Memory Configurations: Other Desktop Macintosh (4 of 4)**" contains information on upgrading memory.

Question: What is an FPU, and does my computer have one?

Answer: Floating-point Units (FPUs or math coprocessors), such as the 68881/68882, offer the greatest benefit in applications that tend to be

very floating-point (arithmetic) intensive. The specific types of applications that benefit most from an FPU are those that process large amounts of floating-point instructions for precision, and will utilize an FPU extensively. Examples are CAD/CAM, 3-D modeling, scientific applications, and financial applications.

Below is a listing of which Macintosh Centris & Quadra products have a Math Coprocessor (FPU) and which do NOT:

Quadra 605

(NONE of the configurations have an FPU)

Macintosh Centris 610

(NONE of the below configurations have an FPU)

M1345LL/A Macintosh Centris 610 4 MB Hard Disk 80 CPU (no Ethernet)
M1392LL/A Macintosh Centris 610 4 MB Hard Disk 80 CPU
M1397LL/A Macintosh Centris 610 8 MB Hard Disk 230 CPU
M1398LL/A Macintosh Centris 610 8 MB (1 MB VRAM) Hard Disk 230 CPU w/CD-ROM

Macintosh Quadra 610

(first two configurations below HAVE an FPU)

M2098LL/A Macintosh Quadra 610 (512K VRAM) 8 MB Hard Disk 230
M2099LL/A Macintosh Quadra 610 8 MB Hard Disk 230 w/CD-ROM

M2319LL/A Macintosh Quadra 610 (512K VRAM) 8 MB Hard Disk 160 (NO FPU)

Macintosh Centris 650

(first four configurations have an FPU)

M1613LL/A Macintosh Centris 650 8 MB Hard Disk 80 CPU
M1337LL/A Macintosh Centris 650 8 MB Hard Disk 230 CPU
M1279LL/A Macintosh Centris 650 8 MB (1 MB VRAM) Hard Disk 230 CPU w/CD-ROM

M1209LL/A Macintosh Centris 650 8 MB Hard Disk 500 CPU

M1276LL/A Macintosh Centris 650 4 MB Hard Disk 80 CPU (NO Ethernet or FPU)

Macintosh Quadra 650

(ALL configurations have an FPU)

Macintosh Quadra 700

(ALL configurations have an FPU)

If your Quadra 610 has no FPU and you wish to upgrade, you need to purchase a third-party upgrade kit, as Apple does not offer this upgrade.

Question: What is 32-bit addressing and when does it need to be active?

Answer: With 32-bit addressing, you can install and access more than 8MB of physical RAM in the Macintosh. This means you can work with very large data files, very large applications, or many applications concurrently. 32-bit addressing is most attractive to Macintosh users working with large memory-intensive programs. While virtually anyone can benefit from the large amount of memory offered by 32-bit addressing, it will immediately benefit database users, color-graphic users, CAD/CAM users, and programmers.

More technically speaking, 32-bit addressing lets most recent Macintosh models access the entire memory range of the microprocessor.

32-bit addressing is fully implemented in the Macintosh Quadra series. If more than 8 MB of memory (RAM) is installed, the 32-bit addressing option should be turned on in the Memory control panel. If, for example, 16 MB is installed on a Macintosh Quadra 650 and 32-bit addressing is off in the Memory control panel, the system software will appear to take up most of the available memory. The solution to this situation is to activate 32-bit addressing in the Memory control panel and restart.

Question: What is "resetting the PRAM"? Do I need to do this often?

Answer: The parameter RAM (PRAM) is used to keep many settings for the Macintosh. The PRAM keeps track of the date, time, status of serial ports, which printer has been chosen in the Chooser and numerous other settings.

Occasionally, a corrupt setting in the PRAM can adversely affect the operation of the computer. Resetting the PRAM can sometimes return the computer to its normal state.

There is no need to reset the PRAM on a regular, scheduled basis.

To reset the PRAM, restart the computer with the following keys held down at the same time: Command, Option, P and R. Continue holding these keys down until you hear the computer restart (or the screen image flash) two times. Let go of all the keys and allow the computer to start up.

Question: Rebuilding the desktop file; what is it and why would I need to do it?

Answer: The Desktop file is an invisible file found in the main level of your hard drive. It is the file that keeps track of all the documents and applications that are on your hard drive.

The file name is Desktop for versions of System 6 and earlier. System 7.0 and later versions use the invisible files named Desktop DB and Desktop DF.

Occasionally your Desktop file may become too large or may be damaged.

One symptom of a damaged Desktop file is the icons on your desktop appear as generic rather than custom icons. The Desktop file manages all icons on a particular hard drive or floppy disk. When you insert a new or customized icon, the Desktop file may not load it or may load a previous version of the icon. To have the special icon appear on the desktop, the Desktop file must be rebuilt to update the Desktop file and register the icon.

Icons change to generic document (blank page with a corner turned down) or application (diamond with a hand) icons for several reasons, including the following:

- Utilities such as compression or security software can alter icons.
- Custom icons become damaged or deleted.
- The Desktop file has been damaged.
- Applications that create files may not assign icons to the files.
- An application that created a file and assigned an icon may no longer be available.
- A file may have lost the bit that indicates a custom icon (this is known as the bundle bit).

If the Desktop file becomes too large, the computer may have difficulty reading it efficiently and speedily. This can cause the Finder to access files more slowly. Rebuilding the Desktop file can clean up old information and speed up Finder access.

You can also make a file-by-file backup of the drive, re-initialize the drive, and then restore the files. This re-groups all the files, defragments them, and increases the efficiency of the drive.

To rebuild the desktop using System 7.0 through System 7.1.2, follow these steps:

1. Hold the Shift key down while starting up the computer.

2. As soon as you see "Welcome to Macintosh Extensions Off", release the Shift key and hold down the Command and Option keys.

3. Continue pressing the Command and Option keys until you see the dialog that says "Are you sure you want to rebuild your desktop on your disk? All of your info window comments will be lost," release the keys and click OK.

4. Let go of the keys and click on the OK button.

After the desktop has been rebuilt, restart the computer, and all extensions and control panels will be active again.

To rebuild the desktop using System 7.5 or above, follow these steps:

1. Before you rebuild your desktop, use the Extensions Manager to save a record of the extensions that are currently turned on.
* Open the Extensions Manager.
* Open the Sets pop-up menu, and choose Save Set.
* When the Save Set dialog box opens, type a name for your currently selected extensions (for example, 'My Extensions'). When you close the dialog box, the name of your set is added to the Sets pop-up menu.

2. Open the Sets pop-up menu again and choose All Off.

3. Find Macintosh Easy Open in the list of Control Panels and click it to put a checkmark beside it. Close the Extensions Manager.

4. Restart your computer while holding down the Command and Option keys.

5. When you see the dialog that says "Are you sure you want to rebuild your desktop on your disk? All of your info window comments will be lost," release the keys and click OK.

6. When the desktop is rebuilt, open the Apple menu and choose Control Panels.

7. Open the Extensions Manager control panel.

8. Open the Sets pop-up menu and choose the name you gave your set of extensions in step 1 (for example, 'My Extensions').

9. Restart your computer to activate the extensions.

Published Date: Feb 19, 2012

Retrospect: Current Versions

The following article lists the current versions of Retrospect.
This article has been archived and is no longer updated by Apple.
Retrospect, an application for backup and archive of data, comes bundled with any Apple Workgroup Server, including a DAT drive.

Retrospect Versions And Compatibility	
Version	**Compatible Macintosh Computer**
Retrospect 3.0	Works with all Macintosh computers, including Apple Workgroup Server 95 with A/UX
Retrospect 4.0	Mac Plus or greater with System 7 or newer; additional requirements for TCP services.

You can get up-to-the-minute information from Dantz Development Corporation, the maker of Retrospect.

The Tech Info Library article titled "**Locating Vendor Information**" can help you search for a particular vendor's address and phone number.
Published Date: Feb 19, 2012

Multiple Scan 15: Missing/Incompatible ColorSync 2.0 Profiles

There may be some issues with an early version of the ColorSync 2.0 Profile for the Multiple Scan 15 Display. The following article describes the possible issues and the solution.
This article has been archived and is no longer updated by Apple.

Issues:

1) With some applications (such as Photoshop), an error message is being produced which reports the monitor's settings are invalid. In these same configurations, other profiles are working fine and other applications are not having errors with this same ColorSync 2.0 Profile.

2) Some Apple computers, including the Power Macintosh 7200, 7500, 8500, and 9500 series computers, did not ship with the ColorSync 2.0 Profiles installed for the Apple Multiple Scan 15 display.

Solution:

In both cases, obtain the latest ColorSync Profile for the Multiple Scan 15 Display. This profile has been updated and rolled into the version of the currently posted version of ColorSync 2.0 Rev. The "Apple Multiple Scan 15" profile has a modification date of May 31, 1995 while all other ColorSync profiles have a modification date of Mar 23, 1995.

This article can help you locate the software update mentioned here:

- Article 14724: "Where To Find Apple Software Updates" - Lists online services for free Apple software updates.

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Color LaserWriter 12/600 PS: Print Longevity

How sensitive to light is the toner in the Color LaserWriter 12/600? Is it rated as "archival materials" or "light fast"? What other information is available about storing these prints?
This article has been archived and is no longer updated by Apple.
The following information about light sensitivity and proper storage environment was obtained from the vendor that supplies the toner products for the Color LaserWriter 12/600 PS.

The color fades very slightly under normal room light. But if you plan to keep the color printouts for a long period (more than 2 years), put them in a binder. (Sometimes the color appears to change when in fact it is a color change in the paper itself.)

Do not store color printouts together with PVC (polyvinyl chloride) materials such as a clear holder. The toner may melt, causing the paper and the PVC materials to stick together.

Use only non-solvent glues to glue color printouts together.

Solvents will dissolve the toner. Before using a glue, test it on unwanted printouts.

Before inserting any color printout between printed pages, make sure the pages are completely dry; otherwise the ink on those printed pages may cause the toner to melt.

Store color printouts flat. If they are folded or wrinkled, the toner may come off.

Store color printouts in at room temperature. High temperature will cause the toner to melt and colors to mix.

Note: The longevity of printed materials can be affected not only by the environment (light, temperature and chemical exposure), but also by the quality and makeup of the paper supporting the image. The above applies only to the color toners.

Understand that there will be archival differences in the color toners (yellow, magenta, cyan and black); the color layers will probably fade at the different rates. While manufacturers can provide rough estimates on the longevity of their products, they must base such numbers on accelerated tests that may not have an accurate correlation to the real-world storage conditions.
Published Date: Feb 19, 2012

Performa 630CD:Freezes At Start Up Due To Wrong SIMM Type (8/95)

I have a Macintosh Performa 636CD computer. Since I installed a RAM upgrade, the machine boots to a frozen gray screen. I put the same kind of double banked SIMMs in both slots. What is wrong?

This article has been archived and is no longer updated by Apple.

The second SIMM socket can only accept single banked SIMMs, that is, 1MB, 4 MB, and 16 MB. You cannot use double banked SIMMs in the second slot. You can only use double banked SIMMs in the first slot. To fix the problem remove the double banked SIMM from the second slot and restart the computer.

Support Information Services
Published Date: Feb 19, 2012

Apple Remote Access: Extending Default Time Out Limit

I'm trying to make an Apple Remote Access (ARA) connection to a ARA MultiPort (MP) Server that takes a very long time to respond. After about 50 seconds, which seems to be the ARA default time out, I get a message that the connection attempt has failed. Is there any way to extend the 50 second time out limit?
This article has been archived and is no longer updated by Apple.
The time that ARA will wait to establish a connection is set in the CCL (command control language) script for a particular modem. The CCL script can be modified to change that limit, and CCL script editing tools are available from APDA.

Another way to change the time limit is by including some commas to the end of the dialing string. Every comma attached to the end of the number will add approximately 2 seconds to the amount of time ARA will wait before it assumes the connection will not establish itself. Below is an example:

Number: 5551234,,,,,,,,,,

This dialing string will add approximately 20 seconds to the default time, which is usually 50 seconds.

The Tech Info Library article titled "Locating Vendor Information" can help you search for the APDA address and phone number.
Published Date: Feb 19, 2012

Power Macintosh 9500 Series: Video Card Scan Rates

This article describes the video scan rates for the Apple Accelerated Graphics card that ships with the Power Macintosh 9500 Series computers. This article has been archived and is no longer updated by Apple.

The Power Macintosh 9500 Series computers include the Apple Accelerated Graphics Card, based on the mach64 Graphics Accelerator card from ATI Technologies, Inc. The card normally includes 2MB of VRAM (expandable to 4MB via a 2MB VRAM daughter board) and supports resolutions from 512 x 384 to 1,280 x 1,024. The Monitors control panel reads the display sense codes and may not show every scan rate listed below.

Following are the video scan rates supported by the Apple Accelerated Graphics card in the Macintosh 9500/120:

Mode	Resolution	Vertical	Horizontal
VGA	512 x 384	60 Hz	24.4 KHz
VGA	640 x 480	60 Hz	31.5 KHz
Mac	640 x 480	66.7 Hz	35 KHz
Mac	640 x 870	75 Hz	68.8 KHz
SVGA	800 x 600	56 Hz	35 KHz
VESA	800 x 600	60 Hz	37.9 KHz
VESA	800 x 600	72 Hz	48 KHz
VESA	800 x 600	75 Hz	46.8 KHz
Mac	832 x 624	74.5 Hz	49.7 KHz
VESA	1024 x 768	60 Hz	48.4 KHz
Mac	1024 x 768	74.9 Hz	60.2 KHz
VESA	1024 x 768	70 Hz	56.5 KHz
VESA	1024 x 768	75 Hz	60 KHz
Mac	1152 x 870	75 Hz	68.7 KHz
VESA	1280 x 960	75 Hz	75 KHz
VESA	1280 x 1024	60 Hz	65.6 KHz
VESA	1280 x 1024	75 Hz	80 KHz

Note:
The Power Macintosh 9500/132 computer does not ship with the Apple Accelerated Graphics Card. The Power Macintosh 9500/132 requires a third-party (non-Apple) graphics accelerator for display support.

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Intelligent Battery Recondition Software: Read Me

The following article is the ReadMe file for the Intelligent Battery Recondition Software. The software is available from Software Upates online at http://www.apple.com/swupdates
This article has been archived and is no longer updated by Apple.
This document provides information about the Intelligent Battery Recondition software. It is a good idea to read this document now, and keep a copy handy for future reference.

If your PowerBook is connected to a printer, choose Print from the File menu to print a copy of this Read Me. When you are finished reading and printing this Read Me, choose Quit from the File menu to quit the SimpleText application program.

What is the Intelligent Battery Recondition software?

The batteries of the PowerBook 500 series computers are intelligent, which means they have a small microprocessor in them that monitors the batterys status. The system software communicates with the microprocessor and uses the information stored inside it to tell you how much time is left, if the battery is charging, etc. Under certain conditions, the information stored in the battery can become corrupted and cause the system software to incorrectly report the battery status. The Intelligent Battery Recondition software updates this information in the battery and restores normal operation. This software only works on the PowerBook 500 series computers.

Installing the Intelligent Battery Recondition software

The Intelligent Battery Recondition software consists of two parts:
a system extension (Intelligent Battery)
an application (Intelligent Battery Recondition).

To install the Intelligent Battery extension, follow these steps:

Step 1

Drag the extension to the Extensions folder (in the System folder) on your PowerBooks hard disk.

Step 2

Restart your PowerBook.

To install the Intelligent Battery Recondition application, do this:

Drag the Intelligent Battery Recondition application to your PowerBook. You can copy the application anywhere on your PowerBooks hard disk.

When should I use the Intelligent Battery Recondition application?

You should use the Intelligent Battery Recondition application if your PowerBook fails to recognize an installed battery or when a battery will not charge. You can tell if the PowerBook recognizes an installed battery by looking at the battery monitor module in the Control Strip.

If one of these situations occurs, then you need to run the Intelligent Battery Recondition application:

A battery is installed in the right battery bay and you see something like the following in the battery monitor module:

A battery is installed in the left battery bay and you see something like the following in the battery monitor module:

At least one battery installed and you see something like the following in the battery monitor module:

Using the Intelligent Battery Recondition application

To use the Intelligent Battery Recondition application, do this:

Step 1
Make sure the battery you want to update is in the right hand battery bay.

Step 2
Double-click the Intelligent Battery Recondition application icon and follow the on screen instructions. You'll be instructed to insert batteries into the right hand battery bay.

It takes from 7 to 12 minutes to complete the update process. Do not interrupt the application while it is running. Watch for dialogs that require action on your part. Progress messages appear in the Intelligent Battery Recondition application window.

A message appears on the screen telling you when the update process is finished. Click OK to finish the process and automatically quit the application.

IMPORTANT You can quit the application at any time, but quitting before the update process is complete may cause the battery to behave unpredictably.

The application can only update the battery in the right hand battery bay, so if your PowerBook has a battery in the left battery bay, or you have extra batteries for your PowerBook, follow the steps above for each battery.

Getting help

If you find that your batteries arent performing correctly after using the Intelligent Battery Recondition software, contact your Apple-authorized service provider or call the Apple Assistance Center at 1-800-SOS-APPL.
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Multiplan: When headers/footers won‘t print on the LaserWriter

This article has been archived and is no longer updated by Apple.

Multiplan 1.02, 1.01, and 1.0 will not print headers/footers when using U.S. legal. Headers also will not print when printing Wide (with any size paper) on the Laserwriter.

NOTE: Apple Computer, Inc. is not responsible for the contents of this article.
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Megaphone: -17 Error Message (9/96)

When I try to open the Megaphone telephony application, I get an error message that says "An error occurred opening the sound recording driver; an unexpected error has occurred (-17)". Megaphone quits and I go back to the Finder. What should I do?

This article has been archived and is no longer updated by Apple.

Cypress Technologies, the makers of Megaphone, recommend the following to fix this issue caused by one or more corrupted files:

Step 1

Open the System Folder on your hard drive.

Step 2
---
* Global Village Teleport Platinum V Modems:

Open the Preferences folder. Drag the following items to the Trash:

- Cypress Folder

NOTE:
If you wish to retain your contacts, open the Cypress folder and the MegaPhone folder and move the CONTACTS file to the desktop. After restarting the computer, drag the Contacts file back to the System - Preferences - Cypress - MegaPhone folder and replace the new file.

Also, if you want to keep your recorded inbound calls, you should move Voice Mail Sounds out of your System Folder completely and store it some place else on your hard drive. Voice Mail Sounds contains previously recorded calls. If you trash the file, you will lose recorded calls.

- Sound Preferences

* Global Village Telport Gold IIV Modems:

Open the Preferences folder. Drag the following items to the Trash:

- Cypress Folder

NOTE:
If you wish to retain your contacts, open the Cypress folder and the MegaPhone folder and move the CONTACTS file to the desktop. After restarting the computer, drag the Contacts file back to the System - Preferences - Cypress - MegaPhone folder and replace the new file.

Also, if you want to keep your recorded inbound calls, you should move Voice Mail Sounds out of your System Folder completely and store it some place else on your hard drive. Voice Mail Sounds contains previously recorded calls. If you trash the file, you will lose recorded calls.

- Sound Preferences

- Telport Gold Tool Prefs

Step 3

Close the Preferences folder.

Step 4

Open the Extensions folder (within the System Folder).

Step 5
---
* Global Village Teleport Platinum V Modems:

Drag the CRC Teleport Teltool file to the Trash.

* Global Village Telport Gold IIV Modems:

Drag the Telport Gold IIv Teltool to the Trash

Step 6

Close any open windows and insert the Performa system software CD-ROM disc.

Step 7

From the System Folder on the Performa CD, open the Extensions folder.

Step 8

Drag the CRC Telport Teltool file (Platinum V modems) or Telport Gold IIv Teltool file (Gold IIv modems) from the Extensions folder on the Performa CD to the Hard Disk icon.

Step 9

Close all open windows except for the Hard Disk.

Step 10

Drag the CRC Teleport Teltool file (Platinum V modems) or Telport Gold IIv Teltool file (Gold IIv modems) to the System Folder. You will get a message stating that Extension files belong in the Extensions folder. Click OK.

Step 11

Close all windows and choose Restart from the Special menu. When the computer has restarted Megaphone is ready to use.

This article was published in the "Information Alley":
Volume II, Issue 18, Page 15

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

The Tech Info Library article titled "Locating Vendor Information" can help you search for Cypress Technology's address and phone number.

Article Change History:
10 Sep 1996 - Updated information.
01 Apr 1996 - Removed keyword.
29 Jan 1996 - Added Information Alley information.

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Power Macintosh 8500: Logic Board Upgrades

Which Macintosh computers can be upgraded to the Power Macintosh 8500/120?
This article has been archived and is no longer updated by Apple.

The following table lists the Macintosh computers that can be upgraded to the Power Macintosh 8500/120 via a logic board upgrade:

Quadra 800
Quadra 840AV
Workgroup Server 80
Workgroup Server 8150
Power Macintosh 8100/80
Power Macintosh 8100/100
Power Macintosh 8100/110

Order No. M3807LL/A

NOTE: This upgrade will not be available until 2 months after the introduction date of the Power Macintosh 8500 series computers.

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QuickTime 2.0.x: 8-Bit Movies Play Poorly In 24-Bit Mode

I am having issues playing back 8-bit (256 color) QuickTime movies with QuickTime 2.0 using Millions of colors (24-bit). All of the QuickTime movies were created using QuickTime 1.5 or 1.6. If I switch back to QuickTime 1.6, the movies play back properly. I have installed the Apple Multimedia Tuner, but this did not help.

This article has been archived and is no longer updated by Apple.

This issue has been fixed in QuickTime 2.1, you need to use QuickTime 2.1 to correctly play 8-bit movies on a 24-bit display.

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DOS Compatibility Card: Video Signal Brighter In Windows (8/95)

I am using a DOS Compatibility Card with a Multiple Scan 17 Display. Everything seems to work okay in the Macintosh and DOS environments, but when in the Windows environment, all lines are distorted. In particular, vertical lines tend to "bleed" to pink and then white. Only black shows up properly.
This article has been archived and is no longer updated by Apple.
Here is some background that explains the nature of the
problem and provide a reasonable workaround

Background
==========

The video signal for the DOS/Windows image is actually brighter than the
Macintosh image to compensate for the dark image quality that Windows has. The poor image quality of Windows was confirmed by original beta testers for the DOS Compatibility Card. The beta users complained about Windows not being as bright and "crisp" as the Macintosh image. To compensate, the DOS video signal has actually been adjusted so it is brighter (greater signal strength) than the Macintosh video image.

In some cases though, the adjusted difference in brightness can be seen and the Windows video can slightly overdrive the display. The increased video signal strength may create streaks or ghosts of color around icons and other objects in the Windows video image.

Workaround
==========

In configurations where there is ghosting, color streaks or outlines in the Windows video image: switch to Windows; adjust the contrast control of the display down to minimize contrast (this should remove the ghosting or streaks); increase or adjust the brightness for an acceptable display image brightness.

This adjustment should provide an acceptable display for both Macintosh and Windows images.

Support Information Services
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RAM: Difference between 2x32 and 2x36 SIMMs (8/95)

I want to upgrade the random-access memory (RAM) in my Macintosh. I know I need to buy a 72-pin Single Inline Memory Module (SIMM), 80 nanoseconds (ns) or faster. While shopping for memory I have found two different types of SIMMs those composed of a 2x32 chip set and those composed of a 2x36 chip set. What type of SIMM should I use in my Macintosh computer?

This article has been archived and is no longer updated by Apple.

SIMMs composed of a 2x32 chip set have two chips representing 32 bits each. This totals 64 bits, which, divided by 8, results in 8 planar levels. This is the type of memory for which your computer is designed.

SIMMs composed of a 2x36 chip set have two chips representing 36 bits each. This totals 72 bits, which, divided by 8, results in 9 planar levels, indicating that the chip is a parity SIMM. This type of SIMM may also be used in your computer, but the extra bit offers no advantages.

Some older computers used the extra bit to verify the integrity of data transfer. This type of error checking is no longer widely used. The last Macintosh computer to use any type of parity memory was the Macintosh IIfx.

If you use parity RAM, your computer does not perform any differently. Your computer ignores the ninth bit.

Support Information Services
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MAE 2.0: Error Code 1 on HP Installing STREAMS (8/95)

I get an error code 1 on my Hewlett Packard (HP) workstation when trying to build the kernel while installing STREAMS for MAE. Here is what is happening:

/bin/ld: Unsatisfied Symbols
hp_dlpi_intr_plabel (data)
hp_dlpi_wakeup)plabel (data)
error code 1.
This article has been archived and is no longer updated by Apple.
Your workstation has an early version of HP-UX. When you upgraded to a newer version of HP-UX, you updated, rather than do a complete installation. There are two different versions of the liblan.a library that needed to exist in early HP-UX 9.0. This was due to dlpi being released as part of STREAMS and STREAMS was an ISU in 9.0.

The workaround, for STREAMS, is to break into a temporary shell during the 9.0 update, use vi on the dfile file to delete the "dlpi" line, and exit the temporary shell to continue the update. At this point, the kernel should build properly.

To get dlpi back into your system, you need to re-install the STREAMS-DLPI fileset from the STREAMS' product tape. However, re-installation the whole STREAMS product set would be beneficial.

NOTE: There is no way to break into a temporary shell to assist in updating the AppleTalk Kernel Modules. There is no workaround, other than completely installing a later version of HP-UX.

If you have additional questions, please contact Hewlett Packard directly. The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.

Support Information Services
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What is Binhex & Where To Obtain It

This article describes what Binhex is and where to obtain it.
This article has been archived and is no longer updated by Apple.
Binhex is both a set of application utilities and storage protocols developed by Yves Lempereur in 1984 and 1985. You can find Binhex at the following ftp sites:

ftp://ftp.bio.indiana.edu/util/mac/binhex.macbin

ftp://ftp.cc.utexas.edu/depts/AI_ATTIC/HelpDownloading/MacCompactors/BinHex/

Why Binhex

The basic idea behind Binhex is to translate a binary representation of data -- which could be an application program, graphical image, sound, and so on -- into an encrypted text representation of that file.

There are two reasons for doing this:

Many mail programs used on the Internet cannot handle binary transmissions. They were designed for use with text data. So, an application is "binhexed" and included as the text component of the message.

Many mail programs and gateways have size limitations, often less than 50K, and it is sometimes necessary to use an editor to split or combine such files. Since mail header information makes the automatic joining of files difficult; Binhex allows common text editors to be used to join and manipulate such files.

How can you tell if it's a Binhex file

Binhex 4.0 files have a suffix of ".hqx". Binhex 2.0 files have a suffix of ".hex". Binhex 4.0 has been out since 1985, and it is very rare to see any ".hex" files anymore.

A Binhex file can be identified by the first line of the file:

(This file must be converted with Binhex 4.0)

This line is followed by one blank line, followed by the start of the data:

:%@0bBA0SG(0d,Qe`Cbdi0$Bi!%e348GY69"(!*!$",!!N!92!J!!!E-2!,35rrr

The data block begins and ends with a colon.

What are the versions of Binhex

Both versions of Binhex are freeware.

Binhex 4.0 simply converts files into Binhex encoded files and back to the file format it was before.

Binhex 5.0 is a bit more complicated because it deals with "MacBinary" documents. It does not deal with Binhex 4.0-encoded files.

What is a MacBinary document

Macintosh files have two components, a data fork and a resource fork. In addition, they have header information specific to the file system, plus additional information which is stored in the Desktop database. Binhex 4.0 documents take all of this into account, when transferring data from system to system.

But suppose you wish to upload a file to a non-Macintosh computer? Binhex files tend to be larger than the equivalent Macintosh file. In addition, when you manipulate them, you have to go through the encryption and decryption process on each end (upload and download) which can be time consuming, especially if you download many files. The solution is to originally upload the file as a "MacBinary" file, it would be stored online as a simple binary file.

Once it is downloaded, if your communications software supports MacBinary, the file would automatically be re-assembled into a Macintosh file or application. However, if you did not have this kind of communications program -- for example, you download the file to a PC, and then transfer the file to a Macintosh using PC Exchange -- you will have a generic binary document which SimpleText may try to open and produce nonsense.

Binhex 5.0 is intended to address this issue. It converts binary documents back into Macintosh applications or files. It does not translate Binhex 4.0 files. There is, therefore, no advantage to using Binhex 5.0 unless you are facing this unique transfer problem.

Since most online services and communications software will automatically perform MacBinary transmissions (or at least allow the user to select that as an option), it is not generally not necessary to use Binhex 5.0.

UUencode and UUdecode

UUencode and UUdecode were derived in the UNIX environment, and perform a similar function to Binhex 4.0 encryption; they convert raw binary into an alternate text representation. This format is generally not suitable for transferring Macintosh applications, because it does not address differences between resource and data forks, or Desktop issues. In effect, you will only be dealing with information in the data fork.

UUencode and UUdecode are, however, widely used on both UNIX and PC systems, and they are standards. It is likely a user will deal with this format to process data which only has a data fork.

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DOS 3.3: BSAVEing a High Resolution Screen Economically

Since the starting address and length of a binary file are stored as the first four bytes of the file, saving a file with a length of $2000 actually stores $2004 bytes and therefore requires one more sector than $2000 bytes would.

You can avoid using that extra sector when you save a High-Res screen by saving it with a length of $1FF8 instead of $2000.
This article has been archived and is no longer updated by Apple.
To do so, use the following syntax when you save a High-Res screen:

```
10 D$ = CHR$(4)
20 PRINT D$;"BSAVE HIRES-1, A$2000,L$1FF8"
30 PRINT D$;"BSAVE HIRES-2, A$4000,L$1FF8"
```

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ImageWriter LQ: Requires Macintosh Plus Or Later

This article has been archived and is no longer updated by Apple.

Because the ImageWriter LQ must use current versions of:
- the System file (version 4.1 or later)
- the Finder (version 5.5 or later)
- the Chooser (version 3.1 or later)

the ImageWriter LQ should not be used with a Macintosh 512KE, Macintosh 512K, or Macintosh 128K.

Published Date: Feb 19, 2012

Apple Guide: Wrong Recording Sound Guide on 7500/8500 (8/95)

I have a Power Macintosh 7500 computer and I was using Apple Guide to show me how to record a sound. Several steps into the process it asks me to locate the Sound control panel. When I tell it to help me, Apple Guide reports that the Sound control panel does not exist and I should install it from my Macintosh CD. I have been unable to find the Sound control panel anywhere on the compact disc that came with my computer.

This article has been archived and is no longer updated by Apple.

The Apple Guide file that shipped on the Power Macintosh 7500 and 8500 computers has information on how to use the Sound control panel used on earlier System 7 Macintosh computers. The Power Macintosh 7500 and 8500 computers have replaced both the Sound and Monitors control panels with the single Sound & Display control panel. You selected "How do I...record a sound" in the Macintosh Guide window.

You can access the correct Macintosh Guide instruction set by following these steps:

Step 1

Click on the black question mark (?) on the yellow button in upper right corner of your screen and choose Macintosh Guide.

Step 2

Click the Look For button in the upper right corner of the Macintosh Guide window.

Step 3

Type "sound" in the text entry field on the left side of the Macintosh Guide window, press return to start searching.

Step 4

Double-click the "How do I...install or remove an alert sound" phrase.

Macintosh Guide will now walk you through the correct procedures for using the SimpleSound application (in your Apple Menu) and the Sound & Displays control panel to work with sound on your Macintosh.

Support Information Services
Published Date: Feb 19, 2012

MegaPhone for Performa: Telephone Manager Required Message

I have a Macintosh Performa 6200 computer. When I try to open MegaPhone, I get an error message that states: "Telephone Manager 2.0 (or later) is required. Please install the software before launching Megaphone." However, the Telephone Manager Extension is present in the Extensions folder and has not been disabled by the Extensions Manager. What should I do next?
This article has been archived and is no longer updated by Apple.
When the MegaPhone software is installed in your System Folder it places additional resources inside the System suitcase in order to support the Telephone Manager on Performa 5200 and 6200 computers. If you have reinstalled system software using the Restore System Software feature of your Performa CD or a standard System 7.5 upgrade kit, you will no longer have these resources in your system suitcase. When an unaltered System 7.5 system suitcase is present, you will get this error message when you open MegaPhone.

Cypress Research, the publisher of MegaPhone, has posted an updated Telephone Manager Installer (v3.0.3) which updates the Telephone Manager Extension and installs the necessary resources inside the System suitcase.

Note: MegaPhone for the Macintosh is now distributed and supported by Bing Software. If you need technical support, please contact Bing Software directly:

For Power Macintosh users, this Installer eliminates the need to reinstall MegaPhone to solve the problem.
For Performa users, the Installer eliminates the need to "Restore All Software" to solve the problem.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

The Tech Info Library article titled "**Locating Vendor Information**" can help you search for a particular vendor's address and phone number.
Published Date: Feb 19, 2012

Disk Manager 4.0.3: Incompatible With System 7.5.2 (8/95)

I'm having problems installing System 7.5.2 on a third party hard drive. I'm using Disk Manager Mac 4.0.3 to format the hard drive. What am I doing wrong?

This article has been archived and is no longer updated by Apple.

Ontrack Computer Systems, Inc. (the manufacturer of Disk Manager Mac) reports that Disk Manager Mac is not compatible with System Software version 7.5.2.

No additional information is available at this time.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.

Support Information Services
Published Date: Feb 19, 2012

PC Exchange: Will it Recognize Windows 95 File Names?

Will PC Exchange recognize beyond the 8.3 naming convention when extended files names are created on a DOS disk under Windows 95?
This article has been archived and is no longer updated by Apple.
File names longer than 11 characters can be used in Windows 95 and 98. PC Exchange 2.2, which is part of Mac OS 8.1, supports these long file names. Beginning with Mac OS 8.5, File Exchange incorporates the features and functions of PC Exchange.

Prior versions of PC Exchange only support the DOS naming convention, and therefore do not recognize the extended file names implemented with Windows 95. These earlier versions of PC Exchange will display the file's 8+3 character file name that is presented in DOS.

Users of Mac OS 8 may get PC Exchange 2.2 by downloading and installing the Mac OS 8.1 update. We are aware of at least one third-party work around that is currently available for earlier versions of the Mac OS.

Software Architects, Inc. makes a file transfer utility called DOS Mounter 95. This utility has the ability to handle the long files name format of Microsoft Windows 95. Please refer to them for more information on this product.

The Macintosh Products Guide at "**http://macsoftware.apple.com**" can help you search for a particular vendor's address and phone number.

Also, Tech Info Library Article 17159: "**Locating Vendor Information**" can help you search for a particular vendor's address and phone number.
Published Date: Feb 19, 2012

TelePort Gold IIv Modem: Call Arbitration (9/95)

Is the Global Village TelePort Gold IIv internal modem, bundled with the Performa 5200 and 6200 family of computers capable of determining whether an incoming call is a fax or voice call?

This article has been archived and is no longer updated by Apple.

The internal modem bundled with these computers automatically handles arbitration between the GlobalFax and MegaPhone software. To setup the software, so the modem will arbitrate your calls, open the Telephone Setup control panel and select the "Auto-answer incoming calls after 4 rings" option. This selection will direct the incoming call to the appropriate software, whether the call is either voice, or fax.

Use the search string 'megaphone and record' to locate the TIL article "MegaPhone: How to Record Outgoing Message" for additional information on setting up your computer as an answering machine.

Article Change History:
07 Sep 1995 - Added TIL cross-reference.

Support Information Services
Published Date: Feb 19, 2012

QuickTime for Windows 2.0.3: Key Features

This article provides a list of key features found in QuickTime for Windows 2.0.3.
This article has been archived and is no longer updated by Apple.

KEY FEATURES IN QUICKTIME FOR WINDOWS 2.0.3

- New single file QuickTime installer for more reliable installs.
- Support for text tracks.
- Support for MPEG tracks with Sigma Designs Reel Magic Board.
- Support for MPEG file playback via Sigma Designs Reel Magic Board.
- Support for MPEG decompressor Components.
- Support for MIDI Music tracks.
- Support for IMA4 compressed audio.
- Support for Video Hardware frame buffer access Components.
- Player application can copy selected portions of text track and current visuals to clipboard.
- Support for P9000 Graphics accelerator.
- Support for the Cirus Logic CL-GD54xx GUI accelerator.
- Support for the WD 90C33 Graphcs accelerator.
- OLE 1.0 (Object Linking & Embedding). The Movie Player is an OLE server, enabling QuickTime movies to be placed and played in Microsoft Excel 4.0, Word for Windows 2.0, Write, and Word Perfect 5.2 using QuickTime's human interface MCI (Media Control Interface) provides media integration in applications like Windows Media Player, AimTech Icon Author, and Asymetrix Multimedia Toolbook.
- Visual Basic 2.0 is supported with a .VBX file for integration of QuickTime Movies into multimedia applications created with Visual Basic 2.0.
- QuickTime for Windows 2.0.3 supports custom add-in decompressors, such as Intel's Indeo.
- Support for more audio and video card configurations. See PC VIDEO CARD COMPATIBILITY and PC AUDIO CARD COMPATIBILITY for a listing of the audio and video cards which have been tested with QuickTime for Window 2.0.3.

Published Date: Feb 19, 2012

QuickTime For Windows 2.0.3: Read Me

This article contains the QuickTime for Windows 2.0.3 Read Me file.
This article has been archived and is no longer updated by Apple.
QuickTime for Windows version 2.0.3 (Release Notes: 13 June 1995)

QuickTime for Windows 2.0.3 must be licensed for distribution. If you have received QuickTime for Windows as part of an Apple or third-party product, you are licensed to install and use QuickTime for Windows on your computer. You MAY NOT redistribute QuickTime for Windows in any form without a distribution license from Apple Computer. See TO LICENSE FOR DISTRIBUTION in this document for more information.

IMPORTANT INFORMATION
To play on Windows, a QuickTime Movie created on a Macintosh must be saved as Self-contained and Playable on non-Apple platforms. See MAKING MOVIES PLAYABLE ON BOTH MACINTOSH AND WINDOWS for more information.

Sound and video card compatibility is listed under PC VIDEO CARD COMPATIBILITY and PC AUDIO CARD COMPATIBILITY

Not all OLE client applications are supported by QuickTime for Windows 2.0.3

See OLE 1.0 SUPPORT for more information.

Intel Indeo decompressor is bundled. Support for the Indeo codec is provided by Intel Customer Support at 1-800-468-3548. See INTEL INDEO DECOMPRESSOR IS BUNDLED for more information.

WHAT'S IN THIS DOCUMENT

- New features in 2.0.3
- Making movies playable on both Macintosh and Windows
- Product submissions encouraged
- OLE 1.0 support
- Intel Indeo decompressor is bundled
- Macintosh features that are not currently supported
- Minimum PC configuration
- Components of QuickTime for Windows 2.0.3
- To license for distribution
- Where to get QuickTime for Windows today
- Recommended for development
- PC Audio card compatibility
- PC Video card compatibility
- Modifying QTW.INI for compatibility

KEY FEATURES IN QUICKTIME FOR WINDOWS 2.0.3

- New single file QuickTime installer for more reliable installs.
- Support for text tracks.
- Support for MPEG tracks with Sigma Designs Reel Magic Board.
- Support for MPEG file playback via Sigma Designs Reel Magic Board.
- Support for MPEG decompressor Components.
- Support for MIDI Music tracks.
- Support for IMA4 compressed audio.
- Support for Video Hardware frame buffer access Components.
- Player application can copy selected portions of text track and current visuals to clipboard.
- Support for P9000 Graphics accelerator.
- Support for the Cirus Logic CL-GD54xx GUI accelerator.
- Support for the WD 90C33 Graphcs accelerator.
- OLE 1.0 (Object Linking & Embedding). The Movie Player is an OLE server, enabling QuickTime movies to be placed and played in Microsoft Excel 4.0, Word for Windows 2.0, Write, and Word Perfect 5.2 using QuickTime's human interface
- MCI (Media Control Interface) provides media integration in applications like Windows Media Player, AimTech Icon Author, and Asymetrix Multimedia Toolbook.
- Visual Basic 2.0 is supported with a .VBX file for integration of QuickTime Movies into multimedia applications created with Visual Basic 2.0.
- QuickTime for Windows 2.0.3 supports custom add-in decompressors, such as Intel's Indeo.
- Support for more audio and video card configurations.

- Note: See PC VIDEO CARD COMPATIBILITY and PC AUDIO CARD COMPATIBILITY for a listing of the audio and video cards which have been tested with QuickTime for Window 2.0.3.

MAKING MOVIES PLAYABLE ON BOTH MACINTOSH AND WINDOWS

To make a movie playable on a PC, on a Macintosh open a movie file using the Movie Converter utility (part of the QuickTime Starter Kit 1.0) and choose Save As (File menu). In the resulting dialog box, click the radio button labeled Make movie self-contained which tells the utility to sever any links to other movies after incorporating the relevant video into this movie. Also select the checkbox labeled Playable on non-Apple computers. This causes the movie to be saved as a single forked movie. The resulting movie is cross-platform and is still in the QuickTime file format.

Once you save the movie, it will be playable on both Macs and PCs without further translation or file conversion. Before you transfer the movie to a PC, remember to give it a filename thats no longer than 8 characters, plus the extension .MOV for example, MYMOVIE.MOV.

PRODUCT SUBMISSIONS ENCOURAGED

Apple Computer encourages developers of current and intended commercial products which use QuickTime for Windows to send us evaluation copies. For example, products such as CD-ROM titles, Movie clip libraries, applications and utilities are often considered for future co-marketing opportunities. Two copies are requested, one for marketing evaluation and one for technical evaluation. These products will be used to ensure full compatability with future versions of QuickTime for Windows. Please submit with appropriate product and company information to:

QuickTime for Windows Product Submission
Apple Computer, Inc.
1 Infinite Loop, MS: 302-3KS
Cupertino, CA 95014

OLE 1.0 SUPPORT

The QuickTime for Windows 2.0.3 Movie Player is an OLE 1.0 Server. Due to a lack of standards in OLE 1.0 implementation, it is difficult to guarantee support of QuickTime for Windows with all OLE -supporting Client applications. The following products have been tested and compatibility verified. Support for other OLE Client applications cannot be guaranteed.

- Microsoft Windows 3.1 Write
- WordPerfect 5.2
- Microsoft Word for Windows 2.0
- Microsoft Excel 4.0
- Microsoft Multimedia Works for Windows
- INTEL INDEO DECOMPRESSOR IS BUNDLED

Intel's first release of its Indeo decompressor is bundled with this product. Please contact Intel for support and for future updated releases of Indeo. Intel Customer Support is at 1-800-468-3548.

MACINTOSH FEATURES THAT ARE NOT CURRENTLY SUPPORTED

- Capture
- Compression
- PhotoCD
- SMPTE Time codes
- Data references

NOTE: When producing QuickTime Movies, you are encouraged to use advanced features on the Macintosh release of QuickTime. It is likely that features currently unique to the Macintosh will be supported in subsequent releases of QuickTime for Windows.

MINIMUM PC CONFIGURATION

- 386SX at 20 Mhz
- 4 MB RAM
- 80 MB hard disk
- VGA or better display card

- QuickTime provides best quality and performance on cards displaying 32,768 color or more. See the end of this document for a list of tested compatible audio and video cards.
- A Sound card for playback of Movies with sound
- Windows 3.1 or later
- DOS 5.0. MS-DOS 6.0 and 6.2 with and without double space is supported.

COMPONENTS OF QUICKTIME FOR WINDOWS 2.0.3

- DLLs
- Movie Player application and OLE 1.0 server
- Picture Viewer application
- On-line help

TO LICENSE QUICKTIME FOR WINDOWS FOR DISTRIBUTION

Contact:
Apple Software Licensing
20525 Mariani
MS: 38-I
Cupertino, CA 95014
408-974-4667
fax: 408-862-5106
eMail: SW.LICENSE

Please provide the following information to receive a license agreement:

- Contact person
- Mailing address
- Phone number
- Fax number
- Provide a proposal that includes a complete description of the product, how QuickTime for Windows is used in the product, and the distribution plans for the product.

You will receive a QuickTime for Windows License Kit containing the Apple License Agreement and license information.

WHERE TO GET QUICKTIME FOR WINDOWS TODAY

QuickTime for Windows is bundled with various 3rd party products that support QuickTime for Windows such as Movie clip libraries, software applications and CD-ROM titles. Look for the QuickTime for Windows logo on the packaging of products such as these:

- Adobe Premiere 4.0 for Windows
- Macromedia Action 2.5 for Windows
- Macromedia Authorware Pro 2.0 for Windows
- The QuickTime for Windows Development Kit (APDA, #R0453LL/B), provides you with an ISO format CD-ROM that contains the DLLs, sample applications and source code, movie files, on-line documentation, help files and the QuickTime for Windows programmers manual. Six (6) DOS-based disks containing a subset of CD-ROM contents are also available for those without a CD-ROM drive.
- Look for other QuickTime for Windows retail products in 1995.

RECOMMENDED FOR DEVELOPMENT

In addition to the QuickTime for Windows Development Kit, the following is useful in the development of cross-platform QuickTime support.

- QuickTime for Macintosh Development Kit (APDA)
- QuickTime Movie Exchange Toolkit (APDA #R0190LL/A)
- Convert multimedia data created on other workstation platforms to QuickTime Movies playable on a Macintosh.

For development kits contact:

APDA
Apple Computer, Inc.
P.O. Box 319

Buffalo, NY 14207-0319
USA (800) 282-2732
Canada (800) 637-0029
Intl (716) 871-6555
eMail: APDA@apple.com
Compuserve: 76666,2405
America OnLine: APDA
Internet: APDA@apple.com

QuickTime for Windows 2.0.3 Hardware Compatibility List

This document is meant to be an aid to developers who are working with and distributing QuickTime for Windows per their license agreement. The list is by no means comprehensive but has grown substantially over the past year. The Video and Audio Hardware adapters are divided into three basic classifications Supported, Compatible and In-Compatible.

- Supported hardware/driver combinations are those that have been tested as part of the QTW development plan and are considered benchmarks to the product.
- Compatible hardware/drivers are those combinations that have been tested but not as thoroughly as Supported items but appear to function adequately.
- In-Compatible hardware/driver combinations are those recognized as having significant issues in appearance or behavior with QTW.

Another catogory that we've added to our report is Optimized.

Optimized video hardware/driver combination allows QTW to write directly to the video memory speeding up video performance significantly.

Whenever possible the name of the manufacture, product name, driver date or version when known, and depth in the case of video drivers is listed.

Supported Video

Adapter	Driver	Depth	Resolution	Optimized?
Standard VGA	Windows VGA	4	640x350	No
Standard EGA	Windows EGA	4	640x480	No
IBM 8514	Windows	8	1024x768	No
IBM XGA	07/27/92	4	640x480	No
IBM XGA*	07/27/92	16	1024x768	No
ATI VGA XL	04/09/92	4	800x600	Yes
ATI VGA XL	04/10/92	8	1024x768	Yes
ATI VGA XL	04/20/92	16	800x600	Yes
ATI ULTRA	04/22/92	8	1024x768	No
ATI ULTRA	OEM	16	640x480	No
ATI Mach 32	01/05/93	8	640x480	Yes
ATI Mach 32	01/05/93	16	1024x768	Yes
Orchid Iis	03/01/92	8	800x600	Yes
Orchid Iis	03/01/92	16	800x600	Yes
Video 7 VRAM2 ERGO	03/10/92	8	800x600	Yes
Orchid Fahrenheit VA	02/19/93	8	640x480	Yes
Orchid Fahrenheit 1280	08/10/92	8	640x480	Yes
Orchid Fahrenheit 1280	08/10/92	16	800x600	Yes
Diamond Stealth	09/25/92	8	640x480	Yes
Diamond Stealth	09/25/92	16	640x480	Yes
Diamond SpeedStar 24x	04/28/92	8	1024x768	Yes
Diamond SpeedStar 24x	04/28/92	16	800x600	Yes
Diamond SpeedStar 24x	04/28/92	24	640x480	Yes

* NOTE: Only XGA20 supports 16-bit color. Do NOT use the drivers supplied with Windows 3.1. Instead, use the drivers supplied by IBM

Supported Audio

Adapter	Driver	Date	Notes

Creative Labs SoundBlaster Pro	SBPSND.DRV	05/15/92		(1)
Creative Labs SoundBlaster Pro	SBPSND.DRV	02/05/92		(2)
Creative Labs SoundBlaster Pro 16	SB16SND.DRV	04/14/93		
Creative Labs ThunderBoard	SNDBLST2.DRV	03/10/92		
Creative Labs ThunderBoard	SNDBLST2.DRV	05/13/92		
Media Vision ProAudio Spectrum	MVPROAUD.DRV	02/03/93	1.3	
Media Vision ProAudio Spectrum Plus	MVPROAUD.DRV	02/03/93	1.3	(3)
Media Vision ProAudio Spectrum 16	MVPROAUD.DRV	02/03/92		
Media Vision Audio Port	MVAPORT.DRV	04/14/92		(4)
Microsoft Sound System	SNDSYS.DRV	09/21/92	1.0	
Cardinal Technologies Sound Studio	TAPIGSS1.DRV	12/28/92		
Orchid Sound Producer Pro.	PRODUCER.DRV	01/13/93		
Orchid Sound Producer Pro.	PRODUCER.DRV	10/01/92		
Turtle Beach MultiSound	MULTISND.DRV	08/27/92	1.1	
ATI Stereo F/X	SFX.DRV	05/04/92		

Notes:
(1) - This driver has a know bug that effects all Windows applications that use sound where at times a portion of the sound will be repeated several times.

(2) - This driver some times 'sticks' on a sound.

(3) - Make the following modifications to the QTW.INI file.
[Sound]
RequestedRate=22095
ActualRate=22536

(4) - Does not support sound sampled at above 11khz. Make the following modifications to the QTW.INI file.
[Sound]
RequestedRate=11025
ActualRate=11025

Compatible Video

Adapter	Driver Date	Depth	Resolution	Optimized
Actix Graphics Engine Ultra Plus	03/25/93	16	1024x768	No
	03/25/93	8	1024x768	No
	03/25/93	16	800x600	No
	03/25/93	8	800x600	No
	03/26/93	24	640x480	No
	03/25/93	16	640x480	No
	03/25/93	8	640x480	No
ATI VGA XL	08/14/92 1.42	16	640x480	No
	04/20/92	8	800x600	Yes
	04/10/92	16	640x480	Yes
	04/20/92	8	640x480	Yes
	06/25/92	8	1024x768	Yes
	06/25/92	8	800x600	Yes
	07/28/92	16	640x480	Yes
	06/25/92	8	640x480	Yes
ATI VGAWONDER XL24	06/25/92	8	1024x768	Yes
	07/28/92	16	800x600	Yes
	06/25/92	8	800x600	Yes
	07/28/92	16	640x480	Yes
	06/25/92	8	640x480	Yes
ATI Graphics Ultra	08/14/92	4	800x600	No
	08/14/92	4	640x480	No

```
                         06/25/92         8      640x480     No
ATI Graphics Ultra Pro   03/10/92         8      8514/a      No
                         03/13/93         8     1280x1024    Yes
                         03/13/93        16     1024x768     Yes
                         03/13/93         8     1024x768     Yes
                         03/13/93        24      800x600     No
                         03/13/93        16      800x600     No
                         03/13/93         8      800x600     Yes
                         03/13/93        16      640x480     No
                         03/19/93        24      640x480     No
                         03/19/93        16      640x480     No
                         03/19/93         8      640x480     Yes

ATI Graphics/Pro         11/27/92         8     1024x768     No
                         11/27/92        16      640x480     No

Dell 466/M  S3           09/04/92(1.2)    4     1280x1024    Yes
                         09/04/92(1.2)    8     1024x768     Yes
                         09/04/92(1.2)    8      800x600     Yes
                         09/04/92(1.2)    4      800x600     Yes
                         09/04/92(1.2)   15      640x480     Yes
                         09/04/92(1.2)    8      640x480     Yes

Diamond Stealth Pro      12/07/92         8     1280x968     No
                         12/07/92         8     1280x1024    No
                         12/16/92        16     1024x768     No
                         01/06/93         8     1024x768     No
                         12/18/92        16      800x600     No
                         01/06/93         8      800x600     No
                         02/23/93        24      640x480     No
                         01/06/93        16      640x480     No
                         01/06/93         8      640x480     No

Diamond SpeedStar 24     04/14/92         8     1024x768     Yes
                         04/14/92        15      800x600     No
                         04/14/92         8      800x600     Yes
                         04/14/92        15      640x480     No
                         04/14/92         8      640x480     Yes

Diamond Viper VLB        04/27/93         8     1152x900     Yes
                         04/27/93        16     1024x768     Yes
                         04/27/93         8     1024x768     Yes
                         04/27/93        24      800x600     No
                         04/27/93        16      800x600     Yes
                         04/27/93         8      800x600     Yes
                         04/27/93        24      640x480     No
                         04/27/93        16      640x480     Yes
                         04/27/93         8      640x480     Yes
Support for the P9000 was added in QTW 1.1.1.

Genoa Windows VGA 8500   02/16/93         8     1024x768     Yes
                         10/23/92(turbo) 16      800x600     Yes
                         08/24/92        16      800x600     Yes
                         10/28/92         8      800x600     Yes
                         12/01/92(turbo) 24      640x480     No
                         10/14/92        24      640x480     No
                         11/11/92(turbo) 16      640x480     Yes
                         08/24/92        16      640x480     Yes
                         10/28/92         8      640x480     Yes
Support for thge Cirus Logic CL-GD5426 GUI was added in QTW 1.1.1.

IBM XGA2                 07/27/92         8      640x480     No
                         07/27/92        16      640x480     No
                         07/27/92         8      800x600     No
                         07/27/92        16      800x600     No
```

QTW supports IBM XGA2 starting with version 1.1.

Orchid Fahrenheit VA	02/19/93 10:00	16	1024x768	Yes
	02/19/93 10:00	24	640x480	Yes
Orchird VLB (Local Bus)	02/19/93	16	800x600	Yes
	02/19/93	15	800x600	Yes
	02/19/93	8	800x600	Yes
	02/19/93	24*	640x480	No
	02/19/93	16	640x480	Yes
	02/19/93	15	640x480	Yes
	02/19/93	8	640x480	Yes
Orchid Fahrenheit 1280	08/10/92 10:00	15	800x600	No
	08/10/92 10:00	8	800x600	Yes
	08/10/92 10:00	16	640x480	No
	08/10/92 10:00	15	640x480	No
Orchid Pro designer IIs/D 1.1	04/7/92	15	800x600	No
	04/7/92	8	800x600	Yes
	04/7/92	8	640x480	Yes
Orchid Pro II	03/01/92	8	1024x768	Yes
	03/01/92	15	800x600	No
	03/01/92	8	800x600	Yes
	03/01/92	15	640x480	No
	03/01/92	8	1024x768	Yes
Sigma Legend GX	04/01/92(1.13)	8	1024x768	No
	04/01/92(1.13)	8	800x600	No
	03/31/92(1.13)	8	640x480	No
	04/01/92(1.13)	8	640x480	No
Sigma Legend 24X	11/13/92	8	1024x768	No
	11/13/92	16	800x600	No
	11/13/92	8	800x600	No
	11/14/92	24	640x480	No
	11/13/92	16	640x480	No
	11/13/92	8	640x480	No
Matrox 1024	08/21/92 2.07	24	1024x768	No
MiroCrystal 8S	04/13/93	8	1024x768	No
	04/13/93	16	800x600	No
	04/13/93	8	800x600	Yes
	04/15/93	16	640x480	

* Note: Movies shifted to the left, a few pixels in 24 bit mode. Rebooting fixes the issue.

Compatible Audio

Adapter	Driver	Driver Date
Creative Labs ThunderBoard	SNDBLST2.DRV	03/10/92
Creative Labs ThunderBoard	SNDBLST2.DRV	05/13/92
Creative Labs Sound Blaster 2.0(1)		02/16/93
Digispeech PortAble Sound Plus	PRTSND.DRV	04/14/93
IBM M/Audio (2)	ACPA.DRV	0/29/92 11:38
IBM M/Audio (3)	ACPA.DRV	8/28/92
MediaVision Thunder & Lightning (4)	TLWAVE.DRV	08/25/92

```
Notes:
(1) Sound 'Sticks' with this driver.

(2) Adjusting the volume from the Movie Controller may cause the volume to be muted. To restore the volume,
stop and restart the movie.  Sound may skip when resizing window. Sound is played at 44khz by doubling the
samples.

(3) Limited volume control from keyboard.

(4) Make the following modifications to the QTW.INI file.
[Sound]
RequestedRate=22222
```

In-Compatible Video

Video Card	Driver	Bit-Depth	Resolution	Optimized	Notes
ATI VGAWONDER XL24	07/29/92	24	640x480	Yes	(1)
ATG CatsEye/X					(2)
Compaq Q-Vision					(3)
Diamond SpeedStar 24	04/14/92	24	640x480	Yes	(4)
MediaVision					(5)
OmiCorp Texan					(6)
PackardBell					(7)
Sigma WindStorm	08/21/92	8	1024x768	No	(8)
	08/21/92	16	800x600	No	
	08/21/92	8	800x600	No	
	08/21/92	24	640x480	No	
	08/21/92	16	640x480	No	
	08/21/92	8	640x480	No	
Video 7 SPEA 7	OEM				(9)

Notes:

1. In the 24 bit mode (16 Million Colors) Reds and Blues seem to be reversed.
2. Field reports of systems hanging when movies are played with is board.
3. We have field reports that QTW does not work with is card.
4. Movies render as a thin line at the top of the screen in 24-bit mode. All other functions are normal.
5. We have a field report that QTW does not work with the orginal MediaVision video display adapter. The report indicates that the movies sound is played but the movie can not be seen. issue persists when Optimize is set to driver.
6. We have field reports of sound but no movie (video) with this card.
7. We have several field reports dealing with a Packard Bell. Reports of a "shutters" type effect on local bus systems have been noted. The shutters effect is where a few lines of movie can be seen, then a few lines of background, then a few lines of movie, and so on. The reports also state that the image is also shifted down and to the right about 10 pels. Further reports tell of a lack of Movie image when running on Local Bus Packard Bell Machines.
8. QTW has very poor performance with is adapter.
9. We have field reports that the Optimize = Driver must added to the QTW.INI before the movie will appear in the movie window frame. Audio and all other actions seems to be OK with out the change.

In-Compatible Audio

- Media Vision Thunder and Lighting: QTW has very poor throughput with this card.
- Media Vision CDPC: QTW does not work well with is system with movies over 10 seconds in length.
- Media Vision CDPC II: QTW does not work well with is system with movies over 10 seconds in length.

- Sigma Design WinStorm 8/21/92: Very poor QTW performance when running audio and video together.
- Tandy 'Gold Card': Only one unconfirmed report on this line of cards. A developer states that he has a Tandy "Gold Card" and QTW crashed whenever he trys to play a movie. Removing the card seems to fix the issue

MODIFYING QTW.INI FOR COMPATIBILITY

NOTE: Modification of the QTW.INI file should be done at your own risk. Typically one does not need to make any modifications to this file. For some compatibility issues, modifying the file will make video or audio cards work properly, but with reduced performance. Be sure to make a backup of the QTW.INI file before modifying it.

The most common modification to the QTW.INI is to change the [Video] setting to Optimize = Driver. This may resolve severe compatibility issues with a specific video card but will also reduce the performance of Movie playback. Once again, modify at your own risk.

[Video] (in order of priority)
Optimize = Hardware (default)
Driver
BMP
RAW
DIB

[Video Optimize]
This is not used

[Override] // group
DREF = no or yes {NO forces QTW to use the file as self referencing, useful for QT 1.0 files}

[Data Handler]
CDROM Xfer Rate* = [integer] ranges from 100 to 600, where number is in K, default is 328.
CDROM Seek TIme* [integer from 0 to X] where x is 100 to 350 in ms for average seek, default is 200.
CDROM Block Size = [integer, expressed in K] default is 8, range is 1 to 64.
Max Open Files =[integer] default is 64.
Max Consumers = [integer] usually same as Max Open Files. You can have multiple consumers per file.
Max Cache Size = [integer] expressed in K, default is 128, ranges from 64 to 512.
Disk Xfer Rate = [integer] same as CDROM Xfer Rate, default is 300.
Disk Seek TIme [integer] expressed in millisecon s per average seek, default is 35.
Disk Block Size = [integer, expressed in K] default is 16, range is 1 to 64.
Network Xfer Rate = [integer] same as CDROM Xfer Rate, defalut is 250
Network Seek TIme [integer] expressed in millisecon s per average seek, default is 40.
Network Block Size = [integer, expressed in K] default is 16, range is 1 to 64.
Floppy Xfer Rate = [integer] same as CDROM Xfer Rate, default is 18.
Floppy Seek TIme [integer] expressed in millisecon s per average seek, default is 100.
Floppy Block Size = [integer, expressed in K] default is 2, range is 1 to 64.

[Sound]
Requested Rate = [integer] ranging from 5000 to 44000 (has to be exact rate for MPC cards)
Actual Rate = same possible rates as requested

*** Note:** Set dynamically by QuickTime for Windows, based on what it senses as the CD-ROM speed.
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Multiplan 1.02, 1.01 and 1.0: Loading MacTerminal files

This article has been archived and is no longer updated by Apple.

The Apple Mac-terminal communication program seems to add three blank lines to each SYLK file. Then Mac MP cannot load the file. Just delete the first three lines, then it will load properly.

NOTE: Apple Computer, Inc. is not responsible for the contents of this article.
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PowerBook 5300: PC Card Modem Connection Files ReadMe File 5/97

This article contains the an excerpt from the Read Me file included with the PC Card Modem Connection Files on the PowerBook 5300 computers.
This article has been archived and is no longer updated by Apple.
About PC Card Modem Files

The PC Card Modem Files folder contains modem connection files for various PC Card modems that will work with several application programs. If your modem file is not included, please contact your communications software manufacturer to see if your modem is supported.

Using Apple Remote Access with a PC Card modem

Apple Remote Access (ARA) uses modem files (sometimes called connection scripts or CCLs) to get the best performance from some modems. Follow these steps to select your modem file:

Step 1

Insert your PC Card modem.

Step 2

Open the ARA application program.

Step 3

Open Remote Access Setup.

Step 4

Choose your modem from the Modem pop-up menu. If your PC Card modem is not listed, check in the ARA Connection Files folder. If the file for your modem appears, drag it to the Extensions folder (inside the System Folder). If the file for your modem is not listed, try using an existing modem file from the pop-up menu (such as a different model from the same manufacturer). If this doesn't help, you may need to get a connection script from your PC Card manufacturer.

Step 5

Choose the port that your PC Card modem is in. You should see either upper or lower PC Card slot listed. If you don't, make sure your modem is properly inserted. If you insert the PC Card modem in the other slot, you need to reselect the modem port before you can use ARA.

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PowerBook 190 & 5300: Service & Support ReadMe File

This article contains the Service and Support Read Me file that shipped on the PowerBook 190 and 5300 series computers.
This article has been archived and is no longer updated by Apple.
Thank you for purchasing a Macintosh PowerBook computer. You have joined the ranks of millions of people around the world who enjoy using a Macintosh computer.

We at Apple Computer take great pride in building the easiest-to-use computer in the industry. However, if you have questions about your computer, or you need service, there are many helpful resources available to you. A booklet called the "Apple Resource Guide" came in the box with your computer. It describes in detail your computer's warranty as well as resources for service and support.

If you have questions as you work with your computer, you will find answers in the manuals or in the Apple Guide online help that came with your computer.

Other Resources Include

Apple User Groups

Joining a user group lets you learn about using your computer from people who use their Apple computers in all kinds of interesting ways. To contact a user group in your area, call 800-538-9696, ext. 500.

Apple-Authorized Training Providers

These providers offer training courses (from basic to advanced levels) designed to help people get the most from their computers. For more information, call 800-732-3131, ext. 400.

Apple's Worldwide Disability Solutions Staff

This group is committed to making computer resources available to people with special needs. Call 408-974-7910 or 408-974-7911 (TDD).

Service and Support

If you think your computer might require service or have problems with system software, please consult the troubleshooting section of the manual that came with your computer or call 800-SOS-APPL (800-767-2775).

Third-party Software Support Phone Numbers

This is a listing of customer support phone numbers for the companies which produce the software included with your Macintosh. If you experience problems with the software, please contact the software developer directly, rather than Apple Computer. This will greatly speed resolution to your question.

Software Application	Publisher	Customer Assistance Number
MacLink Plus/Easy Open Translators	DataViz	(203) 268-0030
Super Maze Wars or Spin Doctors	Callisto	(508) 655-0707
Eric's Ultimate Solitaire Sampler	Delta Tao	(408) 730-9336
Adobe Acrobat	Adobe	(206) 628-2757
ClarisWorks (PowerBook 190 only)	Claris	(408) 727-9054

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Disk Image Mounter: ReadMe File (8/95)

This article contains the Read Me file included with the Disk Image Mounter Utility that shipped with the new PowerBook 5300 and 2300 computers.

This utility makes it possible to mount the disk images included with these PowerBooks and complete a floppyless installation of software.
This article has been archived and is no longer updated by Apple.
Using Disk Image Mounter

What is a disk image?

A disk image is a discrete electronic representation of an individual disk. The Disk Images folder in the Floppy Disk Maker folder on your hard disk contains the disk images you need to create installer disks for both your system software and the other software that comes on the hard disk.

Using disk images to install software

When you use Floppy Disk Maker, it copies the disk images onto floppy disks. You use these disks to reinstall the software that comes on your computer. If you dont have the floppy disks you made with Floppy Disk Maker and you still have the disk images that came on your hard disk, you can use Disk Image Mounter. Disk Image Mounter is an application program that mounts disk images on your desktop. Once mounted, you can install software from the disk images.

To install software from disk images, follow these steps:

1. Double-click the Installer file for the application program you want to install.

2. Follow the instructions on the screen.

As long as you did not delete the disk images from your PowerBooks hard disk, Disk Image Mounter will mount the necessary disk images on the desktop and install the software from the images. If you quit in the middle of the installation process, the disk images may still be mounted on the desktop. To unmount a disk image, drag it to the Trash.

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Support Information Services

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QuickTake: Cable Pinouts

This article provides the pinouts for connecting a QuickTake camera to a MS-Windows computer.
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1) Cable pinouts for the QuickTake 150, Windows connection kit from a DB9 to DB25 cable adapter:

DB9 (socket)	DB25 (plug)	Signal
1	8	DCD
2	3	RxD
3	2	TxD
4	20	DTR
5	7	SG
6	6	DSR
7	4	RTS
8	5	CTS
9	22	R1
Shell	Shell	Shield

2) Cable pinouts for the QuickTake for Windows from a Mac Din 8 to PC DB9 Serial cable:

Mac Din 8		PC DB 9	
Pin	Signal	Pin	Signal
1	DTR	1	DCD
2	DSR	2	RxD
3	TxD-	3	TxD
4	SG	4	DTR
5	RxD-	5	SG
6	TxD-	6	DSR
7	DCD	7	RTS
8	RxD+	8	CTS
-	-	9	RI

3)Macintosh and PC connector pinouts: (not a cable pinout)

Macintosh Connector		PC Connector	
Pin	Signal	Pin	Signal
1 *	-	1 *	-
2,7	DSR	4	DTR
3	TxD-	2	RxD
4,8	SG	5	SG
5	RxD-	3	TxD
6 *	-	6,7,8 *	Jumpered together
-	-	9 *	-
* = No Connection			

Note: Depending on the DB9 port on the PC, the connector you use may be either a plug, or socket DB9.

4) Getting replacement cable for QuickTake 150 to DOS/Windows computer:

The communication cable, which shipped with both the QuickTake 100 and QuickTake 150, is available as an Apple service part. Depending on the serial port configuration on your Windows computer, you may need an adapter. You can purchase these parts from your local Apple service provider.

Cable name	Apple P/N	Description

Din-8 to DB9	922-0676	Connects the QuickTake 100 and QuickTake 150 camera to DOS/Windows computers with DB9 serial port.
DB9 to DB25 Adapter	922-0675	Adapter for DOS/Windows computers with DB25 serial port. Use this adapter in conjunction with the Din-8 to DB9 cable.

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LaserWriter v.3.0 for Windows: Printers Supported

What printers are installed with the LaserWriter Printer software 3.0 for Windows?
This article has been archived and is no longer updated by Apple.
The LaserWriter Printer Software 3.0 for Windows installation disks shipped with the Color LaserWriter 12/600 PS. This software was also posted online, but has since been replaced by a newer version of the software.

The three disk set included the Adobe PostScript driver and some Apple PPDs. The following printers are part of the installation:

Adobe Default Printer
Apple Color LaserWriter 12/600
Apple LaserWriter 16/600 PS
Apple LaserWriter Pro 600
Apple LaserWriter Pro 630
Apple LaserWriter Select 360
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PlainTalk Microphone: Don‘t Use To Connect Other Devices (8/95)

I'm having trouble finding an adapter to connect my line-level home stereo equipment to my Power Macintosh 6100. Can I cut the microphone off my PlainTalk microphone and use the cable to connect my line-level equipment?

This article has been archived and is no longer updated by Apple.

Using the cable from a PlainTalk microphone to connect another recording device is unsupported, voids your warranty, and can cause irreparable damage to the logic board on some Macintosh computers.

The microphone port on all Macintosh Computers that use the PlainTalk microphone is a standard stereo 3.5mm stereo plug. The Plaintalk microphone has an extra 1/4 inch on the tip to get +5 volt power from the logic board. It is also a mono plug, so the rubber rings on it do not match a stereo plug. The microphone plug has 2 separators. The one near the end is used to isolate the power at the tip. This can be confusing to those who think that our port is longer and has non-standard spacing for the left and right channels.

To connect an RCA equipped line-level device such as a VCR or home audio equipment to your Macintosh, a standard RCA to 3.5mm stereo adapter cable can be used. An example of this is a 6 foot stereo mini to RCA cable available from most electronic suppliers.

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Multiplan 1.02, 1.01 and 1.0: Saving large clipboard

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The "saving large clipboard" dialog comes up any time you have more than 50 cells in the clipboard. If you have more than 100, both the check boxes are off, otherwise both are on. You never get one off and one on. If you save Formatted, you get a TEXT scrap--complete with dollar signs, etc. If you save unformatted you get a value scrap--the raw numbers to the best accuracy plan can produce (for pasting to Chart or BASIC).

When running Multiplan and EXCEL through the Switcher, you must select a large enough area to get this dialog box in order to get the information into the clipboard and copy it to Excel. Otherwise it will not enter the clipboard when you switch applications.

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PhotoFlash 2.0: Type 11 Errors on PCI-based Power Macs (9/96)

Whenever I click on the Enhance menu in PhotoFlash 2.0 on my Power Macintosh 9500, I get a Type 11 error. What is wrong?
This article has been archived and is no longer updated by Apple.
This error may occur on any PCI-based Power Macintosh including the Power Macintosh 5400/7200/7500/7600/8500/9500, and Performa 6400 computers.

This problem is resolved in the PhotoFlash 2.0.1 update, which is available from online services.

NOTE:
The QuickTake 150 software v.2.0.1 installs PhotoFlash 2.0. The version of PhotoFlash must be 2.0.1 to work properly with PCI-based Power Macintosh computers. Use the Get Info from the file menu to determine the version of PhotoFlash you have installed.

What is Included in the Update

The update is a self-extracting archive containing an installer application. When you double-click the installer icon, a dialog prompts you to find the PhotoFlash application. You need to highlight the PhotoFlash application, then click continue.

These articles can help you locate the PhotoFlash software update mentioned here:

* "Where To Find Apple Software Updates" -- Lists online services for free Apple software updates.

* "Obtaining Apple Product Support in the USA" -- Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech Info Library.

Article Change History:
19 Sep 1996 - Added information on QuickTake 150 and Update.
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Macintosh 5200 Series: VRAM not expandable (8/95)

Can I expand the VRAM on my Macintosh Performa 5200?

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The Performa 5200 series and the Power Macintosh 5200/75 do not implement VRAM. These systems store video data in a 1 megabyte (MB) DRAM frame buffer (separate from RAM) and no further video memory expansion is supported.

If you need a display with more VRAM, you can install a third-party video card in the processor-direct slot (PDS).

The following computers are in the Macintosh Performa 5200 series: Performa 5200 and Performa 5215.

Support Information Services

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Apple Video, Video/TV, and Presentation Systems

This article describes the Apple Video System, the Apple Video/TV System, Apple TV/FM Radio System, and the Apple Presentation System. This article has been archived and is no longer updated by Apple.
The following table lists the Macintosh Computers that can take advantage of the Apple Video System, the Apple Video/TV System, Apple TV/FM Radio System, and the Apple Presentation System:

Computer	Systems
Power Macintosh 5200/75 LC	All
Macintosh Performa 580	All except Video/TV
Macintosh Performa 630 series	All
Macintosh Performa 640CD DOS Compatible	All
Macintosh Performa 5200 series *	All
Macintosh Performa 6200 series	All
Macintosh Quadra 630	All except TV/FM
Macintosh LC 630	All except TV/FM
Macintosh LC 580	All except Video/TV and TV/FM
* The Macintosh Performa 5200 series and the Power Macintosh 5200/75 LC require the Apple External Video Connector (M4099LL/A) in order to use the Apple Presentation System.	

Apple Video System (M2894LL/D)
This multimedia solution comes with a user-installable video card and software that lets you easily add still video images to the documents and presentations you create on your Macintosh computer. The video card allows you to connect a VCR, camcorder, laserdisc player, or other video source to your computer with a single cable.

Compatible Computers:

- Quadra 630
- LC 580, 630
- Power Macintosh 5200, 5300, 6200, 5400, and 6300 series
- Performa 580, 630 series, 640 CD DOS Compatible, 5200 series, 6200 series, 6300CD, and 6320CD

Note: Apple has revised its video-in card (and the part number) to make the card more compatible with Power Macintosh computers. Earlier video-in card kits (with part numbers ending in /A, /B, or /C) are not recommended for use with Power Macintosh and/or Macintosh Performa 5200 series computers.

Apple Video/TV System (M2896LL/C)
The Apple Video/TV System gives your computer the capabilities of the Apple Video System, and more--it also allows you to watch television programs in a window on your Macintosh, and work on documents simultaneously. The Apple TV/Video System comes with a video card, TV Tuner card, remote control, and software.

- Compatible Computers:
- Quadra 630
- LC 630
- Power Macintosh 5200/75LC, 5260/100, 5260/120
- Performa 630 series, 640 CD DOS Compatible, 5200 series, 6200 series, 6300CD, and 6320CD.

Note: The Macintosh Performa 5200 series and the Power Macintosh 5200/75 LC require the Apple External Video Connector (M4099LL/A) in order to use the Apple Presentation System.

Apple Presentation System (M2895LL/A)
The Apple Presentation System makes it easy for you to create a presentation on your Macintosh, then display it to an audience on a larger television screen exactly as it appears on your Macintosh display. You can also connect your Macintosh to a VCR and record your presentation on videotape for easy and inexpensive distribution. The Apple Presentation System comes with software, cables, and video converter box. Unlike the Apple Video and Apple Video/TV systems, the Apple Presentation System can be used with any Macintosh that has a VGA or Apple 13/14-inch RGB output. This list includes, but is not limited to, any PowerBook with VGA or Apple 13/14-inch RGB output, Macintosh LC, Performa

400-600 models, Centris, Quadra, or other Macintosh systems with VGA video out.

Apple TV/FM Radio System (M4586LL/A)
The Apple TV/FM Radio System consists of a plug-in card with TV and FM radio tuners, plus easy-to-use control software. Connectors on the back of the tuner card let you attach cable TV or antenna feedlines. An FM antenna is included. The Apple TV/FM Radio System works with the Apple Video System*** to help you perform powerful multimedia tasks easily. Just click to capture and save still frames, video clips, or audio. Then simply paste the saved items into presentations, reports, and letters to make them really come alive. Audio and video can be played back with any application that supports Apple's QuickTime multimedia technology.

Note: The Apple TV/FM Radio System requires a Macintosh Performa or Power Macintosh computer with a video-in card. While some Macintosh Performa and Power Macintosh computers come with a video-in card pre-installed -- like, for example, the Power Macintosh 5400/120 -- most will require the purchase of the Apple Video System (M2894LL/D).

Compatible Computers:

- Performa 5400/160, 6360/160, 6400/180, 6400/200
- Power Macintosh 5260/120, 5400/120, 5400/180

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Performa 640 DOS Compatible: Adding Memory (8/95)

I would like to upgrade the memory in my Performa 640 DOS Compatible computer, for the computer itself and the DOS card. How do I do this?

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Different RAM Expansion Slots
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The Performa 640 DOS Compatible computer ships with 8 MB of on-board memory and is expandable to 52 MB (for
68040 mode). This is achieved by installing one 32 MB SIMM in the double-sided slot and 16 MB in the single-
sided slot. (The dimensions for each slot are printed on the logic board.)

It is possible to have other configurations greater than 8 MB and less than 52 MB. One must remember however,
that the single-sided slot must always be half the value of the double-sided slot. For instance, a 16 MB SIMM
can be inserted in the double-sided slot and an 8 MB SIMM in the single-sided slot.

DOS Card Memory
---------------
The plug-in DOS card ships with 4 MB of RAM and is expandable to 32 MB. The DOS Card contains 1 SIMM slot. The
upgrade is achieved by removing the 4 MB SIMM and installing (at the largest) a 32 MB SIMM.


Support Information Services
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Launcher: Can I Change the Colors?

How can I change the background and button colors in the Launcher control panel?
This article has been archived and is no longer updated by Apple.
The colors are preassigned to the buttons in alphabetical order of button title and cannot be changed. The colors will appear in the following order: light blue, pink, light green, orange, blue, dark green, yellow, and red.
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Power Macintosh 8100: Memory Sizing Algorithm

The Power Macintosh 8100 requires memory be installed in like sized pairs.
This article has been archived and is no longer updated by Apple.
If you do not install the RAM in the correct pairs, the system will think you have more RAM than you actually do. In this case, you have two 16 MB SIMMs and two 4 meg SIMMs, which would normally give you 48 MB of RAM. However, if you insert these as 16, 4, and 16, 4, the system will think it has 32 + 32 + 8, or 72 MB of RAM total. Improper installation of the RAM can cause various system errors such as you are experiencing.

The Power Macintosh memory sizing algorithm looks at the highest capacity memory the SIMM bank can handle. It then assumes that both SIMMs are the same size. If one is not correctly (equally) sized, then the computer will present you with a system error as soon as your system and application memory usage goes beyond the 8 MB memory that is on the logic board.
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DOS Compatibility Card: Windows 95 Compatibility

Does DOS Compatibility Card support Windows 95?
This article has been archived and is no longer updated by Apple.
Apple's Software Quality Assurance team has determined that, based on test results from running Microsoft's official Windows 95 System Compatibility Tests, the following cross-platform Macintosh systems are compatible with Windows 95 when configured with a minimum of 8MB of RAM for the Windows 95 environment:

- Power Macintosh 6100/66 DOS Compatible
- Macintosh LC 630 DOS Compatible
- Macintosh Performa 640CD DOS Compatible
- DOS Compatibility Card for Power Macintosh 6100 and Performa 6100 Series

In addition, customers have had the ability to create separate drive containers on Apple's cross-platform Macintosh systems from the beginning. This feature provides additional value today for those customers who want the option of retaining their current Windows 3.1 environment in one drive container, while installing Windows 95 in another one, allowing them to easily select either drive container as the boot drive using the PC Setup control panel--all on a single personal computer.

By providing compatibility with software developed for the Mac OS, MS-DOS 6.22, Windows 3.1, or Windows 95, Apple's cross-platform Macintosh systems "stand out by fitting in"--enabling customers to run more applications on a Macintosh than on any other mainstream personal computer.

DOS Compatibility Card Questions and Answers

Question: Are Apple's cross-platform Macintosh systems compatible with Windows 95?

Answer: Yes, based on test results from running Microsoft's official Windows 95 System Compatibility Tests, Apple's Software Quality Assurance team has determined that Apple's cross-platform Macintosh systems are compatible with Windows 95.

Question: Are Apple's cross-platform Macintosh systems compatible with the "Plug-and- Play" specification?

Answer: Like any legacy PC system that shipped prior to the availability of a Plug-and-Play BIOS, the above systems do not pass those specific Windows 95 System Compatibility Tests that require conformance to the "Plug-and-Play" specification. However, unlike other legacy PCs, Macintosh personal computers have delivered full plug and play capabilities for years. In addition, Apple's cross-platform Macintosh systems come preconfigured with features that often require users to plug in a separate card, frequently with configuration problems, on a PC, such as Sound Blaster 16-bit sound capabilities.

Question: Are Apple's cross-platform Macintosh systems compatible with Windows for WorkGroups 3.11?

Answer: Yes, Apple's cross-platform Macintosh systems are compatible with Windows for WorkGroups 3.11. Apple continues to support network client software via the Open Data-Link Interface, or ODI (used in Novell Netware 3.x/4.x, TCP/IP client software). While native NDIS support is not supported today, Apple expects to provide this capability in the future. Many customers are successfully using ODI-to-NDIS shims today, even though, as with any software translation layer, performance is not optimized.

Question: Can I use shared memory (allocating a portion of Macintosh main logic board memory in the PC Setup control panel) when running Windows 95?

Answer: Yes, and given the system requirements of Windows 95, Apple recommends a minimum of 8 MB of RAM. Of course, installing at least 8 MB of RAM directly on the DOS Compatibility Card will provide even better performance when running MS-DOS and Windows applications.

Question: How should I configure Windows 95 for printing on Apple's cross-platform Macintosh systems?

Answer: Since Apple's current cross-platform Macintosh systems do not have a physical PC parallel port, and therefore do not support bi-directional parallel port functionality, Apple recommends that users configure Windows 95 for printing as follows:

1. Open My Computer, open Printers, and add a printer.
2. Open the printer that has been added by double clicking on the icon from the Printers folder.
3. From the Printer menu, choose the item called Properties.
4. In the Properties window, select Details, and then select Spool Settings.

5. In Spool Settings, disable the bi-directional port.

Question: What about networking support on Apple's cross-platform Macintosh systems?

Answer: Apple continues to support network client software via the Open Data-Link Interface, or ODI (Novell Netware 3.x/4.x, TCP/IP client software). While native NDIS support is not supported today, Apple expects to provide this capability in the future. Many customers are successfully using ODI-to-NDIS shims today, even though, as with any software translation layer, performance is not optimized.

Question: Since Windows 95 makes more use of 2-button mouse functionality, is that supported on Apple's cross-platform Macintosh systems?

Answer: Yes, Apple's cross-platform Macintosh systems let users mimic the functionality of the right mouse button by hitting the "=" key on the numeric keypad. For those users who want to use a real ADB multi-button mouse with Windows 95, several products are available from third-party companies such as Logitech (Logitech MouseMan ADB) and Kensington (Kensington Turbo Mouse 4.0 or Kensington Thinking Mouse ADB).

Question: When I installed Windows 95, the copy-and-paste functionality between the Mac OS and Windows environments stopped working. Is there a workaround?

Answer: Windows 95 made changes that negated the ability to copy-and-paste data between applications running in the Mac OS and Windows 95 environments. While Apple expects to provide the capability to copy-and-paste between the Mac OS and Windows 95 environments in the future, there are a couple of workarounds today. First, Macintosh PC Exchange and Macintosh Easy Open continue to make it easy for customers to identify, and automatically launch, Mac OS applications to open documents saved in the most popular PC formats. Second, users can create separate drive containers--one with the Windows 3.1 environment and one with the Windows 95 environment--and work within the Windows 3.1 environment when they need to copy-and-paste data between the Mac OS and Windows environments.

Question: My Windows 3.1 configuration files (AUTOEXEC.BAT and CONFIG.SYS) assume Microsoft's CD-ROM driver, MSCDEX, is in the C:\\DOS directory. Where is MSCDEX located when I install Windows 95?

Answer: In Windows 95, MSCDEX is located in the Windows:Commands directory.

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Multiplan 1.02, 1.01 and 1.0: Printing selections w/page breaks

This article has been archived and is no longer updated by Apple.

If you try to print out a selection only and there is a page break within the selection then it will break at the page break and printout on separate pages.

NOTE: Apple Computer, Inc. is not responsible for the contents of this article.
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RAM Disk: With Virtual Memory or RAM Doubling Software

I have 8 MB of physical RAM installed and would like to have a 12 MB RAM Disk. Is it possible to use Virtual Memory or RAM Doubler to increase my available RAM to 24 MB and use a 12 MB RAM Disk?

This article has been archived and is no longer updated by Apple.

Virtual Memory as well as RAM "doubled" programs like RAM Doubler can not be allocated for use as a RAM Disk. The RAM Disk option only addresses built-in physical RAM and will simply ignore any RAM that is Virtual Memory or created by software.

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Newton Connection: Multiple Sync Folders

I synchronize my MessagePad 120 every couple of days, with my computer using the Newton Connection Kit 2.0. I noticed that in the Newton Connection folder, I have three folders "My Name's Newton", "My Name 1's Newton" and "My Name 2's Newton". I can tell by the last modification date that the "My Name 2's Newton" folder contains the most current files, but why do I have three folders?
This article has been archived and is no longer updated by Apple.
You are correct in assuming that "My Name 2's Newton" contains the most current synchronization files. Another way to find the most current set of sync files is to check the creation date on the folder. The most recently created folder has the most recent creation date. The folder should also have the highest "user name x's" number.

The MessagePad has a unique identification code that is not apparent to the user. This identification code is used by the Newton Connection Kit to ensure synchronization occurs between the MessagePad and the appropriate files which have matching identification numbers.

If the MessagePad is erased, a new identification number is created on the MessagePad. The next time the Newton Connection Kit synchronizes, the identification code on the MessagePad does not match the identification code on the previous synchronization files, so a new set of files, with the same name and a numerical suffix added, are created.

Before throwing away the older synchronization files, you may want to copy the information out of the old Archive files, and paste it into the new Archive file. This is not necessary if you do not want to keep track of the data that has been removed from the MessagePad.

Once you have removed the previous synchronization files, you can delete the number 2 from the name of the current synchronization files to avoid any confusion.
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LaserWriter Select 300: LEDs Don‘t Indicate Out of Paper (9/95)

On a LaserWriter Select 300, the LEDs do not light when the paper is out or when there is a paper jam. It will return the error through the driver to the computer when an error is detected. The error light can be manually tripped so the hardware is working correctly. Is this a function of the driver?

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This is correct. The LED functions of the LaserWriter Select 300 are controlled by the software driver. Under normal operating conditions, the LED will not report an error of this sort. The error will only be reported via the software driver. It sounds as if the customers printer is functioning normally.

Replacement of parts would be futile in attempts to resolve this as it is considered normal operation.

Support Information Services
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Newton Connection: Sync Files with Same Dates

I have three folders "My Name's Newton", "My Name 1's Newton" and "My Name 2's Newton" in my Newton Connection folder. I understand how these folders get created when the unique identification code on the MessagePad gets changed. What I have noticed is that some of the files even within the older synchroniation folders have had there modification dates changed to concide to the most recent synchronization.

Evidently, the Newton Connection Kit is not just searching for the highest numbered folder. Are these older files actually being changed? I thought they were safe. Does the Newton Connection search the whole hard drive? Why does this happen anyway?
This article has been archived and is no longer updated by Apple.
The Newton Connection will only search through folders that recide within its folder. It looks for folders whose name contains the user name in the MessagePad. It will not search the whole hard drive or ask the user to locate the sync file. If the folder is moved or renamed, NCK will create a new one.

When the Newton Connection finds a folder whose name contains the user name, it opens the "user name's Newton" file. This is done to compare the ID number stored in the file to ID number in the MessagePad. This changes the modification date of the file. If the numbers are the same, NCK uses this file.

Newton Connection continues the above process until it has found the correct synchronization file or runs out of folders. If it can not find the correct sync file, it creates a new folder and sync files.

The only files where the modification dates are the same are the Newton files. The archive, backup and card files are not touched so their modification dates are different and can be used to find the latest sync files.

Another way to find the most current sync files is to check the creation date on the folder. The most recently created folder has the most recent creation date. The folder should also have the highest "user name x's" number.
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Apple II: Transferring Files To a Macintosh (9/95)

This article provides instruction on converting Apple II files to MacWrite files using Bank Street Writer.
This article has been archived and is no longer updated by Apple.
To convert Apple II Bank Street Writer word processor files into Macintosh MacWrite files follow these steps.

Step 1

Use the System Utility option within Bank Street writer to convert the binary Bank Street Writer documents to ProDOS 3.3 ASCII text files. This must be done for each file that you intend to transfer to the Macintosh.

NOTE:
Make sure that the names of the files contain only the letters (A-Z), no numbers or other marks.

Step 2

Use the ProDOS System Utilties Diskette to copy the DOS 3.3 ASCII text files that you have created to a ProDOS formatted disk. (You will need your original DOS 3.3 disk, and a new disk that has been formatted with ProDOS.)

Step 3

Use an Apple II computer that is equipped with both a 5 1/4" disk drive and a 3 1/2" disk drive. Again, use the ProDOS System Utilities disk to copy the files from the 5 1/4" disk to a ProDOS formatted 3 1/2" disk.

Step 4

Use a Macintosh computer equipped with a FDHD (high density) disk drive (Macintosh SE/30 or later) and PC Exchange 1.1 or later.

Step 5

Insert the disk into your Macintosh and use MacWrite or your favorite word processor to open each file. Once you have verified that everything is intact, choose "Save as..." from the file menu and save the file.

Support Information Services
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Pippin: Questions and Answers (Part 1 of 2)

This article is part one of answers to questions concerning the Apple Pippin.
This article has been archived and is no longer updated by Apple.
Question: What is Pippin?

Answer: Pippin is a multimedia player platform derived from AppleÑs second generation Power Macintosh hardware and system software. It is designed as a playback tool for multimedia CD-ROMs initially created for the Macintosh and/or IBM compatible PC and at a low cost.

Pippin is directed to the home market (and probably schools) as an intergral part of the consumer AV stereo and TV environment. Its primary display will be a TV screen. It uses one of the most advanced RISC microprocessor architectures in the industry today, PowerPC. It is derived from both the hardware and software architectures of the Macintosh. It will provide developers with an easy way to take their investment in personal computer CD-ROM content and make it available to a wider audience in a more natural environment associated with entertainment and fun.

Question: What events led to the introduction of Pippin?

Answer: The percentage of personal computers having CD-ROM drives, is rapidly approaching 100% for the Macintosh. In 1994, for the first time, the worldwide sales of personal computers (from all manufacturers) into the home exceeded 10M. It was also the first year in which more personal computers sold into the home went those already having a personal computer.

More than 60% of the households in the U.S. have combined gross income less than $40,000 per year. While most of these homes have one or more television sets, it is expected that even by 1997 the number of homes in this category with a personal computer will be well below 10%. The high barrier price of personal computers is limiting its penetration into homes around the world. Multimedia hardware and content sales will be limited in the years to come, just as many new title publishers are entering the industry. It is essential to the long-term health of the CD-ROM title industry that the growth it is experiencing now, continue into the future.

Apple realized that for multimedia technology to reach the home, the entry price must be reduced substantially. A low entry price is still not enough. The platform must be distributed by many companies which collectively can reach a much larger audience than one company alone. Apple has chosen to make the Pippin platform available under license to manufacturers interested in building and selling their own version.

Question: How will Pippin be positioned in the market?

Answer: If all a family wants is the least expensive video game player and does not want to be able to use their purchase for other uses they will probably be better off buying the upcoming new platforms being introduced by the video game giants Nintendo and Sega. Other new platforms such as Atari Jaguar, Sony Playstation and 3DO are all video game players and cannot be useful for much else. It remains to be seen how these platforms will hold up against the two mainstay players, Nintendo and Sega.

Apple believes that families are looking for more than video game players today. Certainly they want to be able to play their favorite games, but they also want to communicate, learn, play interactive music, access information and much more. Pippin provides them this capability. In addition it provides them a high level of compatibility with a mainstream personal computer technology. This will provide them the knowledge that their investment in CD-ROM titles and experience will not go to waste.

Question: What is the difference between a Macintosh and Pippin?

Answer: Pippin is derived from the second generation of Power Macintosh computers. Much of its system software code, integrated circuit cells and integrated circuits come directly from the Macintosh world. Pippin is being designed for optimal playback. It operates from a run-time version of the MacOS on less memory with more dedicated functions. While it is possible to add mass storage devices in the aftermarket, Pippin will ship with only a readable CD-ROM mechanism as a mass storage device.

Question: If there is no hard disk, how is the system software distributed?

Answer: The system software will be incorporated into the hardware separate from the CD-ROM player. Different Pippin system software releases will be available from which the developer to choose. Each will support a different functionality set. The end customer will not know or care which version of the operating system is bundled with their CD-ROM title. The Pippin title will support successive generations of titles always improving in performance and functionality.

Question: Why is Apple doing this?

Answer: This is a logical extension of our existing technology. It capitalizes on AppleÑs expertise in multimedia, RISC and ease-of-use....using

resources and technology that are already in place today, not an entirely new product or market concept. The architecture and business model for Pippin are designed to provide this wealth of content with a means for reaching an audience substantially larger than that which exists today. For Apple this is a strategic thrust to expand its business beyond the sales of personal computers and at the same time put the multimedia industry, currently in its infancy, into high gear. This is part of Apple's on-going strategy to expand the reach of Macintosh technology into new markets.

Question: Why now?

Answer: There were two key elements missing that prevented Apple from launching Pippin earlier. The first is technology. QuickTime has progressed as an industry standard and has developed increasingly in sophistication to the point now that it is an extremely compelling technology. In addition, Apple had to make the transition to RISC microprocessor technology. To reach the performance necessary for game and multimedia playback RISC technology is a must. Apple has successfully made the transition to RISC.

The second major reason why Apple has waited until now is market maturity. The year 1994 will be known within the industry as the year in which Multimedia became mainstream. CD-ROM titles are being reviewed in the New York Times Book Review section. Hit titles such as Myst, Rebel Assault, Star Trek Interactive Manual, Doom, etc. are hitting distribution volumes ranging between 200,000 and 1,000,000 units. The momentum for creating the content is now in place. Pippin is designed to take this momentum of content on the personal computer and distribute in much greater volumes throughout the world.

Question: How did Apple choose the name Pippin?

Answer: Pippin is a type of apple. It is smaller than a mcintosh apple. Apple chose this name because it would be easily associated with Apple, Computer Inc. Moreover, Apple believes that over time Pippin will take many forms including home telecommunication devices, game players and much more. Hence, Apple did not want to choose a name that would be specific for a certain market space as it will certainly appeal to many types of consumers and be shipped in a variety of forms from many manufacturers.

Question: What type of CD-ROM titles will work on Pippin?

Answer: Apple is integrating hardware technologies which improve the "on-screen" appearance of text on a TV screen. While the text will never be as clear as that on a computer monitor it is substantially better than anything in the video game industry today. This was done because Apple intends to encourage a wide diversity of titles to be available on Pippin, including reference titles which contain a great deal of textual information. We expect action games, adventure games, simulation, role-playing games, puzzles, reference, education, learning, interactive music and more.

Pippin is not expected to be strong in document creation or modification. Computer applications are not well suited to systems without a lot of memory. Simple word processors, simple spread sheets, tax preparation programs, financial management tools, and childrenÑs authoring tools should work well on a Pippin as long as there is a rewritable mass storage device that can store data files.

Customers

Question: What is in this for the customer?

Answer: For the first time, the customer will be able to "buy-in" to the era of multimedia and cyberspace at a low entry ticket price. The customer will be able to expand the entry system through aftermarket add-ons, accessing some personal computing capabilities if they choose. They will be able to buy the unit from a variety of companies in different configurations in a multitude of distribution channels. Their Pippins will integrate within their audio-visual consumer electronics world. In addition, it will be able to communicate and transfer files with their personal computers should they have them in their home. Finally, the Pippins with the addition of a GeoPort adapter or external modem will permit the customers to communicate over cyberspace.

Question: Will Pippin reduce the system configuration problems faced in the personal computer market?

Answer: Pippin is designed to behave like an audio CD Player. The customer inserts the CD-ROM into the player and it automatically boots off the CD. There are no files to configure and no drivers to conflict over system resources.

Question: Can customers upgrade their Pippins?

Answer: Pippin is the most expandable device in its category. The consumer can add system memory easily using plastic DRAM memory cards. In addition, through the PCI-like expansion, manufacturers will be able to add other devices, including mass storage devices, graphics accelerators, compression decoders and more. Thus, by purchasing easy to add/configure add-ons, the customers will be able to retain their investment into the future.

Question: Will customers upgrade Pippin to a Macintosh?

Answer: Pippin cannot be made into a Macintosh. Without the availability of a high speed read/write mass storage device customers will find it difficult (at best) to utilize current "standard" personal computer applications. It would not be unfair to say, however, that Apple would like Pippin customers to also be Macintosh customers. The advantage for the customer is that their investment in titles can be played on both machines.

Question: WouldnÑt customers rather view their titles on a computer screen?

Answer: This actually depends upon the customer and the title. The vast majority of the worldwide market doesnÑt own a computer monitor and is unlikely to own one any time soon. This permits a larger number of people to interact with the screen simultaneously. This also enables customers to integrate their Pippin with their home entertainment environment.

If customers prefer, they will be able to attach a 640x480 VGA monitor to Pippin.

For additional information on the Pippin, see "Pippin: Questions and Answers (Part 2 of 2)" and "Pippin: Technical Specifications."
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Pippin: Questions and Answers (Part 2 of 2)

This article is part two of answers to questions concerning the Apple Pippin.
This article has been archived and is no longer updated by Apple.
Pippin Manufacturers

Question: Will Apple ship a Pippin under its own brand?

Answer: Apple does not plan on shipping a Pippin under its own brand. One of Apples primary goals is to see Pippin devices penetrate into as many homes worldwide as possible. For this to happen Apple will focus its energies on assisting other companies in reaching these channels as they differ from Apple Computers existing computer reseller channels.

Question: Will Apple be the only hardware/software supplier for the platform?

Answer: No! Pippin is an open platform. Apple intends to encourage other companies to create not only differentiated Pippin systems, but also third-party aftermarket add-ons. Other companies can be expected to build upon Apples reference design and add their own value through either cost reductions or feature innovation.

Question: How many companies will be shipping Pippins?

Answer: The only publicly announced company at the time this document is being distributed is Bandai Company Ltd., a major toy manufacturer and CD-ROM game title publisher in Japan. Since Apple announced the platform in Tokyo on December 13, 1994, there have been many inquiries from companies interested in taking a license around the world. As contracts are signed and companies choose to announce their intents, the developer community will be among the first to know.

Over time, nothing will limit the number of companies that will be shipping Pippin devices. Apple believes that there is sufficient demand in the US, Japan, Asia and Europe.

Technical Issues
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Question: Will Pippin titles play on a Macintosh?

Answer: Yes, Pippin titles will play on Macintosh computers. If the titles are 68k based they will play on both Power Macintosh and 68k based Macintosh computers. If the titles are written in native PowerPC code they might also play on both platforms depending upon whether or not the developer chose to code in fat binaries or not.

Question: Will Macintosh Titles play on a Pippin?

Answer: Yes, if the title is restamped with the Pippin system software. For some titles other modifications may be required, see below.

Question: Will DOS/Windows Titles play on a Pippin?

Answer: Yes, but with much more modification and recompilation as compared to Macintosh titles.

Question: Can Pippin be turned into a Macintosh?

Answer: No. While customers will be able to expand it through the addition of mass storage devices, codecs, video inputs, etc. it will remain a run time environment fundamentally more limited than a Macintosh.

Question: Can a keyboard, monitor or mouse be added?

Answer: Yes, and so easily a child could do it!

Question: What exactly will be included with a Pippin?

Answer: This will be specific to each manufacturer. The features that, at a minimum, will be common to each version of Pippin is listed separately.

Question: What kind of input device will be standard?

Answer: Input devices will vary between Pippin Manufacturer. Apple has been conducting global focus group studies on this issue. Obviously developers need to know which buttons, knobs, etc. will be consistent between machines. Apple will be specifying this to both the manufacturers and developers by May at the latest.

Question: What add-on accessories will be available for Pippin at introduction? At a later date?

Answer: At introduction, there will be an external floppy, keyboard, mouse, external ink jet printer and a GeoPort telecom adapter for analog phone lines. The base Pippin units will ship with an accessory kit that will include a single input controller device. Other add-on devices including hard disks, PCMCIA slots, MPEG2 codecs, etc. will be available later in time. Apple will not make commitments as to when they would be available as many of these will be supplied by third parties.

For additional information on the Pippin, see "Pippin: Questions and Answers (Part 1 of 2)" and "Pippin: Technical Specifications."
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Pippin: Technical Specifications

This article defines the technical specifications for the Apple Pippin.
This article has been archived and is no longer updated by Apple.
Technical Details
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Hardware

- 66MHz PowerPC 603 RISC Microprocessor
- Superscaler, 3 instructions per clock cycle
- 8 kByte data and 8 kByte instruction caches
- IEEE standard Single & Double Precision Floating Point Unit
- 6 MB combined System & Video Memory, advanced architecture
- 4X CDROM drive
- 64 kbyte SRAM Store/Restore Backup
- Aftermarket easy memory expansion cards 2, 4 and 8 MB increments

Video

- 8 bit and 16 bit video support
- Dual Frame Buffers for superior frame to frame animation
- Support for NTSC & PAL composite, S-Video and VGA (640x480) monitors
- Up to 16.7M colors

Audio

- Stereo 16 bit 44 kHz sampled output
- Stereo 16 bit 44 kHz sampled input

Telephony

- GeoPort ready

Controllers

- Supports up to 4 simultaneous players over Apple Desktop Bus (ADB)
- Will support standard ADB keyboards and mice with connector adapters

Data I/O

- 1 standard Serial Communications port

Aftermarket Expansion

- "PCI like" expansion for adding floppy drive, hard disk drive, graphics accelerators, codecs, etc. (Not available at introduction!)

Software

- Run time environment derived from MacOS
- Integrates QuickTime 2.0 and PPC native version of QuickDraw
- Reduced system memory footprint - (computer specific features removed)
- Disk resident system stamped on CD with title
- System boots off CD
- Pippin system software upgrades released through CD-ROM stamping operations
- Developers free to choose from menu of system software upgrades

ROMs

- 68k emulator
- Macintosh Tool Box intact
- Localized bit mapped fonts
- Reduced Macintosh System ROM footprint

CD Formats Supported

- Standard audio CD
- Other formats in market studies

For additional information on the Pippin, see "Pippin: Questions and Answers (Part 1 of 2)" and "Pippin: Questions and Answers (Part 2 of 2)."
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Multiplan 1.02, 1.01 and 1.0: Inserting a row

This article has been archived and is no longer updated by Apple.

Q. I am trying to insert a row with Multiplan and it doesn't insert. Why?

A. When you select the last cell (from the Select menu), and the selected cell ends up being in row 255, Multiplan thinks you are using this entire area and that there are no more rows to insert. Select all rows (by pointing to the row numbers) beyond the actual working area of the document and use the Cut command to remove them. You will then be able to insert rows. This is most commonly caused by formatting entire columns rather than just the cells used.

NOTE: Apple Computer, Inc. is not responsible for the contents of this article.
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Color LaserWriter 12/600 PS: Competitive Questions and Answers

This article provides the answers to questions about the Color LaserWriter 12/600 PS.
This article has been archived and is no longer updated by Apple.
Question: Why is Apple later to market a color laser printer than its competitors?

Answer: Apple believes that it is much more important to get the printer out right rather than to be simply first. The Color LaserWriter leapfrogs the competition in a number of important and highly valued areas. Our experience with PowerBooks has shown us that completely addressing customer needs is much more important than getting a compromised product out somewhat sooner.

Question: Why is color laser better than other technologies?

Answer: Color laser has four major advantages over competing technologies:

- Print quality. Only color laser can provide near photographic quality color and superior 600 dpi black text on standard office paper. Dye sublimation can print high quality images but its text is low-resolution and prints only on special media.

- Speed. Color laser provides not only fast color pages but fast monochrome pages as well. For this reason only color laser can be used as a shared black and color printer.

- Cost/page. Color laser is more economical for black and color printing than thermal transfer and dye sublimation printers.

- Plain paper. Color laser supports excellent quality and print permanence on standard office paper. Unlike inkjet and thermal transfer, laser can print well on a variety of papers without smearing or flaking.

Question:
What does Apple think about first generation color laser printers on the market?

Answer: The first generation products force too many compromises on the users.

- The existing color lasers either try to promote inkjet level quality as "business quality" or decent quality only at a very high price. The 300 dpi quality that some are offering just doesn't meet the needs of professionals preparing information for external use. Most businesses don't want to look like they print their documents on a $500 inkjet printer.

- These printers also have a large number of complex and messy consumables that require much more interaction and sophistication to operate successfully. Customers don't want to worry about 13 replaceable items that can get their clothes messy when they are changed.

- The first generation printers are generally stripped down to the point of being unusable in their base configuration. When purchased, the users have to also buy network cards, PostScript, RAM, and optional paper trays to get a usable shared system. All of these options increase the real cost of the printer and make it more difficult to buy and setup. The bottom line is that we believe the existing color lasers printers don't adequately meet the needs of most of the customers in the market.

Question: Why would anyone pay 10x the price of a color inkjet for Color Laser?

Answer: The primary reasons are productivity, quality, share-ability, and reliability.

- Quality. Apple's Color LaserWriter will offer significantly better print quality than inkjets and it will do so on standard office paper. This quality is acceptable for both internal and external documents.

- Productivity. Color lasers are much faster than inkjet printers. Instead of printing at a few minutes per page they print at a few pages per minute. This added performance means that people can print presentations and reports at the last minute rather than overnight.

- Share-ability. Apple's Color LaserWriter is fast enough and comes standard with PostScript and built-in networking which enables it to be shared in a cross platform workgroup. Low-cost inkjets are typically designed for a single user.

- Reliability. Apple's Color LaserWriter is designed to print 300K pages. This means that a group of users can use it as their only printer.

Question: Who do you think will buy and use color laser printers?

Answer: Initially, we believe there are three primary users for the Color LaserWriter.

- Design/publishing. Design/publishing professionals who want quick, convenient, and inexpensive comps for letter size documents.

- Business communications. There are a large number of people involved in selling and communicating within an organization. This can be in the form of a presentation, report, proposal, etc. The Color LaserWriter offers no compromise quality for black and color.

- Scientific/technical. There are a variety of technical markets that use color but don't have a fast and simple way of printing. The Color LaserWriter provides the quality necessary for applications that vary from satellite imagery to plastic mold flow analysis.

Question: Why are color lasers so much more expensive than monochrome lasers?

Answer: The reason is that they are much more complex than monochrome laser printers. There are significant challenges associated with accurately and consistently putting up to four layers of toner on a piece of paper. The Color LaserWriter is revolutionary because it offers much of the printing functionality of a $50K 350lb color copier yet reduces both the complexity and the cost.

Question: What does Contone mean?

Answer: Contone stands for continuous tone and means that the printer is capable of printing 256 shades at each pixel for each color toner. Some competitors claim contone printing capabilities but do not meet this criteria because they offer only a couple of shades for each pixel.

Question: What does "true 600 dpi mean"?

Answer: True 600 dpi means that the entire printer is designed for 600 dpi printing. There are four key elements that need to be optimized for 600 dpi.

- Horizontal and vertical addressable resolution. This means that the laser scanner can put a dot down in the horizontal direction at 600 dpi intervals and the engine moves the paper through at 600 dpi intervals. Some printers are not designed for 600 dpi so they must slow down to print at the higher resolution .

- Laser spot size. This refers to the size of the dot that the laser makes on the drum. Some printers actually use a 300 dpi laser spot size to reduce cost but this reduces the quality because large dots are placed very close together with lots of overlap.

- Toner particle size. Smaller toner particles mean that the dots can be more consistent with the smaller spot sizes that provides more gray levels and more detail.

- Controller memory. To offer true resolution, the controller must have sufficient memory to contain the image in the printer.

Question: Why is laser superior to other color technologies?

Answer: There are essentially five high-end color technologies today:

- liquid inkjet
- solid inkjet
- thermal wax
- dye sublimation
- laser

Apple believes that laser and liquid inkjet are the best technologies for mainstream color. Liquid inkjet offers good quality, performance, and simple user interaction at a low cost. Laser offers excellent performance/quality, at a higher price. The other technologies have one or two strong points but are not mainstream and will be relegated to niches.

Question: Will color cannibalize monochrome printers?

Answer: Because research has consistently shown that color output is highly desired in a printer, we do expect that color laser printers will at some point impact high-end monochrome sales. Just as with inkjet, it may take some time for color laser to make a large impact on monochrome sales. This impact will be felt more as the prices of color comes down over time.

Question: Why is Apple's cost/page more expensive than Hewlett Packard (HP)?

Answer: Apple's cost/page is more expensive than HP but less expensive than other competitors. There are two reasons why cost/page is more expensive on the Color LaserWriter.

- Print quality required by professionals and it is more expensive to provide this level of quality.

- Simple setup and use. The enclosed cartridge mono-component system makes it simple to operate compared to HP but does add cost. The cartridge system on mono chrome laser printers are not the most cost effective, but they became the standard because they were much easier to use and were clean compared to the alternatives. Apple believes that the cost/page is appropriate when compared to the difficulty of installing and maintaining the 13 consumables in the HP printer.

Question: Why doesn't the printer support PCL?

Answer: PostScript Level 2 is the standard for color printing because the applications and drivers are already available and the results are superior. PostScript is also the cross-platform standard with drivers available for PC, Unix and Macintosh platforms.

Question: Why doesn't the printer support Token Ring?

Answer: Ethernet is the most important network topology in the Macintosh, PC and workstation world. Token Ring is a lower priority. The printer can be connected to a Token Ring network via Ethernet to Token Ring router.

Question: Why does the printer slow down when printing transparencies?

Answer: The printer prints at up to 1.1 pages/minute when feeding transparencies to ensure that the toner is fused so transparencies project well on an overhead projector. The slower speed allows the toner to be melted into a transparent layer on the film.

Question: What is Apple's Contone Compression Technology, and why is it better that the competition?

Answer: Apple Contone Compression Technology dramatically reduce the RAM requirements for the printer while maintaining superior quality. Because of Apple Contone Compression Technology, the Color LaserWriter can ship with only 12 MB of RAM while supporting full quality, networking, and memory to process complex jobs. Without such compression, the Color LaserWriter would require around 130 MB of memory. Competitive printers either support lower quality or more memory or both . For example, the Tektronix Phaser 540 requires 36 MB of memory to support 600 dpi "contone quality", which is actually lower quality than what the Color LaserWriter provides in only 12 MB.

Question: How does the performance on the Color LaserWriter compare to the competition?

Answer: For most customers it doesn't matter how fast a document prints if the print page doesn't offer acceptable print quality. Thus while a true Apples to Apples comparison isn't possible because the competition don't offer the quality of the Color LaserWriter, in terms of raw performance the Color LaserWriter is quite competitive.

Apple testing indicates that over a wide range of documents the Color LaserWriter is only 24% slower than the competition with only 12 MB of RAM. With 28 MB of RAM the Color LaserWriter is within 5% of the competitive average. On word processing documents, spreadsheets, images, and multiple copies the Color LaserWriter often outperforms the competition.

There are some types of documents that are slower on the Color LaserWriter -- mostly complex illustrations. On these documents, offering superior 600 dpi near photographic quality doesn't come free... each page inside the Color LaserWriter is 128 MB of compressed data -- 32 times the data as a 300 dpi printer and 16 times a 600 dpi bi-level printer. The fact that the Color LaserWriter can be competitive on both price and performance with printers offering significantly lower quality is a testament to Apple's innovative controller & software design.

Question: What is Color PhotoGrade and why is it better than the competition?

Answer: Color PhotoGrade is Apple's print quality enhancement technology that provides superior quality images, colored text, and filled areas. It utilizes the engine's ability to provide several shades of each of the four (cyan, magenta, yellow, and black) toner. Color PhotoGrade provides very small halftone cells (colored dots) AND lots of colors resulting in fine detail, smooth transitions, and vibrant colors. It is superior to the competition in three ways:

- It offers near photographic quality images, filled areas, and text
- It offers vibrant and consistent color

- It offers superior quality even on low resolution such as those off a digital camera or a video capture board.

Question: Who supplies the print engine and does Apple have an exclusive on this engine?

Answer: It is a Canon engine. We don't expect to be the only vendor using the engine, but we expect to be first and believe our implementation using the engine will be superior because of the value Apple has added in the controller and software.

Question: Does the printer support Windows 95?

Answer: Yes. The printer will be compatible with the Windows PostScript Level 2 driver that comes with Windows 95. The enhanced print manager support for Windows 3.1 will not be available for Windows 95 so some of the queue functionality available in 3.1 will not be supported in Windows 95.

Question: Why isn't Apple using a PowerPC processor in the printer?

Answer: Apple chooses the best processor for the job. While the PowerPC is a great chip, it wasn't appropriate for the Color LaserWriter given the development cycle and cost goals.

Question: Why doesn't the printer support GX?

Answer: It will. Apple will be shipping a GX driver for the Color LaserWriter.

Question: Why is Contone quality important to normal business users?

Answer: Business users want professional looking output using a variety of object types including B&W text, color text, color filled areas, and photographs. Even if a user never intends to print photographs, continuous tone makes a significant difference in the quality of output. Colors that are anything but primaries or secondaries are significantly more readable and of higher quality on a continuous tone printer than on a standard printer.

Question: Will the Apple software features be available on competitive products?

Answer: Most will only be available on Apple's printers. Our approach is to an increasing value to Apple printers via software differentiation in the printer, driver and utilities. Many of these features will only be available on Apple printers. We may chose to make certain Macintosh driver features available where we believe they are critical for the Apple platform.
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DOS Compatibility Card: MS-DOS MIDI Support

Does the Power Macintosh 6100 DOS Compatible support MIDI output to the serial port while running MS-DOS or Windows?
This article has been archived and is no longer updated by Apple.
The PCI-based PC Compatibility Cards are the only cards thats support MIDI devices. Since the Power Macintosh 6100 is NOT a PCI-based Macintosh, you cannot send or receive MIDI data from the serial port using the DOS Compatibility Card. MIDI data travels internally with MS-DOS/Windows, but the data cannot be transferred from the serial port to a MIDI instrument. However, MIDI transfers are fully supported under the Mac OS.

The PCI-Based DOS Compatibility Cards allow you to use the joystick port to transfer MIDI data. Using a proper MIDI adapter, both the MIDI OUT and the MIDI IN channels will be available. This MIDI adapter is the same standard Sound Blaster-compatibile Joystick-to-MIDI adapter that you can find at any MS-DOS/Windows computer store. Apple does not sell this adapter.
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AudioVision 14 Display: AudioVision Software 1.0.2 Read Me

This article contains the Read Me file included with the AudioVision 14" Display software version 1.0.2
This article has been archived and is no longer updated by Apple.

AudioVision 14 Display

This document contains the latest information about your AudioVision 14 Display. Read this file in addition to the AudioVision 14 Display User's Guide.

Installing the AudioVision Software

If you use the AudioVision 14 Display with other input devices that include software, such as as the Apple Adjustable Keyboard or certain non-Apple keyboards and pointing devices, install the AudioVision software last. If you don't, software for some other devices may overwrite the AudioVision software.

For example, if you install software for the Apple Adjustable Keyboard after installing the AudioVision software, the keyboard's Sound control panel replaces the monitor's Sound control panel, which contains additional sound controls for your monitor.

IMPORTANT If you have the Apple Adjustable Keyboard: After you install the AudioVision software, restart the computer. Then shut down and turn off the computer and the monitor, wait 30 seconds, and turn them back on. Otherwise, the computer will not recognize the monitor.

Removing the AudioVision Software

The AudioVision software replaces your computer's Sound control panel with a larger Sound control panel. If you remove the AudioVision software, you'll need to add a Sound control panel to your computer either by dragging one to the System Folder (with the System Folder closed), or by reinstalling your system software. See the manuals that came with your computer for information on reinstalling system software.

Note: If you drag a Sound control panel to your System Folder, you'll be asked if you want it placed in the Control Panels folder, which is inside the System Folder. Click Yesall control panels belong in the Control Panels folder.

Energy Saver

Energy Saver is a control panel that lets you save energy by choosing to automatically dim your screen when the screen is not being used. You specify how long you want Energy Saver to wait (up to an hour) before turning off the screen. The computer is not turned off, so it only takes a few seconds after you start using your keyboard or mouse for the screen to become fully active.

If your model of Macintosh can support Energy Saver, then it is automatically installed when you install the AudioVision software.

What models support Energy Saver?

You can use Energy Saver if you have the following:

- a Power Macintosh computer, or a Macintosh Quadra, Centris, or LC III computer
- 2 MB of available RAM
- system software version 7.1 or later

IMPORTANT The AudioVision 14 Display complies with Energy Star guidelines. A monitor that does not comply with Energy Star guidelines, or one that is plugged into an expansion card, will not be harmed by the Energy Saver control panel but will not save energy (even if the screen goes black). In some cases, you will not be able to open and use the Energy Saver control panel if your monitor does not comply with Energy Star guidelines.

Setting Up the AudioVision 14 Display for Speech Recognition on the
Macintosh Quadra 840AV and Macintosh Centris 660AV

If you use the AudioVision 14 Display with the Quadra 840AV or Centris 660AV for speech recognition, follow these steps when you set up your AudioVision display:

1. When connecting the AudioVision adapter cable, connect the sound-in plug to the external sound input port on the back of the computer.

2. Make sure the AudioVision monitor's built-in microphone is turned on.

Alert and Beep Sound Problems

Missing alert sound

If you turn the AudioVision monitor's speakers all the way down, you may accidentally turn off your computer's alert sound (the beep you hear when the system needs to get your attention). There are three ways to turn the speakers completely down:

dragging the AudioVision Speakers slider all the way down in the Volumes portion of the Sound control panel
turning the volume all the way down on the monitor itself (using the monitor's Volume key)
turning on the monitor's Mute option

If you have the Apple Adjustable keyboard, there is a fourth way to turn the sound down:

using the keyboard's volume key

If you use any of these methods to turn the sound all the way down, any adjustments you make to the Alert slider in the Sound control panel will have no effect. You will hear no alert sounds. If the Alert slider is also turned all the way down, the system will alert you by flashing the menu bar. If, however, the Alert slider is turned up, but the speakers are turned all the way down, your system will not recognize that the alert sound cannot be heard, and won't flash the menu bar.

Inaudible startup beep

If you use the AudioVision 14 Display with the Macintosh IIvx, IIvi, IIvm, Quadra 700, 800, 900, or 950, you may not hear the startup ("boot") beep when you turn on the computer. To hear the startup beep, plug the monitor into a wall outlet (not into the computer) and turn on the monitor before turning on the computer.

If you have a Power Macintosh computer, plug the AudioVision Display into the back of the computer, not into a wall outlet.

Recording With External Microphones

The Apple Microphone does not work with the AudioVision 14 Display. If you wish to use an external microphone, use the Apple PlainTalk microphone.

Video Slider Behavior With Keypad Control Combinations

Pressing the Volume key, Mute button, or Microphone-On button in combination with the Brightness key or the Contrast key makes the slider behave erratically. For example, if you press and hold the top of the Contrast key to move the slider control upward and press the Mute button at the same time, the slider control continues upward to the endeven after you release the keys.

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Support Information Services
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Power Macintosh 7200, 7500, 8500, 9500: Pinouts

This article presents the pinouts for Power Macintosh 7200, 7500, 7600, 8500, and 9500 series computers. These pinouts include: PCI connector, video connector, serial port (GeoPort), SCSI, ADB, Ethernet, SCSI, Ram DIMM connector, Level 2 cache, DAV connector, S-video input, and S-video output.

This article has been archived and is no longer updated by Apple.

PCI Connector

Pin	Side B	Side A
1	-12V	TRST#
2	TCK	+12V
3	Ground	TMS
4	TDO	TDI
5	+5V	+5V
6	+5V	INTA#
7	INTB#	INTC#
8	INTD#	+5V
9	PRSNT1#	Reserved
10	Reserved	+5V
11	PRSNT2#	Reserved
12	Ground	Ground
13	Ground	Ground
14	Reserved	Reserved
15	Ground	RST#
16	CLK	+5V
17	Ground	GNT#
18	REQ#	Ground
19	+5V (I/O)	Reserved
20	AD[31]	AD[30]
21	AD[29]	+3.3V
22	Ground	AD[28]
23	AD[27]	AD[26]
24	AD[25]	Ground
25	+3.3V	AD[24]
26	C/BE[3]#	IDSEL
27	AD[23]	+3.3V
28	Ground	AD[22]
29	AD[21]	AD[20]
30	AD[19l	Ground
31	+3 3V	AD[181
32	AD[17]	AD[16]
33	C/BE[2]#	+3.3V
34	Ground	FRAME#
35	IRDY#	Ground
36	+3.3V	TRDY#
37	DEVSEL#	Ground
38	Ground	STOP#
39	LOCK#	+3.3V
40	PERR#	SDONE
41	+3.3V	SBO#
42	SERR#	Ground
43	+3.3V	PAR
44	C/BE[1]#	AD[15]
45	AD[14]	+3.3V
46	Ground	AD[13]
47	AD[12]	AD[11]
48	AD[10]	Ground
49	Ground	AD[09]
50	Connector Key	
51	Connector Key	
52	AD[08]	C/BE[0]#
53	AD[07]	+3.3V

54	+3.3V	AD[06]
55	AD[05]	AD[04]
56	AD[03]	Ground
57	Ground	AD[02]
58	AD[011	AD[00]
59	+5V (I/O)	+5V (I/O)
60	ACK64#	REQ64#
61	+5V	+5V
62	+5V	+5V

Video connector (All models except the Power Macintosh 9500)

Pin	Signal name	Description
1	RED.GND	Red video ground
2	RED.VID	Red video signal
3	/CSYNC	Composite synchronization signal
4	SENSE0	Monitor sense signal 0
5	GRN.VID	Green video signal
6	GRN.GND	Green video ground
7	SENSE1	Monitor sense signal 1
8	NC	No connection
9	BLU.VID	Blue video signal
10	SENSE2	Monitor sense signal 2
11	GND	CSYNC and VSYNC ground
12	/VSYNC	Vertical synchronization signal
13	BLU.GND	Blue video ground
14	HSYNC.GND	HSYNC ground
15	/HSYNC	Horizontal synchronization signal
Shell	SGND	Shield ground

Apple Accelerated Graphics Card (Power Macintosh 9500/120)

Pin	Description	Pin	Description
1	Red ground	9	Blue video signal
2	Red video signal	10	Monitor sense 2
3	Composite synchronization	11	Synchronization ground
4	Monitor sense 0	12	Vertical synchronization
5	Green video signal	13	Blue ground
6	Green ground	14	Horizontal synchronization ground
7	Monitor sense 1	15	Horizontal synchronization
8	No connection		

Serial port connector (Geoport)

Pin	Name	Function
1	HSKo	Handshake output
2	HSKi	Handshake input or external clock
3	TxD*	Transmit data *
4	Gnd	Ground
5	RxD*	Receive data *
6	TxD+	Transmit data +
7	GPi	General-purpose input (wake up CPU or DMA handshake)
8	RxD+	Receive data +
9	+5V	Power to external device (100 mA maximum)

ADB connector

Pin	Name	Description

Pin	Description	
1	ADB	Bidirectional data bus
2	PSW	Power-on signal
3	+5V	+5 volts
4	GND	Ground

AAUI-15 Ethernet connector

Pin	Description	Pin	Description
1	+5 V	8	+5 V
2	DI+	9	DO+
3	DI*	10	DO*
4	Ground	11	Ground
5	CI+	12	No connection
6	CI*	13	No connection
7	+5 V	14	+5 V

10BASE-T Connector (RJ-45 Connector)

Contact	Signal
1	TD+
2	TD-
3	RD+
4	Not Used by 10BASE-T
5	Not Used by 10BASE-T
6	RD-
7	Not Used by 10BASE-T
8	Not Used by 10BASE-T

SCSI connectors

Pin number (internal 50-pin)	Pin number (external 25-pin)	Signal name	Signal description
2	8	/DB0	Bit 0 of SCSI data bus
4	21	/DB1	Bit 1 of SCSI data bus
6	22	/DB2	Bit 2 of SCSI data bus
8	10	/DB3	Bit 3 of SCSI data bus
10	23	/DB4	Bit 4 of SCSI data bus
12	11	/DB5	Bit 5 of SCSI data bus
14	12	/DB6	Bit 6 of SCSI data bus
16	13	/DB7	Bit 7 of SCSI data bus
18	20	/DBP	Parity bit of SCSI data bus
25 *	n.c.		Not connected
26	25	TPWR	+5 V terminator power
32	17	/ATN	Attention
36	6	/BSY	Bus busy
38	5	/ACK	Handshake acknowledge
40	4	/RST	Bus reset
42	2	/MSG	Message phase
44	19	/SEL	Select
46	15	/C/D	Control or data
48	1	/REQ	Handshake request
50	3	/I/O	Input or output

20, 22, 24, 28, 30, 34, and all odd pins except pin 25, 7, 9, 14, 16, 18, and 24 GND Ground

Floppy disk connector

Pin	Signal name	Signal description
1	GND	Ground
2	PH0	Phase 0: state control line
3	GND	Ground
4	PH1	Phase 1: state control line
5	GND	Ground
6	PH2	Phase 2: state control line
7	GND	Ground
8	PH3	Phase 3: register write strobe
9	n.c.	Not connected
10	/WRREQ	Write data request
11	+5V	+5 volts
12	SEL	Head select
13	+12V	+12 volts
14	/ENBL	Drive enable
15	+12V	+12 volts
16	RD	Read data
17	+12V	+12 volts
18	WR	Write data
19	+12V	+12 volts
20	n.c.	Not connected

RAM DIMM connectors

Pin	Signal name	Pin	Signal name
1	VSS	85	VSS
2	DQ(0)	86	DQ(32)
3	DQ(1)	87	DQ(33)
5	DQ(3)	89	DQ(35)
6	VCC	90	VCC
7	DQ(4)	91	DQ(36)
8	DQ(5)	92	DQ(37)
9	DQ(6)	93	DQ(38)
10	DQ(7)	94	DQ(39)
11	Reserved	95	Reserved
12	VSS	96	VSS
13	DQ(8)	97	DQ(40)
14	DQ(9)	98	DQ(41)
15	DQ(10)	99	DQ(42)
16	DQ(11)	100	DQ(43)
17	DQ(12)	101	DQ(44)
18	VCC	102	VCC
19	DQ(13)	103	DQ(45)
20	DQ(14)	104	DQ(46)
21	DQ(15)	105	DQ(47)
22	Reserved	106	Reserved
23	VSS	107	VSS
24	Reserved	108	Reserved
25	Reserved	109	Reserved
26	VCC	110	VCC
27	/WE(0)	111	Reserved
28	/CAS(0)	112	/CAS(1)
29	/CAS(2)	113	/CAS(3)
30	/RAS(0)	114	Reserved
31	/OE(0)	115	Reserved
32	VSS	116	VSS
33	A(0)	117	A(1)
34	A(2)	118	A(3)
35	A(4)	119	A(5)
36	A(6)	120	A(7)

37	A(8)	121	A(9)
38	A(10)	122	A(11)
39	A(12)	123	A(13)
40	VCC	124	VCC
41	Reserved	125	Reserved
42	Reserved	126	B(0)
43	VSS	127	VSS
44	/OE(2)	128	Reserved
45	/RAS(2)	129	Reserved
46	/CAS(4)	130	/CAS(5)
47	/CAS(6)	131	/CAS(7)
48	/WE(2)	132	/PDE
49	VCC	133	VCC
50	Reserved	134	Reserved
51	Reserved	135	Reserved
52	DQ(16)	136	DQ(48)
53	DQ(17)	137	DQ(49)
54	VSS	138	VSS
55	DQ(18)	139	DQ(50)
56	DQ(19)	140	DQ(51)
57	DQ(20)	141	DQ(52)
58	DQ(21)	142	DQ(53)
59	VCC	143	VCC
60	DQ(22)	144	DQ(54)
61	Reserved	145	Reserved
62	Reserved	146	Reserved
63	Reserved	147	Reserved
64	Reserved	148	Reserved
65	DQ(23)	149	DQ(55)
66	Reserved	150	Reserved
67	DQ(24)	151	DQ(56)
68	VSS	152	VSS
69	DQ(25)	153	DQ(57)
70	DQ(26)	154	DQ(58)
71	DQ(27)	155	DQ(59)
72	DQ(28)	156	DQ(60)
73	VCC	157	VCC
74	DQ(29)	158	DQ(61)
75	DQ(30)	159	DQ(62)
76	DQ(31)	160	DQ(63)
77	Reserved	161	Reserved
78	VSS	162	VSS
79	PD(1)	163	PD(2)
80	PD(3)	164	PD(4)
81	PD(5)	165	PD(6)
82	PD(7)	166	PD(8)
83	ID(0)	167	ID(1)
84	VCC	168	VCC

L2 cache SIMM connector

Pin	Signal	Pin	Signal	Pin	Signal	Pin	Signal
1	+5 V	41	/TOEN	81	+3.3 V	121	/DOEN
2	GND	42	/TWEN	82	GND	122	/DWEN
3	D0	43	/ADV	83	D1	123	/ADSC
4	D2	44	A12	84	D3	124	/CSIZ(2)
5	D4	45	CSIZ(1)	85	D5	125	GND
6	D6	46	A14	86	D7	126	A13
7	GND	47	A16	87	GND	127	A15
8	D8	48	A18	88	D9	128	A17
9	D10	49	A20	89	D11	129	A19
10	D12	50	GND	90	D13	130	GND
11	D14	51	A22	91	D15	131	A21

12	GND	52	A24	92	GND	132	A23
13	+5 V	53	A26	93	+3.3 V	133	A25
14	GND	54	A28	94	GND	134	A27
15	D16	55	GND	95	D17	135	GND
16	D18	56	+5 V	96	D19	136	+3.3 V
17	D20	57	GND	97	D21	137	D33
18	D22	58	D32	98	D23	138	D35
19	GND	59	D34	99	GND	139	D35
20	D24	60	D36	100	D25	140	D37
21	D26	61	D38	101	D27	141	D39
22	D28	62	GND	102	D29	142	GND
23	D30	63	D40	103	D31	143	D41
24	GND	64	D42	104	GND	144	D43
25	+5 V	65	D44	105	+3.3 V	145	D45
26	GND	66	D46	106	GND	146	D47
27	T0	67	GND	107	T1	147	GND
28	T2	68	+5 V	108	T3	148	+3.3 V
29	T4	69	GND	109	T5	149	GND
30	T6	70	D48	110	T7	150	D49
31	GND	71	D50	111	GND	151	D51
32	T8	72	D52	112	T9	152	D53
33	T10	73	D54	113	T11	153	D55
34	T12	74	GND	114	T13	154	GND
35	T14	75	D56	115	T15	155	D57
36	GND	76	D58	116	GND	156	D59
37	+5 V	77	D60	117	+3.3 V	157	D61
38	GND	78	D62	118	GND	158	D63
39	CLK	79	GND	119	CPRES	159	GND
40	GND	80	+5 V	120	A11	160	+3.3 V

DAV connector

Pin	Signal description	Pin	Signal description
1	Ground	31	Ground
2	Reserved	32	Vertical sync
3	Ground	33	Ground
4	Reserved	34	Reserved
5	Ground	35	Ground
6	Reserved	36	HRef
7	Ground	37	Ground
8	Reserved	38	DIR *
9	Ground	39	IIC Data *
10	Reserved	40	IIC Clock
11	UV bit 7	41	Ground
12	UV bit 6	42	Analog audio input left
13	UV bit 5	43	Analog audio input common
14	UV bit 4	44	Analog audio input right
15	UV bit 3	45	Ground
16	UV bit 2	46	Digital audio input
17	UV bit 1	47	Ground
18	UV bit 0	48	Digital audio output
19	Y bit 7	49	Ground
20	Y bit 6	50	Digital audio clock
21	Y bit 5	51	Ground
22	Y bit 4	52	Digital audio sync
23	Y bit 3	53	Ground
24	Y bit 2	54	S video input C component
25	Y bit 1	55	Video input ground
26	Y bit 0	56	S video input Y component
27	Ground	57	Video input ground
28	Line-locked clock	58	Reserved
29	Ground	59	Reserved
30	Clock reference qualifier	60	Reserved

S-video input and output connectors

Pin	S-video input connector	S-video output connector
1	Analog GND	Analog GND
2	Analog GND	Analog GND
3	Video Y (luminance)	Video Y (luminance)
4	Video C (chroma)	Video C (chroma)
5	I 2 C clock(Philips serial bus)	*
6	+12 V at 250 mA maximum *	*
7	I 2 C data (Philips serial bus)	*

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Power Mac 7200: Command/Option Keys Stuck At Wake Up (12/95)

Article Review/Updated: 19 December 1995

I use the keyboard shortcut Command-Option-Power to force my Power Macintosh 7200 computer to go to sleep. However, when the computer wakes up, the Command and Options keys are still pressed down. Is there any way to avoid this?
This article has been archived and is no longer updated by Apple.
There are three workarounds for this situation:

1) Choose Sleep from the Special menu instead of using the Option-Command-Power keyboard shortcut.

2) Press the Power button. This brings up the Shut Down dialog box. Sleep is an option within the Shut Down Dialog box.

3) Press the Option-Command-Power keys to force the system to shut down. After waking the computer up, press the Command and Option keys to bring them keys back to their up position.

This symptom will be fixed in the next system software update.

Article Change History:
19 Dec 1995 - Added additional information.
20 Sep 1995 - Reviewed article.

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ColorSync: Which Profile Should I Use for My PowerBook?

Which PowerBook ColorSync System Profile should I select in the ColorSync System Profile control panel?
This article has been archived and is no longer updated by Apple.

If you have this PowerBook	Select this profile
180c, 540c, 5300c, 5300ce	PowerBook 180c Standard
165c, 520c, 5300cs	PowerBook 165c Standard
270c, 280c, 2300c	PowerBook 270c Standard
190cs	520c
1400c	3400
1400cs	520c
2400	2400 standard
3400	3400
G3	3400
G3 Series	G3 Series
Non-color PowerBooks do not use ColorSync.	

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LANStar PTE and PTE/S: Can Be Used Without Voice Features

Can Northern Telecom's LANStar can be used just for its LAN features, without any voice features installed?

This article has been archived and is no longer updated by Apple.

Northern Telecom makes a smaller frame for the Packet Transport Equipment (PTE) called the PTE/S (S for "small") that can support only LAN functions, up to 112 nodes. The larger frame system can be configured with a variety of voice/data modules, or as LAN functions only.

Published Date: Feb 19, 2012

Power Macintosh 7100 and 8100: How To Display Less Than 256 Colors

I have attached a monitor to the DB-15 video port on the back of my Power Macintosh 7100/80. Why can't I display less than 256 colors?
This article has been archived and is no longer updated by Apple.
Monitors attached to the High Performance Video (HPV) card on Power Macintosh 7100 and 8100 series computers cannot display less than 256 colors.

To display less than 256 colors, you must connect your monitor to the HDI-45 video port. Using this port allows your monitor to access the built-in DRAM to display images. A video adapter cable (Part #M2681LL/A)* is needed to connect a monitor with a DB-15 connector to the HDI-45 video port.

The Power Macintosh AV Card also has the ability to display less than 256 colors.
Published Date: Feb 19, 2012

QuickTime: Playback Speeds Up With the Step Button Down

I notice that QuickTime movies run smoother and faster if I click and hold the step forward button than if I just let the movie play. I also discovered that movies run much smoother if I click and hold the play button. Once I let go of the play button, the movie starts to play a bit jerkier. Why is this occurring?

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When you click once on the step forward, it advances a single frame. When you hold it down, it advances through the frames as fast as it can draw them while ignoring the sound track.

This is a good way to find out how close a movie is to the limit of what your given computer can play. If holding down the button speeds it up a small amount, you are near the limit of your computer's playback performance. If it doubles in speed, your particular computer can handle movies with higher frame rates, screen size, or sound depth.

Published Date: Feb 19, 2012

MegaPhone: How to Record Outgoing Message (10/95)

Do I have to leave my computer on in order for MegaPhone to answer a telephone call?

I am unable to get MegaPhone to record an outgoing message. How do I set this up properly?
This article has been archived and is no longer updated by Apple.
To use your Macintosh as an answering machine, your computer must be on and the MegaPhone application running. Megaphone can be running in the background when the call comes in. Your Global Village internal modem automatically handles arbitration between the GlobalFax and MegaPhone software.

To setup the software so the modem will determine what type of call is coming in, open the Telephone Setup control panel and select the "Auto-answer incoming calls after 4 rings" option. This selection will direct the incoming call to the appropriate software, whether the call is either voice, or fax.

Follow these steps to record the outgoing greeting your callers will hear:

Step 1

Launch MegaPhone.

Step 2

You can reach the area to record an outgoing message by two routes:

A. Pull down the File menu and choose Preferences.
Select Voice Messaging from the Topic pull down menu.

or

B. From the Windows menu select "Voice Messages" and click the Setup button in the top right corner of the Voice Messages window.

You are now in the Voice Messaging Preference window.

Step 3

Make sure you have placed an "X" next to "Use MegaPhone Voice Messaging" otherwise, you will not be able to record your greeting.

Step 4

Check if there is a greeting already recorded by clicking the Play button in the Outgoing Message area of the window. You will hear the original MegaPhone greeting if you have not recorded a previous one. If you do not hear it, check the volume level of your computer in the Sound control panel, or if you have a computer with volume control buttons, press the volume up button to make sure you hear your system sounds.

Step 4

If you do not hear the greeting or you do not hear any system sounds, make sure that your microphone is not connected to the speaker port, as this will not allow sounds to play or be recorded. Make sure your microphone is plugged into the port with the microphone icon.

Step 5

In the Outgoing Message area, click the Record button. You should hear MegaPhone speak and your computer say "Record your new greeting at the tone," followed by a short tone. If you do not hear MegaPhone tell you to record your greeting, we would suggest following Step 6 below to remove the "Voice Mail Sounds" file. Afterwards, test it again.

Record your announcement and then click the Stop button. Click the Play button to hear your recording. You should hear your message.

If you hear nothing, check your sound input in the Sound control panel:

1) Under the Apple Menu, choose control panels.
2) Double-click the Sound Control Panel.
3) Choose the Sound In option from the pull down menu in the control
panel window.
4) Click the Options button.
5) Change the input source to microphone.

6) Click OK.
7) Choose the Alert Sounds option from the pull down menu in the control panel window.
8) Click Add.
9) Tap your microphone and look for the sound waves coming from the speaker icon to confirm it is receiving input.

Step 6

MegaPhone comes with its own prerecorded greeting that states "Hello, thank you for calling. Please leave your message at the tone." This message will be erased as soon as you record your own new greeting.

If you would like to go back to this original greeting, quit MegaPhone and delete the file "Voice Mail Sounds" from your computer. The file is located at the following path: Hard Disk -> System Folder -> Preferences -> Cypress -> MegaPhone -> Voice Mail Sounds. Move it to the Trash, empty the Trash, and then relaunch MegaPhone. A new Voice Mail Sounds file will be created automatically. Please note that this will erase any outgoing message you recorded.

If you are still unable to record a greeting, reinstall MegaPhone from your Macintosh Performa CD. Use the search string "performa and restore" to locate the TIL article "Performa: Backing Up and Restoring" for additional information.

NOTE:
MegaPhone comes bundled on the following systems:
Performa 6200CD, 6216CD, 6218CD, 6220CD, 6230CD
Performa 5215CD

This article was published in the "Information Alley":
Volume II, Issue 12, Page 11

Article Change History:
09 Oct 1995 - Added Info Alley information; updated article.
14 Sep 1995 - Reformatted procedure for clarity.

Support Information Services
Published Date: Feb 19, 2012

Open Transport 1.1: Should Be Used (4/96)

This article recommends using Open Transport 1.1 on Power Macintosh 7200, 7500, 8500, and 9500 computers which have a PCI bus.
This article has been archived and is no longer updated by Apple.
Open Transport 1.1 or the latest version is recommended for all Power Macintosh computers with a PCI bus, including the Power Macintosh 7200, 7500, 8500, and 9500. It will be especially valuable if you use SLIP or PPP to access the Internet, or other TCP/IP resources.

The first release of System 7.5.2 which shipped with the first Power Macintosh 9500 computers did not include a piece of code called the ".enet shim", or in other words, an .enet Compatibility Module. This shim is required for applications such as MacIPX, SoftPC networking, DECnet and others to interact with Open Transport.

The .enet shim is no longer needed for compatibility after upgrading to Open Transport 1.1.

Article Change History:
15 Apr 1996 - Updated to Open Transport 1.1.
21 Nov 1995 - Updated to Open Transport 1.0.8.

Published Date: Feb 19, 2012

Apple Presentation System: Won‘t Work w/DOS Compat Card

I want to use the Apple Presentation System with my DOS Compatibility Card, but I cannot get it to work. Is there a way to do this?
This article has been archived and is no longer updated by Apple.
These two systems cannot work together. The DOS Compatibility Card changes the characteristics of the video signal when displaying a MS-DOS/Windows screen image. These changes may vary based on the monitor that is attached, and the settings in the PC Setup control panel.

The Apple Presentation System is not be able to handle the differences in the video signal. The Apple Presentation System expects a 640x480 67-Hz Macintosh signal, but it is receiving a 640x480 60-Hz VGA signal when using MS-DOS or Windows.
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Global Village: Red ‘X‘ at Startup (6/97)

I have a Global Village modem and there is a red 'X' across the modem icon on startup. What should I do?
This article has been archived and is no longer updated by Apple.
A red 'X' across the modem icon indicates that the modem software did not load properly. This could be due to a corrupt preference file, damaged modem software, or even a duplicate versions of the modem extensions in the System Folder. Follow the steps listed below to resolve this issue.

Step 1
Open the System Folder and the Global Village Personal folder. Move the files Queue Temp and GlobalFax Preferences to the Trash and restart your computer. This will essentially recreate these files on startup incase one of the files was accidentally damaged. Empty the Trash once you restart the computer to delete the old files.

Step 2
Check your System Folder for duplicate Global Village modem extensions. If you accidentally moved some of the modem extensions to the System Folder then reinstalled the system software you may have duplicate extensions. Delete the duplicate items to prevent the red 'X' from appearing on the modem extension. The following extensions should be installed only once in your Extensions folder:

- GlobalFax
- Global Village Toolbox (**NOTE:** Older versions of the Global Village software do not include a "Global Village Toolbox." You should only see a Global Village Toolbox if you are running version 2.1.2 or later.)

Step 3
If the above troubleshooting steps fail to resolve your issue, then reinstall the Global Village software from your Performa CD or set of software backup disks to ensure that you have all the necessary files.
Published Date: Feb 19, 2012

AV Digitizer Options: Read Me (9/95)

The following article is the ReadMe file for the AV Digitizer Options extension.
This article has been archived and is no longer updated by Apple.
AV Digitizer Options Notes

Notice: This software is copyrighted by Apple Computer, Inc. You may freely distribute this software as long as you do not charge for it and as long as this notice accompanies the AV Digitizer Options file. This software is distributed as is and is not supported by Apple.
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Description:

The "AV Digitizer Options" extension is a "video panel component" for use with the Macintosh Quadra 840AV, Quadra 660AV and the Centris 660AV. It provides access to several capabilities of the AV video hardware that are not easily accessed otherwise:

1. It allows the user to switch the color space of the live video window from 16bpp color to 8bpp grayscale. Note than in monitors with a resolution higher than 832 x 624, video will only be displayed in 8bpp grayscale. This is a hardware limitation.

2. It allows the user to select 1 of 7 different levels of transparency for the live video. This means that when you superimpose a graphics window in front of the live video window, the live video can "blend" with the graphics at 7 different levels: (% Graphics / % Video) 100%/0%, 75%/25%, 62%/38%, 50%/50%, 38%/62%, 25%/75%, and 0%/100%. Please note, that this feature is only available when the graphics is in 256 colors or grays.

3. It allows the user to bypass the Inverse Gamma lookup table in the Digital Video Scaler. When the lookup table is bypassed the video data written to VRAM will not be modified. Note that there is another lookup table in the output end that only affects the displayed data (Not the captured video data). This lookup table has the same Gamma correction as that of the displayed graphics. In order to bypass that table, go to the Options dialog of the monitors control panel, while holding the option key. Select the "Uncorrected Gamma" as the gamma table.

Installation:

Drag the file into the Extensions folder of your system and reboot the machine. You can access the features through the "Video Settings..." menu item of any QuickTime 1.5 or higher aware application.

Extra Notes:

Presently, most video applications will stop live video playthrough when they are switched into the background. This is because if they don't, the video will blast through any windows that are in the front. However, the AV hardware has a dual frame buffer architecture that avoids the need for stopping the video. Thus transparency will not work in these applications. The only shipping application that I know that allows video-playthrough while in the background is Video Monitor, from Apple.

Bug reports, comments to: Fernando Urbina, Apple Computer. (Internet: nano@apple.com, Applelink: NANO).

Support Information Services
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Power Macintosh 8500, 8600: Unable To Display Video On TV

I have a Power Macintosh 8500. In addition to my computer monitor, I have attached a television to the correct ports on the back of the computer, but I cannot seem to get the video to display on the television. I get video on my computer monitor, but my television is black. What am I doing wrong?
This article has been archived and is no longer updated by Apple.
The situation you describe can also occur with the Power Macintosh 8600. Power Macintosh 8500 and 8600 systems can be configured with either 2 or 4 megabytes (MB) of video random-access memory (VRAM). Troubleshooting the problem depends on how much VRAM is installed in your computer.

2 MB of VRAM
If your Power Macintosh 8500 or 8600 system is equipped with 2 MB of VRAM, you can display video on either a computer monitor or a television, but not both at the same time. The computer detects what type of display device is attached when starting up and makes the proper adjustments. The computer defaults to the monitor when both a monitor and television are attached, hence the television screen will be black. Follow these directions to display video on a television from your computer:

1. Make sure that your computer and television are both turned off.
2. Disconnect your computer monitor from the video port on the back of the computer.
3. Connect the television to the composite or S-video out connectors on the back of the computer.
4. Turn on the television.
5. Start up your computer.
6. The video now appears on your television.

If, after following these steps, there is still no image on the television, you need to make sure that the VRAM Dual Inline Memory Modules (DIMMs) are installed in the slots labelled "1" on the logic board. If the VRAM DIMMs are installed in the slots labelled "2", the video out feature does not work.

If you want to use both the television and monitor at the same time, you need to add an additional 2 MB of VRAM to your computer. If you install additional VRAM you can also use a larger desktop, or use video mirroring for presentations and recording.

4 MB of VRAM
If your Power Macintosh 8500 or 8600 system is equipped with 4MB of VRAM, you can view the desktop on both the monitor and the television. If no image appears on the television, you need to open the unit and check the video cable connections.

Troubleshooting
Warning: Your computer contains electrically sensitive parts. To avoid damaging your computer, discharge static electricity that may be on your chest or body by touching (and maintaining contact with) the power supply case when working with the assembly. The following troubleshooting directions are provided primarily for Apple Service providers. If you attempt to perform upgrades or repairs yourself, any damage you may cause to your equipment will NOT be covered by your warranty.

Examine the internal AV ribbon cable and make sure it is attached between the logic board and the external composite and S-video connectors on the back panel of the computer. The internal ribbon connector must be attached to the logic board for the detection circuitry to operate properly. If the cable is not connected properly, reconnect the internal cable to correct this problem.

[These words have been added to the article to aid searching: video out video-out NTSC PAL]
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Macintosh XL: Incompatible With System 4.0 & ImageWriter LQ

This article has been archived and is no longer updated by Apple.

People have asked if Macintosh XL can run on System 4.0, and if it can use System 4.0 to run an ImageWriter LQ.

The Macintosh XL was officially discontinued on May 1, 1986, and there is no new hardware or software development (including system software) for the Macintosh XL. Software and hardware support will continue for five years from the date the machine was discontinued.

At the time of the Macintosh XL discontinuation, the System software was System 3.2 and Finder 5.3. This software contained patches that allowed it to run on a Macintosh XL. Any System software released AFTER these versions does not contain the necessary patches to run properly on the Macintosh XL.

The ImageWriter LQ must use current versions of the System file (version 4.1 or later), Finder (version 5.5 or later), and Chooser (version 3.1 or later) with ImageWriter LQ printer resources, so ImageWriter LQ should not be used with a Macintosh XL.

For further information on enhancements for Macintosh XL, search under: Sun Remarketing

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ADB Mouse: Sticking In The Down Position

Sometimes my mouse seems to stick in the down position. For instance, I can click the scroll arrow in a window, and the window keeps scrolling until I click the mouse again. How can I correct this problem?
This article has been archived and is no longer updated by Apple.
The symptoms you are describing could be caused by either hardware or software problems. Attempt to eliminate software first, then troubleshoot your hardware.

Try these steps in the order presented. If a step fails to correct the problem, proceed to the next one.

1. Restart your computer. Many times simply restarting fixes the problem.
2. Restart and turn off all extensions. If the problem goes away, troubleshoot your extensions.
3. Shut down your computer, but leave the power supply to the computer turned on. Switch off any SCSI devices and completely disconnect all Apple Desktop Bus (ADB) cables and devices attached to your computer. Wait at least 10 seconds, reattach the ADB cables and devices, and restart your computer. **Warning:** Do not disconnect ADB devices while the computer is turned on.
4. Reset the Parameter RAM (PRAM) by holding down the Command-Option-P-R keys at startup.
5. Replace the ADB cables and devices.

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Apple Video Player: Read Me

This article contains the Read Me file included with the Video SW Installer 1.3.2
This article has been archived and is no longer updated by Apple.
Important Information About Apple Video Player

This document provides important information about the Apple Video Player software. You may want to print this document and keep it with your manuals. Most of this information is not in the documentation. If you have questions that are not answered in this document, refer to the manuals that came with your computer.

After you finish reading this document, you can close it by clicking the small box at the upper left of the document window, by typing Command-Q, or by selecting Quit from the File menu.

Video Quality

Video viewing and video capture is supported in window sizes of up to 640x480 pixels. For the highest-quality video and TV viewing, use the standard video window sizes (Smallest, Normal, or Largest) in Apple Video Player's Windows menu. If you choose to customize the window size (by choosing Other in the Windows menu), the image's resolution may decrease.

In addition, video resolution is optimized when you view the Apple Video Player video window on the monitor connected to the monitor port on your Macintosh. You can drag the video window to a secondary monitor (connected to an expansion card), but the image resolution will decrease.

Hot Key and MacroMedia Director

The Apple Video Player application program allows you to use a keyboard shortcut, called a "hot key," to open and quit the program, and to switch between Apple Video Player and any other open programs. However, due to a minor incompatibility problem with MacroMedia Director, the Apple Video Player hot key does not work when MacroMedia Director is open.

If you are installing Apple Video Player for the first time, no hot key is defined. You can set one using the Hot Key item in the Setup Menu. If you are replacing a previous version of Apple Video Player, the hot key setting is retained in the Apple Video Player Preferences file.

Closed Captioning

If you have a TV tuner card, the Apple Video Player application program can display closed captions for TV channels that provide them. However, in order for closed captions to be visible, the video window size must be set to Normal Size or greater. Also, for best results, networking or printing should not be active when close captioning is selected.

Capturing Movies

Likewise, for best results, networking or printing should not be active when you are recording video from either television or an alternate video source. Virtual memory should also be turned off when capturing video for best results.

Movies are captured at the current volume setting. Set the volume to the desired level before recording a movie. Movies recorded when the sound is muted will not have any sound.

Forgetting Your Password

If you cannot remember your password, you may reset the password by removing the Apple Video Player Prefs file. To remove the Apple Video Player Prefs file, quit Apple Video Player and move the Apple Video Player Prefs file to the Trash. The Apple Video Player Prefs file is located in the Preferences folder, which is in the System Folder.
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QuickTime 2.1: Read Me File

This article contains the Read Me file included with QuickTime 2.1.
This article has been archived and is no longer updated by Apple.

Welcome to QuickTime 2.1

The QuickTime system software extension enables you to integrate video, graphics, sound, sprites, text, music, and animation into documents. By providing a standard way for all Macintosh programs to control these multimedia elements, QuickTime makes them easier to use. QuickTime 2.1 includes support for smoother video, sprite animation, CD-ROM AutoStart, 16-bit audio compression, and MPEG. It also includes the capabilities of the Apple Multimedia Tuner.

You do not interact directly with the QuickTime extension. It works behind the scenes as part of your system software, providing new features to application programs that support QuickTime, such as MoviePlayer and SimpleText. The specific features of QuickTime and how they are presented depend on the applications you use.

The QuickTime 2.1 release includes:

- the QuickTime extension
- the QuickTime PowerPlug extension for Power Macintosh
- the QuickTime Musical Instruments extension

To Install QuickTime 2.1:

1. Locate the System Folder on your hard disk. Open the System Folder by double clicking on its icon.

2. Locate the Extensions folder inside your System Folder. Open the Extensions folder by double clicking on its icon.

3. If there is a copy of the QuickTime extension in the Extensions folder, drag it to the Trash. Note: do not empty the trash until you restart your Macintosh.

4. If there is a copy of the Apple Multimedia Tuner extension in the Extensions folder, drag it to the Trash.

5. Close the Extensions folder. Close the System Folder.

6. Drag the QuickTime, QuickTime PowerPlug, and QuickTime Musical Instruments icons to your hard disk's System Folder icon (not into the open folder).

7. Click OK in the dialog box that appears.

8. Restart your Macintosh.

Visit the QuickTime site on the World Wide Web:
More information on QuickTime can be found on Apple Computer's QuickTime site on the World Wide Web. The address is:
http://www.apple.com/quicktime/

For Software Developers:

The QuickTime 2.1 Developer Kit, available in the Fall of 1995, includes tools for creating and editing movies, compressing audio, and creating sprite movies. It also includes sample movies such as music movies, MPEG movies, sprite movies, and technical documentation. It is available from the Apple Programmers and Developers Association (APDA).

APDA:
1-800-282-2732 in the U.S
1-800-637-0029 in Canada
1-716-871-6555 for other countries
Published Date: Feb 19, 2012

No Shell Command to Eject CD-ROM Discs (9/95)

Can I use a UNIX line command to eject a CD-ROM disc?

This article has been archived and is no longer updated by Apple.

There is no shell command that will eject a CD-ROM disc under A/UX. The only way to eject a CD-ROM disc under A/UX is by dragging its icon to the Trash.

Support Information Services
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PCI Connector Pinouts

What are the pinouts for the Peripheral Component Interconnect (PCI) Connector used in the Power Macintosh 7200, 7500, 8500, and 9500 series computers?

This article has been archived and is no longer updated by Apple.

Pin	Side B	Side A
1	-12V	TRST#
2	TCK	+12V
3	Ground	TMS
4	TDO	TDI
5	+5V	+5V
6	+5V	INTA#
7	INTB#	INTC#
8	INTD#	+5V
9	PRSNT1#	Reserved
10	Reserved	+5V
11	PRSNT2#	Reserved
12	Ground	Ground
13	Ground	Ground
14	Reserved	Reserved
15	Ground	RST#
16	CLK	+5V
17	Ground	GNT#
18	REQ#	Ground
19	+5V (I/O)	Reserved
20	AD[31]	AD[30]
21	AD[29]	+3.3V
22	Ground	AD[28]
23	AD[27]	AD[26]
24	AD[25]	Ground
25	+3.3V	AD[24]
26	C/BE[3]#	IDSEL
27	AD[23]	+3.3V
28	Ground	AD[22]
29	AD[21]	AD[20]
30	AD[19l	Ground
31	+3 3V	AD[181
32	AD[17]	AD[16]
33	C/BE[2]#	+3.3V
34	Ground	FRAME#
35	IRDY#	Ground
36	+3.3V	TRDY#
37	DEVSEL#	Ground
38	Ground	STOP#
39	LOCK#	+3.3V
40	PERR#	SDONE
41	+3.3V	SBO#
42	SERR#	Ground
43	+3.3V	PAR
44	C/BE[1]#	AD[15]
45	AD[14]	+3.3V
46	Ground	AD[13]
47	AD[12]	AD[11]
48	AD[10]	Ground
49	Ground	AD[09]
50	Connector Key	
51	Connector Key	
52	AD[08]	C/BE[0]#
53	AD[07]	+3.3V
54	+3.3V	AD[06]
55	AD[05]	AD[04]
56	AD[03]	Ground

57	Ground	AD[02]
58	AD[011	AD[00]
59	+5V (I/O)	+5V (I/O)
60	ACK64#	REQ64#
61	+5V	+5V
62	+5V	+5V

Published Date: Feb 19, 2012

Power Macintosh: Sharing Files Over Short Distances

This article provides possible solutions for sharing files between Power Macintosh computers separated by approximately 500 feet.
This article has been archived and is no longer updated by Apple.
You can use the built-in networking capabilities of your Power Macintosh computers to share files over short distances, such as in a neighborhood, but there are some limits to how far one can run network cabling. You can also use Apple's Remote Access (ARA) software to connect two Macintosh computers via modems.

There are three methods you can use to have your Macintosh computers communicate:

- LocalTalk - directly networking the two computers using LocalTalk via unshielded RJ-11 cabling (Not supported on Power Macintosh G3 (Blue and White) or later computers.)
- Ethernet - directly networking the two computers using Ethernet cabling
- ARA - using Apple Remote Access software to connect the two computers by modem.

You need to consider required network performance, distance between computers, difficulty in running cabling, and how much money you are willing to spend when choosing which method works best in your situation.

Additional Hardware Needed

LocalTalk

A LocalTalk RJ-11 Connector Kit for each computer.

Ethernet

There are several different Ethernet networking schemes, including 10-Base-T (twisted pair), 10-Base-2 (thin coax), and 10-Base-5 (thick coax). Each has their advantages and disadvantages, but thin coax allows the longest cable length and does not require an additional hardware hub or router making it a good choice for a low cost solution.

You can attach the transceiver directly to the built-in AAUI Ethernet port on your Power Macintosh computer. Later Power Macintosh computers came with a 10-BaseT port instead of the AAUI. In this case, you cannot use thin coax without an Ethernet card.

ARA

Apple Remote Access requires a modem in each computer. You also need one copy of Apple Remote Access Personal Server software for the host computer. The client computer can use the Remote Access control panel to dial into the server.

Cabling

LocalTalk

LocalTalk uses unshielded, RJ-11 cable. This type of cable is similar to regular phone cable. However, it would be best to purchase this cable from a computer cable shop as one continuous cable without any extending connectors.

However, because RJ-11 cable is usually unshielded against external interference, the two computers may have difficulty communicating over longer distances with one another due to outside interference, such as nearby broadcasting transmitters or high-voltage power lines.

The maximum limit on cable length using this method is approximately 1000 feet. The longer your cabling, the more likely you are to encounter interference.

Ethernet

Ethernet is considerably faster than LocalTalk. Thin coax Ethernet uses shielded coax cable, similar to cable used by most cable television. Be sure to use RG-58 Ethernet cabling, not the RG-62 used for most cable TV. RG-58 cable is less susceptible to interference. The overall cable length of this type of network is approximately 600 feet.

ARA

No additional cabling is necessary since you are using modems and existing phone lines.

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PowerTalk and PowerShare: Error Code Listing

This article provides the error codes on PowerTalk and PowerShare, which is also know as AOCE (Apple Open Collaborative Environment). This article has been archived and is no longer updated by Apple.

```
Allocated ranges
----------------
AOCE General Errors               -1500 to -1539
AOCE Authentication Errors        -1540 to -1609
AOCE Directory Errors             -1610 to -1680

AOCE Standard Mail Errors         -1900 to -1949
AOCE Standard Directory Errors    -1950 to -1969
AOCE Digital Signature Errors     -1970 to -1999

AOCE Directory Templates Errors   -15000 to -15039
AOCE Mail Errors                  -15040 to -15089
AOCE Messaging Errors             -15090 to -15169
Reserved for future               -15170 to -15199


AOCE General Errors (-1500 to -1521)
------------------------------------
-1500  toolbox not open; perhaps it's closing  = kOCEToolboxNotOpen
-1501  request code passed to trap call invalid  = kOCEInvalidCommand
-1502  reference to object obsolete/invalid  = kOCEInvalidRef
-1503  buffer supplied too small for task  = kOCEBufferTooSmall
-1504  some manner of software version mismatch  = kOCEVersionErr
-1505  op tried synchronously; may only be done async, or vice versa  =
      kOCESyncAsyncErr
-1506  OCE toolbox has an internal error  = kOCEInternalErr
-1507  operation can only be done by object's owner  = kOCENotAnOwner
-1508  feature not implemented  = kOCENotImplemented
-1509  user must be authenticated  = kOCENotAuthenticated
-1510  object being added already exists  = kOCEAlreadyExists
-1511  object being referenced doesn't exist or cannot be found  =
      kOCEDoesntExist
-1512  unable to open or maintain network transport  = kOCEConnectionErr
-1513  connect has closed  = kOCEConnectionClosed
-1514  invalid recipient/address for command  = kOCEInvalidRecipient
-1515  invalid index (out of range)  = kOCEInvalidIndex
-1516  object references being closed, cannot complete command  =
      kOCERefIsClosing
-1517  kOCEHasPendingMsgs
-1518  kOCEInvalidConfiguration
-1519  kOCERequiredServicesNotAvailable
-1520  kOCEServerInactive
-1521  inadequate disk space to safely complete operation  =
      kOCEMoreDiskSpaceNeeded
paramErr  invalid parameter passed to toolbox  = kOCEParamErr


AOCE Authentication Errors (-1540 to -1571)
-------------------------------------------
-1540  kOCEReadAccessDenied
-1541  kOCEWriteAccessDenied
-1542  stream needs to be authenticated, or not authorized, or someone
      other than agent trying to TPFC, or problem in server-to-server
      authentication  = kOCEAccessRightsInsufficient
-1543  don't know how to read version of credentials  =
      kOCEUnsupportedCredentialsVersion
-1544  couldn't successfully decrypt credentials  = kOCECredentialsProblem
-1545  current time < first valid time  = kOCECredentialsImmature
-1546  current time > expiry time  = kOCECredentialsExpired
-1547  current time < proxy start time  = kOCEProxyImmature
```

-1548 current time > proxy expiry time = kOCEProxyExpired
-1549 recipient not specified in proxy = kOCEDisallowedRecipient
-1550 found no key for entity in question = kOCENoKeyFound
-1551 couldn't decode proxy because principal has no key = kOCEPrincipalKeyNotFound
-1552 recipient has no key = kOCERecipientKeyNotFound
-1553 in TPFC, agent has no key = kOCEAgentKeyNotFound
-1554 entity already has a key = kOCEKeyAlreadyRegistered
-1555 key is of an unknown encryption method, or key doesn't match password = kOCEMalformedKey
-1556 password too short, key too simple, or trying to change cluster key to the same value = kOCEUndesirableKey
-1557 in CheckIdentity, name doesn't exist or key is wrong = kOCEWrongIdentityOrKey
-1558 either we couldn't find the initiator's key or we found it but couldn't successfully decrypt instructions or proxy = kOCEInitiatorKeyProblem
-1559 specified encryption method is not supported = kOCEBadEncryptionMethod
-1560 LocalIdentity has to be setup = kOCELocalIdentityDoesNotExist
-1561 LocalIdentity Login has to be done for this operation = kOCELocalAuthenticationFail
-1562 LocalIdentity setup exists, use change instead of setup = kOCELocalIdentitySetupExists
-1563 DirectoryIdentity setup exists, use change instead of setup = kOCEDirectoryIdentitySetupExists
-1564 DirectoryIdentity setup does not exist = kOCEDirectoryIdentitySetupDoesNotExist
-1565 use LocalIdentity calls instead! = kOCENotLocalIdentity
-1566 identity table is full = kOCENoMoreIDs
-1567 identity passed is not valid = kOCEUnknownID
-1568 LocalID operation denied = kOCEOperationDenied
-1569 ambiguous matches found in resolving CIDs (more than 1 CID) = kOCEAmbiguousMatches
-1570 No ASDSP workspace passed for Open Secure Stream = kOCENoASDSPWorkSpace
-1571 generic authentication problem = kOCEAuthenticationTrouble

AOCE Catalog Errors (-1610 to -1646)

-1610 server does not serve requested dNode = kOCENotLocal
-1611 server cannot complete call at this time = kOCETooBusy
-1612 disk full = kOCEDatabaseFull
-1613 catalog server not responding = kOCETargetDirectoryInaccessible
-1614 args not formatted correctly on wire = kOCEBogusArgs
-1615 requested dNode does not exist = kOCENoSuchDNode
-1616 could not find any servers that serve requested dNode = kOCEDNodeUnavailable
-1617 invalid RecordID (usually name and/or type don't match cid) = kOCEBadRecordID
-1618 specified record does not exist = kOCENoSuchRecord
-1619 attribute value that was passed does not exist = kOCENoSuchAttributeValue
-1620 specified pseudonym does not exist = kOCENoSuchPseudonym
-1621 self-explanatory = kOCEAttributeValueTooBig
-1622 type already exists in record = kOCETypeExists
-1623 only a warning - buffer not big enough = kOCEMoreData
-1624 RefNum is not valid = kOCERefNumBad
-1625 problem creating stream = kOCEStreamCreationErr
-1626 the specified catalog does not support operation = kOCEOperationNotSupported
-1627 specified Personal Catalog is not open to make the operation = kOCEPABNotOpen
-1628 specified CSAM could not be installed = kOCEDSAMInstallErr

```
-1629  catalog list is full, try removing an entry  = kOCEDirListFullErr
-1630  catalog was not found in the list  = kOCEDirectoryNotFoundErr
-1631  this call cannot be aborted  = kOCEAbortNotSupportedForThisCall
-1632  this call was aborted  = kOCEAborted
-1633  LocalIdentity Setup is required  = kOCEOCESetupRequired
-1634  CSAM Record not found  = kOCEDSAMRecordNotFound
-1635  CSAM is not instantiated  = kOCEDSAMNotInstantiated
-1636  CSAM record already exists  = kOCEDSAMRecordExists
-1637  supplied buffer was too small  = kOCELengthError
-1638  Lookup starting record is not within range  = kOCEBadStartingRecord
-1639  Lookup starting attribute is not within range  =
      kOCEBadStartingAttribute
-1640  attribute value could not fit into buffer (even though it was the
      only value)  = kOCEMoreAttrValue
-1641  kOCENoDupAllowed
-1642  kOCENoSuchAttributeType
-1643  some other error  = kOCEMiscError
-1644  no matching icon from GetDirectoryIcon  = kOCENoSuchIcon
-1645  RLIs do not match in lookup  = kOCERLIsDontMatch
-1646  Serious disk fill corruption problem  = kOCEDirectoryCorrupt


AOCE Standard Mail Errors (-1900 to -1928)
------------------------------------------
-1900  kSMPNotEnoughMemoryForAllRecips
-1901  kSMPCopyInProgress
-1902  kSMPMailerNotInitialized
-1903  kSMPShouldNotAddContent
-1904  kSMPMailboxNotFound
-1905  kSMPNoNextLetter
-1906  kSMPHasOpenAttachments
-1907  kSMPFinderNotRunning
-1908  kSMPCommandDisabled
-1909  kSMPNoMailerInWindow
-1910  kSMPNoSuchAddress
-1911  kSMPMailerAlreadyInWindow
-1912  kSMPMailerUneditable
-1913  kSMPNoMatchingBegin
-1914  kSMPCannotSendReceivedLetter
-1915  kSMPIllegalForDraftLetter
-1916  kSMPMailerCannotExpandOrContract
-1917  kSMPMailerAlreadyExpandedOrContracted
-1918  kSMPIllegalComponent
-1919  kSMPMailerAlreadyNotTarget
-1920  kSMPComponentIsAlreadyTarget
-1921  kSMPRecordDoesNotContainAddress
-1922  kSMPAddressAlreadyInList
-1923  kSMPIllegalSendFormats
-1924  kSMPInvalidAddressString
-1925  kSMPSubjectTooBig
-1926  enclosure count !=1, while sendEnclosure Only=true.  =
      kSMPParamCountErr
-1927  Exceeding the image page limit.  = kSMPTooManyPages
-1928  kSMPTooManyEnclosures


AOCE Standard Directory Errors (-1950 to -1953)
-----------------------------------------------
-1950  kSDPNoSearchText
-1951  kSDPTooManyLoginAttempts
-1952  kSDPNoSelection
-1953  kSDPPersonalDirectoryRepairFailed


AOCE Digital Signature Errors (-1970 to -1983)
```

-1970 context in use for different type of operation = kSIGOperationIncompatibleErr
-1971 can't query certificates with this context = kSIGCertificateQueryDenied
-1972 verification failed = kSIGVerifyFailedErr
-1973 verified OK but credential out of date, either pending or expired = kSIGInvalidCredentialErr
-1974 the index given is outside range of allowable values = kSIGIndexErr
-1975 problem with signer or signature = kSIGSignerErr
-1976 password incorrect = kSIGPasswordErr
-1977 internal error occurred like a bad digest, context or signature = kSIGInternalsErr
-1978 for client services (ie servers) to report back - not returned by the TB = kSIGToolboxNotPresentErr
-1979 context either prepared with VerifyPrepare, SignPrepare or DigestPrepare already or has been corrupted = kSIGContextPrepareErr
-1980 no digest in signature = kSIGNoDigestErr
-1981 unabld to convert attribute to Mac format = kSIGConversionErr
-1982 signer has either expired or is pending and can not sign = kSIGSignerNotValidErr
-1983 standard file signature not found = kSIGNoSignature

AOCE Directory Templates Errors (-15000 to -15020)

-15000 could not locate aspect by name = kDETInvalidTargetAspectName
-15001 item number target invalid (out of range 1..<number of children>) = kDETInvalidTargetItemNumber
-15002 target selection relative to non-aspect object which requires an aspect = kDETInvalidTargetFromNonAspect
-15003 target DSSpec could not be resolved = kDETInvalidTargetDSSpec
-15004 unknown selector type for target specification = kDETUnknownTargetSelector
-15005 target specification was invalid (for reasons other than those above) = kDETInvalidTarget
-15006 specified target object was not an aspect = kDETTargetNotAnAspect
-15007 command item number invalid (out of range 1..<number of items in selection>) = kDETInvalidCommandItemNumber
-15008 unable to retrieve item specification (internal error, possibly out of memory) = kDETUnableToGetCommandItemSpec
-15009 command item could not be represented in the form requested = kDETRequestedTypeUnavailable
-15010 could not resolve DSSpec (other than in target; see error above for targets) = kDETInvalidDSSpec
-15011 property could not be found and/or created = kDETUnableToAccessProperty
-15012 info-page not open; request requires an open info-page = kDETInfoPageNotOpen
-15013 no view found with specified property number = kDETNoSuchView
-15014 could not add item to dynamic menu = kDETCouldNotAddMenuItem
-15015 could not remove item from dynamic menu = kDETCouldNotRemoveMenuItem
-15016 could not find menu item = kDETCouldNotFindMenuItem
-15017 could not find custom view in info-page = kDETCouldNotFindCustomView
-15018 invalid call-back request function = kDETInvalidReqFunction
-15019 invalid call-back (for reasons other than those above) = kDETInvalidCallBack
-15020 edit is open on the property being set = kDETPropertyBusy

AOCE Mail Errors (-15040 to -15068)

-15040 this object has already been written to and cannot be written

again, handle non-zero offsets for now = kMailInvalidOrder
-15041 invalid letter sequence refers to an nonðexistent letter = kMailInvalidSeqNum
-15042 attribute does not exist in letter header = kMailAttrNotInHdr
-15043 required attribute not written into letter header = kMailHdrAttrMissing
-15044 incorrect number of bytes has been written after memForm of PutEnclosure = kMailBadEnclLengthErr
-15045 cannot putAttr for report, putRcptReport for letter = kMailInvalidRequest
-15046 cannot create new postit with this version = kMailInvalidPostItVersion
-15047 queueID does not refer to a slot's incoming queue = kMailNotASlotInQ
-15048 letter is not open, probably not cached in inQ = kMailLtrNotOpen
-15049 trying to create message in inq, with no postIt = kMailMissingMailCat
-15050 cannot update a mail catentry = kMailCannotWriteMailCat
-15051 cannot add more than kMaxTagsPerLetter tags = kMailTooManyTagsPerLetter
-15052 MSAM died = kMailGwyDead
-15053 ePPC message was ignored = kMailIgnoredErr
-15054 ePPC message did not complete = kMailLengthErr
-15055 too many requests outstanding = kMailTooManyErr
-15056 no MSAMs found in mailbox! or for command = kMailNoMSAMErr
-15057 kMailCancelled
-15058 kMailSlotSuspended
-15059 kMailMSAMSuspended
-15060 kMailBadSlotInfo
-15061 a mailed structure is malformed = kMailMalformedContent
-15062 no such slot = kMailNoSuchSlot
-15063 bad info there, can't change = kMailBadLtrInfo
-15064 could not set letter info = kMailSetFailed
-15065 MSAM has bad config info = kMailBadConfig
-15066 bad MSAM: not usable=reason unspec = kMailBadMSAM
-15067 cannot lookup adas for server mail slots = kMailCannotLkupServerSlots
-15068 state specified is not in any of defined = kMailBadState

AOCE Messaging Errors (-15090 to -15149)

-15090 kIPMCantCreateIPMCatEntry
-15091 bad msg hint = kIPMInvalidMsgType
-15092 bad proc hint = kIPMInvalidProcHint
-15093 bad offset for read/write = kIPMInvalidOffset
-15094 kIPMUpdateCatFailed
-15095 kIPMMsgTypeReserved
-15096 kIPMNotInABlock
-15097 kIPMNestedMsgOpened
-15098 kIPMA1HdrCorrupt
-15099 kIPMCorruptDataStructures
-15100 kIPMAbortOfNestedMsg
-15101 kIPMBlockIsNotNestedMsg
-15102 kIPMCacheFillError
-15103 kIPMInvalidSender
-15104 kIPMNoRecipientsYet
-15105 kIPMInvalidFilter
-15106 kIPMAttrNotInHdr
-15107 kIPMBlkNotFound
-15108 Error on stream (should this ever go out?) = kIPMStreamErr
-15109 Port closed (should this ever go out?) = kIPMPortClosed
-15110 kIPMBinBusy
-15111 kIPMCorruptedBin
-15112 kIPMBadQName

```
-15113  kIPMEndOfBin
-15114  kIPMBinNeedsConversion
-15115  kIPMMgrInternalErr
-15116  kIPMEltBusy
-15117  kIPMEltClosedNotDeleted
-15118  kIPMBadContext
-15119  kIPMContextIsClosing
-15120  kIPMeoQ
-15121  kIPMQOutOfSpace
-15122  kIPMEltNotFound
-15123  kIPMBinOutOfSpace
-15124  kIPMeoCatEntry
-15125  kIPMeoElt
-15126  kIPMQBusy
-15127  kIPMNotSameBin
-15128  kIPMNoMoreServices
-15129  attribute in lookup is too big  = kIPMLookupAttrTooBig
-15130  kIPMUnknownUAM
-15131  kIPMUnsupportedLogin
-15132  kIPMLogInUnknown
-15133  kIPMNoMoreFilters
-15134  kIPMCouldNotReadInfoReply
-15135  kIPMInvalidUser
-15136  kIPMNoMoreSessions
-15137  kIPMNilUserProc
-15138  kIPMBadCatSize
-15139  kIPMIncompleteMsg
-15140  kIPMNoResponsibleTunnel
-15141  kIPMAccessDenied
-15142  too few reply parameters  = kIPMReplyParamUnderrun
-15143  too many reply parameters  = kIPMReplyParamOverrun
-15144  Too few request parameters  = kIPMRequestParamUnderrun
-15145  protocol sync. error  = kIPMOutOfSync
-15146  couldn't find any attrs in lookup  = kIPMNoAttrsFound
-15147  wrong attr tag in adas lookup  = kIPMWrongAttrTag
-15148  null cid in enumerate  = kIPMNullCID
-15149 invalid mailslot attr value  = kIPMBadMailSlotAttrVal
```

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MegaPhone Rings For No Reason (9/95)

Occasionally, while using MegaPhone on a Macintosh Performa 6200CD series computer, MegaPhone will make a ring noise when there is no incoming call or while I am already using it to take a call. It will still ring properly when an actual call is being received. What could be happening to cause this?

This article has been archived and is no longer updated by Apple.

This may be a perception issue, but we will give as many possible solutions as we can. Make sure that it is actually MegaPhone which is causing the ring and not your Macintosh computer giving you an error message accompanied by the sound of the phone ringing. Are any of the occasions accompanied by a dialog box? For example, when your computer needs to give you a message, it will also play the alert sound which is selected in the Sound control panel.

Open your Sound control panel and see which alert is selected. If one of the MegaPhone sounds, such as "Bell Telephone", "Electronic Telephone", or "Melodic Ring", is selected, then that is the sound an alert on your Macintosh computer will play. Select another alert sound to avoid confusion. You may also choose a different ring sound for an incoming call for MegaPhone by opening the Telephone Setup control panel and changing the Ring Sound option.

A good way to test for this would be to start your computer and then let it sit idle. Listen to see if it makes the ringing sound. If it does not, it is likely you are just hearing an alert sound while you are working.

If the alert sound selected is not one of the MegaPhone sounds or if MegaPhone is really playing the ring sound when there is no incoming call, open the System Folder and then open the Preferences folder. Open the Cypress folder and then open the MegaPhone folder. Drag the MegaPhone Prefs file to the Trash. Restart your computer and test it again. A new preferences file will be created the next time you use MegaPhone.

Support Information Services
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MAE: asdtool Utility Converts Macintosh File Formats (9/95)

This article provides information on asdtool a new Macintosh Application Environment (MAE) utility.
This article has been archived and is no longer updated by Apple.
Apple is pleased to announce the availability of a new utility for use with Macintosh Application Environment, `asdtool'.

asdtool converts AppleSingle file format to AppleDouble and vice-versa. It can optionally translate carriage returns to linefeeds and handle double-byte characters, such as Kanji. asdtool determines the file format and, following conversion, adds a suffix of _sgl or _sbl as appropriate. For complete information, please read the man page supplied in the tar distribution.

asdtool is covered under the `APPLE SOFTWARE LICENSE AGREEMENT' which is supplied with MAE.

asdtool and other utilities are available from `support.apple.com' using FTP. The asdtool can be found in the directory /pub/mae/utilities. For more information, please see the README contained in the same directory.

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PhotoFlash 2.0: White Images Instead of Pictures (9/95)

This article cotains information on a problem with PhotoFlash 2.0 after QuickTime 2.1 is installed on a Macintosh computer.

This article has been archived and is no longer updated by Apple.

After installing QuickTime 2.1, PhotoFlash 2.0 displays blank white images instead of pictures. To correct this you must reinstall PhotoFlash 2.0, then install the PhotoFlash patcher, then re-start.

Support Information Services
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System 7.5.2: Which Software Updates Do I Need? (6/96)

Are the Apple Menu Options 1.0.2 control panel and Sound Manager 3.1 extension compatible with System 7.5.2? My Macintosh computers running System 7.5.2 have older versions of these system resources, but I am unable to determine if these later software releases are compatible. Will they work?

What other updates do I need?
This article has been archived and is no longer updated by Apple.
These updates will work on all the computers that shipped with System 7.5.2, however, each computer series needs to have different updates installed.

Apple recommends you install the System 7.5 Update 2.0 software which includes each of these updates and will install over the original 1.0 version of the System Enabler 7.0.1 on the Power Macintosh 9500 computers. The System 7.5 Update 2.0 can be obtained from the Apple Order Center.

Some of these updates are integrated into other parts of the system software. Review the "System 7.5 Update 2.0: What's New in This Update" files installed by the update for more information.

The following are included in the System 7.5 Update 2.0:

* Power Macintosh 9500 systems running version 1.0 of System Enabler 701 should use System 7.5 Update 2.0. This CD includes Open Transport 1.1, Apple Menu Options 1.1.2, and many other updates.

* Apple Menu Options 1.1.2 is updated and available in this update.

**Power Macintosh 7200 and 9500 customers no longer need to add Sound Manager 3.1 separately. This extension is built into the update and does not need to be installed separately on these computers.

* All computers with System 7.5.2 and Open Transport should update to Open Transport 1.1 available as part of this update.

* The System 7.5.2 Printing Update version 1.1 addresses a printing problem that may occur on Power Macintosh 7200, 7500, 8500, and 9500 computers using System 7.5.2. Without this fix, your computer may freeze if you attempt to print on a network-based printer that is already busy. The update is comprised of 7.5.2 Printing Fix, LaserWriter 8.3.2, and SerialDMA. All three components are incorporated in this update.

* If your computer is using a built-in Ethernet port to connect to your network, you should install this update. The update incorporates the Built-in Ethernet extension and fixes an issue that may occur on Power Macintosh 7200, 7500, 8500, and 9500 computers when transferring large files to AFP servers. The symptom is the transfer fails with a -1072 error and the computer disappears from the network.

* If you use Desktop Printing Software on your Power Macintosh 7200, 7500, 8500, or 9500 series computer, you should use this update.

The Tech Info Library article titled "Locating Vendor Information" can help you search for the Apple Order Center's phone number.

These articles can help you locate the software update mentioned here:

* "Where To Find Apple Software Updates" -- Lists online services for free Apple software updates.

* "Obtaining Apple Product Support in the USA" -- Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech Info Library.

Article Change History:
03 Jun 1996 - Updated for technical accuracy.
27 May 1996 - Updated for technical accuracy.
20 May 1996 - Added reference to updates in System 7.5 Update 2.0.

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Find File: "in the Finder Selection" Dimmed (9/95)

I am using a Macintosh computer with System 7.5. When I use the Find File application, the "in the Finder Selection" item in the "Find Items" pop-up menu is dimmed. I would like to use that option so I can constrain my searches to specific folders or disks. What should I do?

This article has been archived and is no longer updated by Apple.

First, you must have a Finder item selected before that option will appear in the Find File pop-up menu. If you have made sure that either a volume, folder, or floppy disk is selected (dark or highlighted) and you still do not see the option of "in the Finder Selection" then you should make sure the Finder Scripting Extension is loaded in your system software.

If you have moved your Finder Scripting Extension out of your Extensions folder, or disabled it using the Extensions Manager, the "in Finder Selection" option will be dimmed. To resolve this issue:

Step 1

Use the Find File application to find the Finder Scripting Extension.

If the Finder Scripting Extension has been deleted from your computer, you should restore your system software from your System 7.5 installation disks, Performa CD, or Apple Backup disks.

Step 2

Make sure the Finder Scripting Extension is inside your Extensions folder. If it is anywhere else on your hard drive, drag it to your closed System Folder, click OK when asked if you want it placed where it belongs.

Step 3

Restart your Macintosh, hold down the spacebar on the keyboard until the Extensions Manager window opens. If there is not a checkmark to the left of the Finder Scripting Extension, click on the words Finder Scripting Extension to put one there.

Step 4

Close the Extensions Manager by clicking on the box in the upper left corner.

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Performa: Power Pete Out Of Memory (9/95)

Article Review/Updated: 15 September 1995

I have a Performa computer that came bundled with the Power Pete program. Sometimes I can successfully launch Power Pete, at other times I get a message telling me I need more memory. Why is this happening, and what can I do to prevent it from happening again?

This article has been archived and is no longer updated by Apple.

The Power Pete program comes preset to request 5113K of Random Access Memory (RAM), an amount that may sometimes exceed the memory your computer has available for programs. If you have less than 5113K of available memory, you cannot launch Power Pete. You can check the available memory in the Largest Unused Block area of the About This Macintosh dialog box under the Apple menu. The amount of memory used by your system software varies depending on a number of factors.

Workarounds

Restart your computer

Simply restarting your computer clears the memory and resets the system software back to its original size. Check the Largest Unused Block area of the About This Macintosh dialog box under the Apple menu to make sure you have at least 5113K available.

Disable extensions

Disabling some of your extensions using the Extensions Manager control panel also reduces the amount of memory used by your system software. Remove the check mark next to any extensions you do not need. Power Pete does not require any extensions to run, but some of your other programs may require certain extensions. Once you have turned off some extensions, you can save the set by selecting "Save set..." from the pop-up Sets menu in the Extensions Manager control panel. You may then choose the set you want to enable, and restart your computer. Check the About This Macintosh dialog box again to see if you have at least 5113K available.

Restart with all extensions off

Since Power Pete requires no extensions, another option is to restart your computer with all extensions turned off. To do this, restart your computer and hold down the Shift key until you see the message "Extensions off" appear at the "Welcome to Macintosh" screen. Disabling all extensions greatly reduces the memory used by your system software, so you have much more RAM available for programs. Again, check the About This Macintosh dialog box to see if you have at least 5113K available.

Allocate less memory to Power Pete

Another option is to allocate less memory to the Power Pete program. Decrease both the Preferred and Minimum memory requirements to 4500. You may see a message warning you that the program may crash. Keep in mind that not all the game's features may work correctly when configured in this manner. For example, the game may not be able to play all of its sounds. While this is not necessarily the best solution, it will at least allow you to play the game.

Install more RAM

The best solution is to install more memory.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

Article Change History:
15 Sep 1995 - Made minor corrections.

Support Information Services
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MAE: asdtool For AppleSingle & AppleDouble Conversion (9/95)

I would like to edit a file that was saved in MAE with a UNIX application, however, I am unable to work with the file. I understand that MAE uses AppleSingle format to save files to the UNIX file system. How can I work with these files (like PICT, JPEG, and text) in UNIX without always starting up MAE with the -filedouble option?
This article has been archived and is no longer updated by Apple.
UNIX programs, like vi, do not expect the Macintosh file header, or resource fork, used in the AppleSingle file format. Converting an AppleSingle file to an AppleDouble format file will let UNIX programs read it by separating the resource fork from the data fork.

Apple provides a utility called asdtool to convert AppleSingle format files to AppleDouble format files and vise versa, with the option of translating a carriage return to a linefeed, and handling wide chars like Kanji. This utility is available on:

ftp.support.apple.com:/pub/mae/utilities/asdtool.tar

Follow the steps below to use the asdtool utility:

Step 1

Perform the following command to un-tar the utility:

tar xovf asdtool.tar

Place the appropriate file (asdtool.hp or asdtool.sun) in the /apple/bin directory. (You can place this file anyplace, but /apple/bin/asdtool would be a logical place. Also, you can rename the file to asdtool from asdtool.hp or asdtool.sun.)

Step 2

If you desire, add the man page for asdtool (asdtool.1).

* Solaris:
cp ./asdtool.1 /usr/share/man/man1/asdtool.1
catman 1

* HP (Hewlett Packard)
cp ./asdtool.1 /usr/man/man1/asdtool.1
catman 1

Step 3

To convert an AppleSingle format file to an AppleDouble format file, issue the following command:

asdtool 'filename'

From within UNIX, you will find that there are now two files associated with the original, for example, filename_dbl and %filename_dbl.

NOTE: The original AppleSingle format file will be left unchanged.

Step 4

From a UNIX program, like vi, you can now edit the filename_dbl. (The %filename_dbl file is the resource fork.)

Step 5

To convert an AppleDouble format file to an AppleSingle format file, issue the same command (asdtool 'filename' -- as shown in Step 3). The new file created will be named, filename_sgl.

NOTE: The filename to use for Step 5, should NOT be the AppleDouble file that begins with '%' (percent), because asdtool will improperly create the AppleSingle file from that file.

Step 6

The asdtool can deduce the source file format and convert to the other file format, placing the suffix _sgl or _dbl to distinguish the type.

Step 7

The two options are as follows for asdtool:

-t Specifies translation of carriage returns to linefeeds.

-w Specifies source files use wide characters such as Kanji.

Support Information Services
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Guest Entry on PowerTalk Keychain (9/95)

I want to receive mail on the computer acting as my PowerShare server, but it does not appear that I can add a PowerShare service to the server's keychain.

This article has been archived and is no longer updated by Apple.

The PowerTalk keychain on a PowerShare server has a Guest entry, for the PowerShare system, that gets created automatically. The Guest entry gets created if the PowerShare Mail Server or the PowerShare Admin application is launched, and there is no pre-existing keychain entry for that PowerShare system.

To successfully add a keychain entry on the computer acting as the server, follow these steps:

Step 1

Make sure that neither the PowerShare Mail Server, nor the PowerShare Admin application launch at startup (check to make sure these applications are not in the Startup Items folder).

Step 2

Open the PowerTalk keychain and remove the Guest PowerShare entry. This will require that you restart of the computer.

Step 3

After the computer restarts, launch the PowerShare Catalog Server application.

Step 4

Open the PowerTalk keychain and add a PowerShare service for the user name which will receive mail on this computer (that is Administrator).
Note: This user must already exist in the PowerShare catalog.

Step 5

Launch the PowerShare Mail Server application.

Step 6

Launch the PowerShare Admin application and verify that the user's Mailbox is on a valid mail server (that is not set to None).

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Performa 631CD: RAM Configurations (9/95)

Article Review/Updated: 15 September 1995

I have some questions about expanding the Random Access Memory (RAM) on my Performa 631CD. How many memory expansion slots are on my computer? What is the maximum amount of RAM that I can install? Do I have to install Single Inline Memory Modules (SIMMs) in pairs of the same size?

This article has been archived and is no longer updated by Apple.

There are two SIMM expansion slots on the Performa 631CD. The computer ships with 4 megabytes (MB) of RAM soldered on the logic board and 4MB of RAM installed in the expansion slot. The maximum amount of RAM that can be installed is 52MB.

The inside SIMM expansion slot can accommodate a single-banked SIMM in 1, 4, or 16MB sizes. The outside slot can accept a double-banked SIMM in 1, 2, 4, 8, 16, or 32 MB sizes. SIMMs do not have to be installed in same size pairs.

Article Change History:
15 Sep 1995 - Made minor corrections.

Support Information Services
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PowerShare SMTP Gateway: Launch With -1625 Error (9/95)

When attempting to launch an SMTP Gateway on a PowerShare server, we encounter an error, -1625. How can this be resolved?

This article has been archived and is no longer updated by Apple.

The AOCE (Apple Open Collaborative Environment) error being reported, -1625 (kOCEStreamCreationErr), indicates the SMTP Gateway was unable to open a communication stream with the Catalog server. To resolve, first make sure the Catalog server is running and processing requests through PowerShare Admin. Restart the Catalog Server if necessary.

If the Catalog server exhibits no problems, check for the existence of a "Guest" entry in the PowerTalk keychain on the computer with the SMTP server. If such an entry exists it would prevent the creation of an "authenticated" communication session with the PowerShare Catalog Server even if it is on the same computer.

The occurrence of a "Guest" entry is not unusual because it gets created if the PowerShare Mail Server or the PowerShare Admin application is launched on a computer with no pre-existing keychain entry for its associated PowerShare system.

The steps to remove "Guest" from the keychain and to prevent its recurrence follow:

Step 1

Make sure that neither the PowerShare Mail Server, nor the PowerShare Admin application launch at startup (check to make sure these applications are not in the Startup Items folder).

Step 2

Open the PowerTalk keychain and remove the "Guest" PowerShare entry. This will require a restart of the computer.

Step 3

After the computer restarts, launch the PowerShare Catalog Server application.

Step 4

Open the PowerTalk keychain and add a PowerShare service for a valid user name (that is "Administrator"). Note: This user must already exist in the PowerShare catalog.

If a valid user entry exists in the PowerTalk keychain and the -1625 error still occurs, there is a problem with the PowerShare permissions for that user. In such a case either that user would need to be granted wider permissions or the keychain entry would need to be replaced with a user already possessing wider permissions.

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DOS Compatibility Card: Problem W/ Reflections for Windows 9/95

I am using Reflections with a DOS Compatibility Card, and sometimes when I click outside the Reflections window the pointer begins to jump around the screen and randomly click. What can I do to correct this problem?
This article has been archived and is no longer updated by Apple.
After some discussion with Walker Richer & Quinn, Inc. who produces the software, the following situations were discovered.

Reflections 4.21, DOS Compatibility Software 1.0.3 and Windows 3.11:

The mouse begins to jump around and click. The only way to resolve the problem is to use keyboard equivalents to save work and exit Windows. When Windows is restarted, the mouse returns to normal.

Reflections 4.21, DOS Compatibility Software 1.0.7 and Windows 3.11:

Same as above.

Reflections 5.0, DOS Compatibility Software 1.0.7 and Windows 3.11:

The mouse begins to jump around and click, but returns to normal if left alone for a few seconds.

Reflections 5.0, DOS Compatibility Software 1.0.7 and Windows 95:

No problems.

Based on these findings, you should upgrade to at least DOS Compatibility Software version 1.0.7 and Reflections for Windows 5.0. Upgrading to Windows 95 is also recommended.

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Support Information Services

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Power Mac DOS Compat Card: CONFIG.SYS & AUTOEXEC.BAT Files

This document lists the contents of CONFIG.SYS and AUTOEXEC.BAT for the Power Macintosh 6100 DOS Compatible (and DOS Compatibility Card for the Power Macintosh) as they appear from the factory.
This article has been archived and is no longer updated by Apple.
If you have lost or changed your CONFIG.SYS or AUTOEXEC.BAT files and want to restore them to their original conditions, edit them to match the following information.

NOTE:
You can also mount your MS-DOS/Windows container and open these files from within the Mac OS. However the application you use to edit these files must be able to save hard carriage returns as carriage return and line feed. The Mac OS normally uses ONLY carriage returns, but MS-DOS requires both carriage returns and line feeds.

```
CONFIG.SYS
----------
DEVICE=C:\\DOS\\SETVER.EXE
DEVICE=C:\\DOS\\HIMEM.SYS /TESTMEM:OFF

REM If you are using PC Setup 1.0.7, the lines are:
REM DEVICE=C:\\DOS\\EMM386.EXE NOEMS X=C800-CFFF RAM=D000-EFFF
REM or
REM DEVICE=C:\\DOS\\EMM386.EXE X=C800-CFFF RAM=D000-EFFF

REM For PC Setup 1.5, the command lines are:
REM DEVICE=C:\\DOS\\EMM386.EXE NOEMS I=CA00-CBFF X=CC00-CFFF RAM=D000-EFFF
REM or
REM DEVICE=C:\\DOS\\EMM386.EXE I=CA00-CBFF X=CC00-CFFF RAM=D000-EFFF

REM  No EMS memory configuration
DEVICE=C:\\DOS\\EMM386.EXE NOEMS I=CA00-CBFF X=CC00-CFFF RAM=D000-EFFF



DOS=HIGH,UMB
FILES=40
STACKS=9,256
LASTDRIVE=M

DEVICE=C:\\Apple\\CDROM.SYS /D:CDDRVR


AUTOEXEC.BAT
------------
@ECHO OFF
C:\\DOS\\SMARTDRV.EXE /X
PROMPT $p$g
PATH C:\\WINDOWS;C:\\DOS
SET TEMP=C:\\DOS
SET SOUND=C:\\SB16
SET BLASTER=A220 I5 D1 H1 T6
LH C:\\SB16\\MIXERSET /P /Q

LH C:\\Apple\\ApplePC
LH C:\\Apple\\MacShare
LH C:\\DOS\\MSCDEX /D:CDDRVR /L:E
LH C:\\Apple\\DOSClip
set tmp=C:\\Temp

rem WIN
```

Published Date: Feb 19, 2012

Quadra 610 DOS: CONFIG.SYS & AUTOEXEC.BAT Files

This article lists the contents of CONFIG.SYS and AUTOEXEC.BAT for the Quadra 610 DOS Compatible computer (and DOS Compatibility Card for Centris and Quadra 610) as they appear from the factory.

As of 4 June 1996, the only version of PC Setup Apple Computer, Inc. fully supports with the Macintosh Quadra 610 DOS Compatibility Card is version 1.0.2. Later versions of this software may work properly, however Apple has not fully tested them with the Quadra 610 DOS Compatibility Card.

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If you have lost or changed your CONFIG.SYS or AUTOEXEC.BAT files and want to restore them to their original conditions, edit them to match the following information.

Note: You can also mount your MS-DOS/Windows container and open these files from within the Mac OS. However the application you use to edit these files must be able to save hard carriage returns as carriage return and line feed. The Mac OS normally uses ONLY carriage returns, but MS-DOS requires both carriage returns and line feeds.

CONFIG.SYS

```
DEVICE=C:\\DOS\\SETVER.EXE
DEVICE=C:\\DOS\\HIMEM.SYS /TESTMEM:OFF
DEVICE=C:\\DOS\\EMM386.EXE RAM=D000-EFFF FRAME=D000
DOS=HIGH,UMB
FILES=30
LASTDRIVE=M
DEVICE=C:\\APPLE\\CDROM.SYS /D:CDDRVR
```

AUTOEXEC.BAT

```
C:\\DOS\\SMARTDRV.EXE /X
@ECHO OFF
PROMPT $p$g
PATH C:\\DOS
SET TEMP=C:\\DOS
LH C:\\APPLE\\MACSHARE
LH C:\\DOS\\MSCDEX /D:CDDRVR /L:E
LH C:\\APPLE\\DOSCLIP
SET TMP=C:\\TEMP
```

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Power Macintosh 5200/5300:Multimedia Learning Tools Bundle(9/95)

This article describes the Multimedia Learning Tools Bundle for the Apple Education Series. The Apple Education Series (AES) is a series of products specifically intended for the effective use of technology in education. This bundle is only available in the Apple Education market, not in any other reseller channels.
This article has been archived and is no longer updated by Apple.

Overview
==========

The Apple Education Series (AES) Multimedia Learning Tools bundle is the latest in the AES series for K12 institutions. Multimedia Learning Tools is intended to enable students and teachers to easily create multimedia projects using text, video, pictures, animation, and sounds. Bundled software includes authoring tools, design tools, and content ready for students and teachers to paste right into their projects.

Features
==========

High quality software

Saves time in reviewing software for purchase because Apple reviewed the products for you.

Multimedia resources

Includes a variety of text, photographs, clip art, movies, backgrounds, charts, graphs, music, sound effects, and historical information which students can paste into their projects.

Multimedia projects

Developed by teachers, these projects walk teachers and students through the creation of exciting multimedia projects while focusing on interdisciplinary and collaborative learning techniques.

Textbooks

Provide step-by-step instructions for beginning authoring, and information on what teachers are doing with multimedia.

Bundled Items
==========

The following software is bundled with the AES Multimedia Learning Tools bundle in the accessory kit:

Apple Software

Apple Multimedia Learning Tools Master CD includes the following Apple software:
- Apple Font Pack**
- Hypercard 2.3.3 w/ AddMotion & Multimedia Utilities (Intellimation version)**
- Virtus VR with Archaeology Scenes
- ColorIt!
- RAM Doubler
- QuickTime Extras (Musical Instruments and Movie Player)**

Third Party Software (on CD unless noted otherwise)

- HyperStudio CD (3.0.62f w/ the HyperStudio Media Library) by Roger Wagner Publishing, Inc.
- Kid Pix Studio CD (1.0.1) by Broderbund Software, Inc.
- Avid Videoshop CD (3.01) by Avid Technology, Inc.
- ClarisImpact CD (1.0 v4) by Claris Corporation
- ColorIt! by MicroFrontier**
- Virtus VR with Archaeology Scenes by Virtus Corporation**
- Microsoft Bookshelf CD (1.0) by Microsoft Corporation
- Time Almanac 1995 CD (1.0) by Compact Publishing, Inc.

- MacGallery CD (1.1) by DreamMaker Software
- Famous Faces CD (6-18-93) by Jasmine Multimedia Publishing
- MediaClips 1 CD (1.0): Animals/Rainforest/Deep Voyage by SoftKey Multimedia Inc.
- MediaClips 2 CD (1.0): American View/Space Odyssey/World View by SoftKey Multimedia Inc.
- MultiWare Multi-Media Collection by BeachWare
- RAM Doubler by Connectix**

**NOTE: These items are included on the Apple Multimedia Learning Tools Master CD.

Other Bundled Items

Manuals

- Teacher*s Manual, includes: Product Overview, Introduction to Multimedia, 12 Multimedia Projects
- Avid VideoShop user manual
- Kid Pix Studio user manual
- Virtus VR. user manual
- HyperStudio manual
- HyperCard Reference Guide
- ClarisImpact Reference Guide
- ClarisImpact Quick Start Card
- ClarisImpact Getting Started Guide

Textbooks

- Multimedia Flying Solo by Thomson Learning
- Multimedia and Learning by National School Board Assoc.

Other

- Kodak Single-Use Camera and Photo CD Mailer
- Multimedia Learning Tools Poster

Usage Requirements

The Multimedia Learning Tools bundle includes the required hardware and software to successfully use the bundle. It is only supported on the Power Macintosh 5200 and 5300 systems with which it ships.

Configurations

The bundle is available with either of the two following Power Macintosh systems:

* Power Macintosh 5200/75 LC CD 8 MB RAM, 500 MB hard drive*
* Power Macintosh 5300/100 LC CD AV 16 MB RAM, 1 GB hard drive*

* For technical information about the Power Macintosh 5200 computer, use the search string: power macintosh 5200 and specifications to find the article "Power Macintosh 5200/75 LC: Technical Specifications". Use the search string: power macintosh 5300 and specifications to find the article "Power Macintosh 5300/100 LC:Technical Specifications".

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AppleCAT ®	application program
AppleCD SC ®	CD-ROM drive
AppleDesign ®	computer peripherals
Apple Developer World ®	magazine
AppleFax TM	modem
AppleFund TM	reimbursement program
AppleLAN TM	application program
AppleLink ®	communication network/computer software
AppleMail ®	application program
AppleNet TM	application program
AppleOrder TM	electronic order management system
Apple Restore TM	software utility
AppleScript ®	application program
AppleSearch ®	application program
AppleShare ®	network server
AppleSoft ®	operating system software
Apple SuperDrive ®	computer disk drive
AppleTalk ®	network system
Apple TechStep TM	diagnostic software
AppleVision ®	computer display
AppleWriter TM	application program
Aristotle TM	application program
A/ROSE TM	application program

At Ease TM	application program
Author's Solution TM	software bundle
A/UX ®	operating system
Balloon Help TM	application program
Balloon Writer TM	application program
Bento ®	computer font
Bicycle logo ®	
BookCover ®	panel, insert
Bring Learning Home ®	software and printed materials
Charcoal TM	computer font
Chicago ®	computer font
Cocoa TM	software
Colearning ®	software
Colearning logo ®	software
ColorShare ®	application program
ColorSync ®	application program
ColorSync logo ®	
Convomania ®	service
CyberArcade TM	CD-ROM bundle
Cyberdog TM	Internet software
Develop TM	developer publication
DialAssist ®	application program
DigiSign ®	digital signature technology
Digital Explorer TM	CD-ROM bundle
Disk First Aid TM	application program
DocViewer TM	application program
DoubleVision TM	application program
Early Language Connections TM	hardware/software curriculum package
E-Box TM	application program
Educator Advantage TM	marketing program
eMate TM	mobile computer
Encyclomedia ®	CD-ROM bundle
En Passant ®	application program
Espy ®	computer font
EtherTalk ®	interface card/network
eWorld TM	online information service
Extensions Manager TM	system software
Fax Extension TM	application program
FileWare ®	application program
FinanceTech ®	growth funding service
Finder TM	operating system software
FireWire ®	serial bus
FireWire logo TM	
Geneva ®	computer font
GeoPort ®	telecom adapter & architecture
GeoPort logo ®	
GrayShare ®	application program
GrayShare logo ®	
Great Meetings TM	application program
GS/OS ®	operating system software

HotSauce TM	application program
HyperCard ®	application program
HyperKiosk TM	conference information database
HyperTalk ®	application program
ImageWriter ®	printer
Imagine: The Apple Education TV Series TM	education television series
Information Alley ®	technical publication
Inter¥Poll ®	application program
Kobe TM	application program
LaserShare TM	print spooling software
LaserWriter ®	printer
LaserWriter Select ®(composite trademark; do not use "Select" alone)	printer
Light bulb logo ®	
Likewise ®	application program
LinkSaver TM	application program
Localizer TM	application program
LocalTalk ®	computer cable system/network
Mac ®	computer
MacApp ®	application program
MacAPPC TM	application program
MacCheck ®	application program
MacDNS ®	application program
MacDSS ®	application program
MacinTalk TM	application program
Macintosh ®	computer
Macintosh Centris ® (do not use "Centris" alone)	computer
Macintosh Duo ® (do not use "Duo" alone)	computer
Macintosh logo TM (aka: Picasso design)	
Macintosh Quadra ® (do not use "Quadra" alone)	computer
MacISDN TM	application program
MacMenu ®	mail order catalog
MacODA TM	application program
Mac ® OS	operating system software
MacOSI ®	application program
Mac OS logo ®	
MacPAD ®	application program
MacroMaker TM	application program
MacShare TM	application program
MacSNMP TM	software utility
MacTCP ®	application program
MacTerminal ®	application program
MacTest TM	application program
MacWorkStation TM	application program
MacX ® (Refer to MacX under Special & Licensed TMs for Copyright Notice)	
MacX.400 TM	application program
MCP Test TM	diagnostic software
MessagePad ®	hand held computer
MM logo ® (New Media New Markets logo)	

Monaco ®	computer font
"Moof" and Dogcow logo ®	
Mouse Basics TM	application program
MousePaint TM	application program
Mouse Practice TM	application program
MovieShop ®	application program
MovieTalk ®	application program
MPW ®	application program
NetTrax TM	application program
Newton ®	operating system software
NewtonMail ®	application program
New York ®	computer font
NodeCheck TM	diagnostic program
Noiro ®	computer font
Noiroia TM	application program
OneScanner TM	computer scanner
OpenDoc ®	computer program
Performa ®	computer
Pippin ®	interactive media player and system software
Pippin logo ®	
PlainTalk ®	application program
Power Beyond Speed TM	slogan
PowerBook ®	computer
PowerBook/DOS Companion TM	hardware/software package
PowerBook Duo ® (do not use "Duo"alone)	computer
PowerLatch TM	docking technology
Power Mac TM	computer
Power Macintosh ®	computer
PowerShare ®	application program
PowerTalk ®	application program
PrintRecordSpy TM	developer tool
PrizeFest TM	marketing theme
ProDOS ®	operating system software
QStack TM	application program
QuickClips TM	multimedia content/CD-ROM
QuickDraw ®	application program
QuickFile ®	application program
QuickRing ®	data transfer system
QuickStart TM	VAR program
QuickTake ®	digital camera
QuickTime ®	application program
QuickTime logo TM	
ResEdit TM	application program
SADE ®	application program
SalesWriter TM	application program
SANE ®	application program
ScanTest ®	application program
Setting the Pace logo TM	
Skia TM	computer font
SmartMate TM	application program

SNA¥ps TM	application program
Software Dispatch ®	software on CD business
Software Dispatch logo ®	
Sound Manager TM	application program
SourceBug TM	application program
SpeedStart TM	application program
STAKCopy TM	application program
STAKNode TM	application program
StarCore ®	publishing division
StartingLine TM	marketing program and catalogs
StyleWriter ®	printer
Switcher TM	application program
synthLAB TM	application program
The Apple Collection TM	catalogue
The Education Dealer logoTM	
The Macintosh Right Now Rebate TM	promotion
The Meeting of the Minds TM	slogan
The Power of Ten TM	slogan
The power to be your best. ®	slogan
The Universal Client TM	application program/marketing theme
Think different. TM	slogan
TokenTalk ®	application program
ToolServer TM	application program
TrueType ®	font technology
VideoSync ®	software utility
ViewEdit TM	application program
VirusRX TM	application program
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Apple Puts It All Together SM	marketing campaign
AppleServices SM	parts and services program
Apple Training Alliance SM	third-party training program
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Company Store logo ®	
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NewtonSource ®	retail store
olution Express SM	publication
Starman logo SM	
Starman with monitor logo ®	
Starman with wrench logo ®	

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Maintained online by appletm@apple.com
Updated Thursday, March 13, 1998 by HMN
Published Date: Feb 19, 2012

Power Macintosh 9500: CD 2.0 Contents

From August 8 to November 15, 1995, customers who purchased either a Power Macintosh 9500/120 or a 9500/132 and received CD Version 1.0 were eligible to contact the Apple Order Center to order the most recent version of the Power Macintosh 9500 CD, Version 2.0.

This article has been archived and is no longer updated by Apple.
The new CD offers over two dozen new and updated files (see chart, below) and provides fixes to some known problems. Among other things, the CD provides owners of the Power Macintosh 9500 with software they can use with the GeoPort Telecom Adapter: Apple Telecom 2.1 and Megaphone 1.0.2. It also provides drivers for the LaserWriter 300 and StyleWriter1200. Of particular interest to customers on networks, the new CD provides Open Transport (OT) 1.0.6, a new version of Open Transport that will fix a number of problems reported with OT 1.0, the version that shipped on the original CD.

The following chart offers a comparison between the software included on the CD initially distributed with the Power Macintosh 9500 and the CD available at the Apple Order Center:

COMPONENT	CD 1.0	CD 2.0	COMMENTS
System software components			
Finder	7.5.2	7.5.3	New version.
System Enabler 701	1.0	1.1	New version offers improved PCI card compatibility.
AppleCD Audio Player	2.0	2.1	New version.
Apple Menu Options	1.0.1	1.0.2	New version.
Extensions Manager	3.0	3.0.2	New version.
Memory	7.5.3	7.5.4	New version.
Monitors	7.5.2	7.5.3	New version.
Mouse	7.3	7.3.1	New version.
PC Exchange	2.0.4	2.0.5	New version.
EM Extension	3.0	3.0.2	New version.
Open Transport	1.0	1.0.6	New version offers improved stability & compatibility.
Apple CD-ROM	5.0.4	5.1.1	New version.
Apple Guide	1.2.5	1.2.7	New version.
9500 Guide Additions	n/a	1.0	Replaces 9500 Guide Additions on 9500.
EtherNet (Built-In)	1.0	1.0.1	New version.
Serial (Built-In)	1.0	1.0.2	New version.
StyleWriter I/II	2.0	n/a	SW 1200 2.1 supports SWI/II
Color SW 2400	1.6.1	2.1	New version.
LaserWriter 300	n/a	1.2	Added to 9500.
StyleWriter 1200	n/a	2.1	Added to 9500.
Extras, utilities, read me			
PM9500 ReadMe	n/a	new	Replaces 9500 ReadMe on 9500.
Drive Setup	1.0	1.0.2	New version.
Apple Telecom 2.1	n/a	2.1	Added to 9500.
Megaphone	n/a	1.0.2	Added to 9500.
Unique to PM9500			
Graphics Accelerator	1.0	1.0	For ATI card shipping with 9500/120.

Customers will receive the following items with their order:

* Power Macintosh CD v2.0
* Software License Agreement

Published Date: Feb 19, 2012

QuickDraw GX 1.1.3: ReadMe File (4/97)

This article contains the Read Me file included with QuickDraw GX 1.1.3 posted to online services.
This article has been archived and is no longer updated by Apple.
QuickDraw GX 1.1.3 ?Read Me

What Changed in QuickDraw GX 1.1.3
==========

QuickDraw GX 1.1.3 fixes several problems found since the release of the previous version.

Color StyleWriter Pro GX

This version of QuickDraw GX is fully compatible with the Color StyleWriter Pro GX driver. This driver is available separately on on-line services and Apple Computer's FTP and World Wide Web sites.

CompuServe: GO APLSUP
America OnLine: keyword ftp, then connect to ftp.info.apple.com
FTP: ftp.info.apple.com
Web: http://www.info.apple.com

Moving Desktop Printers

Desktop printers now stay in the correct location after rebooting.

Adobe Type Manager 3.8.3

ATM 3.8.3 is included with QuickDraw GX 1.1.3. This new version is fully compatible with OpenDoc.

What Changed in QuickDraw GX 1.1.2
==========

Installation Over Previous Versions

There is no longer a need to delete the Finder Preferences file when installing over a previous version of QuickDraw GX.

Finder Out of Memory Alerts

Some users were encountering multiple Finder out of memory alerts while printing with QuickDraw GX 1.1.1. This problem is fixed in QuickDraw GX 1.1.2.

Crash When Canceling Printing From Power Macintoshes to Networked PostScript Printers
---
Some users were encountering problems when canceling a print job to a networked PostScript printer. This problem is fixed in QuickDraw GX 1.1.2.

Unable to Print to Tektronix and Hewlett-Packard PostScript Printers
---
Some users were unable to print to Tektronix and Hewlett-Packard PostScript printers with QuickDraw GX 1.1.1. This problem is fixed in QuickDraw GX 1.1.2.

What Changed in QuickDraw GX 1.1.1
==========

QuickDraw GX 1.1.1 provided performance improvements, a user interface change, and new features.

Performance Improvements
---
* no "lock out" when downloading fonts to PostScript printers
* font downloading progress shows in the desktop printer window
* prints large character sets, such as Japanese, on printers that do not have these fonts built in
* prints large character sets faster than GX 1.0.2 or the non-GX LaserWriter 8.2 printer driver
* printing dialogs for non-QuickDraw GX applications display more quickly

User Interface Change

When a desktop printer queue is empty (i.e., after the last job has printed) the page icon goes away rather than turning into the dog-eared page icon.

New Features
---
* Manual Feed Alerts
To turn off the alerts for manual feed printing on PostScript printers, open the Printing menu and choose Disable Manual Feed Alerts.

* LaserWriter GX Features
In the PostScript printing dialog box for non-QuickDraw GX applications, two new menus allow you to choose paper types. Use the "First Page On" menu to choose a paper type for the first page. Use the "Remaining Pages On" menu to choose a paper type for the rest of the document.

* N-Up Printing Options
The N-Up Printing extension (in your Extensions folder) lets you print up to 16 pages on a single sheet of paper. You can also put an optional border around each page drawn on a sheet.

- To set pages-per-sheet and border defaults for a desktop printer, click the printer icon to select it then choose N-Up Printing Options from the Printing menu.

- To select pages-per-sheet and border options when you print a document created in a QuickDraw GX-aware application, click the N-Up printing extension icon in the Print dialog box.

- To select pages-per-sheet and border options for a document created in an application that does not support QuickDraw GX, choose Page Setup in the File menu.

* PostScript File Options
EPSExtension (in your Extensions folder) lets you configure the PostScript file that is created whenever you print using the LaserWriter GX printer driver.

- You can use the saved file as Encapsulated PostScript for importing graphics into applications that do not support QuickDraw GX, such as Aldus PageMaker, QuarkXPress, and Adobe Illustrator.

- To set EPS options, choose PostScript File Options from the Printing menu.

- EPSExtension is not installed by Easy Install. To get it, you must open the QuickDraw GX Installer and choose Custom Install from pop-up menu. Click the arrow next to QuickDraw GX Utilities to see the list of utilities, and click the checkbox next to EPSExtension to select it. Then click the Install button.

* Paper Types
QuickDraw GX 1.1.1 include 3 new paper types for use in configuring the paper tray selections for desktop printers: Letterhead, Stationery, and 3-Hole Punch.

- The new paper types are installed by Easy Install For more information on editing the new papers types or creating your own paper type, you must install the PaperType Editor.

- The PaperType Editor is not installed by Easy Install. To install it, open the QuickDraw GX Installer and choose Custom Install from pop-up menu. Click the arrow next to QuickDraw GX Utilities to see the list of utilities, and click the checkbox next to PaperType Editor to select it. Then click the Install button.

Tips
===
Envelope Paper Types and the LaserWriter GX Driver

The LaserWriter GX printer driver handles three types of No. 10 envelopes. However, each of the three types is designed for a different type of LaserWriter printer. Your choice of envelope should be based on how your printer feeds envelopes from the paper input tray:

- "Envelope - Center Fed" is for printers that feed the envelope in the center of the paper input tray.

- "Envelope - Edge Fed" is for printers that feed the envelope on the left edge of the paper input tray.

- "No. 10 Envelope" is for certain new printers (e.g., the LaserWriter 16/1600PS) that use a different method of determining paper size.

Restoring Type 1 Fonts to Their Original State

If you remove QuickDraw GX from your system, you need to restore your Type 1 fonts.To restore Type 1 fonts, follow these steps:

1. Open the System Folder.
2. Open the Fonts folder.
3. Drag any suitcases that have been enabled to the Trash.
4. Open the *Archived Type 1 Fonts* folder.
5. Move the contents of the *Archived Type 1 Fonts* folder to the Fonts folder.
6. Drag the *Archived Type 1 Fonts* folder to the Trash.

Tekton Plus RegularSC Prints as Courier From Some Applications
---
In application programs which do not take advantage of QuickDraw GX, Tekton Plus appears as two fonts: Tekton Plus Regular and Tekton Plus RegularSC. Applications such as Adobe Illustrator, QuarkXPress, and Aldus PageMaker print characters from Tekton Plus RegularSC as Courier on PostScript printers.

Troubleshooting
==========

QuickDraw GX and Memory
---
* On a Macintosh with 8 MB of available memory with Macintosh system software version 7.5, QuickDraw GX, and PowerTalk, you can enable only a limited number of printing extensions and desktop printers. More than 7 of each at the same time may cause a low-memory alert to appear. If you want to have more than 7 desktop printers, removing a printing extension will help alleviate memory difficulties and vice-versa. If a low-memory alert does appear, try deactivating printing extensions or removing desktop printers. For more information about desktop printers and printing extensions, see the Macintosh System 7.5 Upgrade Guide.

QuickDraw GX and Application Programs
---
* If possible, do not use the QuickDraw GX Helper (to turn off desktop printing) with WordPerfect versions 3.0 and earlier. In WordPerfect, when you turn desktop printing off, the third item on the Apple Menu (which corresponds to the first alphabetic item in the Apple Items folder) opens. WordPerfect versions 3.1 and later are compatible with QuickDraw GX.

* In PageMaker version 5.0, documents containing PICTs will print without the PICTs and an extra blank page may be printed at the end of some documents. To print correctly, hold down the Option key when you choose Print from the File menu.

* To print on a PostScript printer using Insignia Solutions' SoftPC and SoftWindows versions earlier than 1.0.2a, you must turn off desktop printing or use the Epson LQ-2500 output option. To turn off desktop printing, use the QuickDraw GX Helper (one of the QuickDraw GX Utilities). To install the QuickDraw GX Utilities, see the instructions in Chapter 3 ("Installing QuickDraw GX") of the Macintosh System 7.5 Upgrade Guide. SoftWindows versions 1.0.2a and later are compatible with QuickDraw GX.

* Adobe Acrobat Reader versions earlier than 2.0.1 and all versions of Adobe Acrobat Exchange are incompatible with QuickDraw GX 1.1.3. Please contact Adobe Systems for upgrade information.

* The substitution fonts included with Adobe Illustrator 5.5 and SuperATM are not compatible with QuickDraw GX 1.1.3. If you install QuickDraw GX 1.1.3 on a Macintosh where these substitution fonts have already been installed, you will see a dialog box which says "The substitution fonts necessary for Acrobat and SuperATM are missing. Please re-install either software package." QuickDraw GX-compatible versions of these fonts are available as part of the Adobe Acrobat Reader 2.0.1 package. Please contact Adobe Systems for more information.

* You should print documents that use the Al-Nashir Al-Sahafi font (Arabic Design Studio) on raster (non-PostScript) printers. If you try to print an Al-Nashir Al-Sahafi document on a PostScript printers, no document will print.

Installing QuickDraw GX with the Power Macintosh Upgrade Card
---
When you install QuickDraw GX on a Macintosh with the Power Macintosh Upgrade Card, make sure that the upgrade card is enabled before installing QuickDraw GX.

Manual Feed and the LaserWriter IISC GX driver

When you print a manual feed job to a printer using the LaserWriter IISC GX driver, wait for the manual feed alert to appear before inserting the next page. If you insert the page before the alert appears, your printer will print the first page twice and then stop printing. Opening and closing the cover on your printer will clear it.

TA34436_QuickDraw_GX_ReadMe_File__(TIL18587).pdf

QuickDraw GX with the Vector Imaging System on the Power Macintosh
---
There is a problem with the Vector Imaging System and Power Macintosh. If you have problems plotting, turn off Modern Memory in the Memory control panel.

8/23/95

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Article Change History:
28 Apr 1997 - Removed out dated on line references.
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Color StyleWriter Pro: GX Driver ReadMe File (9/95)

This article contains the Read Me file included with the QuickDraw GX software upgrade for the Color StyleWriter Pro printer available from online services.
This article has been archived and is no longer updated by Apple.
QuickDraw GX Upgrade
for the Color StyleWriter Pro printer

This upgrade gives you the ability to use the Color StyleWriter Pro printer with QuickDraw GX.

The instructions in this document tell you how to install and use the software.

Installation
==========
IMPORTANT: To use this upgrade with your Color StyleWriter Pro printer you must have QuickDraw GX software version 1.1.3 or later installed on your system. QuickDraw GX version software is also available online.

This upgrade includes two system files:

* Color SW Pro GX

* Apple Color SW Pro CMM

Step 1

Drag these two files to the Extensions folder inside your System Folder.

Step 2

Restart your computer.

Step 3

Select the Chooser from the Apple () menu.

Step 4

Click the Color SW Pro GX icon in the Chooser.

Step 5

Make choices in the Chooser, depending on whether the printer is connected directly to your computer:

* If the printer is connected directly to your computer, choose Serial from the "Connect via" pop-up menu, then click the Modem Port or Printer Port icon to indicate which port the printer cable is plugged into.

* If the printer is connected to another computer as a shared printer, choose Servers from the "Connect via" pop-up menu. If your network has zones, click the AppleTalk zone containing the printer and then click the name of the printer you want to use.

Step 6

Click the Create button. A printer icon appears on your desktop.

Step 7

Close the Chooser by clicking its close box. If you close the Chooser without creating at least one desktop printer, a message appears. If you select a printer but don't click Create, the Chooser ignores the selection.

Using the Color StyleWriter Pro with QuickDraw GX
==========
For the most part you use the QuickDraw GX Color StyleWriter Pro software just as you would the current non-GX version of the software. You have all the same options plus a few extras. When you use GX-savvy programs, the appearance of the Print and Page Setup dialog boxes changes, as described below.

Page Setup dialog box. The Page Setup dialog box comes in a basic version and an expanded version. Though it has a different appearance in GX-savvy programs, all the settings in the old Page Setup dialog box are also in the GX-savvy Page Setup dialog box, and it works the same way.

Print dialog box. GX-savvy programs have a Print dialog box with a very different look. The Print dialog box comes in a basic version and an expanded version. You can switch between them by clicking the More Choices and Fewer Choices buttons. The expanded version is broken up into panels, each of which controls a different set of print functions. You can switch between panels by clicking the icons on the left side of the expanded dialog box.

Where to find familiar Color StyleWriter Pro features
==========

Most features in the Print dialog box from your current Color StyleWriter Pro software are also present in the GX-savvy versions of that dialog box, though they might not be in the same places. Here's where to find them:

* Most of the settings from the old Print dialog box are in the General panel of the expanded GX-savvy Print dialog box. The Paper Type and Image options are in the Quality panel.

* Most of the options from the old Color Options dialog box are in the Quality panel of the expanded GX-savvy Print dialog box.

* All the options in the old Utilities dialog box are in the Utilities panel of the expanded
GX-savvy Print dialog box.

New features

You can use the panels of this upgrade to take advantage of standard QuickDraw GX features with the Color StyleWriter Pro.

* You can use desktop printer icons to monitor and manipulate your print requests and to print a document from the Finder.

* You can print a number of minipages on each sheet of paper. Use the N-up panel of the expanded Print dialog box.

* You can schedule when documents should print. Use the Print panel of the expanded Print dialog box.

Turning off QuickDraw GX for programs that aren't GX-savvy

If you experience incompatibilities while using the QuickDraw GX software with a specific program that isn't GX-savvy, you can temporarily print with GX off. In order to do that you need two things:

* The file QuickDraw GX Helper:
This can be installed using the QuickDraw GX installer. Select Custom Install, then select QuickDraw GX Utilities and then select QuickDraw GX Helper.

* The software from the Color SW Pro disk set.
Select Easy Install in the Color SW Pro installer

Once both the QuickDraw GX Helper and the Color SW Pro SW are installed, follow these steps to turn QuickDraw GX off temporarily:

Step 1

Open the non-GX-savvy program that's giving you problems.

Step 2

Choose Turn Desktop Printing Off from the Apple () menu. A message appears asking if it's OK to use the "Color SW Pro" software. Click OK. (If the message doesn't mention the Color SW Pro , you may need to reinstall your printer software from the disks that came with your printer.)

Step 3

Click OK. Now your Color StyleWriter Pro will use the regular QuickDraw printing software for this program. If you want to go back to using the QuickDraw GX printing software, repeat this process, but in step 2 choose Turn Desktop Printing On.

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TA34437_Color_StyleWriter_Pro_GX_Driver_ReadMe_File__(TIL18588).pdf

Support Information Services
Published Date: Feb 19, 2012

Power Mac 7200, 7500, 8500, 9500: Reset/Interrupt Switch (9/95)

My Power Macintosh 7200 has locked up (the screen is frozen), and it appears that the only way to reset the computer is to disconnect the power cable from the back of the computer. Do I have any alternatives?
This article has been archived and is no longer updated by Apple.
There are several methods for interrupting or resetting your computer.

Interrupting your computer

Interrupts are used by Macintosh software programmers when writing applications and debugging them. An interrupt produces a blank dialog box on the Macintosh screen. Programmers can then type codes to obtain the response or information they require from the Macintosh.

You can interrupt your computer by pressing the keyboard shortcut Command-Power.

Resetting your computer

Resetting the computer is the same as disconnecting and reconnecting the power from the back of the computer.

You can reset your computer in one of two ways:

Keyboard shortcut

Pressing the keyboard shortcut Command-Control-Power restarts your computer.

Power button

Pressing the Power button on the front panel of your computer shuts your computer down.

If you press the Power button during startup, before all the extensions and the Finder load, your computer will shut down immediately. If you press the Power button after the desktop appears, the computer shuts down by first closing any open applications and then performing a shutdown. This is the same as choosing "Shutdown" from the Special menu.

When these steps do not work

If these steps fail, it may be necessary to disconnect the power from your Macintosh. You can turn off the power to your computer at your surge suppressor, power strip, or by removing the power cable from the back of your computer or at the outlet.

Support Information Services
Published Date: Feb 19, 2012

Power Macintosh: PowerPC 604 Rendering Performance (9/95)

I hear that some high end rendering applications run slowly on the new PowerPC 604-based Power Macintosh computers. Is this a bug?

This article has been archived and is no longer updated by Apple.

No. The PowerPC 604 RISC microprocessor and the new Power Macintosh computers with the Peripheral Component Interconnect (PCI) bus are, on the whole, significantly faster than the PowerPC 601 and original Power Macintosh computers. However, some types of operations ?? intensive rendering is an example ?? stress memory access times rather than microprocessor or bus speed.

The memory speed the new Power Macintosh computers is roughly the same as the original Power Macintosh computers. The decision to use similar speed memory was made to ensure easy access to DRAM components. The use of DIMMs and interleaving allows the new memory architecture to be roughly 20-30% faster than the original Power Macintosh computers. In rendering applications that saturate the memory bandwidth, you see a performance increase roughly equivalent to the increase in memory speed. At bottom, even though the PowerPC 604 can render up to two times faster than a Power PowerPC 601, memory speed poses a bottleneck.

The new Power Macintosh computers based on the PowerPC 604 RISC microprocessor and PCI bus are significantly faster than the original Power Macintosh computers when performing most tasks. When performing other tasks in rendering applications, such as modeling, screen redraw, and animation playback, the Power Macintosh 8500 and 9500 can be as much as two times faster than the Power Macintosh 8100.

Support Information Services
Published Date: Feb 19, 2012

PowerBook 200 Series: Not Powering On From External Keyboard

When inserted in a Duo Dock, my PowerBook Duo 270c does not turn on from the Power key on an external keyboard. I have tried several Duo Dock docking devices and keyboards. The PowerBook turns on from the Power button in the back of the Duo Dock and from the Power On key on the PowerBook itself when out of the Duo Dock. What is causing this?
This article has been archived and is no longer updated by Apple.
An improperly seated Random Access Memory (RAM) or modem card can cause a key on the PowerBook 200 series keyboard to touch the display housing when the PowerBook is in the Duo Dock. This prevents the PowerBook from turning on from an external keyboard.

To test for this condition, use the following procedure:

1. Remove any equipment from the top of the Duo Dock and remove the Duo Dock cover.
2. Insert the PowerBook into the Duo Dock. Verify that the external monitor cable is attached.
3. Open the PowerBook display.
4. Turn on the PowerBook with the Power key on the external keyboard.

Note: In this configuration, video only appears on the external monitor, not on the PowerBook display.

If the Power key on the external keyboard functions correctly, and the PowerBook turns on, a key on the PowerBook keyboard is pressing against the display housing. This can be caused by an improperly seated modem or RAM card raising the keyboard on the right side. Have an Apple-authorized Service Provider check the RAM or modem installation.

Published Date: Feb 19, 2012

Performa & TelePort Gold II: Slow With PPP or SLIP (2/97)

My modem appears to be slow when using a PPP or SLIP connection. Is there anything I can do to improve this?
This article has been archived and is no longer updated by Apple.
Yes. Make sure that you have selected "CTS Only" from the communications settings dialog of your communications package. This turns on a form of unidirectional handshaking.

If you do not see this as an option, you may be running version 2.1.2 or earlier of the Global Village TelePort software. You should upgrade to 2.5.2 or later to acquire this feature. The communications software you are using may also need to be upgraded to support this feature.

Upgrades for Global Village products are administered directly by Global Village. The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.

Check for system- and CPU-intensive activity. The Global Village TelePort Gold II modem (but not the IIv modem) uses software-based error correction and data compression, so performance may be affected by system activity. Operating with virtual memory on may also affect communication performance.

Next, make sure that you are not using a data compression protocol such as MNP5. You can check your modem's default protocol by opening the TelePort control panel (must be TelePort v2.5 or later software) and inspecting the port status. If you have data compression turned on, the modem attempts to compress data that may already be compressed, which could have the effect of slowing down your data transmission. You should either use V.42-bis, or no data compression or error correction.

The last thing you should check within your communications package is to see whether Xon/Xoff error checking is enabled. If Xon/Xoff is enabled, it can conflict with either automatic error correction, or the algorithmic processes which are normally used by your communications software.

Article Change History:
06 Feb 1997 - Minor typographical corrections.
30 Jan 1997 - Updated with software-based error correction information.
08 Dec 1995 - Updated article with additional information.
Published Date: Feb 19, 2012

Open Transport: IPX Is Not Used For Internet Connections (9/95)

Does Open Transport send IPX packets when communicating through Internet connections such as an Internet Service Provider?

This article has been archived and is no longer updated by Apple.

No. Open Transport uses TCP/IP for Internet communication and does not use the IPX protocol Internet connections, the IPX protocol is used with Novell Netware servers. As of September 1995, there is no Open Transport IPX driver from Apple Computer. For more information on IPX and Open Transport search the Technical Information Library for the following articles:

Open Transport: Unable To Get Ethernet Address (8/95)
Open Transport 1.0.7: Should Be Used (9/95)

Support Information Services
Published Date: Feb 19, 2012

Color LaserWriter 12/600 PS: Page Count Keeps Resetting

The page count on my Color LaserWriter 12/600 PS resets every time I turn the printer off. How can I make sure that the page count information is retained when the printer is turned off?

This article has been archived and is no longer updated by Apple.

The Color LaserWriter 12/600 PS uses a 3.6 volt lithium battery at location BT1 on the I/O controller to retain the page count and other parameters when the printer is powered off. If the battery voltage drops, or it is removed from the I/O controller, then the page count information will no longer be retained. Service Source contains additional information on battery testing and replacement procedures.

Replacement batteries are available as a service part using part number 742-0011.

Published Date: Feb 19, 2012

DOS Compatibility Card: Time Set Only At Startup (9/95)

On my DOS Compatibility Card, if I switch back to the Mac OS and change the time, change back into Windows, the time has not changed. Why?

This article has been archived and is no longer updated by Apple.

The time and date information for the DOS Compatibility Card are set at startup. The MS-DOS/Windows clock reads the Macintosh clock once at startup, then runs on its own. This means that you must restart the DOS Compatibility Card in order for any time or date changes to take affect.

Support Information Services
Published Date: Feb 19, 2012

At Ease 3.0: Use Desktop Printing 1.0.3

I have an At Ease 3.0 Setup which puts my users in the Restricted Finder. Whenever a user tries to drag a file to a desktop printer, the computer freezes or locks up. Can I use desktop printing with At Ease?
This article has been archived and is no longer updated by Apple.
If you want to allow users to drag documents from their Restricted Items folder in At Ease to a desktop printer, you should update to Desktop Printing Software version 1.0.3 available from online services.

Desktop Printing Software v1.0.3 is also included with the At Ease for WorkGroups 3.0.1 Updater available from online services.

These articles can help you locate the software updates mentioned here:

* "Where To Find Apple Software Updates" -- Lists online services for free Apple software updates.

* "Obtaining Apple Product Support in the USA" -- Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech Info Library.
Published Date: Feb 19, 2012

PowerBook 150: Global Village Modem Software Update (10/95)

Article Reviewed/Updated: 3 October 1995

Since Apple doesn't make a modem for my PowerBook 150, I bought a Global Village internal modem which I was told would work with this model PowerBook. However, it doesn't seem to work quite right. I have heard that no modems work well with this PowerBook. Is that true? Is there something wrong with my system software or the modem itself?
This article has been archived and is no longer updated by Apple.
You are correct in saying that the Macintosh PowerBook 150 does not support an Apple Express Modem. However, there are several third party internal modem options available to owners of these computers, including Global Village.

According to Global Village, their PowerPort family of modems (Bronze, Silver and Gold) are designed to work in the PowerBook 150. There is, however, a software update needed for the Macintosh PowerBook 150 computer users. You need to use the PowerPort 2.0.8a software, not the PowerPort 2.0.8 software which came with the modem. You will need to call Global Village to find out how to obtain the updated software.

NOTE: This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor (Global Village) for additional information.

The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.

Article Change History:
03 Oct 1995 - Reviewed for technical accuracy.

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UniDisk 3.5: Two Drives Activate

PROBLEM DESCRIPTION: Two drives activate when booting the Apple IIGS.

This article has been archived and is no longer updated by Apple.

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BEFORE YOU START:  Reverse the positions of the drives so that the
second drive is in the first position and vice versa.
Proceed to "CURE" if the drives operate normally after reversing the
drive positions.  Otherwise troubleshoot the problem using
the "Symptom Cure Chart" in "UniDisk Technical Procedures".

CURE:  Change the Daisy Chain Interface Board in the drive that was
originaly in the "Drive One" position.
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LaserShare 1.0: Error Can Result From Changing Long Spooler Name

This article has been archived and is no longer updated by Apple.

A system error can occur on LaserShare 1.0 when a very long spooler name is changed.

If the user has a multi-zone network, with multiple LaserWriters in each zone, when starting LaserShare and capturing the printer, LaserShare will show a system error (ID=02) when the user tries to alter the default spooler name provided in the dialog box.

In this example:
Zone name = INFO. SERVICES
Laser name = LASERWRITER PLUS- SOUTH
the generated name is
LASERWRITER PLUS- SOUTH INFO. SERVICES...SPOOLER (48 characters)
which runs out the end of the text box. If the user tries to type a shorter name, LaserShare crashes.

Published Date: Feb 19, 2012

Lotus Notes Client: Macintosh & DOS/Windows Difference (9/95)

I have a problem with Lotus Notes for Macintosh. I'm not actually getting an error, it's more of a missing feature that is annoying to Macintosh users. The problem deals with the default Macintosh window size when selecting a new form in the Compose menu. The default window created is small and must be expanded each time by clicking zoom box. The DOS and Windows version of Notes does not behave this way, that is, the last window size is remembered and used when you create a new form. Is this a Notes Macintosh client issue?

This article has been archived and is no longer updated by Apple.

We spoke with Lotus and received confirmation that the difference in window size is due to the Macintosh Notes client. Lotus is aware of this situation, but has made no commitments as to when, or if, this will be changed in a future release of the Macintosh Notes client.

Support Information Services
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Color LaserWriter 12/600: Postscript Errors

When I print to my Color LaserWriter 12/600, I get an error message stating something to the effect: a "set limitcheck", "VM Storage", "Offending command...", or "Range Check" error has occurred. Sometimes the printer just blinks and does not print. These errors are intermittent and occur in different documents and applications.
This article has been archived and is no longer updated by Apple.
The problem may appear to be with the printer since you can see the files on the screen, but they do not print. Many programs use QuickDraw to edit the images visually, then use Postscript to print. These errors are typically not due to hardware and a "Clean Install" usually will not repair the problem.

These problems are usually due to corruption in one or more elements in the output Postscript file. This article relates to errors in the saved Postscript information. Follow these procedures to try to isolate and correct the problem:

Restart the printer to clear the buffer in the printer. Then try the following procedures:

Corruption in an imported graphic
==========

Step 1

Go into the original application that created the graphic.

Step 2

Select the elements of the graphic and copy them to the clipboard.

Note: it is important not to "select all" in the original file, sometimes elements in a file may not have been deleted properly and the printer can not interpret them.

Step 3

Paste the elements into a new file and save.

Step 4

Try printing again. If it still fails go to Step 5.

Step 5

Import the working graphic into the selected program (PageMaker, Word) and try to print again.

Large graphic elements
==========

Check for large elements that have been reduced. These images still comprise a large number of elements, and to Postscript, their actual size does not matter. Eliminate or redraw them, save the file, and try to print again.

Output resolution too high
==========

Check for output resolution. It should not be above 150 DPI (PageMaker, Illustrator, Freehand). The 12/600 is a 600 DPI printer, the maximum resolution Contone Compression keeps is 150 DPI. It will image the file at 600, but reduce it to 150 to fit the file through the ROMs.

Postscript interpretation memory conflict
==========

Check "split long paths option" in Illustrator or Freehand. These are Bezier curve drafting programs, long paths or connected segments can crash a Postscript interpreter when it runs out of storage area.

Note: If you print the desktop for troubleshooting purposes be aware that the low resolution of the desktop file may cause the icons to print with a halo effect. This is normal. The best test of the printer is to make a new simple color document, type out a few words and try printing.
Published Date: Feb 19, 2012

Bootp and Open Transport Configuration (9/95)

Open Transport TCP/IP is configured to use bootp. It seems that the Domain Name Server, router, and domain name is not being returned properly. What is the problem?

This article has been archived and is no longer updated by Apple.

The most common issue with Open Transport TCP/IP configuration is, the bootp server has not been configured to return a domain name, and no domain name was specified in the Open Transport TCP/IP control panel.

In order to permit the resolution of partially qualified domain names, Open Transport TCP/IP requires a domain name to be configured, either in the control panel, or from your BOOTP/DHCP server. This corresponds to the default domain in MacTCP. In order to use the DNR at all, Open Transport TCP/IP also needs the address of at least one domain name server, but it can also be configured or returned from a server. This information was included in the Open Transport documentation, but did not get included in balloon help.

Solution

Either configure the bootp server to return a domain name, or enter a domain name in the TCP/IP control panel. You must be in Advanced user mode in the Open Transport TCP/IP control panel to do this.

Support Information Services
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AppleShare Windows Client: Not Supported in Windows 95

I've seen notes that the DOS Compatible systems are compatible with Windows 95, but not AppleShare Client for Windows software. Is it officially supported?

This article has been archived and is no longer updated by Apple.

AppleShare for Windows Client software is not supported on computers running Windows 95.

Published Date: Feb 19, 2012

AWS 95: A/UX Standalone Program Failure (9/95)

When booting into the A/UX environment on my Apple Workgroup Server (AWS) 95 I get a message that it could not launch because of a "standalone program failure." It further indicates that the "standalone program space is too small" because "this is a memory sharing system or the system heap is too large."

This article has been archived and is no longer updated by Apple.

This message results from the addition of extensions or control panels to the System Folder of the MacPartition. These extensions or control panels can modify the system heap to the point that it takes more space than expected for A/UX launch.

If you know what extension or control panel was added, you can remove it by starting up with extensions off (depress the shift key during startup) and then deleting the extensions or control panels.

If you are unsure what was added, a clean install of the A/UX Startup Files would be recommended. This can be accomplished by following the steps below:

Step 1

Startup with the Disk Tools diskette.

Step 2

Remove the System Folder from the MacPartition by moving it to the Trash and then selecting Empty Trash from the Special menu.

Step 3

Select Shut Down from the Special Menu.

Step 4

Insert the AWS 95 Installation Boot Disk and the AWS 95 System Software Installer CD and restart the server.

Step 5

Select Custom Install.

Step 6

Select Step 2: Install Startup.

Step 7

Once the installation is complete, select Quit. Your server will then restart with the new software.

NOTE: If your server is not on LocalTalk you will need to open the Network control panel and select the appropriate network interface after it restarts.

Support Information Services
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Macintosh Clients and Novell Frame Types

What frame type is used by Macintosh computers interacting with a Novell Netware server using AppleTalk?

This article has been archived and is no longer updated by Apple.

Novell Netware servers support four different frame types for Ethernet cards. These frame types and their associated protocols are as follows:

Frame Type	Protocols
EtherNet_802.2	IPX/SPX, and FTAM
Ethernet_802.3	IPX/SPX
Ethernet_II	IPX/SPX, TCP/IP, and AppleTalk Phase I
Ethernet_SNAP	IPX/SPX, TCP/IP, and AppleTalk Phase II

Except in rare cases where AppleTalk Phase I is still in use, Netware administrators will want to bind Ethernet_SNAP to the server's Ethernet card servicing Macintosh clients.

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Power Macintosh 7500/8500: Missing Automated Tasks (9/95)

The "About Automated Tasks" Read Me file on the Power Macintosh 7500 and 8500 series computers refers to the following AppleScripts: "Turn on Filesharing," "Turn off Filesharing," "Sound On," and "Sound Off." Unfortunately, these AppleScripts are not included on the Apple Macintosh CD nor are they preinstalled on the hard drives of these computers.
This article has been archived and is no longer updated by Apple.
There are two workarounds to provide the functionality of these AppleScripts:

Control strip modules

The functionality provided by all four of these Applescripts is available via the Control Strip software that ships with the Power Macintosh 7500 and 8500.

Install and create additional AppleScripts

The "Start File Sharing" and "Stop File Sharing" tasks are installed by the PlainTalk 1.4 English Speech Recognition software. After installing this software, these files can be found in the "Speakable Items" folder.

The "Turn Sound On" and "Turn Sound Off" files are not installed by PlainTalk 1.4 English Speech Recognition software. However, you can use the Script Editor to recreate these files. The script of the "Turn Sound Off" task is as follows:

```
on run
tell application "Finder"
set volume 0
beep
display dialog "Your system beep has been turned off." buttons {"OK"} default
button 1
end tell
end run
```

The script of the "Turn Sound On" task is as follows:

```
on run
tell application "Finder"
set volume 5
beep
display dialog "Your system beep has been turned on." buttons {"OK"} default
button 1
end tell
end run
```

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ImageWriter LQ: Transparencies Cause Optical Sensor Problems

This article has been archived and is no longer updated by Apple.

The ImageWriter LQ does not recognize unbacked transparency material, due to its optical paper sensor.

Optical sensors are normally of two types: see-through and reflective. Both have difficulty detecting transparencies.

- Reflective sensors depend on a certain amount of light being bounced back to the sensor by reflection from the paper. If that amount is not received, the sensor believes there is no paper in the printer.

- See-through sensors depend on seeing little or no light through the paper. Because transparency material passes too much light, the sensor doesn't detect paper.

Transparency material that has a white backing sheet is available, and can be used in the ImageWriter LQ or ImageWriter II. The image density isn't significantly greater on the Imagewriter LQ than on the ImageWriter II, since the print density on transparency material is very weak no matter what printer is used -- the surface is generally too smooth to accept much ink from the ribbon.

Published Date: Feb 19, 2012

Open Transport 1.0.x: Using Serial Printers (7/96)

I have a Power Macintosh 9500 and a LaserWriter Select 310. I cannot print to the LaserWriter Select 310 when connected using the printer port in the AppleTalk control panel. When I go into the Chooser and select the printer port, I get a message that says "Laserwriter Select 310 cannot be used on the Printer port while AppleTalk is active. Do you want to make AppleTalk inactive?" It makes no difference whether I click "OK" or "Cancel" in the dialog box. I get the same message again when I go back to select the printer port in the Chooser. What can I do to correct this?

This article has been archived and is no longer updated by Apple.

This is a known issue with versions 1.0, 1.01, 1.06, and 1.07 of Open Transport on the Power Macintosh 7200, 7500, 8500, and 9500. This problem is caused by a delay when the printer port is released by the LocalTalk driver, and it can occur with other serial printers. The delay in releasing the printer port increases if you repeatedly click through the dialog boxes in the Chooser or repeat the procedure over and over.

This was fixed in version 1.1 and later of Open Transport. You should update to version 1.1, or later of Open Transport.

Article Change History:
22 Jul 1996 - Updated discussion to include information on 1.1 of OT.
11 Dec 1995 - Updated title.
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Macintosh 5xxx/6xxx: Microprocessor Issue

This article covers two topics:
1. Running the 5xxx/6xxx Tester application when experiencing system freezing on selected Performa and Power Macintosh computers.

2.An issue with some PowerPC 603 microprocessors installed on a limited number of Macintosh and Performa 5200 and 6200 series computers. Previously, this required the use of the 52xx/62xx Diagnostic Utility, which has since been removed.
This article has been archived and is no longer updated by Apple.
1. The 5xxx/6xxx Tester should be used to test for known component issues that may cause system freezing in ALL Power Macintosh and Performa 5200, 5300, 6200, and 6300 series computers, including the Apple Power Macintosh 5200/75 LC and 5300/100 LC, and Macintosh Performa 5200, 5215, 5300, 6200, 6205, 6214, 6216, 6218, 6220, 6230, 6290 and 6300. (The Power Macintosh 5260 and 6320 models are not included in this program because Apple corrected all the known issues with this product prior to manufacturing.) The 5xxx/6xxx Tester is available from the Apple Software Updates Web site at http://www.apple.com/swupdates .

2. The 52xx/62xx Diagnostic Utility was made available to detect an issue with a small number of PowerPC 603 microprocessors used in ONLY Macintosh Performa 5200, 6200, and Power Macintosh 5200/75 LC computers. Only computers within a specific serial number range were potentially affected by this issue. The Diagnostic Utility was posted on the online services, but it has since been removed with the posting of the 5xxx/6xxx Tester. Below is some additional information on this original problem.

PowerPC 603 Microprocessor Statement

Apple and Motorola found that a small number of PowerPC 603 microprocessors used in Macintosh Performa 5200, 6200, and Power Macintosh 5200/75 LC systems may have an issue. Fewer than 1 in 1000 of these systems may have a PowerPC 603 processor issue which was not detected in test procedures at the microprocessor design facility and at Apple. No customer has reported this issue to Apple that we are aware of.

Only Macintosh Performa and Power Macintosh LC models in the 5200 and 6200 series with serial numbers in the following ranges could be impacted:

5200 Series Computers

XB514xxxxxx - XB529xxxxxx
SO514xxxxxx - SO529xxxxxx
SG523xxx - SG527xxx
numbers less than CK533xxxxxx

6200 Series Computers

XB528xxxxxx - XB529xxxxxx
SO528xxxxxx - SO529xxxxxx
SG510xxx - SG528xxx
numbers less than CK533xxxxxx

Computers outside the above serial number ranges have been screened with additional test procedures and do not have this problem. No other Power Macintosh, Power Macintosh LC, Performa, or PowerBook computers experience this problem.

On September 21, 1995, Apple posted a diagnostic utility called "52xx/62xx Diagnostic Utility" that checks for this potential issue. This application was removed when the 5xxx/6xxxx Tester was posted.

Apple Service inventory has been tested and does not have this issue.

Below is a Q & A which may answer more of your questions.

Question: How does this issue manifest itself?
Answer: Tests indicate it may affect the Graphing Calculator application, or other PowerPC native applications using specific mathematical operations in a specific sequence. In some cases it may cause an application to unexpectedly freeze.

Question: Does it impact spreadsheet applications?
Answer: Although we have not been able to duplicate this problem with these applications, it is possible.

Question: What are the serial numbers affected?
Answer:
5200 Series Computers

XB514xxxxxx - XB529xxxxxx
SO514xxxxxx - SO529xxxxxx
SG523xxx - SG527xxx
numbers less than CK533xxxxxx

6200 Series Computers

XB528xxxxxx - XB529xxxxxx
SO528xxxxxx - SO529xxxxxx
SG510xxx - SG528xxx
numbers less than CK533xxxxxx

Question: When will customers be alerted?
Answer: On September 21,1995, Apple will post the diagnostic utility on various online services along with this document.

Question: How will customers be alerted?
Answer: We are notifying our customers in a number of ways. Each company has posted a diagnostic test on various online services, including Apple and Motorola home pages on the World Wide Web, and CompuServe. Customers can download and run this diagnostic on their computer to determine if it is one of the few that may have a PowerPC 603 processor with a problem.

Question: What are the specific online paths to the diagnostic?
Answer: The diagnostic, along with a ReadMe and a Q & A document, are included in a file titled "52XX/62XX Diagnostic Util.SEA" posted to the following locations:

http://www.apple.com/swupdates
ftp://ftp.info.apple.com

Question: If customers determine their system contains the problematic PowerPC 603 processor, what should they do?
Answer: If the customer runs the diagnostic utility and it confirms that the system has a potentially problematic PowerPC 603 processor, and their computer has a serial number in the specified range, Apple will replace their logic board at no cost.

Customers should call their service provider or 1-800-SOS-APPL for service.

International customers should contact their local Apple service center for replacement of their logic board, should it be necessary.

Question: Is this like the Pentium bug?
Answer: No it is not. The Pentium issue was inherent in the Pentium microprocessor design. Every Pentium had this problem before a modification to the design was made.

In this instance with the PowerPC 603 processor, there is no design flaw in the PowerPC 603 processor itself. Instead, a few problematic units that should have been rejected were not identified by the test procedures. Apple and Motorola reacted quickly to research and identify the problem. Both companies have instituted revised test procedures for the PowerPC 603 processor to ensure all current shipping systems are unaffected by this issue.

Question: What have you done since you discovered the issue?
Answer: Additional tests have been implemented at both the chip design and manufacturing facilities, and at Apple to catch this issue. Apple and Motorola are now extensively testing the PowerPC 603 processor to ensure all current shipping systems are unaffected by this issue.

Question: How many units could be affected?
Answer: We believe the total number of units worldwide to be well below 500.
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Apple Internet Connection Kit: Product Details (9/95)

This article provides the product details of the Apple Internet Connection Kit (AICK).
This article has been archived and is no longer updated by Apple.
Product Details

Apple Internet Dialer on-line Internet service registration software
* Offers a choice of qualified Internet service providers in your area
* Streamlines the process of registration for Internet service
* Configures the applications to run on your system

Netscape Navigator browser software
* Allows you to browse the World Wide Web

Claris Emailer Lite e-mail software
* Enables you to receive and send Internet e-mail messages via an intuitive drag-and-drop interface

Fetch FTP software
* Lets you access File Transfer Protocol (FTP) services to download specific files

Aladdin Stuffit Expander decompression software
* Automatically decompresses files that you download from the Internet

NewsWatcher browser software
* Allows access to Usenet newsgroup discussions

SLIP and PPP software
* Allows the use of MacTCP over your modem line, so your Macintosh and Internet applications can communicate with the protocols used by the Internet (SLIP and PPP)

NCSA Telnet terminal emulation software
* Allows your Macintosh to emulate a terminal for connection to many libraries and catalogs

QuickTime VR Player
* Lets you view multimedia presentations and video clips over the Internet

Adobe Acrobat Reader
* Lets you view portable document format (PDF) files in their exact original format

RealAudio Player
* Enables you to hear programmed audio real-time over the Internet

Support
* "Getting started" guide helps you get acquainted with your new tools and the Internet and shows you how to navigate it

On-line help
* Includes Internet-specific Apple Guide on-line help
* Offers third-party documentation on CD
* Telephone support for installation and configuration

System requirements
* An Apple Macintosh, Power Macintosh, PowerBook, or other Mac OSõbased computer
* At least 8MB of RAM
* Macintosh system software version 7.5 or later
* A 9,600-bps (or faster) modem (14,400 bps recommended) or a connection to a local area network that is already connected to the Internet
* A minimum of 10 MB of available hard disk space (15MB recommended)

* A high-density floppy disk drive or CD-ROM drive

Ordering Information

Apple Internet Connection Kit
Order No. M4276LL/A
* CD-ROM and floppy disks, each containing all of the Internet software and support (including electronic documents) described in Product Details

Order No. M4503LL/A
* 20-user version (CD-ROM and floppy disks)

For information regarding volume licensing, contact Apple Software Licensing at: vol.license@applelink.apple.com.

For more information about Apple's Internet products, visit us on the Internet at: http://www.apple.com/.

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Apple‘s Internet Products (4/97)

This article provides a brief description Apple Computer's internet products which include:

* Apple Internet Server Solution for the World Wide Web
* QuickTime Products
* AppleSearch
* Apple Remote Access
* Apple IP Gateway

This article has been archived and is no longer updated by Apple.
The Internet is a truly global resource, containing prodigious amounts of information on virtually every area of interest. It's no surprise that the Internet is being used by millions of people from all walks of life: business professionals who want to show the world their products and services, teachers who want to bring the world into their classrooms, and anyone who needs to keep in touch with others by e-mail.

It's also no surprise that Apple, the company most responsible for enhancing the personal computing experience, is at the forefront of making the Internet and its valuable resources more accessible. With the builtin communications technologies of the Mac OS and the products listed below, Apple has the solutions you need for accessing information, publishing, and authoring on the Internet.

Apple Internet Server Solution for the World Wide Web
This WWW "server in a box" is an all-in-one solution that consists of a Workgroup Server 6150/66, 8150/110, 9150/120, 7250/120 or 8550/132, and a CD-ROM that contains the software needed to get established on the Web. The Apple Internet Server Solution is a multi-platform solution, enabling access by Mac OS, Windows, and UNIX clients on the WWW. This software includes:

* WebSTAR from StarNine allows a Workgroup Server to serve information on the WWW.
* Adobe PageMill, makes creating web pages an easy, graphical process.
* MacDNS from Apple maps an IP address to a recognizable web server name which enables web clients to find your server.
* NetCloak from Maxum Development, provides additional capabilities to HTML standards.
* ServerStat from Kitchen Sink Software, helps you manage your server efficiently by analyzing WebSTAR traffic reports.
* RealAudio Server from Progressive Networks lets you enhance your web pages with high-quality sound.
* HyperCard from Apple a popular software erector set that is easily customized to perform a variety of tasks, such as serving as a multimedia database, and includes HyperCard Common Gateway Interfaces (CGI).
* FileMaker from Claris* an easy-to-use, yet powerful flat-file database and includes FileMaker Pro CGI.
* EveryWare Tango and Butler SQL* a web database solutions which includes solutions for on-line conferencing, catalogs, registration, and classified ads.
* Netscape Navigator client lets you preview your web pages before you post them.
* BBEdit from Bare Bones Software a high-performance text editor for advanced HTML coding.
* Adobe Acrobat Pro creates and translates documents into portable document format (PDF), the cross-platform Internet document standard.
* Image Map software creates hotspots in GIF or PICT graphics to incorporate into web pages, and includes a CGI to serve the image map.
* Electronic Mail CGI gives e-mail capability to web browsers that do not have it.
* Sample web pages offer templates of web pages that you can easily customize to suit your needs, including home pages, a catalog page, and forms.
* AppleScript lets you take advantage of the power of scripting without requiring a knowledge of C programming.
* AppleSearch 1.5 enables you to index documents on local servers or in a database and search them by key words, includes AppleSearch CGI.

* Does not include complete application package.

QuickTime Products
QuickTime, Apple's interactive multimedia technology, has become the multimedia content delivery standard for the Internet. It is a system software extension that provides an interface for editing video, animation, music, text, and other time-based information. Because it is a cross-platform technology, QuickTime is ideal for Internet content delivery and creation. Publishers can use QuickTime to create compelling Internet content by using existing material and adding interactivity to produce new experiences. In addition, QuickTime makes electronic commerce more viable for consumers by letting them "pick up" items and examine them from all angles. QuickTime product extensions include:

* QuickTime Music Tool Kit, which allows users to interact with music just like they interact with graphics and text.
* QuickTime VR, which creates virtual- reality experiences by piecing together photos from a standard 35mm camera to produce panoramic views.
* QuickTime Conferencing, which allows users with a video camera to set up a multiparty conference over the Internet in real time.

AppleSearch
AppleSearch is easy-to-use yet sophisticated client/server software designed to be a knowledge navigator that finds information relevant to users' needs. Internet publishers can use AppleSearch to index volumes of text, images, or video on their WWW servers, so users can easily search for information. LAN managers can use AppleSearch to manage and use the growing stockpiles of electronic information by letting users on a network search for data stored on local servers as well as on the vast resources of the Internet -- from both Macintosh com-puters and PCs running Windows. AppleSearch:

* Allows search requests to be entered in the user's own words and provides immediate search results.
* Supports many clients through a single Internet connection to the server.
* Lets LAN managers choose WAIS servers that are useful to the workgroup.

Apple Remote Access Products
Apple Remote Access software is the dial-up solution favored by organizations that want to extend their Internet connection to remote or traveling users. Apple Remote Acces servers, used with Apple IP Gateway software, make it easy to connect authorized Macintosh or PowerBook computer users at a remote location to the Internet, as well as provide access to local information and resources. Apple Remote Access solutions are ideal for workgroups or entire organizations that want to enable employees to work productively and efficiently from any location -- whether they're at home, out of town, or even out of the country. Apple Remote Access:

* Offers the easiest-to-configure dial-up solution for the Internet.
* Allows MacTCP to work without additional software -- the same way it
works on a Local Area network.

Apple IP Gateway
With the Apple IP Gateway, Macintosh users with Apple Remote Access, LocalTalk, or any other AppleTalk network connection can connect easily to an Ethernet-based TCP/IP network to use the full range of Internet Protocol (IP) services. These include the vast array of Internet services such as Telnet, File Transfer Protocol (FTP), Gopher, World Wide Web, and Wide Area Information Servers (WAIS). An Internet connection is required. The Apple IP Gateway:

* Allows a single MacTCP configuration for all IP users on the LAN, eliminating the need for individual IP addresses.
* Lets mobile, remote, and local AppleTalk network users access the Internet -- even if the users' AppleTalk network does not directly support IP services.
* In conjunction with Apple Internet Router software, provides IP access to any Macintosh computer that is part of the router's network.
* In conjunction with an Apple Remote Access server, provides IP access to remote or mobile users.
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Workgroup Server 9150/120: CD-ROM Setup 5.0.3 Issue

This article describes an issue with the Workgroup Server 9150/120 and CD-ROM Setup 5.0.3 found on the Workgroup Server 7.5.1 startup CD.
This article has been archived and is no longer updated by Apple.
If you have either Apple RAID striped, or mirrored volumes on a Workgroup Server 9150/120 with an internal Panasonic (also known as MKE) CD-ROM drive, the server may freeze during startup from a bootable CD-ROM disc. This may happen even if you have installed Macintosh CD-ROM Setup 5.1.1 or later on a Workgroup Server 9150/120 and then try to startup from the startup CD disc that came with your server.

This is because the older CD-ROM driver, version 5.0.3, will be loaded from the startup CD disc, which may cause the server to freeze. Typically, if a Workgroup Server freezes during startup from the startup CD, a hardware problem might be suspected since the startup CD is considered a "clean" system. However, with the older CD-ROM drivers on the CD, a startup floppy disk should be made to let you startup the server in emergencies. A startup floppy disk can be made by following the following steps:

1. Create a disk tools floppy from the image on the Workgroup Server 7.5.1 CD.

2. Delete the CD-ROM Setup 5.0.3 extension from the Extensions folder in the System Folder on the Disk Tools disk created in step 1. Select the Empty Trash command from the Special menu.

3. Drag the CD-ROM Setup 5.1.1 extension to the Extensions folder in the System Folder on the Disk Tools floppy disk.

4. Keep this Disk Tools floppy for emergencies to startup the Workgroup Server 9150/120.

Published Date: Feb 19, 2012

Plaintalk 1.4.1: PostScript Error When Printing Read Me (10/95)

Article Reviewed/Updated: 9 October 1995

I am unable to print the "Using Speech Recognition" ReadMe file included with the Plaintalk 1.4.1 software I downloaded. I have tried several different versions of the LaserWriter driver and different computers but I get a Postscript error in each case.
This article has been archived and is no longer updated by Apple.
There was a problem with one of the graphics imbedded in the "Using Speech Recognition" ReadMe file that was posted to online services from August 17, 1995 through October 5, 1995. A corrected ReadMe File was posted October 5, 1995.

If you are unable to download the new corrected ReadMe file, you can open the old document with a word processing program other than SimpleText and it will print fine.

These articles can help you locate the software update mentioned here:

* "Where To Find Apple Software Updates" -- Lists online services for free Apple software updates.

* "Obtaining Apple Product Support in the USA" -- Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech Info Library.

Article Change History:
09 Oct 1995 - Added information on the corrected file.

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RAM Doubler: Still Loads Even When Shift Key Held Down (9/95)

When I start my computer with the Shift key held down, RAM Doubler still loads. Is my keyboard defective?
This article has been archived and is no longer updated by Apple.
No, even with with extensions off, RAM Doubler will load. To temporarily disable RAM Doubler, during startup hold down the Tilde (~) key located to the left of the !/1 key on your keyboard. If you have System 7.5.x, during startup, you can hold down the space bar on your keyboard until the Extensions Manager opens and uncheck RAM Doubler to disable the product.

If conventional attempts to disable RAM Doubler fail, contact the makers of RAM Doubler, Connectix, for compatibility and configuration assistance with their product.

If you are troubleshooting a system software or extensions issue, you may wish to perform a clean install or clean restore of your system software. Use the search string "clean install" to locate the specific TIL article on a clean install or clean restore for your computer.

The Tech Info Library article titled "Locating Vendor Information" can help you search for Connectix's address and phone number.

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Macintosh Client Unrecognized Login Sequence to NetWare (10/95)

Article Reviewed/Updated: 17 October 1995

I just installed a NetWare 4.1 server on my network, but now my Macintosh clients receive this message, "This File server is not using a recognizable logon sequence," when trying to access the 4.1 server. My existing Novell servers did not cause this message. What can I do to resolve this?
This article has been archived and is no longer updated by Apple.
First, the situation you describe is not an Apple Computer issue. For support with NetWare servers, you should either contact your network and/or NetWare administrator(s), or Novell support directly.

In summary, Novell has alternate methods of user login authentication which are not inherent to AppleShare. The error message you describe indicates that this server is employing an alternate authentication scheme. From information we have, this appears to be a NetWare 4.1 issue only. The error message will occur when you do not have the Novell Macintosh client software (Netware.UAM) installed which came with NetWare 4.1, and/or you have the default Macintosh security options set.

Here are two procedures to check which may resolve your issue. These are both Novell server and administration procedures that should be done by the support person who is responsible for the Novell server(s).

Install Novell Macintosh Client Software

The path to the Macintosh client software is /PUBLIC/Mac/English on the Novell 4.1 server SYS volume. The file you are looking for is MacNDS.sea, and launch this .sea (self-extracting archive) file. Then launch the extracted installer which will add nine items to the Extensions and Control Panels folders.

* Seven are extensions, they are: MacIPX Ethernet, MacIPX AppleTalk, MacIPX Token Ring, AppleShare (3.5), NetWare Notify, ~NetWare Aliases, and NetWare UAM. Note that NetWare UAM is for the support of Novell's User Authentication Method

* Two are control panels, they are: MacIPX and MacNCP.

Also, please refer to the Novell client documentation which is either online, or in manual form.

Load ATCONFIG.NLM

From the Novell 4.1 file server load ATCONFIG.NLM by selecting the following menu options:

Configure File Services
Detailed Configuration
User Access Information

Under User Access Information the first option should read:

Allow Clear Text Passwords Login YES

The default setting for Allow Clear Text Passwords Login is NO. Setting this option to YES will let Macintosh clients login without Novell's Macintosh client software being installed. This procedure is less secure because this option does not necessitate encrypted passwords on the network's physical media, and a packet analyzer can read the passwords.

Article Change History:
17 Oct 1995 - Comnbined articles.

Support Information Services
Published Date: Feb 19, 2012

Open Transport, Eudora, and PPP Connection Issue

This article describes an issue sending mail with Eudora and Open Transport 1.0.7 and earlier.
This article has been archived and is no longer updated by Apple.
This issue has been resolved in Open Transport 1.0.8 and later, so you should upgrade your version of Open Transport. Version 1.1 is part of System 7.5 Update 2.0, which is available from the online services where Apple posts software updates. Also, Qualcomm currently recommends using Eudora versions 1.5.3, 1.5.4, 2.1.3, 2.1.4 (or newer) with Open Transport.

If you do not have access to Open Transport 1.0.8 or later the workaround below may work.

Eudora 1.5.1 does work properly with Open Transport unless you are using a SLIP or PPP connection. In this case, Eudora has a issue sending small mail messages.

The workaround at this point is to make sure the mail message contains at least 1500 characters. This seems to allow the message to be sent every time. This workaround has not received extensive testing and is not guaranteed to work. In fact, 1500 characters may be a bit of overkill but it seems to be reliable.

This article can help you locate the software update mentioned here:

- Article 14724: "**Where To Find Apple Software Updates**" - Lists online services for free Apple software updates.

Published Date: Feb 19, 2012

Cascading the Ethernet 10T/5 Workgroup Hub (9/95)

This article describes cascading the Ethernet 10T/5 Workgroup Hub.
This article has been archived and is no longer updated by Apple.

For proper operation when cascading the Ethernet 10T/5 Workgroup Hub, a port on the Workgroup Hub should be:

* Connected to the uplink port of the parent hub.

* Connected to a regular port using either a 10-baseT crossover cable,
 or with two 10-baseT cables joined with the Apple Expansion adapter
 (included with the hub).

NOTE: The cascade limits for 10-baseT demand that no packet on the network travel through more than four hubs or repeating devices. This specification must NOT be exceeded.

Support Information Services
Published Date: Feb 19, 2012

Global Village PowerPort Gold: PPP Initialization String (9/95)

What initialization string should I enter for PPP access using a Global Village PowerPort Gold modem which came with my Performa?

This article has been archived and is no longer updated by Apple.

The recommended initialization string for dialing into UNIX-based PPP servers would be:

AT&F1%C0\\NO (NOTE: Use zeroes, not the letter "o")

This command string resets the modem to factory defaults and turns off hardware compression and error correction.

For other PPP servers, use the initialization string:

AT&F1

This command string resets the modem to factory defaults.

Support Information Services

Published Date: Feb 19, 2012

What Is MacIPX and How To Obtain It (9/95)

What is MacIPX and how do I get it?

This article has been archived and is no longer updated by Apple.

MacIPX is a control panel that lets a Macintosh computer use IPX (internet packet exchange) services, a Novell defined protocol. MacIPX is not an Apple product, it is a Novell product. If a user needs support or upgrade information for MacIPX, they need to contact the vendor from whom they received MacIPX. For example, Claris has licensed MacIPX from Novell for use with some of its FileMaker database products; because Claris ships MacIPX then a user should contact Claris for MacIPX support related to FileMaker. Another example might be if a user gets MacIPX from Novell as part of NetWare file services, then they should contact Novell for support.

Support Information Services

Published Date: Feb 19, 2012

AppleVision Software: Supported For Non-AV Monitors

I recently installed the AppleVision software on my Macintosh. I wanted to get a version of the Control Strip that works on my Macintosh and take advantage of the Monitor BitDepth and Monitor Resolution Control Strip modules included with the AppleVision software. Although I do not have an AppleVision Monitor, the AppleVision software and Control Strip functions worked fine on my computer initially. However, when I restarted the computer recently, it froze when the "Display Enabler" extension appeared on the screen.
This article has been archived and is no longer updated by Apple.
Versions of Applevision software prior to 1.5.2 were unsupported for use with any monitor other than the AppleVision display. However, Applevision 1.5.2 can be installed on any 040 or PPC CPU and will provide the functionality of the Monitors and Sounds control panel including basic gamma settings, CPU sound control, and resolution switching capabilities provided by the particular capabilities of the installed combination of monitor and CPU.

Advanced features such as Geometry, Color, Convergence, Calibration, Monitor Sound and other AppleVision specific components such as digital colormeter will not be present since these are functions of the AppleVision design.

Applevision 1.5.2 software should also be used in conjunction with the AudioVision 14" monitor on 040 or PPC CPUs. Monitor Sound control is an included feature with this display.

Published Date: Feb 19, 2012

Desktop Printing Software v1.0.3: Read Me File (9/95)

This article contains the ReadMe file included with the Desktop Printing software version 1.0.3.
This article has been archived and is no longer updated by Apple.
Information About Desktop Printing Software version 1.0.3

Desktop Printing Software v1.0.3 fixes memory related problems that occur on Power Macintosh computers that have Open Transport installed. If you have a Power Macintosh 9500, 8500, 7500, or 7200, you may have experienced system errors while printing to a desktop printer. This is especially likely if you have turned off Virtual Memory.

Desktop Printing Software v1.0.3 includes support for the Extensions Manager. All three components of the Desktop Printing Software now appear in the Extensions Manager control panel. These components include the Desktop Printer Extension, Desktop PrintMonitor, and Desktop Printer Spooler.

Upgrading to Desktop Printing Software v1.0.3

This version of Desktop Printing Software is intended only for Macintosh users who need to upgrade from an earlier version of Desktop Printing Software. Desktop Printing Software v1.0.3 may not function correctly on Macintosh computers that do not already have an earlier version of Desktop Printing Software installed.

An installer application is not available for this upgrade. To install this upgrade, you must follow these steps:

Step 1

Restart your Macintosh with the Shift key held down. This will temporarily disable your system extensions.

Step 2

Select the desktop printer icons located on your desktop and drag them to the Trash.

Step 3

Drag the three components of the Desktop Printing Software v1.0.3 to your System Folder icon. Your Macintosh will display a message asking if you want to place the software components in your Extensions folder. Click "OK". Your Macintosh will then display a message asking if you want to replace the old components of the Desktop Printing Software with the new ones. Click "OK".

Step 4

Restart your Macintosh.

After restarting, a desktop printer icon for the printer you most recently used will automatically be created. To create a desktop printer icon for another printer, select the printer using the Chooser. After you close the Chooser the new desktop printer icon will appear on your desktop.

Disabling the Desktop Printing Software

If you are using System 7.5 or later, you can disable the Desktop Printing Software by un-checking the Desktop Printing Extension, Desktop PrintMonitor, and Desktop Printer Spooler in the Extensions Manager control panel. The Desktop Printing Software will be disabled after you restart your Macintosh.

If you are using an earlier version of the Macintosh System software, you will need to manually drag the Desktop Printing Extension, Desktop PrintMonitor, and Desktop Printer Spooler from your Extensions folder to a location outside of your System Folder. The Desktop Printing Software will be disabled after you restart your Macintosh.

Using More Than Four Desktop Printers

If you are using a Power Macintosh, and want to have more than four desktop printers, you must increase the Desktop PrintMonitor memory allocation by 12K for each additional desktop printer. To do so, select the Desktop PrintMonitor's icon -- it's in the Extensions folder inside the System Folder -- choose Get Info, type a larger number in the Preferred Size box, then close the Get Info window.

TA34482_Desktop_Printing_Software_v_Read_Me_File__(TIL18645).pdf

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Support Information Services
Published Date: Feb 19, 2012

Apple MPEG Media System: Frequently Asked Questions (12/95)

This article contains frequently asked questions (FAQ) about the Apple MPEG Media System and related MPEG terminology.
This article has been archived and is no longer updated by Apple.
Question:
What is MPEG-1?

Answer:
MPEG-1 is an ISO standard developed by the Moving Picture Experts Group for compressing and decompressing video and audio for playback on computers, gameplayers and CD-ROM discs. MPEG-1 is a compression and decompression standard which allows you to play full screen, full motion digital video on your computer.

By definition, MPEG-1 offers the following features:

* Playback from a standard CD-ROM drive
* 74 minutes of video per CD-ROM disc
* Full motion video (30 fps for NTSC; 25 fps for PAL; 24 fps for film playback)
* 24-bit video playback
* 16-bit audio

Question:
Is it really full screen digital video?

Answer:
By definition of MPEG-1, the screen size is 352x240, regardless of the type of computer it is used on. As a result, all computers, including Macintosh and PC compatible, require some sort of pixel doubling/pixel replication in order to get to 640x480.

Question:
How does this differ from QuickTime?

Answer:
QuickTime provides a mechanism for playing back video sequences at anywhere from 10 to 24 frames per second in a 320x240 window. When viewing the video, it can be choppy and slow. MPEG video played back is smooth flowing full motion.

Question:
What about software based MPEG?

Answer:
Software MPEG, although inexpensive has many limitations. First, software-based MPEG requires at least a 90 MHz Pentium system, which is expensive. Software MPEG playback of non-interactive video titles requires approximately 80% of the computers cycles and does not provide full motion playback. As a result, the computer and user can not perform any tasks in the background while watching a video. More importantly, software MPEG will not have the bandwidth and capability to run interactive titles. Hardware based MPEG solutions on the other hand, require only approximately 20% of the machines cycles. As a result, users can perform tasks on their computer (such as working on a spreadsheet) while simultaneously playing an MPEG movie. In addition, a hardware based MPEG solution is required in order to run any interactive games and interactive education titles.

Question:
What is the Apple MPEG Media System?

Answer:
The Apple MPEG Media System is an MPEG-1 playback (decompression only) card for the Macintosh.

Question:
What computers does this work in?

Answer:

The Apple MPEG Media System works in Macintosh or Power Macintosh computers with an LC-PDS slot and a Video In Slot, such as the Macintosh 630 series of computers, the Power Macintosh 5200 and 6200 series, and the Macintosh LC 580.

The Apple MPEG Media System also requires the Apple Video System or the Apple TV/Video System.

The Apple MPEG Media System does not work in the Macintosh 630 DOS Compatible computer or the Performa 640 DOS Compatible because the MPEG card fits into the LC PDS slot, which is already occupied in the DOS Compatible computers. The Apple MPEG Media System also does not work in Macintosh 630 series computers, which have a Processor Upgrade Card installed. The Processor Upgrade Card in these computers blocks the PDS slot, which the Apple MPEG Media System requires.

Question:
How much does the Apple MPEG Media System cost?

Answer:
Under $300, and it includes several MPEG titles.

Question:
Can I play any MPEG titles on my Macintosh?

Answer:
There are a number of different playback standards that have been developed by various companies. Many are proprietary in nature, and as a result have limited playback capability. The different playback standards and their compatibility with the Apple MPEG Media System are as follow:

Digital Videos

This is a Philips proprietary standard. The Apple MPEG Media system can play back all non-interactive Digital Videos.

CDi

CDi and Digital Video are essentially the same. The Apple MPEG Media system can play back all non-interactive CD-i titles.

Video CD-ROM discs

The Apple MPEG Media system can play back all Video CD titles. The interactive Video CD titles simply have a graphical user interface as a front end for selecting and playing the movies on the CD-ROM disc. The Apple MPEG Media System already has a graphical, intuitive user interface to select movies in Apple Video Player.

Interactive titles

The first generations of interactive titles will specify whether they play on Windows or the Mac OS. Interactive titles developed on PC compatible computers will not work on Macintosh computer. However, the Apple MPEG Media System is tightly integrated with QuickTime 2.x. As a result, with QuickTime and QuickTime for Windows a developer could potentially develop a title that would work on both Macintosh and Windows systems.

Article Change History:
12 Dec 1995 - Added information on Processor Upgrade Card.
01 Dec 1995 - Change title and added keyword.

Support Information Services
Published Date: Feb 19, 2012

Apple MPEG Media System: Specifications (3/96)

This article describes the specifications for the Apple MPEG Media System.
This article has been archived and is no longer updated by Apple.

Hardware Features
---
* Uses PDS slot and DAV connector
* 30 fps playback up to 24 bit*
* Display window up to 640x480 (pixel doubled)
* 16-bit CD quality audio*
* User Installable - No external cabling or power
* NTSC/PAL support

* Note:
The Apple MPEG Media System can playback at these audio rates and video resolutions. However, not all Macintosh computers playback at these rates and resolutions. Check the specifications of your Macintosh computer for information on audio rates and video resolutions.

Software Features
---
* Apple Video Player 1.3
- Chapter navigation
- Capture
- Re-sizable window
* Supported by QuickTime 2.x

Hardware Specifications
---
* C-Cubed CL450 MPEG Video Decoder
- 4 MB DRAM buffer
* NTSC video playback 30 fps
* Film playback 24 fps @ 320x240
* Plays existing MPEG data streams
* 44.1 Khz, 16-bit "CD Quality" audio
* PAL video playback 25 fps
* TI AV 110 MPEG Audio Decoder
- 1 MB DRAM buffer

Configurations
---
* M3763LL/A Apple MPEG Starter Kit for Developers
- Includes MPEG card and beta software
* M3763LL/B Apple MPEG Starter Kit for Developers
- Same as above with final software
* M4242LL/A Apple MPEG Media System
- Includes MPEG Card and education specific CD titles
* M4243LL/A Apple MPEG Media System
- Retail package for consumer, higher-education, and business.
* M4244LL/A MPEG Multipack

Package for developers for creating custom solutions. Includes 10 MPEG cards and one software kit minutes of video to be contained on a single CD-ROM disc.

Hardware Requirements
==========

* Macintosh or Power Macintosh computers with an LC-PDS slot AND a Video In Slot. This includes the Macintosh 630 series of computers, the Power Macintosh 5200 and 6200 series, and the Macintosh LC 580.

* The Apple MPEG Media System also requires the Apple Video System or the Apple TV/Video System.

Note:
The Apple MPEG Media System does not work in the Macintosh 630 DOS Compatible computer or the Performa 640 DOS Compatible because the MPEG card fits into the LC PDS slot, which is already occupied in the DOS Compatible computers. The Apple MPEG Media System also does not work in Macintosh 630 series computers, which have a PowerPC upgrade card installed. The PowerPC Upgrade card in

these computers blocks the PDS slot, which the Apple MPEG Media System requires.

Article Change History:
01 Mar 1996 - Added note about video resolution and audio rates.
12 Dec 1995 - Added hardware requirements section.
Published Date: Feb 19, 2012

QuickTime Conference: Presentations Window Sizes (9/95)

What are the window sizes of presentations using QuickTime Conferencing?
This article has been archived and is no longer updated by Apple.
When using QuickTime Conferencing with AppleTalk or TCP/IP on a LAN or WAN, the window sizes are standard QuickTime formats:

* Half size = 80x60
* Normal size = 160x120
* Double size = 320x240

When using QTC with a H.320/ISDN card the window sizes are H.320 formats:

QCIF = 176x144
CIF = 352x288

Support Information Services
Published Date: Feb 19, 2012

MAE 2.0: Unable to Format Unformatted Floppies on HP (9/95)

I am not able to format floppies that have never been formatted from within MAE (Macintosh Application Environment) on my HP (Hewlett Packard) workstation. If a floppy has been previously formatted by either DOS, UNIX, or Mac OS, I am then able to format it in MAE.

This article has been archived and is no longer updated by Apple.

To correct the problem, first run 'mediainit' from an hpterm. Once it has been formatted as a UNIX disk, MAE will then be able to format the floppy.

(example: mediainit /dev/rfloppy/c201d0s0)

This issue is being investigated by engineering, however, we do not know when or if this issue will be addressed.

Support Information Services
Published Date: Feb 19, 2012

Color StyleWriter 2200: Universal Power Adapter Available

I am going to do some international traveling with my Color StyleWriter 220. Will the power adapter that came with my printer work properly in countries outside the United States?

This article has been archived and is no longer updated by Apple.

The Color StyleWriter 2200 ships with a power adapter designed to work in the country where it is sold. The following chart lists the specifications for the power adapters sold in the various regions.

Country	Voltage	Frequency
USA	120V + 10%/-15%	60 +/-2 Hz
Japan	100V +/- 10%	50 +/-2 Hz
Europe	220V +/-10%	50 +/-2 Hz
Australia	240V +/-10%	50 +/-2 Hz
UK	240V +/-10%	50 +/-2 Hz

An optional universal power adapter which handles 100-240 volts at 50-60 Hz is available by ordering the M4133G/A Universal Power Adapter. The universal power adapter has a detachable power cord which provides flexibility because it accepts any standard Macintosh power cord, allowing you to easily adapt to the many different power plug configurations available worldwide.

Published Date: Feb 19, 2012

PowerShare Design & Planning Guide: Where To Find (9/95)

This article tells you where to find "The Design & Planning of PowerShare Collaboration Server Systems" guide, and provides its table of contents.
This article has been archived and is no longer updated by Apple.
You can find "The Design & Planning of PowerShare Collaboration Server Systems" guide in Acrobat pdf format at the following URL:

http://www.info.apple.com/dev/evangelism/powertalk/guides.html

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Support Information Services
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PlainTalk: :"Use PlainTalk Microphone" Warning Message (9/95)

I have successfully installed the PlainTalk speech recognition software on my Macintosh Performa 5200CD series computer. At startup I am getting a message that warns me that voice recognition may not work well because I am using the built-in microphone. The software works fine, but is there any way to avoid this message?

This article has been archived and is no longer updated by Apple.

The only way to avoid getting this error message is to use the PlainTalk microphone. The reason for the message is the internal microphone is susceptible to feedback and noise since it is located nearby and in the same housing as the built-in speakers. The software detects that you have chosen the built-in microphone in the Sound control panel and warns you accordingly.

An option for you is to purchase a PlainTalk microphone and select the external microphone as the input source in the Sound control panel. Open the Sound control panel, select Sound In from the pop-up menu, click Options, and choose the external microphone as your source.

Using the external PlainTalk microphone gives you better speech recognition.

Support Information Services
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AWS 95: A/UX 3.1 and sar -d Not Implemented (9/95)

I have an Apple Workgroup Server (AWS) 95 with A/UX 3.1, and I'm trying to use the sar command with the -d option. However, the -d option does not work and I cannot find it in the man pages.

How do I use "sar -d", or if it's not available how do I monitor disk activity in a similar fashion?

This article has been archived and is no longer updated by Apple.

The -d option, of the sar command, does not appear to have been implemented in A/UX 3.1.x on the AWS 95. Although the -d option did not generate any error messages, it returned nothing. For example, "sar -d 1 10" returned the time stamp every second 10 times.

You can try to use the -b and/or the -w option to monitor the block device buffering and swapping activities. For example,

```
sar -b 1 1000
sar -w 1 1000
```

These two options are close to monitoring the disk activity you are looking for. For tuned performance, the system reports should be 100% of buffer caches and 0% for swapping activity.

Support Information Services
Published Date: Feb 19, 2012

AplShare Windws Client: IBM PS Valuepoint Ethernet Card

This article describes an issue between AppleShare Client for Windows and the IBM PS Valuepoint Ethernet Card.
This article has been archived and is no longer updated by Apple.
If the IBM PS Valuepoint ISA Ethernet card is being used with the AppleShare Client for Windows, the Windows PC will hang when attempting to login to an AFP file server. The solution is to update the F1ODISH.COM driver to one dated 30 April 1994 or later.
Published Date: Feb 19, 2012

ARA: Open Transport Issue

I am using Apple Remote Access (ARA) Personal Server 2.0.1 with a Mac OS computer running an Open Transport version prior to 1.1.1. Each time I connect to the local network (either with LocalTalk, or Ethernet) and make an ARA connection, I lose the local network connection. I can see the remote servers in the Chooser, but not the local servers (AppleShare or Personal File Sharing). If a server is mounted and then an ARA connection is made, the server becomes dimmed.

I'm running Mac OS 7.5.2 with the Open Transport patch 1.0.7.
This article has been archived and is no longer updated by Apple.
This issue has been fixed with Open Transport 1.1.1. If you are not using Open Transport 1.1.1 with ARA, you should update Open Transport. Open Transport 1.1.1 is available on Apple computer's online Software Update locations. Open Transport 1.1.1 is only supported as an update with Open Transport 1.1. Open Transport 1.1.1 is supported on System 7.1.x and System 7.5.3 and later.

NOTE: This issue is independent of whether you are using ARA 2.0.1 or 2.1.

Below is a description of tests which illustrate this Open Transport 1.0.7 and ARA 2.0.1 issue:

Let's say you have zone A and B that are local. The ARA client is in zone A. The ARA server is on a different internetwork in zone C. In addition, let's assume that you can't place the client in zone B via the AppleTalk control panel.

Test 1

If the client is connected to zone A with LocalTalk, then you lose all devices in both zone A and B. All devices in zone C are available (as well as devices in other remote zones). This confirms what you reported in your escalation.

Test 2

If the client is connected to zone A with Ethernet, then devices in zone A and the remote zone C are available, but devices in zone B are not.
Published Date: Feb 19, 2012

Open Transport: ATalk Stays Off After Extensions Off Start 4/96

I notice when I restart my Power Macintosh 9500 computer after having started it with extensions off, AppleTalk remains turned off in the Chooser.

Is it possible to have AppleTalk default back on after an extensions off startup?
This article has been archived and is no longer updated by Apple.
This issue has been corrected with System 7.5 Update 2.0. Updating your system is the fix for this issue.

Article Change History:
18 Apr 1996 - Updated article with the fix.

Published Date: Feb 19, 2012

Macintosh Print Pack: Does Not Support HP Printers (9/95)

Is there a compatibility problem between the Hewlett-Packard Deskjet 500 series printers and the Macintosh when using the Macintosh Print Pack?

This article has been archived and is no longer updated by Apple.

The Macintosh Print Pack does not support HP 500 series printers. The only drivers that the Print Pack supports are those that provide full Epson Emulation. The HP printers do not support Epson Emulation. There is a full list of printers supported in the Print Pack documentation.

If you need this functionality for HP products, GDT Softworks, supports some additional drivers including those for HP printers.

The Tech Info Library article titled "Locating Vendor Information" can help you search for GDT Softworks' address and phone number.

Support Information Services
Published Date: Feb 19, 2012

SimpleText: Always Downloads Chicago Font

When printing from SimpleText to any LaserWriter, using the LaserWriter 8.x driver, I noticed it downloads Chicago during the printing process. It does not matter what fonts are included in the document, Chicago gets downloaded every time. This occurs on any version of SimpleText or LaserWriter 8 driver I have tried.

This article has been archived and is no longer updated by Apple.

Chicago is the font used internally by the SimpleText for the page numbers at the bottom of each page. If the Chicago font is not already present in the printer's memory, it is downloaded to your printer with each print job.

Published Date: Feb 19, 2012

PlainTalk: Accessing the Speech Tutorial (9/95)

The Speech Tutorial opened once after I installed PlainTalk 1.4.1, but now I cannot figure out how to reopen it.
This article has been archived and is no longer updated by Apple.
The Speech tutorial appears the first time the Speech Control Panel is used to turn Speakable Items on. After the Speech Control Panel is closed, it creates a Speech Preferences file in the Preferences folder. When Speakable Items is turned on, the software looks in the Preferences folder for the existence of a Speech Preferences file, if there is one there, the tutorial is not opened. Therefore, if you do not turn on Speakable Items the first time you open the Control Panel, the tutorial will not appear the next time, even though it is the first time you enable speech recognition.

You can force the Speech Tutorial to launch by following these steps:

Step 1

Make sure Speakable Items is turned off in the Speech Control Panel.

Step 2

Remove the Speech Preferences file from the Preferences folder or drag it to the Trash.

Step 3

Open the Speech Control Panel and click "On" under Speakable Items to launch the Apple Guide tutorial. There are about 10 panels in the Speech tutorial.

If you want the tutorial to be accessed frequently, like in a classroom setting, you can use an AppleScript to open the Speech Guide file at any time. Copy and paste the following AppleScript into the Script Editor. It can be run directly from the Script Editor or saved as a stand alone application that you can double-click.

```
AGStart -- AGStart scripting addition is required to start Apple Guide

set ExtFolder to path to extensions folder as text
copy ExtFolder & "Speech Intro Guide" to GuideFile
copy ExtFolder & "Apple Guide" to AG

tell application AG to open alias GuideFile
```

Support Information Services
Published Date: Feb 19, 2012

Monitor Sleep: Third Party PCI Video Cards Supported? (10/95)

Do third party PCI Video Cards support sleep? Is this a feature the developer has to incorporate in their driver/hardware?
This article has been archived and is no longer updated by Apple.
Third party PCI Video Cards can support sleep. Card developers are responsible for supporting the sleep features provided by the Power Manager.

In Apple's "Designing PCI cards and Drivers for Power Macintosh Computers" document, Apple sets guidelines for power management for specific classes of drivers. To be compatible with the Energy Saver control panel, graphics drivers should support the GetSync and SetSync status and control calls to implement the VESA Device Power Management Standard (DPMS) for power management. This allows the Display Manager to handle all interaction with the Power Manager on behalf of the driver.

Support Information Services
Published Date: Feb 19, 2012

Battery Tools 2.0: Read Me File

This article contains the ReadMe file included with Battery Tools 2.0 software.
This article has been archived and is no longer updated by Apple.
Important Information about your Type III Battery

The PowerBook Duo 280 and 280c include support for the PowerBook Duo Type I, Type II and Type III batteries. No update is necessary. To use a Type III battery with an older PowerBook Duo, read this update.

Using a Type III battery with an older PowerBook Duo

To use PowerBook Duo Type III NiMH batteries on a PowerBook Duo 210, 230, 250, or 270c follow these steps:

Step 1

Insert the Battery Tools disk into a floppy drive attached to your PowerBook Duo.

Step 2

Open the Battery Tools disk and drag the "Type III Battery" extension to your System Folder.

Step 3

Restart your PowerBook Duo with the power adapter attached to your computer.

Step 4

Remove your old battery and insert the Type III battery into your PowerBook Duo.

Step 5

Unplug the power adapter from your computer.

If your computer does not work after you insert the Type III, plug in the power adapter and restart your computer. Once you restart your computer, check to see that the "Type III Battery" extension is in the Extensions folder in your System Folder. If you see the "Duo Battery Patch" extension in the Extensions folder, you should drag it to the trash. The "Type III Battery" extension replaces the "Duo Battery Patch" extension.

A new Battery Reconditioning application program (version 1.1) is provided on the Battery Tools disk so you can recondition Type III batteries if you own a PowerBook Duo 270c. If you have a PowerBook 210, 230, or 250, you cannot use the Battery Reconditioning program.

Recharging Type III batteries in an external recharger

If you have an external battery recharger, you may need to update it to be able to charge Type III batteries. Follow these steps:

Step 1

Shut down your PowerBook Duo.

Step 2

Plug one end of the power cord into the power adapter and the other end into a three-hole grounded outlet or power strip.

Step 3

Snap the recharger onto the power adapter (as shown in the Getting Started manual).

Step 4

Plug the power adapter cable into the power adapter port on the back panel of the computer.

Step 5

Turn on your PowerBook Duo.

The battery recharger is automatically updated, and should now charge Type III batteries. You only need to do this once. If you try to charge a Type III battery after you have followed these steps, and a red light appears on the recharger when you insert the battery, call Apple or see an Apple-authorized dealer.
Published Date: Feb 19, 2012

Power Macintosh 7500 & 8500: Mac ODBC 2.1 Install Issue (10/95)

I have a Power Macintosh 7500 and 8500. I easily installed Mac ODBC version 2.1 from the Mac ODBC Developer's Kit and now I get an Error Type 10 during startup. What's wrong?

This article has been archived and is no longer updated by Apple.

When you install the 680x0 processor-based version of Mac ODBC 2.1 on a Power Macintosh 7200, 7500, 8500, or 9500, an older version (1.1.2) of the Shared Library Manager is installed. Unfortunately, the install process deletes the newer Shared Library Manager 2.0 that is already present on these computers with Open Transport version 1.0.x. Power Macintosh 7200, 7500, 8500, or 9500 computers should be pre-installed with Shared Library Manager 2.0 and Shared Library Manager PPC 2.0 with System Software 7.5.2.

You can correct this by removing the old Shared Library Manager and reinstalling the newer version from the Power Macintosh 7500 or 8500 CD. This can be done by custom installing the Networking Software.

Support Information Services
Published Date: Feb 19, 2012

QuickDraw GX Patch For Print Spoolers (10/95)

I have a question about QuickDraw GX and AppleShare Print Server, and if what I describe below affects other print spoolers like Novell Netware.

I installed QuickDraw GX 1.1.1 on my Workgroup Server 6150, with System 7.5.1, and set up a queue for two captured printers. The behavior described below occurred on both captured printers which were a LaserWriter Pro 630 and LaserWriter 16/600 PS.

The desktop print queue can be created, but when attempting to print, the desktop printer will hang when it tries to check characteristics of the printer (I used an MS Word file). The queue then gives an error message that the job can't print because the connection to the printer was "closed unexpectedly". The print job never got to the spooler.

If I try printing a text file, it appears to reach the spooler, but then times out. The queue reports, "Apple Query for PatchP..." in the first entry in the queue, then "Timed Out" in the second.

This article has been archived and is no longer updated by Apple.

There is a known problem when printing with QuickDraw GX to a printer captured by an AppleShare Print Server, as well as a Novell Netware server. This problem has been resolved with a "patcher" program available on several online services.

There are actually three patcher utilities, one for each version of QuickDraw GX currently in use (QuickDraw GX 1.1.1, 1.1.2, and 1.1.3). All you need to do is run the patcher program, and follow the instructions in the dialog that is displayed.

These articles can help you locate the software update mentioned here:

* "Where To Find Apple Software Updates" -- Lists online services for free Apple software updates.

* "Obtaining Apple Product Support in the USA" -- Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech Info Library.

Support Information Services
Published Date: Feb 19, 2012

AppleVision: Use Sound & Displays Control Panel 0n 7500 (1/97)

I have successfully installed the AppleVision software that came with my AppleVision 1710AV display, but I am unable to locate the AppleVision Setup control panel. I am using a Power Macintosh 8500. What do you recommend?

This article has been archived and is no longer updated by Apple.

AppleVision Setup does not appear as a separate control panel on either the Power Macintosh 8500 or 7500 series computers. If you have installed the AppleVision software, the settings options found in the AppleVision Setup control panel are automatically incorporated into either the Sound and Displays control panel or Monitors & Sounds control panel, depending on which version of the Mac OS you are using.

To access the configuration options for your AppleVision 1710AV Display or AppleVision 1710 Display, follow these steps:

Step 1

Open the Sound and Displays (or Monitors & Sounds) control panel.

Step 2

Double-click the text "AppleVision 1710AV", which is in the lower right corner in the Displays option section.

Although the interface may be slightly different than described in your AppleVision manual, you can now access the same options mentioned in the documentation for the AppleVision Setup control panel.

Article Change History:
05 Feb 1997 - Added new control panel name.
23 Oct 1995 - Corrected minor typographical error.

Published Date: Feb 19, 2012

SoftWindows: Does Not Recognize PC Cards on PowerBooks (10/95)

I am running SoftWindows on my new PowerBook 5300. Will the SoftWindows emulation software communicate through my PC Card Modem or PC Card Ethernet?

This article has been archived and is no longer updated by Apple.

Insignia's SoftWindows product currently does not recognize PC Cards when used on the PowerBook 5300 series. As a result, SoftWindows users will not be able to communicate via a PC Card modem or PC Card Ethernet. The reason for this is that SoftWindows communicates directly to the hardware and does not look for PC Cards that may be inserted into a PowerBook 5300.

Insignia is aware of the problem and is working on a solution.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

Support Information Services
Published Date: Feb 19, 2012

AWS 95: Increasing The Number of Mount Points (10/95)

How can the number of mount points, accessible by A/UX on an Apple Workgroup Server (AWS) 95, be increased?
This article has been archived and is no longer updated by Apple.
The number of mount points, that can be addressed by A/UX, is determined by the kernel configuration parameter, NMOUNT. The default value on the AWS 95 File Server is set at 32. Changing this value can be accomplished as follows:

NOTE: This process requires being logged in as root and will involve restarting the computer.

Step 1

Open a command shell.

Step 2

Execute the command, "kconfig -n /unix".

Step 3

Enter "NMOUNT=value" followed by a carriage return. The "value" entry would be the decimal constant for the number of mount points desired. For example, "NMOUNT=40" provides a maximum of forty mount points.

Step 4

Type a Ctrl-D to exit kconfig.

Step 5

Execute "sync;sync;sync;reboot" to synchronize and reboot the system.

Support Information Services
Published Date: Feb 19, 2012

Microsoft Word: Recovering Documents After a Crash

This article has been archived and is no longer updated by Apple.

If your system crashes while Microsoft Word is running, documents that were open at the time of the crash can be recovered.

When you restart after the crash, you should find one or more Word temporary files on your disk (probably in the System folder). The names of these files have the form:

- MWnnn (Word 1.0 or 1.05), or

- Word Temp n (Word 3.0)

Word can't read these temporary files until you use a utility program to change the temporary file's file type from WTMP to WDBN. Here's how to use FEDIT PLUS to make the change:

1. Make a backup copy of the temporary file. Just in case.

2. Start FEDIT PLUS.

3. Select Open File from the File menu.

4. Open the temporary file.

5. Select Display Sector in Hex from the Display menu.

6. Select File Finder Attributes from the Display menu.

7. The File Type field is highlighted (it's probably WTMP). Type WDBN then click Change.

8. To confirm the change, close all windows. Start again at step 3 and see if the file type is now WDBN.

9. Click Cancel; Quit FEDIT PLUS.

Word should now be able to open the file. Changes made since the last time you saved won't be there, but the file should be complete otherwise.

Published Date: Feb 19, 2012

PowerBook 5300 & 190: Identifying LiIon & NiMH Batteries

This article explains how to tell the difference between a PowerBook Lithium Ion (LiIon) battery and a Nickel Metal Hydride (NiMH) battery.

This article has been archived and is no longer updated by Apple.

LiIon

The Lithium Ion battery has a battery gauge (four LEDs) on the same side as the release mechanism. A button above four LEDs can be pressed to show the approximate charge level in the battery. Also, the top right corner of the battery's label indicates that the battery is Lithium Ion. (Li-Ion) is printed on the label.

NiMH

A Nickel Metal Hydride battery has no way of determining the charge level on the battery itself. There is no LED gauge. The label indicates that the battery is NiMH in the top right corner.

Note: If the battery is identified as LiIon, it should be returned to Apple immediately. For more information contact Apple at 800-APL-CARE.

Published Date: Feb 19, 2012

System 7.5.2 Printing Fix: Read Me File (10/95)

Article Reviewed/Updated: 10 October 1995

This article contains the ReadMe file included with the System 7.5.2 Printing Fix 1.0.2 extension posted online.
This article has been archived and is no longer updated by Apple.
Macintosh System 7.5.2 Printing Fix Read Me

What is the Macintosh System 7.5.2 Printing Fix?

This extension fixes a printing problem that may occur on Power Macintosh 7200, 7500, 8500, and 9500 computers using System 7.5.2. Without this fix, your computer may freeze if you attempt to print on a network-based printer that is already busy, and it may be necessary to restart your computer.

To install this extension follow these steps:

Step 1

Locate the System Folder on your computer's hard disk. Don't open the System Folder.

Step 2

Drag the file named "7.5.2 Printing Fix" to the System folder.

Step 3

A message appears asking if if you want the 7.5.2 Printing Fix to be put into the Extensions Folder. Click OK.

Step 4

Under the Special menu, choose Restart.

9/28/95

Article Change History:
10 Oct 1995 - Lowered security because software was reposted.
05 Oct 1995 - Raised security level because software was taken offline.

Support Information Services
Published Date: Feb 19, 2012

At Ease for Workgroups 3.0: Accessing Floppy Only

I am using At Ease 3.0 for Workgroups and I noticed some of my users are able to save files to the hard drive even though I have selected the store user documents on floppy disk in the Locations panel. When the user tries to save their file a dialog box appears asking them to insert a floppy disk. If the student clicks the Continue button without inserting a floppy disk, they can save anywhere on the hard drive. How can I fix this?
This article has been archived and is no longer updated by Apple.
There are two panels that need to be set properly for At Ease to prevent the user from accessing the hard drive from the Open or Save dialog boxes. In this case the Security Panel is not set correctly. Follow these steps to allow users to only save and/or open documents from a floppy disk:

Locations Panel
==========

Step 1

Launch At Ease Setup, open the Setup in which this problem is occurring.

Step 2

Click the Disk Icon button to go to the Locations Panel.

Step 3

In the second section:

Store user documents on:

[_] Setup location volume [_] Floppy Disk

Click the box to put an x in the Floppy Disk section to store the users documents on a floppy disk.

Security Panel
==========

Step 1

Click the Padlock button to go to the Security Panel.

Step 2

In the first section:

For new documents, users are required to use their At Ease Documents folder to:

[_] Open [_] Save

Click the box to put an x in the Open section if you want your users to only be able to open documents from a floppy disk. Click the box to put an x in the Save section if you want your users to only be able to save documents to a floppy disk.

Having both Open and Save selected are the default settings, so they must have been changed in order for the problem you were experiencing to have occurred.
Published Date: Feb 19, 2012

At Ease 3.0: Use Button Disabler To Prevent Sound Access

At Ease for WorkGroups 3.0 allows the administrator to keep students from opening control panels, specifically the Sound control panel. However, on the Macintosh Performa/LC 520, 550, 575, 580, 5200, 5300, and 5260 series of computers, there are volume controls on the front of the computer that still work even when the students do not have access to the control panels.

How can I prevent students from using these buttons to defeat At Ease?
This article has been archived and is no longer updated by Apple.
System 7.5 includes a Control Panel called Button Disabler that can be installed with a custom system software install. This control panel has a single check box that, when checked, deactivates the sound and brightness controls on the front of Macintosh computers with built-in controls.

Use the Custom Install feature of your Macintosh CD to install the Button Disabler control panel, restart your computer, and click to place an 'X' in the box to the left of "Disable Buttons".
Published Date: Feb 19, 2012

Color LaserWriter 12/600 PS: Requires Special Transparencies

How does the Color LaserWriter 12/600 PS determines that a transparency is printing? Is it by software or hardware? When I try to print on a transparency I get a paper jam error.
This article has been archived and is no longer updated by Apple.
In order to optimize the print quality when printing transparencies the Color LaserWriter 12/600 PS requires a special transparency material.

The Color LaserWriter uses a photosensor to detect the presence of the special transparencies by looking for a reflection from the white rectangle at the leading edge of the transparency. When the white rectangle is detected the printer enters into the transparency mode. If standard transparencies are used which do not contain the white rectangle, or the white tape strip at the leading edge then a paper jam error is displayed on the status panel.

When the Color LaserWriter 12/600 PS is in the transparency mode an extra transfer drum rotation is added to the end of the printing process during which the transfer drum and fuser rotational speed is cut in half to improve the toner fusing characteristics.

Before assuming that a hardware failure has occurred with the printer consult the Color LaserWriter 12/600 PS user's manual and review the following precautions to reduce jamming problems when printing on transparencies:

* Use only transparencies designed for use with the Color LaserWriter 12/600 PS (Apple part number M3876G/A). There are two different types of transparencies that have been shipped by Apple. See the diagram below to determine which type you have. Both types of transparencies offer the same features and functionality.

* Insert Color LaserWriter transparencies as shown in figure 1, other orientations will cause jams. When using transparency type #2 leave the tape side up when placing them in the multi-purpose tray.

* DO NOT print transparencies from the 250 sheet cassette, print only from the multipurpose tray

```
Transparency Type #1                      Transparency Type #2

+-------------------------+               +-------------------------+
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Figure 1: Correct transparency orientation.

Note: @@@@@ represents areas filled with white

The white tape strip found on the type #2 transparencies can be removed after the transparency has passed through the fuser assembly.

When printing Transparencies, you should also select "Transparency" in the Print Options dialog box. This changes the halftoning structure to allow for a lighter image, and allows for a better "transparency" when viewed through an overhead projector.
Published Date: Feb 19, 2012

PowerBook 190 & 5300: Battery Voltage Measurements

What are the respective voltages of the Nickel-Metal-Hydride (NiMH) battery when it is: full, at first battery low warning, at the second battery low warning, and then at the final battery low/going to sleep warning?
This article has been archived and is no longer updated by Apple.
The following is a list of the voltage measurements for the NiMH battery used in both the Macintosh PowerBook 190 and 5300 series computers:

```
Full Voltage:                      16.1 volts +/- 0.1v
First Battery Low Dialog:          14 volts
Second Battery Low Dialog:         Approx. 13.6v*
Third (Final) Battery Low Dialog:  Approx. 13.1v*

* This approximate reading is a result of an extrapolation.
```

Note: Voltages shown here were measured on Fluke 77 Voltmeter on 10 batteries in the Apple Reliability Laboratory. Please keep in mind that you might not get exactly the same readings from your batteries, but they should be similar.

Published Date: Feb 19, 2012

Color STW 2400 & StyleWriter 1200 Printing Underscore

When printing to the StyleWriter 1200 or StyleWriter 2400 consecutive "_" characters look like a solid line on the screen, but when printed they end up printing a dashes.
This article has been archived and is no longer updated by Apple.
The problem only seems to occur if the Geneva font is used, Chicago, Courier, and Helvetica do not have this problem. This has been reported to engineering. There are three workarounds you can use instead.

Workarounds

- Use any other font except Geneva.
- Select the underscore characters (__), and change only that selection to Chicago, Courier, or Helvetica.
- Use spaces or tabs in place of the underscore characters (__), then select the option to underline.

Note: If you want even underscore lines, you should use tabs. With the exception of the Monaco and Courier typefaces, which are monospace fonts, the typefaces in your Fonts folder are proportional. This means that not all letters take up the same amount of space. If you use a typeface such as Times, underscores that look aligned when printed, will not always be aligned.
Published Date: Feb 19, 2012

Lisa: Backing Up Large Files With a ProFile

When backing up a ProFile file to a disk I keep getting errors asking for new disks. Why is this happening?

This article has been archived and is no longer updated by Apple.

```
When you attempt to back up a ProFile file to a disk with a pre-version 3.0
Lisa, you'll have problems if the file is larger than the disk (i.e.,
>400K): the Lisa continuously asks for new disks in an attempt to find a disk
large enough to hold the entire file--which, of course, it never finds.  We're
told that the problem has been fixed in Version 3.0.
```

Published Date: Feb 19, 2012

System 7.x: What Does Holding Shift Key at Startup Do? (10/95)

What is disabled when the shift key is held down during startup?
This article has been archived and is no longer updated by Apple.
Here is a list of items that get turned off by holding down the shift key during startup:

* MacsBug - however, MacsBug will load if the option key is also held down along with the shift key in System 7.5 and later.
* All extensions in the Extension folder, Control Panels folder, and System Folder.
* A/Rose - even though it is an init and would be turned off anyway, it is explicitly not loaded.
* Any software component of type 'thng' will not be registered.
* All scripts (for non-roman character input).
* Virtual Memory.
* Resources of type AINI which are AppleTalk drivers, this is where Open Transport gets turned off.

Other effects:
* The disk cache is set to 96K in System 7.5 and 64K in System 7.0 or System 7.1.
* The Finder will not launch files in the Startup Items folder, or execute the items in the Shutdown Items folder at Shut Down.

Support Information Services
Published Date: Feb 19, 2012

ClassMaster: Losing Student Records (10/96)

I recently installed the ClassMaster software that came with my Teacher Solution Bundle. I installed it and entered my students' information with no problem.

I recently noticed that some student records are starting to disappear. I am having no other problems with my system and even Disk First Aid reports there is nothing wrong with my hard drive. What is wrong?

This article has been archived and is no longer updated by Apple.

Issue

TechByte, the makers of ClassMaster, discovered an issue with the version of Classmaster that shipped on early Teacher Solution Bundle CDs. When the teacher deletes a student, the student below that record also appears to be deleted. Resorting the student database brings the second "apparently deleted" student back.

Resolution

The problem has been corrected in a newer version of ClassMaster. Check the serial number on the ClassMaster splash screen. M1094AEA is the version that exhibits the problem. M1095AEA is the updated version.

If you have the earlier version (M1094AEA), contact TechByte to receive an updated version of the program. Let the TechByte technical support representative know that you are having problems with losing student data. TechByte should give them two options to fix the problem.

- You can either be sent an updated copy of the program that has this problem fixed in it free of charge.

-or-

- You can upgrade (for a charge) to a newer recenty released version of Classmaster that not only fixes the problem with losing student data, but also adds new features. TechByte can tell you what the "new features" are.

If you do not want to contact TechByte, or have already contacted TechByte and for some reason were told to contact to Apple, then Apple can send you the newer version of ClassMaster.

Newer Version Now Bundled

In the November 1995 time frame, Apple began including the Classmaster Update disk and installation instructions with the Teacher Solution Bundle.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.

Article Change History:
10 Oct 1996 - Added information about how to get newer version.
10 Nov 1995 - Added information on update disk being included in the bundle.
23 Oct 1995 - Corrected minor typo.
Published Date: Feb 19, 2012

PowerBook: 400 Hz -> 60 Hz Converters For Airplanes (10/95)

I work for an airline and have a Macintosh PowerBook computer. I would like to be able to run my computer from one of the AC service outlets, particularly on long flights. Such outlets are available on the plane in the cockpit and galley areas. They are 115 VAC/400 Hz power supplies. However, the computer's power adapter requires a 50 to 60 Hz input source. Is there any kind of adapter I can use to make this work?

This article has been archived and is no longer updated by Apple.

Apple Computer, Inc. does not provide or support any solution for the situation you describe. However, one company, DLC Research, has advertised a solution in the Airline Pilots' Association periodical, "Airline Pilot". Partial text of their advertisement is as follows:

"...for Notebook Computers and other portable electronic devices. The APA 2000 will operate from any aircraft service outlet -- converting 115 VAC 400 Hz aircraft power to standard 115 VAC 60 Hz."

This article provides information about a non-Apple product and is posted for informational purposes only. No endorsement by Apple Computer, Inc. is either declared or implied. Apple Computer, Inc. is not responsible for its content. Please contact the vendor, DLC Research, for additional information.

The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.

Support Information Services

Published Date: Feb 19, 2012

Apple Printer Utility: Problems with Open Transport 1.0 (5/96)

I have a Power Macintosh 9500 and cannot see any printers with the Apple Printer Utility v2.0. There are no zones defined on either my Ethernet or LocalTalk network.

This article has been archived and is no longer updated by Apple.

There is a conflict between the Apple Printer Utility and Open Transport 1.0. For example, if you launch Apple Printer Utility v2.0 on a Power Macintosh 9500*, and if there are no zones on your network, no printers are displayed in the printer list. Fortunately, the majority of Ethernet networks have defined zones, and Power Macintosh 9500 computers are now shipping with a newer version of Open Transport, so this conflict will not likely be common. This conflict is not restricted to Ethernet networks, it also occurs when using LocalTalk.

* Note:
The Power Macintosh is the only computer that shipped with Open Transport v1.0

Workaround
==========

Upgrade your Power Macintosh 9500 from Open Transport v1.0 to v1.1. Version 1.1 does not have this conflict, and it is part of the System 7.5 Update 2.0 available on online services Apple publishes software updates on.

These articles can help you locate the software update mentioned here:

* "Where To Find Apple Software Updates" - Lists online services for free Apple software updates.

* "Obtaining Apple Product Support in the USA" - Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech Info Library.

Article Change History:
15 May 1996 - Added information on LocalTalk also being affected.

Published Date: Feb 19, 2012

Color LaserWriter 12/600 PS, 12/660 PS: Linescreen in Transparency Mode

I have a Color LaserWriter 12/600 PS and have the following questions:

What is the effective Linescreen of the Color LaserWriter 12/600? I have read that it changes from 200 to 141 depending upon the image type. Can you override these settings?

Are there any changes made when printing in Transparency mode? There are certain applications that do not give you the option to print in Transparency mode (such as PageMaker) is there a way around this?

I have also heard that although the options for different color matching are available, they are ignored by most applications. Is this true of the Transparency mode as well?

I know that the Transparency mode changes the speed of the overall throughput, I have not seen any other changes as I have tested it.
This article has been archived and is no longer updated by Apple.
The linescreen on the Color LaserWriter 12/600 PS and the Color LaserWriter 12/660 PS printers is 200 lpi (lines per inch), and it CANNOT be changed; the firmware in these printers ignores any PostScript commands to change the linescreen. Depending on the area being imaged, the linescreen will change to an effective 141 lpi -- mostly in the lighter areas of an image. These settings, unfortunately, cannot be changed because they have been set to provide the optimum results from the print engine.

With transparencies, the only change (other than print engine speed) is that the halftoning structure is changed to allow for a lighter image, and in turn better "transparency" when viewed through an overhead. You may be able to notice the individual halftone cells due to the lower lpi, but this effect is only seen when the transparency is viewed without an overhead projector -- it is not present when viewed through a projector.

To answer your other questions, we are unable to determine how to print in "transparency mode" through PageMaker; this is a function of the Apple print driver, and PageMaker uses their own driver. Customers should contact Adobe for this information. With regard to color matching being ignored by most applications, this also holds true in transparency mode.
Published Date: Feb 19, 2012

MAE 2.x and Simultaneous Access (10/95)

What version of MAE do I need to let more than one client simultaneously access it from a UNIX workstation? At one version of MAE beta software this feature was possible, but the final version doesn't have this capability.

The reason I ask for this is to lighten the burden of administration, and reduce drive real estate space on my servers. I have chosen to still use a beta copy of MAE because my MAE 2.x final version is only license for one user. I need to either have MAE support 3 clients per copy with a copy of MAE on each of our 10 servers, or have one major copy of MAE supporting 30 clients.

This article has been archived and is no longer updated by Apple.

First, MAE is licensed for either a login user ("john"), or a display ID ("sparc5"). Also, MAE is capable of letting multiple users simultaneously access and run the same copy of MAE on an UNIX workstation, just like an X Windows application can be shared over the network.

For best performance, you must manage and balance the work load on your UNIX servers according to each server's power. MAE performance is highly dependent upon the X server, X client, and network bandwidth and traffic.

MAE can be purchased in one single user, 20 user, 50 user, or volume (site license) license packages.

For the situation you describe, 10 servers to be used by 30 clients, the following suggestion may work:

* Get 30 licenses of MAE, one for each client.

* Install a copy of MAE on each of the 10 servers, and assign 3 clients,
either user login ID, or display ID, to each workstation.

* Keep a single copy of the licence file on one workstation for license integrity checking.

The above solution is based on the assumption that all of the workstations are equal in CPU power.

Support Information Services
Published Date: Feb 19, 2012

At Ease: Adding CD-ROM Based Applications To Setups

This article discusses running applications on a CD-ROM disc within At Ease without copying them to the hard drive.
This article has been archived and is no longer updated by Apple.
You can run an application on a CD-ROM disc without having to copy it to the hard drive.

Follow these steps for the version of At Ease you have:

At Ease 1.0

1. Insert the CD-ROM disc containing the program you wish to give access to.
2. Open the At Ease Setup control panel in the Control Panels folder of your System Folder.
3. Click the Select Items button.
4. Click the Desktop button in the Open Dialog box. Double-click the name of the CD-ROM disc that appears in the window in the left side of the Open Dialog box. Click the Gather Applications... button.
5. A dialog box will appear telling you which applications are on the disc that are not in At Ease. You will have the option to Add or Cancel. Click Add. You can remove any extra unwanted applications from the At Ease Items window by selecting each once and clicking Remove.
6. Click Done, close the At Ease setup window.

At Ease 2.0.3 and At Ease 3.0

1. Insert the CD-ROM disc containing the program you wish to give access to.
2. Open the At Ease Setup program.
3. Double click the Setup you would like to add the program to.
4. Click the Items icon to open the Items panel. Click the Add Applications button.
5. In the Add Applications screen, you will see a choice of applications on the left side. Click and hold the word "Disk" at the top left corner to see the pop-up menu.
6. Select the name of the CD-ROM which is currently in your computer and release. At Ease will search for any applications on that CD.
7. Double-click the name of the program you want to add to the list of Items for This Setup on the right. Or, you can hold the shift key while single-clicking each application to select multiple items and then click the ">>Add>>" button. Repeat this process until you have added all the programs you want from the CD-ROM disc.
8. **Step 8 for At Ease 3.0 only**
At Ease 3.0 can allow access to all, none, or only administrator defined CD-ROM discs. Under the Options menu, choose CD-ROM Preferences. In order for the user of this setup to access the program you just added from this CD, click "Allow access to all CD-ROMs" (default setting).

   If you want to limit access to only certain CD-ROMs discs, click the "Only allow access to the specified CD-ROMs" button. If you choose this option, you must click the Add button and select the mounted CD-ROM with the program you just added to this Setup. You can eject this disc and add other discs you want users of this setup to have access to from within this panel.
9. Click the "OK" button and follow the rest of the steps as necessary to set up At Ease the way you like.

When you return to At Ease, you will see the button for the application you added in the At Ease panel. If you click the button and the disc is not already in the computer, a message asking you to insert the proper CD-ROM disc will appear.
Published Date: Feb 19, 2012

Apple Guide: Can I Print the Entire Apple Guide? (10/95)

I want to print out the entire Macintosh Apple Guide. I cannot seem to find the Print command. How can I send the Apple Guide to print?

This article has been archived and is no longer updated by Apple.

There is no way to print Apple Guides. They have no menu items associated with them because they exist in a floating palette that is independent of the frontmost application and its menubar. That is, you can switch applications and the Guide stays on the top layer even though the menubar and application context has changed. This is so Guides can lead you through steps that may involve switching between multiple applications and always be the topmost window.

Tutorial Guide files do not lend themselves to printing in a linear fashion anyway. They are context sensitive databases. Guide sequences are really tree structures describing different actions to take with several branch paths depending on the current environment. You may notice that a Guide may not lead you through the same steps to perform an action every time. This is because it detects that, maybe today, you already have the Apple Menu Items folder or Control Panels folder open and it will skip the associated steps telling you to open that folder. So one user may see a different set of steps than another user for the same action sequence.

If you were able to print the branches of the tree sequence linearly, then each page would have to tell you which page to turn to next, since many times it would not be the following page. This would not be an easy book to follow. The advantage of the Guide is that it can do this jumping for you and even skip the pages you do not need to see.

There are five classes of Guide files. Tutorial, Help, and Other Guide files do not lend themselves to printing as described above. About and Shortcut Guides are simpler cases where each page is usually a stand alone piece of information with no action sequencing. These Guides usually contain a small number of Guide Panels. An About Guide might have one or two pages and a Shortcut Guide might have six to twelve pages. You could take screen shots of these types of Guides using Command-Shift-3 and open, edit and print the captured PICT files.

Support Information Services
Published Date: Feb 19, 2012

QuickDraw GX: What Fonts Come With QuickDraw GX? (10/95)

What fonts come with QuickDraw GX, and to what extent can I use them?
This article has been archived and is no longer updated by Apple.
Four QuickDraw GX fonts are installed by the QuickDraw GX installer:

* Apple Chancery
* Hoefler (Roman, Italic, Ornaments)
* Skia
* Tekton Plus Regular.

These fonts are designed to work with QuickDraw GX savvy applications in a QuickDraw GX environment. If they are used with QuickDraw GX disabled, they display on the screen fine, but they will not print properly or perhaps not at all. Sometimes the font will be substituted with another font, other times the printer will give a memory error.

To activate QuickDraw GX, turn on the QuickDraw GX extension with the Extensions Manager in your Control Panels folder and restart you Macintosh computer. To determine whether or not an application is QuickDraw GX savvy, contact the manufacturer of the application.

The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.

Support Information Services
Published Date: Feb 19, 2012

Apple StyleWriter 1200: Which Fonts Are Included?

Which fonts are installed by the Apple StyleWriter 1200 Installer?
This article has been archived and is no longer updated by Apple.
The following Fonts/Font Families are installed by the StyleWriter 1200 installer:

Avante Garde
- Avante Garde Bold

Bookman
- Bookman (bold)
- Bookman (bold, Italic)
- Bookman (italic)

Delphian

Garamond Narrow
-Garamond Narrow (bold)
-Garamond Narrow (bold, Italic)
-Garamond Narrow (Italic)

Helvetica Black

Helvetica Compressed

LubalinGraph
-LubalinGraph (bold)

Machine

Nadianne
-Nadianne (bold)

N Helvetica Narrow
-N Helvetica Narrow (bold)

New Century Schlbk (bold)
-New Century Schlbk (bold, Italic)
-New Century Schlbk (Italic)

Old English Text

Onyx

Oxford

Swing

Zapf Chancery

Zapf Dingbats

Zeal
Published Date: Feb 19, 2012

How To Unlock MacTCP Control Panel Settings (10/95)

When I click the more... button in the MacTCP control panel and go to its configuration screen, the setting titles are dimmed and the buttons are locked. What's wrong? How do I fix it?

This article has been archived and is no longer updated by Apple.

The original settings may have been made using MacTCP Admin, which is available only with the product, TCP/IP Administration for Macintosh. When MacTCP Admin is used to configure the IP address and other settings, these settings cannot be altered using the MacTCP control panel. As an additional option, the administrator may also password-protect an individual's settings, which would require this password even if MacTCP Admin is used.

The reason for this security is because in most large IP environments addresses are assigned to individuals. Altering an IP address, may disrupt another user's access, or render the user's workstation incapable of communicating with the network.

If security is not an issue, a user should first verify, with the network administrator, that he or she has a list of the proper settings (IP address, Routing Information, Domain Name Server and address), and a copy of the MacTCP control panel that has never been configured. Then move from the System Folder or delete ALL of the MacTCP, MacTCP DNR, and MacTCP Prep files from the hard drive, restart, and then re-install and reconfigure the MacTCP control panel.

System 7.5 users may use the System 7.5 Installer by selecting Custom Install from the pop-up menu, selecting Control Panels, and then click MacTCP to install only the MacTCP control panel. Other users will obtain a fresh copy of the MacTCP control panel from their network administrator if site-licensed, or from the master disks of the product they purchased which included MacTCP.

Support Information Services
Published Date: Feb 19, 2012

HyperCard: Compact Color Database Causes Some Color Loss 2/96

After using "Compact Color Database" from the Edit menu of the color tools environment, some of the cards of my stack lost all their color objects.

This article has been archived and is no longer updated by Apple.

This issue occurs in HyperCard 2.3 when used in conjunction with Color Tools Stack versions 2.3 through 2.3.3. This is due to an error in the AC_Compact handler in the Color Tools stack script. The solution for this problem is to update to the HyperCard 2.3.5 Stacks update posted online.

These articles can help you locate the HyperCard 2.3.5 Stacks mentioned here:

* "Where To Find Apple Software Updates" - Lists online services for free Apple software updates.

* "Obtaining Apple Product Support in the USA" - Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech Info Library.

Article Change History:
07 Feb 1996 - Added fix availability.
17 Oct 1995 - Added versions affected information.

Support Information Services
Published Date: Feb 19, 2012

System 7.5.2: What Version of At Ease is Supported? (8/96)

What version of At Ease is compatible with System 7.5.x?
This article has been archived and is no longer updated by Apple.
With System 7.5.x you need to use At Ease 2.0.3, At Ease 2.0.3 for Workgroups, or At Ease 3.x. Previous versions of At Ease are NOT compatible with System 7.5.x.

Although At Ease 2.0.3 and At Ease 2.0.3 for Workgroups are compatible with System 7.5.x, some control panels and other features of System 7.5 may work differently while At Ease is running. This section provides information on these differences. Please refer to the Macintosh Guide, available in the Guide menu (marked with a question mark icon on the right of the menu bar), for more information on these topics.

AppleScript

Scripts written using AppleScript can be launched by At Ease. However, scripts that require the Finder will not run properly.

Extensions Manager

You cannot change the settings in this control panel while At Ease 2.0.3 is running.

Find File

When At Ease 2.0.3 or At Ease 2.0.3 for Workgroups is open, Find File does not allow you to open or print items that are found.

General Controls control panel
---
* Documents: This option can control where the Documents folder is created on your computer. At Ease always tries to open or save a document in the user's folder, within the At Ease Documents folder, regardless of the settings in the Documents option.

* If At Ease is running and you have not changed the Documents option, At Ease creates the Documents folder on the startup disk. If At Ease is not running and you select the Documents folder radio button, the Documents folder is created on the desktop.

* Launcher: The Launcher does not work with At Ease 2.0.3 and if it is set to open at startup, it will not do so.

Macintosh Easy Open (version 1.1 or later)

If you attempt to open a document without the application program that created it and Macintosh Easy Open is active, a dialog box asks if you want to open the document with another program. The only programs displayed are those made available to the user in the At Ease Setup program.

PowerTalk

You can now receive PowerTalk mail in the background while you are in At Ease. However, to read or write mail, you must be in the Finder.

QuickDraw GX

At Ease now supports printing from QuickDraw GX. However, once you start a print job you cannot log out of At Ease or go to the Finder until the printing is completed. If QuickDraw GX is installed, print jobs that are stopped cannot be restarted within At Ease. The user or the administrator must go to the Finder to restart a print job.

* Printer menu: When the user has access to the Chooser and QuickDraw GX is active, a new menu appears in At Ease called "Printer." This menu contains all desktop printers that have been created, with a checkmark next to the currently selected printer. To select a different printer, simply choose its name.

* Printer Status command: To view the status of the currently selected printer, choose Printer Status from the Printer menu. Print jobs started by your computer are displayed. A pop-up menu allows you to view the status of other printers.

Shutdown Items folder

The Shutdown Items folder is located within the System Folder. All items in this folder are started when you choose the Shut Down command from the Special menu to shut down your computer.

Article Change History:
23 Aug 1996 - Updated information for 7.5.3

TA34538_System_What_Version_of_At_Ease_is_Supported__(TIL18720).pdf

Published Date: Feb 19, 2012

HyperCard: Unable to Capture Sound on PCI-Based Systems (2/96)

I am trying to input audio into a HyperCard stack on my Power Macintosh 7500 computer. The sound seems to record fine, but when I play the sound back, all I hear is crackly, static noise. I have tried both HyperCard Player and a full version of HyperCard 2.3.3 and different microphones and computers.
This article has been archived and is no longer updated by Apple.
Apple Engineering has recreated this issue on Power Macintosh 7200, 7500 and 8500 computers. This problem may also occur on Power Macintosh 9500 computers. This issue is fixed in the HyperCard 2.3.5 Stacks update posted online.

These articles can help you locate the HyperCard stacks mentioned here:

* "Where To Find Apple Software Updates" - Lists online services for free Apple software updates.

* "Obtaining Apple Product Support in the USA" - Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech Info Library.

Article Change History:
07 Feb 1996 - Added online fix availability.
25 Jan 1996 - Clarified methods.
11 Jan 1996 - Added additional sound import workaround options.

Support Information Services
Published Date: Feb 19, 2012

QuickDraw GX: Print Spooler Patch Read Me File

Name: QuickDraw GX Print Spooler Patch
Version: 1.0.2
Released: April 17, 1996
Description: Patch to fix a problem when printing in AppleShare and Novell Netware print spoolers using QuickDraw GX. For QuickDraw GX 1.1.1, 1.1.2, and 1.1.3. This version fixes a problem where users were unable to patch certain localized versions of QuickDraw GX.

This file is available on the Apple Support Web site, Software Updates. It is a self-extracting archive. To use, download, double-click the downloaded file (this decompresses it).
This article has been archived and is no longer updated by Apple.

About the QuickDraw GX Print Spooler Patch

The QuickDraw GX Print Spooler Patch fixes a problem when trying to print to AppleShare and Novell Netware print spoolers. This application makes changes to the QuickDraw GX extension and the LaserWriter GX printer driver. You should work with copies of these files, and then move the modified files into your system's Extensions folder.

Change History
1.0.2 (All versions) - This version no longer adds a 'vers' 2 resource to the GX extension, allowing all localized versions of QuickDraw GX to be patched

1.0.1 (GX 1.1.3 patch only) - This version actually patches GX 1.1.3

1.0 - First release

Possible Error Messages
"The contents of this file are different from what was expected. (psws -28341)" - This file has already been patched.

"QuickDraw GX [or LaserWriter GX] is at or beyond version 1.1.1 [or 1.1.2 or 1.1.3]. This patch has already been applied." - You are not using the correct version of the patch for this version of GX.

"QuickDraw GX [or LaserWriter GX] is older than version 1.1.2 [or 1.1.3]. This patch cannot be applied." - Either you are not running GX 1.1.1 or later, or you are not using the correct version of the patch for this version of GX.

Disclaimer
This patch is provided as a way to allow people to use the latest versions of QuickDraw GX with AppleShare and Novell Netware print spoolers. This patch is not officially supported by Apple Computer, but problems encountered while using print spoolers with QuickDraw GX and this patch can be reported by e-mail to reigel@apple.com. These problems will be fixed in an upcoming release of QuickDraw GX.
Published Date: Feb 19, 2012

LaserWriter Software For Windows v1.1: Read Me File (1 of 2)

This article contains the ReadMe file included with the LaserWriter Software For Windows version 1.1 posted online. This is part 1 of 2 of the document.
This article has been archived and is no longer updated by Apple.

ABOUT YOUR APPLE LASERWRITER PRINTER SOFTWARE FOR WINDOWS
Revision 1.1

Revision 1.1 of the Apple LaserWriter Printer software for Windows 3.1 contains updated versions of these components:

In part 1 of 2

* Installer
* Apple Printer Utility
* Bidirectional driver

This document contains some important reminders and some information that is not in the manual that comes with your printer. You may want to print this document and keep it for future reference. You'll find information about:

* Installing the Printer Driver Software
* Installing additional PostScript printers
* Configuring the PostScript printer
* Deleting previous versions of the printer driver
* Installing the printer description on Windows NT 3.5
* Using the Apple Color LaserWriter 12/600 PS Printer
* Obtaining Printer Supplies for the Apple Color LaserWriter 12/600 PS
* Apple Printer Utility 2.0

In part 2 of 2

* AdobePS Printer Driver version 3.0
* General driver compatibility issues
* General font downloader compatibility issues
* Application software compatibility issues

INSTALLING THE PRINTER DRIVER SOFTWARE

1. Start Windows 3.1.

2. Exit from any applications that are now running.

3. Insert Printer Disk 1 for Windows into your floppy disk drive.

4. From the Windows Program Manager, choose File/Run.

5. In the Command Line box, type a:\\setup (where a: is your floppy diskette drive indicator), and click OK.

6. The Welcome screen displays.

7. Click Express Installation to continue the installation procedure. The installation begins. If the installer cannot copy the files to the WINDOWS/SYSTEM directory because that directory is write protected, it will alert you, asking whether to copy the files to an alternate directory.

8. During the installation, the installer prompts you to restart Windows. Then, the Adobe PostScript Printers Control Panel asks you for the particular printer or printers to install. Highlight the printer name desired and click Install

INSTALLING ADDITIONAL POSTSCRIPT PRINTERS FROM THEIR PPDS

1. Insert the diskette containing the PPD to be installed in a floppy diskette drive. The PPDs included with this disk set are located on Printer Disk 3.

2. In the Control Panel of the Windows Program Manager, double-click the Adobe PostScript Printers icon. The Adobe PostScript Printers dialog box appears.

3. In the Drives box, select the drive containing the PPD that you wish to install.

4. In the Printer Descriptions Available box, select the PPD that you wish to use to install the PostScript printer.

5. Click Install. You can continue to install PPDs by selecting entries in the Printer Descriptions Available box and clicking Install.

6. Click Close when you have installed all the desired PPDs.

CONFIGURING THE POSTSCRIPT PRINTER DRIVER

1. In the Control Panel, double-click the Printers icon. The Printers dialog box appears.

2. Select the name of the printer that you want to configure in the Installed Printers list of printers.

3. To customize the printer driver settings available for your printer, follow the instructions in "Setting printer driver options" in Chapter 7 of the Apple Color LaserWriter 12/600 PS manual.

4. If your printer is not connected to LPT1 or the port currently shown, click Connect.

5. In the Connect dialog box, select the port to which your printer is connected and click OK. For more information on setting up for NetWare networks, see "Setting Up the PostScript printer driver for NetWare" in Chapter 3 of the Apple Color LaserWriter 12/600 PS manual.

DELETING PREVIOUS VERSIONS OF THE DRIVER SOFTWARE
You are not required to remove previous versions of the driver or delete any previously installed PostScript printers. However, if you suspect installation problems, first remove your installed printers from the Printers dialog box in the Windows Control Panel and reinstall them via the Adobe PostScript Printers dialog box, also in the Windows Control Panel.

To delete a previous version of the driver:

1) Exit Windows.

2) From DOS, delete the following files (not all files may actually exist in your configuration from both your WINDOWS and WINDOWS\\SYSTEM directories:

*.EBF
*.PPB
*.PPD
.PFM (delete these ONLY if you did not place them here using the ATM control panel or a font installation program) ADOBEPS?.
RUN_ENUM.*
PSINSTDV.EXE
WINDOWN.EXE
PS_ENUM.*
DOWN.DLL
DWN.HLP

3) Restart Windows to use Notepad or another ASCII text editor to delete the following entries from the WIN.INI file in the WINDOWS directory:

, <<<Delete this line
PrinterName=<printer_nickname> <<<Delete this line

[devices]
<printer_name>=ADOBEPS,<port>,...<<<Delete this line

[PrinterPorts]
<printer_name>=ADOBEPS,<port>,15,45,...<<<Delete this line

If the device= line in the [windows] section of
the Win.INI file refers to AdobePS, delete that line.

INSTALLING THE PRINTER DESCRIPTION ON WINDOWS NT 3.5
Follow the steps below to install the PostScript Printer Description file for these Apple printers:
Apple Color LaserWriter 12/600 PS

Apple LaserWriter 16/600 PS
Apple LaserWriter Select 360
Apple LaserWriter Pro 600
Apple LaserWriter Pro 630

Follow these steps:

1. Start Windows NT 3.5
2. Insert the Apple Windows Printer Disk 1 into your floppy disk drive.
3. From the Windows Program Manager, choose File/Run.
4. In the Command Line box, type a:\\setup (where a: is your floppy diskette drive indicator), and click OK.
5. The Welcome screen appears.
6. Select Custom Install and click Windows NT Printer Software. Make sure the other check boxes are deselected.
7. Click Install. Instructions for installing the Windows NT software appear. Click Continue. The Print Manager appears.
8. Select Create Printer from the Print Manager's Printer menu. The Create Printer dialog box appears.
9. Select Other (at the bottom of the list) in the Driver Combo box.
10. Insert the Apple Windows Printer Disk 3 into your floppy disk drive.
11. Make sure the correct floppy drive is indicated in the Install Driver dialog box and click OK. A list of printer drivers appears.
12. Select the printer driver that corresponds to your printer and click OK.
13. Follow the instructions on the screen. If you are installing software from the Windows NT 3.5 CD, you may need to type the path for your driver location. The path may be similar to this: "c:\\windows\\system32\\spool\\drivers\\w32x86\\1\\".
14. Click Continue and OK to complete the installation.

If you are installing Windows NT 3.5 software from floppy disks, you copy the following files (followed by their locations) to the path of your driver location:
PSCRIPTUI.DLL (Disk 13)
PSCRIPT.DLL (Disk 13)
PSCRIPT.HLP (Disk 18)

USING THE APPLE COLOR LASERWRITER 12/600 PS
This section provides additional information on using the Color LaserWriter 12/600 PS printer.

About the Demonstration Page
When the power is turned on, the Color LaserWriter 12/600 PS automatically prints a startup page and a demonstration page. For legal and B5 paper sizes, only the startup page prints; the demonstration page is not printed. You can use the Apple Printer Utility to turn off the printing of the startup and demonstration pages.

About the Apple Color LaserWriter 12/600 PS Status Panel
As described in the Color LaserWriter 12/600 PS manual, Appendix G, the status panel lights aid in indicating hardware service problems found during printer startup. If the Alert light is flashing and all the door lights are flashing, check all the printer doors; one of them is open. If the Paper OUT and Paper Jam lights are flashing alternately, a hardware problem has been detected. To identify the problem, notice which toner lights (C, M, Y, Bk) and how many of the maintenance lights (in the area on the right-hand side of the status panel) are on, and refer to the table below. Each area listed under "Problem" represents a general circuit area for the service technician to investigate, not necessarily the exact cause of the problem.

Toner Lights On	# Consumable Lights On	Problem
C	0	I/O Controller Board
C	1	SIMM, Slot J11
C	2	SIMM, Slot J10
M	2	Hard Drive
M	3	I/O Controller ROM
Y	0	Fuser

Y	1	Oil Pump in Fuser
Y	2	Thermal Sensor in Fuser
Y	3	Paper Feed Unit
Bk	0	DC Controller
Bk	1	Power Supply
Bk	2	Toner Carousel
Bk	3	Laser/Sanner Circuit
M & Bk	0	Main Motor
M & Bk	1	Drum Motor
M & Bk	2	Laser/Scanner
C & Bk	0	Controller Fan
C & Bk	1	Fuser Fan
C & Bk	2	Main Fan

If you have an external SCSI hard disk drive attached but don't turn it on before you turn on the printer's power, the printer may indicate a hardware failure. To correct the problem, turn the hard disk drive on and restart the printer.

Using NetWare Banner Pages
The Color LaserWriter 12/600 PS is a PostScript printer only. If you are using NetWare 4.x, use PostScript banner pages only. If you use another type of banner page, your print job as well as the banner page will not print. Do not use banner pages at all with NetWare 3.x. If you do, neither the banner page nor your print job will print.

Printing Over Novell Networks
By default, binary PostScript sent via the Novell network is encoded in Tagged Binary Communications Protocol (TBCP). The printer's TBCP filtering mode for Novell is also on by default. If you change the Protocol Options to "None" from the Printer Control Panel's PostScript setup, you must send the following PostScript to turn off TBCP filtering for Novell on the printer:

```
true 0 startjob
(%PrintServer%)
<</Filtering /None>> setdevparams
```

If you subsequently change the Protocol Option back to "Default", you must send the following PostScript to turn on TBCP filtering for Novell on the printer:

```
true 0 startjob
(%PrintServer%)
<</Filtering /InterpreterBased>>
setdevparams
```

The Novell filtering mode cannot be changed within a PostScript job, so the above PostScript sets the filtering mode outside the job context; thus it becomes permanent. If your printer's password has been changed from the default setting, replace the "true 0 startjob" line with "true <your password> startjob".

Obtaining the Best Results for Business Graphics
To obtain the best results for business graphics, colors should be 100% saturated. For example, to print pure yellow, define yellow as 100% red and 100% green without any blue. Then print your document, ensuring the Send Full Color Data option on the Job Control tab dialog is selected.

Printing on Legal-Size Paper
In the standard memory configuration, the Color LaserWriter 12/600 PS uses a higher compression technique for legal-sized paper using only the cyan, magenta, and yellow color planes. As a result of this compression technique, very complex pages may show missing pixels in fine lines or small text, "jaggies" (edges with low-resolution appearance) and color changes. To improve the image quality of such pages, you can increase the printer's memory to 16 MB or more. With at least 16 MB of printer memory, the Color LaserWriter 12/600 PS can achieve the same quality with legal-size pages as with letter and A4 sizes using all four color planes (cyan, magenta, yellow, and black.)

Printing Images on the Color LaserWriter 12/600 PS Printer
The Color LaserWriter 12/600 PS printer's highest resolution for printing images is 150 x 150 dpi. No gain in image quality is achieved if higher resolution images are used. All other types of documents print at 600 x 600 dpi.

Avoiding Hue Shifts When Printing to File
When you save an image in an Encapsulated PostScript (EPS) file all the PostScript settings relating to the original output device in effect are saved along with the image data. When the image is printed later, the settings that were in effect may cause major hue shifts. To prevent these hue shifts

save the image in TIFF format instead of EPS.

The Density Control Panel
The Color LaserWriter 12/600 PS has been adjusted at the factory to produce the best possible image quality. However, small variations exist among different printers. To make subtle changes to image quality, you can use the Density Control Panel on the back of the printer. NOTE: If changing the settings produces inferior image quality, return to the factory settings by following these steps: Select each color using the Color Select button, then press the - or + button to move the indicator light to the center position. When the indicator is in the center, press Enter to make the setting permanent. Repeat this procedure for all four colors.

Printer's Processor Speed
In the printer manual, Appendix A contains a typographical error: the microprocessor speed is 30 MHz, not 25 MHz as printed.

Using the Color LaserWriter 12/600 PS with a Windows NT Server

Using a Windows NT Server may cause spurious job records to be entered in the printer's Job Log if the printer is busy. The jobs will have a status of "cancelled".

OBTAINING PRINTER SUPPLIES FOR THE COLOR LASERWRITER 12/600 PS
To order printer supplies for the Color LaserWriter 12/600 PS direct from Apple, call 1-800-600-7805. For order numbers, see Appendix A of the printer manual.

- toner cartridges
- transparencies
- photoconductor cartridge (includes toner disposal boxes)
- fuser oil
- fuser

Instructions for replacing the fuser are in Appendix F of the printer manual. Instructions for replacing other printer parts come in the new packages.

For the location of the nearest Apple-authorized dealer, call 1-800-538-9696, extension 525.

APPLE PRINTER UTILITY 2.0
Using the Apple Printer Utility with Other Apple Printers - You can use the Apple Printer Utility for Windows only with the Apple Color LaserWriter 12/600 PS. For other Apple printers use the LaserWriter Utility for Windows that came with the printer.

Using the Apple Printer Utility on the Parallel Port - When you select the Parallel setting for the Apple Printer Utility you will see a delay of about twenty seconds before the printer name appears. You will also see a delay if you configure the Ethernet configuration within Communication Settings via parallel.

Opening Dialogs within the Apple Printer Utility - Use the check boxes to open individual dialogs within the Apple Printer Utility.

Printing on Parallel Connections Using Raw Protocol - The Color LaserWriter 12/600 PS printer does not support the Raw protocol on parallel connections.

Using the Apple Printer Utility with FaxWorks - The Apple Printer Utility may be incompatible with FaxWorks. The symptom that may appear is a General Protection Fault in the FaxWorks communication driver, FX-COMM.DRV. Using the default Microsoft communication driver (COMM.DRV) appears to solve the problem. To use the Microsoft COMM.DRV edit the SYSTEM.INI file. Change the line "comm.drv=fx-comm.drv" to "comm.drv=comm.drv", save and close the file, and then restart your system.
Published Date: Feb 19, 2012

LaserWriter Software For Windows v1.1: Read Me File (2 of 2)

This article contains the ReadMe file included with the LaserWriter Software For Windows version 1.1 posted online. This is part 2 of 2 of the document.
This article has been archived and is no longer updated by Apple.

ABOUT YOUR APPLE LASERWRITER PRINTER SOFTWARE FOR WINDOWS Revision 1.1

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In part 1 of 2

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* Installing additional PostScript printers
* Configuring the PostScript printer
* Deleting previous versions of the printer driver
* Installing the printer description on Windows NT 3.5
* Using the Apple Color LaserWriter 12/600 PS Printer
* Obtaining Printer Supplies for the Apple Color LaserWriter12/600 PS
* Apple Printer Utility 2.0

In part 2 of 2

* AdobePS Printer Driver version 3.0
- General driver compatibility issues
- General font downloader compatibility issues
- Application software compatibility issues

ADOBEPS PRINTER DRIVER 3.0.1

COLOR LASERWRITER 12/600 PS COMMUNICATION SWITCH

The ADOBEPS printer driver is configured by default for binary communications. Send Data in Binary on the PostScript Setup tab dialog is turned on by default.

The communication switch for the Color LaserWriter 12/600 PS is located on the back of the printer. The printer is shipped from the factory with the switch in the right or "Custom" position. Should the switch be reset to factory defaults by moving it to the left or "Reset" position and then back to the Custom position, the communications protocol for the printer's parallel port is incorrectly changed to ASCII. Because of this, print jobs sent from the AdobePS driver with Send Data in Binary turned on will not print.

To correct this problem, you can turn Send Data in Binary off. Alternatively, you can use the Apple Printer Utility to set the protocol back to binary (TBCP). To do this:

1) Open the Apple LaserWriter Software folder, double-click the Apple Printer Utility, and select the desired printer.

2) Select the Communication Configuration panel and then select Port Configuration. For the Protocol field, select TBCP. Then, press Send. The printer's protocol should now be set to binary (TBCP).

3) This procedure must be performed each time the communication switch is reset.

GENERAL DRIVER COMPATIBILITY ISSUES

Windows 3.0 - This version of AdobePS does not support Windows 3.0.

Installation - When installing the driver or a printer PPD, you must first exit all applications using this driver or the Printers dialog in the Control Panel will not proceed with the installation.

Interaction With Control Panel Printers Dialog Box - Some selections made in the Printers dialog box, such as Set as Default Printer and Connect, take effect only after the Printers dialog box is closed.

Duplicate Features in the Driver and Application - If your application contains the same feature as the driver (such as scaling or number of copies), use your application to set the feature; do not set it using the driver. Use the driver tab dialogs only to set printer options you cannot control via your application's Print or Print Setup dialog box.

Printing From Multiple Applications - Multiple applications cannot use AdobePS 3 at the same time. You can print from multiple applications, but must wait until a job has completed before starting another one.

Image Printing Performance - For some applications, printing images may be slower than expected. Printing performance will depend on bitmap characteristics (such as size or color) and the method the application uses to print bitmaps. For example, 24-bit color images will print more slowly than 1-bit black-and-white images.

PostScript Protocol Options - For the printer's default configuration, protocol options located on the PostScript tab dialog should be set to Default. For the Color LaserWriter 12/600 PS you should be able to select Send Data in Binary for both parallel and network connections.

Optimize for Speed vs. Optimize for Portability - On the PostScript tab dialog, there is a group box called PostScript Performance. When you select Optimize for Speed, you may find certain jobs cause the printer to run out of memory, terminating the job with a VM or rangecheck error. If you encounter problems, try setting the PostScript Performance option to Optimize for Portability.

Downloadable Fonts - Printing lengthy documents that require the driver to download several fonts may generate one or more of the following error messages or conditions:

PostScript Error: limit check

PostScript Error: VM error

Page with the message that the printer has insufficient memory

Printer simply does not finish printing the job or resets.

Workarounds: Try one of the following:

1) Reduce the number of fonts in the document.
2) Try changing the PostScript Performance setting on the PostScript tab dialog to Optimize for Portability.
3) Add memory to the printer.

Do Not Download Fonts Option - The Job Control tab dialog contains the Font Control option Do Not Download Fonts. Use this option only if you know that the fonts that you use in your documents are always available to your printer, for example, via the hard disk attached to your printer. Otherwise, the printer may substitute Courier for your fonts.

Document Structuring Conventions - AdobePS 3 does not emit the DSC comments "%%BeginData ... %%EndData."

Some Images Print With Limited Color - Images based on RLE-4 and RLE-8 compression print with limited halftoning effects. Typically, shades of gray or color will print as either black or white.

Installation of Printer Font Metrics - The list of characters available in a font has changed from Windows 3.0 to Windows 3.1. AdobePS 3 uses the information in Printer Font Metric (PFM) files to help applications lay out text correctly and to instruct PostScript printers how to print text correctly. However, because of the changes in characters available, some older PFMs may incorrectly list character widths and cause either errors in layout of text on the screen, in the printer, or both. AdobePS 3 includes the newest versions of font PFMs for all of the printers it installs.

If Adobe Type Manager (ATM) is installed it includes PFMs for fonts on the printer. AdobePS 3 assumes that those PFMs are more up to date than the PFMs included during driver installation.

If you suspect that your ATM fonts are incorrect, you can force AdobePS 3 to use its own PFMs by following these steps:

1) Use Notepad to edit a line similar to PFM_Dir=c:\\psfonts\\pfm in the [Setup] section of the ATM.INI file to read as follows:
;PFM_Dir=c:\\psfonts\\pfm

2) Save the modified ATM.INI file.

3) Proceed to install a new printer using the Printers dialog box in the Control Panel.

4) Restore the line in ATM.INI to its previous value.

Interaction with Adobe Type Manager - Certain applications may pass inaccurate font information to Adobe Type Manager, causing it to abort. To work-around this problem, double-click the ATM Control Panel, select the On or Off option, and choose Exit. Restart Windows for the

change to take effect. Then, try the application again.

Removing Adobe Type Manager from Your System - In rare instances you may want to remove ATM from your system. Follow these steps:

1) Use the ATM Control Panel to remove Type 1 fonts from your system.

2) Use Notepad or another text-editing accessory to open the SYSTEM.INI file in your Windows directory

3) Replace the following two lines:

system.drv=atmsys.drv
atm.system.drv=system.drv

with this line:

system.drv=system.drv

The first two lines might vary on some systems. The replacement line, however, should be as shown above.

4) Quit Notepad and exit Windows. Delete ATM16.DLL, ATM32.DLL, and the ATMSYS.DRV files from your Windows\\System directory. Delete the ATM.INI and ATMCNTRL.EXE files from your Windows directory.

5) Delete the .PFM and .PFB files from your Windows\\psfonts directory. Delete the ATMFONTS.QLC file from your Windows\\psfonts directory. Restart Windows.

Some Printers Reset When Sent Binary Mode Commands - The Apple Color LaserWriter 12/600 PS supports Tagged Binary Communications Protocol which is a superset of the Adobe Binary Communications Protocol. It does not support the Adobe Binary Communications Protocol (BCP) and may reset if sent the command to switch into binary mode (requested via the Job Control tab dialog, using Printer Mode, Send Mode). This happens only if you are using the incorrect PPD for your particular printer. To avoid this situation, install the correct PPD for your installed printer.

Using Print Manager - Windows Print Manager will create a temporary file when you print from an application. Deleting this temporary file terminates the print job.

Suggested use: Click Cancel from the dialog box to terminate the print job or delete from within Print Manager.

Custom Paper Dimensions - In some PPDs, the minimum width and height values for the Custom Paper option are represented by three decimal digits. AdobePS 3 rounds off the value to two decimal digits, which may result in an error indicating that one or both of your dimensions are invalid.

Workaround: If you wish to use the minimum value, change the AdobePS 3 rounded value (such as 8.26) to the exact value of the dimension with all decimal digits (such as 8.264).

Page Preview Image - The Page Preview image on the Paper tab dialog reflects only an approximation of the actual printed page. Paper size, color, and border filling in the page preview, for example, may not accurately represent the corresponding characteristic of the printed page.

Watermark Printing - In some applications, watermarks will print either in the background (the default) or in the foreground, but not in both.

Workaround: Try printing the watermarks in both the foreground and background to discover which location works best with your application and printed document.

Watermarks are enabled using the Forms capability in all Adobe PostScript Level 2 printers and will not print if sent to a PostScript Level 1 printer.

Workaround: Send jobs specifying watermarks to a PostScript Level 2 printer.

When you specify a watermark to print in outline format, the Page Preview image of the Watermark and Paper tab dialogs do not display the outline watermark. This is a limitation of the driver's display feature only; the watermark will print correctly on the physical page.

In some applications, when the Watermark First Page Only feature and Number of Copies features are combined, the watermark prints only on the first page of the first copy.

Workaround: Print each copy as a separate job.

Some applications submit the entire print job as one logical page. The single logical page, when printed, spans multiple physical pages. For such

applications the watermark may appear only on the second physical page.

N-Up Printing - N-up printing may yield unanticipated results when you combine layout and orientation page-setup options in one document. The first logical page of a job determines the layout for the rest of the job. For example, if you choose portrait orientation for the first page of a document printed in 6-up, all pages in the document will print in the standard order for portrait orientation, left to right, top to bottom, even if you change to landscape orientation in the middle of the job. If you specify landscape orientation for the first page of a 6-up document, all document pages print bottom to top, left to right. For rotated landscape orientation, document pages print top to bottom, right to left.

Additionally, if you request a different resolution, page size, or paper source, or if you request duplex settings for different pages of a document while using the n-up feature, AdobePS 3 completes the previous request and then starts a new page, applying the currently requested page-setup settings. The order of the layout remains the same, although virtual pages of an n-up layout will be blank. This is because AdobePS 3 starts the next set of instructions on a new sheet of paper.

In some applications, when the Layout and Copies features are combined, new pages are started, as needed, only in the first copy.

Workaround: Print each copy as a separate job.

N-up printing and borders - You may experience problems printing documents that have borders when printed with n-up printing.

Workaround: Print documents with borders with 1 page per sheet of paper.

N-up printing and manually downloaded PostScript header - With some applications, manually downloading a PostScript header may cause errors when n-up printing is used.

Workaround: Instead of manually downloading the PostScript header, select "Send Header with each job" in the driver's Job Control tab dialog.

Dialog Box Warning: Application Incompatibility Watermark and N-Up Features - Some applications are incompatible with watermark and page layout (n-up) features. If this is true for an application you are using, AdobePS 3 displays the Application/Printer Setup Incompatibility dialog box, which lets you cancel the print job, try to print using the driver's features, or print without using the driver's features. By default, AdobePS 3 displays this dialog box each time you send a print job specifying features with which the application is incompatible. If this is an inconvenience for you, you can disable the dialog box.

To disable the Application/Printer Setup Incompatibility dialog box:

1) Use Notepad or another ASCII text editor to open the WIN.INI file and go to the [AdobePS] section.

2) Choose one of two options:
* Find the line "Show Compatibility Alert=1" and change the value from 1 to 0.
* If the Show Compatibility Alert line does not exist, add the line "Show Compatibility Alert=0."

3) Save and close the file.

Problems Printing Envelope and Document in a Single Job - The Apple Color LaserWriter 12/600 PS printer does not support envelopes. With other printers, when you print an envelope-and-letter job involving paper source changes, if the first page uses the manual-feed paper tray and the next page changes to Auto Tray Select, printing may yield unexpected results. For example, envelope text may be printed on letter-size paper instead of the expected envelope.

Workaround: Specify specific paper sources instead of Auto Tray Select, or print each page as a separate job.

Problems Printing to Printers in Adobe IntelliSelect (AIS) Mode - A Printer Mode value of ASCII Mode, set via the Job Control tab dialog, is incompatible with printers in AIS mode and results in an error. Also, files with embedded EPS graphics or text created via drivers other than AdobePS 3 may not print correctly to a printer in AIS mode.

Workaround: If your printer has a front panel, change from AIS mode to standard PostScript or TBCP and then reprint the job. Or, do not choose Send Mode and use only the printer's default mode.

Full-Color Bitmap Printing Performance - When you select the PostScript option Send Full Color Data and are using 24-bit color images, AdobePS 3 sends the full image data to the printer. You may not need this data for printers that are unable to render 24-bit color images. However, selecting this option allows the printer's halftoning capabilities to be used to their greatest extent to print the best possible image.

Alternative: If improved performance is more important than accurate color halftoning, turn off the Send Full Color Data option.

Accidentally Printing EPS Files - If a printer driver is accidentally configured to print EPS output to a printer rather than a file, AdobePS 3 displays a warning that EPS should not be output to a port; the job prints correctly within the application, then the printer stays in a waiting mode until either (a) another job is sent, or (b) a time-out error occurs. To avoid this situation, ensure that EPS format is only output to File, not Printer.

Font Installation - The presence of fonts installed by some font installers may not be recognized.

Workaround: To notify the driver of fonts installed by non-Adobe font installers, manually update the ATM.INI file. For more information, see the Adobe ATM user guide.

Match Color Across Printers Option - The Match Color Across Printers option uses the device-independent color-rendering feature available in PostScript Level 2 color printers to render color output as close as possible to the colors of other Level 2 printers. This feature is intended to give accurate and consistent color rendering across a wide range of color devices.

GENERAL FONT DOWNLOADER COMPATIBILITY ISSUES

The Font Downloader is automatically installed along with the driver. Although the downloader can be run as a stand-alone program, this is not recommended.

Downloading Task Thermometer - The task-progress thermometer does not always reflect the true status of the font downloading task. Even though the font does download, the thermometer may not reflect 100%.

TrueType fonts - TrueType fonts cannot be downloaded with the Font Downloader.

Downloading PostScript Files Containing Binary Data - The Font Downloader can download only PostScript files containing ASCII data and may display an error if the PostScript file contains binary data.

Workaround: In the PostScript tab dialog, turn off the Send Data in Binary option in the Performance Options box, and redownload the PostScript file. Or, do not use the Font Downloader; instead, send PostScript files containing binary data to the printer from DOS using the Copy command.

Device Installer Problems - Sometimes the Font Downloader does not let you delete installed devices, does not properly display newly installed devices in the device list box, or continues to list fonts previously deleted. In addition, the Font Downloader cannot verify that a device is installed correctly. If you're not sure, check the Color LaserWriter's startup page to see if the device name is listed. See chapter 5 of your user guide to verify that the hard disk has been installed correctly.

Workaround: Exit completely from the driver. Reenter the program via the Setup button of the Printers dialog box; choose the Fonts tab dialog; click the Font Downloader button, and the Font Downloader dialog box appears. Click Device Installer. The newly installed devices should now appear. To delete a device, highlight it, and choose Remove.

Deleting Fonts From the Printer's Memory - If you have downloaded fonts to the printer's memory using the Font Downloader, the fonts stay resident until the printer is restarted; the Font Downloader does not delete fonts from the printer's memory.

Workaround: Restart the printer using the Apple Printer Utility or turn the printer off, wait a few moments, and then turn the printer back on.

Update of WIN.INI File - The Font Downloader does not update the WIN.INI file to reflect the fonts that it has downloaded; therefore, other PostScript drivers or application programs that read WIN.INI for information updates will not know which fonts have already been downloaded.

Misleading Memory Messages - Sometimes when you are downloading a group of fonts, the Font Downloader sends messages indicating that there may not be enough available memory to download the individual font. This message may or may not reflect the true state of your printer.

Workaround: If you know your printer has plenty of memory, choose Yes in response to the Font Downloader message and continue downloading the fonts. Also, to avoid display of the insufficient memory message, download the fonts individually, not by group. If your printer is low in memory, you may not be able to download all fonts to it.

Check Password - Check Password is not supported for Apple printers.

Workaround: NetWare security is available for the Apple Color LaserWriter 12/600 PS when it is used as a print server. You set up the password on the NetWare file server and on the printer being used as the print server. See Chapter 3, sections "Assigning a password for the print server" and "Setting additional parameters with the Apple Printer Utility for Windows" of the Apple Color LaserWriter 12/600 PS User Manual.

APPLICATION SOFTWARE COMPATIBILITY ISSUES

Adobe Illustrator

If you install Adobe Illustrator after the Adobe PostScript driver, the following message may appear: "The file C:\\WINDOWS\\SYSTEM\\PS_ENUM.DLL already exists and has a different date than the file Illustrator is about to install. Do you wish to overwrite the current file on the system?"

Select No; do not overwrite the file.

This same dialog will again appear for RUN_ENUM.EXE. Select No; do not overwrite this file, either.

If Illustrator has been installed without regard to the above instructions, reinstall the driver using the instructions listed in "Deleting Previous Versions of the Driver." You must clear all previous files to ensure a successful installation.

Aldus Freehand

Aldus Freehand does not support the Rotated Landscape Orientation option of the Paper tab dialog. In addition, Freehand does not support watermarks.

Ashlar Vellum 2.12

Ashlar Vellum does not support printing multiple copies.

CorelDraw 5.0

Printing watermarks with First Page Only selected causes the watermark to print only on the last page.

Workaround: Print page one only with the watermark selected. Then, print the remainder of the document without the watermark.

Fractal Design Painter 2.0

In the PostScript tab dialog is a group box called PostScript Performance. Fractal Design Painter 2.0 is compatible only with the Optimize for Portability option of that box.

Freelance Graphics 2.01

Print jobs may not scale correctly.

Micrografx ABC FlowCharter 3.0

In documents over seven pages long, letters might print superimposed upon each other. This problem seems to occur on printers with a resolution of 600dpi or higher.

Workaround: Print to a printer with a resolution lower
than 600 dpi.

Micrografx Designer 4.0

AdobePS 3 does not support the Colored Pattern Brush feature of Designer 4.0 and the earlier application Charisma and prints filled areas of color bitmaps in black and white.

MS Excel

Printers with resolutions in excess of 300dpi may exhibit uneven patterning in graphics using color fill patterns.

MS Notepad and Cardfile

Resolution of 600dpi or above may cause Notepad and Cardfile to print with incorrect margins. Sometimes this can be corrected by specifically changing the requested margins from 0.75", the default margins, to another value; this does not always fix the problem.

Workaround: Most printers with resolution above 600dpi have lower resolution modes; if so, select a lower resolution in the printer's Print Setup, Setup, Features tab dialog. If not, install the Adobe Default Printer and select it when printing from Cardfile or Notepad.

MS Online

Microsoft Online may not print when AdobePS 3 is selected and the printer name is longer than 29 characters.

Workaround: Choose a printer name with fewer than 30 characters.

MS PowerPoint 3.0

Resolution changes requested from within the PowerPoint 3.0 Print Setup dialog box do not take effect.

Workaround: For printers that allow control of their resolution, use the AdobePS 3 Features tab dialog to change resolution in your PowerPoint 3.0 files.

When printing some colored text from PowerPoint 3.0, the text prints in black rather than the selected color.

MS PowerPoint 4.0

Printing files containing multiple embedded EPS objects from this application sometimes results in either lost text or lost EPS objects.

Workaround: Convert the embedded EPS objects to PowerPoint objects by double-clicking on them.

MS Publisher 2.0

The BorderArt feature of MS Publisher 2.0 is incompatible with AdobePS 3. If you try to use this feature with AdobePS 3, the printed file may be missing lines from the upper and bottom right and left corners of the border.

PageMaker

AdobePS 3 is incompatible with PageMaker 5.0 or earlier if you are using a PJL printer.

Workaround: Upgrade to the latest version of PageMaker if you are using a PJL printer.

Some PageMaker files may print with unexpected results.

Workaround: Make sure that you have selected the correct type of printer in the PageMaker print dialog box and that the PageMaker private PPD directory contains the correct PPD for the printer you are using.

Persuasion 3.0

Depending on the file you are trying to print, Persuasion 3.0 is sometimes incompatible with AdobePS 3. Printing sometimes results in a blank first page or a PostScript error.

Quicken 3.0

If you choose to print partial checks in 1s or 2s, instead of the standard 3s, you may get unexpected results. When you request partial check printing, Quicken prints a blank first page, a second page in portrait orientation, and a third page in landscape orientation.

WordPerfect 5.1

Early versions of WordPerfect may exhibit some problems with this driver. Examples include: unreadable text in the WordPerfect Select Printers dialog; dimmed Select control in the Select Printers dialog when switching printers; and mismatched settings between AdobePS 3 and WordPerfect.

Workaround: Use at least version 5.1 of WordPerfect.
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PowerBook 5300 & 190 Series: Internal & External Video

This article answers some commonly asked questions about the internal and external video capabilities of the Macintosh PowerBook 190 and 5300 series computers.

How do I connect an external display to a Macintosh PowerBook 190 or 5300 series computer?

When an external monitor is connected can I still run the computer from the battery?

Can I expand the Video RAM (VRAM) in these PowerBook computers?

What is the highest bit depth the Macintosh PowerBook 5300 series computers are capable of using with an external monitor attached?

Which Apple Macintosh displays can I use with these PowerBook computers? And what resolutions can these PowerBook computers output to them?

This article has been archived and is no longer updated by Apple.

Connecting An External Display

5300 Series

The PowerBook 5300 series computers have the same type VID-14 video output connector as the earlier PowerBook 500 series computers. This adaptor cable will be needed to connect an external display. The Apple part number for the cable is M3927LL/A*. The PowerBook Video Adpaptor cable is not included with the PowerBook 5300 computers.

190 Series

The PowerBook 190 series computers can be upgraded to have the same video out capabilities that are built into the PowerBook 5300 series computers. You need to order the Macintosh PowerBook 8-Bit Color Video-Out Upgrade Kit (Apple part number M3743LL/A*) to get video out capability. You will use the same video cable mentioned above to attach an external display. The PowerBook Video Adpaptor cable is not included with the PowerBook 190 computers. The PowerBook Video Adaptor cable is included in the Macintosh PowerBook 8-Bit Color Video-Out Upgrade Kit.

Running From The Battery

Unlike previous PowerBook computer models, the PowerBook 190 (with the video-out upgrade) and 5300 series computers can have an external monitor attached while running from the battery.

VRAM Expansion

All of the PowerBook 5300 and the PowerBook 190 (with the video-out upgrade) series computers have two separate sets of VRAM to support the internal and external displays.

External Display VRAM

All of the PowerBook 5300 and the PowerBook 190 (with the video-out upgrade) series computers have 512K of VRAM soldered on a video card for supporting external displays.

The highest bit depth available for external displays at either 640x480 or 832x624 resolutions is 8 bits per pixel unless you expand the VRAM by replacing the Apple video-out card with a third party video expansion card product. If the VRAM on the third party video card is 1 MB, the computer will be able to output 16 bits per pixel on an external display.

Internal Display VRAM

NOTE: The following descriptions apply only to models sold in the United States. Europe and Asia have models that differ slightly from these configurations.

The Macintosh PowerBook 5300 and 5300cs computers and the 5300c (that comes with 8 MB of RAM) come with 512K VRAM soldered to the logic board for support of the internal LCD Display. It cannot be removed or upgraded.

The Macintosh PowerBook 5300c that comes with 16 MB of RAM on the logic board and the Macintosh PowerBook 5300ce have 1 MB of VRAM. This allows for higher bit depth support on the internal display. It also cannot be removed or upgraded.

Built In Video Support

Internal Video Support

The following table lists the PowerBook 5300 and 190 (with the Apple video-out upgrade) series computer models and the amount of VRAM installed in each for use by the computer's internal display and an external display.

Part #	Model #	Display Type	No. Colors on Int. Disp.	VRAM for Int. Disp	VRAM for Ext. Disp
M3135LL/A* (8 MB RAM 500 MB HD)	5300/100	9.5 inch Passive Matrix Grayscale	16 Grays	512K	512K
M3825LL/A* (8 MB RAM 500 MB HD)	5300cs/100	10.4 inch Dual Scan Passive Matrix Color	256 Colors	512K	512K
M3824LL/A* (16 MB RAM 750 MB HD)	5300cs/100	10.4 inch Dual Scan Passive Matrix Color	256 Colors	512K	512K
M3133LL/A* (8 MB RAM 500 MB HD)	5300c/100	10.4 inch Active Matrix Color	256 Colors*	512K	512K
*Note: This model displays thousands of colors, but only in the reduced screen size mode (640x400).					
M4488LL/A* (16 MB RAM 750 MB HD)	5300c/100	10.4 inch Active Matrix Color	Thousands of Colors	1 MB	512K
M3828LL/A* (32 MB RAM 1.1 GB HD)	5300ce/117	10.4 inch Active Matrix Color	Thousands of Colors	1 MB	512K
M3530LL/A* (4 MB RAM 500 MB HD)	190/66	9.5 inch Backlit Passive Matrix Grayscale	16 Grays	512K	512K (with video card upgrd)
M3531LL/A* (8 MB RAM 500 MB HD)	190/66	9.5 inch Backlit Passive Matrix Grayscale	16 Grays	512K	512K (with video card upgrd)
M4072LL/A* (4 MB RAM 500 MB HD)	190cs/66	10.4 inch Dual Scan Passive Matrix Color	256 Colors	512K	512K (with video card upgrd)
M4073LL/A* (8 MB RAM 500 MB HD)	190cs/66	10.4 inch Dual Scan Passive Matrix Color	256 Colors	512K	512K (with video card upgrd)

External Video Support

The following table lists the Apple Displays supported by the Macintosh PowerBook 5300 and 190 (with the Apple video-out upgrade) series computers and the bit depths supported with the standard 512K of VRAM installed.

Display	Resolution(HxV)	Bits/Pixel

Macintosh 12-in. RGB Display	512x384	1-8bpp
Macintosh 12-in. Monochrome Display	640x480	1-8bpp
AppleColor High Resolution RGB Monitor (13-in.)	640x480	1-8bpp
All Apple 14-in. displays including the AudioVision (with adaptor)	640x480	1-8bpp
Macintosh Portrait Display	640x870	1-4bpp
Macintosh Portrait Display	640x818	1-8bpp
Macintosh 16-in. Color Display	832x624	1-8bpp
Apple Multiple Scan 15 display	640x480	1-8bpp
	832x624	1-8bpp
Apple Multiple Scan 17 display	640x480	1-8bpp
	832x624	1-8bpp
	1024x768	1-4bpp***
Apple Multiple Scan 20 display	640x480	1-8bpp
	832x624	1-8bpp
	1024x768	1-4bpp***
VGA (60 Hz)	640x480	1-8bpp**
SuperVGA (56 Hz)	800x600	1-8bpp**
VESA 1024x768 (60 Hz)	1024x768	1-4bpp***

Note: The resolutions and bits/pixel may be different with a third party video card. For more information you will need to contact the manufacturer of your video card.

* Part numbers mentioned in this article are accurate as of this writing. Before ordering, verify that they are still correct as they are subject to change.

** VGA and SVGA Monitors require special third-party VGA cables.
*** This is an unsupported resolution. It can only be obtained by holding down the Option key when pressing the Option button in the Monitors Control Panel. It may or may not be an available option in future revisions of the Monitors Control Panel.*

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Desktop Manager and Desktop Databases: What are they? (10/95)

This article describes the history of the Desktop Manager and Desktop DB files. It also discusses the use and support of the Desktop Manager extension.

This article has been archived and is no longer updated by Apple.

In the early days of the Macintosh operating system, new objects like icons and windows had to be stored and managed somewhere by the operating system. Information such as the bit mapped representation of the icon picture to display and the association of documents to the application that created them was saved in a database. This file was called "Desktop" and was an invisible file at the top level of every diskette. Information was placed in this file by the action of the Finder making calls to the Desktop Manager. The Desktop Manager, in turn, made calls to the Resource Manager, creating resource items within the Desktop file.

When hard drives came into use on the Macintosh and the file system was enhanced with real folders and a hierarchical organization. This became known as the Hierarchical File System (HFS). The Desktop file maintained the same information as before, but became much larger in size since hard drives held many more files and documents.

AppleShare File Servers added the ability for the Macintosh to share larger and larger hard drives. The fast access needs of the file servers began to strain the capabilities of the Resource Manager to maintain the Desktop database. A new database organization was designed for use by the Desktop Manager for use on AppleShare 2.0.x servers. This new Desktop database consisted of two invisible files called "Desktop DB" and "Desktop DF".

These files are of a more modern database design with an index and data file and provide much faster access to information than the original resource based file, especially when the number of files being managed becomes very large. These files are also created at the top level of every volume over 2 Megabytes in size. Floppy disks kept the original resource based Desktop file, since it is an adequate method for small volumes.

The support of the internal interface for the new Desktop Manager database routines under System 6 was implemented as an extension on AppleShare Servers called Desktop Manager. Many users who owned the AppleShare 2.0.x product ran with this extension on their client computer with System 6 to help manage their growing file systems on large hard drives. This use of the Desktop Manager extension was never a supported or approved configuration by Apple outside of the AppleShare Server environment.

This new desktop database design was integrated into System 7 and is still in current use. In the early transition days from System 6 to System 7, many users were using the Desktop Manager extension from AppleShare with non-server computers because they found that when switching back and forth between System 6 and System 7, it would prevent a Desktop rebuild from occurring. This extension was enabling the same desktop files to be shared between the two different versions of the Mac OS. This was an untested and unsupported configuration that seemed to work for those who tried it.

Support Information Services
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Macintosh Easy Open: Keeps Opening the Wrong Application (10/95)

When I attempted to open a file, Macintosh Easy Open appeared and provided a list of applications which I could use to open this file. I accidentally selected the wrong application. Now, each time I attempt to open the file, the wrong application is launched. Is there a way to reset this so that the wrong application will not be launched?

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After selecting the wrong application to open a particular file, you will need to delete Macintosh Easy Open's preference file, or the wrong application will remain attached to that file. To delete the preference file, open the Macintosh Easy Open control panel, and click the Delete Preferences button.

After deleting the preference file, you will need to rebuild your desktop file this way:

Step 1

Restart your Macintosh and hold down the Space Bar until the Extensions Manager control panel opens.

Step 2

Use the pull down menu in the Extensions Manager to choose "All Off"

Step 3

Scroll down to the Control Panels section of the Extensions Manager window and click the Macintosh Easy Open item to put a check mark by it.

Step 4

Close the Extensions Manager window by clicking on the close box in the upper left corner.

Step 5

Immediately hold down the Command (Apple) and Option keys until you see the dialog box, "Are you sure you want to rebuild the desktop file?" Click Okay.

Once you have determined everything is working normally, you can go back to the Extensions Manager and turn on all the extensions you usually use. You need to restart to have the reactivated extensions load.

Support Information Services
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At Ease: Cannot Access Floppy (Drive A) On The DOS Side

After installing At Ease for Workgroups 3.0 on PowerMac 6100/DOS compatible computers, At Ease seems to prevent the DOS side from seeing Drive A. If At Ease is turned off, the DOS side can access Drive A.
This article has been archived and is no longer updated by Apple.
At Ease sets the same limitations to floppy disk access on the DOS side as it sets for the Macintosh side. If the At Ease Setup allows accessing and storing files on a floppy disk, then the DOS side can also use the floppy disk in Drive A.

The Full Finder setup has no restriction on the use of floppy disks and either the Macintosh or DOS side can access a floppy disk in Drive A.

In a Restricted Finder setup or At Ease Panels, access to floppies is controlled by the Locations pane that controls where files can be stored or opened.

Follow these steps to allow users to save and/or open documents from a floppy disk while in the At Ease panels:

Security Panel

1) Launch At Ease Setup, open the Setup you want to have access to the floppy drive.

2) Click the Padlock button to go to the Security Panel.

3) In the first section:

For new documents, users are required to use their At Ease Documents folder to:

[_] Open [_] Save

Click the box to put an x in the Open section if you want your users to be able to open documents. Click the box to put an x in the Save section if you want your users to be able to save documents.

Locations Panel

1) Click the Floppy Disk button to go to the Locations Pane.

2) In the second section:

Store user documents on:

[_] Setup location volume [_] Floppy Disk

Click the box to put an x next to Setup location volume if you want your users to have access to the At Ease disk. Click the box to put an x next to the Floppy Disk section if you want your users to have access to a floppy disk.

3) Click OK.

4) Switch to the DOS side

5) Insert the floppy diskette.
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WiggleWorks: Story Line Input Limit (10/95)

When I try to input more than three lines of text in the Birds on Stage section of the WiggleWorks program, my computer just beeps instead of taking in any more input.

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The guide that is included with the WiggleWorks CD-ROM disc incorrectly states that you can input up to eight lines of text. The limit is, in fact, 256 characters. There is no dialog box or error message stating that this limit has been exceeded, only a system beep response as you continue to type on the keyboard.

There is no way to type beyond the 256 character limit.

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System 7.5.3 and Physical Ethernet Address Change

After installing System 7.5 Update 2.0 (System 7.5.3) I noticed the Ethernet hardware address of the computer changed from 00:A0:40:xx:xx:xx to 00:05:02:xx:xx:xx. Why did this occur? Is this due to Open Transport 1.1?
This article has been archived and is no longer updated by Apple.
Apple was initially assigned Ethernet physical (Media Access Control) addresses of 08:00:07:xx:xx:xx. Apple NuBus and on-board Ethernet implementations from 1989 through part of 1995 were given addresses from this range. In 1995, however, Apple began to reach the end of the available addresses in that range, and petitioned the IEEE for an additional vendor code (address range) assignment. We were granted 00:A0:40. Apple began using these new addresses (00:A0:40:xx:xx:xx) in some of our Ethernet implementations in mid-year 1995.

MAC addresses are typically stored in an EPROM (erasable programmable read-only memory) on the Ethernet chip set, in what is known as "Token Ring format". This format has each byte stored in nibble-reversed order. For example:

```
Ethernet format (hex):      00            A0            40
Binary equivalent:          0000 0000     1010 0000     0100 0000

Token Ring format (hex):    00            05            02
Binary equivalent:          0000 0000     0000 0101     0000 0010
```

Some Macintosh computers, Power Macintosh 7200, 7500, 8500, and 9500, and some Apple NuBus Ethernet cards, had their MAC address mistakenly stored in Ethernet format; not in the standard Token Ring format. That is, rather than storing the address as 00:05:02:xx:xx:xx and then converting to yield the assigned address range of 00:A0:40:xx:xx:xx, the addresses were stored as 00:A0:40:xx:xx:xx and would have been converted to 00:05:02:xx:xx:xx.

At the same time, however, there was a bug in the Open Firmware code for Power Macintosh 7200, 7500, 8500, and 9500 computers that caused those systems to NOT convert the address stored in the EPROM. The end result was the correct MAC addresses (00:A0:40:xx:xx:xx) were being used by these Ethernet implementations on the wire, even though they were stored in the incorrect format. (A rare case of "two wrongs do make a right".)

Many Apple and third-party network management utilities also access the EPROM to read the MAC address, and correctly assume it will be stored in Token Ring format. Therefore they convert the stored address before presentation to the user. As a result, such as utility would report an address of 00:05:02:xx:xx:xx, even though a network analyzer packet trace would show an address in the range 00:A0:40.

Apple NuBus Ethernet cards, with MAC addresses in the new range, were more problematic. Because the Open Firmware bug did not affect these cards (Open Firmware is a PCI specific technology), the MAC addresses were converted from 00:A0:40:xx:xx:xx to 00:05:02:xx:xx:xx, resulting in the use of unauthorized addresses on the wire. Fortunately, the 00:05:02 range was still unassigned, and these cards did not create inter-operability issues in the field.

Apple has since petitioned the IEEE and been granted the 00:05:02 range, in addition to the already approved 08:00:07 and 00:A0:40 ranges.

System 7.5 Update 2.0 (System 7.5.3) includes a fix for the Open Firmware bug that impacted the Power Macintosh 7200, 7500, 8500, and 9500 computers. A system with an address stored as 00:A0:40:xx:xx:xx (originally considered improper), once updated to Mac OS System 7.5.3, will now appear as 00:05:02:xx.xx.xx on the wire. This change impacted an Open Firmware component; it is not a part of Open Transport v1.1.

As Apple now has official use of the 00:05:02 range, these PCI Mac OS systems now have properly stored addresses. This brings the behavior of all on-board and NuBus Ethernet implementations back together, and lets Apple and third party utilities correctly report these addresses.

These changes were necessary to assure ongoing standards compliance, and to remedy the unintentional compatibility issues with network management utilities.

This situation may impact networks including the Apple Ethernet implementations noted. Specifically, any network access and configuration services which depend upon statically configured MAC addresses will require reconfiguration by the network administrator. Such services can include BootP, DHCP, RARP, certain firewall and security scenarios, some routing Access Control Lists, and smart Ethernet hubs incorporating MAC-level security.

The 00:A0:40 address range is now reserved for future Apple expansion, when the 08:00:07 and 00:05:02 ranges are exhausted.

This situation does not affect Power Macintosh 7200, 7500, 8500, and 9500 computers or other Apple Ethernet implementations with physical Ethernet addresses in the original 08:00:07 range.

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At Ease: CPU Energy Saver Cannot Shut Down From Panels

After setting CPU Energy saver on all computers to shut down if idle for more than one hour, all the computers are running At Ease, the CPU Energy saver starts counting down at the appropriate time but the computers do not shut down.
This article has been archived and is no longer updated by Apple.
The CPU Energy Saver can not shut the computer down when it is at the At Ease login screen or At Ease panels. It does the countdown but the computer remains powered on. If you are in the Finder or Restricted Finder of At Ease, the computer will shut down.

The Auto Power on/off control panel is able to shut down the computer even when in the At Ease panels.

To determine which energy saving control panels are right for your computer, please see "Energy Saving Control Panels: Description and Compatibility"
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System 7.5.2: Clean Install for PowerBook 5300, 2300, 190

This article presents the steps necessary to perform a clean installation of System 7.5.2 on a PowerBook 5300, 2300, or 190 series computer.

This article has been archived and is no longer updated by Apple.

Purpose of a Clean Installation

A normal system software installation modifies and updates the existing System Folder. A clean installation disables the existing System Folder, leaving most files in place, and forcing the Installer to create a new System Folder.

A clean system installation brings the system software back to the standard configuration. This is necessary when system software has been damaged or modified, preventing a normal installation. It is also useful in troubleshooting.

Follow these instructions in the order presented.

Restart with Disk Tools

Shut down your computer, insert Disk Tools in the floppy drive, and turn on the computer. At the desktop, the Disk Tools floppy disk icon should be in the upper-right corner of your screen with your hard disk icon below it.

If the computer ejects the Disk Tools disk, make sure you have the Disk Tools specified for your model Macintosh.

Run Disk First Aid

Disk First Aid can detect and repair problems with a hard disk. The Disk First Aid program can be found in the Utilities folder on the hard drive of the PowerBook.

Step 1

Open the Disk Tools disk, and double-click on the Disk First Aid icon. In the window that appears, select the main hard drive.

Step 2

Click once on Repair. Disk First Aid will check your hard disk for any potential problems and repair them if necessary.

Step 3

Repeat this procedure for each hard disk attached to the system.

Step 4

When you are finished verifying the hard disks, choose Quit from the File menu to return to the desktop.

If Disk First Aid cannot repair a hard disk, you should back up the hard disk and reinitialize it using the appropriate formatting utility for that drive. For the internal PowerBook hard drive, use Drive Setup, also located on the Disk Tools disk.

Update Hard Disk Drivers

If you do not have an Apple hard drive, or you use third-party software to format your hard disk, do not use the Drive Setup utility. However, you should contact your hard drive vendor to verify that your formatting

software is compatible with System 7.5.2.

Following these steps to update the hard disk drivers on the internal PowerBook hard drive:

Step 1

Double-click the Drive Setup icon on the Disk Tools disk to open it.

Step 2

Select the hard drive name under List of Drives.

Step 3

Select Update Driver from the Functions menu.

Step 4

When you're finished, select Quit from the File menu to return to the desktop.

Sometimes Drive Setup can not update the hard disk driver (indicated if the Update Driver selection is dimmed). Here are some possible causes and solutions:

* If a third-party utility formatted your hard disk, you should obtain
 the latest version of the utility to update your hard drive.

* If the driver is corrupted, the Macintosh does not recognize the drive
 (that is, the drive doesn't show on the desktop when you start from a
 floppy disk). You may wish to reinitialize it with Drive Setup.
 This erases the disk, so be certain you back up the hard disk first.

* If the driver was modified with disk compression or security software
 you may not be able to update the hard drive with Drive Setup.
 Contact the vendor of the software for any special instructions.

Check Available Hard Disk Space

Be sure you have at least 30 MB available on the hard disk where you plan to install the system software. Open the hard disk's window. Select By Name from the View menu. The amount of available disk space appears in the upper-right corner of any open window.

If there is less than 30 MB available, you need to delete some unnecessary files by moving them to the Trash. Choose Empty Trash from the Special menu, and you will have more disk space available. You can also copy files onto floppy disks or other media before moving them to the Trash.

Performing a Clean Install

You should have made a set of system disks from the disk images on the hard drive when you first got the PowerBook using the Floppy Disk Maker program. The instructions for doing this appear on the screen every time the computer is turned on until the disks are made.

If you still have the disk images on your hard drive (you have not erased them), you will not need the floppy disks to do the clean install. To check if these images are still present, follow the folder path: (through your hard drive):

Utilities -> Floppy Disk Maker -> Disk Images -> System Software Images.

Open each of these folders on your hard drive. The System Software Images folder should contain at least 10 items, including the System Software Installer.

TA34550_System_Clean_Install_for_PowerBook__(TIL18734).pdf

Method 1: If the System Software Images Are On the Hard Drive

Step 1

Start up the computer while holding down the Shift key until you see the message "Welcome to Macintosh, Extensions Off." If your computer will not start up from the hard drive, you can start it up from the Disk Tools disk that came with the computer.

Step 2

Double-click the System Software Installer located in the System Software Images folder. Click OK at the Welcome to System 7.5.2 dialog box.

Step 3

Check that the Destination Disk (located in the lower left hand corner) is set to the startup drive for your computer.

Step 4

Press the Command-Shift-K keys simultaneously.

You are presented with a small dialog box with two selections:

- Update Existing System Folder
- Install New System Folder

Step 5

For a clean install, select Install New System Folder, then click OK.

Step 6

Click the Clean Install button.

The Installer will begin to install the new System Folder. The current System Folder will be renamed Previous System Folder. The installation process will take about 11 minutes and should not be interrupted. When the installation is complete, restart the computer.

Method 2:If the System Software Images Have Been Erased

Step 1

Make sure you have the set of system software disks that you made with the Floppy Disk Maker program. There should be at least 10 disks.

Step 2

Shut down the computer.

Step 3

Insert the disk labeled Install Disk 1.

Step 4

Start up the computer. Click OK when you see the Welcome to System 7.5.2 dialog.

Step 5

Check that the Destination Disk (located in the lower left hand corner) is set to the startup drive for your computer.

Step 6

Press the Command-Shift-K keys simultaneously.

You are presented with a small dialog box with two selections:

- Update existing system folder
- Install new system folder

Step 7

For a clean install, select Install New System Folder, then click OK.

Step 8

Click the Clean Install button.

The Installer will begin to install the new System Folder, asking you to insert each system disk as needed. The current System Folder will be renamed to Previous System Folder. The installation process will take about 25 minutes and should not be interrupted. When the installation is complete, restart the computer.

Move Bundled Items Over

After the computer has restarted, move the following items from the Previous System Folder to the same location in the System Folder:

ATM Font Database
Claris folder
DataViz folder
Launcher Items folder
MacLinkPlus Setup (in the Control Panels folder)
MacLinkPlus for Easy Open (in the Extensions folder)

Verify Problem Resolution

After performing a clean installation, verify that you resolved the problem before adding anything to the new System Folder. Adding items to the System Folder before resolving your problem defeats the purpose of this procedure.

Install Non-Standard Items

You can now reinstall the non-standard items from the old System Folder (now named "Previous System Folder") such as fonts, screen savers, device drivers, and so on. If possible, you should reinstall these items from their original disks.

If the original disks are not available, you may move the non-standard items from the Previous System Folder to the new System Folder. Be careful to only move items that are not already in the new System Folder.

Step 1

Open each corresponding folder within the System Folder and the Previous System Folder then compare the contents.

Step 2

Move anything that is not already in the new System Folder and its subfolders from the Previous System Folder and its subfolders.

Step 3

Restart your Macintosh.

Troubleshooting Extension Conflicts

If you have installed any system extensions or control panels, you will see their icons line up across the bottom of the screen when you restart. They load into memory at startup time and modify the standard behavior of the operating system.

Verify INIT Conflict

If the Macintosh fails to restart or behaves erratically, you probably have an incompatible or conflicting INIT (also known as a system extension or control panel). To verify this problem, follow these steps:

Step 1

Be sure the Caps Lock key is off.

Step 2

Restart, and after you see the picture of a computer with a smile, hold down the Space Bar key.

Step 3

Release the Space Bar key when the "Extensions Manager" window appears.

Step 4

Select "All Off" in the Sets pull down menu then close Extensions Manager.

Step 5

When the Macintosh is ready, try to recreate the erratic behavior.

If the problem no longer occurs, then you have a conflicting extension or control panel. Continue with the steps in the next section.

Turn On and Turn Off INITs in System Folder

Step 1

Using the Extensions Manager turn on your Extensions and Controls Panels a few at a time.

Step 2

Close the Extensions Manager, and restart the Macintosh.

Step 3

Attempt to recreate the original problem.

Repeat steps 1 through 3 for each item in the Extensions Manager until the problem reoccurs. One of the last items activated in the Extensions Manager is probably the cause of the problem.

Final Steps

Verify that your applications are performing normally. If not, refer to the application manual or contact the

vendor.

When the Macintosh behaves as expected, move the Previous System Folder to the Trash, and choose Empty Trash from the Special menu.

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Color LaserWriter 12/600 PS: Images Have Blue Tint

Why do all of my PhotoShop files that are converted to CMYK print with a bluish caste from the Color LaserWriter 12/600 PS printer? I have tried multiple versions of PhotoShop, but all have the same result.
This article has been archived and is no longer updated by Apple.
There could be a couple of reasons why you see a bluish caste.

* Photoshop uses it's own color space conversion when you convert images from RGB to CMYK. A better solution is to keep the image in RGB space, which allows ColorSync to use the input and output device profiles for conversion when printing an image.

* Components of the file are based on a different monitor profile. In other words, some of the images in the file may have been imported from another file that had a different input profile. If this is the case, the colors are not being mapped properly. The images should be imported using the current environment profiles, and then printed using ColorSync Color Matching.
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AppleShare 4.2.1: Questions and Answers

This article provides a series of questions and answers about AppleShare 4.2.1.
This article has been archived and is no longer updated by Apple.
Question: What is AppleShare?

Answer: AppleShare is high-performance, easy-to-use file and print sharing software that allows networked Macintosh and Microsoft Windows software-based computers to share files, applications, and printers.

Question: What is AppleShare 4.2.1?

Answer: AppleShare 4.2.1 is PowerPC native which supports NuBus-based Workgroup Servers or Power Macintosh computers with classic AppleTalk, and PCI-based Workgroup Servers or Power Macintosh computers with Open Transport 1.1. It provides an average performance improvement over AppleShare 4.1 of 111% for file transfers between clients and the server. However, much larger performance gains (as high as 352%) are experienced in multi-user database applications. These are applications where the database application runs on the client workstations and the shared database file resides on the AppleShare server.

AppleShare 4.2.1 supports up to four network segments simultaneously through Open Transport 1.1's multi-homing capabilities on PCI servers. AppleShare 4.2.1 also supports nearly ten times as many open files as AppleShare 4.1 (3000 instances of 346 unique files in 4.2 vs. 346 in 4.1) and increases the maximum number of concurrent users from 150 to 250.

It also includes a simple-to-manage block cache architecture that dynamically tunes itself for optimal performance. To set up the new cache, the administrator simply allocates a block of memory for the Mac OS and any server utilities (like Retrospect for nightly backups), and AppleShare 4.2.1 runs and caches data in the remaining memory. AppleGuide support in 4.2.1 also assists unfamiliar users, making it easier to:

* Set up Users & Groups
* Share volumes
* Set access privileges
* Configure printing

Question: How does AppleShare 4.2.1 differ from AppleShare 4.2?

Answer: AppleShare 4.2.1 adds support for multi-homing with Open Transport 1.1 on PCI-based servers. The AppleShare file server bundle comes with a version of the Apple Remote Access (ARA) Multiport server which allows dial in connections. Out of the box, you can enable two dial in connections on the server's printer and modem ports. AppleShare 4.2.1 includes COPS Inc's COPS Talk for Windows 95 users. As of 8 May 1996, COPS Talk is not shipping in the AppleShare package. An insert in the box provides an (800) number to call to order the software. AppleShare 4.2.1 also addresses problems with access privileges and modification dates in the previous version.

Question: What do customers gain by running AppleShare native on PowerPC?

Answer: AppleShare 4.2.1 is PowerPC native and completely optimized to take advantage of PowerPC performance and scalability, so users get the familiar ease-of-use of previous versions and dramatically improved performance.

Question: How is AppleShare 4.2.1 being distributed?

Answer: AppleShare 4.2.1 is distributed with PowerPC Workgroup Servers and as an upgrade for the installed base of AppleShare 4.x users.

Question: Is AppleShare 4.2.1 compatible with Open Transport?

Answer: AppleShare 4.2.1 is compatible with Open Transport 1.1, which includes many AppleShare server-specific features like support for multiple concurrent sessions and 100 MB Ethernet performance tuning. Apple has not certified AppleShare 4.2.1 and Open Transport on NuBus-based Power*Macintosh computers and Workgroup Servers. Customers running AppleShare 4.2.1 on these systems should continue to use the "Classic" AppleTalk stack.

Question: What are the hardware requirements for AppleShare 4.2.1.

Answer: AppleShare 4.2.1 is designed and tested with PowerPC-based Workgroup Servers (WS) in mind, including both NuBus and PCI products. Therefore, AppleShare 4.2.1 is intended for the following Workgroup Servers:

WS 6150 and WS6150/66 running at least Mac O/S 7.5.1
WS 8150 and WS8150/110 running at least Mac O/S 7.5.1
WS 9150 and WS9150/120 running at least Mac O/S 7.5.1
WS 7250/120 running at least Mac O/S 7.5.3
WS 8550/132 running at least Mac O/S 7.5.3

Customers who purchased AppleShare 4.x when it was available as a stand alone product may upgrade to AppleShare 4.2.1 and run AppleShare on the following systems and receive support from Apple:

Power Macintosh 6100/60 running at least Mac O/S 7.5.1
Power Macintosh 6100/66 running at least Mac O/S 7.5.1
Power Macintosh 7100/66 running at least Mac O/S 7.5.1
Power Macintosh 7100/80 running at least Mac O/S 7.5.1
Power Macintosh 8100/80 running at least Mac O/S 7.5.1
Power Macintosh 8100/100 running at least Mac O/S 7.5.1

Power Macintosh 8100/110 running at least Mac O/S 7.5.1
Power Macintosh 7200/75 ** running at least Mac O/S 7.5.3
Power Macintosh 7200/90 ** running at least Mac O/S 7.5.3
Power Macintosh 7200/120** running at least Mac O/S 7.5.3
Power Macintosh 7500/100 running at least Mac O/S 7.5.3
Power Macintosh 8500/120 running at least Mac O/S 7.5.3
Power Macintosh 8500/132 running at least Mac O/S 7.5.3
Power Macintosh 9500/120 running at least Mac O/S 7.5.3
Power Macintosh 9500/132 running at least Mac O/S 7.5.3

Question: Does AppleShare 4.2.1 require the AppleShare client software to be upgraded in order to experience the improved performance?

Answer: It is not necessary for customers to upgrade their AppleShare client to get the performance benefits of 4.2.1 on a server. The dramatic performance increases are due to additional server features like dynamic caching and PowerPC native code.

However, on a client workstation, if a customer is using AppleShare Workstation software prior to v3.6.1, Apple recommends that customers install the latest version of the AppleShare client software. AppleShare Workstation 3.6.2, when running with Mac OS System 7.5.1 or later, will significantly improve the performance of any AFP server on the client. Macintosh clients will notice greatly improved performance when copying large files in the Finder. AppleShare Workstation 3.6.2 in conjunction with System 7.5.3 allows users to set and change passwords with the Alias Manager.

Question: Can customers with AppleShare Pro, which runs on the Apple Workgroup Server (AWS) 95 with A/UX upgrade to AppleShare 4.2.1?

Answer: Because AppleShare 4.2.1 is no longer distributed, you may upgrade to AppleShare IP. Additional information can be found at **http://www.apple.com/applesharеip/text/purchasing.html**

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PowerShare 1.1: What Is New (10/95)

What's new in PowerShare 1.1?
This article has been archived and is no longer updated by Apple.
PowerShare 1.1 includes better support for Internet-style addresses, including the ability to import Internet addresses from a text file into the PowerShare catalog. PowerShare 1.1 allows administrators to import more types of data directly into the PowerShare catalog, improved performance in message routing and more information in the log windows. All of these features make PowerShare 1.1 easier to support and easier to integrate into an SMTP-based environment.

The PowerShare 1.1 box also includes the Apple Migration Tool for Microsoft Mail which will transfer user-account information from a Microsoft Mail for AppleTalk Networks server to a PowerShare system. Apple has also bundled a demonstration version of the StarNine Internet gateway for PowerShare.

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PowerShare 1.1 & 1.0 Servers Compatibility (10/95)

Are PowerShare 1.1 servers and PowerShare 1.0 servers compatible?
This article has been archived and is no longer updated by Apple.
PowerShare 1.0 and 1.1 servers work together seamlessly. It is possible to combine both revisions of the server software in the same PowerShare system. This makes upgrading significantly easier since not all servers need to be upgraded simultaneously.

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AppleShare Client for Windows: Difference 1.0 to 1.0.2)

How is AppleShare Client for Windows 1.0.2 version different from 1.0?
This article has been archived and is no longer updated by Apple.
The AppleShare Client for Windows 1.0.2 differs from the 1.0 product in several ways. Version 1.0.2 supports LocalTalk and Token Ring networks, in addition to Ethernet networks that were supported in version 1.0. Version 1.0.2 also supports PCs with a PCI bus and includes an updated installer that is much easier.

Additionally, version 1.0.2 supports double-byte languages, enabling it to be localized in Japanese, Korean and Chinese. Version 1.0.2 also allows rapid multiple print jobs and large (10 MB+) print jobs to print reliably and addresses a problem with Cisco router compatibility.
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AppleShare Client for Windows 1.0.2: Incompatible w/Windows 95

This article discusses AppleShare Client for Windows 1.0.2 and Windows 95 compatibility?
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AppleShare Client for Windows 1.0.2 is not compatible with Windows 95.

There are third party vendor products that provide connectivity to LocalTalk, Ethernet or Token Ring networks.

Personal MacLAN Connect by Miramar Systems, runs on Windows 3.1x and Windows 95. COPSTalk for Windows, by COPS, Inc., runs on Windows 3.x and Windows 95.

Note: This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

The article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.
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Color LaserWriter 12/600 PS: Setting Parallel Port Back to TBCP

How do I use the Apple Printer Utility for Windows to set the parallel port on the Apple Color LaserWriter 12/600 PS back to TBCP mode? I used the configuration switch on the printer to set it to factory default settings, but the parallel port is now set to Normal instead of TBCP.
This article has been archived and is no longer updated by Apple.
On the Apple Color LaserWriter 12/600 PS, the default protocol for parallel communications is TBCP (binary). However, when the configuration switch is used to restore the factory defaults, the protocol gets changed to Normal (ASCII). Follow these steps to change parallel communications back to TBCP mode:

1. Make sure the configuration switch on the back of the printer is set to the right.
2. Open the Apple LaserWriter Software group in Program Manager.
3. Open the Apple Printer Utility for Windows.
4. Choose 'Select' from the File menu.
5. Under Printer Connection Types, select Parallel.
6. Click on 'Open Printer'.
7. Check the box for Communication Configuration.
8. Check the box for Port Configuration.
9. Go to the Parallel Port section and open the pop down list for Protocol.
10. Select TBCP from the pop down list that appears.
11. Click on 'Send' to update the printer configuration.

Parallel port communications will now be set to TBCP.
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Personal LW SC: Use Regular Tray W/ Desktop Printing (10/95)

Article Reviewed/Updated: 19 October 1995

When printing using the manual feed option on the Personal LaserWriter SC with desktop printing enabled, the computer bombs with a bus error. This does not happen with desktop printing disabled. How can I correct this?
This article has been archived and is no longer updated by Apple.
There is a conflict between the Desktop PrintMonitor and the Personal LaserWriter SC driver. When printing using the manual feed, the bus error occurs. This conflict occurs with both Desktop PrintMonitor versions 1.0.1 and 1.0.3.

The problem is related to the method that the drivers use to communicate with the printers during certain functions. The solution has been identified by engineering and is scheduled to be fixed in the next revision of the Desktop Printing software.

The present workaround is to use the regular paper tray, and not manual feed.

Article Change History:
19 Oct 1995 - Reviewed for technical accuracy.

Support Information Services
Published Date: Feb 19, 2012

Differences Between AppleTalk v58.1.5 and v58.1.6 (1/96)

What are the changes made from AppleTalk v58.1.5, distributed on the Network Software Installer (NSI) 1.5.1, to AppleTalk v58.1.6, shipped on the PowerBook 5300 series computers?

This article has been archived and is no longer updated by Apple.

The change to AppleTalk v58.1.6 was needed to implement built-in infrared technology (IRTalk). If the version number for AppleTalk had not been revised with the PowerBook 5300 Series computers, then running NSI 1.5.1 would over write the IRTalk changes. So by changing AppleTalk to v58.1.6, even if a user does run NSI 1.5.1, the AppleTalk resources will not be written over because the version pre-installed on the PowerBook is newer than the one on the NSI 1.5.1 disk.

Article Change History:
12 Jan 1996 - Revised for clarity.

Support Information Services
Published Date: Feb 19, 2012

MAE 2.0: Limited to 2 GB Volumes (10/95)

Is there a limitation on the volume size that MAE supports?
This article has been archived and is no longer updated by Apple.
Yes, MAE is based on System 7.1, which is limited to 2 GB volume sizes. Any partition cannot exceed 2 GB when using MAE, or else you will receive Disk Full error messages when trying to save to that volume.

This has been reported to engineering, however, there is no known date or knowledge if MAE will function differently.

Support Information Services
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DOS Compatibility Card: System Memory Allocation

In the About This Macintosh box, something is causing the System Software line to report a large allocation of memory. The DOS Compatibility Card software is not even installed and I have started the computer with extensions off. What is wrong?
This article has been archived and is no longer updated by Apple.
The About This Macintosh box reports memory being shared with the DOS Compatibility Card on the System Software line along with the space taken up by normal system software. If the PC Setup control panel is not loaded, without first being turned off, the memory allocated to the DOS card will not be de-allocated and will still be reported as being used. Here are two workarounds that may clear this issue:

* Reload the PC Setup control panel and use the on/off option at the top of the control panel to turn off the DOS Compatibility Card. The System Software line will report the proper memory value after the computer is restarted.

* The Parameter RAM can be reset by holding down the Command-Option-P-R keys simultaneously at startup. This will also release the memory so the System Software line will report the proper memory value on startup.

Published Date: Feb 19, 2012

Color LaserWriter 12/600 PS: Maximum Imageable Area

This article provides information about the maximum printable area for the Color LaserWriter 12/600 PS printer.
This article has been archived and is no longer updated by Apple.
The imageable area on a page does not change with additional RAM in the Color LaserWriter 12/600 PS printer. The imageable area is defined in the PPD file for a specific printer. You can view the image values by opening the PPD file in a text editor or word processing application. Search through the text until you see the imageable areas defined. The formula to determine the imageable area is a little complicated, but here are the results.

Note: The results are posted in fractions of an inch and are rounded to the nearest 100th of an inch.

Imageable Areas
==========

Letter
---
left margin - .20
right margin - .20
top margin - .315
bottom margin - .20

Legal/US Legal:
---
left margin - .20
right margin -.20
top margin - .315
bottom margin - .20

A4:
---
left margin - .20
right margin - .20
top margin - .32
bottom margin - .20
Published Date: Feb 19, 2012

DOS Compatibility Card: Cannot Find PC Network Extension (10/95)

I get an error message when I try to run MS-DOS from my Power Macintosh DOS Compatibility Card. The error message occurs after MS-DOS gives up looking for the PC Network Extension, the error message reads "Cannot communicate with PC Network Extension". Why am I getting this message.

This article has been archived and is no longer updated by Apple.

The PC Network Extension is a required extension for any MS-DOS networking product to work properly. These messages occur if the PC Network Extension is not loaded. There are two common reasons why PC Network Extension will not load:

1) AppleTalk is inactive in Chooser.

Make sure that AppleTalk is active in Chooser. Turning AppleTalk inactive disables the networking capabilities of your computer. When AppleTalk is inactive, the PC Network Extension cannot load because it is not able to access the Ethernet port.

2) PC Network Extension is not installed.

Make sure that the PC Network Extension is located in your Extensions folder. The PC Network Extension must be in the Extensions folder at startup for it to load. If you cannot find PC Network Extension, it can be replaced by reinstalling the DOS Compatibility Card Installer Disk for Macintosh Environment.

Support Information Services
Published Date: Feb 19, 2012

QuickTime Conferencing: H.261 Compression Read Me File (10/95)

This article contains the ReadMe file about H.261 compression included with the QuickTime Conferencing software.
This article has been archived and is no longer updated by Apple.
About H.261 Compression

The H.261 QuickTime Component is a software-only realization of the H.261 video-conferencing compression standard. It allows bit rates of 64 Kbits/sec to 384 Kbits/sec of 352x288 pixels or smaller frames. It can be used to compress QuickTime movie files, as well as video input from cameras.

System requirements and installation

This version of H.261 QuickTime Component works only on Power Macintosh computers. (You cannot send video to a 68000ðbased Macintosh using this method of compression.) The frame rate is dependent on the processing speed of your computer.

The H.261 coder decoder (codec) is installed in the Extensions folder (within the System Folder) by the QuickTime Conferencing Installer.

You should allow 1 MB of extra random-access memory (RAM) for the codec in addition to the 3 MB recommended for the Apple Media Conference application program. (You might try quitting other application programs or reducing the memory of the programs you are running.)

Setting options

You set compression options in the Video Settings dialog box. From the Apple Media Conference application program, choose Video Settings from the Settings menu. Select Compression in the Video Settings dialog box, then select H.261 from the Compressor pop-up menu.

Setting Video Bandwidth:
To set video bandwidth, you use the Quality slider in the Video Settings dialog box. The bandwidth changes linearly from 64 Kbits/sec. with the Quality slider set at Least, to 384 Kbits/sec. with the Quality slider set at Most.

When you are communicating over low-bandwidth networks (for example, Internet or ISDN), you should set the Quality slider to Least or Low.

Setting Key Frames:
Key frames improve video integrity when communicating over unreliable or low-bandwidth networks (at the expense of reducing image quality). The Key Frame option is accessed by opening the Video Settings dialog box. When the Key Frame option is unchecked, key frames are sent continuously. You can reduce the frequency of key frames by clicking on the Key Frame checkbox and entering a new key frame frequency. We recommend that you start with key frames every 25 or more frames.

Tips and troubleshooting

Window Sizes:
The current codec supports window sizes up to 352x288 pixels. The codec operates fastest when the window size is less than 176x144 pixels (note: Normal Size is 160x120). For medium and large window sizes, set the Quality slider at Medium, High, or Most.

Dropped Frames and Ghosting Artifacts:
If frames are dropped by the network, "ghosting" artifacts (that is, pieces or moving edges left over from previous frames) will persist in the image until the next key frame. This problem should not persist for more than a few frames (that is, less than a second) with QuickTime Conferencing.

"Ghosting" artifacts occur when receiving computer is too busy to decode the frames, or if the bandwidth of the connection between computers is too small. Here are some ways to alleviate ghosting problems:

On the sending computer:
* Set the Quality slider to a lower setting.
* Make the Self View window smaller.
* Use a key frame every 15 frames.
* Select Thousands from the Depth pop-up menu in the Video Settings dialog box.

On the receiving computer:
* Set your monitor to use Thousands or Millions of colors.
* Click the caller's window to make it active, and choose Normal Size from the Window menu.

TA34569_QuickTime_Conferencing_H_Compression_Read_Me_File__(TIL18765).pdf

Support Information Services

Published Date: Feb 19, 2012

Share DOS Volume Between Power Macintosh DOS Computers

This article describes sharing a Macintosh folder on a Power Macintosh 6100 DOS Compatible computer to be seen as a shared DOS Drive on another Power Macintosh 6100 DOS Compatible computer.
This article has been archived and is no longer updated by Apple.
Yes, you can do what you describe by following the steps below to mount a shared DOS volume.

1. Create a folder on the desktop of the source Power Macintosh 6100 DOS Compatible computer, and map the folder to a drive letter using the Sharing option in the PC Setup control panel.

2. Use Macintosh personal file sharing to share the folder, created in Step 1, on the network. Also be sure your Users & Groups control panel has either the shared user, or everyone setup so the destination Macintosh can access the folder.

3. Mount the shared folder on the destination Power Macintosh 6100 DOS Compatible.

4. Map this shared folder, from Step 3, to a drive letter with the Sharing option of PC Setup control panel.

5. The same folder is now seen as a mounted drive in the respective DOS environments.

Note: The computers used to test this setup both had SIMMS installed on the DOS Compatibility Card. This lets the PC environment operate without sharing memory with the Macintosh environment.
Published Date: Feb 19, 2012

AppleVision 1710AV: Icons Rearranging

I have a Power Macintosh 7100/66AV, running System 7.5.1, and an AppleVision 1710AV display. On startup or restart the desktop will automatically rearrange all of the icons on the desktop in alphabetical order on the right side of the screen, as if I had chosen the "Clean up all" command from the Special menu.

I have found that leaving a Finder window open in icon view before restarting or shutting down, will alphabetically rearrange the icons in that window, instead of on the desktop. Is there a way to correct this problem?
This article has been archived and is no longer updated by Apple.
Workarounds

System 7.5

- Create a new empty folder in the Shutdown Items folder (in the System Folder). When the computer is shut down, the folder will open. At startup the Finder will try to rearrange the contents of the empty folder, not the icons on the desktop.*

System 7.5 or Earlier System Software

- Leave a Finder window open before restarting or shutting down. The icons in that window will be rearranged, instead of the ones on the desktop*.
- Use a sense code adapter. Doing this would force the Macintosh computer to recognize the AppleVision 1710AV display as a monitor with only one available resolution. For example, an adapter could be used to make the computer believe that the AppleVision 1710AV display was a 21-inch RGB display.

* Note: If you have any external volumes (hard drive, server, or other) that automatically mounts at startup, you will need to leave an empty open folder on the last mounting volume. If other volumes mount at startup after the empty window opens, the window will move to the background--and will not prevent reorganization.
Published Date: Feb 19, 2012

AppleLine: Connecting it to a Macintosh XL

This article has been archived and is no longer updated by Apple.
An AppleLine used with a Macintosh XL should be connected to the XL's serial port B; select Printer Port in the Capatibility dialog box (Settings menu).

The AppleLine document that accompanies MacTerminal should work in most connections. To create your own, select the following options in the Compatibility and Terminal dialog boxes (both in the Settings menu). Select: 3278, AppleLine, 9600 baud, 7 bits and even parity.

Use the standard Lisa/Macintosh XL to Imagewriter I cable (pn 590-0037) with a modem elimator cable (P/N 590-0029).
Published Date: Feb 19, 2012

LaserWriter Pro 810: EtherTalk and IP Address Issue

We have found that our LaserWriter Pro 810 could not be seen on an EtherTalk network until an IP address was assigned to it. Does an IP address have to be assigned even though we are not using TCP/IP?

One last question is how do you change the netmask for the printer?
This article has been archived and is no longer updated by Apple.
We haven't experienced this problem. In your case, it may just be that the port was disabled, and defining an IP address enabled it. If this problem occurs again, check the status of the port via the printer's control panel; take the printer offline, select the Input Port menu, then select Ethernet and check if it's enabled/disabled. Again, from our experience the following statement on page 2-1 of the "Network Installation and Configuration Manual" is true:

"If you are ABSOLUTELY sure that NO host on the network uses (and never will use) the TCP protocol, an IP address is not needed."

To set the netmask to 255.255.252.0, you can do this via RCF (the printers Remote Console Facility) with the following command:

define server subnet mask 255.255.252.0

NOTE: You must be in super user mode to execute this command. After getting into RCF with "access" as the default password, you can get into super user mode by typing su <cr>, and then the super user password which is "system".

Changes will take effect after the printer has been restarted.
Published Date: Feb 19, 2012

Color LaserWriter 12/600 PS: Windows Installer Runs Constantly

I installed the Windows software for the Color LaserWriter 12/600 PS. Now every time I restart Windows the computer comes up with a window titled 'Install PostScript Printer from PPD' that asks me to install another printer driver. Why does this happen and how can I make it stop doing this?
This article has been archived and is no longer updated by Apple.
Windows uses a text file in the WINDOWS directory called WIN.INI to hold certain settings about the Windows environment, including a line instructing the computer what software to automatically run on startup. This line starts with the text 'run='. Any program after the equal sign automatically runs when Windows starts up.

The installer for the Color LaserWriter 12/600 PS restarts Windows in the middle of the software installation. It puts the text '_PPDSTRT' at the end of the 'run=' line so the installer continues once Windows is restarted. When _PPDSTRT is run, it brings up the 'Install PostScript Printer from PPD' screen.

Normally, the installer removes '_PPDSTRT' from the 'run=' line when installation is complete. However, if there is anything else on the 'run=' line when the software is installed, the installer will not remove '_PPDSTRT' from this line and the 'Install PostScript Printer from PPD' screen appears every time Windows is restarted.

To correct this, remove the text '_PPDSTRT' from the 'run=' line in your WIN.INI file.
Published Date: Feb 19, 2012

PowerTalk: Mail*Link Internet For PowerTalk Read Me File (10/95)

This article contains the ReadMe file included with the Mail*Link Internet for PowerTalk gateway software posted online. This article has been archived and is no longer updated by Apple.
Mail*Link for PowerTalk/INET 1.6

Mail*Link Internet for PowerTalk is a personal gateway for PowerTalk users. This gateway will allow PowerTalk users to send mail via SMTP and receive mail from a POP3 account. Mail can be sent and read with any PowerTalk mail-enabled application.

This release of Mail*Link for PowerTalk/INET is the first release of this gateway by Apple Computer Inc. This gateway is functionally equivalent to version 1.5.1. Future versions of this software will be modified and enhanced.

This software is licensed to you under the Macintosh System 7.5 license agreement. All terms and conditions of this license must be followed.

Upgrade Note: If you are upgrading from version 1.5.1 or earlier it is VERY IMPORTANT that you follow the instructions in the Upgrading Section below.

The installation and upgrade procedure for this software will still install the StarNine demonstration key files (which were part of the 1.5.1 release). However the 1.6 release of the gateway has been modified to ignore the key files and thus will never expire.

It is required that you install and configure MacTCP before using this gateway. See the PT/INET User Guide for more information.

ITEMS OF NOTE
==========

OpenTransport users: This gateway does not function correctly when used with Apple's OpenTransport. The gateway will connect one time but will not reconnect without a reboot. Apple is currently investigating problem.

INSTALLATION INSTRUCTIONS
==========

For new installations only:

We recommend that you install this software via the installer script.

Step 1

Double click on either the "Installer" icon.

Step 2

Select the drive on which you wish to install this software and click Install.

Step 3

Reboot the system after the software has been properly installed.

UPGRADE INSTRUCTIONS
==========

If you are upgrading from a previous release of Mail*Link Internet for PowerTalk, you should follow these instructions:

Step 1

Install the software as instructed in the section "INSTALLATION INSTRUCTIONS".
Step 2

After the system has rebooted, open the "PowerTalk Key Chain".
Step 3

Open the PT/Internet personal gateway in the key chain.
The installation procedures change the file-id that PowerTalk uses to locate the Mail*Link PT/INET file. Opening and closing the PT/Internet Service configuration window will cause the new file-id to be written into the PowerTalk configuration file.

Step 4

Close the key chain. You will be told that you must reboot the system before PowerTalk will activate the gateway.

Step 5

Reboot the system.

If you have trouble with the gateway after upgrading please re-install by following the instructions in the Clean Upgrade Install section below.

CONFIGURATION
==========

Creating your PT/Internet personal gateway

Once you have installed the software and rebooted the system (as described above), follow these instructions to create your PT/Internet personal gateway.

Step 1

Open the "Key Chain" located on your desktop.

Step 2

Press the "Add" button.

Step 3

You will be presented with a list of services that are available. Select "PT/Internet".

Step 4

A new item with the server name of "Not Configured" and a service type of "PT/Internet" will appear in your "Key Chain".

Step 5

Proceed to the "Configuring" section below.

Configuring your PT/Internet personal gateway

To configure the PT/Internet personal gateway, ensure that the "Key Chain" has been opened.

Step 1

Double click (Open) the item with a service type of "PT/Internet". The PT/Internet personal gateway only allows one instantiation, so there should only be one item with this type in the Key Chain window.

Step 2

You should configure each item in this window before closing the window. Window closing is equivalent to pressing the "OK" button in a dialog. The "Key Chain" configuration windows have no "Cancel" operation, so please ensure each item is properly filled in before closing the window (you can always come back and change the selections at a later date, but it is better if each item is properly filled in).

Step 3

To finalize configuration YOU MUST select the preferences button on open the PT/INET Preference dialog. Change any preferences you need to (it is not necessary to change any) and close the window.

Step 4

Once you have entered the information in the configuration window, close the window with a mouse click in the close box or by typing "<command>W". It may take a few seconds for the window to close. This is because PowerTalk is activating all of the personal gateway

subsystems and informing them of their new configuration. Be patient.

Step 5

Once the PT/Internet configuration window is closed, close the Key Chain window.

CLEAN UPGRADE INSTALLATION

Use this procedure if you are experiencing problems with the gateway software. You should not need to use this procedure for normal installs. To perform a "Clean Install" of the gateway software, use the following procedure.

NOTE: Some gateways may remove mail from your In Tray and Out Tray when they are reinstalled. Be sure to back up any items in your InTray and OutTray by dragging them to another folder on your hard drive.

NOTE: This will remove all services from your keychain, so be sure you have the passwords for these services handy. If you have personal gateways already installed, you will need to set them up again, so be sure you write down the setup information that is contained in each key, if necessary.

This procedure removes all "Mail*Link" gateways. If you have multiple
"Mail*Link" gateways installed, you will need to re-install each of the
gateways you want to use.

Step 1

Open the Extensions folder, located inside the System Folder. Find the
following item(s) and drag to the trash (note only the gateways you have installed will be in the Extensions folder):
Mail*Link PT/QM
Mail*Link PT/MS
Mail*Link PT/INET

Step 2

Open the Preferences folder, located inside your System Folder. Find the
following items and drag them to the trash.
StarNine (folder)
PowerTalk Setup Preferences
PowerTalk Startup Preferences

Step 3

Find the "Mail*Link Extras" folder, on the top level of your hard drive.
Drag this folder to the trash.

Step 4

Restart your machine. After you have restarted, choose "Empty Trash" from the Special menu.

Step 5

Double-click the installer for the desired software, and click Install at the Easy Install screen. After the installation is complete, your machine will restart. If you are installing more than one gateway, repeat this step for each gateway.

Step 6

Open the keychain and click "Add". Select the gateway from the list of choices. A new item will be added to the Key Chain. Open this key, and configure the gateway as you normally would. The gateway should now be functioning.

MANUAL INSTALLATION INSTRUCTIONS

The manual installation instructions are for advanced users who wish to build their own installation process or who wish to install only portions of this gateway. Installation using this process should be conducted only after you fully understand how to use your Macintosh, and how to configure and use PowerTalk gateways.

If you must install this version manually, please follow these instructions:

Step 1

Place the distribution diskette in the floppy drive.

Step 2

Open the folder named "Drop Contents on System Folder".

Step 3

Select all of the items in this folder and drag them onto the "System Folder" icon.

Step 4

You will be presented with a dialog box that indicates these files belong in special locations. Click "OK".

Step 5

Close the "Drop Contents on System Folder" folder.

Step 6

Open the folder named "Place Contents in Preferences Folder".

Step 7

Select all of the items in this folder and drag them into the "Preferences" folder (which is located within your "System Folder".

Step 8

If you are presented with a dialog indicating that you will be replacing existing files, click cancel. You should perform the "Automatic Installation" procedure (above).
Step 9

Reboot the system. This is necessary because some of the software installed is only activated at boot time.

Note: With version 1.6 it is no longer required to install the key files.

KNOWN INCOMPATIBILITIES

* When a mail message is forwarded, the name and address of the original sender are not preserved.

* CE Software's QM for AOCE may be used to send mail, although you must select the AppleMail format when sending the message. This application may NOT be used as the default mail reader. If it is selected, AppleMail will be used instead.

SUPPORT

If you need any additional help installing, configuring or using this gateway please call Apple Support at: 1 (800) SOS - APPL

(10/10/95)
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Support Information Services
Published Date: Feb 19, 2012

PowerTalk: Mail*Link PowerTalk to MS Mail Read Me File (10/95)

This article contains the ReadMe file included with the Mail*Link PT/MS for PowerTalk gateway software posted online. This article has been archived and is no longer updated by Apple.
Mail*Link for PowerTalk/MS 1.6

Mail*Link PT/MS for PowerTalk is a personal e-mail gateway for PowerTalk users. This gateway will allow PowerTalk users to send and receive mail into the StarNine Mail system or, as formerly known, Microsoft Mail for AppleTalk system. Mail can be sent and read with any PowerTalk mail-enabled application.

This release of Mail*Link for PowerTalk/MS is the first release of this gateway by Apple Computer Inc. This gateway is functionally equivalent to version 1.0.0. Future versions of this software will be modified and enhanced.

This software is licensed to you under the Macintosh System 7.5 license agreement. All terms and conditions of this license must be followed.

Note: If you are upgrading from version 1.0.0 it is VERY IMPORTANT that you follow the instructions in the Upgrading Section below.

The installation and upgrade procedure for this software will still install the StarNine demonstration key files (which were part of the 1.0.0 release). However the 1.6 release of the gateway has been modified to ignore the key files and thus will never expire.

To use the PT/MS gateway you must have the Microsoft Mail Extension installed in the Extensions folder of your System folder. The Microsoft Mail Extension is part of Microsoft Mail for AppleTalk. Please refer to the PT/MS User Guide for more information.

ITEMS OF NOTE
==========

* Power PC: If you are using a Power PC, turn off the modern memory manager before installing PT/MS. After you have completed the gateway configuration described in Chapter 2 and are sure that the gateway is working properly, turn the modern memory manager back on. See "Power PC issues" on page 52 of the manual for related information.

* Gateway Operation: When you activate the PT/MS gateway, it uses the MS Mail extension to log in to the MS Mail Server specified in the Key Chain configuration window. It then sends pending mail from your Out Tray to the Server and transfers mail from your account on the Server to your PowerTalk In Tray at regular specified intervals until you deactivate the gateway or turn off your Macintosh. This process all takes place in background. While the MS Mail extension is actively communicating with the MS Mail Server, your Macintosh is temporarily unavailable for other tasks. This translates into slight freezes from time to time as you are going about your normal tasks as PT/MS logs into the server, with more significant hangups lasting a couple of seconds during large file transfers between the local disk and MS Mail Server. If the MS Mail Server is on a physically remote network or a large, busy network, the process of logging in to the Server will take longer. Increasing the interval at which you contact the MS Mail Server will mitigate hangups (An interval less than three or four minutes will hang your machine up in continual PowerTalk processing leaving no time for your machine to do anything else. We recommend a connection interval of at least five minutes).

INSTALLATION INSTRUCTIONS
==========

For new installations only:

We recommend that you install this software via the installer script.

Step 1

Double click on either the "Installer" icon.

Step 2

Select the drive on which you wish to install this software and click Install.

Step 3

Reboot the system after the software has been properly installed.

UPGRADE INSTRUCTIONS
==========

If you are upgrading from a previous release of Mail*Link PT/MS for PowerTalk, you should follow these instructions:

Step 1

Install the software as instructed in the section "GETTING STARTED - Installing Mail*Link PT/MS".

Step 2

After the system has rebooted, open the "PowerTalk Key Chain".

Step 3

Open the PT/MS personal gateway in the key chain.
The installation procedures change the file-id that PowerTalk uses to locate the Mail*Link PT/MS file. Opening and closing the PT/MS Service configuration window will cause the new file-id to be written into the PowerTalk configuration file.
Step 4

Close the key chain.
You will be told that you must reboot the system before PowerTalk will activate the gateway.
Step 5

Reboot the system.

If you have trouble with the gateway after upgrading please re-install by following the instructions in the Clean Upgrade Install section below.

CONFIGURATION
==========

Creating your PT/MS personal gateway

Once you have installed the software and rebooted the system (as described above), follow these instructions to create your PT/MS personal gateway.

Step 1

Open the "Key Chain" located on your desktop.

Step 2

Press the "Add" button.

Step 3

You will be presented with a list of services that are available. Select "Microsoft Mail Service".

Step 4

A new item with the server name of "Not Configured" and a service type of "Microsoft Mail Service" will appear in your "Key Chain".

Step 5

Proceed to the "Configuring" section below.

Configuring your PT/MS personal gateway

Before configuring, make sure that you have selected your MS Mail server in the Chooser. If you do not select this the PT/MS gateway will not be able to connect.

To configure the PT/MS personal gateway, ensure that the "Key Chain" has been opened.

Step 1

Double click (Open) the item with a service type of "Microsoft Mail Service". The PT/MS personal gateway only allows one instantiation, so there should only be one item with this type in the Key Chain window.

Step 2

A configuration window will be displayed. You should configure each item in this window before closing the window. Window closing is equivalent to pressing the "OK" button in a dialog. The "Key Chain" configuration windows have no "Cancel" operation, so please ensure each item is properly filled in before closing the window (you can always come back and change the selections at a later date, but it is better if each item is properly filled in).

Step 3

Once you have entered the information in the configuration window, close the window with a mouse click in the close box or by typing "<command>W". It may take a few seconds for the window to close. This is because PowerTalk is activating all of the personal gateway subsystems and informing them of their new configuration. Be patient.

Step 4

Once the PT/MS configuration window is closed, close the Key Chain window.

CLEAN UPGRADE INSTALLATION

Use this procedure if you are experiencing problems with the gateway software. You should not need to use this procedure for normal installs. To perform a "Clean Install" of the gateway software, use the following procedure.

NOTE: Some gateways may remove mail from your In Tray and Out Tray when they are reinstalled. Be sure to back up any items in your InTray and OutTray by dragging them to another folder on your hard drive.

NOTE: This will remove all services from your keychain, so be sure you have the passwords for these services handy. If you have personal gateways already installed, you will need to set them up again, so be sure you write down the setup information that is contained in each key, if necessary.

This procedure removes all "Mail*Link" gateways. If you have multiple "Mail*Link" gateways installed, you will need to re-install each of the gateways you want to use.

Step 1

Open the Extensions folder, located inside the System Folder. Find the following item(s) and drag to the trash (note only the gateways you have installed will be in the Extensions folder):
Mail*Link PT/QM
Mail*Link PT/MS
Mail*Link PT/INET

Step 2

Open the Preferences folder, located inside your System Folder. Find the following items and drag them to the trash.
StarNine (folder)
PowerTalk Setup Preferences
PowerTalk Startup Preferences

Step 3

Find the "Mail*Link Extras" folder, on the top level of your hard drive. Drag this folder to the trash.

Step 4

Restart your machine. After you have restarted, choose "Empty Trash" from the Special menu.

Step 5

Double-click the installer for the desired software, and click Install at

the Easy Install screen. After the installation is complete, your machine will restart. If you are installing more than one gateway, repeat this step for each gateway.

Step 6

Open the keychain and click "Add". Select the gateway from the list of choices. A new item will be added to the Key Chain. Open this key, and configure the gateway as you normally would. The gateway should now be functioning.

MANUAL INSTALLATION INSTRUCTIONS

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Step 3

Select all of the items in this folder and drag them onto the "System Folder" icon.

Step 4

You will be presented with a dialog box that indicates these files belong in special locations. Click "OK".

Step 5

Close the "Drop Contents on System Folder" folder.

Step 6

Open the folder named "Place Contents in Preferences Folder".

Step 7

Select all of the items in this folder and drag them into the "Preferences" folder (which is located within your "System Folder".

Step 8

If you are presented with a dialog indicating that you will be replacing existing files, click cancel. You should perform the "Automatic Installation" procedure (above).

Step 9

Reboot the system. This is necessary because some of the software installed is only activated at boot time.

Note: With version 1.6 it is no longer required to install the key files.

KNOWN INCOMPATIBILITIES

* PT/MS and MailSwitch: Running the MS Mail MailSwitch utility simultaneous with gateway operation has been reported producing odd behavior, particularly, PT/MS reports a -1981 error in its log on a mail message send. A restart should cure the confusion.

* PT/MS and RAM-Doubler: There have been some reports of inconsistencies running PowerTalk and PMSAMs with RAM-Doubler.

* When a mail message is forwarded, the name and address of the original sender are not preserved.

* CE Software's QM for AOCE may be used to send mail, although you must select the AppleMail format when sending the message. This application may NOT be used as the default mail reader. If it is selected, AppleMail will be used instead.

SUPPORT
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If you need any additional help installing, configuring or using this gateway please call Apple Support at: 1 (800) SOS - APPL

(10/10/95)
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Support Information Services
Published Date: Feb 19, 2012

PowerTalk: Mail*Link QuickMail to PowerTalk Read Me File (10/95)

This article contains the ReadMe file included with the Mail*Link for PowerTalk/QM gateway software posted online.
This article has been archived and is no longer updated by Apple.
Mail*Link for PowerTalk/QM 1.6

This is a personal gateway for PowerTalk users. This gateway will allow PowerTalk users to send and receive mail from their QuickMail accounts without having to login to QuickMail and use the QuickMail DA. Mail can be sent and read with your favorite PowerTalk mail enabled application.

This release of Mail*Link for PowerTalk/QM is the first release of this gateway by Apple Computer Inc. This gateway is functionally equivalent to version 1.0.5. Future versions of this software will be modified and enhanced.

This software is licensed to you under the Macintosh System 7.5 license agreement. All terms and conditions of this license must be followed.

Note: If you are upgrading from version 1.0.5 or earlier it is VERY IMPORTANT that you follow the instructions in the Upgrading Section below.

The installation and upgrade procedure for this software will still install the StarNine demonstration key files (which were part of the 1.0.5 release). However the 1.6 release of the gateway has been modified to ignore the key files and thus will never expire.

INSTALLATION INSTRUCTIONS
==========

For new installations only:

We recommend that you install this software via the installer script.

Step 1

Double click on either the "Installer" icons.

Step 2

Select the drive on which you wish to install this software.

Step 3

Reboot the system after the software has been properly installed.

UPGRADE INSTRUCTIONS
==========

If you are upgrading from a previous release of Mail*Link PT/QM, you should follow these instructions:

Step 1

Install the software as instructed in the section "INSTALLATION INSTRUCTIONS".

Step 2

After the system has rebooted, open the "PowerTalk Key Chain".

Step 3

Open the QuickMail personal gateway in the key chain. The installation procedures change the file-id that PowerTalk uses to locate the Mail*Link PT/QM file. Opening and closing the QuickMail Service configuration window will cause the new file-id to be written into the PowerTalk configuration file.

Step 4

Close the key chain. You will be told that you must reboot the system before PowerTalk will activate the gateway.

Step 5

Reboot the system.

If you have trouble with the gateway after upgrading please re-install by following the instructions in the Clean Upgrade Install section below.

CONFIGURATION
==========

Creating your QuickMail personal gateway

Once you have installed the software and rebooted the system (as described above), follow these instructions to create your QuickMail personal gateway.

Step 1

Open the "Key Chain" located on your desktop.

Step 2

Press the "Add" button.

Step 3

You will be presented with a list of services that are available. Select "QuickMail".

Step 4

A new item with the server name of "Not Configured" and a service type of "QuickMail" will appear in your "Key Chain".

Step 5

Proceed to the "Configuring" section below.

Configuring your QuickMail personal gateway

To configure the QuickMail personal gateway, ensure that the "Key Chain" has been opened.

Step 1

You first need to select your QuickMail directory service. To do this: open the Chooser, choose QuickMessenger, select the directory service and close the Chooser.

Step 2

Double click (Open) the item with a service type of "QuickMail". The QuickMail personal gateway only allows one instantiation, so there should only be one item with this type in the Key Chain window.

Step 3

A configuration window will be displayed. You should configure each item in this window before closing the window. Window closing is equivalent to pressing the "OK" button in a dialog. The "Key Chain" configuration windows have no "Cancel" operation, so please ensure each item is properly filled in before closing the window (you can always come back and change the selections at a later date, but it is better if each item is properly filled in).

Step 4

Once you have entered the information in the configuration window, close the window with a mouse click in the close box or by typing "<command>W". It may take a few seconds for the window to close. This is because PowerTalk is activating all of the personal gateway subsystems and informing them of their new configuration. Be patient.

Step 5

Once the QuickMail configuration window is closed, close the Key Chain window.

CLEAN UPGRADE INSTALLATION

Use this procedure if you are experiencing problems with the gateway software. You should not need to use this procedure for normal installs. To perform a "Clean Install" of the gateway software, use the following procedure.

NOTE: Some gateways may remove mail from your In Tray and Out Tray when they are reinstalled. Be sure to back up any items in your InTray and OutTray by dragging them to another folder on your hard drive.

NOTE: This will remove all services from your keychain, so be sure you have the passwords for these services handy. If you have personal gateways already installed, you will need to set them up again, so be sure you write down the setup information that is contained in each key, if necessary.

This procedure removes all "Mail*Link" gateways. If you have multiple "Mail*Link" gateways installed, you will need to re-install each of the gateways you want to use.

Step 1

Open the Extensions folder, located inside the System Folder. Find the following item(s) and drag to the trash (note only the gateways you have installed will be in the Extensions folder):
Mail*Link PT/QM
Mail*Link PT/MS
Mail*Link PT/INET

Step 2

Open the Preferences folder, located inside your System Folder. Find the following items and drag them to the trash.
StarNine (folder)
PowerTalk Setup Preferences
PowerTalk Startup Preferences

Step 3

Find the "Mail*Link Extras" folder, on the top level of your hard drive. Drag this folder to the trash.

Step 4

Restart your machine. After you have restarted, choose "Empty Trash" from the Special menu.

Step 5

Double-click the installer for the desired software, and click Install at the Easy Install screen. After the installation is complete, your machine will restart. If you are installing more than one gateway, repeat this step for each gateway.

Step 6

Open the keychain and click "Add". Select the gateway from the list of choices. A new item will be added to the Key Chain. Open this key, and configure the gateway as you normally would. The gateway should now be functioning.

MANUAL INSTALLATION INSTRUCTIONS

The manual installation instructions are for advanced users who wish to build their own installation process or who wish to install only portions of this gateway. Installation using this process should be conducted only after you fully understand how to use your Macintosh, and how to configure and use PowerTalk gateways.

If you must install this version manually, please follow these instructions:

Step 1

Place the distribution diskette in the floppy drive.

Step 2

Open the folder named "Drop Contents on System Folder".

Step 3

Select all of the items in this folder and drag them onto the "System Folder" icon.

Step 4

You will be presented with a dialog box that indicates these files belong in special locations. Click "OK".

Step 5

Close the "Drop Contents on System Folder" folder.

Step 6

Open the folder named "Place Contents in Preferences Folder".

Step 7

Select all of the items in this folder and drag them into the "Preferences" folder (which is located within your "System Folder".

Step 8

If you are presented with a dialog indicating that you will be replacing existing files, click cancel. You should perform the "Automatic Installation" procedure (above).

Step 9

Reboot the system. This is necessary because some of the software installed is only activated at boot time.

Note: With version 1.6 it is no longer required to install the key files.

KNOWN INCOMPATIBILITIES

* When forwarding a mail message, the name and address of the original sender of the message is not preserved.

* When forwarding a message, the form content of the forwarded message is lost unless you type at least 1 character into the forwarded message.

SUPPORT

If you need any additional help installing, configuring or using this gateway please call Apple Support at: 1 (800) SOS - APPL

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Support Information Services
Published Date: Feb 19, 2012

Pantone for AppleVision: Read Me File (10/95)

This article contains the ReadMe file included with the Pantone color picker module for the AppleVision 1710 AV display posted online.
This article has been archived and is no longer updated by Apple.
PANTONE Color Picker for the AppleVision Color Display

The PANTONE Color Picker consists of a self contained Macintosh system extension. This extension is an extensible color picker module which displays calibrated PANTONE Colors from the PANTONE MATCHING SYSTEM. It will display the PANTONE Colors in three modes:

PANTONE MATCHING SYSTEM - As printed as a spot ink on a coated paper stock PANTONE MATCHING SYSTEM - As printed as a spot ink on uncoated paper stock PANTONE MATCHING SYSTEM - As reproduced in four-color process ("Spot to Process")

System requirements are: ColorSync 2.0 Apple Color Picker Extension ICC/ColorSync 2.0 Monitor profiles

Installation

Assuming you have ColorSync 2.0 and the Apple Color Picker extensions installed on your Macintosh, copy the PANTONE Color Picker extension into the Extensions folder within your System Folder. Then copy the ColorSync/ICC source profile into your ColorSync Profiles folder inside the Preferences folder. The source profile is named Pantone XYZ Source Profile and ensures that the purest PANTONE Color information is processed by ColorSync and your new AppleVision monitor.

Restart your Macintosh prior to using the Color Picker.

How to load the PANTONE Color Picker

You can use the PANTONE Color Picker anytime the built-in Macintosh Color Picker is called by software running on your Macintosh. When the Color Picker is called, a dialog box such as the one shown below will appear.

When you exit the dialog box by clicking the OK button, the color value you selected is returned to the calling application or utility.

Setting the Display Profile

You will need to tell the PANTONE Color Picker what monitor profile you want to use. Select your monitor type in the pop-up list under Profile: You new AppleVision Color display ships with software which enables you to re calibrate you monitor at any time and create a current ColorSync profile. If you use this software, make sure you save the profile in the ColorSync Profiles folder prior to loading the Color Picker.

Selecting a PANTONE Color Mode

The PANTONE MATCHING SYSTEM is provided in three different flavors. You can obtain display simulations of PANTONE Colors as they would appear printed on Coated Paper, Uncoated Paper and as printed in four-color process on Coated stock. You will notice that the appearance of the colors change when you select each of the three modes.

Selecting a PANTONE Color

To choose a PANTONE Color you can type the number in the edit field below the horizontal scroll bar. Or you can simply scroll through the colors until you find one you like. Additionally, you can click on the vertical multi-colored bar on the right side of the PANTONE Color display to jump to a particular color range.

Computer Displays _ Additive Color Mixing

Additive color mixing is the basis for non-reflective sources such as computer monitors and televisions. Non-reflective sources are actually light sources, and each pixel on a color computer display is a separate light source.

Each pixel on a computer display is composed of three "cells," each of which is coated with a different type of phosphor. One type of phosphor emits bluish light when it is bombarded with electrons, one emits greenish light, and the third emits reddish light. In theory (though not quite in practice), each of these phospors operate independently of the others. The intensity of the light emitted by each phosphor more or less depends on the intensity of the electron beam bombarding it. The color of the pixel results by adding together the light emitted by each of these phosphors.

The relationship between the intensity of the beam and the light emitted by the phosphor is only approximate and indirect. This can cause real problems for those who wish to display accurate and repeatable colors.

A factor that can effect color accuracy on a monitor is called "gamma". Gamma occurs because the intensity of light emitted by the pixel phospors is not directly proportional to the number of electrons hitting them. Actually, the brightness emitted varies with a number that is between the square

of the number of electrons and the cube of that number. For example, the monitor has a gamma of 2.6. This means that the brightness of the light emitted by a phosphor on that monitor is proportional to the number of electrons hitting it raised to the 2.6 power.

In order to ensure consistent color reproduction, all video cards for Macintosh displays have "average gamma correction" tables stored on-board the card. If the monitor response is measured and recorded in such a table, the monitor will be able to consistently reproduce colors.

Color Gamuts
==========

Each set of color primaries (RGB, CMY) define a "color space" that includes all colors that can result from any combination of these primaries. The "color space," or "color gamut," may be quite different for different sets of primaries. Typically, a CMY color gamut falls inside (is smaller) a RGB color gamut, which means that the eye can detect (or a monitor can display) more colors than a printer can print. In other words, it is not possible to print some colors that can be photographed or displayed on a montior when using CMYK printing.

Some of the PANTONE Colors do not fall within the RGB color gamut for particular monitors because the primaries (or phosphors sets) are much more saturated than those that define the RGB gamut for particular phosphor sets. RGB color gamuts vary as well. For example, the color gamut for one monitor may be quite different from the color gamut for another, since the phosphor set that produces the RGB primaries, the gamma correction and other variables for the monitors may be different.

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Apple Writer versions 2.0 and 2.1: Differences from IIe version

This article has been archived and is no longer updated by Apple.
After Apple Writer for the IIe, Apple Writer versions 2.0 and 2.1 were released with the following additional features:

- ProDOS Operating System, which implies support for all ProDOS-supported storage devices.

- Terminal mode, which allows the user to connect the keyboard to a modem for telephone communications and sending and receiving files from remote computers/information services.

- fixes to miscellaneous problems

- a new, improved manual set

Published Date: Feb 19, 2012

PowerBook: Liquid Crystal Display Refresh Rates (11/95)

Article Reviewed/Updated: 7 November 1995

What are the refresh rates for the displays in the Macintosh PowerBook 5300, 2300, and 190 series computers (both Active and passive matrix, color and grayscale)? How does this compare to the display on my desktop system?
This article has been archived and is no longer updated by Apple.
This article provides general information on display refresh rates used in Macintosh PowerBook computers. However, it is difficult to compare Cathode Ray Tubes (CRTs), used with desktop Macintosh computers, to passive and active matrix Liquid Crystal Displays (LCDs), used in PowerBook computers, because it is an entirely different technology. To complicate things further, the two types of LCDs use two totally different technologies to create the image on the screen.

Active Matrix

Active matrix displays, also called Thin-Film Transistor (TFT), have transistors that are individually addressed and charged. The amount of time that it takes for the charge to diminish is somewhere around 20 milliseconds (ms). We currently use a refresh rate of 62Hz on all (color and grayscale) TFT displays which means that each row of pixels gets refreshed every 16ms.

Passive Matrix

Passive matrix displays, also called Film SuperTwisted Nematic (FSTN), are even better in that aspect. Once their pixels receive a charge, the time it takes for the pixel to lose its charge can be measured in seconds. In fact, the fastest time that the computer can turn a pixel off is over 60ms. The passive matrix screens use a refresh rate of 73Hz for grayscale passive matrix (MFSTN) displays and 79Hz for color passive matrix (CFSTN) displays, each row of pixels is refreshed every 12ms.

Article Change History:
07 Nov 1995 - Updated title for clarity.

Support Information Services
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ARA MultiPort Server 2.1 & 2.0 Differences

How does Apple Remote Access (ARA) MultiPort Server 2.1 differ from 2.0, and how will ARA MultiPort Server 2.1 affect 2.0 clients?
This article has been archived and is no longer updated by Apple.
Here are the differences:

* Software includes bug fixes for improved server stability
* New short NuBus serial card fits all Macintosh NuBus systems
* Lower price
* No longer supports X.25 connections

The ARA MultiPort Server 2.1 lets ARA 2.0 and 1.0 clients connect. Users will notice no difference when connecting.
Published Date: Feb 19, 2012

At Ease: Adding Application From Mounted Volume

Running an application from a file server other than the server acting as the At Ease Disk.
This article has been archived and is no longer updated by Apple.
You can run an application from a shared hard drive on your network without copying it to the client computer's hard drive or the At Ease Disk (if you are using a Workgroup version of At Ease).

Follow these steps:

Note: The steps in this article assume you know how to share a hard drive and set user access privileges. Search the Knowledge Base for System 7 and file sharing to locate additional information.

At Ease 1.0

1. While in the Macintosh Finder, under the Apple Menu, choose the Chooser. Click the AppleShare icon on the left side of the Chooser. Double-click the name of the shared hard drive on the right side of the Chooser which contains the program you want to run.
2. Type in your user name and password to mount the hard drive on your desktop.
3. You need to set access privileges for the users of this setup on the shared hard drive in order for them to mount the server. Each time a user of this setup clicks on the button to open the application you are adding, At Ease will bring up the standard AppleShare login dialog box before you now. You can create a 'generic' user and password or if security is not an issue, grant guest access to this folder.
4. Open the At Ease Setup control panel in the Control Panels folder of your System Folder.
5. Click the Select Items button.
6. Click the Desktop button in the Open Dialog box. Double-click the name of the mounted hard drive that appears in the window in the left side of the Open Dialog box. Click the Gather Applications... button.
7. A dialog box will appear telling you which applications are on the mounted hard drive that are not in At Ease. You will have the option to Add or Cancel. Click Add. You can remove any extra unwanted applications from the At Ease Items window by clicking each once and clicking Remove.
8. Click Done, close the At Ease setup window.

At Ease 2.0.3 and At Ease 3.0

1. While in the Macintosh Finder, under the Apple Menu, choose the Chooser. Click the AppleShare icon on the left side of the Chooser. Double-click the name of the shared hard drive on the right side of the Chooser which contains the program you want to run.
2. Type in your user name and password to mount the hard drive on your desktop.
Note: You need to set access privileges for the users of this setup on the shared hard drive in order for them to mount the server. Each time a user of this setup clicks on the button to open the application you are adding, At Ease will bring up the standard AppleShare login dialogue box before you now. You can create a 'generic' user and password or if security is not an issue, grant guest access to this folder.
3. Launch the At Ease Setup application.
4. Double click the Setup you would like to add the program to.
5. Click the Items icon to open the Items panel. Click the Add Applications button.
6. In the Add Applications screen, you will see a choice of applications on the left side. Click and hold the words after "Disk:" at the top left corner to see the pop-up menu.
7. Select the name of the mounted hard drive and release. At Ease will search for any applications on that volume.
8. Double-click the name of the program you want to add to the list of Items for This Setup on the right. Or, you can hold the shift key while single-clicking each application to select multiple items and then click the ">>Add>>" button. Repeat this process until you have added all the programs you want from the mounted volume.
9. Click the "OK" button and follow the rest of the steps as necessary to set up At Ease the way you like.

When you return to At Ease, you will see the button for the application you added in the At Ease panel. If you click the button and the hard drive is not already mounted, the login window appears prompting you to enter a user name and password or to connect as a guest.
Published Date: Feb 19, 2012

DOS Compatibility Card: Can‘t Quit PC Print Spooler (10/95)

I've had problems printing from the DOS environment of my Macintosh DOS Compatible computer, and now I can't get PC Print Spooler to quit. I can get nothing at all to print from the PC environment. What is wrong, and how can I remedy it?

This article has been archived and is no longer updated by Apple.

You may have a failed print job in your Spooler folder (the folder that holds queued print jobs from the PC environment). One failed print job can stop all jobs behind it from printing. In order to clear the Spooler folder, which will in turn stop the PC Print Spooler from being activated every time you start your Macintosh, follow the steps below:

Step 1
Start your Macintosh computer with extensions off by pressing the shift key. Keep pressing the shift key until the message, "Welcome to Macintosh. Extensions off." appears.

Step 2
Open the System Folder, open the Preferences folder, and locate the Spooler folder. Now throw the Spooler folder into the Trash and select the Empty Trash command from the Special menu.

Step 3
Restart your Macintosh computer. The next time a print job is sent from the PC environment, a new Spooler folder will be created, and your PC print jobs should now print normally.

Support Information Services
Published Date: Feb 19, 2012

DOS Compatibility Card: Resolutions, Colors in Windows (10/95)

I have a Power Macintosh 6100 DOS Compatible computer, with a 17-inch Multiple Scan Display. What video driver should I use to get 800x600 resolution at 16 colors in Windows? Also, can I get 256 colors at 800x600? How much video RAM is there on the DOS card?

This article has been archived and is no longer updated by Apple.

You should have already installed the Windows display drivers which are found on the floppy disk marked "Display Drivers" that came with your Macintosh DOS Compatible computer. If you have not, refer to page 39 of the "DOS Compatibility Card for Macintosh User's Guide," under the heading, Installing video drivers.

For 800x600 resolution at 16 colors on a 15-inch or 17-inch display, you should select the "* CHIPS 450 VGA 800x600 16 color" driver in the windows SETUP program. In the Macintosh environment, select the 832x624 resolution in the Monitors control panel. In the PC Setup control panel, under the display heading, select VGA or 16-inch. These selections will give you different results, so try both and use the one that works best for you.

The DOS Compatibility Card has 512K of video RAM. Therefore, 640x480 at 16 or 256 colors, or 800x600 at 16 colors are the only supported resolution and color depth combinations.

Support Information Services
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DOS Compatibility Card: To Find Novell Client Software (10/95)

I need the Novell client software in order to set up a Ethernet-based network configuration, in the PC environment of my Power Macintosh 6100 DOS Compatible computer. How much does it cost, and where can I get it?

This article has been archived and is no longer updated by Apple.

Novell's server software is a retail item, but the Netware client packages are available via anonymous ftp from ftp.novell.com. The DOS/Windows client software can be found in /pub/updates/nwos/dsclnt12/. The DOS client software consists of 5 self-extracting executable files: VLMKT1.EXE, VLMKT2.EXE, VLMKT3.EXE, VLMKT4.EXE, and VLMKT5.EXE.

Support Information Services
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ImageWriter II: Auto-skipping the perforation

How can I skip the page perforation automatically while using an ImageWriter II?
This article has been archived and is no longer updated by Apple.
There are two ways to automatically skip the page perforation on the ImageWriter II. The first way turns auto perforation skip off and on for a standard size page:

--To turn auto perforation skip on, type:

```
PRINT CHR$(27);"Z";CHR$(0);CHR$(4)
```

--To turn it off, type:

```
PRINT CHR$(27);"D";CHR$(0);CHR$(4)
```

The second way affords you the benefit of being able to place the auto perforation skip anywhere you wish, allowing you to use shorter paper. For instance, if you have a nine-line page and wish the ImageWriter to print seven lines and then skip two, you would type:

```
PRINT CHR$(29);"A@@@@@@@@@@@C@@@@@A@";CHR(30)
```

This second, more powerful way is described in seven pages of the ImageWriter II technical reference manual.

NOTE: The second method also works for the regular ImageWriter.
Published Date: Feb 19, 2012

QuickTime Conferencing: Modems Aren't Supported (3/96)

Can I use QuickTime Conferencing from home through my modem?
This article has been archived and is no longer updated by Apple.
Currently QuickTime Conferencing does not support dial-up (modem) connections. You need either an ISDN card, or other direct connection method to use QuickTime Conferencing. ISDN modems using a PPP/TCP/IP connection are also not supported.

This article was published in the Information Alley on 29 March 1996.

Article Change History:
29 Mar 1996 - Added information about ISDN modems not being supported.

Published Date: Feb 19, 2012

PowerBook 5300: Disk Tools Contains Old Enabler (1/96)

My computer is having problems charging the battery. I thought it might be software, so I turned off my computer and placed the Disk Tools Disk into the computer. Then I restarted so the System folder on the Disk Tools was used. However, the battery is still not charging, what's wrong?

This article has been archived and is no longer updated by Apple.

Starting up from the Disk Tools disk is not always a good test. The Disk Tools disk only contains version 1.0.1 of the Powerbook 5300 enabler. This version of the enabler is not capable of charging Nickel Metal Hydride (NiMH) batteries only Lithium Ion (LiIon) batteries. Since the PowerBook 5300 Series computers have a NiMH batery, it doesn't get charged.

Because of disk space limitations, version enabler v1.0.1 is on the Disk Tools disk. To properly charge the NiMH battery, you must start from the system folder on your hard disk.

The PowerBook 5300 series computers ship with Nickle Metal Hydride (NiMh) batteries. For these batteries to work properly the Battery Enabler needs to be installed. Without this software the battery will appear to not be recognized by the computer.

A quick way to check for the existence of the enabler is to look in the "About this Macintosh" window in the Apple menu. The System software version should say "System Enabler 1.0.8". If it does not, the correct enabler software is not installed.

These articles can help you locate the software update mentioned here:

* Where To Find Apple Software Updates
Lists online services for "free" Apple software updates.

* Obtaining Apple Product Support in the USA
Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech. Info. Library.

Article Change History:
05 Feb 1996 - Added information about correct version needed.

Support Information Services

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Telecom 2.3: Fax for PC Card Modems Read Me Error & Info (2/97)

The Telecom 2.3 Fax for PC Card Modems ReadMe incorrectly states that the TDK-DF2814 model has been tested for compatibility. The Read Me file also does not give much information about the PC Cards mentioned as being tested.

This article has been archived and is no longer updated by Apple.

The following is an excerpt from the Telecom Software 2.3: Fax for PC Card Modems Read Me file:

"The Apple Telecom software should be compatible with most fax class 2 compatible PC Card modems. The software has been specifically tested for compatibility with the cards listed below:

* COM1-MC217 and MC218 models.
* PNB-Danube V32bis and Danube V34 models.
* TDK-DF2814 model."

Corrections to and Clarifications for the Read Me File
==========

CORRECTION
---

* TDK-DF2814

TDK reports that their TDK-DF2814 PC card modem is class 1 and NOT class 2. Users have reported, when configuring Fax Terminal by selecting Select Auto Answer, quitting Fax Terminal and then re-launching it; they receive an error message that the modem is not a Class II modem.

Users can, however, use the TDK-DF2814 modem for data without problem. This has been verified with some data communications-based products.

CLARIFICATIONS
---

* COM1-MC217 and MC218

The MC217 and MC218 cards are made by a company called COM One. The MC217 is a 14.4 kbps data/fax PC card and the MC218 is a 28.8 kbps data/ 14.4 kbps fax PC Card. An update is available on the COM One web page for the MC218 which upgrades it to a 33.6 kbps data modem.

* PNB-Danube V32bis and Danube V34

The PNB-Danube cards were made by a company called P.N.B. in Suresnes, France. The Danube V32bis is a 14.4 kbps data/fax card and the Danube V34 is a 28.8 kbps data/ 14.4 kbps fax card.

In 1993 US Robotics acquired 100 percent of the common stock of Suresnes, France-based P.N.B. s.a., a designer and manufacturer of data communications products for IBM-compatible personal computers and workstations and a leading international supplier of products for portable computers.

For more information about these cards, you should contact US Robotics' French division, U.S. Robotics s.a., in Villeneuve dıAscq, France.

Note: This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.

Article Change History:

TA34592_Telecom_Fax_for_PC_Card_Modems_Read_Me_Error_Info__(TIL18793).pdf

11 Feb 1997 - Added clarifications info.

Published Date: Feb 19, 2012

PowerBook 100: Use Apple HD SC Setup 7.3.2 or Later (10/95)

I am trying to reinitialize the hard drive in my PowerBook 100 using the Apple HD SC Setup utility on the original Disk Tools disk that came with my computer. Each time I try, I get an error ID=02. What is wrong?

This article has been archived and is no longer updated by Apple.

This was an issue with the version of Apple HD SC Setup included with your PowerBook 100 computer. This was fixed with Apple HD SC Setup version 7.3.2 which first shipped with System 7.5. This version is available from online services.

These articles can help you locate Apple HD SC Setup:

* "Where To Find Apple Software Updates" -- Lists online services for free Apple software updates.

* "Obtaining Apple Product Support in the USA" -- Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech Info Library.

Support Information Services
Published Date: Feb 19, 2012

Apple HD SC Setup: Does it Support "Blind Transfers"? (11/95)

Article Reviewed/Updated: 9 November 1995

What are blind transfers and what are the results of having a disk formatted using them as opposed to not using them? I recently added a Daystar PowerPro 601 upgrade card to my Quadra 800 and the documentation reccomended turning off blind transfers. Does Apple HD SC Setup use blind transfers?
This article has been archived and is no longer updated by Apple.
Blind transfers refer to the way data is transferred to the hard drive by the driver. In drive formatting software that supports turning this option on or off, a different version of the driver is written to the driver partition.

If blind transfers are not enabled, polled transfers are used. Polled transfers are used with slow SCSI devices or SCSI devices attached to older Macintosh computers. Older, in this case, means the Macintosh SE and Macintosh Plus. In polled transfer mode, the SCSI Manager polls the SCSI controller to see if there is data to be read before reading or that the last set of data was written before sending the next set. This is the safest method for performing reads and writes.

When using blind transfers, SCSI Manager assumes the data can be written to or read from the drive as fast as SCSI Manager can read it. If a slow drive is used, there is the potential for data corruption due to timing problems. If the drive cannot write the data fast enough, data will be lost due to overflow of data buffers. If the drive cannot supply data fast enough during a read, SCSI Manager will be reading erroneous information out of the controller because the data has not arrived yet. Blind transfers can significantly improve the speed of SCSI throughput.

Apple HD SC Setup determines whether or not to install the driver which uses blind transfers based on the computer the drive is attached to when it is formatted. Apple HD SC Setup only turns off blind transfers on drives formatted while connected to the Macintosh SE or Macintosh Plus.

Article Change History:
09 Nov 1995 - Corrected minor typo.

Support Information Services
Published Date: Feb 19, 2012

Document Convertor 1.0.4: Read Me File (10/95)

This article contains the ReadMe file included with the Document Convertor software version 1.0.4.
This article has been archived and is no longer updated by Apple.

```
What is it?
===========
Macintosh Easy Open is a system extension from Apple Computer that works with MacLinkPlus/Easy Open
Translators to deliver file translation as transparently as possible.  Together, they allow you to open a file
when you don't have the application that created it (see end of document for list of file translators included
with MacLinkPlus).

The Macintosh Easy Open system extension also includes a "Document Converter."  This is a mini-application
that can be set up to translate files into different application formats by dragging files on top of it.


Installation
============
Macintosh Easy Open should already be installed with your system.  There are several components in Macintosh
Easy Open and the Document Converter which are installed different places:

Macintosh Easy Open...Extensions folder in the System folder
Macintosh Easy Open Setup...Control Panels folder in the System folder
MacLinkPlus for Easy Open...Extensions folder in the System folder
Document Converter... MacLinkPlus folder


What does it do?
================
Macintosh Easy Open operates behind the scenes to provide three services.

Translation Management
----------------------
Macintosh Easy Open intervenes in situations when no application takes responsibility for creating a file.

When you double-click on a file that doesn't have an "owner" (the application that created that file),
Macintosh Easy Open will present you with all the applications on your hard drive that can open that file,
either with their own internal translation capabilities, or with the help of an external translation system,
such as MacLinkPlus.  You simply need to select an application from the list, then click the "Open" button.
 If the application was listed "with MacLinkPlus translation", MacLinkPlus will convert the file into that
application's format.

Once the file is translated, the application that was selected launches and opens the file.  Macintosh Easy
Open stores your "choice" as a preference.  The next time you double-click on another file of the same format
(for example, WordPerfect PC), your preference will be highlighted in the Macintosh Easy Open dialog.

Note:  The dialog box (above) appears whether you double-click on a "foreign" file, drag the file on an
application or choose "File: Open".


Descriptive "Kind" Information
------------------------------
Macintosh Easy Open adds new, more descriptive file information to your Macintosh.  Rather than seeing every
file described as "document", you will see more descriptive information - regardless of the applications that
reside on your Mac.


Enhanced "Open" Dialog
----------------------
Macintosh Easy Open lists all files or documents you can open when you are working in an application program.
 It also adds larger icons to files.


Document Converter
```

==========

Macintosh Easy Open provides a capability through its Document Converter to drag-and-drop files onto pre-set mini-applications and have them translate automatically. This facility makes it easy to convert a file without opening it. Macintosh Easy Open must be installed for the Document Converter to work.

Each Document Converter translates to a specific format using the file translation capabilities available to your Mac. You can set up one or more Document Converters by making copies of the Document Converter provided in the MacLinkPlus folder. Once the document converter is "set", it will always translate similar file formats into its appropriate format. Duplicate a document converter each time you need to translate a file type into a new format. Document Converters can be changed by double-clicking and re-setting them.

Note: Unlike most Macintosh applications, Document Converters behave differently when you double-click on them than they do when you drag a file onto them. Double-clicking on a Document Converter only sets the translation path. Dragging a file onto it actually activates the translation.

Control Panel Options
==========

Macintosh Easy Open has a "setup" control panel in the system folder. This control panel contains four options:

"On/Off": allows you to turn Macintosh Easy Open's file translation services on and off. This will not affect the enhanced file information available in the View menu or the ability to use the Document Converter.

"Always Show Choices": controls whether or not the Macintosh Easy Open dialog will appear. If this option is selected, the Macintosh Easy Open dialog will always appear with all available translation options. If it is deselected, Macintosh Easy Open will automatically choose the last translation option that you selected for a particular file format.

"Include Choices from Servers": extends Macintosh Easy Open's search for applications to file servers. Note: Including choices from servers can be fairly slow depending on how many server volumes are available to you and how large they are. If you want Macintosh Easy Open to limit its search for applications to disks directly connected to your Macintosh, uncheck this option (recommended in most cases).

"Delete Preferences": deletes your Macintosh Easy Open preferences.

List of Translators Supported by MacLinkPlus
==========

Word Processors
==========

Macintosh

ClarisWorks
Framemaker
MacWrite, MacWrite II, MacWrite Pro
Nisus
RTF
Text
MS Word
WordPerfect
MS Works
WriteNow

PC (DOS & Windows)

Ami Pro
ClarisWorks (Windows)
DCA-RFT
Multimate
OfficeWriter
Professional Write
RTF
Text
MS Word (DOS & Windows)

WordPerfect (DOS & Windows)
Wordstar
MS Works (DOS & Windows)
XYWrite III

* You can translate between any of these file formats. For example, Word to WordPerfect, Ami Pro to MacWrite Pro, Nisus to WriteNow, etc.

Graphics
========
Mac to PC

FROM:
PICT

TO:
PC Paintbrush (PCX)
TIFF
Windows Bitmap (BMP)
Windows Metafile (WMF)
WordPerfect (WPG)

PC to Mac

FROM:
AutoCad (DXF)
Harvard Graphics (CGM)
Lotus (PIC)
Lotus Freelance (CGM)
PC Paintbrush (PCX)
TIFF
Ventura Publisher (IMG & GEM)
Windows Bitmap (BMP)
Windows Metafile (WMF)
WordPerfect (WPG)

TO:
PICT

Spreadsheets
==========
Macintosh

Excel
MS Works
SYLK

PC (DOS & Windows)

Excel
Lotus 1-2-3
Quattro Pro
SYLK
Symphony

Macintosh

MS Works
dBase
FoxBASE

PC (DOS & Windows)
---

dBASE
FoxBASE
MS Works (DOS & Windows)
Mac

Support Information Services
Published Date: Feb 19, 2012

PowerBook 190 & 5300: Norton Util Reports Wrong Speed (10/95)

I ran Norton Utilities 3.1 and it reported that my supposedly 100Mhz Macintosh Powerbook 5300cs is running at 87MHz! What's wrong? Does my computer need service?

This article has been archived and is no longer updated by Apple.

Apple has been informed by Symantec, the company that owns Norton Utilities, that the reason for the error you experienced is that they did not have the correct Gestalt call implemented in their software for this Macintosh PowerBook computer when they wrote the latest version of Norton Utilities. This is why Norton Utilities reports the wrong speed for your PowerBook 5300 computer and some other new PowerBook computers like the Powerbook 190.

A Gestalt call is implemented in many software applications by programmers to allow the application to find out if a certain feature is available on the computer on which it is running. In your case, Norton Utilities was checking the processor speed, but did not send the correct Gestalt call to get the right answer. So, for example, if a programmer is writing a program that requires a Floating Point Unit (FPU) they can do a Gestalt call at the beginning of their program and the computer will tell them whether it has one or not. That way they can tell the user sorry you have no FPU this program requires one, instead of making a direct call to the which would generate an error since the machine does not have one.

NOTE:
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The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.

Support Information Services
Published Date: Feb 19, 2012

MAE 2.0 and MS Office Floppy Disk Install Issue (10/95)

I'm having problems installing Microsoft (MS) Office on my SCARCStation with MAE 2.0 and Solaris 2.4. The installation generally fails towards the end of the installation process. Is there a known issue when using the Microsoft 1.6 MB floppy disk format?

This article has been archived and is no longer updated by Apple.

Yes, there can be an issue with a Microsoft Office floppy disk installation. This issue is in an MAE Tech Note, a portion of which is below:

MAE and Microsoft Office

Microsoft has instituted a new floppy disk format (known as DMF -- Distributed Media Format) that permits distribution of software on a smaller number of floppy disks. This is accomplished by using a format of 1.6 MB which cannot be read by current PC-compatible (360 KB/720 KB/1.4 MB) or Apple (400 KB/800 KB/1.4 MB) floppy drives and requires the installer program to read the floppies. The special installer modifies the hardware floppy driver to support this new format.

To properly install MS Office for use with MAE, you either need a CD, or a floppy disk set that does not use DMF. When running the install, select a new folder when asked, to specify the directory for installation. The directory created will then be the installation folder, and the install will proceed normally.

In addition, when asked to update Excel graphs, select No.

Support Information Services
Published Date: Feb 19, 2012

Lisa Peripheral Cards: Responding to error #1222

This article has been archived and is no longer updated by Apple.

If you have a printer attached to a parallel expansion card in your Lisa and are planning to move that card to another slot (or remove it entirely), you must be sure to open the Preferences window and set the "Device Connection" for the old slot to "No Device" BEFORE you remove the card from that slot. If you move or remove the card without first reconfiguring Preferences appropriately, you'll leave behind a "phantom device connection"--that is, the Lisa will continue to think that there is a printer connected through the old slot. The next time you ask your Lisa to print a document, the Lisa will try to print the document on the "phantom" printer, fail, and end up giving you an "Error #1222" message. If you've received such an error message, your problem may be a phantom device connection. You won't be able to tell for sure, though, simply by opening the Preferences window: Preferences will only list slots that actually have cards in them. Instead, take these steps to discover whether you have a phantom device connection:

-- Open any document.

-- Pull down File/Print and choose "Format for Printer".

-- Select settings for Print Method and Paper Size that don't match any printer you have ever had, such as Daisy Wheel with 14" x 11" paper.

-- At the bottom of the dialog box, choose "Tell Me" (or, in Office System 2.0, "Ask Me")

-- Click the OK button. A new dialog box will appear labeled "Intended Printer Unavailable" (or, in 2.0, "Intended Printer not in Preferences"). In the middle of the box will be a list of printers next to checkboxes. This list of printers will include any phantom device connections.

To fix the problem, re-install a parallel card in the slot with the phantom connection, open Preferences, set that slot's Device Connection to "No Device", and then remove the card.

Published Date: Feb 19, 2012

Scrapbook: In Finder 5.1 Scrolls Slowly Between Items

This article has been archived and is no longer updated by Apple.

While in Finder 5.1 (at the Desktop), the Scrapbook may take a long time to scroll from item to item. This happens because the Scrapbook looks through ALL available open resources as it scrolls. When the system is at the Finder level, there are many open resouces. This behavior is not exhibited from within most applications since most applications keep fewer resources open.

Published Date: Feb 19, 2012

Color LaserWriter 12/600 PS, 16/600 PS: NT Compatibility Info

What version of Windows NT has the Windows 3.1 Printing Software v1.1 been tested with?
This article has been archived and is no longer updated by Apple.
The Windows 3.1 Printing Software v1.1 was tested on both Windows NT v3.5 and Windows NT v3.5.1. However it was not tested under Windows NT 4.0.

This software has since been superceded by the Windows 3.1 LaserWriter software v.3.1, and the NT printer software is now a separate installer. Both are posted online. The NT software is supported on NT 3.51 and 4.0.

Alternatively, you could use the drivers that are included with Windows NT 4.0.
Published Date: Feb 19, 2012

At Ease 3.0: ARA 2.0.1 Compatibility

This article describes compatibility between Apple Remote Access (ARA) 2.0.1 and At Ease for Workgroups and Basic 3.0.
This article has been archived and is no longer updated by Apple.
At Ease 3.0 and ARA 2.0.1 are compatible. ARA may be added to an At Ease Panel, used with At Ease panels, Restricted Finder, or Finder access, and used to dial out.

However, you will not be able to access the Remote Access Setup control panel from ARA's Setup menu. You will receive a message that states, "The Remote Access Setup icon cannot be opened because the Finder is unavailable. You must either locate the icon and open it manually, or launch the Finder and retry your selection."

The At Ease Administrator should pre-select the correct modem script in the Remote Access Setup control panel before adding ARA to the At Ease panel.
Published Date: Feb 19, 2012

PlainTalk 1.4.1: No Sound Speakable Items Enabled

I just installed PlainTalk 1.4.1 on my Macintosh Performa 6200. When I turn on Speakable Items in the Speech Control Panel, I no longer hear any sound from my computer. The speech recognition is working and executing the commands I speak, but there are no feedback sounds or system beeps playing from my speaker. It is as if my speakers are muted. I checked the Sound control panel, and it is set at full output volume to the internal speaker of the computer.
This article has been archived and is no longer updated by Apple.
This issue has been resolved in PlainTalk 1.5, which is available from Apple Software Updates. The following computers require PlainTalk 1.5 in order to properly use speech recognition:

* Macintosh 5200CD family: Macintosh 5200/75 LC, Performa 5200, Performa 5210, Performa 5215, and Performa 5220.

* Macintosh 5300CD family: Macintosh 5300/100 LC, Performa 5300.

* Macintosh 6200CD family: Performa 6200, Performa 6214, Performa 6216, Performa 6218, Performa 6220, and Performa 6230.

* Macintosh 6300CD family: Performa 6300, Performa 6290

Note: PlainTalk and Speech to Text updates can be downloaded from Apple Software Updates at:
http://www.apple.com/swupdates
Published Date: Feb 19, 2012

PowerBook PC Cards: Card Won‘t Show on Desktop (10/95)

I recently purchased a Global Village PowerPort Platinum PC Card for my PowerBook 5300 computer. It has been working fine for several days, but now it does not show on my desktop when I insert it. I can still use it for fax or data communication as if it is there.

This article has been archived and is no longer updated by Apple.

The PC Card Extension must be loaded at startup in order for your PC Card to appear on the desktop. You can still use your PC Card even though it does not appear on the desktop but you will have to use the eject button next to the PC slot to eject the card.

Verify that the PC Card extension is in the Extensions folder of your System Folder and that it has not been disabled in the Extensions Manager control panel. Restart your PowerBook. Your card should appear when the computer completes its startup sequence.

Support Information Services
Published Date: Feb 19, 2012

Open Transport: MegaPhone & Other Apps Activate AppleTalk

I have a Power Macintosh 7500/100 with a GeoPort Telecom Adapter, and I'm using Telecom 2.1 software. The GeoPort Telecom Adapter is connected to the computer's modem port.

After doing a clean install of the system software and installing the Apple Telecom 2.1 software, while troubleshooting, I was able to use the MegaPhone demo software version 1.0.2ST successfully. I then installed the released MegaPhone software, version 1.0.2, selected the modem port in the AppleTalk control panel, and made AppleTalk inactive.

When launching MegaPhone, AppleTalk automatically becomes active, and I'm unable to use the MegaPhone software. What is wrong?
This article has been archived and is no longer updated by Apple.
Issue

Cypress Research has reported, when launching the released version of the MegaPhone application, it checks to see if AppleTalk is active or inactive. When this check is made, AppleTalk automatically becomes active.

This issue has also been noticed with some other applications which make the same system check and automatically activate AppleTalk such as some versions of the following: Adobe Pagemaker, Macromedia Freehand, Quark XPress, Global Village Fax Software, and others.

MegaPhone Workaround

If a user calls Cypress with this issue, Cypress will send them a modified version of MegaPhone which does not check AppleTalk for being active or inactive.

Resolution

Open Transport version 1.1, installed with System 7.5 Update 2.0 corrects this issue.

Note: Macintosh Users
MegaPhone for the Macintosh is now distributed and supported by Bing Software. If you need technical support, please contact Bing Software directly:

Monday through Friday, 9 am to 5pm Pacific time.
Technical Support: (714) 888-6639
Fax: (714) 888-6635
For Sales, call: (714) 888-6633
E-mail:bingsoftware@mindspring.com
Web:http://www.BingSoftware.com

The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.

The following information is for Apple Internal & Support Providers Only
Published Date: Feb 19, 2012

PowerBook & Power Mac: RAM Doubler Compatibility Issue (2/96)

My new PowerBook 5300 computer has been freezing at startup since I installed the latest version of RAM Doubler.
This article has been archived and is no longer updated by Apple.

Issue
=====

Connectix Corporation, the maker of RAM Doubler, acknowledges that there is a compatibility issue with version 1.5.2 of their RAM Doubler application with some PowerBook computers.

The compatibility issue mentioned here affects the Macintosh PowerBook 2300, 5300, 5300c, 5300cs and 5300ce series computers and Power Macintosh 7200, 7500, 8500, and 9500 computers.

This issue does not affect any other desktop Macintosh computers, any earlier model PowerBook computers, or the PowerBook 190 and 190cs series computers. Other Connectix programs, such as Speed Doubler and Maxima, have no compatibility issues with the Macintosh PowerBook computers mentioned here.

Resolution
==========

According to Connectix, RAM Doubler version 1.6.1 and Speed Doubler version 1.1 are both fully compatible with the Macintosh PowerBook 5300 series computers. If a customer is not up to date, they can download a current updater from the Connectix web site (www.connectix.com) or from any online service.

The issue with these desktop Power Macintosh computers can be resolved by installing RAM Doubler 1.5.3 or later (available from Connectix).

Workaround
==========

If you have RAM Doubler version 1.5.2 and you cannot immediately get version 1.6.1, you should remove RAM Doubler from your operating system.

Step 1

To remove RAM Doubler startup your computer with the extensions off by pressing on and holding down the shift key and the tilde (~) key during startup.

Note: You need to hold down both keys because the shift key alone will not disable RAM Doubler.

Step 2

Insert the RAM Doubler disk and use the Installer to de-install the application.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor, Connectix, for additional information.

The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.

Article Change History:
15 Feb 1996 - Updated RAM Doubler version compatibility information.

Published Date: Feb 19, 2012

ARA MultiPort Server: Global Village Platinum Modem

I have an Apple Remote Access (ARA) MultiPort Server, and I just purchased a Global Village TelePort Platinum modem to use with the server. This modem has a permanently attached cable with a DIN-8 connector for a Macintosh computer's serial port, however, this pre-attached modem cable will not attach to the ARA Serial Card and RS-232 Cable's DB-25 connectors.

I have searched for an adapter that will connect the DB-25 plug to the DIN-8 plug (a DB-25 socket to DIN-8 socket adapter), and despite being told that any electronics store should have one, I have found none. Do you know of such an adapter?
This article has been archived and is no longer updated by Apple.
Essentially, the TelePort Platinum modem will not work with an ARA Serial Card and RS-232 Cable, as you have discovered. The cable supplies four RS-232 Ports using DB-25 plug connectors. The modem has a captive cable which ends in a DIN-8 plug connector.

A socket DIN-8 "in" cable mounting configuration is rare in the United States. The company that imports this connector into the United States, HB Associates at 510-487-3933, reports that no major United States companies purchase the plug cable connector. They can order one for you from one of the DIN-8 component manufacturers.

However, you will still have to determine the pinouts of the adapter cable, and wire the adaptor yourself, which is not recommended unless you are familiar with this process.

Apple's recommendation is to reconsider using the TelePort Platinum modem with the ARA Serial Card and RS-232 Cable. If you need multiple port access, you should find another modem that either supports DB-25 connectors, or does not use a captive cable with a DIN-8 connector. If you must use the TelePort Platinum modem, you may be able to use the modem port in the Macintosh computer, or try another multiple port card or cable.
Published Date: Feb 19, 2012

PCI Cards Maximum Size

I'm looking for the maximum size, length by height, of PCI cards used in the PCI-based Power Macintosh computers.
This article has been archived and is no longer updated by Apple.
The Power Macintosh computers, such as the 7200, 7300, 7500, 7600, 8500, 8600, 9500 and 9600 support two different sizes of PCI cards in any of the PCI slots: 7-inch x 4-inch, and 12-inch x 4-inch.

The Power Macintosh 4400 has two PCI expansion slots, and one slot accepts only 7-inch PCI cards, but the other slot accepts either 7- or 12-inch cards.

Finally, the Power Macintosh 5400, 5500, 6400, 6500 and Macintosh Performa 6400 series, and Macintosh Performa 6360/160 computers support only 7-inch PCI cards.

The PCI local bus Specification 2.0 list the exact dimensions as:

```
In Inches         6.875 x 4.2     and  12.283 x 4.2
In Millimeters  174.630 x 106.68  and     312 x 106.68
```

Published Date: Feb 19, 2012

Apple LAN Utility 1.0b4: ReadMe File

This article contains the Read Me file included with the Apple LAN Utility 1.0b4 posted online. This update adds support for the PCI-based Power Macintosh 7200, 7500 and 8500 computers.
This article has been archived and is no longer updated by Apple.

Apple LAN Utility version 1.0b4

The Apple LAN Utility is provided to perform the following tasks for Apple LAN interfaces:

1) Obtain the burned-in address without connecting to a network.
2) Override the burned-in address with a locally-administered address (this is mostly done in SNA and DECNet environments).
3) Set the speed for token ring interfaces that are software selectable.

The utility is intended to handle all Apple ethernet and token ring interfaces, whether built-in or on cards. When run, the utility opens one window per interface present in the machine, describing what its configuration will be the next time that interface is activated. This utility makes no attempt to alter the current operation of an active interface.

To make any changes to an interface, it is necessary to choose "Allow Changes" from the Edit menu. This was provided to minimize the chance of accidentally overriding a burned-in address.

To remove a locally-administered address, either clear the entry or set it to 12 zeroes.

The utility can save a tab-delimited text file describing the machine's configuration. The file has the following format:

Line 1: The Macintosh model, machine name and user name
Line 2: Title strings
Lines 3 - n: One line per interface with bus/slot, interface name, burned-in address, local address and speed

The addresses are given in hexadecimal and are quoted to allow the file to be imported into a spreadsheet if desired.

Although the text file is rather ugly when viewed in TeachText/SimpleText, it can be made to look better when viewed in a word processor or spreadsheet program by adjusting the tabs or cell sizes appropriately.

This utility is provided free of charge on an "as is" basis. This is not an official product of Apple Computer!

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Release Notes

Version 1.0b4 includes the following changes:

Support was added for newer PCI-based Power Macintoshes - the 7200, 7500 and 8500.

Version 1.0b3 includes the following changes:

Support was added for the Power Macintosh 9500.

Support Information Services
Published Date: Feb 19, 2012

IEEE-488 Interface Card: Internal Cable Pinouts (11/96)

Listed below are the pinouts for the IEEE cable.

This article has been archived and is no longer updated by Apple.

As both connectors are mass terminate type connectors, the pinouts are straight through, with the following exceptions:

Card 26-pin 24-pin
internal connector external connector

pin pin

12 no connection 12 separate ground *

25 no connection

26 no connection

* Grounding occurs with a special connection to pin 12 on the external connector. This special wire leads from pin 12 on the external connector to system or chassis ground as pictured on page 6 of the IEEE card manual. The wire must NOT be connected to the ground signal of the card or the slot.

Article Change History:
14 November 1996 - Reviewed for technical accuracy, revised formatting.
Published Date: Feb 19, 2012

QuickDraw 3D Accelerator Card: Specifications (10/96)

This article provides the specifications of the QuickDraw 3D Accelerator Card for Power Macintosh computers with PCI slots.

This article has been archived and is no longer updated by Apple.

Memory
---
* 128K SRAM cache
* 512K of high-speed SRAM texture memory, for up to 12 texture maps
* Does not include frame buffer ASICs
* Includes two custom ASICs. Rendering engine is based on state-of-the-art O.5µ? technology

Acceleration capabilities
---
* Accelerates QuickDraw 3D rendering to speeds as high as 12 times faster
* Renders 10 million trilinearly filtered, mipmapped texture pixels per second
* Renders up to 120,000 triangles per second
* Accelerates Gouraud shading, texture mapping, transparency, and Constructive Solid Geometry (CSG)
* Continually enables trilinear filtering, and mipmapping diffuse and specular lighting producing very high quality texture mapped images
* Uses high-performance SRAM memory to display up to 12 texture maps in each open window
* Outputs an alpha channel, making it fast and easy to transfer images between applications
* Offers hardware-accelerated per-pixel Z sorting for precise rendering of transparent surfaces or CSG, regardless of submission order or interpenetration
* A single card accelerates 3D rendering to all frame buffers in the system. This means it accelerates rendering on multiple monitors.

Environmental requirements
---
* Operating temperature: 50í to 104í F (10í to 40í C)
* Humidity: 20% to 95% noncondensing

Standards compliance/agency approvals
---
* PCI 2.1 compliant, IEEE 802.5 and 802.2

System requirements
---
* An Apple Power Macintosh computer with PCI slots or another PCI-equipped computer running the Mac OS
* Macintosh system software version 7.5.2 or later; System Enabler 1.1 or later
* At least 16 MB of RAM
* A hard disk drive
* A CD-ROM drive for installing software

Software and demos included on CD-ROM
---
* QuickDraw 3D 1.03 Installer and Demo Files - The installer will be localized in the following languages: English, French, German, Spanish, Italian, Japanese, Dutch, and Swedish.
* Apple QD3D HW Driver
* Apple QD3D HW Plug-In (Driver)
* ReadMe file
* Demos folder - In the Demos folder are the following third party and Apple-developed demos:
- TextureEyes, a live-video mapping 3D application with models and movies

- MoviePlayer 2.1
- Havoc, a 3D game demo from Reality Bytes
- Models, textures, and product catalog from Specular International
- Models from ViewPoint Datalabs

Article Change History:
22 Oct 1996 - Added keyword and reformatted.
27 Oct 1995 - Changed distribution status.

Published Date: Feb 19, 2012

QuickDraw 3D Accelerator Card: Read Me

This article contains the Read Me file installed with the QuickDraw 3D Accelerator Card.
This article has been archived and is no longer updated by Apple.

Important Information About QuickDraw 3D

QuickDraw 3D enables your Macintosh computer to display three-dimensional graphics, using applications designed to take advantage of QuickDraw 3D. It also provides a common file format, called 3DMF (for "3D metafile"), for exchanging 3D documents and acceleration services which support plug-and-play accelerator cards.

The following are required to install and run QuickDraw 3D and the QuickDraw Accelerator Card:

* A PowerPC based computer equipped with a PCI slot (such as a Power Macintosh 7200, 7500, 8500, or 9500)
* 16 megabytes of random access memory (RAM)
* Macintosh system software version 7.5.2, with System Enabler 1.1, or later
* A system that can display thousands or millions of colors

The QuickDraw 3D Accelerator Card

The QuickDraw 3D Accelerator Card brings workstation-class 3D acceleration to any Power Macintosh or Macintosh Performa computer with a PCI (Peripheral Component Interconnect) slot. Its accelerated 3D rendering allows you to create or work with 3D objects and scenes quickly and efficiently.

Featuring a compact (6.88-inch) design, the QuickDraw 3D Accelerator Card provides exceptional performance. It plugs easily into the PCI slot of your Power Macintosh (or other PCI-equipped computer running Macintosh system software version 7.5.2 or later), to let you design 3D scenes and shade and texture objects faster than ever before. You can interact smoothly with 3D models that cover the full screen, even when performing Constructive Solid Geometry (CSG) or when positioning texture maps. And you'll find that the motion in your 3D animations flows smoothly and looks natural.

To accomplish this workstation-class performance, the QuickDraw 3D Accelerator Card works in conjunction with QuickDraw 3D, a cross-platform application program interface (API) that is an emerging standard in the area of computer-based 3D graphics and animations. By itself, QuickDraw 3D was designed to take advantage of PowerPC RISC technology to provide real-time, interactive rendering for simple models. The QuickDraw 3D Accelerator Card enhances this capability, enabling you to use your Macintosh computer to work in real time with much larger and more complicated models.

With complex 3D models rapidly becoming the standard in computer-based graphics, high-speed 3D rendering capabilities are increasingly a necessity for many computer users. So whether you're an architect, a graphic artist, a multimedia developer, a scientist who works with visualization, or simply a 3D game enthusiast, the QuickDraw 3D Accelerator Card will make your interactions with on-screen images significantly faster, better- and more satisfying.

Using QuickDraw 3D

The QuickDraw 3D folder includes the following applications, 3D models, and textures that allow you to explore the 3D capabilities of your Macintosh:

* SimpleText version 1.3.1 and Scrapbook version 7.5.1. These applications allow you to open and interact with 3DMF models.
* A game called "Gerbils!" so you can experience the fun side of 3D graphics.
* Cumulus, a multimedia database provided by Canto Software.
* A new Scrapbook File with sample 3DMF models.
* A number of 3DMF models provided by Model Masters and Viewpoint Datalabs International.
* Textures provided by Wraptures and Xaos Tools.

You can expect more applications using QuickDraw 3D in the near future, including new versions of application programs you may already own. Contact your software vendors for more information about their plans to support this new technology.

QuickDraw 3D and Image Quality

QuickDraw 3D has been optimized to display three-dimensional graphics of high quality. To display high-quality images, and obtain the best performance from your system, we recommend that you set your system to display thousands or millions of colors.

The QuickDraw 3D Accelerator Card only accelerates rendering to screens which display thousands or millions of colors. QuickDraw 3D will run if you choose another display format, but rendering will not be accelerated.

Features of Your QuickDraw 3D Accelerator Card

Workstation-class 3D acceleration

* Accelerates QuickDraw 3D rendering up to 12 times (12X)

* Renders 10 million tri-linearly filtered, bitmapped texture pixels/second

* Renders up to 120 thousand triangles per second

* Accelerates Gouraud shading, texture mapping, transparency, and Constructive Solid Geometry (CSG)

* Tri-linear filtering, mipmapping, and diffuse and specular lighting are always enabled, producing very high-quality texture-mapped images

* Uses high-performance SRAM memory to display up to 12 texture maps in each window

* Outputs an alpha channel, making it fast and easy to transfer images between applications

* Hardware-accelerated per-pixel Z-sorting provides precise rendering of transparent surfaces or CSG, regardless of submission order or interpenetration

Scalability

* A single card accelerates 3D rendering to all frame buffers in the system.

* Hardware rendering performance can be doubled simply by installing a second card.

Troubleshooting 3D Acceleration

If 3D rendering does not appear to be accelerated, check the following:

* Check that your system is set to display thousands or millions of colors. These are the only display modes in which acceleration can occur.

* Check that your application uses QuickDraw 3D. Some older 3D applications don't use QuickDraw 3D for rendering, and can not be accelerated.

* Some applications allow you to switch hardware acceleration on or off. Check your application's documentation to be sure that hardware acceleration is enabled (on).

* Check that the following files are in the Extensions Folder, inside the System Folder:

  Apple QD3D HW Driver
  Apple QD3D HW Plug-In

* The performance advantage of any 3D accelerator varies depending on the type of scene being rendered. You may find that some applications show the

benefits of acceleration more than others. If you want to verify that acceleration is working, try the Gerbils! application (included on your installer CD-ROM) - it runs much faster when the QuickDraw 3D Accelerator Card is installed.

Turning Off 3D Acceleration

If you need to turn off the QuickDraw 3D Accelerator Card (for example, to compare accelerated performance with software-only rendering), follow these steps:

Step 1

Quit all applications that use QuickDraw 3D.

Step 2

Create an empty folder on the desktop.

Step 3

Move the file named "Apple QD3D HW Plug-In" from the Extensions Folder (inside the System Folder) into the empty folder. The accelerator card is now disabled.

Step 4

Restart QuickDraw 3D applications.

To turn the QuickDraw 3D Accelerator Card back on, follow these steps:

Step 1

Quit all applications that use QuickDraw 3D.

Step 2

Move the file named "Apple QD3D HW Plug-In" back into the Extensions Folder.

Step 3

Restart QuickDraw 3D applications.

General Troubleshooting

For better performance, we recommend that Virtual Memory be turned off. If your system has only 16 megabytes of RAM, leaving Virtual Memory enabled can cause unexpected crashes. For 16-megabyte systems, make sure to turn Virtual Memory off before starting any application that uses QuickDraw 3D.

If you try to start an application that uses QuickDraw 3D and get the message "The application '<application name>' could not be launched because QuickDraw 3D could not be found," make sure that the following files are in the Extensions Folder, inside the System Folder:

* QuickDraw 3D
* QuickDraw 3D Accelerator
* QuickDraw 3D Viewer

If the files are there and you still get the message, it means that you don't have enough memory to run the application. You may be able to open the application if you try one or more of the following:

* Quit other open applications.
* Reduce the amount of memory allocated to the application. Take these steps to reduce it:
  1. Select the application's icon in the Finder.
  2. Choose Get Info from the File menu.
  3. Type a lower number in the boxes for Minimum Size and Preferred Size.
* Install more memory (RAM.)

If you would like to use the Scrapbook File supplied in the QuickDraw 3D folder instead of your existing Scrapbook File, you must copy the Scrapbook File from the QuickDraw 3D Folder to the System Folder on your Macintosh. Note that this will replace your existing Scrapbook File in the System Folder, thus erasing any previously stored contents.

How QuickDraw 3D Uses Memory

QuickDraw 3D is a shared library. When no applications that rely on QuickDraw 3D are open, the library does not take up random access memory (RAM) space. Once a QuickDraw 3D-based application is open, the amount of memory taken up by the shared library doesn't increase if other QuickDraw 3D-based applications are launched. Of course, each application will take up memory according to their size and the complexity of the files being used. The memory taken up by QuickDraw 3D becomes available when you quit all QuickDraw 3D-based applications.

While a QuickDraw 3D application is open, the QuickDraw 3D library allocates memory from "temporary memory." When you choose About This Macintosh from the Apple () menu, it is shown as memory used by the System. After you quit the application, the memory becomes available, but the size shown in the About This Macintosh window may not reflect this. The memory previously used by QuickDraw 3D is, nonetheless, available for other applications (it is released to the applications as needed).

If You Need to Reinstall QuickDraw 3D

If you need to reinstall QuickDraw 3D, follow these steps:

Step 1

Open the QuickDraw 3D Install folder and double-click the Installer icon.

Step 2

After installing QuickDraw 3D, restart your computer.

Step 3

If you want the items in the QuickDraw 3D Extras folder, drag the folder to the newly-created QuickDraw 3D Folder inside the Apple Extras folder. *(Editor's Note: Step 3 of the reinstall only applies when using a Mac OS CD-ROM, which has a "CD Extras" folder present. Otherwise, the QuickDraw 3D Extra material is not available.)*

Removing QuickDraw 3D

If you wish to remove QuickDraw 3D, follow these steps:

Step 1

Insert the CD that contains the QuickDraw 3D software.

Step 2

Open the QuickDraw 3D Install folder and double-click the Installer icon.

Step 3

Choose Custom Remove from the pop-up menu.

Step 4

Click the box next to each item to put a check in it.

Step 5

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Click Remove.

Step 6
------
Restart your computer.
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Published Date: Feb 19, 2012

QuickDraw 3D: Read Me

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designed to take advantage of QuickDraw 3D. It also provides a common file format, called 3DMF (for "3D
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cards.

The following are required to install and run QuickDraw 3D:

* a PowerPC based computer
* 16 Megabytes of memory (RAM)
* System 7.1.2 or later

Using QuickDraw 3D
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The QuickDraw 3D folder includes the following applications, 3D models and textures that allow you to explore
the 3D capabilities of your Macintosh:

* SimpleText version 1.3 and Scrapbook version 7.5.1. These applications allow you to open and interact with
3DMF models.

* A new Scrapbook File with sample 3DMF models.

* A number of 3DMF models provided by Model Masters and Viewpoint Datalabs International.

* Textures provided by Wraptures and Xaos Tools.

You can expect more applications using QuickDraw 3D in the near future, including new versions of application
programs you may already own. Contact your software vendors for more information about their plans to support
this new technology.

QuickDraw 3D and image quality
------------------------------
QuickDraw 3D has been optimized to display three-dimensional graphics of high quality. To display high-quality
images, and obtain the best performance from your system, we recommend that you set your system to display
thousands or millions of colors.

Troubleshooting
---------------
For better performance, we recommend that Virtual Memory be turned off. If your system has only 16 Megabytes
of RAM, leaving Virtual Memory enabled can cause unexpected crashes. For 16 Megabyte systems, make sure to
turn Virtual Memory off before launching any application that uses QuickDraw 3D.

If you try to start an application that uses QuickDraw 3D and get the message "The application '<application
name>' could not be launched because QuickDraw 3D could not be found," make sure that the following files are
in the Extensions Folder, inside the System Folder:

* QuickDraw 3D
* QuickDraw 3D Accelerator
* QuickDraw 3D Viewer

If the files are there and you still get the message, it means that you don't have enough memory to run the
application. You may be able to open the application if you try the following:

*  Quit other open applications.
*  Reduce the amount of memory allocated to the application. This is done by:
 - selecting the application's icon in the Finder
 - choosing "Get Info╔" from the File menu
 - typing a lower number in the boxes for Minimum Size and Preferred Size
*  Install more memory (RAM.)
```

If you are using a localized system, and you install this U.S. software, you will need to copy the "Scrapbook File" in the "QuickDraw 3D Folder" to the System Folder on your Macintosh. Otherwise, when you select the Scrapbook from the menu, you will get an empty scrapbook. Note that this operation will replace any existing Scrapbook File in the System Folder, thus erasing any previously stored contents.

How QuickDraw 3D uses memory

QuickDraw 3D is a shared library. When no applications that rely on QuickDraw 3D are open, the library does not take up memory space (RAM). Once a QuickDraw 3D-based application is open, the amount of memory taken up by the shared library doesn't increase if other QuickDraw 3D-based applications are launched. Of course, each application will take up memory according to their size and the complexity of the files being used. The memory taken up by QuickDraw 3D becomes available when you quit all QuickDraw 3D-based applications.

While a QuickDraw 3D application is open, the QuickDraw 3D library allocates memory from "temporary memory." This memory shows up in the "About This Macintosh╔" window as memory used by the System. When you quit the application, the memory becomes available, but the size shown in the "About This Macintosh╔" window may not reflect this. The memory previously used by QuickDraw 3D is, nonetheless, available for other applications (it is released to the applications as needed.)

If You Need to Reinstall QuickDraw 3D

If you need to reinstall QuickDraw 3D, follow these steps:

Step 1

Open the "QuickDraw 3D Install" folder and double-click the Installer icon.

Step 2

After installing QuickDraw 3D, restart your computer.

Step 3

If you want the items in the "QuickDraw 3D Extras" folder, drag the folder to the newly-created "QuickDraw 3D Folder" inside the "Apple Extras" folder. *(Editor's Note: Step 3 of the reinstall only applies when using a Mac OS CD-ROM, which has a "CD Extras" folder present. Otherwise, the QuickDraw 3D Extra material is not available.)*

Removing QuickDraw 3D

If you wish to remove QuickDraw 3D, follow these steps:

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Open the "QuickDraw 3D Install" folder and double-click the Installer icon.

Step 3

Choose Custom Remove from the pop-up menu.

Step 4

Click the box next to each item to put a check in it.

Step 5

Click Remove.

Step 6

```
Restart your computer.
```

Published Date: Feb 19, 2012

Newton MessagePad: List of Accessories Available

This article describes the accessories available for the Apple MessagePad 120. Some accessories are only available with the Newton 2.0 OS. Accessories Requiring Newton 2.0 OS are marked as such.
This article has been archived and is no longer updated by Apple.

MessagePad Accessories

Now you can make your Apple MessagePad personal digital assistant (PDA) even more valuable, and make it work even more efficiently.

Because no matter which MessagePad product you have, you can choose from a broad range of accessory products -- from connectivity solutions to battery enhancements to storage options.

With these optional accessories, you can print letters, send and receive faxes, receive wireless messages and pages, connect to your personal computer, or gain access to information on your network. You can also work for hours without having to change batteries. And you can protect your MessagePad -- and its accessories -- in a leather carrying case, wherever you go.

Accessories

Newton Connection Kits

These kits connect your Apple MessagePad or other Newton technology-based products to a Windows PC or an Mac OS computer to create, view, edit, synchronize, and back up information. They also enable you to move Newton software from your personal computer to your Newton device.

Note: The Newton Connection Kit has been superseded by the Newton Connection Utilities, providing the same functionality previously provided by the Newton Connection Kit.

Newton Connection Utilities

This software allows your MessagePad 120 with Newton 2.0 operating system to connect to your Windows-based or Mac OS computer to create, view, edit, synchronize, and back up information with popular personal computer applications, and to gain access to your personal computer's information while at your desk or from a remote location.

Newton Press

This program allows you to publish electronic documents such as travel itineraries, reference books, or sales charts on your personal computer for viewing and annotating on your MessagePad.

Newton Keyboard

Now you can enter information into your MessagePad 120 as fast as you can type. The touch-type comfortable keyboard is lightweight and portable and comes with an attractive carrying case, so you can take it wherever you take your MessagePad device. It comes in several international versions.

Power Adapter

The Power Adapter lets you run your MessagePad or Fax Modem using AC power and rechargeable battery pack for the MessagePad 110 and 120. It comes in several versions to meet international power requirements.

Rechargeable Battery Packs

These rechargeable nickel-cadmium battery packs can be one of the most effective ways to keep your MessagePad device running.

Battery Booster Pack

Plug this portable pack's cable into your MessagePad device and its eight AA alkaline batteries add hours of running time. Batteries are not included.

MessagePad Charging Station

Plug your MessagePad 110, 120, or 130 into this charging station to run it on AC power while recharging its batteries. You can simultaneously quick-charge its external battery pack in two to three hours.

Battery Pack Recharger

This recharger quickly recharges battery packs for your MessagePad or MessagePad 100. One rechargeable nickel-cadmium battery pack is included.

Print Pack

The Print Pack allows you to use your parallel printer with your MessagePad. It works with most popular laser, dot-matrix, portable ink-jet, and thermal printers, as well as printers compatible with MS-DOS and Windows-based computers.

2 MB and 4 MB Flash Storage Cards

Use the 2 MB or 4 MB Storage Card to increase the storage capacity of your MessagePad, to back up your information, and to run more applications.

Carrying Case

This case protects your MessagePad 110 or 120 and your add-in PC cards when you take them on the road. It's made of durable black synthetic leather and stays securely closed.

Leather Carrying Case

The leather carrying case has room for add-in PC cards and lots of business cards, and has a zipper to keep everything where it belongs.

Communications System Carrying Case

Use this synthetic-leather carrying case to hold your MessagePad or MessagePad 100 and accessories-from the Fax Modem to storage cards.

MessagePad Telescoping Pen

This pen is designed to fit perfectly in your MessagePad 110 or 120.

Product Name	Technical Specifications	MessagePad Models	
		Original & MessagePad 100	MessagePad 110 & 120
Newton Connection Kit 2.0 for Mac OS	Requires Mac OS 7 or later, a Mac OS computer with a 68030 or faster microprocessor with at least 4MB of RAM, an Apple SuperDrive floppy disk drive, a hard disk drive with 3MB of available disk space, and a serial port. Works with Newton 1.x operating system only.	H0030LL/B	H0030LL/B
Newton Connection Kit 2.0 for Windows	Requires Microsoft Windows 3.1 (enhanced) or later, an IBM PC-compatible computer with an 80386DX (80486 recommended) or faster microprocessor with at least 4MB of RAM, a serial-port connection, a hard disk drive with 8MB of available disk space, and a high-density 3.5-inch floppy disk drive. Works with Newton 1.x operating system only.	H0029LL/B	H0029LL/B
Newton Connection Utilities for Mac OS	Same Mac OS requirements as Newton Connection Kit 2.0 for Mac OS. Works with Newton 2.x OS only		H0170LL/A

Newton Connection Utilities for Windows	Same Windows requirements as Newton Connection Kit 2.0 for Windows. Works with Newton 2.x OS only		H0169LL/A
Newton Press for Mac OS	Same Mac OS requirements as Newton Connection Kit 2.0 for Mac OS. Works with both Newton 1.x and 2.x OS	M4055LL/A	M4055LL/A
Newton Press for Windows	Same Windows requirements as Newton Connection Kit 2.0 for Windows. Works with both Newton 1.x and 2.x OS	M4057LL/A	M4057LL/A
Newton Keyboard	Requires a PDA using the Newton 2.x operating system Includes attached serial cable and carrying case		X0035LL/A X0035B/A GB X0035F/A FR X0035D/A GR X0035S/A SD
Print Pack	Works with parallel printers: dot matrix (80 or 120 column), multiform printers, portable printers, and HP DeskJet and LaserJet printers	H0015LL/A	H0015LL/A
Power Adapter	Output 7 volts at 0.5 amp, universal 100 to 240 volts In-line adapter for US, Canada, and Japan	H0003Z/A	H003Z/A
	Right-angle adapter for International use	H0011Z/A	H0011Z/A
	Right-angle adapter for Great Britain	H0011B/A	H0011B/A
	Right-angle adapter for Australia	H0011X/A	H0011X/A
Battery Booster Pack	Unit holds eight AA alkaline batteries for extended mobile use Flexible cable connects to MessagePad device through AC port.	H0010LL/A	H0010LL/A
Rechargeable Battery Packs	Includes one nickel-cadmium battery pack	H0007LL/A	H0074LL/A
	Includes one nickel-cadmium battery pack and recharger Recharger prevents overcharging with automatic built-in timer US/Canada/Japan version	H0002LL/A	
	International version	H0023Z/A	
MessagePad Charging Station for the MessagePad 110 or 120	Includes one nickel-cadmium battery pack, station, adapter, and pen Charges spare Rechargeable Battery Pack while charging MessagePad 110 or 120 internal battery pack.	H0073LL/A	
2MB Flash Storage Card	Fits in PC Type II slot	H0008LL/A	H0008LL/A

4MB Flash Storage Card	Provides twice the capacity of 2MB Storage Card.	H0092LL/A	H0092LL/A
Carrying Case	Filofax-like case made of black synthetic leather		H00122LL/A
Leather Carrying Case	Case made of high-quality black leather		H0075LL/A
Communications System Carrying Case	Zippered case made of black synthetic leather Space for MessagePad and Fax Modem	H0053LL/A	
Telescoping Pen	Replacement pen for MessagePad 110 or MessagePad 120		H0076LL/A

Published Date: Feb 19, 2012

LaserWriter Pro 810: Configuring TCP/IP Printing

I am trying to configure my LaserWriter Pro 810 for printing with TCP/IP. How do I need to set this up?
This article has been archived and is no longer updated by Apple.

Connecting the LaserWriter Pro 810 to Ethernet

TCP/IP printing to the LaserWriter Pro 810 is supported only through Ethernet, there is no Token Ring support.

You should ensure that you have the appropriate Ethernet adapter installed in the LaserWriter Pro 810. Apple supports both thin coax and twisted pair with the following:

Service Part

661-0853 - Ethernet, 10 Base T
661-0854 - Ethernet, 10 Base 2

You should power the printer on after installation to confirm that the Ethernet card is recognized. The startup page will have an Ethernet icon if the interface is active.

Detailed instructions on Ethernet installation can be found in the "Network Installation and Configuration Manual":

Rev A, Part 1, Section 2.1-3.2, (p 2-1 to 3-2)
Rev B, Part 1, Section 2.4-5 and 3.1-2, (p 2-7 to 3-2)

Setting The IP Address

NOTE: BOOTP cannot be used to configure an IP number. The IP address of the printer can be changed by 2 methods:

* RARP (reverse address resolution protocol)
* RCF (remove command facility).

Check for an already assigned IP number

Using the front control panel:

1) Press offline
2) Press print status
3) Press online.

Three pages will print out. On page two, "printer configuration" a section for Ethernet, and a field for IP address.

Reverse address resolution protocol (RARP)

RARP requires a UNIX host with rarpd support on the same subnet as the LaserWriter Pro 810.

Instructions for RARP are contained in Network Configuration and Installation Manual:

Part 2, Section 3.4.1 (page 3-9) of Rev A
Part 1, Section 2.3.3 (page 2-6) of Rev B

RARP cannot configure subnet or gateway information. You will have to connect via RCF to configure the other settings.

Remote Control Facility

Login to the LaserWriter 810 via Maintenance Port, TELNET or NCP.

The Maintenance Port requires using a serial to RJ12 cable, and connect at 9600 bps, 8 bits, 1 stop bit, no parity.

Cable pinouts for RJ-12 to DB-25 (typical DOS serial connector) are in (both Rev A & B) Part 1, A-2 (page A-2)

For information on how to build this cable see the following article:
Tech Info Library Article #14020: "**LaserWriter Pro 810: Cables For Maintenance RJ12 Port**"

- TELNET works only if the LaserWriter Pro 810 already has an IP address.
- NCP connects at the Ethernet address level, and does not require a pre-existing IP address. Become privileged by typing: su

Enter the system password (default is "system").

Change the IP address by using:

DEFINE SERVER IP w.x.y.z
substitute desired address with w.x.y.z

Restart printer and print configuration page to confirm change.

Configuring gateway and subnet mask
To define the server subnet mask, enter the following command: Define server subnet mask <w.x.y.z>

Confirm by restarting computer and entering the following commands: Show server tcp

Define node <w.x.y.z> gateway default

NOTE: Users should not use the set/define/change route command unless they have a specific network configuration that requires complex routing tables.
Published Date: Feb 19, 2012

Apple Remote Access: Dialing String Length

I'm using the Apple Remote Access (ARA) Client 2.0.1, and I want to enter a 39 character string in the Long DistancAccess setup of the Dial Assist control panel (10 digit phone number, 2 commas, 14 digit credit card number, 4 commas, and 9 digit phone number). When I have tried to connect, ARA seems to only dial the first 31 characters. Is there a limit of characters ARA can dial?

This article has been archived and is no longer updated by Apple.

This is not a limitation of ARA. Different modems may have different maximum command line lengths that they will accept. This maximum is defined in the mlts resource of the modem script. If an mlts resources is not defined then ARA assumes a default length of 30 characters. ARA also provides the ability to break one long string up into substrings, but the specific modem script must be written to take advantage of this feature. If the modem script you are using does not dial all the characters you are entering contact the modem manufacturer for an updated script.

Published Date: Feb 19, 2012

ARA: Credit Card Number Visible in Activity Log

I use my long distance credit card number when connecting with Apple Remote Access (ARA) by entering the number in the Long Distance Access field of the DialAssist control panel. I've noticed that the Activity Log shows my credit card number instead of black dots, and I'm concerned other people using my PowerBook can get my credit card number from the Log. Is there a way to hide my credit card number?
This article has been archived and is no longer updated by Apple.
To keep your credit card number from appearing in the Activity Log, enter the credit card number in the Suffix field of the DialAssist control panel. If you enter your credit card information in the Long Distance Access field of the DialAssist control panel, the number will be visible in the Log.
Published Date: Feb 19, 2012

Duodisk Problem/Cure: Won‘t Format-Says "Volume Not On Line"

PROBLEM DESCRIPTION: When trying to format a brand new disk, i.e. one that has never been formatted , the system returns a "Volume Not On Line" error prompt. Other error prompts may occur depending on the application you are using to format the disk.

CAUSE: The revision of the Format Utility that is being used may be incompatable with the Analog PCB in the DuoDisk.

This article has been archived and is no longer updated by Apple.
CURE: Use revision 2.1 or newer of the System Utilities. If the format attempt fails again, swap the analog PCB and retry.

If the above cure doesn't fix the problem, search on GTS and the product's name to obtain a general troubleshooting procedure.

Published Date: Feb 19, 2012

PowerBook 190 & 5300: PC Card Usage Affects Battery Life (10/95)

Will inserting PC (PCMCIA) cards into a Macintosh PowerBook 190 or 5300 series computer reduce battery life?
This article has been archived and is no longer updated by Apple.
Inserting PC (PCMCIA) cards into the PowerBook 5300 or PowerBook 190 will reduce battery life. This is more evident if the cards are active or in use. However, PC cards do draw some power when they are just inserted and not in use. Most cards have two states, idle or in use.

How to Minimize PC Card Power Usage
---
* Eject the PC card. This is the best way to minimize power usage.

* Use a different PC card. The amount of power drawn by a PC card varies per individual PC card and by different manufacturers' designs. To test whether your PC card may be drawing more power than you think it should, causing the battery to drain too quickly, you may want to swap it with another similar PC card or a different brand of PC card.

* Do not insert PC cards which are not needed. Eject the PC card when it is no longer in use.

* Plug it in to AC power rather than running from the battery. In most circumstances when a person would need to use a modem or network, there is a power outlet nearby. Apple recommends using the AC adapter, when AC power is available, to retain a full battery charge for times when external power is not available.

Support Information Services
Published Date: Feb 19, 2012

Open Transport 1.0.8 Read Me

This article is the Open Transport 1.0.8 Read Me file.

Open Transport 1.0.8 was released on Oct 25 1995. It can be found in Apple Software Updates at http://www.apple.com/swupdates .
This article has been archived and is no longer updated by Apple.
What is this version of Open Transport?

Open Transport 1.0.8 is a maintenance release of Open Transport networking software.

What Macintosh systems are able to use this software?

Open Transport 1.0.8 is designed for installation on Power Macintosh 7200, 7500, 8500, and 9500 computers that have Open Transport version 1.0.6 or 1.0.7 and System Software 7.5.2 version 2 installed. If you have a Power Macintosh 7200, 7500, or 8500, the correct version of system software is already installed. If you have a Power Macintosh 9500, check to see if "System Enabler 1.1" is in your System Folder. If you have System Enabler 1.1, you have System Software 7.5.2 version 2.

Who needs this software?

Anyone that has a Power Macintosh 7200, 7500, 8500, or 9500 computer and is experiencing one or more of the problems described below.

What has changed in this release?

This section documents only the changes made since version 1.0.7. Changes made in earlier updates have been documented in the Read Me files accompanying each version.

Changes to Open Transport AppleTalk software

* DDP CheckSum
Open Transport DDP now properly handles a checksum of $FFFF. In earlier versions, the computer could appear to freeze because packets with a checksum of $FFFF were rejected.

* QuickMail out of sockets
When attempting to verify addresses with the QuickMail 3.0.4 client, the software would display the error message: "NameServer Communications Error. Try again, or increase time outs for NameServer using QM Time outs." This bug has been fixed.

Changes to Open Transport TCP/IP software

* BootP
Corrected a bug in the TCP/IP control panel that could, under some circumstances, prevent accepting the gateway and domain name server addresses provided by a BootP server.

* Eudora e-mail
Problems with sending mail from Eudora when using SLIP or PPP have been fixed.

* Aborting Netscape Connections
Aborting Netscape connections sometimes caused a crash when using Open Transport. This problem has been fixed.

* DHCP/Windows NT
Previous versions of Open Transport TCP/IP software were able to obtain

an IP address and subnet mask, but no other settings, from Windows NT DHCP servers. With this release, Open Transport TCP/IP explicitly requests a domain name, default gateway address, domain name server address, subnet mask, and subnet broadcast address in addition to an IP address.

TA34626_Open_Transport_Read_Me_(TIL18826).pdf

Printing Problem with System 7.5.2

On Power Macintosh 7200, 7500, 8500, and 9500 computers using System 7.5.2, it may be necessary to restart your computer if you attempt to print to a network-based printer that is already busy. The file "7.5.2 Printing Fix," which solves this problem, is available in the Apple Software Updates areas on the services:

* America Online - keyword: applecomputer

* CompuServe - GO APLSUP

* Internet -
- Worldwide Web: http://www.apple.com/swupdates

Compatibility Problem with MacPPP and FreePPP

Power Macintosh computers using Virtual Memory (including RAM Doubler) may crash when using MacPPP 2.1.2SD or FreePPP (1.0 and 1.0.1). The crash occurs when opening a PPP connection or during a data transfer. To avoid this problem, turn off Virtual Memory.

This problem is not related to Open Transport, and is expected to be addressed in a later release of FreePPP. To find out when the next FreePPP release is available, look for an announcement in the comp.sys.mac.comm newsgroup. The next version of FreePPP is expected to be available for ftp from the /comm/tcp/ directory of the InfoMac archives.

How do I install the software?

Open Transport 1.0.8 is delivered as a full installation of the Open Transport software; unlike some previous updates, there is no patching application supplied. To install Open Transport 1.0.8, run the Installer script supplied by following these steps:

1) Open the OT 1.0.8 folder.

2) Double-click the Installer icon.

3) In the Welcome box that appears, click OK.

4) In the Easy Install box, make sure the disk named is the disk you want to install Open Transport on, then click Install.

5) When the installation is finished, click Restart to restart your computer in order to use Open Transport 1.0.8.

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Open Transport 1.0.8: General Information Q & A

This article is a series of questions and answers of general information on Open Transport 1.0.8.

Open Transport 1.1 is now available, and Apple recommends upgrading to it. Also refer to Open Transport 1.1 Reference Questions and Answers Tech Info Library articles for the most recent information.
This article has been archived and is no longer updated by Apple.
Question: What is Apple Open Transport?

Answer: Apple Open Transport is the modern networking and communications subsystem for the Mac*OS. Open Transport is based on industry standards and brings a new level of networking connectivity, control, and compatibility to Mac OS systems, while preserving and enhancing the hallmark of the Macintosh and Mac OS -- built-in support for easy-to-use networking.

Question: What long-range Apple goals are advanced through Open Transport?

Answer: Apple believes that communications and collaboration technologies are integral and fundamental to personal and workgroup computing. With Open Transport our goal is to provide the foundation to make the Mac OS the best desktop OS for multi-protocol networking, anywhere.

Question: What needs must be addressed to be "the best"?

Answer: Networking and communications technologies are mission critical -- thus reliability is a base-level requirement. Organizations require interoperability in heterogeneous environments; full compliance with standards is necessary.

High performance is also key. Increasing file sizes -- often related to the rich media types found in graphics and publishing, multimedia, video production, and technical markets -- create a demand for effective use of higher bandwidth communications technologies such as ISDN, FDDI, fast ethernet and ATM.

Beyond these base-level requirements network managers, end-users and developers each have additional needs.

* Network managers need networked systems to support a flexible model of administration that accommodates both centralized and decentralized management models.

* Users are typically more interested in using communications as a basis for productivity applications. As such, they want networking that is easy to set up and easy to use. This becomes even more important when users are mobile, needing access to networking services from wherever they may be -- without requiring complex reconfiguration for each connection type.

* Developers need to address the broadest possible markets with minimum incremental investment. In short, they need standards-based, cross-platform APIs and development tools.

Question: What were some of the key goals driving the development of Open Transport?

Answer: Apple began with two key assumptions: that networking is inherently a multiplatform, multi-protocol proposition; and that customers cannot (and should not have to!) start over to achieve networking interoperability. This led us to adopt five key design goals:

* Open Transport must protect customer and developer investments in existing network infrastructure and applications.

* Open Transport must be based on existing cross-platform industry standards.

* Open Transport must provide users with an easy to set-up, easy to use abstraction of the underlying complexity of multi-protocol networking.

* Open Transport must also provide a complementary abstraction of networking and communications services for applications developers.

* Open Transport must offer a flexible run time model - one that lets a specific protocol be configured and selected at run time, rather than linked at compile time.
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Apple IIc: After Upgrade Can‘t

After an Apple IIc logic PCB has been upgraded, it seems to be unable to perform an Open Apple/Control-Reset.
This article has been archived and is no longer updated by Apple.
The board is still able to perform the reset. However the timing in the key strokes is more critical.

1. While simultaneously holding the Open Apple and Control keys down, press and release the Reset key.

2. Release the Open Apple and Control keys "after" you have released the Reset key.

If the above cure doesn't fix the problem, search on GTS and the product's name to obtain a general troubleshooting procedure.
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Open Transport 1.0.8: Key Features and Benefits Q & A (3/96)

This article is a series of questions and answers about the key features and benefits in Apple Open Transport 1.0.8.

Open Transport 1.1 is now available, and Apple recommends upgrading to it. Also refer to Open Transport 1.1 Reference Questions and Answers Tech Info Library articles for the most recent information.
This article has been archived and is no longer updated by Apple.
Question: How will Open Transport benefit users?

Answer: Open Transport provides individual computer users with many benefits. Two of the most immediately visible and important benefits relate to making networking more accessible.

First, Open Transport makes it easy to switch from one network configuration to another. A computer user "on the go" might want to hook up to the Internet in various locations, each requiring a different network configuration. With Open Transport settings for each network location can be stored for easy access and use. Changed settings are available immediately - no reboot of the computer is required to use the new configuration.

Second, Open Transport integrates on-line help, based on AppleGuide technology, to make it easier for an individual to hook up to an network, with fewer demands on network manager and support resources.

Question: How will Open Transport benefit network managers and organizations?

Answer: Open Transport provides significant new flexibility in setting up network configurations; with Open Transport, the network manager can recommend or require configuration settings for users on the network, or allow users to determine their own settings.

Open Transport also improves support for centralized configuration management. For example, Open Transport/TCP supports the Dynamic Host Configuration Protocol (DHCP), allowing network managers to administer addressing and other TCP/IP configuration information from a central server.

Question: How will Open Transport benefit developers?

Answer: Open Transport is designed to make it easier and more cost-effective to develop Macintosh-based applications for a wide variety of customers and markets. With Open Transport the Mac OS has built-in networking and communications based on cross-platform industry standards, including the POSIX compliant X/Open Transport Interface (XTI), UNIX STREAMs and Data Link Provider Interface (DLPI).

Applications written to support Open Transport can directly support a wide range of networking environments (serial, dial-up network, LAN, and WAN), and multiple protocols (AppleTalk, TCP/IP, serial, and others) from a common code base. This capability is sometimes referred to as transport independence.

Question: What is transport independence? Why is it important?

Answer: Different people judge networking in different ways. End-users focus on what they can do using the network, and tend to select applications based on functionality and ease of use. Network managers are interested in delivering reliable network services in a cost efficient manner. Developers want to create compelling functionality for users, but are strongly influenced by the availability of networking infrastructure.

Unfortunately, with current networking tools and systems developers are forced to tie their applications to specific network infrastructure requirements -- driven by their API choices. This creates a potential conflict between individual and organizational needs. If network managers restrict protocols to control support costs, users may not have access to the applications they need. If user require specific applications they may increase support costs for the network manager by "dragging along" specific network infrastructure requirements. Developer are stuck in the middle, making decisions for both users and network managers by selection of an API at compile time.

Transport independence is a concept that breaks this undesirable linkage. When implemented, it allows developers to write to a uniform set of APIs, users to focus on selecting the best applications, and network managers to make independent decisions about network infrastructure, all on an ongoing basis.

Question: What benefits can be realized from transport independent applications?

Answer: For end-users, transport independence brings an increased freedom to select applications that meet their needs, without being concerned with the bits and bytes of networking protocols. For network managers, transport independence allows increased flexibility in designing and controlling infrastructure demands arising from support of end-user applications, that is, the freedom to manage the bits and bytes of networking protocols.

Developers who create transport independent applications will find access to broader markets with incremental resources; code written for the AppleTalk market, for example, can be delivered to TCP/IP markets as well.

Question: How does Open Transport enable transport independence?

Answer: Open Transport brings together four technologies to support the development and deployment of transport independent applications on the Mac OS:

* a set of look-and-feel guidelines that promote consistency for configuration of network services across protocols,
* a unified set of cross-platform, standards-based APIs for all networking and communications protocols; for example, applications can send and receive data over an AppleTalk LAN or the TCP/IP-based Internet using the same programming interfaces,
* a dynamic link-and-load architecture and set of protocols; protocols are loaded and unloaded on demand, conserving system resources, and making it possible to substitute TCP for ADSP at the application launch time (for example), and
* an addressing and naming support tool box; for example, applications can open a communications end-point by name (that is, "seeding.apple.com" or "printer16:LaserWriter@sales"; Open Transport will automatically provide the appropriate name-to-address mapping services (that is, DNR, NBP, and so on).

Together these support the creation of transport independent applications on the Mac OS.

Question: Are all Open Transport applications transport independent?

Answer: No. While Open Transport provides the necessary foundation, there are certain guidelines and programming practices required for developers to create transport independent applications. For example, most protocols have many features in common - but also some features that are protocol-specific. If an application depends on a protocol-specific feature, then it will depend upon that protocol as well.

In some cases it may be appropriate or desirable to develop a transport-specific application. For example, an MBone client is currently only useful when communicating using TCP/IP.

Question: Does transport independence imply that my organization can offer "AppleTalk services" without supporting "AppleTalk protocols"?

Answer: For each service and network environment, protocol and services choices will be determined by a combination of factors; transport independence is only one of them.

This begins with both the client and the server implementations of the particular service of interest (file, print, e-mail, directory, security, back-up, calendar, and so on) supporting the Open Transport APIs. Next, both the client and server must have the protocol stack(s) of choice installed. Finally, the server application must include some administration utility to allow the network manager to specify the protocol(s) over which application and/or presentation layer services are to be provided.

The user experience for selecting the server (that is, "Choosing", or "name-binding") may vary depending on the underlying protocol. For example, AppleTalk offers a distinctive user experience through the "Chooser" and the underlying NBP/ZIP protocols. TCP/IP offers a substantially different model for name-to-address translation (DNS); NetWare/IPX still another (NDS).

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Open Transport 1.0.8: AppleTalk Features Q & A

This article is a series of questions and answers on the AppleTalk features in Apple Open Transport 1.0.8.

Open Transport 1.1 is now available, and Apple recommends upgrading to it. Also refer to Open Transport 1.1 Reference Questions and Answers Tech Info Library articles for the most recent information.
This article has been archived and is no longer updated by Apple.
Question: What are some of the upgraded protocol features of Open Transport/AppleTalk?

Answer: Open Transport/AppleTalk now includes new support for assigned (manually administered) protocol addresses. This allows AppleTalk nodes to be managed using protocol address as a unique and stable identifier. It also reduces some of the network traffic associated with AppleTalk's dynamic address assignment features (AARP).

Dynamic addressing continues to be available for those customers who prefer the automated address allocation.

Question: Does the use of AppleTalk manual addressing increase the requirement for network administration?

Answer: Open Transport/AppleTalk offers network administrators a choice. Sites that prefer to have the network infrastructure automatically assign unique protocol addresses can continue to rely on AppleTalk Address Resolution Protocol (AARP). Sites that find advantage in having fixed and well-known protocol addresses for each end-node can implement manual addressing.

When manual addressing is selected there will be a requirement to allocate and assign the initial protocol addresses, which will subsequently be "locked". Some administrators may prefer to do this allocation based on a central numbering plan, creating individual configuration templates (recommended or required settings) for each user. Others may prefer to allow the network to determine the initial address configuration (that is, use dynamic addressing once), and then lock the uniquely assigned addresses after initialization.

It is important that all nodes on each individual AppleTalk subnet (a given cable segment assigned a unique network number or network number range) be administered consistently - either all with dynamic addressing or all with pre-assigned static addresses. This avoids a potential conflict between a new dynamic node acquiring an address assigned to an off-line, manually-addressed node. Administrators can enforce the addressing policy for a subnet by locking the addressing mode in the "dynamic" or in the "manual" state. As an administrative precaution, however, Open Transport/AppleTalk does continue to check for the presence of duplicate protocol addresses on the LAN when static addressing is configured.

Question: Are there other benefits that arise from the new support for AppleTalk manual addressing?

Answer: Yes. Manual configuration of static AppleTalk addresses supports Mac OS products that utilize WAN datalinks where non-full-mesh topologies are important. This includes datalinks such as Frame Relay, SMDS, and ATM.

Question: Is Open Transport/AppleTalk "AppleTalk Phase 3"?

Answer: No. Open Transport/AppleTalk is a new, modern implementation of the AppleTalk Phase 2 protocol architecture for the Mac OS -- from the people who invented AppleTalk.

Question: What happened to the "Network" control panel?

Answer: The Network Control Panel has been replaced by the Open Transport AppleTalk configuration utility. This change was made to reflect the true function of the utility.

Question: Are there other changes to the human interface for AppleTalk?

Answer: Yes. The AppleTalk configuration utility now provides basic troubleshooting information as a part of the human interface. For example, the Advanced and Administrator views provide access to the current AppleTalk router address and the current AppleTalk network number range for the cable. Previously this information was only available through the use of router administration software, or protocol analysis software.
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Open Transport 1.0.8: TCP/IP Features Q & A

This article is a series of questions and answers on the TCP/IP features in Apple Open Transport 1.0.8.

Open Transport 1.1 is now available, and Apple recommends upgrading to it. Also refer to Open Transport 1.1 Reference Questions and Answers Tech Info Library articles for the most recent information.
This article has been archived and is no longer updated by Apple.
Question: What are some of the changes to the human interface for Open Transport/TCP?

Answer: The Open Transport/TCP configuration application represents a complete overhaul of the human interface from the MacTCP software it replaces. In addition to generic new features noted elsewhere (multiple saved configurations, recommended and required settings, on-line documentation, and so on), key new features include:

* direct entry of IP addresses and subnet mask in standard "dot notation";
* explicit selection of desired configuration method, now including DHCP;
* support for attachment to networks using Classless InterDomain Routing (CIDR);
* support for multiple entries in the router, name server, and explicit domain search lists; and
* improved support for large AppleTalk networks when using MacIP server/gateways.

Question: What are some of the upgraded features of Open Transport/TCP protocol stack?

Answer: With the broad adoption of TCP/IP -- and the tremendous excitement and visibility of the Internet -- Apple has made a significant investment in bringing a workstation-class implementation of TCP/IP protocols to the Mac OS. As with MacTCP, Open Transport/TCP is a full 32-bit stack. Open Transport/TCP adds support for:

* dynamic path MTU discovery, for more efficient network use in heterogeneous network topologies;
* Dynamic Host Configuration Protocol (DHCP), for centralized IP address configuration management. DHCP is an Internet Engineering Task Force (IETF) standards-track protocol;
* IP multicast, for participation as an MBone client;
* simultaneous TCP connections limited only by installed memory and processor power, for increased functionality as a Internet or other TCP/IP network server;
* ethernet version 2 and IEEE 802.3 framing, for better interoperability with a wider range of TCP/IP hosts;
* implicit and explicit domain name search paths, for increased control of domain name resolution; and,
* multiple IP routers with fail-over, for increased robustness in mission critical applications.

Question: How does the new support for Dynamic Path MTU discovery work?

Answer: Open Transport/TCP sets the "don't fragment" bit unless the packet size is larger than the MTU for the network. Intermediate routers are required by current RFCs to send back an "ICMP can't fragment" error when presented with a "don't fragment" packet that cannot be forwarded without fragmentation with that MTU size. In that event, Open Transport/TCP moves to the next smaller MTU size for that path and re-sends the packet, again with the "don't fragment" bit set. This process results in using the largest supported MTU size for off-subnet traffic.

Question: Which DHCP servers are supported by Open Transport/TCP?

Answer: Apple's implementation conforms to the current versions of the applicable specification documents (RFCs). To date, Open Transport/TCP has been tested with the following DHCP server implementations:

* Competitive Automation,
* FTP Software (http://www.ftp.com),
* Hewlett Packard HP-UX (http://www.hp.com),
* Microsoft Windows NT Advanced Server (see Network Planning and Administration),
* Silicon Graphics (http://www.sgi.com),
* Sun Solaris and SunOS (http://www.sun.com), and
* TGV (http://www.tgv.com).

Question: Does Open Transport/TCP support DHCP address leases?

Answer: Yes. Open Transport/TCP fully supports DHCP address leases. Open Transport/TCP will automatically attempt to renew any address lease that reaches it's Renewal Interval, which defaults to half of the lease's lifetime. (The Renewal Interval may be configured to a different value by making changes to the configuring DHCP server). Renewal will be attempted regardless of how many times the lease has already been

renewed. Should an interface's IP address lease expire, the interface will be closed down.

Question: Does Open Transport/TCP support MacTCP "Server" addressing?

Answer: MacTCP Server mode addressing is a combination of the Bootstrap Protocol (BootP) and Reverse Address Resolution Protocol (RARP) configuration methods. When Server mode is selected, MacTCP will use BootP to attempt to acquire an IP address. If BootP fails to provide a valid address it would then try RARP. Whichever protocol was successful would be stored as a preference, and would be used first on next system startup. While this "fall-back" approach added a degree of robustness from the users point of view, it also added a degree of unpredictability from a network administrators point of view.

Based on customer feedback, Open Transport/TCP allows a network administrator to explicitly specify the single method they prefer to use. Thus while both RARP and BootP are supported, the Server mode does not appear as a choice in the Open Transport/TCP configuration utility.

Question: Does Open Transport/TCP support MacTCP "Dynamic" addressing?

Answer: No. MacTCP "Dynamic" mode addressing was based on an Apple-proprietary extension to TCP/IP protocols. It applied the address negotiation and assignment rules used by the AppleTalk protocols to TCP/IP networks, making it very easy to set-up a Macintosh only stand-alone TCP/IP network. Use of this Dynamic Addressing method in other scenarios, however, could create additional work for a network administrator.

The Internet community (the IETF) has since developed a multivendor standard for the dynamic assignment of IP addresses, known as Dynamic Host Configuration Protocol (DHCP). Apple has adopted the industry standard DHCP and dropped support for the earlier Apple "Dynamic" mode addressing with Open Transport/TCP.

Question: Does Open Transport/TCP support a local HOSTS file?

Answer: Yes. Open Transport/TCP supports a HOSTS file, stored in the System Preferences folder, that may be used to supplement and/or customize the Domain Name Resolver's initial cache of information. This file is parsed when Open Transport/TCP is initialized. As in MacTCP, the supported HOSTS file features follow a subset of the Domain Name System Master File Format (RFC 1035).

Should a HOSTS file be used, every effort should be made to keep it as small as possible, and to only include entries that will be accessed frequently. This reduces the total memory footprint required to cache the DNS information and minimizes the need to maintain and update the HOSTS files as system information changes over time.

In order to activate a HOSTS file, Open Transport/TCP must be configured using either the Advanced or Administrator mode to select the appropriate file. The text file must already exist, and can be created with any text editor or word processor. Also note that the HOSTS file selection is tied to the selected configuration. An administrator might, for example, specify different HOSTS files for use when a user connects via ethernet on the campus LAN and that same user when dialing-in from a remote location.

Supported features include blank lines, comments (indicated by a semicolon), and data entry. Comments may begin at any location in a line; they may follow data entry on the same line. A comment extends from the semicolon to the end of the line. Data entry must follow the format:

<domain-name> <rr>

where <domain-name> is an absolute or Fully Qualified domain name. The FQDN need not be terminated by a dot, but must contain at least one dot internally, and where

<rr> = <type> <rdata> OR <type> <rdata>

The only <class> currently supported is IN (Internet Domain); <ttl>, time to live, indicates the record's configured lifetime in seconds; and <type> can be A (host address), CNAME (canonical name of an alias), or NS (name server). If <ttl> is not present the entry is assumed to have an infinite lifetime; this may also be indicated by specifying a value of minus-one (-1). $INCLUDE and $ORIGIN are not supported.

Open Transport/TCP is somewhat more stringent regarding the format and content of the HOSTS file than was MacTCP. MacTCP permitted violation of the Fully Qualified requirement for <domain-name>; this feature was often used to avoid the necessity for entering CNAME records by associating an address directly with a non-fully qualified name. For instance, this format:

charlie A 128.1.1.1

which was acceptable to the MacTCP DNR, is no longer permitted because of the use of domain search lists in Open Transport/TCP (charlie could potentially exist in any or all of the configured domains). To accomplish the same effect, use this format instead:

charlie CNAME myhost.mydomain.edu
myhost.mydomain.edu A 128.1.1.1

This associates the local alias charlie with the fully qualified domain name myhost.mydomain.edu, and resolves it to the address 128.1.1.1. Use of local aliases is limited to CNAME entries; NS and A entries must use fully qualified domain names.

Question: How does the new Open Transport/TCP Domain Name Resolver work?

Answer: When a client of the DNR requests a name-to-address mapping, the DNR checks for a "." at the end of the name. If it exists the name is assumed to be fully qualified (RFCs 1034 and 1035), and the DNR will search for that name. If the name contains at least one "." internally but does not end with "." it is considered to be provisionally fully qualified. The DNR will begin a search for these names without further manipulation.

Otherwise the name is assumed to be partially qualified. The DNR will begin a search for the name in the domain name configured in the "Default Domain name:" field. For example, an attempt to resolve joe with a Default Domain of tech.support.apple.com would look for joe.tech.support.apple.com.

If the requested name is not found and an optional Admin Domain has been configured using either the Advanced or Administrator mode, implicit searches will take place next. Continuing with the example, with a Default Domain of tech.support.apple.com and an Admin Domain of apple.com, a search for the name joe would look for the following additional names:

joe.support.apple.com
joe.apple.com.

Implicit searching will stop when the name is resolved, or when the FQDN becomes equal to the name-to-be-resolved concatenated with the Admin Domain (that is in the example no implicit search would be made for joe.com). Implicit searching will not be attempted unless an Admin Domain is explicitly configured and the Default Domain is a subdomain of the Admin Domain (per RFC 1535).

If the name is still not found, the explicit Search Domains are searched. For each search domain the configured name server(s) are contacted in the order specified in the Name Servers field. If the name is resolved in the first search domain that answer is returned; other Search Domains will not be checked. If an authoritative answer that the "name-does-not-exist" is returned the DNR immediately begins the search in the next configured Search Domain. The search continues through the configured Search Domains. If still no match is found, the DNR will search the root domain if it makes sense to do so.

The DNR has an overall time-out of 2 minutes, after which it will abandon its search.

Question: What is MacIP?

Answer: MacIP, sometimes also referred to as KIP (Kinetics Internet Protocol), is a protocol specification developed as a method for carrying TCP/IP traffic on AppleTalk only networks -- originally these would have been LocalTalk networks. MacIP is today frequently used in conjunction with AppleTalk Remote Access Protocol (ARAP) to provide mobile users access to TCP/IP network services. MacIP specifies encapsulation of TCP/IP datagrams in AppleTalk packets for transmission over such connections.

Use of MacIP requires a MacIP gateway. AppleTalk encapsulated IP packets are sent to the MacIP gateway using AppleTalk protocols (DDP). The gateway strips off the AppleTalk encapsulation and places the IP packet on the TCP/IP LAN. When packets are destined for the MacIP end-node, that gateway provides the needed encapsulation services.

MacIP gateway support is most frequently offered as an integrated service within a multiprotocol router. The gateway (router) attaches to both an AppleTalk and a TCP/IP network, acting as a middleman between the MacIP end-node and the appropriate TCP/IP-based hosts on the LAN or WAN.

Open Transport includes end-node support for MacIP. A end-node is configured to use MacIP using the TCP/IP configuration utility by selecting "AppleTalk (MacIP)" in the "Connect via:" pop-up menu. The user (or network administrator) must also specify where on the network (in which zone) to look for the MacIP gateway. Once selected, TCP/IP will be encapsulated in AppleTalk and will be sent out the "Connect via:" interface selected using the AppleTalk configuration utility.
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Open Transport 1.0.8: Network Interface Options Q & A (3/96)

This article is a series of questions and answers on the network interface options in Apple Open Transport 1.0.8.

Open Transport 1.1 is now available, and Apple recommends upgrading to it. Also refer to Open Transport 1.1 Reference Questions and Answers Tech Info Library articles for the most recent information.
This article has been archived and is no longer updated by Apple.
Question: What network interface options are available with Open Transport?

Answer: Open Transport v1.0 supports PCI-bus NICs and Macintosh built-in (LocalTalk and ethernet) network adapters. Beginning with v1.0.6, Open Transport adds support for infrared and PC Card (formerly known as PCMCIA) network adapters on select Macintosh systems.

Third party options available for Open Transport include fast ethernet, ATM, and FDDI.

Question: What about dial-up network connectivity solutions?

Answer: For connectivity to AppleTalk networks, Open Transport supports Apple Remote Access v2.0.1 client and personal server through backward compatibility services. For dial-up connectivity to TCP/IP networks including the Internet, Open Transport supports select third party MacTCP software extensions (known as mdevs), providing SLIP or PPP connectivity. See Network Compatibility for more information.

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Open Transport 1.0.8: Availability & Distribution Q & A

This article is a series of questions and answers on the availability and distribution of Apple Open Transport 1.0.8.

Open Transport 1.1.1 (as well as OT 1.1.2 for selected machines) is now available, and Apple recommends upgrading to it. Also refer to Open Transport 1.1.1 Reference Questions and Answers articles for the most recent information.
This article has been archived and is no longer updated by Apple.
Question: What is the current production version of Open Transport?

Answer: If you are looking for a more recent update of Open Transport, You must upgrade your system software to install the most recent version. Open Transport 2.0.3 is the current version but has been qualified with Mac OS 8.6 only. Open Transport v1.1.2 is the latest version available from Apple Software Updates for download. This maintenance release was designed and is recommended for all PCI-bus Power Macintosh systems. It includes the following changes:

* Open Transport/AppleTalk's DDP implementation will now properly handle a checksum of $FFFF. In earlier versions, packets with a checksum of $FFFF would be rejected, resulting in unnecessary retransmissions of data.

* When attempting to verify addresses with the QuickMail 3.0.4 client, the software would come back with an error message that read "NameServer Communications Error. Try again, or increase time outs for NameServer using QM Time outs." This bug has been fixed.

* Corrected a bug in the Open Transport/TCP control panel that could, under some circumstances, prevent the acceptance of the gateway and domain name server information provided by the BootP server.

* Problems with sending mail from Eudora when using SLIP or PPP have been fixed.

* Aborting Netscape connections could sometimes cause a crash. This problem has been fixed.

* Previous versions of Open Transport/TCP were unable to fully configure from Windows NT DHCP servers. Unlike most DHCP servers, Windows NT does not provide DHCP options unless specifically requested by the client. Open Transport/TCP 1.0.8 now requests a domain name, default gateway address, domain name server address(es), subnet mask, and subnet broadcast address, in addition to an IP address.

More complete details on the changes incorporated in v1.0.8 are found in the current Open Transport Release Notes. These are available by anonymous ftp from ftp://seeding.apple.com/opentransport/

Question: How is Open Transport v1.0.8 made available to customers?

Answer: Open Transport v1.0.8 is planned to be distributed via a variety of information services and a number of Internet sites. This release is distributed as a full installation of Open Transport software - not an updater or patcher.

* America Online - keyword: applecomputer

* CompuServe - GO APLSUP

* Internet - - Worldwide Web: **http://www.apple.com/swupdates** - ftp: **ftp://ftp.info.apple.com**

The software is only designed to work on PCI-bus Power Macintosh systems, and is recommended to customers who are experiencing one or more of the problems identified above as fixed with the 1.0.8 release.

Question: Summarize the earlier Open Transport v1.0.x releases?

Answer: Open Transport version 1.0 was focused on offering strong backward compatibility with existing networking client applications, and on significantly upgrading the feature set and performance of TCP/IP on the Mac OS.

Version 1.0.1 was a maintenance update, designed to correct a potential problem with data truncation in large file transfers.

Version 1.0.6 added support for the Power Macintosh 7200, 7500, and 8500 systems, and addresses bugs discovered since the initial 1.0 release.

Version 1.0.7 included further changes to improve performance and compatibility of Open Transport/TCP with third party SLIP and PPP connections, and to accommodate certain Internet Service Provider (ISP) address assignment practices.

Question: How was Open Transport v1.0.7 made available to customers?

Answer: Open Transport v1.0.7 is distributed electronically, as an update to be applied to an existing installation of Open Transport v1.0.6. The update is available on a variety of information services and a number of Internet sites including
ftp://seeding.apple.com/opentransport/update/OT_1.0.7_patch/

Question: How was Open Transport v1.0.6 made available to customers?

Answer: Open Transport v1.0.6 ships as a built-in component of Mac OS system software (System Software 7.5.2 version 2) on the Power Macintosh 7200, 7500, and 8500 models. Software on newly manufactured Power Macintosh 9500 systems is updated to this release as well.

Question: Will Open Transport be made available to software developers, publishers, and/or Internet Service Providers (ISPs) for redistribution and bundling options?

Answer: Yes. Following the availability of Open Transport v1.1 Apple is planning to offer two redistribution licensing agreements for Open Transport, to meet the needs of publishers, developers, and ISPs.

The first agreement is designed for Internet service providers, network and communications reference work authors and publishers, and others interested in bundling Open Transport software as an added customer benefit to their product or service offering. This license is planned to be based on a sliding-scale per-unit license fee, and will require annual reporting of licenses issued.

The second agreement is designed for software developers with products that adopt the new Open Transport APIs who wish to ship Open Transport as a part of an integrated product installation process. This agreement is to be based on the Mac OS SDK, and would allow qualified developers to ship the Open Transport run-time environment to end-users as a part of their product.

To qualify, developers would execute the Open Transport License Addendum, and meet the following requirements:

* have developed an Open Transport-ready or Open Transport-enhanced software product,

* be current subscribers to the Mac OS SDK,

* provide Apple advance notice of their intent to ship their Open Transport product(s),

* distribute the required Open Transport components only in conjunction with their product(s), and,

* annually report the total number of licenses issued. Other terms and conditions may apply, however, no additional fees (beyond the Mac OS SDK subscription) are planned for this license.

Final details on these agreements will be available later this year. Interested developers should send electronic mail to OT.LICENSE@seeding.apple.com

For the most current information on what SDKs Apple offers, point your Web browser to: **http://developer.apple.com/sdk/**

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Open Transport 1.0.8: Network Planning & Admin Q & A

This article is a series of questions and answers on the network planning and administration of Apple Open Transport 1.0.8.

Open Transport 1.1 is now available, and Apple recommends upgrading to it. Also refer to Open Transport 1.1 Reference Questions and Answers Tech Info Library articles for the most recent information.

This article has been archived and is no longer updated by Apple.
Question: Will Open Transport require organizations to make changes in network administration, planning, or design?

Answer: The first Open Transport protocols -- AppleTalk and TCP/IP -- offer new features that give a network manager more flexibility and control. Some of these features, when implemented in a network environment will require additional thought and planning by a network manager.

In particular, Open Transport/AppleTalk adds support for the use of static (manually assigned) AppleTalk node addresses. If implemented, a network manager may prefer to assign addresses based on a pre-designed protocol address management plan. Open Transport/TCP adds support for the Dynamic Host Configuration Protocol (DHCP). DHCP allows network managers to allocate IP addresses and other configuration information from a DHCP server. Optimum deployment of DHCP services within an enterprise does require planning.

In order to better conform to applicable standards, Open Transport/TCP also has somewhat more rigorous requirements regarding the content and format of the local HOSTS file. See TCP/IP Features for more information.

Question: Does Open Transport offer network managers more control over Mac OS networking?

Answer: Yes. Open Transport allows network managers to specify details of the network connection and configuration in advance, via a preferences file. These configurations may contain a mixture of user-provided information and network manager recommended and/or network manager required settings. Recommended data provides a default for the end-user, while required configuration data is locked with an administrator's password.

Open Transport configurations can be prepared on one machine and distributed to other systems. To support this, the Open Transport configuration utilities allow a configuration to exported and imported. Exported configurations can be distributed via electronic mail, a file server, or even sneaker net.

Question: Can Open Transport/TCP act as a DHCP client to a Windows NT Advanced Server?

Answer: Yes. However, due to significant differences between the Microsoft Windows NTAS implementation of DHCP and typical UNIX-based servers, there have been some interoperability issues with Open Transport 1.0.x:

* Customers running Open Transport v1.0 or v1.0.1 will not be able to acquire leased IP addresses. This is due to unusually long reply-time-out values used in the NTAS implementation. Open Transport v1.0.6 was changed to accommodate NTAS behavior in this regard.

* Customers running versions of Open Transport prior to v1.0.8 will be incompletely configured via DHCP.

NTAS sends only IP address, IP address lease information, the configuring server's IP address, and a subnet mask. Investigation revealed that other configuration options entered in the NT DHCP server's database (default gateway address, domain name server addresses, domain name, broadcast address, and so on) were not sent unless specifically requested by the client using the DHCP Parameter Request List option.

Apple believes that this practice -- requiring use of this option in order for the client to be properly configured -- is contrary to the DHCP server specification described in RFC 1541 (Dynamic Host Configuration Protocol). This RFC documents the Parameter Request List option as a MAY, rather than a MUST or SHOULD, making required use of the parameter inappropriate. Further, this behavior appears to be unique to the NTAS implementation.

In interest of interoperability, Open Transport v1.0.8 (and the planned v1.1) uses the Parameter Request List option to request default gateways, DNS servers, domain name, subnet mask, and broadcast address. This permits Open Transport/TCP clients to be fully configured by Windows NT DHCP servers, without adversely affecting interoperability with other fully compliant DHCP servers, at the expense of a few additional packets on the wire during the initialization phase.

Question: Can Open Transport/TCP act as a WINS client to a Windows NT Advanced Server?

Answer: No, not at this time. The Microsoft WINS server is dependent on Microsoft extensions to TCP/IP (requiring NetBIOS support) that provide some automation for assignment and registration of IP host and domain names.

The Internet Engineering Task Force (IETF) is developing a cross-platform industry standard technology for dynamic registration and look-up of IP names through the Dynamic Service Location working group.

Apple has no current plans to implement the WINS extensions. Instead, we are fully committed to implementation of the applicable IETF standards as they emerge. We welcome customer feedback on this topic -- should sufficient demand for a WINS client materialize, we'd be open to exploring this issue. A future Mac OS WINS client would be dependent upon Microsoft releasing sufficient technical detail regarding their

proprietary extensions to IP to make an interoperable implementation possible.

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Open Transport 1.0.8: Applications Compatibility Q & A (3/96)

This article is a series of questions and answers on applications compatibility in Apple Open Transport.

Open Transport 1.1 is now available, and Apple recommends upgrading to it. Also refer to Open Transport 1.1 Reference Questions and Answers Tech Info Library articles for the most recent information.

This article has been archived and is no longer updated by Apple.
Question: Is Open Transport compatible with existing applications and network extensions?

Answer: Apple and third party developers have to date announced over 130 Open Transport compatible applications. A compatibility list is available from: ftp://seeding.apple.com/opentransport/ OT_Compat_List

Open Transport provides backward compatibility services in four areas:

* to support existing applications using the documented AppleTalk APIs;
* to support existing applications using the documented MacTCP APIs;
* to support existing Chooser devices; and,
* to existing NuBus based network interface cards to work with OpenTransport.

Question: What is implied when an application is Open Transport Compatible? Does that mean that it takes advantage of new Open Transport features?

Answer: Apple has defined three levels of interoperability with Open Transport. The first, Open Transport Compatible, is used to describe a network application originally developed for classic AppleTalk or MacTCP, that now takes advantage of Open Transport Compatibility Services. These applications automatically gain the benefits associated with the new Open Transport configuration utilities. However, they will not realize a significant performance increase on Power Macintosh computers, nor can they take advantage of Open Transport's transport-independence capabilities.

The second, Open Transport Ready, are those applications that have been modified to adopt the new Open Transport APIs (XTI). They are PowerPC native, in addition to running on 680x0-based Macintosh systems. Open Transport Ready applications not only benefit from the new configuration utilities, but have the opportunity for a significant performance boost when running on Power Macintosh.

The third and final category of interoperability is referred to as Open Transport Enhanced. In addition to adopting the new Open Transport APIs and being Power PC native, these applications have been modified to exploit the transport-independent capabilities of Open Transport, that is, they can be dynamically configured to support AppleTalk, TCP/IP, or serial communications.

Question: How is backward compatibility for AppleTalk implemented?

Answer: AppleTalk applications backwards compatibility is accomplished by intercepting all AppleTalk networking calls at the .ddp driver API. Above this protocol layer, applications written to the classic AppleTalk APIs continue to rely on the classic (680x0 based) implementation of AppleTalk. Calls to the .ddp driver are translated to the corresponding Open Transport XTI calls and are then passed to the new native implementation of DDP for processing. The process is reversed for incoming packets.

Using this approach, backwards compatibility is very robust - the classic implementations of ADSP, ASP, ATP, NBP, ZIP, and PAP are actually present (vs. simply mimicked). This also decreases the total memory footprint of backwards compatibility as compared to an implementation based on individual adaptation layers for each of the AppleTalk protocols. The primary trade-off of this approach is that applications relying on backwards compatibility do not gain any meaningful performance increases on Power Macintosh; essentially only native DDP is actually in use in these cases.

Open Transport/AppleTalk also includes broad support for existing applications software and network devices that rely on the Chooser or the Network Control Panel software for selection and configuration, known as cdevs and adevs respectively.

Question: How is backward compatibility for MacTCP implemented?

Answer: TCP/IP (MacTCP) applications backwards compatibility is accomplished by intercepting all MacTCP networking calls at the .ipp driver level. Calls to the .ipp driver are translated to corresponding Open Transport XTI calls and then passed to the native TCP/IP stack for processing. The process is reversed for incoming packets.

This approach allows most MacTCP applications to benefit from the native implementation of the TCP/IP protocols on Power Macintosh, at least to some degree. While the backwards compatibility layer itself must run as 680x0 code, most of the handling of the packet happens in the new native Open Transport/TCP implementation. The drawback of this implementation is that warts and all backward compatibility is somewhat less robust; applications depending on idiosyncrasies of MacTCP or referencing internal MacTCP data structures are likely to need an update.

TCP/IP backward compatibility also includes targeted support for select software products that rely on the MacTCP (or Admin TCP) Control Panel software for configuration. Support for these software modules, known as MacTCP Link Access Modules, or simply mdevs, is more limited than that provided for AppleTalk adevs, due to certain technical considerations.

Question: How is backward compatibility for other network products implemented?

Answer: Certain networking extensions -- such as MacIPX from Novell or PATHWORKS (LAT and DECnet) from Digital Equipment Corp. or Thursby Software Systems -- as well as applications such as Insignia Solutions SoftWindows do not access the AppleTalk or MacTCP APIs; instead they deal directly with the Macintosh OS Ethernet driver software. With the introduction of PCI bus to the Macintosh this driver architecture and software has changed.

Additional backward compatibility software included with the System Enabler 1.1 for System 7.5.2 (that is, System 7.5.2 version 2) allows these networking extensions and applications to communicate with the new DLPI based Ethernet driver as if it were a classic Ethernet device.

This compatibility software supports only the built-in Ethernet adapter of Power Macintosh systems with PCI bus (7200, 7500, 8500, and 9500). Thus current versions of such network extensions and applications (those that write directly to the Ethernet driver) cannot access PCI based network interface cards.

This backward compatibility module was not available in the original distribution of System 7.5.2 for the Power Macintosh 9500 (with Open Transport v1.0). It is now included as part of System 7.5.2 version 2, or more recent, and is recommended for use with Open Transport 1.0.6 or later (see Availability and Distribution).

Question: Are there known limitations to applications backward compatibility?

Answer: Yes. Applications that rely on undocumented APIs or examine private data structures in the current AppleTalk or MacTCP may not be fully compatible with Open Transport.

Examples include the MacSNMP AppleTalk and TCP/IP Agents (however, MacSNMP and the Macintosh System Agent are compatible), the Apple Internet Router 3.x, the Apple Remote Access MultiPort Server 2.x, LaserWriter Bridge, and some utilities like MacTCP Watcher and MacTCP Spy. Updated versions of these software products will be required for full compatibility.

Question: There have been reports of problems with the use of Open Transport and MacX 1.2. Is there an Open Transport compatible X Window System server available?

Answer: Apple MacX 1.5 is compatible with Open Transport, and is a recommended upgrade for customers who have earlier versions of MacX. There is a known bug in MacX 1.2 that can cause it to crash when running on a Macintosh system with System 7.5.2 and Open Transport.

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Open Transport 1.0.8: Network Compatibility Q & A

This article is a series of questions and answers on network compatibility in Apple Open Transport 1.0.8.

Open Transport 1.1 is now available, and Apple recommends upgrading to it. Also refer to Open Transport 1.1 Reference Questions and Answers Tech Info Library articles for the most recent information.
This article has been archived and is no longer updated by Apple.
Question: Is Open Transport interoperable with installed AppleTalk and TCP/IP networks?

Answer: Open Transport 1.0.x is compatible with existing AppleTalk and TCP/IP LocalTalk and ethernet network at the "packets on the wire" level. Organizations can introduce one, a few, or hundreds of new Macintosh systems running Open Transport into their environment without worrying about interoperability with existing networking services.

Question: Is Open Transport compatible with existing Internet Service Provider offerings?

Answer: As noted in "Network Interface Options" Open Transport/TCP currently supports dial-up connectivity to TCP/IP networks, including the Internet, through backward compatibility with select third party software modules known as "mdevs".

With the appropriate mdev installed, end-nodes can use either SLIP or PPP to connect to Internet Service Providers and other dial-up IP-access points. However, not all versions of all mdevs are supported by Open Transport backward compatibility services. It is important that the recommended versions of software be installed for the greatest level of compatibility.

It is also important that TCP/IP addressing and other configuration information be properly configured. As there is a new human interface provided by the Open Transport/TCP configuration utility, there are some changes in the process as compared to the older MacTCP software.

Question: Is there documentation available to assist with configuring Open Transport/TCP?

Answer: Yes. Although a full user's guide is planned for release with Open Transport v1.1, configuration tips for Open Transport 1.0.x are already available from various sites.

Question: Does Apple offer a solution for SLIP or PPP dial-up to the Internet?

Answer: Yes. The Apple Internet Connection Kit is a selection of the most popular Internet applications from third party companies, including the Netscape Navigator and RealAudio Player from Progressive Networks, as well as Claris Emailer Lite. The kit includes MacPPP 2.1.4 along with the Apple Internet Dialer -- software designed to make it simpler for Macintosh customers to register with a qualified Internet Service Provider (ISP) and get connected to the Internet. To help users work with their Internet applications, the Apple Internet Connection Kit includes Apple Guide software for on-line assistance.

Question: What is MacPPP 2.1.4? Is it available on the Internet?

Answer: MacPPP 2.1.4 is a derivative of the MacPPP 2.1.x SD versions of Merit's PPP. It includes code contributed by Apple engineering to enhance compatibility with Open Transport/TCP. These Apple updates have also been provided to the authors of FreePPP (the successor to the "SD" releases of MacPPP).

FreePPP 1.0.x also includes these updates, and is available for download on the Internet.

Question: Does the Apple Internet Connection Kit require Open Transport?

Answer: The Apple Internet Connection Kit works with either MacTCP, or Open Transport/TCP.

Question: Which mdevs are currently supported by Open Transport/TCP?

Answer: Open Transport 1.0.8 supports the following MacTCP Link Access Modules (mdevs).

* FreePPP - version 1.0 or more recent; compatible with Open Transport.

* InterPPP - use version 1.2.9 or more recent.

* InterPPP II - use the most current version.

* MacSLIP - use version 3.0 or more recent; compatible with Open Transport.

* MacPPP - use version 2.1.3 SD, or more recent (version 2.2.0 is not recommended).

Apple is continuing to work with developers to better support existing mdevs; contact the third party developer of interest for the most recent information on compatibility.

Question: Are there known limitations to backward compatibility mdev support?

Answer: Yes. Due to differences in the underlying architectures (between MacTCP and Open Transport/TCP), and some current (1.0.8) shortcomings in the backward compatibility services, there are some additional limitations to mdev support:

* Some mdevs, when used with Open Transport, may not be able to auto-dial, that is, automatically connect to the service provider when launching a TCP/IP application. This is being addressed by updated versions of the mdevs.

* Once a TCP/IP application launches and uses a SLIP or PPP mdev, use of a different mdev may require restarting the Macintosh. Disconnecting from and redialing a service provider may also require restarting the Macintosh. This is planned to be addressed in Open Transport v1.1 (See Future Directions).

* Some Internet Service Providers do not strictly follow standards practices, which call for assigning end-node IP addresses on the same subnet as the router (gateway). Open Transport strictly enforces this requirement in versions prior to 1.0.7. Beginning with Open Transport 1.0.7, the TCP/IP configuration utility software will automatically generate a compatible router address to facilitate connectivity to the ISP if the user leaves the router address field empty.

Question: If a user needs an updated copy of one of these mdevs, how can they get the software?

Answer: Sources for mdev software will vary, as some of the noted products are commercial and some are shareware or public domain.

* FreePPP is shareware and can be found on a variety of internet sites; typically at "info-mac" mirror sites in the comm/tcp directory. A list of info-mac mirror sites can currently be found at:

http://www.mcp.com.hayden/iskm/info-mac-mirrors.html

Some sites where FreePPP can be found currently include:

ftp://mirrors.aol.com/pub/info-mac/comm/tcp/
ftp://mirror.apple.com/mirrors/Info-Mac.Archive/comm/tcp/

* InterPPP and InterPPP II are commercial software products. For availability and ordering information contact InterCon Systems, US 1-703-709-5500

* MacSLIP is commercial software available developed by Hyde Park Software. For availability and ordering information contact TriSoft, US 1-800-531-5170.

* MacPPP (v2.1.4) is available as a component of the Apple Internet Connection Kit, Apple Computer Inc., US*1-800-462-4396 for fax information or 1-800-538-9696 to locate an Apple authorized reseller near you.

Question: There have been reports of problems with Open Transport, PPP, and the use of Virtual Memory. Is Open Transport compatible with Virtual Memory?

Answer: Open Transport fully supports the use of virtual memory. However there are problems identified with MacPPP 2.1.2 SD and FreePPP 1.0 when used with Open Transport and Virtual Memory (including RAM Doubler). These problems are under investigation, with Apple engineering working together with the authors of FreePPP. Current plans call for an update to FreePPP to be available once a fix is determined. In the interim, users who experience problems with PPP and Virtual Memory are advised to turn VM off.

Question: Will Apple provide a "native" SLIP or PPP solution for Open Transport?

Answer: Apple is developing an implementation of PPP for Open Transport as a part of the next generation of Apple Remote Access products. This is planned to support dial-up access to both AppleTalk and TCP/IP networks. (see Future Directions).

Question: Is Open Transport compatible with PowerTalk built-in support for SMTP mail?

Answer: Apple recently announced that it has licensed, and will distribute and maintain, the PowerTalk Internet PMSAM formerly available from StarNine Technologies. This software provides the Mac OS with built-in support for Internet SMTP mail. The Apple Internet PMSAM is fully compatible with Open Transport 1.0.x when used on a LAN. When the PMSAM is to be used over a dial-up SLIP or PPP link, the same recommendations and limitations noted above for SLIP and PPP currently apply.

Article Change History:
26 Mar 1996 - Added statement on Open Transport 1.1 release.

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Open Transport 1.0.8: Apple Adoption of OT Q & A

This article is a series of questions and answers on Apple's adoption of Open Transport 1.0.8.

Newer versions of Open Transport are now available, and Apple recommends upgrading.
This article has been archived and is no longer updated by Apple.
Question: When will Open Transport become part of the Mac OS?

Answer: Open Transport will be made available as a component of the Mac OS with a future system software integration release, currently expected in the first half of 1996.

Question: What Apple products will support Open Transport? Will these also be native on Power Macintosh?

Answer: Apple plans to include support for Open Transport in the following products, as well many other unannounced products:

* QuickTime Conferencing
* Apple Remote Access
* AppleShare
* MacSNMP
* PowerTalk

Plans call for these services to go native either before, or at the same time as, they support Open Transport.

Question: When will Apple products offer Open Transport support?

Answer: Apple QuickTime Conferencing, Apple Remote Access, and AppleShare are projected to become available late in 1995 through early 1996.

Other projects have different schedules; information will be released at a later date.
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Open Transport 1.0.8 and Cross-Platform Issues Q & A

This article is a series of questions and answers on Open Transport 1.0.8 and cross-platform issues.

Open Transport 1.1.2 is now available, and Apple recommends upgrading to it. Also refer to Open Transport 1.1 Reference Questions and Answers Tech Info Library articles for the most recent information.

This article has been archived and is no longer updated by Apple.
Question: Where can I get the latest version of Open Transport?

Answer: Here is the current list of online locations for Open Transport, as well as other Apple Software updates.

* On the Internet at the following sites:
- Worldwide Web: **http://www.apple.com/swupdates**
- ftp: **ftp://ftp.info.apple.com/**

* On America Online, use keyword: applecomputer

* On CompuServe, use GO: APLSUP

Question: Will Apple port Open Transport to Windows or UNIX?

Answer: Apple does not plan to port Open Transport to other operating systems. Rather, Open Transport is based on Apple porting three existing, cross-platform industry standards to the Mac OS. These standards have their roots in the UNIX community and experienced UNIX network developers will find themselves "right at home" when developing for Open Transport.

Question: What about Windows developers? What about Windows Sockets?

Answer: NetManage, the leading developer of TCP/IP protocols and applications for DOS and Windows, has announced plans to develop and offer Windows Socket tools for Mac OS, to provide access to Open Transport/TCP and MacTCP services via the Windows Sockets (Winsock 1.1) API.

Additional details of this announcement will be made public at a later date.

Question: With both XTI and Windows Sockets available for Open Transport, which API should a developer use?

Answer: The choice of API will depend upon a developer's background, experience, and goals. For developers with a background in UNIX, a need for POSIX compliance, or a need to deploy an application across Mac OS and UNIX systems, XTI is the logical choice. For developers with a background on Microsoft Windows, or a need to deploy an application across Mac OS and Windows, Windows 95, and/or Windows 95 systems, the planned Winsock tools from NetManage will provide an attractive cross-platform alternative.

Apple is committed to XTI and will focus development on transport independence around this API. Macintosh developers now using classic AppleTalk or MacTCP APIs are encouraged to move to Open Transport XTI API.

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Macintosh Plus P/C: No Response From Apple Personal Modem

PROBLEM DESCRIPTION: When using the old MacTerminal program with the Macintosh Plus and the Apple Personal Modem, there is no response from the modem.

CAUSE: The Data Terminal Ready (DTR) signal is not activated from the old serial driver. This signal would normally be used by the Macintosh to let the modem know that it is activated. Without DTR the modem will not look at any other signals from the Macintosh.

This article has been archived and is no longer updated by Apple.
CURE: Use MacTerminal 2.0 with the new system and finder because it will activate the DTR signal on the Macintosh Plus.

If the above cure doesn't fix the problem, refer to the Tech Procedures for this product's troubleshooting procedure.

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Open Transport 1.0.8 and Servers Q & A

This article is a series of questions and answers on Open Transport and Workgroup Servers.

Open Transport 1.1 is now available, and Apple recommends upgrading to it. Also refer to Open Transport 1.1 Reference Questions and Answers Tech Info Library articles for the most recent information.

This article has been archived and is no longer updated by Apple.
Question: What role does Open Transport play for servers?

Answer: The Open Transport architecture is designed to provide server applications -- file, print, database, e-mail, directory, and other -- with a foundation for higher performance and for more flexible configuration, while maintaining the historical differentiation of Mac OS based servers -- ease of configuration and administration.

Question: How will Open Transport enhance server performance?

Answer: Servers, as network-aware applications, gain access to the higher performance Power PC native implementation of networking protocols that Open Transport provides. To exploit this performance opportunity, server applications must be accelerated for Power Macintosh and must utilize the new Open Transport XTI APIs.

Severs will also benefit through access to new high-speed PCI datalink implementations for Macintosh such as fast ethernet and ATM.

Question: How will Open Transport enhance server flexibility?

Answer: Open Transport introduces the capability of activating more than one network connection at the same time, using the same networking protocol. This capability is known as multihoming, and enables servers to support more clients, to offer greater total performance, and to increase the reliability of mission critical applications.

Finally, as discussed above, Open Transport enables the development of transport independent applications. This will be especially valuable for server applications which need to be deployed in AppleTalk, or TCP/IP, or NCP/IPX, or other protocol environments.

Question: Will Apple's server products such as AppleShare and PowerShare exploit Open Transport features?

Answer: Yes. Apple server products will adopt Open Transport, and will over time exploit Open Transport features including multihoming and transport independence. Product details will be announced at a later date.

Question: Are PCI-bus Power Macs with Open Transport 1.0.x recommended as application servers?

Answer: No, not at this time. As is discussed elsewhere in this document, to meet customer expectations in regards to anticipated increases in flexibility and performance, server applications such as AppleShare and PowerShare, as well as third party server applications need to be accelerated for Power Macintosh and adopt the new Open Transport APIs.

Question: When will PCI-bus Power Macintosh systems be recommended as servers?

Answer: Apple recommends that server application developer adopt Open Transport v1.1 as the basis for new network applications development as soon as is possible within their product life cycles. As these updated versions of server software become available customers will find that the combination of PCI-bus, Power Macintosh, and Open Transport makes a great platform for flexible, high-performance network applications.

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Open Transport 1.0.8: Future Directions Q & A

This article is a series of questions and answers on the future directions of Open Transport 1.0.8.

Newer versions of Open Transport are now available, and Apple recommends upgrading.
This article has been archived and is no longer updated by Apple.

Question: How will Open Transport be made available to customers with 680x0 and NuBus-based Power Macintosh computers?

Answer: Open Transport v1.1 is planned to support 68030 and 68040 Macintosh computers, as well as NuBus-based Power Macintosh systems. This release is currently expected to be available in the second half of 1995:

* as a no-charge upgrade to customers with MacTCP software maintenance agreements;
* as a no-charge upgrade to customers with system software maintenance agreements;
* as a component of a planned Mac OS system software system update;
* bundled with Apple and third party applications software that are Open Transport-ready;
* as a retail software product in single-user software package; and,
* from select Apple-licensed publishers and Internet Service Providers.

Question: Will Open Transport v1.1 include additional capabilities?

Answer: Yes. In addition to support for all targeted Mac OS systems and integration of all available bug fixes, Open Transport v1.1 should also:

* provide a basis of support for PPP-based AppleTalk and TCP/IP remote networking,
* provide a basis of support for modem and ISDN communications devices,
* offer tuning to optimize performance of high speed datalinks,
* offer tuning to support multi-client, multi-threaded server applications,
* provide display of the selected datalink Media Access Control address for ethernet and token ring networks,
* provide notification in the event duplicate AppleTalk or TCP/IP addresses are established,
* automatically convert users existing AppleTalk and MacTCP setting to Open Transport configuration files,
* offer improved Balloon Help text for System 7 users, and,
* include all bug fixes available to date.

Question: Will Open Transport v1.1 be available to PCI-bus Macintosh customers as well?

Answer: Yes, Open Transport v1.1 will support PCI-bus Macintosh systems, and will be included as a component of a planned Mac OS system software System Update, and with a future Mac OS system software release.

Question: What additional network interface options are planned to be available with Open Transport?

Answer: Open Transport v1.1 is planned to add support for existing NuBus NICs, as well as backwards compatibility support for SCSI-attached ethernet adapters for those Macintosh models that do not have built-in ethernet or ethernet expansion options.

Modem and ISDN support are to be available following the introduction of the next generation of Apple Remote Access products (incorporating Open Transport/PPP and Open Transport v1.1).

SCSI-attached ethernet adapters for PCI-bus Macintosh computers will require development of new DLPI drivers.

Question: How will backward compatibility for NuBus network interface cards be implemented?

Answer: For 680x0 and Power PC Macintosh systems with NuBus, Open Transport v1.1 will allow use of existing NuBus NICs and drivers. This compatibility is to be provided by software support mapping DLPI driver calls generated by new Open Transport protocols to corresponding calls to "classic" Mac OS LAP Manager, .enet and .tokn APIs.

Question: Will PPP connectivity be distributed as a bundled component of Open Transport v1.1?

Answer: AppleTalk and TCP/IP connectivity over Open Transport/PPP links will first be offered as a feature of the upcoming Apple Remote Access products. ARA products would include necessary Open Transport components.

Apple currently plans to fully merge ARA client and personal server capabilities with basic Open Transport capabilities to offer an integrated communications package for LANs, WANs, and remote networking. These integrated capabilities are also expected to be delivered as a part of a future update to Mac OS. This timetable has not been finalized; details will be announced at a later date.

Question: Will the planned Apple Open Transport/PPP solution truly be standard PPP?

Answer: Apple is developing a native implementation of PPP for Open Transport as a part of the next generation of Apple Remote Access products. Current plans call for full support of the following RFCs:

* RFC 1661 - PPP
* RFC 1662 - PPP in HDLC-like framing
* RFC 1570 - PPP LCP extensions
* RFC 1334 - PPP Authentication protocols
* RFC 1663 - PPP Reliable transmission
* RFC 1378 - ATCP AppleTalk Control Protocol
* RFC 1332 - IPCP Internet Protocol Control Protocol

Question: What about NetWare NCP/IPX? Will Apple or Novell deliver an Open Transport-based Macintosh client that uses IPX protocols as the transport layer?

Answer: Apple and Novell have publicly committed to making Macintosh a first-class NetWare client. An Open Transport-ready implementation of NetWare protocols and client services is currently under active investigation. The two companies are not ready to announce specific product plans or availability details at this time.

Question: What about IP version 6 (IPv6) support in Open Transport?

Answer: IPv6 is an proposed update of the current Internet Protocol (IPv4), part of the TCP/IP suite of protocols used to allow computers to communicate with each other over the Internet. The Internet Engineering Task Force (IETF) is in the process of specifying the standards for IPv6.

IPv6 is being designed to respond to the limitations of IPv4 -- including an upcoming shortage of new IP addresses -- to allow for the continued expansion of the Internet and deployment on corporate networks. IPv6 also incorporates new functionality to provide security, multimedia support, and plug and play capabilities, features necessary to usher the Internet into the twenty-first century.

At the October 1995 Networld+InterOp trade show, Apple Computer and Mentat Inc. demonstrated a prototype implementation of Internet Protocol Version 6 running on Apple Open Transport. The demonstration showed the flexibility of the Open Transport environment -- with current IPv4 applications such as Fetch, Netscape, and Web*Star running unmodified with IPv6 support -- and showed the benefits of Open Transport's underlying standards-based architecture - facilitating code portability. The demonstration also included basic interoperability testing with IPv6 prototype implementations from DEC and HP, using standard IP utilities such as Ping and Telnet.

Apple and Mentat will continue to work together to ensure timely availability of IPv6 for the Mac OS once the standard has been completed.

Question: What about the Apple Internet Router, ARA Multiport Server, and LaserWriter Bridge? Will they be revised for Open Transport?

Answer: Apple is not announcing future plans regarding these products at this time.

Question: What about MacSNMP? When will it be revised to work with Open Transport?

Answer: MacSNMP v1.5 is planned to be available in 1996. This release is designed to include support for MIB II statistics from the Open Transport/TCP stack, transport of SNMP data over Open Transport/TCP, and to add support in the Macintosh System MIB for both NuBus and PCI interface cards.

MacSNMP and the Mac System Agent are supported through Open Transport's backward compatibility services.

TA34641_Open_Transport_Future_Directions_Q_A_(TIL18841).pdf

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Open Transport 1.0.8: For More Information Q & A

This article is a series of questions and answers on getting more information on Open Transport 1.0.8.

Open Transport 1.1 is now available, and Apple recommends upgrading to it. Also refer to Open Transport 1.1 Reference Questions and Answers Tech Info Library articles for the most recent information.
This article has been archived and is no longer updated by Apple.

Question: How can interested parties get more information on Open Transport?

Answer: Documentation for Open Transport is publicly available by anonymous ftp on the Internet at ftp://seeding.apple.com/opentransport/. There you will find release notes, general information (including the latest version of this Q&A), and developer notes from the SDK.

Question: How can interested customers apply to receive pre-release copies of Open Transport for implementation testing?

Answer: The Open Transport Early Access program was announced in March 1995. Based on the overwhelming customer response this program is now enrolled to capacity -- no further applications can be accepted or approved. Alternatively, you should contact your local Apple Computer support representative concerning locally supported seeding programs.

The final Open Transport 1.1 software will be available in the near future.

Question: How can interested developers apply to receive pre-release copies of Open Transport for development and testing?

Answer: The Open Transport developer seeding program has reached over 5,000 developers to date. As the final code for Open Transport 1.1 is nearing completion, Apple will move to make the Open Transport Software Developers Kit (SDK) widely available through electronic information services, including select sites on the Internet. The Open Transport SDK will also be included on the next issue of the Mac OS SDK, available from APDA.

No further pre-release seeding of the Open Transport 1.1 SDK is planned at this time. Following the shipment of version 1.1, a new seeding program is planned for future versions of Open Transport. Details of additional seeding programs will be announced at a later date.

Question: How can developers get support while developing Open Transport applications?

Answer: Open Transport is a strategic and supported technology. Apple Developer Support services have engineering specialists fully trained on Open Transport development and debugging. Access to these engineers is just one of the benefits of the Apple Developer Partner's program.

For more information on Apple's Developer Support services, including information on how to register as an Apple Developer Partner, contact the Macintosh Developer Services Information Line at US 1-408-974-4897.

For developers who are not a part of one of Apple's Developer Support services programs, the Open Transport engineering team has established an email address for general feedback: opentpt@applelink.apple.com. This address is not for technical support, however, nor can all inquiries can be acknowledged.

Question: Are there general reference sources on XTI, STREAMs and DLPI?

Answer: Sources of information that are applicable to XTI and STREAMs include:

* OSF/1 Operating System: Network Applications Programmer's Guide; Open Software Foundation, Prentice Hall, ISBN 0-13-640145-7
* UNIX Network Programming; W. Richard Stevens, Prentice Hall, ISBN 0-13-949876-1
* UNIX System V Release 4: Programmer's Guide: STREAMs; Unix Press (A Prentice Hall title), ISBN - 0-13-020660-1

* Programming UNIX SVR4.2: Network Programming Interfaces; UNIX Press (A Prentice Hall title), ISBN 0-13-017641-9
* X/Open CAE Specification: X/Open Transport Interface (XTI); X/Open Company, Ltd. (XO/CAE/91/600) ISBN 1-872630-29-4
* Transport Provider Interface Specification, rev 1.5 (92/12/10); UNIX International, OSI Special Interest Group
* Data Link Provider Interface Specification, rev 2.0.0 (91/08/20); UNIX International, OSI Work Group

For the most current information on what SDKs Apple offers, point your web browser to:

http://developer.apple.com/sdk/

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QuickTime Conferencing: Reasons for B&W Self View Image

I am using a QuickTime Conferencing Camera 100 with my AV equipped Macintosh computer. I am getting an image but it only appears in black and white. This happens regardless of color depth chosen in the Monitors control panel.
This article has been archived and is no longer updated by Apple.
There are two common reasons why your QuickTime Conferencing Self View window may be showing only in Black and White.

Monitor Size or Screen Resolution Selected
If your screen resolution is set higher than 832x624, your Self View image will appear on your monitor and sent to other conference members in black and white. This happens regardless of how much VRAM you have because the VRAM cannot draw that large of an image and redraw a color Self-View window quickly enough.

Lower your monitor's screen resolution to 832x624 or lower in the Monitors control panel and your Self View image will appear and broadcast in color.

How the Camera is Connected to the Computer
Three cables ship with the QuickTime Conferencing Camera 100:

-
- A. 1 Combination cable, S-Video to DC Power and RCA jack
- B. RCA to RCA
- C. S-Video to DC Power

You must use the appropriate cable for your computer in order for the QuickTime Conferencing Camera to work correctly.

The output from the QuickTime Conferencing Camera 100 is an NTSC composite signal, not an S-Video component signal. With the exception of the Power Macintosh 7500 and 8500, AV equipped Power Macintosh computers will accept a composite video signal through the S-Video port. The S-Video port also provides 12-volt power to the QuickTime Conferencing Camera. For Power Macintosh AV computers other than the Power Macintosh 7500 and 8500, use cable A to connect the S-Video connector to the computer's S-Video port and the RCA and DC Power pigtail on the other end of the cable to the QuickTime Conferencing Camera.

The Power Macintosh 7500 and 8500 computers cannot receive a composite video signal in their S-Video connectors. Because of this, you need to connect cable B from the RCA jack on the QuickTime Conferencing camera to the RCA jack on the back of the Power Macintosh 7500 or 8500. If you use the S-Video port to deliver the video to the computer, you will see a black and white image. You also need to use cable C to deliver power from the S-Video port on the Power Macintosh 7500 or 8500 to the QuickTime Conferencing camera.

If you have a Macintosh Quadra or Centris 840 AV or 660 AV, there is no S-Video port to supply power to the camera. In addition to using cable B for video, you will need to purchase a 12-volt, 1.9 Watt AC adaptor from your local Apple Dealer or an electronics store.

Summary Table

Computer	Cable	Video Signal	Camera Power
Quadra/Centris 660/840 AV	B	From Cable B	Separate Power Adaptor
Power Macintosh 6100 AV	A	From Cable A	From Cable A
Power Macintosh 7100 AV	A	From Cable A	From Cable A
Power Macintosh 8100 AV	A	From Cable A	From Cable A
Power Macintosh 7500	B & C	From Cable B	From Cable C
Power Macintosh 8500	B & C	From Cable B	From Cable C

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DOS Compatible: CD-ROM Needs To Be In Drive at Startup

I cannot access the CD-ROM from DOS or Windows since I upgraded to version 5.1.1 of CD-ROM Setup on my DOS Compatible Macintosh computer. Everything worked before I did the upgrade and I have not changed anything on the DOS side. What is wrong?
This article has been archived and is no longer updated by Apple.
This issue was present with both CD-ROM Setup versions 5.1.1 and 5.1.2. This issue is resolved with the DOS Compatibility 1.5 software update which is available online or for a shipping and handling fee from Apple.

The DOS Compatibility Software Update is a set of software enhancements that improves the reliability and performance of the following:

- Power Macintosh 6100 DOS Compatible computer
- Macintosh Performa 6100 DOS Compatible computer
- Macintosh Performa 630 and 640CD DOS Compatible computers
- Macintosh LC 630 DOS Compatible computer

This update also works with any Power Macintosh 6100 or Macintosh Performa 6100 series computer that has a DOS Compatibility Card installed.

Note: PCI based PC Compatibility cards already ship with the DOS Compatibility 1.5 software and do not need to install this update.

Note: The update is not intended for the Quadra or Centris 610 DOS Compatible computers. Quadra and Centris 610 DOS Compatible computers will need to continue to use one of the above workarounds.

These articles can help you locate the software update mentioned here:

"**Where To Find Apple Software Updates**" - Lists online services for free Apple software updates.

"**Obtaining Apple Product Support in the USA**" - Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech Info Library.
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PC Exchange: Known SCSI Option Issues (5/96)

I have a Power Macintosh 8500 and a Syquest drive that I use to read DOS formatted Syquest cartridges. Since I have upgraded to the 8500, PC Exchange will not let me select the Syquest drive to access DOS files. The SCSI ID on the Syquest drive is 3. The drive will mount Macintosh cartridges so what is wrong?

This article has been archived and is no longer updated by Apple.

Your Power Macintosh 8500 computer has an internal and external SCSI bus. This allows you to connect up to 12 SCSI devices. You can use the same SCSI ID number twice on the same computer as long as the duplicate SCSI ID numbers are not on the same bus.

In your case, the internal CD-ROM drive is set at SCSI ID 3 at the factory and your Syquest drive on the external bus is also set at SCSI ID number 3. This configuration works fine, however, PC Exchange does not understand multiple SCSI buses and is unable to access the second device with the duplicate SCSI ID on the external bus.

The workaround is to set a SCSI ID for the Syquest drive that is unique to both buses. After doing this, PC Exchange will be able to access the Syquest drive.

On Macintosh computers with more than one SCSI bus, another issue sometimes appars. If you use the internal fast-SCSI bus, PC Exchange show multiple devices for the same device. For example a third-party hard disk may be shown in PC Exchange as ID 0 and 0.1

Apple Engineering is aware of these issues. Multiple bus support will be added to a future version of PC Exchange.

Article Change History:
14 May 1996 - Added fast-SCSI devices showing up with multiple SCSI IDs.

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PowerBook 5300 & 190: System SW Custom Install Options

This article describes the Custom Install options of the System 7.5.2 installer
This article has been archived and is no longer updated by Apple.
The System 7.5.2 Custom Install for the PowerBook 5300 series and PowerBook 190 series contains some new items and some differences not found with previous System 7.5.x installers.

Some differences:

* If you need to re-install the PC Card extensions there is a custom install option called PC Card Modem Files. This installs the PC Card Modem extension and the PC Card extension in the extensions folder. These extensions are designed by Apple and are required if PC cards are being used in the PowerBook. Many third-party PC Cards will require the additional drivers or other software provided by the vendor of the card.

* There is no custom installation option for MacTCP listed under Control Panels and MacTCP is not part of an Easy Install. To install MacTCP 2.0.6:

Step 1

Launch the Installer, click Continue to get to the Installation Window.

Step 2

Click on the upper left pop-up menu and choose Custom Install. Scroll down to locate the Networking Software section. Click on the triangle next to Networking Software to expand the list.

Step 3

Click in the box next to TCP/IP. Click Install. This places MacTCP 2.0.6, the MacTCP DNR, and MacTCP Prep file in your System Folder.

Here is the entire list of what can be custom installed in System 7.5.2:

```
System Software
    Macintosh System Software
    Minimal Macintosh System Software
Printing
    ImageWriter
    LaswerWriter
    StyleWriter Family
    LaserWriter 8
    LaserWriter 300
Networking Software         PowerBook 190 Options       PowerBook 5300 Options
                           ---------------------       ----------------------
                           File Sharing                File Sharing
                           EtherTalk                   Apple Talk
                           TokenTalk                   TCP/IP
                           Apple IR File Exchange
                           TCP/IP
Utility Software
    Apple Guide
    AppleScript
    ColorSync
Multimedia Software
    CD-ROM
    QuickTime
    Text-to-Speech
Compatibility Software
    Macintosh Easy Open
    PC Exchange
Fonts
    Chicago
    Courier
    Geneva
```

```
        Helvetica
        Monaco
        New York
        Palatino
        Symbol
        Times
    Apple Menu Items
        Calculator
        Chooser
        Control Panels Alias
        Find File
        Graphing Calculator
        Jigsaw Puzzle
        Key Caps
        Note Pad
        Scrapbook
        Stickies
        * Shut Down
    Control Panels
         Apple Menu Options
        Auto Remounter
        Color
        Control Strip
        Date and Time
        Desktop Patterns
        File Sharing Monitor
        General Controls
        Keyboard
        Labels
        Launcher
        Macintosh Easy Open
        Map
        Memory
        Monitors
        Mouse
        Network
        Numbers
        PC Exchange
        PowerBook
        PowerBook Display
        PowerBook Setup
        Sharing Setup
        Sound
        Startup Disk
        Text
        TrackPad
        Users and Groups
        Views
        WindowShade
    PC Card Modem Files
```

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Apple LaserWriters: Creating Watermarks

I want to create watermarks with my LaserWriter printer. Is there a way to do this on the LaserWriter printer?
This article has been archived and is no longer updated by Apple.
There are several ways you can create and use watermarks.

* QuickDraw GX and Peirce Paper Saver
* Third-Party Solutions
* Application level support
* Some StyleWriter printer drivers

As you can see from this list, the LaserWriter 8.3 does not have built-in support for creating or using watermarks.

QuickDraw GX and Peirce Paper Saver

You can use and create watermarks with QuickDraw GX and Peirce Paper Saver. Peirce Software, Inc. in conjunction with Apple Computer, provides a free copy of Peirce Paper Saver and Peirce Watermark. Peirce Paper Saver and Peirce Watermark are QuickDraw GX printing extensions that enhance your printing capabilities when using QuickDraw GX printing and applications that support the new GX printing dialogs. Additional information on installing and using the Peirce Paper Saver extension is available in the Tech Library article titled "QuickDraw GX: Installing Printing Extensions".

Third-party solutions

Software can be used to modify print jobs and add watermarks. One product that has the ability to do this is Working Watermarker from Working Software, Inc.

Application level support

Microsoft Word 4 and later versions have support for inserting fragments of PostScript code, and formatting them in a special "PostScript" style. There were MacUser articles that outlined how to write fragments that would create watermarks for Word documents.

Certain Apple Inkjet printers

The StyleWriter 1200, Color StyleWriter 2200, and Color StyleWriter 2400 (second release) have printer drivers that support watermark printing.

NOTE: Color StyleWriter Pro printer driver does not support watermark printing.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.
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Apple IIc: Data Errors When Sending to Serial Device

Data errors occur when the Apple IIc transmits data to a serial device (modem, printer, etc.).
This article has been archived and is no longer updated by Apple.
There may be a timing problem in the Apple IIc motherboard.

Check location UC7 on the motherboard for a "black" (not silver) LS161 integrated circuit. If this component is black, then this board has a timing problem so the motherboard should be replaced. Refer to the service programs binder to see if the repair can be reimbursed under a special warranty program.

If the component is silver, then the board does not have the timing problem.

If the above cure doesn't fix the problem, search on GTS and the product's name to obtain a general troubleshooting procedure.
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Macintosh 630 Series: Using Ethernet CS Cards In Windows (10/95)

I have a Macintosh 630 series computer with a DOS Compatibility Card installed, and I want to use Ethernet in the Windows/MS-DOS environment. What Communication Slot Ethernet cards allow me to do this?

This article has been archived and is no longer updated by Apple.

Ethernet cards that are designed to use the .ENET driver should work for Windows/MS-DOS networking. Information that passes from the MS-DOS side to the Ethernet card must go through the PC Network Extension, which must be located in the Extensions folder on the Macintosh. Because the PC Network Extension is written to use the .ENET driver, any card that does not use this driver will not work properly from Windows/MS-DOS.

The Apple Ethernet CS cards use the .ENET driver, so they will work properly. Contact other vendors to find out if their Ethernet cards use the .ENET driver.

Support Information Services
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DOS Compat Card: Sharing Files Between Environments (10/95)

How can I share files between the Macintosh and PC environments of my Macintosh DOS Compatible computer? What steps do I need to take to set this up?
This article has been archived and is no longer updated by Apple.
To transfer files between the Macintosh and PC environments of your Power Macintosh 6100 DOS Compatible computer, follow the steps provided below:

Step 1

Make sure the DOS Compatibility Card Installer Disk for DOS environment has been installed. At the C:\\> prompt, enter this command:

MEM /C /P then press return.

This command lists all drivers currently resident in DOS memory. If you see APPLEPC, DOSCLIP, and MACSHARE, then your DOS Compatibility Card Installer Disk for DOS Environment is already installed. If you do not see these modules listed, look for Installing additional PC software in the "DOS Compatibility Card for Macintosh User's Guide."

Step 2

Make sure that you have a LASTDRIVE statement in your CONFIG.SYS file. Have a line somewhere in your CONFIG.SYS file as shown below:

LASTDRIVE=Z

Step 3

Create a new folder in the Macintosh environment, and give it a descriptive name, something like, DOS TRANSFER.

Step 4

Open the PC Setup control panel. Look for the pop-up menu labeled Sharing, and select one of the available DOS drive letters. A dialog box appears, letting you select the folder that you have made for sharing files with the PC environment. If you want the connection to be permanent, select the checkbox labeled Share every time PC is started.

NOTE: An entire volume can be shared in this manner also.

You can now save or read files back and forth between the Macintosh and PC environments. You can save files to the folder created in step 3 from the Macintosh environment and access these files from the PC environment, or the other way around, save files from the PC environment and access these files from the Macintosh environment. For more information on shared folders and volumes, look for Choosing shared folders or volumes in the "DOS Compatibility Card for Macintosh User's Guide."

Support Information Services
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Apple Video Player: Volume Control Has No Affect On Input 10/95

I am using Apple Video Player to capture audio and video from a VCR that has very low sound output through its audio channel. Regardless of how high I set the volume control in Apple Video Player during recording, when I playback the captured video, the audio is still too low. What can I do to increase the audio portion of the movie?

This article has been archived and is no longer updated by Apple.

The Apple Video Player application does not have a feature for increasing audio input volume or gain. You need to use an application, like Avid's VideoShop or VideoFusion, that allows you to increase the gain from the source you are capturing. If you are capturing from an external device like a VCR or LaserDisc player, you can also route the audio/video signal through a mixer to increase the gain before the signal enters the computer.

Support Information Services
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Power Macintosh 8500: Screen Resolution Set Too Low

I am using a television as my monitor for my Power Macintosh 8500. I set the screen resolution to 256x192 and now when I try to reopen the Sound & Displays Control Panel, I get a message saying that the screen is too small to display this window and it closes. I tried resetting the parameter RAM (PRAM), but the small resolution remains. How can I set my monitor resolution back to normal when I cannot access the Sound & Displays control panel?
This article has been archived and is no longer updated by Apple.
When the Power Macintosh 8500 is using a television as its only display, The Sound & Displays control panel offers screen resolution options of 640 x 480, 512 x 384, 320 x 240, and 256 x 192. At the 256 x 192 resolution, you are not able to reopen the Sound & Displays control panel to return to a larger screen size. Resetting the PRAM will not return the resolution to a standard setting either.

The way to set your monitor back to a larger screen size is to use the Control Strip software that comes with the Power Macintosh 8500. Use the Resolution Control Strip module (the second module from the left) to switch to a larger screen resolution.

If you have removed the Control Strip software or cannot see the Control Strip, you can follow these steps to reset the display settings:

1. Reset PRAM by holding down the Command-Option-P-R keys simultaneously from a cold startup (that is, you must turn off or shut down the computer, then turn it back on again; you cannot choose Restart from the Special menu).
2. After the second startup sound, release all of the keys and startup with the extensions off by holding down the Shift key until you see the message that says "Welcome to Macintosh Extensions Off". Then you can release the Shift key.
3. Once the computer has started up, go to the Preferences Folder, which is inside the System Folder, and throw away the Display Preferences file.

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ISDN Line Ordering and Configuration Parameters (3/96)

This article describes ISDN ordering and configuration parameters for QuickTime Conferencing H.320/ISDN products when used with United States telephone lines.
This article has been archived and is no longer updated by Apple.
This is a summary of the types of ISDN lines supported by phone companies. All Apple QuickTime Conferencing H.320/ISDN products work with all ISDN switch types (AT&T, Northern Telecom, and Siemens). The ISDN lines offered by your telephone company may differ from region to region. If you are given the choice of line types, order the National ISDN-1 or NI-1 configuration.

Follow the guidelines below when ordering the specific type of line you choose. You may want to copy the guidelines and fax them to your ISDN service provider to expedite the ordering process.

National ISDN-1 (NI-1)

Service Type:

- Choose Circuit-Switched Data (CSD) on the first B-channel.
- Choose Circuit-Switched Data/Voice (CSD/V) on the second B-channel.

Maximum Number of B Channels	2
TEI Assignment	Dynamic
Packet Mode	No
Number of Call Appearances	1 if you choose CSD/V; otherwise none.
Terminal Type	A (basic call terminal)
Protocol Version Control (PVC)	2 (on Northern Telecom lines only)
EKTS	No requirement
Service Profile Identification Numbers (SPIDs)	2 (one per B-channel)

Make sure you receive the correct Service Profile Identification Numbers (SPIDs) with your ISDN line. Also make sure your ISDN provider informs you which B Channel has voice capabilities.

Optional: Order Call Forwarding Busy for both B channels if you have ordered an ISDN line with 2 Directory (Telephone) Numbers. This will forward a call to an open B channel if the called B channel is in us.

NOTE: For 5ESS National Internet (NI-1) lines it is possible to order a NI-1 ISDN line with only one Directory Number. This circumvents the issue of having to forward calls to an unused B channel. For Northern Telecom DMS-100 ISDN lines (both NI-1 and Custom) you must have two Directory Numbers, therefore the call forwarding option is desired.

AT&T Custom 5ESS (5E6, 5E7, 5E8, and 5E9)

Service Type:

- Choose Circuit-Switched Data (CSD) on the first B-channel.
- Choose Circuit-Switched Data/Voice (CSD/V) on the second B-channel.

Maximum Number of B Channels	2
Line Configuration	Point-to-point
TEI Assignment	Dynamic
Packet Mode	No
Number of Call Appearances	1 if you choose CSD/V; otherwise none.
Terminal Type	D if you choose CSD/V; otherwise A (basic call terminal)
Bearer Service Restrictions	None (DMD on both channels)
EKTS	No requirement
Auto-Hold	No

NOTE: The information in this section is for custom 5ESS lines only. If you can order a 5ESS line that is configured to the National ISDN-1 standard, please refer to the guidelines for setting up a National ISDN-1 line above.

Northern Telecom DMS Custom (With BCS-33 Through BCS-36)

Service Type:

- Choose Circuit-Switched Data (CSD) on the first B-channel.
- Choose Circuit-Switched Data/Voice (CSD/V) on the second B-channel.

Maximum Number of B Channels	2 (with SPIDs)
TEI Assignment	Dynamic
Terminal Type	A (basic call terminal)
Bearer Service Restrictions	None
Ring Indicator	Yes
EKTS	No requirement
Authorized Call Types	CMD
MXK	Not applicable, or default

Make sure you receive the correct Service Profile Identification Numbers (SPIDs) with your ISDN line. Also make sure your ISDN provider informs you which B Channel has voice capabilities.
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Extended 80-Col. Card P/C: Fails in One IIe, Works in Other

This article has been archived and is no longer updated by Apple.

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PROBLEM DESCRIPTION:  The extended 80-column card does not
work at all in one Apple IIe but installing it into another Apple IIe
solves the problem.  This looks like a problem with the original
Apple IIe's motherboard but it isn't.

CAUSE:  The 80 column card may be at fault.

CURE: 1. Before you swap motherboards (an expensive proposition),
try changing the 74LS245 chip on the extended 80-column card
(listed in the price pages).

2. If step 1 didn't work, replace the 80 column card.

3. Replace the motherboard in the original Apple IIe.

If the above cure doesn't fix the problem, refer to the Technical
Procedure for the Apple IIe's troubleshooting procedure.
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LaserWriters: TCP/IP Printing from Non-UNIX Workstation

What Apple LaserWriter printers support TCP/IP printing? Also what additional information do I need if I am printing from a non-UNIX workstation?
This article has been archived and is no longer updated by Apple.
The following printers support TCP/IP printing through their Ethernet interface:

- LaserWriter Pro 810
- LaserWriter Pro 16/600 PS
- LaserWriter 12/640 PS
- Color Laserwriter 12/600 PS
- Color Laserwriter 12/660 PS

To print from a non-UNIX workstation, configure the LaserWriter printer with an IP address. In addition, you need to check a few things.

- Make sure your software supports LPR
- If your software refers to the LaserWriter by hostname, setup a host file or Domain Name Service (DNS).
- If your software requires a socket number, Apple LaserWriters use socket 515, the standard socket for LPR printing.

None of the models listed support printing to port 9100. This feature is not part of RFC 1179 and is not part of the LPR printing standard.
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Personal LW NTR: Multipurpose Tray & Legal Paper (11/95)

I want to print on legal paper with my Personal LaserWriter NTR using the multipurpose tray. I do not have any cassette feeders and I want to use the LaserWriter 8 driver's auto tray selection function, can I do this?
This article has been archived and is no longer updated by Apple.
After you setup the Personal LaserWriter NTR with the LaserWriter 8 driver in the Chooser, you will be offered four paper source selections:

Auto Select
Multipurpose Tray
Paper Cassette (grayed out)
Manual Feed

To print legal size paper from a Personal LaserWriter NTR and multipurpose tray with the LaserWriter 8 driver, you will have to select Multipurpose Tray every time from the pop-up menu in the Print dialog. The print driver does not retain your last paper source selection.

With US Legal selected from the Page Setup command in the File menu, and Multipurpose Tray or Manual Feed chosen in the Print dialog, a US Legal page will print correctly. However, if Auto Select is chosen in the Print dialog, the printer will center the bottom of the legal sized image to fit on a US Letter size page. This will cause the top 3-inches to be cut off.

With Auto Select chosen, the LaserWriter NTR assumes the paper size in the tray to be US Letter. Unfortunately, the printer cannot be configured with LaserWriter Utility or Apple Printer Utility to know that a Multipurpose Tray or Manual Feed selection has legal size paper.

Support Information Services
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Power Macintosh 7200 Series: Frequently Asked Questions

This document contains the answers to frequently asked questions (FAQ) about Power Macintosh 7200 series computers.

Questions answered in this FAQ

1. What is the difference between native software, conventional software, and "Fat" software?
2. What causes Type 11 errors?
3. What causes Type 10 errors?
4. Does my Power Macintosh have an FPU (Floating Point Unit/Math coprocessor)? I see errors that an FPU is not installed.
5. I need to run DOS software on my Power Macintosh 7200 series computer. What are my options?
6. I have an old program which tells me to turn off 32-bit addressing. But I do not see this as an option in my Memory control panel. Why?
7. How can I get the built-in Ethernet address for my computer?
8. Can I add level-2 processor cache to my computer? Is it a SIMM or DIMM?
9. Can I add Video RAM (VRAM) to my computer?
10. I started my Power Macintosh computer from the startup CD but Disk First Aid says "files are open." How can I close those files?
11. I have an old program that requires less than 256 colors to be on. But the Monitors control panel settings don't show anything less than 256. What can I do?
12. At startup time, my monitor flashes off and back on again. Why?
13. I have a CD-ROM that said to install the Apple Multimedia Tuner. Do I need this on my Power Macintosh 7200?
14. I have a GeoPort Telecom Adapter. What version of the Apple Telecom software should I use?
15. I can't see a restart button on the computer. What do I use to restart my Power Macintosh 7200 if the screen is frozen?
16. I am trying to connect to my internet service provider (ISP) using SLIP/PPP software. What do I need to know?
17. Can NuBus cards be used with these Power Macintosh computers?
18. Is there an upgrade available for the Power Macintosh 7200 series computers?
19. Where can I find the latest Apple software updates online?

This article has been archived and is no longer updated by Apple.

1) Question: What is the difference between native software, conventional software, and "Fat" software?

Answer: The Power Macintosh runs in two modes, without any further assistance from the user: it can run "native" software, which is software written for the PowerPC chip, or "conventional" software, which is software written for an older 68000, 68020, 68030, or 68040-based computer. Conventional software is sometimes referred to as "68K" software.

Conventional software runs in an "emulation" mode, which is functionally similar to the 68LC040 processor. Conventional software will generally give between Macintosh IIci and Quadra 605 performance, depending on how many references the software makes to the native "toolbox" in the computer. Conventional extensions and control panels may rewrite native parts of the system software causing slower performance.

Native software runs only on Power Macintosh computers. It has been rewritten to be aware of and to take advantage of the PowerPC chip inside of all Power Macintosh computers.

"Fat" applications are programs that can be run on either a 68K or Power Macintosh computer without modification. The operating system automatically determines which part to use.

Since "Fat" applications are really two programs in one, many installers will offer either a "Power Macintosh" or "Conventional" install. If you have installed a software billing itself as "Accelerated for Power Macintosh" and, once installed, it does not recognize features which definitely exist, such as an FPU, make sure you have installed the correct version and build. Both versions will run on the Power Macintosh, but only the "native" version will benefit from all the special features of the Power Macintosh.

2) Question: What causes Type 11 errors?

Answer: Type 11 errors are typically due to one of a variety of factors:

- Font problems: you are using a bad font.
- Incompatible software running in emulation.
- SCSI chain problems: bad driver or cable.
- Cache SIMM problems (if you have installed one on your Power Macintosh computer).
- RAM problems: bad RAM has been installed.

For steps on how to troubleshoot such problems, see the following Technical Info Library (TIL) articles:

Article 16004: "**Power Macintosh: Meaning of Error Type 11**"
Article 14343: "**Troubleshooting Macintosh INIT Conflicts**"

3) Question: Does my Power Macintosh have an FPU (Floating Point Unit/Math coprocessor)? I see errors that an FPU is not installed.

Answer: All PowerPC processor chips, which all Power Macintosh computers use, have an integrated FPU. You may be seeing the "FPU not installed" error for two reasons:

* You are running "conventional" software in 68K emulation. This operating mode does not provide access to the computer's floating point unit. Thus, the program does not work. See if there is an upgrade to a PowerPC native version of the program. Certain software "bridges" exist to allow conventional software access to the PowerPC microprocessor's FPU.

* You are using software, in either emulation or native mode, which is simply failing. Since the PowerPC supports pipelining instructions, a number of errors are occurring simultaneously. They eventually percolate out as an "FPU not installed" error. An error did occur, but it has nothing whatsoever to do with the need for a floating point unit. You should apply standard troubleshooting steps to resolve this issue. Standard troubleshooting information can be found in the online Apple Tech Info Library.

4) Question: What causes Type 10 errors?

Answer: A Type 10 error seen on a Power Macintosh 7200 series computer is going to occur under the same circumstances as an FPU error. Due to the changes and enhancements in the 680x0 emulator, there are instances where an FPU error will be returned as a type 10 error. Follow the same troubleshooting steps you would when troubleshooting an FPU error.

5) Question: I need to run DOS software on my Power Macintosh 7200 series computer. What are my options?

Answer: With a Power Macintosh 7200 series computer, there are several ways to accomplish this.

* Apple offers two PC Compatibility cards featuring either a Pentium 100-megahertz processor on a 12-inch card (M4092LL/A) or a 586 100-megahertz processor on a 7-inch card (M4091LL/A). These PC Compatibility Cards let you run MS-DOS and Windows applications directly on your Power Macintosh computer. You can switch instantly between Mac OS, Windows, and MS-DOS environments with a single keystroke.

* Orange Micro has announced a version of their Orange PC card for PCI based Power Macintosh computers. The Orange PC cards use an expansion slot inside of your Power Macintosh 7200 series computer. You can get more information by contacting Orange Micro directly.

*Reply, Inc. has also announced a version of their DOS on Mac card for PCI based Power Macintosh computers. The Reply cards use an expansion slot inside of your Power Macintosh 7200 series computer. You can get more information by contacting Reply directly.

* You can use Insignia Solutions' SoftWindows emulator. This is a Macintosh application which emulates a PC DOS/Windows environment. You can get more information, such as pricing, performance, system requirements, and compatibility information from Insignia.

6) Question: I have an old program which tells me to turn off 32-bit addressing. But I do not see this as an option in my Memory control panel. Why?

Answer: All Power Macintosh computers run only in 32-bit memory addressing mode. There is no way to turn this off. Check with the vendor for a 32-bit compatible version of the software.

7) Question: How can I get the built-in Ethernet address for my computer?

Answer: The Apple LAN Utility version 1.0b4e1 can obtain the built-in Ethernet address in the Power Macintosh 7200 series computer. While this utility is not supported by Apple, it is available at Apple Software Updates sites.

With System 7.5.3 and the included Open Transport networking software 1.1, you can also determine the Ethernet address in either the TCP/IP or the AppleTalk control panels. The following steps apply to either control panel.

1. Open either the AppleTalk or TCP/IP control panel.
2. Choose User Mode from under the Edit menu. Click once on Advanced and click Okay.
3. Click on the Info button at the bottom of the AppleTalk or TCP/IP window. The built-in Ethernet address is listed as the Hardware Address and is in Hexadecimal format.

8) Question: Can I add level-2 processor cache to my computer? Is it a SIMM or DIMM?

Answer: You can add a level-2 processor cache to the Power Macintosh 7200 series computers. The cache is a 160 pin DIMM (dual in-line memory module). You can contact an Apple-authorized service provider for ordering information and installation.

9) Question: Can I add Video RAM (VRAM) to my computer?

Answer: You can increase your VRAM to 2 MB or 4 MB from the 1 MB it originally shipped with. The VRAM DIMMs must be 1 MB, 112-pin fast-paged mode, with 70 ns RAM access time or faster. Do not use 256K VRAM SIMMs. If you increase the VRAM to 2 MB, make sure the DIMM is added to the first VRAM slot. You can contact an Apple-authorized service provider for ordering information and installation.

Note also that adding VRAM will increase overall graphic performance on the Power Macintosh 7200 series computers because the bus is increased from a 32-bit wide bus to 64-bit wide bus with the additional VRAM.

10) Question: I started my Power Macintosh computer from the startup CD but Disk First Aid says "files are open" and won't allow me to click on repair. How can I close those files and repair the directory?

Answer: Virtual memory is active when started from the Power Macintosh CD. Here are two ways to disable Virtual memory.

- Insert the CD into the computer. Open the Startup Disk control panel and select the Power Macintosh CD. Restart the computer and push and hold down the Shift key. Release the Shift key when you see the Extensions Off message at the Welcome to Macintosh screen. Virtual memory is now off and Disk First Aid should be able to attempt repairs.
- Start the computer with the Power Macintosh CD in the drive and hold the letter C down. When you see the Macintosh face on the screen, immediately release the letter C and push and hold down the Shift key. Release shift when you see the Extensions off message at the Welcome to Macintosh screen.

11) Question: I have an old program that requires less than 256 colors to be on. But the Monitors control panel settings don't show anything less than 256. What can I do?

Answer: The built in video will not support less than 256 colors or greys. If you have a program that requires black and white, 4, or 16 colors to run, then you will not be able to run these programs. Check with the software vendor for availability of a compatible version. You could also check with video card vendors to see if any offer support for less than 256 colors.

12) Question: At startup time, my monitor flashes off and back on again. Why?

Answer: The software video driver for the monitor is loading up. This is normal and is answered in the Power Macintosh 7200/9500 Read Me file.

13) Question: I have a CD-ROM that said to install the Apple Multimedia Tuner. Do I need this on my Power Macintosh 7200?

Answer: The Power Macintosh 7200 series computers originally shipped with QuickTime 2.0. and will benefit from the Tuner. If you have installed QuickTime 2.1, then you do not need to install the Apple Multimedia Tuner. Check the version of QuickTime installed to determine if you need the Tuner. We would recommend upgrading to QuickTime 2.1 or newer which incorporates the Tuner. QuickTime software can be found at:

http://www.apple.com/quicktime/

Additionally, if you are using System 7.5.3, then you do not have to upgrade because QuickTime 2.1 is included.

14) Question: I have a GeoPort Telecom Adapter. What version of the Apple Telecom software should I use?

Answer: You should use at least the Apple Telecom 2.1 that is in the Apple Telecom folder inside of the Apple Extras folder on your hard drive (and on your backup CD if you have removed it). Megaphone 1.0.2 is also provided in this folder. The current Apple Telecom 2.3 is compatible, but adds no additional functionality for the Power Macintosh 7200 series computers.

15) Question: I cannot see a restart button on the computer. What do I use to restart my Power Macintosh 7200 if the screen is frozen?

Answer: The reset command is a keyboard shortcut identical to the Macintosh Quadra 605 and Macintosh LC computers. The key combination is Command-Control-Power. In addition to the keyboard power button, the Power Macintosh 7200 series computers also have a power button on the bottom front left panel (below the speaker panel).

If these do not restart or shut down the computer, it may be necessary to disconnect the power form your Macintosh computer. This can be done by turning off the power strip or by disconnecting the cable from the outlet or the back of the computer.

16) Question: I am trying to connect to my internet service provider (ISP) using SLIP/PPP software. What do I need to know?

Answer: Check the Open Transport FAQ for more detailed information. Make sure you have at least Open Transport 1.0.7 (1.0.6 is what originally came with your Power Macintosh 7200 series computer). Version 1.1 is included with System 7.5.3. Computers with Mac OS 7.5.2 can update to 7.5.3 by installing the System 7.5 Update 2.0. The system update is available online from the Apple Software Updates web site at **http://www.apple.com/swupdates**.

Also make sure you are using the TCP/IP control panel and not trying to get MacTCP to work. MacTCP is not compatible with the Power Macintosh 7200 series computers.

17) Question: Can NuBus cards be used with these Power Macintosh computers?

Answer: NuBus cards cannot be used in this Power Macintosh. However, to preserve your investment in NuBus technology, a NuBus expansion chassis for PCI will be available from Second Wave, Inc. This chassis will enable you to continue to use your existing NuBus cards in Power Macintosh systems with PCI slots.

18) Question: Is there an upgrade available for the Power Macintosh 7200 series computers?

Answer: The Power Macintosh 7200 series computers can currently be upgraded to a Power Macintosh 7600/120. See the following Tech Info Library article for more detailed information, or contact your local Apple-authorized service provider:

Article 19616: "**Pwr Mac Processor Crds & Logic Brd Upgrades: Descriptions**"

19) Question Where can I find the latest Apple software updates online?

Answer: Download software updates from: http://www.apple.com/swupdates. QuickTime software can be found at: **http://www.apple.com/quicktime/**
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PowerBook: Which Models Support PlainTalk?

Can I use PlainTalk Speech Recognition or Text-to-Speech software on my PowerBook?
This article has been archived and is no longer updated by Apple.

PlainTalk

PlainTalk Speech Recognition will work with a PowerBook 3400, 5300, 2300 or G3 series computer if you install PlainTalk version 1.5 and the English Speech Recognition system extension version 1.5.

Note: You can only use Speech Recognition with the built-in microphone of the PowerBook 5300 and 2300 series. The PowerBook 3400 can use either the built-in microphone or an external Apple PlainTalk microphone (M9060Z/A). Speech Recognition cannot be used with a PowerBook 2300 series computer in a Duo docking station because the dock does not support 16-bit sound.

Follow these steps to install PlainTalk:

1. Download the PlainTalk software from the Web at the following URL:
2. **http://apple.com/macos/speech/**
3. Install PlainTalk 1.5 (English Speech Recognition and Text-to-Speech).

Text-to-Speech

Text-to-Speech is bundled with PowerBook 5300 series computers and is supported.

Note: PlainTalk and Speech to Text updates can be downloaded from Apple Software Updates at:
http://www.apple.com/swupdates.
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ARPLE CD: How To Perform Manual Install

I am experiencing difficulty with the installation of the new Apple Reference, Performance, & Learning Expert (ARPLE) CD, October '95 Provider Edition. Each time that I try to run the ARPLE II HD Installer, the installer provides a "unsuccessfully installed" message.

I have tried two different ARPLE CDs (both October), on three different computers (Macintosh Workgroup Server 8150, Quadra 840AV, Quadra 800 with PowerPC card all with system 7.5.1), with the same non-results.
This article has been archived and is no longer updated by Apple.
You may be experiencing an installer issue where the Apple Media Tool preferences file is not being installed properly. You could try restarting with all of extensions off, except your CD-ROM extension, before attempting to run the installer or you could try a manual installation.

The following instructions describe how to perform a manual installation:

Manual Installation Instructions

If you have difficulty using the ARPLE Installer, follow the directions below for manual installation.

Step 1

Create a folder named, ARPLE II Internal Folder on your hard drive.

Step 2

Open the folder on the CD named, ARPLE II Folder and copy all of the files except PMedia and Preferences to the new folder on your hard drive.

Step 3

In the ARPLE II Folder on the CD, open the folder named, Preferences and drag the complete folder named ARPLE to the preferences folder in your System Folder.

Step 4

To launch the ARPLE interface from your hard drive open the ARPLE II Internal folder and double click on the ARPLE II application icon.
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Quadra 800, 900 & 950: Frequently Asked Questions (11/95)

This article contains the answers to frequently asked questions (FAQ) about high end Quadra computers, including the Macintosh Quadra 800, 900 and 950.

Questions in this FAQ

1) What is an enabler and do I need one?

2) What are the expansion options for the high end Macintosh Quadra computers?

3) How do I upgrade the memory on my Macintosh Quadra 800, 900, or 950 computer?

4) What is an FPU, and does my computer have one?

5) What is 32-bit addressing and when does it need to be active?

6) What is "resetting the PRAM"? Do I need to do this often?

7) Rebuilding the desktop file; what is it and why would I need to do it?

This article has been archived and is no longer updated by Apple.

1) Question: What is an enabler and why do I need one?

Answer: Rather than create a new version of the system software each time a new computer is released, Apple Computer created the system enabler. These enablers contain system software code specific to a particular Macintosh computer. Enablers provide older system software with the information necessary to properly run on a newly released Macintosh.

The Macintosh Quadra 800, 900 and 950 computers do not require an enabler when using System 7.5 or later.

The Macintosh Quadra 900 and 950 computers do not require an enabler when using System 7.1.

If you are using System 7.1 on a Quadra 800, you will require System Enabler 040.

2) Question: What are the expansion options for the high end Macintosh Quadra computers?

Answer: On the high end Macintosh Quadra computers, Apple provided several expansion options such as a processor-direct slot (PDS), as well as NuBus slots on each of these computers.

The PDS allows expansion cards to have direct access to the processor. Numerous PDS cards are available; video, network and accelerator cards have implemented a PDS design

NOTE: Because different Macintosh computers use different processors, there are several implementations of the processor-direct slot. Not all PDS cards are compatible with the different PDS types. To ensure compatibility, contact the manufacturer of the PDS card.

NuBus is a standard designed by Texas Instruments. It features self-configuration and bus-mastering on a 32 data-bit card. Bus-mastering means a card can take control of the bus, which allows for multi-processor computing. The card self configures using on-board ROM (Read Only Memory).

The card slot is a one-piece socket connector with two rows for pins. The card has a plug connector with pins that plug into the socket. This slot type is not compatible with any other slot standard.

Here are the expansion slots available on the Macintosh Quadra 800, 900 and 950 computers:

*** Macintosh Quadra 800:**
Support for two internal SCSI devices, such as a CD-ROM, DAT drive, or SCSI hard disk drive (several capacities available). Three internal NuBus expansion slots. One 68040 PDS provides access to the CPU for highest possible performance.

*** Macintosh Quadra 900:**
Support for up to three internal SCSI devices, such as a CD-ROM, DAT drive, or SCSI hard disk drive (several capacities available). Five internal NuBus expansion slots. One 68040 PDS provides access to the CPU for highest-possible performance.

*** Macintosh Quadra 950:**
Support for four internal SCSI devices, such as a CD-ROM, DAT drive, or SCSI hard disk drive (several capacities available). Five internal NuBus expansion slots. One 68040 PDS provides access to the CPU for highest possible performance.

3) Question: How do I upgrade the memory on my Macintosh Quadra 800, 900, or 950 computer?

Answer:

System	RAM Soldered on Board	Number of SIMM Slots	Possible SIMM Sizes	Physical RAM Configs(MB)	Speed	Notes
Quadra 800*	8	4	4MB,8MB,16MB, 32MB	8,12,16,20, 24,28,32,36,40, 44,48,52,56,60, 64,68,72,76,80, 84,88,92,96,104, 108,112,120,136	60ns	3,11, 12,13
Quadra 900*	0	16	1MB,4MB	4,8,12,16,20 24,28,32,36 40,48,52,64	80ns	3
Quadra 950*	0	16	1MB,4MB	4,8,12,16,20 24,28,32,36 40,48,52,64	80ns	3

* Product no longer being produced by Apple.

NOTES:

3. These systems have 32-bit-clean ROMs. Computers with 32-bit-clean ROMs can take advantage of more than 8MB of physical RAM under System 7.

11. These systems use 32-bit wide, 72-pin SIMMs (fast-paged mode) not previously used in Macintosh computers.

12. The Centris 650, and Quadra 800 use "memory interleaving" which occurs when SIMM pairs are used (for example: two 8MB SIMMs). This allows the memory subsystem to perform certain operations faster. Basically, it allows the memory subsystem to write to the same memory address in different banks of memory before incrementing the address. Depending on how memory intensive the application, this can improve performance 5 to 10%.

13. The Centris/Quadra 610, Centris/Quadra 650, and Quadra 800 have flexible memory systems, meaning that any supported SIMM size can go into any SIMM socket in any order, and they can run with partially populated banks. They don't support 1MB, 2MB, or 64MB 72-pin SIMMs.

4) Question: What is an FPU, and does my computer have one?

Answer: Floating-point Units (FPUs or math coprocessors), such as the 68881/68882, offer the greatest benefit in applications that tend to be very floating-point (arithmetic) intensive. The specific types of applications that benefit most from an FPU are those that process large amounts of floating-point instructions for precision, and will utilize an FPU extensively. Examples are CAD/CAM, 3-D modeling, scientific applications, and financial applications.

The Macintosh Quadra 800, 900 and 950 computers have a built in Floating Point Unit (FPU).

5) Question: What is 32-bit addressing and when does it need to be active?

Answer: With 32-bit addressing, you can install and access more than 8 MB of physical RAM in your Macintosh. This means you can work with very large data files, very large applications, or many applications concurrently. 32-bit addressing is most attractive to Macintosh users working with large memory-intensive problems. While virtually anyone can benefit from the large amount of memory offered by 32-bit addressing, it will immediately benefit database users, color-graphic users, CAD/CAM users, and programmers.

More technically speaking, 32-bit addressing lets most recent Macintosh models access the entire memory range of the microprocessor.

32-bit addressing is fully implemented in the Macintosh Quadra series. If more than 8 MB of RAM is installed, 32-bit addressing should be active in the Memory control panel. If, for example, 16 MB of RAM is installed on a Macintosh Quadra 800 and 32-bit addressing is off in the Memory control panel, the system software will appear to take up most of the available memory. The solution is to activate 32-bit addressing in the Memory control panel.

6) Question: What is "resetting the PRAM"? Do I need to do this often?

Answer: Parameter RAM (PRAM) is used to keep settings for a Macintosh. PRAM keeps track of the date, time, status of serial ports, which printer has been chosen in the Chooser and numerous other settings.

Occasionally, a corrupt setting in PRAM can adversely affect the operation of the computer. Resetting PRAM can sometimes solve these

problems.

It is not a requirement to reset PRAM on a regular, or scheduled basis.

To reset PRAM, restart the computer, press and hold the Command, Option, P and R keys simultaneously. Continue to press these keys until you hear the computer's startup chime the second time.

7) Question: Rebuilding the desktop file; what is it and why would I need to do it?

Answer: The Desktop file is an invisible file in the main level of your hard drive. It is the file that keeps track of all the documents and applications that are on your drive.

For System 6 and earlier the file name is desktop. System 7.0 and later the invisible files are named Desktop DB and Desktop DF.

Occasionally your Desktop file may become too large or may be damaged.

A symptom of a damaged Desktop file is when icons on your desktop appear as "generic" rather than "custom" icons. Rebuilding the Desktop file may eliminate the problem.

The Desktop file manages all icons on a particular hard drive or floppy disk. When you insert a new or customized icon, the Desktop file may not load it or may load a previous version of the icon. To have the special icon appear on the desktop, the Desktop file must be rebuilt to update the Desktop file and register the icon.

Icons change to generic document (blank page with a corner turned down) or application (diamond with a hand) icons for several reasons, including the following:

- Utilities such as compression or security software can alter icons.
- Custom icons become damaged or deleted.
- The Desktop file has been damaged.
- Applications that create files may not assign icons to the files.
- An application that created a file and assigned an icon may no longer be available.
- A file may have lost the bit that indicates a custom icon (this is known as the bundle bit).

If the Desktop file becomes too large, the computer may have difficulty reading it efficiently and speedily. This can cause the Finder to access files more slowly. Rebuilding the Desktop file can clean up old information and speed up Finder access.

You can also make a file-by-file backup of the drive, re-initialize the drive, and then restore the files. This re-groups all the files, de-fragments them, and increases the efficiency of the drive.

To rebuild the desktop using System 7

Follow these steps:

1. Press and hold the Shift key down while starting up the computer.

2. As soon as you see "Welcome to Macintosh Extensions Off", release the Shift key, and press and hold the Command and Option keys.

3. Continue pressing the Command and Option keys until you see a dialog that says "Are you sure you want to rebuild your desktop on your disk? All of your info window comments will be lost," release the keys and click the OK button.

After the desktop has been rebuilt, restart the computer, and all extensions and control panels will be active again.

To rebuild the desktop using System 7.5 or later

Follow these steps:

1. Before you rebuild your desktop, use the Extensions Manager control panel to save a record of the extensions that are currently turned on.

- Open the Extensions Manager control pane.
- Open the Sets pop-up menu, and choose Save Set.
- When the Save Set dialog box opens, type a name for your currently selected extensions (for example, My Extensions). When you close the dialog box, the name of your set is added to the Sets pop-up menu.

2. To turn off all extensions, open the Sets pop-up menu again and choose All Off.

3. To turn on Macintosh Easy Open, find it on the list and click it to put a checkmark beside it.

4. To rebuild the desktop, restart your computer while pressing and holding the Command and Option keys.

5. When you see the dialog that says "Are you sure you want to rebuild your desktop on your disk? All of your info window comments will be

lost," release the keys and click the OK button.

6. When the desktop is rebuilt, open the Apple menu and choose Control Panels.

7. Open the Extensions Manager control panel.

8. To turn your extensions back on, open the Sets pop-up menu and choose the name you gave your set of extensions in step 1 (for example, 'My Extensions').

9. Restart your computer to activate the extensions.

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Color LaserWriter 12/600 PS, 12/660PS: Config RPRINTER on Netware 3.1.x

This article provides the documentation for setting up a Color LaserWriter 12/600 PS or Color LaserWriter 12/660 PS printer in RPRINTER mode on a Netware 3.12 server. This information is not in the printer User Manual.
This article has been archived and is no longer updated by Apple.

Step 1--Apple Printer Utility

1. From the Macintosh, open the Apple Printer Utility.
2. Make sure that RPRINTER is selected.
3. Enter a name into the Remote PSERVER name. **Note:** Write down the Remote PSERVER name for later.
4. Select Port configuration, ensure that Netware is set to ON.
5. Exit the Apple Printer Utility

Step 2--Configure with PCONSOLE

Note: The Color LaserWriter 12/600 PS or Color LaserWriter 12/660 PS must be configured as printer "0". This is not an option because other printer number assignments do not work. This may require recreating configurations for other printers being serviced by PSERVER.

1. Run PCONSOLE from a DOS Client.
2. Select Print Server Information.
3. Press INS to create new print server.
4. Enter the Print Server name from Step 1.
5. Press Return.
6. Select Full Name press enter.
7. Enter: RPRINTER <Any Printer Name> <0> - and press enter. **Note:** This printer requires the first Printer definition, that is "0", to work properly, also write down the printer name for later.
8. Select Print Server Configuration.
9. Select Printer Configuration.
10. Select printer 0 not installed.
11. Enter the name enter into "Full Name".
12. Select Type - press return.
13. Select Remote other unknown - press return.
14. Press escape back to Available Options - answer yes when prompted to save.
15. Select Print Queue Information.
16. Press INS.
17. Enter any name for a queue name. **Note:** Write down the Queue name for later.
18. Press enter.
19. Press enter on that queue name.
20. Select Queue Servers press enter.
21. Press INS.
22. Select the queue server name that you entered earlier.
23. Press return.
24. Press ESC until you are back to available options - Save any changes if asked.
25. Select Print Server Information Menu press return.
26. Select Print Server Configuration.
27. Select Ques Serviced by Printer.
28. Press return twice.
29. Press INS.
30. Select the Queue that you have setup for this printer - press enter twice.
31. Escape out of PCONSOLE - saving changes of asked.
32. At the Netware server:

- Enter: LOAD PSERVER <REMOTE-PSERVER-NAME>
- The REMOTE-PSERVER-NAME will be the same from Step 1

Step 3--Restart Printer

If the printer does not show waiting print job on the PSERVER screen, restart the printer.

Step 4--Print to the Queue

1. Enter: capture q=q_name/no banner/ti=5
2. z:
3. print fontlist.ps

Published Date: Feb 19, 2012

AppleShare Client for Windows: AppleTalk Phase I

I'm unable to access any of the computers on an AppleTalk Phase I network, however, on an AppleTalk Phase II network connections work properly.

This article has been archived and is no longer updated by Apple.

AppleShare Client for Windows does not support AppleTalk phase I. Version 1.0.2 now supports LocalTalk. The solution is to upgrade those AppleTalk Phase I segments to AppleTalk Phase II.

Published Date: Feb 19, 2012

ImageWriter II: Prints Darker On One Side

The ImageWriter II prints darker on one side of the page than on the other. What could be the cause?
This article has been archived and is no longer updated by Apple.
Issue: The print head may not be parallel to the platen.

Solution: Install appropriate shims from the ImageWriter II shim kit. The part number for this kit is listed in the Price Pages of the Service Programs binder.

If the above cure doesn't fix the problem, search on GTS and the product's name to obtain a general troubleshooting procedure.
Published Date: Feb 19, 2012

Power Macintosh: Memory Interleaving Performance Gain (6/96)

Article Review/Updated: 27 June 1996

Is there any information available on the performance gains or losses when using interleaved instead of non-interleaved memory on PCI-based Power Macintosh computers?

Specifically how much of a speed advantage would be lost if you use one 16 MB DIMM rather than two 8 MB DIMMs in an interleaved arrangement?

This article has been archived and is no longer updated by Apple.

For increased performance it is better to configure a PCI-based Power Macintosh computer for memory interleaving rather than installing memory in a non-interleaved configuration. This means that you will get better performance if you configure your system with two 16 MB DIMMs rather than one 32 MB DIMM. This applies to all other combinations of same-sized DIMMs.

The actual performance will vary from computer to computer. In general, a Power Macintosh with a PowerPC 604 microprocessor, such as the Power Macintosh 8500 or 9500 series computer, gets anywhere from a 5% to 15% boost in performance. The average is about an 8% increase in performance speed. On a Power Macintosh with a PowerPC 601 microprocessor, such as the Power Macintosh 7500 series, you may get only a slightly better performance gain by using memory interleaving rather than non-interleaved DIMMs. Some third-party benchmarking applications may report exaggerated performance differences between interleaved and non-interleaved computers.

This article was published in the Information Alley on 26 June 1996.

Article Change History:
27 Jun 1996 - Added keyword.
26 Jun 1996 - Made minor correction.
10 May 1996 - Added information about exaggerated benchmarking results.

Published Date: Feb 19, 2012

PowerBook 190 & 5300: Ethernet PC Card Switching (11/95)

I have several different Ethernet PC cards that I need to use. I seem to have trouble getting on the network when I switch cards. Why?

This article has been archived and is no longer updated by Apple.

When switching between PC Cards on a Macintosh PowerBook 5300 Series computer, you must pay careful attention to any software drivers that get left behind that are no longer going to be used. The Ethernet drivers are particularly susceptible to "confusion" if not removed.

As an example of this, if you have a Dayna Ethernet card and switch to a PowerPort Platinum Pro PC Card, you will experience problems with Ethernet if you fail to remove the Dayna drivers. This is because the MacOS only recognizes two different Ethernet driver names, and Global Village and Dayna (in this case) have chosen the same name (Ethernet Driver). The symptom will be that Ethernet will work intermittently, if at all.

Be sure to get all the parts of the old driver software (use the Installer to remove/de-install the driver software, if possible) when removing it. In particular, be sure to remove the Ethernet driver from the System suitcase.

Support Information Services
Published Date: Feb 19, 2012

System 7.5: Startup Items Launch Order (11/95)

If I put several different items in the Startup Items folder of my System 7.5 Folder, how does the operating system determine the launch order?

This article has been archived and is no longer updated by Apple.

This is how the System 7.5 Finder handles opening the items in the Startup Items folder.

After the Finder finishes loading at startup it "selects" all the items and executes an open items command. Next, the Finder groups everything into one of five classes: applications, documents, stationery, folders, and aliases. Aliases are resolved to their original item and then the resulting items are launched in the following order:

1) Applications

- Alphabetically

2) All documents with the same creator

- Alphabetically.
- Documents created by an application that is also in the list are opened when the application is launched, before other documents and before other applications.
- The Finder checks for stationery unaware applications or applications that do not automatically duplicate a file that has the Stationery pad option checked in its information window. If the Finder finds any stationery unaware applications and it is opening a stationery file for one of those applications, it duplicates the file before it starts launching any applications. The Finder then opens these duplicated files last, even though they may come alphabetically before other files.

3) Remaining documents

- Alphabetically.

4) Everything else

- Sounds, folders, control panels, and font suitcases are opened alphabetically.

Support Information Services
Published Date: Feb 19, 2012

ImageWriter: Print Fades Intermittently

This article has been archived and is no longer updated by Apple.

PROBLEM DESCRIPTION: Printing is fine most of the time, then the print will fade. After a space of 15 or so characters, the print density returns. The location of the print fade can happen anywhere on the document.

CAUSE 1: If the ribbon cartridge may not be a genuine Apple cartridge, the ribbon may fit loosely in the ribbon mechanism. This causes the clutch on the ribbon to slip when it turns to advance the ribbon.

FIX: Replace third party ribbon with a genuine Apple ribbon.

CAUSE 2: The ribbon may be catching on the screw which fastens the paperguide in place.

FIX: Tighten or replace the screw as appropriate.

CAUSE 3: The springs part numbers 970-0063 and 970-0064 may be misplaced. These springs have different tensions. Spring 970-0063 is the one with a greater tension. When misplaced it will cause the gear 970-0061 to slip.

FIX: Check the tension of the springs and install them in their proper place. After repair, reinstall all the parts in the carriage and run Self Test to check for proper operation of the printer.

If the above cure doesn't fix the problem, search on GTS and the product's name to obtain a general troubleshooting procedure.

Published Date: Feb 19, 2012

ARA 2.0.x Connection and No IP Address

Our remote users are dialing in with Apple Remote Access (ARA) 2.0.x to a Shiva LanRover 8/E, and we are intermittently not receiving an IP address from the server. We currently are restarting the remote computer and redialing. Do you have any idea how to correct this?
This article has been archived and is no longer updated by Apple.
A problem that may be causing this is when MacTCP is configured for Manual addressing and the MacTCP stack is initialized before the ARA connection is made.

This can be reproduced by installing MacSNMP software on a remote Macintosh. MacSNMP software will load at startup and initialize the MacTCP stack, causing MacTCP connections over an ARA link to not work. Removing MacSNMP software from the remote Macintosh resolves this.
Published Date: Feb 19, 2012

PowerTalk INET Gateway & Open Transport Compatibility (11/95)

When using the Mail*Link Internet for PowerTalk (PT/INET) Gateway 1.6 on my PCI-based Power Macintosh, the gateway will connect once but not again until I restart the computer. What is wrong?
This article has been archived and is no longer updated by Apple.
This is a known issue which Apple is investigating. Below is a quote from the Mail*Link for PowerTalk/INET 1.6 Read Me file:

"Open Transport users: This gateway does not function correctly when used with Apple's OpenTransport. The gateway will connect one time but will not reconnect without a reboot. Apple is currently investigating problem."

Support Information Services
Published Date: Feb 19, 2012

AppleVision 1710AV: Lines on Screen (5/96)

Various symptoms have been reported where there are lines on the screen.

Customers are reporting symptoms of horizontal or vertical lines on various parts of the screen. In particular:

1) display has 2 horizontal lines in the screen one-third of the way down
and one-quarter of the way up;

2) thin red line on the outer left, outer right or top;

3) monitor changes from yellow to red approximately every 5 minutes and
there are flickering horizontal lines every 10 seconds.

This article has been archived and is no longer updated by Apple.
The following technical explanations may assist you in identifying the
difference between a display problem, computer problem, or normal display
operation.

Horizontal Lines

Customer Issue:
Display has 2 horizontal lines in the screen one-third of the way down and one-quarter of the way up

Explanation:
This is the stabilization wires common to every Trinitron display. The construction of a Trinitron CRT includes one or two horizontal wires about one-quarter to one-third of the way down/up from the top/bottom of the display image. The wire appears as a very thin light gray horizontal line across the entire width of the display image. The lines are common to all Trinitron displays. All replacement displays have the same lines.

Thin Red Line on Display

Customer Issue:
Thin red line on the outer left, outer right or top of the display.

Explanation:
Display convergence may need to be adjusted. This can be performed by the customer. If convergence is misadjusted, a color line, usually red or blue, on one or more sides of the display image appears. Convergence is adjusted using the Sounds & Displays control panel.

NOTE:
No CRT display device has perfect geometry (image shape) and convergence. Convergence should be adjusted for the best overall screen performance. A display with perfect convergence in one area of the screen may have slight misconvergence in another area (the adjustment should be made to have the best convergence balance over the entire screen). If the customer can make adjustments so the convergence is within a half millimeter, the display is working correctly.

Display Changes From Yellow to Red

Customer Issue:
Monitor changes from yellow to red approximately every 5 minutes and there are flickering horizontal lines every 10 seconds.

Explanation:
The display and the Macintosh computer attached to it should be checked by an authorized Apple Service provider. The problem described could be caused by a variety of problems including the video card, cable and connector, and display circuitry among other components. The entire system should be checked to properly isolate the problem.

Article Change History:
02 May 1996 - Revised discussion to include current information.

TA34676_AppleVision_AV_Lines_on_Screen__(TIL18885).pdf

Published Date: Feb 19, 2012

Apple Multiple Scan Displays: Status Indicator Lights (1/97)

This article describes the status indicator lights for the following Apple displays:

Multiple Scan 14 Display
Multiple Scan 15 Display
Multiple Scan 1705 Display
AppleVision 1710AV Display
AppleVision 1710 Display

This article has been archived and is no longer updated by Apple.

Multiple Scan 14
---
* Power On - Green

* Sleep Mode - Flashing green

* Power On, but not connected to computer - Green

* Power Off - No light

Multiple Scan 15
---
* Power On - Amber to Green

* Sleep Mode - Amber

* Power On, but not connected to computer - Amber

* Power Off - No light

Multiple Scan 1705
---
* Power On - Green

* Sleep Mode - Amber

* Power On, but not connected to computer - Green power lamp, and the adjustment lights blink sequentially from left to right.

* Power Off - No light

AppleVision 1710AV and AppleVision 1710 Display
---
* Power On - Green

* Sleep Mode - Green

* Power On, but not connected to computer - No light

* Power Off - No light

Article Change History:
29 Jan 1997 - Added AppleVision Display to the article.
Published Date: Feb 19, 2012

PowerBook 190 Series: Read Me

The following is the Read Me file for the PowerBook 190 Series computers.
This article has been archived and is no longer updated by Apple.
Important Information About Your Macintosh PowerBook 190 Series Computer

Congratulations on purchasing your Macintosh PowerBook 190 series computer. This document adds to and updates the information in the manuals that came with your computer. It is a good idea to read this document now, and keep a copy handy for future reference.

If your PowerBook is connected to a printer, choose Print from the File menu to print a copy of this document. When you are finished reading and printing, choose Quit from the File menu to quit the SimpleText application program.

Contents

Tips

- Charging your battery
- Using the Battery Monitor in the Control Strip
- Using the trackpad
- Using a modem
- Using expansion bay modules
- Using PC Cards
- Using a DOS-formatted PC Card
- Using your PowerBook in SCSI disk mode
- Using Apple IR File Exchange
- Using the Password Security control panel
- Printing

Troubleshooting

- Issues starting your PowerBook
- Resetting the parameter RAM (PRAM)
- Using Drive Setup

- Using Acrobat Reader after installing QuickDraw GX
- Using Apple Remote Access
- Incorrect Guide File Balloons
- Using a DigiSign Signature Card with PowerTalk
- AppleShare Displays Incorrect Information for Large Drives
- AppleShare Server Software Version 4.1
- Application Programs Using Sound
- Using QuickDraw GX with a Fax Modem
- Using the Japanese Language Kit
- Using the Chinese Language Kit

Tips

Charging your battery

You should connect the power adapter to your computer and let the battery charge overnight when you first unpack your computer. (The battery may have been depleted between the time it was charged at the factory and the time you purchased the computer.)

Using the Battery Monitor in the Control Strip

The estimated time remaining that is displayed in the Battery Monitor portion of the Control Strip depends on the charge remaining and the battery consumption rate. The battery consumption rate depends on the software and hardware features you are using.

Using The Trackpad

If the trackpad seems unresponsive, try the following in the order listed:

1. Put your PowerBook to sleep (by closing the display) and then wake it up (by pressing any key on the keyboard).
2. Press the reset button on the back of the computer.

3. Reset the parameter RAM (PRAM) (see the section in Troubleshooting below for instructions).

4. Attach an external mouse.

Using A Modem

* If you are using the LocalTalk or IRTalk, turn off AppleTalk in the Chooser to improve modem performance.

* Modem connection files for various PC Card modems that will work with Apple Remote Access (ARA) are included on your computer*s hard disk. The modem files for ARA are in the Extensions folder. If a file for your modem is not included, please contact your communications software manufacturer to see if your modem is supported. See the user*s manual that came with your computer for more information on using PC Card modems.

* When accessing the internet using the InterSLIP protocol, use the 14.4K baud rate rather than the 28.8K baud rate for better performance. The actual throughput at 14.4K baud is higher than at 28.8K baud.

Using Expansion Bay Modules

Never remove a floppy disk from the expansion bay module while the PowerBook is in sleep. You may damage the disk or lose data.

Using PC Cards

* For best results, purchase only cards that have been qualified for use on a Macintosh computer. If you are in the United States, you can receive a faxed list of currently available PC Cards by calling 1-800-462-4396 and requesting document 10307. You can call this number anytime. In Canada, call 1-800-263-3394 and request document 10307. Outside the United States and Canada, please consult your Apple-authorized dealer.

* Do not use an SRAM storage card as a startup disk on your PowerBook. Use SRAM cards for extra storage only.

* If you are using a mass storage PC Card, you can only eject the card using the eject buttons when the computer is shut down. The eject buttons will not work with storage PC Cards when the computer is turned on.

* Never eject a PC Card manually (with a paper clip) while the PowerBook is in sleep. You may damage the card or lose data.

Using a DOS-formatted PC Card

If your PowerBook has the Macintosh PC Exchange control panel installed and PC Exchange is turned on, you can use a PC Card that has been preformatted in a DOS format in your PowerBook. However, you cannot start up your computer using the DOS-formatted PC Card; you can only start up your computer using a Mac OS formatted PC Card.

If you want to reformat your DOS-formatted PC Card as a Mac OS formatted PC Card, you need to turn PC Exchange off, and then format the card as you would any non-Mac OS formatted disk. Follow these steps:

1. Choose Control Panels from the Apple menu.

2. Open the PC Exchange control panel.

3. Click the Off button and close the PC Exchange control panel.

4. Insert your PC Card. A window appears asking if you want to initialize (format) the disk.

5. Click Initialize to format the PC Card. Once the PC Card is reformatted, you can turn Macintosh PC Exchange back on in the PC Exchange control panel.

You cannot reformat a Mac OS-formatted PC Card as a DOS-formatted PC Card with PC Exchange. To do so, you need to use a DOS/Windows computer with PC Card capabilities.

Using Your PowerBook In SCSI Disk Mode

* Using Norton Utilities Speed Disk or Disk Doctor from a desktop computer on your PowerBook while it is in SCSI disk mode may cause the desktop computer to crash or freeze. To avoid this issue, create an emergency startup floppy disk using Norton Utilities and then use that disk to startup your PowerBook.

* You cannot use password protection on your PowerBook while the PowerBook is in SCSI disk mode. Turn off password protection in the Password Security control panel before connecting your PowerBook in SCSI disk mode.

Using Apple IR File Exchange

Apple IR File Exchange provides a very simple way to exchange files with another IR-equipped Macintosh user. You need to upgrade your computer with the PowerBook Infrared Upgrade Card before you can use Apple IR File Exchange.

* If you use Apple IR File Exchange with a computer that is equipped with a third-party IR device and is also connected to a wired network (for example, a LocalTalk or Ethernet network), you may see other Apple IR File Exchange users that are beyond your local IR network. If you want to prevent this from happening, select IRTalk in the Network control panel on the computer that is connected to the wired network. (This will have the effect of disconnecting that computer from the wired network. See the manufacturer*s manual for more details.)

* If you see a dialog box telling you there is a broken connection, make sure that both you and the other Apple IR File Exchange user select the same option (either "break connection" or "continue"). If the other user breaks the connection and you try to continue, your computer may appear to hang for 2 minutes while it tries unsuccessfully to reestablish the connection.

* When you select IRTalk in the Network control panel, your computer chooses a random network address. Occasionally, you may come within range of another computer using the same network address and experience difficulty communicating with it.

When this occurs, you'll see a dialog box telling you that a duplicate AppleTalk address has been detected. Click OK in the dialog box, then open the Network control panel and select IRTalk again. This will give your computer a new network address and will correct the issue. (Alternately, you can activate and inactivate AppleTalk from the Control Strip or the Chooser.)

Using the Password Security Control Panel

The Password Security control panel provides security for information stored on your hard disk. To use this feature, you must enter a password and turn it on. If you forget or lose your password, you will not be able to access your hard disk. Should you lose your password, you may be charged for assistance.

You cannot use your PowerBook in SCSI disk mode with password protection turned on in the Password Security control panel. You must turn it off before using your PowerBook in SCSI disk mode.

Information stored on PC Cards is not protected by password security. Password security is designed to prevent casual access to your hard drive. It does not provide encryption.

Printing

If you are printing on a network printer, make sure you have the same version of printer software as others on the network. If you are using a StyleWriter II on a network, make sure you use the StyleWriter 2.0 printer driver. (Printer drivers are found in the Extensions folder).

Troubleshooting

Issues Starting Your PowerBook

If you have issues starting your PowerBook immediately after you shut it down (for instance, you see the "Sad Mac" icon on the screen), wait several seconds after shutting down, and then press the Power key to turn the computer on again.

Resetting the parameter RAM (PRAM)

When you need to reset your PowerBook's PRAM, follow the steps below. Note that resetting the PRAM erases the contents of your RAM disk, if you have one. Resetting the PRAM also restores the default settings in most control panels. After you reset the PRAM, be sure to check any custom settings you made for the desktop pattern, memory, network, AppleTalk, trackpad, power conservation, and so forth. Resetting the PRAM also resets the power manager.

Follow these steps to reset the PRAM:

1. Locate the keys Command, Option, P, and R.

2. Make sure the Caps Lock key is not down.

3. Restart your Macintosh. Immediately after hearing the startup sound, press the Command, Option, P, and R keys simultaneously. If you do not hold down the key combination within 5-10 seconds after you restart, you may need to repeat steps 1-3.

4. Hold down the keys until you hear the startup sound. Then release the keys.

5. If the computer shuts itself off, press the Reset key on the back of your computer to turn it back on.

6. When the computer has finished starting up, you may need to restore control panel settings as well as network and printer settings in the Chooser.

Using Drive Setup

Make sure you only use the Drive Setup application program that comes with your PowerBook to update and partition hard disks. If you use an earlier version of Drive Setup (called HD SC Setup) you could damage your computer.

Using Acrobat Reader After Installing QuickDraw GX

Once you install QuickDraw GX, you need to reinstall Acrobat Reader on your computer in order to use it. Double-click the Acrobat Reader Installer icon in the Adobe Acrobat Reader folder (inside the Applications folder).

Using Apple Remote Access

Make sure you use only Apple Remote Access Client version 2.0.1 on your PowerBook. Earlier versions will not work.

Incorrect Guide File Balloons

Your system software includes Apple Guide documents which provide on screen instructions and other information to help you use your computer. However, if you turn on Balloon Help (by choosing Show Balloons from the Guide menu) and point to a Guide file icon on the hard disk, the balloon may give you the wrong information about where the file belongs or what you can do with it. To avoid being misled by incorrect balloons, follow the guidelines below:

* Leave Guide files where they are. Some Guide files (for example, the Guide file named "Macintosh Guide") belong in the Extensions folder. Others will not work if they are put into the Extensions folder.

* Keep application programs that have Guide files in the same folder as the Guide file. For example, keep the file named "File Assistant Guide" in the same folder as the File Assistant program. If you move a Guide file that belongs with an application program, you will not be able to get help while using the program.

Using A DigiSign Signature Card With PowerTalk

To use the Apple DigiSign Utility with PowerTalk, follow these steps:

1. Turn off processor cycling in the PowerBook control panel. To see the option for processor cycling, hold down the option key while you select Custom in the PowerBook control panel.

2. Follow the steps for creating a Signer file. If you need help, select "How do I obtain a valid Signer file?" in the Digital Signatures topic of the PowerTalk Guide.

3. Turn processor cycling back on in the PowerBook control panel.

AppleShare Displays Incorrect Information For Large Drives

If you use file sharing to connect to a disk attached to another computer, and the shared disk is larger than 2 gigabytes (GB), the Get Info box for that disk shows an incorrect size. (Get Info reports the disk to be 2 GB in size, even if it is larger.)

AppleShare Server Software Version 4.1

If you purchase AppleShare server software version 4.1, make sure to choose Custom Install (instead of Easy Install) when you install it.

NOTE: This note is not part of the original Read Me, it is being added to correct information presented here. AppleShare 4.1 or later is not sold separately and is available when purchasing a Workgroup Server. Also AppleShare v 4.1 or 4.2 is not supported on these computers.

Application Programs Using Sound

If you have application programs that make extensive use of sound, you should turn off virtual memory while using those programs. When virtual memory is turned on, it can compromise the programs' sound quality.

Some older versions of programs, especially games, may generate sounds that seem too slow or too fast. For best results with these programs, open the Sound control panel, choose Sound Out from the pop-up menu, and set the sample rate to 22.050 kHz.

Using QuickDraw GX With A Fax Modem

If you installed QuickDraw GX and you have a fax modem, you need a QuickDraw GX modem driver in order to send faxes. Contact the fax software manufacturer to obtain the QuickDraw GX driver.

If you have installed QuickDraw GX and do not yet have the QuickDraw GX modem driver, you can temporarily turn off QuickDraw GX and use your previous fax modem driver. To turn off QuickDraw GX:

1. Hold down the Space bar while you choose Restart from the Special menu to restart your PowerBook. Continue to hold down the Space bar until the Extensions Manager appears on the screen.

2. Click the QuickDraw GX extension to remove the check beside it. This prevents the QuickDraw GX software from loading.

3. Click the close box in the Extensions Manager window to resume startup. Your fax modem should work normally. You will not be able to use any QuickDraw GX features until you turn the extension back on again.

Using the Japanese Language Kit

To use the Japanese Language Kit with your Macintosh PowerBook, make sure you use version 1.2 or later. Customers outside of the United States should contact their local Apple-authorized dealer.

After you install the Japanese Language Kit 1.2, you need to replace an extension that gets installed with the software. Follow these steps:

1. Follow the instructions for installing the Japanese Language Kit 1.2 that came with the software.

2. After you see that the installation was successful, restart the computer with the Extensions off. To do this, hold down the shift key while you press the Restart button in the installer screen (or as you choose Restart from the Special menu).

3. Double-click the Apple Extras folder to open it.

4. Double-click the JLK 1.2 Update folder to open it.

5. Drag the file called "Font Extension 3" to the Extensions folder (inside the System folder) on your hard disk. Click OK if you see a dialog box asking if it is ok to replace this file.

6. Choose Restart from the Special menu.

Using the Chinese Language Kit

To use the Chinese Language Kit with your Macintosh, make sure you use version 1.1.1 or later. To install the Chinese Language Kit version 1.1.1, first install the World Script Updater 1.0. Then install the Chinese Language Kit version 1.1. Finally, install the Chinese Language Kit Updater to update your software to version 1.1.1.

To install the World Script Updater, follow these steps:

1. Double-click the Apple Extras folder to open it.

2. Double-click the World Script Install folder to open it.

3. Double-click the World Script Installer icon. Follow the instructions on the screen.

4. Follow the instructions that came with the language kit to install the language kit software.

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ImageWriter 15 Problem/Cure: Prints OK But Makes Grinding Sound

This article has been archived and is no longer updated by Apple.

PROBLEM DESCRIPTION: ImageWriter 15" prints OK but the carriage seems to make a grinding sound when moving across the print bar. This often happens after the carriage motor has been replaced.

CAUSE: The screws mounting the carrier motor on its grommets may be too tight causing vibration (grinding noise).

CURE:
1. Loosen the screws that secure the Carrier Motor Clamps.

2. Loosen the four screws that secure the Carrier Motor to the bottom cover of the printer.

3. Cross tighten the four Carrier Motor Screws until you feel some resistence but DO NOT over tighten. If the Carrier Motor has just been replaced and the screws have been over tightened, you may have to replace all eight Carrier Motor Rubber Grommets and cross tighten again. Remember, tightening the screws to much will cause the grommets to over compress and cause a vibration that exhibits the grinding sound.

4. Tighten the screws that hold the Carrier Motor Clamps.

5. Run Self Test to check for the vibration problem.

Note: You may have to follow the above proceedure several times before the noise is eliminated.

If the above cure doesn't fix the problem, search on GTS and the product's name to obtain a general troubleshooting procedure.

Published Date: Feb 19, 2012

Group IV TIFF Viewer for Macintosh (11/95)

I need to find a viewer for Group IV TIFF that runs on a Macintosh. Group IV TIFF is a standard format used in the PC environment. Scanners from Xionx, Kofax, Seaport Imaging (Cornerstone) use Group IV TIFF as their native file format. I have several of these files on a server and would like to make them available on the Web, and I want to be able to point users to a free or low-cost viewer application.

Is there free ware or public-domain viewers available that a Macintosh can use?
This article has been archived and is no longer updated by Apple.
TIFF Group4 images should be able to be opened with most any current application that supports the TIFF standard. Below are three applications that should be able to handle the task of opening your TIFF files.

GraphicConverter

Available at:

ftp://mirror.aol.com/pub/info-mac/_Graphic_%26_Sound_Tool/_Graphic/

GraphicConverter is share ware. It converts pictures to different formats. Also it contains many useful features for picture manipulation. GraphicConverter imports PICT, Startup-Screen, MacPaint, TIFF (uncompressed, packbits, CCITT3/4 and lzw), RIFF, PICS, 8BIM, 8BPS/PSD, JPEG/JFIF, GIF, PCX/SCR, GEM-IMG/-XIMG, BMP (RLE compressed BMP½s also), ICO/ICN, PIC (16 bit), FLI/FLC, TGA, MSP, PIC (PC Paint), SCX (ColoRIX), SHP, WPG, PBM/PGM/PPM, CGM (only binary), SUN , RLE, XBM, PM, IFF/LBM, PAC, Degas, TINY, NeoChrome, PIC (ATARI), SPU/SPC, GEM-Metafile, Animated NeoChrome, Imagic, ImageLab/Print Technic, HP-GL/2, FITS, SGI, DL, XWD, WMF, Scitex-CT, DCX, KONTRON, Lotus-PIC, Dr. Halo, GRP, VFF, Apple IIgs, AMBER, TRS-80, VB HB600, ppat, QDV, CLP, IPLab, SOFTIMAGE, GATAN, CVG and MSX.

JPEGView

Available at:

http://www.med.cornell.edu/jpegview.html

JPEGView is postcardware. It is a fast, powerful image viewer for both 680x0 and PowerPC Macintoshes. JPEGView can open and display images in JPEG, PICT, GIF, TIFF, BMP, MacPaint, or Startup Screen formats.

NIH Image

Available at:

ftp://zippy.nimh.nih.gov/pub/nih-image/

NIH Image is a public domain image processing and analysis program for the Macintosh. It can acquire, display, edit, enhance, analyze and animate images. It reads and writes TIFF, PICT, PICS and MacPaint files, providing compatibility with many other applications, including programs for scanning, processing, editing, publishing and analyzing images. It supports many standard image processing functions, including contrast enhancement, density profiling, smoothing, sharpening, edge detection, median filtering, and spatial convolution with user defined kernels.

Support Information Services
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Retrospect: "-50, feature not supported" Error

I'm using Retrospect 2.0ci on an Apple Workgroup Server (AWS) 95. I encountered the following error during an unattended backup:

Error -50 : Feature not supported

I have not made changes to my script and backups have been without error for several weeks. I cannot find a description of this error and would appreciate feedback on how it is triggered.
This article has been archived and is no longer updated by Apple.
The "-50, feature not supported" error is reported when Retrospect tries to automatically mount a shared volume that no longer exists.

You should go to your backup scripts and remove this volume. If you are unsure which volume it is, go Immediate > Volumes, select a file-shared volume, and try to scan it. If you can scan it, it is fine; repeat the process for the other file-shared volumes.

If you get an error, you should then choose to "Forget" the volume.
Published Date: Feb 19, 2012

Color LaserWriter 12/600 PS: Using External Hard Drives

The Apple Color LaserWriter PS Internal Hard Disk Upgrade (M3875G/A) provides 240 MB of storage. What options are available for customers who need more than 240 MB of storage?
This article has been archived and is no longer updated by Apple.
Apple provides an internal hard drive solution which uses hard drive mechanisms that have been thoroughly tested with the Color LaserWriter 12/600 PS. Apple engineering does not have the resources to test and qualify all of the different hard drives on the market. However, during their testing they found that the IBM hard drives selected for this printer work fine and satisfy the needs of a majority of customers. Customer's who need larger storage capabilities than those provided by the Color LaserWriter 12/600 PS Internal Hard Disk (M3875G/A) should use the external SCSI connection. Here is some information on connecting external hard drives to the Color LaserWriter 12/600 PS. This information is available in the User's Manual:

Using external hard disks from manufacturers other than Apple

IMPORTANT Some older model hard disk drives may not be compatible with the Color LaserWriter 12/600 PS

If you are considering connecting external hard disks to your printer, keep these points in mind:

* The printer requires SCSI 40 MB (or larger) hard disks

* The printer must be able to tell how much storage space is available on the disk. This is not possible with some hard disks from manufacturers other than Apple. You cannot use these disks with the printer.

* Some non-Apple disks have internal SCSI terminators. There should be no more than one terminator in addition to the one on the printer's controller board (one on the first device in the chain and one on the last device).

*The hard disk must be able to deliver at least 5 volts of termination power.
Published Date: Feb 19, 2012

AppleScript: Changing a Script Saved as an Application

How can I make changes to an AppleScript saved as a compiled application?
This article has been archived and is no longer updated by Apple.
If the compiled AppleScript, or applet, was not saved as a Run-Only application, there are several ways to modify it. An AppleScript that has been saved as Run-Only does not save the original AppleScript text for re-editing.

Here are three ways to access the AppleScript Text of a non Run-Only applet.

1) Press and hold the control key while double-clicking on the applet. When the Applet's splash screen appears with its Run or Quit options, select Edit Script from the Edit menu. This will launch the Script Editor, if it's not already running, and open a Script Editor window with the compiled AppleScript text.

2) Drag the AppleScript Applet onto the application icon of the Script Editor. This will launch the Script Editor, if it's not already running, and open a Script Editor window with the compiled AppleScript text.

3) Launch the Script Editor and choose Open Script from the File menu. Use the open file dialog to navigate and select the applet you wish to edit. The Script Editor will open a window with the compiled AppleScript text.
Published Date: Feb 19, 2012

Apple Personal Diagnostics: Frequently Asked Questions

This article contains frequently asked questions (FAQ) on the Apple Personal Diagnostics (APD) software.

Questions answered in this FAQ:

1) Apple Personal Diagnostics reports a disk or directory problem with my hard disk, but when I run Disk First Aid, no problems are found. What is causing this contradiction?

2) I have noticed that running APD while using video mirroring is causing trouble. Is APD compatible with video mirroring?

3) Is the Apple Personal Diagnostic (APD) 1.0 compatible with Power Macintosh computers?

4) I have System 7.5 with the System 7.5 Update 1.0 installed on my Power Macintosh computer. My Apple Personal Diagnostics 1.1 is reporting problems with my Power Macintosh computer's logic board. What should I do?

5) Is Apple Personal Diagnostics (APD) version 1.1.3 supported on the Power Macintosh 7200, 7500, and 8500 computers?

6) Sometimes when I try to launch my Apple Personal Diagnostics software or while I am using it, I get a low-memory alert. How do I correct this?

7) I ran the Disk First Aid utility and it said my hard disk needed to be repaired. However, the Repair button is dimmed.

8) I am following the System 7.5 upgrade guide, attempting to update the hard drive with Apple HD SC setup and it is unable to locate a suitable SCSI device. I can see my hard disk icon. What does that message mean? Can I skip this step?

9) I ran the Disk First Aid utility and it said it found problems, but Disk First Aid cannot repair them. What should I do?
This article has been archived and is no longer updated by Apple.
1) Question: Apple Personal Diagnostics reports a disk or directory problem with my hard disk, but when I run Disk First Aid, no problems are found. What is causing this contradiction?

Answer: Under some circumstances, Apple Personal Diagnostics may incorrectly report disk or directory problems, but drive diagnostics such as Disk First Aid may not find these problems. This situation is usually caused by extension conflicts with the Apple Personal Diagnostic utility.

For best results, when running Apple Personal Diagnostics, disable Extensions by holding down the Shift key at startup, then run the diagnostics.

2) Question: I have noticed that running APD while using video mirroring is causing trouble. Is APD compatible with video mirroring?

Answer: Apple Personal Diagnostics has known incompatibilities with video mirroring. If you sometimes use the video mirroring option, Apple recommends you make sure video mirroring is turned off before running APD.

3) Question: Is the Apple Personal Diagnostic (APD) 1.0 compatible with the Power Macintosh computers?

No, however APD version 1.1.1 fully supports the Power Macintosh 6100, 7100, and 8100 series computers. APD version 1.1.3 adds additional support for the Power Macintosh 9500 computer.

You can download the Apple Personal Diagnostics 1.1.3 Update from one of the Apple Software Updates areas located on America Online, CompuServe, and the Internet:

* America Online - keyword: applecomputer

* CompuServe - GO APLSUP

* Internet -
- World Wide Web: **http://www.apple.com/swupdates**
- ftp: **ftp://ftp.info.apple.com**

4) Question: I have System 7.5 with the System 7.5 Update 1.0 installed on my Power Macintosh computer. My Apple Personal Diagnostics 1.1 is reporting problems with my Power Macintosh computer's the logic board. What should I do?

Answer: Apple Personal Diagnostics 1.1 is generating a false error message. To resolve this you need to upgrade to at least version 1.1.1. The current version is 1.1.3.

You can download the Apple Personal Diagnostics 1.1.3 Update from one of the Apple Software Updates areas located on America Online, CompuServe, and the Internet:

* America Online - keyword: applecomputer

* CompuServe - GO APLSUP

* Internet -
* Internet -
- World Wide Web: **http://www.apple.com/swupdates**
- ftp: **ftp://ftp.info.apple.com**

5) Question: Is Apple Personal Diagnostics (APD) version 1.1.3 supported on the Power Macintosh 7200, 7500, and 8500 computers?

Answer: APD 1.1.3 is not supported on these computers. Here is a list of Apple computers supported by Apple Personal Diagnostics v1.1.3:

Apple Workgroup Server 60
Apple Workgroup Server 80
Apple Workgroup Server 95
Workgroup Server 6150
Workgroup Server 6150/66
Workgroup Server 8150
Workgroup Server 8150/110
Workgroup Server 9150
Workgroup Server 9150/120

Macintosh Plus
Macintosh Portable
Macintosh SE
Macintosh SE/FDHD
Macintosh SE/30
Macintosh Classic
Macintosh Classic II
Macintosh Color Classic
Macintosh Color Classic II
Macintosh TV

Macintosh II
Macintosh IIx
Macintosh IIfx
Macintosh IIci
Macintosh IIcx
Macintosh IIsi
Macintosh IIvi
Macintosh IIvx
Macintosh IIvm

Macintosh LC
Macintosh LC II
Macintosh LC III
Macintosh LC 475
Macintosh LC 520
Macintosh LC 550
Macintosh LC 575
Macintosh LC 630

Macintosh Centris 610
Macintosh Centris 650
Macintosh Centris 660AV

Macintosh Performa 200
Macintosh Performa 250
Macintosh Performa 275
Macintosh Performa 400

Macintosh Performa 405
Macintosh Performa 410
Macintosh Performa 430
Macintosh Performa 450
Macintosh Performa 460 Series
Macintosh Performa 475
Macintosh Performa 476
Macintosh Performa 520
Macintosh Performa 550
Macintosh Performa 560
Macintosh Performa 570 Series
Macintosh Performa 580 Series
Macintosh Performa 600 Series
Macintosh Performa 630 Series
Macintosh Performa 640 Series
Macintosh Performa 5200 Series
Macintosh Performa 6100 Series
Macintosh Performa 6200 Series

Macintosh PowerBook 100
Macintosh PowerBook 140
Macintosh PowerBook 145
Macintosh PowerBook 145B
Macintosh PowerBook 150
Macintosh PowerBook 160
Macintosh PowerBook 165
Macintosh PowerBook 165c
Macintosh PowerBook 170
Macintosh PowerBook 180
Macintosh PowerBook 180c
Macintosh PowerBook 500 Series
Macintosh PowerBook Duo 200 Series

Macintosh Quadra 605
Macintosh Quadra 610
Macintosh Quadra 610 DOS Compatible
Macintosh Quadra 630
Macintosh Quadra 650
Macintosh Quadra 660AV
Macintosh Quadra 700
Macintosh Quadra 800
Macintosh Quadra 840AV
Macintosh Quadra 900
Macintosh Quadra 950

Power Macintosh 5200 LC/75
Power Macintosh 6100 Series
Power Macintosh 7100 Series
Power Macintosh 8100 Series
Power Macintosh 9500 Series

Note: APD also tests the Power Macintosh Upgrade and Macintosh Processor Upgrade cards. APD does not test the DOS Compatible Card or DOS Compatibility Upgrade Card.

6) Question: Sometimes when I try to launch my Apple Personal Diagnostics software or while I am using it, I get a low-memory alert. How do I correct this?

Answer: Apple Personal Diagnostics returns a low-memory alert when the APD application does not have enough memory to run or is running low on memory. For example, if you have created a report that requires more memory than is currently available. To allocate more memory to the APD application, you can do one or more of the following:

If you are using System 7.x, or System 6 with MultiFinder try the following:

- Quit other applications that may be running at the same time as APD
- If you have sufficient RAM installed in your system: quit the APD application, click once on the APD application icon, under File choose Get

Info, increase the "preferred" application memory size from 1200K to 1500K
- Close any open report
- Reduce the size of any installed RAM disk and the system RAM cache.

If you are using System 6 with Finder rather than MultiFinder:
- Close any open report
- Reduce the size of any installed RAM disk and the system Disk cache

7) Question: I ran the Disk First Aid utility and it said my hard disk needed to be repaired. However, the Repair button is dimmed.

Answer: Disk First Aid is not being used properly. You cannot repair the startup disk with Disk First Aid. If you started from your hard drive, Disk First Aid cannot repair it until you start your Macintosh from another startup disk. Make sure you are starting up from your Power Macintosh CD, the System 7.5 Disk Tools floppy diskette, or other bootable disk. Disk First Aid also cannot repair the disk from which it was launched or any disk attached to a computer that has File Sharing turned on.

8) Question: I am following the System 7.5 upgrade guide, attempting to update the hard drive with Apple HD SC setup and it is unable to locate a suitable SCSI device. I can see my hard disk icon. What does that message mean? Can I skip this step?

Answer: This message may appear for two reasons:

* You may have used a non-Apple formatting utility to format your hard disk. If you have been using a previous version of System 7, you can safely skip this step and continue on with the installation of System 7.5. If you have been running System 6 or earlier, you should check with the vendor of either your hard drive or your hard drive's formatting utility and verify compatibility.

* Your computer may have an IDE hard drive which Apple HD SC Setup is not designed to format or update. You should use Drive Setup 1.0.2 to test, format, and partition your IDE hard drive.

The following computers use IDE hard drives:
Macintosh 630 Family computers*
Macintosh LC 580
Macintosh Performa 5200 series computers
Macintosh Performa 5300 series computers
Macintosh Performa 6200 series computers
Macintosh Performa 6300 series computers
Macintosh PowerBook 150 series computers
Macintosh PowerBook 190 series computers
Macintosh PowerBook 2300 series computers
Macintosh PowerBook 5300 series computers
Power Macintosh 5200/75 LC
Power Macintosh 5300/100 LC

*Note: The Macintosh 630 Family includes the following computers: Macintosh LC 630, Quadra 630, and Performa 630, Performa 635, Performa 636, Performa 637, and Performa 638.

9) Question: I ran the Disk First Aid utility and it reported it found problems, but Disk First Aid cannot repair them. What should I do?

Answer: This message indicates you have a corrupted directory structure. Apple recommends backing up and reformatting a hard drive with a damaged directory. There are, however, third-party utilities such as "The Norton Utilities for the Macintosh", "Symantec Utilities for the Macintosh", and "Central Point's MacTools DiskFix" that attempt to repair damaged directories.

If a third-party utility cannot repair your hard disk, then back up all the data on your hard disk and reformat it using Apple HD SC Setup if you have a SCSI hard drive, Drive Setup 1.0.2 if you have an IDE hard drive.
Published Date: Feb 19, 2012

JLK: PowerBook 190, Freezes After Installation

After installing the Japanese Language Kit (JLK) 1.2 on a PowerBook 190cs, when the computer is restarted, it does not respond after the Mac OS graphic.
This article has been archived and is no longer updated by Apple.
The Macintosh PowerBook 190 and 190cs computers requires the installation of the Font Extension 3 software in the System Folder in order for the JLK software to load properly. This extension is in the Apple Extras folder on your PowerBook computer's hard drive.

Use the following procedure from the JLK Read Me to install the Font Extension 3 software.

1. Follow the instructions for installing the Japanese Language Kit 1.2 that came with the software.
2. After you see that the installation was successful, restart the computer with the Extensions off. To do this, hold down the shift key while you press the Restart button in the installer screen (or as you choose Restart from the Special menu). Continue holding the shift key down until you see the "Welcome to Macintosh, Extensions off" message.
3. Double-click the Apple Extras folder on your hard drive to open it.
4. Double-click the JLK 1.2 Update folder to open it.
5. Drag the file "Font Extension 3" to the Extensions folder (inside the System Folder) on your hard disk. Click OK if you see a dialog box asking if it is ok to replace this file.
6. Choose Restart from the Special menu.

Your JLK software is now ready to use.
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FORTRAN: Using FORTRAN 1.0 with Pascal 1.2

This article has been archived and is no longer updated by Apple.

Many Apple II FORTRAN programers have purchased or upgraded their operating system. They have discovered that the new system, the current version of Pascal 1.2, rejects the FORTRAN compiler because it has the wrong version number.

Change the version ID in the FORTRAN Compiler the easy way. Use this program, FORTRANFIX, to modify an Apple II FORTRAN Compiler so that it can be run under Apple II Pascal 1.2 without getting a version error.

Load this entire file into the Pascal Editor. These paragraphs will substitute for the 1K header the editor expects to see at the beginning of a text file. Make NO changes. Quit the editor by choosing "U(pdate the work file and leave". Select "R(un" from the main command line. FORTRAN users, be sure to do this using your Pascal system and not your FORTRAN system.

When the program prompts you, place your FORT2: diskette in drive 1. Upon completion, the FORTRAN compiler will be accepted by the Pascal 1.2 system.

```
program FORTRAN_FIX;
type Byte     = 0..255;
     Seg_Info = packed record
                  Mach_Type: 0..9;
                  Filler: 0..1;
                  Major_Revision: 0..7;
end;

var  Num   : integer;
     ch    : char;
     Buffer: packed array [0..511] of byte;
     F     : file;
     Trix  : record case boolean of
             true : (Temp: packed array [0..0] of Byte);
             false: (SI  : Seg_Info);
end;

procedure RESET_FILE (File_Name: string);
  begin
    {$I-}
    reset (F, File_Name);
    {$I+}
    if (IORESULT <> 0) then begin
      Num:= IORESULT;
      writeln (chr (7));
      writeln ('I/O ERROR #', Num, ' in opening ', File_Name);
      exit (program)
    end
  end; {Reset_File}

procedure READ_BLOCK (Block_Num: integer);
  var Block_Xfer: integer;
  begin
    {$I-}
    Block_Xfer:= BLOCKREAD (F, Buffer, 1, Block_Num);
    {$I+}
    if (IORESULT <> 0) then begin
      Num:= IORESULT;
      writeln (chr (7));
      writeln ('I/O ERROR #', Num, ' in reading from file.');
      exit (program)
    end
  end; {Read_Block}
```

```
procedure WRITE_BLOCK (Block_Num: integer);
  var Block_Xfer: integer;
  begin
    {$I-}
    Block_Xfer:= BLOCKWRITE (F, Buffer, 1, Block_Num);
    {$I+}
    if (IORESULT <> 0) then begin
      Num:= IORESULT;
      writeln (chr (7));
      writeln ('I/O ERROR #', Num, ' in writing to file.');
      exit (program)
    end
  end; {Write_Block}

begin {Main Program}
 writeln (chr(12)); {Erase screen}
 writeln ('FORTRANFIX');
 writeln;
 writeln ('Copyright 1984 Apple Computer, Inc.');
 writeln;
 writeln;
 write ('This program will modify an Apple II');
 writeln (' FORTRAN compiler so that it can');
 write ('be run under Apple II Pascal 1.2');
 writeln ('  without getting a version error.');
 write ('This program expects the FORTRAN compiler');
 writeln (' to be named SYSTEM.COMPILER.');
 repeat
   gotoxy (0,10);
   write (chr(11)); {Erase to end of screen}
   writeln ('Put the disk with SYSTEM.COMPILER in drive 1.');
   write ('Press RETURN when ready, ESC to exit program. ');
   read (ch);
   if (ch = chr(27)) then begin
     write (chr(12)); {Erase screen}
     exit (program)
   end;
   readln;
   RESET_FILE ('#4:SYSTEM.COMPILER');
   READ_BLOCK (0);

   Trix.Temp [0]:= Buffer [259];
   Trix.SI.Major_Revision:= 5;
   Buffer [259]:= Trix.Temp [0];

   WRITE_BLOCK (0);
   close (F, lock);
   writeln;
   writeln;
   writeln;
   write ('MODIFICATION COMPLETE - Press RETURN to continue.');
   readln
 until false
end. {FORTRAN_Fix}
```

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ImageWriter II: Carriage Locks and Prints Bad

My ImageWriter II carriage intermittantly locks up and gives light or bad printing. What could be the cause?
This article has been archived and is no longer updated by Apple.
The carriage assembly may have been incorrectly assembled, or the carriage fell out of its rear rail mount during shipping.

Solution:
1. Remove the top cover.
2. Slide the carrier assembly to the right
3. Carefully push the carrier slightly down until the guides locks in the place underneath the chassis.
4. Test the printer and replace the cover.

If the above cure doesn't fix the problem, search on GTS and the product's name to obtain a general troubleshooting procedure.
Published Date: Feb 19, 2012

Performa 5200,5300,6200,6300: Static Sound (2/96)

I just restored the system software on my Macintosh Performa computer. Now, I hear static whenever my computer plays any sounds, except for audio CD-ROM discs.

This article has been archived and is no longer updated by Apple.

Power Macintosh or Macintosh Performa 5200, 5300, 6200, and 6300 series computers with 16-bit audio capabilities may experience static when playing sounds from the hard drive or CD-ROM discs. However, audio CD-ROM discs sound fine.

To resolve this, you need to install the Audio Volume Extension. Although these computers originally included the Audio Volume extension, the system software CD may not include it. You can download a copy of the Audio Volume Installer disk image from the Apple Software Update locations. Follow the steps below to determine if you need this extension:

Step 1

Verify that your computer has 16-bit sound.

1. Open the Sound control panel

2. Select Sound Out from the Alert Sounds pop-up menu.

3. Check to see if the 16-bit radio button is selected. If so, your computer has 16-bit sound. If 8-bit sound is selected, you do not need the Audio Volume extension.

Step 2

Determine when the static occurs.

1. Verify that the static occurs only from programs on the hard disk or CD-ROM disc, not audio CD-ROM discs.

2. Open the Sound control panel. Listen to several of the standard system alert sounds at both even- and odd-numbered alert volume levels.

If you hear any distortion or static during the playback of these sounds at even numbered alert levels ONLY, then you should install the Audio Volume Extension. If you hear distortion or static at all levels, it is recommended to have the computer serviced.

These articles can help you locate the software mentioned here:

* "Where To Find Apple Software Updates" -- Lists online services for free Apple software updates.

* "Obtaining Apple Product Support in the USA" -- Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech Info Library.

Article Change History:
16 Feb 1996 - Clarified step 2.
01 Dec 1995 - Updated technical information.

Support Information Services
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MacX 1.5 Read Me (4/97)

This article is the MacX 1.5 ReadMe file.
This article has been archived and is no longer updated by Apple.
MacX 1.5 is Apple Computer's enhanced X Window System server for the Apple Power Macintosh and 680x0-based Macintosh platforms. MacX lets users work with Macintosh applications and network-based X client applications simultaneously on their desktops.

Here are some of the features that are new to MacX 1.5:

* X11R5 compliance

* Acceleration for Power Macintosh computers (fat binary for PowerPC-based
and 680x0-based support)

* Performance tuning for 680x0 computers (new compiler)

* Standard X11R6 fonts (.PCF and .BDF files)

* Standard X11 font server access

* Standard X11 XDM support (for starting Unix X sessions)

* Support for XIE (X Image Extension) on PowerPC platforms

* A sample font directory with CDE font aliases

* Balloon Help

* Single-button installation

* Support for core Apple events

* New remote login option (RSH)

* Upgrade to MacTCP 2.0.6

MacX 1.5 retains many of the MacX 1.2 features, including support for multiple monitors, the ability to display rooted and rootless windows simultaneously, built-in window management for rootless windows, and the ability to cut and paste text and graphics.

System Requirements

* System 7.0 or higher

* Apple Macintosh with 68030 or 68040, or Power Macintosh processor

- 680x0 users will benefit from having 8 or more megabytes (MB) of RAM

- Full installation requires approximately 13 MB of disk space

- Minimal installation requires approximately 7 MB of disk space

* Ethernet hardware

MacX users typically access X clients with TCP/IP over Ethernet. MacX 1.5 includes MacTCP version 2.0.6. All Power Macintosh and many newer 680x0 computers include built-in Ethernet hardware. Users with other hardware configurations will need the appropriate NuBus or PDS slot Ethernet cards for their computers.

MacX 1.5 also works with DECnet software and other third-party TCP/IP software packages. In certain configurations, MacX also runs on AppleTalk connections with the appropriate router software.

Installation Notes

Before starting the installation, restart your computer with extensions off. (Press and hold the Shift key while choosing Restart from the Special menu.) Double-click the MacX Installer Script icon to begin the installation.

Users who have already installed System 7.5 or later should already have a version of MacTCP installed that is compatible with MacX. If you already have version 2.0.6 or later of MacTCP installed on your computer, the MacX installation process will leave that version untouched.

If you have not previously used MacTCP on your system, you must set your computer's internet address in the MacTCP Control Panel. (See the MacTCP Administrator's Guide, which is provided on the MacX CD-ROM disc.) If you do not have a domain name server available on your network, you will want to update the Hosts file in your System Folder with your local host names. You must restart for changes to take effect.

IMPORTANT:
If you have Open Transport installed on your computer (for example, new PCI-based computers), do not install MacTCP. (Choose the Custom Install option and skip installing MacTCP.) Be sure to fully configure your TCP/IP control panel to include a default router and a domain name server.

After installing MacX, you may want to increase its preferred memory size. Select the MacX application icon by clicking it once. Then choose Get Info from the File menu in the Finder. Enter a new preferred memory size in the Info dialog box.

Network Installation

If your licensing agreement allows multiple copies of MacX, you may want to perform a network-based installation. Users with network access to the MacX CD-ROM can simply open up the MacX 1 folder and double-click the MacX Installer Script icon.

Font Management

MacX supports the traditional view of fonts in X11 (it does not currently give users access to their native Macintosh TrueType or Bitmap fonts). The Easy Install option will install the miscellaneous, 75 dpi, and 100 dpi font directories. You can choose Fonts from the Edit menu in MacX to display a dialog box that lets you modify the default font path. The Fonts dialog box also provides other font utility functions. See the MacX User's Guide for more information.

Other Tidbits

These shortcuts or hints may prove useful:

* To move an X client window that doesn't have a title bar, press the Option key while dragging the window.

* To scroll within a rooted window, press the Option-x keys and the mouse button simultaneously. The pointer changes to a hand, allowing you to scroll through the window.

* To edit a remote command, press the Option key while choosing a command from the Remote menu.

Known Problems

These problems may occur when you use MacX 1.5:

* Built-in window manager (rootless) is missing support for newer ICCCM hints.

* Shaped parent windows don't work very well in rootless mode.

* Color palette management with two Macintosh monitors is less than optimal.

* Switching between the rexec and rsh remote clients may not work.

Known Conflicts

Older versions of MacTCP and Ethernet drivers may occasionally lock up or hang MacX. The maze application may exacerbate this situation due to maze's high packet rates.

Technical Support

Please refer to the MacX documentation for questions about using MacX. If you need additional help, you can call 1-800-SOS-APPL for direct access to support engineers knowledgeable about MacX.

Support is available Monday through Friday, from 6 a.m. to 6 p.m. (PST).

Technical support engineers handle questions about configuration, installation, compatibility, and product use. Technical support engineers do not resolve presale or development questions, nor questions about modified hardware or software source code.

Apple also provides the Apple Tech Info Library (TIL), an excellent online reference source for technical information. You can search through thousands of articles on current and past Apple products. The articles are updated regularly by Apple Support personnel.

The Apple Tech Info Library is available on:

* Internet - http://www.info.apple.com/til.html/

* CompuServe - GO APLTIL

* America Online - Select the Keyword command in the GoTo menu (or cmd-K) and enter Apple Computer in the search window.

Article Change History:
28 Apr 1997 - Removed out dated on line references.
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PowerBook 5300: Portable StyleWriter Compatibilty (4/96)

Is the Portable StyleWriter compatible with the PowerBook 5300?
This article has been archived and is no longer updated by Apple.
Setting Up
==========

Here are the steps to configure your PowerBook 5300 series computer to print to a Portable StyleWriter.

Step 1

Installing the Portable StyleWriter driver with the Installer.

Step 2

Connecting the printer to your PowerBook 5300 series computer with a serial cable.

Step 3

Pull down the Apple Menu and select Chooser.

Step 4

In the Chooser, if you were using LocalTalk, set AppleTalk to Inactive. If you are using EtherTalk or IRTalk, you may keep AppleTalk Active.

Step 5

Select the Portable StyleWriter driver

Step 6

Select the Modem port icon (even though two icons appear, the PowerBook 5300 series computers have only one physical serial port and you need to select the Modem port).

Notes
=====

1. The latest Portable StyleWriter driver shipped by Apple is v1.0.1 and is posted online in all of the available Apple Software Updates areas.

These articles can help you locate the software update mentioned here:

* Where To Find Apple Software Updates
Lists online services for "free" Apple software updates.

* Obtaining Apple Product Support in the USA
Lists 800 numbers and online services for software updates, Apple
support information, and a subset of the Apple Tech. Info. Library.

Article Change History:
22 Mar 1996 - Added information about latest Portable StyleWriter software.
25 Apr 1996 - Removed reference to SerialDMA.
Published Date: Feb 19, 2012

ImageWriter II: Color Printing Not Supported by Driver (5/96)

I cannot get my ImageWriter II printer to print in color. Color printing is not an option in either the Page Setup, or the Print dialog. How can I get the ImageWriter to print in color?
This article has been archived and is no longer updated by Apple.
Color printing on the ImageWriter II printer is not part of the ImageWriter II Printer Driver. It requires the application you are using to generate the proper commands for color printing. For compatibility information on a particular application, call the vendor of the application.

If you have Quickdraw GX installed, you can print in color from most applications even if the application does not support color printing from the normal imagewriter driver, or is not QuickDraw GX-savvy.

Other Solutions

You may also want to consider a third-party solution such as MacPalette II from Microspot. MacPalette II provides an ImageWriter II printer driver that allows color printing from most applications.

Determining if the Printer is Working Properly

If you generate a test page with the color ribbon installed, you can determine if the printer is printing color properly. The test page will print multi-color letters on the page.

Generating a Test Page

Step 1

Turn the ImageWriter II printer off

Step 2

Hold down the power and form feed buttons

Step 3

Turn the ImageWriter II on, then release the buttons.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.

Article Change History:
06 May 1996 - Added information on QuickDraw GX.

Published Date: Feb 19, 2012

GeoPort 2.3 Telecom Adapter: Read Me

This article is the GeoPort 2.3 Telecom Adapter Read Me file.
This article has been archived and is no longer updated by Apple.
Software Included in the GeoPort Telecom Adapter Kit
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Apple Telecom Software

This includes all software necessary to use the GeoPort Telecom Adapter with the following Macintosh systems:

* Centris 660AV, Quadra 660AV and Quadra 840AV.
* Power Macintosh 6100 series, 7100 series, 7200 series, 7500/100, 8100 series, 8500/120, and 9500 series.

The Apple Telecom User's Guide contains complete information about installing and using this software. An electronic Apple Telecom Upgrade Manual is included in the Telecom Documents folder so that you can learn about the new features if you upgraded electronically and don't have the Apple Telecom User's Guide. Disks 1 and 2 can also be used to install Apple Telecom 2.x software on Macintosh systems equipped with an Express Modem card.

NOTE: For Power Macintosh 7200 series, 7500/100, 8500/120, and 9500 series, version 2.1 or higher of Apple Telecom Software is required. If you are using a GeoPort Telecom Adapter on these Power Macintosh models, you must disable LocalTalk. To do this, disconnect any LocalTalk devices attached to the printer port (serial devices can remain attached).

IMPORTANT: If you select "Sleep" from the Special Menu available on some Power Macintosh models while there is an active GeoPort connection, the GeoPort Telecom Adapter will automatically disconnect the call without warning. When a Power Macintosh 7200 series model is in the low-power mode, the GeoPort Telecom Adapter will wake up the machine if the telephone rings and the machine is awaiting an incoming call. The monitor will remain in the low-power mode. While a connection is open via a GeoPort Telecom Adapter, your Power Macintosh will not enter the low-power mode, but the monitor will dim the screen.

MegaPhone (for United States, Canada, and Japan only)

This is a screen-based telephone application that delivers full support of the telephony capabilities of the Apple Telecom 2.x software, including support for dialing from a graphical keypad, copying and pasting telephone numbers, and dragging and dropping business card information, and voice-mail functions.

The GeoPort Telecom Adapter Kit also includes a free 30-day trial of call logging, MegaDial dialing manager, intelligent synchronization with directory information (saving telephone numbers to a PowerTalk catalog, for example), and other extended capabilities.

See also: the MegaPhone electronic manual included on Disk 3 (Telecom Applications).

NOTE: MegaPhone is not installed by the Apple Telecom Installer program. You must install it separately.

SITcomm SE/GTA (for United States and Canada only)

This is a terminal emulator application. With SITcomm SE/GTA (Special Edition for GeoPort Telecom Adapter), your Macintosh can communicate with a variety of other computers, linked by serial cables or by telephone lines.

With SITcomm you can exchange information with

* A colleague who is using another computer with similar communications software.
* Text-based information and electronic mail services, such as CompuServe or MCI Mail.
* Your company or school's remote minicomputer or mainframe.

See also the SITcomm SE electronic manual included on Disk 4 (Telecom Applications).

NOTE: SITcomm is not installed by the Apple Telecom Installer program. You must install it separately.

NOTE: SITcomm (Disk 4) is not included with free upgrades. You can order the full upgrade, including SITcomm SE and the Apple Telecom User's Guide manual, by calling the Apple Order Center. Ask for the Apple Telecom software version 2.x upgrade for use with your GeoPort Telecom Adapter.

Upgrading From Previous Releases of GeoPort Telecom Adapter Software

If you are installing this version of the software over an older version, you should use the Easy Install option rather than the Custom Install option. This ensures that all files are updated as necessary.

NOTE: If you have installed any customized fax cover pages and renamed the fax folder (called Express Fax in previous versions), the Installer moves them to the new Fax Folder. You can still use them, but if you want to keep them in a different folder, you'll need to drag them there manually.

When you have installed over an older version, the folders "Modem Documents" and "Express Fax" and the file "GeoPort ReadMe" may still be left on your hard disk from the earlier version. These are not necessary for using the newer version; you may delete them.

Connection (CCL) Scripts for Apple Remote Access

Use the following connection scripts with Apple Remote Access:

ARA 1.0: GeoPort Telecom ARA 1.x (in Extensions folder in System Folder)
ARA 2.0: GeoPort Telecom ARA 2.x (in Extensions folder in System Folder)

These files are placed directly in the Extensions folder by the Installer program. You do not need to move or copy them there as stated in Appendix C of the Apple Telecom User's Guide. Apple Remote Access 1.0 does not support Power Macintosh computers. You can order an upgrade for Apple Remote Access by calling the Apple Order Center.

Two additional, optional connection (CCL) files, named GeoPort Telecom ARA 1.x/CNG and GeoPort Telecom ARA 2.x/CNG, are installed as well. When you use them, the GeoPort Telecom Adapter transmits data calling tones after dialing. Data calling tones allow the remote machine to detect automatically that an incoming call is a data modem call. If you are dialing into a system that supports data, fax and voice calls (such as another GeoPort Telecom Adapter), you should select one of these connection files in the Apple Remote Access Setup control panel.

NOTE: The GeoPort Telecom ARA 1.x/CNG and GeoPort Telecom ARA 2.x/CNG files are installed in the Telecom Documents folder. Should you decide to use these optional files, you'll need to drag or copy them to the Extensions folder.

Using Remote Access Dial Back

If your Remote Access server uses a "Dial Back" feature, the server's return call back to your machine may be inadvertently directed to an open telephone application. To avoid this situation, either close these applications or open the Express Modem control panel and choose "Data" as the default call type when you expect an incoming call from another computer.

Using Fax Sender GX with QuickDraw GX 1.1

The Fax Sender GX extension described in Chapter 8 of the Apple Telecom User's Guide can only be used with QuickDraw GX 1.1 or later. Depending on your location, QuickDraw GX 1.1 may not be available in your area at the time this software is released.

If you need to send complex grayscale images, you should use Fax Sender GX instead of Fax Sender. The image quality is superior.

NOTE: The Control-shift shortcut used to select Fax Sender without going through the Chooser is not available when using Fax Sender GX. However, you can create a desktop printer icon for Fax Sender GX and use drag-and-drop to accomplish the same thing.

Fax Sender GX initially defaults to Standard quality. If you plan to use a desktop printer and want to change the default to Fine quality, print a document from any GX-aware application (SimpleText, for example) and select Fine quality from the Fax Sender GX print dialog.

Please refer to the About Fax Sender GX electronic manual installed in the Telecom Documents folder or Chapter 8 of the Apple Telecom User's Guide for more information about this software.

Sharing Fax Sender GX on an AppleTalk Network

Using Fax Sender GX, you can set up one machine on an AppleTalk network to be a central server for sending faxes. Other users on the network can send faxes without having the modem hardware installed in their computers.

In order to do this, the server must have the appropriate hardware installed, and both the server and client machines must have QuickDraw GX (version 1.1 or later) and the fax software installed. To install the fax software on a client machine, select the "Fax Sender GX Client Software" Custom Install option in the Apple Telecom Installer.

NOTE: If you are sharing your Express Modem or GeoPort Telecom Adapter on an AppleTalk network, try to minimize the time you spend in Fax preview. While you are previewing, other Fax Sender GX users may be paused.

Using the Apple Fax Gateway with PowerTalk 1.1

The Apple Fax Gateway extension should be used with PowerTalk 1.1 or later. PowerTalk 1.1 is included in the System 7.5 system software release.

NOTE: Apple Fax Gateway only sends AppleMail-compatible letters, text-only files, and PICT files. If you enclose a formatted document (for example, a word processor document), it will be skipped and not be included in the fax.

See also: The About Apple Fax Gateway electronic manual installed in the Telecom Documents folder.

FastPrint

The Fax Viewer program included with this package implements a new FastPrint feature. The speed of printing can be significantly improved but is only available if the preferred memory size setting of the Fax Viewer application is set to at least 1500K (the default is 290K). To enable FastPrint, select the FastPrint checkbox in the Fax Viewer print dialog box. Note that this feature only works with PostScript printers.

Troubleshooting

Online Services that do not support data compression or error correction

First check to see if your software uses a "modem initialization string". If so, locate and remove "S48=0", if it appears in the string. If this does not work or it is not present, add "%C0S46=136" to the end of your modem initialization string (this disables compression). If this still does not work, try adding "&Q0" instead (this disables compression and error correction).

Another potential connection problem is your application getting confused by the CARRIER message. Some applications misinterpret this as a CONNECT message and begin sending data. This will cause the GeoPort Telecom Adapter to drop the connection. Since it is still negotiating the connection, it will abort the call if it receives any data prior to the CONNECT message. If this is the case, you may want to add a W0 command in the application's initialization string (this suppresses the CARRIER message).

Communication settings

If you are using a terminal emulator or communications program that supports the Apple Communications Toolbox, you should select the "Express Modem Tool" from the connection settings menu item. This tool's default settings will always try to establish connections at the highest possible speed with error correction and compression enabled.

Identifying incoming calls

When answering your phone line, the GeoPort Telecom Adapter will attempt to determine the type of incoming call (fax, voice, or data) before transferring the call to a telephony application. Incoming fax calls are easily detected since the sending fax machine usually transmits a fax calling tone. Incoming data and voice calls are more difficult to detect since in many countries modems typically do not transmit a tone. In the Express Modem control panel, you can set the default call type for situations where no calling tone is detected. If you are using a voice telephony application (such as MegaPhone), we recommend that you select Voice as the default call type. If you are using a data telephony application (such as Apple Remote Access server), we recommend that you select Data as the default call type. If you expect to receive both voice and data calls, ask your callers to send a data calling tone when calling your machine. Use of these features is explained in detail in the Apple Telecom Upgrade Manual electronic document installed in the Telecom Documents folder.

If you have problems receiving calls from data modems (when using the Apple Remote Access dial back feature, for example), try decreasing the number of rings to Auto-answer in the Express Modem control panel (if permitted in your country). Some calling modems may time out and disconnect before your modem answers if the number of rings is too high.

Removing fax storage folders

To protect your fax documents, the fax storage folders ("Fax Waiting To Be Sent", "Received Fax Documents", "Sent Fax Documents") are protected from accidental deletion. To bypass this mechanism, drag these folders to the trash, restart your computer, and then empty the trash. New, empty folders are created for you.

Using a Centris 660AV or Quadra 660AV/840AV

If you are using a Centris 660AV or Quadra 660AV/840AV and experience errors when attempting to establish a connection, you may need to change the audio settings on your computer. The default setting of 24.000 kHz is compatible with the GeoPort Telecom Adapter. To change this setting, open the sound control panel, choose "Sound Out" and select the "24.000 kHz" sampling rate.

Resetting a blacklisting error message

Regulations in France, Japan, and a few other countries require that the Express Modem software blacklist recently dialed numbers when the connection fails. If you receive a "BLACKLISTED" error message when dialing, you can reset the BLACKLISTED condition by turning the Express Modem control panel off and then on. This software reset, equivalent to turning off and on a hardware modem, is compliant with PTT regulations.

Clicking sound from GeoPort Telecom Adapter

If your machine freezes, the GeoPort Telecom Adapter can lose its connection with your machine and may generate a rapid clicking sound. This sound is a temporary side-effect of the lost connection. To stop the clicking, unplug the adapter for a few seconds or restart your machine.

Port Selection
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The interface for selecting the correct communications port has been simplified since GeoPort Telecom Adapter software versions 1.0.2 (Power Macintosh) and 1.2.2 (660AV/840AV). The "Use internal modem instead of modem port" checkbox has been removed from the Express Modem Control Panel. The Express Modem control panel now automatically detects whether a GeoPort Telecom Adapter is actually attached to the Modem port. If so, all serial communications are first processed by the Express Modem software and transmitted through the GeoPort Telecom Adapter. If not, serial communication passes through the modem port directly.

GeoPort has been removed from the list of ports. The Express Modem control panel now automatically detects whether a GeoPort Telecom Adapter is actually attached to the Modem port. Select Modem Port whenever you wish to communicate through the GeoPort Telecom Adapter.

What goes where
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When you install the software using the Easy Install option of the Installer program, the following files and resources are installed on your hard disk.

Hard Disk:
* GeoPort Telecom Adapter ReadMe
* SimpleText 1.2

Hard Disk: Telecom Applications: Fax Folder:
* Fax Terminal
* Fax Viewer
* Fax Cover
* Sample (cover document)
* Standard (cover document)
* My First Fax (PICT sample)

Hard Disk: Telecom Documents:
* About OCR (OCR manual for users who upgrade electronically)
* About Apple Fax Gateway (Gateway manual for users who upgrade electronically)
* About Fax Sender GX (Fax Sender GX manual for users who upgrade electronically)
* Apple Telecom Upgrade Manual
* Express Modem CCL (AppleLink CCL)
* GeoPort Telecom ARA 1.x/CNG (optional, transmits data calling tone, 660/840AV only)
* GeoPort Telecom ARA 2.x/CNG (optional, transmits data calling tone)

* Modem AT Command Set

Hard Disk: System Folder: Control Panels:
* Express Modem

Hard Disk: System Folder: Extensions:
* Apple Fax Gateway
* Apple Telecom Modem
* AudioTuneUp (9500 series only)
* Express Modem Tool
* Fax Extension
* Fax Sender
* Fax Sender GX
* GeoPort for Power Macintosh (Power Macintosh only)
* GeoPort Extension (660/840AV only)
* GeoPort Serial Driver
* GeoPort Telecom Adapter
* GeoPort Telephone Tool
* GeoPort Telecom ARA 1.x (Apple Remote Access 1.0 CCL, 660/840AV only)
* GeoPort Telecom ARA 2.x (Apple Remote Access 2.0 CCL)
* Serial Extension (660/840AV and 6100/7100/8100 series only)
* Shared Library Manager
* Telephone Manager Extension

Hard Disk: System Folder: Mimetics:
* EasyReader Fax
* Neuroneye
* US Dictionary
* UK Dictionary

Hard Disk: System Folder: System:
* Bell Telephone (sound resource)
* Electronic Telephone (sound resource)

The Tech Info Library article, #17159, titled "Locating Vendor Information", can help you search for a particular vendor's address and phone number.
Published Date: Feb 19, 2012

GeoPort 2.3 and Compatible Computers (11/95)

This article provides the computers which are compatible with the GeoPort 2.3 Telecom Adapter.
This article has been archived and is no longer updated by Apple.
Following is the list of GeoPort compatible computers from the GeoPort 2.3 Telecom Adapter Read Me:

* Centris 660AV, Quadra 660AV and Quadra 840AV.

* Power Macintosh 6100 series, 7100 series, 7200 series, 7500/100, 8100 series, 8500/120, and 9500 series.

Support Information Services
Published Date: Feb 19, 2012

At Ease 3.0: Frequently Asked Questions

This article contains frequently asked questions (FAQ) on the At Ease 3.0 software.

Questions answered in this FAQ:

1. I use At Ease 3.0's Restricted Finder. My computer freezes when I drag a file to a Desktop Printer icon. How can I resolve this?

2. I am getting an error message when I try to edit an existing Setup, it states: "The setup <name of setup> is being modified by another administrator. Please try again later." The message occurs AFTER At Ease Setup is open, not before. How do I resolve this?

3. I have created a setup that does not have access to the control panels, yet my users can still increase and decrease the sound volume and the screen brightness using the buttons on the front of the Macintosh/ Performa 5300, 5200, 580, 575, 550, and 520 computers. How can I keep the users from changing these settings?

4. My At Ease workstations do not shut down after clicking on the Shut Down button in the login pane. Instead, the login pane disappears and all I can see is the background pattern with the beach ball cursor spinning counter-clockwise. How can I resolve this?

5. I am using At Ease 3.0's Restricted Finder and it will not mount the MS-DOS floppy disks; instead, it asks to format them. It will mount Macintosh disks. If I switch to the normal Finder it will recognize MS-DOS floppy disks.

6. How do I rebuild the desktop with At Ease running?

7. Students are holding down the space bar at startup to open the Extensions Manager. Then they disable (deselect. At Ease Startup. The next time the computer restarts, it goes straight to the Finder. How can I prevent my students from getting access to the Finder, yet still run System 7.5 and At Ease?

8. How do I add existing documents or new applications to a particular user and not to all users of a setup?

9. A user changed his password, but it only works on the computer he changed it on. Why don't the other computers recognize it?

Note: The At Ease 3.0.3 Updater is available for download. Please see Software Updates Document Number 10173, or use the following URL to access the article directly:

http://asu.info.apple.com/swupdates.nsf/artnum/n10173

The Read Me document for At Ease 3.0.3 Updater is contained in the following Tech Info Library article:

Article 20661: "**At Ease 3.0.3 Updater: Read Me**"
This article has been archived and is no longer updated by Apple.
Question 1: I use At Ease 3.0's Restricted Finder. My computer freezes when I drag a file to a Desktop Printer icon. How can I resolve this?

Answer: You need to upgrade the Desktop Printing Software to at least version 1.0.3. To find the most recent version of this software, please consult the Apple Software Updates Library available at **http://asu.info.apple.com/**.

Question 2: I am getting an error message when I try to edit an existing Setup, it states: "The setup <name of setup> is being modified by another administrator. Please try again later." The message occurs AFTER At Ease Setup is open, not before. How do I resolve this?

Answer: Quit At Ease Setup. Hold down the Command (Apple. key and run At Ease Setup again. Continue holding the Command key (except when entering the Admin name/password. until you get the message "Are you sure you want to validate the Users and Setups databases now?" Click on the OK button.

Question 3: I have created a setup that does not have access to the control panels, yet my users can still increase and decrease the sound volume and the screen brightness using the buttons on the front of the Macintosh Performa/LC 580, 575, 550, 520, 5200, 5300, and 5260 computers. How can I keep the users from changing these settings?

Answer: System 7.5 includes a control panel called Button Disabler that can be installed by doing a custom system software install. This control panel has a single check box that, when checked, deactivates the sound and brightness controls on the front of Macintosh computers with built-in controls.

Use the custom install feature of your Macintosh CD to install the Button Disabler control panel, restart your computer, and click to place an X in the box to the left of "Disable Buttons".

Question 4: My At Ease workstations do not shut down after clicking on the Shut Down button in the login pane. Instead, the login pane disappears and all I see is the background pattern with the beach ball cursor spinning counter-clockwise. How can I resolve this?

Answer: You have AppleShare Workstation version 3.6 installed on the workstations. AppleShare Workstation 3.6 comes with AppleShare 4.1 and 4.2. At Ease 3.0 and At Ease for Workgroups 3.0 do not support AppleShare Workstation 3.6.

You have two options:

- Select Shut Down from someplace else. For example, you can log into any Setup/User and choose Shut Down from the Apple menu or the Special menu.
- Revert to a previous version of AppleShare Workstation. To do this, you can custom install the networking software that came with your system software. If you choose this method you will not be taking full advantage of the speed capabilities of the AppleShare 4.1 software.

Question 5: I am using At Ease 3.0's Restricted Finder and it will not mount the MS-DOS floppy disks; instead, it asks to format them. It will mount Macintosh disks. If I switch to the normal Finder it will recognize MS-DOS floppy disks.

Answer: Add the PC Exchange control panel to At Ease by using the Find Items option in At Ease Setup, OR give the Restricted Finder setup access to the Control Panels.

Question 6: How do I rebuild the desktop with At Ease running?

Answer: To rebuild the desktop, the Command and Option keys must be pressed while the Finder is loading. Here are two methods to do this with At Ease running on your computer:

Method A: Rebuilding the Desktop at Startup

Step 1

Start your computer holding down the shift key. Continue pressing the Shift key until you see the message, "Welcome to Macintosh, Extensions off". Release the Shift key and press and hold the Command and Option keys simultaneously.

Step 2

If you have not used a password to protect the Finder you will go directly to Step 3.

If you have used a password to protect the Finder, you will get a message asking you to enter it in the next screen. Release the Command and Option keys and click OK. Enter your password in the next dialog box and hold down the Command and Option keys while you click OK. Go to Step 3.

Step 3

At the dialog box asking you if you are sure you want to rebuild the desktop, click OK.

Method B: Rebuilding the Desktop While in At Ease

You can rebuild the desktop from within the At Ease panels if you have access to the Go To Finder option under the Special menu.

Step 1

Press and hold the Command and Option keys while choosing Go To Finder from the Special menu.

Step 2

If you have not used a password to protect the Finder you will go directly to Step 3.

If you have used a password to protect the Finder, you will get a message asking you to enter it in the next screen. Release the Command and Option keys and click OK. Enter your password in the next dialog box and hold down the Command and Option keys while you click OK. Go to

Step 3.

Step 3

At the dialog box asking you if you are sure you want to rebuild the desktop, click OK.

Note: If you go to the Finder, then go back to At Ease through the Application menu instead of the File menu, and then try to rebuild the desktop using Method B, it does not work because the Finder is still running when you switch back to it.

Question 7: Students are holding down the space bar at startup to open the Extensions Manager. Then they disable (deselect. At Ease Startup. The next time the computer restarts, it goes straight to the Finder. How can I prevent my students from getting access to the Finder, yet still run System 7.5 and At Ease?

Answer: This issue was fixed in At Ease 3.0. If you are using an earlier version of At Ease, here are two workarounds:

Remove Extensions Manager From the Control Panels folder

Move the Extensions Manager control panel out of the Control Panels folder of your System Folder. This will prevent the Space bar from activating the Extensions Manager at startup.

Users with access to the Finder can still open the Extensions Manager and use it without it actually residing in the Control Panels folder. In other words, moving it out of the Control Panels folder will not disable it entirely, it will only disables using the Space bar to access it at startup.

Remove Extensions Manager From the Extensions folder

You can also remove the EM Extension from the Extensions folder of your System Folder, which also prevents the Space bar from opening the Extensions Manager at startup. If you remove the EM Extension, the Extensions Manager will no longer be functional to any user, even if the user has access to the Finder.

At Ease will NOT let users without Finder access open the Extensions Manager control panel even if they have access to other control panels.

Question 8: How do I add existing documents or new applications to a particular user and not to all users of a setup?

Answer: In the Finder, place the items in that particular user's Documents folder. Here's how:

Step 1

Form the Finder, Open the Documents folder on the At Ease disk.

Step 2

Inside the Documents folder is an individual Documents folder for each user who has logged on to this At Ease disk. Find the user's own folder.

Step 3

Move the documents, aliases, or applications you wish to add to this user's documents panel.

Anything you add to the user's documents folder, including applications, will appear in the user's document panel not the At Ease Items panel.

Question 9: A user changed his password, but it only works on the computer he changed it on. Why don't the other computers recognize it?

Answer: If your workgroup is not on a server, you will have to update each Macintosh in the group separately so they "know" about the new password.

Question 10: The administrator changed the configuration of one of the Setups, then tried to update the other computers. Why didn't the changes show up?

Answer: When you update over the network, each computer will receive the new information. However, At Ease will not reflect the changes on a computer until you Quit and re-launch At Ease on that computer.
Published Date: Feb 19, 2012

ImageWriter II: Missing Dots

The top row(s) of dots are missing when character(s) are printed.
This article has been archived and is no longer updated by Apple.
The Ribbon Lift may be misadjusted.

Before assuming that there is a Print Head failure, check to see that the Ribbon Lift is adjusted properly. To perform the lift adjustment, follow the steps documented in the ImageWriter II Technical Procedures for Color Printing adjustment. Even though you might not be using the color ribbon, adjustment of the lock nut on the Color Ribbon Assembly may be all that is needed to solve the problem.
Published Date: Feb 19, 2012

Audio Volume 1.1: Read Me File

Name: Audio Volume Installer
Version: 1.1
Released: October 12, 1995
Description: This software replaces the Internal Modem Sound extension 1.0 that allows internal Global Village modem sound to play through internal speaker. Audio Volume Extension supports 16-Bit audio capable Performa 52xx/53xx/62xx/63xx with an internal Global Village modem.

This software is available from the Apple Support Website, Apple Software Updates. It consists of a self-extracting archive of a Disk Copy 800K disk image. To use, download, double-click the downloaded file (this decompresses it), and use Disk Copy to create the disk.

Disk Copy can be found in the Utilities/Disk Copy folder posted online.
This article has been archived and is no longer updated by Apple.
From the Audio Volume Read Me included in this archive:

Important Information About Reinstalling Performa Software

This document tells you how to install the Audio Volume software on your computer after you have reinstalled your Performa software. You need to install the Audio Volume software only after you reinstall Performa software. The Audio Volume software improves sound quality on your computer.

You may want to print this document and keep it with your manuals, since this information may not be in the documentation that came with your computer. After you finish reading this document, choose Quit from the File menu.

Installing the Audio Volume Software
To reinstall Performa software on your computer, follow the instructions in the Macintosh Performa CD booklet, then follow these steps:

1. Insert the disk System Backup Disk: Audio Volume Installer into your floppy disk drive.
2. Find and double-click the Install Audio Volume icon.
3. Follow the instructions that appear on the screen. If you get a message asking you if it's OK to place the Audio Volume software in a folder or to replace an earlier version of the file, click OK. The instructions on the screen let you know when the installer has finished installing the Audio Volume software.

When your computer restarts, the Audio Volume software is installed on your computer. Keep the disk System Backup Disk: Audio Volume Installer in case you ever need to reinstall Performa software again.
Published Date: Feb 19, 2012

ColorSync 2.0: Photoshop Plug-In Modules 1.3 Read Me

This article contains the Read Me file included with the ColorSync 2.0 Photoshop Plug-in Modules 1.3 posted online.
This article has been archived and is no longer updated by Apple.

What are ColorSync" 2.0 Plug-In Modules?
The ColorSync" 2.0 Plug-In Modules provide an easy way for you to obtain high quality reproduction of color images. Together with the ColorSync" 2.0 System Extension and the installed device profiles, the ColorSync" 2.0 Plug-In Modules ensure that your color images will be reproduced most accurately on any device. Three Modules (Acquire, Export, and Filter) are available to fit into any type of work-flow, and to provide color matching capabilities to the novice color user as well as to the most demanding color user.

With the Plug-In's you will be able to:

- Accurately print the image viewed on your monitor.
- Accurately print or view the image you have scanned.
- Embed a profile in your image to be specified as the image's source.
- Make color separations for any press printing condition.
- Use your in-house device to preview what your image will look like on the printing press.
- Execute any custom color matching needed.

What are the system requirements?
Before using any of the modules, you should make sure that:

- Your Macintosh has a 68020 or later processor, or a PowerPC 601 or later processor.
- Your Macintosh is running System Software version 7.1 or higher.
- The ColorSync" 2.0 System Extension and ColorSync" 2.0 System Profile Control Panel are installed in the Extensions and Control Panels folders, respectively.
- The ColorSync" 2.0 (or ICC-compatible) profiles for your peripherals are installed in "System Folder:Preferences:ColorSync" Profiles" folder.
- You are using Adobe Photoshop version 2.5.1 or later, or other software that accepts version 4.0 Photoshop Plug-In modules.

How do I install the software?
If ColorSync" 2.0 is not already installed on your system, you can download a copy of the ColorSync" installer disks from any of the on-line services mentioned at the end of this document. Please follow the instructions that are included on the disk before installing ColorSync" 2.0.

The ColorSync" 2.0 Plug-In Modules are installed by coping all three into the "Aquire Export" folder in your Photoshop 3.0 Plug-Ins folder. For Photoshop 2.5, copy all three directly into the "Plug-Ins" folder. For other applications that use plug-ins, refer to the documentation that comes with the application.

Important Definitions

Color matching/color reproduction:
The process of making a controlled transformation of color values generated from one device to values intended for another device.

Profile:
A file containing information about the color reproduction capabilities of a device, such as a scanner, a digital camera, a monitor, or a printer. Commonly, two profiles (source and output) are used during a color matching session.

Source profile:
A profile representing a device from which an image was originated. For example, if an image is scanned in, then the scanner profile is the source profile. Or, if an image is created and viewed on the monitor, then the monitor profile is the source profile.

Output profile:
A profile representing a device on which an image is to be outputted. For example, if an image is to be printed on a color printer, then the printer's profile is the output profile. Or, if an image is to be viewed on the monitor, the monitor profile is the output profile.

Proofer profile:
Proofing is the process of using one device to predict the output of an image on another device. A proofer profile represents the device which is used for the prediction. For example, if an image whose output on a color printer is to be proofed on a monitor, the monitor profile will be the proofer profile.

Matching style:
Because of the differences among devices' color capability, different methods exist for applying color matching on an image. The matching style is usually selected according to the content of the image . See below.

Perceptual matching style:
A matching style which gives the most pleasing reproduction given the capabilities of the devices involved. This is the most commonly used style, especially for reproduction of photographic images.

Colorimetric matching style:
A matching style where colors are reproduced exactly the same as the eye can distinguish. This may result in clipping of certain colors which can not be reproduced on a device. Colorimetric matching can further be divided into relative colorimetric matching and absolute colorimetric matching, where relative matching accounts for the ability of the human eye to automatically adapt to the surround white (e.g., white of the paper the image is printed on), and absolute does not. Colorimetric matching is most commonly used for reproducing Logo colors where the exactness of the color is important.

Saturation matching style:
A matching style where the vividness of the image is best preserved. This style is mostly used for reproduction of graphs and pie charts.

Matching quality:
The matching quality indicates the overall computation precision of a particular matching session. Higher computation precision requires more run-time memory. It is always best to use the highest matching quality your system allows.

Using the Acquire Module:
The Acquire Module will import a Tiff image from disk into Photoshop while applying ColorSync" matching. The Acquire Module is most convenient to use if you simply want to match your image for printing from Photoshop, or if you want to match an image you scanned previously for viewing.

To use the Acquire Module:

1. In Photoshop, select the "Tiff with ColorSync" Profile..." from the "Acquire" menu under "File". A standard file selection dialog box appears prompting you to select a Tiff image to be imported.

2. Select the Tiff image you want to import and click the "Open" button. The ColorSync" Acquire Module dialog box appears. Select the appropriate "Source" and "Output Profile" for the image, and select the desired "Matching Style" and "Quality" setting. Refer to the "Important Definitions" section above for more explanations.

3. Click the "Import" button to start importing.

Note 1: If the Tiff image to be imported already has a profile embedded, the embedded profile will show up on the list of available Source Profiles as an Italic item.

Note 2: Only profiles whose color space information match that of the selected Tiff image appear in the list of "Source Profiles". Therefore, for a Tiff CMYK image, only profiles that are CMYK based are available as "Source Profile".

Note 3: Certain Tiff images cannot be imported if they contain unsupported Tiff image format features such as compression.

Using the Filter Module:
The Filter Module will apply ColorSync" matching on the current Photoshop image. The Filter Module is most convenient for matching an image which is already in Photoshop without writing it to disk.

To use the Filter Module:

1. In Photoshop, select the "ColorSync" Filter" in the "Color Matching" menu under "Filter". The ColorSync" Filter Module dialog box will appear.

2. Select the appropriate "Source" and "Output Profile" for the image, and select the desired "Matching Style" and "Quality" setting. Refer to the "Important Definitions" section above for more explanations.

3. Click the "OK" button to start filtering.

Note: Due to limitations of the Photoshop Filter Module API, the ColorSync" Filter Module can only match images from/to the same color space. Therefore, it cannot match an RGB image for a CMYK device, and vice versa.

Using the Export Module:
The Export Module will save the current Photoshop image to disk as a Tiff image with ColorSync" matching applied. It is the most flexible module out of the three.

To use the Export Module:

1. In Photoshop, select the "Tiff with ColorSync" Profile..." module from the "Export" menu under "File". The ColorSync" Export Module dialog box will appear.

2. Select the desired choice from "Processing Selection". Action for each of the choices are as follows:

- "Embed" simply embeds into the current image the selected "Source Profile" with the selected "Matching Style". No color matching occurs.
- "Match" applies a matching session using the selected "Source" and "Output Profile" and the selected "Quality" and "Matching Style". The "Output Profile" is also embedded in the output image to indicate that the matched image is now intended for the device associated with the profile.
- "Proof Matched" applies a proofing session using the selected "Source", "Output", and "Proofer Profile" and the selected "Quality" and "Matching Style". "Matching Style" is applied separately for the source-to-output match AND for the output-to-proof match. The "Proofer Profile" is also embedded to indicate that the matched image is now intended for the device associated with the profile.
- "Custom" enables more extensive matching sessions.

Click the "Export" button if "Embed", "Match", or "Proof" is selected and go to step 6. Click the "Select..." button if "Custom" is selected and go to step 3 below.

3. "Custom" matching is used for the rare occasion when you want to perform matching with many profiles. It comes up with a dialog box with a scrollable list of "Profiles Selected" and a "Quality" selection that is to be applied for the entire matching session.

4. Click the "Add Profile" button to add a profile after the last element on the "Profiles Selected" list. This brings up the list of available profiles. Select the desired profile and the "Matching Style" setting and click the "Add" button. The "Matching Style" selecting is applied for the match from the current profile to the next selected profile. The "Matching Style" of the last selected profile is ignored.

5. Repeat step 4. as many times as necessary to add more profiles to the list. When done, click the "Export Tiff..." button. To remove a profile from the list, all succeeding profiles following that profile must be removed first. To remove the last profile from the list, simply select the profile and click "Remove Profile".

6. The standard save file dialog box will appear prompting for a name of the image file to be saved as. Enter the desired file name and click the "Save" button to execute.

Note: An image must be loaded in RGB or CMYK mode in order for the "Tiff with Color Sync Profile" menu item in the Export menu item to be selectable. The item is not selectable if the image is in indexed mode.

Where to go for more information:
Go to the Apple ColorSync" home page on-line at: http://www.colorsync.apple.com/
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Color LaserWriter 12/600 PS: Using Special Features in Windows NT

I need to setup fonts, margins, watermarks, and print quality for the Color LaserWriter 12/600 PS printer. My Color LaserWriter 12/600 PS is connected to a Windows NT computer, and since the Apple LaserWriter Utility does not work on Windows NT, how do I change these things?
This article has been archived and is no longer updated by Apple.
For these particular options you do not need the Apple Printer Utility. They can be done on a per job basis from either Windows NT, the client sending the print job, or the application that is printing the job.

If you need to use the Apple Printer Utility, you can use this utility from a Macintosh using AppleTalk, a Windows 95 or Windows 3.1x client connected via a NetWare server, or a Windows 3.1x client connected via LPT1.

Font Sets

From Windows NT:

1. Open the Color LaserWriter 12/600 PS driver icon.
2. Select Properties from the first menu.
3. Select setup, font substitution.

Also on a per job basis from a remote client, using the application, the customer may select Print Setup, Options and Fonts for full font control.

Print Quality

From Windows NT:

1. Open the Color LaserWriter 12/600 PS driver icon.
2. Select Properties from the first pull down menu.
3. Select details, job defaults, options.

Also, if you are printing from a remote client you have options from the Control Panel for Print Setup, and you may also have the same options built into the application you are printing from.

Margins

Setting margins is not usually an option in the driver, these are handled by the application you are printing from.

Watermarks

Watermarks are supported from the Windows NT spooler, but can be selected from the client once again from the application select Print Setup, Options and Watermarks.
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Color StyleWriter: Using Iron-on Transfer Paper (11/95)

Can images printed on the Color StyleWriter 2200, 2400, and Color StyleWriter Pro printers be transferred to fabric?
This article has been archived and is no longer updated by Apple.
Transfer paper are special purpose papers that can be used to transfer images from a printed page to another surface such as a shirt. Apple does not supply or test transfer papers on our printers, however there are third-party companies that supply products which should be compatible.

Canon sells special transfer paper for their line of MS-DOS/Windows color ink-jet printers which, due to the design similarities with the Color StyleWriter series of printers, should produce acceptable results when used with the Color StyleWriter 2200, Color StyleWriter 2400, and Color StyleWriter Pro.

Canon sells a special coated transfer paper that can be used to transfer image to fabric. In order to permanently set the water-soluble ink into the fabric the cloth is dipped into a vinegar solution using the instructions provided with the paper.

Canon's transfer paper does not require any special ink and can be ordered directly from Canon's consumer supplies group at (800) 671-1090. The Canon T-shirt Transfer Paper part number is TR101.

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AppleScript: Recompile Script After Recording

I recorded a script in the AppleScript Script Editor, and it worked properly within the Script Editor. However, after I saved the script as an applet, the script no longer works. When the applet is launched, it opens, but does not perform any actions, then quits. Why is this happening?
This article has been archived and is no longer updated by Apple.
This is a currently known problem. A recorded script must be checked before saving. After recording is finished, select and retype any character of the script. This enables the check button in the Script Editor window. Check the script before saving as an applet.

To fix a recorded script applet showing this problem, reopen the script in the Script Editor, make a change to the script text and check the script before resaving.
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Color StyleWriter 2400: Serial Number Location (11/95)

This article describes the location of the serial number on the Color StyleWriter 2400 printer.
This article has been archived and is no longer updated by Apple.
The serial number on the Color StyleWriter Printer is located under the paper receiving tray. To locate the serial number, turn the printer over and pull out the paper receiving tray. The serial number usually starts with the letters CE or CC.

Support Information Services

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ImageWriter II: Ink Spots or Streaks

The ImageWriter II leaves ink streaks or spots on the paper as it prints. These streaks may be light or dark, and resemble smudges. Leaving the printer idle for a period of time with a piece of paper in it may leave a spot on the paper when it is advanced out of the printer.
This article has been archived and is no longer updated by Apple.
The paper thickness lever maybe improperly set when printing on an envelope or multiple pages. This causes the metal part of the paper guide to press against the ribbon cloth during printing which 'scrapes' some of the ink off of the ribbon and deposits it on the guide. If enough ink builds up, it will begin to smear onto following pages.

Solution: Remove the paper guide from the carriage assembly using the procedures outlined in the Tech Procedures. The metal shield on this part will probably be coated with a layer of ink (possibly thick). Use isopropyl alcohol to thoroughly remove the ink. Be careful not to bend the metal shield.

Re-install shield as close to the platen as possible. This will put the ribbon a little farther from the paper guide helping to prevent ink from building up. To prevent this problem, adjust for proper paper thickness when printing on envelopes and multiple pieces of paper.

If the above cure doesn't fix the problem, search on GTS and the product's name to obtain a general troubleshooting procedure.
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Power Macintosh: No FPU Installed Error

I have a Power Macintosh computer, and I get errors stating that the FPU is not installed. What is wrong? I thought I had an FPU. Is there any way to check to make sure that it is there?
This article has been archived and is no longer updated by Apple.
Your PowerPC microprocessor has an FPU (floating-point or math co-processor) installed. The FPU is incorporated within the PowerPC microprocessor itself and is part of the basic specification of the computer.

An "FPU not installed" error is software-related and can occur in two ways:

1. You are attempting to use a program which is running in emulation mode and which requires a floating-point unit. The emulation mode in Power Macintosh computers does not simulate a floating-point unit. Many applications check for the presence of a math co-processor before attempting to use it. However, if the application does not check for a math co-processor and attempts to use one, then you get the "No FPU installed" error.

The solution is to update your software with a version that is Power Macintosh-native. In some cases, you may be able to use third-party products which provide a software-based FPU.

2. You are running software--either emulated or native--which is failing. For a variety of reasons, the error message is coming across as an "FPU not installed" error.

The solution, in this case, is to locate which software (such as extensions, control panels, drivers, or applications) is causing the error, and either contact the publisher for compatibility information, or do not use it.

See these related Tech Info Library articles for additional information:

Article 17767: "**Native, Conventional, & Fat Applications: What Are They?**"
Article 15926: "**System 7.5: Troubleshooting Extension Conflicts**"
Article 14343: "**Troubleshooting Macintosh INIT Conflicts**"
Article 14842: "**Power Macintosh 68LC040 Emulator**"
Article 18912: "**Power Macintosh: Type 11 & No FPU Errors Technote**"
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Sound & Displays Control Panel: Common Problems & Solutions

This article addresses common problems with the Sound & Displays control panel which is part of System 7.5.2 for the Power Macintosh 7500 and 8500 computers. As of January 1996, no other Macintosh computer uses the Sound & Displays control panel, including the Power Macintosh 7200 series or Power Macintosh 9500 series which also ship with System 7.5.2.

Note: Apple recommends all users of System 7.5.2 (and the Sound &Displays control panel) update to System 7.5.5. To do this, download and install the System 7.5 Update and System 7.5.5 Update from the Apple Software Updates site.

Issues covered in this article:

1. "Sound & Displays cannot operate correctly" message.
2. "Sound & Displays cannot be used at this time" message.
3. "This port cannot be deactivated" message.
4. "This port cannot be activated" message.
5. Computer Speaker option is automatically unchecked when I restart.
6. Audio compact discs do not play.
7. Unable to locate the AppleVision Setup control panel.
8. AppleVision options do not appear in Sound & Displays control panel.

This article has been archived and is no longer updated by Apple.

1) "Sound & Displays cannot operate correctly" message

Issue: When I try to open the Sound & Displays control panel, an error message says, "Sorry... Sound & Displays cannot operate correctly on this Macintosh. Please consult your Sound & Displays documentation for a description of what your Macintosh needs for Sound & Displays (Quit)".

Resolution: The Sound & Displays control panel requires AppleScript in order to operate properly. Make sure AppleScript has not been disabled by opening the Extensions Manager in your Control Panels folder under your Apple Menu. If there is not a check to the left of the AppleScript Extension, click on the extension to put a check there, close the Extensions Manager, and restart your computer.

If the Sound & Displays control panel still fails to launch, you should reinstall AppleScript by using the "Apple Macintosh CD" that came with your computer:

Step 1
Double-click the installer located in the Install System Software folder of the disc.

Step 2
Click on the Easy Install pop-up menu and choose Custom Install

Step 3
Click the triangle next to Utility Software, check the box to the left of AppleScript, and then click Install.

2) "Sound & Displays cannot be used at this time" message

Issue: When I try to open the Sound & Displays control panel, an error message says, "Sorry... Sound & Displays cannot be used at this time. The required extensions cannot be found. These extensions have either been disabled or are not present. To use this application, first put the Sound & Displays extensions in your extensions folder, and then restart your Macintosh."

Resolution: The Sound & Displays extensions are "AVSetup" and "SystemAV". There is no file called "Sound & Displays Extension". Although these files are stored in the Extensions Folder, they are not listed by the Extensions Manager control panel. However, they are listed by some third-party extension-managing software (such as Conflict Catcher). Make certain these two extensions have not been disabled or removed from the Extensions folder. If these extensions are missing, reinstall the system software using the "Apple Macintosh CD" that came with your computer:

Step 1
Double-click the installer located in the Install System Software folder of the disc.

Step 2
Click Install.

Step 3
When the installation is complete, quit the installer, and restart your computer to load the newly installed extensions.

3) "Port cannot be deactivated" message
Issue: When I try to deselect one of the options under Sound Input, I get the error message, "This port cannot be deactivated."

Resolution: You cannot uncheck a Sound Input source, because then you would not have any Sound Input source. The way to uncheck a particular source is to check one of the other two sources. The three sources available are External Audio Input, Internal CD, and External Microphone.

4) "This port cannot be activated" message
Issue: When I try to check External Microphone under Sound Input, this error message appears, "This port cannot be activated."

Resolution: When Speech Recognition is turned on, it locks the Sound Input so that the Sound Input cannot be changed. Turn Speech Recognition off by opening the Speech control panel, choosing Speakable Items from the popup menu, and clicking the OFF button.

If you want to use Speech Recognition, first select External Microphone in the Sound & Displays control panel, and then open the Speech control panel to turn Speakable Items on.

5) Computer Speaker option is automatically unchecked when I restart
Issue: Every time I start up my computer, the option for "Computer Speaker" under "Sound Output" is unchecked. I click to check it, and then I get sound out of my internal speaker. However, the next time I start up my computer, the "Computer Speaker" option is unchecked again.

Resolution: When you start up your computer, it checks to see if anything is plugged into the speaker port (such as headphones). If something is plugged in, the operating system will automatically check "External Headphones" and uncheck "Computer Speaker" under Sound Output. You can override these settings by clicking the desired output option, but the setting is not saved between restarts.

6) Audio compact discs do not play
Issue: I cannot play audio compact discs. I can mount audio CD-ROM discs, and see the counter working in the AppleCD Audio Player, but I hear no sound. I can hear audio from multimedia CD-ROM discs and alert sounds without any problems.

Resolution: This is an issue involving accessing sound options while running Speech Recognition. When you turn Speech Recognition on, it "listens" for commands captured by the microphone. Because of this, Speech Recognition will not allow you to select the Audio CD as the input source. Therefore, you cannot play an audio compact disc through your internal speakers while speech recognition is turned on. Turn Speakable Items off in the Speech control panel and then select Audio CD as your sound input source in the Sound & Displays control panel.

7) Unable to locate the AppleVision Setup control panel
Issue: I have successfully installed the AppleVision software that came with my AppleVision 1710AV or 1710 display, but I am unable to locate the AppleVision Setup control panel. I am using a Power Macintosh 8500. What do you recommend?

Resolution: AppleVision Setup does not appear as a separate control panel on either the Power Macintosh 8500 or 7500 series computers. If you have installed the AppleVision software, the settings options found in the AppleVision Setup control panel are automatically incorporated into the Sound & Displays control panel.

To access the configuration options for an AppleVision 1710AV or 1710 monitor connected to either the Power Macintosh 7500 or 8500, follow these steps:

Step 1
Choose the Sound & Displays control panel from the Control Panels folder under your Apple Menu.

Step 2
In the lower right corner of the Sound and Displays control panel in the Displays option section, double-click the text "AppleVision 1710AV" or "AppleVision 1710" (depending upon which monitor you have.

Although the interface may be slightly different than described in your AppleVision manual, you can now access the same options mentioned in the documentation for the AppleVision Setup control panel.

8) AppleVision options do not appear in Sound & Displays control panel
Issue: The AppleVision options do not appear in the Sound & Displays control panel.

Resolution: The ADB (keyboard) cable is plugged directly into the computer. Plug the ADB cable into the monitor, and connect an ADB cable from the monitor to the computer's ADB port.

These articles can help you locate the software update mentioned here:

- Article 14724: "**Where To Find Apple Software Updates**" - Lists online services for free Apple software updates.
- Article 17664: "**WW Apple SW Updates Available Online**" - An index to International Apple Software Updates showing the current software location on the Internet.

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Performa 6200CD: No Sound From Internal GV Modem (11/95)

Article Reviewed/Updated: 14 November 1995

I have a Performa 6200CD with an internal Global Village modem. Whenever I use it to either fax a document or connect to an online service, I do not hear the modem dialing or connecting. However the modem does allow me to fax and I can connect to online services.

I have had the modem replaced, but the replacement still does not make sounds. What is wrong?
This article has been archived and is no longer updated by Apple.
The Macintosh Performa 5200, 5300, 6200, and 6300 series computers requires additional software to make the modem sounds most people are used to hearing. Unlike external modems, the internal Global Village TelePort Gold IIv and TelePort Platinum V modems do not have a speaker on them. Two extensions, Audio Volume Extension and Internal Modem Sound extension, were developed to use the Macintosh speaker in place of a modem speaker.

The Audio Volume extension is the newer of the two extensions and can be used with any of the Macintosh Performa computers that use Internal Global Village TelePort modems.

You can get the Audio Volume extension from online services where Apple provides software updates.

These articles can help you locate the software update mentioned here:

* "Where To Find Apple Software Updates" - Lists online services for free Apple software updates.

* "Obtaining Apple Product Support in the USA" - Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech Info Library.

Article Change History:
14 Nov 1995 - Added where to get Audio Volume extension.

Support Information Services
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AppleShare: Cannot Resolve Server Volume Alias

When I double click on an alias I get a dialog box indicating that the alias cannot be resolved. When I click OK, the volume that the alias points to is mounted anyway.

I use the chooser to mount a server volume. If I then try to create an alias I get a -50 error.
This article has been archived and is no longer updated by Apple.
A newer ROM set, which shipped in the Power Macintosh 7200, 7500, 8500, and 9500, has changes that can affect some third party disk drive partitioning software. The alias issue described above is an example of this. If you are experiencing these errors, contact the manufacturer of the disk drive partitioning software for an updated version. This issue is known and has been corrected in newer versions of partitioning software.
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Performa: MacTCP 2.0.4 to MacTCP 2.0.6 Update Issue (11/95)

I have a Performa, and the MacTCP 2.0.4 control panel that came with my computer cannot be updated with the MacTCP 2.0.6 Update installer, an error is reported. I have restored my System Software and the update installer still does not work. What is wrong?

This article has been archived and is no longer updated by Apple.

The MacTCP 2.0.4 control panel that ships with Performa computers cannot be updated using the MacTCP 2.0.6 Update installer. You should use the System 7.5 Update 1.0 which includes MacTCP 2.0.6.

The System 7.5 Update 1.0 will install MacTCP 2.0.6 if it finds an older version in the Control Panels folder. Otherwise, you can use the custom install feature in the System 7.5 Update 1.0 installer by following the steps below:

1) Choose Custom Install in the pop-up menu.
2) Click the triangle next to Control Panels to expand these options.
3) Click the checkbox next to MacTCP to select it.
4) Click the Install button.

These articles can help you locate the software update mentioned here:

* "Where To Find Apple Software Updates" -- Lists online services for free Apple software updates.

* "Obtaining Apple Product Support in the USA" -- Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech Info Library.

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Macintosh Performa 5xxx/6xxx: Frequently Asked Questions

This article includes Frequently Asked Questions (FAQ) about the Macintosh Performa 5200 and 6200 series computers.

Questions in this FAQ:

- What are the memory and VRAM expansion capabilities of the Macintosh Performa 5200 and 6200?
- When I put a CD-ROM disc into my CD-ROM drive I get a message stating, "This disk is unreadable by this Macintosh. Do you want to initialize the disk?" What does this message mean?
- My Performa System freezes and I'm wondering if there's something wrong with the machine. How can I check for this?
- I read that there is a flaw in some 603 processors and that there is diagnostic software to check our computers. Where can I find this software?
- Is the GeoPort Telecom Adapter compatible with the Macintosh Performa 5200 and 6200?
- Will the DOS Compatibility Card work in the PDS slot of the Macintosh Performa 5200 and 6200 series computers?
- Why do some benchmark utilities report false information about the Macintosh Performa 5200 and 6200 series computers?
- Is there a Level-2 cache card installed in these computers?
- What kind of hard drive is included? How do I reformat this drive?
- Can I upgrade my Macintosh Performa 5200 or 6200 computer to a Macintosh Performa 5300 or 6300 computer?
- Every time I start up my computer I get a message stating that QuickTime installation has failed because QuickTime was already installed. Why does this message appear at startup?
- When I try to install English Speech Recognition (ESR) on my Macintosh Performa 6200 or 5200 series computer, I get an error message stating that English Speech Recognition requires 16-bit sound input, and that it cannot be used on this Macintosh. What can I do to install this software?
- I am unable to use any type of external serial device with the modem serial port. Why is this?
- I get the following message, "Telephone manager 2.0 (or later) is required. Please install this software before launching," when I try to use MegaPhone. What is happening?
- I cannot hear the dial tone or the other caller when making a call with Megaphone. What should I do?
- Can I upgrade my Global Village Gold IIv 14.4 Kbps modem to 28.8 Kbps? Does Apple sell a replacement modem?

This article has been archived and is no longer updated by Apple.

1) What are the memory and VRAM expansion capabilities of the Macintosh Performa 5200 and 6200?

These computers do not have memory soldered on the logic board; all memory is placed in two 72-pin SIMM slots. Memory can be installed in one or both slots using 4, 8, 16 or 32 MB SIMMs. Most configurations shipped with a single 8 MB or 16 MB SIMM in one of the slots. The Power Macintosh 5200 can address up to 64 MB of RAM.

The Performa 5200 and 6200 series, and the Power Macintosh 5200/75 do not use VRAM. These computers store video data in a 1 MB DRAM frame buffer (separate from RAM) and no further video memory expansion is supported.

If you want greater color depth or screen resolution, you can install a third-party video card in the processor-direct slot and attach a second monitor.

2) When I put a CD-ROM disc into my CD-ROM drive I get a message stating, "This disk is unreadable by this Macintosh. Do you want to initialize the disk?" What does this message mean?

When the CD-ROM drive does not recognize a particular type of CD, this indicates the CD-ROM software is not properly installed or is missing certain files. In some cases, one or several of the CD-ROM "Access" files may be damaged or a third-party extension or control panel may be conflicting with the CD-ROM software.

See article 17927, **CD-ROM: "This disk is unreadable" Message**, for the troubleshooting steps you should take to resolve this issue.

3) My Performa System freezes and I'm wondering if there's something wrong with the machine. How can I check for this?

The 5xxx/6xxx Tester should be used to test for known component issues that may cause system freezing in ALL Power Macintosh and Performa 5200, 5300, 6200, and 6300 series computers, including the Apple Power Macintosh 5200/75 LC and 5300/100 LC, and Macintosh Performa 5200, 5215, 5300, 6200, 6205, 6214, 6216, 6218, 6220, 6230, 6290 and 6300. (The recently introduced Power Macintosh 5260 and 6320 are not included in this program because Apple corrected all the known issues with this product prior to manufacturing.) The 5xxx/6xxx Tester is available to the following online locations:

- On the Internet at the following sites:
  - Worldwide Web: **http://www.info.apple.com/swupdates**
  - ftp: **ftp://ftp.info.apple.com/Apple.Support.Area/Apple.Software.Updates/US/Macintosh/Utilities/**
- On America Online, use keyword: applecomputer
- On CompuServe, use GO: APLSUP

4) I read that there is a flaw in some 603 processors and that there is diagnostic software to check our computers. Where can I find this software online?

Use the 5xxx/6xxx Tester, mentioned in the answer to question #3 above.

(The following information below is provided for historical purposes:)
Previously, the 52xx/62xx Diagnostic Utility was made available to detect an issue with a small number of PowerPC 603 microprocessors used in ONLY Macintosh Performa 5200, 6200, and Power Macintosh 5200/75 LC computers. Only computers within a specific serial number range were potentially affected by this issue. The Diagnostic Utility was posted on the online services, but it has since been removed with the posting of the 5xxx/6xxx Tester.

Other References About 5xxx/6xxx Tester:

The following articles provide additional information on the 5xxx/6xxx Tester application.

- **Macintosh 5xxx/6xxx Tester: Read Me**, article # 19999
- **Mac OS 8: About 5xxx/6xxx Tester Read Me**, article #28031
- **52xx/62xx Diagnostic Utility & 5xxx/6xxx Tester:Difference**, Article #20061

5) Is the GeoPort Telecom Adapter compatible with the Macintosh Performa 5200 and 6200?

The GeoPort Telecom Adapter is not compatible with the Power Macintosh 5200 series. As the Power Macintosh 5200's target audience is the K-12 education channels, support for the GeoPort Telecom Adapter was not part of the requested feature set.

6) Will the DOS Compatibility Card work in the PDS slot of the 5200 series computers?

No, the DOS Compatibility Card for the Power Macintosh 6100 does not work in Macintosh Performa 5200 and 6200 series computers.

7) Why do some benchmark utilities report false information about the Macintosh Performa 5200 and 6200 series computers?

Each time Apple Computer releases a new computer, third-party diagnostic utilities which provide benchmark information may not have the data for the new computer. Contact the manufacturer of your diagnostic software for additional information on obtaining an updated version of their software.

8) Is there a Level-2 cache card installed in these computers?

Yes, a 256k level-2 cache card comes pre-installed on these computers. The level-2 cache card not only functions as a 256k level-2 cache, but contains these computers' ROM set, as well. For this reason, third party level-2 cache cards are not compatible with the Power Macintosh 5200. At this time, Apple does not plan on releasing a larger level-2 cache for the Macintosh Performa 5200 and 6200 series.

9) What kind of hard drive is included in these computers? How do I reformat this drive?

The Macintosh Performa 5200 and 6200 series computers contain hard drives based on the IDE interface. Apple's implementation of the IDE Interface supports IDE and Enhanced IDE drives. If replacing the internal hard drive with a third-party IDE drive, the replacement IDE drive must support Logical Block Addressing (LBA).

To reformat the IDE drive, you should use the Internal HD Format Utility; if it does not work, use the Drive Setup Utility instead, which is available on the online services. You cannot use Apple HD SC Setup to check the internal IDE hard drive.

10) Can I upgrade my Macintosh Performa 5200 or 6200 computer to a Macintosh Performa 5300 or 6300 computer?

The 5300/6300 Logic Board Upgrade (M4447LL/A) is available for the Macintosh Performa 5200 and 6200 family of computers.

11) Every time I start up my computer I get a message stating that QuickTime installation has failed because QuickTime was already installed. Why does this message appear at startup?

This message is caused by having two copies of the QuickTime extension in your System Folder. See article #17306, **QuickTime Installation Failed Message at Startup**, to resolve this particular issue.

12) When I try to install English Speech Recognition (ESR) on my Macintosh Performa 6200 or 5200 series computer, I get an error message stating that English Speech Recognition requires 16-bit sound input, and that it cannot be used on this Macintosh. What can I do to install this software?

Using the ESR 1.4.1 installer you can customize the installation and successfully install the PlainTalk software. For detailed instructions, follow the steps given in article 18463 **Plaintalk 1.4.1: Can't Install Recognition on 8-bit Mac**.

13) I am unable to use any type of external serial device with the modem serial port. Why is this?

The presence of the internal modem disables the modem serial port. See article 18250, **Power Macintosh: Modem Port Disabled w/Internal Modem Present** for more details.

There are several possible workarounds:

- Consider connecting your serial device to the printer port. If you already have a printer, you might want to investigate a switch box (also referred to as an A/B box) to share the port between the two devices. You would still only be able to use one device at a time, but this would reduce the wear and tear on your connectors by continually reseating the connections.

NOTE: Using a switch box is not tested or supported by Apple. If you choose to use one, contact the switch box manufacturer for compatibility information and technical assistance.

- Instead of using a switch box, you could also use a serial card. Such a card would need to be connected to the processor-direct slot in the computer, and it would provide you with additional serial connections.
- Alternatively, you can remove both the modem card and the plastic cover over the modem port. Instructions for installing a card into the communications slot are included in the Macintosh Performa User's Guide. You can follow these instructions for removing the internal modem. Although such cards are typically user-installable, you may want to contact an Apple-authorized service provider for assistance with this procedure.

NOTE: Any damage caused by the addition or removal of the modem is NOT covered under the warranty.

14) I get the following message, "Telephone manager 2.0 (or later) is required. Please install this software before launching," when I try to use MegaPhone. What is happening?

MegaPhone installs various invisible resources into the System file. If the System suitcase is damaged or had been replaced these resources are no longer available. See article 18502, **MegaPhone for Performa: Telephone Manager Required Message** to resolve this issue.

15) I cannot hear the dial tone or the other caller when making a call with MegaPhone. What should I do?

This can occur if the External CD Sound Extension has been installed or if the Internal Modem Sound extension has been removed or disabled. However, if you have a Macintosh Performa 5300 or 6300 series computer, then you should verify that the Audio Volume extension has not been removed. This extension replaces the Internal Modem Sound extension.

The External CD Sound extension allows you to connect an external CD-ROM player and play audio CD-ROM discs through the internal speaker. The Internal Modem Sound extension needs to be in the Extensions folder for MegaPhone to work properly. See article 18352, **MegaPhone: Caller Hears Me, I Can't Hear Them** to resolve this issue.

16) Can I upgrade my Global Village Gold IIv 14.4 Kbps modem to 28.8 Kbps? Does Apple sell a replacement modem?

Apple does not offer an upgrade for your modem. However, Global Village has recently released an upgrade path for your modem. This upgraded internal modem would replace the modem already installed in your computer.

Contact Global Village Communications directly (800-469-3764) to order this modem or to obtain additional information, including compatibility with specific computer systems and pricing.

Note that support for this modem, once installed on a Performa computer, will be provided by Global Village directly. Apple only supports Global Village modems which are bundled with specific systems.

This articles can help you locate the software update mentioned here:

- article 14724: **Where To Find Apple Software Updates** - Lists online services for free Apple software updates.

Published Date: Feb 19, 2012

Power Macintosh 5200: Video Playback Issue with MPEG (11/95)

I have a Power Macintosh 5200 series computer with an MPEG card. However, when I try to use the MPEG card to play video, I either don't see any video at all or the computer locks up. What could be causing this?

This article has been archived and is no longer updated by Apple.

Some of the Power Macintosh 5200 series computers with 8-bit sound have an issue with the Apple MPEG Card. The solution is to replace the MPEG card.

If you are experiencing difficulty using the MPEG card to play video, contact an Apple-authorized service provider or the Apple Assistance Center (800-SOS-APPL) for additional assistance or service.

Support Information Services
Published Date: Feb 19, 2012

AppleVision 1710AV Display: Energy Saver Issue (11/95)

This article discusses an issue with the AppleVision 1710AV display and the Energy Saver mode.
This article has been archived and is no longer updated by Apple.
Apple has recently discovered an issue related to Energy Saver mode when used with a limited number of early shipping AppleVision 1710AV Displays.

AppleVision 1710AV Displays with serial numbers between SG522xxxxxx and SG536xxxxxx inclusive should have Energy Saver mode temporarily disabled using the Energy Saver control panel until the display can be serviced. Displays within this serial number range may not operate as originally intended while in Energy Saver mode when connected to a Power Macintosh 7200, 7500, 8500, or 9500 computer, or some third-party video cards. Monitors with serial numbers greater than SG537xxxxxx are not affected and will function normally with Energy Saver.

Symptoms

* Under normal operation, when the display goes into Energy Saver mode, there is no visible raster and the power LED is not illuminated.

* In affected displays, there is still no video but the power LED begins to randomly flash, and you may hear a popping or clicking sound from the display enclosure or speakers. In some displays, this repeated cycling can cause loss of video.

Workaround

The workaround prior to service of the display is to disable System Sleep in the Energy Saver control panel.

With System Sleep temporarily disabled, if you wish to put your computer and display to sleep, manually select Sleep from the Special menu, or shut down your computer completely.

If you experience this issue, or your monitor falls within the stated serial number range, contact your local service provider or 1-800-SOS-APPL. International customers should contact your local service provider.

Support Information Services
Published Date: Feb 19, 2012

Dual-Channel Asynchronous SCSI Interface: An Overview

This article provides a general overview of the dual-channel asynchronous SCSI interface included in some Macintosh computers.

For specific information about the implementation of dual-channel SCSI or Fast-SCSI in different Macintosh computers, see these related Tech Info articles:

"Power Mac 7500,7600,8500,9500 Series: SCSI-2 Compliance"
"Power Macintosh: SCSI Termination Explained"
"Macintosh: Compatibility with SCSI-2 Devices"
"SCSI Manager 4.3: Compatibility and Features"
"Technical Specifications" for each Macintosh computer.
This article has been archived and is no longer updated by Apple.
Computers with dual-channel asynchronous SCSI have a single SCSI controller responsible for the entire I/O subsystem. This primary I/O controller chip manages SCSI communications through dual SCSI controllers: a controller for the internal SCSI bus and a second controller chip for an external SCSI connection and an additional internal connection. This second SCSI controller also manages Ethernet and serial? ommunications. In the Power Macintosh 7300, 7500, 7600, 8500, 8600, 9500, and 9600 computers, the internal SCSI bus controller provides Fast SCSI communications up to 10 MB per second.

Because there are actually two separate SCSI buses, both are capable of handling seven devices. So, theoretically, you could have 13 devices attached to the computer. (Note that the theoretical limit is not 14 because the computer will always be one of the devices). However, space limitations prohibit the connection of that many separate devices.

With only one internal connector, the internal SCSI bus will be particularly limited by the amount of available space inside the computer. For the other SCSI bus, you also are limited by space for internal devices, but the external devices are only limited by SCSI ID numbers.

Different computer models may have distinct standard configurations of the SCSI buses. For example, on the Power Macintosh 9500 series, the internal CD-ROM drive and the internal hard drive are both attached to the Fast (internal) SCSI bus, but on the Power Macintosh 8100 series, only the internal hard drive is attached to the internal SCSI bus; the CD-ROM drive is on the other SCSI bus.

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System 7.5 Only and ARA: Extensions and Control Panels (11/95)

I want to verify that Apple Remote Access (ARA) is not conflicting with another extension. Beside choosing System 7.5 Only, in the Sets pop-up menu of the Extensions Manager control panel, what other extensions do I need to enable?
This article has been archived and is no longer updated by Apple.
In the Apple Menu folder: Remote Access Disconnect
In the Control Panels folder: Remote Access Setup
In the Extensions folder: Remote Access Aliases and Remote Only

Enabling System 7.5 only and ARA extensions and control panels may not find the conflicts or system corruption you are investigating, because ARA loads resources in the System file also. A clean system software installation may be required if issues persist, even with only these extension loaded.

Support Information Services
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System 7.5.2 Printing Fix 1.1: Read Me File

This article contains the ReadMe file included with the System 7.5.2 Printing Fix version 1.1 which is part of the System 7.5.2 Printing Update 1.1 posted online.
This article has been archived and is no longer updated by Apple.

```
Macintosh System 7.5.2 Printing Fix Read Me


What is the Macintosh System 7.5.2 Printing Fix (Version 1.1)?

This system extension fixes printing problems that may occur on Power Macintosh 7200, 7500, 8500, and 9500
computers using System 7.5.2. Without this fix, your computer may freeze if you attempt to print on a network
printer, and it may be necessary to restart your computer.

To install this extension follow these steps:

Step 1
------
Locate the System Folder on the computer's hard disk. Don't open the System Folder.

Step 2
------
Drag the file named "7.5.2 Printing Fix" to the System folder.

Step 3
------
A message appears asking if you want the 7.5.2 Printing Fix to be put into the Extensions Folder. Click OK. If
a message appears stating that the 7.5.2 Printing Fix already exists and asks you if you would like to replace
it, click OK.

Step 4
------
Open the Special menu and choose Restart.


What is new with version 1.1 of this extension?

Version 1.0.2 of the 7.5.2 Printing Fix corrected a problem printing to a network printer when the printer was
already busy. Version 1.1 also corrects a similar problem when printing to a network printer using LocalTalk.
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System 7.5.2 Printing Update 1.1: Read Me File

This article contains the ReadMe file from the System 7.5.2 Printing Update 1.1.
This article has been archived and is no longer updated by Apple.

Language	Release Date	Software Update	Read Me	OS Required
North American English	1995-11-15			North American English Mac OS
International English	1995-11-27			British Mac OS
français	1995-10-27			French Mac OS
Deutsche	---			German Mac OS
Español	1995-10-09			Spanish Mac OS
Italiano	1995-12-05			Italian Mac OS
Nederlands	1995-12-11			Dutch Mac OS
Japanese				
Norsk	1995-12-01			Norwegian Mac OS
Svensk	1995-11-22			Swedish Mac OS
Suomi	1995-12-04			Finnish Mac OS
Dansk	1995-11-30			Danish Mac OS
---			---	
Bulgarian	1996-01-03			Bulgarian Mac OS
Ceski	1995-10-14			Czech Mac OS
français (canadian)	1995-12-07			French Canadian Mac OS
Polski	1995-12-08			Polish Mac OS
Romanian	1995-10-05			Romanian Mac OS
Russian	1995-10-16			Russian Mac OS
Türkçe	1995-12-05			Turkish Mac OS

Downloading Help: Article 75098 "**Help: Downloading Software**"

All software available from this site is covered by a software license agreement included with this software.

North American English

Macintosh System 7.5.2 Printing Update Read Me

Important Note: This printing update was incorporated into System 7.5 Update 2.0, released in March 1996, as well as successive System Software releases, including System 7.5.3, System 7.5.3 Revision 2 and System Update 7.5.5, as well as later releases.

What are the Macintosh System 7.5.2 Printing Updates?

These software updates fix printing problems that may occur on Power Macintosh 7200, 7500, 8500, and 9500 computers using System 7.5.2. Without these fixes, your computer may freeze or never complete printing, and it may be necessary to restart your computer or cancel the printing job.

This bundle contains several folders. Each folder contains an update, and a Read Me file that explains how to install the update and what problems are fixed. To avoid printing problems, install each of these updates.

Contents

SerialDMA folder

Use this update to fix problems while printing on serial printers and to improve overall performance of the serial port.

7.5.2 Printing fix folder

Use this update to fix problems while printing on network printers.

LaserWriter 8.3.2 folder

Use this update to fix problems while printing on network printers. All versions of the LaserWriter driver prior to LaserWriter 8.3.2 contain problems preventing PCI-based computers from printing on a busy printer and printing large documents. All System 7.5.2 users should install the LaserWriter 8.3.2 driver included in this folder.

Open Transport information

For the 7.5.2 Printing fix and LaserWriter 8.3.2 to work properly, you must have Open Transport 1.0.7 or later installed on your system.

Open Transport software is available on the following online locations:

On the Internet at the following sites

- Worldwide Web: <http://www.info.apple.com/swupdates>
- ftp: <ftp://ftp.info.apple.com/>

On America Online, use keyword: applecomputer

- On CompuServe, use GO: APLSUP

Troubleshooting known System 7.5.2 printing issues

A postscript error appears when you attempt to print.

Sometimes attempting to print large files on older LaserWriter printers (including the LaserWriter IINT, IINTX, and other Postscript level 1 printers) results in a postscript error.

Workaround: Before you print, convert the files to gray scale 300 DPI images.

A message appears stating that there's a "-49" error.

This problem can occur when you use the Print command from the File menu on the desktop. The error occurs if you try to print multiple documents from more than one application program at the same time.

Workaround: Print documents from one application at a time when printing from the desktop.

A message appears stating that there's a "Type 10" error when you print Adobe Photoshop documents from the desktop.

This error occurs when you print an Adobe Photoshop file from the desktop using the Print command.

Workaround: Print Adobe Photoshop documents from within Photoshop (make sure Photoshop is active, then use Photoshop's File menu to print).

Postscript errors occur or documents never print when printing QuarkXPress documents.

Postscript errors may occur while printing QuarkXPress documents if the printer type is not set correctly in the QuarkXPress Page Setup dialog box.

Workaround:

- Make sure the correct printer type is selected in the QuarkXPress Page Setup dialog box.
- If the printer type is correct in the Page Setup dialog box and you are using a LaserWriter 16/600 printer and QuarkXPress 3.3, a later version of QuarkXPress may help. Contact Quark for assistance.

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Apple Video Player 1.3.2: Where is Tint Control? (11/95)

I upgraded from Apple Video Player version 1.0.3 to version 1.3.2, and I noticed that the Tint control is now missing from the Controls window. The Contrast option has taken its place. Why?

This article has been archived and is no longer updated by Apple.

The reason for switching the control from Tint to Contrast is Tint had no effect on non-NTSC video systems, such as PAL and SECAM. Changing the Tint setting to Contrast offers European customers the same adjustment flexibility as US customers using Apple Video Player.

Support Information Services
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LaserWriter 8.3.2: Read Me

This article contains the Readme file for the LaserWriter 8.3.2 software.
This article has been archived and is no longer updated by Apple.

What is the Macintosh System LaserWriter 8.3.2 Extension?

This system extension fixes two printing problems that may occur on Power Macintosh 7200, 7500, 8500, and 9500 computers using System 7.5.2. Without these fixes, your computer may freeze if you attempt to print large documents on a network printer, or if you try to print any document on a network printer when the printer is already busy.

To install this extension follow these steps:

1. Locate the System Folder on the computer's hard disk. Don't open the System Folder.

2. Drag the file named "LaserWriter 8" to the System Folder.

3. A message appears asking if you want the LaserWriter 8 extension to be put into the Extensions Folder. Click OK. If a second message appears stating that LaserWriter 8 already exists and asks you if you would like to replace it, click OK.

4. Open the Special menu and choose Restart.

IMPORTANT

If a second message does not appear, then your System Folder is missing some files needed to use LaserWriter 8. Do the following:

1. Refer to the printed manual that came with your computer, and follow the instructions for doing a custom installation.

2. In the Custom Install dialog box you'll see a list of items that can be installed. Click the arrow to the left of the "Printing" check box to reveal the list of printers.

3. Click to put an X in the "LaserWriter 8" checkbox.

4. Click Install. If a message appears stating that you have a newer version already installed, click Newer.

5. Quit the Installer. Open the Special menu and choose Restart.

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Power Macintosh 7200/90: Ethernet Issue

This article contains information on an Ethernet issue which affected a small number of Power Macintosh 7200/90 computers.
This article has been archived and is no longer updated by Apple.

Overview

Under certain network conditions, independent of the protocol being used, the Power Macintosh 7200/90 computer's built-in Ethernet port may fail to successfully send large packets over Ethernet.

Depending on the application or operation being performed, a user might experience one of the symptoms summarized below:

1. When using TCP as the transport protocol, the Power Macintosh 7200/90 may lock-up or timeout under certain conditions (for example, transferring a file to a UNIX host, or sending or composing messages from a Notes client to a Lotus Notes server).

2. Transferring or printing large files across certain repeaters may appear to cause the Power Macintosh 7200/90 to hang or may exhibit poor performance.

IMPORTANT: Not all Power Macintosh 7200/90 customers will experience this problem nor are other Power Macintosh models affected.

As of November 1995, Apple inventory of both service parts and newly manufactured computers are not affected by this issue.

Identification

If the Power Macintosh 7200/90 unit has a serial number of xx545xxxxxx or higher, then the computer should have the revised logic board installed.

If the Power Macintosh 7200/90 has a serial number of xx544xxxxxx then the computer MOST LIKELY has the revised logic board, but you should perform a visual inspection of the logic board using the Logic Board Identification instructions below.

If the Power Macintosh 7200/90 has a serial number of xx543xxxxxx or below then you will need to do a visual inspection of the logic board using the Logic Board Identification instructions below.

Troubleshooting

If you believe that you are experiencing difficulties related to this Ethernet jitter issue, we recommend that you try the following troubleshooting steps:

1. VERIFICATION

- Verify that you are using a Power Macintosh 7200/90.
- Verify that the unit is attached to an Ethernet network.

2. ISOLATE USING A NON-POWER MACINTOSH 7200/90 COMPUTER

Does the problem occur on systems other than the Power Macintosh 7200/90 (preferably Power Macintosh 7200/75 to 9500 computers that use Apple's new Open Transport networking protocol)?

- If YES, then the problem may be related to the software or network that the unit is attached to. Perform basic software and network troubleshooting to narrow down the problem.

- If NO, then the problem may be related to Ethernet clock jitter. Refer to Logic Board Identification below to determine whether or not the logic board has been reworked. If the logic board has already been reworked then you may have a network problem. If the board has not been reworked then replace the main logic board in at least one of the systems to verify whether a reworked board resolves the problem.

Logic Board Identification

To identify whether a Power Macintosh 7200/90 logic board has been reworked is to look at location G1 on the main logic board. G1 is located next to the internal 50-pin SCSI connector and the CURIO ASIC.

If there is a 20MHz oscillator present at location G1 on the main logic board then the logic board has been reworked.

If no 20MHz oscillator is present (four blank solder pads) then the board has not been reworked.

IMPORTANT: If you contact (800) SOS-APPL for assistance with this issue, inform the engineer to reference Tech Info Library article, 18825 (an Apple-internal document).

TA34729_Power_Macintosh_Ethernet_Issue_(TIL18944).pdf

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QuickDraw 3D: Glossary of Terms (A to F)

This article is a glossary of terms for QuickDraw 3D.
This article has been archived and is no longer updated by Apple.
2D: Two-dimensional. See also planar.

3D: Three-dimensional. See also spatial.

3DMF: See QuickDraw 3D Object Metafile.

3D pointing device: Any physical device capable of controlling movements or specifying positions in three-dimensional space.

3D Viewer: A shared library that you can use to display 3D objects and other data in a window and to allow users limited interaction with those objects. See also viewer object.

accelerator: See graphics accelerator.

adjoint: The transpose of a matrix in which each element has been replaced by its cofactor.

adjoint matrix: See adjoint.

affine matrix: A matrix that specifies an affine transform.

affine transform: Any arbitrary concatenation of scale, translate, and rotate transforms. An affine transform preserves parallel lines in the objects transformed.

aliasing: The jagged edges (or staircasing) that result from drawing an image on a raster device such as a computer screen. Compare antialiasing.alpha channel A color component in some color spaces whose value represents the opacity of the color defined in the other components. Compare ARGB color structure.

ambient coefficient: A measure of an object's level of reflection of ambient light.

ambient light: An amount of light of a specific color that is added to the illumination of all surfaces in a model.

ambient reflection coefficient: See ambient coefficient.

antialiasing: The smoothing of jagged edges on a displayed shape by modifying the transparencies of individual pixels along the shape's edge. Compare aliasing.

API: See application programming interface.

application coordinate system: See world coordinate system.

application space: See world coordinate system.

application programming interface (API): The total set of constants, data structures, routines, and other programming elements that allow developers to use some part of the system software.

area: A rectangular section of a plane. Defined by the TQ3Area data type.

ARGB color space: A color space whose components measure the intensity of red, green, and blue, together with the opacity (or alpha component) of the color thus defined.

ARGB color structure: A data structure that contains information about a color and its opacity. Defined by the TQ3ColorARGB data type.

artifact: Any oddity or unwanted feature of a rendered image. Compare aliasing.

aspect ratio: The ratio of the width of an image or other rectangular area to its height.

aspect ratio camera: A type of perspective camera defined in terms of a viewing angle and a horizontal-to-vertical aspect ratio.

aspect ratio camera data structure: A data structure that contains basic information about an aspect ratio camera. Defined by the TQ3ViewAngleAspectCameraData data type.

attenuation: The loss of light intensity over distance.

attribute: See attribute object.

attribute metahandler: A metahandler that defines methods for handling custom attribute data.

attribute object: A type of QuickDraw 3D object that determines some of the characteristics of a model, such as the color of objects or parts of objects in the model, the transparency of objects, and so forth. An attribute is of type TQ3Element. See also ambient coefficient, diffuse color, highlight state, normal vector, shading parameterization, specular color, specular reflection exponent, standard surface parameterization, surface shader, surface tangent, transparency color.

attribute set: A collection of zero or more different attribute types and their associated data.

axis: See coordinate axis.

back clipping plane: See yon plane.

backface culling: Ignoring backfacing polygons during rendering. Backface culling can reduce the amount of time required to render a model. Compare hidden surface removal.

backfacing polygon: Any polygon in a surface whose surface normal points away from a view's camera.

backfacing style: A type of QuickDraw 3D object that determines whether or not a renderer draws shapes that face away from a scene's camera.

badge: A visual element in a frame of a 3D model displayed by the 3D Viewer that distinguishes the frame from a static image.

base class: See parent class.

big-endian: Data formatting in which each field is addressed by referring to its most significant byte. See also little-endian.

binary file: A file object whose data is a stream of raw binary data, the type of which is indicated by object type codes. Compare text file.

bitmap: A two-dimensional array of values, each of which represents the state of one pixel. Defined by the TQ3Bitmap data type. See also pixmap, storage pixmap.

bounding box: A rectangular box, aligned with the coordinate axes, that completely encloses an object. Defined by the TQ3BoundingBox data type.

bounding loop: A section of code in which all bounding box or sphere calculation takes place. A bounding loop begins with a call to the Q3View_StartBoundingBox (or Q3View_StartBoundingSphere) routine and should end when a call to Q3View_EndBoundingBox (or Q3View_EndBoundingSphere) returns some value other than kQ3ViewStatusRetraverse. A bounding loop is a type of submitting loop. See also picking loop, rendering loop, writing loop.

bounding sphere: A sphere that completely encloses an object. Defined by the TQ3BoundingSphere data type.

bounding volume: A bounding box or a bounding sphere.

bounds: See bounding volume.

box: A three-dimensional object defined by an origin (that is, a corner of the box) and three vectors that define the edges of the box meeting in that corner. Defined by the TQ3BoxData data type.

B-spline curve: A curve that passes smoothly through a series of control points.

B-spline polynomial: A parametric equation that defines a B-spline curve.

B-spline surface: A surface that passes smoothly through a series of control points.

camera: See camera object.camera angle button A button in the controller strip of a viewer object that, when held down, causes a pop-up menu to appear listing the available cameras. Compare distance button, move button, rotate button, zoom button.

camera coordinate system: The coordinate system defined by a view's camera. Also called the view coordinate system. Compare local coordinate system, window coordinate system, world coordinate system.

camera data structure: A data structure that contains basic information about a camera. Defined by the TQ3CameraData data type.

camera location: The position, in the world coordinate system, of a camera. Also called the eye point. Compare camera placement structure.

camera object: A type of QuickDraw 3D object that you can use to define a point of view, a range of visible objects, and a method of projection for generating a two-dimensional image of those objects from a three-dimensional model. A camera object is an instance of the TQ3CameraObject

class: See also aspect ratio camera, orthographic camera, view plane camera.

camera placement: The location, orientation, and direction of a camera. See also camera placement structure.

camera placement structure: A data structure that contains information about the placement (that is, the location, orientation, and direction) of a camera. Defined by the TQ3CameraPlacement data type.

camera range: The spatial extent that lies between the hither and yon planes of a camera. See also camera range structure.

camera range structure: A data structure that contains information about the hither and yon clipping planes for a camera. Defined by the TQ3CameraRange data type.

camera space: See camera coordinate system.

camera vector: See viewing direction.

camera view port: The rectangular portion of a view plane that is to be mapped onto the area specified by the current draw context.

camera view port structure: A data structure that contains information about the view port of a camera. Defined by the TQ3CameraViewPort data type.

cap: A plane figure having the shape of an oval that closes the base of a cone or one end of a cylinder.

Cartesian coordinate system: A system of assigning planar positions to objects in terms of their distances from two mutually perpendicular lines (the x and y coordinate axes), or of assigning spatial positions to objects in terms of their distances from three mutually perpendicular lines (the x, y, and z coordinate axes). Compare polar coordinate system, spherical coordinate system.

center of projection: The point at which the projectors in a perspective projection intersect.

child class: A class that is immediately below some other class (the parent class) in the QuickDraw 3D class hierarchy. For example, the light class is a child class of the shape class. A child class inherits all of the methods of its parent. Also called a subclass.

clamp: For a shader effect, to replicate the boundaries of the effect across the portion of the mapped area that lies outside the valid range 0.0 to 1.0. Compare wrap.

class: See QuickDraw 3D class.

class type: See object type.

clipping plane: Either of the two planes that limit the part of a model that is rendered. See also hither plane, yon plane.

closed: Not open. Compare open.

color space: A specification of a particular method for representing colors. Compare RGB color space.

complement: The set of points that lie outside a given solid object. The complement of the object A is represented by the function *A. Compare intersection, union.

component: See mesh component.

concave polygon: A polygon with at least one interior angle greater than 180*. Compare convex polygon.

conic: See conic section.

conic section: Any two-dimensional curve that is formed by the intersection of a plane with a right circular cone. The most common conic sections are ellipses, circles, parabolas, and hyperbolas. Compare nonuniform rational B-spline (NURB).

connected: Said of a pair of mesh vertices if an unbroken path of edges exists linking one vertex to the other. Compare mesh component.

constant shading: A method of shading surfaces in which the incident light color and intensity are calculated for a single point on a polygon and then applied to the entire polygon. Compare Gouraud shading, Phong shading.

constant subdivision: A method of subdividing smooth curves and surfaces. In this method, the renderer subdivides a curve into some given number of polyline segments and a surface into a certain-sized mesh of polygons. Compare screen-space subdivision, world-space subdivision.

constructive solid geometry (CSG): A way of modeling solid objects constructed from the union, intersection, or difference of other solid objects.

container face: The face in a mesh that contains a particular contour.

contour: A list of vertices. In a mesh, a contour specifies a hole in a face. Compare container face.

controller: See controller object.

controller channel: Any piece of information sent from an application to an input device. Compare controller value.

controller data structure: A data structure that contains information about a controller. Defined by the TQ3ControllerData data type.controller object A QuickDraw 3D object that represents a 3D pointing device. A controller object is an instance of the TQ3ControllerObject class. See also tracker object.

controller state: See controller state object.

controller state object: A QuickDraw 3D object that represents the current channels and other settings of a controller. A controller state object is an instance of the TQ3ControllerStateObject class.

controller strip: A rectangular area at the bottom of a viewer object that contains one or more controls (usually buttons). Compare camera angle button, distance button, move button, rotate button, zoom button.

controller value: Any piece of information sent from an input device to an application. Compare controller channel.

control point: A geometric point used to control the curvature of a curve or surface. Compare knot.

convex polygon: A polygon whose interior angles are all less than or equal to 180*. Compare concave polygon.

coordinate axis: A line in a plane or in space that helps to define the position of geometric objects. See also x axis, y axis, z axis.

coordinates: (1) See coordinate system. (2) See tracker coordinates.

coordinate space: See coordinate system.

coordinate system: Any system of assigning planar or spatial positions to objects. Compare Cartesian coordinate system, polar coordinate system, spherical coordinate system.

corner: See mesh corner.

cross product: The vector that is perpendicular to two given vectors and whose magnitude is the product of the magnitudes of those two vectors multiplied by the sine of the angle between them. The cross product of the vectors u and v is denoted u * v. Compare dot product.

CSG: See constructive solid geometry.

CSG equation: A value that encodes which CSG operations are to be performed on a model's CSG objects.

CSG object ID: A number, attached to an object as an attribute, that identifies an object for CSG operations.

C standard I/O library: See standard I/O library.

C string object: A QuickDraw 3D object that contains a standard C string (that is, an array of characters terminated by the null character).

culling: See backface culling.

custom: Supplied by your application, not by QuickDraw 3D.

custom surface parameterization: A parameterization of a surface supplied by your application. Compare natural surface parameterization, standard surface parameterization.database file A metafile in which all shared objects contained in the file are listed in the file's table of contents. See also

normal file, stream file.

database mode: The mode in which a database file is opened. See also normal mode, stream mode.

default surface parameterization: See standard surface parameterization.

degrees of freedom (DOF): The number of dimensions that are independently specifiable by a particular input device. For example, a slider or a dial has one degree of freedom; a mouse typically has two degrees of freedom.

device coordinate system: See window coordinate system.

device space: See window coordinate system.

differential scaling: A scale transform in which the scaling values d x , d y , and d z are not all identical. Compare uniform scaling.

diffuse coefficient: A measure of an object's level of diffuse reflection.

diffuse color: The color of the light of a diffuse reflection.

diffuse reflection: The type of reflection that is characteristic of light reflected from a dull, nonshiny surface. Also called Lambertian reflection. Compare specular reflection.

diffuse reflection coefficient: See diffuse coefficient.

directional light: A light source that emits parallel rays of light in a specific direction.

directional light data structure: A data structure that contains information about a directional light. Defined by the TQ3DirectionalLightData data type.

dirty state: A Boolean value that indicates whether an unknown object is preserved in its original state (kQ3False) or should be updated when written back to the file object from which it was originally read (kQ3True).

display group: A type of group that contains drawable objects. See also ordered display group, proxy display group.

distance button: A button in the controller strip of a viewer object that, when clicked, puts the cursor into trucking mode. Subsequent dragging up or down in the picture area causes the object to move farther away or closer. Compare camera angle button, move button, rotate button, zoom button.

DOF: See degrees of freedom.

dot product: The floating-point number obtained by multiplying corresponding scalar components of two vectors and then adding together all those products. The dot product of the vectors u and v is denoted u * v. Compare cross product.

drawable flag: A group state flag that determines whether a group is to be drawn when it is passed to a view for rendering or picking. Compare inline flag, picking flag.

draw context: See draw context object.

draw context coordinate system: See window coordinate system.draw context data structure A data structure that contains basic information about a draw context. Defined by the TQ3DrawContextData data type.

draw context object: A QuickDraw 3D object that maintains information specific to a particular window system or drawing destination. A draw context object is an instance of the TQ3DrawContextObject class. See also Macintosh draw context, pixmap draw context.

draw context space: See window coordinate system.

drawing destination: The window or other output destination for a rendered model.

edge: A straight line that connects two vertices. See also mesh edge.

edge tolerance: A measure of how close a point must be to a line for a hit to occur. Compare vertex tolerance.

element: See element object.

element object: Any QuickDraw 3D object that can be part of a set. An element object is an instance of the TQ3ElementObject class.

elevation projection: A type of orthographic projection in which the view plane is perpendicular to one of the principal axes of the object being projected. See also front elevation projection, side elevation projection, top elevation projection. Compare isometric projection.

error: A nonrecoverable condition that causes the currently executing QuickDraw 3D routine to fail. See also fatal error, notice, warning.

Error Manager: The part of QuickDraw 3D that you can use to handle any errors or other exceptional conditions that occur during the execution of QuickDraw 3D routines.

even-odd rule: A method of determining which planar areas defined by an arbitrary list of vertices are inside a polygon. To determine whether a particular bounded region is inside or outside a polygon, shoot a ray from any point in that region in any direction that does not intersect any vertex. If the ray cuts an odd number of edges, that region is inside the polygon; if the ray cuts an even number of edges, that region is outside the polygon.

eye point: See camera location.

face: A closed figure that forms part of the surface of an object. Usually faces are planar, but mesh faces do not need to be planar. See also mesh face.

face attribute: An attribute that defines a characteristic of a polygonal object.

face index: In a mesh, a unique integer (between 0 the total number of faces in the mesh minus 1) associated with a face. Compare vertex index.

facet: See face.

faceted shading: See constant shading.fall-off value A measure of the attenuation of a spot light's intensity from the edge of the hot angle to the edge of the outer angle. See also hot angle, outer angle.

far plane: See yon plane.

fatal error: An error whose effects persist even after the call that caused it has ended.

field of view: The horizontal or vertical angular expanse visible through a camera. See also aspect ratio camera.

file: See file object.

file idle method: A callback routine that is called during lengthy file operations. Compare view idle method.

file mode: A set of flags that determine which operations can be performed on a piece of storage.

file mode flag: A value used to construct a file mode.

file object: A type of QuickDraw 3D object that you can use to access disk- or memory-based data stored in a container. A file object is an instance of the TQ3FileObject class. See also storage object.

file status value: A value returned by the Q3File_EndWrite function that indicates whether QuickDraw 3D has finished writing the model to a file object.

fill style: A type of QuickDraw 3D object that determines whether an object is drawn as a solid filled object or is decomposed into its components (namely, into a set of edges or points).

flat shading: See constant shading.

frame: See viewer pane.

front clipping plane: See hither plane.

front elevation projection: A type of elevation projection in which the view plane is parallel to the front of the object being projected.

frustum: A solid figure created by cutting a cone or pyramid with two parallel planes. Compare view frustum.

frustum coordinate system: See camera coordinate system.

frustum space: See camera coordinate system.

frustum-to-window transform: A transform that defines the relationship between a frustum coordinate system and a window coordinate system.

Compare local-to-world transform, world-to-frustum transform.

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QuickDraw 3D: Glossary of Terms (G to O)

This article is a glossary of terms for QuickDraw 3D.
This article has been archived and is no longer updated by Apple.
general polygon: A closed plane figure defined by one or more lists of vertices (that is, defined by one or more contours). Defined by the TQ3GeneralPolygonData data type. See also simple polygon.

generic renderer: A renderer that you can use solely to collect state information. The generic renderer does not draw any image.

geometric object: A type of QuickDraw 3D object that describes a particular kind of drawable shape, such as a triangle or a box. A geometric object is an instance of the TQ3GeometryObject class. See also box, general polygon, line, marker, mesh, NURB curve, NURB patch, point, polygon, triangle, trigrid.geometric primitive Any of the basic geometric objects defined by QuickDraw 3D.

geometry: See geometric object.

geometry attribute: An attribute that defines a characteristic of a nonpolygonal geometric object.

global coordinate system: See world coordinate system.

global space: See world coordinate system.

Gouraud shading: A method of shading surfaces in which the incident light color and intensity are calculated for each vertex of a polygon and then interpolated linearly across the entire polygon. Compare constant shading, Phong shading.

graphics accelerator: Any hardware device used by QuickDraw 3D to accelerate rendering.

group: See group object.

group object: A type of QuickDraw 3D object that you can use to collect objects together into hierarchical models. A group object is an instance of the TQ3GroupObject class.

group position: A pointer to a data structure maintained internally by QuickDraw 3D that indicates the position of a group element in the group.

group state flag: A value that indicates the state of some characteristic of a group.

group state value: A set of group state flags that determine how a group is traversed during rendering or picking, or during computation of its bounding box or sphere.

handle storage object: A storage object that represents a handle to a dynamically allocated block of RAM.

hidden line removal: The process of removing any lines in a model that are hidden by opaque surfaces of objects.

hidden surface removal: The process of removing any surfaces in a model that are hidden by opaque surfaces of objects. Compare backface culling.

hierarchy: See QuickDraw 3D class hierarchy.

highlight state: An attribute having data of type TQ3Boolean that determines whether a highlight style overrides the material attributes of an object (kQ3True) or not.

highlight style: A type of QuickDraw 3D object that determines the material attributes of a geometric object (or a group of geometric objects) that override the normal attributes of the object (or group of objects).

high-order bit: See most significant bit.

hit: An object in a model that is close enough to the pick geometry. See also hit list.

hit data structure: A data structure that contains information about a hit. Defined by the TQ3HitData data type.hither plane The clipping plane closest to the camera.

hit information mask: A value that indicates the type of information you want returned for the items in a hit list.

hit list: A list of all objects in a model that are close to the pick geometry.

hit list sorting value: A value that determines the kind of sorting that is to be done on a hit list.

hit path structure: A data structure that contains information about the path through a model hierarchy to a specific picked object. Defined by the TQ3HitPath data type.

hit testing: See picking.

hot angle: The half-angle (specified in radians) from the center of a spot light's cone of light within which the light remains at constant full intensity. See also fall-off value, outer angle.

identity matrix: Any n * n square matrix with elements a ij such that a ij = 1 if i = j and a ij = 0 otherwise. Compare inverse.

idle method: See file idle method, view idle method.

illumination shader: A shader that determines the effects of the view's group of lights on the objects in a model. Compare Lambert illumination shader, Phong illumination shader.

image: The two-dimensional product of rendering.

image plane structure: A data structure that contains information about an image plane. Defined by the TQ3ImagePlane data type.

immediate mode: A mode of defining and rendering a model in which the application maintains the only copy of the model data. See also retained mode.

immediate object: An object that is rendered in immediate mode. See also retained object.

infinite light: See directional light.

information group: A group that contains one or more strings (and no other types of QuickDraw 3D objects).

inherit: To have the data and methods of a parent class apply to a child class. Compare override.

inheritance: The property of the QuickDraw 3D class hierarchy whereby a child class inherits the data and methods of its parent class.

initial line: See polar axis.

inline: A method of executing groups that does not push and pop the graphics state stack before and after it is executed.

inline flag: A group state flag that determines whether or not a group should be executed inline. Compare drawable flag, picking flag.

inner product: See dot product.

input/output (I/O): The parts of a computer system that transfer data to or from peripheral devices.instantiable class A class of which instances can be created. All leaf classes are instantiable, and many parent classes are instantiable as well. (For example, both the class TQ3AttributeSet and its parent class TQ3SetObject are instantiable.)

interacting: The process of selecting and manipulating objects in a model.

interactive renderer: A renderer that uses a fast and accurate algorithm for drawing solid, shaded surfaces. See also wireframe renderer.

interpolated shading: See Gouraud shading.

interpolation style: A type of QuickDraw 3D object that determines the method of interpolation a renderer uses when applying lighting or other shading effects to a surface.

intersection: The set of points that lie inside both of two given solid objects. The intersection of the objects A and B is represented by the function A * B. Compare complement, union.

inverse: For an n * n square matrix A with a nonzero determinant, the matrix B such that AB = BA =I, where I is the n * n identity matrix.

inverse matrix: See inverse.

I/O: See input/output.

I/O proxy display group: A display group that contains several representations of a single geometric object.

isometric projection: A type of orthographic projection in which the view plane is not perpendicular to any of theprincipal axes of the object being projected but makes equal angles with each of those axes. Compare elevation projection.

join point: See knot.

knot: A point on a curve that joins two segments of the curve.

knot vector: An array of numbers that defines a curve's knots.

Lambertian reflection: See diffuse reflection.

Lambert illumination: A method of calculating the illumination of a point on a surface based on diffuse reflection. Compare null illumination, Phong illumination.

Lambert illumination shader: An illumination shader that implements a Lambert illumination model. Compare null illumination shader, Phong illumination shader.

leaf class: A class that has no children.

leaf object: An instance of a leaf class.

leaf type: The object type of a leaf object.

least significant bit (LSB): The bit contributing the least value in a string of bits. Same as low-order bit. Compare most significant bit.

left-handed coordinate system: A coordinate system that obeys the left-hand rule. In a left-handed coordinate system, positive rotations of an axis are clockwise. Compare right-handed coordinate system.

left-hand rule: A method of determining the direction of the positive z axis (and thereby the front of a planar surface). According to the left-hand rule, if the thumb of the left hand points in the direction of the positive x axis and the index finger points in the direction of the positive y axis, then the middle finger points in the direction of the positive z axis. Compare right-hand rule.

light: See light object.

light attenuation: See attenuation.

light data structure: A data structure that contains basic information about a light. Defined by the TQ3LightData data type.

light fall-off: See fall-off value.

light group: A group that contains one or more lights (and no other types of QuickDraw 3D objects).

light object: A type of QuickDraw 3D object that you can use to illuminate the surfaces in a model. A light object is an instance of the TQ3LightObject class. See also ambient light, directional light, point light, spot light.

line: A straight segment in three-dimensional space defined by its two endpoints, with an optional set of attributes. Defined by the TQ3LineData data type.

line of projection: See projector.

little-endian: Data formatting in which each field is addressed by referring to its least significant byte. See also big-endian.

local coordinate system: The coordinate system in which an individual geometric objects is defined. Also called the object coordinate system or the modeling coordinatesystem. Compare camera coordinate system, window coordinate system, world coordinate system.

local space: See local coordinate system.

local-to-world transform: A transform that defines the relationship between an object's local coordinate system and the world coordinate system. Compare frustum-to-window transform, world-to-frustum transform.

low-order bit: See least significant bit.

LSB: See least significant bit.

luminance: The intensity of light in a color.

Macintosh draw context: A draw context that is associated with a Macintosh window.

Macintosh draw context data structure: A data structure that contains information about a Macintosh draw context. Defined by the TQ3MacDrawContextData data type.

Macintosh FSSpec storage object: A storage object that represents the data fork of a Macintosh file using a file system specification structure (of type FSSpec).

Macintosh storage object: A storage object that represents the data fork of a Macintosh file using a file reference number. Compare Macintosh FSSpec storage object.

mapping: The process of transforming one coordinate space into another.

marker: A two-dimensional object typically used to indicate the position of an object (or part of an object) in a window. Defined by the TQ3MarkerData data type.matrix A rectangular array of numbers. QuickDraw 3D defines 3-by-3 and 4-by-4 matrices using the TQ3Matrix3x3 and TQ3Matrix4x4 data types.

matrix transform: Any transform specified by an affine, invertible 4-by-4 matrix.

memory storage object: A storage object that represents a dynamically allocated block of RAM. Compare handle storage object.

mesh: A collection of vertices, faces, and edges that represent a topological polyhedron. Defined by the TQ3Mesh data type.

mesh component: A collection of connected vertices in a mesh. Defined by the TQ3MeshComponent data type.

mesh corner: A mesh face together with one of its vertices. You can associate a set of attributes with a mesh corner. The attributes in a corner override any existing attributes of the associated vertex.

mesh edge: A line that connects two mesh vertices. A mesh edge is part of one or more mesh faces. Defined by the TQ3MeshEdge data type.

mesh face: A closed figure that forms part of a mesh. Unlike the faces of other geometric objects, mesh faces do not need to be planar. Defined by the TQ3MeshFace data type.

mesh iterator structure: A data structure used by QuickDraw 3D to maintain information when iterating through parts of a mesh. Defined by the TQ3MeshIterator data type.

mesh part: See mesh part object.

mesh part object: A distinguishable part of a mesh. A mesh part object is an instance of the TQ3MeshPartObject class.

mesh vertex: A vertex (that is, a three-dimensional point) that is contained in a mesh. Defined by the TQ3MeshVertex data type.

metafile: A file format (that is, a description of the format of a kind of file). See also QuickDraw 3D Object Metafile.

metafile object: A basic unit contained in a file that conforms to the QuickDraw 3D Object Metafile.

metahandler: An application-defined function that QuickDraw 3D calls to build a method table for a custom object type. Compare attribute metahandler.

method: An item of data associated with a particular object class. The data is usually a function pointer or other information used by the object class.

metric pick: See metric pick object.

metric pick object: A pick object whose pick geometry has a pick origin.

model: A collection of synthetic three-dimensional geometric objects and groups of geometric objects. A model represents a prototype.

modeling: The process of creating a representation of real or abstract objects.

modeling coordinate system: See local coordinate system.

modeling space: See local coordinate system.most significant bit (MSB) The bit contributing the greatest value in a string of bits. Same as high-order bit. Compare least significant bit.

move button: A button in the controller strip of a viewer object that, when clicked, puts the cursor into move mode. Subsequent dragging on an object in the picture area causes the object to be moved to a new location. Compare camera angle button, distance button, rotate button, zoom button.

MSB: See most significant bit.

natural attribute: An attribute that can naturally be contained in a set of attributes of a specific type.

natural surface parameterization: A parameterization of a surface that can be derived directly from the definition of the surface. Compare custom surface parameterization, standard surface parameterization.

near plane: See hither plane.

nonuniform rational B-spline (NURB): A curve defined by nonuniform parametric ratios of B-spline polynomials. NURB curves can be used to define very complex curves and surfaces, as well as very common geometric objects (for instance, the conic sections). See also control point, knot, NURB curve, NURB patch.

normal: (a.) Perpendicular. (n.) A normal vector.

normal file: A metafile in which the specification of an object in the file never occurs more than once. In other words, afile object that contains a table of contents that lists all multiply-referenced objects in the file. See also normal file, stream file.

normalized vector: A vector whose length is 1.

normal mode: The mode in which a normal file is opened. See also database mode, stream mode.

normal vector: A vector that is normal (that is perpendicular) to a surface or planar object at a specific point.

notice: A condition that is less severe than a warning, and that will likely not cause problems. See also error, warning.

notify function: See tracker notify function.

null illumination: A method of calculating the illumination of a point on a surface that depends only on the diffuse color of the point. Compare Lambert illumination, Phong illumination.

null illumination shader: An illumination shader that implements a null illumination model. Compare Lambert illumination shader, Phong illumination shader.

NURB: See nonuniform rational B-spline.

NURB curve: A three-dimensional curve represented by a NURB equation. Defined by the TQ3NURBCurveData data type.

NURB patch: A three-dimensional surface represented by a NURB equation. Defined by the TQ3NURBPatchData data type.

object: (1) See QuickDraw 3D object. (2) See metafile object.object coordinate system See local coordinate system.

object space: See local coordinate system.

object type: The identifier of the class of which a QuickDraw 3D object is an instance. Also called the class type.

oblique projection: A type of parallel projection in which the view plane is not perpendicular to the viewing direction. Compare orthographic projection.

off-axis viewing: A method of perspective projection in which the center of the projected object on the view plane is not on the camera vector.

opaque: (1) For a data structure, not publicly defined. You must use QuickDraw 3D functions to get and set values in an opaque data structure. For an object, having data and methods that are not publicly defined. (2) For a geometric object, not allowing light to pass though.

open: Said of a storage object whenever its associated storage is in use*for example, when an application is reading data from a file object attached to the storage object.

order: For a NURB curve or patch, one more than the highest degree equation used to define the curve or patch. For example, the order of a

NURB curve defined by cubic polynomial equations is 4.

ordered display group: A display group in which the objects in the group are sorted by their type.

orientation style: A type of QuickDraw 3D object that determines which side of a planar surface is considered to be the "front" side.

origin: In Cartesian coordinates, the point (0, 0) or (0, 0, 0). The coordinate axes intersect at the origin.

original QuickDraw: See QuickDraw.

orthogonal: Perpendicular.

orthographic camera: A type of camera that uses orthographic projection.

orthographic camera data structure: A data structure that contains basic information about an orthographic camera. Defined by the TQ3OrthographicCameraData data type.

orthographic projection: A type of parallel projection in which the view plane is perpendicular to the viewing direction. Compare oblique projection. See also elevation projection, isometric projection.

outer angle: The half-angle (specified in radians) from the center of a spot light's cone to the edge of the cone. See also fall-off value, hot angle.

outer product: See cross product.

override: To define class data or methods that replace those of the parent class. Compare inherit.
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QuickDraw 3D: Glossary of Terms (T to Z)

This article is a glossary of terms for QuickDraw 3D.
This article has been archived and is no longer updated by Apple.
tangent: A line or plane that intersects a curve or surface at a single point. Compare surface tangent.

tessellate: To decompose a curve or surface into polygonal faces.

text file: A file object whose data is a stream of ASCII characters with meaningful labels for each type of object contained in the file. Compare binary file.

texture: See texture object.

texture mapping: A technique wherein a predefined image (the texture) is mapped onto the surface of an object in a model.

texture object: A type of QuickDraw 3D object used to perform texture mapping. Compare pixmap texture object.

texture parameterization: A parametric function that maps the unit square to a texture.

texture shader: A type of surface shader that applies textures to surfaces.

tolerance: See edge tolerance, vertex tolerance.

top elevation projection: A type of elevation projection in which the view plane is parallel to the top of the object being projected. Also called plan elevation projection.

tracker: See tracker object.

tracker coordinates: The current settings (that is, position and orientation) of a tracker.

tracker notify function: A function that is called whenever the coordinates of a tracker change by more than a specified amount.

tracker object: A QuickDraw 3D object that represents the position and orientation of a single element in your application's user interface. A tracker object is an instance of the TQ3TrackerObject class. See also controller object.

tracker serial number: A unique number that changes every time the coordinates of a tracker are updated by a controller.

tracker threshold: The amount by which a tracker's coordinates must change for the tracker notify function to be called.

transform: See transform object.

transform object: A type of QuickDraw 3D object that you can use to modify or transform the appearance or behavior of a QuickDraw 3D object. A transform object is an instance of the TQ3TransformObject class.

translate: To reposition an object by adding values d_x, d_y, and d_z to the x, y, and z coordinates of each of its points.

translate transform: A type of transform that translates an object along the x, y, and z axes by specified values.

transparency: The ability of an object to allow light to pass through it.

transparency color: A color of type TQ3ColorRGB that determines the amount of light that can pass through a surface. The color (0, 0, 0) indicates complete transparency, and (1, 1, 1) indicates complete opacity.

transpose: (n.) For an $m \times n$ matrix with elements a_{ij}, the $n \times m$ matrix with elements b_{ij} such that $b_{ij} = a_{ji}$. (v.) To form the transpose of a given matrix.

transpose matrix: See transpose.

triangle: A closed plane figure defined by three edges. Defined by the TQ3TriangleData data type.

trigrid: A grid composed of triangular facets. Defined by the TQ3TriGridData data type.

type: See object type.

under-color shader: A shader associated with some other shader that supplies an under color for surfaces shaded by that shader.

uniform scaling: A scale transform in which the scaling values d x , d y , and d z are all identical. Compare differential scaling.

union: The set of points that lie inside either of two given solid objects. The union of the objects A and B is represented by the function A ∪ B. Compare complement, intersection.

unit cube: A box whose three defining edges have a length of 1.

unit vector: See normalized vector.

UNIX path name storage object: A storage object that represents a file using a path name.

UNIX storage object: A storage object that represents a file using a structure of type FILE (defined in the standard I/O library). Compare UNIX path name storage object.

unknown object: A type of QuickDraw 3D object that is created when QuickDraw 3D encounters data it doesn't recognize while reading a metafile. An unknown object is an instance of the TQ3UnknownObject class.up vector A vector that indicates which direction is up. A camera has an up vector that defines its orientation. Compare camera placement.

user interface view: See user interface view object.

user interface view notify function: A function that is called whenever one of your user interface views needs to be redrawn.

user interface view object: A type of view that allows the user to interact (using interface elements such as a 3D cursor or widgets) with the 3D objects displayed in the view. A user interface view object is an instance of the TQ3UIViewObject class.

valid range: The range of u and v parametric values for a standard surface parameterization. For QuickDraw 3D, the valid range is the closed interval [0.0, 1.0].

vector: A pair or triple of floating-point numbers that obeys the laws of vector arithmetic. Defined by the TQ3Vector2D and TQ3Vector3D data types. Compare cross product, dot product, normal.

vector-normal interpolation shading: See Phong shading.

vector product: See cross product.

vertex: A dimensionless position in three- or four-dimensional space at which two or more lines (for instance, edges) intersect, with an optional set of vertex attributes. Defined by the TQ3Vertex3D and TQ3Vertex4D data types. See also mesh vertex.

vertex attribute: An attribute that defines a characteristic of a vertex of a polygonal object.

vertex index: In a mesh, a unique integer (between 0 the total number of vertices in the mesh minus 1) associated with a vertex. Compare face index.

vertex tolerance: A measure of how close two points must be for a hit to occur. Compare edge tolerance.

view: See view object.

view attribute: An attribute that defines a characteristic of a view object.

view-based shader: A shader that operates independently of the material properties or orientation of objects (in other words, that operates solely on aspects of the view, such as the camera position). Compare surface-based shader.

viewing box: The rectangular box defined by an orthographic camera and the hither and yon clipping planes. Compare viewing frustum.

view coordinate system: See camera coordinate system.

viewer: See viewer object.

Viewer: See 3D Viewer.

viewer badge: See badge.

viewer controller strip: See controller strip.

viewer flags: A set of bit flags that specify information about the appearance and behavior of a viewer object.

viewer frame: See viewer pane.viewer object An instance of the 3D Viewer. A viewer object is of type ViewerObject.

viewer pane: The portion of a window occupied by a viewer object. The pane includes the picture area and the controller strip.

viewer state flags: A set of bit flags returned by the Q3ViewerGetState
function that specify information about the current state of a viewer object.

viewing frustum: The rectangular frustum defined by a perspective camera and the hither and yon clipping planes. Compare viewing box.

view hints object: An object in a metafile that gives hints about how to render a scene.

view idle method: A callback routine that is called during lengthy rendering operations. Compare file idle method.

view information structure: A data structure that contains information about a view. Defined by the TQ3ViewInfo data type.

viewing direction: The direction of a view's camera. Also called the camera vector or the viewing vector.

viewing vector: See viewing direction.

view mapping matrix: A matrix maintained by QuickDraw 3D that transforms the viewing frustum into a standard rectangular solid. The world-to-frustum transform is the product of the transforms specified by the view orientation matrix and the view mapping matrix. Compare view orientation matrix.

view object: A type of QuickDraw 3D object used to collect state information that controls the appearance and position of objects at the time of rendering. A view object is an instance of the TQ3ViewObject class.

view orientation matrix: A matrix maintained by QuickDraw 3D that rotates and translates a view's camera so that it is pointing down the negative z axis. The world-to-frustum transform is the product of the transforms specified by the view orientation matrix and the view mapping matrix. Compare view mapping matrix.

view plane: The plane onto which a model is projected. Also called the projection plane.

view plane camera: A type of perspective camera defined in terms of an arbitrary view plane.

view plane camera data structure: A data structure that contains basic information about a view plane camera. Defined by the TQ3ViewPlaneCameraData data type.

view plane coordinate system: The two-dimensional coordinate system whose origin is the point at which the viewing direction intersects the view plane and whose positive y axis is parallel to the camera's up vector.

view port: See camera view port.

view space: See camera coordinate system.

view status value: A value returned by the Q3View_EndRendering function that indicates whether the renderer has finished processing the model.view volume The part of world space that is projected onto the view plane during rendering. See also view box, view frustum.

virtual: See synthetic.

virtual camera: See camera object.

visual line determination: See hidden line removal.

visual surface determination: See hidden surface removal.

warning: A condition that, though less severe than an error, might cause an error if your application continues execution without handling the warning. See also error, notice.

widget: An element of an application's 3D user interface.

window coordinate system: The coordinate system defined by a window. Also called the screen coordinate system or the draw context coordinate system. Compare camera coordinate system, local coordinate system, world coordinate system.

window picking: See screen-space picking.

window-point pick data structure: A data structure that contains information about a window-point pick object. Defined by the TQ3WindowPointPickData data type.

window-point pick object: A pick object that tests for closeness between a point in a window and the screen projections of the objects in the model.

window-rectangle pick data structure: A data structure that contains information about a window-rectangle pick object. Defined by the TQ3WindowRectPickData data type.

window-rectangle pick object: A pick object that tests for closeness between a rectangle in a window and the screen projections of the objects in the model.

window space: See window coordinate system.

wireframe renderer: A renderer that creates line drawings of models. See also interactive renderer.

world coordinate system: The coordinate system that defines the locations of all geometric objects as they exist at rendering or picking time, with all applicable transforms acting on them. Also called the global coordinate system or the application coordinate system. Compare camera coordinate system, local coordinate system, window coordinate system.

world space: See world coordinate system.

world-space subdivision: A method of subdividing smooth curves and surfaces according to which the renderer subdivides a curve (or surface) into polylines (or polygons) whose sides have a world-space length that is at most as large as a given value. Compare constant subdivision, screen-space subdivision.

world-to-frustum transform: A transform that defines the relationship between the world coordinate system and the frustum coordinate system. Compare frustum-to- window transform, local-to-world transform.

wrap: For a shader effect, to replicate the entire effect across the mapped area. Compare clamp.

writing loop: A section of code in which all writing takes place. A writing loop begins with a call to the Q3View_StartWriting routine and should end when a call to Q3View_EndWriting returns some value other than kQ3ViewStatusRetraverse. A writing loop is a type of submitting loop. See also bounding loop, picking loop, rendering loop.

x axis: In Cartesian coordinates, the horizontal axis.

y axis: In Cartesian coordinates, the vertical axis.

yon plane: The clipping plane farthest away from the camera.

z axis: In Cartesian coordinates, the axis that represents depth.

zoom button: A button in the controller strip of a viewer object that, when clicked, puts the cursor into zooming mode. Subsequent dragging up or down in the picture area causes the camera's field of view to increase or decrease. Compare camera angle button, distance button, move button, rotate button.

Published Date: Feb 19, 2012

Macintosh Performa: Kidsoft Extension and Type 11 (11/95)

When I start up my Power Macintosh 5200/75 LC computer, I get the message, "Volume 3 Issue 4, Type 11." I can only start up my computer if I disable extensions. What is causing this?

This article has been archived and is no longer updated by Apple.

Within the Extensions folder in your System Folder, check to see if you have a file called, "Volume 3 Issue 4". If so, remove it because it is likely the cause of the error. This file appears to be installed from the KidSoft CD, and you should contact KidSoft for additional assistance.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.

Support Information Services
Published Date: Feb 19, 2012

Newton 2.0 OS: No Meetings Shorter than 30 Minutes

I am using the Newton 2.0 OS, and I having trouble making a meeting in the Dates area less than 30 minutes. How can I do this?
This article has been archived and is no longer updated by Apple.
When creating a meeting (by drawing a line over the desired meeting time), the graphic user interface displays meetings as being 30 minutes or longer. If you edit the meeting, in the meeting slip, and specify the meeting is less than 30 minutes, when you close the meeting slip, the meeting time goes back to the minimum 30 minute meeting. This time limitation is in the OS, and there is no supported method of changing this restriction. A 30 minute meeting ensures that the vertical bar is of sufficient size, and leaves room for the meeting icon and the meeting title.
Published Date: Feb 19, 2012

Newton 2.0 OS: Make Backdrop Location

This article describes the location of the built-in Make Backdrop option in the Newton 2.0 OS (Operating System).
This article has been archived and is no longer updated by Apple.
The Backdrop application is the one which appears on the MessagePad screen when you power on your Newton PDA (Personal Digital Assistant).

In the Newton 2.0 OS, the Make Backdrop option is located in the Memory Info area, in the Extras drawer. You can get to the Memory Info area by tapping on the 'i' in the lower right corner of the MessagePad screen.

Apple chose to put the backdrop option in the memory area instead of a setup area since users may want to change the built-in make backdrop over a period of time, not just during the setup.
Published Date: Feb 19, 2012

Color LaserWriter 12/600 PS: Changing Trays With PostScript

This article explains how to use PostScript commands to print from a specific paper tray on the Color LaserWriter 12/600 PS printer either by default, or on a per-job basis.
This article has been archived and is no longer updated by Apple.
In order the change the paper tray for one job, you can use the following PostScript code fragments. This was taken from the Color LaserWriter 12/600 PS PPD. You need to insert the code at the beginning of your print job.

CAUTION: If you choose to use the PostScript code provided in this article, you assume all risks involved in making these changes. PostScript code, if not entered correctly, can place the LaserWriter into a condition requiring service.

250 Page Tray

```
%==========================================================
% Begin PostScript code
%
 currentpagedevice /InputAttributes get 0 get
 dup null eq
 { pop }
 { dup length 1 add dict copy
   dup /InputAttributes
   1 dict dup /Priority [0 1 2] put
   put setpagedevice
 } ifelse
%
% End PostScript code
%==========================================================
```

Multipurpose Tray

```
%==========================================================
% Begin PostScript code
%
 currentpagedevice /InputAttributes get 1 get
 dup null eq
 { pop }
 { dup length 1 add dict copy
   dup /InputAttributes
   1 dict dup /Priority [1 0 2] put
   put setpagedevice
 } ifelse
%
% End PostScript code
%==========================================================
```

Optional Tray

```
%==========================================================
% Begin PostScript code
%
 currentpagedevice /InputAttributes get 2 get
 dup null eq
 { pop }
 { dup length 1 add dict copy
   dup /InputAttributes
   1 dict dup /Priority [2 0 1] put
   put setpagedevice
 } ifelse
%
% End PostScript code
%==========================================================
```

Changing Default Tray

If you wish to change the default paper tray, this is PostScript Level 1 code:

```
%=========================================================
% Begin PostScript Code
%
serverdict begin 0 exitserver
statusdict begin n setdefaultpapertray end
%
% end PostScript Code
%=========================================================
```

Replace "n" before "setdefaultpapertray" based on the following table:

0 (StandardCassette)
1 (Multipurpose)
2 (OptionalCassette)

This changes the default paper tray permanently, or until you use this PostScript code to change the default tray again.

This is the equivalent PostScript Level 2 code:

```
%=========================================================
% Begin PostScript Code
%
serverdict begin 0 exitserver
1 dict dup /InputAttributes 1 dict dup /Priority [2 1 0] put put setpagedevice
%
% End PostScript Code
%=========================================================
```

This sets the paper tray priority to:
1st Priority - Cassette (500 Sheets) - designated by the "2" in the array above.
2nd Priority - Multipurpose Tray - designated by the "1" in the array above.
3rd Priority - Cassette (250 Sheets) - designated by the "0" in the array above.

You can change the paper tray priority order by changing the values in "/Priority [2 1 0]". For example, /Priority [0 1 2] makes the 250 sheet cassette first priority, then the Multipurpose tray next, then the 500 sheet cassette.
Published Date: Feb 19, 2012

PowerTalk to MS Mail Gateway & MS Mail on Novell Server (11/95)

We are trying to setup the Microsoft (MS) Mail Gateway 1.6 for use with PowerTalk 1.1. Our clients are Power Macintosh 7100/80 computers, the MS Mail Server is running on a Novell 4.1 Server.

The users can see the MS Mail Server in the chooser, but they cannot see the mail server in the keychain. Are there versions of PowerTalk that are not compatible with this setup, or are there problems with the MS Post Office running on a Novell 4.1 Server?

This article has been archived and is no longer updated by Apple.

Your issue is in running the MS Mail Server on a Novell 4.1 Server. The MS Mail to PowerTalk gateway only connects to an MS Mail Server running on a Macintosh.

Support Information Services
Published Date: Feb 19, 2012

System 7.5.x: Documents "Save to" Preferences (11/95)

I have the General Controls control panel set to save in the "Last folder used in the application", but it is not doing it. Where does this setting get stored? What do the three choices mean?

This article has been archived and is no longer updated by Apple.

The Documents section of the System 7.5.x General Controls control panel sets which folder will be offered as the default location to be saved to when you save a document. There are three options to choose from:

1) The choice "Folder which contains the application" saves your document in the same folder which the application resides.

2) "Last folder used in the application" refers to the last folder to which the current application saved a document. Information for each application you use is stored in the General Controls Prefs file in the Preferences Folder of your System Folder. If this file is corrupted, the computer may revert to the last folder saved to by some other application. You can resolve this by dragging the General Controls Prefs file to the trash but you will loose the preferred folder settings for all your applications. This file will be recreated and updated as you save files in your applications again.

3) The last choice, "Documents folder" saves all documents to a folder called "Documents" that is created on your desktop. You can move the Documents folder and the General Controls control panel will locate it. If there is no Documents folder when you save a document, one is created on your desktop.

Support Information Services
Published Date: Feb 19, 2012

ColorSync: Profile Keeps Resetting to 13" RGB

The System Profile in the ColorSync System Profile control panel keeps reverting back to Apple 13" RGB Standard.
This article has been archived and is no longer updated by Apple.
The System Profile selection is stored in the ColorSync extension. Drag the ColorSync extension to the Trash and reinstall from backup system software or display software installer. Reselect your display type in the ColorSync System Profile control panel and the setting will now be saved correctly.
Published Date: Feb 19, 2012

Apple Business Education Bundle: Where Are the Templates? 11/95

According to the "Computing with Clarisworks" textbook that comes with the Apple Business Education Bundle, the bundle is supposed to come with a set of curriculum templates students use when going through that textbook. However, I cannot find where the Business Education Bundle installer CD places these templates. Where are they?

This article has been archived and is no longer updated by Apple.

The curriculum templates are not installed onto the hard drive by the Business Education Bundle installer. Apple released an update floppy disk that installs three missing folders that the Business Education Bundle installer fails to install. During the week of October 30, 1995, Apple sent all Business Education customers (1 diskette per location) an update diskette entitled "Business Education Bundle Update Diskette," along with a letter explaining this issue. By the end of January 1996, you should receive the update diskette and letter.

You can install the folders included with the update disk by following these steps:

Step 1

Turn on your computer and insert the floppy disk.

Step 2

Double-click the disk icon when it appears on your desktop.

Step 3

Click and hold on one of the folders and drag it to your hard drive icon.

Step 4

Release the mouse button.

Step 5

The folder will now appear on your hard drive.

Step 6

Repeat steps 3-5 for the two remaining folders.

If you have not received the update floppy, the templates can still be accessed directly from the CD-ROM disc by using the following procedure:

Step 1

Launch Clarisworks.

Step 2

Insert the Business Education Bundle CD-ROM disc into the CD-ROM drive.

Step 3

Choose the Open command from the File menu.

Step 4

Click the "Desktop" button in the open dialog box. Double-click on the Business Education Bundle CD.

Step 5

Open the Clarisworks Templates folder. Scroll to locate the correct chapter/lesson and double-click the template the textbook is referring to.

TA34742_Apple_Business_Education_Bundle_Where_Are_the_Templates__(TIL18958).pdf

Published Date: Feb 19, 2012

Macintosh Guide: How to Access It (11/95)

I was told to use Macintosh Guide to learn how to use my computer, but I cannot find it. What should I do?

This article has been archived and is no longer updated by Apple.

Macintosh Guide is a System 7.5.x Apple Guide help file which is accessed through the Guide menu (the question mark in upper right hand corner of your screen) while you are in the Finder. The Finder is the operating environment which shows your desktop icons, such as your Trash can. The Macintosh Guide is not displayed as an option if you are currently in another application. If the application developer included it, you would find a Guide file for that application in place of the Macintosh Guide.

You can determine whether the Finder is the current application by clicking on the Application menu (to the right of the question mark in the menu bar). The currently-running application will have a check-mark next to it. If Finder does not have a check-mark next to it, drag down to it, and release the mouse. You should then be able to click on the Help menu and see Macintosh Guide.

If Macintosh Guide is not an option in the Guide Menu, it may have been disabled. For Macintosh Guide to be an option, these two files must be present in the Extensions folder of your System Folder:

* Apple Guide
* Macintosh Guide

If one or both of these files are missing from this folder, Macintosh Guide will not be available. You will need to use the Custom Install feature of your backup disks or system software CD to re-install the Utility files.

You must also make sure that Apple Guide is not disabled in the Extensions Manager. Use the following steps to verify this:

Step 1

Choose Control Panels from your Apple Menu.

Step 2

Open the Extensions Manager control panel.

Step 3

See if Apple Guide is listed under the "Extensions" list.

If it is, make sure there is a check-mark next to the file, then close the Extensions Manager and restart your computer.

Once you have Macintosh Guide installed, you can choose it from your Help menu and use the Look For command to search for topics of interest.

Support Information Services

Published Date: Feb 19, 2012

ImageWriter I Problem/Cure: Single Sheet Paper Skews

This article has been archived and is no longer updated by Apple.

PROBLEM DESCRIPTION: The ImageWriter is unable to feed a single sheet of paper through without the paper slipping to one side.

CAUSE: Lightly pulling on the "slipped" side of the paper reveals that there is not much friction holding the paper positioned between the platen and the rollers.

CURE: Remove the the platen using the procedures in the Technical Procedures manual. Lightly rub the surface of the platen with fine steel wool to lightly roughen the surface and increase the friction between the platen, paper and rollers.

CAUTION: To prevent shorts from occurring on the logic board, be sure to thoroughly brush "all" steel wool particles off of the platen before reinstalling it.

If the above cure doesn't fix the problem, search on GTS and the product's name to obtain a general troubleshooting procedure.

Published Date: Feb 19, 2012

LaserWriter Pro 810: SCO UNIX 3.2 Error Code 2

I have installed the LaserWriter Pro 810 software on a computer using SCO UNIX 3.2 version 2, and I keep getting an error message sent to me from the root when I try to print PostScript. Why?
This article has been archived and is no longer updated by Apple.
The error message you are getting:

"Your request <print job name> destined for <printer name> encountered an error while printing on printer <printer name>. Printing stopped with an exit code of 2." (Error code 2 is file not found.)

Solution
==========

Step 1

Replace the /etc/printcap file with an original copy

Step 2

Reinstall the LaserWriter 810 software to a directory called /usr/apple

Step 3

Rerun the software installation (enstall -b)

Running from the hard wired /usr/apple location appears to make the correct printcap entries, so no errors are reported.
Published Date: Feb 19, 2012

System 7.5.2: ImageWriter LQ driver isn‘t included (5/96)

System 7.5.2 does not seem to include a driver for my LQ ImageWriter, or LQ AppleTalk ImageWriter printers. Where can I get a compatible driver for this computer?

This article has been archived and is no longer updated by Apple.

The following drivers are compatible with the corresponding printers and System 7.5.2. The following drivers are all available from Apple Online Support areas. System 7.5.2 also does not include an AppleTalk Imagewriter driver.

ImageWriter LQ

LQ ImageWriter 7.0.1 Serial
ImageWriter LQ GX 1.1.1 Serial
LQ AppleTalk ImageWriter 7.0.1 LocalTalk

ImageWriter

AppleTalk ImageWriter 7.0.1 LocalTalk

Article Change History:
08 May 1996 - Added AppleTalk ImageWriter driver to article.
Published Date: Feb 19, 2012

DOS Compatibility Card: Floppy Disk Read/Write Troubleshooting

This article discusses unreliable performance when copying files to a floppy disk in the PC environment of a Power Macintosh 6100 DOS Compatible computer.
This article has been archived and is no longer updated by Apple.
Keeping in mind that almost all floppy disk read or write issues in the PC environment of the Power Macintosh 6100 DOS Compatible computer are related to either RAM compression programs, or virus checking software. Try these troubleshooting steps:

1. Start the computer while pressing and holding the space bar to access the Extensions Manager control panel before extensions and control panels load. In the Sets pop-up menu choose System 7.5 Only. Now select the following additional extensions and control panels below by putting a check mark to the left of each:

   Find File Extension
   PC Clipboard
   PC Print Spooler
   PC Setup

   Close the Extensions Manager control panel and let the computer finish starting up. Insert a floppy disk and try to read or write from the PC environment. If you are now able to copy or format disks reliably, you may be experiencing an extension or control panel conflict. To determine which extension or control panel is in conflict, use the Extensions Manager control panel and enable the extensions one at a time until your computer exhibits the symptoms you are having. The last extension or control panel added is the conflicting item and should not be used. If this does not resolve the issue continue to the next step.

2. Reset the computers parameter random access memory (PRAM). To do this in System 7 or later, press and hold the command, option, P, and R keys while restarting the computer. Continue pressing these keys until you hear the startup chime a second time, then release the keys. Once the computer has finished its startup process, open the PC Setup control panel. You should receive a dialog indicating the PC software did not load properly, click OK, close the PC Setup control panel, and restart the computer. Insert a floppy disk and try to read or write from the PC environment. If this does not resolve the issue continue to the next step.

3. Create a new PC drive container, and install DOS onto it. Start the PC environment from the new container just created as the C: drive. Insert a floppy disk and try to read or write from the PC environment. If this resolves the issue, use this new container as your C: drive. For help on creating a new drive container, refer to Creating a Drive Container on page 32 of the "DOS Compatibility Card for Macintosh User's Guide." If this does not resolve the issue continue to the next step.

4. Perform a clean installation of the Mac OS software for the Macintosh environment. Also re-install the software from the DOS Compatibility Card installer disk for Macintosh. For assistance, see Installing Macintosh OS Software on page 31 of the "DOS Compatibility Card for Macintosh User's Guide."

Published Date: Feb 19, 2012

MacX 1.5 and Connect With XDMCP: Key Mapping Issue (11/95)

When using MacX 1.5 and the XDMCP protocol to connect to a workstation, I noticed that some of my keys no longer work. If I use a remote command like xterm, I do not have this key mapping issue. Why are the key mappings different.
This article has been archived and is no longer updated by Apple.
We believe the XDM settings have mapped the keys differently. To correct this, follow the following steps:

Step 1

Connect with a remote xterm command, so the keys mappings are correct.

Step 2

Type the command:

xmodmap -pke > $HOME/mykeymap

This command will output your key mappings to a file.

Step 3

Create a file called '.xsession' in you HOME directory.

Step 4

In .xsession, enter this line: 'xmodmap mykeymap'

Step 5

Save this file, make it executable and exit.

Step 6

Connect again with XDMCP. The Xsessions file will read the user's .xsession file, issuing the command to execute the command xmodmap and map the users working key map.

Support Information Services
Published Date: Feb 19, 2012

TCP/IP Control Panel: No Zone Information (4/96)

AppleTalk control panel reports proper Ethernet zone, the Chooser shows zones available, but TCP/IP control panel shows no zones to select. This happens with Open Transport 1.0.6, 1.0.7, and 1.0.8. Why does this happen and is this going to be fixed?

Also the Apple LAN Utility lets you manually configure the Ethernet address. When saving the new address, a dialog box says "save changes to LAN Built-In". Where is this information saved?

This article has been archived and is no longer updated by Apple.

There was a bug that affects the ability to see zones in the TCP/IP control panel if there are more than 512 zones on the internet. This bug is fixed in Open Transport 1.1, and you should upgrade to it.

The Apple LAN Utility writes the data to the ecfg resource stored in the Ethernet driver itself.

Article Change History:
04 Apr 1996 - Added OT 1.1 fix, and changed distribution.

Published Date: Feb 19, 2012

Power Macintosh 5200, 5300, and 6200: Read Me (12/95)

Article Reviewed/Updated: 18 December 1995

This is the Read Me file for the Power Macintosh 5200/75 LC, 5300/100 LC, and the 6200/75 LC series computers.
This article has been archived and is no longer updated by Apple.
Important Information About Your Macintosh
==========

Congratulations on purchasing your computer. This document adds to and updates the information in the manual that came with your computer. It is a good idea to read this document now, and keep a copy handy for future reference.

System Software CD (or Disks)

Your Macintosh came with system software on either a CD or floppy disks. Since this software is also installed on your hard disk, you won't need to use the system software CD or disks unless you have a problem with your system software. If you need to reinstall system software, be sure to start with the Apple Macintosh CD (or the Install Disk 1 floppy disk). For instructions, see the information on installing system software in your user's guide.

Note: The CD contains all the information from all the system software disks (and possibly, some additional programs). If you received a system software CD, use your CD in any steps that refer to a specific disk mentioned below.

Disk Tools Disk

Your Apple Macintosh CD also includes utilities for formatting and repairing hard disks. (Alternately, if you received a system software disk set, one of the disks is the Disk Tools disk). Don't use the Apple Macintosh CD or Disk Tools disk during your normal computer use, or regularly start up your computer using the CD or disk. (If you do, your computer may not operate properly.)

Your Internal Hard Disk and the Drive Setup Program

Your computer's internal hard disk is based on IDE (Integrated Device Electronics) technology. You can use the Drive Setup application program included on your Apple Macintosh CD or Disk Tools disk to check your internal IDE hard disk for damage (and to format the disk if you ever need to do so). Some utility programs, such as Apple HD SC Setup, will not work with IDE hard disks. Before you purchase any hard disk utility program for this computer, make sure it's compatible with IDE hard disks.

Note: If you start your computer from an external SCSI hard drive and?while attempting to reinitialize your internal hard disk?receive a message that initialization failed, check to make sure you do not have filesharing or a modem turned on. If you do, turn off filesharing or the modem and try the reinitialization again.

Apple Video Player

The Apple Video Player lets you view video and capture video images or sequences if you have a video input card installed in your Macintosh. Additionally, if you have a TV tuner card installed, you can also watch TV, capture TV images or sequences on your computer, and manage channel access. Apple Video Player comes installed on your computer's hard disk. See the Read Me file in the Apple MPEG Media Software 1.0, MPEG Software, Video Software folder for more information on Apple Video Player.

Video viewing and video capture are supported in windows sized up to 640 x 480 pixels. Turn off virtual memory when capturing video and record in Smallest window size for best results.

For the highest-quality video (and TV) viewing and video capture, use the standard video window sizes (Smallest, Normal, or Largest) in Apple Video Player's Windows menu. If you customize the window size (by choosing Other in the Windows menu), the image's resolution will decrease.

Video resolution is best when you view the Apple Video Player video window on the monitor connected to the monitor port on your Macintosh. You can drag the video window to a secondary monitor (connected to an expansion card), but the image resolution will decrease.

Reinstalling the MPEG Media System Software or Apple Video Player Software
==========

To install the latest MPEG, Apple Video Player, and CD-ROM Software
---

Step 1

Double click on the "Installer" icon in the Apple MPEG Media Software 1.0 folder. The installer dialog will appear on your screen.

Step 2

Click on the "Install" button. The MPEG Media System, CD-ROM, and Apple Video Player software will be automatically installed.

Step 3

When the installer has finished copying the software to your system, it will force a restart of the machine.

To install only the Apple Video Player Software

Step 1

Double click on the "Installer" icon in the Apple MPEG Media Software 1.0 folder. The installer dialog will appear on your screen.

Step 2

In the upper left corner of the installer dialog select "Custom Install" from the pop-up menu.

Step 3

The custom install screen will appear.

Step 4

Click on the "Apple Video Player" checkbox.

Step 5

Click on the "Install" button. The Apple Video Player software will be automatically installed.

Step 6

When the installer has finished copying the software to your system, it will force a restart of the machine.

Apple Video Player Hot Key
==========
The Apple Video Player application program allows you to use a keyboard shortcut (called a "hot key") to open and quit the program, and to switch between Apple Video Player and any other open programs. Due to potential incompatibility problems, the Hot Key is not enabled by default. To select a Hot Key setting, launch the Apple Video Player from the Apple menu (). Select the "Hot Key╔" menu item from the "Setup" menu. In response to the dialog that appears, simply press the key combination you want to use to turn Apple Video Player on and off.

Apple Video Player Closed Captioning
==========
If you have a TV tuner card, the Apple Video Player application program can display closed captions for TV channels that provide them. To see closed captions on the screen, the video window size must be set to Normal Size or greater. Also, for best results, networking or printing should not be active when you select close captioning.

Apple Video Player - Capturing Movies
==========
The Apple Video Player program can capture video images or sequences. For best results, networking (including use of a modem) or printing should not be active when you are recording video from either television or another video source. Virtual memory should also be turned off when capturing video. Recording in Smallest window size will also improve the quality of captured video.

Playing Audio CDs on an External CD-ROM Drive
==========
If you connect an external CD-ROM drive to your Macintosh, and wish to play audio CDs using the AppleCD Audio Player, you will need to drag the External CD Sound extension into your Extensions folder. To do this:

Step 1

Open the Apple Extras folder on your hard drive.

Step 2

Drag the External CD Sound extension into your System Folder.

Step 3

Select "OK" in response to the dialog which prompts you to store the extension into the Extensions folder.

Step 4

Restart your Macintosh.

AppleShare Server Software and Virtual Memory
==========

If you want to use AppleShare to set up your Macintosh for file sharing or print-sharing on a network, you must use AppleShare Server Software version 4.0.2 or later. If you are using version 4.0.2, be sure to turn off Virtual Memory, or you may experience memory problems.

NOTE: This note is not part of the original Read Me, it is being added to correct information presented here. AppleShare 4.0.2 for Power Macintosh is no longer sold separately and is not available from Apple Computer. Later versions of AppleShare, v 4.1 or 4.2, are not supported on these computers.

Using Slide Show Viewer with Photo CDs
==========

If you use the Slide Show Viewer to view Photo CD images, it may take awhile to launch the viewer the first time it is used. Once launched initially, a preferences file is created, and subsequent launches should be much faster.

Using an Internal Express Modem
==========

If you install an Express Modem in the internal communications slot of your computer, you should use version 1.5.4 or later of the Express Modem software. Apple Telecom 2.0 software also supports the internal Express Modem. If you install using this version, select the Custom Install option and then select the "Express Modem Software for internal modems" item for installation.

Article Change History:
18 Dec 1995 - Added correction on AppleShare.

Support Information Services
Published Date: Feb 19, 2012

Power Mac 5200, 5300, & 6200: Software Updates Read Me (11/95)

This article provides information about the software updates on the system software CD for the Power Macintosh 5200/75 LC, 5300/100 LC, and the 6200/75 LC series computers.
This article has been archived and is no longer updated by Apple.
About the Macintosh Software Updates

This document provides important information about some system files installed on your computer.

When you are finished reading and printing this document, choose Quit from the File menu to quit the SimpleText application program.

The following system extensions and control panel have been installed on your computer''s hard disk:

* At Ease 7.5 Layer Patch: if you have At Ease installed on your machine this extension fixes a potential problem when trying to launch an application or selecting the menu item "Go To Finder" with At Ease. This is only a problem if you have desktop hiding enabled in the General Controls control panel.

* Processor Info Extension: fixes a potential problem that could cause your computer to report back the incorrect processor and bus speeds.

* Audio Volume Extension: if you have an internal modem installed (not related to Express modem), this extension fixes a problem where no sound is emitted by the modem. This extension also fixes a potential problem where poor sound quality may be heard.

* Screen Control Panel: fixes a problem that could cause your computer to behave incorrectly when Screen Power Saver mode is enabled.

If you reinstall system software, you should also reinstall these files. To reinstall, drag each file into your System folder. Click OK when you are asked whether to put each file in their respective folders.

Support Information Services
Published Date: Feb 19, 2012

Macintosh1/2 XL(Lisa 2/5) : Clobbers Other Nodes On ATalk

PROBLEM DESCRIPTION: A Macintosh 1/2 XL (originally called Lisa 2/5) may suffer from noise problems on its receiving lines. This interferes with its ability to hear other network devices, so may think it is safe to broadcast even if another node is transmitting. This can result in collisions that clobber other node's transmissions. The problem only happens with units that have the old I/O PCBs (the ones with battery packs).

CAUSE: The old I/O PCB needs to be upgraded.

This article has been archived and is no longer updated by Apple.

CURE: 1. Cut R38 (location 12E above the battery pack).
2. Cut the trace leading to pin 3 of RP4 (location 12F)

If the above cure doesn't fix the problem, refer to the Lisa Tech Procedures to obtain a troubleshooting procedure.

Published Date: Feb 19, 2012

Apple Modem Tool 1.5.3: Read Me File

This article contains the Read Me file for the Apple Modem Tool extension v1.5.3.
This article has been archived and is no longer updated by Apple.
Apple Modem Tool 1.5 improves reliability and performance through support of the Microcom Networking Protcol (MNP levels 1 through 4) and CCITT v.42bis data compression protocol.

It features an enhanced user interface that provides support for user-installed modem definitions and provides easy access to a list of phone numbers of the services you wish to contact.

The Details
==========

* Support for MNP using a modified version of the .MNP driver from ARA 1.0.

The .AMT driver is installed in the DCE the first time the Apple Modem Tool is used after a reboot. It contains several modifications provided by the Newton team. These changes correct problems in the ARA 1.0 driver found while modifying the code for use in the Newton ROM.

This includes the changes necessary to bring the protocol code more in compliance with the MNP specification. (Two bytes were swapped somewhere in the negotiations. Since both sides of ARA had this characteristic, it worked.... but it wouldn't work with hardware implementations.) The actual protocols are MNP 2, 4, and v.42bis.

The driver consumes about 22K of System Heap, meaning that System 6.0.X users may have to increase their system heap size in order to use the new protocol support. The driver is always installed the first time the tool is opened. If the driver wasn't installed successfully the user is notified that they will not be able to make an error free connection, but can continue to use the tool without that support.

The tool does not refer to the v.42bis compression or give the user control over it. It is negotiated for if the user requests error correction. A scripting token, "SoftwareCompression" can disable this. Scripting support for error correction was also added.

The tool also supports error correction/compression in the modem. The user (or scripting tokens) may choose among "None","Optional", and "Required".

The "Required" selection indicates that the connection should fail if the desired type of error-correction could not be obtained. A dialog is provided to indicate that this occured. ("Hardware" and "None") or ("Software" and ("Optional" or "Required")) mean that the tool additionally sends a modem-specific AT command to disable "hardware" error correction, which is on by default in the modem's initialization command.

If "Hardware" is selected, then the tool looks for the CONNECT message to have an appendage such as "CONNECT 9600/REL". The "9600" has always been used to correct the Mac's serial port speed if necessary, and now the "/REL" is used to indicate that a "Hardware" error correction connection has been established. This string is also modem specific, and multiple strings can be used to indicate the establishment of "Hardware" error correction and when specified, these strings are seperated by a bullet character, as in "/REL*/LAPM".

*The user interface (the "Choose" dialog) was significantly changed.

In order to comfortably fit the new error correction controls, a pair of radio buttons and a checkbox were removed.

The checkbox that determined if the tool will use <CR><LF>NO CARRIER<CR><LF> (pause) to detect the other side having hung-up or a dropped connection was removed. The control was deemed unnecessary. The feature is always on unless the "LookForNOCARRIER" scripting token is set to false.

The removed radio buttons were used to select between the user configuring the tool for dialing or answering. This was a common point of user confusion, as these radio buttons didn't actually make this choice for the user. These radio buttons only dimmed out the settings not needed for whichever type of connection the user expected to do. This choice was actually made later when the application calls CMOpen or CMListen, typically controlled by menu selections such as "Open Connection" and "Wait for connection". Their purpose has been superceeded by titled gray control groupings, which use less screen real-estate.

Additionally, there used to be an icon that indicated which type of dialing, "Tone", "Pulse", "Mixed", or a ringing phone was active. Since the ringing phone case was not really true, this status icon was removed to make space, and the dialing method pop-up was clarified from "Tone" to "Touch-Tone¬".

A static text item containing the short version string was added, and this serves to bring up the about box. The "phone numbers" pop-up is now never hidden. It used to only appear if the user had manually created an "Apple Modem Tool Phone Numbers" file. This item allows the user to select a phone number to dial by name from their personal list.

The pop-up now also contains a "Modify this menu╔" item, which brings up the "Add Modify Remove" dialog. This dialog is common to the "Modify this menu╔" items in both the "phone numbers" and "modem type" pop-ups. It allows the user to alter the list that appears in the menu the user chose. It features an "Import╔" button which provides for merging in of additional items from another file. This is how users will add third-party modem definitions or import phone number databases.

The "custom modem" dialog has been modified to support configuration of error correction features for a modem definition. A button called "Cabling╔" was added. This button brings up a dialog containing a picture that describes the cable needed for use with the currently selected modem as well as support information such as the modem manufacturer's phone number. The dialog has a "Save╔" button which creates a TeachText read-only ('ttro') file that contains the picture as well as the modem's name. The intent is that this file may be printed and brought to the dealer to ensure that the user obtains the correct cable.

All user items now draw in color when appropriate. All graphics have been replaced with new color ones (except the file icon, which was already color) provided by Bill Woodcock (woody@zocolo.com). Bill generously donated his time and art skills.

*Modem Definitions files contain an updated format 'modm' resource.

This resource describes the modem in terms of its initialization string, preferred baud rate, etc. This resource now contains controlling information about error correction such as the "Hardware error correction has been established" string. This resource additionally may contain a resource ID for a PICT that describes the necessary cable for connecting the modem to a Mac as well as support information, such as the modem manufacturer's phone number.

'modm' resources for all Apple modems (except the "Global Village Teleport/Bronze II for Performa") are contained in the Apple Modem Tool file itself. Additional 'modm' resources may be created by the user via the "Choose" dialog. These resources, and accompanying 'PICT's are renumbered and placed into the "Apple Modem Tool Prefs" file.

The new 'modm' format includes some bits that control support for "direct connect mode". These bits are "undocumented" in that the 'TMPL' for editing 'modm' resources and the developer documentation for the 'modm' format, including the Rez declaration, are listed as "Reserved." "Direct connect mode" turns off all AT command set support. It is provided for use by the "Newton Serial Connection" 'modm', which is used by the Newton Connection Kit and Newton Toolkit.

A 'PICT' resource for the "Newton Serial Connection" is built-in as are 'PICT's to describe a standard Mini Din-8 to Mini Din-8 cable (M0197) and for a DB-25 to Mini Din-8 cable. The 8-to-8 picture is used for a few of the built-in Apple modems. The 25-to-8 picture is provided for use by third-party modem definitions (particularly those created by power-users and distributed online). Note that these pictures are wrong for the Macintosh 128K and 512K which have DB-9 connectors.

Version Information

1.5.1 - Several bug fixes, most affecting the "Direct Newton Connection" sections of the code. Also, when using CMListen() and require software MNP, an incoming modem connection which established carrier but failed during error correction negotiation would not properly hang up the phone. This was fixed.
1.5.2 - Not distributed.
1.5.3 - CMGetConfig() no longer returns an erroneous token which caused the file "False" to be created on the desktop if this same string was passed in to CMSetConfig(). CMRead() was returning a garbage error value if called async with a non-zero timeout under the right circumstances. It now correctly returns noErr.

Published Date: Feb 19, 2012

Newton 2.0 OS: Won‘t Write to 1.X Formatted PC Cards

When I insert a Newton PC memory card into my Apple MessagePad 120 with the Newton 2.0 OS, a message appears asking if I want to mount the card as read only, or convert the card. If I convert the card can I still use it in other Newton PDA devices that have the Newton 1.x OS installed?

This article has been archived and is no longer updated by Apple.

No, if you choose to convert a PC card to the Newton 2.0 OS, then you will not be able to read it on a Newton PDA using 1.x of the Newton OS without reformatting the PC card using 1.x of the Newton OS.

If you need to use data on a MessagePad with 2.0 installed, you should select Read Only when the message appears. Selecting Read Only sets a soft write protect on the card, which prevents you from writing to the PC card.

Published Date: Feb 19, 2012

Coach Pro and ClarisWorks 4 Compatibility (4/97)

I received Spelling Coach Professional (Coach Pro) with the Teacher Productivity Bundle CD-ROM, which is part of the Teach Solution Bundle. However, when I use Coach Pro with ClarisWorks 4, I get the following message, "Coach Pro is having a problem converting the clipboard in this application." Is Coach Pro compatible with ClarisWorks 4?
This article has been archived and is no longer updated by Apple.
Deneba Support has advised that ClarisWorks 4 requires Coach Pro 4.1, which was released in November, 1995. Contact Deneba Software directly for the Spelling Coach Pro 4.1 upgrade, or download a compatibility module form Deneba's support location on America On-Line or CompuServe.

Deneba Support also advises: If you are stuck in a loop with this or a similar message, a way to break out of the loop is to select another piece of text to check, then go back to the original selection and check it again.

The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.

Article Change History:
09 Apr 1997 - Removed out dated on line references.
Published Date: Feb 19, 2012

PostScript Fonts: Momentary "Freeze" copying to Server (7/96)

The article discusses an issue with copying numerous PostScript fonts to a file server. When doing this, the file server appears to "freeze" momentarily. However, after a few seconds it works properly.
This article has been archived and is no longer updated by Apple.
The appearance of the file server "freezing" during large PostScript font transfers is caused by Adobe PostScript fonts having a BNDL bit. When a file, whose info bits indicates an icon bundle is present, is copied to a server, the Finder adds this information to the Desktop database. Things that can make this worse are when the Desktop file grows so that the file becomes fragmented on disk, increasing the disk access time to process the file. Rebuilding the Desktop may reduce the size of the desktop database files, but it may still leave the file fragmented. Having a large amount of free space on the disk may help the possibility that the desktop files get a contiguous amount of disk space.

There is not hard and fast rules as to how many PostScript fonts can be copied without experiencing this momentary "freeze". However, some servers may be more prone to this if they have a large hard disk, which allows more files to be stored on them, which leads to a larger desktop file. A hard disk that is nearing capacity, can have a fragmented desktop file, which can increase the time it takes to update the desktop file.

Compressing PostScript fonts with third-party utilities, transferring them to the server, and then decompressing them should speed up the copy across the network. However, this may actually take longer since the files must be decompressed once the file is copied to the server. Also while the files are being restored to their original state, the Finder on the server is placing the icons into the desktop databases.

Third-party copy utilities such as Disktop, CopyDoubler, Desktop Speedboost, or Copyright Pro, which offload the copy operation from the Finder to another task, could potentially decrease the wait, but eventually the Finder on the target server machine has to update the desktop database, so you should not expect much of an improvement, if any, with these utilities.

Since this is the way the Mac OS works, Apple is not doing anything to address this momentary wait. The same phenomenon happens when you drag a number of application files to a server. This would happen to any large number of files that are copied to a file server, which contain BNDL information. The problem may be seen more often with PostScript fonts since these are the type of files typically copied by dragging a large number to a file server.

One other option, which Apple Computer, Inc. does not endorse, is to turn off the bundle bit in the font, to do this you can use ResEdit, or in A/UX you could use setfile.

One thing to remember is that this momentary wait is only experienced once, when the fonts are copied to the server. Compressing the fonts prior to copying them to the file server should speed up the copy process to server since there is less data to copy, and no font icon to update. However, also remember that expanding the PostScript fonts back into their original format after copying them, takes some additional time.

Article Change History:
12 Jul 1996 - Added BNDL bit solution.

Published Date: Feb 19, 2012

Newton OS: NewtonMail Mods 1.0.1 Read Me

This article contains the ReadMe file for NewtonMail Mods 1.0.1 update file.
This article has been archived and is no longer updated by Apple.
NewtonMail Users,

Over the last several months, many of you asked us for a number of enhancements to NewtonMail. In order to provide you with an immediate solution to your most frequent requests, we have developed a set of NewtonMail Modules which are enclosed in this folder. These modules give you an immediate upgrade path for NewtonMail which will be supported and integrated within future releases of NewtonMail.

This document gives an overview of the current functionality of these NewtonMail Modules. The modules are an addition to the existing mail software that is built into your Newton ROM. The Newton Connection Kit is required in order to install the modules in this folder.

NEWTONMAIL EXTENSION 1.1 AND FOUR ADDITIONAL MODULES

The new NewtonMail Modules consist of one new extension and four modules. The extension is "NewtonMail Extension 1.1" and the modules are "NewtonMail 1.2", "Group Mail 1.0", "MailMany 1.0", and "Tymnet/MCI 1.1".

The "NewtonMail Extension 1.1" is a base extension required for the new modules. This extension should be installed in the Newton's Internal RAM.

The new enhancement modules (NewtonMail 1.2, Group Mail 1.0, MailMany 1.0, and Tymnet/MCI 1.1) can be installed on the internal RAM or on a PCMCIA card. The modules do not appear in the Extras Drawer, nor will they take up a slot in the Extras Drawer. The modules can be removed via the remove software function. Since each of the optional modules can operate independently, the user has the flexibility to save space by installing only those modules that are desired.

OVERVIEW OF FUNCTIONALITY:

NewtonMail Extension 1.1 (Size 7.5K)

This extension, which should be installed in the Internal RAM, is required as a base for the additional modules. It may also be installed without any additional modules, in which case it will serve to greatly reduce mail truncation problems and provide a simple "Copy" button to allow the user to copy basic text notes to the NotePad.

Newton Mail 1.2 (Size 16K)

Newton Mail 1.2 provides additional functionality via a new action envelope within the in and out boxes. The following are the main functions that were added:

- Integrates Copy Text to Notes button for documents In/Outbox (including mail header information).
- Allows received items to be easily forwarded.
- Allows mail messages to be readdressed while still in the Outbox.
- Allows mail messages to be printed from the In/Outbox.
- Allows the item's text to be faxed from the In/Outbox.
- Leaves additional space to write in the reply message area.
- Offers automatic save the sender's address to names file feature.

GroupMail 1.0 (Size 16K)

GroupMail adds a "Group Mail" button to the routing slip.

- Enables users to send messages to a set of people in the name card file that have Email addresses.
- Provides selection of multiple names by check boxes.
- Offers automatic creation of mailing lists as Name Card Items.

Mail Many 1.0 (Size 12K)

Mail Many allows users to mail multiple NotePad items.

- Offers a list of all the notes in your NotePad via an additional "Mail Many" option on the NotePad action envelope.
- Provides selection of multiple items by check boxes, beginning with most recently created notes.

Tymnet/MCI 1.1 (Size 12K)

TA34759_Newton_OS_NewtonMail_Mods_Read_Me_(TIL18978).pdf

A Newton Connection Kit is required to install the module.

Tymnet/MCI 1.1 is a Mail network script that allows users to connect to NewtonMail via Tymnet/MCI networks.

- Offers Tymnet option as a diamond under Network choices in Mail Preferences.

- Changes between version 1.0 and 1.1, include a revision to the script to succesfully connect in Europe as well as the US.
Published Date: Feb 19, 2012

Macintosh Performa: How Do I Use the ARA CCL? (11/95)

I have a Macintosh Performa computer. I have an Apple Remote Access (ARA) file called ARA CCL on my hard drive. When I double-click it, I get a message telling me to put it in my Extensions folder. Even if I place it in my Extensions folder and restart, I get the same message. What is Apple Remote Access? How do I use this software?

This article has been archived and is no longer updated by Apple.

Apple Remote Access software provides an easy way to connect a desktop Apple Macintosh or PowerBook computer to another Macintosh computer at a remote location over telephone lines.

Some modem equipped Macintosh Performa computers have an ARA modem script (also known as a CCL file) installed on the hard drive. The file is used to configure your modem to work with the Apple Remote Access software.

Your Performa computer does not include the Apple Remote Access software that uses this CCL file. The file is included on your hard drive so it is available if you decide to purchase ARA. Leaving the file in your System Folder or on your hard drive will not affect the operation of your computer.

You can purchase the Apple Remote Access Client software from your Apple-authorized dealer.

Support Information Services
Published Date: Feb 19, 2012

LaserWriter P/C: Vertical Line or Blank Line on Page

This article has been archived and is no longer updated by Apple.

PROBLEM DESCRIPTION: From the top to the bottom of the page, either a solid line or blank line of variable thickness is printed.

CAUSE: Their are six possible causes for this symptom:

1 - Defective toner cartridge
2 - Defective scanner unit
3- Dirty or bent primary or transfer corona wires
4 - Dirty fuser assembly or wiper
5 - Defective I/O board
6 - Defective DC controller board

CURE: First, perform a service print test and see if the same symptom is exhibited. If it is, the I/O board can be removed from the list of possible causes. If not, replace the I/O board and re-test.

If after the I/O board has been replaced or removed from consideration, replace each item, 2 through 6, rechecking for the problem after each replacement until the unit is printing properly.

If the above cure doesn't fix the problem, refer to the LaserWriter Tech Procedures to obtain a troubleshooting procedure.

Published Date: Feb 19, 2012

At Ease: How to Access the ClarisWorks 4.0 Help Guide

I have recently installed ClarisWorks 4.0 on my computer running At Ease. I have added the ClarisWorks application to my Setups and it runs fine. However, when I try to access the ClarisWorks Help Contents, Index, How to Use Help, or Introduction to ClarisWorks options under the Help menu, I get a message saying the "File is locked."

How do I give my At Ease users access to the ClarisWorks Help files?
This article has been archived and is no longer updated by Apple.
ClarisWorks 4.0 Help files are accessed by a separate application. You need to add this application to the Setup.

Follow these steps to add the ClarisWorks Help Guides to your Setups:

At Ease 2.0.3 and At Ease 3.0
==========

Step 1

Open the At Ease Setup program.

Step 2

Double-click the Setup you would like to add the ClarisWorks Help Guides to.

Step 4

Click the Items icon to open the Items panel. Click the Add Applications button.

Step 5

In the Add Applications pane, click Find Items. Type "QuickHelp" to locate the QuickHelp application. Once it is found, double-click QuickHelp to add it to your setup.

Type "ClarisWorks Help" to locate the help document. Once it is found, double-click ClarisWorks Help to add it to your setup.

Click OK to close the Find Items pane, click OK to close the Open Setup Pane.

Step 6 for At Ease 3.0 Only

Under Options choose Applications Preferences. On the left side of the Set Applications Preferences pane, locate QuickHelp. Click QuickHelp once. In the bottom of the Set Applications Preferences pane, click to select the "Can be launched by other applications" option.

Click OK.

Step 7

Quit At Ease Setup.

The next time a user logs onto this setup the Help files can be launched from the Help menu.
Published Date: Feb 19, 2012

Color LaserWriter 12/600 PS: Use Printer Pantone Files For Correct Color

I am printing to a Color LaserWriter 12/600 PS from Quark Xpress using Pantone colors. Unfortunately, my printouts DO NOT match some hard copy Pantone swatches that I have. I have printed out the raw PostScript file that came on the "Pantone files for the Color LaserWriter 12/600" disk, and the colors that printed more or less match my Pantone swatches.

Why can I not get my Quark Xpress files to match? Can I change the density settings in the back of my Color LaserWriter 12/600 PS so I get a better match?
This article has been archived and is no longer updated by Apple.
Quark Xpress, like most of the other high-end graphic applications, have their own Pantone color tables you can use. These color selections SHOULD NOT be used when printing to the Color LaserWriter 12/600 PS or Color LaserWriter 12/660 PS printers since they are "tuned" only for monitors. The application-specific files provided on the Pantone disk for the Color LaserWriter 12/600 PS are the correct files to use since they provide Color LaserWriter 12/600 PS-specific CMYK values.

With regard to any changes that can be made in the Color LaserWriter 12/600 PS for color, with the exception of the Density Control Panel at the back of the printer, there are none. We would suggest leaving all of the colors as neutral, unless as the manual says:

"There are always small variations in color between different printers. If you have two Color LaserWriter printers on the same network, you can use the density control panel to make subtle changes to match the two printers."
Published Date: Feb 19, 2012

Personal Internet Solution: Description & Specifications 4/97

This article describes the Personal Internet Solution Bundle, part of the Apple Education Series.
This article has been archived and is no longer updated by Apple.
The Personal Internet Solution Bundle offered to education customers is intended to provide librarians, administrators, students and individual teachers easy access to the Internet.

Features And Benefits

Feature - Power Macintosh 5200/75 LC or Macintosh LC 580 computer.

Benefit - Apple latest education computers offer expandability, compatibility and high performance including a CD ROM drive.

Feature - Internet software package.

Benefit - Offers some of the most popular Internet applications including Netscape Navigator for Web browsing, Eudora by Qualcomm for electronic mail, and an Internet serial line connection package with custom configuration script.

Feature - Reference CD Collection

Benefit - Four of the best known reference CDs available to bring the world of information into the classroom. Allows users to begin research locally and then venture out into the Internet for additional data and insight.

Feature - Global Village 14.4 external Data and Fax Modem

Benefit - Without additional modem purchase, allows connection to Internet and online services. Allows faxing from the computer.

Feature - Getting Started Guide

Benefit - Give users an easy-to-follow and complete guide to setup of the bundle.

Feature - Portal Information Network Internet provider connection.

Benefit - Up to $75 connect time credit, no setup fee, and up to three monthly maintenance fees waived from this popular Internet access provider with more than 1100 local access numbers servicing up to 95% of the US.

Feature - Discount coupons for educational reference materials.

Benefit - Savings on even more relevant resources.

Bundled Items

The AES Personal Internet Solution Bundles include the following software and miscellaneous items:

* Personal Internet Solution CD
- Netscape Navigator by Netscape Communications 1-800-NET-SITE (638-7483)
- Eudora by Qualcomm 1-800-2-EUDORA (383672)
- InterSlip by Intercon

Reference CD Collection
---
* 3D Atlas by Electronic Arts 1-415-572-2787
* Grolier Multimedia Encyclopedia by Mindscape 1-415-883-5157
* INFOPEDIA by Future Vision Multimedia 1-914-426-0400 ext. 4
* Time Almanac: Reference Edition by Compact Publishing 1-404-428-0008

Other
---
* Global Village 14.4 Data and Fax Modem 1-415-390-8200
* Getting Started Guide
* Portal Information Network 1-408-973-9111
* Other coupons
- 20% discount coupon National School Board Association special report "Telecommunications and Education: Surfing and the Art of Change."
- 25% discount coupon toward the book "Education on the Internet."
- Free 3-month subscription to "Classroom CONNECT," a monthly guide to the Internet.

System Requirements

- System software 7.1 or later
- Macintosh with a 68030 processor or later*
- At least 8MB of RAM
- CD-ROM drive
- 13" monitor or larger

* The Personal Internet Solution Bundle is not compatible with the Power Macintosh 7200, 7500, 8500 or 9500 computers.

Ordering Information
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Part No. Description
B2424LL/D Macintosh LC 580 Personal Internet Solution Bundle
- Includes Macintosh LC 580 8MB Hard Disk 800 w/CD-ROM CPU and AppleDesign Keyboard (M3964LL/B) and Personal Internet Solution Accessory Kit

B2423LL/F Power Macintosh 5200/75 LC Personal Internet Solution Bundle
- Includes PowerMacintosh 5200/75 LC 8MB Hard Disk 800 w/CD-ROM CPU AppleDesign Keyboard (M3947LL/C) and Personal Internet Solution Accessory Kit

T1646LL/C Personal Internet Standalone Solution
- Supports Macintosh with 030 processor or better**, 8MB RAM and CD-ROM Drive

** The Personal Internet Solution Bundle is not compatible with the Power Macintosh 7200, 7500, 8500 or 9500 computers.

Article Change History:
28 Apr 1997 - Removed out dated on line references.
Published Date: Feb 19, 2012

Power Macintosh: Startup Failure Tone (11/95)

Whenever I attempt to start up my Power Macintosh computer, the computer plays a "car crash" sound. What is causing this?

This article has been archived and is no longer updated by Apple.

The "car crash" sound is the startup failure tone on the Power Macintosh series computers. Such a failure could be caused by either software or hardware problems. To troubleshoot this error tone, see the Tech Info Library article, "System 7.x: Troubleshooting Startup Problems".

Support Information Services
Published Date: Feb 19, 2012

Macintosh Quadra 660AV and 840AV: Startup Failure Tone (11/95)

Whenever I attempt to start up my Macintosh Quadra 660av computer, the computer plays a "bongo drum" sound. What is causing this?

This article has been archived and is no longer updated by Apple.

The "bongo drum" sound is the startup failure tone on the Macintosh Quadra 660av and 840av computers. Such a failure could be caused by either software or hardware problems. To troubleshoot this error tone, see the Tech Info Library article, "System 7.x: Troubleshooting Startup Problems".

Support Information Services
Published Date: Feb 19, 2012

PowerBook & PowerBook Accessories: Serial Number Locations

This article describes where serial numbers are located on various PowerBook computers and PowerBook accessories. The serial number is printed underneath a barcoded number and is normally 10 or 11 digits.
This article has been archived and is no longer updated by Apple.

On the Back of the Computer Under the Ports

The serial numbers for the following PowerBook computers are located on the back of the unit where the ports are found. There is a small I/O door on the back that must be opened in order to gain access to this area of the computer.

- Most PowerBook 100 Series (140, 145, 145b, 160, 165c, 170, 180, 180c)
- PowerBook 500 Series

On the Bottom of the Computer

The serial numbers for the following PowerBooks are located on the bottom of the unit in the center.

- PowerBook 100, 150
- PowerBook Duo Series (210, 230, 250, 270c, 280, 280c, 2300c) *
- PowerBook 190 Series (190, 190cs)
- PowerBook 1400 Series (1400c/117, 1400cs/117, and 1400c/133)
- PowerBook 2400 Series (2400c/180) (located toward the back edge of the bottom case)
- PowerBook 3400 Series (3400/180, 3400/200, and 3400/240)
- PowerBook 5300 Series (5300/100, 5300cs/100, 5300c/100, 5300ce/117)
- PowerBook G3

The serial numbers for the following PowerBooks are located on the bottom of the unit on one of two labels.

- PowerBook G3 Series (233, 233/512K L2, 250, 266, 292, and 300 MHz)

*** Note:** the serial numbers for PowerBook 200 series computers (Duos) are not visible while they are attached to a docking device or accessory.

Other Serial Number Locations

- Macintosh Portable: Orient the Macintosh Portable computer so it is standing vertically on its back (where the ports are located). The serial number is on the bottom of the machine, in the upper right corner.
- Mini Dock, Duo Floppy Drive, Battery charger, Duo Floppy Adapter: The serial number is located on the bottom in the center.
- Duo Dock, Duo Dock II, Duo Dock Plus: The serial number is located on the back (where the ports are located) in the center.
- PowerBook G3: please see article 88060: "**PowerBook G4: How to Find the Serial Number.**"

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A/UX or AWS 95: Copy Complete Contents Of A Partition (11/95)

I'm trying to copy the UNIX drive from my Apple Workgroup Server (AWS) 95 to another UNIX drive, in the same computer. How do I do this?
This article has been archived and is no longer updated by Apple.
NOTE:
This is a long response, please read it in its entirety before attempting to follow the steps outlined below.

CAUTION:
There are steps in this procedure that will destroy the data on a disk. Please make sure the disk is backed up, and the correct parameters are used because loosing data in this fashion would be non-recoverable.

We do not have a clear understanding of what, "copying the UNIX drive," means. We will assume you are trying to move the data from your AWS 95 root disk to a second hard disk, in other words, creating a copy of the AWS 95 A/UX partition. If this is not correct, the procedure below should work for any partition you want to copy, that is, you could us the same process to copy other A/UX partitions.

Example and Procedure

The internal drive, to be copied, is connected to the PDS card with its SCSI address set to 0. Since the root volume is assigned Slice 0, the device name to access this drive would be /dev/dsk/c300d0s0.

The target drive is connected to the external port of the PDS card with its SCSI ID set to 5. Since we are trying to copy the root file system, it should have a partition with Slice 0 assigned to it. The device name to access this drive would be /dev/dsk/c405d0s0.

Also, be certain the partition of the target drive is large enough to contain all of the data in the source partition.

When we refer to using a command, we mean typing the command in a CommandShell window.

Make sure AppleShare Pro is not running.

Step 1

Since we are going to copy ONLY the contents of the root partition, make sure you unmount all other partitions, you can use the command:

umount -a

Step 2

Run Apple HDSC Setup WHILE IN A/UX -- this is important. If this step is done while in the Mac OS, the disk will be partitioned but the UNIX partitions will not contain a file system. Below are three ways for creating UNIX partitions -- the first is recommended:

* If you use the Apple HDSC Setup program while in A/UX, the program will ask you for a mount point for the file system being created. Since we are assuming you are copying the root drive and volume, mount the drive on a directory called "/s0".

* If the disk was formatted and partitioned while in the Mac OS, a file system can be created on the UNIX partitions with the command:

newfs /dev/dsk/cX0Yd0sZ (## This erases all data in the partition ##)

Where X = SCSI BUS (1, 2, 3 or 4)
Y = SCSI ID of the drive (0, 1, 2, 3, 4, 5 or 6)
Z = Slice where the file system will be created (0 for root volume)

The value for Z is chosen when partitioning the drive and creating a UNIX partition.

* If Apple HDSC Setup will not be used, create a directory called /s0 and mount the partition using the commands:

```
mkdir /s0
mount /dev/dsk/c405d0s0 /s0
```

Step 3

Copy the data to the target drive. The following commands will copy the contents of the complete file system preserving access privileges, access times and modification dates:

```
cd /
find . -print | grep -v /s0 | cpio -pdlmuv /s0
```

Step 4

Unmount the target partition and run fsck on it with the following commands:

```
umount /s0
fsck /dev/dsk/c405d0s0
```

The target drive now contains a copy of the source drive's file system.

If you are planning on using this drive as a complete replacement for the internal drive, special care should be taken that the drive contains the following partitions:

* A Macintosh Volume that contains a copy of the contents of the MacPartition

* A Swap partition that is at least the same size as the amount of RAM in the AWS 95.

Support Information Services
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AplShare Windows Client: Unsupported Network Adapters

This article explains how to install the AppleShare Client for Windows if it does not come with the driver for your particular network adapter.
This article has been archived and is no longer updated by Apple.
Windows for Workgroups 3.11 and Unsupported Network Adapters

If you are using Windows for Workgroups 3.11, use your Windows for Workgroups installation disks to install your network adapter. Once the network adapter is working in Windows, you can install the AppleShare Client for Windows software using the normal installation procedures.

Windows 3.1 and 3.11 and Unsupported Network Adapters

If you are using Windows 3.11 or Windows 3.1 without Windows networking software, and you have a vendor supplied ODI driver for an unsupported network adapter, you may be able to use the procedures in this section to install AppleShare Client for Windows.

CAUTION:
Installing your system for networking requires that you manually install the network adapter driver and edit your driver configuration file and your DOS startup batch files. Performing these procedures incorrectly can cause your computer to fail.

Before performing the following procedures, you should locate the software and documentation that came with your network adapter. As you perform the procedures, you will need information from the documentation.

Step 1
If your network adapter is not already installed, install and test it, following the instructions in your network adapter documentation.

Step 2
Restart your computer and run Windows.

Step 3
Run the INSTALL.EXE program on the AppleShare Client for Windows Disk 1.

Step 4
In the Installation Options dialog box, choose the Standard Installation option and click Continue.

The Select Adapter dialog box appears.

Step 5
Select the line at the end of the adapter list that reads "[Other] Unlisted Adapter Option," and click OK.

The Network Adapter Settings dialog box appears.

Step 6
Enter the configuration settings for your network adapter.

If possible, select values that match the adapter configuration settings you used in completing step 1 above. If no matching settings are displayed, simply continue with step 7. If you are already running ODE-based networking software, AppleShare Client for Windows Installer will use your existing network adapter configuration settings.

Step 7
Complete the AppleShare Client for Windows installation.

Step 8
Exit Windows and restart your computer as instructed by the Installer.

If your computer was not already running ODE-based networking software, continue with step 11.

Step 9
If your computer was already running ODE-based networking software using your network adapter card, edit the file ATDRIVER.BAT (by default in the C:\\APPLE\\A_SHARE directory). Remove the word "REM" from the beginning of the last line so that it reads "C:\\APPLE\\A_SHARE\\ODI.EXE".

Step 10
Restart your computer.

AppleShare Client for Windows is completely installed and should run when you start Windows. Skip the rest of this procedure.

Step 11
Use DOS to copy the ODI driver and any supporting files for your network adapter to your AppleShare Client for Windows directory. The default directory path is C:\\APPLE\\A_SHARE.

Step 12
Edit the NET.CFG file in the C:\\APPLE\\A_SHARE directory.

First, replace all strings of four consecutive X characters (that is, XXXX) with the file name of your driver, excluding the .COM extension for the file.

Next, change any parameters that do not match your adapter configuration settings. Check the values for the following parameters:

* the interrupt request level, a one- or two-digit number preceded by INT #1

* the I/O port number, a 3-digit value such as 300, preceded by PORT #1

* the direct memory access channel, a value of 1 or 2 preceded by DMA

* the memory access address, a data address value such as D8000, preceded by MEM

You should consult your network adapter card documentation to determine if other parameters are required for your system.

Finally, save the NET.CFG file.

Step 13
Edit the file ATDRIVER.BAT (by default in the C:\\APPLE\\A_SHARE directory). First, remove the word "REM" from the beginning of every line. Next, replace the string "XXXX" in the second line of the file with the filename of your network adapter driver. Be sure to include the filename extension.

Step 14
Save the ATDRIVER.BAT file.

Step 15
Restart your computer by turning it off and on.

AppleShare Client for Windows is completely installed and should run when you start Windows.

If you experience any problems after completing these instructions, see the file C:\\APPLE\\A_SHARE\\PROBLEMS.WRI.
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Macintosh Continuously Reboots Itself

PROBLEM DESCRIPTION: After being powered on the Macintosh continuously reboots of its own initiative. During this process, it beeps about twice a second.
This article has been archived and is no longer updated by Apple.
CAUSE: The power supply may be defective.

IMPORTANT: To avoid damage to Macintosh modules follow the instructions exactly as given in the "CURE:" below.

CURE: 1. Replace the power supply.
2. Turn on the Macintosh and make all Level I adjustments.
3. Run MacTest. If the problem remains, replace the Main Logic PCB.
4. If the problem remains after step 3, replace the drive.

If the above cure doesn't fix the problem, search on GTS and the product's name to obtain a general troubleshooting procedure.

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LaserWriter 16/600 PS: Supports HPGL/2 Through PCL5

We have a Power Macintosh 6100/66 DOS Compatible Macintosh and are trying to print to a LaserWriter 16/600 PS. The application we are using is DOS-based, and outputs HPGL. I have heard that the LaserWriter 16/600 PS printer supports HPGL/2, but I am unable to get any output when I send HPGL to the printer. What's wrong? Also, is HPGL/2 backward compatible with the original HPGL language; is that true?
This article has been archived and is no longer updated by Apple.
The LaserWriter 16/600 PS does support the HPGL printing language. This Support for HPGL is provided though the PCL5 emulation, which inherently has HPGL/2 support. Tests on our LaserWriter 16/600 PS using HPGL/2 were successfully. Your problem is likely with the initial escape sequences used by the MS-DOS-based program to set the printer into HPGL/2 mode, or in the HPGL/2 drawing commands themselves.

The issue you are seeing is not related to the DOS Compatibility Card or the LaserWriter 16/600 PS printer since:

- Print jobs from the MS-DOS environment are sent without modification of the output. All of the output data is sent directly to the printer.
- HPGL/2 data we downloaded to the LaserWriter 16/600 PS prints without problem.

Depending on which input port, and mode it is set to: PCL, or PostScript, of the LaserWriter 16/600 PS you are using, you may need to send a line of PostScript code to the printer prior to all HPGL/2 and PCL5 print jobs. The following command places the PostScript interpreter into PCL5 mode:

```
%=========================================================
% Begin PostScript code
%
currentfile /LaserJetIII statusdict /emulate get exec
%
% End PostScript code
%=========================================================
```

Once the printer is placed into the PCL5 emulation, you need to use the following escape sequence to place the printer into the HPGL/2 mode:

To go from PCL5 to HPGL/2:
```
<esc>%#B
```

To return from PCL5 from HPGL/2:
```
<esc>%#A
```

To enter <esc>, press the Ctrl-P keys followed by the Esc key.

Note: You must use an ASCII text editor like DOS EDIT. You cannot enter the <esc> character in some Windows-based editors like Notepad.

HPGL/2 Compatibility

Regarding the question about backward compatibility of HPGL/2 with the original HPGL language, we contacted Hewlett-Packard technical support and they cited only the following differences:

MISSING HPGL/2 COMMANDS
The HP LaserJet III, IIID, 4, 4Si, 4L, and 4P printers do not have every command that is available in HPGL or HPGL/2. The following is a list of some of the known commands that are not available with the printers mentioned.

*** XT and YT (X-Tick and Y-Tick)** This command allows plotters to automatically print an x and y axis on printed plots. This command is a HPGL command and is not found in HPGL/2.

***RP (Replot)** This command allows a plotter to automatically recreate a plot without having to send new data to the plotter. When using the HP LaserJet III and 4, family printers, the only method of obtaining multiple plots is to send the copy command before entering HPGL/2 followed by the exit HPGL/2 command at the end of the file.

*** PG (Page Advance)**This command tells the plotter to eject a plot. This was disabled on the HP LaserJet III and 4 printers so PCL and HPGL/2 could be mixed on the same page without any page eject problems.
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Apple Printers: Can Print Postnet Codes (11/95)

Can I print bar codes on my envelopes from Apple printers, that can be read by the U.S. Postal Service?
This article has been archived and is no longer updated by Apple.

The Bar Code standard for the U.S. Postal Service is called Postnet.

There are a several third-party commercial and shareware packages available for Apple printers to generate Postnet characters.

Support Information Services
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AppleShare: Alias Manager Issue Resolved

This article describes an AppleShare and Alias Manager issue, and how it has been fixed with System 7.5.3 and AppleShare Workstation 3.6.2. This article has been archived and is no longer updated by Apple.

Summary of the Issue

The first issue was with the Alias Manager returning the wrong error message when a client tried to connect to an AFP server with an expired password. Instead of receiving the message to the effect "Your password has expired. Please enter a new one," the user received the message "The volume <name> could not be found on the network." The proper message appeared when connecting through the AppleShare Chooser, PowerTalk Catalog, or KeyChain, but not with the Alias Manager.

The second issue was if the user received the correct error message, there was no option for changing the password from the login panel from both the Alias Manager and PowerTalk. Logging in from the Chooser presents the user with a "Set Password" option.

Two Parts Fix

PART 1

System 7.5.3 (installed with System 7.5 Update 2.0) includes code changes to present the correct error message from both the Alias Manager and the PowerTalk Catalog or KeyChain. This solves the first issue above. System 7.5.3 also includes code to enable the fix in PART 2 below. System 7.5 Update 2.0 is available as a free upgrade for any 68030-based or later Macintosh computer running System 7.5 or later.

PART 2

AppleShare 4.2.1 includes a new version of the AppleShare Workstation, version 3.6.2, that presents a user with the "Set Password" option from the Chooser, the Alias Manager Login Window, and the PowerTalk Catalog or KeyChain Login Window. This fix requires the code changes in System 7.5.3 mentioned above. AppleShare Workstation 3.6.2 is compatible with earlier versions of the Mac OS, but will not fix the password expiration issue unless it is used in conjunction with System 7.5.3.

IMPORTANT NOTE:

Because System 7.5.3 and System 7.5 Update 2.0 were completed before AppleShare 4.2.1 was completed, AppleShare Workstation 3.6.2 is not part of System 7.5.3 (AppleShare Workstation 3.6.1 is in System 7.5.3). AppleShare Workstation 3.6.2 is distributed with AppleShare 4.2.1 and will also be posted to various online services and the Internet.

Note: This article mentions an Apple software update. You may search for software updates in the Software Updates Library at following URL: "**http://asu.info apple.com/**"

Published Date: Feb 19, 2012

PowerBook 500 Series: Frequently Asked Questions (5/96)

This document contains the answers to the following frequently asked questions (FAQ) about PowerBook 500 series computers.

1) I recently purchased a new battery for my 500 series PowerBook. My PowerBook isn't charging/recognizing this battery. What should I do?

2) My PowerBook does not always eject floppy disks, what's the problem?

3) My PowerBook display is blurry or sometimes has shadowing and ghosting effects. What can I do to correct this?

4) My external monitor is not displaying an image when I start up my PowerBook.

5) I am trying to connect a SCSI device to my PowerBook. However, when I start up the PowerBook, a diamond icon with a number appears on my screen.

6) I'm trying to connect my PowerBook as an external hard drive (SCSI Disk Mode) to another Macintosh. When I turn on my PowerBook, I get a flashing question mark or a "Sad Mac" instead of the diamond icon with a SCSI ID number.

7) Sometimes I can't seem to use my internal modem and print at the same time. Why is this?

8) Sometimes I get errors when printing to my StyleWriter (or any serial printer). Why is this?

9) Sometimes when I try to use the Trackpad, the cursor jumps around uncontrollably. What causes this?

10) Will my RAM and internal modem still be compatible after I upgrade my PowerBook 500 series computer to the PowerPC 603e processor?

11) I want to use an external modem with my PowerBook 500 series. According to the manual that came with my PowerBook, I need to check Normal in my PowerBook Setup control panel. I open the control panel, and the setting is not there. What's wrong?

12) I have a PowerBook 500 series with a Global Village PowerPort Mercury modem. Can you tell me how to send and receive faxes?

13) I've hooked up an external CD-ROM drive to my PowerBook 500 series and I'm playing an audio CD. When I bring up the AppleCD Audio Player I can see the numbers moving but there is no sound coming through the speakers, although I can hear the sound of regular multimedia CD's fine. Can I play an Audio CD through the internal speakers?

14) Will the Apple PlainTalk microphone work with the PowerBook 500 series?

15) How can I use an external microphone?

16) I am trying to record a sample of an audio CD with the Sound control panel. The sound comes out non-existent or weak. The CD player is running through the audio input port on the back of the computer. What's the problem?

17) Where else can I go for answers?

This article has been archived and is no longer updated by Apple.

1) Question: I recently purchased a new battery for my 500 series PowerBook. My PowerBook isn't charging/recognizing this battery. What should I do?

Answer: Try running the Intelligent Battery Update on your battery. This will update and fix the battery if needed, or let you know that the battery needs to be replaced. The Intelligent Battery Update can be found at the path
US -> Macintosh -> Powerbook -> Other PB SW.

If the Intelligent Battery Update does not alleviate the symptoms, try resetting the power manager on the PowerBook by following these steps:

Step 1
Shut down the PowerBook using the Special menu.

Step 2
Press the Command-Option-Control-Power On keys simultaneously and let go. Pressing the keys will not appear to do anything.

Step 3
Press the Power On key to start up the PowerBook. Your brightness and contrast settings may be reset and you may need to adjust them in order to see the screen.

If the symptom is still not resolved, the battery may need replacement. You can contact the Apple Assistance Center at 800-SOS-APPL (800-767-2775) or contact the Apple Referral Center at 800-538-9696 to

2) Question: My PowerBook does not always eject floppy disks, what's the problem?

Answer: The drive may not be properly aligned. If you can see the metal frame sticking up more than a couple of centimeters behind the floppy drive door, you should contact the Apple Assistance Center at 800-SOS-APPL (800-767-2775) to arrange for repair at our repair center or contact the Apple Referral Center at 800-538-9696 to obtain a phone number for an Apple-authorized service provider in your area.

3) Question: My PowerBook display is blurry or sometimes has shadowing and ghosting effects. What can I do to correct this?

Answer: The technology used on the passive-matrix displays is susceptible to shadowing and ghosting, since it does not individually address each pixel on the display. Gray-scale passive-matrix displays are particularly susceptible to the symptoms. The PowerBook 100, 140, 145, 145B, 150, 160, 165, 210, 230, 520, 190, and 5300/100 all use a gray-scale passive-matrix display.

Some suggestions to reduce the effects of the shadowing:

* Adjust the brightness and contrast settings of the display. Usually a lighter contrast setting will look better.

* Use a darker desktop pattern. The effects of the shadowing will not be as apparent with the darker background.

* Open the Monitors control panel and select "Black & White" instead of 16 Shades of Gray.

Although these tips can help mitigate the effects of the shadowing, some amount of screen anomalies will always be present on gray-scale passive-matrix displays.

4) Question: My external monitor is not displaying an image when I start up my PowerBook.

Answer: Follow this procedure:

1. Shut down the PowerBook.

2. Make sure the video cable connected to both the PowerBook video port and the Monitor video port is secure.

3. Make sure the PowerBook is plugged into the AC adapter, which is required to use an external monitor.

4. Start up the PowerBook and open the Monitors control panel. You should see images of two monitors, representing the PowerBook display and the external monitor. If you don't see the image of the external monitor, repeat steps 1 and 2

5. In the Monitors control panel, click (and hold) the "Identify" button. A large 2 should be displayed on the external monitor icon.*

*Tip: If you wish to use the external monitor as your primary monitor, open the Monitors control panel and drag the menu bar from the top of the internal display (labeled 1) to the top of the external monitor (labeled 2).

5) Question: I am trying to connect a SCSI device to my PowerBook. However, when I start up the PowerBook, a diamond icon with a number appears on my screen.

Answer: You are most likely using the wrong SCSI cable. You should be using the HDI-30 SCSI System Cable (M2538LL/A), which is a light gray color and only has 29 pins (there is a pin missing). You are most likely using the HDI-30 SCSI Disk Adapter cable (M2539LL/A) which is dark gray and has all 30 pins.

6) Question: I'm trying to connect my PowerBook as an external hard drive (SCSI Disk Mode) to another Macintosh. When I turn on my PowerBook, I get a flashing question mark or a "Sad Mac" instead of the diamond icon with a SCSI ID number.

Answer: You may have the wrong cable. Use the Apple HDI-30 SCSI disk adapter cable, part number M2539LL/A, in conjunction with an Apple SCSI System Cable appropriate to your other Macintosh along with proper SCSI termination.

7) Question: Sometimes I can't seem to use my internal modem and print at the same time. Why is this?

Answer: On most PowerBook models that have only one serial port (200's, 2300's, 190's, 5300's), the serial port is mapped as a modem port. Under normal conditions this isn't a problem - the internal modem can be used at the same time as a serial device such as a printer is being used.

The exception to this is if you are using a communications program that does not use the Apple Communications Toolbox (CTB). If this is the case, you will need to respectively set the PowerBook, PowerBook Setup, or Express Modem control panel to Internal, Compatible, or "Use internal modem instead of modem port".

The location of this setting will depend on what version of the modem and system software you have. When the PowerBook is set like this, the serial port cannot be used with serial devices. However, it can be used with LocalTalk devices.

The vast majority of communications programs that are developed for Macintosh right now will use the CTB. If you find that you have an older communications program, contact the manufacturer to see if there's an update.

8) Question: Sometimes I get errors when printing to my StyleWriter (or any serial printer). Why is this?

Answer: As discussed in the previous question, a PowerBook with a single serial port (200's, 2300's, 190's, 5300's) introduces some variables to serial printing. Three things must be true to print to a serial printer with a single serial port PowerBook:

1. AppleTalk must be set to inactive in the Chooser or something other than LocalTalk must be selected in the Network control panel.

2. If you have an internal modem you will need to respectively set the PowerBook, PowerBook Setup, or Express Modem control panel to External, Normal, or uncheck "Use internal modem instead of modem port" (see above). The location of this setting will depend on what version of the modem and system software you have.

3. When selecting the serial printer in the Chooser, you must select the modem port or the combined printer/modem port. Do not select the printer port.

9) Question: Sometimes when I try to use the Trackpad, the cursor jumps around uncontrollably. What causes this?

Answer: The Trackpad works on a principal called coupling capacitance. As your finger moves over the surface, the Trackpad evaluates the change in capacitance between two layers of measurement electrodes built into the surface of the Trackpad.

The most common cause of a jumping Trackpad cursor is moisture interference. If you have sweaty hands or if moisture collects on the pad, this may confuse the Trackpad. Wiping off the Trackpad with a cloth or tissue will usually fix this problem. If you find that it continues to get wet you may want to consider purchasing a teflon or mylar pad to fit over the pad to prevent the moisture from having direct contact with the pad. Before installing the pad, make sure the Trackpad is clean. You can use a mild glass cleaner sprayed onto the cloth, not onto the Trackpad itself.

Make sure only one part of your finger is touching the pad. You will not be able to use a pen or other object, it is designed to work with your finger. Also make sure that you are not resting your wrist on or very close to the pad. The Trackpad may interpret this as your wrist touching it and make the cursor move in that direction. If you suspect either of these is causing the cursor's behavior, try raising your wrist in the air and only touch the pad with the tip of your finger. If the symptom goes away then you know that one of the above is the cause and you should adjust the position of your wrist and or finger.

Oil or lotion can cause the same problem. Either do not use hand lotion, or consider purchasing a teflon or mylar pad to protect the pad. Before installing the teflon pad, make sure the Trackpad is clean.

Jewelry may also cause interference. Try removing rings or bracelets and see if the jumping or erratic behavior disappears.

10) Question: Will my RAM and internal modem still be compatible after I upgrade my PowerBook 500 series computer to the PowerPC 603e processor?

Answer: The existing RAM card and internal modem should be compatible with the PowerPC 603e upgrade. All Apple products are.

11) Question: I want to use an external modem with my PowerBook 500 series. According to the manual that came with my PowerBook, I need to check Normal in my PowerBook Setup control panel. I open the control panel, and the setting is not there. What's wrong?

Answer: If you do not have an internal modem, this setting will not appear in the PowerBook Setup control panel. If you want to use an external modem with your PowerBook 500 series, simply make certain AppleTalk is inactive in the Chooser and select the modem port in your communications software. You can leave AppleTalk active if you select something other than LocalTalk in the Network control panel.

12) Question: I have a PowerBook 500 series with a Global Village PowerPort Mercury modem. Can you tell me how to send and receive faxes?

Answer: Instructions for sending a fax are detailed on pp. 77-89 of your PowerPort 500 Series User's Guide.

Sending a fax is a lot like printing. You can follow these instructions to send your first fax:

1. Open whatever document you would like to fax. You could fax from within the application SimpleText, for example.
2. Hold down the Option key on your keyboard, and choose the command Fax from your File menu.
3. The Send Fax Setup dialog box will appear. Here you can enter your Station Name and Station Fax Number. Click OK when you are done.
4. The GlobalFax dialog will appear. Enter the number you wish to call in the Fax field, and enter the recipient's name in the To field. You can also choose a cover sheet at this window
5. Once you've entered the fax number and name of the recipient, click the Send... button. Your software should image and fax the document.

Instructions for receiving a fax are detailed on pp. 99-105 of your PowerPort 500 Series User's Guide.

You can configure your PowerBook to receive faxes automatically. Of course, it will have to be connected to an analog phone line. To set your PowerBook up to receive faxes automatically, follow these steps:

1. Open the "Global Village Fax Center" under the Apple menu
2. Under the Fax menu, choose Setup and Receiving.
3. In the Receive Fax Setup dialog box, put an X next to Receive Fax... Click OK when done.

After this, the Global Village Fax Center will answer incoming calls to receive faxes.

13) Question: I've hooked up an external CD-ROM drive to my PowerBook 500 series and I'm playing an audio CD. When I bring up the AppleCD Audio Player I can see the numbers moving but there is no sound coming through the speakers, although I can hear the sound of regular multimedia CD's fine. Can I play an Audio CD through the internal speakers?

Answer: There is not a direct connection between the SCSI port and the speakers, so direct play-through of audio CD's is not readily possible. Typically, only Macintosh computers which have an internal CD-ROM drive can play-through audio CD sound to the internal speakers. You will need to connect external speakers to the external CD-ROM drive to hear the audio CD sound.

14) Question: Will the Apple PlainTalk microphone work with the PowerBook 500 series?

Answer: No, the PlainTalk microphone is only supported with most Power Macintosh computers and the Quadra 840AV and 660AV.

15) Question: How can I use an external microphone?

Answer: The audio input port on the PowerBook 500 series computer is a line-level input. This means that it requires an audio signal with a strength of at least 1 volt peak-to-peak. If you want to use an external microphone, you will need to run it through a stereo system or a pre-amp that outputs a line-level signal, and you must be using a program capable of using this type of signal (see the next question).

16) Question: I am trying to record a sample of an audio CD with the Sound control panel. The sound comes out non-existent or weak. The CD player is running through the audio input port on the back of the computer. What's the problem?

Answer: The PowerBook 500 series uses an audio input port that requires a line-level signal, which your CD player is most likely providing. The problem is that the Sound control panel does not read this type of signal, and will not record it correctly. The Sound control panel is only designed to record sounds from the internal microphone on the PowerBook 500 series computers. To record sound from any device running through the external audio input on a PowerBook 500 series computer, you will need to use an application program such as Opcode Audio Shop that has an "auto-gain" option or some similar feature.

17) Question: Where else can I go for answers?

Answer: If you haven't done so already, check the other PowerBook FAQ documents. Also, depending on where you found this FAQ, you should have access to Apple's Technical Information Library (TIL). This library contains thousands of technical articles which are easily searchable using boolean search strings.

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PowerBook 100 Series: Frequently Asked Questions

This document contains the answers to frequently asked questions (FAQ) about PowerBook 100 series computers.

Questions Answered in This FAQ:
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1) When I press the power button, my PowerBook does not start up, or flashes the display momentarily. What is wrong?

2) Since I installed a modem on my PowerBook 150, the battery seems to get depleted very quickly. What can I do to save battery power?

3) My PowerBook does not always eject floppy disks, what's the problem?

4) My PowerBook display is blurry or sometimes has shadowing and ghosting effects. What can I do to correct this?

5) I am trying to connect a SCSI device to my PowerBook. However, when I start up the PowerBook, a diamond icon with a number appears on my screen. Why is this?

6) I'm trying to connect my PowerBook as an external hard drive (SCSI Disk Mode) to another Macintosh. When I turn on my PowerBook, I get a flashing question mark or a "Sad Mac" instead of the diamond icon with a SCSI ID number. What's wrong?

7) My battery lasts only a very short time. What can I do?

8) When starting up, my PowerBook with Express Modem displays the Fax Modem extension icon with an "X" through it. I can't use my modem to send a fax. What's wrong?

9) My external monitor is not displaying an image when I start up my PowerBook.

10) Do PowerBook 190 computers support external video?

11) Why does my PowerBook trackball sometimes appear to "stick" or "jump" when rolled?

12) How do I back up the files on my PowerBook 145B or 150?

13) I made a backup of the information on my PowerBook 145B/150 hard drive. Now Iwould like to restore just one of my control panels. Can I restore a single file from the backup?

14) I did not make a backup of the system software on my PowerBook 145B (or PowerBook 150), and now I think I need to reload the operating system. I do not want to upgrade to System 7.5. Where can I get a new copy of the software that came with my PowerBook?

15) Iam upgrading my PowerBook with Express Modem to System 7.5. What version of the Express Modem software should Ibe using?

16) Can the PowerBook 5300/190 use two batteries simultaneously?

17) Where else can I go for answers?
This article has been archived and is no longer updated by Apple.
1) Question: When I press the power button, my PowerBook does not start up, or flashes the display momentarily. What is wrong?

Answer: First try plugging in the AC Adapter. If the computer starts with the AC Adapter, but not with the battery in the battery compartment, you either need to charge the battery, or you may need to replace the battery.

If that doesn't help, try resetting the power management circuitry. Please see the document titled "PowerBook Power/Batteries: Frequently Asked Questions" for instructions on resetting the power manager.

2) Question: Since I installed a modem on my PowerBook 150, the battery seems to get depleted very quickly. What can I do to save battery power?

Answer: Apple released the PowerBook 150 Update to correct this problem. When the PowerBook 150 has an internal modem, the modem continues to draw power when not in use. This shortens the battery life. The update is available at the path U.S.A. Apple Software Updates -> Macintosh -> System Software -> Other System Software. The update is not required with system software version 7.5 or later.

3) Question: My PowerBook does not always eject floppy disks, what's the problem?

Answer: The drive may not be properly aligned. If you can see the metal frame sticking up more than a couple of centimeters behind the floppy drive door, you should contact the Apple Assistance Center at 800-SOS-APPL (800-767-2775) to arrange for repair at our repair center or contact the Apple Referral Center at 800-538-9696 to obtain a phone number for an Apple-authorized service provider in your area.

4) Question: My PowerBook display is blurry or sometimes has shadowing and ghosting effects. What can I do to correct this?

Answer: The technology used on the passive-matrix displays is susceptible to shadowing and ghosting, since it does not individually address each pixel on the display. Gray-scale passive-matrix displays are particularly susceptible to these symptoms. The PowerBook 100, 140, 145, 145B, 150, 160, 165, 210, 230, 520, 190, and 5300/100 all use a gray-scale passive-matrix display.

Some suggestions to reduce the effects of the shadowing:

* Adjust the brightness and contrast settings of the display. Usually a lighter contrast setting will look better.

* Use a darker desktop pattern. The effects of the shadowing will not be as apparent with the darker background.

* Open the Monitors control panel and select "Black & White" instead of 16 Shades of Gray.

Although these tips can help mitigate the effects of the shadowing, some amount of screen anomalies will always be present on gray-scale passive-matrix displays.

5) Question: I am trying to connect a SCSI device to my PowerBook. However, when I start up the PowerBook, a diamond icon with a number appears on my screen. Why is this?

Answer: You are most likely using the wrong SCSI cable. You should be using the HDI-30 SCSI System Cable (M2538LL/A), which is a light gray color and only has 29 pins (there is a pin missing). You are most likely using the HDI-30 SCSI Disk Adapter cable (M2539LL/A) which is dark gray and has all 30 pins.

6) Question: I'm trying to connect my PowerBook as an external hard drive (SCSI Disk Mode) to another Macintosh. When I turn on my PowerBook, I get a flashing question mark or a "Sad Mac" instead of the diamond icon with a SCSI ID number. What's wrong?

Answer: You may have the wrong cable. Use the Apple HDI-30 SCSI disk adapter cable, part number M2539LL/A, in conjunction with an Apple SCSI System Cable appropriate to your other Macintosh along with proper SCSI termination.

NOTE: SCSI Disk Mode is NOT supported on the following PowerBook models:
140, 145, 145B, 150, and 170.

7) Question: My battery lasts only a very short time. What can I do?

Answer: Follow the procedure detailed below.

Step 1

Reset the power manager, following the procedure detailed in the document titled "PowerBook Power/Batteries: Frequently Asked Questions".

Step 2

Let the battery charge for 8 hours. This procedure should resolve the problem.

Step 3

A few words about ongoing battery care: Completely discharge the battery after approximately 15 to 20 recharges. Here's how to do this:

Let the battery discharge completely until the PowerBook goes into sleep mode. You'll see three battery warning dialog boxes before this occurs. This process will "recycle" the nickel cadmium (NiCad) battery and eliminate a "memory effect," which makes the battery appear depleted when it is not.

Note: Do not attempt to fully discharge or recondition a PowerBook 100 lead-acid battery. If the battery life has significantly diminished on a lead-acid battery, then it probably needs to be replaced.

8) Question: When starting up, my PowerBook with Express Modem displays the Fax Modem extension icon with an "X" through it. I can't use my modem to send a fax. What's wrong?

Answer: Open the Preferences folder inside your System Folder and trash the Fax Preferences file, empty the Trash, and restart your PowerBook. The Fax Preferences file can be corrupted due to a system error or screen freeze, disabling the Fax Modem extension as a result.

9) Question: My external monitor is not displaying an image when I start up my PowerBook.

Answer: Follow this procedure:

Step 1

Shut down the PowerBook.

Step 2

Make sure the video cable connected to both the PowerBook video port and the Monitor video port is secure.

Step 3

Make sure the PowerBook is plugged into the ACAdapter, which is required to use an external monitor.

Step 4

Start up the PowerBook and open the Monitors control panel. You should see images of two monitors, representing the PowerBook display and the external monitor. If you don't see the image of the external monitor, repeat steps 1 and 2.

Step 5

In the Monitors control panel, click (and hold) the "Identify" button. A large 2 should be displayed on the external monitor icon.

Tip: If you wish to use the external monitor as your primary monitor, open the Monitors control panel and drag the menu bar from the top of the internal display (labeled 1) to the top of the external monitor (labeled 2).

10) Question: Do PowerBook 190 computers support external video?

Answer: External video on the PowerBook 190 computers is optional. The PowerBook 190 implements a PDS slot in the rear of the computer that can be filled with an Apple or third-party video card. Apple's video card, model number M3743LL/A, provides 8-bit color at resolutions up to 832x624 using 512k VRAM.

11) Question: Why does my PowerBook trackball sometimes appear to "stick" or "jump" when rolled?

Answer: Most PowerBook trackball problems are due to contamination of the rollers. The trackball is just like the standard Apple mouse in that dust and debris can accumulate on the rollers and impede smooth movement of the trackball.

Symptoms of a Dirty Trackball
==========

Symptoms that your trackball is dirty are:

* The trackball appears to "stick" or "jump" when rolled.
* The cursor will not track horizontally or vertically.
* It sometimes seems like the cursor is "hitting a wall."
* The movement of the cursor on the screen isn't smooth.
* The trackball is physically difficult to roll.

How to Clean the Trackball
==========

Step 1

Remove the trackball retaining ring by turning it counterclockwise until it pops out (about 1/4 turn). You don't need tools for this; you can just press against the two small ridges on the ring with your fingernails.

Step 2

Lift the retaining ring and trackball out of its cavity.

Step 3

Locate the small rubber rollers at the left and bottom sides of the trackball cavity. Depending on your model, they may look like small rings or wheels.

Step 4

Use any reasonably clean, blunt object (such as your finger or a cotton swab) to wipe off the rollers. Do not use any liquid, including any amount of cleaning fluid or water, inside the computer.

Step 5

Locate the three bearings located at approximately clockwise 4:00, 7:00, and 11:00 in all PowerBooks except the PowerBook 100, which has three black posts instead of bearings. Using a fingertip, dry cotton swab, or other blunt object, clean them of any debris.

Step 6

Replace the trackball and the retaining ring.

In addition, on a PowerBook 140 or 170, reseating the cables on the trackball and keyboard may solve the problem. This is very effective if the failure is related to the computer heating up. These cables are located inside the PowerBook, so your authorized service provider or Apple must do this.

12) Question: How do I back up the files on my PowerBook 145B or 150?

Answer: Instructions for backing up the information on the PowerBook 145B or PowerBook 150 are available in the online Apple Technical Information Library. Use the search string "PowerBook 145Band backup" to locate the article "PowerBook 145 &150: Backup and Restore Instructions." The instructions are also detailed in the User's Guide that comes with both computers.

13) Question: I made a backup of the information on my PowerBook 145B/150 hard drive. Now Iwould like to restore just one of my control panels. Can I restore a single file from the backup?

Answer: No. The PowerBook 145B and 150 backup does not allow for restoring single files.

14) Question: I did not make a backup of the system software on my PowerBook 145B (or PowerBook 150), and now I think I need to reload the operating system. I do not want to upgrade to System 7.5. Where can I get a new copy of the software that came with my PowerBook?

Answer: Unfortunately, you can no longer order a pre-made backup of the operating system for a PowerBook 145B and 150. For year 2000 compatibility, Apple highly recommends you purchase the Apple Legacy 2000 software by contacting Apple at 800-767-2775. A shipping and handling fee will apply, and the software is available on floppy disk or CD (for the same price). It consists of System 7.5.5 with Open Transport 1.1.2 and OT/PPP.

15) Question: Iam upgrading my PowerBook with Express Modem to System 7.5. What version of the Express Modem software should Ibe using?

Answer: You should upgrade your Express Modem software to at least version 1.5.3. Earlier versions may not work properly with System 7.5.

16) Question: Can the PowerBook 5300/190 use two batteries simultaneously?

Answer: Yes, the PowerBook 5300/190 expansion bay (where the floppy disk drive normally is) can accept a battery. BTI (800-982-8284) is in the process of releasing such a battery as of this writing. Since the expansion bay does not pass AC power through, any battery used through the expansion bay will require its own power supply for charging.

17) Question: Where else can I go for answers?

Answer: If you haven't done so already, check the other PowerBook FAQ documents. Also, depending on where you found this FAQ, you should have access to Apple's Technical Information Library (TIL). This library contains thousands of technical articles which are easily searchable using boolean search strings.
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AppleSearch 1.5: Work with Network Firewalls

This article describes getting AppleSearch 1.5 to work with network firewalls.
This article has been archived and is no longer updated by Apple.
You may be having problems getting AppleSearch Server v1.5 to work properly with network firewalls. Since the AppleSearch Server v1.5 does WAIS communications, it should be set it up as a WAIS connection when configuring the network firewall.

About Firewalls

Firewalls are not as static and immutable as the name suggests. They are essentially filters that look for particular types of network traffic and allow or disallow the packets to proceed, accordingly. Internet services identify themselves by a port or socket number which is attached to each packet. These packets are usually what firewalls look at with their filters.

WAIS operates on socket 210, so when the network administrators configure the firewall, they can allow 210 traffic to pass. This allows WAIS and the AppleSearch Server v1.5 to work correctly within network firewalls.
Published Date: Feb 19, 2012

LaserWriter Driver 8.3.2: Requirements (11/95)

What Macintosh models and version of the Mac OS can the LaserWriter 8.3.2 printer driver software be used with?
This article has been archived and is no longer updated by Apple.
The LaserWriter 8.3.2 software, which was included with the System 7.5.2 Printing Update v1.1, can be used in place of any version of the LaserWriter 8.x software. The LaserWriter 8.3.2 driver is supported on any Macintosh computer using System Software 7.1 or greater.

The Read Me file for the LaserWriter 8.3.2 driver mentions it corrected issues on new PCI-based Power Macintosh computers, however these issues could have occurred (in extremely rare cases) on previous Macintosh computer too.

Support Information Services
Published Date: Feb 19, 2012

Macintosh: Unimplemented Trap Error Message Explained (11/95)

This article describes what a trap is in the Mac OS. It also explains why you might occasionally get an "Unimplemented Trap" error message.

This article has been archived and is no longer updated by Apple.

The Macintosh operating system (Mac OS) operates by using a series of interrupts to perform an operation. When an application draws a line, for example, it sends a specially encoded instruction to the microprocessor. The microprocessor decides if this is one of the 200+ fundamental instructions that are part of the microprocessor, if it is not, it calls a software routine called a "trap dispatcher". This routine then calls a software routine (usually in ROM) which draws the line.

If the instruction received by the microprocessor is improperly formatted, but appears to have the characteristics of a trap, it still sends it to the trap dispatcher. If the trap dispatcher cannot handle it, then you get an unimplemented trap message.

While unimplemented trap errors can be spurious and caused by software. If you get this error message consistently performing a function on your Macintosh, it could be a real software related error. When you consistently get unimplemented trap errors, you should look at the software on your hard disk since it could be corrupted, or incompatible. Software issues can result from the use of incompatible or corrupt third-party drivers, control panels, or extensions. But, these errors are not limited to third-party products, they can also result from the use of corrupted system software.

To correct these problems, you should remove the third-party extension, control panel, or application, or reinstall your system software.

Support Information Services
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Apple III: Emulation Mode--Controlling Bit 8 of the RS-232 Port

This driver allows the user to control bit 8 of the built-in RS-232 port in Emulation Mode. Bit 8 is used by some printers to select expanded or normal print mode or to enable alternate or graphics character sets. DOS 3.2 or DOS 3.3 is required to use this routine. Both the Serial Card Emulation and the Communications Card Emulation are supported.
This article has been archived and is no longer updated by Apple.
SOFTWARE ENTRY

Boot a DOS diskette and enter the monitor with CALL -155 and type

3B0:A9 07
:20 95 FE
:A9 80
:20 ED FD
:A9 C5
:85 36
:A9 03
:85 37
:4C EA 03
:29 7F
:0D CD 03
:4C 07 C7
:80

To check your typing, type

3B0L

and compare your listing to the one below.

```
03B0-   A9 07       LDA   #$07
03B2-   20 95 FE    JSR   $FE95
03B5-   A9 80       LDA   #$80
03B7-   20 ED FD    JSR   $FDED
03BA-   A9 C5       LDA   #$C5
03BC-   85 36       STA   $36
03BE-   A9 03       LDA   #$03
03C0-   85 37       STA   $37
03C2-   4C EA 03    JMP   $03EA
03C5-   29 7F       AND   #$7F
03C7-   0D CD 03    ORA   $03CD
03CA-   4C 07 C7    JMP   $C707
03CD-   80          ???
```

Now return to Basic with 3D0G

SAVING THE PROGRAM TO DISK:

Save the driver to disk by typing

BSAVE SERIAL DRIVER, A$3B0, L$1E

USING THE PRINTER:

The driver should be in memory before you want to use the printer. You must load the driver and initialize the interface.

From command mode type

BLOAD SERIAL DRIVER
CALL 944

This may be done from a program by entering

100 PRINT D$;"BLOAD SERIAL DRIVER" : CALL 944

assuming that D$ contains a CTRL-D.

If you want to switch back to the video monitor for output type

PR#0

or in a program enter

200 PRINT D$;"PR#0"

Then to reconnect the printer, all that is required is

CALL 954

or from a program

300 CALL 954

SETTING THE PRINT MODES:

To set normal print mode POKE 973,0
To set expanded print mode POKE 973,128
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QuickFile: Formatting QuickFile Disks on the IIc

The IIc Compatibility List says to use the Utility Formatter for QuickFile disks; unfortunately, using the Utility Formatter doesn't put the QuickFile catalog file on the disk.

This article has been archived and is no longer updated by Apple.

To work around this problem, copy any QuickFile data disk (such as the Sample Files disk) and then, using QuickFile, remove all the files from the catalog.

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Macintosh: 512K With 800K Disk Drive

BACKGROUND: A 512K Macintosh requires a special revision of ROM to work with an 800K disk drive. Service stock PCBs commonly used as replacements when repairing Macintoshes do not have the 800K upgraded ROM installed.
This article has been archived and is no longer updated by Apple.
IMPORTANT: When swapping the main logic PCB on a 512K Macintosh, perform the following:

1. CHECK FOR 800K ROM UPGRADE ON "BAD" PCB
Check the ROM installed on the malfunctioning PCB. If the ROM part numbers are 34X-0341 and 34X-0342, then they are 800K upgrade ROM and you should proceed to step 2 of this procedure. If not, then the bad PCB doesn't have 800K ROM so you don't need to worry about transferring the upgrade from the bad PCB to the new PCB.

2. SWAP 800K ROM FROM "BAD" PCB TO "NEW" PCB
If the malfunctioning PCB has the 800K ROM installed, swap them into the new PCB before installing it into the customer's Macintosh.

NOTE: If the ROM were swapped from the "BAD" PCB to the "NEW" PCB, remember to install the original ROM from the new service stock PCB into the bad PCB before returning it to Apple.

Published Date: Feb 19, 2012

DOS Compatibility Card: What is APPLEPC.EXE? (11/95)

I have a DOS Compatibility Card, and noticed there is something called APPLEPC.EXE that is loaded in my AUTOEXEC.BAT file. What does APPLEPC.EXE do?

This article has been archived and is no longer updated by Apple.

APPLEPC.EXE, in conjunction with WINCLIP.EXE, lets you copy-and-paste between Microsoft Windows and the Mac OS. APPLEPC.EXE normally loads in AUTOEXEC.BAT, and WINCLIP.EXE is located in the Startup group in Windows.

If you want this functionality and do not have it, reinstall from the disk labelled "DOS Compatibility Card Installer Disk for DOS Environment".

If you do not want this functionality, you can remove both of these items.

Support Information Services
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Newton Keyboard: Auto-Capitalization Disabled

When I have the Newton Keyboard attached to my Apple MessagePad 120 with the Newton OS 2.0 installed, I have found that fields that would automatically capitalize, do not with the keyboard attached. Why?

This article has been archived and is no longer updated by Apple.

This is actually the way it is supposed to work. The soft keyboard does not always reflect what the Newton keyboard types. If you press the caps lock key on the Newton keyboard, the soft keyboard does not change and the Newton keyboard types upper case letters while the soft keyboard types lower case letters. The MessagePad cannot set the state of the caps lock, or shift keys on the Newton keyboard.

Published Date: Feb 19, 2012

Macintosh Performa: Error Type 2012 (12/95)

When I start up my Macintosh Performa computer, I get an error message with a number 2012. What should I do?
This article has been archived and is no longer updated by Apple.
The 2012 error is generated by the Global Village software, and occurs if the Global Village software preferences are corrupted.

To resolve the issue, perform the following steps:

Step 1

Open your System Folder.

Step 2

Open your GlobalFax Personal folder.

Step 3

Throw away the following two files:

- Queue Temp
- GlobalFax Preferences

The Global Village software recreates the Queue Temp and GlobalFax Preferences files. However, certain preferences, such as your preferred local Zip Code and registration information, are lost. You may need to reconfigure this information, but you do not need to re-register your computer. Also, your address book will be left intact; there is no risk of loss of that data.

If these steps do not resolve this error, reinstall your system software. To do this, start your computer using your Macintosh Performa CD and choose the "Restore All Software" option. This process is fully described in your Macintosh Performa User's Guide.

Support Information Services
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Newton 2.0 OS: Handwriting Recognizers Explained

In the release of Newton 2.0 OS, Apple included a new handwriting recognizer. This article explains when the new recognition technology is used, and how it differs from the previous handwriting recognition technology.
This article has been archived and is no longer updated by Apple.
With the release of the Newton 2.0 OS, the Newton 1.x OS the paragraph recognizer is now the cursive recognizer in the Newton 2.0 OS. The cursive recognizer learns how to adapt to your handwriting, but the printed recognizer does not.

There are several word lists in the Newton OS. These include names, cities, states and others. The only word list that can be modified by the user is the personal word list and it is imported when upgrading to the Newton 2.0 OS. All other word lists are not imported.

The printed recognizer still searches dictionaries, but considers letter-by-letter possibilities as well treating non-words as less probable.

The basic difference is that the printed recognizer does not does not learn and the letters each need to be separated buy pen lifts.

The cursive recognizer has new algorithms which have been improved for better recognition and speed.

Article Change History:
07 May 1996 - Added additional information on printed recognizer.

Published Date: Feb 19, 2012

Color LaserWriter 12/600 PS, 12/660 PS: Toner Cartridges Don‘t Fit or Make Noise

I am installing the toner cartridges in a Color LaserWriter 12/600 PS printer, and one of cartridges does not slide all the way into the toner bay. This toner cartridge stops and leaves about 1/8-in. extending from the toner bay. This cartridge also does not make a click sound like the other cartridges. When I try to remove the cartridge the cartridge release lever makes a noise. One time, I was able to get the cartridge into the bay, but now the toner carousel is stuck between cartridges and the printer is making a grinding noise. How can I correct this?
This article has been archived and is no longer updated by Apple.
The Color LaserWriter 12/600 PS and Color LaserWriter 12/660 PS printers have four toner cartridges: black, cyan, magenta, and yellow. Each cartridge is "keyed" so that you do not accidentally put the wrong cartridge into the wrong bay. For example, putting the yellow cartridge in the black cartridge bay.

These keys can be pulled out of place, so you need to be careful when installing and removing the cartridges. The Color LaserWriter 12/600 PS User's Manual says:"gently rock toner back and forth" in a rolling motion, not side to side (page 22).

This chart shows you where the individual key plugs belong. The cartridges are viewed label side down, with an imprint number at the bottom:

```
     Black
   ()   (0)
()          ()
---imprint #---

     Cyan
   ()   ()
()         (0)
---imprint #---

    Magenta
   (0)   ()
()          ()
---imprint #---

    Yellow
   ()   ()
(0)         ()
---imprint #---
```

When a cartridge gets stuck in the printer, use the teal colored toner carousel knob by pressing it in and rotating it clockwise until the cartridge lines up in the open bay area (you can not rotate it the counter-clockwise). Slowly pull the toner release lever out as far as it goes.

IMPORTANT: Do not force the toner release lever, doing so can damage the Color LaserWriter 12/600 PS or Color LaserWriter 12/660 PS printer.

NOTE: If the toner carousel does not rotate freely, service is required.
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Newton MessagePad: Trouble-Shooting Power Related Issues

This article describes some trouble-shooting techniques you can use when your Apple MessagePad will not power on.
This article has been archived and is no longer updated by Apple.
When your Apple MessagePad will not power on, first check your batteries. Make sure you have good batteries, typically this problem will happen after putting in fresh batteries or removing a PC-card.

Here are some steps you can try to get the Apple MessagePad to power on. Start with step one and continue following the steps until your Apple MessagePad powers on.

WARNING: The earlier Apple MessagePad devices (the Original MessagePad, MessagePad 100, MessagePad 110) have all data internally in SRAM, so backup your Apple MessagePad BEFORE removing all the batteries in the MessagePad.

The MessagePad 120 has user data stored in "Flash RAM", which is persistent, and the system in SRAM which needs to have power. If you have to remove all power, you will NOT lose your data. However, you will have to reset Date & Time, and a few other minor settings.

1. Reset the Apple MessagePad
2. Plug the Apple MessagePad into AC power if you have the Newton Power Adaptor, then reset the unit.
3. Remove the batteries and reset the Apple MessagePad with AC power only.
4. Remove all power, including the backup battery, for at least 15 minutes. Then replace the batteries and repeat step one through three.

If after following these steps, your Apple MessagePad still does not power on, you need to have your unit serviced.

Notes:

- Resetting is always a good thing to try first on the Apple MessagePad. It is like restarting a Macintosh computer (Newton PDA devices are always sleeping, not being shut down!).
- When you take out the backup battery, the little screw is set into the metal plate so you will not lose it.

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Newton 2.0 OS: Serial 9600 Package Explained

When I tap on the Serial 9600 icon in the Newton 2.0 OS Extras Drawer, a message appears that reads: "Packages: Tapping this does nothing." I looked for a reference to the Serial 9600 package, but couldn't find anything. What does this package do?

This article has been archived and is no longer updated by Apple.

The Serial 9600 package is only used when communicating with older Windows-based computers. The Serial 9600 package is a standard package that is loaded at the factory. It adds one item to the "Connection" popup (Windows - 9600). Allowing Windows users to reduce the serial speed to 9600 bps. This option was added because some older Windows-based computers cannot communicate at 38.4 Kbps.

Published Date: Feb 19, 2012

Macintosh Performa 5300CD: Specifications

This article gives the technical specifications for the Macintosh Performa 5300CD computer.
This article has been archived and is no longer updated by Apple.

Processor

- PowerPC 603e processor running at 100 MHz

Memory

- 16 MB of RAM minimum, installed in one of the SIMM sockets
- Two 72-pin SIMM sockets; RAM can be expanded to 64 MB (80 nanoseconds)
- 4 MB read-only memory (ROM)
- 256K Level 2 cache
- 1 MB DRAM frame buffer on board (for video support)

Storage

- Apple SuperDrive 1.4 MB high-density floppy disk drive
- Internal 1.2 GB IDE hard disk drive (1/3-height)
- Internal SCSI 4x CD-ROM player

Video

- 15" flat square shadow mask CRT
- 0.28 mm dot pitch

Resolutions:

Resolution	Max. Bit Depth	Max. Number of Colors	Frequency (Hz)
640 x 480	16	32,768	67 (60 VGA)
800 x 600	8	256	60, 72
832 x 624*	8	256	75

*Does note support video input

External Video Kit
Using the option external video connector kit, video mirroring is supported on the following external displays:

External Monitor	Supported resolutions 640 x 480	800 x 600	832 x 624
Macintosh 13" Color Display	X		
Apple Color Plus 14" Display	X		
Macintosh Color Display	X		
Apple Performa Plus Display	X		
Apple Multiple Scan 14 Display	X	X	
Apple Multiple Scan 15 Display	X	X	X
Apple Multiple Scan 17 Display	X	X	X
Apple Multiple Scan 20 Display	X	X	X
SVGA monitors (may need adapter)	X	X	

Sound

- 16-bit monophonic sound input
- 16-bit stereophonic sound output
- Integrated microphone for monaural sound input

- Two stereophonic sound output ports, level nominally 0.5 volts RMS into 39 ohms
- Internal stereo speakers, muted whenever a plug is inserted into either sound output port
- Sound input port for microphone or line input (port accepts stereophonic input, but sound is combined into monophonic sound for play-through or recording)

Clock/calendar

- CMOS custom chip with battery

Keyboard

- Includes AppleDesign keyboard
- Supports all Apple Desktop Bus (ADB) keyboards

Expansion & Ports

- ADB port for keyboard, mouse, and other input devices using a low-speed, synchronous serial bus
- Two serial port for printers and other serial devices (see note)
- SCSI port for a chain of up to seven SCSI devices
- LC-compatible 68030 processor-direct slot (96/114-pin)
- Communication slot with included internal Global Village 14.4 modem.
- Built-in video capture card providing real-time video display, video capture, and overlay (60-pin)
- Built-in internal TV tuner card
- Optional monitor-out port for video mirroring (using external video connector kit, purchased separately)

Note: The Macintosh Performa 5300CD includes an internal Global Village 14.4 modem which disables one of the external serial ports. In order to use both serial ports, the internal modem must be removed.

Additional features

- All-in-one enclosure
- Tilt from -5 degrees to +15 degrees, swivel 360 degrees
- Support for optional infrared remote control
- Front panel push-button controls for volume
- Front panel stereo headphone jack
- Power on and off from keyboard and optional remote control

Environment

- Operating temperature: 10í C to 40í C (50í F to 104í F)
- Storage : ð40í C to 47í C (ð40í F to 116.6í F)
- Relative humidity: 5% to 95% noncondensing
- Altitude: Works below 3048 m (10,000 ft.)

Weight

- 21.15 kg (47 lbs)

Height and Weight

- Height: 17.5" (44.5 cm)
- Width: 15.1" (38.3 cm)
- Depth: 16.0" (40.6 cm)

Apple Desktop Bus power requirements

- Maximum current draw for all ADB devices is 500 milliamperes (mA)
- Mouse draws up to 10 mA
- Keyboard draws 25ð80 mA (varies with model)

Note: The maximum number of ADB devices recommended in a daisy chain connected to the ADB port is three.

AC line input

- Line voltage: 100ð240 volts AC, RMS, single phase, nominal
- Frequency: 50ð60 hertz (Hz)
- Power consumption: 125 watts

System Software

- Mac OS 7.5.1 with Apple Guide, AppleScript, and PC Exchange included.

Software bundle

- At Ease
- ClarisWorks
- Quicken
- Apple Video Player
- MacGallery Clip Art
- Global Fax software
- Adobe Acrobat
- MacLinkPlus/Easy Open Translators
- American Heritage Dictionary
- ClickArt Performa Collection
- Megaphone for Performa
- Apple Remote Access
- HyperCard Player

CD bundle

- 1995 Grolier's Multimedia Encyclopedia
- Club KidSoft
- VideoShop
- 1995 TIME Alamanac
- 3D Atlas
- Family Doctor

Configurations and Ordering Information
Order No. M4498LL/A
Macintosh Performa 5300 computer with:

- 16 MB of RAM
- 1 MB of video memory
- Built-in AppleCD 600i internal quadruple speed CD-ROM player
- 1.4 MB Apple SuperDrive floppy disk drive
- 1.2 GB IDE internal hard disk drive
- Video capture card
- TV tuner
- Built-in 15 inch display
- Global Village internal 14.4 Kbps fax/send modem
- Bundled third-party software and CDs
- AppleDesign Keyboard

Published Date: Feb 19, 2012

ImageWriter II: Character Smudging

When using an ImageWriter II in conjunction with the Macintosh, characters sometimes appear "smudged" or "blurry".
This article has been archived and is no longer updated by Apple.
This can often be a result of using other than the current version of ImageWriter II driver software.

Solution:
First, to determine if the driver is the cause of the smudging, check the version of driver being used. The easiest way is to print a document and see what version number is displayed in the Print Dialog box. The version should be 2.1 or later. If it is not, the driver should be replaced.

To install the new driver, use the LaserWriter Install program contained on the LaserWriter Install diskette. (This diskette was sent to all dealers in the October 1 AppleGram mailing. The diskette is also included in all AppleTalk Option Kits for the ImageWriter, LaserWriter Plus Upgrade Kits, and LaserWriters.) Run the Install program and select "ImageWriter" as the print driver.

Do not use the old method of dragging the current ImageWriter icon into the trash can and the new ImageWriter II icon into the system folder. This may result in a malfunction of the ImageWriter II.

If this cure does not resolve the problem, go to the Technical Procedures to obtain a general troubleshooting procedure.
Published Date: Feb 19, 2012

QuickDraw GX 1.1.3: Urgent Read Me

This article contains the Read Me file on the first installation disk of the QuickDraw GX 1.1.3 update software package. This Read Me is different from the one installed on the hard drive with QuickDraw GX 1.1.3.
This article has been archived and is no longer updated by Apple.
URGENT Read Me!

Before You Install QuickDraw GX
Printing and Faxing from QuickDraw GX

To print with QuickDraw GX, you need a QuickDraw GX printer driver for your printer.

If you have an Apple printer, the QuickDraw GX versions of your currently installed printer drivers except the Color StyleWriter Pro are installed with the QuickDraw GX software. All Apple printers (except the Apple Color Printer) have GX drivers.

The Color StyleWriter Pro GX driver is available from these electronic on-line services:

- CompuServe: GO APLSUP
- America OnLine: keyword ftp, then connect to ftp.info.apple.com
- FTP: ftp.info.apple.com
- Web: **http://www.apple.com/swupdates**

If you have a non-Apple printer, check with your Apple-authorized dealer or contact your printer vendor directly to make sure that you have the right printer driver for your printer. For printer vendor contact information, see the "QuickDraw GX Printer Driver Upgrade Information" section below.

The Apple Telecom 2.0 (or later) packagewith Express Modem and GeoPort fax driversis compatible with QuickDraw GX. For more information, see the "QuickDraw GX Fax Information" section later in this file.

QuickDraw GX and WorldScript II
Make sure that you are using WorldScript II version 7.2 or later. QuickDraw GX is not completely compatible with versions of WorldScript II prior to 7.2.

QuickDraw GX and At Ease
Make sure that you are using At Ease version 2.0.3 or later.

QuickDraw GX Printer Driver Upgrade Information
If you are using a non-Apple printer, use the information below to contact the vendor about a printer driver upgrade. If your printer's vendor is not listed here, see the manual that came with your printer for contact information.

CalCompPostScript compatible printers from CalComp should work with the standard LaserWriter GX PostScript driver. If you have any problems using QuickDraw GX with CalComp products and are within the United States or Canada, call CalComp at 800-451-7568. Outside the United States or Canada, contact the office in your area as listed in an appendix of your User's Guide.

Epson America: For information about Epson QuickDraw GX drivers, call the Epson End User Support Center at 1-800-922-8911.

GCC Technologies: For information about GCC QuickDraw GX drivers and upgrade information contact GCC Technical Support at one of these numbers:

Phone Number: 617-276-8620
Fax Number: 617-275-1115
CompuServe: 67004,2302
GEnie: GCC.TECH
America OnLine: GCC TECH

GDT Softworks Inc.: For upgrade information about GDT Softworks products (PowerPrint 2.5, PowerPrint/GX 3.0, PowerPrint/LT 3.0, PowerPrint/NW 3.0, PLOTTERgeist 3.0, PowerPlot 2.0, PowerPlot/LT 2.0, StyleScript 2.0), contact GDT:

GDT Softworks Inc.
Customer Service Upgrades
4664 Lougheed Highway, Suite 188
Burnaby, BC V5C 6B7 Canada

Phone Number: 1-800-663-6222 or 604-291-9121
Fax Number: 604-291-9689
CompuServe: 72137,3246
Internet: customer_service@gdt.com

Hewlett-Packard: If you need Post-Sale Assistance, Technical Assistance, or if you have any kind of questions about H-P peripherals, contact the H-P Computer Products Customer Support Center at 208-323-2551.

For users of Hewlett-Packard printers, the fastest way to get a QuickDraw GX printer driver is from one of these electronic on-line services:

CompuServe: HP Peripherals forum (HPPER) Library 9
Internet: FTP to IP address 192.6.71.2, Name - Anonymous, Password - Send User Identification
HP Download Service: 208-344-1691 (modem settings: parity, N; data bits, 8; stop bits, 1)

To receive detailed instructions on accessing these on-line services, contact HP FIRST, Hewlett-Packard's document FAX retrieval service:
Inside the U.S. and Canada: 1-800-333-1917 (Then press 1 for HP FIRST.)
Outside the U.S. and Canada: 208-344-4809

To receive a disk with the QuickDraw GX printer driver, contact the HP Software Distribution Center at 303-339-7009. A nominal charge for materials and shipping applies.

Kodak: Call 1-800-CDKODAK, for technical support. To update and provide discussion for EKC drivers and print utilities, log on to CompuServe and 'go kodak'. In the Library menu, select browse and in the browse sections, select Kodak Printers. You can download these upgrades from CompuServe!

Lasermaster: For QuickDraw GX driver updates from Lasermaster, call Lasermaster Technical Support at 612-944-8509.

Lexmark InternationalLexmark/IBM customers can get the latest QuickDraw GX drivers from:
Technical Support: 606-232-3000
Lexmark Bulletin Board: 606-232-5238
Internet: anonymous ftp at ftp.lexmark.com
CompuServe: Go Lexmark

Microspot: For information about "MacPlot Raster GX" and "MacPlot Pen Plotter Professional GX" Chooser level GX drivers or upgrade information, contact the Sales Department:
Microspot
12380 Saratoga-Sunnyvale Road, Suite 6
Saratoga, CA 95070
Phone Number: 1-800-622-7568 (1-800-MACPLOT) or 408-257-4000
America OnLine: MICROSPOT1
CompuServe: 70274,3650

NEC Technologies: Contact NEC Technical Support at 800-388-8888 or use one of the following:
NEC Bulletin Board: 508-635-4706
Main Phone Number: 508-264-8000
Main FAX Number: 508-264-8673

QMS, Inc.: For assistance with QMS printers, drivers, and driver updates, call QMS Customer
Technical Assurance:
Phone Number: 205-633-4500
FAX Number: 205-633-3716

Seiko Instruments: QuickDraw GX is supported by Seiko Instruments for the ColorPoint PostScript printer line with four drivers:

Printer Names	Required GX Driver
ColorPoint PS, PSX or PSN	ColorPoint PS/PSX/PSN GX driver
ColorPoint PSE	ColorPoint PSE GX driver
ColorPoint PSH	ColorPoint PSH GX driver
ColorPoint PSF	ColorPoint PSF GX driver

All driver upgrades are free and are available now:
Technical Support Department: 1-800-553-5312 (inside USA)
Technical Support Department: 408-922-5800

Seiko Bulletin Board: 408-428-9810

SuperMac Technology: For the SuperMac ProofPositive and the SuperMac Splash -- contact SuperMac Technical Support at 1-800-541-7680.

Tektronix: In the US and Canada, call Customer Support at 1-800-835-6100 or use the following:
Fax Number: 503-682-2980
Tektronix Bulletin Board: 503-685-4504
International Customers: Please contact your local Tektronix office

Xerox: Xerox offers QuickDraw GX printer drivers for Xerox DocuTech Network Publisher Model 90 and Xerox DocuTech Network Publisher Model 135. For information on how to obtain the driver, customers can send an electronic mail message to: GX.Roch817@Xerox.com

QuickDraw GX Fax Information
To fax with QuickDraw GX, you need a QuickDraw GX fax driver for your modem. Use the information below to contact the vendor about a fax driver for your modem.

Apple Telecom 2.0: This package includes Express Modem version 2.0 and GeoPort version 2.0, both of which support QuickDraw GX. To order the Apple Telecom 2.0 upgrade, call the Apple Order Center and ask for the Apple Telecom 2.0 upgrade. You can also get the upgrade from the following online services:

CompuServe: GO APLSUP
America OnLine: keyword ftp, then connect to ftp.info.apple.com
FTP: ftp.info.apple.com
Web: **http://www.info.apple.com**

Global Village: GlobalFax version 2.5 supports QuickDraw GX. If you purchase a modem that includes GlobalFax 2.5 software, it will automatically install the GlobalFax GX fax driver as part of the standard installation. If you are using an older version of GlobalFax software, you can buy a GlobalFax 2.5 Upgrade from Global Village by calling 1-800-736-4821 or 1-408-523-1036. For more information about GlobalFax software, check Global Village forums on the following online services:
America Online: global
CompuServe: go global
Global Village BBS: 415-390-8334
Web: **http://www.globalvillage.com**

Cypress Research: If you use Cypress Research FaxPro II, call 408-752-2700 and ask for Technical Support.

STF Technologies: For information about our "FaxPrint GX" printer driver contact STF Customer Service:
Phone Number: 816-463-2021
Fax Number: 816-463-7958
Bulletin Board: 816-463-1131
CompuServe: 74740,1244 (Go STFTech)
America OnLine: STFtech

Using Fonts

Type 1 Fonts Enabled During Installation
During installation, QuickDraw GX enables any Type 1 fonts found in the System Folder, the Fonts folder, or the Extensions folder. However, you must ensure that each Type 1 font family is in its own suitcase. The installer enabler will not enable your Type 1 fonts if multiple font families are contained in one suitcase. QuickDraw GX does the following:

- creates a new folder called Archived Type 1 Fonts in your Fonts folder
- moves all suitcases referring to Type 1 fonts to the Archived Type 1 Fonts folder
- moves all Type 1 outline font files to the Archived Type 1 Fonts folder
- makes a copy of the original suitcase and puts the copy in the Fonts folder
- creates one or more 'sfnt' font resources from the corresponding Type 1 outline font files and places the resources into the suitcase in the Fonts folder

The 'sfnt' (scalable font) resource was originally specified to contain TrueType font data. When QuickDraw GX enables a font, the 'sfnt' resource may contain either TrueType font data or PostScript Type 1 font data.

You can find instructions for installing QuickDraw GX in the Macintosh System 7.5 Upgrade Guide.

Adobe Type Manager version 3.8.3
ATM version 3.8.3 is installed with this version of QuickDraw GX. ATM 3.8.3 includes native support for Power Macintosh computers.

Type 1 fonts will display and print properly only if ATM is installed and turned on. As with previous versions, ATM 3.8.3 rasterizes Type 1 font data from the POST resource in conventional outline font files (file type LWFN). In addition, ATM 3.8.3 rasterizes Type 1 font data from the 'sfnt' resource in suitcase files (file type FFIL). ATM 3.8.3 does not include font substitution capability.

Enabling Type 1 Fonts After Installation
You may need to enable Type 1 fonts that are not located in the System Folder, the Fonts folder, or the Extensions folder. Or you may need to enable Type 1 fonts installed after you install QuickDraw GX. To enable Type 1 fonts, use the Type 1 Enabler (one of the QuickDraw GX Utilities). You must ensure that each Type 1 font family is in its own suitcase. The Type 1 Enabler will not enable your Type 1 fonts if multiple font families are contained in one suitcase.

To install the QuickDraw GX Utilities and enable Type 1 fonts, see the instructions in Chapter 3 ("Installing QuickDraw GX") of the Macintosh System 7.5 Upgrade Guide.

The Type 1 Enabler supports only Type 1 fonts. If the Type 1 Enabler program encounters a suitcase containing Type 3 fonts, it displays the message "Contains a Type 3 font program" and does not enable the suitcase.

The Type 1 Enabler does not enable hybrid fonts. If you see the message "Contains a hybrid font program (see Read Me file for details)" when the Type 1 Enabler attempts to enable Optima or ITC Eras, it may be because you have an old version of these fonts. These fonts cannot be enabled because they are hybrid fonts. If you are a registered owner of Optima or ITC Eras, call Adobe Systems Technical Support to obtain an upgrade to the non-hybrid versions of these families.

Removing Duplicate Fonts
To make sure that QuickDraw GX properly manages currently installed fonts, you should make sure you have no duplicate fonts installed in the System Folder. Remove any duplicates that you find.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.
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AppleShare Client for Windows 1.0.2: Read Me File

This article contains the Read Me file from AppleShare Client for Windows v1.0.2.

This document provides late-breaking news about AppleShare Client for Windows. It contains the following sections:

- For more information
- Bugs fixed
--Duplicate AppleTalk node IDs
--Cisco router incompatibility
--Incorrect default group access privileges
-Disk space requirements
-Installing from a hard disk
-Network adapter support
--Windows for Workgroups 3.11 and unsupported network adapters
--Windows 3.1 and 3.11 and unsupported network adapters
- Changing the location of print spool files
- Viewing Mac OS-formatted files from Windows and DOS applications
- Text-file differences between Mac OS and Windows
- Saving the battery charge on your portable computer
- Supported printer drivers
- Obtaining updated LaserWriter printer drivers
- Useful network utilities
- Obtaining information about Apple products for DOS and Windows
- Removing the Farallon PhoneNET PC product
- WinZip incompatibility
- Using Open Transport
- Documentation Errata

This article has been archived and is no longer updated by Apple.

For more information
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Refer to the following documentation for more information:

"Getting Started With AppleShare Client for Windows"-- This printed manual describes how to install the AppleShare Client application.

AppleShare Client Installer Help--This file describes installing, uninstalling, and re-installing the AppleShare Client application. AppleShare Client Installer Help is available through the AppleShare Client Installer.

AppleShare Client Help--This file describes the features of the AppleShare Client application and how you use it to share network resources. AppleShare Client Help is available through the AppleShare Client application.

PROBLEMS.WRI--This file describes potential problems you might encounter while installing and using the AppleShare Client application, describes possible causes for those problems and provides suggested solutions to those problems. PROBLEMS.WRI is stored on the AppleShare Client for Windows Disk 1. During installation, it is copied into the C:\\APPLE\\A_SHARE directory by default.

USERINST.WRI--This file, located on the AppleShare Client for Windows Disk 2, describes how to install the AppleShare Client application. This file is provided to allow the system administrator to modify the installation instructions for site-specific purposes and distribute them to users. During installation, it is copied into the C:\\APPLE\\A_SHARE directory by default.

Bugs fixed
==========

This version 1.0.1 of AppleShare Client for Windows includes fixes for a few bugs found in version 1.0. They are as follows:

Duplicate AppleTalk node IDs

In version 1.0, particularly with large networks, it was possible for a client computer to assume an AppleTalk node identifier that was already being used. This problem could be represented by an apparent inability to see any nodes in a particular zone, or by a general slowdown in network performance.

Cisco router incompatibility

Cisco model 7000 routers are incompatible with AppleShare Client for Windows, version 1.0. These routers are supported by AppleShare Client for Windows, version 1.0.2, but may take longer to connect to a file server.

Incorrect default group access privileges

AppleShare Client for Windows, version 1.0.2, automatically sets the group access privileges of a newly created folder to those of the enclosing folder. In version 1.0, group privileges for such new folders were incorrectly set to None by default.

Disk space requirements
==========
To install and run AppleShare Client for Windows, you should have a minimum of 3.5 MB of free space on your hard disk. To use the Uninstall option of the Installer to remove AppleShare Client for Windows, you need to have 1.5 MB of free space.

Installing from a hard disk
==========
You can run the Installer from a local (non-network) hard disk drive to install or remove the AppleShare Client for Windows software. To do so, create a directory on your hard disk and copy all the files from both AppleShare Client for Windows floppy disks into that directory. Then, run the INSTALL.EXE program from that directory, and follow the installation instructions in the online help or the printed book Getting Started with AppleShare Client for Windows.

IMPORTANT! Do not run the INSTALL.EXE program from a connected AppleShare server to perform an upgrade.

Note that if a previous version of AppleShare Client for Windows is already installed on your computer, you will first have to remove the old version (by using the Uninstall option of the Installer) before installing the new version. After your computer has been restarted, run the INSTALL.EXE program again to install the new version.

Network adapter support
==========
Before installing AppleShare Client for Windows, you should determine whether you are using supported network adapter hardware. If your network adapter is not in the following list, you may still be able to use AppleShare Client for Windows. For more information, see the section "Windows for Workgroups 3.11 and Unsupported Network Adapters" or "Windows 3.1 and 3.11 and Unsupported Network Adapters," as appropriate for your version of Windows.

AE2MC Artisoft AE-2 MCA Ethernet
APEXXLT Apexx LocalTalk Parallel Interface (PCTALK)
APEXXE Apexx EtherWave Parallel Interface (ECHAIN)
ASANTE Asante 2000 series Ethernet (NE2000)
ASANTENW Asante NWMLID Ethernet
ASANTEMC Asante 2100 series MCA Ethernet (NE2100)
EII 3Com EtherLink II Adapter (3C503)
EII16 3Com EtherLink II/16 Adapter (3C503)
EIII 3Com EtherLink III Adapter (3C5x9, 3C509)
EIIIEISA 3Com EtherLink III (3C5x9, 3C579 EISA)
ELIIIMC 3Com EtherLink III (3C529 MicroChannel)
EIIIPCM 3Com EtherLink III PCMCIA (3C589)
ELMC 3Com EtherLink/MC (3C523 MicroChannel)
EWAVE Farallon EtherWave PCMCIA
EXP16 Intel EtherExpress 16 Ethernet
EXPPRO Intel EtherExpress PRO Adapter
LTALK Dayna/Farallon PhoneNet PC3 LocalTalk
NE2000 Novell NE2000 or compatible Ethernet
SKYCARD AnamNET LocalTalk PCMCIA
SMC8000 SMC EtherCard PLUS Elite16C,& 8216
SMC8003 SMC EtherCard PLUS Elite (8Bit)
SMC8100 SMC TokenCard EliteSeries 8100
SMC8100A SMC TokenCard EliteSeries 8100A
SMC80PC SMC EliteCard PCMCIA
XIRCOM Xircom Pocket Ethernet
XIRCOM2 Xircom Pocket Ethernet II
XIRCOM3 Xircom Pocket Ethernet III
XIRCOMC Xircom Creditcard Ethernet

Windows for Workgroups 3.11 and unsupported network adapters

If you are using Windows for Workgroups 3.11, use your Windows for Workgroups installation disks to install your network adapter. Once the network adapter is working in Windows, you can install the AppleShare Client for Windows software using the normal installation procedures.

Windows 3.1 and 3.11 and unsupported network adapters

If you are using Windows 3.11 or Windows 3.1 without Windows networking software, and you have an a vendor-supplied ODI driver for your unsupported network adapter, you may be able to use the procedures in this section to install AppleShare Client for Windows.

WARNING:
Installing your system for networking requires that you manually install the network adapter driver and edit your driver configuration file and your DOS startup batch files. Performing these procedures incorrectly can cause your computer to fail.

Before performing the following procedures, you should locate the software and documentation that came with your network adapter. As you perform the procedures, you will need information from the documentation.

1. If your network adapter is not already installed, install and test it, following the instructions in your network adapter documentation.

2. Restart your computer and run Windows.

3. Run the INSTALL.EXE program on the AppleShare Client for Windows Disk 1.

4. In the Installation Options dialog box, choose the Standard Installation option and click Continue.

The Select Adapter dialog box appears.

5. Select the line at the end of the adapter list that reads "[Other] Unlisted Adapter Option," and click OK.

The Network Adapter Settings dialog box appears.

6 Enter the configuration settings for your network adapter.

If possible, select values that match the adapter configuration settings you used in completing step 1 above. If no matching settings are displayed, simply continue with step 7. If you are already running ODI-based networking software, AppleShare Client for Windows Installer will use your existing network adapter configuration settings.

7. Complete the AppleShare Client for Windows installation.

8. Exit Windows and restart your computer as instructed by the Installer.

If your computer was not already running ODI-based networking software, continue with step 11.

9. If your computer was already running ODI-based networking software using your network adapter card, edit the file ATDRIVER.BAT (in the C:\\APPLE\\A_SHARE directory by default). Remove the word "REM" from the beginning of the last line so that it reads "C:\\APPLE\\A_SHARE\\ODI.EXE".

10. Restart your computer.

AppleShare Client for Windows is completely installed and should run when you start Windows. Skip the rest of this procedure.

11. Use DOS to copy the ODI driver and any supporting files for your network adapter to your AppleShare Client for Windows directory. The default directory path is C:\\APPLE\\A_SHARE.

12. Edit the NET.CFG file in the C:\\APPLE\\A_SHARE directory.

First, replace all strings of four consecutive X characters (that is, XXXX) with the file name of your driver, excluding the .COM extension for the file.

Next, change any parameters that do not match your adapter configuration settings. Check the values for the following parameters:

- the interrupt request level, a one- or two-digit number preceded by INT #1

- the I/O port number, a 3-digit value such as 300, preceded by PORT #1

- the direct memory access channel, a value of 1 or 2 preceded by DMA

- the memory access address, a data address value such as D8000, preceded by MEM

You should consult your network adapter card documentation to determine if other parameters are required for your system.

Finally, save the NET.CFG file.

13. Edit the file ATDRIVER.BAT (in the C:\\APPLE\\A_SHARE directory by default). First, remove the word "REM" from the beginning of every line. Next, replace the string "XXXX" in the second line of the file with the filename of your network adapter driver. Be sure to include the filename extension.

14. Save the ATDRIVER.BAT file.

15. Restart your computer by turning it off and on.

AppleShare Client for Windows is completely installed and should run when you start Windows.

If you experience any problems after completing these instructions, see the file C:\\APPLE\\A_SHARE\\PROBLEMS.WRI.

Changing the location of print spool files

You may want to change the location of the spool files used by the AppleShare Client to store PostScript print jobs until they can be sent to the networked LaserWriter printer. For example, you may want to store these files in their own directory or on a disk with more free space. Do not change the spool file location to a floppy disk or to a CD-ROM disc. It is recommended that you do not change the spool file location to a removable cartridge drive or a network drive unless you are certain that it will be available at all times.

To change the location of the spool files, you must edit the [ports] section of the WIN.INI file. There are three spool files, each on its own line, in the form C:\\LWx.prn=. Edit each line to change the pathname of the file. Do not change the filename itself (LWx.prn). Also be sure to retain the equal sign (=) at the end of the line. Do not add a colon before the equal sign; it is a special identifier only for ports such as LPT1: and COM1:.

Viewing Mac OS-formatted files from Windows and DOS applications

AppleShare Client for Windows hides Macintosh files that contain resource forks to prevent their being damaged by an incompatible application or operating system. See the section "Macintosh File Formats" in AppleShare Client Help for additional information.

AppleShare Client for Windows can be prevented from marking these files as hidden, thereby allowing access to the portions of these files that Windows applications might be able to use.To prevent hiding these files, add the following lines to the ASHARE.INI file (C:\\WINDOWS\\ASHARE.INI):

[FileRedir]
HIDERESFILES=FALSE

Warning: Changing this value does not change the format of Macintosh files; you should use these files only with great care.

Text file differences between Mac OS and Windows

A Mac OS-formatted text file contains a single character to indicate the end of a line of text. Windows text files contain two characters for this purpose. Some Windows-based text-viewing programs like NOTEPAD and WRITE require text files to contain the DOS/Windows two-character ASCII combination (line feed and carriage return) to indicate the end of a line. Consequently, an entire text file created on the Macintosh may appear as a single line of text to such applications.

If a text file that you create under Windows is opened and then saved (even as a text file) by a Mac OS-based application, the file will be formatted for the Mac OS. Many word processing applications can process multiple file formats. Other low-cost file- and text-translation utilities are readily available for converting text files and other types of documents.

Saving the battery charge on your portable computer

Most portable computers minimize battery drain by running the hard disk only when necessary. To provide timely printing of your files, the AppleShare Client print spooler checks the disk every five seconds for pending print jobs. This level of disk activity can significantly shorten the battery charge time. If your computer is not printing to a network printer, you may want to disable the print spooling temporarily.

One easy way to disable the print spooler is to disconnect all assigned network printers. To disconnect printers, click the print services button in

the main AppleShare Client window, select each printer, and click Disconnect.

Supported printer drivers

Drivers for some of the newest LaserWriter printers may not work yet with AppleShare Client for Windows. If the driver for your printer does not seem to work, try setting printer driver options as described in the file PROBLEMS.WRI, or install a supported driver. The supported drivers should work for your printer, but may not support the advanced features of that printer.

Note: The Apple LaserWriter printer driver disks do not come with your AppleShare Client for Windows, Version 1.0.2, product if you purchased it as an upgrade. The installation process does not affect installed printer drivers. If you need to reinstall Apple printer drivers, you can use the driver disks that came with your printer or with AppleShare Client for Windows, Version 1.0.

Provided with Windows installation disks:
Apple LaserWriter
Apple LaserWriter Plus
Apple LaserWriter II NT
Apple LaserWriter II NTX

Drivers provided with AppleShare Client for Windows, Version 1.0:
Adobe Default Printer
Apple LaserWriter 16/600 PS
Apple LaserWriter Pro 600
Apple laserWriter Pro 630
Apple LaserWriter Select 320

Obtaining updated LaserWriter printer drivers

Windows LaserWriter drivers available for the following printers can be obtained from the sources listed below.
- LaserWriter Pro 810
- LaserWriter Select 360
- LaserWriter Select 310
- Personal LaserWriter NTR
- LaserWriter Pro 600/630

CompuServe
(go aplsup) Apple Support Forum:Browse Libraries: DOS/Windows SW

Apple on the Internet
<http://www.info.apple.com/swupdates>
<ftp://ftp.info.apple.com/>

America Online
keyword: applecomputer

Useful network utilities

The PC Exchange utility from Apple computer allows you to use your Macintosh computer to format floppy disks for PC computers and to store PC-formatted files on your floppy disks and SCSI hard drives. PC Exchange can be purchased at Apple dealers, and it is included for free in the Mac OS System 7.5.

The PC Net Exchange utility associates a PC icon with PC files stored on a Macintosh server. If you have PC Exchange installed, adding PC Net Exchange allows you to specify document-to-application and document- to-icon mapping based on the filename extension. PC Net Exchange can be downloaded for free from the following sources:

CompuServe
(go aplsup) Apple Support Forum:Net & Comm.SW

Apple FTP
Apple Software Updates (ftp.support.apple.com) in the path
PUB:APPLE SW UPDATES:US:MACINTOSH:
NETWORKING & COMMUNICATIONS:APPLESHARE

Obtaining information about Apple products for DOS & Windows

CompuServe:
(go apltil) Apple Tech Info Library

The Internet-Home Gopher Server:
Home Gopher Server->Computer Information->
Apple Tech Info Library

The Apple Support and Information Web Server
www.info.apple.com
Web URL http://www.info.apple.com
Web IP address 204.96.16.2

The Apple Support FTP site
Apple Software Updates
ftp.info.apple.com
IP address: 204.96.16.4)

Removing the Farallon PhoneNet PC product

Farallon PhoneNET PC cannot be used on the same computer with AppleShare Client for Windows. To avoid disabling your existing network services, the AppleShare Client for Windows Installer currently will not run if PhoneNET PC is already installed. If you want to replace PhoneNET PC with AppleShare Client for Windows, you must first remove PhoneNET PC from the system. At the time this Read Me file was written, no commonly available utility is known to successfully remove the entire PhoneNET PC. This section details how to remove the product so that you can install AppleShare Client for Windows. (You must perform steps 2 and 5 at a minimum to install AppleShare Client for Windows succesfully.)

IMPORTANT:
Before you remove any network software, you should ensure that no important application depend on that software.

The files that you will change or delete are located in four directories:

C:\\
C:\\PHONENET
C:\\WINDOWS
C:\\WINDOWS\\SYSTEM

To remove the PhoneNET PC product, perform the
following steps:

1. Back up all PhoneNET PC files and all system files that contain references to them:

In the directory C:\\
CONFIG.SYS
AUTOEXEC.BAT

In the directory C:\\PHONENET

All files. Especially important are the NET.CFG file and the network adapter driver file. You can recognize the driver by the .COM extension of its filename. When you install AppleShare Client for Windows, you will re-install the driver, and you may need to enter the settings for your network adapter card that are contained in the NET.CFG file.

In the directory C:\\WINDOWS
SYSTEM.INI
WIN.INI
PROGMAN.INI
DOSAPP.INI
PHONENET.INI
PHONENET.GRP
TIMBUKTU.BMP
TIMBUKTU.HLP

In the directory C:\\WINDOWS\\SYSTEM
ADSP.DLL
PNTPROTO.DLL
PNTDATA.DLL
FPRINT.386
PNTALK.DRV

2. Delete or "remark out" any command lines in the AUTOEXEC.BAT file that reference or call PhoneNET PC batch files. For example, if your system is configured to start PhoneNET PC when your system boots, your AUTOEXEC.BAT probably contains the following command line, which must be deleted:

CALL C:\\PHONENET.BAT

You should delete or remark any command lines calling the following batch files and executables:

AARP.COM
ABOTH.BAT
AFILES.BAT
APRINT.COM
APRNT.BAT
ASHARE.COM
ASP_WS.COM
ATALK.COM
EXTEND.BAT
PNTVDD.EXE

3. Edit the C:\\CONFIG.SYS file.

In the command line beginning "LASTDRIVE=" set the drive letter to P.

4. Delete the C:\\PHONENET directory and all the files in it. These files are as follows:

3C509.COM
AARP.COM
ABOTH.BAT
AFILES.BAT
ANET.EXE
APRINT.COM
APRNT.BAT
ASHARE.COM
ASP_WS.COM
ATALK.COM
ATNET.DLL
CHOOSER.EXE
CHOOSER.HLP
COMPAT.COM
DA.DTA
DA.EXE
DA.HLP
DESPOOL.EXE
EXTEND.BAT
LSL.COM
MAKECFG.EXE
MINSES.EXE
NET.CFG
PAP_WS.COM
PHONENET.BAT
PHONENET.WRI
PNSN
PNTVDD.EXE
QIAO.DLL

README.DOC
REDIR.EXE
ROUTE.COM
SETUP.LOG
SPOOL (a subdirectory)
TB2.EXE
TB2RECPB.DLL
TB2TOOLS.DLL
TIMBUKTU.WRI

5. Edit the C:\\WINDOWS\\SYSTEM.INI file.

In the [boot] section, change
"network.drv=pntalk.drv" to
"network.drv="

In the [boot.description] section, change
"network.drv=PhoneNET PC" to
"network.drv=No Network Installed"

In the [386Enh] section, remove the following lines:
"device=fprint.386"
"PhoneNETMemoryPool=n" (where n is any number)

Remove the entire [fprint] section

6. Edit the C:\\WINDOWS\\WIN.INI file.

In the [windows] section, delete the following line:

"load=PNNOTIFY.EXE"

Delete the entire [MacintoshToPC] section
Delete the entire [PCToMacintosh] section

7. Edit the C:\\WINDOWS\\PROGMAN.INI file.

In the [Groups] section, find the following line:

"Group(n)=C:\\WINDOWS\\PHONENET.GRP"

Make a note of the group number (n).

In the [Settings] section, edit the line beginning
"Order=" to delete the group number (n) that you noted.

In the [Groups] section, delete the Group line:
"Group(n)=C:\\WINDOWS\\PHONENET.GRP"

8. Edit the C:\\WINDOWS\\DOSAPP.INI file.

In the [DOS Applications] section, delete all lines that refer to the C:\\PHONENET directory. These include the following:

C:\\PHONENET\\ANET.EXE=1
C:\\PHONENET\\ASHARE.COM=1
C:\\PHONENET\\APRINT.COM=1

9. From the C:\\WINDOWS directory, delete the following files:

PHONENET.INI
PHONENET.GRP

TIMBUKTU.BMP
TIMBUKTU.HLP

10. From the C:\\WINDOWS\\SYSTEM directory, delete the following files:

ADSP.DLL
PNTPROTO.DLL
PNTDATA.DLL
FPRINT.386
PNTALK.DRV

WinZip incompatibility

The shareware compression/decompression utility WinZip is not completely compatible with AppleShare Client for Windows, Version 1.0.2. The WinZip Open Archive dialog box includes a Network button for connecting to a network drive. If you use this button with AppleShare Client for Windows installed, you receive an error message. To connect to a network drive, use the network connection item in the Disk menu from the File Manager.

Using Open Transport

If you are running Open Transport, you must use the latest version available to ensure compatibility with AppleShare Client for Windows.

Documentation errata

Your documentation may refer to this product as AppleShare Client for Windows version 1.0.1. AppleShare Client for Windows 1.0.2 includes a recently developed change to ensure correct installation on systems running NetWare. This minor improvement is the only difference between the two versions.
Published Date: Feb 19, 2012

Password Security Control Panel (12/95)

Article Reviewed/Updated: 8 December 1995

I want to use the Password Security control panel, which came on my new Macintosh Powerbook, on my desktop Macintosh too. Can I do this?
This article has been archived and is no longer updated by Apple.
The Password Security control panel is part of the PowerBook System 7.5.2, and only works on a limited number of Powerbook computers. Here is a list of PowerBook computers the Password Security control panel currently works with.

- PowerBook 190 series
- PowerBook Duo 2300 series
- PowerBook 5300 series

The components of System 7.5.2 do not function on earlier Macintosh systems. However, many of the new technologies included in System 7.5.2 will be rolled into future operating system updates.

Article Change History:
8 Dec 1995 - rewrote topic area for clarification of problem.

Support Information Services
Published Date: Feb 19, 2012

Newton Backup Utility: Only Performs Backup with 1.3 OS

I downloaded the Newton Backup Utility from an online service, and I am having problems using it with my Apple MessagePad 100 with Newton 1.3x OS. When I establish a connection with my Macintosh computer, Newton Backup Utility only allows me to backup my Newton.

Once the backup is performed, the connection is dropped. When I establish the connection again, I still only have the option to backup my Apple MessagePad. Why?
This article has been archived and is no longer updated by Apple.
The Newton Backup Utility is designed for use with the Newton 2.0 OS. Using the Newton 1.3 OS on an original MessagePad, the MessagePad 100, MessagePad 110, or MessagePad 120, only the ability to backup your data is allowed. The only reason to use the Newton Backup Utility with the Newton 1.3 OS is if you are upgrading an Apple MessagePad 120 to Newton 2.0 OS.

When upgrading, you need to use the Newton Backup Utility to backup your Apple MessagePad, then once the Newton 2.0 OS upgrade is performed, restore your data using the Newton Backup Utility. You only get the additional options of installing packages, and restoring your Apple MessagePad with the Newton 2.0 OS installed.
Published Date: Feb 19, 2012

Newton 2.x OS: Package Activation, Backdrop Reset, & Freezing Packages

This article discusses the following topics of Newton 2.x operating systems:

- Newton package activation
- Reseting the backdrop
- Freezing packages

This article has been archived and is no longer updated by Apple.

Getting Rid Of Undeleteable Applications

Here's a tip to help you deal with incompatible packages, even ones that mess the system up so badly you cannot delete them.

NOTE: Newton packages can be an application or a system extension.

Previously, if you had an application or package in internal memory that caused trouble at startup your only option was to completely erase internal memory. This was accomplished by resetting the unit with the power switch down (hard reset). Similarly, if you had a package on a card that interfered with mounting the card you had to force the card to be erased. This was accomplished by inserting the card with Prefs application open.

In the Newton 2.x OS, it is possible to keep applications or extensions from becoming active by suppressing the activation of packages. This is not the same as freezing packages (see section below on freezing packages). This allows the MessagePad to start up, or a card to be inserted without running any of the packages' code. This gives you a chance to delete the problem package instead of having to completely erase the memory in which it stored. Macintosh users will find this similar to starting up with the shift key down to keep extensions from loading.

Suppressing Package Activation in Newton's Internal Memory

To suppress package activation in internal memory:

1. Reset the Apple MessagePad.

2. Turn the Apple MessagePad over and hold the pen down in the left 1/4-in. of the screen. Please note that the left edge is based on the display orientation. Keep the pen down until you see a message asking if you want to activate the packages in the internal memory (stor). [This process can be complicated if a password (PIN) is active, see note below. For better results turn off all password access.]

3. Select "No."

When you open the extras drawer you will see X's over some of the icons. This indicates those packages are not active. This procedure does not affect the packages that are built into the ROM. Only the packages you have loaded, or that were pre-loaded onto the unit at the factory can be disabled in this way.

The only "trick" is that you can put the pen down too far to the left - resting against the raised edge of the plastic case. There is a small "dead" area at the border of the screen and the case that you need to avoid.

Note: If you are using a PIN number, you should wait until the PIN number box appears on the screen before pressing down on the left side of the screen.

The message comes up before the splash screen disappears, so if the splash screen disappears, you need to try again - holding the pen a little further in from the edge.

Activating a Package Once It Has Been Deactivated

Tapping on an icon which has an X through it causes the package to be activated. Activate them one at a time until you identify the package giving you trouble. For example, if the symptom is application A will not open anymore, tap on an icon with an X, and once the X disappears see if application A works.

If at this point you can delete the icon, do so. If problem re-occur, you'll have to reset again suppressing package activation. This time you should just delete the icon without first activating it.

When searching for the offending package, remember to look in the extensions folder (or show "All Icons"). [In 1.X systems there were some packages that did not have a corresponding icon in the extras drawer. In 2.x, every package has at least one icon.]

Storage Cards
The same procedure can be applied to cards. Insert the card. Hold the pen down near the left edge of the screen. You will be asked if you want to activate the packages on the card.

Resetting Backdrop Application
If you reset the unit and hold down the pen near the top edge of the screen (instead of the left edge), in addition to freezing packages, the backdrop application will be reset to its defaults - the Notepad returns to the backdrop. With the Newton OS 2.0 units, this process also would reset the display's orientation to portrait.

This is useful if you have some application that seems to be working fine - until you make it the backdrop.

The top edge only has these additional features when you reset the unit. When inserting storage cards, you can use the top or left edge to suppress package activation.

Other Times Icons are X'd Out
An icon with an X indicates its package is inactive. Even if you don't suppress package loading, there are other circumstances when you might run into inactive or frozen packages. The most common would be if you have two copies of the package installed. For example, package "foo" is on the internal store and a card containing "foo" is inserted. The icon for "foo" on the card will have X over it.

There might be other odd circumstances where you briefly see an X. For example, moving a package between stores causes it to be deactivated, moved, then reactivated. We try not to show the X in this situation because the package is only temporarily inactive, but in some circumstances the X is briefly visible.

If you see an inactive icon, go ahead and tap on it. The system will attempt to activate and launch it. If there is a problem you will get an error message. The message should be an informative one like: "The package "foo" (on store "my card") was not activated because a package by the same name (on store "internal") is already in use."

Package Freezing
If you do not know what frozen packages are, you probably will soon.

Note: There are a variety of third party developers providing utilities that turn on this latent feature of the Extras Drawer.

Frozen packages are inactive packages. The difference is that they are purposely made inactive by the user and stay inactive until the user taps on them. Suppressing package activation as described above only deactivates packages temporarily. If you reset the unit (or reinsert the card), the icons that were X'd out will not be anymore.

Activating packages uses up some of the system's working memory and takes time. Cards with a large number of packages can take a long time to mount and can cause you to run low on memory.

A way to work around this is to selectively "Freeze" (deactivate) the packages you don't use very often. You freeze a package or group of packages by selecting them in the Extras Drawer and choosing freeze from the action button. Its icon will turn into a snowflake indicating that it's frozen. You thaw (activate) a frozen package by simply tapping on it.

The package freezing feature in the Extras Drawer is not available by default. You need to get a utility package to turn it on. Some examples of currently available third party products that enable this feature are:

ExtraExtras - <**http://www.hyprmynd.com/products/extensions/extra-extras.html**>
Power Pref 2.0 - <**http://www.tiac.net/users/jdb/index.html#PP2**>

Power Preferences - <**ftp://ftp.amug.org/pub/newton/_2.0-savvy/util/power-prefs-1.0.sit.hqx**>
Freeze Utilities - <**http://www.interaccess.com/newton/products/freezeutilities.html**>
NewtCase 3.0 - <**http://www.newts.com/newton/nc30.html**>

Inactive or Frozen Packages in List View

A package's status, whether it is active, inactive or frozen, gets more confusing. If you are viewing the Extras in the List View format, the System has to have a way of telling you what the status is. The text style (bold, italics or plain) is used to do this. Active packages are bold, inactive packages are italized and frozen packages are in plain text.

Published Date: Feb 19, 2012

Multiple Scan 1705 Display: Use Included Cable (12/95)

I am replacing an existing monitor with the Apple Multiple Scan 1705 Display. I left the cable from my previous monitor connected to my Macintosh computer, and used the included adapter to connect the other end of the existing cable to the Multiple Scan 1705 Display. When I power on the computer and display, the power light on the display remains amber, and I do not get any video. What is happening?

This article has been archived and is no longer updated by Apple.

The Multiple Scan 1705 Display uses a different connector than previous monitors. You must use the cable that shipped with the Multiple Scan 1705 Display. The adapter that shipped with the display is required for only for PC-compatible computers. The adapter should not be used with any Macintosh cable.

Connecting to a Macintosh Computer
==========

To connect the Multiple Scan 1705 Display to the built-in video on a Macintosh computer, connect one end of the included video cable into your Macintosh and the other end into the monitor. Do NOT use the PC adapter.

Connecting to a PC-Compatible Computer
==========

To connect the Multiple Scan 1705 Display to a PC-compatible computer, connect one end of the included video cable into the display. Next, connect the PC adapter to you computer's video card. Then connect the other end of the included cable into the PC adapter.

Support Information Services
Published Date: Feb 19, 2012

At Ease: Sharing A Floppy Disk Issue

An At Ease lab is set up so two students store their documents on one floppy disk.

Issue:
The first student will access his documents on the disk, eject it and hand it to the second student to access his documents on another workstation. When the first student gets the disk back, the computer does not recognize the disk.

It displays the message: "Please insert the Disk named 'Disk Name'" even though that is the disk that is in the floppy drive. What is wrong?
This article has been archived and is no longer updated by Apple.
The issue you are encountering is not related to At Ease, but the way the Finder handles floppy disk operations.

When a disk is ejected from a computer, you will notice an unhighlighted disk image remains on the desktop. This is the Finder retaining the disk's contents in RAM. When the disk is inserted into another computer, information about the floppy disk called the checksum value is changed. When the disk is returned to the first computer, the operating system, does not recognize it as being the disk stored in RAM because of the different checksum value.

If you drag the disk image to the Trash before taking it to the second computer, the disk information is not saved in RAM, the unhighlighted image does not stay on the desktop, and when you return the disk to the first computer it mounts and is recognized. The problem with this workaround is if a file on the disk is still in use, you cannot drag the disk to the Trash.

At Ease handles ejected disks as if they are ejected not trashed and thus retains the disk information causing the problem you are experiencing with students sharing the same disk. There are two options for you to resolve this.

1. The best solution is to provide each student with their own floppy disk. If two students share disks, they both have access to the other student's work, which is usually not desirable anyway.

2. If student's accessing each other's work is not a concern, and you have hard drive storage space, setup At Ease so the students save to the Shared Folder on the hard drive or At Ease disk and avoid using floppies entirely. Follow these steps to setup a Shared Folder:

1. Open the At Ease Setup program.
2. Double-click the Setup you want to modify.
3. Click the Locations icon (it looks like a floppy disk) to access the Locations panel.
4. In the "Store user documents on:" section, click to select "Setup location volume"
5. Click to select "Allow access to shared folder"
6. Click "OK".

Published Date: Feb 19, 2012

HyperCard 2.3: Specifying Operands for Picture XCMD (12/95)

Article Reviewed/Updated: 5 December 1995

In HyperCard 2.3.x the Picture XCMD will not work correctly if the "clipboard" option is used. For example, in the script:

picture "Test", clipboard, roundrect

In HyperCard versions previous to 2.3, the above command works fine. When the above command is used in HyperCard 2.3 and 2.3.3, the program opens a dialog asking you to find the file called "Test". It seems as though the word "clipboard" is not being recognized correctly.
This article has been archived and is no longer updated by Apple.
In HyperCard 2.3, "clipboard" (command to get/set the text contents of the clipboard) was added to HyperTalk. You now need to quote the word "clipboard" when you pass it to the Picture XCMD.

In versions of HyperCard prior to 2.3, "clipboard" did not have a special meaning, so when the parser saw an unquoted "clipboard" that was not already used as a variable, it passed the string "clipboard" to the XCMD.

You should quote "roundrect", also. In general, it is good practice not to rely on unquoted literals, if possible.

Article Change History:
05 Dec 1995 - Updated title.

Support Information Services
Published Date: Feb 19, 2012

AppleVision 1710AV: Proper Setup for Microphone (12/95)

How can I properly set up the microphone on my AppleVision 1710AV Display?
This article has been archived and is no longer updated by Apple.
To verify that the AppleVision 1710AV Display is properly set up, follow these steps:

Step 1

Make sure that the audio cables are plugged into the correct places on the computer. An easy way to check this is to verify that the icon on the cable matches the icon on the computer's port.

Step 2

Use Macintosh Guide to properly set up the software. The setup varies depending on which computer the display is connected to.

Step 3

Set the microphone to the highest quality sample rate (44 kHz) and bit depth (16-bit).

Support Information Services
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ImageWriter II: Creeping Top of Form

When using an ImageWriter II in conjunction with the Macintosh, the top of form gradually "creeps" down the page. Each page will have the top of form 1 line below the previous page.
This article has been archived and is no longer updated by Apple.
This can often be a result of using other than the current version of ImageWriter II driver software.

Solution:
First, to determine if the driver is the cause of the smudging, check the version of driver being used. The easiest way is to print a document and see what version number is displayed in the Print Dialog box. The version should be 2.1 or later. If it is not, the driver should be replaced.

To install the new driver, use the LaserWriter Install program contained on the LaserWriter Install diskette. (This diskette was sent to all dealers in the October 1 AppleGram mailing. The diskette is also included in all AppleTalk Option Kits for the ImageWriter, LaserWriter Plus Upgrade Kits, and LaserWriters.) Run the Install program and select "ImageWriter" as the print driver.

Do not use the old method of dragging the current ImageWriter icon into the trash can and the new ImageWriter II icon into the system folder. This may result in a malfunction of the ImageWriter II.

If this cure does not resolve the problem, go to the Technical Procedures to obtain a general troubleshooting procedure.
Published Date: Feb 19, 2012

Macintosh: Free Space Available on Floppy Disks

I have two floppy disks of the same size, but each one has a different amount of free space available even after initializing them. What is causing them to be different?
This article has been archived and is no longer updated by Apple.
Beginning with system software version 7.0, the Disk Initialization Manager tries to initialize a disk even if it contains some bad blocks; this feature is called bad block sparing.

Without bad block sparing, the Disk Initialization Manager considers a disk unusable even if just one block is bad. With bad block sparing, however, the Disk Initialization Manager attempts to work around the bad block by removing it from the pool of available free blocks. This prevents the File Manager from allocating the block to a file.

The bad block sparing occurs during the disk-zeroing phase of disk initialization - with the only visible sign of the sparing process being an additional dialog box containing the messgae "Re-verifying Disk."

Except in cases involving critical blocks on a disk, the Disk Initialization Manager can usually initialize a disk that would previously have been rejected as invalid. However, if more than 25 percent of the disk is found to contain bad blocks, if the I/O errors appear to be due to hardware failure rather than media failure, or if certain critical sectors are bad then the disk initialization fails just as it would have without the bad block sparing.

Critical sectors of a disk that must be good even on a spared disk include the boot blocks, the master and alternate master directory blocks, the volume bitmap, and the initial extents for the catalog and extents B-Tree files of the volume.

Note: This information is taken from Inside Macintosh: Files.
Published Date: Feb 19, 2012

LaserWriter 16/600 PS Fax: No Windows 95 Compatibility

I am trying to send a fax with my LaserWriter 16/600 PS fax printer using Microsoft Windows 95. The Windows driver I downloaded from online services does not work. Is the driver compatible with the printers fax feature?

This article has been archived and is no longer updated by Apple.

Apple does not provide a PostScript fax compatible driver for Microsoft Windows 95. There may be some third-party options available, but we do not know of any. In order to use the fax capabilities of the LaserWriter 16/600 PS printer, you must use a PC-compatible running Windows 3.1 upon which to install the Windows PS Fax software, or a Macintosh computer and the LaserWriter 8.2.3f driver.

Published Date: Feb 19, 2012

Workgroup Server Read Me (12/95)

This article is the Workgroup Server ReadMe.
This article has been archived and is no longer updated by Apple.
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Windows Clients on AppleShare Servers

IMPORTANT: Be sure to review this entire document. It contains important information about your Workgroup Server and system software. You may want to print this document for reference.

About Your System and Server Software
==========

About System Software Version 7.5.1
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* Your Workgroup Server contains all improvements and new features for system software version 7.5 plus all enhancements and features included in the System 7.5 Update, version 1.0, and the Network Software Installer (NSI) version 1.4.5.

IMPORTANT: Be sure to check the Fixes folder, in the Extras folder, on the Workgroup Server Software CD-ROM disc for any late-breaking software fixes that you might want to add to your system.

* MacTCP network connection software is included with System 7.5 and users may ask you for help with it. The MacTCP control panel provides a way for users to connect to networks that use the TCP/IP protocol, such as the Internet. However, after setting up the MacTCP control panel, users still need one or more network applications to use TCP/IP. Example network applications include client software for the World Wide Web, terminal emulators, and Email programs. For information on MacTCP and TCP/IP in general, see the MacTCP Administrator's Guide version 2.0 in the Electronic Library folder on your Workgroup Server Software CD-ROM disc.

System Software Exceptions for Workgroup Servers
---
* Starting with System 7.5 Update 1.0, the Power On key can also function as a Power Off key?but not for Workgroup Servers. To prevent accidental disruption of network services, this functionality has been removed.

* Although the CPU Energy Saver control panel is included in the Apple Extras folder on the server's hard disk, it is not recommended for use with servers. Moreover, this control panel only works with Workgroup Servers 8150 (80 MHz) and 9150 (80 MHz).

Workgroup Server Warnings
---
* Do not turn on virtual memory
The virtual memory option in the Memory control panel does not improve the performance of server applications. Some server applications, such as the Apple Internet Router, can't run with virtual memory turned on. To improve performance, install additional memory. The Technical Information booklet for your server describes how much memory can be added.

* About installing more memory (DRAM SIMMS)
As you add more server applications, control panels, extensions, fonts, etc., you may want to add memory to the server. To avoid damage to your server, Apple Computer recommends that only an Apple-authorized dealer or service provider install additional memory packages, called DRAM SIMMS. The SIMMS must be the correct type for your server, added in same-size pairs, and installed in paired slots. Incorrect installation of DRAM SIMMS can result in errors, unpredictable results, and damage to your equipment and data.

Re-creating a Factory-Installed Startup Disk

If your server's startup disk should become damaged, see the instructions for re-creating a factory-installed startup disk in the "About This CD" document on the Workgroup Server Software CD-ROM disc. If you need to re-install AppleShare after re-creating your startup disk, see the AppleShare Installation and Upgrade Guide.

NOTE: If you want to use the server's startup disk with Apple RAID Software, see the instructions for reformatting the disk in the Apple RAID Software Administrator's Guide.

About PowerTalk and QuickDraw GX

These optional programs are not recommended for use on a server, but if you want to use them, you can find the appropriate Installers in the System Software Installers folder on the Workgroup Server Software CD-ROM disc.

Order of Installing and Starting Up Server Software
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Check Before Installing

If you plan to install server application software such as AppleShare, AppleSearch, or Apple Remote Access, the order in which you install and start these programs is important. Be sure to review the documentation for all the server application programs that you plan to use before installing and running them. Note that the order in which you install is dependent on whether you are using the server for file, print, or database applications. For example, AppleSearch uses the AppleShare File Server to transmit its reports, so AppleShare must start up before AppleSearch.

Use the Correct Versions

Be sure to use these (or later) versions of server software with your Workgroup Server:

- AppleShare File and Print Server 4.1
- AppleTalk Internet Router 3.0.1
- Apple Remote Access 2.0.1
- AppleSearch Server 1.5

Tips
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Using the Auto Power On/Off Control Panel

Starting with System 7.5, you can use the Auto Power On/Off control panel to set the WS 8150 and WS 9150 to automatically restart after a power failure. You can also use this control panel to set a time when the server automatically shuts down and starts up. Due to its hardware design, the WS 6150 cannot use this feature.

Using the Energy Saver Control Panel

You can use the Energy Saver Control Panel to set how long the server can remain idle before the system dims the monitor screen.

Using the Shutdown Items Folder

The Shutdown Items folder in the System Folder allows you to specify scripts or programs that automatically run during shutdown. This folder works much like the Startup Items folder. To specify an item to run during shutdown, put the item into the Shutdown Items folder and then choose Shut Down or Restart from the Special menu. (Do not choose Shut Down from the Apple menu. It will not launch items in the Shutdown Items folder.)

Reconnecting to a Server

When connection to a server is unexpectedly lost, the server's icon remains dimmed on the screen. If you double-click the dimmed icon or choose the server from the Recent Servers item in the Apple () menu, you see a message telling you that the disk could not be opened because you do not have the required access privileges. Before you can reconnect to the server, you must close any open files, and then drag the server's dimmed icon to the Trash. If you need to save your work on an open file, use Save As to save it on a different disk.

Cleaning a DAT Drive

The Workgroup Server DDS-2 DAT drive option is approved for use with the Apple cleaning cassette P/N 654-0002. This cleaning tape is the "dry" type cleaner. Don't use the "wet," alcohol style cleaning tapes. Note that, in general, cleaning tapes that work with DDS-2 drives also work with (the original) DDS drives, but DDS cleaning tapes should not be used with newer DDS-2 drives.

Troubleshooting
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IMPORTANT: Be sure to review the Troubleshooting chapter of your Workgroup Server Administrator's Guide.

Problems Starting Up on a Network

Sometimes during heavy network traffic a server may not start up correctly. You may hear a prolonged "beep" during this process. Try disconnecting the Ethernet cable before startup, and reconnecting it after startup. You'll also need to switch back to EtherTalk in the Network control panel.

Problems Rebuilding the Desktop

Some Apple and non-Apple extensions may interfere when you need to rebuild the server desktop. To prevent problems, turn off all extensions except Macintosh Easy Open before you rebuild. After rebuilding, turn the extensions you want to use back on.

To rebuild the desktop, follow these steps:

1) First, use the Extensions Manager to save a record of extensions that you use.
* Open the Extensions Manager control panel.
* Open the Sets pop-up menu, and choose Save Set.
* When the Save Set dialog box opens, type a name (for example, 'My Extensions').
2) Turn off current extensions by choosing All Off in the Sets pop-up menu.
3) Turn on Macintosh Easy Open by clicking to put a checkmark beside it.
4) Restart your computer while holding down the Command and Option keys.
5) When you see the dialog box alerting you to the loss of your Info window comments, release the keys and click OK.
6) When the desktop is rebuilt, open the Apple menu and choose Control Panels.
7) Open the Extensions Manager control panel.
8) Turn extensions back on by selecting the set you saved in step 1.
9) To activate your extensions, restart the computer .

QuarkXPress Problems

To use QuarkXPress with System 7.5 on a Workgroup Server, you must upgrade to QuarkXPress version 3.3.1 or later. For upgrade information

contact Quark, Inc., at 1-800-788-7835.

ISO 9660 and High Sierra CD-ROM Disc Problems

Discs in the ISO 9660 and High Sierra formats have version numbers attached to filenames. Some application programs need these version numbers in order to use the files. If you have problems using an ISO 9660 or High Sierra CD-ROM with a program, follow the instructions below to make the version numbers available to the program:

1) Make sure the application program you want to use with the CD-ROM is active.
2) Drag the CD-ROM icon to the Trash to eject the disc.
3) Hold down the Option key while you reinsert the disc. Keep holding down the Option key until the disc is in the player. The program should now be able to locate the filenames on the CD-ROM disc.

If You Need to De-Install PowerTalk

Follow the steps below if you need to remove PowerTalk software from the server.

1) Restart with all extensions off by holding down the Shift key during startup.
2) Open the System Folder and drag the PowerTalk Data folder to the Trash.
3) Open the Apple Menu Items folder, in the System Folder, and drag the Mail and Catalogs folder to the Trash.
4) Open the Control Panels folder and drag PowerTalk Setup to the Trash.
5) Open the Extensions folder in the System Folder and drag these to the Trash:
- AppleTalk Service (the PowerTalk extension)
- Catalogs Extension
- Mailbox Extension
- PowerTalk Extension
- PowerTalk Guide (Apple Guide document)
- PowerTalk Manager (system extension)
6) Open the Preferences folder, in the System Folder, and drag these to the Trash:
- AppleMail Letterheads (folder)
- PowerTalk Setup Pref (PowerTalk Manager preferences document)
- PowerTalk Startup Pref (PowerTalk Manager preferences document)
7) Close the System Folder.
8) Drag the PowerTalk folder, in the Apple Extras folder, to the Trash.
9) Choose Empty Trash from the Special menu.
10) To complete the de-installation, restart the server.

About Macintosh PC Exchange and DOS-Formatted Media
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Apple File Exchange and Macintosh PC Exchange

The Apple File Exchange software is not compatible with PC Exchange and should not be used while PC Exchange is installed. Version 2.0 of PC Exchange contains an easier and more intuitive method for accessing DOS and Apple II ProDOS disks on a Macintosh.

AutoDoubler

To use AutoDoubler with Macintosh PC Exchange, you must first open the AutoDoubler control panel and turn off the "Show DD on Compressed Files" option.

ClarisWorks Version 1.0v2 or Earlier

Some versions of ClarisWorks cannot read or write files on DOS-format floppy disks. To open a PC document in ClarisWorks, you must first copy the document to your computer's hard disk. Always save ClarisWorks documents on your Macintosh hard disk. You can then copy the documents to a DOS-format floppy disk. Contact Claris to obtain version 1.0v3 or later of ClarisWorks.

Compressed PC Disks and Files

Macintosh PC Exchange does not work with DOS-format floppy disks or SCSI hard disks that have been compressed using Stacker or other MS-DOS or Windows disk-compression utilities. Before transferring compressed DOS files to a Macintosh, you must decompress the files and save them to a noncompressed DOS-format floppy disk.

Working With PC-Format Disks Containing Multiple Partitions

If a SCSI hard disk or removable media cartridge has been formatted to contain multiple partitions, you can use PC Exchange to mount the Macintosh-, DOS-, or ProDOS-format partitions as individual logical drives on the Macintosh desktop. If the disk contains both Macintosh and DOS-format partitions, however, PC Exchange will only recognize the Macintosh partition. In addition, PC Exchange will only recognize ProDOS-format partitions on SCSI hard disks that are less than 32 megabytes.

You can use PC Exchange to erase existing individual partitions on a SCSI hard disk or removable media cartridge if they have the same format. However, you cannot use PC Exchange to reformat and resize individual partitions contained on the disk. Nor can you format a Macintosh-format hard disk or removable media cartridge as a DOS-format disk. To resize or reformat multiple Macintosh, DOS, or ProDOS partitions, you need to use third-party software designed for partitioning hard disks and removable media cartridges.

Working With DOS-Format SCSI Removable Media Devices

In order for PC Exchange to recognize SCSI removable media devices, you must turn on the device and eject any cartridges before you turn on your Macintosh system.

Do not install the device driver software that came with your removable media device. Instead, open the PC Exchange control panel, click the Options button, select your SCSI device from the list, and then restart your Macintosh. PC Exchange will install its own device driver for that SCSI device.

The Eject Disk command is unavailable when you are working with removable media devices. To unmount and eject a removable media cartridge, drag the device's icon to the Trash. Once the device has spun down and the red light goes out, you can manually eject the cartridge from the drive. To access a removable media cartridge that has been ejected, simply re-insert the cartridge in the drive.

When initializing and formatting Bernoulli and SyQuest cartridges on an PC-compatible computer, use the disk setup and partitioning software that came with the SCSI controller card installed in your PC or that came with your Bernoulli or SyQuest device. Do not use the MS-DOS Fdisk command to initialize a removable media cartridge. In addition, you should use the MS-DOS Format command to format the disk before you copy DOS files to a newly initialized removable media cartridge on a PC.

When you initialize a removable media cartridge on an PC-compatible computer, you must fully partition, initialize, and erase the cartridge using the software that came with your SCSI controller card or removable media drive. If you do not, PC Exchange may not recognize the new DOS-format partitions on that cartridge.

Working With DOS-Format SCSI Hard Disk Drives

In order for PC Exchange to recognize SCSI hard disk drives, you must turn on the drive before you turn on your Macintosh.

Do not install the device driver software that came with your removable media device. Instead, open the PC Exchange control panel, click the Options button, select your SCSI device from the list, and then restart your Macintosh. PC Exchange will install its own device driver for that SCSI device.

For initializing an external SCSI hard disk on a PC-compatible computer, use the MS-DOS Fdisk command or the disk setup and partitioning software that came with the SCSI controller card installed in your PC. Use the MS-DOS Format command to format the disk before you copy DOS files to a new SCSI hard disk on a PC.

Macintosh PC Exchange Tips and Problems
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* A "Sad Mac" error may occur on your Macintosh if a removable media cartridge is left in the drive during startup. To keep this problem from occurring, manually eject removable media cartridges from the drive before you turn on your Macintosh.

* PC Exchange cannot recognize SCSI hard disks, removable media devices, or drive container files that contain more than one gigabyte of disk space.

Windows Clients on AppleShare Servers
==========

Mac OS and DOS/Windows systems store and maintain files differently. Use caution when sharing files on an AppleShare server accessible to DOS/Windows users. Follow these basic rules to avoid problems:

* Store your Mac OS files, especially applications, in different folders than your DOS/Windows files.

Opening, moving, copying, or duplicating Macintosh files on the server can damage those files. Separating the two types of files, especially applications (which can only work on one system) minimizes accidental damage. A DOS/Windows client can easily determine where a file originated.

* Set access privileges to prevent unauthorized use.

An innocent mistake by a DOS/Windows user, such as accidentally placing a DOS/Windows folder in a Mac OS folder, can cause damage.

* Inform users about how to avoid problems.

If your Mac OS and DOS/Windows clients need to share files, tell them to copy those files to their own system, modify them if necessary, and save them to the server under another name. They should not change the original file. Many files can be opened by applications other than those that were used to create them; once changed by a different application, a file could be permanently damaged.

* Use the more limited DOS/Windows conventions for naming shared files whenever possible.

The DOS/Windows file system supports filenames of eight or less characters with an optional extension consisting of a period and three or less characters. Most special characters (spaces, asterisks, brackets, and so forth) are not allowed; letter case is insignificant.

The server processes names of files that do not conform to DOS/Windows naming conventions so that DOS/Windows clients can view them. For your convenience, clicking the filename in an Info window for the file displays the filename that the DOS/Windows clients will see. (To display the Info window, select the file in the Finder and choose Get Info from the File menu.) Names that result from this processing begin with an exclamation mark (!).

Support Information Services
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Workgroup Server ReadMe Additions (1/96)

This article is the WS Read Me Additions file.
This article has been archived and is no longer updated by Apple.
About These Additions

This document contains some last minute information that didnt make it into the Workgroup Server Read Me. You may want to print this document for future reference.

Adobe Acrobat Low Memory Problems

The Adobe Acrobat Reader 2.0.1 needs a bit more than 3 megabytes of memory to work properly. If there is not enough memory available, the program asks that you reinstall Adobe Type Manager (ATM). This is usually not necessary. Instead, free up memory by quitting applications and try opening Acrobat Reader again. To avoid low memory problems, consider having an Apple-authorized service provider install more memory in your server.

NOTE: If you agree to the terms of the Electronic End User License Agreement (in the Adobe Acrobat 2.0 folder), you can distribute Adobe Acrobat Reader 2.0.1 to as many clients as you like. Doing this allows those client systems to read files in the Portable Document Format (pdf).

Installing Adobe Acrobat from the Workgroup Server Software CD-ROM

The Acrobat Installer is in the Adobe Installers folder in the Electronic Library folder on the Workgroup Server Software CD-ROM disc. During installation, the Adobe Acrobat Installer tries to put the ATM Font Database file in the startup disks System Folder. Thus, if you start up from the Workgroup Server Software CD-ROM and then try to install Acrobat on your hard disk, the installation will fail (Error -44). If you want to install Acrobat on the servers internal disk, startup from the hard disk. After installation you can move the application to a more convenient location.

Problems Ejecting a CD-ROM Disc

The Workgroup Server 6150/66, 8150/110 and 9150/120 use the new AppleCD 600i drive. This CD-ROM drive offers twice the performance of previous models. It also uses new CD-ROM driver software.

When the Workgroup Server starts up, if a CD-ROM disc with a startup System Folder is inserted in the drive, the server uses the driver software on the disc rather than its own driver. As of March 1995, very few startup CD-ROM discs contain driver software that is completely compatible with the AppleCD 600i drive.

If the server starts up using older CD-ROM drive software, one known problem occurs: the server may not be able to eject the CD-ROM disc as expected. To eject the disc, restart the server and push the open/close button on the CD-ROM drive as soon as possible.

To avoid this problem, insert a CD-ROM disc AFTER the server starts up.

Retrospect Remote Memory Problems

Workgroup Servers that include a DAT drive also include Retrospect Remote 2.1Ai backup software.

The Retrospect 2.1B Updater in the Fixes Folder on the Workgroup Server Software CD-ROM disc solves a problem in Retrospect 2.1Ai that occurs in the following rare circumstance: When your startup volume has between 2 and 3 gigabytes of available space, Retrospect reports that it does not have enough free hard disk space to launch.

Note: This problem in Retrospect 2.1A only occurs with a startup volume. Retrospect 2.1A has no problem backing up other volumes that are larger than 2 gigabytes.

If you encounter this problem with Retrospect 2.1A, use the 2.1B Updater in the Fixes Folder on the Workgroup Server Software CD-ROM disc.

Article Change History:
05 Jan 1996 - Corrected typographical error.

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SerialDMA & Serial Port Arbitrator Compatibility Issue

This article describes a compatibility issue when using a PCI-based Power Macintosh computer with the 7.5.2 Printing Fix 1.1 and Apple Remote Access (ARA) with some telecommunication applications, or Fax software.
This article has been archived and is no longer updated by Apple.
System 7.5 Update 2.0

The newer architecture of the SerialDMA included in System 7.5 Update 2.0 does not have the same problem, therefore you should install this update which upgrades your system to version 7.5.3. Also, the next version of ARA (Personal Server and Client) will have a new Serial Port Arbitrator that no longer exhibits this problem (there is no known date when a newer version of ARA will be available).

Explanation and Workaround for System 7.5.2

Users of PCI-based Power Macintosh (7200, 7500, 8500, or 9500) computers and the 7.5.2 Printing Fix 1.1 may encounter problems. There appears to be a compatibility issue between the Serial Port Arbitrator extension (part of ARA) and the SerialDMA 2.0.2 extension (part of the printer update) if both load at start up. This issue may appear at computer start up or when attempting to dial out to an online service or using a telecommunication application.

This issue may also affect Global Village Fax features. As mentioned above the SerialDMA 2.0.2 extension conflicts with the Serial Port Arbitrator extension, which inhibits the ability to Fax when ARA is set to answer calls in the Remote Access Setup control panel. In addition, users should rename the SerialDMA 2.0.2 extension (for example, place a space in front, " SerialDMA 2.0.2") so this extension loads before the GlobalFax extension. Global Village is working on a solution to correct this, however, no date is known when this solution will be available.

Workaround

To avoid this conflict, try one of the following:

* Remove the Serial Port Arbitrator extension from the System Folder.
* If you are using Global Village Fax features, turn off the Fax Receive feature in the Global Village Fax Center whenever dialing out with online service software or telecommunication software.

For more information on the Serial Port Arbitrator and ARA, please refer to the Tech Info Library article titled, "Serial Port Arbitration and Apple Remote Access". Use the search string "Serial Port Arbitrator and ARA".
Published Date: Feb 19, 2012

Power Macintosh 5200/75 LC: Flashing Question Mark (12/95)

Article Reviewed/Updated: 11 December 1995

I have a Power Macintosh 5200/75 LC computer, and I am getting a flashing question mark at startup. What could be causing this?
This article has been archived and is no longer updated by Apple.
There are a number of possible causes to the flashing question mark symptom that you are experiencing. Follow these steps to resolve this issue:

Step 1

Rule out causes such as: damaged or missing system software, SCSI configuration problems, third-party software conflict, or corrupted PRAM. If you need assistance with this, see Tech Info Library article, "Flashing Question Mark on the Screen: Causes and Cures."

If the symptom persists, perform step 2.

Step 2

Download the latest version of Drive Setup, which is available on the online services. Make sure you are using at least version 1.0.3. Copy it to a floppy disk or external volume.

Step 3

Start up from the system software CD-ROM disc and use Disk First Aid to check the hard disk. If Disk First Aid reports problems and can repair them, repair them and continue to step 4.

If Disk First Aid reports problems that it is unable to repair, take necessary recovery steps and reformat hard drive with Drive Setup 1.0.3.

IMPORTANT: If you reformat the hard drive, you will lose all the data on the disk. Be sure to make a complete backup of any data you wish to keep before reformatting.

Step 4

Quit Disk First Aid. Open Drive Setup 1.0.3 from a floppy disk or external volume.

Step 5

Select the internal IDE drive and select Update driver from the Functions menu.

Step 6

Perform a clean installation of the system software. If you need assistance with this, see Tech Info Library article, "System 7.5: Clean Install Procedure".

Step 7

If you continue to experience the flashing question mark at startup, contact an Apple-authorized service provider for additional assistance.

These articles can help you locate the software update mentioned here:

* "Where To Find Apple Software Updates" - Lists online services for free Apple software updates.

* "Obtaining Apple Product Support in the USA" - Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech Info Library.

Article Change History:
11 Dec 1995 - Updated information.

Support Information Services
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Power Macintosh 7200 & 7500: Difficulty Mounting CDs (12/95)

I have a Power Macintosh 7200 series computer. When I hold down the C key and try to start up the computer using the system software CD-ROM disc, I get a flashing question mark. I am also having difficulting mounting other CD-ROM disks.

This article has been archived and is no longer updated by Apple.

The Power Macintosh 7200 and 7500 series computers have a "kickstand" or bracket which prevents the internal component cage from opening. However, if this bracket is not secure, it can cause enough tension on the internal SCSI ribbon cable to pull it from the SCSI connector. This is the likely cause of the difficulties you are experiencing with CD-ROM discs.

To resolve this, snap the bracket securely into place and then reconnect the internal SCSI ribbon cable.

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Apple IIe (Enhanced): Distorted Double High-Res Graphics

PROBLEM DESCRIPTION: While trying to run a program that uses Double High Resolution Graphics (ie. DazzleDraw, MouseCalc, etc.), screen output appears poor, unreadable or badly distorted.

CAUSE: The Molex Jumper might have fallen off, or been removed from the the Extended 80 Coloumn Card.

This article has been archived and is no longer updated by Apple.
CURE: Reinstall the Molex Connector as explained in the Extended 80 Column Card Manual.

Note: Later versions of the Extended 80 Column Card do not have the jumper connected by the molex plug described here. That connection is already made on the card at the factory.

Published Date: Feb 19, 2012

Power Macintosh 7500 and 8500: Technical Info Update

This article contains an update to the Technical Information booklet that came with your Power Macintosh 7500 or 8500 series computer.
This article has been archived and is no longer updated by Apple.
The following table replaces the table in the section titled, "Assigning SCSI ID Numbers":

Assigning SCSI ID Numbers		
SCSI bus	SCSI ID	Device
Internal*	0	factory-installed hard disk
	1	available
	2	available
	3	factory-installed CD-ROM drive (optional)
	4	available
	5	available
	6	available
	7	Power Macintosh computer
External	0	factory-installed hard disk
	1	available
	2	available
	3	available
	4	available
	5	available
	6	available
	7	Power Macintosh computer

Note: Although five or six SCSI ID numbers are available for assignment, only one other SCSI device can be connected to the internal SCSI chain because of space limitations.

The following table replaces the table in the section titled, "Audio and Telecommunication Devices":

Audio and Telecommunication Devices			
Device	Voltage	Current	Power
Microphone	+5 V	20 mA	100 mW
GeoPort telecom adapter	+5 V	500 mA	2.5 W
S-video input connector	+12 V	250 mA	3.0 W

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Performa & PowerBook: Global Village Modem Too Loud (4/96)

I have a Macintosh Performa computer with a built-in Teleport Gold llv modem, and I cannot disable the modem sound. I turned it off in the Teleport control panel and turned down the sound volume in the Sound control panel. However, when the modem dials, it is still loud. The same thing happens with my PowerBook 5300 series computer and PowerPort Mercury PC Card. What can I do?

This article has been archived and is no longer updated by Apple.

In the Teleport (or PowerPort) control panel, there is a volume slider that you can use to adjust the speaker volume when the GlobalFax software is sending a fax. However, volume slider affects the modem volume for faxing only. If you are using another telecommunications program, you will have to adjust the modem volume in it. If you need assistance in configuring these settings, contact the software publisher.

If the communications application supports AT commands, then you can use them to modify the initialization or hangup strings. AT commands are a way of communicating directly with the modem. ATM0 turns off the modem sound; ATM1 turns it back on. The Ln commands set the volume from very low (L0) to loud (L3).

If the application supports an initialization string suggest that the customer use the ATM0 or ATL0 commands to turn off or turn down the speaker, respectively. If it also supports a "hangup string," use an ATM1 or ATL1, L2, or L3 command to re-enable the speaker.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.

Article Change History:
15 Apr 1996 - Updated information.
26 Mar 1996 - Added information about PowerBooks having the same problem.

Published Date: Feb 19, 2012

Elementary Reference Bundle: Dinosaur Adventure Trouble (1/96)

I have the Apple Elementary Reference bundle. I am having difficulty with the Dinosaur Adventure CD-ROM disc that came with my bundle.

When I launch the Dinosaur Adventure application, I get a message, "Could not find file 'KA Icons'. Please reinstall Dinosaur Adventure." There is no installer and the instructions state I can run the program from the disc directly without installing anything on to my hard drive.

The application launches fine if I double-click the Dinosaur Adventure application right after starting my computer. What is wrong?

This article has been archived and is no longer updated by Apple.

You will receive this error message if you try to run the Dinosaur Adventure application while File Sharing is turned on in your Sharing Setup control panel. It takes a few minutes for file sharing to turn on when you first start your computer which is why you are able to launch the application right after turning on your computer.

Use the following procedure to make sure File Sharing is turned off before launching the Dinosaur Adventure application:

Step 1

Choose Control Panels under the Apple Menu.

Step 2

Double-click on the Sharing Setup control panel.

Step 3

If the button in the File Sharing section of the Sharing Setup control panel reads Start, go to Step 4.

If the button in the File Sharing section of the Sharing Setup control panel reads Cancel, click Cancel. Go to Step 4.

If the button in the File Sharing section of the Sharing Setup control panel reads Stop, click Stop. Go to Step 4.

Step 4

Close the Sharing Setup control panel.

Step 5

Open the Preferences Folder in the System Folder. If there is a file called KA Dino CD D Prefs in the Preferences Folder, drag it to the Trash and empty the Trash.

Step 6

Launch the Dinosaur Adventure application.

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Volume II, Issue 18, Page 9

Article Change History:
29 Jan 1996 - Added Info Alley information.
05 Jan 1996 - Corrected minor typo.
11 Dec 1995 - Clarified steps.

Support Information Services
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Macintosh Quadra 950: ROM Socket (12/95)

The Macintosh Quadra 950 logic board has ROMs that are soldered to the board, but the logic board also has a ROM socket. Why is this. Should I have something in the ROM SIMM socket?

This article has been archived and is no longer updated by Apple.

The ROM socket is available so that an updated set of ROMs could be added. Many Apple logic boards have an empty ROM socket for possible ROM updates. However, if the ROMs are already soldered to the board, you do not need anything in the ROM socket.

Support Information Services
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FWB Hard Disk Toolkit: System 7.5.2 Incompatibility (6/96)

I have a PCI-based Power Macintosh computer which uses System 7.5.2. Recently, I've noticed that my hard disk has become locked, and I'm unable to write anything to the disk. I am using FWB Hard Disk Toolkit to mount an external drive. What could be going on?

This article has been archived and is no longer updated by Apple.

Versions earlier than 1.8 of FWB Hard Disk Toolkit are incompatible with System 7.5.2 and higher. FWB does have a solution for users who are experiencing this problem. This solution is described in the Read Me included with the FWB utility, Unlock Volume.

Contact FWB's technical support center for additional assistance.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.

Article Change History:
04 June 1996 - Updated system version information.
Published Date: Feb 19, 2012

LaserWriter 16/600 PS: TCP/IP Configuration Guide

This article describes configuring TCP/IP communications to a LaserWriter Pro 16/600 PS.
This article has been archived and is no longer updated by Apple.

To Find the IP Address and Other TCP/IP Configuration Information

The IP Address
To find the IP address use one of the choices below:

- Print a test page.
- Apple Printer Utility1.
- TELNET to printer and display the current configuration information.

Subnet and Default Gateway Displayed
To find the subnet and default gateway use one of the choices below:

- Use the Apple Printer Utility to display the Configuration Page.
- Use TELENET (option x) and connect to the printer to display the Configuration Page.

RARP and BOOTP

On startup, if the IP address is set to 0.0.0.0 (or has never been set), the LaserWriter 16/600 PS will issue BOOTP and RARP requests roughly every 5 seconds. If your printer has ROM version 1.0, these requests seem to be continuous, while ROM version 2.0.x these requests seem to stop after 64 seconds, or 12 broadcasts.

Verifying the IP Address when using RARP or BOOTP
The Apple Printer Utility will correctly display the current IP address. Network management software may also display the current IP address.

Since the "permanent" address is still 0.0.0.0, printing a test page by restarting the printer will not display the served IP address. The test page will still report, "IP address: 0.0.0.0".

Configuration Switch and RARP or BOOTP
Does the configuration switch on the printer affect RARP and BOOTP? No, RARP or BOOTP work if the switch is set in up or down position.

How do I Manually Assign the IP Address

If the "permanent" address at 0.0.0.0 can I use gleaning?

If the IP address has been set permanently, how do I change it?

You can use one of the following:

TELNET and use option x
apple printer utility

NOTE: RARP, BOOTP and IP gleaning do not work here.

Turning IP Off

There is no way to completely turn off all IP functions on the printer. However, customers who ask, "How do I turn IP off," are actually asking for two different configurations.

1. Disable network configuration protocols (RARP, BOOTP, DHCP) -- To prevent the printer from requesting network configurations from network servers with RARP, BOOTP, or DHCP, you should manually assign an address to the printer.
2. Keep IP hosts from printing to the printer -- If you want to hide your printer from the TCP/IP network, and not let other hosts print to the printer, assign an IP address to the printer that is not in use. This will cut off all printing from outside the subnet. Local LPR clients will still be able to use the printer.

Support Issues

Acquires Wrong Address

Because the printer is using a BOOTP or RARP server, the printer is in glean mode when the address is 0.0.0.0, some users may see this issue. Subnets with heavy ARP traffic or malfunctioning systems may accidentally configure the printer. The printer may accept the wrong configuration method. For example, the network administrator wanted the printer configured with RARP, but a BOOTP server responded more quickly. A user's printer unintentionally "steals" a number from a BOOTP server.

BOOTP Client Using Another Client's BOOT Address

The LaserWriter 16/600 previously accepted BOOTP (and DHCP) response packets intended for a different host and would assume that host's IP address. This was resolved by version 3.0 ROMs.

BOOTREQUEST Packet Is Interpreted as DHCPDISCOVER by a DHCP Server

This may be an issue with the BOOTREQUEST sent by the printer. The most likely cause is the DHCP server does not properly conform to RFC 1534. If you do a network trace, check for DHCP option 53 (message type). If the printer's BOOTREQUSET uses option 53, then the printer is out of specification.

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Apple Internet Connection Kit and Static IP Address

This article describes the procedure to use a static IP address with the Apple Internet Connection Kit (AICK).
This article has been archived and is no longer updated by Apple.

Procedure

1. Configure the dialer to use your Internet Service Provider (ISP) with the define/modify provider menu command, then close the dialer WITHOUT dialing and connecting.

2. If your Macintosh is running TCP/IP, open the TCP/IP control panel, select the Advanced command in the User Mode menu, then fill in the requisite information. Close the control panel.

3. Open the dialer and connect to the ISP. The changes to the TCP/IP control panel will stay, as they are written to a part of the TCP prefs that the dialer does not overwrite.

Things to Avoid

- Never have the MacTCP or TCP/IP control panel and the dialer open at the same time. Never have Config PPP and the dialer open at the same time.
- Either of these combinations of operations will cause system and preferences corruption. Make sure you have quit one process before starting the next

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Apple Logo II: An Introduction to Programming: Manual Errata

Page 161 in Appendix A mistakenly lists ARCR and ARCL as four-line procedures.
This article has been archived and is no longer updated by Apple.
The third printed line, REMAINDER :DEGREES 10, should be appended to the second line in both procedures so that they read:

```
TO ARCR :RADIUS :DEGREES
ARCR1 .174532 * :RADIUS :DEGREES / 10 REMAINDER :DEGREES 10
END

TO ARCL :RADIUS :DEGREES
ARCL1 .174532 * :RADIUS :DEGREES / 10 REMAINDER :DEGREES 10
END
```

When you're in the editor, your screen will show:

```
TO ARCR :RADIUS :DEGREES
ARCR1 .174532 * :RADIUS :DEGREES / 10 RE!
MAINDER :DEGREES 10
END

TO ARCL :RADIUS :DEGREES
ARCL1 .174532 * :RADIUS :DEGREES / 10 RE!
MAINDER :DEGREES 10
END
```

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QuickTime Conferencing: H.320 ISDN NuBus Card Read Me (2/96)

This article contains the ReadMe file for the QuickTime Conferencing H.320 ISDN Nubus Card.
This article has been archived and is no longer updated by Apple.
QuickTime Conferencing H.320/ISDN NuBus Card

H.320/ISDN Software

This interface software delivers full H.320/ISDN support to QuickTime Conferencing via a dedicated NuBus expansion bus card installed in a Power Macintosh 7100AV series or 8100AV series computer. This provides compatibility and interoperability with the worldwide ISDN network of videoconferencing centers and video-phones.

System Requirements

Power Macintosh 7100AV series, 8100AV series computers, or 7100 series and 8100 series with AV card upgrade
System software version 7.5 or newer
16 megabytes of DRAM (memory)
PlainTalk Microphone
Network ISDN connection
Handset

IMPORTANT NOTE: Some of Apple's newest computers utilize the PCI Expansion Bus and are not compatible with NuBus Expansion Bus cards.

Installing H.320/ISDN Software and Related Software
==========

Install Macintosh System software, version 7.5 (or newer) or J-7.5.
Install Network Software Installer, version 1.5 or newer.
Install QuickTime Conferencing software.
Install H.320/ISDN software.

Getting Help and Information
==========

The Apple Media Conference program includes the Apple Media Conference Guide, an Apple Guide help system that answers common questions about setting up and using Apple Media Conference. When you first open Apple Media Conference, you can also open Apple Media Conference Guide by clicking the Guide (question mark) button in the startup dialog. You can also choose Apple Media Conference Guide from the Guide menu at any time while you are using Apple Media Conference.

For detailed troubleshooting information, and tips on improving the performance of Apple Media Conference, refer to the Troubleshooting topic in Apple Media Conference Guide.

Troubleshooting
==========

Local Macintosh sounds are disabled while in hands-free mode

When Hands-Free mode is selected, only audio from the remote connection is played. The Macintosh will not be able to play any local sounds or system beeps or sounds unless you switch to Handset mode or end the call.

Audio is distorted when in hands-free mode

The H.320/ISDN card is optimized to process 22 kHz audio information. Verify that the sound output rate in the sound control panel is set to 22 kHz.

Cannot hear audio when broadcasting

If other users cannot hear audio from your machine, open the Sound Settings dialog box and verify that Built-in is selected as your sound source device.

Handset sound gain will not adjust with slider control

The sound gain control slider located in the Self View Window will only adjust the volume level of the computer's internal or external speakers. It has no affect on the handset sound gain.

Making a LAN (Local Area Network) connection with PowerTalk and H.320

Although you are able to make a LAN connection through PowerTalk when the connection type selected is H.320 (for Wide Area Networks) it is highly recommended you switch your connection type from H.320 to MovieTalk Protocol before you attempt a LAN connection. Placing a LAN call when the connection type selected is H.320 may cause memory allocation problems with you computer. To change your connection type from H.320 to MovieTalk Protocol choose Preferences/Conference from the Settings menu and set "Connection type:" to MovieTalk Protocol.

Formatting a floppy disk during a conference connection

Formatting a floppy disk will disconnect you from your conference connection. Do not format floppy disks during a conference connection.

PowerTalk Catalog Browser with TCP/IP and H.320

The PowerTalk Catalog Browser does not operate in TCP/IP and H.320 environments. To place calls to TCP/IP and H.320 users through PowerTalk you must create business cards for those users. For assistance in creating PowerTalk business cards refer to the Using PowerTalk topic in Apple Media Conference Guide. Read the Getting Help and Information section of this document for information on Apple Media Conference Guide. To bypass PowerTalk hold down the option key when you choose Call from the File menu. You will then be presented with a dialog box for entering the information needed to place your TCP/IP or H.320 call.

Turning off sound during a conference connection

If you turn off the sound in the Media Setup dialog box you may get a dialog box stating there has been an unexpected error System Error: -223. Click the button located in the dialog box to continue. The error will not affect your computer or your conference connection.

Installing H.320 software and folder names

When you installed the QuickTime Conferencing software on your hard drive a folder named "QuickTime Conferencing" was created and several items were placed within it. If the name of this folder is changed before you install the H.320 software the H.320 software installer will place the Apple Media Conference Guide document in a new folder named "QuickTime Conferencing." Before you install the H.320 software make sure the name of the folder created by the QuickTime Conferencing software installer is "QuickTime Conferencing."

Sound compression and ISDN, 1 channel connections

It is not recommended to select the Best Quality (G.722) compressor if you have selected ISDN, 1 channel or ISDN, 1 channel, 56k adaptation. The reduced bandwidth capacity of ISDN, 1 channel may not have the ability to operate with Best Quality sound compression. Select the Best Efficiency (G.728) compressor if only one ISDN channel is available.

H.320 software and Macintosh computers equipped with the PCI expansion bus

Some of the newest Macintosh computers have replaced the NuBus expansion bus with a faster expansion bus named PCI (Peripheral Component Interconnect). The H.320 software should not be installed on these computers. Installing the H.320 software may cause these computers to crash during boot up. Booting the computer while holding down the shift key and removing the "~H.320 Extension" file from the Extensions folder in the System Folder will allow the computer to boot properly.

Typing below the bottom of the Shared Window in Apple Media Conference

When the bottom of the Shared Window is at or below the bottom of the screen do not type text below the bottom-visible edge of the Shared Window. Text which falls below the bottom-visible edge of the Shared Window may be lost.

Record button appears in Self View window when connection type selected is H.320

Record does not operate when the connection type selected is H.320. If the sound source has been manually changed from "H.320 Card" to "Built-in" the record button will appear in the Self View window but will not operate. Changing the sound source back to "H.320 Card" will remove the record button.

Error when disconnecting video or audio cables during a connection

Avoid 'hot plugging' video and audio cables while you have an active connection. This can temporarily confuse the QuickTime software and display error messages.

Inconsistent behavior when using WindowShade product

Do not use the Windowshade option to hide windows in the Apple Media Conference application. The software may not realize that the window has been hidden and display error messages.

Increasing memory allocated for the Apple Media Conference application

The system is optimized for ISDN connections and small LAN connections. If you receive low-memory warnings in Apple Media Conferencing you should increase the amount of memory allocated for the Apple Media Conferencing application. To do this, click once on the Apple Media Conferencing icon, choose the Get Info command from the File menu, and increase the value in the Preferred Size box.

Calling TCP/IP users who use dynamic server-based addresses

If you are connecting using TCP/IP from a machine using a static IP address to a machine using MacIP (KIP) server supplied addresses, you must have a clear TCP/IP pathway between the Mac with the static address and the MacIP (KIP) server.

If you plan to use a MacIP server to allocate TCP/IP addresses, the MacIP requires a clear AppleTalk pathway from all Macs requiring an IP address to the MacIP server.

Video image is distorted

Check that the Apple Media Conference software is configured for the video format supplied by your camera (NTSC, PAL, or SECAM). To change this setting, choose Video Settings from the Settings menu, switch to the page marked Source, and select the video format from the Format pop-up menu.

Audio and Video freezes when pasting images during a 1B connection

With a 1B channel connection (56K/64K), outgoing video and audio may stop during a shared window transfer. To restart video and audio, wait for the shared window transfer to complete, open up media settings, disable video and audio, press OK, then open up media settings again and re-enable video and audio.

Pausing self-view window temporaily disables incoming video

If you pause the outgoing video and audio from your machine, your remote window may temporarily freeze. To recover from this problem, simply click anywhere inside the remote window and the video from the remote site will resume.

Article Change History:
14 Feb 1996 - Added additional troubleshooting steps.
08 Jan 1996 - Changed distribution status.

Support Information Services

TA34822_QuickTime_Conferencing_H_ISDN_NuBus_Card_Read_Me__(TIL19040).pdf

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QuickTime Conferencing: H.320 ISDN NuBus Card Troubleshoot 2/96

This article contains common troubleshooting information taken from the Read Me for the QuickTime Conferencing software included with the H.320/ISDN Card.
This article has been archived and is no longer updated by Apple.
Local Macintosh computer sounds are disabled while in hands-free mode

When Hands-Free mode is selected, only audio from the remote connection is played. The computer will not be able to play any local sounds or system beeps or sounds unless you switch to Handset mode or end the call.

Audio is distorted when in hands-free mode

The H.320/ISDN card is optimized to process 22 kHz audio information. Verify that the sound output rate in the sound control panel is set to 22 kHz.

Cannot hear audio when broadcasting

If other users watching your broadcast cannot hear audio from your machine, open the Sound Settings dialog box and verify that Built-in is selected as your sound source device.

Handset sound gain will not adjust with slider control

The sound gain control slider located in the Self View Window will only adjust the volume level of the computer's internal or external speakers. It has no affect on the handset sound gain.

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Although you are able to make a LAN connection through PowerTalk when the connection type selected is H.320 (for Wide Area Networks) it is highly recommended you switch your connection type from H.320 to MovieTalk Protocol before you attempt a LAN connection. Placing a LAN call when the connection type selected is H.320 may cause memory allocation problems with you computer. To change your connection type from H.320 to MovieTalk Protocol choose Preferences/Conference from the Settings menu and set "Connection type:" to MovieTalk Protocol.

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name of the folder created by the QuickTime Conferencing software installer is "QuickTime Conferencing."

Sound compression and ISDN, 1 channel connections

It is not recommended to select the Best Quality (G.722) compressor if you have selected ISDN, 1 channel or ISDN, 1 channel, 56k adaptation. The reduced bandwidth capacity of ISDN, 1 channel may not have the ability to operate with Best Quality sound compression. Select the Best Efficiency (G.728) compressor if only one ISDN channel is available.

H.320 software and Macintosh computers equipped with the PCI expansion bus

Some of the newest Macintosh computers have replaced the NuBus expansion bus with a faster expansion bus named PCI (Peripheral Component Interconnect). The H.320 software should not be installed on these computers. Installing the H.320 software may cause these computers to crash during boot up. Starting up the computer while holding down the shift key and removing the "~H.320 Extension" file from the Extensions folder in the System Folder will allow the computer to boot properly.

Typing below the bottom of the Shared Window in Apple Media Conference

When the bottom of the Shared Window is at or below the bottom of the screen do not type text below the bottom-visible edge of the Shared Window. Text which falls below the bottom-visible edge of the Shared Window may be lost.

Record button appears in Self View window when connection type selected is H.320

Record does not operate when the connection type selected is H.320. If the sound source has been manually changed from "H.320 Card" to "Built-in" the record button will appear in the Self View window but will not operate. Changing the sound source back to "H.320 Card" will remove the record button.

Error when disconnecting video or audio cables during a connection

Avoid 'hot plugging' video and audio cables while you have an active connection. This can temporarily confuse the QuickTime software and display error messages.

Inconsistent behavior when using WindowShade product

Do not use the Windowshade option to hide windows in the Apple Media Conference application. The software may not realize that the window has been hidden and display error messages.

Increasing memory allocated for the Apple Media Conference application

The system is optimized for ISDN connections and small LAN connections. If you receive low-memory warnings in Apple Media Conferencing you should increase the amount of memory allocated for the Apple Media Conferencing application. To do this, click once on the Apple Media Conferencing icon, choose the Get Info command from the File menu, and increase the value in the Preferred Size box.

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If you are connecting using TCP/IP from a machine using a static IP address to a machine using MacIP (KIP) server supplied addresses, you must have a clear TCP/IP pathway between the Mac with the static address and the MacIP (KIP) server.

If you plan to use a MacIP server to allocate TCP/IP addresses, the MacIP requires a clear AppleTalk pathway from all Macs requiring an IP address to the MacIP server.

Video image is distorted

Check that the Apple Media Conference software is configured for the video format supplied by your camera (NTSC, PAL, or SECAM). To change this setting, choose Video Settings from the Settings menu, switch to the page marked Source, and select the video format from the Format pop-up menu.

Audio and Video freezes when pasting images during a 1B connection

With a 1B channel connection (56K/64K), outgoing video and audio may stop during a shared window transfer. To restart video and audio, wait for the shared window transfer to complete, open up media settings, disable video and audio, press OK, then open up media settings again and re-enable video and audio.

Pausing self-view window temporaily disables incoming video

If you pause the outgoing video and audio from your machine, your remote window may temporarily freeze. To recover from this problem, simply click anywhere inside the remote window and the video from the remote site will resume.

Article Change History:
14 Feb 1996 - Added additional troubleshooting.
08 Jan 1996 - Changed distribution status.

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QuickTime Conferencing: Troubleshooting (12/95)

This article contains common troubleshooting information taken from the Read Me file which is included with the QuickTime Conferencing software.
This article has been archived and is no longer updated by Apple.
Apple Media Conference Guide contains more detailed information about the problems listed here, and other problems you may encounter.

* You see low memory warnings while using Apple Media Conference

Increase the amount of memory allocated for the Apple Media Conference program. To do this, quit Apple Media Conference, go to the Finder, click the Apple Media Conference program icon, choose Get Info from the File menu, and increase the value in the Preferred Size box. For more detailed instructions on increasing the memory allocated to a program, go to the Finder, open the Guide menu located in the upper-right-corner of your screen, choose Macintosh Guide, click the Topics button, click the Memory topic area, and double-click the "change a program's memory size" phrase.

* You see an error message when you plug or unplug video or audio cables during a connection

Do not plug or unplug camera, microphone, or other sound and video cables while you are connected to another caller, or viewing or sending a broadcast. This can temporarily disable the QuickTime software. You should always turn off your computer before you plug or unplug any cables.

* The video image is distorted

Make sure the settings are correct in the Video Settings dialog box. The settings should specify the video format supplied by your camera (NTSC, PAL, or SECAM). To adjust the settings, choose Video Settings from the Settings menu, choose Source from the top pop-up menu in the Video Settings dialog box, and choose the correct video format (NTSC, PAL, or SECAM) from the Format pop-up menu.

Apple Media Conference Guide contains more detailed instructions on adjusting the video (and sound) settings.

If you are using a Power Macintosh 6100AV, 7100AV, or 8100AV computer, attach your display to the monitor port located on the AV video card instead of the monitor port located on the computer's logic board. (Shut down the computer and turn off the power before you change your display's connection.) See the manual that came with your computer for more information.

* Calling TCP/IP Users with Dynamic Server-Based Addresses

If you are connecting using TCP/IP from a machine using a static IP address to a machine using MacIP (KIP) server supplied addresses, you must have a clear TCP/IP pathway between the Macintosh computer with the static address and the MacIP (KIP) server.

If you plan to use a MacIP server to allocate TCP/IP addresses, the MacIP requires a clear AppleTalk pathway from all Macintosh computers requiring an IP address to the MacIP server.

* A Note Regarding Interoperability

QuickTime Conferencing is the foundation for a broad range of Apple and third-party video and document conferencing solutions.

QuickTime Conferencing supports open standards for interoperability, so developers can use it to create software that works with a variety of network transports, compression technologies, and media devices (cameras, microphones, and so forth). QuickTime Conferencing provides consistent standards that encourage software developers to create application programs that look and act the same from a user's point of view, regardless of the computer, network service, or devices being used.

For Power Macintosh 5200 LC and 5300 LC Users

Users of the Power Macintosh 5200 LC and 5300 LC series computers should note the following:

* Sound compression and sound sample rate

Sound compression is not available if the selected sound sample rate is 11.127 kHz. Sound compression is available if the selected sound sample rate is 22.255 kHz. The sound compression and sound sample rate settings are found in Sound Settings under the Settings menu. For example, if the sound sample rate is set to 22.225 kHz and you wish to change it to 11.127 kHz you must make sure the sound compression is set to "None"

or you will not be able to select 11.127 kHz.

* Large window sizes and low memory problems

You may encounter memory problems when using double size windows for the self view and remote view. Increasing the amount of application memory for Apple Media Conference from 3,000 kbytes to 4,000 kbytes will solve this problem. A description of changing the amount of memory for Apple Media Conference is described below in the Troubleshooting section of this document.

* PPCPlayThru extension conflict

If the PPCPlayThru extension is present in the Extensions folder of the System Folder the volume control in Apple Media Conference will not operate properly. Removing the PPCPlayThru extension will correct the problem.

* For At Ease 3.0 and At Ease Workgroups 2.0.3 Users

For QuickTime Conferencing to operate properly certain conditions under At Ease must be set properly.

- If the user is restricted to At Ease Panels, Apple Media Conference and MoviePlayer must be enabled under "Items for this User."

- File open and save privileges must be enabled under the "Security" setup. Both the user's folder and/or floppy should be set for these privileges. The user should also be allowed to perform screen captures.

- Apple Media Conference will not save preference settings based on individual users. Each individual user should check to make sure the settings are appropriate for their conferencing needs. To change the name of the user in Apple Media Conference choose Preferences/Conference from the Settings menu. Type your name in the user name box.

- Drag and Drop onto the desktop does not operate in the At Ease Panels level.

- You cannot share movies or sounds in the Shared Window in Apple Media Conference.

Support Information Services
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Apple LaserWriter: UNIX Printing over Serial Connection

This article provides guidelines for printing from a UNIX workstation to an Apple LaserWriter printer over a serial connection.
This article has been archived and is no longer updated by Apple.

Step 1: Create PostScript Files

If the applications you are using do not generate PostScript files, or if you want to print plain text files, you need a tool to translate plain text into PostScript. TranScript is one such application from Adobe Systems, Inc., which does this. The TranScript software converts non-PostScript language files such as Tek 4014, Diablo 630, troff, ntroff, plot and ASCII into PostScript language files. TransScript is distributed by the Qualix Group.

Step 2: Create a Printer Description

Once you have text to PostScript software installed, set up an entry in the /etc/printcap file for the PostScript printer. Sample printcap entries can be found on the internet. One anonymous ftp site is "ftp.unt.edu" which contains the file printcap-city located in the /pub/unix directory. The entry should look similar to:

```
#LASERWRITER PLUS (GENERIC) ------------------------------------
lp|lw|ps|PostScript|LaserWriter|laserwriter|postscript|Apple:\\
:lp=/dev/lw:br#9600:\\
:fc#0000374:fs#0000003:xc#0:xs#0040040:rw:\\
:if=/usr/lib/psif:of=/usr/doctools/lib/psof:\\
:gf=/usr/lib/psgf:nf=/usr/doctools/lib/psnf:\\
:tf=/usr/lib/pstf:\\
:vf=/usr/lib/psvf:\\
:sd=/usr/spool/lpd0:lf=/usr/spool/lpd0/log:\\
:mx#0:sf:sb:
```

Step 3: Make Connection

Connect the printer to the workstation. Adjust printer and port communications settings appropriately.

Step 4: Check the Connection

Send data to the printer using the commands your UNIX workstation requires. Here is a generic example, you may need to use a different command. This command does not print anything, it only checks the connection.

```
echo "Hello" > /dev/port &
```

After sending the command you should see the lights on the printer flash as the data is received. If you do not see the lights flash, there may a problem with the physical connection. You should check the cable, UNIX system serial port setup, or LaserWriter setup.

Step 5: Printing a PostScript File

The final step is to print a PostScript file. If you have a PostScript file available, you should be able to print it with the following command:

```
cat filename > /dev/port &
```

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.
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ARA 2.0.1 Client: LanRover/E or NetModem/E Issue

I cannot connect to my LanRover/E v3.x or NetModem/E 3.5 using Apple Remote Access (ARA) v 2.0.1. Apple Remote Access v 2.0 connects fine. Do I need a special CCL file?
This article has been archived and is no longer updated by Apple.
AppleTalk Remote Access 2.0.1 added a feature which lets remote Macintosh clients connect to ARA 1.0 and ARA 2.0 servers without setting the "ARA 1.0 compatibility" checkbox in the options window. The ARA 2.0.1 client identifies the type of server by sending two different link request packets, one for 2.0.x and one for 1.0, then decides the version by the server's response.

Because an ARA 1.0 link request packet is exactly the same as an error correction request packet, the modem on the Shiva Remote Access Server will reply positively to the ARA 1.0 link request. The client, seeing the positive reply, decides the server is set up for ARA 1.0 and begins to make an ARA 1.0 connection. Since the Shiva device is looking for an ARA 2.0 connection, the connection will fail.

Shiva is aware of this issue. Please contact Shiva's technical support staff for further assistance.
Published Date: Feb 19, 2012

MessagePad 120: Hardware Handshake Is Not on PC Cables

Is the PC compatible cable that shipped with the Apple MessagePad 120 2.0 devices a hardware handshaking cable? Is hardware handshaking required?
This article has been archived and is no longer updated by Apple.
The PC to Apple MessagePad cable is not a hardware handshake cable. There is no need for it to be since both the MessagePad and the PC are capable of handling communication at 57,600 baud. At this data rate, there should not be any data overflow.

The above situation is slightly different than modem communications where the modem speed is slower than the serial port speed. For example, if the port is set for 57,600 baud and the modem is communicating at 28,800, the modem has to be able to compress the data 2:1 to stay up with the computer. If the data cannot be compressed this much, the modem must tell the computer to stop sending the data to prevent overflow. This is why you must use a cable that supports hardware handshaking.
Published Date: Feb 19, 2012

LaserWriter 16/600 PS: Lantastic Spooler Issues (12/95)

I am having some difficulties with my LaserWriter 16/600 PS printer, which is connected to a MS-DOS Lantastic Server. When printing PCL (LaserJet emulation), the graphic information does not print, and the job either takes a long time to print, or does not print until a job is spooled.

This article has been archived and is no longer updated by Apple.

When the Lantastic spooler gets corrupted, graphic information does not get sent to the printer. You need to contact Artisoft to get instructions on how to regenerate the spooler.

The LaserWriter 16/600 PS printer requires a CTRL-D at the end of a print job to flush the buffer and cause the job to print. The CTRL-D is not being placed at the ends of your print jobs, this is why it sometimes takes two tries to print. You can manually flush the printer but pressing the combination of CTRL-ALT-PRTSCN keys.

Support Information Services
Published Date: Feb 19, 2012

AppleVision 1710AV Display: Timing, Sync & Pixel Freqs

I have a completely configurarble video card for a workstation that I want to use with the AppleVision 1710AV Display. However, I need some additional parameters for the video card. I need: sync frequencies, pixel frequencies, and timing information.
This article has been archived and is no longer updated by Apple.

Parameters					
Mode	13-in Color	16-in Color	19-in. RGB	21" Color Two-Page	Units
Resolutions					
Hactive	640	832	1024	1152	pixels
Vactive	480	624	768	870	lines
Sync Frequencies					
Fhonzontal	34.97	49.70	60.24	68.70	kHz
Fvertical	66.67	74.55	74.93	75.00	Hz
Sync polarity	negative	negative	negative	negative	
Pixel Frequencies					
Pixel Rate	30.24	57.28	80	100.0	MHz
Timing Information					
HSync Delay	64	32	32	32	pixels
HSync Width	64	64	96	128	pixels
HBlank	224	320	304	304	pixels
VSync Delay	3	2	3	3	lines
VSync Width	3	3	3	3	lines
VBlanking	45	43	36	45	lines

NOTE: Apple reserves the right to change these specifications without notification at any time, and will not guarantee that this will address all of the issues that may be involved with configuring this video card.
Published Date: Feb 19, 2012

QuickDraw 3D: Out of Memory Errors

Each time I attempt to open a QuickDraw 3D document I get an error message saying that there is not enough memory. However, based on the memory requirements for the application and the amount of memory being used by the system software, I should have enough memory available. What could be causing this error?
This article has been archived and is no longer updated by Apple.
QuickDraw 3D is a shared library, which is a code fragment that can be used by any application. Because shared libraries can be used by different applications, they are loaded into the system heap. The result is that you need enough memory to open the application and to adjust for this increase in memory used by the system software. QuickDraw 3D requires a minimum of 16 MB of RAM.

Depending on the size of the document, the active system software heap may grow substantially in size. To prevent this error message, try reducing the preferred size of the application to the suggested size, or try reducing the size of the system software by turning off unused extensions and control panels using the Extensions Manager control panel.

Some applications which use shared libraries can get around this memory requirement by using virtual memory. However, using virtual memory with QuickDraw 3D is not recommended or supported; virtual memory will considerably decrease the performance of QuickDraw 3D.

The following information is for Apple Internal & Support Providers Only
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Imagewriter: Controlling with BASIC (12/96)

This article describes changing the Imagewriter's printing style from within a BASIC program.

This article has been archived and is no longer updated by Apple.

A BASIC program can be used to change the Imagewriter's printing style. The Imagewriter User's Manual contains a listing of the different printer codes and their meaning.

The following sample program changes the type size to 17 characters per inch:

```
10 D$ = CHR$(4) : REM DOS and ProDOS commands access the printer.
15 REM CHR$(4) makes DOS or ProDOS look for a command.
20 PRINT D$;"PR#1" : REM Turn the printer interface card on.
30 PRINT CHR$(27); CHR$(113);
35 REM CHR$(27); and CHR$(113); change type to condensed size (17 CPI).
40 PRINT "THIS IS A TEST" : REM Print something to test the new style.
50 PRINT D$;"PR#0"
55 REM Turn off the printer interface card and turn on the screen output.
56 REM For 80 column screen output, replace the number 0 with the number 3.
60 END
```

Line 30 is the key to obtaining the smaller type size. The Imagewriter recognizes these two characters (27 and 113) as the command to change to condensed print. You will find these codes in the text of the Imagewriter User's Manual and on the foldout card in the back of the manual.

Use the foldout card to find the code for a feature you wish to use and enter the corresponding decimal codes in a print statement. For example, to obtain boldface printing, replace line 30 with the statement 30 PRINT CHR$(27); CHR$(33);

Some features have a series of n's in the decimal code column on the foldout card. Replace these n's with a number that has as many numerals as there are n's in the code, and PRINT the code with the number. For example, the foldout card shows that to set the left margin, send the characters Escape, L, and nnn or send the decimal codes 27, 76, and nnn. This means that the value of the left margin must be sent as a three digit number. If the margin value has only two digits, put an extra zero on the left. For example, to set the left margin to 15, replace line 30 with the statement 30 PRINT CHR$(27); CHR$(76); "015";

The Apple ImageWriter and Dot Matrix Printer have special modes which allow them to generate custom-design characters. To get the most definition for each caracter it is useful to be able to control all eight bits of the data being sent to the printer. The following program example illustrates the use of a routine which allows for all eight data bits to be significant. It demonstrates an example in the ImageWriter User's Manual Part 1: Reference on pages 69 and 70.

```
10 D$ = CHR$(4)
20 FOR I = 768 TO 773: READ J: POKE I,J: NEXT I
30 PRINT D$;"PR#1"
40 FOR I = 1 TO 14: READ J: POKE 769,J: CALL 768: NEXT I
50 PRINT CHR$(27)"*&&&" CHR$(27)"$"
60 PRINT D$; "PR#0"
70 DATA 169,4,76,237,253,96
80 DATA 27,45,27,73,166,71,0,72,72,126,72,72,0,4
```

* Line 20 reads the data from line 70 and POKE's a machine language routine into the computer.
* Line 30 activates the printer.
* Line 40 reads the data from line 80 which is a string of data defining a custom character, the plus/minus character as shown in the ImageWriter manual. It is defined using eight bit data where all eight bits are required.
* Line 50 uses the custom character.
* Line 60 returns the output to the screen.

Article Change History:
16 Dec 1996 - Reviewed for technical accuracy, revised formatting.

TA34832_Imagewriter_Controlling_with_BASIC__(TIL01905).pdf

Published Date: Feb 19, 2012

Color StyleWriter 2400: Prints Only Graphics, No Text (12/95)

I have a Color StyleWriter 2400 printer and I can print graphics, but I cannot print text. If I go into SimpleText and try to print, the printer goes through the motions but nothing prints out. I can perform a Self Test on the Printer, and in Finder, use the Print Window option, and the Color StyleWriter 2400 prints. I reinstalled the Mac OS following clean install instructions I received, but that did not help.

This article has been archived and is no longer updated by Apple.

There are two cartridges for the Color StyleWriter 2400, a color cartridge and a black cartridge. If you are using the color cartridge and run out of black ink, you will be able to print color graphics and the icons, but the text will not be printed since there is not any ink left in the black ink cartridge. The easiest way to verify that you are out of black ink is to perform a self-test. If the Color StyleWriter 2400 prints a picture of the printer, but does not have the text for the printer's name then you know that you are out of black ink.

Support Information Services
Published Date: Feb 19, 2012

Newton 2.0 OS: Trouble Beaming to 1.3 OS Device

When attempting to Beam My Card (an option in the Routing button of the Names application), the MessagePad being beamed to presents a -48006 error if the MessagePad is using Newton 1.3 OS.
This article has been archived and is no longer updated by Apple.
This is something that Apple is currently investigating. Here is a workaround, so you can beam cards between Newton 2.0 and 1.3 OS devices.

1) On the Newton 2.0 OS device, open the Extras drawer and tap on Owner Info.

2) Check the owner.

3) Tap on the routing button, and then tap on "Beam". DO NOT tap on "Beam My Card."

4) On the Newton 1.3 OS device, open the Extras drawer, and tap on "In Box".

5) Tap the Receive button, then tap on "Beam".
Published Date: Feb 19, 2012

Drive Setup 1.0.3: May Report Incorrect Version (1/96)

This article describes an incorrect version number being reported when using Drive Setup 1.0.3.
This article has been archived and is no longer updated by Apple.
The Drive Setup 1.0.3 software that ships with the PowerBook 2300c, and may be included in other systems with IDE disk drives, may show an incorrect version number of "1.12e3" in the Get Info window of the IDE disk drive. This incorrect version number was inadvertently left in the final version of Drive Setup 1.0.3 which has no affect on the software's functionality.

Article Change History:
02 Jan 1996 - Made minor technical update.

Support Information Services
Published Date: Feb 19, 2012

CLW 12/600 PS: Windows 95 Problems w/ vecpd.386

I have installed Windows 95 on my PC-compatible, and I am having some trouble printing to the Color LaserWriter 12/600 PS printer. I was able to print using Windows 3.11.
This article has been archived and is no longer updated by Apple.
The Color LaserWriter 12/600 PS printer software for Windows 3.1x installs VECPD.386, a bidirectional parallel port driver that was not intended for Windows 95. If you upgrade to Windows 95, or install the Windows 3.1 printer software after installing Windows 95 the VECPD.386 file is installed. This file prevents the computer from being able to access the printer port properly. To prevent VECPD.386 from loading, remove the following line from the [386 enh] section of SYSTEM.INI and restart your computer:

device=vecpd.386
Published Date: Feb 19, 2012

System 7.5: AppleScript Automated Tasks Time Out Error

I am trying to run several of the Automated Tasks included with System 7.5. Each task seems to start up fine, but after a minute or two an error appears that says "Apple Event Timed Out" with the option to Edit or Quit.

If I click on the Edit option I see lots of strange codes such as <<class fshr>> and <<class fsup>>. I have done some AppleScript programming and have opened the automated task scripts before but I have never seen these commands.

AppleScript is turned on in the Extensions Manager and other scripts that I have written run fine.
This article has been archived and is no longer updated by Apple.
You are getting this time out error because the Finder Scripting Extension is either turned off in the Extensions Manager or some part of AppleScript is corrupted.

Open the Extensions Manager control panel and make sure that the Finder Scripting Extension has a checkmark next to it. If it is already on, reinstall AppleScript from your original system software disks or CD-ROM disc.

The strange codes you see are AppleScript commands that were written when the Finder Scripting Extension was loaded. When the Finder Scripting Extension is not loaded, the commands loose the natural language format you saw before causing these class formatting commands to appear instead.

The scripts you wrote earlier work because they do not access the Finder Scripting Extension
Published Date: Feb 19, 2012

ImageWriter II & DOS Compatible Card: Condensed Print (1/96)

When I'm in the DOS environment on my DOS Compatible computer, and I print to the attached ImageWriter II as shown in the Read Me file, the printer prints in ultra-condensed mode with very thin characters. Why is this happening, and is there a workaround?

This article has been archived and is no longer updated by Apple.

When printing from the DOS Compatibility Card, the information gets sent to the PC Print Spooler application on your Macintosh, and then on to the printer selected in Chooser. This condensed output occurs because of the way the ImageWriter II interprets the information it receives from the PC Print Spooler.

Workaround
==========

Step 1

In the PC Setup control panel, set COM1: to be the port where the printer is connected. This bypasses the PC Print Spooler and Chooser, and sends the data directly to the port you selected.

Step 2 (FOR MS-DOS ONLY)

Type the following at the command line:

MODE LPT1: = COM1:

Step 2 (FOR WINDOWS ONLY)

Go to the Printers control panel and set Epson LQ-2500 to COM1: instead of LPT1: port.

IMPORTANT:
This workaround prevents you from printing in the Macintosh environment. In order to print from the Macintosh environment, you must go back to the PC Setup control panel and change COM1 back to None.

Article Change History:
03 Jan 1996 - Rewrote entire discussion area for technical accuracy.
Published Date: Feb 19, 2012

Newton 2.0 OS: How to Move All Application Data

Is there a way to move all of the data, for instance my Names, from a PC-card to the internal memory, or to a particular folder?
This article has been archived and is no longer updated by Apple.
Yes you can move the data. Here are the steps you need:

Note: This procedure moves all of the data. Do Not use this procedure if you only want to move some of the data.

1) Open the Extras Drawer

2) Choose the Storage folder. Do this by tapping on the folder tab.

3) Tap on the Names icon.

4) Tap on the folder button.

A slip appears with several options. You can file all of your names data in the internal memory or on a PC-card. In either location, you can store this data in a folder of your choice. This feature is supported on all of the built-in application's data, with the exception of Time Zones.

To move only certain names, refer to the topic "Filing multiple items and cards" in the "Organizing and Finding Information" section of the Apple MessagePad Handbook.
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Machine language programs: Determining the length of code

This article discusses how to determine the length of machine language programs.
This article has been archived and is no longer updated by Apple.
In the case of a short machine language program, you just count the bytes to determine the length of code. This method is not practical for longer programs, though; for such programs, hexadecimal arithmetic is more useful. If you're familiar with hex digits (A = 10, B = 11, C = 12, D = 13, E = 14, F = 15), you can subtract hex locations, just like decimal numbers.

To discover the length of a longer machine language program, simply add 1 to the last location used by the machine language program, and then subtract from that the first location used by the program. For example, an ending address of $0357 and a starting address of $0300 would yield the calculation ($0357 + $0001) - $0300, or a length of $58:

```
last + 1            0  3  5  8
first             - 0  3  0  0
length              0  0  5  8
```

Likewise, the length of a program with an ending address of $03AC and a starting address of $031B is $92:

```
last + 1            0  3  A  D
first             - 0  3  1  B
length              0  0  9  2
```

In each case above, the answer is the length of the machine language program, and you may use it in a BSAVE command:

BSAVE PROGRAM, A$0300, L$58

You'll find more extensive explanations of hexadecimal arithmetic in most introductory machine language books. Check with a local book store or Apple dealer to help you locate one.
Published Date: Feb 19, 2012

Macintosh 5200 & 5300 Computers: Rattling Noise (12/95)

Recently my Macintosh Performa 5200 has started making a continuous rattling sound at startup. What could be causing this?

This article has been archived and is no longer updated by Apple.

You likely have the Apple External Video Connector (M4099LL/A) installed in your computer. The ribbon cable of this connector can sometimes rise up and contact the exposed blades of the fan assembly, which causes this noise.

To resolve this issue, press the ribbon cable down flat, or (if the cable is long enough), fold it as recommended in the External Video Connector User's Guide.

Note that this symptom can occur in any of the following computers:

* Power Macintosh 5200/75 LC
* Power Macintosh 5300/100 LC
* Macintosh Performa 5200 series
* Macintosh Performa 5300 series

Support Information Services
Published Date: Feb 19, 2012

Color StyleWriter Pro: Using Non-Apple Ink Cartridges (12/95)

This article contains information on using Non-Apple labeled ink cartridges in the Apple Color StyleWriter Pro printer. This article has been archived and is no longer updated by Apple.
Apple Service and Support has received some warranty claims for Color StyleWriter Pro printers which were not functioning correctly. Apple's analysis of these printers indicate that they were damaged due to ink spraying onto the printhead circuit and causing it to short. Further analysis indicates this was caused by customers using ink cartridges in their printer which have a vent hole design that causes the ink to spray downward onto the printhead circuit.

Apple's current Color StyleWriter Pro Ink Cartridges are designed to prevent this from occurring; however, there are other non-OEM vendors selling replacement cartridges which use this design. To avoid possible damage to the printer, Apple recommends only using Apple-brand replacement ink cartridges with the Color StyleWriter Pro printer.

Support Information Services
Published Date: Feb 19, 2012

AppleShare Client for Windows: Manual Has Wrong Version

In the "Getting Started with AppleShare Client for Windows" documentation, the version number is 1.0.1. Isn't the version number 1.0.2?
This article has been archived and is no longer updated by Apple.
Yes the version is 1.0.2. In the final moments of finishing AppleShare Client for Windows 1.0.1, a fix was incorporated which changed the version to 1.0.2. Unfortunately, at that point in the process, the manuals were already printed.

The correct version number has been added in these online files:

PROBLEMS.WRI
USERINST.WRI
README.TXT

Also, the disk image files of AppleShare Client for Windows included on the AppleShare 4.2 CD are listed as version 1.0.1 rather than 1.0.2.

A documentation errata was included in the README.TXT file which reads as follows:

Documentation errata

Your documentation may refer to this product as AppleShare Client for Windows version 1.0.1. AppleShare Client for Windows 1.0.2 includes a recently developed change to ensure correct installation on systems running NetWare. This minor improvement is the only difference between the two versions.
Published Date: Feb 19, 2012

Mail*Link Read Me and Open Transport Issue (1/96)

The Read Me file for Mail*Link Internet includes the following note:

"OpenTransport users: This gateway does not function correctly when used with Apple's OpenTransport. The gateway will connect one time but will not reconnect without a reboot. Apple is currently investigating the problem."

Has this issue been addressed with Open Transport (1.0.8 or 1.1) or will it require a revision to Mail*Link? Also, when can Mail*Link Internet be expected to work with PCI-based Macintosh computers like the Power Macintosh 7200, 7500, 8500, and 9500?

This article has been archived and is no longer updated by Apple.

This issue will be fixed in Open Transport 1.1 which should be included with the next version of the system software and system software update.

The schedule for updating the gateway has not been determined at this time.

The workaround is to Open the Internet Key on the Key Chain, go to Preferences, go to SMTP/TCP, and click the "Ping before opening connection" checkbox to deselect it. This workaround text has been included in the latest Read Me.

Article Change History:
04 Jan 1996 - Changed fix will be in Open Transport 1.1.
20 Dec 1995 - Made correction.

Support Information Services
Published Date: Feb 19, 2012

LW Select 360: Deactivate Sleep Mode W/ PostScript (12/95)

Is there a way to deactivate the sleep mode (part of the built-in Energy Star features) on the LaserWriter Select 360 from a Unix workstation?

This article has been archived and is no longer updated by Apple.

Downloading the following PostScript code to the LaserWriter Select 360 disables the sleep mode. After downloading this PostScript code the printer will not go into energy saving mode until you change the TimeToStandby to some other setting, in a numeric unit representing minutes.

```
%==========================================================
% Begin PostScript code
%
(%Engine%) << /Password 0 /TimeToStandby 0 >> setdevparams
%
% End PostScript code
%==========================================================
```

Support Information Services

Published Date: Feb 19, 2012

Apple Access II: 1.1 Update

This article has been archived and is no longer updated by Apple.
The new version of Access II (1.1) solves many of the bugs that were associated with Access 1.0. Here are the main changes:

--Text file send delay (The 1.0 version would only accept 99 as a value when the maximum input should have been 9999)

--XMODEM file transfer (Access 1.0 would 'lock-up' during XMODEM transfers and the file would be lost)

--Formatting routines (The formatting routines now operate)

The Access II 1.1 upgrade may be obtained by the user through the Apple media exchange program.

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Macintosh Sound Port: Can I Use 8 ohm Headphones? (12/95)

Can I safely use 8 ohm headphones with my Power Macintosh 7500 computer?
This article has been archived and is no longer updated by Apple.
Yes, you can use a set of headphones with an impedance rating of 8 ohms on any Macintosh computer with a sound out port.

The lower impedance will not cause any problems for the computer or the headphones. However, the audio heard through the 8 ohm headphones may not be as loud as the audio you would hear through a pair of higher impedance headphones.

Support Information Services
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Apple Macintosh 7500/8500 CD-ROM: Telecom Installer (1/96)

When I try to install the Apple Telecom Software from the Apple Macintosh 7500/8500 CD-ROM disc v1.0.1, I get the following message, "The alias 'Apple Telecom Install' could not be opened, because the original item could not be found."

How do I install the software?
This article has been archived and is no longer updated by Apple.
This error occurs because the alias to the Apple Telecom Installer, on the Apple Macintosh 7500/8500 CD-ROM disc v 1.0.1, is not linked to the correct file. To install the Apple Telecom software from this version of the CD follow this procedure:

From the Apple Macintosh 7500/8500 CD-ROM disc v 1.0.1:

Step 1
Open the Apple Extras folder.

Step 2
Open the Apple Telecom folder.

Step 3
Open a second Apple Telecom folder.

Step 4
Open the Apple Telecom Disk 1 folder.

Step 5
Double-Click the Installer icon. (You may have to scroll down the window, to locate the software.)

Step 6
Follow the installation directions presented on screen.

The Installer will guide you through the installation, and prompt you to restart the computer once the installation is completed.

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Volume II, Issue 18, Page 6

Article Change History:
26 Jan 1996 - Added Info Alley information; made minor technical updates.

Support Information Services
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AppleShare File Server: FAQ

This article contains the answers to frequently asked questions (FAQ) on AppleShare File Sharing.

Questions in this FAQ:

1) What do I do if my users cannot see the server?

2) What do I do if my users cannot log on?

3) My users get disconnected unexpectedly. What can I do?

4) I selected inherited privileges over explicit, but it is not working. What can I do?

5) I lost (or forgot) my administrator's password. What can I do?

6) What can I do to speed up my server?

7) I cannot get into the Users and Groups control panel on the server. What can I do?

8) My server crashes continually. What can I do?

9) I cannot eject removable media. What can I do?

10) How do current AppleShare users upgrade to AppleShare 4.2?

11) Is AppleShare 4.2 and 4.2.1 compatible with Open Transport?

12) Does AppleShare 4.2 run on PCI-based Macintosh systems?

13) Will AppleShare 4.2 run on 68040 machines? Will it run on non- Workgroup Server platforms?

14) Where is the Owner Name and Macintosh Name found in the Sharing Setup control panel stored?
This article has been archived and is no longer updated by Apple.
1) Question: What do I do if my users cannot see the server?

Answer: Check the following for a possible solution.

- Make sure file server application has been launched.
- Make sure something has been shared with the Admin program.
- Make sure the proper network driver is chosen in Network control panel.
- Check that network cable connections are securely attached.

2) Question: What do I do if my users cannot log on?

Answer: Check the following for a possible solution.

- Make sure the client user has the correct name and password.
- Make sure the caps lock key has not been pressed.
- Make sure that login is enabled for the user in the Admin program.
- Make sure something has been shared in the admin program and that the user has access to the shared item.

3) Question: My users get disconnected unexpectedly. What can I do?

Answer: Check the following for a possible solution.

- Check to be sure the server has not crashed.
- Check for network problems, for example look for termination issues with the network.

4) Question: I selected inherited privileges over explicit, but it is not working. What can I do?

Answer: Refer to the Apple Technical Info Library, and use the search string "inherit and explicit", to find the article, "AppleShare: Inherited Privileges Problem".

5) Question: I lost or forgot my administrator's password. What can I do?

Answer: Procedures vary depending upon which version of AppleShare File Server software being used. Refer to the Apple Technical Info Library and use the search string "appleshare and admin key" to find the article "AppleShare Admin: What To Do If You Lose the Password".

6) Question: What can I do to speed up my server?

Answer: Check the following for a possible solution.

- Make sure remote user activity meter is set to 100%, which lets the server access 100% of the available CPU cycles.
- Check to see if other applications are running on the server, like Apple Internet Router, Print Server, or an e-mail server. If possible transfer these applications to another computer. Remove third-party extensions from the computer to eliminate extension conflicts, or perform a clean system software installation if necessary. On AppleShare 4.0.x or 4.1 servers, you could experiment with different cache settings, as explained in the manual.
- Look for bottlenecks. If the server is using LocalTalk cabling, consider using Ethernet. Consider getting a higher performance hard disk drive or caching SCSI card. Consider upgrading to faster server hardware.
- There is no benefit in increasing RAM allocation to file server application in the Get Info window. The file server extension allocates the amount of memory it needs based on the number of concurrent users set in Admin program.
- Try adjusting Disk cache in the Memory control panel anywhere from 256K to 2048K. With AppleShare 3.0, there is no benefit to setting Disk cache above 2048K.

7) Question: I cannot get into the Users and Groups control panel on the server. What can I do?

Answer: To access users and groups information on an AppleShare server, you must use the Admin program. The Users & Groups control panel no longer works after AppleShare has been installed. If Apple Remote Access (ARA) is also installed on the server, you must use the AppleShare Admin program to change the users and groups information.

8) Question: My AppleShare file server crashes continually. What can I do?

Answer: Troubleshoot as you would any other system, for example, check for extension incompatibilities, SCSI bus, or corrupt software. Also make certain you at least have AppleShare v 3.0.1 of software.

If a clean installation of the system software and/or AppleShare software is required, BEFORE LAUNCHING THE ADMIN PROGRAM do the following to prevent loss of access privileges:

- Reset the server name in the Sharing Setup control panel. This can be any name, just do not leave the computer name field left blank.
- Restore the saved Users & Groups Data file to the Preferences folder in the System Folder.

These two items will prevent a new PDS file from being created, which would cause all access privileges to be lost. The AppleShare PDS file is an invisible file at the root level of each shared volume which keeps track of the access privileges for that volume. The Users & Groups Data File is the file that keeps the information about users, groups, and the Admin key (password).

9) Question: I cannot eject removable media. What can I do?

Answer: Try one or more of the following:

- If no users are logged on, drag the icon to the trash.
- If users are logged on, select the UnMount Volume command from the Server menu of file server application.
- If you tried the above but are still having problems, check the SCSI driver versions, the latest are recommended.
- A freeware utility, UnmountIt, may or may not help to unmount removable volumes. Look for it on ftp.apple.com, or through user groups.

Notes:
1. UnmountIt is not supported by Apple Computer, Inc.
2. Prior to System 7.5.1, you cannot eject removable media while Personal File Sharing or AppleShare FIle Server are active.

10) Question: How do current AppleShare users upgrade to AppleShare 4.2?

Answer: You may search the software updates web site for available upgrades at **http://www.apple.com/swupdates**. Alternatively, you may view upgrade options at **http://www.apple.com/products**.

NOTE: AppleShare 4.2 is supported only on NuBus equipped Power Macintosh and Workgroup Server computers.

11) Question: Is AppleShare 4.2 or 4.2.1 compatible with Open Transport?

Answer: AppleShare 4.2 is not compatible with Open Transport.

AppleShare 4.2.1 is compatible with Open Transport. It will also run on NuBus PowerPC Workgroup Servers 6150/xx, 8150/xx & 9150/xx with the classic AppleTalk stack. (Performance with the classic stack is still faster than Open Transport on these computers. With a future release of Open Transport or AppleShare this may change.)

AppleShare 4.2.1 will also run on Open Transport based Workgroup Servers 7250/120 and 8550/132.

12) Question: Does AppleShare 4.2 run on PCI-based Macintosh systems?

Answer: AppleShare 4.2 will NOT run on PCI-based Power Macintosh computers. An AppleShare 4.2.1 is supported on these computers.

13) Question: Will AppleShare 4.2 run on 68040 machines? Will it run on non-Workgroup Server platforms?

Answer: AppleShare 4.2 will NOT run on 68040 or earlier computers. AppleShare 4.2 will run on NuBus equipped Power Macintosh computers, but is only available on Workgroup Servers or as an upgrade for previous owners of AppleShare 4.x.

14) Question: Where is the Owner Name and Macintosh Name found in the Sharing Setup control panel stored?

Answer: The Owner Name and Macintosh Name are stored in the Users & Groups data file.

The Tech Info Library article titled "Locating Vendor Information" can help you search for the Apple Order Center's phone number.
Published Date: Feb 19, 2012

Apple MPEG Media System: Read Me File (8/96)

This article contains the readme file for the Apple MPEG Media System Software.
This article has been archived and is no longer updated by Apple.
Apple MPEG Media System (AMMS) Software 1.0

What is the Apple MPEG Media System Software?

The Apple MPEG Media System Software works in conjunction with the Apple MPEG Media System card to add functionality to your Apple Macintosh or Power Macintosh computer and allows the playback of MPEG-compressed digital video.

Requirements

The computer on which the software is to be installed must have an Apple MPEG Media System card installed in the LC processor-direct slot (PDS) and either the Apple Video System or the Apple TV/Video System installed in the video input slot. System 7.5 (which includes QuickTime 2.0 and the QuickTime Power Plug for Power Macintoshes) is required.

Contents

The Apple MPEG Media System Software CD consists of:

MPEG Media Software - This folder contains system extensions that add functionality to your computer for the support of MPEG video playback, including:
- Video Digitizer Update - This is the low level software interface to
the video hardware for support of the Apple MPEG Media System card.
- AMMS MPEG Decoder - This is the hardware driver for the Apple MPEG
Media System card.
- QuickTime 2.0 AMMS Update - This is an update to provide MPEG support
within QuickTime 2.0.

Video Software - This folder contains the Apple Video Player application and system extensions that allow you to view TV, external video, and MPEG digital video on your computer. This release adds MPEG video data support.

CD-ROM Software - This folder contains updated system extensions that add functionality to your computer for the support of CD-ROM drives. This release adds support for MPEG video data as well as a wider variety of CD-ROM drives.

Installing the Apple MPEG Media System Software

To install the Apple MPEG Media System software:

1) Insert the Apple MPEG Media System Software CD into your CD-ROM drive with the disc label facing up.

2) Double-click on the "Installer" icon in the MPEG Media System Software v1.0 folder. The installer dialog will appear on your screen.

3) Click on the "Install" button. The software will be automatically installed.

4) When the installer has finished copying the software to your system, it will force a restart of the machine.

Notice:
The Apple MPEG Media System Software requires QuickTime 2.0 or greater.

Logic Board Reset Button

The "Apple MPEG Media System Installation Guide" instructs the person installing the Apple MPEG Media System card to press the reset button

on the logic board before sliding the logic board back into the computer case. Occasionally, after installing new hardware in your computer, the computer will not reboot until the reset button has been pressed. Pressing this button will also reset the following System 7.5 system parameters to their default values. Any of these values that you have changed from their defaults will need to be reentered after pressing the reset button.

system date and time
mouse tracking
master sound volume
double click rate
caret (insertion point) blink rate
disk cache size
menu blink
auto key threshold and rate
default boot device
alert sound
default hilite color
default Appletalk (network) connecton

Limitations

- If the computer crashes or is turned off while the Apple Video Player is open, the Apple Video Player Prefs file may become corrupted. If the computer has problems loading VideoStartup at boot, drag the Apple Video Player Prefs file to the trash and reboot.

- The MPEG hardware only supports playback of one MPEG movie at a time. Some cosmetic problems may occur if multiple MPEG movies are opened at the same time.

- The Video and Audio of MPEG files may stutter momentarily when movie time location is changed during playback by using the slider control.

- Video capture of MPEG movies is not currently supported. Future software releases will include this functionality.

- The "Sharpness" slider does not affect MPEG movies in Apple Video Player.

- Some MPEG files, such as those which are playable by the Sparkle application, are not currently supported. Future software releases will support playback of these files.

- Apple Video Player was not designed to play QuickTime movies so movies containing a mix of MPEG and QuickTime data may not play properly in Apple Video Player.

- Changes made in the Finder (adding or deleting MPEG files) are not reflected in the Apple Video Player pop-up menu unless Apple Video Player is exited and restarted.

- Apple Video Player MPEG Movie Selector pull-down menu holds a maximum of 40 movies.

- Frame forward and frame backward buttons do not control MPEG movies as smoothly and accurately as with standard QuickTime movies.

- Multisession CD-ROM drives are required for playing MPEG movies form CD-ROMs. The Apple CD SC, CD SC+ and PowerCD are not multi-session drives and do not support MPEG.

- Some CD-i movies may not support chapter navigation.

Article Change History:
19 Aug 1996 - Changed misspelling.

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Macintosh 5200, 5300, 6200, & 6300: Audio Sampling Rates (1/96)

I am using a sound editing application on my Macintosh Performa 5300 computer, but I am unable to get a sampling rate higher than 22.050 kHz. I have also noticed that 22.050 kHz is the only option available in the Sound control panel. Is there any way to get a higher sampling rate?

This article has been archived and is no longer updated by Apple.

Many Macintosh computers support 44.100 kHz. However, the entry-level Power Macintosh and Performa 5200, 5300, 6200, and 6300 series computers with 16-bit sound only support 22.050 kHz audio.

Article Change History:
03 Jan 1996 - Corrected typo.

Support Information Services
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Fax Viewer & Type 11 Error: Printing to StyleWriter (2/96)

When trying to print received Fax documents to a StyleWriter 1200 or Color StyleWriter 2400 from a Macintosh Performa 5300 with Fax Viewer v S1-2.1, I get a type 11 error. I do not think the computer model is the issue, but printing received Fax documents to a non-PostScript printer is. What can I do to print Fax documents to a non-PostScript printer

This article has been archived and is no longer updated by Apple.

There was an issue with the Fax Viewer Application which would cause a type 11 error and crash when printing to the two printers you reported.

According to engineering, this issue was addressed with Apple Telecom 2.3. This software has been localized and should be available.

You should install the newer software to update the Fax Viewer program.

Article Change History:
08 Feb 1996 - Corrected minor typo.

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Macintosh Plus: Problems with Chooser Versions Earlier Than 3.1

This article has been archived and is no longer updated by Apple.

The following information applies only to versions of the Chooser earlier than 3.1.

A Macintosh Plus or Macintosh 512K Enhanced often have difficulty initializing the serial port for AppleTalk other than at power up.

This becomes obvious when you've physically connected AppleTalk to your system, clicked on Connect AppleTalk in the Control Pannel (Apple menu) and your LaserWriter or ImageWriter (with an AppleTalk card) connected to the network still doesn't appear in the Chooser.

Try closing then reopening the Chooser; if your printer still doesn't display in the Chooser, you'll need to power down and back on. After power back on, you'll then be able to Choose any printer connected to your AppleTalk network.

If you still are unable to select your printers, perform the above steps again. Additionally, make sure you've installed the necessary drivers with the Installer: check the System Folder. There you should find drivers for each of your printers. For example, if wish to print to a LaserWriter, then in the System Folder you should find an icon named LaserWriter and one named LaserPrep.

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Macintosh PowerBook 2300 Series Computer Read Me

This article is the PowerBook 2300 series computer ReadMe.
This article has been archived and is no longer updated by Apple.
Important Information About Your Macintosh PowerBook 2300 Series Computer

Congratulations on purchasing your Macintosh PowerBook 2300 series computer. This document adds to and updates the information in the manuals that came with your computer. It is a good idea to read this document now, and keep a copy handy for future reference.

If your PowerBook is connected to a printer, choose Print from the File menu to print a copy of this document. When you are finished reading and printing, choose Quit from the File menu to quit the SimpleText application program.

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- Charging your battery
- Using the Battery Monitor in the Control Strip
- Using the trackpad
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- Using your PowerBook in SCSI disk mode
- Using multiple SCSI devices
- Using the Password Security control panel
- Printing
- Using MIDI with your PowerBook

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- Using video mirroring
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Tips

Charging your battery

You should connect the power adapter to your computer and let the battery charge overnight when you first unpack your computer. (The battery may have been depleted between the time it was charged at the factory and the time you purchased the computer.)

Using the Battery Monitor in the Control Strip

The estimated time remaining that is displayed in the Battery Monitor portion of the Control Strip depends on the charge remaining and the battery consumption rate. The battery consumption rate depends on the software and hardware features you are using.

The battery icon in the Battery Monitor portion of the Control Strip may show the battery as charging even after the PowerBook has been plugged in for a while.

Using the trackpad

If the trackpad seems unresponsive, try the following in the order listed:

1) Put your PowerBook to sleep (by closing the display) and then wake it up (by pressing any key on the keyboard).

2) Press the reset button on the back of the computer.
3) Reset the parameter RAM (PRAM). (To reset PRAM, restart your Macintosh. Immediately after hearing the startup sound, press the Command, Option, P, and R keys simultaneously. For complete instructions on resetting PRAM, see the Troubleshooting chapter in your user's guide.)
4) Attach an external mouse.

Using a modem
To improve modem performance, turn off LocalTalk in the Chooser.

When accessing the internet using the InterSLIP protocol, use the 14.4K baud rate rather than the 28.8K baud rate for better performance. The actual throughput at 14.4K baud is higher than at 28.8K baud.

Using your PowerBook in SCSI disk mode
Using Norton Utilities Speed Disk or Disk Doctor from a desktop computer on your PowerBook while it is in SCSI disk mode may cause the desktop computer to crash or freeze. To avoid this problem, create an emergency startup floppy disk using Norton Utilities and then use that disk to startup your PowerBook.

You cannot use password protection on your PowerBook while the PowerBook is in SCSI disk mode. Turn off password protection in the Password Security control panel before connecting your PowerBook in SCSI disk mode.

Using multiple SCSI devices
If you are using several SCSI devices in a chain and are having problems starting your computer, follow these steps:

1. Make sure all the SCSI devices are properly connected.
2. Make sure all the SCSI devices are plugged in to working power outlets and turned on.
3. Make sure the SCSI chain is terminated at the end.

If you still have problems starting your computer, try placing a terminator at the beginning and the end of the SCSI chain.

Using the Password Security Control Panel

The Password Security control panel provides security for information stored on your hard disk. To use this feature, you must enter a password and turn it on. If you forget or lose your password, you will not be able to access your hard disk. Should you lose your password, Apple may charge for assistance.

You cannot use your PowerBook in SCSI disk mode with password protection turned on in the Password Security control panel. You must turn it off before using your PowerBook in SCSI disk mode.

Printing
If you are printing on a network printer, make sure you have the same version of printer software as others on the network. If you are using a StyleWriter II on a network, make sure you use the StyleWriter printer driver that came with your computer. (Printer drivers are found in the Extensions folder).

Using MIDI with your PowerBook
To avoid errors in data transfer, turn off AppleTalk in the Chooser when using a MIDI interface connection (to the serial port) with your PowerBook.

NOTE: When AppleTalk is off, your LocalTalk and Ethernet connections will be unavailable, and you cannot use external devices, such as printers, that have AppleTalk or Ethernet connections. All these connections will be available when you turn AppleTalk on again.

Troubleshooting

Problems starting your PowerBook
When you shut down the computer, be sure to wait at least 10 seconds before restarting. If you encounter a software problem that requires restarting (such as the pointer freezing), wait at least 10 seconds before restarting with the Command-Control-Power key combination.

If you see an error message (sad Mac icon) after you restart, press the reset button on the back of the computer to correct the problem.

Using an external monitor with your PowerBook
On some systems, the Monitors control panel does not include buttons named "Rearrange on Restart" and "Rearrange on Close" as described in Macintosh Guide.

Using Video Mirroring
Some application programs are not compatible with video mirroring, and may cause information to be displayed inconsistently.

Using Drive Setup
Make sure you only use the Drive Setup application program that comes with your PowerBook to update and partition hard disks. If you use an earlier version of Drive Setup (called Apple HD SC Setup) you might damage files or data on your computer.

Using Acrobat Reader after installing QuickDraw GX
Once you install QuickDraw GX, you need to reinstall Acrobat Reader on your computer in order to use it. Double-click the Acrobat Reader Installer icon in the Adobe Acrobat Reader folder (inside the Applications folder).

Using Apple Remote Access
Make sure you use only Apple Remote Access Client 2.0.1 (or later) or Apple Remote Access Personal Server 2.0.1 (or later) on your PowerBook. Earlier versions will not work. If you use the Personal Server, an ARA 1.0 call will not connect to your PowerBook.

Using a DigiSign Signature Card with PowerTalk
To use the Apple DigiSign Utility with PowerTalk, follow these steps:

1) Turn off processor cycling in the PowerBook control panel.
To see the option for processor cycling, hold down the option key while
you select Custom in the PowerBook control panel.
2) Follow the steps for creating a Signer file.
If you need help, select "How do I obtain a valid Signer file?" in the
Digital Signatures topic of the PowerTalk Guide.
3) Turn processor cycling back on in the PowerBook control panel.

AppleShare displays incorrect information for large drives
If you use file sharing to connect to a disk attached to another computer, and the shared disk is larger than 2 gigabytes (GB), the Get Info box for that disk shows an incorrect size. (Get Info reports the disk to be 2 GB in size, even if it is larger.)

AppleShare Server software
Make sure you use only AppleShare server software version 4.2 or later on your PowerBook.

NOTE: This note is not part of the original Read Me, it is being added to correct information presented here. AppleShare 4.2 or later is not sold separately and is available when purchasing a Workgroup Server. Also AppleShare v 4.2 is not supported on these computers.

Application programs using sound
If you have application programs that make extensive use of sound, you should turn off virtual memory while using those programs. When virtual memory is turned on, it can compromise the programs' sound quality.

Some older versions of programs, especially games, may generate sounds that seem too slow or too fast. For best results with these programs, open the Sound control panel, choose Sound Out from the pop-up menu, and set the sample rate to 22.050 kHz.

Using QuickDraw GX with a fax modem
If you installed QuickDraw GX and you have a fax modem, you need a QuickDraw GX modem driver in order to send faxes. Contact the fax software manufacturer to obtain the QuickDraw GX driver.

If you have installed QuickDraw GX and do not yet have the QuickDraw GX modem driver, you can temporarily turn off QuickDraw GX and use your previous fax modem driver. To turn off QuickDraw GX:

1) Hold down the Space bar while you choose Restart from the Special menu
to restart your PowerBook. Continue to hold down the Space bar until
the Extensions Manager appears on the screen.
2) Click the QuickDraw GX extension to remove the check beside it.
This prevents the QuickDraw GX software from loading.
3) Click the close box in the Extensions Manager window to resume startup.
Your fax modem should work normally. You won't be able to use any
QuickDraw GX features until you turn the extension back on again.

Using PowerTalk and PowerTalk Direct Dialup Mail
If you use PowerTalk Direct Dialup Mail and have trouble sending a fax, it may be because both Direct Dialup and STF PowerFax PE are set to auto-answer. To turn off STF auto-answer, open the STF Setup window and set 'n' to "never" (in the "Answer on 'n' rings" section).

Using the Apple Internet Connection Kit
The Apple Internet Connection Kit version 1.0 is incompatible with virtual memory (VM). If you want to use the Apple Internet Connection Kit version 1.0, first turn off VM in the Memory control panel.

Using the Japanese Language Kit
To use the Japanese Language Kit with your Macintosh PowerBook, make sure you use version 1.2 or later. Customers outside of the United States should contact their local Apple-authorized dealer.

After you install the Japanese Language Kit 1.2, you need to replace an extension that gets installed with the software. Follow these steps:

1) Follow the instructions for installing the Japanese Language Kit 1.2
that came with the software.
2) After you see that the installation was successful, restart the
computer with the Extensions off. To do this, hold down the shift key

while you press the Restart button in the installer screen (or as you
choose Restart from the Special menu).
3) Double-click the Apple Extras folder to open it.
4) Double-click the JLK 1.2 Update folder to open it.
5) Drag the file called "Font Extension 3" to the Extensions folder
(inside the System folder) on your hard disk. Click OK if you see a
dialog box asking if it is ok to replace this file.
6) Choose Restart from the Special menu.

Using the Chinese Language Kit
To use the Chinese Language Kit with your Macintosh, make sure you use version 1.1.1 or later. To install the Chinese Language Kit version 1.1.1, first install the World Script Updater 1.0. Then install the Chinese Language Kit version 1.1. Finally, install the Chinese Language Kit Updater to update your software to version 1.1.1.

To install the World Script Updater, follow these steps:

1) Double-click the Apple Extras folder to open it.
2) Double-click the World Script Install folder to open it.
3) Double-click the World Script Installer icon.

Follow the instructions on the screen.

4) Follow the instructions that came with the language kit to install the language kit software.

Important Information About Virtual Memory
Virtual memory (VM) is a feature of the Macintosh that lets you use part of your hard disk as additional memory. If you are using an application program designed especially for Power Macintosh computers (often called a "native" application program), turning on virtual memory may help you avoid running out of memory.

Your computer comes with virtual memory turned on. With virtual memory turned on, a Power Macintosh program uses less memory than when virtual memory is turned off. If you check the program's Get Info box before and after turning on virtual memory, you'll see that the numbers in the Memory Requirements box change. That is because turning on virtual memory allows the program to use memory more efficiently.

If you notice performance problems using certain programs, you may want to turn off virtual memory. You may also want to turn virtual memory off from time to time to extend work time while using the battery. You can turn virtual memory on and off in the Memory control panel. For specific information on how to turn virtual memory on and off, choose Macintosh Guide from the Guide (question mark) menu, and click the Memory topic area. Then click "How do I use hard disk space as memory?" and "How do I manage Power Macintosh memory?"

For best performance, try setting virtual memory to no more than 150% of the amount of physical memory (RAM), or no more than 50% of your currently available hard disk space, whichever number is lower. For example, if your computer has 16 MB of RAM and your hard drive has 50 MB of available space, set virtual memory to a maximum of 24 MB (150% of 16, which is less than 50% of 50).

Note: You cannot set virtual memory to more than 1024 MB, even if you have 1 gigabyte (GB) or more available space on your hard disk.

To improve performance, you can also add physical memory (RAM) to your computer. See the user's manual that came with your computer for more information.

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Power Macintosh 7200 & 9500: Generic Icons on System CD (12/95)

I have a Power Macintosh 7200, and I've noticed that some of the icons on the system software CD appear generic. What could be wrong?

This article has been archived and is no longer updated by Apple.

Apple has determined that there is a problem with the desktop database files on the CD. This issue is cosmetic and should not affect the performance of the applications on the CD. Apple will address this issue on future versions of the system software CD.

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Power Macintosh 9500: Unable to Sleep (6/97)

We have Power Macintosh 9500 computers and either an AppleVision 1710AV or 1710 Display. Whenever we select Sleep from the Special menu, the screen goes black for a few seconds and then the image comes back on the screen. This happens in every resolution. How can we get the computer to sleep?

This article has been archived and is no longer updated by Apple.

You need an updated System Enabler for the Power Macintosh 9500. System Enabler 701 v1.1 corrects this issue and is available on the Power Macintosh 9500 CD v2.0 or later.

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Power Macintosh: Port in Use After Installing GeoPort (1/96)

I have a Power Macintosh 7200/90 with a laser printer attached to the printer port (using LocalTalk) and a Color StyleWriter 2400 attached to the modem port. After installing the Apple Telecom software for the GeoPort, I get a "port in use" error message when printing the second page to the Color StyleWriter. Is there a problem with the serial ports on the computer?

This article has been archived and is no longer updated by Apple.

There is not a hardware problem with the serial ports. The "port in use" message is the result of a software conflict between the Apple Telecom software and the printer driver.

The Apple Telecom software takes complete control of the modem port when installed on a Power Macintosh. It must do this to make applications recognize the external modem. Any data that is sent to the modem port is interpreted as data meant for a modem and is processed by the Apple Telecom software. The Apple Telecom software combined with the GeoPort adapter essentially create a softwarebased modem.

So, although you can disconnect the GeoPort Telecom Adapter and connect the printer to the modem port, the Telecom software is still installed. Because the Telecom software is still installed, it will send data out the modem port as if it was meant for the Telecom Adapter. The software expects to control the modem port whether or not an adapter is attached, and this results in the "port in use" error message or unusual printouts.

The only workaround is to de-install the Apple Telecom software using the installer application.

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26 Jan 1996 - Added Info Alley information; made minor technical updates.
05 Jan 1995 - Corrected typos.

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MAE 2.0 License Manager & "su" Command in Solaris 2.4 (12/95)

The license manager in MAE does not seem to let the use of the "su" command switch to a licensed MAE account.

For example, create two accounts on a SPARCstation, calling one "works" and the other "doesnt". Use the license manager and give "works" access to use MAE. Then if you login with the "works" account, MAE functions as it should. However, if you login with "doesnt" account and enter "su - works", your environment changes to the "works" account, but you will not be able to run MAE.

Is there a workaround for this other than having to log out and log back in as the other user?
This article has been archived and is no longer updated by Apple.
We were able to run MAE with the "su - username" command successfully with the following extra settings before launching MAE under Solaris 2.4, as a reference we followed your example above:

Step 1

Login as "doesnt" from the initial Solaris Login session

Step 2

Launch /usr/openwin/bin/openwin

Step 3

Create two "cmdtool" windows, for example, cmdtool.1 and cmdtool.2

Step 4

On the cmdtool.2 window, enter the command:

% su - works

Then set the DISPLAY environment variable, and export it.

% DISPLAY=sparc5:0.0; export DISPLAY

Step 5

On the cmdtool.1 window, you need to disable X server access control, or assign server access to a host. In Solaris 2.4 by default the X server access control is enabled, and no hostname is authorized to run ANY X program EXCEPT running from the initial login shell. Therefore you need to use "superuser" to explicitly grant access or disable access control with one of the following commands:

% su (as a super user)
# /usr/openwin/bin/xhost + (disable access control)

Step 6

On the cmdtool.2 window, you can now launch MAE with the MAE binary full path, example command:

% /opt/apple/bin/mae

NOTE: In HP-UX by default the X server access control is also enabled, but the "localhost" and the real local hostname, for example "hp715", are automatically authorized by the X server. Therefore you do not have to run "xhost" to assign access for your local workstation.

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PowerBook: Miscellaneous Frequently Asked Questions

This document contains the answers to frequently asked questions (FAQ) about miscellaneous topics concerning Macintosh PowerBook computers.

1. It has been determined that my PowerBook has a hardware problem and needs service. What are my service options?
2. How does Apple's PowerBook service mail-in program work?
3. Can I use my PowerBook on an airplane?
4. Are the airport X-ray machines dangerous to my computer?
5. What are the differences between active and passive-matrix displays? Which PowerBooks have which?
6. Should I always use the feet on the PowerBook?
7. When I am using the PowerBook with an external monitor can I close the display on the PowerBook?
8. Do I need a screen saver on my PowerBook?
9. What are the differences in PowerBook SCSI cables from Apple?
10. I am trying to connect a SCSI device to my PowerBook. However, when I start up the PowerBook, a diamond icon with a number appears on my screen.
11. I'm trying to connect my PowerBook as an external hard drive (SCSI Disk Mode) to a desktop Macintosh. When I turn on my PowerBook, I get a flashing question mark or a "Sad Mac" instead of the diamond icon with a SCSI ID number.
12. What is SCSI disk mode?
13. Which PowerBook models can accomplish SCSI disk mode?
14. What are the instructions for connecting a PowerBook in SCSI disk mode?
15. Which PowerBook models can use an external monitor?
16. What should I use to clean the PowerBook?
17. Sometimes I can't seem to use my internal modem and print at the same time. Why is this?
18. Sometimes I get errors when printing to my StyleWriter (or any serial printer). Why is this?
19. Is it safe to move my PowerBook while it is on?
20. Can I install a hard drive from my PowerBook Duo 280 into my PowerBook 140?
21. Where else can I go for answers?
22. Where I can get the latest Apple software updates online for my PowerBook?

This article has been archived and is no longer updated by Apple.

1. Question: It has been determined that my PowerBook has a hardware problem and needs service. What are my service options?

Answer: You can contact the Apple Assistance Center to arrange for repair at our repair center, or you can contact the Apple Referral Center at 800-538-9696 to obtain a phone number for an Apple-authorized service provider in your area. Note that the Apple Assistance Center may wish to perform further troubleshooting, so you should have your PowerBook with you when you call.

2. Question: How does Apple's PowerBook service mail-in program work?

Answer: If the technical support representative at the Apple Assistance Center determines that there is a hardware problem with the PowerBook, Apple will have Airborne Express pick up the PowerBook the next business day. The fixed PowerBook will usually return within 2-3 business days. For example, if you call Apple Assistance Center on a Monday, the PowerBook will be picked up on Tuesday, and will usually be back by Thursday or Friday. As long as the PowerBook is covered under warranty, the entire repair process is provided at no cost. If the PowerBook is not under warranty, shipping, labor, and parts costs will apply.

3. Question: Can I use my PowerBook on an airplane?

Answer: It is best to check with your airline to find out specific rules for your flight. Airline pilots have reported instrument interference from electronic devices used on airplanes. Most airlines, however, have accepted the use of portable computers as being safe once the airliner has reached cruising altitude.

Be aware that if the PowerBook is moved or bumped while the hard drive is spinning, the hard drive can be damaged resulting in lost data.

4. Question: Are the airport X-ray machines dangerous to my computer?

Answer: The X-rays emitted from the machine are not at all dangerous to the computer. However, the metal rollers below the conveyor belt emit a magnetic field that could damage the data on the hard drive if the shielding is not adequate. We have never heard of a report of this being a problem in the United States, but in under-developed countries you might want to ask that the PowerBook be hand checked. Usually a security guard will require you to demonstrate that the computer is functional, so it is a good idea to have the PowerBook in sleep mode to make it quick.

You should be aware that the metal detecting batons used by some security guards emit a very strong, unshielded, magnetic field. You should avoid getting the computer and any magnetic media, such as floppy disks, near these devices.

5. Question: What are the differences between active and passive-matrix displays? Which PowerBooks have which?

Answer: Passive-matrix screens apply the electric field voltages along the edges of the screen, so that pixels appear light and dark at the intersection of rows and columns. Each pixel is passively responding to voltage differences applied along the horizontal and vertical edges of the

screen. It is difficult to get a large number of crystals to line up quickly, and completely. So passive-matrix screens are relatively slow and provide less precise definition.

Active-matrix screens use a single transistor at every single pixel location. This provides a good strong source of electric field, and it only has to act on a very tiny region of liquid crystals. So they are quite fast and every crystal in a pixel is lined up perfectly.

The merits of the passive screen are lower cost and lower power usage. But the angle at which you can view the screen undistorted is smaller than for an active-matrix screen. Also, a passive-matrix screen is not as bright as its active-matrix counterpart.

You may experience submarining on a passive-matrix screen, meaning the pointer tends to disappear momentarily when you move it quickly across the screen until it catches up with the trackball. You may also notice speed trails, or shadowy, comet-like trails following the pointer or other objects you drag around the screen. They disappear as quickly as they appear, but some users find them distracting. Gray-scale passive-matrix screens are particular susceptible to these anomalies.

An active-matrix screen is brighter and provides better definition. The screen is also less likely to distort when viewed at more extreme angles.

PowerBook computers with active-matrix screens:
170, 180, 180c, 250, 270c, 280, 280c, 540, 540c, 5300c, 5300ce, 2300c, 2400, 3400, G3, G3 Series

PowerBook computers with passive-matrix screens:
100, 140, 145, 145B, 150, 160, 165, 165c, 190, 190cs, 210, 230, 520, 520c, 5300, 5300cs

6. Question: Should I always use the feet on the PowerBook computer?

Answer: Heat is dissipated through the bottom of the PowerBook and through the keyboard. If the feet are not used while the PowerBook is in use, it is possible that the PowerBook will overheat and shut off or even damage the hardware inside the computer. We recommend if your PowerBook has elevation feed that you always use them when using the PowerBook.

7. Question: When I am using the PowerBook with an external monitor can I close the display clamshell?

Answer: As discussed above, heat is dissipated through the bottom of the PowerBook and through the keyboard. If the PowerBook display is active and the display is closed, it is possible that enough heat will be generated that the display will distort or warp. We recommend that you leave the display open by at least 1" for heat dissipation.

It is possible to use PowerBook 200, 2300, 190, 5300 series, and the PowerBook G3 Series (Bronze keyboard) computers in a mode that does not require the display to be open. To use the PowerBook computer in this mode, follow these steps:

1. Connect the monitor and AC power to the PowerBook while the PowerBook computer is off.

2. Close the display on the PowerBook.

3. Using an external keyboard, press the power button. If you are not using an external keyboard, press the power button on the PowerBook computer's keyboard and quickly close the PowerBook computer's display.

4. The computer will then start up as if the external monitor is the only display and the PowerBook display will not be active. Because the PowerBook display is not generating any heat, there is no danger of the display distorting if you leave it closed.

8. Question: Do I need a screen saver on my PowerBook?

Answer: Screen savers are generally for entertainment purposes and do not serve any protective function for PowerBook displays or the Cathode Ray Tube (CRT)-type monitors used with most desktop computers. However, if a PowerBook computer's screen is left on with the same image for several weeks, it is possible that the image will burn into the screen. Do not leave for a lengthy vacation and forget to turn your PowerBook off.

9. Question: What are the differences in the two PowerBook Small Computer Systems Interface (SCSI) cables made by Apple?

Answer: There are two PowerBook SCSI cables available from Apple:

The HDI-30 SCSI System Cable (M2538LL/A) - This cable is for attaching SCSI devices such as CD-ROM drives, Syquest drives, and scanners to the PowerBook computer.

The HDI-30 SCSI Disk Adapter Cable (M2539LL/A) - This cable is used to connect the PowerBook computer as a SCSI device to another Macintosh computer.

10. Question: I am trying to connect a SCSI device to my PowerBook computer. However, when I start up the PowerBook computer, a diamond icon with a number in the middle of it appears on my screen.

Answer: You are most likely using the wrong SCSI cable. You should be using the HDI-30 SCSI System Cable (M2538LL/A), which is a light

gray color and only has 29 pins (there is a pin missing). You are probably using the HDI-30 SCSI Disk Adapter cable (M2539LL/A) which is dark gray and has all 30 pins. The HDI-30 SCSI Disk Adapter cable puts the PowerBook computer into SCSI disk mode allowing it to be attached to a desktop computer as a SCSI device and resulting in the diamond icon with the SCSI ID number in the middle appearing on the screen.

11. Question: I am trying to connect my PowerBook computer as an external hard drive (SCSI Disk Mode) to a desktop Macintosh computer. When I turn on my PowerBook computer, I get a flashing question mark or a "Sad Mac" instead of the diamond icon with a SCSI ID number.

Answer: You may have the wrong cable. Use the Apple HDI-30 SCSI disk adapter cable, part number M2539LL/A, in conjunction with an Apple SCSI System Cable appropriate to your desktop Macintosh along with proper SCSI termination.

12. Question: What is SCSI disk mode?

Answer: SCSI Disk Mode, also referred to as HD Target Mode, is a method of connecting a capable PowerBook computer to another Macintosh computer so that it is accessed as if it were an external hard drive. This method can be preferable to file sharing because it is somewhat easier, and much faster.

13. Question: Which PowerBook computer models can accomplish SCSI disk mode?

Answer: The SCSI disk mode feature exists on all PowerBook computer models except the PowerBook 140, 145, 145B, 150, and 170 computers. The PowerBook 200 and 2300 series computers require a MiniDock to accomplish SCSI disk mode.

14. Question: What are the instructions for connecting a PowerBook computer in SCSI disk mode?

Answer:

1. Make sure you have a PowerBook computer that is capable of SCSI disk mode and the HDI-30 SCSI Disk Adapter cable (M2539LL/A). You will also need an Apple terminator (M3503LL/A) and a SCSI system cable (M0206, or M2538LL/A if the other computer is a PowerBook).

2. Use the PowerBook or PowerBook Setup control panel to set the PowerBook to a SCSI ID not currently in use on the SCSI chain of the other Macintosh.

3. Shut down both computers.

4. Connect the HDI-30 cable to the back of the PowerBook computer. Connect the terminator to the end of the HDI-30 cable. Connect the HDI-30 cable with terminator to the last SCSI device on the chain, if any. If you do not have any other external SCSI devices, connect the HDI-30 cable with terminator to the SCSI system cable, then connect the SCSI system cable to the back of the other Macintosh computer.

Your setup should look like this: PowerBook -> HDI-30 SCSI Disk Adapter cable -> Terminator -> External SCSI chain if there is one -> SCSI system cable -> Other Macintosh computer

5. Turn on the PowerBook computer. After a moment you should see a SCSI symbol (diamond with the SCSI ID number in the middle) on the screen. If you have a 500 series PowerBook computer you may not see this icon until after the next step.

6. Turn on the other Macintosh computer. After starting up, the PowerBook computer's hard drive should appear on the desktop.

You can then transfer files back and forth as if the PowerBook computer were an external hard drive.

15. Question: Which PowerBook computer models can use an external monitor?

Answer: External video can be accomplished on all PowerBook computer models except the PowerBook 100, 140, 145, 145B, 150, and 170. The PowerBook 200 and 2300 series computers require a MiniDock or Duo Dock to use external monitors. External video on the PowerBook 190 computer is optional and can be upgraded after purchase.

16. Question: What should I use to clean the PowerBook computer?

Answer: Clean the computer's outside surfaces with a damp (not wet) cloth. Clean the screen with soft, lint-free paper or cloth and a mild glass cleaner. Do not spray the glass cleaner directly onto the screen. Sometimes humidity or condensation may cause moisture to gather on the trackpad (if your PowerBook model has a trackpad). If this happens, gently wipe the trackpad with a clean cloth before you use it.

To clean the trackball assembly, follow these steps:

1. Remove the trackball retaining ring by turning it counterclockwise until it pops out (about 1/4 turn). You don't need tools for this, you can just press against the two small ridges on the ring with your fingernails.

2. Lift the retaining ring and trackball out of its cavity.

3. Locate the small rubber rollers at the left and bottom sides of the trackball cavity. Depending on your model, they may look like small rings or wheels.

4. Use any reasonably clean, blunt object (such as your finger or a cotton swab) to wipe off the rollers. Do not use any liquid, including any amount of cleaning fluid or water, inside the computer.

5. Locate the three white or red bearings located at approximately clockwise 4:00, 7:00, and 11:00 in all PowerBooks except the PowerBook 100, which has three black posts instead of bearings. Using a fingertip, dry cotton swab, or other blunt object, clean them of any debris.

6. Replace the trackball and the retaining ring.

To clean the trackpad used on PowerBook computers, use a damp cloth to gently wipe any debris from the trackpad. Do not use harsh cleaners as they are typically unnecessary.

17. Question: Sometimes I cannot seem to use my internal modem and print at the same time. Why is this?

Answer: On most PowerBook computer models that have only one serial port (190, 200, 500, 2300, and 5300 series), the serial port is mapped as a modem port. Under normal conditions this is not a problem - the internal modem can be used at the same time as a serial device such as a printer is being used.

The exception to this is if you are using a communications program that does not use the Apple Communications Toolbox (CTB). If this is the case, you will need to respectively set the PowerBook, PowerBook Setup, or Express Modem control panel to Internal, Compatible, or "Use internal modem instead of modem port". The location of this setting will depend on what version of the modem and system software you have. When the PowerBook computer is set like this, the serial port cannot be used with serial devices. However, it can be used with LocalTalk devices.

The vast majority of communications programs that are developed for Macintosh right now will use the CTB. If you find that you have an older communications program, contact the manufacturer to see if there is an update.

18. Question: Sometimes I get errors when printing to my StyleWriter (or any serial printer). Why is this?

Answer: As discussed in the previous question, a PowerBook computers with a single serial port (190, 200, 500, 2300, and 5300 series) introduces some variables to serial printing. Three things must be true to print to a serial printer with a single serial port PowerBook computers:

- AppleTalk must be set to inactive in the Chooser or something other than LocalTalk must be selected in the Network control panel.
- If you have an internal modem you will need to respectively set the PowerBook, PowerBook Setup, or Express Modem control panel to External, Normal, or uncheck "Use internal modem instead of modem port" (see above). The location of this setting will depend on what version of the modem and system software you have.
- When selecting the serial printer in the Chooser, you must select the modem port or the combined printer/modem port. Do not select the printer port.

19. Question: Is it safe to move my PowerBook computer while it is on?

Answer: If the hard drive is spinning and there is a jolt to the computer, the head can crash into the platter and cause the hard drive to be damaged. This is not likely to happen while, say, walking your PowerBook computer from the kitchen to the living room. It is not suggested that you use the PowerBook computer in a truck traveling over a dirt road or other instances where jarring or bumping could occur.

In general, it is acceptable to transport PowerBook computers while they are asleep. When moving a sleeping computer, there is a slight danger of accidentally hitting a key that would wake up the computer and also power-up the hard disk. Make sure that your PowerBook computer is solidly closed so it cannot accidentally start up.

20. Question: Can I install a hard drive from my PowerBook 180c into my PowerBook 230 (Duo)?

Answer: No, all PowerBook 200 and 2300 series computers require a hard drive with a height of 17 millimeters (mm). All other PowerBook computers require a hard drive with a height of 19 mm.

Attempting to put a taller 19 mm hard drive into a PowerBook 200 or 2300 series computer will not work because the drive is physically too tall.

All PowerBook computers, except the 200 and 2300 series (Duos), can operate with either height drive, however they come with a 19 mm height hard drive. If you replace a hard drive with a different (shorter) height one it will require a different hard drive bracket. Apple does not offer any special brackets for swapping hard drives.

If you want to remove a hard drive from a PowerBook computer and install it in an external case, there are third party vendors that offer kits including cables and a power supply. Apple does not offer any such kits.

21. Question: Where else can I go for answers about PowerBook computers?

Answer: If you have not done so already, check the other PowerBook-related FAQ documents in Apple's Technical Information Library (TIL). This library is located on the Internet at **http://til.info.apple.com/**. This is Apple's official tech support library and contains thousands of technical articles.

22. Question Where I can get the latest Apple software updates online for my PowerBook?

Go to the Apple Support Website and search the Apple Software Updates database at: **http://www.apple.com/swupdates**.

Note: Wireless Internet access requires an Internet service provider (fees may apply) and AirPort (or AirPort-compatible) wireless Ethernet card and base station. Some ISPs are not compatible with AirPort. For more information, see technical document 106590: "**AirPort: Requirements for Wireless Internet Access**"

Published Date: Feb 19, 2012

QuickTime Conferencing: ISDN Termination Type/Mode (12/95)

This article describes an issue with ISDN lines and the line termination type/mode that is best suited to video teleconferencing.
This article has been archived and is no longer updated by Apple.
If an ISDN line has been installed to do QuickTime Conferencing from a Macintosh with an installed H.320 card, be sure your ISDN provider has provided the correct line termination type/mode. The ISDN provider may supply your ISDN line with generic type/mode termination, when video conferencing type/mode termination is required.

To illustrate, an ISDN line to be used with QuickTime Conferencing was supplied, and after many attempts (different configurations, computers, H.320 cards, and phone numbers) this line would not work properly.

In an attempt to resolve this issue, the system was connected to a known working ISDN line to check the system's configuration and hardware, and everything worked properly. The ISDN provider, of the non-working line, was contacted and the line termination was changed from type/mode "D" (generic) to "A". The ISDN line now works properly.

Support Information Services
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Apple Tape Backup 40SC: Restore "Volume" Backup To Original Disk

This article has been archived and is no longer updated by Apple.

You can use either the "Backup Files" or "Backup Volume" option on the Tape Backup 40SC, but "Volume" backups should be restored only to the SAME hard disk. "File" backups may be restored to any hard disk that have enough room to store the files from the original hard disk.

Distributing backup material by tape is also possible -- as long as the backup of the original material was done using the "Backup Files" option. If you use the "Backup Volume" option, the hard drive you are restoring to must have exactly the same number of blocks as the original hard drive.

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Power Macintosh: Built-in Ethernet 802.3u Compliant (12/95)

Is the built-in Ethernet on the Power Macintosh 6100, 7100, 8100, 7200, 7500, 8500, and 9500 computers IEEE 802.3u compliant?

This article has been archived and is no longer updated by Apple.

The built-in Ethernet, on the computers you mentioned, is not IEEE 802.3u compliant. IEEE 802.3u is the specification for Media Access Control (MAC) Parameters, Physical Layer, Medium Attachment Units, and Repeater for 100 Mbps Operation, Type 100BASE-T.

In order to be compliant with this specification, you will need to provide a Media Independent Interface (MII), which may have an auto-negotiation feature to determine speed capabilities of the device (host). Apple provides no such MII at this time. You will have to either purchase a card capable of auto-negotiation, or a hub capable of switching both 10BASE-T and 100BASE-T.

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PowerPC PowerBook Computers: Frequently Asked Questions

This document contains the answers to frequently asked questions (FAQ) about the PowerPC PowerBook computers. This discussion includes the PowerBook 5300 series, 2300 series, 500 series upgraded to PowerPC, and 200 series upgraded to PowerPC.

1. What is different about the PowerPC PowerBooks compared to other PowerBooks?
2. I forgot the password that I entered into my Password Security control panel and now I cannot get into my computer. Is there anyway to bypass the password?
3. If the PowerBook 5300/2300/190 series computers do not come with system disks, how do I restore my software in the case of a hard drive crash?
4. Why is it that my Macintosh Quadra 800 seems faster than my PowerBook 5300 (or any PowerPC PowerBook) when running some applications?
5. How do the PowerBook 5300 series computers implement external video?
6. What is special about the SVGA display that comes with the PowerBook 5300ce computer?
7. Can the PowerBook 5300/190 series computers use two batteries simultaneously?
8. Does the PowerBook 5300ce computer support thousands of colors on both the internal display and an external monitor?
9. Will the RAM from my PowerBook 200/500 series computer be compatible if I upgrade to the PowerPC 603e processor?
10. Sometimes I cannot seem to use my internal modem and print at the same time. Why is this?
11. Sometimes I get errors when printing to my StyleWriter (or any serial printer). Why is this?
12. I am trying to reset the parameter RAM (PRAM) on a PowerBook 5300 series computer but it does not seem to be working. What is the correct way to reset the PRAM on a PowerBook 5300 series computer?
13. Do the PowerPC PowerBook computers support PlainTalk Speech Recognition?
14. Can I use an external microphone with a PowerBook 5300 series computer?
15. I have hooked up an external CD-ROM drive to my PowerBook 5300 series computer and I am playing an audio CD. When I bring up the AppleCD Audio Player I can see the numbers moving but there is no sound coming through the speakers, although I can hear the sound of regular multimedia CD-ROM discs fine. Can I play an Audio CD through the internal speakers?
16. My PowerBook computer's display is blurry or sometimes has shadowing and ghosting effects. What can I do to correct this?
17. Do the PowerBook 5300 and 2300 series computers support the GeoPort?
18. Are Apple's current docking products, modems, and RAM still compatible with a PowerBook 200 series computer which has been upgraded to PowerPC?
19. Will my RAM and internal modem still be compatible after I upgrade my PowerBook 500 series computer to the PowerPC 603e processor?
20. Some PowerPC PowerBook computers come with 8, 16, 20, or 32 MB of RAM. Which models come with the RAM card slot filled?
21. What are the differences in the trackpads that come on the different PowerPC PowerBook computers?
22. Sometimes when I try to use the trackpad, the cursor jumps around uncontrollably. What causes this?
23. My PowerBook 5300 series computer will not turn on at all. There is no reaction whatsoever when I press the power button. Is there any thing I can try before I decide I have to have it serviced?
24. Where else can I go for answers about PowerBook computers?
25. Where can I get the latest software updates for my PowerBook?

This article has been archived and is no longer updated by Apple.

1) Question: What is different about the PowerPC PowerBooks compared to other PowerBooks?

Answer: The PowerBook 5300, 2300, and upgraded 500/200 series PowerBook computers use a PowerPC 603e microprocessor which runs at 100 MHz (the PowerBook 5300ce runs at 117MHz). This processor is extremely fast compared to other PowerBook models (which use a 680x0 processor) when used with applications that are optimized for PowerPC. These applications are usually referred to as "native" or "fat binary." An application that is "fat binary" contains code for PowerPC and 680x0 processors. A native or fat binary application can run up to 5 times faster on a PowerPC processor than it would on a 680x0 processor. The PowerPC 603e also has an integrated FPU and a 32k cache.

2) Question: I forgot the password that I entered into my Password Security control panel and now I cannot get into my computer. Is there anyway to bypass the password?

Answer: The password protection software bundled with the 5300/2300/190 series PowerBook computers is driver level security and cannot easily be bypassed. In fact, you will not even be able to reformat the drive if you do not have the password. If you do forget the password, take the PowerBook to an Apple-authorized dealer. The dealer can call our dealer help line and get a special code to bypass the security and reset your password. The dealer may charge a fee for this service, since it is a software issue, not a hardware issue, and they will probably ask for some verification that the PowerBook is your computer.

3) Question: If the PowerBook 5300/2300/190 series computers do not come with system disks, how do I restore my software in the case of a hard drive crash?

Answer: The PowerBook 5300/2300/190 series computers come with a utility called Floppy Disk Maker that you can use to back up the bundled software on the hard drive and/or make a functional set of system disks.

A "full" backup will require between 22 and 24 high density floppy disks and back up the following software:

* Apple Remote Access (1 disk)
* PowerBook Extras (3 disks) - Includes Apple IR File Exchange, Disk Image Mounter, Floppy Disk Maker, Password Security, Eric's Ultimate Solitaire Sampler, Spin Doctor, Super Maze Wars, and HyperCard Player.
* PowerTalk (2 disks)
* QuickDraw GX (4 disks)
* System Software (11-13 disks)
* WorldScript (1 disk)

Note that Floppy Disk Maker will NOT back up the following software:

* Adobe Acrobat Reader
* MacLinkPlus

The appropriate company should be contacted if any of the above software is lost or damaged.

A "minimum" backup of the system software will require between 11 and 13 high density floppy disks and will create a full set of system disks.

The computer will prompt you to make these disks every time it is turned on until the disks are made.

4) Question: Why is it that my Macintosh Quadra 800 seems faster than my PowerBook 5300 (or any PowerPC PowerBook) when running some applications?

Answer: You will only see a performance increase on the PowerPC (PPC) PowerBook when using native (optimized for the PowerPC) application programs. If you are using older programs written for the 680x0 processor, the PPC PowerBook computer must translate every instruction into a PowerPC instruction before executing it. When the computer is running in this mode, it is said to be in emulation mode. Since the System 7.5 Finder is mostly 680x0 code, Finder operations such as opening and closing windows may not be much faster than a 68040 computer such as a Quadra 800.

5) Question: How do the PowerBook 5300 series computers implement external video?

Answer: The PowerBook 5300 series computers implement a Processor Direct Slot (PDS) video card. This video card provides an external video connector on the rear panel of the computer. This video card provides 8-bit color at resolutions up to 832x624 using 512k VRAM. This card can be replaced by a third-party video card that offers more colors at higher resolutions, networking cards, or other cards that typically run through a PDS slot.

6) Question: What is special about the SVGA display that comes with the PowerBook 5300ce computer?

Answer: The SVGA display that comes with the PowerBook 5300ce computer offers a higher screen resolution than any other previous PowerBook computer models. It displays 800x600 pixels at thousands of colors.

7) Question: Can the PowerBook 5300/190 series computers use two batteries simultaneously?

Answer: Yes, the PowerBook 5300/190 expansion bay (where the floppy disk drive normally is) can accept a battery. Since the expansion bay does not pass AC power through, any battery used through the expansion bay will require its own power supply for charging.

8) Question: Does the PowerBook 5300ce computer support thousands of colors on both the internal display and an external monitor?

Answer: No. The PowerBook 5300ce computer has 1 MB of Video Ram (VRAM) dedicated to the internal display providing thousands of colors at an 800x600 (SVGA) resolution. Like all PowerBook 5300 series computers, the 5300ce computer comes with 512k VRAM for external monitors, providing 256 colors at an 832x624 resolution. The external video card can be upgraded to 1 MB VRAM with a third-party video card.

9) Question: Will the RAM from my PowerBook 200/500 series computer be compatible if I upgrade to the PowerPC 603e processor?

Answer: Yes, in fact you will automatically receive a 4 MB RAM upgrade since the PowerPC 603e logic board has 8 MB of RAM soldered on it, while the existing 200/500 logic boards have only 4 MB. So for instance, if you have a PowerBook 540c with 12 MB before the upgrade, you will have 16 MB after the upgrade.

10) Question: Sometimes I cannot seem to use my internal modem and print at the same time. Why is this?

Answer: On most PowerBook computer models that have only one serial port (190, 200, 500, 2300, and 5300 series computer), the serial port is mapped as a modem port. Under normal conditions this is not an Issue - the internal modem can be used at the same time as a serial device such

as a printer is being used. The exception to this is if you are using a communications program that does not use the Apple Communications Toolbox (CTB). If this is the case, you will need to respectively set the PowerBook, PowerBook Setup, or Express Modem control panel to Internal, Compatible, or "Use internal modem instead of modem port". The location of this setting will depend on what version of the modem and system software you have. When the PowerBook is set like this, the serial port cannot be used with serial devices. However, it can be used with LocalTalk devices.

The vast majority of communications programs that are developed for Macintosh right now will use the CTB. If you find that you have an older communications program, contact the manufacturer to see if there's an update.

11) Question: Sometimes I get errors when printing to my StyleWriter (or any serial printer). Why is this?

Answer: As discussed in the previous question, a PowerBook with a single serial port (190, 200, 500, 2300, and 5300 series computers) introduces some variables to serial printing. Three things must be true to print to a serial printer with a single serial port PowerBook:

* AppleTalk must be set to inactive in the Chooser or something other than LocalTalk must be selected in the Network control panel.

* If you have an internal modem you will need to respectively set the PowerBook, PowerBook Setup, or Express Modem control panel to External, Normal, or uncheck "Use internal modem instead of modem port" (see above). The location of this setting will depend on what version of the modem and system software you have.

* When selecting the serial printer in the Chooser, you must select the modem port or the combined printer/modem port. Do not select the printer port.

12) Question: I am trying to reset the parameter RAM (PRAM) on a PowerBook 5300 series computer but it does not seem to be working. What is the correct way to reset the PRAM on a PowerBook 5300 series computer?

Answer:

** WARNING ** Be aware that resetting the PRAM will reset such settings as the sound volume, trackpad speed, and screen brightness to their default value, and will purge the contents of a RAM disk if you are using one.

To reset the PRAM on a PowerBook 5300 series computer, restart the computer and hold down the Command (Apple), Option, P, and R keys. Wait for the computer to make its startup chime twice. Then you may release the keys. At this point the computer may shut down or continue to start up. If it shuts down, use the small power button on the back to restart the computer.

13) Question: Do the PowerPC PowerBook computers support PlainTalk Speech Recognition?

Answer: PlainTalk Speech Recognition will work with a PowerBook 5300 or 2300 series computer if you install PlainTalk version 1.4.1 and the English Speech Recognition system extension version 1.5. You can only use Speech Recognition with the built-in microphone.

Step 1
Download the PlainTalk software from the Web at the following URL:

http://speech.apple.com/speech/ptk/ptk.html

Step 2
Install PlainTalk 1.4.1 (English Speech Recognition and Text-to-Speech).

Step 3
Replace the Speech Recognition extension 1.4.1 with version 1.5.

14) Question: Can I use an external microphone with a PowerBook 5300 series computer?

Answer: The audio input port on the PowerBook 5300 series computers is a line-level input. This means that it requires an audio signal with a strength of at least 1 volt peak-to-peak. The PlainTalk microphone will not work with any existing PowerBooks. If you want to use an external microphone, you will need a microphone that outputs a line-level signal. Note that battery powered microphones do not necessarily provide a line-level signal.

Alternatively, you can run a standard microphone through a stereo system or a pre-amp that outputs a line-level signal.

15) Question: I have hooked up an external CD-ROM drive to my PowerBook 5300 series computer and I am playing an audio CD. When I bring up the AppleCD Audio Player I can see the numbers moving but there is no sound coming through the speakers, although I can hear the sound of regular multimedia CD-ROM discs fine. Can I play an Audio CD through the internal speakers?

Answer: There is not a direct connection between the SCSI port and the speakers, so direct play-through of audio CDs is not readily possible.

Typically, only Macintosh computers which have an internal CD-ROM drive can play-through audio CD sound to the internal speakers. You will need to connect external speakers to the external CD-ROM drive to hear the audio CD sound.

16) Question: My PowerBook computer's display is blurry or sometimes has shadowing and ghosting effects. What can I do to correct this?

Answer: The technology used on the passive-matrix displays is susceptible to shadowing and ghosting, since it does not individually address each pixel on the display. Gray-scale passive-matrix displays are particularly susceptible to these symptoms. The PowerBook 100, 140, 145, 145B, 150, 160, 165, 210, 230, 520, 190, and 5300/100 all use a gray-scale passive-matrix display.

Some suggestions to reduce the effects of the shadowing:

- Adjust the brightness and contrast settings of the display. Usually a lighter contrast setting will look better.
- Use a darker desktop pattern. The effects of the shadowing will not be as apparent with the darker background.
- Open the Monitors control panel and select "Black & White" instead of 16 Shades of Gray.

Although these tips can help mitigate the effects of the shadowing, some amount of screen anomalies will always be present on gray-scale passive-matrix displays.

17) Question: Do the PowerBook 5300 and 2300 series computers support the GeoPort?

Answer: No, the PowerBook 5300 and 2300 series computers use a standard serial port with 8 pins. The GeoPort requires a ninth pin to draw power from the computer.

18) Question: Are Apple's current docking products, modems, and RAM still compatible with a PowerBook 200 series computer which has been upgraded to PowerPC?

Answer: Most, if not all docking products, internal modems, and RAM used with a PowerBook 200 series computer should still be compatible after the PowerPC 603e upgrade.

19) Question: Will my RAM and internal modem still be compatible after I upgrade my PowerBook 500 series computer to the PowerPC 603e processor?

Answer: The existing RAM card and internal modem should be compatible with the PowerPC 603e upgrade.

20) Question: Some PowerPC PowerBook computers come with 8, 16, 20, or 32 MB of RAM. Which models come with the RAM card slot filled?

Answer: Only the PowerBook 5300ce/117 32/1.1 GB and the PowerBook 2300c 20/1.1 GB come with RAM cards installed in their RAM slots. The 5300ce/117 32/1.1 GB comes with a 16 MB RAM card and 16 MB soldered on the logic board. The PowerBook 2300c 20/1.1 GB comes with a 12 MB RAM card and 8 MB on the logic board. All other models come with either 8 MB or 16 MB soldered on to the logic board, but no memory in the RAM card slot which is available for future expansion.

21) Question: What are the differences in the trackpads that come on the different PowerPC PowerBook computers?

Answer: The PowerBook 2300 and 190 series computers come with a "clickable" trackpad. With this kind of trackpad you can use the pad itself to click, double click, and drag, therefore never having to use the clicker. Because the PowerBook 5300 series computers were designed and implemented at an earlier date, they do not have the features of the clickable trackpad.

22) Question: Sometimes when I try to use the trackpad, the cursor jumps around uncontrollably. What causes this?

Answer: The trackpad works on a principal called coupling capacitance. As your finger moves over the surface, the trackpad evaluates the change in capacitance between two layers of measurement electrodes built into the surface of the trackpad.

The most common cause of a jumping trackpad cursor is moisture interference. If you have sweaty hands or if moisture collects on the pad, this may confuse the trackpad. Wiping off the trackpad with a cloth or tissue will usually fix this Issue. If you find that it continues to get wet you may want to consider purchasing a teflon or mylar pad to fit over the pad to prevent the moisture from having direct contact with the pad. Before installing the pad, make sure the trackpad is clean. You can use a mild glass cleaner sprayed onto the cloth, not onto the trackpad itself.

Make sure only one part of your finger is touching the pad. You will not be able to use a pen or other object, it is designed to work with your finger. Also make sure that you are not resting your wrist on or very close to the pad. The trackpad may interpret this as your wrist touching it and make the cursor move in that direction. If you suspect either of these is causing the cursor's behavior, try raising your wrist in the air and only touch the pad with the tip of your finger. If the symptom goes away then you know that one of the above is the cause and you should adjust the position of your wrist and or finger.

Oil or lotion can cause the same Issue. Either do not use hand lotion, or consider purchasing a teflon or mylar pad to protect the pad. Before installing the teflon pad, make sure the trackpad is clean.

Jewelry may also cause interference. Try removing rings or bracelets and see if the jumping or erratic behavior disappears.

23) Question: My PowerBook 5300 series computer will not turn on at all. There is no reaction whatsoever when I press the power button. Is there any thing I can try before I decide I have to have it serviced?

Answer: It is possible that the power manager is corrupted and is not letting the PowerBook turn on. To reset the power manager, follow these steps:

Step 1
Remove the power adapter and battery from the computer.

Step 2
Push the reset button in the back of the computer and hold it for 30 seconds.

Step 3
Make sure the AC adapter is connected to a live AC outlet then connect the AC adapter to the back of the computer.

Step 4
Push the reset button in back again, but just briefly - the computer should power on. If it does not power on, push the main power button on the keyboard.

To prevent this from happening in the future, make sure the AC adapter is "live" at all times when connected to the PowerBook.

If the above procedure does not help, the PowerBook will need to be serviced.

24) Question: Where else can I go for answers about PowerBook computers?

Answer: If you have not done so already, check the other PowerBook-related FAQ documents in Apple's Technical Information Library (TIL). This library is available on the Internet at http://til.info.apple.com/ and contains thousands of technical articles.

25) Question: Where can I get the latest software updates for my PowerBook?

Answer: To find the most recent version of PowerBook software, refer to the Apple Software Updates Library at **http://www.apple.com/swupdates**.
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Color LaserWriter 12/600 PS: Using with NetWare 3.1x

This article contains information on how to setup a NetWare 3.1x server to print to an Apple Color LaserWriter 12/600 PS printer.
This article has been archived and is no longer updated by Apple.
These instructions use the Apple Printer Utility, which comes with the Apple Color LaserWriter 12/600 PS printer. There are two versions of the Apple Printer Utility, one of a Macintosh computer, and another for Windows-based computers. You may use either version.

Setting Up the Color LaserWriter 12/600 PS Printer
==========

Step 1

Generate a startup page by turning the printer off, then back on.

Step 2
---
using the Supervisor account, Login to a Novell file server from a MS-DOS client.

Step 3

At the MS-DOS prompt, type PCONSOLE, and press Enter (or Return).

Step 4

Use the arrow keys to highlight Change Current File Server in the Available Options menu, and press Enter.

Step 5

If the Novell file server you want the Color LaserWriter 12/600 PS to connect to is not already listed, press the Insert key and select the file server you want to use.

Step 6

Under the Available Options menu, use the arrow keys to highlight Print Server Information and press Enter.

Step 7

Press the Insert key, then enter the PServer name (provided on the printer startup page), and press Enter.

Note:
PServer names with spaces will not work with a NetWare 3.x server. If the PServer name on the printer startup page has spaces, you need to follow the steps listed in the Verify or Change PServer Name section of this article to change or remove them.

Step 8

Under the Available Options menu, use the arrow keys to highlight Print Queue Information, and press Enter.

Step 9

In the Print Queue list, press the Insert key to create a new print queue on the NetWare server.

Step 10

At the prompt, type the new queue name and press Enter.

Note:
This is the descriptive name people will use to print to the Apple Color LaserWriter 12/600 PS printer.

Step 11

Select the name of the queue you specified in Step 10 and press Enter.

Step 12

Under the Queue Information menu, highlight Queue Servers and press Enter.

Step 13

In the Queue Servers list, press Insert and select the Color LaserWriter 12/600 PS printer's PServer name you entered in Step 7.

Step 14

Turn the printer off, then on. Give the printer a minute or so to attach to the server.

Step 15

Check that the printer is attached by going into the Queue Information menu, highlighting Currently Attached Servers, and pressing Enter. Whenever the PServer attaches to the NetWare 3.x server, the PServer name appears in the Currently Attached Servers list.

Troubleshooting Steps
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If the Color LaserWriter 12/600 PS printer does not attach to the NetWare file server, first verify the PServer name. If the printer still doesn't attach to the file server, check the routing.

Verify or Change PServer Name

Step 1

Run the Apple Printer Utility and select your Color LaserWriter 12/600 PS Printer in the Printer Selector window.

Note:
If your using the Windows version of the Apple Printer Utility, you will only see IPX printers on your network.

Step 2

Open up the Communication Configuration by clicking on the triangle to the left.

Step 3

Open up the NetWare Configuration by clicking on the triangle to the left it.

Step 4

Verify that the PServer option is marked; if not, mark it.

Step 5

Verify that the Print Server Name is the same as the PServer name you entered in step 7 of Setting Up the Color LaserWriter 12/600 PS Printer procedures above. If the name is not correct, follow the procedures in Setting Up the Color LaserWriter 12/600 PS Printer and enter the correct name.

Note:
If the PServer name contains a space, change it to an underscore, then modify the PServer name on the NetWare server.

Step 6

Click the Send button if it is highlighted. If the Send button is not highlighted, then you did not make a noticeable change to the printer name in Step 5.

Step 7

Choose Restart Printer from the Utilities menu. Give the printer a minute or so to attach to the server.

Step 8

Use PCONSOLE to verify that the Color LaserWriter 12/600 PS printer attached to the NetWare server.

Note:
You verify the printer is attached by going into the Queue Information menu, selecting the queue for your Apple Color LaserWriter 12/600, and choosing Currently Attached Servers. Whenever your Color LaserWriter 12/600 PS PServer attaches to the NetWare 3.x server, its PServer name appears in the Currently Attached Servers list.

Check Routing Issues

Step 1

Activate the TRACK ON option on the NetWare server.

Step 2

Turn the printer off, then on.

Step 3

Watch the router tracking screen for a "get nearest server" request from the Apple Color LaserWriter 12/600 PS printer. Pause the router tracking screen if needed. The get nearest server message should appear on the screen about the same time as the test page prints.

Step 4

If the PServer name does not appear on the screen, you probably have a routing problem.

Step 5

If the PServer name does appear on the screen, check the name and verify that it is the correct spelling.

Step 6

If the spelling is correct, go back and repeat/verify the Setting Up the Color LaserWriter 12/600 PS Printer procedures.

Step 7

If the spelling in not correct, go back and repeat the Verify or Change PServer Name procedures.
Published Date: Feb 19, 2012

Power Macintosh 7500 & 8500: Using a DAV Card (12/95)

I have a Power Macintosh 8500 computer with a third-party DAV (Digital Audio/Video) card installed. Ever since installing the DAV card the images on the screen appear distorted.

This article has been archived and is no longer updated by Apple.

Apple is aware of and has resolved this DAV issue, which affects a small number of Power Macintosh 7500 and 8500 computers. For assistance resolving this issue, contact an Apple-authorized service provider.

Support Information Services
Published Date: Feb 19, 2012

AppleVision 1710AV Display: Dots Per Inch (DPI) Settings

This article provides a chart listing the Dots per inch (DPI) of the AppleVision 1710AV Display at all of its possible resolutions.
This article has been archived and is no longer updated by Apple.
The following chart is for the AppleVision 1710AV Display. It shows the front of screen DPI when the display image is set up with a 300mm by 225mm raster image (Apple specifications). This size image leaves about 1/2 to 3/4-inch black border between the raster edge and the front bezel plastics. Most resolutions have the same horzontal and vertical DPI except the 1280x1024 resolution.

```
Resolution     Dots per inch
----------     -------------
640x480        54 (H & V)
800x600        68 (H & V)
832x624        70 (H & V)
1024x768        87 (H & V)
1152x870        98 (H & V)
1280x960       108 (H & V)
1280x1024      108 horizontal,  116 vertical
1600x1200      135 (H & V)
```

Published Date: Feb 19, 2012

At Ease 3.0.x: Trouble Printing from DOS Environment

I am having problems when printing from my Power Macintosh 6100 DOS Compatible using At Ease 3.0.x. If I try to print a document from the DOS environment while At Ease is in the Restricted Finder, I get an error stating "DOS Compatibility error has occurred. Cannot create PC Print Spool file. Verify there is enough disk space." If At Ease is turned off, the computer prints with no problem.
This article has been archived and is no longer updated by Apple.
In order to print from the DOS environment on a Macintosh computer with a DOS compatibility card, the At Ease user must have access to the PC Print Spooler Application.

Without access to this application, two different error messages may occur when trying to print from the DOS environment with At Ease turned on. The first one mentioned above occurs if the user launched the DOS card from At Ease's Restricted Finder. The second message "There is not enough memory to run PC Print Spooler" appears if the user launched the DOS card from the At Ease panels. In both cases, adding the PC Print Spooler to the DOS Environment user's setup allows the user to print.

The same is true for using the cross platform clipboard. The At Ease user must have access to the PC Clipboard application in order to copy and paste between the Macintosh environment and the DOS environment.

If you want to allow printing, and cross-platform copy and paste functionality for your DOS environment At Ease users, use At Ease Setup to add the applications PC Print Spooler and PC Clipboard to your setup.
Published Date: Feb 19, 2012

Apple 5.25": Drive Diagnostics

PROBLEM DESCRIPTION: Diagnostic will not execute after the system is booted.

This article has been archived and is no longer updated by Apple.

```
CURE:  Make sure that the "disk test" is set to default to drive one and
NOT to drive two.
```

Published Date: Feb 19, 2012

PowerBook 500 Series: Read Me (12/95)

This article contains the ReadMe file included with the PowerBook 500 Series computers.
This article has been archived and is no longer updated by Apple.
Important Information About Your
PowerBook 520, 520c, 540, or 540c Computer

Congratulations on purchasing your PowerBook 500 series computer. This document adds to and updates the information in the manuals that came with your computer. It is a good idea to read this document now, and keep a copy handy for future reference.

If your PowerBook is connected to a printer, choose Print from the File menu to print a copy of this document. When you are finished reading and printing, choose Quit from the File menu to quit the SimpleText application program.

If you are using System 7.1, Read this Section

The PowerBook 500 Series Disks

The PowerBook 500 series disks that came with your PowerBook contain system software for the PowerBook 520, 520c, 540, and 540c computers. If you ever need to reinstall system software, start by using the Install Me First disk.

System Enablers

The system software on your computer includes a System Enabler file that your computer uses when it starts up. If the System Enabler for the PowerBook 500 series is not present in the System Folder, your computer will not start up. If your computer does not start up, try reinstalling the system software, following the directions in the Getting Started manual that came with your computer. Be sure to use the PowerBook 500 series disks that came with your computer.

Reinstalling System Software

When reinstalling system software, always follow the directions in the Getting Started manual that came with your computer. Don't install system software files (especially control panels) by dragging icons; doing so can cause your computer to work improperly.

If you install your PowerBook 500 series system software onto a hard drive that will be used with other computers, select "newer" software when given a choice during the installation process.

Installing System 7.5

Your PowerBook comes with Macintosh System 7.5 on the hard disk ready to be installed. Macintosh System 7.5 includes system software version 7.5, QuickDraw GX, and PowerTalk. You install each of these components separately.

Macintosh System 7.5 is on your hard disk in a folder named System 7.5. For more information, see the Install 7.5 Read Me. Also see the Macintosh System 7.5 Upgrade Guide that came with your PowerBook.

You can install system software version 7.5 on a PowerBook with 4 MB of memory (RAM). However, you'll need more memory to use some application programs. Apple recommends that you expand your PowerBook's memory to at least 8 MB before you install System 7.5. You can purchase a memory expansion card at any Apple-authorized dealer.

Installing QuickDraw GX and PowerTalk

You need at least 8 MB of memory to install QuickDraw GX and PowerTalk. You cannot install QuickDraw GX and PowerTalk on PowerBooks with less than 8 MB of memory installed.

If you are Using System 7.5, Read this Section

Using QuickDraw GX with a Fax Modem

If you installed QuickDraw GX and you have a fax modem, you need a QuickDraw GX modem driver in order to send faxes. Contact the modem vendor to obtain the QuickDraw GX driver.

If you have installed QuickDraw GX and do not yet have the QuickDraw GX modem driver, you can temporarily turn off QuickDraw GX and use your previous fax modem driver. To turn off QuickDraw GX:

Step 1

Hold down the Space bar while you choose Restart from the Special menu to restart your PowerBook. Continue to hold down the Space bar until the Extensions Manager appears on the screen.

Step 2

Click the QuickDraw GX extension to remove the check beside it.

This prevents the QuickDraw GX software from loading.

Step 3

Click the close box in the Extensions Manager dialog box to resume startup.

Your fax modem should work normally. You won't be able to use any QuickDraw GX features until you turn the extension back on again.

All PowerBook Users, Read this section
==========

Charging Your Battery

Apple recommends that you connect the power adapter to your computer and let the battery (or batteries) charge overnight when you first unpack your computer. (The battery may have been depleted between the time it was charged at the factory and the time you purchased the computer.)

If you have two batteries installed in your PowerBook, you can maximize battery life by swapping them approximately once a month. Before you can swap PowerBook 500 series batteries, you must either shut down the computer or connect the power adapter if the computer is on. Then simply remove both batteries and reinsert them on the opposite sides of the computer.

Battery Monitor in the Control Strip

The estimated time remaining for each battery that is displayed in the Battery Monitor module of the Control Strip depends on the charge remaining and the battery consumption rate. The battery consumption rate depends on the software and hardware features you are using.

If the Battery Monitor module in the Control Strip indicates that no battery is installed, but you can plainly see that a battery is installed, you may need to reset the battery. Before you can reset a battery, you must either shut down the computer or connect the power adapter. Then remove and reinsert the battery you want to reset. After a few seconds, the Battery Monitor module should recognize the battery. If the problem persists, contact your Apple-authorized service representative.

Ethernet

When connected to an active Ethernet network, your PowerBook 500 series computer will not go to sleep automatically. You can still select manual sleep, however.

Sleep, External Monitors, and the Monitors Control Panel

Your Getting Started manual may state that your PowerBook will not sleep when an external monitor is connected. This is an error. Connecting an external monitor does not affect the computer's ability to sleep.

The Monitors Control Panel allows you to set the number of colors your monitors display and to indicate the positions of your monitors. Close the Monitors Control Panel before allowing your PowerBook to sleep.

Application Programs Using Sound

If you have application programs that make extensive use of sound, Apple recommends that you turn off virtual memory while using those programs. When virtual memory is turned on, it can compromise the programs' sound quality.

Some older versions of programs, especially games, may generate sounds that seem too slow or too fast. For best results with these programs, open the Sound control panel, choose Sound Out from the pop-up menu, and set the sample rate to 22.050 kHz.

Trying the Text-to-Speech Feature

Text-to-Speech has been installed on your hard drive. This software allows text to be spoken to you by your PowerBook. Text-to-Speech is made available through application programs whose manufacturers have chosen to incorporate it. You can try this feature out by following these steps:

Step 1

Double-click the SimpleText icon to open it (or choose Open from the File menu if you are already using SimpleText).

A new document called Untitled 1 appears on the screen.

Step 2

Type a short sentence, for example, "You're a great person."

Step 3

Choose Speak All from the Sound menu.

You can also have the computer speak a portion of your document. To do this, select the text you want to hear, and choose Speak Selection from the Sound menu.

Using Adobe Type Manager

In System 7.1 and 7.5, a folder named Fonts stores all screen and printer fonts. Fonts you drag to the System Folder are automatically installed in the Fonts folder. If you use Adobe Type Manager, but are not getting smooth type on screen, you must move any PostScript printer fonts located in the Fonts folder to the Extensions folder. Please contact Adobe to obtain a new version of ATM that will allow you to use the Fonts folder (see details below).

A version of ATM is also installed if you install QuickDraw GX. It is called ATM GX. For more information on using ATM GX, see the Macintosh System 7.5 Upgrade Guide that came with your PowerBook.

A Gift to You from Adobe

Adobe Systems offers PowerBook computer owners a free copy of Adobe Type Manager (ATM) software. With ATM, you can use thousands of PostScript Type 1 fonts on screen. In addition, ATM software can be used with PostScript typesetters and with all Macintosh- supported printers, including the ImageWriter, StyleWriter, and LaserWriter. You also receive four free typefaces from the Adobe Garamond family. These Adobe Originals are a fresh treatment of popular typefaces.

You can receive the latest release of ATM?plus the Adobe Garamond typefaces?for a $7.50 shipping and handling charge ($30 outside the U.S. and Canada). Together, these products normally retail for $346.

U.S. and Canadian residents, call

1-800-521-1976 ext. 4400, or fax 1-303-792-2231

Outside the U.S. and Canada, call

(303) 799-4000 ext. 4600.

In fax requests, please include your name, shipping address, daytime phone number and credit card information. Please allow 6-8 weeks for delivery.

*** This information is not in the original Read Me file.
Note: According to Adobe, the offer mentioned above expired as of December, 1995. ***

Support Information Services

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Ethernet (Built-In) 1.0.2 Information Read Me (12/95)

This article is the Ethernet (Built-In) 1.0.2 Information ReadMe.
This article has been archived and is no longer updated by Apple.
Issue:

We have received many reports from customers describing problems transferring large files from the PCI-based Power Macintosh systems to a variety of AFP-based servers. The problem reports state that file transfers will stop and a -1072 error (ASP session closed) is generated. The reports also state that after the problem occurs, both AppleTalk and TCP/IP services are lost and the systems must be restarted to restore them. If Ethernet traces are taken, they show that the PCI-based Power Macintosh system disappears from the network.

Technical Description:

The cause of this problem is with the way arbitration is handled on the PCI bus in an ASIC. If there is a lot of PCI bus activity, then it is possible that the Ethernet DMA will start to transmit a packet and an underrun will occur because the DMA cannot get enough bandwidth on the PCI bus to transfer the entire packet to the Ethernet controller. If this underrun condition occurs more than 10 times, a bug in the Ethernet driver causes it to not recover the DMA buffers associated with the underrun packet. The driver only allocates 10 of these buffers and when they are gone the transmitter will no longer be able to send packets. This problem could also occur in some normal situations with a lot of disk activity.

Extent:

This bug is present in the built-in Ethernet drivers that ship with the Power Macintosh 7200, 7500, 8500, and 9500 systems. This driver is located in the "Extensions" folder in a file called "Ethernet (Built-In)". The first Power Macintosh 9500 systems shipped with version 1.0 of this file. The Power Macintosh 7200, 7500, and 8500 systems shipped with version 1.0.1 of this file. This file is for PCI-based Power Macintosh systems only.

Solution:

We have a new built-in Ethernet driver available that fixes this bug. The driver is located in version 1.0.2 of the "Ethernet (Built-In)" file. This file is also installed during the "QuickDraw 3D Accelerator Card" software installation process.

Support Information Services
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Power Macintosh 7500 & 8500: Video Player Resets Gamma (1/96)

The Apple Video Player installed with the Power Macintosh 7500 and 8500 computers shows a TV option in the Controls window. However, when I click TV, I get a message stating "To use this feature you must have a TV tuner installed in your computer". I click OK, but I immediately notice the color and brightness change on my screen.

Why is this occurring?
This article has been archived and is no longer updated by Apple.
The Apple Video Player installed on Power Macintosh 7500 and 8500 computers has an option for displaying input from a TV tuner. However, there are no hardware TV tuner options available from Apple for these computers. The Apple Video Player reports that it cannot use the TV option but it also resets the gamma settings in the Sound & Displays control panel to the default Mac Standard.

If you have set the Gamma setting to anything other than the default Mac Standard gamma in the Displays area of the Sound and Displays control panel, you will see the screen image change as the Apple Video Player resets the gamma to Mac Standard.

This issue has been investigated by Apple engineering and will be resolved in the next release of the Apple Video Player. For now, the only way to prevent Apple Video Player from resetting the gamma settings you originally changed is to avoid pressing the TV options button in the Apple Video Player Controls window.

This article was published in the "Information Alley":
Volume II, Issue 18, Page 14

Article Change History:
29 Jan 1996 - Added Information Alley information.
05 Jan 1996 - Corrected minor typo.

Support Information Services
Published Date: Feb 19, 2012

Newton MessagePad: Word List Editing Problem

I have an Apple MessagePad 120 with the Newton 2.0 OS. When entering words in the Word List the caret does not hold the entry position for the next letters entered.

After I bring up the keyboard in any application, select the book to access the Word List, and type in a new word, I am unable to use the pen to move the caret. I must use the arrow keys. After using the arrow keys to get to a letter in the word, if I try to add a letter, it always puts it at the end of the word. What is wrong? How can I work around this?
This article has been archived and is no longer updated by Apple.
This is a problem with the Word List and will be addressed in a future patch. The only way to edit a mistake in the middle of the word is to erase all the characters from the end of the word to the mistake and retype the last part of the word.
Published Date: Feb 19, 2012

Business Ed. Bundle: Trouble With South-Western Templates 12/95

I have the Apple Business Education Bundle and am having difficulty opening some of South-Western Publishing's ClarisWorks Templates. When I double-click on either the Bonus Letter or Projected vs. Actual Sales items in Lesson 13 of the QuickCourse Solutions folder, I get a message stating "Please insert the disk: ClarisWorks Template." The options are Cancel or Open.

What should I do to open these files?
This article has been archived and is no longer updated by Apple.
South-Western Publishing is aware of this issue and recommends clicking Cancel. You will receive the same error message again, but the files will open when you click Cancel the second time.

Support Information Services
Published Date: Feb 19, 2012

AppleSoft BASIC: How to round numbers

There is no rounding function in AppleSoft BASIC, but there is a formula you can enter to get the same effect. It's described on page 18 of the old AppleSoft BASIC Programming Reference Manual.
This article has been archived and is no longer updated by Apple.
Here's the formula:

```
X = INT(X*10^D+.5)/INT(10^D+.5)
```

where D is the number of decimal places.
Published Date: Feb 19, 2012

PowerBook 190 & 5300 Series: First Drag of Icon Slow (3/96)

Immediately after my PowerBook computer starts up, the first time I drag an item, regardless of where it is, what it is, or what I'm doing with it (copying, moving, and so on), I get a clock on the screen and the computer waits about 15-30 seconds before it responds.

After the first drag, I do not get the delay again until I restart and try dragging something again. What is causing this and is there anything I can do to correct this issue?

This article has been archived and is no longer updated by Apple.

Issue

This is caused by the Macintosh Easy Open (MEO) control panel. This occurs on PowerBook 5300 and 190 series computers running their original system software version 7.5.2.

Workaround

Disabling MEO in the Extension Manager control panel and restarting the computer prevents this issue from occurring.

Resolution

Installing either the PowerBook 5300 Software Update or the System 7.5 Update 2.0 will correct this issue making the workaround unnecessary.

Article Change History:
13 Mar 1996 - Added resolution information.
Published Date: Feb 19, 2012

AppleVision 1710AV: Requires Multiple Sound Settings (12/95)

I cannot hear any sounds from my Macintosh computer connected to my AppleVision 1710AV Display. If I use a tape player, instead of the computer as the sound source, I can hear the tape through the display. If I disconnect the external speaker connection, I can hear my computer through the internal speaker on the computer. How can I get the AppleVision 1710AV Display to play the computer sounds?

This article has been archived and is no longer updated by Apple.

In the Sound & Display control panel, you must have both the AppleVision speakers AND external headphones checked in order to hear sound from the AppleVision 1710AV Display. If you only have one of these options checked, audio is not sent to the display.

Support Information Services
Published Date: Feb 19, 2012

Video Out Default (PAL) Extension: Read Me (12/95)

This article contains the Video Out Default (PAL) extension ReadMe file. This extension is preinstalled on Power Macintosh 8500 computers purchased in countries that use the PAL standard.

This article has been archived and is no longer updated by Apple.

```
Video Out Default (PAL)

This extension is intended for use on the Power Macintosh 8500 Series in countries that use the PAL television
standard.

You do not interact directly with this extension. It works behind the scenes as part of your system software.

For countries that use the PAL television standard, this extension is preinstalled. However, should you wish
to install it into a new System Folder, follow these instructions:

To Install Video Out Default (PAL):

Step 1
------
Drag the Video Out Default (PAL) icon from the CD to your hard disk's System Folder icon (do not open the
System Folder).

Step 2
------
Click OK in the dialog box that appears.

Step 3
------
Restart your computer.


Why is this extension needed?

The Power Macintosh 8500 can detect whether or not a television is plugged in, but is not able to determine if
the television uses the PAL or NTSC television standard. The system software normally assumes that an NTSC
television is connected.

This extension alerts the system software that it should assume a PAL television is connected instead.


Support Information Services
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Published Date: Feb 19, 2012

Apple Internet Dialer 1.0 Incompatible w/ Virtual Memory (9/96)

Is the Apple Internet Dialer, which is part of the Apple Internet Connection Kit (AICK) 1.0, incompatible with virtual memory (VM)?
This article has been archived and is no longer updated by Apple.
With AICK 1.1 and later, the Apple Internet Dialer is compatible with VM.

The Apple Internet Dialer, in AICK 1.0, is incompatible with virtual memory (VM). VM must be turned off for the dialer to make a functional PPP connection.

This article was published in the "Information Alley":
Volume II, Issue 18, Page 12

Article Change History:
04 Sep 1996 - Change title to better reflect article.
12 Aug 1996 - Updated for AICK 1.1 Internet Dialer.
26 Jan 1996 - Added Info Alley information.

Published Date: Feb 19, 2012

Color LW 12/600 PS: Life of Consumables & Printer

What factors affect the life of the Color LaserWriter 12/600 PS and its consumables? How do I determine when to replace the consumable items
This article has been archived and is no longer updated by Apple.
The Color LaserWriter 12/600 PS DC controller maintains several non-volatile parameters which are used to signal various alert conditions to the user. The list of stored parameters includes the following:

Parameter Description	Range of values
Print delivery counter	0 -100,000 (prints)
Number of delivered prints following cleaning belt out warning	0 - 500 (prints)
Photoconductor life check-use counter	0 - 18,000 (counts)
Number of delivered prints following oil out warning	0 - 50 (prints)

In addition to the parameters listed above, the I/O controller maintains a separate page counter which generates the page count value listed on the startup page. The printer does not maintain any special counters for tracking the life expectancy of the complete print engine. The Color LaserWriter 12/600 PS user's manual states that the minimum life expectancy is 5 years or 300,000 pages in black and white mode, and 150,000 pages in the full color mode. Many customers will get acceptable results well beyond these numbers as long as the printer is properly used and maintained according to the guidelines in the user's manual.

Fuser Assembly Life

Apple recommends that the fuser be replaced after 60,000 pages by the customer using the instructions located in the user's manual. The fuser is included as part of a special maintenance kit available from finished goods that includes a fuser, transfer drum cleaning assembly, separation discharge unit, ozone filter, and air filter. The finished goods part numbers for the maintenance kit are M3867G/A for 110V printers, and M4234G/A for 220V printers.

The fuser life does not vary depending on the type of printing (black and white, color) because each printed page is only fused once. The fuser and alert LED's on the printer status panel turn on after a sensing arm in the fuser cleaning web assembly drops through a notch cut into the cleaning web fabric and triggers a photosensor. Once the LED's turn on the printer will allow 500 pages to be printed before shutting down. Apple recommends that the fuser be replaced after 60,000 pages, however there is enough cleaning web fabric to allow the fuser to print as many as 100,000 pages before the LED's turn on. Testing has shown that after approximately 60,000 pages the print quality may begin to deteriorate due to toner and paper dust accumulation indicating the need for the maintenance kit.

Fuser Oil Life

The fuser oil used in the Color LaserWriter 12/600 PS is replenished from a user replaceable oil bottle. Each bottle contains enough oil for approximately 10,000 pages. The oil reservoir which is part of the fuser assembly contains a small plastic ball that floats on the surface of the oil. When the oil level drops to a predetermined level a photosensor is triggers a photosensor the oil low and alert LED's turn on. Once the LED's turn on the printer will allow 50 pages to be printed before shutting down.

Photoconductor Life

The photoconductor life counter maintained on the DC controller is used to determine when the photoconductor and alert LED's should be turned on. As soon as the counter reaches 3000 prints as specified in the DC controller microcode, the LED's turn on. The counter increments only when printing full color documents, not black & white pages.

The life of the photoconductor varies depending on the type of printing being done because the photoconductor makes four passes when in the full color mode, and only one pass when in the black and white mode. The life of the photoconductor also varies depending on whether the printing is continuous or intermittent. During continuous printing the density calibration only has to be done once every 100 pages, however when the printer is operated intermittently the printer may have to perform the density calibration each time the printer is awakened from the sleep mode. Other mechanical areas of the printer such as the fuser assembly are not activated during the calibration process and therefore their life expectancy does not change significantly depending on the type of printing being done.

Apple recommends that the photoconductor be replaced only after the customer determines that the print quality is no longer acceptable. For some customers this may be as early as 4,000 pages, but for other customers it may be significantly longer. Customers should keep the startup and demo pages in a binder after a new photoconductor is installed. This allows customers to judge their print quality by printing and comparing future startup and demo pages with those in the binder. It's also helpful to put the date at the top when the pages are printed.

Toner Cartridge Life

The life of each toner cartridge will vary significantly depending on the type of printing being done. Documents which contain large areas of color will use more toner than a black and white text document. On average each toner cartridge should last approximately 4,000 pages when printing

documents with average page coverage of 5%.

The printer uses a sweeping blade and two clear windows integrated into each toner cartridge to determine the amount of toner left in each cartridge. A photosensor located on the print engine measures the amount of time that the toner blocks each window as the sweeping blade passes by. When the toner reaches a preset level the alert and corresponding toner LEDs turn on. A toner low alert condition will not shut down the printer, however the print quality may be affected.

Published Date: Feb 19, 2012

LaserWriter Select 360: Setting DTR to ON (12/95)

I am trying to download a PCL typeface to the LaserWriter Select 360 printer, and in the printouts I am getting square blocks printed in place of the characters. If the printer is set to DTR, I am able to download the fonts correctly to the printer. If it's set to XON/XOFF, I cannot download the fonts. Is there a way of setting the serial port on the printer to DTR permanently?

This article has been archived and is no longer updated by Apple.

The easiest way to solve this problem is by using Apple Printer Utility 2.0 to change the serial communication ports on the LaserWriter Select 360 (under the "Communication Configuration" section). You can set the flow control to DTR there.

IMPORTANT:
The thumbwheel switch on the back of the printer must be in position #8 in order for the following serial port parameters to take effect.

PostScript Code to Change to DTR
==========

If you don't have a Macintosh, then you can download the following PostScript to the printer (remember that PostScript IS CASE SENSITIVE). Again, you must have the thumbwheel switch in position #8 in order for the serial port parameters to take effect.

CAUTION:
If you choose to use the PostScript code provided in this article, you assume all risks involved in making these changes. PostScript code, if not entered correctly, can place the LaserWriter into a condition requiring service.

```
%==============================================================
% Begin PostScript code
%
(%Serial_NV)
<< /FlowControl /Dtr
>> setdevparams
%
% End PostScript code
%==============================================================
```

Other values for the port can be set by including the various key-value pairs outlined below within << >> setdevparams, for example:

```
%==============================================================
% Begin PostScript code
%
(%Serial_NV)
<<
/Baud 9600
/FlowControl /XonXoff
/Interpreter /LaserJetIII
>> setdevparams
%
% End PostScript code
%==============================================================
```

Key-value pairs for the LaserWriter Select 360 serial port

/Baud 9600

Default: 19200

Possible values: 300, 600, 1200, 1800, 2400, 3600, 4800, 9600, 19200, 38400, 57600.

Use: Designates the baud rate on the serial hardware.

/CheckParity true

Default: false

Possible values: true or false

Use: Designates whether or not the device will perform a parity check on incoming data. If the parameter is true, parity checking occurs. If it is false, there is no parity checking.

/DataBits 8

Default: 8

Possible values: 7 or 8

Use: Designates the number of data bits per byte transferred over the channel. If it is set to 7, the high bit of the byte is set to 0.

/Enabled false

Default: true

Possible values: true or false

Use: Indicates whether data arriving at the printer should be scheduled for execution. If it is true, data is executed. If it is false, data is not executed.

/FlowControl /Dtr

Default: /XonXoff

Possible values: /XonXoff and /Dtr

Use: Indicates the serial flow control method used between the host computer and the printer.

/HasNames /false

Default: /false

Possible values: true or false

Use: Indicates whether the printer supports named files. If the printer is not mounted, or if Type is /Communications, this value is false. This value is a read-only constant.

/Interpreter /LaserjetIII

Default: /PostScript

Possible values: /PostScript, /AutoSelect, or /LaserJetIII

Use: Indicates the type of executable job represented by the arriving data.

/On false

Default: true

Possible values: true or false

Use: Indicates whether or not the printer driver for the communications device is turned on and is able to receive and send data. If this value is false, data sent to the printer is lost.

/Parity /None

Default: /None

Possible values: /None, /Space, /Odd, /Even

Use: Indicates the type of parity to be used between the host computer and the printer.

/Protocol /Normal

Default: /Normal

Possible values: /Raw or /TBCP

Use: Indicates the type of communications protocol to be used.

* /Raw: Lets all data pass through unfiltered. Control characters such as End-of-file (CTRL-D) and status queries (CTRL-T) are passed through and not acted upon.

* /TBCP: tagged binary communication protocol.

/StopBits 1

Default: 1

Possible values: 1 or 2

Use: Indicates the number of stop bits to be transmitted by the serial hardware. Alternative settings are 1 and 2.

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Connecting a Macintosh Plus to AppleLine

This article has been archived and is no longer updated by Apple.

There are two ways to connect a Macintosh Plus to AppleLine:

1) use the 590-0169A Cable and the Mini Din 8 to DB-9 Adapter.

2) use the A2C0311 590-0331-B Tan, or the A2C0312 590-0555-A Platinum cable.

These cables have a DIN 8 at one end and a 25 pin on the other, AppleLine end.

Note: The second method has been shown to be generally more reliable than the first.

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AppleShare Workstation v 3.6.1 User‘s Guide

This article is the AppleShare Workstation User's Guide.
This article has been archived and is no longer updated by Apple.

Contents

- How to Use This Guide
- System Requirements
- Updating System Software
- Installing Network Software
- Installing AppleShare Workstation 3.6.1
- Workstation Quick Reference

How to Use This Guide

This guide describes how to upgrade your system software, networking software, and AppleShare Workstation software and also provides instructions on how to use your AppleShare Workstation software. Print a copy of this guide to have available for easy reference.

System Requirements

To get the best performance from your AppleShare network, you'll need the following:
* System 7.5.1
* Network Software 1.5.1
* AppleShare Workstation 3.6.1

NOTE: If you have a PCI -- based Power Macintosh, System 7.5.2 and Open Transport are installed on your computer. All you need to do is install the workstation software; skip to the section "Installing AppleShare Workstation 3.6.1."

Updating System Software

If you have System 7.5 (choose About This Macintosh from the Apple () menu to determine the version of system software your computer is running), you can update to System 7.5.1. The System 7.5 Update Installer is located on the AppleShare 4.2 CD-ROM disc; contact your AppleShare administrator for more information.

Installing Network Software

To upgrade your Network Software to version 1.5.1:

1) Connect and log on to your server computer.
2) Open the Workstation Software 3.6.1 folder on your server.
3) Open the Network Software Installer folder.
4) Double-click the Installer icon; the Installer window appears.
5) Click Continue; a dialog box similar to the following one appears.
6) Verify that the correct destination disk is named in the Installer. (If the wrong disk name is shown, click Switch Disk until the name of the correct destination disk appears.)
7) Click Install.
8) When you see a dialog box telling you that installation is complete,
restart your computer.

Installing AppleShare Workstation 3.6.1

You are now ready to complete the installation process by installing the latest workstation software.

1) Connect and log on to your server computer.
2) Open the Workstation Software 3.6.1 folder on your server.
3) Open the AppleShare Workstation folder.
4) Double-click the Installer icon; the Installer opens.
5) Verify that the correct destination disk is named in the Installer. (If the wrong disk name is shown, click Switch Disk until the name of the correct destination disk appears.)
6) Click Install.
7) When you see a dialog box telling you that installation is complete, restart your computer.

Workstation Quick Reference

This quick reference provides at-a-glance directions for the most common AppleShare operations.

Connecting to a file server
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1) Choose the Chooser desk accessory from the Apple menu.
2) Make sure that AppleTalk is active (the Active radio button should be selected).
3) Select the AppleShare icon in the upper-left corner of the window. If your network contains zones, they are listed in the lower-left corner of the window. When you select a zone, AppleShare file servers in that zone are listed in the upper-right portion of the window.
4) Select the name of the file server you want to use and click OK.
5) In the dialog box that appears, click Guest or Registered User, enter your name and password (if necessary), and then click OK.
6) Select the name of the volume you want. If you click the checkbox next to the name of a volume, you can connect to the volume automatically the next time (and anytime) you start up your computer.
7) Click OK and close the Chooser.

Disconnecting from a file server
To disconnect from a file server, drag the icon of the server volume to the Trash. Note that you are disconnected automatically from the server when you shut down your computer.

Selecting a print server
1) Choose the Chooser desk accessory from the Apple menu.
2) Make sure that AppleTalk is active (the Active radio button should be selected).
3) Select the LaserWriter or AppleTalk ImageWriter icon in the upper-left corner of the window. If your network contains zones, they are listed in the lower-left corner of the window. When you select a zone, available printers in that zone are listed in the upper-right portion of the window.
4) Select the name of a print spooler you want to use and close the Chooser.

Usually, a spooler's name will be made up of the name of the printer it manages plus the word "Spooler." The print spooler you select will remain in effect until you change it.

About access privileges
Access privileges govern what you and other users of a file server can see or alter. The following lists the access privileges (See Folders, See Files, or Make Changes) that you must have in order to perform the listed actions:

Copy a file to a folder - Make Changes
Copy a file from a folder - See Folders, See Files
Copy a folder to a folder - See Folders, Make Changes
Copy a folder from a folder - See Folders
Create a file - See Folders, See Files, Make Changes
Create a folder - See Folders, Make Changes
Delete a file - See Files, Make Changes
Delete a folder - See Folders, Make Changes
Move a folder to a folder - See Folders, Make Changes
Move a folder from a folder - See Folders, Make Changes
Open and use a file - See Files
Save changes to a file - See Files, Make Changes

Finding out what privileges you have
There are three ways to find out your access privileges:

* Look at the folder icons; icons appear different according to your privileges for each folder.

Tabbed folder - You are the owner of the folder
Plain folder - You have some access privileges to the folder
Locked folder - You do not have any access privileges to the folder
Locked folder with arrow - You have Make Changes privilege to the folder

* View the access privilege icons in the top-left corner of the directory window of a folder. They can tell you what privileges you do not have.

A crossed out file icon means you can't see files.
A crossed out folder icon means you can't see folders.
A crossed out pencil means you can't make changes.

* Select the folder and choose Sharing from the File menu of the Finder. A window appears, showing you who owns the folder and what privileges you have for the folder.

Setting access privileges

1) Select a folder that you own on the file server and choose Sharing from the File menu.
2) In the window that appears, click the checkboxes of the privileges you want to assign. When a checkbox has an "X" in it, that privilege is selected. To copy the privileges you selected to all folders within the folder, click the "Make all currently enclosed folders like this one" checkbox.
3) Close the window and, in the alert box that appears, click Save.
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Photoflash: Opens and Quits Immediately (1/96)

Article Change History: 5 January 1996

I use the PhotoFlash software on my Macintosh computer. Lately, when I double-click the application to open it, it begins to open and then immediately quits with no error message. I have tried the following but get the same failure:
- Reinstalled the PhotoFlash application
- Tried to launch it after booting with extensions off
- Made sure there is enough free memory available in the Finder before launching the application
- Adjusted the application's memory preference in the Get Info window
- Reset the PRAM

This article has been archived and is no longer updated by Apple.
You may have a corrupted PhotoFlash preference file. Locate the PhotoFlash preference file in the Preferences folder of your System Folder. Drag the file to the Trash and choose Empty Trash from the Special menu.

The next time you launch PhotoFlash, it will create a new default preference file. Any changes you had made to your Preferences will have to be reset under the Edit menu.

If PhotoFlash still fails to launch, see TIL article "Macintosh: System Crashes and Basic Troubleshooting" for more help with troubleshooting extension conflicts and system software corruption.

Article Change History:
05 Jan 1996 - Corrected minor typo.

Support Information Services
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Newton 2.0 OS: Error -48402 in Calls Application

In the Calls application I wrote in my contact's name and when it was interpreted I selected the contact in the pick list. The contact's phone number was not automatically entered so I wrote it in and then tapped Place Call. An error message which read "Sorry, a problem has occurred. (-48402)" appeared. Now I cannot access that call, and after getting out of the Calls application I get the same error when I try to open it again.
This article has been archived and is no longer updated by Apple.
If the phone number is not automatically entered into the Phone field, and you manually enter a phone number, you get the -48402 error. To prevent this error, make sure a number is entered in the name card*. If you tap Place Call and a number is already entered, such as a Work number, that number is used when you tap Place Call. If there is not a number entered, you have the opportunity to enter a number if is not already on the call slip.

* Note: For an individual, you need a home number, not just a work number.

Getting Back Into Calls Application
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To get back into the Calls application, tap the Find button and find the name you used in the Calls application. A list of found items including the name card and the call appears on the Apple MessagePad. Tap the box next to the call, choose Delete from the Routing Slip.

Alternate Method

There is another method of removing the call information, however this method erases ALL Calls data, so do not use this method if you want to retain some of your Calls data.

To get rid of the corruption you can also change to Storage view in the Extras drawer (tap on the pick list at the top of the Extras Drawer and choose Storage); tap the Calls icon to display soup information, and delete the soup.
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PowerBook 5300 & 190: Turns Off When In Target Disk Mode (1/96)

When trying to use my PowerBook computer in Target (SCSI) Disk Mode I follow this procedure: connect the SCSI cables, turn on the PowerBook computer, wait for the lit grey screen on the PowerBook, and then turn on my desktop computer. As soon as the desktop computer powers on, the PowerBook computer immediately powers off. Why?
This article has been archived and is no longer updated by Apple.
It is possible that the situation you are experiencing is a result of not deactivating the PowerBook Password Security software. When activating the PowerBook Password Security, a message appears which says, "Important: You must turn off password protection before using this PowerBook in SCSI disk mode."

The reason you need to turn off the PowerBook Password Security is that if the PowerBook is accessed by an unsupported computer (as in Target/SCSI Disk mode) the PowerBook computer will turn itself off for protection.

To correct the situation, you must follow these steps:

Step 1

Shut down both the PowerBook and Desktop computers and any other devices in the SCSI chain

Step 2

Disconnect the PowerBook SCSI cable from the back of the PowerBook.

Step 3

Power on the PowerBook computer.

Step 4

Open the Password Security control panel and set the Password Security to off instead of on.

Step 5

Shut down the PowerBook computer and reconnect the SCSI cable(s).

Step 6

Start up the PowerBook computer.

Step 7

Power on all other SCSI devices (if present). Then start up the desktop computer.

Support Information Services
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PowerBook 5300, 2300, & 190 Recommended RAM Speed (1/96)

Do I need to buy a particular speed of memory for my PowerBook 5300 computer when I add a Random Access Memory (RAM) card?

This article has been archived and is no longer updated by Apple.

The PowerBook 190, 5300 and (Duo) 2300 series computers use 70 nanosecond (ns) RAM on their logic boards and are designed to support 70ns RAM cards.

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Open Transport 1.1: General Information Q & A (3/96)

This article is the Reference Q & A (questions and answers) on general information for Open Transport 1.1.
This article has been archived and is no longer updated by Apple.
Question: What is Apple Open Transport?

Answer: Apple Open Transport is the modern networking and communications subsystem for the MacOS. Open Transport is based on industry standards and brings a new level of networking connectivity, control, and interoperability to Mac OS systems, while preserving and enhancing the hallmark of the Macintosh and Mac OS - built-in support for easy-to-use networking.

Question: What long-range Apple goals are advanced through Open Transport?

Answer: Apple believes that communications and collaboration technologies are integral and fundamental to personal and workgroup computing. With Open Transport our goal is to provide the foundation to make Mac OS the best desktop OS for multiprotocol networking, anywhere.

Question: What needs must be addressed to be "the best"?

Answer: Networking and communications technologies are mission critical - thus reliability is a base-level requirement. Organizations require interoperability in heterogeneous environments; full compliance with standards is necessary.

High performance is also key. Increasing file sizes - often related to the rich media types found in graphics and publishing, multimedia, video production, and technical markets - create a demand for effective use of higher bandwidth communications technologies such as ISDN, FDDI, fast Ethernet and ATM.

Beyond these base-level requirements, network managers, end-users and developers each have additional needs.

Network managers need networked systems to support a flexible model of administration that accommodates both centralized and decentralized management models.

Users are typically more interested in communications as a basis for productivity applications. As such, they want networking that is easy to set up and easy to use. This becomes even more important when users are mobile, needing access to networking services from wherever they may be - without requiring complex reconfiguration for each connection type and location.

Developers need to address the broadest possible markets with minimum incremental investment. In short, they need standards based, cross-platform APIs and development tools.

Question: What were some of the key goals driving the development of Open Transport?

Answer: Apple began with two key assumptions: that networking is inherently a multiplatform, multiprotocol proposition; and that customers should not have to start over to achieve networking interoperability. This led us to adopt five key design goals:

Open Transport must protect customer and developer investments in existing network infrastructure and applications.

Open Transport must be based on existing cross-platform industry standards.

Open Transport must provide users with an easy to set-up, easy to use abstraction of the underlying complexity of multiprotocol networking.

Open Transport must also provide a complementary abstraction of networking and communications services for applications developers.

Open Transport must offer a flexible run time model - one that lets a specific protocol be configured and selected at run time, rather than linked at compile time.

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08 Mar 1996 - Changed distribution status.
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Open Transport 1.1: Key Features and Benefits Q & A (3/96)

This article is the Reference Q & A (questions and answers) on key features and benefits for Open Transport 1.1.
This article has been archived and is no longer updated by Apple.
Question: How can Open Transport benefit users?

Answer: Open Transport provides individual computer users with many benefits. Two of the most immediately visible and important benefits relate to making networking more accessible - that is, easier to configure and easier to use.

For example, Open Transport makes it easy to switch from one network configuration to another. A computer user "on the go" might want to hook up to the Internet in various locations, each requiring a different network configuration. With Open Transport settings for each network location can be stored for easy access and use. Changed settings are available immediately - no reboot of the computer is required to use the new configuration.

Open Transport also integrates on-line help, based on Apple Guide technology, to make it easier for an individual to hook up to an network, with fewer demands on network manager and support resources.

Question: How can Open Transport benefit network managers and organizations?

Answer: Open Transport provides significant new flexibility in setting up network configurations; with Open Transport, the network manager can recommend or require configuration settings for users on the network, or allow users to determine their own settings.

Open Transport also improves support for centralized configuration management. For example, Open Transport/TCP supports the Dynamic Host Configuration Protocol (DHCP), allowing network managers to administer addressing and other TCP/IP configuration information from a central server.

Question: How can Open Transport benefit developers?

Answer: Open Transport is designed to make it easier and more cost-effective to develop Mac OS-applications for a wide variety of customers and markets. With Open Transport, Mac OS has built-in networking and communications based on cross-platform industry standards including the POSIX compliant X/Open Transport Interface (XTI), UNIX STREAMs and Data Link Provider Interface (DLPI).

Applications written to support Open Transport can directly support a wide range of networking environments (serial, dial-up network, LAN, and WAN), and multiple protocols (AppleTalk, TCP/IP, serial, and others) from a common code base. This capability is sometimes referred to as transport independence.

Question: What is transport independence? Why is it important?

Answer: Different people judge networking in different ways. End-users focus on what they can do using the network, and tend to select applications based on functionality and ease of use. Network managers are interested in delivering reliable network services in a cost efficient manner. Developers want to create compelling functionality for users, but are strongly influenced by the availability of networking infrastructure.

Unfortunately, with current networking tools and systems developers are forced to tie their applications to specific network infrastructure requirements - driven by their API choices. This creates a potential conflict between individual and organizational needs. If network managers restrict protocols to control support costs, users may not have access to the applications they need. If user require specific applications they may increase support costs for the network manager by "dragging along" specific network infrastructure requirements. Developer are stuck in the middle, making decisions for both users and network managers by selection of an API at compile time.

Transport independence is a concept that breaks this undesirable linkage. When implemented, it allows developers to write to a uniform set of APIs, users to focus on selecting the best applications, and network managers to make independent decisions about network infrastructure, all on an ongoing basis.

Question: What benefits can be realized from transport independent applications?

Answer: For end-users, transport independence brings an increased freedom to select applications that meet their needs, without being concerned with the bits and bytes of networking protocols. For network managers, transport independence allows increased flexibility in designing and controlling infrastructure demands arising from support of end-user applications, that is, the freedom to manage the bits and bytes of networking protocols.

Developers who create transport independent applications will find access to broader markets with incremental resources; code written for the

AppleTalk market, for example, can be delivered to TCP/IP markets as well.

Question: How does Open Transport enable transport independence?

Answer: Open Transport brings together four technologies to support the development and deployment of transport independent applications on Mac OS:

a set of look-and-feel guidelines that promote consistency for configuration of network services across protocols,

a unified set of cross-platform, standards based APIs for all networking and communications protocols; for example, applications can send and receive data over an AppleTalk LAN or the TCP/IP based Internet using the same programming interfaces,

a dynamic link-and-load architecture and set of protocols; protocols are loaded and unloaded on demand, conserving system resources, and making it possible to substitute TCP for ADSP at application launch time (for example),

an addressing and naming support tool box; for example, applications can open a communications end-point by name (that is, "seeding.apple.com" or "printer16:LaserWriter@sales"; Open Transport will automatically provide the appropriate name-to-address mapping services (that is, DNR, NBP, and so on).

Together these support the creation of transport independent applications on Mac OS.

Question: Are all Open Transport applications transport independent?

Answer: No. While Open Transport provides the necessary foundation, there are certain guidelines and programming practices required for developers to create transport independent applications. For example, most protocols have many features in common - but also some features that are protocol-specific. If an application depends on a protocol-specific feature, then it will depend upon that protocol as well.

In some cases it may be appropriate or desirable to develop a transport-specific application. For example, an MBone client is currently only useful when communicating using TCP/IP.

Question: Does transport independence imply that an organization can offer "AppleTalk services" without supporting AppleTalk protocols?

Answer: For each service and network environment, protocol and services choices will be determined by a combination of factors; transport independence is only one of them.

This begins with both the client and the server implementations of the particular service of interest (file, print, e-mail, directory, security, back-up, calendar, and so on) supporting the Open Transport APIs. Next, both the client and server must have the protocol stack(s) of choice installed. Finally, the server application must include some administration utility to allow the network manager to specify the protocol(s) over which application and/or presentation layer services are to be provided.

The user experience for selecting the server (that is, "Choosing", or "name-binding") may vary depending on the underlying protocol. For example, AppleTalk offers a distinctive user experience through the "Chooser" and the underlying NBP/ZIP protocols. TCP/IP offers a substantially different model for name-to-address translation (DNS); NetWare/IPX still another (NDS).

Question: In addition to providing for transport independence, how is the Open Transport standards based architecture important?

Answer: Although it might seem that the use and support of standards based APIs is of direct interest only to developers writing applications code, Apple's adoption of a fully standards based architecture for networking also has important benefits for individual users, network managers, and organizations. Some of these include:

Porting of network protocols, drivers, and applications from other platforms (especially UNIX) to Mac OS becomes easier, resulting in an even wider selection of networking software for the Mac OS,

A larger developer community is focused on STREAMs than would be focused solely on the Mac OS, making it possible to leverage development efforts underway outside Apple - for example, Apple's demonstration of IPv6 (next generation TCP/IP) on the Macintosh platform in cooperation with Mentat Inc.,

Developers experienced in writing high-performance, high-reliability networking hardware and software for UNIX systems can apply their expertise directly to the Mac OS, accelerating the availability of similar solutions for Mac OS customers.

TA34899_Open_Transport_Key_Features_and_Benefits_Q_A__(TIL19130).pdf

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Open Transport 1.1: Component Technologies Q & A

This article is the Reference Q & A (questions and answers) on component technologies for Open Transport 1.1.
This article has been archived and is no longer updated by Apple.
Question: What technology components comprise Open Transport?

Answer: Open Transport supports LANs and WANs and will integrate serial communications, modems, and remote (dial-up) networking in a consistent model for end-users, network managers, and developers. The Open Transport architecture consists of:

- standards based programming interfaces for applications developers and for network interface controller developers, a new cross-platform development model for integration of networking with the underlying operating system, a set of dynamic link-and-load memory management services
- new implementations of Mac OS protocol stacks
- new human interface applications and control panels
- a set of backward-compatibility support modules.

Question: What current Mac OS technologies and components will Open Transport replace?

Answer: When installed, Open Transport replaces the current Mac OS implementations of AppleTalk and TCP/IP (including the protocols and the "Network", "MacTCP", and "Admin TCP" control panels).

Question: What standards are implemented in the Open Transport architecture?

Answer: Open Transport brings standards based networking into Mac OS with support for:

- the X/Open Transport Interface (XTI), the POSIX compliant API for support of networking applications
- the Datalink Provider Interface (DLPI), for development of network interface controller (NIC) drivers
- a port of a UNIX System V release 4.2 compatible STREAMs environment for network protocol developers.

Question: Did Apple develop the STREAMs environment for Open Transport?

Answer: To maximize the stability, performance, and robustness of Open Transport, Apple selected Mentat Inc. - the leading supplier of high performance kernel-level network software - to supply the STREAMs environment for Open Transport.

Mentat Portable STREAMs (MPS) is an independent fast, full-featured, multiprocessor safe version of the UNIX System V Release 4 STREAMs environment. Its incorporation into Open Transport provides a reliable platform for protocol development, including Apple's own implementation of a STREAMs based AppleTalk stack. MPS also allows easy porting from other platforms of third party protocols. MPS is the same implementation of STREAMs found inside many industry standard UNIX operating systems, including those from IBM and OSF, as well as other platforms such as Novell NetWare.

Question: Did Mentat supply other technology to Apple in connection with Open Transport?

Answer: Yes. Mentat supplied the source code base for Open Transport/TCP, and has worked closely with Apple on the development of an archetypal high-performance DLPI driver.

Mentat TCP (MTCP) is a robust implementation of TCP/IP that conforms with all industry standards, and is the basis of another leading workstation TCP stack. It makes a significant contribution to the performance and functionality of Open Transport/TCP.

Question: Is there more information available about Mentat Inc. and its products?

Answer: Mentat maintains a presence on the world wide web at: http://www.mentat.com

Question: What dynamic link-and-load technology is used by Open Transport?

Answer: On 680x0 Mac OS systems, Open Transport uses the Apple Shared Library Manager (ASLM) 2.0. On PowerPC Mac OS systems, Open Transport is based on a combination of ASLM (for 680x0 applications) and the newer Code Fragment Manager, CFM (for PowerPC applications).

Question: Which protocols are supported by Open Transport?

Answer: Open Transport version 1.1 includes implementations of AppleTalk, and TCP/IP, and consistent API access to serial communications.

Apple and third parties are working to add support to Open Transport for Point to Point Protocol (PPP), NetWare (NCP/IPX), Windows 95

(SMB/TCP/NetBIOS), DECnet, LAT, and X.25. Some of these additional capabilities may be incorporated or bundled with future releases of Apple Open Transport.

Question: Are there any changes in AppleTalk or TCP/IP with Open Transport?

Answer: Yes. The new Open Transport/AppleTalk and Open Transport/TCP protocol stacks both have been implemented as Open Transport STREAMs modules and as native code on PowerPC Mac OS computers. They support the new XTI APIs, and their shared libraries can be dynamically loaded and unloaded as needed.

Both protocols also support dynamic reconfiguration (changed settings without requiring reboot), and feature new configuration applications offering Basic, Advanced, and Administrator tools. The new configuration applications - AppleTalk and TCP/IP - replace the older control panel implementations - Network, MacTCP, and AdminTCP. For backward compatibility the new applications continue to be stored in the Control Panels folder.

Each protocol stack also offers addition protocol-specific feature enhancements.

Question: When should users update their systems to Open Transport?

Answer: With the availability of Open Transport v1.1, Apple encourages all Mac OS System 7.x users with systems meeting the minimum configuration requirements to take advantage of the increased performance and new features provided by System 7.5.3 and Open Transport v1.1.

Question: Does this mean that Apple expects everyone to stop using current AppleTalk and MacTCP?

Answer: Open Transport is designed to replace current AppleTalk (58.x) and MacTCP (2.0.x) on Apple Macintosh and Mac OS compatible systems meeting minimum configuration requirements. The transition will happen over time, as developers deliver Open Transport-ready and enhanced applications, as users gain experience with Open Transport, and as Apple continues to enhance Open Transport.

Open Transport is not designed to run on 68000 or 68020 Macintosh systems, which should stabilize on current versions of classic AppleTalk and MacTCP software. If Open Transport is installed on these systems, classic networking will still be selected and loaded at system start-up time.

Developers are strongly encouraged to begin all new development for Mac OS using Open Transport.

Question: What files are installed as a part of Open Transport?

Answer: When installed, Open Transport adds the following to the Control Panels Folder:

- AppleTalk - the control panel application replacing the classic Network control panel.
- TCP/IP - the control panel application replacing the classic MacTCP and AdminTCP control panels.

Open Transport adds the following files to the Extensions Folder:

- Shared Library Manager and Shared Library Manager PPC - extensions that implement the Apple Shared Library Manager for 680x0 and PowerPC, respectively.
- OpenTransportLib and Open Transport Library - shared libraries that implement core Open Transport services on PowerPC systems. The first library contains the modules and APIs for PowerPC native applications; the second for 680x0 applications running in emulation on PowerPC systems.
- OpenTptAppleTalkLib and Open Tpt AppleTalk Library - shared libraries that implement Open Transport AppleTalk protocols and services on PowerPC systems. The first library contains the modules and APIs for PowerPC native applications; the second for 680x0 applications running in emulation on PowerPC systems.
- OpenTptInternetLib and Open Tpt Internet Library - shared libraries that implement Open Transport TCP/IP protocols and services on PowerPC Mac OS systems. The first library contains the modules and APIs for PowerPC native applications; the second for 680x0 applications running in emulation on PowerPC systems.
- Open Transport 68K Library - shared library that implements core Open Transport on 680x0 systems.
- Open Tpt ATalk 68K Library - shared library that implements Open Transport AppleTalk protocols and services on 680x0 Mac OS systems.
- Open Tpt Inet 68K Library - shared library that implements Open Transport TCP/IP protocols and services on 680x0 Mac OS systems.

Depending on the specific system configuration, the following Extensions also may be installed:

- Ethernet (Built-In) - code resource to allow access to built-in Ethernet port.
- Serial (Built-In) - code resource to allow access to built-in serial port.

Open Transport documentation is also provided in electronic format:

- Open Transport Guide Additions - AppleGuide database that updates the Macintosh Guide with information about Open Transport (System 7.5 only);
- a User's Guide (in Acrobat Reader format) which parallels the printed manual;
- the Open Transport Read Me containing any late-breaking news
- a text file called "Open Transport 1.1 Technical Info" which contains a distillation of this Q&A.

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Open Transport 1.1: AppleTalk Features Q & A (3/96)

This article is the Reference Q & A (questions and answers) on AppleTalk features for Open Transport 1.1.
This article has been archived and is no longer updated by Apple.
Question: What are some of the upgraded features of Open Transport AppleTalk?

Answer: Open Transport/AppleTalk now includes new support for assigned (manually administered) protocol addresses. This allows AppleTalk nodes to be managed using protocol address as a unique identifier. It also may reduce the network traffic associated with AppleTalk's dynamic address assignment features (AARP).

Dynamic addressing continues to be available for those customers who prefer automated address allocation.

Question: AppleTalk preferences, such as the last used protocol address and the selected network interface, have been stored in persistent parameter RAM in the past. How does this relate to the new Open Transport network configurations and manual addressing?

Answer: Under the classic AppleTalk networking architecture, AppleTalk's ON/OFF state, the selected network interface, the previous network (protocol) address, and the previous AppleTalk zone name were saved in persistent memory (parameter RAM) for reuse at boot time. To ensure backwards compatibility, this information is still stored and retrieved on systems using Open Transport/AppleTalk.

However, there are some changes made with Open Transport to accommodate the expanded capabilities of multiple, saved configuration files, and required network settings.

At boot time, Open Transport reads the current Open Transport/AppleTalk configuration file to determine if AppleTalk should be set to ON or OFF. This value will override the value saved in parameter RAM.

If the network interface specified in the current AppleTalk configuration file is locked (that is, it is a required setting) and the specified port is not available or cannot be initialized, AppleTalk will not automatically switch to LocalTalk; instead AppleTalk will remain OFF. The user will receive notification in the event this occurs.

Question: What happened to the "Network" control panel?

Answer: The Network Control Panel has been replaced by the Open Transport/AppleTalk configuration utility (control panel). This change was made to reflect the function of the utility - to configure AppleTalk network connections.

Question: Are there other changes to the human interface for AppleTalk?

Answer: Yes. The AppleTalk configuration utility now provides basic troubleshooting information. For example, the Advanced and Administrator views provide access to the hardware (Media Access Control) address, current AppleTalk router address and the current AppleTalk network number range for the cable. Previously this information was only available through the use of router administration or protocol analysis software.

Question: Are there other changes to AppleTalk of interest?

Answer: Yes. Beginning with Open Transport/AppleTalk v1.1, AppleTalk now includes integrated support for both multinode and multihomed operation, accessible to developers at the API level. Configuration and use of the second, third, or more network interfaces or protocol addresses requires application program support.

Multihoming is the term applied to the capability to communicate using more than one network interface at a time using the same protocol. This term is taken from the idea that the workstation makes a "home" on more than one network at the same time.

Multinode is the term applied to the capability to communicate through more than one network protocol address at the same time on a given network interface, using a single protocol. This term is taken from the idea that the workstation or PC appears to outside parties to be multiple end-nodes on the network.

Question: Earlier information about Open Transport said that AppleTalk could be dynamically loaded and unloaded only as needed, similar to Open Transport/TCP. Is this feature available?

Answer: This capability has been removed from Open Transport at this time. It was not technically feasible to provide this feature without creating compatibility problems with existing applications.

Question: Is Open Transport/AppleTalk "AppleTalk Phase 3"?

Answer: No. Open Transport/AppleTalk is a new, modern implementation of the AppleTalk Phase 2 protocol architecture for Mac OS - from the people who invented AppleTalk.

Article Change History:
08 Mar 1996 - Changed distribution status.
04 Mar 1996 - Updated to latest information.

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Open Transport 1.1: TCP/IP Features Q & A

This article is the Reference Q & A (questions and answers) on TCP/IP features for Open Transport 1.1.
This article has been archived and is no longer updated by Apple.
Question: What are some of the features of Open Transport/TCP?

Answer: With the broad cross-platform adoption of TCP/IP - and the tremendous visibility of the Internet - Apple has made a significant investment in bringing a workstation-class implementation of TCP/IP protocols to Mac OS. As with Apple's earlier MacTCP, Open Transport/TCP is a full 32-bit stack.

Open Transport/TCP adds support for:

dynamic path MTU discovery, for more efficient network use in heterogeneous network topologies;

Dynamic Host Configuration Protocol (DHCP), for centralized IP address configuration management. DHCP is an Internet Engineering Task Force (IETF) standards-track protocol;

IP multicast, for participation as an MBone client;

simultaneous TCP connections limited only by installed memory and processor power, for increased functionality as a Internet or other TCP/IP network server;

a new, more robust and standards-compliant domain name resolver (a caching stub DNR);

support for developer access to raw IP services, as well as TCP and UDP;

Ethernet_SNAP and IEEE 802.3 framing, for better interoperability with a wider range of TCP/IP hosts;

implicit and explicit domain name search paths, for increased control of domain name resolution,

multiple IP routers with fail-over, for increased robustness in mission critical applications.

Question: How does the new support for Dynamic Path MTU discovery work?

Answer: Open Transport/TCP sets the "don't fragment" bit in the IP datagram header on transmission unless the packet size is larger than the MTU for the network. Intermediate routers are required by current RFCs to send back an "ICMP can't fragment" error when presented with a "don't fragment" packet that cannot be forwarded without fragmentation with that MTU size. In that event, Open Transport/TCP moves to the next smaller MTU size for that path and re-sends the packet, again with the "don't fragment" bit set. This process automatically results in using the largest supported MTU size for off-subnet traffic.

Question: How does the new Open Transport/TCP domain name resolver (DNR) work?

Answer: The new DNR implements name-to-address (A), address-to-name (PTR), system CPU and OS (HINFO), and mail exchange (MX) queries. It does not implement negative caching, depending on a local full service resolver to provide this facility. The DNR will always request recursion, but will follow references if recursion is not available.

The DNR caches name-to-address and cname-to-name mappings. It does not cache host info (OS and CPU type information) nor does it cache Mail Exchange/Preference information. It does not save name server references after a query is resolved; further queries begin anew at the configured name servers.

Fully qualified domains names or FQDNs (those ending with a "."), and provisional FQDNs (those containing at least one "." internally but not ending with ".") are submitted for resolution without manipulation. Otherwise the name is assumed to be a partially qualified domain (PQDN).

The first - but optional - step in PQDN resolution is the use of an Implicit Search Path. To be used, Implicit Search must first be configured using the Advanced or Administrator view by entering values in the "Implicit Search Path: Starting Domain Name" and "Ending Domain Name" fields. When so configured the DNR will attempt to change the PQDN to a FQDN for resolution by concatenating the PQDN with domain names in the ancestor hierarchy delimited by the Starting and Ending Domain Name values (that is, searching for a PQDN of joe could result in a search for joe.hdware.support.apple.com, joe.support.apple.com and joe.apple.com). Implicit searching stops when the FQDN is resolved, or when the Ending Domain Name value has been tried and fails (that is, joe.com would not be tried, assuming an Ending Domain Name value of apple.com).

If the PQDN has not yet been resolved (including the case where an Implicit Search Path was not configured), explicit Additional Search Domains are searched. For each Search Domain configured, name server(s) are contacted in the order specified in the Name Servers field. If the name is

resolved in the first search domain from which an answer is returned other Search Domains will not be checked. Note that at least one Search Domain (roughly equivalent to MacTCP's Default Domain) must be explicitly configured in order to resolve any PQDNs.

If an authoritative answer that the "name-does-not-exist" is returned, the DNR immediately begins the search in the next configured Search Domain. The search continues through the configured Search Domains.

The DNR has an overall time-out of 2 minutes, after which it will abandon the search.

Question: Does Open Transport/TCP support a local HOSTS file?

Answer: Open Transport/TCP supports one or more HOSTS file, stored in the System Preferences folder, that may be used to supplement and/or customize the domain name resolver's initial cache of information. The selected file is opened and parsed when Open Transport/TCP is initialized. As with MacTCP, the supported HOSTS file features follow a subset of the Domain Name System Master File Format (RFC 1035).

Supported features include blank lines, comments (indicated by a semicolon), and data entry. Comments may begin at any location in a line; they may follow data entry on the same line. A comment extends from the semicolon to the end of the line. Data entry must follow the format:

<domain-name> <rr>

where <domain-name> is an absolute or Fully Qualified Domain Name, and where

<rr> = <type> <rdata> OR <type> <rdata>

The only <class> currently supported is IN (Internet Domain); <ttl>, time to live, indicates the record's configured lifetime in seconds; and <type> can be A (host address), CNAME (canonical name of an alias), or NS (name server). If <ttl> is not present the entry is assumed to have an infinite lifetime; this may also be indicated by specifying a value of minus-one (-1). $INCLUDE and $ORIGIN are not supported.

Open Transport/TCP is more stringent regarding the content and format of the HOSTS file than was MacTCP, which permitted violation of the FQDN requirement for <domain-name>. For instance, this format:

charlie A 128.1.1.1

which was acceptable to the MacTCP DNR, is no longer permitted because of the use of domain search lists in Open Transport/TCP (charlie could potentially exist in any or all of the configured domains). To accomplish the same effect, use this format instead:

charlie CNAME myhost.mydomain.edu

myhost.mydomain.edu A 128.1.1.1

This associates the local alias charlie with the fully qualified domain name myhost.mydomain.edu, and resolves it to the address 128.1.1.1. Use of local aliases is limited to CNAME entries; NS and A entries must use fully qualified domain names.

If a HOSTS file is used, every effort should be made to keep it as small as possible and to only include entries that will be accessed frequently. This reduces the total memory footprint required to cache the DNS information and minimizes the need to maintain and update the HOSTS files as system information changes over time.

In order to activate a HOSTS file, the Advanced or Administrator mode must be used to select the desired file. The text file must already exist; it could have been created with any text editor or word processor. The HOSTS file is tied to the selected configuration. An administrator might, for example, specify different HOSTS files for use when connecting via Ethernet to the campus LAN and when dialing-in from a remote location.

Question: What are some of the changes to the human interface for Open Transport/TCP?

Answer: The Open Transport/TCP configuration application represents a complete overhaul of the human interface from the MacTCP software it replaces. In addition to generic new features noted elsewhere (multiple saved configurations, recommended and required settings, on-line documentation, and so on), key new features include:

direct entry of IP addresses and subnet mask in standard "dot notation";

explicit selection of desired configuration method, now including Manual, RARP, BootP, MacIP, and DHCP;

support for attachment to networks using Classless InterDomain Routing (CIDR);

support for multiple entries in the router, name server, and explicit domain search lists; and

improved support for large AppleTalk networks when using MacIP server/gateways.

Question: Does Open Transport/TCP support MacTCP "Server" addressing?

Answer: MacTCP Server mode addressing is a combination of the Bootstrap Protocol (BootP) and Reverse Address Resolution Protocol (RARP) configuration methods. When Server mode is selected, MacTCP will use BootP to attempt to acquire an IP address. If BootP fails to provide a valid address it then tries RARP. Whichever protocol is successful is stored as a preference, and is used first on next system startup. While this "fall-back" approach adds a degree of robustness from the users point of view, it also adds a degree of unpredictability from a network administrators point of view.

Based on customer feedback, Open Transport/TCP has been designed to allow a network administrator to explicitly specify the single method they prefer to use. Thus while both RARP and BootP are individually supported, Server mode does not appear as a choice in the Open Transport/TCP configuration utility.

Question: Does Open Transport/TCP support MacTCP "Dynamic" addressing?

Answer: No. MacTCP "Dynamic" mode addressing was based on an Apple-proprietary extension to TCP/IP protocols, which applied the address negotiation and assignment rules used by the AppleTalk protocols to TCP/IP networks. This made it very easy to set-up a Mac OS only TCP/IP network, but could create additional work for a network administrator in more typical heterogeneous TCP/IP networks.

The Internet community (the IETF) has since developed a multivendor standard for the dynamic assignment of IP addresses, known as Dynamic Host Configuration Protocol (DHCP). Apple has adopted the industry standard DHCP and dropped support for the earlier Apple "Dynamic" mode addressing with Open Transport/TCP.

Question: What is MacIP?

Answer: MacIP, sometimes also referred to as KIP (Kinetics Internet Protocol), is a protocol specification developed as a method for carrying TCP/IP traffic on AppleTalk only networks - originally these would have been LocalTalk networks. MacIP is today frequently used in conjunction with AppleTalk Remote Access Protocol (ARAP) to provide mobile users access to TCP/IP network services. MacIP specifies encapsulation of TCP/IP datagrams in AppleTalk packets for transmission over such connections.

Use of MacIP requires a gateway. AppleTalk encapsulated IP packets are sent to the gateway using AppleTalk protocols (DDP). The gateway strips off the encapsulation and places the IP packet on the TCP/IP LAN. When packets are destined for a MacIP end-node, the gateway provides the needed encapsulation services.

MacIP gateway support is most frequently offered as an integrated service within a multiprotocol router. The gateway (router) attaches to both an AppleTalk and a TCP/IP network, acting as a middleman between the MacIP end-node and the appropriate TCP/IP based hosts on the LAN or WAN.

Open Transport supports MacIP end-nodes. It is selected using the TCP/IP configuration utility by choosing "AppleTalk (MacIP)" in the "Connect via:" pop-up menu. The user (or network administrator) must also specify which zone contains the desired MacIP gateway. Once selected, TCP/IP will be encapsulated in AppleTalk and will be sent to the gateway via the NIC selected using the AppleTalk configuration utility.

Question: How is MacIP support improved with Open Transport/TCP?

Answer: Open Transport/TCP offers new features in the human interface for selecting the MacIP server, including:

AppleTalk zones are now displayed in a scrolling list in a movable window. This display is easier to view compared to MacTCP's pop-up menu, especially when there are a large number of zones in the network.

The Zone list window now supports selection using the mouse, the arrow keys, and/or "type-select", allowing the user to more quickly select a specific zone from the list.

There is an option to display only those AppleTalk zones containing MacIP servers. When selected, this creates a background search task which when completed filters the zone list display to show only those zones containing active MacIP servers.

There is a short cut "Current Zone" option which causes the Mac to check the current AppleTalk zone for a MacIP server without requiring the user to select a specific zone. This can be a time-saver for the user and a potential bandwidth-saver on the network, especially when there are mobile users that connect in different locations to a enterprise-wide network for MacIP services.

TA34902_Open_Transport_TCPIP_Features_Q_A_(TIL19133).pdf

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System 7.5 Update 2.0: What‘s New in This Update (1 of 3)

This is article 1 of 3 Read Me documents installed with System 7.5 Update 2.0.

The other articles may be accessed by the links below:

Article 19135: **System 7.5 Update 2.0: What's New in This Update (2 of 3)**

Article 19136: **System 7.5 Update 2.0: What's New in This Update (3 of 3)**

This article has been archived and is no longer updated by Apple.
This file is one of three Read Me files that describe System 7.5 Update 2.0. This three-part document provides details about the changes provided by this software update.
Another Read Me file, Installing This Update, summarizes the enhancements of this update and gives instructions for installing the update.

What's in this document (part 1 of 3)

- General information about the update
- Changes to the Finder
- Changes to Find File
- Changes to Standard File
- Changes to control panels
- Changes to Apple Guide
- Changes to Apple Menu Options

General information about the update

System 7.5 Update 2.0 provides the enhancements introduced in System 7.5 Update 1.0, plus many more.

This update installs the latest versions of all components (including any components that you disabled using the Extensions Manager) it finds on the disk it is updating. After you run the Installer, the updated components will be in the same folders as they were before you installed the update. For example, new versions of disabled extensions will be in the Extensions (Disabled) folder, and new versions of disabled control panels will be in the Control Panels (Disabled) folder.

The file called System 7.5 Update replaces the enabler on all computers capable of running system software versions 7.5 or 7.5.1. Computers that did not earlier need an enabler to work with system software versions 7.5 and 7.5.1 still need the System 7.5 Update file since it contains most of the fixes delivered in this update.

The file called System 7.5.2 Update replaces the enabler file on all computers capable of running system software version 7.5.2.

This update includes all the fixes included with the earlier released 7.5.2 Printing Update, the PowerBook 5300 System Software Update, and the PowerBook 2300c Update. You do not need these updates if you install System 7.5 Update 2.0. If you earlier installed any of these updates, you should install System 7.5 Update 2.0, since it contains additional fixes.

After you install the update, the About This Macintosh window says System Software 7.5.3. The window also says System 7.5 Update 2.0, to indicate the source of the system software.

Changes to the Finder

This update includes a new version of the Finder with the following changes:

When you rebuild the desktop, comments typed in a files' Get Info window are no longer deleted. (If you delete the desktop database; for example, by making it visible using a utility and then moving it to the Trash the comments will be lost because the Finder will have to build a new desktop at startup.)

The Name field (used in Finder windows set to one of the list views) is wider, allowing you to see more characters in filenames.

On PowerPC-based computers, icons are translucent while you drag them (instead of simply appearing as outlines). If you drag several icons at once, only the icon under the mouse will be translucent, the others will still be outlines.

Copying large numbers of small files is faster. (Previous versions of the Finder updated the bar in the copy progress dialog box approximately thirty times per second; the new version updates the copy progress bar far less frequently.)

The Finder Update file (once named PowerPC Finder Update) is now part of the Finder. This update deletes all old versions of this file.

When the Clipboard is active, the Clean Up Window command is dimmed. This eliminates a crashing bug in the Finder.

The Finder flushes the processors cache more intelligently, improving the Finder speed on all 68040- and PowerPC-based computers.

Fixes an issue that caused an out-of-memory error when emptying the Trash if QuickDraw GX was installed.

Fixes an issue that caused seemingly false out-of-memory messages when trying to open or close Finder windows. This issue sometimes occurred when the desktop had very few icons on it, a window with the Kind column was visible, and many kinds of documents had been displayed since the last restart.

Fixes an issue introduced by the Finder that shipped with System 7.5 Update 1.0. The Find window of Find File will now be made active if Find File is already open, and you choose Find from File menu (or Find File from the Apple menu).

If you are trying to connect to your computer and your server password has expired or needs to be changed when you try to use an alias to connect to the server, you'll see a message that the password needs to be changed. (Prior versions told the user that the server couldn't be found.)

File copies are now done asynchronously, which makes the CPU more available to other applications during copying. If another application is made active during a file copy, the computer does not slow down as much. This effect is most noticeable when using Apple Remote Access.

Finder window titles are now erased before they are overwritten. (Previous versions made window titles unreadable in some circumstances.)

This new version of the Finder also includes the following fixes from the prior updates Finder:

Corrects an issue at startup that could cause the Finder to open the same list of windows repeatedly.

With QuickDraw GX installed, AppleEvents or AppleScript scripts that send Print or Page Setup command to the Finder are now handled correctly.

When you try to change a System or Applications folder that is protected by the General Controls panel, the Finder no longer claims there's an access privilege issue. The warning message now describes why the folder cant be changed and how to turn off folder protection.

Fixes an issue that occurred the first time you started up your computer after installation (or any time you deleted the old Finder Preferences file). One symptom of this issue was a dialog box stating that the Network control panel could not be used.

Fixes an issue that caused a crash if a sound and a control panel were both in the Startup Items folder and the sound was opened first. (Items in this folder are opened in alphabetical order.)

The Finder no longer rebuilds the desktop if it finds a folder named Desktop at the root level; now it rebuilds the desktop only if it finds a file called Desktop.

Improves the way the Finder handles server volumes that are unexpectedly disconnected while files from the server are still open. Now you can save the contents of most files by using the Save As command (in the File menu of most applications). Large files (those that don't fit entirely in memory) might be lost if the server disconnects unexpectedly. With some applications, however, you can copy the contents that are in memory and paste them into a new document, later merging this document with the original file on the server. (With prior versions of the Finder, this situation could lead to serious issues if the user tried saving the document after the server was disconnected.)

Changes the way the Finder invokes the Find File extension (of System 7.5) instead of the built-in Find feature introduced in System 7.0. The Find File extension now contains a simple flag that tells the Finder to use the new Find File. If you disable or remove this extension, the Finder uses only the older built-in Find. This change enables users to choose between the full-scale Find File, and it's stripped-down version (the built-in Find command).

Fixes an issue that caused an out-of-memory error if too many Get Info windows were open simultaneously.

Enables users to open a document that belongs to an already-running background-only application. (In previous versions, the Finder searched only through the list that appeared in the Application menu.)

The Finder Update file was renamed. (It was earlier known as the PowerPC Finder Update file.) This file handled Code Fragment Manager (CFM) error-reporting for missing dynamically linked libraries.

Speeds copying from servers. Lets the server set its preferred block size for copy requests. (Earlier, the Finder always requested 4.5K blocks of data from AppleShare or FileShare volumes.)

Speeds up copying to and from servers by greatly reducing the number of times the Finder checks for user activity during copy operations.

Speeds up the copying of small files by changing the way the Finder writes parts of the files. (Earlier, the Finder rounded up the size of the file being copied to the minimum allocation block size, which, on a 2GB disk, is 64K.) Now the Finder rounds up small files to a multiple of the size of a disk sector (that is, to increments of 512 bytes).

Fixes an issue in rebuilding the desktop that caused the Finder to skip applications if it encountered a background-only application while rebuilding the desktop database.

Eliminates issues in opening some applications or having the wrong icon appear. These issues sometimes occurred when, during rebuilds of the desktop, the Finder included applications that did not have the necessary bundle resources. The Finder no longer includes applications that do not

have the necessary bundle resources, eliminating confusion within the desktop database.

The Finder now ignores aliases to applications when rebuilding the desktop database.

Changes to Find File

The following are the changes in Find File 1.1.2:

- Includes a list of Shortcuts, available from the Guide menu (with the question-mark icon) when Find File is active.
- Includes a new preference used in sorting by Kind, Use full descriptions for found items, which give more specific Kind descriptions. Using this checkbox results in slower sorts; not using it results in faster sorts but with less specific Kind descriptions.
- Fixes a crashing bug that occurred if the same item were dragged to the same location before the Finder finished the earlier move.
- Fixes a bug that allowed non-numeric data to be input into the Size search field.
- Fixes a bug that allowed a pasted item to exceed the length of several search fields.
- Fixes a bug that allowed too many digits to be entered in the Size search field.
- Allows you to drag a volume icon onto the Location pop-up menu.
- Fixes the zoom box on 68K systems.
- Changes the alert message to be more informative when a server being searched is disconnected.
- Changes the way the Found Items list displays items that are in the Trash after the Trash has been emptied.
- Fixes a searching bug that occurred when the Kind requested was a font.
- Fixes a crash that sometimes occurred when clicking the Stop button in the sorting dialog box. This dialog box now displays a spinner during a sort.
- Fixes a memory bug that sometimes occurred after several consecutive searches.
- Fixes a display bug with Found Items that occurred when using large font sizes.
- Fixes the CD-ROM icon, in the Drives pop-up menu.
- Enables Find File to find invisible files, some of which you can move (such as the Desktop, Desktop DB, and the Desktop DF files).
- The Clear menu item now deletes only the selected text. (The Clear key no longer deletes anything.)
- Fixes a bug that occurred when dragging a file onto the Kind search field. Fonts and applications now appear as such, not as documents.
- Fixes a crash that sometimes occurred when dragging an item from the Found Items window to the desktop.
- Changes the prompt message when search fields are empty.
- Cleans up Balloon Help.
- Includes a new preference to specify transliteration.
- Speeds up searches in 2-byte languages if no transliteration is necessary to perform the search.
- Fixes a bug where the filename input for 2-byte languages could exceed maximum length.

The following are changes introduced with System 7.5 Update 1.0 (Find File 1.1.1):

- Fixes a drag issue with large groups of items. Now Find File displays a confirmation dialog box when you drag more than 50 items.
- Fixes a crashing bug when searching for items whose names contain desktop. Find File no longer finds invisible desktop files unless explicitly requested.
- Fixes a bug that prevented exact-name matches with foreign file systems.
- Fixes the spontaneous search bug, so that Find File could start searching without any criteria entered. Find File now displays an alert prompting for search information.
- Fixes a bug that sometimes prevented an item in the Found list from being selected by clicking its icon.
- Fixes a memory issue in sorting more than 1100 items.
- Fixes a highlighting issue with the Keyboard menu.
- Scroll bars are now properly drawn.
- Fixes a cosmetic issue with drag-selecting items in the Found list.
- Properly updates the path in the bottom of the Found list window after the user drags items from the list.
- Fixes a hanging bug that could occur when dragging a folder onto the search fields.
- Fixes a pop-up menu bug that sometimes showed the wrong value after switching to the Finder and back to Find File.
- Fixes the search when the Comments field is left blank.
- Fixes Balloon Help for the More Choices button.

Changes to Standard File

Fixes an occasional crash in Standard File that occurred when the data cache was not flushed before being disabled.

Fixes a memory leak with some of the dialog boxes used for opening and saving documents in Standard File.

Fixes an issue in the dialog box used for opening files that could allow the pop-up menu to be dimmed in Standard File.

Changes to control panels

PowerPC-based computers with PCI slots now use the Monitors & Sound control panel, instead of the Sound & Displays control panel, to control monitor and sound settings. (System Update 2.0 removes Sound & Displays.) You can do a custom installation to install the Sound control

panel if you need it for older applications. (The Monitors & Sound control panel works only on PCI-based computers.)

The Memory control panel now displays Will be off after restart if Virtual Memory is turned off, as a reminder that just turning Virtual Memory off does not fully deactivate it.

The Memory control panel now uses a larger default setting for the Disk Cache. After you install this update, the new setting will be used only if the Use Defaults button in the Memory control panel is clicked. The new default is 32K for each megabyte of physical RAM installed, up to a maximum of 4096K. (Virtual RAM is ignored for this calculation.) A computer with 16MB of physical RAM would use 512K for its default disk cache size, resulting in better performance for disk-intensive tasks than the original default of 96K.

Fixes a bug in resizing a RAM disk in the Memory control panel while File Sharing is on.

Fixes an issue in General Controls panel that caused issues with Retrospect Remote if either application or System Folder protection were turned on.

Includes a new option in the General Controls panel: Folder that is set by the application. Clicking this option sets the default folder to the folder containing the document being opened. When you open a document by double-clicking its icon, the default folder will be set to the folder containing the document (instead of to the Documents folder or to the folder containing the application that opened that document).

Fixes an issue in General Controls panel that could hang the computer if Applications folder protection were turned on and there was a document or alias named Applications at the root level of the startup disk.

Fixes an issue in the General Controls panels folder-protection code that could cause folders to become invisible if Stuffit Spacesaver were installed.

CloseView no longer uses key combinations that were already used by the Finder. The new key combinations for CloseView are:

- Command-Option-K: turns CloseView on or off
- Command-Option-+ (the plus sign): increases magnification
- Command-Option-- (the minus sign): decreases magnification

If CloseView is active, it remains active after you change your monitors bit depth.

CloseView no longer hangs the system if Balloon Help is on and an audio CD is inserted.

Includes the following new international keyboard layouts:

- French Canadian
- ISO Canadian
- Spanish

Installs the updated versions of the following international keyboard layouts if older versions are already installed:

- Dutch
- Flemish
- German

Changes to Apple Guide

This update includes Macintosh Guide 1.3 (and several new Guide Additions files), which provides updated on screen help for system software.

This update includes Apple Guide version 2.0.2, which includes the following improvements:

- Fixes issues with displaying coach marks in modal dialog boxes.
- Fixes a serious memory leak that occurred every time a Guide file was opened.
- Fixes an issue that caused every twenty-first index item to disappear when multiple additions were in use.
- Fixes an issue that occurred when Apple Guide encountered additions files that did not apply to the current configuration of hardware and system software (for example, if the QuickTime Guide were installed, but QuickTime was not installed or had been turned off with Extensions Manager).
- Defaults to US ASCII sorting only if the current script is Roman and the current language is English. (Apple Guide 1.2.5 defaulted to US ASCII on any Roman script system.)
- Fixes issues with coach marks on 68K machines. (Coach marks were sometimes drawn on the wrong menus.)
- Fixes a Look For issue in Japanese systems by first trying to use the script code from the current database. - Fixes a bug in <Delete Index> that affected Japanese systems.
- Fixes issues with mixed-mode handling of installed coach and context handlers.
- Fixes an issue that sometimes caused Apple Guide to shut down completely on PowerPC-based computers. For example, if a PowerBook addition file were present on a PowerPC-based desktop computer, Apple Guide 1.2.5 would completely shut down because the additions file couldn't be used. Now, Apple Guide ignores the PowerBook addition and continues running.
- Fixes an issue that prevented Apple Guide 1.2.5 from starting up if QuickTime weren't installed on the machine. This issue occurred

only on PowerPC-based computers.
- Includes localizable error strings for use in various abort messages.

This update also includes all the improvements to Apple Guide introduced with System 7.5 Update 1.0 (Apple Guide 1.2.5):

- Works faster than prior versions on all Mac OSbased computers.
- Is native on PowerPC-based computers, which also improve the performance.
- Is compatible with At Ease.
- Makes additions files available in the Guide menu even if the application were opened with AppleScript.
- Fixes a memory leak of an international resource, which occurred every time a Guide file was opened.
- Makes windows redraw correctly after coach marks are drawn.
- Updates no more of the screen than it needs to.
- Properly draws coach marks in black and white and on a mirrored monitor.
- Keeps scroll bars active when they should be active.

Changes to Apple Menu Options

Includes Apple Menu Options v.1.1.2, which introduce the following changes:

- Has been largely rewritten for better performance and improved stability.
- Fixes an issue that could hang the computer when the Apple Menu Options preference file was dragged to the Trash.
- Fixes an issue that could hang the computer if there were a locked alias in the Recent Documents, Recent Applications, or Recent Servers folders. The new version ignores locked aliases.
- Moved a large 68K patch that caused a general slowdown on PowerPC-based computers. This patch is now active only while the mouse button is held down on the menu bar or in a menu.
- Increases the height of the editing field used for entering the number of documents, applications, and servers.
- Fixes an issue that could prevent the Recent Documents, Recent Applications, and Recent Servers folders from being deleted when tracking of those items is turned off.
- Fixes an issue that could cause Apple Menu Options to hang if its settings were changed and the System Folder was on a locked volume (such as a startup CD or locked floppy disk). The hang would occur when Apple Menu Options tried to write the new settings into the locked preferences file. The new version does not try to record new settings on a locked volume.
- Fixes an issue with sorting order; Apple Menu Options no longer uses the U.S. standard for modified Roman and Scandinavian alphabets.
- Prevents Apple Menu Options from deleting original filesit can now only delete aliases. (This change solves an issue that occurred when users saved documents directly into the Recent Documents folder. Once the document was saved, Apple Menu Options replaced the file with an alias to that file.)
- Fixes an issue that sometimes caused the contents of the Apple menu to appear for the proper contents for submenus.

Incorporates all of the prior fixes to Apple Menu Options:

- Improves performance.
- Fixes an issue that could cause an application menu to disappear.
- Fixes an issue that could leave the Apple menu highlighted if an application were opened from a submenu within the Apple menu.
- Shows non-AppleShare servers in the Recent Servers sub-menu.

Published Date: Feb 19, 2012

System 7.5 Update 2.0: What‘s New in This Update (2 of 3)

This article contains part 2 of 3 Read Me documents installed with System 7.5 Update 2.0.

The other articles may be accessed by the links below:

Article 19134: **System 7.5 Update 2.0: What's New in This Update (1 of 3)**

Article 19136: **System 7.5 Update 2.0: What's New in This Update (3 of 3)**

This article has been archived and is no longer updated by Apple.
This file is one of three Read Me files that describe System 7.5 Update 2.0. This three-part document provides details about the changes provided by this software update.

Another Read Me file, Installing This Update, summarizes the enhancements of this update and gives instructions for installing the update.

What's in this document (part 2 of 3)

- Changes to SimpleText
- Changes to the Launcher
- Other new or changed components
- Miscellaneous fixes and enhancements
- Files no longer needed

Changes to SimpleText

Includes SimpleText version 1.3.1, which supports QuickDraw 3D.

Includes the following enhancements introduced with the version of SimpleText provided with System 7.5 Update 1.0:

- Large documents, PICT files, and page ranges (for example, pages 2 and 3 of a 5-page document) print correctly.
- Page Up, Page Down, and scrolling work better with Portable Digital Documents (PDDs) and other documents.
- Editing features (such as Cut, Copy, the forward delete key on extended keyboards, underlining, and selected text highlighting) work correctly.
- SimpleText documents that use system fonts now retain their fonts when opened on a computer with a different system font.
- Remote program linking (controlling SimpleText with AppleScript from another computer) is enabled by default.
- In the Don't Save/Save/Cancel dialog box, you can type D or Command D for Don't Save.
- If you choose Quit with an unsaved document, and want to cancel the quit, you can do so by choosing Save in the Don't Save/Save/Cancel dialog box, then choosing Cancel in the Save dialog box.

Changes to the Launcher

This Update includes Launcher version 2.8 which incorporates minor behind the scenes changes not likely to be visible to users.

Launcher version 2.8 also includes the following fixes and functionality, introduced in System 7.5 Update 1.0: - Supports Macintosh drag and drop, making it easier to add or remove items.

To add an item: Open the Launcher and drag the item into the Launcher window or onto a category button. The system creates a new Launcher button for the item by placing an alias in the Launcher Items folder. The original item remains on your hard disk.

To remove an item from the Launcher: Hold down the Option key and drag the button out of the Launcher.

To move a Launcher button to a new category: Hold down the Option key and drag the button to a category button along the top of the Launcher window.

To open a file using the Launcher: Drag the files icon onto a Launcher button that represents an application program. For example, you can open a SimpleText file by dragging its icon onto the SimpleText button. If the program the button represents can open the file, the button is highlighted when you drag the file to it.

To put a file into a folder: Drag the files icon onto the Launcher button that represents the folder.

To resize the currently visible Launcher buttons: Hold down the Command key and click inside the Launcher window. Then choose a new size from the pop-up menu.

To open a category buttons folder (located in the Launcher Items folder): Hold down the Option key and click the category button.

Other new or changed components

Includes Open Transport v.1.1, a major re-implementation of the network system software for use on all 68030-, 68040-, and PowerPC-based computers except the desktop 5200, 5300, 6200, and 6300 series computers. After an Easy Install, Open Transport will be active only if it was active before the update was installed (it cannot be active on desktop 5200, 5300, 6200, and 6300 series computers). For more information, see the Open Transport Information folder, inside the Apple Extras folder.

Includes a small application called Network Software Selector (NSS), which enables users of 68030-, 68040-, and early PowerPC-based computers to choose between Open Transport and classic AppleTalk if both are installed. (You must restart the computer for the change to take effect.) PCI-based computers support only Open Transport.

NSS is in the Apple Extras folder; information on using it is built into the application. NSS is intended to ease the transition to Open Transport by allowing you to use the older networking software if there is a compatibility issue with an application and Open Transport. Once the issue is resolved, you should switch back to Open Transport.

Note: Because MacTCP is incompatible with Open Transport v.1.1, MacTCP is disabled any time Open Transport is selected using the Network Software Selector. (Open Transport uses the TCP/IP control panel instead of MacTCP.) If, however, you reselect classic AppleTalk, MacTCP is enabled again.

For users of the older networking software, this update includes MacTCP 2.0.6, which

- shortens retransmission delays
- prevents potential out-of-memory errors
- makes configuring communications easier
- gives users more control over which servers to contact and in what order

Includes SerialDMA 2.0.2 for use on all PowerPC-based computers, the Centris 660AV, Quadra 660AV, Quadra 840AV, as well as the corresponding Performa and Apple Workgroup Server products. SerialDMA provides a complete rewrite of the DMA serial driver which originally accompanied these computers, thus fixing the occasional system hang, communications timeouts, poor communications performance, and other glitches. The new SerialDMA 2.0.2 driver not only corrects these issues, but also exceeds the performance and reliability standards for serial communications on the Mac OS platform (providing support for speeds of up to 230,400 bps).

SerialDMA 2.0.2 is native on the PowerPC-based computers.

Includes a new version of Apple Modem Tool (1.5.5), which supports 115.2K and 230.4K connections on SerialDMA 2.0 machines.

Includes the latest version of PC Setup (v1.0.7) for use with all DOS Compatible Mac OS computers.

Includes Screen control panel version 1.0.7. This new version does not crash if its in the System Folder of a Macintosh SE during startup or when its opened on any 68000-based Mac OS-based computer.

Includes File Sharing 7.6.2, which includes several improvements over previous versions. Now, when file sharing is turned on, removable disks and CD-ROM discs will automatically be shared (except for audio CDs, which will no longer be shared). To eject a removable disk or CD-ROM disc, you no longer have to turn off File Sharing, as long as no other user is currently connected to the shared volume.

Includes a faster version of the AppleShare Workstation client software. The new version performs read-ahead and write-behind caching, allowing the Finder to write to a local volume while reading from a remote volume (and vice-versa). The new version also briefly caches some information from the desktop database to avoid unnecessary hits to the disk.

Includes Apple Video Player 1.4.

Miscellaneous fixes and enhancements

The Shut Down warning, which appears during startup if the computer was shut down improperly, dismisses itself after two minutes so that startup isn't delayed when no one is around to read the message. Note that this warning can be turned off completely in the General Controls panel.

Includes Macintosh Easy Open 1.1.2, which fixes delays when dragging Finder folders.

The dialog box displayed after the keyboard Power key is pressed dismisses itself (simulating a click on its Cancel button) after one minute.

Fixes an issue with the Power key. In previous versions, if the Power key was held down just a little too long, the hardware could miss the release of the key. If the next key pressed was the Command key, the hardware would mistakenly think that Command-Power had been pressed and would bring up the programmers window (or MacsBug if it was installed).

Color Picker no longer crashes during startup. There is an issue with certain third-party SCSI drivers that mark the drive as removable at the beginning of startup and later mark it as non-removable. Because Color Picker creates an alias to itself during startup, the change to non-removable prevented the Color Picker alias from being resolved later. Color Picker now handles the failure to resolve this alias.

Fixes an issue introduced by System 7.5 Update 1.0 that prevented 2-byte characters from being used when naming a DOS disk.

Fixes an issue that allowed the Menu Manager to use an unlocked handle. This fix will eliminate some crash issues, especially when using certain pop-up menus.

Changes several video drivers to provide better support for new monitors introduced since System 7.5 was released.

Handles low-memory situations better than previous releases of Sound Manager.

Fixes an issue that allowed the sound volume to be lower after restarting than it was before restarting; volume should now be properly preserved when restarting.

The state of the Mute checkbox in the Sound control panels Volume window is now preserved across restarts.

Fixes an issue that allowed QuickDraw to leak about 50 bytes of memory in some isolated circumstances.

Fixes an issue that allowed a non-existent disk drive to show up in Disk First Aid.

Fixes a crash issue in the Communications Toolbox that happens if there are more than about 600 zones on a single network. The new limit is just over 8000 zones.

Fixes an issue on the 630 and 5200 series computers that would cause them to ignore the infrared remote control.

Fixes an issue that made it take two attempts to unmute the sound using the infrared remote control on 630 and 5200 series computers.

Presents a dialog box that advises users that audio CDs cannot be shared if an audio CD is selected and the Share a Folder or Share a Folder (no Guest) automated task is executed. (In the past, the system would hang in this situation.)

Fixes a bug that caused the wrong font to be used in some cases.

Fixes an issue that allowed a garbage pattern to be used when redrawing the pattern in a scroll bar.

Fixes an issue with submenus drawn too large or not drawn at all.

Fixes an issue that sometimes caused the startup progress bar to draw improperly.

Fixes an issue in WorldScript Power Adapter that could cause text to wrap randomly in Text Edit fields, or to appear garbled.

Plugged a small memory leak that sometimes occurred when resizing a window.

The Power key can now be used to turn the computer off. To shut down the computer, press the Power key. When the dialog box appears, you can shut down your computer, restart your computer, put it to sleep (if it supports sleep), or cancel the shutdown. PowerBook 100 series computers do not have a Power key on their built-in keyboard, but if you attach an external keyboard, you can use the keyboards Power key (as just described) to turn off the computer. This functionality is not supported on the Macintosh Plus.

The Synchronize Folders AppleScript automated task handles nested folders properly.

A new AppleScript automated task Share a Folder (No Guest) lets you automatically share a folder with the Guest access disabled.

Improves system stability when memory is very low.

Fixes a potential crash issue when shutting down or restarting Japanese systems with QuickTime 2.0 installed.

Fixes a potential crash issue when pasting large amounts of data.

No longer opens the wrong original when you select an alias on the desktop of a disk other than the startup disk.

No longer interferes with custom colors that some applications use in the Open and Save dialog boxes.

Fixes a potential crash issue that occurs when Stickies opens with a collapsed note window.

Fixes an issue that would allow the Options button in Sound control panels Sound In window to be dimmed when it should be enabled.

Fixes sound issues in the Jigsaw Puzzle (caused by a third-party extension).

PowerTalk Catalogs Extension version 1.1.1 no longer displays an out-of-memory error when you open a catalog.

PowerTalk AppleMail version 1.1.2 works better on systems with many fonts installed and defaults to sender only for mail replies.

PowerTalk DigiSign Utility version 1.1.1 improves printing on HP DeskWriter C and 550-style printers.

Direct Dialup version 1.1.1 works better when dialing using a long string and wont time out while sending a large letter or a letter with a large enclosure.

Fixes a potential crash issue that occurs if both PowerTalk and At Ease are installed. While PowerTalk and At Ease no longer crash when used together, accessing all of Power Talks functionality requires the Finder (open the Special menu in At Ease and choose Go To Finder).

Command-Option-Space bar no longer changes the keyboard layout if multiple layouts are installed. This avoids a conflict with some popular games that used these keys for controls within the game, resulting in a seemingly random layout being selected once the game is finished (during the game, the selected layout would change any time the three keys were pressed at once). If you want this functionality restored, open the Keyboard control panel and click the checkbox at the bottom. The conflict with certain games will exist as long as this box is checked.

WindowShade version 1.3.1 fixes a potential crash issue that occurs when memory is very low.

Macintosh Easy Open version 1.1.1 works better with drag-and-drop on document converters.

Fixes an issue in the Menu Manager that could cause memory fragmentation within an applications heap.

File Sharing no longer causes a crash when Find File is searching a remote volume using Apple Remote Access.

Fixes an issue in file sharing that caused some files not to get copied. (The symptom of this issue was a dialog box stating that the file could not be copied because it couldn't be found.)

Files no longer needed

The Update automatically deletes the files listed below, unless you renamed any of them, in which case, you should remove the files.

Several standalone files are now merged into the System 7.5 Update Enabler or the System file. This update deletes the old (standalone) versions of the following files:

- 7.5.2 Printing Fix
- 040 VM Update
- 601 Processor Card Enabler
- 630 SCSI Update
- CFMUpdater
- Color Classic Update
- Color Classic Update
- Display Enabler 2.0
- EM Sound Update
- MathLib
- Mount IDE Drive
- Network Software Installer (v1.5.1 and later)
- PowerBook 150 Update
- PowerBook 2300c Update
- PowerBook 5300/2300/190 Enabler
- PowerPC Enabler
- SCSI Manager
- SCSI Manager 4.3 (a renamed version of SCSI Manager)
- Serial Update 406
- SerialDMA
- Sound Manager
- System Enabler 406
- ThreadsLib
- Workgroup Server Enabler

Several standalone files have been merged into the System 7.5.2 Update enabler. The update deletes the old (standalone) versions of the following files:

- 7.5.2 Printing Fix
- CFM Updater
- PowerBook 5300 Enabler
- PowerBook 5300/190 Enabler
- SerialDMA
- Sound Manager
- System Enabler 701
- ThreadsLib

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Several standalone files have been merged into or been replaced by various other pieces of the system. The update deletes the old (standalone) versions of the following files:

- Sound & Displays (replaced by Monitors & Sound)
- Apple Multimedia Tuner (rolled into QuickTime 2.1)
- LaserWriter 8.0 (replaced by LaserWriter 8)
- PowerPC Finder Update (renamed in System 7.5 Update 1.0 and merged into the Finder)
- Finder Update (rolled into the Finder)

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System 7.5 Update 2.0: What‘s New in This Update (3 of 3)

This article contains one of several Read Me documents installed with System 7.5 Update 2.0.

Article 19134: **System 7.5 Update 2.0: What's New in This Update (1 of 3)**

Article 19135: **System 7.5 Update 2.0: What's New in This Update (3 of 3)**

This article has been archived and is no longer updated by Apple.
This file is one of several Read Me files that describe System 7.5 Update 2.0. This three-part document provides details about the changes provided by this software update.

Another Read Me file, "Installing This Update," summarizes the enhancements of this update and gives instructions for installing the update.

In this document:

** Indicates a change made in System Update 2.0 (7.5.3)

* Indicates a change made in System Update 1.0 (7.5.1)

What's in this document (part 3 of 3)
- Changes for PowerPC-based models
- Changes for PowerBook and Duo models
- Changes for other 68K-based models
- Changes for PC cards
- Changes for AppleVision monitors
- Changes related to printing
- Changes related to networking
- Known issues and their workarounds
- Tips

Changes for PowerPC-based models

** PowerPC-based computers with PCI slots now use the Monitors & Sound control panel to control monitor and sound settings instead of the Sound & Displays control panel. (System Update 2.0 removes Sound & Displays.) You can do a custom installation to install the Sound control panel if you need it for older applications. (The Monitors & Sound control panel works only on PCI-based computers.)

** Includes native SCSI (not on desktop 5200, 5300, 6200, and 6300 series computers).

** Fixes a SCSI Manager issue that would hang any PowerPC-based computer if a Sony or WangDAT DAT drive was used with Retrospect.

** Fixes an issue on desktop 5200, 5300, 6200, and 6300 series computers running QuickTime 2.1 that would prevent sound from being heard in Fusion Recorder's Record window until either a recording was started or the TV volume in the Sound control panel was unmuted.

** Includes both native and 68K versions of common Modern Memory Manager routines, improving performance of emulated applications by speeding up calls to common routines. (System software version 7.5 and 7.5.1 included only the native implementations, while system software version 7.5.2 included both native and 68K versions.)

** Includes a rewritten fixed-point math library to provide better performance for QuickDraw, other parts of the system, and all applications that use this library. Because QuickDraw and other parts of the System use this library extensively, installing this update will cause noticeable performance gains.

** PowerPC-based computers with PCI slots might have a different physical Ethernet address after you install this update. The update fixes a bug that caused an incorrect physical Ethernet address to be used in environments where TCP/IP addresses are obtained using BootP, DHCP, or RARP. To see the new Ethernet address after you install the update, open the File menu in the AppleTalk or TCP/IP control panel and choose Get Info. If you install the update and are no longer able to use your TCP/IP-based applications, contact your network system administrator.

** On PowerPC-based computers (including those with PowerPC Upgrade cards) running system software version 7.5 or 7.5.1, this update introduces the Native Resource Manager. This version of the Native Resource Manager is slightly newer than the version released with system software version 7.5.2. The System 7.5.2 Update file includes the same improved version of the Native Resource Manager.

** Reduces times to open applications on PowerPC-based computers with virtual memory turned on. System 7.5.2 (not 7.5 or 7.5.1) would significantly slow down while opening certain applications, such as Microsoft Excel version 5.0, if virtual memory was turned on. With Update 2.0

installed, launch times should be about the same whether or not virtual memory is turned on.

** Fixes a bug affecting plug-ins that import from an application. This issue existed in all PowerPC-based computers running system software versions 7.1.2, 7.5, 7.5.1, and 7.5.2. and was originally fixed by the CFM Updater extension (distributed with QuickDraw 3D). Update 2.0 deletes this extension, which is no longer needed.

** Fixes a bug in starting up from removable media with virtual memory on. (Although this bug was fixed in 7.5.2, it still exists in 7.1.2, 7.5, and 7.5.1 PowerPC computers.)

** Fixes issues with the DR Emulator. (The DR Emulator works only on PCI-based computers and the PowerBook 2300, 5300, and 500 upgrade.)

** Fixes an issue in certain IDE drives that resulted in cached data not being written to the disk at shutdown.

** Fixes anti-aliasing errors for Kanji Type 1 fonts.

** Fixes an issue that resulted in off-white often being drawn as white. (This effect, while generally subtle, was significant enough for some applications to merit a fix.)

** Fixes a crash issue (a Type 11 error) in Native QuickDraw; this error occurred when using Quark XPress v3.1.1 with system software versions 7.5 and 7.5.1. System 7.5.2 corrected this issue. If you still have Type 11 errors when using Quark XPress 3.3.1 with System 7.5.3 on a PowerPC-based computer, try upgrading to QuarkXPress 3.3.2.

** Fixes an issue in the Dialog Manager that caused some applications to crash after a dialog box was dismissed.

** Supports DayStar Turbo 601 cards in a Macintosh IIci or IIsi.

** If you use Microsoft Office 4.2.1, you need the extension "Office 4.2x Update For Power Mac," version 1.0.1, and the Microsoft Office Manager control panel, version 4.2.1b. You can download these files from the Internet. Download the MC1164.HQX and MOMPATCH.HQX "patch" (update) files from Microsoft. The patches are available on the Internet at

ftp://ftp.microsoft.com/softlib/mslfiles

* Includes changes to native QuickDraw which speed up operations such as scrolling, image filtering, and pattern and text drawing. ("Native QuickDraw" refers to time-critical portions of QuickDraw that have been native since the initial release of PowerPC-based computers.

* Updates video software, thus prevent video scrambling during computer startup.

Changes for PowerBook and PowerBook Duo models

** Contains a new version of password security software. The version that shipped with the PowerBook 5300 and the PowerBook 190 computers could lock out international users since the software to handle international keyboards does not load until after the password is requested during startup. If the password contained a character that was not available on a U.S. keyboard, it could not be entered and the computer could not finish starting up. The new version of the password security software fixes this issue.

** Fixes an issue in the Assistant Toolbox that caused the Assistant Toolbox to be incompatible with Open Transport.

** Fixes an issue that prevented PowerBooks and PowerBook Duos from going to sleep if SimpleText or certain other applications were running in the background.

** Fixes issues with the DR Emulator. (The DR Emulator works only on PCI-based computers and the PowerBook 2300, 5300, and 500 upgrade.)

* PowerBook Duo docks: Pressing the eject button automatically opens items in the Shutdown Items folder and shuts down the computer. No dialog box appears.

* PowerBook 500 models: Improves trackpad performance.

* PowerBook 150: Extends battery life by reducing power requirements during sleep mode. It also prevents the system from freezing when you repeatedly use the internal modem without restarting the computer.

* PowerBook 150: Eliminates the need for the PowerBook 150 Update system extension. Installing Update 2.0 automatically removes this extension from the Extensions folder (inside the System Folder).

* PowerBook 150: Fixes an issue that prevented the internal IDE disk from appearing on the desktop. The issue occurred if the internal IDE disk was selected as the startup disk, and the Command-Shift-Option-Delete keys were held during startup (to start up from an external hard disk).

Changes for other 68K-based models

** Quadra 900 and 950: Fixes an issue in the Sound control panel. Before this update, the External Line and Internal CD buttons in the Sound control panel were reversed, so that clicking the Internal CD button was interpreted as though the External Line button had been clicked (and vice-versa).

** Quadra 950: Fixes an issue with the Sound control panel. Before this update, clicking the Add button sometimes caused the computer to crash.

** Centris 660AV, Quadra 660AV, and Quadra 840AV: Includes Apple Video Player v.1.4, which replaces the Video Monitor application (which is no longer supported).

* Quadra 840AV, Quadra 660AV, and Centris 660AV: Includes new video software that prevents video scrambling during computer startup.

* Quadra 840AV, Quadra 660AV, and Centris 660AV: Fixes an issue in the Dialog Manager that caused some applications to crash after a dialog was dismissed.

* Performa 630, Quadra 630, and LC 630 with internal IDE drives: Fixes an issue that prevented the internal IDE disk from appearing on the desktop. The issue occurred if the internal IDE disk was selected as the startup disk, and the Command-Shift-Option-Delete keys were pressed during startup (to start up from an external hard disk).

* Quadra 700: Fixes a potential issue that could slow down the mouse or trackball.

* Quadra 840AV: Includes an updated Display Manager which ensures that a multi-sync monitor is set to the correct resolution when you restart the computer.

Changes for PC cards

* Macintosh Easy Open version 1.1.1, which is installed with this update, fixes issues with cut and paste between Mac OS and PC applications on Mac OS-based computers with a PC card installed.

* Quadra 610 and Centris 610 computers with the 610 PC card installed receive PC Setup version 1.0.2 (software that was inadvertently not provided with the upgrade disks for System 7.5).

Changes for AppleVision monitors

** If you use AppleVision software, use version 1.0.2 or later. Earlier versions of AppleVision are not compatible with System 7.5 Update 2.0.

** If you have a 1710AV monitor and a PCI-based computer, use AppleVision 1.0.4 and the Monitors & Sound control panel.

** If you have a 1710AV monitor and a non-PCI-based computer, use AppleVision 1.0.2, the Sound control panel, and the Monitors control panel.

Changes related to printing

** Includes version 2.1.1 of the StyleWriter 1200 driver, which fixes a crash bug on System 7.5.2-capable computers.

** Includes the LaserWriter 8F (version 8.2.3F) driver, which supports all the fax options on the LaserWriter 16/600. The LaserWriter 8 (version 8.3.3) driver, which is also included in Update 2.0, does not support all these fax options.

** Supports QuickTime compressed images and ColorSync 2.0 through the LaserWriter 8 (version 8.3.3) driver.

** The LaserWriter 8 (version 8.3.3) and LaserWriter 8F (version 8.2.3) drivers contain fixes for two common printing issues found on PCI-based computers: freezing when trying to print to a printer that's busy, and freezing when trying to print large documents or printing to LocalTalk-based printers.

* The LaserWriter 8F, version 8.2.3, printer driver provides the following enhancements (introduced in version 8.2):

- Improves the function of the Setup button in the Chooser; this button automatically looks for the selected printer, selects the appropriate PostScript Printer Definition (PPD) file, and configures the paper trays. (If you prefer to manually configure the PPD files and paper trays, you can

do so by clicking the Setup button a second time.)

- Resets the destination in the Print dialog box to Printer instead of retaining the previous print job's destination. For example, if the previous destination was Fax, the destination automatically resets to Printer for the next job.
- Enables you to tab backwards through the fields in all print dialog boxes by pressing Shift-Tab.

Note: Installing the LaserWriter 8F version 8.2.3 printer driver removes the LaserWriter 8 Prefs file from your system. Thus, after you install, you need to set up your printer using the following steps:

1. Open the Chooser.
2. Click the LaserWriter 8 icon.
3. Click the printer you want to use.
4. Click the Setup button.

Changes related to networking

On computers with 68030, 68040, or PowerPC processors, Easy Install automatically installs Open Transport networking software, which provides improved network flexibility and performance. Open Transport is available on all computers with 68030, 68040, or PowerPC processors except for the desktop 5200, 5300, 6200, and 6300 series computers. Open Transport will be active only if it was active before the update was installed (otherwise, classic AppleTalk is active). If your computer is not PCI-based, you can use the Network Software Selector (NSS) to switch between Open Transport and classic AppleTalk. You'll find the NSS utility in the Apple Extras folder after you install System 7.5 Update 2.0.

Switching from Open Transport to classic AppleTalk usually causes the network connection to revert to LocalTalk. After you switch networking software and restart your computer, you can use the Network control panel (classic AppleTalk) or the AppleTalk control panel (Open Transport) to reselect the desired network connection.

Depending on your system and networking needs, Open Transport may require 400K-1200K more RAM than classic AppleTalk. In many cases, you can reduce this amount by turning on Virtual Memory.

For more information, see the Open Transport Information folder, inside the Apple Extras folder.

Known issues and their workarounds

** Apple Video Player displays an incorrect dialog box if it's opened on a computer that does not have video-in capability. Apple Video Player complains that the Video Startup extension was not installed properly instead of stating that video-in is required for this application to run.

** If, when you try to print, you see a message that your printing preferences are missing or damaged, open the Chooser and select a printer.

** Some versions of the LaserWriter driver (version 7.2 and earlier) and the QuickDraw GX printer drivers still have the issues that interfere with PCI-based computers trying to print on a busy printer or trying to print large documents. If you experience these issues, select the LaserWriter 8.3.2 driver from the Chooser.

** Two different control panels are named "Energy Saver." The older version worked by dimming the external screens of certain computers. The newer Energy Saver, which works differently, works only on PowerPC computers with PCI slots.

The universal System Folder that can be created by Update 2.0 contains only the newer Energy Saver. If your universal System Folder requires both versions of the Energy Saver, do the following:
1. Rename the newer Energy Saver.
2. Use Custom Install to install the older Energy Saver.

** The new minimum RAM disk size is 416K. If a smaller RAM disk exists during the installation of this update, it will be turned off and its contents lost when the computer is restarted. Therefore, before installing this update on a computer with a RAM disk smaller than 416K, move all the contents of the RAM disk to another disk.

** Digital audio recording and playback can occasionally "skip" if virtual memory is turned on. To reduce this skipping, turn off virtual memory.

** HyperCard version 2.3.3 or earlier does not record sound properly on computers with PCI slots. Other sound recording application programs, including SimpleSound and the Sound control panel, can record sounds that you can import and play within HyperCard 2.3.

** When used with SerialDMA, DOS Compatibility software will not be able to use hardware handshaking on the PC serial port.

** There is an incompatibility between AppleShare Workstation software version 3.6.1 and Connectix Speed Copy (part of Speed Doubler

version 1.1 or earlier). Use the Extensions Manager to turn off Speed Copy before you install this update, and contact Connectix to get the latest version of Speed Doubler. (You can contact Connectix at http://www.connectix.com, 415-571-5100, or 800-950-5880.)

** If you have a PowerBook 190 with Open Transport active: If you are using the IR port and networking doesn't work after you restart the computer, try putting the computer to sleep and waking it up, or choose the printer/modem port and then switch back to the IR port.

** If you have a PCI-based Mac OS computer connected to a Novell Netware network: This update contains the Ethernet Compatibility extension version 1.0.3, which fixes an issue in the system shutdown code. To use this extension, you need to Custom Install the Ethernet Driver Update. A side effect of this fix is a two-minute delay in shutting down the computer.

** When using Drive Setup (version 1.0.4 or earlier) on some IDE hard drives, the "Update driver," "Customize volume," and "Test disk" options are dimmed. To use these options, back up all data on the IDE disk (onto another disk), and use Drive Setup to reinitialize the IDE disk.

** If you have a Macintosh Centris 660AV, Quadra 660AV, or Quadra 840AV, some system alert sounds may not play correctly with the alert volume turned down. To avoid the issue, keep the alert volume turned all the way up and adjust the Built-In system volume:
1. Open the Sound control panel.
2. Choose Volumes from the pop-up menu.
3. Adjust the volume.

** Speech version 1.4.1 can cause a Macintosh Plus (a model which does not support speech) to hang during startup. If your Macintosh Plus hangs during startup, do the following:

1. Restart the computer while holding down the Space bar.
2. When the Extensions Manager dialog box appears, turn off Speech.

** If your computer has a 68000 processor and the computer won't start up, try pressing the Shift key (to turn off extensions) while you restart. If there is a "Color StyleWriter 2000 CMM" file in your Extensions folder (inside the System Folder), take this file out of the Extensions folder and restart your computer. (To use the Color StyleWriter 2000 series printer, you need a 68020 or higher processor.)

Tips

** Many LaserWriter LS users are unaware that this printer is supported by the LaserWriter 300 driver. To make this clear, future system releases will rename this driver to LaserWriter 300/LS. For now, you can either rename this driver or wait for a future release to do it for you. If you rename it, you must select the new name from the Chooser before you can print using this renamed driver.

** Recent-documents tracking (in Apple Menu Options) tracks all files that are opened-even those opened by an application as part of its launch sequence (such as drop-in filters used by desktop publishing packages). This tracking can significantly slow down the launching of these applications. To reduce this overhead you can:

- turn off "recent documents" tracking in the Apple Menu Options control panel
- turn off Apple Menu Options in the Extensions Manager

** This update resets all settings in the Apple Menu Options control panel to their default values. If you have made changes to Apple Menu Options, you will need to select them again after installing this update. If you have set Apple Menu Options to track more than ten items in any category, you may want to move some of those aliases out of their folders before you install the update, which deletes all but the ten most recent items in each category.

Published Date: Feb 19, 2012

MegaDial 1.0.1: Read Me

This article contains the ReadMe included with Cypress Research's MegaDial telephony software available online.

Note: Macintosh Users
MegaPhone for the Macintosh is now distributed and supported by Bing Software. If you need technical support, please contact Bing Software directly:

Monday through Friday, 9 am to 5pm Pacific time.
Technical Support: (714) 888-6639
Fax: (714) 888-6635
For Sales, call: (714) 888-6633
E-mail:bingsoftware@mindspring.com
Web:http://www.BingSoftware.com
This article has been archived and is no longer updated by Apple.
MegaDial 1.0.1 Late Breaking News and Notes

First, thank you for using MegaDial. We hope that it makes your traveling and telecommunicating easier. This is a combined upgrade/30-day demonstration version of MegaDial. If you've already bought MegaDial, just install this version over your current version. If you haven't, you'll receive a thirty day full-featured demonstration of how MegaDial can make traveling with a laptop easier.

To buy a full version of MegaDial:
Call 1-800-515-8111 (+1 510 732 3830 outside the US and Canada) 6 AM to 6 PM PST Monday through Friday.

If you have any problems with MegaDial, please contact us at +1 408 752 2700, on the Internet at tech@cypressres.com, or on AppleLink at CYPRESS.

Usage Hints/Important Notes
* Installing MegaDial To install MegaDial, insert the installer disk in your floppy drive and double click on the file named "Install MegaDial". Choose the hard disk you wish to install on, then install. After you restart your machine, you need to configure MegaDial. Just open the MegaDial control panel and choose the location you've set up your software to dial with (Home or Office). You'll be stepped through a configuration process. If you're using MegaPhone, you can configure MegaDial from the Quick Prefs window.

* I Didn't Get 30 Days to Try MegaDial: If you install this version of MegaDial over a demo version of MegaPhone, you may not receive an entire 30 days of trial for MegaDial. Call +1 408 752-1700, ask for technical support, and a support representative will give you a code to enable one more 30 day demo.

* Getting Notified: By default, MegaDial will present you with a dialing window every time you dial. You can change this by opening the MegaDial control panel, clicking on the expand arrow in the lower left hand corner of the window, and choosing another option from the "Ask me when dialing" popup.

* Having Problems? If you have problems using MegaDial with a particular program, you can turn it off temporarily. Just go to the MegaDial control panel, click on the "More" arrow to display the expert panel, and uncheck "Watch Modem". Remember to turn it on when you're done with that program. Please report any incompatibilities to us immediately!

* Using Apple Remote Access: MegaDial works with Apple Remote Access, including with Dial Assist, although MegaDial will do much more than Dial Assist.

* Why Don't I See the Dialing Dialog? Some programs, including many fax software packages, Apple Remote Access and some versions of Prodigy, dial at a time when it is unsafe to present interface. MegaDial detects all of these cases, and transforms numbers quietly, even if the notification options suggest that interface should be presented. The first time MegaDial transforms numbers quietly, it will notify you to check your settings if the call doesn't go through properly.

* I Still Don't See the Dialing Dialog! Depending on how you received this copy of MegaDial, it may be a version which is designed to work only with MegaPhone. If you received this in with MegaPhone, this is the case. To check if this is the case, expand the MegaDial control panel. If the "Watch Modem" checkbox is grayed out, MegaDial will work only with MegaPhone. Call 1-800-515-8111 to purchase MegaDial or to have a 30 day demo enabled.

* Credit Card Calling Doesn't Quite Work: In different locations, the amount of time you have to wait for an automated response to dialing a credit card access number can vary (from 2 to 20 seconds!). MegaDial is programmed with a good value for most locations: 10 seconds. If you need to lengthen this time, dial the phone by hand and count the number of seconds until you hear an automated response, and divide this number by 2. Click on the Expert button in the control panel, and change the number of commas in the "Before Calling Card" field to match this number. Some modems support a special character which means "wait for credit card tone." Check your modem manual for more information, and type this

instead, however, note that this character won't always work. In the United States, if you are using a carrier such as Sprint 800 or ATT 800, the pause before the phone number dialed is stored in the actual carrier entry, so you'll have to choose "Edit Carrier╔" from the Long Distance popup menu in the control panel, and edit the actual carrier (use the same technique as above to determine how many commas to enter). The "After Calling Card" field is used by carriers like the MCI 800 numbers, and is placed after the calling card account and PIN and before the phone number dialed. See your manual for more information.

Known Issues
-Some fax software and other communications packages dial at a time when it is unsafe to check for dialing prefixes, carriers, and suffixes in the dialed number. For best results, be sure the phone numbers you've entered in the software packages don't include any prefixes, non-default carriers, or suffixes.
-If you use TCP/IP connections for America OnLine and use demand-based PPP or SLIP dialing software such as MacPPP, you should dial your provider to make the TCP/IP connection before attempting to connect to AOL, or MegaDial will choose an improper telephone number for your connection.
-MegaDial 1.0.1 will not intercept fax calls made by FaxPro 2.2.2.

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Published Date: Feb 19, 2012

MegaPhone 1.0.2: Read Me

This article contains the Read Me included with Cypress Research's MegaPhone telephony software available online.

Note: Macintosh Users
MegaPhone for the Macintosh is now distributed and supported by Bing Software. If you need technical support, please contact Bing Software directly:

Monday through Friday, 9 am to 5pm Pacific time.
Technical Support: (714) 888-6639
Fax: (714) 888-6635
For Sales, call: (714) 888-6633
E-mail:bingsoftware@mindspring.com
Web:http://www.BingSoftware.com
This article has been archived and is no longer updated by Apple.
MegaPhone 1.0.2 Late Breaking News and Notes

First, thank you for using MegaPhone. We hope that it will make your time on the telephone more productive and enjoyable.

Please be sure to read the manual and the information below for useful tips on using MegaPhone. If you have any problems with MegaPhone itself, please contact technical support at +1 (408) 752-2700, on the Internet at tech@cypressres.com, or on AppleLink at CYPRESS. If you are having problems with your GeoPort Telecom Adapter or Apple software, please contact the Apple Assistance Center directly.

Major changes and fixes in this version
Error -93 when sending to PowerTalk on machine with no network: Users not on a network that attempted to deposit voice messages into the PowerTalk In Tray would receive an error. This is fixed.

Occasional corruption of contacts file: A contact in the contacts file would occasionally become corrupt causing problems for the entire file. This is fixed.

Speed dial list was occasionally reset: Under some circumstances (especially if MegaDial was running from a disk other than the disk containing the system folder) the speed dial information was not saved correctly. This is fixed.

Entering 1 multiple times quickly while retrieving a voice message sometimes caused a crash: While retrieving messages remotely, users could sometimes cause their Macintosh to crash by entering 1 to delete a message multiple times in quick succession. This is fixed.

New, Edit, and Delete buttons on Contacts window: Buttons for creating, editing, and deleting contacts have been added to the top of the Contacts window. This is in response to user requests for these buttons.

Other minor interface problems corrected: Various redraw and update problems under rare conditions have been corrected.

We continue to improve MegaPhone, so if you find problems or have suggestions, please pass them along to us by calling us or sending electronic mail.

Usage Hints/Important Notes
Installing MegaPhone: To install, double click on the file named "Installer". Choose the hard disk you wish to install on, then install. After you restart your machine, you can launch MegaPhone. Version 1.0.2 of MegaPhone is designed to work with Telephone Manager Version 2.0 or later from Apple Computer. This version of the Telephone Manager is installed by your Apple Telecom Software Installer. Before launching MegaPhone, please ensure that you have already installed this software from Apple Computer, Inc.

If you are installing over a previous version of MegaPhone, you should not lose your preferences, contacts, voice messages, outgoing greeting, your call log, or your scheduled calls.

Using MegaDial: MegaPhone works in conjunction with MegaDial to format your phone numbers in a canonical format so that they can be dialed properly from anywhere in the world. It also uses MegaDial to figure out the local time at any number you are calling and to look up area, country, and city codes. However, you must configure MegaDial for all these features to work. You can configure MegaDial by clicking the "Configure MegaDial" button in "Quick Prefs", by clicking the "Location" button in the main window of MegaPhone, or by selecting the MegaDial control panel in the Control Panels folder. MegaDial can also help you dial from your telecommunications and fax applications. For more information on MegaDial, you can call Cypress Research at +1 (408) 752-2700.

If people you talk to are complaining of an echo, you should experiment with the placement of your microphone relative to your speakers. Because the GeoPort Telecom Adapter and some other devices MegaPhone uses provide a full duplex speaker phone, your microphone is not "cut out" while the other party is speaking. This means that they will hear themselves talking in a way that they are not used to on a telephone conversation. If you move your microphone farther from your speakers, this can greatly reduce this effect. Additionally, you can place your microphone behind

the plane of your speakers so that the sound will not be directed at the microphone. This effect will be enhanced if you are in a room that does not absorb sound well. It may take some experimenting to optimally position your microphone and speakers, but you should be able to reduce this effect to an acceptable level.

If you use RAM Doubler or Virtual Memory, you may experience a buzzing or breaking up of your phone conversations. Usually, this is only on your end of the conversation; the party you are talking to will not hear this. If you do experience this, you should quit all other applications so more time can be given to process the sounds for your phone conversation. At this point, there is no other fix for this problem.

To set incoming call options such as the ring sound, the number of rings after which your phone should be answered with voice messaging, call saver mode, etc. you must open the Express Modem control panel. See the Express Modem documentation for details.

The call saver mode sets the number of rings after which your phone will be answered if there are new messages. For example, if your phone is normally answered after 4 rings, but you have the call saver mode set to 2 rings, MegaPhone will answer your phone after 4 rings for the first caller to leave a message and after 2 rings for all callers after that. More importantly, if you call in to retrieve your messages and you reach the 3rd ring, you know no one has left a message yet and can hang up, saving yourself a call charge.

If you have Fax Terminal set to "Auto-Answer" incoming calls, there may be a brief delay when you answer a call manually with MegaPhone (e.g., by clicking the "Answer" button) while the Express Modem software listens for fax or modem tones. If it detects these tones, the call will be handled by the appropriate fax or data software, otherwise, you will be allowed to take the call. During this time, you will not be able to talk to the calling party. The time period is brief enough that the calling party will most likely not notice the delay. When you are able to talk to the calling party, MegaPhone will emit a brief chirping sound to alert you to begin talking. In fact, for all incoming calls (whether or not you have Fax Terminal set to "Auto-Answer") MegaPhone will emit the brief chirping sound when you can talk to the calling party. This is useful when you have MegaPhone in the background and have answered the call with the Telephone System Menu.

If you have more than 400 contacts, we recommend that you not store them all in the MegaPhone contacts window and that you not auto-synchronize with your source for these contacts. Instead, you should only store your most active contacts in the MegaPhone contacts window so that you can use Speed Dial, call counting, etc. You should dial from your PIM for less frequently called numbers. If you use TouchBase Pro, you can dial using the "Dial Phone Number" menu item in the "Contacts" menu. Even if this contact is not in the MegaPhone contacts window, MegaPhone will still display the name in the main window while you are talking and will enter it in the call log. To configure this option in TouchBase Pro, ensure MegaPhone is launched, select "Dialing" from the "Preferences" hierarchical menu in the "Edit" menu, select " Dialing" under "Use:", click OK, select the MegaPhone running on your Macintosh from the selection dialog that is presented, click OK. You are now configured to have TouchBase Pro use MegaPhone for dialing. If you decide to have more than 400 contacts in MegaPhone, we recommend that you increase the preferred memory requirement to at least 2MB.

Before importing any contacts, be sure you have configured MegaDial. If you configure MegaDial after you import your contacts, each time you call a contact MegaPhone will treat it as an unknown contact because the number will not have been put in canonical format when you imported it.

The call log is limited to 250 entries. After the call log has 250 entries, the next entry will replace the oldest entry in the log. If you would like to save your call log entries, open the call log window, and select "Export" from the "File" menu to export the entries to a tab delimited text file.

The number of voice messages is limited to 99. If you do not direct your messages to your PowerTalk In Tray, MegaPhone will stop taking messages once you have 99 messages. Given that messages can take up a lot of hard drive space, it is a good idea to delete messages you no longer need. If you want to save messages for a long time, we recommend that you drag them out of the voice messages folder and save them in another folder. You can always rename the file after you have dragged it out of the voice messages folder and can hear the message by double clicking on the file. You can locate your voice messages folder by opening the "Voice Messaging" panel of "Preferences" and looking at the path specified in the "Messages Folder" section.

When using an AV monitor, on some Macintosh models, the sound control panel resets the sound input source to external microphone with "Playthrough" not checked and the alert volume to maximum. What you want in this case is for the sound input source to remain "AV Connector" with "Playthrough" checked and for the volume to remain where you left it. The best fix for this problem is to use and external microphone so the default setting will be correct. In general, to change the sound input source, open the Sound control panel, select the "Sound In" page from the popup menu, click the "Options" button and select the source you wish.

If you record a voice messaging greeting and it appears to record but is silent, you may have your CD player selected as your sound input source. Before recording a greeting, open the Sound control panel, select "Sound In" from the popup menu, click the "Options" button, then select "Microphone", "AV Connector", or another appropriate choice depending on your hardware configuration. Do not check the "Playthrough" checkbox. Be sure to set the source back to CD, if you want to listen to audio CDs on your Macintosh. If you receive or place a call while you are listening to a CD, the sound input will temporarily be switched to your phone so that you can converse with the other party. After the call, it will be switched back automatically. However, for recording your greeting, you must switch the source yourself.

The DemoDialer Tool is a telephone tool that MegaPhone installs if it cannot use the tool you have selected as your default tool. For this version of MegaPhone, the default is the GeoPort Telephone Tool. The DemoDialer tool allows you to dial numbers by emitting the Touch Tone sounds through the Macintosh speaker and gives you access to various other features of MegaPhone. However, you cannot receive incoming calls or take voice messages with this tool because it does not provide any connection to a phone line. If MegaPhone indicates that it has switched to using this tool because an error has occurred, you may quit MegaPhone, fix the error condition, and re-start MegaPhone; it should then resume using the

GeoPort Telephone Tool. If you need to manually change which tool is your default tool, you can do so in the General panel of Preferences.

If you forget to purchase the full featured version of MegaPhone before the 30 trial period has expired, you can still call Cypress Research and purchase this option. Once you do so, all data you entered into contacts, call log, etc. will still be available to you. It is not deleted.

For information on site-licensing MegaPhone, please contact:

Note: Macintosh Users
MegaPhone for the Macintosh is now distributed and supported by Bing Software. If you need technical support, please contact Bing Software directly:

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Fax: (714) 888-6635
For Sales, call: (714) 888-6633
E-mail:bingsoftware@mindspring.com
Web:http://www.BingSoftware.com
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System 7.5 Update 2.0: Overview and Installation Read Me (6/96)

This article contains one of several ReadMe documents installed with System 7.5 Update 2.0.

This article has been archived and is no longer updated by Apple.

What is the Macintosh System 7.5 Update 2.0?
==========

System 7.5 Update 2.0 is a set of system software enhancements that improves the reliability and performance of all computers running system software version 7.5, 7.5.1, or 7.5.2. You can install System 7.5 Update 2.0 even if you did not install Macintosh System 7.5 Update 1.0.

Before you install System 7.5 Update 2.0, review the next section, "What System 7.5 Update 2.0 Provides," which summarizes the fixes and new features delivered by this update. For a more detailed explanation of the changes in this release, see the three Read Me files named "New in This Update." (If you received the update on a CD or over a network, these Read Me files are in the same folder as this Read Me file. If you received this update only on floppy disks, the files are in the System Update Information folder on the first floppy disk.)

What System 7.5 Update 2.0 provides
==========

* Installs the latest versions of all components (including any components that you disabled using the Extensions Manager) it finds on the disk it is updating.

After you run the Installer, updated components will be in the same folders as they were before you installed the update. For example, new versions of disabled extensions will be in the "Extensions (Disabled)" folder, and new versions of disabled control panels will be in the "Control Panels (Disabled)" folder.

* Fixes many problems that users and developers reported to the Apple Assistance Center, Developer Technical Support, and Apple's internal tracking systems.

Among these fixes are elimination of some Type 11 errors found on PowerPC-based computers, and corrections to the General Controls panel to eliminate conflicts with several third-party products.

* Improves performance by including an updated version of the Finder, which copies files faster than previous versions. Performance on PowerPC-based computers also improves because the update introduces several more native system software components, including Apple Guide, the Resource Manager, and the SCSI Manager.

* Introduces "translucent dragging" on PowerPC computers.

* Includes version 1.0.4 of Drive Setup, for use on IDE-capable, 68K-based computers and all PowerPC-based computers. The new version of Drive Setup fixes a problem with some IDE drives. If you use IDE (ATA) drives, you should update your drivers as part of the installation of this update. (If you have an IDE drive, see the section "Known Problems and Their Workarounds" at the end of the "New in This Update - 3" document for more information about Drive Setup.)

* In addition to updating system software for a single Mac OS computer, you can use this update to create a "universal" System Folder-a single System Folder that can be used with all Mac OS computers supported by the update. You can use this universal System Folder on an external hard disk or removable media drive to start up any model of Mac OS-based computer. For more information, including special installation instructions, see the section "Creating a 'Universal' System Folder," at the end of this document.

* On computers with 68030, 68040, or PowerPC processors, the update's Easy Install automatically installs Open Transport networking software, which provides improved network flexibility and performance. After you install the update, Open Transport will be active only if it was active before the update was installed. Open Transport is available on all computers with 68030, 68040, or PowerPC processors except for the desktop 5200, 5300, 6200, and 6300 series computers. On some computers, you can use the Network Software Selector (in the Apple Extras folder after you install the update) to switch between Open Transport and classic AppleTalk. Open Transport may require more RAM than classic AppleTalk. For more information, see the Open Transport Information folder, inside the Apple Extras folder.

* During an Easy Install, Text-to-Speech software is automatically installed. If you don't use this software, after you install the update you can use the Extensions Manager to turn off MacinTalk (version 2 or 3) and the Speech control panel.

* After you install the update, the About This Macintosh window says "System Software 7.5.3"; below that, the window says "System 7.5 Update 2.0," to indicate how the system software was installed.

* Includes many other previously released fixes, including those in the 7.5.2 Printing Update, the PowerBook 5300 System Software Update, and

the PowerBook 2300c Update.

For more details on what has been fixed in this update, see the three Read Me files named "New in This Update."

Installing System 7.5 Update 2.0
==========

You can install the update from floppy disks, the CD, over a network, or from your hard disk. Install the update before you install other software included with the update (such as PowerTalk, QuickDraw GX, and so on).

Note: If your computer has a PowerPC Upgrade Card installed, make sure that the PowerPC processor is turned on when you install this update.

Note: If you are going to install Apple Remote Access Client 2.0.1 software (not included with the System 7.5 Update 2.0), install it before you install this update.

Installing System 7.5 Update 2.0 from the CD or from floppy disks
==========

Before you install System 7.5 Update 2.0, make sure that system software version 7.5, 7.5.1, or 7.5.2 is installed on your computer. (You can check by opening the Apple menu from the Finder and choosing About This Macintosh.)

You should use the Disk First Aid program (included with this update) to test and, if necessary, repair the disk on which you're going to install the update. For instructions on using Disk First Aid, see the manual that came with your computer.

To install the System 7.5 Update 2.0 from the CD or floppy disks, follow these steps:

1. Open the Extensions Manager control panel.

2. If your current system software is 7.5 or 7.5.1, choose "System 7.5 only" from the pop-up menu. If your current system software is 7.5.2, choose "System 7.5.2" from the pop-up menu.

3. If you have third-party peripherals that are required for installation and that require an extension, turn those extensions back on. (Examples include video drivers, alternative input devices, network card drivers, and removable media.)

4. Restart your computer.

5. Insert the System 7.5 Update 2.0 CD or the first floppy disk.

6. Double-click the Installer icon to open it.

7. When you see the Installer's welcome screen, click Continue.

The Easy Install dialog box appears.

These instructions cover the Easy Install process. Easy Install automatically installs the files that your particular model of computer needs.

If you want to add specific components after using Easy Install, choose Custom Install from the pop-up menu at the top of the Easy Install dialog box, and see the instructions in the manual that came with your computer or system software upgrade.

8. Make sure that the destination disk indicated on the screen is the one on which you want to install the update. If it is not, click Switch Disk until the right destination disk appears.

9. Click Install.

10. Follow the instructions on the screen.

If you need to insert other floppy disks, onscreen messages tell you when to do so. It takes several minutes to complete the installation.

11. When the installation is complete, click Restart to restart your computer.

12. Use the Extensions Manager to turn on additional extensions (you'll need to restart your computer for the extensions to work). If you encounter problems, choose the set of extensions you chose before the installation (see step 2), restart your computer, then turn on extensions one at a time to determine if one of them is incompatible.

Installing System 7.5 Update 2.0 over a network or from a hard disk
==========

To update multiple computers over a network, you can create a "net install package," which makes updating networked computers faster and

simpler. You can also put a net install package on your hard disk, and use the package to install the update on the same hard disk.

If you already have a net install package available, skip to "Step 2: Install the Update."

Step 1: Create a net install package for Update 2.0
To create a net install package from a CD, drag the entire System 7.5 Update 2.0 folder from the Update 2.0 CD to the server computer.

To create a net install package from the network, download the 7.5 Update 2.0 Net Install package to your hard disk.

To create a net install package from floppy disks, follow these steps:

1. Create a folder on the server called "System 7.5 Update Net Install."

2. Insert the first floppy disk.

3. Open the disk and drag the following items into the System 7.5 Update Net Install folder:

- the Installer
- the Install System 7.5 Update file

4. Close the disk and drag the disk's icon itself into the System 7.5 Update Net Install folder.

At this point, your System 7.5 Update Net Install folder should contain three items:
- a copy of the Installer
- a copy of the Install System 7.5 Update file
- a folder named "System 7.5 Update 2.0 - 1" that contains everything that was on the first floppy disk.

5. When the copy is complete, eject the disk (by dragging its icon to the Trash).

6. Do the following for each of the remaining installation disks:

- Insert the disk in the floppy disk drive.
- Drag the disk icon to the System 7.5 Update Net Install folder.
- Eject the disk when the copy is complete.

Note that all but the first two items (Installer and Install System Update) in your System 7.5 Update Net Install folder are folders that contain the contents of eace corresponding disk.

IMPORTANT: Don't move or rename any file or folder inside the System 7.5 Update Net Install folder. If you do, the Installer won't work.

Step 2: Install the update
Before you install System 7.5 Update 2.0, make sure that system software version 7.5, 7.5.1, or 7.5.2 is installed on your computer. (You can check by opening the Apple menu from the Finder and choosing About This Macintosh.)

You should use the Disk First Aid program (included with this update) to test and, if necessary, repair the disk on which you're going to install the update. For instructions on using Disk First Aid, see the manual that came with your computer.

To use a net install package, follow the instructions below:
═══

1. Open the Extensions Manager control panel.

2. If your current system software is 7.5 or 7.5.1, choose "System 7.5 only" from the pop-up menu. If your current system software is 7.5.2, choose "System 7.5.2" from the pop-up menu.

3. If you have third-party peripherals that are required for installation and that require an extension, turn those extensions back on. (Examples include video drivers, alternative input devices, network card drivers, and removable media.)

4. Restart your computer.

5. If necessary, connect to the server that contains the System 7.5 Update Net Install folder.

6. Open the System 7.5 Update Net Install folder.

7. Double-click the Installer icon to open it.

8. Read the first screen, then click Continue.

9. The Easy Install dialog box appears.

- To automatically install just the software your model of computer needs, click Install.

- To select specific items to install, see the instructions for custom installation in the manual that came with your computer.

10. When you see a message that the installation was successful, click Restart.

11. Use the Extensions Manager to turn on additional extensions (you'll need to restart your computer for the extensions to work). If you encounter problems, choose the set of extensions you chose before the installation (see step 2), restart your computer, then turn on extensions one at a time to determine if one of them is incompatible.

Creating a "universal" System Folder
==========

This section describes how to create a single System Folder that can start up any Mac OS computer introduced since the Macintosh Plus.

Overview

Only some users need a universal System Folder. You might want to create a universal System Folder if you
* start up different Macintosh models using removable media
* want to simplify support of multiple users by giving all users the same System Folder
* prefer to start up computers using an external startup disk

If you are responsible for only one computer, you shouldn't need to create a universal System Folder.

Requirements

To create a universal System Folder, you must start with System 7.5. The procedure will not work if you start with System 7.5.1 or 7.5.2. (You cannot install System 7.5 on a computer that requires 7.5.2 or greater.)

These steps assume you're not installing the software on your startup drive. A universal System Folder can be created on your startup drive, but you'll be forced to restart after each installation. By installing onto another drive, you can avoid several restarts.

Instructions
---
1. Open the System 7.5 Installer (the Installer for version 7.5.0 of the system software).

2. When you see the Installer's welcome screen, click Continue.

3. Choose Custom Install from the pop-up menu in the upper-left corner of the dialog box.

4. Click Switch Disk until the name of the desired destination disk appears.

5. Click the triangle on the left side of the first item in the list.

6. Click the box next to "System for any Macintosh" to put an "X" in it.

7. In the list, click the triangle to the left of Utility Software, then click the box next to AppleScript to put an "X" in it.

If you are creating the universal System Folder on a disk that did not already have a System Folder on it, skip step 8.

8. If you are creating the universal System Folder on a disk with a System Folder on it, hold down the Command and Shift keys while pressing the K key. Click to select the button labeled Install New System Folder and then click OK.

9. Click Clean Install (or Install, if you skipped step 8) and wait for the installation to finish (inserting disks as needed).

If the destination disk had a System Folder on it, the contents of your old System Folder have been moved to a new folder titled Previous System Folder.

10. Insert the System 7.5 Update 2.0 CD or the first update floppy, disk and open the System 7.5 Update Installer.

11. When you see the Installer's welcome screen, click Continue.

12. Choose Custom Install from the pop-up menu in the upper-left corner of the dialog box.

13. Click Switch Disk until the name of the desired destination disk appears.

14. Click the Universal System Folder box to put an "X" in it.

If you don't see this option, make sure that you've done the previous steps correctly.

15. Click the Install button and wait for the installation to finish (inserting disks as needed).

Article Change History:
10 Jun 1996 - Removed keyword.
09 Apr 1996 - Added keyword.
20 Mar 1996 - Added keyword.

Published Date: Feb 19, 2012

AppleWorks: Epson DX-20 Printer Setup

This article describes how to run AppleWorks on a Apple IIe with an Epson DX-20 printer.
This article has been archived and is no longer updated by Apple.

Configuration:

- Apple IIe
- Super Serial Card
- CompuCable, P/N MTB0201
- Epson DX-20 Letter Quality Printer
- AppleWorks, version 1.3

Super Serial Card switch settings:

Switch1

Position	1	2	3	4	5	6	7
Closed (On)	-	X	X	x	X	X	X
Open (Off)	X	-	-	-	-	-	-

Switch2

Position	1	2	3	4	5	6	7
Closed (On)	X	-	-	-	X	-	-
Open (Off)	-	X	X	X	-	X	X

Note: Jumper block points to TERMINAL

AppleWorks configuration:

Description	Begin
Needs line feed after each return	NO
Accepts top-of-page commands	NO
Stop at end of each page	YES or NO (NO is preferable)
Platen width	13.0

Printer codes: Check the printer manual for additional codes:

Description	Begin	End
Characters per inch	no codes	
Lines per inch	no codes	
Boldface	Esc W	Esc &
Underline	Esc E	Esc R
Superscript	Esc D	Esc U
Subscript	Esc U	Esc D

DX-20 switch settings:

Switch1

Position	1	2	3	4	5	6	7	8
Closed (On)	-	-	X	-	-	X	-	-
Open (Off)	X	X	X	X	X		X	X

Switch2

Position	1	2	3	4	5	6	7	8

Closed (On)	-	-	-	-	-	-	-	-
Open (Off)	X	X	X	X	X	X	X	X

Published Date: Feb 19, 2012

Newton MessagePad Modem Enabler 1.0: Read Me

This article contains the Read Me from the Modem Enabler 1.0, which is currently posted to Apple SoftWare Updates.
This article has been archived and is no longer updated by Apple.
You need ModemEnabler 1.0 and a modem setup package in order to use a non-Apple modem with your MessagePad. ModemEnabler 1.0 and several modem setup packages are available in this folder. ModemEnabler 1.0 allows you to change modem settings on your MessagePad. A modem setup is a package that enables a MessagePad to configure and operate non-Apple modems. Each modem has its own modem setup package, which is typically provided by the modem manufacturer.

This Read Me document explains what you need to do before installing ModemEnabler 1.0 and modem setup packages, what to do to install them, and how to work with them after they are installed.

Note: ModemEnabler 1.0 is not recommended for use with the MessagePad 100 or the original MessagePad as modem and application compatibility may vary.

BEFORE YOU INSTALL THE MODEM SOFTWARE

Make sure you have the Newton Connection Kit.

You must have 55K of available internal memory. (ModemEnabler 1.0 takes up 38K of internal memory storage once it's installed.)

If you have a MessagePad 110, you must have the latest system software installed on your MessagePad--Newton System Update 1.3 (345025)--in order for modem setup packages to work properly. To check to see if your MessagePad has the correct version of software, tap Extras to open the Extras Drawer, then tap Prefs. The system software version number is at the bottom of the screen.

INSTALLING MODEM ENABLER 1.0
WARNING: To properly install ModemEnabler 1.0, you must unlock the storage card lock switch on your MessagePad. (Slide the locking tab to the unlocked position so that a red strip is visible.) For more information, see the handbook that came with your MessagePad.

Install ModemEnabler 1.0 using the Newton Connection Kit. You can then move the storage card locking tab to the locked position.

INSTALLING MODEM SETUPS

WARNING: To properly install modem setup packages, you must unlock the storage card lock switch on your MessagePad. (Slide the locking tab to the unlocked position so that a red strip is visible.) For more information, see the handbook that came with your MessagePad.

Install one or more modem setups using the Newton Connection Kit. You can then move the storage card locking tab to the locked position.

There are four packages in the Modem Setup folder, two for the Motorola CELLect modem card and two for Hayes modems. The packages are described below.

MotoCELLect Cellular--For use with the Motorola CELLect PCMCIA and Motorola CELLect pocket modems connected to any data-capable Motorola MC2 Microtac cellular phone.

MotoCELLect 14.4--For use with the Motorola CELLect PCMCIA and Motorola CELLect pocket modems connected to standard telephone lines.

Hayes Error-Correcting--For use with modems (including Hayes brand modems) that implement the complete Hayes command set.

Hayes Compatible--For use with the majority of other modems that implement the basic Hayes commands but use a different set of commands for configuring features, such as error correction and flow control.

USING MODEM ENABLER 1.0 AND MODEM SETUPS

Once ModemEnabler 1.0 and one or more modem setup packages are installed, you can select modem setups that are right for your modem remove modem setups when you no longer need them

To select a modem setup, follow these steps:
1. Tap Extras to open the Extras Drawer, then tap Prefs.
2. Tap Modem.

3. Tap "Connect with." A list of modem setups installed on your MessagePad appears.
4. Tap your choice in the list.

To remove a modem setup, follow these steps:
1. Tap Extras to open the Extras Drawer, then tap Prefs.
2. Tap Modem.
3. Tap Remove Modem Setup. A list of modem setups installed on your MessagePad appears.
4. Tap the modem setup you want to remove from the list.
A message appears telling you the selected modem setup was removed.

You can also remove ModemEnabler 1.0 at any time. Refer to the handbook that came with your MessagePad for information on removing software.

NOTE: If you remove ModemEnabler 1.0 from your MessagePad, you will not remove any modem setup packages.

MODEM COMPATIBILITY ISSUES WITH MESSAGEPAD SOFTWARE

Modem compatibility with internal MessagePad software will vary between modem vendors. The following software have known compatibility issues with some third-party modems:

- Call slip on MessagePad 110 may not operate with some modems.
- Built-in Fax application requires modems to support Class One fax protocol.

COMPATIBILITY ISSUES WITH SOFTWARE FROM OTHER SOFTWARE VENDORS

Apple Computer, Inc. tries to ensure that application programs from other software vendors are compatible with our software. However, the following products have compatibility issues with ModemEnabler 1.0:

Notify! Newton

When using the MotoCELLect Cellular setup on a MessagePad 110, The "Modem Setup" string should be set to "&F1e0s12=12&c1\\q1\\x0\\n7" for most TAP servers.

When using the MotoCELLect 14.4 setup on a MessagePad 110, The "Modem Setup" string should be set to "&Fe0s12=12&c1\\q1\\x0\\n7" for most TAPservers.

This article can help you locate the software update mentioned in this article:

- Article 14724: "**Where To Find Apple Software Updates**" - Lists online services for free Apple software updates.

Published Date: Feb 19, 2012

Power Macintosh: PCI Card Power Requirements (6/96)

I am adding PCI cards to my Power Macintosh computer and would like to know how many I can add and what the power requirements are for the PCI slots.

This article has been archived and is no longer updated by Apple.

The Power Macintosh 7200, 7500 and 8500 computers have three expansion slots, which use the industry standard Peripheral Component Interface (PCI) bus. These computers provide a total of 50 watts of power for the three expansion slots. Both 5 volts and 3.3 V are suplied; the total power at both voltages must not exceed the 50 W maximum.

The Power Macintosh 9500 has six PCI slots supported by two Bandit custom ICs: one for PCI slots 13 and the other for PCI slots 46. The computer provides a total of 90 W of power for the six expansion slots. Both 5 V and 3.3 V are supplied; the total power at both voltages must not exceed the 90-W maximum.

The Power Macintosh 7200, 7500, 8500 and 9500 computers accept standard PCI cards as defined by the PCI Local Bus Specification, Revision 2.0. The cards are required to use the 5 V signaling standard and to use the standard ISA fence described in this specification.

Article Change History:
03 Jun 1996 - Modified to better facilitate searching.
05 Jan 1996 - Corrected minor typo.

Published Date: Feb 19, 2012

Power Macintosh 7200: Simultaneous Sound Output (1/96)

I have a Power Macintosh 7200 series computer which is connected to a monitor with built-in speakers. I would like to play audio through the computer's internal speakers while playing audio through my monitor's speakers. I think I have everything set up properly in the Sound control panel, but each time I restart the computer, sound is no longer played through the computer's internal speaker. I only get sound out of the monitor's speakers. What is the proper way to set this up so that the settings will remain?

This article has been archived and is no longer updated by Apple.

To have sound output through both the internal speakers of the Power Macintosh 7200 and the monitor's speakers, follow these steps:

Step 1

Connect an audio cable from the sound output port on the computer to the sound input port on the monitor.

Step 2

Select Volumes from the popup menu in the Sound control panel.

Step 3

Deselect (uncheck) both the "Builtin" and "Builtin Headphones" Mute checkboxes.

Step 4

Follow steps 23 each time you restart the computer.

When speakers or headphones are plugged into the sound output port on a Power Macintosh 7200 series computer, the computer mutes the builtin speaker by default during startup. This is normal for the Sound control panel to behave in this manner, and the only workaround is to change the settings after restarting the computer.

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Volume II, Issue 19, Page 13

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30 Jan 1996 - Added Info Alley info.
05 Jan 1996 - Corrected minor typo.

Support Information Services
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Macintosh Performa: Power Macintosh Upgrades

This article provides information on the PowerPC upgrades which were made available for certain Performa computers. Apple no longer sells these upgrades.
This article has been archived and is no longer updated by Apple.

Overview

There are two possible ways to upgrade Macintosh Performa computers:

- Add a Macintosh Processor Upgrade card (part M3397LL/A, discontinued), which includes a PowerPC 601 chip. This option applies to the Macintosh Performa and Quadra 630 series and the Macintosh Performa and LC 575, 577, and 578 computers.
- Install the Power Macintosh 5300/6300 Logic Board Upgrade (M4447LL/A), which includes a PowerPC 603e chip. This option applies to the Macintosh Quadra and Performa 630 series and the Macintosh 5200CD and 6200CD series computers.

Both upgrades must be performed by qualified Apple-authorized service providers. Service providers can also provide specific availability and pricing information. Refer to TIL article 17055: "**Macintosh Family: Upgrade History**" for additional information on processor and other upgrades.

Macintosh Processor Upgrade

The Macintosh Processor Upgrade (discontinued) involves removing the existing Motorola 68040 microprocessor (which is socketed) and replacing it with a card that lays flat over the logic board. Once installed, the 68040 is inserted in the card. The card covers the LC-compatible processor-direct slot, so additional expansion cards cannot be used. However, it leaves the communications slot available, and you will have access to your RAM sockets.

The main advantage of this upgrade is that it provides access to PowerPC technology, while still retaining the functionality of the Motorola 68040 chip that originally came with the computer. It is a low-cost solution that should appeal to people who have a large investment in conventional software, who do not plan on upgrading all of their software immediately, or who are using "mission-critical" software that requires the 68040 chip.

Its disadvantage is that, like all upgrade cards, it is not a fully integrated solution because it still retains the original logic board. So its performance will likely not be as fast as a logic board replacement.

Power Macintosh 5300/6300 Logic Board Upgrade

The Power Macintosh 5300/6300 Logic Board Upgrade (part M4447LL/A) replaces the entire logic board of the computer and replaces it with the logic board of the Power Macintosh and Performa 5300/6300 series computer. This logic board includes a PowerPC 603e chip with a 100 MHz clock speed. It has two SIMM sockets, in which you can install memory. It increases the total memory capacity of the computer to 64 MB of RAM. It also supports 16-bit sound input (at 22 KHz) and output. Note that this upgrade does not include RAM so you must retain any memory that you had installed in your computer originally or purchase additional memory separately.

Besides the additional system features, you will also experience better performance than with the Macintosh Processor Upgrade. By not utilizing an upgrade card, you can continue to use the LC-compatible processor-direct slot.

Notes:
The following computers are in the Macintosh 630CD family: LC 630, Quadra 630, Performa 630, Performa 635, Performa 636, Performa 637, and Performa 638.

The following computers are in the Macintosh 5200CD family: Macintosh 5200/75 LC, Performa 5200, Performa 5210, Performa 5215, and Performa 5220.

The following computers are in the Macintosh 6200CD family: Performa 6200, 6214, 6216, 6218, 6220, and 6230.

Published Date: Feb 19, 2012

Apple Internet Connection Kit 1.0 Read Me

This article is the Apple Internet Connection Kit 1.0 (AICK) ReadMe file.
This article has been archived and is no longer updated by Apple.
Read Me

Before you install the Apple Internet Connection Kit, read the following information.

Getting Help Installing and Using Your Internet Connection Kit

Apple will assist you with the installation and setup of the Apple Internet Connection Kit. Our specially trained telephone support staff can assist you with information on:

- Installation
- Registration
- Configuration

Once you have selected an Internet Service Provider, and registered with them, they will be able to assist you with:

- Basic Product Use
- Applications Questions or Issues
- Billing Issues
- Connection questions and problems

If you are accessing the Internet over a LAN, contact your Network Administrator for help in setup and use.

Telephone support is available Monday through Friday (excluding Holidays) from 6 A.M. to 6 P.M. Pacific Standard Time. In Canada*, hours are 8 A.M. to 8 P.M. Eastern Standard Time. If you need support with getting started with your kit, call us at 1-800-SOS-APPL (1-800-767-2775). In Canada, call 1-800-263-3394.

Apple provides an excellent on-line reference source for technical information: the Apple Tech Info Library. You can search through thousands of articles on Apple products, past and present, updated regularly by Apple support personnel. The Apple Technical Information Library (TIL) is available on the Internet at **http://til.info.apple.com**.

System Requirements

- Power Macintosh or Macintosh computer with 68030 or greater CPU
- Mac OS 7.5 or greater
- 8 MB RAM
- 17 MB hard disk space

Open Transport Users

Open Transport v1.0.6 ships as a built-in component of Mac OS system software (System Software 7.5.2 with System Enabler 1.1) on the Power Macintosh 7200, 7500, and 8500 models. Software on newly manufactured Power Macintosh 9500 systems is updated as well. The Apple Internet Connection Kit requires Open Transport 1.0.7 or later. You must upgrade your networking software before installing the Apple Internet Connection Kit.

If you have a Power Macintosh 9500 without this update, you will need to contact Apple SRF Direct can be reached at 888-273-3594. Many software updates are also available for download from the Apple Software Updates web site at **http://www.apple.com/swupdates** .

The "For PCI based Macs" folder on the Apple Internet Connection Kit CD includes a patcher to upgrade Open Transport 1.0.6 to 1.0.7.

Additional information about Open Transport can be retrieved via the Internet from **ftp://seeding.apple.com/ess/public/opentransport/**

Installation Instructions

To install the Apple Internet Connection Kit on your hard drive, double-click on the Installer file and then follow the instructions on your screen. Click on the Apple Internet Dialer icon from the Internet Kit window in the Launcher. Should you not desire to use the Launcher interface for accessing the applications in the kit, open the General Controls control panel, and click "off" the "Show Launcher at startup time".

Installation on an External drive with a System Folder

If you install the Internet Connection Kit on an external drive that has a System Folder on it, the System Preferences, and startup files will be

installed in the external System Folder, leaving the startup volume untouched.

ISP Registration Requires You to Write Down Important Information

You will be asked to write down your username and password after registering with an Internet Service Provider. You can easily retain this information on your computer by:

1. Command-shift-3 will do a screen shot of what is on your monitor screen, will then be saved on your hard drive with the name "Picture 1", and can be opened with any application such as SimpleText.
2. You can select the text, and copy it into your Scrapbook.
3. Write the information down on a piece of paper.

If you forget to write it down, you will need to contact your ISP to get that information, should you need it. Apple will not be able to assist you with recapturing this information.

Connecting to a News Server for the First Time

Connecting to a news server for the first time can take from one minute to more than 30 to download the newsgroups, depending on your ISP's configuration. Your ISP provides you access to a news server, and depending on the number of newsgroups supported, the initial connection could be quite lengthy. Subsequent connections are likely to be much quicker.

Backup Your ISP Information

Once you have successfully registered with an ISP, it is recommended that you backup the preferences and settings in case you need to restore them. You can do this by launching the Dialer, and selecting "Backup ISP Information..." from the File menu.

SLIP

The Apple Internet Dialer is configured to use MacPPP, it will not work with InterSLIP. If you need to use SLIP, contact your ISP for instructions as how to manually configure and setup your system using the SLIP software.

Low on RAM?

If you are attempting to run several internet applications simultaneously, and are getting "Not Enough Memory to Run ... " you can either:

- Turn on Virtual Memory (VM) by opening the Memory control panel, and clicking on the radio button which activates VM.
- Decrease the number of Extensions in your System Folder.
- Purchase more RAM.

NOTE: For best performance, never set VM to more than twice the amount of physical RAM (if you have an 8 MB system, VM should be no more than 16 MB).

MacPPP Version

Apple Internet Connection Kit requires version 2.1.4 of MacPPP. If you previously had a different version of MacPPP installed on your machine, you should replace it with the version provided in your package. There is a version available on the Internet called MacPPP v 2.2 that is not compatible with the Internet Connection Kit, and should not be used with this product.

Restoring Your LAN Configuration

If you inadvertently installed the Dialup configuration over your existing Internet LAN configuration, you can restore your settings by doing the following:

1. Open the Internet Connection Kit folder.
2. Open the folder called "Backup Folder".
3. Open your System Folder along side of the Backup Folder.
4. Replace all items in your System Folder with those of the same names in the Backup Folder.
5. Reboot your computer.

QuickTime Conferencing

If you install QuickTime Conferencing after installing your Internet Connection Kit, a file called SNMP TCP/IP Transport will be installed in the Extensions folder. It is incompatible with MacPPP, and can cause your system to freeze at restart. If you encounter any problems, hold down the Shift key upon restart, and remove SNMP TCP/IP Transport from your System Folder. Contact your Network Administrator to see if you need this file.

What is Installed in Your System Folder?

After doing an Easy Install, Apple Internet Connection Kit puts the following items in various places your System Folder:

AppleGuide 1.2.5
ObjectSupportLib 1.1 (AppleScript document)
Config PPP ver 2.1.4 Control Panel
PPP 2.1.4 extension and PPP Preferences (Preference Folder)

MacTCP 2.0.6, MacTCP Prep, MacTCP Token Ring extension, Hosts file
(are installed if you do not have Open Transport).
Internet Config extension
Internet Dialer Folder (Preferences Folder)
- Modem Information
- Internet Dialer Prefs
- reg server
Launcher 2.8, and Launcher Preferences
QuickTime 2.1, Apple MultiMedia Tuner 2.0, QuickTime Musical
Instruments, QuickTime PowerPlug
Sound Manager 3.1, Sound control panel 8.0.5
RealAudio Daemon
Netscape preferences (Preferences Folder)
Additional Fonts

Published Date: Feb 19, 2012

Newton 2.0 OS: Determining Size and Number of Faxes

I have a Apple MessagePad 120 with the Newton 2.0 OS. How many fax messages can I receive? Also, what is the maximum size for fax documents?
This article has been archived and is no longer updated by Apple.
The number and the size of fax documents vary. There are two factors that determine these numbers on your Apple MessagePad.

Free Heap Space:

This is the amount of memory available to the system software to run the Newton. It will determine how large in size the page can be. On average, a fax page takes about 40 KB.

NOTE: If you have trouble receiving a fax, try disabling some of the packages on your Newton MessagePad.

Available Storage Space:

This is the amount of memory you have available on the internal store or a PC card, if you have one. This determines the number of pages you can receive.
Published Date: Feb 19, 2012

Newton 2.0 OS: BackDrop To Do List Isn‘t Updated

I set the Backdrop to Dates, and I view "Today's Agenda". When I turn off my Apple MessagePad, then turn it on the following day, the date is correct but the unchecked items in the To Do list do not roll over.
This article has been archived and is no longer updated by Apple.
This issue is known and being investigated by Apple. The workaround when this occurs is to select Show Today.

This article was published in the "Information Alley": Volume II, Issue 19, Page 17
Published Date: Feb 19, 2012

System 7.5.2: Custom Install on Power Mac 7500 & 8500 (1/96)

This article lists the custom install options available on the Apple Macintosh CD containing System 7.5.2 that ships with the Power Macintosh 7500 and 8500 computers.
This article has been archived and is no longer updated by Apple.
Here are the installation options made available when you choose Custom Install from the pop-up menu in the upper left corner of the system software Installer.

System Software
- Macintosh System Software
- Minimal Macintosh System Software

Printing
- ImageWriter
- LaserWriter
- StyleWriter Family
- LaserWriter 8
- LaserWriter 300

Networking Software
- File Sharing
- AppleTalk
- TCP/IP

Utility Software
- AppleGuide
- AppleScript
- ColorSync

Multimedia Software
- CD-ROM
- QuickTime
- Text-To-Speech
- Video Player

Compatibility Software
- Macintosh Easy Open
- PC Exchange

Fonts
- Chicago
- Courier
- Geneva
- Helvetica
- Monaco
- New York
- Palatino
- Symbol
- Times

Apple Menu Items
-Calculator
- Chooser
- Control Panels Alias
- Find File
- Graphing Calculator
- Jigsaw Puzzle
- Key Caps
- Note Pad
-Scrapbook
- Stickies
- Shutdown

Control Panels

- Apple Menu
- Color
- Control Strip
- Date & Time
- Desktop Patterns
- File Sharing Monitor
- General Controls
- Keyboard
- Labels
- Launcher
- Macintosh Easy Open
- Map
- Memory
- Mouse
- Numbers
- PC Exchange
- Sharing Setup
- Sound & Displays
- Startup Disk
- Text
- Users & Groups
- Views
- WindoShade

WorldScript
- WorldScript I
- WorldScript II

Energy Saver Software

Support Information Services
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System 7.5.2: Custom Install on Power Mac 7200 & 9500 (1/96)

This article lists the custom install options available on the Apple Macintosh CD containing System 7.5.2 that ships with the Power Macintosh 7200 and 9500 computers.
This article has been archived and is no longer updated by Apple.
Here are the installation options made available when you choose Custom Install from the pop-up menu in the upper left corner of the system software Installer.

System Software
- Macintosh System Software
- Minimal Macintosh System Software

Printing
- ImageWriter
- LaserWriter
- StyleWriter Family
- LaserWriter 8
- LaserWriter 300

Networking Software
- File Sharing
- AppleTalk
- TCP/IP

Utility Software
- AppleGuide
- AppleScript
- ColorSync

Multimedia Software
- CD-ROM
- QuickTime

Compatibility Software
- Macintosh Easy Open
- PC Exchange

Fonts
- Chicago
- Courier
- Geneva
- Helvetica
- Monaco
- New York
- Palatino
- Symbol
- Times

Apple Menu Items
-Calculator
- Chooser
- Control Panels Alias
- Find File
- Graphing Calculator
- Jigsaw Puzzle
- Key Caps
- Note Pad
-Scrapbook
- Stickies
- Shutdown

Control Panels
- Apple Menu
- Color

- Date & Time
- Desktop Patterns
- File Sharing Monitor
- General Controls
- Keyboard
- Labels
- Launcher
- Macintosh Easy Open
- Map
- Memory
- Monitor
- Mouse
- Numbers
- PC Exchange
- Sharing Setup
- Sound
- Startup Disk
- Text
- Users & Groups
- Views
- WindowShade

Support Information Services
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LaserWriter: Connecting to Apple II or Apple III

This article has been archived and is no longer updated by Apple.

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A LaserWriter, mode switch set to Special (Diablo 630 emulation), can be
connected to an Apple III or to an Apple II with Super Serial Card (SSC).

from Apple III or SSC            to LaserWriter
-----------------------------------------------
DB-25 connector                  DB-25 connector

signal    -    pin     wiring    pin  -  signal

Tx              2       <->       3      Rx (Receive Data)
Rx              3       <->       2      Tx (Transmit Data)
Signal Ground   7       <->       7      Signal Ground


Apple II DIP Switch Settings (with SSC in DTE)
----------------------------------------------
Switch block 1        Switch block 2
 1 off                 1 on
 2 off                 2 off
 3 off                 3 off
 4 on                  4 off
 5 off                 5 off
 6 on                  6 off
 7 on                  7 off

The above setting result in:
 9600 baud, printer mode
 normal CTS
 8 data bits, 1 stop bit
 no delay after CR
 132 characters/line
 no line feed after CR
 interrupts off
 normal CTS

Apple III Driver
----------------
Use the standard .PRINTER driver, which uses the built-in serial (RS-232C)
port. The five parameters to set in the driver configuration block are:
 byte 1 (data rate) 0E = 9600 baud
 byte 2 (data format) 00 = 8 bit, no parity
 byte 3 (CR delay) 00 = no delay
 byte 4 (LF delay) 00 = no delay
 byte 5 (FF delay) 00 = no delay
```

Published Date: Feb 19, 2012

Floppy Disk Maker: Starting New Backup After Interrupting 1/96

I was using the Floppy Disk Maker software that came with my PowerBook computer to make a set of backup System software disks. I had to stop the procedure in the middle of the process. Now I want to make another set, but the only option I get is Resume when I launch the Floppy Disk Maker. How can I create a new backup set?

This article has been archived and is no longer updated by Apple.

If the Floppy Disk Maker software that ships with the PowerBook 190, 2300c, and 5300 series computers is interrupted during the disk duplicating process, "resume" is the only option available until you complete the original backup.

You can reset Floppy Disk Maker by dragging the Floppy Disk Maker Preferences file from the Preferences folder of your System Folder to the Trash. The next time you launch Floppy Disk Maker, the choices for Minimum or Full Set backup will be available.

Article Change History:
05 Jan 1996 - Added Keyword.

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HyperCard 2.3.3: Read Me (1/96)

This article contains the ReadMe included with HyperCard 2.3.3 software update posted online.
This article has been archived and is no longer updated by Apple.

WELCOME TO HYPERCARD 2.3.3
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Please read this entire "Read Me" file. It contains important information
regarding this update. We recommend that you print a copy.

This update disk fixes a problem that occurs when a color stack is created, using HyperCard 2.3, on one Macintosh computer with a PowerPC microprocessor and crashes when run on another Power Macintosh with a PowerPC microprocessor.

The HyperCard 2.3.3 Update corrects a bug that causes a crash when:

1) A stack is created in HyperCard 2.3 on a Macintosh with a PowerPC microprocessor

2) Color Tools are opened from the Color menu item

3) The color resources ARE installed into the new stack

4) The stack is then launched on a different Macintosh with a PowerPC microprocessor

The bug does not affect stacks running on Macintosh computers with a 680x0 microprocessors.

The bug does not affect stacks created on a Macintosh computer with a PowerPC microprocessor and then launched on a 680x0 microprocessor.

This bug does not affect stacks that do not use Color Tools.

The enclosed HyperCard 2.3.3 Update disk contains two stacks; an updated version of "Color Tools" (version 2.3.3) as well as a stack entitled "Update Existing Colored Stacks".

Stack #1 - Color Tools (Version 2.3.3)

Replace your old version of Color Tools by placing the Color Tools (version 2.3.3) stack into your HyperCard 2.3 folder on your hard drive.

Stack #2 - Update Existing Colored Stacks

If you have any stacks created with HyperCard 2.3 that are affected by the bug mentioned above, you can use the "Update Existing Colored Stacks" to repair those stacks so that they will no longer crash when running on another Macintosh Computer with a PowerPC microprocessor.

To repair a color stack created with HyperCard 2.3:

Step 1

Click on the "Repair Stack" button

Step 2

Locate the color stack you wish to update

Step 3

Select "Open" from the dialog box

Step 4

Your stack will be repaired automatically

CHANGES TO THE HYPERCARD REFERENCE MANUAL

On page 6-33 the Reference Manual describes using "LinkTo" as follows:

"2. With the Button Tool still selected, double-click the button you want to link.

The Button Info dialog box appears."

While the Button Info dialog box does appear, the problem is that the Button Info dialog box does not display the "LinkTo" button unless the option key is held down while double-clicking the button you want to link.

On page 3-22 the Reference Manual describes using " Effects" as follows:

"1. Choose the Button Tool and double-click the Next button.

The Button Info dialog box appears

2. Click the Effect button."

While the Button Info dialog box does appear, the problem is that the Button Info dialog box does not display the "Effect" button unless the option key is held down while double-clicking the button you want to add an effect to.

On page 6-37 the Reference Manual describes using " Effects" as follows:

"2. Double click the Button

The Button Info dialog box appears

3. In the Button Info dialog box, click Effect."

While the Button Info dialog box does appear, the problem is that the Button Info dialog box does not display the "Effect" button unless the option key is held down while double-clicking the button you want to add an effect to.

Pages 2-29, 4-20, 6-3, 6-17 of the HyperCard Reference Manual shows an incorrect depiction of the Button Info dialog box when a button is Option-Double Clicked. On these pages, the position of the "LinkTo" and "Effect" buttons are transposed with the "Icon" and "Contents" buttons in the Button Info dialog box.

NOTE: Appendix B, page 141 of the Getting Started Guide documents the replacement of the "LinkTo" and "Effect" Buttons with the "Tasks" button in HyperCard 2.3.

Support Information Services
Published Date: Feb 19, 2012

Power Macintosh 8500: Video Output Hardware Zoom (4/96)

I've heard that the Power Macintosh 8500 computer has a hardware zoom option, but I am unable to find any mention of it in the literature that came with my computer.

This article has been archived and is no longer updated by Apple.

The Power Macintosh 8500 includes a high performance chip set, which is capable of doubling the size of the video image displayed when outputting video to television. This feature could be useful for viewing video because movies will appear to be played back at full screen. These resolutions do not affect the actual data being displayed, but they do magnify the size of the image.

Follow these steps to enable resolution doubling:

Step 1

Follow the instructions in your User's Guide to display video on television.

Step 2

At the Finder, select the Monitor Resolution module (checkerboard) in the Control Strip. (Or, you can change the resolutions using the Sound & Displays control panel.)

Step 3

Select 256x192 for hardware doubled underscan (leaves a border like a computer display) or 320x240 for hardware doubled overscan (full frame, picture goes to edge like a television display)

Article Change History:
17 Apr 1996 - Updated technical info.
05 Jan 1996 - Corrected minor typo.

Support Information Services
Published Date: Feb 19, 2012

Macintosh Performa: Using Auto Power On/Off Control Panel (1/96)

I just installed the Auto Power On/Off control panel from a System 7.5 CD on my Macintosh Performa 5300CD. It appears to be working properly, but since this software did not come with my computer, I am wondering if I can safely use this control panel.

This article has been archived and is no longer updated by Apple.

The Auto Power On/Off control panel can be used to turn the computer ON and OFF at specified times. It can only be used on computers, including many Macintosh Performa computers, that can be turned off using the Shut Down command (soft power off) and that have the "Cuda" ADB controller chip. A complete listing of compatible computers is in the Tech Info Library article, "Energy Saving Control Panels: Description & Compatibility."

Although the Auto Power On/Off control panel is compatible with many Macintosh Performa computers, it is not bundled with them. Many Macintosh Performa computers include modems and MegaPhone software, which allow you to use your computer as an answering machine. If you have installed Auto Power On/Off, it is possible for your computer to be inadvertently shut down while your computer is set to answer phone messages. To avoid this, Macintosh Performa computers do not ship with the Auto Power On/Off control panel.

Article Change History:
19 Jan 1996 - Clarified information.

Support Information Services
Published Date: Feb 19, 2012

PowerBook: Turns On Automatically If AC Power Used

I have a Macintosh PowerBook computer. If I have it plugged into the AC adapter and I select Shut Down from the Special menu, it powers off, but then powers right back on even though I have not touched any keys.

If AC adapter is not plugged in, the computer will Shut Down normally. However, as soon as the AC adapter is plugged in, it will power back on. What is wrong? Why does it restart itself automatically like this?
This article has been archived and is no longer updated by Apple.
The symptoms you describe could occur on a Macintosh PowerBook 190, 1400, 3400, or 5300 series computer. The situation you describe is often caused by a corruption of the power manager controller on the logic board or corrupted Parameter RAM (PRAM) which can cause it to restart continually like this. It has been successfully resolved in some cases by one of the following three procedures:

***** WARNING ***** WARNING ***** WARNING ***** WARNING *****

All of the following Power Manager Reset procedures for all of the Macintosh PowerBook computers will permanently remove a RAM disk, if present, and all of its contents. Resetting the Parameter RAM will reset some settings you have selected for networking other services back to the factory defaults.

***** WARNING ***** WARNING ***** WARNING ***** WARNING *****

Reset the Parameter RAM (PRAM)

Reset the Parameter RAM (PRAM) from shutdown state. Resetting the Parameter RAM (PRAM) when the computer is shut down also resets the power manager.

1. Unplug the AC adapter.
2. Power on the computer while it is running from the battery only.
3. Immediately after you press the power key, hold down Option, Command (Apple), P, and R.
4. Keep holding down these four keys until you have heard the startup chime at least one additional time after the initial startup chime*. (If your PowerBook computer emits multiple chimes when you are holding down the Option-Command-P-R keys, skip to Step 7.) Unlike other PowerBook models, often these PowerBook computers will be only emit a single startup chime. Then the screen goes dark/blank and the green sleep light stays on solid (not blinking on and off like it does when the computer is in Sleep mode).
5. Press the Reset button (on the back of the PowerBook) one more time and the PowerBook starts up after a brief pause. **Note:** If the PowerBook powers off and the sleep display light stays a solid green - no blinking, press the reset button once.
6. If the PowerBook does not turn on from the Reset button, turn the PowerBook on by pressing the Power-On key in the upper right corner of the keyboard.
7. After the computer has started up select Shut Down from the Special menu.
8. Plug in the AC adapter. If the computer remains shutdown, you will know that you have successfully reset the PRAM and power manager and your computer should now function normally. If the computer powers on when you plug in the AC adapter, you need to reset the power manager.

Reset The Power Manager

1. Remove the battery.
2. Disconnect the AC Adapter from the PowerBook and unplug it from the wall outlet.
3. Press and hold the Reset button for one minute. The Reset button is located behind the port access door on the back of the unit below the video connector.
4. Plug the AC Adapter into the wall outlet.
5. Plug the AC Adapter into the PowerBook. It should now behave normally when you choose Shut Down from the Special menu. If it does not, then continue with step 6.
6. If the computer powers on when you plug in the AC adapter, you need to bring your computer to an authorized Apple dealer, or call Apple Support to check on your service options.

Have the Backup Battery Removed

Have an authorized Apple Service technician remove all power from the computer for approximately 15 minutes.

1. Remove the main battery(ies) and AC Adapter.
2. Disconnect the backup battery.
3. Wait 15 minutes and then retest for original Issue.

Important note: Removal of the backup battery should only be done by an authorized Apple service provider because the backup battery is not a user-accessible part. Be advised that if an end user attempts to perform this procedure and in the process damages any components, any damage incurred will not be covered under warranty. If you do not have access to a local service provider, you can call Apple Support to have your PowerBook computer sent in for repair at the Apple Service Center.

This article was published in Information Alley on 11 March 1997.
Published Date: Feb 19, 2012

PowerBook: About PC Card Modem Files Read Me (6/97)

This Readme file is pre-installed on the hard drives of most Macintosh PowerBook computers which have the capability of using PC Card modems.
This article has been archived and is no longer updated by Apple.

ABOUT PC CARD MODEM FILES

The PC Card Modem Files folder contains modem connection files for various PC Card modems that will work with several application programs. If your modem file is not included, please contact your communications software manufacturer to see if your modem is supported.

Using a PC Card Modem

Follow these steps as a guideline for setting up communications programs to use the Communications Toolbox.

Note: The files listed below were designed to work with the United States phone system. These files may or may not work properly outside of the United States.

To select the correct modem file for your PC Card modem, follow these steps:

Step 1

Insert your PC Card modem.

Step 2

Click the Edit Local Setup button.

Step 3

Select the port that your PC Card modem is in. You should see either upper or lower PC Card slot listed. If you don't, make sure your modem is properly inserted. The upper and lower PC Card slots will appear in the dialog box only when a PC Card modem is inserted.

Step 4

Choose your modem from the Modem Type pop-up menu. If your PC Card modem is not listed, try Generic PC Card Modem or Hayes Basic. If that doesn't work, you may need to create a new modem type.

Using Apple Remote Access with a PC Card Modem

Apple Remote Access (ARA) uses modem files (sometimes called connection scripts or CCLs) to get the best performance from some modems. Follow these steps to select your modem file:

Step 1

Insert your PC Card modem.

Step 2

Open the ARA application program.

Step 3

Open Remote Access Setup.

Step 4

Choose your modem from the Modem pop-up menu. If your PC Card modem is not listed, check in the ARA Connection Files folder. If the file

for your modem appears, drag it to the Extensions folder (inside the System Folder). If the file for your modem is not listed, try using an existing modem file from the pop-up menu (such as a different model from the same manufacturer). If this doesn't help, you may need to get a connection script from your PC Card manufacturer.

Step 5

Choose the port that your PC Card modem is in. You should see either upper or lower PC Card slot listed. If you don't, make sure your modem is properly inserted. If you insert the PC Card modem in the other slot, you need to reselect the modem port before you can use ARA.

Published Date: Feb 19, 2012

Business Education Bundle v3.3: Contents (3/96)

This article lists the software contents of the Business Education Bundle.
This article has been archived and is no longer updated by Apple.
The Business Education Bundle is a Education market product comprising a collection of software CD-ROM discs, manuals, and curriculum guides. There are three parts to this bundle. The (basic) Business Education Bundle includes a computer, software CD-ROM discs, and curriculum materials. The Teacher Kit (T1538LL/B) includes manuals and textbook teacher guides. The Student Kit (T1800LL/A) contains instructional manuals for students. The Teacher and Student kits are sold separately as additions to the (basic) Business Bundle and contain no software so it is recommended not to order them without the basic Bundle.

Here is the content of the Business Education Bundle (v3.3):

Bundle Users manual(s): None

Curriculum Guide: 1
Table of Contents:
- Welcome and Introduction,
- Tips to Get Started,
- Becoming Familiar with the Curriculum Materials,
- Using the Curriculum Materials in Your Classroom or Business Lab,
- How the Software Fits Into Your Curriculum,
- Appendix A: Resources for Using Technology in Business Education,
- Appendix B: Technical Assistance Numbers for Third Party Developers

Student Textbook Kit (manuals from South-Western Publishing):
- ClarisWorks 4.0 Macintosh Quick Course
- Computer Applications
- Official Courseware: WordPerfect 3.5
- Automated Accounting 6.0

6 CDs:
1 Business Education (v3.3): These items are installed into a Business Education Applications Folder
- Automated Accounting (v6.0.1) - South-Western Publishing (800) 543-0453]
- American Heritage Dictionary (v3.0.1) - SoftKey Int'l. (404) 428-0008]
- Correct Grammar (v3.2.2) - SoftKey Int'l. (404) 428-0008]
- ClickArt Business Illustrations (v n/a) - T/Maker Company (415) 962-0195]
- Apple Font Pack - Apple Computer - (800) 767-2775
- Clarisworks Samples Files
- Teacher Templates
- Computer Applications Templates
- Clarisworks Templates
- WordPerfect Course Documents

1 Clarisworks (v4.0) - Claris - Tech Support (408) 727-9054

1 Claris Impact (v2.0) - Claris - Tech Support (408) 727-9054

1 The 1995 Grolier Encyclopedia (v7.0.4) - Mindscape - Tech Support (415) 898-5157

1 1995 Time Almanac (v1.0) - Compact Publishing - Tech Support (202) 244-4770

1 Novell WordPerfect (v3.5) - WordPerfect Corp - Tech Support (800) 228-2875

Article Change History:
13 Mar 1996 - Updated information.
Published Date: Feb 19, 2012

Power Macintosh 7100: NuBus Power Requirements

What are the power requirements of the NuBus slots in the Power Macintosh 7100?

This article has been archived and is no longer updated by Apple.

The power budget for each NuBus slot is 13.9 watts, for a total of 41.7 watts, and the power budget for each NuBus card is as follows:

Voltage (V)	Maximum current (A)	Maximum capacitance (mF)
+5	2.0	1513
+12	0.175	536
12	0.15	698

These NuBus power requirements also apply to the Macintosh IIvx and the Macintosh Quadra 650, which both share a common case design with the Power Macintosh 7100.

Published Date: Feb 19, 2012

Color LaserWriter 12/600 PS: Quark Xpress Pantone Colors

I am using QuarkXPress and printing on the Color LaserWriter 12/600 PS. I am using the Color LaserWriter 12/600 PS Pantone files for QuarkXPress, and the printing result is what I expect (the colors are similar). Problems start to arise when I have the file printed by a printing firm, because the Color LaserWriter 12/600 PS pantone color percentage values are different from the ones normally used in the Pantone specification. Is there a utility or a way to convert the LaserWriter Color 12/600 PS Pantone color values into true pantone values?
This article has been archived and is no longer updated by Apple.
You are correct that the values in the Quark Xpress Pantone files for the Color LaserWriter 12/600 PS are different than those specified by the Pantone specification. The CMYK values provided in the Pantone specification are more or less "starting points" for color matching. Since there are a very large number of variables in color matching (type of paper, lighting condition, different toner/inks, characteristics of various print engines, and so forth), desktop publishing professionals by requirement have to fine tune their printers or color values in order to get the output they desire.

The Pantone CMYK values in the Quark document for the Color LaserWriter 12/600 PS are fine-tuned ONLY for the Color LaserWriter 12/600 PS printer. It appears you are trying to use the Color LaserWriter as a color proofer, which is NOT what the printer was really designed for. There are much more expensive color proofing devices available that are designed specifically for this need.

There are no utilities available for converting the Quark Pantone values to the Pantone specification, nor is there a "formula" for calculating the difference. Pantone most likely measured each individual color and determined what CMYK values on the Color LaserWriter 12/600 PS printer most closely matched their colors.

If you use a Pantone swatch, the colors on the swatch should be very close to those produced by the Color LaserWriter 12/600 PS Printer using the "PANTONE for Color LW 12/600 PS" files. Your final output should be exactly the same as the Pantone swatch. Printers adjust their ink values so that the colors match the Pantone swatch books. Since Pantone swatch colors fade over time, you should use a recent swatch book for color matching.

This article was published in the "Information Alley": Volume II, Issue 18, Page 16
Published Date: Feb 19, 2012

SCSI LaserWriters: Troubleshooting And Choosing A Driver

I have a Macintosh computer and an Apple Laserwriter IIsc. When I print to a LaserWriter IIsc (SCSI) printer from a variety of applications the fonts seem to overflow the area that is designated for the text. It looks fine on the screen, but this problem happens every time I print to this pritner.

Other printers accessed over LocalTalk or EtherTalk work fine. I have no extra SCSI devices (internal or external). I am not using any font management software like ATM or Suitcase. I am using TrueType fonts. Helvetica and Times are the two fonts that I use the most. What is wrong?
This article has been archived and is no longer updated by Apple.

Issue

All Macintosh computers, including PowerBook computers, have a compatibility issue with Personal LaserWriter SC driver version 7.0.1 (included with System software 7.1.1 and 7.5) or earlier versions.

When printing from a Macintosh computer using System Software 7.5.2 or newer to a LaserWriter IIsc or Personal LaserWriter SC, the line layout is very poor and definitely not "what you see is what you get" (WYSIWYG).

Solution

- for System Software 6-7.5.1, use Personal LaserWriter SC 7.0.1
- for System Software 7.5.2-7.6.1 use LaserWriter IIsc GX
- for Mac OS 8 use Personal LaserWriter SC 7.0.1

To avoid formatting problems, use the LaserWriter IIsc GX driver with System Software 7.5.2-7.6.1.

The Personal LaserWriter SC and LaserWriter IIsc are untested and unsupported under Mac OS 8. If you are going to attempt to print to one of these printers, Apple suggests trying the Personal LaserWriter SC driver version 7.0.1 (available from Apple Software Updates). However, you may experience some formatting problems with some applications. The LaserWriter IIsc GX driver is not compatible with OS 8.x

Notes

1. With most new CPUs you will need to turn the printer on after the computer finishes powering up (that is, the Finder has finished loading)
2. With the Personal LaserWriter SC driver you will have to click on the blank area on the right where a printer name or SCSI ID would normally show up in order to avoid "printer not found" errors.
3. Like any other SCSI device, be certain the printer has a unique ID and is properly terminated.
4. The QuickDraw GX printer driver is bundled with QuickDraw GX--it is not posted to online services separately. To download this driver from online services you must download all of QuickDraw GX.

These articles can help you locate the software update mentioned here:

- Article 14724: "**Where To Find Apple Software Updates**" - Lists online services for free Apple software updates.
- Article 16332: "**US Apple SW Updates Available Online**" - An index to USA Apple Software Updates showing the current software location on the Internet.
- Article 17664: "**WW Apple SW Updates Available Online**" - An index to International Apple Software Updates showing the current software location on the Internet.

Published Date: Feb 19, 2012

Workgroup Server 8550/132: Description (3/97)

This article describes the Workgroup Server 8550/132.

This article has been archived and is no longer updated by Apple.

The Workgroup Server 8550/132 is the most powerful member of the PowerPC processor-based Workgroup Server family from Apple. It delivers file and print, database, Internet, and communications capabilities that meet the needs of growing workgroups in education, business, and publishing. And it's ideal for workgroups that use both Macintosh and Windows software-based computers.

Apple Workgroup Servers are highly reliable, high-performance systems with large storage capacity that provide organizations with faster, more efficient shared network services and secure centralized storage. And the Workgroup Server 8550/132 not only meets these criteria, but also runs the familiar graphical interface of the Mac OS, making all of its capabilities incredibly easy to use.

Featuring a 132-megahertz PowerPC 604 processor with 32K on-chip cache and 512K level 2 memory cache, the Workgroup Server 8550/132 delivers all the performance benefits of state-of-the-art RISC technology. And for easy, flexible expansion, the Workgroup Server 8550/132 features three PCI slots that let you add capabilities by installing any of a variety of cards.

To make sure that network administrators can work as efficiently as possible, and that users get the most out of all that power and capacity, the Workgroup Server 8550/132 offers a choice of three software bundle solutions. The Applications Server Solution provides a variety of useful Apple and third-party software for administration, reliability, productivity, and performance. The AppleShare Server Solution includes all of the soft-ware that comes with the Applications Server, plus a new version of AppleShare file and print server, remote administration software from Santorini, and Apple Remote Access MultiPort Server software. And the Apple Internet Server Solution comes with all the software you need to create a presence on the World Wide Web-quickly, easily, and affordably. No matter which option you choose, the Workgroup Server 8550/132 also includes AppleShare Client for Windows software, so Windows users on the network can access net-worked printers and files stored on a Workgroup Server running AppleShare file and print software.

So if you need a high-performance server for a demanding workgroup, we have the solution-the powerful and expandable Workgroup Server 8550/132.

Features

Expansion and storage
* Three PCI (Peripheral Component Interconnect) slots for expansion cards
* Internal 2GB, 7200-rpm hard disk drive, with bracket and cable for a second drive
* Internal quadruple-speed CD-ROM drive
* Internal DDS-2 digital audio tape (DAT) drive (some configurations)
* Two SCSI DMA buses to support up to eight devices and transfers up to 10MB/s (internal only)
* Eight ports to support a wide range of peripherals

Networking
* Built-in Ethernet and LocalTalk capabilities
* Support for AppleTalk and TCP/IP networking protocols
* Token Ring support optional (with PCI card)

Power, speed, and memory
* 132-MHz PowerPC 604 RISC processor with floating-point processor and 32K on-chip cache on an upgradable CPU card
* 512K level 2 cache
* 24MB of RAM, expandable to 512MB

Fast, easy setup
* Comes with System 7.5.3 software installed
* Includes AppleShare 4.2.1 file and print server software (some configurations)

Compatibility
* Comes with AppleShare Client for Windows

Bundled software
* Includes a variety of software for administration, reliability, productivity, and performance

Service and support
* Hardware troubleshooting for the life of the server; 90 days of assistance for Apple-branded software (phone support)
* One-year, on-site hardware warranty providing two-business-day response
* Additional service and support available

Article Change History:
03 Mar 1997 - Added keyword.
26 Feb 1996 - Changed distribution status.
08 Jan 1996 - Added keyword.

Published Date: Feb 19, 2012

Workgroup Server 8550/132: Technical Specifications (3/97)

This article provides the technical specifications of the Workgroup Server 8550/132.

This article has been archived and is no longer updated by Apple.

Technical Specifications
==========

Microprocessor
---
* PowerPC 604 RISC processor running at 132-MHz, located on upgradable CPU card
* Integrated floating-point unit and 32K on-chip cache
* 512K level 2 cache

Memory
---
* 24MB of RAM, expandable to 512MB

Storage
---
* Internal 2GB hard disk drive, with bracket and cable for a second drive
* One DDS-2 DAT drive-4GB uncompressed, 14GB compressed (some configurations)
* One AppleCD 600i CD-ROM drive (up to 600KB/s data-transfer rate)
* One Apple SuperDrive 1.4MB floppy disk drive that reads, writes, and formats Mac OS, Windows, MS-DOS, and OS/2 disks

Bundled software/Server Solutions CD

Administrative software
* Server Manager-remote AppleShare server management tools (with AppleShare Solution only) (one user license)
* FileWave-automated software and data distribution (10 user license)
* netOctopus-setup assessment and configuration file editing (10 user license)
* Adobe Acrobat Reader-viewing application for portable document format (PDF) files (10 user license)

Reliability software
* Apple RAID Software-data mirroring to protect against drive failures (RAID 1) (license for server)
* Retrospect Remote-automated backup software (DAT configurations only) (10 user license)
* Virex-automated virus screening and virus check (license for server)

Productivity software
* AppleShare Client for Windows-enables Windows clients to connect to an AppleShare server (site license for network)
* 4-Sight FAX-lets you send and receive faxes from your desktop (10 user license)
* Now Contact-provides contact management tools (10 user license)
* Now Up*to*Date-handles group scheduling (10 user license)
* Viper Instant-Access-provides a cross-platform information retrieval system (10 user license)

Performance software
* Apple RAID Software-optimizes performance of multiple hard disks through disk striping (RAID 0) (license for server)
* Skyline/Satellite-enables monitoring of the network and server traffic over time (console and monitoring station license)

NOTE: The only software bundled with the 8550/132 Apple Internet Server Solution for the World Wide Web is Apple RAID Software, AppleShare Client for Windows, and the Internet Server Solution CD.

Networking
---
* Built-in Ethernet with 10Base-T and AAUI
* Two serial ports for LocalTalk
* Supports TCP/IP networking software with Apple Open Transport

Displays
---
* Supports up to 14-inch Apple displays at millions of colors; 16- and 17-inch Apple displays at up to millions of colors
* Supports most third-party displays as well as VGA and SVGA monitors

Video support
---
* Built-in 2MB VRAM display support

Interfaces
---
* Three PCI expansion slots
* One Apple Desktop Bus (ADB) port for a keyboard, mouse, and other devices
* On-board Ethernet using either AAUI-15 or RJ-45
* Two DMA serial (RS-232/RS-422) ports compatible with LocalTalk
* Two SCSI DMA buses supporting up to eight SCSI devices and transfers up to 10MB/s (internal bus only)
* 16-bit stereo sound input and output ports
* DB-15 video port for display support

Clock/calendar
---
* Custom integrated circuit with long-life lithium battery

Disability access
---
* System software includes CloseView and Easy Access, and can substitute visual cue for beep. Built-in solu-tions and third-party options provide alternative input and output solutions for people with disabilities.

Keyboard and mouse
---
* Supports ADB keyboards with numeric keypads
* ADB Mouse II included

Electrical requirements
---
* Line voltage: 100 to 240 V AC, RMS single phase, automatically configured
* Frequency: 50 to 60 Hz, single phase
* Power: 225 W maximum, not including display

ADB power requirements
---
* Maximum current draw for all ADB devices: 500 mA (a maximum of three ADB devices is recommended)
* Mouse draws 10 mA; keyboard draws 25 to 80 mA (varies with keyboard model used)

Operating environment
---
* Operating temperature: 50í to 104í F (10í to 40í C)
* Storage temperature: -40í to 116.6í F (-40í to 47í C)
* Relative humidity: 5% to 95% noncondensing
* Altitude: 0 to 10,000 ft. (0 to 3,048 m)

Size and weight

---
* Height: 14 in. (35.6 cm)
* Width: 7.7 in. (19.6 cm)
* Depth: 15.75 in. (40.0 cm)
* Weight: 25 lb. (11.3 kg)-varies based on internal devices installed

Regulatory approval
---
* FCC Class A

Ordering Information
==========

Workgroup Server 8550/132 Applications Server Solution

(24MB/2GB/CD/DAT)
Order No. M4342LL/A
* 512K level 2 cache, 1.4MB Apple SuperDrive floppy disk drive, and mouse
* System software version 7.5.3
* Server Solutions CD and other bundled software

Workgroup Server 8550/132 AppleShare Server Solution

(24MB/2GB/CD/DAT)
Order No. M4340LL/A
* Identical to Order No. M4342LL/A, plus AppleShare 4.2.1, Apple Remote Access MultiPort Server software, and Server Manager from Santorini

Workgroup Server 8550/132
(24MB/2GB/CD)
Order No. M4343LL/A
* AppleShare Server Solution without a DAT drive or Retrospect Remote software

Workgroup Server 8550/132 Internet Server Solution for the WWW

(24MB/2GB/CD)
Order No. M4341LL/A
* 512K level 2 cache, 1.4MB Apple SuperDrive floppy disk drive, and mouse
* System software version 7.5.3
* Apple Internet Server Solution CD (WebSTAR; PageMill; license for MacDNS domain name server software; NetCloak; ServerStat; RealAudio; Acrobat Pro; HyperCard; Web connectivity software for your existing EveryWare Butler SQL and FileMaker Pro databases; Navigator; BBEdit; clickable maps, e-mail, and database AppleSearch CGIs; cus-tomizable WWW pages and forms; AppleScript and scripting additions; AppleSearch; Apple RAID; AppleShare Client for Windows). Does not include Workgroup Server Solutions CD, AppleShare 4.2.1, or Server Manager.

Included with all Workgroup Servers:
* Complete setup, learning, and reference documentation
* Limited one-year hardware warranty

Workgroup Server 8550/132 Logic Board Upgrade

Order No. M4607LL/A
* Upgrades a Workgroup Server 80, 8150, or 8150/110 to a Workgroup Server 8550/132
* Includes Apple RAID Software, AppleShare 4.2.1 Update Kit, and System 7.5.3 software. Additional RAM is required

Macintosh Memory Expansion Kits

A variety of memory expansion kits are available. 168-pin DIMMs are required. Check with your Apple reseller for details.

Article Change History:
03 Mar 1997 - Added keyword.
17 Apr 1996 - Added user license information for bundled software.
26 Feb 1996 - Changed distribution status.
Published Date: Feb 19, 2012

Personal Internet Solution Bundle: Global Village Issue

I received my new Personal Internet Solution Bundle with an external Global Village Gold II modem. How can I use this modem for Faxing with the software provided?
This article has been archived and is no longer updated by Apple.
The Personal Internet Solution Bundle does not include Global Village modem software. The bundle only comes with the CCL, or modem script, for connecting a Global Village Gold II modem with the Internet. Because this modem was to be used with bundled Internet-specific software, the Global Village software was not going to be needed.

If you want to send Faxes, contact Global Village technical support to obtain TelePort/GlobalFax software. The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.
Published Date: Feb 19, 2012

Power Mac 5200: Ext. Video Doesn‘t Support 12-in. RGB (1/96)

Can I use an Apple 12-in. RGB display with the Power Macintosh 5200 External Video Connector?
This article has been archived and is no longer updated by Apple.
No, the Power Macintosh 5200 series External Video Connector (P/N M4099LL/A) does not support the Apple 12-in. RGB display.

Support Information Services
Published Date: Feb 19, 2012

MacTerminal 2.0: Terse mode

This article has been archived and is no longer updated by Apple.
Numbered responses from the Personal Modem are more efficiently interpreted by MacTerminal 2.0 than are string responses, so MacTerminal 2.0 puts the Personal Modem into this "terse" mode by issuing the command ATV0. In terse mode, the Personal Modem returns numbers instead of strings in response to commands, such as returning a zero in place of the response string "OK".

You can take the Personal Modem out of terse mode by typing ATV1. The Personal Modem responds to this command with the string "OK".

If you wish to reset all defaults, including the display of strings rather than number codes, use ATZ -- or, of course, turn the modem off and then on.
Published Date: Feb 19, 2012

Apple Media Tool 2.0: Description

This article describes the features of the Apple Media Tool 2.0.
This article has been archived and is no longer updated by Apple.
With Apple Media Tool software, you can create dynamic multimedia projects for business, education, entertainment, and the home. And you can share them with almost anyone, because finished projects can run on both Macintosh and Windows softwarebased systems.

The Apple Media Tool makes development of sophisticated multimedia titles easy. Its visual authoring environment lets you assemble graphics, text, sound files, and QuickTime and QuickTime VR movies into exciting, interactive multi-media programs. It's so easy to use, you don't need to write programming code or deal with a complex user interface.

Navigating with the intuitive Browser, you import the media elements you need for each screen, then assign actions that allow users to interact with them. You can create any number of links between different screens, giving users nearly unlimited options for exploring the subject matter. If you like, you can add music or other sounds that will play without interruption as users move from screen to screen.

Apple Media Tool helps you create higher-quality projects because you can focus on content and flow instead of on writing scripts. You can even reuse the structure of a project with different content. You can also assign each part of a project to the person best qualified to create it, then integrate everyone's work into a polished multimedia project.

Previous versions of Apple Media Tool have won numerous accolades, including the 1993 MacUser Editor's Choice Award for Best New Multimedia Software. Version 2.0 brings an enhanced user interface and many other features to this already popular software.

For complex projects requiring advanced interactive features, Apple also offers the Apple Media Tool Programming Environment (must be purchased separately). Using its object-oriented programming language and application framework, programmers can optimize and extend projects created with the Apple Media Tool.

New features in version 2.0

- Use intuitive Browser for easy project navigation
- Build QuickTime VR movies into projects without scripting
- Enable hypertext linking
- Create flipbook animation from PICT file
- Apply continuous sound throughout a project
- Prioritize first, second, and third run-time bit-depth choices
- Use custom color palettes for each screen
- Record and automate projects with AppleScript
- Customize features and projects with Apple Media Tool Programming Environment (sold separately)
- No licensing fees

Media formats supported

- QuickTime and QuickTime VR movies
- PICT graphics
- SND, AIFF, and WAV sound files
- RTF text files (including hypertext files)

To create a simple interactive multimedia title

- Open new project
- Create and position screens
- Name screens
- Connect screens (thereby creating a project map)

To add new media to a project

- Add a media object (movie, graphic, text, or sound) from Media menu
- Drag and drop media onto project screen

To add interactivity to a project

- Within the Browser, select an object (such as movie, graphic, text, or sound) within a screen
- Select event (such as Mouse down)
- Select desired action (for example Command, Effect, Link) associated with the event
- To test interactivity, select Run in Window menu

To create a cross-platform run-time title

- Save the project as a text file
- Open Runtime Maker
- Check Windows run-time box
- Select and open project file (this simultaneously creates run-time files for both Macintosh and Windows softwarebased systems)

Features

Ease of use
- Lets you "drag and drop" media objects on to screens
- Displays a map of all project screens and the links between them
- Allows you to assign interactive actions (such as responses to mouse clicks) through simple menu choices
- Lets you integrate QuickTime VR movies without scripting

Support for multiple technologies
- Enables you to deliver the same multimedia content for both Mac OSbased and Windows softwarebased systems
- Supports popular sound, graphics, text, and video formats (including QuickTime VR)
- Works with AppleScript to automate parts of a project and create links to other applications
- Lets you use hypertext to link keywords to other media objects

Efficiency
Allows creative team members to work simultaneously on various aspects of the same project, reducing overall production time
- Stores media separately from the application, facilitating easy content substitution and reducing application size
- Features an intuitive user interface and Browser that let you create projects quickly
- Runs completed projects faster than many other multimedia tools

Extensibility with Apple Media Tool Programming Environment
- Allows programmers to customize Apple Media Tool features and optimize Apple Media Tool projects
- Supports extensions to the Internet and interactive television
- Supports extensions for database access and links to other programs

Ordering Information

Apple Media Tool
Order No. 412000Z

- One CD-ROM containing the following software:
- Apple Media Tool
- Runtime Maker
- QuickTime
- QuickTime for Windows

- Getting Started guide
- Apple Media Tool User's Guide

For more information or to order Apple Media Tool, call Claris at 1-800-544-8554 in the U.S. or 1-800-361-6075 in Canada. In other countries contact your Apple or Claris representative.

The Apple Media Tool Programming Environment is sold separately and available through the Apple Developer Catalog. Also available is an Apple Media Tool Demo CD that includes a limited version of the Apple Media Tool, several sample projects, and electronic documentation (including source-code samples) for the Apple Media Tool Programming Environment.

To order the Programming Environment or the Demo CD, call 1-800-282-2732 in the U.S., 1-800-637-0029 in Canada, or 1-716-871-6555 from other countries. You can also send a fax message to 1-716-871-6511.
Site licensing for Apple Media Tool software is available. Please contact Claris for details.

Product specifications are subject to change. Check with your Claris reseller for the most current information about product specifications and configurations.

This article was published in the "Information Alley": Volume II, Issue 19, Page 18
Published Date: Feb 19, 2012

PwrBk 5300 & 190: GSM & Nokia Cellular Phone Card Issue (1/96)

I live in New Zealand and I am having trouble sending and receiving faxes using my cellular phone with my PowerBook 5300 series computer. I am using a Nokia DTP-2 PC Card. Are you aware of any issues in using the Groupe Speciale Mobile (GSM) Connection kit with Macintosh PowerBook 5300 series computers, particularly with faxing?
This article has been archived and is no longer updated by Apple.

Issue
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Yes, there is an issue involving using the GSM Connection kit 1.1 and Nokia phone with a PowerBook 190 or 5300 series computer. There is a local hardware flow control problem in the PC Card driver, an extension that comes with the PowerBook 190 and 5300 series system software. Since thedefault setting of the GSM connection is hardware flow control the fax breaks after sending a small amount of data.

Note: Installing the Apple Telecom Software 2.3 does not fix this issue.

Background
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The basis of this issue is that New Zealand uses a different type of cellular phone system than is used in the United States. New Zealand uses both Advanced Mobile Phone Service (AMPS) cellular (analog) and Groupe Speciale Mobile (GSM) cellular (Digital).

Digital GSM is not widely used yet in the United States, but it is in New Zealand, Asia, Australia, Europe, and South Africa. GSM is now known as Global System for Mobile Communications which is a set of standards specifying the infrastructure for a digital cellular service. AMPS is essentially synonymous with analog cellular radio.

Apple R&D in France wrote the "GSM Connection Kit for Macintosh, the part number is either M4130Z/A or M3925Z/B. Version is 1.1 works fully with the PowerBook 500 series computers, but is not entirely functional with the PowerBook 190 or 5300 series computers. It does not work sending or receiving faxes with the PowerBook 190 or 5300 series computers.

Resolution
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A new version of the GSM Connection Kit version 1.2 (part number M3925Z/C) has been written to solve the issue with using GSM on a PowerBook 5300 or 190 series computer. The 1.2 version has been released especially to allow faxing capabilities on PowerBook 5300 and 190 series computers. It corrects a regression within the PC Card driver installed on these computers. In previous versions, instead of returning an alert it just crashed the system. The fix has been implemented in version 1.2 of the PCMCIA GSM extension which contains the fax components.

Article Change History:
18 Jan 1996 - Added info about GSM 1.2.

Support Information Services
Published Date: Feb 19, 2012

Macintosh Performa: Editing Received Faxes (1/96)

I am using the Global Village software that was included with my Macintosh Performa computer to receive faxes. However, I am not sure how to edit them once I receive them. How can I do this?

This article has been archived and is no longer updated by Apple.

Saved faxes are stored as PICT documents, which are pictures containing a bitmap of the received fax. Although you may see letters and words when you view the fax, you are really just seeing a picture of a collection of dots. You cannot edit a PICT document using a word processing program. Instead, you must edit the fax as you would a picture or other graphic.

If you use the Global Village Fax Center to save the fax, you can modify the fax using a graphic application, such as the paint module in ClarisWorks, Microsoft Works, or WordPerfect Works.

Additionally, you could purchase optical character recognition (OCR) software which could convert an incoming fax into text, which you could then edit in a word processing application. Contact Global Village for additional information about OCR software.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.

Support Information Services
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PowerBook 190 & 5300: Third-Party Video Cards (1/96)

Has any third-party company released or is going to release a video upgrade option for the Powerbook 5300 and/or Powerbook 190 to support 16 bit video out capabilities?

This article has been archived and is no longer updated by Apple.

We know of two companies that currently have these types of products or have announced that they will in the near future. Focus Enhancements, Inc. has a video card upgrade for the PowerBook 5300 series computers. Newer Technology is planning on releasing a video card in December 1995.

This article provides information about non-Apple products. Apple Computer, Inc. is not responsible for its content. Please contact the vendors for additional information.

The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.

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Color LaserWriter 12/600 PS: Color Files Won‘t Print Gray

Is there any way to print a color image in grayscale on an Apple Color LaserWriter 12/600 PS? My only options in the dialog box are Black and White, or Color/Grayscale. Even if I select Black and White, the image prints in color.
This article has been archived and is no longer updated by Apple.
There is no way to print a color image in grayscale on the Color LaserWriter 12/600 PS or Color LaserWriter 12/660 PS printer if the image is an Encapsulated PostScript (EPS) file, or the application you are printing from generates its own PostScript.

Applications like Adobe Illustrator and Aldus Freehand generate their own PostScript, therefore if any color is used in the document, the application generates calls to PostScript color operators. When the document is sent to the printer, the driver recognizes the data is already PostScript and forwards it to the printer unchanged. Thus, the printer driver is never used to generate the PostScript and driver settings such as Black & White are bypassed. The Color LaserWriter 12/600 PS printer directly executes the PostScript coming into the input stream and since it encounters a color operator, prints the document in color.

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Power Macintosh 7500 & 8500: Frequently Asked Questions

This document contains the answers to frequently asked questions (FAQ) about Power Macintosh 7500 and 8500 series computers.

Questions answered in this FAQ:

1. Does my Power Macintosh have an FPU (Floating Point Unit/Math coprocessor)? I see errors that an FPU is not installed.
2. What causes Type 10 and 11 errors?
3. I need to run DOS software on my Power Macintosh 7500 or 8500 series computer. What are my options?
4. I have an old program which tells me to turn off 32-bit addressing. But I do not see this as an option in my Memory control panel. Why?
5. How can I get the built-in Ethernet address for my computer?
6. Can I add level-2 processor cache to my computer? Is it a SIMM or DIMM?
7. Can I add Video RAM (VRAM) to my computer?
8. I have an old program that requires less than 256 colors to be on. But the Monitors control panel settings don't show anything less than 256. What can I do?
9. At startup time, my monitor flashes off and back on again. Why?
10. I have a GeoPort Telecom Adapter. What version of the Apple Telecom software should I use?
11. I can't see a restart button on the computer. What do I use to restart my Power Macintosh 7500 or 8500 if the screen is frozen?
12. I am trying to connect to my internet service provider (ISP) using SLIP/PPP software. What do I need to know?
13. I am trying to get the Video Player software that comes with my Power Macintosh 8500 to work. When I launch it, a message appears: "Apple Video Player could not find the necessary video hardware. Make sure that your computer has video input capabilities and that you are not running any other video applications."
14. Can NuBus cards be used with these Power Macintosh computers?

This article has been archived and is no longer updated by Apple.

1) Question: Does my Power Macintosh have an FPU (Floating Point Unit/Math coprocessor)? I see errors that an FPU is not installed.

Answer: All PowerPC processor chips, which all Power Macintosh computers use, have an integrated FPU. You may be seeing the "FPU not installed" error for two reasons:

You are running "conventional" software in 68K emulation. This operating mode does not provide access to the computer's floating point unit. Thus, the program does not work. See if there is an upgrade to a PowerPC native version of the program. Certain software "bridges" exist to allow conventional software access to the PowerPC microprocessor's FPU. See the Redgate Communications area to search for such products.

You are using software, in either emulation or native mode, which is simply failing. Since the PowerPC supports pipelining instructions, a number of errors are occurring simultaneously. They eventually percolate out as an "FPU not installed" error. An error did occur, but it has nothing whatsoever to do with the need for a floating point unit. You should apply standard troubleshooting steps to resolve this issue. Standard troubleshooting information can be found in the Knowledge Base.

2) Question: What causes Type 10 and 11 errors?

Answer: Answer: A Type 10 error seen on a Power Macintosh 7500 or 8500 series computer is going to occur under the same circumstances as an FPU error. Due to the changes and enhancements in the 680x0 emulator, there are instances where an FPU error will be returned as a type 10 error. Follow the same troubleshooting steps you would when troubleshooting an FPU error.

Type 11 errors are typically due to one of a variety of factors:

- Font problems: you are using a bad font.
- Incompatible software running in emulation.
- SCSI chain problems: bad driver or cable.
- Cache SIMM problems (if you have installed one on your Power Macintosh computer).
- RAM problems: bad RAM has been installed.

For steps on how to troubleshoot such problems, see the following articles:

Article 14343: "**Troubleshooting Macintosh INIT Conflicts**"
Article 16004: "**Power Macintosh: Meaning of Error Type 11**"

3) Question: I need to run DOS software on my Power Macintosh 7500 or 8500 series computer. What are my options?

Answer: With a Power Macintosh 7500 or 8500 series computer, there are several ways to accomplish this.

Apple offers two PC Compatibility cards featuring either a Pentium 100-megahertz processor on a 12-inch card (M4092LL/A) or a 586 100-megahertz processor on a 7-inch card (M4091LL/A). These PC Compatibility Cards let you run MS-DOS and Windows applications directly on

your Power Macintosh computer. You can switch instantly between Mac OS, Windows, and MS-DOS environments with a single keystroke.

Orange Micro has announced a version of their Orange PC card for PCI based Power Macintosh computers. The Orange PC cards use an expansion slot inside of your Power Macintosh 7500 or 8500 series computer. You can get more information by contacting Orange Micro directly. Their phone number is 714-779-2772.

Reply, Inc. has also announced a version of their DOS on Mac card for PCI based Power Macintosh computers. The Reply cards use an expansion slot inside of your Power Macintosh 7500 or 8500 series computer. You can get more information by contacting Reply directly. Their phone number is 800-801-6898.

You can use Insignia Solutions' SoftWindows emulator. This is a Macintosh application which emulates a PC DOS/Windows environment. You can get more information, such as pricing, performance, system requirements, and compatibility information from Insignia by calling them at 800-848-7677.

4) Question: I have an old program which tells me to turn off 32-bit addressing. But I do not see this as an option in my Memory control panel. Why?

Answer: All Power Macintosh computers run only in 32-bit memory addressing mode. There is no way to turn this off. Check with the vendor for a 32-bit compatible version of the software.

5) Question: How can I get the built-in Ethernet address for my computer?

Answer: The Apple LAN Utility version 1.0b4e1 can obtain the built-in Ethernet address for the Power Macintosh 7500 and 8500 series computers. While this utility is not supported by Apple, it is available in the Apple Software Updates area of the online services we post to (pathname: Macintosh -> Unsupported -> Apple LAN Utility 1.0b4e1)

6) Question: Can I add level-2 processor cache to my computer? Is it a SIMM or DIMM?

Answer: You can add a level-2 processor cache to the Power Macintosh 7500 or 8500 series computers. The cache is a 160 pin DIMM (dual in-line memory module), 11ns.

7) Question: Can I add Video RAM (VRAM) to my computer?

Answer: You can increase your VRAM to 2 MB or 4 MB from the 2 MB it originally shipped with. The VRAM DIMMs must be 1 MB, 112-pin fast-paged mode, with 70ns RAM access time or faster. Do not use 256K VRAM SIMMs.

8) Question: I have an old program that requires less than 256 colors to be on. But the Monitors control panel settings don't show anything less than 256. What can I do?

Answer: The built in video will not support less than 256 colors or greys. If you have a program that requires black and white, 4, or 16 colors to run, then you will not be able to run these programs. Check with the software vendor for availability of a compatible version. You could also check with video card vendors to see if any offer support for less than 256 colors.

9) Question: At startup time, my monitor flashes off and back on again. Why?

Answer: The software video driver for the monitor is loading up. This is normal and is answered in the Power Macintosh 7500/8500 Read Me file.

10) Question: I have a GeoPort Telecom Adapter. What version of the Apple Telecom software should I use?

Answer: You should use at least the Apple Telecom 2.1 that is in the Apple Telecom folder inside of the Apple Extras folder on your hard drive (and on your backup CD if you have removed it). Megaphone 1.0.2 is also provided in this folder. Apple Telecom 2.3 is compatible, but adds no additional functionality for the Power Macintosh 7500 or 8500 series computers.

11) Question: I cannot see a restart button on the computer. What do I use to restart my Power Macintosh 7500 or 8500 if the screen is frozen?

Answer: The reset command is a keyboard shortcut identical to the Macintosh Quadra 605 and Macintosh LC computers. The key combination is Command-Control-Power. In addition to the keyboard power button, the Power Macintosh 7500 and 8500 series computers also have a power button on the bottom front left panel (below the speaker panel).

If these do not restart or shut down the computer, it may be necessary to disconnect the power from your Macintosh computer. This can be done by turning off the power strip or by disconnecting the cable from the outlet or the back of the computer.

12) Question: I am trying to connect to my internet service provider (ISP) using SLIP/PPP software. What do I need to know?

Answer: Check the Open Transport FAQ for more detailed information. Make sure you have at least Open Transport 1.0.7 (1.0.6 is what originally came with your Power Macintosh 7500 or 8500 series computer). To find the most recent version of this software, please consult Apple Software Updates available at **http://www.apple.com/swupdates**.

Also make sure you are using the TCP/IP control panel and not trying to get MacTCP to work. MacTCP is not compatible with the Power Macintosh 7500 or 8500 series computers.

13) Question: I am trying to get the Video Player software that comes with my Power Macintosh 8500 to work. When I launch it, a message appears:

"Apple Video Player could not find the necessary video hardware. Make sure that your computer has video input capabilities and that you are not running any other video applications."

Everything is correctly connected. I just installed Adobe Premiere and I am having problems with it also. This is the first time I have tried the Video Player application. I even made sure that QuickTime and QuickTime PowerPlug were turned on in the Extensions Manager.

What steps do I need to take to use my Apple Video Player software?

Answer: Apple Video Player 1.3 comes preinstalled on the Power Macintosh 7500 and 8500 series computers. There are two things that may cause this error message to appear on a Power Macintosh 7500, or 8500.

QuickTime 2.0.9 Not Installed
Apple Video Player requires QuickTime 2.0.9 or later and QuickTime PowerPlug 2.0.9 or later to run.

During the installation of a multimedia application, such as Adobe Premiere, the preinstalled versions of the QuickTime extensions may have been replaced with earlier versions. Many games and multimedia CD-ROM discs will install QuickTime software into your System Folder. Make sure your extension folder contains version 2.0.9 or later of the QuickTime extensions by following these steps:

1. Open the Extensions folder in your System Folder on your hard drive.
2. Locate QuickTime and QuickTime PowerPlug in your Extensions folder and click once on each while holding the down the shift key on your keyboard.
3. Under the File menu, choose Get Info. Confirm that the version number is 2.0.9 or 2.1. If it is not, drag the two extensions to the trash and reinstall your multimedia software using the Custom install feature of the Macintosh CD that came with your computer.

QuickTime software can be found at:

http://www.apple.com/quicktime/

Plaintalk Speech Recognition Turned On
If you have recently installed Plaintalk Speech Recognition software on your computer, this error will appear if you have Speakable Items turned on and then launch Apple Video Player.

Conversely, if you have Apple Video Player running and you try to turn Speakable Items on in the Speech Setup Control Panel, a message appears stating "Speakable items could not run because an unexpected error occurred. Restarting your computer or reinstalling the Speech Recognition software may correct this problem."

Because both applications need to access the digitizing hardware, you cannot use Apple Video Player and Speech Recognition simultaneously on the Power Macintosh 7500 or 8500. Engineering is aware of this issue and plans to update the error message to be more descriptive in subsequent releases of the Apple Video Player.

14) Question: Can NuBus cards be used with these Power Macintosh computers?

Answer: NuBus cards cannot be used in this Power Macintosh. However, to preserve your investment in NuBus technology, a NuBus expansion chassis for PCI will be available from Second Wave, Inc. This chassis will enable you to continue to use your existing NuBus cards in Power Macintosh systems with PCI slots.
Published Date: Feb 19, 2012

Super Serial Card: Accessing it through Machine Language

This article has been archived and is no longer updated by Apple.
Although Apple's Super Serial Card can be used from Applesoft Basic, it is often desirable to use machine language to increase the speed with which characters are sent and received. The assembler program below illustrates a method of communicating with another Apple computer through the Super Serial Card. You may use this routine as a starting point for your own program.

On page 291 of the Apple IIe Reference manual and on pages 261 to 265 of the Apple IIc Reference Manual there are listsof the registers and entry points used by routines resident in the Super Serial Card. The equates in the program below use these locations, as well as input/output hooks found in the Apple II family of computers.

The initialization routine (INIT) stores the address of the Super Serial Card's initialization routine in CSW (the Apple II monitor character output hook). This activates the card for output by jumping to COUT. Following this, DOS or Prodos hooks are reinstalled.

The OUTput routine checks the 6551 status port bit 4. If this is equal to zero, the previous character has not yet been sent, so we must check the status byte again until that register is clear. When the value in bit 4 becomes one, the 6551 is ready to send another character. To accomplish this, simply store the data in the transmit register (TDREG) of the chip.

Bit 3 of the status port is checked by the INput routine. If this bit is zero, the program either loops continuously or returns to the calling program, depending on the state of the return flag found in location $FF. If bit 3 is one, a character is waiting at the input port, and the character is then read from the read register (RDREG) of the 6551.

The DEMO portion of this program calls the INIT routine, and sends each letter of the alphabet to the connected device. After each character is sent, the program waits to see if a response has been received from the external device. If a character is waiting, the program ends.

```
1 * Super Serial Card - Demo of accessing it through machine language
10
*****************************************************************************
11 ORG $2000
12 COUT EQU $FDED ; CHARACTER OUT IN MONITOR
13 CSWL EQU $36 ; OUTPUT HOOK
14 CSWH EQU $37
15 WAIT EQU $FCA8 ; MONITOR ROUTINE TO WAIT
16 ;
17 ; SSC EQUATES
18 ;
19 DIPSW1 EQU $C081 ; +N0 DIPSWITCH BLOCK 1
20 DIPSW2 EQU $C082 ; +N0 DIPSWITCH BLOCK 2
21 TDREG EQU $C088 ; +N0 6551 DATA REGISTER
22 RDREG EQU $C088 ; +N0 6551 DATA REGISTER
23 STATUS EQU $C089 ; +N0 6551 STATUS REGISTER
24 RESET EQU $C089 ; +N0 6551 SOFTWARE RESET
25 COMMAND EQU $C08A ; +N0 6551 COMMAND REG
26 CONTROL EQU $C08B ; +N0 6551 CONTROL REG
27 ;
28 START JMP DEMO ; SKIP AROUND ALL THE SUBROUTINES
29 ;
30 ; USE THE SSC FIRMWARE TO INITIALIZE THE 6551.
31 ;
32 INIT LDA CSWL ; STORE THE CURRENT CSW
33 PHA ; SO THAT WE DO NOT DISCONNECT
34 LDA CSWH ; DOS OR PRODOS
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35 PHA
36 LDA #$00 ; STORE $Cs00 IN CSW
37 STA CSWL
38 STX CSWH ; THIS ALREADY CONTAINS $Cs
39 LDA #$00
40 JSR COUT ; JUMP TO COUT TO INIT THE CARD
41 PLA
42 STA CSWH ; RESTORE THE DOS OR PRODOS
43 PLA ; HOOKS AND THEN RETURN
44 STA CSWL
45 RTS
46 ;
47 ; OUTPUT A CHARACTER TO 6551
48 ;
49 OUT PHA ; STORE DATA ON STACK
50 OLP LDA STATUS,Y ; CHECK BIT 4 OF STATUS BYTE
51 AND #$10 ; TO SEE IF IT'S OK TO SEND
52 BEQ OLP ; CHARACTER WAITING TO GO OUT
53 PLA ; GET DATA BACK FROM STACK
54 STA TDREG,Y ; AND OUTPUT THE CHARACTER
55 RTS
56 ;
57 ; INPUT A CHARACTER FROM 6551
58 ;
59 IN LDA STATUS,Y
60 AND #$08 ; BIT 3 OF STATUS
61 BEQ INTST ; NO CHAR WAITING TO BE RECEIVED
62 LDA RDREG,Y ; GET THE INPUT FROM 6551
63 RTS
64 INTST LDA $FF ; CHECK RETURN FLAG
65 BNE IN ; IF NOT 0 THEN WAIT FOR INPUT
66 RTS ; IF ZERO, DON'T WAIT
67 ;
68 ; BEGIN THE DEMO PROGRAM
69 ;
70 DEMO LDY #$10 ; Y CONTAINS $s0 - DEMO USES SLOT 1
71 LDX #$C1 ; LOAD X WITH $Cs
72 JSR INIT ; INIT THE CARD
73 LDA #$FF ; SET RETURN FLAG FOR INPUT
74 STA $FF ; FF MEANS WAIT FOR CHAR
75 JSR IN ; INPUT A CHARACTER - SEE ABOVE
76 OLOOP LDX #$41 ; OUTPUT THE ASCII CODES
77 OLP1 TXA ; FROM A-Z TO THE SSC. IT WILL STOP
78 JSR OUT ; WHEN THE SSC RECEIVES A CHAR.
79 LDA #$80 ; DELAY BETWEEN CHARACTERS
80 JSR WAIT ; TO ALLOW TIME FOR INPUT.
81 LDA #$00
82 STA $FF ; RETURN IF NO CHARS WAITING
83 JSR IN ; CHECK FOR A CHARACTER
84 BNE ALLDONE ; THEY SENT SOMETHING - WE END
85 INX
86 CPX #$5B ; THE LETTER 'Z'
87 BNE OLP1
88 LDA #$0D
89 JSR OUT ; SEND A CARRIAGE RETURN
90 JMP OLOOP ; BEGIN THE ALPHABET AGAIN
91 ALLDONE RTS ; END ROUTINE
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Published Date: Feb 19, 2012

PCI-Based Power Macintosh: LAT Compatibility (1/96)

This article describes an update on the status of LAT compatibility with the PCI-based Power Macintosh computers, the 7200, 7500, 8500, and 9500.
This article has been archived and is no longer updated by Apple.
There have been reports of compatibility problems with the PCI-based Power Macintosh computers and LAT that were initially believed to be related to Open Transport. Further investigation by the Open Transport team and DEC's PATHWORKS team has revealed there was an obscure bug between LAT and the Time Manager that manifested itself on some of these new computers. Open Transport was not the reason LAT did not function properly. The problem has been resolved in an update of LAT available from Digital.

For PCI-based Power Macintosh computers with Open Transport you must have Open Transport v1.0.6 or later. With this setup, most of PATHWORKS works properly, including DECnet. The problem was with LAT.

Do not use Easy Install for PATHWORKS v1.3; perform a Custom Install, and deselect MacTCP and LAT. If you have included them by mistake, they can remove after restarting your Macintosh. DO NOT open the LAT Tool or LAT control panel before removal. LAT v1.3 crashes PCI-based Power Macintosh computers, and these computers come with Open Transport TCP/IP, so MacTCP is not needed and should not be installed.

For LAT functionality, you need to update to LAT v1.3.1, which comes from Digital. LAT v1.3.1 also requires Open Transport v1.0.6 or greater.

Support Information Services
Published Date: Feb 19, 2012

PowerBook 5300 System Update: Frequently Asked Questions

This article answers the following frequently asked questions (FAQ) about the PowerBook 5300 System Software Update.

What is the PowerBook 5300 System Software Update?

What changes and Enhancements were made?

Who Needs To Install This Software?

Who Does NOT Need To Install This Software?

How Can I Tell If I Already Have The New Software?

Which Computers Can Utilize This Software Update?

How should I install the PowerBook 5300 software update?

Do I need all the disks that are posted online?

Where and how can I get the PowerBook 5300 software update?

On what date was the PowerBook 5300 Software Update made available?

This article has been archived and is no longer updated by Apple.
Question: What is the powerbook 5300 System Software Update?
Answer: The PowerBook 5300 System Software Update offers better system performance for the PowerPC microprocessor. It is a revision to the system software which shipped with early model Macintosh PowerBook 5300 and 190 series computers. By making this system update available to customers free of charge, Apple is demonstrating its commitment to promoting the highest level of system software reliability.

Question: What changes and enhancements were made?
Answer: Several significant improvements were made:

- Improved emulator performance
- Integration of Finder 7.5.4 which optimizes caching to improve performance
- Native resource updates to improve system level performance
- An improved PC Card modem extension for faxing and an improved application launch process which increases the launch speed of applications including Microsoft Word and Excel

Question: Who needs to install this software?

Answer: This software update is only useful for Macintosh PowerBook 5300 and 190 series computer owners who purchased their computers prior to mid-January 1996.

Question: Who does not need to install this software?

Answer: The software included in this PowerBook System Software Update is already pre-installed on every PowerBook shipped since mid-January, including the PowerBook 5300, 2300 and 190 series, as well as the PowerBook 500 PowerPC upgrade and PowerBook Duo PowerPC Upgrade.

These new disk images can only provide system software installation for the PowerBooks mentioned above. You cannot install this software on any other PowerBook computers.

Question: How can I tell if I already have the new software?

Answer: You can tell the difference between the most recent system software and earlier versions by checking the system enabler version in the About This Macintosh... Window. Any customer with a system enabler version earlier than 1.2 could benefit from this update.

Question: Which computers can utilize this software update?

Answer: The following Macintosh Products can utilize this system software:

- Macintosh PowerBook 5300 Series Computers
- Macintosh PowerBook 190 Series Computers
- Macintosh PowerBook 2300 Series Computers
- Macintosh Computers with the PowerPC Logic Board Upgrade for the PowerBook 500 Series

- Macintosh Computers with the PowerPC Logic Board Upgrade for the PowerBook Duo Products

Question: How should I install the PowerBook 5300 software update?

Answer: Apple strongly recommends that you do a clean"installation to update the system software for your PowerBook computer. You can initiate this procedure by pressing the Command-Shift-K keys at the main window of the Installer. Then select the option to Install New System Folder, then click OK.

After the computer has restarted, move the following items from the Previous System Folder to the same location in the System Folder:

ATM Font Database
Claris folder
DataViz folder
Launcher Items folder
MacLinkPlus Setup (in the Control Panels folder)
MacLinkPlus for Easy Open (in the Extensions folder)

Note: Some of these items may not be present on your particular PowerBook computer model.

For more information, also see Reinstalling System Software in the chapter on diagnostic techniques in the manual that came with your PowerBook computer.

Question: Do I need all the disks that are posted online?

Answer: No, if you still have the disk images that were originally included on your PowerBook computer's hard drive when it was purchased, you only need to download and decompress disk images 1,8,10,11,12 and 13.

The complete set is 14 disks, #1-13 system install, #14 is Disk Tools.

Question: Where and how can I get the PowerBook 5300 software update?

Answer: The PowerBook System Update has been removed from the Apple software updates web site. You may download System 7.5 version 7.5.3 instead. This software is available for downloading from the Apple Software Updates web site at **http://www.apple.com/swupdates.**

Question: On what date was the PowerBook 5300 Software Update made available?

Answer: It was made available on January 9, 1996.
Published Date: Feb 19, 2012

Using TCP/IP to Access a Remote AppleTalk Network

Is it possible to use a TCP/IP network to connect to an Apple Remote Access (ARA) Server and have the access to the server I would have if I dialed the ARA Server direct?

I have a dial up, modem-based PPP connection to a local internet service provider (ISP), and I want to access an ARA server in another state. The server has a dedicated Internet connection and it's own unique IP address and domain name. One solution, of course, is to dial up the server, but that is an expensive call. What I want to do is use my PPP-TCP/IP connection so that I can establish a TCP/IP connection to an ARA server and then use ARA to access the remote AppleTalk network to mount a shared volume on my desktop.
This article has been archived and is no longer updated by Apple.
There is a product that can do what you want, but it's not ARA. The product was developed at the University of Melbourne in Australia.

Look in the mac directory for ARNS (A Remote Network Server). We do not believe there are any commercial products that are in its class of functionality.

The client software can run on any Macintosh with classic networking, that is MacTCP. A new icon, IP Remote, appears in the Network control panel, for example like EtherTalk & Remote Only. Clicking on IP Remote presents a login dialog to appear requesting the IP address of the ARNS server, your user name and password. ARNS is being updated to work with Open Transport but is not compatible yet.

The server software can run on a Macintosh, or a UNIX workstation. Refer to the ftp site for more server information.

ARNS is like ARA in remote only mode, where your Macintosh is either on a local AppleTalk network or a remote AppleTalk network. Your computer cannot be on both AppleTalk networks simultaneously.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

The Tech Info Library article, #17159, titled "Locating Vendor Information", can help you search for a particular vendor's address and phone number.
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Mac Plus, SE, and II: Memory Configuration and Speed (5/95)

With the advent of larger SIMMs (single inline memory modules), there are several ways to configure a Macintosh Plus, Macintosh SE, or Macintosh II.

This article has been archived and is no longer updated by Apple.

Macintosh Plus and SE
==========

The Macintosh Plus and Macintosh SE can be configured in five ways:

* 512 KB
* 1 MB
* 2 MB
* 2.5 MB
* 4 MB

Memory expansion must follow strict guidelines that involve modification of the Macintosh logic board and correct placement of the SIMMs.

On a Macintosh Plus or Macintosh SE logic board are four SIMM sockets, labeled SIMM1 through SIMM 4. These sockets are paired, 2 banks of 2 sockets each.

```
For the Mac Plus: For the Mac SE:
------------------------ ------------------------
| 68000 | | 68000 |
| | | |
| SIMM 1 | | Bank A |
| Bank A | | SIMM 1 SIMM 2 |
| SIMM 2 | | |
| | | |
| | | Bank B |
| SIMM 3 | | SIMM 3 SIMM 4 |
| Bank B | | |
| SIMM 4 | | |
| | | |
------------------------ ------------------------
. Logic Board (front) Logic Board (front)
```

* Bank A comprises SIMM 1 and SIMM 2; Bank A, the 2 slots towards the rear of the logic board.

* Bank B comprises SIMM 3 and SIMM 4; Bank B, the 2 slots towards the front of the logic board.

Both sockets in each pair must configured identically. For example, both SIMM sockets 3 and 4 must contain either 256K or 1MB SIMMs, or be empty.

The RAM density of the chips in Bank A must be greater than or equal to the RAM density of the chips in Bank B. For example, if Bank A contains 256K SIMMs, Bank B may be empty or contain 256K SIMMs, but not 1MB SIMMs.

Some configurations require changes to the logic board. There are two resistors that tell the Macintosh important information about what kind of SIMMs are installed.

* If you have only one row of SIMMs installed (say, Bank A has 1MB SIMMs installed and Bank B is empty), then the resistor marked "ONE ROW" must be present; otherwise it should be cut or removed. (The Macintosh Plus and Macintosh SE are not shipped with this resistor installed.)

* If your computer has 256K SIMMS in Bank A, then the resistor marked "256K BIT" must be installed. If either or both Banks have 1MB SIMMs, then the resistor must be cut or removed. (The Macintosh Plus and Macintosh SE come with the resistor installed.)

Here's a chart that shows all the currently possible SIMM configurations and resulting memory total for the Macintosh Plus and Macintosh SE:

. Bank A 256K 256K 1MB 1MB 1MB
. Bank B empty 256K empty 256K 1MB

. 256K Resistor present present absent absent absent
ONE ROW Resistor present absent present absent absent
--- --- --- --- --- ---
Total Memory 512K 1MB 2MB 2.5MB 4MB

Macintosh II
==========

There are currently four SIMM sizes for the Macintosh II:

* 512 KB
* 1 MB
* 4 MB
* 16 MB

The Macintosh II requires special 4MB SIMMs. Be sure to specify your Macintosh model when ordering these SIMMs and ensure that the vendor is aware of the difference. The Macintosh II requires the SuperDrive (FDHD) Upgrade to use 4MB or 16MB SIMMs.

To take advantage of more than 8MB of physical RAM, the Macintosh II MUST have a PMMU installed, so that MODE32 can expand the system's memory map.

With the original ROMs, the Macintosh II will not start up if you install 4MB or 16MB SIMMs in bank A. You'll hear musical chimes at startup, indicating a hardware failure. Install 4MB SIMMs in bank B, and use 256K or 1MB SIMMs in bank A. This provides a maximum of 68MB of RAM installed.

With the FDHD ROMs installed, up to 16 MB SIMMs are supported in bank A increasing the maximum memory configuration to 128 MB.

Restrictions on placing SIMMs in the Macintosh II are similar to those for the Macintosh Plus and Macintosh SE: the SIMM sockets are divided into two banks, A and B, each containing four SIMM sockets. All SIMMs in either bank must be of the same type. No resistors need to be cut to differentiate between the possible configurations.

With original ROMs:

Bank A 256K to a Maximum 1 MB
Bank B empty 16 MB
--- --- ---
Total Memory 1 MB 68 MB

With FDHD ROMs:

Bank A 256K to a Maximum 16 MB
Bank B empty 16 MB
--- --- ---
Total Memory 1 MB 128 MB

SIMM Speed Ratings
==========

* Macintosh Plus: SIMMs must be rated 150ns or faster (the number on the SIMM must be 150 or smaller)

* Macintosh SE: SIMMs must be rated 150ns or faster (the number on the SIMM must be 150 or smaller)

* Macintosh II: SIMMs must be rated 120ns or faster (the number on the SIMM must be 120 or smaller)

Article Change History:
19 Apr 1995 - Updated the Macintosh II section of this article.

Support Information Services
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Power Macintosh 8500: Noise In Audio Recording

I was recording from a cassette deck to my Power Macintosh 8500 series computer. I had the RCA jacks from the cassette deck connected to the computer's RCA audio input jacks, and I noticed that there was a humming noise in the recording. How can I avoid this noise in future recordings?
This article has been archived and is no longer updated by Apple.
When connecting external audio devices (such as a CDROM player, cassette deck, mixing boards, and so on) to the RCA audio input jacks on the Power Macintosh 8500 computer, you may create a ground loop between the audio device and the computer.

A ground loop occurs when you connect two devices together with different ground points. Both devices must have the threeprong plug for this to happen. To avoid ground loops, many consumer electronics only have twoprong plugs.

The loop most commonly goes from one device to the other along the audio cables and then returns through the ground wire. The difference in potential between the two grounds in the ground loop results in an audible noise or hum.

To eliminate this noise, disconnect the audio device from the computer. If the noise disappears, plug the power cords from the computer and the other devices into the same power strip. This places all of the equipment at the same ground potential and eliminates the loop.

This article was published in the "Information Alley":
Volume II, Issue 19, Page 13
Published Date: Feb 19, 2012

Apple Disability Solutions: MAP and Third-Party Products

This article describes the Mac Access Passport (MAP) and provides examples of the third-party companies and products contained in it.
This article has been archived and is no longer updated by Apple.

Mac Access Passport Database

Mac Access Passport (MAP) is a database that includes descriptive information about more than 100 Macintosh solutions for individuals with disabilities. Each record in MAP contains a product description and developer contact information.

MAP includes information on tools for individuals with physical motor impairments, blindness, hearing and speech difficulties, and learning disabilities. The database can be searched by keywords, product name, developer name, disability type, and description text.

You can view the Mac Access Passport on the World Wide Web at http://www.apple.com/education/k12/disability/.

The following information is distributed by Apple Computer's Disability Solutions Group. Mention of a particular product does not represent an endorsement, either expressed or implied, by Apple Computer, Inc.

Learning and Speaking Disability Solutions

Special Education Software

There are over 1,300 educational software programs available for the Macintosh, ranging from those that teach adverbial clauses to ones that help students explore the anatomy of a whale. Some software comes alive with dazzling color, animation, and stereo sound; other programs are more basic by comparison, incorporating traditional teaching strategies such as drill and practice and memorization.

Without knowing more about a particular student (What are his reading skills...spelling skills...comprehension skills? What are her academic and personal goals...interests...abilities?) it's difficult to recommend specific software.

But it is possible for teachers and parents to make that decision once they have enough information about what software is available. Below are four companies that offer a wide selection of educational software for the Macintosh. Contact them via phone or email to find out about their various Macintosh education software solutions.

Broderbund Software
500 Redwood Blvd.
P.O. Box 6121
Novato, CA 94948
800-521-6263
AOL Keyword: broderbund
Compuserve Go Code: BB

Don Johnston, Inc.
P.O. Box 639
1000 N. Rand
Wauconda, IL 60084
800-999-4660

Edmark Corp.
P.O. Box 97021
Redmond, WA 98073
800-426-0856
email: **edmarkteam@edmark.com**

Sunburst
a division of The Learning Company
101 Castleton Street
Pleasantville, NY 10570
800-321-7511
Online: **www.edutainco.com**

Dyslexia

The Macintosh is favored by many people with learning disabilities because the software is so easy to use as all Macintosh software works essentially the same way. Once you learn one program, the next will seem very familiar. This fundamental consistency eliminates frustration for a lot

of people.

In addition to the Macintosh's ease of use, there is software that can help you structure and organize your ideas, check your spelling as you type (using your own list of frequently misspelled words), and analyze your written documents for grammatical errors. Some software can even anticipate the word you're about to type, and type it for you!

When it comes to managing your daily activities, personal information management software can help manage different areas of your life: keeping an updated "To Do" list, maintaining your address book, and scheduling and reminding you of upcoming appointments.

Don Johnston, Inc.
P.O. Box 639
1000 N. Rand
Wauconda, IL 60084
800-999-4660
Co: Writer

Speech Communication

Every Macintosh has speech capability built-in, which means a PowerBook, in addition to doing everything that a desktop Macintosh does, can travel with you helping you communicate with others. A PowerBook is small and lightweight, and can be carried in a backpack or easily attached to a wheelchair, making it a versatile communication tool.

Using "text to speech" software, the Macintosh creates synthetic speech from typed-in words, allowing your PowerBook to speak any word or phrase aloud. The Macintosh also has the ability to record and playback a person's own voice (somewhat like a tape recorder), which results in a very high quality sound.

Special software can help you manage computerized speech so that you can access the appropriate words on demand. Libraries of pictures, symbols, and graphics are often used to build "picture communication boards," enabling speech samples to be selected quickly and easily.

Don Johnston, Inc.
P.O. Box 639
1000 N. Rand
Wauconda, IL 60084
800-999-4660
Talk:About and Write:OutLoud

Mayer-Johnson Co.
P.O. Box 1579
Solana Beach, CA 92075
619-550-0084
Title: Speaking Dynamically Pro
Online: **www.mayer-johnson.com**
email: **mayerj@mayer-johnson.com**

Physical Disability Solutions

Keyboards

There are dozens of different kinds of keyboards for the Macintosh. Depending on your personal abilities and preferences, any of a number of them may be appropriate.

The right keyboard for you may be the kind that looks like a traditional keyboard, but has large, touch sensitive keys to help make typing easier. Or maybe your keyboard is the kind that has only seven keys and uses a typing technique called "chording," originally designed for one handed typists.

Other products include switch operated, onscreen keyboards that let you type with almost any part of your body, and "smart" keyboards that allow you to customize each key's position, size, and function. We suggest you contact the following companies to learn about, and perhaps sample, their keyboard products.

Don Johnston, Inc.
P.O. Box 639
1000 N. Rand
Wauconda, IL 60084
800-999-4660

Titles: Ke:nx and Ke:nx On:Board

IntelliTools
55 Leveroni Ct. Suite 9
Novato, CA 94949
800-899-6687
Email: **info@intellitools.com**
Titles: IntelliKeys

TASH International
Unit 1-91 Station St.
Ajax, ON L1S 3H2
CANADA
905-686-4129
Product: MacMini Keyboard

Logitech, Inc.
6505 Kaiser Dr.
Fremont, CA 94555
800-231-7717 sales
702-269-3457 Tech Support
Product: NewTouch Split Keyboards
Online: **www.logitech.com**

Pointing Devices

You can fine-tune your mouse's sensitivity to a degree by using software that comes with your Macintosh. But this kind of refinement may not adequately address your needs. You may need an altogether different kind of pointing device.

If so, there are many from which to choose: head controlled mice, trackballs (in effect a mouse turned upside down), joysticks, mice of different sizes and speeds, writing pads that function as mice, touch sensitive screens that act as mice, and even remote controlled mice.

How do you determine which pointing device is the most appropriate for your needs? First, find out what's available beyond the contacts listed below. Try visiting your local news stand and browsing through a computer magazine devoted to Macintosh technology; there you'll find new and different pointing devices being advertised regularly.

Edmark
P.O. Box 97021
Redmond, WA 98073
800-426-0856
Products: Mac TouchWindow
email: **edmarkteam@edmark.com**

Kensington Technology Group
2855 Campus Drive
San Mateo, CA 94403
Product Information: 800-235-6708
Installation Help: 800-535-4242
Online: **www.kensington.com**
Products: TurboMouse; Orbit Mouse (for USB)

Logitech, Inc.
6505 Kaiser Dr.
Fremont, CA 94555
800-231-7717 sales
702-269-3457 Tech Support
Products: MouseMan; MouseMan (for USB); TrackMan; MarbleMouse
Online: **www.logitech.com**

Input Systems

With the right hardware and software, a Macintosh can become a powerful system for learning, working, and playing. But that won't matter to you until you're able to find a way to control the computer...your way.

Keyboards and mice are traditionally used to control personal computers. Although you may not be able to use these devices, you can choose between a number of alternatives, including a voice recognition system that allows a person to control the computer by talking to it, an onscreen keyboard that facilitates typing without physically touching the keys, and a head-controlled keyboard/mouse that lets a person type using head movements.

There are, in fact, a number of possibilities that will allow people to use a Macintosh for whatever they want. Contact the following companies to learn more about their access products.

Madenta Communications
9411A 20 Avenue
Edmonton, AB T6N 1E5
Canada
800-661-8406
Doors

Origin Instruments
854 Greenview Drive
Grand Prairie, TX 75050
972-606-8740
972-606-8741 Fax
Products: HeadMouse; HeadMouse for Portables
Online: **www.orin.com**
email: **sales@orin.com**

Visual Disability Solutions

Speech and Braille

The Macintosh was the first truly graphics based personal computer, which helps account for a common misconception that it's inaccessible to people who cannot see. In fact, when used with innovative software programs, the Macintosh is fully accessible to blind individuals.

When it comes to navigating the Macintosh's screen, software called outSPOKEN gives audio cues to onscreen visual images such as icons, windows, menus, and cursor location (the numeric keypad replaces the need for a mouse). outSPOKEN is compatible with virtually all Macintosh applications, so blind people can use a Macintosh just as sighted people do in the office, at home, at school, anywhere. Another program called Duxbury Braille Translator converts text to Braille and formats printing on a Braille embosser.

For more information, contact the following companies:

Berkeley Systems
2095 Rose Street
Berkeley, CA 94709
510-540-5535
510-540-5115 - fax
510-540-0709 - TTY
e-mail: **access@berksys.com**
Title: outSPOKEN

Duxbury Systems, Inc.
270 Littleton Rd., Unit 6
Westford, MA 01886
978-692-3000
Title: Duxbury Braille Translator, v10;2
Online: **www.duxburysystems.com**
email: **info@duxsys.com**

Telesensory
455 North Bernardo Avenue
Mountain View, CA 94043
800-537-3961
Braille Embossers

Magnification

There are several things that can be done to enlarge the images on the Macintosh computer's screen. One solution, CloseView, is software that

magnifies the screen image up to 16 times its regular size. CloseView works with virtually all Macintosh software, and is free it's included as part of the Macintosh's system software. (An enhanced version of this software, called inLARGE, is also available as a separate product from Berkeley Systems.)

Other magnification solutions range from monitors that display images in multiple resolutions to magnification lenses that attach to the outside frame of the Macintosh's monitor. You may also want to consider using software that reads text aloud, so that instead of looking at the words on your computer, you can listen to them. Contact the companies below to learn more about their access products for people with vision impairments.

Berkeley Systems
2095 Rose Street
Berkeley, CA 94709
510-540-5535
510-540-5115 - fax
510-540-0709 - TTY
e-mail: **access@berksys.com**
Product: inLARGE

Florida New Concepts Marketing, Inc.
P.O. Box 261
Port Richey, FL 34673
800-456-7097
Product: Compu-Lenz
Online: **http://gulfside.com/compulenz**
email: **compulnz@gte.net**

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

The following Tech Info Library article can help you search for a particular vendor's address and phone number:

Article 17159: "**Locating Vendor Information**"
Published Date: Feb 19, 2012

DOS Compatibility Card: No Video When Changing OS (1/96)

I have a DOS Compatibility Card in my Macintosh computer, and when I press the Command/Return key combination on my keyboard to change to MS-DOS/Windows, the screen dims, but I don't get the MS-DOS prompt. Why?
This article has been archived and is no longer updated by Apple.
The most common cause of this is the video cable. If the DOS Compatibility Card video cable is not securely fastened to monitor cable and DOS Compatibility Card, or you do not have the DOS Compatibility Card video cable connected properly, the screen dims, but you will not see the MS-DOS prompt.

You should check the cable connections, and then restart your Macintosh computer. If you do not restart your computer, the monitor will not sync properly. This is because when the PC Setup control panel loads it determines what monitor is connected. When it cannot determine what monitor is connected, the PC Setup control panel defaults to an Apple 16-in. Display setting.

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PowerBook 5300: Can The Hard Drive Be Partitioned? (1/96)

Is hard drive partitioning a supported option with the Macintosh PowerBook 5300 series computers?
This article has been archived and is no longer updated by Apple.
Partitioning either SCSI or IDE Apple hard drives is now supported using the Drive Setup utility posted online. This is discussed in the Drive Setup Guide that is included with the application.

The following is a copy of the Drive Setup Guide statement.

Drive Setup can initialize, partition, and test all of the following:

Most Apple-qualified SCSI internal drives

Some Apple-qualified IDE/ATA drives, except an IDE/ATA drive in a PowerBook expansion bay (PC Card, or PCMCIA drives)

Some 3.5" and 5.25" magneto-optical drives manufactured by Sony, Ricoh, and Fujitsu

Some 3.5" and 5.25" removable devices manufactured by Syquest and Bernoulli

If you have a CD-ROM drive, it will appear in the Drive Setup List of Drives, but you cannot mount, initialize, partition, or test a CD-ROM disc.

**** Important Note ****

To find out if a particular model of drive is supported by Drive Setup, and for any other information about the drive, contact the drive's manufacturer.

Apple Computer has not evaluated the drives or devices of manufacturers other than Apple, and makes no representations or warranties regarding their compatibility, functionality, or country certification requirements. All understandings, agreements, or warranties, if any, take place directly between the manufacturer and the prospective user.

Mention of non-Apple products is for informational purposes only and constitutes neither an endorsement nor a recommendation. Apple Computer shall not be liable for the accuracy of any information regarding non-Apple products, or for any damages resulting from the use of such information.

How to Use The Drive Setup Guide

If you would like to look this up in the Drive Setup Guide launch the Drive Setup application then use the following path: Pull down AppleGuide menu (Question Mark icon) in the upper right corner of the Menubar, select Drive Setup Guide, select General and then select storage devices.

These articles can help you locate the Drive Setup 1.0.3 software mentioned here:

"Where To Find Apple Software Updates" -- Lists online services for free Apple software updates.

"Obtaining Apple Product Support in the USA" -- Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech Info Library.

Article Change History:
12 Jan 1996 - Corrected minor typo. Added online availability information.

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Third-Party DNS Servers for Macintosh Computers (1/96)

This article provides information on two third-party DNS servers for Macintosh computers.
This article has been archived and is no longer updated by Apple.
This article provides information about non-Apple products. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

MIND by Acme Technologies

MIND was the first DNS server available for Macintosh. It has been successfully running on hundreds of sites since its initial beta release in February 1995. Acme Technologies has recently acquired the product and will release a new version soon. You'll be able to download and use the existing beta version until the new one is ready. For more information use the URL below:

http://mind.acmetech.com/at/mind/

Features

Two-way zone transfers (it will function as a secondary DNS automatically)
Remote monitoring and configuration. Edit hosts files or watch the logs from anywhere on a TCP/IP network.
Full caching support.
Plus all the existing features.
Serve name to address and address to name mapping.
Supports: $ORIGIN, $INCLUDE, SOA, MX, A, CNAME, HINFO, PTR, and TXT records.
One-way Zone transfers (will act as primary). MIND will function perfectly well as a secondary DNS, but since it can't request a zone transfer from another server, it must be manually synchronized with the primaries.

QuickDNS by Men and Mice

Men & Mice have released QuickDNS Lite and QuickDNS Pro, two new Internet Domain Name Servers for the Macintosh. QuickDNS is currently the only commercially available Domain Name Server for the Macintosh. For more information use the URL below:

http://www.menandmice.com/QuickDNS/QuickDNS.html

QuickDNS Pro

QuickDNS Pro is a new fully featured Internet Domain Name Server for the Macintosh. QuickDNS Pro does recursive lookups, zone-transfers and can act as a primary and/or secondary server for an unlimited number of domains.

QuickDNS Pro ships with a program to edit domain information, QuickDNS Admin. QuickDNS Admin is a domain editor which can be used to create, edit, delete and verify domains, import RFC-files (Unix-format) and view the status of QuickDNS Pro.

Running an Internet connection no longer requires a Unix-system. Although WWW, FTP and Mail Servers have been available for the Macintosh, a Domain Name Server has been the missing link for those who want to run a Macintosh only Internet connection.

Every domain on the Internet requires DNS service. The DNS is the invisible service that all the other Internet programs rely on. Every company connected to the Internet has at least one DNS to say who's who on the network.

General features of QuickDNS Pro:

Recursive name service
Primary name service
Secondary name service (available Feb.'96)
Domain editor - For creating and editing domain information
Accelerated for Power Macintosh
Eliminates the need for DNS running on a UNIX server

Load balancing - A Round robin assignment of IP addresses to the single machine name spreads the load among multiple servers (that is, supports Redundant Array of Inexpensive Computers (RAIC))
Serves an unlimited number of secondary and primary domains
Imports RFC-files (Unix-format domain information)
Fully interrupt-driven operation
Keeps millisecond-accurate statistics about each name server queried and uses them to tune server performances
Wildcard support in queries
Smart cache maintenance
Logging

QuickDNS Lite

QuickDNS Lite is a caching-only name server that gives a recursive name service to a network. It can not be used to create or modify domains and it can neither be a primary, nor a secondary name server. Installation of QuickDNS Lite is plug and play.

QuickDNS Lite is a perfect bundle with all Internet Servers. QuickDNS Lite running on the same machine as a WWW, Mail or FTP server can increase performance and robustness of the server.

The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.

Support Information Services
Published Date: Feb 19, 2012

Workgroup Server 9150: Stereo Sound and Audio Devices

This article describes stereo sound and audio devices you can use with a Workgroup Server 9150.
This article has been archived and is no longer updated by Apple.
Your server can play and record stereo sound from a variety of sources. To provide or reproduce stereo sound, you can connect audio devices to the line input or sound input ports, and to the sound output port on the server. You can also use the server's internal CD-ROM drive to play audio compact discs (CDs).

The server's line input ports accepts an audio connector known as a RCA type (phono) plug. The server's sound ports accept an audio connector known as a stereo miniplug. This connector is the type used on headphones for a personal tape player, for example. If your equipment uses a different type of connector, you can purchase an adapter at an electronics supply store.

Connecting an Audio Device

To play or record sound with your server, you can attach a microphone, amplifier, tape recorder, or a pair of speakers. Follow these steps to connect an audio device to the server.

Important: The Workgroup Server 9150 is designed to work as a server, and it is not designed for use with speech recognition systems. Do not use the Apple PlainTalk Microphone with your server.

1. Make sure that the audio device has a cable with a stereo miniplug connector or, if you're using the line input ports, RCA connectors.
2. Place the audio device near the server.
3. Shut down the server and turn off the audio device.
4. Attach the cable to the audio device and to the sound port on the server.
5. Turn on the server and the audio device and begin working with sound.

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QuickFile III: Merging Files

This article has been archived and is no longer updated by Apple.

Even though QuickFile doesn't offer you the option of merging files, it does give you a foot in the door by letting you print reports to diskette. To merge files in QuickFile:

First, design a "labels" format that prints each field of a record one below the other, with no blank lines between labels. Even if a field is blank, choose to print lines on continuous paper with no top or bottom margins and no headers. This will result in a file of contiguous, identically-structured records. Be sure that the files have the same number of fields in each record; control this number with the report format. The names of the fields are irrelevant. After the files you want to combine are printed to diskette, use AppleWriter, Pascal Editor, or a similar text editor to combine the files and re-save them to diskette as one file.

Apple III users with Pascal can then make an EXEC file that starts up QuickFile and creates a new file. You must create a new file, though: you can't jump right into an existing file, since the EXEC mechanism cannot recognize and record the OA-I you need in order to go into Insert Mode. Don't terminate (%%) the EXEC file until QuickFile is waiting for input of the first field of the first record of the new file. After terminating the EXEC file, quit QuickFile. Don't save this new file, though. Using your text editor again, load the EXEC file, and then load your combined file (see above) into the position just before the "%%%%". Again save the file. Executing this file will cause a new QuickFile file to be created, and all of your data will be "typed" in by the disk drive.

Published Date: Feb 19, 2012

Open Transport: User Configuration Not Available (1/96)

I am running Open Transport 1.0.6 on my computer, and I need to set the AppleTalk address manually. The option for User Configuration in the AppleTalk control panel, when set to Ethernet, is dimmed.

This article has been archived and is no longer updated by Apple.

This option is not available in Open Transport 1.0.7 or lower, but it is available in Open Transport 1.0.8 and higher in Advanced User Mode.

Support Information Services
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CLW 12/600 PS & CLW12/660 PS: Configuring For Solaris

This article is supplemental documentation for Color Laserwriter 12/600 owners. The "Color Laserwriter 12/600 User's Manual" does not contain instructions for Solaris printing. Additionally, this article replaces the Solaris printing instructions in the "Color Laserwriter Update" for Color Laserwriter 12/660 owners.
This article has been archived and is no longer updated by Apple.
Overview of Solaris Printing

Solaris 2.x printing use lp printing available with UNIX System 5. Solaris includes two utilities that add BSD features to the lp printing system.

- lpsystem - register remote systems with the print service: This utility supports System V network printing and provides compatibility with BSD network printing (lpd)
- lpr - send job to the printer: This utility is actually version of lp that supports lpr flags, for backwards compatibility to SunOS 4.x

The following instructions are provided for Solaris (SunOS 5.x) system administrators. SunOS 4.x (sometimes called Solaris 1.x) are in the Color LaserWriter 12/600 PS manual. SunOS 4.x is a version of BSD UNIX and uses lpr for printing.

Before configuring the Solaris system, the Color LaserWriter 12/600 PS needs to be installed on the Ethernet network and assigned an IP address. See your Color LaserWriter 12/600 PS User's Guide for detailed instructions.

Apple Computer, Inc. supports printing only from Solaris 2.x over ethernet using TCP/IP and lp to the Color LaserWriter 12/600 PS printer. Alternative forms of printing with other protocols, such as PAP in Appletalk, or physical connections such as direct parallel connections are possible, but not supported by Apple Computer Inc.

Steps for "Open Look":

1) Become root - use "su" to become root within an xterm, shell tool or command tool.

2) Run the Administration Tool - Type: admintool &

3) Run the Printer Manager - Click the "printer manager" button.

4) From the "Edit" Menu select "Add Printer", "Add access to remote printer"

5) Set the "Printer Name" - the printer name is the name of the printer queue referred to in lp command. For example, if you create lp - colorlw <filename>

6) Set the "Printer Server" - Use the hostname or IP address of the printer. The hostname should be entered in the /etc/hosts file, NIS database or DNS.

7) Verify or change "Print Server OS" to "BSD". Click "add" when done. The new printer appears in the Print manager window.

8) Change the "File Contents" menu to "PostScript."
Select "edit" -> "modify" -> "name of printer"
Change the "file contents" to "PostScript" and click apply. The default is "any"
Click "Apply" to save changes.

Setting the "file contents to PostScript" allows all files to print to the Color Laserwriter correctly. Without making this change, text jobs sent to the printer using lp and lpr will not print.

Steps for CDE:

1) Login as root

2) type admintool &

3) Select "Printers" from the "Browse" menu

4) From the "Edit" Menu select "Add Printer"

5) Select "Add access to printer"

6) Set the "Printer Name"

The printer name is the name of the printer queue referred to in lp >command. For example, if you create a printer queue called "colorlw", you would print with the using the following:

lp -d colorlw <filename>

7) Set the "Printer Server"

Use the hostname or IP address of the printer. The hostname should be >entered in the /etc/hosts file, NIS database or DNS.

8) Change the file contents to PostScript.

From a terminal window, type: lpadmin -p <printer name> -I postscript

This command tells Solaris to convert all non-postscript jobs to postscript before forwarding the job to the Color Laserwriter. Without making this change, text jobs sent to the printer using lp and lpr will not print.

Printing from Specific Applications

The Color LaserWriter 12/600 PS and Color LaserWriter 12/660 PS printers accept only PostScript print jobs. If configured properly, Solaris converts text jobs to a basic PostScript job that results in plain, portrait, courier text output.

- printtool: Openwindows tool for printing files

printtool creates PostScript jobs and will work normally. Users can type in path names or use drag and drop icons from the file manager to the icon well. The default format will product 2-UP landscape output that has been "prettied" in the mp utility.

- MAE: The virtual Macintosh

MAE produces PostScript using lprwriter. Set lprwriter to "lp -d <printer queue name>" If AppleTalk is supported on the Ethernet, MAE users can use LaserWriter driver and print using AppleTalk as well. MAE users can load the Color LaserWriter Software into MAE, but should be aware that ColorSync 2.0 will NOT calibrate color when printing using lprwriter. MAE users MUST use the Laserwriter 8.3 driver and print using AppleTalk.

- lp - send requests to an LP print service

lp is the standard line command used for printing files in System V UNIX.

For example: lp -d colorlw <filename>

- lpr - send job to the printer

Although Solaris is System V, an lpr utility is provided. The lpr command is a front end to lp and is not a normal version of lpr. However the differences should not affect the use of the Color LaserWriter 12/600 PS printer.

Example print command: lpr -P colorlw <filename>

For more information on configuring printing in Solaris, you should consult the Solaris documentation that came with your workstation. For more information on UNIX printing in general, you should consult a UNIX system administration book such as the "UNIX System Administration Handbook" by Evi Nemeth, Garth Snyder, Scott Seebastian, Trent R. Hein.
Published Date: Feb 19, 2012

Power Macintosh 7500 & 8500: Vertical Lines Follow Cursor

I have a Power Macintosh 7500 series computer, and I have recently noticed that two vertical lines appear to be following the cursor. What could cause this, and how can I resolve it?
This article has been archived and is no longer updated by Apple.

Two vertical lines following the cursor or vertical lines all over the screen are symptoms of improper installation of VRAM on Power Macintosh 7500 and 8500 series computers. If you have 2 MB of VRAM installed, you must install the VRAM DIMMs into the slots labeled 1. For example:

1 _____ 1 MB VRAM DIMM
2 _____
1 _____ 1 MB VRAM DIMM
2 _____

Also, you cannot install 3 MB of VRAM. The Power Macintosh 7500 and 8500 series computer allow only 2 and 4 MB VRAM configurations.
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Grolier‘s Encyclopedia: Errors and Lockups When Searching (1/96)

When attempting to search on the Grolier's Encyclopedia CD (version 7.0.4) that was included with my Macintosh computer, my computer locks up or displays a Type 11 error. How can I prevent this from happening?
This article has been archived and is no longer updated by Apple.
The Grolier's application requires that a printer is chosen in the Chooser. If a printer is not selected, the application cannot access necessary resources in the System file. To avoid these lock-ups and errors you must open the Chooser and select any printer driver.

These errors can occur on some PowerPC based Power Macintosh or Macintosh Performa series computer that have not yet had a printer chosen in the Chooser. Apple has verified that this error occurs on Power Macintosh 5200CD, 6200CD, 5300CD, 6300CD, 7200, 7500, 8100, 8500 and 9500 computers using System 7.5.x.

Apple has notified Mindscape (the distributor of the Grolier's Encyclopedia) of this issue.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.

Note:
The following computers are in the Macintosh 5200CD family: Macintosh 5200/75 LC, Performa 5200, Performa 5210, Performa 5215, and Performa 5220.

The following computers are in the Macintosh 6200CD family: Performa 6200, Performa 6214, Performa 6216, Performa 6218, Performa 6220, and Performa 6230.

Article Change History:
12 Jan 1996 - Updated information.

Support Information Services
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PowerBook 200 & Dock: MacTCP Has No Icons When Removed (1/96)

When my PowerBook 200 Series (Duo) is in the Dock, connect to Ethernet, and EtherTalk is selected in the MacTCP control panel. When I then remove the PowerBook from the Dock, the MacTCP control panel will show no network interface icons when opened.

If the PowerBook is reconnected to the same AppleTalk network with either LocalTalk, or Apple Remote Access (ARA), MacTCP will work properly. Reconfiguring MacTCP, however, is difficult because no zones are available to select a different MacIP server.

PowerBook 200 Series computers using the Ethernet icon in the MacTCP control panel do not operate this way. Why does this happen?
This article has been archived and is no longer updated by Apple.
The problem is the MacTCP control panel's inability to properly handle the disappearance of the Ethernet card. While the PowerBook 200 Series is docked with the EtherTalk icon selected in the MacTCP control panel, TCP/IP is being encapsulated in AppleTalk through an Ethernet card. When the PowerBook is removed from the Dock, the card is no longer available.

Some software recognizes that network configurations can change when a PowerBook 200 Series is not in the Dock, and adjust accordingly. For example AppleTalk, controlled by the Network control panel, automatically changes to LocalTalk Built In. MacTCP, however, maintains its last setting and works with whatever AppleTalk interface is selected in the Network control panel. This is why the PowerBook functions properly when connected to the network with the same MacIP server through either LocalTalk, or ARA.

Ordinarily on desktop systems, when the MacTCP control panel is opened, it presents a list of icons. If AppleTalk is turned on, IP is represented by either a LocalTalk, EtherTalk, TokenTalk, or Remote Only icon -- this dependents on which network interface is available. When the Ethernet card is not accessible by the PowerBook, the MacTCP control panel does not display EtherTalk. Although MacTCP may continue to work (as described above), it does not display an icon for the AppleTalk connection being used, and because the PowerBook has no Token Ring or Ethernet cards, no other icons are displayed.

If you want or need to have the correct icon displayed, go to the Network control panel, and reselect the AppleTalk connection. MacTCP will note the change in AppleTalk configuration, and refresh its icons when opened again.

Support Information Services
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AICK: Config PPP Does Not Have Enough Script Lines (1/96)

I am trying to get my Config PPP control panel connect script to work with the Chameleon server software my local service provider (ISP) running. I do not seem to have enough script lines available for the logon script. I was given 9 lines but my Config PPP only has 8 lines.
This article has been archived and is no longer updated by Apple.
The Apple Internet Connection Kit (AICK) dialer (Apple Internet Dialer) is an alternate user interface for configuring MacPPP, MacTCP, Open Transport's TCP/IP control panel, and some parameters in Internet Config. Configure your internet parameters in one place, rather than four.

MacPPP 2.1.4 (included with AICK) and FreePPP 1.0 are both derived from an earlier version of MacPPP - MacPPP 2.1.2SD. The documentation included with FreePPP and in particular the file Installing MacPPP provides the extra details you may need to configure AICK to work with your ISP.

You can put more than one command per line in both MacPPP and the AICK dialer, thereby working around the 8 line limit in many cases. With this information you and your provider should be able to come up with a script that works. Fax or email your ISP the Installing MacPPP document and then ask them to save the "recipe" you discover.

Support Information Services

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LaserWriter: How to Check ROM Version

This article describes how to check the ROM version of your PostScript printer.
This article has been archived and is no longer updated by Apple.
The version of ROM in your printer is printed on the startup page, vertically on the right margin.

You can also use the Apple Printer Utility to check what version of the IOP ROM the LaserWriter has installed:

1. Launch the Apple Printer Utility, select the zone in which the LaserWriter is located, click to select the printer, click Open Printer.
2. Click the arrow to the left of Printer Information, you will see the version of ROM and, depending on the type of LaserWriter, the version of PostScript ROMs also.

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3.5 Disk Drive: Ejection Problems

This article has been archived and is no longer updated by Apple.
Whenever a diskette from either a 800K Macintosh internal or external or a UniDisk 3.5 disk drive does not fully eject, the user must push the diskette back in and attempt to eject it electronically. For the Macintosh, this can be done by holding down the <SHIFT> and <COMMAND> (cloverleaf) keys and pressing '1' (for the internal drive) or '2' (for the external drive). The EJECT command from the FILE menu can also be used. For the UniDisk 3.5, the user can press the eject button on the front of the UniDisk. For either disk drive, the user should attempt this two or three times. As a last resort, a large paper clip can be inserted into the pin hole located to the right of the slot where the disk is inserted.

NOTE: Misalignment of the drive mechanism relative to the bezel, might cause extra drag friction on the floppy that is being ejected and thus cause the eject cycle to be interrupted. The June 1986 Service Mailing will instruct dealers on how to perform this alignment procedure.

IMPORTANT: Once the diskette becomes "frozen" and does not fully eject,the user must NOT force the diskette by pulling it out from the drive. Doing so can cause possible damage to the disk drive mechanism. If the user hastried to forcibly remove the diskette from the disk drive, refer to "Removing Diskettes Which Will Not Eject" below.

In addition to the precautions discussed above, the user should be aware of other factors which can affect the insertion and ejection of a diskette.

- A diskette should be inserted by pressing the diskette gently into the drive. Avoid grasping and pushing the diskette, as this may cause the diskette to go in only part way and stop. If this happens the user should attempt to eject the diskette as described above.

- Diskettes which contain three or more labels may not slide easily into and out of the diskette slot in the case. Should a third label be required, either the other labels should be removed first or the diskette should be discarded.

Technicians should also exercise care when removing or installing a Macintosh Internal disk drive mechanism. If the diskette opening in the disk drive mechanism is not properly centered, binding or friction may cause ejection problems. Refer to the Macintosh Technical Procedures for the proper installation proceures.

REMOVING DISKETTES WHICH WILL NOT EJECT

If a diskette becomes "jammed" in a customer's disk drive, the following procedure should be used to remove it prior to returning the disk drive.

1. Remove the disk drive. Refer to the Technical Procedures to do this.

2. If the disk drive is a Macintosh Internal drive, remove the RFI shield from the mechanism.

3. Place the disk drive mechanism on a flat surface, with the Printed Circuit Board facing down and the diskette opening facing you.

4. If the diskette is not already fully inserted into the disk drive, push it in until it is properly seated.

5. Press the eject lever at the right side of the disk drive.

6. Turn the disk drive so that the left side is facing you.

7. Located the small arm with a cylindrical cog at its end. This arm is located near the left-to-right center of the drive mechanism. This cog will be caught in the half-moon depression of the diskette case.

8. Insert a small screwdriver between the arm mentioned in step 7 and the diskette case. Gently move the arm away from the diskette until the diskette pops forward slightly. Remove the diskette from the disk drive.

9. Return the defective disk drive to Apple and follow the instructions in Technical Procedures to replace the disk drive with a new unit.

Compliments: Clayta Morand, Apple Service Product Support

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Installer & "Problem With Disk" Error Message (7/96)

When I try to install the Apple Internet Connection Kit (AICK) on my Macintosh Performa computer, the message "There is a problem with the disk you are installing onto" appears.

I have reinitialized my hard drive and restored a new System Folder, but get the same failure. What might be causing this? I have no other SCSI devices attached.

This article has been archived and is no longer updated by Apple.

Here are a couple troubleshooting procedures which should resolve this issue:

First

A new System Folder on a Macintosh Performa computer has Folder Protection enabled in the General Controls control panel by default. This setting causes this installer, and possibly others like a StyleWriter or Color StyleWriter installer programs to fail.

Disable Folder Protection in the General Controls control panel and then install AICK or other software.

Second

Remove the Launcher from the control panels folder and restart.

Article Change History:
31 Jul 1996 - Added second procedure.
09 May 1996 - Changed title and made article more generic.

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PowerBook 190 & 5300 Series: Is NSI 1.5.1 Needed (1/96)

Do I need to install Network Software Installer (NSI) 1.5.1 on my PowerBook 5300cs?
This article has been archived and is no longer updated by Apple.
The component software (except for AppleTalk v58.1.5) in NSI 1.5.1 is included with System 7.5.2 on PowerBook 190 and 5300 series computers, so you do not need to install NSI 1.5.1. The only exception, AppleTalk v58.1.6 which supports IRTalk is installed on the PowerBook 190 and 5300 series computers. IRTalk is a built-in infrared technology implementation.

NOTE: IRTalk is an option on the PowerBook 190 series computers. (Macintosh PowerBook Infrared Upgrade Kit Order No. M4071LL/A.)

Support Information Services
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ColorSync 2.0: Tektronix Printer Profile Compatibility

With ColorSync 2.0, I cannot access the ColorSync Printer profile, Tek Phaser 540 Plus, using the Filter Module in Adobe Photoshop. The profile does show up if I choose the Acquire command in the File menu in Photoshop.

I downloaded ColorSync profile (540+ 16x16) from Tektronix's ftp site to try it. Tektronix has ColorSync profiles for the Tektronix Phaser 140, 220i, 240, 340, and 540. The Tek Phaser 540 Plus printer profile was placed in the ColorSync Profiles folder along with Color LaserWriter 12/600 PS Profile. The Color LaserWriter 12/600 PS Profile does show up in the ColorSync Filter dialog box, however, the Tek Phaser 540 Plus Profile does not.
This article has been archived and is no longer updated by Apple.
The issue is not with the profile or with ColorSync, it is a limitation of how the Plug-ins/Photoshop 3.0 work currently.

Workarounds:

1) To use the Filter Module:

1. See Read Me for the Plug-ins
2. See Read Me for the Plug-ins
3. Click the "OK" button to start filtering.

Note: Due to limitations of the Photoshop Filter Module API, the ColorSync Filter Module can only match images from/to the same color space. Therefore, it cannot match an RGB image for a CMYK device, and vice versa.

2) Use the ColorSync Export-to-TIFF filter which enables you to convert between color spaces accurately by using input and output profiles. Once exported, you can then re-open the TIFF image (which was exported) and directly print it -- since color space conversion of the TIFF image to CMYK has already been performed.

The color space for the profile must match the color space of the current image in Photoshop in order for the profiles to show up in the Color Match - ColorSync Filter dialog. Color matching using the Filter plug-in can only be performed on "like" color spaces, for example image = RGB and device profile = RGB. With regard to why the Color LaserWriter 12/600 PS profile shows up in the Filter plug-in and the Tektronix 540P does not, this is because the LaserWriter 12/600 PS profile is defined in the RGB space while the Tektronix profile is defined in CMYK. It is possible to change the color space of the image in Photoshop by selecting a different color space (for example CMYK color) from the Mode menu, however, you will be using Adobe's proprietary color space conversion.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.
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Newton Backup Utility: How to Expand SYSUPDT.EX

I am running Windows 95 and am unable to expand the SYSUPDT.EX_ included on DISK1 of the Newton Backup Utility. There is no equivalent expand program included with Windows 95.

Is there another way to expand the SYSUPDT.EX_ under Windows 95?
This article has been archived and is no longer updated by Apple.
The third-party utilities WinZip or PK Zip for Windows 95 will expand the files on the Newton Backup Utility disk. You can also use Microsoft's expand.exe utility. If you have Windows 95 on CD-ROM disc, there is a directory called OTHER\\OLDMSDOS on the disc and located in this directory is expand.exe. Copy expand.exe from this directory to any location in the path statement to make it available for expanding the Newton file.

Microsoft Technical Support said if you have Windows 95 on floppy disks, you can copy expand.exe from another computer. This is not a copyright violation since it is included on the Compact Disc version of Windows 95.
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System 7.5 Update 2.0: What‘s Inside Control Panels?

This article comprises one of several Read Me documents installed with System 7.5 Update 2.0.
This article has been archived and is no longer updated by Apple.
Macintosh System 7.5.3 What's Inside the Control Panels Folder?

About this document

If you're curious about the contents of the Control Panels folder, this document provides a brief description of each control panel. You can use these descriptions to help determine which control panels you may need and which ones you may not need.

What is a control panel?

A control panel is a small piece of software that allows you to change your computer's settings to meet your needs. For example, you can change the pattern or color of your computer's desktop using the Desktop Patterns control panel.

You can use the Extensions Manager control panel to turn off any control panel you don't need on your computer.

Depending on the type of computer you have, the contents of your Control Panels folder may vary. You might have control panels that were added by third-party applications, and you don't need all the control panels described below. For complete instructions on using control panels, see Macintosh Guide, available in the Guide (question mark) menu when the Finder is the active program.

Apple Menu Options: You can turn the submenus available in the Apple menu (for recently used documents, programs and servers) on or off. You can also set the number of items that will appear in the menus. Works on all Mac OSbased computers that use System 7.5.

AppleTalk: You can specify AppleTalk settings (such as connection port and zone) for use with Apple's Open Transport networking. When you install Open Transport, the Network and MacTCP control panels are replaced with the AppleTalk and TCP/IP control panels. Works on all Mac OSbased computers that support Open Transport.

ATM GX: Makes your Type 1 fonts look sharp and clear at any point sizeboth on your screen and on paper. Improves the output of QuickDraw printers, such as the ImageWriter and StyleWriter series. Works on all Mac OSbased computers that use System 7.5

Auto Power On/Off: You can specify dates and times for your computer to automatically turn on or off, set a warning interval before turning off, and specify that your computer automatically restart after a power failure. Works only on computers that can be turned on from the keyboard (does not work on Macintosh PowerBook 500 models).

AutoRemounter: You can turn off the Losing Network Services message that appears when your PowerBook sleeps. You can also automatically reconnect your computer to any shared disks that were disconnected when your PowerBook went to sleep. Works on all Macintosh PowerBooks except models 100, 140, 145, 145B, and 170.

Brightness: You can adjust screen brightness. Works on Mac OSbased computers with onscreen brightness control, such as the Macintosh Classic and Classic II.

Button: You can disable the built-in volume and contrast buttons on the front of your computer. Useful in classroom situations with young students. Works on the Macintosh Performa and Macintosh LC 500 series of computers.

Cache Switch: You can turn processor caching for 68040-based Mac OS-based computers on or off. For compatibility reasons, processor caching may need to be turned off for some applications. Works on all 68040-based Mac OS computers, such as the Macintosh Quadra, Macintosh Centris, and Performa 400/500 models.

Color: You can set the color of highlighted text and window borders. Works on all Mac OSbased computers that use System 7.5 and have a color monitor.

CloseView: You can magnify your computer display for easier viewing. Works on all Mac OSbased computers except PowerPC-based models.

ColorSync System Profile: Part of the ColorSync system that provides consistent color across various types of equipment (printers, scanners, monitors, and so on). In the control panel, you can view and select ColorSync profiles. Works on all Mac OSbased computers that support ColorSync.

Control Strip: You can display or hide the Control Strip, and specify a font for Control Strip menus. With the Control Strip, you can control a variety of settings directly from your desktop, such as sound volume, monitor resolution, file sharing, and so on. Works with all Mac OS-based computers that use System 7.5.

Date & Time: You can set the date, time, and time zone on your computer. You can also set how dates and times are displayed. Works with all Mac OSbased computers that use System 7.5.

Desktop Patterns: You can change the pattern or color of your computer's desktop. Works with all Mac OSbased computers that use System 7.5.

Easy Access: You can press keys used in keyboard combinations one at a time (Sticky Keys), move the pointer using the numeric keypad (Mouse Keys), and set typing speed with audible response (Slow Keys). Works on all Mac OSbased computers that use System 7.5.

Extensions Manager: You can turn your computer's system extensions on or off. Extensions include items in the Extensions folder, control panels, and other startup programs in the System Folder. Works on all Mac OSbased computers that use System 7.5.

File Sharing Monitor: When file sharing is turned on, this control panel displays a list of users who are connected to your computer. Works on all Mac OSbased computers that use System 7.5.

General Controls: You can set various options, including desktop hiding, Launcher visibility at startup, folder protection to prevent folders and files from being deleted, insertion point blinking rate, menu selection blinking, and the default folder that appears in the Save dialog box. Works on all Mac OSbased computers that use System 7.5.

Keyboard: You can set the repeat rate and delay before repeat for your keyboard. Also lets you switch keyboard layouts. Works on all Mac OSbased computers that use System 7.5.

Labels: You can customize the color and text of file labels. (You can see labels in the Finder.) Works on all Mac OSbased computers that use System 7.5.

Launcher: You can open the Launcher window, where you can easily find and open programs. You can add items to the Launcher by placing an alias to your favorite applications, files, or folders in the Launcher Items folder in the System Folder.

MacTCP: You can control how your computer is connected to network services (such as the Internet) that use TCP/IP protocol. Works on Mac OSbased computers that use System 7.5. Does not work with Open Transport.

Macintosh Easy Open: You can customize the way a Mac OS or DOS/Windows document is translated, so you can open a document when you do not have the application that was used to create the document. Works on Mac OSbased computers that use System 7.5.

Map: You can locate popular cities around the world, and display longitude and latitude coordinates and local time. Lets you set the location of your computer. Works on all Mac OSbased computers that use System 7.5.

Memory: You can control memory settings, including disk cache, virtual memory, and RAM disk configuration. Works on all Mac OSbased computers that use System 7.5. Do not remove this control panel if you use a RAM disk.

Monitors: You can set the number of colors or shades of gray that are displayed. Sets monitor resolution for multiple scan monitors. On some Mac OSbased computers, the Monitors control panel is replaced by the Monitors & Sound control panel.

Monitors & Sound: A combined control panel that replaces the separate Sound and Monitors control panels. (It also replaces the Sound & Displays control panel.) You can use this control panel to specify information about monitors attached to your computer (for example, monitor resolution, monitor bit depth, monitor arrangement, and so on). You can also use this control panel to specify information about other audiovisual equipment attached to your computer (for example, audio CD players, VCRs, video cameras, external speakers, and so on.) Works on PowerPC-based computers with PCI slots.

Mouse: You can set the tracking speed and double-click speed for your mouse. Works on all Mac OSbased computers that use System 7.5.

Network: You can choose between network options installed on your computer. Typical choices are LocalTalk, Ethernet, or Token Ring. Works on all Mac OSbased computers that use System 7.5. Does not work with Open Transport.

Numbers: You can control how numbers and currencies are displayed on your computer (for example, where decimal points appear). Works on all Mac OSbased computers that use System 7.5.

PC Exchange: Allows your Mac OSbased computer to read files from ProDOS and MS-DOS disks. You can specify the Mac OS application program used to open a DOS document. You can also use SyQuest and Bernoulli disks on your desktop. Works on all Mac OSbased computers that use System 7.5.

PC Setup: You can set options for the DOS Compatibility Card. Works on all Mac OSbased computers that support the DOS Compatibility Card.

Power Macintosh Card: Used with 68040-based Mac OS computers that have an expansion card with a PowerPC processor. You can select which processor to use. Works on all Mac OSbased computers with a Power Macintosh Upgrade card.

PowerBook: You can set PowerBook-specific items, including hard disk sleep, system sleep, and screen dimming. You can also set processor cycling and (on certain computers) reduced processor speed. Controls backlight intensity and built-in video. Works on all Macintosh PowerBooks.

PowerBook Display: You can duplicate the images on your PowerBook display on an external monitor. Useful for controlling a presentation from your PowerBook while displaying the presentation on a large room monitor. Works on the Macintosh PowerBooks 160, 165c, 180, 180c, 200, and 500 models.

PowerBook Setup: You can set a unique SCSI ID number for your PowerBook when you're using SCSI disk mode. You can also specify a Normal or Compatible modem setting for your PowerBook. Use Normal for communication applications that are compatible with the Macintosh Communications Toolbox. Use Compatible for communication applications that are not compatible with the Communications Toolbox. Works on all Macintosh PowerBook 200 and 500 models.

PowerTalk Setup: You can turn collaboration services on or shut them off after a period of inactivity. You can also access your Key Chain. Works on all Mac OSbased computers that support PowerTalk.

Screen: You can control brightness and contrast for a built-in monitor. Works on all Mac OSbased computers with built-in monitors, such as the Macintosh Performa 400/500 models.

Serial Switch: Provides compatibility for some applications that use the printer or modem port. You can set the serial port option to Faster or More Compatible. Works on Macintosh IIfx and Macintosh Quadra 950 computers.

Sharing Setup: You can set file sharing options and specify a network name for your computer. Works on all Mac OS-based computers that use System 7.5.

Sound: You can set the alert sound and volume and specify a sound input and sound output source for your computer. On PowerPC-based computers with PCI slots, this control panel is replaced by the Monitors & Sound control panel.

Sound & Displays: A combined control panel that replaces the separate Sound and Monitors control panels. You can use this control panel to specify information about monitors attached to your computer (for example, monitor resolution, monitor bit depth, monitor arrangement, and so on). You can also use this control panel to specify information about other audiovisual equipment attached to your computer (for example, audio CD players, VCRs, video cameras, external speakers, and so on). Works on PowerPC-based computers with PCI slots.

Speech: You can set options for hearing text read aloud by the computer. If you have Speakable Items software and a PlainTalk-compatible microphone, you can set options for giving spoken commands to the computer. Works on all Macintosh 660AV and 840AV computers. Also works on all PowerPC-based AV computers.

Startup Disk: You can select the disk used to start up your computer. Works on all Mac OSbased computers that use System 7.5.

TCP/IP: You can specify TCP/IP settings for use with Apple's Open Transport networking. When you install Open Transport, the Network and MacTCP control panels are replaced with the AppleTalk and TCP/IP control panels. Works on all Mac OSbased computers that support Open Transport.

Text: You can select from the text features for the script systems installed on your computer. Works on all Mac OSbased computers that use System 7.5.

Trackpad: You can set how far the pointer moves when you move your finger on the trackpad, and how fast you double-click. Works on all Macintosh PowerBook 500/5000 models.

Users & Groups: You can specify who can access your computer's hard disk when file sharing is turned on. Works on all Mac OSbased computers that use System 7.5.

Views: You can customize how information is displayed in Finder windows. Works on all Mac OSbased computers that use System 7.5.

WindowShade: You can set whether to hide a window by clicking on its title bar. Works on all Mac OSbased computers that use System 7.5.

TA34975_System_Update_Whats_Inside_Control_Panels_(TIL19218).pdf

Published Date: Feb 19, 2012

System 7.5 Update 2.0: What‘s Inside Extensions Folder?

This article comprises one of several ReadMe documents installed with System 7.5 Update 2.0.
This article has been archived and is no longer updated by Apple.
Macintosh System 7.5.3 What's Inside the Extensions Folder?

About this document

If you're curious about the contents of the Extensions folder, this document provides a brief description of each extension. You can use these descriptions to help determine which extensions you may need and which ones you may not need.

What is an extension?

An extension is a small file that changes how your computer operates. Unlike a control panel, you typically do not have any direct interaction with an extension. An extension makes the appropriate changes when you start your computer and remains active until you shut down your computer.

Depending on the type of computer you have, the contents of your Extensions folder may vary. You might have extensions that were added by third-party applications, and you don't need to have all the extensions described below. You can use the Extensions Manager control panel to turn off any extension you don't need.

9500 Guide Additions: Adds step-by-step instructions for using features specific to the Power Macintosh 9500 to the onscreen help provided in Macintosh Guide. You can access Macintosh Guide from the Guide (question mark) menu when the Finder is active.

A/ROSE: Allows communication between your computer's main logic board and NuBus cards that run the Apple Real-Time Operating System. Examples of such NuBus cards include the Apple Token Ring 4.16 NB card and the Apple Serial NB card.

About Apple Guide: Provides information about how to use Apple's onscreen help system. You can access About Apple Guide from the Guide (question mark) menu when the Finder is active.

AppleCD Audio Player Guide: Provides step-by-step instructions for using the AppleCD Audio Player. You can access the AppleCD Audio Player Guide from the Guide (question mark) menu, after you install and open AppleCD Audio Player.

Apple CD-ROM: Enables your computer to use an Apple CD-ROM drive.

Apple Color Printer: Enables your computer to print documents on an Apple Color Printer.

Apple Color SW Pro CMM: Contains color-matching information used by ColorSync 2.0 to maintain consistent color between documents.

Apple Guide: Adds Apple Guide functionality to your computer. Apple Guide is Apple's integrated onscreen help system.

Apple Photo Access: Part of the CD-ROM software for viewing Kodak PhotoCDs.

AppleScriptLib: Provides native support for AppleScript on PowerPC-based computers.

AppleScript: Enables automation of repetitive tasks in applications that support it.

AppleShare: Gives you access to shared disks on the network.

AppleTalk ImageWriter: Enables your computer to print documents on a networked ImageWriter II.

AppleVision Guide Additions: Adds step-by-step instructions to Macintosh Guide about how to use AppleVision displays with your computer. You can access Macintosh Guide from the Guide (question mark) menu when the Finder is active.

Assistant Toolbox: This is the base extension for AutoRemounter. AutoRemounter works on Macintosh PowerBook computers and allows file synchronization, battery management, and easy mobile computing. It also provides support for a persistent RAM disk and deferred printing.

Audio CD Access: Lets you play audio CDs on your internal or external CD-ROM drive. Requires the AppleCD Audio Player or equivalent application to control the audio CD.

AV Guide Additions: Adds step-by-step instructions to Macintosh Guide about how to use AV monitors with your computer. You can access Macintosh Guide from the Guide (question mark) menu when the Finder is active.

AV Setup: Used to control AppleVision displays.

Caps Lock: Enables Caps Lock on a Macintosh PowerBook. (PowerBook keyboards don't have a Caps Lock key.) When Caps Lock is turned on, an "up" arrow appears in the menu bar next to the Guide (question mark) menu. (Not needed on Macintosh PowerBook 500 series computers, which have a Caps Lock key.)

Clipping Extension: Lets you use the drag-and-drop feature to create clipping files on your desktop.

Color Picker: Presents a standard interface for color selection. Applications can use this tool to let you choose colors.

Color SW 2000 Series CMM: Color-matching information used by ColorSync 2.0 to maintain consistent color between documents printed on a Color StyleWriter 2000 series printer and other color devices.

Color SW 2400: Enables your computer to print documents on a Color StyleWriter 2200 or Color StyleWriter 2400.

Color SW Pro: Enables your computer to print documents on a Color StyleWriter Pro.

ColorSync: Matches colors on your display with the closest matching colors on your printers, scanners, and other devices.

EM Extension: Works with the Extensions Manager control panel, which lets you specify which extensions are turned on when you start your computer.

Energy Saver Guide Additions: Adds step-by-step instructions for using Energy Saver to the onscreen help provided in Macintosh Guide. You can access Macintosh Guide from the Guide (question mark) menu when the Finder is active.

Ethernet (Built-In): Used by Open Transport to allow access to the built-in Ethernet port on your computer.

EtherTalk Phase 2: Lets you connect your computer to an Ethernet network.

File Sharing Extension: Enables your computer to share files and folders with other computers on your network.

Find File Extension: Lets you search for files and view the results in a single window. If you turn off this extension and choose Find from the File menu, you'll get the System 7.1 Find dialog box instead of the Find File window.

Finder Help: Provides Balloon Help support for the Finder.

Finder Scripting Extension: Allows you to use AppleScript to automate tasks in the Finder.

Foreign File Access: Enables your computer to work with CD-ROM discs whose contents don't use the standard Mac OS file system (for example, ISO 9660 or High Sierra formats).

Graphics Accelerator: Provides video acceleration for the PCI video card.

High Sierra File Access: Part of the CD-ROM software that lets you view CDs with High Sierra file systems.

IIci/IIsi Monitors: Describes the capabilities of the built-in video card for the Macintosh IIci and IIsi. If you remove this file, your computer can still use the video card and you can still select the number of colors displayed on your monitor, but monitor options (such as gamma settings) may not be available.

ImageWriter: Enables your computer to print documents on an ImageWriter or ImageWriter II connected to a serial port.

ImageWriter LQ: Enables your computer to print documents on an ImageWriter LQ connected to a serial port.

ISO 9660 File Access: Part of the CD-ROM software that lets you view CDs with ISO 9660 file systems.

LaserWriter: (version 7.2) Enables your computer to print documents on a PostScript printer connected to an AppleTalk network.

LaserWriter 300: Enables your computer to print documents on a Personal LaserWriter 300, LaserWriter Select 300, or a Personal LaserWriter LS.

LaserWriter 8: (version 8.x) A PostScript level II print driver that enables your computer to print documents on a PostScript printer connected to an AppleTalk network.

LaserWriter IISC: Enables your computer to print documents on a LaserWriter IISC connected to a SCSI port. Replaced by Personal LaserWriter SC.

LW Select 310: Enables your computer to print documents on a LaserWriter Select 310.

MacinTalk Pro: Lets your computer read text documents in human-like voices. Older computers (with 68030 or 020 processors) should use MacinTalk 3 instead.

MacinTalk 3: Lets your computer read text documents in human-like voices. Used by MacinTalk version 3. Computers with 68040 or PowerPC processors should use MacinTalk Pro instead.

Macintosh Guide: Contains step-by-step instructions for working in the Finder. You access Macintosh Guide from the Guide (question mark) menu when the Finder is active.

MacTCP Token Ring Extension: Enables you to connect to a Token Ring network using TCP/IP protocol.

Mailbox Extension: Supports your PowerTalk mailbox. Enables the Mailbox icon to appear on your desktop.

Monitors & Sound Guide Additions: Adds step-by-step instructions for using the Monitors & Sound control panel to Macintosh Guide. You access Macintosh Guide from the Guide (question mark) menu when the Finder is active.

My Speech Macros: Supports the Speech Macro Editor.

Network Extension: Lets you set Personal File Sharing from the Finder.

Network Guide Additions: Adds step-by-step instructions for using your computer's network to Macintosh Guide. You access Macintosh Guide from the Guide (question mark) menu when the Finder is active.

ObjectSupportLib: A library developers use to support AppleScript on PowerPC-based computers.

Open Transport Guide Additions: Adds step-by-step instructions for using Open Transport to Macintosh Guide. You access Macintosh Guide from the Guide (question mark) menu when the Finder is active.

Open Tpt AppleTalk Library: Used by Open Transport for the AppleTalk communication protocol.

Open Tpt Internet Library: Used by Open Transport for the TCP/IP communication protocol.

Open Transport Library: Used by Open Transport.

OpenTptAppleTalkLib: Used by Open Transport for AppleTalk communication protocol.

OpenTptInternetLib: Used by Open Transport for the TCP/IP communication protocol.

OpenTransportLib: Used by Open Transport.

PB 500 Upgrade Guide Additions: Adds step-by-step instructions for using features specific to the PowerBook 500 to Macintosh Guide. You can access Macintosh Guide from the Guide (question mark) menu when the Finder is active.

PB 190 Upgrade Guide Additions: Adds step-by-step instructions for using features specific to the PowerBook 190 to Macintosh Guide. You can access Macintosh Guide from the Guide (question mark) menu when the Finder is active.

PB 2300 Upgrade Guide Additions: Adds step-by-step instructions for using features specific to the PowerBook 2300 to Macintosh Guide. You can access Macintosh Guide from the Guide (question mark) menu when the Finder is active.

PB 5300 Upgrade Guide Additions: Adds step-by-step instructions for using features specific to the PowerBook 5300 to Macintosh Guide. You can access Macintosh Guide from the Guide (question mark) menu when the Finder is active.

Personal LaserWriter SC: Enables your computer to print documents on a Personal LaserWriter SC or a LaserWriter IISC.

Portable StyleWriter: Enables your computer to print documents on a Portable StyleWriter.

PowerBook Guide Additions: Adds PowerBook-specific topics to Macintosh Guide. You can access Macintosh Guide from the Guide (question mark) menu when the Finder is active.

PowerBook Monitors Extension: Describes the PowerBook built-in display. If you remove this file, your computer can still use the PowerBook video card and you can still select the number of colors your screen can display, but certain options (such as gamma settings) may not be available.

PowerPC Monitors Extension: Supports the AudioVision 14 monitor.

PowerTalk Extension: Supports PowerTalk services. Includes information used by the PowerTalk key chain.

PowerTalk Guide: Provides step-by-step instructions for using PowerTalk. You can access the PowerTalk Guide from the Guide (question mark) menu, after you install PowerTalk.

PowerTalk Manager: Manages your PowerTalk mailbox and services.

Printer Descriptions: Contains descriptions for all printers that use the LaserWriter 8 printer software.

Printer Share: Provides the ability to share non-network printers (for example, the StyleWriter II) across a network.

PrintMonitor: Controls the printing process when background printing is activated.

Quadra AV Monitors Extension: Describes the capabilities of the built-in video card for the Macintosh Quadra and Centris AV computers. If you remove this file, your computer can still use the video card and you can still select the number of colors displayed on your monitor, but monitor options (such as gamma settings) may not be available.

Quadra Monitors Extension: Describes the capabilities of the built-in video card for the Macintosh Quadra and Macintosh Centris computers. If you remove this file, your computer can still use the video card and you can still select the number of colors displayed on your monitor, but monitor options (such as gamma settings) may not be available.

QuickTime: Provides built-in multimedia support for applications.

QuickTime PowerPlug: Provides native support of QuickTime for PowerPC-based computers when used in combination with QuickTime 2.0. This extension must be used in addition to QuickTime 2.0.

QuickTime Musical Instruments: Supports 30 Roland Standard MIDI sound samples that can be accessed by QuickTime applications with no additional MIDI equipment.

Scripting Additions: Extends the AppleScript language with special features, such as finding the date or time of day. With scripting additions installed, AppleScript acts as if these features are part of the language. Scripting additions are required only when a script uses them.

Serial (Built-In): Used by Open Transport to allow access to the built-in serial port on your computer.

Shared Library Manager: Provides native support for Open Transport.

Shortcuts: Explains common keyboard equivalents and other shortcuts to use in the Finder. You can access Shortcuts in the Guide (question mark) menu when the Finder is active.

SimpleText Guide: Provides step-by-step instructions for using SimpleText. You can access the SimpleText Guide from the Guide (question mark) menu, after you open SimpleText.

Speech Guide Additions: Adds step-by-step instructions for using speech recognition to the onscreen help provided in Macintosh Guide. You can access Macintosh Guide from the Guide (question mark) menu when the Finder is active.

Speech Recognition: Provides support for speech recognition.

SR Monitor: Used to monitor and interpret speech.

StyleWriter II: Enables your computer to print documents on a StyleWriter II. Replaced by StyleWriter 1200.

StyleWriter 1200: Enables your computer to print documents on a StyleWriter, StyleWriter II, or StyleWriter 1200.

SystemAV: Used for audio-video input.

System Speech Rules: Supports voices and speech dialects.

TokenTalk Phase 2: Used by the Apple Token Ring card.

TokenTalk Prep: Supports TokenTalk Phase II.

Tutorial Items: Provides instructions for learning basic skills on your computer. You can access the tutorial from the Guide (question mark) menu when the Finder is active.

Video Guide Additions: Adds step-by-step instructions for using video to the onscreen help provided in Macintosh Guide. You can access Macintosh Guide from the Guide (question mark) menu when the Finder is active.

Video Startup: Used by the Apple Video Player.

WorldScript Power Adapter: Supports language kit software on PowerPC-based computers.

Published Date: Feb 19, 2012

System 7.5 Update 2.0: What‘s Inside the System Folder?

This article comprises one of several ReadMe documents installed with System 7.5 Update 2.0.
This article has been archived and is no longer updated by Apple.
Macintosh System 7.5.3 What's Inside the System Folder?

About this document

If you're curious about the contents of the System Folder, this document provides a brief description of what's inside.

Depending on the type of computer you have, the contents of the System Folder may vary. You might have items that were added by third-party applications, and you don't need all the items described below.

Finder: Displays the desktop area, where you work with files and disks, and keeps track of your files.

Apple Menu Items folder: When you place an item (folder, application, or document) in this folder, it appears in the Apple menu. To create submenus, you can place folders inside of folders.

Clipboard: Temporarily stores the last item you cut or copied from a document.

Control Panels folder: Contains individual control panels. You use control panels to adjust your computer's settings. See the "About the Control Panels" document in the Apple Extras folder for more information.

Control Strip Modules folder: Contains modules used by the Control Strip. The Control Strip works on Macintosh PowerBooks and Mac OSbased computers that support AppleVision displays.

Extensions folder: Contains individual extensions that modify the operation of your computer. Unlike a control panel, an extension works automatically, without your intervention. See the "About the Extensions Folder" document in the Apple Extras folder for more information.

Fonts folder: Contains font suitcases or individual font files. You can place up to 128 suitcase or font files in this folder. PostScript fonts are not included in the 128 file limit. Font suitcases can hold any number of font files, up to a limit of 16 MB.

Launcher Items folder: Contains files, folders, and applications that appear in the Launcher window.

Macsbug: A debugger used by programmers to help diagnose problems with programs, extensions, and so on. Unless you're programming, you don't need Macsbug.

Note Pad: Stores text placed on the Note Pad. (The Note Pad is available in the Apple menu.)

Preferences folder: Contains preferences files created by individual applications. A preference file determines application settings.

PrintMonitor Documents folder: Contains printer files of documents waiting to be printed (if background printing is on in the Chooser).

Scrapbook: Stores items placed in the Scrapbook. (The Scrapbook is available in the Apple menu.)

Shutdown Items folder: Contains applications or scripts that run automatically when you shut down your computer. You can add or remove items from this folder.

Startup Items folder: Contains applications or scripts that run automatically when you start your computer. You can add or remove items from this folder.

System file: Contains some system-wide resources, such as sounds and keyboard layouts.

Universal Enabler: Provides additional system software for your computer.

Published Date: Feb 19, 2012

PowerShare: Error Code 83 Meaning (1/96)

This article describes what the PowerShare error code 83 means.
This article has been archived and is no longer updated by Apple.
The PowerShare error code 83 is an internal error: rServerNumbersSame. Somehow two replicas of the Folder Directory (dNode #2) are using the same server number (which forms the top half of creationIDs). This is a bad error which causes the replication between the two replicas to fail.

To fix the error, a user should remove the copy of the folder directory from the server reporting the error. Then re-create the copy once the server log indicates that the removal has completed successfully.

Support Information Services
Published Date: Feb 19, 2012

Newton 2.0 OS: New Modem Setup Choices

There are several different modem setups available in the Newton 2.0 OS preferences. What kinds of modems are they for and how do they compare with the modem setups included with previous Newton Modem Enabler 1.0?
This article has been archived and is no longer updated by Apple.
There are eight different choices for modem setups in the Newton 2.0 OS. The different setups are described below. If the setup had a different name in the Newton 1.x OS, it is listed after the description. New setups are also labelled after the description.

Newton Modem -- For use with the either the external Newton modem or the PCMCIA Newton modem.

Moto Cellular -- For use with the Motorola CELLect PCMCIA and Motorola CELLect pocket modems connected to any data-capable Motorola MC2 Microtac cellular phone. Connection speed is locked to 4800 baud. Formerly MotoCELLect Cellular in the Newton 1.x OS.

Moto Cellular Fast -- Same as above but connection speed is 9600 baud. New for Newton 2.0 OS.

Moto Landline -- For use with the Motorola CELLect PCMCIA and Motorola CELLect pocket modems connected to standard telephone lines. Formerly MotoCELLect 14.4 in the Newton 1.x OS.

Hayes 28.8 -- For use with Hayes compatible 28.8 modems. New for Newton 2.0 OS.

Hayes EC -- For use with modems (including Hayes brand modems) that implement the complete Hayes command set. Formerly Hayes Error-Correcting in the Newton 1.x OS.

Hayes Compatible -- For use with the majority of other modems that implement the basic Hayes commands, but use a different set of commands for configuring features, such as error correction and flow control.

Hayes Basic -- For use with Hayes compatible modems that do not support features such as error correction of data compression. This setup can also be used when the other Hayes setups fail. New for Newton OS 2.0.
Published Date: Feb 19, 2012

Apple Media Tool 2.0: Runtime For Windows No Sound Card

How can I create a Runtime for Windows in Apple Media Tool 2.0 that will work on a computer that does not have a sound card?
This article has been archived and is no longer updated by Apple.

How To Edit The PROJ.INI File

The below file is the PROJ.INI file that is created with Runtime Maker 2.0 that can be opened with SimpleText and edited in the following way:

Step 1

Find ;REQUIRE SOUND=yes or no.

Step 2

Remove the semicolon - that is a comment.

Step 3

Put No after the = sign and save the file.

Contents Of The PROJ.INI File

The PROJ.INI file contains this information:

```
[Media]
;Media Folder=
;TRANSPARENCY=driver or bitmap
;REQUIRE SOUND=yes or no

[FONT]
Chigago=System
Courier=Courier New
Geneva=Arial
Helvetica=Arial
Monaco=FixedSys
New York=Arial
Symbol=Symbol
Times=Times New Roman
Palatino=Times New Roman
Osaka=lr

[SIZE]
;HEAP=640
;STACK=64
;MINIMUM RAM FOR BIT DEPTH 8=4096
;MINIMUM RAM FOR BIT DEPTH 16=4096
;MINIMUM RAM FOR BIT DEPTH 32=4096
```

Published Date: Feb 19, 2012

PowerBook 5300 Series: Wide Black Bands on the Screen (1/96)

Why are there two wide (about 1/4 inch) black bands (borders) across the top and bottom of my PowerBook computer's display? I can still see the menu bar and the Trash.

This article has been archived and is no longer updated by Apple.

There are two cases where black bands can occur on the screen of PowerBook 5300 computers as you describe.

1) A Macintosh PowerBook 5300c computer with 512K of Video RAM (VRAM). The model that comes with 8 MB of RAM on the Logic Board does have the same display as the 5300c which has 1 MB VRAM, so it will display thousands of colors. When "Thousands" are checked in the monitor control panel, the display reduces from 640x480 to 640x400 just like on the PowerBook 540c, 270c, and 2300c computers. This causes black bands on the top and bottom of the screen.

2) A Macintosh PowerBook 5300ce computer used with a 13" or 14" monitor. If mirroring is turned on, the internal display will have to reduce from 800x600 down to 640x480 and will cause a black band to appear around the outside edge of the screen.

Support Information Services
Published Date: Feb 19, 2012

Newton 2.0 OS: Cannot Backup System Update

Sometimes when I do a card backup on my Apple MessagePad 120 running Newton OS 2.0, it fails with a message that says, "The system update could not be backed up."
This article has been archived and is no longer updated by Apple.
This is a known issue relating to memory management. If you experience this error message, you can simply reset the Apple MessagePad and then do the backup after the card is mounted.

How to Reset the Apple MessagePad
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You need to perform a "soft" reset. A Soft Reset resets the Newton OS. It does NOT erase any data or handwriting training on the Apple MessagePad. However, you should check the Time in the Date and Time Prefs preferences file. The clock in the Apple MessagePad may lose some time when you press the Reset button.

1) Press and release the Reset button in the battery compartment for two seconds.

2) If the Apple MessagePad is on, it restarts itself. If the Apple MessagePad is off, it turns itself on.
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MAE 2.0: Technical Note 1 of 3

This article is the Macintosh Application Environment (MAE) 2.0 technical note.
This article has been archived and is no longer updated by Apple.

Table Of Contents

The MAE Desktop and the Finder
File System

See Also

MAE 2.0 FAQ (Frequently-Asked Questions), available on
http://www.mae.apple.com or via anonymous ftp from ftp.support.apple.com
in directory /pub/mae/info/FAQ/2.0.

MAE 2.0 README.TXT (on MAE 2.0 product CD-ROM)

The MAE Desktop and the Finder

Support for MacsBug, Drag and Drop

Both MacsBug (a popular tool for debugging Macintosh applications) and Drag and Drop (a utility to assist Macintosh application launching) are not supported under MAE. Attempts to use either of these applications will have unpredictable results.

Distributing Common Extensions, Control Panels, Preferences, etc.

When MAE is started for the very first time for a particular user, it creates a System Folder in the user's $HOME directory by copying the files located in apple/sys directory. These system files can then be customized by the user to suit their particular MAE environment. If numerous users will be utilizing the same mail application, meeting planner or other productivity application, it is likely that one or more files will need to be added to their System Folder. By adding these files (typically Extensions and Control Panels) to the apple/sys directory (in their respective folders), a new System Folder can be created for each new user that already contains the necessary files. This way, only the application may need to be copied to the user's $HOME directory. In a similar fashion, you can distribute preset Preferences files as well. Note that this method of distributing common resources does not populate existing System Folders.

For example, you might wish to place all the necessary Extensions and Control Panels in the apple/sys directory for a network-based mail application, and include the Preferences file for that application. This would ensure that the user already had the proper name and location of the mail server as well as any additional system resources required by the application.

Using Global Fonts to Minimize Disk Usage

By default, MAE users do not share their individual Fonts directories. Since each user must be able to modify the directory (for both adding and deleting fonts), management of the Fonts directory as a modifiable shared resource would be difficult. As an alternative, have the system administrator create a globally accessible Fonts directory which is read-only and allow only the superuser to add or delete fonts. In this manner, the directory can be populated with many fonts that would otherwise be duplicated for each user, thus preserving more disk space. Once this has been done, each user can delete their private Fonts directory and create a symbolic link to the shared Fonts directory (using `ln -s').

Icon Placement When Resizing Windows

Whenever the display window for the MAE desktop is resized, all icons are aligned on the right side of the window. The Trash will be moved to the lower right corner and the startup drive (which always appears as "/" in MAE) will appear on top. Any other icons, including the user's home directory, are placed below and to the left of the startup drive. To avoid the loss of any custom icon placement you can iconify MAE if more workstation desktop space is desired.

Flashing Menu Bar After Exporting to X

If text is selected from an open application such as "Note Pad" and exported to X (using the "Export to X" key from the MAE toolbar), the Finder menu bar may flash or disappear when returning focus to MAE. If this happens, clicking on the Macintosh Desktop within MAE will restore the menu bar.

Rebuilding the Desktop

If MAE is started with the -rebuild option, MAE will search for files in the System Folder and appledir. If you have applications and documents that are not in these directories, they will revert to generic icons until they are used again by the Finder. This is different from native Macintosh behavior and was implemented to prevent MAE from potentially trying to resolve icons for multiple remotely-mounted file systems, which could take a great deal of time. However, you can put symbolic links into a directory of your choosing and have those file systems searched during a Desktop rebuild. To do this, start MAE with the -applepath <dir> option, where <dir> is the full pathname of the directory. For example, if your symbolic links are located in a directory whose path is /usr/joe/rebuild, you can start MAE with

```
 mae -rebuild -applepath /usr/joe/rebuild
```

Files that are contained within folders that have been assigned a label from the Finder (for example, "Hot") will revert to an unlabeled state when the Desktop is rebuilt. This behavior does not occur with files that are located on the Desktop itself.

Creating Aliases by Dragging Files to the MAE Desktop

When you drag an item to the MAE desktop, MAE creates a Macintosh alias to the item; the item itself remains in its original location. The name of the alias is the name of the original item plus the word "alias"; it is displayed in italics. For example, if you drag a file called "My.file" to the desktop, MAE creates an alias called "My.file alias." You can open the original item by double-clicking its alias on the desktop. If you delete the alias by dragging its icon to the Trash, the original item is not deleted. (For more information about aliases, see "Creating an Alias" in the MAE USER'S GUIDE, Appendix A.)

Aliases themselves are treated no differently from other items; dragging an alias to the desktop creates an alias to the alias to appear on the desktop. For example, if you drag an alias called "Status.report alias" to the desktop, MAE creates an alias called "Status.report alias alias."

Because this treatment of aliases differs from standard Macintosh procedure, it can confuse experienced Mac users. For example, in a Macintosh, to bring an alias of an item to the desktop, you select the item, make an alias using the MAKE ALIAS entry in the finder's FILE menu, then drag the alias to the desktop. The same sequence of events in MAE causes a second-level alias to appear on the desktop, and leaves the first-level alias in the same folder as the original item. The alias on the desktop appears to function normally, but it actually refers to the first-level alias, not to the original item. If you delete the first-level alias ("Status.report alias"), you will no longer be able to use the second level alias on the desktop ("Status.report alias alias") to refer to the original item.

Aliases and Multiple UNIX File Systems

If an item that is the target of an alias is moved to a different file system, the linkage between the alias and the original item is broken; double-clicking the alias will no longer open the original item. MAE displays an alert box, telling you that it cannot locate the original item. For example, if you create an alias to a file located in /usr, and then drag the file to your home directory, MAE won't be able to open the file when you double-click its alias. Similarly, if you select the alias, choose Get Info from the File menu, and click the Find Original button, MAE displays an alert box, telling you that the command could not be completed because the original item could not be found.

If the Message "~ not found" Appears When You Launch a UNIX Command
---
MAE allows you to add options and arguments to a UNIX command when you launch the command from the MAE desktop. When you hold down the Control key while you double-click a UNIX file, the command-launch dialog box appears. You can add options and arguments to the command by typing them in the command-launch dialog box. (See "Adding Command Options when Opening a UNIX Command File" in the MAE USER'S GUIDE.) However, some special symbols commonly used in UNIX commands are not treated by MAE in the same way they are in UNIX, and should not be included in the command-launch dialog box. These include the tilde (~) character and environment variables such as $HOME.

Changing the Font Size on the Desktop

Use the Views Control panel to select the size of the desktop font used for filenames.

Find File

The Finder's Find File utility may find the same file more than once if it traverses symbolic links. Because it reports the actual path, rather than the symbolic path, you may see items repeated with the same pathname.

Remote mountpoints will be searched by the Finder's Find File utility, even though the option in that utility says "Find items on Local Disks". MAE treats all UNIX mount points as local. The "mounted servers" option refers to AppleShare servers mounted via the Chooser.

File System
==========

Application Location for Optimal Performance

To obtain the best possible performance from your Macintosh applications with MAE, you can place all applications in one central directory on a local disk. By doing this, you will decrease the time it takes to load the application into memory, as applications located from remote volumes will be subject to network performance. Even if you are not able to store the applications locally, placing them in a single directory will enable MAE to better associate documents with their creator applications. This is performed the very first time MAE is launched, and is referred to as `rebuilding the desktop.' For more information on this strategy (and usage of the `-applepath' command line switch), please refer to Tech Note #2, available via FTP or via WWW.

File Type of UNIX Files

An MAE Get Info operation on a UNIX file, either a text file or a binary file, shows the type of file as "MAE Helper Document". This is normal MAE behavior, to support UNIX file launching.

How does MAE handle case-sensitive MAE file names?

MAE has two modes of treatment for file names:

Case-insensitive (the default mode).

Case-sensitive, selected by the -caseon option on the MAE command line.

In the default (Case-insensitive) mode, MAE behaves like a Macintosh. The file name "a" is treated the same as the file name "A". If you have a file named "a" and try to save a new file named "A", MAE will ask you to confirm that you want to replace the file, as in Mac OS. If two UNIX files "a" and "A", are in the same directory, MAE will see only one of them.

When MAE is executed with the -caseon option, file name treatment is case-sensitive. The files "a" and "A" are treated differently. You can have both a file named "a" a new file named "A" in the same directory. Both files will show up in the Standard File dialogs.

Because the determination of case sensitivity is happening at the lowest level of the file system, the Finder and all applications share the file view described above.

Installation onto AFS filesystems (HP)

On HP-UX systems, MAE installation may fail with the error message "Read-only filesystem". Also, a bug in the MAE installer is sensitive to extremely large AFS file systems.

A simple workaround to circumvent these difficulties: install MAE on a local or NFS volume, then copy the entire result - the apple directory, and the System Folder and .mac folders, if they exist - to AFS.

AppleSingle and AppleDouble File Formats

By default, MAE stores files in the UNIX file system in a format called "AppleSingle", which is unlike Mac OS files, which have both resource and data forks. In AppleSingle-format files the resource fork information is prepended to the data fork, creating one file -- a larger file that you see in UNIX.

This explains why using MAE to copy files from a CD or from network-based volumes can result in source and destination files of different sizes, as viewed by the UNIX file system.

If this behavior is unacceptable, you can force MAE to default to saving files as AppleDouble by adding the -filedouble option to the MAE command line. This forces MAE to keep Mac OS files as separate data and resource forks. From MAE, it will appear as one file, but within UNIX, you will see a file name 'name' (data fork) and '%name' (resource fork). The file 'name' will then be the same size in UNIX as the Finder reports.

Also, UNIX applications may fail to recognize MAE AppleSingle files, because they see them as corrupted. This "corruption" can occur in a number of different ways. For example, under FileShare, if a UNIX file is dragged from a Macintosh to MAE, the file will be written by MAE in AppleSingle format, which may make it unusable. This occurs because the Macintosh doesn't know anything about UNIX files, so when it sends one to MAE, MAE thinks it's a Macintosh file and writes it to disk accordingly.

This situation does not occur between two MAE sessions that are sharing files, since MAE recognizes UNIX files for what they are and does not store "resource" information about them. When dragging a UNIX file between two MAE sessions, MAE correctly treats the file as a UNIX file.

Using ftp utilities such as Fetch from MAE can also be problematic. When "getting" a file, Fetch will pass the file to MAE to be written to disk. This works fine for Macintosh files since they will be written as AppleSingle files. However, when "getting" a UNIX file, MAE will likewise write this file as an AppleSingle file, which can make it unusable by UNIX applications.

Text files are handled differently by MAE. Text files are always written by MAE in AppleDouble format to facilitate reading and writing by both Macintosh and UNIX applications (newline characters are automatically translated by MAE; they are stored on disk as UNIX newlines). So in the examples above, when dragging a text file from a Macintosh to MAE or when Fetch gets a file using ftp "Text" mode (that is, ASCII mode), MAE will write the file in AppleDouble format.

NOTE: Fetch 3.0 and higher will not work with MAE 2.0.2, use version 2.x.x.

As a rule of thumb, it's best to use UNIX to work with UNIX files and MAE to work with Macintosh files. If your environment requires the same (non-text) files to be regularly handled by both MAE and UNIX, then you're probably a candidate for running MAE in AppleDouble mode, by launching it with the -filedouble option.

If this behavior is unacceptable, you can force MAE to default to saving files as AppleDouble by adding the -filedouble option to the MAE command line. This forces MAE to keep Mac OS files as separate data and resource forks. From MAE, it will appear as one file, but within UNIX, you will see a file name 'name' (data fork) and '%name' (resource fork). The file 'name' will then be the same size in UNIX as the Finder reports.

Space for /users (HP)

On HP Series 700 workstations the capacity of /users may need to be increased to provide space for an MAE System Folder for each user. When this necessitates the creation of a new file system, the new file system must support long file names.

The process below copies the contents of /users to a new MAE-compatible file system:

Log on as superuser

If /users is a MOUNTED FILE SYSTEM, create a new mount point /users.temp
 and remount /users on /users.temp. If /users is IN THE ROOT FILE SYSTEM,
 change the name of /users to /users.temp by using the command

```
mv /users/users.temp
```

To create a new file system, start SAM (System Administration Manager)
 by typing the command

```
sam &
```

Use SAM to perform these steps:

1) Select "Disks & File Systems" -> "CD-ROM, Floppy and Hard Disks"
2) Select the new SCSI Drive, highlight 'Action' and select 'Add a Hard

```
   Disk'
 3) Select 'Modify Defaults' and select "Use Long File Names" (See NOTE)
 4) Select OK and mount the new File system to /users
 5) exit SAM

 NOTE: The "Use Long File Names" option results in a file system that
 will support file names longer than 14 characters. The SAM default
 supports file names only up to 14 characters, and prevents MAE from
 properly creating long Macintosh file names on that file system.

Now copy the contents of /users.temp to the new file system as follows:

 cd /users.temp
 find . -print -depth | cpio -pdumv /users

Before proceeding, verify that the contents of /users are the same as
 the contents of /users.temp.

If /users.temp is a MOUNTED FILE SYSTEM, unmount it. If /users.temp is
 IN THE ROOT FILE SYSTEM, remove it with the command

 rm -rf /users.temp
```

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MAE 2.0: Technical Note 2 of 3 (1/96)

This article is the Macintosh Application Environment (MAE) 2.0 technical note.
This article has been archived and is no longer updated by Apple.
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Networking
Floppy Disks and CD-ROMs

See Also

MAE 2.0 FAQ (Frequently-Asked Questions), available on
http://www.mae.apple.com or via anonymous ftp from ftp.support.apple.com
in directory /pub/mae/info/FAQ/2.0.

MAE 2.0 README.TXT (on MAE 2.0 product CD-ROM)

Networking

Selecting AppleTalk Zones

Under some circumstances, a user of MAE may not be able to select a different default AppleTalk zone even though there may be others available. For example, if two or more copies of MAE are executing on the same physical workstation, none of the MAE users will be able to change zones. Another possible scenario is that AppleTalk has not shut down properly (that is, it was still up even after all copies of MAE were shut down). To ensure that AppleTalk is not currently running, execute the command `appletalk -D'. (For more information on usage of the `appletalk' command, reference the next topic.)

Using the `appletalk' Unix Command

As part of the MAE v2.0 distribution, Apple includes a utility to assist in management and diagnosis of problems with the AppleTalk services that are part of MAE. With this utility you can stop or start AppleTalk services independent of MAE, as well as obtain detailed information on the AppleTalk services currently executing on that workstation. For more information, reference Chapter 5 of the `MAE System Admin Guide', a DocViewer document included with your CD-ROM distribution of MAE.

(Sun only) File Modes For Non-le0 Interfaces

By default, device drivers used for LAN interfaces under Solaris are designated as read-only for the superuser (root). As MAE allows any non-privileged user to bring up AppleTalk (which is normally done the first time MAE is started on each workstation), it is necessary that the file permissions be changed to world-readable. The MAE v2.0 installation script automatically changes the permission for the device `le0'; all others need to be made world-readable before MAE will be able to use those devices.

Personal File Sharing and MAE

For some system administrators, providing MAE users with the capability of sharing Unix directories via AppleShare File Sharing may present a possible security risk. To prevent this from happening, remove the file named `File Sharing Extension' from the Extensions folder located inside the apple/sys directory. Now, when the System Folder for the new user is created, the Extension will not be present. This will prevent the user from sharing directories on the workstation.

Remote (Network) File System Performance and Timeouts

When a user's System Folder or Apple directory (appledir) resides on a network file system (for example, NFS), performance will be affected by the configuration and by the loads on the file servers involved. In some cases, this affects MAE behavior. For example, to avoid "hanging" forever because of communication failure with an NFS host (a problem in MAE 1.0), MAE v2.0 periodically reviews ongoing file operations and will abort any file system operation that loses communication for a specified threshhold time (called the "File System Timeout"). This timeout is ten seconds by default. This means that if MAE waits for a response from an NFS-mounted file system for more than the timeout, MAE gives up on the access and returns failure. If the operation is non-critical (for example, a directory listing), MAE treats that file system as inaccessible. If the access is critical to MAE's operation (such as the Finder) then MAE will hang.

In configurations with heavy network traffic (resulting in slow network response), MAE's default timeout setting may be too short. If so, you may see an error such as "... because the disk `/' cannot be found." Using the -fstimeout option at startup will increase the amount of time that MAE will wait before giving up on a remotely-mounted filesystem and help to prevent MAE from hanging. For example, you can start MAE with the command `mae -fstimeout 30' which sets the timeout to 30 seconds. This value should be sufficiently high for networks where response time is

variable due to heavy loads. If -fstimeout is set to 0, the heartbeat function is disabled and MAE will wait indefinitely for a remote file system (this is identical to MAE v1.0).

If network response time is still affecting the performance of MAE after you increase the value of -fstimeout, consider putting the System Folder or Apple directory (appledir) on a local volume.

Appletalk Options

The following AppleTalk command options are missing from the man pages:

appletalk - enables you to configure and display AppleTalk network interfaces

-b hardware-interface Identifies the hardware interface that EtherTalk
is to use. The value of hardware-interface is a string, such as le0
through le9 for Solaris, lan0 through lan9 for HP-UX, that identifies
the Ethernet hardware on a computer that has more than one Ethernet
card. This option must be used with the -u option. The default
hardware interface is le0 for Solaris and lan0 for HP-UX. Only
interfaces 0 through 9 are supported.

-u Makes AppleTalk active and stores the state of AppleTalk in PRAM.
AppleTalk will stay active until an appletalk -D is issued.

(Sun only) Unloading AppleTalk streams modules on Solaris systems
---
On Solaris sytems, the AppleTalk stream driver 'atalk' and three other AppleTalk stream modules, 'at_atp', 'adsp' and 'at_sig', are dynamically loaded into the system when MAE starts up. The driver and the modules will not be unloaded until the workstation is rebooted. If a 'modunload' command is issued on any one of the stream module, it will cause the system to crash.

Problems posting articles or sending mail using NewsWatcher

Users are able to browse and select news groups to read, but are unable to post. This is due to an imcompatibility between NewsWatcher and MAE 2.0.

MacTCP Ping

MacTCP ping does not work correctly on HP-UX and Solaris. As a workaround, use the UNIX 'ping' command.

Floppy Disks and CD-ROMS
==

(HP only) Using Older (Single Speed) CD-ROM Drives

There may be a problem using older HP CD-ROM drives (single speed Toshiba XM-3301TA) in conjunction with an HP Model 715 workstation. Typically, this is manifested as a problem where MAE cannot mount a CD-ROM. HP's Support Center has verified that there is a known SCSI timing problem when the older drives are used with a Model 715. As a workaround, HP has suggested either (1) another SCSI device is placed between the 715 and the CD-ROM player, or (2) usage of a SCSI cable greater than one meter and less than six meters.

MAE and Microsoft Office

Microsoft has instituted a new diskette format (known as DMF -- Distributed Media Format) that permits distribution of software on a smaller number of diskettes. This is accomplished by using a format of 1.6M which cannot be used by current PC-compatible (360K/720K/1.4M) or Apple (400K/800K/1.4M) floppy drives unless read by the installer program. The special installer modifies the hardware floppy driver to support the new format. MAE does not use standard Macintosh drivers to support floppy drives. As a result, the installer cannot be run from disks that support DMF.

To properly install MS Office for use with MAE, you can do one of the following:

1) Install from a CD
2) Install from a diskette set that does not use DMF
3) Install using a DMF diskette set onto a native Macintosh and use
AppleShare to transfer the files to MAE.

When running the install, select a new folder when asked to specify the directory for installation. The directory created will then be the installation

folder, and the install will proceed normally. Lastly, when asked to update Excel graphs, select `No.'

(Sun only) Problems Using MS-DOS or Solaris File System Disks on MAE

If you insert a floppy disk formatted for MS-DOS or Solaris into a Sun workstation and try to mount it in MAE by clicking the Mount Floppy/CD button, MAE displays an alert box. The alert box appears because Solaris mounts the floppy disk before MAE has the opportunity to mount it. Thus, MAE is not able to access the floppy disk. (The icon for the floppy disk appears on your Solaris desktop.) As a result, you can not reformat MS-DOS disks as Macintosh disks, and can not use them on the MAE desktop. You have several options for dealing with this situation. If you want to use the files on the disk, the contents of the disk will show up as UNIX files in /floppy in your Solaris file system. If you don't want to use the files on the disk, and you want to format it as a Macintosh disk, you can eject the disk, insert it into a Macintosh computer, and reformat it as a Macintosh disk using the Macintosh computer. If you don't want to use the files on the disk, and you want to format it as a UNIX disk, you can try to reformat the disk on a UNIX workstation that is not running the Solaris File Manager.

(Sun only) If you cannot access the files on an MAE CD mounted remotely on
a Sun workstation

You may have a problem accessing the files on a remotely-mounted MAE CD-ROM disc if the disc was mounted on a Sun workstation by using the Solaris Volume Manager. There are two possible solutions to the problem:

1) You can quit the Solaris Volume Manager and explicitly mount the MAE CD-ROM disc by using a command such as mount(1). You should then be able to access the files on the CD-ROM disc in order to perform a remote installation.

2) You can copy the MAE files from the CD-ROM disc to a directory on the Sun workstation and then access the files by remotely mounting the directory. For more information about remotely installing MAE, see Chapter 1 in the MAE USER'S GUIDE.

(Sun only) If the Message "fd0: read failed" Appears

When you try to mount a floppy disk on MAE, you may see the message "fd0: read failed" on your Sun console. This message alerts you that Solaris is unable to read certain sectors on the floppy disk. Try another floppy disk, or try the same disk on a different workstation. (If the disk does not contain data that you need, you may want to reformat the disk, and then try mounting it again with MAE.)

(Sun only) If MAE Displays an Alert Box about the Solaris Volume Manager
---
When you try to mount a floppy disk in MAE running on a Sun workstation, MAE may display an alert box that contains the message: "You will not be able to use Macintosh floppies with MAE because the Solaris Volume Manager is not available now." If this alert box appears, use the ps (1) command to see if the process "vold" (/usr/sbin/vold) is running on your workstation.

If "vold" IS NOT running, start the "vold" process as the root user and try mounting the floppy disk again. (You may want to edit the appropriate Solaris configuration files so that "vold" starts automatically when you start up your workstation. For instructions, see the Solaris documentation.)

If "vold" is running, and you see an error message such as "/dev/volctl: Permission denied" on your console, the problem is with Solaris. As root, check the access permissions on the file named in the error message (for example, /dev/volctl). If necessary, change the permissions for the file by using the chmod (1) command and give yourself access to the file. (If the file is a symbolic link, you will need to change the access permissions on the file to which the link points.) After changing the access permissions, try mounting the floppy disk on MAE again.

(Sun only) Unable to access the floppy drive

Be certain the permissions on the floppy device file symlinked to /dev/rdiskette are readable and writable by you.

In addition, software products that do not currently support the Solaris Volume Manager will conflict with MAE, which does use the Volume Manager. Until software products that are incompatible with the Volume Manager are upgraded to support it, you can work around this conflict by turning the Volume Manager on when using floppies or CDs in MAE and off when using other software. This work-around is only necessary when accessing a Macintosh floppy or CD since MAE doesn't use the Volume Manager until you try to access a Macintosh disk. Beware, too, that some software disables Volume Manager control at the device level by changing your /etc/vold.conf file, rather than starting or stopping the Volume Manager's vold process.

(Sun only) If Solaris Displays the "Unlabeled Floppy" Dialog Box on Your
Console

When you insert and try to mount a Macintosh floppy disk on MAE, Solaris displays the "Unlabeled Floppy" dialog box if you didn't install the Solaris Volume Manager Extensions when you installed MAE. (See Chapter 1 of the MAE USER'S GUIDE for more information.) Click Cancel in the dialog box (do NOT click Cancel & Eject). The floppy disk icon should appear on your MAE desktop. To avoid this problem, you should eject disks that have been mounted on the MAE desktop by using MAE capabilities only. For example, drag the disk icon to the Trash or choose Eject Disk from the Special menu.

(Sun only) If MAE Hangs When a Mounted Floppy Disk Has Been Ejected
---
If a Macintosh disk is somehow ejected without MAE being notified (for example, by typing "eject floppy" in a Solaris shell window or by clicking Cancel & Eject in the dialog box described earlier), MAE may hang until it is able to use the disk again. Reinsert the disk and type "volcheck" in a Solaris shell window. This step should allow MAE to continue to use the floppy disk on the MAE desktop. To prevent this situation, run the MAE Installer as root and install the Solaris Volume Manager Extensions package (according to the instructions in "Macintosh Application Environment: Installing and Setting Up").

(Sun only). If You Have Problems Using MS-DOS (Including Windows) or
Solaris File System Disks on MAE

If you insert a floppy disk formatted for MS-DOS or Solaris into a Sun workstation and try to mount it in MAE by clicking the Mount Floppy/CD button, MAE displays an alert box. To use MS-DOS files on MAE running on Solaris, use the capabilities provided by Solaris. (For example, do not use Macintosh PC Exchange or other Macintosh applications that read MS-DOS disks.)

Follow these steps:

1) Insert the disk that contains the MS-DOS files that you want to use.

2) In a Solaris window, type "volcheck floppy". The files on the disk will appear in the /floppy/<floppyname> directory on your UNIX file system.

3) To use the files on the MAE desktop, double click /, then double-click the folder called "floppy," and then double-click the folder called "<floppyname>."

Problems Using Floppy Disks Remotely

Although Some X Terminals export floppies as NFS file systems, thus providing a convenient workaround, MAE does not in general provide remote floppy support . For example, you can start MAE on a workstation and display it remotely (using the -display option) on another workstation on the network. If you display MAE remotely, you can use only floppy disks that are inserted in a floppy drive attached to the workstation where you started MAE, not where you are displaying it.

Floppy drives and performance

Floppy drives are much slower than hard disk, and leaving a floppy in an Xterminal drive can slow down MAE. Since MAE periodically scans the directory(ies) which are displayed in open Finder windows, leaving a floppy in the drive when the Finder has your home directory displayed in a window will effect performance. Solution: don't leave floppies in the Xterminal's drive.

(HP only) Floppy drives on HP "Envizex" Xterminals

Some HP "Envizex" Xterminals come with floppy drives. MAE is not able to directly access floppies in these drives: the Xterminal software, in cooperation with the host UNIX system, controls the hardware. MAE has no way to load executable code into the Xterminal to control the device without changing the operation of the drive. Thus, only MS-DOS floppies are accessible through the Xterminal's floppy drive. They are mounted by the host system software via NFS, and are accessable as $HOME/floppy. If you are having problems using the floppy drive, contact your system administrator, or consult HP's documentation (for example, "HP ENWARE X Station Software 5.1, Technical Reference", chapter four "Using the X Station's Hardware Accessories").

MAE produces spurious dialog boxes when MOUNT button is pressed
---
Launching an application and then IMMEDIATELY clicking on the MOUNT button on the MAE Toolbar, with a valid MAE floppy in the drive, can cause various spurious dialog boxes to appear in the MAE window. If this happens, wait for the application to finish launching, then press the MOUNT button again. Dismiss the remaining dialog boxes.

(Sun only) MAE hangs when MOUNT button is pressed

If MAE seems to hang just after you click on the "mount" button in the toolbar, with a valid MAE floppy in the drive, type the following in a Solaris shell window:

volcheck floppy ; eject ; volcheck floppy

This should unstick the Solaris Volume Manager, and allow you to continue.

Support Information Services

TA34984_MAE_Technical_Note_of__(TIL19228).pdf

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MAE 2.0: Technical Note 3 of 3

This article is the Macintosh Application Environment (MAE) 2.0 technical note.
This article has been archived and is no longer updated by Apple.
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Printing
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See Also

MAE 2.0 FAQ (Frequently-Asked Questions), available on: <http://www.mae.apple.com>
- or -
via anonymous ftp from: <ftp.support.apple.com>, in directory /pub/mae/info/FAQ/2.0.

MAE 2.0 README.TXT (on MAE 2.0 product CD-ROM)

Printing

MAE's support for UNIX printers is very general; it is designed to work on a wide variety of workstations and system types. This flexibility makes it impossible for MAE to troubleshoot every possible printing configuration. Chapter 4 of the MAE USER'S GUIDE, "Printing in MAE," gives a comprehensive description of techniques related to printing. This section lists some commonly-encountered printing errors. If you encounter a printing problem that is not covered, your system administrator should be able to help you.

How to Cancel Printing (Sun and HP)

When you print a Macintosh file on MAE, a printing status dialog box appears for several seconds (depending on the size of the file). While the status dialog box is on the screen, you can cancel printing by holding down the Command key and pressing the period (.) key until the "canceling printing" dialog box appears. To cancel printing after the status dialog box has disappeared, use UNIX commands, such as lprm(1) or cancel(1). For more information, see the appropriate manual pages (man pages) that came with your workstation or consult your system administrator.

If the Printer Does Not Print Anything

Check the X window in which you started MAE. MAE will display any error or status messages in the window. The error messages can provide useful information about why printing isn't working. Also check the following:

1) Verify that the printer is turned on and properly connected to the network. (For example, check for loose connections.)

2) Verify that UNIX printing has been configured correctly on your workstation.

3) Verify that you have correctly set up a print command by using the Chooser (available in the Apple menu on the MAE desktop). For example, make sure that you did not accidentally type the wrong printer name in the Setup Print Command dialog box. For information about setting up a print command, see Chapter 4 in the MAE USER'S GUIDE.

4) Be sure you are looking for the printout at the correct printer. You may have recently changed the print command to print to a different printer, or the default UNIX printer may have changed. Some workstations use a UNIX environment variable to specify the default printer. If the environment variable has been changed, or if you are running MAE on a different workstation, you may be printing to a different printer without knowing it. (For this reason, the "MAE USER'S GUIDE" recommends that you specify a particular printer when you set up a print command.)

5) Verify that the print queue contains your print request. Use lpstat or lpq to check status. Also make sure that the print spooling system isn't jammed.

6) Verify that the print command that you specified in the Chooser actually works if you type it directly into a UNIX command window. This step lets you know whether your UNIX printing is working correctly.

7) Try printing the same file to another printer. This step helps you determine whether the problem resides with the spooling system or with a particular printer.

8) Try printing the file a second time, but this time click the Options button in the Print dialog box and choose "Print detailed report" in the PostScript Errors pop-up menu. This option prints any PostScript errors that may have occurred. You can also print a cover page before printing the file. (Select the "Before" radio button in the dialog box.) If the cover page prints, you will know that the file is making it to the printer.

The Printed Page Contains "%!PS-Adobe-3.0" and Other Miscellaneous Text

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Sometimes when you print a file, the page contains "%!PS-Adobe3.0" followed by other miscellaneous text. This means that the PostScript program is being printed as text, instead of being executed as code. This situation may occur if you are trying to print your file on a non-PostScript printer. (If this is the case, try printing your file on a PostScript printer.) The situation also may occur if your UNIX printing does not recognize the PostScript identifier "%!PS-Adobe-3.0," which appears on the first line. See your system administrator for help.

Only part of your document was printed

Printing can generate large PostScript files. If you do not have enough free disk space, only a portion of your document may be printed.

Keyboard and Display
==========

Dynamic Screen Resizing and Application Windows

A popular feature of MAE is the ability to dynamically resize the X11 window (and thus, the Macintosh Desktop) while it is active. When resizing occurs, MAE sends an AppleEvent to all active applications indicating that the Desktop size has changed. Some older applications do not support this AppleEvent and will continue to behave as though the Desktop were the same size as when the application was launched. Apple DocViewer, which is supplied with MAE v2.0, is an example of an application that does not presently handle this AppleEvent.

Colormap Sharing Between MAE and X Applications

If "Map X Windows to MAE palette" is enabled from within the "MAE General" Control Panel, MAE will try and share as many colors as possible with other X applications. If an X application modifies an entry in the colormap that is being shared with MAE, you may see a temporary change in how that color displays within MAE. To prevent this from happening, change the selection in the "MAE General" Control Panel to "Allow colormap flash" and reboot. This will cause a color "flash" when changing focus between MAE and other X windows but preserves the colormaps for each environment.

Modifier Map Sharing Between MAE and X Applications

Every keystroke that occurs in an X environment is inspected by X so that it can catch the keystrokes that invoke X operations. To accomplish this, the X enivonment uses a "modifier map" -- a keyboard translation table.

While the X window containing MAE is the active window, MAE modifies this keyboard map, so that keystrokes meaningful to MAE are passed to MAE by the X environment for processing, even if they would normally have meaning to the X environment itself. This means that while MAE is active, keystrokes are processed as specified in the 'MAE Keyboard' Control Panel. For example, if the <META> key is mapped to the MAE <Command> key, the X environment will pass on to MAE those <META> keystrokes that occur MAE has focus. Typing Meta-Q in the MAE environment will therefore quit a Macintosh application even though Meta-Q would normally be interpreted by the X environment as a CLIENT_KILL (which would terminate MAE).

As soon as MAE is no longer the active window, the original modifier map is restored and all keystrokes function as defined for the X environment. This restoration, however, is not reliable under all circumstances. For example, pushing an MAE session over the network to a server running X11R6 can result in unpredictable results.

One solution to this problem is to disable MAE's ability to change the modifier keys. This can be done either by setting an environment variable

set TBNOMODMAP=1

or by starting MAE with the -nomodmap option.

IMPORTANT: Be careful if you choose to disable the modifier mapping; keystrokes intended for MAE may be trapped by the X Window Manager with unexpected results.

Full-screen MAE displays

To arrange for full-screen MAE display without a window manager running, use the -geometry command line option specifying the screen size. Under a window manager, this may not produce the desired effect because of borders, titlebars, etc. For this case, it is best to not specify a geometry and let the window manager do its stuff by using the Maximize button or window menu option. To get the full Macintosh experience under HP VUE, set the X resource Vuewm*mae*clientDecoration to none and start MAE with the geometry set to the full screen size.

Question: If I have a small MAE window and I press the mwm Maximize/Restore button twice, why doesn't it restore the size?

Answer: Due to optimizations, MAE resizes only to widths of 32-pixel multiples. The maximized size is probably not the correct size, so MAE downsizes slightly. When the Maximize/Restore button is next pressed, the window manager correctly notes that the window is not full size, and

Maximizes it. To get a smaller size, resize manually.

Question: If I resize my MAE window a little wider, why is there a gray strip on the right side?

Answer: Due to optimizations, MAE only resizes to widths of 32-pixel multiples. If the window is resized less than 32-pixels, MAE doesn't recognize the size change, doesn't inform the window manager, and doesn't change its internal size. Any resize beyond this point will correct the appearance. This will be corrected in a later version.

Improper toolbar selections while launching from an off-line disk hang MAE

When you launch from an off-line volume -- for example, when you double-click on an icon from a floppy that has been ejected, an insert-media dialog is displayed. If you Inadvertently select the wrong button on the MAE Toolbar, (that is, if you click Super Select, X import, or X export instead of the Mount Floppy/CD button), MAE hangs and must be killed. This bug in MAE 2.0 is under investigation.

Other
===

(HP only) MAE and asecure

In order to use sound with MAE under HP-UX, HP's audio server (Aserver) must be authorized for each user. This is usually performed with the HP utility `asecure'. If a user is not properly authorized to use the audio server, MAE will issue an error message at startup. Although sound will not be possible, MAE will otherwise continue to function normally. Under some circumstances, it may be desired that MAE bypass its normal check for the presence of Aserver. To do this, set the environment variable `TB_SOUND_OVERRIDE_CHECK=1' to allow sound to be produced. Although the error messages will still be produced at startup, MAE will ignore them and produce sound. Note that this will not override the security features of the server, but will override MAE's check to see if the asecure feature is installed. For more information on Aserver and asecure, reference your HP documentation.

Usage of `TZ' Environment Variable

Several routines within MAE use the value specified by the environment variable `TZ', which declares the time zone for a particular workstation. Failure to define and assign a value to this variable prior to executing MAE may result in an error.

As an example for ksh, you can set this variable with the command

export TZ=PST8PDT

if you are located in the Pacific time zone. For more information, reference the appropriate man pages for your OS.

MAE and Globetrotter's FLEXwrap Utility

If you wish to use MAE with the FLEXwrap utility from Globetrotter, you must use a feature of FLEXwrap that is not enabled by default. Failure to enable this feature will result in the inability to execute a Macintosh `Restart' from the Finder.

To enable the feature, perform the following steps:

1) In the apple/bin directory, rename `mae' to `mae.orig'.
2) Create a symlink named `mae' to FLEXwrap's fwrapper program in the apple/bin directory.
3) When the installer for FLEXwrap is run, there is an option to specify a value for `argv[0]'. Give it the full path name to `mae.orig' (as created in Step 1, above).
4) If you had previously run the FLEXwrap installer, you can edit the license manager file (default `license.dat') and replace the `w_binary=' entry with `w_argv=' and point it to the full path of `mae.orig'.

Example: MAE is installed into /opt/apple and FLEXwrap is installed into /opt/flex/flexwrap. apple/bin/mae is renamed to apple/bin/mae.orig and a symbolic link named mae is created that points to the location of the fwrapper program, which is /opt/flex/flexwrap/sun4_u5/fwrapper. Since an entry for MAE already exists in the license.dat file for FLEXwrap, the entry specifying f_binary=/opt/apple/bin/mae is replaced with f_argv=/opt/apple/bin/mae.orig. For more information on FLEXwrap, refer to that product's documentation or contact Globetrotter for assistance.

MAE users wishing to utilize FLEXwrap must contact their Apple sales representative for licensing issues prior to implementing FLEXwrap.

(HP only) HP-UX 9.0.1 and STREAMS/UX

On HP-UX, MAE requires that STREAMS/UX be installed if you are planning to run AppleTalk. The v2.0 CD contains packages for both 9.0.3 and 9.0.5 of HP-UX. If you are running 9.0.1, you can use the STREAMS/UX package for 9.0.3. Please note that MAE does not support sound

if used with 9.0.1.

Applications and Processor Performance

MacOS applications, whether they are running on MAE or on a Macintosh, normally dispatch each `event' as it occurs from a main program loop. Examples of events are mouse movement, screen update, etc. To await the next event, Macintosh programs normally use WaitNextEvent, which waits for an event or the expiration of a timeout while yielding processing time to other Macintosh programs. While WaitNextEvent is waiting and provided no events need attention, MAE will sleep, imposing a negligible load on the processor.

Some applications (SimpleText is among the popular examples) increase responsiveness, at the cost of higher processor load, by using very short timeouts while waiting for events. Running under MAE, such programs use the processor heavily. Programs with longer timeout values, such as MacWrite II, operate nicely in the MAE environment.

MAE and Meeting Maker XP

If you install Meeting Maker XP for use with MAE, you should remove the extension titled `Meeting Maker XP Extension' from the Extensions folder. It is not compatible with MAE and will be disabled when MAE is started. The extension is used to alert a user of a message when Meeting Maker XP is not active. To receive such messages, leave Meeting Maker XP running.

Using FETCH (an FTP Utility)

Using Fetch to "get" and "put" non-text Macintosh files from or to UNIX filesystems requires special care to ensure the files are transferred in a usable state by MAE (that is preserving their AppleSingle format).

When doing a GET of a non-text Macintosh file, always select "binary" transfer mode. When doing a PUT of a non-text Macintosh file, always select "AppleSingle" as the file format when prompted by the dialog. Macintosh and UNIX text files should always be transferred by selecting "text" (ASCII) transfer mode.

For complete instructions about using Fetch, read the online "Fetch Help".

If you use Fetch, please honor its license by paying the shareware fee.

Using SOFTWAREFPU (Floating Point Unit Extension)

This extension simulates the FPU co-processor chip found in some Macintoshes and integrated into certain 68K CPU's. It is only useful for (the very few) Macintosh applications that require this FPU.

Complete instructions about using SoftwareFPU are included with the utility.

If you use SoftwareFPU, please honor its license by paying the shareware fee.

Using DISINFECTANT (Virus Utility)

MAE is susceptible to the same viruses that plague the Macintosh. However, there is no need to scan your entire UNIX filesystem for Macintosh viruses. When scanning with Disinfectant, hold down the Option key and press the "Scan" button, this will display a dialog that will allow you to limit the scope of the search.

For complete instructions about using Disinfectant, please read the online "Disinfectant Help".

For information on downloading the latest version of Disinfectant refer to:
TIL aritcle 30487: "**Disinfectant: Macintosh Anit-Viral Utility**"

The Tech Info Library article#17159: "**Locating Vendor Information**", can help you search for a particular vendor's address and phone number.

The following information is for Apple Internal & Support Providers Only
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Color LW 12/600 PS: Transparencies From UNIX Workstation

I have a Color LaserWriter 12/600 PS printer and only UNIX workstations on a TCP/IP LAN. How do I "tell" the printer to use transparent (OH-film) paper? Is this possible through PostScript code or a utility?
This article has been archived and is no longer updated by Apple.
The Color LaserWriter 12/600 PS automatically detects when you are printing on transparencies from the multipurpose tray, so you merely need to send a job to and print from that paper source.

If your client does not allow convenient selection of that paper source, place your transparencies in the multipurpose tray, pull out the built-in paper cassette a few inches (you do not have to remove it), and the printer will default to printing on "paper" in the multipurpose tray.

You do not need to send the Color LaserWriter 12/600 PS PostScript code to tell it you are printing to transparencies because it uses a photosensor to detect the presence of the special transparencies. The printer does this by looking for a reflection from the white rectangle at the leading edge of the transparency. When the white rectangle is detected the printer enters into transparency mode.

When the Color LaserWriter 12/600 PS is in the transparency mode an extra transfer drum rotation is added to the end of the printing process during which the transfer drum and fuser rotational speed is cut in half to improve the toner fusing characteristics.

Using Transparencies
When using transparencies, make sure you:

- Use only transparencies designed for use with the Color LaserWriter12/600 PS (Apple part number M3876G/A).
- Insert Color LaserWriter transparencies as shown in the manual, other orientations may cause jams.
- Print only from the multipurpose tray.

PostScript Code
To select the multipurpose tray with PostScript, include one of the following code segments with the print job.

CAUTION: If you choose to use the PostScript code provided in this article, you assume all risks involved in making these changes. PostScript code, if not entered correctly, can place the LaserWriter into a condition requiring service.

1) setpapertray is a PostScript Level 1 command that can be used on any PostScript printer:

```
%==========================================================
% Begin PostScript Code
%
statusdict begin 1 setpapertray end
%
% End PostScript Code
%==========================================================
```

2) currentpagedevice is PostScript Level 2 code that can only be used on a PostScript Level 2 printer. InputAttribute 1 is the multipurpose tray; 0 is the paper cassette; 2 is the optional universal cassette.

```
%==========================================================
% Begin PostScript Code
%
currentpagedevice /InputAttributes get 1 get
dup null eq
{ pop }
{ dup length 1 add dict copy
dup /InputAttributes
1 dict dup /Priority [1 0 2] put
put setpagedevice
} ifelse
%
% End PostScript Code
%==========================================================
```

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Apple Keyboard Home Keys: Position of "Bumps"

Why have the home keys changed from D and K to F and J keys on newer keyboards? Touch typists can become confused when trying to find the home keys.
This article has been archived and is no longer updated by Apple.
At some time in Apple's history it was decided to put the "bumps" on the D and K keys while some other computer companies use the F and J keys. With the release of the PowerBook G3 Series, Apple moved the bumps to the F and J keys.

Apple engineering has indicated there is no standard, such as ISO or ANSI that specifies which keys should have these "bumps," or that they should have the "bumps" at all.

Recent Apple keyboards have had some other differences, with the bumps changed to raised lines at the lower edge of the key.

A Summary of Apple Keyboards:

- Apple Keyboard : bumps on D and K
- Apple Design Keyboard : raised lines on D and K
- Apple Extended Keyboard : bumps on D and K
- Apple Extended Keyboard II : bumps on D and K
- Apple Adjustable Keyboard: bumps on D and K
- Newton Keyboard: raised lines on F and J

These changes have been a source of some frustration for a touch typist accustomed to the "bumps" being on the F and J keys on other types of keyboards, or to a long-time Macintosh user expecting the bumps to be on the D and K keys.

A possible solution is to swap keycaps. The keycaps on the keys can be carefully pried up and off the keyswitch and then swapped over to the other keyswitches. This will mislabel the key, although to a touch typist it will "feel" right. You may be able to re-lable the key with press-on lettering used for graphic design.

Note: Prying off the keycaps voids the keyboard's warranty.
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Newton 2.0 OS: Error -48200 Trying to Print

With my Apple MessagePad 120 using the Newton 2.0 OS, if I do a "selected" find, specifying the Dates application and a date range, and then try to print any of the items I get a -48200 error. What am I doing wrong?
This article has been archived and is no longer updated by Apple.
This is a problem with the Dates application and affects both trying to print or fax the found items. However mailing or beaming the found items works correctly.

Workaround
==========

1) Open the Dates application

2) Use find to locate the information you are looking for.

3) Print the information.

This will be fixed in a future System Update.
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MAE: Installing MAE Patch 2 on Solaris (1/96)

This article describes how to install Patch 2 for MAE on a SPARCStation running Solaris 2.3, 2.4 and 2.5.
This article has been archived and is no longer updated by Apple.
Download the appropriate file for your workstation.

NOTE: The tar files are compressed internally and did not require further compression using `compress' or a similar utility.

Extracting the Patch Files From the Downloaded File

Place the tar file anywhere. Extract it by running the following command:

% tar xovf maepatch2.0.2.sun.tar

The extracted files will be placed in a new directory named "maepatch2.0.2.sun". Once the extraction is complete, you can delete the downloaded file maepatch2.0.2.*.tar.

Preparing For Patch Installation

Before you run the patch installer, make backup copies of two directories: your system folder (normally in your home directory, in the directory "System Folder"), and the directory ".mac" within your home directory. In the event that patch installation results in an inoperable copy of MAE, you will be able to reconstruct your original MAE environment, from these saved copies, by removing the damaged apple directory, reinstalling MAE 2.0, and restoring your saved copies of the System Folder and .mac.

Important Information For AppleTalk Users

If you have more than one copy of MAE on any workstation, you must update all copies of MAE with this patch at the same time. The AppleTalk driver in MAE 2.0.2 is not compatible with older versions of MAE (2.0 or 2.0.1). This applies to multiple copies of MAE on the same workstation only.

If you are executing MAE v2.0 (or v2.0.1) on Solaris v2.3 and are using AppleTalk, you must install Solaris jumbo patch #101306-10 or its equivalent before you install MAE v2.0.2. Please contact your local Sun support channel for more information.

Important: Run Under the Appropriate Login Account

The account used to install the patch must have read/write privileges to all files in your apple directory; you can best accomplish this by running the patch installer under the same account originally used to install MAE 2.0. This patch includes new version of AppleTalk kernel modules as well as new version of various files from your apple directory. In order to install the patched version of the AppleTalk kernel modules, you must run the patch installer as root (superuser).

Applying the Patch

After you are appropriately logged in, cd into the newly created "maepatch2.0.2.sun" directory. Apply the patch by running the "PATCH.SH" program as follows:

% cd maepatch2.0.2.sun
% ./PATCH.SH

PATCH.SH will lead you through the installation process. You will have a choice of `Easy' or `Custom' installation as well as `Remove'. Easy installation patches both your Apple directory and the AppleTalk kernel modules; Custom installation gives you the opportunity to patch only one or the other. If your copy of MAE is on a central server, serving many workstations, you will have to patch JUST the copy of MAE on the server, and JUST the AppleTalk kernel modules, on the workstations.

Remove will delete the MAE components from your system (but not any System Folders located in a $HOME directory). See the FAQ for more information on removal of MAE.

Reinstalling Custom Resources

The patch will replace several files in your System Folder. If you have installed any custom sounds or applications that have modified resources within the file `System' in the System Folder, you will be able to use your backed-up copy of System to help you reinstall the custom resources, after patch installation is complete. If you are not sure if any application has done this, refer to that application's documentation.

Support Information Services

TA34991_MAE_Installing_MAE_Patch_on_Solaris__(TIL19236).pdf

Published Date: Feb 19, 2012

MAE: Where to Find MAE Patch 2

This article describes how to obtain MAE Patch 2 to upgrade MAE from 2.0.x to 2.0.2.
This article has been archived and is no longer updated by Apple.

How to Download MAE 2.0.2

There are two sites to locate the latest patch. Connect to one of the following locations to get the appropriate tar file (sun, hp, or hp10):

ftp.support.apple.com (130.43.6.3)
www.mae.apple.com (17.255.216.51)

These patches can be obtained from the following directory on the server: /pub/mae/patches/mae_patch_2.0.2

IMPORTANT: Make sure you use FTP "binary transfer" mode to get the following files.

/pub/mae/patches/mae_patch_2.0.2/README.PATCH.MAE2.0.2 - This file contains complete details on what is contained in the patch release as well as how to download and install the patches.

/pub/mae/patches/mae_patch_2.0.2/maepatch2.0.2.hp.tar - The most recent incremental update for MAE 2.0 running HP-UX 9.x on HP Series 700 workstations.

/pub/mae/patches/mae_patch_2.0.2/maepatch2.0.2.hp10.tar - The most recent incremental update for MAE 2.0 running HP-UX 10.01 on HP Series 700 workstations.

/pub/mae/patches/mae_patch_2.0.2/maepatch2.0.2.sun.tar - The most recent incremental update for MAE 2.0 running on Sun SPARC workstations.

Download the appropriate file for your workstation. Please note, the tar files are compressed internally and did not require further compression using `compress' or a similar utility.

Extracting the Patch Files From the Downloaded File

Place the tar file anywhere. Extract it by running the following command:

On HP-UX 9.x Workstations:
% tar xovf maepatch2.0.2.hp.tar

On HP-UX 10.01 Workstations:
% tar xovf maepatch2.0.2.hp10.tar

On Sun Workstations:
% tar xovf maepatch2.0.2.sun.tar

The extracted files will be placed in a new directory named "maepatch2.0.2.sun", "maepatch2.0.2.hp", or "maepatch2.0.2.hp10" depending on your system type. Once the extraction is complete, you can delete the downloaded file maepatch2.0.2.*.tar.
Published Date: Feb 19, 2012

MAE 2.0: Installing MAE Patch 2 on HP-UX 9.0.x & 10.01 (5/96)

This article describes how to install Patch 2 for MAE on a HP (Hewlett Packard) workstation running HP-UX 9.0.x and 10.01.
This article has been archived and is no longer updated by Apple.
Download the appropriate file for your workstation. It is important to download the patch that is associated with the version of hp-ux ('maepatch2.0.2.hp.tar' for hp-ux v9.0.x and 'maepatch2.0.2.hp10.tar' for hp-ux v10.01) Note: the tar files are compressed internally and did not require further compression using `compress' or a similar utility.

NOTE: As of April 1996, HP-UP 10.1 is not supported with MAE 2.0.2..

Extracting the Patch Files From the Downloaded File

Place the tar file anywhere. Extract it by running the following command:

On HP-UX 9.x Workstations:
% tar xovf maepatch2.0.2.hp.tar

On HP-UX 10.01 Workstations:
% tar xovf maepatch2.0.2.hp10.tar

The extracted files will be placed in a new directory named "maepatch2.0.2.hp" or "maepatch2.0.2.hp10" depending on your system type. Once the extraction is complete, you can delete the downloaded file maepatch2.0.2.*.tar.

Preparing For Patch Installation

Before you run the patch installer, make backup copies of two directories: your system folder (normally in your home directory, in the directory "System Folder"), and the directory ".mac" within your home directory. In the event that patch installation results in an inoperable copy of MAE, you will be able to reconstruct your original MAE environment, from these saved copies, by removing the damaged apple directory, reinstalling MAE 2.0, and restoring your saved copies of the System Folder and .mac.

Important Information For AppleTalk Users

If you have more than one copy of MAE on any workstation, you must update all copies of MAE with this patch at the same time. The AppleTalk driver in MAE 2.0.2 is not compatible with older versions of MAE (2.0 or 2.0.1). This applies to multiple copies of MAE on the same workstation only.

Important Information For HP-UX Version 10.01 Users

The MAE binaries for HP-UX v9.x and v10.01 are not interchangeable. If you are installing this patch to allow MAE to run on an HP-UX 10.01 system, you should be aware that the updated binaries will no longer function on a 9.x system. If you have multiple workstations sharing the same binary directory (appledir), you may wish to reinstall MAE from the CD-ROM onto a 9.x system. The patch can then be safely applied to both systems, creating updated executables for each environment.

Below are instructions for installing MAE 2.0.2 for use with HP-UX 10.01:

- For a new installation of MAE for HP-UX 10.01, first install MAE v2.0 as distributed on the CD-ROM but do not install AppleTalk (you can do this by performing a custom installation (as detailed in the `MAE User's Guide')). After you have installed MAE 2.0 from the CD-ROM, you can apply the MAE 2.0.2 patch by executing ./PATCH.SH as distributed with the patch. Note that the STREAMS package is not required for HP-UX 10.01.

- HP-UX 10.01 was not supported in versions 2.0 and 2.0.1. As a result, upgrade instructions are not included here.

- If you are upgrading from MAE v1.0, first rename any existing MAE v1.0 (or MAE v1.0a) System Folders. Next, install MAE v2.0 as distributed on the CD-ROM but do not install AppleTalk (you can do this by performing a custom installation as detailed in the `MAE User's Guide'). This will create a new System Folder to which you can manually drag/copy any

resources (Extensions, Fonts, Preferences, etc.) from your old MAE v1.0 System Folder. You can now safely apply the MAE 2.0.2 patch by executing ./PATCH.SH as distributed with the patch.

- To remove MAE except for the AppleTalk components, use the Remove feature of the installer supplied with the MAE v2.0 CD-ROM and/or the 2.0.2 patch distribution. Note that the 2.0.1 patch does not have any removal capabilities and that the 2.0.2 patch will ONLY remove previously-installed 2.0.2 components. Then remove the AppleTalk components utilizing the Remove feature of MAE 2.0.2.

The device files for HP-UX 10.01 have also changed. As a result, the `macdisks.HPUX' file will require modifications to function with your existing devices. This is true even if you had previously made these changes for an HP-UX 9.x system. Note that using the `default' convention will not work for HP-UX 10.01; you need to explicitly specify the path to the device. Examples are provided in the updated file installed by the patch (when installing for HP-UX 10.01).

Important: Run Under the Appropriate Login Account

The account used to install the patch must have read/write privileges to all files in your apple directory; you can best accomplish this by running the patch installer under the same account originally used to install MAE 2.0. This patch includes new version of AppleTalk kernel modules as well as new version of various files from your apple directory. In order to install the patched version of the AppleTalk kernel modules, you must run the patch installer as root (superuser).

Applying the Patch

After you are appropriately logged in, cd into the newly created "maepatch2.0.2.hp" or "maepatch2.0.2.hp10" directory. Apply the patch by running the "PATCH.SH" program as follows:

On HP-UX 9.x Workstations:
% cd maepatch2.0.2.hp
% ./PATCH.SH

On HP-UX 10.01 Workstations:
% cd maepatch2.0.2.hp10
% ./PATCH.SH

PATCH.SH will lead you through the installation process. You will have a choice of `Easy' or `Custom' installation as well as `Remove'. Easy installation patches both your Apple directory and the AppleTalk kernel modules; Custom installation gives you the opportunity to patch only one or the other. If your copy of MAE is on a central server, serving many workstations, you will have to patch JUST the copy of MAE on the server, and JUST the AppleTalk kernel modules, on the workstations.

Remove will delete the MAE components from your system (but not any System Folders located in a $HOME directory). See the FAQ for more information on removal of MAE.

Reinstalling Custom Resources

The patch will replace several files in your System Folder. If you have installed any custom sounds or applications that have modified resources within the file `System' in the System Folder, you will be able to use your backed-up copy of System to help you reinstall the custom resources, after patch installation is complete. If you are not sure if any application has done this, refer to that application's documentation.

Article Change History:
13 May 1996 - Added HP-UX 10.1 note.

Published Date: Feb 19, 2012

MAE 2.0.2: README.PATCH.MAE2.0.2

This is the README.PATCH.MAE2.0.2 for /pub/mae/patches/mae_patch_2.0.2 12/21/95 file.
This article has been archived and is no longer updated by Apple.

License Statement

THIS PATCH IS COVERED BY THE "SOFTWARE LICENSE FOR MACINTOSH APPLICATION ENVIRONMENT PATCH" (see the file /pub/mae/patches/mae_patch_license.txt on the FTP server ftp.support.apple.com). PLEASE READ THE LICENSE CAREFULLY BEFORE DOWNLOADING THIS SOFTWARE. BY DOWNLOADING AND/OR USING THIS SOFTWARE, YOU ARE AGREEING TO BE BOUND BY THE TERMS OF THE LICENSE. IF YOU DO NOT AGREE TO THE TERMS OF THIS LICENSE, YOU ARE NOT AUTHORIZED TO DOWNLOAD THIS SOFTWARE.

Incremental Update For Apple's MAE 2.0 Product

The files in this directory allow you to update your purchased copy of MAE 2.0 (or patched version 2.0.1) to version 2.0.2 for free. By applying the latest patch, you will update your copy of MAE 2.0 with the bug fixes from all prior patches. As the patches are cumulative, there is no need to install any previous patch prior to installing the most current one.

IMPORTANT: MAE must NOT be running while you apply this patch. You will need to have approximately 25MB of available disk space to install the patch. After the patch installation is complete, however, your patched copy of MAE 2.0.2 will require about the same amount of disk space as MAE 2.0 (or 2.0.1). The 25MB requirement permits the patch installer to back up your copy of MAE, for safety, during the patch installation process.

MAE 2.0.2 (Patch Release "2")

(Found in /pub/mae/patches/mae_patch_2.0.2)

Get the file "README.PATCH.MAE2.0.2" for Patch "2" information and installation instructions. This patch (MAE 2.0.2) is the second released patch to MAE 2.0. It introduces the changes listed below. (The number in parenthesis indicates at which patch level the bug was fixed):

Changes in MAE 2.0.2

(2) (HP only) HP-UX Version 10.01 -
HP-UX Version 10.01 can now be used with MAE. IMPORTANT: Be sure to read the file `README.PATCH.MAE2.0.2' on the FTP server prior to installing this patch to support HP-UX Version 10.01.

(2) (Sun only) FDDI Support -
FDDI interfaces are now supported.

(2) (Sun only) Ethernet Interfaces other than `le'
MAE now supports Ethernet interfaces on Solaris such as qe. Previously, only le devices were supported.

(2) Multiple Ethernet Interfaces -
AppleTalk can now be used on any available (and supported) network interface. The Network Control Panel has been updated to add this functionality.

(2) Persistent TIVs -
Persistent TIVs are no longer truncated during shutdown.

(2) Locking Mechanism for System Folder Updates -
The updater utility for System Folders (part of the patch mechanism) no longer bypasses the file integrity lock if MAE is running. This only occurred under isolated circumstances.

(2) (HP only) Automounter Directory
The automounter directory for HP-UX (default /tmp_mnt) is now properly statused.

(2) (Sun only) Solaris 2.4 and Automounted Directories
MAE no longer truncates its internal filesystem list when executed in an environment with multiple remotely-mounted volumes. This symptom did not manifest itself under Solaris 2.3.

(2) (Sun only) Sun 5 Keyboard -
The 0 (zero) key on Sun's Type 5 keyboard now functions properly.

(2) Command line options -
MAE will no longer exhibit random errors at startup based on the number of arguments supplied in the command line.

(1) Updated man Page -
The online manual pages now reflect changes and features of MAE 2.0 that were omitted from the man pages supplied with the MAE 2.0 distribution.

(1) Network Control Panel -
Opening the Network Control Panel will no longer result in an error message.

(1) (Sun only) Attention Packets -
Urgent ADSP messages are now delivered promptly to the MAE process. Previously, there was a delay in delivering these messages.

(1) (Sun only) ADSP Close -
Custom applications that send ADSP close packet now work correctly.

(1) Utilization of Selected AppleTalk Zone -
A previously-selected AppleTalk zone is now being used as the default zone. In addition, a list of eligible devices is presented when selecting a network resource (e.g., printer). This problem only occurred under isolated circumstances.

(1) File Transfers Under TCP -
Fetch or other applications now pull large (>100K) files utilizing TCP correctly. (Smaller files were not affected.)

(1) Saving Documents When Using MacinTax -
MacinTax is now able to save documents.

(1) (HP only) Users' Guide Updated -
The online Users' Guide for MAE now reflects features and changes present in v2.0 which were omitted from the MAE 2.0 distribution.

(1) Debugging Options -
Additional command line options have been added to assist in debugging MAE 2.0 problems.

(1) (Sun only) Support for CacheFS -
New functionality was added to support CacheFS, a new filesystem introduced with Solaris 2.4.

(1) Support For AFS (Andrew File System) -
Additional features have been added to support local cells for AFS.

(1) Other fixes
Various minor bugs in MAE 2.0 are corrected in MAE 2.0.1

How To Download and Install MAE 2.0.2
On the FTP server ftp.support.apple.com (130.43.6.3), get the appropriate tar file (sun, hp, or hp10) from the directory

/pub/mae/patches/mae_patch_2.0.2

IMPORTANT: Make sure you use FTP "binary transfer" mode to get the files.

/pub/mae/patches/mae_patch_2.0.2/README.PATCH.MAE2.0.2 - This file.

/pub/mae/patches/mae_patch_2.0.2/maepatch2.0.2.hp.tar - The most recent incremental update for MAE 2.0 running HP-UX 9.x on HP Series

700 workstations.

/pub/mae/patches/mae_patch_2.0.2/maepatch2.0.2.hp10.tar - The most recent incremental update for MAE 2.0 running HP-UX 10.01 on HP Series 700 workstations.

/pub/mae/patches/mae_patch_2.0.2/maepatch2.0.2.sun.tar - The most recent incremental update for MAE 2.0 running on Sun SPARC workstations.

Download the appropriate file for your workstation. Note: the tar files are compressed internally and did not require further compression using `compress' or a similar utility.

Extracting the Patch Files From the Downloaded File

Place the tar file anywhere. Extract it by running the following command:

On HP-UX 9.x Workstations:
% tar xovf maepatch2.0.2.hp.tar

On HP-UX 10.01 Workstations:
% tar xovf maepatch2.0.2.hp10.tar

On Sun Workstations:
% tar xovf maepatch2.0.2.sun.tar

The extracted files will be placed in a new directory named "maepatch2.0.2.sun", "maepatch2.0.2.hp", or "maepatch2.0.2.hp10" depending on your system type. Once the extraction is complete, you can delete the downloaded file maepatch2.0.2.*.tar.

Preparing For Patch Installation
Before you run the patch installer, make backup copies of two directories: your system folder (normally in your home directory, in the directory "System Folder"), and the directory ".mac" within your home directory. In the event that patch installation results in an inoperable copy of MAE, you will be able to reconstruct your original MAE environment, from these saved copies, by removing the damaged apple directory, reinstalling MAE 2.0, and restoring your saved copies of the System Folder and .mac.

Important Information For AppleTalk Users
If you have more than one copy of MAE on any workstation, you must update all copies of MAE with this patch at the same time. The AppleTalk driver in MAE 2.0.2 is not compatible with older versions of MAE (2.0 or 2.0.1). This applies to multiple copies of MAE on the same workstation only.

If you are executing MAE v2.0 (or v2.0.1) on Solaris v2.3 and are using AppleTalk, you must install Solaris jumbo patch #101306-10 or its equivalent before you install MAE v2.0.2. Please contact your local Sun support channel for more information.

Important Information For HP-UX Version 10.01 Users
The MAE binaries for HP-UX v9.x and v10.01 are not interchangeable. If you are installing this patch to allow MAE to run on an HP-UX 10.01 system, you should be aware that the updated binaries will no longer function on a 9.x system. If you have multiple workstations sharing the same binary directory (appledir), you may wish to reinstall MAE from the CD-ROM onto a 9.x system. The patch can then be safely applied to both systems, creating updated executables for each environment.

Below are instructions for installing MAE 2.0.2 for use with HP-UX 10.01:

- For a new installation of MAE for HP-UX 10.01, first install MAE v2.0 as distributed on the CD-ROM but do not install AppleTalk (you can do this by performing a custom installation (as detailed in the `MAE User's Guide')). After you have installed MAE 2.0 from the CD-ROM, you can apply the MAE 2.0.2 patch by executing ./PATCH.SH as distributed with the patch. Note that the STREAMS package is not required for HP-UX 10.01.

- HP-UX 10.01 was not supported in versions 2.0 and 2.0.1. As a result, upgrade instructions are not included here.

- If you are upgrading from MAE v1.0, first rename any existing MAE v1.0 (or MAE v1.0a) System Folders. Next, install MAE v2.0 as distributed on the CD-ROM but do not install AppleTalk (you can do this by performing a custom installation as detailed in the `MAE User's Guide'). This will create a new System Folder to which you can manually drag/copy any resources (Extensions, Fonts, Preferences, etc.) from your old MAE v1.0 System Folder. You can now safely apply the MAE 2.0.2 patch by executing ./PATCH.SH as distributed with the patch.

- To remove MAE except for the AppleTalk components, use the Remove feature of the installer supplied with the MAE v2.0 CD-ROM and/or the 2.0.2 patch distribution. Note that the 2.0.1 patch does not have any removal capabilities and that the 2.0.2 patch will ONLY remove previously-installed 2.0.2 components. Then remove the AppleTalk components utilizing the Remove feature of MAE 2.0.2.

The device files for HP-UX 10.01 have also changed. As a result, the `macdisks.HPUX' file will require modifications to function with your existing devices. This is true even if you had previously made these changes for an HP-UX 9.x system. Note that using the `default' convention will not work for HP-UX 10.01; you need to explicitly specify the path to the device. Examples are provided in the updated file installed by the patch (when installing for HP-UX 10.01).

Important: Run Under The Appropriate Login Account
The account used to install the patch must have read/write privileges to all files in your apple directory; you can best accomplish this by running the patch installer under the same account originally used to install MAE 2.0. This patch includes new version of AppleTalk kernel modules as well as new version of various files from your apple directory. In order to install the patched version of the AppleTalk kernel modules, you must run the patch installer as root (superuser).

Applying The Patch
After you are appropriately logged in, cd into the newly created "maepatch2.0.2.hp", "maepatch2.0.2.hp", or "maepatch2.0.2.hp10" directory. Apply the patch by running the "PATCH.SH" program as follows:

On HP-UX 9.x Workstations:
% cd maepatch2.0.2.hp
% ./PATCH.SH

On HP-UX 10.01 Workstations:
% cd maepatch2.0.2.hp10
% ./PATCH.SH

On Sun Workstations:
% cd maepatch2.0.2.sun
% ./PATCH.SH

PATCH.SH will lead you through the installation process. You will have a choice of `Easy' or `Custom' installation as well as `Remove'. Easy installation patches both your Apple directory and the AppleTalk kernel modules; Custom installation gives you the opportunity to patch only one or the other. If your copy of MAE is on a central server, serving many workstations, you will have to patch JUST the copy of MAE on the server, and JUST the AppleTalk kernel modules, on the workstations.

Remove will delete the MAE components from your system (but not any System Folders located in a $HOME directory). See the FAQ for more information on removal of MAE.

Reinstalling Custom Resources
The patch will replace several files in your System Folder. If you have installed any custom sounds or applications that have modified resources within the file `System' in the System Folder, you will be able to use your backed-up copy of System to help you reinstall the custom resources, after patch installation is complete. If you are not sure if any application has done this, refer to that application's documentation.

Review the FAQ and Tech Notes
Included with the tar distribution are the most recent versions of the MAE Frequently-Asked Questions and Technical Notes files. Review these documents carefully for any important information that may apply to you. In addition, these files are regularly updated by MAE Engineering and made available on ftp.support.apple.com as well as via the Web at:
http://www.mae.apple.com/.
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Apple EtherTalk Card: Supports TCP/IP With NCSA Telnet

The National Center for Supercomputer Applications offers NCSA Telnet Version 2.1e, a communications program that supports TCP/IP with the Apple EtherTalk card.
This article has been archived and is no longer updated by Apple.
Telnet Version 2.1e includes file transfer and Tektronix terminal emulation. Because network access is via NuBus, and is not bottlenecked by the AppleTalk port, performance is better than with FastPath.

Although Telnet Version 2.1e is in public domain, there is a charge for handling and diskettes. (Specify the Macintosh version.)
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LaserWriters: Use Bindery Emulation Under Netware 4.x

We have an Apple LaserWriter 16/600 PS on our Ethernet network and I want to set it up to print under Novell NetWare 4.1. I've set up the printer using the included Windows utilities as a NetWare PSERVER. The instructions in the included manual explain using the NetWare utility PCONSOLE to make the printer available under NetWare.

The manual tells me to change PCONSOLE to bindery emulation, but I would like to set it up as an NDS object. Do I have to configure the printer in bindery emulation mode?
This article has been archived and is no longer updated by Apple.
According to Novell, setup requires switching to bindery mode in PCONSOLE. Here's some information from Novell's Network Support Encyclopedia about this:

"Network-direct print devices and their installation programs are designed to look in the NetWare 3.1x bindery for network printing information. In order for these devices to work on your NetWare 4 network, you should use the bindery emulation mode when installing them."

For additional information, please contact Novell, Inc. The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.
Published Date: Feb 19, 2012

NetWare Client for Mac OS 5.1: Read Me File

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information. This article is the NetWare Client for Mac OS 5.1 Read Me file.
This article has been archived and is no longer updated by Apple.
Read Me File
NetWare Client for Mac OS 5.1
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Welcome to the new release of NetWare Client for Mac OS 5.1. This Read Me file contains information about known anomalies and, when available, workarounds for these issues. This Read Me file contains two sections. The first section covers NetWare Client for Mac OS workstation software, and the second section covers NetWare Client for Mac OS server software (NLMs).

CLIENT WORKSTATION SOFTWARE NOTES:

MacIPX 1.3

ISSUE #1: MacIPX may display an error message containing the error code -94 when trying to use the Ethernet 802.3 frame type with certain Ethernet adapters.

SOLUTION: Install AppleTalk version 58 or later on your workstation. To obtain AppleTalk version 58 or later, contact the manufacturer of your Ethernet adapter. You can also obtain AppleTalk from Apple's Network Software Installer, version 1.3 or later.

ISSUE #2: Some third-party applications use their own IPX protocol stacks, and do not use MacIPX. MacIPX may not function properly in their environments, depending on how MacIPX is configured.

SOLUTION: Contact the application vendor and request a version of the application that works with MacIPX. If none is available, you can configure MacIPX to use a network interface setup that is different than the network interface setup used by the other IPX protocol stack. For example, if the application's IPX protocol stack is using the Ethernet 802.3 frame type, you can configure MacIPX to use a different frame type such as 802.2. If this solution is impractical in your situation, you can configure MacIPX to use the LocalTalk network interface rather than the interface in use by the other IPX stack (such as Ethernet). However, this solution requires you to install and configure a MacIPX gateway somewhere on your network. Instructions for MacIPX gateway installation and configuration are located in the NetWare operating system documentation.

ISSUE #3: Applications using MacIPX cannot locate any services when MacIPX is configured to use the AppleTalk interface.

SOLUTION: Ensure that MacIPX is using a valid MacIPX Gateway and that the Gateway is running on a NetWare server that will reply to Get Nearest Server requests.

ISSUE #4: MacIPX may not work with some versions of Apple's Power Macintosh 9500.

SOLUTION: The Operating System and Open Transport software components found on the early releases of the Power Macintosh 9500 are incompatible with MacIPX. In the U.S., you can obtain later revisions of this software by ordering an "update" CD for the Power Macintosh 9500 through 1-800-SOS-APPLE. For customers outside of the U.S., please contact your local Apple sales office.

ISSUE #5: Applications using MacIPX may experience a loss of connectivity when running on Power Macintosh 7200, 7500, 8500, and 9500s.

SOLUTION: There is no solution at this time. Connectivity can be restored on a temporary basis by restarting the Macintosh. As of this writing, Novell believes the issue may be related to the level of traffic on the network. Novell and Apple are working together to determine if the issue is in Open Transport or in MacIPX.

NetWare Client 2.0

ISSUE #1: Read/Write performance may be slower than other NetWare Client platforms especially over wide area links. The NetWare Client for Mac OS does not currently support burst mode.

SOLUTION: There is no solution at this time.

ISSUE #2: The Macintosh client does not provide an Abort, Retry, Cancel mechanism. If servers or network links are too slow, connections may be dropped by the client.

SOLUTION: There is no solution at this time.

ISSUE #3: On 7200/90 systems using Ethernet, mounting volumes may be slower than normal because of issues with large packets. The issue is that larger packets cannot be reliably sent. Performance will be increased if the Maximum Packet Size is adjusted in the Advanced Options dialog box of the NetWare Client Control Panel. Novell and Apple are working together to address the issue and a solution is expected in the near future.

SOLUTION: Our experience suggests that a setting of 1100 bytes will speed mounting.

NetWare Directory Browser 1.0

ISSUE #1: Several beta sites reported a crash while using Apple Guide with the NetWare Directory Browser. Apple Guide would crash when attempting to display a coach mark around something other than a menu title.

SOLUTION: The cause of this issue has been isolated to Apple Guide version 1.2.5 on PowerPC-based systems. If the Apple Guide version 1.2.5 extension is replaced with an older (1.2) or newer (1.2.7) version, the issue does not occur. Our assumption is that Apple Guide 1.2.5 must have some bad Mixed Mode Manager calls. Older versions weren't native (no Mixed Mode Manager calls at all), and newer versions must have caught and fixed the bug.

NetWare File Access 1.0 (NFA)

ISSUE #1: File creation times are not preserved when the files are copied to NFA volumes and when operated on by certain applications. This causes issues for applications such as installers that require that file creation times be preserved.

SOLUTION: NFA can set a file or directory's creation time only if the user is supervisor equivalent. This is due to an issue in the NetWare server. To work around the issue, either log on as the server administrator or use AppleShare to mount volumes for which you require that creation dates be preserved (for example, if you are moving an installer and its files to a NetWare server). An update release will contain patches for the issue on existing servers and a new NFA that will take advantage of the fixes.

NetWare Object Assistant 1.0

No known issues.

NetWare Print Access 1.0 (NPA)

ISSUE #1: Some PostScript downloading or LaserWriter utilities may not recognize or use NetWare Print Queues selected using the NetWare Print Chooser. Normally they should respond with a "Printer not found" message.

SOLUTION: Use a utility that communicates with the printer currently selected in the Chooser, such as Adobe SendPS. Such utilities generally work with NetWare Print Access on the printer or queue most recently selected in the NetWare Print Chooser.

ISSUE #2: Error code -8993 occurs when printing in the background with NPA using the LaserWriter/PSPrinter 8.x driver.

SOLUTION: This issue is rare, and thought to be a result of the driver timing out due to not getting enough processor time. If you experience this issue, switch to foreground printing, or try to avoid intensive activity on your workstation when background printing is in progress.

ISSUE #3: When using the NetWare Print Chooser to select LaserWriter/PSPrinter 8.1.2 or higher, the following alert may appear when Setup is started: "Autosetup failed, reverting to manual setup."

SOLUTION: This alert indicates that the driver is looking for information about the target printer's installable options. NPA does not have this information. Click OK and manually indicate the printer's installed options, to the best of your knowledge.

ISSUE #4: When using the LaserWriter driver versions 8.0, 8.2, or 8.2.2 to print, the Macintosh workstation sometimes hangs.

SOLUTION: Some versions of Apple's LaserWriter 8 driver have a bug which causes a hang when it tries to download a variation of the Helvetica font. To verify that this is the issue, turn background printing off in NetWare Print Chooser and print. Watch to see if the Macintosh hangs while displaying the message "Creating Screen Font: Helvetica" or "Downloading Helvetica-Oblique."

To work around this issue:

1) choose another print driver. LaserWriter versions 7.x, 8.1.1, and 8.3 do not suffer from this issue.

OR

2) after selecting the driver in the NetWare Print Chooser, use the "Setup" button to select a PPD file for the printer. This allows NPA to tell the driver that Helvetica is already present on the printer so that it isn't downloaded.

OR

3) after selecting the object in the NetWare Print Chooser, check the "Assume Standard Fonts" box under the "NetWare Options..." button. This allows NPA to tell the driver that Helvetica is already present on the printer so that it isn't downloaded.

ISSUE #5: When printing in the background, the following message may appear:

There is not enough memory to print "<document>" from "<application>" on printer "<printer>." Do you want PrintMonitor to adjust its memory size and try again?

SOLUTION: Some versions of Apple's PrintMonitor allocate by default too little memory to accommodate NetWare Print Access. To correct this issue, you can click the "Adjust Memory Size" button in the above alert; you may be required to select this option two or more times successively before you can successfully print.

Alternatively, you can select the "Cancel Printing" option and manually adjust PrintMonitor's memory size. Click on the PrintMonitor application in the System:Extensions folder and select "Get Info" from the file menu. In the "Memory Requirements" area, set "Preferred size:" to at least 120K. Then try printing again.

ISSUE #6: Two short (less than 60 character) print job notification messages appear in rapid succession referring to one job.

This may happen when print notification is turned on and printing to a queue (or referenced printer object) without being logged into the server where the queue physically resides.

SOLUTION:

1) Turn off notification
2) Log into the matching server

ISSUE #7: Jobs from QuarkExpress, Adobe Photoshop, or other applications which have the option of sending the data in binary format will not print successfully with a PostScript error or images may print with artifacts or noise.

SOLUTION:
1) Many Macintosh applications that output graphics have the option in the application's Page Setup or Print dialog window to send the data in either Binary or ASCII format. Choose ASCII format.
2) If your printer supports it, have the network administrator set up the Printer object to support binary communications over a non-binary communications channel. Netware Print Access will then encode the binary data properly.

NetWare Print Chooser 1.0

ISSUE #1: If you run NetWare Print Chooser concurrently with Apple's Chooser, the two applications may compete for ownership of the print drivers and thereby lead to serious issues, including crashes.

SOLUTION: Run only one chooser at a time.

ISSUE #2: In the case where a NetWare Directory Services print queue object has multiple AppleTalk network address attributes with different NBP types--for example, the spooler is advertised by more than one ATPS spooler--NetWare Print Chooser may not enable all of the appropriate AppleTalk print drivers in the driver list.

SOLUTION: Such Directory Services objects may be rare at your site, in which case you would seldom encounter this issue. If the situation does arise, you will simply be limited in your choice of print drivers.

ISSUE #3: When you first add a print driver extension to your Extension folder, the icon for that driver may not show correctly in NetWare Print Chooser.

SOLUTION: NetWare Print Chooser gets its icons from the desktop database. Eventually the desktop will get updated and the correct icons will display. If you wish to accelerate this process, try opening the Extensions folder on your desktop, forcing Finder to acknowledge that icon. The next time you run NetWare Print Chooser, it will show the correct icon.

ISSUE #4: If you log out of the tree while NetWare Print Chooser is still running and then proceed to switch drivers and/or setup driver options,

you may experience issues or even crash.

SOLUTION: The best thing to do is to quit the application before logging out of the tree.

ISSUE #5: With GX installed, NetWare Print Chooser does not allow you to select a print driver.

SOLUTION: This version of NetWare Print Chooser does not support GX. You must remove GX from your system if you wish to use NetWare print services.

NetWare UAM 5.00

No known issues.

NetWare Volume Mounter 1.0

ISSUE #1: Workstations using System 7.1 may find that the NetWare Volume Mounter does not stagger the windows, but stacks new windows directly on top of old ones.

SOLUTION: There is no solution at this time. To work around this issue move the windows off of each other manually.

Remote Console 1.0

No known issues.

NetWare Aliases 1.1

ISSUE #1: Aliases made to a file or folder on a network volume mounted with NetWare Volume Mounter will not resolve correctly in System 7.1.1 if the volume is already mounted via AppleShare. Aliases to a volume will resolve correctly in all cases.

SOLUTION: Upgrade to System 7.5.

SERVER SOFTWARE NOTES:

PINSTALL.NLM and NWCMACC.NLM 1.0

ISSUE #1: There are several ways to change the volume name displayed on the workstation when mounting a server volume. One way is through the set commands in MACFILE.NLM. (Type "MACFILE HELP" in the NetWare server's system console when MACFILE.NLM is loaded for more information.) Another way is through AFPCON.NLM when using NetWare for Macintosh. Volume name changes will not take affect dynamically. The indiscriminate changing of Macintosh volume names with these utilities and with AFPCON can result in unexpected volume names. (Last saved wins).

SOLUTION: There is no solution at this time. To work around this issue, remount the volume on the workstation to see the new volume name.

ISSUE #2: NWCMACC.NLM can incorrectly identify message and client files that do not belong to the product. This is due to the simplistic key off of the LANGUAGE.4 file name. For example NWCMACC will locate the NetWare for Macintosh installation directory as a source.

SOLUTION: There is no solution at this time.

MACFILE.NLM 1.0

ISSUE #1: When MACFILE.NLM is loaded for the first time, or a volume is mounted for the first time after MACFILE.NLM has been loaded, or the desktop database for a volume is being rebuilt, the server may abend with the message, "Subdirectory was deleted during FindDirectoryEntry."

SOLUTION: Try turning file compression off when MACFILE.NLM is loading for the first time, when a volume is mounting for the first time after MACFILE.NLM has been loaded, or when MACFILE.NLM is performing a periodic rebuild. Periodic rebuilds occur every 24 hours by default if AFP.NLM is also loaded.

ISSUE #2: If a volume is dismounted while MACFILE.NLM is rebuilding a desktop database, error messages indicating that MACFILE.NLM cannot find files on the volume will be displayed.

SOLUTION: Wait to dismount a volume until rebuilding is complete.

ISSUE #3: Only a few items at a time are removed at MACFILE.NLM load time from a trash can abandoned by a crashed Macintosh.

SOLUTION: Unload and reload MACFILE.NLM again with the empty option. For example: LOAD MACFILE EMPTY

CDROM Support

ISSUE #1: When using NFA to mount NetWare volumes, you can not choose to mount an HFS formatted CD that is mounted on the server via the HFSCD.NLM.

SOLUTION: There is no solution at this time. To work around this issue, you can find the migrated directory/file structure of the CD by mounting the NetWare volume the CD was migrated to (usually SYS). The folder will have the name of the CD that was mounted through HFSCD.NLM. Some issues with using this workaround include not being able to launch certain applications on CDs that require a hard coded directory path, where the CD name is at the top of this path.

ISSUE #2: CDROM.NLM will only work with ISO 9660 CDs.

SOLUTION: There is no solution at this time. CDs mounted with the CDROM.NLM will work normally when mounted through NFA, but you can not use CDROM.NLM to mount HFS formatted CDs.
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Performa 640, LC 630 DOS Compatible: Error 003 and 005

When attempting to use the program, PRO_ORG.EXE (which is installed during the Sound Blaster installation) on a Macintosh Performa 640 DOS Compatible computer, you may get an error stating, "Error 003: Hardware Testing Fails." The Macintosh LC 630 DOS Compatible displays a similar error, "Error 005: Hardware Testing Fails" when using this program as well.
This article has been archived and is no longer updated by Apple.
The Macintosh Performa 640 and LC 630 DOS Compatible computers use the Cyrix 486 DX2 Processor in the DOS Environment. With this processor, the computer has a Write Back feature enabled in the AUTOEXEC.BAT with the line:

C:\\APPLE\\WB.EXE \\

This allows the processor to write to the hard drive in the background while the user is performing other tasks.

However, the PRO_ORG.EXE program appears not to be compatible with the Write Back feature, which causes these errors. You should contact the developer of Sound Blaster, Creative Labs, for additional information.

In the interim, the workaround is to disable the Write Back feature, which may decrease performance.

To disable the Write Back feature, follow these steps:

1. Edit the AUTOEXEC.BAT file

EDIT AUTOEXEC.BAT

2. Remark the line: C:\\APPLE\\WB.EXE

To look like this: REM C:\\APPLE\\WB.EXE

3. Save the changes and exit EDIT

4. Switch to the Mac Environment

5. Go to the PC Setup control panel

6. Select Shut Down PC

7. Select Restart PC
Now the PRO_ORG.EXE program should work.

Note: PC Setup 1.5 enables the Write Back feature and offers no way to turn it off. Apple is investigating a solution to the issue for those who need the use of the FM Pro Organ. This can also affect Power Macintosh 6100 computers with the DOS Compatibility Card.
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ClarisWorks: Only One User Can Open Server Based Document (1/96)

When more than one user attempts to open the same ClarisWorks 4.0 document that resides on an AppleShare server, the error message "That file is in use by another application" appears. Other applications allow multiple users to access the same document although some only allow the second user read-only access.

Why does ClarisWorks not allow simultaneous multiple user access to the same document?
This article has been archived and is no longer updated by Apple.
Claris support informed us when a ClarisWorks file that resides on a AppleShare server is opened by an AppleShare client, ClarisWorks locks the file so no other client can open it. This is how ClarisWorks handles files that reside on a server.

For more information on this, contact Claris technical support.

The Tech Info Library article titled "Locating Vendor Information" can help you search for a Claris' address and phone number.

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Control Strip 1.3: Read Me (1/96)

This article contains the ReadMe included with Control Strip software v1.3. This software is available online as part of the Display Software version 2.0.
This article has been archived and is no longer updated by Apple.
About the Control Strip

The Control Strip is a new way of controlling certain settings from your desktop without opening control panels. You can change the following settings with the Control Strip:

Monitor BitDepth lets you change the number of colors on your screen.

Monitor Resolution lets you change the size of the screen.

Sound Volume lets you change the volume of the system sound.

When you start up your Macintosh after installing Display Software 2.0, you will notice the Control Strip at the lower-left edge of your screen. (Note: on some models you will see different modules in the Control Strip.)

IMPORTANT Although the Control Strip appears on top of other applications' windows, you must be in the Finder to use it. If the Control Strip doesn't seem to be responding, return to the Finder by choosing Finder from the Application menu.

Using the Control Strip Modules
==========

Changing the number of colors displayed

The BitDepth module changes the number of colors displayed on your monitors. To change the number of colors, press the BitDepth module and choose the number of colors you want from the menu. (The monitors are identified by the same numbers used in the Monitors control panel.) The change takes effect immediately.

Changing the screen size

Resolution changes the screen size of Apple Multiple Scan monitors. (Other monitors have a fixed screen size.) To change the screen size, press the Resolution module and choose the screen size you want from the menu. (The monitors are identified by the same numbers used in the Monitors control panel.) The change takes effect immediately.

Note: Some applications do not support resolution switching from the Control Strip.
If resolution switching does not work, try quitting the application, changing the resolution, and then restarting the application.

Changing the sound volume

Sound Volume changes the volume of the system beep. To change the beep volume, press the Sound Volume module and choose the volume you want from the menu. The softest setting is 1, and 7 is the loudest. You hear the system beep at the new volume. If you choose a setting of 0, sound is muted.

Note: You cannot use Sound Volume to change the volume of sound from a CD or a CD-ROM. To change the volume of sound from a CD-ROM, you must use the AppleCD Audio Player (located in the Apple menu).

Working With the Control Strip

You can move, collapse, and expand the Control Strip, and you can change the order of the modules.

To move the Control Strip, hold down the Option key on your keyboard and drag the tab at the right end of the Control Strip. The Control Strip always stays on the left or right edge of your screen. If you drag more than halfway across the screen, the Control Strip moves to the other edge. If you have more than one monitor, you can drag the Control Strip to the left or right edge of the other monitor.

To make the Control Strip shorter or longer, drag the tab to the left or right.

To see hidden modules when the Control Strip is not expanded to its full size, click the right and left arrows.

To collapse the Control Strip to its smallest size, click the tab or the box. To expand the collapsed Control Strip to its original size, click the tab.

To move a module to a new position in the Control Strip, hold down the Option key on the keyboard and drag the control to where you want it.

Configuring the Control Strip

With the Control Strip control panel, you can show and hide the Control Strip and choose a keyboard command to show/hide the Control Strip. You can also choose the font that appears in the Control Strip menus.

To show the Control Strip, click Show Control Strip. To hide the Control Strip, click Hide Control Strip.

To turn on a keyboard command for showing and hiding the Control Strip, click "Hot key to show/hide." The keyboard command for showing and hiding the Control Strip appears in the "Current hot key" window.

To change the keyboard command, click "Define hot key." A box appears. Press the keys you want to use, then click OK. You must include either the x (Command) key or a function key (F1F15). You can also include other keys.

To change the font that appears in the Control Strip menus, choose a font from the Font pop-up menu and a size from the Size pop-up menu.

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Display Software 2.0: Read Me (1/96)

This article contains the ReadMe on the Apple Multiple Scan Display Software 2.0 available online.
This article has been archived and is no longer updated by Apple.
Apple Multiple Scan Display Software 2.0

The Display Software 2.0 package includes the following features:

Display Enabler 2.0
ColorSync 2.0 and ColorSync profiles
Control Strip 1.3 with Monitor Resolution, BitDepth, and Sound Volume features
Energy Saver 1.1

You can use this software to change the resolution of your monitor, adjust the number of colors it can display, and control your monitor's energy-saving features.

System Requirements

To use Display Software 2.0, you need:

A computer with version 7.1 or later of the Mac OS software
Any Apple Multiple Scan Display

Display Software 2.0 does not work with PowerBook 100 series computers or with PowerBook Duo computers other than the 280 and 280c.
To use Display Software 2.0 with the PowerBook Duo 280 and 280c, you must connect the PowerBook to a Duo Dock.

How to Install Display Software 2.0

To install Display Software 2.0, follow these steps:

Step 1

Insert the Display Software disk into a disk drive.

Step 2

Double-click the Installer icon to open it. A welcome message appears.

Step 3

Click OK.

Step 4

Make sure the disk named in the Installer window is the disk on which you want to install the software. If not, click Switch Disk until the correct name appears.

Step 5

Click Install to begin installation.

Step 6

When installation is finished, follow the instructions on the screen to begin using your new software.

Step 7

Be sure to read the file About Control Strip to learn about your new software.

Using ColorSync System Profiles

With ColorSync, different Apple monitors can display colors in a consistent way. You can also fine-tune the way your monitor displays color.

To set a ColorSync profile for your monitor, follow these steps:

Step 1

Open the ColorSync System Profile control panel.

Step 3

Click Set Profile.

Step 3

In the dialog box that appears, locate the files that have the name of your monitor. Click the profile you want.

Note: If you have an Apple Multiple Scan 14 Display, you were previously instructed to use the profile for the Apple Multiple Scan 15 Display. You now have choices specifically for your monitor.

About the ColorSync choices

The ColorSync choices let you choose from several white point settings for your monitor. White point is a measure of the color content of light.

9300 is the standard for most computer monitors and high-definition television (HDTV).
D50 is the standard for most graphic art work.
D65 approximates the color of light from the midday sun.

Configuring Your Monitors

The features of the Monitors control panel have not changed. To learn more about the Monitors control panel, see the documentation or online help that came with your computer or your system software. (Some models come with a different control panel for configuring monitors.)

Tip: To set the screen resolution and configure your video card, you click the Options button in the Monitors control panel. To see more choices, hold down the Option key on your keyboard as you click the Options button.

At the bottom of the control panel, you can choose whether to change the settings when you close the control panel or when you restart your computer.

Saving Energy

Your Multiple Scan Display is designed to save energy by putting itself to sleep when you are away from the computer for a while. You can control this feature using the Energy Saver control panel. The Energy Saver control panel has not changed.

Using the Control Strip

The Control Strip is a new way of changing certain settings from your desktop without opening control panels. With the Control Strip, you can change the number of colors on your screen, the resolution (size) of the screen, and the volume of the system sound.

To learn more about the Control Strip, read the file About Control Strip included in this package.

Troubleshooting

This section lists solutions to potential problems with your new display software.

I'm trying to change the monitor resolution, and I don't see the resolution I want.

You can see additional resolution choices in the Monitors control panel if you hold down the Option key on your keyboard while you click the Options button in the control panel. In the list that appears, click the resolution you want. (Some models come with a different control panel for configuring monitors. See the on-screen help that came with your computer.)

Note: Some of the items in this list will not work properly with your monitor. If you choose a resolution that doesn't work with your monitor, you may see a message, or your monitor may go blank or show static. After approximately 15 seconds, your monitor should revert to a usable resolution. If it does not, restart your computer.

After I change the screen resolution, a window is stuck, halfway off the screen, or missing.

Try one of the following:
If you changed the resolution in the Monitors control panel, make sure the control panel is closed before trying to use another window.
Quit the program whose window is missing and then open it again.
If the program has a Windows menu, use it to hide the problem window and then show it again.
Go back to the resolution you were using, close the window, change the resolution, and then reopen the window.
If you have problems with a particular program, contact the publisher of that program. Not all programs take advantage of the Multiple Scan Display's new features.

If you choose the 800 x 600 (72 Hz) resolution on a Multiple Scan 14 Display, a software problem may prevent you from seeing the whole screen. Use the 60 Hz setting instead.

After I change the number of colors displayed on the screen, the colors don't look right.

Try one of the following:
Quit the program you're running and start it again.
Go back to the number of colors you were using.

After I change the screen resolution, icons move.

Changing the screen resolution affects how information can be displayed on your screen. The display software may automatically reposition icons after you change the screen resolution.

After I attached a new monitor to my computer, the new monitor's screen is blank or shows "garbage" or "snow."

The computer may not have recognized the monitor. Try the following: Turn off the computer and disconnect the new monitor. Start the computer with no monitor attached. Wait a minute or so for the computer to finish turning itself on. Turn off the computer again and reattach the new monitor.

My monitor does not go to sleep.

Some monitors, computers, and video cards do not support the Energy Saver feature. See the documentation that came with your monitor and video card for more information.

If you have a Power Macintosh 9500, you can get an upgrade to your software that allows your monitor to work with Energy Saver. Call the Apple Service and Support number found in the service and support information that came with your computer.

When I use both Energy Saver and a screen saver program, the screen freezes.

The screen saver program may be conflicting with Energy Saver. Turn off either the screen saver program or the Energy Saver control panel.

My monitor starts up in black and white.

If you've just installed a new video card such as the Macintosh 24AC, the monitor will start up in black and white the first time you start the computer. Switch it to color after startup.

If your Multiple Scan 15 Display is connected to a Macintosh Quadra 610, 650, 700, or 950, a Macintosh LC 475 or a Power Macintosh 6100, the monitor may start up in black and white. Switch it to color after startup.

I see two resolution options labeled 640x870 (75 Hz).

If you're using the Macintosh 24AC video card, you may see two apparently identical resolution selections. The first option sets your monitor to display millions of colors, and the second option sets your monitor to display 256 colors.

When I change resolutions, the monitor goes blank.

If your monitor is connected to the Macintosh 24AC video card, the monitor may go blank for 15 seconds when you select a resolution that does not work with your monitor. Try selecting another resolution.

The image is too small.

If you're using a Multiple Scan 1705 connected to the Macintosh 24AC video card, the image may appear too small at the resolution 1024 x 768 (60 Hz). Try a different resolution.

IMPORTANT Some programs and video cards do not take advantage of the Multiple Scan Display's new features. If you experience problems with your application programs or video cards, contact the publisher or manufacturer.

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Acrobat Reader Fonts & QuickDraw GX Turned On/Off (1/97)

I am using Adobe's Acrobat Reader on my Macintosh computer. I get font related error messages at startup after I switch between QuickDraw GX and standard QuickDraw.

This article has been archived and is no longer updated by Apple.

Acrobat Reader versions earlier than 2.0.1 are incompatible with QuickDraw GX. Acrobat Reader versions 2.0.1 and later are compatible with QuickDraw GX but the correct fonts must be installed before restarting with QuickDraw GX active. Similarly, if the you want to turn QuickDraw GX off and Acrobat is already installed, the corresponding fonts will need to be installed before restarting with QuickDraw GX turned off.

If the correct fonts for QuickDraw GX are not installed before restarting, the computer will produce the message "The installed substitute fonts are designed for use with Standard QuickDraw. Please remove them and install the QuickDraw GX versions".

If the correct fonts for non-QuickDraw GX are not installed before restarting, the computer will produce the message "The installed substitute fonts are designed for use with QuickDraw GX. Please remove them and install the standard versions".

If the Acrobat Reader program is launched while either of the incorrect fonts are present the error message, "The current versions of system software, ATM, and substitution fonts required to run Acrobat Reader are not synchronized. Please re-install Acrobat Reader to correct this problem" will appear.

Switching between the contexts of having QuickDraw GX on or off and using Acrobat Reader can be done in one of two ways:

* Restart the computer in the desired mode (QuickDraw GX on or off) and run the Acrobat Reader installer. The installer will recognize that QuickDraw GX is on or off and will install the proper fonts into the Fonts folder. After running the installer, you will need to restart once more.

* Keep a separate folder containing both the GX and non-GX versions of the fonts that Acrobat Reader installs. When you want to switch QuickDraw GX on or off, drag (or hold down the Option key and drag to copy) the appropriate fonts into the Fonts folder. After restarting, the correct fonts will be installed and Acrobat Reader will function correctly. This method is preferable to the first since it only requires one restart.

The installed fonts for the QuickDraw GX environment:

- Adobe Sans MM (TrueType suitcase)
- Adobe Serif MM (TrueType suitcase)

The installed fonts for the standard QuickDraw environment:

- Adobe Sans MM (bitmapped font suitcase)
- Adobe Serif MM (bitmapped font suitcase)
- AdobeSanMM (PostScript font)
- AdobeSerMM (PostScript font)

NOTE: Although the two versions of the "Adobe Sans MM" and "Adobe Serif MM" suitcases have the same name, Acrobat Reader will only recognize the fonts from the correct environment. That is, you cannot keep the two PostScript fonts and the two TrueType suitcases in the Fonts folder and have Acrobat Reader automatically recognize the correct one whether QuickDraw GX is on or off.

Macintosh Performa 6360 and 6400 Computers

Performa 6360 and 6400 computers come with Adobe Acrobat Reader pre-installed. This version of Acrobat Reader does not include the GX-compatible fonts referred to in this article. There is not a regular Adobe Acrobat installer on the computer's CD-ROM or on hard disk; Adobe Acrobat is part of the Restore All Software bundle.

If you experience this font error as described above after installing QuickDraw GX 1.1.3, obtain a copy of Acrobat Reader (their web site is http://www.adobe.com) and install it. Also turning off the ATM control panel with the Extensions Manager control panel will stop this error.

As described above once you have installed the QuickDraw GX Acrobat fonts, and turn GX off, you will get an error message stating, "The installed substitution fonts are designed for use with QuickDraw GX. Please remove them and install the standard QuickDraw versions." Follow the workarounds above for switching between QuickDraw GX and Standard QuickDraw.

Article Change History:
03 Jan 1997 - Added Performa 6360 and 6400 information, changed title.

TA35003_Acrobat_Reader_Fonts_QuickDraw_GX_Turned_OnOff__(TIL19251).pdf

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MegaPhone & GeoPort: Telephone Manager, Telephone Tool Msg

1) I have a GeoPort Telecom Adapter connected to my Power Macintosh computer, and MegaPhone has been working properly. I had to reinstall system software and now I get this error message when I try to start MegaPhone: "Telephone Manager 2.0 (or later) is required. Please install the software before launching Megaphone."

Telephone Manager 2.1 is in my Extensions folder and I can send and receive faxes fine. What is wrong?

2) Sometimes when opening MegaPhone, I have received a message saying the "GeoPort Telephone Tool could not be configured. DemoDialer Telephone Tool has temporarily been selected. You will not be able to make or receive calls with this tool.; invalid telephone terminal (configuration problem)."

What can cause this message and how do I correct it? Again, I have the GeoPort Telephone Tool in my Extensions folder.
This article has been archived and is no longer updated by Apple.
1) "Telephone Manager 2.0 (or later) is required. Please install the software before launching Megaphone."

The Telephone Manager is installed by the Apple Telecom 2.x software installer. In addition to the visible extension and control panel, the installer also modifies resources in the System suitcase file. If you reinstall the system software, these resources will be absent from the new System suitcase and the Telephone Manager will not be recognized.

You are able to send faxes because the current fax software does not access the Telephone Manager. Most current data communications software titles do not access the Telephone Manager either.

To resolve this, you need to perform an Easy Install of the Apple Telecom software. This will add the necessary resources to the System suitcase file.

2) "GeoPort Telephone Tool could not be configured. DemoDialer Telephone Tool has temporarily been selected. You will not be able to make or receive calls with this tool.; invalid telephone terminal (configuration problem)."

The two main reasons for this second message to appear is if you do not have the GeoPort Telecom Adapter connected to the GeoPort itself or the GeoPort Telephone Tool is actually missing. In some cases, corrupted Telecom software or preference file could cause a similar message.

Follow these steps to troubleshoot this message:

Step 1

With the power off to the computer, make sure the GeoPort Telecom Adapter is connected to either the printer or the modem port. If you have a Macintosh Quadra 840AV or 660AV computer, you must use the modem port.

Disconnect and reconnect the cable to make sure it is in snugly. Confirm the adapter is connected by sending a fax or connect with a data communications program.

Step 2

Make sure that GeoPort Telephone Tool is in the Extensions folder of the System Folder, if it is not, reinstall the Apple Telecom software.

If the tool is installed and you are able to fax or connect to an online service drag the MegaPhone Prefs file to the Trash. The MegaPhone Prefs file can be located by the path:

System Folder -> Preferences Folder -> Cypress -> MegaPhone Prefs

A new copy of the MegaPhone Prefs will be created the next time you open MegaPhone.

Step 3

If you still get the message, drag both the TelePhone Manager and the GeoPort Telephone Tool to the Trash and perform an easy install from the Apple Telecom disks.
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Newton 2.0 OS: Alarm Volume Setting Muted

When I use the Prefs in the Extras draw to adjust the alarm volume to zero, then back to a different volume, the volume on the entire MessagePad gets muted. The Newton device then will not allow me adjust the volume, even though I change the setting in the Extras drawer.
This article has been archived and is no longer updated by Apple.
This is a problem with the Alarm volume setting. The workaround is to turn the MessagePad off and back on. Next, open the Extras drawer and adjust the volume. The sound should return.

This will be fixed in a future System Update.
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Macintosh and NetWare Remote Access (1/96)

This article describes Macintosh and NetWare remote access. This informaiton is taken from Novell Technical Information Document ID 350124, revision 1, dated 29 June 1994. This information is being provided by as information only. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.
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ISSUE

Assuming the user is using a dial in method (no WAN support at the remote site) there are two classes of dial up solutions:

1) Accessing the network as a Macintosh client workstation

a) Using ARA (AppleTalk Remote Access) the user (with ARA client support -- available in the modem software, for example) can dial into an ARA server. An ARA server can be a NetWare file server with NetWare Connect loaded with ARA support. But there are other ARA server solutions available.

After "connecting" to the ARA server, the user is then able to access all the services of that network as if the client were really physically resident on that LAN. However, be aware this solution can yield poor performance depending on the speed of the modem link.

b) Using Faralon's Timbuktu Remote, the remote Macintosh user can dial into a locally connected Macintosh (with the Timbuktu Host module operational) and gain access to the network. However in contrast to the ARA solution, the Timbuktu solution allows the remote user to essentially take control of the local Macintosh. For example when saving a file in the Timbuktu environment, the user is actually saving the file to locally connected Macintosh's disk, not to the remote disk.

2) Accessing the network as a DOS client

a) Using OnLAN/Mac and the NetWare Access Server (NAS), the remote Macintosh client can dial into the NAS, take control of one of the 16 available NCP/IPX sessions and access the network as if the remote Macintosh client were really a locally connected DOS client. At this point, the remote OnLAN/Mac Macintosh client will show a main program window with a DOS prompt and an operating system that essentially is MS DOS. From within this program, users can run DOS software (like the NetWare LOGIN.EXE or LOGOUT.EXE utilities for example) as if they were a locally connected DOS client.

b) Using Argosy's RunPC/Remote, the remote Macintosh client can dial into a locally connected DOS client. This soluiton is similar to the Timbuktu solution in that the remote client takes control of the local client. But in this case the local client is a DOS workstation, not a Macintosh.

_Verified by customer
_Verified by Novell

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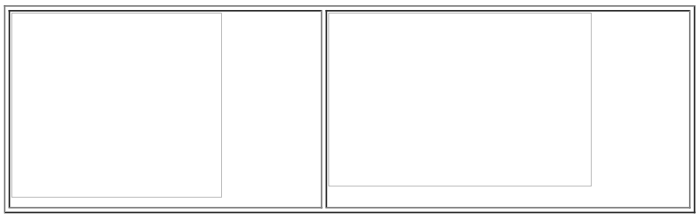
Macintosh: S-Video Port Confused with the ADB Port

The mouse or keyboard on my new Macintosh computer does not work. I have tried different mice, different keyboards, and different ADB cables. I have tried starting up from my system software CD and startup floppy disk, and still get no response from either my keyboard or mouse. I know I am connected properly because the cable fits in the port.

What is wrong?
This article has been archived and is no longer updated by Apple.
Since you have tested for bad cables, mouse devices, keyboards, and software, make sure you are connected to the actual ADB port and not just a port into which the cable fits.

Many new Macintosh computers come with AV capabilities or installable AV options. The S-Video port on computers with AV capabilities has seven instead of four pins but an ADB cable will fit in this port. You may have attached your mouse or keyboard to this S-Video port. The icon next to the S-Video port is a box with an S in it or a Camera outline with an S in it.

Make sure the ADB cable is connected to the ADB port. The graphic next to the ADB port has a vertical line that connects with two dots to the left and one dot to the right:



If an AV video card is added to the following computers, the S-Video port could be mistaken for an ADB port:

Macintosh LC 580
Macintosh LC 630
Macintosh Quadra 630
Power Macintosh 5200/75 LC
Power Macintosh 5300/100 LC
Power Macintosh 6300/100 LC
Macintosh Performa 580
Macintosh Performa 630 series
Macintosh Performa 640CD DOS Compatible
Macintosh Performa 5200 series
Macintosh Performa 5300 series
Macintosh Performa 6100 series
Macintosh Performa 6200 series
Macintosh Performa 6300CD

The following computers have an S-Video port built-in:

Macintosh 660 AV
Macintosh 840 AV
Power Macintosh 6100 AV Series
Power Macintosh 7100 AV Series
Power Macintosh 8100 AV Series
Power Macintosh 7500
Power Macintosh 8500
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Apple System Profiler 1.0: What Information Does it Show?

This article describes the Apple System Profiler 1.0 which is an application included with System 7.5.3 and the System 7.5 Update 2.0.
This article has been archived and is no longer updated by Apple.
Apple System Profiler is a new tool that will allow you to gather information about the configuration of your Macintosh system. In addition, the information it reports may be needed if you place a call to the Apple Assistance Center (AAC).

If you have one of the computers listed below, you should install the Apple System Profiler on your computer now. Double-click on the Apple System Profiler Installer located in your Apple Extras folder. The Apple System Profiler will be installed in the Apple Menu on your computer.

The Apple System Profiler 1.0 is compatible with the following computers running System 7.5.3:

Power Macintosh 9500, 8500, 7500, 7200, 8100, 7100 and 6100 series.
PowerBook 5300, 2300 and 190 series.
Performa 5200, 5300, 6200 and 6300 series.

The utility gathers, summarizes, and delivers key pieces of system configuration information such as processor clock speed, disk cache size, and Apple and non-Apple installed extensions. After you install the application and run it, a profiler "code" is generated. If you call the AAC, the support technician can use this code to determine the configuration of your machine. This information will help reduce the amount of time needed to gather configuration information on your computer.

There are six information sets available under the Select menu. The information gathered by each set is:

System Overview:

Customer Care Code: (code for AAC agent to determine configuration)
Machine: (type of computer including processor speed)
Machine ID: (unique ID indicating computer type)
Finder: (version)
System: (version)
Processor: (type)
Active Enabler: (enabler name, version)
Memory Installed: (RAM Installed)
Virtual Memory: (on or off)
Total Memory: (including virtual)
Disk Cache: (on or off, amount)
AppleTalk: (version, on or off (Open Transport or AppleTalk Phase))
File Sharing: (on or off)
Startup Device: (SCSI bus number of startup device, SCSI ID number of startup device, device name)
Chosen Printer: (chooser selection's driver version and zone location)

Volume Information:

Number of Volumes Found
List of Volume Names, clicking on each volume name gives this information:
Name: (volume name)
Kind: (hard disk, CD-ROM)
Size: (total size)
Space Available: (free space left)
Bus: (SCSI Bus number)
ID: (SCSI ID number)
Mounted: (yes or no)
Write Protected: (yes or no)
Where: (Driver and version number)

Device Information:

Total SCSI Buses Found: (number of buses)
Number of SCSI Devices Found on each bus
List of SCSI ID Numbers: (type of device assigned to each number) clicking on each device name gives this information:
Device Type: (hard drive, CD-ROM Drive)
Bus: (SCSI Bus number)
ID: (SCSI ID number)
Capacity: (total formatted storage space)

Vendor: (manufacturer's name)
Product ID: (unique drive identification code)
Revision Number: (ROM Revision)
Interface Type: (SCSI, SCSI-2)
Removable Media: (yes or no)
HFS Partitions: (number of partitions)

Control Panel Information:

Lists total Control Panels found with version numbers in parenthesis, bullets to the left of each control panel indicate that it is enabled
Shows: All Control Panels, Apple Only, Non-Apple
Clicking on each control panel in the list reveals its location on the volume

Extension Information:

Lists total Extensions found with version numbers in parenthesis, bullets to the left of each extension indicate that it is enabled
Shows: All Extensions, Apple Only, Non-Apple
Clicking on each extension in the list reveals its location on the volume

System Folder Information:

Lists all folders found which contain a System and Finder, indicates the startup System Folder with a Macintosh icon

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QuickDraw 3D: Glossary of Terms (P to S)

This article is a glossary of terms for QuickDraw 3D.
This article has been archived and is no longer updated by Apple.
parallel projection: A method of projecting a model onto a viewing plane that uses parallel projectors. See also oblique projection, orthographic projection. Compare perspective projection.parameterization A parametric function that picks out all points on a geometric object, such as a pixmap or a surface. Compare surface parameterization.

parametric curve: Any curve whose points are described by one or more parametric functions. A two-dimensional parametric curve can be described by the parametric functions x = x(t) and y = y(t). A three-dimensional parametric curve is described by the parametric functions x = x(t), y = y(t), and z = z(t). Compare B-spline polynomial, nonuniform rational B-spline (NURB).

parametric equation: See parametric function.

parametric function: A function of one or more parameters (often denoted by s and t or u and v).

parametric point: A position in two- or three-dimensional space picked out by a parametric function. Defined by the TQ3Param2D and TQ3Param3D data types. Compare point, point object, rational point.

parent class: The class (if any) of which a given class is a subclass. In other words, a class' parent class is the class immediately above that class in the QuickDraw 3D class hierarchy. For example, the shape class is the parent class of the light class. Also called a base class or a superclass.

patch: A portion of a surface defined by a set of points. Compare NURB patch.

perspective foreshortening: A feature of perspective projections wherein the size of a projected object varies inversely with the distance of the object from the center of projection.

perspective projection: A method of projecting a model onto a viewing plane that uses nonparallel projectors. Compare parallel projection.

Phong illumination: A method of calculating the illumination of a point on a surface based on both diffuse reflection and specular reflection. Compare Lambert illumination, null illumination.

Phong illumination shader: An illumination shader that implements a Phong illumination model. Compare Lambert illumination shader, null illumination shader.

Phong shading: A method of shading surfaces in which the incident light color and intensity are calculated for a series of points along each edge of a polygon and then interpolated across the entire polygon. Compare constant shading, Gouraud shading.

pick: (n.) See pick object. (v.) To determine whether a specified object is close enough to a pick geometry for a hit to be recorded.

pick data structure: A data structure that contains basic information about a pick object. Defined by the TQ3PickData data type.

pick detail: See hit information mask.

pick geometry: The geometric object used in any picking method.

pick hit: See hit.

pick hit list: See hit list.

picking: The process of identifying the objects in a view that are close to a specified geometric object.picking flag A binary flag in a group state value that determines whether a group is eligible for picking. Compare drawable flag, inline flag.

picking ID: An arbitrary 32-bit value that you can use to determine which object was selected by a pick operation.

picking ID style: A type of style object that determines the picking ID of an object or group of objects in a model.

picking loop: A section of code in which all picking takes place. A picking loop begins with a call to the Q3View_StartPicking routine and should end when a call to Q3View_EndPicking returns some value other than kQ3ViewStatusRetraverse. A picking loop is a type of submitting loop. See also bounding loop, rendering loop, writing loop.

picking parts style: A type of QuickDraw 3D object that determines which parts of a geometric object (for instance, a mesh) are eligible for inclusion in a hit list.

pick object: A QuickDraw 3D object that is used to select geometric objects in a model that are close to a specified geometric object. A pick object is an instance of the TQ3PickObject class.

pick origin: A point in space that determines the origin of sorting hits. Compare metric pick object.

pick parts mask: A value that indicates the kinds of objects placed in a hit list.

picture area: The portion of a window occupied by a viewer object that contains the displayed image.

pixel image: See pixmap

pixel map: See pixmap

pixmap: A two-dimensional array of values, each of which represents the color of one pixel. Defined by the TQ3Pixmap data type. See also bitmap, storage pixmap.

pixmap draw context: A draw context that is associated with a pixmap.

pixmap draw context data structure: A data structure that contains information about a pixmap draw context. Defined by the TQ3PixmapDrawContextData data type.

pixmap texture object: A texture object in which the texture is defined by a pixmap.

planar: Contained completely in two dimensions (as, for example, a circle). See also spatial.

plane constant: The value d in the plane equation ax+by+cz+d = 0.

plan elevation projection: See top elevation projection.

plane equation: An equation that defines a plane. A plane equation can always be reduced to the form ax+by+cz+d = 0. Defined by the TQ3PlaneEquation data type.

point: A dimensionless position in two- or three-dimensional space. Defined by the TQ3Point2D and TQ3Point3D data types. Compare parametric point, point object, rational point.point light A light source that emits rays of light in all directions from a specific location.

point light data structure: A data structure that contains information about a point light. Defined by the TQ3PointLightData data type.

point object: A dimensionless position in three-dimensional space, with an optional set of attributes. Defined by the TQ3PointData data type.

point of interest: The point in world space at which a camera is aimed. The point of interest and the camera location determine the viewing direction.

point pick object: See window-point pick object.

polar coordinate system: A system of assigning planar positions to objects in terms of their distances (r) from a point (the polar origin, or pole) along a ray that forms a given angle (q) with a coordinate line (the polar axis). The polar origin has the polar coordinates (0, q), for any angle q. Compare Cartesian coordinate system, spherical coordinate system.

polar axis: A fixed ray that radiates from the polar origin, in terms of which polar coordinates are determined. Also called the initial line.

polar origin: The point in a plane from which the polar axis radiates. Also called the pole.

polar point: A point in a plane described using polar coordinates.

pole: See polar origin.

polygon: A closed plane figure. See general polygon, simple polygon.

polygon mesh: A mesh whose faces are composed of polygons.

polyhedron: A solid figure composed of faces.

postmultiplied: A term that describes the order in which matrices are multiplied. Matrix [A] is postmultiplied by matrix [B] if matrix [A] is replaced by [A] [B]. Compare premultiplied.

premultiplied: A term that describes the order in which matrices are multiplied. Matrix [A] is premultiplied by matrix [B] if matrix [A] is replaced by [B] [A]. Compare postmultiplied.

primitive: See geometric primitive.

private: See opaque.

projection: (1) A method of mapping three-dimensional objects into two dimensions. See also parallel projection, perspective projection. Compare camera object. (2) The image on the view plane that results from mapping three-dimensional objects into two dimensions.

projection plane: See view plane.

projective transform: See frustum-to-window transform.

projector: A ray that intersects both a point on an object in a model and the view plane, thereby projecting the object in the model onto the view plane.

prototype: The object (or collection of objects) represented in a model. Compare model, synthetic.prototypical Of or pertaining to a prototype. Compare model, synthetic.

proxy display group: See I/O proxy display group.

quaternion: A quadruple of floating-point numbers that obeys the laws of quaternion arithmetic. Defined by the TQ3Quaternion data type.

quaternion transform: A type of transform that rotates and twists an object according to the mathematical properties of quaternions.

QuickDraw: A collection of system software routines on Macintosh computers that perform two-dimensional drawing on the user's screen.

QuickDraw 3D: A graphics library developed by Apple Computer, Inc., that you can use to create, configure, render, and interact with models of three-dimensional objects. You can also use QuickDraw 3D to read and write 3D data.

QuickDraw 3D class: A structure for the data that characterize QuickDraw 3D objects, together with a set of methods that operate on that data. Compare QuickDraw 3D object. See also child class, leaf class, parent class.

QuickDraw 3D class hierarchy: The hierarchical arrangement of QuickDraw 3D object classes.

QuickDraw 3D object: Any instance of a QuickDraw 3D class. See also object type.

QuickDraw 3D Object Metafile (3DMF): An extensible file format defined by Apple Computer, Inc., for storing 3D data and interchanging 3D data between applications.

QuickDraw 3D Pointing Device Manager: A set of functions that you can use to manage three-dimensional pointing devices.

QuickDraw 3D shading architecture: An environment in which shaders can be applied at various stages in the imaging pipeline.

radius vector: The ray that radiates from the polar origin and that forms a given angle with the polar axis (or two given angles with the x and z axes). A polar or spherical point lies at a given distance along the radius vector. See also polar coordinate system, spherical coordinate system.

rasterization: The process of determining values for the pixels in a rendered image. Also called scan conversion.

rational point: A dimensionless position in two- or three-dimensional space together with a floating-point weight. Defined by the TQ3RationalPoint3D and TQ3RationalPoint4D data types. Compare point.

ray: A point of origin and a direction. Defined by the TQ3Ray3D data type.

real: See prototypical.

rectangle pick object: See window-rectangle pick object.

reference count: The number of times a shared object is being accessed.

render: To create an image (on the screen or some other medium) of a model.renderer See renderer object.

renderer object: A QuickDraw 3D object that you can use to render a modelthat is, to create an image from a view and a model. A renderer

object is an instance of the TQ3RendererObject class.

rendering: The process of creating an image (on the screen or some other medium) of a model. See also rasterization.

rendering loop: A section of code in which all rendering takes place. A rendering loop begins with a call to the Q3View_StartRendering routine and should end when a call to Q3View_EndRendering returns some value other than kQ3ViewStatusRetraverse. A rendering loop is a type of submitting loop. See also bounding loop, picking loop, writing loop.

retained mode: A mode of defining and rendering a model in which the graphics library (for instance, QuickDraw 3D) maintains a copy of the model. See also immediate mode.

retained object: An object that is defined and rendered in retained mode. See also immediate object.

RGB color space: A color space whose three components measure the intensity of red, green, and blue.

RGB color structure: A data structure that contains information about a color. Defined by the TQ3ColorRGB data type.

right-handed coordinate system: A coordinate system that obeys the right-hand rule. In a right-handed coordinate system, positive rotations of an axis are counterclockwise. Compare left-handed coordinate system.

right-hand rule: A method of determining the direction of the positive z axis (and thereby the front of a planar surface). According to the right-hand rule, if the thumb of the right hand points in the direction of the positive x axis and the index finger points in the direction of the positive y axis, then the middle finger points in the direction of the positive z axis. Compare left-hand rule.

rotate: To reposition an object by revolving (or turning) each point of the object by the same angle around a point or axis.

rotate-about-axis transform: A type of transform that rotates an object about an arbitrary axis in space by a specified number of radians at an arbitrary point in space.

rotate-about-axis transform data structure: A data structure that contains information on a rotate transform about an arbitrary axis in space at an arbitrary point in space. Defined by the TQ3RotateAboutAxisTransformData data type.

rotate-about-point transform: A type of transform that rotates an object about the x, y, or z axis by a specified number of radians at an arbitrary point in space.

rotate-about-point transform data structure: A data structure that contains information on a rotate transform about an arbitrary point in space. Defined by the TQ3RotateAboutPointTransformData data type.rotate button A button in the controller strip of a viewer object that, when clicked, puts the cursor into rotate mode. Subsequent dragging of the cursor in the picture area causes the displayed object to rotate in the direction in which the cursor is dragged. Compare camera angle button, distance button, move button, zoom button.

rotate transform: A type of transform that rotates an object about the x, y, or z axis at the origin by a specified number of radians.

rotate transform data structure: A data structure that contains information about a rotate transform. Defined by the TQ3RotateTransformData data type.

rotation: A transform that causes an object to revolve around a point or an axis. Compare rotate-about-axis transform, rotate-about-point transform, rotate transform.

scalar product: See dot product.

scale: To reposition and resize an object by multiplying the x, y, and z coordinates of each of its points by values d x , d y , and d z . Compare differential scaling, uniform scaling.

scale transform: A type of transform that scales an object along the x, y, and z axes by specified values.

scan conversion: See rasterization.

scene: A combination of objects, lights, and draw context.

screen coordinate system: See window coordinate system.

screen space: See window coordinate system.

screen-space picking: The process of testing whether the projections of three-dimensional objects onto the screen intersect or are close enough to a specified two-dimensional object on the screen.

screen-space subdivision: A method of subdividing smooth curves and surfaces. In this method, the renderer subdivides a curve (or surface) into polylines (or polygons) whose sides have a maximum length of some specified number of pixels. Compare constant subdivision, world-space subdivision.

serpentine: Said of a trigrid in which quadrilaterals are divided into triangles in an alternating fashion.

set: See set object.

set object: A collection of zero or more elements, each of which has both an element type and some associated element data. A set object is an instance of the TQ3SetObject class.

shader: See shader object.

shader object: A type of QuickDraw 3D object that you can use to manipulate visual effects that depend on the illumination provided by a view's group of lights, the color and other material properties (such as the reflectance and texture) of surfaces in a model, and the position and orientation of the lights and objects in a model. A shader object is an instance of the TQ3ShaderObject class.shading parameterization A surface uv parameterization used when shading a surface.

shadow-receiving style: A type of QuickDraw 3D object that determines whether or not objects in a model receive shadows when obscured by other objects in the model.

shape: See shape object.

shape object: A type of QuickDraw 3D object that affects how and where a renderer renders an object in a view. A shape object is an instance of the TQ3ShapeObject class.

shape part: See shape part object.

shape part object: A distinguishable part of a shape object. A shape part object is an instance of the TQ3ShapePartObject class. See also mesh part object.

shared object: A QuickDraw 3D object that may be referenced by many objects or the application at the same time. A shared object is an instance of the TQ3SharedObject class.

side elevation projection: A type of elevation projection in which the view plane is parallel to a side of the object being projected.

simple polygon: A closed plane figure defined by a list of vertices (that is, defined by a single contour). Defined by the TQ3PolygonData data type. See also general polygon.

smooth shading: See Gouraud shading, Phong shading.

space: (1) See coordinate system. (2) The two- or three-dimensional extent defined by a coordinate system.

spatial: Contained completely in three dimensions (as, for example, a box). See also planar.

specular coefficient: A measure of an object's level of specular reflection.

specular color: The color of the light of a specular reflection.

specular control: See specular reflection exponent.

specular exponent: See specular reflection exponent.

specular highlight: A bright area on an object's surface caused by specular reflection.

specular reflection: The type of reflection that is characteristic of light reflected from a shiny surface. Compare diffuse reflection.

specular reflection coefficient: See specular coefficient.

specular reflection exponent: A value that determines how quickly the specular reflection diminishes as the viewing direction moves away from the direction of reflection.

spherical coordinate system: A system of assigning spatial positions to objects in terms of their distances from the origin (r) along a ray that forms a given angle (q) with the x axis and another angle (f) with the z axis. Compare Cartesian coordinate system, polar coordinate system.spherical point

A point in space described using spherical coordinates.

spot light: A light source that emits a circular cone of light in a specific direction from a specific location. See also fall-off value, hot angle, outer angle.

spot light data structure: A data structure that contains information about a spot light. Defined by the TQ3SpotLightData data type.

standard I/O library: A collection of functions that provide character I/O and file manipulation services for C programs. Compare UNIX storage object.

standard surface parameterization: A parametric function that maps the unit square to an object's surface. Compare custom surface parameterization, natural surface parameterization.

storage object: A QuickDraw 3D object that represents any piece of storage in a computer (for example, a file on disk, an area of memory, or some data on the Clipboard). A storage object is an instance of the TQ3StorageObject class.

storage pixmap: A two-dimensional array of values contained in a storage object, each of which represents the color of one pixel. Defined by the TQ3StoragePixmap data type. See also bitmap, pixmap.

stream file: A metafile that contains no internal references. In other words, a file object that does not contain a table of contents and in which any references to objects are simply copies of the objects themselves. See also normal file, stream file.

stream mode: The mode in which a stream file is opened. See also database mode, normal mode.

string: See string object.

string object: A QuickDraw 3D object that contains a sequence of characters. A string object is an instance of the TQ3StringObject class. See also C string object.

style: See style object.

style object: A type of QuickDraw 3D object that determines some of the basic characteristics of the renderer used to render the curves and surfaces in a scene. A style object is an instance of the TQ3StyleObject class.

subclass: See child class.

subdivision method: A method of subdividing smooth curves and surfaces. See constant subdivision, screen-space subdivision, world-space subdivision.

subdivision method specifier: An indicator of the number of parts into which a smooth curve or surface is to be subdivided.

subdivision style: A type of QuickDraw 3D object that determines how a renderer decomposes smooth curves and surfaces into polylines and polygonal meshes for display purposes.

subdivision style data structure: A data structure that contains information about the type of subdivision of curves and surfaces used by a renderer. Defined by the TQ3SubdivisionStyleData data type.submit To make an object (or group of objects) eligible for drawing, picking, writing, or bounding box or sphere calculation. Compare submitting loop.

submitting loop: A section of code in which all submitting takes place. Compare bounding loop, picking loop, rendering loop, writing loop.

superclass: See parent class.

surface-based shader: A shader that affects the surfaces of geometric objects based on their material properties, position, and orientation (and other factors). Compare view-based shader.

surface parameterization: A parametric function that picks out all points on a surface. See also custom surface parameterization, natural surface parameterization, standard surface parameterization.

surface normal: See normal vector.

surface shader: A shader that is applied when calculating the appearance of a surface. Compare texture shader.

surface tangent: A pair of vectors that indicate the directions of changing u and v parameters on a surface. Defined by the TQ3Tangent2D data type.

surrounding light: See ambient light.

synthetic: Not real, as for example the objects in a model. Compare prototypical.

synthetic camera: See camera object.

Published Date: Feb 19, 2012

AppleVision 1710 Displays: Calibration Message (4/96)

Article Change History: 17 April 1996

How do I stop my AppleVision 1710AV or AppleVision 1710 from displaying the calibration message every two weeks?
This article has been archived and is no longer updated by Apple.
You need to set the preferences in either the AppleVision Setup control panel, or the Sound & Displays control panel, dependent upon the System Software installed on your Macintosh computer. For more information on setting the preferences refer to your "AppleVision 1710AV Display User's Guide" or "AppleVision 1710 Display User's Guide."

Here are the steps to follow:

Step 1

Either open the AppleVision Setup control panel or press any of the buttons on the left side of the display.

Step 2

If your computer is equipped with the Sound & Displays control panel, doubleclick on the AppleVision 1710AV Display listed in the Display field.

Step 3

Click the Color button to open the control panel to the Accurate Color window.

Step 4

Click the Preferences button in the bottom left corner of the Accurate Color window to open the Preferences window.

Step 5

On the left side of the Preferences window is an Auto Recalibrate section, with a series of checkboxes, which determine when the display will recalibrate. Click the top four checkboxes to deselect them (an X no longer appears).

Your display will no longer display the "time to recalibrate" message every two weeks.

Article Change History:
17 Apr 1996 - Added Step 2 to discussion.
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AICK Installer: QuickDraw GX and Acrobat Reader Fonts (1/96)

After I installed the Apple Internet Connection Kit (AICK) and then restarted my computer, an error dialog appeared with this message, "The installed substitution fonts are not designed to work with QuickDraw GX." What is wrong?
This article has been archived and is no longer updated by Apple.
This error occurs if AICK is installed when QuickDraw GX is already installed on your computer. There is a compatibility issue between QuickDraw GX, and the Adobe Acrobat Reader and accompanying fonts which AICK installs.

A solution is to install Acrobat Reader from a different source. The Acrobat Reader installer checks to see if QuickDraw GX is installed and then installs the appropriate fonts. Acrobat Reader is included on most new system CD-ROM discs, or it may be downloaded from an online source.

Support Information Services
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System 7.5.x: Restarting from the Extensions Manager

This article describes how to restart your Macintosh computer from the Extensions Manager control panel.
This article has been archived and is no longer updated by Apple.
If you interrupt the startup process by holding down the space bar to access the Extensions Manager, you can force your computer to restart immediately by holding down the command key while clicking the Extensions Manager's close box. The computer will restart and load the extensions that were selected when you clicked the close box.

This can be a useful procedure because some items like RAM Doubler, NOW Toolbox, and At Ease Startup require a full restart to load after being turned on in the Extensions Manager.
Published Date: Feb 19, 2012

MegaPhone: I Hear Caller, Caller Can‘t Hear Me

This article gives suggestions for troubleshooting a problem encountered when using the MegaPhone software on Performa computers. After establishing a telephony connection with another person, you hear the other party, but they cannot hear you.

Note: Macintosh Users
MegaPhone for the Macintosh is now distributed and supported by Bing Software. If you need technical support, please contact Bing Software directly:

Monday through Friday, 9 am to 5pm Pacific time.
Technical Support: (714) 888-6639
Fax: (714) 888-6635
For Sales, call: (714) 888-6633
E-mail:bingsoftware@mindspring.com
Web:http://www.BingSoftware.com
This article has been archived and is no longer updated by Apple.
In order for Megaphone to function correctly, a number of low-level elements need to be in place and need to be functioning correctly.

These include:

- An extension that allows Megaphone to properly utilize the modem.
- The proper installation of the Telephone Manager.
- The proper operation of the underlying system software.
- The proper operation of the modem and the sound architecture of the computer.

The following sequenced instructions are designed to get Megaphone's capabilities back in order, with the minimum of disruption.

Each item with a bullet (*) is the next troubleshooting procedure to try if the previous one has not solved the issue.

Start with verifying whether the computer receives sound input at all

Step 1: Determine whether you are using an AppleVision 1710AV Display. If so, and your computer comes with a Global Village internal modem, note that Megaphone cannot process sounds with a microphone attached to this type of display.

Step 2 : Make sure that your microphone is plugged into the microphone port on the back of your computer. The sound-out port is right next to it, and can be confused with it.

Step 3 : To verify whether the microphone is even picking up sounds, try recording a sample sound. If your computer comes with a Sound control panel, you can use that. If your computer comes with the SimpleSound application, you can also use that. Just use the Add button to record an alert sound.

* If you can record sound successfully, try the following

Step 1 : Throw away the Sound Preferences. This file can be found in System Folder -> Preferences

Step 2 : Throw away the Megaphone Preferences. This file can be found in System Folder -> Preferences -> Cypress -> Megaphone.

Step 3 : Restart the computer, then test the issue. If the caller still cannot hear you, proceed.

* Install the Audio Volume extension (non-7.5.3 only)

If you are running System 7.5.3 or later, skip to the next step. The Audio Volume extension is unnecessary under System 7.5.3, which incorporates the functionality of the Audio Volume software as part of the new universal System Enabler.

If you have a Performa 6290 or 6300 series computer, install the Audio Volume extension as follows:

Step 1: Insert your Macintosh Performa CD and open the Hard Disk Files folder. Then open the System Folder files folder, then the Extensions folder.

Step 2 : Locate the "Audio Volume" extension and drag it to your hard disk. Close all of your windows.

Step 3 : Drop the Audio Volume extension onto the closed System Folder icon. When the system asks for permission to place the items in the Extensions folder, or cautions you about replacing items already there, click on OK.

If you have a Performa computer running system software prior to System 7.5.3, download the Audio Volume extension from the Apple Software Updates posted online. This software replaces and supersedes the Internal Modem Sound extension which originally shipped with your computer. Use the path:

Apple Software Updates -> USA -> Macintosh -> System Software -> Other System Software -> Audio Volume Installer 1.1.

Install this extension in your System Folder, following the extensions which accompany it, and restart to make it active. Test the issue, and proceed if necessary.

* Replace the CRC TelePort TelTool or TelePort GoldIIv Tool

This step only applies to Performa computers that ship with Global Village modems. The TelTools are the "glue" that allow Megaphone to communicate with the modem correctly. If this "glue" is missing, an error message will occur when the application is started. If it is otherwise damaged, it is possible that the application will start correctly, but functionality may be reduced.

The TelePort Gold IIv Tool should be used with all computers shipping with an internal Gold IIv modem. The CRC TelePort TelTool should ship with all computers which include a Platinum internal modem. Neither tool has been updated since the release of these computers. Each one is designed specifically for use with the modem it ships with. Using the wrong tool may result in diminished functionality.

Step 1: Insert your Macintosh Performa CD and open the Hard Disk Files folder. Then open the System Folder files folder, then the Extensions folder.

Step 2 : Locate the appropriate TelTool extension and drag it to your hard disk. Close all of your windows.

Step 3 : Drop the TelTool extension onto the closed System Folder icon. When the system asks for permission to place the items in the Extensions folder, or cautions you about replacing items already there, click on OK to allow the operation.

* Update to Megaphone 1.0.3P

This version is compatible with both types of TelTools. This installer also includes an updated version of the Telephone Manager, and can indirectly be used to ensure that Telephone Manager resources have not been corrupted.

Megaphone 1.0.3P can be downloaded from Cypress Research's FTP site, ftp.cypressr.com. The file posted there is a Binhex 4.0 file, so you will also need to download Binhex 4.0.

* Other system software conflict
If that still does not work, you may have a software conflict. See the Tech Info Library articles listed below for guidance on how to return your system software to a known good configuration to test the issue.

Use the following Tech Info Library (TIL) articles for help with further software troubleshooting:

Article 17768: "**System SW Clean Restore: Macintosh Performa Computers w/CD**"
Article 15926: "**System 7.5: Troubleshooting Extension Conflicts**"
Article 14343: "**Troubleshooting Macintosh INIT Conflicts**"

* If all else fails
If a clean install of the system software does not resolve the issue, classify the magnitude of the failure. If the caller cannot hear *anything* you say, you may have a hardware failure. If the caller merely hears you poorly, there is stronger evidence that there could be an issue with your local phone system.

You may need to move the computer to a different location for environmental troubleshooting, or take the computer to an Apple- authorized service provider for more thorough diagnosis.

If the failure is not due to incompatible software, and the computer is under warranty, repairs will normally be covered. Otherwise, most dealerships will charge for the labor involved in troubleshooting the issue. (This would include failures related to the design of your local phone system.) The above steps provide you with the means of isolating such failures yourself.

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Newton 2.0 OS: Deleting a Backup from a PC Card

I have a MessagePad 120 which has recently been upgraded to the Newton 2.0 OS. I created a backup on my card and now I want to delete it. When I select the PC card, all I see is "Erase," "Restore," and "Backup," but no "Delete Backup."
This article has been archived and is no longer updated by Apple.
Previously using the Newton 1.x OS, the Erase option only erases the card. With the Newton 2.0 OS, if you tap Erase, you get additional options such as Entire Card, Backup Only, and Information Only.

You should select Backup Only. When you do, the rest of the information and packages are protected.
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WiggleWorks: Splash Screen Displays Improperly (1/96)

When I launch WiggleWorks on my Macintosh computer with System 7.5.2, the splash screen only displays a horizontal bar with the animation partially visible. I have tried disabling virtual memory, and selecting System 7.5.2 extensions only in the Extensions Manager, but it is still not working.

This article has been archived and is no longer updated by Apple.

The problem you are encountering is caused by the Control Strip software that came with your Multiple Scan Display. This issue may occur on any Macintosh computer on which you launch WiggleWorks while the Control Strip is showing on the screen. You can see the full WiggleWorks splash screen by hiding the Control Strip before you launch the Wiggleworks application:

Step 1

Under the Apple Menu choose Control Panels.

Step 2

Double-click on the Control Strip control panel. Click the radio button next to Hide Control Strip. Close the Control Strip control panel.

Note: You can also click the Define hot key... button to set a key combination that hides and shows the Control Strip whenever you press those keys regardless of what application you are in.

Step 3

Launch WiggleWorks.

Support Information Services
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Newton Backup Utility: Fails Using System 7.1.2

I am having problems using the Newton Backup Utility on my Power Macintosh computer using System 7.1.2.
This article has been archived and is no longer updated by Apple.
This is a known issue, but there are workarounds that can solve this problem.

Symptoms
==========

Extensions Off

If you attempt to launch Newton Backup Utility on a Macintosh computer that uses System 7.1.2 (early Power Macintosh computers) with extensions off the application starts, then stops without any messages. Newton Backup Utility does not launch successfully.

Extensions On

If you have extensions on a dialog appears explaining it cannot find AppleScriptLib. If you install AppleScriptLib from the 7.1.2 CD, a new dialog appears explaining it cannot find DragLib.

Workarounds
==========

Install System 7.5 or later

System 7.5 and later includes updated versions of the AppleScriptLib, ObjectSupportLib, and Macintosh Drag and Drop extensions.

Install Updated Extensions

Use the latest versions of these extensions:

- AppleScriptLib (v1.1 or better)
- ObjectSupportLib (v1.0.2 or better)
- Macintosh Drag and Drop (v1.1 or better)

The AppleScriptLib and ObjectSupportLib ships with System 7.5 CD and the Macintosh Drag and Drop extension can be downloaded from the Internet and online services.

Install the 68K Version

Use Custom install to install the 68K version of Newton Backup Utility on your Power Macintosh instead of the PowerPC native version. The downside of using the non-native software is that it runs a little slower.

IMPORTANT: You must throw away any previous versions of Newton Backup Utility before installing the 68K version. If you do not remove previous versions, the Newton Backup Utility will still fail.
Published Date: Feb 19, 2012

PCI-Based Power Macintosh Computers: Two Ethernet Ports (6/96)

My PCI-based Power Macintosh computer has two Ethernet ports. Can I use both of them at the same time or does one port takes priority if I have two active connections?

This article has been archived and is no longer updated by Apple.

The Power Macintosh 7200, 7500, 7600, 8500, and 9500 series computers have a built-in Ethernet port (comprised of one Ethernet controller chip) which accepts either a 10baseT cable or the Apple Ethernet (AAUI) adapter for thicknet or thinnet cables. The Ethernet port has two connectors but operates only one of them at a time. If devices are plugged into both connectors, the system defaults to the 10baseT connection.

Note: This information is taken from the Power Macintosh 7500/8500 Developer Notes.

Article Change History:
27 Jun 1996 - Added additional computers.

Published Date: Feb 19, 2012

PCI-Based Power Macintosh: -50 Error When Ejecting CD (5/96)

I have a recent Power Macintosh computer, and I have noticed that my system software CD-ROM disc mounts even if I do not have CD-ROM software loaded. I can do this even if I use the system software CD from an older Power Macintosh computer. However, I somtimes get a -50 error when I attempt to eject the CD-ROM disc. What could be causing this to happen?

This article has been archived and is no longer updated by Apple.

During the startup process, the computer checks all available SCSI volumes, including the CD-ROM drive. If the CD-ROM disc contains the ".AppleCD" driver, it will be loaded and used by the computer to access the CD-ROM drive in lieu of the CD-ROM software that would have loaded if the extensions were not off. This works fine for most purposes.

However, some newer CD-ROM drives need slightly different information than those that shipped with earlier Power Macintosh computers to eject a CD-ROM disc. For example, your computer may have a quadruple-speed (4x) CD-ROM drive, but the system software CD-ROM disc you inserted may load a CD-ROM driver for a double-speed (2x) CD-ROM drive.

This causes the -50 error, which indicates that the internal parameters being used to eject the CD are incorrect. You should be able to eject the CD-ROM disc if you restart the computer again, and press the eject button on the CD-ROM drive before the computer displays "Welcome to Macintosh".

Article Change History:
28 May 1996 - Updated technical information.

Published Date: Feb 19, 2012

Pwr Mac 5200/5300/6200/6300: Sound Issue w/Spin Doctor1.2 (1/96)

I have a PowerBook computer with the PowerBook Mobility Bundle, which includes the game, Spin Doctor v1.2. I tried to use that game on my Macintosh Performa 5215, but I notice that when I turn the sound all the way down using the "-" key, I can no longer use the sound. I should be able to turn the sound back up using the "+" key, but this does not work. I have tried quitting the application and relaunching the game, but I still do not hear sound. How do I correct this problem?

This article has been archived and is no longer updated by Apple.

Callisto Corporation (the developer of Spin Doctor) states that this is a known issue with the native version of Spin Doctor (v1.2) on the Power Macintosh and Performa 5200, 5300, 6200, 6300 series computers*. However, this problem does NOT occur with the Spin Doctor Challenger game that is included with the Macintosh Performa 630 and 6100 series computers. To correct this problem, follow these steps:

Step 1

Delete the Spin Doctor Settings preference file. You can find it at the following path:

System Folder -> Preferences -> Spin Doctor Settings

Step 2

Select the preferred sound level from the Sound control panel before relaunching Spin Doctor.

Spin Doctor will now match the settings on the Sound control panel.

*The following computers will be affected by this issue:

* The Macintosh 5200CD family: Macintosh 5200/75 LC, Performa 5200, Performa 5210, Performa 5215, and Performa 5220.

* The Macintosh 6200CD family: Performa 6200, Performa 6214, Performa 6216, Performa 6218, Performa 6220, and Performa 6230.

* The Macintosh Performa 5300CD and Power Macintosh 5300/100 LC

* The Macintosh Performa 6300CD

Support Information Services
Published Date: Feb 19, 2012

Newton 2.0 OS: Creating Custom Worksites For Dialing

I live in a city that has multiple calling zones. Sometimes I have to enter the area code, but not the "1" in front of the phone number. Is there an easier way to do this than using the assist button?
This article has been archived and is no longer updated by Apple.
Yes, you can create custom worksites for special calling requirements. The worksite can be selected in a call slip, and is in effect until a different worksite is chosen. This is easier than editing the information using the assist button in a call slip.

Creating a Custom Worksite
==========

1) Open the Extras Drawer

2) Choose the Setup folder. Do this by tapping on the folder tab.

3) Tap on the Owner Info icon.

4) Tap New. A new list appears.

5) Tap Worksite. An Untitled Worksite slip appears.

6) Enter a name in the Worksite field.

TIP: Use a name that will help you remember how the Worksite functions.

7) Enter the number that you want to precede the phone number, into the Dialing Prefix field.

For example, if you want the area code 555 to precede the phone number you are dialing, enter 555 into the Dialing Prefix field.

You can create worksites for each special calling requirement you have.
Published Date: Feb 19, 2012

Newton 2.0 OS : Maximum Number of Folders

How many folders can I set up on my Apple MessagePad 120 with the Newton 2.0 OS?
This article has been archived and is no longer updated by Apple.
Using the Newton 2.0 OS, each application (such as Notes, Names, and Calls) can have 12 folders that show up only in that application.

Additional folders can be added, but they will be global folders and will show up everywhere.
Published Date: Feb 19, 2012

Scholastic SuperPrint: Clip Art Files Manual Error (1/96)

The manual for Scholastic SuperPrint that came with my Apple Early Language Connections bundle states it comes with 33 clip art galleries (page 29), 19 frames (page 32), and 19 scenes (page 33).

When I compare what is actually on my hard drive to what the documentation shows I see the following:

* 18 clip art galleries not 33.

* 10 frames not 19.

* 10 scenes not 19.

This article has been archived and is no longer updated by Apple.

The discrepancy between the actual number of files installed and the number listed in the manual is a documentation problem. SuperPrint includes 18 clip art galleries, 10 frames, and 10 scenes. A separate product called SuperPrint Graphics Pack contains the additional graphics.

The Early Language Connections bundle contains both SuperPrint and the SuperPrint Graphics Pack. When both these products are installed there are 33 clip art galleries, 19 frames, and 19 scenes.

Support Information Services
Published Date: Feb 19, 2012

Power Macintosh: Developer‘s Can Test for Power Clean Code 1/96

As I buy more and more Power Macintosh computers with PowerPC 603, 603e, and 604 processors for my business, I am seeing more incidents of incompatibilities and poor performance. According to the Developer Technotes (pasted below), this could be a result of applications being compiled with compilers that do not generate Power Clean code.

Excerpt from Developer Technical Notes:

"The first generation Power Macintosh computers used the PowerPC 601 microprocessor, a microprocessor that bridged the new PowerPC architecture with the POWER architecture from which it descended. The PowerPC 601 implemented most of the old POWER instruction set as well as the newer PowerPC instruction set. Later versions of the microprocessor, namely the PowerPC 603 and 604, only implement the PowerPC instruction set, hence the term "power clean." Because of the differences in instruction set implementation, a possibility exists for incompatibility and poor performance, particularly in the area of compilers. Newer compilers, designed for the PowerPC instruction set, do not generate the old POWER instructions. However, compilers designed for the POWER instruction set are also being used to compile programs for the PowerPC instruction set. Most of those compilers have the option to suppress the generation of offending instructions. For example, the IBM xLc C compiler and the xLCC++ compiler have the option -garch=ppc. Developers using these compilers should verify that the options are in effect for all parts of their code. To be on the safe side, you should contact your compiler vendor to make sure that the compiler you are using does not generate POWER instructions."

Is there a utility available from Developer Technical Support that could help identify whether or not an application, extension, or control panel, uses old PowerPC 601 instructions not supported on the PowerPC 603, 603e, and 604 processors?
This article has been archived and is no longer updated by Apple.
Apple is not aware of any end-user application or utility that can tell if a computer is running PowerPC 601 specific code. However, the developer of your application can check their code to be sure it is "Power Clean" using a Macintosh Programmer's Workshop (MPW) tool called DumpPEF. Developers should be using MPW version 2.0 or later. Here is more information from Developer Technical Support regarding this topic:

"The latest pre-release MPW DumpPEF tool (version 2.0b1 from E.T.O. #15) has an option, -w601, to scan for PowerPC 601 specific instructions. It is one way to test if your code is affected. Be aware, however, that DumpPEF cannot always distinguish between code and data and may flag POWER opcodes that are really data. You should check all warnings from DumpPEF to be sure they are not spurious. Even if the tool finds valid POWER opcodes, there is no guarantee the instructions are part of an executable code path. You should, of course, test your application on 603/604 hardware as soon as it is available."

This means the MPW tool DumpPEF version 2.0 or later will identify 601 specific instructions. If DumpPEF finds no 601 specific instructions, your code is considered Power Clean. Even if DumpPEF finds 601 instructions, your code may still be clean; you have to examine further the 601 code in question to ensure that DumpPEF is not reporting a 'false positive' due to reading data as code.

Support Information Services
Published Date: Feb 19, 2012

LaserWriter Printers: MIB Support

I am using Hewlett Packard (HP) K200 UNIX servers, and I would like the Simple Network Management Protocol (SNMP) Management Information Block (MIB) information for the following Apple LaserWriters:

- LaserWriter 16/600 PS
- LaserWriter Select 360
- LaserWriter IINT
- LaserWriter IINTX
- LaserWriter Pro 630

This article has been archived and is no longer updated by Apple.
The printers you listed have no SNMP MIB agents. As a matter of fact, the only printer in your list that supports TCP/IP is the LaserWriter 16/600 PS printer.

The only printer Apple has shipped that is SNMP compliant is the LaserWriter Pro 810 with its Virtual Printer Technology (VPT). VPT is SNMP compliant with MIB II, Character MIB, and RS-232 MIB.
Published Date: Feb 19, 2012

Power Macintosh 5200: Tinted Video (1/96)

I have a Power Macintosh 5200 computer, and lately I've noticed that the monitor appears to flicker intermittently. Also, the monitor appears to be discolored. What could be causing this?

This article has been archived and is no longer updated by Apple.

Verify that environmental interference is not the cause of the flickering and discoloration. To do this, try the following suggestions; be sure to look for improvements and changes after following a suggestion:

* Change the location and/or rotate the computer.
* Remove metal objects from the area.
* Look for other environmental influences (power lines, generators, refrigerators, air conditioners).
* Check fluorescent lighting fixtures and transformers, which are also common sources of interference.

If the symptoms you are experiencing do not appear to have an environmental cause, contact an Apple-authorized service provider for additional assistance.

The following computers are in the Macintosh 5200CD family: Macintosh 5200/75 LC, Performa 5200, Performa 5210, Performa 5215, and Performa 5220.

Support Information Services
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MessagePad 120: Determining RAM Size

Is there a way to determine how much RAM is in my Apple MessagePad 120?
This article has been archived and is no longer updated by Apple.
There is no way to determine the RAM configuration without powering on the Apple MessagePad 120.

You can check the RAM configuration by tapping the information icon in the Extras drawer. The total of Used, Free, and System RAM installed will equal 1MB or 2MB.

Follow these steps:

1. Turn on your Apple MessagePad 120
2. Tap Extras
3. Tap the information icon ('i' in the lower left corner)
4. Tap Memory Info
5. Add the System RAM Installed, Used and Free numbers. This is the total flash RAM installed.

Example:

System RAM: 512k
Used: 952k
Total: 1873k (2MB)
Published Date: Feb 19, 2012

Infrared Remote Control: Functions & Troubleshooting

This article provides information on the infrared remote control functions, and also provides troubleshooting tips.
This article has been archived and is no longer updated by Apple.
An infrared remote control is included with all Macintosh computers that include a television tuner or tuner module. It is also included with the Apple TV/Video System. There are two remote control models, both offer identical functions:

* A thin, credit-card type remote with a raised-bubble control pad
* A larger, standard-type remote control similar to those included with many televisions and VCR players.

CONTROLS
* Power: Turns the computer on and off. When turning the computer off using the remote control, you must quit all applications currently running before the shut down is completed. Quitting applications is performed automatically. However, you must respond to any dialogs that may appear during the shut down process.

* Muting: When using the Apple Video Player or AppleCD Audio Player, turns the sound off and on. The word "Muting" appears in Apple Video Player's video window, except when playing MPEG movies. The Sound control panel also indicates that you have muted the sound.

* Volume +, Volume *: Two buttons. Increases or decreases the volume for Apple Video Player or AppleCD Audio Player.

* Channel +, Channel *: Two buttons. Changes the programmed television channels in Apple Video Player in ascending or descending numerical order.

* Display: Toggles the video window in the Apple Video Player between the current size and the largest size.

* TV/Video/Mac: Toggles between the Apple Video Player window and other Macintosh applications currently running. If Apple Video Player is not running, it is launched.

* Stop/Eject: Press once to stop the currently playing audio CD. Press again to eject the audio CD. Also ejects a Video CD when in the Apple Video Player.

* REV: To go to the previous track on an audio CD.

* FWD: To go to the next track on an audio CD.

* Play/Pause: Play or pause an audio CD.

What to Do if the Remote Does Not Work
* Make sure you have answered all dialogs or error messages that are on your computer screen.

* Check the remote control with another Macintosh computer that uses a remote control. Try powering on/off the computer. Some Sony television sets also work since they use the same type of remote control signal. If your remote control can power on/off another device the problem is unlikely to be the remote control unit.

* Make sure you have the Video Startup extension installed in your Extensions folder. If you do not have this extension in your Extension folder, only the Power button on the remote control works.

* Make sure you are using the remote control in close proximity to the black infrared receiver window in your Macintosh computer. Also make sure nothing is obstructing the infrared receiver window.

* The thin, credit-card type remote is shipped with a clear plastic tab that protects the battery during shipping. Remove this tab if present.

* The checkbox labeled "Disable Remote Control" may be selected in Apple Video Player. Choose Preferences from the Setup menu and deselect this box. Having this option selected disables ALL remote control functions, including Power, regardless of whether Apple Video Player is currently running. After shut down, however, the remote will still be able to power on the computer. The other functions remain disabled after starting up until "Disable Remote Control" is deselected in Apple Video Player, or the Video Player Prefs file is thrown away, and Apple Video Player is restarted.

* The remote control may have a dead battery.

Thin Remote Control
Insert a pen tip into the small round hole on the back of the remote control, then move it to the right to allow the battery compartment to slide

freely outward from the bottom of the remote.

Replace the battery with a 3-volt lithium cell (type CR2025). These batteries are available wherever camera, watch, and calculator batteries are sold.

Larger Remote Control
Slide the battery cover off with your thumb. Replace the batteries with fresh AA batteries.

Remote Control Works in Some Applications

* Try using it to control AppleCD Audio Player functions. If it works properly with AppleCD Audio Player, it may be that only the application Apple Video Player is not working properly.

* Trash the Apple Video Player Prefs file from the Preferences folder, inside your System Folder, and restart the computer.

- If Apple Video Player still does not work after throwing away the preferences, reinstall Apple Video Player and the Video Startup extension.

Note: Make sure to throw away the old versions of Apple Video Player and the Video Startup extension before installing new versions.
Published Date: Feb 19, 2012

Drive Setup 1.0.x: How to Partition Your Hard Disk (5/96)

This article explains how to partition a hard disk with Drive Setup.
This article has been archived and is no longer updated by Apple.
Follow these steps to partition your hard disk:

Warning: Partitioning your hard disk will erase all the information on the disk. Make sure you have all your information backed up so you can restore your hard disk after it has been partitioned.

1. Startup from the System CD-ROM disc or from another startup disk other than the one being partitioned.

2. Double-click on Drive Setup, located on either the startup CD-ROM disc or floppy disk.

3. Select the name of the disk to be partitioned from the device list provided in Drive Setup's first window.

4. Click Initialize...

Warning: This process will erase everything on the disk being partitioned. Be sure this is the disk you want to partition.

5. Click Custom Setup...

6. Click the pop-up menu next to the words "Partitioning Scheme:" and select "Current Volumes" (the topmost item in this menu). From the list of items provided, select the number and type of partitions that you wish to create. Eight is the maximum number of partitions.

7. A graphical representation of the partitioning option you selected will appear in the window. If you wish to customize the size of an individual partition, move the mouse cursor to the small rectangle on the border between two partitions. The pointer will then change to two arrows indicating that you are now in the correct position to modify the partition size. Click and hold the mouse button to increase or decrease the partition size by dragging the rectangle up and down, respectively. The exact partition size will be indicated in the "Volume Info" section of the window.

8. Click the OK button to accept the partitioning scheme you have configured. You will then be returned to the previous window, where your partitioning scheme will be summarized.

9. Click the Initialize button. The disk will be partitioned accordingly, erasing all data stored on it in the process. Partition names will by default be titled, "Untitled x" where "x" represents the partition number. You can rename the partitions after initialization is completed and you have quit Drive Setup. If, thereafter, you wish to startup the computer from one of the partitions, you will have to install system software on that partition.

Published Date: Feb 19, 2012

PowerPC Platform: An Overview

This article provides an overview of the PowerPC Platform (PPCP) (formerly known as CHRP).
This article has been archived and is no longer updated by Apple.
This information is taken from "PowerPC Microprocessor Common Hardware Reference Platform: A System Architecture",.

What is PPCP?
==========

The PowerPC Platform (PPCP) architecture specification provides a comprehensive computer system hardware-to-software interface definition, combined with minimum system requirements, that enables the development of and software porting to a range of compatible industry-standard computer systems from portables through servers. These systems are based on the PowerPC microprocessor, as defined in The PowerPC Architecture. The definition supports the development of both uniprocessor and multiprocessor system implementations.

A key attribute and benefit of the architecture is the ability of hardware platform developers to have degrees of freedom of implementation below the level of architected interfaces and creating an opportunity for adding unique value. This flexibility is achieved through architecture facilities including:

* device drivers
* Open Firmware (OF)
* Run-Time Abstraction Services (RTAS)
* hardware abstraction layers.

Though the PowerPC microprocessor is the most widely used RISC processor, substantial legacy software exists and a mechanism for running the bulk of this legacy software is a requirement. The system address map has been defined with a specific objective of assisting efficient x86 emulation. Additionally the PowerPC microprocessors support Bi-Endian operation which is a key attribute important to running the supported operating systems and applications. Bi-Endian capability is not available in the current IBM PC compatible x86-based system architecture.

The architecture combines leading-edge IBM PC and Apple Macintosh technologies to create a superior personal computing platform. By design, it supports a wide range of computing needs including personal productivity, engineering design, data management, information analysis, education, desktop publishing, multimedia, entertainment, and database, file, and application servers. The architecture effectively leverages industry-standard I/0 through the PCI bus while accommodating legacy I/0 from both the IBM PC compatible and the Apple Macintosh domains.

This approach provides several key benefits for system manufacturers and end customers:

* systems can be designed and manufactured to enable the customer a choice of operating system support
* smooth application, operating system and customer system transitions are enabled by accommodation for legacy software, I/0 devices, and peripherals.

This architecture helps protect the customer's investment while moving to more advanced portable, desktop and server computing platforms. Systems based on this architecture are expected to offer price/performance advantages and to address the expected growth in computing performance and functionality.
Published Date: Feb 19, 2012

PowerPC Platform: Macintosh Technology

This article provides an overview of the Macintosh technology involved in the PowerPC Platform (PPCP) (formerly known as CHRP).
This article has been archived and is no longer updated by Apple.

Apple Computer and the PowerPC Platform

The PowerPC Reference Platform (PReP), Apple RISC architecture, and IBM RISC server systems were used in the development of the PowerPC Platform (PPCP) architecture. The objective was to reduce the porting effort of operating systems and applications coming from each of these environments. The information below describes the relationship of the Apple RISC architecture to the PPCP architecture and of the PowerPC Reference Platform to this architecture. The PowerPC Reference Platform used IBM RISC client and server information.

Many components of the second-generation Power Macintosh architecture are included for compatibility with the desktop products based on that architecture. Features of the second generation Power Macintosh are listed below:

* Based on the PowerPC microprocessor family for main system processing. The instruction set of the Motorola 68LC040 is supported through a built-in emulation system.

* Use of the PCI bus to support all I/O and system expansion. Other buses (such as NuBus, SCSI and IDE) are supported by means of bridge ASICs connected to the PCI bus.

* Use of Open Firmware for system startup and to allow use of expansion cards from other architectures. While the Mac OS continues to be the principal operating system for Power Macintosh computers, Open Firmware lets other operating systems that are ported to the PowerPC instruction set take control of the computer.

* Function of processor bus coherency. Memory systems connected directly to the PowerPC bus, including main RAM and all levels of cache, belong to a single coherency domain.

* Support for both Big-Endian and Little-Endian addressing modes. Besides the support for both modes built into the PowerPC processor, storage subsystems such as frame buffers are accessible to software through both big-endian and little-endian apertures.

* Support for Macintosh-style I/O such as ADB, SCC and LocalTalk.

* Support for PowerPC-native interrupts and native device drivers.

Apple is NOT currently designing computers that are fully compliant with the CHRP (aka PPCP)specification. The following table lists the general characteristics of first- and second-generation Power Macintosh computers and the currently-projected characteristics of Power Macintosh computers that comply with the PowerPC Platform specification.

PPCP-Macintosh feature comparison

Feature	First-Generation Power Macintosh	Second-Generation Power Macintosh	PPCP Spec. Power Macintosh
Processor Type	PowerPC 601	PowerPC 601, 603 or 604	All PowerPC Models
Processor Upgrade	None	By replacing processor subsystem card	By replacing processor subsystem card
External Cache	Up to 1MB	Up to 4MB	Up to 4MB
RAM expansion	32-bit SIMM	64-bit DIMM	64-bit DIMM
Maximum RAM	72-264 MB	1 GB-1.5 GB	To be determined
NVRAM	Macintosh PRAM	8 KB	8 KB
Support for 21-inch monitors	None, 16 bpp, or 24 bpp	16 bpp or 24 bpp	16 bpp or 24 bpp

Sound	Macintosh 16-bit, 44.1 MHz, stereo input and output	Macintosh 16-bit, 44.1 MHz, stereo input and output	Macintosh and SoundBlaster-compatible stereo input and output
Internal hard disk	160 MB to 1 GB	250 MB to 2 GB	To be determined
Additional internal drives	One 5.25-inch, one or two 3.5-inch	One 5.25-inch, one or two 3.5-inch	To be determined
SCSI buses	1 internal, 1 external	1 fast internal, 1 external	To be determined
IDE bus	No	No	Yes
Floppy disk format	MFM or GCR	MFM or GCR	MFM only
Ethernet	AAUI	AAUI or 10BaseT	10BaseT
GeoPort serial ports	2	2	1-2
x86-compatible RS-232 serial ports	None	None	0-2
IEEE P1284 parallel ports	None	None	In some models
NuBus slots	1-3	None	None
PCI slots	None	3-6	3-6
ISA slot	None	None	None

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PowerBook 2300c: Modem Installation & Compatibility (6/96)

My authorized Apple service technician installed an Express Modem. Now my PowerBook Duo computer starts up with the "death chimes" error chord. What is wrong? Which modem can I use in a PowerBook (Duo) 2300c or a PowerBook 200 series computer that has been upgraded to a 2300 series logic board (M3171LL/A)?

This article has been archived and is no longer updated by Apple.

Apple Express Modem
==========

The Apple Express Modem for the PowerBook Duo series computers will work in the Macintosh PowerBook 2300c or a 200 series computer that has been upgraded with a PowerPC logic board as long as you install the current version of the Apple Telecom Software (Express Modem).

The current version of the Apple Telecom Software is 2.3.2. It is available online in all of the Apple Software updates areas. Versions earlier than 2.3.2 of the Telecom/Express Modem software may cause error chords at startup after installation or may significantly slow down modem performance.

If you have installed a version of the Apple Telecom Software earlier than version 2.3.2, you will need to remove it.

Step 1

Authorized Apple Service technicians ** need to reset the Power Manager by removing the internal back up battery for approximately 15 minutes.

** Caution ** If you are NOT an authorized Apple Service technician, please note that removing the internal backup battery is not a simple procedure and is not recommended. No instructions for this procedure will be provided to end users by Apple. If anything is damaged in your attempt to remove the battery, the damaged parts will not be covered under warranty. **

Step 2

Startup the computer with extensions off by holding down the SHIFT key during startup.

Step 3

Remove the old Express Modem software from the Hard Drive and System folder.

Step 4

Install Apple Telecom Software 2.3.2.

Global Village Modem
==========

Global Village Mercury modem for the Duo series will need a software update. You will need to contact Global Village for more information.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor, Global Village, for additional information.

The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.

These articles can help you locate the software update mentioned here:

* Where To Find Apple Software Updates
Lists online services for "free" Apple software updates.

* Obtaining Apple Product Support in the USA
Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech. Info. Library.

Article Change History:
10 Jun 1996 - Added information about upgraded 200 series computers.
20 Feb 1996 - Added "death chime" to make searching easier.
15 Feb 1996 - Changed title to be more descriptive.

TA35038_PowerBook_c_Modem_Installation_Compatibility__(TIL19290).pdf

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AppleVision 1710 Display: Technical Specifications

This article contains the technical specifications of the AppleVision 1710 Display.
This article has been archived and is no longer updated by Apple.

Picture Tube

- 17-in. (diagonal) Trinitron CRT
- 16.1 in. (diagonal viewable image size)
- 0.26-mm stripe pitch (0.25-mm grille pitch)

Resolution/Screen Refresh Rate

Macintosh computers:
- 640 by 480 pixels at 67 Hz
- 832 by 624 pixels at 75 Hz
- 1,024 by 768 pixels at 75 Hz
- 1,152 by 870 pixels at 75 Hz
- 1,280 by 1,024 pixels at 75 Hz

PC-compatible systems:
- 640 by 480 pixels at 60 Hz to 75 Hz
- 800 by 600 pixels at 60 Hz to 75 Hz
- 1,024 by 768 pixels at 60 Hz to 75 Hz
- 1,280 by 1,024 pixels at 60 Hz to 75 Hz

Scanning Rates

- 30 kHz to 80 kHz (horizontal)
- 40 Hz to 120 Hz (vertical)

Apple DigitalColor Technology Features

- Self-calibration against factory measurements
- Adjustment for ambient lighting
- Adjustment for CRT phosphor aging

Screen Treatment

- Antistatic, antiglare coating

Digital Controls

- Brightness
- Contrast
- Horizontal size and centering
- Vertical size and centering
- Convergence
- Rotation
- Pincushion
- Completely variable white-point selection: 4,100 deg. K to 9,300 deg. K
- Power switch

Connector

- 15-pin DSub connector for Macintosh systems
- 15-pin DSub mini-adapter for PCs

Degauss Circuitry

- Automatic at power up

Electrical Requirements

- Line voltage: 90 to 264 V AC

- Frequency: 47 to 63 Hz, single phase
- Power: 150 W (maximum) when operating; less than 11 W in standby mode; 0 W in suspend mode and when CPU is in energy-saver mode

Environmental Requirements

- Temperature: 50 to 104 deg F (10 to 40 deg C)
- Humidity: 20% to 80%, noncondensing
- Altitude: 0 to 10,000 ft. (0 to 3,048 m)

Size and Weight

- Height: 16.8 in. (42.7 cm)
- Width: 16.2 in. (41.1 cm)
- Depth: 17.6 in. (45.2 cm)
- Weight: 49 lb. (23 kg)

Agency Approvals

- FCC Part 15 Class B
- CISPR 22 Class A (EN5008211) (complies with European EMC directive)
- DOC Class B
- MPR II
- VCCI Class 2
- CE Mark
- EPA Energy Star compliant
- IEC 950
- UL1950
- CSA 950
- EN60950

System Requirements

- Power Macintosh, Macintosh Quadra, Macintosh Centris, Macintosh II (with video card), and PowerBook computers*
- System software version 7.1 or later

* Not all models and configurations are capable of driving the monitor to the highest resolution it supports.

Ordering Information

AppleVision 1710 Order No. M3322LL/A

- AppleVision 1710
- AppleVision software
- PC adapter
- Integrated, attached video and Apple Desktop Bus cable
- Power jumper cable
- Ambient light wand
- User's guide
- Limited warranty

Product specifications are subject to change. Check with your Apple reseller for the most current information about product specifications and configurations.
Published Date: Feb 19, 2012

Newton 2.0 OS: Use Only Apple Logo Flash Memory Cards

What third-party PC flash memory cards work with my Apple MessagePad 120 using Newton 2.0 OS?
This article has been archived and is no longer updated by Apple.
Only Flash Storage Cards that have the Apple logo on them are supported.
Published Date: Feb 19, 2012

Apple Video Player: Errors When Freezing or Copying Image 1/96

When I try to capture a large (640x480) image in the Apple Video Player on my computer by pressing command-C, I get an error message that says "An error occurred while trying to copy the video display to the clipboard."

I have also received the message, "An error occurred while trying to freeze the video display" when I click the Freeze button.

How can I fix this?
This article has been archived and is no longer updated by Apple.
Apple Video Player is running out of memory as it copies your image to the clipboard. You can increase the preferred memory size for this application through the Get Info window. Follow these steps to do this:

Step 1

Locate the Apple Video Player application on your hard drive. Make sure it is not running as you will not able to change the memory partition if it is.

Step 2

Click Apple Video Player once to highlight it. Under File choose Get Info.

Step 3

In the bottom of the Get Info window, adjust the Preferred size by double-clicking in the Preferred size box and typing in a higher number.

The size that you set depends on the complexity and size of the image you are trying to copy to the clipboard. Try increasing in 100K increments.

Support Information Services
Published Date: Feb 19, 2012

PCI Power Macintosh: Can‘t Use Modem With Extensions Off 4/96

If I startup my Power Macintosh 7200 running System 7.5.2 with extensions off, I cannot use my modem or print to my serial printer. I know that on older computers, it was possible to do this. What changed?
This article has been archived and is no longer updated by Apple.
The Power Macintosh 7200, 7500, 8500, and 9500 series computers all use the Apple Shared Library Manager (ASLM) extension which contains code for many system resources. If your computer is started with the extensions off, the Shared Library Manager is disabled, making system resources unavailable to execute serial communications. Other software which depends on ASLM would include QuickTake camera software and GeoPort software.

To avoid this, you need to update to System 7.5.3 using System 7.5 Update 2.0, which is available on the online services. In System 7.5.3 the serial ports will remain available in this disabled environment. Serial attached (non-AppleTalk) printers will function normally. Basic modem communications programs, such as MacTerminal, SITcomm, and White Knight, should also be usable.

* "Where To Find Apple Software Updates" - Lists online services for free Apple software updates.

* "Obtaining Apple Product Support in the USA" - Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech Info Library.

Article Change History:
10 Apr 1996 - Removed keyword.
13 Mar 1996 - Added info about update.
09 Feb 1996 - Updated with future fix information.

Published Date: Feb 19, 2012

Cyrillic Language Kit: Troubleshooting Common Issues

This article contains information taken from the Cyrillic Language Kit manual concerning issues you may encounter while working in Cyrillic.
This article has been archived and is no longer updated by Apple.
1) I see odd characters that I cannot read in some of my file and folder names.

The font your system is using for file and folder names may not contain any Cyrillic characters. Cyrillic names cannot be properly displayed unless your system uses a font that contains Cyrillic characters. Choose Latinski in your Views control panel. Follow these steps to set the Views control panel:

- Choose Control Panels from the Apple menu.
- Open the Views control panel.
- Press the "Font for views" pop-up menu.
- Choose Latinski (or any other Cyrillic font you prefer).
- Close the Views control panel.

The Latinski font contains Cyrillic characters as well as the most commonly used Roman characters. You can usually view Cyrillic and Roman file and folder names correctly by setting the Font for views to Latinski.
If you still see odd characters on your screen, read on.

2) I changed my Views control panel to the Latinski font, but I still see odd characters in my Cyrillic application program.

Your system may not recognize your Cyrillic program as Cyrillic. To register a program:

- Open the Cyrillic Language Register. You'll find the Cyrillic Language Register in the Apple Extras folder on the hard disk where you installed the kit.
- Click the Register Application button. A list of application programs and folders appears.
- Select the application program you want to register.
- Click the Register button.

Now you can open your program and begin working.

You can also use a short-cut method to register your programs. If the program you want to register is open, quit it. Drag the program's icon to the icon for the Cyrillic Language Register. When the Language Register icon is highlighted, release the mouse button. A message confirms that the program is registered.

3) I changed my Views control panel to the Latinski font, and now I cannot read some of my non-Cyrillic file and folder names.

If you have file or folder names that contain non-English Roman characters, such as accents or umlauts, they will not be correctly displayed after you change the Views control panel to the Latinski font. A few other characters, such as typographic quotation marks and ellipses, also will not be correctly displayed. This is because the Latinski font does not have a complete set of Roman characters, only the most commonly used ones.

In the Views control panel, choose a font that will correctly display your non-Cyrillic file and folder names. Then use non-Cyrillic names for all your files and folders, even those that contain Cyrillic.

Setting the Views control panel to Latinski is necessary only to read Cyrillic file and folder names. If you don't set the Views control panel, you will still see Cyrillic correctly displayed within your application programs. You can write and print in Cyrillic; remember to give your files non-Cyrillic names.

4) I changed my Views control panel to the Latinski font, but I still see odd characters in my Application menu.

Not all the problems of working in multiple languages on one computer have been solved. Unfortunately, the Application menu cannot display Cyrillic names, even after you set your Views control panel to a Cyrillic font. The names of your Cyrillic application programs will not be correctly displayed in the Application menu and in certain dialog boxes.

Icons appearing in the Application menu next to each program's name will help you to identify your Cyrillic programs.

5) I cannot edit a Cyrillic file or folder name.

You may have a non-Cyrillic keyboard selected in the Keyboards menu. Pull down the Keyboards menu and select a Cyrillic keyboard.

6) I reinstalled one of my Cyrillic application programs. Do I need to re-register it in Cyrillic?

If the name of your program changes, you must re-register it.

7) I cannot work in Cyrillic with my usual application program.

Your application program may not be completely compatible with other scripts. If it is not, it will not automatically switch to a Cyrillic font when you select a Cyrillic keyboard, or it may not let you see all the Cyrillic fonts in the font menu.

8) Since I installed the Cyrillic Language Kit, unwanted keyboard layouts appear in my Keyboards menu. How do I remove them?

To remove unnecessary keyboard layouts, open the System file in the System folder. Select the unnecessary keyboard layouts and drag them to the Trash or into a temporary folder.

9) Since I installed the Cyrillic Language Kit, I can no longer work with some of my other application programs, even in Roman.

This may be caused by a lack of memory. The Cyrillic Language Kit, when installed, is automatically loaded in memory at startup along with system software. Your system software takes up more space in memory, and the amount of memory available for programs decreases.
Published Date: Feb 19, 2012

Apple Writer IIe: DOS version--Patch for the IIc

This article has been archived and is no longer updated by Apple.

Following is the Apple Writer II Utility Program which updates, for running on an Apple IIc, the DOS 3.3 version of Apple Writer for the IIe only.

To use this patch on your system, start by capturing the BASIC code listed below, using MacTerminal and Access II (DOS 3.3).

Remember to capture ONLY the BASIC code portion of this message. As an alternative, you could capture the entire message and then edit out the unwanted portions with a text editor. Save the file as a standard DOS 3.3 text file with the name PATCH.TEXT. Type the following from the keyboard:

```
EXEC PATCH.TEXT
```

You will see several "]"s scroll by at this point. When this stops and the cursor returns, type:

```
SAVE PATCH APPLEWRITER IIE

RUN PATCH APPLEWRITER IIE
```

Insert your Apple Writer II master disk and press the Return key. You only need to update your Apple Writer disk once.

After updating your Apple Writer IIe disk, mouse characters will appear on the screen, but only when capital letters are shown in inverse--for example, a capitalized file name appearing on the data line, or when the blinking cursor moves over a capital letter.

NOTE: The utility program does not convert Apple Writer to run under ProDOS.

```
100  TEXT : SPEED= 255
105  ONERR  GOTO 500
110  D$ =  CHR$(4): REMCTRL-D
115  BEL$ =  CHR$(7): REMBELL
120  CR$ =  CHR$(13): REMRETURN
125  ESC$ =  CHR$(27): REMESCAPE
130  NORMAL : HOME
135  PRINT "APPLEWRITER II UTILITY PROGRAM"
140  VTAB 4: PRINT "USE THIS PROGRAM TO UPDATE YOUR"
145  PRINT "DOS 3.3 APPLEWRITER II FOR USE"
150  PRINT "ON AN APPLE IIC COMPUTER."
155  VTAB 10: PRINT "INSERT YOUR APPLEWRITER II MASTER DISK"
160  PRINT "INTO THE DISK DRIVE AND PRESS 'RETURN' ";
165  GET A$: IF (A$ <  > CR$) AND (A$ <  > ESC$) GOTO 165
170  IF (A$ = ESC$) THEN  HOME : END
175  PRINT
200  HOME : VTAB 12: PRINT "CAREFULLY UPDATING YOUR DISK....."
205  PRINT D$;"UNLOCK OBJ.APWRTIIE"
210  PRINT D$;"BLOAD OBJ.APWRTIIE"
215  GOSUB 300
220  HOME : VTAB 12: PRINT "CAREFULLY UPDATING YOUR DISK....."
225  PRINT D$;"BSAVE OBJ.APWRTIIE, A$1900, L$2F58"
230  PRINT D$;"LOCK OBJ.APWRTIIE"
235  PRINT D$;"UNLOCK OBJ.APWRTIIF"
240  PRINT D$;"BLOAD OBJ.APWRTIIF"
245  GOSUB 300
250  PRINT D$;"BSAVE OBJ.APWRTIIF, A$1900, L$30D1"
255  PRINT D$;"LOCK OBJ.APWRTIIF"
260  HOME : VTAB 12: PRINT "YOUR DISK IS NOW UPDATED."
265  NEW
300  HTAB 11
```

```
305  FOR I = 1 TO 10
310  READ AD$,VA$
315  A$ = AD$: GOSUB 400:DA = C
320  A$ = VA$: GOSUB 400:DV = C
325  PRINT ".";
330  POKE DA,DV
335  NEXT I: PRINT
340  RETURN
400  C = 0
405  FOR X =  LEN (A$) TO 1 STEP  - 1
410  B$ =  MID$ (A$,X,1)
415  IF B$ = "A" THEN K = 10: GOTO 450
420  IF B$ = "B" THEN K = 11: GOTO 450
425  IF B$ = "C" THEN K = 12: GOTO 450
430  IF B$ = "D" THEN K = 13: GOTO 450
435  IF B$ = "E" THEN K = 14: GOTO 450
440  IF B$ = "F" THEN K = 15: GOTO 450
445  K =  VAL (B$)
450  C = C + 16 ^ ( LEN (A$) - X) * K
455  NEXT X
460  RETURN
500  HOME : VTAB 11: PRINT BEL$
505  IF ( PEEK (222) <  > 4) GOTO 515
510  PRINT "YOUR DISK MUST NOT": PRINT "BE WRITE PROTECTED!":
    GOTO 520
515  PRINT "I/O ERROR!": RESTORE
520  FOR D = 0 TO 1000: NEXT : REMDELAY
520  GOTO 130
600  REMDATA IS IN FORMAT OF HEX ADDRESS FOLLOWED
601  REMBY THE NEW VALUE
605  DATA2EC0,F2,2ED4,FA,2EB7,F6,2E98,EC,2E94,F5
610  DATA417F,ED,4185,EC,418B,F0,4191,F4,4197,E6
615  DATA3017,F2,302B,FA,300E,F6,2FEF,EC,2FEB,F5
620  DATA42F8,ED,42FE,EC,4304,F0,430A,F4,4310,E6
```

Published Date: Feb 19, 2012

QuickTake 100: Compatible With QuickTake 150 Software? (1/96)

Can the QuickTake 150 software for either Windows or Macintosh be used with the QuickTake 100 digital camera?
This article has been archived and is no longer updated by Apple.
Yes, the QuickTake 100 camera can be accessed by the Quicktake 150 software in both environments.

Support Information Services
Published Date: Feb 19, 2012

Scribe Printer: Where to get Ribbon Cartridge (2/95)

Where can I get a replacement ribbon cartridge for the Apple Scribe thermal printer?
This article has been archived and is no longer updated by Apple.
Apple no longer sells replacement ribbon cartridges for the Scribe printer. However, here are two third-party sources which usually have the ribbon cartridges in stock:

- Sun Remarketing
- APS Technologies

Another third-party source for the ribbon cartridges is Shreve Systems, which sometimes has these in stock.

The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.

Support Information Services
Published Date: Feb 19, 2012

AppleShare 4.2 to 4.2 v1.0.2 Patch: Read Me File

This article is the AppleShare 4.2 to 4.2 v1.0.2 Patch Read Me file.
This article has been archived and is no longer updated by Apple.
This patch updates AppleShare 4.2 to AppleShare 4.2 v1.0.2. This patch is only required for the U.S. version of AppleShare 4.2.

The following items have been fixed:

* Some sites that installed 4.2 over a previous version of AppleShare experienced problems because only one remote user at a time was able to run a particular application on the server.

* With the same application on two client machines, it was not possible to access the same file on a mounted volume at the same time. This was reported with multiple users trying to access the same HyperCard stack.

* If a file on a read access volume (both "See Folders" and "See Files" are selected, but not "Make Changes") was opened by an application other than the Finder, it was possible to make changes to the file and then save it back to the file server.

* Under certain timing-dependent conditions, the modification date on a file could be changed when moving the file to the server.

Installation Instructions
On a system with AppleShare 4.2 already installed, complete the following steps to upgrade to AppleShare 4.2 v1.0.2.

1) Launch the application named "File Server Ext 4.2->4.2 v1.0.2".

2) Click on the "Patch" button.

3) Navigate to your extension folder and select the file named "File Server Extension".

4) When the Save dialog is presented, select "Save" with the default name.

5) Select "Replace" when prompted to overwrite the old version of the File Server Extension.

The patch will only apply to an unmodified version of AppleShare 4.2. If any changes have been made with ResEdit, the patch will not apply.

Note: This article mentions an Apple software update. You may search for software updates at following URL: http://www.apple.com/swupdates/
Published Date: Feb 19, 2012

PowerBook: Wrong Resolution In Monitors Control Panel (1/96)

Why does the Monitors control panel on my Macintosh PowerBook 2300c still show 640x480 as the screen resolution in the Options after I switch to thousands of colors? Shouldn't it be 640x400?
This article has been archived and is no longer updated by Apple.
A Macintosh PowerBook 2300c, 5300c (with 512k VRAM), or 540c (with the PowerPC upgrade) computer running System 7.5.2 will display the behavior you describe. That is, when you switch to thousands of colors in the Monitors control panel, the display resolution switches to 640x400 but the resolution listed in the Options portion of the control panel still shows 640x480.

The same situation is true in some older model Macintosh PowerBook computers with color active-matrix screens. It is normal for the display to switch to the 640x400 mode when in thousands of colors because 512k VRAM is not enough to display the same bit depth at 640x480.

Changes in the Display Manager in System 7.5.2 cause the Monitors control panel to retrieve the wrong string of display information and thus report a resolution 640x480 instead of 640x400.

This is a cosmetic anomaly that does not affect performance. It will be fixed in the next system software update. Macintosh PowerBook computers running system software versions later than 7.5.2 should not experience this issue.

Support Information Services
Published Date: Feb 19, 2012

PC Card Support for Desktop Macintosh Computers (1/96)

This article lists a third party solution that provides PCMCIA (also called PC card) support for desktop Macintosh computers.
This article has been archived and is no longer updated by Apple.

Software Architects' PowerCard is a SCSI PCMCIA adapter which will work on most desktop Macintosh computers. The device accepts PCMCIA Type I, II, and III storage cards (including SRAM, flash RAM, and hard disk cards). It has a SCSI-2 interface, and is compatible with SCSI Manager 4.3.

In addition, it ships with Dayna Communications' DOS Mounter software, plus Software Architects' own driver; the combination makes it possible for users to mount DOS-formatted PCMCIA cards.

This article provides information about non-Apple products. Apple Computer, Inc. is not responsible for its content. Please contact the vendors, Software Architects or Dayna Communications, for additional information.

The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.

Support Information Services
Published Date: Feb 19, 2012

Patch Kit for NetWare for Macintosh 4.1

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.
This article has been archived and is no longer updated by Apple.
NOVELL TECHNICAL INFORMATION DOCUMENT

TITLE: Patch Kit for NetWare for Macintosh 4.1
READ ME FOR: 41MAC5.EXE

NOVELL PRODUCTS and VERSIONS:
NetWare for Macintosh 4.10

ABSTRACT:
This patch kit contains all patches for NetWare for Macintosh 4.10.

DISCLAIMER

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SYMPTOM:

ATPS.NLM v4.11 Pre-Release

Changes from v4.10:

1) The print server no longer sends a PAP EOF after detecting "%%EOF" in binary PostScript data streams. Fixes SPD #94829.

2) No longer output a warning message about bindery logins failing unless operating in bindery mode. Fixes SPD #104688.

3) Fixed a problem where the spooler might report a "queue not found" error (820) if disabled. Fixes SPD #84177.

4) Supported the decoding of escaped special characters in PostScript ADSC comments. Fixes SPD #82435.

5) Fixed problem with hanging due to missing font list file. Fixes SPD #84171.

6) Added some new messages; should go through a translator pass when possible.

7) Enhanced the prepfix() routine which turns .PRS into .PRI files to handle procsets commented by "%%Begin/EndResource: procset".

8) To avoid DS synchronization problem, the print server should retry attempts to attach to the queue if "object not found" is returned.

9) Implemented "two strikes" feature for bad PostScript which causes the printer to reboot. The printer server put a job on user hold if it experiences a PAP time-out twice in a row.

10) Set necessary DS API flags so that ATPS can use queue alias objects transparently.

11) If the "*Product" keyword appears more than once in a PPD file, use the first instance.

12) Fixed a problem parsing info from PPD files in Macintosh format (i.e., with carriage return terminated lines).

13) Added an option to support LaserWriter 8/PSPrinter installable option queries. Parse the queries from the spooler's PPD file and use them to query the printer to get the answers. Requires that server and user PPD files agree on the installable options.

14) To support configurations where there is no query source, added spooler config option so the administrator can define installable options at the spooler. The keyword "PPD Option=<option>/<value>" may be added to the *.SPL file.

15) Added an option to support PostScript printers that do not reliably echo back PAP EOF's, which can cause a the printer server to hang. Adding "Verify Completion=No" to the *.PRN file causes the printer server to close the PAP connection as soon as all data is sent.

16) Refresh ImageWriter query information and status periodically, similarly to PostScript queries.

17) If a spooler is being disabled, don't stop NBP advertising until all jobs are complete. Otherwise, LaserWriter driver PAPStatus() calls fail and printing is aborted.

18) Added support for parsing title and user from GDT Softworks PowerPrint drivers. Improved DeskWriter support.

19) Add short delay in responding to product queries to work around LW 7.2 set-up timing bug.

20) Support new "RBIAppleDevice" query made by LaserWriter 8.3 and "GXIsBinaryOK?" query to be made by future versions of GX.

21) Added spooler support for DeskWriter 540, 600, 660C.

ATPSCon 4.11 Pre-Release

9/18/95

Changes from 4.10 version of ATPSCon:

1) Fixed a problem where quick configuration files discarded by the the user would still be reported to ATPS for enabling.

2) Fixed a problem where quick configuration overwrote exisitng configuration files without telling ATPS to disable them.

3) Restored old functionality which allowed quick configurations to access an existing queue

4) Support display and selection of DS print queue alias objects

AFP 4.10a Pre-Release

8/10/95

Changes from 4.10 version of AFP:

1) Fixed server ABEND problem caused when the Desktop Database Rebuilder is executed.

2) Fixed a volume rename problem. If a volume was originally titled User_Disk, and then was changed to UserDisk, after the desktop was rebuilt, it showed up as UserDiskK.

3) Fixed a problem when volume names are similar and have a period in the name, the wrong volume mounts on the desktop.

APPLETLK 5.00e Release

Changes from 5.00 version of APPLETLK:

1) Fixed multiple abend problems.

2) Fixed printing problems seen with prior versions of AppleTalk ver 5.00b & 5.00c.

MAC.NAM 4.10a Pre-Release

8/29/95

Changes from version 4.10 of MAC.NAM:

1) Fixed a problem where the Macintosh name space should truncate names longer than 31 instead of 32 characters. The Macintosh system only supports 31 character file names.

SOLUTION:

Update server with all files.

TA35051_Patch_Kit_for_NetWare_for_Macintosh__(TIL19305).pdf

Self-Extracting File Name: 41mac5.exe

Files Included	Size	Date	Time
41MAC5.TXT	7262	1-4-96	12:15:12 pm
ADSP.MSG	10614	9-1-95	12:15:12 pm
ADSP.NLM	80850	12-1-95	9:39:24 am
AFP.NLM	61786	8-10-95	10:09:58 am
AFPCON.NLM	8-10-95	8-10-95	10:10:12 am
APPLETLK.MSG	35716	8-14-95	1:08:30 pm
APPLETLK.NLM	372309	11-20-95	11:16:02 am
ATPS.MSG	22771	9-18-95	8:24:28 pm
ATPS.NLM	149739	12-6-95	3:03:34 pm
ATPSCON.MSG	20941	9-19-95	8:03:10 pm
ATPSCON.NLM	80777	9-19-95	8:03:22 pm
AURP.NLM	16195	9-6-95	11:39:44 am
MAC.NAM	16195	11-14-95	4:20:08 pm
OS2.NAM	18040	11-22-95	11:20:04 am
STREAMS.NLM	63344	1-27-95	5:03:34 pm
VREPAIR.NLM	51690	8-28-95	3:53:10 pm
V_MAC.NLM	12267	8-28-95	3:53:18 pm
V_OS2.NLM	13164	8-28-95	3:53:36 pm

Installation Instructions:
MSG File installation Instructions:

1) Copy all MSG files to the F:\\SYSTEM\\NLS\\4 directory

* MAC.NAM Installation Instructions:

1) Backup all volumes containing the Macintosh name space.
2) Update MAC.NAM, in the NWSERVER directory on the servers DOS parition.
3) Update V_OS2.NLM & VREPAIR.NLM located under F:\\SYSTEM.
4) Reboot server to load the new MAC.NAM
5) Run Vrepair on all volumes that contain the MAC name space.

Copy all other NLMs to F:\\SYSTEM.

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Published Date: Feb 19, 2012

LaserWriter 4/600 PS: Performing Memory Upgrades

I have a LaserWriter 4/600 PS printer and I want to add additional memory. What do I need and how do I do it?
This article has been archived and is no longer updated by Apple.
The LaserWriter 4/600 PS printer comes with 2MB of RAM pre-installed. An Apple-authorized service provider can install a 4MB memory expansion card (M4166G/A). The memory expansion card is designed specifically for the LaserWriter 4/600 PS. The printer is not equipped with industry-standard SIMM slots for installing additional memory.

The memory expansion card attaches to the I/O board on the printer, which requires the removal of the LaserWriter cover. Since removing the cover on a LaserWriter printer is not usually considered end-user replaceable part, Apple recommends you have the upgrade performed by an Apple-authorized service provider.

Published Date: Feb 19, 2012

MacX 1.5: Using MacX 1.2 Fonts (2/96)

I am trying to use MacX 1.2 fonts with MacX 1.5 but these fonts do not work. Is there a work around or solution for this?

This article has been archived and is no longer updated by Apple.

MacX 1.5 does not support the compiled fonts in MacX 1.2. To add fonts to MacX 1.5 the fonts must be BDF or PCF format.

As of February 1996, MacX 1.5 does not support either compressed (.pdf.Z, .bdf.Z, or .spd), or outline formats. You can access these fonts from the Font server.

The MacX 1.5 manual contains a complete description on the installation and addition of Fonts to the MacX 1.5 Fonts list. You can either add fonts to an existing directory, or add a complete directory to the font path.

A complete description of this process is in the "MacX User's Guide," Chapter 9, page 103-104.

Support Information Services
Published Date: Feb 19, 2012

PCI-Based Power Macintosh: Issue with SCSI ID 5 (4/96)

This article describes an issue affecting SCSI ID 5 on the following Power Macintosh series computers:

Power Macintosh 7200/75
Power Macintosh 7200/90
Power Macintosh 8500/120
Power Macintosh 9500/120
Power Macintosh 9500/132

This article has been archived and is no longer updated by Apple.

On previous PCI-based Power Macintosh computers, there was an issue affecting SCSI ID 5, which may cause the computer to lock-up or the light on the SCSI 5 device to remain on constantly. The symptoms were most apparent when using array software, a scanner (when scanning), or a CD-ROM drive (without a CD-ROM disc inserted).

The issue was fixed in the SCSI Manager and was included in System 7.5.3. Newer PCI-based Power Macintosh computers which ship with System 7.5.3 should not have this problem, and previous PCI-based Power Macintosh computers can upgrade to System 7.5.3 by installing System 7.5 Update 2.0, which is available on the online services.

These articles can help you locate the software update mentioned here:

Ñ "Where To Find Apple Software Updates" - Lists online services for free Apple software updates.

Ñ "Obtaining Apple Product Support in the USA" - Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech Info Library.

Article Change History:
18 Apr 1996 - Updated technical information.

Published Date: Feb 18, 2012

MAE 2.0: Versions Supported, OS and MAE Patch Required (5/96)

This article discusses the compatibility of MAE with both Hewlett Packard (HP) HP-UX, and Sun Solaris, as well as any relevant patches that MAE requires for compatibility.
This article has been archived and is no longer updated by Apple.
IMPORTANT NOTE: Installation of any other OS patches (beyond those required for MAE to function properly) is at the sole discretion of the customer. Apple Computer, Inc. makes no recommendations regarding the administration and maintenance of workstations on which the MAE product is installed.

However, in some cases, there are known issues that are addressed by a specific patch from the respected company and Apple recommends to have these systems patched to allow MAE to operate properly.

Current Versions Supported

HP-UX: 9.0.1, 9.0.3, 9.0.5, 9.0.7, 10.01 (MAE Patch 2 required for 10.01)
Solaris: 2.3, 2.4, 2.5

NOTE: As of April 1996, HP-UX 10.1 is not supported with MAE 2.0.2.

How Do I Determine Which OS Patches Are Installed

To determine which OS patches have been installed, use the following commands:

* For HP-UX:

what /HP-UX

* For Solaris

showrev -p

STREAMS (HP-UX only)

MAE 2.0.x supports AppleTalk, which requires STREAMS (standard interfaces for I/O within the UNIX Kernel and between the kernel and user level). STREAMS is required on HP-UX 9.0.x. It is not required on HP-UX 10 and Solaris 2.x, as it is built into the OS.

HP-UX 9.0.1, 9.0.3: /cdrom/STREAMS/3STREAMS.TAR
HP-UX 9.0.5, 9.0.7: /cdrom/STREAMS/5STREAMS.TAR

Install all four file sets by using the /etc/update command:

/etc/update -rs /cdrom/STREAMS/3STREAMS.TAR '*'

or

/etc/update -rs /cdrom/STREAMS/5STREAMS.TAR '*'

OS Patches for HP-UX

NOTE: HP patches tend to change often, and therefore this list may show outdated versions. The latest patch list can be found at the following URL:

http://support.mayfield.hp.com/

Patch levels used to validate MAE v2.0.2 with HP-UX 9.0.3, 9.0.5, 9.0.7 (HP-UX 10 requires no patches) are as follows:

PHKL_6760 Mega-Kernel Patch. Originally noted as PHKL_4605
PHNE_6707 Networking Patch. Originally noted as PHNE_3939
PHSS_4341 Audio Patch
PHSS_4568 X Server Patch. Originally noted as PHSS_4485 (This patch is not necessary for 9.0.7)

Known issues related to patch level:

PHNE_6707 Networking Patch. HP-UX 9.0.7, MAE 2.0.x freezes the HP-VUE Environment at startup

OS Patches for Solaris
==========

NOTE: Solaris patches tend to change often, and therefore this list may show outdated versions. The latest patch list can be found at the following ftp site:

sunsolve.sun.com.

Patch levels used to validate MAE v2.0.2 with Solaris 2.3 and 2.4 (Version 2.5 requires no patches) are as follows:

101318-75 Solaris 2.3 only, Jumbo patch for kernel
101907-09 Solaris 2.4 only, Jumbo patch for volume manager (Originally 102077)

Known issues related to patch level:

101945-36 Non-networked SPARC. Solaris 2.4 only, apply if MAE hangs at startup.
101907-05 Volume Manager Patch. Solaris 2.4 only, apply if CD/floppies do not mount, and macdisks.Solaris is configured correctly.

MAE Patches Required
==========

The current patch for MAE is Patch 2. This brings the version of MAE up to 2.0.2. The patch can be found at one of the following:

* www.mae.apple.com
* ftp.support.apple.com

It is recommended to upgrade to version 2.0.2, and is required for HP-UX 10.01. This Patch adds these features to MAE:

HP-UX Version 10.01 - (HP only)

HP-UX Version 10.01 can now be used with MAE. IMPORTANT: Be sure to read the file `README.PATCH.MAE2.0.2' on the FTP server prior to installing this patch to support HP-UX Version 10.01.

FDDI Support - (Sun only)

FDDI interfaces are now supported.

Ethernet Interfaces other than `le' - (Sun only)

MAE now supports Ethernet interfaces on Solaris such as qe. Previously, only le devices were supported.

Multiple Ethernet Interfaces

AppleTalk can now be used on any available (and supported) network interface. The Network Control Panel has been updated to add this functionality.

Persistent TIVs

Persistent TIVs are no longer truncated during shutdown.

Locking Mechanism for System Folder Updates

The updater utility for System Folders (part of the patch mechanism) no longer bypasses the file integrity lock if MAE is running. This only occurred under isolated circumstances.

Automounter Directory - (HP only)

The automounter directory for HP-UX (default /tmp_mnt) is now properly statused.

Solaris 2.4 and Automounted Directories - (Sun only)

MAE no longer truncates its internal file system list when executed in an environment with multiple remotely-mounted volumes. This symptom did not manifest itself under Solaris 2.3.

Sun 5 Keyboard - (Sun only)

The 0 (zero) key on Sun's Type 5 keyboard now functions properly.

Command line options

MAE will no longer exhibit random errors at startup based on the number of arguments supplied in the command line.

Updated man Page

The online manual pages now reflect changes and features of MAE 2.0 that were omitted from the man pages supplied with the MAE 2.0 distribution.

Network Control Panel

Opening the Network Control Panel will no longer result in an error message.

Attention Packets - (Sun only)

Urgent ADSP messages are now delivered promptly to the MAE process. Previously, there was a delay in delivering these messages.

ADSP Close - (Sun only)

Custom applications that send ADSP close packet now work correctly.

Utilization of Selected AppleTalk Zone

A previously-selected AppleTalk zone is now being used as the default zone. In addition, a list of eligible devices is presented when selecting a network resource (e.g., printer). This problem only occurred under isolated circumstances.

File Transfers Under TCP

Fetch or other applications now pull large (>100K) files utilizing TCP correctly. (Smaller files were not affected.)

Saving Documents When Using MacinTax

MacinTax is now able to save documents.

Users' Guide Updated - (HP only)

The online Users' Guide for MAE now reflects features and changes present in v2.0 which were omitted from the MAE 2.0 distribution.

Debugging Options

Additional command line options have been added to assist in debugging MAE 2.0 problems.

Support for CacheFS - (Sun only)

New functionality was added to support CacheFS, a new file system introduced with Solaris 2.4.

Support For AFS (Andrew File System)

Additional features have been added to support local cells for AFS.

Other Fixes

Various minor bugs in MAE 2.0 are corrected in MAE 2.0.1

Article Change History:
13 May 1996 - Added HP-UX 10.1 note.
26 Mar 1996 - Corrected information.

Published Date: Feb 18, 2012

HyperCard 2.3.5 Stacks: Read Me Files (2/96)

This article contains the three ReadMe files from the 2.3.5 versions of HyperCard stacks Audio Help, Color Tools, and Power Tools posted online.

This article has been archived and is no longer updated by Apple.

Please read this entire "Read Me" file. It contains important information and tips that will enhance your experience with the Audio Help stack. The Audio Help stack contains the Audio Palette, which gives HyperCard the ability to record new sounds and use them in your stacks.

CHANGES IN THE AUDIO HELP STACK

The following changes were made to the Audio Palette to make it work properly on newer Macintosh models, including the Power Macintosh 7200, 7500, 8500, and 9500, and to make it conform to Apple's guidelines for sound input.

- The Audio Palette now records at the following qualities: Good (22 kHz, 6-to-1 compression), Better (22 kHz, 3-to-1 compression), and Best (22 kHz, no compression). This is a change from older versions of the Audio Palette, which recorded at Good and Best qualities and had a different idea of Good quality (11 kHz, no compression).

- There is now a one-to-one correspondence between compression and quality settings. "No compression" is synonymous with "Best quality," "3-to-1 compression" with "Better quality," and "6-to-1 compression" with "Good quality."

- You can still open and edit sounds recorded with the old Audio Palette at its "Good" quality. When you do this, the new Audio Palette displays the quality as "Other".

- From a script, you can still set the "speed" property of the Audio Palette to "11k". This will allow you to use the old "Good" quality. When you do this, the new Audio Palette displays the quality as "Other".

- The Audio Palette has a new property, "quality". From a script, you can set this property to "Good", "Better", or "Best".

- The documentation in the Audio Help stack has been updated to reflect the changes in the Audio Palette.

Please read this entire "Read Me" file. It contains important information and tips that will enhance your experience with the Color Tools stack. The Color Tools give HyperCard the ability to display and edit color images.

CHANGES IN THE COLOR TOOLS STACK 2.3.5

- The Color Tools now work more reliably on Macintosh systems that have the Japanese Language Kit or the Chinese Language Kit installed.

* The "Redraw Screen" command now works properly with stacks that have been colorized with other versions of the Color Tools.

- The "Compact Color Database" command now works properly with colorized cards and backgrounds whose IDs are greater than 32767.

CHANGES IN THE COLOR TOOLS STACK 2.3.3

- A problem was fixed that prevented stacks colorized with Color Tools 2.3 on a Macintosh computer with a PowerPC microprocessor from being used on a different Macintosh computer with a PowerPC microprocessor.

Please read this entire "Read Me" file. It contains important information and tips that will enhance your experience with the Power Tools stack. The Power Tools stack contains many useful tools that can help you to create or enhance your own HyperCard stacks.

CHANGES IN THE POWER TOOLS STACK

- The Super Grouper tool now works more reliably with a wider range of stacks.

- Starting with HyperCard 2.3, the option that allows the Picture XCMD to display a picture from the clipboard requires that the word "clipboard" be quoted, as follows:

Picture "From The Clipboard","clipboard"

The documentation in the Power Tools stack has been updated to reflect this change.

TA35057_HyperCard_Stacks_Read_Me_Files__(TIL19313).pdf

Support Information Services
Published Date: Feb 18, 2012

Power Macintosh 9500: Using a Epson Stylus Color Printer

This article describes how to resolve printing issues when printing from a Power Macintosh 9500 to an Epson Stylus Color printer.
This article has been archived and is no longer updated by Apple.
In order to successfully print from a Power Macintosh 9500 series computer to an Epson Stylus Color printer, follow these steps.

1) Use the latest Epson printer driver. The drivers are posted on CompuServe, on Epson's BBS, and on Epson' s web page:

http://www.epson.com

According to Epson, you can use version 2.0.3AE for serial connections and use version 2.0.2 for LocalTalk connections. Note that there are several versions of the Epson Stylus Color printer, and each has a slightly different driver. Contact Epson to verify which driver is recommended for your printer.

2) Upgrade the firmware on the printer's main logic board. Contact Epson to identify the ROM size and upgrade it to the proper version.

3) Upgrade to Open Transport v1.0.8, which is available on the online services.

4) Install the System 7.5.2 Printing Fix 1.1, which is also available on the online services.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.

These articles can help you locate the Apple software update mentioned here:
TIL Article 14724: "**Where To Find Apple Software Updates**" - Lists online services for free Apple software updates.
Published Date: Feb 18, 2012

Apple Color StyleWriter 1500: Description (3/96)

This article contains the description for the Apple Color StyleWriter 1500 printer.
This article has been archived and is no longer updated by Apple.

Description
==========

The Apple Color StyleWriter 1500 offers a complete solution for easy and affordable color printing on Macintosh or PowerBook computers. This innovative ink-jet printer is perfect for home, education, and small-business users who require color printing capabilities at an affordable price.

Designed to fit easily into even the smallest of work spaces, the Apple Color StyleWriter 1500 provides a convenient, quiet, personal printing option*but one with advanced features. It produces output with impressive quality, offering laser-quality, 720- by 360-dpi resolution with edge smoothing on black-and-white pages, and 360- by 360-dpi resolution on pages containing color or gray-scale images. It prints quickly*3 pages per minute for black-and-white pages in normal mode and 0.3 page per minute for color. And it takes advantage of Apple's advanced ColorSync color-matching capabilities, so that the colors in your printed output match as closely as possible the colors on your display.

To support its performance, the Color StyleWriter 1500 provides native PowerPC software to speed the processing and printing of complex documents. And if you're looking for a direct-connect networking alternative, the Color StyleWriter 1500 can be used with the StyleWriter EtherTalk Adapter, for connection to an EtherTalk network.

In addition to performance, the Color StyleWriter 1500 also rates high on convenience and flexibility. It comes complete with all of the cables and ink cartridges you need (color and black) and offers plug-and-play connection to virtually any Macintosh computer. It can be set up and installed easily. For flexible document design, the Color StyleWriter 1500 printer offers 64 available TrueType fonts for a wide range of type styles and sizes. And it can print not only on plain paper but also on a wide range of media, including glossy and premium paper, envelopes, transparencies, labels, and back-print film.

So if you want convenient color printing capabilities*at an affordable price*the Color StyleWriter 1500 is your ideal printing solution.

Features
========

Outstanding print quality at an affordable price

- Produces great-looking documents contain-ing color images at 360 by 360 dots per inch

- Offers laser-quality printing by smoothing the edges of text and line art using 720 by 360 dots per inch for crisp black-and-white pages

- Supports ColorSync color-matching technology, ensuring the closest possible match between the colors you see on the screen and the colors that print

- Is priced low enough to make color accessible even to home users

Versatility, flexibility, and convenience

- Provides fast output up to 3 pages per minute for black and white*in both the ink-saving draft mode and the sharp-quality normal mode

- Takes advantage of the high performance of PowerPC processor*based computers to speed the processing and printing of complex documents

- Features a small, sleek design that fits on virtually any desktop

- Offers the option of printing on a wide range of media, including plain paper, transparencies, glossy and premium paper, back-print film, labels, and envelopes

- Automatically turns itself on when it receives a document and turns itself off when it finishes printing

- Gives you a choice of 64 scalable TrueType fonts for printing in any

size and in a variety of styles

- Can be used with the StyleWriter EtherTalk Adapter, for direct connection to an EtherTalk network

Ease of use

- Comes with everything you need to get started right away; includes all necessary cables and both black and color ink cartridges

- Supports plug-and-play connection to virtually any Macintosh, PowerBook, or Power Macintosh computer

- Provides "desktop printing"; you can print files by simply dragging them onto a desktop printer icon

- Lets you print two or four reduced-size pages on a single sheet of paper, saving paper, ink, and time for review of multipage documents

- Allows you to place watermarks in the background of your documents quickly and easily

Ordering Information
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Apple Color StyleWriter 1500
Order No. M4428LL/A

- Apple Color StyleWriter 1500 printer
- Apple Color StyleWriter 1500 software
- StyleWriter Series Black Ink Cartridge
- Apple Color StyleWriter Color Ink Cartridge
- High-speed serial cable
- AC power adapter
- User's guide

Apple Color StyleWriter 1500 Color Ink Cartridge
Order No. M4609G/A

Apple StyleWriter Black Ink Cartridge
Order No. M8041G/C

Optional StyleWriter EtherTalk Adapter
Order No. M4775LL/A

Media

Letter-size transparency M2658G/A
Letter-size premium paper M2952G/A
Letter-size glossy paper M3655G/A
Letter-size back-print film M2953G/A
A4-size transparency M1959G/A
A4-size premium paper M2951G/A
A4-size glossy paper M3656G/A
A4-size back-print film M2954G/A

Product specifications are subject to change. Check with your Apple reseller for the most current information about product specifications and configurations.

Article Change History:
22 Mar 1996 - Reviewed.
Published Date: Feb 18, 2012

PowerBook: Generic System 7.5.2 Software Installer Icon (2/96)

I am trying to reinstall my System 7.5.2 software on my PowerBook 190, 2300c, or 5300 series computer. I have started from the Disk Tools disk that came with my PowerBook, but when I double-click the System Software installer alias on the Disk Tools disk, I get a message, saying the original item cannot be found. I also notice that the alias is a generic document icon. What is wrong? How can I fix this?

This article has been archived and is no longer updated by Apple.

The System Software installer alias on the Disk Tools disk is an alias to the System Software installer application on the hard drive of your PowerBook. The path the alias follows can be lost if you rename your hard drive to something other than Macintosh HD, or if you move the System Software Installer application out of the System Software Images folder. Even if you name your hard drive back to Macintosh HD or put the System Software installer back into the System Software Images folder, the alias will still be unable to open the application.

You can work around this issue by double-clicking the System Software installer application on your PowerBook's hard drive instead of double-clicking the alias on the Disk Tools disk. If you have not relocated any folders on your hard drive, the application can be found on the hard drive by following the path:

Hard Drive -> Utilities -> Floppy Disk Maker -> Disk Images -> System Software Images -> System Software Installer

You can also fix the unresolved alias on the Disk Tools disk by following this procedure:

Step 1

Before inserting the disk into your floppy drive slide the plastic write protect tab in the upper left corner, of the bottom of the disk (side with the silver disk in the center) to cover the hole. Insert the floppy disk into your floppy drive.

Step 2

Locate the System Software Installer application on your hard drive. If you have not relocated any folders on your hard drive, it can be found by following the path:

Hard Drive -> Utilities -> Floppy Disk Maker -> Disk Images -> System Software Images -> System Software Installer

You can also use Find... under File to locate the application.

Step 3

Click the System Software Installer application once to highlight it. Under File, choose Make Alias.

Step 4

Drag the alias you have just created to the Disk Tools disk. When asked if you want to replace items with the same name, click OK. When the file is finished being copied you should have the alias in both the Disk Tools disk and the System Software Images folder. You can drag the alias from the System Software Images folder to the Trash.

Step 5

Drag the Disk Tools disk icon to the Trash to eject it. Lock the floppy disk by sliding the write protect tab back to cover the hole in the corner.

Published Date: Feb 18, 2012

System 7.5.x: Must Choose Printer to Use Ofoto 2.0.x (2/96)

I have recently upgraded to System 7.5.1 on my Macintosh computer. When I try to access any of the functions like Preview or Autoscan in Ofoto 2.0.x, I get a message that says "Couldn't complete the last command because of a Mac OS error. Result Code = -39".

I have received this same error when using the Extensions Manager to disable all extensions not necessary to run Ofoto.
This article has been archived and is no longer updated by Apple.
You must have a printer selected in the Chooser in order for Ofoto to run properly. Follow these steps to select a printer:

Step 1

Choose the Chooser under the Apple Menu.

Step 2

Click to select your printer's driver in the left side of the Chooser.

Step 3

Click to select the modem or printer port on the right side of the Chooser, or select the name of your AppleTalk printer.

Step 4

Click the close box in the upper left corner of the Chooser.

You can now use all of Ofoto's functions.

Published Date: Feb 18, 2012

AICK 1.0: Claris Emailer Lite and LAN Configuration (2/96)

This article describes a configuration issue with Claris Emailer Lite, a part of the Apple Internet Connection Kit (AICK) 1.0, when connecting to the Internet through a Local Area Network (LAN).

This article has been archived and is no longer updated by Apple.

Claris Emailer Lite will load some of its parameters from the pre-configured Internet Config database. The Internet Config database is the Internet Preferences file in the Preferences folder. When used in a dialup configuration, the Apple Internet Dialer populates the Internet Config database with appropriate entries. However, when used in a LAN configuration, the required fields (email address, pop server, and so on) are not entered into the database, and this information cannot be edited using the Emailer Lite application.

The Internet Config application, distributed with AICK (in the Internet Utilities folder), can be used to set these needed preferences. The Internet Config application has clear and extensive balloon help if it's unclear what to enter in the fields. Once you have made the entries in Internet Config application, Claris Emailer Lite loads these parameters from the Internet Config database the next time Emailer Lite is launched.

Published Date: Feb 18, 2012

Performa: No Volume Control With Some Applications (2/96)

I have a Macintosh Performa computer, which included Sesame Street Numbers and Power Pete in the software bundle. However, I have noticed that when I open either of these applications, I can no longer adjust the sound using the front panel volume buttons.

This article has been archived and is no longer updated by Apple.

It appears that this symptom only occurs if the Video Startup extension is installed or active when you attempt to use either Sesame Street Numbers or Power Pete. Once you quit those applications, you can control the volume normally again.

At this time, the only way to avoid this is to disable the Video Startup extension using the Extensions Manager control panel.

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QuickTime for Windows 2.0.3: Removal Instructions

This article contains instructions for removing QuickTime for Windows 2.0.3 from your PC-compatible computer.
This article has been archived and is no longer updated by Apple.

Removing QuickTime for Windows 2.0.3

1. Delete the QuickTime for Windows program group in Program Manager.

2. Remove the driver named [MCI] QuickTime for Windows from the Drivers control panel.

3. In WIN.INI, remove the following lines under the section labelled [Extensions]:

mov=C:\\WINDOWS\\PLAYER.EXE ^.mov
pic=C:\\WINDOWS\\VIEWER.EXE ^.pic

4. In WIN.INI, remove the following lines under the section labelled [mci extensions]:

mov=QTWVideo
pic=QTWVideo
jpg=QTWVideo

5. In WIN.INI, remove the following lines under the section labelled [embedding]:

PlayerFrameClass=QuickTime Movie, QuickTime Movie, c:\\windows\\player.exe, picture
ViewerFrameClass=QuickTime Picture, QuickTime Picture, c:\\windows\\viewer.exe, picture

6. Delete the following files from the C:\\Windows directory:

PLAYENU.DLL
VIEWENU.DLL
PLAYER.EXE
VIEWER.EXE
README.EXE
MCENU.HLP
PLAYENU.HLP
VIEWENU.HLP
CGMINIVW.HLP --> This file does not always exist
QTW.INI
SAMPLE.MOV
*.QTW

7. Delete the following files from the C:\\WINDOWS\\SYSTEM directory:

MCIQTENU.DLL
QTIMCMGR.DLL
QTIM.DLL
QTOLE.DLL
QTHNDLR.DLL
MCIQTW.DRV
QTNOTIFY.EXE
*.QTC
QTMOVIE.VBX
QTPIC.VBX
Published Date: Feb 18, 2012

AppleVision 1710 Display: Requires Video Signal for Power (1/97)

I have had my AppleVision 1710 Display replaced twice already, and neither unit powers on. I have been testing the displays before I connecting them to my Macintosh. Is there something wrong with the AppleVision 1710 Displays?

This article has been archived and is no longer updated by Apple.

Both the AppleVision 1710 Display and the AppleVision 1710AV Display require a video signal before powering on. Since you have not been connecting them to your Macintosh, the power LED hasn't been activated.

To properly test the AppleVision 1710 Display, you need to connect the video cable to your computer, connect the ADB cable from your Macintosh to the display, in order to get resolutions greater than 640x480, and power on your computer and display.

Article Change History:
28 Jan 1997 - Added computer power requirements.

Published Date: Feb 18, 2012

Apple Remote Access MultiPort Server 2.1 Patch: Read Me

This article contains the ReadMe file for the Apple Remote Access MultiPort Server 2.1 patch that has been posted to Apple Support Online, Apple Software Updates.
This article has been archived and is no longer updated by Apple.

Changes in Version 2.1 of the Apple Remote Access MultiPort Server

- MultiPort Server v2.1, unlike unupdated v2.0.1 software, supports ARA 1.0 clients. Customers, however, are encouraged to have ARA 1.0 clients upgrade to the current client software. Future Apple Remote Access products will not support ARA 1.0 clients.
- Previous versions of the MultiPort server did not correctly respond to SNMP queries. This problem has been corrected with v. 2.1.
- When using 28.8 modems, the server would sometimes start resending data needlessly resulting in a dramatic drop in throughput. This problem has been corrected with v. 2.1.
- Computers running System Software version 7.5.1 and 7.5.2 occasionally experienced a crash in the Port Configuration Window in the Remote Access Administration program. This was due to a bug that has been corrected in System Software version 7.5.3 and above. The MultiPort Server Installer adds a system extension to correct this bug even with the earlier systems. The extension does not run if the bug is not present.
- It is normal for some corrupted packets to pass the data integrity checks in the dial-up protocol. With earlier versions of the server, however, corrupted packets caused occasional crashes. This problem has been corrected with v. 2.1.
- Sorting of the network zone lists for networks with a large number of zones (500 and over) has been significantly speeded up.
- Reliability of the server when using 3rd party security modules has been improved.
- Reliability of the serial drivers for the Apple Serial NB card has been improved.

Installation Instructions

The patch applications on this disk allow you to upgrade ARA MultiPort Server 2.0.1 or 2.0.1 RevB to ARA Multiport Server 2.1. Here is the procedure to follow:

1) Identify which version of the ARA MultiPort Server you have installed. To do so:

1. Open the System Folder.
2. Open the Extensions folder.
3. Click Apple Remote Access MP.
4. Choose Get Info from the File menu.

If the version is ARA MultiPort Server 2.0.1 or 2.0.1 RevB, continue with this procedure. To upgrade an earlier version, obtain the ARA Multiport Server 2.1 Installer diskettes and do a full installation.

2) Choose Restart from the Special menu. After hearing the startup chime, hold down the Shift key. This restarts your Mac OS computer with all system extensions turned off.

3) If you are upgrading from version 2.0.1, open the folder ARA MP 2.0.1->2.1 Patch. If you are upgrading from version 2.0.1 RevB, open the folder ARA MP 2.0.1 RevB->2.1 Patch. The steps to follow are identical for both versions, but you must use the correct patch applications for the upgrade to be successful.

4) Double-click the application icon labeled Part I.

5) Click Patch in the screen that appears.

6) Follow the screen prompts to complete Part I of the upgrade. You will be asked to locate and then patch the following files: Apple Remote Access MP, Call Back Client, Call Back Server, and Link Tool Manager. All of these files should be in the Extensions folder inside the System Folder.

7) Click OK in the dialog box that appears to tell you that Patch I was completed successfully.

8) Double-click the application icon labeled Part II.

9) Click Patch in the screen that appears.

10) Follow the screen prompts to complete Part II of the upgrade. You will be asked to locate and then patch the following files: Modem Link Tool MP, SNB Driver, SNMP Remote Access Agent, and XLT Library. All of these files should be in the Extensions folder inside the System Folder. Finally, you will be asked to locate and patch the Remote Access Manager. This should be in the Remote Access MP Folder, located at the root level of your startup disk.

11) The upgrade is now complete. Restart your Macintosh to use your new software.

Note: Several new modem CCLs are also included on this disk. Simply drag them to the System Folder if you want to use them.
Published Date: Feb 18, 2012

Apple Displays: Type of Phosphor Used

This article discusses the type of phosphor used in the Multiple Scan 17 Display?
This article has been archived and is no longer updated by Apple.
The type of phosphor used in most of Apple's displays is Aluminized P22 Medium-short persistence. This is for both Trinitron and "standard" CRT type displays.

Examples of:

Trinitron Displays:

- Multiple Scan 17 Display
- Multiple Scan 20 Display
- AppleVision 1710 Display
- AppleVision 1710AV Display

"Standard CRT" Displays:

- Multiple Scan 15 Display
- Multiple Scan 14 Display
- Multiple Scan 1705 Display

Published Date: Feb 18, 2012

PCI Token Ring Card: Software, Configuration & Compatibility

This article describes installing and configuring the software needed for the Apple PCI Token Ring Card. It also describes support issues at introduction.
This article has been archived and is no longer updated by Apple.

Hardware Compatibility

PCI-Based Power Macintosh Compatibility
The Apple PCI Token Ring Card will work with and is supported by:

Power Macintosh 7200/100 and 7200/120 computers
Power Macintosh 5400 Performa computers
Power Macintosh 7500, 7600, 8500, and 9500 series computers
Workgroup Server 7250
Workgroup Server 8550 series computers

IMPORTANT: Due to a bus timing issue on the logic board itself, neither the Power Macintosh 7200/75 nor the Power Macintosh 7200/90 support the Apple PCI Token Ring Card.

Incompatible With DOS Compatibility Card
At this time, the PCI Token Ring card is not compatible with the PCI DOS Compatibility card.

Software

Installing the Software
This section provides instructions for installing the software in a Macintosh computer. You can also use the Apple PCI Token Ring Card with other network systems, such as Netware and AIX. Be sure to see the documentation that comes with your computer for details about installing and setting up the card's driver software. To use your Apple PCI Token Ring Card with a Macintosh computer, that computer must have system software version 7.5.3 (or a later version) and at least 8 megabytes (MB) of random-access memory (RAM).

System 7.5.3 Installer
If your computer does not already have system software version 7.5.3 (or a later version) installed, you must install this version before using the PCI Token Ring Card. A CD-ROM containing version 7.5.3 is included with the card.

1. Quit any open applications or desk accessories.

2. Insert the CD-ROM disk in your Macintosh and double-click the disk's icon to open it.

3. All system software files are compressed. The Installer program will expand them during installation. Do not drag them to your hard disk.

4. Double-click the Install System Software folder to open it.

5. Double-click the Install System Software icon to open it.

6. When you see the Installer's welcome screen, click Continue.

7. The Easy Install dialog box appears. These instructions cover the Easy Install process, which is suitable for most Macintosh users. If you know exactly which components of system software you want to install, you can use the Custom Install option (by choosing Custom Install from the pop-up menu, then selecting the items you want to install).

8. Make sure the destination disk indicated on the screen is the one on which you want to install system software. If the wrong disk name appears, click the Switch Disk button until the correct disk name appears.

9. Click Install.

10. The Installer updates the software in the System Folder on your hard disk.

11. Follow the instructions on the screen. On-screen messages report the installation status. The installation procedure may take several minutes.

12. When installation is complete, restart your computer.

If for some reason the procedure was not successful, try the procedure again.

Token Ring Driver Installer
To install the card's Token Ring driver software on your Macintosh computer, you need to use the Installer program on the Network Driver Installer disk, included with your card. For safety, make sure the Installer disk is locked before you use it. To lock a disk, slide the tab on the back side so that the square hole is open. Keep the installer disk after installation in case you need to reinstall Token Ring software some time in the future. To install the driver software:

1. Insert the Network Driver Installer disk in your Macintosh and double-click the disk's icon to open it.
2. Open the Installer program, review the welcome screen, and click Continue.
3. The Easy Install dialog box appears.
4. Make sure that the disk indicated on the Installer's dialog box is your current startup disk, and click Install.
5. If you see a message indicating that the software cannot be installed while other programs are running, click Continue.
6. When you see a message reporting that the installation was successful, click Restart.
7. Before you can use services on a Token Ring network, you need to select the Token Ring network connection for your startup disk. Move ahead to the Configuration section of for more information.

Configuration

Configuring the System for Token Ring In this section, we will cover the steps necessary to configure your Macintosh computer's network connections for use with your newly installed PCI Token Ring Card, System 7.5.3, and the Token Ring software.

AppleTalk Setup
A Macintosh computer's network connection is preset for LocalTalk connected to the printer port. To connect to a Token Ring network using AppleTalk, you need to change the settings in the AppleTalk control panel. Follow these steps:

1. Choose Control Panels from the Apple menu.
2. Double-click the AppleTalk control panel to open it.
3. Choose Token Ring from the popup menu.
4. If you have more than one card, choose the one you want to use for an AppleTalk connection. If you see a message that an error occurred, click OK and make sure that your computer is connected to the Token Ring network.
5. Click Save to save the changes you made in the AppleTalk connection.
6. If you see a pop-up menu that lists zones, select the zone you want, then click OK.
7. If your network has been set up to allow you to choose a zone but you have not yet done so, the menu lists choices, with your designated zone selected. The zone you select determines the default location for any network services provided by your computer and listed in the Chooser (such as file sharing). Before you select a zone different from the one already highlighted, consult your network administrator.
8. Close the AppleTalk control panel.
9. Check that the LED light on the card, above the Token Ring port, is working properly.

You are now ready to use AppleTalk services available on your Token Ring network.

TCP/IP Setup
To connect to a Token Ring network using TCP/IP, you need to change the setting in the TCP/IP control panel. Follow these steps:

1. Choose Control Panels from the Apple menu.
2. Double-click the TCP/IP control panel to open it.

3. Choose Token Ring from the popup menu.

4. If you have more than one card, choose the one you want to use with TCP/IP. If you see a message that an error occurred, click OK and make sure that your computer is connected to the Token Ring network.

5. Configure the remaining options in the control panel and check with the network administrator if there are any questions.

6. Click Save to save the changes you made in the TCP/IP connection.

7. Close the TCP/IP control panel.

8. Check that the LED light on the card, above the Token Ring port, is working properly.

You are now ready to use TCP/IP services, such as MacIP, on your Token Ring network.

PCI Token Ring Card Cannot Be The First Station On The Network Ring

The first time you use the Token Ring card it must be connected to a network that is already running. The card won't be able to determine the speed to use if it is the first station on the ring. This potential problem is limited to the card's first use.

Apple recommends that the PCI Token Ring Card not be installed as the first station on the network ring. Instead, Apple recommends that the card first be connected to a network which is already running, so the card can determine which speed to use.

Compatible With Softwindows 2.0
According to Insignia Solutions, makers of Softwindows, the Apple PCI Token Ring card is compatible with Softwindows 2.0.

NOTE: This article provides information about a non-Apple product, Softwindows. Apple Computer, Inc. is not responsible for its content. Please contact the vendor, Insignia Solutions, for additional information.

The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.

Published Date: Feb 18, 2012

MAE, Solaris 2.3 or Later: PC, UNIX Floppy Do Not Work (5/96)

On my SPARCStation with Solaris 2.3 and Patch 101318-75, prior to installing the Macintosh Application Environment (MAE), I could insert PC or UNIX floppy disks and the File Manager appears when checking for the floppy. Macintosh floppy disks were not acknowledged by the Volume Manager.

After installing MAE, however, the File Manager no longer launches for my PC and UNIX floppy disks, but it will now, for Macintosh floppy disks. How can I have all of these floppy disks available to File Manager?
This article has been archived and is no longer updated by Apple.
This issue may occur on all version of Solaris 2.3, 2.4, and 2.5, however, it is not always manifested. If this issue occurs, below is the solution.

MAE initially required JumboKernel Patch 101318-59. Sun's new release affects the Volume Manager. The volume manager uses /etc/rmmount.conf to handle removable media, and then feeds it back to vold.conf. Depending on the location of the entry for macfs, the Volume Manager will ignore PC/UNIX floppy disks.

Examples of Solaris 2.3 or later /etc/rmmount.conf:

This one will NOT work

```
sparc10% cat /etc/rmmount.conf
# @(#)rmmount.conf 1.2 92/09/23 SMI
#
# Removable Media Mounter configuration file.
#

# File system identification
ident hsfs ident_hsfs.so cdrom
ident ufs ident_ufs.so cdrom floppy
ident pcfs ident_pcfs.so floppy
ident macfs ident_macfs.so floppy

# Actions
action floppy action_macfs.so <- Notice this is the MAE entry
action cdrom action_filemgr.so
action floppy action_filemgr.so
```

This one WILL work

```
sparc10% cat /etc/rmmount.conf
# @(#)rmmount.conf 1.2 92/09/23 SMI
#
# Removable Media Mounter configuration file.
#
# Modified by MH
#

# File system identification
ident hsfs ident_hsfs.so cdrom
ident ufs ident_ufs.so cdrom floppy
ident pcfs ident_pcfs.so floppy
ident macfs ident_macfs.so floppy

# Actions
action cdrom action_filemgr.so
action floppy action_filemgr.so
action floppy action_macfs.so <- New Location
EOF
```

NOTE: With the new location of the action_macfs.so entry, both PC/UNIX floppies and Macintosh floppy disks will work properly.
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Article Change History:
14 May 1996 - Updated for Solaris 2.3, 2.4, and 2.5.

Published Date: Feb 18, 2012

DOS Compatibility Card: Color Printing on CLW 12/600 PS

I have a DOS Compatibility Card in my Power Macintosh computer, and I want to print on a Color LaserWriter 12/600 PS printer. How do I configure my DOS/Windows software to print on the Color LaserWriter 12/600 PS printer?
This article has been archived and is no longer updated by Apple.
In the Mac OS, you need to use the LaserWriter 8.3 or later printer software for the Color LaserWriter 12/600 PS printer. Earlier releases of LaserWriter driver (7.x or 8.2 and earlier) print, but do not provide the correct PPD, and do not use ColorSync 2.x for color calibration.

If you have a PCI-based Power Macintosh, use LaserWriter 8.3.4 or 8.4 software.

For detailed information on LaserWriter drivers and Mac OS, see the Tech Info Library article titled "LW Driver and System SW: Recommended Combinations".

DOS Compatibility Software

You need to use PC Compatibility 1.5 or later. Previous version of PC Print Spooler had trouble spooling PostScript jobs generated in the Windows environment.

MS-DOS

DOS applications must have individual support for PostScript. Due to the age of most DOS applications, color support for PostScript printing is unlikely to be available for most applications

Microsoft Windows 3.1

Color LaserWriter 12/600 PS customers were provided a PostScript LaserWriter driver for MS-Windows. This driver has support for color printing. You should use version 3.0.6 or later. You must also turn off Send Data in Binary. If you do not turn this option off, the PostScript code generates some characters at the beginning of the file that the PC Print Spooler cannot handle properly.

Microsoft Windows 95

Color LaserWriter 12/600 PS customers were provided a PostScript LaserWriter driver for Windows 95. This driver has support for color printing. You should use version 4.1 or later. Once installed, the following changes need to be made in the printer driver Properties window:

1) Select 'disable bi-directional support for this printer' under Details: Spool Settings

2) Under Details: Port Settings, make sure the checkbox labeled 'Check port state before printing' is not checked

3) Under Postscript: Advanced make sure the Send CTRL+D before job' and 'Send CTRL+D after job' checkboxes are not checked.
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LaserWriter II: Connecting an MS-DOS Computer

When you configure the DIP switches (or push-button switch) of a LaserWriter II series printer for the appropriate communication channels, default parameters are also set for baud rate, parity, and data/stop bits.
This article has been archived and is no longer updated by Apple.

For example:

On the LaserWriter IINT, setting switch 1 up and switch 2 down configures both serial ports to the PostScript batch mode at 9600 baud, 8 data bits, 1 stop bit, ignore parity, and XON/XOFF.

The MS-DOS computer must be configured to match the LaserWriter's communication parameters. Type these two MS-DOS commands to set baud to 9600, parity none, 8 data bits, 1 stop bit:

MODE COM1:96,N,8,1,P

MODE LPT1:=COM1

These commands, vary depending on the current settings of the LaserWriter with which the computer will be communicating. They must be updated each time the LaserWriter parameters are changed.

Handshaking must also match; MS-DOS computers typically use DSR/DTR -- the LaserWriter defaults to XON/XOFF. Some MS-DOS applications allow you to change the handshake protocol; if not, you will have to configure the printer to conform to the computer's handshake.

On the LaserWriter IINTX, handshaking is controlled by switches 5 and 6; setting switch 5 up and switch 6 down configures the printer to use DSR/DTR.

It is possible to override these settings through a PostScript program.

On the LaserWriter IINT, handshaking must be configured by sending a PostScript program for changing parameters with options encoded for the appropriate values for the compatible handshake method. To set the DB-25 port for communication at 9600 baud and with DTR handshaking on the LaserWriter, send this PostScript program:

```
serverdict begin 0 exitserver

statusdict begin

25 9600 4 setsccbatch

end
```

On the Laserwriter IIf and IIg, these settings are adjusted with a push-button switch, not with DIP switches. The switch setting configurations are documented in the following table

Switch setting	Mode	Baud	Data	Stop	Parity	Handshaking
0	Postscript	9600	8	1	N	XON
1	HP PCL4	9600	8	1	N	DTR
2	Postscript	19200	8	1	N	XON
3	<inactive>					
4	Postscript	1200	7	1	N	XON
5	Postscript	9600	8	1	N	XON
6	Postscript	19200	8	1	N	XON
7	Postscript	1200	8	1	N	DTR

8 HP PCL4 1200 8 1 N XON

9 Postscript* 9600 8 1 N XON

*switch setting 9 sets printer to postscript binary

More information on changing parameters on the LaserWriters can be found in current Apple LaserWriter Reference manuals, and current PostScript Language Reference Manuals. See the manuals that came with your MS-DOS computer for more information on communication configuration.

Published Date: Feb 18, 2012

CLW 12/600 PS: Changing Configuration w/ DOS Compat Card

I am trying to change the configuration of Color LaserWriter 12/600 PS printer from the DOS Compatibility Card to "Send Data In Binary". However, I get an error message that there is not enough memory to do perform this operation. I have a 16MB SIMM installed with 614K free of conventional memory. My Windows resources are 85% free according to the Program Manager. What is going on?

This article has been archived and is no longer updated by Apple.

When setting up the Color LaserWriter 12/600 PS or the Color LaserWriter 12/660 PS printer to print from MS-DOS the printer is connected using LPT1.DOS. With this configuration the drivers for the Color LaserWriter 12/600 PS will not let you change the PostScript settings for the printer. To resolve this issue connect the printer to LPT1, make the appropriate changes in the PostScript section of the drivers setup. Then go back and change the connection settings to LPT1.DOS.

Published Date: Feb 18, 2012

PowerBook 150: Printing Issue with German 7.5 Mac OS

The PowerBook 150 has a German localized version of System 7.5 installed on it. When I try printing a file to a StyleWriter II I get this error message:

"Es ist ein Fehler im Drucker aufgetreten. *berpr*fen Sie Bitte, ob der Drucker korrekt angeschlossen ist. Starten Sie anschlie*end den Druckvorgang errent."

If I put a German localized version of System 7.1.1 on the PowerBook it works properly. Is there something wrong with the German Localized version of System 7.5?
This article has been archived and is no longer updated by Apple.
This issue is related to the localized version of the StyleWriter II driver v1.2 included with the German System 7.5 software.

In order to print using a PowerBook 150 and the German version of System 7.5, you need to use the StyleWriter 1200 v2.1.1 printer driver.

Note: This issue can occur on other Macintosh computers as well.

Since the German localized StyleWriter 1200 v2.1.1 printer driver is backward compatible and included with the German System 7.5 software, you can and should use this printer driver.
Published Date: Feb 18, 2012

Power Macintosh 7200/7500/8500/9500:Hard Drive Test Fails (2/96)

When I run hard drive diagnostics on a Power Macintosh 7200, 7500, 8500 or 9500 series computer using utilities such as SilverLining, FWB Hard Disk Toolkit, or MacTest Pro, the drives always seem to fail the tests after the computer has been on for 30 minutes or more. The hard drives seem to be working fine otherwise. What can I be doing wrong?

This article has been archived and is no longer updated by Apple.

It is likely that the Energy Saver software is making the drive spin-down during the testing, which causes the diagnostics to fail the drive. To avoid this, in the Energy Saver control panel, set the Sleep Setup option to "Never". This will prevent the software from spinning down the drive and allow the utility software to properly check the hard drive.

Published Date: Feb 18, 2012

PowerBook 200 & 500 Series: PPC Upgrade Issues

I have been experiencing some difficulties when upgrading customers' Macintosh PowerBook 200 or 500 series computers with the PowerPC (PPC) Upgrade:

1. The internal Global Village PowerPort Mercury no longer functions after the PPC daughter board or logic board upgrade is installed.

2. The computer freezes up when the PCMCIA card cage is installed in the left expansion bay.

3. Since the upgrade, the hard drive will not spin down, even though the icon in the Control Strip indicates that it has spun down

This article has been archived and is no longer updated by Apple.

Question: The internal Global Village PowerPort Mercury no longer functions after the PPC daughter board or logic board upgrade is installed.

Answer: The Global Village PowerPort Mercury modem will not function without the latest software update from Global Village Communications, Inc. Global Village has now released the software. Version 2.5.5 is needed for the internal modem in the PowerBook 500 series to work. Customers will need to contact Global Village for more information.

Question: The computer freezes up when the PCMCIA card cage is installed in the left expansion bay.

Answer: The PowerBook 500 series PPC upgrade card requires the Revision C PCMCIA card cage. After the PPC upgrade card has been installed, the computer will not startup if either of the prior revisions of the PCMCIA expansion card cage is inserted in the expansion bay. The Revision C cage is not yet available. It is expected it to be available from Apple by the end of May 1996

Question: Since the upgrade, the hard drive will not spin down, even though the icon in the Control Strip indicates that it has spun down.

Answer: To alleviate this symptom, you need to update the hard drive driver with Drive Setup 1.0.3 or later. Since the default hard disk driver for all PowerBook 200 and 500 series computers comes from Apple HD SC Setup, any such PowerBook upgraded to PowerPC will have this symptom unless the hard drive has been previously updated with Drive Setup 1.0.3 or later.

Published Date: Feb 18, 2012

PowerBook 190 & 5300: Password Security & Sleep Issue (9/96)

I am having a problem with the password security feature on the Macintosh PowerBook 190 computer. If the password security is turned on and is set to "ask password on wake", the computer will not sleep. How can I fix this?

This article has been archived and is no longer updated by Apple.

Issue

There is a known issue with the password security feature on the PowerBook 5300 and 190 series computers. If you open the Password Security control panel and set the password security is turned on and is set for ask password on wake, the unit will not sleep.

Workaround

One workaround is to turn off the "ask for password on wake" feature. If this is done, the PowerBook will be able to sleep.

Resolution

This issue is resolved by installing the System 7.5 Update 2.0 which includes the Password Security 1.0.3 control panel.

Article Change History:
05 Sep 1996 - Reworded for clarity.
18 Mar 1996 - Added information about resolution.

Published Date: Feb 18, 2012

Network Server 500 & 700: DRAM Configurations (3/96)

This article describes DRAM configurations, both parity and nonparity, for the Network Server 500 and 700 computers. This article has been archived and is no longer updated by Apple.
DRAM is provided in packages called Dual Inline Memory Modules, or DIMMs.

Your server can work with any of several DRAM configurations, depending on the density of the DRAM chips that are mounted on the DIMMs. The 168-pin parity DIMMs used in the Network Server are available from Apple in sizes of 8, 16, and 32 MB pairs, enabling you to increase Network Server memory by 16, 32, and 64 MB, respectively. Your server can have a maximum of 512 MB of memory. The DIMM operating range is 5 volts.

The Network Server 500 and 700 do not have any DRAM installed on the logic board. There exists 8 DIMM slots, where memory should be added in pairs. The maximum amount of memory that each server can hold is 512MB of RAM, obtained by placing 64MB DIMMs in all 8 DIMM slots.

IMPORTANT: The DIMMs should be 72-bit-wide 168-pin fast-paged mode, 60-nanosecond (ns) RAM access time or faster. DRAM must support byte writes. SIMMs and some DIMMs from older Macintosh computers will not work in the Network Server. The parity DIMMS should be installed in matched pairs (for example, two 16 MB DIMMs, one in slot 1A, the other in slot 1B).

Nonparity DRAM with 70-nanosecond DRAM access time or faster will work; however, if there is any nonparity DRAM installed, all server parity checking is disabled. Consult an Apple-authorized dealer or service provider for information and upgrades.

Parity DIMMs should be added in pairs, however it is not necessary. If they are added in pairs, 144 bit wide data path is gained by interleaving the parity DIMMs.

The Network Server 700 comes in two configurations, a 32 or 48 MB configuration. These configurations can be obtained in three ways based on the memory simm chip inventory available at the time of build. Unfortunately we can not predict or guarantee which configuration a customer will receive.

32MB: 1 32 MB parity DIMMs.
2 16 MB parity DIMMs.
4 8 MB parity DIMMs.

48MB: 1 32MB parity DIMM, and 1 16MB parity DIMM
2 16MB parity DIMMs, and 2 8MB parity DIMMS
3 16MB parity DIMMs

Article Change History:
22 Mar 1996 - Added information about configuration and DIMMs.
26 Feb 1996 - Changed distribution status.

Published Date: Feb 18, 2012

Network Server 500 & 700: Using a One Button Mouse (2/96)

This article describes how to obtain three button mouse functionality with a one button mouse.
This article has been archived and is no longer updated by Apple.
The mouse most commonly used with AIX has three buttons. If you are using a one-button mouse, you can use the arrow keys on the keyboard for the middle and right mouse buttons, as follows:

* If you need to use the right mouse button, press the Right Arrow key.
* If you need to use the middle mouse button, press the Left Arrow key.

Article Change History:
26 Feb 1996 - Changed distribution status.

Published Date: Feb 18, 2012

Network Server: Disk Management Utility & CommandShell

This article provides a brief description of the Disk Management Utility and CommandShell that run on a remote Macintosh computer.
This article has been archived and is no longer updated by Apple.
In addition to AIX 4.1.4, the software used to run the Network Server also includes the Disk Management Utility and CommandShell, which were created by Apple for use with AIX on the Network Server. These applications run on a remotely connected Macintosh computer. They connect to AIX daemon processes to allow you to perform system administration tasks.

- The Disk Management Utility
  This application allows you to manage all aspects of disk storage. It uses a graphical user interface that offers various views of the disk storage structure as well as methods of adding to, deleting from, and modifying the disk storage structure. For more information, see Chapter 8, "Managing File Storage With the Disk Management Utility" in the "Using AIX, AppleTalk Services, and Mac OS Utilities on the Apple Network Server" manual.

- CommandShell
  This application is a terminal emulator that runs multiple windows on your screen so that you can run different AIX applications or processes simultaneously. For more information, see Chapter 9, "Remote Access With CommandShell" in the "Using AIX, AppleTalk Services, and Mac OS Utilities on the Apple Network Server" manual.

Published Date: Feb 18, 2012

Network Server: Standard AIX System Management Tools

This article briefly describes the standard AIX system management tools found on the Network Server 500 and Network Server 700.
This article has been archived and is no longer updated by Apple.
In addition to conventional command-line system administration, AIX includes several system management tools and installation utilities, including the Install Assistant, System Management Interface Tool (SMIT), and Visual System Manager (VSM).

Installation Assistant

The Installation Assistant application guides you through customization tasks. The interface for Install Assistant provides step-by-step instructions for completing each task. The application tells you why you would want to perform certain tasks. If you are familiar with the tasks, you can skip the instructions.

SMIT

SMIT is a menu-based tool that constructs and executes commands from the options you choose. With SMIT you can:

* install, update, and maintain software
* configure devices
* configure disk storage units in volume groups and logical volumes
* make and extend file systems and paging space
* manage users and groups
* configure networks and communication applications
* configure printers
* identify system problems

VSM

VSM provides a graphical interface that lets you manage your system by directly manipulating icons. You can use tools in VSM to perform many of the same tasks as the SMIT application. The VSM tool includes the following applications:

* Device Manager, which displays system objects and dialog boxes that represent your system's device configuration database. This allows you to manage objects such as graphic adapters, ports, buses, and memory cards.
* Print Manager, which allows you to perform basic SMIT tasks on printer and print queues.
* Storage Manager, which lets you manage physical volumes, volume groups, logical volumes, and file systems through manipulation of icons.
* Users & Groups Manager, which lets you add users with simple templates. You can also set passwords and the default interface for users.

For information on using VSM, see Chapter 6, "Using System Administration Tools" in the "Using AIX, AppleTalk Services, and Mac OS Utilities on the Apple Network Server" manual.

The software for the Network Server also provides Mac OS utilities that provide a Macintosh interface for logical volume management, the Disk Management Utility, and terminal emulation, CommandShell.
Published Date: Feb 18, 2012

PlainTalk 1.4.x: Voice Rate Doesn‘t Work In SimpleText (2/96)

When I adjust the voice rate in the Speech control panel v1.4.x to speak faster or slower, the change will not take effect in SimpleText. SimpleText always speaks at the same rate regardless of what is set in the Speech control panel. Why?
This article has been archived and is no longer updated by Apple.
The Speech control panel that comes with PlainTalk 1.4.x has an option to adjust the rate of a particular voice. Macintosh Guide describes this function as follows:

"If you have a favorite computer voice, you can use the Voice option of the Speech control panel to specify it as the default voice. You can also indicate how fast the default voice will speak in most programs.

The default voice reads text aloud in most programs with text-to-speech capabilities, unless you specify otherwise. (Some programs have their own default voices and do not follow this setting.)"

When you set the rate in the "Voice" portion of the Speech control panel, you are setting the rate of the "Default voice." Only programs which offer a "Default voice" choice in the Voices sub-menu will be able to use this rate. SimpleText does not currently offer a Default Voice selection in the Voices sub-menu and therefore will not play voices at different rates, no matter what is selected in the Speech control panel.

This behavior may change in future versions of SimpleText or PlainTalk software.

Published Date: Feb 18, 2012

System 7.5: Testing Extensions Conflicts w/ Extension Mngr 2/96

This article describes how test for extension conflicts using the Extension Manager provided in System 7.5 and greater. There are several third-party extension managers available for the Macintosh, however none of them provide the ability to use System 7.5 ONLY extensions.
This article has been archived and is no longer updated by Apple.
Here are the steps you need reinstall the Apple Extension Manager (if necessary), and test for extension conflicts.

Step 1

Open the Control Panel folder located in your System folder.

Step 2

Find the Extensions Manager control panel. If you cannot find the Extensions Manager control panel, look for a folder inside your System folder called "Control Panels (disabled)".

Step 3

Launch the Extensions Manager

Step 4

Either write down all the items with a checkmark next to them, or use the Save Set option in the Sets menu to create a temporary set.

Step 5

Choose System 7.5 Only or System 7.5.2 Only from the Sets Menu.

Step 6

Close the Extensions Manager (at this point the Extensions Manager will move all non-System 7.5 Extension to the proper disabled folder.)

Step 7

Restart your Macintosh computer.

At this point your Macintosh computer is using only System 7.5 or System 7.5.2 extensions.

Step 8

Test your Macintosh. Verify that the problem does not reoccur with only System 7.5 extensions running.

Returning Your Previous Extensions
==========

Step 1

Open the Extensions Manager

Step 2

Either select the extensions and control panels previously installed, or if you saved a temporary set, choose that set from the Sets menu.

Step 3

Restart your Macintosh

Published Date: Feb 18, 2012

AppleVision 1710 Display: Diagonal Colored Lines (5/96)

I am seeing diagonal colored lines on my AppleVision 1710 display. Is this a known problem with this monitor? Has it been reported by anyone else?

This article has been archived and is no longer updated by Apple.

OVERVIEW
==========

Some customers have complained that they see 9 "sets" of horizontal lines about 1-inch apart, running from left to right at approximately a 30 degree angle on their AppleVision 1710 displays (not the AppleVision 1710AV Display).

Each set is made up of thin Blue, Green, and Red lines that are very close together. They are most apparent when looking at the black space on each side of the display and are more prominent on the left.

Suggested Steps For Examining The Display
==========

Some displays can show this symptom when the controls are set too high and can
be readjusted to acceptable levels with the from panel controls. To adjust the controls, perform the following steps:

Step 1

Connect the display to another computer, if possible, to verify that the problem follows the display.

Step 2

Check the screen brightness and contrast to verify that they are not set too high. Normal settings for contrast are between the middle point of the adjustment to maximum, and brightness between the lower point of the adjustment to middle.

If adjusting the brightness and contrast controls cannot remove the lines, contact an Authorized Apple Service Provider to have the AppleVision Display tested.

Article Change History:
02 May 1996 - Replace discussion with current status of issue.

Published Date: Feb 18, 2012

Power Macintosh: Freezes & Crashes with Microsoft Office (3/96)

I have a Macintosh PowerBook (Duo) 2300c running System 7.5.2 and System Update 2.0. I mostly use Microsoft Office applications with the 4.2 update patch installed.

The problem is that if Apple Menu Options (AMO) 1.1 loads at startup, Microsoft Word crashes and locks up the computer. If Apple Menu Options 1.0.2 is installed, I have no problems. Shouldn't the newer version of AMO fix problems, not cause them?

This article has been archived and is no longer updated by Apple.

Issue

The patch you mentioned from Microsoft called "Office4.2x Update for PowerMac version 1.0" is NOT compatible with System Update 2.0 for System 7.5.2 (which included AMO 1.1).

Symptoms

When launching Microsoft Office applications OR when using menus in Microsoft Office applications, the computer will freeze. Also when you run the PowerPC versions of Microsoft Excel (5.0) and Microsoft Word (6.0.1) under System 7.5.3, the applications crash occasionally. The only way out of the freeze is to shutdown/restart by powering off or resetting the computer.

Solution

The problem is with version 1.0 of the Office4.2x Update for PowerMac. If you install the newer version (1.0.1), the problem will be corrected.

"Office4.2x Update for PowerMac" version 1.0.1 is needed on all Power Macintosh computers, including all Power Macintosh PowerBook computers. It is available directly from Microsoft and from any online service where they post updates.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor, Microsoft, for additional information.

The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.

Article Change History:
15 Mar 1996 - Reviewed.
22 Feb 1996 - Updated with correct Microsoft product title.

Published Date: Feb 18, 2012

Network Server 500 and 700: Installing AIX

This article describes installing AIX on your Network Server 500 or Network Server 700.
This article has been archived and is no longer updated by Apple.

```
Before you install
==================

Before you begin the AIX installation process, do the following:

* Set up your hardware and connect any peripheral devices such as an additional hard disk drive.

* Locate your Installation CD.

* Obtain the Network Server key.

You must install the operating system on the local system (your Network Server). For information about setting
up your hardware, see "Setting Up Your Network Server."


Installing the AIX Base Operating System
========================================

Follow these steps to install the AIX Base Operating System.

Step 1
------
Turn on your Network Server.

Step 2
------
Insert the Installation CD into the drive.

Step 3
------
Turn the front key to the left (service) position.

Step 4
------
Restart your Network Server with the CD in the drive.

To restart your system, press the reset button. When your system starts, it will use the Installation CD as
the startup disk. A message appears asking you to define the system console.

Step 5
------
Press F1 and then Enter to use the local display as your console.

If you have a standard keyboard (without function keys), the top row of the keypad serves as the function keys
F1 through F4. If you have a standard keyboard, press the Clear key on the keypad instead of F1.

Step 6
------
When prompted, select a language for installation instructions.

For English, type 1 and press Enter.

The following message appears on your screen.

----------------------------------------------------------------
|  Welcome to the Base Operating System                        |
|                                                              |
|  Installation and Maintenance                                |
|                                                              |
|  Type the number of your choice and press Enter.             |
```

```
|  Choice is indicated by >>>.                                |
|                                                             |
|  >>> 1  Start install now with default settings             |
|      2  Change/show installation settings and install       |
|      3  Start maintenance mode for system recovery          |
|                                                             |
|      88 HELP ?                                              |
|      99 PREVIOUS MENU                                       |
-------------------------------------------------------------
```

Step 7

To begin installation, type 1 and press Enter.

To examine or modify installation settings, you can type 2 and press Enter.

The Installation and Settings screen appears.

```
-------------------------------------------------------------
|  Installation and Settings                                  |
|                                                             |
|  Either type 0 and press Enter to install with current      |
|  settings, or type the number of the setting you want to    |
|  change and press Enter.                                    |
|                                                             |
|  1. System Settings                                         |
|                                                             |
|     Method of installation.............Preservation        |
|     Disk where you want to install...........hdisk0        |
|                                                             |
|  2. Primary Language Environment Settings (after            |
|  install):                                                  |
|                                                             |
|     Cultural Convention......English (United States)        |
|     Language................English (United States)        |
|     Keyboard................English (United States)        |
|     Keyboard Type............Default                        |
|                                                             |
|  3. Install Trusted Computing Base...............No         |
|  >>> 0 Install AIX with current settings listed above.      |
|      88 Help ?                                              |
|      99 Previous Menu                                       |
|                                                             |
|  WARNING: Base Operating System installation will destroy   |
|  or impair recovery of some data on the destination disk    |
|  HDISK0.                                                    |
-------------------------------------------------------------
```

Use this screen to specify the following:

* the installation method
You can choose either the New and Complete Overwrite option or the Preservation Install option. The New and Complete Overwrite option erases all the information on your hard disk before installing the BOS. The Preservation Install option keeps the user data in the root volume group when it installs the BOS.

* the destination disk

* the language environment

* the Trusted Computing Base (TCB) setting
The Trusted Computing Base tries to ensure that the programs you run are trusted programs. If you want to change the TCB setting, do so during installation. This setting cannot be changed later.

Step 8

When you have selected the appropriate settings, type 0 and press Enter to begin the installation.

The Installing Base Operating System dialog box appears, which shows you the progress of the installation and informs you when the installation is complete. The installation process for the BOS takes about 20 to 30 minutes to complete.

Step 9

Turn the front key back to the upright (unlocked) position before the installation completes.

When the BOS installation completes, the installation program restarts your computer. The key must be in the upright position during this restart to boot from the hard disk instead of the CD. The BOS is now installed, and you can customize your installation.

Installing additional software

Once you have installed the BOS, you need to install additional software, such as the extensions to the AIX operating system provided by Apple Computer.

To install additional software, use the Installation Assistant. After you have installed the BOS, your computer restarts and automatically starts the Installation Assistant application. The Install Assistant application guides you through the installation process and provides step-by-step instructions for completing each task.

To install additional software using the Installation Assistant:

Step 1

Click Install Software Applications from the Installation Assistant Task List.

A menu appears with several items.

Step 2

Click Install a Bundle of Software (Easy Install).

An Easy Install dialog box appears for additional installation information.

Step 3

Specify the CD-ROM drive as the software source.

Step 4

Select the All Licensed option as the bundle of software to install.

To select this bundle, you need to scroll to the bottom of the list of bundles and click the All Licensed icon.

Step 5

Click Install/Update.

The installation process begins. This process requires about 45 to 55 minutes to complete.

Step 6

Click Exit.

When you click Exit, you exit Easy Install and return to the task list for the Installation Assistant.

```
Step 7
------
Click Tasks Completed -- Exit to AIX Login.

You must click the Tasks Completed option to quit this application to ensure proper installation of the
software.

NOTE: If you install from a terminal, a text-based Installation Assistant installs additional software. To
install the necessary software with the text-based Installation Assistant, choose the custom install option
and select the all_licensed bundle to install.
```

Published Date: Feb 18, 2012

Network Server 500 & 700: Setting Display Resolution (2/96)

This article describes setting your display resolution on your Network Server 500 or Network Server 700.
This article has been archived and is no longer updated by Apple.
After you've installed the operating system, you may want to customize your display resolution.

To set your screen preferences, you need to log in to AIX. To set your screen preference the following steps:

Step 1

Start SMIT.

To start SMIT, enter "smit" on the command line.

Step 2

Choose Devices.

The Devices menu appears.

Step 3

Choose Graphic Displays.

The Graphic Displays menu appears.

Step 4

Choose Display Resolution and Refresh Rate.

SMIT displays a list of available devices.

Step 5

Click the device name.

A dialog box appears with the attributes for the device.

Step 6

Specify your resolution and refresh rate.

Use the List button to display the available resolutions and refresh rates. For example, you can set your resolution and refresh rate to 1024x768@72Hz.

Step 7

Click OK.

Step 8

Restart your system.

Article Change History:
26 Feb 1996 - Changed distribution status.

Published Date: Feb 18, 2012

PowerBook 2300 & 5300: Do Not Need JLK Font Extension 3 (2/96)

The Read Me files for the PowerBook 5300 and 2300 series computers say that if the Japanese Language Kit (JLK) version 1.2 is installed, the Font Extension 3 file needs to be installed as well. The ReadMe file directs you to the Apple Extras folder to find the Font Extension 3 file, but it is not there. Why not?

This article has been archived and is no longer updated by Apple.

The reference to this file in the ReadMe for the PowerBook 5300 and 2300 series computers is in error. As of this writing, only the PowerBook 190 series computers require the Font Extension 3 file if Japanese Language Kit 1.2 is being used. On the PowerBook 190 series computers, the file can be found in the Apple Extras folder as referenced in the ReadMe.

The PowerBook 5300 and 2300 series computers do not require the Font Extension 3 file and the reference in the ReadMe should be ignored.

Published Date: Feb 18, 2012

Network Server: Backing Up System After BOS Install

This article describes backing up your system after installing the AIX basic operating system (BOS) on your Network Server 500 or 700.
This article has been archived and is no longer updated by Apple.
After you have installed the BOS and performed your initial customization and configuration, it is a good idea to create a system backup. You use a backup to restore a corrupted file system and recover data.

You can use the Installation Assistant to create a backup after your initial installation. You can also use the System Management Interface Tool (SMIT) to make a backup. SMIT uses the mksysb command to create a backup image that you can store either on a tape or in a file. If you choose to back up to tape, the backup program writes to tape a boot image that you can use for installation on other systems.

For more information on using SMIT, use InfoExplorer.

Configuring before the backup

Configure your system before you create a backup image if you want the image to be identical and have the same users, passwords, network addresses, and so on. However, if you plan to use the backup image to install the BOS on other Network Servers, create the backup image before configuring the system.

If you install the backup image on other systems, you might not want passwords and network addresses copied. Using the same passwords on many systems can create a security risk, and copying network addresses creates duplicate addresses and can disrupt communications.

The BOS installation program automatically installs only the device drivers required for the hardware configuration of the installed machine. Therefore, if you are installing a system backup on other machines, you may need to install additional device drivers on the source system before making the backup image.

To install additional device support on the source system, use the Install Additional Device Software SMIT menu item.

Creating a backup

Follow the steps below to create a system backup:

Step 1
Log in as root.

Step 2
Mount all file systems you want to back up.

Refer to the mount command for details.

Step 3
Free at least 8.8 MB of disk space in the /tmp directory or increase the size of your disk partition.

The mksysb command requires this working space. To determine the free space in the /tmp directory, use the df command. If necessary, use SMIT or the chfs command to change the size of the file system.

Step 4
Enter the following SMIT command:

smit mksysb

The Back Up the System screen appears.

Step 5
Select how you want to store the backup.

Press F4 to list available tape devices.

Step 6
If you want to create map files, select the Create Map Files field.

Map files match the physical partitions on a drive to its logical partitions.

Step 7

If you want to create a bootable backup, leave the default of yes. If you do not want a bootable backup, press Tab to change the option to no.

Step 8
Specify if you want to expand the /tmp directory if you have a bootable backup.

Step 9
Specify the number of blocks to write in a single output, or leave the field blank to accept the system default.

Step 10
For a file backup, press Enter. For a tape backup, insert a tape and press Enter.

The Command Status screen appears.

If you are creating a tape backup, the system may prompt you to insert another tape.

Step 11
When the backup completes, exit SMIT.

The backup is complete. If you created a bootable tape, it can start your system if you are ever unable to start it from the hard disk.

Verifying a backup tape

You can use the procedures in this section to view the contents of a backup tape. The contents list verifies most of the information on the tape, but it does not verify that the tape can be used for installations. The only way to verify a boot image on a tape is to try to start the system from it.

To verify a backup tape:

Step 1
Enter the following SMIT command:

smit lsmksysb

The List Files in a System Image screen appears.

Step 2
Type the number of blocks to read for your tape device, or leave the field blank to accept the system default.

Step 3
Either type the tape device name in the second field or accept the name provided.

Step 4
Press the Enter key.

The Command Status screen appears listing the contents of the backup tape.
Published Date: Feb 18, 2012

Power Macintosh 7200 Is Upgradeable to 7500 and 7600 (10/96)

I have a Power Macintosh 7200/90 computer. I know my computer does not have a processor card like the Power Macintosh 7500/100 computer, but will there still be a way I can upgrade my computer in the future?

This article has been archived and is no longer updated by Apple.

7500 Upgrade (**no longer available**)

At the time it was released, Apple announced that there would be an upgrade option available for the Power Macintosh 7200 series computers. This upgrade would be accomplished by installing a logic board upgrade. After the upgrade the Power Macintosh 7200 series computer would be the equivalent of the Power Macintosh 7500 series computers.

7600 Upgrade

The 7200 to 7600 Logic Board Upgrade* (M3842LL/A) will allow customers with a Power Macintosh 7200 to upgrade their systems to a Power Macintosh 7600. The Power Macintosh 7600 has replaced the Power Macintosh 7500.

*IMPORTANT NOTE:
This logic board upgrade ships WITHOUT a Processor Upgrade Card. You will have to purchase one separately. This gives you the opportunity to decide how fast a processor you want to add to your system. At the time of this writing there are two Processor Upgrade Cards available from Apple. Both have PowerPC 604 processors running at 120MHz (M4731LL/A) and a 132MHz (M4875LL/A).

Part numbers mentioned in this article are accurate as of this writing. Before ordering, verify that they are still correct as they are subject to change. Contact your Apple reseller for the latest information.

Article Change History:
04 Oct 1996 - Updated information to include 7600.

Published Date: Feb 18, 2012

Apple II SCSI Card: Cable Pinouts (11/96)

Listed below are the pinout for the cable between the Apple II SCSI card and any standard SCSI system cable.

This article has been archived and is no longer updated by Apple.

SCSI Card port SCSI System Cable
DB-25 connector Apple 50 pin connector
--- ---

Pin Signal Pin
--- --- ---
1 REQ' Request 49
2 MSG' Message 46
3 I/O' 50
4 RST' Reset 45
5 ACK' Acknowledge 44
6 BSY' Busy 43
7 GND Ground 16,18,19
8 DB0' Data Line 0 26
9 GND Ground 20,21,22
10 DB3' Data Line 3 29
11 DB5' Data Line 5 31
12 DB6' Data Line 6 32
13 DB7' Data Line 7 33
14 GND Ground 1,2,3
15 C/D' Carrier Detect 48
16 GND Ground 4,5,6
17 ATN' Attention 41
18 GND Ground 7,8,9
18 DIFFSENS-GND 11
19 SEL' Select 47
20 DBP' Parity 34
21 DB1' Data Line 1 27
22 DB2' Data Line 2 28
23 DB4' Data Line 4 30
24 GND Ground 23,24,25
25 TERMPWR 38

Important SCSI Card Information
==========

The prime (') next to the signal name indicates the signal voltage levels are negative, "low true". The SCSI port uses -5V logic levels.

Because the SCSI port is a DB-25 connector, it looks like a RS-232 port but is NOT a RS-232 port. DO NOT plug any RS-232 device into the SCSI port. Doing so can damage the 5380 chip on the card.

Article Change History:
15 Nov 1996 - Reviewed for technical accuracy, revised formatting.
Published Date: Feb 18, 2012

Network Server 500 & 700: Hot Swappable Drives & RAID (9/96)

This article describes the need for an optional Network Server PCI RAID Card at RAID level 5 for hot swappable drives.
This article has been archived and is no longer updated by Apple.
The Network Server 500 and Network Server 700 contain a flexible SCSI backplane that allows the easy removal and insertion of SCSI devices. The removal or insertion of a SCSI device while the system is running causes a reset of the SCSI bus. The ability to handle the SCSI reset is operating-system dependent. AIX does not have the ability to handle this reset, which may lead to data corruption when the reset occurs. The optional Network Server PCI RAID Card, M4030Z/A, buffers the AIX operating system from the consequences of drive insertion and removal when the drive is part of a RAID configuration setup for RAID Level 5.

In summary: hot-swapping drives on the Network Server 500 and 700 requires that the drives be part of a RAID Level 5 configuration with the Apple Network Server PCI RAID Disk Array Card.

This article was published in the Information Alley on 13 September 1996.

Article Change History:
12 Sep 1996 - Added more details.
26 Feb 1996 - Changed distribution status.

Published Date: Feb 18, 2012

QuickTake Camera: Battery Life Improvement Hints (6/96)

How long should my batteries in my QuickTake camera last? I understand that there are factors that affect battery usage, such as the flash and image downloading, but is there some general guideline for the batteries life?
This article has been archived and is no longer updated by Apple.
The QuickTake Battery life using alkaline batteries is approximately 50 images, 50% of which are flash images, including image transfer to a computer. Battery life using NICad (Eveready CH15) batteries is approximately around 100 images, 50% of which are flash images, including image transfer to a host.

There are many factors that can affect battery life with any product and it is very important that you use this information when calculating the total number of pictures the QuickTake Camera should create.

Battery Recommendations for QuickTake Cameras

Here are a few battery recommendations for the Quicktake Cameras:

* Alkaline batteries exhibit an extremely short life when used with the QuickTake Cameras and should only be used when NiCad batteries (rechargable batteries) are not available.

* The best and preferred recommendation for lasting performance is to use lithium batteries. The second best choice is to use NiCad batteries. The reasons for these recommendations are directly related to the current/voltage demands of the camera and the individual battery characteristics.

Improving Battery Performance

* When you replace batteries, replace all the batteries in the camera. Do not mix old and new batteries. If you use a mix of new and old batteries, you hinder the performance of the fresh batteries.

* If you are using rechargeable NiCad batteries, replace batteries that are running low with a complete set of fully charged batteries.

* Batteries work best when the contact surfaces are clean. If necessary, clean these surfaces by gently rubbing with a clean pencil eraser or a cloth.

Article Change History:
17 Jun 1996 - Updated for technical accuracy.

Published Date: Feb 18, 2012

Accelerated Graphics Card: WordPerfect Corruption Issue

Sometimes when using WordPerfect with the Apple Accelerated Graphics Card in the Power Macintosh 9500 the WordPerfect toolbars become corrupted after they overlay each other.

The following software has been posted to the Misc. directory of Apple Software Updates: http://www.info.apple.com/swupdates
Name: Graphics Accelerator
Version: 1.0.7
Released: October 7, 1996
For Power Macintosh 9500 with Accelerated Graphics Card
This article has been archived and is no longer updated by Apple.
This issue appears only when using the Apple Accelerated Graphics Card with WordPerfect, and when WordPerfect toolbars are enabled from left to right overlaying each other. All other display functions work properly. Other video cards do not have this problem.

The Apple Accelerated Graphics Card is based on the mach64 Graphics Accelerator card from ATI Technologies, Inc. A newer version (1.0.7) of the Graphics Accelerator extension has been developed by ATI to fix this problem. Apple has posted the new extension to all Apple Software Updates sites in the Unsupported section.

Since the new extension was developed by ATI and was not fully tested by Apple, it is not officially supported by Apple. It has been posted for customer convenience. The changes in this version are minimal and should not cause any stability or performance problems.

If you encounter any problems with this version of the Graphics Accelerator extension, remove it from the Extensions folder and replace it with the older version.
Published Date: Feb 18, 2012

Newton 2.0 OS: Recommended Modems List

To assist our customers in meeting their communications needs, Apple has compiled a listing of recomended modems for use with the MessagePad 120 with the Newton 2.0 Operating System.
This article has been archived and is no longer updated by Apple.
While a sample of each of these modems has been tested by Apple, modem manufacturer specifications are subject to change without notice, resulting in potential incompatibilities. Accordingly, Apple Computer, Inc. cannot guarantee the operability of any individual modem and will not be liable for damages resulting from the use of this information. Not responsible for typographical errors. Please contact the manufacturer for additional information.
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Manufacturer	Model	Modem Setup	Type
AirPlex	FAXMODEM	Hayes EC	PC
Apple	Newton Fax Modem (internal)	Newton Modem	PC
Apple	Newton Fax Modem (external)	Newton Modem	EXT
Apex Data	Mobile Plus 14.4	Hayes EC	PC
AT&T	KIT 3760-B1-261 (landline only)	Hayes EC	PC
DataRace	RediCard version 2	Hayes EC	PC
Dr. Neuhaus	Gypsy GSM	GSM Default	PC
Ericsson	AC14 Mobile Phone Modem	Hayes EC	PC
Hayes	Optima 144+FAX PC Card	Hayes EC	PC
Hayes	Optima 288 V.34 +FAX PC Card	Hayes 28.8	PC
Motorola	Power 14.4 PCMCIA	Moto Landline/Cellular	PC
Motorola	CELLect 14.4 PCMCIA	Moto Landline/Cellular	PC
Nokia	DTP-2 (GSM)	Nokia GSM Normal	PC
NovaLink	NovaModem 144	Hayes EC	PC
NovaLink	Novamodem 288	Hayes 28.8	PC
Intel	Faxmodem 14.4	Hayes 28.8	PC
Supra	COMcard 144	Hayes EC	PC
Supra	28.8	Hayes 28.8	EXT

Published Date: Feb 18, 2012

Network Server 500 & 700: Comparison Chart

This article is a comparison chart for the Network Server 500 and 700.
This article has been archived and is no longer updated by Apple.
Here is a chart comparing the Network Server 500 and 700.

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	Network Server 500/132	**Network Server 700/150**
Processor Type	PPC 604	PPC 604
Processor Speed	132MHz	150MHz
CPU Cards	Yes	Yes
L2 Cache	512K	1MB
Main Memory (shipped with)	32MB	32 or 48MB*
Main Memory (expandable to)	512MB	512MB
PCI Slots	6	6
Internal Storage Devices Supported	7	9
Total Internal Storage Capacity	24GB	32GB
Total Overall Storage Capacity	332GB	340GB
Apple SuperDrive	Yes	Yes
AppleCD 600i	Yes	Yes
* Depending on system ordered		

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Published Date: Feb 18, 2012

AppleVision Display Software: ReadMe File (1/97)

This article contains the Read Me file for the AppleVision Display Software, which is designed for the AppleVision 1710 Display and AppleVision 1710AV Display.

This article has been archived and is no longer updated by Apple.

Information About Your AppleVision Display Software

This document contains important reminders and the latest product information.

Installation and Setup Tips
==========

Follow the instructions in the manual that came with your display to install the AppleVision software. Keep the following tips in mind when setting up and working with your display and display software:

* If you upgrade your system software, you must reinstall the AppleVision display software.

* With some system software and hardware configurations, your screen may not redraw correctly during the boot process. This will not affect display performance.

* Changes you make to screen geometry apply only to the display's current resolution. Geometry settings are saved with the resolution.

Sound and Video Tips
==========

If you purchased a display with speakers and built-in microphone, the following tips may help you:

* The Sound control panel controls your computer's sound. The AppleVision Setup control panel controls the display's sound. When you make changes to sound input and output sources, be sure to use the appropriate control panel.

* If you're using system software earlier than version 7.5, your computer may have a long restart time. To improve restart time, change the name of the AppleVision system extension so it installs after QuickTime. (Pick a name that appears alphabetically after "QuickTime.")

* Whenever you change from an AppleVision display on your computer to a small-screen, fixed-resolution display (14" or less), set the resolution on the AppleVision display to 640x480 before switching off your computer and disconnecting the display. This will prevent scrambled video during the boot process on the small-screen display.

* If you use the AppleVision display with a Macintosh Quadra 630, Macintosh LC 630, Performa 630, or Power Macintosh 6200 computer, make sure you specify the correct sound input source in the Sound control panel. Choose Line In, not Microphone.

Notes About Specific Application Programs
==========

* Some application programs do not properly support resolution changes you make to your display. You may have to close and restart your program for the program to recognize the resolution changes.

Article Change History:
29 Jan 1997 - Added AppleVision 1710 and AppleVision 1710AV to article.
Published Date: Feb 18, 2012

Color StyleWriter 2400: Software v2.1.2 ReadMe File (2/96)

This article contains the Read Me file for the Color StyleWriter 2400 v2.1.2 software.
This article has been archived and is no longer updated by Apple.
Information About Your Color StyleWriter 2400 Printer
==========

This document contains important reminders and some information that's not in the user manual.

Installation and Setup Tips
==========

Follow the instructions in the user manual to install the Color StyleWriter 2400 software. Keep the following tips in mind when setting up and working with your new software:

* If you are having problems during installation, restart with Extensions off and try installing again.

* After installing the printing software, you must create a desktop printer. To do so, select the Color SW 2400 in the Chooser, then close the Chooser.

* If you have a PowerBook computer, see "Special Information for PowerBook Users" in the section "Telling Your Computer to Use the Color StyleWriter 2400" in Chapter 1 of the user manual.

* If you get the message, "Serial port in use by another application, please quit the application and try again," restart your Macintosh before trying to print again.

* If you upgrade your system software, you must reinstall the Color StyleWriter 2400 software.

* Close the Chooser after making any changes to it.

* See the Troubleshooting chapter in the Color StyleWriter 2400 user manual for more information.

About Desktop Printing
==========

Your new printing software comes with Desktop PrintMonitor version 1.0.3. You use Desktop PrintMonitor to create printer icons (or "desktop printers") on your Macintosh Operating System (Mac OS) desktop. You can print a document by simply dragging it to a desktop printer icon. Desktop printers also give you more control over printing, including setting printing priorities and choosing specific times for printing.

Installed Desktop Printing Files
==========

The following files are installed for desktop printing on computers that use version 7.1 or later of the Mac OS:

* Desktop PrintMonitor, Desktop Printer Spooler, and Desktop Printer Extension are placed in the Extensions folder.
* If your computer has version 7.1.1 or 7.1.2 of the Mac OS, Finder 7.1.3 is placed in your System Folder and Finder Help 7.1.3 is placed in the Extensions folder.
* If your system has version 7.1.1 or 7.1.2 of the Mac OS, these files are placed in the Extensions folder: Thread Manager 2.1, Network Extension 7.1.3, Macintosh Drag and Drop, and Dragging Enabler.

Creating Desktop Printers
==========

You create desktop printers by selecting a printer in the Chooser. A desktop printer icon appears on your desktop when you close the Chooser.

You can drag this icon to any position you want on your desktop. You cannot move it off the desktop.
If you want, you can select other printers in the Chooser and create other desktop printers for easy access. You must close the Chooser each time to create a desktop printer.

The last desktop printer created becomes the default printer. Your documents will automatically be printed on the default printer.

Printing With Desktop Printers

You can print documents within your applications as you normally do. You can also print documents without leaving the Finder, using one of the two methods described here. These methods are particularly efficient when you have a number of documents created by the same application that you want to print at once.

* Drag the icons of the documents (all created by the same application) to the desktop icon of the printer you want to use.
* Select the icons of the documents you want to print and choose the Print command from the File menu.

The computer will show you the Print dialog box so you can choose printing options. Make your choices, then click the Print button.

After a few moments, the document starts to print. If background printing is turned on, you can continue working while the document is printing.

Selecting a Default Printer

If you have more than one printer available, you can select which you want to use. The printer you select is called the "default printer." All your documents will be printed on the default printer until you select a new one.

To change the default printer, use one of these three methods:

* Drag the document you want to print to a desktop printer icon, and it will automatically become the default printer.
* Select the desktop printer icon and use the Printing menu to set the printer as the default.
* Select a new printer using the Chooser.

Note:
Switching between printers may change how much information you can fit on a page. It's best to choose a printer before you spend much time formatting the document.

Working With Desktop Printer Icons

Desktop printer icons change to indicate printing status:

You can do the following with desktop printer icons:

* Throw away the icon. Drag the icon to the Trash. You can't throw away a desktop printer icon while the printer is printing a document. (You can create another desktop printer icon for that printer whenever you like.)

Note:
You must always have at least one printer icon on your desktop. If you throw away the last icon, it will immediately be created again.

* Rename the icon. Rename the icon as you would any other Finder icon. Click the name to highlight it, then type the new name. This changes the name of the icon, not the name of the printer.

* Move the icon. You may drag the icon anywhere you like on the desktop. However, you may not move it off the desktop.

* Create an alias for the icon. You may create an alias for the icon as you would any Finder icon, by selecting the icon and choosing the Make Alias command from the File menu. The alias may be moved anywhere on or off the desktop.

Monitoring Printing

If you are using background printing, you can use the desktop printer features to monitor and control the documents that are waiting to print. To learn how to turn background printing on and off, see your printer manual.

To monitor the printing of documents:

Step 1

Double-click the desktop printer icon you're interested in.

A window opens listing the documents that are printing or waiting to print.

Watching the status messages can be helpful when troubleshooting printing problems. When more than one job is waiting to be printed, a list of print jobs appears in the waiting list, showing the order in which they will be printed (when sorted by print time.)

Step 2

Choose what you'd like to do.

* To cancel a print request, select it by clicking its icon and click the
Remove button.

You can select only the currently printing document by clicking its icon. (You can select more than one item at a time by holding down the Shift key while clicking.) You can also drag the icon for the print request to the Trash. Note that these methods delete only the print request (also referred to as a spool file), not the document itself.

* To put a print request on hold, select it and click the Hold button.

The print request will stay on hold until you select it again and click the Resume button. You can also put the document that's currently printing on hold by dragging it to the list of documents waiting to print (lower part of the window).

* To indicate that a print request is urgent, select it and choose Set Print Time from the Printing menu. In the dialog box that opens, click Urgent.

* To indicate that a print request should not print until a future time, select it and choose Set Print Time from the Printing menu. In the dialog box that opens, click At Time, then set the time you want.

* To change the order of the items waiting to print, move their place in the list by dragging their titles up or down in the list.

* To sort the list of documents waiting to print, click the title of the column you want to sort by.

For example, to sort by the name of the document, click "Document Name." (You can also sort by choosing the commands in the View menu.) The column title you sorted by is underlined. Sorting the items does not change the order in which they will print. To see that order, sort by Print Time.

* To temporarily stop all documents from printing on this printer, choose Stop Print Queue from the Printing menu.

To resume using the printer, choose Start Print Queue from the Printing menu. If the Desktop PrintMonitor window is open, you can begin printing the document from the first page by Option-clicking the Resume button (holding down the Option key while clicking the Resume button).

Shortcut: The Printing menu for starting and stopping the print queue is available without opening the window for the printer, as long as the printer's icon is selected on the desktop.

* To move a print request from one printer to another printer of the same type (for example, from a StyleWriter 1200 to a StyleWriter 2400), drag the icon for the print request to the icon of the printer where you want to move it.

The printing software won't let you move a print request to an incompatible printer. For example, you can't move a request from a LaserWriter printer to a StyleWriter printer.

Turning the Manual Feed Notification On or Off
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When you install the printer software, the Desktop PrintMonitor is set up to notify you about manually feeding paper the same way your PrintMonitor was set. For example, if you turned off notification for manual feeding in your PrintMonitor, the Desktop PrintMonitor will also have

manual feed notification turned off.

If you want to change how the Desktop PrintMonitor notifies you about manual feeding, follow this procedure:

Step 1

Hold down the Shift key and restart your computer, keeping the Shift key depressed until the message "Extensions off" or your normal desktop appears.

Step 2

Open your System Folder and then open your Extensions folder.

Step 3

Double-click the PrintMonitor application.

Step 4

Choose Preferences from the File menu.

Step 5

Select your manual feed option and click OK.

Step 6

Close the PrintMonitor.

Step 7

Restart your computer.

Turning Off or Removing the Desktop Printing Software
==========

Removing a Desktop Printer Icon

You can remove an individual desktop printer icon by dragging it into the trash. If you have only one desktop printer, you can't get rid of the icon by dragging it to the Trash. (The icon will reappear if you do.) To get rid of the desktop printer, you must first select a different desktop printer as the default printer and then drag the desktop printer icon to the Trash. If you don't want to use desktop printer icons, see "Turning Off the Desktop PrintMonitor"or "Removing Desktop Printing Software" for information about how to remove the desktop printer software.

Turning Off the Desktop PrintMonitor

If you don't want to use desktop printers, you can turn off the Desktop PrintMonitor using the Extensions Manager (available on Macintosh System 7.5, the current version of the Mac OS).

To turn off the Desktop PrintMonitor:

Step 1

Open the Extensions Manager control panel in the Control Panels folder.

Step 2

Click to deselect (uncheck) the Desktop PrintMonitor, Desktop Printer Extension, and Desktop Printer Spooler extensions in the panel.

Step 3

Click the close box to close the control panel.

Step 4

Restart your computer.

Removing the Desktop Printing Software

The desktop printing software uses both the Desktop PrintMonitor and the PrintMonitor software. The Desktop PrintMonitor requires 200-400K bytes more free system memory in addition to the memory required by the PrintMonitor. If you don't want to use the desktop printing software, you can remove it.

To remove desktop printing software:

Step 1

Restart your computer with the extensions off by holding down the Shift key and choosing Restart from the Special menu. Hold the Shift key down until the message "Extensions off" appears or until your normal desktop appears.

Step 2

Drag the following files from the Extensions folder to the Trash:

- Desktop PrintMonitor 1.0.3
- Desktop Printer Spooler 1.0.3
- Desktop Printer Extension 1.0.3

Step 3

Restart your computer.

Using Save or Open with Desktop Printers

When you choose Save or Open in your application programs, you will see your desktop printers listed as if they were folders, but you should not save or open any documents in them. If you do, you will not be able to access your documents.

Having More Than Five Desktop Printers

If you want to have more than five or six desktop printers, you must increase the Desktop PrintMonitor memory allocation by 12K for each additional desktop printer you want. To do so, select its icon (it's in the Extensions folder inside the System Folder), choose Get Info, type a larger number in the Preferred Size box, then close the Get Info window.

About Creating Duplicate Desktop Printer Icons

If you use different versions of the printer software and print using the Desktop PrintMonitor, you may create duplicate desktop printer icons for the same printer. For example, say you select between two versions of the StyleWriter software. If you select your printer in the Chooser using one version, and select it later using the another version, two desktop printer icons will appear for that printer. To avoid creating confusing duplicate printer icons, primarily use one version of your printer software, or rename the icons with distinguishing names.

Using Desktop PrintMonitor on a Non-English System

If no desktop printer icon appears after you install the printer software, it may mean the Installer installed PrintMonitor 7.1.2 and did not install the Desktop PrintMonitor. (PrintMonitor 7.1.2 is installed if you have an older version of the PrintMonitor. Newer versions of the PrintMonitor are not replaced.) You have three choices:

* Use PrintMonitor 7.1.2 (or a later version)

* Obtain a set of installation disks of the printer software in the
language of your system software from your Apple-authorized dealer and

install it.

* Upgrade your system software to System 7.5 and install the printing software again. An English-language version of the Desktop PrintMonitor is installed.

Low-Memory Troubleshooting

If you notice any of these symptoms, your Macintosh may be running out of memory.

* The edges of some letters appear jagged.
* The Macintosh displays "out of memory" warning messages.
* Some portions of a document don't print.
* Some text prints in the Geneva font instead of the font you selected.

To make more memory available, try these suggestions:

* Have only one program open at a time.

* Increase the amount of memory you give to the program you're printing from by using the Get Info command (as explained in the documentation that came with your Macintosh).

* Use the Chooser to turn off background printing, as explained in Chapter 2 of the user manual.

* Remove any watermarks from your document.

* In the Page Setup dialog box, choose Portrait (normal) orientation instead of Landscape (sideways) orientation.

* Choose Normal in the Print dialog box and Pattern in the Print Options dialog box.

* Desktop printing requires more memory to print than the old PrintMonitor. You can remove desktop printing by using the custom install option called "PrintMonitor 7.1 (no Desktop Printing)."

* When you print in the background, if you often get a message that there is not enough memory to print on a certain desktop printer, you can give that desktop printer more memory by selecting its icon and choosing the Get Info command. Then increase the number in the Preferred Size box. (For more information on increasing a program's memory, see the documentation that came with your Macintosh.)

* As long as there are any print requests waiting to be printed, Desktop PrintMonitor (the desktop printing software) remains active in memory, even when background printing is off. If you are not printing in the background, you can remove all print requests from your desktop printer queues to reduce memory requirements by 160K.

* Use the Memory control panel to turn on virtual memory, as explained in the documentation that came with your Macintosh.

* Try a program like RamDoubler.

* See the "Troubleshooting" chapter in the Color StyleWriter 2400 user manual for more suggestions.

Color Printing Tips

* When printing very light colors in grayscale mode, you may see thin lines fade or break up. If this happens, pick a darker color for the affected object, or try printing with the Pattern halftoning option selected. (In the Print dialog box, click the Color button, then select the Pattern option.)

* If you print a document that should have a smooth gradient from one color or shade to another and notice an unexpected color change, it may be that one of the colors in the gradient cannot be reproduced by the printer. Try using a different matching method in the Color Options dialog box, or try turning off ColorSync.

* If the blues on your printout appear purple, turn on ColorSync in the Color dialog box.

* In some programs, colors on the screen may look solid but contain tiny black dots when printed. To print solid blocks of color without these black dots, use the Business Graphics color-matching method. In the Print dialog box, click the Color button. In the Color Options dialog box that appears, make sure there is an X in the ColorSync box, and then select Business Graphics from the Matching Method pop-up menu.

If your colors still have too many black dots, create the document in a program that allows you to define each color, then make the color fully saturated. For example, to print yellow without any black dots in it, use your program to define the yellow you are using as 100% red and 100% green without any blue.

Watermark Tips

When using a watermark, make sure the font that is in the watermark file is also in the Fonts folder inside your System Folder. If you give the watermark file to someone, they also need any fonts that it uses in order to use the watermark in their own documents.

Tips on Sharing Your Printer

* To avoid confusion, be sure to give each shared Color StyleWriter 2400 printer a unique name. If you have more than one printer with the same name in a single AppleTalk zone, the Chooser will display only one of them.

* To clean the print head of a shared Color StyleWriter 2400, you must send the request from the Macintosh that is directly connected to the printer.

Other Printing Tips

* If you see very thin stripes near the bottom of your printout, use your application program to make your bottom margin larger. A bottom margin of 0.8 inches or greater is best.

* For best results when printing envelopes, do not put images or text along the bottom edge of the envelope.

Printing With QuickDraw GX

If you have QuickDraw GX on your system, the Color StyleWriter 2400 Installer will automatically install everything you need for printing with QuickDraw GX.

* If you installed QuickDraw GX after you set up your Color StyleWriter 2400, you must reinstall the Color StyleWriter 2400 software.

* After you click the Print button to print a complex document, you may notice a delay before you see printer activity.

If printing with QuickDraw GX doesn't produce satisfactory results, you can use the GX Helper utility to turn off QuickDraw GX and use the regular QuickDraw printing software. For more information, see Appendix E of your user manual.

Using the Color StyleWriter 2400 With Application Programs
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If you have problems printing from a specific program, it may be a problem in that program. If you have problems, contact the publisher of the program. In some cases a newer, more compatible version of the software may be available.

* In some programs*such as Microsoft Word 5.1, WordPerfect 3.0, ClarisWorks 2.0, and Symantec GreatWorks 2.0*rotated text created within the program may print with jagged edges. For best results, create the rotated text in another program and paste it in.

Notes About Specific Programs

The following list describes some special situations that you should be aware of when working with specific programs. (There may be other problems with these programs or with other programs not mentioned in this document).

AdobeType Manager

* When you install version 3.8.1 or later of Adobe Type Manager, some system fonts are removed from your system and placed in a folder called "De-installed Fonts1." If you later turn off ATM, drag all the fonts in the "De-installed Fonts1" folder back into the Fonts folder inside the System folder to prevent characters with jagged edges.

* If you rotate Adobe Type 1 fonts in FreeHand 3.11 and then paste them into another program, your Macintosh will display a system error when you try to print.

* If you print rotated Adobe Type 1 fonts using FrameMaker 4.0, your Macintosh will display a system error.

* If you print rotated Adobe Type 1 fonts that are also bold or italic using Intellidraw, and text will not print, you probably need to upgrade to ATM version 3.8.1.

* If you get incorrect output when you try to print rotated and flipped Adobe Type 1 fonts, try using a TrueType font instead.

* When Adobe Type 1 fonts are both outlined and underlined, characters may be misprinted (incorrect locations, multiple characters in same location, lower portions of characters shift left or right).

Adobe Dimensions

* Always print your documents in the foreground when using Adobe Dimensions. To turn background printing off, open the Chooser, click Off for Background Printing. If you accidentially print in background and your Macintosh crashes, you may have to restart with extensions off, open your desktop printer and drag all print requests from the queue.

Adobe Illustrator 5.0

* Unless you have at least 10 MB of free disk space on your startup disk, you will see a "disk is full" error message when you try to print. The more complex the document, the more space you need.

* If banding occurs in gradient fills, try printing with the Pattern halftoning option selected. (In the print dialog box, click the Color button, then select the Pattern option.)

Aldus PageMaker 5.0

* To see the Color StyleWriter 2400 Page Setup and Print dialog boxes, click the Setup button in PageMaker's Print dialog box.

* When printing rotated PICT or EPS images, be sure background printing is turned on in the Chooser. If you must print in the foreground, rotate the image in another program, then import it into PageMaker in the orientation in which you plan to print it.

* PageMaker 5.0 prints pages in reverse order on the Color StyleWriter 2400, which may be particularly confusing if you are using 2-up or 4-up printing. To print the first page first, turn on the Reverse Order option in the Print dialog box.

ClarisDraw 1.0v1

* If you have problems printing in the background, you may want to increase the Desktop PrintMonitor extension's preferred size to 300K (by using the Get Info command, as explained in the instructions that came with your Macintosh). The extension is located in the Extensions folder inside your System Folder.

ClarisImpact 1.0v1

* If you have problems printing ClarisImpact documents from a Power Macintosh, upgrade to ClarisImpact 1.0v3.

DeltaGraph Pro 2.0.3

* When printing charts, always click the QuickDraw button in the Print dialog box.

FrameMaker 4.0

* Some FrameMaker documents, including some the Concern.Doc sample document that comes with the program, will not print with version 3.8.1 of Adobe Type Manger. If you try to print a document and your system crashes, try printing again after turning off or removing the ATM software.

* If you import text as a graphic, you can crop it on the screen but it will print uncropped.

* Rotated text in large point sizes will print as a gray box. For best results, break up the text blocks into smaller pieces or individual characters.

MacDraw II 1.1 v2

* To print in color, be sure to turn on the Print Color Patterns in the Print Options dialog box and select Color in the Image pop-up menu in the Print dialog box.

* If you experience problems when printing your MacDraw II document with layout of 2-Up or 4-Up, try using a different program, like ClarisDraw.

Microsoft Excel 4.0 and Lotus 1-2-3

* To print in color, be sure to check the Print Using Color option in the Print dialog box and select Color in the Image pop-up menu.

Microsoft Excel 5.0

* If colored cell borders drop out when printing, try using yellow or brown or you can use the line tool in the Drawing tools palatte.

* When you choose the Page Setup command, you get Excel's own version of the Page Setup dialog box. Click the Options button to see the version of the dialog box with the special Color StyleWriter 2400 options.

Microsoft Word 6.0

* When you cancel a print request from MicroSoft Word 6.0, some of the document will still print. If you are using desktop printing, try stopping the print queue on your desktop printer and then removing the print request instead of cancelling. To do this, click on you desktop printer icon and select Stop Print Queue from the Printing menu.

Ofoto 2.0

* For best results, make a custom calibration for the Color StyleWriter 2400 and click the Custom Profile button.

The Print Shop v1.3.2

* To print in color, select ImageWriter in the Preferences dialog box.

Print Shop Deluxe 1.0

* Make sure you open your document before printing.

SoftWindows 1.0

* You may not be able to print to your Color StyleWriter 2400 from SoftWindows. Contact Insignia Solutions Inc. for more information on printing from SoftWindows.

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Studio/8 v 2.0 and Studio/32 v 1.2

* Always click the QuickDraw button in the Print dialog box.

Published Date: Feb 18, 2012

StyleWriter 1200: Software v2.1.2 Readme (2/96)

This article contains the read me file for the StyleWriter 1200 printer.
This article has been archived and is no longer updated by Apple.
Information About Your StyleWriter 1200 Printer

This document contains important reminders and some information that's not in the user manual.

Installation and Setup Tips

Follow the instructions in the user manual to install the StyleWriter 1200 software. Keep the following tips in mind when setting up and working with your new software:

* After installing the printing software, you must create a desktop printer. To do so, select the StyleWriter 1200 in the Chooser, then close the Chooser.

* If you have a PowerBook computer, see "Special Information for PowerBook Users" in the section "Telling Your Computer to Use the StyleWriter 1200" in Chapter 1 of the user manual.

* If you get the message, "Serial port in use by another application, please quit the application and try again," restart your Macintosh before trying to print again.

* If you upgrade your system software, you must reinstall the StyleWriter 1200 software.

* Close the Chooser after making any changes to it.

* See the Troubleshooting chapter in the StyleWriter 1200 user manual for more information.

* If you have version 7.1 or 7.1.1 of the Macintosh Operating System (Mac OS) in any language besides English, the Installer program's Easy Install procedure will replace your version of the Finder with an English-language version. You can avoid this by using the Installer's Custom Install feature (instead of the Easy Install feature) to install PrintMonitor 7.1 and QuickDraw Printer Software. In that case, however, the desktop printer features will be unavailable to you.

About Desktop Printing

Your new printing software comes with Desktop PrintMonitor version 1.0.3. You use Desktop PrintMonitor to create printer icons (or "desktop printers") on your Mac OS desktop. You can print a document by simply dragging it to a desktop printer icon. Desktop printers also give you more control over printing, including setting printing priorities and choosing specific times for printing.

Installed Desktop Printing Files

The following files are installed for desktop printing on computers that use version 7.1 or later of the Mac OS:

* Desktop PrintMonitor, Desktop Printer Spooler, and Desktop Printer Extension are placed in the Extensions folder.
* If your computer has version 7.1.1 or 7.1.2 of the Mac OS, Finder 7.1.3 is placed in your System Folder and Finder Help 7.1.3 is placed in the Extensions folder.
* If your system has version 7.1.1 or 7.1.2 of the Mac OS, these files are placed in the Extensions folder: Thread Manager 2.1, Network Extension 7.1.3, Macintosh Drag and Drop, and Dragging Enabler.

Creating Desktop Printers

You create desktop printers by selecting a printer in the Chooser. A desktop printer icon appears on your desktop when you close the Chooser.

You can drag this icon to any position you want on your desktop. You cannot move it off the desktop.
If you want, you can select other printers in the Chooser and create other desktop printers for easy access. You must close the Chooser each time to create a desktop printer.

The last desktop printer created becomes the default printer. Your documents will automatically be printed on the default printer.

Printing With Desktop Printers

You can print documents within your applications as you normally do. You can also print documents without leaving the Finder, using one of the two methods described here. These methods are particularly efficient when you have a number of documents created by the same application that you want to print at once.

* Drag the icons of the documents (all created by the same application) to the desktop icon of the printer you want to use.
* Select the icons of the documents you want to print and choose the Print command from the File menu.

The computer will show you the Print dialog box so you can choose printing options. Make your choices, then click the Print button.

After a few moments, the document starts to print. If background printing is turned on, you can continue working while the document is printing.

Selecting a Default Printer

If you have more than one printer available, you can select which you want to use. The printer you select is called the "default printer." All your documents will be printed on the default printer until you select a new one.

To change the default printer, use one of these three methods:

* Drag the document you want to print to a desktop printer icon, and it will automatically become the default printer.
* Select the desktop printer icon and use the Printing menu to set the printer as the default.
* Select a new printer using the Chooser.

Note: Switching between printers may change how much information you can fit on a page. It's best to choose a printer before you spend much time formatting the document.

Working With Desktop Printer Icons

Desktop printer icons change to indicate printing status:

You can do the following with desktop printer icons:

* Throw away the icon. Drag the icon to the Trash. You can't throw away a desktop printer icon while the printer is printing a document. (You can create another desktop printer icon for that printer whenever you like.)

Note:
You must always have at least one printer icon on your desktop. If you throw away the last icon, it will immediately be created again.

* Rename the icon. Rename the icon as you would any other Finder icon. Click the name to highlight it, then type the new name. This changes the name of the icon, not the name of the printer.

* Move the icon. You may drag the icon anywhere you like on the desktop. However, you may not move it off the desktop.

* Create an alias for the icon. You may create an alias for the icon as you would any Finder icon, by selecting the icon and choosing the Make Alias command from the File menu. The alias may be moved anywhere on or off the desktop.

Monitoring Printing

If you are using background printing, you can use the desktop printer features to monitor and control the documents that are waiting to print. To learn how to turn background printing on and off, see your printer manual.

To monitor the printing of documents:

1 Double-click the desktop printer icon you're interested in.

A window opens listing the documents that are printing or waiting to print.

Watching the status messages can be helpful when troubleshooting printing problems. When more than one job is waiting to be printed, a list of print jobs appears in the waiting list, showing the order in which they will be printed (when sorted by print time.)

2 Choose what you'd like to do.

* To cancel a print request, select it by clicking its icon and click the Remove button.

You can select only the currently printing document by clicking its icon. (You can select more than one item at a time by holding down the Shift key while clicking.) You can also drag the icon for the print request to the Trash. Note that these methods delete only the print request (also referred to as a spool file), not the document itself.

* To put a print request on hold, select it and click the Hold button.

The print request will stay on hold until you select it again and click the Resume button. You can also put the document that's currently printing on hold by dragging it to the list of documents waiting to print (lower part of the window).

* To indicate that a print request is urgent, select it and choose Set Print Time from the Printing menu. In the dialog box that opens, click Urgent.

* To indicate that a print request should not print until a future time, select it and choose Set Print Time from the Printing menu. In the dialog box that opens, click At Time, then set the time you want.

* To change the order of the items waiting to print, move their place in the list by dragging their titles up or down in the list.

* To sort the list of documents waiting to print, click the title of the column you want to sort by.

For example, to sort by the name of the document, click "Document Name." (You can also sort by choosing the commands in the View menu.) The column title you sorted by is underlined. Sorting the items does not change the order in which they will print. To see that order, sort by Print Time.

* To temporarily stop all documents from printing on this printer, choose Stop Print Queue from the Printing menu.

To resume using the printer, choose Start Print Queue from the Printing menu. If the Desktop PrintMonitor window is open, you can begin printing the document from the first page by Option-clicking the Resume button (holding down the Option key while clicking the Resume button).

Shortcut: The Printing menu for starting and stopping the print queue is available without opening the window for the printer, as long as the printer's icon is selected on the desktop.

* To move a print request from one printer to another printer of the same type (for example, from a StyleWriter 1200 to a StyleWriter 2400), drag the icon for the print request to the icon of the printer where you want to move it.

The printing software won't let you move a print request to an incompatible printer. For example, you can't move a request from a LaserWriter printer to a StyleWriter printer.

Turning the Manual Feed Notification On or Off

When you install the printer software, the Desktop PrintMonitor is set up to notify you about manually feeding paper the same way your PrintMonitor was set. For example, if you turned off notification for manual feeding in your PrintMonitor, the Desktop PrintMonitor will also have manual feed notification turned off.

If you want to change how the Desktop PrintMonitor notifies you about manual feeding, follow this procedure:

1. Hold down the Shift key and restart your computer, keeping the Shift key depressed until the message "Extensions off" or your normal desktop appears.

2. Open your System Folder and then open your Extensions folder.

3. Double-click the PrintMonitor application.

4. Choose Preferences from the File menu.

5. Select your manual feed option and click OK.

6. Close the PrintMonitor.

7. Restart your computer.

Turning Off or Removing the Desktop Printing Software

Removing a Desktop Printer Icon

You can remove an individual desktop printer icon by dragging it into the trash. If you have only one desktop printer, you can't get rid of the icon by dragging it to the Trash. (The icon will reappear if you do.) To get rid of the desktop printer, you must first select a different desktop printer as the default printer and then drag the desktop printer icon to the Trash. If you don't want to use desktop printer icons, see "Turning Off the Desktop PrintMonitor" or "Removing Desktop Printing Software" for information about how to remove the desktop printer software.

Turning Off the Desktop PrintMonitor

If you don't want to use desktop printers, you can turn off the Desktop PrintMonitor using the Extensions Manager (available on Macintosh System 7.5, the current version of the Mac OS).

To turn off the Desktop PrintMonitor:

1. Open the Extensions Manager control panel in the Control Panels folder.

2. Click to deselect (uncheck) the Desktop PrintMonitor, Desktop Printer Extension, and Desktop Printer Spooler extensions in the panel.

3. Click the close box to close the control panel.

4. Restart your computer.

Removing the Desktop Printing Software

The desktop printing software uses both the Desktop PrintMonitor and the PrintMonitor software. The Desktop PrintMonitor requires 200-400K bytes more free system memory in addition to the memory required by the PrintMonitor. If you don't want to use the desktop printing software, you can remove it.

To remove desktop printing software:

1. Restart your computer with the extensions off by holding down the Shift key and choosing Restart from the Special menu. Hold the Shift key down until the message "Extensions off" appears or until your normal desktop appears.

2. Drag the following files from the Extensions folder to the Trash:

- Desktop PrintMonitor 1.0.3
- Desktop Printer Spooler 1.0.3
- Desktop Printer Extension 1.0.3

3. Restart your computer.

Using Save or Open with Desktop Printers

When you choose Save or Open in your application programs, you will see your desktop printers listed as if they were folders, but you should not save or open any documents in them. If you do, you will not be able to access your documents.

Having More Than Five Desktop Printers

If you want to have more than five or six desktop printers, you must increase the Desktop PrintMonitor memory allocation by 12K for each additional desktop printer you want. To do so, select its icon (it's in the Extensions folder inside the System Folder), choose Get Info, type a larger number in the Preferred Size box, then close the Get Info window.

About Creating Duplicate Desktop Printer Icons

If you use different versions of the printer software and print using the Desktop PrintMonitor, you may create duplicate desktop printer icons for the same printer. For example, say you select between two versions of the StyleWriter software. If you select your printer in the Chooser using one version, and select it later using the another version, two desktop printer icons will appear for that printer. To avoid creating confusing duplicate printer icons, primarily use one version of your printer software, or rename the icons with distinguishing names.

Using Desktop PrintMonitor on a Non-English System

If no desktop printer icon appears after you install the printer software, it may mean the Installer installed PrintMonitor 7.1.2 and did not install the Desktop PrintMonitor. (PrintMonitor 7.1.2 is installed if you have an older version of the PrintMonitor. Newer versions of the PrintMonitor are not replaced.) You have three choices:
* Use PrintMonitor 7.1.2 (or a later version)
* Obtain a set of installation disks of the printer software in the language of your system software from your Apple-authorized dealer and install it.
* Upgrade your system software to System 7.5 and install the printing software again. An English-language version of the Desktop PrintMonitor is installed.

Low-Memory Troubleshooting

If you notice any of these symptoms, your Macintosh may be running out of memory.
* The edges of some letters appear jagged.
* The Macintosh displays "out of memory" warning messages.
* Some portions of a document don't print.
* Some text prints in the Geneva font instead of the font you selected.

To make more memory available, try these suggestions:

* Have only one program open at a time.

* Increase the amount of memory you give to the program you're printing from by using the Get Info command (as explained in the documentation that came with your Macintosh).

* Use the Chooser to turn off background printing, as explained in Chapter 2 of the user manual.

* Remove any watermarks from your document.

* In the Page Setup dialog box, choose Portrait (normal) orientation instead of Landscape (sideways) orientation.

* Desktop printing requires more memory to print than the old PrintMonitor. You can remove desktop printing by using the custom install option called "PrintMonitor 7.1.2 (no Desktop Printing)."

* When you print in the background, if you often get a message that there is not enough memory to print on a certain desktop printer, you can give that desktop printer more memory by selecting its icon and choosing the Get Info command. Then increase the number in the Preferred Size box. (For more information on increasing a program's memory, see the documentation that came with your Macintosh.)

* As long as there are any print requests waiting to be printed, Desktop PrintMonitor (the desktop printing software) remains active in memory, even when background printing is off. If you are not printing in the background, you can remove all print requests from your desktop printer queues to reduce memory requirements by 160K.

* Use the Memory control panel to turn on virtual memory, as explained in the documentation that came with your Macintosh.

* Try a program like RamDoubler.

* See the "Troubleshooting" chapter in the StyleWriter 1200 user manual for more suggestions.

Watermark Tips

* When using a watermark, make sure the font that is in the watermark file is also in the Fonts folder inside your System Folder. If you give the watermark file to someone, they also need any fonts that it uses in order to use the watermark in their own documents.

Tips on Sharing Your Printer

* To avoid confusion, be sure to give each shared StyleWriter 1200 printer a unique name. If you have more than one printer with the same name in a single AppleTalk zone, the Chooser will display only one of them.

* To clean the print head of a shared StyleWriter 1200, you must send the request from the Macintosh that is directly connected to the printer.

Miscellaneous Printing Tips

* When printing very light colors in grayscale mode, you may see thin lines fade or break up. If this happens, pick a darker color for the affected

object, or try printing with the Pattern halftoning option selected. (In the Print dialog box, click the Options button, then select the Pattern option.)

* For best results when printing envelopes, do not put images or text along the bottom edge of the envelope.

* If you use the StyleWriter 1200 software to print on an older StyleWriter as well as on the StyleWriter 1200, not all the valid options (such as glossy paper) will show up when you switch back to the StyleWriter 1200 until after you print at least one page.

Printing With QuickDraw GX

If you have QuickDraw GX on your system, the StyleWriter 1200 Installer will automatically install everything you need for printing with QuickDraw GX.

* If you installed QuickDraw GX after you set up your StyleWriter 1200, you must reinstall the StyleWriter 1200 software.

* After you click the Print button to print a complex document, you may notice a delay before you see printer activity.

If printing with QuickDraw GX doesn't produce satisfactory results, you can use the GX Helper utility to turn off QuickDraw GX and use the regular QuickDraw printing software. For more information, see Appendix E of your user manual.

Using the StyleWriter 1200 With Application Programs

If you have problems printing from a specific program, it may be a problem in that program. If you have problems, contact the publisher of the program. In some cases a newer, more compatible version of the software may be available.

* In some programs*such as Microsoft Word 5.1, WordPerfect 3.0, ClarisWorks 2.0, and Symantec GreatWorks 2.0*rotated text created within the program may print with jagged edges. For best results, create the rotated text in another program and paste it in.

Notes About Specific Programs

The following list describes some special situations that you should be aware of when working with specific programs. (There may be other problems with these programs or with other programs not mentioned in this document.)

Adobe Type Manager

* If you rotate Adobe Type 1 fonts in FreeHand 3.11 and then paste them into another program, your Macintosh will display a system error when you try to print.

* If you print rotated Adobe Type 1 fonts using FrameMaker 4.0, your Macintosh will display a system error.

* If you print rotated Adobe Type 1 fonts that are also bold or italic using Intellidraw, and text will not print, you probably need to upgrade to ATM version 3.8.1.

* If you get incorrect output when you try to print rotated and flipped Adobe Type 1 fonts, try using a TrueType font instead.

* When Adobe Type 1 fonts are both outlined and underlined, characters may be misprinted (incorrect locations, multiple characters in same location, lower portions of characters shift left or right).

Adobe Dimensions

* Always print your documents in the foreground when using Adobe Dimensions. To turn background printing off, open the Chooser, click Off for Background Printing. If you accidentially print in background and your Macintosh crashes, you may have to restart with extensions off, open your desktop printer and drag all print requests from the queue.

Adobe Illustrator 5.0

* Unless you have at least 10 MB of free disk space on your startup disk, you will see a "disk is full" error message when you try to print. The more complex the document, the more space you need.

* If banding occurs in gradient fills, try printing with the Pattern halftoning option selected. (In the print dialog box, click the Options button, then select the Pattern option.)

Aldus PageMaker 5.0

* To see the StyleWriter 1200 Page Setup and Print dialog boxes, click the Setup button in PageMaker's Print dialog box.

* When printing rotated PICT or EPS images, be sure background printing is turned on in the Chooser. If you must print in the foreground, rotate the image in another program, then import it into PageMaker in the orientation in which you plan to print it.

* PageMaker 5.0 prints pages in reverse order on the StyleWriter 1200, which may be particularly confusing if you are using 2-up or 4-up printing. To print the first page first, turn on the Reverse Order option in the Print dialog box.

ClarisDraw 1.0v1

* If you have problems printing in the background, you may want to increase the Desktop PrintMonitor extension's preferred size to 300K (by using the Get Info command, as explained in the instructions that came with your Macintosh). The extension is located in the Extensions folder inside your System Folder.

ClarisImpact 1.0v1

* If you have problems printing ClarisImpact documents from a Power Macintosh, upgrade to ClarisImpact 1.0v3.

DeltaGraph Pro 2.0.3

* When printing charts, always click the QuickDraw button in the Print dialog box.

FrameMaker 4.0

* If you import text as a graphic, you can crop it on the screen but it will print uncropped.

* Rotated text in large point sizes will print as a gray box. For best results, break up the text blocks into smaller pieces or individual characters.

MacDraw II 1.1 v2

* To print in grayscale, follow the usual instructions and also turn on the Print Color Patterns in the Print Options dialog box and select Color in the Image pop-up menu in the Print dialog box.

* If you experience problems when printing your MacDraw II document with layout of 2-Up or 4-Up, try using a different program, like ClarisDraw.

Microsoft Excel 4.0 and Lotus 1-2-3

* To print in grayscale, check the Print Using Color option in the Print dialog box and select Color in the Image pop-up menu.

Microsoft Excel 5.0

* If colored cell borders drop out when printing, try using yellow or brown or you can use the line tool in the Drawing tools palatte.

Microsoft Word 6.0

* When you cancel a print request from MicroSoft Excel 6.0, some of the document will still print. If you are using desktop printing, try stopping the print queue on your desktop printer and then removing the print request instead of cancelling. To do this, click on you desktop printer icon and select Stop Print Queue from the Printing menu.

Print Shop Deluxe 1.0

* Make sure you open your document before printing.

SoftWindows 1.0

* You may not be able to print to your StyleWriter 1200 from SoftWindows. Contact Insignia Solutions Inc. for more information on printing from SoftWindows.

Studio/8 v 2.0 and Studio/32 v 1.2

* Always click the QuickDraw button in the Print dialog box.

Published Date: Feb 18, 2012

Workgroup Server 6150, 7250, 8550: Comparison Chart

This article is a comparison chart for the Workgroup Server 6150, 7250, and 8550.
This article has been archived and is no longer updated by Apple.

Here is a chart comparing the Workgroup Server 6150, 7250, and 8550.

Product Features	6150/66	7250/120	8550/132
Processor	601/66 MHz	601/120 MHz	604/132 MHz
L2 Cache	256 KB	256 KB	512 KB
CPU Card	No	No	Yes
RAM (shipping with)	16 MB	16 MB	24 MB
RAM (expandable to)	128 MB	256 MB	512 MB
Number of RAM Slots	2	4	8
VRAM	DRAM video	1 MB (2)	2 MB (2)
Number of VRAM Slots	n/a	4	4
Expansion Slots	1PDS/NuBus	3 PCI	3 PCI
Drive Bays	3	4	4 (1)
Internal HD	1.2 GB	1.2 GB	2 GB
Internal CD Player	AppleCD 600i	AppleCD 600i	AppleCD 600i
Internal Floppy Drive	1.4MB SuperDrive	1.4MB SuperDrive	1.4MB SuperDrive
Internal DAT Drive	n/a	n/a	DDS-2 DAT Drive
System SW	System 7.5.1	System 7.5.3	System 7.5.3
		OT 1.1	OT 1.1
Configurations	Two	Three	Four

(1) The Workgroup Server 8550 has four drive bays set up by Apple. An additional "fifth" drive bay can be added to the lowest bay, but the drive cage and cable have to be provided by a third party and installed by an authorized Apple service technician.

(2) VRAM DIMMs must be 112-pin fast-paged mode, 32 bit wide, and 70 ns RAM access time or faster. Do not use 256K VRAM SIMMs.

Published Date: Feb 18, 2012

Color StyleWriter 2200: v2.1.2 Readme File (2/96)

This article contains the read me file for the Color StyleWriter 2200 v2.1.2 software.
This article has been archived and is no longer updated by Apple.
Information About Your Color StyleWriter 2200 Printer

This document contains important reminders and some information that's not in the user manual.

Installation and Setup Tips

Follow the instructions in the user manual to install the Color StyleWriter 2200 software. Keep the following tips in mind when setting up and working with your new software:

* If you are having problems during installation, restart with Extensions off and try installing again.

* After installing the printing software, you must create a desktop printer. To do so, select the Color SW 2200 in the Chooser, then close the Chooser.

* If you have a PowerBook computer, see "Special Information for PowerBook Users" in the section "Telling Your Computer to Use the Color StyleWriter 2200" in Chapter 1 of the user manual.

* If you get the message, "Serial port in use by another application, please quit the application and try again," restart your Macintosh before trying to print again.

* If you upgrade your system software, you must reinstall the Color StyleWriter 2200 software.

* Close the Chooser after making any changes to it.

* See the Troubleshooting chapter in the Color StyleWriter 2200 user manual for more information.

About Desktop Printing

Your new printing software comes with Desktop PrintMonitor version 1.0.3. You use Desktop PrintMonitor to create printer icons (or "desktop printers") on your Macintosh Operating System (Mac OS) desktop. You can print a document by simply dragging it to a desktop printer icon. Desktop printers also give you more control over printing, including setting printing priorities and choosing specific times for printing.

Installed Desktop Printing Files

The following files are installed for desktop printing on computers that use version 7.1 or later of the Mac OS:

* Desktop PrintMonitor, Desktop Printer Spooler, and Desktop Printer Extension are placed in the Extensions folder.
* If your computer has version 7.1.1 or 7.1.2 of the Mac OS, Finder 7.1.3 is placed in your System Folder and Finder Help 7.1.3 is placed in the Extensions folder.
* If your system has version 7.1.1 or 7.1.2 of the Mac OS, these files are placed in the Extensions folder: Thread Manager 2.1, Network Extension 7.1.3, Macintosh Drag and Drop, and Dragging Enabler.

Creating Desktop Printers

You create desktop printers by selecting a printer in the Chooser. A desktop printer icon appears on your desktop when you close the Chooser.

You can drag this icon to any position you want on your desktop. You cannot move it off the desktop.
If you want, you can select other printers in the Chooser and create other desktop printers for easy access. You must close the Chooser each time to create a desktop printer.

The last desktop printer created becomes the default printer. Your documents will automatically be printed on the default printer.

Printing With Desktop Printers

You can print documents within your applications as you normally do. You can also print documents without leaving the Finder, using one of the two methods described here. These methods are particularly efficient when you have a number of documents created by the same application that

you want to print at once.

* Drag the icons of the documents (all created by the same application) to the desktop icon of the printer you want to use.
* Select the icons of the documents you want to print and choose the Print command from the File menu.

The computer will show you the Print dialog box so you can choose printing options. Make your choices, then click the Print button.

After a few moments, the document starts to print. If background printing is turned on, you can continue working while the document is printing.

Selecting a Default Printer

If you have more than one printer available, you can select which you want to use. The printer you select is called the "default printer." All your documents will be printed on the default printer until you select a new one.

To change the default printer, use one of these three methods:

* Drag the document you want to print to a desktop printer icon, and it will automatically become the default printer.
* Select the desktop printer icon and use the Printing menu to set the printer as the default.
* Select a new printer using the Chooser.

Note: Switching between printers may change how much information you can fit on a page. It's best to choose a printer before you spend much time formatting the document.

Working With Desktop Printer Icons

Desktop printer icons change to indicate printing status:

You can do the following with desktop printer icons:

* Throw away the icon. Drag the icon to the Trash. You can't throw away a desktop printer icon while the printer is printing a document. (You can create another desktop printer icon for that printer whenever you like.)

Note: You must always have at least one printer icon on your desktop. If you throw away the last icon, it will immediately be created again.

* Rename the icon. Rename the icon as you would any other Finder icon. Click the name to highlight it, then type the new name. This changes the name of the icon, not the name of the printer.

* Move the icon. You may drag the icon anywhere you like on the desktop. However, you may not move it off the desktop.

* Create an alias for the icon. You may create an alias for the icon as you would any Finder icon, by selecting the icon and choosing the Make Alias command from the File menu. The alias may be moved anywhere on or off the desktop.

Monitoring Printing

If you are using background printing, you can use the desktop printer features to monitor and control the documents that are waiting to print. To learn how to turn background printing on and off, see your printer manual.

To monitor the printing of documents:

1) Double-click the desktop printer icon you're interested in.

A window opens listing the documents that are printing or waiting to print.

Watching the status messages can be helpful when troubleshooting printing problems. When more than one job is waiting to be printed, a list of print jobs appears in the waiting list, showing the order in which they will be printed (when sorted by print time.)

2) Choose what you'd like to do.

* To cancel a print request, select it by clicking its icon and click the Remove button.

You can select only the currently printing document by clicking its icon. (You can select more than one item at a time by holding down the Shift key

while clicking.) You can also drag the icon for the print request to the Trash. Note that these methods delete only the print request (also referred to as a spool file), not the document itself.

* To put a print request on hold, select it and click the Hold button.

The print request will stay on hold until you select it again and click the Resume button. You can also put the document that's currently printing on hold by dragging it to the list of documents waiting to print (lower part of the window).

* To indicate that a print request is urgent, select it and choose Set Print Time from the Printing menu. In the dialog box that opens, click Urgent.

* To indicate that a print request should not print until a future time, select it and choose Set Print Time from the Printing menu. In the dialog box that opens, click At Time, then set the time you want.

* To change the order of the items waiting to print, move their place in the list by dragging their titles up or down in the list.

* To sort the list of documents waiting to print, click the title of the column you want to sort by.

For example, to sort by the name of the document, click "Document Name." (You can also sort by choosing the commands in the View menu.) The column title you sorted by is underlined. Sorting the items does not change the order in which they will print. To see that order, sort by Print Time.

* To temporarily stop all documents from printing on this printer, choose Stop Print Queue from the Printing menu.

To resume using the printer, choose Start Print Queue from the Printing menu. If the Desktop PrintMonitor window is open, you can begin printing the document from the first page by Option-clicking the Resume button (holding down the Option key while clicking the Resume button).

Shortcut: The Printing menu for starting and stopping the print queue is available without opening the window for the printer, as long as the printer's icon is selected on the desktop.

* To move a print request from one printer to another printer of the same type (for example, from a StyleWriter 1200 to a StyleWriter 2400), drag the icon for the print request to the icon of the printer where you want to move it.

The printing software won't let you move a print request to an incompatible printer. For example, you can't move a request from a LaserWriter printer to a StyleWriter printer.

Turning the Manual Feed Notification On or Off

When you install the printer software, the Desktop PrintMonitor is set up to notify you about manually feeding paper the same way your PrintMonitor was set. For example, if you turned off notification for manual feeding in your PrintMonitor, the Desktop PrintMonitor will also have manual feed notification turned off.

If you want to change how the Desktop PrintMonitor notifies you about manual feeding, follow this procedure:

1. Hold down the Shift key and restart your computer, keeping the Shift key depressed until the message "Extensions off" or your normal desktop appears.

2. Open your System Folder and then open your Extensions folder.

3. Double-click the PrintMonitor application.

4. Choose Preferences from the File menu.

5. Select your manual feed option and click OK.

6. Close the PrintMonitor.

7. Restart your computer.

Turning Off or Removing the Desktop Printing Software

Removing a Desktop Printer Icon

You can remove an individual desktop printer icon by dragging it into the trash. If you have only one desktop printer, you can't get rid of the icon

by dragging it to the Trash. (The icon will reappear if you do.) To get rid of the desktop printer, you must first select a different desktop printer as the default printer and then drag the desktop printer icon to the Trash. If you don't want to use desktop printer icons, see "Turning Off the Desktop PrintMonitor" or "Removing Desktop Printing Software" for information about how to remove the desktop printer software.

Turning Off the Desktop PrintMonitor

If you don't want to use desktop printers, you can turn off the Desktop PrintMonitor using the Extensions Manager (available on Macintosh System 7.5, the current version of the Mac OS).

To turn off the Desktop PrintMonitor:

1. Open the Extensions Manager control panel in the Control Panels folder.

2. Click to deselect (uncheck) the Desktop PrintMonitor, Desktop Printer Extension, and Desktop Printer Spooler extensions in the panel.

3. Click the close box to close the control panel.

4. Restart your computer.

Removing the Desktop Printing Software

The desktop printing software uses both the Desktop PrintMonitor and the PrintMonitor software. The Desktop PrintMonitor requires 200-400K bytes more free system memory in addition to the memory required by the PrintMonitor. If you don't want to use the desktop printing software, you can remove it.

To remove desktop printing software:

1. Restart your computer with the extensions off by holding down the Shift key and choosing Restart from the Special menu. Hold the Shift key down until the message "Extensions off" appears or until your normal desktop appears.

2. Drag the following files from the Extensions folder to the Trash:

- Desktop PrintMonitor 1.0.3
- Desktop Printer Spooler 1.0.3
- Desktop Printer Extension 1.0.3

3. Restart your computer.

Using Save or Open with Desktop Printers

When you choose Save or Open in your application programs, you will see your desktop printers listed as if they were folders, but you should not save or open any documents in them. If you do, you will not be able to access your documents.

Having More Than Five Desktop Printers

If you want to have more than five or six desktop printers, you must increase the Desktop PrintMonitor memory allocation by 12K for each additional desktop printer you want. To do so, select its icon (it's in the Extensions folder inside the System Folder), choose Get Info, type a larger number in the Preferred Size box, then close the Get Info window.

About Creating Duplicate Desktop Printer Icons

If you use different versions of the printer software and print using the Desktop PrintMonitor, you may create duplicate desktop printer icons for the same printer. For example, say you select between two versions of the StyleWriter software. If you select your printer in the Chooser using one version, and select it later using the another version, two desktop printer icons will appear for that printer. To avoid creating confusing duplicate printer icons, primarily use one version of your printer software, or rename the icons with distinguishing names.

Using Desktop PrintMonitor on a Non-English System

If no desktop printer icon appears after you install the printer software, it may mean the Installer installed PrintMonitor 7.1.2 and did not install the Desktop PrintMonitor. (PrintMonitor 7.1.2 is installed if you have an older version of the PrintMonitor. Newer versions of the PrintMonitor are not

replaced.) You have three choices:
* Use PrintMonitor 7.1.2 (or a later version)
* Obtain a set of installation disks of the printer software in the language of your system software from your Apple-authorized dealer and install it.
* Upgrade your system software to System 7.5 and install the printing software again. An English-language version of the Desktop PrintMonitor is installed.

Low-Memory Troubleshooting

If you notice any of these symptoms, your Macintosh may be running out of memory.
* The edges of some letters appear jagged.
* The Macintosh displays "out of memory" warning messages.
* Some portions of a document don't print.
* Some text prints in the Geneva font instead of the font you selected.

To make more memory available, try these suggestions:

* Have only one program open at a time.

* Increase the amount of memory you give to the program you're printing from by using the Get Info command (as explained in the documentation that came with your Macintosh).

* Use the Chooser to turn off background printing, as explained in Chapter 2 of the user manual.

* Remove any watermarks from your document.

* In the Page Setup dialog box, choose Portrait (normal) orientation instead of Landscape (sideways) orientation.

* Choose Normal in the Print dialog box and Pattern in the Print Options dialog box.

* Desktop printing requires more memory to print than the old PrintMonitor. You can remove desktop printing by using the custom install option called "PrintMonitor 7.1 (no Desktop Printing).".

* When you print in the background, if you often get a message that there is not enough memory to print on a certain desktop printer, you can give that desktop printer more memory by selecting its icon and choosing the Get Info command. Then increase the number in the Preferred Size box. (For more information on increasing a program's memory, see the documentation that came with your Macintosh.)

* As long as there are any print requests waiting to be printed, Desktop PrintMonitor (the desktop printing software) remains active in memory, even when background printing is off. If you are not printing in the background, you can remove all print requests from your desktop printer queues to reduce memory requirements by 160K.

* Use the Memory control panel to turn on virtual memory, as explained in the documentation that came with your Macintosh.

* Try a program like RamDoubler.

* See the "Troubleshooting" chapter in the Color StyleWriter 2200 user manual for more suggestions.

Color Printing Tips

* When printing very light colors in grayscale mode, you may see thin lines fade or break up. If this happens, pick a darker color for the affected object, or try printing with the Pattern halftoning option selected. (In the Print dialog box, click the Color button, then select the Pattern option.)

* If you print a document that should have a smooth gradient from one color or shade to another and notice an unexpected color change, it may be that one of the colors in the gradient cannot be reproduced by the printer. Try using a different matching method in the Color Options dialog box, or try turning off ColorSync.

* If the blues on your printout appear purple, turn on ColorSync in the Color dialog box.

* In some programs, colors on the screen may look solid but contain tiny black dots when printed. To print solid blocks of color without these black dots, use the Business Graphics color-matching method. In the Print dialog box, click the Color button. In the Color Options dialog box that appears, make sure there is an X in the ColorSync box, and then select Business Graphics from the Matching Method pop-up menu.

If your colors still have too many black dots, create the document in a program that allows you to define each color, then make the color fully saturated. For example, to print yellow without any black dots in it, use your program to define the yellow you are using as 100% red and 100%

green without any blue.

Watermark Tips

* When using a watermark, make sure the font that is in the watermark file is also in the Fonts folder inside your System Folder. If you give the watermark file to someone, they also need any fonts that it uses in order to use the watermark in their own documents.

Tips on Sharing Your Printer

* To avoid confusion, be sure to give each shared Color StyleWriter 2200 printer a unique name. If you have more than one printer with the same name in a single AppleTalk zone, the Chooser will display only one of them.

* To clean the print head of a shared Color StyleWriter 2200, you must send the request from the Macintosh that is directly connected to the printer.

Other Printing Tips

* If you see very thin stripes near the bottom of your printout, use your application program to make your bottom margin larger. A bottom margin of 0.8 inches or greater is best.

* For best results when printing envelopes, do not put images or text along the bottom edge of the envelope.

* If you are printing from a Quadra 800 and you get a message that the battery on the Color StyleWriter 2200 is low, be sure to click Okay and dismiss the dialog BEFORE replacing the discharged battery.

Printing With QuickDraw GX

If you have QuickDraw GX on your system, the Color StyleWriter 2200 Installer will automatically install everything you need for printing with QuickDraw GX.

* If you installed QuickDraw GX after you set up your Color StyleWriter 2200, you must reinstall the Color StyleWriter 2200 software.

* After you click the Print button to print a complex document, you may notice a delay before you see printer activity.

If printing with QuickDraw GX doesn't produce satisfactory results, you can use the GX Helper utility to turn off QuickDraw GX and use the regular QuickDraw printing software. For more information, see Appendix E of your user manual.

Using the Color StyleWriter 2200 With Application Programs

If you have problems printing from a specific program, it may be a problem in that program. If you have problems, contact the publisher of the program. In some cases a newer, more compatible version of the software may be available.

* In some programs*such as Microsoft Word 5.1, WordPerfect 3.0, ClarisWorks 2.0, and Symantec GreatWorks 2.0*rotated text created within the program may print with jagged edges. For best results, create the rotated text in another program and paste it in.

Notes About Specific Programs

The following list describes some special situations that you should be aware of when working with specific programs. (There may be other problems with these programs or with other programs not mentioned in this document).

AdobeType Manager

* When you install version 3.8.1 or later of Adobe Type Manager, some system fonts are removed from your system and placed in a folder called "De-installed Fonts1." If you later turn off ATM, drag all the fonts in the "De-installed Fonts1" folder back into the Fonts folder inside the System folder to prevent characters with jagged edges.

* If you rotate Adobe Type 1 fonts in FreeHand 3.11 and then paste them into another program, your Macintosh will display a system error when you try to print.

* If you print rotated Adobe Type 1 fonts using FrameMaker 4.0, your Macintosh will display a system error.

* If you print rotated Adobe Type 1 fonts that are also bold or italic using Intellidraw, and text will not print, you probably need to upgrade to ATM version 3.8.1.

* If you get incorrect output when you try to print rotated and flipped Adobe Type 1 fonts, try using a TrueType font instead.

* When Adobe Type 1 fonts are both outlined and underlined, characters may be misprinted (incorrect locations, multiple characters in same location, lower portions of characters shift left or right).

Adobe Dimensions

* Always print your documents in the foreground when using Adobe Dimensions. To turn background printing off, open the Chooser, click Off for Background Printing. If you accidentially print in background and your Macintosh crashes, you may have to restart with extensions off, open your desktop printer and drag all print requests from the queue.

Adobe Illustrator 5.0

* Unless you have at least 10 MB of free disk space on your startup disk, you will see a "disk is full" error message when you try to print. The more complex the document, the more space you need.

* If banding occurs in gradient fills, try printing with the Pattern halftoning option selected. (In the print dialog box, click the Color button, then select the Pattern option.)

Aldus PageMaker 5.0

* To see the Color StyleWriter 2200 Page Setup and Print dialog boxes, click the Setup button in PageMaker's Print dialog box.

* When printing rotated PICT or EPS images, be sure background printing is turned on in the Chooser. If you must print in the foreground, rotate the image in another program, then import it into PageMaker in the orientation in which you plan to print it.

* PageMaker 5.0 prints pages in reverse order on the Color StyleWriter 2200, which may be particularly confusing if you are using 2-up or 4-up printing. To print the first page first, turn on the Reverse Order option in the Print dialog box.

ClarisDraw 1.0v1

* If you have problems printing in the background, you may want to increase the Desktop PrintMonitor extension's preferred size to 300K (by using the Get Info command, as explained in the instructions that came with your Macintosh). The extension is located in the Extensions folder inside your System Folder.

ClarisImpact 1.0v1

* If you have problems printing ClarisImpact documents from a Power Macintosh, upgrade to ClarisImpact 1.0v3.

DeltaGraph Pro 2.0.3

* When printing charts, always click the QuickDraw button in the Print dialog box.

FrameMaker 4.0

* Some FrameMaker documents, including some the Concern.Doc sample document that comes with the program, will not print with version 3.8.1 of Adobe Type Manger. If you try to print a document and your system crashes, try printing again after turning off or removing the ATM software.

* If you import text as a graphic, you can crop it on the screen but it will print uncropped.

* Rotated text in large point sizes will print as a gray box. For best results, break up the text blocks into smaller pieces or individual characters.

MacDraw II 1.1 v2

* To print in color, be sure to turn on the Print Color Patterns in the Print Options dialog box and select Color in the Image pop-up menu in the Print dialog box.

* If you experience problems when printing your MacDraw II document with layout of 2-Up or 4-Up, try using a different program, like ClarisDraw.

Microsoft Excel 4.0 and Lotus 1-2-3

* To print in color, be sure to check the Print Using Color option in the Print dialog box and select Color in the Image pop-up menu.

Microsoft Excel 5.0

* If colored cell borders drop out when printing, try using yellow or brown or you can use the line tool in the Drawing tools palatte.

* When you choose the Page Setup command, you get Excel's own version of the Page Setup dialog box. Click the Options button to see the version of the dialog box with the special Color StyleWriter 2200 options.

Microsoft Word 6.0

* When you cancel a print request from MicroSoft Word 6.0, some of the document will still print. If you are using desktop printing, try stopping the print queue on your desktop printer and then removing the print request instead of cancelling. To do this, click on you desktop printer icon and select Stop Print Queue from the Printing menu.

Ofoto 2.0

* For best results, make a custom calibration for the Color StyleWriter 2200 and click the Custom Profile button.

The Print Shop v1.3.2

* To print in color, select ImageWriter in the Preferences dialog box.

Print Shop Deluxe 1.0

* Make sure you open your document before printing.

SoftWindows 1.0

* You may not be able to print to your Color StyleWriter 2200 from SoftWindows. Contact Insignia Solutions Inc. for more information on printing from SoftWindows.

Studio/8 v 2.0 and Studio/32 v 1.2

* Always click the QuickDraw button in the Print dialog box.

Published Date: Feb 18, 2012

Network Server 500 & 700: System Troubleshooting

This article provides system troubleshooting steps for your Network Server 500 or Network Server 700.
This article has been archived and is no longer updated by Apple.
Note: Noises may not necessarily require a replacement of component. For example, a noisy fan may be more annoying than a cause of concern.

Symptom: Clicking, chirping, or thumping
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1. Verify that fan unit(s) is not loose. Replace if necessary. The fan unit(s) is hot-swappable and can be replaced without shutting down the server.
2. Verify that power supply is properly seated. Replace if necessary. Network Server 700/150 power supply is hot-swappable and may be replaced without shutting down the server.
3. Verify that all front drive trays are completely inserted.
4. Check hard drive(s). Replace if necessary.
5. Check DAT drive. Replace if necessary.
6. Check floppy drive. Replace if necessary.
7. Replace logic board. Retain customer's DIMMs.
8. Replace processor card.

Symptom: System shuts down intermittently
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1. Verify that power cord is firmly plugged in.
2. Verify that fans are working. Replace if necessary.
3. Verify that all front drive trays are completely inserted. Improper installation may disrupt air flow.
4. Verify that air vents are clear. Thermal-protection circuit may shut down system. After 30 * 40 minutes, system should be OK.
5. Run Network Server Diagnostic Utility and follow the instructions provided with the utility to verify core system operations.
6. Check battery.
7. Reset Cuda chip.
8. Reset logic board.
9. Replace power cord.
10. Replace power supply.
11. Replace powerplane interconnect board.
12. Replace logic board. Retain customer's DIMMs.
13. Replace processor card.

Symptom: System intermittently crashes or hangs
---

1. Verify that power cord is firmly connected.
2. Verify that power supply is properly seated.
3. Verify that rear drawer is properly seated.
4. Verify that all front drive trays are properly seated.
5. Verify system software is version 4.1.4 or later. (Refer to "Using AIX, AppleTalk Services, and Mac OS Utilities on the Network Server" for information on installing and using the operating system).
6. Run Network Server Diagnostic Utility and follow the instructions provided with the utility to verify core system operations.
7. Verify that system is using fast-paged mode, 60ns or faster RAM access time DIMMs.
8. Reseat processor card.
9. Reseat cache DIMM.
10. Remove all DRAM DIMMs and replace them one at a time to test. Replace any bad DIMMs.
11. Remove all PCI cards and test unit. If problem does not occur with cards removed, replace them one at a time to determine which card is causing the problem. Replace problem card with known-good card.
12. Replace logic board. Retain customer's DIMMs.
13. Replace processor card.

Symptom: System is inactive
---

1. Verify that power LED is on.
2. Check for three-digit error code on LCD panel. If display is not blank, refer to "Chapter 10: Troubleshooting" in "Using AIX, AppleTalk Services, and Mac OS Utilities on the Network Server" for possible error codes and recommended actions.

3. Verify that all cables are properly connected and secure.
4. Adjust brightness on monitor.
5. Use Control-D or Control-C to cancel any stalled processes.
6. Verify that key in rear drawer is in horizontal (locked) position.
7. Restart system.
8. Run Network Server Diagnostic Utility and follow the instructions provided with the utility to verify core system operations.

Symptom: Three-digit error code is displayed on LCD panel during startup process
---
For possible error codes and recommended actions, refer to "Chapter 10: Troubleshooting" of "Using AIX, AppleTalk Services, and Mac OS Utilities on the Network Server."
Published Date: Feb 18, 2012

What are PowerBook "Demo" files? (2/96)

A customer has installed the PowerBook 5300 Software Update and he is now noticing the following files in his Extensions folder:

Demo click&drag
Demo drag/lock
Demo single.click

What are these for, and why are they called "Demo"?
This article has been archived and is no longer updated by Apple.
The "demo" files that the customer sees in his System Folder are QuickTime movies. They are used by AppleGuide to illustrate the functionality of the "clickable" Trackpad used in some PowerBook computers. They are only labelled "demo" because they demonstrate the operation of certain Trackpad features.

To see what the movies demonstrate, open them using MoviePlayer, or try the following:

Step 1

Go to the Finder and choose "Macintosh Guide" from the Help/Guide menu.

Step 2

Locate the word "Trackpad" in the index.

Step 3

Click on "How do I use the Trackpad to click and drag?" Click OK.

Step 4

Follow the instructions in the Guide window.

Published Date: Feb 18, 2012

ImageWriter I: Settings for All Apples (4/94)

This article gives the proper settings for all Apple computers connected to an ImageWriter I printer.

This article has been archived and is no longer updated by Apple.

```
Apple II Family with Super Serial Card:

    Interface:

        The Super Serial Card

                1 2 3 4 5 6 7          1 2 3 4 5 6 7
            ON        X   X X      ON  X       X
        SW1                     SW2
           OFF  X X X   X         OFF    X X X   X X
                1 2 3 4 5 6 7          1 2 3 4 5 6 7

        Jumper block points to terminal.

    Cables:

       Internal cable from Super Serial Card to back of
         machine: 590-0021
       Serial Cable from back of machine to printer: 590-0037

    Printer Settings*:

              8 7 6 5 4 3 2 1
       SW 1:      X X
              X X     X X X X
                         OPEN

       SW 2:          4 3 2 1
                          X X
                      X X
                         OPEN

Apple III and III+:

    Interface:

       Use .Printer Driver and set first byte in Device
       Configuration Block to 0E and use printer switch
       settings A.(9600 Baud) Or leave the settings in the
       Device Configuration Block at the Default values and use
       printer settings B.  (1200 Baud)

    Cables:

       Modem Eliminator 590-0029
       Straight Through Cable 590-0037

    Printer Settings*:

     A & B SETTING
              8 7 6 5 4 3 2 1
       SW 1:      X X
              X X     X X X X
                         OPEN
     A SETTING
       SW 2:          4 3 2 1
                          X X
                      X X
```

```
                        OPEN
     B SETTING:
       SW 2:          4 3 2 1
                            X
                      X X X
                        OPEN
```

Macintosh:

Cables:

Accessory Kit Cable 590-0169

Printer Settings*:

```
              8 7 6 5 4 3 2 1
       SW 1:      X
              X X   X X X X X
                        OPEN

       SW 2:          4 3 2 1
                          X X
                      X X
                        OPEN
```

To Build your own cable:

```
       Mac       1    3    5    7    9
                 |    |    |    |    |
       Printer   1    7    3    20   2
```

Lisa:

Cables:

Modem Eliminator 590-0029
Straight Through Cable 590-0037

Printer Settings*:

```
              8 7 6 5 4 3 2 1
       SW 1:      X X
              X X     X X X X
                        OPEN

       SW 2:          4 3 2 1
                          X X
                      X X
                        OPEN
```

Make sure the preferences are set. Power off the Lisa so they are saved.

* The diagrams of these switches are presented as seen from the front of the Imagewriter I printer. The switches are toggle switches; X marks the toggle.

Article Change History:
25 April 1994 - Corrected Macintosh settings.

Support Information Services
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AppleVision Display Software: v1.0.1 & v1.0.2 Changes

This article contains the changes made between Version 1.0.1 and 1.0.2 of the AppleVision Display software.
This article has been archived and is no longer updated by Apple.
AppleVision Display Software version 1.0.2 contains the following improvements:

- The 1.0.2 installer maintains compatibility with the next System Software Update.
- A driver conflict that caused some computers to restart during the startup process has been eliminated.
- To provide better support for computers with multiple monitors using Accurate Color settings, changes were made to the way the Accurate Color panel updates its pop-up menus and saved settings list.
- To shorten the startup process on computers running System Software 7.1.x, the AppleVision extension was renamed "*AppleVision."
- After recalibration in thousands or millions of colors and restarting the computer, Gamma settings will be saved correctly.
- To eliminate crashes caused by pressing the monitor's bezel buttons during startup, improved error handling has been implemented. However, pressing bezel buttons during startup is still not supported and may cause the software to fail to load correctly.

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QuickTime Conferencing Web Installer: Read Me file

This article contains the Read Me file included with the QuickTime Conferencing Web Installer.
This article has been archived and is no longer updated by Apple.
QuickTime Conferencing Web Installer

This installer will:

* Install free QuickTime Conferencing software for Internet and web use

* Upgrade existing QuickTime Conferencing users to a newer version of the software with enhanced Internet and QuickTime capabilities

With the QuickTime Conferencing Web Installer, you will be able to:

* Videoconference with Mac users around the world via TCP/IP on the Internet
* View live audio-video broadcasts on the worldwide internet
* Make calls or start watching broadcasts from a web page

The QuickTime Conferencing Web Installer installs:

* The QuickTime Conferencing system extensions (version 1.0.4)
* "QuickTime TV" application, for viewing Internet broadcasts
* "QuickTime Web Conference" application, for Internet videoconferencing
* "Conferencing Helper Application", which is used for:
-- launching live connections via the WWW
-- creating files which can launch live connections via the WWW
* QuickTime 2.1 and Sound Manager 3.1 with enhanced QuickTime sound codecs

This release of the QuickTime Conferencing Web Installer has some limitations: you will need bandwidth equal to or greater than (128 kbit/sec) to videoconference or view live broadcasts, and connectivity is between Mac users only at this time.

Cross-platform support can be gained by purchasing the QuickTime Conferencing ISDN Kit, which supports videoconferencing with users on H.320 compatible Windows systems, or by purchasing the Apple Media Conference software application, which supports audioconferencing with Windows users on the Internet.

In addition, cross-platform and collaboration capabilities such as the shared whiteboard, drag and drop sharing of styled text, pictures and sounds, file transfer and more can be accomplished through purchase of third party or Apple based QuickTime Conferencing collaborative applications.

Basic System Requirements

* Power Macintosh or 68040 Macintosh computer
* System software version 7.5 or newer
* 16 Megabytes of memory
* Internet connection of 128 kbit/sec or more (for instance, T1 or basic rate ISDN)
* MacTCP and Network Software Installer version 1.5, or OpenTransport

Additional System Requirements (For QuickTime Web Conference)

* Video source (for instance, a video camera for A/V Macs or QuickCam for others)
* Sound source (for instance, a Plaintalk microphone)

Installing QuickTime Conferencing Software

Follow these steps to install the QuickTime Conferencing software.

(1) If you are installing from the Internet web site, download the install package.

(2) Locate the Web Conferencing Install folder and open it. Double-click the Installer icon located in the folder.

(3) Read the message that appears, then click Continue.

(4) If the installer tells you that you must run the Network Software Installer 1.5, download that and install it. Then repeat steps 2 & 3.

(5) In the Easy Install dialog box, click Install. All the necessary software will be installed on your computer's hard disk.

(6) When installation is complete, click Restart.

When you restart, you will find a new folder titled "QuickTime Conferencing" on your hard disk. This folder contains the broadcast viewing, conferencing and web browser helper application for QuickTime Conferencing Internet software. Also included is the QuickTime application MoviePlayer 2.1. Note that the QuickTime Conferencing Web Installer will install QuickTime version 2.1 as well as a new QuickTime video compressor, H.261, which allows for conferencing at low bit rates. The H.261 compressor is a PowerPC native compressor. Any videoconference session in which all machines are PowerPCs, will use the H.261 compressor.

To Place a Videoconference Call to an Internet User

When using QuickTime Web Conference as a standalone application:

(1) Configure your MacTCP or OpenTransport TCP/IP control panel as your Internet Service Provider (ISP) recommends.

(2) Launch the "QuickTime Web Conference" application

(3) Select the menu item "Call" from the "File" menu.

(4) Type in the host name or IP address of the Internet user with whom you wish to videoconference and click on 'Connect'.

(5) The call will be placed via the Internet and an audio-video connection established

(This feature temporarily disabled for 1.0.4a4) During a connection, you can store a "QTC Calling Card" for a QuickTime Conferencing Internet user, by selecting the "Save Calling Card" menu item in the "File" menu. The next time you wish to call the user, you can select the "Speed Dial" option and select the QTC Calling Card for that user. You can also save a single QTC Calling Card, to represent a group of conferencing users. To do this, select the "Save Group Card" menu item. When you wish to re-establish a conference with the same participants, select the "Speed Dial" option, and then select the QTC Calling Card for the group of conferencing users.

Calls can be initiated from a web page. A URL to a QTC stored-address file (with a .qtc extension) can cause QuickTime Web Conference to launch, open the stored-address file, and attempt to make a connection to the address described in the file. The server and browser must both be properly configured for QTC; this process is described below.

To View an Internet Broadcast

When using QuickTime TV as a standalone application:

* Configure your MacTCP or OpenTransport TCP/IP control panel as your Internet Service Provider (ISP) recommends.

* Launch the "QuickTime TV" application

* Select the menu item "Watch Broadcast" from the "File" menu.

* Type in the domain name or ip address of the Internet live broadcast you wish to watch

* The broadcast will be viewed via the internet

(This feature temporarily disabled for 1.0.4a4) While viewing a broadcast, you can store a "QTC Calling Card" for a QuickTime Conferencing Internet user, by selecting the "Save Calling Card" menu item in the "File" menu. The next time you wish to view the broadcast you can select the "Speed Dial" option and select the QTC Calling Card for that broadcast. You can also save a single QTC Calling Card, to represent a group of broadcasts. To do this, select the "Save Group Card" menu item. When you wish to re-establish a session with the same set of broadcasts, select the "Speed Dial" option, and then select the QTC Calling Card for the group of broadcasts.

Watching a broadcast can be initiated from a web page. A URL to a QTC stored-address file (with a .qtc extension) can cause QuickTime Web Conference to launch, open the stored-address file (a "calling card"), and attempt to make a connection to the address described in the file. The server and browser must both be properly configured for QTC; this process is described below.

Configuring a Web Browser for QuickTime Conferencing Calling Cards

Netscape 2.0b4 and later comes pre-configured for QTC.

To configure other web browsers so that they may view live broadcasts and connect to other users for videoconferences on the Internet, follow the steps listed below:

In general, for any web browser,:

(1) Install the "Conferencing Helper Application" as the Helper Application for the Mime Type "video/x-qtc", with the file extension ".qtc".

Specifically for Netscape (versions 1.1 through 2.0b3), follow the directions below:

* From the Netscape Options menu, choose General Preferences.
The Preferences panel opens, showing a variety of preferences to select.

* Choose the panel in preferences which says "Helpers".
The window changes to show the Helper Applications settings.

* Type in the Mime type "video"

* Type in the Mime sub-type "x-qtc"

* Type in the extension ".qtc"

* Set the "Action" to launch application.

* Click on "Browse", and then a file directory pop-up is displayed. Browse through your directories, and select the "Conferencing Helper Application" in the local "QuickTime Conferencing" folder on your hard disk. When you are done with this step, the "Conferencing Helper Application" will be displayed as the helper application for the Mime type "video/x-qtc" with action "Launch" and extension ".qtc".

* Close the preferences panel of Netscape, and close the application. When you restart Netscape, you will now be able to launch the appropriate QuickTime Conferencing application to view live broadcasts and make video conference connections to other users, after restarting Netscape.

Configuring a Web Server for QuickTime Conferencing Calling Cards

The following steps will result in the creation and usage of a file which can be used from within HTML to reference a QuickTime Conferencing broadcast or videoconference connection.

(This feature temporarily disabled for 1.0.4a4)
1) The first step is to create a QTC "calling card" which can be referenced from HTML:

* Establish a QuickTime Conferencing connection (live broadcast viewing or a videoconference session) using an existing QTC application, such as QuickTime TV, QuickTime Web Conference (version 1.0.3) or Apple Media Conference (version 1.1).

* Save a reference to the connection (conferencing user or live broadcast) by selecting "Save Calling Card" in QuickTime TV or QuickTime Web Conference. You can save a reference to a set of connections by selecting "Save Group Card" in QuickTime TV or QuickTime Web Conference.

* Launch the Conferencing Helper Application included with the Conferencing Web Installer.

* Convert the QTC calling card (typically found in System Folder/Preferences/QTC Calling Cards) using the "Convert Calling Card" menu item in the Conferencing Helper Application. The file will be converted to a data fork only file format, which can be stored on Macintoshes, PCs and UNIX-based web servers.

2) The second step is to transfer the selected QTC calling card to the web server.

3) The third and final step is to configure the web server so that it is aware of the QuickTime Conferencing MIME type.

To configure your Web browser so that web pages can reference QuickTime Conferencing connections, you will typically need to add a line to the list of supported MIME types for the web server. For web server configuration files, where the configuration is specified as:

<type> <suffix> <mac file type> <mac creator> <mime type>

add the following line, so that QuickTime Conferencing connections referenced via HTML will be supported at the web server:

BINARY .QTC .qtc * video/x-qtc

The configuration file command may be different for various HTTP web servers, but this example should serve as a useful guideline.

QuickTime Conferencing and Firewalls

At those sites with Internet firewalls, it may be necessary to configure the firewall so that QuickTime Conferencing applications can use certain

features.

* To allow incoming QuickTime Conferencing calls to be received at an Internet site, it is necessary to allow incoming TCP traffic on port 458.

* To allow outgoing QuickTime Conferencing calls at an Internet site, it is necessary to permit outgoing TCP traffic on port 458.

* To allow QuickTime Conferencing broadcasts to be transmitted from an Internet site, it is necessary to allow incoming and outgoing TCP traffic on port 545.

* To allow QuickTime Conferencing media streams to flow outwards through the firewall, UDP traffic with static port 458 and with dynamic port values greater than or equal to 7000 must be allowed outgoing.

* To allow QuickTime Conferencing media streams to flow in through the firewall, UDP traffic with static port 458 and with dynamic port values greater than or equal to 7000 must be allowed incoming.

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Printers: Paper Weight Conversions

How do I convert a paper weight of grams/meter^2 (g/m^2) to pounds? My ream of paper says 75 g/m^2.
This article has been archived and is no longer updated by Apple.
According to international standards, paper weight is measured in grams per square meter (g/m^2). To convert this measurement to pounds, use this formula:

.2667 x g/m^2 = lbs

Examples:

.2667 x 75 g/m^2 = 20.0025 = 20 lbs

.2667 x 90 g/m^2 = 24.003 = 24 lbs

.2667 x 60 g/m^2 = 16.002 = 16 lbs

Convert from pounds to grams per square meter, use this formula:

lbs/.2667 = g/m^2

Example

28 / .2667 = 104.99 (about 105 g/m^2)
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Network Server: AIX and Application Binary Compatibility (6/96)

This article will provide a brief introduction to Network Server hardware running IBM's AIX 4.1.4 operating system, and will discuss hardware and software considerations relating to application binary compatibility.
This article has been archived and is no longer updated by Apple.
Most of the thousands of AIX 4.1 applications running today on IBM's RS/6000 platform should run on the Network Server AIX 4.1.4 without any modification. Exceptions include those applications with specific hardware dependencies, and applications which do not yet run on AIX 4.1 due to incompatibilities between IBM's implementation of AIX 4.1 and previous releases of AIX.

IBM's AIX 4.1 represents a state of the art UNIX operating system adhering to accepted industry standards including IEEE POSIX, FIPS 151-2, and XPG4. AIX 4.1 is also designed to meet the emerging common application interface as defined by Specification 1170. AIX features supported include:

* JFS (Journaled File System) with mirroring and striping.
* UNIX networking including NFS, TCP/IP.
* Common Desktop Environment (industry standard UNIX GUI).
* System Management Interface Tool and Visual System Manager.

Network Server with AIX 4.1.4

Apple will provide the AIX 4.1.4 operating system running on high-performance hardware custom-designed to be a greater server platform. AIX 4.1.4 provides a high-performance base operating system on which to run higher-level services such as file, print, and database. Additional Apple value-added features required by our customers will also be provided. To meet these needs, the Network Server integrates a number of complex technologies, from several different sources.

* PowerPC RISC processor technology from IBM, Motorola, and Apple.
* IBM's AIX 4.1.4 including UNIX networking and AIX Windows (X and Motif)
* Berkeley-style sockets and TLI-compliant AppleTalk protocol stack, with
router functionality and support for multiple Ethernet interfaces.
* Third-party solutions such as RAID and file/print services.

Considerations for Binary Compatibility

Binary compatibility means that a compiled program (the executable) can be taken from one platform to another without having to either recompile it, or make source code changes.

Most applications will be binary compatible with AIX 4.1.4 running on the Network Server because in most cases, differences in hardware that may affect binary compatibility are masked by the operating system environment, and are not visible to the applications layer. In order to ensure application binary compatibility, Apple has been working with different ISVs.

Application Binary Interface (ABI)

The IBM AIX 4.1 ABI defines all the elements developers need to create applications that will install, execute, and run unmodified on AIX 4.1. This includes such key definitions as loading and linking, conventions, object formats, the execution environment, networking infrastructure, and installation and packaging information. The core of this definition will consist of the IBM AIX 4.1 interfaces. Apple will add some additional interfaces to it's value added subsystems (that is AppleTalk) and will by necessity have to delete interfaces that support IBM-specific hardware.

For UNIX users, the AIX 4.1 ABI will provide platform binary compatibility based upon leading edge hardware technology and software specifications. The AIX 4.1 ABI specification enables binary applications to run across AIX systems from different vendors, and to provide a standards-driven, open environment for tomorrows users today. Applications developed to the AIX 4.1 ABI should run unmodified on Network Server AIX 4.1.4.

Application Programing Interface (API)

The API defines the set of system calls, library functions, header files, commands and utilities that an application developer is allowed to use to develop a compliant application. ISVs are mainly concerned with programming to the API. Underlying the Network Server AIX 4.1.4 API are key industry standards including:

* X/Open XPG4
* X/Open XNFS
* X/Open XTI
* X Window System (X11R5)
* OSF AES (Open Software Foundation Application Environment Specification)
* IEEE POSIX

Available AIX Applications
==========

There are about 3,000 AIX 4.1 applications listed in IBM's "AIX Power Solutions" catalogue, which can be ordered from IBM, Document No. GC67-0210-04. AIX applications listings are also available on the World-Wide Web, the top level URL is:

http://www.mfi.com/softwareguide/AIX-Solutions/

IBM has stated that more that 10,000 applications have been developed for AIX since it was introduced in 1990. AIX was first ported to the PowerPC by IBM in 1993 in a release of AIX 3.2.5. Most AIX 3.2.5 applications will run on AIX 4.1 and will also be binary compatible with the Network Server. IBM has an AIX V4 Certification Program to help developers certify that their AIX 3.2 solutions run on AIX 4.1.

Apple is in the process of testing the AIX binary compatibility of the Network Server platform and will provide more specific information as it becomes available.

Applications that are not Binary Compatible with Network Server AIX 4.1.4
==========

The ability to take a compiled program (the executable) from one platform to another and run it without having to make any source code changes is affected by many things. Certain applications may need some modification if they are affected by any of the following:

The processor and the expansion bus

The Network Server platform uses the PowerPC 604 microprocessor, which does not implement all of the instructions in the original POWER chipset or the POWER2 architecture. If an application uses hard-coded assembly or compiler options which result in instructions which are not implemented on the PowerPC 604, then the binary may not run on the Network Server platform. The operating system attempts to mitigate this problem by emulating many of the unimplemented instructions.

The Network Server platform's principal hardware incompatibility as compared with the existing base of AIX applications is its exclusive use of the PCI expansion bus. Almost all of the current AIX platforms from other vendors use IBM's MicroChannel Architecture (MCA) expansion bus or provided both MCA and PCI buses. If an application depends on a specific MCA expansion card such as a multi-port serial card or Centronics printer, then a functionally equivalent PCI card (and supporting AIX driver software) may not be available. Apple believes the PCI expansion bus is becoming widely adopted and is working with third-parties to promote the availability of PCI cards and drivers for the Network Server platform.

The system API, including device drivers interfaces and kernel extensions
---
For example, Apple has adopted the Open Firmware model to support PCI card self-configuration on Network Server and future desktop platforms. Device driver writers will need to develop Open Firmware-based configuration methods to correctly invoke their drivers on the Network Server platform. Apple is creating on addendum to the AIX Device Driver's Guide which describes these relevant Open Firmware issues.

The libraries, commands and other system utilities

In AIX 4.1, the Korn shell, /bin/ksh, is linked to /bin/sh, which is traditionally the Bourne shell. If an application uses a Bourne shell script which is incompatible with the Korn Shell, the procedures would not perform correctly on AIX 4.1. Most Bourne shell scripts are compatible with the Korn shell, however.

In addition, IBM reports in the "AIX Version 4.1 Porting Guide" that some applications will run on AIX 3.2.5, but not AIX 4.1; some of the problematic system services are listed below:

* XPG4 changed command output formats
* Unsupported loadable AIX kernel extensions
* Certain high-function terminal APIs
* IBM X input device programming interfaces instead of the X11R5 standard
input interfaces

* Communications I/O LAN device driver programming interface
* SCSI device configuration methods (IHVs)
* nlist () interface
* DCE threads

The resulting incompatibilities for the list above are not unique to Apple's AIX implementation but are due to incompatibilities between IBM implementation of AIX 3.2.5 and 4.1.

There are other factors affecting the availability of binary compatible applications for the Network Server AIX product. These include:

* Availability of ABI test suites
* Third-party (ISV) application testing and certification
* Performance tuning considerations
* Third-party marketing efforts (sales training, technical support)
* Support for third-party applications

Macintosh Applications

Macintosh applications are not supported as the Macintosh Application Environment (MAE) is not supported on AIX.

Article Change History:
24 Jun 1996 - Corrected wording.

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Performa & TelePort Gold II Modem: How It Draws Power (2/96)

I have a Macintosh Performa 6112CD which includes a Global Village TelePort Gold II modem. I want to use the modem with another Macintosh computer. How can I do this?

This article has been archived and is no longer updated by Apple.

The Global Village TelePort Gold II modem draws power from the ninth pin on the serial connector. So, you cannot use this modem with a Macintosh which does not provide this type of serial port. Additionally, there are no solutions available to convert the Global Village TelePort Gold II modems to use an external power supply or ADB port as its power source. If you are using a Macintosh computer that does not provide this type of serial port, then you need to purchase another modem.

Alternatively, if the two computers are connected to each other in a network, you may be able to use third-party software that allows a modem to be shared across a network.

Article Change History:
27 Feb 1996 - Made minor wording change.

Published Date: Feb 18, 2012

Why Does Clip Art Print Out Jagged? (2/96)

Why is it that some clip art I have prints smoothly, while some has jagged edges?
This article has been archived and is no longer updated by Apple.
There are two types of graphics formats used on personal computers: bitmapped and vector (or object-oriented) graphics.

Bitmapped graphics

Bitmapped graphics are a matrix of picture elements (called pixels), each one of which has a color assigned to it. The collection of these elements define what an image looks like. Since it is a matrix, the image you look at does not have any inherent properties which define its characteristics. For example, a "line" is a collection of dots, rather than a solid line.

If the image is scaled or magnified, the dots will become more visible. Considering that your screen has a resolution of about 72 dots per inch, and even low-end printers have 300 dots per inch, it is more likely that you will see such "pixellation," especially if color information is lost as part of the printing process.

In Macintosh terminology, MacPaint, TIFF, GIF, or JPEG images are bitmapped graphics, so you can expect to see some pixellation when you print. Exceptions would be pixmaps which are imaged at extremely high resolution--resolutions which equal or exceed your printer's resolution. You will find it easy to spot these because they tend to be several megabytes in size.

Vector images

Vector images are object-oriented collections of geometrically defined elements. For example, a line really is a line--an object which consists of information specifying its start and end coordinates, color, width, and other characteristics. Similarly, text just consists of the string information to draw and some font information. The dots that comprise the letters are not stored.

A picture comprised of vector elements can be scaled to any size, and the resulting output will be very smooth and will generally contain the characteristics of the original image.

On your Macintosh, vector formats include PICT, EPSF, and PostScript.

Conclusion

There are literally hundreds of file formats in use in the Macintosh, UNIX, and PC worlds. However, the basic limitations above apply, and many programs allow graphics to be imported from similar formats.

So, to avoid bitmapped printouts of your clip art, you need to obtain clip art which consists primarily of vector graphics. Most PICT-based packages would satisfy that requirement, but you should check with the publisher to verify this. If the PICT image is solely defined of one big bitmap, you will get pixellation.
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Network Server: AIX System Dumps

This article describes AIX system dumps on the Network Server 500 and Network Server 700.
This article has been archived and is no longer updated by Apple.
AIX generates a "system dump" when a severe error occurs, such as a kernel panic or hardware failure. Users with root privileges can initiate system dumps as well. A system dump creates a picture of your system's memory contents. System administrators and programmers can generate a dump and analyze its contents when debugging new applications, device drivers, and other kernel extensions. In addition, a system dump may be initiated from the keyboard when the keyswitch is in the service position, using the key sequence CTRL-Option-NumPad1. This may be useful when the system appears to be hung (of course, the system must be responsive enough to handle keyboard input).

If your system stops with an "888" number flashing in the LCD display, the system has generated a dump and saved it to a dump device. Your dump device holds the information that a system dump generates, whether generated by a system or a user. You can copy this information to tape and deliver the data to your service provider for analysis.

NOTE: The system cannot recover from a dump. You must restart the server after a dump has been taken.

Dump Device Configuration

By default, the system dump will be placed on the system paging space, /dev/hd6. You can check the dump settings by using the command "sysdumpdev". The following are the default settings:

# sysdumpdev -l	
primary	/dev/hd6
secondary	/dev/sysdumpnull
copy directory	/var/adm/ras
forced copy flag	TRUE
always allow dump	FALSE

It is not recommend, but you can change the dump device and other designations using the "sysdumpdev" command. Since a system dump may occur at any time, any other dump device must be dedicated to this purpose. The system paging space is an ideal dump device -- it will not be needed after the dump takes place, yet the space is still available for the system to use at other times. System installation should correctly configure the size of the paging space to be at lease as large as system memory (since the system dump is a snapshot of system memory this is the worst case scenario). To check the size of the system paging space, execute the following command:

# lsps -s	
Total Paging Space	Percent Used
128MB	27%

You can get an estimate of the system dump size using the -e option to sysdumpdev.

NOTE: You cannot permanently set the dump device to a logical volume not in the rootvg volume group. During boot time, when the dump device is configured, only the root volume group is accessible.

System Dump Recovery

When a system dump is taking place, status codes are displayed in the LCD display -- see Status Codes below. When the dump is complete, a 0c0 status code displays if the dump was user-initiated, a flashing 888 displays if the dump was system initiated. After the dump is complete, the system halts. You must restart the system to recover the data from the dump device. During system startup, the dump data will be copied to a filesystem specified by the copy directory, by default /var/adm/ras; the filename will be "vmcore.#", where # increases with the number of active dumps.

If there is insufficient space in the designed filesystem, the system will prompt you for removable media (such as a tape drive) on which to copy the dump data. After system startup has completed, copy the dump from the external media to a filesystem which has sufficient free space. Enter the following to copy the dump from /dev/rmt0, the default tape device.

```
# tar -x
```

After rebooting in normal mode and coping the system dump from tape if necessary, use the snap command to copy the dump data and other system configuration information to a blank tape for delivery to your service provider.

```
# snap -gfkD -o /dev/rmt0
```

If you recovered the system dump from tape, you must now append the dump data to the tar archive created by the snap command. The snap command will have failed to find the dump data in the copy directory.

tar -r dump_file

NOTE: The AIX documentation describes two uses of the reset button related to system dumps which do not apply to Apple hardware. On some IBM systems, if the keyswitch is in the service position, the user may initiate a system dump by pressing the reset button. After a system-initiated dump, on some IBM systems, the user may access additional status codes by repeatedly pressing the reset button.

NOTE: If the dump fails and upon reboot you see an error log entry with the label "DSI_PROC" or "ISI_PROC", and the Detailed Data area shows an "EXVAL" of "00000005", this is probably a paging space I/O error. If the paging space is the dump device or on the same hard drive as the dump device, your dump may have failed due to a problem with that hard drive. You should run diagnostics against that disk.

NOTE: AIX supports designating a tape device as the primary dump device, but that capability does not currently work on the Apple Network Server.

System Dump LCD Status Codes

The system LCD may display the following three-digit codes during a system dump.

0c0 - The dump completed successfully. Send the dump data to your service provider

0c2 - A system-initiated or user-requested dump is not finished. Wait one minute for the dump to complete and for the operator panel display value to change. If the operator panel display value changes, find the new value on this list. If the value does not change, then the dump did not complete due to an unexpected error. Report the problem to your service provider.

0c3 - The dump is inhibited.

0c4 - the dump did not complete successfully. A partial dump was written to the dump device, but there is not enough space on the dump device to contain the entire dump. To prevent this problem from occurring again, you must increase the size of your dump device.

0c5 - A system-initiated or user-requested dump did not complete. Wait one minute for the dump to complete and for the operator panel display value to change. If the operator panel display value changes, find the new value on the list. If the value does not change, then the dump did not complete due to an unexpected error. Report the problem to your service provider.

0c7 - A network dump is in progress, and the host is waiting for the server to respond. the value in the operator panel display should alternate between 0c7 and 0c2 or 0c9. If the value does not change, then the dump did not complete due to an unexpected error. Report the problem to your service provider.

0c8 - The dump device has been disabled. The current system configuration does not designate a device for the requested dump. Use the sysdumpdev command to configure the dump device.

0c9 - A dump started by the system did not complete. Wait one minute for the dump to complete and for the operator panel display value to change. If the operator panel display value changes, find the new value on this list. If the value does not change, then the dump did not complete due to an unexpected error.
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Global Village Modems: Initialization String for MacInTax (2/96)

This article provides an initialization string for users of the Global Village modems using GlobalFax 2.5.6 and wanting to use the electronic filing options in Intuit Software's 1995 version of MacInTax.
This article has been archived and is no longer updated by Apple.
You must change the Global Village initialization string if you use the electronic filing option in MacInTax. If you do not change the initialization string, the modem connects but does not send any data.

Workaround
==========

Teleport Bronze II and Teleport Platinum

Initialization string: AT&C0&D2X1

Teleport Gold II
---
1) Start-up with extensions OFF
2) Use this Initialization string: AT&F1\\N0

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.

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PowerBook 5300: PowerBook Tour Has Poor Sound Quality (2/96)

Why is he PowerBook 5300 Tour sound quality so poor? I just got my Macintosh PowerBook 5300 series computer (with 8 MB of RAM) and have not changed any settings or installed any software yet.
This article has been archived and is no longer updated by Apple.
PowerBook 5300 Tour Sound
==========

The sound quality of the PowerBook 5300 Tour application may be improved by turning off Virtual Memory. Follow these steps to do this:

Step 1

Pull down the Apple menu and select Control Panels.

Step 2

Open the Memory control panel.

Step 3

Turn off Virtual Memory.

Step 4

Select Restart the from the Special menu.

Step 5

Double-click on the PowerBook 5300 Tour application icon to start the tour.

When the tour is finished or you decide to quit, you may want to turn Virtual Memory back on so that you have enough memory available to open other applications.

Why Virtual Memory Is On
==========

Macintosh PowerBook 5300 series computers that come with the minimum configuration of 8 MB of RAM ship with Virtual Memory turned on for your convenience. Many popular applications (the Microsoft Office suite, for example) may require a significant amount of RAM to run. If Virtual Memory was not enabled when the PowerBook shipped, many common applications may not have enough RAM to launch.

Published Date: Feb 18, 2012

HyperStudio: Problems Launching When on a Network (2/96)

My school purchased the Elementary Reference Bundle, which includes HyperStudio v2.092. When I launch the application, sometimes my Macintosh freezes, other times an error message appears that reads "unauthorized duplicate running". Why?

This article has been archived and is no longer updated by Apple.

Roger Wagner Publishing, who makes and supports HyperStudio, is aware of this issue and is providing an update to 2.097 which allows HyperStudio to run on computers connected to a network. Contact Roger Wagner for the software update.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.

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AppleShare Client 3.6.1: Speed Copy 1.1 Compatible Issue

On Connectix Corporation's World Wide Web site is a patch called AppleShare 3.6.x Patch. The documentation indicates this patch is posted to correct a compatibility issue with AppleShare Workstation v3.6.1 and Speed Copy 1.1.

Is this Connectix patcher modifying Apple code, an extension which can be removed, or modifying Speed Copy? This may cause a problem when troubleshooting, if Apple code is modified, because it will be difficult to set a computer to only Apple extensions and control panels.
This article has been archived and is no longer updated by Apple.
The Connectix patcher is an extension and Read Me, and we were told, is needed for Speed Copy to work specifically with AppleShare Workstation v3.6.1. This patcher corrects a issue with files being corrupted during copy operations.

The patch is an extension that fixes the AppleShare Workstation 3.6.1 software in RAM by disabling the read and write caches. This results in performance loss when coping files to or from an AppleShare 4.2.x file server.

AppleShare Workstation v3.6.1 client software will be included in the next release of System System and System 7.5 Update 2.0, so this compatibility issue will be around for a while. This patcher is not expected to be required for AppleShare Workstation v3.6.2 which is included with the Workgroup Server 7250 and 8550 computers.
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LaserWriter IIntx: Speed Up Printing with Font Caching

This article has been archived and is no longer updated by Apple.

PostScript printer fonts -- outline fonts -- are defined as mathematical constructs that form the outline of the character. Each font (for example: Helvetica 12 bold, Times 18) must be converted into bitmaps before it can be printed on the LaserWriter. The bitmapped characters are stored (cached) in RAM; they will remain in RAM until the memory space is required by other bitmapped fonts, or by other system tasks. Each time a font that is no longer in the memory is required for a document, it must be reconstructed.

You can decrease the need to rebuild font bitmaps on a LaserWriter IIntx by adding RAM and/or attaching SCSI hard disks. When additional fonts must be downloaded and cached, RAM is checked first for available caching space. If no RAM is available, and the existing cached fonts are not needed by the current job, they will be replaced. If all RAM-cached fonts are used in the present print job, the new font will be cached in the space on the hard disk allocated for font-caching. This eliminates the need to reconstruct the bitmaps of those fonts which would have been removed if no hard disk space were available, and if RAM caching had exceeded its limits.

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What Is ISDN (3/96)

This article describes Integrated Services Digital Network (ISDN).
This article has been archived and is no longer updated by Apple.
ISDN (Integrated Services Digital Network) is an international network, like a telephone network, that supports rapid data transmission between many different types of personal communications devices, such as telephones, computers, and fax machines. With an ISDN line, you can send and receive both voice and other data, for example pictures, text, or video images simultaneously, at speeds up to 64 kilobits per second (kbps), per B (bearer) channel.

A typical ISDN line consists of two B channels and one D (signaling) channel which makes a BRI (Basic Rate Interface) ISDN line. The B channels are either 56 kbps, or 64 kbps, depending on the telephone company's equipment, and the D channel is 16 kbps. The total bandwidth for a BRI ISDN line is 144 kbps, however, the B channels are actually used for data and/or voice resulting in a bandwidth of 112 or 128 kbps.

The B channels can also be bonded together. Bonding refers to strapping the two B channels together using inverse multiplexing to produce what appears to be one 112 or 128 kbps channel.

Another type of ISDN line, has 23 B channels and one D channel, is the PRI (Primary Rate Interface) which is equivalent to a T1 line. Typically a PRI would be used by large corporations or an internet service provider.

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QuickTime Conferencing ISDN Kit: NT-1 Needed (3/96)

This article describes why an NT-1 is needed for an BRI (Basic Rate Interface) ISDN connection, and where to get one. This article has been archived and is no longer updated by Apple.
Apple's QuickTime Conferencing ISDN Kit does NOT contain an NT-1 (Network Terminal Adaptor) which terminates the ISDN line at the users end, and powers the ISDN line from the Network Interface box to the ISDN device. An NT-1 is needed for a BRI ISDN connection which has two B channels and one D channel.

Users will need to purchase an NT-1. Their cost may run in the $150 to $400 range depending on features, like Caller ID and so on. A basic NT-1, without Caller ID, will do the job as well as the best model.

An NT-1 is easily obtainable. Your local telephone provider may offer to sell you one, or you can purchase one from the following companies:

Companies	Phone Number	Model Name
Quicomm	1-800-244-3688	NT-1 Network Terminator
Intellicom	1-800-884-ISDN	Various models
PicturePhone Direct	1-800-810-9966	Tone Commander NT1U-220TC

NOTE: Because an ISDN line needs power and would be unusable in the event of a power outage, a user might also consider connecting the NT-1 to a UPS (Uninterruptable Power Supply).

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ISDN: How to Connect an NT-1

This article describes how to connect an NT-1 (Network Terminal Adaptor) to an ISDN line.

This article has been archived and is no longer updated by Apple.

In most ISDN (Integrated Services Digital Network) installations, an NT-1 must be connected to the ISDN line to power the ISDN line from the Network Interface box to the ISDN device. Check with your telephone provider to see if one is needed.

The NT-1 also has lights indicating the state of the ISDN line. Typically, an NT-1 will have Power, U Loop Back, and S/T&U lights.

Also because an ISDN line needs power and would be unusable in the event of a power outage, a user might want to consider connecting the NT-1 to an UPS (Uninterruptable Power Supply).

Below is a diagram showing how to connect an NT-1. An NT-1 may have multiple S/T ports, it does not make a difference which port you use.

```
                        Network Interface Box
---------WALL---------------------|-------------------------WALL---------
AC Power                          |<---Wall jack, RJ-11 or RJ-45)
  |                               |
  |                               |
  --------------                  |<---Use cable that ships with the NT-1
               |                  |
             POWER                |
     -----------------------      |
     |                     |      |
     |  Plug into U loop-> |------
     |                     |
     |      * NT-1 *       |
     |                     |
     | Plug into S/T loop->|------
     |                     |      |
     -----------------------      |
                                  |
                                  |<---Use RJ-45 that ships with the
                                  |    H.320 Card
                                  |
                  H.320 Card installed in computer
                      Plug into the RJ-45 jack
```

Pin Assignments
==========

S/T Connector Pin Assignments			
Pin	Function	Pin	Function
1	----------	2	----------
3	RX+	4	TX+
5	RX-	6	TX-
7	-40 VDC	8	GND

U-Line Connector Pin Assignments

Pin	Function	Pin	Function
1	----------	2	----------
3	----------	4	Tip
5	Ring	6	----------
7	----------	8	----------

Power Connector Pin Assignments			
Pin	Function	Pin	Function
1	+7.5 VDC	2	-40 VDC
3	GND for +7.5	4	GND for -40

DIP Switch Settings on Alpha Telecom UT620 NT-1 Device

DIP Switch Assignments			
Switch	Function	ON	OFF
1, 2	S/T-Termination	Yes	No
3	Bus Timing Mode	Short Passive bus	Point-to-point, or extended passive bus
4	PS2 Selection	SP62020 switching power supply	AD62010 AC/DC power adapter

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ISDN: Troubleshooting Using NT-1 Lights

This article provides a table to help troubleshoot NT-1 (Network Terminator) issues using the its lights.
This article has been archived and is no longer updated by Apple.

The NT-1 on an ISDN line typically has lights for power, U Loop Back, and S/T&U. These lights can be used to troubleshoot your ISDN line. Below is a table showing varing NT-1 light states:

Normal Light States

Light	State	Reason	Check
Power	On	Power is on	N/A
U Loop Back	Off	Line isn't being tested	N/A
S/T&U	Off	Line is ready for use	N/A

Other Light States

Light	State	Reason	Check
Power	Off	There is no AC power	Power cord, AC wall jack.
U Loop Back	On/blinking	Line is being tested	Contact local phone company to see if line is actually being tested.
S/T&U	Fast blinking (many blinks/sec)	Line is attempting to communicate with central office	If light then goes out, the line is ready to be used. If the light stays on, then check both cables coming out of the NT-1. If the problem continues, contact your phone company.
S/T&U	On steady	Line is not hooked up properly	Check cable going from wall jack to the NT-1.
S/T&U	Slow blinking (1 blink/sec)	Line is not hooked up properly	Check cable going from NT-1 to the ISDN device.

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ISDN: Who To Contact For ISDN Service (3/96)

This article provides telephone company contact information for ISDN service.
This article has been archived and is no longer updated by Apple.
ISDN service should be obtained from your local telephone provider. Below are telephone numbers for many of the telephone companies across the United States. Call the number corresponding to your local telephone provider.

NOTE: ISDN service is NOT available in all areas of the United States. Typically, you must be within about three miles of the central office equipment, so check with you telephone provider for more details.

Telephone Company Contact Information For ISDN Service
---
* Ameritech: 800-832-6328 (800-TEAM-DATA)

* Bell Atlantic: 800-570-4736 (800-570-ISDN)

* Bell South: 800-858-9413

* Cincinnati Bell: 513-566-3282 (513-566-DATA)

* GTE:
Menu driven information service: 800-4GTE-SW5
Florida, North Carolina, Virginia, and Kentucky: 800-483-5200
Illinois, Indiana, Ohio, and Pennsylvania: 800-483-5600
Oregon and Washington: 800-483-5100
California: 800-483-5000
Hawaii: 800-643-4411
Texas: 800-483-5400

* Nevada Bell: 702-688-7124

* NYNEX: 800-438-4736 (800-GET-ISDN)

* Pacific Bell
ISDN Service Center: 800-472-4736 (800-4PB-ISDN)
ISDN Availability Hotline: 800-995-0346
ISDN Telemarketing (order information): 800-662-0735

* Rochester Telephone: 716-777-1234

* Southern New England Telephone (SNET)
Northern Section (Hartford): 800-243-2542
Southern Section (Stamford): 800-222-2555

* Southwestern Bell: 800-792-4736 (800-SWB-ISDN)

* US West
Arizona, New Mexico, Utah: 800-288-4044
Colorado, Idaho, Montana, Wyoming: 800-289-9091
Iowa, Minnesota, North Dakota, South Dakota, Nebraska: 800-999-2021
Oregon, Washington: 800-222-2121

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Open Transport 1.1.x: Applications Compatibility Q & A

This article is the Reference Q & A (questions and answers) on applications compatibility for Open Transport 1.1.
This article has been archived and is no longer updated by Apple.
Question: Is Open Transport compatible with existing applications and network extensions?

Answer: Apple and third party developers have announced hundreds of Open Transport compatible applications.

Open Transport includes software libraries that provide "backward compatibility" services in four areas:

* to support existing applications that utilize the documented AppleTalk APIs;
* to support existing applications that utilize the documented MacTCP APIs;
* to support MacTCP Link Access Extensions (mdevs) on case by case basis; and,
* to support existing NuBus based network interface cards and drivers.

Note that the WinSock compatibility services are provided through third party software, available from NetManage. For more information, please refer to Open Transport and Cross-Platform Issues.

Open Transport compatibility services are available to applications accelerated for PowerPC as well as for 680x0 applications, as it provides the necessary "mixed-mode glue" as part of the Software Developer's Kit (SDK).

Question: What is implied when an application is "Open Transport Compatible"? Does that mean that it takes advantage of new Open Transport features?

Answer: Apple has defined three levels of interoperability with Open Transport. The first -- known as Open Transport Compatible -- is used to describe a network application originally developed for "classic" AppleTalk or MacTCP, that now takes advantage of Open Transport Compatibility Services. These applications automatically gain the benefits associated with the new Open Transport configuration utilities. However, they will not realize a significant performance increase on PowerPC Mac OS systems, nor can they take advantage of Open Transport's transport-independence capabilities.

Open Transport Ready applications are those that have been modified to adopt the new Open Transport APIs (XTI). They are PowerPC native, in addition to running on 680x0 Mac OS systems. Open Transport Ready applications not only benefit from the new configuration utilities, but have the opportunity for a significant performance boost when running on PowerPC Mac OS.

The third and final category of interoperability is referred to as Open Transport Enhanced. In addition to adopting the new Open Transport APIs and being PowerPC native, these applications have been modified to exploit the transport-independent capabilities of Open Transport, that is, they can be dynamically configured to support AppleTalk, TCP/IP, or serial communications.

Question: How is backward compatibility for AppleTalk implemented?

Answer: AppleTalk applications backwards compatibility is accomplished by intercepting all AppleTalk networking calls at the ".ddp" driver API. Above this protocol layer, applications written to the classic AppleTalk APIs continue to rely on the classic (680x0 based) implementation of AppleTalk. Calls to the ".ddp" driver are translated to the corresponding Open Transport XTI calls and are then passed to the new native implementation of DDP for processing. The process is reversed for incoming packets.

Using this approach, backwards compatibility is very robust - the classic implementations of ADSP, ASP, ATP, NBP, ZIP, and PAP are actually present (vs. simply mimicked). This also decreases the total memory footprint of backwards compatibility as compared to an implementation based on individual adaptation layers for each of the AppleTalk protocols. The primary trade-off of this approach is that applications relying on backwards compatibility do not gain any meaningful performance increases on PowerPC Mac OS; essentially only native DDP is actually in use in these cases.

Open Transport/AppleTalk also includes broad support for existing applications software and network devices that rely on the Chooser or the Network Control Panel software for selection and configuration, known as "cdevs" and "adevs" respectively.

Question: How is backward compatibility for MacTCP implemented?

Answer: TCP/IP (MacTCP) applications backwards compatibility is accomplished by intercepting all MacTCP networking calls at the ".ipp" driver level. Calls to the ".ipp" driver are translated to corresponding Open Transport XTI calls and then passed to the native TCP/IP stack for processing. The process is reversed for incoming packets.

This approach allows most MacTCP applications to benefit from the native implementation of the TCP/IP protocols on PowerPC Mac OS, at least to some degree. While the backwards compatibility layer itself must run as 680x0 code, most of the handling of the packet happens in the new native Open Transport/TCP implementation. The drawback of this implementation is that "warts and all" backward compatibility is somewhat less robust; applications depending on idiosyncrasies of MacTCP or referencing internal MacTCP data structures are likely to need an update.

TCP/IP backward compatibility also includes targeted support for select software products that rely on the MacTCP (or Admin TCP) Control Panel software for configuration. Support for these software modules, known as MacTCP Link Access Modules, or simply "mdevs", is more limited than that provided for AppleTalk "adevs", due to certain technical considerations.

Question: Are there other compatibility issues with PCI Mac OS systems and existing network software products?

Answer: Certain network software products -- such as MacIPX from Novell, PathWORKS (LAT and DECnet) from Digital Equipment Corp. or Thursby Software Systems, and Insignia Solutions SoftWindows -- interact directly with the Mac OS Ethernet hardware, expansion slots, and driver software. With the introduction of PCI and Open Transport to Mac OS, these elements have changed substantially; PCI has replaced NuBus, the system Registry has replaced the Slot Manager, Open Firmware has replaced the role of NuBus ROMs, and DLPI has replaced the ".enet" driver API. If not addressed, these changes would have resulted in significant compatibility problems between PCI Mac OS systems and these network software products.

Note: For the latest communications software mentioned above, please contact the appropriate third-party vendor for compatibility information with Open Transport 1.1

To support these types of products, Mac OS System Software 7.5.2 (and more recent) includes a compatibility library that allows these products to identify and communicate with the built-in Ethernet controller on PCI Mac OS systems as if it were a "classic" NuBus Ethernet device. This compatibility software emulates not only the necessary low-level Ethernet driver calls, but also the Slot Manager and other related APIs necessary to preserve compatibility with these applications.

This compatibility software is limited, however, in that it supports access only to the built-in Ethernet adapter of PowerPC Mac OS systems with PCI. Thus, existing versions of products such as MacIPX and SoftWindows will not be able to take advantage of PCI network interface options such as token ring, fast Ethernet, or FDDI. New versions of these applications will be required to gain full access to all PCI NIC options.

Note that this compatibility module was not available in the original distribution of System 7.5.2 for the Power Macintosh 9500 (with Open Transport v1.0). This is one of the reasons that customers with 9500s were urged to update to System Enabler 1.1 or greater.

With the availability of System 7.5.3 this compatibility library is included as a part of system software. Customers using MacIPX should note that an updated version of the compatibility library is included as a Custom Install option with the System Update 2.0 installer. For more information regarding this updated library, please refer to the System Update 2.0 release notes.

Question: How is backward compatibility for NuBus network interface cards implemented?

Answer: For 680x0 and PowerPC Mac OS systems with NuBus, Open Transport v1.1 will allow use of existing NuBus NICs and drivers. This compatibility is provided by software support mapping DLPI driver calls generated by new Open Transport protocols to corresponding calls to "classic" Mac OS LAP Manager, .enet and .tokn APIs.

Question: Are there other known limitations to applications backward compatibility?

Answer: Yes, there are some. Applications that rely on undocumented APIs or examine private data structures in classic AppleTalk or MacTCP will not be fully compatible with Open Transport.

Examples include the MacSNMP AppleTalk and TCP/IP Agents (however, MacSNMP and the Macintosh System Agent are compatible), the Apple Internet Router 3.x and some utilities like MacTCP Watcher and MacTCP Spy.

Updated versions of these software products will be required for full compatibility.

Question: There have been reports of problems with MacX 1.2. Is there an Open Transport compatible X Window System server available?

Answer: Apple MacX 1.5 is compatible with Open Transport and is a recommended upgrade for all customers who have any earlier versions of MacX.

Although not related to Open Transport, there is a known bug in MacX 1.2 that can cause a system crash when running on System 7.5.2.

Question: There have been reports of problems with Apple Remote Access 2.0.1 and Open Transport. What is the status?

Answer: Apple Remote Access 2.0.1 is fully compatible with Open Transport v1.1.

Apple Remote Access 2.0.1 running on a system with the earlier Open Transport 1.0.x releases always operated in the "Remote Only" mode. In that mode, only resources at the remote site would be visible in the Chooser while connected via dial-up; local resources would reappear when the dial-up link was disconnected.

Question: There have been reports of problems with the use of Open Transport 1.0.x and network protocol analysis tools such as AG Group

Etherpeek and Neon Software NetMinder. What is the status of this?

Answer: AG Group's Etherpeek Version 3.x and Open Transport 1.1 are compatible. Refer to the AG Group about EtherPeek and LocalPeek questions.

Question: There have been reports of problems with the Apple LaserWriter Bridge and LocalTalk Bridge and Open Transport. What is the status?

Answer: The LaserWriter Bridge and LocalTalk Bridge software has been updated to version 2.1 which is compatible with Open Transport 1.1 or later. Updaters are available on-line from Apple Computer's FTP and WWW sites.

Question: There have been reports of problems with MacTCP Ping and Open Transport. What is the status?

Answer: MacTCP Ping is an unsupported utility developed by Apple Computer specifically for MacTCP. It is not compatible with Open Transport. Compatible Ping utilities, such as MacPing Pro from Dartmouth, are currently available.

Question: There have been reports of problems with Assistant ToolBox and Open Transport. What is the status?

Answer: Assistant Toolbox version 1.3 is compatible with Open Transport. System 7.5.5 and later will include the capabilities of this software within Mac OS and the Assistant ToolBox will no longer be needed.

Question: There have been reports of problems with At Ease and Open Transport. What is the status?

Answer: At Ease v3.0.1 and earlier have a conflict with Open Transport. At Ease v3.0.2 and later are compatibile.

For the most current information on what SDKs Apple offers, point your web browser to:

http://developer.apple.com/sdk/
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Open Transport 1.1: Availability and Distribution Q & A

This article is the Reference Q & A (questions and answers) on availability and distribution of Open Transport 1.1.
This article has been archived and is no longer updated by Apple.
Question: What is the current version of Open Transport, and what are its key features?

Answer: If you are looking for a more recent update of Open Transport, You must upgrade your system software to install the most recent version. Open Transport 2.0.3 is the current version but has been qualified with Mac OS 8.6 only. Open Transport v1.1.2 is the latest version available from Apple Software Updates (http://www.apple.com/swupdates) for download. This maintenance release was designed and is recommended for all PCI-bus Power Macintosh systems. It includes the following changes:

This release is an update to Open Transport v1.1, to address the most pressing customer requests, in advance of the next feature release of Open Transport (currently planned as OT 1.5 - see Future Directions). Open Transport v1.1.1 includes the following updates and new features as compared to the earlier Open Transport 1.1 release:

* now also supports the Performa 5200, 5300, 6200, and 6300 systems;
* includes internal changes to minimize memory fragmentation resulting from dynamic loading and unloading of TCP/IP;
* includes changes to the TCP/IP DNR for inter-operability with sites using the load-balancing name daemon;
* includes changes for support of the upcoming Open Transport/PPP release;
* includes all bug fixes available to date.

Open Transport v1.1 is the version which comes with System 7.5.3. This general release is recommended for all supported Mac OS systems, and includes the following updates and new features as compared to the earlier Open Transport 1.0.x releases:

* now also supports 68030 and 68040 Mac OS systems,
* now also supports PowerPC Mac OS systems with NuBus,
* now also supports NuBus, SCSI, and CommSlot network interface adapters,
* offers tuning to optimize performance of high speed datalinks,
* offers tuning to support multiple client, multithreaded server applications,
* includes support for multinode and multihomed operation of AppleTalk protocols,
* adds support for raw packet access and promiscuous mode, to enable the development of Open Transport-ready network analyzers and other network management utilities,
* recognizes a significantly expanded selection of MacTCP dial-up network extensions (mdevs),
* allows reconnection of a dial-up TCP/IP session without reloading networking and without system restart,
* provides display of the datalink Media Access Control address for Ethernet and token ring networks,
* provides user notification in the event duplicate AppleTalk or TCP/IP addresses are established,
* automatically converts users' existing AppleTalk and MacTCP setting to Open Transport configuration files during installation,

* includes improved compatibility with Apple Remote Access 2.0.1,
* includes improved compatibility with a wider range of DHCP servers,
* provides a basis for future support for PPP-based AppleTalk and TCP/IP remote networking,
* provides a basis for future support for modem and ISDN communications devices,
* includes support for Mac OS system software System 7.5.3,
* includes support for the creation of a "universal system folder",
* includes support for the Network Software Selector utility to provide easy transition from classic to Open Transport networking on Mac OS systems supporting both,
* offers improved Balloon Help text for System 7 users,
* includes all bug fixes available to date.

Question: How is Open Transport v1.1 available?

Answer: Open Transport v1.1 is available through a broad range of distribution channels:

* as a no-charge upgrade to customers with existing MacTCP volume license software maintenance agreements;
* as a no-charge upgrade to customers with existing system software volume license software maintenance agreements;
* as a component of Mac OS system software release System 7.5.3;
* as a component of Mac OS system software update System 7.5 System Update 2.0;
* as a retail software product in single-user software package;
* through an OEM redistribution licensing program from Apple Software Licensing,
* bundled with Apple and third party applications software that are Open Transport-ready,
* from select Apple-licensed publishers and Internet Service Providers.

Question: How will volume license software maintenance customers receive Open Transport?

Answer: A master copy of the Open Transport software and documentation will automatically be mailed to the contact of record for customers with active MacTCP or Mac OS System Software maintenance contracts.

Question: How could a customer receive a copy of System 7.5.3?

Answer: System 7.5.3 will be pre-installed on Mac OS systems beginning in first half calendar 1996. System 7.5.3 will also become available as a shrink-wrap retail product in first half calendar 1996.

Question: How could a customer receive a copy System 7.5 System Update 2.0?

Answer: System 7.5 System Update 2.0 is available through a variety of channels, including:

* On the Internet at the Apple Software Updates site
* On America Online, use keyword: applecomputer
* On CompuServe, use GO: APLSUP
* Through Apple User Groups

Question: What is the part number and pricing for the Open Transport single-user software package?

Answer: In the U.S. order number M4252Z/A; the estimated retail price is $39.

Question: Will Open Transport be localized for non-English speaking countries?

Answer: As a part of Mac OS System 7.5.3, Open Transport will be localized around the world. Generally speaking, within 60 days after the update is released in the U.S., a localized version will be available in most major languages in North America, Europe, and Australia. Other regions will provide the improvements that are delivered in this update at a later date. Please contact the Apple Assistance Center in your area for details.

Question: How is Open Transport available to software developers, publishers, and/or Internet Service Providers (ISPs) for redistribution and bundling?

Answer: Apple offers two different redistribution licensing agreements for Open Transport, designed to meet the needs of publishers, software developers, and ISPs.

The first agreement is designed for Internet service providers, network and communications reference work authors and publishers, and others interested in bundling Open Transport software as an added customer benefit to their product or service offering. This license is based on a sliding-scale per-unit license fee, and requires annual reporting of licenses issued. Interested parties should send an email to SW.LICENSE@apple.com.

The second agreement is designed for software developers with products that adopt the new Open Transport APIs who wish to ship Open Transport as a part of an integrated product installation process. This agreement is based on an addendum to the Mac OS SDK, and allows qualified developers to ship the Open Transport run-time environment to end-users as a part of their product.

To qualify, developers must execute the Open Transport License Addendum through Apple Software Licensing, and meet the following requirements:

* have developed an Open Transport-ready or Open Transport-enhanced software product,
* be current subscribers to the Mac OS SDK,
* provide Apple advance notice of their intent to ship their Open Transport product(s),
* distribute the required Open Transport components only in conjunction with their product(s),
* annually report the total number of licenses issued.

Other terms and conditions apply, however, no additional fees (beyond the Mac OS SDK subscription) are required for this license. Interested parties can send an email to SW.LICENSE@apple.com.

Question: Will localized versions of Open Transport software be available for developer and ISP licensing?

Answer: Initially the Open Transport redistribution licensing program will only have the U.S. English version of the software available. Licensing of

localized versions of Open Transport will depend upon demand and availability.

Question: What of the earlier Open Transport v1.0.x releases?

Answer: Open Transport v1.0.x releases were all designed for use only on the Apple PCI Macintosh systems:

* Open Transport version 1.0, for the Power Macintosh 9500, was focused on offering compatibility with existing networking client applications and on upgrading the feature set and performance of TCP/IP. It shipped only as an integral part of system software with the 9500.

* Version 1.0.1 was a maintenance update, designed to correct a potential problem with data truncation in large file transfers. Open Transport v1.0.1 was distributed electronically, as an update to be applied to an existing installation of Open Transport v1.0.

* Version 1.0.6 added support for the Power Macintosh 7200, 7500, and 8500 systems and addressed bugs discovered since the 1.0 release. Open Transport v1.0.6 shipped as a component of System Software 7.5.2 version 2 on the Power Macintosh 7200, 7500, 8500, and 9500 models.

* Version 1.0.7 included changes to improve performance and compatibility of Open Transport/TCP with third party SLIP and PPP software and with certain Internet Service Providers (ISPs). Open Transport v1.0.7 was distributed electronically, as an update to be applied to an existing installation of Open Transport v1.0.6.

* Version 1.0.8 was also a maintenance release, and included better compatibility with Qualcomm Eudora, Claris Emailer and Emailer Lite, CE Software QuickMail, and Netscape Communications client software, as well as improvements in BootP and DHCP interoperability. Open Transport v1.0.8 was distributed via a variety of information services and a number of Internet sites - as a full installation of Open Transport software.

Question: Why was Open Transport made available on PCI Power Macintosh systems first?

Answer: Starting with the introduction of the Power Mac 9500, Apple moved to adopt industry standards for both network driver software - Open Transport DLPI - and network hardware - PCI. This strengthened the business case for new and existing third party developers who could, as a result, include Mac OS on PowerPC in their plans for cross-platform network connectivity products. The Power Macintosh 9500 was the first system to incorporate both of these standards, and has since been followed by additional systems and configurations.

In particular, Apple made the business decision to move to standards for networking on the hardware and software fronts in tandem, that is, PCI and DLPI. This created a dependency that required customers deploy Open Transport with their PCI Mac OS systems. It also minimized the work by third parties needed to create drivers for new PCI networking cards. As a result customers have found a broad selection of third party PCI networking options for Mac OS.

For the most current information on what SDKs Apple offers, refer to **http://developer.apple.com/sdk/.**

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Open Transport 1.1: Developer Adoption Q & A (3/96)

This article is the Reference Q & A (questions and answers) on developer adoption for Open Transport 1.1.
This article has been archived and is no longer updated by Apple.
Question: Which third party developers support Open Transport?

Answer: Seeding of Open Transport among developers began more than a year in advance of release, and reached more than 5,000 developers. Several hundred developers are actively working with Apple on development efforts.

The following software developers are among those who have announced support for Open Transport to date:

* ACI
* Adobe Systems
* AG Group
* AGE Logic, Inc.
* Asant*
* Atomic Games
* Carnegie Mellon University
* CE Software
* Claris Corporation
* Dantz Development
* Delphic Software, Inc.
* Digital Ocean
* EveryWare Development Corp.
* Farallon Computing, Inc.
* Gradient Technologies
* HI Resolution Software
* Hughes Advanced Systems
* IBM
* Intercon Systems, Inc.
* Maxum
* Mentat Inc.
* Metrowerks, Inc.
* Neon Software
* NetManage, Inc.
* NorthWestern University
* Novell
* Pacer Software
* Pole Position Software GmbH
* Progressive Networks
* Quark, Inc.
* Remedy Corp.
* Seaquest Software
* SoftArc
* StarNine Technologies, Inc.
* Starlight Networks
* Systematics Softworks GmbH
* The University of Michigan
* The Wollongong Group
* Thursby Systems Software, Inc
* Vicom Technology
* Wall Data
* White Pines
* WRQ

The following developers have announced support for both Open Transport and PCI on Power Macintosh:

* Asant*
* Attachmate
* Creative Solutions
* Dayna
* Digiboard
* Digital Equipment Corporation
* Efficient NW

* Farallon Computing, Inc.
* Focus
* Fore Systems, Inc.
* 4-Sight International Limited
* Hermstedt GmbH
* Innosys
* Interphase
* Newer Technology
* Neutral
* QLogic
* Rockwell
* SAT/Sagem
* SCii Telecom
* Silicon Valley Bus
* Spectra Systems
* Workstation Technologies

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Open Transport 1.1: For More Information Q & A

This article is the Reference Q & A (questions and answers) for more information on Open Transport 1.1.
This article has been archived and is no longer updated by Apple.

For More Information

Question: How can interested parties get more information on Open Transport?

Answer: Documentation for Open Transport is publicly available by anonymous ftp on the Internet at a number of sites, including ftp://seeding.apple.com/opentransport/.

Question: Can customers apply to receive pre-release copies of Open Transport for implementation testing?

Answer: The Open Transport Early Access program provided pre-release access to Open Transport v1.1. Since the product is now shipping, pre-release seeding of the Open Transport 1.1 has been discontinued. As plans for future versions of Open Transport develop, Apple expects to offer a similar customer testing and preview program. Announcement of details will occur at the appropriate time.

Question: Can developers apply to receive pre-release copies of Open Transport for development and testing?

Answer: The Open Transport v1.1 developer seeding program reached over 5,000 developers. Since the product is now shipping, pre-release seeding of the Open Transport 1.1 has been discontinued. A new seeding program is anticipated for future versions of Open Transport. Details will be announced at a later date.

The Open Transport software developers kit (SDK) is available as a component of the Mac OS SDK, and is available on the Internet at ftp://seeding.apple.com/ess/public/opentransport/SDK OT Client

Question: How can developers get support while developing Open Transport applications?

Answer: Apple Developer Support services have engineering specialists fully trained on Open Transport development and debugging. Access to these engineers is just one of the benefits of the Apple Developer Partner's program.

For more information on Apple's Developer Support services, including information on how to register as an Apple Developer Partner, contact the Macintosh Developer Services Information Line at US 408-974-4897.

For developers not a part of Apple's Developer Support services programs, Apple has assigned evangelism resources to the support of Open Transport.

Question: **Are there general reference sources on XTI, STREAMs and DLPI?**

Answer: Sources of information that are applicable to XTI and STREAMs include:

- OSF/1 Operating System: Network Applications Programmer's Guide; Open Software Foundation, Prentice Hall, ISBN 0-13-640145-7
- UNIX Network Programming; W. Richard Stevens, Prentice Hall, ISBN 0-13-949876-1
- UNIX System V Release 4: Programmer's Guide: STREAMs; Unix Press (A Prentice Hall title), ISBN -0-13-020660-1
- Programming UNIX SVR4.2: Network Programming Interfaces; UNIX Press (A Prentice Hall title), ISBN 0-13-017641-9
- X/Open CAE Specification: X/Open Transport Interface (XTI); X/Open Company, Ltd. (XO/CAE/91/600) ISBN 1-872630-29-4
- Transport Provider Interface Specification, rev 1.5 (92/12/10); UNIX International, OSI Special Interest Group
- Data Link Provider Interface Specification, rev 2.0.0 (91/08/20); UNIX International, OSI Work Group

For the most current information on what SDKs Apple offers, point your web browser to:

http://developer.apple.com/sdk/
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Video Out for HyperDrive

Can a dealer install a Video Out on a HyperDrive Macintosh and, if so, which manufacturers are compatible with HyperDrive?
This article has been archived and is no longer updated by Apple.
Mentauris Technologies is one manufacturer that designs composite video adapters. We have tested this product and it is compatible with the new silver HyperDrive bracket.

On AppleLink, you can find contact information on a company mentioned in this article by clicking the "Library Index" button in the lower-center of the Tech Info Library search window, then opening the "Third Party Company Directory" folder.

NOTE: Apple Computer, Inc. is not responsible for the contents of this article.
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Open Transport 1.1: Network Compatibility Q & A

This article is the Reference Q & A (questions and answers) on network compatibility for Open Transport 1.1.
This article has been archived and is no longer updated by Apple.
Question: Is Open Transport interoperable with installed AppleTalk and TCP/IP networks?

Answer: Open Transport 1.0.x is compatible with existing AppleTalk and TCP/IP networks at the "packets on the wire" level. Organizations can introduce one, a few, or hundreds of new Mac OS systems running Open Transport into their environment without worrying about interoperability with existing networking services.

Question: There have been reports of problems with the PCI Mac OS systems when transferring large files over Ethernet networks. Is this due to running Open Transport software?

Answer: Apple has received reports describing problems transferring large files from PCI Macintosh systems to a variety of AFP servers. The reports state that file transfers stop and a -1072 error is generated. The reports also state that after the problem occurs, both AppleTalk and TCP/IP services are lost and systems must be restarted to restore them. If Ethernet traces are taken, they show that the system disappears from the network.

This problem has been identified as a bug in the Ethernet driver that can exhibit itself if there is a lot of PCI bus activity. In this case, it is possible that Ethernet DMA will start to transmit a packet, and an under run will occur because DMA cannot get enough bandwidth to transfer the entire packet to the Ethernet controller. If this condition occurs more than 10 times in sequence, the bug in the driver causes it to not recover the buffers associated with the under run. The driver allocates 10 buffers; when they are gone the transmitter will not longer be able to send packets. This problem could occur in some normal situations with a lot of disk activity.

This problem is present only in the built-in Ethernet drivers that shipped with the Power Macintosh 7200, 7500, 8500, and 9500 systems prior to the availability of System 7.5.3. (The first Power Macintosh 9500 systems shipped with v1.0 of this driver; the Power Macintosh 7200, 7500, and 8500 systems shipped with v1.0.1.)

Apple has released an updated driver that fixes this problem, first available as version 1.0.2 of the "Ethernet (Built-in)". The most current version of this driver is included with System 7.5.3.

Question: There have been reports of problems with the Power Mac 7200/90 and it operation on Ethernet networks. Is this due to running Open Transport software?

Answer: Apple has determined that under certain network conditions, independent of the protocol being utilized, a Power Macintosh 7200/90 may fail to send large packets over it's built-in Ethernet. The trouble mode is that the 7200/90 may lock-up, time-out, or have extremely slow Ethernet performance under certain conditions. These conditions generally occur only when transferring large packets of data over large and busy networks.

The problem has been isolated to the 7200/90 system logic board, and is limited to the subset of 7200/90 systems with a serial number lower than "XX544XXXXXXX". No other Power Macintosh, Power Macintosh LC, Performa or PowerBook models experience this problem, including the 7200/75. The problem is not related to Open Transport.

Apple has proactively notified customers of this issue, and has instituted troubleshooting procedures to make it easy to determine if a system is impacted. All manufacturing sites have implemented a logic board change and Power Macintosh 7200/90 systems currently available should not be affected by this issue.

If a customer has completed the troubleshooting procedures and finds that their 7200/90 experiences the trouble mode, they should contact their local Apple Authorized service provider or call Apple (1-800-SOS-APPLE in the US) to be advised on how to have the logic board replaced free of charge.

Question: Is Open Transport compatible with existing Internet Service Provider offerings?

Answer: Open Transport/TCP currently supports dial-up connectivity to TCP/IP networks, including the Internet, through backward compatibility with select third party software modules known as mdevs.

With the appropriate software installed, end-nodes can use either SLIP or PPP to connect to Internet Service Providers and other dial-up IP-access points. Not all versions of all mdevs are supported by Open Transport compatibility services, thus it is important that recommended versions of software be installed for the greatest level of compatibility.

It is also very important that TCP/IP addressing and other configuration information be properly configured. As there is a new human interface provided by Open Transport/TCP, there are some differences in the process as compared to the older MacTCP software. In particular, when

running TCP/IP over a SLIP or PPP link only, it is recommended that the "router address" and "subnet mask" fields be left blank in the TCP/IP control panel.

Question: Which MacTCP dial-up extensions ("mdevs") are supported by Open Transport/TCP?

Answer: Apple has worked together with third party developers to test a variety of mdevs with Open Transport 1.1. The following mdevs, when installed, will appear listed by name in the "Connect Via:" pop-up menu in the TCP/IP control panel:

* FreePPP - Apple and the developer recommend that you use version 1.0.5 or more recent.

* InterPPP II - Apple and the developer recommend that you use version 1.1 or more recent.

* InterSLIP - Apple and the developer recommend that you use version 1.0.1 or more recent.

* MacSLIP - Apple and the developer recommend that you use version 3.0.2 or more recent.

* MacPPP - Apple and the developer recommend that you use version 2.1.4 SD or more recent (version 2.2.0 is not recommended).

* SonicPPP - Apple and the developer recommend that you use version 1.0.2 or more recent.

* VersaTerm SLIP - Apple and the developer recommend that you use version 1.1.4 or most recent.

Question: Are any other mdevs recognized by Open Transport?

Answer: There are a number of third party PPP mdevs that are all derived from a common technology base, FCR PPP. The derivative implementations have not been individually tested by Apple, although Apple and FCR have worked closely together in testing the core technology.

Each of these derivatives registers with Open Transport using the same "signature". When any one is installed, it will appear as "TCP/IP PPP" in the menu, rather than as it's own brand name. These include:

* About Software FCR PPP
* 4-Sight 4-Sight PPP
* InterCon InterPPP
* Network Telesystems NTS PPP
* Pacer Software PacerPPP
* SAT/SAGEM PlanetPPP
* Tribe TribePPP
* White Pine Software WhitePine PPP

Users are always encouraged to check with the third party developer of interest for the most recent information on versions and compatibility.

Question: Is PPP connectivity distributed as a bundled component of Open Transport v1.1?

Answer: No, not at this time. AppleTalk and TCP/IP connectivity using Open Transport/PPP is planned as a feature of future products, with PPP support for Open Transport/TCP expected first to be followed by AppleTalk/PPP later.

Apple plans to merge remote access client and personal server capabilities with Open Transport capabilities, to offer an integrated support for LANs, WANs, and remote networking. These capabilities are also expected as a part of a future Mac OS update. Details will be announced at a later date.

Question: Does Apple currently offer a solution for SLIP or PPP dial-up to the Internet?

Answer: Yes. The Apple Internet Connection Kit (AICK) is a selection of the most popular Internet applications from third party companies, including the Netscape Navigator and RealAudio Player from Progressive Networks, as well as Claris Emailer Lite.

AICK 1.1 includes MacPPP 2.5 (Version 1.0 included MacPPP 2.1.4) along with the Apple Internet Dialer - software designed to make it simpler for Mac OS customers to register with a qualified Internet Service Provider (ISP) and get connected to the Internet. To help users work with their Internet applications, the Apple Internet Connection Kit includes AppleGuide software for on-line assistance.

Question: Does the Apple Internet Connection Kit require Open Transport?

Answer: The Apple Internet Connection Kit (AICK) can support either MacTCP 2.0.6 or Open Transport/TCP 1.x.

Note that the Apple Internet Dialer 1.0 (part of the Apple Internet Connection Kit 1.0) should not be used with System 7.5.3 unless the following procedure is first performed (note that this procedure is not required on PowerPC PCI Mac OS systems):

* Use the Network Software Selector utility to specify classic networking
* Restart the system
* Remove MacTCP from the control panels folder
* Use the Network Software Selector utility to specify Open Transport networking
* Restart the system

The Apple Internet Dialer 1.0 will now work correctly with System 7.5.3. Alternately, Customers should update their copy of AICK with the Apple Internet Dialer 1.1. This revision of the dialer is fully compatible with Open Transport 1.1 and System 7.5.3

Question: What is MacPPP 2.5 / 2.1.4? Is it available on the Internet?

Answer: MacPPP 2.5 and 2.1.4 are derivatives of the MacPPP 2.1.x SD versions of Merit's PPP. They include code contributed by Apple engineering to enhance compatibility with Open Transport/TCP.

Question: There have been reports of problems with Open Transport, PPP, and the use of Virtual Memory. Is Open Transport compatible with Virtual Memory?

Answer: Open Transport fully supports the use of virtual memory. However there were some problems with MacPPP versions 2.1.x SD and versions of FreePPP prior to 1.0.4; MacPPP 2.5 and FreePPP 1.0.5 have corrected these problems . Users are advised to update to the most recent version of the software, or temporarily turn VM off.

Question: Are there known limitations to backward compatibility mdev support?

Answer: Due to some shortcomings in the Open Transport 1.0.x backward compatibility services, there were some additional limitations with earlier versions of Open Transport:

* Some mdevs were not be able to auto-dial, that is, automatically connect to the service provider when launching a TCP/IP application. This has been addressed with updated versions of mdevs.

* Once a TCP/IP application launched and used a SLIP or PPP mdev, use of a different mdev could have required restarting the Macintosh. Disconnecting from and re-dialing a service provider could also have the same effect. This has been corrected in Open Transport v1.1.

Question: Are there differences in configuring Open Transport/TCP and MacTCP for Internet Service Providers (ISPs)?

Answer: Some ISPs do not strictly follow standards, which call for assigning end-node IP addresses on the same subnet as the router (gateway). Open Transport strictly enforced this requirement in versions prior to 1.0.7. In versions since OT 1.0.7 (including 1.1), the TCP/IP Control Panel automatically generates a compatible router address to facilitate connectivity to the ISP. To take advantage of this feature, the user simply leaves the router and subnet mask fields empty when configuring Open Transport/TCP for dial-up access.

Question: If a user needs an updated copy of an mdev, where can they find the software?

Answer: Sources for software vary, as some products are commercial, and some are shareware or public domain.

* FreePPP is shareware and can be found on a variety of Internet sites; typically at "info-mac" mirror sites in the comm/tcp directory.

Some sites where FreePPP can be found currently include:

ftp://mirrors.aol.com/pub/info-mac/comm/tcp/
ftp://mirror.apple.com/mirrors/Info-Mac.Archive/comm/tcp/

* InterPPP and InterPPP II are commercial software products. For availability and ordering information contact InterCon Systems, US +1-800-468-7266 or 703-709-5500.

* MacSLIP is commercial software developed by Hyde Park Software. For availability and ordering information contact TriSoft, US +1-800-531-5170 or 512-472-0744.

* VersaTerm SLIP is commercial software developed by Synergy Software. For availability and ordering information contact Synergy, US +1-610-779-0522.

* MacPPP (v2.1.4) is available as a part of the Apple Internet Connection Kit, Apple Computer Inc., US +1-800-462-4396 for fax information or +1-800-538-9696 to locate an Apple reseller near you.

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Open Transport 1.1: Network Interface Options Q & A (3/96)

This article is the Reference Q & A (questions and answers) on network interface options for Open Transport 1.1.
This article has been archived and is no longer updated by Apple.
Question: What network interface options are available with Open Transport?

Answer: Open Transport v1.1 supports PCI and NuBus NICs, CommSlot and built-in (LocalTalk and Ethernet) network adapters. For models without slot-based expansion options, Open Transport v1.1 supports SCSI-attached network adapters, including PC Cards compliant with the Macintosh PC Card specifications.

NIC options available for Open Transport include Ethernet, token ring, fast Ethernet, FDDI, and ATM.

Question: What about dial-up network connectivity solutions?

Answer: For connectivity to AppleTalk networks, Open Transport v1.1 is fully compatible with Apple Remote Access v2.0.1 client and personal server.

For dial-up connectivity to TCP/IP networks including the Internet, Open Transport recognizes third party MacTCP software extensions (known as mdevs), providing SLIP or PPP connectivity.

Question: Does Open Transport influence or restrict the choice of modems for dial-up communications?

Answer: No. Open Transport provides a new, consistent programming interface for serial communications from within system software. However, there are no changes in the external behavior of the serial ports based on the presence or absence of Open Transport on a system.

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Open Transport 1.1: Network Planning and Admin Q & A

This article is the Reference Q & A (questions and answers) on network planning and administration for Open Transport 1.1.
This article has been archived and is no longer updated by Apple.

Question: Does Open Transport offer network managers more control over Mac OS networking?
Answer: Yes. Open Transport allows network managers to specify details of the network connection and configuration in advance, via a "preferences" file. These configurations may contain a mixture of user-provided information and network manager recommended and/or network manager required settings. Recommended data provides a default for the end-user, while required configuration data is locked with an administrator's password.

Open Transport configurations can be prepared on one machine and distributed to other systems. To support this, the Open Transport configuration utilities allow a configuration to "exported" and "imported". Exported configurations can be distributed via electronic mail, a file server, or even "sneaker net".

Question: Will Open Transport require organizations to make changes in network administration, planning, or design?
Answer: The first Open Transport protocols -- AppleTalk and TCP/IP -- offer new features that give a network manager more flexibility and control. Some of these features, when implemented in a network environment will require additional thought and planning by a network manager.

In particular, Open Transport/AppleTalk adds support for the use of static (manually assigned) AppleTalk node addresses. If implemented, a network manager may prefer to assign addresses based on a pre-designed protocol address management plan. Open Transport/TCP adds support for the Dynamic Host Configuration Protocol (DHCP). DHCP allows network managers to allocate IP addresses and other configuration information from a DHCP server. Optimum deployment of DHCP services within an enterprise requires planning.

In order to better conform to applicable standards, Open Transport/TCP also has somewhat more rigorous requirements regarding the content and format of the local HOSTS file. This could require some updating of existing MacTCP-compatible host files. See TCP/IP Features for more information.

Question: Does the use of AppleTalk manual addressing increase the requirement for network administration?
Answer: Open Transport/AppleTalk offers network administrators a choice. Sites that prefer to have the network infrastructure automatically assign unique protocol addresses can continue to rely on AppleTalk Address Resolution Protocol (AARP). Sites that find advantage in having fixed and well-known protocol addresses for each end-node can implement manual addressing.

When manual addressing is selected there will be a requirement to allocate and assign the initial protocol addresses, which will subsequently be "locked". Some administrators may prefer to do this allocation based on a central numbering plan, creating individual configuration templates (recommended or required settings) for each user. Others may prefer to allow the network to determine the initial address configuration (that is, use dynamic addressing once), and then lock the uniquely assigned addresses after initialization.

It is important that all nodes on each individual AppleTalk subnet (a given cable segment assigned a unique network number or network number range) be administered consistently - either all with dynamic addressing or all with pre-assigned static addresses. This avoids a potential conflict between a new dynamic node acquiring an address assigned to an off-line, manually-addressed node. Administrators can enforce the addressing policy for a subnet by locking the addressing mode in the "dynamic" or in the "manual" state. As an administrative precaution, however, Open Transport/AppleTalk does continue to check for the presence of duplicate protocol addresses on the LAN when static addressing is configured.

Question: Are there other benefits that arise from the new support for AppleTalk manual addressing?
Answer: Yes. Manual configuration of static AppleTalk addresses supports Mac OS products that utilize WAN datalinks where non-full-mesh topologies are important. This includes datalinks such as Frame Relay, SMDS, and ATM.

Question: Does Open Transport/TCP support BootP?
Answer: Yes. Open Transport v1.1 fully supports Boot Protocol (BootP). With Open Transport v1.0.x, there was an error condition in which Open Transport would fail to accept a BootP Reply if it were sent to the unicast (subnet broadcast) address, that is, xxx.xx.x.255; replies sent to the all-nets broadcast address (that is,

255.255.255.255) were handled properly. Both situations are correctly handled by Open Transport v1.1.

Open Transport 1.1 now also supports BootP gateways located 1 or more hops away. Earlier versions of Open Transport required that the BootP gateway be zero hops away.

Question: Which DHCP servers are supported by Open Transport/TCP?
Answer: Apple's implementation conforms to the current versions of the applicable specification documents (RFCs). To date, Open Transport/TCP has been tested with the following DHCP server implementations:

* Competitive Automation,
* FTP Software (http://www.ftp.com),
* Hewlett Packard HP-UX (http://www.hp.com),
* Microsoft Windows NT Advanced Server,
* Silicon Graphics (http://www.sgi.com),
* Sun Solaris and SunOS (http://www.sun.com), and
* TGV (http://www.tgv.com).

Question: Does Open Transport/TCP support DHCP address leases?
Answer: Yes. Open Transport/TCP fully supports DHCP address leases. Open Transport/TCP will automatically attempt to renew any address lease that reaches it's renewal interval, which defaults to half of the lease's lifetime. (The Renewal Interval may be configured to a different value by making changes to the configuring DHCP server). Renewal will be attempted regardless of how many times the lease has already been renewed.

Should an interface's IP address lease expire, the interface will be closed down.

Question: Are there interoperability issues of note regarding DHCP servers?
Answer: Some DHCP servers require padding to a fixed packet size; other servers do not accept padded packets. Open Transport 1.1 automatically adapts to the type of DHCP requests that a given server accepts, while earlier versions sent non-padded packets.

Network managers should also note that Open Transport 1.1 now supports DHCP gateways located one or more hops away. Earlier versions of Open Transport required that the gateway be zero hops away.

Question: Can Open Transport/TCP act as a DHCP client to a Windows NT Advanced Server?
Answer: Yes. With Open Transport v1.1, Mac OS clients are fully interoperable with the Windows NTAS DHCP server.

Macintosh clients running earlier versions of Open Transport (1.0.x) could experience some of the following interoperability problems due to differences between the Microsoft implementation and that of a typical UNIX server.

* Clients running Open Transport v1.0 or v1.0.1 were not able to acquire leased IP addresses.

This was due to unusually long reply-time-out values used in the NTAS implementation. Open Transport v1.0.6 was changed to accommodate NTAS behavior in this regard.

* Clients running Open Transport versions prior to v1.0.8 would be incompletely configured via DHCP.

NTAS sends only IP address, IP address lease information, the configuring server's IP address, and a subnet mask. Investigation revealed that other configuration options entered in the NT DHCP server's database (default gateway address, domain name server addresses, domain name, broadcast address, and so on) were not sent unless specifically requested by the client using the DHCP Parameter Request List option.

Apple believes that requiring use of this option in order for the client to be properly configured is contrary to the DHCP server specification described in RFC 1541 (Dynamic Host Configuration Protocol), and it appears to be unique to the NTAS implementation. However, in interest of interoperability, Open Transport v1.0.8 and v1.1 use the Parameter Request List option to request default gateways, DNS servers, domain name, subnet mask, and broadcast address. This permits Open Transport/TCP clients to be fully configured by these servers, at the expense of a few additional packets on the wire during the initialization phase.

Question: Can Open Transport/TCP act as a WINS client to a Windows NT Advanced Server?
Answer: No, not at this time. The Microsoft WINS server is dependent on Microsoft extensions to TCP/IP (requiring NetBIOS support) that provide some automation for assignment and registration of IP host and domain names.

The Internet Engineering Task Force (IETF) is developing a cross-platform industry standard technology for dynamic registration and look-up of IP names through the Dynamic Service Location working group.

Apple has no current plans to implement the WINS extensions. Instead, we are fully committed to implementation of the applicable IETF standards as they emerge. We welcome customer feedback on this topic -- should sufficient demand for a WINS client materialize, we'd be open to exploring this issue. A future Mac OS WINS client would be dependent upon Microsoft releasing sufficient technical detail regarding their proprietary extensions to IP to make an interoperable implementation possible.

Question: When installing and configuring Open Transport, are there any additional issues of note for network managers?
Answer: The following observations and comments have been developed based on the recent OT 1.1 b16 Internet-based public preview program.

* Because the new domain name resolver supplied with Open Transport/TCP is both more capable and more standards compliant than the one included with MacTCP, some configuration changes may be desirable or necessary. Areas of interest and caution are noted in the section TCP/IP Features and System Requirements.

* Network managers should also note that although the TCP/IP control panel can properly receive and utilize multiple gateway and name server addresses from a DHCP server, only the first one returned will be displayed in the TCP/IP control panel. This will be resolved in a release after OT 1.1.

* Users are occasionally encountering "Error -3205" when opening a connection in a TCP application. This can result if the user has manually modified (moved, renamed, or deleted) some of the files installed by Open Transport. In particular, both the Shared Library Manager and Shared Library Manager PPC files must be installed when running on a PowerPC Mac OS system. For more information on these two files, refer to the description of files installed by Open Transport elsewhere in this Q&A.

In general, users should not attempt to modify the OT installation through any means other than the Apple supplied installer scripts.

* Users are occasionally encountering an error message like "Cannot open connection to DNS Name Server" when trying to run classic MacTCP applications. This can result if the user has manually modified (moved, renamed, or deleted) some of the files installed by Open Transport. In particular, the MacTCP DNR file must remain in the System Folder at the root level for backward compatibility to function.

In general, users should not attempt to modify the OT installation through any means other than the Apple supplied installer scripts.

* Beginning with System 7.5, TCP/IP support was included with the Mac OS but was not automatically installed (it required a Custom Install action). As of System 7.5.3 and Open Transport, TCP/IP services are always installed. However, if there are no MacTCP preferences on the target disk, TCP/IP is installed with a default configuration specifying configuration via MacIP in the current AppleTalk zone, but it is set to "Never Load". To enable TCP/IP, use the TCP/IP Control Panel in the Advanced or Administrator mode and select the Options dialog.

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Open Transport 1.1 and Servers Q & A (3/96)

This article is the Reference Q & A (questions and answers) on Open Transport 1.1 and Servers.
This article has been archived and is no longer updated by Apple.
Question: What role does Open Transport play for servers?

Answer: The Open Transport architecture is designed to provide server applications - file, print, database, e-mail, directory, and other - with a foundation for higher performance and for more flexible configuration, while maintaining the historical differentiation of Mac OS servers - ease of configuration and administration.

Question: How will Open Transport enhance server flexibility?

Answer: Open Transport introduces the capability of activating more than one network connection at the same time, using the same networking protocol. This capability is known as multihoming, and enables servers to support more clients, to offer greater total performance, and to increase the reliability of mission critical applications.

Open Transport also enables the development of transport independent applications. This will be especially valuable for server applications which need to be deployed in AppleTalk, or TCP/IP, or NCP/IPX, or other protocol environments.

Question: How will Open Transport enhance server performance?

Answer: Servers, as network-aware applications, gain access to the higher performance PowerPC native implementation of networking protocols that Open Transport provides. To exploit this performance opportunity, server applications must be accelerated for PowerPC and must utilize the new Open Transport XTI APIs.

Severs will also benefit through access to new high-speed PCI datalink implementations such as fast Ethernet and ATM.

Question: Will Apple's server products such as AppleShare exploit Open Transport features?

Answer: Yes. AppleShare 4.2.1 is the first version of AppleShare to be both PowerPC native and Open Transport ready. It takes advantage of other Open Transport features as well, including support for multihoming.

Question: Are PCI Mac OS systems with Open Transport recommended as application servers?

Answer: Apple recommends that server application developers adopt Open Transport v1.1 as the basis for new network applications development as soon as is possible within their product life cycles. As these updated versions of server software become available customers will find that the combination of PCI, Power Macintosh, and Open Transport makes a great platform for flexible, high-performance network applications.

It should also be noted that Apple generally recommends the Apple Workgroup Server product family, rather than re-purposed desktop hardware, for use as server platforms.

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Open Transport 1.1 and Cross-Platform Issues Q & A

This article is the Reference Q & A (questions and answers) on Open Transport 1.1 and cross-platform issues.
This article has been archived and is no longer updated by Apple.
Question: Will Apple port Open Transport to Windows or UNIX?

Answer: Apple does not plan to port Open Transport to other operating systems. Rather, Open Transport is based on Apple porting three existing, cross-platform industry standards to Mac OS. These standards have their roots in the UNIX community and experienced UNIX network developers will find themselves "right at home" when developing for Open Transport.

Question: What about Windows developers? What about Windows Sockets?

Answer: NetManage, the leading developer of TCP/IP protocols and applications for DOS and Windows, now offers Windows Socket tools for Mac OS, to provide access to Open Transport/TCP and MacTCP services via the Windows Sockets (Winsock 1.1) API.

NetManage's WinSock for the Mac OS is WinSock 1.1 compliant and is being certified by the WinSock Labs operated by Stardust Technologies, Inc., which performs compatibility testing. The SDK for Mac OS costs $250 per license, with free distribution.

For more information, contact NetManage at +1-408-973-7171.

Question: With both XTI and Windows Sockets available for Open Transport, which API should a developer use?

Answer: The choice of API will depend upon a developer's background, experience, and goals. For developers with a background in UNIX, a need for POSIX compliance, or a need to deploy an application across Mac OS and UNIX systems, XTI is the logical choice. For developers with a background on Microsoft Windows, or a need to deploy an application across Mac OS and Windows, Windows 95, and/or Windows 95 systems, the planned Winsock tools from NetManage will provide an attractive cross-platform alternative.

Apple is committed to XTI and will focus development on transport independence around this API. Mac OS developers now using classic AppleTalk or MacTCP APIs are encouraged to move to Open Transport XTI API.

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Open Transport 1.1: Performance Q & A (3/96)

This article is the Reference Q & A (questions and answers) on performance for Open Transport 1.1.
This article has been archived and is no longer updated by Apple.
Question: Is Open Transport native on PowerPC Mac OS? Does this make networking faster?

Answer: Open Transport is written to take advantage of the PowerPC processor - it is native code. This provides the necessary foundation for significantly increased networking performance in Mac OS. To realize the performance gains at the application level, however, it is equally important that networking applications also be accelerated for Power Macintosh, and that applications adopt the new Open Transport XTI programming interfaces.

The compatibility services for existing AppleTalk and TCP/IP applications run as 680x0 code in emulation on Power Macintosh. This protects a customer's investment in networking applications, but also obscures - or in some cases, outweighs - the underlying performance increases from the native protocol implementations.

Question: Does Open Transport PowerPC native code include drivers for Macintosh onboard Ethernet?

Answer: PCI Power Macintosh systems ship with a PowerPC native DLPI driver for built-in Ethernet. Power Macintosh 6100, 7100, and 8100 models currently have 680x0 drivers.

Question: Will existing networking applications see performance improvements with Open Transport on PowerPC Mac OS systems?

Answer: In general, current Mac OS networking applications are written for the 680x0 processor and use the classic networking programming interfaces. These are not likely to see performance boosts with Open Transport, as most of the performance potential comes from the move to native code for the PowerPC processor. Even for PowerPC native applications, use of the backward compatibility libraries offsets most of the performance gains in the low level protocol handling.

Users that select PowerPC native applications that are Open Transport-ready will realize the greatest performance gains. Performance of specific network applications may also be significantly influenced by the underlying processor speed of the system. Customers with demanding, network I/O intensive applications should give strong consideration to the higher performance PowerPC Mac OS systems.

However, even with existing applications using backward compatibility, TCP/IP users are likely to see some performance improvements with Open Transport. This is because of the differences in the way compatibility is provided for MacTCP vs. AppleTalk, and differences in the two protocol architectures.

Question: Will networking applications see performance improvements with Open Transport on 680x0 based applications?

Answer: Not in general, as most of the potential for increased performance with Open Transport comes from the move to PowerPC native code. However, users may find that Open Transport TCP exhibits superior performance to MacTCP, especially under adverse networking circumstances (slow links, lossy lines), due to its more robust implementation and more sophisticated error handling and recovery.

Question: When will new or updated applications that support the native Open Transport APIs become available?

Answer: Applications that are PowerPC native and Open Transport ready are available now. Users are urged to contact the specific third party vendor of interest for more details on their specific products.

Question: How is Open Transport performance being measured?

Answer: Apple has established plans for measuring the performance of Open Transport and related system components through four benchmark test suites:

* SpudPPC - this low-level benchmark tool focuses on measuring the raw throughput potential of Open Transport. It supports both AppleTalk and TCP/IP protocols, is PowerPC native code, and uses Open Transport programming interfaces. Because it measures point-to-point, memory-to-memory data transfers, it most directly measures the performance of Open Transport.

Because this test has the most direct access to Open Transport (the application layer is "thin"), and because it is fully accelerated for PowerPC, this benchmark will generally indicate an upper bound on the performance potential of Open Transport.

* AppleShare file copy - this end-user benchmark focuses on measuring the throughput of the AppleShare client while drag-copying a file from the

Mac OS desktop using the Finder. It is specific to the AppleTalk protocol suite, runs in 680x0 emulation, and depends upon backward compatibility services to access Open Transport networking. Because it measures user-perceived throughput of a complete application chain, this test only indirectly measures the performance of Open Transport.

Because this test depends upon emulated code, backward compatibility, and AppleTalk protocols, this benchmark will generally indicate a lower bound on the performance potential of Open Transport.

* Fetch 3.x - this end-user benchmark focuses on measuring the throughput of the popular ftp client, Fetch. It is specific to the TCP/IP protocol suite, runs as PowerPC native code, and uses Open Transport programming interfaces. Because it measures user-perceived throughput of a complete application chain, this test only indirectly measures the performance of Open Transport.

Because this test is PowerPC native, Open Transport ready, and is based on TCP/IP protocols, this benchmark will generally tend toward the upper bound on the performance potential of Open Transport.

* ZD Labs NetBench 4.0 - this suite of benchmarks is designed to test file server implementations. It is specific to the AppleTalk protocol suite, runs in 680x0 emulation, and depends upon the File System and backwards compatibility services to access Open Transport networking. Because it measures user-perceived throughput of a complete client-server environment, this test only indirectly measures the performance of Open Transport.

Because this test depends upon emulated code, backward compatibility, and AppleTalk protocols, this benchmark will generally indicate a lower bound on the performance potential of Open Transport. However, because it interacts with an AFP server - which may be PowerPC native and Open Transport ready - it can be useful in measuring the multi-client scaleability of file server implementations built on Open Transport.

Only a combination of tests can provide good coverage, as user-perceived networking performance is heavily influenced by a combination of a number of Mac OS components including the file system, the Finder, driver code, and the applications used to move data across the network.

Question: How much faster will native Open Transport applications be?

Answer: Networking performance is influenced by many factors. As noted elsewhere in this document, customers will see the highest performance when using PowerPC native applications that fully support Open Transport APIs.

Performance potential will be greater with protocols that use larger datagram sizes, such as TCP/IP, than with AppleTalk which has a fixed and limited datagram size. On high-speed datalinks such as fast Ethernet, FDDI, or ATM, both the performance of the network interface card (NIC) driver code and the number of allocated buffers are significant factors.

Open Transport has been clocked at over 9.3 Mbps using the SpudPPC tool. A pre-release version of a third party implementation of NFS was benchmarked at over 8.4 Mbps. Both figures approach theoretical maximum performance for 10 Mbps Ethernet.

Question: What about high-speed networking connections like fast Ethernet, ATM, and FDDI?

Answer: Benchmarking on fast Ethernet, FDDI, and ATM datalinks has been underway for some time. Some sample results include:

* 48 Mbps with a Rockwell fast Ethernet card and driver (1500 byte block size)
* 72 Mbps with a Rockwell FDDI card and driver (4K block size)
* 93 Mbps with an Interphase ATM-155 card and driver (8K block size)

These tests were performed using Open Transport/TCP 1.1 beta software, running on a Power Macintosh 9500/132, using the SpudPPC tool. Other tests, such as a the one conducted by Fore Systems on their 155 Mbps ATM cards, have shown even higher throughput. In one test, Fore was able to transmit UDP over their LAN-E stack on ATM (using 1500 byte datagrams) at over 100 Mbps.

AppleTalk performance is lower than TCP/IP performance due to the smaller DDP packet size and the ATP retry-acknowledgment algorithm. Current testing on fast Ethernet is turning in figures around 35-45 Mbps with a PowerPC native ATP test tool. This is a significant performance improvement, and further progress should be realized as application code is revised to take full advantage of Open Transport and PowerPC.

Question: Does Open Transport support the use of large datagram sizes? Does datagram size have an impact on network throughput?

Answer: Maximum allowable datagram size is dependent on both the selected datalink and the selected protocol stack. Open Transport supports the use of large datagram sizes as appropriate to the protocol and datalink in use.

Because Open Transport/AppleTalk is based on the Phase 2 architecture, datagram size for AppleTalk is limited to a maximum of 617 bytes. Open Transport/TCP supports larger datagrams; up to 1,500 bytes on Ethernet and fast Ethernet, and up to 16K on Token Ring; even larger block sizes can be used on FDDI and ATM.

Block size does play a role in maximum throughput; the larger the block size used, the greater the potential end-to-end throughput. Users demanding the highest network throughput may find FDDI to be a more attractive alternative than fast Ethernet because it can support larger block sizes at the same bit rate.

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Open Transport 1.1: System Requirements Q & A

This article is the Reference Q & A (questions and answers) on system requirements for Open Transport 1.1.
This article has been archived and is no longer updated by Apple.

Question: Which Mac OS systems can take advantage of Open Transport?
Answer: Open Transport is designed to work on portable and desktop Apple Macintosh or Mac OS compatible computers with a Motorola 68030 or 68040 family microprocessor, or a PowerPC 601, 603(e), or 604 microprocessor.

Apple recommends running Mac OS System 7.5.3 with Open Transport, although the earlier System 7.1, 7.1.1 and 7.1.2 releases are also compatible. System 7.5.3 requires a minimum of 4 MB (680x0) or 8 MB (PowerPC) total memory; Open Transport requires a minimum of 5 MB (680x0) or 8 MB (PowerPC).

Systems running Open Transport may be able to benefit from larger than minimum memory configurations when using FDDI or ATM, as these datalinks can provide increased performance by taking advantage of larger datagrams and buffer sizes. Effective use of additional system RAM for buffers is application dependent.

Question: How do settings such as Virtual Memory and RAM disk affect Open Transport's minimum memory requirements.
Answer: Open Transport minimum memory requirements are based on total system memory including VM, less the size of any RAM disk and Disk Cache defined.

Question: How is the Memory Available as reported by the "About this Macintosh*" dialog related to Open Transport's actual memory requirements.
Answer: Open Transport has an entirely different memory management architecture as compared to classic networking in preparation for Copland's protected memory model. In particular, Open Transport supports the dynamic loading and unloading of networking services.

The "About this Macintosh*" dialog reports on both the total free memory and the largest block of contiguous free memory. In practice, the latter figure is a better indicator of whether an additional application can be launched. If a user frequently opens (launches) and closes (quits) multiple applications that use networking services, and if the user has set Open Transport TCP/IP preferences to load networking services only when needed, this can, over time, result in a situation where Open Transport loads into memory "between" other running applications. This "memory fragmentation", in turn, can result in a smaller value reported by "About this Macintosh*" for free contiguous memory. In extreme cases, this could unnecessarily limit the number of concurrent applications that a user could run.

If this situation arises, use the Advanced Mode of the TCP/IP Control Panel to access the Options dialog, and remove the "X" in the "Load only when needed". After restarting the system, Open Transport TCP/IP will load when called on by an application for the first time, but will then remain loaded. This will help avoid the "memory fragmentation" that can occur for these users.

Question: Does Open Transport require more system RAM than classic networking? If so, how much more, and why?
Answer: Open Transport provides many new features and capabilities to Mac OS customers and, in general, will require more system memory (RAM) than does classic networking. However, the actual memory requirements of Open Transport are dynamic; they vary depending upon the networking services in use at a given time. This is different from classic networking, which allocates memory to networking services and keeps it allocated even after networking services are no longer in use.

Factors which contribute to differences in memory requirements include:

* Open Transport provides implementations of networking as both 680x0 and native PowerPC code; RISC code is typically larger - but also faster - than CISC programming,

* Open Transport provides "mixed-mode" applications support, making it possible for both PowerPC native and 680x0 applications to use native networking on PowerPC Mac OS systems,

* Open Transport includes both the new implementations of networking and the libraries required to provide backward compatibility support for the older AppleTalk and MacTCP programming interfaces,

* Open Transport is very "VM-friendly", and has a lower memory footprint on systems with virtual memory

enabled; classic network has about the same footprint regardless of the VM setting,

* Open Transport is based on the cross-platform standard STREAMs environment, which increases the total size of the implementation as compared to the proprietary classic networking implementation, and,

* To lay the groundwork for Copland's protected memory model, Open Transport allocates memory for TCP/IP applications in the system area; MacTCP allocated memory in each application.

Thus the difference in memory requirements will depend upon which configurations are measured. Some examples of base memory requirements include:

* On a PowerPC system with VM on, classic AppleTalk and MacTCP require about 350-450K; Open Transport will require about 200K to load; that is, Open Transport base memory requirements are about 200K smaller.

* On a 680x0 system with VM off, classic AppleTalk and MacTCP require about 350-450K total system memory; Open Transport will require about 700-800K to load; that is, Open Transport is about 350K larger.

* On a PowerPC system with VM off, classic AppleTalk and MacTCP require about 350-450K; Open Transport can require up to 1.2 MB to load, that is, Open Transport is about 800K larger.

Question: Why doesn't Open Transport 1.1 install or work on my Power Macintosh 5200/5300/6200/6300 desktop computer? Wasn't this release supposed to support all PowerPC based Mac OS systems?
Answer: Very late in the final quality assurance cycle of Open Transport 1.1, the OT team was notified of a reproducible crash affecting some, but not all, customers with Power Macintosh or Performa 5200/5300/6200/6300 desktop computers. The detailed feedback we received from the OT 1.1b16 Internet-based public preview program helped us understand the extent of the customer impact of this issue.

Rather than delay the release of OT 1.1 and System Update 2.0 (System 7.5.3) further - which both bring many significant improvements to Mac OS customers - the Performa, Open Transport, and System 7.5.3 teams working together decided that the best alternative was to disable OT 1.1 on these systems until the problem(s) were fully identified and an appropriate solution could be implemented and tested.

As a part of our ongoing focus on quality and customer responsiveness, Apple had already allocated resources for the possible delivery of a "rapid response" release of Open Transport (v1.1.1) should one be required before the next planned feature release of OT (currently planned as OT 1.5 for calendar Q4 1996).

The plan now in place to address the issue with 5200/5300/6200/6300 desktop computers calls for development and delivery of a modified version of Apple Shared Library Manager (ASLM 2.0.1). ASLM 2.0.1 is planned to accompany the OT 1.1.1 release, expected in approximately 60-90 days (following the release of OT 1.1)

Question: Why specify System 7.5.3 (System 7.5 Update 2.0)? What about System 7.5, 7.5.1, and 7.5.2?
Answer: Open Transport internal and external testing included work with all Mac OS system software releases from System 7.1 forward, however, Apple's testing has been most concentrated on System 7.1.x and System 7.5.3.

In moving from earlier versions of System 7.5 to System 7.5.3 a user's system will benefit from a number of updates and bug fixes that while not a part of Open Transport can improve system performance and reliability on the network for a variety of tasks, including printing and file transfers. The combination of the deeper test coverage and the important system updates that are a part of the system software update leads the Open Transport team to overall recommend System 7.5.3.

System 7.1.x users are encouraged to evaluate their needs and to consider updating to System 7.5.3.

Question: Was Open Transport 1.1 released in Japan for System 7.5.2? If so, why isn't this generally recommended?
Answer: Apple did not provide Kanji localized versions of Open Transport 1.0.8; thus, Kanji customers with PCI Mac OS systems have not yet been able to benefit from the updates and bug fixes released in OT 1.0.8. Because of the lead times required to localize System 7.5.3 for Kanji, Apple elected to complete the localization and testing of Open Transport 1.1 independently of plans to localize System 7.5.3-J.

This decision resulted in delivery of Open Transport 1.1-J for System 7.5.2-J customers. This is a regional exception to Apple's overall recommendation to use Open Transport 1.1 in combination with System 7.5.3. When KanjiTalk 7.5.3 becomes available, Apple will recommend that all KanjiTalk 7.5.2 customers update to 7.5.3.

Question: Does System 7.5.3 require the use of Open Transport?
Answer: System 7.5.3 supports and includes both classic and Open Transport networking.

Doing an Easy Install of System 7.5.3 on an 68030, 68040, or NuBus PowerPC Mac OS system installs Open Transport v1.1 and classic networking. Easy Install on a 68000 or 68020 Macintosh will install only classic networking. Easy Install on PCI Mac OS systems will install only Open Transport.

Question: Why does System 7.5.3 include both classic and Open Transport networking?
Answer: System 7.5.3 includes both classic and Open Transport networking to support a Universal System Folder, which could provide networking services for any Mac OS system, from the Mac Classic to the most powerful PowerPC.

Question: Since both Open Transport and classic networking are included with System 7.5.3, which network software will actually be used?
Answer: The networking software used by System 7.5.3 depends upon four factors:

* the configuration of the system where 7.5.3 was installed;

* an initial stored preference, established at system software installation time;

* the configuration of the system currently being booted, which might be the same as or different from the system where 7.5.3 was installed; and

* the user's change to the stored preference, if any.

Together these factors determine the networking software system loaded at system startup (boot) time:

* Classic networking will load and run when booting System 7.5.3 on a 68000 or 68020 Macintosh, even if Open Transport is also installed;

* Open Transport will load and run when booting System 7.5.3 on PCI Mac OS systems meeting Open Transport minimum memory requirements, even if classic networking is also installed;

* Both classic and Open Transport options are available on 68030, 68040 and NuBus PowerPC Mac OS systems meeting Open Transport minimum memory requirements. The networking software used at boot time is selected based upon a stored preference.

When System 7.5.3 is installed on these machines, the initial default is to load and run classic networking. Open Transport can be enabled using the Network Software Selector utility, discussed below.

* Classic networking will load and run when booting Mac OS systems with less than 5 MB (680x0) or 8 MB (PowerPC) total system memory.

If this low-memory situation occurs on a 68030, 68040, or NuBus Mac OS system, classic networking will load and run, with full support for AppleTalk and MacTCP.

If this low memory situation occurs on a PCI Mac OS system - perhaps due to the definition of a large RAM disk - classic networking will become available, but will be limited to support only for AppleTalk on LocalTalk; no TCP/IP services will be available.

Question: What happens if a boot device is moved to a different system after the preference has been established?
Answer: The stored preference for network software will be honored, if possible, at boot time. Whenever the system configuration being booted meets the minimum requirements for the preferred network software, it will load and run. If the stored preference has been deleted, or is not appropriate for the system being booted, the rules noted above around minimum and recommended memory size, processor, and bus type determine which network software system loads.

Question: Why is the network software preference initially set during system installation time? Wouldn't

checking system configuration at boot time be a more flexible way to support the Universal System Folder?
Answer: As described above, a number of system configuration checks are made at boot time - including processor, bus type, and system RAM - and influence the choice of network software when booting a Universal System Folder.

On Mac OS systems that support both networking software systems, however, an initial preference is established based on system configuration at installation time. For the majority of users, this system (the installation system) is the same one as where the System Folder being created will be used. In these cases, the update / installation script establishes a preference based on the recommended memory configuration (vs. the minimum required memory, which is still always tested at boot time).

There are two reasons for doing this in this manner:

* Testing for minimum memory requirements at system start-up time assures a compatible hardware-software combination each time a system is booted. If a system configuration changes to fall below Open Transport's minimum memory requirements - which might happen due to reconfiguration, or by moving an external boot device to a different system - System 7.5.3 automatically drops back to classic networking to provide basic connectivity to the outside world.

* When there is no stored preference, System 7.5.3 selects between classic and Open Transport networking based on the system configurations described above. As this check is based on total memory (including VM but less RAM disk), in the absence of a preference, a seemingly unrelated user action such as turning VM on or off could change the network system used at (next) boot time. For example, enabling VM on an 8 MB system would provide at least 9 MB RAM at next startup, moving the system from classic to Open Transport "unexpectedly"; turning on a RAM Disk could cause another reversal. Thus, setting an initial preference "locks in" a predictable behavior.

Question: How can a user specify a preference for a specific network software system, overriding the system installation preference?
Answer: Apple has developed a utility called the "Network Software Selector" (NSS), which allows a user to indicate a preference for classic or Open Transport networking. Network Software Selector is distributed as a part of System 7.5 Update 2.0, and in other System 7.5.3 configurations - it is located in the Apple Extras Folder.

NSS may not be supplied in all configurations of System 7.5.3; for example, PCI Mac OS systems manufactured with System 7.5.3 pre-installed may not have the Network Software Selector utility included, because these systems require Open Transport.

To indicate a preference, the user launches NSS and clicks the radio-button control indicating either classic or Open Transport networking. After quitting NSS, the system must be re-started for the preference to have a change to take effect.

Question: Does the Network Software Selector allow a user to specify a preference for a networking system that is "not valid" for the current system configuration?
Answer: Yes, with the Network Software Selector it is possible to set a preference for classic networking while currently booted on a PCI Mac OS system, or to set a preference for Open Transport while booted on a 68000 or 68020 Macintosh. This is designed to allow an administrator to prepare an external boot device with an Universal System Folder that has a configuration different than their own machine.

The Network Software Selector indicates a user preference; the actual network software loaded is determined when the system is booted. If a preference for Open Transport is set but the device is a 68000 or 68020, classic networking would load, ignoring the preference. If that boot volume is moved to a Power Macintosh 9500, Open Transport would load, as this PCI system requires Open Transport. Move the boot volume to a Quadra 800 and restart; Open Transport would load based on the stored preference.

Question: Can the stored preference be deleted? Why might this be a useful action?
Answer: The preference for network software system is stored as a part of the AppleTalk Prefs file, kept in the System Folder. Deleting this file will also delete the stored preference.

In some support environments it may be useful to create a Universal System Folder that does not include a stored preference. For example, if a network administrator's system is configured differently from the systems found with end-users, the preference set at system software installation time (based on the configuration of

the administrator's system) may not be optimum for end-users' systems.

If all of the end user population is configured similarly, the network administrator could use the Network Software Selector utility to modify the stored preference before distributing system software. However, if end-users' system configurations vary widely, deleting the preference would have the effect of deferring the selection of network software to boot time for each individual user.

Should an end-user want to "lock-in" a preference for their system, they would need to simply launch and then close the NSS utility on their machine. This records the network system currently in use as the preference.

Question: When might a user want to use NSS to enable Open Transport, disabling classic networking?
Answer: The Network Software Selector provides System 7.5.3 users an easy way to update to Open Transport networking, without requiring custom system software installations.

Open Transport should be enabled when the user is ready to take advantage of any of Open Transport's features, such as multiple saved network configurations, reconfiguration without restart, support for PowerPC native code; when the user want to run Open Transport-ready or Open Transport-enhanced applications; or when a network manager requires the use of Open Transport to connect to a centrally administered network.

Of course, users that have previously dropped back to classic networking in order to maintain compatibility with an older network application will want to re-enable Open Transport once the application has been updated.

Question: When might a user override the default for Open Transport and specify a preference for classic networking?
Answer: The Network Software Selector provides an easy way to temporarily drop back to classic networking, if needed, on systems that support both networking models. There are two reasons why there might be a call to do so:

* a need to maximize RAM available for running applications, especially if VM is turned off; or,

* a need to run older networking software that is not yet Open Transport compatible.

Before dropping back to classic networking, users are encouraged to check with the application developer to find out if an Open Transport-compatible or Open Transport-ready version of the application is available.

Question: On systems that support both classic and Open Transport networking, how are configuration preferences managed? How does the Network Software Selector interact with these preferences?
Answer: When initially installed, Open Transport AppleTalk and TCP Preferences files are created based on the current settings for classic networking. The Prefs files will each contain a single configuration, entitled "Default". Classic settings are not modified by this installation process.

When booted with Open Transport active, classic networking components and preferences are hidden, and Open Transport initializes with the default configurations. Should the system switch back to classic networking at a later time, Open Transport settings are hidden and the saved classic settings are restored.

Each time the system switches between classic and Open Transport - whether through the use of the Network Software Selector utility or by moving an external boot volume from system to system (where different memory sizes or processor types could cause a switch) - this process will be repeated.

Note that after the initial installation, there is no exchange of configuration information between classic and Open Transport networking. If changes are made in network addressing, and so on while running classic networking, those changes will not be in effect up on switching back to Open Transport. The inverse holds true as well.

For AppleTalk users this would very rarely be any sort of problem, as AppleTalk dynamic addressing and dynamic naming would typically adjust to the system environment at network initialization time.

For TCP/IP users, this could create the potential for some confusion if a user installed Open Transport but continued to run classic networking for a while -- making some configuration changes during that time. Later, when they enable Open Transport networking using the Network Software Selector utility, they'll find that the default Open Transport/TCP configuration reflects their "old" MacTCP settings, not the most recent version.

While there is some potential confusion for users in this behavior, Apple looked carefully at the alternatives, including the possibility of converting information every time the stored preference for network system changed. That approach would have resulted in more frequent and more difficult end-user problems, so was abandoned in favor of the single-conversion at installation time.

Question: On systems that support both classic and Open Transport networking, how are control panels managed? How does the Network Software Selector interact with these preferences?
Answer: During the boot process, a MacOS system running System 7.5.3 checks for the stored preference for networking software as described above. Once the selection of network software has been determined and validated, the load process also causes the appropriate control panels -- "Network" and "MacTCP" for classic networking; "AppleTalk" and "TCP/IP" for Open Transport -- to be "unhidden". Those associated with the disabled network software are hidden.

Question: Does the Network Software Selector allow running Open Transport on a 68000 or 68020 Mac? If not, why not?
Answer: While NSS can change the stored preference to Open Transport at any time, the preference will be honored at boot time only on those models that can use Open Transport - 68030, 68040, and PowerPC Mac OS systems.

68000 and 68020 systems always load and run classic networking. Open Transport was not engineered to support these two older processors as the overall processor and system memory requirements associated with Open Transport's additional features are generally higher than that available in these older systems.

Question: Does the Network Software Selector allow running classic networking on a PCI Power Mac? If not, why not?
Answer: While NSS can change the stored preference to classic networking at any time, that preference will be honored at boot time only on those models that can use classic - 68030, 68040, and NuBus PowerPC Mac OS systems.

However, certain Mac OS systems with PCI -- designed for entry-level markets, where users' networking needs and system memory configurations may be limited -- may ship with a default preference to initially support only AppleTalk on LocalTalk using classic networking. On these systems, a user can easily enable Open Transport using NSS when they are ready to take advantage of PCI network cards, or when they want to gain direct access to TCP/IP networks such as the Internet.

Classic networking is not generally supported on PCI Mac OS systems for a number of reasons:

* PCI Mac OS systems are based on PowerPC, and only Open Transport provides PowerPC native code;

* Apple simultaneously adopted hardware and software standards for networking by supporting PCI networking via Open Transport's DataLink Provider Interface (DLPI) driver architecture;

* Many of the new features provided by Open Transport, such as multiple saved configurations, reconfiguration without restart, and support for current standards (DHCP, IP multicast, and so on) would have been technically difficult or impossible to retrofit to classic networking; and,

* Open Transport prepares the way for the Copland release of Mac OS, by carefully defining an execution model consistent with protected memory and preemptive scheduling.

Question: Can MacTCP be installed on a system running Open Transport?
Answer: With System 7.5.2 it was possible - although not recommended or supported - to install MacTCP on PCI Mac OS systems through drag-copy of specific files. Beginning with System 7.5.3, this is no longer possible.

In order to meet the requirements of the Universal System Folder, System 7.5.3 automatically hides files associated with classic networking on systems where Open Transport is in effect (and correspondingly hides Open Transport files on systems where classic networking is running). If a user installs MacTCP on a PCI machine - where Open Transport is always active - the "just installed' MacTCP files will be automatically be hidden by the Mac OS immediately upon reboot of the system. This could be confusing to users who may not be aware that this software configuration (MacTCP on PCI machines) is not supported.

If, for any reason, it becomes necessary to reinstall MacTCP on a 68030, 68040, or NuBus PowerPC Mac OS system

running Open Transport, the end-user must first use the Network Software Selector utility to specify a preference for classic networking and reboot the system. Only after the reboot will MacTCP and the other components of classic networking be visible. The converse would also be true for Open Transport on these machines - only the currently running network system is visible and can be modified or updated.

Question: Does System 7.1.x support both classic and Open Transport networking?
Answer: System 7.1.x continues to support classic networking, and gains the option of running Open Transport v1.1.

Customers running 7.1.x on 68000 and 68020 systems will continue to use classic networking; Open Transport v1.1 will not install on these systems. (System 7.1.x does not support PCI Mac OS systems.) Customers running System 7.1.x on 68030, 68040, and NuBus PowerPC Mac OS systems can use either classic or Open Transport networking. To enable Open Transport, users must run the Open Transport installer, available as a part of the stand-alone retail distribution package.

Question: Is the Network Software Selector available for System 7.1.x customers?
Answer: No, the Network Software Selector is a feature only found in System 7.5.3.

Published Date: Feb 18, 2012

Color StyleWriter 2200: White Lines at Bottom of Page

White horizontal lines appear when I print full page documents on my Color StyleWriter 2200. The lines only seem to appear during the last 0.8 inches at the bottom of the page. Is this normal?
This article has been archived and is no longer updated by Apple.
White horizontal lines may appear when printing near the bottom 0.8 inches (2.03 cm) of each page because the majority of the paper has left the printer, leaving very little contact area with the paper feeding rollers. When this occurs, the paper can shift or advance slightly causing white gaps or lines.

The ReadMe file provided with each Color StyleWriter 2200 makes the following recommendations:

- If you see very thin stripes near the bottom of your printout, use your application program to make your bottom margin larger. A bottom margin of 0.8 inches or greater is best.
- For best results when printing envelopes, do not put images or text along the bottom edge of the envelope.

Published Date: Feb 18, 2012

Using MIDI software on Power Macintosh computers (3/96)

I am having problems using some MIDI software made by Opcode on my Power Macintosh 7200 computer. Previously, I used this same MIDI software on another Macintosh computer without any problems.

This article has been archived and is no longer updated by Apple.

Opcode's MIDI music software works properly when you update to OMS v2.0.2. You can update your version of OMS by downloading the latest OMS software from Opcode's online FTP or WWW site.

FTP SITE: ftp.opcode.com
WWW SITE: http://www.opcode.com

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.

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LaserWriter 8.x: LaserWriter printers using Tray Switch (3/96)

This article provides a list of LaserWriter printers which allow you to use the optional Tray Switch option in the print dialog.
This article has been archived and is no longer updated by Apple.
LaserWriter models supporting the Tray Switch option:

LaserWriter Select 360
LaserWriter Pro 600
LaserWriter Pro 630
LaserWriter Pro 810
LaserWriter Pro 16/600
Color LaserWriter 12/600 PS

LaserWriter Select 610 (sold only in Japan)

Published Date: Feb 18, 2012

QuickTime Conferencing: Included Compression Codecs (3/96)

What compression codecs are included with the H.320 ISDN QuickTime Conferencing Kit? What are their compression rations?
This article has been archived and is no longer updated by Apple.
For the H.320 QuickTime Conferencing kit, the only supported codecs when using the ISDN portion are H.320 and it's related codecs. For non-ISDN connections, we support some of the QuickTime compressors.

Audio
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* G.728 - 16 Kbps digital audio samples 3.3 KHz of analog audio (low bandwidth)

* G.722 - 48, 56, or 64 Kbps PCM digital audio from 7 KHz analog audio (higher bacndwidth)

Video
---
* H.261
- QCIF 176x144 pixels
- CIF 352x288 pixels

Because there is no penalty for choosing the larger resolution, you should always select it for the best resolution on the receiving end. Also, in Apple Media Conference during an ISDN connection, you can double the CIF window <which is actually 320x240 on your screen> to achieve a 640x480 image size. Keep in mind that it uses pixel doubling, so resolution will suffer slightly.

For an ISDN connection, you can get 12-15 fps in the large window (320x240) if using both B channels. Otherwise, you can get 5-7 fps when using one B channel. Frame rate will vary depending on which audio compressor is being used and whether or not you are sharing data in the shared window. For a single B channel connection, you can only use the G.728 audio compressor if you expect to get video, because there is no bandwidth left with G.722.

Article Change History:
07 Mar 1996 - Corrected typo.

Published Date: Feb 18, 2012

QuickTime Conferencing: Broadcasting Over Network (3/96)

I would like to use the QuickTime Conferencing kit across our campus Ethernet network. Are there any special configurations we must do to our network?

This article has been archived and is no longer updated by Apple.

If you are planning to broadcast across the campus network, you need to verify that all network routers, repeaters, and so on are multicast capable. (Note that this is not an issue for conferencing.) If they are not, you will need to check with the vendors of the equipment to see if an upgrade is available. Multicast allows a single packet to travel across the network and any entity can listen to that broadcast. In a non-multicast environment, each receiving entity will create a single point-to-point connection with the broadcaster. This creates more network traffic and results in fewer frames of video and audio packets getting through and far fewer people would be able to receive or view the broadcast.

Published Date: Feb 18, 2012

QuickTime Conferencing: Using Over the Internet (3/96)

I would like to use QuickTime Conferencing to connect our university with other college campuses over the Internet. What compression rates are needed to get 7 frames per second (fps) across the Internet?

This article has been archived and is no longer updated by Apple.

This will depend heavily on your network infrastructure and how much traffic currently exists on it. The default settings on the QuickTime Conferencing software are considered to be the best optimized settings for that particular network type. The default settings for IP include the JPEG compressor in the small window (120x80) and the frame rate is set to 10 fps. Keep in mind, however, that the frame rate is what QuickTime Conferencing will attempt to acheive. There is no assurance that it was be reached. If you have a fast Internet connection, this rate is more likely. You should test during peak and non-peak load periods to see what is possible on your network.

Published Date: Feb 18, 2012

Color OneScanner 600/27: Chattering Sound due to Lock

When I power on my Color OneScanner 600/27, I get a chattering sound and it will not scan.
This article has been archived and is no longer updated by Apple.
The Apple Color OneScanner carriage is locked during shipment. The scanner will not work if the carriage is locked. The Color OneScanner software displays an error message telling you to make sure the scanner is unlocked and turned on if you try to scan when the scanner is locked.

Note: The Color OneScanner 600/27 does not always make a chattering sound when it is locked. Sometimes no sound is heard but the scanner carriage still does not move.

Unlocking the Color OneScanner

1. Grip the scanner top cover on both sides and lift it off.

2. Use a coin or flat-blade screwdriver to turn the lock, located at the top of the scanner glass, to the unlocked position. You need to turn the lock 90 degrees.

Important: A small arrow on the lock's plastic dial (NOT the slot used to turn the dial) indicates the position. The arrow needs to point to the unlocked (open) position for the scanner to operate.

3. Replace the scanner top cover.

If you ever need to ship the scanner somewhere or move it to a different place, you should relock the scanning unit so the arrow points to the locked (closed) position.
Published Date: Feb 18, 2012

Color OneScanner 600/27: Scanner Driver Is Not Initializing

I have an Apple Color OneScanner 600/27, and when I try scanning with the Dispatcher software I get an error message. The error message reads "Unable to initialize the scanner driver. Either the scanner is not turned on, connected, or already in use by another application." What is wrong?
This article has been archived and is no longer updated by Apple.
The most common cause is the Apple Color OneScanner was powered **on** after the Macintosh computer. Always make sure you power on the scanner before you power on your Macintosh computer, so the scanner driver loads properly.

How To Determine The Scanner is Recognized

Observe the extensions and control panels as the Macintosh starts up.

An icon which shows a side view of a scanner should appear. This is the Apple Color OneScanner 600/27 software driver loading.

If the scanner extension does not appear, reinstall the Color OneScanner software.

Observe the extensions and control panels as the Macintosh starts up. If the scanner extension appears crossed out (has an X through it) the scanner is not being recognized by the SCSI chain. Use an application such as Apple System Profiler to confirm that the scanner is showing up on the chain and is set to a unique ID. Check cabling and termination if the scanner still does not show up. It should also be noted that on dual-SCSI bus computers (such as internal and external SCSI), the scanner cannot be set to an ID that is already in use on either bus.

Tech Info Library Article 16473: "**System 7.x: Troubleshooting Startup Problems**" can help you further isolate SCSI related issues.
Published Date: Feb 18, 2012

LaserWriter IIsc: How It Handles Fonts

This article has been archived and is no longer updated by Apple.

Four times (4X) fonts are provided for the LaserWriter IIsc so the resolution image created in the off-screen bit-map by the LaserWriter IIsc driver will correspond to the resolution of the printer. Because these fonts are bit-mapped fonts, they can be printed directly from the Macintosh screen to the LaserWriter IIsc. Any intrinsic font (a font whose characteristics are entirely defined by a font resource) can be used by the LaserWriter IIsc without modification.

Because the full set of LaserWriter IIsc fonts requires 1.5 megabytes of storage, only the plain intrinsic fonts are included. Sources of additional fonts will be third party developers, shareware, etc. Or you can create your own fonts by using a third party program such as FONTastic by AltSys.

The five style selections (bold, italic, underline, outline, shadow) can easily be derived by QuickDraw. QuickDraw uses an algorithm to derive the desired style if the intrinsic font is not available. The information necessary for calculating a specific style is stored in the font family record, FOND.

The LaserWriter IIsc driver requests a scaling factor of 4:1 when intercepting the QuickDraw commands to the Font Manager. If you select a font for which there is not an associated four times (4X) font in the system file, the Font Manager uses an algorithm to find another font that can be scaled ("scaling" refers to the resizing, compression, or expansion of a character by QuickDraw.)

The LaserWriter IIsc does not support font substitution.

For more information, search under: AltSys Corporation

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Color OneScanner 600/27: PhotoShop Plug-in Doesn‘t Work (3/96)

When the Apple Color OneScanner Plug-in is moved to the Photoshop Acquire folder it does not work. Now I cannot Scan from the Dispatcher software either. Why?
This article has been archived and is no longer updated by Apple.
The Apple Color OneScanner Plug-in must be left in its original folder. You can either make a copy of the Apple Color OneScanner or make an ALIAS, and put that in the PhotoShop Acquire folder.

IMPORTANT:
You cannot change the name of the original Apple Color OneScanner Plug-in. You must keep the name " Apple Color OneScanner".

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Color OneScanner 600/27: Cause of Black Arcs on Pages (3/96)

What is the cause of black arcs on pages scanned with the Apple Color OneScanner 600/27?
This article has been archived and is no longer updated by Apple.
Dust on the mirrors. With standard flatbed scanners when you get dust on the mirror you see straight vertical lines. The Color OneScanner 600/27 uses a two mirror design. With two mirrors you see arcs of different sizes depending on where the dust is located on the mirrors. The only solution to to have an Apple service provider inspect and clean the optical assembly.

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Color OneScanner 600/27: Blank Scans With Document Feeder (3/96)

Sometimes when using the Automatic Document Feeder (ADF) on my Apple Color OneScanner 600/27 it scans a blank page or a strange vertical pattern. Why?

This article has been archived and is no longer updated by Apple.

Usually there is something left on the scanner glass. Check the scanner glass for any paper. Before using the Automatic Document Feeder you should always check the scanner glass and make sure it is clear of any previous documents or paper.

Published Date: Feb 18, 2012

Color OneScanner 600/27: Scanned Image Too Large (3/96)

When I scan images using my Apple Color OneScanner 600/27, the image is too large to see on my monitor. How can I view the entire image?

This article has been archived and is no longer updated by Apple.

If you have scanned an image at 300 dpi, it will be shown initially at four times its printing size because of the pixel-for-pixel view. The images are not dynamtically sized for the size of your monitor.

Here are some tips that can help you when you scan at high resolutions.

* Use PRESCAN and select only the area you need scanned before performing a scan.

* If you are using a Multiple Scan Display, change the Resolution before launching the OneScanner Dispatcher software.

* Once the image has been scanned, zoom out until you can see the entire image on your display.

Published Date: Feb 18, 2012

Color OneScanner 600/27: Straighten feature Requirements (3/96)

The straighten feature in Apple Color OneScanner Dispatcher software does not seem to work.
This article has been archived and is no longer updated by Apple.
The straighten feature relies on well-defined, high-contrast, rectangular edges on the scanned document, as well as some image content, to determine the correct rotation required to straighten the image. This function also expects the scanned document to be located away from the edges of the scan window.

You have the option of manually rotating an image, if the automatic straighten feature is not working as well as you want. To manually rotate an image, use the Rotate, Arbitrary command in the Image Editor.

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Color OneScanner 600/27: SCSI Selector Has Wrong SCSI ID (3/96)

The SCSI Select switch on my Apple Color OneScanner 600/27 does not select the correct SCSI ID according to the SCSI Probe software.

This article has been archived and is no longer updated by Apple.

Sometimes the label on the Apple Color OneScanner 600/27 is not lined up correctly to the position of the SCSI selector switch. To correctly set the SCSI ID, turn the selector switch so the arrow is pointing up (the 12 o'clock position). Next turn the selector to the right (clockwise) and count the number of times the selector clicks. This allows you to set the proper SCSI ID.

For example, if you rotate the SCSI selector three notches, this is SCSI ID 3.

Published Date: Feb 18, 2012

System 7.5 Update 2.0: FAQ - General Info (1 of 6) (8/96)

This article provides the answers to commonly asked questions about System 7.5 Update 2.0. Specifically, this article provides general information about the update.

This article has been archived and is no longer updated by Apple.

General Information
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1) What is System 7.5 Update 2.0?

Apple's System 7.5 Update 2.0 is a comprehensive set of system software enhancements designed to provide new functionality and enhanced system performance. At the same time, it significantly improves the overall reliability of Macintosh and Mac OS-compatible systems running System 7.5, 7.5.1, or 7.5.2. Some of the changes in this update affect all Macintosh computers; others are specific to certain models. For example, all Macintosh computers should see a per-formance boost while the Finder is copying large numbers of small files. More specifically, this update has additional PowerPC native system software components. With this release, Apple has also created a "standardized" version of System 7.5 (officially known as System 7.5.3) that incorporates the enhancements from our last update (System 7.5 Update 1.0, released in March 1995) and will run on every properly configured Macintosh from the Macintosh Plus to the new PCI-based Power Macintosh 9500.

With System 7.5 Update 2.0, you can now create a System Folder that can be used on all currently supported Macintosh computers. You can set up a single external hard disk or removable-media drive that can boot up everything from a Macintosh Plus to a Power Macintosh 9500. We've also streamlined the System Folder, consolidating more than 20 files introduced in previous versions of System 7.5.

In response to requests from customers and developers, System 7.5 Update 2.0 contains a number of system relia-bility improvements, such as a reduction in the occurrence of Type 11 errors on Power Macintosh computers; corrections to the General Controls control panel to eliminate conflicts with some third-party products; and proper handling by the Installer of control panels and extensions disabled using the Extensions Manager. System 7.5 Update 2.0 also integrates a new version of Open Transport (version 1.1) that offers better performance on high-speed networks; broader support for dial-up connectivity to TCP/IP networks and the Internet; and new support for most 68030, 68040, and NuBus Power Macintosh computers. In addition, large PowerPC native applications-running on PCI-based Macintosh computers with virtual memory turned on-will launch significantly faster than before. System 7.5 Update 2.0 also integrates the "7.5.2 Printing Update" for PCI Macintosh computers (including the 7200, 7500, 8500, and 9500), as well as the recently released update for the Apple PowerBook 5300.

2) Why should I install this update?

Any customer using any version of System 7.5 (7.5, 7.5.1, or 7.5.2) will realize a benefit from the installation of this update. Improvements in overall system software performance and stability should be important to all users of Macintosh computers. System 7.5 Update 2.0 delivers significant improvements in both of these areas.

3) How does System 7.5 Update 2.0 fit into Apple's vision and strategy for the Mac OS?

System 7.5 Update 2.0 is part of Apple's strategy to address the evolving needs of our customers with regular system updates. This update is actually the fifth that Apple has made to its system software (with the first three updates for pre-System 7.5 software), which demonstrates that Apple has an established track record for providing updates. Our intent is to provide key updates every six to twelve months, so our customers do not have to wait for major revisions of the Mac OS in order for Apple to respond to their needs.

4) Is Apple planning any further development for System 7.5?

Yes, we will continue to maintain and enhance System 7.5 for as long as it makes sense for our customers, our developers, and Apple.

5) How compatible is System 7.5 Update 2.0 with existing applications and extensions?

In addition to the extensive testing done by Apple with this update, Apple has had a very aggressive developer seeding program to get the software into the hands of many developers well before it's shipped. This effort started last summer and more than 800 developers have been actively involved. Apple has also encouraged a number of our customers to test this software and provide feedback. We don't expect any significant compatibility problems with this update. If there are problems with any particular application, extension, control panel, or driver, our developers should be prepared to assist their customers with them.

6) Will all of the improvements in System 7.5 Update 2.0 be incorporated

into the existing System 7.5 retail product?

Apple plans on updating our retail product with this latest version of our system software in the U.S. in the spring of 1996. This software release is expected to be localized by most countries within months after the U.S. introduction.

7) Why is System 7.5 Update 2.0 so large?

At 14 disks, System 7.5 Update 2.0 may surprise customers because it is significantly larger than previous system software updates. There are good reasons for this. This update delivers several hundred stability improvements based upon customer and developer feedback. It also provides a number of performance improvements and includes all of the enhancements from System 7.5 Update 1.0. Finally, System 7.5 Update 2.0 includes updates to many Apple technologies, including Open Transport, PlainTalk, QuickTime, Apple Guide, and Desktop Printing.

8) What will System 7.5 Update 2.0 replace within my System Folder?

Generally speaking, any component in your System Folder will be replaced if a newer version is being delivered with this update (assuming you use the "Easy Install" option when you update your system). Since system components vary depending on the computer you're using, the components that are replaced with the update will also vary. If you're interested in the details of what this update is changing in your System Folder, you'll want to read the New In This Update documents that ship with the update. Since System 7.5 Update 2.0 is delivering so many changes, you'll find that most of the components within your System Folder will be updated.

9) Is System 7.5 Update 2.0 an Apple response to Microsoft Windows 95?

No. System 7.5 Update 2.0 is a response from Apple to requests received from customers and developers for improvements to System 7.5. It is expected to significantly improve our customers' experience using our operating system. The Mac OS has many advantages over competitive operating systems such as Windows 95 (see the document titled Top 10 Macintosh Advantages), and any enhancements we make to System 7.5 will only improve this position.

10) Can this System 7.5 Update 2.0 be installed on Mac OS compatibles?

Yes. Should any telephone support be needed after System 7.5 Update 2.0 is installed, however, the customer or user must contact the company that manufactured their Mac OS compatible computer for support-related questions.

11) Which Macintosh computers will ship with System 7.5.3?

Apple will begin shipping some computers with System 7.5.3 domestically in the spring of 1996. From that point forward, we'll increase the types of computers that ship with this system software release, and start shipping computers with it in other countries.

12) Which countries are expected to introduce System 7.5 Update 2.0, and when will this occur?

Generally speaking, within 60 days after the update is released in the U.S., a localized version will be available in most major languages in North America, Europe, and Australia. Other regions will provide the improvements that are delivered in this update at a later date. Please contact the Apple Assistance Center in your area for details.

13) After installing this update, which version number of System 7.5 will I have?

Once you've completed the installation process, go to the About This Macintosh item on the Apple menu. When the window appears, you should see System Software 7.5.3 with System 7.5 Update 2.0 directly beneath it.

14) I have a PCI-based Macintosh running System 7.5.2 and am connected to a Novell Netware network. Is there anything I should be aware of before installing System 7.5 Update 2.0?

System 7.5 Update 2.0 contains the Ethernet Compatibility extension version 1.0.3, which fixes a problem in the system shutdown code. A side effect of this fix is a two-minute delay in shutting down the computer. It may appear that the machine has hung, however after two minutes, the machine will resume the shut down process. This delay can be avoided by logging out of the Netware tree before shutting down or restarting.

Without the Ethernet Compatibility extension, when a PCI-based machine (including the 7200, 7500, 8500, and 9500) running System 7.5.3 selects Shut Down or Restart, the machine would crash.

To use the Ethernet Compatibility extension, you must custom install the Ethernet Driver Update. This can be done by opening the System 7.5 Update 2.0 Installer, selecting Custom Install in the upper pop-up menu, and selecting the Ethernet Driver Update. This selection is at the very bottom of the list of custom install options.

Article Change History:
12 Aug 1996 - Changed distribution status.
20 Mar 1996 - Added keywords.

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System 7.5 Update 2.0: FAQ-Benefits&Improvements (2 of 6)

This article provides the answers to commonly asked questions about System 7.5 Update 2.0. Specifically, this article provides information about the key features and benefits, system software stability improvements, and performance improvements included with the update.
This article has been archived and is no longer updated by Apple.

Key Features and Benefits
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1) Will System 7.5 Update 2.0 include any new features?

There are a number of new features that System 7.5 Update 2.0 delivers. One feature that is especially important to large business and education customers is the ability to create a universal System Folder. This will allow creation of a System Folder that can boot any system from a Macintosh Plus to currently shipping systems. These features are described in detail below.

* There is a space for you to put comments in a text window when you select "Get Info" from the File menu in the Finder. With this update, these comments are retained after rebuilding the desktop file.

* For Power Macintosh systems, when a file is dragged from within the Finder, the icon is now translucent instead of a simple outline. This will allow customers to better see what they are moving.

* A few changes have been made that affect components in the System Folder. A number of components in the System Folder have been consolidated into other pieces. In addition, Apple is providing documentation that will describe the Apple system software components in the System Folder, Control Panels folder, and Extensions folder. After System 7.5 Update 2.0 has been installed, these will be located in the What's in Mac OS Folders? in the Apple Extras folder. For more information on new features provided with this update, please refer to the documents distributed with the update entitled New in this Update.

2) What is a "universal" System Folder and how can I create one?

With System 7.5 Update 2.0, you*ll be able to create a universal System Folder that can be used to start up all currently supported Macintosh computers*from the Macintosh Plus to all Power Macintosh, PowerBook, and Performa computers shipping today. Support professionals responsible for a variety of Macintosh computers find it very useful to create a universal System Folder on an external drive. They can then use this drive to boot any of the systems they support. Directions on how to create a universal System Folder are included with System 7.5 Update 2.0 in the document titled Installing This Update. To create a universal System Folder, you*ll need the original version of System 7.5 and System 7.5 Update 2.0.

3) Is there anything in this update to reduce the number of files
in the System Folder?

More than 20 items have been eliminated from the System Folder (the actual number will vary depending on which Macintosh it is installed). Several stand-alone files are now merged into the System 7.5 or 7.5.2 Update enabler. In addition, several stand-alone files have been merged into, or been replaced by, various other system components. For more details, please refer to the New in This Update documents included with the update.

4) Will this update install anything new on my computer?

Yes. Two system software technologies*PlainTalk and Open Transport*are included in this update. The "Easy Install" option will install them onto your system if they are not already installed. We believe our customers want these technologies, so we*ve made them readily available. If you don*t want these technologies active because of concerns of performance or RAM requirements, there are very simple ways to disable them. These are clearly described in the Installing This Update document that is included with the update.

5) Will this update allow other types of computers to access data on hard drives that are larger than 4GB?

Prior to the release of System 7.5 Update 2.0, only PCI-based Macintosh systems had the ability to read and write on hard drives that have more than 4 GB per volume. This is not changed with System 7.5.3.

System Software Stability Improvements
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1) What are some of the major bugs addressed with this update?

While there are several hundred bugs addressed with this update, a few key ones are worth highlighting. For details on which bugs have been addressed, please refer to the document titled New in This Update distributed with the update. Some causes of Type 11 errors have been eliminated for Power Macintosh computers. In addition, several months ago, Apple published a Tech Note to our developers describing in detail many of the causes of Type 11 errors. This will help them write applications that are less prone to cause this type of error.

We believe these two actions will go a long way toward significantly reducing Type 11 errors, but some of the results may take a while to be seen by our customers. Apple has also improved the memory management so that customers are less likely to get out-of-memory errors. Corrections have been made to the General Controls panel to eliminate conflicts with several third-party products.

The Update Installer has been fixed so that control panels and extensions that were disabled using the Extensions Manager get properly updated. Many of the printing problems that were associated with PCI-based Macintosh computers (including the 7200, 7500, 8500, and 9500) have been addressed (these are the same improvements delivered with the 7.5.2 Printing Update).

2) Is the 7.5.2 Printing Update included with this update?

Yes. All of these components are automatically installed if "Easy Install" is chosen when you install the update. However, we*ve integrated some of these components into other parts of the system software, so you may not see the same components in your System Folder after you install the update.

Performance Improvements
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1) What type of performance improvement can I expect from
System 7.5 Update 2.0?

Overall, the performance improvement you can expect to receive from System 7.5 Update 2.0 will depend on the Macintosh computer it*s being installed on. Performance will range from no significant improvement to a modest improvement. Customers with Power Macintosh systems will generally see more improvement in performance.

2) Are launch times for large applications, with virtual memory turned on, improved with System 7.5 Update 2.0 for PCI-based Macintosh computers. If so, how much of an improvement?

We worked very closely with some of our key developers (most notably Microsoft) to identify the areas where we could improve the launch times for some applications with virtual memory on specific systems. Some of the testing we*ve seen indicates that launch times for large applications with virtual memory on for PCI-based Power Macintosh computers (including the 7200, 7500, 8500, and 9500) is several times faster. Other Macintosh computers will not experience this improvement.

3) Will Apple ship the new Dynamic Recompiling (DR) emulator, which first shipped with the PCI-based Macintosh computers with System 7.5 Update 2.0?

Yes. However, this feature is still only available for PCI-based Macintosh computers (including the 7200, 7500, 8500, and 9500). It could not be delivered with this update for other Macintosh computers in a way that would meet our performance and RAM requirements. We will, however, evaluate making this feature available for other Macintosh computers in future system software releases.

4) I recently installed the PowerBook 5300 System Software Update. Should I also install the System 7.5 Update 2.0?

For customers who*ve installed the PowerBook 5300 System Software Update, the improvements delivered with System 7.5 Update 2.0 are not considered by Apple to be significant enough to recommend that it be installed by all customers. The vast majority of the improvements delivered with System 7.5 Update 2.0 are already included with the PowerBook 5300 System Software Update. There may be enough new benefits in System 7.5 Update

2.0, however, for some customers to consider installing it. It*s important for customers to understand that after installing the PowerBook 5300 System Software Update, the system software version will be 7.5.2. After installing System 7.5 Update 2.0, the system software version will be 7.5.3. This may be important to organizations that want all of their systems on the same system software version, or for customers who simply want the latest version.

System 7.5 Update 2.0, includes the PowerBook 2300c Update 1.0, Open Transport v1.1, the Network Software Selector (to switch between classic AppleTalk and Open Transport), a new version of Apple Menu Options, a few minor improvements to the Finder, and several other minor improvements in stability. In addition, the RAM required for System 7.5 Update 2.0 is slightly higher than for systems with the PowerBook 5300 System Software Update installed.

Some third-party PC card Ethernet drivers have not yet been optimized for use with Open Transport. Customers may encounter configurations where classic AppleTalk performs better than Open Transport AppleTalk. The Network Software Selector provides a convenient mechanism for these customers to upgrade to Open Transport when they receive an Ethernet driver update.

The following Tech Info Library article can help you find the Tech Note mentioned here:

Article 24493: "**Apple Tech Notes: What They Are, Where To Find Them**"

Published Date: Feb 18, 2012

LaserWriter Font Utility: It Has Four Basic Functions

This article desribes the functions of the LaserWriter Font Utility.

This article has been archived and is no longer updated by Apple.
The LaserWriter Font Utility Application located on the LaserWriter II installation disk provides four basic functions:

- Initialization of disk devices attached to the LaserWriter IIntx. Initialization allots 20 percent of total disk space to font storage and 80 percent to font-caching.

NOTE:The following functions can be used with any AppleTalk LaserWriter.

- Display all available fonts -- built-in ROM fonts, downloaded RAM fonts, downloaded disk device fonts. You are given the option of deleting fonts which have been downloaded to a disk device.

- Download fonts - When you download a font (AND you have a hard disk attached,) you can choose to download it either to the disk or to RAM. Downloading it to the disk stores it there permanently (or until you remove it.) Those fonts downloaded to RAM remain there until the LaserWriter is powered-down.

- Print Catalog of available fonts (same as display fonts) and their associated sample text.

Published Date: Feb 18, 2012

System 7.5 Update 2.0: FAQ - Open Transport (3 of 6)

This article provides the answers to commonly asked questions about System 7.5 Update 2.0. Specifically, this article provides information about Open Transport.
This article has been archived and is no longer updated by Apple.
Open Transport
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1. What is Apple Open Transport and how does it benefit users?

Apple Open Transport is the modern networking and communications subsystem for the Mac OS. Open Transport is based on industry standards and brings a new level of networking connectivity, control, and interoperability to Mac OS- based systems, while preserving and enhancing the hallmark of Macintosh computers: built-in, easy-to-use networking. Open Transport provides individual computer users with many benefits. Two of the most immediately visible and import-ant benefits relate to making networking more accessible. First, Open Transport makes it easy to switch from one net-work configuration to another. A computer user "on the go" might want to hook up to the Internet in various locations, each requiring a different network configuration. With Open Transport, settings for each network location can be stored for easy access. Changed configuration settings are available immediately; no reboot of the computer is required to use them. Second, Open Transport integrates on-line help-based on Apple Guide technology-to make it easier for an individual to hook up to a network, with fewer demands on network manager and support resources. Lastly, some cust-omers, primarily those using Power Macintosh computers, will see an improvement in networking performance by upgrading to Open Transport.

2. What Mac OS technologies, components, and products will Open Transport replace?

When installed, Open Transport replaces the current Mac OS implementations of AppleTalk and TCP/IP (including the protocols and the Network, MacTCP, and Admin TCP control panels). Open Transport is also designed to replace the Connection Manager and the Communications Resource Manger of the current Communications Toolbox architecture. Over time, Open Transport is planned to replace the "AppleTalk Connection for Macintosh" and "TCP/IP Connection for Macintosh" shrink-wrap software products.

3. How would a user establish a preference for a specific network software system after installing System 7.5 Update 2.0?

As a part of this update, Apple supplies a utility called the "Network Software Selector." This utility allows a user to indicate a preference for classic or Open Transport networking, if different from the default choice that would otherwise be made by the system. The Network Software Selector utility is located in the Apple Extras folder.

4. Why does System 7.5 Update 2.0 include classic and Open Transport networking?

System 7.5.3 (the version delivered in System 7.5 Update 2.0) includes both classic and Open Transport networking in order to support a universal System Folder-on, for example, an external hard drive-that can be booted and provide networking services for any Macintosh from the Macintosh Classic to the most powerful Power Macintosh computer.

5. When might a user want to override the default selection of Open Transport, and specify a preference for classic networking?

The Network Software Selector provides an easy way to temporarily drop back to classic LocalTalk networking, if needed, on computers that support both networking models. Here are two reasons why there may be a need to do so:

* A need to maximize available system RAM; which may possibly be an issue in systems with less than 8 megabytes of memory-especially when virtual memory needs to be turned off for some reason.

* A need to run an older networking application that is not yet Open

Transport-compatible. Before dropping back to classic LocalTalk networking, users are encouraged to check with the application developer to find out if an Open Transport-compatible or Open Transport-ready version of the
application is available.

6. When this update is installed, will I get Open Transport AppleTalk or classic AppleTalk?

System 7.5.3 supports both classic and Open Transport networking. Completing an "Easy Install" of System 7.5 Update 2.0 on a 68030, 68040, or PowerPC-based Macintosh automatically installs Open Transport v1.1. The networking software used when a system starts up depends upon

the specific Macintosh computer being booted, the amount of system memory available, and the user's specified preference (if any).

* If a customer was using classic networking before installing the update, the networking software that will be active after rebooting the system will still be classic networking.

* If a customer was using Open Transport before installing the update, the networking software that will be active after rebooting the system will still be Open Transport.

* Classic networking will always load and run on 68000 and 68020 based Macintosh systems, even if Open Transport is also installed; PCI-bus Power Macintosh systems require Open Transport for full networking support.

* On most 68030, 68040, and NuBus Power Macintosh computers, both classic and Open Transport options are available; customers running classic networking can update to Open Transport by using the Network Software Selector, which is located in the Apple Extras folder. However, the base requirement for Open Transport to be active is an Apple Macintosh or PowerBook with at least 5 MB of total system RAM; or a Power Macintosh computer with at least 8MB of total system RAM. If virtual memory is turned on, the additional amount of RAM made available by the feature will be added to the total system RAM to determine if Open Transport will load. If disk cache or a RAM disk is being used, the additional amount of RAM reserved by these features will be subtracted from the total system RAM to determine if Open Transport will load.

* Open Transport v1.1 (and native ASLM) is not available on the Performa and Power Macintosh 5200, 5300, 6200, and 6300 series of desktop computers. Apple is evaluating the changes necessary to have this technology run on these systems. At this time we have no announcements to make on when this will be available.

7. Can I use the Network Software Selector to switch frequently between classic networking and Open Transport?

Apple does not recommend this. The Network Software Selector was designed to make it easy for you to transition to Open Transport, and is expected to be used infrequently by customers. Understanding they way the Installer and the Network Software Selector works will help you better understand the recommendation made by Apple.

When you initially install the System 7.5 Update 2.0, the install script will check the AppleTalk preferences, as well as the MacTCP preferences if this file is present. A matching Open Transport configuration(s) will then be created. Therefore, when Open Transport is first used, the same configuration settings that were previously in use will apply to Open Transport networking.

At any time after the installation of the update, there will be no interchange of configuration or preferences data between the two networking systems. When switching from classic networking to Open Transport networking, the preferences for classic networking will be "stored away" and left untouched by any configuration changes made while Open Transport is in operation. If classic networking is used at a later time, the Open Transport configurations would similarly be stored away, and the last-used classic settings would be restored along with classic networking.

8. Does Open Transport require more RAM than classic networking?

The actual memory requirements of Open Transport are dynamic, based on the networking services in use at a given time. This is different from classic networking, which allocates a fixed amount of memory to networking services and keeps this memory allocated even after networking services are no longer in use. Other factors that contribute to differences in memory requirements include the following:

* Open Transport provides native PowerPC code; RISC code is typically larger-but also faster-than CISC code.

* Open Transport is very "VM-friendly," and has a much lower memory requirement on systems with virtual memory enabled; classic networking has about the same footprint regardless of the virtual memory setting.

* Open Transport is based on the cross-platform standard STREAMs environment, which increases the total size of the implementation.

* Open Transport includes the new implementation of networking plus backward compatibility libraries.

* To lay the groundwork for Copland's protected memory model, Open Transport allocates memory for TCP/IP in the system area; MacTCP allocated memory in each application.

Thus the difference will depend on which configurations are measured. Some examples include:

* On a 680x0 system with virtual memory off, classic AppleTalk and MacTCP require about 350-450K total system memory; Open Transport will require about 700-800K; that is, Open Transport is about 350K larger.

* On a PowerPC system with virtual memory off, classic AppleTalk and MacTCP require about 350-450K; Open Transport can require up to 1.2 MB; that is, Open Transport is about 800K larger. With virtual memory on, the amount of memory reserved by the system software will decrease, and part of the RAM reserved will be in virtual memory-not the faster physical RAM.

9. What is the current version of Open Transport, and what are its key features?

If you are looking for a more recent update of Open Transport, You must upgrade your system software to install the most recent version. Open Transport 2.0.3 is the current version but has been qualified with Mac OS 8.6 only. Open Transport v1.1.2 is the latest version available from Apple Software Updates (http://www.apple.com/swupdates) for download. Open Transport v1.1.1 includes the following updates and new features as compared to the earlier Open Transport 1.1 release:

* now also supports the Performa 5200, 5300, 6200, and 6300 systems;
* includes internal changes to minimize memory fragmentation resulting from dynamic loading and unloading of TCP/IP;

* includes changes to the TCP/IP DNR for inter-operability with sites using the load-balancing name daemon;
* includes changes for support of the upcoming Open Transport/PPP release;
* includes all bug fixes available to date.

Open Transport v1.1 is the version which comes with System 7.5.3. This general release is recommended for all supported Mac OS systems, and includes the following updates and new features as compared to the earlier Open Transport 1.0.x releases:

Open Transport v1.1 is the version which comes with System 7.5 Update 2.0. This general release is recommended for all supported Mac OS systems, and includes the following updates and new features as compared to the earlier Open Transport 1.0.x releases:

* Now supports 68030 and 68040 based Macintosh systems
* Now supports Power Macintosh systems with NuBus
* Now supports NuBus, SCSI, and CommSlot network interface adapters
* Offers tuning to optimize performance of high-speed datalinks
* Offers tuning to support multi-client, multithreaded server applications

* Includes support for multi-node and multi-homed operation of AppleTalk protocols
* Adds support for raw packet access and promiscuous mode, to enable the development of Open Transport-ready network analyzers and other network management utilities
* Recognizes a significantly expanded selection of MacTCP dial-up network extensions (mdevs)
* Allows reconnection of a dial-up TCP/IP session without reloading networking and without system restart
* Provides display of the datalink Media Access Control address for Ethernet and Token Ring networks
* Provides notification in the event duplicate AppleTalk or TCP/IP addresses are established
* Automatically converts users' existing AppleTalk and MacTCP setting to Open Transport configuration files during installation
* Includes improved compatibility with Apple Remote Access 2.0.1
* Provides a basis for future support for PPP-based AppleTalk and TCP/IP remote networking
* Provides a basis for future support for modem and ISDN communications devices
* Includes support for System 7.5.3

* Includes support for the creation of a "universal System Folder," by allowing classic AppleTalk to run if an Open Transport System Folder is booted on a 68000 or 68020 based system
* Offers improved Balloon Help text for System 7 users
* Includes all bug fixes available to date

10. Where can I get more information about Open Transport in general, and specifically the latest version?

http://www.apple.com/swupdates The Apple Software Updates Web page has the latest version os Open Transport as well as documented information.

11. Why don't Open Transport and Native ASLM run on the Performa and Power Macintosh 5200, 5300, 6200, and 6300 series of desktop computers?

The development and testing for these components could not be completed on these systems in time for the release of System 7.5 Update 2.0.

NOTE: With the release of Open Transport 1.1.1, Performa and Power Macintosh 5200, 5300, 6200, and 6300 series computers are now supported.

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System 7.5 Update 2.0: FAQ -Other Software (4 of 6) (8/96)

This article provides the answers to commonly asked questions about System 7.5 Update 2.0. Specifically, this article provides information about other system software technologies included with the update.
This article has been archived and is no longer updated by Apple.
Other System Software Technologies
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1) What is new with QuickDraw GX 1.1.3 included with System 7.5 Update 2.0?
How is it installed?

QuickDraw GX 1.1.3 contains fixes required for the Color StyleWriter Pro driver (which is included with the update). It also fixes a bug where desktop printers revert to their original position on the desktop after a reboot*even if you*ve moved them to a different place on the desktop. There are also some performance improvements for color ink-jet printers. QuickDraw GX 1.1.3 can be installed from a separate installer that is available as a floppy fulfillment with System 7.5 Update 2.0, and is on the System 7.5 Update 2.0 CD.

2) What is new with PowerTalk 1.2.3 included with System 7.5 Update 2.0?
How is it installed?

The most visible change delivered with PowerTalk 1.2.3 is the decoupling of DigiSign Digital Signature technology from PowerTalk. This capability is accessible through a Custom Install option in the PowerTalk 1.2.3 Installer. With this release are new Starnine PowerTalk gateways for access to Internet mail, Starnine Mail, and C.E. Software*s QuickMail. Additional changes include bug fixes to existing problems, bug fixes to problems uncovered during the 7.5.2 effort, and the synchro-nization of PowerTalk Finder Extensions to the current version of the Finder. PowerTalk 1.2.3 can be installed from a separate installer that is available as a floppy fulfillment with System 7.5 Update 2.0, and is on the System 7.5 Update 2.0 CD.

3) What is new with PlainTalk 1.4.1 included with System 7.5 Update 2.0?
How is it installed?

The major improvements for PlainTalk 1.4.1 are as follows:

* English Text-to-Speech now runs on all Macintosh computers.

* English Speech Recognition has improved performance when used with the built-in microphone on Apple 14 inch AV monitors.

* "Listening" control panel defaults to the much more robust and accurate "push-to-talk" mode. Users hold down a key (defaults to the Escape key), which toggles the microphone on and off as they speak a command (without having to say "Computer" first).

* Speech control panel is compatible with HyperCard 2.3 pop-up menus on Power Macintosh computers.

* The Text-to-Speech part of PlainTalk 1.4.1 is automatically installed when "Easy Install" is selected when installing System 7.5 Update 2.0. If you are interested in installing Mexican Spanish Text-to-Speech or English Speech Recognition, they are available in the PlainTalk 1.4.1 folder in the Apple Extras folder on the CD version of System 7.5 Update 2.0. In addition, PlainTalk 1.4.1 is available electronically at many of the same locations as System 7.5 Update 2.0. Please see the section, "Availability and Distribution" for more information.

4) What is new with Apple Guide 2.0 included with System 7.5 Update 2.0?
How is it installed?

Apple Guide 2.0 features the following improvements:

* Unlimited mix-ins. The previous limit of seven mix-ins has been removed. The number of mix-ins is limited only by the amount of memory.

* The ability to option-click on a panel to copy a picture of that panel to the clipboard has been added.

* Sounds are now played asynchronously.

* System 7.0 and 7.1 are supported.

* Coach marks are displayed in modal dialogs.

* The problem of entire topic areas being eliminated when trying to add a mix-in has been fixed.

* Fixed the problem that occurred while some applications would build their menus, preventing Apple Guide from displaying that application's guide file item, even if one existed in its folder. Apple Guide 2.0 is automatically installed when "Easy Install" is selected when installing System 7.5 Update 2.0.

5) What is new with QuickTime 2.1 included with the System 7.5 Update 2.0?
How is it installed?

QuickTime 2.1 is automatically installed when a customer chooses the "Easy Install" option when installing System 7.5 Update 2.0. The main features of QuickTime 2.1 are the following:

* Provides developers with a high-performance sprite engine, with all sprite images stored as QuickTime compressed images

* A sprite track has been added, which allows sprite animations to be included as part of a QuickTime movie

* Includes a new Modifier Track feature, which allows for the creation of extremely dynamic movies

* Sound Manager 3.1, included with QuickTime 2.1 for Macintosh, for significantly enhanced recording and playback performance on all Power Macintosh computers

* Allows developers to create video that*s larger and looks better on most computers, yet still plays back well on slower ones

* Adds a 256-color format to Cinepak, enabling high-quality video playback without any color remapping

* Adds a settings dialog so users can control the font, font size, style, and color of the text

* Using QuickTime 2.1 for Macintosh, Sound Manager 3.1, and any QuickTime aware application (such as Apple*s MoviePlayer or Simple Text), a consumer can now transparently open and play ".WAV" and ".AU" format sound files, which are commonly found on the World Wide Web

* Provides a convenient way for developers to easily change the monitor resolution within their title so the content fills the entire screen

* Supports QuickTime Teleconferencing

* Supports the Apple MPEG Media System, providing expanded MPEG support for multimedia developers

* Includes playback support that allows digital video compression cards to provide QuickTime with memory to store compressed video data as it is read from the disk

6) What is new with Desktop Printing 1.0.3 included with System 7.5 Update 2.0? How is it installed?

Desktop Printing Software v1.0.3 fixes memory-related problems that occur on Power Macintosh computers with Open Transport installed. If you have a Power Macintosh 7200, 7500, 8500, or 9500, you may have experienced system errors while printing to a desktop printer. This is especially likely if you have turned off virtual memory. Desktop Printing Software v1.0.3 includes support for the Extensions Manager. All three components of the Desktop Printing Software now appear in the Extensions Manager control panel. These components include the Desktop Printer Extension, Desktop PrintMonitor, and Desktop Printer Spooler. If you do not already have Desktop Printing Software in your system, you can install it by choosing the "Custom Install" feature when installing System 7.5 Update 2.0.

7) What is new with QuickDraw 3D 1.0.3 included with System 7.5 Update 2.0?
How is it installed?

QuickDraw 3D 1.0.3 is a minor maintenance release that provides better memory management. It is available as a separate installer that only comes on the CD version of System 7.5 Update 2.0. However, QuickDraw 3D 1.0.3 is also available elec-tronically at many of the same locations as System 7.5 Update 2.0. Please see the section, "Availability and Distribution" for more information.

8) Why isn*t OpenDoc included with System 7.5 Update 2.0?

The current OpenDoc release is targeted primarily to developers. When Apple is ready to deliver OpenDoc to customers, it will be included with future system software releases.

Article Change History:

12 Aug 1996 - Changed distribution status.
20 Mar 1996 - Added keywords.

Published Date: Feb 18, 2012

System 7.5 Update 2.0: FAQ- System Requirements (5 of 6) (1/97)

This article provides the answers to commonly asked questions about System 7.5 Update 2.0. Specifically, this article provides information about the system requirements for and the availability of the update.

This article has been archived and is no longer updated by Apple.

System Requirements
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1) What are the system requirements for System 7.5 Update 2.0? Have they changed from the original System 7.5?

Apple is very sensitive to the fact that many of our customers want to continue to evolve with our system software, but do not want to upgrade their systems in order to do so. The hardware requirements to run System 7.5 are not changing with this update. The current system requirements for System 7.5 are an Apple Macintosh or PowerBook with at least 4MB of RAM (8MB required for PowerTalk and QuickDraw GX); or a Power Macintosh computer with at least 8MB of RAM (16MB required for PowerTalk and QuickDraw GX). Open Transport requires an Apple Macintosh or PowerBook with at least 5 MB of RAM; or a Power Macintosh computer with at least 8MB of RAM. In order to install System 7.5 Update 2.0, System 7.5, 7.5.1, or 7.5.2 must already be installed on the system being updated.

2) When I install System 7.5 Update 2.0, will the system software use more
RAM than previous versions of System 7.5, as indicated in the "About This Macintosh" box?

Generally speaking, yes. However, the amount of RAM will vary greatly depending on which Macintosh system you are up-dating, and what your system configuration is. The two areas that will affect the additional amount of RAM being reserved by the system software are updated system components and a new system technology that is included with the installation of System 7.5 Update 2.0.

A number of system software components are being updated with System 7.5 Update 2.0. Many of these new components must reside completely in RAM. This accounts for the increase. The new components include important improvements in stability and/or performance, which should outweigh the RAM impact. Most of the new components being delivered with System 7.5 Update 2.0 that require more RAM affect Power Macintosh systems only, including native versions of QuickDraw, SCSI Manager, Resource Manager, and SerialDMA. Tests indicate that the RAM reserved for system software for some 680x0-based Macintosh systems will increase less than 100K as compared to System 7.5.1, while the RAM reserved for system software for some Power Macintosh systems will increase 300K-850K as compared to 7.5.1. The results you will see may vary.

The other factor that may affect the RAM reserved for system software is Open Transport, one of the new technologies included with the System 7.5 Update 2.0. For information on this, please see the question above, Does Open Transport require more RAM than classic networking? in the section on Open Transport.

Apple recognizes that customers may be concerned that the system software requires more RAM with the latest release. Reducing the RAM footprint for system software is something that Apple will consider for future system software releases.

3) Do I need System 7.5 Update 1.0 in addition to System 7.5 Update 2.0?

No. System 7.5 Update 2.0 includes all of the improvements made in System 7.5 Update 1.0. Therefore if you are plan-ning on installing System 7.5 Update 2.0, you do not need to install System 7.5 Update 1.0. Apple will discontinue the fulfillment program for System 7.5 Update 1.0 when System 7.5 Update 2.0 starts shipping.

Availability and Distribution
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1) Where can I get System 7.5 Update 2.0 in the United States? This update can be obtained in many different places, including:

* Apple's File Transfer Protocol (ftp) site on the Internet - Connect to: <ftp://ftp.info.apple.com>

* Apple's World Wide Web sites on the Internet - Connect to:
<http://www.info.apple.com/swupdates>

* America Online: Use the keyword "applecomputer"

* CompuServe: Use the shortcut "GO APLSUP" to take you to the Apple Support Forum

* Order the update on a CD or a floppy disk set for $13 from Apple. Call 1-800-293-6617, ext. 984

2) How can I obtain a localized version of System 7.5 Update 2.0 if I live outside the United States?

Many countries will be providing this update via on-line services and the Internet, and most are expected to provide a program where customers can obtain System 7.5 Update 2.0 on a CD-ROM or floppy. Customers will want to contact their local Apple Assistance Center for information on how to get the update. In Europe, most of the localized versions will be posted on the Apple European ftp mirror site (ftp.info.euro.apple.com).

Article Change History:
03 Dec 1996 - Corrected spelling.
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System 7.5 Update 2.0: FAQ-More Info & Other SW (6 of 6) (6/97)

This article provides the answers to commonly asked questions about System 7.5 Update 2.0. Specifically, this article provides information about the system requirements for and the availability of the update.
This article has been archived and is no longer updated by Apple.

For More Information
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Where can I get more information on the specific changes being made with System 7.5 Update 2.0?

Apple has provided a great deal of information on the changes that are delivered with this update. This information is distributed as part of the update. If you would like this information, please refer to the documents titled Installing This Update, New in This Update - 1, New in This Update - 2, and New in This Update - 3.

Other System Software Projects
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1) What is Zhag and Zeus, and what are the differences between them?

Zhag and Zeus are code names for system software projects that are going on in parallel within Apple and are complementing each other. Both projects are delivering System 7.5 version 7.5.3, but the delivery mechanisms and components are different. The chart below provides a comparison.

Zhag	Zeus
Zhag updates a Macintosh to system software version 7.5	Zeus ships on PCI-based Power Macintosh computers as system software version 7.5.3
Has same functionality as a comparable Macintosh system running Zeus	Has same functionality as a comparable Macintosh system running Zhag
Requires installation over an existing System Folder	Will come preinstalled on new PCI-based Power Macintosh computers beginning this spring
Distributed via online services, the Internet, and a fulfillment CDs or floppies)	Only bundled with certain new Macintosh systems. Eventually, program managed by Apple (where all Macintosh systems will ship with 7.5.3, but they will not necessarily be the same as Zeus, which has specific system components for specific computers
Updates any system running 7.5,	Is only qualified to run on certain new computers just has the components needed for those computers
Will be introduced first in the U.S. over the next few months	Will first appear on new PCI-based Power Macintosh computers in March, and in most countries in the spring

Specific details on the differences between Zeus and Zhag, including the additional bug fixes and the different components are included in an article in the Tech Info Library.

2) What is Unity-1, and how does it differ with Zhag?

Unity-1 is code name for the reference release that Apple is working on that will be used to update the version of System 7.5 that we sell in retail stores. This product is typically purchased by customers who are running pre*System 7.5 versions of our system software, and want to upgrade to System 7.5. Unity-1 will update this retail product so that customers buying this product in the stores will be buying our latest version of System

7.5: 7.5.3. Unity-1 can be installed on a hard drive with no existing System Folder, and will include bootable disks. OpenDoc is expected to be bundled with this product. As of 2/1/96, release of Unity is expected to be in the early spring. Claris Corporation will distribute Unity-1 as an updated version of Macintosh System 7.5.

3) When will Zhag be available in Japan and the Far East?

Japan and the Far East will not be localizing Zhag, but instead will be delivering these improvements to their customers with a localized version of the Unity-1 system software release. The schedule of this release is being worked out and more details will be available in the coming months.

4) Can I install Zhag over Zeus?

Yes.

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System 7.5 Update 2.0: PCI-Based Computers&Netware ReadMe(3/96)

This article contains one of several Read Me files included with System 7.5 Update 2.0. Specifically, this information is taken from the "Novell Netware Users Read Me" file. This information is applicable only if you have a PCI-based Mac OS computer connected to a Novell Netware network.
This article has been archived and is no longer updated by Apple.
System 7.5 Update 2.0 contains the Ethernet Compatibility extension version 1.0.3, which fixes a problem in the system shutdown code. A side effect of this fix is a two-minute delay in shutting down the computer. It may appear that the machine has hung, however after two minutes, the machine will resume the shut down process. This delay can be avoided by logging out of the Netware tree before shutting down or restarting.

Without the Ethernet Compatibility extension, when a PCI-based machine running System 7.5.3 selects Shut Down or Restart, the machine would crash.

To use the Ethernet Compatibility extension, you must custom install the Ethernet Driver Update. This can be done by opening the System 7.5 Update 2.0 Installer, selecting Custom Install in the upper pop-up menu, and selecting the Ethernet Driver Update. This selection is at the very bottom of the list of custom install options.

Article Change History:
25 Mar 1996 - Added comment about name of ReadMe file.
20 Mar 1996 - Added keyword.
08 Mar 1996 - Updated with latest information.

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Performa: Receiving Faxes with Internal GVC Modem

I have a Macintosh Performa computer with an internal Global Village modem and Global Village software. I am having difficulty receiving faxes while Megaphone is set to receive messages. What should I do?
This article has been archived and is no longer updated by Apple.
To reliably receive calls, follow these steps:

1. Choose the Global Village Fax Center from the Apple menu.
2. From the Fax menu, choose Setup, then choose Receiving.
3. Click on the Receive Fax check-box to turn it on, and set the number of rings that the fax software should use.
4. Click on the OK button.
5. Open the Telephone Setup control panel. **Note:** For optimum performance, Megaphone should be left open if the Telephone Setup control panel is turned on. **Note:** Megaphone must be left open if you intend to receive voice calls.
6. Turn off the Call Saver mode.
7. Set the number of rings to answer at one more than the number noted in step 3. **Note:** The settings in Telephone Setup and in the GVC Fax Center should theoretically work at the same number of rings, but the setup described here has proven to be successful.
8. Close the Telephone Setup control panel.

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Apple TV/Video System: Closed Captioning Not Appearing (3/96)

I have a videotape that includes closed captioning information that I wish to view with Apple Video Player. I've turned on closed captioning using the appropriate Apple Video Player "Controls" window. Also, the video window is not set to the smallest size, which I know keeps the closed captioning text from appearing, but I'm still not seeing the closed captioning.

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In order to decode closed captioning information, the incoming video must be passed through the TV Tuner module. If the video cable is attached to the RCA jack of the Apple Video-In Card, closed captioning information will be ignored. Instead, use a standard F-type coaxial cable to attach the VCR to the TV Tuner module.

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Apple Video Player: Always Records an Audio Track (3/96)

Even though no audio cables are attached to the left or right RCA audio-in jacks of the Apple Video card in my computer, the Apple Video Player application still records an audio track. It is a silent track, but it increases the file size of the recorded video significantly, and can potentially impede video capture rates as well. Is there any way to disable this functionality?

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No, the inability to turn off this feature is a trade-off for the simplicity and ease-of-use that Apple Video Player provides. However, the audio track can be removed with Apple's Movie Player application (which is included with QuickTime 2.1) and with most major video applications, such as Avid VideoShop, QuickFLIX, or Adobe Premiere.

Follow these steps to delete the audio track with Movie Player:

Step 1

Open the movie file and choose Delete Tracks from Movie Player's Edit menu.

Step 2

A window will appears that lists Video Track and Sound Track. Choose Sound Track from the list and click Delete.

The movie can now be saved without the audio portion, reducing the size of the saved file.

To prevent the audio track from being recorded in the first place, use a more full featured video application, like the ones listed above.

These articles can help you locate the software update mentioned here:

* "Where To Find Apple Software Updates" - Lists online services for free Apple software updates.

* "Obtaining Apple Product Support in the USA" - Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech Info Library.

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Macintosh Computers & System 7.5: Freeze Troubleshooting

This article provides guidelines to help troubleshoot various system "freeze" symptoms associate with Macintosh computers.
This article has been archived and is no longer updated by Apple.
The following system "freeze" symptoms are covered in this article:

My computer "freezes:

- At the happy Macintosh during startup
- While loading system extensions during startup
- After startup as the Finder is loading
- While the computer is sitting idle
- When launching, using, or quitting application "X"
- When printing from application "X"

In general, it is a good idea to understand when the freeze began to occur. For instance, if the freeze began occuring after adding memory, after adding a SCSI device, or after adding some new software, this might help identify where to begin troubleshooting the symptoms.

At the "happy Macintosh" during startup

1. Turn computer off from the back of the computer.

2. Temporarily disconnect external SCSI and serial devices.

3. Wait 7 - 10 seconds for the drive to spin down.

4. Turn computer back on.

5. If computer continues to freeze at the "happy Macintosh", try starting up from the system software CD-ROM disc or a Disk Tools floppy disk. The procedure for starting with the CD-ROM disc is documented in the User's Guide. Once you have started up from the CD-ROM disc or Disk Tools disk, run Disk First Aid to make sure hard disk is OK. You may also test the drive with Apple HD SC Setup or Drive Setup.

6. If computer continues to freeze at the "happy Macintosh" while starting up from the CD or Disk Tools floppy disk, the computer should be serviced by an Apple Authorized Service Provider.

While loading system extensions during startup

Troubleshoot this issue as an extension conflict.

1. Turn computer off from the back of the computer.

2. Temporarily disconnect external SCSI and serial devices

3. Start up the computer and hold down the space bar during startup to open the Extensions Manager control panel.

Select the extension set called "System 7.5.x Only."

4. If the computer still freezes during startup, perform a clean installation (or restore new system software) to alleviate possible corrupted system software.

5. If the computer still freezes during startup after a clean installation of system software, the computer should be serviced by an Apple-authorized service provider.

After startup as the Finder is loading

Troubleshoot this issue as an extension conflict.

1. Restart from the Special menu or the keyboard by pressing and releasing the Command-Control-Power keys.

2. Start up the computer and hold down the space bar during startup to open the Extensions Manager control panel.

3. Select the extension set called "System 7.5.x Only."

4. Start up with Extensions disabled (by holding the Shift key during start up). If the computer starts up, temporarily remove the Fonts and Preferences folders from the System Folder. You may place them on the Desktop, for example. Restart the computer. If the issue does not persist, a damaged font suitcase or preference file is causing the issue.

5. If computer still freezes, perform a clean installation of the system software or restore new system software to alleviate possible corrupted system software."

While the computer is sitting idle

Troubleshoot this issue as an extension conflict.

1. Restart from the Special menu or the keyboard by pressing and releasing the Command-Control-Power keys.

2. Start up the computer and hold down the space bar during startup to open the Extensions Manager control panel.

3. Select the extension set called "System 7.5.x Only."

4. Check to see if any screen savers have been added to the System Folder. Temporarily disable or remove any screen savers as they may cause this symptom if they are incompatible.

5. If system still freezes while sitting idle with extensions off, perform a clean installation of the system software or restore new system software to alleviate possible corrupted system software.

When launching, using, or quitting application"X"

Troubleshoot this issue as a possible low memory situation or as a possible application conflict with the system software and/or an extension conflict.

1. Restart from the Special menu or the keyboard by pressing and releasing the Command-Control-Power keys.

2. Once computer has started back up, choose About This Macintosh from the Apple menu in the Finder.

3. Check the Largest Unused Block of memory in the About This Macintosh window.

4. Check the Memory Requirements of the application to be sure that there is enough free memory for the application to launch. It's important for the application to have at least the Minimum size of memory available to run. (For more information refer to Macintosh Guide's Application Programs topic, "How do I change the memory a program uses?")

Note: It may be necessary to enable Virtual Memory in the Memory control panel to give the application enough memory to run.

5. If the computer still freezes, restart the computer and hold down the space bar during startup to open the Extensions Manager control panel.

6. Select the extension set called "System 7.5.x Only."

7. Try to launch application again.

8. If the computer still freezes when launching the application, try starting the application with Modern Memory Manager (for Power Macintosh computers) or 32-bit addressing (for earlier Macintosh computers) turned off. Some older applications may not be compatible with these options. Contact the developer for a more up-to-date version of the application.

9. If the computer still freezes, the application may not work with your computer. Check the application's documentation or contact the developer of the application to determine if the application will work with your computer.

When printing from application "X"

First, troubleshoot this issue as a possible low memory situation. Second, troubleshoot this issue as a possible print driver and application or system software conflict.

1. Restart from the Special menu or the keyboard by pressing and releasing the Command-Control-Power keys.

2. Once computer has started back up, choose About This Macintosh from the Apple menu in the Finder.

3. Check the Largest Unused Block of memory in the About This Macintosh window.

4. Check the Memory Requirements of the application to be sure that there is enough free memory for the application to launch. It's important for the application to have at least the Minimum size of memory available to run. (For more information refer to Macintosh Guide's Application Programs topic, "How do I change the memory a program uses?")

Note: It may be necessary to enable Virtual Memory in the Memory control panel to give the application enough memory to run.

5. If the computer still freezes when printing and you are using Background Printing, try increasing the Memory Requirements for the PrintMonitor application if issue only occurs during Background Printing. The PrintMonitor is located in the Extensions folder within the System Folder.

6. If the computer still freezes when printing, try disabling the Background Printing option in the Chooser or turn on Virtual Memory to increase the memory available for Background Printing.

7. Many print drivers including Apple's LaserWriter and StyleWriter drivers allow the user to enable to Background Printing. If there is not enough free memory for Background Printing to run, the computer may freeze during printing.

If the computer still freezes when printing, the print driver may not be compatible with the application or system software. Check the printer's documentation or contact the manufacturer of the printer to determine if the print driver is compatible with your computer.

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Open Transport 1.1 Read Me (3/96)

This article is the Open Transport 1.1 ReadMe file.
This article has been archived and is no longer updated by Apple.
Open Transport 1.1 Read Me

Introduction

This Read Me document contains late-breaking information about Open Transport compatibility, add-on software, and solutions to known problems with third-party software. For instructions about how to use the Open Transport control panels (AppleTalk and TCP/IP), use Macintosh Guide, available from the Guide (question mark) menu. For technical information about Open Transport, see "Open Transport Technical Info."

Network Interface Options

Open Transport 1.1 supports PCI bus, NuBus, communications slot, and PC-card network interface cards as well as built-in LocalTalk and Ethernet network adapters. For Macintosh models without expansion options, Open Transport supports SCSI-attached network adapters.

Third party network interface options available for Open Transport include fast Ethernet, ATM, and FDDI.

Compatibility

Open Transport is compatible with:
* existing applications that use AppleTalk as specified by Apple Computer, Inc.
* existing applications that use MacTCP as specified by Apple Computer, Inc.
* existing devices (such as printers) that you select in the Chooser
* existing NuBus network interface cards

Open Transport is compatible with existing AppleTalk, TCP/IP LocalTalk and Ethernet networks. Macintosh computers running Open Transport can be added to an existing network without upgrading other computers on the network.

Dial-up Network Connectivity

For connectivity to AppleTalk networks, Open Transport supports Apple Remote Access version 2.0.1 or later.

For dial-up connectivity to TCP/IP networks, including the Internet, Open Transport supports third party MacTCP software extensions known as Link Access Modules, or "mdevs." Serial Line Interface Protocol (SLIP) and Point to Point Protocol (PPP) connectivity are provided through mdevs.

With the appropriate mdev installed, you use either SLIP (Serial Line Interface Protocol) or PPP (Point to Point Protocol) to connect to Internet Service Providers and other dial-up IP-access points. However, not all versions of all mdevs are supported by Open Transport 1.1. For best results, be sure to use the versions of software recommended below.

Open Transport 1.1 recognizes the following MacTCP mdevs. When installed on your system, they are available in the "Connect Via:" pop-up menu in the TCP/IP control panel:
* FreePPP - version 1.0.4 or later
* MacPPP - version 2.1.4 SD or later (version 2.2.0 is not recommended).
* InterPPP - version 1.2.9 or later
* InterPPP II - version 1.1 or later
* InterSLIP - version 1.0.1 or later
* MacSLIP - version 3.0.2 or later
* VersaTerm SLIP - version 1.1.4 or later
* Sonic PPP - version 1.0.2 or later
* AOL Link - the most current version is recommended

In addition, there are a number of third party PPP mdevs (including Pacer PPP, FCR PPP and Tribe PPP) which have a common technology base and as a result are indistinguishable from one another to Open Transport. When installed, these appear in the "Connect Via:" pop-up menu in the TCP/IP control panel as "TCP/IP PPP."

NFS/Share 1.3.x and 1.4 are not compatible with Open Transport. To use NFS/Share with Open Transport, you must contact Intercon to obtain a version of NFS/Share that is compatible with Open Transport.

For more information on Open Transport compatibility, contact the developer of the software you want to use.

Obtaining Connectivity Software

FreePPP is shareware and can be found on a variety of Internet sites; typically at "info-mac" mirror sites in the comm/tcp/conn directory.

Some sites where FreePPP can be found currently include:
ftp://mirrors.aol.com/pub/info-mac/comm/tcp/conn/
ftp://mirror.apple.com/mirrors/Info-Mac.Archive/comm/tcp/conn/

MacPPP version 2.1.4 is available as a part of the Apple Internet Connection Kit. For fax information in the US, contact Apple Computer Inc., at 800-462-4396. To locate an Apple reseller near you in the US, call 800-538-9696.

InterPPP, InterPPP II, and NFS/Share are commercial software products. For availability and ordering information in the US, contact InterCon Systems at 800-468-7266 or 703-709-5500.

MacSLIP is commercial software developed by Hyde Park Software. For availability and ordering information in the US, contact TriSoft at 800-531-5170 or 512-472-0744.

VersaTerm SLIP is commercial software developed by Synergy Software. For availability and ordering information in the US, contact Synergy at 610-779-0522.

SonicPPP is commercial software developed by Sonic Systems, Inc. For availability and ordering information in the US, contact Sonic Systems at 408-736-1900 (voice) 408-736-7228 (fax).

MacPPP and FreePPP

If you experience problems using MacPPP or FreePPP when Virtual Memory is turned on, try turning off Virtual Memory. To find out how to turn off Virtual Memory, see the topic "How do I use hard disk space as memory" in Macintosh Guide, available from the Guide (question mark) menu.

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LaserWriter II Family: List Of Pinouts (6/94)

Is there a listing of the pinouts for the various connectors on the LaserWriter II I/O boards?

This article has been archived and is no longer updated by Apple.
Here is a list of LaserWriter II I/O board pinouts:

LaserWriter II Mini Circular-8 RS-422:

Pin Signal Description

1 HSKo Handshake output
2 HSKi Handshake input
3 TxD- Transmit data -
4 SG Signal Ground
5 RxD- Receive data -
6 TxD+ Transmit data +
7 RxD+ Receive data +

LaserWriter II RS-232C:

Pin Signal Description

1,7 * SGnd Signal Ground
2 * Txd Transmit Data
3 * Rxd Receive Data
4 Rts Request to send
5 Cts Clear to send
6 DSR Data Set Ready
8 DCD Data Carrier Detect
20 DTR Data Terminal Ready
22 Ring Ring indicator

* Only pins 1 (or 7,) 2, and 3 are needed by the LaserWriter II. The other pins exist for support of communication with devices requiring specific hardware handshaking.

NOTE: The RS-232C connnector on the LaserWriter is configured as Data Terminal Equipment (DTE), which means that you can connect it directly to a modem or host computer that is configured as Data Communication Equipment (DCE) without any signal reversals. Connection to another DTE device, such as a Macintosh or IBM-compatible, requires that the TxD and the RxD of each connector be crossed connected.

LaserWriter IIsc, IIntx, IIf and IIg SCSI port:

Pin Signal

26 /DATA0
27 /DATA1
28 /DATA2
29 /DATA3
30 /DATA4
31 /DATA5
32 /DATA6
33 /DATA7
34 /PARITY
38 +5V
41 /ATN
43 /BUSY

44 /ACK
45 /RST
46 /MSG
47 /SEL
48 C/D
49 REQ
50 I/O

Pins 1-12, 14-25, 35-37, 39, 40, 42 are GROUND. Pin 13 is not connected.

Apple DeskTop Bus Mini Circular-4:

Pin Signal Description

1 Bi-directional Data
2 Not Connected
3 Not connected
4 Ground

LaserWriter IIg ethernet connector:

Pin Signal Description

1 FN Pwr Power (+12V @ 2.1W or +5V @ 1.9W)
2 DI-A Data In circuit A
3 DI-B Data In circuit B
4 VCC Voltage Common
5 CI-A Control In circuit A
6 CI-B Control In circuit B
7 +5V +5 volts (from host)
8 +5V Secondary +5 volts (from host)
9 DO-A Data Out circuit A
10 DO-B Data Out circuit B
11 VCC Secondary Voltage Common
12 NC Reserved
13 NC Reserved
14 FN Pwr Secondary +12V @ 2.1W or +5V @ 1.9W
Shell Prot Gnd Protective Ground

Article Change History:
23 Jun 1994 - Reviewed for technical accuracy, revised formatting, added LaserWriter IIf and IIg.

Support Information Services
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System 7.5.x: Software Components Versions

This article lists the version numbers of Apple software components included with System 7.5.1, System 7.5.2, and System 7.5.3. System 7.5.3 is a new version of System 7.5 that comes installed on computers built after March 1996.

This list only includes the basic System 7.5.3 components or System 7.5 Update 2.0 components. Additional installations for PlainTalk, PowerTalk or QuickDraw GX may be available on the startup CD.

"n/a" - not applicable

"-" - no version number

This article has been archived and is no longer updated by Apple.

Ships with:	7.5.1	7.5.2	7.5.3
System Folder			
Finder	7.1.4	7.5.3	7.5.5
Scrapbook File	7.5	7.5	7.5
System	7.5	7.5.2	7.5.3
System Folder:Apple Menu Items			
AppleCD Audio Player	2.0	2.1	2.1
Apple Video Player (— alias)	n/a	1.3	1.4
Automated Tasks (— alias)	7.5	7.5	7.5
Calculator	7.5	7.5	7.5
Chooser	7.5	7.5.3	7.5.4
Control Panels (— alias)	7.5	7.5	-
Find File	1.0	1.1.1	1.1.2
Graphing Calculator	1.0	1.0	1.0
Jigsaw Puzzle	1.0	1.0.1	1.0.1
Key Caps	7.5	7.5	7.5
Note Pad	7.5	7.5	7.5
Scrapbook	7.5	7.5	7.5
Stickies	1.0	1.0.1	1.0.1
* Shut Down	1.0P	1.1	1.1
System Folder:Control Panels			
Apple Menu Options	1.0	1.0.2	1.1.1
AppleTalk	n/a	1.0.6	1.1
AutoRemounter			7.5.3
Color	7.1	7.1	7.1
ColorSync System Profile	1.0.5	2.0	2.0
Control Strip	-	1.3	1.3.1
Date & Time	7.5	7.5	7.5.1
Desktop Patterns	7.5	7.5	7.5
Energy Saver		2.0	2.0.1
Extensions Manager	3.0	3.0.2	3.0.3
File Sharing Monitor	7.1	7.1	7.1
General Controls	7.5	7.5.5	7.5.7
Keyboard	7.1	7.5.1	7.5.1
Labels	7.1	7.1	7.1
Launcher	2.4	2.7	2.8
Macintosh Easy Open	1.1	1.1.1	1.1.2
MacTCP	n/a	2.0.4	2.0.6
Map	7.5	7.5	7.5
Memory	7.5	7.5.4	7.5.5
Monitors	7.5	7.5.3	7.5.4
Monitors & Sound	n/a	n/a	1.1
Mouse	7.3	7.3.1	7.5.3
Network Software Selector (OT/Classic Atalk switch)	n/a	n/a	1.0

Numbers	7.1	7.1	7.1
Password Security (PowerBook Only)	n/a	n/a	1.0.3
PC Exchange	2.0.2	2.0.5	2.0.5
PowerBook (PowerBook Only)	n/a	n/a	7.5.3
PowerBook Display (PowerBook Only)	n/a	n/a	7.5.2
PowerBook Setup (PowerBook Only)	n/a	n/a	7.3.1
Sharing Setup	7.1	7.1	7.1
Sound	8.0.3	8.0.3	8.0.5
Sound & Displays	n/a	1.0	1.0
Speech	n/a	n/a	1.4.1
Startup Disk	7.3.2	7.3.2	7.5.2
TCP/IP	n/a	1.0.6	1.1
Token Ring	n/a	n/a	1.0.1
Text	7.1	7.1	7.1
TrackPad (PowerBook Only)	n/a	n/a	7.5.5
Users & Groups	7.1	7.1	7.1
Views	7.1	7.1	7.1
WindowShade	1.3	1.3.1	1.3.1

System Folder:Control Strip Modules Folder

AppleTalk Switch	n/a	1.3	1.3.1
Battery Monitor (PowerBook Only)	n/a	n/a	1.3.1
File Sharing	n/a	1.3	1.3.1
HD Spin Down (PowerBook Only)	n/a	n/a	1.3.1
Power Settings (PowerBook Only)	n/a	n/a	1.3.1
Sleep Now (PowerBook Only)	n/a	n/a	1.3.1
Sound Volume	n/a	1.3	1.3.1
Monitor Bit Depth	n/a	1.0	1.0
Monitor Resolution	n/a	1.0	1.0
Video Mirroring	n/a	1.3	1.3.1

System Folder:Extensions

7200 Graphics Accelerator	n/a	1.0	1.0.1
7200 & 9500 Guide Additions	n/a	1.0	n/a
7500 & 8500 Guide Additions	n/a	1.0	1.0
About Apple Guide	1.2	1.2	1.3
Apple CD-ROM	5.0.2	5.1.1	5.1.2
Apple Color SW Pro CMM		1.0	1.0.1
Apple Guide	1.2	1.2.7	2.0
Apple Modem Tool (PowerBook Only)	n/a	n/a	1.5
Apple Photo Access	2.0	2.1	2.1
AppleScript	1.1	1.1	1.1
AppleScriptLib	1.1	1.1	1.1
AppleShare	3.5	3.5	3.6.1
AppleVision	n/a	n/a	1.0.4
AppleVision Guide Additions	n/a	n/a	1.1
Audio CD Access	5.0.2	5.1	5.1
Assistant Toolbox (PowerBook Only)	n/a	n/a	1.3.1
AV Monitors Guide Additions	n/a	1.0	1.1
AV Setup	n/a	1.0	n/a
Clipping Extension	7.1.4	7.1.4	7.1.4
Color Picker	2.0.1	2.0.1	2.0.1
Color SW 2000 Series CMM	n/a	1.0	1.0
Color SW 2200	n/a	n/a	2.1.1
Color SW 2400	n/a	2.1	2.1.1
Color SW Pro	n/a	1.5.2	1.5.2
ColorSync	1.0.5	2.0	2.0.1
Desktop Print Monitor	n/a	n/a	1.0.3
Desktop Printer Extension	n/a	n/a	1.0.3
Desktop Printer Spooler	n/a	n/a	1.0.3
Display Guide Additions	n/a	1.0.1	1.0.1
EM Extension	7.5	3.0.2	3.0.3
Energy Saver Extension	n/a	2.0	2.0.1

Energy Saver Guide Additions	n/a	1.0	1.1
Ethernet (Built-In)	n/a	1.0.1	n/a
File Sharing Extension	7.1.1	7.6.2	7.6.2
Find File Extension	1.0	1.1.1	1.1.1
Finder Help	7.1.4	7.5.3	7.5.5
Finder Scripting Extension	1.2	7.5.3	7.5.5
Finder Update	n/a	7.5.3	n/a
Foreign File Access	5.0.2	5.1	5.1
Generic PC Card Modem (PowerBook Only)	n/a	n/a	2.0.1
High Sierra File Access	5.0.2	5.1	5.1
ImageWriter	7.0.1	7.0.1	7.0.1
IR Talk	n/a	n/a	-
IR File Exchange Guide	n/a	n/a	1.1
ISO 9660 File Access	5.0.2	5.1	5.1
LaserWriter	7.2	7.2	7.2
LaserWriter 8	8.1.1	8.2.2	8.3.3
LaserWriter 300 (Renamed 300/LS in 7.5.3)	1.2	1.2	1.2
Macintalk 3	n/a	n/a	1.4
MacTCP Token Ring Extension (PowerBook Only)	n/a	n/a	-
Macintosh Guide	1.2	1.2	1.3
Monitor and Sound Guide Additions	n/a	n/a	1.0
Network	n/a	7.1.3	n/a
Network Extension	7.1.3	7.1.3	7.5.5
ObjectSupportLib	1.0.2	1.0.2	1.0.2
Open Tpt AppleTalk Library	n/a	1.0.6	1.1
Open Tpt Internet Library	n/a	1.0.6	1.1
Open Transport Guide Additions	n/a	1.0.6	1.3
Open Transport Library	n/a	1.0.6	1.1
Open TransportLib	n/a	1.0.6	1.1
OpenTptAppleTalkLib	n/a	1.0.6	1.1
OpenTptInternetLib	n/a	1.0.6	1.1
PB 500 Upgrade Guide Additions	n/a	n/a	1.3
PB 2300 Guide Additions	n/a	n/a	1.3
PB 5300 Guide Additions	n/a	n/a	1.3
PC Card Extension (PowerBook Only)	n/a	n/a	2.0
PC Card Modem Extension (PowerBook Only)	n/a	n/a	2.0.3
Printer Share	1.1.1	1.1.2	1.1.3
PrintMonitor	7.1.2	7.1.2	7.1.2
QuickTime	2.0	2.0.9	2.1
QuickTime PowerPlug	2.0	2.0.9	2.1
Serial (Built-In)	n/a	1.0.2	1.1
Shared Library Manager	n/a	2.0	2.0
Shared Library Manager PPC	n/a	2.0	2.0
Shortcuts	1.2	1.2	1.3
SimpleText Guide	n/a	1.0.1	1.0.1
Sound & Display Guide Additions	n/a	1.0.1	n/a
Speech Guide Additions	n/a	n/a	1.4.3
Speech Manager	1.3	1.3	1.4
StyleWriter 1200	n/a	2.1	2.1.1
System AV	n/a	n/a	1.1
Text Tool (PowerBook Only)	n/a	n/a	1.0.1
ThreadLib	2.1	2.1.2	2.1.2
TokenTalk Phase 2 (PowerBook Only)	n/a	n/a	2.5.7
TokenTalk Prep (PowerBook Only)	n/a	n/a	2.5.2
TTY Tool (PowerBook Only)	n/a	n/a	1.0.1
Video Startup	n/a	n/a	1.4
VT 102 Tool (PowerBook Only)	n/a	n/a	1.0.2
WorldScript Power Adapter	7.5.1	7.5.2	7.5.3
XMODEM Tool (PowerBook Only)	n/a	n/a	1.1

System Folder:Extensions:Printer Descriptions

LaserWriter	3.2	3.3	3.3
LaserWriter Color 12/600 PS	n/a	n/a	1.1.1

LaserWriter 4/600 PS	n/a	n/a	1.1
LaserWriter 16/600 PS	n/a	1.0	1.1
LaserWriter 16/600 PS Fax	n/a	1.0	1.1
LaserWriter II NT	3.7	3.7	3.7
LaserWriter II NTX	3.5	3.5	3.5
LaserWriter II NTX v50.5	1.2	1.2	1.2
LaserWriter II NTX v51.8	2.5	2.5	2.5
LaserWriter II NTX-J v50.5	1.5	1.5	1.5
LaserWriter IIf v2010.113	3.0	3.0	3.0
LaserWriter IIf v2010.130	3.1	3.1	3.1
LaserWriter IIg v2010.113	3.0	3.0	3.0
LaserWriter IIg v2010.130	3.1	3.1	3.1
LaserWriter Personal 320	1.10	1.11	1.1
LaserWriter Personal NT	2.8	2.8	2.8
LaserWriter Personal NTR	1.9	1.9	1.9
LaserWriter Plus v38.0	3.7	3.7	3.7
LaserWriter Plus v42.2	3.5	3.5	3.5
LaserWriter Pro 400 v2011.110	n/a	1.1	1.1
LaserWriter Pro 405 v2011.110	n/a	1.0	1.0
LaserWriter Pro 600 v2010.130	1.15	1.15	1.2
LaserWriter Pro 630 v2010.130	1.14	1.14	1.1
LaserWriter Pro 810	1.3	1.3	1.1
LaserWriter Pro 810f	1.3	1.3	1.3
LaserWriter Select 360	1.10	1.10	1.1
LaserWriter Select 360f	1.10	1.10	1.1
LaserWriter Select 610	n/a	1.30	1.3

System Folder:Extensions:Scripting Additions

AGStart	1.0	1.0	1.0
Beep	1.1	1.1	1.1
Choose Application	1.1	1.1	1.1
Choose File	1.1	1.1	1.1
Current Date	1.1	1.1	1.1
Display Dialog	1.1.1	1.1.1	1.1.1
File Commands	1.1	1.1	1.1
Load Script	1.1	1.1	1.1
MonitorDepth	1.0	1.0	1.0
New File	1.1.1	1.1.1	1.1.1
Numerics	1.1	1.1	1.1
Read/Write Commands	1.1.1	1.1.1	1.1.1
Run Script	1.1.1	1.1.1	1.1.1
Scripting Components	n/a	n/a	1.1.1
Set Volume	1.0	1.0	1.0
Store Script	1.1	1.1	1.1
String Commands	1.1	1.1	1.1
Time to GMT	1.1.1	1.1.1	1.1.1

System Folder:Extensions:Scripting Additions:Dialects

English Dialect	1.1	1.1	1.1

System Folder:Extensions:Voices Folder

Albert	n/a	1.4	1.4
Bad News	n/a	1.4	1.4
Bahh	n/a	1.4	1.4
Bells	n/a	1.4	1.4
Boing	n/a	1.4	1.4
Bubbles	n/a	1.4	1.4
Cellos	n/a	1.4	1.4
Deranged	n/a	1.4	1.4
Fred	n/a	1.4	1.4
Good News	n/a	1.4	1.4
Hysterical	n/a	1.4	1.4

Junior	n/a	1.4	1.4
Kathy	n/a	1.4	1.4
Pipe Organ	n/a	1.4	1.4
Princess	n/a	1.4	1.4
Ralph	n/a	1.4	1.4
Trinoids	n/a	1.4	1.4
Whisper	n/a	1.4	1.4
Zarvox	n/a	1.4	1.4

System Folder:Fonts

Chicago	-	-	-
Courier	-	-	-
Geneva	-	-	-
Helvetica	-	-	-
Monaco	-	-	-
New York	-	-	-
Palatino	-	-	-
Symbol	-	-	-
Times	-	-	-

System Folder:Launcher Items

Script Editor (alias)	1.1.1	1.1.1	1.1.1
SimpleText (alias)	1.1.1	1.2	1.2

System Folder:Preferences

System Folder:Preferences:ColorSync Profiles

Apple 12" RGB Standard	1.0.3	2.0	2.0
Apple 13" RGB Standard	1.0.3	2.0	2.0
Apple 16" RGB Page-White	1.0.3	2.0	2.0
Apple 16" RGB Standard	1.0.3	2.0	2.0
Apple 21" RGB Page-White	1.0.3	2.0	2.0
Apple 21" RGB Standard	1.0.3	2.0	2.0
Apple Multiple Scan 17 - 9300	1.0.3	2.0	2.0
Apple Multiple Scan 17 - D50	1.0.3	2.0	2.0
Apple Multiple Scan 17 - D65	1.0.3	2.0	2.0
Apple Multiple Scan 20 - 9300	1.0.3	2.0	2.0
Apple Multiple Scan 20 - D50	1.0.3	2.0	2.0
Apple Multiple Scan 20 - D65	1.0.3	2.0	2.0
Apple Performa Display	1.0.3	2.0	2.0
Apple Performa Plus Display	1.0.3	2.0	2.0
Apple Color SW Pro SN	n/a	1.0.3	1.0.3
Apple Color SW Pro	n/a	1.0.3	1.0.3
Color SW 2000 Series Pattern	n/a	1.0.3	1.0.5
Color SW 2000 Series Scatter	n/a	1.0.3	1.0.5
Mac Color Display Standard	n/a	2.0	2.0

MacintoshHD:

SimpleText	1.1.1	1.2	1.2

MacintoshHD:Apple Extras

MacintoshHD:Apple Extras:Plaintalk

Plaintalk	n/a	1.4	1.4

MacintoshHD:Apple Extras:Telecom Software

Apple Telecom	n/a	2.1	n/a
Apple Telecom 2.1 Install	n/a	2.1	n/a
GeoPort Telecom Adapter ReadMe	n/a	2.1	n/a

Apple Telecom Disk 1	n/a	-	-
Fax Software	n/a	-	-
MegaPhone	n/a	1.0.2	n/a
Megaphone	n/a	1.0.2	n/a
Megaphone ReadMe			

MacintoshHD:Apple Extras:AppleScript

Script Editor	n/a	n/a	1.1.1
Using AppleScript Part 1	n/a	n/a	7.5
Using AppleScript Part 2	n/a	n/a	7.5

MacintoshHD:Apple Extras:AppleVideo Player

AppleVideo Player	n/a	n/a	1.3.2
AppleVideo Player Guide	n/a	n/a	1.3

MacintoshHD:Apple Extras:Extra Alert Sounds

Basil	n/a	1.0	n/a
Bend Me	n/a	1.0	n/a
Blue Dust	n/a	1.0	n/a
Bye!	n/a	1.0	n/a
Dewdrop	n/a	1.0	n/a
Jacaranda	n/a	1.0	n/a
Natal	n/a	1.0	n/a
Ryan's Hope	n/a	1.0	n/a
Sheet	n/a	1.0	n/a
Solly	n/a	1.0	n/a
Transvaal	n/a	1.0	n/a
Extra Alert Sounds ReadMe	n/a	1.0	n/a

MacintoshHD:Apple Extras:Pointer Mode Control Panel

Pointer Mode		1.0	1.3.2
Pointer Mode Read Me			

MacintoshHD:Apple Extras: SimpleText

SimpleText	n/a	1.0	1.3
SimpleText Guide	n/a	n/a	1.0.1

MacintoshHD:Apple Extras:Sound Input Amplification

Sound Input Amplification	n/a	1.0	1.0
Using A Microphone ReadMe			

For information on obtaining AppleShare client 3.5, please see the following Tech Info Library article:

Article 24655: "**AppleShare Client 3.5: Where Is It?**"
Published Date: Feb 18, 2012

Workgroup Server 8550/132: Time to Ready Workaround (3/96)

This article describes an issue where large and fast hard disk drives do not mount on a Workgroup Server 8550/132 after a cold startup.
This article has been archived and is no longer updated by Apple.
On a Workgroup Server 8550/132 when large drives (2 GB and 4 GB), and fast drives (7200 RPM) are used on both the internal and external SCSI channel, as in a dual-drive configuration, all of the drives may not mount on the desktop from a cold startup. This only occurs with large, and fast drives from a cold restart. This is because the time to ready status is initiated from the drive after the system looks for it.

If this symptom occurs in other situations, its root cause is different.

Workaround

First, use the Startup Disk control panel and deselect all volumes. This delays the system enough for a drive to mount.

Second, select the Restart command from the Special menu. Since the drive will already be spinning, it will respond appropriately to the restarting of the server and mount.

Published Date: Feb 18, 2012

List of ISDN Acronyms (3/96)

This article provides a list of ISDN acronyms.
This article has been archived and is no longer updated by Apple.
ACD Automatic Call Distribution
AMA Automatic Message Accounting
ANI Automatic Number Identification
ANSI American National Standards Institute
B (Channel) A 64 kbps digital information channel
bps Bits per second
BRI Basic Rate Interface
CA Call Appearance
CCITT Consultative Committee for International Telegraphy and Telephony
CFDA Call Forwarding Don't Answer
CIC Carrier Identification Code
CLAMN Call Forwarding Address Modified Notification
CLID Calling Line Identification
CMD Circuit-mode-data
CND Calling Number Delivery
CPE Customer-premises-equipment
CR Call Reference
CSU/DSU Channel Service Unit/Data Service Unit
DLCI Data Link Connection Identifier
DMA Direct Memory Access
DMS Digital Multiplex Switching
DN Directory Number
DNIC Data Network Identification Code
DNS Data Network System
DSM Demand Side Management
DSP Display Station Protocol
EID Endpoint Identifier
EKTS Electronic Key Telephone Service
ESS Electronic Switching System
FEP Front End Processor
FTP File Transfer Protocol
FX Foreign Exchange
HLC High Layer Compatibility
ID Identification
IEC InterExchange Carrier
IMUX Inverse Multiplexer
INIC ISDN Network Identification Code
IOF Inter Office Facility
ISDN Integrated Services Digital Network
ISO International Standardization Organization
ITU-TSS International Telecommunications Union - Telecommunications Standardization Section (formerly, CCITT)
kbps Kilobits per second
kHz Kilohertz
LAN Local Area Network
LATA Local Access and Transport Area
LC Logical Channel
LEC Local Exchange Carrier
LLC Logical Link Control (LAN)
LLC Low Layer Compatibility (ISDN)
MAC Medium Access Control
Mbps Megabits per second
MF Multi-Frequency Signaling
MLHG Multiline Hunt Group
MPEG Moving Pictures Experts Group
MR CMD Multi-rate Circuit Mode Data
NI-1 National ISDN-1
NI-2 National ISDN-2
NIIG NIUF ISDN Interface Group
NIPG NIUF ISDN Parameter Group

NIST National Institute of Standards and Technology
NIUF North American ISDN Users' Forum
NT Network Termination
NTSC National Television System Committee
NUI Network User Identification
OSI Open Systems Interconnection
PBX Private Branch Exchange
PHF Packet Handling Function
PMD Packet-Mode Data
POTS Plain Old Telephone Service
PPSN Public Packet Switched Network
PRI Primary Rate Interface
PSTN Public Switched Telephone Network
PVC Permanent Virtual Circuit
SFG Stimulated Facility Group
SPCS Stored Program Controlled Switching System
SPID Service Profile Identifier
SS7 Signaling System 7
SWF-DS1 Switched DS1/Switched Fractional DS1 Service Capability
T3 POS Transaction Processing Protocol for Point-of-Sale
TA Terminal Adapter
TCP/IP Transport Control Protocol/Internet Protocol
TE Terminal Equipment
TEI Terminal Endpoint Identifier
TSP Terminal Service Profile
UDI Unrestricted Digital Information
UUI User-to-User Information
VMS Voice Messaging System

Published Date: Feb 18, 2012

Cyberdog Beta 1.0 Bugs List (4/97)

This article is the Cyberdog Beta 1.0 Bugs List as of 12 Feb 1996.
This article has been archived and is no longer updated by Apple.
Welcome to the Cyberdog List of Frequent Bugs. This document is the second stop to the Cyberdog Bug Reporting System. Below you will find a listing of the most frequently found bugs from both our testing efforts and general users. Please check over this list before submitting a bug in the event that it has already been found.

Last Updated - 02/12/96

B1 Bugs

* connecting to an FTP server with a username with a period will fail.

* dragging files with names greater than 31 characters out of FTP will give an error. (workaround: use the Get Item from Server menuitem)

* extremely long gopher listings will sometimes hang on systems running 7.5.3

* Account Info in the Trays menu is activated when a message is selected

* email enclosures to some online services (e.g. AOL) are not received correctly.

* can not drag from the background of a mail window

* mail and news handlers dialog does not let you tab between fields

* can not sort by Status in the Out Tray

A3 Bugs

* Still using A3 and having trouble launching Cyberdog? Get a weird "GetURLPlugIns" error? - Click Here for the solution.

* Closing windows before they finish drawing will crash (seen most often in mail) - Fixed in B1

* Sometimes Cyberdog mail will get into a state where if you try to download or send mail, you will get an error dialog "...an unknown error occurred for an uncertain reason..." If this happens to you, closing all of the Cyberdog windows and starting again should fix it. - Fixed in B1

Article Change History:
09 Apr 1997 - Removed out dated on line references.
03 Mar 1997 - Changed title to reflect Beta 1.0 software.

Published Date: Feb 18, 2012

Cyberdog Beta1.0: General FAQ (3/97)

This article provides frequently asked questions about Cyberdog Beta 1.0 software.

This article has been archived and is no longer updated by Apple.

Question: What is Cyberdog?

Answer: Cyberdog is the code name for a set of OpenDoc components that provides one-click access to Internet services. It provides a consistent interface, and brings Macintosh ease-of-use to the Internet. In Cyberdog, Internet address is an object that can be dropped into mail, your notebook, OpenDoc documents, or into the Finder. If you double-click on an Internet address, it opens the object, whether it's a web page, a picture (Cyberdog will do any necessary translation or decompression), or a file. And Cyberdog provides you with powerful mail that's integrated with the other Internet components.

Question: Will Cyberdog be the product name?

Answer: Cyberdog is the code name for the technology. We'll announce the product name when it is released.

Question: How can I get the most current information about Cyberdog?

Answer: Visit the Cyberdog home page at http://cyberdog.apple.com.

Question: Why use OpenDoc?

Answer: Together, Cyberdog and OpenDoc bring component software to the Internet. Because it is based on OpenDoc, Cyberdog is built of many small components. This makes it easy for the user to replace or update components as new functionality becomes available. You can choose a component from your favorite vendor, or one that provides the functionality you need, and simply drop it into your system folder to install it. This gives users and developers flexibility to keep up with the rapid addition of new services and data types on the Internet.

Cyberdog brings live Internet connections to OpenDoc documents. You can create links to Internet data, and you can actually embed Cyberdog viewers in a document so when you open the document, the viewer and its data are brought live, right into your document. With this capability, you can customize your access to all of the Internet, and bring the Internet live to documents you create.

Question: Why should I use Cyberdog instead of an all-purpose web browser?

Answer: Cyberdog gives you integrated access to all services on the Internet (including FTP, Gopher, Telnet, World Wide Web, Netnews and E-mail) with the ability to display the full richness of each service. If you try use a browser optimized for the world-wide web, you're forcing other services and data types to be displayed in way that's not optimal for them. Cyberdog avoids this compromise. In addition, with customized Internet documents, Cyberdog allows you to fully integrate the Internet more fully into your daily activities and to share your Internet explorations with friends and colleagues.

Question: What about email?

Answer: Cyberdog provides extremely robust and powerful e-mail capabilities. It supports the full MIME 1.0 standard, so you can use styled text, plus you can drop pictures, Internet links (as links, not just as text addresses), and enclosures right into your message. Cyberdog has mail handlers that filter and sort your incoming or outgoing mail messages. You can create multiple mailboxes for storing your received mail, and search stored messages for any word in any field of the message (full text search).

Question: How does message searching work?

Answer: Cyberdog incorporates Apple's new VTWIN technology developed for the next version of the Macintosh OS, code-named Copland. It indexes full text of all messages 'on the fly', and gives extremely fast relevancy-ranked listing of matches. You can literally search over thousands of messages in seconds.

Question: What about newsgroups?

Answer: Cyberdog makes managing newsgroups easy. With the ability to connect to multiple news servers, search, read messages, and save them

in Cyberdog's mail system for archiving (manually or using the News handlers), Cyberdog makes it easy to find the information you want. You can read and post full MIME 1.0-encoded documents, with graphics, styled text, and enclosures (including live links).

Question: What do you mean by live links?

Answer: A live link is any URL (which stands for "uniform resource locator"). It gives an internet address and can point to an ftp or gopher site, a telnet host, World Wide Web page, an e-mail address, a newsgroup or news server, etc. In Cyberdog, every URL is represented as a labeled icon which indicates what kind of site it is pointing to. These icons, much like Aliases on the desktop, can be dragged to the desktop or other Cyberdog or OpenDoc documents. If you double-click the icon, Cyberdog opens that item, whether it is a file, picture, web page, etc. If they're dragged out of OpenDoc (for example, into your Scrapbook), they become the URL text string. Cyberdog provides icons that represent most of the major Internet data types, so you can tell if the object is a picture, text, file, web, gopher, newsgroup, mail message, or ftp site.

Question: How can I keep track of my favorite places?

Answer: Cyberdog provides a Notebook & a Log to keep track of where you've been.

The Notebook is your place to store Internet references. You can drag into it any web "link" from a web page, any item from the log, or any file saved as a URL from the desktop. Even coolerâyou can drag any text that has the form of a URL (e.g., http://cyberdog.apple.com) into the notebook and it will be accepted as a legal internet address and represented with the appropriate icon. You can have multiple notebooks, so you can easily organize a large volume of links and mail addresses for quick access.

The Log can be displayed alphabetically, chronologically, or hierarchically. Objects can be dragged from the Log into the Notebook, mail, or any OpenDoc document, or to the Finder. Log files can be saved, and the log can be erased.

Question: What about consistency?

Answer: Cyberdog provides a standard browser window for different Internet services (FTP, Gopher, and World Wide Web), with forward and back arrows, display of the URL as both an object (an alias and icon) and a text string (the locator URL), a pop-up History, and a stop button. Inside the browsing window, each data type is displayed by a different Cyberdog component that gives the best display of that kind of data, so FTP and Gopher are displayed as hierarchical lists, with triangles you can use to click open a category and view the items inside it. This window has grow, zoom, and close boxes. Pictures are opened in their own separate windows, sized to the picture. Text is opened into a window with slider bars, and grow and zoom boxes. Movies and sounds are opened into the Cyberdog "player" window.

Question: Can I get directly to an Internet site or address?

Answer: Yes! You can use Cyberdog's "Connect To" menu item to directly access any URL, newsgroup, or mail account.

Question: What Internet services/standards does Cyberdog support?

Answer: Cyberdog supports the popular Internet standards: Telnet (vt100), FTP, Gopher, World Wide Web (http protocol and HTML hypertext language), Newsgroups (NNTP), mail (POP/SMTP), and MIME 1.0. Cyberdog provides viewers for text, GIF, JPEG, PICT, QuickTime, .au sound, .WAV sound, and .AIFF sound. We are working with 3rd parties to encourage them to develop OpenDoc components for chat, sound, and video.

Question: What about secure transactions?

Answer: The final release of Cyberdog will include Netscape's SSL protocol encryptions, and a key icon will appear at the top of the Cyberdog browser window whenever a secure connection is made.

Question: What HTML standards does the world-wide web browser support?

Answer: The Cyberdog web browser supports all of HTML 2.0 and includes tables and background pictures from HTML 3.0.

Question: Can Cyberdog use plug-ins and applets?

Answer: Plug-ins and applets are a way of moving toward the benefits of component architecture. Cyberdog is already built on the OpenDoc component architecture, and therefore it's easy for developers to create new components and viewers for new technologies as they become

available. The advantage of using Cyberdog is that any component for displaying a data type (Java, QuickTime VR, or web) can be incorporated into it. Extending this to other OpenDoc containers, you could even have Java applets that work in your OpenDoc-based spreadsheet or word processing document. We're working with 3rd parties to develop ways to either use applets and plug-ins with Cyberdog, or to develop the same technology as an OpenDoc component.

Question: How does Java fit with Cyberdog?

Answer: The beauty of Cyberdog is its ability to integrate data from multiple sources (including the Internet) into desktop applications. Although Cyberdog doesn't currently support Java, Apple and 3rd parties are investigating development of Java components that would integrate with Cyberdog and OpenDoc. In addition to Java support in the HTML browser, the Cyberdog/OpenDoc approach means that Java applets can move out of the browser and be integrated into any OpenDoc container.

Question: Can Cyberdog share preferences with my existing Internet applications?

Answer: Yes. On the Macintosh, Cyberdog uses the de facto standard for storing Internet application preferences, an application called "Internet Config". This allows it to easily co-exist with commonly used Macintosh internet applications, and makes it easy to transition from applications to component software.

Question: How can I connect to the Internet with Cyberdog?

Answer: For network connections, Cyberdog uses standard TCP/IP protocols and so will work on any type of network that supports TCP/IP. This includes Ethernet, LocalTalk, Token-Ring, FDDI, ATM, Frame Relay local and wide area networks, as well as dialup networks based on SLIP, PPP or Apple Remote Access (if an IP Gateway is present).You can use MacPPP or any other Macintosh-based PPP to connect to Internet services through a phone line and modem. (These applications are not supplied with Cyberdog.) If you already have an Internet provider, or an Internet mail account, you can continue to use them with Cyberdog.

Question: Is Cyberdog compatible with my Internet Service Provider?

Answer: As long as access to your Internet provider is offered through standard Internet protocols (SLIP/PPP) Cyberdog will be completely compatible with your provider. Cyberdog will work with any provider that offers servers compatible with today's leading Internet applications like those included in the Apple Internet Connection Kit. Cyberdog will not work to access proprietary protocols, such as those used by the so-called "online" services (like American Online, CompuServe, etc.).

Question: How will Cyberdog be distributed?

Answer: The beta and final versions will be distributed free over the Internet from Apple's web and FTP sites. The final version will be bundled with Apple Macintosh computers and Mac OS releases. There will be a retail version for current Power Macintosh and Mac OS clone owners. We're also investigating 3rd party distribution.

Question: Will Cyberdog replace the Apple Internet Connection Kit?

Answer: Since Cyberdog requires Power Macintosh and OpenDoc, we'll continue to provide the Apple Internet Connection Kit for those Macintosh owners who don't have the required hardware and system configuration.

Question: What's the upgrade path for customers?

Answer: You can download Cyberdog from the Internet, if you have a hardware configuration that supports Cyberdog.

Question: What are Cyberdog's system requirements?

Answer: Cyberdog requires system 7.5.1 or later, OpenDoc 1.0, a Power Macintosh with 8 MB memory with Virtual Memory turned on, or 16 MB of memory with VM off. (This is the requirement for the system, OpenDoc and Cyberdog.)

Question: Will there be a Windows version of Cyberdog?

Answer: Apple's current focus is Cyberdog for Mac OS, since today OpenDoc only runs on the Mac OS. OpenDoc for Windows is expected

before the end of 1996. We are in discussion with several vendors who could bring Cyberdog to OpenDoc for Windows.

Question: What does Cyberdog offer developers?

Answer: Cyberdog provides technology that extends OpenDoc that any developer can use to create live links to the Internet in any OpenDoc component. It gives developers a consistent user interface for accessing the Internet, and a public set of APIs to replace, extend, or build new components. Developers can not only create replacement components that provide more functionality than the original Cyberdog components, they can add new services (such as RealAudio), or provide ways to incorporate the Internet into other components such as word processing, charting, or presentations. Visit our Developer Information web page.

Article Change History:
03 Mar 1997 - Change title to reflect Beta 1.0 software.

Published Date: Feb 18, 2012

Cyberdog Beta 1.0 Release Notes (3/97)

This article are the Cyberdog Beta 1 release notes.

This article has been archived and is no longer updated by Apple.

Software License

Please read the software license agreement carefully before installing the software. By installing the software, you are agreeing to be bound by the terms of this license. If you do not agree to the terms of this license, do not install the software.

System Requirements

The beta 1 release of Cyberdog requires a Power Macintosh with at least 12 megabytes of memory, although 16 megabytes is recommended. Both OpenDoc version 1.0 and MacTCP or Open Transport with TCP/IP must be installed for the system to operate. Install OpenDoc before installing Cyberdog.

WARNING: This is beta quality software. It is highly recommended that the software be installed over a clean version of System 7.5.1 or later, preferably on a test or non-production machine. Some instability and crashes may be experienced.

Using the Mail System

To use the Cyberdog mail system you will need an SMTP/POP3 account on a UNIX machine or other system or a Macintosh server running software such as MailShare or the Apple Internet Mail Server. See your system administrator to acquire an account. Once Cyberdog has been installed, to set up a connection to your server select the *Connect Toâ* item from the Cyberdog menu, then click on the *Mail* icon. Mail and other preferences are stored in the "Internet Preferences" file in the Preferences folder, created by the Internet Config extension. If you have currently been using Internet Config and have set up another POP3 mail server your Cyberdog mail connection will already be set up.

Known Problems in b1

Cyberdog has not been thoroughly evaluated in combination with many third party system extensions so compatibility with those is not know. Also, because of some memory leaks some long duration Cyberdog sessions may terminate in a crash. You might wish to save the Notebook frequently (using the "Save" command from the Document menu) since you may lose recent additions to the Notebook in the event of a crash. Finally, Cyberdog has not been fully tested for compatibility with all OpenDoc parts.

Upgrading from version a3

If you have been using a3 or another previous version of Cyberdog you will have to throw out and rebuild your current Notebooks. You can drag most and you should also throw out your old Log file in the Cyberdog Preference folder in the Preferences folder in the System Folder. To be safe you may also wish to back up previous mail storage files (which are stored in the "Cybermail" folder in the Preferences folder) before you open mail trays in the new version. To be extremely safe, after you have installed version b1 you may wish to create new mail trays and move mail from the old ones into them.

Reporting Problems

Please use our bug reporting web page to report any bugs or problems you may encounter in using version b1 of Cyberdog.

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Cyberdog Technical FAQ

This article is the Cyberdog technical FAQ (Frequently Asked Questions).

[**Note:** Cyberdog is no longer an active Apple product.]
This article has been archived and is no longer updated by Apple.
We encourage you to read this FAQ. Often times someone else has already asked your question and if so, this is where the answer will be!

General Cyberdog

Question: How can I rename items?

Answer: There is a "Rename <<Item>>" command in the Edit menu. You can now use Command-E as a shortcut for Rename.

Question: What version of Internet Config do I need to run Cyberdog?

Answer: In order to run Cyberdog you need Internet Config extension 1.2 in the Extensions folder. Cyberdog provides an interface to most of the preferences found in Internet Config, but not all of them. If you want to be able to set the few settings we don't yet have an interface for, such as mapping extensions to helper applications, you will need the Internet Config 1.2 application. The latest Internet Config.

Question: Does Cyberdog have support for firewalls and proxies?

Answer: We support SOCKS firewall for all protocols and CERN proxies for gopher, FTP and HTTP. We do not support either of these on a protocol-by-protocol basis.

Question: Does Cyberdog work on a 680x0 Macintosh?

Answer: Yes, Cyberdog works on all Power Macintosh computers as well as 68030, 68040 and 68040LC processor-based Macintosh computers.

Question: In the Cyberdog Preferences, Firewalls Item, under the "Exceptions" button, is there any way to specify a whole group of machines such as all machines ending in ".mitre.org" for example?

Answer: No.

Question: How do I cancel or stop processes in Cyberdog?

Answer: Anywhere you see our running dog icon, click it to cancel or stop the process that is running. Command-. (Command-Period) is a shortcut for Cancel.

Question: How can I embed the various CyberParts into an OpenDoc document?

Answer: You can embed Cyberdog parts into OpenDoc documents several ways:

1) Drag a Cyberdog icon (for example, from the Notebook, Log, or browser window) directly to the OpenDoc document and drop it in.

2) Drag in the stationery of the Cyberdog part you wish to embed in the OpenDoc document and drop it in. You can find various stationery (for example, cyberbutton stationery) in the Tools folder.

3) Drag a Cyberdog part file into the OpenDoc document. (Note: the file needs to be closed; you cannot drag an open part window into a container and drop it.)

Question: Is there a way I can get Cyberdog to display different icons for things based on their extension?

Answer: Yes, Cyberdog supports Internet Config 1.2 or later, which in turn supports extension mapping. Use the Internet Config application and set your preferred mappings there.

Question: Will Java and VRML be supported?

Answer: Initial Java support will be made available with Cyberdog 1.1 and refined with later releases. VRML is not yet supported.

Question: Will there be a Windows version of Cyberdog?

Answer: Currently, Cyberdog runs only on Power Macintosh and Macintosh computers.

Question: Can you specify another post-processor instead of the Stuffit Expander?

Answer: Yes. If you have the Internet Config 1.2 Application, you can change the default settings for post-processing of files.

Question: What does the menu item "Browse In Place" in the Navigator menu mean?

Answer: The "Browse In Place" setting lets you choose between creating a new navigator window when you follow a link or replacing the content in the current navigator. If the "Browse In Place" menu item is checked then when you follow a link, the content in that current window will be replaced by the content you were navigating to. If the "Browse in Place" menu item is NOT checked then when you follow a link, Cyberdog will create a new navigator window and put the new content in there.

Question: Sometimes I just want just one new window. Do I have to use the "Browse In Place" menu item?

Answer: No, all you have to do is hold down the option key and click (or double-click if you are in gopher or ftp). The link and the preference will be reversed just for that link. If "Browse In Place" is NOT checked, then the option key again reverses the preference and you WILL replace the content in that particular window.

Question: Is it "CyberDog" or "Cyberdog"?

Answer: It is "Cyberdog".

Question: How can I open my Netscape Bookmarks file in Cyberdog so I can copy over the links easily?

Answer: Simple, open up the notebook you want them imported to. In the Notebook menu, there is an Import submenu. Use the Import Netscape Bookmarks menu item. This will open a dialog box and allow you to pick the bookmark file you want to import. Select it and hit OK. Cyberdog will import all of the links from the Bookmarks file into the notebook and place them in a category called Bookmarks.

Question: Does Cyberdog 1.1 support QuickDraw GX printing?

Answer: No, Cyberdog 1.1 does not. It is something we hope to support in a future version.

Question: How do I setup Internet Config to use helper applications such as Real Audio?

Answer: Cyberdog caches the Internet Config file mapping table when it launches, so you need to make any changes to your Internet Preferences before launching Cyberdog, otherwise you will have quit Cyberdog and re-launch it.

To set up Real Audio, launch Internet Config and click on the File Mappings button. Then click the Add button. Now, setup the Mapping Entry dialog as follows:

"Name:" field = Real Audio
"Extensions:" field = .ram
"MIME Type:" field = audio/x-pn-realaudio
Select the Binary Data radio button
"File Type:" field = PNRM
"File Creator:" = PNst

Once that is done, click the Add button again, and configure dialog just as you see below.

"Name:" field = Real Audio
"Extensions:" field = .ra
"MIME Type:" field = audio/x-pn-realaudio
Select the Binary Data radio button
"File Type:" field = PNRM
"File Creator:" = PNst

Question: I have been reading about people making their own "Internet Starting Points", but I can not seem to get it to work. Help!

Answer: OK, here are some quick tips on creating your own "Internet Starting Points":

* Double-click the DocBuilder Stationery inside the Tools folder of the Cyberdog b1 folder. This will create a new DocBuilder document. Give it a name and save it.

* Also in the Tools folder, you will see Cyberbutton Stationery. Take that and drag it into your blank DocBuilder document. After a few seconds, an unwired button will appear on the document. You can move this button around to your desired location.

* Since this is OpenDoc, there are several things you can do with this button and several ways to interact with it. I will not go into all of them here, but if you hold the option key down and click on the button, you will notice it behaves differently then if you hold the command key down. These two options help you move the button and help you activate the Cyberdog menus so that you can wire this button up to the Internet.

* You can wire this button simply by dragging and dropping a Cyberdog icon atop of the button and letting go. Or, you could use one of the many Cyberbutton menu items to help you.

* You can embed as many Cyberbuttons in your document as you like, as long as you have the memory for it.

* You can also embed other things as well. Like the notebook for example. If you drag and drop the Notebook Stationery, also in the Tools folder, into your DocBuilder document, it will embed a notebook there.

* Make sure you save frequently. This is about all I can go into right now. We will have better documentation as time goes on.

Question: I have saved an icon to a web site in my notebook, but the URL is wrong. How do I edit it?

Answer: There is no clear cut way to "Edit" a URL at present. Follow this workaround:
* Select icon of URL to edit.
* Select Get Info menu item from Edit menu.
* Copy the URL that is displayed in the window and close.
* Click back in the notebook to activate the Notebook menu.
* Use the Add Item to Notebook menu item in the Notebook menu.
* Select the URL panel and paste the URL into the text block.
* Edit the URL as necessary.
* Click OK and then choose a place to save the icon.
* Go to the new item, use the Rename menu item in the Edit menu to give it
a new name.
* Delete the old, incorrect item.

Question: I really like the idea of using two notebooks, but I do not seem to have the memory to run two OpenDoc processes at the same time, am I out of luck?

Answer: No, you are not. In Cyberdog 1.1 with OpenDoc 1.1, all Cyberdog documents will be opened in one process, just like there was an application! This means, you can open as many Notebooks as you have memory for and not have to worry about duplicate processes. Also, you can increase Cyberdog's memory by Getting Info on the Cyberdog application and changing the memory in the field given in that window.

Web/HTML/HTTP Related

Question: Does Cyberdog support the Blink tag?

Answer: Yes, Cyberdog displays <BLINK> text in the OUTLINE style.

Question: What level of the HTML standard does the Cyberdog web browser support? 1.0, 2.0, 3.0?

Answer: Cyberdog supports HTML 2.0 plus the following from the HTML 3.0 draft:
* Image width and height
* Backgrounds
* Tables

Question: Does it support any Netscape extensions? Does it support any other HTML extensions such as ones made specifically for it?

Answer: The Cyberdog web browser has no special extensions. We support the following Netscape additions:
* Horizontal Rule size, width, align, and no shade
* List bullet shapes, numbering styles, and start value.
* Font size (base font too)
* Centering
* Background, text, and link colors.
* ®,©,&™, , <,>

Question: Does the web tool support JPEG images?

Answer: Yes.

Question: Does Cyberdog support the <EMBED> tag?

Answer: Yes, Cyberdog 1.1 supports the <EMBED> tag. With it, Cyberdog can view plug-in, Java and other Cyberdog browsers inside the web viewer.

Question: Can I connect to a secure server when my proxy serve is enabled?

Answer: No, first go to your preference panel and turn off your proxy and then re-connect to the secure server.

Question: I saw in the release notes that you can drag multiple links from web pages into my notebook or the Finder.

Answer: Absolutely! Try this. While in Cyberdog, use the URL connection panel and connect to a website that you know has alot of links on it, Yahoo! for example. Then, simply select ALL of the links you want to move into your Notebook. Then, drag that block of selected text to your Notebook and watch what happens. Voila! If you want all of those items, but just not in you current notebook. Drag that block of text to the Finder. Cyberdog will make a new notebook for you with all of those items in it!

File Transfer/FTP Related

Question: How do I upload something to an FTP Server?

Answer: Simply drag the file into the appropriate folder or window once you have connected to the server, or use the "Put File on Server" menu item.

Question: Can I rename things on an FTP server? How about delete? And can I move things as well?

Answer: You can do all of these things as long as you have the correct permissions on that server. To rename a file simply select the item and use the "Rename" menu item. To delete a file, select the item and use the delete key or the "Delete" menu item. To move a file, drag it to the appropriate place and drop it.

Question: Does Cyberdog support Passive FTP?

Answer: Yes it does. Check in the FTP Preferences Panel.

Question: Every time I try to upload something to an FTP server, it binhexes it even when I don't want it to, say for text files with HTML or pictures?

Answer: Cyberdog binhexes any file that is not "flat", meaning any file that has a resource fork. To work around this, make sure the files you are trying to upload do not contain a resource fork.

A work around I use when uploading pictures that have resource forks is to use the file:// URL in the Cyberdog Connect-To to open the picture into the Cyberdog picture viewer and then I Save a Copy as Generic File and Cyberdog will save it as the file type indicated in Internet Config for that extension without a resource.

Question: When I FTP why is my password displayed in the URL, and why does FTP show up in the web browser window?

Answer: These are the side effects of using a Cern Proxy server in your firewall preferences. Proxy serves information in HTML format, thus we display it in the web browser. The reason your password is displayed in the URL field is because that's the real URL. We could put up a "fake" URL but we haven't yet decided whether or not that's the right thing to do.

A workaround for Q1 would be to enter the site (and path) and user name in the Connect dialog, but NOT your password. You will be prompted for your password upon connection and it wont be displayed in the URL.

A workaround for Q2 would be to use one of the other firewall options - SOCKS or Passive, if you can. I'd recommend turning on passive support under FTP preferences as it's the fastest and most transparent option.

Mail, News and Message Editor Related

Question: Is there an easy way I can read my messages after I download them without having to close and open them over and over again?

Answer: Yes! Open up the first message, then to page down the message if it is a long one, just hit the space bar. Presto, you are scrolled down one page that you can view. If you are at the end of the message, it will close that one and open the next one! If you are in a real hurry, you can hit the enter key to always go to the next message instead of scrolling down in a long one.

Question: What if I also wanted to DELETE them as well?

Answer: Hold down the Option key when you use either the space bar or enter key to go to the next message. This will delete your current message and open the next one for you.

Question: Is there some visual way to distinguish between an unwanted article and a read article?

Answer: No, not at present. There is a visual way to distinguish between read and unread (the check marks), but unwanted messages simply do not get displayed as default, and you can toggle between that view with the menu item, "Display Unwanted Items".

Question: How many news articles can I download?

Answer: In the Mail & News Setup dialog, the News preference has a field where you can set the limit of the number of articles you want to download.

Question: The Mail and News Handler window confuses me a bit, is there a trick to it?

Answer: Here are a few tips that might help make using Handlers a little easier:

* The three When fields use logical AND when trying to match a condition. That is, a match will be found only when all three conditions are matched.

* The Apply To fields tell Cyberdog what source of messages (mail trays, newsgroups) you want these handlers to work on. For mail, the handlers may apply to all of the Outgoing messages and/or Incoming messages (either All In Trays or to a Single In Tray). For newsgroups, the handlers may apply to a single newsgroup or to all the newsgroups. This list is generated from newsgroups saved in your Default Notebook.

* Mail messages can only be handled once per application of the handlers (because once a message is moved to a different tray, it is no longer available for handling). Therefore, order of your handlers is important.

* To change the order of handlers, simply click on a handler name in the list and drag it up or down to the position you want it to have in the list. Handlers are applied according to their order in the list, top handler first.

Question: I am confused about where I set up mail and once I set it up, how do I check it?

Answer: There are a few ways that you can set up mail in Cyberdog:

1) If you have already set up your preferences in Internet Config for your mail, then go right into Cyberdog and select "Show Mail Trays" under the Mail/News menu. Cyberdog will see your settings in Internet Config and set things up for you.

2) You can set things up yourself by using the Mail & News Setup dialog. In the first panel, Mail, put in your default email address. This is the email address that will be your default from. You can also enter an option choice for your SMTP host if it is different from your POP server. Contact your server administrator for more information on you SMTP host. In the Trays panel, click the Add button for the In Trays. Enter your account name, your account name, POP server and your password (if you want it to be saved). Set your other preferences for how often to check your account, whether or not to leave mail on server and then click OK. Your mail tray is now setup. Lastly, in the Messages panel, fill in your name. This is the second half of your default email address. Then, click OK to close the Mail & News Setup dialog. Now, Show Mail Trays from the Mail/News menu and you will see your In Tray has been created for you. If you have more than one mail account you would like to use with Cyberdog, repeat the above steps as often as necessary.

Question: I want to have a separate SMTP mail host from my POP mail host, how do I do this?

Answer: In the Mail & News Setup dialog, in the Mail panel, there is a field for your SMTP host. Put your SMTP host information in that field.

Question: Why is it that when I open a message I can do "next message" with the space bar, but when I open a new message and then try to go back to my first message, I can no longer do "next message" with the space bar?

Answer: This happens because Cyberdog mail has two possible views for each mail tray, and the connection between arrow keys and positions in a list can be lost when switching between different trays and different views.

Question: No matter what I set my e-mail address to in Internet Config, when I open a new message to send something, I see that address for a second and then an older one replaces it. What's up?

Answer: When you created the letterhead that you are now using, you must have added the old address set in your Preferences either due to the Cyberdog preference bug or because it was not set up yet. Cyberdog letterheads save the header information (From, To, Subject, CC, BCC) as well as anything in the body of the message (pictures, text, cyber icons and enclosures). (When making a letterhead, make sure you set the insertion point to where you want it when it opens before you save it!).

The way to fix the problem of incorrect e-mail address appearing in your "From" field is to do the following:

* Open a New Message and choose the letterhead you want to fix.
* Edit the "From" field to have the correct e-mail address.
* Use the Letterhead menu item in the Message menu and add the current document (if you choose the same name, Cyberdog will simply replace the old one with the new one).

Question: Can I paste into the Address Dialog or into the Find dialog?

Answer: Yes, we fixed this bug for 1.1!

Question: I saved some e-mail addresses into my notebook and gave them nicknames. When I went to send a letter, I just typed in the nickname and sent it, but it didn't work. How come?

Answer: Unlike Eudora, the header fields (To, CC and BCC) are not linked to the address book. So, if you save e-mail addresses into the Notebook and then type out those nicknames in the To, CC or BCC fields of a message, Cyberdog will not know who you are trying to send it to! However, you can easily drag those icons of the e-mail address you want to send to into the appropriate address box, or use the Address button to bring up a dialog with all of the e-mail and news addresses that your Default Notebook knows about.

Question: I have noticed that some of the e-mail and news messages I read have dates and times that just don't seem right, they are either way to late, or way to earlier. Do I have something configured incorrectly?

Answer: Since e-mail comes from all over the world, your Macintosh has to know where it (and you!) are in order to give you the accurate date and time of when it was set. You can do this by going to your Date and & Time control panel and setting the time zone/place where you currently

are.

Question: I just created a very lengthy e-mail message and clicked the Send Later button. Of course, right after I did that, I realized I spelled my name wrong. Is there anyway I can go back into that message and edit it so the whole world does not know I don't know my own name?

Answer: Sure can! Messages in the out tray are now editable. You can save messages to the Out Tray without sending them and re-edit them later. You can Queue messages to be sent later and still edit them before you send them. Already sent letters can also be edited and sent again!

Question: Every time I open a letter, I always get this opened envelope crowding my whole screen. Is there a way I can set it up so that when messages are opened, they open with the envelope collapsed?

Answer: There sure is. Just go to the Mail & News Setup in the Mail/News menu. Click on the icon for "Message" and the Message's Preference panel will display. There are several check boxes that allow you to configure how the envelope is set when new and old messages are opened. Choose the ones appropriate to the desired behavior and then click OK.

Question: I read my articles from a newsgroup, but when I return to that newsgroup, the articles I just read are not marked as read! Why?

Answer: This behavior has been changed! Now, in Cyberdog 1.1, we save the article read-state for the groups you read globally. This means, that no matter where you open the newsgroup item from, a web page, your notebook, or even the Finder, the articles that you have previously read will remain read!

Question: I noticed that imported Eudora Out Trays are dated Jan. 1, 1904; are we just stuck with this, or is there a workaround?

Answer: Yes, we are stuck with it for now. Eudora Out Tray's do not have a traditional date setting so we make it up. In a future version we would like to put something more sensible.

Question: When I save a message from a news server to a personal mail tray, I see a "Writing to Out Tray" message appear. What is up with that?

Answer: When moving a news article to a tray you may see a "writing to Out Tray" message even though you didn't select the Out Tray to move to. This message is incorrect and your message will actually be moved to the tray you selected. You may have to double click the tray to see the message since dinking it does not refresh properly.

Question: Is there a way to import Claris Emailer Mailboxes?

Answer: Yes, there is! You will need to use the MailConverter 2.2 utility to convert your Emailer mailboxes into Eudora mailboxes and then Cyberdog 1.1 can import those mailboxes itself.

AppleTalk Browser Related

Question: When you receive an AppleShare volume CyberItem sent by somebody else, the user name field of the login dialog may be locked, preventing you from mounting the volume using a different user name. How do I change it?

Answer: When you receive an AppleShare volume CyberItem sent by somebody else, the user name field of the login dialog may be locked, preventing you from mounting the volume using a different user name.

To use a different user name follow these steps:
1) select the CyberItem in Cyberdog,
2) Select "Get Info" in the Cyberdog's edit menu (cmd-L)
3) select and copy the URL from the Info window
4) paste the URL in the Connect To dialog URL panel (cmd-T)
5) change the user name
6) hit the enter key to resolve the edited URL

To keep the corrected CyberItem, open the log window and copy the CyberItem to your notebook.

Question: What happens when I get a "Server not found alert" messages?

Answer: If you type a URL and a "Server not found" error is reported, check the spelling of the server name and zone name in the current CyberItem or URL. Also make sure that the server name and zone name are separated by a colon (:) and that slashes and colons are used correctly elsewhere in the URL (for example, slashes between zone and volume name; colons between volume and file paths).

Question: What happens when I get a "Volume not found alert" message?

Answer: A common error is to use the slash character (/) to separate the folder names from the volume and file names instead of using the correct character, a colon (:). A slash should only be used to separate the zone and volume names.

Question: What are the differences between connecting to servers as register user named "Guest" as opposed to, guest access?

Answer: Using "guest@>server<" in an AppleShare URL means connect to the server using guest access. If your server has a registered user named "Guest" and you want to login using this register user name do not use the "guest@>server<" syntax: simply use >server<" and enter "Guest" in the login dialog user name field, followed by the appropriate password. Currently, registered user accounts named "guest" must have valid passwords to work correctly.

Question: What do I do about identical volume names?

Answer: When using an AFP URL to point to a file on a server volume that has the same name of a volume already on your desktop, the URL resolution may fail because the volume name is ambiguous.

Question: Why do I get an empty zone browser window when I enter a correct URL?

Answer: When a correct syntax zone URL is used, an AppleTalk zone browser window will open. If no servers appear in a zone and no error message occurs, it may be that the zone doesn't contain any server or that the zone name you typed is incorrect. You may want to check for correct spelling of the zone name in the location field. If you notice that it is incorrect, you can edit the name there and then hit the enter key to correct the error.

What To Do When Cyberdog Crashes

Question: If I try to open a Telnet Connection when my network is not connected, I crash!

Answer: Yes, don't open a Telnet item without being connected to the network!

Question: Sometimes I get into this state where I seem to crash whenever I try to visit a web site or any internet site. It usually occurs right away and it seems to be always happening. Anything I can do to help fix this?

Answer: This sounds like a problem of your log file being corrupted. While Cyberdog is not running, go to the Cyberdog Preferences folder inside the Preferences folder in your System Folder. There will be a file called, appropriately enough, "Log". Throw this file away and restart Cyberdog and things should be better. Note: This file is where your Log Information is stored and removing it will reset your Log in Cyberdog to contain nothing. If this file is important to you, please back it up often. In Cyberdog 1.1, we have made this much more stable. Now, if Cyberdog detects what could be a bad log, it deletes this file and warns the user that it has reset the log to being empty.

Question: After a bad crash, I've noticed that my settings in the Internet Config preferences file are no longer being used. When I go to reset them in Cyberdog and save them, they are ignored! What's happened?

Answer: Sometimes, Cyberdog will corrupt the Internet Preferences file in the Preferences Folder inside the System Folder. To alleviate this problem, remove the Internet Preferences file and restart Cyberdog. New preferences will be created, or you could launch Internet Config 1.3 and it will recreate the preferences as well. Please keep a backup of your Internet Preference file if this happens to you so that you do not lose your preference information.

Published Date: Feb 18, 2012

System 7.5 w/Update 2.0: Universal System Folder Contents

This article describes the contents of the universal System Folder that you can create with System 7.5 with the System Update 2.0 installed (7.5.3).

This article has been archived and is no longer updated by Apple.

```
Apple Menu Items
================
- Apple Video Player
- AppleCD Audio Player
- Automated Tasks                          7.5
- Calculator                               7.5
- Chooser                                  7.5.4
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- Serial Switch                            1.2
- Sharing Setup                            7.1
- Sound                                    8.0.5
- Speech                                   1.4.1
- Startup Disk                             7.5.2
- TCP/IP                                   1.1
- Text                                     7.1
```

```
- Token Ring                            1.0.1
- Trackpad                              7.5.5
- Users & Groups                        7.1
- Views                                 7.1
- WindowShade                           1.3.1

Control Strip Modules
=====================
- AppleTalk Switch                      1.3.1
- Battery Monitor                       1.3.1
- File Sharing                          1.3.1
- HD Spin Down                          1.3.1
- Monitor BitDepth                      1.0
- Monitor Resolution                    1.0.1
- Power Settings                        1.3.1
- Sleep Now                             1.3.1
- Sound Volume                          1.3.1
- Video Mirroring                       1.3.1

Extensions
==========
-  EM Extension                        3.0.3
- 7200 Graphics Acceleration            1.0.1
- A/ROSE                                1.2.2
- About Apple Guide                     1.3
- Apple Built-In Ethernet               1.0.3
- Apple CD-ROM                          5.1.2
- Apple Ethernet CS                     1.0.3
- Apple Ethernet LC                     1.0.3
- Apple Ethernet NB                     1.0.3
- Apple Guide                           2.0.2
- Apple Modem Tool                      1.5.5
- Apple Photo Access                    2.1
- Apple Token Ring NB                   1.0.2
- AppleScriptLib                        1.1
- AppleScript*                          1.1
- AppleShare                            3.6.1RevB
- Assistant Toolbox                     1.3
- Audio CD Access                       5.1
- Caps Lock                             7.1.3
- Catalogs Extension                    1.2.3
- Clipping Extension                    7.1.4
- Color Picker                          2.0.1
- Color SW 2200                         2.1.1
- Color SW 2400                         2.1.1
- ColorSync*                            2.0.1
- Energy Saver Extension                2.0.2
- Energy Saver Guide Additions          1.1
- Ethernet (Built-in)                   1.0.3
- EtherTalk Phase 2                     2.5.7
- File Sharing Extension                7.6.2
- Find File Extension                   1.1.1
- Finder Help                           7.5.5
- Finder Scripting Extension            7.5.5
- Foreign File Access                   5.1
- Generic PC Card modem                 2.0.1
- Graphics Accelerator                  1.0.5
- High Sierra File Access               5.1
- IIci/IIsi Monitors Extension          7.5
- InputBackSupport                      7.5.3
- IRTalk                                1.3.1
- ISO 9660 File Access                  5.1
- LaserWriter 8                         8.3.3
- LaserWriter 8f                        8.2.3
- LC Monitors Extension                 7.5
```

```
- MacinTalk 2                          1.4
- Macintosh Guide                      1.3
- Mailbox Extension                    1.2.3
- Monitor & Sound Guide Additions      1.0
- Motorola CELLect (Cellular)
- Motorola CELLect (Land)
- Network Extension                    7.5.5
- Networking Guide Additions           1.3
- ObjectSupportLib                     1.0.2
- Open Tpt AppleTalk Library           1.1
- Open Tpt ATalk 68K Library           1.1
- Open Tpt Inet 68K Library            1.1
- Open Tpt Internet Library            1.1
- Open Transport 68K Library           1.1
- Open Transport Guide Additions       1.3.1
- Open Transport Library               1.1
- OpenTptAppleTalkLib                  1.1
- OpenTptInternetLib                   1.1
- OpenTransportLib                     1.1
- PB 190 Guide Additions               1.3
- PB 2300 Guide Additions              1.3
- PB 500 Upgrade Guide Additions       1.3
- PB 5300 Guide Additions              1.3
- PC Card Extension                    2.0
- PC Card Modem Extension              2.0.3
- PowerBook Guide Additions            1.3
- PowerBook Monitors Extension         7.5
- PowerPC Monitors Extension           7.5
- Printer Descriptions
 - LaserWriter                        3.3
 - LaserWriter 16/600 PS              1.1
 - LaserWriter 16/600 PS Fax          1.1
 - LaserWriter 16/600 PS-J            1.1
 - LaserWriter 4/600 PS               1.0
 - LaserWriter Color 12/600 PS        1.1.1
 - LaserWriter II NT                  3.7
 - LaserWriter II NTX                 3.5
 - LaserWriter II NTX v50.5           1.2
 - LaserWriter II NTX v51.8           2.5
 - LaserWriter II NTX-J v50.5         1.5
 - LaserWriter IIf v2010.113          3.0
 - LaserWriter IIf v2010.130          3.1
 - LaserWriter IIg v2010.113          3.0
 - LaserWriter IIg v2010.130          3.1
 - LaserWriter Personal 320           1.11
 - LaserWriter Personal NT            2.8
 - LaserWriter Personal NTR           1.9
 - LaserWriter Plus v38.0             3.7
 - LaserWriter Plus v42.2             3.5
 - LaserWriter Pro 400 v2011.110      1.1
 - LaserWriter Pro 405 v2011.110      1.0
 - LaserWriter Pro 600 v2010.130      1.15
 - LaserWriter Pro 630 v2010.130      1.14
 - LaserWriter Pro 810                1.3
 - LaserWriter Pro 810f               1.3
 - LaserWriter Select 360             1.10
 - LaserWriter Select 360f            1.10
 - LaserWriter Select 610             1.30
- Printer Share                        1.1.3
- Quadra AV Monitors Extension         7.5
- Quadra Monitors Extension            7.5
- QuickTime*                           2.1
- QuickTime* PowerPlug                 2.1
- Scripting Additions
 - Beep                               1.1
```

```
 - Choose Application                    1.1
 - Choose File                           1.1
 - Current Date                          1.1
 - Dialects
   - English Dialect                     1.1
 - Display Dialog                        1.1.1
 - File Commands                         1.1
 - Load Script                           1.1
 - MonitorDepth                          1.0
 - New File                              1.1.1
 - Numerics                              1.1
 - Read/Write Commands                   1.1.1
 - Run Script                            1.1.1
 - Scripting Components                  1.1.1
 - Set Volume                            1.0
 - Store Script                          1.1
 - String Commands                       1.1
 - Time to GMT                           1.1.1
- Serial (Built-in)                       1.1
- Serial Tool                            1.0.2
- Shared Library Manager                  2.0
- Shared Library Manager PPC              2.0
- Shortcuts                               1.3
- SimpleText Guide                       1.0.1
- Sound/Monitors Guide Additions          1.3
- Speech Guide Additions                 1.4.3
- Speech Manager                          1.4
- StyleWriter 1200                       2.1.1
- SystemAV                                1.1
- Text Tool                              1.0.1
- TokenTalk Phase 2                      2.5.7
- TokenTalk Prep                         2.5.2
- TTY Tool                               1.0.1
- Video Guide Additions                   1.0
- Video Startup                           1.4
- Voices
 - Boris                                 1.4
 - Brenda                                1.4
 - Mariel                                1.4
 - Marvin                                1.4
 - Mr. Hughes                            1.4
 - Otis                                  1.4
 - RoboVox                               1.4
 - Xero                                  1.4
- VT102 Tool                             1.0.2
- WorldScript* I                          7.5.2
- WorldScript* II                         7.5.1
- WorldScript* Power Adapter              7.5.3
- XMODEM Tool                             1.1

Finder                                    7.5.5
======

Fonts
=====
- Chicago
- Courier
- Geneva
- Helvetica
- Monaco
- New York
- Palatino
- Symbol
- Times
```

TA35197_System_wUpdate_Universal_System_Folder_Contents_(TIL19478).pdf

```
Launcher Items
==============
- Script Editor                          7.5
- SimpleText                             7.5

Preferences
===========
- ColorSync* Profiles
 - Apple 12" RGB Standard               2.0
 - Apple 13" RGB Standard               2.0
 - Apple 16" RGB Page-White             2.0
 - Apple 16" RGB Standard               2.0
 - Apple 21" RGB Page-White             2.0
 - Apple 21" RGB Standard               2.0
 - Apple Color SW Pro                   1.0.3
 - Apple Color SW Pro SN                1.0.3
 - Apple Multiple Scan 14               2.0.1
 - Apple Multiple Scan 15               2.0.1
 - Apple Multiple Scan 17 - 9300        2.0
 - Apple Multiple Scan 17 - D50         2.0
 - Apple Multiple Scan 17 - D65         2.0
 - Apple Multiple Scan 1705             2.0
 - Apple Multiple Scan 20 - 9300        2.0
 - Apple Multiple Scan 20 - D50         2.0
 - Apple Multiple Scan 20 - D65         2.0
 - Apple Performa Display               2.0
 - Apple Performa Plus Display          2.0
 - AppleVision 1710 - 9300              2.0.1
 - Color LW 12/600 PS Profile           2.0
 - Color SW 2000 Series Pattern         2.0.1
 - Color SW 2000 Series Scatter         2.0.1
 - Mac Color Classic Standard           2.0
 - Mac Color Display Standard           2.0
 - Macintosh LC520 Standard             2.0
 - PowerBook 165C Standard              2.0
 - PowerBook 180C Standard              2.0
 - PowerBook 270C Standard              2.0
- Printing Prefs
 - Confidential                         1.0.2
 - Confidential (Color)                 1.0.2
 - Contract                             1.0.2
 - Contract (Color)                     1.0.2
 - Do Not Copy                          1.0.2
 - Do Not Copy (Color)                  1.0.2
 - Draft                                1.0.2
 - Draft (Color)                        1.0.2
 - Final                                1.0.2
 - Final (Color)                        1.0.2
 - For Your Information                 1.0.2
 - For Your Information (Color)         1.0.2
 - Personal                             1.0.2
 - Personal (Color)                     1.0.2
 - Proposal                             1.0.2
 - Proposal (Color)                     1.0.2
- TCP/IP Preferences

Scrapbook File                          7.5
==============

System                                  7.5
======

System 7.5 Update                       7.5.3
=================
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TA35197_System_wUpdate_Universal_System_Folder_Contents_(TIL19478).pdf

```
System 7.5.2 Update                        7.5.3
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Published Date: Feb 18, 2012

Newton OS 2.x: Supported Printers

What printers are supported on Apple MessagePad and eMate 300 devices using Newton OS 2.x?
This article has been archived and is no longer updated by Apple.

Supported Devices:

Driver	Connection	Printer Models
Stylewriter (I&II)	Serial	Stylewriter (original) Stylewriter II
Pers. LW 300	Serial	PerPersonal Laserwriter 300sonal Laserwriter LS
Stylewriter 1200	Serial	Stylewriter 1200
Stylewriter 2400	Serial	Stylewriter 2400
HP DeskJet 340 (IrDA) option	(IrDA) option	DeskJet 340 HP LaserJet 5MP/6MP
HP LaserJet 5MP (IrDA) option	IrDA	HP LaserJet 5MP/6MP
DeskWriter series printers via serial (using "HP DeskWriter" driver)		
Network Printer	LocalTalk	Any postscript based Appletalk LaserWriter printer. ===== LaserWriter (original) LaserWriter Plus Personal LaserWriter NT Personal LaserWriter NTR Personal LaserWriter 320 LaserWriter IINT LaserWriter IINTX LaserWriter IIf LaserWriter IIg LaserWriter 4/600 PS LaserWriter Select 360 LaserWriter Pro 600 LaserWriter Pro 630 LaserWriter Pro 810 LaserWriter 16/600 PS Color LaserWriter 12/600 PS

Unsupported or Untested:

The following printers are not supported.

Printer Model	Comments
Non-PostScript network printers including:	-
Imagewriter II W/ AppleTalk Mod Imagewriter LQ W/ AppleTalk Mod Apple Color Printer StyleWriters W/ LocalTalk Mod Personal Laserwriter LS Personal Laserwriter 300 Laserwriter Select 300	No ImageWriter AppleTalk or Printshare/Grayshare/ColorShare printer driver.
LaserWriter Select 300	This printer was not supported under Newton OS 1.0. Support for the printer was not added under Newton OS 2.x.
StyleWriter (original) and StyleWriter II using StyleWriter 1200 driver	StyleWriter 1200 in Mac OS supports the StyleWriter and StyleWriter II. Should work, but it is untested.
StyleWriter 2200 using StyleWriter 2400 driver (or vice versa)	StyleWriter 2200 and 2400 drivers in the Mac OS are the same. Should work, but it is untested.

ImageWriter I ImageWriter II Imagewriter LQ LaserWriter Select 310 Color StyleWriter Pro Portable StyleWriter Scribe	No driver.
LaserWriter IISC Personal LaserWriter SC Apple Color Printer	No SCSI port.
LaserWriter Pro 810 Fax Card LaserWriter 16/600 PS Fax Card LaserWriter Select 360 Fax Card	The Newton OS drivers do not support fax card options on these printers.
Non-Apple, networkable laser printers	May work with the Apple MessagePad, however these have not been tested by Apple Computer.

Additional Notes
==========

Macintosh-compatible non-Apple printers that require a serial connection, or are not laser printers (such as the Hewlett-Packard DeskWriter) are not supported on Newton OS 2.0 devices.

With the purchase of the Newton Print Pack, hundreds of other printers are available. A list of printers that the Newton Print Pack supports is available in the article "Newton Print Pack: Compatible Printers".

Newton Print Pack: Compatible Printers (A-L)
Newton Print Pack: Compatible Printers (M-X)

AppleTalk (LocalTalk or EtherTalk) printing to Hewlett Packard LaserJet or other non-Apple network printers has not been tested and is not supported.

Additional information on IrDA printing is available in the article "**Newton: IrDA Printing Enhancement Package Dersription**".
Published Date: Feb 18, 2012

Open Transport 1.1: Custom Remove Disables Apple Telecom (3/96)

I used the Custom Remove option in the System 7.5 Update 2.0 installer to remove Open Transport. However, now my Apple Telecom software is no longer active. The Express Modem control panel will not open, and there is an X through the extension icon when starting up the computer. What should I do?

This article has been archived and is no longer updated by Apple.

It appears that the Custom Remove option for Open Transport removes the Apple Shared Library Manager, which is needed by the Apple Telecom Software.

To resolve this, reinstall the Apple Telecom Software to restore the Apple Shared Library Manager. Then, you will be able to use the Express Modem and other telecommunication components again.

Published Date: Feb 18, 2012

Network Software Selector: Disabled Control Panels (4/96)

This article contains questions about the Network Software Selector application included with System 7.5 Update 2.0.

Questions Answered in this Article:
==========

1) When I use the Network Software Selector application to switch between classic networking and Open Transport networking, what happens to the control panels associated with the disabled networking software?

2) I have selected Open Transport in the Network Software Selector application. However, the MacTCP control panel is still in the Control Panels folder. I thought it would be automatically removed. What happened?

3) I noticed that when I switch to Open Transport using the Network Software Selector the related MacTCP control panels are made invisible. However, the MacTCP Token Ring Extension remains visible. Will this cause any issues with using Open Transport?

This article has been archived and is no longer updated by Apple.

1) Question: When I use the Network Software Selector application to switch between classic networking and Open Transport networking, what happens to the control panels associated with the disabled networking software?

Answer: The control panels are left in the Control Panels folder but are made invisible. If you wish to verify that they are still there, follow these steps

Step 1

Select Find File from the Apple menu

Step 2

Type the name of the control panel in question

Step 3

Click on the More Choices button.

Step 4

Press and hold the Option key on the keyboard and select the Size pop-up menu.

Step 4

Select Visibility from the options that appear under the Name pop-up menu.

Step 5

Click the Find button.

2) Question: I have selected Classic AppleTalk in the Network Software Selector application. However, I noticed that the MacTCP control panel appears to be invisible. What happened?

Answer: The Network Software Selector checks for specific names of control panels when switching between Open Transport and Classic AppleTalk networking. If you have renamed any of these related control panels, then they will remain active in your System Folder even when you switch to the other network. The solution is to make sure that the MacTCP control panel is named "MacTCP" and the Network control panel is named "Network".

3) Question I noticed that when I switch to Open Transport using the Network Software Selector the related MacTCP control panels are made invisible. However, the MacTCP Token Ring Extension remains visible. Will this cause any issues with using Open Transport?

Answer: Although the MacTCP Token Ring extension is not made invisible when switching to Open Transport, it is not needed or used when using Open Transport.

This article was published in the Information Alley on 10 April 1996.

Article Change History:
12 Apr 1996 - Minor technical change.
10 Apr 1996 - Clarified information.
29 Mar 1996 - Added additional information.

Published Date: Feb 18, 2012

AShare Client/Win: Port Address Not Shown In Installer

During the installation for the AppleShare Client for Windows (ASCW), the installer asks me for the port address and interrupt request (IRQ) for my network interface card (NIC). None of the settings in the list match the port address for my NIC. How do I tell the ASCW the proper port address?
This article has been archived and is no longer updated by Apple.
The installer does not provide every possible port address setting for every network interface card. If your port address does not appear in the list, you will have to manually change this setting after installation is complete. This setting is stored in NET.CFG, a text file located in the directory in which you installed the ASCW.

Step 1

Proceed with the installation for the ASCW and select any port address from the list when asked to choose one.

Step 2

After installation is complete, go to your ASCW directory (the default directory is C:\\apple\\a_share).

Step 3

Use a text editor to open NET.CFG.

Step 4

Find the line labelled PORT #1.

Step 5

Replace the value you selected during installation with the proper port address for your NIC.

Step 6

Save the change you made.

Step 7

Restart your computer.

This article was published in the Information Alley on 27 March 1996.
Published Date: Feb 18, 2012

Apple Network Servers: How to Get Replacement Keys

How can I get additional or replacement keys for our Apple Network Servers? I lost mine. Also, can I obtain a single master key for all my servers since I have more than one?
This article has been archived and is no longer updated by Apple.
If you lose your keys, an Authorized Apple service provider can order a set of new keys with new locks, but you cannot get additional or replacement keys without new locks. However, it is your option to have a locksmith make additonal or replacement keys for you as long as the Apple hardware is not damaged in the process which would void your warranty.

An authorized Apple service provider can order the following replacement service part for you:

0922-2084 Lock, Front & Rear with Keys*

At the present time there is no plan to offer a master key. However, depending on demand from customers, this may be implemented in the future.

* Part numbers mentioned in this article are accurate as of this writing. Before ordering, verify that they are still correct as they are subject to change.

This article was published in the Information Alley on 28 March 1996.
Published Date: Feb 18, 2012

Macintosh PowerBook Qualified Accessories & Peripherals (3/96)

The following is a list of vendors whose products have been tested and certified for use with Macintosh PowerBook 190 and 5300 series computers and the PCMCIA Expansion Module (rev. A) for the Macintosh PowerBook 500 Series computers.

This article has been archived and is no longer updated by Apple.

```
** IMPORTANT NOTE **
This list does not claim to be all inclusive or complete. It is provided by Apple for your convenience. The
addresses, phone numbers, product numbers, and product names were correct as of this writing. You need to
contact the manufacturer if you have any further questions about their products.

=================================================================
PowerBook PC Card Solutions for the PowerBook 190 and 5300 Series
=================================================================

The following is a list of vendors whose products have been tested and certified for use with Macintosh
PowerBook 190 and 5300 series computers.

NOTE: Using an incompatible card may result in damage to the card and/or your computer.


PC Card Data Fax Modems (U.S. and Canada)
=========================================

Dayna Communications
--------------------
Sorenson Research Park
849 West Levoy Drive
Salt Lake City, Utah 84123
800-531-0600 or 801-269-7200
Sales@Dayna.com
www.dayna.com/

Ñ CommuniCard Data/Fax Modem 14.4 14.4 bps Data/ 14.4 bps Fax Modem
Ñ CommuniCard Data/Fax Modem 28.8 28.8 bps Data/ 14.4 bps Fax Modem

Global Village Communication
----------------------------
800-736-4821 or 408-523-1000
1144 East Arques Avenue
Sunnyvale, CA 94086
www.globalcenter.net/

Ñ PowerPort Platinum Pro PC Card 28.8 bps Data/ 14.4 bps Fax modem/ 10
 base-T Ethernet
Ñ PowerPort Platinum PC Card 28.8 bps Data/ 14.4 bps Fax modem
Ñ PowerPort Gold PC Card 14.4 bps Data/ 14.4 bps Fax modem

Megahertz Corporation
---------------------
North 5600 West
P.O. Box 16020
Salt Lake City, Utah 84116
800-LAPTOPS or 801-320-7000 605
www.xmission.com/~mhz/

Ñ CruiseCard 14.4 PC Card Fax Modem 14.4 bps Data/ 14.4 bps Fax Modem
 Model KJA3144
Ñ CruiseCard 28.8 PC Card Fax Modem 28.8 bps Data/ 14.4 bps Fax Modem
 Model XJA3288
```

TDK
---
136 New Mohawk Road
Nevada City, CA 95959
800-999-4TDK (U.S. & Canada) or 916-478-8421
www.tdk.com/

Ñ DF2814APB Global Class PC Card 28.8 bps Data/ 14.4 bps Fax Modem
Ñ DF2814APB V.34 PC Card 28.8 bps Data/ 14.4 bps Fax Modem

Networking PC Cards
==========

Dayna Communications

Sorenson Research Park
849 West Levoy Drive
Salt Lake City, Utah 84123
800-531-0600 or 801-269-7200
Sales@Dayna.com
www.dayna.com/

Ñ CommuniCard Ethernet Adapter 10Base-T and Thin Ethernet LAN Adapter

Farallon Computing, Inc.

2470 Mariner Square Loop
Alameda, CA 94501
510-814-5000
www.Farallon.com/

Ñ EtherMac PowerBook PC Card 10Base-T,
Thin and EtherWave LAN Adapter

Global Village Communication

1144 East Arques Avenue
Sunnyvale, CA 94086
800-736-4821 or 408-523-1000
www.globalcenter.net/
Ñ
PowerPort Platinum Pro PC Card 28.8 bps Data/ 14.4 bps Fax modem/ 10 base-T Ethernet

PowerBook Accessories
==========

Company Phone Address World Wide Web location City, State, Zip Code e-mail address Product Model Product Description

Farallon Computing, Inc.
Mariner Square Loop
Alameda, CA 94501
510-814-5000 2470
www.Farallon.com/

Ñ AirDock Adapter 230 kbps Infrared to LocalTalk Adapter

Teleadapt, Inc.
---
51 E. Campbell Ave.
Campbell, CA 95008 72623
408-370-5105
www.teleadapt.com/

706@compuserv.com

Ñ TeleDapter Foreign Telephone Adapters RJ-45 to foreign country telephone converter

Xtend Microproducts, Inc./Panasonic
---
2 Faraday
Irvine, CA 92718
800-232-9836
xtend@xmpi.com
www.xmpi.com/

Ñ Apple 5300/ 190 NiMH Notebook Computer Battery

==========
PowerBook PCMCIA Expansion Module Solutions for the PowerBook 500 Series
==========

The manufacturers of the following PC Cards (PCMCIA cards) have confirmed that their cards are compatible with the PCMCIA Expansion Module (rev. A) for the Macintosh PowerBook 500 Series computers.

This list does not include all cards that may be compatible with the Expansion Module for the Macintosh PowerBook 500 Series. The cards listed below have not been certified to work with the PowerBook 500 Series PCMCIA Expansion Module through Apple's Macintosh PowerBook Qualified Program. PC Card models and product availability may vary by country. For detailed information concerning a specific PC Cards, contact the manufacturer.

NOTE: Using an incompatible card may result in damage to the Expansion Module, the card and/or your Macintosh PowerBook computer.

Wireless Messaging Cards (U.S.)
==========

Apple Computer, Inc.
408-996-1010
(Fax-Back Service 800-510-4955)

Ñ Apple Mobile Message System Wireless Messaging/Page Card for PowerBook, Newton and Windows PCÑs

Data Fax Modems (U.S. and Canada)
==========

Angia Communications, Inc.

800-877-9159 (U.S.) or 801-373-9800

Ñ SafeJack SJ192 19.2 kbps Data/14.4 kbps Fax Modem

Apple Computer, Inc.

408-996-1010

Ñ Newton Fax Modem Card H0086 2400 bps Data/9600 bps Fax Modem

AT&T Paradyne

800-482-3333 or 813/530-8623

Ñ KeepIn Touch Card, Model 3762-B1 Cellular -ready/Wireline 14.4 Data/14.4 Fax Modem

DTRONIX

408-982-9667

Ñ PC 144 Wireline 14.4 Data/14.4 Fax Modem PC 144D Wireline/Cellular-ready 14.4 Data/14.4 Fax Modem

Epson America, Inc.

800-922-8911 or 310-782-0770

Ñ EFM-144 14.4 Data/14.4 Fax Modem

Megahertz Corporation

800-LAPTOPS or 801-320-7000

Ñ XJ1144 (10052) 14.4 Data/14.4 Fax Modem
Ñ XJ2144 (34051) 14.4 Data/14.4 Fax Modem

Motorola

800-451-2369 or 205-430-8000

Ñ CELLect 14.4 PCMCIA Cellular-ready/Wireline 14.4 Data/14.4 Fax Modem
Ñ Power 14.4 PCMCIA Cellular-ready/Wireline 14.4 Data/14.4 Fax Modem
Ñ Lifestyle 14.4 PCMCIA Wireline 14.4 Data/14.4 Fax Modem

Practical Peripherals

800-442-4774 or 805-497-4774

Ñ MacClass MC144T2 Wireline 14.4 Data/14.4 Fax Modem
Ñ MacClass MC144T2-EZ Wireline 14.4 Data/14.4 Fax Modem w/ EZ-Port

PreMax Electronics, Inc.

408-739-7000

Ñ FM-144 14.4 Data/14.4 Fax Modem

SMART Modular Technologies

510-623-1231

Ñ ST 1414L 14.4 Data/14.4 Fax Modem

Supra

800-727-8772 (U.S. & Canada) or 503/967-2400

Ñ COMcard 144 14.4 Data/14.4 Fax Modem

TDK

800-999-4TDK (U.S. & Canada) or 916-478-8421

Ñ DF2814APB 28.8 Data/14.4 Fax Modem DF1414 14.4 Data/14.4 Fax Modem

Storage Cards
==========

Calluna Technology, Inc.
408-453-4753 (North America)
011 44 592 630 810 (Outside North America)

Ñ Callunacard CT-105MC 105MB ATA Hard Disk Drive, Type III

Ñ Callunacard CT-130MC 130MB ATA Hard Disk Drive, Type III
Ñ Callunacard CT-170MC 170MB ATA Hard Disk Drive, Type III

Epson America, Inc.

800-922-8911 or 310-782-0770

Ñ EHDD170 170MB ATA Hard Disk Drive, Type III
Ñ ATA202EN11 2.5MB PCMCIA Type II ATA Flash Card
Ñ ATA502EN11 5MB PCMCIA Type II ATA Flash Card
Ñ ATA112EN11 10MB PCMCIA Type II ATA Flash Card
Ñ ATA212EN11 20MB PCMCIA Type II ATA Flash Card

IntÑgral Peripherals

303-449-8009
800-995-1999 (Bell Micro Products)

Ñ PocketFile 170 8170PA 170MB ATA Hard Disk Drive, Type III

Intel

800-628-8686 or 916-356-3104

Ñ iFD005P2SA 5MB PCMCIA Type II ATA Flash Card
Ñ iFD010P2SA 10MB PCMCIA Type II ATA Flash Card

Ministor

800-943-0165 or 408-943-0165

Ñ MP130P3/MP260P3 131MB ATA Hard Disk Drive, Type III
Ñ MP170P3/MP340P3 171MB ATA Hard Disk Drive, Type III

Simple Technology

800-367-7330 or 714-476-1180

Ñ STI-105HD 105MB ATA Hard Disk Drive, Type III
Ñ STI-130HD 130MB ATA Hard Disk Drive, Type III
Ñ STI-170HD 170MB ATA Hard Disk Drive, Type III

SunDisk Corporation

408-562-0595

Ñ SDP5-1 1MB PCMCIA Type II ATA Flash Card
Ñ SDP5-1.8 1.8MB PCMCIA Type II ATA Flash Card
Ñ SDP5-2.5 2.5MB PCMCIA Type II ATA Flash Card
Ñ SDP5-5 5MB PCMCIA Type II ATA Flash Card
Ñ SDP5-10 10MB PCMCIA Type II ATA Flash Card
Ñ SDP5-20 20MB PCMCIA Type II ATA Flash Card
Ñ SDP5A-40 40MB PCMCIA Type II ATA Flash Card

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PowerBook: Error Waking From Sleep w/ System 7.5 Updt 2.0 (1/97)

I just installed System 7.5 Update 2.0, and now every time my PowerBook comes out of sleep I get a Type 8 error. What's going on?

This article has been archived and is no longer updated by Apple.

Symptom

A Type 8 error dialog is displayed immediately after waking from sleep on certain models of PowerBook computers.

Issue

Connectix RAM Doubler version 1.6.1 or earlier is incompatible with System 7.5.3 (System 7.5 plus the System 7.5 Update 2.0) on 680x0-based PowerBook computers. This does not include the PowerPC-based PowerBook computers.*

Workarounds
---
1) Remove RAM Doubler. You can use Apple's Virtual Memory if necessary.

2) Remove the System 7.5 Update file. This is not recommended because
this will eradicate some features that the update provides

3) Reinstall the previous version of the system software.

Resolution

This issue has been fix with System 7.5.3 Revision 2. You can find this software on Apple Computer's online software update sites.

These articles can help you locate the software update mentioned here:

- "Where To Find Apple Software Updates" -- Lists online services for free Apple software updates.

- "Obtaining Apple Product Support in the USA" -- Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech Info Library.

* The following computers are in the PowerPC-based PowerBook computer family: PowerBook 5300, 5300c, 5300ce, 5300cs, 2300c, 1400c, and 1400cs. Additionally PowerBook 200 and 500 series computers which have PowerPC upgrade cards installed are included in the PowerPC-based PowerBook computer family.

This article was published in the Information Alley on 25 March 1996.

Article Change History:
20 Jan 1997 - Added info about PPC PowerBook computers.
15 Jun 1996 - Added System 7.5.3 Revision 2 information.
26 Mar 1996 - Added Info Alley information.

Published Date: Feb 18, 2012

PowerBook: Duo Dock Top Cover Upgrade No Longer Available

This article discusses availability of the Duo Dock top cover upgrade.
This article has been archived and is no longer updated by Apple.
The Duo Dock Top Cover Upgrade (M1814Z/A) which is necessary to put a color duo into an original Duo Dock is no longer available.

However, the service part (922-0519, Top Cover, Duo Dock II w/door) is still available. So, if you need the taller top for your original Duo Dock, you will need to ask your authorized Apple Service provider to order this service part instead of the finished goods part.
Published Date: Feb 18, 2012

System 7.5.3: Apple Telecom & No Sound on Pwr Mac 9500 (3/96)

After installing Apple Telecom 2.x on my Power Macintosh 9500, which I recently upgraded to System 7.5.3 (using System Update 2.0), I can no longer hear any sound. Is there a compatibility problem between Apple Telecom and System 7.5.3?

This article has been archived and is no longer updated by Apple.

On Power Macintosh 9500 computers, the Apple Telecom installer places the Audio Tune-up extension in the Extensions folder. This extension fixes a sound problem under System 7.5.2 when using the Geoport Telecom Adapter.

The Audio Tune-up extension is built into System 7.5.3. However, if you still have it installed under 7.5.3, you will experience a problem with sounds. To resolve these problems, simply remove the Audio Tune-up extension.

Published Date: Feb 18, 2012

Network Server LCD Values: Manual Correction

This article describes a "Using AIX, AppleTalk Services, and Mac OS Utilities on the Apple Network Server" manual correction.
This article has been archived and is no longer updated by Apple.

Below is a corrected version of the table on page 161, Chapter 10 Troubleshooting, of the "Using AIX, AppleTalk Services, and Mac OS Utilities on the Apple Network Server" manual. These are the values displayed during a normal system startup.

LCD	System Action
510	The system has started the configuration manager.
511	The configuration manager has completed.
517	The system is attempting to mount the / (root) and /usr file systems.
538	The configuration manager is passing control to a configuration method.
539	The configuration method has completed.
551	The system is attempting to vary on the root volume group.
553	The system has completed phase one of the boot process.
591	The system is configuring the Logical Volume Manager (LVM).
593	The system is configuring the low-function graphics terminal.
594	The system is configuring the rendering context manager.
704	The system is configuring a SCSI disk drive.
723	The system is configuring a CD-ROM or other SCSI device.
727	The system is configuring an asynchronous device.
731	The system is configuring a pseudo TTY.
811	The system is configuring the system planar (mainboard).
812	The system is configuring the standard I/O adapter.
814	The system is configuring the NVRAM.
821	The system is configuring the standard keyboard adapter.
823	The system is configuring the standard mouse adapter.
826	The system is configuring on-serial port 1.
828	The system is configuring the standard floppy disk adapter.
831	The system is configuring serial port 2.
868	The system is configuring the integrated SCSI adapter.
874	The system is configuring the graphics subsystem adapter.
921	The system is configuring a keyboard.
925	The system is configuring a mouse.
935	The system is configuring a 3.5-inch diskette drive.
9002	The system is configuring a SCSI-2 adapter.
c301	Apple Desktop Bus (ADB) time out.

Published Date: Feb 18, 2012

Power Macintosh: Write Cache Hard Drive Corruption Issue

Customers who have installed some third-party hard disk driver software on Power Macintosh computers have experienced some loss of data and corruption.
This article has been archived and is no longer updated by Apple.

The third-party software may improperly handle write-caching which runs the risk of data loss or even corruption of the disks' file structure on shutdown. Apple software properly supports write caching (and always has) on any hard disk shipped.

Many high performance disk drives available for Macintosh computers utilize on-board hardware write-cache mechanisms. Although these devices can enhance disk performance, they also require special software consideration to avoid the loss of data on shutdown.

Write cache functions are part of the ANSI SCSI-2 Specification. These cache functions have been there for a while. A Technote was written by Apple which was directed primarily to IDE and SCSI disk interface module software developers. This tech note addresses ways to flush the disk's write cache during the shutdown process.

Recent postings on the Internet by some third-party hard disk driver software vendors may lead customers to believe this problem is caused by Apple hardware or software. This issue is not an Apple hardware or software issue, it is a third-party issue. Apple has no direct control over what third-party software vendors do with their software. If customers replace the Apple hard disk driver by formatting with a third-party disk driver, or if they purchase a drive from another vendor, Apple has no direct connection with either the third-party software or hardware.

Suggestions
---
1. Make that you have the latest driver from the vendor from whom you purchased the hard drive.

* Apple Developers have been made aware of the driver requirements and should be updating their drivers if they encounter problems.

* You should update both third-party and Apple drivers to the latest versions for all the drives on your Macintosh computer.

2. After updating the driver, run Apple's Disk First Aid application or run a drive utility program (such as Norton Utilities) to repair any corruption or directory damage that may have occurred previously.

The following Tech Info Library article can help you find the Tech Note mentioned here:

Article 24493: "**Apple Tech Notes: What They Are, Where To Find Them**"

This article was published in the Information Alley on 27 March 1996.

Published Date: Feb 18, 2012

AWS 95 or A/UX 3.x: Manually Executing fsck

This article describes Manually Executing the fsck command on an Apple Workgroup Server (AWS) 95 or A/UX 3.x after a system crash.
This article has been archived and is no longer updated by Apple.
Running fsck From the A/UX Startup Shell

When restarting an AWS 95 or A/UX 3.x after a system crash, you should perform a manual file system check (fsck) from the A/UX Startup shell. Any file system inconsistency is made worse if you continue to use that file system (consequently modifying it further) without running fsck.

You enter the A/UX Startup shell by turning on your server and clicking the Cancel button or pressing Command-. (Command and period keys) in the dialog box containing "Welcome to the Apple Workgroup Server 95". This cancels the A/UX startup process and presents the A/UX Startup shell. After the A/UX Startup shell displays, the following command-line prompt appears:

startup#

At the prompt, enter this UNIX command (use lower case):

fsck -y /dev/default

Press Return to execute this fsck command. The fsck program lets you know which phase and what file system it is checking at any given time. It may take several minutes to complete the check. For a complete description of all the phases of fsck, refer to the "Server Administration with A/UX" manual which came with your Workgroup Server 95.

When fsck completes running, if you see this message, "FILE SYSTEM WAS MODIFIED", it is recommended you execute the above fsck command again. You want fsck to make a complete check without any modifications or changes.

Note: This sequence performs a filesystem check of the root partition. To check other partitions you can modify the fsck command as follows:

fsck /dev/dsk/cX0Yd0sZ

Where X = SCSI BUS (1, 2, 3 or 4)

Y = SCSI ID of the drive (0, 1, 2, 3, 4, 5 or 6)

Z = Slice where the file system will be created (0 for root volume)

A listing of partitions on the system and their associated mount points can be located in the filesystem table (fstab). This file can be read by entering the following command:

cat /etc/fstab

Running fsck From the Command Shell

Before running the fsck command, be certain there are no applications running which use mounted filesystems, like AppleShare, and then unmount the filesystems using the following command:

umount -a

This unmounts all partitions listed in the file /etc/fstab except "/". To run fsck on these partitions all at once, enter:

fsck

Once the file system check is complete, the partitions can be remounted by entering:

mount -a

The system is now ready to resume normal activity.

Published Date: Feb 18, 2012

Macintosh and Macintosh SE Video Alignment Aid

This article has been archived and is no longer updated by Apple.

```
Using MacDraw and a LaserWriter, one can make an easy to use
alignment aid for doing Macintosh video alignments.  Make
a rectangle using MacDraw that is 7 inches by 4.7 inches.
Print this on a LaserWriter using overhead transparency material.
Trim the excess material so that the template fits on the
Macintosh screen.  It will usually stick to the screen because
of static electricity, but it can also be secured by using
double-sided tape.  Just be sure to use overhead transparencies
that are made for use in a laser printer.
```

Published Date: Feb 18, 2012

Access II: Making room for more data on the backup disk

This article has been archived and is no longer updated by Apple.
To free up some disk space on your Access II diskette, use your BACKUP disk ONLY!

If you use the 80 column format, delete the folowing files from your backup disk:

UT40.SYSTEM
ACS40.SYSTEM
CON40

While these deletions make this disk unusable for the 40 column format, you now have about 104 more blocks you can use for saving downloaded files or captured data.

Deleting these files:

UT80.SYSTEM
ACS80.SYSTEM
CON80

from the backup disk frees up space for the user of the 40 column format and makes the disk unusable for the 80 column format.

To make the disk reusable for the format you deleted, simply copy the deleted files from the master to the backup disk.

Published Date: Feb 18, 2012

AppleShare Workstation 3.6.1 RevB & 3.6.1: Differences

I have installed AppleShare Workstation 3.6.1, now after installing System 7.5 Update 2.0 the AppleShare Workstation version is now 3.6.1RevB. What is the difference between 3.6.1 and 3.6.1RevB and which one should I use.
This article has been archived and is no longer updated by Apple.
The only difference between AppleShare Workstation 3.6.1 and 3.6.1RevB is the bundle bit is set on the 3.6.1RevB and is not set on the 3.6.1.

You should use AppleShare Workstation 3.6.1RevB.
Published Date: Feb 18, 2012

Power Macintosh: Audio CDs & 7.5.3 on PCI-based Systems (3/96)

What changes were made in System 7.5.3 in the way Audio CD ROM discs are used on PCI-based Power Macintosh computers?
This article has been archived and is no longer updated by Apple.
With the advent of System 7.5 Update 2.0 and System 7.5.3, the "Internal CD" and "Playthrough" options no longer need to be selected in the Sound or Monitors & Sound control panel in order to playthrough an Audio CD to internal or external speakers.

An Audio CD will playthrough no matter which selections are made in the control panels, except for mute and volume changes. The change was made for PCI-based Power Macintosh computers only. However, future versions of the Mac OS may implement the change for other Macintosh computers as well.

This article was published in the Information Alley on 25 March 1996.

Article Change History:
26 Mar 1996 - Added Info Alley information.

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System 7.5 Update 2.0: Changes to Find File (5/96)

Since I installed the System 7.5 Update 2.0, Find File seems to work differently. What changed?
This article has been archived and is no longer updated by Apple.
If you install the System 7.5 Update 2.0 to update your system software to version 7.5.3, the Find File does not work as before. Previously, the file, folder, or application being sought would appear in both the upper and lower window.

Prior to System 7.5 Update 2.0
---
* If you double-clicked on the item within the upper window, the file or application would launch.

* If you double-clicked on the item within the lower window, the application, file, or folders would be opened and the application, file, or folder would be highlighted within its respective folder window.

After Installing System 7.5 Update 2.0
---
* Double-clicking the application or file in either the upper or lower window will launch it.

NOTE: This applies to Macintosh computers using the System 7.5 Update 2.0.

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Article Change History:
06 May 1996 - Added keyword.
28 Mar 1996 - Added Info Alley publication date information.

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Internet Server Solution for WWW: Product Matrix

This article provides a product matrix for versions 1.0 and 1.1 of the Apple Internet Server Solution (AISS) for the World Wide Web.
This article has been archived and is no longer updated by Apple.

Product	Delta	AISS v1.0	AISS v1.1	For more information
StarNine WebSTAR	Update	1.0	1.2.5	www.starnine.com/webstar/
Adobe Acrobat	Update	2.0	2.1	www.adobe.com/Acrobat/ Acrobat0.html
Adobe PageMill	New		1.0	www.adobe.com/Apps/PageMill/
AppleSearch	No Ch	1.5	1.5	product.info.apple.com/ productinfo/datasheets/
AppleSearch Patch	New		1.5.1	
AppleSearch acgi	Update	1.5	1.5.1	kamaaina.apple.com/
MacDNS	Update	1.0	1.0.1	
Kitchen Sink SW ServerStat	New		1.0.5	www.kitchen-sink.com/ss.html
Maxum Development NetCloak	New		2.0	www.maxum.com/NetCloak/
Netscape Navigator	Update	1.1	2.0	home.netscape.com/comprod/
Progressive Network RealAudio Server	New		1.x	www.prognet.com/
ACME Script Widgets	No Ch	2.0	2.0	
AppleScript	No Ch	1.1	1.1	dev.info.apple.com/solguide/
HyperCard	Update	2.2.1	2.3.4	product.info.apple.com/ productinfo/datasheets/
HyperCard acgi	Update	2.2.1	2.3.4	
Bare Bones Software BBEdit	Update	3.1.1	3.5.1	www.tiac.net/biz/bbsw/ bbedit.html
WebMap	No Ch	1.0.1	1.0.1	www.city.net/cnx/software/ webmap.html
MapServe CGI	Update	1.0	1.5	www.bart.spub.ksu.edu/other/ machttp_tools/
MacTCP Ping	Omitted	2.0.2		
MacPing	New		3.0.5	www.dartmouth.edu/pages/ softdev/
email CGI	Update	1.0.2	3.0.4	
DecodeURL OSAX	No Ch	1.0	1.0	
TCP/IP OSAX	No Ch	1.2	1.2	
FileMaker Runtime & FileMaker CGI				www.claris2.com./filemaker/
Butler SQL Runtime &				www.everyware.com/

TA35220_Internet_Server_Solution_for_WWW_Product_Matrix_(TIL19504).pdf

Tango

Published Date: Feb 18, 2012

AppleScript: Cannot Create New Folder In Finder

Using the Script Editor, I recorded a script that creates an new folder within another folder:

```
tell application "Finder"
activate
make new folder at folder "my folder" of startup disk
end tell
```

This script records fine, but when I try to run or change it, it fails. Why?
This article has been archived and is no longer updated by Apple.
This problem occurs If you installed the PhotoFlash Scripting Additions that came with QuickTake camera. The "Photoflash Utilities" addition defines it's own version of "Make Folder" which is different from the one the Scriptable Finder defines. This extension was defined and written before the Scriptable Finder was widely available.

In order to properly create a folder, remove the "Photoflash Utilities" from the Scripting Additions folder located in the Extensions folder.
Published Date: Feb 18, 2012

Color StyleWriter 2400: Communication Rate (3/96)

What baud rate (data rate) does the Color StyleWriter 2400 communicate at? Does the speed vary depending on which Macintosh computer is printing to the printer?

This article has been archived and is no longer updated by Apple.

The Color StyleWriter 2400 communicates almost constantly at 884.7 kbaud with any Macintosh computer using System 7.x. When the printer is first powered ON, the serial port is set for 57.6 kbaud. The Color StyleWriter 2400 printer driver then queries the printer at 57.6 to determine the type of printer. Once the driver determines it is a Color StyleWriter 2400, as opposed to another printer such as the StyleWriter II, the driver knows the printer supports an external clock so it then sets the printer's serial port speed to 884.7 kbaud. The driver continues using this baud rate until the connection is closed. Once the connection is closed, the port is set to 57.6 kbaud.

The printer supports a 230.4 kbaud rate, but that rate is not used.

Published Date: Feb 18, 2012

Multiple Scan 1705 Display: Viewable Image Size Changes (3/96)

I have a Multiple Scan 1705 Display. When I open or close a window that contains a mostly white background, such as a SimpleText document, the viewable image grows. For example, when I open a new document in SimpleText, the size of the image grows by a few millimeters. When the document window is closed, the image shrinks.

This article has been archived and is no longer updated by Apple.

There is nothing wrong with your display. What you describe is normal for the Multiple Scan 1705 Display and typical of all entry level 17-in. displays.

When you display more white areas on your monitor, this draws more current causes the screen raster to move slightly. The same size display at a higher price point contains higher cost circuitry that compensates for the raster movement.

When using MacTest Pro test patterns (all white screen), the various Apple Displays all have different levels of raster movement, or high voltage regulation. This is normal on all displays, regardless of manufacturer.

Published Date: Feb 18, 2012

Apple Personal Modem: Manual erratum

This article has been archived and is no longer updated by Apple.
Page 84 of the Apple Personal Modem User's Manual shows the pin numbers incorrectly.

Here is the correct pin numbering for the serial port (female connector), as viewed from the rear of the modem:

8 7 6
5 4 3
2 1

Published Date: Feb 18, 2012

PCI-Based Power Macintosh: Identifying Processor Cards

Is there a way to identify the type and speed of the PowerPC microprocessor being used on the processor cards for the Power Macintosh 7500, 8500, and 9500 series computers?

The processor card is not currently installed in a Power Macintosh so I can't run a benchmark program to check the information.

This article has been archived and is no longer updated by Apple.

On the processor card, there is an FCC ID label, which contains information about the processor type and speed. The FCC ID label is located on the back side of the processor card (the side without the heat sink). The number on the FCC ID label contains 9 alpha-numeric characters, and the last 6 numerals identify the processor and the speed.

FCC ID: xxx601100 = 601 Processor @ 100MHz
FCC ID: xxx604120 = 604 Processor @ 120MHz
FCC ID: xxx604132 = 604 Processor @ 132MHz

This article was published in the Information Alley on 9 April 1996.

Article Change History:
09 Apr 1996 - Added keyword.

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Drive Setup: Initialization Fails on 800 MB IDE Drives (4/96)

I have a Macintosh computer with an 800 MB IDE hard drive. I am attempting to use Drive Setup 1.0.4 to format the hard drive using the "Low Level Format" option. It appears to start working, but then an error message appears stating, "Initialization Failed." What is going on?

This article has been archived and is no longer updated by Apple.

The symptoms you are experiencing can occur when using version 1.0.4 or earlier of Drive Setup on Quantum 800 MB IDE hard drives. To resolve this issue, you should select the "Zero All Data" option to reformat your hard drive. Note that there is no negative impact to the drive or system.

A newer version of the Drive Setup utility will be released to address this incompatibility.

This article was published in the Information Alley on 4 April 1996.

Article Change History:
09 Apr 1996 - Added keyword.

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System 7.5 Update 2.0: Disk Tools Disk Not Supported (6/97)

I recently installed System 7.5 Update 2.0, and I noticed there are newer versions of Disk First Aid, Drive Setup, and Apple HD SC Setup in the Apple Extras folder. Do I need to update my old Disk Tools disk with the newer versions of these utilities? If so, do I need both Drive Setup and Apple HD SC Setup?

This article has been archived and is no longer updated by Apple.

Apple does not officially support updating a Disk Tools disk with the utilities installed with System 7.5 Update 2.0. There are a couple of reasons for this:

- On some older Disk Tools disks (any that shipped before the release of Drive Setup, such as the original System 7.5 Disk Tools disk), there is not enough room for the System Folder, Drive Setup 1.0.4, and Disk First Aid 7.2.2.

- The System Folders included with Disk Tools disks are significantly modified to fit on a 1.4 MB floppy disk. Because every existing modified System Folder isn't tested with every existing CPU and the newer versions of the utilities, you shouldn't assume that the newer utilities will run reliably from an existing Disk Tools disk.

Macintosh computers that ship with System 7.5.3 installed from the factory will include a Disk Tools disk or CD-ROM disc containing the latest versions of the utilities.

If you need to repair a volume with Disk First Aid or format or initialize a volume with Drive Setup or Apple HD SC Setup, you should start up from another volume (such as a second hard drive, CD, or removeable cartridge drive) running System 7.5.x (not necessarily System 7.5.3) and then run the desired utility. The utility does not have to be on the startup volume, but it cannot be on the volume that needs to be repaired, formatted, or initialized.

If you have a Power Macintosh system (including the PowerBook 500 with PPC upgrade, but excluding the Power Macintosh processor card) or any Macintosh that originially shipped with an IDE hard drive you should use Drive Setup. Otherwise, use Apple HD SC Setup.

Note: The following computers are in the Macintosh 630CD family: LC 630, Quadra 630, Performa 630, Performa 635, Performa 636, Performa 637, Performa 638, and Performa 640.

This article was published in the Information Alley on 4 April 1996.
Published Date: Feb 18, 2012

Open Transport 1.1 and Fragmenting TCP/IP Packets (3/96)

I have a network administrator commenting that Open Transport 1.1, which comes with the System 7.5 Update 2.0, will not allow the fragmenting of TCP/IP packets.

MacTCP 2.0.6 does not set the Don't Fragment (DF) bit and allows packet fragmentation, however, Open Transport 1.1 does set the DF bit. This may be an issue because some TCP/IP devices reject this. Can you confirm or deny this as an issue without traces?

This article has been archived and is no longer updated by Apple.

Open Transport supports a new IP feature called MTU Path Discovery. The MTU Path Discovery algorithm does set the DF bit on all packets as long as the minimum datagram size (576) is not the current MTU. The DF bit is set on all packets so that in the event that the route changes, which could cause the MTU to change, the sender will receive an ICMP "packet to large" datagram from a router and adjust the MTU. The only time the DF bit is not set is when the minimum (576) size datagram is being used.

We are not aware of any problems using MTU Path Discovery or setting the DF bit with any IP implementations.

Here is a summary of how this all fits together from rfc 1191:

1. Introduction

When one IP host has a large amount of data to send to another host, the data is transmitted as a series of IP datagrams. It is usually preferable that these datagrams be of the largest size that does not require fragmentation anywhere along the path from the source to the destination. (For the case against fragmentation, see [5].) This datagram size is referred to as the Path MTU (PMTU), and it is equal to the minimum of the MTUs of each hop in the path. A shortcoming of the current Internet protocol suite is the lack of a standard mechanism for a host to discover the PMTU of an arbitrary path.

NOTE: The Path MTU is what in [1] is called the "Effective MTU for sending" (EMTU_S). A PMTU is associated with a path, which is a particular combination of IP source and destination address and perhaps a Type-of-service (TOS).

The current practice [1] is to use the lesser of 576 and the first-hop MTU as the PMTU for any destination that is not connected to the same network or subnet as the source. In many cases, this results in the use of smaller datagrams than necessary, because many paths have a PMTU greater than 576. A host sending datagrams much smaller than the Path MTU allows is wasting Internet resources and probably getting sub-optimal throughput. Furthermore, current practice does not prevent fragmentation in all cases, since there are some paths whose PMTU is less than 576.

2. Protocol overview

In this memo, we describe a technique for using the Don't Fragment (DF) bit in the IP header to dynamically discover the PMTU of a path. The basic idea is that a source host initially assumes that the PMTU of a path is the (known) MTU of its first hop, and sends all datagrams on that path with the DF bit set. If any of the datagrams are too large to be forwarded without fragmentation by some router along the path, that router will discard them and return ICMP Destination Unreachable messages with a code meaning "fragmentation needed and DF set" [7]. Upon receipt of such a message (henceforth called a "Datagram Too Big" message), the source host reduces its assumed PMTU for the path.

The PMTU discovery process ends when the host's estimate of the PMTU is low enough that its datagrams can be delivered without fragmentation. Or, the host may elect to end the discovery process by ceasing to set the DF bit in the datagram headers; it may do so, for example, because it is willing to have datagrams fragmented in some circumstances. Normally, the host continues to set DF in all datagrams, so that if the route changes and the new PMTU is lower, it will be discovered.

Unfortunately, the Datagram Too Big message, as currently specified, does not report the MTU of the hop for which the rejected datagram was too big, so the source host cannot tell exactly how much to reduce its assumed PMTU. To remedy this, we propose that a currently unused header field in the Datagram Too Big message be used to report the MTU of the constricting hop. This is the only change specified for routers in support of PMTU Discovery.

This article was published in the Information Alley on 27 March 1996.

Article Change History:
28 Mar 1996 - Added Information Alley notation.

TA35228_Open_Transport_and_Fragmenting_TCPIP_Packets__(TIL19513).pdf

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AppleShare: Workstation 3.6.1 to 3.6.2 Changes

This article describes the changes in AppleShare Workstation software from version 3.6.1 to 3.6.2.
This article has been archived and is no longer updated by Apple.
The AppleShare Workstation 3.6.2, changes from 3.6.1 are:

* Changes the behavior of the Alias Manager, included with System 7.5.3 and System 7.5 Update 2.0, to use the workstation user interface for Alias resolution. Set Password Button now available.

* Fixes several hangs due to VBL (vertical blanking interrupt) problems.

* Fixes a crash on launch of certain applications from the server.

* When you get a Bad Password error, the workstation now asks you to check the Caps Lock key if it was active when you entered the password.

Published Date: Feb 18, 2012

GeoPort and OCR: Language Dictionary Supplier (3/96)

Are there different language dictionaries for the Optical Character Recognition (OCR) software, supplied with GeoPort for European countries, specifically France, Germany, and Italy?

This article has been archived and is no longer updated by Apple.

Additional language dictionaries can be obtained by contacting Mimetics at the following address:

Mimetics
5, Central Park
Avenue Sully Prud'homme
92298 Ch*tenay-Malabry
France

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AppleWorks: Using Database with Word Juggler

This procedure describes how to use an Appleworks Database file as a source for a Word Juggler print form.
This article has been archived and is no longer updated by Apple.
These procedures are for Word Juggler version 2.9 and Appleworks version 1.3 other versions may vary from these instructions.

1. Create a report format in Appleworks.
2. Print the report To a text file on disk option 6. You will be asked for a Pathname. Enter (Data.File) as an example. Do not use the name of the Appleworks data file.
3. Exit Appleworks.
4. Start up Word Juggler.
5. Select 1 for new document.
6. Enter the information in the following format.

*number of fields
- field name 1
- field name 2
- other fields

- Name of the file created in Appleworks example (Data.File).
- All lines must end with a carriage return.

EXAMPLE:
*5
name
address
city
state
zip.code
Data.File

7. Store the file as Field.List for example.
8. Select 1 for new file.
9. Create your form letter.
10. After you have finished creating the form letter store it to disk.
11. Select print form Closed-Apple-2.
12. Select Word Juggler Data file option 1.
13. For Pathname enter Field.List for example.
14. Word Juggler will now print your form letter using the data from Appleworks.

Notes:
1) Use one disk if possible for the three files.
2) Variable names used in field.list and the form letter must be an exact match.
An example- name, Name & NAME are different.
FILE NAMES USED DESCRIPTION
Data.File.....file generated by Appleworks report containing data for the form letter.
Field.List.....Interface file from Data.File to form letter.

Created in Word Jugger.
form letter.....Word Juggler form letter.

NOTE: Apple Computer, Inc. is not responsible for the contents of this article.
Published Date: Feb 18, 2012

Microsoft Bookshelf: Please Insert The CD Message

I got the Microsoft Bookshelf application with the Library Research Software Bundle from Apple. Why do I get an error message asking me to insert the Microsoft Bookshelf CD-ROM disc when it is in the drive already?
This article has been archived and is no longer updated by Apple.
The Microsoft Bookshelf CD is included with the following software bundles from Apple:

Library Research Bundle
Multimedia Learning Tools Bundle

Some early versions of the CD were improperly mastered which is the reason for the error message.

Please call 800-SOS-APPL to get the newer version of this CD.
Published Date: Feb 18, 2012

LaserWriter IISC: No Printer Driver in Sys7.5 Update 2.0 (3/96)

I just installed the System 7.5 Update 2.0, and I could not find a printer driver for the LaserWriter IISC printer. What happened to that driver?
This article has been archived and is no longer updated by Apple.
The LaserWriter IISC driver is not compatible with System 7.5.3 (System 7.5 with Update 2.0).

When printing to a LaserWriter IISC or Personal LaserWriter SC from a Macintosh running System 7.5.2 or 7.5.3, the print output may not be WYSIWYG depending upon the font selected. The output is not WYSIWYG due to improper character and word spacing. The improper spacing may also cause lines to get clipped. Clipping is where characters that lie outside the printable area are not printed.

The situation gets more confusing since the printer drivers are referenced in the System 7.5.3 "About the Extensions folder" ReadMe:

- LaserWriter IISC: Enables your computer to print documents on a LaserWriter IISC connected to a SCSI port. Replaced by Personal LaserWriter SC.

- Personal LaserWriter SC: Enables your computer to print documents on a
Personal LaserWriter SC or a LaserWriter IISC.

Workarounds

At this time there is only two workarounds; if you use System 7.5.3, you should use QuickDraw GX and the appropriate QuickDraw GX printer driver. The only other option if you do not want to install QuickDraw GX is to use another version of the Mac OS prior to System 7.5.2 or System 7.5.3.

If you want to continue using System 7.5.3, and you do not want to use QuickDraw GX you can experiment with different fonts in various applications. You should be able to find a font that provides acceptable results.

This article was published in the Information Alley on 28 March 1996.

Published Date: Feb 18, 2012

DOS Compatible Card: Open Transport or Classic Network

After installing the System 7.5 Update 2.0, I am unable to do networking from the DOS side of my Power Macintosh 6100 DOS Compatible. I have also tried this on an LC 630 DOS Compatible and a Performa 640 DOS Compatible. None of these are able to do networking with Open Transport, but they work properly with Classic networking.
This article has been archived and is no longer updated by Apple.
Apple has released version 1.5 of the DOS Compatibility software and strongly recommends that all owners of previous version of DOS Compatibility cards (except the Macintosh Centris/Quadra 610 DOS Compatibility Card), upgrade to this version of software.

This software requires an upgrade to Mac OS 7.5.3 with System 7.5 Update 2.0. With the Power Macintosh 6100, Macintosh LC 630, and Macintosh Performa 640 DOS Compatibility cards, Classic networking must be chosen instead of Open Transport.

- If you have a PCI-based computer, you need DOS Compatibility software1.5, System 7.5.3, and use Open Transport 1.1. Version 1.5 of the DOS Compatibility Software ships with the PC Compatibility Cards.
- If you have a Non-PCI-based computer (for example, a Power Macintosh 6100 DOS Compatible, LC 630 DOS Compatible, or Performa 640 DOS Compatible), you need DOS Compatibility software 1.5, System 7.5.3, and use Classic networking by selecting this option in the Network Software Selector found in the Apple Extras folder.
- If you upgrade to Mac OS 7.6 and/or Mac OS 7.6.1, Open Transport must be choosen instead of Classic networking.

Published Date: Feb 18, 2012

Color StyleWriter 2500: Margins in Manual Incorrect

I noticed that I am getting a smaller top margin using the Color StyleWriter 2500, than what the manual lists.
This article has been archived and is no longer updated by Apple.
The margins listed in the Color StyleWriter 2500 User's Manual are not correct.

Here are the values listed in the manual and the correct values.
.

Margin	Manual	Correct
Left	3 mm (0.12-in.)	5 mm (0.2-in.)
Right	3 mm (0.12-in.)	5 mm (0.2-in.)
Top	3 mm (0.12-in.)	3 mm (0.12-in.)
Bottom	8 mm (0.3-in.)	7 mm (0.28-in.)

.
The specifications listed in TIL article 19324 titled "**Apple Color StyleWriter 2500: Technical Specifications**" are correct; only the User's Manual is incorrect.

The manual will be corrected in future versions.

This article was published in the Information Alley on 28 March 1996.
Published Date: Feb 18, 2012

Newton OS: Versions & Updates

There are a couple of different versions of the Newton Operating Systems and Updates which can be used based on the MessagePad that one has. I have an original MessagePad. What version should I use?
This article has been archived and is no longer updated by Apple.
Use the following chart to determine which operation system and update you need.

US Newton Operating Systems and Updates

System Version	Intro Date	At Intro	Without update	Other updates	Other updates	Other updates
Original MessagePad *	8/2/93	1.02	1.00	1.03	1.04	1.05**
Original MessagePad *	10/30/93	1.11**	1.10	-	-	-
MessagePad 100	3/4/94	1.3 (414059)	1.3 (414059)	1.3 (414313)	1.3** (415333)	-
MessagePad 110	3/4/94	1.3 (344052)	1.20	1.3 (345025)	1.3** (345333)	-
MessagePad 120 w/1.3	1/30/95	1.3 (444217)	1.3 (444217)	1.3** (445333)	-	-
MessagePad 120 w/2.0	11/13/95	2.0 (515299)	2.0 (515264)	2.0 (516205)	2.0** (516263)	-
MessagePad 130 w/2.0	4/01/96	2.0 (526060)	2.0 (525314)	2.0** (526205)	-	-
eMate 300 w/2.1	3/07/97	2.1 (737041)	Unknown	2.1** (737246)	-	-
MessagePad 2000 w/2.1	03/21/97	2.1 (717041)	Unknown	2.1 (717145)	2.1** (717260)	-
MessagePad 2100 w/2.1	11/07/97	2.1 (717260)	Unknown	-	-	-

* The original MessagePad was distributed with two distinct ROM versions 1.0 and 1.1

** These are the latest in system updates (November 1997)

For information on using and obtaining the Newton System Updates, see the Tech Info Library article titled "Apple MessagePad: System Update 1.3 Versions and Changes."

This article appeared in the 9 December 1996 issue of the Information Alley.
Published Date: Feb 18, 2012

Power Macintosh 7200/120: Description (7/96)

This article contains a description of the Power Macintosh 7200/120 series of computers.
This article has been archived and is no longer updated by Apple.
Apple's Power Macintosh 7200/120 combines affordability with high performance to provide an ideal system for small and medium-size businesses, for home offices, and for running productivity applications in any size of organization. Based on high-performance RISC technology, the Power Macintosh 7200/120 computer features a 120-megahertz PowerPC 601 processor. And if your performance needs later increase, this system can be upgraded to a Power Macintosh 7600/120 system, which features video-input capabilities and processor upgradability.

The three industry-standard Peripheral Component Interconnect (PCI) expansion slots on the Power Macintosh 7200/120 let you customize the Power Macintosh 7200/120 computer easily to more precisely meet your needs. You can find many PCI cards for a variety of uses, including graphics, storage, and high-speed networking. And if you want to use your Power Macintosh 7200/120 to run MS-DOS and Windows applications as well as software written for the Macintosh, you can install an Apple PC Compatibility Card in one of the system's PCI slots--and switch instantly between the two computing environments.

Connecting your Power Macintosh 7200/120 computer to an Ethernet network is easy, because it includes both AAUI and 10BASE-T connectors. With an optional PC Compatibility Card, you can connect both the card and Power Macintosh to a network simultaneously.

Today, more and more computer users are discovering the wealth of information, and communications resources, and opportunities offered by the Internet. The Power Macintosh 7200/120 makes it easy to get involved in this rapidly expanding community, because it comes with all of the software you need for easy Internet access.

So whether you need power and expandability for everyday number crunching, office productivity, or an innovative multimedia project--or want a fast, easy way to get started with the Internet--the Apple Power Macintosh 7200/120 offers the features you need at an affordable price.

Features
==========

High performance
---
* 120-MHz PowerPC 601 processor
* Built-in floating-point processor and 32K cache
* 256K level 2 cache (standard on some configurations)
* Built-in graphics acceleration

Communications and multimedia
---
* Two high-speed serial ports compatible with GeoPort and LocalTalk cables
* Quadruple-speed or 8x-speed CD-ROM drive, depending on configuration
* 16-bit stereo audio input and output

Expandability
---
* Three industry-standard PCI expansion slots
* SCSI connector for hard disks, CD-ROM drives, and other SCSI devices
* Internal expansion bay for additional storage device
* Up to 256 MB of RAM
* Up to 4 MB of VRAM

Compatibility
---
* Includes 10BASE-T and AAUI Ethernet connectors
* Supports Open Transport networking software (TCP/IP and AppleTalk)
* Runs most 680x0 Macintosh applications as well as applications accelerated for Power Macintosh computers
* Reads Mac OS, Windows, MS-DOS, OS/2, and ProDOS floppy disk formats
* Runs MS-DOS and Windows applications via optional PC Compatibility Cards
* Comes with all of the software required for Internet access

System 7.5 software
---
* Makes working with different applications consistent, so they're easier to learn and use
* Allows easy customization of your Macintosh to reflect the way you work

* Provides active assistance in learning new features with Apple Guide

Ordering Information
==========

Power Macintosh 7200/120

All configurations also include mouse; system software version 7.5.3 or later; Internet access software; complete setup, learning, and reference documentation; and limited warranty.

* Power Macintosh 7200/120 computer with 8 MB, a built-in 1.4MB Apple SuperDrive floppy disk drive, an internal 1.2 GB hard disk drive, and an internal quadruple-speed CD-ROM drive.
_ Order No. M4897LL/A

* Power Macintosh 7200/120 computer with 16 MB, a built-in 1.4MB Apple SuperDrive floppy disk drive, an internal 1.2 GB hard disk drive, 256K L2 Cache, and an internal quadruple-speed CD-ROM drive.
- Order No. M4628LL/A

* Power Macintosh 7200/120 computer with 16 MB of RAM, a built-in 1.4MB Apple SuperDrive floppy disk drive, an internal 1.2 GB hard disk drive, 256K L2 Cache, and an 8x-speed CD-ROM drive.
- Order No. M4628LL/B
NOTE: This configuration is available ONLY in the Higher Education channel.

PC Compatibility Card Solutions
---
* PC Compatibility Card with Pentium 100-MHz processor
- Order No. M4092LL/A

* PC Compatibility Card with 586 100-MHz processor
- Order No. M4091LL/A

Power Macintosh 7600 Logic Board Upgrade Kit*
---
* Order No. M3842LL/A
* Power Macintosh 7600 logic board with video-input capabilities
* Accessory kit with documentation and a CD-ROM containing system software version 7.5.3

* Requires processor purchase (see Processor Upgrade Card information)

Power Macintosh Processor Upgrade Card
---
* Order No. M4731LL/A (120 MHz)
* Order No. M4875LL/A (132 MHz)

Power Macintosh GeoPort Telecom Adapter
---
* Order No. M3127LL/C

Apple QuickDraw 3D Accelerator Card
---
* Order No. M4333LL/A

Part numbers mentioned in this article are accurate as of this writing. Before ordering, verify that they are still correct as they are subject to change.

Article Change History:
12 Jul 1996 - Added additional configuration.
19 Apr 1996 - Updated information.

Published Date: Feb 18, 2012

Advanced Business Accountant: List of Available Reports

This article gives a list of reports available from Advanced Business Accountant.
This article has been archived and is no longer updated by Apple.

General Ledger:
Chart of Accounts
Accounts with budget data
Accounts with comparative data
Departments List
List of Recurring Journal Entries
Income Statement
Comparative Income Statement
Budget Variance Income Statement
Balance Sheet
Comparative Balance Sheet
Source and Use of Funds Statement
Trial Balance (detailed and summary)
Journal Detail Report
Account Detail Report

Accounts Payable:
Vendor List
Checks with detailed stubs
Check Register
Handcheck Register
Monthly Check Register
Accounts Payable Detail Report
Aging Report (detailed and summary)
Open Invoice Report
Monthly Purchases Journal
Cash Flow Report based on due date
Cash Flow Report based on discount date
Cash Requirements Report
Reconciliation Worksheet
Payment Selection Report
Discount Analysis Report
Flash Report

Accounts Receivable:
Customer List
Sales Representative List
Customer Statement
Invoice
Debit and Credit Memos
Finance Charge Calculation Report
Accounts Receivable Detail Report
Aging Report (detailed and summary)
Monthly Invoice Register
Monthly Cash Receipts Register
Monthly Adjustments Register
Cash Flow Report
Open Invoice Report
Credit LImit Report
Delinquent Accounts Report
Customer Worksheet
Sales Analysis by Customer
Sales Analysis by Sales Rep
Flash Report

Inventory Control:
Parts List
Purchase Order
Physical Inventory Worksheet
Physical Inventory Analysis

Stock Status Report
YTD Summary Report
On Hand Detail Report
Inventory Margin Analysis Report
ABC Analysis Report
Transaction Register
Financial Summary
Order Recommendations Report
Low Stock Report
Overstock Report
On Order Report
Surplus on Order Report
Flash Report

Payroll:
Employee Master List
Employee Address List
Employee Phone List
Employee Earnings Summary
Employee Compensation History
Overtime Report
Vacation and Sick Pay Report
Company Totals Report
Current Balance Report
Posting Report
Commission List
Deduction List
Job Code List
Standard Rates List
QTD and YTD Commission Report
QTD and YTD Deduction Report
QTD and YTD Job Code Report
Time Card Entries List
Standard Time Card Entries List
Payroll Register
Paycheck and check stub
Check Register
Handcheck Register
Voided Check Register
Commission Period Activity Report
Deduction Period Activity Report
Job Code Period Activity Report
Vacation, Sick Pay Period Activity Report
Overtime Period Activity Report
Hours Exception Report
W-2 forms and W-3 Report
940 and 941 reports
Tax Tables
State Abbreviation List
Flash Report
Verify Initial Payroll Balances Report

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

The Tech Info Library article#17159: "**Locating Vendor Information**", can help you search for a particular vendor's address and phone number.
Published Date: Feb 18, 2012

Apple Internet Router 3.0.1 and System 7.5.3 Issue (4/96)

This article describes an issue which appeared after installing the System 7.5 Update 2.0 on a Macintosh computer running the Apple Internet Router (AIR) v3.0.1 software.
This article has been archived and is no longer updated by Apple.
We found the SNMP (Simple Network Management Protocol) component, contained in the Network Management package of the AIR v3.0.1 installer, was causing the issue.

Here is a workaround you can use. As long as you follow the instructions below when installing AIR v3.0.1, it should make no difference if AIR v3.0.1 is installed before or after System 7.5 Update 2.0.

* When installing AIR 3.0.1 always choose Custom install, and only select Basic Connectivity and Half Routing if you need Half Routing.

* During the AIR v3.0.1 installation, you will be asked if you want to replace the Network control panel with the older version in the installer. Choose to keep the newer version of the Network control panel.

NOTE: If you performed an Easy Installation of AIR v3.0.1 after installing System 7.5 Update 2.0, you will need to preform a clean installation of system software to 7.5.3 (clean install System 7.5, then install System 7.5 Update 2.0). This is due to system software being modified during an Easy Install of AIR v3.0.1. Once a clean installation of system software is complete, follow the workaround instructions above.

Article Change History:
15 Apr 1996 - Added note section.

Published Date: Feb 18, 2012

System 7.5 Update 2.0: Installer May Not Use All Disks (4/96)

While going through the installation procedure for System 7.5 Update 2.0, I noticed that not every disk was required. However, it seems to have installed everything. Why didn't I need all of the disks?

This article has been archived and is no longer updated by Apple.

The System 7.5 Update 2.0 installer may not use all of the disks during installation. This is a normal behavior of the installer, and which disks are used depends on the type of computer and software you have pre-installed and whether you do an Easy or Custom Install.

This article was published in the Information Alley on 9 April 1996.

Article Change History:
09 Apr 1996 - Added keyword.
Published Date: Feb 18, 2012

Macintosh Computers: Excessive Disk Activity at Startup

Following a system freeze, why does my Macintosh computer take so long to reach the "Welcome to Macintosh" screen in the startup process?
This article has been archived and is no longer updated by Apple.
In general, the startup process will likely take longer on Macintosh computers with a lot of RAM and hard drive storage space. At startup, both the memory and the integrity of the hard drives are checked. The memory check validates and determines how much memory is present. So, a computer with 256 MB of memory will take somewhat longer to startup than a 16 MB computer. Additionally, the status of the "file system dirty" flag is checked to determine the integrity of the hard drives.

The "file system dirty" flag is set in the file system disk structures when a disk or partition is opened and mounted. This flag indicates that some active disk structures are RAM resident, that files open for output are present, and that data needs to be flushed to the drive when the volume is closed and dismounted. In the normal shutdown process, the Finder flushes all RAM-resident disk structures to the disk, closes and dismounts the volume, and resets the "file system dirty" flag.

The major difference between a normal and abnormal restart (after a system freeze) is the validation of the integrity of the disk file system. If this flag has not been reset, then it is assumed that a proper close and dismount by the Finder did not occur. The state of the file system data structures are in doubt because there may have been open files for output when the crash occurred. At this point, the drive is checked to ensure the integrity of the disk file structures. This process takes longer if you have a larger hard drive and/or have a lot of files on the hard drive. The normal startup process is faster because the volume integrity is assured and no recovery checking is necessary.

All SCSI drives attached to the computer are checked in this manner. For the startup volume, this process happens before "Welcome to Macintosh". For the other volumes, this process happens as the Finder launches. Thus, you are likely to see a further delay, accompanied by intensive disk activity, as the Finder launches.

So, to avoid losing or corrupting files, Apple recommends that you shut down the computer by selecting Shut Down from the Special or Apple menus.

This article was published in the Information Alley on 5 April 1996.
Published Date: Feb 18, 2012

CLW 12/600 PS: Supported Paper Sizes & Margins

This article provides the supported paper sizes and imageable areas of the Color LaserWriter 12/600 PS and Color LaserWriter 12/660 PS printers.
This article has been archived and is no longer updated by Apple.
The Color LaserWriter supports printing on US Letter, Legal, A4, and B5 paper sizes. The US version of the Color LaserWriter ships with a 250-sheet US Letter cassette. Legal, A4, and B5 paper sizes can be fed using the included 100 sheet capacity multi-purpose tray. An optional 250-sheet universal cassette tray (M3874G/A) that supports US Letter, Legal, A4, and B5 can be purchased separately. The optional 250-sheet stackable feeder (M3762G/A) includes the universal cassette tray. Full bleed and tabloid printing are not supported by the Color LaserWriter 12/600 PS printer.

The following tables lists the supported paper sizes and their imageable areas when using the LaserWriter 8.3.x drivers. Other paper sizes are not supported due to the design characteristics of the print engine. All of the values are listed in inches.

Paper Size	Standard Imageable Area		Standard Margins			
	Width	Height	Top	Bottom	Left	Right
Letter	7.67	10.14	.43	.43	.43	.40
Legal	6.72	12.50	.75	.75	.89	.89
A4	7.47	10.84	.42	.43	.40	.39
B5	6.79	9.62	.32	.19	.19	.19

Paper Size	Maximum Imageable Area		Maximum Margins			
	Width	Height	Top	Bottom	Left	Right
Letter	8.32	10.49	.32	.19	.19	.19
Legal	8.32	13.49	.32	.19	.19	.19
A4	7.89	11.18	.32	.19	.19	.19
B5	NA	NA	NA	NA	NA	NA

Note: Maximum image size will vary depending upon the driver and printer in use. To check maximum imageable area for a particular configuration, open Page Setup and click on the image of the dog.
Published Date: Feb 18, 2012

Apple Media Tool: Programming Environment Corrections

I purchased the Apple Media Tool Programming Environment (AMTPE), and cannot install the product on my hard disk properly. I am following the installation instructions included with the product, but they are somewhat confusing.
This article has been archived and is no longer updated by Apple.
There are a couple of things you need to do that the installation instructions do not cover.

Step 1

Drag the Folder called MPW from the CD-ROM to your hard disk.

On page 2-2 of Getting Started the manual tells you to drag the folder called MPW for AMTPE from the CD-ROM to your Macintosh. However, the folder is named MPW on the CD-ROM, not MPW for AMTPE.

Step 2

Drag the Contents of AMTPE Mac from the CD-ROM to your hard disk.

The folders Key, and Standard and Minimal Engines are in the AMTPE Mac folder. These folders are required later in the installation process.

Step 3 - Power Macintosh Users Only

If you are using a Power Macintosh computer, you need to drag the StdCLibInit from the System Folder Additions folder to your Macintosh System Folder, then restart your computer.

This step is missing from the original documentation.

Manual Error

On page 2-4 under Initializing Your AMTPE Tools, step 3 should say click the Directory button, not click the Select Current Directory button.

Once you get everything right in the MPW folder then it works properly.

This article was published in the Information Alley on 29 March 1996.
Published Date: Feb 18, 2012

System 7.5 Update 2.0: Universal System Folder

This article contains questions about creating and using the Universal System Folder in System 7.5.3.

Questions Answered in this Article:
==========

1) Why would I want to create a universal System Folder?

2) How can I create a universal System Folder using the installer included with System 7.5 Update 2.0?

3) How much space does the universal System Folder require on a volume? I attempted to install it on a 44 MB removable cartridge, but I didn't have enough room.

4) I created a universal System Folder and tried to startup my computer. However, it is locking up as the extensions load at startup. What's going on?

5) Why can't I create a universal System Folder using System 7.5.1 or System 7.5.2?

6) I noticed that the Power Macintosh 5400/120 computer includes System 7.5.3 Revision 2. Can I install and use the Universal System Folder on this computer?
This article has been archived and is no longer updated by Apple.
1) Question: Why would I want to create a universal System Folder?

Answer: Only some users need a universal System Folder. You might want to create a universal System Folder if you

* start up different Macintosh models using removable media
* want to simplify support of multiple users by giving all users the same System Folder
* prefer to start up computers using an external startup disk

If you are responsible for only one computer, you shouldn't need to create a universal System Folder.

2) Question: How can I create a universal System Folder using the installer included with System 7.5 Update 2.0?

Answer: To create a universal System Folder, you must start with System 7.5. The procedure will not work if you start with System 7.5.1 or 7.5.2. (You cannot install System 7.5 on a computer that requires 7.5.2 or greater.)

These steps assume you're not installing the software on your startup drive. A universal System Folder can be created on your startup drive, but you'll be forced to restart after each installation. By installing onto another drive, you can avoid several restarts.

Step 1

Open the System 7.5 Installer (the Installer for version 7.5.0 of the system software).

Step 2

When you see the Installer's welcome screen, click Continue.

Step 3

Choose Custom Install from the pop-up menu in the upper-left corner of the dialog box.

Step 4

Click Switch Disk until the name of the desired destination disk appears.

Step 5

Click the triangle on the left side of the first item in the list.

Step 6

Click the box next to "System for any Macintosh" to put an "X" in it.

Step 7

In the list, click the triangle to the left of Utility Software, then click the box next to AppleScript to put an "X" in it.

If you are creating the universal System Folder on a disk that did not already have a System Folder on it, skip step 8.

Step 8

If you are creating the universal System Folder on a disk with a System Folder on it, hold down the Command and Shift keys while pressing the K key. Click to select the button labeled Install New System Folder and then click OK.

Step 9

Click Clean Install (or Install, if you skipped step 8) and wait for the installation to finish (inserting disks as needed).

If the destination disk had a System Folder on it, the contents of your old System Folder have been moved to a new folder titled Previous System Folder.

Step 10

Insert the System 7.5 Update 2.0 CD or the first update floppy, disk and open the System 7.5 Update Installer.

Step 11

When you see the Installer's welcome screen, click Continue.

Step 12

Choose Custom Install from the pop-up menu in the upper-left corner of the dialog box.

Step 13

Click Switch Disk until the name of the desired destination disk appears.

Step 14

Click the Universal Update box to put an "X" in it.

If you don't see this option, make sure that you've done the previous steps correctly.

Step 15

Click the Install button and wait for the installation to finish (inserting disks as needed).

3) Question: How much space does the universal System Folder require on a volume? I attempted to install it on a 44 MB removable cartridge, but I didn't have enough room.

Answer: On a 44 MB volume, the universal System Folder will take approximately 36.3 MB. So, you should be able to install it successfully. It is possible that you selected "System for any Macintosh" and then selected all the other options in the Custom Install window. This may seem logical, but it is not necessary. Be sure to carefully follow the directions for creating the universal System Folder.

4) Question: I created a universal System Folder and tried to start up my computer. However, it is locking up as the extensions load at startup. What's going on?

Answer: The universal System Folder may include items which are not needed for a particular Macintosh computer. These additional items should be inert and have no effect. However, it is possible that you may need to start up with the Space Bar down (to open the Extensions Manager control panel) and disable unused extensions and control panels.

5) Question: Why can't I create a universal System Folder using System 7.5.1 or System 7.5.2?

Answer: To create a universal System Folder, the System 7.5 Update 2.0 installer simply updates an already existing universal System Folder.

However, the only previous installer capable of creating a universal System Folder was the System 7.5 installer. Because System 7.5.1 and System 7.5.2 installers are incapable of making a universal System Folder, you must start with a System 7.5 universal System Folder.

6) Question: I know that the Power Macintosh 5400/120 came out after System 7.5 Update 2.0, but I was wondering if I could install and use the Universal System Folder on this computer?

Answer: No, you cannot use the Universal System Folder with the Power Macintosh 5400/120 computer. The Power Macintosh 5400 computer uses a version of the system software that is newer than System 7.5.3 created with System Update 2.0. Additionally, this computer cannot use System 7.5, which is required to make the Universal System Folder (as explained in Question 6).

Published Date: Feb 18, 2012

System 7.5 Update 2.0: AppleVision Software Version (6/97)

I have an AppleVision display, I am confused over which version of the AppleVision software I should be using since I installed the System 7.5 Update 2.0 software.
This article has been archived and is no longer updated by Apple.
If you use AppleVision software, use version 1.0.2 or later. Earlier versions of AppleVision are not compatible with System 7.5 Update 2.0.

If you have a 1710AV or 1710 monitor and a PCI-based computer, use AppleVision 1.0.4 and the Monitors & Sound control panel.

If you have a 1710AV or 1710 monitor and a non-PCI-based computer, use AppleVision 1.0.2, the Sound control panel, and the Monitors control panel.

These articles can help you locate the software update mentioned here:

* "Where To Find Apple Software Updates" - Lists online services for free Apple software updates.

* "Obtaining Apple Product Support in the USA" - Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech Info Library.

This article was published in the Information Alley on 29 March 1996.
Published Date: Feb 18, 2012

PowerShare and Open Transport 1.1 Incompatible (3/96)

This article describes an incompatibility issue between Open Transport 1.1 and PowerShare.
This article has been archived and is no longer updated by Apple.
There is an incompatibility between PowerShare and Open Transport 1.1. It has to do with making synchronous versus asynchronous calls, and it is an issue with PowerShare. It is a periodic bug -- things might work for a while but inevitably, the system will hang. Also, there is not an easy fix. The code that makes the Open Transport incompatible calls is spread throughout PowerShare.

In short, PowerShare and Open Transport are not compatible. Apple has identified the problem, however, there is no known date when a fix will be available.

This article was published in the Information Alley on 1 Apr 1996.

Published Date: Feb 18, 2012

PowerShare and System 7.5.3 Incompatible (3/96)

Is PowerShare compatible with System 7.5.3?
This article has been archived and is no longer updated by Apple.
PowerShare has not been tested and is not supported with System 7.5.3. In addition, there are known incompatibilities between PowerShare and Open Transport 1.1. Also, there are no benefits to be gained by running a PowerShare server with System 7.5.3.

Therefore Apple strongly recommends that you do not update a PowerShare server to System 7.5.3 with the System 7.5 Update 2.0.

This article was published in the Information Alley on 1 Apr 1996.

Published Date: Feb 18, 2012

AppleShare Print Server: GeoPort Software Issue

AppleShare 4.0.2 Print Server appears to have a software conflict with the GeoPort Express Modem software. When I try to capture a LaserWriter printer from my Workgroup Server 8150 with the Express Modem control panel active I get the message, "Having difficulties connecting to the printer."

Is this a known issue? Is there a known workaround?
This article has been archived and is no longer updated by Apple.
This is a known issue, and it has been reported to Apple Engineering. The issue was found to be with the AppleShare Print Server software. A fix for this issue may be in future versions of Print Server software, however, there is no known date when this fix may appear.

You have to choose between having the server run Apple Telecom software or AppleShare Print Server software.
Published Date: Feb 18, 2012

Power Macintosh 7200 PC Compatible: Specifications (10/96)

This article contains the techncial specifications for the Power Macintosh 7200/120 PC Compatible computer.

This article has been archived and is no longer updated by Apple.

Microprocessors & RAM
==========

Power Macintosh
---
* 120-MHz PowerPC 601 with integrated floating-point unit and 256K
level 2 cache
* 8 MB or 16 MB of RAM (depending on configuration), expandable to 256 MB via
three DIMM expansion slots (total of 4 DIMM slots)

PC Compatibility Cards
---
* Pentium 100-MHz with integrated floating-point unit and 256K level 2 cache
* 8 MB of RAM, expandable to 72 MB on Pentium (8 MB on board, one free
DIMM slot)

- or -

* 586 Processor 100-MHz with integrated floating-point unit and 128K
level 2 cache
* 64 MB on 586 PC Compatibility Card (has one DIMM slot which comes with
one 8 MB DIMM installed)

Disk drives
==========
* Built-in 1.4MB Apple SuperDrive floppy disk drive
- Accepts high-density floppy disks
- Reads, writes, and formats Mac OS, Windows, and MS-DOS floppy disks
- Supports Distributed Media Format (DMF) for floppy disks
* Internal 1.2 GB hard disk
* Internal AppleCD 600i quadruple-speed CD-ROM drive or 8x-speed (depending on configuration)
* Expansion bay for additional 3.5-inch hard disk or other peripheral

Video support
==========
* Features built-in support for one or two displays
* Works with all current Apple displays as well as most third-party VGA
and SVGA displays (third-party displays may require separate cable adapter)
* 1 MB VRAM, expandable to 4 MB (for Mac OS)
* 1 MB DRAM (for MS-DOS and Windows)
* Display Resolution with 1 MB Video DRAM:

640x480 16.7 million colors
800x600 65,536 colors
1024x768 256 colors

Interfaces
==========
* Three PCI expansion slots (one dedicated to PC Compatibility Card)
compatible with PCI 2.0-compliant cards for Mac OS (Note: These slots
are not NuBus compatible.)
* Internal/external SCSI bus for connecting up to six external devices
* Apple Desktop Bus (ADB) port for a keyboard, mouse, and other devices
* 10Base-T and AAUI-15 Ethernet connectors
* Two PC-compatible serial ports routed under software control to text file
or to Macintosh RS-422 serial ports
* Serial port for AppleTalk networking (for Mac OS)

* PC game port (DOS and Windows environments)

Networking
==========

* Support for Novell NetWare SPX/IPX, TCP/IP, and NETBEUI protocols in MS-DOS and Windows environments using the built-in Ethernet connector and ODI and NDIS 2.0 drivers (network client software not included)

Sound
=====

* Custom sound circuitry, including stereo generator (digital-to-analog converter, or DAC)-capable of driving stereo miniplug headphones or audio equipment-and stereo sampling hardware (analog-to-digital converter, or ADC) for recording stereo sound
* 16-bit stereo input and output
* Sample rates of 44.1 and 22.05 kilohertz (kHz)
* Input line level: 2 volts peak-to-peak nominal, into 6.5-Kilohm (k¢) impedance
* Output line level: 2.2 volts peak-to-peak nominal, into 1 k¢ impedance
* Input through output SNR*: >74 decibels (dB) typical
* Bandwidth: 10 Hz-19 kHz (+/- 2 dB) at 44.100 kHz sample rate
* THD+N*: Less than 0.06%; measured 30 Hz-16 kHz with a 2-Vpp sine wave input
* Mini jacks for stereo audio input and output with 16-bit audio
* Sound Blaster-16-compatible support (for DOS and Windows environment)
* Built-in speaker

*SNR is signal-to-noise ratio; THD+N is total harmonic distortion plus noise.

Keyboard and mouse
==========

* Supports ADB keyboards with numeric keypads
* Includes ADB Mouse II

Clock/calendar
==========

* Custom integrated circuit with long-life battery

Disability access
==========

* CloseView, Easy Access, and ability to substitute visual cue for beep included with Mac OS. These built-in solutions and third-party options provide alternative input and output solutions for people with disabilities.

Electrical requirements
==========

* Line voltage: 100 to 240 V AC, RMS single phase, automatically configured
* Frequency: 50 to 60 Hz, single phase
* Power: 210 W maximum, not including monitor power

ADB power requirements
==========

* Maximum current draw for all ADB devices: 500 mA
(a maximum of three ADB devices is recommended)
* Mouse draws 10 mA
* Keyboard draws 25 to 80 mA (varies with keyboard used)

Size and weight
==========

* Height: 6.2 in. (15.6 cm)
* Width: 14.4 in. (36.5 cm)
* Depth: 16.9 in. (43.0 cm)
* Weight: 22 lb. (9.97 kg) (varies based on internal devices installed)

Environmental requirements
==========

* Operating temperature: 50í to 104í F (10í to 40í C)
* Storage temperature: -40í to 116í F (-40í to 47í C)
* Relative humidity: 5% to 95% noncondensing
* Maximum altitude: 10,000 ft. (3,048 m)

Article Change History:
28 Oct 1996 - Corrected info.
22 Oct 1996 - Added additional configuration options.
01 Aug 1996 - Added sound info.

Published Date: Feb 18, 2012

Power Macintosh 7600 Series: Technical Specifications (10/96)

This article contains the technical specifications for the Power Macintosh 7600 series computers.

This article has been archived and is no longer updated by Apple.

Upgradable microprocessor
==========

* PowerPC 604 microprocessor running at 120 or 132 MHz, upgradeable to a higher-speed processor when available (up to 250 MHz)
* Integrated floating-point unit and 32K cache
* High-speed system bus (up to 50 MHz)

Memory
======

* 16 MB of RAM, expandable to 512 MB via 8 DIMM sockets
* 4 MB of ROM
* 256K level 2 cache

Disk drives
==========

* Internal 1.2GB SCSI hard disk
* Internal Apple SuperDrive floppy disk drive
-- Accepts high-density 1.4MB disks and 800K disks
-- Reads, writes, and formats Macintosh, Windows, MS-DOS, OS/2, and ProDOS disks
* Internal quadruple-speed or 8x-speed CD-ROM drive, depending on configuration
* Expansion bay for additional 3.5-inch hard disk

Interfaces
==========

* Three PCI expansion slots compatible with PCI 2.0-compliant cards
* Two high-speed DMA serial (RS-232/RS-422) ports compatible with LocalTalk and GeoPort cables
* 10BASE-T and AAUI-15 Ethernet connectors; optional PC Compatibility Cards provide multinode support for simultaneous network connections
* Internal Fast SCSI bus (up to 10 MB/s)
* External SCSI bus (up to 5 MB/s)
* Apple Desktop Bus (ADB) expansion port
* RCA phono jacks for line-level stereo audio input and output
* Mini jacks for stereo audio input and output
* All sound ports support 16-bit audio and up to 44.1-kHz sampling rate
* DB-15 connector for monitor
* Composite connectors (RCA phono jacks) for composite video input
* S-video input connector
* Internal digital audio/video (DAV) connector for video compression/decompression cards

Video Input
==========

* 24-bit video input
* Real-time video playthrough of up to 640 by 480 pixels with NTSC; 768x576 pixels with PAL and SECAM
* Up to 320x240-pixel capture up to 15 frames per second with NTSC
* Maximum capture size of 640x480 pixels with NTSC

Audio System
---

* Custom sound circuitry, including stereo generator (digital-to-analog converter, or DAC)-capable of driving stereo miniplug headphones or audio equipment-and stereo sampling hardware (analog-to-digital converter, or ADC) for recording stereo sound
* 16-bit stereo input and output
* Sample rates of 44.1 and 22.05 kilohertz (kHz)
* Input line level: 2 volts peak-to-peak nominal, into 6.5-Kilohm (k¢) impedance
* Output line level: 2.2 volts peak-to-peak nominal, into 1 k¢ impedance
* Input through output SNR**: >74 decibels (dB) typical
* Bandwidth: 10 Hz-19 kHz (+/- 2 dB) at 44.100 kHz sample rate

* THD+N**: Less than 0.06%; measured 30 Hz-16 kHz with a 2-Vpp sine wave input
**SNR is signal-to-noise ratio; THD+N is total harmonic distortion plus noise.

Graphics support
==========

* 2 MB of VRAM, expandable to 4 MB
* Fast 64-bit data path to VRAM
* Support for display resolutions of up to 1,280x1,024 pixels
* 24-bit color up to 1,152x870-pixel resolution
* Refresh rate of up to 75 Hz

GeoPort telephony (Requires GeoPort Telecom Adapter)
==========

* 14.4-Kbit/s modem support
* V.17 fax support
* GeoPort Fax and GeoPort Telephony software included
* Speakerphone and answering-machine capability

Clock/calendar
==========

* Custom integrated circuit with long-life battery

Keyboard and mouse
==========

* Supports ADB keyboards with numeric keypads
* Comes with an ADB Mouse II

Electrical requirements and compliance
==========

* Line voltage: 100 to 240 V AC, RMS single phase
* Frequency: 50 to 60 Hz, single phase
* Power: 150 W maximum, not including display

ADB power requirements
==========

* Maximum current draw for all devices: 500 mA (a maximum of three ADB devices is recommended)
* Mouse draws 10 mA
* Keyboard draws 25 to 80 mA (varies with keyboard used)

Size and weight
==========

* Height: 6.15 in. (15.6 cm)
* Width: 14.37 in. (36.5 cm)
* Depth: 16.93 in. (43.0 cm)
* Weight: 22 lb. (9.97 kg)

Environmental requirements
==========

* Operating temperature: 50 to 104 degrees F (10 to 40 degrees C)
* Storage temperature: -40 to 116 degrees F (-40 to 47 degrees C)
* Relative humidity: 5% to 95% noncondensing
* Maximum altitude: 10,000 ft. (3,048 m)

Article Change History:
15 Oct 1996 - Added additional processor speed.
19 Sep 1996 - Updated processor card support speed.
17 Sep 1996 - Updated information.

Published Date: Feb 18, 2012

Power Macintosh 8500/132 & 8500/150: Description (9/96)

This article contains a description of the Power Macintosh 8500/132 and 8500/150 series computers.

IMPORTANT: Another article in the Tech Info Library title, "Power Macintosh 8500/150 & 8500/180: Description" contains information about the latest 8500/150 configuration.
This article has been archived and is no longer updated by Apple.
If your profession demands a high-performance, expandable computer that can handle any media as easily as text, opt for a Power Macintosh 8500 series system. Depending on your current budget and need for power, you can choose the Power Macintosh 8500/132 or the 8500/150, which feature a 132- or a 150-megahertz PowerPC 604 RISC processor, respectively. Both high-performance systems make an ideal choice for in-house publishing, media authoring, and technical applications--and because they're processor upgradable, they protect your investment for the future.

Built-in near-broadcast-quality video-input/output capabilities, high-resolution graphics, and CD-quality stereo sound add vitality to professional projects and--with Apple's QuickTime software--make media authoring easy.

You can also customize these computers easily to more precisely meet your needs, through their three industry-standard Peripheral Component Interconnect (PCI) expansion slots. You can find many PCI cards for a variety of uses, including video compression, video production, and high-speed networking. And if you want to use your Power Macintosh 8500 series computer to run MS-DOS and Windows applications as well as software written for the Macintosh, you can install an Apple PC Compatibility Card in one of the system's PCI slots--and switch instantly between the two computing environments.

Connecting your Power Macintosh 8500/132 or 8500/150 computer to an Ethernet network is easy, because it includes both AAUI and 10BASE-T connectors. With an optional PC Compatibility Card, you can connect both the card and Power Macintosh to a network simultaneously.

Today, more and more computer users are discovering the wealth of information and communications resources and opportunities offered by the Internet. Power Macintosh 8500 systems make it easy to get involved in this rapidly expanding community, because they come with all of the software you need for easy Internet access.

The Power Macintosh 8500/132 and 8500/150: exceptional performance for handling any media as easily as text to enhance your creativity.

Features
==========

High performance
---
* 132- or 150-MHz PowerPC 604 processor, user-upgradable to a faster processor when available (up to 250 MHz)
* Built-in floating-point processor and 32K cache
* 256K level 2 cache
* Built-in graphics acceleration

Communications and multimedia
---
* 64-bit VRAM graphics subsystem
* Two high-speed serial ports compatible with GeoPort and LocalTalk cables
* Quadruple-speed CD-ROM drive.
* 16-bit stereo audio input and output
* 24-bit composite and S-video input and output
* Support for speech-recognition and text-to-speech capabilities
* Optimized for QuickTime Conferencing software

Expandability
---
* Three industry-standard PCI expansion slots
* SCSI connector for hard disks, CD-ROM drives, and other SCSI devices
* Internal expansion bay for additional hard disk drive

Compatibility
---
* Includes 10BASE-T and AAUI Ethernet connectors
* Supports Open Transport networking software (TCP/IP and AppleTalk)
* Runs 680x0 Macintosh applications as well as applications accelerated for Power Macintosh computers
* Reads Mac OS, Windows, MS-DOS, OS/2, and ProDOS floppy disk formats

* Runs MS-DOS and Windows applications via optional PC Compatibility Cards
* Comes with all of the software required for Internet access

System 7.5 software
---
* Makes working with different applications consistent, so they're easier to learn and use
* Allows easy customization of your Macintosh to reflect the way you work
* Provides active assistance in learning new features with Apple Guide

Ordering Information
==========

All configurations include mouse; system software version 7.5.3 or later; Internet access software; complete setup, learning, and reference documentation; and limited warranty.

Power Macintosh 8500/132

Power Macintosh 8500/132 computer with 16 MB of RAM, a built-in 1.4 MB Apple SuperDrive floppy disk drive, an internal 1.2 GB hard disk drive, an internal quadruple-speed CD-ROM drive, and a PlainTalk microphone
* Order No. M4889LL/A

Power Macintosh 8500/150

Power Macintosh 8500/150 computer with 16 MB of RAM, a built-in 1.4 MB Apple SuperDrive floppy disk drive, an internal 2 GB hard disk drive, an internal quadruple-speed CD-ROM drive, and a PlainTalk microphone
* Order No. M4890LL/A

PC Compatibility Card Solutions
---
* Order No. M4092LL/A
- PC Compatibility Card with Pentium 100-MHz processor
* Order No. M4091LL/A
- PC Compatibility Card with 586 100-MHz processor

Power Macintosh GeoPort Telecom Adapter
---
* Order No. M3127LL/C

Apple QuickDraw 3D Accelerator Card
---
* Order No. M4333LL/A

Part numbers mentioned in this article are accurate as of this writing. Before ordering, verify that they are still correct as they are subject to change.

Article Change History:
19 Sep 1996 - Added info about other 8500/150 article.
12 Jul 1996 - Updated information.
19 Apr 1996 - Updated information.

Published Date: Feb 18, 2012

Power Macintosh 8500/132 & 8500/150: Specifications (9/96)

This article contains the technical specifications of the Power Macintosh 8500/132 and 8500/150 series computers.

IMPORTANT: Another article in the Tech Info Library title, "Power Macintosh 8500/150 & 8500/180: Specifications" contains information about the latest 8500/150 configuration.
This article has been archived and is no longer updated by Apple.

Upgradable microprocessor
==========

* PowerPC 604 microprocessor running at 132 MHz or 150 MHz, upgradable to a higher-speed processor when available (up to 250 MHz)
* Integrated floating-point unit, 32K cache, and three integer units
* High-speed system bus (up to 50 MHz)

Memory
======

* 16 MB of RAM, expandable to 512 MB via 8 DIMM sockets
* 4 MB of ROM
* 256K level 2 cache

Disk drives
==========

* Internal 1.2 GB or 2 GB high-performance SCSI hard disk
* Internal Apple SuperDrive floppy disk drive
- Accepts high-density 1.4 MB disks and 800K disks
- Reads, writes, and formats Macintosh, Windows, MS-DOS, OS/2, and ProDOS disks
* Internal quadruple-speed
* Expansion bay for additional 3.5-inch hard disk

Interfaces
==========

* Three PCI expansion slots compatible with PCI 2.0-compliant cards
* Two high-speed DMA serial (RS-232/RS-422) ports compatible with LocalTalk and GeoPort cables
* 10BASE-T and AAUI-15 Ethernet connectors; optional PC Compatibility Cards provide multinode support for simultaneous network connections
* Internal Fast SCSI bus (up to 10 MB/s)
* External SCSI bus (up to 5 MB/s)
* Apple Desktop Bus (ADB) expansion port
* RCA phono jacks for line-level stereo audio input and output
* Mini jacks for stereo audio input and output
* All sound ports support 16-bit audio and up to 44.1-kHz sampling rate
* DB-15 connector for monitor
* Composite connectors (RCA phono jacks) for composite video input and output
* S-video input and output connectors
* Internal digital audio/video (DAV) connector for video compression/decompression cards

Video input/output subsystem
==========

* 24-bit video input
- Real-time video playthrough of up to 640x480 pixels with NTSC; 768x576 pixels with PAL and SECAM
- Up to 320x240-pixel capture up to 25 frames per second with NTSC (with 2 GB drive)
- Maximum capture size of 640x480 pixels
with NTSC
* 24-bit video output
- Support for NTSC and PAL
- Convolution for flicker reduction at all bit depths

Graphics support
==========

* 2 MB of VRAM, expandable to 4 MB
* Fast 64-bit data path to VRAM
* Support for display resolutions of up to 1,280x1,024 pixels
* 24-bit color up to 1,152x870-pixel resolution
* Refresh rate of up to 75 Hz

GeoPort telephony (Requires GeoPort Telecom Adapter)
==========

* 14.4-Kbit/s modem support
* V.17 fax support
* GeoPort Fax and GeoPort Telephony software included
* Speakerphone and answering-machine capability

Clock/calendar
==========

* Custom integrated circuit with long-life battery

Keyboard and mouse
==========

* Supports ADB keyboards with numeric keypads
* Comes with an ADB Mouse II

Electrical requirements and compliance
==========

* Line voltage: 100 to 240 V AC, RMS single phase, automatically configured
* Frequency: 50 to 60 Hz, single phase
* Power: 225 W maximum, not including display

ADB power requirements
==========

* Maximum current draw for all devices: 500 mA
(a maximum of three ADB devices is recommended)
* Mouse draws 10 mA
* Keyboard draws 25 to 80 mA (varies with keyboard used)

Size and weight
==========

* Height: 14 in. (35.6 cm)
* Width: 7.7 in. (19.6 cm)
* Depth: 15.75 in. (40.0 cm)
* Weight: 25 lb. (11.3 kg)

Environmental requirements
==========

* Operating temperature: 50í to 104í F (10í to 40í C)
* Storage temperature: -40í to 116í F (-40í to 47í C)
* Relative humidity: 5% to 95% noncondensing
* Maximum altitude: 10,000 ft. (3,048 m)

Article Change History:
19 Sep 1996 - Updated processor card support.
12 Jul 1996 - Added additional informatin.
19 Apr 1996 - Updated information

Published Date: Feb 18, 2012

Power Macintosh 9500/150: Description (9/96)

This article contains a description of the Power Macintosh 9500/150 computer.
This article has been archived and is no longer updated by Apple.
The Power Macintosh 9500/150 computer is the top of the line in speed, performance, expandability, and upgradability, which is tremendous news for publishers, engineers, and multi-media professionals. With a 150-megahertz PowerPC 604 processor, this system provides the power you need today--and because it's processor upgradable, it protects your investment while offering room to grow.

With six industry-standard Peripheral Component Interconnect (PCI) expansion slots, this is also the most customizable, expandable Macintosh computer ever. You can find many PCI cards for a variety of uses, such as videoconferencing, video production, and high-speed networking. And if you want to use your Power Macintosh 9500/150 to run MS-DOS and Windows applications as well as software written for the Macintosh, you can install an Apple PC Compatibility Card in one of the system's PCI slots--and switch instantly between the two computing environments.

With the accelerated graphics card installed--and most configurations include one--the Power Macintosh 9500/150 supports all Apple and most third-party displays, including monochrome, color, VGA, and SVGA displays. For example, you can use your system to view up to 16.7 million colors on Apple color displays of up to 17 inches, without any additional VRAM.*

Connecting your Power Macintosh 9500/150 computer to an Ethernet network is easy, because it includes both AAUI and 10BASE-T connectors. With an optional PC Compatibility Card, you can connect both the card and Power Macintosh to a network simultaneously.

Today, more and more computer users are discovering the wealth
of information, communications resources, and opportunities offered by the Internet. The Power Macintosh 9500/150 makes it easy to get involved in this rapidly expanding community, because it comes with all of the software you need for easy Internet access.

So whether you're involved in publishing, engineering, or multi-media--or simply want the most powerful, expandable Macintosh computer ever--the Power Macintosh 9500/150 is designed to meet your needs.

Features
==========

High performance
---
* 150-MHz PowerPC 604 processor, user-upgradable to faster processor when available (up to 250 MHz)
* Built-in floating-point processor and 32K cache
* 512K level 2 cache

Communications and multimedia
---
* Two high-speed serial ports compatible with GeoPort and LocalTalk cables
* Quadruple-speed CD-ROM drive
* 16-bit stereo audio input and output
* Support for speech-recognition and text-to-speech capabilities

Expandability
---
* 16 MB or 32 MB of RAM expandable to 768 MB
* 2 MB of VRAM expandable to 4 MB
* Six industry-standard PCI expansion slots
* Dual-channel SCSI connector for hard disks, CD-ROM drives, and other SCSI devices
* Two open internal expansion bays for addi-tional hard disk drives or other SCSI devices

Compatibility
---
* Includes 10BASE-T and AAUI Ethernet connectors
* Supports Open Transport networking software (TCP/IP and AppleTalk)
* Runs 680x0 Macintosh applications as well as applications accelerated for Power Macintosh computers
* Reads Mac OS, Windows, MS-DOS, OS/2, and ProDOS floppy disk formats
* Runs MS-DOS and Windows applications via optional PC Compatibility Cards
* Comes with all of the software required for Internet access

System 7.5 software
---
* Makes working with different applications consistent, so they're easier to learn and use
* Allows easy customization of your Macintosh to reflect the way you work

* Provides active assistance in learning new features with Apple Guide

Ordering Information
==========

Power Macintosh 9500/150
---
* Power Macintosh 9500/150 computer with 16 MB or 32 MB of RAM, a built-in 1.4 MB Apple SuperDrive floppy disk drive, an internal 2 GB hard disk drive, an internal quadruple-speed CD-ROM drive, and a PlainTalk microphone. Includes mouse; system software version 7.5.3 or later; Internet access software; complete setup, learning, and reference documentation; and limited warranty.

PC Compatibility Card Solutions
---
* Order No. M4092LL/A
- PC Compatibility Card with Pentium 100-MHz processor
* Order No. M4091LL/A
- PC Compatibility Card with 586 100-MHz processor

Power Macintosh GeoPort Telecom Adapter
---
* Order No. M3127LL/C

Apple QuickDraw 3D Accelerator Card
---
* Order No. M4333LL/A

Part numbers mentioned in this article are accurate as of this writing. Before ordering, verify that they are still correct as they are subject to change.

Article Change History:
19 Sep 1996 - Updated speed of processor card support.
19 Apr 1996 - Updated information.

Published Date: Feb 18, 2012

Power Macintosh 9500/150: Technical Specifications (9/96)

This article contains the technical specifications for the Power Macintosh 9500/150 computer.
This article has been archived and is no longer updated by Apple.

Upgradable microprocessor
==========

* PowerPC 604 microprocessor running at 150 MHz, upgradable to a higher-speed processor when available (up to 250 MHz)
* Integrated floating-point unit and 32K cache
* High-speed system bus (up to 50 MHz)

Memory
======

* 16 MB or 32 MB of RAM, expandable to 768 MB via 12 DIMM sockets
* 4 MB of ROM
* 512K level 2 cache

Disk drives
==========

* Internal 2 GB high-performance SCSI hard disk
* Internal Apple SuperDrive floppy disk drive
- Accepts high-density 1.4MB disks and 800K disks
- Reads, writes, and formats Macintosh, Windows, MS-DOS, OS/2, and ProDOS disks
* Internal AppleCD 600i quadruple-speed (4X) CD-ROM drive
* One open expansion bay for additional 3.5-inch hard disks

Interfaces
=========

* Six PCI expansion slots compatible with PCI 2.0-compliant cards
* Two high-speed DMA serial (RS-232/RS-422) ports compatible with LocalTalk and GeoPort cables
* 10BASE-T and AAUI-15 Ethernet connectors; optional PC Compatibility Cards provide multinode support for simultaneous network connections
* Internal Fast SCSI bus (up to 10 MB/s)
* External SCSI bus (up to 5 MB/s)
* Apple Desktop Bus (ADB) expansion port
* 16-bit stereo sound input and output ports
* DB-15 connector for monitor (on accelerated graphics card, if included)

Graphics support
==========

* 2 MB of VRAM, expandable to 4 MB
* Support for display resolutions of up to 1,280x1,024 pixels
* 24-bit color up to 1,152x870-pixel resolution
* Refresh rate of up to 75 Hz
* Third-party displays, including VGA and SVGA monitors

Clock/calendar
==========

* Custom integrated circuit with long-life battery

Keyboard and mouse
==========

* Supports ADB keyboards with numeric keypads
* Comes with an ADB Mouse II

Electrical requirements and compliance
==========

* Line voltage: 100 to 240 V AC, RMS single phase, automatically configured
* Frequency: 50 to 60 Hz, single phase
* Power: 225 W maximum, not including display

ADB power requirements
==========

* Maximum current draw for all ADB devices: 500 mA (a maximum of three ADB devices is recommended)
* Mouse draws 10 mA
* Keyboard draws 25 to 80 mA (varies with keyboard used)

Size and weight
==========

* Height: 16.9 in. (43.0 cm)
* Width: 7.7 in. (19.6 cm)
* Depth: 15.75 in. (40.0 cm)
* Weight: 28 lb. (12.7 kg)

Environmental requirements
* Operating temperature: 50í to 104í F (10í to 40í C)
* Storage temperature: -40í to 116í F (-40í to 47í C)
* Relative humidity: 5% to 95% noncondensing
* Maximum altitude: 10,000 ft. (3,048 m)

Article Change History:
19 Sep 1996 - Updated processor card support.
18 Jul 1996 - Changed number of open bays to one.
19 Apr 1996 - Updated information.

Published Date: Feb 18, 2012

BusinessWorks: List of Available Reports

This article list the reports available in BusinessWorks.
This article has been archived and is no longer updated by Apple.
General Ledger:
Chart of Accounts
List of Account Budgets
List of Previous Months' Account Balances
Departments List
List of Recurring Journal Entries
Income Statement
Comparative Income Statement
Budget Variance Income Statement
Balance Sheet
Comparative Balance Sheet
Source and Use of Funds Statement
Trial Balance (detailed and summary)
Journal Detail Report
Account Detail Report

Accounts Payable:
Vendor List
Checks with detailed stubs
Check Register
Handcheck Register
Monthly Check Register
Accounts Payable Detail Report
Aging Report (detailed and summary)
Open Invoice Report
Monthly Purchases Journal
Cash Flow Report based on due date
Cash Flow Report based on discount date
Cash Requirements Report
Reconciliation Worksheet
Payment Selection Report
Discount Analysis Report
1099 Worksheet
List of Recurring Invoices
Flash Report

Accounts Receivable:
Customer Master List
Customer Name List
List of Recurring Invoices
Sales Representative List
Invoice
Credit and Debit Memos
Customer Statements
Finance Charge Calculation Report
Accounts Receivable Detail Report
Aging Report (detailed and summary)
Monthly Invoice Register
Monthly Cash Receipts Register
Monthly Adjustments Register
Cash Flow Report
Open Invoice Report
Credit LImit Report
Open Credit Report
Delinquent Accounts Report
Customer Worksheet
Sales Analysis by Customer
Sales Analysis by Sales Rep
Flash Report

Inventory Control:
Master Parts List
Cost and Price Lists
Purchase Order
Physical Inventory Worksheet
Physical Inventory Analysis
Stock Status Report
On Hand Detail Report
Margin Analysis Report
ABC Analysis Report
Transaction Registers
Order Recommendations Report
Low Stock Report
Overstock Report
On Order Report
Open Purchase Order Report
Inventory Performance Report
Transaction Detail Report
Flash Report

Payroll:
Employee Master List
Employee Address List
Employee Phone List
Employee Earnings Summary
Employee Compensation History
Vacation and Sick Pay Report
Company Totals Report
Current Balance Report
Posting Report
Commission List
Deduction List
Job Code List
Standard Rates List
QTD and YTD Commission Report
QTD and YTD Deduction Report
QTD and YTD Job Code Report
Time Card Entries List
Standard Time Card Entries List
Payroll Register
Paycheck and check stub
Check Register
Handcheck Register
Voided Check Register
Overtime Report
Commission Period Activity Report
Deduction Period Activity Report
Job Code Period Activity Report
Vacation and Sick Pay Period Activity Report
Overtime Period Activity Report
Hours Exception Report
W-2 forms and W-3 Report
940 and 941 reports
Tax Tables
State Abbreviation List
State Tax Information Report
Verifiy Initial Balances Report
Flash Report

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

The Tech Info Library article#17159: "**Locating Vendor Information**", can help you search for a particular vendor's address and phone number.
Published Date: Feb 18, 2012

Color OneScanner 600/27: Terminator Is Not Required

This article provides Questions and Answers about SCSI termination on the Apple Color OneScanner 600/27.
This article has been archived and is no longer updated by Apple.
Question: Is a SCSI terminator required on the Apple Color OneScanner 600/27?
Answer: No. The Apple Color OneScanner 600/27 includes built-in SCSI termination, so external SCSI termination is not required. However, there is an option to turn SCSI termination off.

Question: How do I set the SCSI ID and termination on the Color OneScanner 600/27?
Answer: SCSI termination is determined by the SCSI ID Settings used. The default setting on the SCSI ID selector is 2-termination on.

Below is a rough diagram of the SCSI ID selector switch. This is located in between the two SCSI ports on the back of the Color OneScanner 600/27. The black numbers on the 0 side indicate that the termination is "OFF". The red numbers on the "1" side indicate that the termination is on.

```
0          1

     0
   7   1
 6      2
5        3
4    /    4
3        5
 2      6
  1   7
     0
```

There is a dial in the middle that you use to select the number and termination setting. Please make sure that the Scanner and computer are turned off when you change the setting.

Question: If the termination is built in, how do I add another SCSI device to the SCSI chain?
Answer: If the OneScanner is the only SCSI device, or the last device on the SCSI chain, set the termination to on. If the OneScanner is going to be used in the middle of the chain, the termination should be set to off, and a SCSI terminator should be used at the end of the SCSI chain.

IMPORTANT: Do not assign numbers 0 or 7 to the OneScanner. The default SCSI address of the internal hard disk is 0, and the default SCSI address of the Macintosh computer is 7. If you have other SCSI devices, make sure you use a number that is not assigned to any other SCSI device. Each SCSI address must be unique. SCSI ID number 3 is reserved for internal CD drives.
Published Date: Feb 18, 2012

LaserWriters: Driver Availability for Windows NT 3.5.1

Are there any Apple LaserWriter printer drivers available for Windows NT 3.51?
This article has been archived and is no longer updated by Apple.
The drivers in the following list are included in Windows NT 3.51 and are supported by Microsoft.

LaserWriter
LaserWriter Plus
LaserWriter 16/600
LaserWriter Pro 600
LaserWriter Pro 630
LaserWriter Pro 810
LaserWriter Select 360
LaserWriter IINT
LaserWriter IINTX
LaserWriter IIf
LaserWriter IIg
Personal LaserWriter NTR

In addition, Windows NT 3.51 printer drivers are available from Apple for the following LaserWriter printers:

LaserWriter 8500
LaserWriter 12/640 PS
LaserWriter 16/600 PS
LaserWriter Pro 600
LaserWriter Pro 630
LaserWriter Select 360
Color LaserWriter 12/600 PS
Color LaserWriter 12/660 PS

This software is available as a part of the LaserWriter software for Windows NT on the Apple Software Updates sections. Installation instructions are available in the read me file.

For information about driver availability with Windows NT 4.0, please refer to the TIL Article 20528:
"**LaserWriters: Driver Availability for Windows NT 4.0**".
Published Date: Feb 18, 2012

Windows LaserWriter v3.0.4 Driver: Wrong Read Me file

I installed the LaserWriter Driver for Windows 3.1 v.3.0.4, and the Read Me file in the Apple LaserWriter Software program group is for Windows 95.
This article has been archived and is no longer updated by Apple.
The installer incorrectly installs the Laserwriter for Windows 95 readme.txt onto your system. The correct ReadMe is found on the disk and within the archive, but the installer uses a hidden ReadMe file that could not be removed.

Please refer to the ReadMe file posted on the Apple Software Updates sections or the README.TXT file contained within the posted software.
Published Date: Feb 18, 2012

PowerTalk 1.2.3 & Sys 7.5 Update 2.0: Install Questions (3/96)

I have a few questions regarding PowerTalk 1.2.3 and System 7.5 Update 2.0.

1) Question: Are there any reasons for users not to use their old PowerTalk Setup Preferences with the old keychain information? Assuming these preference are not corrupted, is this an OK to do?

2) Question: Are there any issues with the MailLink PowerTalk gateways with System 7.5 Update 2.0 and PowerTalk 1.2.3?

3) Question: Will Direct Dialup be recognizable as a Custom Install option using the System 7.5 Update 2.0 CD-ROM disc PowerTalk Installer, or will it be part of the Easy Install? Also will it update Direct Dialup if present, and how will users add Direct Dialup if they haven't used it before?

This article has been archived and is no longer updated by Apple.

1) Answer: If you are a current PowerTalk user, you should run System 7.5 Update 2.0 and then install PowerTalk 1.2.3. Although PowerTalk may be functional after the update but before installing PowerTalk 1.2.3, the tested and recommended configuration is to update to PowerTalk 1.2.3. This presents one small problem. The PowerTalk 1.2.3 software is posted online and is included on the System 7.5 Update 2.0 CD-ROM disc but it is not included as part of the floppy disk set. So if you download System 7.5 Update 2.0 you should also download PowerTalk 1.2.3.

This procedure will preserve all existing PowerTalk settings, aliases, passwords, and so on. You should not have to touch any of the preferences files.

2) Answer: The gateways were tested for compatibility with System 7.5 Update 2.0. They were tested extensively for the System 7.5.3 release.

3) Answer: Direct Dialup and the other gateways are all manually installed, therefore the updates must also be manually installed. Each of the Direct Dialup or gateway installers can be used to install the software for the first time or update the existing one.

Published Date: Feb 18, 2012

AppleDesign Powered Speakers: Adding a Subwoofer

Certain versions of the AppleDesign Powered Speakers have a jack on them for connecting a subwoofer. What are the requirements for connecting a subwoofer?
This article has been archived and is no longer updated by Apple.
The subwoofer output on the AppleDesign Powered Speakers can reach levels of up to 2 Volts peak-to-peak. The subwoofer must handle an input signal that can reach this 2 Volt peak-to-peak level, or the subwoofer needs to have a input volume control.

Apple Computer does not recommend connecting a subwoofer that cannot handle the output levels from the subwoofer jack on the AppleDesign Powered Speakers. Check the manual that comes with the third-party subwoofer, or contact the manufacturer to see if the subwoofer can accept these levels.

If the Subwoofer has an input volume control you may be able to turn down the input signal that the subwoofer is receiving from the AppleDesign Powered Speakers. If this is attempted, start with the volume on the AppleDesign Powered Speakers turned all the way down and the input volume control on the subwoofer also turned all the way down. Slowly adjust the volume controls to a usable level. You may need to keep the subwoofer input volume control turned down while increasing the volume on the AppleDesign Powered Speakers.

The following information is for Apple Internal & Support Providers Only

Published Date: Feb 18, 2012

Apple Telecom 2.3.3: Read Me File

Name: Apple Telecom
Version: 2.3.3
Released: March 28, 1996
Description: This software replaces Apple Telecom 2.3.2. It is recommended for use with System 7.5.3.
For complete information, please see below.

The software posted to Apple Support Web site, Apple SW Updates, consists of two self-extracting archives of Disk Copy 1440K disk images. To use, download, double-click the downloaded file (this decompresses it), and use Disk Copy to create the disks. Disk Copy can be found in the Utilities folder posted here.

Apple Telecom 2.3.3 consists of 2 disks:

Name as Posted	Actual Disk Name
Telecom 2.3.3-1 of 2.sea	Apple Telecom Disk 1
Telecom 2.3.3-2 of 2.sea	Fax Software

This article is the Apple Telecom 2.3.3 ReadMe file found with the online software updates.
This article has been archived and is no longer updated by Apple.

GeoPort Telecom Adapter ReadMe

Software included in the GeoPort Telecom Adapter Kit

Apple Telecom Software

This includes all software necessary to use the GeoPort Telecom Adapter with the following Macintosh systems:

* Centris 660AV, Quadra 660AV and Quadra 840AV.
* Power Macintosh 6100 series, 7100 series, 7200 series, 7500/100, 8100 series, 8500/120, and 9500 series.

The Apple Telecom User's Guide contains complete information about installing and using this software. An electronic Apple Telecom Upgrade Manual is included in the Telecom Documents folder so that you can learn about the new features if you upgraded electronically and don't have the Apple Telecom User's Guide. Disks 1 and 2 can also be used to install Apple Telecom 2.x software on Macintosh systems equipped with an Express Modem card.

Note: For Power Macintosh 7200 series, 7500/100, 8500/120, and 9500 series, version 2.1 or higher of Apple Telecom Software is required. If you are using a GeoPort Telecom Adapter on these Power Macintosh models, you must disable LocalTalk. To do this, disconnect any LocalTalk devices attached to the printer port (serial devices can remain attached).

Important If you select "Sleep" from the Special Menu available on some Power Macintosh models while there is an active GeoPort connection, the GeoPort Telecom Adapter will automatically disconnect the call without warning. When a Power Macintosh 7200 series model is in the low-power mode, the GeoPort Telecom Adapter will wake up the machine if the telephone rings and the machine is awaiting an incoming call. The monitor will remain in the low-power mode. While a connection is open via a GeoPort Telecom Adapter, your Power Macintosh will not enter the low-power mode, but the monitor will dim the screen.

MegaPhone (for United States, Canada, and Japan only)
This is a screen-based telephone application that delivers full support of the telephony capabilities of the Apple Telecom 2.x software, including support for dialing from a graphical keypad, copying and pasting telephone numbers, and dragging and dropping business card information, and voice-mail functions.

The GeoPort Telecom Adapter Kit also includes a free 30-day trial of call logging, MegaDial dialing manager, intelligent synchronization with directory information (saving telephone numbers to a PowerTalk catalog, for example), and other extended capabilities.

See also: the MegaPhone electronic manual included on Disk 3 (Telecom Applications).

Note: MegaPhone is not installed by the Apple Telecom Installer program. You must install it separately.

SITcomm SE/GTA (for United States and Canada only)
This is a terminal emulator application. With SITcomm SE/GTA (Special Edition for GeoPort Telecom Adapter), your Macintosh can communicate with a variety of other computers, linked by serial cables or by telephone lines.

With SITcomm you can exchange information with

* A colleague who is using another computer with similar communications software.
* Text-based information and electronic mail services, such as CompuServe or MCI Mail.
* Your company or school's remote minicomputer or mainframe.

See also: the SITcomm SE electronic manual included on Disk 4 (Telecom Applications).

Note: SITcomm is not installed by the Apple Telecom Installer program. You must install it separately.

Upgrading from Previous Releases of GeoPort Telecom Adapter Software
If you are installing this version of the software over an older version, you should use the Easy Install option rather than the Custom Install option. This ensures that all files are updated as necessary.

Note: If you have installed any customized fax cover pages and renamed the fax folder (called Express Fax in previous versions), the Installer moves them to the new Fax Folder. You can still use them, but if you want to keep them in a different folder, you'll need to drag them there manually.

When you have installed over an older version, the folders "Modem Documents" and "Express Fax" and the file "GeoPort ReadMe" may still be left on your hard disk from the earlier version. These are not necessary for using the newer version; you may delete them.

Connection (CCL) Scripts for Apple Remote Access
Use the following connection scripts with Apple Remote Access:

ARA 1.0: GeoPort Telecom ARA 1.x (in Extensions folder in System Folder)
ARA 2.0: GeoPort Telecom ARA 2.x (in Extensions folder in System Folder)

These files are placed directly in the Extensions folder by the Installer program. You do not need to move or copy them there as stated in Appendix C of the Apple Telecom User's Guide. Apple Remote Access 1.0 does not support Power Macintosh computers. You can order an upgrade for Apple Remote Access by calling the Apple Order Center (in United States and Canada only).

Two additional, optional connection (CCL) files, named GeoPort Telecom ARA 1.x/CNG and GeoPort Telecom ARA 2.x/CNG, are installed as well. When you use them, the GeoPort Telecom Adapter transmits data calling tones after dialing. Data calling tones allow the remote machine to detect automatically that an incoming call is a data modem call. If you are dialing into a system that supports data, fax and voice calls (such as another GeoPort Telecom Adapter), you should select one of these connection files in the Apple Remote Access Setup control panel.

Note: The GeoPort Telecom ARA 1.x/CNG and GeoPort Telecom ARA 2.x/CNG files are installed in the Telecom Documents folder. Should you decide to use these optional files, you'll need to drag or copy them to the Extensions folder.

Using Remote Access Dial Back
If your Remote Access server uses a "Dial Back" feature, the server's return call back to your machine may be inadvertently directed to an open telephone application. To avoid this situation, either close these applications or open the Express Modem control panel and choose "Data" as the default call type when you expect an incoming call from another computer.

Using Fax Sender GX with QuickDraw GX 1.1
The Fax Sender GX extension described in Chapter 8 of the Apple Telecom User's Guide can only be used with QuickDraw GX 1.1 or later. Depending on your location, QuickDraw GX 1.1 may not be available in your area at the time this software is released.

If you need to send complex grayscale images, you should use Fax Sender GX instead of Fax Sender. The image quality is superior.

Note: The Control-shift shortcut used to select Fax Sender without going through the Chooser is not available when using Fax Sender GX. However, you can create a desktop printer icon for Fax Sender GX and use drag-and-drop to accomplish the same thing.

Fax Sender GX initially defaults to Standard quality. If you plan to use a desktop printer and want to change the default to Fine quality, print a document from any GX-aware application (SimpleText, for example) and select Fine quality from the Fax Sender GX print dialog.

Please refer to the About Fax Sender GX electronic manual installed in the Telecom Documents folder or Chapter 8 of the Apple Telecom User's Guide for more information about this software.

Sharing Fax Sender GX on an AppleTalk Network
Using Fax Sender GX, you can set up one machine on an AppleTalk network to be a central server for sending faxes. Other users on the network can send faxes without having the modem hardware installed in their computers.

In order to do this, the server must have the appropriate hardware installed, and both the server and client machines must have QuickDraw GX

(version 1.1 or later) and the fax software installed. To install the fax software on a client machine, select the "Fax Sender GX Client Software" Custom Install option in the Apple Telecom Installer.

Note: If you are sharing your Express Modem or GeoPort Telecom Adapter on an AppleTalk network, try to minimize the time you spend in Fax preview. While you are previewing, other Fax Sender GX users may be paused.

Using the Apple Fax Gateway with PowerTalk 1.1
The Apple Fax Gateway extension should be used with PowerTalk 1.1 or later. PowerTalk 1.1 is included in the System 7.5 system software release.

Note: Apple Fax Gateway only sends AppleMail-compatible letters, text-only files, and PICT files. If you enclose a formatted document (for example, a word processor document), it will be skipped and not be included in the fax.

See also: The About Apple Fax Gateway electronic manual installed in the Telecom Documents folder.

FastPrint
The Fax Viewer program included with this package implements a new FastPrint feature. The speed of printing can be significantly improved but is only available if the preferred memory size setting of the Fax Viewer application is set to at least 1500K (the default is 290K). To enable FastPrint, select the FastPrint checkbox in the Fax Viewer print dialog box. Note that this feature only works with PostScript printers.

Troubleshooting
Connecting to online services that do not support data compression or error correction

First check to see if your software uses a "modem initialization string". If so, locate and remove "S48=0", if it appears in the string. If this does not work or it is not present, add "%C0S46=136" to the end of your modem initialization string (this disables compression). If this still does not work, try adding "&Q0" instead (this disables compression and error correction).

Another potential connection problem is your application getting confused by the CARRIER message. Some applications misinterpret this as a CONNECT message and begin sending data. This will cause the GeoPort Telecom Adapter to drop the connection. Since it is still negotiating the connection, it will abort the call if it receives any data prior to the CONNECT message. If this is the case, you may want to add a W0 command in the application's initialization string (this suppresses the CARRIER message).

Communication Settings
If you are using a terminal emulator or communications program that supports the Apple Communications Toolbox, you should select the "Express Modem Tool" from the connection settings menu item. This tool's default settings will always try to establish connections at the highest possible speed with error correction and compression enabled.

Identifying Incoming Calls
When answering your phone line, the GeoPort Telecom Adapter will attempt to determine the type of incoming call (fax, voice, or data) before transferring the call to a telephony application. Incoming fax calls are easily detected since the sending fax machine usually transmits a fax calling tone. Incoming data and voice calls are more difficult to detect since in many countries modems typically do not transmit a tone. In the Express Modem control panel, you can set the default call type for situations where no calling tone is detected. If you are using a voice telephony application (such as MegaPhone), we recommend that you select Voice as the default call type. If you are using a data telephony application (such as Apple Remote Access server), we recommend that you select Data as the default call type. If you expect to receive both voice and data calls, ask your callers to send a data calling tone when calling your machine. Use of these features is explained in detail in the Apple Telecom Upgrade Manual electronic document installed in the Telecom Documents folder.

If you have problems receiving calls from data modems (when using the Apple Remote Access dial back feature, for example), try decreasing the number of rings to Auto-answer in the Express Modem control panel (if permitted in your country). Some calling modems may time out and disconnect before your modem answers if the number of rings is too high.

Removing Fax Storage Folders
To protect your fax documents, the fax storage folders ("Fax Waiting To Be Sent", "Received Fax Documents", "Sent Fax Documents") are protected from accidental deletion. To bypass this mechanism, drag these folders to the trash, restart your computer, and then empty the trash. New, empty folders are created for you.

Using a Centris 660AV or Quadra 660AV/840AV
If you are using a Centris 660AV or Quadra 660AV/840AV and experience errors when attempting to establish a connection, you may need to change the audio settings on your computer. The default setting of 24.000 kHz is compatible with the GeoPort Telecom Adapter. To change this setting, open the sound control panel, choose "Sound Out" and select the "24.000 kHz" sampling rate.

Resetting a Blacklisting Error Message
Regulations in France, Japan, and a few other countries require that the Express Modem software blacklist recently dialed numbers when the connection fails. If you receive a "BLACKLISTED" error message when dialing, you can reset the BLACKLISTED condition by turning the Express Modem control panel off and then on. This software reset, equivalent to turning off and on a hardware modem, is compliant with PTT

regulations.

Clicking Sound from GeoPort Telecom Adapter
If your machine freezes, the GeoPort Telecom Adapter can lose its connection with your machine and may generate a rapid clicking sound. This sound is a temporary side-effect of the lost connection. To stop the clicking, unplug the adapter for a few seconds or restart your machine.

Port Selection
The interface for selecting the correct communications port has been simplified since GeoPort Telecom Adapter software versions 1.0.2 (Power Macintosh) and 1.2.2 (660AV/840AV). The "Use internal modem instead of modem port" checkbox has been removed from the Express Modem Control Panel. The Express Modem control panel now automatically detects whether a GeoPort Telecom Adapter is actually attached to the Modem port. If so, all serial communications are first processed by the Express Modem software and transmitted through the GeoPort Telecom Adapter. If not, serial communication passes through the modem port directly.

GeoPort has been removed from the list of ports. The Express Modem control panel now automatically detects whether a GeoPort Telecom Adapter is actually attached to the Modem port. Select Modem Port whenever you wish to communicate through the GeoPort Telecom Adapter.

What Goes Where
When you install the software using the Easy Install option of the Installer program, the following files and resources are installed on your hard disk.

Hard Disk:
* GeoPort Telecom Adapter ReadMe
* SimpleText 1.2

Hard Disk: Telecom Applications: Fax Folder:
* Fax Terminal
* Fax Viewer
* Fax Cover
* Sample (cover document)
* Standard (cover document)
* My First Fax (PICT sample)

Hard Disk: Telecom Documents:
* About OCR (OCR manual for users who upgrade electronically)
* About Apple Fax Gateway (Gateway manual for users who upgrade electronically)
* About Fax Sender GX (Fax Sender GX manual for users who upgrade electronically)
* Apple Telecom Upgrade Manual
* Express Modem CCL (AppleLink CCL)
* GeoPort Telecom ARA 1.x/CNG (optional, transmits data calling tone, 660/840AV only)
* GeoPort Telecom ARA 2.x/CNG (optional, transmits data calling tone)
* Modem AT Command Set

Hard Disk: System Folder: Control Panels:
* Express Modem

Hard Disk: System Folder: Extensions:
* Apple Fax Gateway
* Apple Telecom Modem
* AudioTuneUp (9500 series only)
* Express Modem Tool
* Fax Extension
* Fax Sender
* Fax Sender GX
* GeoPort for Power Macintosh (Power Macintosh only)
* GeoPort Extension (660/840AV only)
* GeoPort Serial Driver
* GeoPort Telecom Adapter
* GeoPort Telephone Tool
* GeoPort Telecom ARA 1.x (Apple Remote Access 1.0 CCL, 660/840AV only)
* GeoPort Telecom ARA 2.x (Apple Remote Access 2.0 CCL)
* Serial Extension (660/840AV and 6100/7100/8100 series only)
* Shared Library Manager
* Telephone Manager Extension

Hard Disk: System Folder: Mimetics:
* EasyReader Fax
* Neuroneye
* US Dictionary
* UK Dictionary

Hard Disk: System Folder: System:
* Bell Telephone (sound resource)
* Electronic Telephone (sound resource)

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

The following Tech Info Library article can help you search for a particular vendor's address and phone number:

Article 17159: "**Locating Vendor Information**"
Published Date: Feb 18, 2012

Apple Media Tool 2.0: Use 256 Colors for Windows Compile

I am trying to run a compiled Apple Media Tool (AMT) 2.0 program on the Power Macintosh 6100/DOS Compatible computer. The project runs fine under the Mac OS, however the Windows version of the compile, which plays fine on a Windows computer, quits with the following error:

"The display device does not support 640x480 pixels and 65536 colorsor 0 colorsor 256 colors!

Please re-set the device and restart Windows."

The project is set to default to 256 colors if thousands of colors cannot be accomplished. This is done through the runtime setup menu.
This article has been archived and is no longer updated by Apple.
When you set your preference options for AMT, you must set the color depth to 256 colors as the first option. You must also make sure the the driver is set to 256 colors on the 6100/DOS compatible. It cannot be set for 16 colors and it will not do any thing above 256 colors, so 256 is your only option.

This article was published in the Information Alley on 1 April 1996.
Published Date: Feb 18, 2012

System 7.5.3: Load QuickTime Before GXGraphics

I installed the System 7.5 Update 2.0 and QuickDraw GX 1.1.3 with the GXGraphics (Debug)* extension. During the Startup process, GXGraphics (Debug) extension loads, then QuickTime freezes. Macsbug reports an unimplemented ATrap called by QuickTime. What is going on?

* Note: The QuickDraw GXGraphics (Debug) extension is part of the developer software development kit (SDK), not part of the standard QuickDraw GX software.

This article has been archived and is no longer updated by Apple.
Apple is aware of this issue with QuickDraw GX v1.1.3 software. It will be fixed in future versions of the software. In the meantime there is a workaround you can use.

Workaround

Change the init loading order. Make QuickTime load prior to the GXGraphics extension.

For the most current information on what SDKs Apple offers, point your web browser to:

http://developer.apple.com/sdk/
Published Date: Feb 18, 2012

AppleShare File Server: System 7.5 Update 2.0 Compatibility

This article provides compatibility, installation, and post installation troubleshooting for AppleShare File Server and System 7.5 Update 2.0.
This article has been archived and is no longer updated by Apple.

Workgroup Servers and 7.5.3 Compatibility

NuBus-based Workgroup Server 60, 80, 6150, 8150, and 9150 customers can upgrade to System 7.5.3 by installing the System 7.5 Update 2.0. The Workgroup Server 95 is based on A/UX, and the System 7.5 Update 2.0 is not to be use with this operating system.

IMPORTANT: Please read and follow the instructions that are provided in the Software 7.5.3 Installing This Update read me file. In particular, start up the Macintosh or Workgroup Server with the System 7.5.x only chosen in the sets pop-up menu of the Extensions Manager control panel, before installing the System 7.5 Update 2.0

As a precaution, Apple recommends performing a backup of the server before undergoing a System Software upgrade.

In addition, Apple recommends customers upgrade to the latest version of AppleShare File Server software appropriate for their server:

* Workgroup Servers 60 and 80 or 680x0-based Macintosh computer with AppleShare 4.0.x -- AppleShare 4.0 users MUST upgrade to AppleShare 4.0.1 (this is not just a recommendation, it is requirement). The AppleShare Tune-Up 4.0.1 is available on Apple's online services. AppleShare 4.0.1 is functionally equivalent to the 680x0 version of AppleShare 4.0.2.

* Workgroup Servers 6150, 8150, 9150, or PowerPC-based Macintosh computer with AppleShare 4.2.1.

IMPORTANT: For more information on compatibility of AppleShare and Open Transport please refer to Tech Info Library article:

Article 18744: "**AppleShare 4.2.1: Questions and Answers.**"

Install System 7.5 Update 2.0 on computers with AppleShare File Server

* Boot or start up the Macintosh or Workgroup Server from a bootable Disk Tools Disk or CD-ROM disc. (To start up from a CD-ROM on most Macintosh computers, you will need to press and hold the C key while the CD-ROM disc is in the CD-ROM drive.) You can ensure that a floppy or CD-ROM disc is the start up volume by looking for its icon in the upper-right most position on the desktop.

* Use Disk First Aid to verify and, if necessary, repair all of the volumes. Disk First Aid should be run from the Disk Tools Disk, or from the CD-ROM disc (usually located in the Utilities folder).

* Restart the Macintosh or Workgroup Server, and eject any CD-ROM disc, so the server will start up from the hard disk. Press and hold the space bar as soon as the Mac OS screen appears. Continue to hold the space bar until the Extensions Manager window displays. If you miss this opportunity, restart the computer and try the procedure again.

* Choose System 7.5.x only from the Sets pop-up menu in the Extensions Manager control panel window.

If you have third-party peripherals that are required for installation and require an extension, turn those extensions back on by placing a check mark to the left of the extension. For example, include video drivers, alternative input devices, network card drivers, and removable media. Do not select any other extensions, including the extensions required by AppleShare File Server.

* Click the Extensions Manager window's close box to continue with the startup process.

* Insert the System 7.5 Update 2.0 CD-ROM or the first floppy disk. If you are performing a network install, mount any necessary server.

* Double-click the Installer icon to launch the System 7.5 Update 2.0 installer.

* When you see the Installer's welcome screen, click Continue.

* The Easy Install dialog box appears. Easy Install automatically installs the files that your particular model of computer needs. Make sure the destination disk indicated on the screen is the one you want to install the update on. If it is not, click Switch Disk until the right destination disk appears.

* Click Install. Follow the instructions on the screen.

* When the installation is complete, click Restart to restart your computer.

Press and hold the space bar as soon as the Mac OS screen appears, and continue to hold the space bar until the Extensions Manager window appears. If you miss this opportunity, restart the computer and try the procedure again.

Use the Extensions Manager to turn on the File Server Extension, and, if present, the Desktop Manager Fix and Installer Cleanup extensions.

* When you have verified that the server is operational with the System 7.5 Update 2.0 installed, you may use the Extensions Manager control panel to select any third-party extensions and control panels, you may have been previously using, to run after restarting the computer. Contact the third-party software vendors if these extensions appear to cause additional issues.

Problems After The Install

It is important that the instructions provided in the System 7.5 Update 2.0 Installing This Update file are followed without exception. If you did not follow these instructions, or followed them but encountered problems afterwards, you may have to perform a clean System Software installation, re-apply the System 7.5 Update 2.0, and reinstall AppleShare File Server.

The instructions below will help you reinstall software. Please read all the instructions through before proceeding.

Check Volumes with Disk First Aid

* Start up the Macintosh or Workgroup Server from a bootable Disk Tools Disk or CD-ROM disc. (To start up from a CD-ROM on most Macintosh computers, you will need to press and hold the C key while the CD-ROM disc is in the CD-ROM drive.) You can ensure that a floppy or CD-ROM disc is the start up volume by looking for its icon in the upper-right most position on the desktop.

* Use Disk First Aid to verify and, if necessary, repair all of the volumes. Disk First Aid should be run from the Disk Tools Disk, or from the CD-ROM disc (usually located in the Utilities folder).

Clean Install of System 7.5.x Software

* If you are using the Disk Tools floppy disk for Disk First Aid, restart the computer and insert the first System Software Install floppy disk, and you will start up directly to the Installer. If you are using a CD-ROM disc for Disk First Aid, you will need to locate and launch the System Software Installer application.

* Click Continue at the Welcome screen.

* Press the Command, Shift, and K keys simultaneously until a dialog box appears with these options, Update Existing System Folder or Install New System Folder.

* Select Install New System Folder and click the OK.

* Click Clean Install on the Installer window.

* When the installation finishes, quit the Installer, restart the server and immediately eject the CD-ROM disc, if present.

Install System 7.5 Update 2.0

NOTE: If using AppleShare 4.0 with the 4.0.1 patch, Apple recommends you install System 7.5 Update 2.0 first, then install AppleShare 4.0 and the 4.0.1 patch (see instructions below).

* Insert the System 7.5 Update 2.0 CD-ROM disc or the first floppy disk. If you are performing a network install, mount any necessary server.

* Double-click the Installer icon to launch the System 7.5 Update 2.0 installer.

* When you see the Installer's welcome screen, click Continue.

* The Easy Install dialog box appears. Easy Install automatically installs the files that your particular computer needs. Make sure that the destination disk indicated on the screen is the one you want to install the update on. If it is not, click Switch Disk until the right destination disk appears.

* Click Install. Follow the instructions on the screen.

* When the installation is complete, click Restart to restart your computer.

Reinstall AppleShare

* Insert the AppleShare CD-ROM disc or Install floppy disk, run the AppleShare Installer, and select Easy Install.

IMPORTANT: If you installing AppleShare 4.0, perform a Custom Install and omit the Shared Library Manager. To do this, dismiss a dialog box that appears when you first launch the installer which explains that the version to be installed is not compatible with currently-running version of the Shared Library Manager.

* When the AppleShare installation finishes, let the Macintosh computer start up normally.

* If using AppleShare 4.0, install the 4.0.1 patch at this point.

* Restart.

Retaining Users & Groups and Privileges

These next steps are important in order to retain the users and groups information and privileges on the server. These steps MUST BE FOLLOWED before launching the AppleShare Admin, or the AppleShare File Server software.

* Open the Preferences folder in the System Folder. Drag the existing Users & Groups Data File to the trash.

* Drag the original Users & Groups data file from the Preferences folder in the Previous System Folder to the Preferences folder in the System Folder.

* Restart the server. Do not skip this step.

* Open the Sharing Setup control panel and enter a name for the server in the Macintosh Name field. (This name will appear in the Chooser on client computers. To avoid confusion, you can choose the name the server had before reinstalling software, however, it is not critical that you do so.)

* To confirm that the file server is functioning properly, launch the AppleShare Admin program and verify the users & groups information. Then launch the AppleShare File Server, and logon to the server from a client to verify that access privileges are properly set.

If you use third-party extensions on the server, you may use the Extensions Manager control panel to select any third-party extensions and control panels to run at start up, but do so with caution. Contact third-party vendors if these extensions appear to cause issues on the server.
Published Date: Feb 18, 2012

Macintosh: Hangs When Printing To Windows NT Server

When printing from LaserWriter 7 or 8 to a Windows NT v3.5.1 Server, having Service Pack 2, my Macintosh may hang and display a Type 10 or 11 error. The job appears to get stuck in the Windows NT Server, and sometimes not print for 20 minutes or longer.
This article has been archived and is no longer updated by Apple.
This issue was fixed in LaserWriter driver 8.3.4. Apple recommends updating your printer software to LaserWriter 8.3.4, or later, to workaround this issue. An alternate workaround is to choose and print directly to the printer.
Published Date: Feb 18, 2012

Apple Telecom Won‘t install After Clean System Install (4/96)

When I try to install the Apple Telecom software (from either the Apple Extras folder, or the disks that came with my GeoPort) after preforming a clean system software installation on my Power Macintosh 8500/120 computer, I get an error message indicating the installation could not be completed. I have reset PRAM which did not help. I have also tried starting up from either the hard disk, or the CD-ROM -- this made no difference. What do I need to do to install Apple Telecom software.

This article has been archived and is no longer updated by Apple.

These are the known cases were Apple Telecom software will not install.

* All Extensions off
* A minimal or reduced System Software
* When started from a CD-ROM disc

The Apple Telecom software should install properly after you install System Software with the Easy Install option to get the full system software on your hard disk. Also, you need to start the computer with all Apple extensions turned on.

Testing we have done while started from a CD-ROM disc or by dragging the minimal System Software from a CD-ROM disc to your hard disk does not work.

Published Date: Feb 18, 2012

LaserWriter: PostScript Code to Center Page

I have noticed the output on my Color LaserWriter is not exactly centered on the page. It is most evident on the startup page because the rectangle border printed on the page is slightly off center. On the LaserWriter 8500 I have a duplexer, and the front and back prints do not line up properly because the image is off center as well.
This article has been archived and is no longer updated by Apple.
This can happen with any LaserWriter, and it has most notably been reported with recent shipments of LaserWriter 8500 printers. The margins, while in most cases considered within tolerance, may not be to the specification that the user would like. LaserWriter margins can be calibrated however, using the PostScript setmargins operator.

Caution: If you choose to use the PostScript code provided in this article, you assume all risks involved in making these changes. PostScript code, if not entered correctly, can place the LaserWriter into a condition requiring service.

The PostScript SETMARGINS operator can be used to adjust the left/right and top/bottom margins. Use Apple Printer Utility 2.0 or later to download the PostScript code after inserting the desired <yoffset> and <xoffset> values. The default values (0,0) as shipped from Apple provide the best settings when used with Apple printer drivers and the wide variety of software applications on the market.

The PostScript SetMargins syntax is as follows: <yoffset> <xoffset> setmargins

Positive integers increase the top and left margins; negative numbers decrease them. Each unit is a single device pixel (1/300 inch), or roughly 1/4 point.

The setmargins operator is in statusdict, and must be executed outside the server loop so the changes will persist across power cycles. Try using the following configuration to start with since it shifts the page image to the left 20 pixels and leaves the x offset unchanged. The changes are permanently stored in the non-volatile RAM on the I/O controller board so that the changes can persist through power cycles.

```
%=========================================================
% Begin PostScript code
%
  serverdict begin 0 exitserver
  statusdict begin
  -20 0 setmargins
%
% End PostScript code
%=========================================================
```

By altering the margin values, you should be able to center the Color LaserWriter 12/600 PS page image. The setmargins operator changes the position of the image on the page without affecting the image size.

The following PostScript code prints a page showing the current margin settings and a one point rectangle border around the imageable area. Print this page before modifying the original settings to maintain a record of the initial values as shipped from the factory. The initial values are likely to be set to zero for both the yoffset and the xoffset.

```
%=========================================================
% Begin PostScript code
%
 /str 32 string def     %Define a 32 character string for later use.
 /Times-Roman findfont  %Lookup font in fontdict and push it on stack
 15 scalefont setfont   %Push size, scale, and make it the current font.
 72 700 moveto          %One inch over, and 700 72nds up.
 statusdict begin       %We'll be using two operators from statusdict.
 (Margins for )         %Push the leading text on the stack.
 show                   %Show the topmost string from the stack at 72
                        % 700.
 str                    %Push an empty string of 32 length on stack.
 printername            %Puts the LaserWriter name in the string.
 show                   %Show it.
 72 680 moveto          %Move back to 1 inch left, and down 20 points.
 margins                %Push top and left margins onto stack.
 (  Xoffset set to: )   %Push leading string onto stack.
 show                   %Show it.
 str                    %Push an empty string.
 cvs show               %Convert left margin into the string and show it.
 72 660 moveto          %Do the same thing again for the top margin.
 (  Yoffset set to: )
 show str cvs show
 clippath stroke        %Draw a frame around the page border
 showpage               %print out the page.
%
% End PostScript code
%=========================================================
```

To prepare PostScript code for downloading, copy or type the above code into a text document using a word processor or text editor such as SimpleText. The comments following the % characters are not necessary, they are included as reference material, but are not necessary to make the PostScript code work. Once the code is entered, save it as a text file, then use the Apple Printer Utility 2.0 (or later) software that shipped with the printer to download the PostScript files.

Note: When copying text from some browsers, invisible characters may be copied that will cause a postcript offending command error when the file is sent to the printer. In this case you can either try a different browser, retype the text manually, or use a text editor that can delete non-printing characters.

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Hard Disk 20: Cable length limit with Macintosh

This article has been archived and is no longer updated by Apple.

A cable 30 inches long may safely connect a Macintosh to an HD 20 as long as there is shielding integrity in the cable and connection. Any poor connections, flat cables, unshielded cables, or exposure to external EMI or RFI sources may affect operation. Cable lengths exceeding 30" are not recommended because of the excessive cable capacitance and IR drops.

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Power Macintosh 5200, 5300, 5260, 5400: Comparison

What are the hardware differences among the Power Macintosh 5200, 5300, 5260, and 5400 series computers?
This article has been archived and is no longer updated by Apple.

The following table compares the Power Macintosh 5200, 5300, 5260, and 5400 series computers:

Features	Power Macintosh 5200/5300	Power Macintosh 5260	Power Macintosh 5400
Processor Type	PowerPC 603e	PowerPC 603e	PowerPC 603e
Processor Speed	75 MHz (5200) 100 MHz (5300)	100 MHz	120 MHz
Cache	256K L2 Cache Soldered on	256K L2 cache Optional SIMM	256K L2 cache Optional DIMM
RAM	8 MB-64 MB	8 MB-64 MB	8 MB-136 MB
On-board RAM	0 MB	0 MB	8 MB
RAM Expansion	2 72-pin SIMMs	2 72-pin SIMMs	2 168-pin DIMMs
Memory Bus	32 bits, 37.5 MHz	32 bits, 37.5 MHz	64 bits, 40 MHz
Video RAM	1 MB DRAM	1 MB DRAM	1 MB DRAM
Video Input	Optional card for video input capture	Optional card for video input capture	Optional card for video input capture
Video Output	Optional mirror connector sup-ports external monitor operat-ing in mirror mode	Optional mirror connector sup-ports external monitor operat-ing in mirror mode	Optional mirror connector sup-ports external monitor operat-ing in mirror mode
Sound	(5200) 8 or 16 bits/channel; mono in,out stereo out (5300) 16 bits/channel; mono in, out stereo out	16 bits/channel mono in, stereo in, stereo out	8 and 16 bits/channel; stereo SRS surround sound mode
Remote Control	Built-in infrared (IR) receiver	Built-in infrared (IR) receiver	Built-in infrared (IR) receiver
Floppy Drive	1 internal	1 internal	1 internal
ADB Ports	1	1	1
Hard Drive	1 (IDE)	1 (IDE)	1 (IDE)
CD-ROM Drive	Optional	Optional	Optional
External SCSI ports	1	1	1
Communications	1, for optional	1, for optional	1, for optional

Slot	modem or Ethernet interface 68040 bus configuration	modem or Ethernet interface 68040 bus configuration	modem or Ethernet interface PCI bus configuration
Expansion slot	1 I/O slot Accepts PDS card for Macintosh LC series	1 I/O slot Accepts PDS card for Macintosh LC series	1 PCI I/O slot for 7-inch card
DMA I/O	None	None	10 DMA channels
Serial Ports	2, modem and printer LocalTalk supported	2, modem and printer LocalTalk supported	2, LocalTalk and GeoPort supported

Note:
The following computers are in the corresponding Macintosh families:

* Macintosh 5200CD family: Macintosh 5200/75 LC, Performa 5200, Performa 5210, Performa 5215, and Performa 5220.

* Macintosh 5300CD family: Macintosh 5300/100 LC, Performa 5300.

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LaserWriter: TCP/IP Printing For VMS Solutions

This article provides information on a VMS software packages which supports UNIX style LPR printing. Apple customers with VMS systems and Apple LaserWriters may use this software as a solution for TCP/IP printing.
This article has been archived and is no longer updated by Apple.
TGV Software's MultiNet for OpenVMS version 3.5 contains "LPD/LPR printing services" as part of its standard feature set.

There may be other third-party products which provide this functionality. This product is not tested by Apple, and therefore, not supported by Apple Computer.

For more information on configuring non-UNIX software for TCP/IP printing, see the Tech Information Library article, "LaserWriters: TCP/IP Printing from Non-UNIX Workstation."

The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.
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LaserWriter Select 310: PCI-Based Power Macintosh Issues

This article contains solutions for customers using the LaserWriter Select 310 printer on PCI-Based Power Macintosh computers.
This article has been archived and is no longer updated by Apple.

There are several issues which customers using Power Macintosh 7200/75, 7200/90, 7500/100, 8500/110, 9500/120, and 9500/132 computers with a LaserWriter Select 310 printer may experience.

These issues can range from longer print times to complete inability to print.

Known Issues

- Long delays (15 seconds to 15-30 minutes) before printing begins, pauses in printing, longer than expected print times

- Intermittent connection failures, that go away with with "try again" button in Print Monitor or "LaserWriter is unable print or the printer may have been disconected, please check to make sure the printer is properly connected and turned on" if you background printing is off.

- No connection established, even after standard troubleshooting (includes clean install, v 7.0.1 of driver, and AppleTalk off).

- Problems printing when connected to serivce provider or online vendor (AOL) using modem port.

Customers should check the version of LaserWriter Select 310 driver. If you do not have version 7.0.1, you should upgrade. The driver is available in several software releases, including:

- System 7.5

- LaserWriter Select 310 (1.0.1) These disks would have come with your printer, and has version 1.0.1 on the back of the label.

- Apple Software Updates.

Customers also need to load the SerialDMA 2.0.2 driver. This file addresses problems with the serial architecture. SerialDMA is found in:

- SerialDMA 2.0.2
- Printing Fix 1.1
- System 7.5 Update 2.0
- System 7.5.3

These articles can help you locate the software update mentioned here:
* "Where To Find Apple Software Updates" - Lists online services for free Apple software updates.
* "Obtaining Apple Product Support in the USA" - Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech Info Library.

This article was published in the Information Alley on 5 April 1996.
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LOGO II: Printing on the Apple Dot Matrix Printer

This article has been archived and is no longer updated by Apple.
To print graphics to the Apple Dot Matrix Printer with LOGO II, you must:

1. save the picture to a disk file
2. exit LOGO
3. run a graphics dump program on the disk file.

You could use a third party graphics dump program or the one that came with the Apple Dot Matrix Printer.
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Open Transport 1.0.8: AppleTalk Actived By Applications (4/96)

I have Open Transport version 1.0.8 installed on my Power Macintosh 7200 and when I try to print to my LaserWriter Select 310 printer I get a -97 error (port in use). I restarted, then reset the Parameter RAM (PRAM), and now I get -43 error (file not found). I went into the chooser and AppleTalk was active. I made AppleTalk inactive and restarted. I could print from SimpleText, but not from Quark Xpress. When I tried to print from Quark Xpress I received the -97 error again.

This article has been archived and is no longer updated by Apple.

Open Transport v1.0.8 activates AppleTalk, which causes the -97 error. This issue is addressed in Open Transport v1.1. The System 7.5 Update 2.0 should solve this problem. There are several applications which O.T. 1.0.8 activates AppleTalk including MegaPhone, PageMaker, and Quark Xpress. However, there may be other applications this also occurs with.

Solution
==========

Use the System 7.5 Update 2.0 software to update your version of Open Transport to v1.1.

This article was published in the 8 April 1996 Information Alley.

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System 7.5.3: incompatible with some SuperMac NuBus cards (4/96)

I have a Quadra 950 with a SuperMac NuBus video card, and ever since I updated to System 7.5 Update 2.0 (System 7.5.3), I can no longer startup in 32-bit mode. Why?

This article has been archived and is no longer updated by Apple.

There seems to be some incompatibilities in some of the older SuperMac NuBus cards and System 7.5.3. Contact Radius, which owns SuperMac, for information on workarounds and solutions.

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PlainTalk 1.4 and Voice Options (4/96)

With PlainTalk 1.4, the Text-to-Speech and Speech Recognition portions are separate installations and can lead to the following scenarios:

1) When I'm in a speech-capable application like SimpleText and choose Speak All from the Sound menu, I get the following message: "An error occurred when SimpleText tried to speak." Additionally, in the Speech control panel, I have the Voice option, but once selected I'm not able to choose a voice in the pop-up menu.

2) I have just installed PlainTalk 1.4. When I go into the Speech control panel, the only option I have is Voice, which lets me select a different voice. I am unable to turn Speakable Items on.

3) I just installed PlainTalk 1.4. When I go into the Speech control panel, the Voice option is grayed out and I am unable to select a different voice.

This article has been archived and is no longer updated by Apple.

1) The Voices Folder has been moved or deleted from the Extensions Folder of the System Folder. The Voices Folder is required for the Text-to-Speech software to operate. Reinstalling the Text-to-Speech software will get the voice files back.

2) You have the Text-to-Speech portion of PlainTalk 1.4 installed. In order to have the Speakable Items (as well as Listening and Feedback) options, you need to install the Speech Recognition software.

3) You have the Speech recognition portion of PlainTalk 1.4 installed. To get the voice option within the Speech control panel you need to install the English or Mexican Spanish Text-to-Speech software.

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Network Server: Modify AIX Shell Environment Variables

I just modified my .profile file in my home directory to set some of my environment variables like VISUAL (to choose a command line editor) and PS1 (to modify the command line prompt).

However, I've logged in and out and none of these environment variables have been set as in my .profile file. I switched to the csh and used the .login file to set environment variables and found the same problem.
This article has been archived and is no longer updated by Apple.
In your home directory there is a file called .dtprofile which is used to set environment variables so they are available to all applications on the Common Desktop Environment (CDE). By default, the desktop does not read your standard $HOME/.profile or $HOME/.login files. This can be changed by uncommenting the DTSOURCEPROFILE variable assignment at the end of this file. The desktop reads .profile if your $SHELL is "sh" or "ksh", or .login if your $SHELL is "csh".

To learn more about which variables to set where, read the comments at the top of the .dtprofile file in your home directory which is copied below.

```
#######################################################
### Your $HOME/.dtprofile is read each time you login to the Common Desktop Environment (CDE) and is the place to set or override desktop environment variables for your session. Environment variables set in $HOME/.dtprofile are made available to all applications on the desktop. The desktop will accept either sh or ksh syntax for the commands in $HOME/.dtprofile.
###
### By default, the desktop does not read your standard $HOME/.profile or $HOME/.login files. This can be changed by uncommenting the DTSOURCEPROFILE variable assignment at the end of this file. The desktop reads .profile if your $SHELL is "sh" or "ksh", or .login if your $SHELL is "csh".
###
### The desktop reads the .dtprofile and .profile/.login without an associated terminal emulator such as xterm or dtterm. This means there is no available command line for interaction with the user. This being the case, these scripts must avoid using commands that depend on having an associated terminal emulator or that interact with the user. Any messages printed in these scripts will not be seen when you log in and any prompts such as by the 'read' command will return an empty string to the script. Commands that set a terminal state, such as "tset" or "stty" should be avoided.
###
### With minor editing, it is possible to adapt your .profile or .login for use both with and without the desktop. Group the statements not appropriate for your desktop session into one section and enclose them with an "if" statement that checks for the setting of the "DT" environment variable. When the desktop reads your .profile or .login file, it will set "DT" to a non-empty value for which your .profile or .login can test.
###
### example for sh/ksh
###
### if [ ! "$DT" ]; then
### #
### # commands and environment variables not appropriate for desktop
### #
### stty ...
### tset ...
### DISPLAY=mydisplay:0
### ...
### fi
###
### #
### # environment variables common to both desktop and non-desktop
### #
### PATH=$HOME/bin:$PATH
### MYVAR=value
### export MYVAR
### ...
###
### example for csh
###
### if ( ! ${?DT} ) then
### #
### # commands and environment variables not appropriate for desktop
### #
### stty ...
### tset ...
### setenv DISPLAY mydisplay:0
### ...
```

```
### endif
###
### #
### # environment variables common to both desktop and non-desktop
### #
### setenv PATH $HOME/bin:$PATH
### setenv MYVAR value
### ...
###
### Errors in .dtprofile or .profile (.login) may prevent a successful login. If after you login, your session startup terminates and you are presented with the login screen, this might be the cause. If this happens, select the Options->Sessions->Failsafe Session item on the login screen, login and correct the error. The $HOME/.dt/startlog and $HOME/.dt/errorlog files may be helpful in identifying errors.
###
##############################################

#
# If $HOME/.profile (.login) has been edited as described above,
# uncomment the following line.
#
#DTSOURCEPROFILE=true
```

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Color OneScanner 600/27: SCSI Port Depends on Configuration

There are two connectors on the Apple Color OneScanner 600/27, which of these should I use?

This article has been archived and is no longer updated by Apple.

The Apple Color OneScanner 600/27 has two SCSI connectors. The connector you use depends on where the scanner is placed in the SCSI chain. Appendix C of the Color OneScanner 600/27 User's Guide contains information on the various locations in the SCSI chain, and what the SCSI termination should be set to.

Below is a chart providing the basic information provided in Appendix C of the Color OneScanner 600/27 User's Guide.

Scanner is the ONLY device in the SCSI Chain
==========

Use the Macintosh SCSI System Cable. The Macintosh SCSI System Cable has a 50-pin connector on one end, and a 25-pin connector on the other. The 25-pin connector goes to your Macintosh computer, the 50-pin connectors goes to the Color OneScanner 600/27.

```
+-----------+                 +-------------------------+
|           | (1)         (2) |                         |
| Macintosh |=================| Color OneScanner 600/27 |
|           |       (3)       |                         |
+-----------+                 +-------------------------+
```

(1) 25-pin Connector
(2) 50-pin Connector
(3) SCSI system cable

Scanner is at the Beginning of the SCSI Chain
==========

When you have multiple SCSI devices an the Color OneScanner 600/27 is placed at the beginning of the SCSI chain, you need two (2) Macintosh SCSI System Cables, and a SCSI peripheral cable for each additional SCSI device.

```
+-----------+          +-----------+          +--------+          +--------+
|           | (1)  (2) |           | (1)  (2) | SCSI 1 | (2)  (2) | SCSI 2 |
| Macintosh |==========| 600/27    |==========| Device |==========| Device |
|           |   (3)    | Scanner   |   (3)    +--------+    (4)   +--------+
+-----------+          +-----------+
```

(1) 25-pin connector
(2) 50-pin connector
(3) SCSI system cable
(4) SCSI peripheral cable

Scanner is in the Middle of the SCSI Chain
==========

If you have the Apple Color OneScanner 600/27 in the middle of a SCSI chain, you need two SCSI Systems cables and a SCSI peripheral cable.

```
+-----------+
|           |(1)    (2)+--------+(2)  (2)+---------+        +--------+
| Macintosh |==========| SCSI 1 |========| 600/27  |(1)  (2)| SCSI 2 |
|           |    (3)   | Device |   (4)  | Scanner |========| Device |
+-----------+          +--------+        +---------+   (3)  +--------+
```

(1) 25-pin connector

(2) 50-pin connector
(3) SCSI system cable
(4) SCSI peripheral cable

SCSI termination information is explained in the Tech Info Library article titled "Apple Color OneScanner 600/27: Terminator is not required".

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Color StyleWriter 1500: No Printer Tray Available (4/96)

The Apple Color StyleWriter 1500 User's Guide indicates there is some type of paper receiving tray, but I do not see one.
This article has been archived and is no longer updated by Apple.
The manual is incorrect. Although an output tray is mentioned in a couple of different places, there is no output paper tray on the Color StyleWriter 1500 printer. The front panel of the printer extends past down the base plate and precludes installing an output paper tray.

This article was published in the 9 April 1996 Information Alley.
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Enhanced PCI-Based Power Macintosh Models: New Features

What are the differences between the previous PCI-based Power Macintosh computers and the enhanced (speedbump) PCI-based Power Macintosh computers.
This article has been archived and is no longer updated by Apple.
The new features in the enhanced PCI-based Power Macintosh computers include:

- Faster processor speeds: up to 150 MHz
- A second-level (L2) cache for higher performance in most models
- Larger sizes of internal hard disks: up to 2 GB
- The latest release of the Mac OS: System 7.5.3
- Multihoming support

Processor Types and Speeds
The clock speeds for the microprocessors in the enhanced Power Macintosh 7200, 7500, 8500, and 9500 computers are increased over their earlier counterparts. In addition, the microprocessor in the Power Macintosh 7600 is a PowerPC 604 instead of the PowerPC 601 used in the original Power Macintosh 7500. The updates are as follow:

Processor Types and Speeds			
Model	Processor Type	Processor Clock Speed	Processor Bus Speed
Power Macintosh 7200	PowerPC 601	120 MHz	40 MHz
Power Macintosh 7600	PowerPC 604	120 MHz	40 MHz
Power Macintosh 8500	PowerPC 604	132 MHz	44 MHz
Power Macintosh 8500	PowerPC 604	150 MHz	50 MHz
Power Macintosh 9500	PowerPC 604	150 MHz	50 MHz

Second-Level Cache
All of the enhanced PCI-based Power Macintosh models, except the lowest-priced Power Macintosh 7200 models, include a second-level (L2) cache. The L2 cache provides up to 40% better performance.

The L2 cache in the Power Macintosh 9500/150 consists of 512 KB of fast static RAM. The size of the cache in the other models is 256 KB. The table in the configurations section of this article depicts this information.

Hard disk drive
The internal hard drives of the enhanced PCI-based Power Macintosh computers consist of either 800 MB, 1.2 GB, or 2 GB. The table in the configurations section of this article depicts this information.

Macintosh System 7.5.3
The enhanced PCI-based Power Macintosh computers include the latest version of the Mac OS, System 7.5.3.

Configurations

Configurations			
Model	DRAM	Hard Drive	L2 Cache
Power Macintosh 7200/100	8 MB	800 MB	-
Power Macintosh 7200/120	8 MB	1.2 GB	-
Power Macintosh 7200/120	8 or 16 MB	1.2 GB	256K
Power Macintosh 7600/120	16 MB	1.2 GB	256K
Power Macintosh 8500/132	16 MB	1.2 GB	256K
Power Macintosh 8500/150	16 MB	2 GB	256K
Power Macintosh 9500/150	16 MB	2 GB	512K

Multihoming
The enhanced models of the PCI-based Power Macintosh computers have a new version of the Curio IC, CurioPrime, that supports multihoming.

Multihoming, also called multiporting, makes it possible for AppleTalk to be active on more than one network port on the computer at the same time.

Multihoming is most important for Macintosh computers with PC Compatible cards installed so users can have simultaneous TCP/IP and Netware sessions.

This article was published in the Information Alley on 25 April 1996.
Published Date: Feb 18, 2012

Macintosh 5400 & 6400: PCI Expansion Slot

What type of expansion slots do the Power Macintosh 5400 and 6400; Macintosh Performa 6400 series; and Macintosh Performa 6360/160 computers have? Are the slots an LC-PDS compatible slot similar to those found in the Power Macintosh 5200 and 5300 series computers?
This article has been archived and is no longer updated by Apple.
The I/O expansion slots in the Power Macintosh 5400 and 6400; Macintosh Performa 6400 series; and Macintosh Performa 6360/160 computers are PCI (peripheral component interconnect) expansion slots and are not compatible with LC-PDS expansion cards, such as those compatible with the Macintosh LC family of computers, the Macintosh 630 series, or with cards that operate in the I/O expansion slot in Power Macintosh 5200, 5300, 6200, and 6300 series computers.

The Power Macintosh 5400 series and the Macintosh Performa 6360/160 computer have one PCI expansion slot whereas the Macintosh Performa and Power Macintosh 6400 series have two PCI expansion slots. These computers accept standard 7-inch (6.88-inch) PCI cards as defined by the PCI Local Bus Specification, Revision 2.0. The PCI bus is a 32-bit multiplexed address and data bus, and does not support the optional 64-bit bus extension signals or cache support signal. The PCI expansion slot has a 33.33 MHz system clock.

A total of 15 watts of power is provided for the PCI expansion slot. Both 5 volts and 3.3 volts are supplied; the total power consumed by both voltages must not exceed the 15-watts maximum.

To install a PCI card into Power Macintosh 5400 and 6400; Macintosh Performa 6400 series; and Macintosh Performa 6360/160 computers , you need to install a right angle PCI adapter into the PCI expansion slot on the logic board. This adapter is included with these computers and replacement adapters are available from Apple-authorized Service Providers.

The following computers are in the corresponding Macintosh families:

- Macintosh 5200CD family: Macintosh 5200/75 LC, Performa 5200, Performa 5210, Performa 5215, and Performa 5220.
- Macintosh 5300CD family: Macintosh 5300/100 LC, Performa 5300.
- Macintosh 6200CD family: Performa 6200, Performa 6214, Performa 6216, Performa 6218, Performa 6220, and Performa 6230.
- Macintosh 6300CD family: Performa 6300, Performa 6290

Published Date: Feb 18, 2012

Macintosh: 128K ROM Debugger

This article has been archived and is no longer updated by Apple.
The Macintosh Plus or any Macintosh with the 128K ROM's has a built-in debugger, a very limited tool compared to Macbug or any other advanced debugger.

Here are the commands:

G - The Go command with no parameter it will start execution at PC.
You can also have execution started anywhere by typing 'G XXXXXX', where XXXXXX is the address you want it to start at.

DM XXXXXX - will display memory values starting at XXXXXX.

SM XXXXXX XXXX - will set memory location XXXXXX equal to value XXXX.
Note : You can include a string of values and they will go into sequentially higher memory locations.

PC XXXXXX - will set the current program counter to XXXXXX.
NOTE : Issuing the PC command without a value prints the current PC Value.

Ax - prints out the current value of Address register x.

Dx - prints out the current value of data register x.

Ax XXXXXX - sets Address register x to value XXXXXX.

Dx XXXXXX - sets Data register x to value XXXXXX.

Here are a few tricks:

To determine which ROM version you are using via the mini-monitor:

1. Press the interrupt switch on the programmer's switch to enter the built-in mini-monitor.

2. Type DM 400000. If the third byte value displayed is EA, it means the revised ROMs; if it's EE, it means the original 128K ROMs.

3. Type G to return.

To return to the shell, type 'SM 15000 A9 F4', then 'G 15000'. This will usually get you back to the Finder.
Published Date: Feb 18, 2012

Macintosh 5260,5400,6400 & 6360: L2 Cache Differences (11/96)

I realize that the Power Macintosh 5260/100, Power Macintosh 5400 and 6400, Macintosh Performa 6400 series, and Macintosh Performa 6360/160 computers accept an optional 256K L2 Cache Card. However, I'd like to know if they use the same card, and if not, if the two cards are compatible with each other.

This article has been archived and is no longer updated by Apple.

Although the Power Macintosh 5260/100, Power Macintosh 5400 and 6400, Macintosh Performa 6400 series, and Macintosh Performa 6360/160 computers accept an optional High-Performance Module (256K L2 cache card), the modules are not interchangeable. The Power Macintosh 5260/100 accepts a 160-pin L2 cache SIMM card whereas the Power Macintosh 5400 and 6400; Macintosh Performa 6400 series; and Macintosh Performa 6360/160 computers accept a 160-pin L2 cache DIMM card.

For the Power Macintosh 5260/100, you need to use the High-Performance Module for Power Macintosh 5260, part number M4849LL/A.

The Power Macintosh 5400 and 6400; Macintosh Performa 6400 series; and Macintosh Performa 6360/160 computers require the High-Performance Module for Power Macintosh 5400 and Performa 6400, part number M4505LL/A.

Part numbers mentioned in this article are accurate as of this writing. Before ordering, verify that they are still correct as they are subject to change.

Article Change History:
15 Nov 1996 - Added 6360 info.
02 Aug 1996 - Added 6400 info.
20 Jun 1996 - Corrected part number

Published Date: Feb 18, 2012

Communication Slot Description and Compatibility

This article provides a description and compatibility information for the Comm Slot I and Comm Slot II used in various Power Macintosh computers.
This article has been archived and is no longer updated by Apple.

Overview

There are two unique comm slots used in older Macintosh and Power Macintosh computers. They are generally not compatible with each other.

The logic board in the Power Macintosh 5400 and 6400; Performa 6400 series; Performa 6360/160; Power Macintosh 4400 series; Power Macintosh 6500; and Twentieth Anniversary Macintosh has a PCI-bus based communications slot connector referred to as Comm Slot II. The connector is a 112-pin half-height microchannel style. Cards that use the communications slot are memory mapped into the I/O space of these computers through the parallel bus.

Compatibility

The communications slots in the above mentioned computers are, in general, not compatible with communication cards that are used with the Macintosh LC family of computers, the Macintosh 630 series, or Power Macintosh 5200, 5300, 6200, and 6300 series computers. For more information about the communications slot used with Power Macintosh 5200, 5300, 6200, and 6300 series computers, please see the following Tech Info Library article:

Article 15081: **Communication Slot: Specifications**

Such cards will not physically fit into the communications slot of the Power Macintosh 5400 and 6400; Macintosh Performa 6400 series; Macintosh Performa 6360/160 computers; Macintosh Performa 4400; Power Macintosh 6500; and Twentieth Anniversary Macintosh systems because the communications slot is keyed at the opposite end (notches). If you line up the notches to install a comm slot I card* into these computers, the connector will face inwards, which prevents you from being able to use the card. In addition, the two communications slots are not fully signal compatible.

The exception is that cards which do not use the bus, such as serial modem cards, can be designed to work in either type of communications slot. The power, ground, serial, and audio signals of the communications slots in the Power Macintosh 5400 and 6400; Macintosh Performa 6400 series; Macintosh Performa 6360/160 computers; Power Macintosh 4400 series; Power Macintosh 6500; and Twentieth Anniversary Macintosh systems are located on the connector in such a way that a dual-keyed (cutout) modem card will fit and operate in the Macintosh LC family of computers, the Macintosh 630 series, or Power Macintosh 5200, 5300, 6200, 6300 series computers, and Power Macintosh 5400 and 6400; Macintosh Performa 6400 series; Macintosh Performa 6360/160 computers; Power Macintosh 6500; and Twentieth Anniversary Macintosh systems communications slot.

Serial modems designed for universal operation must not attempt to access the parallel bus of either the 68030-bus or the PCI-bus communications slots to be compatible in both configurations.

***Note:** To distinguish between those cards that are compatible with the Power Macintosh 5400 and 6400; Macintosh Performa 6400 series; Macintosh Performa 6360/160 computers; Power Macintosh 400 series; Power Macintosh 6500; and Twentieth Anniversary Macintosh systems from those compatible with earlier models, the communication slots themselves are named distinctly. The communications slot in previous models is referred to as "comm slot I" whereas the slots in the Power Macintosh 5400 and Macintosh Performa 6400 are called "comm slot II".

Installation

A communications card can be installed by either the user or an Apple-authorized Service Provider. The communications card is mounted vertically in the connector and its I/O connector is accessed through the communications port access hold on the right hand side of the back panel.

Available Cards

Apple announced several Ethernet CS II (Communication Slot II), including:

- 10BaseT (twisted pair) Ethernet Card (M4772ZM/A)
- 10Base2 (thin coax) Ethernet Card (M4773ZM/A)
- AAUI (Apple standard) Ethernet Card (M4774ZM/A)

The Power Macintosh 5400/120 and the Power Macintosh 6400/200 include the 10BaseT Ethernet CS II Card, but it and the other cards will also be available as standalone cards as well. The Macintosh Performa 6400 series and the Macintosh Performa 6360/160 computers do not include an Ethernet Card, but they do have an internal 28.8 kBps Global Village or Apple GeoPort modem installed in the communications slot.

Note: The following computers are in the corresponding Macintosh families:

- Macintosh 630CD family: LC 630, Quadra 630, Performa 630, Performa 635, Performa 636, Performa 637, Performa 638, and Performa 640.

- Macintosh 5200CD family: Macintosh 5200/75 LC, Performa 5200, Performa 5210, Performa 5215, and Performa 5220.
- Macintosh 5300CD family: Macintosh 5300/100 LC, Performa 5300.
- Macintosh 6200CD family: Performa 6200, Performa 6214, Performa 6216, Performa 6218, Performa 6220, and Performa 6230.
- Macintosh 6300CD family: Performa 6300, Performa 6290.

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Macintosh Performa 6320CD: Description (9/96)

This article contains a description of the Macintosh Performa 6320CD.
This article has been archived and is no longer updated by Apple.

Overview
==========

The Macintosh Performa 6320CD is a powerful and versatile system that brings you increased system speed and built-in video-in and TV tuner capability.

The Apple Macintosh Performa 6320CD computer uses a state-of-the-art PowerPC 603e processor running at 120 megahertz to deliver the highest performance available to date in the Performa product line.

The Performa 6320CD will meet your needs well into the future, not only with its robust performance, but also with a 1.2-gigabyte hard drive--large enough to store applications and information for years to come.

This affordable system includes multimedia features that can be expensive add-ons with other computers. A quadruple-speed CD-ROM drive accesses CD-based data quickly and plays audio and video segments smoothly. Stereo 16-bit sound provides high-quality audio playback, while an audio-input port lets you record your own sounds. The Performa 6320CD also includes the Apple TV/Video System, which allows users to connect to external video sources and capture images as well as view television programming with the aid of a TV antenna.

The machine also comes with special features for telephony. The high-speed internal fax modem works with the Apple PlainTalk microphone (included with the computer) and special software to let you use the computer as a speakerphone and a digital answering machine.

A trial version of America Online is included with every Performa 6320CD computer. Subscribers can access World Wide Web sites, Internet electronic mail-and, of course, the news and information provided by America Online.

The 6320CD is a complete, ready-to-use multimedia system. Packed in one box are the computer (with Apple System 7.5 software already loaded), a color display, a keyboard, a mouse, an internal modem, and a microphone. Also included are more than a dozen home, education, and home-business programs, plus a collection of multimedia reference CDs.

Features
==========

Complete, ready-to-use system
* Computer, color display, keyboard, mouse, and all necessary cables in one box
* Apple System 7.5 software, including Apple Guide software for step-by-step help with basic system operation, QuickTime multimedia software, and Macintosh PC Exchange software
* Internal fax modem supports speeds up to 28.8-kbps data and 14.4-kbps electronic fax send/receive as well as speakerphone and digital answering machine capabilities
* Built-in quadruple-speed, tray-loading CD-ROM player
* Front-panel volume control and headphone/speaker jack
* CD-quality digital sound
* Apple TV/Video System

Included software
==========

* Macintosh System 7.5.3
* At Ease 2.0.3
* Adobe Acrobat 2.0.1
* Apple Video Player
* Global Fax
* Connectix Desktop Utilities 1.0.4z
* HyperCard Player 2.3
* ClarisWorks 4.0v4
* Quicken 96 SE (Special Edition)
* America Online 2.6
* MegaPhone for Performa
* WealthBuilder
* Expresso
* MacLink Plus/Easy Open Translators
* At Ease
* Virex
* The Writing Center
* The American Heritage Dictionary

* Mangia Special Edition
* ClickArt Performa Collection
* MacGallery Clip Art Treasure Pak
* Power Pete
* Lode Runner

CD-ROM titles
==========

* The Grolier Multimedia Encyclopedia
* TIME Almanac Reference Edition
* 3D Atlas
* The Family Doctor
* Smithsonian's America
* Avid VideoShop
* Club KidSoft CD
* Sesame Street Numbers
* My First Incredible, Amazing Dictionary
* Making Music by Voyager
* Descent
* Hollywood
* Buried in Time
* Allied General
* F/A-18

Ordering Information
==========

Macintosh Performa 6320CD 16/1.2GB/4xCD/28.8
---
* Macintosh Performa 6320CD computer with 16 MB of RAM, 1 MB of video memory, built-in AppleCD 600i internal quadruple speed CD-ROM player, 1.4 MB Apple SuperDrive floppy disk drive, internal 1.2 GB hard disk drive
* Global Village 28.8 internal modem
* Apple Multiple Scan 15" Display
* AppleDesign Keyboard
* Apple PlainTalk microphone
* Order number M4957LL/A

Optional Enhancements
---
* Apple MPEG Media System
Order No. M4243LL/A

* Apple Video System
Order No. M2894LL/C

* Apple TV/Video System
Order No. M2896LL/C

* Apple Presentation System
Order No. M2895LL/A

* Apple Ethernet LC Thin Coax Connection
Order No. M33462Z/A

NOTE:
Product specifications are subject to change. Check with your Apple reseller for the most current information about product specifications and configurations.

Article Change History:
25 Sep 1996 - Removed keyword.
10 Jun 1996 - Modified modem information.
29 May 1996 - Changed distribution status.

TA35299_Macintosh_Performa_CD_Description__(TIL19594).pdf

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Macintosh Performa 6320CD: Technical Specifications (9/96)

This article contains the technical specification for the Macintosh Performa 6320CD.
This article has been archived and is no longer updated by Apple.

Microprocessor
==========

* PowerPC 603e processor running at 120 MHz
* Integrated floating-point unit
* 40 MHz, 64-bit bus
* 256K level 2 cache
* 32K internal cache

Memory
======

* Comes with 16 MB of RAM (uses one SIMM socket)
* Expandable to 64 MB of RAM using two 32 MB SIMMs
* Uses 72-pin, noncomposite, 80-nanosecond or faster DRAM SIMMs

Disk drives
==========

* Internal 1.2GB hard disk drive
* Internal Apple SuperDrive floppy disk drive
- Uses high-density, 1.4MB floppy disks
- Reads, writes, and formats Macintosh, Windows, MS-DOS, OS/2, and ProDOS disks
* Internal, quadruple-speed AppleCD 600i CD-ROM drive

Modem
=====

* Internal, up to 28.8-kbps data and 14.4-kbps electronic fax send/receive
* Built-in error correction and compression (MNP4, V.42, MNP5, V.42bis)

Sound
=====

* Stereo 16-bit sound
* Built-in speaker
* Sound-output port
* Sound-input port (can be used to connect the Apple PlainTalk microphone included with the computer)
* Front headphone jack and volume control

Interfaces
==========

* Apple Desktop Bus port for mouse, keyboard, and other devices
* Monitor port (also supports connection to an NTSC or PAL video-out interface box, such as the Apple Presentation System)
* Serial port (RS-232/RS-422) for an AppleTalk network connection, other networking or communications equipment, or a printer
* SCSI interface port for connecting as many as five external SCSI devices, such as disk drives or CD-ROM drives
* LC processor-direct expansion slot
- Compatible with most Macintosh Performa 400 and 500 series; Performa 630; Macintosh Quadra 605; and Macintosh LC II, LC III, LC 475, LC 550, LC 575, and LC 630 processor-direct cards
- Can be used for an Apple MPEG Media System card or other specialized card
* Communications slot for a modem (used by Global Village modem)
* Composite and S-video inputs for video viewing and capture
* Integrated TV tuner to attach to TV antenna
* Infrared remote control

Display support
==========

* Apple displays up to 15 inches through a 1 MB DRAM video buffer (independent of system RAM)
* Wide range of VGA and SVGA displays from other vendors

Color support
==========

* Offers 16-bit color for display of up to 32,768 colors on monitors using 640x480-pixel resolution
* Provides 8-bit color for display of 256 colors on monitors using 800xpixel or 832x624-pixel resolution

Electrical requirements
==========

* Line voltage: 110 to 240 V AC, RMS, single phase, nominal
* Frequency: 50 to 60 Hz
* Power: 55 W maximum

Size and weight
==========

* Height: 4.3 in. (10.95 cm)
* Width: 12.6 in. (32.0 cm)
* Depth: 16.5 in. (41.9 cm)
* Weight: 19 lb. (8.6 kg)

Operating environment
==========

* Operating temperature: 50í to 104í F (10í to 40í C)
* Storage temperature: -40í to 116í F (-40í to 47í C)
* Relative humidity: 5% to 95%, noncondensing
* Maximum altitude: 10,000 ft. (3,048 m)

Disability access
==========

* CloseView software magnifies image up to 16 times
* Easy Access software for sequential combination keys, and cursor control from the numeric keypad
* "Visual beep" replaces audible system alerts

Apple Multiple Scan 15 Display
==========

* 15-inch diagonal RGB color display (13.3-inch diagonal viewable image size)
* Up to 832x624-pixel resolution at a scan frequency of 75 Hz
* 0.28-mm dot pitch
* Meets the strictest international magnetic-field emissions requirements (SWEDAC MPR2)
* Height: 16.7 in. (42.4 cm)
* Width: 15.9 in. (40.5 cm)
* Depth: 17.8 in. (45.2 cm)
* Weight: 31.0 lb. (14 kg)

AppleDesign Keyboard
==========

* Provides adjustable keyboard slope
* Includes function keys, numeric keypad, cursor arrow keys, and special screen-editing keys

Apple Desktop Bus Mouse II
==========

* Round shape fits contour of the palm of the hand
* Large button allows easy clicking and dragging

Article Change History:
25 Sep 1996 - Removed keyword.
29 May 1996 - Changed distribution status.
19 Apr 1996 - Updated information.

Published Date: Feb 18, 2012

MacTCP on PCI-Based Macintosh Computers Not Supported (5/96)

Can I run the MacTCP control panel on my PCI-based Power Macintosh computer (7200, 7500, 8500, or 9500)?
This article has been archived and is no longer updated by Apple.
No, you should not have MacTCP running on PCI-based Power Macintosh computers. Prolonged use of MacTCP can damage system software to the extent that Open Transport networking will not work properly. If Open Transport no longer functions properly, you need to perform a clean installation of the system software as described in the Power Macintosh User's Guide that came with the computer. The information below is from the PCI-based Power Macintosh Read Me files, and it recommends removing MacTCP.

Important Information About Open Transport Networking

MacTCP

After you install new networking software on your hard disk, if you have problems with TCP/IP applications, look in the Control Panels folder for a MacTCP file. If one is there, remove it from the Control Panels folder and restart your computer. Each time you install new networking software, you may want to verify whether or not the software's installer also installed MacTCP, and follow this procedure.

Article Change History:
08 May 1996 - Included additional information on clean system install.

Published Date: Feb 18, 2012

At Ease: Open Transport & 680x0 Computers Issue

Using At Ease on a 680x0-based Macintosh computer, after installing System 7.5 Update 2.0 and enabling Open Transport with the Network Software Selector, my computer stops responding during startup, while the extensions are loading.
This article has been archived and is no longer updated by Apple.
As of March 1996, At Ease is not compatible with Open Transport. This includes all versions, At Ease 3.0.1 and earlier.

Workaround:
Use Classic AppleTalk instead of Open Transport.
Published Date: Feb 18, 2012

Power Macintosh 5400 & Performa 6400: Adding Memory

I need to add memory to my Power Macintosh 5400/120 computer, but I'm not sure what type of memory I need to purchase. Does this computer use SIMMs or DIMMs?

This article has been archived and is no longer updated by Apple.

Compatibility
==========
The Power Macintosh 5400 and 6400; Macintosh Performa 6400 series; and Macintosh Performa 6360/160 computers use JEDEC-standard 168-pin DIMMs (dual inline memory module) DRAM cards rather than the 72-pin SIMM DRAM cards used in the Power Macintosh 5200 and 6200 computers. The DIMMs should be 64-bit-wide, 168-pin fast-paged mode, 70ns RAM access time or faster, and 2K refresh rate. Although you can use EDO memory in the Power Macintosh 5400 and 6400; Macintosh Performa 6400 series; and Macintosh Performa 6360/160 computers, you will not experience any benefit from doing so. SIMMs from older Macintosh computers are not compatible with your computer and should not be used.

Additionally, you cannot necessarily use the same DIMMs as you can in other PCI-based Power Macintosh computers such as the 7200, 7500, 7600, 8500, and 9500 series computers. These other Power Macintosh computers can support DIMMs with either a 2K or 4K refresh rate. However, the Power Macintosh 5400 and 6400; Macintosh Performa 6400 series; and Macintosh Performa 6360/160 computers can only support DIMMs with a maximum of a 2K refresh rate*. DIMMs incorporating 4K refresh parts will function in these computers but at half the memory density. For example, the computers will only recognize 16 MB of a 32 MB DIMM, and so on.

To prevent compatibility problems, Apple has contacted major RAM developers in several ways. In the Developer Notes for the Power Macintosh 5400/120 and for the Macintosh Performa 6400 series, the following note was added:

"DRAM DIMM developers should note that the PSX memory controller on the main logic board of the Power Macintosh 5400 computer does not provide support for 4 M by 4 bits (12 by 10 addressing) or 1 M by 16 bits (12 by 8 addressing) DRAM devices."

Additionally, Apple sent a message to specific vendors which stated:

"The PSX memory controller does not support 4Mx4 DRAM devices with 12 by 10 addressing nor 1Mx16 devices with 12 by 8 addressing. Other 16 MBit devices are compatible, for a full list refer to the Developer Note."

The following RAM developers received this note:
* Vikking
* Techworks
* SQP
* Southland
* PNY
* Newer Technology
* Lifetime, Kingston
* Delta Lu, Comtech
* Apple Japan

DIMMs available from Apple Computer are 2K refresh rate only so you can safely use them in your Power Macintosh 5400 and 6400; Macintosh Performa 6400 series; and Macintosh Performa 6360/160 computers.

*Notes:
- Refresh rates lower than 2K, such as 256K or 1K are also supported.
- The only memory devices with a 4K refresh rate which is supported on the Power Macintosh 5400/120 and Macintosh Performa 6400 series are 2M x 8 devices with 12 x 9 addressing.

Expansion
=========
The Power Macintosh 5400 and 6400; Macintosh Performa 6400 series; and Macintosh Performa 6360/160 computers have two RAM expansion slots on the logic board. You can use any DRAM configuration with DIMMs of these sizes: 8, 16, 32, or 64 MB. The exact configuration depends on the density of the DRAM chips that are mounted on the DIMMs.

You can increase your computer's DRAM to up to a maximum of 136 MB (the 8 MB that comes on your computer's logic board, plus an additional 128 MB for a total 136 MB).

DIMMs can be installed one or more at a time. The Power Macintosh 5400 and 6400; Macintosh Performa 6400 series; and Macintosh Performa 6360/160 computers support only linear memory organization. Therefore, no performance gains are seen when two DIMMs of the same size are installed. Any size DIMM can be installed in either DIMM slot, and the combined memory of all of the DIMMs installed will be configured as a contiguous memory space.

Article Change History:
26 Nov 1996 - Clarified refresh rate support.
15 Nov 1996 - Added 6360.
17 Sep 1996 - Corrected expansion information.

Published Date: Feb 18, 2012

CyberDog: Q&A about Java & Netscape (7/96)

This article contains information on how OpenDoc, Cyberdog, and Java work together. This information is contained in the Apple product slick titled "Harnessing component software & the Internet. OpenDoc & Cyberdog."
This article has been archived and is no longer updated by Apple.
"With the advent of OpenDoc and Java, there is now a unique opportunity for two very powerful technologies to work together. OpenDoc's component approach and Java's portability make for a powerful combination." -Joshua D. Wachs, president, Natural Intelligence, Inc.

"Cyberdog allows our users to create personalized living documents that contain live Internet data." -Roger Bell, president, Digital Harbor, L.C.

There are two powerful forces driving today's worldwide software industry. One force is component software. The other is the Internet. OpenDoc and Cyberdog harness those two forces, providing opportunities and benefits for developers and users alike.

Here is a look at OpenDoc and Cyberdog: how they relate to each other, and to technologies such as Java (from Sun Microsystems) and Netscape Navigator (from Netscape Communications Corporation).

Question: How do OpenDoc and Cyberdog relate to each other?

Answer: OpenDoc is an open, multiplatform architecture for component software: self-contained, reusable software modules. It is supported by CI Labs, a nonprofit association of more than 300 industry leaders that includes Apple Computer.

Apple used OpenDoc to create Cyberdog, a new technology that integrates network services into the Mac OS, bringing live links and views of the Internet to any document. And making the Internet as easy to use as a Macintosh computer.

Question: How are OpenDoc and Java similar?

Answer: OpenDoc and Java are each based on the premise that, in the future, software will be composed of small modules that can be bound together at run time. The creators of both technologies believe that this will lead to greater innovation in the marketplace, and more customized solutions for users.

Question: How are OpenDoc and Java different?

Answer: OpenDoc is a component architecture. Java is an object-oriented programming language. The OpenDoc architecture contains everything necessary for a complete component architecture, including persistent storage. OpenDoc components can be written in any language including Java.

Question: Do OpenDoc and Java compete with each other?

Answer: OpenDoc and Java are, in fact, complementary technologies. Apple intends to ensure that OpenDoc and Java work together. For example, an OpenDoc component can be written to understand how to execute Java applets. In this way, Java applets can be embedded within any OpenDoc container application, not just in an Internet browser. OpenDoc can become the bridge between today's desktop applications and tomorrow's network-based applets.

Question: What will drive a developer's choice of language when writing OpenDoc components?

Answer: Developers will choose whether to use C, C++, or Java on a case-by-case basis. If cross-platform development is the primary goal-and performance less of an issue-Apple expects many developers to choose Java. If high performance and tight integration with the operating system are paramount, developers are likely to use C or C++.

Question: What are the benefits Cyberdog offers to users?

Answer: The conventional Internet model is to "put everything into the browser." The new Cyberdog model is "put the browser everywhere." Cyberdog allows users to integrate live Internet data in their desktop applications, by embedding Cyberdog components (such as the web browser) into any OpenDoc-compatible application. For example, ClarisWorks. This brings live links and views of the Internet to any document, whether it's a monthly report, lesson plan, or executive information system.

Question: How does Cyberdog relate to other Internet technologies?

Answer: Cyberdog fits in between browsers, such as Netscape Navigator, and HTML authoring tools, like Adobe PageMill. Cyberdog, with its ability to embed live Internet data into OpenDoc documents, allows users to create-and store on the desktop-custom views of the Internet.

Question: Will users choose Cyberdog over Netscape Navigator?

Answer: Most users are likely to have both Netscape Navigator and Cyberdog on their systems. Apple believes that users who want to just quickly browse a web site will continue to use Netscape Navigator. Users who want to integrate the Internet into their desktop applications-or create custom Internet solutions-will use Cyberdog.

Question: Does the Netscape plug-in architecture compete with OpenDoc?

Answer: OpenDoc is a general-purpose component architecture. It does not compete with the Netscape plug-in architecture, which is a highly specialized mechanism for adding viewers to Netscape Navigator. An OpenDoc component that allows any Netscape plug-in to work with any OpenDoc container application, would demonstrate the complementary nature of the two architectures.

Cyberdog Development Opportunities

Created entirely with OpenDoc, Cyberdog integrates network services into the Mac OS, bringing live links and views of the Internet to any document. It makes the Internet as easy to use as a Macintosh. Apple designed Cyberdog to create a ready market for developers. Developers can ship it with their products. And every Cyberdog component can be replaced or enhanced. Developers can create replacement web or Gopher browsers, Notebooks, Logs, or other Cyberdog components. Or they can choose to offer Cyberdog users totally new functionality. Perhaps a videoconferencing component, or real-time "chat" capabilities. Other opportunities include developing tools to analyze and manipulate raw data from the Internet. All application developers can realize benefits from Cyberdog. For instance, by simply adding OpenDoc support to your existing applications, you also get Cyberdog. Which gives you Internet connectivity, without recoding your software. Find out more about OpenDoc and Cyberdog.

Visit our Internet home page: http://opendoc.apple.com

Article Change History:
02 Jul 1996 - Replaced entire discussion with current information.
Published Date: Feb 18, 2012

WPL: How to make AUTOLETTER use surnames

This article has been archived and is no longer updated by Apple.

Make these modifications to the WPL program Autoletter on page 96 of the AppleWriter III manual as follows:

```
       BEFORE
       ------
       L .D1/ADDRS!<(X)>!<!N
       PGO FOUND
       PGO QUIT
FOUND   PLS .D1/ADDRS!<(X)>! !N=$A

       AFTER
       -----
       L .D1/ADDRS!<(X)>!@!N
       PGO FOUND
       PGO QUIT
FOUND   PLS .D1/ADDRS!@(X)@!<!N=$A
```

Then modify your address file as below:

```
       BEFORE                          AFTER
       ------                          -----
<1>John Smith                    <1>John Smith
1234 Elm Street                  1234 Elm Street
Anytown, USA  12345              Anytown, USA  12345
<2>Jane Doe                      @1@Mr. Smith<2>Jane Doe
5678 Main Ave.                   5678 Main Ave.
Nowhere, Indiana  98765          Nowhere, Indiana  98765
<                                @2@Ms Doe<
```

There are other methods of achieving the desired result, but this one is easy and it affords the flexibility of using a different "dear" name than the first line of the address (i.e., Company Name on the first line of the address).

This method also works quite well with Apple Writer II & IIe. For the file name path .D1/ADDRS, substitute ADDRS,D1 for DOS or simply ADDRS for ProDOS.

Published Date: Feb 18, 2012

Macintosh: Interrupt Dialog Box

Customer has purchased the Macintosh 800K Enhancement or Macintosh Plus Upgrade and notices that when pressing "Interrupt" or the Programers Switch a ">" appears in a dialog box. The prompt and dialog box did not appear on the customers Macintosh 512K before the upgrade occured.
This article has been archived and is no longer updated by Apple.
This is not a software or hardware failure, but an added enhancement made to ROM for programing purposes. Pressing the interrupt switch after booting to the "desktop" or executing a program will cause the Macintosh to drop into the Mini-Debugger.

To exit the Mini-Debugger type "G" and press "RETURN". This will allow the user to resume work without having to reboot the computer.
Published Date: Feb 18, 2012

System 7.5 Update 2.0: Removes MacTCP Token Ring Ext. (4/96)

I have a Macintosh computer running TCP/IP on a Token Ring network. I recently installed System 7.5 Update 2.0, but now I am unable to select Token Ring in the MacTCP control panel. What's going on?
This article has been archived and is no longer updated by Apple.
During the installation of System 7.5 Update 2.0, the MacTCP Token Ring extension is removed. However, the extension is necessary to run TCP/IP protocol over a Token Ring network from a Nubus-based Macintosh computer. To resolve this, you'll need to reinstall the MacTCP Token Ring extension. If you do not have the disks from which you originally got the MacTCP Token Ring extension, you can download it from the online services.

These articles can help you locate the software update mentioned here:

* "Where To Find Apple Software Updates" - Lists online services for free Apple software updates.

* "Obtaining Apple Product Support in the USA" - Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech Info Library.

Article Change History:
18 Apr 1996 - Updated technical information.

Published Date: Feb 18, 2012

Power Macintosh 5260/100: Description (4/96)

This article contains a description of the Power Macintosh 5260/100 computer.

Note: This computer is only available through educational channels.
This article has been archived and is no longer updated by Apple.
The Power Macintosh 5260/100 computer brings 100-MHz PowerPC processor performance to a new low cost. And this is a system that can grow as your needs change, with such options as 256K of Level 2 cache memory to further boost processor performance, and a wide variety of multimedia, networking, and communications expansion cards.

The Power Macintosh 5260 is an all-in-one system, so it's economical, easy to set up, and easy to start using. And it's optimized for multimedia, with built-in features and expansion slots that let you enjoy stunning graphics, video, and audio now, and add advanced features later.

Already included in the main unit are a 14-inch color display (diagonal viewable image size 12.3 inches), an 800-megabyte hard disk, a 1.4 MB floppy disk drive, a quadruple-speed CD-ROM drive, a microphone, and stereo speakers. The whole system is on a tilt-and-swivel base that lets you position it precisely for the most comfortable viewing. A keyboard and mouse are also provided.

The 16-bit sound provides high-quality audio playback through the built-in stereo speakers or external speakers (not included). You can record voice, music, and other audio of your own choosing through the front microphone or the rear audio-input port.

Multimedia expansion is easy on the Power Macintosh 5260 computer. Your computer comes with special slots for video-input, TV-tuner, and communications or networking cards. A general-purpose slot supports a variety of expansion options, such as an MPEG card for viewing CD-ROM-based movies and interactive "edutainment" programs. You can also add video-output capability to display your Macintosh screen on a TV or a projection system, or to record your work on a VCR.

Features
==========

Complete, ready-to-use system
---
* Computer, 14-inch color display (12.3-inch diagonal viewable image size), CD-ROM drive, floppy disk drive, hard disk, micro-phone, and speakers built into one unit
* Matching keyboard, mouse, and all necessary cables
* Apple System 7.5 software, including Apple Guide software for step-by-step help with basic system operation, and QuickTime multimedia software
* Built-in quadruple-speed, tray-loading CD-ROM player
* Front-panel volume control and headphone/speaker jack
* CD-quality digital sound

Ordering Information
==========

Power Macintosh 5260/100
---
* Computer with built-in 14-inch display (12.3-inch diagonal viewable image size), 800MB hard disk, quadruple-speed CD-ROM drive, and Apple SuperDrive floppy disk drive. Mouse, keyboard, and cables also included.
* Order No: M4982LL/A

Optional Enhancements
---
* High Performance Module
(256K Level 2 Cache)
Order No. M4849LL/A

* Apple MPEG Media System
Order No. M4243LL/A

* Apple Video System
Order No. M2894LL/C

* Apple TV/Video System
Order No. M2896LL/C

* Apple External Video Connector

Order No. M4099LL/A

* Apple Presentation System
Order No. M2895LL/A

* Apple Ethernet CS Twisted-Pair Card
Order No. M3065Z/A

* Apple Ethernet CS AAUI Card
Order No. M3066Z/A

* Apple Ethernet CS Thin Coax Card
Order No. M2708Z/A

Article Change History:
15 Apr 1996 - Updated information.

Published Date: Feb 18, 2012

System 7.5 Update 2.0: Drive Setup, HD SC Setup Install

Where can I find and install Drive Setup 1.0.4 which is mentioned in the following Read Me files?

System 7.5 Update 2.0: What's New in This Update (3 of 3)
System 7.5 Update 2.0: Overview and Installation Read Me
This article has been archived and is no longer updated by Apple.
The following applications can be installed with the Custom Install option of the System 7.5 Update 2.0 installer:

- Apple HD SC Setup 7.3.5
- Battery Recondition 1.3 (certain PowerBook computers only)
- Drive Setup 1.0.4
- Disk First Aid 7.2.2
- SimpleText 1.3.1

You can install these applications by following the steps below:

1. Double-click the Installer icon.
2. Read the Welcome to System 7.5 Update Installer, then click Continue.
3. In the Destination Disk section of the Install System 7.5 Update window, in the lower left corner, click Switch Disk until the hard disk you want to install the software on appears.
4. Select Custom Install in the Easy Install pop-up menu, upper right corner.
5. Click on the triangle to the left of Application.
6. Select the applications you want to installed by clicking its checkbox.
7. Click Install.
8. Click Restart when the installation is completed.

Look in the Apple Extras folder for the applications you just installed.

This article was published in the Information Alley on 10 April 1996.
Published Date: Feb 18, 2012

System 7.5.3: How to Install Desktop Printers (4/96)

I reinstalled the System 7.5.2 software on my PowerBook 5300cs, then I installed the System 7.5 Update 2.0. After doing this, I checked the LaserWriter printer driver. The LaserWriter driver is version 8.3.3, however I do not have the desktop printer icons.

How can I get this functionality? Why is it not included with the System 7.5 Update 2.0?

I did find Desktop Printing Software SW 1.0.3. The ReadMe file stated that I should not use this software unless desktop printing had already been installed. I installed it anyway, and it did not work.
This article has been archived and is no longer updated by Apple.
Desktop Printing Software is included with System 7.5 Update 2.0, it is in TOME 7, however you must use the Custom Install feature to install it. Within the "Custom Install" area of the Installer, expand the "Printing SW Updates" item and click the "Desktop Printer 1.0.3" box. This installs all of the necessary resources for Desktop Printing. You will also need to enable Background Printing in the Chooser.

There are a couple of other ways to obtain the latest version of Desktop Printing software using specific printer installers such as Color LaserWriter 12/600 8.3.2 installer, Color StyleWriter 2500 installer, or Color StyleWriter 1500 installer.

The standalone Desktop Printing SW 1.0.3 installer ReadMe states a need for an earlier version of desktop printing software because of these other component requirements; Finder v7.1.4, Clipping Extension, Networking Extension, Thread Manager, Drag & Drop extension, and the Dragging Enabler.

Published Date: Feb 18, 2012

Apple Media Tool 2.0: Mouse Up Events Issue

In Apple Media 2.0, when trying to use a "Mouse Up" event for an object, the event is sent regardless of whether the pointer is within the hot spot of the picture when the mouse is released.
This article has been archived and is no longer updated by Apple.
This behavior is being investigated by Engineering. In the meantime, there is a workaround.

Workaround
==========

For any object where this "Mouse Up" behavior is a problem, include a
"Mouse Leave" event with a "Go to itself" link. This should prevent the Mouse Up event from processing when the mouse is released outside of the hot spot. However, this workaround may affect the playback of sounds and movies any time the pointer leaves that hot spot.
Published Date: Feb 18, 2012

MacPPP 2.5 and AICK 1.0 (4/96)

This article tells you how to obtain MacPPP v2.5 for use with the Apple Internet Connection Kit (AICK) 1.0.
This article has been archived and is no longer updated by Apple.
MacPPP v2.5 is an upgrade to the current version of MacPPP. Apple recommends that all AICK 1.0 users upgrade to MacPPP v2.5. You can find MacPPP v2.5 at Apple Computer's online software update areas.

These articles can help you locate the software update mentioned:

* "Where To Find Apple Software Updates" -- Lists online services for free Apple software updates.

* "Obtaining Apple Product Support in the USA" -- Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech Info Library.

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MacPPP v2.5: Read Me

This article is the MacPPP version 2.5 Read Me file.
This article has been archived and is no longer updated by Apple.
Important Information about MacPPP v2.5 is in this Read Me. Before you install MacPPP v2.5, read the following information.

System Requirements

- Power Macintosh or Macintosh computer with a 68030 microprocessor or greater
- Macintosh system software version 7.5 or later
- MacTCP or Open Transport; if you are using Open Transport, you must use version 1.0.8 or later (version 1.1 is strongly recommended)

Open Transport Users
Open Transport v1.1 is strongly recommended for use with the Apple Internet Connection Kit and MacPPP. You must use Open Transport v1.0.8 or later.

Apple's System 7.5 Update 2.0 will install Open Transport v1.1 for you. Look for information about this update and others on Apple forums and Apple Web sites on the Internet.

Installing MacPPP v2.5
Make sure you've quit all open applications before you attempt to install MacPPP.

To install MacPPP on your hard drive, drag the MacPPP file onto your System Folder icon. If you are installing over an older version of MacPPP it will tell that an older version is installed, and ask for permission to install the newer version. Click on the OK button. MacPPP will be automatically installed into your Extensions folder. Restart your Macintosh.

MacPPP is now installed.

Issues While Connecting
If you encounter problems while connecting and you use the Apple Internet Connection Kit, try the following:

Throw away the PPP Preferences file (located in the Preferences folder in your System Folder). Run the Apple Internet Dialer, and then Quit. The Apple Internet Dialer will create new MacPPP Prefs for you. Restart your Macintosh.

Changes From MacPPP v2.1.4
MacPPP v2.5 offers a number of bug fixes and changes from v2.1.4, which was included in the Apple Internet Connection Kit v1.0.

In addition to improved error handling, MacPPP v2.5 is now compatible with the following:

- Virtual Memory
- Apple Macintosh PowerBook computers
- Faceless background applications
- Berkeley Systems' After Dark screen saver
- Most major third party Internet utilities

Note: All Apple Internet Connection Kit v1.0 users should upgrade to MacPPP v2.5.
Published Date: Feb 18, 2012

Apple Internet Connection Kit: FAQ

This article contains the answers to frequently asked questions (FAQ) on the Apple Internet Connection Kit (AICK).

IMPORTANT: First make certain the computer meets AICK requirements:

- Type of Macintosh: 68030 microprocessor or newer computer.
- System Software: System 7.5 or later (for Apple Guide and MacTCP), Open Transport users should use version 1.1.1 or later.
- Amount of RAM: minimum 12 MB RAM, preferred 16 MB or more depending on how many Internet applications are running.
- Modem: minimum 9600 or 14,400 bps modem (28,800 bps recommended).

Questions in this FAQ

1) I keep getting "Not enough memory to launch Netscape" errors, what should I do?

2) I keep getting "PPP timeout" errors when clicking Dial in the Apple Internet Dialer. What should I do?

3) I get "DNS errors" in Netscape, what can I do?

4) I cannot get AICK to install, and I get this error message, "Can't install to hard drive. A problem was found." What can I do?

5) I keep getting a "Resource File" is damaged error when I try to open the Apple Internet Dialer. What can I do?

6) I keep getting a PPP not active error when I try to open the Apple Internet Dialer. How do I fix this?

7) My settings in Config PPP and MacTCP are not being saved. How do I save them?

8) I cannot receive or send e-mail with E-Mailer Lite, however, I appear to connect to the Internet fine. What can I do?

This article has been archived and is no longer updated by Apple.

1) Question: I keep getting "Not enough memory to launch Netscape" errors, what should I do?

Answer: Some Internet programs have an issue running with Virtual Memory (VM) turned on. When you are performing setup troubleshooting on those programs, it would be better to start with VM off, and turn VM on later, once the Internet software is setup and working properly.

It may be difficult to run Internet software with less than 12 MB RAM. Software that runs without color like e-mail, Gopher, Telnet, and others may be possible depending on how much RAM is used by System Software. However, Worldwide Web (WWW) browsers by themselves may use 4 MB to 9 MB RAM, or more, depending on which pluggins or add-ons are installed and in use.

Internet software can consume large amounts of RAM, especially if these applications remain open over time. It is fairly easy, on a Macintosh, to continue opening new windows, images, data files, and so on -- all of which use RAM. This is similar to a word processing application which will eventually run out of RAM, if we keep opening different files.

There are basically two ways you might run short of RAM on your Macintosh. An individual application like a WWW browser or e-mail program, could run out of RAM -- this is an Application RAM problem. The other is that system software may not have enough room to grow dynamically in the Macintosh computer's overall (or total) RAM space -- this is typically referred to a system heap problem (or system RAM problem).

2) Question: I keep getting "PPP timeout" errors when clicking Dial in the Apple Internet Dialer. What should I do?

Answer: PPP timeout errors usually occur when the PPP software is unable to set up its connection. There are several things to check:

First, make sure your modem is properly connected (a) to your Macintosh, (b) to the telephone line, and (c) that the modem is turned on. This accounts for most PPP timeout error messages.

Second, did you hear a dial tone prior your modem's attempting to connect? If not, check the phone line for proper dial tone; most modems let you connect a telephone to check for dial tone. If your modem does not allow a connection, you can take the modem's phone line and connect it to your telephone. If the modem's line does not have a proper dial tone, it will not work and PPP timeout errors will occur.

Third, check the modem selection and initialization (init) string. The Dialer includes the ability to select, add, or modify modem init strings. In the modem selection pop-up menu, an Add/Modify Modem command is available at the very top of the menu. This information is stored in the Modem Information preference file.

An init string is a group of commands and settings sent to the modem to start it, so it can function properly. Please see the TIL article entitled, "Modem Initialization Strings for MacPPP Access" for the correct string for your modem, or check with the modem manufacturer. Further information on init strings is also available by searching in the Tech Info Library using the search string "modem and initialization and string". Many modem manufacturer's web sites now exist for product information, software updates, and technical information such as modem init strings.

Additionally, your modem manufacturer or Internet service provider (ISP) may have additional suggestions for avoiding conflicts with PPP software. Generally, it may be helpful to turn off fax software, or other third-party additions to System Software, with the Extensions Manager control panel. Be careful to leave any needed telecom software -- like MacTCP or TCP/IP, Global Village Toolbox, Express Modem, and so on -- turned on.

Also, it may be helpful to reset the PRAM on your Macintosh. This is especially helpful if you see an error message indicating that the serial port is in use. For further information on this, please see Tech Info Library article "How To Reset Parameter RAM". If you do reset PRAM, you may need to check that VM is off.

3) Question: I get "DNS errors" in Netscape, what can I do?

Answer: DNS (Domain Name Service), to use a simple explanation, is like a giant phone book for the Internet. It lets you type "http://www.apple.com" in a web browser and a DNS server on the net will return the proper IP address for this destination. Your web browser will then make it's query again, using the numerical IP address. It's easier for us to remember www.apple.com than 17.254.3.21 (the IP address for the www.apple.com host). Note that you can also type "http://17.254.3.21" and it works just like "http://www.apple.com". There are several reasons why you may get DNS errors, and several things you can do to fix them.

First, remove the file called MacTCP DNR (domain name resolver) from the root (or top level) of your system folder. This file will be recreated automatically when you restart your Macintosh, whether you are running classic networking (MacTCP) or Open Transport (TCP/IP). The DNR file may become corrupted, and removing it, should resolve some connection problems. Removing the MacTCP DNR file is the first and most important troubleshooting tip for AICK, and should be used prior to other actions. To replace the MacTCP DNR file, drag it to the Trash, restart your computer by choosing Startup from the Special menu, then empty the Trash.

Second, WWW Browsers sometimes can experience a corrupted cache file which could cause problems when logging on. Locate your browser's cache folder and drag it to the Desktop Restart your computer and try the browser again. If it works now, it probably was a corrupted cache item.

Third, check to make sure you have the proper settings from your ISP. AICK stores these settings in the Apple Internet Dialer. If you have a backup of your Dialer settings, the Dialer can handle the backup and restoring of these settings. You can also check these settings in the MacTCP or TCP/IP control panels. This information must be correct for DNS to work.

Finally, the MacTCP prep file or TCP/IP Preferences file may be corrupted. These files are located in the System Folder's Preferences folder. There is less reason to throw these files away, unless your network administrator or ISP suggests that you do so.

WARNING: Throwing either the MacTCP prep file, or TCP/IP Preferences file in the Trash will result in a loss of your TCP/IP settings. Be sure you have this information written down and saved.

4) Question: I cannot get AICK to install, and I get this error message, "Can't install to hard drive. A problem was found." What can I do?

Answer: Try the following to resolve the issue:

* Unlock the System Folder by using the General Controls control panel and turn off System Folder Protection.
* Check to see if the Launcher is locked, if it is locked, unlock it.
* If you are still unable to reinstall AICK, Custom Remove the AICK software, do a clean install of your System Software to put a fresh System Folder on your hard drive and then reinstall AICK.

5) Question: I keep getting a "Resource File" is damaged error when I try to open the Apple Internet Dialer. What can I do?

Answer: The Dialer includes the ability to backup your providers settings, and restore from that backup. You can do this from the Dialer's File menu, choose "Backup Provider Information..." or "Restore Provider Information...". All users should perform a backup and save it. If a "Resource File is damaged" error occurs, you can restore good copies of the needed files from a previously saved backup.

This Backup function copies the files from Preferences/Internet Dialer Folder, so the restore function will not generate fresh preference files. Therefore, it is possible to backup files that may already be corrupted, and thus possibly restoring corrupted files. It is recommended that users backup their Internet Dialer Folder soon after the software is successfully set up.

If a backup with good settings is not available the Internet Dialer Prefs, Modem Information, reg server and <username> files in the Internet Dialer Folder of the Preferences Folder, can be moved to the Trash and reconfigured from the Dialer after restarting the computer.

If the Resource File is damaged error still occurs, check the following files:

* MacTCP DNR
* MacTCP Prep or TCP/IP preferences
* PPP preferences

Try moving these files to the Desk Top and restarting. Be aware some ISP information may need to be entered again. Having backup copies of MacTCP Prep or TCP/IP Preferences file, and PPP Preferences file is also advisable, but remember to compress them or keep them on a volume separate from the startup disk.

6) Question: I keep getting a PPP not active error when I try to open the Apple Internet Dialer. How do I fix this?

Answer: Typically, this error is caused by a corrupted PPP Preferences file which is located in the Preferences folder. Try replacing the PPP Preferences file by moving the PPP Preferences file to another hard disk, floppy, or compress this file. Be sure you have the PPP configuration information available because you may have to enter this information again after restarting the computer.

NOTE: Having more than one copy of PPP Preferences or MacTCP Prep on your startup disk may cause problems.

If replacing the PPP Preferences file does not solve the situation, try disabling the "AOL Link" extension. (You can use the Extensions Manager to disable extensions.)

NOTE on SLIP software: SLIP software is not supported with the Internet Dialer. The Dialer is specifically set to work with PPP. The Dialer may not work properly if there is active SLIP software in the Control Panels or Extensions folders.

7) Question: My settings in Config PPP and MacTCP are not being saved. How do I save them?

Answer: It appears you are trying to configure the settings directly in Config PPP and MacTCP or TCP/IP control panels. All of these settings should be configured in the Apple Internet Dialer. Open the Apple Internet Dialer and choose Define Provider Information from the Provider menu to enter the information given by your Internet Service Provider.

If you do not want to use this preferred method as stated above, you can use the control panels TCP/IP, MacTCP, Config PPP, and so on. However, be aware that these control panels may support multiple configurations. If a second configuration is selected that does not match the information for a corresponding control panel, for example Config PPP with TCP/IP, then the Dialer may not work properly. For this reason, setting up your configuration information using the Apple Internet Dialer is recommended.

8) Question: I cannot receive or send email with Emailer Lite, however, I appear to connect to the Internet fine. What can I do?

Answer: Please check the following:
* Verify you have a good Internet connection by connecting to a web site.
* Make sure you are connected to the Internet before opening Emailer Lite.
* Make sure you are using the "Connect Now" command in Emailer Lite.
* Choose Internet Setup command in the Setup menu.
* The Internet Service Entry window must be filled in correctly for Emailer Lite to work properly. Verify the fields are filled out as shown below. If it's not, disable "Use Internet Configuration System" option and enter the information in the fields again. Or, locate the Internet Config application to correct the information in the Internet Config extension. Remember to Save this new information also.

The information should be in this format:

```
Account Name  = User's login              - this must be filled in
User Name     = User's actual name        - this must be filled in
Email address = User's Email address      - Internet Config *
Mail Account  = Example, Loginname@popserver.ISP.com - Internet Config *
Password      = User's Login Password     - Internet Config *
SMTP host     = The SMTP server host name. - Internet Config
                For example from the Mail
                Account example above,
                the entry would be "popserver.ISP.com". **
```

Select Save and go to Connect Now. Make sure both Get and Send are enabled.

* Internet Config gets these values from the Internet Dialer. If you deselect the Internet Config checkbox, these fields will become blank and you

will need to fill them in. Normally, the Internet Config values (the ones you inputted with the Dialer), should be fine.

** Some Internet mail administrators will set up a different server for sending mail. You will be told by your ISP or in house provider if this is the case. In this case, your SMTP host might be "smtp.ISP.com". This is because sending mail (simple mail transfer protocol or smtp) is a different protocol from receiving mail from a POP3 (Post Office protocol version 3) server. Therefore, on busy sites, administrators may wish to split up these functions over different machines.

Published Date: Feb 18, 2012

AICK 1.0, Apple Internet Dialer, & Open Transport 1.1 (5/96)

After installing System 7.5 Update 2.0 on both my PowerBook 280c and PCI-based Power Macintosh computers, I started receiving this error message, "MacTCP does not work with Open Transport. You must use Open Transport TCP. Remove the MacTCP control panel.", when using the Apple Internet Dialer v1.0. Here is what happened with both computers.

PowerBook 280c

I used the Network Software Selector to switch to Open Transport 1.1 networking software. After restarting, I checked the TCP/IP control panel settings which looked fine. I then launched the Apple Internet Dialer 1.0 and the error message appeared.

I looked for MacTCP in the control panel, but it was not there. I opened the Extensions Manager control panel for MacTCP, but it was not listed. I switched back to classic networking and the Apple Internet Dialer worked properly without an error message.

PCI-based Power Macintosh

After launching the Apple Internet Dialer I got the error message. I again looked for MacTCP in the control panel, but it was not there. I opened the Extensions Manager control panel for MacTCP, but it was not listed. I tried to find MacTCP with Find File, but it was not found.

Questions
---
1) How can I get rid of this error message, and use the Internet Dialer
with Open Transport 1.1?

2) Is there a compatibility issue between the Apple Internet Connection
Kit's (AICK) Internet Dialer and Open Transport 1.1?
This article has been archived and is no longer updated by Apple.
There is no compatibility issue between the Apple Internet Dialer and Open Transport 1.1. The issue is the way the Internet Dialer looks for the MacTCP control panel. The dialer looks for a file, with MacTCP's type, creator, and name "MacTCP" to be present in the Control Panels folder.

Below is a description of what happens:

* On 680x0 processor based computers (like your PowerBook) and PowerPC processor based with NuBus computers (like Power Macintosh 6100, 7100, 8100), the Network Software Selector makes the MacTCP control panel invisible in the Control Panels folder, resulting in the Internet Dialer finding MacTCP and reports the error.

* On PowerPC processor based with PCI computers (like Power Macintosh 7200, 7500, 8500, 9500), the System 7.5 Update 2.0 installer places an invisible copy of the MacTCP control panel in the Control Panels folder. The Internet Dialer finds MacTCP and reports the error.

NOTE: You cannot use the Network Software Selector to switch to Classic AppleTalk on PCI-based Power Macintosh computers.

Workaround
==========

680x0-based, and PowerPC and NuBus-based Computers

Follow the steps below:

1) With classic networking enabled, open the Control Panels folder.

2) Create a folder. You may, for example, name it Classic MacTCP. (It does
not matter where the new folder is located on your hard disk.)

3) Move MacTCP out of the Control Panels Folder and into the folder you
just created above.

4) Use Network Software Selector to switch to Open Transport 1.1.

5) Restart. The Dialer should now work as expected.

PowerPC and PCI-based Computers

The invisible MacTCP file can be removed from the Control Panels folder by either making MacTCP visible with ResEdit or other third-party utility and throwing MacTCP into the trash, or by using the steps below.

1) Click and drag the Control Panels folder to the desktop.

2) Restart. (A new Control Panels folder will be created in the System Folder.)

3) Move the contents of the Control Panels folder located on the desktop, to the new Control Panels folder located in the System Folder. The invisible files will remain in the Control Panels folder on the desktop.

4) Put the Control Panels folder located on the desktop in the trash, and empty the trash.

5) Restart. The Dialer should now work as expected.

NOTE: You may have to create a new Control Panels alias in the Apple Menu Items folder if it does not function properly.

This article was published in the Information Alley on 07 May 1996.

Article Change History:
07 May 1996 - Added PCI-based Power Macintosh information.
15 Apr 1996 - Added Information Alley information.

Published Date: Feb 18, 2012

Apple IIc: Splitting the Case

Using the normal Take-Apart section for splitting the Apple IIc case halves is difficult or nearly impossible to perform on some Apple IIc's that have never been taken apart before.
This article has been archived and is no longer updated by Apple.
Familarize yourself with the Apple IIc Take-Apart procedure (in Apple IIc Technical Procedures). Also, refer to Macintosh Technical Procedures to become familar with using the Macintosh Take- Apart Tool.

Note: Apple IIc Technical Procedures will be revised to reflect this procedure.

The Macintosh Take Apart Tool may be used to split the case halves of the Apple IIc. Insert the tool between the front case halves and spread them apart. Once you have the front end split apart try and work your way to the rear of the computer using the normal splitting procedure (see Apple IIc Take-Apart).
Published Date: Feb 18, 2012

Color StyleWriter LocalTalk Modules: Question & Answers

This article contains information on the Color StyleWriter LocalTalk options available for the Color StyleWriter 2400 and Color StyleWriter 2500 printers.
This article has been archived and is no longer updated by Apple.
There are two LocalTalk modules available:

Printer	Apple Part #	Description
Color StyleWriter 2400	M4615ZM/A	LocalTalk Module for both CSTW 2400 & 2500.
	M3458G/A	LocalTalk Module ONLY for CSTW 2400.
Color StyleWriter 2500	M4615ZM/A	LocalTalk Module for both CSTW 2400 & 2500

Questions & Answers

Question: What do the LocalTalk Modules look like? Are they cards? Are they identical?

Answer: The Color StyleWriter LocalTalk Options are external modules. They connect to the back of the printer and plug into the serial port. The LocalTalk Options are not cards. They look identical except for the writing on the module itself. The Color StyleWriter 2400 LocalTalk Module (M3458G/A) does not have any writing on it, the Color StyleWriter 2400/2500 LocalTalk Module (M4615ZM/A) says LocalTalk module for the Color StyleWriter 2400 and 2500.

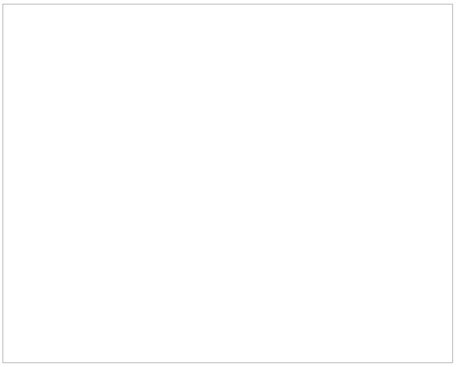

Figure 1: LocalTalk Module

Question: Which printers do the Color StyleWriter LocalTalk modules work with?

Answer: The Color StyleWriter LocalTalk Module M3458G/A only works with the Color StyleWriter 2400. The Color StyleWriter LocalTalk Module M4615ZM/A works with both the Color StyleWriter 2400 and Color StyleWriter 2500.

Question: What printer drivers do I need? Is there a Color StyleWriter 2400 AppleTalk/Color StyleWriter 2500 AppleTalk driver?

Answer: You use the printer driver that ships with the printer. The driver supports both serial and LocalTalk connections. There is not an AppleTalk StyleWriter driver for either printer. However, the Color StyleWriter 2500 driver is backward compatible and can be used with either printer.
Published Date: Feb 18, 2012

System 7.5 Update 2.0: Any System 7.5 Users Can Install (4/96)

I have a Power Macintosh 9500 with System Enabler 1.0 on it. Do I need to update my computer using the Power Macintosh 9500 CD version 2.0 before installing System 7.5 Update 2.0?

This article has been archived and is no longer updated by Apple.

No, you can simply update your system using System 7.5 Update 2.0. System 7.5 Update 2.0 is a set of system software enhancements that improves the reliability and performance of all computers running system software version 7.5, 7.5.1, or 7.5.2.

This article was published in the Information Alley on 15 April 1996.

Published Date: Feb 18, 2012

PC Compatibility Cards for Power Macintosh:Specifications (5/96)

This article contains the technical specifications for the PC Compatibility Cards for Power Macintosh Computers.
This article has been archived and is no longer updated by Apple.

Microprocessor
---
* Pentium 100-MHz processor or 586 100-MHz processor

Memory

PC Compatibility Card with Pentium processor

* 8 MB of RAM (soldered on card), expandable to 72 MB of local RAM
(one 168-pin DIMM slot) for MS-DOS and Windows environments
* 256K level 2 cache

PC Compatibility Card with 586 processor

* One 8 MB (DIMM) of RAM installed in one 168-pin DIMM slot, expandable
to 64 MB of local RAM for MS-DOS and Windows environments
* 128K level 2 cache

Sound
---
* Includes Sound Blaster 16-compatible support (DOS and Windows
environments)
* 16-bit stereo output

Video Support
---
* Works with all Apple displays as well as with most third-party VGA and
SuperVGA displays (for MS-DOS and Windows)
* 1 MB DRAM of display support (third-party displays may require a separate
cable adapter)

Networking
---
* Supports Novell NetWare SPX/IPX, TCP/IP, and NETBEUI protocols in MS-DOS
and Windows environment using the built-in Ethernet connector and ODI
and NDIS 2.0 drivers (client software not included)

Compliance
---
* Compliant with PCI 2.0 requirements

Environmental Requirements
---
* Operating temperature: 50í to 104í F (10í to 40í C)
* Storage temperature: -40í to 116í (-40í to 47í C)
* Relative humidity: 5% to 95% noncondensing
* Maximum altitude: 10,000 ft. (3,048 m)

Size And Weight
---
* PC Compatibility Card (with Pentium processor)
- 12-inch card (30.5 cm)
- 0.7 lb. (0.32 kg)
* PC Compatibility Card (with 586 processor)
- 7-inch card (17.7 cm)
- 0.46 lb. (0.21 kg)

Macintosh Compatibility

Both PC Compatibility Cards work with all Power Macintosh 9500, 8500, 7600, 7500, and 7200 series computers

Article Change History:
29 May 1996 - Added more detailed information about RAM on cards.
19 Apr 1996 - Changed distribution status.
Published Date: Feb 18, 2012

Hard Disk 20: Failure To Launch Application Or Format

PROBLEM DESCRIPTION: Hard Disk 20 will not initialize media, or applications fail when launched. Also, sometimes application files will not transfer successfully to the Hard Disk 20.

BEFORE YOU START: Familiarize yourself with the Hard Disk 20 Owner's Manual and Hard Disk 20 Technical Procedures.

CAUSE: Hard Disk 20 controller board might contain a HAL instead of a PAL chip.

This article has been archived and is no longer updated by Apple.
CURE: Check the serial number of the Hard Disk 20. If the serial number is F619xxx or higher, and the controller board contains a HAL chip at board location C3 (PAL is 16R6 is silk screened next to the chip), remove and replace the Controller Board using a service spare. Reconnect and power-up the Hard Disk 20. Try to initialize the drive. If initialization fails, refer to the Hard Disk 20 Technical Procedures for more troubleshooting information.

Published Date: Feb 18, 2012

Newton MessagePad: Socketed ROM Won‘t Allow Upgrade

Will the socketed ROM on the Apple MessagePad 120 and Apple MessagePad 130 allow customers to upgrade to a faster ARM processor?
This article has been archived and is no longer updated by Apple.
The socketed ROM has nothing to do with the processor. The ROM is the read only memory where all the operating system information is stored.

Since the MessagePad 120 was introduced, the ROM has been socketed so that future Newton Operating System Updates can be easily performed.

To date the processor in the Apple MessagePads has not been socketed for easy removal or replacement. The same 20MHz ARM 610 RISC processor used in the original MessagePad is still being used in the current Apple MessagePad 130 devices.
Published Date: Feb 18, 2012

AppleShare 4.2.x: File Server Memory & Cache Usage

This article describes how AppleShare 4.2 and 4.2.1 deal with memory and cache.
This article has been archived and is no longer updated by Apple.

About the File Server cache

AppleShare 4.2 introduced a new method of caching that differed from previous versions of AppleShare. Briefly, AppleShare 4.2 (and 4.2.1) provides a single block cache that dynamically tunes itself for optimal performance. Once the server is up and running, AppleShare gradually expands until it allocates all available RAM to its cache. You can set aside a portion of RAM that can be used for other applications (as described in "How Much Memory Should Be Reserved for Other Applications?" later in this addendum); this portion is then unavailable for AppleShare's cache expansion.

By caching items (files, folder contents, icons) in RAM, the File Server provides faster access to those items than if they were retrieved from permanent memory on the server's hard drive.

See "Setting Cache Preferences" in Chapter 3 of the AppleShare Administrator's Guide for a general description of the cache and for the steps you need to take to configure the cache. The purpose of this addendum section is to provide additional useful information about the cache and about setting your cache preferences.

Size of the File Server Extension partition and cache

The File Server program (strictly speaking, the File Server Extension) requires 5.5 megabytes (MB) of memory when the program is first started. Of this amount, approximately 1 MB is reserved for file, folder, and icon caching. The memory that the File Server Extension uses is one component of the overall memory required by system software. Thus, the minimum of 5.5 MB of RAM that the File Server Extension requires is part of the total memory displayed for "System Software" when you view your server's memory allocation. To view your server's memory allocation, choose "About This Macintosh" from the Apple menu while in the Finder.

If free RAM (that is, RAM not being used by system software or any applications) is available on your server, AppleShare uses it for its cache as needed. As the AppleShare cache expands, the amount of memory allocated to "System Software" in "About This Macintosh" grows accordingly.

How much memory should be reserved for other applications?

As explained in "Setting the Preferences" in Chapter 3 of the AppleShare Administrator's Guide, you can adjust the amount of memory reserved for other (non-File Server) applications in the File Server Cache Preferences window. When the AppleShare cache expands (because it requires more memory to cache items), it will not attempt to claim the amount of memory you've set aside for other applications.

Here are a few things to keep in mind when considering the amount of memory you plan to reserve for other applications:

* Apple recommends a minimum cache setting of 1 MB (the default setting); under most circumstances, this should be an adequate amount of memory to reserve for other applications.

* The Finder can perform poorly (or crash) if there is not any free memory for it to use; the value for "Memory to be reserved for other applications" should always be greater than zero.

* The AppleShare cache does not attempt to claim memory used by applications that have been opened prior to starting the AppleShare program, or for those applications that are running prior to AppleShare's cache expanding. So, if there are applications that you plan on using often on the server, consider starting them before you start the File Server program. For example, if you open a database application that has a 4 MB memory partition before you open the server (or before AppleShare tries to expand its cache), that 4 MB does not count toward the amount of memory reserved for other applications. Other applications that provide a network service, such as the Apple Remote Access MultiPort Server, should be started before you start the File Server.

* If you think that the 1 MB of cache contained within the 5.5 File Server Extension memory partition is sufficient for your file service needs, you can reserve all available RAM for other applications. For instance, for a server with 32 MB of RAM, you can set the value in the File Server Cache Preferences window to 32 MB. AppleShare will not attempt to allocate additional cache blocks.

Does AppleShare release RAM cache automatically?

Once AppleShare has claimed available memory for its cache, it does not automatically release the memory so that it can be used by other applications. However, you can flush the cache and free up RAM by choosing Reset Cache from the Server menu and clicking OK.

NOTE: It may take up to two minutes for the cache to reset.
Published Date: Feb 18, 2012

AMT 2.0: Play QTVR Movies on Monitor w/ Menu Bar

I have a Power Macintosh 7500 computer, with two monitors attached. An NEC 17-in. monitor is connected to the video port of the Macintosh, and the other monitor is a NEC xv15 connected to the computer through an ATI Exclaim video card. I am working on an Apple Media Tool 2.0 project with QuickTime VR movies.

When I run a QuickTime VR movie and the playback screen is on the xv15 display, the picture may show on the screen, but never actually plays. If the run window is moved back to the 17-in. display, the QuickTime VR movie runs properly.

The movies play fine when viewed using QTVR Player.
This article has been archived and is no longer updated by Apple.
Apple Media Tool may not display QuickTime VR movies correctly on monitors other than those that display the menu bar. If this happens, move the Run window so that it appears on the monitor that displays the menu bar.
Published Date: Feb 18, 2012

Newton MessagePad: Can‘t Use Infra-red for Printing

Can the Apple MessagePad print using the infra-red port to Hewlett-Packard printers with infra-red ports?
This article has been archived and is no longer updated by Apple.
The Apple MessagePad and Hewlett-Packard printers cannot connect because they do not use the same infra-red protocol.
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PCI Network Installer: Read Me

This article contains the ReadMe file for the PCI Network Installer Version 1.0 which is used with the Apple PCI Token Ring card.

Contents:

- What the PCI Network Installer disk includes
- System requirements
- Installing software using the PCI Network Installer
- Important information about your Apple PCI Token Ring Card and software
  - Setting the ring speed
  - Using the Apple PCI Token Ring Card with MacIPX
  - Using the Apple PCI Token Ring Card with Novell Netware for Macintosh 3.011, 3.12 or 4.02
  - Using the Apple PCI Token Ring Card with SoftWindows
  - Using the Apple PCI Token Ring Card on Power Macintosh 7200/75 and 7200/90 systems
  - Using the Apple PCI Token Ring Card with the Apple Internet Router
  - Using the Apple PCI Token Ring Card with Apple LocalTalk/LaserWriter Bridge software
  - Using the Apple PCI Token Ring Card with SNAÑps
  - Locally Administered Addresses
  - Using the Apple PCI Token Ring Card with long station cables

This article has been archived and is no longer updated by Apple.

What the PCI Network Installer disk includes

Version 1.0 of the PCI Network Installer disk includes:

Apple PCI Token Ring 1.0

The Apple PCI Token Ring card is the first, and at the time of this release, the only, PCI-based networking card for Mac OS supported by Apple, and therefore the only card supported by this PCI Network Installer disk. Future releases of the PCI Network Installer may include support for additional PCI-based networking cards, as well as possible enhancements to the Apple PCI Token Ring driver.

System requirements

The PCI Network Installer 1.0 disk requires:

- Power Macintosh 7200/120 computer
- Power Macintosh 5400 Performa computers
- Power Macintosh 7500, 7600, 8500, and 9500 series computers
- Workgroup Server 7250, and 8550 computers
- Mac OS version 7.5.3 or higher
- Open Transport 1.1 or higher (included in Mac OS version 7.5.3)
- An Apple PCI Token Ring card

NOTE: At this time, the PCI Token Ring card is not compatible with the PCI DOS Compatibility card. Apple Engineering is investigating this issue.

Important information about your PCI Token Ring Card and software

These notes pertain to the Apple PCI Token Ring driver, version 1.0, contained on this disk, and to the Apple PCI Token Ring card.

Setting the ring speed

The Apple PCI Token Ring card automatically detects the speed of the ring (4 Mbps or 16 Mbps) and adapts to it, eliminating the need for any manual speed-setting mechanism.

Except for the initial insertion (using a factory-preset speed of 16 Mbps), the card will "remember" the speed it used most recently and will make subsequent insertions using that speed. Should an insertion failure occur, however, the card will report this error to the user, and toggle the speed of the card for the next insertion attempt. In essence, after an insertion error occurs, the card will alternate between 4 Mbps and 16 Mbps with each insertion attempt until it finally succeeds.

The only caveat to this is the initial insertion using a factory-preset speed of 16 Mbps. The card's design requires that the first insertion cannot be onto an empty ring (one with no stations on it already), or the insertion will fail.

Using the PCI Token Ring Card with MacIPX

This release of the Apple Token Ring PCI card and software does not support MacIPX. This results from incompatibility issues between the

MacIPX software and PCI-based networking cards in general, which Apple and Novell are working to resolve.

Using the Apple PCI Token Ring Card with Novell Netware for Macintosh 3.011, 3.12 or 4.02
Versions of the APPLETLK.NLM prior to version 4.50c have known problems with source routing, which may affect the proper operation of this card with your server. To avoid these problems, upgrade your APPLETLK.NLM to version 4.50c (or later), following the installation instructions provided by Novell.

This upgrade is available on Novell's NetWire Web site (http://www.novell.com/) as a self-extracting archive titled ATK45C.EXE.

Using the Apple PCI Token Ring Card with SoftWindows
The Apple PCI Token Ring software supplied on this disk does not support Insignia Solutions' SoftWindows product.

Using the Apple PCI Token Ring Card on Power Macintosh 7200/75 and 7200/90 systems
The Apple PCI Token Ring Card is not supported on Power Macintosh 7200/75 and 7200/90 systems at this time. If you try to use this card in a Power Macintosh 7200/75 or 7200/90, the system may freeze.

Using the Apple PCI Token Ring Card with the Apple Internet Router
The Apple Internet Router is not compatible with Open Transport, and is therefore not compatible with the Apple PCI Token Ring card or driver.

Using the Apple PCI Token Ring Card with Apple LocalTalk/LaserWriter Bridge software
The Apple LocalTalk Bridge 2.0.1 and Apple LaserWriter Bridge 2.0.1 products are not Open Transport compatible, and are therefore not compatible with the Apple PCI Token Ring Card or driver. Enhancements or updates to these products may be made at a later date, along with other Mac OS system enhancements.

Using the Apple PCI Token Ring Card with SNAÑps
The Apple PCI Token Ring Card is compatible with SNAÑps client software, although the current version of Open Transport does not support the use of SNAÑps gateway software using the Apple PCI Token Ring Card and driver.

Locally Administered Addresses
There is presently no Apple-provided mechanism for setting a Locally Administered Address of the Apple PCI Token Ring Card. The hardware address of the card can be displayed by selecting it in the AppleTalk Control Panel, and setting the User Mode to Advanced.

Using the Apple PCI Token Ring Card with long station cables
The Apple PCI Token Ring Card's ability to automatically sense the speed of the ring may be defeated on station cables that exceed the maximum lobe length allowed for your network. The maximum lobe length allowed for your token ring network depends on your network topology, but never exceeds 330 feet for 16Mbps networks, or 500 feet for 4Mbps networks.

If your station cable (lobe cable) is excessively long, and the card's "last known" speed (factory default of 16Mbps for new cards) does not match the speed of your token ring backbone, then the card may fail to detect the speed mismatch, resulting in a partially-inserted condition. The symptom of this situation includes no network activity to or from this station, and a solid green light on the back of the card.

The work-around to this problem is to use a short station cable to temporarily connect the Apple PCI Token Ring Card to a token ring network running at the desired ring speed. This will allow the card to set its default speed to the desired ring speed, causing subsequent insertion attempts to be made at the proper speed.

Once the default speed of the card has been changed to the proper speed, insertion attempts using longer station cables are more likely to succeed, though we cannot guarantee proper operation of the card on networks that violate token ring topology specifications.
Published Date: Feb 18, 2012

Super Serial Card: Blown Resistor

PROBLEM DESCRIPTION: ImageWriter causes R7 on the Super Serial Card to fail.

BEFORE YOU START: Familiarize yourself with the procedure for removal and replacement of the carrier drive transistors, referring to the ImageWriter Level I Technical Procedures.

CAUSE: One of the carriage transistors in the ImageWriter is shorted.

This article has been archived and is no longer updated by Apple.
CURE: Follow these steps:

1. Remove the string of 4 carrier drive transistors and their associated insulators using the procedure documented in the ImageWriter Technical Procedures.

2. Check to make sure that none of the insulators is missing or cracked.

3. If any of the insulators is missing or cracked, replace them, reinstall the string of carriage transistors, and test the printer with the Super Serial Card Otherwise, proceed to Step 4.

4. Replace the string of carriage transistors with a new set and test the printer using the Super Serial Card.

5. If the above procedure does not cure the problem, refer to Troubleshooting in the ImageWriter Technical Procedures.

Published Date: Feb 18, 2012

Drive Setup: Issues Using Custom Icons On Partitions (5/96)

I have a Power Macintosh 9500/132 computer on which I have partitioned my hard drive into 8 partitions with Apple's Drive Setup version 1.0.4. When I apply custom icons to each partition and restart my computer, a number of the icons revert to generic and other icons are linked together (that is, the icon on partition 1 now appears on partition 2 as well).

I reinitialized the hard drive, reset parameter RAM (PRAM), and "clean" installed the system software. I then restarted and set up custom icons. After setting the icons and restarting again, the computer displays the same symptoms. All other SCSI devices/peripherals are disconnected.

This article has been archived and is no longer updated by Apple.

Symptom

When using Drive Setup, including the latest version (1.0.4), with multiple partitions and custom icons, the icons for one partition may either duplicate across partitions, disappear, or turn generic. This is a known issue with Drive Setup that has been escalated previously.

Issue

This issue is caused by the way the driver interacts with partitions that have the same creation date. Drive Setup is so fast and efficient, that it often will create partitions with exactly the same date and time.

Workarounds
---
1 - One workaround is to modify the creation date of the partitions so they are not the same using a third party drive utility to do the partitioning.

2 - The other workaround is to avoid using custom icons for partitions.

This issue has been reported to engineering and is known. There are plans for this issue to be resolved in a future version of the Drive Setup utility.

This article was published in the Information Alley on 17 April 1996.

Article Change History:
06 May 1996 - Added Info Alley keyword.
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Apple Media Tool 2.0: Use Wave File for Ambient Sounds

In Apple Media Tool 2.0, ambient sounds don't seem to work with SND files; I get a "end of file -39" error. The sound itself is fine, and plays in other screens, and in the preview. If I substitute a WAVE sound, then it works fine.

This article has been archived and is no longer updated by Apple.

Using SND files as ambient sounds in AMT 2.0 does not work correctly. Apple is testing and investigating this behavior. Until a fix is available, WAVE files should be used as ambient sounds.

Published Date: Feb 18, 2012

Power Macintosh 8500: Video Output Distortion (4/96)

I am using a Power Macintosh 8500 series computer to output video to a video display. Regardless whether I use NTSC or S-video, when an image with a very large area of black is displayed on the video monitor, the image is significantly distorted. The problem is most evident when displaying an all-black window with white borders. The display appears pincushioned, especially on the right hand side and is most severe where there is the most black displayed.

This article has been archived and is no longer updated by Apple.

The distortion is most likely caused by the performance level of the display being used. If the black portion is moved, the distorted area will probably move with it. This is common for many consumer and middle-performance displays. High-performance displays would have little or no distortion of this type.

It's likely that the video signal from the computer is fine. To verify this, you can record the signal that causes the distortion on video tape. Then, play the video tape and record the signal using the video record feature in the computer. You could then view the captured video on the computer display to confirm that the distortion is not in the tape recorded signal.

If you can't capture the taped video signal using the computer, you should check the signal using a high performance display.

To reduce or eliminate this distortion, you can use shades of gray instead of large black and white areas. Or, use colors instead of black like fully saturated blue, red, or green in large areas.

You should also note that although this distortion would likely appear on home televisions as well, most people will likely not notice it because consumer television have overscan, which prevents you from seeing the edges of the video signal.

This article was published in the Information Alley on 18 April 1996.

Article Change History:
26 Apr 1996 - Added alley info.

Published Date: Feb 18, 2012

System 7.5 Update 2.0: Pwr Mac 9500 & Sound & Monitors (4/96)

I recently installed System Update 2.0 on my Power Macintosh 9500. Now, in addition to the Monitors & Sound control panel, I also have the Sound and Monitors control panel. Why do I have all of these, and which ones should I use?
This article has been archived and is no longer updated by Apple.
During installation of System 7.5 Update 2.0 on a Power Macintosh 9500 series computers, the old Sound and Monitors control panels are mistakenly not removed.

The presence of the older control panels won't disrupt the operating system, but you can remove them to avoid confusion.

However, you may want to consider that the Monitors & Sound control panel does not provide a way of recording system alert sounds. The SimpleSound application does this, but it is not included with System 7.5 Update 2.0. So, to record system alert sounds, you need to use the Sound control panel. With this in mind, you might want to leave the Sound control panel installed.

Published Date: Feb 18, 2012

Open Transport 1.1: ISP Assigned Static IP Address, PPP

If you have installed Open Transport on your Macintosh, and your ISP (Internet Service Provider) uses assigned static IP addressing, and you connect using PPP; you may have experienced the following:

* You are able to dial in. Your account and password go through, Free PPP seems to be functioning properly, but when you try using Telnet, Newswatcher, or another Internet application; you get an error something like "Unable to Open MacTCP's resolver. Domain names will not work."

* You tried to set everything up the way your ISP told you, but the Open Transport TCP/IP control panel will not let you set the Subnet mask or Router address fields when connecting with MacPPP and configuring Manually.
This article has been archived and is no longer updated by Apple.
The steps below should work with FreePPP and MacPPP 2.14 or later when using static addressing with Open Transport.

How to set up a static IP with Open Transport and Free PPP
The key point in setting up a static IP address configuration with Open Transport is to place some of the IP information in the Config PPP settings.

These instructions assume you already know how to use the Config PPP control panel to some degree, and that you only need this tip for static IP addressing.

1) Open the Config PPP control panel and click the Config... button.
2) Choose Manual ISP (some versions may have Config instead) in the PPP Server Name pop-up menu.
3) Click IPCP Options...
4) Enter your assigned IP address number in the Local IP Address field.
5) Enter your Gateway IP address number in the Remote IP Address field. Click OK and exit the Config PPP control panel.
6) Open the TCP/IP control panel. Be sure you have chosen MacPPP in the Connect via pop-up window, and you have chosen Manually in the Configure pop-up window.
7) Enter your assigned IP address number in the IP Address field.
8) Enter your DNS (domain name server) IP address in the Name server addr field.
9) In the "Implicit Search Path: Starting domain name:" field enter your domain, for example, your.domain.com and close the TCP/IP control panel.
Published Date: Feb 18, 2012

PB 500 Series with PowerPC Upgrd: Corrupts DOS Floppies (6/96)

I formatted a floppy disk as DOS format on my PowerBook 500 series computer with the Power PC (PPC) Upgrade. Other Macintosh computers can read the disk fine, but my Pentium-based computer cannot read the disk. Why not?
This article has been archived and is no longer updated by Apple.

Resolution

This issue has been fixed with System 7.5.3 Revision 2. This software can be found on Apple Computer's online software update sites. If you do have not access to an online service please refer to Tech Information Library article, "Macintosh System 7.5.3 Revision 2: FAQ." If you do not have System 7.5.3 Revision 2, follow the workaround provided below.

Original Issue

If a floppy disk is formatted as DOS format on a PowerBook 500 series computer with the PPC Upgrade, DOS/Windows computers will not be able to recognize the disk. Other Macintosh computers, however, recognize the disk as a DOS disk.

If a floppy disk is formatted on a DOS/Windows computer and then inserted into a PowerBook 500 series computer with the PPC Upgrade, the PowerBook will recognize it as a DOS floppy. However, if the disk is then removed from the PowerBook and taken back to a DOS/Windows system, that disk will not recognized by the DOS/Windows computer.

Explanation

There was an inadvertent change made to the floppy driver of the PowerPC-upgraded PowerBook 500 series computers. This change makes a DOS disk unreadable by DOS/Windows computers if the PowerPC-upgraded PowerBook 500 series computer formats the disk or is the first Macintosh computer to read the disk after it has been formatted on a DOS/Windows computer.

Workaround

If you cannot immediately install, the System 7.5.3 Revision 2 there is a workaround. You need to either format the disk as DOS on a Mac other than the PowerBook 500 series computer with the PPC Upgrade or make sure a Mac other than the PowerBook 500 series computer with the PPC Upgrade is the first to read the disk after it has been formatted on a DOS/Windows system. After another Macintosh has read the disk and written the resource fork (which is necessary in order for the Macintosh file system to recognize the disk), all other Macintosh computers (including the PowerBook 500 series computer with the PPC Upgrade) and DOS/Windows systems should be able to read the disk.

These articles can help you locate the software update mentioned here:

* "Where To Find Apple Software Updates" -- Lists online services for free Apple software updates.

* "Obtaining Apple Product Support in the USA" -- Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech Info Library.

Article Change History:
18 Jun 1996 - Reworded for clarity.
15 Jun 1996 - Added System 7.5.3 Revision 2 fix.
Published Date: Feb 18, 2012

DOS Compatibility Card: Don‘t Remove Joystick Card (4/96)

Can the Joystick port on the DOS Compatibility Card be removed from the computer since it is on a separate board?
This article has been archived and is no longer updated by Apple.
The DOS Compatibility Card joystick port should not be removed. While the joystick card is a separate from the DOS Compatibility Card daughter board, the joystick card is how the DOS Compatibility Card accesses the PDS slot. The DOS Compatibility Card daughter board has a 26-pin ribbon cable connecting to the joystick card. If you remove the joystick card, the DOS Compatibility Card no longer functions, and a message appears on the screen with the message "The DOS Compatibility Card is not installed. Changes made will take effect when the card is installed."

Published Date: Feb 18, 2012

PowerTalk: Alias of the Mailbox (4/96)

Why can't I make an alias of the PowerTalk Mailbox. The Finder simply deselects the mailbox when an attempting to make the alias.

This article has been archived and is no longer updated by Apple.

This issue was addressed with System 7.5.3 and the System 7.5 Update 2.0. You can now select the PowerTalk mailbox and choose the Make Alias command from the File menu. The alias will be created on the desktop and will open the PowerTalk mailbox.

Published Date: Feb 18, 2012

Open Transport: Network Printers Missing From Chooser (4/96)

I cannot get any printers to appear in the Chooser when I select the LaserWriter 8.3.2 driver.

I'm trying to see a TI Microlaser and I've also tried seeing a NEC SilentWriter. I have tried both of these printers on a LocalTalk connection to a Macintosh Quadra, with the LaserWriter 8.3.2 printer driver, and both printers worked fine. I'm using this same LocalTalk connection to a Power Macintosh 8500 running Open Transport.
This article has been archived and is no longer updated by Apple.
This issue was addressed in Open Transport 1.0.8 and later. The issue was first addressed in AppleTalk version 60.0.8 (a component of Open Transport 1.0.8).

What happened was some AppleTalk packets from the client were being addressed to 'network id 0'. These packets were ignored by some laser printers on LocalTalk.

Published Date: Feb 18, 2012

Pascal Profile Manager (PPM): Using it with Pascal 1.3

This article has been archived and is no longer updated by Apple.
Pascal Profile Manager (PPM) does work under Pascal 1.3.

Replace the following files with the 1.3 equivalent: SYSTEM.APPLE, SYSTEM.PASCAL, and SYSTEM.ATTACH. Moreover, since CHAINSTUFF 1.2 doesn't work with Pascal 1.3, it's a good idea to use the 1.3 SYSTEM.LIBRARY.

The only problem with PPM and 1.3 is not being able to use the X)tended filer,
although its functions can be duplicated by using the F)iler for normal stuff and then X)ecuting PPM.CODE for the extra functions.

The most recent version of Backup II, version 1.1.1, fully supports 3.5 disks for backing Profiles and works well with disks containing Pascal Areas.

Backup II 1.1.1 is available on many consumer information services (e.g. Compuserve, Source, Genie, etc.).

Apple Pascal 1.3 and the Pascal Profile Manager are not compatible with the SCSI drive, the Apple HD20 SC. We are not aware of any existing software driver to allow Apple Pascal 1.3 to recognize the HD20 SC.
Published Date: Feb 18, 2012

AppleShare: Some Information Not Found Error Message

When using AppleShare Admin or AppleShare file server, I get the message, "Some server information could not be found. Please quit and restart the file server or some information may be lost." This happens when opening groups or adding users to groups.
This article has been archived and is no longer updated by Apple.
To resolve this issue follow the steps below:

1) Quit AppleShare File Server, AppleShare Admin, and AppleShare Print Server.
2) Move the Users and Groups file from the Preferences folder to the root level of the system folder.
3) Restart the computer.
4) Run Disk First Aid.
5) Run AppleShare Admin
6) Enter all information (such as the AppleShare serial number and the server's name).

NOTE: The server name must be exactly the same or access privileges may be lost. Also, the name field is case sensitive.

The usable data from the Users and Groups Data file moved in Step 2 should be imported into a new Users and Groups file.
Published Date: Feb 18, 2012

AppleShare 4.2.1: Read Me

This article is the AppleShare 4.2.1 ReadMe file. A correction to the original ReadMe file was made to this Tech Info Library document.
This article has been archived and is no longer updated by Apple.
AppleShare Read Me

This document provides important information about AppleShare version 4.2.1. Some of this information is not included in the AppleShare Administrator's Guide or in the Addendum to AppleShare Administrator's Guide. You may want to print this document and keep it with your guide.

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AppleShare Client for Windows

AppleShare 4.2.1 includes a site license for AppleShare Client for Windows version 1.0.2. This product includes disc images of installation software and LaserWriter drivers on the AppleShare CD-ROM disc; the product also includes the printed guide Getting Started With AppleShare Client for Windows. You can create AppleShare Client for Windows floppy disks using the Disk Copy utility. The disk images, Disk Copy, and instructions on how to use this utility can be found in the AppleShare Windows Client 1.0.2 folder. For late-breaking information about AppleShare Client for Windows, see the README.TXT file on AppleShare Client for Windows Disk 1.

Share the Workstation Software 3.6.2 folder

If you use the Easy Install method when you install your AppleShare server software or if you use the Custom method and select the AppleShare Workstation Network Install option, the Installer places a folder named Workstation Software 3.6.2 at the root of your startup volume. This folder contains all the components needed to upgrade any Macintosh computer to the latest version of the AppleShare Workstation program. Share this folder and its contents to make the workstation program available on the file server for installation over the network.

See the AppleShare Administrator's Guide for instructions on how to share a folder. The Workstation Software 3.6.2 folder should have See Files and See Folders privileges enabled for Everyone (do not allow Make Changes privileges). Do not allow the folder to be moved, renamed, or deleted. Change all the enclosed folders as well. Enable guest access to your server so that users can log on as guests and so that they can mount the Workstation Software 3.6.2 folder as a volume on their desktops.

You may also want to rearrange the folder so that only the Workstation User's Guide and the Installer application are visible when the volume is mounted. This will eliminate any confusion about how to use the contents of the folder.

Upgrade to AppleShare Workstation 3.6.2
Macintosh system software includes AppleShare Workstation software, which users can use to log on to any AppleShare server, including an AppleShare 4.2.1 server. However, the AppleShare Workstation software supplied with system software does not provide the increased performance of AppleShare Workstation 3.6.2 and may not accept the full range of server greeting messages that can be sent from an AppleShare 4.2.1 server; users may experience other problems with earlier versions of the Workstation Software. For these reasons, it is important to encourage all users to upgrade to AppleShare Workstation 3.6.2, following the complete instructions provided in the online Workstation User's Guide. The guide is in the Workstation Software 3.6.2 folder, which is located on the startup volume of your server or on the AppleShare CD-ROM disc.

Upgrade workstations to System 7.5 Update 2.0
The Macintosh System 7.5 Update 2.0 Installer is on the AppleShare CD-ROM disc. You can use this Installer (or make it available over the network) to upgrade the systems of the workstations on your network. System 7.5 Update 2.0 is a set of system software enhancements that improves the reliability and performance of all computers running system software version 7.5, 7.5.1, or 7.5.2. You can install the update even if you (or users on your network) did not install Macintosh System 7.5 Update 1.0.

Note: Although Apple recommends that you install the update for the many enhancements it provides, be aware that once you install the update your users may notice a decrease in AppleShare performance. This decrease in AppleShare performance will be corrected in future releases of system software.

Sharing a volume over 2 gigabytes
AppleShare 4.2 allows you to share a volume as large as 4 gigabytes (GB). However, when a user mounts a volume that's over 2 GB, the information that is displayed at the top of the volume window on the user's computer will be inaccurate. The line beneath the volume window title displays the number of items in the window ("n items"), the amount of memory used by items on the volume ("n MB in disk"), and the amount of additional memory that can be used ("n MB available"). The "n MB in disk" and "n MB available" figures will not reflect the total volume size.

Negative file sizes
In some views, the Finder displays the size of a file next to the file's name. If users report that the Finder is displaying negative file sizes for files stored on AppleShare servers, instruct them to upgrade to System 7.5.1 or higher.

IMPORTANT:
In the original ReadMe document this section instructed users to upgrade to AppleShare Workstation 3.6.2. However, they should upgrade their system software, not their AppleShare Workstation software.

The Print Server program uses LaserWriter 7 drivers
The AppleShare Print Server program can accommodate any model of Apple LaserWriter that is compatible with LaserWriter 7 drivers, ImageWriter printers, and any other printers compatible with the print drivers for these two classes of printers. The Print Server program is dependent on LaserWriter 7 drivers and does not utilize LaserWriter 8 drivers. Client computers can have LaserWriter 8 drivers installed and use the print server; however, users will not get the functionality of LaserWriter 8 drivers (such as Automatic Setup) and server problems may occur. For instance, if client computers on your network have LaserWriter 8 drivers installed, print queue windows displayed on the server will display double entries for each print job.

Longer print time when printing through a print spooler
The total elapsed time is longer when users print documents through a print spooler rather than printing directly to a printer.

Don't use QuickDraw GX with the Print Server program
QuickDraw GX and AppleShare Print Server program are not compatible. Do not run them on the same machine.

Using the LaserWriter Bridge software
The LaserWriter Bridge software that is included on the AppleShare CD-ROM disc is intended for classic AppleTalk-based machines only; the LaserWriter Bridge software is not compatible with Open Transport-based machines.

Use QuickTime 2.0 or later on workstations
Workstations running both NOW utilities and QuickTime version 1.6 may hang when users log on to an AppleShare file server. To avoid this problem, instruct users to install QuickTime version 2.0 or later on their computers. Alternatively, removing QuickTime 1.6 or NOW utilities will fix the problem. Users may also experience problems with the HAM (Hierarchical Menu) utility. Solving this problem requires removing the utility.

QuickTime 2.1 is in the Extras folder, which is in the AppleShare Workstation 3.6.2 folder on the AppleShare CD-ROM disc. If AppleShare 4.2.1 has been preinstalled on your server, the Workstation Software 3.6.2 folder will be located at the root of the startup volume on your server. You can also find it on the AppleShare CD-ROM disc.

Opening applications over the network

If users with 68040-based Macintosh computers running system software prior to version 7.5 are experiencing problems opening applications over the network, they need to install Network Launch Fix into the Extensions folder of the System Folder on their computer startup disk. (Computers running system software 7.5 or later have Network Launch Fix built into the system.)

Network Launch Fix is in the Extras folder, which is in the AppleShare Workstation 3.6.2 folder at the root of the startup volume on your server. You can also find it on the AppleShare CD-ROM disc.

Delayed response to the Cancel button
When users click the Cancel button to stop a file transfer that is in progress, the Finder may not respond immediately. The delay may be significant depending on the length of the round trip between the workstation and the server. Connections over multiple routers or over phones lines using Apple Remote Access may cause significant round-trip delays.

Tell users that if the Finder does not respond immediately, they should not assume that their computer has crashed or is frozen; they should wait several minutes before restarting.

Mounting the same volume twice in different zones
If you have enabled multihoming on your network, tell users to be cautious when connecting to volumes and servers with the same name in different zones; the volumes may actually represent the same volume on your server that can be accessed in several zones. If you log on to the same server in two zones and you attempt to copy the same files or folders from one icon representing a volume on the server to another icon representing the same volume, data loss will occur.

Using System 7 disk cache with AppleShare
In addition to the caching provided in AppleShare 4.2.1, your system software also provides disk caching. Depending on how you use AppleShare, you may notice an improvement in performance by adjusting the server computer's disk cache size. In general, increasing the size of the cache for your AppleShare file server will provide a more substantial performance improvement than increasing the size of the system software's disk cache.

Your server's system software ships with disk cache turned on and set to 96K. You may wish to experiment with different settings. (You adjust the cache size in the Memory control panel.)

If you change the size of the disk cache, be sure to restart the server computer for the new size to take effect.

Do not use virtual memory with AppleShare
AppleShare 4.2.1 cannot run with virtual memory turned on. Do not turn on virtual memory with your server computer.

Do not turn on file sharing from the Automated Tasks submenu
Do not use the Start File Sharing and Stop File Sharing commands from the Automated Tasks submenu under the Apple menu.

Choose screen savers carefully
There are many screen savers on the market that can be used to prevent screen burn-in on AppleShare servers. Some screen savers are quite elaborate and perform many complex calculations to draw a single picture on the screen. Since they require significant amounts of CPU time, the more complex screen savers will reduce the performance of your AppleShare server. Please choose the screen saver that interferes the least with your AppleShare server.

Some screen savers are not compatible with AppleShare 4.2.1 and can cause your server to crash or hang. Before purchasing or using a screen saver, check with the screen saver's manufacturer to determine if the screen saver will work properly with your server.

Choose disk compression utilities carefully
Most disk compression utilities are incompatible with AppleShare 4.2.1 and can cause your server to crash or hang. Before purchasing or using a disk compression utility, check with the utility's manufacturer to determine if the utility will work properly with your server.

Using Retrospect Remote with AppleShare
If you are backing up a large number of files, you may need to give Retrospect Remote more application memory. See the Retrospect Remote User's Guide for information on when to increase the size of your Retrospect Remote program.

Using WebSTAR and AppleShare on the same server
You may experience problems if you try to run WebSTAR and AppleShare on the same server and you are also using Open Transport. If you attempt to open WebSTAR when AppleShare is already running, your system may freeze. To avoid this problem, follow these steps:

1) Open the TCP/IP control panel.
2) Choose User Mode from the control panel's File menu and click the Advanced or the Administration button. Then click OK.
3) In the control panel, click the Options button.
4) In the TCP/IP Options dialog box, deselect (click to remove the "X") the "Load only when needed" option.
5) Click OK.
6) Restart your server computer.

Logging on to an AppleShare file server from a PhoneNet PC client
Using the AppleShare Admin program, you can force new AppleShare users to change their password the first time they log on to your server. If new users are experiencing problems logging on to an AppleShare file server with PhoneNet PC, try letting them keep their original passwords.

Using Farallon Ethernet cards and multihoming
If you are using a Farallon Ethernet card on your server and you enable multihoming, you must terminate the card. If the card is not properly terminated, your server may freeze or crash.

Incompatibility with Atto NuBus card
AppleShare 4.2.1 is not compatible with Atto Technology's Silicon Express IV NuBus FAST/WIDE SCSI-2 SCSI Card. This is because AppleShare requires a system based on SCSI Manager 4.3. The Atto card uses its own SCSI manager.

Using special characters in server names
The AppleShare Admin program will not allow the administrator to enter a server name that contains a "/" character. If you must have a "/" character in the name of your server, use the following workaround:

1) Shut down file service.
2) Quit AppleShare Admin.
3) Drag the Users & Groups Data File from the Preferences folder to the System Folder.
4) Using the Sharing Setup control panel, enter a new name in the Macintosh Name box.
5) Start AppleShare Admin.
6) Enter the appropriate information in the administrator information and serial number dialog box.
7) When the file server information dialog box appears, do not change the server name. Just enter the Admin Key and click OK.
8) Quit AppleShare Admin.
9) Drag the Users & Groups Data File from the System Folder to the Trash (it is no longer needed). A new Users & Groups Data File has been created in the Preferences folder.

Use separate aliases for shared items
Aliases to shared folders can be created using the Finder on the AppleShare server computer. Those aliases can be shared with workstations by placing them in a shared folder. If a shared alias is accessed by a workstation, the alias may be modified in such a way that it is no longer usable by the Finder on the AppleShare server. This can only happen with shared-item aliases created on an AppleShare server.

To avoid this problem, use separate aliases for shared items. Create two aliases to the same shared item, using the Finder on the AppleShare server. Place one alias in a shared folder for use by workstations. Keep the other alias in a folder that is not shared with workstations.

Serial numbers are not updated immediately
Using the AppleShare Admin program, you can change serial numbers while file service is running. However, the old serial number will remain in effect until you shut down and restart file service.

Once you change to a new serial number, the old serial number will no longer be displayed in the Administrator Information and Serial Number dialog box (displayed by starting the AppleShare Admin program and choosing File Server Serial Number Preferences from the Server menu). To avoid confusion about which serial number is in use, restart file service immediately after changing the serial number.

Working with a large Users & Groups Data File
The AppleShare Admin program is configured to work with a Users & Groups Data File that has a maximum of 2000 users. If you have a large user community, you may need to increase the capacity of AppleShare Admin by increasing the preferred memory size in the Admin Info window. (In the Finder, select the AppleShare Admin icon, then choose Get Info from the File menu.) AppleShare Admin needs a minimum memory of 400K. Increase Admin's preferred memory size by 100K for each additional 1000 users in your user community. For example, AppleShare Admin needs 500K of memory to handle 2900 users, but it needs 600K of memory to handle 3900 users.

Use AppleShare Admin to modify Users and Groups information
If you install AppleShare on a server that also supports Apple Remote Access, you can't use the Users and Groups file from Apple Remote Access. Instead, use the AppleShare Admin program to work with Users and Groups.

Avoid giving users access to the root of a volume
Using the AppleShare Admin program, you can give workstation users access to either the root of a volume or to specific shared items within that volume. To ensure the security of your file server, give workstation users access to shared items only.

Initializing floppy disks on an AppleShare file server
If you are experiencing problems initializing floppy disks on an AppleShare 4.2.1 server that has connected users, try removing the PC Exchange control panel from the Control Panels folder in the System Folder and then restarting.

Don't select Folder Protection
The General Controls control panel contains two checkboxes in the Folder Protection box: "Protect System Folder" and "Protect Applications

folder." Because there is an incompatibility between this feature and AppleShare, make sure that no X's appear in these two checkboxes.

General Controls control panel updated
When you install AppleShare 4.2.1 software on servers running System 7.5.1, the General Controls control panel is replaced by General Controls version 7.5.6. This update fixes bugs that affect AppleShare operations.

Don't install SAM Intercept on the server machine
AppleShare 4.2.1 does not run with Symantec Antivirus for Macintosh (SAM) Intercept installed in your server's Extensions folder.
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PPP Authentication Protocols: PAP and CHAP (6/97)

What is Password Authentication Protocol (PAP) and Challenge-Handshake Authentication Protocol (CHAP), and where can I find more information about them?
This article has been archived and is no longer updated by Apple.
For complete information on Password Authentication Protocol (PAP) and Challenge-Handshake Authentication Protocol (CHAP), please refer to sections 2.0 and 3.0 of RFC 1334, *PPP Authentication Protocols*. The complete RFC 1334 document can be down loaded from the following URL with your web browser or ftp utility: <**ftp://ds.internic.net/rfc/**>. Below is a brief description of both from RFC 1334.

Password Authentication Protocol

The Password Authentication Protocol (PAP) provides a simple method for the peer to establish its identity using a 2-way handshake. This is done only upon initial link establishment.

After the Link Establishment phase is complete, an Id/Password pair is repeatedly sent by the peer to the authenticator until authentication is acknowledged or the connection is terminated.

PAP is not a strong authentication method. Passwords are sent over the circuit "in the clear", and there is no protection from playback or repeated trial and error attacks. The peer is in control of the frequency and timing of the attempts.

Any implementations which include a stronger authentication method (such as CHAP, described below) MUST offer to negotiate that method prior to PAP.

This authentication method is most appropriately used where a plaintext password must be available to simulate a login at a remote host. In such use, this method provides a similar level of security to the usual user login at the remote host.

Challenge-Handshake Authentication Protocol

The Challenge-Handshake Authentication Protocol (CHAP) is used to periodically verify the identity of the peer using a 3-way handshake. This is done upon initial link establishment, and MAY be repeated anytime after the link has been established.

After the Link Establishment phase is complete, the authenticator sends a "challenge" message to the peer. The peer responds with a value calculated using a "one-way hash" function. The authenticator checks the response against its own calculation of the expected hash value. If the values match, the authentication is acknowledged; otherwise the connection SHOULD be terminated.

CHAP provides protection against playback attack through the use of an incrementally changing identifier and a variable challenge value. The use of repeated challenges is intended to limit the time of exposure to any single attack. The authenticator is in control of the frequency and timing of the challenges.

This authentication method depends upon a "secret" known only to the authenticator and that peer. The secret is not sent over the link. This method is most likely used where the same secret is easily accessed from both ends of the link.
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Open Transport: Network Time 2.0.1 Issue (4/96)

I'm having a problem with system hangs when using Network Time 2.0.1 and Open Transport or System Update 2.0. Is there a compatibility issue with Network Time and Open Transport?

This article has been archived and is no longer updated by Apple.

Network Time and Open Transport are compatible. The compatibility problem is with the Auto Power On/Off control panel which was last shipped as part of System 7.5.

The solution is to disable the Auto Power On/Off control panel.

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PowerBook 150: Can‘t Use Drive Setup (6/96)

I just upgraded the 120 MB IDE hard drive in my PowerBook 150 to a 500 MB IDE hard drive. However, the PowerBook will not start up from the drive even after installing the correct system software. I tried reformatting the hard drive with Drive Setup and Internal HD Format but they do not work. What should I do?

This article has been archived and is no longer updated by Apple.

The PowerBook 150 has a driver scheme that is different than most Macintosh computers. The hard disk driver is always taken from ROM and if there is a driver present on the hard disk, the computer usually will not start up from it.

The PowerBook 150 comes with a special utility, Internal HD Format, that will format hard drives for use with the PowerBook 150. However, Internal HD Format will not format a drive that already has a driver partition. If Internal HD Format is run on a drive that has a driver partition, it will generate the message "Internal HD Format will not run on this system. Please use HD SC Setup." This message is in error since neither Apple HD SC Setup or Drive Setup are compatible with the PowerBook 150.

So if possible, you should purchase the new hard drive as unformatted. Then you can use Internal HD Format to format the drive correctly. After the drive is formatted, you should be able to install system software and start up from the drive as normal.

If the new hard drive is pre-formatted (whether by Apple or a third-party utility), follow this procedure:

Step 1

With the new hard drive installed, startup from another startup device with a System Folder such as a Disk Tools disk.

Step 2

While starting up, if you receive a message saying "This disk is unreadable by this Macintosh, do you wish to initialize it..", select Initialize.* The hard drive icon should appear on the desktop when the initialization process is done. This is sufficient to prepare the hard disk for use since the driver is in ROM. You do not need to use the Internal HD Format utility.

If the message "This disk is unreadable by this Macintosh, do you wish to initialize it.." does not appear and the hard drive icon shows up on the desktop, click on the icon to select it and then select Erase Disk... from the Special menu and initialize the disk. This is sufficient to prepare the hard disk for use since the driver is in ROM. You do not need to use the Internal HD Format utility.

Step 3

Now that the hard drive is initialized, you can install the system software by booting from the install disk or CD.

* Note: The PowerBook 150 comes with a special program called PowerBook 150 Backup to make the system software disk set. Make sure the system software disk set is created before installing a new hard drive. Instructions for using the PowerBook 150 Backup program are in the User's Guide.

This article was published in the Information Alley on 26 April 1996.

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26 Jun 1996 - Re-written for clarity.
26 Apr 1996 - Added alley info.

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MacTCP DNR: What is it? (5/96)

After installing System 7.5 Update 2.0 on my Power Macintosh 8500, I noticed the file "MacTCP DNR" in the System Folder. I'm not sure whether it was there before. As I recall, MacTCP DNR was a preference file before installing System 7.5 Update 2.0. Now the icon is different, and the file type is listed as control panel. Double clicking on it says that it is used by MacTCP.

Do I need the MacTCP DNR file, and what does it do?
This article has been archived and is no longer updated by Apple.
MacTCP DNR is a special file that contains resources for TCP applications written for System 6.0.x. It's placed at the root level of the System Folder because older applications expect it to be available there, like older System 6.0.x control panels.

The file type/creator may have changed to control panel to reflect it was a control panel under System 6.0.x. You should leave the file installed in the event you come across an older TCP application that requires it. If you do remove it, the MacTCP DNR file will be recreated automatically after you restart your computer.

Article Change History:
14 May 1996 - Updated information.

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TCP/IP Control Panel: Syntax of Hosts File

Does Open Transport 1.1/TCP support a local HOSTS file?

This article has been archived and is no longer updated by Apple.

Open Transport/TCP supports one or more HOSTS file, stored in the System Preferences folder, that may be used to supplement and/or customize the domain name resolver's initial cache of information. The selected file is opened and parsed when Open Transport/TCP is initialized. As with MacTCP, the supported HOSTS file features follow a subset of the Domain Name System Master File Format (RFC 1035).

Supported features include blank lines, comments (indicated by a semicolon), and data entry. Comments may begin at any location in a line; they may follow data entry on the same line. A comment extends from the semicolon to the end of the line. Data entry must follow the format:

```
<domain-name> <rr> (<comment>)
```

where <domain-name> is an absolute or Fully Qualified Domain Name, and where

```
<rr> = (<ttl>) (<class>) <type> <rdata> OR (<class>) (<ttl>) <type> <rdata>
```

The only <class> currently supported is IN (Internet Domain); <ttl>, time to live, indicates the record's configured lifetime in seconds; and <type> can be A (host address), CNAME (canonical name of an alias), or NS (name server). If <ttl> is not present the entry is assumed to have an infinite lifetime; this may also be indicated by specifying a value of minus-one (-1). $INCLUDE and $ORIGIN are not supported.

Open Transport/TCP is more stringent regarding the content and format of the HOSTS file than was MacTCP, which permitted violation of the FQDN requirement for <domain-name>. For instance, this format:

```
charlie              A      128.1.1.1
```

which was acceptable to the MacTCP DNR, is no longer permitted because of the use of domain search lists in Open Transport/TCP (charlie could potentially exist in any or all of the configured domains). To accomplish the same effect, use this format instead:

```
charlie              CNAME  myhost.mydomain.edu
myhost.mydomain.edu  A      128.1.1.1
```

This associates the local alias charlie with the fully qualified domain name myhost.mydomain.edu, and resolves it to the address 128.1.1.1. Use of local aliases is limited to CNAME entries; NS and A entries must use fully qualified domain names.

If a HOSTS file is used, every effort should be made to keep it as small as possible and to only include entries that will be accessed frequently. This reduces the total memory footprint required to cache the DNS information and minimizes the need to maintain and update the HOSTS files as system information changes over time.

In order to activate a HOSTS file, the Advanced or Administrator mode must be used to select the desired file. The text file must already exist; it could have been created with any text editor or word processor. The HOSTS file is tied to the selected configuration. An administrator might, for example, specify different HOSTS files for use when connecting via Ethernet to the campus LAN and when dialing-in from a remote location.

Published Date: Feb 18, 2012

AppleShare Client for Win 1.0: NE2000 And NDIS Issue

This article describes an issue between the AppleShare Client for Windows 1.0 and some NE2000-compatible Ethernet cards.
This article has been archived and is no longer updated by Apple.
After installing the AppleShare Client for Windows 1.0, the computer may lock up entering Windows under the following circumstances:

* The computer is running Windows for Workgroups
* The computer is using an NE2000-compatible Ethernet card
* The Ethernet network has an AppleTalk router
* Windows for Workgroups networking is using an NDIS3 (enhanced mode) drivers

Resolution
The AppleShare Client for Windows 1.0.2 or later resolves this issue.

To use the AppleShare Client for Windows 1.0, remove the enhanced mode NDIS driver in Windows for Workgroups by following these steps:

1) Open to the Network group in Program Manager
2) Open Network Setup
3) Click on the button labelled 'Drivers...'
4) Click on the button labelled 'Setup...'
5) For Driver Type, select 'Real Mode NDIS Driver'
6) Click 'OK'
7) Click 'Close'
8) Click 'OK'
9) Follow the rest of the prompts on the screen.
Published Date: Feb 18, 2012

Macintosh Users Unable to See Volumes on Novell Server (4/96)

We have several Power Macintosh 7500/100 computers, and we're having a problem with the Macintosh computers seeing a newly attached 8 GB disk array on a Novell server. The Macintosh users could see the old disk configuration, however, now the new disk array is the only logical volume on the server.

The Macintosh users can see the Novell server in the Chooser, logon to the server, and print to spooled printers using AppleTalk. However, the newly attached disk array does not appear in the Chooser's volume selection dialog box -- nothing is presented in the selection dialog, not even a grayed volume name. PC users are able to mount this volume.

I'm considered the Macintosh administrator for this server, and I'm wondering if my problem could be with a Macintosh not being able to access volumes larger that 2 GB.

This article has been archived and is no longer updated by Apple.

The AppleTalk portions of your Novell server are working because your Macintosh users can see the server in the Chooser, connect by logging on, and print to the server's attached printers using AppleTalk.

There is no way to correlate the disk array's volume size to your problem, because the Macintosh computers have not yet mounted the volume. This is because the Novell server is not informing the Macintosh computers that there are any volumes attached. The volume selection dialog lists volumes in response to an AFP request, from the Macintosh to the server, for a list of attached volumes, not caring about the characteristics of the volumes.

Therefore at this stage, this appears to be a configuration problem on the Novell server. Any volume size issues will only emerge once the Macintosh users select the disk array, and attempt to mount it. Furthermore, any difficulties that may arise, when mounting the disk array, are not related in any way to the Macintosh computers inability to see volumes offered by the server.

You need to review the steps necessary to make the server's volumes available to Macintosh users. The multi-protocol Novell server needs each aspect of its services separately set up for each protocol supported -- a volume needs to be explicitly shared for IPX clients, AppleTalk clients, and IP clients.

Published Date: Feb 18, 2012

AppleVision 1710: Front Controls used for DOS/Windows (4/96)

I have an AppleVision 1710 Display and the five front left controls only open the AppleVision Setup window.
This article has been archived and is no longer updated by Apple.
The front controls on the AppleVision 1710 Display are for changing or selecting options and values for your monitor. However, the control buttons on the far left of the display are for use only with DOS/Windows computers. The two left buttons are for selecting on-screen menus; the middle button is for seleting a topic on a menu; and the two right buttons are for adjusting values up or down.

If you do not install the AppleVision software, you can use these buttons to manually adjust the monitor.

Published Date: Feb 18, 2012

Configuring the Apple Modem 300/1200 to the Apple IIc

This article has been archived and is no longer updated by Apple.

I. Switch settings:

-- Modem:

UP X X
DOWN X
1 2 3
CD BC DTR

II. Connection:

IIc Modem

1 6
2 9
3 3
4 5
5 2

Published Date: Feb 18, 2012

Multiple Scan 20: Radius Calibration Software Settings

When I use Radius software for calibrating my Multiple Scan 20 Display, should I use light or dark phosphor?
This article has been archived and is no longer updated by Apple.
Use dark phosphor for both Rev. A and Rev. B Multiple Scan 20 Displays.
Published Date: Feb 18, 2012

Connecting to DEC LAT network

Is there a solution for running LAT on a Power Book 5300 with System 7.5.3 and Open Transport 1.1 to a VAX running AppleTalk for VMS? I found a copy of the LAT tool on the VAX, but it froze the Power Book immediately under System 7.5.2 with classic networking.

This article has been archived and is no longer updated by Apple.

The LAT Tool version 1.3.2 is the most current. There were some problems with version 1.3.1 hanging systems. We have found version 1.3.2 to be quite stable. You can contact Digital's CSC for the latest LAT tool.

Published Date: Feb 18, 2012

Apple Monitors: Using on PC-Compatibles

Which Apple monitors can I connect to a PC-compatible computer?
This article has been archived and is no longer updated by Apple.
The Apple Multiple Scan series of monitors may be connected to either a Macintosh computer or a PC-compatible computer. However, not all Multiple Scan monitors include the required PC adapter. The following tables show which monitors include a PC adapter and which ones do not.

Monitors that come with a PC adapter:

- Multiple Scan 720 (922-1458, Adapter, Macintosh to VGA)
- Multiple Scan 17 (922-0736, Cable, Mac/PC Adapter)
- Multiple Scan 1705 (922-1458, Adapter, Macintosh to VGA)
- Multiple Scan 1710 (922-1458, Adapter, Macintosh to VGA)
- Multiple Scan 20 (922-0736, Cable, Mac/PC Adapter)

Monitors that do not come with a PC adapter:

- Multiple Scan 14 (needs 922-0736, Cable, Mac/PC Adapter)
- Multiple Scan 15 (needs 922-0736, Cable, Mac/PC Adapter)
- Multiple Scan 15AV (needs 922-1458, Adapter, Macintosh to VGA)

Published Date: Feb 18, 2012

AppleVision 1710 Display: Convergence Discussion

My AppleVision 1710 Display manual mentions that I can change convergence in the AppleVision Setup software. What is convergence and how does it affect the picture being displayed on the screen?
This article has been archived and is no longer updated by Apple.
Red, green, and blue signals in your display intersect, or converge, to create the colors you see on the screen. If convergence is not adjusted properly, the images or text on your screen may be blurred, or you may get a rainbow effect with several colors visible at the edges of the images on the screen. Over time, your display may be exposed to external magnetic fields, which may cause the color signals to converge less precisely, producing a less distinct image. You may adjust convergence to correct for a blurred image or to suit your personal preferences.

Before making adjustments to the convergence, first make sure the settings for height/width, position, pincushion, and rotation are correct.

You can click the convergence icon shown in the Geometry window to open the Convergence Control panel. When you do this, the screen background changes to a grid composed of red, green, and blue lines. First adjust the horizontal lines with the up and down arrows, and then adjust the vertical lines with the left and right arrows. When convergence is set properly, the lines are aligned vertically and horizontally. Click OK to save the setting.

IMPORTANT: Because of the slight curvature of the front glass and the central location of the RGB gun within the CRT assembly, convergence settings may appear correct at the center of the display but slightly off at the outer edges. Therefore, when you adjust convergence, adjust for the best overall color clarity.

NOTE: When Overscan is on, you cannot make changes to any of the Geometry selections, and the menu buttons and titles are dimmed. Turn Overscan off to make changes.

Published Date: Feb 18, 2012

Remote Access Control Panel: Requires Password

I have an Apple Remote Access (ARA) Personal Server on my network. In the Remote Access Setup control panel, when selecting the Answer calls checkbox, I get a dialog with the message "A password is required to set answering on this network", and a field for the password. I entered my personal password, but it was not accepted. What is wrong?
This article has been archived and is no longer updated by Apple.
AppleTalk networks have the ability to lock out remote access including ARA. The network administrator enables or disables this feature with the Security Zone feature. You have to obtain a password from your Network administrator.

The Security Zone feature prevents the unauthorized remote access of an AppleTalk network.
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AppleShare: Move File to Different Folder, Creates Copy

With AppleShare 4.1 on a Workgroup Server 8150/110, when I logon as a user, a file is copied when moved between two folders on the same volume. When I logon as the administrator, or in front of the server computer, the file is moved, not copied.
This article has been archived and is no longer updated by Apple.
This happens because as a user, you do not have access priviliges necessary to move the file. You can do one of the following:

* Place the folders inside a single shared folder the user has See Folders, See Files, and Make Changes priviliges. You should now be able to move the file rather than copy it.

* Give the user Make Changes priviliges to the volume, or to additional folders.

Article Change History:
25 Apr 1996 - Changed title.

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AppleTalk: Cannot Be Opened Error Message

After installing new system software, I am getting the message that "AppleTalk Cannot Be Opened." Why am I getting this message and how do I correct it.
This article has been archived and is no longer updated by Apple.
The resource for AppleTalk services are contained within the Shared Library Manager files, located in the Extensions folder of the System Folder. For AppleTalk services to function properly, both the Shared Library Manager and Shared Library Manager PPC files must be present.

To install the Shared Library Manager files for your Power Macintosh computer, double click the Installer and choose the custom install in the pop-up menu. In the custom install menu list, click on the arrow to the left of the following:

- Networking Software
- Open Transport 1.1
- Open Transport For PowerPC Only

Select Apple Shared Library Manager for PowerPC Macintosh by clicking the checkbox to the left, then click Install.

Note: You can also reinstall the latest version of Open Transport to resolve this issue.
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Microsoft Office & Global Village 2.5.x Incompatibility

There is a known incompatibility with the Global Village fax software and Microsoft Office 4.2.1. When trying to launch Microsoft Office 4.2.1 while the Global Village software is installed, in certain situations the computer will either freeze, or the application will open and then immediately close.
This article has been archived and is no longer updated by Apple.
If a user is running Global Village software from v2.5 to v2.5.5, you need to acquire the Global Village v2.5.6 update, and Microsoft Office patch.

The Global Village software is available from the following internet sites:

- **http://www.globalvillage.com/**
- Through most major online services

For the Microsoft Office update, contact Microsoft at **http://www.microsoft.com/**.
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SerialDMA Extension: Use it instead of ASFU Fixer

The ASFU Fixer extension from GDT Softworks should be replaced with Apple's SerialDMA extension.

This article has been archived and is no longer updated by Apple.
The ASFU Fixer was installed on early Power Macintosh computer, such as the Power Macintosh 7100 and 8100, to allow certain serial communication connections. However, if this extension is installed, it breaks serial communications between the Macintosh and several Apple MessagePad applications and tools such as the Newton Connection Kit, Newton Toolkit, Newton Press, and Newton Package Installer. It may also affect Newton Backup.

If you have ASFU Fixer installed, you should remove it and use Apple's SerialDMA extension instead.

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Connecting Apple Modem 300 & 1200 to Mac 128K or 512K

Connecting the Apple Modem 300 or Modem 1200 to a Macintosh 128K, 512K, or 512K enhanced requires a DE-9 to DE-9 cable (part 590-0197).

This article has been archived and is no longer updated by Apple.

Connection:

Macintosh Modem
3,8 3,8
5 9
6 6
7 7
9 5

Switch settings:

-- Modem:

UP X X
DOWN X
1 2 3
CD BC DTR

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Hebrew Language Kit: Where To Purchase ClarisWorks Hebrew

The Hebrew Language Kit Read Me First states that I need to contact a distributor to obtain the Hebrew version of ClarisWorks 3.0 for use with the Hebrew Language Kit.
This article has been archived and is no longer updated by Apple.
The information in the Read Me is incorrect. Claris currently does not offer ClarisWorks Hebrew in the United States.
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Arabic Language Kit: Albayan Font & Diacrtical Mark

In the Arabic Language Kit, if the Shift-N in the Albayan font is typed, an extra diacritical mark appears.
This article has been archived and is no longer updated by Apple.

Workaround:

Select a different font.

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Hebrew and Arabic Language Kits: System 7.5 Update 2.0

The Read Me file for the Hebrew and Arabic Language Kits does not mention System 7.5 Update 2.0. Is it supported with these Language Kits?

Also, the Read Me states that LaserWriter 8.3 and StyleWriter 1200 drivers will be installed if they are not already present. If I have System 7.5 Update 2.0 installed, and then install the Language Kits, will I have older versions of the LaserWriter 8 and StyleWriter 1200 printer drivers?
This article has been archived and is no longer updated by Apple.
System 7.5 Update 2.0 is supported with the Language Kits. If System 7.5 Update 2.0 is installed, and then the Hebrew or Arabic Language Kit is installed, you will still have LaserWriter 8 version 8.3.3 and StyleWriter 1200 version 2.1.1, which are installed by System 7.5 Update 2.0.
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Arabic and Hebrew Language Kits: Version 1.0.1 Difference

This article discusses the difference between version 1.0 and version 1.0.1 of the Arabic Language Kit and Hebrew Language Kit?
This article has been archived and is no longer updated by Apple.
The only change to version 1.0.1 of Arabic Language Kit and Hebrew Language Kit is to include the latest version of WorldScript, version 1.1.

The version of WorldScript included with version 1.0 of these kits may cause a crash when used with Macintosh Performa 475, 476, 575, 577, 578 and Macintosh LC 475 and 575 computers. Additionally, when using the Hebrew Language Kit on other 68LC040-based computers, such as the PowerBook 280 and 280c, the computer may lock up when you switch to the U.S. Keyboard Layout after typing in Hebrew in SimpleText Hebrew or at the Finder.

If you are using version 1.0 of the Arabic or Hebrew Language Kits, you should install the WorldScript Updater v1.
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Apple Media Tool 2.0: How to Create Flipbooks

This article contains directions for creating flipbooks in Apple Media Tool 2.0.
This article has been archived and is no longer updated by Apple.
Here is a list of essential steps for quickly creating Flipbooks. A list of example files on the Apple Media Tool 2.0 CD that demonstrate how Flipbooks should work.

BEFORE YOU START
==========

You need a Flipbook media item. Flipbook media items are pictures whose contents have been divided into equal-sized areas, known as frames. The frames can be arranged in one or more rows, but all rows must be the same hight. Each row can be divided into multiple columns, all of which must be the same width.

HOW TO SET IT UP
==========

Step 1

Open your project and add your Flipbook media item to the media list.

Step 2

Click and hold on the Flipbook media item until a pop-up menu appears.

Step 3

Choose "Flipbook" from the pop-up menu.

Step 4

Double-click on the Flipbook media item in the media list to display its parameters.

Step 5

Set the number of frames, columns, and rows by adjusting the values in the appropriate fields.

Step 6

Set the column width and row height by adjusting the values in the appropriate fields. Click "OK" when finished.

Note: You will need these values again later.

Step 7

Add your Flipbook media item to a screen.

Step 8

Double-click the Flipbook object in the object list to display its parameters.

Step 9

Set the column width and row height by adjusting the values in the appropriate fields. Use the same values specified earlier.

Step 10

Specify the rhythm of the Flipbook.

It's important to note that changing the rhythm of a Flipbook changes the way that Apple Media Tool counts the frame numbers for that Flipbook.

If a rhythm of two is specified, each frame is displayed twice. As a result, the first two frames displayed are the same image. The next two frames displayed are the next image, and so on. If a rhythm of ten is specified, the frames 0 to 9 display the first image from the Flipbook media object, frames 10 to 19 display the second image from the Flipbook media object, and so on.

If you want to tell Apple Media Tool to go to a specific frame, you need to adjust the frame number you specify by multiplying it by the rhythm. If you use a Flipbook media object with 3 frames, you would have the following results:

Image in Flipbook	Frame Numbers if Rhythm = 1	Frame Numbers if Rhythm = 2	Frame Numbers if Rhythm = 10
1	0	0-1	0-9
2	1	2-3	10-19
3	2	4-5	20-29

FINSIHING UP
==========

Add actions which control the Flipbook. Flipbook objects can perform the following commands:

Enable	Start-Stop
Enable-Disable	Stop
Disable	Stop
Move By	Go to Beginning
Move To	Go to End
Start	Go to Time

EXAMPLES
========

The Apple Media Tool 2.0 CD contains several files that demonstrate Flipbooks. Check these paths on the AMT 2.0 CD:

* An AMT project with Flipbooks:
- Apple Media Tool
- New Features Demo Project
- New Features Demo

* Flipbook media objects:

Apple Media Tool
- New Features Demo Project
- MEDIA
- 50$Bill.flipbk
- ALPHABET.PIC 40x40
- ambsnd.txt.fb
- AMT ColorTitle.flipbk 200x400
- AMTTitle.flipbk
- AppleScriptBtn.flipbk
- AudioBtn.PICT
- DUCKFLIP.PIC
- exit
- EYELID.PIC 62x73
- FlipbooksBtn.flipbk
- qt fb
- QTVRBtn.flipbk
- QuickTimeBtn.flipbk
- Sportflip.flipbk
- stop.fb

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Apple Media Tool 2.0: How to Create an Idle Command

In Apple Media Tool 1.x there was an Idle command that would cause the title to link back to a specific screen after a specified time of inactivity. This was useful for projects that played in kiosks. This article describes how to do this same thing with Apple Media Tool 2.0?
This article has been archived and is no longer updated by Apple.
Here is one example of how you can achieve this same functionality in Apple Media Tool 2.0.

In this example, you are setting a duration for a background and for a text field (timeout.txt). These objects are the timers. The timeout.txt object is a text object that asks the user "Do you need more time? Click here to continue".

Note: This article assumes you already know how to import media, create a screen, change actions, create commands, change commands, and other basic media tool procedures. If you do not know how to do this, please refer to the Apple Media Tool User's Manual.

Step 1 - Set Background Duration Time
Set a duration, in ticks*, for the background.

* 60 ticks = 1 second

The duration should be fairly long. When the duration elapses, the assumption is your audience has lost interest or walked away from the kiosk.

Step 2 - Assign Commands for the Background
Here is a chart of the event/action for the background.

Background Object	Events	Actions
	After Display	Start Itself
	Finished	Go To Beginning Itself
		Show Timeout.txt
		Show Timeout.txt

Step 3 - Set Timeout.txt Duration Time
Set a duration, in ticks*, for the background.

* 60 ticks = 1 second

Step 4 - Assign Commands for Timeout.txt

Here is a chart of the event/action for Timeout.txt

Timeout.txt Object	Events	Actions
	Before Display	Hide Itself
	Mouse Up	Hide Itself
		Stop Itself
		Go To Beginning Itself
		Start Background
	Finished	Go To XXX (screen preferred)

If timeout.txt finishes, meaning nobody clicked to continue, then it links back to the main screen, or wherever you want.
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LaserWriter: Printing a square box

This article has been archived and is no longer updated by Apple.
While making documents such as questionnaires, you might want to put in a square box for a check mark or some other response from your reader.

You can get a suitable box with a LaserWriter Plus from the lowercase "n" of the Zapf Dingbats font in the Outline style. A source for Zapf Dingbats is the LaserWriter and LaserWriter Plus Fonts Disk. You can find other "square box" key stroke alternatives by using the new Key Caps desk accessory.

A regular LaserWriter doesn't have the fonts that will allow you to print any sort of square box.

There is a work-around for this. You can modify an existing font to display and print a "square box" without having to purchase special third-party software. This work-around does not work around the problem when you have "Font Substitution" checked in "Page Setup" of the "File" menu.

1. Before you begin this procedure, check to make sure you have the following copies of these files:

a. A copy of ResEdit (available on CompuServe or in the Software Supplement)
b. A copy of your "Laserized" System File with Monaco font

The importance of working with copies cannot be overstated. Make sure that you start with a copy of your System File and a copy of the ResEdit program. ResEdit can cause havoc with your System File and corrupt data on your floppy or hard disk if used incorrectly.

2. "Open" the following files by double-clicking on the respective Icon in the order indicated below.

a. ResEdit
b. System Folder (If your System Files are in the System Folder)
c. System File
d. "Font"
e. Font named "Monaco 12"

After you have the Font "Monaco 12" opened, you may want to position the window to allow you to view the entire window by dragging the window to the center of the screen.

You now should have a large "a" on your screen.

3. Press the "[" key.

You can now modify the "[" by pointing and clicking the mouse where you need a "dot".

4. After you have finished modifying the "[" character into a box, simply close the windows one by one until you can quit from ResEdit.

Be sure to indicate "yes" when asked if you want to save changes to the System File.

Depending upon the size of your System File, the saving process may take some time. Be patient and don't interrupt this process.

To put the square in your document, select Monaco font (12pt) and press the "[" key. Be sure to turn off font substitution in "Page Setup" of the "File" menu before you have the document printed by the LaserWriter.
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AppleVision 1710 Display: Color Window Terms (4/96)

Please define the terms used in the Color window of AppleVision Setup for the AppleVision 1710 and 1710 AV Displays.
This article has been archived and is no longer updated by Apple.
Following are definitions of terms found in the Color window of AppleVision Setup:

White Point

All light, including display light, has a white point, which is the measure of the color content of the light. The white point is also referred to as the color temperature measured in degrees Kelvin - a temperature scale used in scientific applications. Standard white points are available by selecting a corresponding button from the default list available in the White Point panel within the Accurate Color settings. D50 or 5000 degrees Kelvin, is a common lighting setting used in graphic arts. 6500 + 8 MPCD (mean perceptible color difference) or D65 is the white point of Midday sun. The default white point is 9300 + 8 MPCD which is the standard setting for Macintosh displays and high-definition television. This is a high-intensity white point, located at the blue end of the color spectrum. The lower the intensity, the closer it moves to the red end of the spectrum. If you are working in a darkroom environment, you should choose the lowest standard setting, which is D50. Other common settings not available by selecting a button are: D40 or 4100 degrees Kelvin for halogen light and D33 or 3300 degrees Kelvin for flourescent light. Please note that the AppleVision 1710 Display does not support color temperatures below 4100 degrees Kelvin.

If you wish to create a custom white point, click the Create Custom White Point button. When you do this, the Custom White Point dialog box appears on the screen. You create a custom white point in one of three ways. If you select Kelvin, the numeric feedback panel with slider and detente white points appears to the right of the button. You can then create a white point based on a Kelvin temperature between 4100 and 9300 degrees by moving the slider. Lower temperatures create reddish whites and higher temperatures create bluish whites. If you select the button xy (1931 CIE), or u'v' (1976 CIE), the respective windows contain a color space graphic, a cross hair cursor that you can drag, and two fields of coordinates that you can edit. By the dragging the cross hair, you can set the desired white point value.

Gamma Curve

The gamma curve is the relationship between color intensity (chromaticity) and light (luminance) and determines the degree of gamma correction for the display. With a low gamma curve, colors are washed out. With a high gamma curve, colors have more contrast. The human eye can determine subtle changes in color, but does not register these changes in a linear way. Color systems are linear and continuous. A linear gamma curve ensures that the display produces the correct luminance levels on each primary color channel, and matches the user's nonlinear color expectations to the display's linear color devices. Gamma correction is a technique that adjusts the gamma curve to compensate for the loss of detail in dark objects. The default gamma value for the AppleVision 1710 Display is 1.8.

You can adjust the gamma curve on your AppleVision 1710 Display to ensure that the light and dark detail on images that you import or export is consistent. Most scanners have a gamma value of 1.0, while video editing equipment use a gamma value of 2.2. You can select a gamma value from the Gamma Curve panel in the Color window. When you do this, the gamma curve image in the panel changes to reflect the new value.

Ambient Light

Ambient light is the light surrounding the display. It can change the way colors appear on the screen. For example, fluorescent lights make colors look bluer, daylight or sunlight can make them look redder. To get a true color rendering, first set the white point for the display, and then correct for ambient light. Before you can correct for ambient light, you must also set the display color depth to millions. (To create a custom ambient light, use the ambient light tool supplied with the display and follow the instructions in chapter 4 of the user's guide.) The default ambient light setting is "None".

ColorSync System Profile

Macintosh computers use an additive system that combines red, green, and blue (RGB) phosphors to create display colors. They use a subtractive process of cyan, magenta, yellow, and black (CMYK) inks to create printer colors. Because these two processes are different, and because no two color devices produce exactly the same colors, AppleVision 1710 Displays, printers, scanners, and other color devices, must be characterized to provide the best color match. The software that does this is called ColorSync, and the AppleVision 1710 Display comes with a general profile called a ColorSync profile that characterizes the display. (For instructions on importing and exporting Colorsync profiles, follow the instructions in chapter 4 of the user's guide.)

When you reset the white point, gamma curve or ambient light, you will not see the change reflected on the screen or be able to export ColorSync system profiles until you click the Recalibrate button located in the Color window.

Virtual Photometry Technology

The AppleVision display has the ability to correct for manufacturing variances through a process called Virtual Photometry Technology (VPT). Using VPT, the AppleVision display can be set to a wide variety of white points and can correct for CRT aging, and for ambient light conditions. VPT is a proprietary Apple technique used to calculate a theoretical white point. It does this by measuring the currents for the R, G, and B electron guns, while displaying a white screen. The current values are correlated to factory calibration data that is programmed into the display during

production. An extremely accurate white point can be determined by compensating for the aging affects of the display. The current sensing circuitry also allows the host CPU to calculate the observed color of any pixel on the screen.

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StyleWriter II: Special Communication Specifications

This article provides the data bits, stop bit, baud rate, and parity for the StyleWriter II printer.
This article has been archived and is no longer updated by Apple.

StyleWriter II Communication Specifications

Data Type	Data Rate
Start Bits	1
Data Bits	8
Stop Bits	1
Baud Rate	57.6 Kilobit per seond (Default)
	230.4 Kbps (software selectable)
Parity	None

DIN8 Connector (RS422)

Pin #	Signal	Description
1	NC	No connection
2	NC	No connection
3	TxD	Transmit Data, negative
4	SG	Signal Ground
5	RxD	Receive Data, negative
6	TxD	Transmit Data, positive
7	PWR	Optional interface power
8	RxD	Receive Data, positive

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Hebrew & Arabic Language Kit: System Direction Issues

This article contains the answers to questions about the System Direction in the Hebrew and Arabic Language Kits.
This article has been archived and is no longer updated by Apple.
1) Question: What does the System Direction setting in the Text control panel do?

Answer: The System Direction setting in the Text control panel determines the writing direction of text in menus and dialogs (elements created by the System).

In many instances, changing the System Direction also affects the justification of text within a SimpleText document. SimpleText is considered a "world-ready" application, and it takes its queue for text justification from the System Direction setting. The implementation of using the System Direction to control text justification in SimpleText is an undocumented feature.

Therefore, if the System Direction is left-to-right, then text within a SimpleText document is left-justified. If the System Direction is right-to-left, then text within a SimpleText document is right-justified.

2) Question: I have the Hebrew (or Arabic) Language Kit installed and want to change the System Direction from left-to-right to right-to-left. How do I do this?

Answer: Use the Text control panel to change the System Direction.

3) Question: Is the System Direction information stored within individual documents?

Answer: The System Direction is stored in the System file, not within individual documents.

4) Question: Why do some localized versions of SimpleText provide left- or right-justification and others only provide right text justification?

Answer: Certain localized versions of SimpleText, such as SimpleText Persian, SimpleText Arabic, and SimpleText Hebrew, override the System Direction feature, and always display text as right-justified because it is more appropriate for those languages.

5) Question: After changing the System Direction to right-to-left, SimpleText (or SimpleText Arabic, SimpleText Persian, or SimpleText Hebrew) still displays the text I enter from left-to-right. Why?

Answer: Any applications running when the System Direction is changed are not affected. You'll need to quit and re-open these applications to see the System Direction change.

6) Question: Can I use both left-to-right and right-to-left text in the same document within SimpleText?

Answer: No, you cannot use both System Directions in the same SimpleText document. For example: if you set the System Direction to right-to-left, open SimpleText, and type several lines, the text appears right-justified. If you then save your document, quit SimpleText and change the System Direction to left-to-right, when you re-open your original document all the text will now be left-justified.

7) Question: I installed the Hebrew (or Arabic) Language Kit, and created a document with the System Direction set to right-to-left. I then removed the Hebrew (Arabic) Language Kit and installed the Cyrillic Language Kit. When I try to type in SimpleText Russian, the text is displayed from right-to-left. Why is this happening? Does the Cyrillic Language Kit also support right-to-left text?

Answer: This shouldn't happen because the Cyrillic Language Kit does not support right-to-left text; Apple is looking into this issue.

To avoid the issue, change the System Direction back to left-to-right before removing either the Hebrew or Arabic Language Kits.

To resolve the issue after it occurs, you'll need to re-install the Hebrew or Arabic Language Kit, change the System Direction to left-to-right, and then remove the Hebrew or Arabic Language Kit.

Note: Resetting the PRAM does not restore the System Direction. Also, you cannot Custom Install the Text control panel from the Arabic or Hebrew Language Kits.

8) Question: I'm using ClarisWorks 4.0v2 and 4.0v4 and have the System Direction set to right-to-left. All of the menus are displayed from right-to-left as they should be, but I can't type in ClarisWorks from right-to-left--all the text I enter is always left-to-right. Does ClarisWorks support

WorldScript I?

Answer: Yes, both versions of ClarisWorks that you mention are WorldScript I savvy, but ClarisWorks does not support right-to-left text. This information is found in the ClarisWorks Help file available in the Guide Menu.

9) Question: I'm using ClarisWorks 4.0v4, and the names of some of the options in the File, Format and other menus begin and/or end with an unusual character. What is this character?

Answer: You've registered ClarisWorks with the Arabic (or Hebrew or Cyrillic) Language Register, which tells ClarisWorks to use the default font for that language. For example, the default font for Arabic is called "Geeza". So, if you register ClarisWorks with the Arabic Language Register, when ClarisWorks is launched, it will use the "Geeza" font in the menus. However, "Geeza" doesn't have an equivalent to the ellipsis, so in the File menu the 'New...' option looks like "New*", with the * representing some Arabic character. (If the System Direction is set right-to-left, the File menu '...New' option looks like "*New".)

To restore ClarisWorks to using the Roman script for menus, open any Language Register application (they're located in the Apple Extras folder on the hard drive), change the Language in the pop-up menu to "English", click on the "Register" button, and select ClarisWorks in the lower portion of the window.

Published Date: Feb 18, 2012

Apple MPEG Card: Common Issues (5/96)

This article contains the resolutions to some of the commonly experienced issues with the Apple MPEG card.
This article has been archived and is no longer updated by Apple.
1) Issue: There is no option for MPEG video in the "Controls" window of Apple Video Player.

Resolution:

Step 1

The AMMS MPEG Decoder extension may be missing or damaged. You can reinstall the AMMS MPEG Decorder extension using the Apple MPEG Media System CD which came with the Apple MPEG Card.

Step 2

Remove the Apple Video Player Prefs file from the Preferences folder (you will lose all custom settings and channel passwords) and restart the Apple Video Player.

Note: If this does not resolve the issue, you can move the preferences file back into the Preferences folder, replacing the new one that was created, so you do not lose your custom settings.

Step 3

Ensure that the MPEG card is fully seated in the expansion slot of the logic board.

2) Issue: The video window in Apple Video Player is blank during playback of an MPEG video.

Resolution:

Step 1

If you are using QuickTime 2.0, ensure that the QuickTime 2.0 AMMS Update extension is present in the Extensions folder.

Note: You do not need this extension if you are using QuickTime 2.1 or later.

Step 2

Ensure that no other video applications have open MPEG video windows. Only one MPEG video can be played at a time.

Step 3

Remove the Apple Video Player Prefs file from the Preferences folder (you will lose all custom settings and channel passwords) and restart the Apple Video Player.

Note: If this does not resolve the issue, you can move the preferences file back into the Preferences folder, replacing the new one that was created, so you do not lose your custom settings.

Step 4

Ensure that the DVA (Digital Video Access) ribbon cable that came with the MPEG card is securely fastened to both the MPEG card and the Video-In card.

3) Issue: Certain picture adjustment controls, like sharpness, have no effect on MPEG video.

Resolution: MPEG video playback is independent of these settings. Set the video window to "Normal" size (320 x 240) in order to avoid pixel-doubling and achieve maximum image clarity.

4) Issue: During MPEG video playback, the audio intermittently skips and speeds up as if it were interrupted and is trying to catch up with the video track.

Resolution: Though MPEG video playback demands only approximately 20% of the processor's cycles, some aspects of MPEG video playback

can be preempted by other processes. Ensure that no other applications or processes (file sharing, printing, and so on) are working in the background. The effect can be reproduced occasionally by simply pulling down a menu.

5) Issue: Certain MPEG movie files that can be played with applications that support software decompression cannot be played with applications that support the MPEG card, such as Apple Video Player and MoviePlayer.

Resolution: MPEG movies designed for software decompression by applications such as Sparkle may not be compatible with the hardware decompression methods employed by the MPEG card and the applications that support it.

This article was published in the Information Alley on 30 April 1996.

Article Change History:
06 May 1996 - Added alley information.

Published Date: Feb 18, 2012

MoviePlayer 2.1: Purpose of Plug-ins (5/96)

MoviePlayer 2.1 includes two plug-ins: Authoring Tools and Goodies. What are these plug-ins used for and what features do they offer?

This article has been archived and is no longer updated by Apple.

These plug-ins allow you to add or modify custom color palettes, add or modify copyright information, add previews, use IMA audio compression, and use other authoring features when creating QuickTime movies. They do not affect the way movies play back.

If you are interested in developing or learning more about QuickTime software, the QuickTime Developers Kit is available from the Apple Programmer Developers Association at (800) 282-2732.

This article was published in the Information Alley on 30 April 1996.

Article Change History:
06 May 1996 - Added alley information.

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PowerBook Upgraded to PowerPC: Hard Drive Won‘t Spin Down

I recently upgraded my PowerBook 500 series computer to PowerPC. Since the upgrade, the hard drive will not spin down, even though the icon in the Control Strip indicates that it has spun down. The only time the hard drive will spin down is when the PowerBook is shut down or sleeping. What's wrong?
This article has been archived and is no longer updated by Apple.
Issue

This issue applies to any 200 or 500 series PowerBook computer which has been upgraded to PowerPC. The PowerPC processor for these PowerBook computers is not fully compatible with the hard drive driver written to the hard drive by Apple HD SC Setup.

Resolution

To alleviate this symptom, you need to update the hard drive driver with Drive Setup 1.0.3 or newer.

Which PowerBook Computers are Affected?

Since the default hard disk driver for all PowerBook 200 and 500 series computers comes from Apple HD SC Setup, any such PowerBook upgraded to PowerPC will have this symptom unless the hard drive has been previously updated with Drive Setup 1.0.3 or later.

Where to Get Drive Setup

- Drive Setup 1.0.3 can be found on the Disk Tools disk image included with the CD that comes with the PowerBook PowerPC upgrade kit.
- If you have updated to System 7.5.3 from 7.5.2 by installing the System 7.5 Update 2.0, Drive Setup 1.0.4 can be found in the Apple Extras folder, inside the Utilities folder.
- Drive Setup 1.0.4 can be custom installed with the System 7.5 Update 2.0 Installer.

These articles can help you locate Drive Setup on Apple's Software Updates sites on the Internet:

- Article 14724: "**Where To Find Apple Software Updates**" - Lists online services for free Apple software updates.

Published Date: Feb 18, 2012

System 7.5 Update 2.0: Global Village Startup Error (4/96)

I recently installed System 7.5 Update 2.0 with Open Transport 1.1. Now the Global Village Toolbox extension will not load at startup because of a memory error. How can I resolve this?

This article has been archived and is no longer updated by Apple.

To prevent this memory error from occuring, you can rename the extension by putting a space in the beginning of the name. This will force the extension to load first in the startup sequence and prevent any memory heap issues from occurring.

Note that you can do this with other extensions as well if they give you similar errors.

Published Date: Feb 18, 2012

Apple RAID 1.1: Read Me File (5/96)

This article contains the readme file for the Apple RAID 1.1 software.
This article has been archived and is no longer updated by Apple.
Apple RAID Software 1.1 Read Me

IMPORTANT Be sure to review this entire document. It contains important information that supplements the Apple RAID Software Administrator's Guide. You may want to print this document for reference.

Locating the Apple RAID Software on Your Startup Disk

The Apple RAID Software program is installed in the Apple Menu Items folder in the System Folder on the startup disk. The Apple RAID monitor program is installed in the Extensions folder in the System Folder on the startup disk. The Apple RAID Software Read Me (this document) and the SimpleText text-processing program are installed in an Apple RAID folder in the top-most directory of your startup disk.

Using the Microsoft Mail Backup Utility With Apple RAID

Because of the way in which the Microsoft Mail Backup Utility shuts down the system, the automatic backup feature of Microsoft Mail causes mirrored volumes to become out of sync. The best way to back up your Microsoft Mail Server is to follow the instructions for a manual backup in the Microsoft Mail documentation.

Rebuilding Mirrored Volumes While Running AppleShare

When rebuilding a failed or out-of-sync mirror volume while AppleShare is running, set the AppleShare Remote User Activity slide bar to less than 50%. If AppleShare is under particularly heavy use, set the slide bar to an even smaller percentage of the processor's time. These settings ensure that Apple RAID will receive the necessary processing time to perform the rebuild. (See your AppleShare documentation for details about setting the Remote User Activity slide bar.)

Using Drive Setup to Reinitialize an Apple RAID-prepared disk
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If you have a disk that contains Apple RAID volumes, and you no longer want to use it for Apple RAID, first use Apple RAID to delete the volumes and then restart the server. Then use Drive Setup to reinitialize the disk. (The volumes must be deleted and the server restarted to avoid a conflict between the Apple RAID driver and Drive Setup.)

Published Date: Feb 18, 2012

Apple RAID 1.1: New Features and Changes (5/96)

This article provides the changes in Apple RAID version 1.1.
This article has been archived and is no longer updated by Apple.
These are the changes in Apple Raid 1.1:

RAID Driver

Reinitializing the drives is no longer necessary when implementing RAID. The Administrator must install the Apple RAID disk driver on each hard disk that will contain mirrored or striped volumes. The easiest way to install the Apple RAID disk driver is to use the Install Driver command. The Install Driver command is also recommended for older versions of Apple RAID drives.

Apple RAID will now be "installable" over the Apple hard disk driver. Previously, a user needed to "reformat" a disk drive to use Apple RAID.

The Get Info command displays the amount of free space within a volume, and the Apple RAID Setup program displays the amount of disk space not allocated to a volume.

Weighted Striping

Apple RAID allows up to eight partitions per disk; stripe and mirror partitions can reside on the same disk. Apple RAID volumes are limited to 2 GB with no more than 10 Apple RAID volumes per server system. If the server has more than one SCSI bus, the partitions should reside across both buses. A striped volume is limited to a maximum of 4 GB or a minimum of 10 MB.

The main advantage of weighted striping is the ability to balance the data throughput of RAID volumes on two separate SCSI buses of unequal speed. For instance, the 8550/132 has both a 5 MB/s and 10 MB/s bus. Two drives are installed, one connects to the 5 MB/s channel, the other to the 10 MB/s channel. With normal striping, the maximum theoretical throughput on each SCSI channel is the speed of the slower bus. With "weighted striping" the RAID software optimizes throughput on both buses, taking into consideration that one bus is faster and "weighting" these transfers. The result should be better data throughput on the 8550/132 SCSI subsystem. The cabling, bracket and software, will be included as standard elements with all 8550 systems. The user will just need to add the second drive.

Server Manager Support

Server Manager will receive error messages from Apple RAID, enabling system administrators to receive remote notification of a failed Apple RAID volume through e-mail, paging, or other Server Manager features.

Upgrades/Compatibility

Apple RAID 1.1 is only supported on PCI-based workgroup servers. Since Apple RAID 1.1 is not supported on NuBus workgroup servers, no upgrades to version 1.1 are available.

Clarification

The PCI RAID Card is not part of Apple RAID 1.1. The PCI RAID Card is an option for the Network Server 500 or 700, and requires the AIX operating system. The PCI RAID Card is not Mac OS compatible.

Article Change History:
09 May 1996 - Added clarification section.

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Power Macintosh: Mono Recording level Lower than Stereo (5/96)

When I input a stereo signal into my Power Macintosh computer, then use my recording application software to record in mono, I notice a drop in the signal level if I turn down the right or left source signal. Why?

This article has been archived and is no longer updated by Apple.

When the Macintosh is set to record in Mono mode, it adds together the signals of both the left and the right inputs and averages them together into a mono signal. This averaged mono signal is a lower level signal. By summing and averaging the right and left inputs into a mono signal rather than picking one input no information is lost from either input.

If there are concerns that the input level of mono recordings are lower than those of stereo recordings there are a couple of workarounds.

Increase Source Signal Level

Have them increase the level of the signal that they are supplying to the Macintosh. This compensates for the reduction due to the averaging to a mono signal.

Use Hardware Spliter

If you are supplying a mono signal to the macintosh, you can use a splitter that would take the mono signal and split it into two signals. The splitter would be a Y-cable that would have a connector on one end for the signal input (3.5mm, 1/4-in or RCA jack) and the other end would have two RCA jacks to connect to the sound input jacks, or a stereo 3.5mm jack which could be connected to the Microphone input.

Published Date: Feb 18, 2012

Macintosh PowerBook PCMCIA Expansion Module Read Me

This article contains the text of the Read Me file for the Macintosh PowerBook PCMCIA Expansion Module.
This article has been archived and is no longer updated by Apple.

Overview

Congratulations on purchasing your PowerBook PCMCIA Expansion Module. This document adds to and updates the information in the manuals that came with your module. It is a good idea to read this document now, and keep a copy handy for future reference.

If your PowerBook computer* is connected to a printer, choose Print from the File menu to print a copy of this document. When you are finished reading and printing, choose Quit from the File menu to quit the SimpleText application program.

* NOTE: Apple does not recommend that any PCMCIA module be used with PowerBook 550c computer. The PowerBook 550c is available only in Japan.

Contents

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- Using PC Cards
- Using a DOS-formatted PC Card

Troubleshooting
- Selecting a PC Card as a startup disk
- Starting machine with PC Card(s) inserted

Tips

Using PC Cards

* For best results, purchase only cards that have been qualified for use on a Macintosh computer. If you are in the United States, you can receive a faxed list of currently available PC Cards by calling 1-800-462-4396 and requesting document 10307. You can call this number anytime. In Canada, call 1-800-263-3394 and request document 10307. Outside the United States and Canada, please consult your Apple-authorized dealer.

* Don't use an SRAM storage card as a startup disk on your PowerBook. Use SRAM cards for extra storage only.

* Never eject a PC Card manually (with a paper clip) while the PowerBook is in sleep. You may damage the card or lose data.

Using a DOS-formatted PC Card

* If your PowerBook has the Macintosh PC Exchange control panel installed and PC Exchange is turned on, you can use a PC Card that has been preformatted in a DOS format in your PowerBook. However, you cannot start up your computer using the DOS-formatted PC Card; you can only start up your computer using a Mac OSðformatted PC Card. If you want to reformat your DOS-formatted PC Card as a Mac OSðformatted PC Card, you need to turn PC Exchange off, and then format the card as you would any non-Mac OSðformatted disk. Follow these steps:

Step 1

Choose Control Panels from the Apple menu.

Step 2

Open the PC Exchange control panel.

Step 3

Click the Off button and close the PC Exchange control panel.

Step 4

Insert your PC Card. A window appears asking if you want to initialize (format) the disk.

Step 5

Click Initialize to format the PC Card.

* Once the PC Card is reformatted, you can turn Macintosh PC Exchange back on in the PC Exchange control panel.

* You cannot reformat a Mac OS-formatted PC Card as a DOS-formatted PC Card with PC Exchange. To do so, you need to use a DOS/Windows computer with PC Card capabilities.

Troubleshooting
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Selecting a PC Card as a startup disk
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* The user may experience some difficulty in selecting a PC Card as a startup disk. If a system alert "beep" is heard when attempting to select a PC Card as a startup disk, simply restart the machine, then reselect the startup disk.

Starting the computer with PC Card(s) inserted
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* Under some configurations, the user may experience problems when starting up with a PC Card inserted. If this occurs, remove the PC Card before starting the computer.

Published Date: Feb 18, 2012

PC Compatibility Card (12-inch): Adding Memory (2/97)

I need to add memory to my 12-inch PC Compatibility card, but I'm not sure what type of memory I need to purchase. What type of memory can I use?

This article has been archived and is no longer updated by Apple.

Compatibility
==========

The 12-inch PC Compatibility cards use JEDEC-standard 168-pin DIMMs (dual inline memory module) DRAM cards. The DIMMs should be 64-bit-wide, 168-pin fast-paged mode (FPM) with a 70ns access time or faster. DIMMs built with either Extended Data-out (EDO) or asymetrical DRAMs are not supported on the 12-inch PC Compatibility card.

NOTE:
If you are adding a 32 MB or 64 MB DIMMs to the PC Compatibility Card, then you may need to install the PC Setup DIMM Patch from one of the Apple Online Software Updates areas. See the Technical Information Library article "12 Inch PC Compat Card: Freezes With 32 MB & 64 MB DIMMs" for more information.

Expansion
=========

The 12-inch PC Compatibility card comes standard with 8 MB of on-board DRAM. In addition, the 12-inch PC Compatibility card has one RAM expansion slot. You can use DRAM configurations with DIMMs of these sizes: 8, 16, 32 or 64 MB. The exact configuration depends on the density of the DRAM chips that are mounted on the DIMMs. You can increase the 12-inch PC Compatibility card total DRAM to up to a maximum of 72 MB.

This article appeared in the 1 November 1996 issue of the Information Alley.

Article Change History:
11 Feb 1997 - Reworded for clarity.
10 Sep 1996 - Added information about software patch.

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Macintosh Plus: Keystrokes and AppleLine EBCDIC output

This article has been archived and is no longer updated by Apple.

Macintosh Plus Keystroke output	AppleLine EBCDIC output	Macintosh Plus Keystroke output	AppleLine EBCDIC output	Macintosh Plus Keystroke output	AppleLine EBCDIC output
A	00	N	45	1	18
B	11	O	31	2	19
C	08	P	35	3	20
D	02	Q	12	4	21
E	14	R	15	5	23
F	03	S	01	6	22
G	05	T	17	7	26
H	04	U	32	8	28
I	34	V	09	9	25
J	38	W	13	0	29
K	40	X	07		
L	37	Y	16		
M	46	Z	06		

-	27	BACKSPACE	51	ARROWS:	
=	24	RETURN	36	DOWN	72
`	50	SHIFT	56	UP	77
/	44	TAB	48	LEFT	70
\\	42	CAPS LOCK	57	RIGHT	66
[	33	OPTION	58		
]	30	FUNCTION	55		
;	41	SPACE	49		
'	39				
,	43				
.	47				

Key Pad

0	82	.	65
1	83	=	56 72
2	84	/	56 77
3	85	*	56 66
4	86	-	78
5	87	+	56 70
6	88	Enter	76
7	89	Clear	71
8	91		
9	92		

NOTE: When the 56 appears on the numeric keypad, it indicates the key is automatically shifted.

Published Date: Feb 18, 2012

PC Compatibility Card (7-inch): Adding Memory (2/97)

I need to add memory to my 7-inch PC Compatibility card, but I'm not sure what type of memory I need to purchase. What type of memory can I use?

This article has been archived and is no longer updated by Apple.

Compatibility

The 7-inch PC Compatibility cards uses JEDEC-standard 168-pin DIMMs (dual inline memory module) DRAM cards. The DIMMs should be 64-bit-wide, 168-pin fast-paged mode (FPM), 2K refresh rate with a 70ns RAM access time or faster. DIMMs built with either Extended Data-out (EDO) or asymetrical DRAMs are not supported on the 7-inch PC Compatibility card.

All DIMMs currently available from Apple Computer are 2K refresh rate so you can safely use them in your 7-inch PC Compatibility card.

Expansion

The 7-inch PC Compatibility card has one RAM expansion slot on board. You can use DRAM configuration with DIMMs of these sizes: 8, 16, 32 or 64 MB. The exact configuration depends on the density of the DRAM chips that are mounted on the DIMMs. You can increase the 7-inch PC Compatibility cards total DRAM to up to a maximum of 64 MB.

Article Change History:
11 Feb 1997 - Reworded for clarity.
23 Aug 1996 - Added information about asymmetrical DRAM.

Published Date: Feb 18, 2012

Apple System Profiler: Processor Speed Misidentified (5/96)

I recently bought what I thought was a Power Macintosh 8500/132. However, I just ran the Apple System Profiler application, and it reported that I have a Power Macintosh 8500/120. What's going on? Was I given the wrong computer?
This article has been archived and is no longer updated by Apple.
No, it is likely that you have the correct computer, but you are using a version of the Apple System Profiler that does not support the new Enhanced PCI-based Power Macintosh computers*.

You should be using version 1.0.1, which is available on the online services. This new version of the Apple System Profiler corrects this misidentification of processor speed. In version 1.0.1, the processor speed for these computers is omitted from the description line.

*The enhanced PCI-based Power Macintosh computers include the following series:
- Power Macintosh 7200/120
- Power Macintosh 7600/120
- Power Macintosh 8500/132
- Power Macintosh 8500/150
- Power Macintosh 9500/150

These articles can help you locate the software update mentioned here:

* "Where To Find Apple Software Updates" - Lists online services for free Apple software updates.

* "Obtaining Apple Product Support in the USA" - Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech Info Library.

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LaserWriter/Localtalk Bridge Conflicts w/ Open Transport (5/96)

I have recently added a Power Macintosh 7200 to my network which consists mostly of Macintosh Quadra 800 computers. When I open the Chooser on the Power Macintosh computer I get a message that says, "The LaserWriter Bridge cannot continue because of a network number conflict." What's wrong?

This article has been archived and is no longer updated by Apple.

Symptoms

There are times when neither a LaserWriter Bridge, or a LocalTalk Bridge, running on any Nubus-based Macintosh computer system, can coexist on a network which includes a Macintosh computer running Open Transport (such as a Power Macintosh 7200).

There are no problems until the person running Open Transport on their computer opens the Chooser. At this time, either type of bridge may quit with one of the following two messages:

1) "The LaserWriter Bridge cannot continue because of a network number conflict."

or

2) "The LocalTalk Bridge cannot continue because of a network number conflict."

Issue

The problem is caused when the person running Open Transport on their computer sets a user-defined network range in the AppleTalk control panel.

Resolution

To fix this, do either of the following two things:

1) Open the AppleTalk Control Panel and change the network ID.

or

2) Un-check the "User Defined" AppleTalk address box. Turn off Appletalk. Then reactivate it again.

Of these two solutions, the second is a better choice. A user should not have to hard wire a network or node ID on a system to correct this situation.

This article was published in the Information Alley on 3 May 1996.

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Apple Video Player: Corrupted Pref file Causes Wrong Tint (5/96)

I am using the Apple Video Player and it worked properly for a while. However, now the input window shows everything with a pink tint. How can I get rid of the tint?
This article has been archived and is no longer updated by Apple.
If the preference file gets corrupted, you get the unexpected tint. To correct this, open your Preference folder, inside your System folder, and throw away the Apple Video Player Pref file.

The next time you open the Apple Video Player a new preference file is created and Apple Video Player displays the proper tint.

Article Change History:
08 May 1996 - minor formatting change.
Published Date: Feb 18, 2012

Power Macintosh 7500 and 7600 Series: 150 MHz Processor? (5/96)

Will the 150 MHz processor card that is used in the new configurations of the Power Macintosh 8500/150 and 9500/150 computers work in the Power Macintosh 7500 and 7600 series of computers?

This article has been archived and is no longer updated by Apple.

Apple does not currently offer the 150 MHz processor card for use in the Power Macintosh 7500 and 7600 models. The Power Macintosh 8500/150 and 9500/150 computers are currently the only Apple products that are available with the 150 MHz processor card. In the future, Apple may announce an upgrade path to the 150 MHz processor card.

This article was published in the Information Alley on 03 May 1996.

Published Date: Feb 18, 2012

PCI-Based Power Macintosh: Speed of Processor Upgrades (4/97)

Which PCI-based Power Macintosh computers will be able to support future processor card upgrades? What is the fastest processor card these computer could support?

This article has been archived and is no longer updated by Apple.

Currently, all PCI-based Power Macintosh computers that are capable of accepting processor upgrade cards will be able to support cards of up to 250 MHz. These computers include the Power Macintosh 7300, 7500, 7600, 8500, 8600, 9500 and 9600 series computers.

This article was published in the Information Alley on 11 September 1996.

Article Change History:
29 Apr 1997 - Updated with additional Power Macintosh models.
17 Oct 1996 - Added alley information.
06 Sep 1996 - Updated processor information.
Published Date: Feb 18, 2012

Applesoft: Simple Ways To Protect Programs

Some programmers prefer to conceal their code from inquisitive users. Keep in mind that if users are determined to LIST a program, they will. Be that as it may, here are a few obstacles to deter less tenacious users.
This article has been archived and is no longer updated by Apple.
To prevent a user from LOADing your program in the first place, type control characters in the name of the program when you save it. These characters cannot be seen in a Catalog. However, users may know of a program in the DOS manual that they can use to find control characters in your program's name and modify it.

By the techniques below, you will discourage most attempts by preventing Applesoft from executing a LIST command properly.

Disable the LIST command by placing POKE 214,128 in the first statement line of the startup program HELLO. Once this command is executed, any Applesoft command is interpreted as RUN. When the user types LIST, the program RUNs. If NEW is entered, the program RUNs. Whenever the value of memory location 214 is greater than 128, your program will do nothing but execute.

NOTE: On some systems, a CTRL-RESET keystroke may disable the POKE 214,128 that is essential to this technique. To disable the RESET key, use POKE 1010,102: POKE 1011,213: CALL -1169 in your startup program, preferably on the second statement line.

With this arrangement, the program re-runs itself every time the user presses a CTRL-RESET.

CAUTION: These POKEs disable DOS; therefore, after the startup program runs, your program is unable to execute DOS commands such as "LOAD", "SAVE", and so on, unless your program enables the RESET key with the statements POKE 1010,191: POKE 1011,157: CALL -1169.

While this technique prevents a LOAD and LIST on a single drive system, someone with a multi-drive system could boot DOS and then LOAD and LIST the program from a second drive. There is still another protection the program can contain. You can program a DOS command to execute when your program is Listed without affecting a RUN of the program. Within the listing, you program a DOS command to Catalog the disk, reboot, or lock or delete files, just as though the command had been typed at the keyboard. Following the execution of the DOS command, the listing will disappear.

Here is a sample of this technique. Be sure to save any program you modify before using this method.

1. Load a Basic program into memory.

2. Add a remark as the new first line of the program. After the word REM, type 3 spaces and a DOS command, such as CATALOG, PR#6, DELETE filename, and so on.

Example: 10 REM CATALOG (three spaces between REM and CATALOG)

3. From the keyboard, enter: POKE 2055,13 : POKE 2056,4

4. Save this revised version of your program with a unique name.

5. Now type LIST.

The Apple will begin to list your program, but will stop the listing to execute the DOS command and CATALOG the disk. No further program statements will be seen. Experiment with various DOS commands to get the desired effect.

NOTE: Anyone distributing software for sale running on an Apple computer should become licensed through Apple Software Licensing. Search on Software Licensing for address information.
Published Date: Feb 18, 2012

Network Server 500: Why It May Not Power On (5/96)

After I added several third-party SCSI devices, my Network Server 500 does not power on. Why?
This article has been archived and is no longer updated by Apple.

Overview
==========

This document explains the reasons why a Network Server 500 may not power on after the addition of several third-party SCSI devices.

* NOTE: This discussion does not apply to the Network Server 700.

Symptom
==========

Third-party drive testing at Apple has revealed that some SCSI devices may cause the Network Server 500 power supply to fail to power on. The unit fails to exhibit ANY response (no LED or LCD flash) to a front panel or keyboard power-on request. This problem is only seen if several third-party SCSI devices are installed. Hard drive, tape and CD-ROM Option Kits shipped by Apple do not provoke this problem, nor do many third party drives, tapes, and CD-ROM drives.

Cause
=====

When several third party devices are installed in combination, they exhibit transient (power-on) loads on the +12 volts that exceed the short-circuit detect trip point of the Network Server 500 power supply.

If you have NOT added third party SCSI devices, it is likely that there is some other cause. The most common of these other causes are:

1) Rear Keyswitch is not fully locked.
2) Main Logic Module (Rear Drawer) is not fully seated with all four
thumbscrews tightened.
3) Processor Card is not fully seated.

Workaround
==========

If the "no power on" symptom is experienced, following this procedure allows the power supply to properly power up in the system:

Step 1

Unseat the SCSI devices, but leave the root hard drive plugged in (otherwise you will have to startup from Open Firmware).

Step 2

Unplug the unit from the AC wall outlet for at least 45 seconds.

Step 3

Replug the unit into the AC.

Step 4

Power-on from the keyboard or front panel.

Step 5

Reseat the SCSI devices before AIX starts booting.

NOTE:
The power supply is not damaged by the failure to power-on. Unseating the offending SCSI devices will allow the unit to successfully power on.

Published Date: Feb 18, 2012

Macintosh Performa 6200: Can‘t Record from 1710AV Display 12/96

I am having difficulty using the built-in microphone of the AppleVision 1710AV Display with my Macintosh Performa 6200CD. Whenever I attempt to record sounds with this setup, the recording appears muffled and contains a lot of static. However, if I connect the PlainTalk microphone directly into the computer, I get clear sound recordings. What could be causing this to happen?

This article has been archived and is no longer updated by Apple.

Apple is aware of this issue and is investigating it. It does not appear to be an issue with the AppleVision 1710AV Display. Rather, it appears that this issue can occur on all computers with a this form factor, including the Macintosh 630, 6200, and 6300 series computers.

This audio issue also occurs with the Macintosh Performa 6400 computer.

Currently, the only workaround is to use the PlainTalk microphone connected directly to the computer's microphone port.

Note:
The following computers are in the corresponding Macintosh families:

* Macintosh 630CD family: LC 630, Quadra 630, Performa 630, Performa 631, Performa 635, Performa 636, Performa 637, Performa 638, and Performa 640.

* Macintosh 6200CD family: Performa 6200, Performa 6214, Performa 6216, Performa 6218, Performa 6220, and Performa 6230.

* Macintosh 6300CD family: Performa 6300, Performa 6290

This article was published in the Information Alley on 4 December 1996.

Article Change History:
19 Dec 1996 - Added Macintosh Performa 6400 to the article.
04 Dec 1996 - Added keyword.
02 Dec 1996 - Changed distribution status.

Published Date: Feb 18, 2012

System 7.5 Update 2.0: Energy Saver Update Not Installed (5/96)

I have a Power Macintosh 7200/90 computer. I recently installed System 7.5 Update 2.0, but now I cannot open the Energy Saver Guide in the Energy Saver control panel. What's going on?

This article has been archived and is no longer updated by Apple.

System 7.5 Update 2.0 does not install the latest version of the Energy Saver Guide, control panel, or extension when performing an "Easy Install." However, these files are correctly updated on Power Macintosh 7500, 8500, and 9500 series computers.

Use the System 7.5 Update 2.0 installer to Custom Install the update to Energy Saver 2.0.1 by following these steps:

Step 1

Launch the System 7.5 Update 2.0 installer.

Step 2

Choose "Custom Install" from the pop-up menu in the top left corner.

Step 3

Under the Custom Install window, click once on the arrow to the left of "Control Panels", so the arrow points down.

Step 4

Click once in the check box next to "Energy Saver".

Step 5

Click the Install button to finish the installation.

Published Date: Feb 18, 2012

QuickDraw GX 1.1.2: Printing Issues on PCI Macintosh

My Power Macintosh 7500 freezes when I attempt to print to a LaserWriter using QuickDraw GX. I had the same problem using the LaserWriter 8.2.2 printer driver, but when I used the LaserWriter 8.3.2 software, I could print correctly. Why am I having problems using the LaserWriter GX printer driver?
This article has been archived and is no longer updated by Apple.
The problem is related to some known printing issues with PCI-based Macintosh computers. The problems are resolved with some new AppleTalk PAP/ATP fixes included in the LaserWriter 8.3.2 printer driver, and the 7.5.2 Printing Fix extension. If System 7.5.2 Update 2.0 is installed, the Printing Fix extension is no longer needed.

In the QuickDraw GX environment, the LaserWriter GX driver has not been revised to include the AppleTalk PAP/ATP fixes. This is the reason that the LaserWriter GX driver (J-1.1.2) does not work. The QuickDraw GX engineering team scheduled the fixes to be rolled into QuickDraw GX v1.2.

One possible workaround to this issue if the customer wants to use QuickDraw GX is to use QuickDraw GX Helper. This allows you to use the LaserWriter J1-8.3.2 driver within QuickDraw GX. For an explanation of how to use QuickDraw GX Helper, please see the following Tech Info Library article:

Article 15943: "**QuickDraw GX: Workaround For Fax Capable Apple Printers**"

The article actually refers to using QuickDraw GX Helper for PostScript Fax. However, the same steps would apply to utilizing the LaserWriter J1-8.3.2 driver.

For more information on PCI-based Macintosh printing issues and resolutions, please see the following Tech Info Library article:

Article 19136: "**System 7.5 Update 2.0: What's New In This Update (3 of 3)**"
Published Date: Feb 18, 2012

QuickTime Conferencing: Questions & Answers (6/96)

This article contains QuickTime Conferencing questions and answers.
This article has been archived and is no longer updated by Apple.
Question: PictureTel system is strapping an ISDN (Integrated Services Digital Network) board to ATM (Asynchronous Transfer Mode) board to trick it into thinking its on ISDN when it's really on ATM. Therefore, how will Apple be supporting ATM and when? Or, fast Ethernet? (Is this ISO-Ethernet?)

Answer: Apple has made no announcements about supporting ATM or fast Ethernet at this point, primarily because of the component architecture of QuickTime Conferencing (QTC). QTC has a separate transport layer that can be written for specific protocols you want QTC to use (ATM, Fast Ethernet, or ISO-Ethernet). Customers could write their own transport component for their needs. National Semiconductor announced plans to build a ISO-Ethernet card at the QuickTime Conferencing intro in February 1995, but you need to check with National Semiconductor concerning availability of this card.

Question: How can I interface Ethernet/T1 to ISDN for remote sites that do not have T1 access? In other words, if one user is on T1 can they connect to an ISDN user?

Answer: ISDN implements the ISDN-1 standard for a BRI (Basic Rate Interface) giving the user 2 B (56 or 64 kbps) and 1 D channels. T1 implements the ISDN-2 standard where the user has 23 B (56 or 64 kbps) and 1 D channel. If both the BRI and PRI use H.320, then they can use it. Otherwise they will likely use IP to communicate with each other.

Question: Does the H.320 take advantage of its hard compression over an existing Ethernet LAN or Fast Ethernet or ATM?

Answer: No, the H.320 hardware component is only used in an ISDN WAN connection. Once you switch the network type to AppleTalk or TCP/IP instead of ISDN, then you no longer interface with the H.320 board and cannot take advantage of the hardware H.320 compression. QTC does include a software H.261 compressor for the LAN video. H.261 is a subset of the H.320 standard, so in actuality some H.320 can occur, but the preferred compressor for a LAN connections is JPEG for IP and Apple Video Compressor for AppleTalk.

Question: For normal Internet access is additional software required? Is anything different required of the ISP (Internet Service Provider), or the Internet connection such as router, CSU/DSU?

Answer: The currently shipping QTC/ISDN Kit does not include software for an internet connection with an ISP. You can connect to an ISP with no additional hardware, you just need software.

Question: Is it possible to use either a point-to-point connection, or Apple Remote Access connection over an ISDN line with QuickTime Conferencing?

Answer: The current version of QuickTime Conferencing requires Ethernet or an installed H.320 ISDN card.

Article Change History:
11 Jun 1996 - Added last Q & A pair.

Published Date: Feb 18, 2012

Apple IP Gateway 1.0.1: Setting Up Multiple Gateways (5/96)

This article describes how to setup Apple IP Gateway 1.0.1 so you have multiple gateways in the same zone.
This article has been archived and is no longer updated by Apple.
You can set up multiple Apple IP Gateways in the same AppleTalk zone. Doing so allows you to balance the gateway service load between multiple machines, as well as to provide service to an additional 253 users per gateway.

To set up multiple gateways, you must configure the gateway to provide automatic addresses only; you cannot use manual addresses with multiple gateways. Also, Power Macintosh clients will not be able to locate a gateway if there are multiple gateways in a zone. Only MacTCP clients on non-Power Macintosh machines will be able to locate a gateway if multiple gateways are in use.

Follow these steps to set up multiple gateways in the same zone:

Step 1

Purchase another copy of the Apple IP Gateway and install it on another machine.

Step 2

Set up the second gateway machine in the same zone as the original gateway.

Step 3

Divide the automatic address range of the original gateway into two ranges. Configure the original gateway with one of these ranges and the second gateway with the remaining range.

Step 4

Start both gateways.

Clients connect to the first gateway that responds. When a gateway has no more addresses to give out, it ceases responding, thus allowing another gateway to respond to the client.

IMPORTANT:
If you have Power Macintosh clients that need to access a gateway, do not set up multiple gateways in the same zone.

Published Date: Feb 18, 2012

Logo II: Clearing Apple IIc screen under Catalyst 3.0

After loading LOGO II on an Apple IIc with Quark's Catalyst 3.0, the LOGO II screen is not cleared. You see High-Res graphic 'garbage' on the screen.
This article has been archived and is no longer updated by Apple.
To solve the problem, simply execute the following command at the '?' prompt.

? .DEPOSIT 49247 0

This will clear the graphics left over from the Catalyst High-Res screen images.
Published Date: Feb 18, 2012

General Computers: A+ Certification Program

This article contains information on the A+ Certification testing program.
This article has been archived and is no longer updated by Apple.
The A+ Certification is a testing program sponsored byt the Computing Technology Industry Association (CompTIA) that certifies the competency of service technicians in the computer industry. Anyone who wants a nationally recognized credential as a competent computer service professional can take the A+ exams. The program is backed by major computer hardware and software vendors, distributors, resellers and publications as well as a leading industry service organization, the Association of Field Service Management, Inc.

To become certified you must pass two test modules - the Core and one of two other specialties, either the Microsoft Windows/DOS module or the Macintosh module.

Candidates for certification may register by phone by calling: (800) 77-MICRO and schedule their testing session at a Drake Authorized Testing Center.

Sylvan Prometric
Phone: (800) 77-MICRO
FAX: (612) 820-5050
Published Date: Feb 18, 2012

Mail*Link for PowerTalk/MS 1.6: ReadMe (5/96)

This article is the Mail*Link for PowerTalk/MS 1.6 Read Me File.
This article has been archived and is no longer updated by Apple.
Mail*Link for PowerTalk/MS 1.6

Mail*Link PT/MS for PowerTalk is a personal e-mail gateway for PowerTalk users. This gateway will allow PowerTalk users to send and receive mail into the StarNine Mail system or, as formerly known, Microsoft Mail for AppleTalk system. Mail can be sent and read with any PowerTalk mail-enabled application.

This release of Mail*Link¿ for PowerTalk¬/MS is the first release of this gateway by Apple Computer Inc. This gateway is functionally equivalent to version 1.0.0. Future versions of this software will be modified and enhanced.

This software is licensed to you under the Macintosh System 7.5 license agreement. All terms and conditions of this license must be followed.

Note: If you are upgrading from version 1.0.0 it is VERY IMPORTANT that you follow the instructions in the Upgrading Section below.

The installation and upgrade procedure for this software will still install the StarNine demonstration key files (which were part of the 1.0.0 release). However the 1.6 release of the gateway has been modified to ignore the key files and thus will never expire.

To use the PT/MS gateway you must have the Microsoft Mail Extension installed in the Extensions folder of your System folder. The Microsoft Mail Extension is part of Microsoft Mail for AppleTalk. Please refer to the PT/MS User Guide for more information.

ITEMS OF NOTE

* Power PC: If you are using a Power PC, turn off the modern memory manager before installing PT/MS. After you have completed the gateway configuration described in Chapter 2 and are sure that the gateway is working properly, turn the modern memory manager back on. See "Power PC issues" on page 52 of the manual for related information.

* Gateway Operation: When you activate the PT/MS gateway, it uses the MS Mail extension to log in to the MS Mail Server specified in the Key Chain configuration window. It then sends pending mail from your Out Tray to the Server and transfers mail from your account on the Server to your PowerTalk In Tray at regular specified intervals until you deactivate the gateway or turn off your Macintosh. This process all takes place in background. While the MS Mail extension is actively communicating with the MS Mail Server, your Macintosh is temporarily unavailable for other tasks. This translates into slight freezes from time to time as you are going about your normal tasks as PT/MS logs into the server, with more significant hangups lasting a couple of seconds during large file transfers between the local disk and MS Mail Server. If the MS Mail Server is on a physically remote network or a large, busy network, the process of logging in to the Server will take longer. Increasing the interval at which you contact the MS Mail Server will mitigate hangups (An interval less than three or four minutes will hang your machine up in continual PowerTalk processing leaving no time for your machine to do anything else. We recommend a connection interval of at least five minutes).

INSTALLATION INSTRUCTIONS

For new installations only:

We recommend that you install this software via the installer script.

1. Double click on either the "Installer" icon.
2. Select the drive on which you wish to install this software and click Install.
3. Reboot the system after the software has been properly installed.

UPGRADE INSTRUCTIONS

If you are upgrading from a previous release of Mail*Link PT/MS for PowerTalk, you should follow these instructions:

1. Install the software as instructed in the section "GETTING STARTED - Installing Mail*Link PT/MS".
2. After the system has rebooted, open the "PowerTalk Key Chain".
3. Open the PT/MS personal gateway in the key chain. The installation

procedures change the file-id that PowerTalk uses to locate the Mail*Link PT/MS file. Opening and closing the PT/MS Service configuration window will cause the new file-id to be written into the PowerTalk configuration file.
4. Close the key chain. You will be told that you must reboot the system before PowerTalk will activate the gateway.
5. Reboot the system.

If you have trouble with the gateway after upgrading please re-install by following the instructions in the Clean Upgrade Install section below.

CONFIGURATION

* Creating your PT/MS personal gateway

Once you have installed the software and rebooted the system (as described above), follow these instructions to create your PT/MS personal gateway.

1. Open the "Key Chain" located on your desktop.
2. Press the "Add" button.
3. You will be presented with a list of services that are available. Select "Microsoft Mail Service".
4. A new item with the server name of "Not Configured" and a service type of "Microsoft Mail Service" will appear in your "Key Chain".
5. Proceed to the "Configuring" section below.

* Configuring your PT/MS personal gateway

Before configuring, make sure that you have selected your MS Mail server in the Chooser. If you do not select this the PT/MS gateway will not be able to connect.

To configure the PT/MS personal gateway, ensure that the "Key Chain" has been opened.

1. Double click (Open) the item with a service type of "Microsoft Mail Service". The PT/MS personal gateway only allows one instantiation, so there should only be one item with this type in the Key Chain window.
2. A configuration window will be displayed. You should configure each item in this window before closing the window. Window closing is equivalent to pressing the "OK" button in a dialog. The "Key Chain" configuration windows have no "Cancel" operation, so please ensure each item is properly filled in before closing the window (you can always come back and change the selections at a later date, but it is better if each item is properly filled in).
3. Once you have entered the information in the configuration window, close the window with a mouse click in the close box or by typing "<command>W". It may take a few seconds for the window to close. This is because PowerTalk is activating all of the personal gateway subsystems and informing them of their new configuration. Be patient.
4. Once the PT/MS configuration window is closed, close the Key Chain window.

CLEAN UPGRADE INSTALLATION

Use this procedure if you are experiencing problems with the gateway software. You should not need to use this procedure for normal installs. To perform a "Clean Install" of the gateway software, use the following procedure.

NOTE: Some gateways may remove mail from your In Tray and Out Tray when they are reinstalled. Be sure to back up any items in your InTray and OutTray by dragging them to another folder on your hard drive.

NOTE: This will remove all services from your keychain, so be sure you have the passwords for these services handy. If you have personal gateways already installed, you will need to set them up again, so be sure you write down the setup information that is contained in each key, if necessary.

This procedure removes all "Mail*Link" gateways. If you have multiple "Mail*Link" gateways installed, you will need to re-install each of the gateways you want to use.

1. Open the Extensions folder, located inside the System Folder. Find the following item(s) and drag to the trash (note only the gateways you have installed will be in the Extensions folder):
Mail*Link PT/QM
Mail*Link PT/MS
Mail*Link PT/INET
2. Open the Preferences folder, located inside your System Folder. Find the following items and drag them to the trash.
StarNine (folder)
PowerTalk Setup Preferences
PowerTalk Startup Preferences
3. Find the "Mail*Link Extras" folder, on the top level of your hard drive. Drag this folder to the trash.
4. Restart your machine. After you have restarted, choose "Empty Trash" from the Special menu.
5. Double-click the installer for the desired software, and click Install at the Easy Install screen. After the installation is complete, your machine will restart. If you are installing more than one gateway, repeat this step for each gateway.
6. Open the keychain and click "Add". Select the gateway from the list of choices. A new item will be added to the Key Chain. Open this key, and configure the gateway as you normally would. The gateway should now be functioning.

MANUAL INSTALLATION INSTRUCTIONS

The manual installation instructions are for advanced users who wish to build their own installation process or who wish to install only portions of this gateway. Installation using this process should be conducted only after you fully understand how to use your Macintosh, and how to configure and use PowerTalk gateways.

If you must install this version manually, please follow these instructions:

1. Place the distribution diskette in the floppy drive.
2. Open the folder named "Drop Contents on System Folder".
3. Select all of the items in this folder and drag them onto the "System Folder" icon.
4. You will be presented with a dialog box that indicates these files belong in special locations. Click "OK".
5. Close the "Drop Contents on System Folder" folder.
6. Open the folder named "Place Contents in Preferences Folder".
7. Select all of the items in this folder and drag them into the "Preferences" folder (which is located within your "System Folder".
8. If you are presented with a dialog indicating that you will be replacing existing files, click cancel. You should perform the "Automatic Installation" procedure (above).
9. Reboot the system. This is necessary because some of the software installed is only activated at boot time.

Note: With version 1.6 it is no longer required to install the key files.

KNOWN INCOMPATIBILITIES

* PT/MS and MailSwitch: Running the MS Mail MailSwitch utility simultaneous with gateway operation has been reported producing odd behavior, particularly, PT/MS reports a -1981 error in its log on a mail message send. A restart should cure the confusion.

* PT/MS and RAM-Doubler: There have been some reports of inconsistencies running PowerTalk and PMSAMs with RAM-Doubler.

* When a mail message is forwarded, the name and address of the original sender are not preserved.

* CE Software's QM for AOCE may be used to send mail, although you must select the AppleMail format when sending the message. This application may NOT be used as the default mail reader. If it is selected, AppleMail will be used instead.

SUPPORT
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If you need any additional help installing, configuring or using this gateway please call Apple Support at: 1 (800) SOS - APPL.

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StyleWriter Printers: How to Reset the Paper Tray (5/96)

This article describes how to reset the paper tray on various StyleWriter model printers.
This article has been archived and is no longer updated by Apple.
From time to time you might encounter a problem where a StyleWriter printer does not feed the paper properly. This might include paper feeding only on one side, pulling multiple sheets through at a time, or not pulling any paper, or envelopes through the paper feed. You can reset the paper tray by following the steps listed below. With the exception of the original StyleWriter and the Portable StyleWriter, this procedure works on all StyleWriter printers including the StyleWriter 2200.

Resetting the Paper Tray

Step 1

Turn the printer off.

Step 2

Remove all paper from the paper tray.

Step 3

Reposition the paper selection lever

Note:
On the StyleWriter II, 1200, 1500, 2400, and 2500 (but not on the 2200) there is also a paper selection lever to the right of where the paper enters the printer. It is marked with an envelope icon (pull the lever forward for envelope) and a paper icon (push the lever back for paper). This lever might also need to be adjusted. Simply pull the lever forward toward the front of the printer, then push it back into the paper position to ensure it is locked into place.

Step 4

Press and hold the power button until the orange light goes out.

Note:
The StyleWriter 1500 does not have an orange error light, so keep the power button held down for at least 30 seconds.

Step 5

The printer will make some noise during a self-test. In approximately 30 seconds, you will hear the paper tray snap two times and the orange light will come on.

Step 6

Turn the printer off

The paper tray should be reset at this point.

Testing the Printer

To ensure that the paper tray is reset, re-insert paper and try printing a test page.

Step 1

Make sure the printer is off.

Step 2

Make sure there is paper in the printer.

Step 3

Press and hold on the power button until the orange light goes out.

Step 4

The printer will make some noise during a self-test. The StyleWriter printer should pull a piece of paper through the paper feed and print a test page.

Published Date: Feb 18, 2012

PC Setup 1.0.7: Untested with System 7.5.3

The CD version of System 7.5 Update 2.0 contains a separate installer for DOS Compatibility Card software version 1.0.7. Will this work with System 7.5.3?
This article has been archived and is no longer updated by Apple.
Although the installer for the DOS Compatibility Card software v1.0.7 is included on the CD, this software is not supported for use with System 7.5.3.

DOS Compatibility Software Update 1.5 is now available from the online services. Apple recommends using this version with Apple DOS Compatibility cards, except for those used in Macintosh Quadra and Centris 610 computers.

This article can help you locate the software update mentioned here:

- Article 14724: "**Where To Find Apple Software Updates**" - Lists online services for free Apple software updates.

Published Date: Feb 18, 2012

PC Exchange: Mounting Hybrid DOS/Macintosh CD (5/96)

I have a CD-ROM disc, which has both a Macintosh and Windows format on the disc. I want to see the Windows files, but the only icon I can see on the desktop is for the Macintosh partition. Is there a way to force PC Exchange into mounting the MS-DOS/Windows partition?

This article has been archived and is no longer updated by Apple.

This is problem with the older versions of the Apple CD-ROM driver. However, if you install CD-ROM Setup 5.1.5, you will be able to mount both partitions. Of course, this runs into the problem of needing a CD-ROM disc in the drive at startup in order for the PC to use the drive (assuming you have the DOS Compatibility Card installed). If you are not familiar with this problem, it is documented in the Tech Library article titled "DOS Compatible: CD-ROM Needs to be in Drive at Startup".

Version 1.5 of the DOS Compatibility software installs CD-ROM Setup 5.1.6 and also corrects the problem mentioned above.

The steps required to see the DOS/Windows partition are:

Step 1

Insert the hybrid CD-ROM into the drive (just so the CD-ROM is in at
restart).

Step 2

Install CD-ROM Setup 5.1.5 and restart.

You should now be able to see the PC partition on the PC and the Macintosh partition on the Macintosh.

Published Date: Feb 18, 2012

Newton Backup Utility: Only Available Ports Can Be Used

I installed Newton Backup Utility on Windows 95 and it only allows me to configure the software to connect to the COM2 port. Why doesn't it allow me to connect to the COM1 serial port?
This article has been archived and is no longer updated by Apple.
When the Newton Backup Utility starts up, it searches for available ports. If a port is in use it does not give the option to select that port. Using a Windows computer configured with a COM1 serial mouse, Newton Backup Utility only gave us the option to connect to COM2 and not COM1. We then installed on another Windows computer that was not using COM1 for the mouse, and Newton Backup Utility allowed us to select either the COM1 or COM2 port.

Newton only lets you select "available" ports. You will see the same results using Windows 95, Windows 3.11, or Windows for Workgroups.
Published Date: Feb 18, 2012

Fonts: Renamed Font Always Downloads to the Printer (5/96)

I have an updated version of a Type 1 PostScript font from Adobe. However, when I print I always get the version in the LaserWriter ROM, not the version on my Macintosh computer. Is there a way to modify the font to have it always download to the LaserWriter printer?

This article has been archived and is no longer updated by Apple.
Modifying TrueType or Adobe Type 1 fonts with ResEdit or similar development tools such as Resourcer is not a trivial task and is not for the faint of heart. We recommend you either obtain a tool such as Fontographer, or request a font name change be made by Adobe, or perhaps work with a consultant or a knowledgable programmer to make the appropriate name changes to the font, so that the "new" font gets downloaded. The reason for the name change is it would make the Font appear to the printer to be unique, so it would be downloaded and used. If the Font in question isn't a "ROM" Font, then either the old Font is stored in the printer's hard drive or in the printer's RAM, at which point is is merely a matter to delete the Font from those locations, and
download this other Font.

Published Date: Feb 18, 2012

ImageWriter LQ: System 7.5.3 Causes Some Fonts to Shift (5/96)

I have an ImageWriter LQ. I recently installed the System 7.5 Update 2.0 on my Power Macintosh 6100 computer, and after the installation certain fonts shift during the second pass of the print head, the top half of the characters are displaced from the bottom half. When I reverted back to System 7.5 everything worked properly. What changed?
This article has been archived and is no longer updated by Apple.
We were able to reproduce the problem on the Power Macintosh 6100, but not a Power Macintosh 7200, so it only seems to occur on come Power Macintosh models. It also only seems to occur when printing in Best mode.

After installing System 7.5 Update 2.0, we checked the Geneva, Palatino, and Helvetica TrueType fonts and they did not change. The issue was most likely introduced in other system software changes such as a possible Font Manager or QuickDraw code change.

Workarounds
==========

* Use QuickDraw GX v1.1.3.
If you use the latest version of QuickDraw GX, the fonts do not shift.
There are additional benefits to using QuickDraw GX such as background printing and being able to perform multiple page up (N-up) printing.

* Use landscape orientation.
If you print in the landscape mode, the issue does appear.

This article appeared in the 7 May 1996 Information Alley.

Published Date: Feb 18, 2012

Mail*Link for PowerTalk/QM 1.6: ReadMe File (5/96)

This article is the Mail*Link for PowerTalk/QM 1.6 Read Me File.
This article has been archived and is no longer updated by Apple.

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Mail*Link for PowerTalk/QM 1.6

This is a personal gateway for PowerTalk users. This gateway will allow PowerTalk users to send and receive
mail from their QuickMail accounts without having to login to QuickMail and use the QuickMail DA. Mail can be
sent and read with your favorite PowerTalk mail enabled application.

This release of Mail*Link¿ for PowerTalk¬/QM is the first release of this gateway by Apple Computer Inc. This
gateway is functionally equivalent to version 1.0.5. Future versions of this software will be modified and
enhanced.

This software is licensed to you under the Macintosh System 7.5 license agreement. All terms and conditions of
this license must be followed.

NOTE: If you are upgrading from version 1.0.5 or earlier it is VERY IMPORTANT that you follow the instructions
in the Upgrading Section below.

The installation and upgrade procedure for this software will still install the StarNine demonstration key
files (which were part of the 1.0.5 release). However the 1.6 release of the gateway has been modified to
ignore the key files and thus will never expire.


INSTALLATION INSTRUCTIONS
=========================

For new installations only:

We recommend that you install this software via the installer script.

1. Double click on either the "Installer" icons.
2. Select the drive on which you wish to install this software.
3. Reboot the system after the software has been properly installed.


UPGRADE INSTRUCTIONS
====================

If you are upgrading from a previous release of Mail*Link PT/QM, you should follow these instructions:

1. Install the software as instructed in the section "INSTALLATION
  INSTRUCTIONS".
2. After the system has rebooted, open the "PowerTalk Key Chain".
3. Open the QuickMail personal gateway in the key chain. The installation
  procedures change the file-id that PowerTalk uses to locate the
  Mail*Link PT/QM file. Opening and closing the QuickMail Service
  configuration window will cause the new file-id to be written into the
  PowerTalk configuration file.
4. Close the key chain. You will be told that you must reboot the system
  before PowerTalk will activate the gateway.
5. Reboot the system.

If you have trouble with the gateway after upgrading please re-install by following the instructions in the
Clean Upgrade Install section below.


CONFIGURATION
=============

* Creating your QuickMail personal gateway
```

Once you have installed the software and rebooted the system (as described above), follow these instructions to create your QuickMail personal gateway.

1. Open the "Key Chain" located on your desktop.
2. Press the "Add" button.
3. You will be presented with a list of services that are available. Select "QuickMail".
4. A new item with the server name of "Not Configured" and a service type of "QuickMail" will appear in your "Key Chain".
5. Proceed to the "Configuring" section below.

* Configuring your QuickMail personal gateway

To configure the QuickMail personal gateway, ensure that the "Key Chain" has been opened.

1. You first need to select your QuickMail directory service. To do this: open the Chooser, choose QuickMessenger, select the directory service and close the Chooser.
2. Double click (Open) the item with a service type of "QuickMail". The QuickMail personal gateway only allows one instantiation, so there should only be one item with this type in the Key Chain window.
3. A configuration window will be displayed. You should configure each item in this window before closing the window. Window closing is equivalent to pressing the "OK" button in a dialog. The "Key Chain" configuration windows have no "Cancel" operation, so please ensure each item is properly filled in before closing the window (you can always come back and change the selections at a later date, but it is better if each item is properly filled in).
4. Once you have entered the information in the configuration window, close the window with a mouse click in the close box or by typing "<command>W". It may take a few seconds for the window to close. This is because PowerTalk is activating all of the personal gateway subsystems and informing them of their new configuration. Be patient.
5. Once the QuickMail configuration window is closed, close the Key Chain window.

CLEAN UPGRADE INSTALLATION

Use this procedure if you are experiencing problems with the gateway software. You should not need to use this procedure for normal installs. To perform a "Clean Install" of the gateway software, use the following procedure.

NOTE: Some gateways may remove mail from your In Tray and Out Tray when they are reinstalled. Be sure to back up any items in your InTray and OutTray by dragging them to another folder on your hard drive.

NOTE: This will remove all services from your keychain, so be sure you have the passwords for these services handy. If you have personal gateways already installed, you will need to set them up again, so be sure you write down the setup information that is contained in each key, if necessary.

This procedure removes all "Mail*Link" gateways. If you have multiple "Mail*Link" gateways installed, you will need to re-install each of the gateways you want to use.

1. Open the Extensions folder, located inside the System Folder. Find the following item(s) and drag to the trash (note only the gateways you have installed will be in the Extensions folder):
   Mail*Link PT/QM
   Mail*Link PT/MS
   Mail*Link PT/INET

2. Open the Preferences folder, located inside your System Folder. Find the following items and drag them to the trash.
   StarNine (folder)
   PowerTalk Setup Preferences

PowerTalk Startup Preferences

3. Find the "Mail*Link Extras" folder, on the top level of your hard drive. Drag this folder to the trash.

4. Restart your machine. After you have restarted, choose "Empty Trash" from the Special menu.

5. Double-click the installer for the desired software, and click Install at the Easy Install screen. After the installation is complete, your machine will restart. If you are installing more than one gateway, repeat this step for each gateway.

6. Open the keychain and click "Add". Select the gateway from the list of choices. A new item will be added to the Key Chain. Open this key, and configure the gateway as you normally would. The gateway should now be functioning.

MANUAL INSTALLATION INSTRUCTIONS

The manual installation instructions are for advanced users who wish to build their own installation process or who wish to install only portions of this gateway. Installation using this process should be conducted only after you fully understand how to use your Macintosh, and how to configure and use PowerTalk gateways.

If you must install this version manually, please follow these instructions:

1. Place the distribution diskette in the floppy drive.
2. Open the folder named "Drop Contents on System Folder".
3. Select all of the items in this folder and drag them onto the "Sysem Folder" icon.
4. You will be presented with a dialog box that indicates these files belong in special locations. Click "OK".
5. Close the "Drop Contents on System Folder" folder.
6. Open the folder named "Place Contents in Preferences Folder".
7. Select all of the items in this folder and drag them into the "Preferences" folder (which is located within your "System Folder".
8. If you are presented with a dialog indicating that you will be replacing existing files, click cancel. You should perform the "Automatic Installation" procedure (above).
9. Reboot the system. This is necessary because some of the software installed is only activated at boot time.

NOTE: With version 1.6 it is no longer required to install the key files.

KNOWN INCOMPATIBILITIES

* When forwarding a mail message, the name and address of the original sender of the message is not preserved.

* When forwarding a message, the form content of the forwarded message is lost unless you type at least 1 character into the forwarded message.

SUPPORT

If you need any additional help installing, configuring or using this gateway please call Apple Support at: 1 (800) SOS - APPL.

PowerBook: PCMCIA Expansion Module Replacement Issues

I just got a new Rev. C PCMCIA Expansion module for my PowerBook 500 series computer. Why didn't I get a manual or any documentation? Which version of the PC Card Software do I need to install?
This article has been archived and is no longer updated by Apple.
IMPORTANT: The free replacement program has ended, and the expansion module (any version) is a discontinued item and it cannot be purchased as a service part.

Rev. C Replacement Modules Are Service Parts

Be aware that you are receiving a service part not a Finished Goods part, therefore, the Rev. C module will not come with any documentation or software.

Use PC Card Software 2.0 Update ONLY!

WARNING Do not attempt to "flash" or update the EPROMs of the Rev. C PCMCIA Expansion Module with PCMCIA Update 1.0 or 1.0.1 software. Doing so downgrades the module and could render it inoperable, requiring a replacement.

The Rev. C PCMCIA Expansion Module requires PC Card Software 2.0. This software can be custom installed from System 7.5.2 (with enabler v1.2 or later) or System 7.5.3. It can also be downloaded from Apple Software Updates sites on the Internet, America Online, CumpuServe and AppleLink.

Downgraded By Mistake?

If you have already downgraded the module's EPROMs by running the older PC Card Software, you will need to have the module replaced by calling 800-SOS-APPL or taking the module to an Apple service center.

Which PC Cards Will Work?

With the new software (2.0) and the Rev. C PCMCIA Expansion Module, you should be able to use PC Cards that worked with previous modules plus certain cards that may not have worked with older modules.

Ejecting a PC Card

The PCMCIA Eject control panel and Control Strip module are not needed with the new software and will not work. To eject a PC Card, make sure that it is not in use. Then drag it to the Trash as you would do with a floppy disk.

IMPORTANT: The free replacement program has ended, and the expansion module (any version) is a discontinued item and it cannot be purchased as a service part.

This article can help you locate the software update mentioned here:

- Article 14724: "**Where To Find Apple Software Updates**" - Lists online services for free Apple software updates.

Published Date: Feb 18, 2012

LaserWriter: Defaults

This article has been archived and is no longer updated by Apple.
The LaserWriter picks up its default settings, such as tall orientation, from the printer driver. To bring up a document with settings different from the default, such as wide orientation, create a special "boilerplate" document with the settings you require. Once you change the defaults, the new configurations are stored with the document when you save it. This method gives you much more versatility and is much easier than using RESEDIT to change the driver.

From then on, open that same document for those printer settings; they will automatically set to those stored with the document. Then use the "Save AS" option and save the document with a new name, which will preserve the original for the creation of more documents with those special settings.

Published Date: Feb 18, 2012

MailLink for PowerTalk INET 1.6: ReadMe File (5/96)

This article is the MailLink for PowerTalk INET Read Me File.
This article has been archived and is no longer updated by Apple.

```
Mail*Link for PowerTalk/INET 1.6

Mail*Link Internet for PowerTalk is a personal gateway for PowerTalk users. This gateway will allow PowerTalk
users to send mail via SMTP and receive mail from a POP3 account. Mail can be sent and read with any PowerTalk
mail-enabled application.

This release of Mail*Link¿ for PowerTalk¬/INET is the first release of this gateway by Apple Computer Inc.
This gateway is functionally equivalent to version 1.5.1. Future versions of this software will be modified
and enhanced.

This software is licensed to you under the Macintosh System 7.5 license agreement. All terms and conditions of
this license must be followed.

Upgrade Note: If you are upgrading from version 1.5.1 or earlier it is VERY IMPORTANT that you follow the
instructions in the Upgrading Section below.

The installation and upgrade procedure for this software will still install the StarNine demonstration key
files (which were part of the 1.5.1 release). However the 1.6 release of the gateway has been modified to
ignore the key files and thus will never expire.

It is required that you install and configure MacTCP before using this gateway. See the PT/INET User Guide for
more information.


ITEMS OF NOTE
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OpenTransport users: This gateway does not function correctly when used with Apple's OpenTransport. The
gateway will connect one time but will not reconnect without a reboot. Apple is currently investigating
problem.


INSTALLATION INSTRUCTIONS
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For new installations only:

We recommend that you install this software via the installer script.

1. Double click on either the "Installer" icon.
2. Select the drive on which you wish to install this software and click
  Install.
3. Reboot the system after the software has been properly installed.


UPGRADE INSTRUCTIONS
====================

If you are upgrading from a previous release of Mail*Link Internet for PowerTalk, you should follow these
instructions:

1. Install the software as instructed in the section "INSTALLATION
  INSTRUCTIONS".
2. After the system has rebooted, open the "PowerTalk Key Chain".
3. Open the PT/Internet personal gateway in the key chain. The
  installation procedures change the file-id that PowerTalk uses to
  locate the Mail*Link PT/INET file. Opening and closing the PT/Internet
  Service configuration window will cause the new file-id to be written
  into the PowerTalk configuration file.
```

4. Close the key chain. You will be told that you must reboot the system
   before PowerTalk will activate the gateway.
5. Reboot the system.

If you have trouble with the gateway after upgrading please re-install by following the instructions in the Clean Upgrade Install section below.

CONFIGURATION

Ñ Creating your PT/Internet personal gateway

Once you have installed the software and rebooted the system (as described above), follow these instructions to create your PT/Internet personal gateway.

1. Open the "Key Chain" located on your desktop.
2. Press the "Add" button.
3. You will be presented with a list of services that are available.
   Select "PT/Internet".
4. A new item with the server name of "Not Configured" and a service type
   of "PT/Internet" will appear in your "Key Chain".
5. Proceed to the "Configuring" section below.

Ñ Configuring your PT/Internet personal gateway

To configure the PT/Internet personal gateway, ensure that the "Key Chain" has been opened.

1. Double click (Open) the item with a service type of "PT/Internet". The
   PT/Internet personal gateway only allows one instantiation, so there
   should only be one item with this type in the Key Chain window.
2. You should configure each item in this window before closing the
   window. Window closing is equivalent to pressing the "OK" button in a
   dialog. The "Key Chain" configuration windows have no "Cancel"
   operation, so please ensure each item is properly filled in before
   closing the window (you can always come back and change the selections
   at a later date, but it is better if each item is properly filled in).
3. To finalize configuration YOU MUST select the preferences button on
   open the PT/INET Preference dialog. Change any preferences you need to
   (it is not necessary to change any) and close the window.
4. Once you have entered the information in the configuration window,
   close the window with a mouse click in the close box or by typing
   "<command>W". It may take a few seconds for the window to close. This
   is because PowerTalk is activating all of the personal gateway
   subsystems and informing them of their new configuration. Be patient.
5. Once the PT/Internet configuration window is closed, close the Key
   Chain window.

CLEAN UPGRADE INSTALLATION

Use this procedure if you are experiencing problems with the gateway software. You should not need to use this procedure for normal installs. To perform a "Clean Install" of the gateway software, use the following procedure.

NOTE: Some gateways may remove mail from your In Tray and Out Tray when they are reinstalled. Be sure to back up any items in your InTray and OutTray by dragging them to another folder on your hard drive.

NOTE: This will remove all services from your keychain, so be sure you have the passwords for these services handy. If you have personal gateways already installed, you will need to set them up again, so be sure you write down the setup information that is contained in each key, if necessary.

This procedure removes all "Mail*Link" gateways. If you have multiple "Mail*Link" gateways installed, you will need to re-install each of the gateways you want to use.

1. Open the Extensions folder, located inside the System Folder. Find the following item(s) and drag to the trash (note only the gateways you have installed will be in the Extensions folder):
   Mail*Link PT/QM
   Mail*Link PT/MS
   Mail*Link PT/INET

2. Open the Preferences folder, located inside your System Folder. Find the following items and drag them to the trash.
   StarNine (folder)
   PowerTalk Setup Preferences
   PowerTalk Startup Preferences

3. Find the "Mail*Link Extras" folder, on the top level of your hard drive. Drag this folder to the trash.

4. Restart your machine. After you have restarted, choose "Empty Trash" from the Special menu.

5. Double-click the installer for the desired software, and click Install at the Easy Install screen. After the installation is complete, your machine will restart. If you are installing more than one gateway, repeat this step for each gateway.

6. Open the keychain and click "Add". Select the gateway from the list of choices. A new item will be added to the Key Chain. Open this key, and configure the gateway as you normally would. The gateway should now be functioning.

MANUAL INSTALLATION INSTRUCTIONS

The manual installation instructions are for advanced users who wish to build their own installation process or who wish to install only portions of this gateway. Installation using this process should be conducted only after you fully understand how to use your Macintosh, and how to configure and use PowerTalk gateways.

If you must install this version manually, please follow these instructions:

1. Place the distribution diskette in the floppy drive.
2. Open the folder named "Drop Contents on System Folder".
3. Select all of the items in this folder and drag them onto the "System Folder" icon.
4. You will be presented with a dialog box that indicates these files belong in special locations. Click "OK".
5. Close the "Drop Contents on System Folder" folder.
6. Open the folder named "Place Contents in Preferences Folder".
7. Select all of the items in this folder and drag them into the "Preferences" folder (which is located within your "System Folder".
8. If you are presented with a dialog indicating that you will be replacing existing files, click cancel. You should perform the "Automatic Installation" procedure (above).
9. Reboot the system. This is necessary because some of the software installed is only activated at boot time.

NOTE: With version 1.6 it is no longer required to install the key files.

KNOWN INCOMPATIBILITIES

Ñ When a mail message is forwarded, the name and address of the original sender are not preserved.

Ñ CE Software's QM for AOCE may be used to send mail, although you must select the AppleMail format when

sending the message. This application may NOT be used as the default mail reader. If it is selected, AppleMail will be used instead.

SUPPORT
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If you need any additional help installing, configuring or using this gateway please call Apple Support at: 1 (800) SOS - APPL.

Published Date: Feb 18, 2012

Global Village: AT Command Set

This article describes AT commands and the general Global Village command list. This information is from the Global Village Platinum V Users Guide.
This article has been archived and is no longer updated by Apple.
Usually you telecommunications application controls and configures your telecommunications card (the modem). However, you can also control and configure most modems, including your telecommunications card, using a "language" called the AT command set.

You control and configure your telecommunications card from within a telecommunications application. You can enter an AT command to "tell" your telecommunications card to perform a variety of tasks, such as dialing or answering the telephone. For example, to get the telecommunications card's attention and ask it to dial a phone number such as "123-4567," enter the following command line:

ATDT 123-4567

Today, many Macintosh telecommunications application contain options for dialing, terminal emulation, and file transfer using menu commands that are in plain English. However, in many telecommunications applications, the AT command line appears on your screen after you choose the menu command.

Uses for AT Commands

At commands have a number of uses. You can use AT commands to connect to a certain type of modem. You can also use AT commands in scripts. A script is a set of AT commands you use to perform a certain function. You often use scripts to automate common activities, such as logging to an on line service.

Command state and On-line State

When the telecommunications card is on, it is always in one of 2 states: the command state or the On-line State. The telecommunications card assumes the command state when power is turned on. In the command state, AT commands are sent to the telecommunications card to control all aspects of its operation. After your telecommunications card connects with a remote modem, both the telecommunications card and the modem are in the on-line state. All information you send to you telecommunications card is sent to the remote modem as well.

Command Buffer

The command buffer is the area in which you enter At commands. The command buffer capacity for the telecommunications card (platinum V) is 39 characters. If the command line exceeds the command buffer capacity, the telecommunications card will not execute the command line and will send an ERROR message after the carriage return. If you exceed the character limit, re-enter the command with fewer than the allowed number of characters so that the command line can be executed.

You can enter telephone numbers with or without punctuation: for example: (123) 456-7890 or 1234567890

Punctuation in the telephone number takes up space in the command buffer. Note that the AT command characters, the space character, the carriage return control character, and the line feed (LF) control character are not stored in the command buffer.

AT Command Components

The following sections discuss the key components of an AT command.

* Attention Code
You must begin command lines with the characters "AT" and enter them as all uppercase (AT) or all lowercase (at) characters. The attention code (AT) gets the telecommunications card's attention and indicates that the text following the AT command is a command that the telecommunications card should act on. The following is a sample command in which you instruct the telecommunications card to hand up: ATH0

* Command Parameters
Most AT commands have parameters - single-digit or double-digit options - that follow the command letter. Each command has a default parameter. The default parameter is used if no parameter is specified. For example, the "Hn" command has 2 parameters: 0 and 1. The command defaults to 0 if no parameter is specified. Therefore, typing ATH is equivalent to typing ATH0.

* Return Key
You must end the command line with a carriage return. Press the Return Key to enter a carriage return. The telecommunications card begins executing a command when it receives a carriage return.

* Delete Key
Before executing a command by pressing the Return key, you can edit the command using the Delete key. The Delete key cannot erase the AT at the beginning of the command line.

TA35427_Global_Village_AT_Command_Set_(TIL19731).pdf

General Global Village Command list	
Command	Meaning
ATDT phone nu	ATDT and a telephone number dials a telephone number using a touch tone dialing.
ATE1	Ensures that commands you send to the telecommunications card appear on your screen when you type them.
ATH0	Hangs up the line.
ATM0	Turns off the modem speaker.
ATLM1	Turns on the modem speaker while dialing until connection is established
ATX1	Ignores the dial tone when dialing a number.
ATV1	Displays verbal results codes, such as RING, CONNECT, OK, and NO CARRIER.
ATZ	Resets the telecommunications card to its power-on configuration.
AT&F1	Resets the telecommunication card for optimal high-speed connections.
ATDP	ATDP and telephone number dials the phone number using pulse Dialing.
Teleport Gold II, Gold IIv and Platinum V	
ATL1	Sets the speaker volume to low.

Published Date: Feb 18, 2012

Network Server: SMIT, AppleTalk Admin Tool Function Keys

How can I run SMIT with the CommandShell AppleTalk Administrative Tool on the Network Server 500 or Network Server 700?

The default VT-102 tool only gives me F1 through F4 function keys does not let me manipulate SMIT. I tried the VT-320 tool with MacTerminal which I did have working with ClarisWorks and a serial connection to the server, but I could not get the same settings for VT-220 emulation to work in CommandShell.

How do I get other function key functions?
This article has been archived and is no longer updated by Apple.
There is a built-in alternative to the function keys.

You can use the sequence "Escape Key - Number Key".

This will let you navigate the different menus in SMIT while in a terminal emulation session from the CommandShell windows, Text based Console Window, Telnet session, and so on.

For example, from the CommandShell window, if you need to enter F4 (Function Key 4) to generate a list of options for a field, you can enter the sequence Esc 4 (Escape key - Number 4 key) and obtain the same result.
Published Date: Feb 18, 2012

Apple OneScanner 600/27: Creating Electronic Forms (5/96)

I want to scan in a form using the Apple OneScanner 600/27, then type over the top of the electronic version of the form. Does the Apple OneScanner 600/27 software convert the text of the form, but leave the lines and other artwork alone?
This article has been archived and is no longer updated by Apple.
You can scan with the OneScanner Dispatcher software an image or document, then add text or edit graphics before archiving the document for later retrieval. Added text to the image may be later converted to text using the bundled TextBridge OCR software.

You can also use TextBridge to scan and convert hard copy directly, or with TextBridge, open and convert existing on-line (electronic) images into formatted text files. TextBridge OCR Software output options include Text, Page Image, or Both:

- If you want to capture and convert only the Text, select Text.

- Choose Page Image to only output page images.

- Click Both to create a text and a page image file. Use your text editor or page layout program to manipulate the text file, or a graphics package to manipulate or extract any illustrations from the image file. In the case of a form (a type of image), you will be able to modify the image with a graphics application. The Both output, however, does not create a single document containing editable graphic and text elements: you'll need text and graphic applications to recombine the graphic and text elements while allowing discrete graphic and text edit control.

An Auto Zone feature recognizes pages that have more than one column and/or unusual layouts and outputs the recognized text in the proper order. You can preview and manually override any automatic zones.

The Tech Info Library article titled "Color OneScanner 600/27: Dispatcher Software Description" contains a complete description and functions of the software.

Published Date: Feb 18, 2012

PCI-based PC Compatibility Cards: Video Capabilities

What are the video capabilities of the PCI-based PC Compatibility Cards?
This article has been archived and is no longer updated by Apple.
Both the 7-inch and the 12-inch cards have 1 MB built-in video memory (VRAM) for the following capabilities:

Resolution	Max Colors
640 x 480	16.7 million
800 x 600	65,536
1024 x 768	256
1024 x 768	256

The 12-inch card also has two sockets to increase video DRAM to 2 MB. These sockets accommodate 5V, 256K x 16, 60 ns, standard fast-page mode SOJ package DRAM devices (40 pin), such as Micron #MT4C16257DJ-6, NEC #UPD424260LE60R, Samsung #KM416C256BJ-6, or Hyundai #HY514260BJ-60.

These are the maximums with 2 MB video memory (VRAM) for the 12-inch card:

Resolution	Max Colors
640 x 480	16.7 million
800 x 600	16.7 million
1024 x 768	65,536
1152 x 864	65,536
1280 x 1024	256

A multiple-scan monitor is required to reach some resolution/color depth combinations. For particular resolutions/color depths, the monitor must support the resolution at refresh rates that are indicated in Appendix C of your PC Compatibility Card User's Manual.
Published Date: Feb 18, 2012

Newton Keyboard: Uppercase Keys Don‘t Work

I have a Apple MessagePad with the Newton Keyboard. All the lowercase keys work properly, but not all the uppercase worked. I tried to use the caps lock and the shift key, but they resulted in lowercase characters.
This article has been archived and is no longer updated by Apple.
When this happens you should reset your Apple MessagePad. Do not perform a hard reset. If you perform a hard reset any information in the internal memory are lost.

Resetting Your Apple MessagePad
==========

1. Remove the battery cover
2. With a pencil or pen, press the button next to the word RESET.

Note: DO NOT use the pen that came with your Apple MessagePad.
Published Date: Feb 18, 2012

Newton MessagePad: Default System Dates

I am trying to create a new not on an Apple MessagePad 120. When I draw a line underneath an existing note, the line disappars and a new note does not show on the screen.
This article has been archived and is no longer updated by Apple.
Either scroll up, or look at the notes overview for the new notes. If you performed a hard reset and did not set the date, new notes appear before any existing notes.

Below is a table which shows the default system date and time settings.

MessagePad Model	Default System Date and Time	Default Note Date
Original MP	1 Jan 1993 12:00 PM	1/1/93 11:00 AM
100 w/1.3 OS	3 Jan 1994 12:00 PM	1/3/94 11:00 AM
110 w/1.3 OS	3 Jan 1994 12:00 PM	1/3/94 11:00 AM
120 w/1.3 OS	3 Jan 1994 12:00 PM	1/3/94 11:00 AM
120 w/2.0 OS	4 Nov 1995 03:00 AM	11/4/95 03:01 AM
130 w/2.0 OS	1 Nov 1995 02:08 PM	11/1/95 02:08 PM

When setting the clock, you should first check the Time Zones for the correct setting. The default setting is the Pacific Time zone.
Published Date: Feb 18, 2012

Apple Video Player: Remote Control Doesn‘t Work (10/96)

I have a Macintosh Performa 638CD, and I just installed System 7.5 Update 2.0. However, since doing so I can no longer use the remote control which was included with my computer. It worked fine before I installed the update. What is causing this?

This article has been archived and is no longer updated by Apple.

Apple has duplicated this issue, but it appears to occur only when using the Apple Video Player; the remote control works fine when using other applications, such as adjusting the volume for the CD-ROM drive. Apple has resolved this issue with System 7.5.5 Update, which is available on the online services.

If you have not yet installed System 7.5.5 Update, this issue can be temporarily resolved by deleting the Apple Video Player Prefs file, which is in the Preferences folder within the System Folder. However, once you use the remote control with the Apple Video Player again, the issue will return. So, the best solution is to not use the remote control in Apple Video Player until you update to System 7.5.5 Update.

The following computers have a built-in infared sensor which allow them to be controlled remotely and may be affected by this issue:

* The Macintosh 630CD family: Macintosh LC 630, Quadra 630, Performa 630, Performa 631, Performa 635, Performa 636, Performa 637, Performa 638, and Performa 640.

* The Macintosh 5200CD family: Macintosh 5200/75 LC, Performa 5200, Performa 5210, Performa 5215, and Performa 5220.

* The Macintosh 6200CD family: Performa 6200, Performa 6214, Performa 6216, Performa 6218, Performa 6220, and Performa 6230.

* The Macintosh Performa 5300CD, Power Macintosh 5260/100 and Power Macintosh 5300/100 LC

* The Macintosh Performa 6300CD series: Performa 6300 and 6290

These articles can help you locate the software update mentioned here:

* "Where To Find Apple Software Updates" - Lists online services for free Apple software updates.

* "Obtaining Apple Product Support in the USA" - Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech Info Library.

This article was published in the Information Alley on 23 September 1996.

Article Change History:
17 Oct 1996 - Added kalley keyword.
19 Sep 1996 - Added 7.5.5 information.
09 May 1996 - Changed distribution status.

Published Date: Feb 18, 2012

LaserWriter: Driver errors

This article has been archived and is no longer updated by Apple.
An "Error in PostScript" message means that there is an error in the code generated in the driver that Apple has written. The error messages, generated by the application, would vary with the application.

Here is a list of the Printer Manager errors:

Error Value Description

0 No error
128 Abort the printing process
-1 Problem saving print file
-17 Unimplemented control instruction
-27 Trouble with I/O
-108 Not enough heap space

The following errors are relevant to the LaserWriter ONLY.

-4101 Printer closed or not found
-4100 Connection just closed
-4099 Write request too big
-4098 Request already active
-4097 Bad connection refNum
-4096 Ne free Connect COntrol Blocks available

Page 110-111 of the Postscript Language Reference Manual gives a listing of the error messages that reside in the LaserWriter in the errordict.
Published Date: Feb 18, 2012

Apple LaserWriter Printers: Models Supporting Apple II

This article contains a list of LaserWriter models supporting the Apple II computer series.
This article has been archived and is no longer updated by Apple.

In order for an Apple LaserWriter to work with an Apple II system, the LaserWriter hardware needs to support Diablo (straight text) mode. Diablo mode allows the printer to understand text data from the Apple II and convert that data into a printed page. The Apple LaserWriters supporting hardware Diablo mode are the:

LaserWriter (original model)
LaserWriter Plus
LaserWriter IINT
LaserWriter IINTX
Personal Laserwriter NT

To put the LaserWriter hardware in Diablo (straight text) mode, do the following:

Model	What to do for Diabo mode
LaserWriter	Change dial on back of LaserWriter to SPECIAL
LaserWriter Plus	Change dial on back of LaserWriter to SPECIAL
LaserWriter IINT	Dipswitch 1 = UP Dipswitch 2 = Down
LaserWriter IINTX	Dipswitch 2 = UP Dipswitch 3 = UP ALL Others = DOWN
Personal LaserWriter NT	Change pinwheel dial to Setting 3

Published Date: Feb 18, 2012

MessagePad 130: Memory Allocation Amounts

This article provides a breakdown on the memory allocation on the Apple MessagePad 130 device.
This article has been archived and is no longer updated by Apple.
Built-in applications: Calculator, Calls, Card, Clock,Connection, Formulas, Help, In Box, Out Box, Owner Info, Prefs, Setup, Styles, Time Zones, and Writing Practice.

Also loaded into internal memory are:

Hide-E	2K
HW Instructor	101K
Newton Tour	110K
Pocket Quicken	238K
Serial 9600	1K
SubTotal	452K
Soups	7K
Patches (approx.)	33K
Total	492K

1K allotments are initially set aside for the Calls, Dates, In/Out Items, Names, Notes, Pocket Quicken and To do Task soups adding up to another 7K. Everytime you add a note, or name, these amounts increase and take up more user memory.

Memory Info shows 492K used and 869K free, this gives you 1361K user available memory. Since the 869K free initially may be startling, you can gain some of that space back by removing those packages that are preloaded into the internal memory: HW Instructor, Newton Tour, Pocket Quicken, or Serial 9600.

Just as with any computer, when the operating system loads, it takes away from the operational memory. In the case of the Apple MessagePad, the operating system, the system updates (patches) load in at about 639K. As for the extra 512K, you should never even be aware of its existence unless you looks at the Memory Info stats. This is a result of how smoothly the heep space operations are now handled.

Published Date: Feb 18, 2012

PowerBook 5300: GlobalFax Error Message (5/96)

When I start my PowerBook 5300 series computer I get an error message that says the GlobalFax software has encountered an error.

This article has been archived and is no longer updated by Apple.

Step 1

Open Extensions Manager Control Panel and select the set All Off from the pop-up menu. Then select the extension Macintosh Easy Open (MEO).

Step 2

Restart the computer from the Special menu rebuild the desktop by holding down the Option and Command keys until you get the message which asks do you want to rebuild the desktop. Click OK.

Step 3

Open Extensions Manager Control Panel and select the set All On. Restart using the Special menu.

Step 4

If you still get the GlobalFax error, remove the existing Global Village software (Use the Custom Remove feature of the Global Village Installer) and then reinstall the software.

Published Date: Feb 18, 2012

WorkGroup Server Solution Companion CD 2.0: What‘s On it (5/96)

This article contains a list and description of the applications on the WorkGroup Server Solution Companion 2.0 CD-ROM disc.
This article has been archived and is no longer updated by Apple.

The WorkGroup Server Solution Companion 2.0 CD-ROM disc consists of:

- Acrobat Reader: Adobe Systems Document Reader
- FileWave: Automated file / data distribution
- Viper: File look-up utility
- Contact & Up-to-Date: Contact management, calendar
- 4-Sight fax server: Send/receive, e-mail integration
- netOctopus: Asset management (Mac & PC)
- Skyline / Satellite: Network bandwidth monitor
- Virex: Antivirus utility

* Datawatch (508/988-9700), which sells Virex antivirus software, recently obtained U.S. marketing rights to netOctopus, a network- and system-administration package developed by Germany-based Pole Position Software. Like Saber LAN Workstation, netOctopus can be used to distribute software electronically. Datawatch is supporting existing netOctopus customers, and the company promises a major revision of netOctopus later this year. An interim release, due in July, will allow remote users to run database updates, virus scans, software inventories, and similar functions automatically when they log on. netOctopus costs between $30 and $47 per workstation.

Published Date: Feb 18, 2012

CLW 12/600 PS: Cyan, Yellow, Magenta Startup Page

My Color LaserWriter 12/600 PS printer produces a 1/2 magenta,1/4 yellow and 1/4 cyan page whenever I power on the printer. I have turned off both of the startup pages with the Apple Printer Utility, but this three color page still comes out. I am connecting using a peripheral 8 serial cable for my connection.
This article has been archived and is no longer updated by Apple.
Examine the serial cable. If any of the pins are bent, this can cause the printer to think that a special loopback test plug is installed. The loopback plug places the printer into an extended diagnostic mode which produces the three color page you have described. This also happens on the Color LaserWriter 12/660 PS printer.

Power down the printer, then remove the serial cable. Then power the printer back on. You should not see the three color diagnostic page. If removing the cable solves this issue, you need to replace the cable, or carefully bend the pins back into position. However, if after removing the cable you are still getting the three color diagnostic page, you should get your Color LaserWriter 12/600 PS printer serviced.
Published Date: Feb 18, 2012

Macintosh: Where to Find Public Domain/Shareware Software

Where can I locate public domain (freeware) or shareware software for the Macintosh?
This article has been archived and is no longer updated by Apple.
There are a variety of sources including commercial online services such as CompuServe, America Online, and Prodigy, Macintosh user groups, and the internet.

For a list of sites on the internet which have large postings of public domain software, commonly referred to as "info-mac" sites, use the following URL:

http://www.info-mac.com/mirrored.html
Published Date: Feb 18, 2012

Performa 640 DOS Compat: DOS Software Isn't Reinstalled (5/96)

I have a Performa 640 DOS Compatible computer, and I had to reinstall my system software recently. Now that I have reinstalled the system software, I cannot find the PC Setup control panel.

This article has been archived and is no longer updated by Apple.

The DOS Compatibility Installer for the Mac Environment disk is not shipped with the Performa 640 series DOS Compatible. When you reinstall the system software from the CD-ROM disc, the software required to operate the DOS Compatibility Card is not installed. To use your DOS Compatibility Card again, you need to manually drag the files from the CD-ROM disc to your System folder on your hard disk.

The path to locate these DOS resources on the CD are:

Performa CD -> Hard Disk Files -> System Folder Files -> Extensions to get the following:
PC Clipboard (V 1.0.5)
PC Clipboard Translators (V 1.0.5)
PC Network Extension (V 1.0.5)
PC Print Spooler (V 1.1.1)
PC Setup Guide Additions (V 1.1)

Performa CD -> Hard Disk Files -> System Folder Files -> Control Panels to get the following:
PC Setup (V 1.0.5)

The Preferences folder contains both PC Setup Preferences and Spooler folder, but these can be left out since they are automatically recreated.

Published Date: Feb 18, 2012

Color STW 2400: Freezes in Landscape mode w/VM ON (5/96)

We have a Power Macintosh 6100/66 running System 7.5.3 and a Color StyleWriter 2400. When printing color output to our Color StyleWriter 2400 in landscape mode, our computer freezes after Desktop PrintMonitor shows that 28% is complete. The problem does not occur if we:

- Select Black & White.
- Print in portrait mode.
- Disable background printing.
- Disable Virtual Memory.

We are using the Color StyleWriter 2400 v2.1.1 driver.
This article has been archived and is no longer updated by Apple.
There are some known issues when printing to the Color StyleWriter 2400 with Virtual Memory enabled. The problem as outlined above is resolved with the Color StyleWriter 2500 software (v2.2) which is backward compatible with the Color StyleWriter 2400. We would suggest that all customers experiencing any software-related problems with their Color StyleWriter 2400, upgrade to the new software.

Published Date: Feb 18, 2012

AppleWorks: Recovering files after program hangs

The following article deals with recovering files if AppleWorks hangs.
This article has been archived and is no longer updated by Apple.
The following procedure should be considered with these cautions:

1. DON'T KEEP USING APPLEWORKS AFTER YOU HAVE COMPLETED THIS PROCEDURE!
2. When this procedure works, the only thing you should do is save the files you were working on. This is intended as a Rescue Routine only.
3. This procedure does not ALWAYS work. Its reliability rate is about 95%. It can be unpredictable.

ALWAYS backup your work during every session!

The Procedure:
It is actually very simple to get back into AppleWorks after the program hangs, no matter what the problem is. However, if the problem causes AppleWorks to crash into the monitor, then this procedure will probably be less reliable because such a problem could make further trouble. But if the only thing wrong happens to be that you have hung up the program to the point where the only escape is to hit control-reset to reboot, then this procedure is effective.

1. After hitting control-reset, the screen goes to 40 column mode, and you are left with the '*' prompt on the screen.
2. Type:

C073:0 and a CR. This will make sure that bank 0 of memory is selected.

3. Type:

3 CTRL-P and a CR

Here are the keystrokes for that sequence:
a. 3
b. Hold down the control key while typing a 'P'
c. RETURN

This SHOULD clear the screen, select 80 column mode, and put the prompt in the upper left hand corner of the screen. If it does, go on to step 4.

If this does NOT happen, type: FF59G and a CR

Then try 3 CTRL-P again. If this works, go on to step 4. If it does not, you will have to reboot.

4. The following line must be typed carefully and exactly as shown:

2F0:2C 83 C0 2C 83 C0 4C 33 10 and a CR

5. Next and last, type: 2F0G and a CR

At this point, you should have the AppleWorks main menu back, and files that were on the desktop should still be there.

Do not continue work with any files. Save the files off the desktop and re-boot AppleWorks.

Sometimes the choices on the main menu will be numbered 7-12 or 11-16 instead of 1-6. This is not serious. Just flip back and forth between menus, such as selecting 'add files' then hitting ESC to go back, and the numbering should return to normal.
Published Date: Feb 18, 2012

Network Server 500 & 700: Jumper Locations for 4 GB Drive

I removed the 4 GB IBM Drive (Model DFHSS4F) from my Network Server 700, and I noticed that the jumpers had fallen off. Where do they belong?

This article has been archived and is no longer updated by Apple.

These jumpers are required for proper configuration of the drive. The drive ships with the jumpers in the following locations:

```
     Partial Back View of 4 GB IBM Drive (Model DFHSS4F)

  +-------------------------------------------------------------...
  |
  |
  |
  |
  |
  |
  | Pin 1   Pin 9           Jumper Pins 25 and 26
  | |       |               |
  +-|-------|---------------|------------+-----+----------------...
  | * * * * * * * * * * * * # * # * |    | * * |
  | * * * * * * * * * * * * # * # * |    +-----+
  +-|---------------------------|---+
    |        Jumper Block       |
   Pin 2                        Jumper Pins 29 and 30
```

Note: * Pins 1,2, and 9 do not exist in 50 pin model.

Published Date: Feb 18, 2012

PCI-Based Power Macintosh Computers: UL Listing?

Are the PCI-based Power Macintosh computers UL (Underwriter Laboratories) Listed?
This article has been archived and is no longer updated by Apple.
Apple Computer Inc. uses the testing services of the Canadian Standards Association (CSA). The CSA is recognized by the Occupational Safety and Health Administration (OSHA) as a Nationally Recognized Testing Laboratory (NRTL).

OSHA created a set of standards for approving companies or agencies that do electrical and safety testing. These procedures for certifying a company as an NRTL mean that there can now be more then one source for testing. This allows vendors other than UL to be qualified as OSHA-recognized testing labs.

The insignia for CSA is on the PCI-based Power Macintosh computers, which shows that they are recognized by an NRTL. The /c means that they are also certified for Canada.

Additional information on OSHAs procedures is available on OSHAs web site at <http://www.osha-slc.gov/>.
Published Date: Feb 18, 2012

Network Server AIX: CDE and Slow Startup

When I log into the CDE environment of AIX on my Network Server, CDE appears to take a long time to get past the blue screen. The desktop will finally appear, but this can take 15 minutes. My system is properly registered with the DNS Server. As a side note, I am unable to ping loopback.

This article has been archived and is no longer updated by Apple.

If you are configuring your system to use DNS for host resolution, AIX defaults to using DNS resolution before using /etc/hosts. CDE depends on the host name & IP address assigned to properly function, but during the login sequence, your system is querying the DNS server. To speed up the login sequence, and to let you resolve names in the host file prior to requesting them from DNS, create a file called /etc/netsvc.conf, and add this line:

hosts=local, bind

This will allow AIX to resolve your hostname for CDE and improve login time.

Published Date: Feb 18, 2012

System 7.5.3: No Translucent Icons Available on Monitor (5/96)

I have a PowerBook 5300 with an built-in grayscale monitor and I just upgraded to System 7.5.3. The System 7.5 Update 2.0 Read Me files say there is a new "translucent dragging" feature for PowerPC-based computers, but I do not seem to have this feature. Why not?

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Because translucent dragging mixes the color of the first icon being dragged with any grays or colors in the background that it is being dragged over, a palette of at least 256 grays or colors is required to make the feature work. If you set the Monitors control panel to a bit-depth below 256 grays or colors, the icons will not be translucent when dragged, they will simply be outlined.

Because the grayscale version of the PowerBook 5300/100 computer* is only capable of displaying 4-bit (16 shades) of gray on the internal monitor, it cannot display the translucent dragging feature. If an external monitor with greater than 256 grays or colors is connected, the feature will work on that external monitor.

NOTE:
*All other models of the PowerBook 5300 series computers are capable of translucent dragging.

Article Change History:
23 May 1996 - Added information about which models are affected by this.

Published Date: Feb 18, 2012

PowerBook 180c: Won‘t Power Up Properly

My PowerBook 180c will not always fully power on. It gets a startup chime and I see the screen for a few seconds and then it just shuts down. I have reset the power manager, but that did not correct it. I have a good AC adapter that I checked with my PowerBook 165c. If I charge the battery, it will eventually start the unit, but it will not start with just the AC Adapter.
This article has been archived and is no longer updated by Apple.
Make sure you are using the proper AC adapter. If your PowerBook 180c has a modem and a large RAM card, it may require more power than most AC adapters provide. The PowerBook 180c requires a 24W AC adapter. The proper Apple AC adaper can be identified by the Model number M5652, and reads 24W on the AC Adapter tip. If you are using any other AC Adapter and your battery is low, then your PowerBook will not always startup properly without a fully charged battery.

Note: The model M5652 adapter has been replaced by model M4662. Either adapter will work properly with a PowerBook 180c.
Published Date: Feb 18, 2012

Network Server 500 & 700: Licensed AIX Logins

AIX Licensed Logins, counted and non-counted logins.
This article has been archived and is no longer updated by Apple.
There are several ways to access the AIX Version 4.1 BOS, some of which are controlled by the AIX user license. An AIX Version 4.1 user license is required for a user to access the system with the following methods:

* Logins provided via a getty (from an active, local terminal)
* Logins provided using the rlogin or rsh -l command
* Logins provided using the telnet or tn command
* Logins provided through the Common Desktop Environment (CDE)
* Logins provided using Apple's CommandShell remote AppleTalk client

Any other way of accessing the AIX Version 4.1 BOS does not require AIX user licenses (for example: ftp, rexec, rsh without the -l flag, nfs).

Third-party applications may implement their own user or other license restrictions.

Published Date: Feb 18, 2012

QuickTime 2.5: Features and Enhancements

This article describes new features and enhancements for Apple Quicktime 2.5.
This article has been archived and is no longer updated by Apple.
On Monday April 15, the QuickTime team announced enhancements to QuickTime for video professionals at the National Association of Broadcasters (NAB) conference in Las Vegas. Although announced on 15 April 1996, these updates are still under development and will not be available for distribution until mid May 1996 (WWDC timeframe). QuickTime 2.5 replaces QuickTime 2.1 for Macintosh and provides several performance enhancements as well as bug fixes that primarily impact developers and content authors, including:

QUICKTIME 2.5

QuickTime v2.5 is a reference release for Macintosh and is fully compatible with today's QuickTime content. It provides several new features and enhancements:
* Improved performance, better quality movie playback
* Improved MIDI/music support
* Multi-processing and PCI card support
* Closed-Caption text capture support
* Improvements to overall reliability through numerous bug fixes in the core QuickTime extensions
* Better performance movie playback

QuickTime's primary data handler has been updated to allow for higher performance playback. The data handler has been modified to maximize throughput resulting in noticeable performance improvements.

* Native Component Manager dispatching mechanism

A new Component Manager provides a more efficient, fully Power PC native path for QuickTime video, sound, music and as well as other Component Manager clients such as ColorSync, QuickDraw GX, Sound Manager, AppleScript, Macintosh Easy Open and the Display Manager. These enhancements provide better movie playback performance as well as overall better system performance.

* Asynchronous JPEG and Raw codecs on Power Mac

The JPEG and Raw codecs are now asynchronous allowing QuickTime to continue processing data while the codecs simultaneously compress or decompress video.

* Public API and format for software synthesizers and musical instruments (MIDI)

QuickTime 2.5 has music capabilities that make it possible for developers to bring a unique music experience to multimedia titles while taking advantage of the MIDI standard. QuickTime 2.5 provides developers the ability to create their own distinctive, custom software synthesizers and libraries of musical instruments and sounds. QuickTime 2.5 introduces a public API and format for adding these synthesizers and instruments using the QuickTime Music Architecture (QTMA). These sounds may be embedded in a QuickTime movie, passed via a call to QuickTime, or dropped into the System Folder.

Third parties such as InVision, Roland, Yamaha, and others can now sell and/or license instruments and instrument libraries to developers and musicians. With the introduction of this enhancement to the QTMA, these instruments and instrument libraries are to developers and musicians, what fonts are to desktop publishers and graphic artists.

* Support for QuickDraw 3D / Tweening media handler

QuickTime 2.5 includes support for Apple's QuickDraw 3D technology. With this addition, 3DMF objects can be put into a 3D track and synchronized with other media types, such as video and music. Going forward QuickTime will support controls so users will be able to interact with these 3D objects by simply "grabbing" the object.

* PCI acceleration support / Multi-processor support

QuickTime 2.5 includes new API hooks that enhance the ability of hardware vendors to improve QuickTime performance through hardware acceleration. Examples include new PCI video accelerator cards from ATI and Diamond Multimedia for improved playback performance - regardless of the size the movie was originally captured and digitized at. Cards such as the Daystar Genesis multi-processor card will greatly increase creation and authoring performance.

* Support for Closed-Caption in the capture APIs

A new sequence grabber channel is now available. Along with video, sound, and music channels, closed-captioned text can be captured and embedded into a QuickTime movie's text track. This allows for fast searching and cataloging of stored media. Just as the video grabber digitizer components have been written for specific hardware, the text grabber calls components that supply text. QuickTime 2.5 uses a component that

works with an Apple TV Tuner card. It converts the closed-captioned data into text data for a text track.

* Enhanced text import/export descriptors

Editing text in movies is now easier. The import/export text components now work with text descriptors and timeStamps. Text descriptors are just that, descriptions of the text that follows. TimeStamps make it simple to do repeated export-edit-import tasks. The timeStamp keeps track of the starting time and duration of the sample, thus keeping the samples in sync with other media in the movie.

* Better support for low data rate audio capture

The sequence grabber sound channel has been enhanced to allow sound to be captured at any sample rate. This feature is important to network video conferencing solutions such as Apple's QuickTime Conferencing technology. The user interface in the sequence grabber sound sample panel has been updated for this feature. If 8k is not present in the sound input driver's native rates, 8k is added to the rate pop-up.

* Sprite enhancements

Both the Sprite Toolbox and the Sprite Track in QuickTime 2.5 now support graphics modes. This allows for sprites to blend with the background in various ways. Of particular interest is the ability to use 32 bit animation compressed sprites with an alpha channel graphics modes.

* Clock component

A new Clock component now guarantees enhanced synchronization of video and sound, and simplifies the problem of synchronizing these data types across the diverse array of sound and video hardware configurations supported by QuickTime.

* CD AutoStart for audio CDs

The AutoStart feature enables multimedia developers to create CD-ROMs that automatically start up when the disc is inserted. QuickTime 2.5 now extends this feature to standard audio Compact Discs which will begin playing when mounted.

QuickTime 2.5 mentioned in this article is no longer available through Apple Software Updates. Please see http://www.apple.com/quicktime/ for the latest version.
Published Date: Feb 18, 2012

COMPUTER:applications, Inc. (5/96)

COMPUTER:applications, Inc.

This article has been archived and is no longer updated by Apple.
12813 Lindley Drive
Raleigh, NC 27614

919-846-1411

919-846-1412 FAX

Internet: http://www.caidesign.com

Company Profile:
Software engineering firm dedicated to new product design and development for the microcomputer industry.

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Macintosh: Converting Macintosh XL AppleTalk Connectors

To convert Macintosh XL Appletalk connectors to Macintosh (Mini-8) Appletalk connectors, follow the diagram below. Test the pin signals for each wire because the color coding may not be consistent.

This article has been archived and is no longer updated by Apple.

DB-25 Color Mini-8
Mac XL Macintosh

2 TX- green 3 TX-
3 RX- white 5 RX-
19 RX+ blue 8 RX+
20 TX+ red 6 TX+

Other suggestions:

- Cut the cable about 3/8" up from the 25 pin connector so you can strip it back and verify the pinout- you'll need an ohmmeter or a continuity tester.
- Tin wires and connectors beforehand, of course.
- Use a soldering iron with a small tip and controlled temperature.
- Solder quickly so as not to deform the connector then clean with a good flux remover.
- First slide the outer plastic piece over the wire. Next fan the braid around the OUTSIDE of the metal shell and clamp it between the metal shell and the hard plastic pieces, then force the outer plastic piece over the whole connection.

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System 7.x: RAM Disk & Startup With Extensions Off

When I'm using a RAM disk and I startup with the extensions turned off, sometimes I get a message asking me if I want to initialize the RAM disk. If I hit Cancel, the message keeps coming back. What should I do? I do not want to lose any data that might be on the RAM disk.
This article has been archived and is no longer updated by Apple.
What you describe can occur using any version of the Mac OS that supports a RAM disk, System 7.0 or later. The Memory control panel has certain resources which are needed to build a RAM disk, and when starting with extensions off, some of those resources are disabled.

This issue is purely cosmetic. No data loss will occur. This message is presented when the RAM disk needs to be built, or when the extensions are turned off at startup. Below are the occasions a RAM disk needs to be built:

- The first time after RAM disk is turned on in the Memory control panel and the computer is restarted.

Note: The RAM disk is not available until after restarting the computer.

- When the computer is turned on or started from an off or shut down position.

Note: A RAM disk does not get built when choosing Restarting from the Special menu because it is already present in RAM.

Data loss cannot occur during a RAM disk's initial build because you have not had a chance to access the RAM disk yet.

Data loss cannot occur when starting the computer after a shut down, because the shut down process erases the contents of the RAM disk. The system will warn you if you choose Shut Down while data is present on the RAM disk.

The Assistant Toolbox extension, which comes standard with PowerBook computers, can be used with desktop Macintosh computers. The Assistant Toolbox is not required with System 7.6 or higher. The Assistant Toolbox provides a persistent RAM disk, which saves the RAM disk contents to the hard drive before shutting down, and then reloads the saved data to the RAM disk when starting up. However, if you start the computer with extensions off, you disable the Assistant Toolbox extension and the data will not get copied. You can find Assistant Toolbox on Apple Computer's software update locations.

If the initialize RAM disk message is annoying, use Restart instead of Shut Down when you want to restart your computer with extensions off and a RAM disk is present. After the initial build of the RAM disk (restarting after the first time it's turned on in the Memory control panel), choosing Restart with extensions off will not present this message.

If you are presented with the initialize message, you should click Initialize. A RAM disk initializes very fast.

This article can help you locate the software update mentioned here:

- Article 14724: "**Where To Find Apple Software Updates**" - Lists online services for free Apple software updates.

Published Date: Feb 18, 2012

QuickTime Conferencing: Can‘t Use ISDN Crd w/Quadra 840AV (5/96)

I have a Macintosh Quadra 840AV computer, and I'd like to use the QuickTime Conferencing H.320 ISDN NuBus Card in my computer. I noticed that the QuickTime Conferencing ISDN Kit Installation Guide states that I need a special DAV ribbon cable to use the card in my computer. However, I'm not sure which cable I specifically need in order to use the card.

This article has been archived and is no longer updated by Apple.

The QuickTime Conferencing ISDN Kit Installation Guide manual is incorrect. As stated in the QuickTime Conferencing H.320 ISDN NuBus Card ReadMe file, you must have a Power Macintosh 7100AV or 8100AV computer in order to use this card.

Published Date: Feb 18, 2012

Apple Internet Connection Kit 1.1 System Requirements (5/96)

Apple Internet Connection Kit 1.1 System Requirements (5/96)

What are the Apple Internet Connection Kit (AICK) 1.1 system requirements?
This article has been archived and is no longer updated by Apple.
AICK 1.1 requires an Apple Macintosh with 68030 or better processor, Power Macintosh, or Mac OS-compatible system with:

* System 7.5.3 or later (System 7.5 Update 2.0 is included on AICK 1.1 CD)
* 8 MB RAM minimum (12 MB recommended)
* Minimum 9600 bps modem (14,400 bps or greater recommended), or
connection to LAN already connected to the Internet.
* 10 MB available hard disk space (15 MB recommended)
* A CD-ROM drive

Published Date: Feb 18, 2012

PowerBook 500: Turns On When ADB Cable is Connected

Why does my PowerBook 500 series computer turn on when I connect an external keyboard?
This article has been archived and is no longer updated by Apple.

Issue

The PowerBook 540 and 520c computers will power up from a shutdown condition when any ADB device is plugged into it.

Workaround

Connect the ADB cable into the PowerBook 500 series computers at the time you plan to use the computer. When a Shut Down is performed the computer will remain powered off and will not power on automatically until the cable is disconnected and reconnected. It is the actual plugging in of the cable that causes the power on due to a power surge sensed by the PowerBook ADB port.

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Software Version Differences Between AICK 1.0 and 1.1

This article describes the software version differences between Apple Internet Connection Kit (AICK) v1.0 and v1.1.
This article has been archived and is no longer updated by Apple.

Company	Product Name	AICK 1.0 Version	AICK 1.1 Version
Netscape	Navigator	1.1.2	2.0
Claris	eMailer Lite	1.0v2	1.0v3
NCSA	Telnet	2.6	2.6
John Norstad	NewsWatcher	2.0b24	2.1.2
Dartmouth	Fetch	2.1.2	3.0
Dartmouth	MacPING	3.0.3	3.0.3
Adobe	Acrobat Reader	2.1	2.1
Apple	TCP/IP	1.0.7	not included
Apple	OT 1.0.6-->1.0.7	Patch	not included
Apple	MacTCP	2.0.6	2.0.6
Apple	Internet Status	1.0	1.1
Apple	Internet Dialer	1.0	1.1
Aladdin	Stuffit Expander	3.5.2	3.5.2
Aladdin	DropStuff	3.5.2	3.5.2
Lewis/Quinn	Internet Config	1.1	1.2
Apple	QTVR Player	1.0	1.0
Progressive-Networks	RealAudio Player	1.0.1	1.0.1
Maynard Handley	Sparkle	2.3.5	2.4.5
Apple	Config PPP	2.1.4	2.1.4
Apple	PPP	2.1.4	2.5
Apple	QuickTime	2.1	2.1
Apple	QT PowerPlug	not included	2.1
Apple	Sound Manager	3.1	3.1
Apple	Apple Telecom	not included	2.3.3
Apple	Sys. 7.5 Upd. 2.0	not included	included w/CD only

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System 7.5.3: Retrospect 3.0 Needed (2/97)

Since updating to System 7.5.3, Retrospect 2.x will not recognize the tape in my DAT drive it just says "busy." What should I do?

This article has been archived and is no longer updated by Apple.

Retrospect 2.x is not compatible with System 7.5.3 and later. You should contact Dantz Development Corp. for information on how to upgrade to Retrospect 3.0 or later.

The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.

Article Change History:
11 Feb 1997 - Changed article completely, new information.
18 Oct 1996 - Updated the URL.

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Macintosh 64K and 128K ROMs: Startup Differences

How can I tell what ROMs a Macintosh 512K has? What are some differences that I can see without looking at the logic board?
This article has been archived and is no longer updated by Apple.
The 64K ROMs and 128K ROMs have different ways of starting up and looking for the System file on a disk.

To tell if your Macintosh 512K has 64K or 128K ROMs, check either of the following:

Choose "About the Finder" in the Apple Menu. At the bottom left corner of the box that appears, the amount of RAM (in K) that the Macintosh has will be displayed.

a) A K without a period following it indicates the 64K ROMs.
b) A K with a period following it indicates the 128K ROMs.

Look at the title bar of any window:
a) Windows with only a close box in the title bar indicate the 64K ROMs.
b) Windows with a close box and a resize or zoom box in the title bar indicate the 128K ROMs.

Now that you can identify which ROMs are in your Macintosh, here's how each type boots:

Macintosh 512K with 64K ROMs
The startup procedure looks first at the internal floppy drive and then the external drive. If the Macintosh does not find the System file on a disk in the internal drive, it ejects the disk there and looks to the external drive. If there is no system file on the disk in the external drive, that disk is also ejected.

The Hard Disk 20 Startup disk in the internal drive will load the HFS file system and drivers into memory and eject the disk if there is a system folder on the HD 20.

Macintosh Plus or Macintosh 512K Extended with 128K ROMs
The startup procedure looks for a valid system folder in these devices in the following order:

1. Internal floppy disk drive
2. External floppy disk drive
3. Hard Disk 20 (System Folder)
4. SCSI devices

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MAE 2.0: ccMail Compatibility (5/96)

This article describes the compatibility between MAE 2.0 and ccMail version 2 and 3..
This article has been archived and is no longer updated by Apple.
MAE and ccMail versions 2 and 3 are compatible. However, there are 2 items that will prevent ccMail to run in MAE.

* Users is unable to use Direct Server Access under ccMail 2.2 & 3.0. Users must mount the mail volume first, then read mail.

* Users cannot save their password while logging onto ccMail 3.0, because if they do, MAE will quit with a core dump. Users will need to type their password each time to successfully log onto the Mail server.

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MAE 2.0: "Failed to get ROM memory" Error on Solaris (5/96)

After installing MAE 2.0 on an UltraSparc with Solaris 2.5, and restarting, I attempt to start MAE. The splash screen will appear for a moment, then disappear. The error "Failed to get ROM memory" will appear in the shell that MAE was started from.

This article has been archived and is no longer updated by Apple.

MAE 2 requires Patch 2 to run under Solaris 2.5 and the UltraSparc. Upgrade MAE with this patch, and restart your workstation. Upon this restart, MAE will launch successfully.

The Patch can be found on ftp.support.apple.com, or www.mae.apple.com.

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Power Macintosh: Memory Test Error Message At Startup (6/97)

I am getting a strange error message on my Power Macintosh computer at startup. It states, "The built-in memory test has detected a problem. Please contact a service technician for assistance." What does this mean?

This article has been archived and is no longer updated by Apple.

This is the result of an out-of-spec or faulty RAM card. You should have the RAM card replaced.

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System 7.5 Update 2.0: Important Software Updates Read Me

This article describes the Read Me file "Important Software Updates" installed by System 7.5 Update 2.0. This Read Me will only be installed in the folder "Important Software Updates" on PCI-based Power Macintosh computers. The following computers are in the PCI-based Power Macintosh family: Power Macintosh 7200, 7500, 8500, 9500.
This article has been archived and is no longer updated by Apple.
This folder contains three software updates that enhance your computer's stability. These updates have been requested by customers using system software version 7.5.3, the version of system software installed on your computer.

This document explains each update. The details below will help you decide if you need to install the updates. Installation instructions are also provided below.

Important: Since these updates are very new, the system software CD or floppy disks that came with your computer do not contain backup copies of these updates. Please follow the instructions at the end of this document to create a backup copy.

Apple Guide Update

This folder contains Apple Guide version 2.0.2, which replaces Apple Guide 2.0 on your computer. Apple Guide 2.0.2 includes the following improvements:

* corrects a problem that causes Apple Guide indexes to be improperly alphabetized in some languages
* corrects a problem in the way that Apple Guide uses memory (this problem can cause a decline in system performance and, in some cases, cause the computer to crash)

To install Apple Guide version 2.0.2, follow these steps:

1. Click the Apple Guide icon in this folder to highlight it.
2. Hold down the Option key and drag the Apple Guide icon to the System Folder icon. (The System Folder should be closed.)
3. When you see a message asking if you want to put Apple Guide in the Extensions folder, click OK.
4. A second dialog will appear warning you that an item named "Apple Guide" already exists in the Extensions folder. Click OK to replace the existing version.
5. Select Restart from the Special menu.

Drive Setup Update

This folder contains Drive Setup version 1.0.4, which includes the following improvements:

* corrects a problem with some IDE drives
* corrects a problem that could lead to multiple partitions having the same date and time stamp (this problem is most likely to occur on very fast systems)

Drive Setup version 1.0.4 does not need to be installed. To use it, double-click the Drive Setup icon in this folder. If you like, you can move Drive Setup out of this folder to a more convenient location on your hard disk (or copy it onto a floppy disk).

Ethernet Compatibility Extension

Important:
The information in this section is for computers connected to a Novell Netware network. If your computer is attached to a Novell Netware network, read the information in this section and install the Ethernet Compatibility extension.

This folder contains the Ethernet Compatibility extension version 1.0.3, which corrects a problem that occurs when you shut down a PCI-based computer that is connected to a Novell Netware network and is running system software version 7.5.3. Without this extension, your computer may crash when you shut down or restart.

To install Ethernet Compatibility version 1.0.3, follow these steps:

1. Click the ENET Compatibility icon in this folder to highlight it.
2. Hold down the Option key and drag the ENET Compatibility icon to the System Folder icon. (The System Folder should be closed.)

3. When you see a message asking if you want to put ENET Compatibility in the Extensions folder, click OK. Select Restart from the Special menu.

Note: After you install this extension, you will notice a two-minute delay in shutting down the computer. After two minutes, the machine will resume the shut down process. To avoid this delay, log out of the Netware network before you shut down or restart your computer.

Making a Backup Copy of These Updates

To make a backup copy of these updates, use a program called Disk Copy.

Before you start, make sure you have a high-density floppy disk. Then follow the steps below. You may want to print these instructions before you begin (open the File menu and choose Print).

1. Locate the disk image named "Updates.image" in this folder and double-click to open it.
2. When the Disk Copy Welcome screen appears, click anywhere inside it.
3. When the Disk Duplicator window appears, click the Make a Copy button.
4. Insert the high-density floppy disk into the disk drive.
5. At the "Are you sure..." message, click the Duplicate button.
6. When you have copied the disk image, remove the floppy disk and label it. Keep this backup disk with your system software CD or floppy disks.
7. Click Stop Copying to close the Disk Copy application.

To lock the disk:
* Look at the back of the disk.
* Find the square hole with a tab inside it in the corner of the disk.
* Slide the tab toward the edge of the disk so that the square hole is open.

Important: You may encounter errors while running Disk Copy if Virtual Memory is turned on. If Virtual Memory is turned on and you see the message "An error (-620) occurred while reading the disk image" or the message "An error (-74) occurred while copying/verifying the disk," turn Virtual Memory off. Then restart your computer, and begin Disk Copy again.
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System Software 7.5 Upd 2.0 On My PB 5300/2300/190 (5/96)

When I install System Software 7.5 Update 2.0 onto my PowerBook 5300/2300/190 computer, it always skips disk 9, on my earlier PowerBook computers, it skips disk 12. The install continues fine and runs good, but am I missing something?

This article has been archived and is no longer updated by Apple.

Disk 9 contains only the System 7.5 Update "gibbly" (a term for System Enabler used in early documentation and system development releases). Since the PowerBook 5300/2300/190 computers do not have System 7.5, but rather 7.5.2, it does not need this file and therefore skips it to save space on your hard drive.

Disk 12 contains the System 7.5.2 Update "gibbly". Since the earlier PowerBook computers do not have System 7.5.2, it skips this disk.

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System 7.5: Map Control Panel Does Not Observe Daylight Saving Time

I am running System Software 7.5. When I check the Daylight Savings Time check box option in the Date & Time control panel, the Map control panel changes my selected city in the Time Zone and my time is off by 1 hour. I have updated to System Software 7.5 Update 2.0 and I still have this problem. What's wrong and how can I avoid this problem?
This article has been archived and is no longer updated by Apple.
When the Daylight Savings Time (DST) check box is checked in the Date & Time control panel, by design, the time will advance by 1 hour. Unfortunately, the Map control panel does not recognize this option being checked when the set button is clicked. As a side effect, the Map control panel incorrectly selects the time zone next to the correct one (1 hour off) and defaults to the city that is alphabetically first in that time zone. This problem should be fixed in a future version of the Map control panel.

Currently, there are two workarounds to avoid this problem:

1) If the Daylight Savings Time check box option is checked, don't select the Set button in the Map control panel after setting the correct Time Zone and time in the Date & Time control panel. When changing Time Zones, change cities only in the Date & Time control panel since it recognizes the Daylight Saving Time option.

2) If a user wants to be able to change the set location in the Map control panel, make sure the Daylight Saving Time check box option is unchecked in the Date & Time control panel. Set the correct Time Zone and time manually in the Date & Time control panel. Now the set button should work correctly in the Map control panel.
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PowerBookControl Strip Moves When Changing Resolution (5/96)

PowerBooks with System 7.5.2 or later may experience a cosmetic problem with the Control Strip. The problem is that when the PowerBook goes from a lower resolution display to a higher resolution display, the Control Strip may appear half-way up the screen.

This article has been archived and is no longer updated by Apple.

This will only happen if the Control Strip is opened, closed, or moved while it is at the lower resolution. The workarounds are either not to adjust the Control Strip while it is at the lower resolution, or to simply drag the Control Strip back to the desired position while holding down the Option key when the problem occurs.

Apple is currently investigating this problem and hopes to have it fixed in a future system update.

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LaserWriter Printers: using Windowed Envelopes

Can I print envelopes that have cellophane or plastic windows for the address on my LaserWriter printer?
This article has been archived and is no longer updated by Apple.
Apple Computer, Inc. has not done extensive testing on envelopes with cellophane or plastic windows, so we don't have recommendations one way or the other. However, there are some basic guidelines you should follow.

If you decide to use window envelopes, see if the paper manufacturer has made any recommendations on the amount of heat the cellophane or plastic can withstand. The various LaserWriter printers use different amounts of heat to transfer the toner to the paper depending on the model. The faster the printer (pages per minute), the more heat the LaserWriter fuser produces to adhere the toner to the paper.

There are also newer materials similar to tissue paper being used, which are less likely to cause any sort of problems in your LaserWriter printer.

Before using large quantities of envelopes, try one or two to make sure they work properly in your LaserWriter printer.
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PC Compatibility Card: 32-bit Disk Access Not Supported

I have a PC Compatibility Card in my Power Macintosh. After installing Windows 95, I got a message that the computer is not running at optimal performance. It then stated that the hard drive, floppy drive, and CD-ROM drive are running in "Compatibility Mode". What is compatibility mode, and is this normal?
This article has been archived and is no longer updated by Apple.
Windows 95 has the ability to use a 32-bit protected-mode driver to access the hard drive controller and other drive controllers. On some equipment, including the PC Compatibility Card, Windows 95 is unable to access the drive controllers in this mode, so Windows 95 must use 16-bit real-mode drivers. This is the Compatibility Mode that Windows 95 mentioned. Using the 16-bit real-mode is normal for the PC Compatibility Cards. Windows 95 has the ability to use either 32-bit or 16-bit drivers, so this should not cause any problems.

Note that some new Windows 95-only software may require 32-bit protected-mode drivers. Such software will not work with the PC Compatibility cards. Before troubleshooting any software issues in depth, check with the software vendor to verify whether 32-bit protected-mode drivers are required or not. Apple will not be providing 32-bit protected-mode drivers for the PC or DOS Compatibility cards.
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Power Mac 7200 and System 7.5.3: Sound Amplification Input Extension

I have a Power Macintosh 7200/75 which I recently upgraded to System 7.5.3. Can I use the Sound Amplification Input extension with System 7.5.3? I noticed that it is not included with the Power Macintosh 7200 series computers which have System 7.5.3 pre-installed on them.
This article has been archived and is no longer updated by Apple.
No, the Sound Amplification Input extension is not supported when you are using System 7.5.3. If you are using System 7.5.3 on a Power Macintosh 7200 computer, you should use a microphone which supplies the proper line level signal, such as the Apple PlainTalk Microphone.

The following Tech Info Library article provides additional information about the specifications of PlainTalk microphones:

Article 15884: "**PlainTalk Microphone: Specifications.**"
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Color One Scanner 600/27: White Border Using Dispatcher (5/96)

I have a Color OneScanner 600/27. When I scan an image with the Apple Color OneScanner Dispatcher software, there is a white line approximately five pixels tall that appears at the bottom edge of the scanned image. Is there something wrong with my scanner?

This article has been archived and is no longer updated by Apple.

This is caused by the Apple Color OneScanner Dispatcher software. The line can be eliminated with any graphic editing application like Photoshop or ClarisWorks.

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System 7.5 Update 2.0:PCI-based Power Macintosh Computers (5/96)

Should I install the System 7.5 Update 2.0 on my Power Macintosh PCI-based computer? It already has System 7.5.3 installed.

This article has been archived and is no longer updated by Apple.

The System 7.5 Update 2.0 contains additional files or updates that enhance your computers stability. PCI-based Power Macintosh computers shipped with system software 7.5.3, it is not necessary to install the update. The System 7.5 Update 2.0 has a few components that are newer than the versions included with system 7.5.3 that shipped with your CPU. The three software updates include Drive Setup update, Apple Guide update, and an Ethernet Compatibility extension. These updates are included in a folder called 'Important Software Updates' on the hard drive of the PCI-based Power Macintosh computer.

The Tech Info Library article titled "System 7.5 Update 2.0: Important Software Updates ReadMe" contains more information that can help you decide if you need to install these updates.

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QuickTime Conferencing: Third-Party NT-1 Companies (5/96)

This article contains a list of third-party companies providing Network Terminal Adapters (NT-1) for the QuickTime Conferencing Kit. A Network Terminal Adapter is required to use QuickTime Conferencing ISDN Kit over a Basic Rate Interface (BRI) ISDN line.
This article has been archived and is no longer updated by Apple.
The QuickTime Conferencing ISDN Kit (NuBus) M4585LL/A allows users of the QuickTime Conferencing Kit to do WAN videoconferencing and collaboration Mac-to-Mac or videoconferencing only Mac-to-PC and Mac-to-Room based system using H.320 hardware codec over Telco-supplied ISDN lines. Includes H.320 codec/ISDN card, H.320 ISDN software and accessory kit.

However, a Network Terminal Adaptor (NT-1) is required to use the QuickTime Conferencing ISDN Kit over a Basic Rate Interface (BRI) ISDN line. The NT-1 terminates the ISDN line at the user's end and powers the ISDN line from the network interface box to the ISDN device. An ISDN line requires power and is unusable in the event of a power outage. Connecting the NT-1 to a Uninterruptable Power Supply is suggested.

A NT-1 can be purchased through your local ISDN provider or you can purchase one from the following companies:

Companies	Phone Number	Model Name
Quicomm	1-800-244-3688	NT-1 Network Terminator
Intellicom	1-800-884-ISDN	Various models
PicturePhone Direct	1-800-810-9966	Tone Commander NT1U-220TC

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MAE 2.0: Booting from boot2 resources fails! Fatal Error (5/96)

When starting MAE up, the following error occurs in the shell that MAE started from:

Booting from boot2 resources fails!
Fatal error in Toolbox

MAE will not start at this point. MAE was running just fine previously.
This article has been archived and is no longer updated by Apple.
A file in the user's HOME System Folder appears to be corrupt. To correct, try these options:

1) In a shell, delete the ".fs_cache" file in the System Folder, the restart MAE.

2) If the above does not work, rename the user's System Folder, and launch MAE. This will force MAE to create a new system, and the user can then copy desired control panels and extensions from the previous System Folder to the new one.

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Apple Internet Server Solutions: 2.0 CD Upgrade

This article describes where to look for information on upgrading to the Apple Internet Server Solutions 2.0 CD.
This article has been archived and is no longer updated by Apple.
Apple has received many requests for upgrade information to the Apple Internet Server Solutions 2.0 CD. For information on bundled software in the the Apple Internet Server Solution 2.0 CD, please check the web page at the following URL:

http://www.servers.apple.com/prodinfo/aiss/
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Power Macintosh 7500/7600/8500: Video Capture (5/96)

This article contains questions about the video capture capabilities of the Power Macintosh 7500, 7600, and 8500 series computers.

Questions Answered in this Article:
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1) Question: What is the color spacing in the video capture of the Power Macintosh 7500, 7600, and 8500 series computers? Is it 8-bit red + 8-bit green + 8-bit blue, or is it some other combination that provides 24-bit video?

2) Do the Power Macintosh 7500, 7600, and 8500 series computers use the Phillips TDA-8758 analog-to-digital converter chip? I understand that it only offers 8-bit chrominance and 8-bit luminance capabilities. Doesn't this contradict the claim of a 24-bit video subsystem?

3) I ran an AV test that showed the AV ramp to be displaying 30 discrete levels from dark to light and resembling more of a 5-bit capture than 8-bit. Is Apple's video subsystem a true 24-bit?

This article has been archived and is no longer updated by Apple.

1) Question: What is the color spacing in the video capture of the Power Macintosh 7500, 7600 and 8500 series computers? Is it 8-bit red + 8-bit green + 8-bit blue, or is it some other combination that provides 24-bit video?

Answer: The 24-bit color space for the Power Macintosh 7500, 7600, and 8500 series computers is scaled 24 bpp RGB (8-bit Red + 8-bit Green + 8-bit Blue + 8-bit alpha channel)

The Power Macintosh 7500, 7600, and 8500 series computers capture video in millions of colors (24-bit), and are capable of capturing 32-bit color, using 8 bits as an alpha channel.

2) Question: Do the Power Macintosh 7500, 7600, and 8500 series computers use the Phillips TDA-8758 analog-to-digital converter chip? I understand that it only offers 8-bit chrominance and 8-bit luminance capabilities. Doesn't this contradict the claim of a 24-bit video subsystem?

Answer: The Power Macintosh 7500, 7600, and 8500 series computers do use the Phillips TDA-8758 analog-to-digital video interface. However, this does not limit the video capture to 16-bit. This chip provides two 8-bit analog-to-digital converters (ADCs): one for chrominance and one for luminance. However, since there are direct and specific relationships between luminance (Y) and chrominance (C) values and RGB, the separate 8-bit luminance and chrominance data can be supplied to a digital video decoder (which is an SAA 7196 decoder) for conversion into RGB.

The digital video decoder has a chrominance and luminance processor that converts the luminance and chrominance video data into separate 8-bit "Y" and 8-bit "UV" data ("UV" is used to refer to the digital version of chrominance). The "YUV" data is then fed separately into an RGB matrix where the video data is converted from "YUV" to 24 bpp RGB data (24 bpp for the color information and 8-bits for the alpha channel: 8-bit Red + 8-bit Green + 8-bit Blue + 8-bit alpha channel)

3) Question: I ran an AV test that showed the AV ramp to be displaying 30 discrete levels from dark to light and resembling more of a 5-bit capture than 8-bit. Is the video subsystem used on the Power Macintosh 7500, 7600, and 8500 series computers a true 24-bit system?

Yes, the video subsystem used on the Power Macintosh 7500, 7600, and 8500 series computers is a true 24-bit system. If you create a simple white-to-black gradient using a graphics application, then output that image to an NTSC monitor, the NTSC image will be a smooth gradient, without the "stairstepping" you describe in your test.

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Open Transport: Error Codes

This article describes the Open Transport error codes.
This article has been archived and is no longer updated by Apple.

Result code	Value	Meaning
kOTBadAddressErr	-3150	The specified protocol address was in an incorrect format or contained illegal information.
kOTBadOptionErr	-3151	The specified protocol options were in an incorrect format or contained illegal information.
kOTAccessErr	-3152	The user does not have permission to negotiate the specified address or options.
kOTBadReferenceErr	-3153	The specified EndpointRef or TEndpoint * does not refer to a valid endpoint.
kOTNoAddressErr	-3154	The endpoint could not allocate an address, or an address was required and not supplied by the client.
kOTOutStateErr	-3155	The function was issued in the wrong sequence.
kOTBadSequenceErr	-3156	An invalid sequence number was specified, or a NULL call pointer was specified when rejecting a connection request.
kOTLookErr	-3158	An asynchronous event has occurred on this endpoint.
kOTBadDataErr	-3159	The amount of client data specified was not within the bounds allowed by the endpoint.
kOTBufferOverflowErr	-3160	The number of bytes allocated to hold a result is greater than zero, but not sufficient to store the result.
kOTFlowErr	-3161	The endpoint is in asynchronous mode, but the flow control mechanism prevents the endpoint from accepting any data at this time.
kOTNoDataErr	-3162	This endpoint is in non-blocking mode, but no data is currently available. It is also returned by LookupName when no names are found.
kOTNoDisconnectErr	-3163	No disconnect indication is available.
kOTNoUDErrErr	-3164	No unit data error indication currently exists on this endpoint.
kOTBadFlagErr	-3165	An invalid flag was specified.
kOTNoReleaseErr	-3166	No orderly release indication currently exists on this endpoint.
kOTNotSupportedErr	-3167	This action is not supported by this endpoint.
kOTStateChangeErr	-3168	The endpoint is undergoing a transient state change. This error is returned when a function call is made while an endpoint is in the process of changing states. The client should wait for an event indicating the endpoint has finished changing state and call the function again. **Note:** The equivalent state-change error code, TSTATECHNG, is not described in the 1992 X/Open XTI specification. This error is also returned if you attempt to use an "incompatible" function while another operation is still ongoing (for example: calling SndUData while an OptionManagement call is still outstanding).
kOTStructureTypeErr	-3169	An unsupported structure type was passed in the structType field. This error is also returned when the structType field is inconsistent with the endpoint type.
kOTBadNameErr	-3170	The endpoint name is invalid.
kOTBadQLenErr	-3171	The argument qlen when the endpoint was bound with Bind was zero.

kOTAddressBusyErr	-3172	The requested address is in use, or this endpoint does not support multiple connections with the same local and remote addresses. This result code indicates that a connection already exists. As a return value for a Bind call, it may also indicate that no dynamic addresses are available for protocols or configuration methods that allow dynamic addressing.
kOTIndOutErr	-3173	There are outstanding connection indications on the endpoint. All other connection indications must be handled either by rejecting them with SndDisconnect, or by accepting them with Accept.
kOTProviderMismatchErr	-3174	The endpoint that is to accept the connection is not the same kind of endpoint as this one.
kOTResQLenErr	-3175	When this endpoint was bound (see Bind), the qlen parameter was greater than zero. But to accept a connection on an alternate end-point, such as this one, the endpoint must be bound with a qlen parameter equal to zero.
kOTResAddressErr	-3176	The address to which this endpoint is bound differs from that of the endpoint that received the connection request; thus, this endpoint cannot accept this connection request.
kOTQFullErr	-3177	The maximum number of outstanding indications has been reached for the endpoint.
kOTProtocolErr	-3178	An unspecified protocol error occurred.
kOTBadSyncErr	-3179	A call to Sync was made at non-SystemTask time.
kOTCanceledErr	-3180	An outstanding call was canceled.
kOTNoError	0000	The function completed execution without error.
kENOENTErr	-3201	Requested information does not exist. This error literally means no such file or directory. In XTI (and Open Transport), a function returns this result when you try to open an endpoint or mapper that does not exist in the system, or to operate on an
kENIOErr	-3204	An I/O error occurred.
kENXIOErr	-3205	No such device or address.
kEBADFErr	-3208	The provider reference or stream reference supplied to the function was not valid.
kEAGAINErr	-3210	A provider is in non-blocking mode and cannot perform this operation now; Open Transport would have to block to complete the request. Try again later.
kENOMEMErr,kOTOutOfMemoryErr	-3211	Open Transport cannot allocate enough memory to meet your request. Open Transport has run out of internal memory. This might happen, for example, if you are doing a lot of asynchronous sends and not acknowledging sends, which means that Open Transport has to copy the data being sent into its own internal buffers.
kEBUSYErr	-3215	The device you are trying to access is busy and could not complete your request.
kOTDuplicateFoundErr	-3216	You are attempting to register a port or other entity that already exists.
kEINVALErr	-3221	You attempted an invalid operation, or you passed an invalid parameter.
kEDEADLKErr	-3234	In order to complete the requested operation, the endpoint provider would have to block, and the endpoint is in nonblocking mode.
kEADDRINUSEErr	-3247	The address is in use and is not available for the current function.
kEADDRNOTAVAILErr	-3248	The address is not available or the requested address is not appropriate for the current function because the function requires a multicast address.

kENETDOWNErr	-3249	TCP/IP error. The path to a network number is currently unavailable.
kENETUNREACHErr	-3250	TCP/IP error. The path to a network number does not exist.
kENETRESETErr	-3251	Unknown.
kECONNABORTEDErr	-3252	Unknown.
kECONNRESETErr	-3253	The connection was reset, possibly due to a problem with security and authentication.
kENOBUFSErr	-3254	The operation failed because no buffer space was available.
kEISCONNErr	-3255	Reserved.
kENOTCONNErr	-3256	Reserved.
kESHUTDOWNErr	-3257	An operation was aborted because the machine is shutting down. This error code is also used by sockets.
kETOOMANYREFSErr	-3258	Unused error code.
kETIMEDOUTErr	-3259	The requested operation timed out.
kECONNREFUSEDErr	-3260	TCP/IP error code. The port is unreachable (as opposed to the host being unreachable). The positive version of this error code (kECONNREFUSED) is returned by Open Transport as a reason code in a disconnect message, indicating that the other side refused the connection.
kEHOSTDOWNErr	-3263	TCP/IP error. A host address is currently unavailable.
kEHOSTUNREACHErr	-3264	TCP/IP error. A host address cannot be reached.
kEPROTOErr	-3269	A catastrophic error has occurred which probably renders the underlying stream unusable. This error is the same as the kTPROTOErr, but is used where an XTI error code is not appropriate.
kETIMEErr	-3270	An Ioctl command has timed out instead of completing normally.
kENOSRErr	-3271	Open Transport cannot allocate enough system resources (usually stream messages) to meet your request.
kOTClientNotInittedErr	-3279	The client has not called the InitOpenTransport function or the InitOpenTransportUtilities function.
kOTPortHasDiedErr	-3280	Your notifier is sent the event kOTProviderIsClosed and returns this result code if a port that your provider is using is disabled because it was unregistered.
kOTPortWasEjectedErr	-3281	Your notifier is sent the event kOTProviderIsClosed and returns this result code.
kOTBadConfigurationErr	-3282	Open Transport is attempting to bring up the TCP/IP stack but can't because it's improperly configured in the TCP/IP control panel.
kOTConfigurationChangedErr	-3283	This is an event code that's sent to the client's notifier (the one you register with the OTRegisterAsClient function) when variister with the OTRegisterAsClient function) when various AppleTalk-related things (like the current zone) change.
kOTUserRequestedErr	-3284	Your notifier is sent the event kOTProviderIsClosed and returns this result code if a port that your provider is using is disabled because the user switched configurations.
kOTPortLostConnection	-3285	Your notifier is sent the event kOTProviderIsClosed and returns this result code if a port that your provider is using is disabled because it lost the connection.

Published Date: Feb 18, 2012

Energy Saver: Volume Increases After Waking Up (5/96)

When I wake my Power Macintosh 7200/75 computer from sleep, the volume in the Sound control panel is always set to the maximum level. This happens even if I have set the volume to the lowest setting possible prior to putting the computer to sleep. I have a friend who has a Power Macintosh 7200/120 computer and it does not exhibit this symptom. Is there something I can do about this?

This article has been archived and is no longer updated by Apple.

This issue occurs with Power Macintosh 7200 series computers using the Energy Saver control panel version 2.0. It has been resolved with the Energy Saver control panel v2.0.1, which is included in System 7.5 Update 2.0 (System 7.5.3). Your friend's Power Macintosh 7200 series computer came with System 7.5.3 pre-installed, which is why it does not have this problem.

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QuickTime: Extras Folder on Macintosh CD

My Power Macintosh 7500 came with QuickTime. In the QuickTime Read Me file, it states the QuickTime Extras folder includes sample movie files, the QuickTime Musical instruments extension, and Movie Player 1.0. The Apple Extras folder on my hard disk contains a QuickTime Extras folder, but it does not contain any of these items. Where can I get these?
This article has been archived and is no longer updated by Apple.
On current Macintosh computers, such as the Power Macintosh 7500, the Apple Extras on the hard disk contains a QuickTime extras folder. However, as you discovered, the folder does not contain the sample files. The CD-ROM disc also contains an Apple Extras folder. Within the Apple Extras folder there is a QuickTime Extras folder with sample movies, photos, and music. You can either drag these to your hard disk, or play them directly from the CD-ROM disc.

This article appeared in the 14 May 1996 issue of the Information Alley.
Published Date: Feb 18, 2012

PowerBook 2300/PowerBook 500 with PPC Upgrade Slow Typing (6/96)

Owners of the PowerBook 2300c and the PowerBook 500 with PPC Upgrade may experience performance problems related to an incorrect cache flushing call. Some people have noted that these machines can be much slower than expected in certain situations. In particular people have noticed slow typing in Microsoft Word. They have also noticed slow printing to a serial printer when ARA is active.

This article has been archived and is no longer updated by Apple.

Symptoms

The most common symptom is that typing appears to be slow. The user may report that they can easily type faster than the computer can keep up with. There are a number of things which make the problem show up.

Possible Causes

If any of the following are true, the symptom may occur. The more that are true, the worse the issue will be.

1) Microsoft Office Manager v4.2.x control panel is active in the System Folder.
2) Microsoft Word 6.0.x is being used.
3) Express Modem software is loaded and turned on.
4) The Launcher is active in the background.

Resolution

Apple has identified the cause and has fix this issue with System 7.5.3 Revision 2. This software can be found on Apple Computer's online software update sites. If you do not have access to online services, please refer to Tech Information Library article, "Macintosh System 7.5.3 Revision 2: FAQ."

These articles can help you locate the software update mentioned here:

* "Where To Find Apple Software Updates" -- Lists online services for free Apple software updates.

* "Obtaining Apple Product Support in the USA" -- Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech Info Library.

This article was published in the Information Alley on 18 June 1996.

Article Change History:
18 Jun 1996 - Added Info Alley publication info and reworded.
15 Jun 1996 - Added System 7.5.3 Revision 2 fix.
Published Date: Feb 18, 2012

Chinese Language Kit: Enable WorldScript Extension Before Installing

After installing the WorldScript Updater 1.0, I disabled extensions and installed the Chinese Language Kit version 1.1, and the Chinese Language Kit Updater on a Power Macintosh 7200 computer. After the installation was complete, I restarted the computer but it stops responding before completing the restart.
This article has been archived and is no longer updated by Apple.
When the WorldScript extensions were disabled before installing the Chinese Language Kit, the Chinese Language Kit installer did not recognize that a later version of WorldScript was already installed so it installed WorldScript 1.0, which is not compatible with your computer.

To resolve this, restart the computer, enabling the WorldScript and System extensions in the Extensions Manager. Then, reinstall the Chinese Language Kit and Updater.
Published Date: Feb 18, 2012

MAE: Can‘t Open /dev/appletalk/lap/ethertalk0/control (5/96)

I just launched MAE 2.0, and see the message "Unable to open the file '/dev/appletalk/lap/ethertalk0/control, please be sure the file exists'" in the UNIX window from which I launched MAE. What does this mean?

This article has been archived and is no longer updated by Apple.

AppleTalk is not installed properly. An AppleTalk installation must be preformed as root on each system you want to run MAE. You cannot copy your MAE binaries from machine to machine. The AppleTalk installation correctly configures your kernel and creates device files used by AppleTalk.

In addition, you may see this error if you have just installed MAE and not yet restarted your workstation.

Published Date: Feb 18, 2012

Fax Sender GX: Using GeoPort as Fax Server (5/96)

I've heard that I can use Fax Sender GX to set up a computer on an AppleTalk network to act as a central server for sending faxes, but I'm not sure how to do this.

This article has been archived and is no longer updated by Apple.

Yes, you can use Fax Sender GX in this way. It's useful because other users on the network can send faxes without having the modem hardware installed in their computers.

In order to do this, the server must have the appropriate hardware installed, and both the server and client machines must have QuickDraw GX (version 1.1 or later) and the fax software installed. To install the fax software on a client machine, select the "Fax Sender GX Client Software" Custom Install option in the Apple Telecom Installer.

Note: If you are sharing your Express Modem or GeoPort Telecom Adapter on an AppleTalk network, try to minimize the time you spend in Fax preview. While you are previewing, other Fax Sender GX users may be paused.

Published Date: Feb 18, 2012

LaserWriter: Faulty Registration

This article has been archived and is no longer updated by Apple.

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Problem: The LaserWriter shows a registration problem.

Cure:  After trying the suggestions in the LaserWriter troubleshooting
table for faulty registration (Table Q14), try the motor driver/DC
power supply assembly.
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Apple IIc: Technical Procedures Erratum

The following article desribes a change to the Apple IIc Technical procedures.
This article has been archived and is no longer updated by Apple.
On page 2.9 of the Apple IIc Technical Procedures, Apple IIc Diagnostics, the second sentence states that you can boot from the external drive in order to test that drive.

However, if you have an Apple IIc with the logic board upgraded with new ROMs and you attempt to boot it from the Apple IIc External 5.25" Drive, you get the message "AppleTalk Off-Line".

New or upgraded Apple IIc systems configure an Apple IIc External 5.25" Drive as a second drive, which cannot be used for a boot, as in the Apple IIe. Typing "PR#5" will just cause the system to hang, since the External 5.25" Drive is now considered to be Drive 2 of Slot 6. Typing "PR#7" will produce the "AppleTalk Off-Line" message.

You can, however, boot such a system from a 3.5" drive with a "PR#5" because new or upgraded Apple IIc systems configure the 3.5" drive as a first drive, Drive 1 of Slot 5, which can be used for a boot, as in the Apple IIe.
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PowerBook 140 and 170 and the Apple Fax/Data Modem (5/96)

This article discusses some common facts about the PowerBook 140 and 170 and Apple Fax/Data Modem
This article has been archived and is no longer updated by Apple.
* The modem that originally shipped with the PowerBook 140 and 170 was called the Apple Fax/Data Modem.
* The latest version of the Software that shipped exclusively for the Apple Fax/Data Modem is called FAX Sender 1.0.3.
* The latest supported Software for this modem is Express Modem 1.5.5 and fulfillable through CR fulfillment option.
* Telecom 2.3.2 was tested with the modem and works if the PowerBook is running 7.1 or later.
* Earlier versions of the Express Modem software had to be "Added" over the top of the FAX Sender Software (not true with 1.5.5 and telecom 2.3.2)
* Express modems do NOT work in PowerBook 100, 140, 145, 145b, 150 or 170 models.
* To identify a PowerBook modem, open a modem application like Zterm and enter the command AT10 or ATI4. The response will identify "data/send FAX" for the Apple Fax/Data Modem. Using the same command with an Express Modem, the response is: "APPLE EXPRESS MODEM....."

Published Date: Feb 18, 2012

Calendars and More: Disk Error Message (5/96)

I recently purchased a Color Stylewriter 1500. I am trying to use the program Calendars and More, which was included with the Color Stylewriter. Every time I double-click on the icon for Calendars and More, I receive a message that there has been a disk error. My friend has a Color Stylewriter 2500 and she has the same problem. Is there anything I can do about this?

This article has been archived and is no longer updated by Apple.

To use the Calenders and More application, you must insert the Apple Color Printing CD in the CD-ROM drive. The Calendars and More application requires information stored on the Apple Color Printing CD to work properly. If you need additional information, contact the publisher of the CD, Mindscape.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.

Article Change History:
30 May 1996 - Added vendor's name.

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Cyberdog: Getting Started With Cyberdog 1.0 File

This article is the Getting Started With Cyberdog file.
This article has been archived and is no longer updated by Apple.

Contents

- Overview of Cyberdog
- Starting Up
- Creating a Notebook of Internet Resources
- Using the Log
- Exploring the Internet
- Searching for Information on the Internet
- Receiving and Sending Mail
- Sorting and Filtering Mail
- Searching through Mail Messages
- Reading Newsgroup Articles
- Subscribing to Additional Newsgroups
- Sorting and Filtering News Articles
- Searching Newsgroups
- Overview of OpenDoc

This document provides pointers for getting the most from the Cyberdog beta software.

Overview of Cyberdog

Cyberdog is an integrated suite of tools for the Internet that includes these features:

* World Wide Web browser
* E-mail reader and handlers
* Newsgroup reader and handlers
* Gopher browser
* File transfer and remote login facilities (FTP and Telnet)
* Utilities for storing and organizing Internet information
* Security facilities

Cyberdog software integrates a set of full-featured Internet tools with a common interface. Cyberdog's Internet Starting Point combines these tools into one easy-to-use package, making Internet solutions simple. The Starting Point is Cyberdog's predesigned way of using the Cyberdog tools. Because Cyberdog is based on OpenDoc component technology, you can also use Cyberdog "parts" to create your own documents with embedded Internet functionality, thus creating your own Internet "starting point."

For more information about OpenDoc, see the section "Overview of OpenDoc" at the end of this document.

Starting Up

The procedures in this document assume that, in addition to an Internet connection, you have properly installed Cyberdog.

Cyberdog installation places a folder named Cyberdog b2 Folder on your hard disk. It contains these files and folders:

* Cyberdog Starting Point file
* First Notebook file
* Other Cyberdog Documents folder
* Tools folder

To use Cyberdog features, double-click the Starting Point icon in the Starting Point folder. A screen with six buttons appears:

* Notebook is linked to the file named First Notebook.

* Log is linked to your personal log file.

* Explore is linked to the Cyberdog Explore page on the World Wide Web, so clicking this button connects you to the Internet.

* Search is linked to a search engine page on the World Wide Web, so clicking this button connects you to the Internet.

* Discuss: The right-hand button is linked to your mail trays, or a setup screen for your mail server. The right-hand button is linked to available news servers.

Hints, Pointers, and Highlights

Some pointers of particular interest:

* If the Cyberdog menus don't appear in the Internet Starting Point custom document, hold down the Option key and click on any of the Starting Point buttons to restore the Cyberdog menus.

* You can select any Internet object icon and drag it to any Cyberdog component, such as mail or a notebook, or to the Macintosh desktop (Finder). You can also select a text URL, for example, in a mail message or document, and drag it into your notebook or mail.

* You can go to a URL from within a mail message by double-clicking the URL icon.

* Mail and News use the same message and sending formats. You can include pictures, links and attachments in either.

Creating a Notebook of Internet Resources

You use the Notebook to create a personalized collection of Internet resources, providing a means to quickly access the information that's most useful to you. The Notebook is actually an OpenDoc container that holds Internet items, including e-mail addresses, as well as addresses for Web sites, FTP sites, Gopher sites, Telnet sites, and newsgroups. You can also use the Notebook to save pictures and other files available on the Internet; You can also include your newsgroups and mail trays.

Opening a notebook

To open a notebook, double-click the First Notebook icon in the Cyberdog b2 folder, or click the Notebook button that appears on the Starting Point screen.

Adding an item to a notebook

To create a notebook entry, open a notebook, then:

* Drag any Internet item with an icon and a name into a notebook.

Or:

* Select a URL text string and drag it into a notebook.

Or:

1. From the Notebook menu, choose Add Item To Notebook.

2. Type in the Internet address.

3. Click OK.

To add an item while a notebook is either open or closed:

1. From the Cyberdog menu, choose Add Selection to Notebook or Add Window to Notebook.

2. Follow the instructions in the dialog box to place the item in the appropriate notebook and category.

Adding an e-mail address to a notebook

To have e-mail addresses show up in special address lists (described in the later section on mail) add those

addresses to your default notebook. Unless you change it the default is the First Notebook.

To add an e-mail address:

* From the Mail/News menu, choose Add E-mail Address to Notebook.

Or:

* Drag any e-mail address, such as one that appears in the address field of an e-mail message, into a notebook.

Or:

* Drag any mailto: URL from a web page into the notebook.

Deleting an item from a notebook

You can use any of these methods to delete a notebook entry:

* Drag any notebook item to the Trash.

Or:

* Select a notebook item and press the Delete key.

Or:

* With a notebook item selected, choose Delete from the Edit menu.

Renaming a notebook item

To rename a notebook item, select the name of the item you want to rename, then choose Rename Item from the Edit menu. (Unlike Macintosh file names, you can NOT rename a notebook item by selecting it and typing over it.)

Organizing a notebook with categories

You can organize your Internet information by creating notebook categories. Note that unlike folders on the Macintosh desktop, you can only make one level of categories; you can't put one category inside another.

To create a category:

1. Choose Add Category from the Notebook menu.

2. Give the category a name.

3. Drag in any items that you want to appear in that category. A bar shows where the item will appear.

Creating multiple notebooks

If you save a large number of Internet items, you may find it useful to create multiple notebooks to organize those Internet resources. For example, you might find it useful to create a Work Notebook, a Finance Notebook, a Kids' Notebook and a Hobbies Notebook. You can create as many notebooks as you wish.

No matter how many notebooks you have, Cyberdog recognizes just one default notebook. Unless you specify otherwise, Cyberdog uses First Notebook as the default. These are the differences between the default notebook and the other notebooks:

* The only e-mail and newsgroup addresses that show up in address lists are those that you store in the default notebook. (See the section on mail or more information.)

* If you add an item to a notebook using the Add Item╔ menu command, the default notebook is preselected in the dialog box that lets you choose the notebook to which you're adding the item.

* The Notebook button in the Cyberdog Starting Point window is linked to your default notebook.

To create a new notebook:

1. Open a notebook.

2. From the Document menu, select New.

Setting the default notebook

Cyberdog uses First Notebook as the default. To specify a different default notebook:

1. Open the notebook that you want to make the default.

2. From the Notebook menu, choose Set Default Notebook.

Renaming a notebook

Renaming a notebook (including the First Notebook) is just like changing the name of any other file on the Macintosh. To rename a notebook:

1. In the Cyberdog Tools folder, select the notebook you want to rename.

2. Press Enter to highlight the name.

3. Type in the new name for the notebook.

Opening multiple notebooks

To open multiple notebooks:

1. While in Cyberdog, setup a default notebook if you have not already done so (see earlier section). You must have a default notebook set for this to work.

2. Close all Cyberdog windows so that Cyberdog quits.

3. Launch the non-default notebook by double-clicking on it from the Finder.

4. Once that has opened, use the Show Default Notebook menuitem in the Cyberdog menu to open the default notebook you set earlier.

IMPORTANT Do NOT open multiple notebooks by double-clicking on more than one notebook icon or by using the Open menuitem in the Document menu. Each notebook you open this way requires additional random access memory (RAM), which can cause your computer to run out of memory.

Deleting a notebook

To delete a notebook:

1. If you are deleting the default notebook, be sure to set a new default notebook, as described in the previous section "Setting the Default Notebook," before deleting the old one.

2. Close all Cyberdog windows. (This step applies to the b2 version of Cyberdog, but won't be necessary in later releases.)

3. Drag the notebook to the Trash.

Using the Log

The Log is a record of Internet sites you've visited, including Web sites, FTP sites, newsgroups, and picture and text files. You can drag items from the Log to a notebook and to the Macintosh desktop.

Cyberdog automatically updates the Log, keeping track of each site you visit. When you disconnect and then reconnect to the Internet, the Log from previous sessions is maintained. The Log holds up to 200 entries, dropping the oldest entries drop off the end of the list.

You can sort items in the Log by any of these methods:

* name (alphabetical), with items in alphabetical order

* time (chronological), with items in chronological order from most recent to oldest. If you go to a particular site more than once, only one item shows up in the Log.

* navigation path (hierarchical), which gives a categorical grouping according to the Internet server and path name. This view gives the server name at the top of each category, then lists sites within that server.

Deleting a Log entry

Cyberdog automatically adds entries to the Log, but you can delete any Log entries at any time. To delete entries:

1. Click the Log button in the Starting Point window.

2. Scroll to the Log entry you want to delete and select it. To select multiple items, hold down the Shift key as you click each item.

3. Press the Delete key or choose Clear from the Edit menu.

Exploring the Internet

The Cyberdog Internet Explorer page contains basic information about "surfing" the World Wide Web, plus links to Internet sites that the Cyberdog team finds especially appealing. There's also a link to information about the Cyberdog team,

To connect to the Cyberdog Internet Explorer page, click the Explore button in the Starting Points window. A small opening window and moving dog icon appear, indicating that your computer is in the process of connecting. The message next to the icon indicates which phase of the connection is in progress. To cancel the connection, click the dog icon.

When enough information has arrived, the window expands to full size and displays the Cyberdog Internet Explorer page.

Searching for Information on the Internet

The Search button in the Cyberdog Starting Point window connects you to the Cyberdog Internet Search page on the World Wide Web. This page offers a choice of different search engines. The typical search engine lets you enter one or more words, or "strings," then searches for instances of that word in all the Internet sites it can find. This particular engine searches only World Wide Web, Gopher, FTP services, and newsgroups; it does not search mail.

Receiving and Sending Mail

With Cyberdog, you can embed any file inside your messages, open files and URLs from inside messages, and automatically sort and filter mail. Cyberdog also provides the same message and sending formats for both e-mail and newsgroups. E-mail and newsgroups use common headers and text areas that behave consistently, and both allow styled text and embedded objects.

Setting Up Mail

In order to use Cyberdog mail, you first need an Internet mail account that uses the POP (for receiving mail) / SMTP (for sending mail) protocols. Your Internet service provider can give you the information you need to setup this up.

To check whether Cyberdog mail is already set up, in the Cyberdog Starting Point window, click the button on the right above Discuss (the button with the mailbox). If you have already been using a mail application with mail preferences already set up in Internet Config, such as Eudora, Cyberdog opens the Mail Trays window and displays an In Tray corresponding to that Internet mail account. You don't need to take any further steps to set up mail.

If Cyberdog prompts you to use the Connect To command from the Cyberdog menu, or if there is no In Tray in

your Mail Trays window, you need to set up mail.

To set up Cyberdog mail:

1. In the Cyberdog Starting Point window, click the button on the right above Discuss (the button with the mailbox).

2. From the Cyberdog menu, choose Connect To.

3. Fill in the information in the Mail dialog box.

4. Click OK. Cyberdog sets up information for the mail account, and opens the In Tray window for that account.

5. From the Edit menu, you can choose Cyberdog Preferences and enter your preferences for receiving mail and working with messages.

Setting up additional accounts

If you have multiple mail accounts, follow the steps in the previous section to set up an In Tray for each mail account.

Downloading and reading mail

To download mail from your Internet mail server:

* From the Mail/News menu, choose Check Mail. Cyberdog connects to the mail server and immediately downloads any messages.

Or, to download mail automatically:

1. In the Mail Trays window, select the desired In Tray.

2. From the Trays menu, choose Account Info.

3. In the dialog box that opens, specify whether you want mail downloaded at specific time intervals, or whenever the In Tray is opened.

Sending Mail

To compose and send a mail message:

1. From the Mail/News menu, choose New Message.

Or:

Open a received message and click the Reply button or the Forward button at the top of the message window.

Or:

Double-click an e-mail address that you saved in a notebook or on the Macintosh desktop, or click a mail URL on any World Wide Web page.

2. Type in your message. You can embed any file by dragging it in to the text area of a message. You can use any font or color of text you choose, but keep in mind that the recipient's mail application might affect the look of your message.

3. You can create mail stationery by saving the message using the Letterheads menuitem in the Message menu. The information in the message, such as letterhead, favorite URLs, and frequently-used addresses automatically appears whenever you later select this file in the Letterhead dialog that opens when you request a new message.

4. From the Message menu, choose either Send Now or Send Later. Send Now causes Cyberdog to immediately connect to the mail server and send your message. Send Later places the message in the Out Tray but doesn't send it until you select Send Now at some later time.

5. Close the message. Cyberdog prompts you to indicate whether you'd like to save the message as a file on your Macintosh.

Sorting and filtering mail

If you send or receive large amounts of mail, you can use Cyberdog mail handlers to simplify and streamline your mail processing. For example, you can use a mail handler to automatically direct all mail from the University of California in to your UC mail tray. Or, you can have Cyberdog place all messages with "Australia" or "Travel" in the subject in your Vacation mail tray.

To set up mail handling, choose Mail Handlers from the Mail/News menu. In the dialog box appears, you can define what parts of the mail message you want Cyberdog to look at, and specify the mail tray that you want to receive a particular type of mail (be sure to create any personal mail trays you might want to filter mail to before you setup your mail handlers).

Searching through mail messages

You can search through all your messages for particular text or information. For example, you may want to collect together all the messages about a certain topic (say, "Our Trip to Hawaii"). Even if these have been saved in different folders, the search facility will find all messages containing, say, the text "Hawaii" and list them for you.

To search through your mail messages:

1. From the Mail/News menu, choose Search in Messages.

2. In the Search dialog box that appears, specify which trays to search in, what text to look for, or a received date.

The search returns a "relevance-ranked" list, which means that the more times the criteria you specified were found in a message, the higher that message will be in the list.

Reading Newsgroup Articles

Cyberdog is preconfigured to connect to some newsgroups of general interest.

To view the articles within a newsgroup:

1. Click the News button above the Discuss label.

2. Click the triangle to display the list of newsgroups that are already available.

To follow a discussion in a newsgroup, drag the item from the Newsgroup window in to your notebook. Your notebook will keep track of the messages you've read. Be sure to save your notebook. Note that if you read newsgroups in your newsgroup window instead of from your notebook, each time you close the window Cyberdog loses track of which messages you've read.

Subscribing to additional newsgroups

To subscribe to a new newsgroup:

1. Choose Connect To from the Cyberdog menu.

2. Fill in the server information. This can be a URL (Web address).

3. Select Choices. The newsgroup appears in the Newsgroups window.

To subscribe to individual newsgroups, drag them from the window to your notebook.

Sorting and filtering news articles

You can use handlers to sort and filter mail messages, much the same way as you can sort and filter e-mail. This enables you to filter out articles that you don't want to read.

To set up a news handler:

1. From the Mail/News menu, choose Create News Handler.

2. Select the news group or discussion you want the handler to apply to.

3. From the Mail/News menu, select Apply to Selection.

If you want display articles you've already read, or articles that you've filtered out, select Display Read or Display Unwanted Items in the Trays menu.

Handlers will work automatically each time you open a newsgroup. Note that only handlers that apply to that newsgroup or to All newsgroups will be used to filter in that particular group.

Searching newsgroups

You can use the Search button on the Starting Point screen to search newsgroup titles, but not the content of individual articles within a newsgroup. After you enter the Search command, Cyberdog displays all the groups that match your search criteria. You can save the newsgroups that interest you by dragging them to a notebook.

Overview of OpenDoc

Although you don't need to know anything about OpenDoc to use Cyberdog, this section provides a brief introduction for you if you're interested in the software architecture that underlies Cyberdog.

OpenDoc is Apple's new component technology for object embedding. OpenDoc changes your experience of the Macintosh in three main ways:

* Object embedding
OpenDoc allows computer objects, such as pictures, command buttons, and even windows, to be embedded inside other objects. The Cyberdog Starting Point window, which appears when you first launch Cyberdog, is an example of a container document with embedded buttons, which are OpenDoc parts. The title is an embedded picture, the six buttons are embedded "cyberbuttons," and the button labels are embedded text.

* Interchangeable software parts
Each of Cyberdog's main parts (listed in the previous section, "Overview of Cyberdog") is a piece of software that is fully interchangeable with other "Cyber-savvy" software. As more parts become available from Apple and other developers, you will be able to drop other Internet facilities into Cyberdog and use them seamlessly in combination with what's already there.

* User interface changes
These OpenDoc changes to Macintosh menus show up in Cyberdog:

* the Document menu replaces the File menu
* the Close command replaces the Quit command
* menus change depending on which part is active

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UNIX vi Editor: Basic Overview of Commands

This article provides a basic overview of the UNIX vi editor.
This article has been archived and is no longer updated by Apple.
This is just an overview of some of what vi (pronounced vee-eye) can do. It is by no means an exhaustive coverage of this workhorse of the UNIX community. Although quite old, vi has lasted because it's consistent across platforms, very powerful, simple, and much easier to use than 'ed' in its line editor mode, called ex, when doing system file repair. Think of ex as vi with only one line visible at a time. There is also read only vi, called view.

vi has 3 modes, command mode, insert mode, and line mode (also known as 'ex' mode). You are in command mode when you first start vi. You enter insert mode when you enter one of the several insert commands. Line or ex mode is entered from command mode by typing a colon ':', which brings you to a command line at the bottom of the screen. Since it's a full screen editor, vi needs to have a correct display variable set; if it does not understand the display environment, vi will enter into ex instead.

Insert Modes: (Use ESC to get back to command mode.)

i = insert before cursor, a = append after cursor.
I = Insert at beginning of line. A = Append to end of current line.
o = open blank line below cursor for text, O = above line open.
s = delete character at cursor and substitute text.
S = delete line and substitute text.
R = overstrike existing characters with new characters.

Edit Commands:

cw = change a word (overwrite mode). ESC to exit.
cc = change the entire current line. Exit with ESC.
C = change from current position to end of line, same as c$.
r = replace one character
dw = delete word. dd = delete current line.
D = delete from current position to end of line.
x = delete a character at current position.
X = delete character before cursor (like a backspace).
ZZ = write file and quit vi.
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Color LW 12/600 PS: User‘s Guide Incorrect About RAM

In the Color LaserWriter 12/600 PS User's Guide, it states that 1, 8, or 16MB SIMMS can be used. However, other sources state that only 1, 4, or 16MB SIMMS can be used. Which is correct?

This article has been archived and is no longer updated by Apple.

The Color LaserWriter 12/600 PS User's Guide is incorrect. You cannot use 8MB SIMMS in the Color LaserWriter 12/600 PS printer. The Tech Info library article titled "CLW 12/600 PS & CLW 12/660 PS: Memory Configuration" lists the various memory configurations you can use in the printer.

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NSI 1.5.1 and System 7.5 Update 2.0 (5/96)

Should I, or do I need to install the Network Software Installer (NSI) 1.5.1 after I have installed the System 7.5 Update 2.0?
This article has been archived and is no longer updated by Apple.
No, you should not install NSI 1.5.1 after updating to System 7.5.3 with System 7.5 Update 2.0. In the System 7.5 Update 2.0 Read Me it states:

"Files no longer needed
==========
The Update automatically deletes the files listed below -- unless you renamed any of them, in which case, you should remove the files.

** Several standalone files are now merged into the System 7.5 Update enabler or the System file. This update deletes the old (standalone) versions of the following files:
-...
- Network Software Installer (v1.5.1 and later)"

NSI 1.5.1 should be used with System 7.0 to System 7.5.1.

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Apple Modem Tool: Maximum throughput

What is the maximum throughput of the Apple Modem Tool?
This article has been archived and is no longer updated by Apple.
The original serial port driver for the Macintosh, as documented in Inside Macintosh, only allowed settings of up to 57.6 kbps on the serial ports. This speed is usually not attainable by the older 68xxx Macintosh systems. With the introduction of SerialDMA architecture, present in the 660AV and 840AV systems, Power Macintosh models, as well as PowerBook 3400 (with the exception of the 5200, 6200, 5300, 6300, and PowerBook 1400, and 5300 systems) it may be possible to drive the serial ports at speeds up to 230.4 kbps.

The SerialDMA 2.0.2 driver documentation describes these higher speed control calls. In the future, we expect to see updated tools that take advantage of these higher speed calls. Since the Macintosh Toolbox only allowed a maximum setting of 57.6 kpbs nearly all communications software, such as the Apple Modem Tool and the Serial Tool, use 57.6 kbps as the maximum.

A PC Card modem is not subject to the same limitations as communications through a serial port. Since PC Cards can handle 10 Mbs Ethernet connections it is certain that unless the manufacturer has done some very poor engineering, the only limitation is the ability of the modem to handle the data throughput.

Note: System 7.5.3 includes a new version of Apple Modem Tool (1.5.5), which supports 115.2K and 230.4K connections on SerialDMA 2.0 machines.

This article appeared in the 17 May 1996 issue of Information Alley.
Published Date: Feb 18, 2012

Mac OS: Desktop Rebuilds Automatically

The following article documents four different scenarios in which a Macintosh computer running System 7.x or newer can rebuild the desktop, or appear to rebuild the desktop, without the Command and Option keys being pressed at startup.
This article has been archived and is no longer updated by Apple.

Progress Bar Appears To Indicate The Desktop Is Being Rebuilt

When starting up under System 7.5 or newer, it appears that the Macintosh is always rebuilding the desktop. A progress bar that fills in during the startup process creates the perception that the desktop is being rebuilt.

The progress bar is a new feature introduced in System 7.5 that provides feedback on the status of the startup process. The progress bar is not an indication that the desktop is being rebuilt.

If the desktop is actually being rebuilt, either automatically or on demand, you will see in the window the words "Rebuilding Desktop..."

File Or Folder Named "Desktop" At Root Level Of HD

With System 7.x or newer, if the desktop is rebuilt at every restart, it may be because you have a file or folder at the root level of your hard drive named "Desktop." Removing the item named, "Desktop," or renaming it solves the problem. This can also occur if the file or folder is invisible. If this is the case, you will need to make it visible or delete it using a disk or file utility such as ResEdit.

Desktop Rebuilds After Installing System 7.5

This is a normal feature of System 7.5. But, this should only occur the first time you restart the computer following the installation.

Macintosh Easy Open Automatically Rebuilds The Desktop

After you have installed System 7.5 (or newer) and restarted, you may find that your system will rebuild the desktop with subsequent restarts. These additional rebuilds are caused by Macintosh Easy Open (MEO). MEO builds a table of file types, applications, and the translators available to those applications that give them the ability to open different file types.

This modification of the desktop file provides additional information that MEO uses to locate applications that can open various file types.

Note: The rebuilding process involves different methods depending on the Mac OS version. The following TIL article fully describes these methods: Tech Info Library Article 10182: "**Mac OS: Rebuilding Desktop File and Icon Recovery**"
Published Date: Feb 18, 2012

Workgroup Server 8550: Drive Options

This article answers the following questions:

- What are my options for adding additional drives to the Workgroup Server 8550?
- What is special about the bracket that is included in the full height bay at the bottom of the Computer?
- Does Apple officially support the installation of half-height drives in the hard drive bracket assembly in the Workgroup Server 8550? I am asking because I want to add a second hard drive; not replace the original drive.

This article has been archived and is no longer updated by Apple.

Question: What are my options for adding additional drives to the Workgroup Server 8550?
Answer: The workgroup server 8550 has four bays for drives. All 8550s come with a CDðROM in the top bay (bay number one), a Floppy drive in the bay beneath that (bay number two) , and a Hard Drive in the bottom bay (bay number four). The third bay down can be filled with a DAT drive depending upon the configuration purchased.

Question: What is special about the bracket that is included in the full height bay at the bottom of the Computer?
Answer: The bottom bay (bay number four) is a full height bay with special hard drive bracket (p/n 922-2253) mounted inside it. This mounting bracket has an additional fan to keep the drive(s) cool. Adding an additional "low profile (1" high") drive to this bracket does not require a mounting tray, only a screw kit to keep the drive secure.

Note: 922-2253 can be installed into an 8500 or an 8100.

```
+---------------+
[     bay 1     ]
[    CD-ROM     ]
[ ------------- ]
[     bay 2     ]
[    Floppy     ]
[ ------------- ]
[     bay 3     ]
[   Empty/DAT   ]
[               ]
[ ------------- ]
[     bay 4     ]
[      HD       ]
[   with part#  ]
[    922-2253   ]
+ ------------- +
```

Question: Does Apple officially support the installation of 1/2 height drives in the hard drive bracket assembly in the Workgroup Server 8550? I am asking because I want to add a second hard drive; not replace the original drive.
Answer: No, Apple will not officially support the installation of half-height hard drives in the Workgroup Server 8550. The special hard drive bracket (p/n 922-2253) will only support the addition of a "low profile (1" high") drive.

NOTE: Even though it may be possible to physically fit a half-height hard drive in the special hard drive bracket (p/n 922-2253), the screw holes which mount the drive to the bracket will not match up. If you do somehow manage to install this type of drive, Apple will not support its use in your Workgroup Server 8550.

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Apple Personal Modem: Carrier detect

This article has been archived and is no longer updated by Apple.
Some software packages, such as Dow Jones Market Manager Plus, don't appear to get a carrier detect because the Apple Personal Modem's 0.6 seconds of carrier detect response time is not enough time for the hookup of the software.
Carrier detect response time, register S9 on the APM, cannot be changed.

To workaround this situation, you must send a command to adjust the Carrier Wait register, S7, to tell the modem how long to wait for a carrier. The command is ATS7x, where x has a range of 1 to 255. For example, to reset the default Carrier Wait, 30 seconds, send the command ATS730.

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ARA: Troubleshooting Devices Not Visible In The Chooser

This article contains information on how to troubleshoot devices not visible in the Chooser when using Apple Remote Access (ARA).
This article has been archived and is no longer updated by Apple.

Question/Step 1
What device is it that cannot be seen?

Serial or SCSI
These devices cannot be accessed over ARA connection.

Ethernet
See #9.

LocalTalk
See #5.

ARA Server You Are Calling Into
See #2.

Question/Step 2
Are there more than 50 devices on the network?

Yes
Apple Remote Access makes a slow network connection. The Chooser was intended for local area environments and high bandwidth networks. When there are a lot of device names being returned to the Chooser, not all are able to cross your ARA connection before the Chooser makes another request from the network. See Tech Info Library article 7403 titled, "**System 7 Chooser: Device, Name, Zone, Memory Limits**" for additional information on this topic.

No
See #3.

Question/Step 3
Is File Sharing on or is the AppleShare File Server turned on?

Yes
See #4.

No
Turn on File Sharing or the AppleShare File Server.

Question/Step 4
Does switching between the current AppleTalk setting and Remote Only in the AppleTalk (or Network) control panel of the client resolve the situation?

Yes
You cannot connect two extended networks without routers together using ARA and see remote devices.

No
1. Reset PRAM on ARA Server. See Tech Info Library article 2238 titled, "**Macintosh: How To Reset PRAM and NVRAM**" for instructions on performing this task.
2. Perform a clean install of system software on the ARA server. See Tech Info Library article 30691 titled, "**Mac OS: When & Why To Perform A Clean Install**" for more information on this procedure.
3. No known issues.

Question/Step 5
Is it a device on the remote LocalTalk network?

Yes
See #6.

No
See #7.

Question/Step 6
Is "Allow Access To:" in the Remote Access Setup control panel set to "entire network"?

Yes
See #2.

No
Turn on "entire network" in the Remote Access Setup control panel.

Question/Step 7
Is the local LocalTalk network routed?

Yes
See #8.

No
See #4.

Question/Step 8
Is the client computer a PCI-based Macintosh?

Yes
There is a known issue with Open Transport. See Tech Info Library article 18666 titled, "**ARA: Open Transport Issue**" for more information on this issue.

No
See #4.

Question/Step 9
Is it a device on the remote Ethernet network?

Yes
See #10.

No
See #11.

Question/Step 10
Is the remote Ethernet network routed?

Yes
See #6.

No
This is a known limitation of ARA. See Tech Info Library article 30704 titled, "**Apple Remote Access: Not Seeing Some AppleTalk Devices**" for more information.

Question/Step 11
Is the local Ethernet network routed?

Yes
See #8.

No
See #12.

Question/Step 12
Is it a printer on a non-routed Ethernet network?

Yes
A router must be added to the network. See Tech Info Library article 30704 titled, "**Apple Remote Access: Not Seeing Some AppleTalk Devices**" for more information.

No
See #13.

Question/Step 13
Is File Sharing on in the Sharing Setup control panel or is the AppleShare File Server application running?

Yes
Reset PRAM on the device that cannot be seen. See Tech Info Library article 30704 titled, "**Apple Remote Access: Not Seeing Some AppleTalk Devices**" for more information.

No
Turn File Sharing or the AppleShare File Server on.

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Control Strip: Missing High Resolution Video Options

This article describes the video options in the Control Strip control panel for Macintosh computers connected to high resolution monitors.

The Control Strip is missing the 1280x960 and 1280x1024 resolution options that are available in the Monitors & Sound control panel. When I select one of the higher resolutions, it shows up in the Control Strip until I change the resolution to a lower resolution. I am unable to get both high resolution options to show in Control Strip at the same time.
This article has been archived and is no longer updated by Apple.
The current design of the Control Strip control panel dictates that it will only show the 'standard' resolutions for the monitor. The 'extended' or highest resolutions (usually less than 72 dpi) will not be listed in the Control Strip. Therefore, in this particular case the 1280x960 and 1280x1024 resolutions will be missing.
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PC Compatibility Software v.1.5: Read Me

This article contains the Readme file for the PCI-based DOS Compatibility Card.
This article has been archived and is no longer updated by Apple.
Important Information for users of

* PC Compatibility Card (for use with Macintosh models with a PCI expansion slot)

* DOS Compatibility Software Update

This document provides late-breaking information that could not be included in the PC Compatibility Card User's Manual or in the DOS Compatibility Software Update User's Manual.

Be sure to read the first section, "Before You Install," before you install the Compatibility Card software. You can read the rest of this document later.

Contents

- Before You Install
- Third-Party Applications
- PC System
- Macintosh System
- Memory
- Printing
- Networking
- Shared Folders and Disks
- PC Clipboard
- Video
- Technical Support
- User's Manual Corrections

Before You Install

System Software

If you are using a Power Macintosh or Performa 6100 series DOS Compatible System, you can use Operating System 7.1.2 or 7.5.3 with the DOS Compatibility Software Update.

If you are using a Macintosh Performa 630, Quadra 630, or Performa 640CD DOS Compatible, you should use System 7.5.3 with the DOS Compatibility Software Update.

If you are currently using System 7.5, 7.5.1, or 7.5.2, you should install the System 7.5 Update 2.0 to update to System 7.5.3. You can order system software updates through the Apple Order Center at **http://www.apple.com/products**.

For PC Compatibility Card users, System 7.5 Update 2.0 is on the PC Compatibility Card Mac OS Software CD. To install the update, follow the instructions in the PC Compatibility Card User's Manual.

External PC-Formatted SCSI Devices

If you use a dedicated PC-formatted partition or SCSI device instead of a drive container, you may experience some disk read/write errors. Apple recommends using drive containers on Macintosh-formatted partitions or SCSI devices as your primary method of data storage.

Installing Windows 95 Operating System

Follow these guidelines when you install Windows 95 on your system:

* Lock your installation disks.
* Select "Continue" instead of "Retry" at the end of disk 2.
* If you choose to make a startup disk, make sure the disk is already formatted. An unformatted disk will not be recognized.
* After you are done with the installation, refer to the PC Compatibility Card User's Manual for information about setting up printing. During installation, do not print the test page when you are prompted to do so.

Mouse Drivers 9.01

For PC Compatibility Card users, Mouse Drivers 9.01 is available on the PC Utilities CD. To install the mouse drivers, run SETUP.EXE in the MSMOUSE directory. If you are using Windows 3.1 or Windows for Workgroups, install both the DOS and Windows mouse drivers. If you are using Windows 95 or DOS 6.22, install the DOS mouse driver only.

When you install the DOS mouse driver, the installer may display an error message indicating that it could not find a mouse attached to the computer. You can ignore the message if your mouse is properly connected to an ADB port on your computer or keyboard.

Online Help in the PC Environment

You can install online Help for the PC environment when you install the support software. If you install Help, it will be available in the PC environment in the HELP directory in the directory where Apple software is installed.

To start Help in Windows 95:

1. Open "My Computer."
2. Open the C drive.
3. Open the Apple software folder. (The default folder name is "Apple.")
4. Open the Help folder.
5. Double-click the SETUPHLP application.

To start Help in Windows:

1. In the Program Manager, choose Run from the File menu.
2. Type C:\\APPLE\\HELP\\SETUPHLP.EXE and then click OK.

Third-Party Applications

Connectix RAM Doubler

Do not use RAM Doubler and the PC Compatibility Card software together. They are not compatible.

Symantec AntiVirus for Macintosh

If Symantec AntiVirus for Macintosh (SAM) is installed and you mount a drive container, your screen may appear to freeze for a few minutes while SAM scans the container for viruses. The drive container will mount once the scan is complete.

Microsoft Backup

In Windows 95, you cannot use Microsoft Backup because it needs a PC floppy drive controller that does not exist in your Macintosh. Instead, use a Macintosh backup program to back up your PC container file.

However, you can use Microsoft Backup in Windows 3.1 or Windows for Workgroups. To do so, configure the backup manually by following these steps:

1. Add the following line to the [386enh] section of your SYSTEM.INI file: device=vfintd.386

Your SYSTEM.INI file is in the WINDOWS directory.

2. Start the Microsoft Backup program.

3. Click "No" in the Auto-configure dialog box.

4. In the Configuration Window, select "1.44 Mb 3.5" in the Drive A: list box.

You may also click "Configure" from the standard toolbar at the top. Do not click the Compatibility Test. button because it may cause a system "freeze."

5. Click Backup on the standard toolbar.

6. If you are backing up to floppy disks, choose "MS-DOS Path" from the Backup To: list box. Type "A:\\" in the second list box that appears.

You can type a different path to back up to a network device.

7. Continue with your back up.

When you use the Compare or Restore options, you must choose "MS-DOS Path" in the Compare From and Restore From list boxes, respectively.

Insignia SoftWindows and Soft PC

You can use drive containers created with SoftWindows or Soft PC, but you will not be able to boot from them. When you select a container created with SoftWindows or Soft PC, be sure to choose a drive letter other than C.

Windows PaintBrush

Prior to switching to the Macintosh environment, make sure that a menu is not pulled down in either PaintBrush for Windows 3.1 or PaintBrush for Windows for Workgroups. When you switch back to the PC environment, the portion of a menu that overlaps your painting may inadvertently get incorporated into the painting.

Other Programs

Apple recommends using only the memory management programs that are included with DOS or Windows. Do not use third-party memory management programs.

A program that attempts to directly control the floppy controller (such as a backup program) will not work properly.

Any program that sends data to the parallel port during setup or initialization may cause a blank page to print on your printer.

Some utility programs may incorrectly report the clock speed of the Cyrix 5x86 microprocessor on the 7-inch PC Compatibility Card. This may occur on any PC that uses this microprocessor.

PC System

Shut Down Properly

IMPORTANT Be sure to quit all open PC applications and exit Windows before shutting down the PC or the Macintosh. Failing to do so will result in the loss of any unsaved data and might result in corruption of the drive container or partition.

When you need to reboot the PC in the PC environment, use the "warm boot" keyboard shortcut instead of the "cold boot" shortcut whenever possible. You should only cold boot the PC environment when warm booting doesn't work. (Cold-booting erases cached data and may corrupt disk data.)

To warm boot the PC, press Control-Alt (Option)-Del.
To cold boot the PC, press Command-Control-Alt-Del.

Symantec Norton AntiVirus for Windows 95

Before you change the number of display colors in the Display Settings control panel, turn off Norton AntiVirus Auto-Protect by double-clicking its icon in the Task bar and clicking Disable in the dialog box that appears.

Formatting disks or creating a Rescue disk may not work properly if Norton AntiVirus is installed. If you encounter a problem, do the following:

1. Double-click the "Norton AntiVirus Auto-Protect" icon in the Task bar.

2. Click Options, and then click Advanced.

3. Change the "Low-level format of hard disk" option to "Allow," and then click OK.

QuickTime for Windows

When playing QuickTime movies in the PC environment, you may notice synchronization problems between the audio and video.

International Keyboard Support

If you are using an international keyboard, be sure to install and use the keyboard files on the PC Utilities CD. (The supported languages vary from country to country.) The keyboard files that come with Windows and Windows 95 may not work with your keyboard.

Using a CD-ROM Drive

Currently, the PC Compatibility Card only recognizes the following types of CDs: PC format (ISO 9660), dual format (disks formatted for both

the Macintosh and PCs), and audio. Some specialized formats are not supported.

Using a Modem

If you are having problems using a modem with Windows 95, you may be able to correct the problems by disabling the "Use flow control" or "Use error control" options for the modem. To do so, follow these steps:

1. Click the Start button, choose the Settings menu item, and then choose Control Panel.
2. Double-click the Modem icon.
3. Click the Properties button.
4. Select the Connection tab in the dialog box that appears.
5. Click the Advanced button
6. Turn off the "Use flow control" or "Use error control" options, and click OK.

Also, make sure to set the modem speed to 19200 baud or less.

Macintosh System

Starting Up the PC and Macintosh Environments

Allow the Macintosh to completely finish rebuilding the desktop before attempting to switch to the PC environment. If you switch during the rebuilding of the desktop, a system "freeze" could occur.

Also, the Energy dialog box may appear each time you start your Macintosh; you can turn off this message at startup by opening and closing the Energy Saver control panel.

If you set up your Macintosh to switch to the PC environment on startup, disable the shut down warning in the General Controls control panel. Otherwise, you may have to wait for your Macintosh to start up when you switch back to the Macintosh environment.

To disable the shut down warning:

1. Choose Control Panels from the Apple menu.

2. Double click General Controls to open it.

3. In the Shut Down Warning area, turn off the "Warn me if computer was shut down improperly" checkbox.

4. Close the General Controls window.

Working with Locked PC Containers

You cannot boot from a locked PC container, a PC container that is open on your desktop, or a PC container that is on a write-protected file server.

You may not be able to mount a locked PC container if file sharing is turned on. You can correct the problem by either unlocking the PC container or turning off file sharing.

Configuring Serial Ports in PC Setup Control Panel

After mapping and remapping a PC COM port to one of the Macintosh serial ports, you may have to restart the PC and the Macintosh for the remapping to take effect.

If you are using Apple Remote Access (ARA) 2.0 or 2.0.1, you may not be able to start your Macintosh properly after mapping a PC COM port to a Macintosh serial port. To correct the problem, restart while holding down the Shift key to temporarily turn off all system extensions. Then remove the Serial Port Arbitrator from the Extensions folder inside your System Folder, and restart your computer. (Prior to using ARA, unmap the PC COM port and restart your Macintosh.)

You can also correct this problem by upgrading to ARA 2.1 when it is available.

Memory

Some DIMMs (dual inline memory modules) will not work with the PC Compatibility Card. When you purchase memory, request Fast Page Mode memory instead of EDO (extended data output) memory.

Printing

Apple LaserWriter Driver

If you are using a PostScript printer, you should install and use the most recent version of the Apple LaserWriter printer driver software. The current version number is 8.3. Older versions may generate inverted images when printing from the PC environment. Apple LaserWriter 8.3 comes with System 7.5 Update 2.0. It is also available separately on the Apple World Wide Web site.

Windows 95 Add Printer Wizard

When you use the Add Printer Wizard to set up a printer, do not print a test sheet until the printer is configured according to the instructions in your user's manual. Then you can print a test sheet by doing the following:

1. In the Printers window, click the icon of the printer you just added.

2. Choose Properties from the Printer menu.

3. In the dialog box that appears, click Print Test Page.

LaserWriter Select 300 and Personal LaserWriter 300 Printers

The LaserWriter Select 300 and Personal LaserWriter 300 printers are not fully supported. Files printed in the PC environment may not print properly on these printer models.

PostScript Printing

When printing to a PostScript printer from the PC environment, be sure to print one file at a time. Printing multiple files may cause a PostScript error. To verify that the file has finished printing, check the Windows 95 Printer queue.

Epson Emulation

Some documents may not print properly from the PC environment to a non-PostScript printer using Epson emulation. Here are some suggestions for correcting common problems. For additional information, see the section on setting printer options in the PC Compatibility Card User's Manual.

Problem: Text near the top and bottom of each page doesn't print or is cut off, or text that should print at the bottom of one page prints on the next page.

Solution: Try choosing "No gaps between pages" in the PC Print Spooler Preferences dialog box, and try printing again. (When you print after choosing this option, the PC Print Spooler software will print 66 lines per page instead of 60 lines per page.)

Problem: You have chosen "No gaps between pages" in the PC Print Spooler Preferences dialog box, but text near the top and bottom of each page still doesn't print or is cut off.

Solution: Most laser and ink jet printers cannot print close to the edges of a page. Find out what the minimum margins are for your printer. (Look for this information in the specifications section of the manual that came with your printer.) Then set the top and bottom margins to at least these amounts in the DOS or Windows application from which you are printing.

Printers that Support the "Printer Specific" Option

If you are using the PowerPrint package from GDT Softworks to print on a PC-compatible parallel printer, you should choose Printer Specific in the PC Print Spooler Preferences dialog box. Currently, the PowerPrint package is the only printer driver that supports the "Printer Specific" option.

Saving a Printer File

To save a printer file such as a PostScript file in the PC environment, use the option in your Windows printer driver to print to a file. Do not map a PC COM port to a text file in the PC Setup control panel, and then print to that port in the PC environment.

Networking

Windows for Workgroups TCP/IP and Windows 95

When upgrading from Windows for Workgroups to Windows 95, make sure to install the Windows 95 TCP/IP stack. You may have problems using the Windows for Workgroups TCP/IP stack with Windows 95.

Network Drivers

The MacODI and MacNDIS drivers are in the root directory on the PC Software floppy disk.

Windows 95 PROTOCOL.INI File

If an error message appears stating that there are illegal decimal characters in the PROTOCOL.INI file, the Windows 95 Network control panel may have incorrectly removed some of the double quotes necessary within the file. (The MacNDIS$ section in PROTOCOL.INI has some lines with double quotes, placed there by the SETNET utility.) If you modify network settings with the Network control panel, it removes the double quotes from the file. To correct the problem, restore the double quotes in the file.

Use MacODI with Netware Client 32

In Windows 95, use the MacODI driver to connect a Netware 32-bit client to a Netware 4.1 server.

Using ODI with Windows 95

You may experience system "freezes" if you are using NetBEUI or TCP/IP with ODI in Windows 95. To correct this problem, delete the following line from the STARTNET.BAT file in the NWCLIENT directory:

C:\\WINDOWS\\ODIHLP.EXE

Also, add the above line to the end of your AUTOEXEC.BAT file.

Shared Folders and Disks

Sharing Floppy Disks and CDs is not Supported

A floppy disk or a CD should not be set up as a shared folder between the Macintosh and PC environments. This is unsupported and can cause unpredictable results.

Adding/Removing Shared Folders in Windows 95

When you add or remove a Shared Folder, the View in "My Computer" does not immediately change. It requires two refreshes to correctly update the Shared Folder status.

Opening or Saving Shared Folder Files

With some Windows 95 programs, you may not be able to open or save files in a shared folder. You may have to move a file out of the shared folder before you can open it, or save a file to a different location and then move it into the shared folder.

In Windows 3.1 or Windows for Worgroups, you cannot save a file to a shared folder that is empty. To work around this problem, type a full path and filename into the Save As dialog box, or keep at least one file in a shared folder.

Naming Shared Folders

When you name a folder in the Macintosh environment that you intend to share with the PC environment, you may want the name to be within the DOS 8.3 character filename guidelines. Otherwise, the sharing software will truncate and translate name to fit the guidelines. For more information about naming files, see your DOS manual.

Network Disks as Shared Folders

If you set up a shared disk on a network as a shared folder and later the network configuration changes, you may continue to be prompted with a dialog box at startup to mount a shared disk that no longer exists on the network. To prevent the dialog box from appearing, reassign the drive letter to a new drive. If you cannot remember the drive letter, drag the PC Setup Preferences file to the Trash.

PC Clipboard

Using Compressed Images in the Clipboard

In some cases, you may need to expand a compressed image file in the Macintosh environment to correctly transfer the image to the PC environment.

Tips

If you are having trouble copying and pasting text or images between the Macintosh and the PC environments, try the following tips:

* Instead of using the Paste command, use the Paste Special command if it is available in the application you are pasting into.

* If you cannot paste an image into a word processing program in the PC environment, try pasting the image into a graphics program, such as PaintBrush. Then, copy the image to the clipboard from the graphics program and try pasting into your word processing program.

* Instead of copying and pasting, use a shared folder to transfer an entire file from one environment to another. Some Macintosh and Windows programs can open files created on other platforms. For example, ClarisWorks for Windows can open ClarisWorks files created on a Macintosh, and vice versa. Even if you are using two different programs, you may be able to save a file in a common file format that both programs understand, such as RTF for text, and EPS or TIFF for graphics. (Check the manuals that came with your programs to see if they support common file formats.)

* If you must use the clipboard to transfer a lot of data or a large graphic, try transferring the data in smaller pieces or making more memory available to the application. For more information on increasing a program's memory, see the "Memory" topic of Macintosh Guide, available in the Guide (?) menu.

* If you are copying and pasting a PhotoCD image, make sure you are copying an expanded version of the image.

Large Bitmap Transfers

If you are transferring large bitmap images from the PC to the Macintosh environment, you may have to increase the memory allocated to the PC Clipboard application. To increase the memory allocation:

1. Open the System Folder, then open the Extensions folder.

2. Select the PC Clipboard icon, open the File menu, and choose Get Info.

3. In the Preferred Size text box, enter a larger memory allocation, such as 1000K.

4. Close the PC Clipboard Info window.

Pasting Graphics Created in Microsoft Word 6.0 for Macintosh

If you have difficulty copying a graphic from a Microsoft Word 6.0 document in the Macintosh environment and pasting it into the PC environment, try this method instead:

1. Select the graphic in Word 6.0 and choose Cut from the Edit menu.

2. Place an insertion point in the Word 6.0 document, open the Edit menu, and choose Paste Special.

3. In the Paste Special dialog box, select Picture format and click OK.

4. Select the graphic you just pasted, and choose either Cut or Copy from the Edit menu.

5. Switch to the PC environment, and try pasting the graphic.

Video

For best results, use Apple multiple scan monitors with the PC Compatibility Card.

Video Driver switching in Windows 95

Some 16 color 640x480 modes use the Windows 95 video drivers instead of the ATI video drivers. The ATI options will not appear in the control panel when the Windows 95 video drivers are being used. To make the ATI options available, change the color depth to a higher value, such as 256 colors.

Monitor Adapters

Selecting a "pass-through" mode on a monitor adapter may cause the PC Compatibility Card to incorrectly sense the monitor. When the PC Compatibility Card does not sense the monitor because of an incorrect monitor adapter setting, it will automatically assume that the monitor is a 14" RGB monitor and restrict the resolution to 640x480. Make sure that the monitor adapter correctly represents the attached monitor.

AppleVision 1705 Display

The AppleVision 1705 Display will only appear to the PC as a DDC monitor if you use the optional 1705 VGA adapter cable and a VGA-to-Macintosh video adapter to connect the display to the PC Compatibility Card. Using the standard Apple-supplied cable will result in the monitor being identified as a 17" multiscan monitor. Although the PC Setup control panel lists Multiscan 17" in the Displays pop-up menu, you should select AppleVision 1705 in the Windows Display control panel.

AppleVision 1710 and 1710AV Displays

If the PC Setup Control Panel indicates an Apple 14" monitor when an AppleVision 1710AV monitor is connected, do the following:

* Reinstall the AppleVision software that came with the monitor.

* If you are using only this monitor, or you are connecting two monitors with the AppleVision 1710AV used to view the Macintosh environment, make sure to connect one ADB cable between your monitor and your computer, and another ADB cable between the port on the monitor and your keyboard.

Macintosh 21" Color Display

If you are using the Macintosh 21" Color Display with Windows 95, do not select a 24 bit driver in the Display control panel, even though it is an available selection. Select an 8 or 16 bit driver instead. Choosing a 24 bit driver may cause the PC environment to boot improperly.

Screen Display

When used with some monitors, a particular monitor resolution (such as 640x480) may cause the display to show a smaller viewable area surrounded by a black border. To correct the problem, try selecting a different monitor resolution.

If your PC Compatibility Card has 1MB of video memory installed, then the only refresh rates available at 1280x1024 resolution are interlaced display modes. However, Apple multiple scan monitors and many third-party monitors do not support interlaced display modes. To display 1280x1024 resolution, you may have to upgrade the video memory on the 12" card to 2MB, which supports higher refresh rates.

If you are using a third-party monitor and it does not display properly, try these suggestions to correct the problem:

* Use the Windows 95 Display control panel to select your monitor name. If your monitor name is not available, select the SuperVGA monitor option that matches the maximum resolution supported by your monitor.

* Use the ATI FlexDesk or the Windows 95 control panel to set the refresh rate to 60Hz.

* If the monitor still does not display properly, reduce the resolution.

Fixed Frequency Monitors

Playing a Video for Windows (.AVI) file in full-screen mode may not work properly on a fixed frequency monitor. A multisynchronous or multiple scan monitor will work properly. Refer to the PC Compatibility Card User's Manual for information about supported monitors and video modes.

Fixed frequency monitors do not support video "Mode X" (320x240 resolution), which is primarily used by game programs.

Playing Video Files

When playing real-time based video files or games in the PC environment, you may notice synchronization problems between the audio and video.

Optimizing MPEG playback in Windows 95

You have three ways to optimize MPEG file playback performance in Windows 95; you can adjust virtual memory, CD-ROM caching, and ATI MPEG Player settings. There is no single best way to configure the system. The instructions here show you where to find the configuration files you can use to optimize playback for your particular circumstances.

To adjust virtual memory settings, follow these steps:

1. Click the Start button, open the Settings menu, and choose Control Panel.

2. Double-click the System icon to open it.

3. Click the Performance tab, and click the Virtual Memory button.

There are a variety of options in the Virtual Memory window. These options allow you to let Windows automatically manage your virtual memory, or allow you to set up virtual memory to try and optimize the performance yourself.

4. Click OK when done and close all the open windows.

5. Shut down Windows and restart for your changes to take effect.

To adjust CD-ROM caching settings, follow these steps:

1. Click the Start button, open the Settings menu, and choose Control Panel.

2. Double-click the System icon to open it.

3. Click the Performance tab, and click the File System button.

4. Click the CD-ROM tab.

5. Decrease or increase the size of the Supplemental Cache to optimize performance. Also, choose the speed of your CD-ROM drive from the "Optimize access pattern for" pop-up menu.

6. Click OK.

To set ATI MPEG Player properties, follow these steps:

1. Click the Start button, open the Settings menu, and choose Control Panel.

2. Double-click the Multimedia icon to open it.

3. Click the Advanced tab.

4. Click the plus signs to expand the Multimedia Drivers and Media Control Devices lines.

5. Select ATI MPEG MCI Driver line.

6. Click the Properties button.

7. Click Settings.

8. Change the CPU Utilization, image size, display, and Audio/Video options in the MCI ATI MPEG Configuration window.

9. Click OK to save the settings.

Technical Support

Apple will provide technical support for Apple-branded software and for DOS 6.22 because it is included with the PC Compatibility Card. If you are having a problem with Windows, Windows for Workgroups, or Windows 95, contact Microsoft Product Support. See the support information that came with your Windows package for more information.

User's Manual Corrections

Please note the following corrections in your PC Compatibility Card User's Manual:

* Page 70: The table should indicate that the Apple CD-ROM extension is installed in the Extensions folder.

* Page 77, 79, 174, 175, 176: Each of these pages contains a DOS "CD" command that will not work properly unless you type the following DOS command first:

E: <return>

* Page 87: In the AUTOEXEC.BAT file, omit the line that loads Macshare into high memory. Instead, the line should appear in your CONFIG.SYS file as INSTALLHIGH=c:\\apple\\macshare.com.

* Page 90: The PowerPrint package is sold by GDT Softworks, Inc. You can phone GDT at (800) 663-6222 or (604) 473-3600, or visit their worldwide web site at http://www.gdt.com.

* Page 111: In "Using Floppy Disk Drives and Floppy Disks," add the following information to the list: "You can only access an unlocked floppy disk in the environment that was active when you inserted the disk."

* Page 142-43: Step 4 of "Installing NetWare Client Software" should be, "Insert the disk containing the NetWare client software and select PC Compatibility Ethernet Adapter."

* Page 147: Step 2 of "Installing NetBEUI in Windows for Workgroups" should be, "In Windows, open the Network Setup control panel, click Drivers, and click Add Adapter. Then select NetBEUI."

* Page 161: The title of the section should be "Installing Microsoft TCP/IP-32 Protocol Stack in Windows 95." To install IPX/SPX for use with an NDIS driver in Windows 95, see page 159.

* Page 164-65: There is an unnecessary line listed in the PROTOCOL.INI file for using Microsoft TCP/IP with an NDIS driver in Windows for Workgroups. Delete ProtocolDot2="FF,F0,E0" (the thirteenth line).

* Page 169-71: After step 10 in "Running the Network Protocol Setup (SETNET) Utility," the "Important" note is incorrect. It should say, "If you are using ODI with Windows 95, you may need to manually add the following two lines to your PROTOCOL.INI file before running the SETNET utility."

Also, Using PC Sound with the PC Compatibility Card only describes Sound Blaster functionality for DOS and Windows. For information on using Sound Blaster with Windows 95, refer to online help.
Published Date: Feb 18, 2012

Mouse Tracks with PowerPC-based PowerBook computers (2/97)

This article describes an issue with the Mouse Tracks or Thick I-Beam features in the Mouse control panel with PowerPC-based PowerBook computers.

This article has been archived and is no longer updated by Apple.

If the Mouse Tracks or Thick I-Beam feature is turned on in the Mouse control panel on a PowerPC-based PowerBook* or PowerBook 190 computers when an external display is attached, the external display image will not redraw correctly. The display will show white boxes or images of the cursor when the cursor is moved. The workaround is to turn off Mouse Tracks or Thick I-Beam.

In system prior to System 7.5.3 these options will not be available in the Mouse control panel. On the PowerBook Duo 2300c this occurs when connected to a MiniDock, not a Duo Dock. Apple is investigating this issue. It is not known when or if this will be changed.

* The following computers are in the PowerPC-based PowerBook computer family: PowerBook 5300, 5300c, 5300ce, 5300cs, 2300c, 1400c, 1400cs and 3400c. Additionally PowerBook 200 and 500 series computers which have PowerPC upgrade cards installed are included in the PowerPC-based PowerBook computer family.

This article was published in the Information Alley on 10 February 1997.

Article Change History:
14 Feb 1997 - Added new computer model.
10 Feb 1997 - Added keyword.
20 Jan 1997 - Added info about 1400 series computers.

Published Date: Feb 18, 2012

PowerBook: No SCSI Disk Mode Symbol (5/96)

This article describes the startup behavior of PowerBook computers that support SCSI Disk Mode or HD Target Mode.

When I connect a PowerBook 5300 in HD Target Mode to my desktop Macintosh computer I do not get the SCSI disk mode symbol on the PowerBook screen as the manual suggests. Is this a problem?
This article has been archived and is no longer updated by Apple.
The behavior of your PowerBook 5300 computer is normal. Due to power draw or requirements the PowerBook 500, 190, or 5300 series computer screen may remain blank when the PowerBook is powered on.

Power on the PowerBook first. If connected, power on another SCSI device. Last power on the desktop computer. The SCSI disk mode symbol with the SCSI ID number of the PowerBook will appear.

Most PowerBook computers will not exhibit this behavior. It is not an indication of a hardware problem if the SCSI Disk Mode symbol appears after powering on another SCSI device in the chain or the desktop Macintosh computer.

Published Date: Feb 18, 2012

Backing Up a PowerShare Server (5/96)

This article describes backing up a PowerShare Server. This information is taken from the "PowerShare Design Guide." This article has been archived and is no longer updated by Apple.

Mail Servers

Stop the PowerShare mail server application before backing-up any mail data. Because the mail server is always routing messages, it is not possible to get a "snap-shot" without quitting the application. Backup all the data in the PowerShare Mail Data folder. To restore, quit the mail server application, remove all the data in PowerShare Mail data folder, restore to this folder, and restart.

Catalog Servers

To backup a catalog server in single server environment, the server application must first be stopped. Then, all the data in the PowerShare Catalog Data folder can be backed up. To restore, bring down the server, remove the data in the PowerShare Catalog Data folder, restore to this folder, and restart.

In most multi-server environments, backup and restore can be handled via PowerShare replication services. Replication allows copies of folders to exist on many machines. As long as each folder is replicated on at least one other system, a synchronized backup is always available. If any machine is lost, the folders it manages can be replicated back onto it, when it is brought on-line.

However, if an off-site backup is required, a bit more planning is needed. For smaller systems, one catalog server must be a master catalog server maintaining all the folders. A backup of this system can be performed by stopping the catalog application and backing-up all the data in the PowerShare Catalog Data folder. In larger systems, where multiple catalog servers might have to be used to store the entire catalog, backup copies of the catalog data is needed on each machine.

If any one server goes down, use replication to bring it back on-line. If multiple servers are damaged, and one good copy of a folder is not available on any server, then the catalog must be restored onto a master server from tape. Replication can be used to update all the other servers, bringing the system back to operating level.

As long as one catalog server remains up during the backup or restore process, users have access to the system. Even when a folder is missing from a system, they can still have access to any other folder that is available on a running server.

Here are rules for backup and restore in a multi-server PowerShare environment.

1) Make sure that a copy of every folder exists on tape, another server, or both.

2) When backing-up, stop (Quit) the application. Backup the data in the PowerShare Catalog Data folder.

3) When restoring to a server that has crashed, remove all the data in the PowerShare Catalog Data folder. Restore from tape or use replication.

Published Date: Feb 18, 2012

Macintosh: Serial Pinouts for VAX DB-25 Connector

The cable described here is a "null" cable.
This article has been archived and is no longer updated by Apple.

signal	dir-ection	Macintosh DTE Mini Circular 8	VAX DTE DB-25	signal	dir-ection
HSKo (DTR)	out	1	6	DSR	in
			20	DTR	in
HSKi (CTS)	in	2	8	DCD	out
			5	CTS	out
TxD-	out	3	3	RxD	in
Gnd		4	1	Gnd	
		8	7		
RxD-	in	5	2	TxD	out
		6	no connection		
		7	no connection		

Connect pins:

1. Macintosh side of cable: 4 and 8

2. VAX side of cable:

    a. 6 and 20

    b. 8 and 5

    c. 1 and 7

The pins on the plug of the circular 8 connector are numbered as shown in Figure 1:

Figure 1: DIN-8 pin assignments.
Published Date: Feb 18, 2012

PC Compatibility Cards: Joystick Channel Support (5/96)

Does the joystick port on the PC Compatibility Cards have both joystick channels?

This article has been archived and is no longer updated by Apple.

The PCI-based PC Compatibility Cards support both joystick channels. Many 'enhanced' PC joysticks use both joystick channels to support additional buttons. Since the PC Compatibility Cards have both channels, you can use these joysticks, or with a standard joystick port splitter you can attach two standard PC joysticks.

The DOS Compatibility Cards for the following computers do not support both joystick channels:
Quadra 610 DOS Compatible
Power Macintosh 6100 DOS Compatible
LC 630 DOS Compatible
Performa 640 DOS Compatible

Published Date: Feb 18, 2012

PC Compat Card: Quit Windows Prior to Shutting Down (5/96)

My Macintosh automatically shuts itself down after the idle time specified in the Energy Saver control panel. I have a PC Compatibility Card installed in this computer, and I understand that I'm supposed to exit Windows before shutting down. Does the Energy Saver control panel do this for me?

This article has been archived and is no longer updated by Apple.

Before shutting down or restarting your computer, you should exit Windows 3.1 or shut down Windows 95. However, the Energy Saver control panel is not able to exit Windows or shut down Windows 95 for you. Since the Energy Saver control panel cannot do this, you should either make sure you shut down or exit Windows before the computer shuts itself off, or you should have the computer put itself to sleep instead of shutting down. To put your Macintosh in the sleep mode instead of shut down do the following:

Step 1

Open the Energy Saver control panel.

Step 2

Click the "Shut down instead of sleeping" checkbox. This removes the checkmark.

Step 3

Close the Energy Saver control panel.

Step 4

Restart your Macintosh computer.

Published Date: Feb 18, 2012

PC Compatibility Card: Troubleshooting COM Port Mapping (5/96)

I have a PC Compatibility Card in my Macintosh computer. When I try to map a COM port to one of the Macintosh serial ports in the PC Setup control panel, the selection is dimmed.

This article has been archived and is no longer updated by Apple.

If a serial port is already in use, the PC Setup control panel will not allow you to select that port. To select that port, you need to disable the other software first. Common causes are:

* AppleTalk may be active on that port
* Communications software may be using that port. Fax software that is set to automatically receive a fax will also block out that port
* PC Setup may already have that port mapped on the other COM port selection

Published Date: Feb 18, 2012

PC Compatibility Card: PostScript Errors From Windows 95 (5/96)

I have a Power Macintosh and I am running Windows 95 on my DOS Compatibility Card. When I try to print from Windows 95 to my LaserWriter printer, I get a PostScript error from Mac OS Print Monitor.
This article has been archived and is no longer updated by Apple.
A PostScript error may occur if you print more than one document at a time on the Windows environment. When printing a second job, make sure Windows has already finished sending the first print job.

Also, some of the settings for the Windows 95 printer driver need to be changed from their defaults. Here are the steps to configure your Windows 95 printer driver properly:

Step 1

Open the printer icon for your printer

Step 2

Choose Properties from the File menu

Step 3

Select the tab labeled Details

Step 4

Click Spool Settings

Step 5

Click "Disable bi-directional support for this printer"

Step 6

Click OK

Step 7

Click Port Settings

Step 8

Make sure the box labeled "Check port state before printing" is unchecked

Step 9

Click OK

Step 10

Select the tab labeled PostScript

Step 11

Click Advanced

Step 12

Make sure the boxes labeled "Send CTRL+D before Job" and "Send CTRL+D after Job" are unchecked

Step 13

Click OK

Step 14

Close the Properties window.

Published Date: Feb 18, 2012

DOS Compatibility Cards: Only Some SCSI Devices Supported (5/96)

I have a DOS Compatibility Card in my Macintosh computer, and would like to use some SCSI devices with Windows. What SCSI devices are supported using the DOS Compatibility Card?

This article has been archived and is no longer updated by Apple.

The DOS Compatibility Cards support Mac- or PC-formatted SCSI hard drives, as well as all Apple CD-ROM drives except for the Apple PowerCD and AppleCD SC drives. Other SCSI devices such as scanners, non-Apple CD-ROM drives are not supported.

Article Change History:
23 May 1996 - Added AppleCD SC to the discussion.
Published Date: Feb 18, 2012

PC Compatibility Card: Text Cutoff at Edge of Page (5/96)

I have a PC Compatibility Card in my Power Macintosh computer. When I print to my QuickDraw printer from the PC side, text near the top and bottom of each page doesn't print or is cut off, or text that should print at the bottom of one page prints on the next page.
This article has been archived and is no longer updated by Apple.
Try choosing "No gaps between pages" in the PC Print Spooler Preferences dialog box, then print again. When you print after choosing this option, the PC Print Spooler software prints 66 lines per page instead of 60 lines per page.

Steps to Select No Gaps Between Pages
==========

Step 1

Go to Extensions folder in System Folder

Step 2

Double-click PC Print Spooler

Step 3

Go to the File menu and select Preferences

Step 4

Select "No gaps between Pages"

Step 5

Click OK

If "No gaps between pages" is selected in the PC Print Spooler Preferences dialog box, but text near the top and bottom of each page still does not print or is cut off, find out the minimum margins for your printer. Most laser and ink jet printers cannot print close to the edges of a page. Then set the top and bottom margins to at least these amounts in the DOS or Windows application you are using.

Published Date: Feb 18, 2012

PC Compatibility Card: Only Built-in Ethernet Supported (5/96)

Can I use a PCI-based Ethernet or Token Ring card with my PC Compatibility Card?
This article has been archived and is no longer updated by Apple.
The PCI-based PC Compatibility Cards support only the built-in Ethernet port on your Power Macintosh computer. On this port, you may run AppleTalk, TCP/IP, IPX/SPX, and/or NetBEUI.

Although the PC Compatibility Card software comes with a Token Ring ODI driver, it has not been fully tested and is not supported.

Published Date: Feb 18, 2012

System 7.5 Update 2.0: Monitors & Sound Gamma Settings (5/96)

I have a Power Macintosh 7200/75 computer, System 7.5 Update 2.0, Apple Multiple Scan 15 Display. I recently upgraded to System 7.5.3 by installing the System 7.5 Update 2.0.

I am now using the Monitors & Sound control panel. If I change just the Gamma setting, a prefs file is not created and saved. Likewise, if there is an existing prefs file, it is not updated if I change only the Gamma setting. Why is this happening? How can I work around it?
This article has been archived and is no longer updated by Apple.
We were able to reproduce this symptom using a Power Macintosh 7200/75 computer running System Update 2.0 and a 15 Inch Multiple Scan Display.

One workaround we discovered is that if you change both the Resolution as well as the Gamma settings in the Monitors & Sound control panel, it seems to lock in the setting after you restart the computer. This is one way to save the changes you have made.

Published Date: Feb 18, 2012

CameraMan Screen Shots Fill Hard Disk (5/96)

My school purchased HyperCard 2.3.x, which came bundled with Multimedia Utilities & ADDMotion II from Motion Tool Works. Ever since this package has been installed, I have noticed that our available hard drive space has been decreasing rapidly. I have also noticed a frequent clicking sound coming from the computers while the students are using them.

This article has been archived and is no longer updated by Apple.

This is caused by an extension called CameraMan. The CamerMan extension is installed as part of the Multimedia Utilities & ADDMotion II bundle, which is bundled with HyperCard 2.3.x. CameraMan is a product of Motion Tool Works.

CamerMan provides function key shortcuts for features like taking screen shots. These functions would otherwise require more complicated key combinations to execute.

The screen shot feature produces a camera shutter sound as it makes a PICT file of what appears on your screen. Since it only takes one key, students will start pressing the key frequently to produce the sound.

The resulting PICT files will be saved automatically at the top (root) level of your hard drive directory and be labeled "Picture 1". If you keep taking screen shots, you will get "Picture 2", "Picture 3", and so on. These files will eventually take up a significant amount of hard disk space.

CamerMan adds function key shortcuts for other procedures, as well. The
function key shortcuts are documented in the following table.

Function Key	Action
F12	take screen shot (PICT)
F13	start recording QT sequence
F14	pause QT recording
F15	top QT recording

The extension can be turned off using the Extensions Manager control panel. To turn off the CameraMan extension, follow these steps.

Step 1

Choose Control Panels from the Apple Menu.

Step 2

Double-click the Extensions Manager icon to open it.

Step 3

Click on the check next to the Cameraman extension to turn it off.

Step 4

Restart your computer.

For additional information on CameraMan or other Motion Tool Works products, contact Motion Tool Works.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.

Published Date: Feb 18, 2012

LaserWriter Plus: Diagnostics

This article has been archived and is no longer updated by Apple.

The Technical Procedures do not make it clear that no message will be returned if the diagnostics find that the ROMs are OK. The LaserWriter Plus diagnostics are contained in ROMs H3 and L3 (board locations E7 and F7).

If all the ROMs are OK, nothing will be printed from the diagnostics. If an error is found, then an error message will appear on the Macintosh screen.

The Technical Procedures are being updated to reflect this fact.

Published Date: Feb 18, 2012

AppleShare 4.2.1: File Server Cache Questions & Answers

This article answers the following questions about AppleShare 4.2.1 cache.

1) How does AppleShare 4.2.1 displace files from cache. When cache is full, does one users file get removed when another user opens a file?

2) If numerous users open the same file, does that file get cached just once?

3) Any difference in icon and folder caching?
This article has been archived and is no longer updated by Apple.
1) Question: How does AppleShare 4.2.1 displace files from cache. When cache is full, does one users file get removed when another user opens a file?

Answer: The AppleShare 4.2.1 cache has been completely redesigned. From the administrator perspective memory is now managed as a single block of memory. There are no longer barriers between one user's portion of cache and any other users.

While the administrator views memory as a single block of memory, that may grow, AppleShare manages it in smaller pieces. It tries to keep as much data in cache as possible. Three things need to happen before a file (or a portion of a file) is displaced from the AppleShare cache:

* A read request must come for data not already in cache.

* AppleShare will attempt to expand the size of its cache.

* The cache expansion request does not succeed because either physical memory is exhausted, or because of the way the administrator has configured cache.

The cache scheme being used is called least recently used (LRU) which is fairly common. AppleShare examines its blocks of data, and data with the longest unused access time will be cleared out to make room for the new data coming from the disk.

2) Question: If numerous users open the same file, does that file get cached just once?

Answer: Yes, just once. That is the key to AppleShare's new performance. It now makes much better use of memory.

From the end user perspective security is still enforced, but assuming two user's both have access to the same file and are reading it at about the same time, it will only be read into memory once. If the file remains in memory and some time later another user requests the same file, no additional data will be read from disk (since it is already in the cache), this user will get the data more quickly than the first requestor.

Now a heavily used file may end up staying in the cache indefinitely on a server with plenty of memory.

3) Question: Any difference in icon and folder caching?

Answer: There are no significant difference that we are aware of. The data elements are smaller than for regular stored data. This means you can keep more of them in a block.
Published Date: Feb 18, 2012

Network Server: Status Panel Number Descriptions

This article lists the more common values on the front status panel of the Network Server 500 and 700.
This article has been archived and is no longer updated by Apple.

LCD	System Action
510	The system has started the configuration manager.
511	The configuration manager has completed.
517	The system is attempting to mount the / (root) and /usr file systems.
538	The configuration manager is passing control to a configuration method
539	The configuration method has completed.
551	The system is attempting to varyon the root volume group.
553	The system has completed phase one of the boot process.
591	The system is configuring the Logical Volume Manager (LVM).
593	The system is configuring the low-function graphics terminal.
594	The system is configuring the rendering context manager.
704	The system is configuring a SCSI disk drive.
723	The system is configuring a CD-ROM or other SCSI device.
727	The system is configuring an asynchronous device.
731	The system is configuring a pseudo TTY.
811	The system is configuring the system planar (main logic board).
812	The system is configuring the standard I/O adapter.
814	The system is configuring the NVRAM.
821	The system is configuring the standard keyboard adapter.
823	The system is configuring the standard mouse adapter.
826	The system is configuring on-serial port 1.
828	The system is configuring the standard floppy disk adapter.
831	The system is configuring serial port 2.
868	The system is configuring the integrated SCSI adapter.
874	The system is configuring the graphics subsystem adapter.
921	The system is configuring a keyboard.
925	The system is configuring a mouse.
935	The system is configuring a 3.5-inch diskette drive.
9002	The system is configuring a SCSI-2 adapter.

Published Date: Feb 18, 2012

DECK II and Power Macintosh 7xxx computers (5/96)

This article describes an issue with the application DECK II by Macromedia on some Power Macintosh 7xxx computers.
This article has been archived and is no longer updated by Apple.

Macromedia has confirmed a problem with DECK II, a digital multi-track audio recording application, on some Power Macintosh 7200, 7500, and possibly 7600 computers.

The symptom is after recording a sound the audio tracks will not be in synchronizion. The audio tracks can be shifted manually to put them back in synchronization.

The issue occurs with any version of DECK II up to version 2.5.1. It occurs with either the 1/8" sound input jack or the RCA input jack. They have confirmed some Power Macintosh 7xxx computers do not exhibit this symptom.

Macromedia is investigating this problem and plans to have a resolution in a future software update of DECK II.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.

Published Date: Feb 18, 2012

Workgroup Server 8550:Does Not Support Half-Height Drives (5/96)

Does Apple officially support the installation of 1/2 height drives in the hard drive bracket assembly in the Workgroup Server 8550? I am asking because I want to add a second hard drive; not replace the original drive.

This article has been archived and is no longer updated by Apple.

No, Apple will not officially support the installation of half-height hard drives in the Workgroup Server 8550. The drive carrier in the Workgroup Server 8550 computer will only support the addition of a third-height hard drive.

NOTE: Even though it _may_ be possible to physically fit a half-height hard drive in the bracket itself, the screw holes which mount the drive to the bracket will not match up. If you do somehow manage to install this type of drive, Apple will not support its use in your Workgroup Server 8550.

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AppleSearch: WAIS Directory Servers

The three WAIS directory servers that are configured for use with the AppleSearch WAIS Gateway are no longer available or are unreliable.
This article has been archived and is no longer updated by Apple.
Here is a list of directory servers that from the comp.infosystems.wais news group:

:ip-name "wais.sdsu.edu"
:tcp-port 210
:database-name "SDSU-directory-of-servers"

:ip-name "archie.au"
:tcp-port 210
:database-name "au-directory-of-servers"

:ip-name "irit.irit.fr"
:tcp-port 210
:database-name "directory-irit-fr"

:ip-name "ds.internic.net"
:tcp-port 210
:database-name "resources"
Published Date: Feb 18, 2012

Energy Saver: Empty Folders After Shutdown

I have a Power Macintosh 9500/120 running System 7.5.3. I frequently let the computer shut itself down using the Energy Saver control panel. When I restart, I have an empty folder on my hard disk that is named with the date and time of the shutdown. Is there something wrong?
This article has been archived and is no longer updated by Apple.
There is nothing wrong with your computer. The Energy Saver control panel that comes installed on your computer contains a feature named "Document Auto-Save". The purpose of this feature is to automatically quit all open applications during an idle or scheduled shutdown, while saving changes to any open documents in each application.

The computer saves these documents in the folder named with the date and time. In your case, the computer appears to be shutting down while no applications are running, so no documents are saved.
Published Date: Feb 18, 2012

PowerBook Duo: Removing When Stuck In A Duo Dock

This article describes how to remove a Duo if it gets stuck in a Duo Dock.
This article has been archived and is no longer updated by Apple.
There are a couple of different steps you should take to determine why a PowerBook Duo will not eject from a Duo Dock.

1. Verify that the Duo Dock is plugged into a known working outlet and has power. Without power, the eject button will not work. If the DuoDock is making a clicking sound the power supply may failing. A failed power supply disables the electrical eject mechanism.

2. Check the position of the lock on the left side of the unit. All Apple Duo Docks have a locking mechanism to deter theft. The lock should in the open position (turned towards the "open lock" icon). If the Duo Dock is locked, neither the electric nor manual eject buttons will eject the Duo.

3. Verify that a monitor or other heavy object has not been placed on top cover of the dock. In some cases, heavy monitors can cause the upper case lid to bow, pinching the Duo inside the dock.

4. You can manually eject the Duo from the Dock much like you can manually eject a floppy disk. Take a key and insert it into the manual eject slot, located half-way back on the left side of the Dock. Push the key into the slot. This will disengage the Duo Dock locking mechanism. When the locking mechanism is released the Duo may need to be wiggled or nudged from side to side. Or you might try to gently push it further into the dock while holding the key which should release it.

5. If the above steps fail take the unit to your Apple Authorized Service Provider to have the Duo removed.

Published Date: Feb 18, 2012

Ink-Jet Printers: Ink Cartridge Life Span

This article provides the average life span, or yield, of Apple ink-jet printer ink cartridges and ink tanks.
This article has been archived and is no longer updated by Apple.
The table below lists the average yield of StyleWriter ink cartridges and ink tanks.

StyleWriter Model & Item	Apple part #	Yield
Color StyleWriter Pro		
Cyan	M1949G/A	210 pages at 7.5% coverage
Magenta	M1950G/A	210 pages at 7.5% coverage
Yellow	M1951G/A	210 pages at 7.5% coverage
High-Capacity Black	M3822G/A	600 pages at 5% coverage
Color StyleWriter 2400 **Color StyleWriter 2500**		
Color Cartridge	M3328G/A	2000 pages at 7.5% coverage
High-Performance Black	M3240G/A	900 pages at 5% coverage
Color Tank	M3329G/A	100 pages at 7.5% coverage
Black Tank	M3330G/A	100 pages at 7.5% coverage
Color PhotoGrade Ink Cartridge*	M5579G/A	45 pages
Color StyleWriter 2200		
Color Cartridge	M3908G/A	2000 pages at 7.5% coverage
Black Cartridge	M3909G/A	3000 pages at 5% coverage
High-Capacity Black (3-pack)	M3910G/A	540 pages at 5% coverage
Color Tank (3-pack)	M3911G/A	120 pages at 7.5% coverage
Black Tank (3-pack)	M3912G/A	90 pages at 7.5% coverage
Color StyleWriter 1500		
CMY Cartridge	M4609G/A	100 pages at 7.5% coverage
Black Cartridge	M8041G/A	500 pages at 5% coverage
StyleWriter **StyleWriter II** **StyleWriter 1200** **StyleWriter 1500** **Portable StyleWriter**		
Black	M8041G/A	500 pages at 5% coverage
Color StyleWriter 4100 **Color StyleWriter 4500**		
Black Cartridge	M5693G/A	650 pages at 5% coverage
Color Cartridge	M5694G/A	350 pages at 15% coverage
Color PhotoGrade Ink Cartridge (4500 only)	M5692G/A	250 pages at 15% coverage
Color StyleWriter 6500		
Black Cartridge	M5658G/A	830 pages at 5% coverage
Color Cartridge	M5659G/A	460 pages at 15% coverage
Table Notes: * Intended for use only with Color PhotoGrade supplies.		

Published Date: Feb 18, 2012

Color OneScanner 600/27: Dispatcher Isn‘t Releasing RAM (5/96)

I am using an Apple ColorOne 600/27 Scanner and the Dispatcher software. After scanning a document with Dispatcher, then closing the application, Photoshop will not open because of an Out of Memory error. I checked "About this Macintosh" and there is 10 MB of RAM missing. This is the amount allocated to Dispatcher. I had 55 MB of RAM allocated to Photoshop, and when I reduce the amount of memory Photoshop uses, it opens properly. I can also restart my Macintosh and then open Photoshop without changing the amount of RAM allocated to Photoshop.
This article has been archived and is no longer updated by Apple.
We believe you encountered a ColorSync 2.0.1 problem that should be addressed in a future release of ColorSync. What is likely happening is a ColorSync PPC library code fragment is not getting unloaded. Although the memory fragment is small in size, if it is the middle of a large contiguous block of memory, then the "Largest Unused Block" of memory is reduced proportionately.

As you have discovered, the workaround is to quit the application then restart your Macintosh computer. To minimize the problem, minimize the launching. You should also quit the Dispatcher software before launching and working with your other applications that require a lot of RAM.
Published Date: Feb 18, 2012

LaserWriter: Test page in Special mode

This article has been archived and is no longer updated by Apple.
A test print will occur in the "Special" switch setting of a LaserWriter or LaserWriter Plus, contrary to some sources, such as page 130 of the manual for the LaserWriter and LaserWriter Plus.

The line graph on the test print shows two tick marks on the x-axis. These tick marks indicate Special mode. The bar graph on the test print shows which port is active at which baud rate. For example, if the 25-pin port is active at 9600 baud, then above the number 25 on the graph's x-axis, there is a bar extending up to the number 9600 on the y-axis.
Published Date: Feb 18, 2012

AppleShare 4.2.1: More Memory for File Server Program

Does AppleShare 4.2.1 perform better if additional memory is allocated to the AppleShare File Server application?
This article has been archived and is no longer updated by Apple.
No, with AppleShare 4.2.1 the AppleShare File Server application that you see in the Apple menu is really a facade application, and it does not really do the work of file sharing. The suggested memory allocation of 200K is all that is needed. There is no practical benefit from expanding the amount of memory for the application partition.

The file server program (strictly speaking, the File Server Extension) is an extension, and giving it more memory is not a finder operation. For more information on AppleShare File Server memory and cache, search for Technical Information Library article, "AppleShare 4.2.x: File Server Memory & Cache Usage."
Published Date: Feb 18, 2012

Hebrew/Arabic LK: Custom Remove Won‘t Reset Text Settings

The Custom Remove feature of the Hebrew or Arabic Language Kit Installer does not reset the Text control panel settings, if the System Direction had previously been set at 'Right to left' and the cursor appearance set to "split".
This article has been archived and is no longer updated by Apple.

Steps To Reproduce

1) Install Hebrew Language Kit.
2) After restart, set System Direction to 'Right to left'.
3) Set the cursor Appearance to 'split'.
4) Remove Hebrew LK using the Installer.
5) After restart, install the Cyrillic Language Kit.

The System Direction is still "Right to Left" and the cursor appearance is still "split". The Cyrillic Language Kit alone does not offer a way to reset these options.

Workaround

Reinstall the Hebrew or Arabic Language Kit, and manually reset the System Direction and Cursor Appearance before custom removing it.

Published Date: Feb 18, 2012

LaserWriter 16/600 PS: Font & Paper Tray PCL Commands

What are the commands to change character pitch, font, and the paper tray on the LaserWriter 16/600 PS using the TCP/IP UNIX environment?
This article has been archived and is no longer updated by Apple.
The commands for changing the character pitch, font, and paper tray are HP PCL commands that need to be embedded in the text document from the UNIX workstation. The following PostScript code when downloaded to the LaserWriter 16/600 PS or LaserWriter Select 360 prints out a few pages of examples that provide the HP PCL escape sequences to obtain those samples:

```
%==========================================================
% Begin PostScript code
%
/LaserJetIII  /ProcSet findresource
/FontReport get exec
%
% End PostScript code
%==========================================================
```

Note: Prior to downloading the HP PCL escape sequences, if the printer's interface (parallel, serial, or Ethernet) is set for PostScript then it must be put into PCL5 emulation by including the following PostScript at the beginning of the print job:

```
%==========================================================
% Begin PostScript code
%
  currentfile /LaserJetIII statusdict /emulate get exec
%
% End PostScript code
%==========================================================
```

As provided in the example pages that will be printed, the font and pitch selections are changed with the following escape sequences:
.

PCL Command	What The PCL Command Does	Notes
<esc>(s#T	typeface selection	# corresponds to 1 of 4 typefaces available
<esc>(s1P	proportional spacing ON	must be enabled for certain typefaces to be printed
<esc>(s#H	pitch selection	# is usually 10 or 16.66 which is built-in
For Paper Tray Selection		
<esc>&l#h	to select a specific tray	l=lowercase L, and # corresponds to a number below
	0	source current (default)
	1	upper tray
	2	manual feed
	3	manual feed envelope
	4	lower tray
	5	middle tray
	6	envelope feeder
Note: <esc> is the escape character in all of the sequences. To enter <esc>, press the Ctrl-P keys followed by the Esc key. You must use an ASCII text editor like DOS EDIT. You cannot enter the <esc> character in some Windows-based editors like Notepad.		

Published Date: Feb 18, 2012

Mac OS: Year 2000 Frequently Asked Questions

You may have wondered whether the clock in your Macintosh computer will continue to function into the twenty-first century. Many stories have been circulated about computers not being able to handle dates past a certain year.

This article contains some questions and answers dealing with the Macintosh computer, Power Macintosh computer, and Mac OS and what will happen in the year 2000 and beyond.

1) Will the Mac OS have an issue with dates in the year 2000?
2) Why can I not set the date in the Date & Time control panel past the year 2019?
3) Is the year 2000 a leap year?
4) Will the Apple PC Compatibility or DOS Compatibility card be able to handle the year 2000?
5) Question: Where can I get more information on how this issue relates to Apple products?

Note: The industry buzzword for Year 2000 compliance is "y2k".
This article has been archived and is no longer updated by Apple.
1) **Question: Will the Mac OS have an issue with the year 2000?**

Answer: No. The Mac OS has always correctly handled dates between January 1, 1904 and February 6, 2040. The current Mac OS date and time utilities handle all dates between 30,081 B.C. and 29,940 A.D. All applications and system software which use the supplied Mac OS date and time utilities will have no problems with the year 2000. The only possible issues would come if an application does not use the routines supplied by the Mac OS for manipulating dates and times. If you believe you have such an application, please contact the manufacturer of that application for an update.

2) **Question: Why can I not set the date in the Date & Time control panel past the year 2019?**

Answer: The Date & Time control panel constrains the year to the range 1920 to 2019. This was done because the original Macintosh System 6 General control panel only displayed a 2-digit year. A programmer can set the date beyond 2019 by calling a Mac OS supplied routine. This will be addressed with a future version of the Mac OS.

3) **Question: Is the year 2000 a leap year?**

Answer: The rule for leap years is that all years divisible by 4 are leap years, except those years divisible by 100. The exception, to the years divisible by 100 rule, is that years divisible by 400 are leap years. This means that 1800 and 1900 were not leap years, but the year 2000 is a leap year.

4) **Question: Will the Apple PC Compatibility or DOS Compatibility card be able to handle the year 2000?**

Answer: DOS supports years 1980 through 2099. Follow these steps to set the date:

DOS

For DOS, use the date command by typing "DATE " at the DOS prompt.
Format the date as: "mm-dd-yy" for years 1980 - 1999, or "mm-dd-yyyy" for years 1980-2099.

Windows 3.x

For Windows 3.x, use the Date & Time Control Panel found in the Main Program group. Set the date and time by selecting the value clicking the arrows. *NOTE*: The four digit year format can be selected in the International Control Panel.

Windows 95

For Windows 95, use the Date & Time Control Panel found in the Start Menu, Settings, Control Panel. Set the date and time by selecting the value and changing with arrows.

Newer applications should also not have a problem with full year dates (2xxx), check with the vendor or test the application.

5) **Question: Where can I get more information on how this issue relates to Apple products?**

Answer: Customers can email questions and requests directly to Apple at this address: **y2kinfo@apple.com**

Additionallly, requests for information can be made to Apple in writing at the following address:

Apple Computer, Inc.

TA35537_Mac_OS_Year_Frequently_Asked_Questions_(TIL19843).pdf

Attn: Customer Care, MS: 35-2P
One Infinite Loop
Cupertino, CA 95014
Published Date: Feb 18, 2012

HyperCard: Problem with Type 3 Error Opening Power Tools (5/96)

This article describes type 3 errors when opening the Power Tools stack installed with the MultiMedia Learning Tools Bundle.

When I open the Power Tools HyperCard stack I get a type 3 error. Is there a problem with the stack?
This article has been archived and is no longer updated by Apple.
The Power Tools stack in this bundle has an issue with the GeneralPalette XCMD. The resolution is to replace the Power Tools stack. The latest Power Tools stack is available from the online Apple Software Updates locations in the updated HyperCard 2.3.5 Stacks. A Power Tools stack from HyperCard 2.3.x can also be used.

These articles can help you locate the software update mentioned here:

* "Where To Find Apple Software Updates" - Lists online services for free Apple software updates.

* "Obtaining Apple Product Support in the USA" - Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech Info Library.

Published Date: Feb 18, 2012

Adobe Acrobat and Multiple Master Fonts

In the Fonts folder of my PowerBook 5300cs computer I have Adobe Sans MM and Adobe Serif MM. Why do they not show up in the fonts menu of my word processor?
This article has been archived and is no longer updated by Apple.
Adobe Acrobat is bundled with some of the new Apple Macintosh computers. It installs the substitution fonts Adobe Sans MM and Adobe Serif MM for rendering the fonts to create Portable Document Format (PDF) files. These fonts are called Multiple Master Fonts (MMF) and are not the standard type fonts that would show up in the fonts menu.

Multiple Master Fonts is a font technology that lets you create thousands of font instances, the way the character looks, from a single typeface. Multiple Master Fonts design includes one or more design axis; including weight, width, style, and optical size. This provides solutions to common but hard-to-fix page composition problems such as copy fitting that otherwise cannot be solved without artificially squeezing, stretching, or compromising the type.
Published Date: Feb 18, 2012

Power Macintosh: Teleport Flash Update Fails PCI-Based (5/96)

I tried to run Teleport Flash Update on my 7500 Power Macintosh computer, but it keeps telling me it "won't run on this Macintosh." Why does it run OK on my Quadra 800?

This article has been archived and is no longer updated by Apple.

Description Of Issue

When attempting to run the flash updater for the TelePort Platinum on a Power Macintosh 7200, 7500, 8500, or 9500 series computer an error indicating the "Flasher will not run on this Macintosh" appears. The GlobalFax software version affected is 2.5.3 or higher.

Solution
---
* This issue has been fixed with firmware version 1.401 now available on all electronic forums.

* Customers must flash the TelePort Platinum modem on all non-PCI-based Macintosh computers.

Affected Products

The Global Village Teleport Platinum is the only modem affected by this issue. No other Global Village modem products (PowerPort 1xx, PowerPort 5xx/Duo, GlobalFax only, OneWorld) are affected.

Only Use Updater On External Modems

The most recent flash update for TelePort modems (1.401) was designed for use ONLY with external TelePort serial modems. Customers who attempt to run the TelePort flash updater 1.401 on their bundled internal TelePort PlatinumV (on Macintosh Performa computers) will get an error message, and the Flasher application will not run at all.

Article Change History:
23 May 1996 - Added info about only using on an external modem.
Published Date: Feb 18, 2012

Arabic Language Kit: Compound Words

Some Arabic word processors support a feature which automatically inserts a space between compound words. Does SimpleText Persian offer this feature?

This article has been archived and is no longer updated by Apple.

SimpleText Persian does not offer this feature. Users will have to supply this space manually using the space bar.

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Macintosh: Transferring information to and from an Apple III

This article has been archived and is no longer updated by Apple.

To transfer information between an Apple III and a Macintosh, use Access III on the Apple III and MacTerminal on the Macintosh. To connect an Apple III to Macintosh Plus, use the peripheral adapter cable and the Macintosh 512K to ImageWriter I cable (590-0169).

If using the Apple III serial card, have the card set to no - modem eliminator. If using the built-in port C, make sure you're using the .RS-232 driver rather than the .PRINTER driver. You can find the .RS-232 driver for the built-in port C on the System Utilities Data diskette.

Make sure both systems are set for the same baud rate, data bits, and so forth, and then simply set one system up to send a file and the other one to receive a file.

Published Date: Feb 18, 2012

WorldWrite Registration and Product Sticker

I just purchased the Arabic Language Kit. The WorldWrite registration card asks me to attach a product sticker to the registration card and mail it in, but I did not receive a product sticker.

This article has been archived and is no longer updated by Apple.

If you are missing the sticker, just write in the name and order number of the product purchased. The WorldWrite registration card included with the Arabic Language Kit, Cyrillic Language Kit, and Hebrew Language Kit may call for this sticker. The order numbers for the language kits are as follows:

Language Kit	Order Number
Arabic Language Kit	M4454Z/A
Cyrillic Language Kit	M4455Z/A
Hebrew Language Kit	M4453Z/A

Published Date: Feb 18, 2012

MAE 2.0: Cause of Segmentation Fault at Startup (5/96)

MAE will fail to start, and an error in the shell that MAE starts from will contain one of these messages:

SOLARIS:
Segmentation fault, core dump.

HP-UX:
pid <number> rec'd a sigsegv for stack growth failure possibly causes:
insufficient memory or swap space or stack size exceeded maxssize. Segment fault, core dump.

What is the cause and solution of the segment fault?
This article has been archived and is no longer updated by Apple.
The first thing to check is that the user has the latest version of MAE (Currently 2.0.2). If the problem persists, it is due to the fact that the user has more than 591 characters in the PATH environment variable. The workaround at this time is the following:

Step 1

Start MAE up with the full path.
An example would be '/opt/apple/bin/mae'. This will allow MAE to startup without referring to the PATH environment variable.

Step 2

Reduce the PATH to less than 591 characters.

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Powerbook: Multiple Scan Monitors No Image

I connected my Apple Multiple Scan 14 inch monitor to my PowerBook 5300c and my external monitor is not displaying an image. I have checked the cables and the same monitor and cable work fine with a desktop computer.

The PowerBook has no problem with an external Apple 13 inch Color Display.

This article has been archived and is no longer updated by Apple.
This may be a timing issue. Apple's Multiple Scan monitors, and some other monitors, are designed with an energy saving feature. When no video signal is being sent to the monitor from the computer, the monitor will go into sleep mode to conserve energy. The PowerBook computer is designed to check if an external monitor is attached during start up, if the computer does not see the monitor it will not send out video signals to save energy.

If you turn on the monitor and let it go into sleep mode and then turn on the PowerBook computer you will get no image on the external display. Likewise, if you turn on the PowerBook first, then turn on the display after the PowerBook has already started up you will not get an image on the external monitor.

The proper way to power up is to turn on the monitor first and immediately turn on the PowerBook. The monitor will be on and awake when the PowerBook is starting up, so the PowerBook will recognize the monitor and send out video signals to the external monitor.
Published Date: Feb 18, 2012

LaserWriter: PacerTerm Print Issue

Configuration: Macintosh running PacerTerm (3.10), DEC Mainframe (VT420 session). Printing to an Apple LaserWriter over the network.

Issue: When printing, the underlines come out as an ü. They are using the DEC Supplemental character set.
This article has been archived and is no longer updated by Apple.
Getting underlines to print from the Macintosh VT terminal client (or any other VT terminal emulation client for that matter) is not trivial.

* Underlined text on the PacerTerm screen (or any VT terminal client) is created through standard VT escape sequences to start and stop underlining. In other words, when text is to be underlined, an escape sequence is sent by the host to start underlining, and another escape sequence is sent when underlining is to be turned off. These escape sequences are what is captured by PacerTerm in the session, so when the user selects print, these escape codes are in turn printed (this is most likely what the ü is).

* Printing underlines typically are handled easily by DEC line printers attached to the mainframe, or a terminal with a serial port. The DEC line printers are able to "interpret" the above mentioned escape sequences (or any other line drawing escape codes) and so can print underlines.

* PacerTerm supports serial printing via "AUX Printing" in the Terminal mode settings. You may be able to connect a DEC line printer to the Macintosh computer's serial port, though implementation could get quite messy. A program/driver would be needed to handle the printer session -- sending escape sequences to start and stop flow of the serial stream through the Macintosh computer's serial port.

* As a "shot in the dark," you may try to cut-and-paste the data to a Macintosh word processor to see if the underlines come through.

The bottom line is that printing underlines is not possible from PacerTerm at this time. It's not an impossible feature to implement at the application level, but there would have to be some intelligence in the application to "note" which sections of text are underlined, and then integrate them with the calls made to the Mac OS Font Manager.
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AIX: Logical Volume Manager Overview

This article contains an overview of the Logical Volume Manager in AIX.
This article has been archived and is no longer updated by Apple.

Logical Volume Manager Overview

In a traditional UNIX environment, a hard drive is configured and formatted into distinct sections, called partitions or slices. A disk may be formatted to contain one or more of these partitions, each of which is empty and unassigned until used for a particular purpose. Most partitions later have some kind of file system created with them. These file systems can later be mounted somewhere under the root file system and accessed. Other partitions are deliberately left empty and used for system purposes, such as paging or swapping, or for specific applications such as Oracle, which use the empty space in an application specific way. Under this arrangement, a file can only be as large as the file system that contains it, which in turn can only be as large as the partition that contains it. The partition can never be larger than the single physical disk that contains it.

AIX has a way around these limitations. A traditional disk partition or slice in UNIX is replaced by something called a logical volume. The disk space that makes up a logical volume can span multiple disks, and be made up of blocks of non-contiguous space. Since a logical volume is not hard wired to a fixed amount of physical disk space, it can be dynamically enlarged without affecting the file system contained within it. That file system can then be enlarged later on to take advantage of the additional space added to the volume. Volumes can also be mirrored or striped for reliability or high speed access.

In AIX, an actual hard drive is known as a physical volume. Hard disks are grouped together to form volume groups. A volume group can contain one or more hard drives, and a hard drive can belong to only one volume group. The one thing all hard disks in a volume group have in common is, they all use the same size unit of disk allocation space, which is called a physical partition. A physical partition can be anywhere from 1 to 256 MB in size. Physical partitions are the smallest units of space allocation on a physical disk. AIX comes with one default volume group, known as rootvg. All of the logical volumes necessary to boot and run the system are a part of rootvg. These volumes (and the file systems within them are):

* /dev/hd4 '/' (root)
* /dev/hd2 /usr
* /dev/hd1 /home
* /dev/hd3 /tmp
* /dev/hd6 Paging space (not a file system)
* /dev/hd8 Journal File System log space (also not a file system)
* /dev/hd5 The boot logical volume (contains kernel, file system and other structures required to boot the system)
* /dev/hd9var /var

A system can have many volume groups; all except for the rootvg are user defined and configured.

A logical partition is the same size as a physical partition; each one maps to an actual physical partition somewhere in the volume group. A logical volume consists of one or more logical partitions from within a volume group. Since logical volumes can be increased, it stands to reason that they can be expanded (the size of) one logical partition at a time. The default size of a logical partition in the rootvg (under Apple's version of AIX) is 16 MB. This logical storage method allows for a tremendous amount of storage capacity per system. The system limits are:

* Volume groups 255
* Physical volumes 32 per volume group
* Physical partitions 1016 per physical volume, up to 256 MB each in size
* Logical volumes 256 per volume group
* Logical partitions 32,512 per logical volume

Striping and Mirroring

One of the advantages to a logical storage management system is, striping and mirroring can be easily set up. Striping allows the data blocks that make up a file to be spread over two or more disks. The data blocks used in AIX striping are called stripe units; they can be 4K to 128K bytes in size. These stripe units (contained within logical partitions on different disks) allow parallel access to the data blocks of a file. This can greatly reduce file I/O access time.

Mirroring is when a logical partition maps to more than one physical partition with the same volume group (usually physical partitions on different physical volumes). All the logical partitions with a mirrored logical volume will be mapped to two, or possibly 3 different physical partitions. Mirroring can slow the performance of the logical volume, but it is very useful in cases where data redundancy and availability are critical.

Published Date: Feb 18, 2012

System 7.5 Update 2.0 and CalComp (5/96)

I installed System 7.5 Update 2.0, and now I have a conflict with CalComp's Drawing slate control panel version 1.9a. It crashes on startup or if the control panel is double-clicked.
This article has been archived and is no longer updated by Apple.
CalComp Technical Support states version 1.9a of their software will work with System 7.5.3 if the CalComp software is reinstalled after upgrading to 7.5.3.

However, CalComp Technical Support recommends upgrading to version 2.0. It is available on their ftp site,

ftp.calcomp.com

or on their BBS, 714-236-3045.

On both locations, the file name is "adb20a.sea".

Published Date: Feb 18, 2012

Startup Disk Control Panel and Quadra 840AV

Using the Startup Disk control panel to choose the internal hard disk as the startup disk, the Quadra 840AV will start up from the external disk. This started after installing System 7.5 Update 2.0.
This article has been archived and is no longer updated by Apple.
The difficulty you are experiencing is caused by an incompatibility between the Startup Disk control panel version 7.5.2, which is part of System 7.5 Update 2.0, and Quadra and Centris 660AV and 840AV computers.

This control panel writes information to the parameter RAM (PRAM) to identify the hard disk from which the computer will start up. In this case, the information is not being stored properly.

Because the control panel setting is not working, the computer will simply use the SCSI device with the highest SCSI ID to start up. An external device will typically have a higher SCSI ID than your internal hard disk (the internal hard disk that shipped with your Macintosh computer has a SCSI ID of 0).

There are currently two ways to work around this. First, you can use an older version of the Startup Disk control panel. Startup Disk control panel version 7.3.2, which comes with System 7.5 or System 7.5.1, will work without complications.

Secondly, you can reset the PRAM to reset the default startup disk to your internal hard disk. To reset the PRAM, restart the computer and hold down the Command (Apple), Option, P, and R keys. Wait for the computer to make its startup chime twice. You may then release the keys. Be aware that resetting the PRAM will reset such settings as the sound volume and mouse speed to their default value, and will purge the contents of a RAM disk if you are using one.
Published Date: Feb 18, 2012

At Ease for Workgroups: After Deleting Preferences

Occassionally, At Ease for Workgroups administrators delete the At Ease preferences because they have forgotten the passwords. This article provides answers to questions adminstrators may have after they have deleted the At Ease preferences.
This article has been archived and is no longer updated by Apple.
Question: I threw away At Ease Preferences because I forgot the administrator's password. What is the Administrator name now?

Answer: If you restart after trashing the At Ease Preferences file, then there is no administrator name, and there is no password. When you launch At Ease Setup you will not be asked for a name or a password.

Question: There are two options in At Ease Setup under the Security menu, Administrator Setup and Change Password. Which one should I choose to reset the Administrator information?

Answer: You should choose Administrator Setup. Here are the steps to reset the Administrator information:

1. From the Security Menu, choose Administrator Setup.
2. Double-click "At Ease Administrator" in the Administrator Setup window.
3. Type the new password in the Password field.
Note: Do not press the enter or return key after entering the password the first time; if you do, At Ease displays this error message: "You must enter the same new password in both fields."
4. Press the Tab key and enter the new password again.
5. Type a clue, if desired.
6. Click the OK button.
7. If you want to change the administrator name, do so by typing a new name into the Administrator Name field.

Question: What happens if I choose Change Password from the Security menu?

Answer: Use this option if you simply want to enter the main administrator's password and clue, but you don't want to change the administrator's name. The administrator name will remain "At Ease Administrator."
Published Date: Feb 18, 2012

Apple II Machine Language: Accessing the keyboard

When writing a machine language routine to check the keyboard for a single character, make sure that the routine checks for the high bit at the keyboard, signifing valid data, before the routine attempts to read data there.
This article has been archived and is no longer updated by Apple.
Here is an example of such a routine:

```
ORG            $300
KBD       EQU  $C000      ; location of keyboard data
KBDSTRB   EQU  $C010      ; location of keyboard strobe latch

ReadKey   BIT  KBD        ; test high bit of data reg.
         BPL  ReadKey    ; If not set retest till it is set
         LDA  KBD        ; Data at KBD is Valid (High Bit set)
         BIT  KBDSTRB    ; now clear the keyboard for the next char
         RTS             ; and we are done.
```

The act of striking a key will set the strobe bit automatically, so this routine clears it before returning.

If you are testing for a particular keystroke, put the test in a seperate routine. Here is an example of how that would be done:

```
         BIT  KBDSTRB     ; Clear out any data that is already at KBD
WaitForA  JSR  ReadKey     ; get a key from the keyboard
         CMP  #$C1        ; is it an A????
         BNE  WaitForA    ; Nope go get another
         RTS
```

These methods apply to all Apple II's: II, II Plus, IIe, IIe enhanced, and IIc.
Published Date: Feb 18, 2012

Apple PCI Token Ring Card: Does Not Work With LLC 2 (5/96)

I cannot seem to get 802.2 Logical Link Control version 2 (LLC 2) support when using Apple's PCI Token Ring card. I am using Attachmate's IRMA for the Mainframe 4.0.5. Attachmate tells me that Apple's PCI Token Ring card does not support this protocol. I tried to use the MacMainframe software and the LLC 2 section is grayed out.

What is wrong? Does the Apple PCI Token Ring Card not support LLC 2?

This article has been archived and is no longer updated by Apple.

No, Apple's PCI Token Ring card does NOT support LLC 2. Apple has no plans at this time to add support for LLC 2.

Published Date: Feb 18, 2012

AppleTalk Remote Access: PowerBook/Modem Configurations

How do I configure AppleTalk Remote Access (ARA) for various PowerBook computers, different versions of system software and different modems?

This article has been archived and is no longer updated by Apple.

```
The following chart provides the set up data for ARA with different PowerBook and modem configurations listed
in the following format:

                                        Others PowerBook models that should
Computer model and modem type tested:    be compatible with this modem
-------------------------------------------------------------------------------
Compatible system software version
PowerBook(PB) [setup] version: configuration
Express Modem (EM) version: configuration
CCL: Modem script selection
Port name in Remote Access Setup


PowerBook 170 with ExpressModem 2400: 100, 140
-----------------------------------------------------------------------------
Sys 7.1                             Sys 7.1
PowerBook v 7.1: Internal Modem     PowerBook v 7.1.2: Internal Modem
CCL: Apple Modem 2400               CCL: Apple Modem 2400
Modem Port                          Modem Port

Sys 7.1                             Sys 7.1
PowerBook v 7.1.3: Internal Modem   PowerBook v 7.3: Internal Modem
CCL: Apple Modem 2400               CCL: Apple Modem 2400
Modem Port                          Modem Port

Sys 7.1
PowerBook v 7.1.2: Internal Modem
CCL: Apple Modem 2400
Modem Port

Sys 7.5                             Sys 7.5
PB Setup v 7.3.1: Internal Modem    PB Setup v 7.3.1: Internal Modem
CCL: Apple Modem 2400               CCL: Apple Modem 2400
Modem Port                          Modem Port

Sys 7.5                             Sys 7.5
PB Setup v 7.3.1: Internal Modem    PB Setup v 7.3.1: Internal Modem
CCL: Apple Modem 2400               CCL: Apple Modem 2400
Modem Port                          Modem Port

NOTE: These computers do not require the Express Modem control panel be
     installed.


PowerBook 180c with Express Modem 14400: 160, 165, 165c, 180
-----------------------------------------------------------------------------
Sys 7.1                             Sys 7.1
PowerBook v 7.1: External Modem     PowerBook v 7.1.2: External Modem
EM v 1.2.2                          EM v 1.0.4
CCL: EM 14400                       CCL: EM 14400 or EM for ARA 2.0
Modem Port -- Doesn't work          Internal Modem

Sys 7.1                             Sys 7.1
PowerBook v 7.1.3: External Modem   PowerBook v 7.3: NA
EM v 1.1.2                          EM v 1.5.3
CCL: EM 14400 or EM for ARA 2.0     CCL: EM 14400 or EM for ARA 2.0
Internal Modem                      Internal Modem

Sys 7.1
```

```
PB Setup v 7.1.2: External Modem
EM v 2.0
CCL: EM 14400
Internal Modem -- Doesn't work

Sys 7.5                             Sys 7.5
PB Setup v 7.3.1: NA                PB Setup v 7.3.1: Normal
EM v 1.0.4                          EM v 1.1.2
CCL: EM 14400 or EM for ARA 2.0     CCL: EM 14400 or EM for ARA 2.0
Internal Modem                      Internal Modem

Sys 7.5                             Sys 7.5
PB Setup v 7.3.1: NA                PB Setup v 7.3.1: NA
EM v 1.5.3                          EM v 2.0
CCL: EM 14400 or EM for ARA 2.0     CCL: EM ARA 2.x
Internal Modem                      Internal Modem


Power Macintosh: Desktop models
-------------------------------------------------------------------------
Sys 7.1.2                           Sys 7.1.2
EM v1.5.1                           EM v2.0
CCL: GeoPort Telecom                CCL: GeoPort Telecom ARA 2.x
GeoPort                             Modem or Printer port (the serial port
                                        where modem is connected)

Sys 7.5                             Sys 7.5
EM v1.5.1                           EM v2.0
CCL: GeoPort Telecom                CCL: GeoPort Telecom ARA 2.x
GeoPort                             Modem or Printer port (the serial port
                                        where modem is connected)


PowerBook 520c: 520, 540, 540c
-------------------------------------------------------------------------
Sys 7.1                             Sys 7.1
PBSetup v 7.3.1: Normal             PBSetup v 7.3.1: NA
PowerPort 500 v2.0.8                PowerPort for 500 & Duo series v 2.5:
                                        Normal
CCL: GV Mercury/Gold/Silver 1.0     CCL: GV Mercury/Gold/Silver 1.0 or GV
                                        High Speed for ARA 2.0
Internal Modem                      Internal Modem

Sys 7.5                             Sys 7.5
PB Setup v 7.3.1: Normal            PB Setup v 7.3.1: NA
PowerPort 500 v2.0.8:               PowerPort for 500 & Duo series v 2.5:
                                        Normal
CCL: GV Mercury/Gold/Silver 1.0     CCL: GV High Speed for ARA 2.0
Internal Modem                      Internal Modem


PowerBook 250: 210, 230, 270, 280
-------------------------------------------------------------------------
Sys 7.1                             Sys 7.1
PowerBook v 7.1: External Modem     PowerBook v 7.1.2: External Modem
EM v 1.2.2                          EM v 1.0.4
CCL: EM 14400                       CCL: EM 14400 or EM for ARA 2.0
Modem Port -- Doesn't work          Internal Modem

Sys 7.1                             Sys 7.1
PowerBook v 7.1.3: External Modem   PowerBook v 7.3.1: NA
EM v 1.1.2                          EM v 1.5.3
CCL: EM 14400 or EM for ARA 2.0     CCL: EM 14400 or EM for ARA 2.0
Internal Modem                      Internal Modem
```

```
Sys 7.1
PowerBook v 7.3.1: NA
EM v 2.0
CCL: EM ARA 2.x
Internal Modem

Sys 7.5                             Sys 7.5
PB Setup v 7.3.1: Normal            PB Setup v 7.3.1: Normal
EM v 1.0.4                          EM v 1.1.2
CCL: EM 14400 or EM for ARA 2.0     CCL: EM 14400 or EM for ARA 2.0
Internal Modem                      Internal Modem

Sys 7.5                             Sys 7.5
PB Setup v 7.3.1: NA                PB Setup v 7.3.1: NA
EM v 1.5.3                          EM v 2.0
CCL: EM 14400 or EM for ARA 2.0     CCL: EM for ARA 2.0
Internal Modem                      Internal Modem
```

Published Date: Feb 18, 2012

Power Macintosh 8500: Pioneer 4400 Laserdisc Player

My Power Macintosh 8500 computer crashes when using a videodisc controller HyperCard stack, Macromedia Authorware, or Director-based application . This software does not crash Macintosh computers other than the 8500.

Has something changed in PCI-based computers with system software or the serial controller that would cause a HyperCard XCMD, which has worked with 680x0- and PowerPC NuBus-based computers, to crash the 8500?

System Information

Power Macintosh 8500
System 7.5.2
Open Transport 1.0.8
SerialDMA patch installed
Serial Port Arbitrator not present

Here are the details

This computer's hard disk has been formatted using Apple formatting utilities, and I've installed new system software. No other third-party software is present on the hard disk except for the HyperCard stack.

When stack is launched and "initialize laserdisc" response is 'yes', the system crashes.

I have analyzed the code, and the following section is the part that calls the resource (in the stack resource fork) called "controlVideo" from HyperCard v2.3. Once the call is executed, the system crashes. This spot is marked with "--->> ", and I believe this is where the crash occurs. Do you concur?

Start of HyperCard Script:

```
on initializeThePlayer
global diskIsInitialized

show background button "Initializing--Please Wait"

put line 1 to 8 of the script of this stack into PLAYER_LIST
sort items of PLAYER_LIST
put ShowList(PLAYER_LIST,return,"Please Select Correct Model
Player.",false,"Select,No Disc,Go Home")into RESP
if line 1 of RESP is "Select" then
put item 1 of line 2 of RESP into PLAYER_TYPE
if PLAYER_TYPE is "Pioneer 8000" then put "Pioneer 4200" into PLAYER_TYPE
setvideoplayer PLAYER_TYPE
--->> controlVideo init
put videoStatus() into areYouThere
if areYouThere = "noAnswer" then
answer "The Player Must be Connected and Turned On. Please check."
put false into diskIsInitialized
```

End of HyperCard Script:

Can you please tell me what is wrong?
This article has been archived and is no longer updated by Apple.
Apple has discovered an issue with the way the serial laserdisc driver XCMDs access Open Transport 1.0.8 in System Software 7.5.2 with SerialDMA 2.0.2.

Fortunately, System 7.5 Update 2.0 fixes this crashing problem. You may have to rewrite the XCMD to talk to Open Transport 1.1 correctly. Voyager Corporation has an XCMD that is reported to work with a Power Macintosh 8500.

Check the Player
In troubleshooting this problem further, we discovered that a Pioneer 4400 player put out 7.5 volts on the RXD line to the Power Macintosh 8500 instead of the 5 volts as it should. We inserted a 1K ohm resistor in the RXD line of the Pioneer CC-04 cable and that fixed this issue.

We called Pioneer and we were informed Pioneer was aware that certain Pioneer 4400 players put out too much voltage. This was fixed in a revision to the player after 1994. The player Pioneer player we investigated was manufactured in August of 1992, its serial number starting with MH390.

TA35555_Power_Macintosh_Pioneer_Laserdisc_Player_(TIL19863).pdf

We then tested a Power Macintosh 8500 with System 7.5 Update 2.0 installed, used HyperCard 2.3.5 with Voyager's Videodisc Toolkit version 2.3, and everything worked fine.

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AppleSearch 1.5: Supported XTND Translators

On my Apple Internet Server Solution (AISS) server, I'm getting Type 1 errors when trying to index four files created in Microsoft Word 6.0. When I have tried to index the files, my AppleSearch server hangs during indexing. What is wrong?
This article has been archived and is no longer updated by Apple.
The AppleSearch server uses XTND translators to extract text from the files in its information sources. The following DataViz XTND translators are included with the AppleSearch product:

* MacWrite versions 4.5, 5.0, and II
* WordPerfect for Macintosh versions 1.0, 2.0, and 2.1
* Microsoft Word for Macintosh versions 3.0, 4.0, 5.0, and 5.1
* Microsoft Works (word processing) versions 2.0 and 3.0
* FrameMaker MIF versions 2.0 and 3.0
* PageMaker version 4.0
* Ragtime version 3.1
* AppleWorks
* WriteNow versions 2.0 and 3.0
* Nisus version 3.0
* PICT (text extraction only)
* Excel (tab text only, no formula)
* Microsoft Word for Windows versions 1.0 and 2.0
* WordPerfect for Windows version 5.1

If you try using later XTND translators, than what ship with AppleSearch, you may or may not have problems. Apple supports only those translators that ship with AppleSearch 1.5.
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CDE Interface: Troubleshooting When Hung or Frozen

This article describes some basic troubleshooting steps to follow when the Common Desktop Environment (CDE) you are using on your Network Server becomes hung up or frozen.
This article has been archived and is no longer updated by Apple.

Overview
==========

There are times, especially when a Network Server is being set up, modified or configured, that the Common Desktop Environment (CDE) can get hung, or will slow down to the point where it is unusable.

Indications of this include:
- taking a very long time to log in or log off,
- applications not responding or not launching from the main panel,
- and dterm or smit sessions not starting.

Errors Caused by Changes to TCP/IP

Most of these symptoms are caused by changes, or errors in TCP/IP networking software, setup, or configuration. CDE is an X based application, and is particularly sensitive to changes or errors in the networking environment, including loss of network connection, an invalid or duplicate host name, setting up TCP/IP with the wrong network address, subnet mask, default router address, or incorrect DNS server. Any of these can keep CDE from starting, or, if the changes are made while CDE is running, can immediately "stall" the entire application.

These problems can be most easily avoided by making sure that all TCP/IP setup is correctly and permanently configured before starting CDE for the first time. Install_assist has numerous options for system configuration, including network configuration. It is best to take the time and do all system configuration up front. If you have started using the system, choose "Command Line" or "Fail Safe" (a simple motif interface) login options rather than the default, which will launch CDE, until the system has reached it's final configuration and is stable. Remember, system configuration through smitty is always available in any environment.

If problems occur, the solution is to quit out of CDE, stop all networking services, correct the problem, and then restart networking, and finally CDE. If CDE is totally hung, it may still be possible to login over a serial terminal or through AppleTalk services. The following paragraphs describe various solutions, in increasing order of complexity.

Host Name Has Changed
==========

The simplest error to fix is that the host name has changed since the parent process of CDE (dtlogin) was started. The X variable, DISPLAY, will therefore be out of sync. Logging out of CDE, or killing the parent dtlogin, then restarting CDE, should be sufficient. (Lines starting with '#' are the actual commands to enter.)

Step 1

```
# ps -ef |grep dtlogin

root 2990 1 0 Apr 02 - 0.00 /usr/dt/bin/dtlogin -daemon
root 3516 2990 0 Apr 02 - 0.00 dtlogin <:0> -daemon
```

Step 2

```
# kill 2990
```

(Note that the dtlogin session killed is the one whose parent ID is '1', or init. Do not use a kill -9!)

Step 3

Repeat step 1 above, but grep for 'dtsession' instead of 'dtlogin'; kill it as in step 2, substituting the appropriate Process ID. (The process ID is the next numeric field following the name of the process owner.)

Then restart dtlogin and CDE:

```
# /etc/rc.dt
```

Solving More Serious Problems
==========

Step 1

Stop CDE, the parent dtlogin, and any remaining dtsessions as described above.

Step 2
---
stopsrc -g nfs
(Stops nfs. Also stop other TCP/IP applications.)

Step 3
---
ifconfig en0 down
(Brings down network interface.)

Step 4
---
rmdev -l en0 -d
(Removes the network interface.)

If the entire CDE environment is potentially corrupted, you may need to do the following two steps. Otherwise, got to step 7.

Step 5
---
mv /etc/dt /etc/dt.hold
(Removes all custom CDE components.)

Step 6
---
mkdir /etc/dt

Step 7

At this point, using smit, completely reconfigure the networking interface and TCP/IP from the beginning. When you are done make sure that /etc/hosts and /etc/resolv.conf hold the correct information, and have no duplicate entries.

Step 8

Restart the system. This starts all networking daemons and X applications correctly. Before rebooting, you may also briefly test CDE by running /etc/rc.dt. (It is possible to just continue working after starting CDE, but the restart gives the best possible opportunity to start all networking services correctly.)
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PowerBook Video Mirroring: Issues and Workarounds

This article describes all of the known issues with the video mirroring mode on some PowerBook computer systems. In general, these issues do not affect PowerBook computers introduced after the PowerBook 5300/190. Where possible, known workarounds have been provided.
This article has been archived and is no longer updated by Apple.

What Is Video Mirroring And How Does It Work?

Video mirroring is a feature provided on some Macintosh PowerBook computers (it can also be used on some desktop Macintosh systems). If your PowerBook computer has an external monitor attached, you can use it to show the same images displayed on your built-in screen. This feature can be useful when you are making a presentation.

When an external monitor is connected to the PowerBook computer, video mirroring is by default "off and the system is in normal dual-screen mode. To activate video mirroring, use the Video Mirroring Control Strip module or go to the PowerBook Display control panel.

When the PowerBook is in video mirroring mode, everything displayed on the primary device (usually the internal display) is then drawn again on the external device using the CopyBits routine (from the QuickDraw toolbox). The CopyBits routine copies a bitmap image from one region to another. If the two display devices are at different bit depths, then the image may have to be scaled down or dithered during the CopyBits process.

Video Mirroring Issues And Workarounds

QuickTime Movies Are Slow And Jerky

When the PowerBook computer is in video mirroring mode, one video controller is having to draw everything twice. Because of this, QuickTime movies will not play back at the same frame rate as they will in a normal video mode.

To optimize QuickTime playback performance in video mirroring mode,

* set the color bit depth to 256 colors on both monitors
* keep the movie window size as small as possible
* turn off virtual memory

Issues With Presentation Applications

Slide presentation applications, such as Powerpoint and Persuasion, that make use of fade and dissolve type transitions may perform more slowly when in video mirroring mode. The same issues that cause QuickTime movie playback to be slow (see above) will also cause complex transition effects in slide presentation programs to be slow. With complex transitions, the amount of information for CopyBits to process increases dramatically, potentially causing a performance decrease. Simpler transition effects will cause less of a burden on the system.

Optimum performance can be achieved by using some of the following suggestions in the creation and delivery of the presentations:

* keep color settings to the minimum bit depth actually needed
* set both monitors to the same bit depth
* reduce use of animation transition effects to a minimum
* minimize use of complicated graphics
* minimize number of individual graphics per slide
* turn off virtual memory during presentations
* disable extensions that are not required during the presentation

Graphics Anomalies May Occur On A Mirrored Display

It is up to the application software to deal with multiple displays correctly. Some third-party software applications assume that displays can't overlap, and therefore don't make appropriate changes to all of the devices listed in the device list provided by toolbox routines such as GetDeviceList and GetNextDevice. This can result in screen regions getting updated on one display but not on the other when in video mirroring mode.

Although there is no Apple workaround for this type of problem (the third-party developer should address this in their software), you can usually choose which display will have the anomalies by making a particular display the main monitor. To do this, drag the menu bar onto the desired monitor icon in the Monitors control panel before activating video-mirroring mode. You may also need to drag the Happy Mac icon onto the desired monitor. To see the Happy Mac icon, hold down the Option key while the Monitors control panel is open. The anomalies will usually show up on the monitor that is NOT the main monitor. Also, setting both monitors to the same bit depth will reduce the chances of this happening.

Some applications, especially games, will draw directly to the screen instead of using Apple's QuickDraw routines to draw as normal. Drawing directly to the screen can be advantageous because it allows for faster speed and more direct control of timing. However, video mirroring mode exclusively uses QuickDraw routines to draw screen images twice. If a program is using non-QuickDraw routines to draw graphics, those graphics will appear corrupted on the device that is NOT selected as the main device in the Monitors control panel (discussed above) when video mirroring is active.

Most games will provide an option to turn QuickDraw graphics on or off instead of forcing the user to use non-QuickDraw graphics. Look in the Preferences section of the game for this setting.

Mouse Tracks with PowerBook 5300 & 190 Series

On PowerBook 5300 and 190 series computers, when in video mirroring mode, Mouse Tracks will only work on the internal PowerBook display. This is a current limitation of the PowerBook 5300 and 190 series computers. When in dual-screen mode, the cursor may leave cursor trails on the external monitor when Mouse Tracks is on. Until this is fixed, we recommend that you leave Mouse Tracks off when an external monitor is connected.

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NuBus Hex Address for 8100 / 8150 series

What are the hex addresses for the NuBus slots on a 8100 series PowerMacintosh or Workgroup Server 8150?
This article has been archived and is no longer updated by Apple.
The hex addresses for all the 8100 series PowerMacintosh and Workgroup Server 8150 are the same. The image below shows the NuBus slots and the corresponding hex address.

Figure 1 Power Macintosh 8100 / Workgroup Server 8150 Board Layout
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Apple IP Gateway 1.0.1: Read Me

This article is the Apple IP Gateway 1.0.1 Read Me file.
This article has been archived and is no longer updated by Apple.
This document provides late-breaking information not covered in the "Apple IP Administrator's Guide." It's a good idea to print this document and keep it with the guide.

This Read Me contains the following sections:
INSTALLING THE GATEWAY ON NON-U.S. SYSTEMS
USING MANUAL MACTCP ADDRESSES WITH APPLE REMOTE ACCESS CLIENTS
TROUBLESHOOTING NETWORK ERRORS ON THE GATEWAY
SETTING UP MULTIPLE GATEWAYS IN THE SAME ZONE
TUNING THE APPLE IP GATEWAY
LOCATING THE SNMP MIB FOR THE APPLE IP GATEWAY
INSTALLING APPLE IP GATEWAY ON APPLESHARE 4.0
INSTALLING APPLE IP GATEWAY ON OPEN TRANSPORT
BUG FIXES/CHANGES IN THIS RELEASE

INSTALLING THE GATEWAY ON NON-ENGLISH LANGUAGE SYSTEMS
If you are installing the Apple IP Gateway on a non-English language Mac OS computer, you should run the Network Software Installer before proceeding with the rest of the installation process. See the section "International Users" in Chapter 2 of the "Apple IP Gateway Administrator's Guide" for details.

You should use Easy Install to install the gateway software on a non-English language Mac OS computer. If you use Custom Install, a message appears to warn you that continuing the installation replaces local-language versions of some AppleTalk system files (such as the Network control panel, AppleTalk, and EtherTalk) with English-language versions. If you click Continue, the installation will replace all files with the same names as the files being installed. Thus, there may be two different versions of some AppleTalk system files on the startup disk-a local-language version and an English version. If you click Cancel, a message informs you that an error has occurred during installation, and the software on the startup disk was not changed.

USING MANUAL MACTCP ADDRESSES WITH APPLE REMOTE ACCESS CLIENTS
If an Apple Remote Access (ARA) client is using a manual (static) IP address, the ARA connection must be established before MacTCP is opened in order for TCP/IP application programs to work over the remote link. To ensure that MacTCP is not opened before the ARA connection, INITs that open MacTCP at startup of the Macintosh (such as SNMP TCP/IP Transport) should be removed from the user's system folder. Users who require such INITs must configure MacTCP to acquire an automatic (dynamic) IP address.

TROUBLESHOOTING NETWORK ERRORS ON THE GATEWAY
Network errors in the Gateway Information window (see the section "Monitoring the Gateway" in Chapter 3 of the "Apple IP Gateway Administrator's Guide" for details), may indicate that the domain name server (DNS) information is misconfigured on either the gateway machine or on client machines. If the gateway cannot find a DNS server, whether because the address is misconfigured or the server is unavailable, the gateway counts those failed attempts as network errors. If you do not have a DNS server, leave the DNS information blank in the MacTCP Administration window.

SETTING UP MULTIPLE GATEWAYS IN THE SAME ZONE
You can set up multiple Apple IP Gateways in the same AppleTalk zone. Doing so allows you to balance the gateway service load between multiple machines, as well as to provide service to an additional 253 users per gateway.

To set up multiple gateways, you must configure the gateway to provide automatic addresses only; you cannot use manual addresses with multiple gateways. Also, Power Macintosh clients will not be able to locate a gateway if there are multiple gateways in a zone. Only MacTCP clients on non-Power Macintosh machines will be able to locate a gateway if multiple gateways are in use.

Follow these steps to set up multiple gateways in the same zone:

1) Purchase another copy of the Apple IP Gateway and install it on another machine.
2) Set up the second gateway machine in the same zone as the original gateway.
3) Divide the automatic address range of the original gateway into two ranges. Configure the original gateway with one of these ranges and the second gateway with the remaining range.
4) Start both gateways.

Clients connect to the first gateway that responds. When a gateway has no more addresses to give out, it ceases responding, thus allowing another gateway to respond to the client.

IMPORTANT: If you have Power Macintosh clients that need to access a gateway, do not set up multiple gateways in the same zone.

TUNING THE APPLE IP GATEWAY
If you are an experienced network administrator and would like to modify the gateway's internal parameters to suit your particular networking environment, you can obtain an Apple Business Systems (ABS) Technical Note that describes which parameters you can modify through use of a Macintosh software resource editor such as ResEdit. The document, entitled "IPGateway01 Tuning the Apple IP Gateway," is available through the following electronic sources:

* FTP: anonymous ftp to abs.apple.com, directory ~ftp/abs/

* AppleLink: through the path, Support/Developer Support/Developer Services/Technical Documentation/ABS Technical Notes

* Developer CD: Technical Documentation/ABS Technical Notes (on the reference library disk)

Warning: This article refer to using ResEdit to alter your software. Apple Computer, Inc., is not liable for any damage done to your software through the use of ResEdit.

LOCATING THE SNMP MIB FOR THE APPLE IP GATEWAY
The gateway supports the SNMP MIB entitled "MacIP Management Information Base," which is available in the appendix of the "Apple IP Gateway Administrator's Guide" or electronically (in text form) on the "Apple IP Gateway Installer" disk 2, Network Management folder.

INSTALLING APPLE IP GATEWAY ON APPLESHARE 4.0
Apple IP Gateway installs Apple Shared Library Manager 2.0, which will not work with AppleShare 4.0. If you intend to run Apple IP Gateway and AppleShare 4.0 on the same Macintosh, upgrade to AppleShare 4.0.2 before installing the Apple IP Gateway.

INSTALLING APPLE IP GATEWAY ON OPEN TRANSPORT
Apple IP Gateway cannot be installed on a machine running Open Transport.

BUG FIXES/CHANGES IN THIS RELEASE

- Two clients connected to the same IP Gateway can talk to each other.
- The IP Gateway now works with external SCSI Ethernet devices.
- The Gateway does not allow the user to enter overlapping Static and Dynamic address ranges.
- The Gateway detects when a client with a static IP address changes its AppleTalk address as may occur when the client restarts.
- The Gateway Manager displays Macintosh names and AppleTalk addresses sorted in the correct order.
- An issue with Balloon help was fixed.

The following Tech Info Library article can help you find the Tech Note mentioned here:

- Article 24493: **Apple Tech Notes: What They Are, Where To Find Them**

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ColorSync 2.0.1: Version Information

This article discusses the changes made in ColorSync version 2.0.1.
This article has been archived and is no longer updated by Apple.
The following changes were included in ColorSync version 2.0.1

Fixed several minor bugs relating to color conversion

- The default CMM did not produce correct results in the case of setting up a matching session with 3 or more profiles with absolute rendering intent.
- Default CMM did not handle bitmaps/pixmaps with rowbytes larger than 200K bytes per scan line correctly.
- With acceleration component installed, ColorSync did not switch among multiple active color worlds properly.
- Postscript related functions returned paramErr if a value other than 1 or 2 was passed to the "flag" field. Since the "flag" field is defined as "reserved", ColorSync will not check the value passed in that field in 2.0.1 release.
- CMXYZtoFixedXYZ color conversion function did not produce correct results.
- LabToXYZ color conversion returns wrong color when perform conversion in place.
- LuvToXYZ color conversion function did not clip underflow errors correctly.

Changed Files
The only changed file is the ColorSync system extension. The control panel, profiles, and interface files are the same as 2.0 release.

New Files

- AppleVision 1710 - 9300
- Apple Multiple Scan 14
- Apple Multiple Scan 1705
- Apple Multiple Scan 15

ColorSync 2.0.1 is included in the following disk sets:

- SW 1200 v 2.1.2
- CSW 1500 v 2.2
- CSW 2200 v 2.1.2
- CSW 2400 v 2.1.2
- CSW 2500 v 2.2

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Mac OS 7.5.3 Revision 2: Overview & Installation

This article comprises the Macintosh System 7.5.3 Revision 2 Overview and Installation file.
This article has been archived and is no longer updated by Apple.
Who should install System 7.5.3 Revision 2?

Apple is recommending that only customers with specific system software and Macintosh computers update their systems with System 7.5.3 Revision 2. There is no benefit for other customers.

The only systems which will benefit from System 7.5.3 Revision 2 are as follows:

- All PowerBook systems using Connectix RAM Doubler
- All PowerBook 5300 and PowerBook Duo 2300 systems
- All PowerBook 200 or 500 Series systems which have been upgraded with the Macintosh PowerBook Processor Card Upgrade Kit with PowerPC (or upgraded with similar third party products).
- All Macintosh 7200, 7500, 7600, 8500, and 9500 systems

You should install System 7.5.3 Revision 2 only if you have a computer with System 7.5.3 installed or a PowerBook with System 7.5.2, PowerBook Enabler 1.2 or later installed. To find out what system software version your computer is using, follow these steps:

1. Make sure you are in the Finder.

2. Choose About This Macintosh from the Apple menu. The system software information is in the About This Macintosh window.

What is System 7.5.3 Revision 2?

System 7.5.3 Revision 2 is a set of system software enhancements that improves the reliability and performance for the computers described above.

When you install System 7.5.3 Revision 2, you get the following enhancements:

- Better reliability for PowerBooks using RAM Doubler. If you have a PowerBook using system software 7.5.3, and use RAM Doubler (version 1.6.1 or earlier), you may have experienced a problem when waking your PowerBook from sleep. This software fixes this problem.
- Overall performance enhancements for PowerBook 2300 computers and PowerBook 500 or Duo series computers with the PowerPC Upgrade Card installed.
- Improved reliability when using PC-formatted floppy disks with PowerBook 500 series or Duo series computers with the PowerPC Upgrade Card installed. If you have a PowerBook 500 series or Duo series computer with the PowerPC Upgrade Card installed, PC-formatted floppy disks that were formatted on your computer may be unreadable in DOS or Windows computers. This software fixes this problem.
- Improved reliability on PCI-based computers (Macintosh 7200, 7500, 7600, 8500, and 9500 computers) and PowerBook 5300 computers, PowerBook 2300 computers, and PowerBook 500 or Duo series computers with the PowerPC Upgrade Card installed.
- Improved reliability when copying files to a 1 gigabyte hard disk. If you have a PCI-based computer with a 1 gigabyte drive, this software helps avoid problems when copying files to the hard disk.
- Improved reliability when using the Startup Disk control panel. In rare instances, when you turn on a PCI-based Power Macintosh computer it may not start up from the disk selected in the Startup Disk control panel. This software fixes this problem.

Before you Install

Note that if you have an AppleVision monitor, you should install "AppleVision Fix 1.1" before you install this update.

When you install this software, an extension called Startup Tuner is installed in your Extensions folder. This extension ensures that your computer will correctly start up from the disk selected in the Startup Disk control panel.

It is recommended that you run the Disk First Aid application found on the "Disk Tools" disk that shipped with your computer. Double-click the Disk First Aid icon and follow the instructions on the screen. Disk First Aid checks your hard disk for problems. If you have a problem using Disk First Aid, see the manual that came with your computer.

Installing System 7.5.3 Revision 2

Before you install System 7.5.3 Revision 2, your computer should have System 7.5.3 installed or System 7.5.2, PowerBook Enabler 1.2 or later installed. To find out what system software version your computer is using, follow the steps in "Who should install System 7.5.3 Revision 2" above.

Follow these steps to install System 7.5.3 Revision 2:

1. Open the Extensions Manager control panel.

2. Choose either "System 7.5.3" or "System 7.5.2" from the Sets pop-up menu (one of these two choices will appear, depending on the version of system software your computer is using).

3. If you have third-party peripherals that are required for installation and that require an extension, turn those extensions back on. (Examples include video drivers, alternative input devices, network card drivers, and removable media.)

4. Restart your computer.

5. Insert the System 7.5.3 Revision 2-1 disk into the floppy disk drive, and double-click its icon to open it.

6. Double-click the Installer icon to open it.

7. After you read the licensing agreement, click Agree to continue with the installation.

8. Make sure that the destination disk indicated on the screen is the one on which you want to install system software. If the wrong disk name appears, click the Switch Disk button until the correct disk name appears.

9. Click Install.

10. Follow the instructions on the screen. On-screen messages tell you when you need to insert the other disk.

11. When the installation is complete, Click Restart to restart your computer.

12. Use the Extensions Manager to turn on additional extensions (you'll need to restart your computer for the extensions to work). If you encounter problems, choose the set of extensions you chose before the installation (see step 5), restart your computer, then turn on extensions one at a time to determine if one of them is incompatible.

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AISS: Drag Installation

I was installing the Apple Internet Server Solution (AISS) software with the AISS 2.0 CD this week, and found a minor problem. In the RealAudio Server 1.0 folder, there is a folder pointing to the RealAudio folder, requesting that it be put in the Preferences folder.

When I placed it there and attempted to start the management application, I got an error. What is wrong?
This article has been archived and is no longer updated by Apple.
The RealAudio folder should be placed in the Extensions folder, rather than the Preferences folder. If you place the RealAudio folder there, RealAudio should work properly.

Also, if you use the installer instead of drag installing, you will not experience this issue. This is because the installer places the RealAudio folder (and other AISS software) in the correct location.
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QuickTime: Frequently Asked Questions (FAQ)

Where can I find out more about QuickTime software and developer information?
This article has been archived and is no longer updated by Apple.
A comprehensive internet site containing this information can be found at: http://developer.apple.com/quicktime/
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MacTCP: Open Transport Configuration

I upgraded my non-PCI Macintosh with Open Transport. How do I configure the TCP/IP control panel so it uses my old configuration?
This article has been archived and is no longer updated by Apple.
Open Transport is Apple's new networking architecture which provides support for AppleTalk and TCP/IP protocols. Users with other network protocol stacks should seek assistance from the software vendor.

AppleTalk
Open Transport replaces the Network control panel with the AppleTalk control panel.

1 - Set the "Connect via" menu in AppleTalk control panel to the network interface you used in the "Network" Control Panel.

Network --->	AppleTalk
LocalTalk	Printer port
EtherTalk	Ethernet
Remote Only	Remote Only

NOTE: LocalTalk can be used with the modem port. Remember to move your connector to the modem port if you use this selection.

2 - Set "current zone" in AppleTalk control panel to "current zone" from "Network" Control Panel

3 - Close the control panel for changes to take effect.

NOTEs:

1. LocalTalk can be used with the modem port. Remember to move your connector to the modem port if you use this selection.
2. In "AppleTalk" Control Panel provides additional features, please see your documentation for more information.

TCP/IP
Open Transport replaces the "MacTCP" control panel with "TCP/IP" control panel.

NOTE: Some installers will automatically configure Open Transport to your old MacTCP settings.

MacTCP configuration methods:
MacTCP supported many configuration methods. Depending on the method MacTCP used, use the following steps:

MacTCP Interface = Localtalk, Ethertalk, Remote Only
Obtain address = server

1. Set "Connect via" menu to "AppleTalk (MacIP)" in "TCP/IP" control panel.
2. Set "Configure" menu to "Using MacIP Server"
3. Set "MacIP server zone" to the zone selection from "MacTCP" control panel.
4. Close the "TCP/IP" control panel for changes to take effect.

Obtain address = manually

1. Set "Connect via" menu to "AppleTalk (MacIP)" in "TCP/IP" control panel.
2. Set "Configure" menu to "Using MacIP Manually"
3. Set "MacIP server zone" to the zone selection from "MacTCP" control panel.
4. Copy "IP address" and "Subnet mask" from "MacTCP" control panel to "TCP/IP" control panel.
5. Copy "Domain Name" from "Domain" that was selected as "Default" in "MacTCP" control panel.
6. Copy "Router address" from "Gateway Address" in "MacTCP" control panel.
7. Copy "Name server addresses" from the "IP address" entries in "Domain Name Server Information.
8. Close the "TCP/IP" control panel for changes to take effect.

MacTCP Interface = Ethernet
Obtain address = manually

1. Set "Connect via" menu to "Ethernet" in "TCP/IP" control panel.
2. Set "Configure" menu to "Manually"
3. Copy "IP address" and "Subnet mask" from "MacTCP" control panel to "TCP/IP" control panel.

4. Copy "Domain Name" from "Domain" that was selected as "Default" in "MacTCP" control panel.
5. Copy "Router address" from "Gateway Address" in "MacTCP" control panel.
6. Copy "Name server addresses" from the "IP address" entries in "Domain Name Server Information.
7. Close the "TCP/IP" control panel for changes to take effect.

Obtain address = server

1. Set "Connect via" menu to "Ethernet" in "TCP/IP" control panel.
2. Set "Configure" menu to "Using BOOTP" or "Using RARP". You may need to ask your network administrator which network server is in use.
3. If you choose RARP, the server will provide only an IP address.
4. Close the "TCP/IP" control panel for changes to take effect.

Notes:

1. Obtain address "dynamically" is no longer supported in any fashion. Apple recommends the use of manual addressing, or adoption of a network configuration protocol such as RARP, BOOTP, or DHCP.
2. TCP/IP also adds support for configuration via DHCP, a feature not offered in MacTCP.

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Powerbook 2300: Dock Issue W/Third-Party Ethernet Cards

This article discusses a compatibility issue with some third party Ethernet cards when used in a Duo Dock.
This article has been archived and is no longer updated by Apple.
It is possible that some non-Apple (third-party) Ethernet NuBus cards installed in a Apple Duo Docking stations will not work with the PowerBook 2300 series computers even if they work with all other PowerBook Duo computers.

In contrast, the Apple Ethernet NB card (M0417LL/B) works with all models of PowerBook Duo computers including the 2300 series. It is possible that some third-party Ethernet board manufacturers may not have followed the Apple design specifications closely enough, resulting in some problems with the 2300 series.

If you have a non-Apple Ethernet card in your Duo Docking station that is not working with a PowerBook 2300 series computer, you should contact the vendor of that NuBus Ethernet board/card for more information concerning compatibility.
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Power Macintosh: GeoPort Troubleshooting Steps

I just got my GeoPort Telecom Adapter version 2.x for my Power Macintosh computer and I cannot get it to work. What do I do?
This article has been archived and is no longer updated by Apple.
Before you use an online service, terminal software, or Internet connection software make sure the modem software is working. As a test, send the "My First Fax" document to someone. If Faxing the document does not work, here are some troubleshooting steps you can use to get your GeoPort Telecom Adapter working:

1) Make sure you have the correct version of the Apple Telecom software installed on your computer. Apple recommends Apple Telecom v2.3.2 or later, and this software can be found online at Apple Computer's software update locations.

2)Check the physical connections of the GeoPort Telecom Adapter.

* The GeoPort Telecom Adapter should be connected to the computer's modem port.
* The telephone cable should be connected to the GeoPort Telecom Adapter's RJ11 jack with a telephone jack icon.
* Optional, a telephone can be connected to the GeoPort Telecom Adapter's RJ11 jack with a telephone icon.

3)Make sure that your settings in the Express Modem control panel are set appropriately.
* Express Modem is turned on.
* Under advanced options set the progress sounds to keep on until carrier.

NOTE: This is for troubleshooting purposes only. It will leave the speaker on until the carrier is established. After you have verified that the modem is functioning, you may select another option more suitable to you.

4) Delete the following preferences
* Express Modem Preferences
* Fax terminal Log
* Fax terminal prefs
* Fax viewer prefs
* Finder prefs
* GeoPort teltool prefs

5) Clear the parameter ram.
* Turn machine off.
* Restart machine and hold down option-command-p-r keys.
* Keep keys held down until you hear at least two startup chimes.

6) Make sure AppleTalk is set to inactive in the AppleTalk control panel on the PCI based Power Mac computer models (7200, 7500, 8500 or 9500).

7) Turn on only the extensions needed to run the GeoPort and restart the machine
* Use the extensions manager to select the system set
* Turn on fax extension, fax sender, telephone manager, and express modem.

8) Upon restarting your machine, make sure the GeoPort and Fax extensions load. During startup the fax extension appears as a fax with a piece of paper rolling out of it and the geoport extension is a telephone with buttons that will flash. If either of these to do not appear, appear with an X over them, or are dark and do not show animation try turning on just the geoport extensions listed in step 6. If they continue to not load at startup, delete and reinstall the Apple Telecom software.

9) Disconnect and reconnect the GeoPort Telecom Adapter from the back of the computer while it is turned on. This will reset the GeoPort.

10) Delete and reinstall the Apple Telecom software.

11) Try another phone jack. Make sure that it is an analog line as opposed to a digital line. Analog lines have been the standard for sometime in telephone or voice signal. However, digital lines are being installed for use as well.

12) Clean install the system software and then install the Apple Telecom software.

These articles can help you locate the software update mentioned here:

* "Where To Find Apple Software Updates" -- Lists online services for free Apple software updates.

* "Obtaining Apple Product Support in the USA" -- Lists 800 numbers and online services for software updates, Apple support information, and a

subset of the Apple Tech Info Library.
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MacTest Pro: Power Macintosh Read Me

This article is the MacTest Pro for Power Macintosh Read Me file.
This article has been archived and is no longer updated by Apple.
The February 1996 Macintosh Family Diagnostics Update Mailing includes separate CD's, diskettes, and User's Guides for MacTest¬ Pro for Power Macintosh, and for MacTest Pro for 680x0-based Macintosh computers.

The information in this READ ME file refers to MacTest Pro for Power Macintosh, and is effective as of 02/21/96. This file contains important information about the MacTest Pro for Power Macintosh application, its test modules, and the MTP Emergency (PPC) application. This information supersedes some sections of the MacTest Pro for Power Macintosh User's Guide (073-0414-A).

WHAT'S NEW

* MacTest Pro for Power Macintosh v1.0 and MTP Emergency (PPC) v1.0 are designed to launch only on Power Macintosh computers; these applications will not launch on 680x0-based Macintosh computers. Use the MacTest Pro v1.3 and MTP Emergency v1.1 applications to diagnose 680x0-based Macintosh computers.

* For Macintosh Quadra and Centris computers upgraded with the Power Macintosh Upgrade Card, and for Macintosh 630 series, LC 475, LC 575, and Quadra 605 computers upgraded with the Macintosh Processor Upgrade Card, use MacTest Pro v1.3 (for 680x0-based machines) with the Power Macintosh Upgrade Card Tests module, and use MTP Emergency v1.1.

* The new test modules which run only with MacTest Pro for Power Macintosh have the suffix "(PPC)" to distiguish them from the test modules which run only on 680x0-based Macintosh computers.

* A new test module, "Serial Loopback Tests (PPC)", replaces the functionality of the "Communication Ports Tests" in the previous version of MacTest Pro.

* The "DOS Compatible Card Tests" and the "MacTest Pro Help" modules have not yet been converted for MacTest Pro for Power Macintosh; the CPU-specific test modules which are 680x0-based will not be converted; there are no plans at this time to convert "Modem Tests"; the "Machine Checker " test module is undergoing major design changes for Power Macintosh, and is not yet available.

* The Display Service Utility v1.0 is included on the MacTest Pro for Power Macintosh CD and on the "MacTest Pro (App+Mods2 PPC)" disk.

BOOTABLE MACTEST PRO FOR POWER MACINTOSH CD

The MacTest Pro for Power Macintosh CD v1.0 is bootable on almost all Power Macintosh computers. Instructions for booting from the CD are included in the CD Guide booklet. Electronic copies of current documentation and the most recent System Software Enablers are provided on the CD.

Note that you may launch MacTest Pro for Power Macintosh, MTP Emergency (PPC), and the printer and display utilities from the CD whether or not you to boot from the CD. Refer to the electronic document "How to Use this CD" located on the CD for more information.

BOOTABLE DISKS

Two of the four disks in the MacTest Pro for Power Macintosh disk set are BOOTABLE emergency startup disks. Please review the information below and refer to the labels on the emergency disks to determine which disk to use for the machine you are testing. The MTP Emergency (PPC) application is the same on both of the bootable disks. Instructions for using the MTP Emergency (PPC) disks are included in the "Using the MTP Emergency (PPC) Disks" section of the MacTest Pro for Power Macintosh User's Guide.

* Use the "MTP Emergency (PCI PPC)" disk with the following computers: Power Macintosh 7200, 7500, 8500 and 9500 series, and PowerBook 5300 and 2300 series. This disk contains the MTP Emergency application, System 7.5.2, and required enablers.

* Use the "MTP Emergency (NuBus PPC)" disk with the following computers: Power Macintosh 6100 series, 7100 series, 8100 series, Performa 6100 series, Apple Workgroup Servers 6150, and 8150. This disk contains the MTP Emergency (PPC) application, System 7.5, and required enablers.

NOTE: The Apple Workgroup Server 9150 requires different system software than what is provided on either of the MTP Emergency (PPC) disks. To create a bootable emergency disk for this computer, please refer to the instructions included in the electronic document "How to Make Floppy Disks", which is located in the "Build Diskettes" folder on the MacTest Pro for Power Macintosh CD.

NOTE: For the Performa 6200 and 6300 series, and for the Power Macintosh 5200 and 5300 series, you must boot from the Apple Macintosh

CD which came with the computer. Then launch MTP Emergency (PPC) from the "MTP Emergency (NuBus PPC)" disk. (It is not possible to create a bootable MTP Emergency (PPC) disk for these computers, due to the size of system software.)

NONBOOTABLE DISKS

Two of the four disks in the new MacTest Pro for Power Macintosh disk set are nonbootable: they do not contain System files.

* "MacTest Pro (App+Mods1 PPC)" contains the MacTest Pro for Power Macintosh application, the commonly used CPU and peripheral test modules, Hardware Info, Software Info, and the READ ME and VERSION INFO files.

* "MacTest Pro (App+Mods2 PPC)" contains the MacTest Pro for Power Macintosh application, tests for serial ports and cards, as well as printer and display utilities.

OPERATING TIPS - WORKAROUNDS - KNOWN BUGS

The "Operating Tips - Workarounds - Known Bugs" listed here are either new with this release or represent issues that all MacTest Pro for Power Macintosh users MUST be aware of. An electronic copy of the most recent User's Guide is included in the "Documentation" folder on the MacTest Pro for Power Macintosh CD.

*** Display Service Utility ***

Display Service Utility is not a test module; it is a stand-alone application distributed with MacTest Pro for Power Macintosh as a convenience to service technicians. Refer to the Display Service Utility's own READ ME file for more information.

Because Display Service Utility's "settings restore" option creates a file to temporarily store settings, it cannot be run from the CD-ROM or other locked media. Move the Display Service Utility application to the hard drive or to an unlocked disk before using it.

*** MacTest Pro for Power Macintosh ***

Although Power Macintosh computers with PCI expansion slots can support the addition of NuBus cards via a third-party PCI-to-NuBus bridge product, MacTest Pro for Power Macintosh at this time does not support any NuBus cards installed in such a bridge. For example, the Hardware Info test module will not list these cards in the Expansion Slot Information.

Help text cannot be printed.

Printing with QuickDraw GX is currently not supported.

Test modules that turn off AppleTalk (see User's Guide for additional information) can interrupt some network services, such as the Apple Laserwriter Bridge. This results in an alert to the user, which must be dismissed by the user before testing will continue. This interruption can impact the looping of tests. Do not leave the machine unattended until at least one loop of testing has been completed.

*** MTP Emergency (PPC) ***

Always connect SCSI hard drives to the standard SCSI connections provided by the Power Macintosh hardware before running diagnostic tests. If you run hard drive tests on drives connected to a 3rd party SCSI bus (i.e. expansion slot card), then MacTest Pro for Power Macintosh may hang, or may incorrectly report a hard drive failure. If you subsequently run a logic board test, it may incorrectly report a logic board failure. Do not reject a hard drive or logic board based on these false reports. Turn off the Power Macintosh, reconnect the SCSI hard drive to a standard SCSI connection and restart. Then launch MacTest Pro for Power Macintosh and start the tests again.

The CPU clock speed that is displayed in the Hardware Info Log and by MTP Emergency is an approximation based on information gathered from the system; the presence of accelerator cards may affect the accuracy of this information.

On some Workgroup Servers, the machine name may be reported as the Power Macintosh on which the Workgroup Server is based (or vice-versa) depending on the version of System software which is running. For example, a Workgroup Server 6150 may be incorrectly identified as a Power Macintosh 6100.

*** Ethernet Card Tests (PPC) ***

The "Test Info" and the "Operation Info" in the MacTest Pro for Power Macintosh application state that you may run the Ethernet Card Tests (PPC) while the card is connected to a network. This is INCORRECT. Running the test while connected to a network may result in a crash or false failure of the test. To run the test correctly, disconnect the card from the network, and restart the Macintosh before launching MacTest Pro for Power Macintosh.

*** Expansion Card Tests (PPC) ***

This first release of Expansion Card Tests (PPC) covers only NuBus cards; it does not yet cover the HPV video card in the PDS slot, nor does it cover any cards in PCI slots.

*** Mass Storage Device Tests (PPC) ***

The Mass Storage Device Tests (PPC) module is designed to test all CD-ROM drives, hard drives and tape drives released by Apple, when installed with driver software by Apple. The test module will load and attempt to run on non-Apple devices (see below) and/or with non-Apple drivers (such as FWB CD-ROM Toolkit), however the Mass Storage Device Tests (PPC) module has not been tested with third-party CD-ROMs and drivers. Any results which may be obtained will not be reliable.

Mass Storage Device Tests (PPC) does not currently support CD-ROMs with blocksizes other than 2048 bytes, or hard drives with blocksizes other than 512 bytes (such as 4Gb drives which may have blocksizes larger than 512 bytes). Any results which may be obtained will not be reliable.

Mass Storage Device Tests (PPC) can test a PCMCIA card which is an IDE hard drive (except on PowerBook 500 series computers). The test module may load and attempt to test other PCMCIA devices (such as flash cards), however any test results which may be obtained will not be reliable.

When you are testing a DDS-DC tape drive, be sure to use a properly formatted known-good tape (for example, if you insert a 'Helical Scan' tape, the test will fail). Also, if the write protect switch on the tape is enabled, the test will fail.

Mass Storage Device Tests (PPC) can only test devices on the primary SCSI bus. To test devices which are connected to a secondary or tertiary SCSI bus, you must first disconnect the device, and reconnect it to the primary SCSI bus.

Before running the Hard Drive Seek Test option of the Mass Storage Device Tests (PPC) module on a Power Macintosh 7200, 7500, or 8500 series computer, you must set the Control Panel Energy Saver Sleep Setup settings to "Never". Otherwise, the test may hang or fail when the hard drive goes to sleep (spins down).

When running Mass Storage Device Tests (PPC), if the CD-ROM test disc was already inserted in the CD-ROM drive when a test failure is detected, the CD-ROM test disc may not eject from the CD-ROM drive. To eject the CD-ROM test disc, run the CD-ROM portion of the Mass Storage Device Tests (PPC) again, and then cancel the test after the CD-ROM test disc is ejected. Or, reboot the computer, and the CD-ROM test disc will be ejected automatically.

VERSION INFO

Information about the current versions of System Enablers, and MacTest Pro for Power Macintosh test modules can be found in the following TIL article: Article 19884: "**MacTest Pro for Power Macintosh Version Info**"
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MacTest Pro: Power Macintosh Version Info

This article is the MacTest Pro for Power Macintosh Version Information file.
This article has been archived and is no longer updated by Apple.
The information in this VERSION INFO file is effective as of 02/21/96, and remains effective until the next update of MacTest Pro for Power Macintosh.

SUMMARY

This file contains useful information about the current versions of all MacTest Pro for Power Macintosh test modules and disks, as well as all currently available System Enablers.

MacTest Pro disk	Current Version	Notes
MacTest Pro (App+Mods1 PPC)	1.0	
MacTest Pro (App+Mods2 PPC)	1.0	
MTP Emergency (NuBus PPC)	1.0	1
MTP Emergency (PCI PPC)	1.0	2
MacTest Pro (PPC)	1.0	

Notes:
1 - 1.44 MB disk for use on Power Macintosh computers with NuBus slots
2 - 1.44 MB disk for use on Power Macintosh computers with PCI slots, and PowerPC based PowerBooks**

** The following computers are in the PowerPC-based PowerBook computer family: PowerBook 5300, 5300c, 5300ce, 5300cs, 2300c, 1400c, and 1400cs. Additionally PowerBook 200 and 500 series computers which have PowerPC upgrade cards installed are included in the PowerPC-based PowerBook computer family.

Test Module/Application Name	Current Version	Notes
MacTest Pro for Power Macintosh	1.0	
MTP Emerg (PPC)	1.0	1
Ethernet Card Tests (PPC)	1.0	
Expansion Card Tests (PPC)	1.0	
File Checker (PPC)	1.0	
Floppy Drive Tests (PPC)	1.0	
Hardware Info (PPC)	1.0	
Mass Storage Device Tests (PPC)	1.0	
Power Macintosh Tests Vol. 1	4.1	
Power Macintosh Tests Vol. 2	1.0.2	
Power Macintosh Tests Vol. 3	3.0	
PowerBook Series Tests (PPC)	1.0	
RAM/VRAM Tests (PPC)	1.0	
Software Info (PPC)	1.0	
Serial Loopback Tests (PPC)	1.0	

Notes:
1 - available on the MTP Emergency disks and MacTest Pro CD (PPC) only.

********** SYSTEM ENABLERS **********

The most current System Enablers are located in the System Enablers folder located on the MacTest Pro CD.

In some situations, the field appearing in several MacTest Pro windows that identifies the name of the machine being tested can be left blank or list a non-specific computer, e.g. "Macintosh". It can occur when using System 7.5 (or later). The correct name should still appear in the Hardware Info Log. Also the blank, or non-specific field display does not impact tests in any way. You can sometimes change the machine name display by removing from the bootable disk any System Enablers that are not required for the machine under test. Refer to the list of System Enablers below to determine which Enabler is required for each machine.

********** PERFORMA SYSTEM ENABLERS **********

Macintosh Performa 6100 series machines do not require System Enablers, however they do require System 7.5 or later.

Performa	System Enabler	Current Version	Notes
Performa 5200 series	System Enabler 406	1.0	A, B
Performa 5300 series	System Enabler 406	1.0	A, B
Performa 6200 series	System Enabler 406	1.0	A, B
Performa 6300 series	System Enabler 406	1.0	A, B

Notes:
A - Requires System Software 7.5
B - Requires System 7.5 Update 1.0

********** MACINTOSH & POWERBOOK SYSTEM ENABLERS **********

All bootable MacTest Pro Emergency (1.44) disks include System 7.5 and the appropriate Enabler files for the machines that are tested with those disks. Following is a list of the current Enabler files, the machines they support, and the current version numbers.

Most machines that require System Enablers prior to System 7.5, do not require those Enablers when running System 7.5 (or later).

Macintosh	System Enabler	Current Version	Notes
PowerBook 2300/5300	PowerBook 5300/2300/190 Enabler	1.2.1	D
Power Macintosh (NuBus only)	PowerPC Enabler	1.1.1	A
Power Macintosh 5200/75LC	System Enabler 406	1.0	A,B
Power Macintosh 5300/100LC	System Enabler 406	1.0	A,B
Power Macintosh 7200 series	System Enabler 701	1.1	D
Power Macintosh 7500/100	System Enabler 701	1.1	D
Power Macintosh 8500/120	System Enabler 701	1.1	D
Power Macintosh 9500 series	System Enabler 701	1.1	D
Workgroup Server 6150/66	WKGS Enabler	1.0	C
Workgroup Server 8150/110	WKGS Enabler	1.0	C
Workgroup Server 9150/120	WKGS Enabler	1.0	C

Notes:
A - Requires System Software v7.5 or later
B - Requires System 7.5 Update 1.0
C - Requires System Software v7.5.1 or later
D- Requires System Software v7.5.2 or later
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Printers: General Information on Metric Paper Sizes

This article contains information on different Metric paper and envelope size dimensions.
This article has been archived and is no longer updated by Apple.

ISO Paper Sizes

The paper formats defined by ISO in the A, B and C series are used today in nearly all countries apart from North America.

The formats have been determined according to the following rules:

- A0 has an area of one square meter.
- The aspect ratio of all members of the A, B and C-series is sqrt(2) = 1.41421...
- You get the next higher format by cutting the paper in two equal pieces parallel to the shorter side. This results again in a 1 : sqrt(2) format (that's the big advantage of this format).
- The size of a B-series paper is the geometric mean between the size of the corresponding A-series paper and the next bigger A-series paper.For example, B1 is between A1 and A0.
- The size of a C-series paper is the geometric mean between the size of the A-series and B-series paper with the same number.

This means that the following formulas give the dimensions in meters:

Paper Size	Width	Height
A-series	2 ^ (- 1/4 - n/2)	2 ^ (1/4 - n/2)
B-series	2 ^ (- n/2)	2 ^ (1/2 - n/2)
C-series	2 ^ (- 1/8 - n/2)	2 ^ (3/8 - n/2)

Larger sizes have smaller numbers. Sizes larger than those with n = 0 are written as 2 A0 and 4 A0 rather than A(-1) and A(-2).

The following table lists the official definitions of the paper sizes which are the values from the above formulas rounded more-or-less to an integral number of millimeters:

Paper Size	Dimension (millimeters)	Paper Size	Dimension (millimeters)	Paper Size	Dimension (millimeters)
4 A0	1682 x 2378	B0	1000 x 1414	C0	917 x 1297
2 A0	1189 x 1682				
A0	841 x 1189				
A1	594 x 841	B1	707 x 1000	C1	648 x 917
A2	420 x 594	B2	500 x 707	C2	458 x 648
A3	297 x 420	B3	353 x 500	C3	324 x 458
A4	210 x 297	B4	250 x 353	C4	229 x 324
A5	148 x 210	B5	176 x 250	C5	162 x 229
A6	105 x 148	B6	125 x 176	C6	114 x 162
A7	74 x 105	B7	88 x 125	C7	81 x 114
A8	52 x 74	B8	62 x 88	C8	57 x 81
A9	37 x 52	B9	44 x 62	C9	40 x 57
A10	26 x 37	B10	31 x 44	C10	28 x 40

Some of the more popular sizes:

Size	Purpose
A0	technical drawings
A4	letters, magazines, documents
A5	books
C4, C5, C6	envelopes
B4, A3	supported by many copy machines, newspapers

There are also strip formats possible, for example:

Size	Dimensions
1/3 A4	99 x 210

2/3 A4	198 x 210
1/4 A4	74 x 210
1/8 A4	37 x 210
1/4 A3	105 x 297
1/3 A5	70 x 148

All these formats are paper end formats. In other words, these are the dimensions of the paper delivered to the user/reader. Other standards define slightly bigger paper sizes for applications where the paper will be cut to the end format later (for example, after binding).

The ISO DL envelope format has the dimensions 220 x 110 millimeters.
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H.320/ISDN Dialing Strings for Apple Media Conference (5/96)

How do I enter the SPIDs (Service Provider IDs) in Apple Media Conference for an ISDN line if it's an NI1 line, or if it's a 5ESS line?

This article has been archived and is no longer updated by Apple.

In the United States there are two standards of ISDN lines, National Internet 1 (NI1) and 5ESS. The two standards were created by Northern Telecom and AT&T respectively when the initial H.320 specification did not clearly define the protocol that is used on the D (signaling) channel. Which standard you use depends on what type of equipment has been installed at you telephone provider's central office.

NI1 internet service usually consists of two separate SPIDs. One number for each B (bearer) channel. Typically these B channels are 64 Kbps wide, and when bonded, can provide a 128 Kbps effective throughput connection (144 Kbps including 16 Kbps D channel).

5ESS service usually consists on only one SPID that represents both B channels. AT&T initially thought they might run out of phone numbers, so their switch uses the single number to activate 2 B channels, all seamless to the ISDN customer. Typically these 5ESS B channels are 56 Kbps wide, and when bonded, can provide a a 112 Kbps effective throughput connection (128 Kbps including 16 Kbps D channel).

So with that in mind, here are some sample strings you might use when dialing an ISDN line from Apple Media Conference.

```
Sample local call, 1 channel
  XXXXXXX

Sample local call, 2 channels*
  XXXXXXX&XXXXXXX

Sample local call, 1 channel needing outside line prefix
  9XXXXXXX  or  8XXXXXXX

Sample local call, 2 channels* needing outside line prefix
  9XXXXXXX&9XXXXXXX  or  8XXXXXXX&8XXXXXXX

Sample long distance call (800 area code), 1 channel
  1800XXXXXXX

Sample long distance call (800 area code), 2 channels*
  1800XXXXXXX&1800XXXXXXX

Sample long distance call (800 area code), 1 channel outside line prefix
  91800XXXXXXX  or  81800XXXXXXX

Sample long distance call (800 area code), 2 channels* outside line prefix
  91800XXXXXXX&91800XXXXXXX  or  81800XXXXXXX&81800XXXXXXX

Sample long distance call (800 area code), 1 channel long distance access code
  103331800XXXXXXX

Sample long distance call (800 area code), 2 channels long distance access code
  103331800XXXXXXX&103331800XXXXXXX


* 2 Channel calls requiring both numbers are applicable ONLY when calling a H.320 system using a NI1 line.
```

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Color LaserWriter 12/600 PS: Printer Utility and Win95

I want to turn off the startup page on my Color LaserWriter 12/600 PS from my Windows 95 computer. I am using the bi-directional parallel cable to connect to the printer.
This article has been archived and is no longer updated by Apple.
In Windows 95 you can use the Apple Printer Utility with NetWare configurations only. If you do not have NetWare you can use the Apple Printer Utility on the parallel port from a Windows 3.1 system.

When you run the Apple Printer Utility, the parallel option will either be greyed out or missing. This is normal, as the Network option is for using the utility through a NetWare connection.

Note: Newer versions of the Apple Printer Utility for Windows remove the parallel option instead of greying it out.
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AppleWorks: Using ImageWriter II‘s Sheetfeeder

An ImageWriter II doesn't print more than 11 inches on legal size (14-inch) paper fed through the sheetfeeder.
This article has been archived and is no longer updated by Apple.
Workaround:

1. From AppleWorks, identify the ImageWriter II as a custom printer.

2. Under printer codes, select either subscript or superscript begin.

3. Insert an ESCAPE H 2016.
The H must be a capital H. The code ESCAPE H 2016 sets the form length to 14 inches (in increments of 1/144 of an inch).

4. At the top of the document, by typing the open-Apple O command and the appropriate code:

    a. Insert the subscript or superscript begin, whichever you used in step 2
    b. Set the page length to 14 inches.

You should be able to print legal size documents from this AppleWorks setup using the sheet feeder on the ImageWriter II.

The problem has been passed on to the product engineer.
Published Date: Feb 18, 2012

LaserWriter 16/600 PS: Novell Frame Types (5/96)

I am running a Novell Network, and have multiple frame types, 802.2 and 802.3. When I startup my LaserWriter 16/600ps it will only see part of my network. I have isolated it down to the frame type. I have concluded that it switches frames types randomly. Is there a way to manually set it? Is it possible to lock this setting in?

This article has been archived and is no longer updated by Apple.

The LaserWriter 16/600 PS sends a request to the network at startup. Whichever server responds first determines the frame type the printer will use. There is no software that allows you to switch or manually set this option. You may want to contact Novell for suggestions on using the same frame type across your network.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.

Published Date: Feb 18, 2012

Color LaserWriter 12/600PS: Installing Internal Hard Drive

I'm trying to install an internal 40 MB hard drive into my Color LaserWriter 12/600 PS. It is not recognizing the hard drive. When I power up the printer, the status panel indicates a hard drive error; the following LEDs are on: [Paper Out/Paper Jam/Magenta toner/Maintenance Light #2].

When installing the hard drive, I noticed that the connector on the hard drive is larger than the ribbon cable connector. On which side of the hard drive connector should I align the ribbon cable?
This article has been archived and is no longer updated by Apple.
It's likely that the ribbon cable is not properly connected to the hard drive.

Align the ribbon cable on the left side of the hard drives connector. After the ribbon cable is connected, there should be four rows of pins exposed on the right side of the hard drive connector.
Published Date: Feb 18, 2012

Apple Remote Access: Shutdown Delay

Why does my Power Macintosh 9500 freeze on shutdown when the Apple Remote Access (ARA) 2.0.1 extension is active? How can I stop this from happening?
This article has been archived and is no longer updated by Apple.
Your Power Macintosh 9500 is technically not freezing, it is pausing as ARA examines the serial port during the shutdown process. Since the pause may take up to 10 minutes, the computer certainly could appear to be frozen. Upgrading your system software with System 7.5 Update 2.0 will solve this issue.

NOTE: This issue seems to occur when using an external modem and not when using a GeoPort. This is because the GeoPort uses its own drivers, while an external modem communicates through the serial port drivers which is causing this issue.
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PC Compatibility Cards: General Questions & Answers (11/96)

The article answers the following general questions about Apple's PCI PC Compatibility Cards:

1) Previously PC/DOS Compatibility cards did not have joystickA/joystickB capabilities. Because of this, customers were not able to hook up the 'enhanced' joysticks that are becoming more common (FlightStick Pro, Wingman Extreme, etc). Do these new PC Compatibility Cards have full joystick port capabilities?

2) The APPLEVDO.INF file that comes with PC Setup 1.5 has VDIFs for Apple's current display models for Windows 95. Some customers have asked for a monitor description file for their Apple monitors on 'real' PC-compatible computers. The refresh rates for the generic SVGA VDIFs included with Win95 are not very good. Will this file be posted to Apple's Software Updates areas?

3) In Appendix D of the 7-inch PC Compatibility Card User Manual (technical specifications), it states that the card is compatible with 640 x 480 and 800 x 600 resolutions. However, Appendix C of the user manual refers to resolutions up to 1280 x 1024. Why is Appendix C different from Appendix D?

4) Some customers must provide their Ethernet addresses before being allowed to connect to their university or business network. Because of the processor chipset on the new PC Compatibility cards (Curio Prime) having two Ethernet IDs, some customers will need to provide BOTH of these ID numbers. Is there any way to find out both Ethernet IDs? Do the processor chipset's (Curio Prime) dual Ethernet IDs share the network bandwidth or do they each have a full 10 MB bandwidth?

5) How does Apple officially distinguish between the two PC Compatibility cards? I have seen them referred to as "the 7-inch card'" or "the 12-inch card" as well as by "with Pentium" or "with 586". Which is correct?

6) How much and what kind of VRAM (video DRAM) come with the PC Compatibility Cards?

This article has been archived and is no longer updated by Apple.

1) Question: Previously PC/DOS Compatibility cards did not have joystickA/joystickB capabilities. Because of this, customers were not able to hook up the 'enhanced' joysticks that are becoming more common (FlightStick Pro, Wingman Extreme, etc). Do these new PC Compatibility Cards have full joystick port capabilities?

Answer: The joystick port does support both A and B channel, so the enhanced joysticks should work.

2) Question: The APPLEVDO.INF file that comes with PC Setup 1.5 has VDIFs for Apple's current display models for Windows 95. Some customers have asked for a monitor description file for their Apple monitors on 'real' PC-compatible computers. The refresh rates for the generic SVGA VDIFs included with Win95 are not very good. Will this file be posted to Apple's Software Updates areas?

Answer: The APPLECDO.INF file will be posted to all of Apple's Software Updates sites.

These articles can help you locate the software update mentioned here:

* "Where To Find Apple Software Updates" - Lists online services for free Apple software updates.

* "Obtaining Apple Product Support in the USA" - Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech Info Library.

3) Question: In Appendix D of the 7-inch PC Compatibility Card User Manual (technical specifications), it states that the card is compatible with 640 x 480 and 800 x 600 resolutions. However, Appendix C of the user manual refers to resolutions up to 1280 x 1024. Why is Appendix C different from Appendix D?

Answer: Appendix D refers to SVGA modes that are supported by the 7-inch PC Compatibility card. Appendix C covers resolutions the 7-inch PC Compatibility card can support with multiple-scan monitors only.

The 12-inch PC Compatibility card can have an additional 1 MB of VRAM added to it which allows it to support the additional SVGA modes of 1024 x 768 and 1280 x 1024.

4) Question: Some customers must provide their Ethernet addresses before being allowed to connect to their university or business network.

Because of the processor chipset on the new PC Compatibility cards (Curio Prime) having two Ethernet IDs, some customers will need to provide BOTH of these ID numbers. Is there any way to find out both Ethernet IDs? Do the processor chipset's (Curio Prime) dual Ethernet IDs share the network bandwidth or do they each have a full 10 MB bandwidth?

Answer: The Ethernet addresses are sequential. The forty-eighth bit of the address is ignored at the data link error. Any utility that worked on the PC to get the Ethernet address should still work. One example is Netmanage's Chameleon. It displays the Ethernet address on the PC in its configuration window. WINIPCFG.EXE also returns the Ethernet address. This is included with Microsoft TCP/IP in Windows 95.

5) Question: How does Apple officially distinguish between the two PC Compatibility cards? I have seen them referred to as "the 7-inch card"' or "the 12-inch card" as well as by "with Pentium" or "with 586". Which is correct?

Answer: The official names are:

* 7-inch PC Compatibility Card
586 processor

* 12-inch PC Compatibility Card
Pentium processor

6) Question: How much and what kind of VRAM (video DRAM) come with the PC Compatibility Cards?

Answer:

7 Inch (586 Card)
---
1 MB video DRAM, non-expandable

12 Inch (Pentium Card)
---
1 MB video DRAM (physical/logical), expandable to 2 MB(physical/logical) total using:

Two of the 5V, 256K x16, 60 ns, standard fast paged mode SOJ (standard outer J pin) package DRAM chips (40-pin).

Some sample manufacturers and their part numbers are:
Micron #MT4C16257DJ-6
NEC #UPD424260LE60R
Samsung #KM416C256BJ-6
Hyundai #HY514260BJ-60

Article Change History:
14 Nov 1996 - Added info about VRAM.
29 Jul 1996 - Reworded for clarity.
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Plenum Cable: Definition

I sometimes see network cabling referred to as "plenum" cable. What does this mean?
This article has been archived and is no longer updated by Apple.
Plenum is the area between the ceiling and the floor above it. This is a common location for network cabling. Some federal, state and local fire codes restrict the type of cabling (for data and other uses) than can be installed in this area.

Plenum cable is usually teflon-coated. In the event of a fire, it is designed to burn without giving off toxic fumes. Fire code restrictions typically require non-plenum cable to be installed in a protective conduit.
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MacTest Pro: 68k Macintosh Computers Version Info

This article is the MacTest Pro for 68K Macintosh computers Version Information file.
This article has been archived and is no longer updated by Apple.
The information in this VERSION INFO file is effective as of 02/21/96, and remains effective until the next update of MacTest Pro.

SUMMARY
This file contains useful information about the current versions of all MacTest Pro 68K test modules and disks, as well as all currently available System Enablers.

MacTest Pro disk	Current Version	Notes
MacTest Pro (App+Mods Vol1)	7.0	
MacTest Pro (App+Mods Vol2)	7.0	
MTP Emergency (SSW 6.0.8)	5.0	2
MTP Emergency (680x0)	5.0	1
MacTest Pro CD	5.0	

Notes:
1 - 1.44 MB disk, for use on 68K Macintosh computers with 1.44 MB floppy drive.
2 - 800 K disk, for use on 68K Macintosh computers with 800K floppy drive.

Test Module/Application Name	Current Version	Notes
MacTest Pro Application	1.3	
MTP Emergency Application	1.1	1
Communication Ports Tests	1.3	
DOS Compatible Card Tests	2.0	
Ethernet Card Tests	2.0	
Expansion Card Tests	3.0	
File Checker	2.1.1	
Floppy Drive Tests	1.2	
Hardware Info	1.9.7	
Machine Checker	1.5	
Macintosh Tests Vol. 1A	3.0	
Macintosh Tests Vol. 1B	2.0	
Macintosh Tests Vol. 2	7.0.1	
Macintosh Tests Vol. 3	2.0	
MacTest Pro Help (B&W)	2.0	
Mass Storage Device Tests	3.0	
Modem Tests	1.1	
Power Macintosh Card Tests	2.0	
PowerBook Series Tests	2.0	
RAM/VRAM Tests	1.0.1	
Software Info	1.9.1	
Workgroup Server PDS Card Tests	1.1	

Notes:
1 - available on the MTP Emergency disks and MacTest Pro CD only.

****
********** SYSTEM ENABLERS **********

The most current System Enablers are located in the System Enablers folder located on the MacTest Pro CD.

In some situations, the field appearing in several MacTest Pro windows that identifies the name of the machine being tested can be left blank or list a non-specific computer, e.g. "Macintosh". This occurs on some machines when both a regular Macintosh System Enabler and a newer Performa System Enabler (3xx series) are on the same bootable disk. It can also occur when using System 7.5 (or later). The correct name should still appear in the Hardware Info Log. Also the blank, or non-specific field display does not impact tests in any way. You can sometimes change the machine name display by removing from the bootable disk any System Enablers that are not required for the machine under test. Refer to the list of System Enablers below to determine which Enabler is required for each machine.

********** PERFORMA SYSTEM ENABLERS **********

The Macintosh Performa 200, 400, 405, 410, and 430 do not require System Enablers.

The Performa 580CD and 640 series require System Software 7.5, and System 7.5 Update 1.0.

Performa	System Enabler	Current Version	Notes
Performa 250	System Enabler 332	1.1	A, I
Performa 275	System Enabler 332	1.1	B, I
Performa 450	System Enabler 308	1.0	C, I
Performa 460/466/467	System Enabler 308	1.0	D, I
Performa 475/476	System Enabler 364	1.1	E, I
Performa 520	System Enabler 332	1.1	F, I
Performa 550	System Enabler 332	1.1	G, I
Performa 575/577/578	System Enabler 364	1.1	E, I
Performa 600	System Enabler 304	1.0.1	H, I
Performa 630 series	System Enabler 405	7.1.2p	J

Notes:
A - Australia only market. Can also be tested using System Enabler 401 v1.0.5.
B - Japan only market. Has no equivalent Macintosh System Enabler.
C - Can also be tested using System Enabler 003 v1.1.
D - Has no equivalent Macintosh System Enabler.
E - Can also be tested using System Enabler 065 v1.2.
F - Japan only market. Can also be tested using System Enabler 403 v1.0.2.
G - Can also be tested using System Enabler 403 v1.0.2.
H - Can also be tested using System Enabler 001 v1.0.1.
I - Requires System Software 7.1p (Performa version)
J - Requires System Software 7.1.2p (Performa version)

********** MACINTOSH & POWERBOOK SYSTEM ENABLERS **********

All bootable MacTest Pro Emergency (1.44) disks include System 7.5 and the appropriate Enabler files for the machines that are tested with those disks. Following is a list of the current Enabler files, the machines they support, and the current version numbers.

The Macintosh Plus, SE, SE/30, Classic, Classic II, LC, LC II, Macintosh II, IIx, IIcx, IIci, IIfx; PowerBook 100, 140, 145, 145B, 170; Quadra 700, 900, 950; and Apple Workgroup Server 95/95+ do not require System Enablers.

The Macintosh LC 580 requires System Software 7.5, and System 7.5 Update 1.0. Most machines that require System Enablers prior to System 7.5, do not require those Enablers when running System 7.5 (or later).

Macintosh	System Enabler	Current Version	Notes
Macintosh IIvi	System Enabler 001	1.0.1	G
Macintosh IIvx	System Enabler 001	1.0.1	G
Macintosh LC III	System Enabler 003	1.1	G
Macintosh LC 475	System Enabler 065	1.2	G
Macintosh LC 520	System Enabler 403	1.0.2	G
Macintosh LC 550	System Enabler 403	1.0.2	G
Macintosh LC 575	System Enabler 065	1.2	G
Macintosh LC 630	System Enabler 405	7.1.2p	F
Macintosh Color Classic	System Enabler 401	1.0.5	G
Macintosh Centris 610	System Enabler 040	1.1	G
Macintosh Centris 650	System Enabler 040	1.1	G
Macintosh Centris 660AV	System Enabler 088	1.2	C, G
Macintosh Quadra 605	System Enabler 065	1.2	G
Macintosh Quadra 610	System Enabler 040	1.1	G
Macintosh Quadra 630	System Enabler 405	7.1.2p	F
Macintosh Quadra 650	System Enabler 040	1.1	G
Macintosh Quadra 660AV	System Enabler 088	1.2	C, G
Macintosh Quadra 800	System Enabler 040	1.1	G
Macintosh Quadra 840AV	System Enabler 088	1.2	G
PowerBook 150	PowerBook 150 Enabler	1.1	G
PowerBook 160	System Enabler 131	1.0.3	A, G
PowerBook 165	System Enabler 131	1.0.3	A, G
PowerBook 165c	System Enabler 131	1.0.3	A, G

PowerBook 180	System Enabler 131	1.0.3	A, G
PowerBook 180c	System Enabler 131	1.0.3	A, G
PowerBook 190 Series	PowerBook 5300/2300/190 Enabler	1.2.1	H
PowerBook Duo 210	PowerBook Duo Enabler	2.0	B, G
PowerBook Duo 230	PowerBook Duo Enabler	2.0	B, G
PowerBook Duo 250	PowerBook Duo Enabler	2.0	G
PowerBook Duo 270c	PowerBook Duo Enabler	2.0	G
PowerBook Duo 280	PowerBook Duo Enabler	2.0	D
PowerBook Duo 280c	PowerBook Duo Enabler	2.0	D
PowerBook 520/540	PowerBook 500 Series	1.0.2	D
Power Macintosh Upgrade Card	PowerPC Upgrade Card	1.0.1	G
Macintosh Processor Upgrade	601 Processor Upgrade	1.0	E
Workgroup Server 60	System Enabler 040	1.1	G
Workgroup Server 80	System Enabler 040	1.1	G
Apple Macintosh TV	System Enabler 404	1.0	G

Notes:
A - System Enabler 131 replaces System Enabler 111 and System Enabler 121.
B - PowerBook Duo Enabler replaces System Enabler 201.
C - Macintosh Centris 660AV has been renamed to Macintosh Quadra 660AV.
D - Requires System Software v7.1.1 or later.
E - Requires System Software v7.5 or later.
F - Requires System Software v7.1.2.
G - Requires System Software 7.1
H - Requires System Software v7.5.2 or later
Published Date: Feb 18, 2012

Macintosh 512K ROM Upgrade: Memory Available

This article has been archived and is no longer updated by Apple.
The upgrade makes a negligable difference of 1.5K in available memory over the 372K available on the original Macintosh 512K. This is the result of the combination of more system stuff and an increase in the system heap for global variables.

The benefit of the 128K ROMs is in the increased speed in performing rote functions: opening and closing windows, redrawing, and accessing the faster ROM-based routines instead of the slow RAM-based routines.

Published Date: Feb 18, 2012

System 7.5.3: Not Supported With WGS 95 PDS card

Installing System 7.5 onto an Apple Workgroup Server (AWS) 95 works without problem but after installing the update 2.0, it hangs during the initial boot sequence.
This article has been archived and is no longer updated by Apple.
This appears to be caused by the presence of the Processor Direct Slot (PDS) card. The Apple PDS card included with the AWS 95 is only intended to be used with the Apple Workgroup Server 95 and Under the A/UX operating system shipped with it.

This card was never tested under any other system software and none of the available versions of the Macintosh System software available now or in the future include drivers to support this card.

Published Date: Feb 18, 2012

Retrospect 3.0: Virtual Memory and "dev.c-1027" error

When I use Retrospect 3.0 on my Power Macintosh 7250 and 8550 I get an error message "dev.c-1027."
This article has been archived and is no longer updated by Apple.
Apple only supports Retrospect when it is bundled with the PowerMacintosh 7250 and 8550 computers, Dantz provides technical support any other configuration of this product.

The following workaround to this issue was posted to internet page: http://www.macintouch.com/

Workaround from Dantz for an issue with Retrospect 3.0 in a configuration with more than 40 MB or RAM:

The following instructions patch Retrospect 3.0 to avoid an Assertion check at "dev.c-1027" error. This issue only occurs when you have more than 40 MB of installed RAM, and are also using Apple's Virtual Memory or RAM Doubler by Connectix.

1. Open your copy of Retrospect with ResEdit.
2. Find the 'Def#' resource and open it.
3 .Scroll to the end and locate the text "key: PhMP".
4. Change the data field that says "$00000028" to say "$00000000".
5. Save and Quit.

Your patched copy of Retrospect 3.0 will now work properly with Virtual Memory or RAM Doubler enabled.

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MAE: Explanation of Color Flashing (5/96)

Whenever I run a color intensive application on MAE (like Canvas or JPEGView) on my Sparc5 (Solaris 2.5, CDE 1.0.1), the non-MAE windows on my screen explode into a festive assortment of colors. Clicking out of the MAE window and back onto the CDE Workspace returns CDE to its proper colors, but causes the MAE images to go crazy. I've tried resetting the colormap (xstdcmap -all), which took care of some ghostview problems, but nothing has worked for MAE. Any suggestions?

This article has been archived and is no longer updated by Apple.

This is called color flashing, and it is sometimes unavoidable. You apparently have an 8-bit display on your workstation. This means the hardware supports 256 simultaneous colors out of a possible 16 million.

As an example, what happens if MAE is using 256 colors and your other X applications are using some combination of 256 different colors? The X server notices which window has the colormap focus and loads the hardware colormap with the corresponding set of colors. Change the focus to a different window, and the server loads that window's set of colors.

To avoid this, use fewer colors or get a 24-bit framebuffer. Note also that the MAE General control panel has an option to help reduce flashing, but it has limitations.

Published Date: Feb 18, 2012

MAE: Zero Key on Sun Type 5 Keyboard Does Not Work (5/96)

When running MAE and using a Sun Type 5 keyboard, the Zero key (0) on the keypad does not work.
This article has been archived and is no longer updated by Apple.
Although the README for Patch 2.0 notes this as being fixed, the fix was never incorporated in the release. However, engineering has posted a release on http:// www.mae.apple.com or ftp.support.apple.com to correct this.

Locate the following directory:

/pub/mae/patches/mae_2.0_updates/sun_key_0

This directory contains keymap definitions for MAE v2.0 or 2.0.1 when using a Sun Type 5 keyboard. Specifically, the zero (0) key on the keypad will now function properly.

To install and use these files, perform the following steps:

Step 1

FTP all files in the directory `patches/mae_2.0_updates/sun_key_0' to your local workstation.

Step 2

Place the files (except for the README) into the directory:

lib/KeymapDepot/sun

This directory is located within the Apple directory in which you originally installed MAE. Note that this action replaces the following files within the `sun` subdirectory:

sun.default
sun.type5.PC.US
sun.type5.UK
sun.type5.US
sun.type5.french
sun.type5.german
sun.type5.japanese

Step 3

If you already had MAE active when you performed Steps 1 and 2, open the MAE Keyboard Control Panel and select any file that is different from the one you currently have selected. Then reselect your desired file. This action reloads the keymap file with the new version. Alternatively, you can also perform the Restart command from the Special menu in the MAE Finder.

Step 4

If you did not have MAE active when you replaced the files, no other actions are necessary. The new keymaps will be utilized when you start MAE.

Published Date: Feb 18, 2012

MAE 2.0: "AT_sigio select:bad file number" Shell Error (5/96)

While MAE is running, I notice the following error in the shell that MAE was started from:

AT_sigio select:bad file number

What is the reason for this, and what is the workaround?

This article has been archived and is no longer updated by Apple.

This error is a result of too many open files within the MAE environment, and can be caused by several factors. This typically, but not always, occurs when attempting to perform a network function like printing, copying, and so on. These factors include:

* A large number of fonts.
* Several applications open at the same time.
* Applications that open files for temporary purposes, like 'scratch' files common in graphic applications.
* Database applications that open several resource files.
* Attempting to print files that have a large number of embedded graphics.
* Several users connected with Personal File Sharing while you attempt to open applications.
* A large number of control panels and/or extensions

To resolve this, you will first need to determine which of the factors above is causing this error message, and then minimize its use.

As of May 1996, there is no resolution to this issue. It is caused by NFILES in A/UX (MAE's source) hard coded to 128. This will not be addressed in MAE 2.0.x.

Published Date: Feb 18, 2012

MAE 2.0: Appropriate Version of STREAMS With HP-UX 9.0.x

This article explains which version of the STREAMS package included on the MAE CD-ROM disc is appropriate for HP-UX 9.0.x. STREAMS is not necessary for either HP-UX 10.x, or for Solaris, because it's built into the OS.

NOTE: Apple has licensed the STREAMS package from HP for use with the AppleTalk kernel components within MAE. If a user has an issue with the STREAMS package, they should to contact their HP support representative.
This article has been archived and is no longer updated by Apple.

HP-UX Version	STREAMS version
9.0.1	STREAMS3
9.0.2*	STREAMS3
9.0.3	STREAMS3
9.0.4*	STREAMS5
9.0.5	STREAMS5
9.0.7	STREAMS5
9.0.8*	STREAMS5

* These HP-UX version are also released for the HP9000 Series 800 systems, however, these OS versions will load on the HP9000 Series 700 systems. MAE is intended only for the HP9000 Series 700 systems.

Published Date: Feb 18, 2012

MAE 2.0: UltraSPARC Issues (5/96)

What issues, if any are there with the UltraSPARC, Sun's new workstation?
This article has been archived and is no longer updated by Apple.
MAE is supported on Sun's UltraSPARC workstation. However, there are a few issues that Apple is aware of at this time.

Failed to get ROM memory at startup of MAE

MAE 2 requires Patch 2 to run under Solaris 2.5 and the UltraSPARC. Upgrade MAE with this patch, and restart your workstation. Upon this restart, MAE will launch successfully.

AppleTalk and 'hme' network interface

MAE, by default, will change permission of the 'le' network interface to allow any user to use AppleTalk. However, the UltraSPARC has a new interface, called 'hme'. To let users, other than root, use AppleTalk on these systems, change the permissions of /devices/pseudo/clone@0:hme to 'rw' for all users.

UltraSPARC with Creator 3D Graphics card

If a user maximizes the MAE window, using the large box button on the
upper right corner of the CDE Motif window, will no longer be refreshed, causing window positions to 'remove' items in the background.

This has been isolated to a bug within CDE and the 3D Graphics card. Apple and Sun engineering are currently working on a solution. The workaround is to not maximize the MAE window to the full size of the screen. Users can issue the command 'xrefresh', but this is not always capable of fixing this issue.

Published Date: Feb 18, 2012

MAE 2.0 DEMO: Error "fatal libX11.so.4: can‘t open file" (6/96)

I installed MAE 2.0 Demo and restarted my workstation. After adding the license.dat file in the apple directory, I attempted to start the MAE Demo and got the following error in the shell:

MAE 2.0.2LM Copyright 1994-1996 Apple Computer, Inc., All rights reserved.
ld.so.1: /opt/apple/bin/legal: fatal: libX11.so.4: can't open file:
errno=2
Killed

What is the solution?
This article has been archived and is no longer updated by Apple.
If your workstation is running Solaris, you need to include the following in the environment variable LD_LIBRARY_PATH directory /usr/openwin/lib.

For csh
'setenv LD_LIBRARY_PATH /usr/openwin/lib'
For sh or ksh
'export LD_LIBRARY_PATH=/usr/openwin/lib'

MAE 2.0 Demo uses a default X Window that uses the libX11.so.4 file to state legal information, and uses that variable to locate the file.

Article Change History:
06 Jun 1996 - Added Solaris reference.

Published Date: Feb 18, 2012

PowerBook: Cable Identification List

This article describes the PowerBook cables, sales part numbers, and service part numbers.

This article has been archived and is no longer updated by Apple.

Name of Cable	Finished Goods	Service Part Number
HDI-30 SCSI System Cable	M2538LL/A	590-0717
HDI-30 SCSI Disk Adapter Cable	M2539LL/A	590-0718
PowerBook Video Adapter Cable	M3927LL/A	922-0831

Apple HDI-30 SCSI System Cable

This cable is used to connect an external SCSI device to your PowerBook. The cable consists of an HDI-30 connector (29 pin plug) and a Centronics 50 pin plug.

Apple HDI-30 SCSI Disk Adapter

This cable is used to connect your PowerBook to a desktop Macintosh computer in SCSI Disk Mode. The cable consists of an HDI-30 connector (30 pin plug) and a Centronics 50 pin plug.

PowerBook Video Adapter Cable

This cable is used to connect an external monitor to the Micro DV-14 Video Out port on your PowerBook. The cable consists of a DV-14 plug and a DB-15 socket.

Part numbers mentioned in this article are accurate as of this writing. Before ordering, verify that they are still correct as they are subject to change.
Published Date: Feb 18, 2012

Color OneScanner 600/27: SW Compat w/ Color OneScanner? (5/96)

Is the Color OneScanner Dispatcher software that was included with the Color OneScanner 600/27 compatible with the original Color OneScanner?

This article has been archived and is no longer updated by Apple.

No, the Color OneScanner Dispatcher software does not support the original Color OneScanner.

Published Date: Feb 18, 2012

MacTCP: Does not support DHCP (5/96)

There is an option in the MacTCP control panel called "Dynamic". Does this mean that MacTCP supports the industry-standard Dynamic Host Configuration Protocol (DHCP) found on Windows NT servers?

This article has been archived and is no longer updated by Apple.

MacTCP does not support the DHCP protocol. Most DHCP servers can support BootP protocol simultaneously. MacTCP used in server mode can work with a BootP server. The Open Transport networking architecture includes a TCP/IP protocol stack that supports DHCP.

MacTCP's dynamic addressing is analagous to AppleTalk's dynamic addressing scheme. When the machine boots, it picks a random IP address and then checks the network to see if another machine has that address. When MacTCP was written, DHCP did not exist. It has since become an industry-standard, so Apple has dropped support for its proprietary dynamic-addressing scheme in favor of the industry standard DHCP.

Published Date: Feb 18, 2012

PC Exchange: Disappearing Files

I am using PC Exchange with a DOS-formatted SCSI drive and files seem to disappear sometimes. Why does this occur?
This article has been archived and is no longer updated by Apple.
PC Exchange (2.0.x) has a limit of displaying 512 files in a subdirectory. Apple is aware of this and it is being investigated by Engineering. There is no known information as to when or if a fix will be available.

Note: This was fixed in PC Exchange 2.2 and File Exchange 3.x.
Published Date: Feb 18, 2012

Monitors Control Panel and "Hidden" Resolutions (5/96)

I was told that my Macintosh Quadra 800 computer supports 800x600 video resolution. I know my monitor also supports this resolution, but I cannot see an option for 800x600 in the Monitors control panel. Is there something I can do to use this resolution?

This article has been archived and is no longer updated by Apple.

800x600 is not a Macintosh resolution. However, some Macintosh computers can support this resolution when used with the appropriate monitor. Unfotunately, computers using System 7.5.1 and higher do not support non-Macintosh "hidden" resolutions, such as 800x600 and 640x400.

If your computer and monitor can both support the non-Macintosh resolution you are looking for, and you do not have System 7.5.1 or higher, you may be able to use the following procedure to select a non-Macintosh resolution.

Step 1

Choose Control Panels from the Apple Menu.

Step 2

Open the Monitors control panel.

Step 3

Hold down the Option key while clicking the 'Options' button in the Monitor control panel.

Step 3

Choose the desired resolution, then click OK.

Published Date: Feb 18, 2012

MAE 2.0: Loss of AppleTalk (5/96)

MAE appears to lose it's access to the AppleTalk network. This typically occurs over the course of a few days, and I have to restart the workstation to get connected to the AppleTalk network again. Stopping and starting the AppleTalk stack with '~/apple/bin/appletalk' does not appear to help.

I sometimes see the error 'Unable to locate /tmp/AppleTalk.Muxid' in the shell that they start MAE from as well.
This article has been archived and is no longer updated by Apple.
When this occurs, verify whether the file '/tmp/AppleTalk.Muxid' is present. If the file is missing, this would explain why MAE is no longer able to access the AppleTalk stack. This file is necessary for MAE to bring up and down the AppleTalk stack cleanly. If the file is removed while MAE is running, it will leave MAE in an odd state that can only be corrected by restarting of the workstation, which will bring the AppleTalk stack back into a clean state.

Some reasons why the file may be missing are; a cron job that deletes files in the /tmp directory at night, or a user indiscriminately removes items in /tmp.

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LaserWriter IINT: Switch Configurations

The LaserWriter IINT has a two-position DIP switch located on the controller panel. This switch is used for controlling the mode of operation, serial port configuration, and communication parameters.

This article has been archived and is no longer updated by Apple.

Switch 1 Switch 2 Meaning

Up Up AppleTalk (Serial Port Disabled)

Down Down RS-232 and RS-422 *
Serial Ports 1200 baud

Up Down RS-232 and RS-422 *
Serial Ports 9600 baud

Down Up Special Diablo 630 emulation

* BOTH serial ports are enabled. Serial communication and AppleTalk communication are NOT compatible and will never occur at the same time.

These serial port configurations are stored in the EEROM as persistent parameters, and can be overridden by downloading a PostScript program. The EEROM configuration is updated to match the switch configurations if:

- the switches are changed between a power-off/on cycle
or
- the switch settings do not match the values in EEROM at start-up
or
- while the printer is on you toggle a switch, wait 30 seconds, and toggle it back.

Other asynchronous configurations of the SCC ports are available. Refer to the current Apple LaserWriter reference manual or the current PostScript Language reference manual for information on setting the parameters of the serial ports.

Article Change History
15 September 1993 - Changed the LaserWriter model designators to upper case.
Published Date: Feb 18, 2012

Power Macintosh 5400 & 6400: Switching to Ethernet (10/96)

I have a Power Macintosh 5400/120 computer which comes with the Apple CS II Ethernet card pre-installed. Using the Network Software Selector, I have switched from Open Transport to Classic AppleTalk. However, the Network control panel does not have an option to switch to EtherTalk. I checked the Extensions folder and the Apple Ethernet CS II extension is installed. How do I switch to EtherTalk?

This article has been archived and is no longer updated by Apple.

The Apple Ethernet CS II card and software only function under Open Transport. Under Classic AppleTalk, the Power Macintosh 5400/120 and Power Macintosh 6400 computers cannot switch to Ethertalk. To connect to an Ethernet network using the Apple Ethernet CS II card and the Power Macintosh 5400/120 or Power Macintosh 6400, you must switch to Open Transport, restart the computer, and then use the AppleTalk control panel to switch to Ethernet.

This article was published in the Information Alley on 3 June 1996.

Article Change History:
29 Oct 1996 - Added 6400 to the title.
20 Sep 1996 - Added Power Macintosh 6400 to discussion.
27 Jun 1996 - Added keyword.

Published Date: Feb 18, 2012

AIMS: Using TCP/IP Network With Windows PCs

I am setting up an Apple Internet Mail Server (AIMS) on a company network for internal e-mail. This mail server will be the only Macintosh computer on our network, so I'll need to configure the PCs with a TCP stack. How do I do this and have the PCs use AIMS?
This article has been archived and is no longer updated by Apple.
If your PC computers are using Windows, they should either have an add in, or built-in TCP stack. Your PCs will also need to have a POP3 Mail client like Eudora installed. If you are using Windows 95, you need to install the TCP stack on each of the clients. Usually the default installation does not install TCP, so you need to install it manually.

Since you want an internal e-mail system, you can use IP addresses to identify all of the computers. If you use IP addressed, you should disable DNS (domain name server) when you setup the TCP properties on the PCs. If you want to use domain names, you will need to run a DNS on one of the computers.

MacDNS, a DNS application, can be run on the same Macintosh computer as AIMS. With a DNS users can refer to others as "user@mycompany.com" as oppose to "user@192.0.0.0"

If you have trouble setting up the TCP/IP connection in Windows, please contact Microsoft for further support.
Published Date: Feb 18, 2012

Power Macintosh 5400/120: Read Me

This article contains the Read Me file for the Power Macintosh 5400/120 computer.
This article has been archived and is no longer updated by Apple.
This document provides late-breaking information that could not be included in your user's manual.

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Tips
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Improving Video Capture

You can increase the speed of video capture by taking one or more of the following actions:

* Turn off virtual memory in the Memory control panel.
* Turn off AppleTalk. (You can quickly turn AppleTalk on or off with the Control Strip, or use the Chooser instead.)
* Reduce the size of the capture window. (160x120 is the best size; also, 320x240 is good.)
* Do not run programs other than the capture application while capturing video.
* Turn off the Menubar Clock in the Date & Time control panel.
* Turn off all unnecessary extensions. Do not turn off QuickTime. (Use the Extensions Manager control panel to turn off extensions; then restart

your computer.)
* Make sure that your hard disk has enough free space to record. If you notice a decline in performance, use a disk optimizer to improve your disk's efficiency.

Software for the GeoPort Adapter and Express Modem

Apple Telecom software is available on the CD that came with your computer. Apple Telecom is the software for the GeoPort Adapter for PowerPC-based computers and the Express Modem for PowerBook computers.

In the U.S. and Canada, MegaPhone is included with the Apple Telecom software. MegaPhone is a screen-based telephone application that supports the telephone capabilities of the Apple Telecom 2.x software using the GeoPort Adapter, such as dialing from a graphical keypad, copying and pasting telephone numbers, and dragging and dropping business card information.

In the U.S., Canada, and Japan, Apple Telecom is also available as part of the GeoPort Adapter Kit, which can be purchased separately. The kit includes MegaPhone as well as SITcomm SE/GTA (a terminal emulation program). Apple Telecom, along with MegaPhone (but without SITcomm) is also available as a free upgrade on CompuServe, America Online, and Apple Internet sites.

If you are using a GeoPort Adapter with Apple Telecom software on any Macintosh model with a PCI expansion slot (such as the 5400, 7200, 7500, 8500, or 9500), be sure to disable LocalTalk by disconnecting any devices attached to the printer port (serial devices can remain attached).

Installing Acrobat Reader from the System Software CD

Adobe Acrobat Reader lets you view and print any Portable Document Format (PDF) file. You'll find several PDF files on your computer's hard disk and on the system software CD that came with your computer. These PDF files contain instructions for using many of the special software programs that came with your computer.

The Acrobat Reader installer file is located in the Apple Extras folder on your hard disk and on the system software CD that came with your computer. You have to run the installer file before your can use Acrobat Reader. Refer to the Installing Acrobat Reader document for installation instructions.

Using the QuickTake 150 Camera

For best results, use the QuickTake Image Access control panel to look at images in the camera and transfer them to your Macintosh. This method is faster and more reliable than using the PhotoFlash program.

Troubleshooting
==========
More troubleshooting information on the issues described below and on other topics, refer to Macintosh Guide (available in the Guide menu when the Finder is active) and the manuals that came with your computer.

Printing Issues

Your system freezes or experiences other issues when printing on a LaserWriter Select 300 or 310 printer. This issue can occur when you attempt to print and your printer is not connected properly to your computer. Trying to cancel printing in the Print Monitor will not solve the issue and may either produce a flashing error message or cause your computer's performance to slow down.

Check to make sure your printer is connected to your computer. If you see a message with a Continue button, click Continue. Normal printing is resumed.

You have trouble printing on a StyleWriter or StyleWriter II printer. Use the StyleWriter 1200 printer driver that came installed on your computer. Do not install your older StyleWriter driver; it is not compatible with PowerPC-based computers.

You have trouble printing with Apple PhotoFlash. Make sure that you have designated a printer in the Chooser. After doing so, open the File menu and choose the Print command.

You can't use the "Print Later" option with a non-networked printer. If you have the Assistant Toolbox extension installed on your computer and you want to use the "Print Later" option when printing on a non-networked printer, you must turn off the Assistant Toolbox extension and restart your computer.

To turn off the Assistant Toolbox extension:

1. Open the Apple () menu and choose Control Panels.
2. Open the Extensions Manager control panel.
3. In the list of extensions, click next to the Assistant Toolbox extension to remove the checkmark.
4. Restart your computer.

You see a low-memory warning when you print Stickies on a StyleWriter, StyleWriter II, or StyleWriter 1200 printer. This issue can occur when the amount of memory Stickies uses is set below 150K. Try increasing the amount of memory available to Stickies. For instructions on changing the memory a program uses, refer to Macintosh Guide (available from the Guide menu when the Finder is active).

Performance Issues

You see a message that not enough memory is available. This issue can occur for several reasons. For detailed tips on memory-related issues, refer to both the troubleshooting information in the manuals that came with your computer, and to the information on memory in Macintosh Guide (available in the Guide menu when the Finder is active).

If this issue occurs after you have opened the Extensions folder in the System Folder and scrolled through a long list of extensions, you can restore normal performance by restarting your computer.

Issues with Sound

When you play back sound you've recorded, you notice clicks, pops, or skips. This issue can occur if you have virtual memory turned on while you're recording sound. Turn off virtual memory before recording. For instructions on turning off virtual memory, refer to Macintosh Guide, available from the Guide menu when the Finder is active.

Adjusting the volume slider in Apple Video Player and other sound applications does not affect the volume, or it turns the volume all the way up or all the way down (allowing no in-between settings). This issue occurs on some newer models that handle sound differently from some older application programs. You can use the system sound settings to adjust the volume. Follow these steps:

1. Open the Apple () menu and choose Control Panels.
2. Open the Monitors & Sound control panel.
3. Click the Sound button.
4. Use the volume or level slider (whichever is available) to adjust the sound volume.

You're using a program that requires the Sound control panel to set sound options. Some application programs that use sound require the Sound control panel, an older control panel that has been replaced on your computer by the Monitors & Sound control panel.

You can install the Sound control panel by doing a custom installation of system software. For instructions, refer to the information on custom installation in the Troubleshooting chapter of the manual that came with your computer. When the Custom Install dialog box appears, click "Sound control panel" in the list, then click Install.

HyperCard version 2.3.3 or earlier does not record sound properly on your computer. Other sound recording application programs, including SimpleSound and the Sound control panel, can record sounds that you can import and play within HyperCard 2.3.

Networking and File Sharing Issues

IMPORTANT For information about Open Transport, see the information on networking in Macintosh Guide and in the manual that came with your computer. Additional information about Open Transport is on your hard disk in a separate folder.

AppleShare displays incorrect information for large drives. If you use File Sharing to share a disk larger than 2 gigabytes (GB), some older computers connected to your computer may display an incorrect size for the disk in the Get Info box. (Get Info reports the disk to be 2 GB in size, even if it is larger.)

Since these older computers do not support the larger drives, they also cannot report correct information about the drives. (Computers with System 7.5 display correct information.)

You can't reconnect to a server. If you unexpectedly lose a connection to a server on which you have items in use, and then choose the server from the Recent Servers item in the Apple menu, you get a message that the disk could not be opened because you do not have enough access privileges or because the server can't be found on the network. To reconnect to the server:

1. Close any open files. If any of your files contain changes that need to be saved, use the Save As command to save them on an available disk.
2. Choose the server from the Recent Servers item in the Apple menu.
3. If necessary, replace the files on the server with the ones you saved on an available disk when the server was not available.

You see zones and/or servers listed in the Chooser, but the network cable is not connected to the computer. This issue can occur if you disconnect the network cable from the back of your computer while the Chooser is open. Be sure to shut down your computer before disconnecting a network cable.

You have issues using AppleShare Server Software version 4.1 or 4.2. AppleShare server software versions 4.1 and 4.2 are not intended for use with PCI-based computers, such as the Power Macintosh 5400, 7200, 7500, 8500, and 9500 computers. If you attempt to use AppleShare

server software version 4.1 or 4.2 with these models, you may experience issues.

Issues Using a RAM disk

You see a message that your RAM disk is unreadable. Under some circumstances you may see the following message after setting up a RAM disk:

"This disk is unreadable by this Macintosh. Do you want to initialize the disk?" (Important: This message applies to the RAM disk, not to your hard disk, which will not be initialized.)

Decrease the size of the RAM disk. If you see the message again, decrease the size again. Continue to decrease in small amounts until the message no longer appears.

Issues with Programs Freezing or Quitting Unexpectedly

MoviePlayer quits unexpectedly. Using MoviePlayer 2.1, you can play a movie at double (2X) size. You cannot present a movie (that is, play the movie on a second monitor) at double size. Presenting a movie at 2X size results in the Movie Player quitting without warning.

WiggleWorks freezes, quits unexpectedly, or won't produce sound. WiggleWorks 1.0 requires special software, Macintalk Pro, to produce sound. The version of Macintalk Pro that comes with WiggleWorks is not compatible with your computer. After installing WiggleWorks, you need to drag a newer version of Macintalk Pro (version 1.4 or later) to the Extensions folder (inside your System Folder).

There are two ways to obtain Macintalk Pro version 1.4:

Install PlainTalk from the Apple Extras folder. PlainTalk includes Macintalk Pro version 1.4, which is placed in the Extensions folder when you install PlainTalk.

Download Macintalk Pro from Apple Computer's America Online or Internet sites. Refer to the manual that came with your computer for information about connecting to Apple's online sites.

If you are unable to obtain Macintalk Pro version 1.4, you can order it from Apple by phone. Refer to the service and support information that came with your computer for the phone number you should call.

Note: Your computer comes with Macintalk 3. WiggleWorks 1.0 does not work with Macintalk 3. To hear sound with WiggleWorks you must have Macintalk Pro version 1.4 in your Extensions folder, but it is not necessary to remove Macintalk 3.

Maple V quits unexpectedly when you change your monitor resolution. This can occur if you use the Control Strip to change the monitor resolution while the Maple V program is active. Use the Monitors & Sound control panel instead of the Control Strip to change screen resolution. For instructions on using the Monitors & Sound control panel, refer to Macintosh Guide (available in the Guide menu when the Finder is active).

When you try to install Adobe Premiere Deluxe, the mouse freezes. This can occur if you have virtual memory turned on and AppleTalk active when you try to install Adobe Premiere Deluxe. Turn off virtual memory and make AppleTalk inactive before installing. For instructions, refer to Macintosh Guide (available from the Guide menu when the Finder is active).

This issue does not occur if you select Adobe Premiere 4.2 installation instead of Adobe Premiere Deluxe.

Issues Using Infrared Features

Farallon AirPath v1.0 and Apple IR File Exchange don't work on your computer. Also, Farallon AirDock and other infrared devices are not detected through a serial port that has been selected in the AppleTalk control panel, nor has the string "(IR)" been appended to the port name. Infrared (IR) features are not fully supported on desktop computers running system software version 7.5.3. An AirDock connected to a selected AppleTalk serial port will, in most cases, operate normally (though forwarding features are disabled). This lets you connect to the desktop system using Personal File Sharing. These issues do not occur on PowerBook computers, and will be corrected on desktop computers in a future update.

Compatibility Issues
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At Ease for Workgroups 3.0 and 3.0.1

In the At Ease Setup program, the "Lock startup volume" checkbox in the User Settings dialog box is dimmed and unavailable. To make the checkbox available, install the At Ease for Workgroups Updater version 3.0.2, which is in the Apple Extras folder on the system software CD that came with your computer.

If you are using a version of At Ease prior to 3.0.2, do not remove the "At Ease ATA Extension" in your Extensions folder. (This extension prevents the "Lock startup volume" checkbox from being available.) If you are using At Ease 3.0.2 or later or you are not using At Ease at all, you

may remove the "At Ease ATA Extension."

For more information, refer to the SimpleText file in the At Ease for Workgroups Updater folder in the Apple Extras folder on the system software CD that came with your computer.

Ethernet Cards

The Ethernet CS II Card requires Open Transport software. To use Open Transport, open the Network Software Selector application in the Apple Extras folder, and select Open Transport networking. Then use the AppleTalk and TCP/IP control panels to set up networking with the Ethernet CS II Card. (Do not use the Network and MacTCP control panels.)

MacIPX is not supported currently by Open Transport and therefore does not work with the Ethernet CS II Card or with any Ethernet PCI card.

The currently shipping versions of Apple IP Gateway and AppleTalk Internet Router are not compatible with Open Transport.

Japanese and Chinese Language Kits

To use the Japanese Language Kit with your computer, you must install version 1.2 or later. In the United States, you can obtain an upgrade by calling Claris at 1-800-293-6617.

To use the Chinese Language Kit with your computer, make sure you use version 1.1.1 or later. To install the Chinese Language Kit version 1.1.1, follow these three steps:

1. Install the WorldScript Updater 1.0.
2. Install the Chinese Language Kit version 1.0 or 1.1.
3. Install the Chinese Language Kit Updater to update your software to version 1.1.1.

IMPORTANT: Be sure to follow the steps in the order shown.

QuarkXPress

To use QuarkXPress with System 7.5.3 on a PowerPC-based computer, you must upgrade to QuarkXPress version 3.32.

SAM Virus Detection

SAM (Symantec AntiVirus for Macintosh) version 4.0 does not work with System Software version 7.5.3. To use SAM, you must obtain SAM version 4.0.6 or later from Symantec Corporation.

Note: The first time you restart your computer after installing SAM, the screen may be only partially redrawn (with a rectangular area missing) after you dismiss the SAM startup message. This screen issue only occurs once after you install SAM.

STF PowerFax PE

If you use PowerTalk Direct Dialup Mail and have trouble sending a fax, it may be because both Direct Dialup and STF PowerFax PE are set to auto-answer. To turn off STF auto-answer, open the STF Setup window and set 'n' to "never" (in the "Answer on 'n' rings" section).

Important Information About Virtual Memory
==========
Virtual memory (VM) is a feature of the Macintosh that lets you use part of your hard disk as additional memory. If you are using an application program designed especially for Power Macintosh computers (often called a "native" application program), turning on virtual memory lets your application use less memory.

Your computer comes with virtual memory turned off. With virtual memory turned on, a Power Macintosh program uses less memory than when virtual memory is turned off. If you check the program's Get Info box before and after turning on virtual memory, you'll see that the numbers in the Memory Requirements box change. That is because turning on virtual memory allows the program to use memory more efficiently.

For information on how to turn virtual memory on and off, choose Macintosh Guide from the Guide menu when the Finder is active. Click the Memory topic area, and then click "How do I use hard disk space as memory?" and "Tips for PowerPC-based computers."

For best performance, try setting virtual memory to no more than 150% of the memory (RAM) installed in your computer, or no more than 50% of your currently available hard drive space, whichever number is lower. For example, if your computer has 16 MB of RAM and your hard drive has 50 MB of available space, set virtual memory to a maximum of 24 MB (this is 150% of your 16 MB of RAM, and less than 50% of the available space on your hard drive).

If virtual memory is turned on and you notice performance issues (such as unusually slow computer response) when using certain application

programs, you may want to turn off virtual memory.

To improve performance, you can also install more memory (RAM) in your computer. See the user's manual that came with your computer for more information.

Important Information About Document Auto-Save
==========

The Energy Saver control panel contains a feature named "Document Auto-Save." The purpose of this feature is to automatically quit all open applications during an idle or scheduled shutdown, while saving changes to any open documents in each application. Since there are literally thousands of applications available for the Macintosh (with new ones always arriving), we cannot guarantee that Document Auto-Save will be compatible with every application. This is especially true for any application that does not use standard routines to implement the alerts or dialog boxes used to save changes to new or modified documents. When Document Auto-Save is incompatible with an application, it will either not automatically quit, or it will display alerts or dialog boxes that Document Auto-Save does not recognize and therefore does not dismiss.

If you intend to turn Document Auto-Save on, we recommend that you monitor its operation during the first attempted idle or scheduled shutdown and note if any of your applications are not compatible. You can avoid issues with incompatible applications simply by making sure you leave open no documents that are new or modified before an idle or scheduled shutdown is to occur. Alternatively, you can modify the Document Auto-Save preferences in the Energy Saver control panel so the computer will sleep rather than shut down when unsaved documents are open.

For instructions for using Energy Saver & Document Auto-Save, choose Macintosh Guide from the Guide menu when the Finder is active, and choose the Energy Saving topic area.

Other Document-Saving Products

There are conflicts when non-Apple document-saving control panels or extensions are used in conjunction with Energy Saver's Document Auto-Save. Examples of such products are NowSave and SuperBoomerang. For best results, use the document-saving features of only one control panel or extension.

Self-Dismissing Dialogs

Under some rare conditions, the Energy Saver control panel may continuously dismiss dialog boxes if the Document Auto-Save feature unexpectedly fails during an idle or scheduled shutdown. (Whenever a dialog box appears, it is dismissed as if you have pressed the Return key.) To return things to normal, simply click the mouse button or press the space bar.

Important Information About Macintosh PC Exchange
==========

Apple File Exchange and Macintosh PC Exchange

The Apple File Exchange software is not compatible with your Macintosh model. Macintosh PC Exchange provides an easier method for accessing DOS and Apple II ProDOS disks on a Mac OS-based computer.

AutoDoubler

To use AutoDoubler with Macintosh PC Exchange, you must first open the AutoDoubler control panel and turn off the "Show DD on Compressed Files" option from the DD menu.

Compressed PC Disks and Files

Macintosh PC Exchange does not work with DOS-format floppy disks or SCSI hard disks that have been compressed using Stacker or other DOS or Windows disk-compression utilities. Before transferring compressed DOS files to a MacOS-based computer, you must decompress the files and save them to a noncompressed DOS-format floppy disk.

Working With Disks Containing Multiple Partitions

If a SCSI hard disk or removable media cartridge has been formatted to contain multiple partitions, you can use Macintosh PC Exchange to mount the Mac OS DOS-, or ProDOS-format partitions as individual volumes on the Macintosh desktop. If the disk contains both Mac OS and DOS-format partitions, Macintosh PC Exchange will recognize only the Mac OS partition. In addition, Macintosh PC Exchange will recognize ProDOS-format partitions only on SCSI hard disks that are less than 32 megabytes.

You can use Macintosh PC Exchange to erase existing individual partitions on a SCSI hard disk or removable media cartridge if they have the same format. However, you cannot use Macintosh PC Exchange to reformat and resize individual partitions contained on the disk. Nor can you format a Mac OS-format hard disk or removable media cartridge as a DOS-format disk. To resize or reformat multiple Mac OS DOS, or ProDOS partitions, you need to use third-party software designed for partitioning hard disks and removable media cartridges.

Working with DOS-Format SCSI Removable Media Devices

In order for Macintosh PC Exchange to recognize any SCSI removable media device, you must turn on the device and eject any cartridges before you turn on your computer.

Do not install the device driver software that came with your removable media device. Instead, open the Macintosh PC Exchange control panel, click the Options button, select your SCSI device from the list, and then restart your computer. Macintosh PC Exchange will install its own device driver for that SCSI device.

The Eject Disk command is unavailable when you are working with removable media devices. To unmount and eject a removable media cartridge, click the device's icon to select it and choose Put Away from the File menu. Once the device has spun down and the red light goes out, you can manually eject the cartridge from the drive. To access a removable media cartridge that has been ejected, simply reinsert the cartridge in the drive.

When initializing and formatting Bernoulli and SyQuest cartridges on a DOS or DOS-compatible computer, use either the disk setup and partitioning software that came with the SCSI controller card installed in your PC or the one that came with your Bernoulli or SyQuest device. (Do not use the MS-DOS FDISK command.) Also, use the MS-DOS FORMAT command to format a newly initialized removable media cartridge on a DOS or DOS-compatible personal computer (PC) before you copy DOS files onto it.

When you initialize a removable media cartridge on a DOS or DOS-compatible PC, you must fully partition, initialize, and erase the cartridge using the software that came with your SCSI controller card or removable media drive. If you do not, Macintosh PC Exchange may not recognize the new DOS-format partitions on that cartridge.

Working with DOS-Format SCSI Hard Disk Drives

In order for Macintosh PC Exchange to recognize a SCSI hard disk drive, you must turn on the drive before you turn on your computer.

Do not install the device driver software that came with your removable media device. Instead, open the Macintosh PC Exchange control panel, click the Options button, select your SCSI device from the list, and then restart your computer. Macintosh PC Exchange will install its own device driver for that SCSI device.

When initializing and formatting an external SCSI hard disk connected to a DOS or DOS-compatible PC, use the MS-DOS FDISK command or the disk setup and partitioning software that came with the SCSI controller card installed in your PC. In addition, you should use the MS-DOS FORMAT command to format and erase the disk before you copy DOS files to a new SCSI hard disk connected to a PC.

Tips and Issues
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* A "Sad Mac" icon may appear on your screen at startup if a removable media cartridge has been left in the drive. To keep this issue from occurring, manually eject removable media cartridges from their drives before you turn on your computer.

* Macintosh PC Exchange cannot recognize SCSI hard disks, removable media devices, or drive container files that contain more than one gigabyte of disk space.

Published Date: Feb 18, 2012

LaserWriter: Printer Software v.4.0.4 for Windows 95

This article describes the Apple LaserWriter Printer Software for Windows 95.

* Installing the Printer Driver Software
* Files Installed
* Using the Apple Color LaserWriter 12/600 PS
* Obtaining Printer Supplies for the Color LaserWriter 12/600 PS
* Apple Printer Utility 2.0.2

This article has been archived and is no longer updated by Apple.

```
About Your Apple LaserWriter Printer Software for Windows 95

This document contains some important reminders and some information that is not in the manual that comes with
your printer. You may want to print this document and keep it for future reference.


Installing the Printer Driver Software
======================================

1) Start Windows 95.

2) Exit from any applications that are now running.

3) Insert Printer Disk 1 for Windows 95 into your floppy disk drive.

4) Click on the "Start" icon of the Task-Bar and select "Run...".

5) In the dialog that appears, type a:\\setup (where a: is your floppy diskette drive indicator), and click
OK. Follow the installer instructions.


Files Installed
===============

These PostScript Driver files are placed in c:\\windows\\system:
PSCRIPT.INI
FONTS.MFM
ICONLIB.DLL
PSCRIPT.DRV
PSCRIPT.HLP
PSMON.DLL
TESTPS.TXT

The ReadMe file, Apple Printer Utility, and required DLLs are
placed by default in c:\\lwutils:
README.TXT
APU.EXE
APU.HLP
IDPSVCS.DLL
SPX_WPS.DLL

Required DLLs for NetWare are placed in c:\\windows\\system:
NWCALLS.DLL
NWIPXSPX.DLL

During installation the Add Printer Wizard installs APPLE380.SPD and the selected PostScript Printer
Description file in c:\\windows\\system:
APLWGRI2.PPD
APLWCOB1.PPD

For APLWCOB1.PPD file APLWCOB1.ICM is installed into c:\\windows\\system\\color.


Using the Apple Color LaserWriter 12/600 PS
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==========

NetWare Rprinter Printer Number

The printer may obtain the Rprinter Printer Number automatically.

About the Demonstration Page

When the power is turned on, the Color LaserWriter 12/600 PS automatically prints a startup page and a demonstration page. For legal and B5 paper sizes, only the startup page prints; the demonstration page is not printed. You can use the Apple Printer Utility to turn off the printing of the startup and demonstration pages.

NOTE: The startup and demonstration pages can not be turned off from a PC running Windows 95 if the Color LaserWriter 12/600 PS is connected to your PC through the parallel port. You must be connected to the printer via a network to use this option of the Apple Printer Utility.

About the Apple Color LaserWriter 12/600 PS Status Panel

As described in the Color LaserWriter 12/600 PS manual, Appendix G, the status panel lights aid in indicating hardware service problems found during printer startup. If the Alert light is flashing and all the door lights are flashing, check all the printer doors; one of them is open. If the Paper OUT and Paper Jam lights are flashing alternately, a hardware problem has been detected. To identify the problem, notice which toner lights (C, M, Y, Bk) and how many of the maintenance lights (in the area on the right-hand side of the status panel) are on, and refer to the table below. Each area listed under "Problem" represents a general circuit area for the service technician to investigate, not necessarily the exact cause of the problem.

Toner Lights On	# Consumable Lights On	Problem
C	0	I/O Controller Board
C	1	SIMM, Slot J11
C	2	SIMM, Slot J10
M	2	Hard Drive
M	3	I/O Controller ROM
Y	0	Fuser
Y	1	Oil Pump in Fuser
Y	2	Thermal Sensor in Fuser
Y	3	Paper Feed Unit
Bk	0	DC Controller
Bk	1	Power Supply
Bk	2	Toner Carousel
Bk	3	Laser/Scanner Circuit
M & Bk	0	Main Motor
M & Bk	1	Drum Motor
M & Bk	2	Laser/Scanner
C & Bk	0	Controller Fan
C & Bk	1	Fuser Fan
C & Bk	2	Main Fan

If you have an external SCSI hard disk drive attached but do not turn it on before you turn on the printer's power, the printer may indicate a hardware failure. To correct the problem, turn the hard disk drive on and restart the printer.

Using NetWare Banner Pages

The Color LaserWriter 12/600 PS is a PostScript printer only. If you are using NetWare 4.x, use PostScript banner pages only. If you use another type of banner page, your print job as well as the banner page will not print. Do not use banner pages at all with NetWare 3.x. If you do, neither the banner page nor your print job will print.

Printing Over Novell Networks

By default, binary PostScript sent via the Novell network is encoded in Tagged Binary Communications Protocol (TBCP). The printer's TBCP filtering mode for Novell is also on by default. If you change the Protocol Options to "None" from the Printer Control Panel's PostScript setup, you must send the following PostScript to turn off TBCP filtering for Novell on the printer:

```
%==========================================================
% Begin PostScript Code
%
true 0 startjob
(%PrintServer%)
<</Filtering /None>> setdevparams
%
% End PostScript Code
%==========================================================
```

If you subsequently change the Protocol Option back to "Default", you must send the following PostScript to turn on TBCP filtering for Novell on the printer:

```
%==========================================================
% Begin PostScript Code
%
true 0 startjob
(%PrintServer%)
<</Filtering /InterpreterBased>>
setdevparams
%
% End PostScript Code
%==========================================================
```

The Novell filtering mode cannot be changed within a PostScript job, so the above PostScript sets the filtering mode outside the job context; thus it becomes permanent. If your printer's password has been changed from the default setting, replace the "true 0 startjob" line with "true <your password> startjob".

Obtaining the Best Results for Business Graphics

To obtain the best results for business graphics, colors should be 100% saturated. For example, to print pure yellow, define yellow as 100% red and 100% green without any blue. Then print your document, ensuring the Send Full Color Data option on the Job Control tab dialog is selected.

Printing on Legal-Size Paper

In the standard memory configuration, the Color LaserWriter 12/600 PS uses a higher compression technique for legal-sized paper using only the cyan, magenta, and yellow color planes. As a result of this compression technique, very complex pages may show missing pixels in fine lines or small text, "jaggies" (edges with low-resolution appearance) and color changes. To improve the image quality of such pages, you can increase the printer's memory to 16 MB or more. With at least 16 MB of printer memory, the Color LaserWriter 12/600 PS can achieve the same quality with legal-size pages as with letter and A4 sizes using all four color planes (cyan, magenta, yellow, and black.)

Printing Images on the Color LaserWriter 12/600 PS Printer

The Color LaserWriter 12/600 PS printer's highest resolution for printing images is 150 x 150 dpi. No gain in image quality is achieved if higher resolution images are used. All other types of documents print at 600 x 600 dpi.

Avoiding Hue Shifts When Printing to File

When you save an image in an Encapsulated PostScript (EPS) file all the PostScript settings relating to the

original output device in effect are saved along with the image data. When the image is printed later, the settings that were in effect may cause major hue shifts. To prevent these hue shifts save the image in TIFF format instead of EPS.

The Density Control Panel

The Color LaserWriter 12/600 PS has been adjusted at the factory to produce the best possible image quality. However, small variations exist among different printers. To make subtle changes to image quality, you can use the Density Control Panel on the back of the printer.

NOTE: If changing the settings produces inferior image quality, return to the factory settings by following these steps: Select each color using the Color Select button, then press the - or + button to move the indicator light to the center position. When the indicator is in the center, press Enter to make the setting permanent. Repeat this procedure for all four colors.

Printer's Processor Speed

In the printer manual, Appendix A contains a typographical error: the microprocessor speed is 30 MHz, not 25 MHz as printed.

Using the Color LaserWriter 12/600 PS with a Windows NT Server
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Using a Windows NT Server may cause spurious job records to be entered in the printer's Job Log if the printer is busy. The jobs will have a status of "cancelled."

Obtaining Printer Supplies for the Color LaserWriter 12/600 PS
==========

To order printer supplies for the Color LaserWriter 12/600 PS direct from Apple, call 1-800-600-7805. For order numbers, see Appendix A of the printer manual.
* toner cartridges
* transparencies
* photoconductor cartridge (includes toner disposal boxes)
* fuser oil
* fuser
Instructions for replacing the fuser are in Appendix F of the printer manual. Instructions for replacing other printer parts come in the new packages.

For the location of the nearest Apple-authorized dealer, call 1-800-538-9696, extension 525.

Apple Printer Utility 2.0.2
==========

Using the Apple Printer Utility with Other Apple Printers

You can use the Apple Printer Utility for Windows only with the Apple Color LaserWriter 12/600 PS. For other Apple printers use the LaserWriter Utility for Windows that came with the printer.

Using the Apple Printer Utility on the Parallel Port

On Windows 95 you use the Apple Printer Utility with NetWare only. If you don't have NetWare you can use the Apple Printer Utility on the parallel port from a Windows 3.1 system.

Opening Dialogs within the Apple Printer Utility

Use the check boxes to open individual dialogs within the Apple Printer Utility.

Apple Printer Utility: Windows v.2.0.2

This article describes the Apple Printer Utility 2.0.2 included with the Apple LaserWriter Printer Software for Windows 95 v.4.0.4.
This article has been archived and is no longer updated by Apple.

Using the Apple Printer Utility with Other Apple Printers

You can use the Apple Printer Utility for Windows only with the Apple Color LaserWriter 12/600 PS. For other Apple printers use the LaserWriter Utility for Windows that came with the printer.

Using the Apple Printer Utility on the Parallel Port

On Windows 95 you use the Apple Printer Utility with NetWare only. If you don't have NetWare you can use the Apple Printer Utility on the parallel port from a Windows 3.1 system.

Opening Dialogs within the Apple Printer Utility

Use the check boxes to open individual dialogs within the Apple Printer Utility.

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Network Server: Apple PCI Ethernet Card Install Tips (6/96)

This article describes installation tips for the Apple PCI Ethernet Card (10 MB/sec Ethernet Card-AAUI, Thin Coax, Twisted Pair).

I am installing an Apple PCI Ethernet Card (10 MB) in my Network Server 500. I am following the installation instructions for the software driver. SMIT keeps telling
me installation failed. How do I get this driver to install?

This article has been archived and is no longer updated by Apple.
The manual discusses setting several settings in the SMIT screen. The driver for the PCI Ethernet card uses the driver from the 100TX card and the 100TX driver needs to be installed with the following steps. Switch the following two settings as shown:

*For the Automatically Install Requisite Software field, specify YES.
*For the Overwrite Same or New Versions field, specify NO.

This article was published in the Information Alley on 17 June 1996.

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ImageWriter II: IBM 3287 printer emulation

ImageWriter II's make good replacements for the IBM 3287 dot matrix printers commonly used with the IBM 3270 family of terminal devices.
This article has been archived and is no longer updated by Apple.
The IBM 3278 terminals can be replaced with an AppleLine-Macintosh-MacTerminal combination,
and you can replace the IBM 3287 printers with this simple and cost effective
configuration:

Equipment	Vendor	Number
IRMAprint	DCA *	PC3287-S
ImageWriter II Printer	Apple	A9M0310
Apple II Printer 8 cable	Apple	A9C0313

Installation Diagram:

IBM 3274/6 --> Coax cable --> IRMAprint --> Printer 8 cable --> ImageWriter II

This solution proves to be a good value because it provides better print quality and speed than the IBM 3287 or similar printers such as Telex.

* DCA is a registered trademark of Digital Communications Association, Inc.
Published Date: Feb 18, 2012

MacDNS 1.0.3: Read Me

This article is the MacDNS 1.0.3 ReadMe file. MacDNS 1.0.3 was released June 13, 1996 it is no longer available. MacDNS 1.0.4. For information on MacDNS 1.0.4 please see the Read Me published as Tech Info Library article Number 22035.
This article has been archived and is no longer updated by Apple.
This Read Me document describes late-breaking information about your MacDNS software and its documentation. You may want to print this document for future reference.

Product information

MacDNS 1.0.3 fixes some problems in MacDNS 1.0.2 and earlier versions, providing improved performance and reliability. Upgrading to version 1.0.3 is recommended for all MacDNS customers.

This version of MacDNS is available under the terms of a no-fee license. The license agreement is presented when the software is run for the first time. Click the "Agree" button to accept the terms of the agreement.

MacDNS and Open Transport

Open Transport 1.1 or later is recommended for use with MacDNS and all PowerPC-based Workgroup Servers.

For Workgroup Server models 7250 and 8550, the Workgroup Server Software CD-ROM disc that came with your server contains Open Transport software version 1.1 and system software version 7.5.3.

For Workgroup Server models 6150, 8150, and 9150, the Macintosh System 7.5 Update 2.0 (which updates your system software to version 7.5.3) includes Open Transport software version 1.1. Look for information about system software updates and about the latest version of Open Transport on Apple forums and Apple Web sites on the Internet.

Changes to MacDNS

This section provides details about the changes in the 1.0.3 release of MacDNS.

* Sometimes MacDNS would stop responding to incoming requests; no further UDP notifications were received until the application was quit and relaunched. To prevent this situation and insure long-term reliability, MacDNS now performs a periodic test of its own responsiveness (approximately once a minute), closing and reopening the UDP stream on port 53 if it has become blocked. This guarantees that if the server ever gets into an unresponsive state, it will always correct itself within a minute.

* Fixed a bug which could cause a crash on older Macintosh models with "32-bit dirty" ROMs, such as the IIcx, when displaying the license agreement dialog. The license text is now automatically displayed in the language appropriate for the currently active system; the popup menu of languages has been removed.

* MacDNS now automatically opens the Message Log window when it is launched for the first time.

* Fixed a bug where information about currently open windows, including the size and position of the Cached Hosts window, was not correctly saved to the preferences file.

* Fixed a bug where $ORIGIN statements following the SOA record in an existing BIND zone file were being ignored. This could cause MacDNS to import some entries with an incorrect domain name suffix.

* Fixed a problem where "Look Up Host" occasionally did not retrieve the IP address for a host name, depending on the parent server being asked. Previously, "Look Up Host" only generated queries of type ANY and MX. It now additionally asks for an A record, if one was not returned from the ANY request.

* Fixed a problem where the "Look Up Host" status message remained "Idle..." during a lookup.

* Corrected a problem in the way parent server responsiveness was measured when more than one parent server was specified. This problem could cause significant slowdowns in overall response time under certain conditions. If "A" and "B" were specified as parent servers, and A subsequently went offline, MacDNS could continue to send queries to A first instead of B, even though B was obviously the preferred server to use.

* Fixed a bug where MacDNS could include its own IP address when generating the default list of parent servers, if the MacTCP control panel on the server machine was configured to use its own IP address as its DNS server. (It is illegal, and normally not possible, to specify your own IP address as a parent server in MacDNS, since endless request looping will occur.)

* MacDNS now prevents an alias from being entered as a mail exchanger host name. The use of alias names as mail exchangers is illegal, since it

can cause mail loops.

* Fixed a cosmetic bug where the size box of a resizeable window was not refreshed correctly, and added a gray background to the column header area of host list windows.

* Removed the "Are you sure you want to quit?" dialog in response to user feedback, since it prevented quitting and relaunching the server under automated script control.

Published Date: Feb 18, 2012

System 7.5.3: Revision 2 or Updated to Revision 2

I have a Power Macintosh 5400/120 computer, which came pre-installed with System 7.5.3. However, the About Box states that it is System 7.5.3, Revision 2. I have another computer with System 7.5.3 installed on it, but it does not mention Revision 2. What is Revision 2?
This article has been archived and is no longer updated by Apple.
System 7.5.3 Revision 2 is a set of system software enhancements that improves the reliability and performance for the certain Macintosh computers.

Computers that include System 7.5.3 Revision 2 pre-installed will display System 7.5.3 Revision 2 in the About Box. However, if customers install Revision 2 over System 7.5.3, the About Box will display System 7.5.3, Updated to Revision 2.

This distinction in the About Box between Revision 2 and Updated to Revision 2 is to help determine whether System 7.5.3 Revision 2 pre-installed or updated on the computer.

Additional information about System 7.5.3 Revision 2 is available in the Tech Info Library articles, "Mac OS 7.5.3 Revision 2: Overview & Installation" and "Mac OS 7.5.3 Revision 2: Fixes, Updates, Changes".
Published Date: Feb 18, 2012

QuickTime Conferencing: Firewall Issues

We have a firewall on our large campus network. QuickTime Conferencing (QTC) works fine inside the firewall, but when trying to go through it, the TCP/IP port appears to be selected at random. Is there a way to specify the port so we can configure the firewall to let QTC work?

This article has been archived and is no longer updated by Apple.

QTC will not work across firewalls, but the router can be reconfigured with the proper "well known port number" 458 (Conference) & 545 (Broadcast) to accommodate QTC packets. Unsecured range is 6000-6255, but it may change.

Published Date: Feb 18, 2012

System 7.5.3 Rev 2: "Important SW Updates" Isn‘t Included (6/96)

Article Reviewed/Updated: 6 June 1996

I have a PCI-based Power Macintosh computer, which came pre-installed with System 7.5.3. I'm planning on installing System 7.5.3, Revision 2, but I need to know if the software in the Important Software Updates folder is included with this updater.

This article has been archived and is no longer updated by Apple.

No, System 7.5.3, Revision 2 does not provide the Drive Setup update, AppleGuide update, and Ethernet Compatibility extension included in the Important Software Updates folder on PCI-based Power Macintosh computer with System 7.5.3 pre-installed. These updates are considered to be part of System 7.5.3 for these computers and must be installed in addition to System 7.5.3, Revision 2.

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07 Jun 1996 - Changed distribution status.
06 Jun 1996 - Modified title.

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7.5.1 WorldScript Installer: Read Me

This article contains the Read Me file for the 7.5.1 WorldScript Installer.
This article has been archived and is no longer updated by Apple.
7.5.1 WorldScript Installer

Who Should Install WorldScript?
This installer will install files needed by WorldScript technology for users running Mac OS 7.5 and above. Users of the Japanese and Chinese Language Kits or applications which depend on WorldScript technology should install these pieces as they improve the stability and performance of your system. QuickDraw GX and Power Macintosh users should upgrade to these pieces as they provide important improvements over previous versions.

Using the WorldScript Installer
The Easy Install option of the WorldScript Installer updates your existing WorldScript files. If you want to install additional files, you can use the Custom Install option of the Installer.

1. To open the WorldScript Installer, double-click the Installer icon on the disk you received with your WorldScript update package.

2. To update existing WorldScript files on your startup hard disk, click Install.

To install additional files, choose Custom Install from the pop-up menu, then click to put an X in the box next to each item you want to install. When you're finished choosing items, click Install.

The files are installed on your hard disk. You may be prompted to restart your computer after installation.

About the WorldScript Installer
The WorldScript Installer installs the following files:

- WorldScript I (version 7.5.2) used for complex one-byte processing of languages such as Arabic and Hebrew
- WorldScript II (version 7.5.1) used for two-byte processing of languages such as Chinese, Japanese, and Korean
- InputBackSupport (version 7.5.3)provides support for two-byte fonts; automatically installed with WorldScript II

Published Date: Feb 18, 2012

Apple Internet Mail Server: Novell Network Connection

I have an Ethernet network of Macintosh computers and we use a Apple Internet Mail Server (AIMS) for mail. I want to connect our small Novell Network so the PC users can use the AIMS for mail also. I found POPMAIL.exe on the net; now how do I connect the networks?
This article has been archived and is no longer updated by Apple.
If your PC's are running Windows 95, it supports multiple protocols, and you can setup a TCP stack to run along side the IPX stack. Then you need a properly configured POP/SMTP e-mail client like Eudora for example.

You can connect different platforms together using Ethernet. The Macintosh and PC computers will not see each other because they are running different protocols, but with software like AppleShare Client for Windows by Apple Computer, Personal MacLan Connect by Miramar Software, or COPS Talk by COPS Inc. will let PC and Macintosh computers share files.

The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.
Published Date: Feb 18, 2012

QuickTime Musical Instruments: Instruments Included

Which musical instruments are included with the QuickTime Musical Instruments extension?

This article has been archived and is no longer updated by Apple.

The following list of the instruments included with the QuickTime Musical Instruments extension is arranged by instrument category.

Piano	Chromatic Percussion
Acoustic Grand Piano	Celesta*
Bright Acoustic Piano*	Glockenspiel*
Electric Grand Piano*	Music Box*
Honkytonk Piano*	Vibraphone
Rhodes Piano	Marimba
Chorused Piano*	Xylophone*
Harpsichord	Tubular bells*
Clavinet	Dulcimer*

Organ	Guitar
Hammond Organ	Acoustic Nylon Guitar
Percussive Organ*	Acoustic Steel Guitar*
Rock Organ*	Electric Jazz Guitar*
Church Organ*	Electric Clean Guitar*
Reed Organ	Electric Guitar Muted*
Accordion*	Overdriven Guitar*
Harmonica*	Distortion Guitar
Tango Accordion*	Guitar Harmonics*

Bass	Strings & Orchestra
Acoustic Fretless Bass*	Violin
Electric Bass Fingered	Viola*
Electric Bass Picked*	Cello*
Fretless Bass*	Contrabass*
Slap Bass 1	Tremolo Strings*
Slap Bass 2*	Pizzicato Strings*
Synth Bass 1*	Orchestra Harp*
Synth Bass 2*	Timpani

Ensemble	Brass
Acoustic String Ensemble	Trumpet
Acoustic String Ensemble 2*	Trombone*
Synth Strings 1*	Tuba*
Synth Strings 2*	Muted Trumpet*
Aah Choir	French Horn
Ooh Choir*	Brass Section*
SynthVox*	Synth Brass 1*
Orchestra Hit	Synth Brass 2*

Reed	Pipe
Soprano Sax*	Piccolo*
Alto Sax	Flute
Tenor Sax*	Recorder*
Baritone Sax*	Pan Flute
Oboe	Bottle Blow*
English Horn*	Shakuhachi*
Bassoon*	Whistle
Clarinet	Ocarina*

Synth Lead	Synth Pad

Square Wave*
Saw Wave
Calliope*
Chiffer*
Charang*
Solo Vox*
5th Saw Wave
Bass & Lead*

Fantasy
Warm
Polysynth
Choir*
Bowed*
Metal*
Halo*
Sweep*

Synth Effect

Ice Rain*
Sound Tracks*
Crystal*
Atmosphere*
Brightness*
Goblins*
Echoes*
Space*

Ethnic

Sitar
Banjo
Shamisen*
Koto*
Kalimba*
Bag Pipe*
Fiddle*
Shannai*

Percussive

Tinkle Bell*
Agogo
Steel Drums
Woodblock*
Timpani*
Melodic Tom
Synth Drum*
Reverse Cymbal

Sound Effects

Guitar Fret Noise*
Breath Noise*
Seashore
Bird Tweet
Telephone Ring
Helicopter
Applause*
Gunshot

Drum Kits

Standard Kit
Room Kit
Power Kit*
Electronic Kit*
Analog Kit*
Brush Kit*
Orchestra Kit*

Instruments followed by a "*" are interpolated from other instruments.

Published Date: Feb 18, 2012

QuickTime Conferencing: ISDN H.320 Card Installation

This article contains instructions for installing the QuickTime Conferencing (QTC) ISDN Kit into your Macintosh computer. The QTC ISDN kit can be installed into a Macintosh 7100/66AV, 7100/80AV, 8100/80AV, 8100/100AV, or other 71XX or 81XX computers that have an Apple AV card installed. You need at least 16 MB of physical RAM and need to be running System 7.5 or later version of the Mac OS. Additionally, you must have QuickTime Conferencing software (included with your QuickTime Conferencing 100 Camera) an NT-1, (NOT INCLUDED IN YOUR ISDN KIT) and an ISDN line with a S-interface.

NOTE:
These steps are for the NuBus ISDN Kit only, NO PCI solution currently. The ISDN H.320 card is not compatible with the Macintosh Quadra 840AV computer.
This article has been archived and is no longer updated by Apple.

```
Instructions for Card Installation
==================================

Step 1
------
Power off your Macintosh computer.

Step 2
------
Disconnect all cables going to the computer.

Step 3
------
Remove the case of your Macintosh computer so you have access to the NuBus slots.

Step 4
------
Ground yourself with an anti-static wrist strap, or touch the exposed metal of the power supply.

Step 5
------
Remove any NuBus card supports.

Step 6
------
Remove one of the NuBus slot covers.

Step 7
------
Install the H.320 card into the NuBus slot where you removed the slot cover.

Step 8
------
Make sure the card is firmly seated in the NuBus slot.

Step 9
------
Install any Nubus supports that were previously removed

Step 10
-------
Connect the ribbon cable on the H.320 card to the DAC connector on the AV card. The DAV cable will then plug
into the DAV connector on the logic board.

Step 11
-------
Replace the computer case.

Step 12
-------
Reconnect all cables going to the computer.
```

Step 13

Power on the computer.

Connecting Your Computer to the NT-1 and Wall Jack

Step 1

Get your NT-1 (NOT included in the Apple QTC ISDN kit) out and verify that it came with a power adaptor and either an RJ-11 or RJ-45 cable.

Step 2

Plug the power adaptor into the wall, then plug the other end into the NT-1.

Step 3

Take the cable that came with the NT-1 and plug one end into your ISDN wall jack, and then plug the other end into the 'U Loop Back' jack on the NT-1.

Step 4

Take the cable that came with your QTC ISDN Kit and plug one end into the S/T&U jack on the NT-1 and plug the other end into the RJ-45 jack on the H.320 card you installed in your computer.

Step 5

Disregard the state of the NT-1 lights until you have fully installed all applicable software, restarted the computer, and actually set up the software

Instructions for Camera Installation

If you have the Apple QuickTime Conferencing 100 camera, and a Power Macintosh AV, use the hydra cable (S-video on one end, Composite [RCA] and 12 Volt power on the other end) that came with the camera.

How to Connect the Video Cable

Step 1

Connect the S-video end to the VIDEO-IN port on the AV card (the IN port is the one furthest away from the NuBus connector).

Step 2

Take the other end of the cable and connect the composite end to the RCA jack on the back of the camera.

Step 3

Plug the power end to the power jack on the back of the camera.

Step D

Open the camera shutter (slide knob on side) to expose the lens. A green light indicates you have power.

Other Video Cameras

You can use another camera as long as you can plug the camera into the S-video port of a Power Macintosh AV computer.

You cannot use a camera, such as Connectix's QuickCam, which uses the serial port.

Handset Installation

Your QTC ISDN Kit comes with a telephone handset. This handset is useful to use when you either need to have a more private conversation, or when ambient background noise is at a level that interferes with your conference. To connect the handset, simply plug the cable into the RJ-11 port on the RJ-11 jack on the H.320 card.

Software Installation

Step 1

Install the Network Software Installer (NSI) 1.5 or later

Step 2

Install QuickTime Conferencing (QTC) Software 1.0.2 or later

Step 3

Install the H.320/ISDN software 1.0.5 or later

Step 4

Restart your Macintosh computer

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System 7.5.3 Revision 2: Change in About This Macintosh

This article describes the changes which occur in About This Macintosh command under the Apple menu when installing System 7.5.3 Revision 2. This article has been archived and is no longer updated by Apple.
After installing the update on any computer, the version of Mac OS shown in About this Macintosh command in the Apple menu will remain the same, that is, System Software 7.5.3.

After installing Macintosh System 7.5.3 Revision 2 on a Macintosh running System 7.5.3, the second line in About this Macintosh will read Updated to Revision 2. After installing on an PowerBook with System 7.5.2 and Enabler 1.2, the second line will read System Enabler 1.2.4.

Since this update will be incorporated into the reference release of System 7.5.3 there is no need to install the update over it. The first line of About this Macintosh for systems running Unity will be System Software 7.5.3. The second line will be Revision 2.

Below is a summary of About This Macintosh Changes:

- PowerBook computers with System 7.5.2 and Enabler 1.2, the second line changes from Enabler 1.2.1 to System Enabler 1.2.4.
- Macintosh computers with System 7.5 Update 2.0, the second line changes from System 7.5 Update 2.0 to Updated to Revision 2.
- Macintosh computers shipped with System 7.5.3, the second line changes from having nothing to Updated to Revision 2.

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Macintosh System 7.5.3 Revision 2: FAQ

This article lists the most frequently asked questions (FAQ) and answers about Macintosh System 7.5.3 Revision 2. This FAQ contains the following questions:

- What is System 7.5.3 Revision 2?
- When will it be available?
- Why is it called Revision 2?
- Do I still need to install System 7.5 Update 2.0?
- Does Macintosh System 7.5.3 Revision 2 contain the Important Software Updates included with PCI Power Macintosh systems?
- Who should install System 7.5.3 Revision 2?
- What bug fixes are provided by Macintosh System 7.5.3 Revision 2?

This article has been archived and is no longer updated by Apple.

Question: What is System 7.5.3 Revision 2?

Answer: System 7.5.3 Revision 2 is a set of system software enhancements that improves the reliability and performance for the computers mentioned in a later question. The objective of this update is to quickly respond to bugs and deliver them on one disk, small enough where most people will want to obtain it electronically (through the Internet or on on-line services). The fixes it provides will be incorporated into an upcoming reference release of System 7.5.3. This update is the first of a series of rapid response updates for System 7.5.x that will be released prior to Mac OS 8.

Question: When will it be available?

Answer: Apple announced Macintosh System 7.5.3 Revision 2 on June 7, 1996. It has since been removed from the software updates web site and replaced with System 7.5 version 7.5.3. You can downloadthis software from the Apple Software Updates web site at **http://www.apple.com/swupdates**.

Question: Why is it called Revision 2?

Answer: Apple has decided to call this product System 7.5.3 Revision 2 and not use the term update for two reasons:

- Revision 2 will provide improvements only for specific computers running the current system software version, which is different from all other updates Apple has released in the past.
- In addition, Apple wanted to avoid confusion with other current system software update type of products from Apple.

Apple selected the 2 in Revision 2 since it already has released two minor versions of System 7.5 version 7.5.3. After installing System 7.5.3 Revision 2, all systems running System 7.5 version 7.5.3 will have all of the most current system improvements.

Question: Do I still need to install System 7.5 Update 2.0?

Answer: Apple released System 7.5 Update 2.0 several months ago, and still is recommending that customers using pre-7.5.3 versions of System 7.5 install it if they have not already. In addition, if your Power Macintosh came with System 7.5.3 pre-installed on it, and the About This Macintosh dialog does NOT read System 7.5.3 Rev 2, you should install the System 7.5.3 Update 2.0 software. You cannot skip the System 7.5 Update 2.0 and just install System 7.5.3 Revision 2 since System 7.5 Update 2.0 and System 7.5.3 Revision 2 do NOT contain all of the same fixes. So, if your computer requires System 7.5.3 Revision 2, then you should first install System 7.5 Update 2.0 and then install System 7.5.3 Revision 2, regardless which computer you have. After installing the above, you can then install System 7.5.5 Update for the latest version of System 7.5.

Question: Does Macintosh System 7.5.3 Revision 2 contain the Important Software Updates included with PCI Power Macintosh systems?

Answer: No. You should install these in addition to the Macintosh System 7.5.3 Revision 2 update.

Question: Who should install System 7.5.3 Revision 2?

Answer: Apple is recommending that only customers with specific system software and Macintosh computers update their systems with System 7.5.3 Revision 2. There is no benefit for other customers.

The only systems which will benefit from System 7.5.3 Revision 2 are as follows:

- All PowerBook systems using Connectix RAM Doubler
- All PowerBook 5300 and PowerBook Duo 2300 systems
- All PowerBook 200 or 500 Series systems which have been upgraded with the Macintosh PowerBook Processor Card Upgrade Kit with PowerPC (or upgraded with similar third party products).
- All Macintosh 7200, 7500, 7600, 8500, and 9500 systems

You should install System 7.5.3 Revision 2 only if you have a computer with System 7.5.3 installed or a PowerBook with System 7.5.2, PowerBook Enabler 1.2 or later installed. To find out what system software version your computer is using, follow these steps:

Step 1
Make sure you are in the Finder.

Step 2
Choose About This Macintosh from the Apple menu. The system software information is in the About This Macintosh window.

Question: What bug fixes are provided by Macintosh System 7.5.3 Revision 2?

Answer: When you install System 7.5.3 Revision 2, you get the following enhancements:

- Better reliability for PowerBooks using RAM Doubler. If you have a PowerBook using System Software 7.5.3, and use RAM Doubler (version 1.6.1 or earlier), you may have experienced a problem when waking your PowerBook from sleep. This software fixes this problem.
- Overall performance enhancements for PowerBook 2300 computers and PowerBook 500 or Duo series computers with the PowerPC Upgrade Card installed.
- Improved reliability when using PC-formatted floppy disks with a PowerBook 500 series computers with the PowerPC Upgrade Card installed. If you have a PowerBook 500 series computer with the PowerPC Upgrade Card installed, PC-formatted floppy disks that were formatted on your computer may be unreadable in DOS or Windows computers. This software fixes this problem.
- Improved reliability on PCI-based computers (Macintosh 7200, 7500, 7600, 8500, and 9500 computers) and PowerBook 5300 computers, PowerBook 2300 computers, and PowerBook 500 or Duo series computers with the PowerPC Upgrade Card installed.
- Improved reliability when copying files to a 1 gigabyte hard disk. If you have a PCI-based computer with a 1 gigabyte drive, this software helps avoid problems when copying files to the hard disk.
- Improved reliability when using the Startup Disk control panel. In rare instances, when you turn on a PCI-based Power Macintosh computer it may not start up from the disk selected in the Startup Disk control panel. This software fixes this problem.

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System 7.5.1: Desktop Files and Folders (6/96)

This article describes changes in the way System 7.5.1 and higher address files and folders named "desktop."
This article has been archived and is no longer updated by Apple.
System 7.5.1 and later will not rebuild the desktop if a folder named desktop is saved to the root level of the hard disk.

However, a file named "Desktop" at the root level of the hard disk will still cause the system to rebuild the desktop once. After the system rebuilds the desktop, the system will make the "Desktop" file invisible and transform the file into an ordinary System 6.0.X Desktop file. As such, it will no longer cause desktop rebuilds.

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Apple Game Sprockets

This article describes the Apple Game Sprockets.
This article has been archived and is no longer updated by Apple.
Apple Game Sprockets is a software development kit (SDK) designed to make life easier for game developers. With it, developers will be able to create advanced multimedia and Internet-enabled games for Mac OS-based computers. It will enable all Mac OS-compatible games to feature real-time 3D graphics, 3D sound, Internet support, speech recognition, and input device/monitor control.

Available royalty-free to all developers, Game Sprockets profoundly simplifies the creation of Apple Macintosh entertainment software. Game Sprockets includes the final release of QuickDraw 3D RAVE (Rendering Acceleration Virtual Engine), a multi-platform technology that enables game developers to incorporate plug-and-play 3D acceleration hardware.

Apple Game Sprockets, named to reflect its extensible nature, is a set of application programming interfaces (APIs) designed to work seamlessly with other Apple multimedia technologies such as QuickTime, QuickTime VR, QuickTime Conferencing, and QuickDraw 3D. Developers can "mix-and-match" individual sprockets to enhance and complement the existing features of their title.

Using Apple Game Sprockets, a typical "twitch" game could take on new realism and excitement with the addition of real-time 3D graphics and 3D stereo sound. A new interface makes it easy for games to implement advanced joystick features. If desired, this game might also include speech recognition, multi-player contests across the Internet, videoconferencing, and animation. Best of all, these games can be created and enjoyed on any PowerPC-based Macintosh computer.

Apple has established a World Wide Web site to provide developers with quick releases and updates of these new technologies. The Web site is at: " **http://devworld.apple.com/dev/games/** ".

The current Apple Game Sprockets SDK includes:

NetSprocket 1.1
SoundSprocket 1.0
InputSprocket 1.2
DrawSprocket 1.1.2

Technical Details:
NetSprocket 1.1

NetSprocket provides standard, customizable user interface dialogs for configuration, log-in, and hosting a game across the network. A simple set of calls allows messages to be singlecast, multicast or broadcast to other machines within the game. A theoretical maximum of 2 billion users can simultaneously use NetSprocket across a broadband connection.

NetSprocket also provides transparent access to Internet-oriented gameplay and multi-player gaming. This API uses Open Transport for TCP/IP, AppleTalk (with support for LocalTalk, EtherTalk or TokenTalk) and modem communication access. By utilizing a client/server topology, it is possible for gamers to use multiple protocols in a single session and with minimal overhead (a total of 28 bytes are used per player for the message header). NetSprocket also support the creation of groups for broadcast of data to specific users across the network.

SoundSprocket 1.0

SoundSprocket incorporates a standardized API for accessing both traditional sound functions as well as new 3D sound technologies developed by Apple. For 3D sound, the listener and each sound channel are given specific positions and velocity vectors in a virtual audio space. These positions are changed during game play, along with the sounds themselves, to give the impression of spatiality and movement.

The signal processing, taking advantage of the capabilities of the PowerPC
microprocessor, simulates Doppler Effect, distance attenuation, environmental reverberation and spatial positioning. The 3D effect may be effectively presented over speakers or headphones -- it is also fully integrated with the camera position used in QuickDraw 3D, which enables sound to "follow" the player in 3D space.

InputSprocket 1.2

InputSprocket provides a compact API through which games can communicate with drivers for analog or digital joysticks and other game oriented input devices in a plug and play fashion. It also provides user interface elements that allow player override of the default control options through specified dialog boxes. Mouse and keyboard support are also enabled, as are multiple input device support.

DrawSprocket 1.1.2

DrawSprocket allows developers to easily utilize multiple (double or triple) buffering on the Macintosh for smooth display of graphic images. Multiple buffering is achieved by DrawSprocket using the best option available on the user's system -- true double buffering in hardware, page-flipping, efficient memory copies or through the traditional CopyBits function call. The game does not need to be aware of the hardware specifics to use this benefit.

DrawSprocket also enables configuration of display resolution or color depth without leaving the game environment (no need to access the sound and displays control panel) and screen sizing/blanking. A sprite engine, available through QuickTime, may also be used in tandem with DrawSprocket.

The latest version of the Apple Game Sprockets can be downloaded from:
" **http://devworld.apple.com/dev/games/dloads.html** ".
Published Date: Feb 18, 2012

Power Macintosh 7200 PC Compatible: DOS Factory Settings (6/96)

This article contains the original CONFIG.SYS and AUTOEXEC.BAT files for the Power Macintosh 7200/120 PC Compatible computer.
This article has been archived and is no longer updated by Apple.
Here are the contents of these files as shipped from the factory.

CONFIG.SYS
==========

```
DOS=HIGH,UMB
DEVICE=C:\\DOS\\HIMEM.SYS /TESTMEM:OFF
DEVICE=C:\\DOS\\EMM386.EXE NOEMS
DEVICEHIGH=C:\\DOS\\SETVER.EXE
DEVICEHIGH=C:\\APPLE\\CDROM.SYS /D:CDDRVR
FILES=40
LASTDRIVE=M
STACKS=9,256
DEVICE=C:\\VIBRA16\\DRV\\VIBRA16.SYS /UNIT=0 /BLASTER=A:220 I:5 D:1 H:5
DEVICE=C:\\VIBRA16\\DRV\\CTMMSYS.SYS
INSTALLHIGH=C:\\APPLE\\MACSHARE.COM
```

AUTOEXEC.BAT
==========

```
ECHO OFF
SET SOUND=C:\\VIBRA16
SET BLASTER=A220 I5 D1 H5 P330 T6
SET MIDI=SYNTH:1 MAP:E
LOADHIGH C:\\VIBRA16\\DIAGNOSE /S
LOADHIGH C:\\VIBRA16\\MIXERSET /P /Q /SP:255
SET MOUSE=C:\\MOUSE
LOADHIGH C:\\MOUSE\\MOUSE.EXE /Q
LOADHIGH C:\\DOS\\MSCDEX.EXE /S /D:CDDRVR /L:E
C:\\DOS\\SMARTDRV.EXE /X
PATH=C:\\MOUSE;C:\\DOS;C:\\MACH64
SET TMP=C:\\TMP
SET TEMP=C:\\TMP
```

Published Date: Feb 18, 2012

QuickDraw 3D: Requires SimpleText 1.3

I just installed QuickDraw 3D on my computer. When I try to open one of the sample files from the QuickDraw 3D folder, I get an error message that says, "SimpleText cannot display this kind of document." What can I do?
This article has been archived and is no longer updated by Apple.
QuickDraw 3D requires version 1.3 or newer of SimpleText to display 3D documents. The QuickDraw 3D software includes version 1.3 or newer of SimpleText.

Be sure to remove any older versions of SimpleText or TeachText from your hard disk. This will ensure that you are opening your QuickDraw 3D documents with version 1.3 or newer of SimpleText.
Published Date: Feb 18, 2012

At Ease for Workgroups: Volumes Dismount At Startup

As an At Ease for Workgroups administrator, I can not get my users' AppleShare volumes to mount at startup. I have set them up to mount at startup in the Chooser, but they never do.
This article has been archived and is no longer updated by Apple.
Most likely this issue is caused by the "Always remember the user's last-used AppleShare logins" option in At Ease Setup (Workgroups). When this setting is enabled, AppleShare volumes that are specified to mount at startup will not mount at startup.

This setting is enabled by default, so many users are not aware that it is enabled. In addition, it can only be accessed throught the Security options Pane. Since the setup process does not require an administrator to change any of the Security options, users are not always aware that the option is there.

Follow these steps to disable the option.

1. Launch the At Ease Setup (Workgroups) application.
2. Click the New User button.
3. Double-click the Panels icon, whether or not you intend to provide the user with Finder access, restricted Finder access, or Panels access.
4. Click the Security Button (the button with the lock icon).
5. Click the "Always remember the user's last-used AppleShare logins" radio button to disable it.
6. Continue with the setup. If you are setting up a user with Finder access, double-click the Finder icon.

Published Date: Feb 18, 2012

Mini-Circular 8 pin connector sources

This article has been archived and is no longer updated by Apple.

```
TOPIC ----------------------------------------------------------

Who else makes connectors that are compatible with mini-circular 8 pin
connectors used on the Mac Plus?

DISCUSSION -----------------------------------------------------

For the 8 pin mini-circular connectors used on the Macintosh Plus, Apple
Personal Modem, and ImageWriter Plus, there are two vendors of connectors
which have pins that conform to the Apple specification for length and
diameter:

1. "C" Enterprises

  Wiring connection: Machine-attach pin

2. AESP (Advanced Electronic Support Products - formerly Roman Cable)

  Wiring connection: Female pin, which makes soldering easier for the user.

    AESP connectors have the same construction and
    assembly as the AppleTalk Custom Cable Kit connectors.

For more information search on "C" Enterprises or AESP.
```

Published Date: Feb 18, 2012

PC Compatibility Card: Installing in Power Mac 5400/120 (4/97)

I am trying to install a 7-inch PC Compatibility card in a Power Macintosh 5400/120. None of the documentation included with either product tells me how to do this. Can I install the PC Compatibility card into the Power Macintosh 5400/120?

This article has been archived and is no longer updated by Apple.
Your description indicates that you have revision A of the card (M4091LL/A). Revision B of the card (M4091LL/B) is slightly redesigned and provides full compatibility in the 5400/120; installation instructions are also included.

The revision A card can be installed in the Power Macintosh 5400/120. However, you will first have to remove the Apple External Video Connector from the logic board of the Power Macintosh 5400/120.

Install the 7-inch PC Compatibility card into the PCI slot and insert the GIMO card (the small video board that's connected to the DOS card with a ribbon connector) into the slot previously occupied by the Apple External Video Connector.

Do not use the audio cables that come with the 7-inch PC Compatibility card for installation in the Power Macintosh 5400/120. The GIMO connector card also handles the audio signal.

Article Change History:
16 Apr 1997 - Edited rev /B information.
Published Date: Feb 18, 2012

Macintosh Computers: What is SRS Sound?

I have a Power Macintosh 5400/120 computer, and I've noticed that there is an option in the Sound & Monitors control panel called SRS Sound. I can only Enable or Disable it. However, I'm not really sure what SRS Sound is or what benefits it provides if I enable it.
This article has been archived and is no longer updated by Apple.
SRS (Sound Retrieval System) is proprietary technology from SRS Labs, which Apple has licensed and implemented on the Power Macintosh 5400 and 6400; Macintosh Performa 6400 series; and Macintosh Performa 6360/160 computers in order to enhance the sound field of these computers.

The useability, compatibility, and performance of the computer is not affected if SRS sound is enabled or disabled. However, enabling SRS yields a more spacious stereo sound from the computer. You can try it both ways to determine which you prefer.

Stereo, Surround Sound, and SRS are all common forms of sound expansion techniques, but SRS differs primarily because it does not require special encoding or recording processes or critical listening position ("sweet spot").

Instead, SRS uses psychoacoustic (how your ears and brain interpret the sound) principles. The result is that any sound can be played back using SRS and you do not need to listen to it from a specific location to experience the effect. SRS accomplishes this by processing the ambient or reflected sounds so that they take on the audio characteristics of sounds naturally entering the ear from the side. The brain thus perceives these sounds as though they were actually coming from the sides or, in some cases, from behind the head, rather than from the two front stereo speakers.

The following chart provides an overview of the differences among stereo, surround sound, and SRS. Additional information about SRS is available from SRS Labs web site

http://www.srslabs.com/

Characteristics	Stereo	Surround Sound	SRS
Encoding	YES Using 2 or more microphones	YES Using 4 or 5 microphones or special techniques	NO Works with any source such as mono, stereo, or surround technologies
Channels	YES Left (L) & Right (R) channels.	YES 4 or 5 channels Front left channel to front rt. speaker, and so on.	NO
Speakers	2	4 or 5 Surrounding listener	2
Sweet spot?	YES	YES	NO

Note: The word 'SRS' and the SRS Symbol - (*) - are registered trademarks of SRS Labs, Inc.

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H.320/ISDN Test System

This article describes a method to test your H.320/ISDN system using Apple Media Conferencing.
This article has been archived and is no longer updated by Apple.

Question: How can I test my H.320/ISDN system using Apple Media Conference?

Answer: Vivo Software Inc. maintains the 'Vivo320 Test Call Center' H.320 videoconferencing system set to auto-answer 24 hours a day and 7 days a week. Their telephone number for the video conferencing is 617-492-0911. Vivo Software uses a 5ESS switch so there is only one phone number to dial. Launch Apple Media Conference then ensure these settings have been set correctly.

```
Setting menu
  Preferences
     Conference
        Connection type: H.320 card
        Connect via:
           ISDN, 2 channel
         or
           ISDN, 2 channel, 56k adaptation
```

Once the settings are correct, select "Call..." from the File menu. Remember to enter any prefixes to access an outside line (8 or 9) or any applicable long distance prefixes (1 or long distance carrier prefix).

The Tech Info Library article titled "Locating Vendor Information" can help you search for Vivo Software's address and phone number.

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MessagePad 120: Upgrading German MessagePad 120 in U.S.

This article describes the limitations when upgrading international versions of an Apple MessagePad in the United States.

I purchased an Apple MessagePad 120 with the ROM v 1.3 while stationed in Germany. Now that I have returned to the U.S., I would like to get the MessagePad upgraded to the 2.0 ROM. Will Apple Computer upgrade a German ROM v 1.3 at the U.S. upgrade facility?
This article has been archived and is no longer updated by Apple.
The ROM is not the only difference in these units. There is also a German language set of silk-screened buttons at the bottom of the touchpad or display.

There is a limitation for the upgrade on an Apple MessagePad with an international configuration. Apple Computer will do the upgrade for the standard upgrade price plus shipping and handling. This does not include the replacement of the touchpad or display.
Published Date: Feb 18, 2012

ARA Server: Open Transport and LocalTalk Issue

I have a Power Macintosh 7200/90, with System 7.5.3 from Update 2.0, Open Transport 1.1, Apple Remote Access (ARA) Personal Server 2.0.1, and Global Village Platinum modem, acting as an ARA server on a LocalTalk network (with no zones) of 15 devices. Any client calling in is able to see the LocalTalk servers and printers in the Chooser, but they cannot connect to them. When connecting to a server, they get no response. When attempting to print to a printer, they get the message, "The printer is switched off or disconnected."

Another ARA Personal Server, a Macintosh Classic, on the network lets clients connect without a problem.

I have tried resolving this by doing the following to no avail:

* I tried setting ARA 2.0.1 clients to Remote Only in the Network control panel.

* I did a clean install of System 7.5.3 with Update 2.0, ARA Personal Server 2.0.1, and Global Village software on the Power Macintosh 7200/90.

What is wrong?
This article has been archived and is no longer updated by Apple.
There is a known problem with ARA servers running Open Transport on a LocalTalk network. Clients will be able to see services but will be unable to connect to them as you described above.

This issue has been fixed with Open Transport 1.1.1 which is available on Apple Computer's online services. These articles can help you locate Open Transport 1.1.1:

* "Where To Find Apple Software Updates" -- Lists online services for free Apple software updates.

* "Obtaining Apple Product Support in the USA" -- Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech Info Library.

Article Change History:
23 Oct 1996 - Updated with Open Transport 1.1.1 availability.

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Modem: Using Register Feature as Testing Option (6/96)

This article describes how to test the modem dial out functions.

I just setup my new Performa 640. I am trying to get the modem to dial up a bulletin board but I am not sure I have the ZTerm application setup correctly or if the modem is functioning correctly. Is there an easier way to test the modem?
This article has been archived and is no longer updated by Apple.
As a simple alternative test option you can use the registration feature of the modem. The registration feature is previously setup by the modem manufacturer. If you have a Global Village modem installed use the following steps:

* Open the TelePort control panel. (Use the PowerPort control panel for Global Village modems installed in PowerBook computers)
* Select the "Register..." option in the control panel.
* Follow the instructions as prompted.

Published Date: Feb 18, 2012

AICK: What is the 800 Number for the Registration Server (6/96)

I have the Apple Internet Connection Kit (AICK), and I am trying to connect to the Internet Registration Server to decide which Internet Service Provider to choose. When I first launched the Apple Internet Dialer, the 1-800 phone number was listed, but I changed the number. I cannot find the original phone number anywhere to change it back. What is the 1-800 number for the Registration Server?

This article has been archived and is no longer updated by Apple.

The telephone number in the AICK, Apple Internet Dialer for the Registration Server is 1-800-247-5067.

Published Date: Feb 18, 2012

AICK: Setting Up with Existing Service Provider (6/96)

I have the Apple Internet Connection Kit (AICK) and I'm trying to set it up with my existing Internet service provider (ISP). When I launch the Apple Internet Dialer, it wants me to set up an account with a new service provider. How do I tell it to use my existing ISP?

This article has been archived and is no longer updated by Apple.

When you first run the Apple Internet Dialer, it assumes you do not have internet access and guides you through setting up an account with a new ISP. If you already have dial-up access with an ISP, you can set it up by following these steps:

Step 1
Launch the Apple Internet Dialer application

Step 2
Choose Define Provider Information from the Provider menu.

Step 3
Enter the appropriate information for your ISP. if you do not know this information, call your ISP for the necessary information.

Published Date: Feb 18, 2012

QuickMorph and Apple Menu Options (6/96)

I just purchased a Power Macintosh 5400/120. I installed Hypercard 2.3.3, which comes bundled with AddMotion II. Every time I try to use the QuickMorph component of the AddMotion II software, it crashes. What can I do about this?

This article has been archived and is no longer updated by Apple.

```
Try deselecting the "Remember recently used items" checkbox in the Apple Menu Options control panel. Follow
these steps to deselect this checkbox:

Step 1
------
Select Control Panels from the Apple Menu

Step 2
------
Double-click the Apple Menu Options icon.

Step 3
------
Click the checkbox labeled "Remember recently used items" to deselect it.
```

Published Date: Feb 18, 2012

Power Macintosh 5400 and Remote Control (6/96)

I just bought a Power Macintosh 5400/120 and I noticed it did not include a remote control. Was it supposed to be included? What can I do?

This article has been archived and is no longer updated by Apple.

No, the remote control is not included with the Power Macintosh 5400/120. However, there are two other options available to you.

First, you can contact a local, Apple-authorized service provider and inquire about purchasing the remote control which is included with the Apple TV/Video System. The service part number is 922-0549. Service providers may not have service parts available.

You may also use any remote control which uses the Sony command set. This includes Sony TV remotes, and universal remotes which can be programmed with the Sony command set.

Published Date: Feb 18, 2012

800K Floppy Drives: Don‘t Use with Old Hewlett-Packard 3.5 Disks

This article has been archived and is no longer updated by Apple.

A word of caution to those who try to use the old HP 3-1/2" disks (i.e., the ones that don't have springs; you have to open and close the shutter by hand) in the 800K Macintosh and UniDisk 3.5 drives.

An old HP disk has a protective door which locks in the open position when it is opened all the way. An Apple 400K drive doesn't slide the door all the way open, and so it doesn't lock in the open position.

However, an Apple 800K drive does slide the door all the way open, and because the protective door locks, the drive isn't able to eject the disk.

Published Date: Feb 18, 2012

Power Macintosh 5400/120 & Apple System Profiler 1.0.1 (6/96)

Was Apple System Profiler 1.0.1 revised to add support for the Power Macintosh 5400/120? I tried versions 1.0 and 1.0.1 on this computer, and the results appear to be the same.

This article has been archived and is no longer updated by Apple.

Version 1.0.1 of Apple System Profiler does not include any enhancements specifically for the Power Macintosh 5400/120. If you are using version 1.0, it is not necessary to upgrade to version 1.0.1.

Published Date: Feb 18, 2012

PC Exchange and ZIP Drive Issues (6/96)

There have been reports of issues with the Iomega ZIP drive and the PC Exchange control panel. Users are either not able to select the Iomega ZIP drive in the PC Exchange control panel, or they cannot see all of the files or folders on the drive.

Below is greater detail users have reported:

Ñ In the PC Exchange control panel, after clicking Options..., no device driver for a Iomega ZIP drive is available.

Ñ When using PC Exchange to mount a ZIP drive, not all of the files or folders are seen in the Finder. When choosing Find File in the File menu on the ZIP drive, the files and folders are visible, but these files still do not show up in the finder. All of the files and folders are visible when using the ZIP drive on a PC.

This article has been archived and is no longer updated by Apple.

Iomega ZIP drive and the PC Exchange control panel

The reason you cannot see the ZIP drive in the PC Exchange control panel is because PC Exchange has an internal list of supported devices and the ZIP drive is not on the list. The ZIP drive will probably not be added to this list because the driver that ships with the drive is PC Exchange aware. DOS formatted ZIP cartridges can be used with the driver that ships with the drive.

You need to run the installer which puts the Iomega Driver extension in the extensions folder. Restart the Macintosh, insert a DOS formatted ZIP cartridge, and it appears on the desktop. The cartridge may need to be formatted using SCSIUTIL.EXE that ships with the ZIP drive. There is no need to configure PC Exchange to mount the cartridge, however, PC Exchange, Access PC, or DOS Mounter must also be installed on the Macintosh.

Cannot see all of the files or folders on the drive

Below are two issues we are aware of that may be causing this:

Ñ PC Exchange (2.0.x) has a limit of displaying 512 files in a subdirectory.

Ñ This sounds similar to an issue with CD-ROM discs. All of the files and folders could not be seen on a CD-ROM when Connectix Corporation's RAM Doubler 1.5.1 is installed, and file sharing is turned on. This incompatibility was fixed in RAM Doubler 1.5.2 or later. You should upgrade RAM Doubler, if RAM Doubler is being used.

Published Date: Feb 18, 2012

Power Macintosh 5400/120: All Software Isn‘t Installed (6/96)

I recently performed a clean installation of System 7.5.3 Revision 2 on my Power Macintosh 5400/120. However, it appears that I no longer have the software that was originally installed. What other software needs to be installed? Is there any particular order I need to reinstall this software?

This article has been archived and is no longer updated by Apple.

Your Power Macintosh 5400/120 computer includes the following pre-installed software. The items are listed in the same order as the software is installed at the factory, but you do not need to install the software in any particular order.

* System 7.5.3 Revision 2
This installer is located on the Apple Macintosh CD: Install System Software: System 7.5.3 installation (alias).

* Apple Video Player
This installer is located on the Apple Macintosh CD: Apple Extras: TV/FM Software: Install Video Software.

This installer places both the Apple Video Player and the Apple FM Radio in the Apple Menu Items folder. There is not a Custom Install option for this installer. However, currently the Apple FM Radio does not add any functionality to your computer so you may safely remove it.

* QuickDraw 3D
This installer is located on the Apple Macintosh CD: Apple Extras: QuickDraw 3D: Installer.

* QuickDraw 3D Scrapbook
After installing QuickDraw 3D, you will have a Scrapbook file containing two 3D models in the following location:

Hard Drive: Apple Extras: QuickDraw 3D Folder: Scrapbook file

In order to use this Scrapbook, you need to put it in your System Folder and replace the Scrapbook file that is currently there.

IMPORTANT: If you replace your current Scrapbook file with the one created by QuickDraw 3D, you will lose any information that you have added. Be sure to copy this information before replacing the file.

Published Date: Feb 18, 2012

Logo II: Using Apple IIe Memory Expansion Card

This article has been archived and is no longer updated by Apple.
Logo II will address the card as a RAM disk only.

There are two precautions:

1. Logo II cannot be loaded into the Memory Expansion Card because Logo II is copy protected.

2. Use the Extended 80 Column Card to run Logo. With Logo II, the Memory Expansion Card only works as a RAM disk.

Published Date: Feb 18, 2012

12 Inch PC Compatibility Card: Video RAM Explanation (6/96)

In reading the PC Compatibility Card User's Manual (for 12-inch card), it is explained on page XIII that 1 MB of video DRAM can be added to the card. Yet on page 195, the DRAM chip is described as being "256K x 16". Further, the silk screening on the card and the part number of the chips that are soldered down suggest that the chips are indeed 256K.

How is it that we are getting the first 1 MB of video DRAM by using two chips that are 256K each? And how can 1 MB of video DRAM be added by using two 256K chips?

This article has been archived and is no longer updated by Apple.

The DRAM used is 256K X 16, this multiplies out to 4,096,000 bits. Each byte is made up of 8 bits, so 4,096,000 bits divided by 8 bits equals 512,000 bytes. Using two of these 256K x 16 video DRAM chips adds up to 1,024,000 bytes (or 1 MB).

Published Date: Feb 18, 2012

MessagePad 120: Upgradeable to MessagePad 130?

I own an Apple MessagePad 120 and would like to have a backlit screen like the one that comes standard on the Apple MessagePad 130. Is there an upgrade available?

This article has been archived and is no longer updated by Apple.

There is no upgrade available. Upgrading from a Apple MessagePad 120 to an Apple MessagePad 130 would require a new screen and a new logic board. The cost of such an upgrade would be significant, making it more practical to purchase a MessagePad 130 instead of upgrading your Apple MessagePad 120.

Published Date: Feb 18, 2012

At Ease 3.0.1: Can‘t Lock Power Macintosh 7200 Hard Disk

I cannot lock the startup volume with At Ease 3.0.1 running on Power Macintosh 7200 computers with System 7.5.3. The option is available in the User Settings menu, and is checked, but I can still start up from a CD-ROM disc or floppy disk and access the hard drive.
This article has been archived and is no longer updated by Apple.
This issue is resolved in At Ease 3.0.2, which is available on the online services.

Once you update to At Ease 3.0.2, you should disable the Lock StartupDisk feature, quit the administration application, and then re-enable Lock StartupDisk. This will ensure that the latest update code is installed on your startup disk.

These articles can help you locate the software update mentioned here:
* "Where To Find Apple Software Updates" - Lists online services for free Apple software updates.

* "Obtaining Apple Product Support in the USA" - Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech Info Library.
Published Date: Feb 18, 2012

Mac OS and Microsoft Works 4.0b (6/96)

I cannot get Microsoft Works 4.0B loaded on my Macintosh computer which is running Mac OS 7.5.3. After clicking on Setup on disk 1, I get a message saying "Install was unsuccessful." I never even get to the first dialog box.

This article has been archived and is no longer updated by Apple.

Microsoft Technical Support stated that Microsoft Works 4.0b installs correctly on Mac OS 7.5.3. They did state that virtual memory should be turned on and the Mac OS date should be set to the standard US date format. If the problem persists, please contact Microsoft directly.

Published Date: Feb 18, 2012

Color LaserWriter 12/600PS: Moving Precautions and Errors

What precautions should be taken when transporting or moving the Color LaserWriter 12/600 PS to another location? What errors may occur after moving the printer and what can I do to eliminate them?
This article has been archived and is no longer updated by Apple.
The Color LaserWriter 12/600 PS is large and heavy, and requires special handling considerations before moving in order to prevent damage. The printer circulates a supply of oil through the fusing system to coat the fuser rollers. Moving a Color LaserWriter without first removing the fuser oil bottle and all remaining oil will most likely result in spilled oil. Spilled oil can contaminate the oil overflow sensor causing an error condition or image quality problems if it gets on the transfer drum or other parts of the imaging system. Although less severe, the oil can create a mess if it migrates onto the interior and exterior plastics.

The following procedures in addition to those documented in the User's Guide can be taken to minimize problems when moving the Color LaserWriter 12/600 PS printer.

Moving Instructions

Moving Within the Same Office

For general movement within the same office the printer can be transported on a cart as long as it is not tipped while lifting or moving the printer. If the printer is tipped, oil will spill from the open oil pan at the bottom of the fuser assembly. If there is any possibility that the printer will be tipped then the fuser oil should be removed.

Moving to Another Location Without Repackaging The Printer

Remove the four toner cartridges, waste toner bottle, fuser oil bottle, and the photoconductor. Use the orange shipping fixture for the photoconductor to protect it from damage and insert it into the lightproof bag if available. The waste toner bottle should be capped to prevent toner leakage.

Pump the teal green paper jam release lever on the right of the fuser assembly 50 times to transport oil already in the system back to the oil reservoir. Use a small turkey baster or a large syringe to extract the oil from the reservoir. Repeat the procedure if necessary until all of the oil has been removed.

Remove the fuser assembly from the printer using the procedures documented in the fuser replacement section of the LaserWriter 12/600 PS User's Guide. Seal the fuser assembly in a plastic bag and transport it separate from the printer. Reinstall the fuser assembly and the consumables after the printer has been placed in its new location.

Shipping to Another Location in the Original Packaging

Follow the instructions above for moving the printer without repackaging, adding the following steps:

Reinstall the orange transfer drum shipping screw assembly that ships with all new printers. This screw is necessary to prevent damage to the delicate transfer drum and its drive mechanism.

Tape closed any plastic covers that could open or become dislodged during transport. Use fiber reinforced packaging tape similar to that originally used to package the printer. Pay particular attention to the front door, fuser access door, multipurpose tray, and the paper cassette tray.

Carefully inspect the cardboard cover, foam shipping blocks, and wooden pallet before repackaging the printer. DO NOT reuse damaged packaging materials or severe shipping damage may result.

Reinstall the fuser assembly and the consumables after the printer has been placed in its new location.

Setting up the Printer and Eliminating Potential Errors

Once the printer is at its new location, make sure it is installed onto a level surface. If the Color LaserWriter is not placed on a level surface then fuser oil may accumulate in the fuser assembly oil catch tray causing an error condition. A fuser oil pump overflow error is indicated on the status panel by alternately flashing the paper out and paper jam LEDs while the yellow toner cartridge LED and the photoconductor maintenance LEDs remain on.

Follow these steps to eliminate the oil overflow condition:

Step 1: Level The Printer And Its Supporting Surface

Use a small line level to verify that the surface the printer will be placed on is flat and level. If the surface that the printer is placed on is level and stable then it is unlikely that any additional leveling of the printer will be necessary once it is put into place. Many tables contain leveling feet which make leveling easier.

Check the printer to see if it is level by opening the top cover and placing a line level on the yellow felt covered surface of the fuser assembly. The front of the printer must be no higher than the rear to aid the flow of fuser oil back to the oil reservoir.

CAUTION:
Under NO circumstances allow the FRONT of the printer to be higher than the REAR of the printer.

Leveling the Color LaserWriter 12/600 PS from left to right is not as critical.

Step 2: Pump The Fuser Jam Release Lever To Remove Excess Oil
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Open the fuser access door to locate the teal green fuser paper jam release lever. Pump the lever 50-70 times to manually remove excess oil from the fuser assembly oil catch tray and move it back to the oil reservoir. Under most circumstances this action will allow the oil overflow sensor flag to drop back to its normal operating position.

Step 3: Allow Oil To Flow Back Into Reservoir

Raise the right front corner of printer no more then 1 inch and hold for 15-20 seconds.

Step 7: Power On Printer

Turn the printer back on and wait for startup pages or ready LED.

If these steps do not correct the problem, the printer may require service to resolve this issue.
Published Date: Feb 18, 2012

QuickTake 100 & System 7.5.3 Incompatibility (10/96)

After installing the System 7.5 Update 2.0 on my Power Macintosh, I am no longer able to view pictures from my QuickTake 100. When trying to view a picture, the application either quits or I get a message that says "Unable to view the slide because of an error."

This article has been archived and is no longer updated by Apple.

This was previously thought to be an incompatibility with the System Update 2.0 Enabler. However, through further investigation, we have determined the cause to be an incompatibility between QuickTime 2.1 and the QuickTake 1.0 application. To correct this, you need to use QuickTime 2.5 instead of QuickTime 2.1.

Article Change History:
18 Oct 1996 - Changed distribution and workaround.
09 Jul 1996 - Reformatted and reviewed.
25 Jun 1996 - Updated with new information and workaround.

Published Date: Feb 18, 2012

Apple System Profiler On A Power Macintosh 7600/120 (6/96)

When I used the Apple System Profiler (ASP) 1.0 on my Power Macintosh 7600/120, it said that it was a Power Macintosh 7600/100.

Since I upgraded to the latest version of ASP, version 1.0.1, it now says that my Macintosh is simply a "Power Macintosh."

Since neither ASP version 1.0 or 1.0.1 seem to be able to identify my computer, which version should I be using?
This article has been archived and is no longer updated by Apple.
Apple System Profiler version 1.0.1 was written to support the new Enhanced PCI-based Power Macintosh computers* including the Power Macintosh 7600/120.

However, Apple Engineering is aware that version 1.0.1 still does not properly identify the Power Macintosh 7600. Apple intends to address this issue in the next release of Apple System Profiler.

*NOTE: The enhanced PCI-based Power Macintosh computers include the following computer series:

- Power Macintosh 7200/120
- Power Macintosh 7600/120
- Power Macintosh 8500/132
- Power Macintosh 8500/150
- Power Macintosh 9500/150

Published Date: Feb 18, 2012

AppleShare: Changing Startup Disks

This article describes how to change the startup disk when using AppleShare File and/or Print Server. For additional information please check the AppleShare Admin Guide, which provided the information below, that came with your AppleShare software or Workgroup Server.
This article has been archived and is no longer updated by Apple.
At some point, you may want to change startup disks. In addition to installing AppleShare on the new disk, there are additional steps you need to take to maintain your original user accounts and access privileges.

To change startup disks:

1). Connect the hard disk you want to use as the startup disk for the server computer.

2). Install System Software and AppleShare software on the new startup disk.

Supported Mac OS releases:

AppleShare 3.0.1 - System 7.0 or greater
AppleShare 4.0.1/4.0.2 - System 7.0.1 or greater
AppleShare 4.1 - System 7.1.2 or greater
AppleShare 4.2 - System 7.5.1 or greater
AppleShare 4.2.1 - System 7.5.3

3). From the Finder, copy the User & Groups Data File and File Server folder from the Preferences folder on the original startup disk to the Preferences folder on the new startup disk. The Preferences folder is inside the System Folder.

IMPORTANT: If you have been providing print service from the original startup disk and want to do so from the new startup disk, you also need to copy the AppleShare Print Server folder from the old Preferences folder.

4). From the AppleShare Admin program, copy any other files or folders from the original startup disk to the new startup disk. To copy folders to the new startup disk while retaining their access privileges, choose Copy <Item> from the Privileges menu.

This step is necessary only if you are replacing the original startup disk. If you plan to use both hard disks, you can skip this step.

5). Click the new disk's icon in the new disk's Startup Disk control panel. To open the Startup Disk control panel, choose Control Panels from the Apple menu, then double-click the Startup Disk icon.

6). Choose Restart from the Special menu. After the server computer has restarted, you can provide file service from the new startup disk.
Published Date: Feb 18, 2012

Language Kits: How to View Web Sites In Other Languages

Using the Japanese Language Kit and the Apple Internet Connection Kit, which includes Netscape as the web browser application, I would like to be able to view web sites in Japanese, but the text appears garbled.
This article has been archived and is no longer updated by Apple.
Netscape allows you select different language encoding and font displays. You can setup different fonts for different encodings and just change the encoding whenever you look at a different web site.

Follow these steps to change the language encoding to Japanese in Netscape v1.1 and v2.0.

Netscape 1.1

1. Choose Preferences from the Options menu.
2. Choose Fonts and Colors from the pop-up menu.
3. Choose Japanese from the For the Encoding pop-up menu.
4. Set Japanese Fonts to Font setting.
5. Set Default Encoding to SJIS and check Auto Select.

Netscape 2.0

1. Choose General from the Options menu.
2. Choose Fonts panel.
3. Choose Japanese from the For the Encoding pop-up menu.
4. Set Japanese Fonts to Font Setting.
5. Click OK.
6. Choose Documents Encoding from the Options menu.
7. Choose Japanese Auto-Detect

Published Date: Feb 18, 2012

AppleShare Workstation 3.6.2: System 7.5.3 Performance

I have Power Macintosh computers running System 7.5.3, AppleShare Workstation 3.6.2 connecting to an AppleShare File Server 4.2.1 on a 10Base-T network. I'm getting complaints from users that they are getting slower performance in Finder Copies, to or from the server, than they were with computers were running System 7.5.2 and AppleShare Workstation 3.6.1.

Is there an issue with the AppleShare Workstation 3.6.2 software running with System 7.5.3 in regards to performance?
This article has been archived and is no longer updated by Apple.
The issue you describe is known, and it will be resolved in the version of AppleShare Workstation that ships with the next major revision of AppleShare.

Apple is also considering the possibility of including a fix, to the AppleShare Workstation, in a system update release.
Published Date: Feb 18, 2012

Macintosh 5xxx/6xxx Tester: Read Me

This article contains the Macintosh 5xxx/6xxx Tester: Read Me document and a link to the 5xxx/6xxx Tester software.
This article has been archived and is no longer updated by Apple.

Language/OS Required	Release Date	Version	Read Me	Software
North American English North American English	1996-06-12	1.0		15 K
International English	–	–		
français	–	–		
Deutsch	–	–		
Español	–	–		
Italiano	–	–		
Nederlands	–	–		
Japanese	–	–		
français (canadian) French-Canadian	1996-07-01	1.0		25 K

Downloading Help: Article 75098 "**Help: Downloading Software**"

All software available from this site is covered by a software license agreement included with this software.

Related Knowledge Base Articles

Article

60216 Macintosh 5xxx/6xxx Tester: Logic Board & Cache Messages

60216 Power Mac 5200/5300/6200/6300: REA Fact Sheet Q & A

North American English

5XXX/6XXX Tester

The 5XXX/6XXX tester is designed to perform a diagnostic test on the logic board. It is designed to test for known component issues which may cause system freezing. It should only be run on Power Macintosh/Performa 5XXX/6XXX series computers, as the information it provides is only of benefit for those machines. Please note that this application is not designed for use with the Power Macintosh/Performa 5400, 6360 and 6400 computers.

If you are experiencing problems with your computer other than system freezing, please contact Apple computer or an authorized Apple service provider. Other helpful information can be found in the "Troubleshooting" section of your User's Guide or on Apple's internet web site. Apple's web site is located at <**http://www.info.apple.com**>.

If this application is run on a Power Macintosh/Performa 5XXX/6XXX series computer and it finds a problem, it will present one of the following messages:

The logic board has been checked and a potential issue has been found.

Please contact Apple customer support or an Apple Authorized Service Provider to have the logic board replaced as part of the repair extension program.

A potential issue with the Cache has been found. Please contact Apple customer support or an Apple Authorized Service Provider to have the Cache replaced as part of the repair extension program.

If no problems have been found, this application will present the following message:

The logic board has been checked and none of the specific, known hardware issues that are covered under this program were found. If you are experiencing problems, we recommend that you verify that any software applications you are using are compatible with your computer. You can do this by contacting the developer of the software. You should also follow the procedures described in the troubleshooting section of the User's Guide to reduce any freezing issues you are experiencing.

These articles can help you locate the software update mentioned here:
"**Where To Find Apple Software Updates**" - Lists online services for free Apple software updates.
"**Obtaining Apple Product Support in the USA**" - Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech Info Library.

Other References:

The following Tech Info Library articles provide additional information on the 5xxx/6xxx Tester application.

- **Mac OS 8: About 5xxx/6xxx Tester Read Me**, article #28031
- **52xx/62xx Diagnostic Utility & 5xxx/6xxx Tester:Difference**, Article #20061
- **Macintosh Performa 5xxx/6xxx: Frequently Asked Questions**, article #18928

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français (canadian)

Tester 5XXX/6XXX

Le logiciel de vérification 5XXX/6XXX effectue un essai diagnostique de la carte logique. Il vise des problèmes de composants connus qui peuvent entraîner des blocages système. Le logiciel ne doit être utilisé qu'avec des ordinateurs Power Macintosh ou Performa 5XXX/6XXX, car l'information fournit par l'application ne s'applique qu'à ces ordinateurs.

Si vous éprouvez des problèmes autres que des blocages système, il est recommendé de demander un essai diagnostique complet auprès d'un technicien de service autorisé Apple.

Si cette application est démarrée sur un ordinateur de la famille Power Mac ou Performa 5xxx/6xxx et décele un problème, un des messages suivants sera présenté :

La vérification de la carte la logique a révélé un problème potentiel. Veuillez communiquer avec le service d'assistance à la clientèle d'Apple ou avec un fournisseur de service autorisé Apple afin de faire remplacer la carte logique aux termes du programme de réparation prolongé.

La vérification a révélé un problème potentiel d'antémémoire. Veuillez communiquer avec le service d'assistance à la clientèle d'Apple ou avec un fournisseur de service autorisé Apple afin de faire remplacer l'antémémoire aux termes du programme de réparation prolongé.

Si aucun problème est décelé, l'application présentera le message suivant :

La vérification de la carte la logique n'a révélé aucune défaillance matérielle connue visée par ce programme. En cas de problème, nous vous engageons à vérifier la compatibilité des logiciels que vous utilisez avec votre ordinateur. À cette fin, veuillez communiquer avec l'éditeur du ou des logiciels en question. La consultation de la section Dépannage du Guide d'utilisation peut également vous aider à réduire les problèmes de blocage système.

Published Date: Feb 18, 2012

Apple III: Interrupts and Reset on Peripheral Slots

Can the Apple III slots respond to IRQ or RESET from the peripheral cards in emulation mode?
This article has been archived and is no longer updated by Apple.
The Apple III slots can not respond to IRQ or RESET from the peripheral cards in emulation mode. There is no way around it because the hardware is different. NMI is not on the same pin as in the Apple II and will act like RESET on the Apple II.
Published Date: Feb 18, 2012

AppleWriter WPL: Multi-Copy Printout Program

Listed below is an AppleWriter WPL Multi-Copy Printout Program.

This article has been archived and is no longer updated by Apple.

```
START   NY
       PND
       PPR
       PPR
       PPR
       PPR               MULTI-COPY  PRINTOUT  PROGRAM
       PPR
       PPR     When you use continuous pin-feed paper, your
       PPR     document must end with ".ff". Be certain
       PPR     the ".ff" is not followed by a RETURN.
       PPR
       PPR
       PPR     When you use single sheet paper, select the
       PPR     Single Page option (SP1) in the  Print/Program
       PPR     Commands menu.
       PPR
       PPR
CHECK   PIN     Are you certain this has been done? =$A
       PCS/$A/y/
       PGO MORE
       PCS/$A/Y/
       PGO MORE
       PCS/$A/n/
       PQT
       PCS/$A/N/
       PQT
       PGO CHECK
MORE    PPR
       PPR     Enter the device or volume location of your
       PPR     document and the file name. (ie ".D2/CONTRACT",
       PIN     or "/AWFILES/CONTRACT"): =$B
       L $B
FOUND   PPR
       PIN     How many copies would you like? =$C
       PSX $C
       PAS (X) =$C
       PAS 0 =$A
       PCS/$C/$A/
       PGO END
       PGO PRINT
PRINT   PPR
       PNP
       PSX -1
       PGO PRINT
END     PPR
       PPR
       PPR
       PPR
       PIN     Would you like another multiple printout? =$A
       PCS/$A/Y/
       PGO START
       PCS/$A/y/
       PGO START
       PCS/$A/n/
       PQT
       PCS/$A/N/
       PQT
       PGO END
```

Published Date: Feb 18, 2012

Macintosh Plus: Hanging on Boot and ROM versions (8/95)

Article Review/Updated: 23 August 1995

My Macintosh Plus hangs at startup intermittently. I'm not sure why, any ideas?

This article has been archived and is no longer updated by Apple.
When a Macintosh Plus hangs on boot, check for a connected SCSI device that is powered off. If such a device is connected, the Macintosh Plus may have the original 128K ROMs that have this problem, which was corrected in the revised ROMs.

Workaround:

Power up the SCSI device or disconnect it.

There are two methods that can be used to check the ROM version on a Macintosh Plus: the serial number and the built-in mini-monitor.

1. Serial number

A factory built Macintosh Plus computer with a serial number beyond F609xxxMxxxxx has the revised ROMs. However, if you are not sure if your machine was upgraded to a Macintosh Plus, or if you have a serial number earlier than that, move on to the next method.

2. Mini-monitor

Follow these steps to use the mini-monitor to check ROM version:

Step 1

Press the interrupt switch on the programmer's switch to enter
the built-in mini-monitor.

Step 2

Type DM 400000. If the third byte value displayed is EA, it means the revised ROMs; if it's EE, it means the original 128K ROMs.

Step 3

C. Type G to return.

ALL upgrade kits were shipped with the revised ROMs.

Article Change History:
23 Aug 1995 - Removed extraneous information and reformatted.
22 Jul 1992 - Reviewed.

Support Information Services
Published Date: Feb 18, 2012

Power Macintosh 5400/120: Disk Icon at Startup

Whenever I start up my Power Macintosh 5400/120 computer, a disk icon appears on the screen before the "happy Macintosh". Sometimes when this happens, a flashing question mark also appears in the disk icon. This has happened since the first time I started up the computer. What is causing this?

This article has been archived and is no longer updated by Apple.

The Power Macintosh 5400/120 computer does not have a startup volume selected in the Startup Disk control panel. So, the computer checks the floppy drive, then the SCSI bus, and finally the IDE ATA bus for the startup volume. This checking can cause a slight delay in the startup process. This phenomenon is normal on the Power Macintosh 5400/120, but you can follow these steps to resolve it:

1. Open the Startup Disk control panel.
2. Select the internal hard disk as the Startup Disk.
3. Close the control panel and restart the computer.

The computer should now start up normally. However, resetting the Parameter RAM (PRAM) on the computer deselects the Startup Disk again, causing the issue to reappear. So, after resetting PRAM, you need to repeat these steps.

This article was published in the Information Alley on 13 July 1996.

Published Date: Feb 18, 2012

PowerBook 5300 & 190: Sound Specs Q & A (6/97)

Question 1: What are the total harmonic distortions from input to output?
Question 2: What is the frequency response of the sound?
Question 3: What are the sampling rates?
Question 4: Can I use both sound inputs at the same time?
Question 5: Does the internal microphone capture monophonic or stereo sound?
Question 6: Can I capture stereo sound from an external source through the sound input jack?
Question 7: What sound capability does the PCMCIA slot have, if any?
Question 8: I need some information about all the other sound specifications for Macintosh PowerBook 190 and 5300 series computers.
This article has been archived and is no longer updated by Apple.
Note: Complete information on these topics is available in the PowerBook 190 and 5300 developer notes.

Question 1: What are the total harmonic distortions from input to output?

Answer: Total harmonic distortion and noise is less than 0.05 percent with a 1-V rms sine wave input. The signal-to-noise ratio (SNR) is 85 dB, with no audible discrete tones.

Question 2: What is the frequency response of the sound?

Answer: 20hz to approximately half the selected sampling rate which would be 22Khz, 11Khz, or 5.5Khz.

Question 3: What are the sampling rates?

Answer: Sample rates supported are 44.1, 22.05, or 11.025 kHz, at a sample size of 8 or 16 bits.

Question 4: Can I use both sound inputs at the same time?

Answer: The PowerBook 5300 is capable of recording sound from either the internal microphone or from the sound input jack. Only one input can be used at a time.

Question 5: Does the internal microphone capture monophonic or stereo sound?

Answer: The internal microphone allows the user to record monophonic sounds. This microphone also allows the user to implement Apple's Plaintalk speech recognition software.

Question 6: Can I capture stereo sound from an external source through the sound input jack?

Answer: The Sound input jack can record stereophonic sounds from any device that outputs a line level signal. Line level signals are common from CD players, tape decks, VCRs and most other consumer electronic devices. To use an external microphone with the sound input port, the external microphone's signal would first have to be amplified up to a line level signal level. It can be done by using a microphone preamp or by running the microphone signal through a mixer that has a built-in microphone preamp.

Question 7: What sound capability does the PCMCIA slot have, if any?

Answer: PCMCIA cards can generate sound back through PowerBook 5300 and PowerBook 190 systems. This is useful for modem cards to generate connection status or for any PC Card to play system beeps.

Question 8: I need some information about all the other sound specifications for Macintosh PowerBook 190 and 5300 series computers.

Answer:

Output Impedance
The output impedance, nominal is 32 ohms.

Frequency Response Of Speakers
The frequency response of the speakers will be 20 Hz to 20,000 Hz.

Line Level Input
Line Level is a standard in the audio field and now in the computer industry. Line level is defined as 1 volt peak to peak. Line Level provides an industry standard so that all audio and other electronic equipment can operate properly together. Most VCRs, including both home and professional audio equipment use Line Level as a standard.

Audio Input

The audio input of the 190 and 5300 series PowerBook is specified to operate at 5.6V Peak to Peak.

Line In Impedance
Line In Impedance: 6.8K ohms

Max Input
Max Input before clipping, Singer (sound chip) gain = 0 dB is 2 Vrms, nominal 5.6 Vpp

Max Output
Max Output into 10 k ohm load 1.4 Vrms, nominal 2 V Peak to Peak. The output level will of course drop with a low impedance load like headphones; the 2 Vpp, 32 ohm Thevenin equivalent is well suited to drive headphones.

16-bit stereo
CD-quality, 16-bit stereo sound capable of driving headphones or other stereo equipment.

Analog/Digital Conversion
Digital-to-analog and analog-to-digital conversion sampled at 11.035, 22.050, or 44.100 kHz.

This article was published in the Information Alley on 12 June 1996.
Published Date: Feb 18, 2012

Apple Media Tool: Not Enough Internal Memory Error

I created a runtime multimedia project using Apple Media Tool 2.0. When I try launching this project on my Power Macintosh 8100 an error message appears that reads: Not Enough Internal Memory (2). When I launch this project on my Power Macintosh 8500, I get further into the presentation before this same error message appears.

I have allocated 30 MB of additional memory to Apple Media Tool, but that has not helped either. According to the About This Macintosh screen, Apple Media Tool is only using approximately 4 MB of the 30 MB.
This article has been archived and is no longer updated by Apple.
There is an undocumented feature in Apple Media Tool 2.0 to increase the project Heap and Stack, which allows you to build larger and more complex projects.

To increase the project Heap and Stack, hold down the Control key on the keyboard while launching Apple Media Tool and Runtime Maker. You should increase the size of the heap from 4K to 10K to build and compile larger and more complex projects.
Published Date: Feb 18, 2012

System 7.5 Update 2.0: System 7.5.3 Differences

I am using System 7.5.3 that came pre-installed on my Power Macintosh 8500/132. What are the differences between the System 7.5.3 included on my computer versus System 7.5.3 on a different computer, such as a Macintosh that had System 7.5 Update 2.0 installed?

Do I need to install System 7.5 Update 2.0 on my Power Macintosh 8500/132?

This article has been archived and is no longer updated by Apple.
There are a few differences between System 7.5.3 as it appears on Enhanced PCI-based Power Macintosh computers (Power Macintosh 7200/120, 7600/120, 8500/132, 8500/150, and 9500/150) versus existing Macintosh computers upgraded to System 7.5.3. The files that are different are listed below:

Name	Version in A	Version in B
Apple Menu Options	1.1.1	1.1.2
Apple Video Player	1.3.2	1.4
Mouse control panel	7.5.2	7.5.2
Monitor Resolution control strip	1.0	1.0.1
Apple Modem Tool	1.5	1.5.5
Open Transport Guide Additions	1.3	1.3.1
Video Startup extension	1.3.2	1.4

A - System 7.5.3 on Enhanced PCI Power Macintosh computers
B - System 7.5 Update 2.0

System 7.5 Update 2.0 is focused on fixing issues with computers that came out prior to the Enhanced PCI-based Power Macintosh computers. Bug fixes included in System 7.5 Update 2.0 that may be of benefit to enhanced PCI-based Power Macintosh users are listed below:

- System 7.5 Update 2.0 fixes a memory leak in Standard File, which causes 512 bytes of memory to be orphaned in the application heap, each time a file is opened.
- System 7.5 Update 2.0 fixes an obscure bug in the Power Manager which causes a system freeze under the following scenario:

  - AppleTalk is off
  - Open the AppleTalk or TCP/IP control panels, which turns on AppleTalk

  This bug is easily avoidable by turning on AppleTalk from the Chooser before opening the AppleTalk or TCP/IP control panels.
- System 7.5 Update 2.0 fixes an obscure bug where the system may freeze during startup. It only occurs if there is insufficient memory available during startup. Possible scenarios are: majority of memory is used by a RAM Disk, majority of memory is used by the Disk Cache, and/or many memory intensive third party extensions are installed.
- System 7.5 Update 2.0 fixes a bug in the Display Manager. This bug appears when a system with menus that are too large to appear on the screen. For example, using a 640 x 480 screen on a Macintosh with many items in the Apple Menu Items folder could cause this bug to appear.
- System 7.5 Update 2.0 fixes a bug in how the Display Manager saves the Preferences file. When this bug occurs, the Macintosh desktop may not appear at startup.
- System 7.5 Update 2.0 fixes a bug in the Notification Manager. Without this fix, the wrong flashing icon could appear in the Application menu. In addition, this fixes issues with the clock and battery level indicators not being redrawn correctly when an alert sound is played.
- System 7.5 Update 2.0 makes the default recording mode on all PCI-based Power Macintosh computers to be the same as other Macintosh computers.
- System 7.5 Update 2.0 includes Apple Video Player 1.4, which fixes a system freezing issue on computers with MPEG cards.
- System 7.5 Update 2.0 includes Apple Menu Options 1.1.2, which has shown to improve compatibility with some third party software.

We believe that it is unlikely that Enhanced PCI-based Power Macintosh users will be impacted by these bugs. However, it is possible to avoid these issues by installing System 7.5 Update 2.0 on an enhanced PCI-based Power Macintosh.
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ImageWriter LQ: Shifting Page With QuickDraw GX 1.1.3

I am using an ImageWriter LQ with System 7.5.3 and QuicDraw GX 1.1.3. When printing using the QuickDraw GX driver, the page shifts down one inch and then starts to print. With QuickDraw GX disabled and using the ImageWriter LQ driver (version 7.0.1), the page backs up one inch before printing so the print job starts in the right place. Can you explain?
This article has been archived and is no longer updated by Apple.
Apple Engineering has reproduced this issue. It appears that the ImageWriter LQ GX driver starts printing about 3/4 inch from the top of the page. This occurs no matter which options (paper size, manual feed, and so on) are selected.

There are two possible workarounds if you wish to continue to use QuickDraw GX. Use one or the other of these:

If your application is QuickDraw GX-aware
You can use the GX Paper Type Editor (which is part of the custom install of QuickDraw GX Utilities) to lessen the added space at the top of the page by 1/4 inch. Follow these steps to create a custom paper type:

1. Create a custom paper type, modeling it after US Letter and giving it a top margin of 0 (zero) inches instead of the default 1/4 inch.
2. Save this paper type in the Extensions folder.
3. Use the Page Setup dialog box to select the custom paper type for the page being printed.

If your application is not QuickDraw GX-aware
Use QuickDraw GX Helper, which lets you disable QuickDraw GX desktop printers. So, you can use the non-GX ImageWriter LQ driver even with QuickDraw GX enabled. This method will provide the original margins.

QuickDraw GX Helper is not installed as part of the Easy install option of QuickDraw GX. You must use the Custom install option and specifically choose QuickDraw GX Utilities.
Published Date: Feb 18, 2012

LaserWriter 12/640 PS: Complex Jobs Require More RAM

I am trying to print a document which contains multiple pages on a LaserWriter 12/640 PS printer. However, I continue to get a single sheet of paper with text that reads:

%%[Error: ioerror; OffendingCommand: image; ErrorInfo: DCTDecodeFilter Cannot allocate 58608 bytes]%%
%%[Flushing: rest of job (to end-of-file) will be ignored]%%

Why can I not print this document?
This article has been archived and is no longer updated by Apple.
The document you are trying to print is too complex for the amount of RAM you have installed in the printer. When either complex images or documents containing a large number of multiple fonts on a single page are sent to a 4MB LaserWriter 12/640 PS printer, you will see this error.

The only way to prevent this in the future is to either simplify your documents or add additional memory.
Published Date: Feb 18, 2012

LaserWriter 12/640 PS: Image Interference w/ FinePrint ON

I have a LaserWriter 12/640 PS printer which sometimes prints strange lines on my Images. I do not notice this problem in the text areas, only on the images. Why?

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Sometimes you will get these unwanted interference lines when you have FinePrint ON and you are printing images. FinePrint is designed for text, not images. By default FinePrint is OFF. To get rid of these interference lines, make sure FinePrint is turned OFF.

Published Date: Feb 18, 2012

LaserWriter 8.4: PostScript Fax Isn‘t Supported

I have a LaserWriter Select 360 with the fax option. I am currently using the LaserWriter 8.2.3f printer driver. I noticed there are now newer LaserWriter printer drivers. Can I use this software?

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PostScript fax support is not supported with the LaserWriter 8.4 printer driver. In order to retain full support of the fax functions, you must continue to use the LaserWriter 8.2.3f printer driver. If you use the latest 8.3.x printer driver (8.3.4), you have limited functionality when faxing documents. In order to maintain the highest level of functionality, Apple recommends using the LaserWriter 8.2.3f printer software with all LaserWriter fax devices.

Published Date: Feb 18, 2012

LaserWriter 8.4: Obtaining Third-Party PPD Files

This article discusses issues that may arise using the LaserWriter 8.4 printer software with non-Apple printers.
This article has been archived and is no longer updated by Apple.
If you use the LaserWriter 8.4 printer software with third-party printers (non-Apple printers), many of the enhancement options offered by these printers, such as resolution enhancement smoothing, do not work. In some cases you may not even be able to print with the existing vendor supplied PPD file.

In order to print to a non-Apple printer using the LaserWriter 8.4 driver, contact the vendor of the printer to obtain a LaserWriter 8.4 compatible PPD file.

You can also use the Generic PPD file. However, you will not have all of the printer options available to you.

Published Date: Feb 18, 2012

LaserWriter 8.4: Trouble Printing Documents in Foreground

I am using the LaserWriter 8.4 printer software, and when I print from several of my applications, the printing fails. Why?
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The LaserWriter 8.4 printer driver offers both foreground and background printing. When you use foreground printing, the driver does not create a spool file on your hard disk. While this increases the printing time, this also causes printing difficulties for some applications. Applications known to have issues using foreground printing (there may be other applications as well) include:

- Adobe Persuasion
- Adobe Photoshop
- Microsoft PowerPoint 4.0
- Microsoft Excel 5.0
- Intuit Quicken 6.0
- Claris Draw
- Claris Impact.

To print properly from these applications, turn ON background printing in the print dialog.

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LaserWriter 12/640 PS: White Streaks on Printout

I am getting white streaks on my printouts from my LaserWriter 12/640 PS printer. How can I correct this?
This article has been archived and is no longer updated by Apple.
You need to clean the mirror inside the LaserWriter 12/640 PS printer.

Cleaning the LaserWriter 12/640 PS Mirror

- Open the printer cover.
- Remove the toner cartridge.
- Slide the yellow plastic square back and forth. This removes any toner residue.
- Replace the toner cartridge.
- Close the printer cover.

Published Date: Feb 18, 2012

Drive Setup 1.0.5: Read Me

This article contains the Read Me file for Drive Setup 1.0.5.
This article has been archived and is no longer updated by Apple.
What's New in Drive Setup 1.0.5?

- No changes to the SCSI driver.
- No changes to the IDE driver
- Updated Drive Setup application to assure that volume creation dates are different when creating multiple partitions on a hard drive. This change fixes a problem where, in rare cases, custom icons may appear incorrectly on a volume with mulitple partitions with the same creation dates.

Drive Setup 1.0.5 requires System Software 7.5 or later and is only supported for use with the following systems:

- Power Macintosh systems (including PowerPC-based Performa systems)
- PowerPC-based PowerBook computers*
- Macintosh 580- and 630-series systems and PowerBook 190 series

Drive Setup does not currently support the Macintosh Processor Upgrade. If the upgrade is installed in a Macintosh 580- or 630-series system, use the "601 Processor Upgrade" control panel to turn the card off before using Drive Setup.

* The following computers are in the PowerPC-based PowerBook computer family: PowerBook 5300, 5300c, 5300ce, 5300cs, 2300c, 1400c, and 1400cs. Additionally PowerBook 200 and 500 series computers which have PowerPC upgrade cards installed are included in the PowerPC-based PowerBook computer family.

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Megaphone 1.0.3P

This article contains the Read Me file for Megaphone 1.0.3P and a link to the software download.
This article has been archived and is no longer updated by Apple.

Language	Release Date	Software Update	Read Me	OS Required
North American English	1996-03-20			---
International English	---			---
français	---			---
Deutsche	---			---
Español	---			---
Italiano	---			---
Nederlands	---			---
Japanese	---			---

For help with downloading, see article 75098 "Help: Downloading Software" All software available from this site is covered by a software license agreement included with this software.

North American English

In order to use MegaPhone 1.0.3P, it is recommended that you also install Audio Volume Extension 1.1 and Telephone Manager 2.0. Look for these extensions in your Extensions folder inside the System Folder. If they are not installed, download the software from Apple SW Updates and install them before using MegaPhone.

MegaPhone 1.0.3P Info

This is the release of the 1.0.3 code base for Performas which has the same feature set as described for 1.0.2P. This version ships with the 5200, 5300, 6200, and 6300 desktop computers. All users of 1.0.2P can move forward to 1.0.3P.

Major problems addressed (in addition to those addressed for version 1.0.3):

1. For some users, on some calls, once the call was connected, MegaPhone would hang up. This is fixed.

2. For some users, the volume of the recorded messages was very low. The volume has been increased a little. (Some users are also able to fix this problem by adjusting the recording volume in the Telephone Setup control panel).

3. This version works with the Global Village TelePort Platinum V and the Global Village TelePort Gold IIv modems.

4. Users using pulse (rotary) dialing could not dial long distance numbers. This is fixed.

Installing MegaPhone 1.0.3P

This version of the installer will install all of the software components needed to run MegaPhone on your Macintosh Performa.

To install MegaPhone, double click on the file named "Install MegaPhone". Choose the hard disk you wish to install on, and then select the "Install" button. After you restart your machine, you can then launch MegaPhone. There will be a MegaPhone folder located inside your Applications folder.
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QuickDraw 3D 1.0.6: Read Me

This article contains the ReadMe file for QuickDraw 3D 1.0.6.
This article has been archived and is no longer updated by Apple.
Important Information About QuickDraw 3D
==========

QuickDraw 3D enables your Macintosh computer to display three-dimensional graphics using applications designed to take advantage of QuickDraw 3D. It also provides a common file format, called 3DMF (for "3D metafile"), for exchanging 3D documents, and acceleration services which support plug-and-play accelerator cards.

Installation

The following are required to install and run QuickDraw 3D:

* a PowerPC based computer with a minimum of 16 megabytes of memory (RAM)
* MacOS System 7.1.2 or later

Using QuickDraw 3D

The QuickDraw 3D folder includes the following applications, 3D models, and textures that allow you to explore the 3D capabilities of your Macintosh:

* SimpleText version 1.3.1 and Scrapbook version 7.5.1. These applications allow you to open and interact with 3DMF models.

* A new Scrapbook File with sample 3DMF models.

* A number of 3DMF models provided by Model Masters and Viewpoint Datalabs International.

* Textures provided by Wraptures and Xaos Tools.

You can expect more applications using QuickDraw 3D in the near future, including new versions of application programs you may already own. Contact your software vendors for more information about their plans to support this new technology.

QuickDraw 3D performance and image quality

For better performance, we recommend that Virtual Memory be turned off.

QuickDraw 3D has been optimized to display three-dimensional graphics of high quality. To display high-quality images, and obtain the best performance from your system, we recommend that you set your system to display thousands or millions of colors.

Troubleshooting

If you try to start an application that uses QuickDraw 3D and get the message "The application '<application name>' could not be launched because QuickDraw 3D could not be found," make sure that the following files are in the Extensions Folder, inside the System Folder:

* QuickDraw 3D
* QuickDraw 3D Accelerator
* QuickDraw 3D Viewer

If the files are there and you still get the message, it means that you don't have enough memory to run the application. You may be able to open the application if you try the following:

* Quit other open applications.
* Reduce the amount of memory allocated to the application. This is done by:
- selecting the application's icon in the Finder
- choosing "Get Info..." from the File menu
- typing a lower number in the boxes for Minimum Size and Preferred Size
* Install more memory (RAM).

If you are using a localized system, and you install this U.S. software, you will need to copy the "Scrapbook File" in the "QuickDraw 3D Folder" to the System Folder on your Macintosh. Otherwise, when you select the Scrapbook from the Apple menu, you will get an empty scrapbook. Note that this operation will replace any existing Scrapbook File in the System Folder, thus erasing any previously stored contents.

Some of the sample models included with QuickDraw 3D, such as Big Ben and Red Hatchback, are highly detailed (they contain additional 3D

modeling data such as vertex normals and surface UVs) and thus will require a larger amount of memory than the other supplied models. If you experience problems when opening these files from SimpleText, you should open only one file at a time.

How QuickDraw 3D uses memory

QuickDraw 3D is a shared library. When no applications that rely on QuickDraw 3D are open, the library does not take up memory space (RAM). Once a QuickDraw 3D-based application is open, the amount of memory taken up by the shared library doesn't increase if other QuickDraw 3D-based applications are launched. Of course, each application will take up memory according to their size and the complexity of the files being used. The memory taken up by QuickDraw 3D becomes available when you quit all QuickDraw 3D-based applications.

While a QuickDraw 3D application is open, the QuickDraw 3D library allocates memory from "temporary memory." This memory shows up in the "About This Macintosh..." window as memory used by the System. When you quit the application, the memory becomes available, but the size shown in the "About This Macintosh..." window may not reflect this. The memory previously used by QuickDraw 3D is, nonetheless, available for other applications (it is released to the applications as needed).

If you need to reinstall QuickDraw 3D

If you need to reinstall QuickDraw 3D, follow these steps:

1. Open the "QuickDraw 3D Install" folder and double-click the Installer icon.
2. After installing QuickDraw 3D, restart your computer.
3. If you want the items in the "QuickDraw 3D Extras" folder, drag the folder to the newly-created "QuickDraw 3D Folder" inside the "Apple Extras" folder. (Editor's Note: Step 3 of the reinstall only applies when using a Mac OS CD-ROM, which has a "CD Extras" folder present. Otherwise, the QuickDraw 3D Extra material is not available.)

Removing QuickDraw 3D

If you wish to remove QuickDraw 3D, follow these steps:

1. Open the "QuickDraw 3D Install" folder and double-click the Installer icon.
2. Choose Custom Remove from the pop-up menu.
3. Click the box next to each item to put a check in it.
4. Click Remove.
5. Restart your computer.

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System 7.5 Update 2.0: Late Breaking Tips

This article contains additional information for installing and using System 7.5 Update 2.0.
This article has been archived and is no longer updated by Apple.
This document gives you some helpful information for installing and using System 7.5 Update 2.0 ("Update 2.0"). Since releasing Update 2.0, Apple has been monitoring our customers' experience with installing and using it. After receiving a significant amount of feedback on this software release, there is some helpful information that we can provide to ensure that the transition to the new version of System 7.5 goes as smoothly as possible.

Note: System 7.5 Update 2.0 has multiple disks, however depending on the model computer you own, some disks may not be used during the installation. The Installer application automatically determines the proper model and disks required. In some cases entire disks are not used, which is normal.

1. Read the "Installing This Update" Read Me. It is very important that you follow the directions in this read me when you install Update 2.0.

2. Use Disk First Aid Make sure you use the Disk First Aid program to test and, if necessary, repair the disk on which you're going to install the update. On the CD, Disk First Aid can be found by using the path:

System 7.5 Update 2.0 Installation System 7.5 Update 2.0 System 7.5 Update 2.0 - 1 Utilities f Disk First Aid

On the floppy disks, Disk First Aid can be found on System 7.5 Update 2.0 - 1, in the Utilities folder. For instructions on using Disk First Aid, see the manual that came with your computer.

3. Update your hard disk driver. Make sure you update your hard disk driver to the latest version available. If you are using an Apple driver, both Apple HDSC Setup and Drive Setup are available with Update 2.0. Most 68K computers (the 68K computers that are exceptions are listed below) should use HDSC Setup. All PowerPC computers, and the following 68K computers that have IDE hard disks should use Drive Setup:

Macintosh LC 580 Macintosh LC 630 Macintosh LC 630 DOS Macintosh Quadra 630 series computers Macintosh Performa 580 series computers Macintosh Performa 630 and 640 series computers PowerBook 150 series computers* PowerBook 190 series computers

Also, if you have a 68K computer and have installed a PowerPC Upgrade Card, you should use Drive Setup.

*Special note about the PowerBook 150 series computers: you do not need to update the driver on your computer (as described in the user's manual) with Drive Setup. (The driver on your computer is contained in it's ROM.)

On the CD, Apple HDSC Setup can be found by using the path:

System 7.5 Update 2.0 Installation System 7.5 Update 2.0 System 7.5 Update 2.0 - 1 Utilities f Apple HD SC Setup

On the floppy disks, Apple HDSC Setup can be found on System 7.5 Update 2.0 - 1, in the Utilities folder.

To use Drive Setup 1.0.4, from either the CD or the floppies, you must first custom install it. This can be done by opening the System 7.5 Update 2.0 Installer, and selecting Custom Install in the upper pop-up menu. Then open the triangle next to "Applications", and select "Drive Setup".

4. Use the Extensions Manager control panel to turn off all non-Apple extensions before installing the update. To do this, select "System 7.5 Only" if your current system software is 7.5 or 7.5.1, or "System 7.5.2" if your current system software is 7.5.2, then restart your computer. After the update is installed you can then go back and again use the Extensions Manager control panel to turn your extensions back on. See the "Installing This Update" Read Me for complete steps and information.

5. Do not rename or move files around within your System Folder before installing Update 2.0. The Installer makes some assumptions that certain files will be in certain places. If these files are moved or renamed, files that are installed could be placed in the wrong place, or not installed at all.

If you believe you have moved or renamed files, and are not sure how to move or rename them so that Update 2.0 will install correctly, then you should perform a clean install of the system software on your computer. For instructions on how to perform a clean install, see the manual that came with your computer .

6. If you have an AppleVision Display and you have problems after installing the Update 2.0, you should install AppleVision Fix 1.1. This software fixes such problems as:
* When you press the buttons on the front of the display, you see a message that says "No AppleVision Display is connected."
* You have a Power Macintosh 7200 and cannot find the Monitors & Sound control panel in the Control Panels folder.
* The Monitors & Sound control panel does not have Geometry, Color, and Monitor Sound buttons. (NOTE: The Monitor Sound button appears only if you have an AV monitor.)

* You can't change the resolution of the AppleVision Display or you can't open the AppleVision Setup control panel.
* Macintosh Guide does not contain information on the AppleVision Software or Display.

AppleVision Fix 1.1 can be found on the following online services:

* America Online - keyword: applecomputer

* CompuServe - GO APLSUP

* Internet -
- Worldwide Web: **<http://www.info.apple.com/swupdates>**
- ftp: <**ftp://ftp.info.apple.com>**

7. System 7.5 Update 2.0 will require more RAM, especially on PowerPC-based systems. The increased amount of RAM which System 7.5 Update 2.0 requires will vary greatly depending on which Macintosh system you are updating, and what your system configuration is.

According to tests run by Apple, the RAM reserved for system software for many 680x0-based Macintosh systems will increase less than 100K as compared to System 7.5.1, while the RAM reserved for system software for many Power Macintosh systems will increase 300K-850K as compared to 7.5.1. The results you will see may vary.

8. Use the following tips for these specific situations:

* Using Connectix RAM Doubler on a PowerBook. There is an incompatibility between System Software 7.5.3 and Connectix RAM Doubler and PowerBook computers. On PowerBook computers running System 7.5.3 and RAM Doubler, if you put the PowerBook to sleep and then wake it up, the machine may crash with a Type 8 error. Apple is currently working on this problem, and will have a solution available in the near future. In the meantime, there are two ways to workaround this problem. First, the problem will not occur if MacsBug is installed. The MacsBug software can be found on the same on-line services listed above. The path to use is: Apple SW Updates: US: Macintosh: Utilities: MacsBug 6.5.3.

Secondly, the problem will not occur if RAM Doubler is turned off.

* Using PCI PowerPC Computers with Ethernet. PowerPC-based computers with PCI slots might have a different physical Ethernet address after you install Update 2.0. The update fixes a bug that caused an incorrect physical Ethernet address to be used in environments where TCP/IP addresses are obtained using BootP, DHCP, or RARP. To see the new Ethernet address after you install the update, open the File menu in the AppleTalk or TCP/IP control panel and choose Get Info. If you install the update and are no longer able to use your TCP/IP-based applications, contact your network system administrator. If you have access to the Internet, detailed information regarding this issue can be found in the article "System 7.5.3 and Physical Ethernet Address Change" in the Technical Information Library. The Apple Technical Information Library (TIL) is available on the Internet at **http://til.info.apple.com/**

Apple will continue to monitor any other feedback that we receive from customers using System 7.5 Update 2.0 and provide more information as appropriate.

Published Date: Feb 18, 2012

AppleSearch Server 1.5.1 Patch: Read Me

The following article is the ReadMe document for the AppleSearch Server 1.5.1 patch.
This article has been archived and is no longer updated by Apple.
Warning

This patch cannot work properly while virus detection software is running. Please make sure that you have disabled any virus detectors before applying the patch.

About this patch

This program will patch the AppleSearch Server application (version 1.5) to enable WAIS gateway functionality with Open Transport. If you are not using Open Transport, it is not necessary to apply this patch. The version of the application will be updated to 1.5.1 after the patch is applied. All other AppleSearch component version numbers will remain 1.5.

This patch application was made with ResCompare, a free resource comparison and patch generation utility. ResCompare can be FTP'ed from most Macintosh archive sites. Send e-mail inquiries regarding ResCompare to Michael_Hecht@mac.sas.com.
Published Date: Feb 18, 2012

LaserWriter 8.5.1: Apple LaserWriter Printer Tips

This article contains the Apple LaserWriter Printer Tips file, which ships with the LaserWriter 8.5.1 software.
This article has been archived and is no longer updated by Apple.

Apple LaserWriter Printer Tips:

This document contains information and tips for achieving the best results with your printer. When using the LaserWriter 8 driver, you should be aware of the following situations. Some happen with all LaserWriter printers, and others happen only with specific models.

All LaserWriter Printers

- Some printers support both US Letter and US Letter Small paper sizes. To prevent text from clipping or wrapping to the next line on different printers, use US Letter Small. To get the narrowest possible margins from your printer model, use US Letter.
- Some printers with small amounts of memory will not print documents containing large numbers of fonts. If a document using multiple fonts does not print using the LaserWriter 8 driver, try selecting Unlimited Downloadable Fonts in the Page Setup PostScript Options dialog box and print again. Alternatively, try power-cycling the printer and printing the document again.
- If you encounter a timeout (PostScript error -8993) when printing multiple copies of large and complex documents in the background, print the documents one at a time or select foreground printing to avoid this problem.

Apple LaserWriter 8500 Printer:

Obtaining Printer Supplies for the Apple LaserWriter 8500

In the U.S., to order toner for the LaserWriter 8500 direct from Apple, call 1-800-600-7805. For your reference, the part number is M5893G/A LaserWriter 8500 Toner Cartridge

You can obtain options from your Apple-authorized dealer. The options available are:

M5894G/A LaserWriter 8500 A3 500-Sheet Cassette and Feeder
M5895G/A LaserWriter 8500 A4 500-Sheet Cassette and Feeder
M5896G/A LaserWriter 8500 Duplex Printing Unit
M5897G/A LaserWriter 8500 Envelope Cassette

Using Letter and A4 Paper Sizes

If you want to alternate between printing letter and A4 short-edge-feed print jobs, be sure to specify the specific cassette you want the printer to use. If you use AutoSelect, the printer may detect Letter as A4 and A4 as Letter.

Using Telnet

NCSA Telnet version 2.6 or earlier is incompatible with the LaserWriter 8500 when used on a Mac OS based computer with Open Transport. Use NCSA Telnet version 2.7b2 or later.

Using RARP or BOOTP to Set the Printer's IP Address:

This note is applicable if you use either a RARP or BOOTP server to set the printer's IP address.

The LaserWriter 8500 will continue to use an IP address obtained from a RARP or BOOTP server even if that server is no longer available on the network when the printer is restarted. This is true even if you use the Apple Printer Utility to set the IP address to 0.0.0.0 or to the factory default settings. You may change the IP address by modifying the printer's entry on the RARP or BOOTP server or by manually assigning a valid IP address through telnet or the Apple Printer Utility. However, if you no longer wish to use the printer with TCP/IP, you should set the TCP/IP port to OFF using the Communication Configuration panel in the Apple Printer Utility. This will prevent any IP address conflicts should the original IP address be later used on a different node on your network.

Using RARP with Subnet Mask and Default Gateway:

This note is applicable if you will be printing from a UNIX computer using TCP/IP and the lpr protocol.

When the printer uses RARP to determine its IP address, it ignores any defined values for the subnet mask and default gateway. You cannot use RARP for regular IP address configuration. RARP can be used when the printer is initially configured, to set an IP address long enough to connect to the printer via telnet. Then, with telnet set the IP address, subnet mask, and default gateway.

Printed Output is Skewed:

If the information in your document doesn't line up with the edges of the paper as expected, it may be that the paper loaded in the cassette is not aligned with the cassette. Please remove the cassette and make sure the side-to-side adjustment is good and that the paper is squarely oriented to the cassette.

Additional Regulatory Information:
This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. See instructions if interference to radio or television reception is suspected.

Responsible Party:

I.E. & D. Department
Apple Computer, Inc.
1 Infinite Loop
Cupertino, CA 95014
Telephone: 408-974-2618 (For FCC Compliance Information Only)

Using Centronics to Print a PostScript File:
This note is applicable if you will be printing from an IBM PC or compatible in either DOS mode or from the Windows Operating System. When using Centronics to print a PostScript file Apple recommends that the following DOS command be present in the AUTOEXEC.BAT file on your PC system:

mode lpt1:,,p
or
mode lpt1:,,b

This will ensure that the host computer will not time-out before the print job completes.

Using Centronics to Print a PostScript File from DOS:
If you will be printing from an IBM PC or compatible in DOS mode make sure that there is a Ctrl-D character at the end of the file or append another job containing a Ctrl-D.

Using NetWare 3.12 and RPRINTER mode:
This note is applicable if you will be printing from an IBM PC or compatible in either DOS mode or from the Windows Operating System. If you will be using NetWare 3.12 with the printer in RPRINTER mode, be sure to check that NetWare banner pages are off or the print job will not print.

Apple Color LaserWriter 12/660 PS and 12/600 PS Printers:

Obtaining Printer Supplies for the Apple Color LaserWriter 12/660 PS and Apple Color LaserWriter 12/600 PS
In the U.S., to order printer supplies for the Color LaserWriter 12/660 PS and Color LaserWriter 12/600 PS direct from Apple, call 1-800-600-7805. For your reference, the part numbers are listed below:

M3755G/A Fuser Oil
M3756G/A Black Toner Cartridge
M3757G/A Cyan Toner Cartridge
M3758G/A Yellow Toner Cartridge
M3760G/A Magenta Toner Cartridge
M3761G/A Photoconductor Replacement Kit
M3867G/A Fuser Replacement Kit, 110v
M3876G/A Color LaserWriter Transparencies, LTR size (50 per pack)

For the location of the nearest Apple-authorized dealer, in the U.S. call 1-800-538-9696, extension 525.

About the Demonstration Page and Startup Page:
When the power is turned on, the Color LaserWriter automatically prints a startup page and a demonstration page for 8.5 x 11 paper. For legal and B5 paper sizes, only the startup page prints. You can use the Apple Printer Utility to turn off the printing of the startup and demonstration pages.

About the Apple Color LaserWriter Status Panel:
As described in the Color LaserWriter 12/600 PS manual, Appendix G, the status panel lights aid in indicating hardware service problems found during printer startup. If the Alert light is flashing and all the door lights are flashing, check all the printer doors; one of them is open. If the Paper Out and Paper Jam lights are blinking alternately, a hardware problem has been detected.

To identify the problem, notice which toner lights (C, M, Y, Bk) and how many of the maintenance lights (in the area on the right-hand side of the status panel) are on, and refer to the table below. Each area listed under "Problem" represents a general circuit area for the service technician to investigate, not necessarily the exact cause of the problem.

Toner Lights ON	# Maintenance Lights ON	Problem
C	0	I/O Controller Board
C	1	SIMM, Slot J11
C	2	SIMM, Slot J10
M	2	Hard Drive
M	3	I/O Controller ROM
Y	0	Fuser
Y	1	Oil Pump in Fuser
Y	2	Thermal Sensor in Fuser
Y	3	Paper Feed Unit
Bk	0	DC Controller
Bk	1	Power Supply
Bk	2	Toner Carousel
Bk	3	Laser/Scanner Circuit
M & Bk	0	Main Motor
M & Bk	1	Drun Motor
M & Bk	2	Laser/Scanner
C & Bk	0	Controller Fan
C & Bk	1	Fuser Fan
C & Bk	2	Main Fan

If you have an external SCSI hard disk drive attached but do not turn it on before you turn on the printer's power, the printer may indicate a hardware failure. To correct the problem, turn the hard disk drive on and restart the printer.

Obtaining the Best Results for Business Graphics:
To obtain the best results for business graphics, colors should be 100% saturated. For example, to print pure yellow, define yellow as 100% red and 100% green without any blue. Then print your document, making sure to select the Color/Grayscale option in the Print Options dialog.

Printing on Legal-Size Paper:
In the standard memory configuration, the Color LaserWriter PS uses a higher compression technique for legal-size paper using only the cyan, magenta, and yellow colors. As a result of this compression technique, very complex pages may show missing pixels in fine lines or small text, "jaggies" (edges with low-resolution appearance), and color changes. To improve the image quality of such pages, you can increase the printer's memory to 16 MB or more. With at least 16 MB of printer memory, the Color LaserWriter can achieve the same quality with legal-size pages as with letter and A4 sizes using all four colors (cyan, magenta, yellow, and black.)

Printing Images on the Color LaserWriter 12/600 PS and 12/660 PS Printers:
The Color LaserWriter printer's highest resolution for printing images is 150 x 150 dpi. No gain in image quality is achieved if higher resolution images are used. All other types of documents print at 600 x 600 dpi.

Avoiding Hue Shifts When Printing to File:
When you save an image in an Encapsulated PostScript (EPS) file all the PostScript settings relating to the original output device in effect are saved along with the image data. When the image is printed later, the settings that were in effect may cause major hue shifts. To prevent these hue shifts save the image in TIFF format instead of EPS.

The Density Control Panel:
The Color LaserWriter has been adjusted at the factory to produce the best possible image quality. However, small variations exist among different printers. To make subtle changes to image quality, you can use the Density Control Panel on the back of the printer. NOTE: If changing the settings produces inferior image quality, return to the factory settings by following these steps: Select each color using the Color Select button, then press the - or + button to move the indicator light to the center position. When the indicator is in the center, press Enter to make the setting permanent. Repeat this procedure for all four colors.

Setting Your ColorSync System Profile for Best Printing Results:
Before using ColorSync color matching to print to the Color LaserWriter printer, set the ColorSync System Profile for the monitor connected to your system. To do this, open Control Panels in the System Folder and double-click ColorSync System Profile.

Make sure the following settings are selected:

- Set the profile for the monitor connected to your system. For the best color match when printing, select the "page-white" or "D50" system profile for your type of monitor if one is available.
- For the best visual match between the colors on your monitor and printed colors, select the Page-White Gamma option in the Monitors control panel. To select a gamma option, open the Monitors control panel, then hold down the Option key while you click the Options button. In the Options window, click the Use Special Gamma checkbox to put an X in it. Then choose Page-White Gamma from the list.
- On a multiscan monitor, make sure that the color temperature, or intensity, is set to 9300K (the default setting). See the monitor manual for instructions. If the Page-White Gamma option is selected with a color temperature other than 9300K, your monitor colors could look too red or too blue compared to printed colors.

Apple LaserWriter 12/640 PS Printer:

Obtaining Printer Supplies for the Apple LaserWriter 12/640 PS

In the U.S., to order printer supplies for the LaserWriter 12/640 PS direct from Apple, call 1-800-600-7805. For your reference, the part numbers are listed below:

M4683G/A LaserWriter 12/640 PS Toner Cartridge
M4682G/A LaserWriter 12/640 PS 500-Sheet Cassette and Feeder
M4680G/A LaserWriter 12/640 PS Envelope Cassette
M4697G/A LaserWriter 12/640 PS Duplex Printing Unit
M4698G/A LaserWriter 12/640 PS Face-Up Output Tray

For the location of the nearest Apple-authorized dealer, in the U.S. call 1-800-538-9696, extension 525.

Printer Memory Requirements:
The printer comes with 4 megabytes (MB) of memory. If you will be using PhotoGrade or the optional duplex printing unit, you will need to add memory. See below for the printer's memory requirements for the possible configurations. The printer uses SIMMs that can be purchased from many electronics and computer outlets. See "RAM upgrade specifications" in Appendix D of your user's manual for more information.

Total memory requirements for the possible configurations that require additional memory are:

PhotoGrade - 12 MB
Duplex Printing Unit - 12 MB
PhotoGrade and Duplex Printing Unit for all paper sizes except legal - 20 MB
PhotoGrade and Duplex Printing Unit for all paper sizes - 24 MB

Using PhotoGrade and the Duplex Printing Unit:
If your printer has at least 12 MB of memory but less than 24 MB, you cannot always use PhotoGrade and the duplex printing unit at the same time (see "Printer Memory Requirements" above). If you select two-sided printing with PhotoGrade, and PhotoGrade cannot be used at the same time, two-sided printing will override PhotoGrade.

About the Duplex Printing Unit and the Multipurpose Tray:
The LaserWriter 12/640 PS does not allow the multipurpose tray to be used with the duplex printing unit. The Print dialog allows you to switch between the multipurpose tray and two-sided printing. If you have the multipurpose tray selected, two-sided printing is disabled. If you want to use two-sided printing, select a tray other than the multipurpose tray, then make your two-sided printing selection. Similarly, if you have two-sided

printing selected, you must deselect it before the user interface allows you to select the multipurpose tray.

About Duplex Printing and Multiple Copies:
With certain applications, such as Microsoft Word 6.0, if you use LaserWriter 8 to print more than one copy of an odd page document with duplex printing, you will see that the first page of the second copy will be printed on the back side of the last page of the first copy. To correct this, turn off the application's Collate Copies box.

About Paper Jams and the Multipurpose Tray:
If you are printing from the multipurpose tray and your printer jams, check that you are specifying the correct paper size in your page setup. The printer may jam if you select the multipurpose tray and have the wrong size paper in the multipurpose tray for the job that you are printing.

When loading or printing from the multipurpose tray on the LaserWriter 8500, leave the access door open to avoid paper misfeeds. This door acts as an extension of the tray and should be left in an open position if paper is present.

Using the Envelope Feeder:
By default, the multipurpose tray takes priority over the envelope feeder. However, if the multipurpose tray is set to the same paper size as the envelope feeder, the printer will pull the paper from the multipurpose tray instead of the envelope feeder.

Use one of these methods to have the printer use the envelope feeder as the paper source:

1. Pick the envelope tray as the paper source in the Print dialog. The envelope tray is identified as "Envelope Feeder"
2. Set the multipurpose tray to a size other than the desired envelope size using the Apple Printer Utility.
3. Make "Cassette (Optional)" Installed and Preferred by clicking on the printer's icon and then selecting Change Setup from the Printing menu.

About Print Density:
Most LaserWriters support a feature called print density which allows you to change the amount of toner used during printing. The effect of changing print density shows most clearly on graphics prints. With the LaserWriter 12/640 PS the print density range is so narrow that the effect of changing print density may not be visible.

LaserWriter 16/600 PS:
If Tray Switching is turned on and you have an optional 500-sheet feeder that contains the same size paper as the 250-sheet feeder, use the 500-sheet feeder as the preferred paper source for optimal printing performance. See the manual that came with your printer for instructions on selecting the 500-sheet feeder as the preferred paper source.

LaserWriter Pro 810:
With some graphics programs, bitmapped graphics printed with the Precision Bitmap Alignment option in the Page Setup PostScript Options dialog box will be reduced in size by 25%.

LaserWriter Pro 600 and 630:

- When you print envelopes from the optional envelope feeder, you cannot use Auto Select as the Paper Source (in the Print dialog box).
- When you print at a resolution of 600 dots per inch (dpi), bitmapped images may appear with lines across the image. When bitmapped images are printed at 300 dpi, lines across the image do not appear.

LaserWriter II NT and II NTX:

- If you select both the Smooth Graphics and the Invert Image options in the Page Setup PostScript Options dialog box, a PostScript error results.
- Do not use the B5 tray to print envelopes on a LaserWriter II NT. Use the letter tray instead.

LaserWriter IIg and IIf:

- When you select paper sources from the First Page From and Remaining From pop-up menus in the Print dialog box, selecting Manual

Feed for either source sets the driver to print the first page from the manual feed tray.

- The US Legal paper size has been changed on some LaserWriter IIf/IIg printers to be more compatible with other Apple LaserWriter printers. To prevent text from clipping or wrapping to the next line on different printers, use US Legal Small. To get the narrowest possible margins from your printer model, use US Legal.
- Some form-printing application programs cannot print forms using the Layout settings in the Layout dialog box.

Note: The software discussed above can be downloaded from the Apple Software Updates Web site at http://www.apple.com/swupdates .
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PowerTalk Mail Reader 1.1 Read Me (6/96)

The following article is the ReadMe document for the PowerTalk Mail Reader 1.1.
This article has been archived and is no longer updated by Apple.
Important Information About the PowerTalk Mail Reader Control Panel
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System requirements

To use PowerTalk Mail Reader, you must use Macintosh system software version 7.5.3 or later. PowerTalk Mail Reader does not work with earlier versions of system software.

What is PowerTalk Mail Reader?

PowerTalk Mail Reader lets you select the application for reading standard AppleMail-type letters. After you use the reader to choose an application, that application opens all AppleMail letters you receive.

How to install PowerTalk Mail Reader

To use PowerTalk Mail Reader, drag its icon to your Control Panels folder and restart the computer. (The control panel takes approximately 15K of disk space, with an additional 1K for the MailReader Preferences file.)

How to remove PowerTalk Mail Reader

To remove PowerTalk Mail Reader, drag the PowerTalk Mail Reader control panel and the MailReader Preferences file (in the Preferences folder in the System Folder) to the Trash.

How to use PowerTalk Mail Reader

To use the PowerTalk Mail Reader, double-click its icon. Click Change. In the dialog box that appears, select the desired application.

To revert to AppleMail, click Select AppleMail.

Compatible AppleMail readers

AppleMail letters use a format called Standard Interchange Format (SIF). Any application that can read SIF can read AppleMail letters. The following applications read SIF:

* BBEdit 3.0
* ClarisWorks 3.0
* MacWrite Pro 1.5
* Microsoft Word 6.0
* Nisus Writer 4.0
* WordPerfect 3.0
* PowerMail 1.0

Some mail-reading applications also read other file formats. For example, some can read text and pictures, but not sound or movies. Contact the application's publisher for a complete description of its features.

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PowerTalk Manager 1.5 Read Me (6/96)

The following article is the ReadMe document for PowerTalk Manager 1.5.
This article has been archived and is no longer updated by Apple.
This version of the PowerTalk Manager contains:

* A fix to a system freeze that may occur when opening a PowerShare Catalog from the PowerTalk Mailer.

* The new Mailbox API

PowerTalk Manager 1.5 is compatible with any system running PowerTalk version 1.1 or higher (compatible with System 7.5, 7.5.1, 7.5.2, and 7.5.3). PowerTalk Manager version 1.5 requires Open Transport 1.1 or higher.

To install the new PowerTalk Manager 1.5, follow these steps:

1) Open the Extensions folder in the System Folder
2) Drag the PowerTalk Manager that is in that folder to the Trash
3) Drag PowerTalk Manager 1.5 to the Extensions Folder in the System Folder
4) Reboot

Published Date: Feb 18, 2012

AppleVision Software Fix 1.1

Name: AppleVision Software Fix
Version: 1.1
Released: June 18, 1996
Description: Fixes AppleVision software installation problems with System 7.5 Update 2.0 and System 7.5.3 Revision 2. For complete information, please see below.

This software is available on the Apple Support Website, Apple Software Updates. It consists of a self-extracting archive of a Read Me and a Disk Copy 1440K disk image.

To use, download, double-click the downloaded file (this decompresses it), and use Disk Copy to create a disk.
This article has been archived and is no longer updated by Apple.
This document contains important information for AppleVision customers.

Note: All of the following functionality has been rolled into the latest version of the Applevision software. AppleVision 1.5.3 replaces the AppleVision Software Fix. If you are using AppleVision 1.5.3, then follow the installation instructions included with AppleVision 1.5.3.

For more information on AppleVision 1.5.3, check out the "AppleVision 1.5.3 Read Me" article.

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Who needs to install the AppleVision Software Fix?

If you have an AppleVision Display and you have problems after installing the System 7.5 Update 2.0, you should install the AppleVision Software Fix. This software fixes such problems as:

- When you press the buttons on the front of the display, you see a message that says "No AppleVision Display is connected."
- You have a Power Macintosh 7200 and can't find the Monitors & Sound control panel in the Control Panels folder.
- The Monitors & Sound control panel does not have Geometry, Color, and Monitor Sound buttons. (Note: The Monitor Sound button appears only if you have an AV monitor.)
- You can't change the resolution of the AppleVision Display or you can't open the AppleVision Setup control panel.
- Macintosh Guide does not contain information on the AppleVision Software or Display.

How to install the AppleVision Software Fix
After you install System 7.5 Update 2.0 and AppleVision Software 1.0.x, you can install the AppleVision Software Fix. Follow these steps:

1. If you don't already have an AppleVision Software Fix floppy disk, then copy the AppleVision Software Fix online disk image to a floppy disk.
2. Insert the floppy disk in your computer and double-click the Installer icon.

What is installed?
The installer adds the following files to the System Folder:

On a 68040 or non-PCI Power Macintosh computer:

- Display Enabler version 2.0.2 is added to the Extensions folder.
- AppleVision Guide Additions version 1.1 is added to the Extensions folder.

On a PCI-based Power Macintosh computer

- Monitors & Sound version 1.1 is added to the Control Panels folder.
- SystemAV version 1.1 is added to the Extensions folder.
- AppleVision version 1.0.4 is added to the Extensions folder.
- Monitors & Sound Guide Additions version 1.0 is added to the Extensions folder.
- AV Monitors Guide Additions version 1.0 is added to the Extensions folder.
- SimpleSound version 1.0 is added to the Apple Menu Items folder.
-

If you have a 68040 or non-PCI Power Macintosh
When you installed System 7.5 Update 2.0, if you used the Custom Install option to put the Monitors & Sound control panel on a 68040 or non-PCI Power Macintosh, the AppleVision software will not work. To use the AppleVision Software, follow these steps:

- Remove the Monitors & Sound control panel from the Control Panels folder.
- Remove AppleVision extension from the Extensions folder.
- Restart the computer.
- Install AppleVision Software version 1.0.x.
- Install the AppleVision Software Fix.

Published Date: Feb 18, 2012

AppleShare 4.2 to 4.2.1 Updater Read Me

This article is the AppleShare 4.2 to 4.2.1 Updater Read Me file.
This article has been archived and is no longer updated by Apple.
Apple recommends that all customers using AppleShare 4.2 or AppleShare 4.2 v1.0.2 upgrade to AppleShare 4.2.1, which supersedes the previous releases.

There are two ways for customers to do this. First, they can call (800) 293-6617 ext 759 and order an upgrade kit for the cost of shipping and handling ($6.95).

The other method of upgrading is to use the AppleShare 4.2->4.2.1 Updater.

Note: The AppleShare 4.2 to 4.2.1 Updater will not modify AppleShare 4.2 v1.0.2. Those customers will need to use their original AppleShare 4.2 CD-ROM to drag the old version of the File Server Extension to the extensions folder. An alternative to the drag install is to run the AppleShare installer again and replace the AppleShare 4.2 v1.0.2 application with the older AppleShare 4.2 when prompted.

Installation Instructions

On a system with AppleShare 4.2 already installed, complete the following steps to upgrade to AppleShare 4.2.1.

1) Double Click on the patching application

2) Click on the patch button.

3) Four components will be patched. You will be prompted to locate each of the following in your system folder.

* AppleShare File Server
* FileServer Extension
* AppleShare Admin
* AppleShare Admin Guide

4) After patching all four components a message will be displayed that the patch was successfully applied.

5) Restart your server.

6) Launch AppleShare 4.2.1.
Published Date: Feb 18, 2012

Power Macintosh 5400/120: Need to Install Revision 2?

I have seen the list of computers that should have System 7.5.3 Revision 2 installed on them. However, I have a Power Macintosh 5400/120 computer, which I thought had Revision 2 pre-installed on it, but this computer is not among those listed. Do I need Revision 2 on this computer? If so, why is it not listed with the others?
This article has been archived and is no longer updated by Apple.
The Power Macintosh 5400/120 requires System 7.5.3 Revision 2. However, Revision 2 is already pre-installed on the hard drive and included in the system software installer on the CD-ROM disc. Since Revision 2 is already installed, you do not need to re-install it using the updater installer. The list of computers that should have Revision 2 installed includes only those computers that need to be updated. It does not include computers that ship with Revision 2 already installed.

This article was published in the Information Alley on 14 June 1996.
Published Date: Feb 18, 2012

Macintosh: Sound Terminology Definitions

The Power Macintosh 8500 technical specifications refers to "A-weighted" in the audio section. What is this?
This article has been archived and is no longer updated by Apple.
The first tentative standard for sound level meters (Z24.3) was published by the American Standards Association and the Acoustical Society of America in 1936. Two frequency curves "A" and "B" were modelled on the ear's response to low and high levels of sound respectively. The two curves became a standard or "weighted" measurement.

Apple uses an "A-weighted" curve at low frequencies to mark the decibels at which noise begins to be apparent to the human ear. The level just under the point at which noise is detected would contain "no audible discrete tones."

Sound in and sound out can also be measured by its quality - in bits and sample rates. Sound is captured using a sample rate - or the number of times the computer listens in a given period to the audio source. Higher numbers (44.1 kHz) denote an increased number of times the computer is capturing information. After the sound is captured, it is stored in memory measured in bits. With more room to store subtle nuances, 16 bit audio is more realistic than 8 bit audio.

Older Macintosh computers used mic-level to capture audio which was not pre-amplified. Pre-amplified audio is more sensitive and is necessary for speech recognition or nuances that occur at low levels. The differences between mic-level and line-level audio can be measured in the amount of decibels per one milliwatt (dBm) where mic-level is between -60dBM to -20dBM and nominal line-level is +4dBM.

Finally, captured audio can become distorted if amplified beyond a certain point. The point at which sound begins to exhibit noise which did not exist in the original source is measured as Total Harmonic Distortion. The result is the loudest decibel reading measured without any audible discrete tones (tones audible to the human ear).

More information on audio terminology can be found at the Acoustical Society of America homepage, http://asa.aip.org
Published Date: Feb 18, 2012

LaserWriter Select 360: Multipurpose Tray Now Available

I have a LaserWriter Select 360 printer and I need to replace the multipurpose tray. My Apple service provider has not been able to find the replacement tray part number.

This article has been archived and is no longer updated by Apple.

The Multipurpose Tray (P/N M2037G/A) for the LaserWriter Select 300, LaserWriter Select 310, and LaserWriter Select 360 is no longer available on the finished goods price list. The multipurpose tray can be ordered as a service part using part number 922-2863.

Published Date: Feb 18, 2012

PowerTalk 1.1.6: ftp Text Document (6/96)

This article is the text document with PowerTalk 1.1.6 at Apple Computer's ftp software update sites.
This article has been archived and is no longer updated by Apple.
Name: PowerTalk
Version: 1.1.6
Released: December 5, 1995
Description: The posting of this software is intended for customers who
upgraded their PowerBook 500 series computers to PowerPC.
For more information, please see the PowerTalk Guide
included with this software.

This software consists of two self-extracting archives of Disk Copy 1440K disk images. To use, download, double-click the downloaded file (this decompresses it), and use Disk Copy to create the disks.

Disk Copy can be found in the Utilities folder posted here.

PowerTalk 1.1.6 consists of 2 disks:

Name as Posted	Actual Disk Name
PT 1.1.6-1of2.sea	Install.sea
PT 1.1.6-2of2.sea	PowerTalk.sea

Published Date: Feb 18, 2012

PowerTalk 1.2.3: ftp Text Document (6/96)

```
Name:         PowerTalk
Version:      1.2.3
Released:     March 18, 1996
Description:  This version of PowerTalk is included on the System 7.5 Update 2.0 CD. It is recommended for
customers who are
             using PowerTalk and System 7.5 Update 2.0.
```

This article has been archived and is no longer updated by Apple.

PowerTalk 1.2.3 includes the following enhancements:

* PowerTalk Catalogs Extension version 1.1.1 no longer displays an out-of-memory error when you open a catalog.

* PowerTalk AppleMail version 1.1.2 works better on systems with many fonts installed and defaults to "sender only" for mail replies.

* PowerTalk DigiSign Utility version 1.1.1 improves printing on HP DeskWriter C and 550-style printers.

* Direct Dialup version 1.1.1 works better when dialing using a long string and won't time out while sending a large letter or a letter with a large enclosure.

* Fixes a potential crash problem that occurs if both PowerTalk and At Ease are installed. While PowerTalk and At Ease no longer crash when used together, accessing all of Power Talk's functionality requires the Finder (open the Special menu in At Ease and choose Go To Finder).

Published Date: Feb 18, 2012

LaserWriter 8 version 8.3.4 Read Me (6/96)

This is the ReadMe file from LaserWriter 8.3.4.
This article has been archived and is no longer updated by Apple.
What is the LaserWriter 8 version 8.3.4?

PowerPC-based computers may have difficulty printing to some third party network printers or print spoolers in certain network configurations. When printing to one of these devices, your computer may freeze or never complete printing, and you may need to restart your computer or cancel the printing job. LaserWriter 8 version 8.3.4 fixes this problem. Note: If you have already installed LaserWriter 8 version 8.4 you do not need version 8.3.4.

In addition to installing LaserWriter 8 version 8.3.4, you should make sure that your computer's system software is version 7.5.3 or later. For information on obtaining system software version 7.5.3, refer to Apple Computer's America Online or Internet sites, or see the custom support information that came with your computer to call Apple directly.

To install this LaserWriter version 8.3.4 follow these steps:

1. Locate the System Folder on the computer's hard disk. Don't open the System Folder.

2. Drag the file named "LaserWriter 8" to the System Folder.

3. A message appears asking if you want the LaserWriter 8 extension to be put into the Extensions folder. Click OK. If a second message appears stating that LaserWriter 8 already exists and asks you if you would like to replace it, click OK.

4. Open the Special menu and choose Restart.

IMPORTANT

If the second message does not appear, then you do not currently have LaserWriter 8 and the associated files installed. Do the following:

1. Refer to the printed manual that came with your computer, and follow the instructions for doing a custom installation.

2. In the Custom Install dialog box you'll see a list of items that can be installed. Click the arrow to the left of the "Printing" check box to reveal the list of printers.

3. Click to put an X in the "LaserWriter 8" checkbox.

4. Click Install. If a message appears stating that you have a newer version already installed, click Newer.

5. Quit the Installer. Open the Special menu and choose Restart.

6. Install LaserWriter 8 version 8.3.4.

Published Date: Feb 18, 2012

AppleCD 600e: Installing Software from Floppy Disk

This article describes how to install the AppleCD 600e software on Macintosh computers, which did not previously have the CD-ROM software installed on them. Without the CD-ROM software installed, your Macintosh will not recognize the Startup CD disc.
This article has been archived and is no longer updated by Apple.
Many of the newer Macintosh computers have built-in support for CD-ROM drives. These Macintosh computers have the basic CD-ROM drivers in ROM. If your computer does not have the CD-ROM drivers in ROM, you will not be able to startup your Macintosh computer with the Startup CD included with the AppleCD 600e CD-ROM drive. In order to get the CD-ROM drivers installed, you must copy the Apple CD-ROM extension to a floppy disk. You will have to use a Macintosh computer with a CD-ROM drive to copy the Apple CD-ROM extension from the CD-ROM included with the AppleCD 600e drive.

Copying Minimum CD-ROM Files

1. Open the CD-ROM Software folder on the CD-ROM Setup disk.
2. Drag the Apple CD-ROM file to a floppy disk.
3. Choose Restart from the Special menu. Let your Macintosh start up from the normal startup drive.
4. Insert the floppy disk with the Apple CD-ROM file on it into your Macintosh computer.
5. Drag the Apple CD-ROM file onto the closed System Folder on the hard drive. A dialog appears explaining that extensions need to be stored in the Extensions folder.
6. Click OK. This places the Apple CD-ROM file in the Extensions folder.
7. Choose Restart from the Special menu. Allow the Macintosh to start up from the hard disk.
8. Insert the CD-ROM Setup CD in the CD-ROM drive. The CD-ROM disc will appear on your desktop.
9. Double-click Installer on the CD-ROM Setup volume to finish installing all files from the CD-ROM Setup volume. When the Installer is done, an Installation Complete dialog with a Restart button appears.
10. Click Restart.

After restarting, your Macintosh is able to use the AppleCD 600e drive.
Published Date: Feb 18, 2012

Portable StyleWriter: Out of Paper Error

I have a Portable StyleWriter and when I choose Print, a dialogue box appears telling me that the printer is out of paper, but the printer has paper loaded. What am I doing wrong?

This article has been archived and is no longer updated by Apple.

In the Print dialogue box there is an option for Feed: Automatic or Manual. If Manual is selected, the printer will prompt you to insert a sheet of paper. If Automatic is selected, you will not see this dialogue box.

Published Date: Feb 18, 2012

Macintosh: Logic Boards May Mis-align with Programmer‘s Switch

Article Change History

09/07/92 - REVIEWED
* For technical accuracy

After I had my the logic board in my Macintosh IIcx upgraded, it behaves strangely and sometimes the sad Macintosh will show up at startup. What's going on?

This article has been archived and is no longer updated by Apple.
After the installation of a logic board, a Macintosh's strange behavior or the appearance of the Sad Macintosh may stem from the improper alignment of the reset and interrupt buttons with the programmer's switch on the outside of the case.

Workaround:

Remove the progammer's switch, re-insert the programmer's switch, and check the alignment with the corresponding buttons on the logic board. If the problem persists, remove 1 millimeter of plastic from the ends of the two projections on the inside of the programmer's switch; these two ends contact the buttons.

Published Date: Feb 18, 2012

MessagePad System Update 2.0 (526060) US Read Me

This article is the MessagePad System Update 2.0 (526060)US Read Me file.
This article has been archived and is no longer updated by Apple.
This document describes the product enhancements included in MessagePad 130 System Update 2.0 (526060)US.

System Update 2.0 (526060)US is for Apple MessagePad 130 customers in the United States. This version will install over the following system software versions for MessagePad 130:

Version 2.0 (525314)
If this system update is already installed on your MessagePad, you will not damage your MessagePad by reinstalling the update. Also, you will not damage an original MessagePad, MessagePad 100, MessagePad 110, MessagePad 120 or other Newton PDA if you attempt to install this system update by mistake.

Before you install any system update, you should backup your MessagePad 130 with the Newton Backup Utility or to a storage card (PCMCIA card).

This is the base system update that ships on the MessagePad 130 with Newton 2.0 in the United States. It is being provided in the event you accidentally erase it from your MessagePad.

Changes in System Update 2.0 (526060):

* Old ToDo's can now be deleted from the Dates overview.
* Pending alarms no longer trigger immediately after setting the clock to the day of the alarm.
* The StyleWriter 1500 and 2500 have been added to the printer list.
* Deleting found ToDo's from the find overview no longer causes a -48809 error.
* A clipping/scaling problem with large pictures was corrected.
* Class 2 Faxing now works as expected.
* The "=95 MessagePad" string has been removed from the reset and sleep screens.
* The back light can now be turned on at the same time the unit is turned on instead of requiring a separate toggle of the power switch.
* Tapping stop during reception of a System Update works correctly.

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Color OneScanner 600/27: Scanning 35mm Slides (6/96)

Is it possible to scan 35mm slides or negatives on the Apple Color OneScanner 600/27?
This article has been archived and is no longer updated by Apple.
Flatbed scanners which allow you to scan in negative or positive film require a transparency adapter. The Color OneScanner 600/27 does not have a transparency adapter, and was not designed to support scanning of any type of film.

Published Date: Feb 18, 2012

Power Macintosh 5260/100 & 5400/120: Using System 7.5.1 (7/96)

Article Reviewed/Updated: 13 July 1996

This article contains questions about using System 7.5.1 on Power Macintosh 5260/100 and Power Macintosh 5400/120 computers.
This article has been archived and is no longer updated by Apple.
1) Question: Was System 7.5.1 tested on the Power Macintosh 5260/100?

Answer: During the development cycle of the Power Macintosh 5260/100, System 7.5 Update 2.0 had just been completed. Because of this, both System 7.5.1 and 7.5.3 were fully tested on the Power Macintosh 5260/100.

2) Question: Will System 7.5.1 work on the Power Macintosh 5260/100?

Answer: Yes, you can install System 7.5.1 from the Power Macintosh 5260/100 system software CD without installing System 7.5 Update 2.0. However, with the many fixes and improvements included with System 7.5.3, Apple recommends that you use System 7.5.3.

3) Question: Was System 7.5.1 tested on the Power Macintosh 5400/120?

Answer: No, the Power Macintosh 5400/120 requires System 7.5.3, Revision 2. Because of this requirement, System 7.5.1 was not tested on this computer.

4) Does System 7.5.1 work on the Power Macintosh 5400/120?

Answer: No, the Power Macintosh 5400/120 requires System 7.5.3, Revision 2 and cannot be downgraded to System 7.5.1.

This article was published in the Information Alley on 15 June 1996.

Article Change History:
13 Jul 1996 - Added alley info.

Published Date: Feb 18, 2012

Color StyleWriter 2400: Color Printing in Landscape Mode

I have a Color StyleWriter 2400 and I cannot print color documents in landscape mode. Black and white and grayscale documents print properly in landscape, but when I print in color, the computer locks up after printing approximately eight percent of the job. I am using version 2.1.2 of the Color StyleWriter 2400 driver. What am I doing wrong?

This article has been archived and is no longer updated by Apple.

The Color StyleWriter 2400 driver will not print color in landscape mode if virtual memory is active. In order to print color documents in landscape, you can turn off virtual memory, use the Quickdraw GX version of the driver, or use a newer Color StyleWriter 2500 driver. To find the most recent version of this software, please consult the Apple Software Updates Library available at **http://www.apple.com/swupdates**.

Published Date: Feb 18, 2012

Printer Share: Prints when Server is Asleep (6/96)

If an Apple serial or SCSI printer (such as the Personal LaserWriter SC or the StyleWriter series) is being shared with Printer Share from a Macintosh that is in Energy Saver "Sleep" mode, will the printer still print a job sent from another Macintosh computer on the network?

This article has been archived and is no longer updated by Apple.

Yes. Although the monitor remains dark on the Macintosh that is sharing the printer, the processor and hard drive become active and the job prints properly.

Published Date: Feb 18, 2012

Macintosh 5xxx/6xxx Tester: Logic Board & Cache Messages

I am using the 5xxx/6xxx Tester 1.0 to see if my computer qualifies for the Repair Extension Program for Power Macintosh and Performa 5200, 5300, 6200, and 6300 computers*. I need to know if this program will report both the logic board and the cache DIMM issues if my computer has them both?
This article has been archived and is no longer updated by Apple.
The 5xxx-6xxx Tester 1.0 first checks for the logic board issue, and then it checks for the cache DIMM issue. A dialog is presented for the first issue found. So, it is possible that your computer could be experiencing both the logic board and the cache issue, but the Tester application only reports the logic board issue. However, when the logic board is repaired, it is replaced with one that has the correct cache DIMM. Thus, if your computer is experiencing both issues, they will both be corrected in the Repair Extension Program even though the Tester reports only the logic board issue.

Note that if your computer is only experiencing the cache DIMM issue, the 5xxx/6xxx Tester will display the appropriate message.

***Note:**
The models included in this program are Apple Power Macintosh 5200/75 LC and 5300/100 LC, and Macintosh Performa 5200, 5215, 5300, 6200, 6205, 6214, 6216, 6218, 6220, 6230, 6290 and 6300. (The recently introduced Power Macintosh 5260 and 6320 are not included in this program because Apple corrected all the known issues with this product prior to manufacturing.)

Other References:

The following Tech Info Library articles provide additional information on the 5xxx/6xxx Tester application.

- **Macintosh 5xxx/6xxx Tester: Read Me**, article # 19999
- **Mac OS 8: About 5xxx/6xxx Tester Read Me**, article #28031
- **52xx/62xx Diagnostic Utility & 5xxx/6xxx Tester:Difference**, Article #20061
- **Macintosh Performa 5xxx/6xxx: Frequently Asked Questions**, article #18928

Published Date: Feb 18, 2012

Installing System 7.5: Version 7.5.3 Read Me

This article is the Installing System Software, Macintosh System 7.5, Version 7.5.3 Read Me file. This operating system, available since 1996, can be downloaded from the Apple Software Updates Web site at http://www.apple.com/swupdates .

It is also available via ftp from:
ftp://ftp.info.apple.com/Apple_Support_Area/Apple_Software_Updates/English-North_American/Macintosh/System/Older_System/System_7.5_Version_7.5.3/

This article has been archived and is no longer updated by Apple.
What is Macintosh System 7.5, Version 7.5.3?

System 7.5, Version 7.5.3 consists of four major components:
* software to upgrade your computer to System 7.5
* QuickDraw GX for more powerful printing, typography, and color publishing capabilities
* PowerTalk electronic mail and collaboration software
* OpenDoc software which supports a new type of software called a "part." Many parts will be available from third-party software manufacturers who support OpenDoc technology.

Before you install

Read the following tips before you install system software version 7.5.3:

* Installing on a PowerBook
You cannot install this software on a PowerBook using SCSI disk mode. To correctly install on a PowerBook, install from the floppy disks or the CD. (SCSI disk mode is when you connect your PowerBook with a SCSI Disk Adapter cable to another computer and use the PowerBook as an external hard disk.)

* Installing printer software
When you use the Easy Install option to install this software, it updates the existing software on your hard disk. If you want additional software (such as a specific printer driver) that was not already on your computer but is included with this upgrade kit, use the Custom Install option.

* Minimum RAM disk requirements for a RAM disk
The new minimum RAM disk size is 416K. If a smaller RAM disk exists during the installation of this software, it will be turned off and its contents lost when the computer is restarted. Therefore, before installing this software on a computer with a RAM disk smaller than 416K, move all the contents of the RAM disk to another disk.

* Default Control Panel Settings
This software resets all settings in the Apple Menu Options and Views control panels to their default values. If you have made changes to either or these control panels, you will need to set them again after installing this software. If you have set Apple Menu Options to track more than ten items in any category, you may want to move some of those items out of their folders before you install the software, which deletes all but the ten most recent items in each category.

* Using the CD-ROM
To eject the CD-ROM, drag its icon to the trash. The CD should eject automatically from the CD-ROM drive when you restart your computer. If this does not happen, turn off the computer and manually eject the CD.

* Virtual Memory
If you have a PCI-based Macintosh and choose the Clean Install option, virtual memory will be turned on after you install System 7.5, Version 7.5.3.

With any Macintosh model, if you choose the Clean install option to install a Universal System for any Macintosh, virtual memory will be turned on after you install System 7.5, Version 7.5.3.

To turn virtual memory off, open the Memory control panel and click the "Off" radio button.

* Installing on a Macintosh Plus
To install System 7.5, Version 7.5.3 on a Macintosh Plus, you will need a CD-ROM drive, the CD version of System 7.5.3, and System 7.0 on 800K floppy disks.

1) Install System 7.0.

2) Restart your computer.

3) Insert the System 7.5 Version 7.5.3 CD.

Continue with steps 3-8, under "Step 3: Install System 7.5" below.

Installing System 7.5

You can install System 7.5 from floppy disks or a CD-ROM disc (depending on what came in your package). Install System 7.5 before you install PowerTalk, QuickDraw GX, OpenDoc, or any other software that requires System 7.5.

Use the following guidelines to help ensure a successful installation:

* Turn off disk security, virus protection, or screen saver programs before beginning.

* If you are having problems during an installation, try quitting the Installer and restarting your computer with extensions off. If you are already using System 7.5, open the Extensions Manager control panel and choose "System 7.5.x" in the Sets pop-up menu. If you are using an earlier version of system software, hold down the Shift key while you restart.

* To ensure a smooth upgrade to system software version 7.5.3, check with the manufacturers of any third-party software you use to make sure it is compatible with version 7.5.3. Also see Appendix A ("Testing for Compatibility") in the manual that came with your upgrade kit for more information on software compatibility.

* If you are installing on a PowerBook, make sure your PowerBook is plugged in and set not to go to sleep. For instructions, see the manual that came with your computer.

* If At Ease software is installed on your computer, you must turn it off before you install this software. For instructions, see the manual that came with At Ease.

* If you are installing from installation disks you made from the disk images that come on the CD, make sure the Disk Tools disk and the installation disks are all locked before you use them. To lock a floppy disk, slide the plastic tab in the upper-left corner down.

Step 1: Check your hard disk

1. Shut down your computer.

2. Insert the Disk Tools disk for your model of computer into the floppy disk drive. IMPORTANT: The following Disk Tools disks come with your upgrade kit:

* Disk Tools 1: for 68K computers with SCSI hard disks

* Disk Tools 2: for all PowerPC computers and all 68K computers that have an IDE hard disk, which include the Macintosh LC 580, LC 630, LC 630 DOS, Quadra 630 series computers, Performa 580 series computers, Performa 630 series computers, PowerBook 150, and PowerBook 190 series computers. Also, if you have a 68K computer and have installed a PowerPC Upgrade Card, you should use the Disk Tools 2 disk.

3. Turn on your computer. The Disk Tools icon appears on your screen. If you see an error message on the screen telling you the wrong Disk Tools disk was inserted, look for the other Disk Tools disk in your kit and insert it.

4. Double-click the Disk First Aid icon and follow the instructions on the screen. Disk First Aid checks your hard disk for problems. If you have a problem using Disk First Aid, see the Troubleshooting chapter in the manual that came with your upgrade kit.

5. When you are finished, choose Quit from the File menu.

Step 2: Update the driver

Important If you have a PowerBook 150 series computer, you can skip this step.

IMPORTANT: If you have a Power Macintosh 5200 series computers with 800 Megabyte hard disk, you should use the version of the Drive Setup software that came with your computer rather than the version included in this upgrade kit.

* From the Disk Tools 1 disk

If you are using the Disk Tools 1 disk, follow these steps:

1. Double-click the Apple HD SC Setup icon.
2. Click Drive until the disk you want to update appears.
3. Click Update and follow the instructions on the screen.
4. Turn off your computer.

* From the Disk Tools 2 disk

If you are using the Disk Tools 2 disk, follow these steps:

1. Double-click the Drive Setup icon to open it.
2. In the list of drives, click the disk you want to update.
3. Pull down the Functions menu and choose Update Driver.
4. When a message tells you that the update is complete, choose Quit from the File menu.
5. Turn off your computer.

Step 3: Install System 7.5

From floppy disks

1. Insert the Install Disk 1 disk into a floppy disk drive.
2. Turn on your computer.
3. Open the Installer by double-clicking its icon. All system software files are compressed. The Installer program will expand them during installation. Do not drag them to your hard disk.
4. When you see the Installer's welcome screen, click Continue. The Easy Install dialog box appears.
5. Make sure that the destination disk indicated on the screen is the one on which you want to install system software. If the wrong disk name appears, click the Switch Disk button until the correct disk name appears.
6. Click Install. The Installer updates the software in the System Folder on your hard disk.
7. Follow the instructions on the screen. On-screen messages tell you if you need to insert other disks. It takes at least 20 minutes to complete the installation using floppy disks. (It takes 10-20 minutes using the CD-ROM disc.) Installation times vary depending on your computer model.
8. When the installation is complete, restart your computer. If for some reason the installation was not successful, try the installation again.

From the CD-ROM disc

If you are using an Apple CD-ROM drive, you should first start up your computer from the CD, then install the software. Follow these steps:

1. Insert the CD-ROM disc in the CD-ROM drive. If you are using an external CD-ROM drive: Turn on the CD-ROM drive and insert the CD before starting your computer. If you are using an internal CD-ROM drive that uses a caddy: Insert the CD before starting your computer. If you are using an internal CD-ROM drive that does not require a caddy: Turn on the computer, insert the CD, and then turn off your computer.
2. Turn on your computer. If you are using an Apple CD-ROM drive, hold down the C key on your keyboard until you see the Welcome to Macintosh message. NOTE: This startup procedure will not work on all computers and CD-ROM drives. See the SimpleText documents in the Before You Install folder for late-breaking information.
3. Open the Install System Software folder on the CD.
4. Follow steps 3-8 in the previous section, "From Floppy Disks."

Published Date: Feb 18, 2012

52xx/62xx Diagnostic Utility & 5xxx/6xxx Tester: Difference

When I attempt to run the 52XX/62XX Diagnostic Utility on my Macintosh Performa 6290, a message appears stating: Sorry this application runs on a Macintosh 5200 or 6200 series computer. What does this mean? I thought this application was provided by Apple to see if the computer qualifies for the Repair Extension Program.
This article has been archived and is no longer updated by Apple.
It appears that you are confusing two different diagnostic utilities that Apple has provided for some Power Macintosh and Performa computers: the 52xx/62xx Diagnostic Utility and the 5xxx/6xxx Tester. Although the names of these utilities are similar, they are used to test for different issues in specific computers.

The 52xx/62xx Diagnostic Utility was made available to detect an issue with a small number of PowerPC 603 microprocessors used in ONLY Macintosh Performa 5200, 6200, and Power Macintosh 5200/75 LC computers. Only computers within a specific serial number range were potentially affected by this issue. The Diagnostic Utility was posted on the online services, but it has since been removed with the posting of the 5xxx/6xxx Tester.

The 5xxx/6xxx Tester should be used to test for known component issues that may cause system freezing in ALL Power Macintosh and Performa 5200, 5300, 6200, and 6300 series computers, including the Apple Power Macintosh 5200/75 LC and 5300/100 LC, and Macintosh Performa 5200, 5215, 5300, 6200, 6205, 6214, 6216, 6218, 6220, 6230, 6290 and 6300. (The recently introduced Power Macintosh 5260 and 6320 are not included in this program because Apple corrected all the known issues with this product prior to manufacturing.) The 5xxx/6xxx Tester is available on the online services.

These articles can help you locate the software update mentioned here:

- **Where To Find Apple Software Updates**, article #14724 - Lists online services for free Apple software updates.

Other References:

The following Tech Info Library articles provide additional information on the 5xxx/6xxx Tester application and related issues.

- **Macintosh 5xxx/6xxx Tester: Read Me**, article #19999
- **Mac OS 8: About 5xxx/6xxx Tester Read Me**, article #28031
- **Macintosh Performa 5xxx/6xxx: Frequently Asked Questions**, article #18928
- **Macintosh 5200/6200: Microprocessor Issue**, article #18616
- **Pwr Mac 5200/5300/6200/6300:Rep. Ext. Pro. Fact Sheet/Q&A**, article #19973
- **Macintosh 5200/5300/6200/6300: Repair Extension Program**, article #19756

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About Macintosh System 7.5 Read Me

This article comprises the About Macintosh System 7.5 Read Me file.
This article has been archived and is no longer updated by Apple.
Congratulations on upgrading your computer to System 7.5, Version 7.5.3. This document adds to and updates the information that came with your upgrade kit. It is a good idea to read this document now, and keep a copy handy for future reference.

If your computer is connected to a printer, choose Print from the File menu to print a copy of this document. When you are finished reading and printing, choose Quit from the File menu to quit the SimpleText application program.

Contents

Tips
- Using the Installer
- General information about system software version 7.5.3
- Using a LaserWriter LS
- Using the Recent Documents command in the Apple menu

New Features in System Software Version 7.5.3

Known Problems and Their Workarounds
- Ethernet address
- AppleVision
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- AppleShare and Speed Copy
- Novell Netware
- Drive Setup
- Conflict Catcher
- Daystar Accelerator Cards
- SAM

- PowerBook-related problems
- DOS compatible-related problems
- CD-ROM related problems

Tips

Using the Installer

- If you use the Custom Install option to install a system for Any Macintosh, two updated enablers are installed. This is normal for the Any Macintosh option. Do not delete one or both of these enablers.
- If you use the Custom Install option to install a system for Any Macintosh, the Monitors & Sound control panel, the Monitors control panel, and the Sound control panel are all installed. This is normal for the Any Macintosh option, as some computers use the Monitors & Sound control panel, and some use the separate Monitors control panel and Sound control panel.
- If you install system software version 7.5.3 on a Quadra 630, the Screen control panel is installed even though this control panel will not work on your computer.
- If you install system software version 7.5.3 on a Power Macintosh 6100, the AutoPower On/Off and the CPU Energy Saver control panels are installed even though these control panels will not work on your computer.

General information about system software version 7.5.3

System software version 7.5.3 provides the enhancements introduced in System 7.5, System 7.5 Update 1.0, System 7.5 Update 2.0, and System 7.5.3 Revision 2.

The Installer places the latest versions of all components it finds on the disk it is updating, including any components that you disabled using the Extensions Manager. After you run the Installer, the updated components will be in the same folders as they were before you installed this system software version. For example, new versions of disabled extensions will be in the Extensions (Disabled) folder, and new versions of disabled control panels will be in the Control Panels (Disabled) folder.

The file called System 7.5 Update replaces the enabler on all computers capable of running system software versions 7.5 and/or 7.5.1. Computers that did not previously need an enabler to work with system software versions 7.5 and 7.5.1 still need the System 7.5 Update file since it contains

most of the fixes delivered in this update.

The file called System 7.5.2 Update replaces the enabler file on all computers capable of running system software version 7.5.2.

This system software version includes all of the fixes included with the previously released 7.5.2 Printing Update, the PowerBook 5300 System Software Update, the PowerBook 2300c Update, System 7.5 Update 2.0, and System 7.5.3 Revision 2. You do not need these updates if you install this system software version.

After you install this software, the About This Macintosh window says System Software 7.5.3. The window also says Revision 2.

Using a LaserWriter LS

Many LaserWriter LS users are unaware that this printer is supported by the LaserWriter 300 driver. To make this clear, this release will install this driver as the LaserWriter 300/LS. You must select LaserWriter 300/LS from the Chooser before you can print using this driver.

Using the Recent Documents command in the Apple menu

You can easily open any of your most recently used documents by choosing the Recent Documents command in the Apple menu, then choosing a document from the sub menu. However, this feature can increase the time it takes to open some applications. This occurs because the recent-documents tracking includes all files that are opened-even those opened by an application as part of its launch sequence (such as drop-in filters used by desktop publishing packages). You can reduce the increased opening time by turning off the recent-documents tracking. You can either:

- turn off recent documents tracking in the Apple Menu Options control panel
- turn off Apple Menu Options in the Extensions Manager

New features in system software version 7.5.3

- If you are already familiar with an earlier version of System 7.5, you should notice greater stability and performance on your computer once you install version 7.5.3. You should also note the following new features:
- Open Transport v.1.1, a major re-implementation of the network system software for use on all 68030, 68040, and PowerPC-based computers, except the desktop 5200, 5300, 6200, and 6300 series computers. If you chose the Easy Install option, Open Transport will be turned on only if you were using it before you installed the new system software version. For more information, see the Open Transport Information folder, inside the Apple Extras folder.
- The Network Software Selector (NSS) enables users of most 68030, 68040, and early PowerPC-based computers to choose between Open Transport networking software and classic AppleTalk if both are installed. (You must restart the computer for the change to take effect.) PCI-based computers support only Open Transport. NSS is in the Apple Extras folder; information on using it is built into the application.

  NSS is intended to ease the transition to Open Transport by allowing you to use the older networking software if there is a compatibility problem with an application and Open Transport. Once the problem is resolved, you should switch back to Open Transport.

  Note: Because MacTCP is incompatible with Open Transport v.1.1, MacTCP is disabled any time Open Transport is selected using the Network Software Selector. (Open Transport uses the TCP/IP control panel instead of MacTCP.) If, however, you reselect classic AppleTalk, MacTCP will be enabled again, but you will need to re-enter the IP settings in the MacTCP control panel.

  For users of the older networking software, this update includes MacTCP 2.0.6, which

  - shortens retransmission delays
  - prevents potential out-of-memory errors
  - makes configuring communications easier
  - gives users more control over which servers to contact and in what order

  Note:If MacTCP was not previously installed, then you will need to use the Custom Install option to install it.

- When you rebuild the desktop, comments typed in a file's Get Info window are no longer deleted.
- The Name field (used in Finder windows set to one of the list views) is wider, allowing you to see more characters in file names.
- If you're using an alias to connect to a server and your password has expired or needs to be changed, you'll see a message that the password needs to be changed.
- PowerPC-based computers with PCI expansion slots now use the Monitors & Sound control panel, instead of the Sound & Displays control panel, to control monitor and sound settings. You can do a custom installation to install the Sound control panel if you need it for older applications. (The Monitors & Sound control panel works only on PCI-based computers.)
- The Memory control panel now uses a larger default setting for the disk cache to increase performance.
- When you open an application by double-clicking a document, you can set the default location of saved items to the folder containing the document you opened, instead of the Documents folder or the folder containing the application. You set this preference by turning on the Folder that is set by the application option in the General Controls panel.
- CloseView no longer uses keyboard shortcuts that were already used by the Finder. The new keyboard shortcuts for CloseView are:

  - Command-Option-K: turns CloseView on or off

- Command-Option-+ (the plus sign): increases magnification
- Command-Option-- (the minus sign): decreases magnification

- SimpleText version 1.3.1 supports QuickDraw 3D.
- When file sharing is turned on, removable disks and CD-ROM discs are automatically shared (except for audio CDs, which will no longer be shared). To eject a removable disk or CD-ROM disc, you no longer have to turn off file sharing, as long as no other user is currently connected to that volume.
- The Power key can now be used to turn the computer off. To shut down the computer, press the Power key. When the dialog box appears, you can shut down your computer, restart your computer, put it to sleep (if your computer supports sleep), or cancel the shutdown. PowerBook 100 series computers do not have a Power key on their built-in keyboard, but if you attach an external keyboard, you can use the keyboard's Power key to turn off the computer. This feature is not supported on the Macintosh Plus.
- A new AppleScript automated task-Share a Folder (No Guest)-lets you automatically share a folder with the guest access disabled.
- Launcher version 2.8 includes the following fixes and enhancements, introduced in System 7.5 Update 1.0:
  - Supports Macintosh drag and drop, making it easier to add or remove items.
  - To add an item: Open the Launcher and drag the item into the Launcher window or onto a category button. The system creates a new Launcher button for the item by placing an alias in the Launcher Items folder. The original item remains on your hard disk.
  - To remove an item from the Launcher: Hold down the Option key and drag the button out of the Launcher.
  - To move a Launcher button to a new category: Hold down the Option key and drag the button to a category button along the top of the Launcher window.
  - To open a file using the Launcher: Drag the file's icon onto a Launcher button that represents an application program. For example, you can open a SimpleText file by dragging its icon onto the SimpleText button. If the program the button represents can open the file, the button is highlighted when you drag the file to it.
  - To put a file into a folder: Drag the file's icon onto the Launcher button that represents the folder.
  - To resize the currently visible Launcher buttons: Hold down the Command key and click inside the Launcher window. Then choose a new size from the pop-up menu.
  - To open a category button's folder (located in the Launcher Items folder): Hold down the Option key and click the category button.

Known problems and their workarounds

Ethernet address

PowerPC-based computers with PCI expansion slots might have a different physical Ethernet address after you install this system software version. This software fixes a bug that caused an incorrect physical Ethernet address to be used in environments where TCP/IP addresses are obtained using BootP, DHCP, or RARP. To see the new Ethernet address after you install this software, open the File menu in the AppleTalk or TCP/IP control panel and choose Get Info. If you install this software and are no longer able to use your TCP/IP-based applications, contact your network system administrator.

AppleVision

If you use AppleVision software, use version 1.0.2 or later. Earlier versions of AppleVision are not compatible with system software version 7.5.3. If you have a 1710AV or 1710 monitor and a PCI-based computer, use AppleVision 1.0.4, Display Enabler, and the Monitors & Sound control panel. If you have a 1710AV monitor and a non-PCI-based computer, use AppleVision 1.0.2, the Sound control panel, and the Monitors control panel. When you install this system software, the correct control panels should be installed.

Note: The AppleVision section has been changed to include additional information and is no longer the exactly like the original Read Me file.

Apple Video Player

Apple Video Player displays an incorrect dialog box if it's opened on a computer that does not have video-in capability. Apple Video Player displays a message that the Video Startup extension was not installed properly instead a message that video-in is required for the application to run.

Printing problems

- If you choose the Easy Install option, your printer driver will be updated but no new printing software will be installed. To obtain all of the most recent printer drivers after you do an Easy Install, choose Custom Install. Then check the Printing checkbox and click Install.
- If, when you try to print, you see a message that your printing preferences are missing or damaged, or you see a message telling you there is not enough memory, open the Chooser and select a printer.
- Some versions of the LaserWriter driver (version 7.2 and earlier) and the QuickDraw GX printer drivers still have the problems that interfere with PCI-based computers trying to print on a busy printer or trying to print large documents. If you experience these problems, select the LaserWriter 8.3.2 driver from the Chooser.

Energy Saver control panels

Two different control panels are named Energy Saver. The older version worked by dimming the external screens of certain computers. The newer Energy Saver, which works differently, works only on PowerPC computers with PCI expansion slots.

The universal System Folder that can be created with this release (using the Any Macintosh choice in the Custom Install option) only contains the

newer Energy Saver. If your universal System Folder requires both versions of the Energy Saver, do the following:

1) Rename the newer Energy Saver.
2) Use the Custom Install option to install the older Energy Saver.

Sound and speech

- HyperCard version 2.3.3 or earlier does not record sound properly on computers with PCI expansion slots. Other sound-recording application programs, including SimpleSound and the Sound control panel, can record sounds that you can import and play within HyperCard 2.3.
- If you have a Macintosh Centris 660AV, Quadra 660AV, or Quadra 840AV, some system alert sounds may not play correctly with the alert volume turned down. To avoid the problem, keep the alert volume turned all the way up and adjust the Built-In system volume as follows:

  1) Open the Sound control panel.
  2) Choose Volumes from the pop-up menu.
  3) Adjust the volume.

Problems starting your computer

If your computer has a 68000 processor and the computer won't start up, try pressing the Shift key (to turn off extensions) while you restart. If there is a Color StyleWriter 2000 CMM file in your Extensions folder (inside the System Folder), take this file out of the Extensions folder and restart your computer. (To use the Color StyleWriter 2000 series printer, you need a 68020 or higher processor.)

Speech version 1.4.1 can cause a Macintosh Plus (a model which does not support speech) to hang during startup. If your Macintosh Plus hangs during startup, do the following:

1) Restart the computer while holding down the Space bar.
2) When the Extensions Manager dialog box appears, turn off Speech.

SCSI Probe

SCSI Probe's optional extension *command space* will freeze on shutdown.

AppleShare and Speed Copy

There is an incompatibility between AppleShare Workstation software version 3.6.1 and Connectix Speed Copy (part of Speed Doubler version 1.1 or earlier). Use the Extensions Manager to turn off Speed Copy before you install this system software version, and contact Connectix to get the latest version of Speed Doubler. (You can contact Connectix at **http://www.connectix.com**, 415-571-5100, or 800-950-5880.)

Novell Netware

The Ethernet Compatibility extension version 1.0.3 is installed with this system software to fix a problem in the system shutdown code that affected PCI computers connected to certain networks, such as Novell Netware. A side effect of this fix is a two-minute delay in shutting down the computer.

Drive Setup

If, when using Drive Setup on some IDE hard drives, the Update driver, Customize volume, and Test disk options are dimmed, back up all data on the IDE disk onto another disk, and use Drive Setup to reinitialize the IDE disk.

Conflict Catcher

When using Conflict Catcher, a disabled extension may be moved to the top level of your hard disk. If this happens and you try to turn on the extension in the Extensions Manager control panel, you will not be able to turn it on, even though it appears in the list.

Daystar Accelerator Cards

If you have a Power Macintosh Upgrade Card and a Daystar accelerator card installed, the Power Macintosh Card control panel will be installed, even though it is not applicable to your computer.

SAM

SAM needs to be 4.0.8 or later, which is also true for System 7.5.2.

PowerBook-related problems

- If you have a PowerBook 190 with Open Transport active and are using the IR port, networking may not work after you restart the

computer. Try putting the computer to sleep and waking it up, or choosing the printer/modem port and then switching back to the IR port.

- If you are making disks from the disk images included on the CD, they may not work correctly with PowerBook 5300 and 190 series computers. To use such disks on a PowerBook 5300 or 190 series computer, make sure you make the disks on that computer.
- If you copy the Installer to a PowerBook, and then use that PowerBook in SCSI disk mode to install System 7.5.3 on another computer, it will install the appropriate system software for the computer your PowerBook is connected to in SCSI disk mode, not for the PowerBook.

DOS-compatible-related problems

- On DOS-compatible computers, CD-ROM Setup version 5.0.4 or later does not recognize DOS-formatted CDs, unless the CD is inserted in the computer when you turn the computer on.
- When used with SerialDMA, DOS Compatibility software will not be able to use hardware handshaking on the PC serial port.

CD-ROM related problems

- You may have problems starting your computer from the System 7.5, Version 7.5.3 CD, or mounting the CD on your computer if you have an older computer, an older CD-ROM drive, or a non-Apple CD-ROM drive. If this happens, try starting up from the appropriate Disk Tools disk, then reinsert the CD, and install the software from the CD.
- The CD that comes this kit may not be automatically ejected from the CD-ROM drive when you restart your computer. If this happens, manually eject the CD.
- Digital audio recording and playback can occasionally skip if virtual memory is turned on. To reduce this skipping, turn off virtual memory.

Published Date: Feb 18, 2012

Color OneScanner 600/27: Expected Lamp Life

What is the expected life of the scanner lamp used in the Color OneScanner 600/27?
This article has been archived and is no longer updated by Apple.
The lamp in the Color OneScanner 600/27 is a Xenon Lamp (white) and is designed to last for 100,000 scans or 5 years, whichever comes first.
The lamp is not available separately as a replacement part, but is part of the Optical Assembly, Apple Service P/N: 661-1084.
Published Date: Feb 18, 2012

LaserWriter IIntx: RAM Expansion

This article has been archived and is no longer updated by Apple.

Adding RAM allows more fonts to be downloaded to the printer at any one time, and increases the space available for font caching. The additional RAM also lessens the need for reconstructing bitmaps.

RAM Expansion Kits

1 Megabyte 4 Megabyte
Marketing Number: M6005 M6006

(NOTE: These SIMM expansions CAN NOT be used in a Macintosh computer.)

RAM Configurations

There are three banks of RAM on the LaserWriter IIntx controller, each bank consisting of 4 SIMM sockets, which can be configured with four 256Kbyte SIMMs or four(4) 1Mbyte SIMMs. Bank 0, located farthest from the controller panel, must be configured with the largest size SIMM.

Published Date: Feb 18, 2012

System 7.5, Version 7.5.3: About Disk Tools Read Me

This article is the About Disk Tools Read Me file.
This article has been archived and is no longer updated by Apple.
System 7.5, Version 7.5.3 comes with two Disk Tools disks:

* Disk Tools 1 - for 68K computers with SCSI hard disks

* Disk Tools 2 - for all PowerPC computers, and the following 68K computers that have IDE hard disks:

Macintosh LC 580
Macintosh LC 630
Macintosh LC 630 DOS
Macintosh Quadra 630 series computers
Macintosh Performa 580 series computers
Macintosh Performa 630 and 640 series computers
PowerBook 150 series computers*
PowerBook 190 series computers

If you have a 68K computer and have installed a PowerPC Upgrade Card, you should use the Disk Tools 2 disk.

If you insert one Disk Tools disk into your computer and you see an error message on the screen telling you the wrong Disk Tools disk was inserted, use the other Disk Tools disk.

Using Drive Setup

This Disk Tools 2 disk comes with a new version of Drive Setup (version 1.0.4) that fixes a problem that occurred with some types of IDE hard disks. If your computer has an IDE hard disk, you should update your driver as part of the installation of this software. When using Drive Setup on some IDE hard disks, the "Update driver," "Customize volume," and "Test disk" options are dimmed. To use these options, back up all data from the IDE disk onto another disk, and use Drive Setup to reinitialize the IDE disk.

***Special note about PowerBook 150 series computers**

You do not need to update the driver on your hard disk (as described in the user's manual) with Drive Setup. (The driver on your computer is contained in its ROM.)
Published Date: Feb 18, 2012

System 7.5, Version 7.5.3: Installing OpenDoc Read Me (6/96)

This article is the Installing OpenDoc ReadMe file.
This article has been archived and is no longer updated by Apple.
OpenDoc technology supports a new type of software called a "part." You use parts to easily add new features to your applications. You add features by dragging parts into documents created by any OpenDoc-aware application. You can also create documents entirely out of OpenDoc parts.

Installing OpenDoc

To install the OpenDoc libraries and extensions that will enable you to use OpenDoc parts, double-click the OpenDoc Installer alias.

When the Easy Install dialog box appears, click Install.

Note: To install OpenDoc, you must be using system software version 7.1.1 or later for a 68K Macintosh, or system software version 7.1.2 for a Power Macintosh.

Installing over previous versions of OpenDoc

Before installing over an older version of OpenDoc, turn extensions off by holding down the Shift key as you restart the computer.

(**Editor's Note:** A reference to a discontinued web site was removed from this section of the document.)
Published Date: Feb 18, 2012

System 7.5, Version 7.5.3: Installing PowerTalk ReadMe (6/96)

Article Reviewed/Updated: 28 June 1996

This article is the Read Me for Installing PowerTalk file that comes with System 7.5, Version 7.5.3.
This article has been archived and is no longer updated by Apple.
If you have System 7.5 installed and your Macintosh has at least 8 megabytes (MB) of memory, you can install PowerTalk.

Step 1: Install PowerTalk Software

IMPORTANT: If At Ease software is installed on your computer, you must turn it off before you install PowerTalk. For instructions, see the manual that came with your At Ease software.

1) Quit any open application programs or desk accessories.

2) Locate the PowerTalk folder, and open the folder by double-clicking its icon.

3) Open the PowerTalk Installer by double-clicking its icon.

All PowerTalk files are compressed. The Installer program will expand them during installation. Do not drag them to your hard disk.

4) If you see a dialog box asking what you want to install, click PowerTalk.

5) When you see the PowerTalk Installer's welcome screen, click Continue.

The Install PowerTalk dialog box appears.

6) Make sure that the destination disk indicated on the screen is the one on which you want to install PowerTalk.

If the wrong disk name appears, click the Switch Disk button until the correct disk name appears.

7) Click Install.

The Installer places PowerTalk software on your hard disk. PowerTalk software includes system software (installed in your System Folder) and application programs (installed in the PowerTalk folder, inside the Apple Extras folder on the hard disk).

8) Follow the instructions on the screen.

On-screen messages report the installation status. It takes a few minutes to complete.

9) When the installation is complete, restart your computer.

If for some reason the installation was not successful, try again.

New icons on your screen

Once your PowerTalk software is installed and you have restarted your computer, two new icons appear on your screen.

The Mailbox is the place where all correspondence resides. To look at your In Box or Out Box, you open the Mailbox. (After you set up your system, the word Mailbox changes to your name.)

The Catalogs icon opens to show all the catalogs to which you have access-AppleTalk, PowerShare servers, and any other services on your network.

Step 2: Set Up Your System

PowerTalk system software provides different levels of access security. The most basic safeguard is the key chain access code. Your access code provides access to all your network servers and services with a single password. Until you set up and use your access code, your catalog and mail services are locked (inaccessible).

IMPORTANT: How you set up your system depends on whether you have access to a server (called the PowerShare server) that manages network communications. If you are not sure whether or not you have a PowerShare server account, assume that you do not.

Setting up without a PowerShare server account

PowerTalk does not require the use of a network server. When you set up without a server account, you can communicate using AppleMail or mail-capable applications.

If you don't have a PowerShare server account, follow these steps:

1) Choose Unlock Key Chain from the Special menu in the Finder.

If you wish, you can also open the Mailbox.

The welcome screen appears.

2) Read the screen and click Proceed.

A dialog box appears, asking if you have a PowerShare account.

3) Click No.

A dialog box appears, asking you to set your key chain access code.

4) Type your name and the access code you want to use.

IMPORTANT: Once your access code is set, you enter it each time your computer starts up. You can leave the access code blank, if you do not want to use a password.

Here are some tips for choosing an access code:
* It should not be your name.
* It must be at least six characters long. (The longer it is, the harder it will be to guess.)
* Mix upper- and lowercase letters and use numbers, as in "4Me!Only."
* Make it easy to remember and don't write it down.
* Keep track of which letters are uppercase-the access code is case-sensitive.

5) When a confirmation dialog box appears, type your access code again and click OK.

You can change your access code at any time in the PowerTalk Setup control panel.

6) When you see the next confirmation box, click OK.

As soon as the confirmation box closes, open your Date and Time control panel and make sure that the date, time, and time zone are all set correctly.

You now have access to PowerTalk services. The name of your Mailbox changes to show that you are its owner.

Setting up with a PowerShare server account. If you have access to a PowerShare server, follow these steps:

1) Choose Unlock Key Chain from the Special menu in the Finder.

If you wish, you can also open the Mailbox.

The welcome screen appears.

2) Read the screen and click Proceed.

A dialog box appears, asking if you have a PowerShare account.

3) Click Yes.

The computer searches for the PowerShare services available to you.

4) When the navigation dialog box appears, select the PowerShare service you want to access and click OK.

You can also double-click the PowerShare service's name.

A dialog box appears, asking for account information.

5) Type your name and the password of your PowerShare account as set up by your system administrator.

As a convenience to you, PowerTalk software initially sets your key chain access code to be the same as your PowerShare password. (You use your access code to open all services.) You can change your key chain access code in the PowerTalk Setup control panel.

IMPORTANT: Changing your key chain access code does not change your PowerShare password. You'll need to use your PowerShare password when you check your mail from a computer other than your own.

6) When you see the confirmation box, click OK.

After a moment another confirmation box appears with additional information. Click OK.

You now have access to PowerTalk services. The name of your Mailbox changes to show that you are its owner.

Step 3: Name your computer on the network

If you are on an AppleTalk network, the name of your computer appears in the AppleTalk catalog, and people can send you mail at that "address" without the need for a PowerShare server. If you name your computer clearly in the Sharing Setup control panel, people can find your address more easily. Many people use their own names in naming their computers (for example, "Sarabeth Herman's Macintosh").

To check the name of your computer, follow these steps:

1) Choose Control Panels from the Apple menu.

2) Open Sharing Setup.

3) Add any missing information, or change the current information by selecting and retyping.

Make sure that the name in the Macintosh Name text field is accurate; this information defines your network identity.

IMPORTANT: If you have more than one computer on the same network, be certain that the computer names are different.

4) Close the Sharing Setup control panel by clicking its close box.

IMPORTANT: If you want to use your AppleTalk catalog and the network, be sure that AppleTalk is turned on in the Chooser.

Turning off PowerTalk

To turn off collaboration services for an extended period, click the Off button in the PowerTalk Setup control panel and restart your computer.

When you choose this option, collaboration services won't be available at all when you restart the computer. (Your Mailbox and Catalogs will not appear on the desktop.) You'll use this option when you know that you won't be needing PowerTalk services and accounts on a particular personal computer for a while. You may also use it to save memory, since PowerTalk uses no memory when it is turned off.

To turn PowerTalk back on, open the PowerTalk Setup control panel, and click the On button. Then restart your computer.

Article Change History:
28 Jun 1996 - Change status at product release.

Published Date: Feb 18, 2012

System 7.5, v7.5.3: Before You Install QuickDraw GX

This article is the Before You Install QuickDraw GX Read Me file for System 7.5, Version 7.5.3.
This article has been archived and is no longer updated by Apple.

Before You Install QuickDraw GX

Printing and Faxing from QuickDraw GX

To print with QuickDraw GX, you need a QuickDraw GX printer driver for your printer.

* If you have an Apple printer, the QuickDraw GX versions of your currently installed printer drivers are installed with the QuickDraw GX software. All Apple printers (except the Apple Color Printer, and Color StyleWriter Pro) have GX drivers. The Color StyleWriter Pro will have a GX driver available soon.

* If you have a non-Apple printer, check with your Apple-authorized dealer or contact your printer vendor directly to make sure that you have the right printer driver for your printer. For printer vendor contact information, see the "QuickDraw GX Printer Driver Upgrade Information" section below.

* The AppleTelecom 2.0 package?with Express Modem and GeoPort fax drivers?is compatible with QuickDraw GX. For more information, see the "QuickDraw GX Fax Information" section later in this file.

QuickDraw GX and WorldScript I and WorldScript II

Make sure that you are using WorldScript I and WorldScript II version 7.5.1 or later. QuickDraw GX is not completely compatible with versions of WorldScript I and WorldScript II prior to 7.5.1.

QuickDraw GX and At Ease

Make sure that you are using At Ease version 2.0.3.

QuickDraw GX Printer Driver Upgrade Information

If you are using a non-Apple printer, use the information below to contact the vendor about a printer driver upgrade. If your printer's vendor is not listed here, see the manual that came with your printer for contact information.

800-950-5382
PostScript compatible printers from CalComp should work with the standard LaserWriter GX PostScript driver. If you have any problems using QuickDraw GX with CalComp products and are within the United States or Canada, call CalComp at 800-451-7568. Outside the United States or Canada, contact the office in your area as listed in an appendix of your User's Guide.

Epson America

For information about Epson QuickDraw GX drivers, call the Epson End User Support Center at 1-800-922-8911.

GCC Technologies

For information about GCC QuickDraw GX drivers and upgrade information contact GCC Technical Support at one of these numbers:

Phone Number: 617-276-8620
Fax Number: 617-275-1115
CompuServe: 67004,2302
GEnie: GCC.TECH
America OnLine: GCC TECH

GDT Softworks Inc.

For upgrade information about GDT Softworks products (PowerPrint 2.5, PowerPrint/GX 3.0, PowerPrint/LT 3.0, PowerPrint/NW 3.0, PLOTTERgeist 3.0, PowerPlot 2.0, PowerPlot/LT 2.0, StyleScript 2.0), contact GDT:

GDT Softworks Inc.
Customer Service Upgrades
4664 Lougheed Highway, Suite 188
Burnaby, BC V5C 6B7 Canada

Phone Number: 1-800-663-6222 or 604-291-9121
Fax Number: 604-291-9689
CompuServe: 72137,3246

Internet: customer_service@gdt.com

Hewlett-Packard
If you need Post-Sale Assistance, Technical Assistance, or if you have any kind of questions about H-P peripherals, contact the H-P Computer Products Customer Support Center at 208-323-2551.

For users of DeskWriter 500 series printers, the fastest way to get a QuickDraw GX printer driver is from one of these electronic on-line services:

CompuServe: HP Peripherals forum (HPPER)
Library 9
Internet: IP address - 192.6.71.2
Name - Anonymous
Password - Send User Identification
HP Download Service: 208-344-1691 (modem settings: parity, N; data bits,
8; stop bits, 1)

To receive detailed instructions on accessing these on-line services, contact HP FIRST, Hewlett-Packard's document FAX retrieval service:
Inside the U.S. and Canada: 1-800-333-1917 (Then press 1 for HP FIRST.)
Outside the U.S. and Canada: 208-344-4809

To receive a disk with the QuickDraw GX printer driver, contact the HP Software Distribution Center at 303-339-7009. A nominal charge for materials and shipping applies.

Kodak
Call 1-800-CDKODAK, for technical support. To update and provide discussion for EKC drivers and print utilities, log on to CompuServe and 'go kodak'. In the Library menu, select browse and in the browse sections, select Kodak Printers. You can download these upgrades from CompuServe!

Lasermaster
For QuickDraw GX driver updates from Lasermaster, call Lasermaster Technical Support at 612-944-8509.

Lexmark International
Lexmark/IBM customers can get the latest QuickDraw GX drivers from:

Technical Support: 606-232-3000
Lexmark Bulletin Board: 606-232-5238
Internet: anonymous ftp at ftp.lexmark.com
CompuServe: Go Lexmark

Microspot
For information about "MacPlot Raster GX" and "MacPlot Pen Plotter Professional GX" Chooser level GX drivers or upgrade information, contact the Sales Department:

Microspot
12380 Saratoga-Sunnyvale Road, Suite 6
Saratoga, CA 95070

Phone Number: 1-800-622-7568 (1-800-MACPLOT) or 408-257-4000
America OnLine: MICROSPOT1
CompuServe: 70274,3650

NEC Technologies
Contact NEC Technical Support at 800-388-8888 or use one of the following:

NEC Bulletin Board: 508-635-4706
Main Phone Number: 508-264-8000
Main FAX Number: 508-264-8673

QMS, Inc.
For assistance with QMS printers, drivers, and driver updates, call QMS Customer Technical Assurance:

Phone Number: 205-633-4500
FAX Number: 205-633-3716

Seiko Instruments
QuickDraw GX is supported by Seiko Instruments for the ColorPoint PostScript printer line with four drivers:

Printer Names	Required GX Driver
ColorPoint PS, PSX or PSN	ColorPoint PS/PSX/PSN GX driver
ColorPoint PSE	ColorPoint PSE GX driver
ColorPoint PSH	ColorPoint PSH GX driver
ColorPoint PSF	ColorPoint PSF GX driver

All driver upgrades are free and are available now:

Technical Support Department: 1-800-553-5312 (inside USA)
Technical Support Department: 408-922-5800
Seiko Bulletin Board: 408-428-9810

SuperMac Technology
For the SuperMac ProofPositive and the SuperMac Splash -- contact SuperMac Technical Support at 1-800-541-7680.

Tektronix
In the US and Canada, call Customer Support at 1-800-835-6100 or use the following:

Fax Number: 503-682-2980
Tektronix Bulletin Board: 503-685-4504
International Customers: Please contact your local Tektronix office

Xerox
Xerox offers QuickDraw GX printer drivers for Xerox DocuTech Network Publisher Model 90 and Xerox DocuTech Network Publisher Model 135. For information on how to obtain the driver, customers can send an electronic mail message to: GX.Roch817@Xerox.com

QuickDraw GX Fax Information

To fax with QuickDraw GX, you need a QuickDraw GX fax driver for your modem. Use the information below to contact the vendor about a fax driver for your modem.

Apple Telecom 2.0
This package includes Express Modem version 2.0 and GeoPort version 2.0, both of which support QuickDraw GX. To order the Apple Telecom 2.0 upgrade, call 1-800-950-5382 and ask for the Apple Telecom 2.0 upgrade. You can also get the upgrade from the following online services:

CompuServe: GO APLSUP
America OnLine: keyword ftp, then connect to ftp.info.apple.com
FTP: ftp.info.apple.com
Web: http://www.info.apple.com

Global Village
GlobalFax version 2.5 supports QuickDraw GX. If you purchase a modem that includes GlobalFax 2.5 software, it will automatically install the GlobalFax GX fax driver as part of the standard installation. If you are using an older version of GlobalFax software, you can buy a GlobalFax 2.5 Upgrade from Global Village by calling 1-800-736-4821 or 1-408-523-1036. For more information about GlobalFax software, check Global Village forums on the following online services:

America Online: global
CompuServe: go global
Global Village BBS: 415-390-8334
Web: http://www.globalvillag.com

Cypress Research
If you use Cypress Research FaxPro II, call 408-752-2700 and ask for Technical Support.

STF Technologies
For information about our "FaxPrint GX" printer driver contact STF Customer Service.

Using Fonts

Type 1 Fonts Enabled During Installation

During installation, QuickDraw GX enables any Type 1 fonts found in the System Folder, the Fonts folder, or the Extensions folder. However, you must ensure that each Type 1 font family is in its own suitcase. The installer enabler will not enable your Type 1 fonts if multiple font families are contained in one suitcase. QuickDraw GX does the following:

* creates a new folder called *Archived Type 1 Fonts* in your Fonts folder
* moves all suitcases referring to Type 1 fonts to the *Archived Type 1 Fonts* folder
* moves all Type 1 outline font files to the *Archived Type 1 Fonts* folder
* makes a copy of the original suitcase and puts the copy in the Fonts folder
* creates one or more 'sfnt' font resources from the corresponding Type 1 outline font files and places the resources into the suitcase in the Fonts folder

The 'sfnt' (scalable font) resource was originally specified to contain TrueType font data. When QuickDraw GX enables a font, the 'sfnt' resource may contain either TrueType font data or PostScript Type 1 font data.

You can find instructions for installing QuickDraw GX in the Macintosh System 7.5 Upgrade Guide.

Adobe Type Manager version 3.8.2

ATM version 3.8.2 is installed with this version of QuickDraw GX. ATM 3.8.2 includes native support for Power Macintosh computers.

Type 1 fonts will display and print properly only if ATM is installed and turned on. As with previous versions, ATM 3.8.2 rasterizes Type 1 font data from the POST resource in conventional outline font files (file type LWFN). In addition, ATM 3.8.2 rasterizes Type 1 font data from the 'sfnt' resource in suitcase files (file type FFIL). ATM 3.8.2 does not include font substitution capability.

Enabling Type 1 Fonts After Installation

You may need to enable Type 1 fonts that are not located in the System Folder, the Fonts folder, or the Extensions folder. Or you may need to enable Type 1 fonts installed after you install QuickDraw GX. To enable Type 1 fonts, use the Type 1 Enabler (one of the QuickDraw GX Utilities). You must ensure that each Type 1 font family is in its own suitcase. The Type 1 Enabler will not enable your Type 1 fonts if multiple font families are contained in one suitcase.

To install the QuickDraw GX Utilities and enable Type 1 fonts, see the instructions in Chapter 3 ("Installing QuickDraw GX") of the Macintosh System 7.5 Upgrade Guide.

The Type 1 Enabler supports only Type 1 fonts. If the Type 1 Enabler program encounters a suitcase containing Type 3 fonts, it displays the message "Contains a Type 3 font program" and does not enable the suitcase.

The Type 1 Enabler does not enable hybrid fonts. If you see the message "Contains a hybrid font program (see README file for details)" when the Type 1 Enabler attempts to enable Optima or ITC Eras, it may be because you have an old version of these fonts.These fonts cannot be enabled because they are hybrid fonts. If you are a registered owner of Optima or ITC Eras, call Adobe Systems Technical Support to obtain an upgrade to the non-hybrid versions of these families.

Removing Duplicate Fonts

To make sure that QuickDraw GX properly manages currently installed fonts, you should make sure you have no duplicate fonts installed in the System Folder. Remove any duplicates that you find.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

The following Tech Info Library article can help you search for a particular vendor's address and phone number:

Article 17159: "**Locating Vendor Information**"
Published Date: Feb 18, 2012

System 7.5, Version 7.5.3: PowerPC/PCI Printing Read Me

This article is the PowerPC/PCI Printing ReadMe file which comes with System 7.5, Version 7.5.3.
This article has been archived and is no longer updated by Apple.
Important Information About Printing with a PowerPC PCI-Based Computer on non-Apple Printers

PowerPC-based computers with PCI expansion slots may have difficulty printing to some third party network printers or print spoolers in certain network configurations. When printing to one of these devices, your computer may freeze or never complete printing, and you may need to restart your computer or cancel the printing job.

LaserWriter 8.3.4 addresses this issue.

LaserWriter 8, version 8.3.4 can be downloaded from Apple's Software Update Web site:
http://www.apple.com/swupdates/
Published Date: Feb 18, 2012

System 7.5, Version 7.5.3: What‘s New in Version 7.5.3

This article comprises the What's New in Version 7.5.3 Read Me.
This article has been archived and is no longer updated by Apple.
If you already have System 7.5 and are installing to update to version 7.5.3, the following new features are available (either with the Easy Install option, or for OpenDoc, with its own Installer):

- All previously-installed system software components are updated to the latest versions, including any components that you disabled using the Extensions Manager. You will also find performance improvements for some PowerPC-based computers. Some of these improvements are due to the addition of more native system software components, including Apple Guide, the Resource Manager, and the SCSI Manager.
- When dragging icons on PowerPC computers, you will see a translucent image of the icon instead of an outline.
- A new version of Drive Setup (version 1.0.4) fixes a problem that occurred with some types of IDE hard disks. If you use an IDE (ATA) hard disk, you should update your driver as part of the installation of this software. When using Drive Setup on some IDE hard disks, the Update driver, Customize volume, and Test disk options are dimmed. To use these options, back up all data from the IDE disk onto another disk, and use Drive Setup to reinitialize the IDE disk.
- Open Transport networking software provides improved network flexibility and performance. Open Transport is available on all computers with 68030, 68040, or PowerPC processors, except for the desktop 5200, 5300, 6200, and 6300 series computers. Open Transport may require more RAM than classic AppleTalk.

  After you install system software version 7.5.3, Open Transport will be turned on only if you were using it before you installed the new system software. You can turn on Open Transport with the Network Software Selector program (in the Apple Extras folder after you install the new system software).

  For more information, see the Open Transport Information folder, inside the Apple Extras folder.
- Text-to-Speech software is automatically installed. If you don't use this software, you can use the Extensions Manager to turn off MacInTalk (version 2 or 3) and the Speech control panel.
- You have the option to install OpenDoc, a new plug-in software architecture for the Mac OS. OpenDoc technology supports a new type of software called a part. You use parts to easily add new features to your applications. You add features by dragging parts into documents created by any OpenDoc-aware application. You can also create documents entirely out of OpenDoc parts. A variety of these parts will be available from both Apple and third-party sources, including parts for placing Internet resources directly into documents. No parts come with this upgrade kit.
- When you rebuild the desktop, comments typed in a file's Get Info window are no longer deleted.
- Many previously-released fixes are also included in this system software version, including those in the 7.5.2 Printing Update, the PowerBook 5300 System Software Update, the PowerBook 2300c Update, System 7.5 Update 2.0, and System 7.5.3 Revision 2.

For an overview of all the features in System 7.5, see the manual that came with your upgrade kit.
Published Date: Feb 18, 2012

Power Macintosh 5400: Compatible w/ QuickTime Conf.? (6/96)

I am attempting to install QuickTime Conferencing 1.0.2 (from the QuickTime Conferencing 1.0 CD) on my Power Macintosh 5400/120 computer. Each time I do so, an error message appears reporting that Network Software Installer 1.5 or later is required. However, when I then attempt to install Network Software Installer 1.5, another message appears stating: The file 'Network' on disk 'Macintosh HD' cannot be replaced by the Installer. No installation will take place. Please move the file to another folder and try again."

I cannot locate a file called "Network" on my hard drive, so I am unable to perform the installation. What can I do? Is QuickTime Conferencing compatible with the Power Macintosh 5400/120?

This article has been archived and is no longer updated by Apple.

QuickTime Conferencing v1.0.2 is not compatible with the Power Macintosh 5400/120. Instead, you should install QuickTime Conferencing v1.0.3, which is in the Apple Extras folder on the hard drive of the Power Macintosh 5400 Series CD.

Published Date: Feb 18, 2012

Manzanita Software: Product Comparisons (1 of 2)

Manzanita Software Systems specializes in high-quality business accounting software for the Apple II computer family. The following details the specifications of Manzanita's accounting products: The Business Accountant(R),
and BusinessWorks(R). This is part 1 of two parts.)

This article has been archived and is no longer updated by Apple.

HARDWARE REQUIREMENTS

The Business Accountant:
Apple IIe or IIc
Two 5-1/4" floppy disk drives or one 5-1/4" floppy and a DOS 3.3 hard disk
Monitor
Printer

BusinessWorks:
Apple IIe or IIc
Two UniDisk 3.5 drives, or one UniDisk 3.5 drive and a RAM card, or one floppy disk drive (3-1/2" or 5-1/4") and a ProDOS hard disk.
Monitor
Printer

	The Business Accountant	BusinessWorks
System-Wide Features		
Operating System	DOS 3.3	ProDOS
On-line HELP	No	Yes
Show windows listing needed data	No	Yes
Password protection	Yes	Yes
Supports clock card	Yes	Yes
Modules integrate or stand-alone	Yes	Yes
Converts data to DIF	Yes	No
Converts data to AppleWorks	No	Yes
Uses AppleWorks filecard metaphor	No	Yes
Installs on Catalyst (2.0 and 3.0)	No	Yes
Works with Pinpoint	No	Yes
Loads on RAM cards	No	Yes
Accesses other software directly	No	Yes
Number of multiple companies:		
removable media disk	Unlimited	Unlimited
hard disk	1	50
General Ledger System		
Maximum number of accounts	500	1,000
# of characters in acct. description	22	22
Maximum # of monthly journal entries:		
removable media disk	500-1,900*	20,000*
hard disk	2,300**	20,000*
Maximum amount for each j/e	$9,999,999.99	$9,999,999.99
# of recurring journal entries	15	15
# of account types	14	14
# of reports in report queue	8	8
# of months budgeted	12	12
# of months history maintained	13	13
# of departments	99	99
# of lines per journal entry	99	99
Maximum dollar amount	$43 million	$43 million
Rounds financial reports to nearest $	no	yes
Posts to prior months in fiscal year	yes	yes
Posts to future months	no	yes

Accounts Payable System

Maximum number of vendors:		
removable media disk	500	1,000*
hard disk	6,320**	10,000*
Maximum number of transactions:		
removable media disk	1,750*	***
hard disk	16,000**	***
Distribution accts. per transaction	8	8
# of payment terms	9	9
# of characters in vendor ID	8	8
# of characters in invoice #	8	8
# of characters in invoice reference	12	12
Maximum amount per transaction	$999,999.99	$999,999.99
Maximum amount per check	$999,999.99	$999,999.99
Invoices per check	Unlimited	Unlimited
# of cash accounts	1	4
Reconcile checkbook	No	Yes
Check voiding	No	Yes
Recurring payable invoices	No	Yes
Open credits	Yes	Yes
Discounts	Yes	Yes
Prints check with register	Yes	Yes
Allows handchecks	Yes	Yes

*The actual maximum numbers may be less than those listed, depending on the number of accounting modules you use, and/or the number of accounts, vendors, parts or customers on the system. These numbers should be used as general
guidelines. Refer to the sizing worksheets for more specific information.

**These figures reflect using a DOS 3.3 hard disk with a maximum of eight data sets.

***Limited only by disk space.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

The Tech Info Library article#17159: "**Locating Vendor Information**", can help you search for a particular vendor's address and phone number.

Published Date: Feb 18, 2012

Mac System 7.5.3: About the Control Panels Folder Read Me

This article comprises the About the Control Panels Folder Read Me.
This article has been archived and is no longer updated by Apple.
Macintosh System 7.5.3, What's Inside the Control Panels Folder?

About this document

If you're curious about the contents of the Control Panels folder, this document provides a brief description of each control panel. You can use these descriptions to help determine which control panels you may need and which ones you may not need.

What is a control panel?

A control panel is a small piece of software that allows you to change your computer's settings to meet your needs. For example, you can change the pattern or color of your computer's desktop using the Desktop Patterns control panel.

You can use the Extensions Manager control panel to turn off any control panel you don't need on your computer.

Depending on the type of computer you have, the contents of your Control Panels folder may vary. You might have control panels that were added by third-party applications, and you don't need all the control panels described below. For complete instructions on using control panels, see Macintosh Guide, available in the Guide (question mark) menu when the Finder is the active program.

- Apple Menu Options: You can turn the submenus available in the Apple menu (for recently used documents, programs and servers) on or off. You can also set the number of items that will appear in the menus. Works on all Mac OS-based computers that use System 7.5.
- AppleTalk: You can specify AppleTalk settings (such as connection port and zone) for use with Apple's Open Transport networking. When you install Open Transport, the Network and MacTCP control panels are replaced with the AppleTalk and TCP/IP control panels. Works on all Mac OS-based computers that support Open Transport.
- ATM GX: Makes your Type 1 fonts look sharp and clear at any point size-both on your screen and on paper. Improves the output of QuickDraw printers, such as the ImageWriter and StyleWriter series. Works on all Mac OS-based computers that use System 7.5.
- Auto Power On/Off: You can specify dates and times for your computer to automatically turn on or off, set a warning interval before turning off, and specify that your computer automatically restart after a power failure. Works only on computers that can be turned on from the keyboard (does not work on Macintosh PowerBook 500 models).
- AutoRemounter: You can turn off the Losing Network Services message that appears when your PowerBook sleeps. You can also automatically reconnect your computer to any shared disks that were disconnected when your PowerBook went to sleep. Works on all Macintosh PowerBooks except models 100, 140, 145, 145B, and 170.
- Brightness: You can adjust screen brightness. Works on Mac OS-based computers with onscreen brightness control, such as the Macintosh Classic and Classic II.
- Button: You can disable the built-in volume and contrast buttons on the front of your computer. Useful in classroom situations with young students. Works on the Macintosh Performa and Macintosh LC 500 series of computers.
- Cache Switch: You can turn processor caching for 68040-based Mac OS-based computers on or off. For compatibility reasons, processor caching may need to be turned off for some applications. Works on all 68040-based Mac OS computers, such as the Macintosh Quadra, Macintosh Centris, and Performa 400/500 models.
- Color: You can set the color of highlighted text and window borders. Works on all Mac OS-based computers that use System 7.5 and have a color monitor.
- CloseView: You can magnify your computer display for easier viewing. Works on all Mac OS-based computers.
- ColorSync System Profile: Part of the ColorSync system that provides consistent color across various types of equipment (printers, scanners, monitors, and so on). In the control panel, you can view and select ColorSync profiles. Works on all Mac OS-based computers that support ColorSync.
- Control Strip: You can display or hide the Control Strip, and specify a font for Control Strip menus. With the Control Strip, you can control a variety of settings directly from your desktop, such as sound volume, monitor resolution, file sharing, and so on. Works with all Mac OS-based computers that use System 7.5.
- Date & Time: You can set the date, time, and time zone on your computer. You can also set how dates and times are displayed. Works with all Mac OS-based computers that use System 7.5.
- Desktop Patterns: You can change the pattern or color of your computer's desktop. Works with all Mac OS-based computers that use System 7.5.
- Easy Access: You can press keys used in keyboard combinations one at a time (Sticky Keys), move the pointer using the numeric keypad (Mouse Keys), and set typing speed with audible response (Slow Keys). Works on all Mac OS-based computers that use System 7.5.
- Extensions Manager: You can turn your computer's system extensions on or off. Extensions include items in the Extensions folder, control panels, and other startup programs in the System Folder. Works on all Mac OS-based computers that use System 7.5.
- File Sharing Monitor: When file sharing is turned on, this control panel displays a list of users who are connected to your computer. Works on all Mac OS-based computers that use System 7.5.
- General Controls: You can set various options, including desktop hiding, Launcher visibility at startup, folder protection to prevent folders and files from being deleted, insertion point blinking rate, menu selection blinking, and the default folder that appears in the Save dialog box. Works on all Mac OS-based computers that use System 7.5.
- Keyboard: You can set the repeat rate and delay before repeat for your keyboard. Also lets you switch keyboard layouts. Works on all

Mac OS-based computers that use System 7.5.

- Labels: You can customize the color and text of file labels. (You can see labels in the Finder.) Works on all Mac OS-based computers that use System 7.5.
- Launcher: You can open the Launcher window, where you can easily find and open programs. You can add items to the Launcher by placing an alias to your favorite applications, files, or folders in the Launcher Items folder in the System Folder.
- MacTCP: You can control how your computer is connected to network services (such as the Internet) that use TCP/IP protocol. Works on Mac OS-based computers that use System 7.5. Does not work with Open Transport.
- Macintosh Easy Open: You can customize the way a Mac OS or DOS/Windows document is translated, so you can open a document when you do not have the application that was used to create the document. Works on Mac OS-based computers that use System 7.5.
- Map: You can locate popular cities around the world, and display longitude and latitude coordinates and local time. Lets you set the location of your computer. Works on all Mac OS-based computers that use System 7.5.
- Memory: You can control memory settings, including disk cache, virtual memory, and RAM disk configuration. Works on all Mac OS-based computers that use System 7.5. Do not remove this control panel if you use a RAM disk.
- Monitors: You can set the number of colors or shades of gray that are displayed. Sets monitor resolution for multiple scan monitors. On some Mac OS-based computers, the Monitors control panel is replaced by the Monitors & Sound control panel.
- Monitors & Sound: A combined control panel that replaces the separate Sound and Monitors control panels. (It also replaces the Sound & Displays control panel.) You can use this control panel to specify information about monitors attached to your computer (for example, monitor resolution, monitor bit depth, monitor arrangement, and so on). You can also use this control panel to specify information about other audiovisual equipment attached to your computer (for example, audio CD players, VCRs, video cameras, external speakers, and so on.) Works on PowerPC-based computers with PCI slots.
- Mouse: You can set the tracking speed and double-click speed for your mouse. Works on all Mac OS-based computers that use System 7.5.
- Network: You can choose between network options installed on your computer. Typical choices are LocalTalk, Ethernet, or Token Ring. Works on all Mac OS-based computers that use System 7.5. Does not work with Open Transport.
- Numbers: You can control how numbers and currencies are displayed on your computer (for example, where decimal points appear). Works on all Mac OS-based computers that use System 7.5.
- PC Exchange: Allows your Mac OS-based computer to read files from ProDOS and MS-DOS disks. You can specify the Mac OS application program used to open a DOS document. You can also use SyQuest and Bernoulli disks on your desktop. Works on all Mac OS-based computers that use System 7.5.
- PC Setup: You can set options for the DOS Compatibility Card. Works on all Mac OS-based computers that support the DOS Compatibility Card.
- Power Macintosh Card: Used with 68040-based Mac OS computers that have an expansion card with a PowerPC processor. You can select which processor to use. Works on all Mac OS-based computers with a Power Macintosh Upgrade card.
- PowerBook: You can set PowerBook-specific items, including hard disk sleep, system sleep, and screen dimming. You can also set processor cycling and (on certain computers) reduced processor speed. Controls backlight intensity and built-in video. Works on all Macintosh PowerBooks.
- PowerBook Display: You can duplicate the images on your PowerBook display on an external monitor. Useful for controlling a presentation from your PowerBook while displaying the presentation on a large room monitor. Works on the Macintosh PowerBooks 160, 165c, 180, 180c, 200, and 500 models.
- PowerBook Setup: You can set a unique SCSI ID number for your PowerBook when you're using SCSI disk mode. You can also specify a Normal or Compatible modem setting for your PowerBook. Use Normal for communication applications that are compatible with the Macintosh Communications Toolbox. Use Compatible for communication applications that are not compatible with the Communications Toolbox. Works on all Macintosh PowerBook 200 and 500 models.
- PowerTalk Setup: You can turn collaboration services on or shut them off after a period of inactivity. You can also access your Key Chain. Works on all Mac OS-based computers that support PowerTalk.
- Screen: You can control brightness and contrast for a built-in monitor. Works on all Mac OS-based computers with built-in monitors, such as the Macintosh Performa 400/500 models.
- Serial Switch: Provides compatibility for some applications that use the printer or modem port. You can set the serial port option to Faster or More Compatible. Works on Macintosh IIfx and Macintosh Quadra 950 computers.
- Sharing Setup: You can set file sharing options and specify a network name for your computer. Works on all Mac OS-based computers that use System 7.5.
- Sound: You can set the alert sound and volume and specify a sound input and sound output source for your computer. On PowerPC-based computers with PCI slots, this control panel is replaced by the Monitors & Sound control panel.
- Sound & Displays: A combined control panel that replaces the separate Sound and Monitors control panels. (In System 7.5.3, Sound & Displays is replaced with the Monitors & Sound control panel.) You can use this control panel to specify information about monitors attached to your computer (for example, monitor resolution, monitor bit depth, monitor arrangement, and so on). You can also use this control panel to specify information about other audiovisual equipment attached to your computer (for example, audio CD players, VCRs, video cameras, external speakers, and so on). Works on PowerPC-based computers with PCI slots.
- Speech: You can set options for hearing text read aloud by the computer. If you have Speakable Items software and a PlainTalk-compatible microphone, you can set options for giving spoken commands to the computer. Works on all Macintosh 660AV and 840AV computers. Also works on all PowerPC-based AV computers.
- Startup Disk: You can select the disk used to start up your computer. Works on all Mac OS-based computers that use System 7.5.
- TCP/IP: You can specify TCP/IP settings for use with Apple's Open Transport networking. When you install Open Transport, the Network and MacTCP control panels are replaced with the AppleTalk and TCP/IP control panels. Works on all Mac OS-based computers that support Open Transport.

- Text: You can select from the text features for the script systems installed on your computer. Works on all Mac OS-based computers that use System 7.5.
- Trackpad: You can set how far the pointer moves when you move your finger on the trackpad, and how fast you double-click. Works on all Macintosh PowerBook 500/5000 models.
- Users & Groups: You can specify who can access your computer's hard disk when file sharing is turned on. Works on all Mac OS-based computers that use System 7.5.
- Views: You can customize how information is displayed in Finder windows. Works on all Mac OS-based computers that use System 7.5.
- WindowShade: You can set whether to hide a window by clicking on its title bar. Works on all Mac OS-based computers that use System 7.5.

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System 7.5.3: What Updates Do I Need for System 7.5.5?

My Power Macintosh computer included System 7.5.3 pre-installed on the hard drive. However, I have heard that the pre-installed version of System 7.5.3 is not the same as the version of System 7.5.3 that you get by installing System 7.5 Update 2.0.

Does this mean I also need to install System 7.5 Update 2.0?

Do I then need to install System 7.5.3 Revision 2 as well?

Can I skip System 7.5 Update 2.0 and just install Revision 2?

What is System 7.5 Version 7.5.3?

This article has been archived and is no longer updated by Apple.
Question: Does this mean I also need to install System 7.5 Update 2.0?

Answer: Although your computer has System 7.5.3 pre-installed, you should still install System 7.5 Update 2.0. This udpate includes some additional fixes that are not included with the pre-installed version of System 7.5.3. After installing System 7.5 Update 2.0, you should then install System 7.5.5 Update.

Alternatively, you can download and install System 7.5 Version 7.5.3 which includes the updates and fixes found in System 7.5 Update 2.0 and System 7.5.3 Revision 2. You can then install System 7.5.5 Update.

Question: Do I then need to install System 7.5.3 Revision 2 as well?

Answer: Revision 2 is a set of six system software enhancements that improves the reliability and performance of some computers using System 7.5.2 (on PowerBook computers ONLY) and System 7.5.3. If you have one of the computers listed below, you should install System 7.5.3 Revision 2 AFTER installing System 7.5 Update 2.0. If your computer is not listed, you can still install System 7.5.3 Revision 2, but it will not provide you with any benefits. System 7.5.3 Revision 2 does not need to be installed before installing System 7.5.5 Update because the fixes from Revision 2 are in System 7.5.5 Update.

- All PowerBook systems using Connectix RAM Doubler
- All PowerBook 5300 and PowerBook Duo 2300 systems
- All PowerBook 200 or 500 Series systems which have been upgraded with the Macintosh PowerBook Processor Card Upgrade Kit with PowerPC (or upgraded with similar third party products)
- All Macintosh 7200, 7500, 7600, 8500, and 9500 systems

Question: Can I skip installing System 7.5 Update 2.0 and just install System 7.5.5 Update?

Answer: No. System 7.5.3 (pre-installed), System 7.5 Update 2.0, and System 7.5.3 Revision 2 do NOT contain all of the same fixes. So, if your computer requires System 7.5.3 Revision 2, then you should first install System 7.5 Update 2.0, then install System 7.5.3 Revision 2, and then install System 7.5.5 Update.

Alternatively, you can download and install System 7.5 Version 7.5.3 which includes the updates and fixes found in System 7.5 Update 2.0 and System 7.5.3 Revision 2. You can then install System 7.5.5 Update.

Question: What is System 7.5 Version 7.5.3?

Answer: System 7.5 Version 7.5.3 contains all the updates and fixes for System 7.5 into one installer that can be used on any Macintosh computer that supports System 7.5. It contains the fixes from System 7.5 Update 1.0, System 7.5 Update 2.0, and System 7.5.3 Revision 2.

System 7.5 Version 7.5.3 is available for downloading from the Apple Software Updates web site at **http://www.apple.com/swupdates**.

It unites all the various flavors of 7.5.3 into one installer that can be used to install on any Mac OS computer.

For additional information about the fixes included in System 7.5 Update 2.0 and System 7.5.3 Revision 2, read the following articles in the Tech Info Library:

Article 20005: **System 7.5 Update 2.0: System 7.5.3 Differences**
Article 19134: **System 7.5 Update 2.0: What's New in This Update**
Article 19944: **Macintosh System 7.5.3 Revision 2: FAQ**

Software updates mentioned in this article can be found by searching the Apple Software Updates web site at **http://www.apple.com/swupdates**.

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Mac System 7.5.3: About the Extensions folder Read Me

This article is the About the Extensions Folder ReadMe for Macintosh System 7.5.3.
This article has been archived and is no longer updated by Apple.
Macintosh System 7.5.3, What's Inside the Extensions Folder?

About this document

If you're curious about the contents of the Extensions folder, this document provides a brief description of each extension. You can use these descriptions to help determine which extensions you may need and which ones you may not need.

What is an extension?

An extension is a small file that changes how your computer operates. Unlike a control panel, you typically do not have any direct interaction with an extension. An extension makes the appropriate changes when you start your computer and remains active until you shut down your computer.

Depending on the type of computer you have, the contents of your Extensions folder may vary. You might have extensions that were added by third-party applications, and you don't need to have all the extensions described below. You can use the Extensions Manager control panel to turn off any extension you don't need.

- 9500 Guide Additions: Adds step-by-step instructions for using features specific to the Power Macintosh 9500 to the onscreen help provided in Macintosh Guide. You can access Macintosh Guide from the Guide (question mark) menu when the Finder is active.
- A/ROSE: Allows communication between your computer's main logic board and NuBus cards that run the Apple Real-Time Operating System. Examples of such NuBus cards include the Apple Token Ring 4.16 NB card and the Apple Serial NB card.
- About Apple Guide: Provides information about how to use Apple's onscreen help system. You can access About Apple Guide from the Guide (question mark) menu when the Finder is active.
- AppleCD Audio Player Guide: Provides step-by-step instructions for using the AppleCD Audio Player. You can access the AppleCD Audio Player Guide from the Guide (question mark) menu, after you install and open AppleCD Audio Player.
- Apple CD-ROM: Enables your computer to use an Apple CD-ROM drive.
- Apple Color Printer: Enables your computer to print documents on an Apple Color Printer.
- Apple Color SW Pro CMM: Contains color-matching information used by ColorSync 2.0 to maintain consistent color between documents.
- Apple Guide: Adds Apple Guide functionality to your computer. Apple Guide is Apple's integrated onscreen help system.
- Apple Photo Access: Part of the CD-ROM software for viewing Kodak PhotoCDs.
- AppleScriptLib: Provides native support for AppleScript on PowerPC-based computers.
- AppleScript: Enables automation of repetitive tasks in applications that support it.
- AppleShare: Gives you access to shared disks on the network.
- AppleTalk ImageWriter: Enables your computer to print documents on a networked ImageWriter II.
- AppleVision Guide Additions: Adds step-by-step instructions to Macintosh Guide about how to use AppleVision displays with your computer. You can access Macintosh Guide from the Guide (question mark) menu when the Finder is active.
- Assistant Toolbox: This is the base extension for AutoRemounter. AutoRemounter works on Macintosh PowerBook computers and allows file synchronization, battery management, and easy mobile computing. It also provides support for a persistent RAM disk and deferred printing. This extension may conflict with the LaserWriter Select 310 printer software to block printing. A solution is to turn off background printing in the Chooser.
- Audio CD Access: Lets you play audio CDs on your internal or external CD-ROM drive. Requires the AppleCD Audio Player or equivalent application to control the audio CD.
- AV Guide Additions: Adds step-by-step instructions to Macintosh Guide about how to use AV monitors with your computer. You can access Macintosh Guide from the Guide (question mark) menu when the Finder is active.
- AV Setup: Used to control AppleVision displays.
- Caps Lock: Provides a visual indication of the state of the Caps Lock key on a Macintosh PowerBook. When Caps Lock is turned on, an "up" arrow appears in the menu bar next to the Guide (question mark) menu. (Not needed on Macintosh PowerBook 500 series computers.)
- Clipping Extension: Lets you use the drag-and-drop feature to create clipping files on your desktop.
- Color Picker: Presents a standard interface for color selection. Applications can use this tool to let you choose colors.
- Color SW 2000 Series CMM: Color-matching information used by ColorSync 2.0 to maintain consistent color between documents printed on a Color StyleWriter 2000 series printer and other color devices.
- Color SW 2400: Enables your computer to print documents on a Color StyleWriter 2200 or Color StyleWriter 2400.
- Color SW Pro: Enables your computer to print documents on a Color StyleWriter Pro.
- ColorSync: Matches colors on your display with the closest matching colors on your printers, scanners, and other devices.
- EM Extension: Works with the Extensions Manager control panel, which lets you specify which extensions are turned on when you start your computer.
- Energy Saver Guide Additions: Adds step-by-step instructions for using Energy Saver to the onscreen help provided in Macintosh Guide. You can access Macintosh Guide from the Guide (question mark) menu when the Finder is active.
- Ethernet (Built-In): Used by Open Transport to allow access to the built-in Ethernet port on your computer.
- EtherTalk Phase 2: Lets you connect your computer to an Ethernet network.
- File Sharing Extension: Enables your computer to share files and folders with other computers on your network.

- Find File Extension: Lets you search for files and view the results in a single window. If you turn off this extension and choose Find from the File menu, you'll get the System 7.1 Find dialog box instead of the Find File window.
- Finder Help: Provides Balloon Help support for the Finder.
- Finder Scripting Extension: Allows you to use AppleScript to automate tasks in the Finder.
- Foreign File Access: Enables your computer to work with CD-ROM discs whose contents don't use the standard Mac OS file system (for example, ISO 9660 or High Sierra formats).
- Graphics Accelerator: Provides video acceleration for the PCI video card.
- High Sierra File Access: Part of the CD-ROM software that lets you view CDs with High Sierra file systems.
- IIci/IIsi Monitors: Describes the capabilities of the built-in video card for the Macintosh IIci and IIsi. If you remove this file, your computer can still use the video card and you can still select the number of colors displayed on your monitor, but monitor options (such as gamma settings) may not be available.
- ImageWriter: Enables your computer to print documents on an ImageWriter or ImageWriter II connected to a serial port.
- ImageWriter LQ: Enables your computer to print documents on an ImageWriter LQ connected to a serial port.
- ISO 9660 File Access: Part of the CD-ROM software that lets you view CDs with ISO 9660 file systems.
- LaserWriter: (version 7.2) Enables your computer to print documents on a PostScript printer connected to an AppleTalk network.
- LaserWriter 300: Enables your computer to print documents on a Personal LaserWriter 300, LaserWriter Select 300, or a Personal LaserWriter LS.
- LaserWriter 8: (version 8.x) A PostScript level II print driver that enables your computer to print documents on a PostScript printer connected to an AppleTalk network.
- LaserWriter IISC: Enables your computer to print documents on a LaserWriter IISC connected to a SCSI port. Replaced by Personal LaserWriter SC.
- LW Select 310: Enables your computer to print documents on a LaserWriter Select 310.
- MacinTalk Pro: Lets your computer read text documents in human-like voices. Older computers (with 68030 or 020 processors) should use MacinTalk 3 instead.
- MacinTalk 3: Lets your computer read text documents in human-like voices. Used by MacinTalk version 3. Computers with 68040 or PowerPC processors should use MacinTalk Pro instead.
- Macintosh Guide: Contains step-by-step instructions for working in the Finder. You access Macintosh Guide from the Guide (question mark) menu when the Finder is active.
- MacTCP Token Ring Extension: Enables you to connect to a Token Ring network using TCP/IP protocol.
- Mailbox Extension: Supports your PowerTalk mailbox. Enables the Mailbox icon to appear on your desktop.
- Monitors & Sound Guide Additions: Adds step-by-step instructions for using the Monitors & Sound control panel to Macintosh Guide. You access Macintosh Guide from the Guide (question mark) menu when the Finder is active.
- My Speech Macros: Supports the Speech Macro Editor.
- Network Extension: Lets you set Personal File Sharing from the Finder.
- Network Guide Additions: Adds step-by-step instructions for using your computer's network to Macintosh Guide. You access Macintosh Guide from the Guide (question mark) menu when the Finder is active.
- ObjectSupportLib: A library developers use to support AppleScript on PowerPC-based computers.
- Open Transport Guide Additions: Adds step-by-step instructions for using Open Transport to Macintosh Guide. You access Macintosh Guide from the Guide (question mark) menu when the Finder is active.
- Open Tpt AppleTalk Library: Used by Open Transport for the AppleTalk communication protocol.
- Open Tpt Internet Library: Used by Open Transport for the TCP/IP communication protocol.
- Open Transport Library: Used by Open Transport.
- OpenTptAppleTalkLib: Used by Open Transport for AppleTalk communication protocol.
- OpenTptInternetLib: Used by Open Transport. for the TCP/IP communication protocol.
- OpenTransportLib: Used by Open Transport.
- PB 500 Upgrade Guide Additions: Adds step-by-step instructions for using features specific to the PowerBook 500 to Macintosh Guide. You can access Macintosh Guide from the Guide (question mark) menu when the Finder is active.
- PB 190 Upgrade Guide Additions: Adds step-by-step instructions for using features specific to the PowerBook 190 to Macintosh Guide. You can access Macintosh Guide from the Guide (question mark) menu when the Finder is active.
- PB 2300 Upgrade Guide Additions: Adds step-by-step instructions for using features specific to the PowerBook 2300 to Macintosh Guide. You can access Macintosh Guide from the Guide (question mark) menu when the Finder is active.
- PB 5300 Upgrade Guide Additions: Adds step-by-step instructions for using features specific to the PowerBook 5300 to Macintosh Guide. You can access Macintosh Guide from the Guide (question mark) menu when the Finder is active.
- Personal LaserWriter SC: Enables your computer to print documents on a Personal LaserWriter SC or a LaserWriter IISC.
- Portable StyleWriter: Enables your computer to print documents on a Portable StyleWriter.
- PowerBook Guide Additions: Adds PowerBook-specific topics to Macintosh Guide. You can access Macintosh Guide from the Guide (question mark) menu when the Finder is active.
- PowerBook Monitors Extension: Describes the PowerBook built-in display. If you remove this file, your computer can still use the PowerBook video card and you can still select the number of colors your screen can display, but certain options (such as gamma settings) may not be available.
- PowerPC Monitors Extension: Supports the AudioVision 14 monitor.
- PowerTalk Extension: Supports PowerTalk services. Includes information used by the PowerTalk key chain.
- PowerTalk Guide: Provides step-by-step instructions for using PowerTalk. You can access the PowerTalk Guide from the Guide (question mark) menu, after you install PowerTalk.
- PowerTalk Manager: Manages your PowerTalk mailbox and services.

- Printer Descriptions: Contains descriptions for all printers that use the LaserWriter 8 printer software.
- Printer Share: Provides the ability to share non-network printers (for example, the StyleWriter II) across a network.
- PrintMonitor: Controls the printing process when background printing is activated.
- Quadra AV Monitors Extension: Describes the capabilities of the built-in video card for the Macintosh Quadra and Centris AV computers. If you remove this file, your computer can still use the video card and you can still select the number of colors displayed on your monitor, but monitor options (such as gamma settings) may not be available.
- Quadra Monitors Extension: Describes the capabilities of the built-in video card for the Macintosh Quadra and Macintosh Centris computers. If you remove this file, your computer can still use the video card and you can still select the number of colors displayed on your monitor, but monitor options (such as gamma settings) may not be available.
- QuickTime: Provides built-in multimedia support for applications.
- QuickTime PowerPlug: Provides native support of QuickTime for PowerPC-based computers when used in combination with QuickTime 2.0. This extension must be used in addition to QuickTime 2.0.
- QuickTime Musical Instruments: Supports 30 Roland Standard MIDI sound samples that can be accessed by QuickTime applications with no additional MIDI equipment.
- Scripting Additions: Extends the AppleScript language with special features, such as finding the date or time of day. With scripting additions installed, AppleScript acts as if these features are part of the language. Scripting additions are required only when a script uses them.
- Serial (Built-In): Used by Open Transport to allow access to the built-in serial port on your computer.
- Shared Library Manager: Provides native support for Open Transport.
- Shortcuts: Explains common keyboard equivalents and other shortcuts to use in the Finder. You can access Shortcuts in the Guide (question mark) menu when the Finder is active.
- SimpleText Guide: Provides step-by-step instructions for using SimpleText. You can access the SimpleText Guide from the Guide (question mark) menu, after you open SimpleText.
- Speech Guide Additions: Adds step-by-step instructions for using speech recognition to the onscreen help provided in Macintosh Guide. You can access Macintosh Guide from the Guide (question mark) menu when the Finder is active.
- Speech Recognition: Provides support for speech recognition.
- SR Monitor: Used to monitor and interpret speech.
- Startup Tuner: Ensures correctly starting up from the disk selected in the Startup Disk control panel.
- StyleWriter II: Enables your computer to print documents on a StyleWriter II. Replaced by StyleWriter 1200.
- StyleWriter 1200: Enables your computer to print documents on a StyleWriter, StyleWriter II, or StyleWriter 1200.
- SystemAV: Used for audio-video input.
- System Speech Rules: Supports voices and speech dialects.
- TokenTalk Phase 2: Used by the Apple Token Ring card.
- TokenTalk Prep: Supports TokenTalk Phase II.
- Tutorial Items: Provides instructions for learning basic skills on your computer. You can access the tutorial from the Guide (question mark) menu when the Finder is active.
- Video Guide Additions: Adds step-by-step instructions for using video to the onscreen help provided in Macintosh Guide. You can access Macintosh Guide from the Guide (question mark) menu when the Finder is active.
- Video Startup: Used by the Apple Video Player.
- WorldScript Power Adapter: Supports language kit software on PowerPC-based computers.

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Macintosh System 7.5.3: About the System Folder Read Me

This article comprises the About the System Folder Read Me for Macintosh System 7.5.3.
This article has been archived and is no longer updated by Apple.
Macintosh System 7.5.3, What's Inside the System Folder?

About this document

If you're curious about the contents of the System Folder, this document provides a brief description of what's inside.

Depending on the type of computer you have, the contents of the System Folder may vary. You might have items that were added by third-party applications, and you don't need all the items described below.

- Finder: Displays the desktop area, where you work with files and disks, and keeps track of your files.
- Apple Menu Items folder: When you place an item (folder, application, or document) in this folder, it appears in the Apple () menu. To create submenus, you can place folders inside of folders.
- Clipboard: Temporarily stores the last item you cut or copied from a document.
- Control Panels folder: Contains individual control panels. You use control panels to adjust your computer's settings. See the "About the Control Panels" document in the Apple Extras folder for more information.
- Control Strip Modules folder: Contains modules used by the Control Strip. The Control Strip works on Macintosh PowerBooks and Mac OS-based computers that support AppleVision displays.
- Extensions folder: Contains individual extensions that modify the operation of your computer. Unlike a control panel, an extension works automatically, without your intervention. See the "About the Extensions Folder" document in the Apple Extras folder for more information.
- Fonts folder: Contains font suitcases or individual font files. You can place up to 128 suitcase or font files in this folder. PostScript fonts are not included in the 128 file limit. Font suitcases can hold any number of font files, up to a limit of 16 MB.
- Launcher Items folder: Contains files, folders, and applications that appear in the Launcher window.
- Macsbug: A debugger used by programmers to help diagnose problems with programs, extensions, and so on. Unless you're programming, you don't need Macsbug.
- Note Pad: Stores text placed on the Note Pad. (The Note Pad is available in the Apple menu.)
- Preferences folder: Contains preferences files created by individual applications. A preference file determines application settings.
- PrintMonitor Documents folder: Contains printer files of documents waiting to be printed (if background printing is on in the Chooser).
- Scrapbook: Stores items placed in the Scrapbook. (The Scrapbook is available in the Apple menu.)
- Shutdown Items folder: Contains applications or scripts that run automatically when you shut down your computer. You can add or remove items from this folder.
- Startup Items folder: Contains applications or scripts that run automatically when you start your computer. You can add or remove items from this folder.
- System file: Contains some system-wide resources, such as sounds and keyboard layouts.
- Universal Enabler: Provides additional system software for your computer.

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LaserWriter 8.4: Overview of Features & Benefits (8/96)

Article Reviewed/Updated: 08 August 1996

This article contains an overview of the LaserWriter 8.4 software.
This article has been archived and is no longer updated by Apple.

The LaserWriter 8.4 printer software ships with the LaserWriter 12/640 PS printer. This a new more powerful version of the LaserWriter driver the Mac OS.

Features

* PowerPC Native.
* Improved Performance
* Single Pass Printing
* Improved User Interface
* Backward Compatible

PowerPC Native

The LaserWriter 8.4 driver is PowerPC native, allowing Power Macintosh users full benefit of the PowerPC processor.

The LaserWriter 8.4 driver also operates on 68xxx-based Macintosh computers.

Improved Performance

In tests performed by Apple on a Power Macintosh computer printing to a LaserWriter 12/640 PS, we have seen improvements in speed using LaserWriter 8.4 over previous versions of the LaserWriter driver. Using the new foreground printing feature further increases performance compared to background printing. Tests were performed by Apple using mainstream applications and printing medium to high complexity documents.

Note:
If you are using Adobe PageMaker 6.0.1 and are printing to the Apple Color LaserWriter 12/600 PS, you may experience slower printing with LaserWriter 8.4. If this happens, Apple recommends using LaserWriter driver v8.3.4.

Single Pass Printing

With previous versions of LaserWriter software, when you printed a document, the print driver first created a spool file on the hard disk and the file was then parsed out to the printer incrementally. With single pass printing, print jobs are now sent directly to the printer, and no spool file is created on your hard disk.

This feature is very important to the graphic arts and publishing industries where a fast time to first page is very important, and their applications commonly create large spool files. Some of these spool files are larger than the remaining storage capacity of their hard disk. Single pass printing is available by selecting Foreground Printing in the Print dialog. Since Foreground printing does not create spool files, running out of disk space is no longer an issue.

Improved User Interface

The LaserWriter 8.4 provides a new and improved user interface for the

print and page setup dialogs. This makes it easier to select desktop printers, and format the page for printing. When using Desktop Printing 2.0 (installed with LaserWriter 8.4), the desktop printer icons can be moved anywhere on the hard disk, and can be selected from the menu bar or control strip, as well as from the Print dialog.

Backward Compatible

All Apple LaserWriter printers--from the original LaserWriter to the Color LaserWriter 12/600 PS are supported using the LaserWriter 8.4 printing software.

Macintosh System Requirements

* Apple Macintosh or Power Macintosh computer with 8MB of RAM.
* Hard Drive with at least 5MB of free space (for printer software and fonts)
* System Software 7.1 or later

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08 Aug 1996 - Updated improved performance section.

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System 7.5, Version 7.5.3: Open Transport 1.1 Read Me

This article is the Open Transport 1.1 Read Me with System 7.5, Version 7.5.3.
This article has been archived and is no longer updated by Apple.
Open Transport 1.1 Read Me

Introduction

This Read Me document contains late-breaking information about Open Transport compatibility, add-on software, and solutions to known problems with third-party software. For instructions about how to use the Open Transport control panels (AppleTalk and TCP/IP), use Macintosh Guide, available from the Guide (question mark) menu. For technical information about Open Transport, see "Open Transport Technical Info."

Network Software Selector

The Network Software Selector (NSS) enables users of most 68030, 68040, and early PowerPC-based computers to choose between Open Transport networking software and classic AppleTalk if both are installed. (You must restart the computer for the change to take effect.) PCI-based computers support only Open Transport. NSS is in the Apple Extras folder; information on using it is built into the application.

NSS is intended to ease the transition to Open Transport by allowing you to use the older networking software if there is a compatibility problem with an application and Open Transport. Once the problem is resolved, you should switch back to Open Transport.

NOTE: Because MacTCP is incompatible with Open Transport v.1.1, MacTCP is disabled any time Open Transport is selected using the Network Software Selector. (Open Transport uses the TCP/IP control panel instead of MacTCP.) If, however, you reselect classic AppleTalk, MacTCP will be enabled again, but you will need to re-enter the IP settings in the MacTCP control panel.

* For users of the older networking software, this update includes MacTCP
2.0.6, which
- shortens retransmission delays
- prevents potential out-of-memory errors
- makes configuring communications easier
- gives users more control over which servers to contact and in what order

Network Interface Options

Open Transport 1.1 supports PCI bus, NuBus, communications slot, and PC-card network interface cards as well as built-in LocalTalk and ethernet network adapters. For Macintosh models without expansion options, Open Transport supports SCSI-attached network adapters.

Third party network interface options available for Open Transport include fast ethernet, ATM, and FDDI.

Compatibility

Open Transport is compatible with:
* existing applications that use AppleTalk as specified by Apple Computer,
Inc.
* existing applications that use MacTCP as specified by Apple Computer,
Inc.
* existing devices (such as printers) that you select in the Chooser
* existing NuBus network interface cards

Open Transport is compatible with existing AppleTalk, TCP/IP LocalTalk and ethernet networks. Macintosh computers running Open Transport can be added to an existing network without upgrading other computers on the network.

Dial-up Network Connectivity

For connectivity to AppleTalk networks, Open Transport supports Apple Remote Access version 2.0.1 or later.

For dial-up connectivity to TCP/IP networks, including the Internet, Open Transport supports third party MacTCP software extensions known as Link Access Modules, or "mdevs." Serial Line Interface Protocol (SLIP) and Point to Point Protocol (PPP) connectivity are provided through mdevs.

With the appropriate mdev installed, you use either SLIP (Serial Line Interface Protocol) or PPP (Point to Point Protocol) to connect to Internet Service Providers and other dial-up IP-access points. However, not all versions of all mdevs are supported by Open Transport 1.1. For best results, be sure to use the versions of software recommended below.

Open Transport 1.1 recognizes the following MacTCP mdevs. When installed on your system, they are available in the "Connect Via:" pop-up menu in the TCP/IP control panel:
* FreePPP - version 1.0.4 or later
* MacPPP - version 2.1.4 SD or later (version 2.2.0 is not recommended).
* InterPPP - version 1.2.9 or later
* InterPPP II - version 1.1 or later
* InterSLIP - version 1.0.1 or later
* MacSLIP - version 3.0.2 or later
* VersaTerm SLIP - version 1.1.4 or later
* Sonic PPP - version 1.0.2 or later
* AOL Link - the most current version is recommended

In addition, there are a number of third party PPP mdevs (including Pacer PPP, FCR PPP and Tribe PPP) which have a common technology base and as a result are indistinguishable from one another to Open Transport. When installed, these appear in the "Connect Via:" pop-up menu in the TCP/IP control panel as "TCP/IP PPP."

NFS/Share 1.3.x and 1.4 are not compatible with Open Transport. To use NFS/Share with Open Transport, you must contact Intercon to obtain a version of NFS/Share that is compatible with Open Transport.

For more information on Open Transport compatibility, contact the developer of the software you want to use.

Obtaining Connectivity Software

FreePPP is shareware and can be found on a variety of Internet sites; typically at "info-mac" mirror sites in the comm/tcp/conn directory. A list of info-mac mirror sites can currently be found at: http://www.info-mac.com/mirrored.html

Some sites where FreePPP can be found currently include:
ftp://mirrors.aol.com/pub/info-mac/comm/tcp/conn/
ftp://mirror.apple.com/mirrors/Info-Mac.Archive/comm/tcp/conn/

MacPPP version 2.1.4 is available as a part of the Apple Internet Connection Kit. For fax information in the US, contact Apple Computer Inc., at 800-462-4396. To locate an Apple reseller near you in the US, call 800-538-9696.

InterPPP, InterPPP II, and NFS/Share are commercial software products. For availability and ordering information in the US, contact InterCon Systems at 800-468-7266 or 703-709-5500.

MacSLIP is commercial software developed by Hyde Park Software. For availability and ordering information in the US, contact TriSoft at 800-531-5170 or 512-472-0744.

VersaTerm SLIP is commercial software developed by Synergy Software. For availability and ordering information in the US, contact Synergy at 610-779-0522.

SonicPPP is commercial software developed by Sonic Systems, Inc. For availability and ordering information in the US, contact Sonic Systems at 408-736-1900 (voice) 408-736-7228 (fax).

MacPPP and FreePPP

If you experience problems using MacPPP or FreePPP when Virtual Memory is turned on, try turning off Virtual Memory. To find out how to turn off Virtual Memory, see the topic "How do I use hard disk space as memory" in Macintosh Guide, available from the Guide (question mark) menu.

PowerBooks that are updated with the PowerPC Upgrade Card

If you have a PowerBook that is upgraded with the PowerPC Upgrade Card, the AutoRemounter control panel may not work when you are using Open Transport. If you select "After Sleep" instead of "Always" in the AutoRemounter control panel,your computer will reconnect to shared volumes when you wake the PowerBook. It may take approximately 20 seconds to remount the shared volumes.
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System 7.5, Version 7.5.3: Open Transp Tech Information (6/96)

This article is the Open Transport Technical Information document which comes with System 7.5, Version 7.5.3.

This article has been archived and is no longer updated by Apple.

Open Transport Technical Information

About This Document

This document contains technical information about Open Transport that may be useful to network administrators and managers. You do not need the information in this document in order to use Open Transport on your Macintosh computer.

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- MacTCP "Dynamic" Addressing Support
- MacIP Support
- PPP Connectivity
Application Compatibility with Open Transport
- Backward Compatibility
Performance
- Large Datagram Support

Introduction

Apple Open Transport is the modern networking and communications subsystem for the Mac OS. It is based on industry standards and brings a new level of networking connectivity, control, and compatibility to MacOS systems, while preserving and enhancing the hallmark of the Macintosh and Mac OS built-in support for easy-to-use networking.

Open Transport is designed to make it easier and more cost-effective to develop Macintosh-based applications for a wide variety of customers and markets. With Open Transport, Mac OS has built-in networking and communications based on cross-platform industry standards including the POSIX compliant X/Open Transport Interface (XTI), UNIX STREAMs and Data Link Provider Interface (DLPI).

Applications written to support Open Transport can directly support a wide range of networking environments (serial, dial-up network, LAN, and WAN), and multiple protocols (AppleTalk, TCP/IP, serial, and others) from a common code base. This capability is sometimes referred to as transport independence.

Open Transport 1.1 includes AppleTalk and TCP/IP protocols, and developer access to serial communications. Apple and third parties are working to add support to Open Transport for Point to Point Protocol (PPP), NetWare (NCP/IPX), Windows 95 (SMB/TCP/NetBIOS), DECnet, LAT, and X.25. Some of these additional capabilities may be incorporated or bundled with future releases of Apple Open

Files Added by the Open Transport Installer

The Open Transport Installer adds the following Extension files to Mac OS System Folder:

Open Transport Library contains the Open Transport code resource for 680x0-based Macintosh systems.

Open Tpt AppleTalk Library contains the code resource for AppleTalk communication protocol for 680x0-based Macintosh systems and AppleTalk compatibility support.

Open Tpt Internet Library contains the code resource for TCP/IP communication protocol for 680x0-based Macintosh systems and MacTCP compatibility support.

OpenTransportLib contains the code resource for PowerPC-based Macintosh systems.

OpenTptAppleTalkLib contains the code resource for AppleTalk communication protocol for PowerPC-based Macintosh systems.

OpenTptInternetLib contains the code resource for TCP/IP communication protocol for PowerPC-based Macintosh systems.

Ethernet (Built-In) contains the code resource allowing access to a built-in Ethernet port.

Serial (Built-In) contains the code resource allowing access to built-in serial ports.

Open Transport Guide Additions is an Apple Guide database that adds Open Transport instructions to Macintosh Guide

Open Transport also installs the new AppleTalk and TCP/IP configuration utilities (control panels) into the Control Panels folder in the System Folder.

What's New in Open Transport

The new Open Transport/AppleTalk and Open Transport/TCP both have been implemented as Open Transport STREAMs modules and as native code on Power Macintosh computers. They support the new XTI APIs, and their shared libraries can be dynamically loaded and unloaded as needed.

Both protocols also support dynamic reconfiguration (changed settings without requiring reboot), and feature new configuration applications offering Basic, Advanced, and Administrator tools. The new configuration applications -- AppleTalk and TCP/IP -- replace the older control panel implementations -- Network, MacTCP, and AdminTCP. To enhance ease of use and backward compatibility, the new applications are stored in the Control Panels folder in the System Folder.

Static and Dynamic AppleTalk Address Allocation

Open Transport/AppleTalk includes support for assigned (manually administered) protocol addresses. This allows AppleTalk nodes to be managed using protocol address as a unique and stable identifier. It can also reduce some of the network traffic associated with AppleTalk's dynamic address assignment features (AARP).

Dynamic addressing continues to be available for those customers who prefer the automated address allocation.

Network managers who prefer to have the network infrastructure automatically assign unique protocol addresses can continue to rely on AppleTalk Address Resolution Protocol (AARP). Network managers who find advantages in having fixed and well-known protocol addresses for each end-node can implement manual addressing.

When manual addressing is selected it is necessary to allocate and assign the initial protocol addresses, which will subsequently be "locked". Some administrators may prefer to do this allocation based on a central numbering plan, creating individual configuration templates (recommended or required settings) for each user. Others may prefer to allow the network to determine the initial address configuration (i.e., use dynamic addressing once), and then lock the uniquely assigned addresses after initialization.

It is important that all nodes on each individual AppleTalk subnet (a given cable segment assigned a unique network number or network number range) be administered consistently -- either all with dynamic addressing or all with pre-assigned static addresses. This avoids a potential conflict between a new dynamic node acquiring an address assigned to an off-line, manually-addressed node. Administrators can enforce the addressing policy for a subnet by locking the addressing mode in the "dynamic" or in the "manual" state. As an administrative precaution, however, Open Transport/AppleTalk does continue to check for the presence of duplicate protocol addresses on the LAN when static addressing is configured.

Use of Parameter RAM

Under the classic AppleTalk networking architecture, AppleTalk's ON/OFF state, the selected network interface, the previous network (protocol) address, and the previous AppleTalk zone name were saved in persistent memory (parameter RAM) for reuse at boot time. To ensure backward compatibility, this information is still stored and retrieved on systems using Open Transport/AppleTalk. However, there are some changes made with Open Transport to accommodate the expanded capabilities of multiple, saved configuration files, and required network settings.

* At boot time, Open Transport reads the current AppleTalk configuration file to determine if AppleTalk should be set to ON or OFF. This value will override the value saved in parameter RAM.

* If the network interface specified in the current AppleTalk configuration file is locked (it is a required setting) and if the specified port is not available or cannot be initialized, AppleTalk compatibility will not automatically switch the port back to LocalTalk. Instead, AppleTalk will remain OFF. The user will receive a dialog notification in the event this occurs.

Open Transport TCP/IP Features

With the broad adoption of TCP/IP -- and the tremendous excitement and visibility of the Internet -- Apple has made a significant investment in bringing a workstation-class implementation of TCP/IP protocols to Mac OS. As with MacTCP, Open Transport/TCP is a full 32-bit stack. Open Transport/TCP adds support for:

* dynamic path MTU discovery, for more efficient network use in heterogeneous network topologies;
* Dynamic Host Configuration Protocol (DHCP), for centralized IP address configuration management. DHCP is an Internet Engineering Task Force (IETF) standards-track protocol;
* IP multicast, for participation as an MBone client;
* simultaneous TCP connections limited only by installed memory and processor power, for increased functionality as a Internet or other TCP/IP network server;
* a new, more robust and standards-compliant domain name resolver (a caching stub DNR);
* support for developer access to raw IP services, as well as TCP and UDP;
* Ethernet version 2 and IEEE 802.3 framing, for better interoperability with a wider range of TCP/IP hosts;
* implicit and explicit domain name search paths, for increased control of domain name resolution; and,
* multiple IP routers with fail-over, for increased robustness in mission critical applications.

DHCP Server Support

Apple's implementation conforms to the current versions of the applicable specification documents (RFCs). To date, Open Transport/TCP has been tested with the following DHCP server implementations:
* Competitive Automation,
* FTP Software (http://www.ftp.com),
* Hewlett Packard HP-UX (http://www.hp.com),
* Microsoft Windows NT Advanced Server,
* Silicon Graphics (http://www.sgi.com),
* Sun Solaris and SunOS (http://www.sun.com), and
* TGV (http://www.tgv.com).

DHCP Address Lease Support

Open Transport/TCP fully supports DHCP address leases. Open Transport/TCP will automatically attempt to renew any address lease that reaches its Renewal Interval, which defaults to half of the lease's lifetime. The Renewal Interval may be configured to a different value by making changes to the configuring DHCP server. Renewal will be attempted regardless of how many times the lease has already been renewed. Should an interface's IP address lease expire, the interface will be closed down.

Windows NT Advanced Server Support

With Open Transport 1.1, Mac OS clients are fully interoperable with the Windows NTAS DHCP server.

Macintosh clients running earlier versions of Open Transport (1.0.x) could experience some interoperability problems due to significant differences between the Microsoft implementation and that of a typical UNIX-based server.

Local HOSTS File Support

Open Transport/TCP supports a HOSTS file, stored in the System Preferences folder, that may be used to supplement and/or customize the Domain Name Resolver's initial cache of information. This file is parsed when Open Transport/TCP is initialized. As in MacTCP, the supported HOSTS file features follow a subset of the Domain Name System Master File Format (RFC 1035).

Should a HOSTS file be used, every effort should be made to keep it as small as possible, and to only include entries that will be accessed frequently. This reduces the total memory footprint required to cache the DNS information and minimizes the need to maintain and update the HOSTS files as system information changes over time.

In order to activate a HOSTS file, Open Transport/TCP must be configured using either the Advanced or Administrator mode to select the appropriate file. The text file must already exist, and can be created with any text editor or word processor. Also note that the HOSTS file selection is tied to the selected configuration. An administrator might, for example, specify different HOSTS files for use when a user connects via Ethernet on the campus LAN and that same user when dialing-in from a remote location.

Human Interface Design

The Open Transport/TCP configuration application represents a complete overhaul of the human interface from the MacTCP software it replaces. In addition to generic new features noted elsewhere (multiple saved configurations, recommended and required settings, on-line documentation, etc.), key new features include:

* direct entry of IP addresses and subnet mask in standard "dot notation";

* explicit selection of desired configuration method, now including Manual, RARP, BootP, MacIP, and DHCP;
* support for attachment to networks using Classless InterDomain Routing (CIDR);
* support for multiple entries in the router, name server, and explicit domain search lists; and
* improved support for large AppleTalk networks when using MacIP server/gateways.

MacTCP "Server" Addressing Support

MacTCP Server mode addressing is a combination of the Bootstrap Protocol (BootP) and Reverse Address Resolution Protocol (RARP) configuration methods. When Server mode is selected, MacTCP uses BootP to attempt to acquire an IP address. If BootP fails to provide a valid address, MacTCP tries RARP. Whichever protocol is successful is stored as a preference, and is used first on next system startup. While this "fall-back" approach adds a degree of robustness from the user's point of view, it also adds a degree of unpredictability from a network administrator's point of view.

Based on customer feedback, Open Transport/TCP allows a network administrator to explicitly specify the single method they prefer to use. Thus while both RARP and BootP are supported, the Server mode does not appear as a choice in the Open Transport/TCP configuration utility.

MacTCP "Dynamic" Addressing

Open Transport 1.1 does not support MacTCP "Dynamic" addressing. MacTCP "Dynamic" mode addressing was based on an Apple-proprietary extension to TCP/IP protocols. It applied the address negotiation and assignment rules used by the AppleTalk protocols to TCP/IP networks, making it very easy to set-up a Macintosh-only standalone TCP/IP network. Use of this Dynamic Addressing method in other scenarios, however, could create additional work for a network administrator.

The Internet community (the IETF) has since developed a multivendor standard for the dynamic assignment of IP addresses, known as Dynamic Host Configuration Protocol (DHCP). Apple has adopted the industry standard DHCP and dropped support for the earlier "dynamic" mode addressing with Open Transport/TCP.

MacIP Support

MacIP, sometimes also referred to as KIP (Kinetics Internet Protocol), is a protocol specification developed as a method for carrying TCP/IP traffic on AppleTalk-only networks -- originally LocalTalk networks. MacIP is today frequently used with AppleTalk Remote Access Protocol (ARAP) to provide mobile users access to TCP/IP network services. MacIP specifies encapsulation of TCP/IP datagrams in AppleTalk packets for transmission over such connections.

Use of MacIP requires a gateway. AppleTalk encapsulated IP packets are sent to the MacIP gateway using AppleTalk protocols (DDP). The gateway strips off the AppleTalk encapsulation and places the IP packet on the TCP/IP LAN. When packets are destined for the MacIP end-node, that gateway provides the needed encapsulation services.

MacIP gateway support is most frequently offered as an integrated service within a multiprotocol router. The gateway (router) attaches to both an AppleTalk and a TCP/IP network, acting as a middleman between the MacIP end-node and the appropriate TCP/IP-based hosts on the LAN or WAN.

Open Transport includes end-node support for MacIP. A end-node is configured to use MacIP using the TCP/IP configuration utility by selecting "AppleTalk (MacIP)" in the "Connect via:" pop-up menu. The user (or network administrator) must also specify where on the network (in which zone) to look for the MacIP gateway. Once selected, TCP/IP will be encapsulated in AppleTalk and will be sent out the "Connect via:" interface selected using the AppleTalk configuration utility.

Open Transport/TCP includes a new human interface for selecting the MacIP server which offers the following new features:

* AppleTalk zones are now displayed in a true scrolling list in a movable window. This display is easier to view compared to MacTCP's pop-up menu when there are a large number of zones in the network.
* The Zone list window now supports selection using the mouse, the arrow keys, and/or "type-select", allowing the user to more quickly select a specific zone from the list.
* There is an option to display only those AppleTalk zones containing MacIP servers. When selected, this creates a background search task which when completed filters the zone list display to show only those zones containing active MacIP servers.
* There is a short cut "Current Zone" option which causes the Mac to check the current AppleTalk zone for a MacIP server without requiring the user to select a specific zone. This can be a time-saver for the user and a potential bandwidth-saver on the network, especially when there are mobile users that connect in different locations to a enterprise-wide network for MacIP services.

Network Interface Options

PPP Connectivity

PPP (Point to Point Protocol) connectivity is not bundled with Open Transport at this time. AppleTalk and TCP/IP connectivity over Open Transport/PPP is planned to first be offered as a feature of upcoming Apple Remote Access products. ARA products would include necessary Open Transport components.

Apple currently plans to fully merge ARA client and personal server capabilities with basic Open Transport capabilities to offer an integrated communications package for LANs, WANs, and remote networking. These integrated capabilities are also expected to be delivered as a part of a future update to Mac OS. This timetable has not been finalized; details will be announced at a later date.

Application Compatibility with Open Transport

Apple has defined three levels of interoperability with Open Transport. The first -- known as Open Transport Compatible -- is used to describe a network application originally developed for "classic" AppleTalk or MacTCP, that now takes advantage of Open Transport Compatibility Services. These applications automatically gain the benefits associated with the new Open Transport configuration utilities. However, they will not realize a significant performance increase on Power Macintosh systems, nor can they take advantage of Open Transport's transport-independence capabilities.

Open Transport Ready applications are those that have been modified to adopt the new Open Transport APIs (XTI). They are PowerPC native, in addition to running on 680x0-based Macintosh systems. Open Transport Ready applications not only benefit from the new configuration utilities, but have the opportunity for a significant performance boost when running on Power Macintosh.

The third (highest) category of interoperability is referred to as Open Transport Enhanced. In addition to adopting the new Open Transport APIs and being Power PC native, these applications have been modified to exploit the transport-independent capabilities of Open Transport, i.e., they can be dynamically configured to support AppleTalk, TCP/IP, or serial communications.

Backward Compatibility

Applications that rely on undocumented APIs or examine private data structures in current the AppleTalk or MacTCP may not be fully compatible with Open Transport. Examples include the MacSNMP AppleTalk and TCP/IP Agents (however, MacSNMP and the Macintosh System Agent are compatible), the Apple Internet Router 3.x and some utilities like MacTCP Watcher and MacTCP Spy. Updated versions of these software products will be required for full compatibility.

Performance

Open Transport is written to take advantage of the PowerPC processor -- it is native code. This provides the necessary foundation for increased networking performance in Mac OS. To realize performance gains, however, it is equally important that networking applications also be accelerated for Power Macintosh, and that applications adopt the new Open Transport XTI-based programming interfaces.

The built-in "backward compatibility" support for existing AppleTalk and TCP/IP applications must continue to run as 680x0 code in emulation on Power Macintosh. This protects a customer's investment in networking applications, but also obscures underlying performance increases from the native protocol implementations.

In general, current Mac OS networking applications are written for the 680x0 processor, and use the "classic" (68K-based) networking programming interfaces. These applications are not likely to see performance boosts with Open Transport, as most of the performance potential is based on the move to native code for the PowerPC processor. Even for Power Macintosh native applications, a continued use of the Open Transport backward compatibility libraries offsets most of the performance gains in the low level protocol handling.

Users who select Power Macintosh native applications that are Open Transport-ready will realize the greatest performance gains. Performance of specific network applications may also be significantly influenced by the processor speed of the system. Customers with demanding, network I/O intensive applications should give strong consideration to the higher performance PowerPC-based Macintosh systems.

However, even with 68K emulated applications using backward compatibility, TCP/IP users are more likely to see some performance improvements with Open Transport. This is because of the differences in the way compatibility is provided for MacTCP vs. AppleTalk, and differences in the two protocol architectures.

Performance will be greater with protocols that use larger datagram sizes -- such as TCP/IP -- than with AppleTalk (which has a fixed and limited datagram size). On high-speed datalinks such as fast Ethernet, FDDI, and ATM, the performance of the network interface card (NIC) driver code is also a significant factor. Comparative shopping for NICs -- based on price, service, reliability, and performance -- will be in order.

Open Transport running on the built-in Ethernet of the Power Macintosh 9500 has been clocked at 9.3 Mbps throughput using low-level TCP/IP benchmarks. A pre-release version of a third party Open Transport-native implementation of 'NFS' protocols was benchmarked at 8.4 Mbps. Both figures approach theoretical maximum performance for 10 Mbps Ethernet. AppleTalk performance is somewhat lower, with low-level benchmarking coming in at a bit over 7.5 Mbps throughput.

The Open Transport engineering team is continuing to work with NIC developers to realize high-performance DLPI drivers for high-speed datalinks. This is a cooperative effort, with work being done on both driver code and on Open Transport. We expect that high-speed datalink NIC drivers based on Open Transport 1.1 can be fully competitive with other PCI networking products. Of course, performance tuning will be an ongoing priority, as Apple intends to always offer a platform capable of industry leading network performance.

Benchmarking on these types of datalinks, with pre-release Open Transport 1.1, has been underway for some time. Some sample results include:

* 48 Mbps with a Rockwell fast Ethernet card and driver (1500 byte block size)
* 72 Mbps with a Rockwell FDDI card and driver (4K block size)
* 93 Mbps with an Interphase ATM-155 card and driver (8K block size)

These tests were performed using Open Transport/TCP 1.1 beta software, running on a Power Macintosh 9500/132, and reflect memory to memory, point to point transfers (the "SpudPPC" test tool) on a dedicated test bed. In addition to these numbers, we've seen even higher throughput from Fore Systems on their ATM card, using UDP.

AppleTalk performance is expected to be lower than TCP/IP performance due to various technical issues, including DDP packet size and the ATP retry-acknowledgment algorithm. Current testing on fast Ethernet is turning in figures around 35-40 Mbps with a PowerPC native ATP test tool.

Large Datagram Support

Maximum allowable datagram size is dependent on both the selected datalink and the selected protocol stack. Open Transport supports the use of large datagram sizes as appropriate to the protocol and datalink in use.

Because Open Transport/AppleTalk is based on the Phase 2 architecture, datagram size for AppleTalk is limited to a maximum of 617 bytes. Open Transport/TCP supports larger datagrams; up to 1,500 bytes on Ethernet and fast Ethernet, and up to 16K on token ring. Even larger block sizes can be used on FDDI and ATM.

Block size does play a role in maximum throughput; the larger the block size used, the greater the potential end-to-end throughput. Users demanding the highest network throughput may find FDDI to be a more attractive alternative than fast Ethernet because it can support larger block sizes at the same bit rate.

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28 Jun 1996 - Change status at product release.

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Manzanita Software: Product Comparisons (2 of 2)

Manzanita Software Systems specializes in high-quality business accounting software for the Apple II computer family. The following details the specifications of Manzanita's accounting products: The Business Accountant(R), and BusinessWorks(R). (This is part 2 of two parts.)

This article has been archived and is no longer updated by Apple.

	The Business Accountant	BusinessWorks
Accounts Receivable System		
Maximum number of customers:		
removable media disk	500	1,000*
hard disk	5,840**	10,000*
Maximum number of transactions:		
removable media disk	2,320*	***
hard disk	20,800**	***
Maximum number of sales reps	n/a	16
# of customer notes	9	9
# of dunning notes	3	3
# of payment terms	9	9
# of sales accounts	8	16
# of sales tax jurisdictions	1	3
# of line items per invoice	16	40
Maximum invoice amount	$999,999.99	$80,000.00
# of characters in customer ID	8	8
# of digits in invoice number	5	5
Credit and open invoice inquiry	yes	yes
Includes contact names	no	yes
Prints invoices, debit, credit memos	yes	yes
Invoices directly from inventory	no	yes
Returns product to inventory	no	yes
Recurring receivables invoices	no	yes
Handles open credits	yes	yes
Calculates finance charges	yes	yes
Maintains customers' high balances	no	yes
Open item & balance forward statements	yes	yes
Sorts all reports by sales rep	no	yes
Inventory Control System		
Maximum number of parts:		
removable media disk	1,000*	1,000*
hard disk	10,000**	10,000*
Maximum number of transactions:		
removable media disk	4,000	***
hard disk	38,400**	***
# of product groups	99	99
# of bins/locations	n/a	99
# of costing methods (LIFO,FIFO, standard, weighted average)	4	4
# of price levels	1	3
# of cost of goods sold accounts	8	16
Maximum on-hand quantity of any part	999,999	999,999.99
Maximum amount of purchase order	$999,999.99	$999,999.99
Global prices changes	no	yes
Fractional quantities	no	yes
Prints purchase orders	yes	yes
Retains purchase order detail	no	yes
Allows receipts & cancellations of p.o.'s	no	yes
Calculates inventory turnover	no	yes
Handles return of merchandise to inventory	no	yes

Maintains YTD sales and costs of goods sold	no	yes
Handles physical inventory	yes	yes

Payroll System

Maximum number of employees:		
removable media disk	200*	500*
hard disk	300*	1,000*
Deductions	12	25
with company contribution	no	yes
Commissions	12	25
Overtime rates	3	3
Standard rates	50	100
Job codes	100	200
# of pay types	4	5
# of pay periods	4	4
Maximum individual annual earnings	$999,999.99	$999,999.99
Tax tables for 50 states, DC, federal	yes	yes
Multiple earnings categories	yes	yes
Compensation time	no	yes
Shift differentials	no	yes
Departmental posting	no	yes
Checks and handchecks	yes	yes
Retain check detail for quarter	no	yes
Void most recent checks	yes	yes
Void any check	no	yes

Labels Plus

# of names in mailing list:		
removable media disk	1,000	1,000*
hard disk	8,000**	10,000*
Number of selection keys	8	8
# of label definitions	1	4
Maximum number of labels across	4	4
# of characters in ID	8	8
Minimum label width, in characters	24	24
Maximum label width, in characters	72	72
Minimum label height, in lines	4	4
Maximum label height, in lines	24	24
Name and address lists	yes	yes
Telephone lists	yes	yes
Mailing labels (roll or single sheet)	yes	yes
Merge vendors, customers & employees	yes	yes

*The actual maximum numbers may be less than those listed, depending on the number of accounting modules you use, and/or the number of accounts, vendors, parts or customers on the system. These numbers should be used as general
guidelines. Refer to the sizing worksheets for more specific information.

**These figures reflect using a DOS 3.3 hard disk with a maximum of eight data sets.

***Limited only by disk space.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

The Tech Info Library article#17159: "**Locating Vendor Information**", can help you search for a particular vendor's address and phone number.

Published Date: Feb 18, 2012

CLW 12/600 PS: Windows Color Management Software

I am using the Apple Color LaserWriter 1200/600 PS printer with a Microsoft Windows 3.1 computer. When I print using RGB, blue prints a purple, red a magenta, and green a pea green color. Since Windows 3.1 does not include any color management software, is there any way to get the colors I see on my computer screen to match those of the Color LaserWriter printer?
This article has been archived and is no longer updated by Apple.
Color management technology is just starting to become a mature and rich technology. Although this technology is more prevalent on the Macintosh platform because of its desktop publishing/graphics marketshare and ColorSync software, color management systems (CMSs) are making their way into the PC/Windows platform.

You may be able to find a very small handful of CMSs that work with Windows 3.1, though the industry is heading towards color management solutions using Windows 95 since it has a built-in CMS called ICM (Image Color Matching). ICM adopts the platform independent ICC (International Color Consortium) device profiles which the industry has accepted.

The basics of color management are to have an ICC profile of the input device (which characterizes the color range of that device), and an ICC profile of the output device (again which characterizes its own color range). The CMS then is responsible for "matching" as close as possible the two different ranges so that you get WYSIWYG color. Below is how the Macintosh CMS works.

Macintosh Color Management System

The Macintosh uses ColorSync as its CMS. All of the ICC profiles for Macintosh devices reside in the ColorSync Profiles folder. You select the appropriate monitor the ColorSync Profile control panel, then select the appropriate output color device profile in the Print Options. For the Color LaserWriter 12/600 PS printer or Color LaserWriter 12/660 PS, you would select ColorSync Color Matching and the Color LaserWriter 12/600 PS or Color LaserWriter 12/660 PS as your output device. ColorSync automatically performs color matching for you.

Microsoft Window CMS Options
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Since you are using Microsoft Windows, you should contact the vendors below to obtain additional information on their Color Management Systems for Windows. Some of these products are only available when you use Windows 95.

Vendor	Product/CMS
Adobe Systems, Inc.	PageMaker 6.0 (includes Kodak's Precision CMS)
Agfa Division, Bayer Corporation	FotoTune
Canon USA, Inc.	Calibration for CLCs (for Canon Color Laser Copiers.)
Microsoft Corp.	Windows 95 (includes Image Color Matchin engine and ICC device profiles)
Pantone Inc.	ColorDrive 1.5

This article also pertains to the Color LaserWriter 12/660 PS printer.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.

This article appeared in the 21 June 1996 issue of the Information Alley.
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System 7.5, Version 7.5.3: About Desktop Printing

This article comprises the About Desktop Printing Document for System 7.5, Version 7.5.3.
This article has been archived and is no longer updated by Apple.

About Desktop Printing

Your new software comes with Desktop PrintMonitor version 1.0.3. You use desktop printmonitor to create printer icons (or "desktop printers") on your Macintosh operating system (Mac OS) desktop. You can print a document by simply dragging it to a desktop printer icon. Desktop printers also give you more control over printing, including setting printing priorities and choosing specific times for printing.

Creating Desktop Printers

You Create Desktop Printers By Selecting A Printer In The Chooser. A Desktop Printer Icon Appears On Your Desktop When You Close The Chooser.

You Can Drag This Icon To Any Position You Want On Your Desktop. You Cannot Move It Off The Desktop.
If You Want, You Can Select Other Printers In The Chooser And Create Other Desktop Printers For Easy Access. You Must Close The Chooser Each Time To Create A Desktop Printer.

The Last Desktop Printer Created Becomes The Default Printer. Your Documents Will Automatically Be Printed On The Default Printer.

Printing With Desktop Printers

You Can Print Documents Within Your Applications As You Normally Do. You Can Also Print Documents Without Leaving The Finder, Using One Of The Two Methods Described Here. These Methods Are Particularly Efficient When You Have A Number Of Documents You Want To Print At Once.

- Drag The Icons Of The Documents You Want To Print To The Desktop Icon Of The Printer You Want To Use.
- Select The Icons Of The Documents You Want To Print And Choose The Print Command From The File Menu.

The Computer Will Show You The Print Dialog Box So You Can Choose Printing Options. Make Your Choices, Then Click The Print Button.

After A Few Moments, The Document Starts To Print. If Background Printing Is Turned On, You Can Continue Working While The Document Is Printing.

Selecting A Default Printer

If You Have More Than One Printer Available, You Can Select Which You Want To Use. The Printer You Select Is Called The "default Printer." All Your Documents Will Be Printed On The Default Printer Until You Select A New One.

To Change The Default Printer, Use One Of These Three Methods:

- Drag The Document You Want To Print To A Desktop Printer Icon, And It Will Automatically Become The Default Printer.
- Select The Desktop Printer Icon And Use The Printing Menu To Set The Printer As The Default.
- Select A New Printer Using The Chooser.

Note: Switching Between Printers May Change How Much Information You Can Fit On A Page. It's Best To Choose A Printer Before You Spend Much Time Formatting The Document.

Working With Desktop Printer Icons

Desktop Printer Icons Change To Indicate Printing Status:

- Plain icon indicates a printer that is not currently chosen for printing.
- Default icon indicates the printer you have currently chosen to print on.
- Printing icon indicates a document is printing on this printer.
- Stopped icon indicates you have stopped the print queue.
- Error icon indicates there is an error on this printer. double-click the icon to see a message.
- Disabled icon indicates this desktop printer is not available.

You Can Do The Following With Desktop Printer Icons:

- Throw Away The Icon. Drag The Icon To The Trash. You Can't Throw Away A Desktop Printer Icon While The Printer Is Printing A Document. (You Can Create Another Desktop Printer Icon For That Printer Whenever You Like.)

Note: You Must Always Have At Least One Printer Icon On Your Desktop. If You Throw Away The Last Icon, It Will Immediately Be Created Again.

- Rename The Icon. Rename The Icon As You Would Any Other Finder Icon. Click The Name To Highlight It, Then Type The New Name. This Changes The Name Of The Icon, Not The Name Of The Printer.
- Move The Icon. You May Drag The Icon Anywhere You Like On The Desktop. However, You May Not Move It Off The Desktop.
- Create An Alias For The Icon. You May Create An Alias For The Icon As You Would Any Finder Icon, By Selecting The Icon And Choosing The Make Alias Command From The File Menu. The Alias May Be Moved Anywhere On Or Off The Desktop.

Monitoring Printing

If You Are Using Background Printing, You Can Use The Desktop Printer Features To Monitor And Control The Documents That Are Waiting To Print. To Learn How To Turn Background Printing On And Off, See Your Printer Manual.

To Monitor The Printing Of Documents:

1) Double-click The Desktop Printer Icon You're Interested In.

A Window Opens Listing The Documents That Are Printing Or Waiting To Print.

Watching The Status Messages Can Be Helpful When Troubleshooting Printing Problems. When More Than One Job Is Waiting To Be Printed, A List Of Print Jobs Appears In The Waiting List, Showing The Order In Which They Will Be Printed (when Sorted By Print Time.)

2) Choose What You'd Like To Do.

- To Cancel A Print Request, Select It By Clicking Its Icon And Click The Remove Button.

  You Can Only Select The Currently Printing Document By Clicking Its Icon. (You Can Select More Than One Item At A Time By Holding Down The Shift Key While Clicking.) You Can Also Drag The Icon For The Print Request To The Trash. Note That These Methods Delete Only The Print Request (also Referred To As A Spool File), Not The Document Itself.

- To Put A Print Request On Hold, Select It And Click The Hold Button.

  The Print Request Will Stay On Hold Until You Select It Again And Click The Resume Button. You Can Also Put The Document That's Currently Printing On Hold By Dragging It To The List Of Documents Waiting To Print (lower Part Of The Window).

- To Indicate That A Print Request Is Urgent, Select It And Choose Set Print Time From The Printing Menu. In The Dialog Box That Opens, Click Urgent.
- To Indicate That A Print Request Should Not Print Until A Future Time, Select It And Choose Set Print Time From The Printing Menu. In The Dialog Box That Opens, Click At Time, Then Set The Time You Want.
- To Change The Order Of The Items Waiting To Print, Move Their Place In The List By Dragging Their Titles Up Or Down In The List.
- To Sort The List Of Documents Waiting To Print, Click The Title Of The Column You Want To Sort By.

  For Example, To Sort By The Name Of The Document, Click "Document Name." (You Can Also Sort By Choosing The Commands In The View Menu.) The Column Title You Sorted By Is Underlined. Sorting The Items Does Not Change The Order In Which They Will Print. To See That Order, Sort By Print Time.

- To Temporarily Stop All Documents From Printing On This Printer, Choose Stop Print Queue From The Printing Menu.
- To Resume Using The Printer, Choose Start Print Queue From The Printing Menu. If The Desktop PrintMonitor Window Is Open, You Can Begin Printing The Document From The First Page By Option-clicking The Resume Button (holding Down The Option Key While Clicking The Resume Button).

  Shortcut: The Printing Menu For Starting And Stopping The Print Queue Is Available Without Opening The Window For The Printer, As Long As The Printer's Icon Is Selected On The Desktop.

- To Move A Print Request From One Printer To Another Printer Of The Same Type (for Example, From A LaserWriter 4/600 PS To A LaserWriter 16/600 PS), Drag The Icon For The Print Request To The Icon Of The Printer Where You Want To Move It.

  You Can Only Move A Print Request From A PostScript Printer To Another PostScript Printer. The Printing Software Won't Let You Move A Print Request To An Incompatible Printer. For Example, You Can't Move A Request From A LaserWriter Printer To A StyleWriter Printer.

Turning The Manual Feed Notification On Or Off

The Desktop PrintMonitor Is Set Up To Notify You About Manually Feeding Paper The Same Way Your PrintMonitor Was Set. For Example, If You Turned Off Notification For Manual Feeding In Your PrintMonitor, The Desktop PrintMonitor Will Also Have Manual Feed Notification Turned Off.

If You Want To Change How The Desktop PrintMonitor Notifies You About Manual Feeding, Follow This Procedure:

1. Hold Down The Shift Key And Restart Your Computer, Keeping The Shift Key Depressed Until The Message "Extensions Off" Or Your Normal Desktop Appears.
2. Open Your System Folder And Then Open Your Extensions Folder.
3. Double-click The PrintMonitor Application.
4. Choose Preferences From The File Menu.
5. Select Your Manual Feed Option And Click OK.
6. Close The PrintMonitor.
7. Restart Your Computer.

Turning Off Or Removing The Desktop Printing Software

Removing A Desktop Printer Icon

You Can Remove An Individual Desktop Printer Icon By Dragging It To The Trash. If You Have Only One Desktop Printer, You Can't Get Rid Of The Icon By Dragging It To The Trash. (The Icon Will Reappear If You Do.) To Get Rid Of The Desktop Printer, You Must First Select A Different Desktop Printer As The Default Printer And Then Drag The Desktop Printer Icon To The Trash. If You Don't Want To Use Desktop Printer Icons, See "Turning Off The Desktop PrintMonitor" Or "Removing Desktop Printing Software" For Information About How To Remove The Desktop Printer Software.

Turning Off The Desktop PrintMonitor

If You Don't Want To Use Desktop Printers, You Can Turn Off The Desktop PrintMonitor Using The Extensions Manager (available On Macintosh System 7.5, The Current Version Of The Mac OS).

To Turn Off The Desktop PrintMonitor:

1. Open The Extensions Manager Control Panel In The Control Panels Folder.
2. Click To Deselect (uncheck) The Desktop PrintMonitor, Desktop Printer Extension, And Desktop Printer Spooler Extensions In The Panel.
3. Click The Close Box To Close The Control Panel.
4. Restart Your Computer.

Removing The Desktop Printing Software

The Desktop Printing Software Uses Both The Desktop PrintMonitor And The PrintMonitor Software. The Desktop PrintMonitor Requires 200-400K Bytes More Free System Memory In Addition To The Memory Required By The PrintMonitor. If You Don't Want To Use The Desktop Printing Software, You Can Remove It.

To Remove Desktop Printing Software:

1. Restart Your Computer With The Extensions Off By Holding Down The Shift Key And Choosing Restart From The Special Menu. Hold The Shift Key Down Until The Message "Extensions Off" Appears Or Until Your Normal Desktop Appears.
2. Drag The Following Files From The Extensions Folder To The Trash:

   Desktop PrintMonitor 1.0.3
   Desktop Printer Spooler 1.0.3
   Desktop Printer Extension 1.0.3

3. Restart Your Computer.

Using Save Or Open With Desktop Printers

When You Choose Save Or Open In Your Application Programs, You Will See Your Desktop Printers Listed As If They Were Folders, But You Should Not Save Or Open Any Documents In Them. If You Do, You Will Not Be Able To Access Your Documents.

Having More Than Five Desktop Printers

If You Want To Have More Than Five Or Six Desktop Printers, You Must Increase The Desktop PrintMonitor Memory Allocation By 12K For Each Additional Desktop Printer You Want. To Do So, Select Its Icon (it's In The Extensions Folder Inside The System Folder), Choose Get Info, Type A Larger Number In The Preferred Size Box, Then Close The Get Info Window.

About Creating Duplicate Desktop Printer Icons

If You Use Different Versions Of The LaserWriter 8 Software And Print Using The Desktop PrintMonitor, You May Create Duplicate Desktop Printer Icons For The Same Printer. For Example, Say You Use The LaserWriter 8.3 Driver For Printing And Also Use The LaserWriter 8.2.2f Driver For Faxing. If You Select Your Printer In The Chooser Using The LaserWriter 8.3 Driver, And Select It Later Using The LaserWriter 8.2.2f Driver, Two Desktop Printer Icons Will Appear For That Printer. To Avoid Creating Confusing Duplicate Printer Icons, Primarily Use One Version Of Your Printer Software Driver, Or Rename The Icons With Distinguishing Names.

Published Date: Feb 18, 2012

System 7.5 v7.5.3 Technical Details: Part 1 of 3

This article comprises the System 7.5 Technical Details (part 1 of 3).

Parts 2 and 3 are available by clicking the following URL:

Article 20093: **System 7.5 v7.5.3 Technical Details: Part 2 of 3**

Article 20094: **System 7.5 v7.5.3 Technical Details: Part 3 of 3**

This article has been archived and is no longer updated by Apple.
System 7.5 Technical Details (part 1 of 3)

This file is one of several Read Me files that describe technical details between system software 7.5 and system software 7.5.3. This information is most appropriate for advanced users. For less technical information, see the About System 7.5 document, the Installing System 7.5 document, or the What's New in version 7.5.3 document.

What's in this document (part 1 of 3)
- General information about system software version 7.5.3
- Changes to the Finder
- Changes to Find File
- Changes to Standard File
- Changes to control panels
- Changes to Apple Guide
- Changes to Apple Menu Options

General information about system software version 7.5.3

System software version 7.5.3 provides the enhancements introduced in System 7.5, System 7.5 Update 1.0, System 7.5 Update 2.0, and System 7.5, Revision 2.

This software installs the latest versions of all components it finds on the disk it is updating, including any components that you disabled using the Extensions Manager. After you run the Installer, the updated components will be in the same folders as they were before you installed the update. For example, new versions of disabled extensions will be in the Extensions (Disabled) folder, and new versions of disabled control panels will be in the Control Panels (Disabled) folder.

The file called System 7.5 Update replaces the enabler on all computers capable of running system software versions 7.5 and/or 7.5.1. Computers that did not previously need an enabler to work with system software versions 7.5 and 7.5.1 still need the System 7.5 Update file since it contains most of the fixes delivered in this update.

The file called System 7.5.2 Update replaces the enabler file on all computers capable of running system software version 7.5.2.

If you use the Custom Install option to install a system for Any Macintosh, both updated enablers are installed. This is normal for the Any Macintosh option. Do not delete one or both of these enablers.

This update includes all of the fixes included with the previously released 7.5.2 Printing Update, the PowerBook 5300 System Software Update, and the PowerBook 2300c Update. You do not need these updates if you install this software. If you previously installed any of these updates, you should install this software, since it contains additional fixes.

After you install the update, the About This Macintosh window says System Software 7.5.3. The window also says Revision 2 to indicate the source of the system software.

Changes to the Finder

This software includes a new version of the Finder with the following changes:

- When you rebuild the desktop, comments typed in a file's Get Info window are no longer deleted. (Of course, if you delete the desktop database -- for example, by making it visible using a utility and then moving it to the Trash -- the comments will be lost because the Finder will have to build a new desktop at startup.)
- The Name field (used in Finder windows set to one of the list views) is wider, allowing you to see more characters in filenames.
- On PowerPC-based computers, icons are translucent while you drag them (rather than simply appearing as outlines). If you drag several icons at once, only the icon under the mouse will be translucent -- the others will still be outlines.
- Copying large numbers of small files is faster. (Previous versions of the Finder updated the bar in the copy progress dialog box approximately thirty times per second; the new version updates the copy progress bar far less frequently.)
- The Finder Update file (once named PowerPC Finder Update) is now part of the Finder. This update deletes all old versions of this file.
- When the Clipboard is active, the Clean Up Window command is dimmed. This eliminates a crashing bug in the Finder.
- The Finder flushes the processor's cache more intelligently, improving the Finder speed on all 68040- and PowerPC-based computers.

- Fixes an issue that caused an out-of-memory error when emptying the Trash if QuickDraw GX was installed.
- Fixes an issue that caused seemingly false out-of-memory messages when trying to open or close Finder windows. This issue sometimes occurred when the desktop had very few icons on it, a window with the Kind column was visible, and a large number of different kinds of documents had been displayed since the last restart.
- Fixes an issue introduced by the Finder that shipped with System 7.5 Update 1.0. The Find window of Find File will now be made active if Find File is already open and you choose Find from File menu (or Find File from the Apple menu).
- If use an alias to connect to a server and your server password has expired or needs to be changed, you'll see a message that the password needs to be changed. (Prior versions told the user that the server couldn't be found.)
- File copies are now done asynchronously, which makes the CPU more available to other applications during copying. If another application is made active during a file copy, the computer does not slow down as much. This effect is most noticeable when using Apple Remote Access.
- Finder window titles are now erased before they are overwritten. (Previous versions rendered window titles unreadable in some circumstances.)

This new version of the Finder also includes the following fixes from the prior update's Finder:

- Corrects an issue at startup that could cause the Finder to open the same list of windows over and over again.
- With QuickDraw GX installed, AppleEvents or AppleScript scripts that send Print or Page Setup commands to the Finder are now handled correctly.
- When you try to make changes to a System or Applications folder that is protected by the General Controls panel, the Finder no longer claims there's an access privileges issue. The warning message now describes why the folder can't be changed and how to turn off folder protection.
- Fixes an issue that occurred the first time you started up your computer after installation (or any time you deleted the old Finder Preferences file). One symptom of this issue was a dialog box stating that the Network control panel could not be used.
- Fixes an issue that caused a crash if a sound and a control panel were both in the Startup Items folder and the sound was opened first. (Items in this folder are opened in alphabetical order.)
- The Finder no longer rebuilds the desktop if it finds a folder named Desktop at the root level; now it rebuilds the desktop only if it finds a file called Desktop.
- Improves the way the Finder handles server volumes that are unexpectedly disconnected while files from the server are still open. Now you can save the contents of most files by using the Save As command (in the File menu of most applications). Large files (those that don't fit entirely in memory) might be lost if the server disconnects unexpectedly. With some applications, however, you can copy the contents that are in memory and paste them into a new document, later merging this document with the original file on the server. (With prior versions of the Finder, this situation could lead to serious issues if the user tried saving the document after the server was disconnected.)
- Changes the way the Finder invokes the Find File extension (of System 7.5) instead of the built-in Find feature introduced in System 7.0. The Find File extension now contains a simple flag that tells the Finder to use the new Find File. If you disable or remove this extension, the Finder uses only the older built-in Find. This change enables users to choose between the full-scale Find File and its stripped-down version (the built-in Find command.)
- Fixes an issue that caused an out-of-memory error if too many Get Info windows were open at the same time.
- Enables users to open a document that belongs to an already-running background-only application. (In previous versions, the Finder searched only through the list that showed up in the Application menu.)
- The Finder Update file was renamed. (It was previously known as the PowerPC Finder Update file.) This file handled Code Fragment Manager (CFM) error-reporting for missing dynamically linked libraries.
- Speeds up copying from servers by letting the server set its preferred block size for copy requests. (Previously, the Finder always requested 4.5K blocks of data from AppleShare or FileShare volumes.)
- Speeds up copying to and from servers by greatly reducing the number of times the Finder checks for user activity during copy operations.
- Speeds up the copying of small files by changing the way the Finder writes parts of the files. (Previously, the Finder rounded up the size of the file being copied to the minimum allocation block size, which, on a 2GB disk, is 64K.) Now the Finder rounds up small files to a multiple of the size of a disk sector (that is, to increments of 512 bytes).
- Fixes an issue in rebuilding the desktop that caused the Finder to skip applications if it encountered a background-only application while rebuilding the desktop database.
- Eliminates issues in opening some applications or having the wrong icon appear. These issues sometimes occurred when, during rebuilds of the desktop, the Finder included applications that did not have the necessary bundle resources. The Finder no longer includes applications that do not have the necessary bundle resources, eliminating confusion within the desktop database.
- The Finder now ignores aliases to applications when rebuilding the desktop database.

Changes to Find File

The following are the changes in Find File 1.1.2:

- Includes a list of Shortcuts, available from the Guide menu (with the question-mark icon) when Find File is active.
- Includes a new preference used in sorting by Kind, Use full descriptions for found items, which gives more specific Kind descriptions. Using this checkbox results in slower sorts; not using it results in faster sorts but with less specific Kind descriptions.
- Fixes a crashing bug that occurred if the same item was dragged to the same location before the Finder finished the earlier move.
- Fixes a bug that allowed non-numeric data to be input into the Size search field.

- Fixes a bug that allowed a pasted item to exceed the length of several search fields.
- Fixes a bug that allowed too many digits to be entered in the Size search field.
- Allows you to drag a volume icon onto the Location pop-up menu.
- Fixes the zoom box on 68K systems.
- Changes the alert message to be more informative when a server being searched is disconnected.
- Changes the way the Found Items list displays items that are in the Trash after the Trash has been emptied.
- Fixes a searching bug that occurred when the Kind requested was font.
- Fixes a crash that sometimes occurred when clicking the Stop button in the sorting dialog box. This dialog box now displays a spinner during a sort.
- Fixes a memory bug that sometimes occurred after several consecutive searches.
- Fixes a display bug with Found Items that occurred when using large font sizes.
- Fixes the CD-ROM icon in the Drives pop-up menu.
- Enables Find File to find invisible files, some of which you can move (such as the Desktop, Desktop DB, and the Desktop DF files).
- The Clear menu item now deletes only the selected text. (The Clear key no longer deletes anything.)
- Fixes a bug that occurred when dragging a file onto the Kind search field. Fonts and applications now show up as such, not as documents.
- Fixes a crash that sometimes occurred when dragging an item from the Found Items window to the desktop.
- Changes the prompt message when search fields are empty.
- Cleans up Balloon Help. - Includes a new preference to specify transliteration.
- Speeds up searches in 2-byte languages if no transliteration is necessary to perform the search.
- Fixes a bug where the filename input for 2-byte languages could exceed maximum length.

The following are changes introduced with System 7.5 Update 1.0 (Find File 1.1.1):

- Fixes a drag issue with large groups of items. Now Find File displays a confirmation dialog box when you drag more than 50 items.
- Fixes a crashing bug when searching for items whose names contain desktop. Find File no longer finds invisible desktop files unless explicitly requested.
- Fixes a bug that prevented exact-name matches with foreign file systems.
- Fixes the spontaneous search bug, whereby Find File could start searching without any criteria entered. Find File now displays an alert prompting for search information.
- Fixes a bug that sometimes prevented an item in the Found list from being selected by clicking its icon.
- Fixes a memory issue in sorting more than 1100 items.
- Fixes a highlighting issue with the Keyboard menu.
- Scroll bars are now properly drawn.
- Fixes a cosmetic issue with drag-selecting items in the Found list.
- Properly updates the path in the bottom of the Found list window after the user drags items from the list.
- Fixes a hanging bug that could occur when dragging a folder onto the search fields.
- Fixes a pop-up menu bug that sometimes showed the wrong value after switching to the Finder and back to Find File.
- Fixes the search when the Comments field is left blank.

Changes to Standard File

- Fixes an occasional crash in Standard File that occurred when the data cache was not flushed before being disabled.
- Fixes a memory leak with some of the dialog boxes used for opening and saving documents in Standard File.
- Fixes an issue in the dialog box used for opening files that could allow the pop-up menu to be dimmed in Standard File.

Changes to control panels

- PowerPC-based computers with PCI slots now use the Monitors & Sound control panel, instead of the Sound & Displays control panel, to control monitor and sound settings. (System Update 2.0 removes Sound & Displays.) You can do a custom installation to install the Sound control panel if you need it for older applications. (The Monitors & Sound control panel works only on PCI-based computers.)
- The Memory control panel now displays Will be off after restart if Virtual Memory is turned off, as a reminder that just turning Virtual Memory off does not fully deactivate it.
- The Memory control panel now uses a larger default setting for the disk cache. After you install this software, the new setting will be used only if the Use Defaults button in the Memory control panel is clicked. The new default is 32K for each megabyte of physical RAM installed, up to a maximum of 4096K. (Virtual RAM is ignored for this calculation.) Thus, a computer with 16MB of physical RAM would use 512K for its default disk cache size, resulting in better performance for disk-intensive tasks than the original default of 96K.
- Fixes a bug in resizing a RAM disk in the Memory control panel while file sharing is on.
- Fixes an issue in General Controls panel that caused issues with Retrospect Remote if either application or System Folder protection was turned on.
- When you open an application by double-clicking a document, you can set the default location of saved items to the folder containing the document you opened, instead of the Documents folder or the folder containing the application. You set this preference by turning on the Folder that is set by the application option in the General Controls panel.
- Fixes an issue in General Controls panel that could hang the computer if Applications folder protection was turned on and there was a

document or alias named Applications at the root level of the startup disk.
- Fixes an issue in the General Controls panel's folder-protection code that could cause folders to become invisible if Stuffit SpaceSaver was installed.
- CloseView no longer uses keyboard shortcuts that were already used by the Finder. The new keyboard shortcuts for CloseView are:
-
  - Command-Option-K: turns CloseView on or off
  - Command-Option-+ (the plus sign): increases magnification
  - Command-Option-- (the minus sign): decreases magnification
- If CloseView is active, it remains active after you change the number of colors on your monitor.
- CloseView no longer hangs the system if Balloon Help is on and an audio CD is inserted.
- Includes the following new international keyboard layouts:
  - French Canadian
  - ISO Canadian
  - Spanish
- Installs the updated versions of the following international keyboard layouts if older versions are already installed:
  - Dutch
  - Flemish
  - German

Changes to Apple Guide

Includes Macintosh Guide 1.3 (and several new Guide Additions files), which provides updated on screen help for system software.

Includes Apple Guide version 2.0.2, which includes the following improvements:

- Fixes issues with displaying coach marks in modal dialog boxes.
- Fixes a serious memory leak that occurred every time a Guide file was opened.
- Fixes an issue that caused every twenty-first index item to disappear when multiple additions were in use.
- Fixes an issue that occurred when Apple Guide encountered additions files that did not apply to the current configuration of hardware and system software (for example, if the QuickTime Guide was installed, but QuickTime itself was not installed or had been turned off with Extensions Manager).
- Defaults to US ASCII sorting only if the current script is Roman and the current language is English. (Apple Guide 1.2.5 defaulted to US ASCII on any Roman script system.)
- Fixes issues with coach marks on 68K computers. (Coach marks were sometimes drawn on the wrong menus.)
- Fixes a Look For issue in Japanese computers by first trying to use the script code from the current database.
- Fixes a bug in <Delete Index> that affected Japanese computers.
- Fixes issues with mixed-mode handling of installed coach and context handlers.
- Fixes an issue that sometimes caused Apple Guide to shut down completely on PowerPC-based computers. For example, if a PowerBook additions file was present on a PowerPC-based desktop computer, Apple Guide 1.2.5 would completely shut down because the additions file couldn't be used. Now, Apple Guide ignores the PowerBook addition and continues running.
- Fixes an issue that prevented Apple Guide 1.2.5 from starting up if QuickTime wasn't installed on the computer. This issue occurred only on PowerPC-based computers.
- Includes localizable error strings for use in various abort messages.

Also includes all the improvements to Apple Guide introduced with System 7.5 Update 1.0 (Apple Guide 1.2.5):

- Works faster than prior versions on all Mac OS-based computers.
- Is native on PowerPC-based computers, which also improves performance.
- Is compatible with At Ease.
- Makes additions files available in the Guide menu even if the application was opened with AppleScript.
- Fixes a memory leak of an international resource, which occurred every time a Guide file was opened.
- Makes windows redraw correctly after coach marks are drawn.
- Updates no more of the screen than it needs to.
- Properly draws coach marks in black and white and on a mirrored monitor.
- Keeps scroll bars active when they should be active.

Changes to Apple Menu Options

Includes Apple Menu Options v.1.1.2, which introduces the following changes:

- Performs better, with improved stability.
- Fixes an issue that could hang the computer when the Apple Menu Options preference file was dragged to the Trash.
- Fixes an issue that could hang the computer if there was a locked alias in the Recent Documents, Recent Applications, or Recent Servers folders. The new version ignores locked aliases.

- Moved a large 68K patch that caused a general slowdown on PowerPC-based computers. This patch is now active only while the mouse button is held down on the menu bar or in a menu.
- Increases the height of the editing field used for entering the number of documents, applications, and servers.
- Fixes an issue that could prevent the Recent Documents, Recent Applications, and Recent Servers folders from being deleted when tracking of those items is turned off.
- Fixes an issue that could cause Apple Menu Options to hang if its settings were changed and the System Folder was on a locked volume (such as a startup CD or locked floppy disk). The hang would occur when Apple Menu Options tried to write the new settings into the locked preferences file. The new version does not try to record new settings on a locked volume.
- Fixes an issue with sorting order; Apple Menu Options no longer uses the U.S. standard for modified Roman and Scandinavian alphabets.
- Prevents Apple Menu Options from deleting original files -- it can now only delete aliases. (This change solves an issue that occurred when users saved documents directly into the Recent Documents folder. Once the document was saved, Apple Menu Options replaced the file with an alias to that file.)
- Fixes an issue that sometimes caused the contents of the Apple menu to show up in place of the proper contents for submenus.

Incorporates all of the prior fixes to Apple Menu Options:

- Improves performance.
- Fixes an issue that could cause an application's menus to disappear.
- Fixes an issue that could leave the Apple menu highlighted if an application was opened from a submenu within the Apple menu.
- Shows non-AppleShare servers in the Recent Servers sub-menu.

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System 7.5 v7.5.3 Technical Details: Part 2 of 3

This article comprises the System 7.5 Technical Details (part 2 of 3).

Parts 1 and 3 can be accessed via the links below:

Article 20092: **System 7.5 v7.5.3 Technical Details: Part 1 of 3**

Article 20094: **System 7.5 v7.5.3 Technical Details: Part 3 of 3**

This article has been archived and is no longer updated by Apple.
System 7.5 Technical Details (part 2 of 3)

This file is one of several Read Me files that describe technical details between system software version 7.5 and system software version 7.5.3. This information is most appropriate for advanced users. For less technical information, see the About System 7.5 document, the Installing System 7.5 document, or the What's New in version 7.5.3 document.

What's in this document (part 2 of 3)

- Changes to SimpleText
- Changes to the Launcher
- Other new or changed components
- Miscellaneous fixes and enhancements
- Files no longer needed

Changes to SimpleText

Includes SimpleText version 1.3.1, which supports QuickDraw 3D.

Includes the following enhancements introduced with the version of SimpleText provided with System 7.5 Update 1.0:

- Large documents, PICT files, and page ranges (for example, pages 2 and 3 of a 5-page document) print correctly.
- Page Up, Page Down, and scrolling work better with Portable Digital Documents (PDDs) and other documents.
- Editing features (such as Cut, Copy, the forward delete key on extended keyboards, underlining, and selected text highlighting) work correctly.
- SimpleText documents that use system fonts now retain their fonts when opened on a computer with a different system font.
- Remote program linking (controlling SimpleText with AppleScript from another computer) is enabled by default.
- In the Don't Save/Save/Cancel dialog box, you can type "D" or Command-D for Don't Save.
- If you choose Quit with an unsaved document, and want to cancel the quit, you can do so by choosing Save in the Don't Save/Save/Cancel dialog box, then choosing Cancel in the Save dialog box.

Changes to the Launcher

Includes Launcher version 2.8, which incorporates minor "behind the scenes" changes not likely to be visible to users.

Launcher version 2.8 also includes the following fixes and features, introduced in System 7.5 Update 1.0:

- Supports Macintosh drag and drop, making it easier to add or remove items.

- To add an item: Open the Launcher and drag the item into the Launcher window or onto a category button. The system creates a new Launcher button for the item by placing an alias in the Launcher Items folder. The original item remains on your hard disk.
- To remove an item from the Launcher: Hold down the Option key and drag the button out of the Launcher.
- To move a Launcher button to a new category: Hold down the Option key and drag the button to a category button along the top of the Launcher window.
- To open a file using the Launcher: Drag the file's icon onto a Launcher button that represents an application program. For example, you can open a SimpleText file by dragging its icon onto the SimpleText button. If the program the button represents can open the file, the button is highlighted when you drag the file to it.
- To put a file into a folder: Drag the file's icon onto the Launcher button that represents the folder.
- To resize the currently visible Launcher buttons: Hold down the Command key and click inside the Launcher window. Then choose a new size from the pop-up menu.
- To open a category button's folder (located in the Launcher Items folder): Hold down the Option key and click the category button.

Other new or changed components

- Includes Open Transport v.1.1, a major re-implementation of the network system software for use on all 68030-, 68040-, and PowerPC-based computers except the desktop 5200, 5300, 6200, and 6300 series computers. If you choose the Easy Install option, Open Transport

will be turned on only if it you were using it before you installed this version of system software.

For more information, see the Open Transport Information folder, inside the Apple Extras folder.

- The Network Software Selector (NSS) enables users of 68030-, 68040-, and early PowerPC-based computers to choose between Open Transport and classic AppleTalk if both are installed. (You must restart the computer for the change to take effect.) PCI-based computers support only Open Transport.

NSS is in the Apple Extras folder; information on using it is built into the application. NSS is intended to ease the transition to Open Transport by allowing you to use the older networking software if there is a compatibility issue with an application and Open Transport. Once the issue is resolved, you should switch back to Open Transport.

Note: Because MacTCP is incompatible with Open Transport v.1.1, MacTCP is disabled any time Open Transport is selected using the Network Software Selector. (Open Transport uses the TCP/IP control panel instead of MacTCP.) If you reselect classic AppleTalk, MacTCP is enabled again.

- For users of the older networking software, this update includes MacTCP 2.0.6, which
  - shortens retransmission delays
  - prevents potential out-of-memory errors
  - makes configuring communications easier
  - gives users more control over which servers to contact and in what order
- Includes SerialDMA 2.0.2 for use on all PowerPC-based computers, the Centris 660AV, Quadra 660AV, Quadra 840AV, as well as the corresponding Performa and Apple Workgroup Server products. SerialDMA provides a complete rewrite of the DMA serial driver, which originally accompanied these computers, thus fixing the occasional system hang, communications time outs, poor communications performance, and other glitches. The new SerialDMA 2.0.2 driver also exceeds the performance and reliability standards for serial communications on the Mac OS platform, providing support for speeds of up to 230,400 baud.
- SerialDMA 2.0.2 is native on PowerPC-based computers.
- Includes a new version of Apple Modem Tool (1.5.5), which supports 115.2K and 230.4K connections on SerialDMA 2.0 machines.
- Includes the latest version of PC Setup (v1.0.7) for use with all DOS Compatible Mac OS computers.
- Includes Screen control panel version 1.0.7. This new version does not crash if it's in the System Folder of a Macintosh SE during startup or when it's opened on any 68000-based Mac OS computer.
- Includes File Sharing 7.6.2. Now, when file sharing is turned on, removable disks and CD-ROM discs will automatically be shared (except for audio CDs, which will no longer be shared). You no longer have to turn off file sharing to eject a removable disk or CD-ROM disc, as long as no one is currently connected to that volume.
- Includes a faster version of the AppleShare Workstation client software. The new version performs read-ahead and write-behind caching, allowing the Finder to write to a local volume while reading from a remote volume (and vice-versa). The new version also briefly caches some information from the desktop database to avoid unnecessary hits to the disk.
- Includes Apple Video Player 1.4.

Miscellaneous fixes and enhancements

- The Shut Down warning, which appears during startup if the computer was shut down improperly, dismisses itself after two minutes so that startup isn't further delayed. Note that this warning can be turned off completely in the General Controls panel.
- Includes Macintosh Easy Open 1.1.2, which fixes delays when dragging Finder folders.
- The dialog box displayed after the keyboard Power key is pressed cancels itself after one minute.
- Fixes an issue with the Power key. In previous versions, if the Power key was held down just a little too long, the hardware could miss the release of the key. If the next key pressed was the Command key, the hardware would mistakenly think that Command-Power had been pressed and would bring up the programmer's window (or MacsBug if it was installed).
- Color Picker no longer crashes during startup. There is an issue with certain third-party SCSI drivers that mark the drive as removable at the beginning of startup and later mark it as non-removable. Because Color Picker creates an alias to itself during startup, the change to non-removable prevented the Color Picker alias from being resolved later. Color Picker now handles the failure to resolve this alias.
- Fixes an issue introduced by System 7.5 Update 1.0 that prevented 2-byte characters from being used when naming a DOS disk.
- Fixes an issue that allowed the Menu Manager to use an unlocked handle. This fix will eliminate some crash issues, especially when using certain pop-up menus.
- Changes several video drivers to provide better support for new monitors introduced since System 7.5 was released.
- Handles low-memory situations better than previous releases of Sound Manager.
- Fixes an issue that allowed the sound volume to be lower after restarting than it was before restarting; volume should now be properly preserved when restarting.
- The state of the Mute checkbox in the Sound control panel's Volume window is now preserved across restarts.
- Fixes an issue that allowed QuickDraw to leak about 50 bytes of memory in some isolated circumstances.
- Fixes an issue that allowed a nonexistent disk drive to show up in Disk First Aid.
- Fixes a crash issue in the Communications Toolbox that happens if there are more than about 600 zones on a single network. The new limit is just over 8000 zones.

- Fixes an issue on the 630 and 5200 series computers that would cause them to ignore the infrared remote control.
- Fixes an issue that made it take two attempts to unmute the sound using the infrared remote control on 630 and 5200 series computers.
- Presents a dialog box that advises users that audio CDs cannot be shared if an audio CD is selected and the "Share a Folder" or "Share a Folder (no Guest)" automated task is executed. (In the past, the system would hang in this situation.)
- Fixes a bug that caused the wrong font to be used in some cases.
- Fixes an issue that allowed a garbage pattern to be used when redrawing the pattern in a scroll bar.
- Fixes an issue with submenus drawn too large or not drawn at all.
- Fixes an issue that sometimes caused the startup progress bar to draw improperly.
- Fixes an issue in WorldScript Power Adapter that could cause text to wrap randomly in Text Edit fields, or to appear garbled.
- Plugged a small memory leak that sometimes occurred when resizing a window.
- The Power key can now be used to turn the computer off. To shut down the computer, press the Power key. When the dialog box appears, you can shut down your computer, restart your computer, put it to sleep (if it supports sleep), or cancel the shutdown. PowerBook 100 series computers do not have a Power key on their built-in keyboard, but if you attach an external keyboard, you can use the keyboard's Power key (as just described) to turn off the computer. This functionality is not supported on the Macintosh Plus.
- The Synchronize Folders AppleScript automated task handles nested folders properly.
- A new AppleScript automated task-Share a Folder (No Guest)-lets you automatically share a folder with the Guest access disabled.
- Improves system stability when memory is very low.
- Fixes a potential crash issue when shutting down or restarting Japanese systems with QuickTime 2.0 installed.
- Fixes a potential crash issue when pasting large amounts of data.
- No longer opens the wrong original when you select an alias on the desktop of a disk other than the startup disk.
- No longer interferes with custom colors that some applications use in the Open and Save dialog boxes.
- Fixes a potential crash issue that occurs when Stickies opens with a "collapsed" note window.
- Fixes an issue that would allow the Options button in Sound control panel's Sound In window to be dimmed when it should be enabled.
- Fixes sound issues in the Jigsaw Puzzle (caused by a third-party extension).
- PowerTalk Catalogs Extension version 1.1.1 no longer displays an out-of-memory error when you open a catalog.
- PowerTalk AppleMail version 1.1.2 works better on systems with many fonts installed and defaults to "sender only" for mail replies.
- PowerTalk DigiSign Utility version 1.1.1 improves printing on HP DeskWriter C and 550-style printers.
- Direct Dialup version 1.1.1 works better when dialing using a long string and won't time out while sending a large letter or a letter with a large enclosure.
- Fixes a potential crash issue that occurs if both PowerTalk and At Ease are installed. While PowerTalk and At Ease no longer crash when used together, accessing all of Power Talk's functionality requires the Finder (open the Special menu in At Ease and choose Go To Finder).
- Command-Option-Space bar no longer changes the keyboard layout if multiple layouts are installed. This avoids a conflict with some popular games that used these keys for controls within the game, resulting in a seemingly random layout being selected once the game is finished (during the game, the selected layout would change any time the three keys were pressed at once). If you want this functionality restored, open the Keyboard control panel and click the checkbox at the bottom. The conflict with certain games will exist as long as this box is checked.
- WindowShade version 1.3.1 fixes a potential crash issue that occurs when memory is very low.
- Macintosh Easy Open version 1.1.1 works better with drag-and-drop on document converters.
- Fixes an issue in the Menu Manager that could cause memory fragmentation within an application's heap.
- File Sharing no longer causes a crash when Find File is searching a remote volume using Apple Remote Access.
- Fixes an issue in file sharing that caused some files not to get copied. (The symptom of this issue was a dialog box stating that the file could not be copied because it couldn't be found.)
- Fixes an issue causing Type 8 errors on PowerBooks.
- Fixes an issue causing the cache to be erased on PowerBooks.
- PC-formatted floppy disks on PowerBooks will no longer be unreadable on PCs after use on a PowerBook 500 series computer that has been upgraded to a PowerPC.
- Fixes an issue with the DREmulator on PCI-based computers, and the PowerBook 5300 and 2300 series computers.
- Fixes an issue with correctly starting up from the disk selected in the Startup Disk control panel.
- Fixes an issue using SCSI devices on PCI-based computers with 1 gigabyte hard disks.

Files no longer needed

The software automatically deletes the files listed below -- unless you renamed any of them, in which case, you should remove the files.

Several standalone files are now merged into the System 7.5 enabler, the System 7.5.2 enabler, or the System file. This software deletes the old (standalone) versions of the following files:

- 7.5.2 Printing Fix
- 040 VM Update
- 601 Processor Card Enabler

- 630 SCSI Update
- CFM Updater
- Color Classic Update
- Color Classic Update

- Display Enabler 2.0
- EM Sound Update
- MathLib
- Mount IDE Drive
- Network Software Installer (v1.5.1 and later)
- PowerBook 150 Update
- PowerBook 2300c Update
- PowerBook 5300/2300/190 Enabler
- PowerPC Enabler
- SCSI Manager
- SCSI Manager 4.3 (a renamed version of SCSI Manager)
- Serial Update 406
- SerialDMA
- Sound Manager
- System Enabler 406
- ThreadsLib
- Workgroup Server Enabler

Several standalone files have been merged into the System 7.5.2 Update enabler. The update deletes the old (standalone) versions of the following files:

- 7.5.2 Printing Fix
- CFM Updater
- PowerBook 5300 Enabler
- PowerBook 5300/190 Enabler
- SerialDMA
- Sound Manager
- System Enabler 701
- ThreadsLib

Several standalone files have been merged into or been replaced by various other pieces of the system. The update deletes the old (standalone) versions of the following files:

- Sound & Displays (replaced by Monitors & Sound)
- Apple Multimedia Tuner (rolled into QuickTime 2.1)

- LaserWriter 8.0 (replaced by LaserWriter 8)
- PowerPC Finder Update (renamed in System 7.5 Update 1.0 and merged into the Finder)
- Finder Update (rolled into the Finder)

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System 7.5 v7.5.3 Technical Details: Part 3 of 3

This article comprises the System 7.5 Technical Details (part 3 of 3).

Parts 1 and 2 can be accessed via the links below:

Article 20092: **System 7.5 v7.5.3 Technical Details: Part 1 of 3**

Article 20093: **System 7.5 v7.5.3 Technical Details: Part 2 of 3**

This article has been archived and is no longer updated by Apple.
System 7.5 Technical Details (part 3 of 3)

This file is one of several Read Me files that describe technical details between system software version 7.5 and system software version 7.5.3. This information is most appropriate for advanced users. For less technical information, see the About System 7.5 document, the Installing System 7.5 document, or the What's New in version 7.5.3 document.

What's in this document (part 3 of 3)
- Changes for PowerPC-based models
- Changes for PowerBook and Duo models
- Changes for other 68K-based models
- Changes for PC cards
- Changes for AppleVision monitors
- Changes related to printing
- Known issues and their workarounds
- Tips

Changes for PowerPC-based models

- PowerPC-based computers with PCI expansion slots now use the Monitors & Sound control panel to control monitor and sound settings instead of the Sound & Displays control panel. You can do a custom installation to install the Sound control panel if you need it for older applications.
- Includes native SCSI (not on desktop 5200, 5300, 6200, and 6300 series computers).
- Fixes a SCSI Manager issue that would hang any PowerPC-based computer if a Sony or WangDAT DAT drive was used with Retrospect.
- Fixes an issue on desktop 5200, 5300, 6200, and 6300 series computers running QuickTime 2.1 that would prevent sound from being heard in Fusion Recorder's Record window until either a recording was started or the TV volume in the Sound control panel was unmuted.
- Includes both native and 68K versions of common Modern Memory Manager routines, inproving performance of emulated applications by speeding up calls to common routines. (System software versions 7.5 and 7.5.1 included only the native implementations, while system software version 7.5.2 included both native and 68K versions.)
- Includes a rewritten fixed-point math library to provide better performance for QuickDraw, other parts of the system, and all applications that use this library. Because QuickDraw and other parts of the System use this library extensively, installing this update will cause noticeable performance gains.
- PowerPC-based computers with PCI expansion slots might have a different physical Ethernet address after you install this software. The software fixes a bug that caused an incorrect physical Ethernet address to be used in environments where TCP/IP addresses are obtained using BootP, DHCP, or RARP. To see the new Ethernet address after you install this software, open the File menu in the AppleTalk or TCP/IP control panel and choose Get Info. If you install this software and are no longer able to use your TCP/IP-based applications, contact your network system administrator.
- On PowerPC-based computers (including those with PowerPC Upgrade cards) running system software version 7.5 or 7.5.1, this software version introduces the Native Resource Manager. This version of the Native Resource Manager is slightly newer than the version released with system software version 7.5.2. The System 7.5.2 Update file includes the same improved version of the Native Resource Manager.
- Reduces times to open applications on PowerPC-based computers with virtual memory turned on. System 7.5.2 (not 7.5 or 7.5.1) would significantly slow down while opening certain applications, such as Microsoft Excel version 5.0, if virtual memory was turned on. With this system software version installed, launch times should be about the same whether or not virtual memory is turned on.
- Fixes a bug affecting plug-ins that import from an application. This issue existed in all PowerPC-based computers running system software versions 7.1.2, 7.5, 7.5.1, and 7.5.2. and was originally fixed by the CFM Updater extension (distributed with QuickDraw 3D). This version of system software deletes this extension, which is no longer needed.
- Fixes a bug in starting up from removable media with virtual memory on. (Although this bug was fixed in 7.5.2, it still exists in 7.1.2, 7.5, and 7.5.1 PowerPC computers.)
- Fixes issues with the DR Emulator. (The DR Emulator works only on PCI-based computers and the PowerBook 2300, 5300, and 500 upgrade.)
- Fixes an issue in certain IDE drives that resulted in cached data not being written to the disk at shutdown.
- Fixes anti-aliasing errors for Kanji Type 1 fonts.
- Fixes an issue that resulted in off-white often being drawn as white. (This effect, while generally subtle, was significant enough for some applications to merit a fix.)
- Fixes a crash issue (a Type 11 error) in Native QuickDraw; this error occurred when using Quark XPress v3.1.1 with system software versions 7.5 and 7.5.1. System 7.5.2 and later versions corrected this issue. If you have Type 11 errors when using Quark XPress 3.3.1

with System 7.5.3 on a PowerPC-based computer, one suggested solution is upgrading to the latest version of Quark Express.
- Fixes an issue in the Dialog Manager that caused some applications to crash after a dialog box was dismissed.
- Supports DayStar Turbo 601 cards in a Macintosh IIci or IIsi.
- If you use Microsoft Office 4.2.1, you need the extension "Office 4.2x Update For Power Mac," version 1.0.1, and the Microsoft Office Manager control panel, version 4.2.1b. You can download these files from the Internet. Download the MC1164.HQX and MOMPATCH.HQX "patch" (update) files from Microsoft. The patches are available on the Internet at

  ftp://ftp.microsoft.com/softlib/mslfiles
- Includes changes to native QuickDraw which speed up operations such as scrolling, image filtering, and pattern and text drawing. ("Native QuickDraw" refers to time-critical portions of QuickDraw that have been native since the initial release of PowerPC-based computers.
- Updates video software, thus prevent video scrambling during computer startup.

Changes for PowerBook and PowerBook Duo models

- Contains a new version of password security software. The version that shipped with the PowerBook 5300 and the PowerBook 190 computers could lock out international users since the software to handle international keyboards does not load until after the password is requested during startup. If the password contained a character that was not available on a U.S. keyboard, it could not be entered and the computer could not finish starting up. The new version of the password security software fixes this issue.
- Fixes an issue in the Assistant Toolbox that caused the Assistant Toolbox to be incompatible with Open Transport.
- Fixes an issue that prevented PowerBooks and PowerBook Duos from going to sleep if SimpleText or certain other applications were running in the background.
- Fixes issues with the DR Emulator. (The DR Emulator works only on PCI-based computers and the PowerBook 2300, 5300, and 500 upgrade.)
- PowerBook Duo docks: Pressing the eject button automatically opens items in the Shutdown Items folder and shuts down the computer. No dialog box appears.
- PowerBook 500 models: Improves trackpad performance.
- PowerBook 150: Extends battery life by reducing power requirements during sleep mode. It also prevents the system from freezing when you repeatedly use the internal modem without restarting the computer.
- PowerBook 150: Eliminates the need for the PowerBook 150 Update system extension. Installing Update 2.0 automatically removes this extension from the Extensions folder (inside the System Folder.)
- PowerBook 150: Fixes an issue that prevented the internal IDE disk from appearing on the desktop. The issue occurred if the internal IDE disk was selected as the startup disk, and the Command-Shift-Option-Delete keys were held during startup (to start up from an external hard disk.)

Changes for other 68K-based models

- Quadra 900 and 950: Fixes an issue in the Sound control panel. Before this version of system software, the External Line and Internal CD buttons in the Sound control panel were reversed, so that clicking the Internal CD button was interpreted as though the External Line button had been clicked (and vice-versa.)
- Quadra 950: Fixes an issue with the Sound control panel. Before this software version, clicking the Add button sometimes caused the computer to crash.
- Centris 660AV, Quadra 660AV, and Quadra 840AV: Includes Apple Video Player v.1.4, which replaces the Video Monitor application (which is no longer supported.)
- Quadra 840AV, Quadra 660AV, and Centris 660AV: Includes new video software that prevents video scrambling during computer startup.
- Quadra 840AV, Quadra 660AV, and Centris 660AV: Fixes an issue in the Dialog Manager that caused some applications to crash after a dialog was dismissed.
- Performa 630, Quadra 630, and LC 630 with internal IDE drives: Fixes an issue that prevented the internal IDE disk from appearing on the desktop. The issue occurred if the internal IDE disk was selected as the startup disk, and the Command-Shift-Option-Delete keys were pressed during startup (to start up from an external hard disk.)
- Quadra 700: Fixes a potential issue that could slow down the mouse or trackball.
- Quadra 840AV: Includes an updated Display Manager which ensures that a multi-sync monitor is set to the correct resolution when you restart the computer.

Changes for DOS Compatibility Cards

- Macintosh Easy Open version 1.1.1 fixes issues with cut and paste between Mac OS and PC applications on Mac OS computers with a DOS Compatibility Card installed.
- Quadra 610 and Centris 610 computers with the 610 DOS Compatibility Card installed receive PC Setup version 1.0.2 (software that was inadvertently not provided with the upgrade disks for System 7.5.)

Changes for AppleVision monitors

- If you use AppleVision software, use version 1.0.2 or later. Earlier versions of AppleVision are not compatible with this software.
- If you have a 1710AV or 1710 monitor and a PCI-based computer, use AppleVision 1.0.4 and the Monitors & Sound control panel.
- If you have a 1710AV or 1710 monitor and a non-PCI-based computer, use AppleVision 1.0.2, the Sound control panel, and the Monitors control panel.

Changes related to printing

- Includes version 2.1.1 of the StyleWriter 1200 driver, which fixes a crash bug on System 7.5.2-capable computers.
- Includes the LaserWriter 8F (version 8.2.3F) driver, which supports all the fax options on the LaserWriter 16/600. The LaserWriter 8 (version 8.3.3) driver does not support all these fax options.
- Supports QuickTime compressed images and ColorSync 2.0 through the LaserWriter 8 (version 8.3.3) driver.
- The LaserWriter 8 (version 8.3.3) and LaserWriter 8F (version 8.2.3) drivers contain fixes for two common printing issues found on PCI-based computers: freezing when trying to print to a printer that's busy, and freezing when trying to print large documents or printing to LocalTalk-based printers.
- The LaserWriter 8F, version 8.2.3, printer driver provides the following enhancements (introduced in version 8.2):

- Improves the function of the Setup button in the Chooser; this button automatically looks for the selected printer, selects the appropriate PostScript Printer Definition (PPD) file, and configures the paper trays. (If you prefer to manually configure the PPD files and paper trays, you can do so by clicking the Setup button a second time.)

- Resets the destination in the Print dialog box to Printer instead of retaining the previous print job's destination. For example, if the previous destination was Fax, the destination automatically resets to Printer for the next job.

- Enables you to tab backwards through the fields in all print dialog boxes by pressing Shift-Tab.

Note: Installing the LaserWriter 8F version 8.2.3 printer driver removes the LaserWriter 8 Prefs file from your system. Thus, after you install, you need to set up your printer using the following steps:

1. Open the Chooser.
2. Click the LaserWriter 8 icon.
3. Click the printer you want to use.
4. Click the Setup button.

Known issues and their workarounds

- Apple Video Player displays an incorrect dialog box if it's opened on a computer that does not have video-in capability. Apple Video Player complains that the Video Startup extension was not installed properly instead of stating that video-in is required for this application to run.
- If, when you try to print, you see a message that your printing preferences are missing or damaged, open the Chooser and select a printer.
- Some versions of the LaserWriter driver (version 7.2 and earlier) and the QuickDraw GX printer drivers still have the issues that interfere with PCI-based computers trying to print on a busy printer or trying to print large documents. If you experience these issues, select the LaserWriter 8.3.2 driver from the Chooser.
- Two different control panels are named "Energy Saver." The older version worked by dimming the external screens of certain computers. The newer Energy Saver, which works differently, works only on PowerPC computers with PCI slots.

  The universal System Folder (created by choosing Any Macintosh in the Custom Install option) that can be created by this system software version contains only the newer Energy Saver. If your universal System Folder requires both versions of the Energy Saver, do the following:

  1. Rename the newer Energy Saver.
  2. Use the Custom Install option to install the older Energy Saver.
- The new minimum RAM disk size is 416K. If a smaller RAM disk exists during the installation of this software, it will be turned off and its contents lost when the computer is restarted. Therefore, before installing this software on a computer with a RAM disk smaller than 416K, move all the contents of the RAM disk to another disk.
- Digital audio recording and playback can occasionally "skip" if virtual memory is turned on. To reduce this skipping, turn off virtual memory.
- HyperCard version 2.3.3 or earlier does not record sound properly on computers with PCI slots. Other sound-recording application programs, including SimpleSound and the Sound control panel, can record sounds that you can import and play within HyperCard 2.3.
- When used with SerialDMA, DOS Compatibility software will not be able to use hardware handshaking on the PC serial port.
- There is an incompatibility between AppleShare Workstation software version 3.6.1 and Connectix Speed Copy (part of Speed Doubler version 1.1 or earlier). Use the Extensions Manager to turn off Speed Copy before you install this software, and contact Connectix to get the latest version of Speed Doubler. (You can contact Connectix at http://www.connectix.com, 415-571-5100, or 800-950-5880.)
- If you are using the IR port and Open Transport on a PowerBook 190, and networking doesn't work after you restart the computer, try putting the computer to sleep and waking it up, or choose the printer/modem port and then switch back to the IR port.
- The Ethernet Compatibility extension version 1.0.3 fixes an issue in the Macintosh system shutdown code for PCI-based PowerPC

computers running some network software, including Novell Netware. The side effect of this fix is a two-minute delay in shutting down the computer.

- When using Drive Setup (version 1.0.4 or earlier) on some IDE hard drives, the "Update driver," "Customize volume," and "Test disk" options are dimmed. To use these options, back up all data from the IDE disk onto another disk, and use Drive Setup to reinitialize the IDE disk.
- If you have a Macintosh Centris 660AV, Quadra 660AV, or Quadra 840AV, some system alert sounds may not play correctly with the alert volume turned down. To avoid the issue, keep the alert volume turned all the way up and adjust the Built-In system volume:

  1. Open the Sound control panel.
  2. Choose Volumes from the pop-up menu.
  3. Adjust the volume.
- Speech version 1.4.1 can cause a Macintosh Plus (a model which does not support speech) to hang during startup. If your Macintosh Plus hangs during startup, do the following:
-
  1. Restart the computer while holding down the Space bar.
  2. When the Extensions Manager dialog box appears, turn off Speech.
- If your computer has a 68000 processor and the computer won't start up, try pressing the Shift key (to turn off extensions) while you restart. If there is a "Color StyleWriter 2000 CMM" file in your Extensions folder (inside the System Folder), take this file out of the Extensions folder and restart your computer. (To use the Color StyleWriter 2000 series printer, you need a 68020 or higher processor.)

Tips

- Many LaserWriter LS users are unaware that this printer is supported by the LaserWriter 300 driver. To make this clear, future system releases will rename this driver to LaserWriter 300/LS. For now, you can either rename this driver or wait for a future release to do it for you. If you rename it, you must select the new name from the Chooser before you can print using this renamed driver.
- Recent-documents tracking (in Apple Menu Options) tracks all files that are opened -- even those opened by an application as part of its launch sequence (such as drop-in filters used by desktop publishing packages). This tracking can significantly slow down the launching of these applications. To reduce this overhead you can:
-
  - turn off "recent documents" tracking in the Apple Menu Options control panel
  - turn off Apple Menu Options in the Extensions Manager
- This update resets all settings in the Apple Menu Options control panel to their default values. If you have made changes to Apple Menu Options, you will need to select them again after installing this update. If you have set Apple Menu Options to track more than ten items in any category, you may want to move some of those aliases out of their folders before you install the update, which deletes all but the ten most recent items in each category.

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MacDNS: Number of Domains Supported

I am setting up a WWW server, and I want to use MacDNS for my DNS services, which needs to serve 20 domains. Is there a MacDNS limit?
This article has been archived and is no longer updated by Apple.
There is no limit set in MacDNS, however, the Mac OS file system limits the number of files opened simultaneously. Each zone file counts to this limit and will also increase the application's RAM requirement by about 2 KB.

The number of files you could have opened varies by Mac OS version.

- System 7.x and Mac OS 8.x -> 348 open files.
- Mac OS 9.x -> 8169 open files.

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DOS Compatibility Card Software: Version 1.5 & Mac OS

What version of the Mac OS is recommended for use with PC Setup Version 1.5 and a DOS Compatibility card?
This article has been archived and is no longer updated by Apple.
PC Setup 1.5 is supported on System 7.1.2 or System 7.5.3 (with either System 7.5 Update 2.0, or pre-installed System 7.5.3). Other versions of the Mac OS may cause unpredictable results.

Note: System 7.1.2 is only supported on the Power Macintosh 6100 DOS Compatible. System 7.5.3 can be installed on any Macintosh that supports a DOS Compatibility Card.
Published Date: Feb 18, 2012

Newton Internet Enabler: MP130 update 2.0 (526167)

I came across this new system update (526167) while downloading the newest version of the Newton Internet Enabler. I checked my Newton 130 and it is 2.0 (526060). Is this update newer than the one which shipped with the 130 and what is it for?
This article has been archived and is no longer updated by Apple.
The newest Newton system update for the MessagePad 130 (version 526167) is used to correct problems with applications that allocate large chunks of store memory, such as the Newton Internet Enabler (NIE).

Developers of products which use the NIE may also be distributing this update. This update will not be part of any official system update offered to MessagePad owners at this time.

This update is designed for the NIE developers and for customers who purchase a product that uses the NIE software. The update can be found on the Apple Developer Services web site.

For developers, questions on NIE v1.0 will be addressed through the usual channel of support.

Any particular NIE connectivity issues must be addressed with your Internet Service Provider.
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Apple Remote Access 2.1: PowerTalk Issue

I just installed Apple Remote Access (ARA) 2.1 and the Remote Access Setup Control panel will not open. When launching the Control Panel, I get a dialog box that says something about files not being found and then it exits back to Finder when I click OK. What is wrong?
This article has been archived and is no longer updated by Apple.
Overview

An incompatibility between ARA 2.1 and PowerTalk has been discovered. The incompatibility prevents ARA 2.1 Client and the ARA 2.1 Personal Server from working. This issue does not occur with System 7.5.3.

The CCL scripts for ARA 2.1 are no longer in the Extensions folder. They have been placed into the Modem Scripts folder within the Extensions folder. As a result of this change ARA loads its own Alias Manager, which is shared with the Folder Manager.

Unfortunately, PowerTalk, which loads later than ARA, seems to completely replace the ARA version of the Alias Manager. This renders ARA unusable since neither the Remote Access Setup control panel, nor the underlying ARA driver can locate the Modem Scripts folder.

Workaround

Upgrade to System 7.5.3 which has a new Folder Manager. Both ARA and PowerTalk recognize the Alias Manager they need is already present and do not install their own.

Renaming ARA's extensions in attempt to modify load order will not work because ARA loads code before normal extensions/control panels load.
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Apple Speller: Installing under Catalyst 2.0

This article has been archived and is no longer updated by Apple.

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To access either Apple Writer III (version 2.0) or Apple Speller III on a
ProFile using Catalyst 2.0, you must obtain a special data disk from Quark
(the distributors of Catalyst).
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Power Macintosh 7200: EDO Memory Can Damage Logic Board

I have a Power Macintosh 7200 series computer, and I would like to use EDO (Extended Data-Out) memory in my computer because I have heard that it will provide me with increased performance. Are there any issues I should be aware of before doing this?
This article has been archived and is no longer updated by Apple.
You cannot use EDO memory in the Power Macintosh 7200 computer. Using EDO memory in the Power Macintosh 7200 computer can cause damage to the logic board and to the memory. Because of this, Apple does not support using EDO memory in the Power Macintosh 7200 computer. Any damage incurred from using EDO memory in the Power Macintosh 7200 computer may not be covered under Apple Computer's limited hardware warranty.

For more information on using EDO memory (and other types of memory) with other Power Macintosh computers, please see Tech Info Library article 19456: "**Power Macintosh: Using FPM, EDO, SDRAM, & SGRAM**"
Published Date: Feb 18, 2012

Apple Remote Access: Meeting Maker 3.5

I am experiencing a problem with Apple Remote Access (ARA) 2.0.1. My connection works fine until the point I try to disconnect. ARA never hangs up the modem connection and then the system locks.
This article has been archived and is no longer updated by Apple.
Meeting Maker XP 3.5 seems to have compatibility problems with Apple Remote Access 2.0.1.

ON Technology the vendor of Meeting Maker is aware of the problems with Meeting Maker 3.5 and ARA. They have addressed this issue in version 3.5.1.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.
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Newton OS 2.0: Newton Connection Utility Alternatives

I am trying to find an alternative to the Newton Connection Utility for the Newton OS 2.0. What software is available?
This article has been archived and is no longer updated by Apple.
For importing or exporting data from third-party applications on your Macintosh or Microsoft Windows computer, the solution depends on what product you are trying to import or export from. For some applications you will need a utility specific to the desktop application (Now Synchronize or Lotus Notes).

If you are transferring text to or from the Notepad, there are a variety of third-party solutions, for example DragNet, NoteThing, Slurpee, the Revelar Connection Utility, and X-Port. Slurpee connects to any desktop computer which supports a terminal emulator, X-Port connects to Windows and Macintosh computers.

The Newton 2.0 OS compatible Newton Connection Utility, available later in 1996 for both Microsoft Windows and Macintosh computers, will allow other applications to transfer data to and from your Apple MessagePad device.

Where to Find Third-Party Connection Utilities
==========

DragNet 1.00b2
Sends text using AppleTalk from your Macintosh to your Newton Notepad

URL: ftp://ftp.ccs.neu.edu/pub/mirrors/newton/_1.x-savvy/mac-only/dragnet-100b2.sit.hqx

NoteThing
Sends text from the Notepad to your Macintosh

URL: http://www.websmart.net/~marc/notething.html

Slurpee 1.7 (Windows version: WinSlurp for Windows)
Transfers text to/from a terminal emulator program, under Macintosh, Windows, or UNIX

URL: http://www.netaxs.com/~weyer/newton/releases.html#Slurpee

Revelar Connection Utility
Real time connection between a Macintosh and Newton. Revelar Connection Utility is a commercial package, but a partially functional demo is available on the World-Wide Web, along with a beta of their 2.0-savvy version.

URL: ftp://ftp.xmission.com/pub/users/r/revelar

X-Port
Commercial product from Landware Products; it transfers notes, lists, outlines, contacts, meetings and packages between a Newton and Macintosh or Microsoft Windows.

URL: http://www.landware.com/products/xport/xportps.html

csInStep - Commercial Product from Concierge Software. Offers Newton PIM support to Macintosh PIMs: ACT! 2.0, TouchBase 4.0, NOW Contact 3.5, Now Up-To-Date 3.5.

URL: http://www.conciergesw.com

Informed Filler for Newton
Commercial product helps mobile data collection for Inspection, Health Care, and similar forms. Create and send forms to desktop for further processing. Exchange information between desktop and MessagePad.

URL: http://www.shana.com

Lotus Toolkit Collection
Commercial product offers a complete set of Lotus developer toolkits includes the new Notes Release 4 Macintosh APIs, tookits for cc:Mail, VIM, and more.

URL: http//www.lotus.com

This article appeared in the 25 June 1996 issue of Information Alley.
Published Date: Feb 18, 2012

Color LaserWriter 12/600: White Areas on Legal Documents

Using a Color LaserWriter 12/600 PS, I am printing a color document on legal size paper. When the document prints, some areas of light color appear white, and some portions of the document disappear altogether. What could be causing this?
This article has been archived and is no longer updated by Apple.
In the Color LaserWriter 12/600 PS, the Apple Contone Compression Technology is tuned to print a standard letter-size or A4 page using only 12 MB of RAM on the printer's I/O board. If you attempt to print a legal-size page on a Color LaserWriter 12/600 PS with 12 MB of RAM, some areas of light colors will appear white, and some portions of the document may disappear altogether. The name for this effect is "dropout".

Dropout occurs because the Apple Contone Compression Technology uses a higher compression technique which uses only the C,M, and Y color planes to fit a legal-sized image into the same amount of RAM as a letter-sized image.

To eliminate dropout, add more RAM to the printer's I/O board. Adding 4 MB of RAM (for a total of 16 MB) will allow legal-size pages to print without dropout.

This article was published in the Information Alley on 09 July 1996.
Published Date: Feb 18, 2012

Color LaserWriter 12/600: Error 0x3e7750 with AppleShare

When trying to capture a Color LaserWriter 12/600 PS printer with our AppleShare Print Server (v3.x or 4.x), the printer restarts and prints a page with the error, "Printer restarted due to error at address 0x3e7550." The printer was working properly with a LocalTalk connection.

I removed the logic board from the printer and let it sit for 10 minutes. Then I replaced the logic board into the printer and restored the printer defaults using the printer utility. This corrected the address problem, but is there any other way of correcting this?
This article has been archived and is no longer updated by Apple.
When TCP/IP is turned off on the Color LaserWriter 12/600 PS or Color LaserWriter 12/660 PS with the Apple Printer Utility, this error occurs when any type of print server (AppleShare, NetWare, Windows NT) attempts to capture the printer by changing the AppleTalk type. You may also see one of the following errors: »x3EA5B» or »x3E9428. You should turn TCP/IP on. The TCP/IP setting can be found under:

Apple Printer Utility
- Communication Configuration
- Port Configuration
- Ethernet Port

This explains why your workaround, of removing the logic board and letting it sit for 10 minutes resolves this issue. Basically, the board is reset to its default settings, where TCP/IP is on.

This issue has been reported, and Apple Engineering is investigating it. We have no information as to when a fix will be available.
Published Date: Feb 18, 2012

MAE: Only HFS CD-ROM Discs Supported (6/96)

When I try to mount Audio or Kodak Photo CD-ROM discs in the Macintosh Application Environment (MAE) version 2.0.2 and earlier, I get the message, "This is not a Macintosh disk. Do you want to initialize it?" What is wrong?

This article has been archived and is no longer updated by Apple.

MAE supports HFS (Hierarchical File System) CD-ROM discs only. Audio and Kodak Photo CD-ROM discs do not use the HFS format, and at this time, cannot be used with MAE.

Published Date: Feb 18, 2012

At Ease Updater (non-workgroups) 1.0 Read Me

The following article is the Read Me document for the At Ease Updater (non-workgroups) 1.0.
This article has been archived and is no longer updated by Apple.
This application is a utility that will modify the At Ease Startup system extension for At Ease 2.0 and 3.0, non-workgroup versions. Running this utility eliminates a potential startup issue with Mac-OS computers running Open Transport.

Warning

This utility should be used only on a non-workgroup version of At Ease, (called "At Ease" rather than "At Ease for Workgroups"). If it is used on versions 2.0 or 3.0 of At Ease for Workgroups, network access issues may result and you will need to re-install At Ease for Workgroups. (Running the utility does nothing on versions 3.0.1 or later of At Ease for Workgroups.)

To use this utility, run it on a computer that has an installed version of At Ease 2.0 or 3.0 (non-workgroups).

If the update is successful, you should restart your machine. This utility will append a "+" character to the version string of the At Ease Startup extension file once it has been updated. You can use the Get Info command to check if the file has already been updated.
Published Date: Feb 18, 2012

LaserWriter Toner Cartridges: Covered by Warranty?

Are Apple LaserWriter toner cartridges covered by any warranty?
This article has been archived and is no longer updated by Apple.
As consumables, toner cartridges are not covered by Apple's warranty.

If the toner cartridge worked properly when first installed and developed image quality defects thereafter, the issues are usually caused by the media that was sent through the printer.

To avoid potential issues with the toner cartridge, and use only approved paper types and weights for your printer. This information is available in your LaserWriter User's Guide, which was included with your LaserWriter.

Published Date: Feb 18, 2012

Powerbook 500: Brightness & Contrast Do Not Work After Upgrade

After upgrading my PowerBook 500 series computer with the PowerPC upgrade the brightness and contrast buttons no longer have any effect when it is starting up. This happens only when I start from the battery, not when it is plugged into the AC power.
This article has been archived and is no longer updated by Apple.

Issue

When using system software older than 7.5.5 on a PowerBook 500 series computer with the PowerPC upgrade, the Display Brightness control push button does not work unless AC power is connected.

If you adjust the brightness or contrast while the unit is starting up, and running from the battery, those controls will become locked in at the current brightness/contrast setting.

Workaround

Do not adjust brightness or contrast until the unit fully comes up to the desktop. If you wait until the computer is finished starting up to make adjustments, the brightness and contrast buttons will work normally.

Resolution

System Software 7.5.5

System Software 7.5.2 v 1.2 is the version of system software which originally shipped with the PowerBook 500 series computer PowerPC upgrade. Installing System Software version 7.5.5 fixes display brightness issue.

Alternate Solution

Newer Technology has created a system extension that corrects this issue. It is called NUpowr Backlight Fix.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

The following Tech Info Library article can help you search for a particular vendor's address and phone number:

Article 17159: "**Locating Vendor Information**"

This article was published in the Information Alley on 27 June 1996. It was published again in the Information Alley on 8 October 1996 with updated information.
Published Date: Feb 18, 2012

PowerBook Duo: Difference In Volume Level After PPC Upgrade

I just had an authorized Apple service technician upgrade my PowerBook (Duo) 280c computer to the Power PC (PPC) 2300c logic board. Now my computer is much louder than it was before. Why? Can I reduce the volume to the way it was before the upgrade?

This article has been archived and is no longer updated by Apple.

The sound output level on the PowerBook 2300c logic board is higher than on previous PowerBook 200 series (Duo) computers. The impedance on the PowerBook 270c and 280c computers' speakers is lower than on the speaker in the PowerBook 2300c. When you upgrade from a PowerBook 270c or 280c to the 2300c logic board, you may find that you PowerBook speaker is noticeably louder than it was before.

A PowerBook 270c or 280c computer which has been upgraded to the PPC logic board has the largest range in volume when compared to the PowerBook 200 or 2300 series computers. If it seems that your PPC upgraded PowerBook is too loud, it is possible that you have not adjusted the Sound control panel correctly. By adjusting the Volume and Alert Volume sliders in the Sound control panel, you should be able to match the overall volume level of your PowerBook computer before it was upgraded.

The following table shows the dB levels of the different PowerBook 200 and 2300 series computers using the Simple Beep sound in the Sound control panel. "Max" means the Volume and Alert Volume sliders were set to maximum. "Min" means the Volume and Alert Volume sliders were set to one. The dB meter was placed about one cm from the speaker.

PowerBook 2300c	PowerBook 280c	PowerBook 270c/280c upgraded to Power PC
max - 110dB	max - 101dB	max - 116dB
min - 92dB	min - 85dB	min - 80dB

This article was published in the Information Alley on 27 June 1996.

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QuickTake 150 Camera: 2.0.1 Installer Read Me File

The following is the Installer Read Me file for the QuickTake software version 2.0.1 for use with the QuickTake 150 digital camera.
This article has been archived and is no longer updated by Apple.

Installation process

The software for the QuickTake 150 digital camera is compressed onto four disks. The process of reading, decompressing, and installing the software can take a while on some Macintosh computers.

Warning about extensions

Some extensions interfere with the QuickTake Installer. To avoid problems, press and hold down the Shift key while you start up your Macintosh. This turns off the extensions temporarily. When QuickTake installation is complete and you restart your Macintosh, the extensions start up as usual.

System 7.5 and Virtual Memory

If your are using System 7.5 or greater with 8 MB of RAM on your Macintosh, it is recommended that you turn on your Virtual Memory from the Control Panel.

Installing on a hard disk that is not currently running your system

You can install this software onto any hard disk that has a System Folder. If the hard disk on which you install the QuickTake software is not the one that is running your system, you will have to select it as your startup disk before you can use your QuickTake camera. To do that, open the Startup Disk control panel and select the hard disk where you have installed the QuickTake software, then restart your computer.

Special Instructions for: Macintosh IIfx, Quadra 900, and Quadra 950 computers

To use your QuickTake camera with a Macintosh IIfx, a Macintosh Quadra 900, or a Macintosh Quadra 950, the computer's serial switch must be set to "Compatible" rather than "Faster." To set the serial switch, use the Serial Switch control panel.

If you have an old version of Now Utilities installed

If you have a version of Now Software's Now Utilities that is previous to version number 5.0, some of the extensions installed with the QuickTake software may not be loaded. After installing the QuickTake software, open the Now Utilities Startup Manager control panel and make sure that AppleScript and Macintosh Drag and Drop are selected. You may want to upgrade to the latest version of Now Utilities.

If You Use Custom Remove

Custom Remove is designed to delete software that is not needed and leave any software that might be needed by other applications. If you use Custom Remove, you may see a dialog box when your Macintosh starts up telling you that Foreign File Access was not loaded because there is no software that uses it. If you get this message, remove Foreign File Access by dragging its icon from the Extensions folder to the Trash.

Now Utilities is a trademark of Now Software. This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

Published Date: Feb 18, 2012

Macintosh Tutorial: Read Me (6/96)

This article contains the ReadMe file for Macintosh Tutorial.
This article has been archived and is no longer updated by Apple.
Macintosh Tutorial is a training program for new Macintosh users to learn how to use a Macintosh. It is the replacement for Macintosh Basics and requires System 7.5 and Apple Guide.

Installing and Configuring Macintosh Tutorial for 7.5
==========

Install Macintosh Tutorial following these steps:

* Drag the Tutorial Items folder into the extensions folder of your 7.5 System Folder. (Do not rename the folder).
* Drag the Macintosh Tutorial file into the extensions folder of your 7.5 System Folder. (Do not drag it into the Tutorial Items folder).
* Restart your Macintosh.

To view the Tutorial, select Macintosh Tutorial from the Help menu.

Macintosh Tutorial is in two parts:
The first part teaches different pointing skills - mouse, trackball and trackpad - depending on the configuration that has been loaded in the Tutorial Items folder.

You can examine each pointing device path by moving the other pointing devices skills sections out of the Tutorial Items folder. For example, to show the Mouse Skills section, drag Trackpad Skill and Trackball skills out of the Tutorial Items folder. And if you'd like to view the Trackpad Skills, drag the other two out of the folder (replacing the Trackpad Skills section, of course) If you have a PowerBook Duo, leave both the Mouse and Trackball Skills sections in the folder and when you're docked you will see Mouse Skills and undocked, Trackball Skills. If you leave all three Skills files in the folder, the tutorial wil default to the Trackball Skills section.

The second part is an Apple Guide database and leads you through several tasks while you are in the Finder.

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Newton Backup Utility With Newton Package Installer Open

Every time I try to load my backup file, created with Newton Backup Utility, from my Macintosh, I get this message "Could not download the package because none of the selected files were Newton packages."
This article has been archived and is no longer updated by Apple.
This will happen when another Newton Connection utility, like the Newton Package Installer, is open in the background. Quit the other application and double click on your backup file again.
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Apple Media Tool: Making a Compatible ISO 9600 Disc

I am using the Apple Media Tool to create Microsoft Windows ISO-9660 formatted CD-ROM discs. However, when I use the media tool converters, I get an error message stating that some of my files have invalid ISO characters. What are the invalid ISO characters?
This article has been archived and is no longer updated by Apple.
In order for your project to run correctly on an ISO 9660 formatted CD-ROM disc, you need to make sure you do the following:

* File names and extensions should be in all capitals.

* File name should not exceed eight characters, and extensions three characters.

* Numbers in file names should be separated from the alpha characters by an underscore. For example MOVIE_1.MOV

Characters Not Allowed include:
- Hypens
- Spaces
- Colons
- Slash
- Backslash

Published Date: Feb 18, 2012

Color OneScanner 600/27: Troubleshooting Error Messages

When I open the Apple Color OneScanner 600/27 Dispatcher software, and click Scan, an error appears on my screen. The error message states "A scanner error occurred. Please ensure that the scanner is turned on and the carriage is unlocked, then try again. If the feeder is attached, clear the paper jam by following the instructions in the User's Guide." What steps should I follow to correct this?
This article has been archived and is no longer updated by Apple.
Here are the steps you should follow to troubleshoot your scanner.

Step 1

Verify that the Scanner extension loads properly.

If an 'X' appears on the scanner icon during startup of your Macintosh, then the Scanner extension did not load properly. For more information on troubleshooting this situation, please see Tech Info Library article 19449: "**Color OneScanner 600/27: Scanner Driver Isn't Initializing**"

Step 2

Verify that the scanner is turned on and the SCSI connections are secure. You should power on the scanner before powering on your Macintosh computer.

Step 3

Verify the proper SCSI ID and termination.

The red ID numbers on the right side of the dial are to be used when termination is not provided externally--typically when the OneScanner is the only SCSI device. For more information on termination and how to properly set it, please see Tech Info Library article 19550: "**Color OneScanner 600/27: Terminator Is Not Required**"

Note: Sometimes it is difficult to determine visually which SCSI ID is selected. For more information on how to determine SCSI selection, please see Tech Info Library article 19455: "**Color OneScanner 600/27: SCSI Selector Has Wrong SCSI ID**"

Step 4

Verify that the carriage, which is locked during shipment, is unlocked.

For more information on unlocking the scanner, please see Tech Info Library article 19448: "**Color OneScanner 600/27: Chattering Sound Due To Lock**". Or, see page 11 of the Apple OneScanner 600/27 User's Guide for instructions on unlocking the scanner.

Step 5

If you have a Feeder attached, check for paper jams. The Apple OneScanner 600/27 User's Guide contains instructions for doing this.

Step 6

Verify the cable on the back of the sheet feeder is securely connected to the serial port (DIN-8 connector) on the OneScanner.

Step 7

Try a different SCSI cable.

Having a faulty SCSI cable does not necessarily produce the same symptoms as having no SCSI cable. So, the Scanner extension may load without having an 'X' on it when your Macintosh is starting up. When your SCSI cable is faulty, the software may load. However, when you do not have a SCSI cable attached, the Scanner icon always has an 'X' through it at startup.

Step 8

Use standard software troubleshooting procedures in case the error message is itself erroneous.

Standard Software Troubleshooting Procedures

Step 1

Scan with other applications (For example, TextBridge; Ofoto; or PhotoShop).

Step 2

Disable all non-essential extensions except for system software and the Scanner extension.

Step 3

Reset the Parameter RAM (PRAM).

Step 4

Remove and reinstall the Scanner software.
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Apple Remote Access Client: Internet Access

My computer at work has access the Internet through an Ethernet LAN. Can I call into my computer with Apple Remote Access (ARA) and get on the Internet?
This article has been archived and is no longer updated by Apple.
Yes, you can access the Internet with ARA. Here is a brief explanation of how it can be done.

ARA uses the AppleTalk protocol to communicate with other network resources like file servers, printers, and so on. To obtain Internet access, which uses the TCP/IP protocol, you will need to have a DDP/IP (Datagram Delivery Protocol/Internet Protocol) gateway, for example the Apple IP Gateway, somewhere on your Ethernet LAN.

A DDP/IP gateway is a node that sits on both an AppleTalk and an IP network and translates packets between them. The basic purpose of the DDP/IP gateway is to let Macintosh clients on an AppleTalk only network, like ARA, have access to TCP/IP hosts on an IP network.

NOTE: To connect to the internet, your ARA client computer must have either MacTCP if you are using the Classic AppleTalk networking, or TCP/IP if you are using Open Transport.
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LaserWriter Bridge: Setting Ethernet Zone

How do I change the Ethernet zone my LaserWriter Select 360 is in when using Apple's LaserWriter Bridge? When I use the LaserWriter Utility to change zones, the configuration reads "LocalTalk", and if I use the Apple Printer Utility, the configuration reads "Fixed Settings".
This article has been archived and is no longer updated by Apple.
A LaserWriter Select 360 will appear in the same Ethernet zone as the computer to which it is attached. In other words, only one zone can be assigned to a LocalTalk device. The LaserWriter Bridge software will register LocalTalk devices on the default zone of the EtherTalk segment the bridge device is attached to.

To our knowledge, there is no "printer bridge" hardware or software which lets you register a LocalTalk device on a different zone of an EtherTalk segment. If you desire this level of functionality, you may wish to investigate obtaining a router.

Apple's LaserWriter Bridge shipped with the LaserWriter Select 360 and LaserWriter 4/600 PS printers. The LaserWriter Bridge is available on-line from Apple's software updates locations with the Network Software Installer.

This article can help you locate the software update mentioned here:

- Article 14724: "**Where To Find Apple Software Updates**" - Lists online services for free Apple software updates.

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Apple Network Administrator Toolkit & AWS 95

Will the At Ease for Workgroups 4.0 package of the Apple Network Administrator Toolkit work on the Apple Workgroup Server (AWS) 95?
This article has been archived and is no longer updated by Apple.
No, the At Ease for Workgroups 4.0 package of the Apple Network Administrator Toolkit is supported only on a Mac OS-based computer that functions as an AppleShare file server.

The At Ease for Workgroups 4.0 package will not work on an A/UX system such as the Workgroup Server 95. It will not work on Windows NT, NetWare or any other AFP compliant server. However, these AFP compliant servers may be used as Document Servers for At Ease for Workgroups.

This article was published in the Information Alley on 11 July 1996.
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AICK 1.1: Apple Internet Dialer Configuration Q&A

This article is the Apple Internet Connection Kit (AICK) 1.1 Apple Internet Dialer Configuration Q&A.
This article has been archived and is no longer updated by Apple.

Apple Internet Dialer

Question: What is the Apple Internet Dialer?

Answer: The Apple Internet Dialer is an application that uses a suite of helper applications and extensions to enable the user to go online with minimum set-up time or technical knowledge.

Question: What information do AICK users need in order to use the Apple Internet Connection Kit successfully?

Answer: The AICK user will need the following information from the Internet Service Provider (ISP). This information is entered in three different screens within the Apple Internet Dialer. The screens are labeled "Service Provider Account Information", "Server Information", and "Connection Script". In order, the screens require:

Service Provider Account Information:

- The ISP's name
- The AICK user's login name
- The AICK user's password
- The ISP's modem pool phone number
- The AICK user's e-mail password (if different from their login password)

Server Information:

- The ISP's NNTP host address
- The ISP's SMTP host address
- The ISP's POP server address
- The AICK user's e-mail address
- The ISP's Domain name
- The ISP's primary DNS address
- The ISP's alternate DNS address

Connection Script:
The AICK user will not need to enter anything in here if the ISP's service is PAP enabled and compliant. If the ISP's service does require a connection script that is less than eight lines long, the AICK user needs to have the remaining empty lines set to "Wait For" to prevent spurious returns from being sent. There is no facility within the Apple Internet Dialer for entering connection scripts longer than eight lines.

Question: Is there anything else that the ISP needs to know about the requirements for the Apple Internet Dialer?

Answer: Only that the AICK was designed to work with a Dynamic Addressing System as opposed to a Static IP system. If the ISP's system is Static IP only, please contact the Apple Assistance Center's Apple Internet Connection Kit support group at 800-767-2775 for further information.

Question: Do AICK users need to enter data into the Config PPP Control Panel?

Answer: No. The Apple Internet Dialer is designed to automatically enter the connection information for the AICK user into the PPP Extension preferences. Also note that with AICK 1.1.x the PPP Extension has been upgraded to version 2.5

Question: Do AICK users need to enter data into the MacTCP or TCP/IP Control Panel?

Answer: No. The Dialer is designed to automatically enter the configuration information into the MacTCP or TCP/IP Control Panel's preferences. Simply fill out the information in the Apple Internet Dialer, and it will atomically configure the MacTCP or TCP/IP Control Panel.

Internet Status

Question: What is the Internet Status application?

Answer: Internet Status is an application that is launched after the Apple Internet Dialer establishes a connection with the ISP. Internet Status is used to hang up after a session complete and can also be used dial a connection after the Apple Internet Dialer has been configured correctly.

Modem configuration

Question: The AICK user's modem does not show up in the modem selections listed in the Apple Internet Dialer. Can the AICK user setup in their own modem description?

Answer: Yes, they can enter the modem information by scrolling all the way to the top of the modem listing to the "Add/Modify modem" selection.

Question: What information does the AICK user need to enter in the Add/Modify modem selection?

Answer: They will need an initialization string for a PPP connection on a Macintosh. They will also need the flow control settings and the preferred modem speed. All of this information they will need to get from the modem manufacturer.
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AICK 1.1: Modem Initialization String Q&A

This article is the Apple Internet Connection Kit (AICK) 1.1 Modem Initialization String Q&A.
This article has been archived and is no longer updated by Apple.

Question: What is a modem initialization string?

Answer: A modem initialization string is used to set up your modem to properly communicate with another modem.

Question: Where do you change a modem string in the Apple Internet Dialer?

Answer: Click on the modem pop up menu in the front screen of the Apple Internet Dialer. Then scroll to the top of the list until you see the screen that says add/modify modem. The screen will then change to Modem Options screen and you will be asked to name the modem. Name it "My (modem type) Modem". After you've named your new modem, hit the tab key and the cursor will move down to the field labeled "init string:". Type in the init string you desire to enter. Then select the flow control pop-out menu and set the flow control, then enter the recommended modem speed.

Question: What do I try if it doesn't work with this method?

Answer: You can get a new init string from the following sources:

* The manufacturer of your modem
* The support center for the product you are using
* The Internet service provider
* Your manual that came with your modem

Question: What do I ask for when asking about an init string for my modem?

Answer: If asking for an init string, then it would be helpful if you could ask the following question of your modem manufacturer:

1) Could you please give me two init strings you would recommend for making a PPP connection to the Internet on a Macintosh computer?
2) I would also like to know what hardware flow control settings you recommend for this modem, and what should I set my modem port speed at in my application?
3) Are there any hardware or software upgrades for this modem I need to be aware of? If yes, then how do I get them?

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AICK 1.1: Q&A For Internet Service Providers

This article is the Apple Internet Connection Kit (AICK) 1.1 Q&A For Internet Service Providers (ISP).
This article has been archived and is no longer updated by Apple.
Question: What is the Apple Internet Connection Kit?

Answer: The Apple Internet Connection Kit is a collection of commercial and shareware programs compiled into a complete and easy to use package.

Question: What is included in the AICK?

Answer: The major parts of the package include the Apple Internet Dialer, Netscape, Claris Emailer Lite, Fetch, Gopher and Telnet. These programs are linked behind the scenes by the Internet Config application. Also included are a number of common utilities as well as Netscape helper applications.

Question: How do I configure the Apple Internet Connection Kit for my clients who are dialing in to my server using the AICK?

Answer: Configuration that normally takes place in Config PPP, MacTCP (or TCP/IP) now takes place entirely in the Apple Internet Dialer. When first launched, the Apple Internet Dialer is ready to connect to a "Registration Server". This server advertises a number of national Internet Service Providers for AICK owners to use if they desire. To configure the AICK to work with an Internet Service Provider not on this Registration Server, the user must select "Define Provider Information" from the "Provider" menu of the Apple Internet Dialer.

This action opens up the first of a number of screens prompting the user for his or her Internet Service Provider's connection information. The first screen is just an instruction screen.

When the user clicks the "Next" button, a Service Provider Account Information screen appears prompting the user to enter the provider name and phone number along with the user's login name and passwords.

The following Server Information screen prompts the user for server addresses. Each of these items must be filled out in full.

The final Connect Script screen prompts the user for a connection script. This screen only needs to be used if your server requires a connection script, otherwise PAP and CHAP protocol calls are active in the kit and will establish the connection. In this screen, the "send" buttons may be pulled down to select "wait for." It is also noteworthy that a "send" line in the script is automatically followed by a carriage return. Once each of these screens is filled out, the user is brought back to the main screen of the Apple Internet Dialer.

From the main screen of the Apple Internet Dialer, the user may select the proper modem from an extensive Modem pop-up list. If the modem is not on the list, the user may select "Generic High Speed," or "Default Modem," or "Add/Modify Modem." The "Add/Modify" selection (found at the very top of the list) brings up a dialog box prompting the user for the modem name, init string, flow control and port speed.

When all is configured, the user needs to press the "Dial" button to dial out and connect to the Internet Service Provider.

If modifications need to be made to the provider file, the user must pull down the Provider menu and select "Modify Current Provider."

NOTE: The Apple Internet Dialer was designed to work with dynamically addressed servers. If your server is not dynamically addressed, the Apple Internet Dialer will not work correctly and the user may need to continue using Config PPP to connect.

Question: Why does the connection drop the line at the "Establishing communications phase"

Answer: This usually signals the need for a connection script.
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Ethernet Hardware (Media Access Control) Addresses by Manufacturer

Manufacturers are licensed to manufacture Ethernet hardware, and are issued a vendor code which comprises the first three octects (xx:xx:xx:yy:yy:yy) of the hardware Ethernet address (MAC address, for Media Access Control). This is a partial table of some of the best-known Ethernet manufacturers' codes.

This article has been archived and is no longer updated by Apple.

Ethernet MAC (Media Access Control) Address Table

000002 BBN (was internal usage only, no longer used)
00000A Omron
00000C Cisco
00000E Fujitsu Ltd.
00000F NeXT
000010 Hughes LAN Systems (formerly Sytek)
000011 Tektronix
000015 Datapoint Corp.
000018 Webster Computer Corp. Appletalk/Ethernet Gateway
00001A AMD
00001B Novell Inc.
00001D Cabletron
000020 DIAB (Data Intdustrier AB)
000021 SC&C
000022 Visual Technology
000023 ABB Automation AB, Dept. Q
000029 IMC
00002A TRW
000037 Oxford Metrics Ltd.
00003B Hyundai
00003C Auspex Systems Inc.
00003D AT&T
00003F Syntrex Inc.
000044 Castelle
000046 ISC-Bunker Ramo, An Olivetti Company
000046 Olivetti North America
000049 Apricot Computers Ltd.
00004B APT A.P.T. Appletalk WAN router
00004C NEC Corp.
00004F Logicraft 386-Ware P.C. Emulator
000050 Radisys Corp.
000051 HOB Electronic GMBH & Co. KG
000052 Optical Data Systems(ODS)
000055 AT&T

000058 Racore Computer Products Inc.
00005A S & Koch (Schneider & Koch in Europe and Syskonnect outside of Europe)
00005A Xerox 806 (unregistered)
00005D RCE
00005E U.S. Department of Defense (IANA)
00005E USC Information Sciences Inst. <- from IEEE
00005F Sumitomo Electric Ind. Ltd.
000061 Gateway Communications
000062 Honeywell
000064 Yokogawa Digital Computer Corp.
000065 Network General Corp.
000068 Rosemount Controls
000069 Silicon Graphics
00006B MIPS
00006D CRAY Communications Ltd.
00006E Artisoft Inc.
00006F Madge Networks Ltd.
000074 Ricoh Company Ltd.

000077 Interphase (Used in other systems, e.g. MIPS, Motorola)
000078 Labtam Australia
000079 Networth Inc.
00007A Ardent
00007B Research Machines
00007D Cray Research Superservers,Inc (Also Harris (3M) (old))
00007D Harris (3M) (old)
00007E NetFrame
00007F Linotype-Hell AG (Linotronic)
000080 Dowty Network Services (Also shows as "Harris (3M) (new)" and/or "Imagen(?)" elsewhere)
000081 Synoptics
000084 ADI Systems Inc. Aquila (?)

000086 Megahertz-Corp. Gateway (?)
000087 Hitachi Ltd.
000089 Cayman Systems Gatorbox
00008A Datahouse Information Systems
00008E Jupiter-Solbourne
000093 Proteon
000094 Asante Technologies MAC
000095 Sony-Tektronix
000097 Epoch
000098 Crosscomm Corp.
000099 Memorex Telex Corp.
00009F Ameristar Technology
0000A0 Sanyo Electronics
0000A2 Wellfleet
0000A3 Network Application Technology (NAT)
0000A4 Acorn Computers Ltd.
0000A5 Compatible Systems Corp.
0000A6 Network General (internal assignment, not for products)
0000A7 Network Computing Devices Inc.(NCD) X-terminals
0000A8 Stratus Computer Inc.
0000A9 Network Systems Corp.
0000AA Xerox Corp. Xerox machines
0000AC Apollo
0000AE Dassault Automatismes ET
0000AF Nuclear Data Acquisition Interface Modules (AIM)
0000B0 RND (RAD Network Devices)
0000B1 Alpha Microsystems Inc.
0000B3 CIML Inc.
0000B4 Edimax
0000B5 Datability Terminal Servers
0000B6 Micro-Matic Research
0000B7 Dove Computer Corp. Fastnet

0000BB ??????????????? seems to speak appletalk
0000BC Allen-Bradley Co. Inc.
0000C0 Western Digital now SMC (Std. Microsystems Corp.)
0000C1 Olicom A/S
0000C6 HP Intelligent Networks Operation (formerly Eon Systems)
0000C8 Altos
0000C9 Emulex Terminal Servers
0000CC Densan Co. Ltd.
0000CD Industrial Research Ltd.
0000D0 Develcon Electronics Ltd.
0000D1 Adaptec Inc. "Nodem" product
0000D2 SBE Inc.
0000D4 Puredata
0000D7 Dartmouth College (NED Router)
0000D8 Old-Novell-NE1000
0000D9 NTT
0000DD Gould
0000DE Unigraph
0000E2 Acer Counterpoint

0000E3 Integrated Micro Products Ltd.
0000E6 Aptor Produits de Comm Indust
0000E7 Star Gate Technologies
0000E8 Accton Technology Corp.
0000E9 ISICAD Inc.
0000ED April
0000EE Network Designers Ltd.
0000EF Alantec
0000F0 Samsung
0000F2 Spider Communications
0000F3 Gandalf
0000F4 Allied Telesis Inc.
0000F6 A.M.C. (Applied Microsystems Corp.)
0000F8 Digital Equipment Corp.(DEC)
0000FB Rechner Zur Kommunikation

0000FD High Level Hardware (Orion, UK)
000102 BBN BBN internal usage (not registered)
000143 IEEE 802
000163 NDC (National Datacomm Corp.)
000168 W&G (Wandel & Goltermann)
0001C8 Thomas Conrad Corp.
0001E1 Oki
000267 Node Runner Inc.
000701 Racal-Datacom
000852 Technically Elite Concepts
000855 Fermilab
001700 Kabel
002000 Lexmark International Inc.
002002 Seritech Enterprise Co. Ltd.
002003 Pixel Power Ltd.
002004 Yamatake-Honeywell Co. Ltd.
002005 Simple Technology
002006 Garrett Communications Inc.
002007 SFA Inc.
002008 Cable & Computer Technology
002009 Packard Bell Elec. Inc.
00200A Source-Comm Corp.
00200B Octagon Systems Corp.
00200C Adastra Systems Corp.
00200D Carl Zeiss
00200E Satellite Technology Mgmt Inc.
00200F Tanbac Co. Ltd.
002010 JEOL System Technology Co. Ltd.
002011 Canopus Co. Ltd.
002012 Camtronics Medical Systems
002013 Diversified Technology Inc.
002014 Global View Co. Ltd.
002015 ACTIS Computer SA
002016 Showa Electric Wire & Cable Co.

002017 Orbotech
002018 CIS Technology Inc.
002019 Ohler GMBH
00201A N-Base Switch Communications
00201B Northern Telecom Canada
00201C Excel Inc.
00201D Katana Products
00201E Netquest Corp.
00201F Best Power Technology Inc.
002020 Megatron Computer Industries
002021 Algorithms Software Pvt. Ltd.
002022 Teknique Inc.
002023 T.C. Technologies Pty. Ltd.
002024 Pacific Communication Sciences

002025 Control Technology Inc.
002026 Amkly Systems Inc.
002027 Ming Fortune Industry Co. Ltd.
002028 West Egg Systems Inc.
002029 Teleprocessing Products Inc.
00202B Advanced Telecommunications
00202C Welltronix Co. Ltd.
00202D Taiyo Corp.
00202E Daystar Digital
00202F Zeta Communications Ltd.
002030 Analog & Digital Systems
002031 Ertec GMBH
002032 Alcatel Taisel
002033 Synapse Technologies Inc.
002034 Rotec Industrieautomation GMBH
002035 CPN Architectures/IBM Corp.
002036 BMC Software
002037 Seagate Technology
002038 VME Microsystems International
002039 Scinets
00203A Digital Biometrics Inc.

00203B Wisdm Ltd.
00203C Eurotime AB
00203D Novar Electronics Corp.
00203E Logican Technologies Inc.
00203F Juki Corp.
002042 Datametrics Corp.
002043 Neuron Company Ltd.
002044 Genitech Pty Ltd.
002045 Solcom Systems Ltd.
002046 Ciprico Inc.
002048 Fore Systems Inc.
002049 Comtron Inc.
00204A Pronet GMBH
00204B Autocomputer Co. Ltd.
00204C Mitron Computer Pte Ltd.
00204D Inovis GMBH
00204E Network Security Systems Inc.
00204F Deutsche Aerospace AG
002050 Korea Computer Inc.
002051 Phoenix Data Commununications
002052 Ragula Systems
002053 Huntsville Microsystems Inc.
002054 Eastern Research Inc.
002055 Altech Co. Ltd.
002056 Neoproducts
002057 Titze Datentechnik GMBH
002058 Allied Signal Inc.
002059 Miro Computer Products AG
00205B Skyline Technology
00205C Internet Systems/ Florida Inc.
00205D Nanomatic OY
00205E Castle Rock Inc.
00205F Gammadata Computer GMBH
00205A Computer Identics
002060 Alcatel Italia S.P.A.
002061 Dynatech Communications Inc.
002062 Scorpion Logic Ltd.

002063 Wipro Infotech Ltd.
002064 Protec Microsystems Inc.
002065 Supernet Networking Inc.
002066 General Magic Inc.
002068 ISDYNE

002069 ISDN Systems Corp.
00206A Osaka Computer Corp.
00206B Minolta Co. Ltd.
00206C Evergreen Technology Corp.
00206D Data Race Inc.
00206E XACT Inc.
00206F Flowpoint Corp.
002070 HYNET Ltd.
002071 IBR GMBH
002072 Worklink Innovations
002073 Fusion Systems Corp.
002074 Sungwoon Systems
002075 Motorola Communication Israel
002076 Reudo Corp.
002077 Kardios Systems Corp.
002078 Runtop Inc.
002079 Mikron Gmbh
00207A Wise Communications Inc.
00207B Level One Communications
00207C Autec GMBH
00207D Advanced Computer Applications
00207E Finecom Co. Ltd.
00207F Kyoei Sangyo Co. Ltd.
002080 Synergy (UK) Ltd.
002081 Titan Electronics
002082 Oneac Corp.
002083 Presticom Inc.
002084 Oce Graphics USA Inc.
002086 Microtech Electronics Ltd.
002087 Memotec Communications Corp.
002088 Global Village Communication
002089 T3PLUS Networking Inc.
00208A Sonix Communications Ltd.

00208B Lapis Technologies Inc.
00208C Galaxy Networks Inc.
00208D Cmd Technology
00208E Chevin Software Eng. Ltd.
00208F ECI Telecom Ltd.
002090 Advanced Compression
002091 J125, National Security Agency
002092 Chess Engineering B.V.
002094 Cubix Corp.
002095 Riva Electronics
002096 Siebe Environmental Controls
002098 Hectronic AB
002099 Bon Electric Co. Ltd.
00209A The 3DO Company
00209B Ersat Electronic GMBH
00209C Primary Access Corp.
00209D Lippert Automationstechnik
00209E Brown's Operating System
00209F Mercury Computer Systems Inc.
0020A0 OA Laboratory Co. Ltd.
0020A1 Dovatron
0020A2 Galcom Networking Ltd.
0020A3 Divicom Inc.
0020A4 Multipoint Networks
0020A5 API Engineering
0020A6 Proxim Inc.
0020A7 Pairgain Technologies Inc.
0020A9 White Horse Industrial
0020AA NTL
0020AB Micro Industries Corp.
0020AC Interflex Datensysteme GMBH

0020AD Linq Systems
0020AE Ornet Data Communication Tech.
0020AF 3COM Corp.
0020B0 Gateway Devices Inc.
0020B1 Comtech Research Inc.
0020B2 GKD Gesellschaft Fur

0020B3 Scltec Communications Systems
0020B4 Terma Elektronik AS
0020B5 Yaskawa Electric Corp.
0020B6 Agile Networks Inc.
0020B7 Namaqua Computerware
0020B8 Prime Option Inc.
0020B9 Metricom Inc.
0020BA Center For High Performance
0020BB ZAX Corp.
0020BC JTEC Pty Ltd.
0020BD Niobrara R & D Corp.
0020BE LAN Access Corp.
0020BF Aehr Test Systems
0020C0 Pulse Electronics Inc.
0020C1 Taiko Electric Works Ltd.
0020C2 Texas Memory Systems Inc.
0020C3 Counter Solutions Ltd.
0020C5 Eagle Technology
0020C6 Nectec
0020C7 Akai Electric Co. Ltd.
0020C8 Larscom Inc.
0020C9 Victron BV
0020CA Digital Ocean
0020CB Pretec Electronics Corp.
0020CC Digital Services Ltd.
0020CD Hybrid Networks Inc.
0020CE Logical Design Group Inc.
0020CF Test & Measurement Systems Inc.
0020D0 Versalynx Corp.
0020D1 Microcomputer Systems (M) SDN.
0020D2 RAD Data Communications Ltd.
0020D3 OST (Ouest Standard Telematiqu
0020D4 Zeitnet Inc.
0020D5 Vipa GMBH
0020D6 Lannair Ltd.
0020D7 Japan Minicomputer Systems Co.
0020D9 Panasonic Technologies Inc.

0020DA Xylan Corp.
0020DB Xnet Technology Inc.
0020DC Densitron Taiwan Ltd.
0020DD Awa Ltd.
0020DE Japan Digital Laborat'y Co. Ltd.
0020DF Kyosan Electric Mfg. Co. Ltd.
0020E0 Premax Electronics Inc.
0020E1 Alamar Electronics
0020E2 Information Resource
0020E3 MCD Kencom Corp.
0020E6 Lidkoping Machine Tools AB
0020E7 B&W Nuclear Service Company
0020E8 Datatrek Corp.
0020E9 Dantel
0020EA Efficient Networks Inc.
0020EB CInc.innati Microwave Inc.
0020EC Techware Systems Corp.
0020ED Giga-Byte Technology Co. Ltd.
0020EE Gtech Corp.
0020EF U S C Corp.

0020F1 Altos India Ltd.
0020F2 Maximum Strategy Inc.
0020F3 Raynet Corp.
0020F4 Spectrix Corp.
0020F5 Pan Dacom Telecom'cations GMBH
0020F6 Net Tek
0020F7 Cyberdata
0020F8 Carrera Computers Inc.
0020F9 Paralink Networks Inc.
0020FA GDE Systems Inc.
0020FB Octel Communications Corp.
0020FC Matrox
0020FD ITV Technologies Inc.
0020FE Topware Inc. / Grand Computer
0020FF Symmetrical Technologies
004001 Zero One Technology Co. Ltd.
004009 Tachibana Tectron Co. Ltd.

00400B Crescendo
00400C General Micro Systems Inc.
00400D LANNET Data Communications Ltd.
004010 Sonic Systems Mac Ethernet interfaces
004013 NTT Data Comm. Systems Corp.
004014 Comsoft GMBH
004015 Ascom Infrasys AG
00401F Colorgraph Ltd.
004020 Pinacl Communication
004023 Logic Corp.
004025 Molecular Dynamics
004026 Melco Inc.
004027 SMC Massachusetts Inc. Sigma(?)
00402A Canoga-Perkins
00402B TriGem
00402F XDI
00402F XLNT Designs Inc.
004030 GK Computer
004032 Digital Communications
004033 Addtron Technology Co. Ltd.
004039 Optec Daiichi Denko Co. Ltd.
00403C Forks Inc.
00403F Ssangyong Computer Systems
004041 Fujikura Ltd.
004043 Nokia Data Communications
004048 SMD Informatica S.A.
00404C Hypertec Pty Ltd.
00404D Telecommunications Techniques
00404F Space & Naval Warfare Systems
004050 Ironics Inc.
004052 Star Technologies Inc.
004054 Thinking Machines Corp.
004057 Lockheed - Sanders
004059 Yoshida Kogyo K. K.
00405B Funasset Ltd.
00405D Star-Tek Inc.
004061 DTK

004066 Hitachi Cable Ltd.
004067 Omnibyte Corp.
004068 Extended Systems
004069 Lemcom Systems Inc.
00406A Kentek Information Systems Inc.
00406E Corollary Inc.
00406F Sync Research Inc.
004074 Cable and Wireless
004076 AMP Inc.

004078 Wearnes Automation Pte Ltd.
00407F Agema Infrared Systems AB
004082 Laboratory Equipment Corp.
004085 SAAB Instruments AB
004086 Michels & Kleberhoff Computer
004087 Ubitrex Corp.
00408A TPS Teleprocessing Sys. GMBH
00408C AXIS Communications AB
00408E CXR/Digilog
00408F WM-Data Minfo AB
004091 Procomp Industria Eletronica
004092 ASP Computer Products Inc.
004094 Shographics Inc.
004095 Eagle Technologies/R.P.T. Intergroups Int'l Ltd.
004096 Telesystems SLW Inc.
004098 Dressler GMBH & Co.
00409A Network Express Inc.
00409C Transware
00409D Digiboard Inc. Ethernet-ISDN bridges
00409E Concurrent Technologies Ltd.
00409F Lancast/Casat Technology Inc.
0040A4 Rose Electronics
0040A6 Cray Research Inc.
0040AA Valmet Automation Inc.
0040AD SMA Regelsysteme GMBH

0040AE Delta Controls Inc.
0040B4 3COM K.K.
0040B5 Video Technology Computers Ltd.
0040B6 Computerm Corp.
0040B9 Macq Electronique SA
0040BD Starlight Networks Inc.
0040C0 Vista Controls Corp.
0040C1 Bizerba-Werke Wilheim Kraut
0040C2 Applied Computing Devices
0040C3 Fischer and Porter Co.
0040C5 Micom Communications Corp.
0040C6 Fibernet Research Inc.
0040C8 Milan Technology Corp.
0040CC Silcom Manuf'g Technology Inc.
0040CF Strawberry Tree Inc.
0040D2 Pagine Corp.
0040D4 Gage Talker Corp.
0040D7 Studio Gen Inc.
0040D8 Ocean Office Automation Ltd.
0040DC Tritec Electronic GMBH
0040DF Digalog Systems Inc.
0040E1 Marner International Inc.
0040E2 Mesa Ridge Technologies Inc.
0040E3 Quin Systems Ltd.
0040E4 E-M Technology Inc.
0040E5 Sybus Corp.
0040E7 Arnos Instruments & Computer
0040E9 Accord Systems Inc.
0040EA Plain Tree Systems Inc.
0040ED Network Controls Int'natl Inc.
0040F0 Micro Systems Inc.
0040F1 Chuo Electronics Co. Ltd.
0040F4 Cameo Communications Inc.
0040F5 OEM Engines

0040F6 Katron Computers Inc.
0040F9 Combinet
0040FA Microboards Inc.
0040FB Cascade Communications Corp.

0040FD LXE
0040FF Telebit Corp.
00608C 3COM Corp.(1990 onwards)
008000 Multitech Systems Inc.
008004 Antlow Computers Ltd.
008005 Cactus Computer Inc.
008006 Compuadd Corp.
008007 Dlog NC-Systeme
008009 Jupiter Systems
00800A JCC
00800D Vosswinkel F.U.
00800F SMC (Standard Microsystem Corp.)
008010 Commodore
008015 Seiko Systems Inc.
008016 Wandel And Goltermann
008017 PFU
008018 Kobe Steel Ltd.
008019 Dayna Communications Inc. "Etherprint" product
00801A Bell Atlantic
00801B Kodiak Technology
008021 Newbridge Research Corp.
008023 Integrated Business Networks
008024 Kalpana Inc.
008026 Network Products Corp.
008029 Microdyne Corp.
00802A Test Systems & Simulations Inc.
00802C The Sage Group PLC
00802D Xylogics Inc. Annex terminal servers
00802E Plexcom Inc.
008033 Formation
008034 SMT-Goupil
008035 Technology Works
008037 Ericsson Business Comm.
008037 Telefon AB LM Ericsson Corp.

008038 Data Research & Applications
00803B APT Communications Inc.
00803D Surigiken Co.
00803E Synernetics
00803F Hyundai Electronics
008042 Force Computers
008043 Networld Inc.
008044 Systech Computer Corp.
008045 Matsushita Electric Ind. Co
008046 University of Toronto
008049 Nissin Electric Co. Ltd.
00804C CONTEC Co. Ltd.
00804D Cyclone Microsystems Inc.
008051 ADC Fibermux
008052 Network Professor
008057 Adsoft Ltd.
00805A Tulip Computers Internat'L B.V
00805B Condor Systems Inc.
00805C Agilis
00805F Compaq(Prosignia info from t-nishim@softbank)
008060 Network Interface Corporation
008062 Interface Co.
008063 Richard Hirschmann GMBH & Co.
008067 Square D Company
008069 Computone Systems
00806A ERI (Empac Research Inc.)
00806B Schmid Telecommunication
00806C Cegelec Projects Ltd.
00806D Century Systems Corp.
00806E Nippon Steel Corp.

00806F Onelan Ltd.
008071 Sai Technology
008072 Microplex Systems Ltd.
008074 Fisher Controls
008079 Microbus Designs Ltd.
00807B Artel Communications Corp.

00807C FiberCom
00807E Southern Pacific Ltd.
008082 PEP Modular Computers GMBH
008086 Computer Generation Inc.
008086 Computer Generation Inc.
008087 Okidata
008088 Victor Company of Japan Ltd.
008089 Tecnetics (Pty) Ltd.
00808A Summit Microsystems Corp.
00808B Dacoll Ltd.
00808C Frontier Software Development
00808D Westcoast Technology B.V.
00808E Radstone Technology
008090 Microtek International Inc.
008092 Japan Computer Industry Inc.
008093 Xyron Corp.
008094 Sattcontrol AB
008096 HDS (Human Designed Systems) X terminals
008098 TDK Corp.
00809A Novus Networks Ltd.
00809B JustSystem Corp.
00809D Datacraft Manufactur'g Pty Ltd
00809F Alcatel Business Systems
0080A1 Microtest Inc.
0080A3 Lantronix
0080A6 Republic Technology Inc.
0080A7 Measurex Corp.
0080AC Imlogix, Division of Genesys
0080AD CNET Technology Inc.(?)/Telebit
0080AE Hughes Network Systems
0080AF Allumer Co. Ltd.
0080B1 Softcom A/S
0080B2 NET (Network Equipment Technologies)
0080BA Specialix (Asia) Pte Ltd.
0080C0 Penril

0080C2 IEEE 802.1 Committee
0080C7 Xircom Inc.
0080C8 D-Link (also Solectek Pocket Adapters)
0080C9 Alberta Microelectronic Centre
0080CE Broadcast Television Systems
0080D0 Computer Products International
0080D3 Shiva Appletalk-Ethernet interface
0080D4 Chase Ltd.
0080D6 Apple Mac Portable
0080D7 Fantum Engineering Inc.
0080D8 Network Peripherals
0080DA Bruel & Kjaer
0080DD GMX Inc./Gimix
0080E0 XTP Systems Inc.
0080E3 Coral
0080E7 Lynwood Scientific Dev. Ltd.
0080EA The Fiber Company
0080F0 Kyushu Matsushita Electric Co.
0080F1 Opus
0080F3 SUN Electronics Corp.
0080F4 Telemecanique Electrique
0080F5 Quantel Ltd.

0080F7 Zenith Communications Products
0080F9 Heurikon Corp.
0080FB BVM Ltd.
0080FE Azure Technologies Inc.
00A000 Centillion Networks Inc.
00A030 Captor NV/SA
00A054 Kingmax Technology Inc.
00A05C Inventory Conversion Inc.
00A06B DMS Dorsch Mikrosystem GMBH
00A07B Dawn Computer Inc.
00A08A Brooktrout Technology Inc.
00A09B QPSX Communications Ltd.

00A0B1 First Virtual Corp.
00A0DE Yamaha Corp.
00AA00 Intel
00B0D0 Computer Products International
00C000 Lanoptics Ltd.
00C001 Diatek Patient Managment
00C002 Sercomm Corp.
00C003 Globalnet Communications
00C004 Japan Business Computer Co. Ltd.
00C005 Livingston Enterprises Inc.
00C006 Nippon Avionics Co. Ltd.
00C007 Pinnacle Data Systems Inc.
00C008 Seco SRL
00C009 KT Technology (S) Pte Ltd.
00C00A Micro Craft
00C00B Norcontrol A.S.
00C00D Advanced Logic Research Inc.
00C00E Psitech Inc.
00C00F Quantum Software Systems Ltd.
00C011 Interactive Computing Devices
00C012 Netspan Corp.
00C013 Netrix
00C014 Telematics Calabasas Int'l Inc.
00C015 New Media Corp.
00C016 Electronic Theatre Controls
00C018 Lanart Corp.
00C019 Leap Technology Inc.
00C01A Corometrics Medical Systems
00C01B Socket Communications Inc.
00C01C Interlink Communications Ltd.
00C01D Grand Junction Networks Inc.
00C01F S.E.R.C.E.L.
00C020 Arco Electronic Control Ltd.
00C021 Netexpress
00C023 Tutankhamon Electronics

00C024 EDEN Sistemas de Computacao SA
00C025 Dataproducts Corp.
00C027 Cipher Systems Inc.
00C028 Jasco Corp.
00C029 Kabel Rheydt AG
00C02A Ohkura Electric Co. Ltd.
00C02B Gerloff Gesellschaft Fur
00C02C Centrum Communications Inc.
00C02D Fuji Photo Film Co. Ltd.
00C02E Netwiz
00C02F Okuma Corp.
00C030 Integrated Engineering B. V.
00C031 Design Research Systems Inc.
00C032 I-Cubed Ltd.
00C033 Telebit Communications APS
00C034 Dale Computer Corp.

00C035 Quintar Company
00C036 Raytech Electronic Corp.
00C039 Silicon Systems
00C03B Multiaccess Computing Corp.
00C03C Tower Tech S.R.L.
00C03D Wiesemann & Theis GMBH
00C03E FA. Gebr. Heller GMBH
00C03F Stores Automated Systems Inc.
00C040 ECCI
00C041 Digital Transmission Systems
00C042 Datalux Corp.
00C043 Stratacom
00C044 Emcom Corp.
00C045 Isolation Systems Ltd.
00C046 Kemitron Ltd.
00C047 Unimicro Systems Inc.
00C048 Bay Technical Associates
00C04B Creative Microsystems
00C04D Mitec Inc.
00C04E Comtrol Corp.
00C050 Toyo Denki Seizo K.K.

00C051 Advanced Integration Research
00C055 Modular Computing Technologies
00C056 Somelec
00C057 Myco Electronics
00C058 Dataexpert Corp.
00C059 Nippondenso Co. Ltd.
00C05B Networks Northwest Inc.
00C05C Elonex PLC
00C05D L&N Technologies
00C05E Vari-Lite Inc.
00C060 ID Scandinavia AS
00C061 Solectek Corp.
00C063 Morning Star Technologies Inc.
00C064 General Datacomm Ind. Inc.
00C065 Scope Communications Inc.
00C066 Docupoint Inc.
00C067 United Barcode Industries
00C068 Philip Drake Electronics Ltd.
00C069 California Microwave Inc.
00C06A Zahner-Elektrik GMBH & Co. KG
00C06B OSI Plus Corp.
00C06C SVEC Computer Corp.
00C06D BOCA Research Inc.
00C06F Komatsu Ltd.
00C070 Sectra Secure-Transmission AB
00C071 Areanex Communications Inc.
00C072 KNX Ltd.
00C073 Xedia Corp.
00C074 Toyoda Automatic Loom
00C075 XANTE Corp.
00C076 I-Data International A-S
00C077 Daewoo Telecom Ltd.
00C078 Computer Systems Engineering
00C079 Fonsys Co. Ltd.
00C07A Priva B.V.
00C07D Risc Developments Ltd.

00C07F Nupon Computing Corp.
00C080 Netstar Inc.
00C081 Metrodata Ltd.
00C082 Moore Products Co.
00C084 Data Link Corp. Ltd.
00C086 The Lynk Corp.

00C087 UUNET Technologies Inc.
00C089 Telindus Distribution
00C08A Lauterbach Datentechnik GMBH
00C08B Risq Modular Systems Inc.
00C08C Performance Technologies Inc.
00C08D Tronix Product Development
00C08E Network Information Technology
00C08F Matsushita Electric Works Ltd.
00C090 Praim S.R.L.
00C091 JABIL Circuit Inc.
00C092 Mennen Medical Inc.
00C093 Alta Research Corp.
00C096 Tamura Corp.
00C097 Archipel SA
00C098 Chuntex Electronic Co. Ltd.
00C099 Yoshiki Industrial Co. Ltd.
00C09B Reliance Comm/Tec R-Tec
00C09C TOA Electronic Ltd.
00C09D Distributed Systems Int'l Inc.
00C09F Quanta Computer Inc.
00C0A0 Advance Micro Research Inc.
00C0A1 Tokyo Denshi Sekei Co.
00C0A2 Intermedium A/S
00C0A3 Dual Enterprises Corp.
00C0A4 UNIGRAF OY
00C0A7 Seel Ltd.
00C0A8 GVC Corp.
00C0A9 Barron Mccann Ltd.
00C0AA Silicon Valley Computer
00C0AB Jupiter Technology Inc.

00C0AC Gambit Computer Communications
00C0AD Marben Communication Systems/Computer Communication Systems(?)
00C0AE Towercom Co. Inc. Dba PC House
00C0AF Teklogix Inc.
00C0B0 GCC Technologies Inc.
00C0B2 Norand Corp.
00C0B3 Comstat Datacomm Corp.
00C0B4 Myson Technology Inc.
00C0B5 Corporate Network Systems Inc.
00C0B6 Meridian Data Inc.
00C0B7 American Power Conversion Corp
00C0B8 Fraser's Hill Ltd.
00C0B9 Funk Software Inc.
00C0BA Netvantage
00C0BB Forval Creative Inc.
00C0BD INEX Technologies Inc.
00C0BE Alcatel - Sel
00C0BF Technology Concepts Ltd.
00C0C0 Shore Microsystems Inc.
00C0C1 Quad/Graphics Inc.
00C0C2 Infinite Networks Ltd.
00C0C3 Acuson Computed Sonography
00C0C4 Computer Operational
00C0C5 SID Informatica
00C0C6 Personal Media Corp.
00C0C8 Micro Byte Pty. Ltd.
00C0C9 Bailey Controls Co.
00C0CA Alfa Inc.
00C0CB Control Technology Corp.
00C0CD Comelta, S.A.
00C0D0 Ratoc System Inc.
00C0D1 Comtree Technology Corp.
00C0D2 Syntellect Inc.
00C0D4 AXON Networks Inc.

00C0D5 Quancom Electronic GMBH

00C0D6 J1 Systems Inc.
00C0D9 Quinte Network Confidentiality
00C0DB IPC Corp. (Pte) Ltd.
00C0DC EOS Technologies Inc.
00C0DE Zcomm Inc.
00C0DF KYE Systems Corp.
00C0E1 Sonic Solutions
00C0E2 Calcomp Inc.
00C0E3 Ositech Communications Inc.
00C0E4 Landis & GYR Powers Inc.
00C0E5 Gespac S.A.
00C0E6 Txport
00C0E7 Fiberdata AB
00C0E8 Plexcom Inc.
00C0E9 Oak Solutions Ltd.
00C0EA Array Technology Ltd.
00C0EB SEH Computertechnik GMBH
00C0EC Dauphin Technology
00C0ED US Army Electronic
00C0EE Kyocera Corp.
00C0EF Abit Corp.
00C0F0 Kingston Technology Corp.
00C0F1 Shinko Electric Co. Ltd.
00C0F2 Transition Engineering Inc.
00C0F3 Network Communications Corp.
00C0F4 Interlink System Co. Ltd.
00C0F5 Metacomp Inc.
00C0F6 Celan Technology Inc.
00C0F7 Engage Communication Inc.
00C0F8 About Computing Inc.
00C0F9 Harris and Jeffries Inc.
00C0FA Canary Communications Inc.
00C0FB Advanced Technology Labs
00C0FC Elastic Reality Inc.
00C0FD Prosum
00C0FF Box Hill Systems Corp.
00DD00 Ungermann-Bass IBM RT

00DD01 Ungermann-Bass
00DD08 Ungermann-Bass
0180C2 STP(????? info from t-nishim@softbank)
020406 BBN BBN internal usage (not registered)
020701 MICOM/Interlan(Racal) DEC (UNIBUS or QBUS), Apollo, Cisco
026060 3COM
026086 Satelcom MegaPac (UK)
02608C 3COM IBM PC; Imagen; Valid; Cisco; Macintosh
02CF1F CMC Masscomp; Silicon Graphics; Prime EXL
02E6D3 BTI (Bus-Tech Inc.) IBM Mainframes
080001 Computer Vision
080002 3COM (formerly Bridge)
080003 ACC (Advanced Computer Communications)
080005 Symbolics Symbolics LISP machines
080006 Siemens Nixdorf PC clone
080007 Apple Computer Inc.
080008 BBN
080009 Hewlett Packard
08000A Nestar Systems
08000B Unisys Corp.
08000D ICL (International Computers Ltd.)
08000E NCR/AT&T GIS
08000F SMC (Standard Microsystems Corp.)
080010 AT&T (misrepresentation of 800010?)
080011 Tektronix Inc.

080014 Excelan BBN Butterfly, Masscomp, Silicon Graphics
080017 NSC (National Semiconductor Corp.)

080019 Calma(????? info from t-nishim@softbank)
08001A Data General
08001B Data General
08001C KDD
08001E Apollo
08001F Sharp Corp.
080020 Sun Sun machines
080022 NBI (Nothing But Initials)
080023 Matsushita Denso
080025 CDC
080026 Norsk Data (Nord)
080027 PCS Computer Systems GMBH
080028 Texas Instruments Explorer
08002B Digital Equipment Corp.
08002E Metaphor
08002F Prime Computer Prime 50-Series LHC300
080030 CERN
080036 Intergraph CAE stations
080037 Fuji Xerox
080038 Bull
080039 Spider Systems Ltd.
08003B Torus Systems
08003E Motorola VME bus processor modules
080041 DCA (Digital Comm. Assoc.)
080042 Macnica(previously Japan Macnics)
080044 DSI (DAVID Systems Inc.)
080045 ???? (maybe Xylogics, but they claim not to know this number)
080046 Sony
080047 Sequent
080048 Eurotherm Gauging Systems
080049 Univation
08004C Encore
08004E BICC
080050 Daisy(????? info from t-nishim@softbank)
080051 Experdata
080056 Stanford University

080057 Evans & Sutherland (?)
080058 DECsystem-20
08005A IBM
08005D Gould(????? info from t-nishim@softbank)
080063 DEC (?)
080067 Comdesign
080068 Ridge
080069 Silicon Graphics Inc.
08006A AT&T
08006E Excelan
080070 Mitsubishi
080074 Casio Computer Co. Ltd.
080075 DDE (Danish Data Elektronik A/S)
080077 Retix (Formerly TSL)
080079 Silicon Graphics
08007B Sanyo
08007C Vitalink TransLAN III
080080 XIOS
080081 Crosfield Electronics
080083 Seiko Denshi
080084 Tomen Electronics
080086 Imagen/QMS
080087 Xyplex terminal servers
080088 Mcdata(????? info from t-nishim@softbank)
080089 Kinetics AppleTalk-Ethernet interface

08008B Pyramid
08008D XyVision XyVision machines
08008E Tandem
08008F Chipcom Corp.
080090 Retix Inc. Bridges
090007 FFFFFF AppleTalk-broadcast
10005A IBM Corp.
1000D4 DEC
1000E0 Apple A/UX (modified addresses for licensing)
400003 Net Ware (?)
475443 GTC (Not registered!) (This number is a multicast!)

484453 HDS
800010 AT&T (misrepresented as 080010? One source claims this is correct)
80AD00 CNET Technology Inc.
AA0000 DEC obsolete
AA0001 DEC obsolete
AA0002 DEC obsolete
AA0003 DEC Global physical address for some DEC machines
AA0004 DEC Local logical address for systems running DECNET
AB0000 DEC-Broadcast
AB0001 DEC-Broadcast
AB0002 DEC-Broadcast
AB0003 DEC-Broadcast
AB0004 DEC-Broadcast
C00000 Western Digital (may be reversed 00 00 C0?)
C00000 Western Digital (may be reversed 00 00 C0?)
EC1000 Enance Source Co. Ltd. PC clones(?)
FFFFFF FFFFFF Broadcast

Published Date: Feb 18, 2012

Fax Terminal: Will Not Open, Gives Type 1 Error

When I open Fax Terminal, my computer crashes with a Type 1 error. I cannot receive faxes and the modem never answers incoming calls. I am able to send faxes by selecting Fax Sender from the Chooser, and printing from within applications.

I have already re-installed the Telecom software, reset PRAM, thrown away all of the associated preference files, thrown away and re-installed the Fax Terminal software.

This article has been archived and is no longer updated by Apple.
Here are some troubleshooting tips to try:

- There is an issue with the Fax Terminal quitting with a Type 1 error when using System 7.5 Update 2.0 and Apple Guide 2.0.2. Allegedly, Apple Guide 2.0.2 can be installed on a computer with System 7.1 which may be distributed with some software packages such as Newton Press and Quicken. Also, the Apple Internet Connection Kit (AICK) 1.1.1 comes with Apple Guide 2.0.2. If you have this extension installed, try removing it from the Extensions folder.
- If the above is not affecting the computer, try performing a clean system installation since you have already thrown away the preferences files. We have found that corrupt preference files may also cause this.
- Try removing previously sent or received faxes from the folder. A corrupted file in the files sent or received folders may be causing this.
- Try using only Apple extensions in the Extensions Manager control panel. **Note:** Were any software or hardware changes made just before the issue started?

Published Date: Feb 18, 2012

User & Group Manager: FirstClass Server Setup (7/96)

User & Group Manager: FirstClass Server Setup (7/96)

This article describes how to use the Apple User and Group Manager application with a FirstClass server. This information is taken from the Apple Network Administrator Toolkit manual, Part 4 the Apple User and Group Manager Appendix B.

This article has been archived and is no longer updated by Apple.

```
To use the User and Group Manager application with a FirstClass server, you must install the User and Group
Manager server software, called FirstClass Agent, on the FirstClass server. You must also configure the
FirstClass server to communicate with FirstClass Agent as a FirstClass gateway. In addition, you must enable
the FirstClass batch administration feature.

This appendix describes how to set up the FirstClass server to communicate with FirstClass Agent.

IMPORTANT FirstClass sends confirmation and error messages to the "Admin" user as FirstClass mail. Because of
this, you should not rename the "Admin" user account. These messages are the only status information that
FirstClass provides for changes requested by User and Group Manager.

To set up the FirstClass server:

Step 1
------
Using the FirstClass client software, log in to the FirstClass server as an administrator.

Step 2
------
Open the Multi-Site Setup folder that appears on the FirstClass desktop.

Step 3
------
Open the Multi-Site Setup icon that appears in the folder.

Step 4
------
Make sure the checkbox labeled "Allow batch administration" is checked.

Step 5
------
If necessary, enter a password in the Password text box.
- You will need this password for step 16. This is also the password you will need when you open the users and
groups list for the server in User and Group Manager.

Step 6
------
Close the Multi-Site Setup window and click Save in the dialog box that appears.

Step 7
------
Close the Multi-Site Setup folder window.

Step 8
------
Open the Gateways folder that appears on the FirstClass desktop.

Step 9
------
Choose Gateway Settings from the Admin menu, then choose Add from the
  submenu. A New Gateway window opens.

Step 10
-------
In the "Remote server serial number" text box, enter this value: 3123456789.
```

Step 11

Close the New Gateway window and click Save in the dialog box that appears.

Step 12

Select the New Gateway icon and rename the gateway. "User and Group Gateway" is recommended.

Step 13

Choose List Users from the Admin menu.

Step 14

Make sure the "Gateways & Routers" checkbox is selected in the dialog box that appears, then click OK.

Step 15

In the window that appears, double-click the name of the gateway you entered in step 12.

Step 16

In the Password text box, type the password you entered in step 5.

Step 17

Close the window and click Save in the dialog box that appears.

Published Date: Feb 18, 2012

PC Exchange: Max of All Partition Names is 32 Characters (7/96)

I partitioned my hard drive, and now when I open PC Exchange and select the Option button, a system error occurs. What is wrong?

This article has been archived and is no longer updated by Apple.

If the number of characters in the names of all the partitions is greater than 32, PC Exchange will crash when the Option button is selected.

The workaround is to either use fewer partitions or rename the partitions with smaller names.

This issue will be corrected in a future version of PC Exchange.

Published Date: Feb 18, 2012

LW 16/600 PS: Setting Subnet Mask & Gateway Remotely

I have a LaserWriter 16/600 PS printer. I can configure the IP address using the Apple Printer Utility, but not the subnet mask or gateway.

This means that if I am on another part of my TCP/IP intranet, I can configure the IP address using AppleTalk, but cannot complete the configuration unless I telnet from a computer that is physically on the local TCP/IP subnet.

Is there any way I can complete this configuration without having to go on site to each printer?

This article has been archived and is no longer updated by Apple.
The LaserWriter 16/600 PS subnet mask and gateway are configurarble only by using the telnet facility. Newer versions of Apple Printer Utility support configuration of these values in the Apple Color LaserWriter 12/600 PS and LaserWriter 12/640 PS printers. However, with the LaserWriter 16/600 PS printer, you can configure only the IP address.

If you have a UNIX workstation in the local IP subnet or the local router supports telnet, you can use a two-step process to remotely configure the printer.

Step 1

Configure TCP/IP using AppleTalk.

Use any version of Apple Printer Utility to set the IP address, and restart the printer.

At this point, the printer can accept telnet connections from local hosts only.

Step 2

Configure subnet mask and gateway address.

Telnet to a UNIX workstation or router. Telnet back out from the UNIX workstation or router to the printer. The second telnet session goes from the local device to the LaserWriter 16/600 PS printer, so it should be accepted.

Configure the subnet mask and gateway address as described in the LaserWriter 16/600 PS User's Guide.

Published Date: Feb 18, 2012

PC Compatibility Card: MS Office Pro 95 CD (7/96)

When I insert the Microsoft Office 95 Professional Edition CD-ROM in the CD-ROM drive, I get an error that says, "The disk <volume name> cannot be used, because it cannot be found." However, other CD-ROMs can be read fine, including the Microsoft Office 95 Standard Edition. What's wrong?

This article has been archived and is no longer updated by Apple.

This CD-ROM disc cannot be mounted on the Macintosh desktop. It is not designed for use in the Macintosh environment. However, if you have a PC Compatibility Card, this CD-ROM is readable in the PC environment. You will have to switch to the PC environment to use this CD-ROM disc.

Published Date: Feb 18, 2012

PowerBook Duo Computers: Battery Reconditioner Compat (7/96)

I am trying to use the battery reconditioner utility for the PowerBook Duo and I get the message:

"There is something wrong with the application file. Please replace it from the original disk."
This article has been archived and is no longer updated by Apple.
There are two versions of the Battery Reconditioner program, 1.1 and 1.3. To use the Battery Reconditioner program on a PowerBook (Duo) 2300c you must have version 1.3. This version came pre-installed in the Utilities folder on PowerBook Duo 2300c computers. Version 1.3 is backward compatible with previous PowerBook Duo computers, thus it can be used on any PowerBook (Duo) computer even though it was specifically created for the PowerBook 2300c.

Battery Reconditioner version 1.1 shipped with the PowerBook (Duo) 280c and is backward compatible with PowerBook (Duo) computers that were released before the 280c (210, 230, 270c). It is not compatible with the PowerBook 2300c or any PowerBook Duo computer that has been upgraded with a Power PC logic board.

This article was published in the Information Alley on 09 July 1996.
Published Date: Feb 18, 2012

LaserWriter Printers: TCP/IP Solutions Guide

This article provides solutions for printing to an Apple LaserWriter printer using TCP/IP.
This article has been archived and is no longer updated by Apple.
Although UNIX workstations are the traditional source of LPR printing, LPR is defined in Internet RFC 1179, and can be implemented on any computer using TCP/IP networking. The growth of Internet, intranet and Open Systems environments means Apple customers will see increasing need to support TCP/IP printing from all computer systems, including mainframes, mini computers, DOS/Windows, and Mac OS systems.

Since most Apple LaserWriter printers accept print jobs transmitted only by AppleTalk, customers often need solutions for getting their print job from a TCP/IP based computer to an AppleTalk-only printer.

There are three possible solutions for printing to an Apple LaserWriter printer using TCP/IP:

- Configure the LaserWriter for TCP/IP printing (LPR)
- TCP/IP - AppleTalk conversion (LPR-PAP)
- Direct Serial or parallel connections

This article also contains a list of LaserWriter printers which cannot be used with a TCP/IP connection.

Solution: Configure the LaserWriter for TCP/IP Printing (LPR)

Apple has provided TCP/IP support in recent, high-end printers. The following models are designed to support TCP/IP printing:

- LaserWriter Pro 810
- LaserWriter 16/600 PS
- Color LaserWriter 12/600 PS
- Color LaserWriter 12/660 PS
- LaserWriter 12/640 PS
- LaserWriter 8500

TCP/IP jobs are received through the Ethernet port. These printers support PostScript, PCL and/or text. Your LaserWriter User's Guide contains complete configuration information.

Some TCP/IP software requires you to enter a socket number. Apple LaserWriters use 515, which is the default number specified by RFC 1179.

The LaserWriter Pro 810 also accepts jobs to arbitrarily defined port numbers.

Solution: TCP/IP - AppleTalk Conversion (LPR-PAP)

If you have a non-TCP/IP LaserWriter, you can translate LPR print jobs to PAP sessions in AppleTalk. This allows you to print with a TCP/IP based system and the printer to receive an AppleTalk print job.

Translation of TCP/IP to AppleTalk is available in several types of products:

Network Hardware

Several vendors have made network hardware products that accept LPR jobs using TCP/IP and forward them as PAP jobs using AppleTalk. Most of these products are no longer manufactured, although you may find them installed in established sites. The only shipping product that Apple is aware of is GatorPrint by Cayman Systems. This package is software that is installed on Cayman routers.

AppleTalk for UNIX Systems

Most AppleTalk software for UNIX systems include print spooling and conversion utilities. Here is a partial list of products:

- Helios Ethershare
- K-Spool from Mt. Xinu.
- uShare from Information Presentation Technologies, Inc.
- CAP (Columbia AppleTalk Package) from Columbia University.
- netatalk from the University of Michigan

AppleTalk on Other Advanced Server Operating Systems

In theory, multi-protocol operating systems such as Novell NetWare, Windows NT, and OS/2 can receive jobs with a TCP/IP spooler and forward them to an AppleTalk based print spooler. We have seen few customers sites with this configuration.

This solution works for the following LaserWriter models:

Model	Port	Notes
LaserWriter (original)	LocalTalk	Must be connected to Ethernet using a LocalTalk-Ethernet bridge
LaserWriter Plus	LocalTalk	Must be connected to Ethernet using a LocalTalk-Ethernet bridge
LaserWriter IINT	LocalTalk	Must be connected to Ethernet using a LocalTalk-Ethernet bridge
LaserWriter IINTX	LocalTalk	Must be connected to Ethernet using a LocalTalk-Ethernet bridge
LaserWriter IIf	LocalTalk	Must be connected to Ethernet using a LocalTalk-Ethernet bridge
LaserWriter IIg	Ethernet	-
Personal LaserWriter NT	LocalTalk	Must be connected to Ethernet using a LocalTalk-Ethernet bridge
Personal LaserWriter NTR	LocalTalk	Must be connected to Ethernet using a LocalTalk-Ethernet bridge
Personal LaserWriter 320	LocalTalk	Must be connected to Ethernet using a LocalTalk-Ethernet bridge
LaserWriter Select 360	LocalTalk	Must be connected to Ethernet using a LocalTalk-Ethernet bridge
LaserWriter Pro 600	LocalTalk	-
LaserWriter Pro 630	Ethernet	-
LaserWriter 4/600	LocalTalk	Must be connected to Ethernet using a LocalTalk-Ethernet bridge

Note: AppleTalk printing is traditionally define as PostScript only, Apple recommends sending only PostScript over AppleTalk to printers.

Solution: Direct Serial or Parallel Connections

Most Apple LaserWriter models have serial and parallel ports for Windows printing. UNIX (and to a lesser degree Windows NT and Novell NetWare) servers can be configured to receive TCP/IP jobs and spool using a direct connection to the printer.

Connection configuration (serial and parallel) and page description language (text, PostScript, and PCL) vary by LaserWriter model.

Although Apple serial and parallel ports conform to industry standards, these configurations are not supported by Apple Computer, Inc. Apple Technical support may include articles that describe sample configurations for illustrative purposes only.

This class of solutions applies to all the LaserWriters listed in the previous table, as well as the LaserWriter Select 310 printer.

No Solution Available

The following Apple LaserWriter printers do not have a TCP/IP printing solution, due to lack of PostScript and/or PCL support.

- LaserWriter IISC
- Personal LaserWriter LS
- Personal LaserWriter SC
- Personal LaserWriter 300
- LaserWriter Select 300

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

The following Tech Info Library article can help you search for a particular vendor's address and phone number:

Article 17159: "**Locating Vendor Information**"

TA35778_LaserWriter_Printers_TCPIP_Solutions_Guide_(TIL20148).pdf

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Color OneScanner Dispatcher Software: Image Cropping (7/96)

With both v1.0 and v1.0.2 of the Apple Color OneScanner Dispatcher Software, When I select Preview after selecting Straighten Automatically, the automatic option Suggest Crop is also selected. Why?

This article has been archived and is no longer updated by Apple.

You are seeing the normal operation of the OneScanner Dispatcher Software. If you do not want to use the suggested crop, you should use the selection marquee prior to crop your image prior to selecting Scan.

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Color OneScanner Dispatcher Software: Auto Straighten Issue 7/96

Scanning with Automatic Straighten feature does not always give good results. The scanned image is sometimes rotated 30-45% or more, and the scaling may be incorrect.

This article has been archived and is no longer updated by Apple.

Both the v1.0 and v1.0.2 versions of the Apple Color OneScanner Dispatcher Software sometimes do not perform the Automatic Straighten function correctly. One workaround that sometimes helps is not to place the original image adjacent to the alignment mark and rulers. The other workaround is not to use the Automatic Straighten feature if you encounter this problem.

Published Date: Feb 18, 2012

Color STW 2200 & 2400: Differences in v.2.1.1 vs 2.1.2

What differences between the Color StyleWriter v2.1.1 on the System Update 2.0 CD and v2.1.2 posted to Apple Software Updates?
This article has been archived and is no longer updated by Apple.

The only differences between the Color StyleWriter 2200 and Color StyleWriter 2400 v2.1.1 and v2.1.2 are:

	Version 2.1.1	Version 2.1.2
Desktop Printing	v1.0.1	v1.0.3
ColorSync	v2.0	v2.0.1

There were also some changes in the Watermark file sizes and modification dates.

All other files on the disks are the same, including the Printer drivers and PrinterShare.

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ARA 2.0: Power Macintosh Compatible

Is Apple Remote Access (ARA) Personal Server 2.0 compatible with PowerPC or must a user upgrade to 2.0.1?
This article has been archived and is no longer updated by Apple.
Both the Personal Server and Client versions of ARA 2.0 are PowerPC compatible. Although we recommend updating to the latest version, to take advantage of new features, it was not necessary to do so for PowerPC compatibility.
Published Date: Feb 18, 2012

MacDNS: AIMS Setup

I am setting up Apple Internet Mail Server (AIMS) and MacDNS on the same computer for my domain, company.com. I have given the server the name 'mail.company.com', but I would like my users to be able to receive email '@company.com' instead of '@mail.company.com'. How can I achieve this?
This article has been archived and is no longer updated by Apple.
Because 'company.com' represents the whole domain, not a single computer in that domain, you do not need to enter it as a permanent host with a unique IP address. You just want to assign a mail exchanger to it. When e-mail is to be delivered to 'user@company.com', the sending mailserver will query for the mail exchanger of 'company.com' and get the address of 'mail.company.com.

Here is how to accomplish this:

- In MacDNS, create a permanent host for the server itself (if you have not already done so), giving it whatever name you like, such as "mail.company.com". You may want to make some aliases to it, if it runs other services as well, such as "ftp.company.com" and/or "www.company.com". Also add a mail exchanger for the server, which would just point back to itself (example: 10 mail.company.com)
- In MacDNS, create an 'MX-only host' record, for host 'company.com'. Type in the appropriate numeric preference and hostname in Mail Exchanger field, such as "10 mail.company.com".
- In AIMS, under 'Server:Preferences" menu in "Server names", add both of these domains (for example, 'company.com' <default> and 'mail.company.com').

Published Date: Feb 18, 2012

Apple Printers: lpi for QuickDraw Printers

Article Reviewed/Updated: 23 July 1996

PostScript LaserWriter printers have lpi (lines per inch) values. However, I would like this information for the Color StyleWriter printers, and non-PostScript LaserWriter printers. In particular, I would like to get the Color StyleWriter 2400 lpi value.
This article has been archived and is no longer updated by Apple.
The lpi for the Color StyleWriter 2400 in Pattern mode is 64 lpi, and allows for approximately 160 levels of gray/colors. The best output from that printer can actually be obtained from using the Scatter mode as a different rendering technique is used (instead of a line screen) that allows for the highest resolution of the image to be utilized -- up to 360 dpi.

Q&A for lpi using QuickDraw Printers
Question: Is lpi a valid measurement/specification for Ink Jet printers?

Answer: Yes it is. Inkjet printer drivers also use halftoning.

Question: How does lpi specifications differ from a laser printer?

Answer: The halftoning concept is the same, however, it generally is not "adjustable" on the fly like PostScript laser printers. To adjust lpi on a PostScript laser printer, all you do is to change the parameters provided with the halftone PostScript commands. For QuickDraw printers, the lpi is a set value determined by the driver engineer. Although the lpi value can be changed, this requires recompilation of the driver source code.

Question: Is there a comprehensive list of all Apple printers and related specifications such as lpi, shades of gray, and number of colors?

Answer: There is not a comprehensive list available, and creating one is not possible since some of these printers are quite old and the original engineers and/or documentation is not available. Here is some information on some Apple Printers, which should help you.

Printer	Technique	lpi	Levels of Gray/Color	Notes
StyleWriter I	Pattern	64	approx 160	1
StyleWriter II	Pattern	64	approx 160	1
StyleWriter 1200	Pattern	64	approx 160	
	Scatter	*	*	2
StyleWriter 1500	Pattern	64	approx 160	
	Scatter	*	*	2
Apple Color Printer	Pattern	64	approx 160	1
Color StyleWriter Pro	Pattern	64	approx 160	
	Scatter	*	*	2
Color StyleWriter 2200	Pattern	64	approx 160	
	Scatter	*	*	2
Color StyleWriter 2400	Pattern	64	approx 160	
	Scatter	*	*	2
Color StyleWriter 2500	Pattern	64	approx 160	
	Scatter	*	*	2
Personal LaserWriter LS	Pattern	64	approx 160	1
LaserWriter Select 300	Pattern	64	approx 160	1
Personal LaserWriter 300	Pattern	64	approx 160	1

Notes:

1. Use a different pattern technique than the current implementation used in the Color StyleWriter Printers such as the Color StyleWriter 1200 and the Color StyleWriter 1500 Printers.

2. The Scatter technique (recommended for best output) does not use halftoning techniques and allows for use of the highest resolution of an image, up to the 360 dpi of the printer.

Published Date: Feb 18, 2012

At Ease for Workgroups 4.0: Tips for Increased Security (7/96)

This information is taken from the Tips and Troubleshooting section in Part 2 of the Apple Network Administrator Toolkit manual.

This article has been archived and is no longer updated by Apple.

To make your At Ease workgroup as secure as possible, here are some suggestions on how to set it up. (If you are concerned about security, you should print out the At Ease activity log on a regular basis with the option "Security risks" checked. This will show which users accessed the Finder and which users accessed or tried to access the At Ease Administration program.)

- For maximum security, don't designate any Workgroup Administrators. A workgroup with one Administrator only is the most secure.

-Don't include a clue for your password.

To prevent users from tampering with the hard disk:

-Set an Administrator password so that no one but you can access the At Ease Administration program.

- From the Security menu, choose System Settings. Then select "Prevent users from bypassing security by starting up from a floppy disk."
This prevents users from seeing the At Ease startup disk even if they use a different disk to start up the computer.

- Make sure the option "Allow applications to be used from floppy disks" is not checked for all workgroups. This prevents users from running applications, like disk editors, off floppy disks.

- Make sure that you've allowed users to save and open documents only from within their Documents folder. (See the Locations panel of the At Ease Administration program.) In the Panels environment, this prevents users from gaining access to documents you don't want them to see.

- Don't install system debuggers on your system. This prevents users from gaining access to documents and programs that they shouldn't.

- Don't make the "Open Other" and "Go To Finder" menu commands available to users. This prevents users from gaining access to the Finder and other unauthorized applications.

- Don't allow access to the Control Panels folder. This prevents users from modifying the standard settings on the computers.

- Don't allow access to the Chooser. This prevents users from logging in to other servers on the network and using a different printer from the one you've designated for their workgroup.

To prevent unauthorized people from using the computers:

- Don't allow Guest access to any of the workgroups.

- Give every user a password, and specify in the User Settings dialog box that users must change passwords on a regular basis. You can set the minimum length of a password and prohibit easy-to-guess passwords to help prevent individuals from guessing the passwords of authorized users.

Published Date: Feb 18, 2012

ImageWriter Blows 5 AMP Fuse

This article has been archived and is no longer updated by Apple.

PROBLEM DESCRIPTION: ImageWriter continues to blow 5 amp fuses on the CPU PCB.

BEFORE YOU START: Familiarize yourself with ImageWriter Technical Procedures.

CAUSE: Print head might be shorted.

CURE: Try the following steps and refer to ImageWriter Technical Procedures when needed:

1. Remove and replace the print head.
2. Replace the 5 amp fuse with a known good one.
3. Reassemble the printer.
4. Run the built-in "Self-Test".
5. If the 5 amp fuse blows again, refer to ImageWriter Technical Procedures for more information on troubleshooting.

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LaserWriter Pro 810: Common RCF Errors

This article describes the most common errors that can appear on the Remote Control Facility (RCF) when the LaserWriter Pro 810 printer is powered on.
This article has been archived and is no longer updated by Apple.
The following error appears when the LaserWriter Pro 810 printer has a thinnet Ethernet connector, and is not connected to a properly terminated thinnet network:

LAN XLP FAIL Error Level = 03

Server -910- Ethernet cable possibly open at 0 ns (0 ft thin, 0 ft thick)
Server -922- Non-fatal error detected by selftest, code = +++++2

This error does not affect other forms of networking or printing.

The following error appears when the LaserWriter Pro 810 printer has a twisted pair Ethernet connector, and is not connected to a properly terminated twisted pair network:

LAN XLP FAIL Error Level = 08
Server -922- Non-fatal error detected by selftest, code = +++++2
Published Date: Feb 18, 2012

LaserWriter Driver: PPD file Determines Imageable Area (7/96)

I am using an Hewlett-Packard (HP) 4M printer with my Macintosh computer. I have connected them using an Ethernet connection, and I am using the Apple LaserWriter 8.3.4 printer driver. When I set the margin to 0 and click Larger Print Area in the Print Setup dialog, I still get a large margin. Also, the text on the edges is being cut off, so it is trying to print to the edges of the paper.

Using this printer with UNIX workstations, or MS-Windows computers, I can printer almost edge-to-edge. Is there something in the Macintosh LaserWriter driver that is not allowing me to print to the edge?

This article has been archived and is no longer updated by Apple.

The maximum printable area is defined in the PPD supplied by the printer manufacturer. If you are not using the correct HP PPD file or the PPD does not accurately represents the printer engines maximum print area, then the print job could request the PostScript interpreter to create a raster image that extends beyond the engines physical margins and ability to print it. This could result in the symptoms you are describing, in that the image area is getting clipped.

You should contact Hewlett-Packard Tech Support to obtain the appropriate PPD file.

The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.

Published Date: Feb 18, 2012

TCP/IP: Architecture Includes Well Known Port Numbers

How can I determine which port numbers are used for IP communications with Apple devices?
This article has been archived and is no longer updated by Apple.
The TCP/IP architecture includes Well Known Ports which are controlled and assigned by committee. Apple adheres to this standard which is documented in RFC 1700.
Published Date: Feb 18, 2012

Color StyleWriter 2500: Premium Coated Paper Available (7/96)

The Apple finished goods price list states that the Apple Color Ink-Jet Premium Plus Coated Paper (M4792G/A) is only compatible with the Color StyleWriter 2500 printer. Will it harm my other StyleWriter printers if I try to use it?

This article has been archived and is no longer updated by Apple.

The Apple Color Ink-Jet Premium Plus Coated Paper is optimized for use only on the higher-resolution 720 DPI Color Ink-Jet printers. The Color StyleWriter 2500 is the only Apple color ink-jet printer currently available that can take advantage of the paper's special coated surface which controls ink flow and maximizes print quality. The Premium Plus paper will not harm other ink-jet printers if it is used, however, there is no advantage to upgrading to the more expensive Premium Plus paper stock unless it is used with the Color StyleWriter 2500.

Published Date: Feb 18, 2012

Apple Remote Access: System 7.5.3

Should Apple Remote Access (ARA) 2.1 be installed before or after System 7.5 Update 2.0?
This article has been archived and is no longer updated by Apple.
The Read Me documents for System 7.5.3 and System Update 2.0 suggest that Apple Remote Access should be installed before System 7.5.3. This is not necessary. Beginning with version 2.1, Apple Remote Access should be installed after System 7.5.3.
Published Date: Feb 18, 2012

Apple Remote Access: Personal Server For Macintosh Read Me

The following article is the Read Me document for the Apple Remote Access (ARA) Personal Server version 2.1.
This article has been archived and is no longer updated by Apple.
APPLE REMOTE ACCESS PERSONAL SERVER FOR MACINTOSH READ ME
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This document provides late-breaking news about the Apple Remote Access Personal Server that is not covered in the "Apple Remote Access Personal Server User's Guide." You may need to refer to that guide to understand the use of several terms in this document, and you may want to print this document to keep with your user's guide.

Modems Supported by the Apple Remote Access Personal Server
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Scripts that support most popular modems are provided on the Remote Access Personal Server installation disks. The scripts include:

3Com Impact Analog 14.4
3Com Impact ISDN 56K
3Com Impact ISDN 64K
Apple Modem 2400
AT&T Dataport 288
AT&T KeepInTouch
Dayna CommuniCard 28800
Farallon Netopia 56K
Farallon Netopia 64K
GeoPort/Express Modem
GeoPort/Express Modem CNG
Global Village Gold/Silver/Mercury
Global Village Platinum
Hayes Accura 288
Hayes Optima 14.4
Hayes Optima 288
Megahertz CruiseCard 14.4
Megahertz CruiseCard 28.8
Metricom Ricochet Wireless
Microcom MicroPorte 4232bis
Microcom QX/4232bis
Motorola 326xV34
Motorola BitSURFR 56K
Motorola BitSURFR 64K
Motorola Power/Lifestyle 28.8
Practical Peripherals V.34
Prometheus ProModem 144e
Prometheus ProModem 96
PSI PowerModem II
PSI PowerModem III/IV
Supra 144
Supra 288
TDK DF2814
Telebit QBlazer
Telebit T3000
Telebit Worldblazer
US Robotics Universal
Zoom V-series

Beginning with version 2.1 of the Apple Remote Access Personal Server and the companion Client product, modem scripts are no longer stored in the Extensions Folder. A new folder called "Modem Scripts" within the Extensions Folder is created by Apple Remote Access to hold modem scripts.

The Apple Remote Access Installer will move any existing scripts you may already have in your Extensions Folder to the new Modem Scripts folder in addition to placing scripts for all the modems listed above into the Modem Scripts folder.

Future remote access products from Apple will also use the Modem Scripts folder. However, there will be a transition period before other products are updated to use the new folder. Some existing products may install modem scripts into the Extensions Folder. If such a product is installed after Apple Remote Access 2.1, you will have to open your Extensions Folder and drag the scripts into the Modem Scripts folder in order for Apple Remote Access to recognize the script.

You can use modem scripts included with the Apple Remote Access MultiPort Server (any version) with version 2.1 of Apple Remote Access Personal Server. You can also use AppleTalk Remote Access version 1.0 modem scripts with version 2.1 of the Personal Server, but certain new features, such as Ignore Dial Tone, Manual Dialing, and MNP 10 support, will not be available. Additionally, you will be able to use scripts from future Apple dial-up products with version 2.1 of Apple Remote Access. But, see the note below on some issues related to manual dialing.

Apple Remote Access and System 7.5.3

The Read Me documents for System 7.5.3 and System Update 2.0 suggest that Apple Remote Access should be installed before System 7.5.3. This is not necessary. Beginning with version 2.1, Apple Remote Access should be installed after System 7.5.3.

Installing ARA X.25 Client over Apple Remote Access 2.1

The Apple Remote Access X.25 Client installer places X.25 scripts into the Extensions folder. If you install the X.25 additions after installing Apple Remote Access 2.1, you will have to open your Extensions Folder and drag the X.25 scripts into the Modem Scripts folder in order for Apple Remote Access to recognize the scripts.

If you use the Apple Remote Access 2.1 installer to upgrade your existing Remote Access 2.0.1 and X.25 Client, the installer will move the scripts for you.

Compatibility with AppleTalk Remote Access 1.0

Version 2.1 of the Apple Remote Access Personal Server will successfully connect to both AppleTalk Remote Access 1.0 compatible servers and Apple Remote Access 2.x compatible servers. The compatibility setting in the connection document of earlier version 2.0 and 2.0.1 has been removed. Since connection to either style server is automatic, the setting is no longer necessary.

The next major upgrade to Apple Remote Access will no longer support ARA 1.0 clients or servers.

Using an MNP 10 Modem

MNP 10 is an error-correction protocol that allows for more reliable data connections over cellular modems. Clicking the "Use MNP 10 error correction in modem" checkbox in the Remote Access Setup window puts MNP 10 modems into cellular mode. Do not click the "Use MNP 10 error correction in modem" checkbox to use MNP 10 over land lines.

To establish an MNP 10 connection, both your modem and the modem you are calling must support MNP 10; clicking the "Use MNP 10 error correction in modem" checkbox in the Remote Access Setup window is not by itself sufficient to establish an MNP 10 connection.

Manual Dialing

The method used to do manual dialing in Apple Remote Access 2.0/2.0.1 has not worked well. Apple Remote Access presents a dialog asking you to dial, wait for the phone to ring, and then press OK. Often the user has to experiment to determine exactly when to press OK to dismiss the dialog.

To improve manual dialing, a new dialog has been incorporated into the modem scripts installed along with version 2.1 of Apple Remote Access. Two dialogs are now displayed when doing manual dialing. This first dialog is still present to provide backwards compatibility with the wide variety of existing modem scripts. When using newer scripts, the first dialog box should be dismissed before dialing, and you will be prompted by the modem script when to actually dial the phone. If you are using a modem script not included with this product, you may have to experiment to determine if the first dialog box should be ignored.

Future remote access and dial-up products from Apple will require the new style scripts and will not present two dialog boxes.

Using the Redialing Feature

If the redialing option is selected, the Remote Access Personal Server attempts redialing only when the phone number that has been dialed is busy. If the connection attempt fails for any other reason including a failed callback attempt, Remote Access stops redialing so that you can correct any problems.

If you use the Redialing option, set the "Time between retries" number to five seconds or greater. Anything less than five seconds may not give your modem sufficient time to reset.

When using the Redialing Alternate Number option, the main number is dialed once and then redialing sequence alternates between the alternate and main numbers.

Using DialAssist

If you are calling within a country with no city or area codes, and you encounter problems using DialAssist, try entering a space in the "Connect To City/Area Code" box in your connection document.

Serial Port Arbitration

When a Remote Access connection is established, Remote Access prevents other application programs from using the serial port selected in the Remote Access Setup control panel. Most programs will inform you that the port is in use.

Apple Remote Access Personal Server provides this port arbitration through a system extension called the Serial Port Arbitrator located in the Extensions folder. Some programs that use the serial port may not be compatible with this extension. If you suspect that a program is not compatible with the Serial Port Arbitrator:

1. Remove the Serial Port Arbitrator file from the Extensions folder.
2. Restart your Macintosh.
3. Try the program again.

NOTE: The Serial Port Arbitrator will not work on a Macintosh if Remote Access Personal Server has not been installed.

High Speed Serial Connections

Both Apple Remote Access Personal Server 2.1 and Client 2.1 support specifying a serial connection speed of 115200 bps in a modem script. Not all Macintosh built-in serial ports support connection speed of 115200 bps. Here is a list of Macintoshes that do.
- Centris/Quadra 660AV, Quadra 840AV
- Macintosh Performa 61xx
- Power Macintosh 61xx, 71xx, 72xx, 75xx, 76xx, 81xx, 85xx, 95xx
- Workgroup Server 6150, 7250, 8150, 8550, 9150

In order to use the serial port at 115200 bps on one of these computers, you need a new serial extension called SerialDMA. System 7.5.3 or later incorporates this driver into the operating system.

If you use a modem script that specifies 115200 bps, and your computer does not support this data rate, Apple Remote Access will automatically fall back to 57600 bps.

Using a Local Printer

If you are using a non-networked printer connected to the printer port of your Macintosh, you may get an error dialog when trying to initiate a connection or when trying to print while connected saying that one of your serial ports is already in use. You may need to select Remote Only in the Network Control Panel (AppleTalk Control panel for Open Transport-based machines).

Apple Remote Access Personal Server and the Apple Internet Router

Apple Remote Access Personal Server should not be installed on the same Macintosh as the Apple Internet Router.

Using ARA Security Modules (like SecurID) with Virtual Memory

There is an incompatibility between some ARA security modules (like SecurID) and Virtual Memory. This bug has been fixed in the latest system release (7.5.3).

Changes in version 2.1 of the Apple Remote Access Personal Server

Modem scripts have been moved to a new Modem Scripts folder within the Extensions Folder.

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The method of manual dialing has been changed. See the section above.

Interoperability with some non-Apple Remote Access Servers has been improved.

The installer has been upgraded from version 3.4 to version 4.0.3.

There is no longer a separate Remote Access Aliases extension.

The installer is now on a single high-density diskette.

A bug that caused machines with certain extensions to crash during boot has been fixed in the Serial Port Arbitrator.

Serial port rates of up to 115,200 bps are now supported in modem scripts. If the computer doesn't support 115,200, Apple Remote Access will use 57,600 bps instead.

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Apple Remote Access 2.1 Client For Macintosh Read Me

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APPLE REMOTE ACCESS CLIENT FOR MACINTOSH READ ME

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Global Village Gold/Silver/Mercury
Global Village Platinum
Hayes Accura 288
Hayes Optima 14.4
Hayes Optima 288
Megahertz CruiseCard 14.4
Megahertz CruiseCard 28.8
Metricom Ricochet Wireless
Microcom MicroPorte 4232bis
Microcom QX/4232bis
Motorola 326xV34
Motorola BitSURFR 56K
Motorola BitSURFR 64K
Motorola Power/Lifestyle 28.8
Practical Peripherals V.34
Prometheus ProModem 144e
Prometheus ProModem 96
PSI PowerModem II
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Published Date: Feb 18, 2012

Hard Disk 20: Applications Launch Slowly

PROBLEM DESCRIPTION: Customer complains that it takes an unusually long time to launch an application or boot from the Hard Disk 20.

BEFORE YOU START: Make sure that you are using Finder version 4.1 or greater.

CAUSE: The "Desktop" has been rebuilt or the media is becoming full. Performing the following steps will cause the files to be written to the drive in a sequential fashion, allowing faster access to data on that drive.

This article has been archived and is no longer updated by Apple.
CURE: Perform the following procedure:

1. Make certain that the Hard Disk 20 and the computer are turned off.
2. Connect a newly formatted Hard Disk 20 to the disk drive port of the problem drive. If a Hard Disk 20 is not available, a floppy drive will suffice.
(Note: Some files might be too large to copy to a floppy.)
3. Power on the computer and both hard disks if you have not yet done so.
4. Select all Icons on the problem drive by using the "Select All" function from the "Edit" menu and move those files to the backup Hard Disk. If a floppy drive is being used as the backup drive, the files must be transferred individually.
5. Verify that ALL data has been transferred to the backup disk drive after the file transfer is finished.
6. If all data has been transferred properly, continue to s8-7. Otherwise retry steps 1-5.
7. Open the System folder on the backup drive and double-click on the "Finder" icon.
8. Close all windows so that only the two drive Icons show on the screen.
9. Highlight the icon of the problem drive and select "Erase" from the "Special" menu.
10. Open the backup drive icon and choose "Select All" from the "Edit" menu.
11. Move all files from the backup drive to the original "problem drive".
12. Select "Shut Down" from the "Special" menu and reboot the computer.
Your applications should launch much faster. When booting from the Hard Disk 20 and using a Macintosh Plus or Enhanced Macintosh 512k, there should be a noticable improvement in booting speed.

Published Date: Feb 18, 2012

Text Clippings and Screen Redraw (7/96)

Sometimes I see an open text clipping window that does not redraw correctly. It appears that some text is missing or partially cropped from the window. However, the missing text is redrawn in a separate window smaller window in the upper left corner of the desktop. Why is this happening?

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This is a known issue that is purely cosmetic. Apple is currently investigating the problem. There is a rare
circumstance in which an open text clipping window will not redraw correctly, such that the included text will
be absent or partially cropped, but redrawn in a separate window fragment in the upper left corner of the
desktop.

Steps To Reproduce
===================
Step 1
------
Open SimpleText or any other drag and drop capable application.

Step 2
------
Drag a text selection to the desktop to create a clipping file, then open that file.

Step 3
------
Bring SimpleText, or anything but the Finder, to the front.

Step 4
------
If you then double-click on the clipping file again (even though its       window is already open), whatever
portion of the CONTENTS of that     window that was obscured by another window (even a Finder window) will
be cropped out. However, the complete contents of that clipping file     window WILL be displayed in another
separate white box in the upper     left corner of the desktop, below the menu bar. This box will have no
borders or scroll bars, and will not be redrawn if another window is     moved over it then moved away.

- This will not occur if, in the previous step, the Finder was allowed to come completely to the front and
finish its redraws before double-clicking on the clipping file.

- Even if the clipping window is NOT obscured by any other window in step 4, if you simply move the clipping
window anywhere after double-clicking its icon, the effect will be reproduced.
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Published Date: Feb 18, 2012

QuickTake Cameras: Not Supported Using Windows 95

Are any of the QuickTake digital cameras (QuickTake 100, 150, 200) compatible with Microsoft Windows 95?
This article has been archived and is no longer updated by Apple.
Windows 95 has not been officially tested using the Apple QuickTake Camera software, so it is not supported by Apple Computer, Inc.

Quicktake 200 is not supported under Windows by Apple at this time. Fuji makes a similar camera; you might consider checking with Fuji for purchasing, availablility and support on non-Mac OS machines.

With QuickTake 150 and QuickTake 100, unofficial testing with the QuickTake Software and Windows 95 did not present any problems on the computers we used. The QuickTake 150 software and QuickTake 100 software installed easily and functioned correctly. However, each system that you install the QuickTake software on may have different issues to deal with depending on the number of communication ports in use.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

The Tech Info Library article titled "**Locating Vendor Information**" can help you search for a particular vendor's address and phone number.

This article was published in the Information Alley on 15 July 1996.
Published Date: Feb 18, 2012

Power Macintosh 7600: Power Supply Fan Speed Fluctuations (7/96)

I have noticed that the speed of the fan used in the power supply of my Power Macintosh 7600 series computer seems to change as the temperature in my office fluctuates. Is this considered normal?

This article has been archived and is no longer updated by Apple.

The change in the speed of the fan that you are noticing is normal. The power supply used in the Power Macintosh 7200/7500/7600 series computers' enclosures contains a fan speed control circuit. The circuit is designed to monitor the temperature inside of the power supply and adjust the speed of the fan as the temperature of rises and lowers to compensate for the temperature change.

This fan speed control feature is not unique to this particular power supply. A similar fan speed control circuit is used in other desktop Macintosh computers as well.

Published Date: Feb 18, 2012

MacIPX and Comm Slot II: Ethernet Errors

The following two errors may be encountered when using version 5.11 of Novell's NetWare Client for Mac OS with Macintosh computers using the Apple Comm Slot II Ethernet adapter.

1) When attempting to configure MacIPX on a Power Macintosh 4400, 5400, 5500, 6360, 6400 or 6500 computers the following error is reported:

"Network interface Ethernet could not be selected due to error: -43 (0xffd5) please configure the Ethernet interface to ensure that the network driver can open properly."

2) When attempting to log in to the NetWare file server using the Novell Login Menu or mounting a volume through the NetWare Directory Browser the following error is reported:

"There may be a problem with your network connection or MacIPX may not be configured properly. Use the MacIPX control panel to configure MacIPX."
This article has been archived and is no longer updated by Apple.
Error 1:
Apple has developed the Power Macintosh or Performa 6360/64xx/54xx Update disk, which installs the necessary "Ethernet shim" support, to use MacIPX and DEC's LAT tool as a solution to error #1 (above). You can download this update from Apple's Software Update sites. Before installing this update, ensure you are running the latest versions of MacIPX or LAT Tool.

The 6360/64xx/54xx Update fixes are already in Mac OS 7.6 and higher. If you have installed Mac OS 7.6 or higher, you do not need the 6360/64xx/54xx Update.

Error 2:
The error message returned in error #2 (above) indicates that the MacIPX driver has not been opened. If you open the MacIPX control panel, you will see the Network Number and Node Number displayed as "N/A (driver not open)", which is normal after a restart.

Novell has updated the MacIPX Ethernet extension to allow MacIPX to initialize normally when attempting to log into the NetWare file server through the Novell Login Menu, or mounting a volume through the NetWare Directory Browser. Be sure to read the text file included with the update for other fixes to the Mac Client Update.

The update is available from Novell's ftp site at the following URL:
ftp://ftp.novell.com/pub/updates/nw/iwsb411/mclupd6a.bin

Installation Instructions:
The Read Me file, included with the update, contains the latest installation instructions.

Note: The updated MacIPX Ethernet extension should be used with all Comm Slot II equipped Macintosh computers.

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For additional information on Novell and Novell products, please contact Novell.

The Tech Info Library article#17159: "**Locating Vendor Information**", can help you search for a particular vendor's address and phone number.

Note: This article mentions an Apple software update. You may search for software updates in the Software Updates Library at following URL: "**http://asu.info apple.com/**"
Published Date: Feb 18, 2012

AppleShare 4.2.1 and ARA Multiport Server

I recently obtained the AppleShare 4.2.1 upgrade, which includes Apple Remote Access (ARA) Multiport Server 2.1. However, I cannot find the ARA Client software nor the four port serial card, both of which are mentioned in the ARA Multiport Server manual included with the upgrade. Where are those items?

This article has been archived and is no longer updated by Apple.

The version of ARA Multiport server that is included with AppleShare 4.2.1 is a special version that does not contain the card or any client software. Those items need to be purchased separately.

Published Date: Feb 18, 2012

StyleWriter EtherTalk Adapter: Troubleshooting Steps

This article contains several steps to help you troubleshoot issues you may be having with your StyleWriter EtherTalk Adapter. It contains the following issues:

- No EtherTalk Adapter in Chooser
- Color StyleWriter Stops Printing in Mid-Job
- Desktop Print Monitor Status Reports Incorrect Information
- Macintosh "Crashed" or "Hung" During Print Job
- Ethernet Activity LED Blinks, But Not Printer Activity LED
- General Information About Using the StyleWriter EtherTalk Adapter
- StyleWriter EtherTalk Adapter LED Locations
- StyleWriter Continuously and Repeatedly Powers On and Off

This article has been archived and is no longer updated by Apple.
The StyleWriter EtherTalk Adapter allows many Apple inkjet printers to be used over an EtherTalk based network, including as of the date this article was written: Color StyleWriter 1200, 1500, 2200, 2400, and 2500.

The StyleWriter EtherTalk Adapter requires the StyleWriter 2.2 driver, which shipped with the StyleWriter 1500. This software, for owners of other StyleWriter printers using the EtherTalk Adapter, is available electronically at Apple Software Update locations.

No EtherTalk Adapter in Chooser

PROBLEM:
Cannot see StyleWriter EtherTalk Adapter in the Chooser.

SOLUTION:
Check the following:

Ensure the Proper Printer is Being Accessed. The default name for the adapter is StyleWriter EtherTalk Adapter; however, you should determine whether the adapter was renamed. The easiest way to do this is to send a print job to a printer then verify the printer used to print the document. You can also note what printer names appear in the Chooser, close the Chooser,and unplug the power cord from the EtherTalk Adapter connected to your printer, then check the Chooser again to see which printer is no longer listed. Restore power to the adapter once you identify the missing printer. After power is restored, verify in the Chooser that the printer reappears.

Rename Printer if Default Printer has Number Appended to it. The default name may have a number appended to it; that is, one may be named StyleWriter EtherTalk Adapter 1, another might read StyleWriter EtherTalk Adapter 2, if more than one unit with the default name resides in the same Ethernet zone. Each may be given unique names to workaround this.

Use the Correct Ethernet Zone. Make sure that you are checking the proper zone for the printer in the Chooser.

Apply Power to Printer Before EtherTalk Adapter. Make sure the printer is powered on and is connected to the EtherTalk Adapter prior to supplying power to the EtherTalk Adapter.

Check the LED Lights on the EtherTalk Adapter. Check the LED lights on the EtherTalk Adapter after it is connected and powered on:

LED	Normal Color	Notes
Test/Power	Green	-
Printer Activity	Yellow	May blink if an incoming job is received.
Link	Green	Green if Ethernet is used.
Ethernet Activity	Yellow	Blinks rapidly while processing a job.

.
Restart Ethernet Adapter if Test/Power LED is RED. If the Test/Power LED is red (the normal state is green), attempt to restart the adapter by unplugging then replugging the power to the unit. If this does not work, check with your service provider as there is likely a hardware failure.

Verify You Are Using the Correct Printer Driver. Verify you are using the proper driver for the printer. You should be using the driver that came on your Color StyleWriter software disks when you purchased your printer, or an updated version of that printer driver found at Apple Software Update sites.

Verify the Link LED is on when using 10Base-T. When you are using 10Base-T, make sure the Link indicator LED is on. If it is not, there is a problem with the 10Base-T line. Perhaps the network is not properly set up or terminated: check with your network support provider.

Restart the StyleWriter EtherTalk Adapter

1. Unplug the StyleWriter EtherTalk adapter from the power source.
2. Reconnect the StyleWriter EtherTalk adapter to the power source.

Make sure the Test/Power led is green, the Printer activity LED is yellow, and if 10Base-T is used, that the Link LED is green. **Note:** It takes 20 or more seconds after power-on to go from red to green.

Color StyleWriter Stops Printing in Mid-Job

PROBLEM:
The printer attached to the StyleWriter EtherTalk Adapter has stopped printing, in mid-job.

SOLUTIONS:

Check the LED Status on the StyleWriter EtherTalk Adapter. Under normal operation, the Test/Power LED is green, the Printer activity LED should be yellow, or blinking if it is processing a job, and if connected to 10Base-T, the Link light should be green. If data is being sent to the adapter, the yellow Ethernet activity LED will blink rapidly.

Check the Activity of the Printer and Ethernet LEDs. The yellow Printer activity LED should blink slowly. The yellow Ethernet activity LED should blink rapidly. If no printer activity is indicated, check if the device appears in the Chooser. If the device is not present in the Chooser, restart the StyleWriter EtherTalk Adapter.

Verify the StyleWriter EtherTalk Adapter Appears in the Chooser. If the StyleWriter EtherTalk Adapter is not in the Chooser, restart the StyleWriter EtherTalk Adapter by unplugging then replugging the power supply to the StyleWriter EtherTalk Adapter.

Verify That There Are No Macintosh System Dialogs. Check for error messages displayed on the Macintosh sending the print job, including paper out, door open, or other similar types of messages.

Desktop Print Monitor Status Reports Incorrect Information

PROBLEM:
The Desktop Print Monitor's status display reports incorrect information after the StyelWriter EtherTalk Adapter is restarted.

SOLUTION:
Wait 2 minutes for the problem to clear. If it does not, restart your Macintosh. Prior to restarting, place the print job on hold. Once the Macintosh is restarted, take the job off of hold and printing will resume normally.

Macintosh "Crashed" or "Hung" During Print Job

PROBLEM:
The Macintosh "crashed" or "hung" during the print job. After restarting the Macintosh, the Macintosh is "frozen" and the print job is not completed but the Ethernet activity LED is blinking, indicating that data is being received.

SOLUTIONS:
Restart the StyleWriter EtherTalk Adapter by unplugging then replugging the power supply to the StyleWriter EtherTalk Adapter. Printing will resume normally.

Ethernet Activity LED Blinks, But Not Printer Activity LED

PROBLEM:
The Ethernet activity LED on the StyleWriter EtherTalk Adapter blinks but the Printer activity LED does not.

SOLUTION:
Restart the StyleWriter EtherTalk Adapter by unplugging then replugging the power supply to the StyleWriter EtherTalk Adapter.

General Information About Using the StyleWriter EtherTalk Adapter

Names of the Color StyleWriter Printers

When using the CSW 2500 or CSW 1500 drivers with StyleWriter EtherTalk Adapter, the print dialog box indicates the driver name of either "Color StyleWriter 2500" or "Color StyleWriter 1500" followed by the name StyleWriter EtherTalk Adapter is currently assigned.

Rename the StyleWriter EtherTalk Adapter if you wish to reflect the type of printer connected it. For example, a StyleWriter EtherTalk Adapter connected to a Color StyleWriter 2500 could be named "StyleWriter EtherTalk 2500". In the Chooser you would see "StyleWriter EtherTalk 2500". When printing to the chosen printer the dialog would read Color StyleWriter 2500 "StyleWriter EtherTalk...".

Using QuickDraw GX version of Color StyleWriter Drivers

When using the CSW 2500 GX v1.0 or CSW 1500 GX v1.0 drivers, the CSW 2400 GX and the CSW 2200 GX drivers must be removed or disabled using the Extensions Manager Control Panel. You must restart your Macintosh after removing or disabling the old drivers.

LED Information in StyleWriter EtherTalk Adapter User's Guide

Refer to the StyleWriter EtherTalk Adapter user guide for additional information regarding the function of the LED's.

StyleWriter EtherTalk Adapter LED Locations

LED are located on the top of the StyleWriter EtherTalk Adapter, and indicate (as shown in the diagram below):

```
Power connector, serial port
          at this end
          -------------
         /             \\
         |             |
         |      o      | --> Test/Power (orange/green)
         |             |
         |      o      | --> Printer activity (yellow)
         |             |
         |      o      | --> Collision (orange)
         |             |
         |      o      | --> Ethernet activity (yellow)
         |             |
         |      o      | --> Link (green)
         \\             /
          -------------
10BaseT/10Base2 connectors
          at this end
```

StyleWriter Continuously and Repeatedly Powers On and Off

If you find that after plugging the StyleWriter ethernet adapter into the StyleWriter that the printer continually cycles through power (turning itself off and on with carriage movement), check to make sure a cartridge is installed. If there is no cartridge in the printer the StyleWriter will not be able to complete the self test it automatically performs after connecting the adapter, and therefore will continue to cycle attempting to complete a ready state.

Published Date: Feb 18, 2012

Lisa:10707 Error when Booting the Lisa Office Systems I Disk

PROBLEM DESCRIPTION: The 10707 Error occurs upon booting the Office Systems I disk or ProFile hard disk.

BEFORE YOU START: Familiarize yourself with the Lisa (or Macintosh XL) Technical Procedures.
This article has been archived and is no longer updated by Apple.
CAUSE: The disk is write-protected or the system software is damaged.

CURE: To unprotect the disk, slide the write-protect tab so that it covers the small rectangular opening (see the Lisa or Macintosh owner's manual if you are not sure how to perform this procedure).

If using a ProFile, boot the Office System 1 diskette. Choose the "Repair' option. If this fails, choose "Install" and reinstall the Office System. If this still fails, back up the customer's data, reinitialize the ProFile using the Install option, and install the Office System.

Published Date: Feb 18, 2012

PowerBook 5300 Series: Determining Logic Board

How can I tell determine which PowerBook 5300 Logic Board I have?

This article has been archived and is no longer updated by Apple.

Look at the serial number on the PowerBook 5300 logic board and use the chart below to determine which version of the logic board you have.

Apple Svc. Part Number	RAM	VRAM	Description	Clock Speed	Logic Board Serial Number
661-0989	8 MB	512K	No chip on top, just sockets	100 MHz	FCXXXXXX55Y
661-0990	16 MB	512K	4 RAM chips on top, one VRAM socket	100 MHz	FCXXXXXX4VX
661-0991	16 MB	1 MB	No sockets	100 MHz	FCXXXXXX68J
661-0992	16 MB	1 MB	No sockets	117 MHz	FCXXXXXX55S

Published Date: Feb 18, 2012

Apple Printer Utility 2.0: Isn‘t Compat W/ Telecom 2.3.3 (7/96)

When I try using the Apple Printer Utility 2.0 with my LaserWriter printer from my Power Macintosh Computer, my system "freezes" upon shut down, or restart.

I have narrowed this down to the Telecom 2.3.3 software. If I do not install this software after reinstalling System 7.5.3, then everything works as it should.
This article has been archived and is no longer updated by Apple.
We duplicated the problem using the Apple Telephone Tool v2.3.3 with Apple Printer Utility v2.0 under Mac OS 7.5.3, when the Macintosh was connected to the network using LocalTalk. When we tested the software using EtherTalk, we did not encounter any difficulties.

After sending or receiving a fax with the Apple Telephone Tool using a GeoPort Adapter, you may encounter system hangs when using the Apple Printer Utility, or after using the Apple Printer Utility when you Restart or Shut Down. Even if you disable the Apple Telephone Tool and fax extensions using the Extensions Manager, and restart your Macintosh, you may still encounter hangs after using Apple Printer Utility.

Until this problem is isolated and fixed, when you are using a LocalTalk network connection, you should refrain from using the Apple Printer Utility and the Apple Telephone tool when using LocalTalk on the same Macintosh computers using Mac OS 7.5.2 or 7.5.3.

Published Date: Feb 18, 2012

PC Compatibility Card: Create New Drive Containers (7/96)

I have a PCI-based PC Compatibility Card, and I am having trouble trying to use the drive container from one of the earlier DOS Compatibility Card I had installed in my Power Macintosh 6100 computer. Can I use my previous drive containers?

This article has been archived and is no longer updated by Apple.

The PCI-based PC Compatibility Cards have significant hardware differences from the earlier DOS Compatibility Cards. Although the drive containers have not changed, many of the previous drivers, including video drivers and sound drivers, will not work correctly on the PCI-based PC Compatibility Cards.

To ensure proper operation of the PCI-based PC Compatibility Cards, you should create a new drive container and install the drivers that come with the PC Compatibility Card.

Published Date: Feb 18, 2012

AppleCD Audio Player: Volume Setting Aren‘t Retained (7/96)

I am using the AppleCD Audio Player v2.1, which came with System 7.5.3 Update 2.0, and cannot find a way to make the AppleCD Audio Player retain the volume settings after I restart my Macintosh computer.
This article has been archived and is no longer updated by Apple.
This issue has been reported to Apple Engineering and they are investigating a solution. Currently the only solution is to reset the volume slider to the desired position.

When you restart your Macintosh the AppleCD Audio Player v2.1 slider defaults to the middle position, so you must manually change the volume each time you use the AppleCD Audio Player.

Published Date: Feb 18, 2012

Power Mac 5200 & 6300: PrinterShare Fails From Remote (11/96)

I have two Power Macintosh 5200 computers and a Color StyleWriter 2500 printer. I am trying to share the printer, but when I print from the remote computer, I get a Resource not Found error message. I am using System 7.5.3 on both computers.

This article has been archived and is no longer updated by Apple.

```
You can perform any of the workarounds listed below in order to print correctly. This problem is NOT specific
to the Color StyleWriter 2500, and occurs with any QuickDraw printer that uses Printer Share 1.1.3.


Workarounds
===========

Upgrade to System 7.5.5
-----------------------
You can successfully use PrintShare on Power Macintosh 5200 and Power Macintosh 6300 series computers if you
install the System 7.5.5 update.

Fill Out Information in Sharing Setup Control Panel
---------------------------------------------------
If you fill out the information in the Sharing Setup control panel, the necessary resources are installed, so
PrintShare functions properly with System 7.5.3. Be sure to fill out the information in the Sharing Setup
control panel of the remote computer also.


This article appeared in the 15 October 1996 issue of the Information Alley.


Article Change History:
22 Nov 1996 - Added Sharing Setup control panel on the remote computer.
15 Oct 1996 - Added current workarounds.
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Published Date: Feb 18, 2012

StyleWriter GX Drivers: Don‘t Support Scatter Feature (7/96)

I am using QuickDraw GX and a Color StyleWriter 1500 printer. I am trying to use the Scatter mode, but that button is not active. How can I use this color mode with QuickDraw GX?

This article has been archived and is no longer updated by Apple.

The StyleWriter GX drivers do not support the scatter feature, with the exception of the StyleWriter Pro GX driver. Since most StyleWriter customers do not need the higher end printing architecture of QuickDraw GX, many of the features of GX, such as DeskTop printing, N-Up and Watermarks, have been incorporated into the standard QuickDraw drivers.

Published Date: Feb 18, 2012

User & Group Manager: Thread Manager Missing (8/96)

Article Reviewed/Updated: 1 August 1996

I installed the FirstClass, AppleShare, and AtEase Agent software on one server. I then moved the FirstClass Agent extension to my FirstClass server so I could access the server with the User & Group Manager. I now get a message upon restart of the server that I need to "install the Thread Manager extension".

This article has been archived and is no longer updated by Apple.

You will get this message if you drag copy the FirstClass Agent extension into your server's system folder. In the first chapter of the Network Administrator Toolkit (ANAT) manual it states:

WARNING: Do not install the Network Administrator Toolkit software by dragging the files onto the startup disk. You must use the Installer programs that are on the Apple Network Administrator Toolkit CD-ROM disc. These programs place the files in the correct location on the startup disk.

You will need to install the Apple Network Administrator Toolkit Server software for the type of server you are running. The Installer will install the Thread Manager into the server's system folder.

Article Change History:
01 Aug 1996 - Updated for search ability.

Published Date: Feb 18, 2012

ImageWriter II: Paper Guide Installation

The new paper guides seem hard to install when using the old installation procedure documented in the ImageWriter II Technical Procedures manual.
This article has been archived and is no longer updated by Apple.
BEFORE YOU START: Familiarize yourself with the ImageWriter II Technical Procedures.

Design changes made to the paper guide require a different method of installation. There are 2 different ImageWriter II paper guides. The NEW paper guide has a reinforcing bar molded to the bottom of the opening that is covered by the "metal foil". The older part does not have this reinforcing bar.

Solution:
Remove the print head first before installing the new-style paper guide. See the ImageWriter II Technical Procedures for more information on how to install the paper guide. Then follow the normal paper guide procedure as documented in the ImageWriter II Technical Procedures.
Published Date: Feb 18, 2012

Network Assistant 4.0.x: Workstation Access Denied

After configuring a group of workstations, which will be administered with Network Assistant, the status of one of the workstations shows "Access Denied." What can cause this?

This article has been archived and is no longer updated by Apple.

You will get this status displayed if you change the workstation's Network Assistant password after you have added it to a workstation list. You must remove the workstation from any list it is on and add it to the list again to access it from Network Assistant.

Published Date: Feb 18, 2012

Network Assistant: Workstation Status Unavailable

When using Apple Network Assistant Toolkit (ANAT) to administer a computer lab, at times, Network Assistant will report a workstation's status as "unavailable." Checking the workstation shows the screen saver is activated. Is there any relationship? Under what conditions can a workstation become unavailable?
This article has been archived and is no longer updated by Apple.
In the case of a screen saver, it is possible (though uncommon) that an application may delay, prohibit, or otherwise interfere with other background processes, such as the process that allows the workstation to respond to this status request. Some applications preempt these background processes to allow the application to perform optimally for the user, though in such cases they will USUALLY provide user-definable options to "allow background processes" or "monitor system activity," and so forth. Check with the software manufacturer to confirm this possibility. Finally, it could be that your screen saver allows background processes, but conflicts with the system or network software.

As to being unavailable, very 30 seconds, the computer running the Network Assistant application will poll the network to verify the availability of workstations configured under Network Assistant. Any workstations that fail to answer this "are you there" request will be marked unavailable. As the request is continually delivered, correcting for a workstation's inability to respond will automatically make it available again after a subsequent status request is answered.

Typically, failure to answer these status requests can be attributed to common network connectivity issues: a break in the cabling or connections, a powered-down computer, a bad network card or transceiver, and so forth.
Published Date: Feb 18, 2012

At Ease 4.0: At Ease Server Dialog Box Issue (7/97)

I am setting up my At Ease 4.0 and AppleShare server using the At Ease Administration application at the At Ease Server dialog box. When I enter the Volume Name and login as a registered user I get this message, "The At Ease server user access information is no longer valid." What causes this to happen?

This article has been archived and is no longer updated by Apple.

The "The At Ease server user access information is no longer valid." message is generated when the user has a volume from the server already mounted when they launch At Ease Admin. If the user logs off the server, then launches At Ease Admin the dialog will not appear.

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AppleWorks 1.3 & 2.0: Won‘t Correctly Skip Pages When Printing

In AppleWorks' word processor, there are occasional printing problems when there is a page break in the middle of an indented paragraph. If you use the options menu (Open-Apple-O) to specify a paragraph indent of more than nine characters, AppleWorks may fail to skip to a new page when it should.
This article has been archived and is no longer updated by Apple.
Two workarounds:

- For paragraph indents greater than nine characters, insert nine spaces instead of using the Indent command in the Options menu.

- Insert a carriage return on the line before the desired page break, creating two paragraphs, one before and one after the page break. (Indent the first line of the new second paragraph so it will line up with the rest of the text.

Published Date: Feb 18, 2012

ImageWriter II: Print Quality

The ImageWriter II produces blurred print when used with the Macintosh in "high quality mode".
This article has been archived and is no longer updated by Apple.
BEFORE YOU START: Familiarize yourself with the ImageWriter II Technical Procedures.

The wrong print driver might be installed (such as 2.2).

Solution:
Install ImageWriter driver version 2.3 or higher.

OTHER POSSIBLE CAUSES/CURES: "Over inking" might occur when using a new ribbon with porous paper. The thickness lever might be adjusted too far forward. Some applications might require that an older driver be used.
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Multiprocessing Software: Read Me

This article contains the Read Me file for the Multiprocessing Software included with the Power Macintosh 9500/180 MP.
This article has been archived and is no longer updated by Apple.

Important Information About the Multiprocessing Software

Contents

- Introduction
- Installing Multiprocessing Software
- Turn off virtual memory and do not install RAM Doubler
- Turn off hard disk sleep
- Important Information About Document Auto-Save

Introduction

This document provides information about the multiprocessing software that is included with your multiprocessor Power Macintosh computer, and how to configure your computer properly to take advantage of multiprocessor performance.

Installing Multiprocessing Software

Your multiprocessor Power Macintosh computer comes with Apple Multiprocessing software already installed, but doing a "clean" installation of system software will remove the multiprocessing software, and may also turn on virtual memory. (See the "Troubleshooting" chapter of your Power Macintosh User's Manual for more information about clean installation of system software.)

After doing a clean installation of system software, be sure to reinstall the multiprocessing software on this disk. Also, follow the instructions in the next section to turn off virtual memory if necessary. Otherwise, your multiprocessor-compatible software applications will not be able to take advantage of the second PowerPC processor.

To reinstall the multiprocessing software, double-click the Installer icon on the disk, and follow the instructions on the screen.

Turn off virtual memory and do not install RAM Doubler

Turn off virtual memory in the Memory control panel, and do not install Connectix RAM Doubler software. If virtual memory is turned on or RAM Doubler is installed, then your multiprocessor-compatible software applications will not be able to take advantage of the second PowerPC processor.

To turn off virtual memory, open the Memory control panel and in the Virtual Memory section, click the Off button. Then restart your computer. For more detailed information about virtual memory, see the "Memory" topic area in Macintosh Guide, available in the Guide menu.

Turn off hard disk sleep

Make sure that the hard disk sleep interval is set to "Never" in the Energy Saver control panel. Otherwise, software applications designed to work with your multiprocessor Power Macintosh may not work properly.

To set your hard disk sleep interval, do the following:

1. Open the Energy Saver control panel.
2. If necessary, click Show Details to make the additional options available.
3. Drag the top and bottom sliders as shown below.

If you wish, you can set a display sleep interval by dragging the middle slider. Display sleep works properly with multiprocessor-compatible software applications.

Important Information About Document Auto-Save

The Energy Saver control panel contains a feature named "Document Auto-Save." The purpose of this feature is to automatically quit all open applications during an idle or scheduled shutdown, while saving changes to any open documents in each application. Since there are literally thousands of applications available for the Macintosh (with new ones always arriving), we cannot guarantee that Document Auto-Save will be compatible with every application. This is especially true for any application that does not use standard routines to implement the alerts or dialog boxes used to save changes to new or modified documents. When Document Auto-Save is incompatible with an application, it will either not automatically quit, or it will display alerts or dialog boxes that Document Auto-Save does not recognize and therefore does not dismiss.

If you intend to turn Document Auto-Save on, we recommend that you monitor its operation during the first attempted idle or scheduled shutdown and note if any of your applications are not compatible. You can avoid problems with incompatible applications simply by making sure you leave open no documents that are new or modified before an idle or scheduled shutdown is to occur. Alternatively, you can modify the Document Auto-Save preferences in the Energy Saver control panel so the computer will sleep rather than shut down when unsaved documents are open.

For instructions for using Energy Saver & Document Auto-Save, choose Macintosh Guide from the Guide menu when the Finder is active, and choose the Energy Saving topic area.

Published Date: Feb 18, 2012

HyperCard 2.3.5 Update: Read Me (7/96)

This article contains the ReadMe file for the HyperCard 2.3.5 Update Installer.
This article has been archived and is no longer updated by Apple.

Overview
==========

This program updates your copy of HyperCard 2.3 and the StackToApp stack translator to version 2.3.5 and installs updated versions of four HyperCard stacks. From time to time, Apple produces maintenance releases of software to add minor functionality, fix defects or respond to customer requests. Our goal with this updater is to make it as convenient as possible for you to obtain the enhanced functionality in HyperCard 2.3.5.

This document tells you how to install the HyperCard 2.3.5 update to HyperCard 2.3, and describes what benefits it offers. Please read this entire "Read Me" file. It contains important information and tips that will enhance your experience with HyperCard 2.3.5. We recommend that you print a copy for reference.

This updater will NOT work on versions 2.2 or earlier of HyperCard. It will also not work with the HyperCard Player application. If you need to upgrade your copy of HyperCard call (800) 950-2442 for the Apple Reseller nearest you. To order HyperCard directly from APDA, if you are in the United States, call (800) 282-2732.

It is recommend that you update to system software version 7.5.3 or later in order take advantage of improvements to the latest versions of PlainTalk, the Sound Manager, and Macintosh Easy Open.

It is recommended that you make a backup copy of your HyperCard folder before installing this update.

You'll need enough room for both the original application and the new version (approximately 2.6 MB of disk space for both).

To install the HyperCard 2.3.5 update follow these steps:

Easy Install
==========

* Double-click on the "Install HC 2.3.5 Update" application to open it.

* Make sure that "Easy Install" is selected in the pop-up menu in the upper left-hand corner of the window.

* Select the folder where HyperCard 2.3 resides using a button labeled "Select Folder" or by choosing "Select Folder" in a pop-up menu that appears toward the bottom of the window (this will be the case if you have more than one disk mounted). When the folder containing HyperCard 2.3 is highlighted in the standard file dialog, click the "Select" button to select it.

* Click the "Install" button to install the new software and perform the update of your HyperCard application.

* During the installation, you will be asked if you wish to replace copies of the Power Tools and Readymade Buttons stacks if they are present. If you have made changes to these stacks that you'd like to preserve, click the "Skip" button to skip replacing each of these. If you wish to replace the stack, click the "Replace" button. If you wish to replace both of these stacks, click the "Replace All" button in the dialog that appears. You can install any of these stacks later using the Custom Install feature of the Installer (see below).

* After the installation has completed you will be asked if you wish to quit the installer or continue. If you wish to install the update into any other folders containing HyperCard 2.3, click "Continue."

* After the installation completes, you will now have version 2.3.5 of the StackToApp translator, 2.3.5 versions of the Audio Help, Color Tools, Power Tools, and Readymade Buttons stacks, a Read Me document, HyperCard updated to version 2.3.5, your old version of HyperCard renamed HyperCard.old, and an application for updating other copies of the HyperCard 2.3 application to version 2.3.5. Please see the instructions below for using this updater application.

Note: If the copy of HyperCard in the folder you selected is not version 2.3, you will get an error message at the end of the installation indicating that an invalid file was selected for updating.

Custom Install
==========

* Double-click on the "Install HC 2.3.5 Update" application to open it if necessary.

* Make sure that "Custom Install" is selected in the pop-up menu that appears in the upper left-hand corner of the window.

* Select the folder where HyperCard resides using a button labeled "Select Folder" or by choosing "Select Folder" in a pop-up menu (this is the case if you have more than one disk mounted). When the folder containing HyperCard appears in the standard file dialog, click the "Select" button

to select it.

* Select the software you wish to install by clicking the checkbox next to its name. You can click the triangle next to the HyperCard Stacks items to see more choices.

* Click the "Install" button to install the new software into the folder you selected.

How to use the HyperCard 2.3.5 Updater Application
==========

* Double-click on the "HyperCard 2.3.5 Updater" application to open it.

* You will be shown a Read Me document which you may print or save. After you've read the Read Me document. Click the "Continue" button.

* The updater will search for copies of HyperCard 2.3 on any mounted disk to update.

* Select a copy of HyperCard.

* Click the "Update" button.

* You may continue updating as many copies of HyperCard 2.3 that are present, as you wish.

Note: Any copies of the 2.3 version of the HyperCard Player that are present will be shown. The HyperCard Player cannot be updated to version 2.3.5. If you'd like to obtain a copy of the 2.3.5 version of the HyperCard Player from an Apple FTP site you may use the following Internet address:
ftp://ftp.info.apple.com/Apple_Support_Area/Apple.Software.Updates/
US/Macintosh/Utilities/HyperCard_Player_2.3.5.sea.hqx

HyperCard 2.3.5 Update Release Notes
==========

Changes in HyperCard

- HyperCard's performance on machines with large numbers of fonts installed has been vastly improved, particularly on Macintosh computers with PowerPC microprocessors.

- A problem that caused the text of fields to be printed at the resolution of the screen instead of the resolution of the printer has been fixed.

- Problems that caused selections within list fields to be displayed incorrectly have been fixed.

- The "Link To" button in the Button Info dialog once again appears on all systems.

Changes in StackToApp

- A problem that caused standalones to be created with a corrupted version of the AddColor external has been fixed.

Changes in the Color Tools Stack

- A problem was fixed that prevented stacks colorized with Color Tools 2.3 on a Macintosh computer with a PowerPC microprocessor from being used on a different Macintosh computer with a PowerPC microprocessor.

- The Color Tools now work more reliably on Macintosh systems that have the Japanese Language Kit or the Chinese Language Kit installed.

- The "Redraw Screen" command now works properly with stacks that have been colorized with other versions of the Color Tools.

- The "Compact Color Database" command now works properly with colorized cards and backgrounds whose IDs are greater than 32767.

Changes in the Audio Help Stack

The following changes were made to the Audio Palette to make it work properly on newer Macintosh models, including the Power Macintosh 7200, 7500, 8500, and 9500.

- The Audio Palette now records at the following qualities: Good (22 kHz, 6-to-1 compression), Better (22 kHz, 3-to-1 compression), and Best (22 kHz, no compression). This is a change from older versions of the Audio Palette, which recorded at Good and Best qualities and had a

different idea of Good quality (11 kHz, no compression).

- There is now a one-to-one correspondence between compression and quality settings. "No compression" is synonymous with "Best quality," "3-to-1 compression" with "Better quality," and "6-to-1 compression" with "Good quality."

- You can still open and edit sounds recorded with the old Audio Palette at its "Good" quality. When you do this, the new Audio Palette displays the quality as "Other".

- From a script, you can still set the "speed" property of the Audio Palette to "11k". This will allow you to use the old "Good" quality. When you do this, the new Audio Palette displays the quality as "Other".

- The Audio Palette has a new property, "quality". From a script, you can set this property to "Good", "Better", or "Best".

- The documentation in the Audio Help stack has been updated to reflect the changes in the Audio Palette.

Changes in the Power Tools Stack

- The Super Grouper tool now works more reliably with a wider range of stacks.

- Starting with HyperCard 2.3, the option that allows the Picture XCMD to display a picture from the clipboard requires that the word "clipboard" be quoted, as follows:

Picture "From The Clipboard","clipboard"

The documentation in the Power Tools stack has been updated to reflect this change.

Changes in the Readymade Buttons Stack

- The "Show Clipboard Picture" button on the card that demonstrates how to hide and show pictures now works properly.

Published Date: Feb 18, 2012

Speech Recognition Extension 1.5: Read Me (1/97)

This article contains the ReadMe file for version 1.5 of the Speech Recognition extension.

This article has been archived and is no longer updated by Apple.

Version 1.5 of the Speech Recognition extension fixes a few bugs that prevented version 1.4.1 of Apple's English Speech Recognition software from running on some PowerPC-based Performas and PowerBooks*. (see "Bugs fixed..." below.) To install the latest configuration of Apple's speech recognition software on your computer, follow these steps:

1. Install version 1.4.1 of "English Speech Recognition."

This installer installs version 1.4.1 of the Speech Recognition extension as well as the utility 'Speakable Items' which allows you to open any file in the Speakable Items folder (which is installed in your Apple Menu Items folder) just by speaking its name.

2. Replace version 1.4.1 of the Speech Recognition extension with version 1.5 of the extension.

Replace version 1.4.1 of the Speech Recognition extension with version 1.5. First turn Speakable Items off and close the Speech control panel if it is open. Then simply drag version 1.5 of the Speech Recognition extension onto your system folder. Reply "OK" to the alert that asks you if you're sure you want to replace the existing Speech Recognition extension file with the newer one. (If the system will not let you replace the existing Speech Recognition extension with the new one, try restarting the computer with extensions off -- by holding the Shift key down during startup -- and then replace the extension.) Finally, restart your computer. That's it!

We will soon release (at http://speech.apple.com/) version 1.5 of the "English Speech Recognition" installer, which will install the new extension along with the rest of the English Speech Recognition software in one step, rather than these two steps.

If you do not have 'English Text-To-Speech (TTS)' installed (5225K), you may wish to install it first. English TTS allows your Macintosh to synthesize speech. You can verify that English TTS is already installed by finding and opening the Speech control panel, then selecting 'Voice' from the Options pop-up menu. If you are able to choose a voice, the TTS software is already installed. If English TTS is not installed, we recommend you install it first since it is used by the English Speech Recognition software.

Bugs fixed by Speech Recognition version 1.5
==========

- Now works on PowerPC based PowerBooks* when used with the built-in microphone.
- Now works on all Performa 52xx, 53xx, 62xx and 63xx models without muting sound output.
- ...and many other minor fixes designed to let other developers create applications that use Apple's speech recognition technology.

* The following computers are in the PowerPC-based PowerBook computer family: PowerBook 5300, 5300c, 5300ce, 5300cs, 2300c, 1400c, and 1400cs. Additionally PowerBook 200 and 500 series computers which have PowerPC upgrade cards installed are included in the PowerPC-based PowerBook computer family.

Article Change History:
20 Jan 1997 - Added details about PPC-based PowerBook computers.
Published Date: Feb 18, 2012

Language Kits: What Files Are Installed

When installing the Apple Language Kits what files are installed in the System Folder?
This article has been archived and is no longer updated by Apple.
A listing of the files installed into the System Folder during installation of each of Apple's Language Kits is available below:

Arabic Language Kit

Control Panels

- Arabic Setting

Extensions

- Arabic Support
- Language Kit Extension
- Roman Support
- Worldscript 1

Fonts

- AB AlBayan
- AB Baghdad
- AB Cairo
- AB Geeza
- AB Kufi
- AB Nadeem
- ABThuluth
- AlbayanBol
- AlbayanPl
- Amir
- Asfha
- Baghd
- Geeza
- Kamra
- KamraBol
- KufiStaGK
- Masha
- Nadee
- NadeeP
- NadeePBol
- PS Amir
- PS Asfahan
- PS Kamran
- PS Mashad
- PS NadeemFarsi
- PS Tehran
- ThuluBol
- ThuluLig

Chinese Language Kit (Simplified installation)

System Folder

- Beijing 16L1
- Beijing 16L2
- Simplified Chinese Fonts
- Song16
- Song24

Extensions

- Far East addition
- InputBackSupport
- Language Kit Extension
- Roman Support
- Simplified Chinese Input Method
- Simplified Chinese Support
- WorldScript II
- An application that uses Chinese characters, which appear as garbage characters

Fonts

- Beijing
- Song

Cyrillic Language Kit

Extensions

- Cyrillic Support
- Language Kit Extension
- Worldscript 1

Fonts

- APCCouBol
- APCCouBolObl
- APCCouReg
- BastiBol
- BastiBolObl
- BastiObl
- BastiPl
- CY APC Courier
- CY Bastion
- CY Latinski
- CY Pryamoy
- CY Pryamoy Prop
- CY Sistemny
- LatinBol
- LatinBolIta
- LatinBoo
- LatinIta

Hebrew Language Kit

Control Panels

- Hebrew Setting

Extensions

- Hebrew Support
- Language Kit Extension
- Roman Support
- Worldscript 1

Fonts

- HB Arial
- HB Corsiva

- HB Eilat
- HB Hermon
- HB New Peninim
- HB Raanana

Japanese Language Kit (v 1.2)

System Folder

- HonMincho GX
- Kanji Fonts
- MaruGothic GX
- Osaka GX
- Osaka
- Tohaba GX

Extensions

- Font Extension
- Font Extension 3
- Inline Filter
- Inline Support
- InputBackSupport
- Japanese Support
- Language Kit Extension
- Roman Support
- WorldScript II
- Seven (7) other extensions that use Japanese characters, so the names appear as garbage characters

Fonts

- HonMincho
- MaruGothic
- Osaka
- Osaka Tohaba

Published Date: Feb 18, 2012

Arabic Language Kit: Character Encoding Type

This article describes the Arabic Language Kit (ALK) character encoding.
This article has been archived and is no longer updated by Apple.
The character encoding table used in the Arabic Language Kit is shown on page A-21 of the Installation and User's Manual for the ALK. This encoding method is essentially ISO 8859-6 plus a set of punctuation for Arabic and Arabic digits. OSMO 449 is based on IS0 8859-6.
Published Date: Feb 18, 2012

Performa 5200 & 6200: Upgrade for 14.4 Internal Modem?

Is it possible to upgrade the Global Village Gold IIv 14.4 Kbps internal modem, which is included with certain Macintosh Performa 5200 and 6200 series computers, to 28.8 Kbps?
This article has been archived and is no longer updated by Apple.
Apple does not offer an upgrade for your modem. However, Global Village has an upgrade path for your modem. The upgraded internal modem would replace the modem already installed in your computer.

Contact Global Village Communications directly to order this modem or to obtain additional information, including compatibility with specific computer systems and pricing.

Note that support for this modem, once installed on a Performa computer, will be provided by Global Village directly. Apple supports only Global Village modems which are bundled with specific systems.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

The following Tech Info Library article can help you search for a particular vendor's address and phone number:

Article 17159: "**Locating Vendor Information**"

Published Date: Feb 18, 2012

OpenDoc: Latest Version & Release History

What is the latest version and release history of OpenDoc?
This article has been archived and is no longer updated by Apple.
The latest release of OpenDoc is 1.2.1. The first three releases were primarily intended for developers, and of little interest to the general public. Developer Release 4 corresponded to the first version 1.0 public release.

The table below provides a summary of dates of the releases.

Version	Release Date	Notes
DR1	December 1994	Developer Release 1
DR2	April 1995	Developer Release 2
DR3	August 1995	Developer Release 3
1.0	December 1995	Also known as DR4. Highlights include CFM-68K and CyberDog A3c1, bug fixes & performance optimizations, consolidation of CFM extension; library files from 13 down to 3.
1.0.4	April 1996	Also known as DR5. Highlights include OpenDoc source code, ODF Release 1, third party components, Apple "Kickstart Components". CyberDog 1.0 required OpenDoc 1.0.4.
1.1	August 1996	--
1.1.2	November 1996	--
1.2	March 1997	with Mac OS 7.6
1.2.1	September 1997	with U.S. Mac OS 8.0

Published Date: Feb 18, 2012

Macintosh Performa 6400: Voltage Settings

What is the purpose of the small switch located on the back of the Macintosh Performa 6400 computer to the left of the power plugs?
This article has been archived and is no longer updated by Apple.
That switch is the voltage switch, which is used to set the voltage level appropriate for the country where you are using the Macintosh Performa 6400 computer. This voltage switch MUST be set correctly to avoid damaging the computer.

The voltage switch can be set to 115 or 230 voltages. Use 115 for voltages between 100 and 130. Set the switch to show 230 for voltages between 200 and 270. Insert a screw driver in the slot to set the switch to the appropriate setting.

Note: Below is a listing of the voltage requirements for some countries. Some countries use two standardized voltages (for example, either 100 or 220).If you are not sure which voltage you have, check with the electricity supply company before plugging in the Performa 6400.

Country	Single Voltage
Japan	100
Algeria, Indonesia, Lebanon, Libya, Peru, S. Korea, Vietnam	100 or 220
Ecuador, Jamaica, Philippines, Taiwan	110
Bermuda, Canada, Puerto Rico, United States, Venezuela	120
Colombia, Mexico, Saudi Arabia	127
Brazil	127 or 220
Hong Kong	200
India, South Africa	220-250
Israel, Pakistan, Singapore	230
Australia, Kuwait, Malta, New Zealand, Northern Ireland, Papua New Guinea, Oman, Qatar, United Kingdom	240
Austria, Belgium, Denmark, Finland, France, Germany, Greece, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland	220-230
Bahrain, Chile, China (People's Republic), Czechoslovakia, Egypt, Greenland, Hungary, Iceland, Iran, Jordan, Liechtenstein, Nepal, Paraguay, Poland, Romania, United Arab Emirates, Russia and the Commonwealth of Independent States, Yemen, Yugoslavia	220

Published Date: Feb 18, 2012

Macintosh Performa 6400, 6500: Sound FAQ

This article contains frequently asked questions (FAQ) about the sound capabilities of the Macintosh Performa 6400/180 and 6400/200 computers and the Power Macintosh 6500.

Questions Answered in this FAQ

1. Do these computers have 8-bit or 16-bit sound?
2. What is the purpose of the subwoofer?
3. What happens when I turn the subwoofer balance control, which is located on the back of the computer?
4. Why are there two sound output jacks--one in front and one in back?
5. What is SRS Sound?
6. I have headphones plugged into my monitor, but I still hear sound coming out of your computer. Why?
7. I am using the headphones plugged into the front of the computer, but the sound appears distorted. What could be causing this?
8. Why do I not hear any sound emitting from the computer?
9. What are the speaker size, frequency range, and power specifications of the subwoofer?
10. What effect does the subwoofer have on the SRS technology?

For a general-purpose "frequently asked questions" article regarding Macintosh Performa 6400 series systems, please see the following Tech Info Library article:

Article 24215: **Macintosh Performa 6400 Series: Frequently Asked Questions**
This article has been archived and is no longer updated by Apple.
1) Question: Do these computers have 8-bit or 16-bit sound?

Answer: The Macintosh Performa 6400 series has 16-bit stereo sound input and output.

2) Question: What is the purpose of the subwoofer?

Answer: The subwoofer, which is built into your computer, functions as a full-range, monophonic speaker. However, when you attach external speakers to the sound output port on your computer (or if your monitor has built-in speakers) the subwoofer functions only as a bass speaker, to augment and complement the stereo sound coming from the speakers.

3) What happens when I turn the subwoofer balance control, which is located on the back of the computer?

Answer: If you want to increase or decrease the bass coming from the subwoofer in relation to the sound coming from the external speakers, adjust the subwoofer balance control. The subwoofer balance control only works when external speakers are attached.

4) Question: Why are there two sound output jacks--one in front and one in back?

Answer: There are two sound output jacks, one on the front and one on the back. Both output jacks are connected to the sound amplifier. Inserting a plug into either jack disconnects the internal speakers. The jack on the front is intended for headphones, and the jack on the back is intended for external speakers. The rear jack is muted when headphones are plugged in the font jack.

5) Question: What is SRS Sound?

Answer: SRS (Sound Retrieval System) is proprietary technology from SRS Labs, which Apple has licensed and implemented on the Power Macintosh 5400/120 computer in order to enhance the sound field of the computer.

The usability, compatibility, and performance of the computer is not affected if SRS sound is enabled or disabled. However, enabling SRS yields a more spacious stereo sound from the computer. You can try it both ways to determine which you prefer.

For additional information about SRS, see the following Tech Info Library article:

Article 19953: **Macintosh Computers: What Is SRS Sound?**

6) Question: I have headphones plugged into my monitor, but I still hear sound coming out of the computer. Why?

Answer: When you plug headphones into the headphone jack on your monitor, you hear the sound through the headphones but the subwoofer

sound also continues to come out of the subwoofer in your computer. To avoid this, plug your headphones into the headphone jack on the front of the computer, not the monitor.

If you want to keep the headphones connected to the monitor, manually turn down the subwoofer. Turn the knob in the subwoofer balance control port all the way to the left to turn off the subwoofer volume. Remember to turn it back up the next time you want to hear the subwoofer.

7) Question: I am using the headphones plugged into the front of the computer, but the sound appears distorted. What could be causing this?

Answer: You may have SRS turned on, which does not work through headphones. To turn it off, open the Monitors & Sound control panel, which can be found in the Apple menu, and click the Sound icon. Then click to remove the check mark next to SRS.

8) Question: Why do I not hear any sound emitting from the computer?

Answer: Turn up the subwoofer balance control on the back of your computer. It may have been turned down too far.

The subwoofer balance control affects the subwoofer volume only in relation to external speakers, if you've attached external speakers or if your monitor has built-in speakers. Otherwise, it has no affect on your computer's overall volume. Adjust your computer's overall volume by using the sound controls on the front of the computer or monitor, by using the volume control sliders in the Monitors & Sound control panel, or by using the volume controls in AppleCD Audio Player (if you're listening to a CD).

9) Question: What is the speaker size and frequency range of the subwoofer?

Answer:
The speaker on the subwoofer is called a "74mm square-frame device", which means it is a 3-inch round speaker. The frequency range is approximately 70 Hz to 10 kHz. It is a 4.0 Ohm, 3.0 watt device.

10) Question: What effect does the subwoofer have on the SRS technology?

Answer: The subwoofer has no effect on the SRS technology since SRS does not need a subwoofer to perform. Essentially, the subwoofer makes the resulting sound much fuller.

For additional information about SRS, see the following Tech Info Library article:

Article 19953: **Macintosh Computers: What Is SRS Sound?**

Published Date: Feb 18, 2012

PowerBook 5300: Focus Enhancements Video Card Sound Issue

I have a Focus Enhancements MV16 video card installed in my PowerBook 5300 computer, and I have an external monitor connected to the Focus card. Whenever, a sound plays, the system locks up. This started happening after I installed additional memory in my computer. What could be causing this?
This article has been archived and is no longer updated by Apple.
This issue occurs only with the MV16-EN and MV16 Focus Enhancement cards when more than 32 MB of system memory is installed in a PowerBook 5300 series computer and an external monitor is connected. Focus Enhancements has been able to reproduce this issue consistently when memory cards that increase the total memory in the system to over 32 MB are installed along with the Focus MV-16 or MV16-EN card.

Apple Computer, Inc. is in the process of resolving this issue by changing a resistor value on the logic board of the PowerBook. If you are experiencing this issue, contact Apple or an Apple Authorized Service Provider to have your logic board replaced.

In the interim, you can use these workarounds:

- Reduce the sound level to minimum in the Sound control panel.
- Temporarily remove the RAM expansion card, reducing the actual RAM to 32 MB or lower when needing to play a sound with an external monitor attached.

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MacX 1.5: Open Transport and MacTCP Tool (7/96)

I am installing MacX 1.5 on a Power Macintosh running Open Transport. When I launch MacX and try to remotely connect to an X system, I get this message, "The remote command 'x' attempted to use connection tool 'MacTCP Tool', which does not exist."

The MacX Read Me file says MacTCP Tool is not needed when using Open Transport. What do I do?

This article has been archived and is no longer updated by Apple.

The MacX Read Me file is not correct. When using Open Transport, MacX does require the MacTCP Tool. You need to perform a MacX custom installation and select the MacTCP Tool.

Published Date: Feb 18, 2012

Macintosh: Flashing Question Mark at Startup

Sometimes when I attempt to start up my computer, a flashing question mark appears on the screen. What could be causing this?
This article has been archived and is no longer updated by Apple.
It is likely that you are holding down the button on the mouse while starting up the computer. Holding down the mouse button at startup causes the computer to attempt to eject a floppy disk. However, if you do not have a floppy disk installed, the flashing question mark appears. If you release the mouse button, the startup process will continue normally.

For more information on troubleshooting a flashing question mark, please see:
Article 13784: **Flashing Question Mark on the Screen: Causes and Cures**
Published Date: Feb 18, 2012

Powerbook 190 & 5300: Why Is Ethernet Not An Option?

I have a Macintosh PowerBook 5300 series computer. When I open either the Network or AppleTalk control panel, I only have the choice for LocalTalk Built In. I checked the Extensions folder and all Ethernet components appear to be installed. What am I doing wrong? Why is LocalTalk my only choice? Doesn't this computer work with Ethernet?

This article has been archived and is no longer updated by Apple.
When a Macintosh PowerBook 190 or 5300 series computer starts up, it checks for the presence of Ethernet hardware driver software. If it does not find hardware driver software which supports Ethernet (in this case, usually an Ethernet PC Card), the only choice available in the network setting control panels is LocalTalk. Of course, if the PC Card is not in the PC Card slot, Alternate Ethernet is a pop-up menu option, but you cannot connect to Ethernet network without first inserting the card.

When the Ethernet card's driver software is installed you can select Ethernet in either the Network or AppleTalk control panel, depending on whether you are using classic networking or Open Transport, respectively.

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Macintosh: Resources

This article has been archived and is no longer updated by Apple.

Every Macintosh application is a collection of discrete modules of data called resources. When a programmer assembles or compiles his source code into object code, the code is placed in a resource of type CODE. The programmer may then link to his CODE resource other data resources his code will use. These may include resources such as menus, fonts, windows, controls, dialog boxes, icons or pictures.

At power up, the Resource Manager initializes in ROM. To refer to and access resources, which are grouped logically by "type", application code can use the Resource Manager on an "as needed" basis, usually specifying the resource by type and either ID number or name. Since resources can be contained in files separate from the programmer's CODE resource, many programmers keep their code size minimal by referencing resources in the System file.

Resource types are distinguished by their four-character labels. Apple has reserved all resource type names which consist of lower case or international characters (ASCII $61-$7A and $7F on up). Additionally, Apple reserves the resource type names in the article "Macintosh: Reserved resource type names".

You can make alterations to discrete resources outside of the programmer's code, customizing or localizing the resource with foreign language prompts, currency formatting and other custom representations. Use ResEdit, REdit, and these tools' accompanying documentation, available through the Apple Programmer Development Association (APDA), to individualize almost any application or to edit custom-programmed resources.

For sources of information about the Resource Manager and resources in applications and in ROM, consult Inside Macintosh, volumes I-IV. Chapter 5, volume I and chapter 3 volume IV pertain directly to the Resource Manager. For information about resources used by the DeskTop file, read Apple Macintosh TechNote #29, "Resources Contained in the DeskTop File."

Published Date: Feb 18, 2012

Japanese Language Kit 1.2: WorldScript Update & Sys 7.5.2

Using Japanese Language Kit 1.2, I noticed the WorldScript Update is in the Apple Extras folder on the system software CD-ROM disc. Do I need to install this update?
This article has been archived and is no longer updated by Apple.
No, you should not install the WorldScript Update (version 1.0) contained in the Apple Extras folder. That update installs older versions of WorldScript software than are installed by the Japanese Language Kit 1.2.

The WorldScript Update v1.0 installs version 7.5.1 of WorldScript I, WorldScript II, and InputBackSupport. The Japanese Language Kit 1.2 installs version 7.5.1 of WorldScript II and version 7.5.2 of InputBackSupport.

If you have installed WorldScript Update 1.0 after installing the Japanese Language Kit 1.2, you should reinstall the Japanese Language Kit 1.2.

Note: System 7.5 Update 2.0, which updates the system to System 7.5.3, includes version 7.5.3 of InputBackSupport. If you install System 7.5 Update 2.0, you should not install WorldScript Update v1.0 on the Power Macintosh 7500 or 9500 computers because it will overwrite the newer InputBackSupport.
Published Date: Feb 18, 2012

PC Compatibility Card: PC CD-ROM Discs Aren‘t Recognized

I installed a PC Compatibility card into a Power Macintosh 5400/120 computer. However, when I attempt to use a CD-ROM disc in the PC environment, the CD-ROM drive is not recognized. How can I resolve this?

This article has been archived and is no longer updated by Apple.
If you are running Macintosh System Software 7.5.3 or newer you must have Apple CD-ROM software version 5.1.7 (or newer) and PC Compatibility software version 1.5 installed before following the procedure described in this article.

It is likely that you do not have the driver for the Apple CD-ROM drive installed in the PC environment. This driver is not installed during the default installation of the PC Compatibility Card software.

To verify that the driver is not installed, first switch to the PC environment. At the DOS prompt, type:

```
EDIT CONFIG.SYS
```

The CONFIG.SYS editor appears on the screen showing the loading order for items on the DOS side. If the CD-ROM driver is installed, the last line of the CONFIG.SYS should read:

```
DEVICEHIGH=C:\\APPLE\\CDROM.SYS/D:CDDRVR
```

If this line does not appear, you must install the CD-ROM driver, and you should also install QuickTime if you plan on using multimedia CD-ROM discs. Instructions for installing this software are included on page 74 of the PC Compatibility Card User's Manual (For 7-inch card).

Additionally, for the CD-ROM software to function, the AUTOEXEC.BAT file must have the line:

```
LOADHIGH C:\\DOS\\MSCDEX.EXE /S /D:CDDRVR /L:E
```

MSCDEX.EXE is documented in the MS-DOS online help feature and not either of the user's manuals.

For more information, type the following at the DOS prompt:

```
Help MSCDEX
```

Note: The suggestions in this article are for when the CD-ROM drive is not being recognized on the PC side (that is, no E:\\ drive appears). If the E:\\ drive is visible and a CD appears but is empty, then see the following Tech Info Library article:

Article 20572: "**Read Me For International Keyboards**"
Published Date: Feb 18, 2012

MacTCP: "That pesky MacTCP is acting up again" Message

I am trying to launch Netscape or any TCP/IP application on my computer and I get this message, "That pesky MacTCP is acting up again." What does this mean?
This article has been archived and is no longer updated by Apple.
What does "That pesky MacTCP is acting up again." Message Mean?

- The PPP/SLIP software is not successfully connecting to your Internet Service Provider (ISP).

The PPP extension and Config PPP control panel have to be installed, or the appropriate SLIP software. You need to verify that a modem connection is made to your ISP before launching a TCP/IP application. You should launch Config PPP or Config SLIP and dial out through that software.
- Confirmation messages from the connection software will show when a successful connection is made,
- Or error messages will indicate what is wrong.

- The MacTCP or TCP/IP control panel is not configured correctly.

See the "Correct MacTCP or TCP/IP Configuration Setup" section below for more information.

- The MacIP server is down or does not have an available IP address.

You should select a different zone that also has a MacIP server on the network. This is selected under the EtherTalk or LocalTalk icon's pop-up menu in the MacTCP control panel.

- The Internet Gateway or Router is down or the address is entered incorrectly (this usually applies in manual IP configurations).

You have to ask your network administrator for a list of valid Internet Gateway or Router IP addresses.

- The MacTCP or TCP/IP files are corrupt.

If you are using MacTCP, throw the MacTCP control panel, MacTCP DNR, and MacTCP Prep files into the trash.

- Reinstall MacTCP with a custom installation from the Mac OS 7.5 installer, or drag-copy from previous system versions. You will have to enter all necessary information in the control panel.

If you are using Open Transport and TCP/IP, throw the TCP/IP control panel and TCP/IP Preference files into the trash.

- Reinstall the TCP/IP control panel with a custom installation from the Mac OS 7.5.2 or higher installer. Once at the Custom Install choices, extend Networking, extend Open Transport, and choose TCP/IP. You will have to enter all necessary information in the control panel.

Correct MacTCP or TCP/IP Configuration Setup

MacPPP or FreePPP connection

Classic AppleTalk

1. Open the MacTCP control panel
2. Highlight the PPP icon and click More
3. In the More section, Obtain Address: Server
4. In the More section, Select the correct IP Address Class: the ISP will provide this info.
5. In the More section, Fill in the Domain Name Server Information: the ISP will provide this info.

Open Transport in Basic User Mode

- Open the TCP/IP control panel
- Choose Connect via: MacPPP
- Choose Configure via: Using PPP Server
- Fill in the Name Server address and domain names: the ISP will provide this info.

NOTE: When connected to the ISP, the PPP server will fill in the blanks in this TCP/IP control panel

MacSLIP or other SLIP software connection
The procedures are the same as for MacPPP or FreePPP.

MacIP Server connection

Classic AppleTalk

1. Open the MacTCP control panel
2. Select EtherTalk (on an Ethernet network) or LocalTalk (on a LocalTalk network or ARA (Apple Remote Access) connection) icon.
3. From the pop up menu below the correct icon, select the zone that has a MacIP server, the network administrator will provide this information.

Open Transport in Basic User Mode

1. Open the TCP/IP control panel
2. Select Connect via: AppleTalk (MacIP)
3. Select Configure via:

a) Using MacIP Server, when using server assigned address
- Select MacIP Server Zone: the network administrator will provide this information.
- Enter Search domains: the network administrator will provide this information.

b) Using MacIP Manually - when using manually assigned address that the server manages Select MacIP Server Zone: the Net

Admin will provide this info. The Net Admin will provide and the customer will enter: IP Address, Router address, Name server addr, and Search domains.

Manual IP Address connection

Classic AppleTalk

1. Open the MacTCP control panel
2. Select the Ethernet icon.
3. In the More section, Obtain Address: Manually.
4. In the More section, The Net Admin will provide and the customer will enter: Gateway Address, IP Address Class (A, B, or C), Subnet Mask, and Domain Name Server(s)
5. Okay out of this window.
6. In the MacTCP window, type in the assigned IP address in its box.

Open Transport in Basic User Mode

1. Open the TCP/IP control panel
2. Select Connect via: Ethernet
3. Select Configure via: Manually
4. The Net Admin will provide and the customer will enter: IP Address, Subnet Mask, Router Address, Name Server addr:, and Search Domains.

For more information on connecting with Open Transport 1.1 and PPP or SLIP software, refer to the Technical Information Library article, "Open Transport 1.1 Read Me" for version numbers, and where to obtain the software.
Published Date: Feb 18, 2012

Apple Remote Access MultiPort Server 2.1: Read Me

This article is the Apple Remote Access (ARA) MultiPort Server 2.1 ReadMe file.
This article has been archived and is no longer updated by Apple.
APPLE REMOTE ACCESS MULTIPORT SERVER 2.1 READ ME

This document provides late-breaking news about the Apple Remote Access MultiPort Server that is not covered in the "Apple Remote Access MultiPort Server Administrator's Guide." You may need to refer to that guide to understand the use of several terms in this document, and you may want to print this document to keep with your user's guide.

IMPORTANT INSTALLATION NOTE

If you purchased this software, and it is bundled with a communication card of some sort (a 4-port serial NuBus card for example), you may need to install a software driver for that communication card. Please read the installation guide supplied with the communication card for specific instructions.

The Remote Access MultiPort Server supports any Hayes-compatible 9600-bps or higher-speed modem so long as the appropriate modem script is available. Scripts for some of the most popular modems are provided on the Apple Remote Access MultiPort Server installation disks. You can also use 9600-bps or higher-speed modem scripts included with the Apple Remote Access Client for Macintosh software. You can also use 9600-bps or higher-speed modem scripts included with the Apple Remote Access Client for Macintosh software. Alternatively, if you're familiar with connection control languages (CCLs), you can write an appropriate script for your modem by using the "Apple Remote Access Scripting Guide" and the Modem WorkShop software, which are included with the Apple Remote Access MultiPort Server.

If an appropriate script is not included, and you do not choose to write a script, you should contact your modem manufacturer. You should also contact the manufacturer if you encounter problems with any of the scripts on the installation disks. These scripts were written by the specific modem manufacturers and have not been extensively tested by Apple Computer, Inc. You will find contact information for each manufacturer as comments inside the scripts. Additionally, the contact information for these vendors is contained at the end of this note.

Using an MNP 10 Modem

MNP 10 is an error-correction protocol that allows for more reliable data connections to be made through cellular modems.

Cellular phones with modems that have MNP 10 capabilities generally cannot receive a call back from a server due to variations in how phones answer incoming calls. Use a security verification method other than call back for cellular clients.

Adding Additional Ports

Apple no longer sells the Apple Remote Access MultiPort 4-Port Expansion Kits; add additional ports by buying additional server packages and installing the cards into the same machine.

Open Transport Compatibility

The MultiPort Server does not rely upon nor does it install Apple's new Open Transport networking architecture. As of this writing, however, the MultiPort server is compatible with machines running Open Transport.

Using a Remote Access MultiPort Server With an Apple Internet Router

The Remote Access MultiPort Server may be installed on a Macintosh computer along with an Apple Internet Router version 3.0.1 or later, and the two applications can be active concurrently. If you have Apple Internet Router 3.0 installed, you must upgrade to Apple Internet Router 3.0.1 before installing the MultiPort Server.

Additionally, if you intend to use SNMP network management with either the Router or MultiPort Server, you must upgrade the SNMP AppleTalk Transport to version 1.1 after installing the Router and before installing the MultiPort Server. If you do not need SNMP, you can simply remove the SNMP AppleTalk Transport file from your extensions folder before installing the MultiPort Server.

Using the Remote Access MultiPort Server With AppleShare

The Remote Access MultiPort Server may be installed on a Macintosh computer along with AppleShare version 4.0.1 or later. The Apple Remote

Access MultiPort Server and AppleShare can be active concurrently.

Using the Remote Access MultiPort Server With Macintosh File Sharing

You cannot use the Remote Access MultiPort Server software concurrently with System 7 Macintosh file sharing. When you start the Remote Access Manager program, you will be asked to convert the Users & Groups Data File. After it is converted, only Remote Access Manager and AppleShare 4.0.1 (or later) can use the Users & Groups Data File.

Using the Remote Access MultiPort Server With the Built-in Serial Ports

The built-in serial ports in your Macintosh are not available for use with the Remote Access MultiPort Server.

Using the Remote Access MultiPort Server With the Meeting Maker Server

You cannot use the Meeting Maker¿ Server from ON Technology and the Creative Solutions serial NuBus card in the same machine. The machine may hang while booting when the Meeting Maker Server extension is loaded. This hang may occur even though neither the Remote Access MultiPort Server software nor the CSI Serial Init is installed. This problem does not affect Macintoshes computers running the Meeting Maker client software.

Automatically Starting the Remote Access MultiPort Server

If you want the MultiPort Server to start automatically after you restart your computer, or if you want the server to restart after a power failure, place the Remote Access Manager application (or an alias) in the Startup Items folder, located in the System Folder. The MultiPort Server will only start automatically if it was running the last time you quit the Remote Access Manager application.

Printing the Remote Access MultiPort Server Log

For best results when printing the Remote Access Manager server log:

1) Choose Page Setup from the File menu.

2) Click the Landscape icon (the icon showing a horizontal format) in the Orientation section of the dialog box.

3) Enter 70% in the Reduce or Enlarge box.

4) Click OK.

Using the Remote Access MultiPort Server With a Security Zone

If a security zone is advertised by a network router, make sure the security zone is available when Remote Access Manager ports are configured and turned on. Otherwise users will be disconnected and the port turned off when they attempt to dial in. See the "Apple Remote Access Security Zone Read Me" file (on the "Apple Remote Access MultiPort Server Toolkit" disk) for more information.

Zone Lists and Server Performance

Overall performance of the MultiPort Server may be diminished if a large number of zones are included as part of a user's zone access privileges. If you wish to allow or disallow a user's access to a large number of zones, it would be better to choose either "All Zones except listed" or "Only Zones listed," respectively. (See the section "Creating a New User" in Chapter 3 of the "Apple Remote Access MultiPort Administrator's Guide" for details on how to set these options.) Always try to minimize the number of zones in a user's zone list for best performance.

Changes in Version 2.1 of the Apple Remote Access MultiPort Server

The MultiPort server is no longer bundled with an Apple-manufactured serial NuBus card. The software may be available with or without a bundled communication card. As of this writing, there is currently one bundle available; a 4-port serial NuBus card manufactured by Creative Solutions, Inc. This card has several advantages over the Apple Serial NB card: 1) it is a short NuBus card and will fit in those Macintoshes that do not support a full-length NuBus card. 2) It is possible to use more than one of these cards concurrently in a PowerPC NuBus machine.

The Creative Solutions serial NuBus card does not support the Apple X.25 server. This means that a MultiPort Server equipped with the CSI card will no longer accept incoming ARA connections over X.25. However, this version of the MultiPort server software will continue to support X.25 for customers who already have the Apple Serial NB card and are simply upgrading the MultiPort Server software.

MultiPort Server v. 2.1, unlike un-updated v. 2.0.1 software, supports ARA 1.0 clients. Customers, however, are encouraged to have ARA 1.0 clients upgrade to the current client software. Future Apple Remote Access products will not support ARA 1.0 clients.

Previous versions of the MultiPort server did not correctly respond to SNMP queries. This problem has been corrected with v. 2.1.

When using 28.8 modems, the server would sometimes start resending data needlessly resulting in a dramatic drop in throughput. This problem has been corrected with v. 2.1.

Computers running System Software version 7.5.1 and 7.5.2 occasionally experienced a crash in the Port Configuration Window in the Remote Access Administration program. This was due to a bug that has been corrected in System Software version 7.5.3 and above. The MultiPort Server Installer adds a system extension to correct this bug even with the earlier systems. The extension does not run if the bug is not present.

It is normal for some corrupted packets to pass the data integrity checks in the dial-up protocol. With earlier versions of the server, however, corrupted packets caused occasional crashes. This problem has been corrected with v. 2.1.

Sorting of the network zone lists for networks with a large number of zones (500 and over) has been significantly speeded up.

Reliability of the server when using 3rd party security modules has been improved.

Reliability of the serial drivers for the Apple Serial NB card has been improved.

Modem Manufacturer Contact Information
==========

Global Village Communication, Inc.

Global Village Communication, Inc.
1144 East Arques Avenue
Sunnyvale, CA 94086

Tel: 408-523-1050
Fax: 408-523-2423
TDD: 408-523-2414
BBS: 408-523-2403
AOL: GLOBALVILL
Prodigy: FMJM51A
CompuServe: 75300,3473
Internet: techsupp@globalvillage.com
FTP: ftp://ftp.globalvillage.com
WWW: http://www.globalvillage.com

Motorola Information Systems Group

Motorola Information Systems Group
20 Cabot Boulevard
Mansfield, Massachusetts 02048-1193

Tel: 508-261-4000
Fax: 508-337-8004
BBS: 508-261-1058
WWW: http://www.motorola.com/MIMS/ISG
FTP: ftp://www.mot.com/pub/MIMS/ISG

Technical Support Centers:
Mansfield, MA
508-261-0366
800-544-0062 (In U.S. and Canada only)

Huntsville, AL

205-726-0798
800-221-4380 (In U.S. and Canada only)

USRobotics

USRobotics
8100 North McCormick Blvd.
Skokie, Illinois 60076-2999

BBS: 708-982-5092
FTP: FTP.USR.COM
WWW: WWW.USR.COM
CompuServe: GO USROBOTICS 76711,707
Internet: SUPPORT@USR.COM

Sportster and Worldport Products:
Fax: 708-676-7314
Telephone: 708-982-5151

Courier Only:
Fax: 708-982-0823
Hot Line: 800-550-7800 or 708-982-5010

Shared Access, and Total Control Only:
Hot Line: 800-231-8770 or 708-982-5010

Zoom Telephonics

Zoom Telephonics, Inc.
207 South Street
Boston, MA 02111

Tel: 617-423-1076
Fax: 617-423-9231
BBS: 617-423-3733
WWW: http://www.zoomtel.com
CompuServe: GO ZOOM

These articles can help you locate the software update mentioned here:

"Where To Find Apple Software Updates" - Lists online services for free Apple software updates.

"Obtaining Apple Product Support in the USA" - Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech Info Library.
Published Date: Feb 18, 2012

ARA 2.1 Personal Server For Macintosh: Read Me

This article is the Apple Remote Access (ARA) 2.1 Personal Server For Macintosh Read Me file.
This article has been archived and is no longer updated by Apple.
APPLE REMOTE ACCESS PERSONAL SERVER FOR MACINTOSH READ ME
==========

This document provides late-breaking news about the Apple Remote Access Personal Server that is not covered in the "Apple Remote Access Personal Server User's Guide." You may need to refer to that guide to understand the use of several terms in this document, and you may want to print this document to keep with your user's guide.

Modems Supported by the Apple Remote Access Personal Server
==========

Scripts that support most popular modems are provided on the Remote Access Personal Server installation disks. The scripts include:

3Com Impact Analog 14.4
3Com Impact ISDN 56K
3Com Impact ISDN 64K
Apple Modem 2400
AT&T Dataport 288
AT&T KeepInTouch
Dayna CommuniCard 28800
Farallon Netopia 56K
Farallon Netopia 64K
GeoPort/Express Modem
GeoPort/Express Modem CNG
Global Village Gold/Silver/Mercury
Global Village Platinum
Hayes Accura 288
Hayes Optima 14.4
Hayes Optima 288
Megahertz CruiseCard 14.4
Megahertz CruiseCard 28.8
Metricom Ricochet Wireless
Microcom MicroPorte 4232bis
Microcom QX/4232bis
Motorola 326xV34
Motorola BitSURFR 56K
Motorola BitSURFR 64K
Motorola Power/Lifestyle 28.8
Practical Peripherals V.34
Prometheus ProModem 144e
Prometheus ProModem 96
PSI PowerModem II
PSI PowerModem III/IV
Supra 144
Supra 288
TDK DF2814
Telebit QBlazer
Telebit T3000
Telebit Worldblazer
US Robotics Universal
Zoom V-series

Beginning with version 2.1 of the Apple Remote Access Personal Server and the companion Client product, modem scripts are no longer stored in the Extensions Folder. A new folder called "Modem Scripts" within the Extensions Folder is created by Apple Remote Access to hold modem scripts.

The Apple Remote Access Installer will move any existing scripts you may already have in your Extensions Folder to the new Modem Scripts folder in addition to placing scripts for all the modems listed above into the Modem Scripts folder.

Future remote access products from Apple will also use the Modem Scripts folder. However, there will be a transition period before other products are updated to use the new folder. Some existing products may install modem scripts into the Extensions Folder. If such a product is installed after Apple Remote Access 2.1, you will have to open your Extensions Folder and drag the scripts into the Modem Scripts folder in order

for Apple Remote Access to recognize the script.

You can use modem scripts included with the Apple Remote Access MultiPort Server (any version) with version 2.1 of Apple Remote Access Personal Server. You can also use AppleTalk Remote Access version 1.0 modem scripts with version 2.1 of the Personal Server, but certain new features, such as Ignore Dial Tone, Manual Dialing, and MNP 10 support, won't be available. Additionally, you will be able to use scripts from future Apple dial-up products with version 2.1 of Apple Remote Access. But, see the note below on some issues related to manual dialing.

Apple Remote Access and System 7.5.3

The Read Me documents for System 7.5.3 and System Update 2.0 suggest that Apple Remote Access should be installed before System 7.5.3. This is not necessary. Beginning with version 2.1, Apple Remote Access should be installed after System 7.5.3.

Installing ARA X.25 Client over Apple Remote Access 2.1

The Apple Remote Access X.25 Client installer places X.25 scripts into the Extensions folder. If you install the X.25 additions after installing Apple Remote Access 2.1, you will have to open your Extensions Folder and drag the X.25 scripts into the Modem Scripts folder in order for Apple Remote Access to recognize the scripts.

If you use the Apple Remote Access 2.1 installer to upgrade your existing Remote Access 2.0.1 and X.25 Client, the installer will move the scripts for you.

Compatibility with AppleTalk Remote Access 1.0

Version 2.1 of the Apple Remote Access Personal Server will successfully connect to both AppleTalk Remote Access 1.0 compatible servers and Apple Remote Access 2.x compatible servers. The compatibility setting in the connection document of earlier version 2.0 and 2.0.1 has been removed. Since connection to either style server is automatic, the setting is no longer necessary.

The next major upgrade to Apple Remote Access will no longer support ARA 1.0 clients or servers.

Using an MNP 10 Modem

MNP 10 is an error-correction protocol that allows for more reliable data connections over cellular modems. Clicking the "Use MNP 10 error correction in modem" checkbox in the Remote Access Setup window puts MNP 10 modems into cellular mode. Do not click the "Use MNP 10 error correction in modem" checkbox to use MNP 10 over land lines.

To establish an MNP 10 connection, both your modem and the modem you're calling must support MNP 10; clicking the "Use MNP 10 error correction in modem" checkbox in the Remote Access Setup window is not by itself sufficient to establish an MNP 10 connection.

Manual Dialing

The method used to do manual dialing in Apple Remote Access 2.0/2.0.1 has not worked well. Apple Remote Access presents a dialog asking you to dial, wait for the phone to ring, and then press OK. Often the user has to experiment to determine exactly when to press OK to dismiss the dialog.

To improve manual dialing, a new dialog has been incorporated into the modem scripts installed along with version 2.1 of Apple Remote Access. Two dialogs are now displayed when doing manual dialing. This first dialog is still present to provide backwards compatibility with the wide variety of existing modem scripts. When using newer scripts, the first dialog box should be dismissed before dialing, and you will be prompted by the modem script when to actually dial the phone. If you are using a modem script not included with this product, you may have to experiment to determine if the first dialog box should be ignored.

Future remote access and dial-up products from Apple will require the new style scripts and will not present two dialog boxes.

Using the Redialing Feature

If the redialing option is selected, the Remote Access Personal Server attempts redialing only when the phone number that has been dialed is busy. If the connection attempt fails for any other reason including a failed call back attempt, Remote Access stops redialing so that you can correct any problems.

If you use the Redialing option, set the "Time between retries" number to five seconds or greater. Anything less than five seconds may not give your

modem sufficient time to reset.

When using the Redialing Alternate Number option, the main number is dialed once and then redialing sequence alternates between the alternate and main numbers.

Using DialAssist

If you are calling within a country with no city or area codes, and you encounter problems using DialAssist, try entering a space in the "Connect To City/Area Code" box in your connection document.

Serial Port Arbitration

When a Remote Access connection is established, Remote Access prevents other application programs from using the serial port selected in the Remote Access Setup control panel. Most programs will inform you that the port is in use.

Apple Remote Access Personal Server provides this port arbitration through a system extension called the Serial Port Arbitrator located in the Extensions folder. Some programs that use the serial port may not be compatible with this extension. If you suspect that a program is not compatible with the Serial Port Arbitrator:

1) Remove the Serial Port Arbitrator file from the Extensions folder.
2) Restart your Macintosh.
3) Try the program again.

NOTE: The Serial Port Arbitrator will not work on a Macintosh if Remote Access Personal Server has not been installed.

High Speed Serial Connections

Both Apple Remote Access Personal Server 2.1 and Client 2.1 support specifying a serial connection speed of 115200 bps in a modem script. Not all Macintosh built-in serial ports support connection speed of 115200 bps. Here is a list of Macintosh computers that do:

Centris/Quadra 660AV, Quadra 840AV
Macintosh Performa 61xx
Power Macintosh 61xx, 71xx, 72xx, 75xx, 76xx, 81xx, 85xx, 95xx
Workgroup Server 6150, 7250, 8150, 8550, 9150

In order to use the serial port at 115200 bps on one of these computers, you need a new serial extension called SerialDMA. System 7.5.3 or later incorporates this driver into the operating system.

If you use a modem script that specifies 115200 bps, and your computer does not support this data rate, Apple Remote Access will automatically fall back to 57600 bps.

Using a Local Printer

If you are using a non-networked printer connected to the printer port of your Macintosh, you may get an error dialog when trying to initiate a connection or when trying to print while connected saying that one of your serial ports is already in use. You may need to select Remote Only in the Network Control Panel (AppleTalk Control panel for Open Transport-based machines).

Apple Remote Access Personal Server and the Apple Internet Router

Apple Remote Access Personal Server should not be installed on the same Macintosh as the Apple Internet Router.

Using ARA Security Modules (like SecurID) with Virtual Memory

There is an incompatibility between some ARA security modules (like SecurID) and Virtual Memory. This bug has been fixed in the latest system release (7.5.3).

Changes in version 2.1 of the Apple Remote Access Personal Server

Modem scripts have been moved to a new Modem Scripts folder within the Extensions Folder.

The compatibility option in the connection document is no longer necessary and has been removed.

The method of manual dialing has been changed. See the section above.

Interoperability with some non-Apple Remote Access Servers has been improved.

The installer has been upgraded from version 3.4 to version 4.0.3.

There is no longer a separate Remote Access Aliases extension.

The installer is now on a single high-density diskette.

A bug that caused machines with certain extensions to crash during boot has been fixed in the Serial Port Arbitrator.

Serial port rates of up to 115,200 bps are now supported in modem scripts. If the computer doesn't support 115,200, Apple Remote Access will use 57,600 bps instead.
Published Date: Feb 18, 2012

Apple Remote Access Client Updater: Read Me

This article is the Apple Remote Access (ARA) Client Updater Read Me file.

This article has been archived and is no longer updated by Apple.
Name: Apple Remote Access Client Updater

Version: 2.1

Released: July 8, 1996

Description: The updater on this disk allows you to update ARA Personal Server 2.0, 2.0.1, 2.0.1 RevB or 2.0.1 RevC to ARA Personal Server 2.1.

From the Read Me included with this software:

Apple Remote Access Personal Server 2.1 Updater Read Me

The updater on this folder allows you to update ARA Personal Server 2.0, 2.0.1, 2.0.1 RevB or 2.0.1 RevC to ARA Personal Server 2.1. Before you run the updater, make sure that you have one of the previous version of ARA Personal Server installed in your Macintosh. If you have ARA Client installed, please download and run the updater for Apple Remote Access Client.

ARA Personal Server 2.1 supports serial port rates of up to 115,200 bps, provides better compatibility with ARA 1.0, and comes with modem scripts for most popular modems and ISDN terminal adapters. For more information, please refer to the 'Read Me' in 'Remote Access Files' folder.

To run the updater, simply launch the Installer application and follow the instructions.

Note: Previous version of ARA Personal Server installs the application program 'Remote Access Personal' in 'Remote Access Personal Folder' at the root of your hard disk. The updater will install ARA Personal Server 2.1's 'Remote Access Personal' at the same location. If you moved the old 'Remote Access Personal' to other location in your hard disk, please delete it and remember to use the new application after the update.

Published Date: Feb 18, 2012

QuickTime 2.5: Read Me

This article is the QuickTime 2.5 ReadMe file.
This article has been archived and is no longer updated by Apple.
Welcome to QuickTime 2.5

What is QuickTime?

The QuickTime system software extension enables you to create, edit, and play video, graphics, sound, sprites, text, music, 3D and animation in documents, CD-ROM titles, and over the internet. While you do not use QuickTime directly, it is the enabling technology behind your Macintosh multimedia experience.

Installing QuickTime 2.5

Before installing make sure you have Macintosh System Software version 6.0.7 or higher installed on your computer.

The QuickTime installer will place QuickTime extentions into your system folder. It will also install the MoviePlayer application into a new "QuickTime folder" on your hard disk drive. The MoviePlayer application can be used to play QuickTime content such as movies, animations, sounds, and music.

```
1) Double-click the installer icon to open it.
2) Read the first screen and click CONTINUE.
3) Read the Software License and click AGREE.
4) At the next screen, do one of the following:
  - To allow the installer to automatically install the correct
    components ensure the Easy Install is displayed in the pop-up menu.
  - To select specific items to install, open the pop-up menu and choose
    Custom Install.
  - To remove specific files that have been installed, select Custom
    Remove.
5) Click the INSTALL button.
6) When you see the message that the installation was successful, click the
  RESTART button.
```

What's new in QuickTIme v 2.5

* For music and karaoke fans
QuickTime 2.5 plays MIDI files back with CD quality sound on Power Macintosh systems (44.1 KHz, 16 bit, stereo).

QuickTime 2.5 allows you to play back karaoke files commonly found on the Internet. Try importing an Internet karaoke file using MoviePlayer.

In addition to playing music through the computer's built-in speaker, QuickTime 2.5 for Macintosh can route MIDI to external devices, using Apple's MIDI Manager, Opcode's Open Music System, or Mark Of The Unicorn's FreeMIDI system. Use the QuickTime Control Panel to route musical information.

* Graphic Importers
QuickTime 2.5 for Macintosh includes a new graphic importer component allowing for import of a variety of diverse file formats. With this feature, any application that is QuickTime aware is able to import file formats such as GIF, MacPaint, Silicon Graphics, and Photoshop directly into their application. Try importing graphics into SimpleText or any of your favorite applications.

* AutoPlay CD-ROM and audio CD's
QuickTime 2.5 for Macintosh allows you to automatically start playing a CD-ROM or audio CD when inserted or on when your Macintosh is powered up. Use the QuickTIme Control Panel to turn this feature on or off.

Things You Should Know

If you experience sound problems with Sound Manager 3.2.x or above on a Quadra with a PowerPC card and System Software 7.5.1, you need to update your System Software to 7.5.3.

QuickTime 2.5 mentioned in this article is no longer available through Apple Software Updates. Please see http://www.apple.com/quicktime/ for QuickTime releases and download information.
Published Date: Feb 18, 2012

Power Macintosh 6400/6500: Connecting Multiple Monitors

Since a Power Macintosh 6400 series computer (or Power Macintosh 6500) has a video port and two PCI slots, if I install two PCI video cards, can I attach three monitors to my computer?
This article has been archived and is no longer updated by Apple.
No. Though there are enough slots in these computers--through the monitor port and two PCI slots--to connect three monitors, due to the way the built-in video's brightness driver loads, it is possible for this driver to conflict with one of the PCI video card drivers. With only one PCI video card installed, this issue does not occur.

When two PCI video cards are installed, the computer can freeze or lose video on one of the monitors. This configuration is not recommended by Apple for Power Macintosh 6400 or Power Macintosh 6500 computers.

This article was published in the Information Alley on 6 January 1997.
Published Date: Feb 18, 2012

Macintosh Performa 6400: Modem Documentation?

I am attempting to use the modem that came installed in my Macintosh Performa 6400 computer. However, I am confused about some of the documentation that was included with the computer.

For example, the Apple Fax User's Guide and the Apple Address Book User's Guide refer to an application named Apple Phone that I should use to make phone calls through the modem. However, I cannot find this application on the hard disk or CD-ROM drive. Should I have this application on my computer? If not, which application should I use to make telephone calls?

Also, the Global Village Teleport User's Guide mentions GlobalFax software that I can use to send and receive faxes. However, I do not have this application either.

This article has been archived and is no longer updated by Apple.
Apple Phone is not included with your computer; it has been replaced by the MegaPhone software program, which is documented in the MegaPhone User Guide. You can ignore all mention of Apple Phone in the documentation.

Also, you can ignore any references to the GlobalFax software in the Global Village Telport User's Guide because that software has been replaced by the Apple Fax software. Use the Apple Fax User's Guide for information on sending and receiving faxes.

You can use the TelePort User's Guide as a basic hardware guide. However, there are some sections which are not relevant to your computer setup, including:

Preface

Page xii: Disregard the referral to the GlobalFax User's Guide.

Chapter 1: Introduction to Modem Commands

Page 3: Disregard the comment to the Global Village Scripts folder.

Page 4: Disregard the comment on how to adjust the card's volume.

Page 5: Disregard page 5.

Chapter 2: Preparing for Basic Modem Use

Disregard the entire chapter.

Chapter 3: Communicating with Another Modem

Page 11: Disregard the reference to eWorld.

Page 12: The modem script referred to is not bundled with your computer. You can get a suitable script by downloading the Apple Remote Access 2.1 updater from the Apple Software Updates.

Chapter 4: Using Error Correction and Data Compression

Page 24: Disregard the section starting with "Selecting an Error-Correction/Data-Compression..."

Page 25-28. Disregard all. Note that the AT command equivalents of the specific menu commands in the Global Village software are provided. These AT commands are also summarized in Chapter 5. You enter AT commands by using a terminal emulator, such as ClarisWorks.

Chapter 5: Using TelePort Platinum V AT Commands

This entire chapter is generally relevant to your computer.

Appendix A: Troubleshooting

Page 95: Ignore the section titled "Startup Problems."

Appendix B: Product Specifications

This entire section is generally relevant to your computer.

Appendix C: FCC and Industry Canada Information

This entire section is generally relevant to your computer.

Appendix D: Warranty and Copyright

TA35843_Macintosh_Performa_Modem_Documentation_(TIL20231).pdf

Published Date: Feb 18, 2012

Macintosh Performa 6400:Restoring Cover Pages in Apple Fax(8/96)

Article Reviewed/Updated: 2 August 1996

I recently resotred all the software to my Macintosh Performa 6400 series computer using the instructions in Chapter 7 of my Macintosh Performa User's Manual. However, now when I choose Quick Fax from the Windows menu in the Apple Fax program, an error appears stating that all of the cover pages were "moved or deleted." How can I restore the cover pages?
This article has been archived and is no longer updated by Apple.
The information that follows applies only if you use the Restore All Software program and then want to use the Apple Fax program. You do not need this information if you use the Restore System Software program or if you initialize your hard disk and then use the Restore All Software program before using Apple Fax.

Note that you only need to follow these steps the first time you attempt to send a Quick Fax after each time you use the Restore All Software Program.

To resolve this error message, follow these steps:

Step 1

Click OK in the error message box that appears.

* A cover page appears.

Step 2

From the File menu, choose Open.

* The Open dialog box appears.

Step 3

In the Open dialog box, choose Desktop from the pop-up menu at the top.

Step 4

In the list that appears, double-click the hard disk to open it.

Step 5

In the same list, double-click the following folders as they appears: the Telecome Applications folder, the Fax Folder, and the Cover Pages folder.

* You will see two documents listed in the Cover Pages folder--Sample Cover Page and Standard Cover Page.

Step 6

Double-click the Sample Cover Page to open it.

* The Sample Cover Page appears.

Step 7

From the Cover Page menu, choose Install Cover Page.

Step 8

Go back to the File menu and choose Open again.

* The Open dialog box reappears, and again you see the Sample Cover Page and Standard Cover Page.

Step 9

Double-click the Standard Cover Page to open it.

* The Standard Cover Page appears.

Step 10

From the Cover Page menu, choose Install Cover Page.

Step 11

Close both cover pages by clicking each of their close boxes (located at the top left corner of each page).

Step 12

In the Quick Fax dialog box, click Cancel.

* The dialog box disappears.

Step 13

From the Windows menu, choose Quick Fax again.

* In the Cover Page pop-up menu in the Quick Fax dialog box, you see the Sample Cover Page and Standard Cover Page listed.

Article Change History:
02 Aug 1996 - Changed distribution status.

Published Date: Feb 18, 2012

Power Macintosh 5400/Macintosh Performa 6400: Comparison

What are the hardware differences between the Power Macintosh 5400/120 and Macintposh Performa 6400/180 and 6400/200 computers?
This article has been archived and is no longer updated by Apple.
The following table compares the Power Macintosh 5400/120 and Macintosh Performa 6400/180 and 6400/200 computers:

Features	Power Macintosh 5400	Performa 6400/180 & 6400/200
Processor Type	PowerPC 603e	PowerPC 603e
Processor Speed	120 MHz	180 MHz or 200 MHz
Cache	256K L2 cache, Optional DIMM	256K L2 cache, Optional DIMM
RAM	8 MB-136 MB	8 MB-136 MB
RAM Expansion	2 168-pin DIMMs	2 168-pin DIMMs
Memory Bus	64 bits, 40 MHz	64 bits, 40 MHz
Video RAM	1 MB DRAM	1 MB DRAM
Video Input	Optional card for video input capture	Optional card for video input capture
Video Output	Optional mirror connector supports external monitor operating in mirror mode; built-in video supports up to 832-by-624 pixel resolution at 8-bits per pixel, VGA and SVGA.	Built-in video supports up to 1024-by-768 pixel resolution at 8-bits per pixel, VGA and SVGA.
Sound	8 and 16 bits/channel; stereo SRS surround sound mode	8 or 16 bits/channel; stereo in, stereo record, stereo out; SRS surround sound mode. Built-in subwoofer with volume control.
Remote Control	Built-in infrared (IR) receiver	Built-in infrared (IR) receiver
Floppy Drive	1 internal	1 internal
ADB Ports	1	1
Hard Drive	1 (IDE)	1 (IDE)
CD-ROM Drive	AppleCD 600i (quadruple speed)	8x-speed CD-ROM drive
Internal SCSI Expansion Bay	None	1, for one 5.25-inch SCSI CD-ROM or other SCSI device
External SCSI Ports	1	1
Communications Slot	1, for optional modem or Ethernet interface PCI bus configuration	1, for optional modem or Ethernet interface
Expansion slot	1 PCI I/O slot for 7-inch card	2 PCI I/O slot for 32-bit 7-inch card
DMA I/O	10 DMA channels	10 DMA channels
Serial Ports	2, LocalTalk and GeoPort supported	2, LocalTalk and GeoPort supported

Published Date: Feb 18, 2012

System 7.5.3 Revision 2: Reinstalling Issue

I have already updated my system software to System 7.5.3 Revision 2 with the Revision 2 installer. Now I need to reinstall System 7.5.3 Revision 2, but I get this prompt when trying, "This system can not be updated. The system you want to update might be on a different disk. If you think this might be the case then click the 'Switch Disk' button below."

How do I reinstall Revision 2?
This article has been archived and is no longer updated by Apple.
This will happen with any Mac OS compatible computer having had System 7.5.3 Revision 2 installed on it.

Workaround
Use the System 7.5 Update 2.0 installer, and preform a custom installation of System 7.5.2 Update (under the System option). Then use the System 7.5.3 Revision 2 installer.

On computers which came with System 7.5.3 preinstalled (PCI Power Macintosh 7200/120, 7600/120, 8500/132/150, 9500/132/150) the System suitcase must be reinstalled before Revision 2 will reinstall. Therefore reinstall the original System software which came with the computer.
Published Date: Feb 18, 2012

HyperCard 2.3.5 Read Me (7/96)

This article is the HyperCard 2.3.5 ReadMe file.
This article has been archived and is no longer updated by Apple.
Welcome to HyperCard 2.3.5

Please read this entire "Read Me" file. It contains important information and tips that will enhance your experience with HyperCard 2.3.5. We recommend that you print a copy.

INSTALLING HYPERCARD

To install HyperCard 2.3.5 on your hard drive, insert the disk called "HyperCard Installer," double-click the file called "Installer" and then follow the instructions on your screen.

The "Easy Install" option of the HyperCard Installer installs the version of HyperCard 2.3.5 that's optimized for your Macintosh computer.

If you have a Macintosh computer with a PowerPC upgrade card and the card is enabled, the "Easy Install" option will install the version of HyperCard that's optimized for any Macintosh. If the PowerPC upgrade card is disabled, the Installer will install the version of HyperCard that's optimized for a Macintosh computer with a 680x0 microprocessor.

You can choose which version of HyperCard to install by using the "Custom Install" option of the HyperCard Installer. This option gives you three choices: 1) HyperCard optimized for Macintosh computers with PowerPC microprocessors, 2) HyperCard optimized for Macintosh computers with 680x0 microprocessors, and 3) HyperCard optimized for any Macintosh. If you install one of these versions and then change your mind, delete the version that you installed and run the Installer again.

SYSTEM AND MEMORY REQUIREMENTS

HyperCard 2.3.5 requires:

An Apple Macintosh, Power Macintosh, or PowerBook computer; QuickTime Tools require a 68020 or later microprocessor; text-to-speech function requires a 68040 or later microprocessor.

A hard disk drive.

At least 2MB of RAM; 4MB of RAM required for system software version 7.0 or later; 5MB of RAM recommended when using Color Tools; 8MB of RAM required for Macintosh Computers with PowerPC microprocessors.

HyperCard's memory partition should be set to at least 2200K to use the Color Tools (5120K on Macintosh Computers with PowerPC microprocessors with virtual memory off). HyperCard's memory partition should be set to 3072K, or more, to use the Color Painting Tools (5120K on Macintosh Computers with PowerPC microprocessors with virtual memory off).

SOFTWARE REQUIREMENTS

HyperCard 2.3.5 requires system software version 6.0.5 or later. System software 7.0 or later is required for AppleScript and the Color Paint Tools. The HyperCard Button Tasks and the stand alone application builder require system software 7.0 together with either the AppleScript or the QuickTime system extension. The Button Tasks will also work with system software 7.1 or later with or without the QuickTime or AppleScript system extensions. On Macintosh computers with PowerPC, the HyperCard Button Tasks and the stand alone application builder require the ObjectSupportLib file. This item will automatically be installed in your system extensions folder when you choose easy install or when you choose custom install and install AppleScript.

QuickTime Tools requires the QuickTime system extension.

Text-to-speech requires the Speech Manager system extension (included) or the PlainTalk software package.

Multilingual HyperCard applications may require WorldScript software and/or international versions of AppleScript software.

WorldScript software requires system software 7.1 or later.

BUTTON TASK REQUIREMENTS

On Macintosh computers with PowerPC microprocessors, the Button Tasks require the ObjectSupportLib file. This item will automatically be installed in your system extensions folder when you choose easy install or when you choose custom install and install AppleScript.

On Macintosh computers with 680x0 microprocessors, the Button Tasks require system software 7.0 together with either the AppleScript or the QuickTime system extension. The Button Tasks will also work on Macintosh computers with 680x0 microprocessors running system software 7.1 or later with or without the QuickTime or AppleScript system extensions.

The Movie Button Task requires the QuickTime system extension. The task will not appear if the QuickTime system extension is not present.

The Speech Button Task requires the Speech Manager system extension (included) or the PlainTalk software package. The task will not appear if the Speech Manager system extension or the PlainTalk software package is not present.

The Sound Task requires sound input hardware in order to record.

NOTES ON USING HYPERCARD 2.3.5 FOR THE FIRST TIME AFTER INSTALLATION

The first time you use HyperCard 2.3.5, it is possible that double-clicking a stack that you already have on your machine will fail to launch HyperCard, or will launch an earlier version of HyperCard. If this happens to you, simply open the HyperCard 2.3.5 folder. Once you have done this, double-clicking a stack will launch HyperCard 2.3.5.

It is also possible that you will not see stack icons on the stacks on your system after you install HyperCard 2.3.5 for the first time. If this happens to you, simply open the HyperCard 2.3.5 program folder and restart your Macintosh computer. After you have restarted, the stack icons will appear correctly.

NEW HYPERCARD FEATURES

HyperCard 2.3.5 contains some new and exciting features. For this release of HyperCard we have added:

* Support for Macintoshes with PowerPC microprocessors. This includes the ability to generate stand alone applications which are optimized for Macintoshes with PowerPC microprocessors.

* New Button Tasks which allow you to generate HyperTalk scripts without scripting.

We have included tasks for:
- playing movies
- playing and recording sounds
- moving from card to card
- using text-to-speech
- adding visual effects
- opening applications

We expect third-party developers to develop additional button tasks.

* Text-to-Speech capabilities. (only for Macintoshes with 68040 or better microprocessors)

* Enhancements to the Color Tools including a new color painting environment.

NOTES ON HYPERCARD

Users with 9-inch screens may have problems viewing the task window associated with the new Button Tasks. When editing a stack with standard size cards, if you open the task window by choosing the "Tasks..." button in the Button Info dialog, and then bring another window forward, the tasks window will go behind the card window. It will look as though the task window has disappeared even though it is still present. Select "Next Window" to bring the task window forward.

The tilde key "~" no longer takes you back in HyperCard. Command-tilde will still take you back.

HyperCard 2.3.5 includes the necessary system extension for performing text-to-speech. The Installer will only install this software on Macintoshes with 68040 or better microprocessors. Text-to-speech is restricted to Macintoshes with 68040 or better microprocessors.

In low memory situations, stacks with card sizes larger than 512 by 342 pixels will not open to their full size. Additionally, you will not be able to use HyperCard's Color Paint Tools or the Color Tools, and you will not be able to print cards.

External commands may cause HyperCard to think that it is in a low memory state. If you are using system 7.5 and your stacks are not opening to full size after increasing HyperCard's memory partition, try disabling the Macintosh Easy Open extension.

NOTES ON COLOR TOOLS

The Color Paint Tools require system software 7.0 or greater.

The Color Paint Tools can require large amounts of memory depending on the size and bit depth of the pictures that you are editing or creating. We recommend against using the Color Paint Tools on a Macintosh computer with less than 5MB of RAM or when HyperCard has a partition smaller than 3072K. Many of the Color Paint operations will not work properly in low memory. If you are seeing frequent messages about low memory while using the Color Paint Tools, exit HyperCard and increase its memory allocation. We recommend increases of at least 300K. Continue increasing the allocation until you no longer see the out of memory messages or until you have exceeded the available memory on your machine. For instructions on how to increase HyperCard's memory allocation, see "Preparing a Color Standalone Application" in Chapter 3 of the "Getting Started" guide.

The Color Tools Demo in the Color Tools Stack does not work when the stack has been locked with the Finder.

The Color Tools stack requires a monitor with at least 256 colors or shades of gray.

We recommend against coloring your Home stack. If not scripted correctly, a colored Home stack will cause HyperCard to run slower than it would with a non-colored Home stack.

When using the Color Paint Tools, operations that cause the picture to extend beyond the bounds of the window may cause parts of the image to be lost. This happens when rotating and scaling. You can prevent this problem by expanding the size of the window before performing the operation. Note that expanding the window will increase the memory needed to display the picture.

After editing a picture that has been placed on a card, the picture may be displayed in a different scale. If you want the picture to be displayed at a 1-1 scale, double-click the picture and select "Original Size."

With the "Rotate by degree" feature of the Color Paint Tools, rotations are measured from the orientation of a graphic at the time it was selected. If you rotate a selection and then rotate it again, the rotations do not accumulate. If you want cumulative rotations, deselect the graphic after rotating it the first time, re-select it and rotate it again.

If you place pictures onto cards and subsequently delete the picture resource from the stack, you must ensure that each instance of the picture in the stack is also deleted. Otherwise you will see the following message at the location of each instance of the deleted picture in the stack: "Cannot display this image. There may not be enough memory or the image could not be found."

The AddColor XCMD has an undocumented selector, "Depth," which returns the current bit depth of the color buffers in the result.

When a stack colored with Color Tools 1.0 is opened for the first time with Color Tools 2.0, the color will disappear momentarily. The disappearance occurs during the conversion of your stack from AddColor 1.0 to AddColor 2.0. Thereafter the color will by displayed normally.

BUILDING STANDALONE APPLICATIONS WITH COLOR

When color is first applied to a HyperCard stack using Color Tools, a set of resources are copied into the stack. The copying of resources is not actually complete until the stack is closed. If a stand alone application is built from the colored stack before the resources have been copied, the stand alone application will not work correctly. To avoid this problem, be sure that you have closed and reopened your colored stack at least once before turning it into a stand alone application. You should also be certain that the default partition of your stand alone application is set to at least 2048K in order for it to display color properly.

CHANGES TO THE GETTING STARTED GUIDE

On page 54 the manual states that images you create or edit in the PICT editor are automatically saved as resources in the current stack. This is true unless you are editing a PICT file which has been placed on a card. Changes made to PICT files which have been placed on a card will be reflected in the file itself and will not be saved as resources in the stack.

On page 57 the manual states that double-clicking the current color indicator in the Color Paint Tools palette will launch the color picker. Actually, it will allow you to edit patterns or gradients.

On page 67 the manual refers to the Paint menu. There is no Paint menu, the specified items are in the Options menu.

On page 71 the picture of the palette is slightly different from the one you will see in the software. The functionality is the same. Additionally, the manual states that you can import MacPaint images with the PICT editor. This is not true. Only PICT files can be imported into the PICT editor. If you wish to use and color a MacPaint file, you can Cut/Paste it into an edit window and then color it.

On page 76 the instructions for quitting the Color Paint Tools are incorrect. To exit the Color Paint Tools, close all paint windows, or choose "Close Paint Tools" from the "File" menu. Closing the Color Paint Tools will return you to the color editor environment.

CHANGES TO THE HYPERCARD REFERENCE MANUAL

On page 3-22 the Reference Manual describes using "Effects" as follows:

1. Choose the Button Tool and double-click the Next button.

The Button Info dialog box appears

2. Click the Effect button.

While the Button Info dialog box does appear, the Button Info dialog box does not display the "Effect ╔" button unless the option key is held down while double-clicking the button.

On page 6-37 the Reference Manual describes using "Effects" as follows:

2. Double click the Button

The Button Info dialog box appears

3. In the Button Info dialog box, click Effect.

While the Button Info dialog box does appear, the Button Info dialog box does not display the "Effect ╔" button unless the option key is held down while double-clicking the button.

Pages 2-29, 4-20, 6-3, 6-17 of the HyperCard Reference Manual shows an incorrect depiction of the Button Info dialog box when a button is Option-Double Clicked. On these pages, the position of the "LinkTo ╔" and "Effect ╔" buttons are transposed with the "Icon ╔" and "Contents ╔" buttons in the Button Info dialog box.

NOTE: Appendix B, page 141 of the Getting Started Guide documents the replacement of the "LinkTo ╔" and "Effect ╔" Buttons with the "Tasks ╔" button in HyperCard 2.3.5.

Published Date: Feb 18, 2012

Macintosh Performa 6400: MegaDial Manual Won‘t Open (1/97)

I am attempting to open the MegaDial Manual that was included with my Macintosh Performa 6400 series computer. However, each time I do so, an error message appears stating: "This application has been damaged and should be replaced with a fresh copy from your locked master disk." The only options in this error dialog are Continue or Quit. If I click Continue, a Type 15 error occurs. I tried replacing the copy on the hard disk with the one on the Performa CD, but the error still occurs. How can I resolve this?

This article has been archived and is no longer updated by Apple.

The MegaDial Manual is corrupted, so a new version of the file is required. Apple has released an updated version of the MegaDial manual which is available for download from Apple's software update locations.

These articles can help you locate the software update mentioned here:

* "Where To Find Apple Software Updates" - Lists online services for free Apple software updates.

* "Obtaining Apple Product Support in the USA" - Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech Info Library.

Article Change History:
31 Jan 1997 - Added information on where to find the manual.
Published Date: Feb 18, 2012

ImageWriter Carriage Assembly stops or vibrates

This article has been archived and is no longer updated by Apple.

PROBLEM DESCRIPTION #1: The ImageWriter printer carriage assembly freezes or grinds when connected to a Macintosh or Apple II Super Serial card.

BEFORE YOU START: Familiarize yourself with the ImageWriter Technical Procedures.

CAUSE: One or more of the carriage drive transistors is defective or one or more of the insulators is cracked or broken.

CURE: Remove the string of carriage transistors from the ImageWriter referencing the technical procedures if needed. Check to make sure that none of the insulators is missing. Each transistor should have a mylar insulator between it and the printer chassis. An insulator for the screw should also be present. Install new insulators if any are missing or cracked. Reassemble the printer and run the printer self-test.

In the event that all insulators are in good condition then replace the string of carriage transistors. ALWAYS REMEMBER TO REINSTALL ALL INSULATORS WHEN THE CARRIAGE TRANSISTORS ARE REPLACED. REMEMBER THAT THE PRINTER WILL EXHIBIT THE SAME SYMPTOMS IF THE INSULATORS ARE MISSING. (A TRANSISTOR SHORTED TO GROUND.)

Run an extensive self test on the printer. Sometimes the CPU board will cause transistor(s) to fail again. In the event that this occurs, replace the CPU board and the transistor assembly.

PROBLEM DESCRIPTION #2: The Carriage Assembly stops or vibrates when powered on and the printer IS NOT connected to a computer.

CAUSE: Occasionally, one of the transistor wires is cold-soldered to the transistor itself.

CURE: Replace the string of carriage transistors.

Published Date: Feb 18, 2012

Macintosh Performa 6400: Demo CD and Restore CD (8/96)

Article Reviewed/Updated: 2 August 1996

My Macintosh Performa 6400 included two CD-ROM discs labeled Macintosh Performa CD. Also, when I insert these discs into the computer, they both appear as "Performa CD". They do have slightly similar disk structures, but I am having difficulty determining the differences between these two discs.
This article has been archived and is no longer updated by Apple.
Although the names of these CD-ROM discs appear to be the same, the discs do have some distinguishing characteristics and contain quite different information.

Demo CD
==========

The black-colored disc contains the restoration software for the demo and tutorials. It contains only those applications and files that assist you in learning about and using your computer. You only need to use this disc if you are using the Performa Demo or you need to re-install the Performa Demo or other tutorial programs.

The complete name on this disc is: Macintosh Performa 6400 Series Guided Tour, and it is part number 691-1105-A. Use this disc if you need to re-install or use the Performa Demo and tutorial applications. The primary contents of this disc are as follow**:

* About the Guided Tour CD
* Disk First Aid
* Drive Setup
* Restore Guided Tour (folder)
* Performa Demo Extras (folder)
- Hands on Activities
- QTVR folder
- Surf the Internet folder
- Text to Speech folder
- Video Editing folder
- Software Overview
* Disk Images
- Disk Copy
- Using Disk Copy Read Me
- Disk Tools image
* Hard Disk Files
- System Folder Files
- At Ease Items
- Tutorial setups)
- Extensions
- Tutorial Guide
- Launcher Items
- *Learning
- Startup Items
- Launch Performa Demo

Restore CD
==========

The red-colored disc contains the restoration software for your hard disk and the individual files from your hard disk. It contains all the applications, documents, and system software that was installed on the computer when you first purchased it. Whenever you need to re-install an application, other than the Performa Demo or other tutorial programs, you should use this disc.

The complete name on this disc is: Macintosh Performa 6400 Series Performa Software, and it is part number 691-1019-A. Use this disc if you need to re-install or use the Performa Demo and tutorial applications. The primary contents of this disc are as follow**:

* About This CD
* Disk First Aid
* Drive Setup
* Restore All Software (folder)
* Restore System Software (folder)
* Disk Images
- Disk Copy
- Using Disk Copy Read Me

- Disk Tools image
* Hard Disk Files
- Contains all of the files that were originally installed on the hard disk.

**Note: These listings do not reflect the complete contents of these two CD-ROM discs. They are meant to provide a general comparison between the contents of the two CD-ROM discs.

Article Change History:
02 Aug 1996 - Changed distribution status.

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Macintosh System 7.5, version 7.5.3: Specifications

This article provides the technical specifications and order information for Macintosh System 7.5, version 7.5.3.
This article has been archived and is no longer updated by Apple.

Technical Specifications

Enhanced Apple Menu
* Hierarchical Apple menu provides improved access to nested items and instant recall of recently used documents, applications, and servers
* Improved Find File command lets you open files from the Find File window
* The Sticky Memos feature (see screen shot) lets you create on-screen reminder messages
* System and application folder locking prevents accidental deletion of important files
* Scrapbook, Note Pad, and SimpleText applications let you move information between documents by simply selecting, dragging, and dropping
* WindowShade feature (see screen shot) reduces screen clutter by letting you collapse windows to access other windows behind them -- without closing documents
* Includes a menubar clock, automatic power off, and audio CD software

Apple Guide
* Interactive, step-by-step guidance for system and application tasks (applications must support Apple Guide)
* On-screen coachmarks for the next required action, skipping any unnecessary steps
* Customizable to meet the unique training and support needs of your organization (requires the Apple Guide Maker Authoring software, available separately)

AppleScript
* Create custom solutions by linking functions from different applications and from the Finder
* Use Script Editor to record your actions to automate tasks

Macintosh PC Exchange and Macintosh Easy Open
* Allow you to work with DOS-formatted disks as though they were Macintosh disks
* Let you open and edit Mac OS, DOS, and Windows files even when you don't have the original application (appropriate file translators required)

Open Transport
* Readies your Macintosh system to connect with other systems using industry-standard TCP/IP networking protocols
* Lets you create and switch between multiple networking configurations without rebooting your computer

PowerBook utilities
* Automatically switch your PowerBook to full performance when plugged in, and conserve energy when it isn't, to extend battery life
* Synchronize files, folders, or disks between PowerBook computers and other Mac OS-based systems -- locally, over a network, or using a floppy disk
* Provide a Control Strip for convenient access to AppleTalk Network system on/off, battery monitor, file sharing, hard disk spindown, power management, "Sleep Now," sound volume, and video mirroring functions (also available on some desktop computers)

QuickTime
* Enables you to integrate graphics, sound, video, and animation into documents (requires application software that supports QuickTime)

OpenDoc
* Lets you extend the functionality of OpenDoc-aware applications by adding new software components -- called "parts" -- that can be dragged-and-dropped into documents (requires application software or parts that support OpenDoc)

QuickDraw GX
* Lets you create portable "print and view" documents from any application (System 7.5 and QuickDraw GX also required on destination system)
* Displays desktop printer icons that allow you to quickly check the status of and change print queues
* Incorporates Apple's ColorSync technology for consistent colors from scanner to display to printer
* Supports Apple TrueType and Adobe Type Manager GX (ATM GX) font technologies
* Includes seven QuickDraw GX fonts

PowerTalk
* Provides a universal desktop mailbox for all electronic correspondence, whether it's being exchanged between other personal computers, the Internet, on-line services, fax machines, or even voice-mail systems.
* Includes Personal Catalog, which allows you to store names and electronic addresses of the people you collaborate with regardless of the way you communicate.
* Includes Key Chain, which stores your login names and passwords for the network services you use the most and protects them under a single password

System requirements
* Apple Macintosh Plus or later, Power Macintosh, or PowerBook computer
- 68020, 68030, 68040, or PowerPC microprocessor required for QuickTime, PowerTalk, and QuickDraw GX
- 68030, 68040, or PowerPC microprocessor required for OpenDoc and Open Transport
* Minimum 8MB of RAM required for installation of full System 7.5 suite (16MB on Power Macintosh models)
- 4MB of RAM permits minimum installation of System 7.5 features except OpenDoc, Open Transport, PowerTalk, and QuickDraw GX (8MB on Power Macintosh models)
* Hard disk with up to 40MB of available space (depending on your system and configuration) to install System 7.5
* One of the following installation media:
- Apple SuperDrive 1.4MB floppy disk drive for installation from floppy disks
- CD-ROM drive for installation from CD-ROM

Ordering Information

Macintosh System 7.5, version 7.5.3 on CD-ROM disc For one user
Order No. 504074U
* System software version 7.5.3 and utilities
* OpenDoc software
* Open Transport software
* PowerTalk software
* QuickTime software
* QuickDraw GX software
* Upgrade Guide
Included on the CD are Apple and third-party applications and utilities that enhance and complement Macintosh System 7.5 capabilities.

Macintosh System 7.5, version 7.5.3 is available for downloading from the Internet. Tech Info Library Article 58265: "**System 7.5 Version 7.5.3: Available for Download**" contains additional information on how to download the software.

Product specifications are subject to change. Check with your Apple reseller for the most current information about product specifications and configurations.

Published Date: Feb 18, 2012

Color OneScanner 600/27: Requires Display of 640x480 (8/96)

I am trying to use an Apple Color OneScanner 600/27 with a Macintosh 12-in. RGB Display. When I open the Dispatcher software, I am not able to scan an image because the controls are off the screen. How can I use the dispatcher software?
This article has been archived and is no longer updated by Apple.
The Dispatcher software which comes with the Apple Color OneScanner 600/27 requires a minimum resolution of 640x480. Since the Macintosh 12-in. RGB Display only has a resolution of 512x384, you cannot use it with the Dispatcher software. You must use a display capable of 640x480 or greater (including PowerBook computers).

One other thing to keep in mind, is that ColorSync was designed to work with a resolution of 640x480 or greater. Since the Macintosh 12-in. RGB does not work at that resolution, even if you were able to scan images, the colors you get many not always be what you expected.

Published Date: Feb 18, 2012

PC Compatibility Cards: DPMS Support (8/96)

In Appendix C, pages 181-182 of the "PC Compatibility Card User's Manual for the 12-inch Card" it is stated that Display Power Management System (DPMS) is not supported with Apple's PC Compatibility Cards.

However, it appears to work fine on my Power Macintosh 8500/120 computer with a 12 Inch PC Compatibility Card and an Apple Multiple Scan 15 display under Windows 3.1 and Windows 95.

Is the manual wrong? After all, it does appear to work on my system.

This article has been archived and is no longer updated by Apple.

DPMS or any kind of power management is not supported with Apple's PC Compatibility cards. Power management control of any kind is intentionally disabled in ROM.

When you set up and enable DPMS by using ATI Technologies' driver software, the energy saving features apply only to the monitor, not the PC Compatibility card. In other words, your monitor goes into energy saving mode (blank), but PC environment is still active.

Even if DPMS works on Apple's PC Compatibility cards while running Windows 3.1 and Windows 95, Apple does not support it. Apple can only recommend using any power-management features in Macintosh environment.

Published Date: Feb 18, 2012

HyperCard 2.3.5 Updater: Updater on MacWorld CD Fails (8/96)

I received a CD-ROM at the MacWorld Expo in Boston in August, 1996. I was using the HyperCard 2.3.5 Updater on the disc to update the Hypercard applications on all my computers. The updater has been failing to update the HyperCard application on several but not all of my Power Macintosh computers. When it fails, it gives the message, "An error prevented the update from completing. Invalid file selected for updating."

What could be causing this intermittent failure?
This article has been archived and is no longer updated by Apple.
The problem you are experiencing occurs only with the HyperCard 2.3.5 Updater included on approximately 10,000 CD-ROMs distributed at MacWorld Boston in August 1996. The CD-ROM with the troublesome HyperCard updater is titled "The Apple Services CD - August 1996 Edition".

The issue only occurs on Power Macintosh or native or fat binary versions of the HyperCard 2.3 or 2.3.3 application. If you originally did an Easy Install of HyperCard 2.3 or 2.3.3 on your Power Macintosh, a few non-critical resources were left out of the HyperCard application. If you performed a custom install, these resources are included.

When you try to use the updater to update the HyperCard application that does not have these resources, the HyperCard 2.3.5 Updater will not recognize the application and will fail to update it returning the message "An error prevented the update from completing. Invalid file selected for updating."

To resolve this issue, you can re-install HyperCard 2.3 or 2.3.3 using the Custom Install option, and then use the HyperCard 2.3.5 Updater. Alternatively, you can download the corrected version of this updater from http://www.info.apple.com/swupdates/.

Published Date: Feb 18, 2012

Macintosh Performa 6400: Non-Supported Video Resolutions (8/96)

I have a Macintosh Performa 6400 series computer and I am confused by the resolutions available to me using the AppleVision 1710AV Display. The Technical Information Guide provides a list to me, but there are more available to me. Why?
This article has been archived and is no longer updated by Apple.
There are two supported resolutions using the Macintosh Performa 6400 series computer with the AppleVision 1710AV display; 832x624 75Hz, and 640x480 67Hz.

When you use the Display control panel other VGA/SVGA resolutions appear in italics.

When using the Macintosh Performa 6400 Series computer with most Apple displays, there will be more resolutions available than what the display supports. All non-supported resolutions appear in italics.

These multiple resolutions are available to support a larger number of Apple and non-Apple multiple scan displays. You should check the technical information for the display you have to confirm which resolutions are supported by your display. Although some Apple displays may also work with non-supported resolutions, their performance is not optimal.

The Macintosh Performa 6400 supports resolutions up to 1024x768 72Hz (maximum). Although some Apple Multiple Scan displays support higher resolutions, 832x624 or 1024x768 will be the highest resolution available depending on which multiple scan display is used.

Using Non-Macintosh Resolutions

When you select a non-Macintosh resolution (VGA/SGVA resolution), a dialog appears asking you to confirm the display image is OK. If you select OK, the new resolution is selected. If you do not select OK, the Mac OS reverts to previous resolution after a few seconds. This is done in case an incompatible video resolution is selected. The dialog does not appear if you select a standard Macintosh video resolution (640x480 67Hz or 832x624 75Hz).

Some resolutions will display "scrambled", distorted, large, small, or no image. This may happen when an unsupported resolution for a particular display is selected in the Displays control panel. If the image is stable but the performance of the image is not acceptable, one of the supported video resolutions should be used for the particular display connected to the Macintosh Performa 6400 computer.

If a resolution has been selected that produces an unusable image on the display and are not able to select another resolution in the control panel or control strip, you need to reset the Non-volatile RAM (NVRAM).

Resetting NVRAM

Turn off your Macintosh Performa 6400 or Choose Shut Down from the Special menu.

NVRAM can be cleared by holding down the Command-Option-P-R keys simultaneously as soon as possible after hitting the power-on key. It happens BEFORE you see the gray screen. Once the gray screen appears, the PRAM is cleared at the same point as it was in previous machines.

One very important difference is that NVRAM is not cleared during a warm or soft restart (by selecting Restart from the Special menu), whereas PRAM is cleared in that case.
Published Date: Feb 18, 2012

System 7.5: Updates, Versions, and What‘s Installed

This article provides a guideline for determining installation requirements for the various System 7.5 updates, and which System 7.5 version is installed.
This article has been archived and is no longer updated by Apple.
There are several Mac OS System 7.5 configurations which may have been installed on a Macintosh computer. Each installer has unique requirements. In addition, the System 7.5 version that shipped on Macintosh computers varies.

The charts below provide a guideline to determine installation requirements for the various System 7.5 updates/versions, as well as using the About this Macintosh selection under the Apple menu to determine what is currently installed.

Overview Of Requirements

All systems

Installer	Requires System SW for Installer	Updates To Version
System 7.5 Update 2.0	7.5, 7.5.1, or 7.5.2	System 7.5.3
System 7.5.3 Revision 2	7.5.3	System 7.5.3 Rev. 2
System 7.5 version 7.5.3	Full installer	System 7.5.3 Rev. 2
System 7.5.5 Update	7.5.3	System 7.5.5

PowerBook 190, 2300, and 5300 systems

Installer	Requires System SW for Installer	Updates To Version
PB 5300 Sys. SW Update	7.5.2 enabler 1.1.1 or earlier	7.5.2 enabler 1.2.1
Sys. 7.5.3 Revision 2	7.5.2 enabler 1.2.1	7.5.2 enabler 1.2.4

About This Macintosh Window Overview

In About This Macintosh Window	How to Get to This Level of System Software
System 7.5	Retail product, shipped on Macintosh computers
System 7.5.1	System 7.5 plus System 7.5 Update 1.0
System 7.5.2	Shipped on first PCI desktop Macintosh computers and PowerBook 190, 5300, & Duo 2300 series
System 7.5.3	Shipped on some desktop Macintosh computers
System 7.5.3 System 7.5 Update 2.0	Upgrade any of the above using System 7.5 Update 2.0
System 7.5.3 Updated to Revision 2	Install System 7.5.3 Revision 2
System 7.5.3 Revision 2	System 7.5 version 7.5.3 (Finished Goods) or pre-installed on some Macintosh computers
System 7.5.5	Upgrade System 7.5.3 with System 7.5.5 Update

Additional information on System 7.5 is available in the following TIL articles or by searching the TIL:

Article 19944: **Macintosh System 7.5.3 Revision 2: FAQ**
Article 20081: **System 7.5.3: What Updates Do I Need for System 7.5.5?**

Published Date: Feb 18, 2012

ImageWriter II: Won‘t Print from Macintosh

The ImageWriter II printer won't print when interfaced with the Macintosh and the printer has the 32K Option card installed. The ImageWriter does, however, perform a self-test with no errors.
This article has been archived and is no longer updated by Apple.
BEFORE YOU START: Make sure that the print driver has been installed properly on the customers software then attempt to print to a known-good Imagewriter.

CAUSE: The Option card is bad (even though the self-test generates no errors).

CURE: Remove the 32K Option Card and test the printer with the Macintosh connected to the ImageWriter II. Boot a program such as MacWrite and print to the ImageWriter II. Swap the Option Card with a known good one and try to print with MacWrite again.

Refer to General Troubleshooting for the ImageWriter II if the printer still does not print.
Published Date: Feb 18, 2012

Macintosh Performa 6400: System 7.5.3 Revision 2.1 (8/96)

I have a Macintosh Performa 6400/200 computer, and I noticed that in About This Macintosh, the system software version is "System 7.5.3 Revision 2.1". What is the difference between System 7.5.3 Revision 2 and System 7.5.3 Revision 2.1?

This article has been archived and is no longer updated by Apple.

There were two changes to System 7.5.3 Revision 2 for the Macintosh Performa 6400/200 and 6400/180, which resulted in System 7.5.3 Revision 2.1.

The first is LocalTalk DMA 1.0.1, which resolves an issue with transferring files over LocalTalk.

The second change for System 7.5.3 Revision 2.1 is a fix for the video driver. This was to correct an issue with remaining screen bitmap artifacts when the computer was put to sleep when connected to a 15-inch display.

System 7.5.3 Revision 2.1 should only be used on the Performa 6400/200 and 6400/180 computers.

Article Change History:
dd mmm yyyy - Corrected product names.
Published Date: Feb 18, 2012

Power Macintosh 5200 & 5300: Installing TV/FM Tuner Card (8/96)

I purchased an Apple TV/FM Tuner Card, and I want to install it into my Power Macintosh 5200 computer. However, the rear plastic bezel covering the logic board does not have holes for both antennas. Is it possible to use the TV/FM Tuner Card in the Power Macintosh 5200?

This article has been archived and is no longer updated by Apple.

Yes, it is possible to use the Apple TV/FM Tuner Card in the Power Macintosh and Macintosh Performa 5200 and 5300 series computers. You need to ask an Apple-authorized service provider to order a new rear I/O Door for you which has the necessary access holes for both antennas.

The Apple service part number for the rear I/O Door is 922-2190.

Published Date: Feb 18, 2012

DOS Compatible Card: Windows 95 and NetBEUI (8/96)

This article describes how to configure NetBEUI with Windows 95 for a DOS Compatibility Card.
This article has been archived and is no longer updated by Apple.
NetBEUI is a simple and efficient protocol that is still well suited for use on work group size networks. It is not capable of routing (since it does not understand network numbers) so its use does have limits. It is often implemented along with TCP/IP on Windows clients, with NetBEUI used on the local network and TCP/IP used for the other side of routers.

Windows 95 manages all network configuration in the "Network" control panel. Locate the "My Computer" icon on the screen and double-click it to open.

1) Open the Control Panel folder to find the Network control panel, double-click the Network control panel to open it.

2) Windows 95 requires the installation of at least 3 elements to make a network connection, an Adapter, Client, and Protocol. Start the installation by choosing an adapter. Click the "Add..." button in the Network control panel.

3) Choose Adapter and click the "Add..." button. You will load the NDIS driver provided on the DOS Compatibility Installer disk by clicking the "Have Disk..." button, informing Windows 95 that the driver is on a separate disk.

4) Use the default location, "A:\\", provided in the Install From Disk dialog box. Insert the "PC Software" floppy disk, part of the PC Compatibility Card installer software disk set. Click the OK button and Windows 95 will scan the floppy in drive A: for possible drivers.

5) When the scan has completed, you will be presented with a list of the drivers found on the floppy.

6) Choose the only option you should see, "PC Card Network Driver (NDIS2)", and click the OK button. Windows 95 will read the driver from the floppy disk and return to the Control Panel display, which should now contain entries for two Clients, the network adapter (you just loaded), IPX/SPX protocol, and the NetBEUI protocol.

NOTE: The IPX/SPX protocol stack is based on Novell's original implementation, however, it is not the same as Novell's original implementation. If you were loading IPX/SPX for NetWare connectivity, you would be selecting "Novell Compatible IPX Protocol"

7) Choose the IPX/SPX-compatible Protocol and click the Remove button. This removes the protocol and Client for NetWare Networks.

Now you have a working configuration. The final step is to verify the setup of the remaining components.

8) First, confirm the Identification information of the computer by selecting the "Identification" tab.

** DO NOT CLICK OK AFTER THIS STEP! **

Verify that the entries for Computer name, Workgroup, and Computer Description are satisfactory.

IMPORTANT: Be sure to check this information. It must be compatible with other computers on the network, therefore these values are often supplied by your network administrator.

** DO NOT CLICK OK YET! **

9) Next configure the Client component. Re-choose the Configuration tab to

display the network configuration. Choose "Client for Microsoft Networks" and click the "Properties..." button.

Select the "Logon validation" checkbox which instructs the computer to Logon to a Windows NT domain and provide the domain name. You can choose either one of the "Network logon options" depending on your desired logon action.

10) This completes the configuration of the network. Close the control panel by clicking the "OK" button. Windows 95 will ask for various parts of the original Windows 95 installation media while it adds the new software components. It is possible you will get messages about an attempt to install older version of existing component software. Always choose to keep the newer versions installed in these cases.

11) Once all new software is read from the original Windows 95 installation media (in step 10) you will be asked to restart. Select the "continue" option instead and run the SETNET program located on the DOS Compatibility Installer disk. Select the NDIS and NetBEUI options and click the "OK" button. This step will create the appropriate entries in the PROTOCOL.INI file for the NDIS driver to use.

12) Restart the Windows 95 environment by clicking the "start" button, selecting the "restart" option, and choosing "shutdown and restart".

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DOS Compatible Card: Configuring Windows 95 for TCP/IP (8/96)

This article describes configuring Windows 95 for TCP/IP for a DOS Compatibility Card.
This article has been archived and is no longer updated by Apple.
Windows 95 can be easily configured to use the TCP/IP protocol. You must use the TCP/IP protocol stack that is part of the Windows 95 installer disk(s) to ensure compatibility with the Operating System and applications.

Windows 95 manages all network configuration in the Networks control panel, so we will begin our installation there.

1) Double-click the My Computer icon on the desktop. The Control Panel folder is located in the window that opens.

2) Double-click the Control Panel folder.

3) Locate the Network control panel and double-click it to open and begin the configuration.

You will typically find previous network protocols loaded. For this example, the client is using NetBEUI to connect to a Windows NT servers.

4) To begin the installation, click the Add... button.

5) In the screen that follows, choose Protocol and click the Add... button.

6) Choose Microsoft in the Manufacturers: window on the left, and the TCP/IP option in the Network Protocols: window on the right.

The computer will return to the Network control panel after the loading process with an additional entry for TCP/IP now showing.

7) Choose the new TCP/IP entry and click the Properties button. The resultant dialog box is where all TCP/IP configuration is performed. Configurations can be made for a DHCP address server, manual address, DNS gateways, WINS name services, and so on.

CAUTION: You MUST include the TCP/IP address and Broadcast mask at minimum. Most installations will require DNS entries as well.

8) Fill out all entries needed for this installation with information provided by the network administrator.

NOTE: If your installation requires DNS, you may find the DNS configuration screen a little confusing. You must put the name of your computer in the Host field and the domain you wish to be a part of in the Domain field. After these value are entered you must add the address of the DNS server(s) to the list and the domain names you wish to be a part of to the other list.

9) Click the OK button to end the TCP/IP configuration. If TCP/IP is the only protocol installed, go to step 10.

If TCP/IP is not the only protocol installed on the computer you must tell Windows 95 which protocol is the default to use when connecting to servers. To do this,

i) Select the desired protocol item (our example uses NetBEUI as the default) and click the Properties... button.

ii) Choose the Advanced tab and you will find a check box on the page to set this protocol as the default.

iii) Click the OK button when you have checked the box.

This completes this configuration of the network.

10) Close the control panel by click the OK button. Windows 95 will ask for various parts of the original Windows 95 installation media while it adds the new software components. It is possible you will get messages about an attempt to install an older version of existing components. Always choose to keep the newer versions installed in these cases.

11) Once all new software is read from the original Windows 95 installation media (in step 10) you will be asked to restart. Select the "continue" option instead and run the SETNET program located on the DOS Compatibility Installer disk. Select the NDIS and TCP/IP options (plus any other protocols you have loaded) and click the "OK" button. This step will create the appropriate entries in the PROTOCOL.INI file for the NDIS driver to use.

12) Restart the Windows 95 environment by clicking the "start" button, selecting the "restart" option, and choosing "shutdown and restart".

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Power Macintosh 9500MP Multiprocessor FAQ

This article answers a number of frequently asked questions about multiprocessing on the Power Macintosh 9500MP computer.
This article has been archived and is no longer updated by Apple.
Question: What is Multiprocessing (MP)?

Answer: Multiprocessing computer systems are based on more than one microprocessor to provide a performance edge in demanding, computer-intensive situations.

Question: How is multiprocessing accomplished on Power Macintosh computers?

Answer: The Power Macintosh 9500/180MP is Apple's first multiprocessing system. It consists of a dual PowerPC 180 MHz 604e processor card combined with the Apple/DayStar Multiprocessor API, an extension to System 7.5.x which enables multiprocessing. The hardware and API enable increased performance when used with a multiprocessing-savvy application.

From a hardware perspective, both of the processors can be active at the same time. The first processor handles the Mac OS and I/O tasks and sends the multiprocessing tasks to the second processor to implement.

The software implementation is an extension to System 7.5 that enables multiprocessing. It consists of a two-part shared library: a highly leveraged API library that applications interface to and a low level engine that the kernel code controls, interrupts, and tasks in the different processors.

Question: Is Apple's implementation of multiprocessing asymmetric or symmetric?

Answer: The current system software release (System 7.5.x) and multiprocessing card provide asymmetric multiprocessing. Asymmetric multiprocessing means that the main processor runs the Mac OS and I/O interrupts, and the other processor runs the multiprocessing tasks. Symmetric multiprocessing means that any processor can handle any type of tasks. Future system software releases may support symmetric multiprocessing.

Question: What are the supported configurations for using MP on Macintosh computers?

Answer:

Supported Computers

Currently, the only configuration available from Apple is the Power Macintosh 9500/180 MP. However, third-party companies, such as DayStar Digital, may make a multiprocessing card that will work in one of the other PCI-based Power Macintosh computers.

Memory Requirements

Based on the types of applications that are becoming MP-aware (such as graphics, 3D, web authoring), you will need a minimum of 32 MB and could easily expand over 100 MB to support all of your applications.

IMPORTANT TIPS

- Disable Virtual Memory
  When using the multiprocessing capabilities, you cannot depend on software solutions to low-memory situations, such as virtual memory or RAM Doubler, because the multiprocessing software is not compatible with virtual memory. Because of this, if virtual memory is turned on or RAM Doubler is installed, then your multiprocessor-compatible software applications will not be able to take advantage of the second PowerPC processor.

  This is particularly important because PowerPC applications typically require more memory when run with virtual memory turned off.
- Turn off hard disk sleep
  Make sure that the hard disk sleep interval is set to "Never" in the Energy Saver control panel. Otherwise, software applications designed to work with your multiprocessor Power Macintosh may not work properly.

Question: How does the performance on computer intensive tasks compare to uniprocessor systems?

Answer: We have seen performance in the range of 1.5-2 times faster on computer intensive tasks such as 3D rendering.

Question: Can you run applications that are not MP-savvy on an MP system?

Answer: Yes, the computer will run the application as a single processor system offering the performance of the single processor.

Question: Can third-party companies license the Apple Multiprocessor API software?

Answer: The Apple Multiprocessor API is part of the Software Licensing distribution program and is available to any developer.

Question: How can you verify that the Multiprocessor card and software APIs are working properly?

Answer: Apple includes an application called PowerFraxx on multiprocessing-capable computers, such as the Power Macintosh 9500/180MP. PowerFraxx is a benchmarking application that generates fractals from the classic Madelbrot set. This application uses the multiprocessor card if the card and multiprocessor API software are installed properly.

To test that the card and software are installed and working properly, follow these steps:

1. Locate and run the PowerFraxx application.

PowerFraxx is pre-installed in the Apple Extras folder on the hard disk and can also be reinstalled from the CD Extras Folder on the System Software CD-ROM disc.

2. A) If the multi-processor card and software API are installed properly, a Multiprocessing menu option will be present.
Choose "Use 2 Processors" from this menu. This verifies that the card and software are properly installed. You do not need to follow any of the remaining steps.

B) If the Multiprocessing menu option is not available, either the multiprocessing software or card are not installed properly. Continue with Step 3 to troubleshoot.

3. Verify that virtual memory or Ram Doubler are turned off because the multiprocessing software is not compatible with virtual memory.

4. Verify that the multiprocessing API software is properly installed. Within the Extensions folder, there should be a folder called "Multiprocessing", which should contain two files:

- Apple Dual Processor HAL
- Multiprocessor API Library

If these files are not installed, reinstall the multiprocessing software. The Multiprocessing Software folder is located in the Apple Extras folder on the hard disk or in the System Software folder on the System Software CD-ROM disc.

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Macintosh Performa 6400: What is CMSCP Folder? (8/96)

In the System Folder of my Macintosh Performa 6400 series computer, there is a folder named CMSCP. Inside this folder are two folders that are called: "Kodak Color Management Files Used by Adobe Photoshop".

My computer does not appear to have Adobe Photoshop on it. Was it supposed to be included? If not, what is the purpose of this folder? Can I simply delete this folder?

This article has been archived and is no longer updated by Apple.

The CMSCP folder contains color management files used by Adobe PhotoDeluxe in conjunction with the KODAK PRECISION color matching system. If you remove the folder, Adobe PhotoDeluxe will still run fine but the KODAK PRECISION color matching system will be useless.

The "Used by Adobe Photoshop" folder is an error and should say: "Used by Adobe PhotoDeluxe".

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Apple II ProFile Interface Card Modification for the Apple II GS

This article has been archived and is no longer updated by Apple.

PROBLEM DESCRIPTION: Some ProFile Interface cards will not work properly when installed in the Apple IIGS. ProFile directory information might become damaged and cause the user not to be able to access data stored on the ProFile.

CAUSE: There might be an incomplete ground path through the card.

CURE: If ANY ProFile Interface Card is to be installed in an Apple IIGS, check first to see that a jumper, made of 24-26 gauge multistrand wire is installed between pin 12 of IC C6 (2716 EPROM-Apple Part# 341-0299) and pin 1 of IC B4 (74LS368-Apple Part# 305-0368) on the non-component side of the board. If needed, the jumper should be installed by a knowledgeable technician to assure proper operation of the ProFile when interfaced with the Apple IIGS. The jumper wire should be just long enough to make the connection. The technician should remove the EPROM before soldering, thus preventing any damage to the chip.

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LaserWriter 12/640 PS: Cannot insert 250 sheet cassette

I cannot insert the 250 sheet cassette in my LaserWriter 12/640 PS printer. What is wrong?
This article has been archived and is no longer updated by Apple.
The issue may be the length guide on left side of the 250 sheet cassette has shifted backwards. This can happen if you load a full stack of paper and tilt the tray so the weight of paper forces the length guide backwards. Check that length guide is in proper position before insertion into the printer. There is an indent position for each paper length adjustment. When the length guide is between indent positions, the cassette cannot be inserted into the printer.
Published Date: Feb 18, 2012

DOS Compatibility Cards and Supported Protocols (8/96)

Which non-AppleTalk protocols, such as IP, IPX, and DECNet, work with the DOS Compatibility Card through the following network interfaces:

Built-in Ethernet
PCI Ethernet cards
PCI Token Ring cards
Communications Slot (Power Macintosh 5400) Ethernet cards
This article has been archived and is no longer updated by Apple.
The DOS Compatibility cards do not support Token Ring in any form, and the software on the DOS Compatibility Installer disk can only use the built-in Ethernet Interface when one is present (Communication Slot Ethernet cards can be used on computers without built-in Ethernet interfaces), it also cannot use cards in the PCI slots for I/O.

Apple's software requires that any packet coming into a Macintosh be delivered to either the Macintosh, or DOS environments (packets cannot go to both at the same time) depending on the frame type of the received packet. These destinations are determined by each OS as they register their protocol and frame types within the Macintosh computer at startup. Once a particular frame type is registered all packets of that frame type addressed to the computer are delivered to the associated environment.

This element of our architecture has been responsible for the historical limitation of running TCP/IP only in one environment at a time. TCP/IP is practically implemented only with Ethernet_II frame types, since all packets of one frame type go to only one environment.

With the introduction of the Power Macintosh 7200/90 (in Europe ONLY), 7200/120, 7600/120, 8500/132, 8500/150, and 9500/150 a new Ethernet controller ASIC called Curio Prime is used. This chip implements two hardware Ethernet addresses for the single built-in Ethernet interface. One is used by the Mac OS and the other is for DOS Compatible use only. Since these computers have two hardware addresses the DOS compatible architecture can now deliver a particular frame type to different addresses which removes the limitation of each frame type going to only one environment.

The presence of this Curio Prime ASIC is the biggest factor in determining a particular Macintosh computer's networking capability with DOS compatible cards.

AppleTalk, IPX, TCP/IP and DECNet can be used in either OS. They can all be used by both environments if the Curio Prime ASIC is present, except for the following:

* DECNet/DOS will not run on any Macintosh computers.
* DECNet will not run on a Power Macintosh 5400 Mac OS environment.
* IPX will not run on a Power Macintosh 5400 Mac OS environment, but will run on a Power Macintosh 5400 DOS environment.

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DOS Compatibility Card: Config Novell 32-bit Client

This article outlines the steps needed to configure Apple's DOS Compatibility Card to use Novell's 32-bit client software to attach to a NetWare server.

This article has been archived and is no longer updated by Apple.

```
Step 1
------
Start Windows 95. Restart in MS-DOS mode.

Step 2
------
Run the NetWare 16-bit installer to install the ODI driver.

a) At the install screen choose no for #3 (do not install Windows
  support).
b) Choose #5, press enter and select OTHER DRIVERS.
c) Eject the Novell installer floppy disk and insert the "PC Compatibility
  Installer" floppy disk and press Return.
d) Choose the PC Compatibility Ethernet Adapter.
e) Press return to select the frame type.
  IMPORTANT: Press the F10 key to save your settings.
f) Press enter to begin the installation. Insert disks as required
g) When the installation is done, exit to DOS and type "EXIT" to restart
  Windows.

This completes the ODI driver installation.

Step 3
------
Verify that the ODI driver is working by preforming the following:

a) Restart Windows 95 and press F8 when you see the "Starting
  Windows 95..." message on the screen.
b) Choose the "Step-by-Step Confirmation" option.
  1) Answer "Y" to all questions. When you reach the
     "C:\\NWCLIENT\\STARTNET" command you have reached the driver loading
     section.
  2) Answer "Y" to "NWLANGUAGE".
  3) Answer "Y" to "LSL.COM".
  4) Answer "Y" to "MACODI.COM".
  5) Answer "Y" to "IPXODI.COM".
     If you have the right frame type selected you should get a message
     that reads "You are attached to server...".
  6) This completes the verification of the drivers. Answer "Y" to all
     remaining questions until Windows 95 starts.

To verify that the Novell client software obtained from Novell has installed properly, compare the various
software layer versions to the following list.

LSL       version 2.16
MACODI    version MLID 1.5
IPXODI    version v3.02
VLM       version v.1.20 rev B

Also, the resulting STARTNET.BAT text batch file inside the NWCLIENT subdirectory should contain:
NWCLIENT\\LSL.COM
NWCLIENT\\MACODI.COM
WIN95\\ODIHLP.EXE
and depending on the client software,
either NWCLIENT\\IPXODI
or
NWCLIENT\\VLM.EXE

Step 4
```

Now install the 32-bit client from Windows 95.

a) Insert disk 1 of the 32-bit installer set and run the "setup" program, click Start and choose the "Run..." option, then type "a:\\setup" into the dialog box that follows.
b) Close the license box by pressing the "y" key.
c) Click the setup program's Start button.
d) After files have been copied you will be presented with a "Select Device" dialog box asking for the network driver to install. Choose the "Existing ODI Driver" option and click OK.
e) You may be asked to provide some computer identification information. See your network administrator for the required information, and type it into the proper fields, then click Close.
f) You will be asked if you wish to set any special properties. Click NO, there will be a chance later to provide any information we might want.
g) You will be asked to insert disks as files are copied to the hard drive. You may also be asked for the original Windows 95 media.
h) When the installation is complete you will be asked to restart. Eject the floppy and restart the computer.

The installation may not be complete at this point. To finish the installation open and close the Network control panel in Windows 95.

Step 5

Open the Network control panel.

Step 6

Choose "IPX/SPX-compatible Protocol" and click Properties.

Step 7

Choose the Advanced tab.

Step 8

Choose "Frame Type" and enter the correct frame type on the right.

Step 9

Click OK to close the dialog box.

Step 10

Choose "IPX 32-bit protocol..." and click Properties.

Step 11

Choose the Advanced IPX tab.

Step 12

Select the "Primary Logical Board" check box and fill in the correct frame type.

Step 13

Click the "Use only the following frame types" radio button and select the frame type.

Step 14

Click OK to close the dialog box.

Step 15

Choose "Novell NetWare Client 32" and click Properties.

Step 16

The "Client 32" page should be visible. Enter a preferred tree or server name.

Step 17

Click OK to close the dialog box.

Step 18

Click OK in the Network control panel.

Step 19

You may be requested to provide various installation media. If you are asked for the Novell NetWare DOS driver disk insert the "PC Compatibility Installer" floppy disk. If you are asked for the location of "lsl.com" type "c:\\nwclient".

Step 20

When you are asked to restart choose "continue" instead.

Step 21

Copy the "MACODI.COM" file from the c:\\nwclient directory to c:\\windows.

Step 22

Now restart the computer to complete the installation.

Step 23

If Windows 95 is desired to be the interface for the Novell login, choose Novell 4.X Client for VLMs as the Logon client.

If your configuration is accurate you will be presented with a Novell Logon dialog box during the startup process. To confirm your connection you can open the "Network Neighborhood" icon and look for your Netware server and/or tree name.

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Macintosh Performa 6400: System 7.5 v7.5.3 Compatibility (8/96)

Article Reviewed/Updated: 21 August 1996

I just purchased a Macintosh Performa 6400 series computer, and I want to install System 7.5 Version 7.5.3 on it. However, whenever I attempt to start up from the System 7.5 Version 7.5.3 CD-ROM disc or Disk Tools disk, the computer will not start up. How can I install this system software on my computer?
This article has been archived and is no longer updated by Apple.
The Macintosh Performa 6400/180 and 6400/200 computers currently ship with System 7.5 Revision 2.1. The development cycles of the Macintosh Performa 6400 series computer and System 7.5 Version 7.5.3 made it impossible for System 7.5 Version 7.5.3 to be supported on these Macintosh Performa computers.

However, Macintosh Performa 6400 series computers running System 7.5 Revision 2.1 have all the applicable system software fixes contained in System 7.5 Version 7.5.3. As such, at this time you would not benefit from installing System 7.5 Version 7.5.3.

Apple releases system software updates on a quarterly basis. The Macintosh Performa 6400 series computers will be included in a future system release if and when there are identified fixes for that computer.
?This article was published in the Information Alley on 21 August 1996.

Article Change History:
21 Aug 1996 - Added alley information.

Published Date: Feb 18, 2012

Apple TV/FM Radio System: Which Video-in Card to Use? (8/96)

Article Reviewed/Updated: 9 August 1996

I want to install the Apple TV/FM Radio Tuner System (M4586LL/A) in my computer but I have an earlier version of the Apple Video System (video-input card). Do I need to upgrade to the latest Apple Video System, part number M2894LL/D?
This article has been archived and is no longer updated by Apple.
The Apple TV/FM Radio Tuner System (M4586LL/A) was tested with all previous revisions of the Apple Video System and is backwards compatible with them.

Depending on your computer, you may need a new rear I/O Door which has the necessary access holes for both antennas. You need to ask an Apple-authorized service provider to order this for you. The Apple service part number for the rear I/O Door is 922-2190.

This article was published in the Information Alley on 8 August 1996.

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09 Aug 1996 - Added alley information.

Published Date: Feb 18, 2012

Color OneScanner 600/27: 60 DPI Software Limitation (8/96)

The User's Guide for the Apple Color OneScanner 600/27 states that you can scan at 12 Dots Per Inch (DPI), however the Dispatcher software only gives the option of 60 or 75 DPI. How can I select 12 DPI?

This article has been archived and is no longer updated by Apple.

The 12 DPI is the hardware limit of the scanner. The software lower limit, as you noticed, is 60 DPI. The Preview uses a 75 DPI scan and the thumbnails are interpolated in the software. The 12 DPI is not used with the Apple software. There may be other third-party software, such as plug-ins, that take advantage of the 12 DPI, but Apple is not aware of any.

Published Date: Feb 18, 2012

Desktop Printing 2.0: Menu Visible but Isn‘t Functional (1/97)

After moving a desktop printer into a closed folder, the Printing menu stays active, yet none of the functions in the menu work. All of the options remain bold in the menu, yet if you select any of them, nothing happens. I then opened the folder that contains the desktop printer. The icon for the desktop printer is still highlighted. I tried selecting the options in the printing menu and they still would not do anything. I clicked on another icon in the folder the same folder. That icon became highlighted, but the desktop printer icon also remained highlighted as if the shift key were down. When I clicked on a third icon, it became highlighted and the other two went back to normal. At this time, I could click on the desktop printer and all of the functions in the printing menu worked as expected.

This article has been archived and is no longer updated by Apple.

This has been reproduced and reported to the engineering team. The quick workaround as you outlined is to make certain that if a desktop printer (or printers) is placed into a folder, you must open that folder and select the desktop printer you want to use in order for the Printing menu to work correctly.

Article Change History:
07 Jan 1997 - Corrected typographical error.

Published Date: Feb 18, 2012

Apple Internet Connection Kit: How & What to Remove

I used the Custom Remove feature of the Apple Internet Connection Kit (AICK) installer to remove AICK, however, it did not work. What files do I have to put into the Trash to remove AICK?
This article has been archived and is no longer updated by Apple.
Here is what AICK installs that you will have to drag to the Trash.

Internet Connection Kit Folder
Apple Internet Connection Kit Guide
Apple Internet Dialer
Internet Applications

- Claris Emailer Lite
- Fetch
- NCSA Telnet
- Netscape
- NewsWatcher
-

Internet Utilities

- Apple Internet Status
- Internet Config
- MacPing
- QuickTime/QTVR
- RealAudio
- Sparkle
- Stuffit Expander
- Config PPP Folder
- Config PPP control panel *

Read Me

System Folder Items
Control Panels:

- Config PPP
- ~ATM

Extensions:

- Internet Config Extension
- MacTCP Token Ring Extension
- ObjectSupportLib ***
- PPP

Hosts

Preferences **

- Internet Dialer Folder:

  - Internet Dialer Prefs
  - Modem Information
  - reg server

- Internet Prefs

Notes:

* Installed by the AICK installer in this location. Placed in control panels on first successful connection made by the Internet Dialer.

** The Preferences folder items, which could be used by other applications, may not need to be removed. This is especially true if you plan on reinstalling AICK.

TA35877_Apple_Internet_Connection_Kit_How_What_to_Remove_(TIL20268).pdf

*** This is a shared library file and may provide additional AppleScript support for other installed PowerPC applications. Removing it could result in an error dialog and the need to reinstall the application which needs this shared library.

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Physical Layer Ethernet Errors (8/96)

This article describes physical layer Ethernet errors and some of their common causes.
This article has been archived and is no longer updated by Apple.

Integrity of the physical layer of an Ethernet network is required for upper layer protocols like TCP/IP and AppleTalk to function effectively. Errors at the physical layer generally result from faulty wiring, defective transceivers, network interface cards, or hub ports. Apple products adhere to industry standards for Ethernet and troubleshooting methods generic to the industry can be used to recognize physical layer issues.

Protocol analysis can be used to monitor physical layer health. While physical errors are a normal occurrence, they should not exceed two percent of available bandwidth as a general rule of thumb.

Common physical layer errors include collisions, cyclic redundancy check/ alignment errors, and frame length errors.

Collisions

Collisions on an network are normal due to the collision detect (CSMA/CD) nature of the Ethernet access method. If no problems exist on the network, but there are slow file transfers, a minor collision rate from a workstation does not indicate a problem. Collisions above one percent of overall network traffic should be taken seriously and normally indicate either a faulty cable, transceiver, or network interface.

CRC/ Alignment Errors

Cyclic redundancy check (CRC)/ alignment errors generally indicate improper byte-alignment for Ethernet packets. CRC errors greater than two percent of overall traffic require attention. Most commonly CRC errors can be isolated to a particular workstation with a faulty network interface card. Alternatively, a faulty transceiver, cable, or hub port can be responsible for CRC errors.

If CRC errors cannot be isolated to a unique workstation address, cabling is the likely cause. Faulty connectors, improper grounding of thin coax wiring, or defective wiring concentrators could be the root problem.

Frame Length Errors

Standard Ethernet packets vary in length from 64 to 1,518 bytes. Any packet with a length outside of the standard range constitutes an error. Packets shorter than 64 bytes are often referred to as "runts" or "short frames". "Long packets" exceed 1,518 bytes. Troubleshooting frame length errors can be troublesome since the packets generally do not contain reliable address fields. Fault isolation usually requires removal of physical devices until the symptom is removed, with the last device removed then labeled as suspect. The root cause of the errors could be a defective network interface, transceiver, or a corrupt network interface driver.

Published Date: Feb 18, 2012

Apple Personal Modem: Setting registers from Applesoft BASIC

This article has been archived and is no longer updated by Apple.
To set the registers on the Apple Personal Modem from Applesoft BASIC, use this program, based on a program that sends custom characters to ImageWriters. Line 60 contains the machine language program that downloads commands. Line 70 contains the ASCII codes for the command string.

Line 70 of this particular example makes the program set the S0 register to 255 by sending the string ATS0=255 <RETURN>, a return the APM must have to accept the command string in all cases.

```
10 D$=CHR$(4)
20 FOR I= 768 TO 773: READ J : POKE I,J : NEXT I
30 PRINT D$;"PR#2"
40 FOR I = 1 TO 9: READ J : POKE 769,J : CALL 768 : NEXT I
50 PRINT D$;"PR#0"
60 DATA 169,4,76,237,253,96
65 REM ENTER COMMANDS IN LINE 70 AS ASCII CODES
66 REM BE SURE FOLLOW COMMAND STRING WITH A RETURN (ASCII 13)
70 DATA 65,84,83,48,61,50,53,53,13
```

Refer to the APM manual and the ASCII code chart for more information.
Published Date: Feb 18, 2012

AppleSearch: Availability

Is AppleSearch still available as a stand alone product?
This article has been archived and is no longer updated by Apple.
AppleSearch is only available as a component of the Apple Internet Server Solution. It is not available as a stand alone product.
Published Date: Feb 18, 2012

System 7.5.3: Out of Memory Error After Fax (8/96)

I get out of memory errors after sending a fax on my Performa 6320. If I try to run any program after Faxing or during Faxing the out of memory error occurs. If I force quit the Finder after Faxing I do not get out of memory errors, but I do not think this is a solution because I again get out of memory errors the next time I send a fax. I tried to clean install software, but this did not resolve the issue. What is wrong, and what can I do to resolve this?

This article has been archived and is no longer updated by Apple.

After testing we believe the issue results from an interaction between System 7.5 Update 2.0 (System 7.5.3) and the Global Fax software. If System 7.5 Update 2.0 or System 7.5.3 Revision 2 is installed, out of memory errors occurred after Faxing from the Finder, in other words choosing Fax Window from the File menu. Testing shows this issue on the following Macintosh computers: Apple Power Macintosh 5200/75 LC and 5300/100 LC, and Macintosh Performa 5200, 5215, 5300, 6200, 6205, 6214, 6216, 6218, 6220, 6230, 6290 and 6300 series.

As a workaround faxing from within an application seemed to work properly in all cases. For example, if you want to fax a window or desktop, take a picture of it (the Command-Shift-3 feature), and then from within Simple Text fax the picture. We tested Global Fax 2.5.4P with a TelePort Gold IIv modem, and Global Fax 2.5.5P and 2.5.6P with a TelePort Platinum V modem.

As you point out, a simple workaround is to force quit the Finder, and of course, restarting the computer would also work.

Global Village has also reproduced this issue. Apple and Global Village are now looking into it to determine the best method for a fixing. Because of the uncertainty of what the nature of this issue is, it is impossible to give a time frame for a fix, or how the fix will be distributed.

Article Change History:
19 Aug 1996 - Updated article for clarity.

Published Date: Feb 18, 2012

Clean System 7.5 Install on a PCI-based Workgroup Server

This article describes how to do a clean system install of the Mac OS on an AppleShare server and preserve privileges. This procedure will work on Workgroup Server and other Macintosh computers.

Note: This will not cure problems due to corrupted Users & Groups Data File or AppleShare PDS file.

This is the procedure to use if your system software on a Mac OS AppleShare server has become damaged, and you want to replace it while preserving privileges and sharing information.
This article has been archived and is no longer updated by Apple.
First, Restart with either a Disk Tools floppy, or the Workgroup Server CD-ROM and run Disk First Aid and allow any fixes. If Disk First Aid cannot repair the drive, you should back up your data, format the drive, and then restore the data.

WARNING: Be sure to back up data BEFORE formatting a drive because all data will be lost during the formatting process.

If your problem was starting the file server software itself, or in any way involved with privileges, you will want to attempt to compact volume access privileges with the AppleShare Admin software prior to resorting to the clean install. This will frequently fix privilege problems. If the server still will not start, follow these steps:

Clean Server Install

1. Startup with the "Workgroup Server Software" CD-ROM disc that came with your Workgroup Server by pressing and holding the "c" key after restarting until you see the "Welcome To Macintosh" screen.

At the desktop, the "Workgroup Server Software" CD disc's icon should be in the upper-right corner of your screen with your hard drive's icon below it. If another hard drives appear above the "Workgroup Server Software" CD, open the Startup Disk control panel, and select the "Workgroup Server Software" CD. Close all open windows and restart the computer. The "Workgroup Server Software" CD should now appear in the upper-right corner above the hard disk.

2. Open the "Install System Software" folder and double click on "Install System Software."

3. When the "Welcome to System 7.5" message appears, click Continue.

4. When the installer window appears, press the Command-Shift-K keys simultaneously (the Command key is the key with the Apple and Clover leaf). You will be presented with a small dialog box with two selections:

- Update Existing System Folder
- Install New System Folder

For a clean install, select Install New System Folder and click "OK." Make sure the Destination Disk on the bottom left is the hard disk you want to install onto, then click Clean Install on the bottom right. This will install a new system folder and rename you current folder "Previous System Folder."

5. After the system software has been installed, restart and install AppleShare Software.

Note: Be careful not to launch AppleShare until you are instructed to do so.

6. After the computer has restarted, open the System Folder, and the Preferences folder. Drag the Users & Groups Data File to the trash. Close the Preferences folder.

7. Locate the folder named Previous System Folder and open it, then open the Preferences folder. While pressing and holding the Option key on your keyboard, drag the Users & Groups Data File to the desktop. (Holding down the option key will let you copy the Users & Groups Data File instead of moving it.) Close the Preferences folder and the Previous System Folder.

8. The System Folder should still be open (if it's not, open it). Drag the Users & Groups Data File on the desktop to the Preferences folder of the open System Folder.

9. Restart the computer and open the Sharing Setup control panel. Enter the Macintosh name, it does not have to be the same name as it was before, but if possible, it should be the same to keep from confusing users. Then choose AppleShare Admin in the Apple menu. (You may be prompted for server name and admin key.) Verify that users & groups are intact. If they are, now run the AppleShare File Server program.

Note: This methodology will preserve the original System Folder's hierarchy in the Previous System Folder. At this point you can transfer any items from your Previous System Folder to your new one if necessary. BE CAREFUL NOT TO REPLACE ANY EXISTING ITEMS. Those items which were either installed during the install process, or are unnecessary may be placed in the Trash.

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PC Compatibility Cards: Errors Installing Video Software (8/96)

Article Reviewed/Updated: 26 August 1996

If I follow the Quick Setup instructions on pages 174-175 in the PC Compatibility Card User's manual (either 7-inch or 12-inch), I get an error message that says, "Can't open file E:\\VIDEO\\DRIVER\\EEDATA.EE_".

When I try to install using the "Factory Default" settings I get a different error message.

What do these messages mean? How can I work around them?

This article has been archived and is no longer updated by Apple.

Can't Open File Error Message

Issue

When you get the error message that says, "Can't open file E:\\VIDEO\\DRIVER\\EEDATA.EE_", the installer is trying to create a file on the CD-ROM disc which it cannot do. Also, the installer will modify AUTOEXEC.BAT so it will try to load E:\\VIDEO\\DRIVER\\CUSTOM, which will generate one of several error messages each time the computer is started:

1. Invalid drive specification - if CUSTOM loads before MSCDEX
2. Bad command or file name - if CUSTOM loads after MSCDEX and some CD-ROM disc other than PC Utilities is in the drive
3. CDR101: Not ready reading drive E - if there is no CD-ROM disc in the drive

Workaround

The workaround is as follows:

Step 1

Run E:\\VIDEO\\DRIVER\\INSTALL and go through the Utilities Installation to install the files into C:\\MACH64.

Step 2

Switch to C:\\MACH64, run INSTALL, and do the Quick Setup. As long as you do not select the factory default setting it creates EEDATA.EE_ in the C:\\MACH64 directory.

Error Installing "Factory Default"

Issue

If you use Quick Setup to configure DOS video and choose the "Factory Default" selection, the installer will not create the EEDATA.EE_ file. However, CUSTOM.COM is still loaded in AUTOEXEC.BAT, and on every restart you get an error which says, "Problem opening file "EEDATA.EE_". CUSTOM is not installed."

Resolution

The way to resolve this issue is to:

Step 1

Remove the CUSTOM line in AUTOEXEC.BAT

Step 2

Select a different monitor in Quick Setup, then go back and select 'Factory Default'.

This article was published in the Information Alley on 26 August 1996.

Article Change History:
26 Aug 1996 - Added keyword.

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Color StyleWriter 2500: Read Me Document (8/96)

This article contains the Color StyleWriter 250 Readme document.
This article has been archived and is no longer updated by Apple.
Information About Your Color StyleWriter 2500 Printer

This document contains important reminders and some information that's not in the user manual.

Contents

* Installation Alert
* Apple Color Printing CD
* Low-memory Troubleshooting
* Color Printing
* Other Printing Tips
* Desktop Printing
* Watermarks
* Printing With QuickDraw GX
* Using the Color StyleWriter 2500 With Application Programs

Installation Alert

Because of data compression, it may take installer Disk 1 up to 12 minutes to install its contents onto your hard disk. The other disks will work much more quickly.

Apple Color Printing CD

If you have problems with the software on the Apple Color Printing CD, contact the appropriate manufacturer:

- for Personal Publishing Toolkit, contact GDT, 604-473-3678
- for StickerShop Plus!, CardShop Plus! or Calendars and More, contact Mindscape, 415-898-5157
- for help with the fonts, contact Bitstream, 617-497-7514

Low-Memory Troubleshooting

If you notice any of these symptoms, your Macintosh may be running out of memory.

-The Macintosh displays "out of memory" warning messages.
-Some portions of a document don't print.
-Printing is very slow.

To make more memory available, try these suggestions:

* Have only one program open at a time.

* Increase the amount of memory you give to the program you're printing from by using the Get Info command (as explained in the documentation that came with your Macintosh).

* Use the Chooser to turn off background printing, as explained in Chapter 2 of the user manual.

* Choose Normal in the Print dialog box.

* In the Page Setup dialog box, choose Portrait (normal) orientation instead of Landscape (sideways) orientation.

* Remove any watermarks from your document.

* Desktop printing requires more memory to print than PrintMonitor 7.1.2. You can remove desktop printing by using the custom remove option called "Desktop Printing Software."

* When you print in the background, if you often get a message that there is not enough memory to print on a certain desktop printer, you can give

that desktop printer more memory by selecting its icon and choosing the Get Info command. Then increase the number in the Preferred Size box. (For more information on increasing a program's memory, see the documentation that came with your Macintosh.)

* Use the Memory control panel to turn on virtual memory, as explained in the documentation that came with your Macintosh.

Color Printing

* When printing very light colors in grayscale mode, you may see thin lines fade or break up. If this happens, pick a darker color for the affected object, or try printing with the Pattern halftoning option selected. (In the Print dialog box, click the Color button, then select the Pattern option.)

* If you print a document that should have a smooth gradient from one color or shade to another and notice an unexpected color change, it may be that one of the colors in the gradient cannot be reproduced by the printer. Try using a different matching method in the Color Options dialog box, or try turning off ColorSync.

* If the color blue on your printout appears purple, turn on ColorSync in the Color dialog box.

* In some programs, colors on the screen may look solid but contain tiny black dots when printed. To print solid blocks of color without these black dots, use the Business Graphics color-matching method. In the Print dialog box, click the Color button. In the Color Options dialog box that appears, make sure there is an X in the ColorSync box, and then select Business Graphics from the Matching Method pop-up menu.

If your colors still have too many black dots, create the document in a program that allows you to define each color, then make the color fully saturated. For example, to print yellow without any black dots in it, use your application program to define the yellow you are using as 100% red, 100% green, and 0% blue.

Other Printing Tips

* If you see random fine lines within a landscape printout, change the orientation to portrait if possible.

* If you see very thin stripes near the bottom of your printout, use your application program to make your bottom margin larger. A bottom margin of 0.8 inches or greater is best.

* For best results when printing envelopes, do not put images or text along the bottom edge of the envelope.

* If you get the message, "Serial port in use by another application, please quit the application and try again," restart your Macintosh before trying to print again.

* Close the Chooser after making any changes to it.

* To avoid confusion when sharing your printer, be sure to give each shared Color StyleWriter 2500 printer a unique name. If you have more than one printer with the same name in a single AppleTalk zone, the Chooser will display only one of them.

Desktop Printing

* If no desktop printer icons appear after you follow the instructions in Chapter 1, it may mean the Installer program installed PrintMonitor 7.1.2 instead of the desktop printing software. This can happen if you are running system software version 7.5 or earlier in a language other than English. You have three choices:

- Use the PrintMonitor 7.1.2 that was installed.
- Upgrade to System 7.5.1, and then install the Color StyleWriter 2500 software again.
- Use the Installer program's Custom Install feature to install the desktop printing software. This option, however, also installs an English-language version of the Finder.

* When you choose Save or Open in your application programs, you will see your desktop printers listed as if they were folders, but you should not save or open any documents in them. If you do, you will not be able to access your documents.

* If you want to have more than 3 desktop printers, you must increase the Desktop PrintMonitor memory allocation by 10K for each additional desktop printer you want. To do so, select the Desktop PrintMonitor icon-it's in the Extensions folder inside the System Folder-choose Get Info, type a larger number in the Preferred Size box, then close the Get Info window.

Watermarks

* When using a watermark, make sure the font that is in the watermark file is also in the Fonts folder inside your System Folder. If you give the watermark file to someone, they also need any fonts that it uses in order to use the watermark in their own documents.

* If you are printing a diagonal watermark such as Draft or Final on A4 or Legal size paper, for best results use Centered or Align Top Left orientations.

Printing With QuickDraw GX

* If you have QuickDraw GX on your system, the Color StyleWriter 2500 Installer will automatically install everything you need for printing with QuickDraw GX. If you have the Color StyleWriter 2400 GX driver in your Extensions folder, remove it and restart the computer before using the Color StyleWriter 2500 GX driver.

* If you installed QuickDraw GX after you set up your Color StyleWriter 2500, you must reinstall the Color StyleWriter 2500 software.

* After you click the Print button to print a complex document, you may notice a delay before you see printer activity.

* If printing with QuickDraw GX doesn't produce satisfactory results, you can use the GX Helper utility to turn off QuickDraw GX and use the regular QuickDraw printing software. For more information, see Appendix E of your user manual.

Using the Color StyleWriter 2500 With Application Programs

If you have problems printing from a specific program, it may be a problem in that program. If you have problems, contact the publisher of the program. In some cases a newer, more compatible version of the software may be available.

* In some programs-such as Microsoft Word 5.1, WordPerfect 3.5 and ClarisWorks 4.0-rotated text created within the program may print with jagged edges. For best results, create the rotated text in another program and paste it in.

Notes About Specific Programs

The following list describes some special situations that you should be aware of when working with specific programs. (There may be other problems with these programs or with other programs not mentioned in this document.)

Adobe Type Manager

* When you install version 3.8.1 or later of Adobe Type Manager, some system fonts are removed from your system and placed in a folder called "De-installed Fonts1." If you later turn off ATM, drag all the fonts in the "De-installed Fonts1" folder back into the Fonts folder inside the System Folder to prevent characters with jagged edges.

* If you get incorrect output when you try to print rotated and flipped Adobe Type 1 fonts, try using a TrueType font instead.

Adobe Illustrator 5.0

* Unless you have at least 15-20 MB of free disk space on your startup disk, you will see a "disk is full" error message when you try to print. The more complex the document, the more space you need.

Adobe Persuasion 3.0

* If you are having difficulty canceling printing from Persuasion, try turning off ATM.

Adobe PageMaker 5.0

* To see the Color StyleWriter 2500 Page Setup and Print dialog boxes, click the Setup button in PageMaker's Print dialog box.

* When printing rotated PICT or EPS images, be sure background printing is turned on in the Chooser. If you must print in the foreground, rotate the image in another program, then import it into PageMaker in the orientation in which you plan to print it.

* PageMaker 5.0 prints pages in reverse order on the Color StyleWriter 2500, which may be particularly confusing if you are using 2-up or 4-up printing. To print the first page first, turn on the Reverse Order option in the Print dialog box.

* Try changing the monitor depth from thousands or millions to 256 if you are having difficulty printing a particular document.

CardShop Plus! 1.0, Calendars and More 1.0, StickerShop Plus! 1.0

* If you are using QuickDraw GX, do not use GX Helper with these applications.

ClarisDraw 1.0v2

* If you have problems printing in the background, you may want to increase the Desktop PrintMonitor extension's preferred size to 300K (by using the Get Info command, as explained in the instructions that came with your Macintosh). The extension is located in the Extensions folder inside your System Folder.

Common Ground MiniViewer 1.1.3

* For best results print in Normal mode.

DeltaGraph Pro 3.0.4

* When printing charts, always click the QuickDraw button in the Print dialog box.

FrameMaker 5.0

* If you import text as a graphic, you can crop it on the screen but it will print uncropped.

* Rotated text in large point sizes will print as a gray box. For best results, break up the text blocks into smaller pieces or individual characters.

* For best results, use TrueType fonts when printing rotated text.

* Do not mix portrait and landscape pages in the same document.

MacDraw II 1.1 v2

* To print in color, be sure to turn on the Print Color Patterns in the Print Options dialog box and select Color in the Image pop-up menu in the Print dialog box.

* If you experience problems when printing your MacDraw II document with layout of 2-Up or 4-Up, try using a different program, like ClarisDraw.

Microsoft Excel 4.0 and Lotus 1-2-3

* To print in color, be sure to check the Print Using Color option in the Print dialog box and select Color in the Image pop-up menu.

Microsoft Excel 5.0

* If colored cell borders drop out when printing, try using yellow or brown or you can use the line tool in the Drawing tools palatte.

* When you choose the Page Setup command, you get Excel's own version of the Page Setup dialog box. Click the Options button to see the version of the dialog box with the special Color StyleWriter 2500 options.

Microsoft Word 6.0

* When you cancel a print request from Microsoft Word 6.0, part of the document will still print. If you are using desktop printing, try stopping the print queue on your desktop printer and then removing the print request instead of canceling. To do this, click your desktop printer icon and select Stop Print Queue from the Printing menu.

* For best results when printing envelopes, choose Envelopes and Labels from the Tools menu. Then click the Feed icon. In the Envelope Options dialog box that appears, click the second icon from the left, and make sure that Face Up is selected.

ModelShop II 1.2

* For best results, print in Normal mode.

Ofoto 2.0.2

* For best results, make a custom calibration for the Color StyleWriter 2500 and click the Custom Profile button.

Print Shop Deluxe 1.1.1

* If you are getting off-center and incomplete printouts of cards, try restarting your Mac.

QuickMail 3.5 and earlier versions

* If you are getting rectangles instead of characters in your QuickMail printout, try selecting Text Only in the Print Dialog box.

Studio/8 v 2.0 and Studio/32 v 1.2

* Always click the QuickDraw button in the Print dialog box.

Published Date: Feb 18, 2012

Newton Press 1.0: Read Me

This article contains the Newton Press 1.0 Read Me First file.
This article has been archived and is no longer updated by Apple.
About Newton Press 1.0

Congratulations on purchasing Newton Press. The Newton Press application enables you to quickly and easily transfer information from your desktop computer to your Newton personal digital assistant (PDA). Newton Press provides a fast, convenient means of producing electronic documents that anyone with a Newton PDA can read.

This Read Me contains important late-breaking information about using the Newton Press application on computers running the MacOS. This document presents information about:

* Installing Newton Press
* Obtaining a serial cable or LocalTalk connector box
* Using Newton Press Guide
* Setting up Newton Press
* Increasing the amount of memory available to Newton Press
* Using sample Newton books and templates
* Formatting a document before adding it to a Newton book
* Using translators
* Adding a spreadsheet to a Newton book
* Troubleshooting

If you have access to the World Wide Web, you can provide feedback and obtain the latest information about Newton Press and other Newton products from:

http://newton.info.apple.com/newton/

Installing Newton Press
Follow the instructions for installing the application provided in Chapter 1, "Getting Started" in the Newton Press User's Guide. Be sure to turn off any virus-detection software and system extensions before installing the software, as explained in the instructions. If you experience problems installing, see the Newton Press User's Guide in Chapter 9, "Troubleshooting," or the troubleshooting section at the end of this document.

Obtaining a serial cable or LocalTalk connector box
You can connect a Newton PDA directly to your computer using a serial cable, or you can connect it to your AppleTalk network using a LocalTalk connection box. If you already have a serial cable that you use to connect your Newton PDA and computer, you can continue to use that cable.

If you do not have a cable or adapter, you can purchase one from your local dealer or from Apple. Call 1-800-211-1537 (US and Canadian customers only) or contact your dealer for more information. In Australia, call Apple Software Upgrades at 1-800-631-125 or send a fax to 02-452-8204.

Using Newton Press Guide
To easily familiarize yourself with Newton Press, be sure to use the Newton Press Guide. The Newton Press Guide provides on-line help that can answer most common questions about the application.

With Newton Press running, press Command-Shift-? or choose Newton Press Guide from the Help menu. The Newton Press Guide lists topics you can choose. These topics provide step-by-step instructions for completing many Newton Press tasks.

Setting up Newton Press
Before you can install a Newton book created on your computer to a Newton PDA, you must set preferences that indicate how you have connected your Newton PDA to your computer. You can not transfer information to the Newton PDA unless you indicate how the computer and Newton PDA are connected.

* If you are using a LocalTalk connection, choose Preferences from the Edit menu and select Connect via Network.
* If you are using a serial cable connected to your computer's printer or modem port, choose Preferences from the Edit menu, choose Connect via Serial, and choose the port to which you have connected your serial cable.

These connection instructions are included in the installation procedure in the Newton Press User's Guide in Chapter 1, "Getting Started."

Increasing the amount of memory available to Newton Press
The Newton Press application is preset to create documents up to 500K in size. If you need to create larger documents, you can increase the amount of memory allocated to the application.

1. Choose Quit from the File menu to close Newton Press, if it is open.
2. In the Finder, click the Newton Press application icon.
3. Choose Get Info from the File menu. The Get Info window appears.
4. Type a larger number in the "Preferred size" box.
5. Click the close box to close the window.
6. Double-click the Newton Press icon to open the application.

Using sample Newton books and templates
When you install the Newton Press software, you'll find a Samples folder on your desktop. This folder contains samples of Newton books for you to try.

Stationary documents for several word processors are also provided for you to use as templates. These templates are documents formatted to approximate the margins of Newton Press books. You can open a template and then add and format information before adding it to Newton Press. This allows you to take advantage of the word-processing application's advanced features for editing, formatting, spell-checking, etc.

Note: Some template formatting does not match the format of a Newton book exactly because of the unique text handling characteristics used by Newton PDAs. These templates do not provide a good formatting guideline when you use a header in your Newton book.

You can erase the sample Newton books and template files from your hard disk when you no longer want them.

Formatting a document before adding it to Newton Press
Sometimes it is easier to format a document in the application that originally created it, before adding it to a Newton book. For example, you may want to change tables or graphics to suit the size of a Newton PDA screen. Although Newton PDAs may have screens of differing sizes, most screens are approximately 3.25 inches high by 2.75 inches wide. Try setting up your documents to fit within these dimensions.

Using translators
When you add documents to Newton Press, Newton Press uses XTND translators to read different file formats. The Newton Press software includes translators to read the following file formats:

* ASCII
* Claris XTND Bridge
* EPSF
* MacPaint 2.0 Deluxe
* MacWrite 5.0
* MacWrite II
* Microsoft Word 4-5
* Microsoft Word 6.0
* Microsoft Works 2.0
* PICT
* RTF
* Text
* TIFF
* WordPerfect 3.1
* WriteNow 2.0

The translators are in the Claris folder in the System Folder. Other translators are available from Claris or third parties.

At the time of this release, there is no translator for ClarisWorks. To import a ClarisWorks file, use ClarisWorks to save the document in a file format that Newton Press can read.

If you do not have a translator for a specific file format, you will see an error message when you try to add the file to Newton Press or when you drag and drop a file on Newton Press to create a book automatically. If you see an error message, check the original application to see whether you can save your document in a file format that Newton Press can read.

Newton Press can read Microsoft Word files that have an OLE component only if you have the OLE extension installed on your computer. The OLE extension is automatically installed by the latest version of Microsoft Word.

If a particular translator does not seem to be translating information correctly, try saving your document in a different file format.

Adding a spreadsheet to a Newton book
You cannot add spreadsheets directly to Newton Press. However, you can add spreadsheet information in either of two ways:

* Convert the spreadsheet to a tab-delimited text format that Newton Press can read. Converting a spreadsheet this way works best for small spreadsheets that do not have more than several columns of information.

* Convert the spreadsheet to a picture and import the picture into Newton Press. For example, capture an image of the spreadsheet using a screen-capture application, or transfer the spreadsheet into a graphics application and save it as a graphic. Converting a spreadsheet into a graphic enables you to add images of larger spreadsheets to Newton Press which can then be scrolled on a Newton PDA screen. However, this graphic method of conversion may create large files.

Tip: If you use Microsoft Excel, you can use a shortcut to copy spreadsheet information as a picture. Select the information you want in your spreadsheet, then hold down Shift as you open the Edit menu. Choose Copy Picture from the Edit menu. A picture of your information is placed on the Clipboard, and you can then paste it into Newton Press.

Troubleshooting
When I try to use the Redo command under the Edit menu, it is always grayed out.

* This feature has not been implemented in this version of Newton Press.

When I try to install Newton Press, the installer reports a disk error and refuses to proceed.

* You may have a damaged file on your hard disk that the installer can not overwrite. Choose the Custom Install option and install each component separately. This will help you to isolate the damaged file. Change the file name to a different file name and install Newton Press again.

I have connected my cable to the printer port and selected my printer port as my connection type in Preferences, but I can't install packages on my Newton PDA.

* If you select the printer port for a serial connection in your Newton Press preferences, you cannot use LocalTalk and must turn it off in the Chooser by making AppleTalk inactive. Note that this does not apply if you are using EtherTalk for your network.

I copied a graphic to my Clipboard, but I do not see it.

* If you open the Clipboard window and copy a graphic, the graphic may not immediately appear on the Clipboard. To see the graphic, close the window and reopen it. The graphic will appear.

When I switch computers and use Newton Press, the drag and drop features seem to work differently.

* Different versions of the Mac OS support the drag and drop feature differently. You can drag and drop one or more files directly onto the application icon using any version of the Mac OS. On computers running MacOS version 7.5 or later, you can also drag and drop files onto the open Newton Press window. With versions of the MacOS before 7.5, you cannot drag and drop files onto the Newton Press window.

On computers with MacOS version 7.5 or later, you can drag and drop text or graphic images onto your desktop from desk accessories or applications like the Scrapbook or Notepad. Such files are called clippings. You cannot add clippings to Newton Press by dragging and dropping them on the Newton Press icon or Newton Press window.

I have a Newton PDA that has the Newton Operating System 1.x, and my package icons don't look like packages on my computer desktop.

* Your packages appear as generic documents, instead of package icons. The appearance of your package icons makes no difference in the way Newton Press works. You can perform all Newton Press functions.

I added pictures to my Newton Press document, but they don't appear when I view the book on my Newton PDA.

* If there is not enough system memory available in your Newton PDA, large pictures may not appear in your Newton book. You may need to reduce the size of the picture for it to appear on all Newton PDAs.

I'm running both Newton Press and Newton Backup Utility and I can't install packages from Newton Press.

* While Newton Backup Utility is running, Newton Press will not be able to install packages. Quit Newton Backup Utility or use it to install your package.

I clicked STOP while a file was being added but the file was added anyway.

* There may be times when clicking on the STOP button does not stop the file from being added. This may happen either at the very beginning of the add or at the very end.

When I try to add a border around a group of text, multiple borders appear around the selected text.

* This may happen when editing around a graphic on a page. To fix this, select all the text and turn the border off. Join the text into one paragraph, turn a border on for the paragraph and then break up the individual lines.

My graphic is inverted but I can't turn it back to normal. Also, the graphic isn't inverted when it gets to my Newton PDA.

* Newton PDAs cannot currently display inverted graphics. It is possible to invert a graphic in Newton Press by selecting some text and a graphic and choosing "Invert" from the menu. Selecting a graphic by itself will not enable the invert function. Likewise, selecting an inverted graphic by itself will not allow you to disable the invert function. To turn the graphic back, you must select some text in front of the graphic along with the graphic, invert the text and graphic and repeat the process one more time.

When I tap the overview button on my Newton PDA, it freezes and I have to reset my Newton.

* It is possible to make a Table of Content entry that is a second level entry without a first level entry. The way to do this is to make the second entry a sub-topic and then delete the text associated with the first topic. A book with this type of Table of Contents will not function properly on a Newton PDA with Newton 2.0 OS. The way to fix this is to make the first entry a level-1 topic before you create the book.
Published Date: Feb 18, 2012

AppleWorks: Printer codes for Qume LetterPro 20

This article lists the setup codes for using AppleWorks and the Qume LetterPro 20.
This article has been archived and is no longer updated by Apple.
Printer Codes:

1. Carriage: 11"

2. Linefeed after carriage return: YES

3. Underlining: The Qume Letterpro 20 makes an underline by printing the character, backspacing one character, and printing the underline.

4. Special Codes

Description	Begin	End
Boldface	Esc K	Esc M
Underline	Esc I	Esc J
Superscript	Esc D	Esc U
Subscript	Esc U	Esc D

Check the printer manual for more information.
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PC Compatibility Card: Configuring SoundBlaster in DOS (8/96)

I'm trying to install the DOS SoundBlaster driver that came on the PC Utilities CD of my PC Compatibility Card, but I can't find any setup files.
This article has been archived and is no longer updated by Apple.
The Sound directory on the Utilities CD has two setup files:

* W31SETUP.BAT
* W95SETUP.BAT

These setup files infer that a version of Windows is required. The manual does not explicitly explain why there is no DOS Setup.

The DOS driver can be installed and configured by running the W31SETUP.BAT from the DOS prompt. This setup file may also attempt to install some Windows files. If Windows is not installed, the Windows applications can be bypassed by performing a custom installation.

Published Date: Feb 18, 2012

Performa 6400: ANSI C++ PPC Lib and MWRuntimeLib Files (8/96)

On my Performa 6400 in the Extensions folder are two files, "ANSI C++ PPC Lib" and "MWRunTime.lib", neither of which have version, or copyright information. These files are also on the Macintosh Performa CD. I have not been able to locate these files on any other Macintosh computer, so I assume they are specific to the Performa 6400.

Which applications require these files?
This article has been archived and is no longer updated by Apple.
The "ANSI C++ PPC Lib" and "MWRuntimeLib" are required Shared Libraries for the Apple Telecom and MegaPhone applications.

Published Date: Feb 18, 2012

Open Transport 1.1.1b6 Read Me

This article is the Open Transport 1.1.1b6 ReadMe file.
This article has been archived and is no longer updated by Apple.
Open Transport 1.1.1b6 is an unsupported beta release of Open Transport 1.1.1 and consists of 4 disks.

Name as Posted	Actual Disk Name
OT 1.1.1b6-01of4.sea	Install 1
OT 1.1.1b6-02of4.sea	Install 2
OT 1.1.1b6-03of4.sea	Install 3
OT 1.1.1b6-04of4.sea	Install 4

This software is available in two formats:

- Four self-extracting archives of Disk Copy 1440K disk images. To use, download, double-click the downloaded file (this decompresses it), and use Disk Copy to create the disks. Disk Copy can be found in the Utilities folder posted here.
- A complete OT 1.1.1b6 Net Install. It includes all software from all four OT 1.1.1b6 disk images plus the contents of OT 1.1.1b6-Extras.sea. This posting is provided as a convenience for those customers who want to download just one file.or want a pre-configured Net Install to place on their hard drive or on a server.

Note: You do not need to download the Net Install if you have already downloaded the four separate disk images of OT 1.1.1b6.

Introduction
You can use this pre-release version of Open Transport 1.1.1 to preview its features, enhancements, and updates. Pre-release versions of Open Transport 1.1.1 have been tested by progressively larger audiences and are now being used by hundreds of customers and Mac OS developers.

License agreement
This release of Open Transport is subject to the terms and conditions of the license agreement that accompanies the software in the file LICENSE. By downloading the software you agree to abide by the terms and conditions of the license agreement.

Warnings and information about beta software
Open Transport 1.1.1b6 is beta software; it is not the finished version of Open Transport 1.1.1.
This software is being provided for test purposes and does not come with Apple technical support. Do not call Apple technical support or the Apple Assistance Center with questions, comments, or problem reports about Open Transport 1.1.1b6.

Open Transport 1.1.1b6 is provided on an as-is basis. It is not warranted to be complete or free from errors. Open Transport 1.1.1b6 may cause problems with your Mac OS computer and with other software you have installed. These problems may require you to reinstall the Mac OS System Software from your original floppy disks or CD-ROM disc.

If you want to provide Apple with feedback about Open Transport 1.1.1b6, send electronic mail to the following address: OTBeta@seeding.apple.com. Apple does not guarantee any response to messages you send, and does not provide technical support for Open Transport 1.1.1b6 through this or any other medium.

System requirements
Open Transport is designed to work on Mac OS-compatible computers with a Motorola 68030 or 68040 family microprocessor, or a PowerPC 601, 603(e), or 604 microprocessor. You should use system software version 7.5.3 with Open Transport, although the earlier system software versions 7.1, 7.1.1 and 7.1.2 releases are also compatible.

Open Transport 1.1.1b6 can be used on the Performa and Power Macintosh 52xx, 53xx, 62xx and 63xx product lines. When you install OT1.1.1 on a 52xx, 53xx, 62xx and 63xx machine you may get a dialog box indicating a hardware issue was detected. If this alert is displayed, Open Transport cannot be installed or loaded until the Cache/ROM DIMM is replaced. Your machine will continue to run classic networking. The required repairs are covered under the Apple repair extension program. Please contact an Apple Service Provider to have your machine repaired.

Open Transport requires a minimum of 5 MB of RAM (68030 or 68040 computers) or 8 MB of RAM (PowerPC-based computers). Open Transport memory requirements are based on total system memory including virtual memory, minus the size of any RAM disk and disk cache you're using.

Network interface options
Open Transport 1.1.1b6 supports PCI bus, NuBus, communications slot, and PC Card network interface cards, as well as built-in LocalTalk, Ethernet, and Token Ring network adapters. For computers without expansion options, Open Transport 1.1.1b6 also supports a SCSI-attached network adapter. Third party network interface options available for Open Transport include Fast Ethernet, ATM, and FDDI.

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Network Server: Apple‘s Version of AppleTalk Running? (8/96)

I have a Network Server 500 and Network Server 700, how can I determine if Apple's version of AppleTalk is running?
This article has been archived and is no longer updated by Apple.
To determine whether the Apple's AppleTalk stack is running, at the AIX command prompt, type the following command:

atconfig -q

If the message "The AppleTalk stack does not appear to be loaded" appears, then Apple's AppleTalk stack is not running, or the Helios' stack is running instead.

Another way to determine if Apple's version of AppleTalk is running, is use the 'ps -ef' command to list the processes that are running. Look for either the process named 'appletalk', or 'router'. If neither is present then the Apple's AppleTalk stack is not running.

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Energy Saver: Causes CD-ROM Discs To Stop Playing

When I play an audio CD-ROM disc on my Power Macintosh 9500 computer, they play for a while then stop. Then the AppleCD Audio Player resets to track 1, time 0:00. Why?
This article has been archived and is no longer updated by Apple.
This is being caused by the Energy Saver control panel and will be fixed in a future system update.

Note: This affects all PCI-based Power Macintosh computers, not just the Power Macintosh 9500 computer.

Workaround

1. Open the Energy Saver control panel.
2. Deselect "Shutdown instead of Sleep".
3. Close the Energy Saver control panel.

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Installing DOS Compatibility 1.5 Software Update

This article covers how to install the DOS Compatibility 1.5 software update. There are several steps to installing your DOS Compatibility 1.5 software update:

- installing the Macintosh software
- installing support software for DOS
- installing support software for Windows (only if you are using Windows)

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Before you install

Before you install the DOS Compatibility Software Update, check the version of your system software by opening the Apple menu and choosing About This Macintosh while the Finder is active. You can use either System 7.1.2 or System 7.5.3 with the DOS Compatibility Software Update.

If you are currently using System 7.5, you can install the System 7.5 Update 2.0 to update to System 7.5.3. You can download the update from **http://www.apple.com/swupdates**.

Creating installation disks from disk images

Before you can install the DOS Compatibility Software Update, you need to use the Disk Copy program to create two installation disks from two disk image files. You will use these disks in the following sections to install the DOS Compatibility Software Update.

Follow the following steps to create the installation disks:

1. Obtain two blank, high-density floppy disks.

2. Double-click the APPLE_PC.image disk image file to open it in the Disk Copy program.

3. Click the Make a Copy button, and insert one of your floppy disks. The Disk Copy program will create a DOS disk named APPLE_PC, and eject the disk.

4. Click the Quit button in the Disk Copy window.

5. Double-click the PC Compatibility Software.image disk image file to open it in the Disk Copy program.

6. Click the Make a Copy button, and insert the other floppy disk. The Disk Copy program will create a Macintosh disk named PC Compatibility Software and eject the disk.

7. Click the Quit button in the Disk Copy window. You have now created the disks you will need to install the DOS Compatibility Software Update.

Installing the Macintosh DOS Compatibility software

To install the Macintosh DOS Compatibility software, follow these steps:

1. Insert the PC Compatibility Software disk into the disk drive.

2. Double-click the Installer icon. A message may appear describing the Installer software. Click OK. The Installer window appears.

3. Make sure the disk named in the box is the one on which you want to install software. If not, click Switch Disk until the correct disk name appears. NOTE: If you want to install only specific components, choose Custom Install from the Easy Install menu. In the Custom Install window, click to place an X in the boxes next to the components you want to install. Click the information symbol for more information about a component.

4. Click Install. The software is automatically installed onto your hard disk.

5. When the installation is complete, follow the instructions on the screen to quit the Installer and restart your Macintosh.

The following Mac OS software is now installed:

Name	Location
Macintosh Easy Open	Control Panels folder

PC Exchange	Control Panels folder
PC Setup	Control Panels folder
Apple CD-ROM	Extensions folder
Ethernet (built-in)	Extensions folder
PC Compatibility Guide	Extensions folder
PC Clipboard	Extensions folder
PC Clipboard Translators	Extensions folder
PC Net Exchange	Extensions folder
PC Network Extension	Extensions folder
PC Print Spooler	Extensions folder

Installing support software for DOS

Installing the software on the APPLE_PC floppy disk updates the DOS Compatibility software in the PC environment. If you are using Windows, follow the steps in the next section, "Installing Support Software for Windows."

To install the software, follow these steps:

1. In the PC environment, insert the APPLE_PC floppy disk. To switch to the PC environment from the Mac OS, press Cmd-Return, or open the PC Setup control panel and click Switch to PC.

2. Type A:\\SETUP; then press Return.

3. You may see a message asking if you want to install support for DOS or Windows. Press D for DOS.

4. You're asked to choose a drive for the files. Choose the C drive.

5. You're asked to choose a directory. It's best to accept the suggested directory, C:\\APPLE.

6. Choose Yes to continue installation. If you're asked whether you want to overwrite files, choose Yes.

7. You're asked whether you want the program to modify your system files. Choose "Apply changes directly to system files." If you choose to apply the changes to copies of the system files, the copies are called filename.number.

8. When installation is complete, restart the PC by switching to the Mac OS (by pressing Cmd-Return), opening the PC Setup control panel, and clicking Restart PC. You can also restart the PC by pressing the Control-Alt-del keys.

Installing support software for Windows

Installing the software on the APPLE_PC floppy disk updates the DOS Compatibility software in the PC environment. If you are using DOS, follow the steps in the previous section, "Installing Support Software for DOS."

To install the software, follow these steps:

1. If necessary, switch to the PC environment. To switch to the PC environment from the Mac OS, press Cmd-Return, or open the PC Setup control panel and click Switch to PC.

2. Insert the APPLE_PC floppy disk.

3. In Windows, choose Run from the File menu. In Windows 95, click Start; then choose Run from the menu that appears.

4. Type A:\\SETUP; then press Return.

5. Follow the instructions that appear on the screen. The recommended directory to install files is C:\\APPLE. To change this location, click Set Location. By default, all options will be installed. You may choose not to install specific options. The installation options are: Install Macintosh/Windows Copy and Paste: allows you to transfer Clipboard information between the Macintosh and PC environments; Install Macintosh/PC Folder Sharing: allows you to share a Macintosh folder as a shared drive; Install CD-ROM Support: allows you to use the CD-ROM discs in the PC environment.

6. When installation is complete, shut down Windows or Windows 95. To shut down Windows, choose Exit Windows from the File menu in the Program Manager. To shut down Windows 95, click the Start button and choose Shut Down from the menu that appears.

7. Press Cmd-Return to switch to the Mac OS environment.

8. Open the PC Setup control panel and click Restart PC.

IMPORTANT: If you are using Windows 95, refer to the "DOS Compatibility Software Update" User's Manual for "Sound Problems" in Chapter 4, "Troubleshooting in the PC Environment." This section contains important information about configuring Sound Blaster so that it works properly with Windows 95.

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Newton Internet Enabler: Requires Modem Connection

I want to connect my Apple MessagePad 130 to an AppleTalk network, so I can use the Internet. Is this possible?
This article has been archived and is no longer updated by Apple.
The current version of Newton Internet Enabler (NIE) does not support TCP/IP over an AppleTalk network. You must use NIE in conjunction with an Internet Service Provider (ISP) to actually connect and use the Internet.

The software required after connecting to an ISP is dependent upon what Internet services you want to access. To browse the World Wide Web, a WEB browser such as NetHopper is required. Other services such as network mail offer more software choices such as GoFetch, Eudora for Newton, Mail on the Run!, LunaMail, EnRoute.

No additional information on when TCP/IP over AppleTalk will be enabled in the Newton Operating System is currently available.

Note: The Newton Internet Enabler works with any Apple MessagePad 120 or Apple MessagePad 130 with at least 2Mb of RAM and the Newton 2.0 OS.
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QuickTake 150: Image Quality Differences (8/96)

The QuickTake 150 high quality and standard quality pictures are both listed as 640x480 pixels. If they are both the same size what is the difference between the high quality and standard quality pictures?

This article has been archived and is no longer updated by Apple.

Unlike the QuickTake 100, which had two different resolutions, the QuickTake 150 uses the same resolution for both high and standard resolution images. The difference is in the compression ratio.

Compression Ratios
==========

High resolution images: 1.5 bits per pixel
Standard resolution images: .75 bits per pixel

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Open Transport 1.1 and Intranet Access Issue (8/96)

I am using an 10Base-T Ethernet C1 Router connected to a T1 line. I have setup a Power Macintosh using Open Transport on the same network as classic network based Macintosh computers. The Open Transport-based computer is able to connect to outside sites on the Internet using Netscape, but this computer is unable to get internal sites on our Intranet. Netscape returns an error something like, the server does not have a DNS Entry, when trying to access an intranet web site. The MacTCP based computers do not have a problem with either intranet, or Internet addresses. What is wrong?

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A possible solution is to check to see if you have selected 802.3 Framing in the TCP/IP control panel. With the TCP/IP control panel open, choose User Mode in the Edit menu. If the checkbox next to "Use 802.3" is selected, deselect it by removing the "X".

It is very rare for 802.3 style addressing to be used for the Ethernet frame type. The Use 802.3 option should only be selected for a 802.3 CSMA/CD Access Method and Physical Layer Specification. IEEE 802.3, 802.4, and 802.5 define different network topologies and media access methods, or the ability of a node to physically send and receive data on a LAN.

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Macintosh Performa 6400: Third-party Support Numbers

This article contains the support numbers for the third-party products included with the Macintosh Performa 6400/180 and 6400/200 computers. This article has been archived and is no longer updated by Apple.

This information was derived from the Phone Numbers application included on Power Macintosh 6400 series computers.

Application	Support Company	Phone Number	Included On:
3-D Atlas	Creative Wonders	415-573-7111	CD-ROM disc
Adobe Acrobat Reader	Adobe Systems, Inc.	206-628-5726	Hard drive
Adobe PhotoDeluxe	Adobe Systems, Inc.	206-628-5726	CD-ROM disc
Apple Internet Connection Kit	Apple Computer, Inc.	US:800-275-2273 Canada: 800-263-3394	Hard drive
The Amazing Writing Machine	Broderbund Software Inc.	415-382-4700	CD-ROM disc
American Heritage Children's Dictionary	Houghton Mifflin Interactive	800-210-0241	CD-ROM disc
American Heritage Dictionary	Softkey International	423-670-2020	Hard drive
America Online	America Online, Inc.	800-827-3338	Hard drive
At Ease	Apple Computer, Inc.	US:800-275-2273 Canada: 800-263-3394	Hard drive
Blockbuster	Creative MultiMedia	900-438-8324	CD-ROM disc
ClarisWorks	Claris Corporation	408-727-9054	Hard drive
Club KidSoft	KidSoft, Inc.	408-255-9777	CD-ROM disc
Descent	Parallax Software	714-553-3530	CD-ROM disc
DOGZ Adoption Kit	PF Magic	714-833-1999	Hard drive
Eric's Solitaire Sampler	Delta Tao Software	408-730-9336	Hard drive
Grolier's New Multimedia Encyclopedia	Mindscape	415-898-5157	CD-ROM disc
MacGallery Clip Art	Dream Maker Software	303-762-1001x4	Hard drive
MacLinkPlus Translators	Dataviz, Inc.	203-268-0030	Hard drive
Mayo Clinic Family Health	IVI Publishing	612-996-6300	CD-ROM disc
Megaphone II	Apple Computer, Inc.	US:800-275-2273 Canada:	Hard drive

		800-263-3394	
Now TouchBase & DateBook	Now Software	206-654-7929	Hard drive
Our Times	Vicarious, Inc.	214-389-3637	Hard drive
Quicken	Intuit	505-896-7275	CD-ROM disc
SurfWatch	SurfWatch	415-948-9505	Hard drive
Thinkin' Things	Edmark Corp.	206-556-8480	Hard drive
Web Workshop	Vivitus Corp.	415-321-2221	Hard drive

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Macintosh Performa 6400: Monitors & Sound Control Panels? (8/96)

On page 7 of the Megaphone for Performa User Guide, the instructions state to "...double click the Sound control panel..." However, I cannot find the Monitors or Sound control panels on my Macintosh Performa 6400/180 computer. I have attempted to restore the system software using the Macintosh Performa CD, but I still do not have these control panels.

This article has been archived and is no longer updated by Apple.

Your computer does not have separate Sound or Monitors control panels because the functionality of these two control panels has been integrated into one control panel: Monitors & Sounds. Use the Monitors & Sounds control panel to adjust the video or sound settings on your computer. For assistance using this control panel, refer to the Sound and Monitors topics of Macintosh Guide, available in the Guide menu.

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Macintosh Performa 6400: Stopping Intro at Startup (8/96)

How can I stop the Performa Intro from appearing when I start up my Macintosh Performa 6400 series computer?
This article has been archived and is no longer updated by Apple.
There is an alias called "Launch Performa Intro" in the Startup Items folder, which is in the System Folder. To prevent the intro from playing at startup, remove this alias from the Startup Items folder.

Published Date: Feb 18, 2012

Power Macintosh 9500/180 & 9500/200: Memory Configuration (8/96)

What DIMM configurations will be included in the Power Macintosh 9500/180MP and 9500/200 that ship with 32 MB of memory?

This article has been archived and is no longer updated by Apple.

Currently, Apple plans to install two 16 MB DIMMs in the Power Macintosh 9500/180MP and 9500/200 computers that ship with a total of 32 MB of memory. However, this configuration could change depending on memory availability and market conditions.

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LaserWriter 12/640 PS: Erroneous Out Of Paper Message

I have a LaserWriter 12/640 PS printer and every time I try to print a message indicates it's out of paper, however, there is paper in the paper cassette. If I put paper in the multipurpose tray, the printer prints from there, even though I selected AutoSelect in the print dialog box. Also my test page is coming out with part of the image clipped off when I turn on the printer.
This article has been archived and is no longer updated by Apple.
The LaserWriter 12/640 PS printer includes a universal cassette which lets you place a variety of paper sizes in the printer by adjusting the cassette for the paper size used. In order to adjust the cassette, the user must extend or retract the length guide on the left side of the tray to meet up with the top of the paper. When adjusted properly this guide will click into place by a marking on the tray that specifically indicates the paper size.

There is some confusion because the 8 1/2 x 11 length guide setting is not completely at the back of the cassette. In fact, when the length guide is at the back of the cassette, the cassette is actually set for A4 paper. This is probably why your test page is clipped and print jobs are being sent to the multipurpose tray instead of the cassette. Move the length guide, located on the rear left side of the cassette, one notch to meet the top of the 8 1/2 x 11 paper.

When choosing AutoSelect in the print dialog box, the Macintosh will check the printer to see what paper sizes are installed and compare it to what is selected in page setup. If the printer senses A4 size paper in the cassette, the printer will look for 8 1/2 x 11 paper in the multipurpose tray to print with. If there is nothing in the multipurpose tray, you will get an out of paper message.
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PictureBase(TM): Application Note #1

This application notes describes the internal format of PictureBase Library files.
This article has been archived and is no longer updated by Apple.

Library File:	Creator: PBAP Type: PCLB
Type of resources:	LMAP - Directory of pictures. PICT - Pictures. TILE - Titles of pictures. KYWD - Keywords for pictures. INFO - Text information for pictures.

LMAP:	ID:	Zero (all others reserved for future use)
	Format:	Number of pages in this Library (WORD) Reserved (LONG) Resource ID of first page (WORD) Reserved (LONG) Resource ID of last page (WORD) Reserved (LONG)
PICT:	ID:	513 or greater
	Format	Standard PICT format

TILE:	ID:	513 or greater
	Format	ASCII data (not Pascal or C string)

KYWD:	ID:	513 or greater
	Format	ASCII data (not Pascal or C string)

INFO:	ID:	513 or greater
	Format	ASCII data (not Pascal or C string)

The ID in a LMAP entry is the resource ID for the PICT, TILE, KYWD, and INFO for that page in the Library.

ID numbers are allocated randomly (as long as they don't already exist in that Library file).

IDs 0-128 are reserved for use by the system.
IDs 129-512 reserved for use by the PictureBase application.

PICT, TILE, KYWD, and INFO resources must be marked as purgable and not pre-loaded.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.
Published Date: Feb 18, 2012

LaserWriter 4/600 PS: Using A4 Paper In Cassette Tray (8/96)

I am trying to use A4 paper in the cassette tray of my LaserWriter 4/600 PS, but after several pages have printed the paper out LED turns on even though there is plenty of paper in the cassette tray. When I pull out the cassette tray and reinsert it the paper out LED turns off and the printing resumes. How can I correct this problem?

This article has been archived and is no longer updated by Apple.

The LaserWriter 4/600 PS ships with a default configuration that sets the cassette tray paper size to US Letter. Customers in European and Pacific countries that use the A4 paper size need to change the default paper size from US Letter to A4 using the Apple Printer Utility paper handling configuration option. Paper sizes such as legal can also be set using the same procedures.

Most Apple LaserWriters use a series of microswitches and actuators to detect the paper size installed in the cassette tray. The universal cassette tray designed to support a variety of paper sizes automatically reconfigures the actuators for the appropriate paper size. The LaserWriter 4/600 PS does not have the capability to detect the paper size and therefore relies on the information stored in the printer's controller circuitry.

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LaserWriter 16/600 PS: IOP 3.0 Release Notes

The IOP (Input-Output-Processor) ROM on the LaserWriter 16/600 PS has been revised to version 3.0. This article includes information on how to identify the IOP ROM version, and a change history listing many of the changes made since IOP v2.0.
This article has been archived and is no longer updated by Apple.
The 3.0 version IOP ROM (922-2458) is now available from Service. Should a LaserWriter 16/600 PS printer experience a network-related printing problem, the IOP ROM should be checked and upgraded to version 3.0 if necessary.

The IOP ROM can be checked by inspecting a startup test page. On a startup test page, the version number of the IOP ROM will be listed along the right edge of the page. Alternatively, the IOP ROM version number can be checked with the Apple Printer Utility software program.

Numerous improvements were rolled into v3.0 IOP ROMs. The issues addressed are listed below.

Ethernet

Issue: Lock-ups (the printer stops responding to network traffic).

Resolution: Fixed. One such fix was the Ethernet driver receive routines were modified to handle reception of packets greater than the maximum legal size (1518 bytes including the 4 byte CRC). Previously, reception of an illegal sized packet greater than 1518 bytes caused the IOP to "crash".

AppleTalk

Issue: Printer's EtherTalk stack stops responding during or after a broadcast storm: the printer disappears from the EtherTalk network even though TCP/IP and IPX continues to function.

Resolution: Fixed. The EtherTalk stack will now reregister after a long broadcast storm that caused it to lose contact with its router.

Issue: Unexplained, random PostScript errors.

Resolution: Fixed. This is a very rare problem that if encountered, is only likely to be observed on very busy networks or during broadcast storms, or even less likely, when the printer is receiving a lot of data very quickly.

Issue: Helios EtherShare Print Server doesn't successfully print to a LaserWriter 16/600 with the EtherShare Accounting feature on.

Resolution: Fixed. The LaserWriter 16/600 now works with EtherShare whether Accounting is enabled or disabled.

Issue: The LW 16/600 registers on the network with an enumerated name even if there were no other printers in that zone with the same name.

Resolution: Fixed. Previously at startup the printer temporarily registers in the default zone prior to registering in its proper zone. If there were other printers with the same name in the default zone, it would register with an enumerated name.

Issue: The printer appears in different zone than was set with the Apple Printer Utility.

Resolution: Fixed. Previously the printer would accept then store in NVRAM an invalid ZIP GetNetInfo response. It no longer stores this value in NVRAM. Now if the connection with that router is lost and the current zone is default, the printer will return to the zone stored in NVRAM set by the Apple Printer Utility.

Issue: EtherTalk now stores its current network number in NVRAM and uses this number as its first guess on startup.

Issue: On very slow WAN network links, connections may have timed out.

Resolution: Fixed. The AARP Request interval and maximum retry count were increased.

Issue: Enhanced the error recovery algorithm for Open Connection transactions. Previously a lost TREL from the host to the LW 16/600 would confuse the LW 16/600.

TCP/IP

Issue: The LW 16/600 previously accepted BOOTP (and DHCP) response packets intended for a different host and would assume that host's IP address.

Resolution: Fixed.

Issue: The printer would accept IP packets with the correct hardware address but wrong IP address.

Resolution: Fixed.

Issue: The TCP/IP stack could acknowledge a FIN request from the other node before all of the data was received.

Resolution: Fixed.

Issue: Entering an IP password longer than 10 characters could cause a telnet connection to lock up.

Resolution: Fixed.

Issue: Trying to change the password from telnet under Open Windows would cause the telnet port to lock up.

Resolution: Fixed.

Issue: The LW 16/600 prints an old TCP/IP address at boot up when using RARP.

Resolution: Fixed. The printer will now either print the new address if it has been received, or 0.0.0.0 if it is still waiting for a RARP reply.

Issue: The printer now uses the Subnet Mask and Default obtained from BOOTP, RARP or Gleaning.

Issue: Some IP addresses, Subnet Mask or Default Gateway values were not set properly with the LaserWriter utilities.

Resolution: Fixed.

NetWare/IPX
==========

Issue: To avoid unnecessary IPX network traffic when NetWare is enabled (the factory default), the LW 16/600 stops looking for NetWare servers five minutes after startup provided the printer has not been configured for NetWare via LWPMAN. If the printer was configured for Netware via LWPMAN, it will advertise every 60 seconds to allow LWPMAN to be able to reset or configure the protocol.

Issue: Printer appeared to a Netware spooler running in Rprinter mode to be rebooting or locked up when it wasn't.

Resolution: Fixed.

Issue: NetWare 4.xx jobs with a banner did not print when the job was submitted to an aliased queue when the user submitting the job was logged in under a different context than the queue was created in.

Resolution: Fixed. The NetWare 4.xx banner printing problem when using NDS aliased queues was corrected.
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Protect Applications Folder Error Messages

With the Protect Applications folder option selected in the General Controls control panel, two different error messages appear depending on what I try to remove from the Applications folder:

* If I try to move a folder from the Application folder to the startup drive icon, I get "You cannot move 'folder name' to the disk 'disk name', because it is locked."

* If I move a file, I get the correct message indicating that folder protection is turned on.

This article has been archived and is no longer updated by Apple.

This is an issue with file protection and should be addressed in a future release of system software. Both error messages indicate that folder protection is on.

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Color StyleWriter 1500: Version 2.2 Read Me (8/96)

This article contains the Color StyleWriter 1500 v2.2 ReadMe file.
This article has been archived and is no longer updated by Apple.
Information About Your Color StyleWriter 1500 Printer

This document contains important reminders and some information that's not in the user manual.

IMPORTANT:
Because of data compression, it may take Disk 1 up to 12 minutes to install its contents onto your hard disk. The other disks will work much more quickly.

Contents
==========

* Installation Alert
* Apple Color Printing CD
* Low-memory Troubleshooting
* Color Printing
* Other Printing Tips
* Desktop Printing
* Watermarks
* Printing With QuickDraw GX
* Using the Color StyleWriter 1500 With Application Programs

Installation Alert

Because of data compression, it may take installer Disk 1 up to 12 minutes to install its contents onto your hard disk. The other disks will work much more quickly.

Apple Color Printing CD

If you have problems with the software on the Apple Color Printing CD, contact the appropriate manufacturer:

- for Personal Publishing Toolkit, contact GDT, 604-473-3678
- for StickerShop Plus!, CardShop Plus! or Calendars and More, contact Mindscape, 415-898-5157
- for help with the fonts, contact Bitstream, 617-497-7514

Low-Memory Troubleshooting

If you notice any of these symptoms, your Macintosh may be running out of memory.

- The Macintosh displays "out of memory" warning messages.
- Some portions of a document don't print.
- Printing is very slow.

To make more memory available, try these suggestions:

* Have only one program open at a time.

* Increase the amount of memory you give to the program you're printing from by using the Get Info command (as explained in the documentation that came with your Macintosh).

* Use the Chooser to turn off background printing, as explained in Chapter 2 of the user manual.

* In the Page Setup dialog box, choose Portrait (normal) orientation instead of Landscape (sideways) orientation.

* Remove any watermarks from your document.

* Desktop printing requires more memory to print than PrintMonitor 7.1.2. You can remove desktop printing by using the custom remove option called "Desktop Printing Software."

* When you print in the background, if you often get a message that there is not enough memory to print on a certain desktop printer, you can give that desktop printer more memory by selecting its icon and choosing the Get Info command. Then increase the number in the Preferred Size box. (For more information on increasing a program's memory, see the documentation that came with your Macintosh.)

* Use the Memory control panel to turn on virtual memory, as explained in the documentation that came with your Macintosh.

Color Printing
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* When printing very light colors in grayscale mode, you may see thin lines fade or break up. If this happens, pick a darker color for the affected object, or try printing with the Pattern halftoning option selected. (In the Print dialog box, click the Color button, then select the Pattern option.)

* If you print a document that should have a smooth gradient from one color or shade to another and notice an unexpected color change, it may be that one of the colors in the gradient cannot be reproduced by the printer. Try using a different matching method in the Color Options dialog box, or try turning off ColorSync.

* If the color blue on your printout appears purple, turn on ColorSync in the Color dialog box.

* In some programs, colors on the screen may look solid but contain tiny dots when printed. To print solid blocks of color without these dots, use the Business Graphics color-matching method. In the Print dialog box, click the Color button. In the Color Options dialog box that appears, make sure there is an X in the ColorSync box, and then select Business Graphics from the Matching Method pop-up menu.

If your colors still have too many dots, create the document in a program that allows you to define each color, then make the color fully saturated. For example, to print yellow without any dots in it, use your application program to define the yellow you are using as 100% red, 100% green, and 0% blue.

Other Printing Tips
---
* For faster printing of black and white pages, use the black cartridge instead of the color cartridge.

* If you see random fine lines within a landscape printout, change the orientation to portrait if possible.

* If you see very thin stripes near the bottom of your printout, use your application program to make your bottom margin larger. A bottom margin of 0.5 inches or greater is best.

* For best results when printing envelopes, do not put images or text along the bottom edge of the envelope.

* If you get the message, "Serial port in use by another application, please quit the application and try again," restart your Macintosh before trying to print again.

* Close the Chooser after making any changes to it.

* To avoid confusion when sharing your printer, be sure to give each shared Color StyleWriter 1500 printer a unique name. If you have more than one printer with the same name in a single AppleTalk zone, the Chooser will display only one of them.

Desktop Printing
---
* If no desktop printer icons appear after you follow the instructions in Chapter 1, it may mean the Installer program installed PrintMonitor 7.1.2 instead of the desktop printing software. This can happen if you are running system software version 7.5 or earlier in a language other than English. You have three choices:

- Use the PrintMonitor 7.1.2 that was installed.
- Upgrade to System 7.5.1, and then install the Color StyleWriter 1500 software again.
- Use the Installer program's Custom Install feature to install the desktop printing software. This option, however, also installs an English-language version of the Finder.

* When you choose Save or Open in your application programs, you will see your desktop printers listed as if they were folders, but you should not save or open any documents in them. If you do, you will not be able to access your documents.

* If you want to have more than 3 desktop printers, you must increase the Desktop PrintMonitor memory allocation by 10K for each additional desktop printer you want. To do so, select the Desktop PrintMonitor icon--it's in the Extensions folder inside the System Folder--choose Get Info, type a larger number in the Preferred Size box, then close the Get Info window.

Watermarks
---
* When using a watermark, make sure the font that is in the watermark file is also in the Fonts folder inside your System Folder. If you give the watermark file to someone, they also need any fonts that it uses in order to use the watermark in their own documents.

* If you are printing a diagonal watermark such as Draft or Final on A4 or Legal size paper, for best results use Centered or Align Top Left orientations.

Printing With QuickDraw GX
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* If you have QuickDraw GX on your system, the Color StyleWriter 1500 Installer will automatically install everything you need for printing with QuickDraw GX.

* If you installed QuickDraw GX after you set up your Color StyleWriter 1500, you must reinstall the Color StyleWriter 1500 software.

* After you click the Print button to print a complex document, you may notice a delay before you see printer activity.

* If printing with QuickDraw GX doesn't produce satisfactory results, you can use the GX Helper utility to turn off QuickDraw GX and use the regular QuickDraw printing software. For more information, see Appendix E of your user manual.

Using the Color StyleWriter 1500 With Application Programs

If you have problems printing from a specific program, it may be a problem in that program. If you have problems, contact the publisher of the program. In some cases a newer, more compatible version of the software may be available.

* In some programs-such as Microsoft Word 5.1, WordPerfect 3.5 and ClarisWorks 4.0-rotated text created within the program may print with jagged edges. For best results, create the rotated text in another program and paste it in.

Notes About Specific Programs

The following list describes some special situations that you should be aware of when working with specific programs. (There may be other problems with these programs or with other programs not mentioned in this document).

Adobe Type Manager
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* When you install version 3.8.1 or later of Adobe Type Manager, some system fonts are removed from your system and placed in a folder called "De-installed Fonts1". If you later turn off ATM, drag all the fonts in the "De-installed Fonts1" folder back into the Fonts folder inside the System folder to prevent characters with jagged edges.

* If you get incorrect output when you try to print rotated and flipped Adobe Type 1 fonts, try using a TrueType font instead.

Adobe Illustrator 5.0
---
* Unless you have at least 15-20 MB of free disk space on your startup disk, you will see a "disk is full" error message when you try to print. The more complex the document, the more space you need.

Adobe Persuasion 3.0
---
* If you are having difficulty cancelling printing from Persuasion try turning off ATM.

Adobe PageMaker 5.0

* To see the Color StyleWriter 1500 Page Setup and Print dialog boxes, click the Setup button in PageMaker's Print dialog box.

* When printing rotated PICT or EPS images, be sure background printing is turned on in the Chooser. If you must print in the foreground, rotate the image in another program, then import it into PageMaker in the orientation in which you plan to print it.

* PageMaker 5.0 prints pages in reverse order on the Color StyleWriter 1500, which may be particularly confusing if you are using 2-up or 4-up printing. To print the first page first, turn on the Reverse Order option in the Print dialog box.

* Try changing the monitor depth from thousands or millions to 256 if you are having difficulty printing a particular document.

CardShop Plus! 1.0, Calendars and More 1.0, StickerShop Plus! 1.0

* If you are using QuickDraw GX, do not use GX Helper with these applications.

ClarisDraw 1.0v2

* If you have problems printing in the background, you may want to increase the Desktop PrintMonitor extension's preferred size to 300K (by using the Get Info command, as explained in the instructions that came with your Macintosh). The extension is located in the Extensions folder inside your System Folder.

DeltaGraph Pro 3.0.4

* When printing charts, always click the QuickDraw button in the Print dialog box.

FrameMaker 5.0

* If you import text as a graphic, you can crop it on the screen but it will print uncropped.

* Rotated text in large point sizes will print as a gray box. For best results, break up the text blocks into smaller pieces or individual characters.

* For best results use TrueType fonts when printing rotated text.

* Do not mix portrait and landscape pages in the same document.

MacDraw II 1.1 v2

* To print in color, be sure to turn on the Print Color Patterns in the Print Options dialog box and select Color in the Image pop-up menu in the Print dialog box.

* If you experience problems when printing your MacDraw II document with layout of 2-Up or 4-Up, try using a different program, like ClarisDraw.

Microsoft Excel 4.0 and Lotus 1-2-3

* To print in color, be sure to check the Print Using Color option in the Print dialog box and select Color in the Image pop-up menu.

Microsoft Excel 5.0

* If colored cell borders drop out when printing, try using yellow or brown or you can use the line tool in the Drawing tools palatte.

* When you choose the Page Setup command, you get Excel's own version of the Page Setup dialog box. Click the Options button to see the version of the dialog box with the special Color StyleWriter 1500 options.

Microsoft Word 6.0

* When you cancel a print request from MicroSoft Word 6.0, some of the document will still print. If you are using desktop printing, try stopping the print queue on your desktop printer and then removing the print request instead of cancelling. To do this, click on you desktop printer icon and select Stop Print Queue from the Printing menu.

* For best results when printing envelopes, choose Envelopes and Labels from the Tools menu. Then click the Feed icon. In the Envelope Options dialog box that appears, click the second icon from the left, and make sure that Face Up is selected.

Ofoto 2.0.2

* For best results, make a custom calibration for the Color StyleWriter 1500 and click the Custom Profile button.

Print Shop Deluxe 1.1.1

* If you are getting off-center and incomplete printouts of cards, try restarting your Mac.

QuickMail 3.5 and earlier versions

* If you are getting rectangles instead of characters in your QuickMail printout, try selecting Text Only in the Print Dialog box.

TA35911_Color_StyleWriter_Version_Read_Me__(TIL20309).pdf

Studio/8 v 2.0 and Studio/32 v 1.2

* Always click the QuickDraw button in the Print dialog box.

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LaserWriter IINTX: Switch Configurations

The LaserWriter IINTX has a bank of 6 DIP switches located on the controller panel. These switches are used for controlling the mode of operation, serial port configuration, and communication parameters. The switches will be preset to the AppleTalk configuration.
This article has been archived and is no longer updated by Apple.

Switch 1	Switch 2	Meaning
Up	Up	8 pin AppleTalk (Serial Port Disabled)
Down	Up	25 pin RS-232 and 8 pin RS-422 * Serial Ports 1200 baud
Up	Down	25 pin RS-232 and 8 pin RS-422 * Serial Ports 9600 baud
Down	Down	25 pin RS-232 serial port 9600 baud;** 8 pin RS-422 serial port 0 baud
Switch 3	**Switch 4**	**Meaning**
Up	Up	PostScript Batch
Down	Up	Diablo 630
Down	Down	HP LaserJet
Up	Down	PostScript Interactive
Switch 5	**Switch 6**	**Meaning**
Down	Down	No Handshake
Up	Up	ON/XOFF
Down	Up	Etx/Ack
Up	Down	DSR

* Both serial ports are enabled. Serial communication and AppleTalk communication are NOT compatible, and will never occur at the same time.

** This configuration allows you to use the 25 pin RS-232 port while leaving LocalTalk connected. This prevents serial communication from interfering with the AppleTalk Network.

The switch configuration settings are maintained between power-off and power-on cycles by the 2K battery-backed-up ZPRAM (Zero-Power-RAM) equivalent to the EEROM of the LaserWriter IINT. The same PostScript commands that are used to modify the EEROM parameters will ALSO set or read the ZPRAM parameters. Consistency between the switch configurations and the ZPRAM is maintained through the VIA. Toggling a switch, waiting 30 seconds, then toggling the switch back forces the ZPRAM to update to the current switch settings.
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Desktop PrintMonitor 2.0: Read Me File (8/96)

This article contains the ReadMe file for the Desktop PrintMonitor 2.0 software.
This article has been archived and is no longer updated by Apple.
Desktop PrintMonitor 2.0

This document contains some late-breaking information and tips not included in the manual that came with your printer. You may want to print this document and keep it for future reference.

The topics are:

* System Recommendations
* New Features in Version 2.0
* Hints and Shortcuts
* How to Use Desktop PrintMonitor
* Support and Compatibility Information
* Troubleshooting Tips
* Software Components Installed With Desktop PrintMonitor

System Recommendations

* An Apple Macintosh or PowerBook personal computer with a 68020 or later processor, a Power Macintosh, or another Mac OS-based personal computer
* 5 megabytes (MB) of RAM
* Macintosh Operating System (Mac OS) version 7.1 or later

New Features in Version 2.0

* Desktop printer icons can be moved off the desktop and into folders.
* A printer menu located on the right-hand side of the menu bar provides a convenient means to switch the user's default printer.
* A control strip module with functionality identical to the printer menu is provided for PowerBook systems and other systems employing the Control Strip software.

Hints and Shortcuts

* The Desktop Printers folder in the Apple Menu provides a convenient shortcut to desktop printers. This is especially helpful if you have moved your desktop printer icons off the desktop.
* Command-L key combination is a shortcut equivalent to the Set Default Printer command in the Printing menu.
* Holding down the Option and Shift keys makes the Hold and Resume buttons function as Stop Print Queue and Start Print Queue.
* To print additional copies of a file, you can select the spool file waiting in the print queue and choose Duplicate from the File menu.

How to Use Desktop PrintMonitor

Creating Desktop Printers
You create desktop printers by selecting a printer in the Chooser. A desktop printer icon appears on your desktop when you close the Chooser.

The printer icon is initially placed on the desktop. After the icon is created, you can move it to any location on your startup drive.

If you wish to create other desktop printers, you must open the Chooser and select the desired printers one at a time. You must close the Chooser each time to create a desktop printer.

The last desktop printer created becomes the default printer. Your documents will automatically be printed on the default printer.

Printing With Desktop Printers
You can print documents within your applications as you normally do. You can also print documents without leaving the Finder, using one of the two methods described here. These methods are particularly efficient when you have a number of documents you want to print at once.

* Drag the icons of the documents you want to print to the desktop icon of the printer you want to use.
* Select the icons of the documents you want to print and choose the Print command from the File menu.

The Print dialog box appears. Make your choices, then click the Print button.

After a few moments, the document starts to print. If background printing is turned on, you can continue working while the document is printing.

Selecting a Default Printer
If you have more than one printer available, you can select which you want to use. The printer you select is called the default printer. All your documents will be printed on the default printer until you select a new one.

To change the default printer, use one of these five methods:

* Drag the document you want to print to a desktop printer icon, and it will automatically become the default printer.
* Select the desktop printer icon and use the Printing menu to set the printer as the default.
* Select a new printer using the Chooser.
* Select the printer name in the System Printer Menu.
* Select the printer name from the Control Strip.

Note: Switching between printers may change how much information you can fit on a page. It's best to choose a printer before you spend much time formatting the document.

Working With Desktop Printer Icons

Desktop printer icons change to indicate printing status:

[Graphics Not Available in Tech Info Library Article]

You can do the following with desktop printer icons:

* Throw away the icon. Drag the icon to the Trash. You can't throw away a desktop printer icon while the printer is printing a document. (You can create another desktop printer icon for that printer whenever you like.)

Note: You must always have at least one printer icon on your desktop. If you throw away the last icon, it will immediately be created again.

* Rename the icon. Rename the icon as you would any other Finder icon. Click the name to highlight it, then type the new name. This changes the name of the icon, not the name of the printer.

* Create an alias for the icon. You may create an alias for the icon as you would any Finder icon, by selecting the icon and choosing the Make Alias command from the File menu.

Monitoring Printing

If you are using background printing, you can use the desktop printer features to monitor and control the documents that are waiting to print. To learn how to turn background printing on and off, see your printer manual.

To monitor the printing of documents:

1. Double-click the desktop printer icon you're interested in.

A window opens listing the documents that are printing or waiting to print.

Watching the status messages can be helpful when troubleshooting printing problems. When more than one job is waiting to be printed, a list of print jobs appears in the waiting list, showing the order in which they will be printed (when sorted by print time.)

2. Choose what you'd like to do:

* To cancel a print request, select it by clicking its title or icon and click the Trash icon button
You can also drag the icon for the print request to the Trash. Note that these methods delete only the print request (also referred to as a spool file), not the document itself.

* To put a print request on hold, select it and click the Hold button.

The print request will stay on hold until you select it again and click the Resume button. You can also put the document that's currently printing on hold by dragging it to the list of documents waiting to print (lower part of the window).

* To indicate that a print request is urgent, select it and put it on hold. Next, click the Set Print Time icon button. In the dialog box that opens, click Urgent. Another way to make a job urgent is to drag the job from the waiting area of the print queue to the top of the queue or to the area reserved for the currently printing job.

* To indicate that a print request should not print until a future time, select it and click the Set Print Time icon button. In the dialog box that opens, click At Time, then set the time you want.

* To change the order of the items waiting to print, drag their titles up or down in the list.

* To sort the list of documents waiting to print, click the title of the column you want to sort by.

For example, to sort by the name of the document, click Document Name (you can also sort by choosing the commands in the View menu). The column title you sorted by is underlined. Sorting the items does not change the order in which they will print. To see that order, sort by Print Time.

* To temporarily stop all documents from printing on this printer, choose Stop Print Queue from the Printing menu.

To resume using the printer, choose Start Print Queue from the Printing menu.

Shortcut: The Printing menu for starting and stopping the print queue is available without opening the window for the printer, as long as the printer's icon is selected.

* To move a print request from one printer to another printer of the same type (for example, from a LaserWriter 4/600 PS to a LaserWriter 16/600 PS), drag the icon for the print request to the icon of the printer where you want to move it.

You can only move a print request from a PostScript printer to another PostScript printer. The printing software won't let you move a print request to an incompatible printer. For example, you can't move a request from a LaserWriter printer to a StyleWriter printer.

Turning Off or Removing the Desktop Printing Software

Removing a Desktop Printer Icon

You can remove an individual desktop printer icon by dragging it into the Trash. If you have only one desktop printer, you can't get rid of the icon by dragging it to the Trash (the icon will reappear if you do). To get rid of the desktop printer, you must first select a different desktop printer as the default printer and then drag the desktop printer icon to the Trash. If you don't want to use desktop printer icons, see "Turning Off the Desktop PrintMonitor" or "Removing Desktop Printing Software" for information about how to remove the desktop printer software.

Turning Off the Desktop PrintMonitor

If you don't want to use desktop printers, you can turn off the Desktop PrintMonitor using the Extensions Manager (available with version System 7.5 of the Mac OS).

To turn off the Desktop PrintMonitor:

1. Open the Extensions Manager control panel in the Control Panels folder.
2. Click to deselect (uncheck) the Desktop PrintMonitor, Desktop Printer Extension, Desktop Printer Spooler, and Desktop Printer Menu extensions in the panel.
3. Click the close box to close the control panel.
4. Restart your computer.

Removing the Desktop Printing Software

The desktop printing software uses both the Desktop PrintMonitor and the PrintMonitor software. The Desktop PrintMonitor requires 200-400K bytes more free system memory in addition to the memory required by the PrintMonitor. If you don't want to use the desktop printing software, you can remove it.

To remove desktop printing software:

1. Drag any print spool files found in the PrintMonitor Documents folder (in the System Folder) to the Trash.

WARNING: These jobs will not be printed.

2. Restart your computer with the extensions off by holding down the Shift key and choosing Restart from the Special menu. Hold the Shift key down until the message "Extensions Off" appears or until your normal desktop appears.

3. Drag the following files from the Extensions folder to the Trash:

Desktop PrintMonitor
Desktop Printer Spooler

Desktop Printer Extension
Desktop Printer Menu

4. Restart your computer.

Support and Compatibility Information

* Some third-party printers do not support desktop printing. If your printer is not an Apple product, and no desktop printer icon is created after you select your printer in the Chooser, it is likely that your printer does not support Desktop PrintMonitor. Please contact the vendor of your printer to see if there is a version of the driver that is compatible with Desktop PrintMonitor.

* When you choose Save or Open in your application programs, you will see your desktop printers listed as if they were folders, but you should not save or open any documents in them. If you do, you will not be able to access your documents.

* Desktop PrintMontitor supports drag-and-drop printing for all files that cause the Print Command in the File menu to become enabled. Since clipping files do not enable the Print command, drag and drop is not supported for them.

* Apple's Fax Sender software is not supported by Desktop PrintMonitor. Fax Sender is fully functional when Desktop PrintMonitor is installed; however, it does not get the benefit of Desktop PrintMonitor's features. When you select Fax Sender in the Chooser, you will not have a default desktop printer until you choose a printer icon and choose Set Default Printer from the Printing menu.

Troubleshooting Tips

Error message "-192" or "15"

Problem: After installing Desktop PrintMonitor and restarting your Mac OS-based computer, you see error message "-192" or "15" when you try opening files or folders in the Finder. This may occur when Now Startup Manager's preferences file has become corrupted.

Solution: Restart your computer with extensions disabled (hold down the Shift key while restarting), delete Now Startup Manager's preferences file, and restart the computer again with extensions enabled. Important: Before deleting your Now Norton Startup preferences, you may want to record them or write them down before you delete this file.

Desktop printer cannot be found

Problem: When you try to print, your spool files are moved to the Trash and an alert message is displayed saying that the desktop printer could not be found.

Solution: There are two likely solutions to this problem. First, it is possible that your desktop printer has somehow become damaged. To fix this, drag the desktop printer icon to the Trash and reselect the printer in the Chooser. A new desktop printer icon will be created.

Second, your printer software may not be using a file format that is completely compatible with Desktop PrintMonitor. If your printer software is not published by either Apple Computer or Adobe Systems, it is possible that it is not making proper and legitimate use of PrintMonitor. If this is the case, your printer software will not work properly with Desktop PrintMonitor. The only resolution to this problem is to disable Desktop PrintMonitor and use old PrintMonitor. To print the documents you were working on follow these steps:

1. Empty the Trash.
2. Go to the Chooser and turn off background printing.
3. Print documents again.
To correct desktop printing:
4. Drag the desktop printer to the Trash.
5. Go to the Chooser and turn background printing back on.
6. Create a new desktop printer.

Not enough memory message when dragging files to desktop printer

Problem: When you drag documents created by different software applications to your desktop printer icon, a message is displayed indicating that there is not enough memory to continue.

Solution: The application used to create a document will launch when the document is printed. You may not have enough memory available to launch all of the software applications corresponding to the documents you have selected. You can resolve this situation by printing your documents individually or in smaller groups.

Options dimmed in Printing menu

TA35913_Desktop_PrintMonitor_Read_Me_File__(TIL20310).pdf

Problem: Get Printer Info and Change Setup commands appear in your Printing menu, but can't be selected.

Solution: These are two new functions supported by LaserWriter v8.4. If these or other items in the menu appear dimmed and cannot be selected, it is because you are using a version of the printing software that doesn't support their respective functions.

"Out of Paper" message remains

Problem: The LaserWriter 300 "Out of Paper" message doesn't automatically go away when paper is added to the printer.

Solution: This feature does not work with Desktop PrintMonitor and LaserWriter 300 driver. The only way to work around this problem is to disable Desktop PrintMonitor and use old PrintMonitor.

Documents printed to Color StyleWriter vary in appearance

Problem: Documents printed to your Color StyleWriter look different if their printing is resumed on page two (or any later page).

Solution: With the current version of Desktop PrintMonitor and the Color StyleWriter, it is possible to lose color-matching information if a print job is put on hold and then resumed on a later page. The best way to address this problem is to resume printing on page one.

Software Components Installed With Desktop PrintMonitor

The Desktop PrintMonitor Installer places the following files in your System Folder:

* Desktop Printer Extension (in Extensions folder)
* Desktop PrintMonitor (in Extensions folder)
* Desktop Printer Spooler (in Extensions folder)
* Desktop Printer Menu (in Extensions folder)
* Printer Selector (in Control Strip Modules folder, if it exists)

If you are using a version of the Mac OS earlier than System 7.5.1, you also get:

* Finder 7.5.1 (in System Folder) provides improved compatibility
* Finder Help and Network Extension (in Extensions folder) to support Finder 7.5.1
* Clipping Extension, Dragging Enabler, Macintosh Drag and Drop, and Thread Manager (in Extensions folder) to support the interface and messages within Desktop PrintMonitor

Published Date: Feb 18, 2012

MessagePad 120: System Update 2.0 (516205) US Read Me

This article contains the Apple MessagePad 120 System Update 2.0 (516205)US Read Me document.
This article has been archived and is no longer updated by Apple.
This document describes the product enhancements included in the system update file named 'MessagePad 120 2.0 (516205)US'.

System Update 2.0 (516205)US is for Apple MessagePad 120 customers in the United States. This version will install over the following system software versions for MessagePad 120:

version 2.0 (515264)
version 2.0 (515299)

If this system update is already installed on your MessagePad, you will not damage your MessagePad by reinstalling the update. Also, you will not damage an original MessagePad, MessagePad 100, MessagePad110, MessagePad 130 or other Newton PDA if you attempt to install this system update by mistake.

Before you install any system update, you should backup your MessagePad 120 with the Newton Backup Utility or to a storage PC card (PCMCIA card).

New changes in System Update 2.0 (516205):

Multi-page documents or faxes now print all pages correctly in landscape orientation.

Fixed a problem with NBU Restore that would cause error -28207 and the unit to restart.

Fixed a problem identifying some new PCMCIA modems, including the Megahertz CruiseCard XJ3288 28.8 LandLine/Cellular modems.

Fixed a problem with changing sorting orders which could occur when switching between Swedish and English.

Fixed a problem with applications that allocate large chunks of store memory. (This is particularly prevalent with applications that use the Newton Internet Enabler.)

Tapping stop during installation with NBU of a package file or a System Update now works.

The " MessagePad" text has been removed from the reset and sleep screens.

The Stylewriter 1500 and 2500 have been added to the printer list.

Pending alarms no longer trigger immediately after setting the clock to the day of the alarm.

Deleting found ToDo's from the Find overview no longer causes a -48809 error.

Fixes in System Update 2.0 (515299) REMOVED in System Update 2.0 (516205): (In order to provide enough memory space for fixes of the above serious problems, the following fixes from the earlier patch have been removed.)

Removed a fix that allowed items located with Find in the I/O Boxes to be filed to new folders.

The "annotation button" in the Bookplayer toolbar will not be underlined when annotations exist on the current book page until the Annotation button is tapped.

Creating a new meeting/event by dragging text via the clipboard (eg from the Notepad) will create a alarm time that is random if you set the default alarm time(s) to something besides 'none'. You will have to correct the alarm time after closing and re-opening the new meeting.
Published Date: Feb 18, 2012

MessagePad 120: System Update 2.0 Instructions

This article contains the Installation Instructions for System Update MessagePad 120 2.0 (516205)US document. This version of the instructions is for Macintosh owners.
This article has been archived and is no longer updated by Apple.
Q. How do I install System Update 2.0 (516205)US?

A. BEFORE installing a MessagePad System Update, as precautionary measure you should backup your information. You can do this using your computer and the Newton Backup Utility, or a PCMCIA card. Installing a MessagePad System Update will not normally erase any information in your MessagePad.

Once you've backed up your information, install the MessagePad System Update following the instructions below.

WARNING: YOU SHOULD READ THE '2.0 (516205) Read Me' FILE BEFORE YOU FOLLOW THESE INSTRUCTIONS: Due to size limitation in the memory used by the System Update, some fixes in the previous System Update 2.0 (515299) were removed from System Update 2.0 (526205).

Before you install the System Update (516205), check to see what system version you currently using. Follow these steps:

1. Connect your MessagePad to your Macintosh.

2. Turn on your computer and your MessagePad 120.

3. On your computer, double-click the Newton Backup Utility icon to launch the application.

4. On your MessagePad 120, tap Extras to open the Extras Drawer.

5. Tap the Information button ("i") near the bottom of the screen.

6. Tap "Memory Info".

* If the ROM version number at the middle of the screen is not 2.0 (516205)-1 or a higher number you need to install system update MessagePad 120 2.0(516205)US. Go to step 7.

* If the ROM version number at the middle of the screen is 2.0 (516205)-1, you already have the current system software version and you can stop.

7. On your MessagePad 120 tap on Connect.

8. On your computer, choose Install Package.

9. Select the file "MessagePad 120 2.0 (516205)US". A message appears saying "New system software is about to be installed. Please tap Restart."

10. Tap Restart.

11. Wait for your MessagePad 120 to restart (about 3 seconds).

12. Tap Extras to open the Extras Drawer.

13. Tap the Information button ("i") near the bottom of the screen.

14. Tap Memory info. If the software was installed correctly, the ROM version number at the middle of the screen should be 2.0 (516205)-1

If you have questions about installing the software, please see the manual that came with your MessagePad, call (800) SOS-APPL in the US, or call the Apple Support Center in your country.
Published Date: Feb 18, 2012

MessagePad 120: System Update 2.0 PC Instructions

This article contains the Installation Instructions for System Update MessagePad 120 2.0 (516205)US document. This version of the instructions is for PC/Windows owners.
This article has been archived and is no longer updated by Apple.
Q. How do I install System Update 2.0 (516205)US?

A. BEFORE installing a MessagePad System Update, as precautionary measure you should backup your information. You can do this using your computer and the Newton Backup Utility, or a PCMCIA card. Installing a MessagePad System Update will not normally erase any information in your MessagePad.

Once you've backed up your information, install the MessagePad System Update following the instructions below.

WARNING: YOU SHOULD READ THE README.TXT FILE BEFORE YOU FOLLOW THESE INSTRUCTIONS Due to size limitation in the memory used by the System Update, some fixes in the previous System Update 2.0 (515299) were removed from System Update 2.0 (526205).

Before you install the System Update (516205), check to see what system version you currently using.

Follow these steps:

1. Connect your MessagePad to your PC. Use a cable that has a 9-pin serial connector at one end and a mini DIN-8 connector at the other. (If you have a 25-pin serial port, use a 9-pin to 25-pin adapter, along with the above cable.) Choose an available serial port on your PC and connect the end of the cable with 9 pins to the appropriate port. Plug the other end of the cable into the MessagePad's communication port.

2. Turn on your computer and your MessagePad 120.

3. On your computer, double-click the NBU icon or use File/Run on execute NBU.EXE.

4. On your MessagePad 120, tap Extras to open the Extras Drawer.

5. Tap the Information button ("i") near the bottom of the screen.

6. Tap "Memory Info".

* If the ROM version number at the middle of the screen is not 2.0 (516205)-1 or a higher number you need to install System Update MessagePad 120 2.0(516205)US. Go to step 7.

* If the ROM version number at the middle of the screen is 2.0 (516205)-1, you already have the current system software version and you can stop.

7. On your MessagePad 120 tap on Connect.

8. On your computer, choose Install Package.

9. Select the file "MessagePad 120 2.0 (516205)US". A message appears saying "New system software is about to be installed. Please tap Restart."

10. Tap Restart.

11. Wait for your MessagePad 120 to restart (about 3 seconds).

12. Tap Extras to open the Extras Drawer.

13. Tap the Information button ("i") near the bottom of the screen.

14. Tap Memory info. If the software was installed correctly, the ROM version number at the middle of the screen should be 2.0 (516205)-1

If you have questions about installing the software, please see the manual that came with your MessagePad, call (800) SOS-APPL in the US, or call the Apple Support Center in your country.
Published Date: Feb 18, 2012

IDE Hard Disk Computers: Freeze After Install System SW

This article describes a possible issue on some IDE hard disks with ATA Driver 1.11 after installing newer system software.
This article has been archived and is no longer updated by Apple.
We have seen computers with ATA Driver 1.11 on the IDE Hard Disk which may eventually cause the computer to freeze, if the computer is upgraded with a newer version of system software. Try updating the ATA Driver by using Drive Setup 1.0.4 or later.

To determine which ATA Driver your computer is using, click the hard disk icon, and choose Get Info from the File menu.

NOTE: Before installing newer system software, you should run Disk First Aid and then update the hard disk drivers.
Published Date: Feb 18, 2012

Newton MessagePad: PC Modem Cards Don‘t Use Audio Feedback

I am using a Megahertz XJ14.4 PCMCIA fax modem card and an Apple MessagePad 120 with the Newton 2.0 OS. The modem appears to work fine, but I cannot hear the dialing tones when dialing, or when the connection is made.

The modem settings are correct and the MessagePad sound volume is set to maximum. I have seen other PC Modem cards in other Apple MessagePad devices, which had sound when the modem dialed and connected. Why is there no audible feedback with my PC Modem card?
This article has been archived and is no longer updated by Apple.
Some PC fax modem cards do not provide audio feedback.

The standard PC card modems have a "speaker out" pin. This is a modulated square wave, which is the standard PC sound output. When you use the modem in a laptop computer, you are actually hearing the speaker in the laptop.

In Apple MessagePad devices, Apple uses true digitized sound, similar to the SoundBlaster card, used in most PC/Window computers. The Apple MessagePad hardware can not make use of the square wave signal, so it cannot route that signal to the Apple MessagePad speaker.

The original Newton PC modem card had a speaker in it, and it is the only PC card made with a built-in speaker.

Apple Computer has no current plans to change the Apple MessagePad design to accomodate PC Modem square wave signal.
Published Date: Feb 18, 2012

Drive Setup: What Is The Patch Partition? (8/96)

When I formatted my hard drive with Apple's Drive Setup utility, the partition list shows something called a patch partition. What is it?

This article has been archived and is no longer updated by Apple.

Drive Setup 1.0 was introduced with the Power Macintosh 9500/120 and 9500/132. These computers were the first Macintosh computers to support disk volume sizes larger than 4 GB. The "Apple_Patches" partition is required to provide this support.

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ISDN and Video Conferencing Products for Macintosh (8/96)

This article discusses some ISDN and video conferencing software and hardware sold by SAGEM for Macintosh computers.
This article has been archived and is no longer updated by Apple.
The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.

Software
---
* Easy Transfer for Macintosh - High-speed compressible (loss-less), easy to use file transfer application. For modems, ISDN equipment, and other communication devices.

* Meet-Me Light VideoConferencing for the Power Macintosh - The first "Software Only" H.320 video conferencing solution for your Power Macintosh.H.320 COMPLIANT!

Hardware
---
* Planet ISDN GeoPort Adapter - GeoPort is an external ISDN Terminal Adapter for any 68020 Macintosh or Better.

* Planet ISDN Board - ISDN Terminal Adapter for the NuBus and PCI Macintoshes.

* Meet-Me VideoConferencing for the Power Macintosh - Your complete ISDN Desktop VideoConferencing Solution. For NuBus and PCI Power Macintosh AVs. H.320 COMPLIANT!

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SAGEM

SAGEM
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URL: http://www.isdnshop.com/sagem/index.html

Company Profile:
Makers of hardware and software for ISDN and video conferencing.
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Macintosh Performa 6400: Unable to Disable Fax Answering (8/96)

I have a Macintosh Performa 6400 series computer, and I use the included AppleFax software with the internal Global Village modem to receive faxes. When I am not expecting a fax, I have attempted to disable this feature by setting the Fax Answering feature to OFF in the AppleFax application. However, after I turned it off, the computer still attempted to answer the telephone.

I also deselected the "Auto-answer incoming calls" option in the Telephone Setup control panel, but the computer still attempted to answer the telephone.

Why does the computer continue to answer the telephone even though I have disabled all of these features? How can I stop the computer from answering the telephone when I do not want it to?

This article has been archived and is no longer updated by Apple.

It appears that AppleFax is not resetting the modem after completing its tasks. Apple is aware of this and is looking into the cause.

As a workaround, you should restart the computer after disabling the Fax Answering feature in the AppleFax application. After the computer has been restarted, it will no longer attempt to answer the telephone until you enable the Fax Answering feature again.

Published Date: Feb 18, 2012

Color StyleWriter Pro: Print Head Life (8/96)

How many pages should I get from the Color StyleWriter Pro print head? The manual states the Color StyleWriter Pro can print "thousands and thousands" of pages. How many is that?

This article has been archived and is no longer updated by Apple.

The print head on the Color StyleWriter Pro has a life of 5,000 pages.

Published Date: Feb 18, 2012

Macintosh 5200 Series: Display Dimensions

This article provides the tube dimensions and the degree of curvature of the front/face of the display used in the Power Macintosh 5200 and other models using the same enclosure.
This article has been archived and is no longer updated by Apple.
The radius of the curvature for the display CRT (cathode ray tube) used in the Macintosh 5200CD family* of computers is 3.94 feet. The dimensions are as follows:

Screen Height: 213.0 mm
Screen Width: 284.0 mm
Screen Diagonal: 351.0 mm

*The following computers are in the Macintosh 5200CD family: Macintosh 5200/75 LC, Performa 5200, Performa 5210, Performa 5215, and Performa 5220.
Published Date: Feb 18, 2012

Macintosh Computers: Low Battery Can Cause No Video

I have a Macintosh 475 computer that recently stopped displaying any video. The computer appears to start up normally, but nothing appears on the monitor. What could be causing this?
This article has been archived and is no longer updated by Apple.
The loss of video signal on some Macintosh computers can be caused by the lithium battery, on the logic board, having a low voltage. If you are experiencing a loss of video, you should follow these troubleshooting steps to determine the cause.

Macintosh models which can be affected: Quadra 605, Performa 475, Performa 476, LC 475, Centris 660AV, Quadra 660AV, Power Macintosh 6100, and the Performa 61XX computers.

Step 1
If possible, swap the monitor with a known-good monitor and video cable to isolate the issue to the computer.

Step 2
Reset the Parameter RAM (PRAM) by restarting the computer while holding down the Command-Option-P-R keys. Continue holding down the keys until you hear three startup chimes, then release the keys to allow the computer to boot up normally.

Step 3
If the computer still does not display video, restart the computer off a known good startup disk or CD-ROM disc. If video returns, reinstall your system software.

If you still do not have video, your computer should be brought to an Apple authorized service provider to have the lithium battery voltage checked. If the voltage is below 3.0 volts DC, the battery should be replaced. If the battery voltage is above 3.0 volts DC, the logic board is likely the cause of the no video condition and should be replaced.

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Apple Multiple Scan Display Software 2.0.2: Read Me (8/96)

This article contains the ReadMe file for the Apple Multiple Scan Display software 2.0.2.
This article has been archived and is no longer updated by Apple.
The Display Software 2.0.2 package includes the following features:

* Display Enabler 2.0.3
* ColorSync 2.0 and ColorSync profiles
* Control Strip 1.3 with Monitor Resolution, BitDepth, and Sound Volume features
* Energy Saver 1.1

You can use this software to change the resolution of your monitor, adjust the number of colors it can display, and control your monitor's energy-saving features.

System Requirements

To use Display Software 2.0.2, you need:

* A computer with version 7.1 or later of the Mac OS software
* Any Apple Multiple Scan Display

Display Software 2.0.2 does not work with PowerBook 100 series computers or with PowerBook Duo computers other than the 280 and 280c. To use Display Software 2.0.2 with the PowerBook Duo 280 and 280c, you must connect the PowerBook to a Duo Dock.

What's New in Display Software Version 2.0.2

The Display Enabler was updated to version 2.0.3 to resolve a conflict with NOW Utilities version 6.0.

How to Install Display Software 2.0.2

To install Display Software 2.0.2, follow these steps:

1. Insert the Display Software disk into a disk drive.

2. Double-click the Installer icon to open it. A welcome message appears.

3. Click OK.

4. Make sure the disk named in the Installer window is the disk on which you want to install the software. If not, click Switch Disk until the correct name appears.

5. Click Install to begin installation.

6. When installation is finished, follow the instructions on the screen to begin using your new software.

7. Be sure to read the file About Control Strip to learn about your new software.

Using ColorSync System Profiles

With ColorSync, different Apple monitors can display colors in a consistent way. You can also fine-tune the way your monitor displays color.

To set a ColorSync profile for your monitor, follow these steps:

1. Open the ColorSync System Profile control panel.

2. Click Set Profile.

3. In the dialog box that appears, locate the files that have the name of your monitor. Click the profile you want.

Note: If you have an Apple Multiple Scan 14 Display, you were previously instructed to use the profile for the Apple Multiple Scan 15 Display. You now have choices specifically for your monitor.

About the ColorSync choices

The ColorSync choices let you choose from several white point settings for your monitor. White point is a measure of the color content of light.

* 9300 is the standard for most computer monitors and high-definition television (HDTV).
* D50 is the standard for most graphic art work.
* D65 approximates the color of light from the midday sun.

Configuring Your Monitors

The features of the Monitors control panel have not changed. To learn more about the Monitors control panel, see the documentation or online help that came with your computer or your system software. (Some models come with a different control panel for configuring monitors.)

Tip: To set the screen resolution and configure your video card, you click the Options button in the Monitors control panel. To see more choices, hold down the Option key on your keyboard as you click the Options button.

At the bottom of the control panel, you can choose whether to change the settings when you close the control panel or when you restart your computer.

Saving Energy

Your Multiple Scan Display is designed to save energy by putting itself to sleep when you are away from the computer for a while. You can control this feature using the Energy Saver control panel.

Using the Control Strip

The Control Strip is a new way of changing certain settings from your desktop without opening control panels. With the Control Strip, you can change the number of colors on your screen, the resolution (size) of the screen, and the volume of the system sound.

To learn more about the Control Strip, read the file About Control Strip included in this package.

Troubleshooting

This section lists solutions to potential problems with your new display software.

I'm trying to change the monitor resolution, and I don't see the resolution I want.

You can see additional resolution choices in the Monitors control panel if you hold down the Option key on your keyboard while you click the Options button in the control panel. In the list that appears, click the resolution you want. (Some models come with a different control panel for configuring monitors. See the onscreen help that came with your computer.)

Note: Some of the items in this list will not work properly with your monitor. If you choose a resolution that doesn't work with your monitor, you may see a message, or your monitor may go blank or show static. After approximately 15 seconds, your monitor should revert to a usable resolution. If it does not, restart your computer.

After I change the screen resolution, a window is stuck, halfway off the screen, or missing.

Try one of the following:

* If you changed the resolution in the Monitors control panel, make sure the control panel is closed before trying to use another window.
* Quit the program whose window is missing and then open it again.
* If the program has a Windows menu, use it to hide the problem window and then show it again.
* Go back to the resolution you were using, close the window, change the resolution, and then reopen the window.
* If you have problems with a particular program, contact the publisher of that program. Not all programs take advantage of the Multiple Scan Display's new features.

If you choose the 800 x 600 (72 Hz) resolution on a Multiple Scan 14 Display, a software problem may prevent you from seeing the whole screen. Use the 60 Hz setting instead.

I install both Display Software 2.0.2 and AppleVision Software 1.0.2 and the Display Enabler version is 2.0.2 instead of 2.0.3.

If you are using both Display Software 2.0.2 and AppleVision Software 1.0.2, you must install Display Software 2.0.1 after you install AppleVision Software 1.0.2. This will ensure you get the correct version of Display Enabler.

The Mac OS splash screen and progress bar do not redraw correctly.

On some configurations, after installing Display Software 2.0.2 the Mac OS splash screen and progress bar may not redraw correctly. This will not adversely affect the performance of your Macintosh.

I installed Display Software 2.0.2 but the Sound Control Strip Module did not get installed.

If your system software uses Monitors & Sound Control Panel or Sound & Displays Control Panel, the Sound Control Strip Module will not get installed. The Sound Control Strip Module was designed to work only with the Sound Control Panel.

After I change the number of colors displayed on the screen, the colors don't look right.

Try one of the following:

* Quit the program you're running and start it again.
* Go back to the number of colors you were using.

After I change the screen resolution, icons move.

Changing the screen resolution affects how information can be displayed on your screen. The display software may automatically reposition icons after you change the screen resolution.

After I attached a new monitor to my computer, the new monitor's screen is blank or shows "garbage" or "snow."

The computer may not have recognized the monitor. Try the following: Turn off the computer and disconnect the new monitor. Start the computer with no monitor attached. Wait a minute or so for the computer to finish turning itself on. Turn off the computer again and reattach the new monitor.

My monitor does not go to sleep.

Some monitors, computers, and video cards do not support the Energy Saver feature. See the documentation that came with your monitor and video card for more information.

If you have a Power Macintosh 9500, you can get an upgrade to your software that allows your monitor to work with Energy Saver. Call the Apple Service and Support number found in the service and support information that came with your computer.

When I use both Energy Saver and a screen saver program, the screen freezes.

The screen saver program may be conflicting with Energy Saver. Turn off either the screen saver program or the Energy Saver control panel.

My monitor starts up in black and white.

If you've just installed a new video card such as the Macintosh 24AC, the monitor will start up in black and white the first time you start the computer. Switch it to color after startup.

If your Multiple Scan 15 Display is connected to a Macintosh Quadra 610, 650, 700, or 950, a Macintosh LC 475 or a Power Macintosh 6100, the monitor may start up in black and white. Switch it to color after startup.

I see two resolution options labeled 640x870 (75 Hz).

If you're using the Macintosh 24AC video card, you may see two apparently identical resolution selections. The first option sets your monitor to display millions of colors, and the second option sets your monitor to display 256 colors.

When I change resolutions, the monitor goes blank.

If your monitor is connected to the Macintosh 24AC video card, the monitor may go blank for 15 seconds when you select a resolution that does not work with your monitor. Try selecting another resolution.

The image is too small.

If you're using a Multiple Scan 1705 connected to the Macintosh 24AC video card, the image may appear too small at the resolution 1024 x 768 (60 Hz). Try a different resolution.

IMPORTANT:
Some programs and video cards do not take advantage of the Multiple Scan Display's new features. If you experience problems with your application programs or video cards, contact the publisher or manufacturer.

TA35929_Apple_Multiple_Scan_Display_Software_Read_Me__(TIL20330).pdf

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Desktop Printing: Directories Created & Used

What directories are used and created by Desktop Printing? It looks as if some temporary subdirectories are created that are not visible. Are these temporary directories created for each Desktop Printer icon?
This article has been archived and is no longer updated by Apple.
Here is a list that summarizes how Desktop Printing uses directories:

- A directory is created for each Desktop Printer. These directories are normal HFS directories with the exception of the icon and window in the Finder, and the items stored within it.
- DTP directories show up in the sfgetfile (File-Open dialog) and sfputfile (File-Save) dialogs.
- Any non-spool files placed into these directories WILL NOT be accessible in the Finder until Desktop Printing is disabled. This is because Desktop Printing is able to tell the Finder what to show and what not to show.
- Any non-spool files placed into these directories ARE accessible through sfgetfile/sfputfile. However, Apple recommends not using these directories to store non-spool files since files will not show up in the Finder.
- If Desktop Printing is disabled, the desktop printer directories show up with an "X" through them, although they will behave exactly like a folder (subdirectory).
- Future versions of Desktop Printing will place any unrecognized files on the desktop and alert you accordingly, as well as hide these Desktop Printing directories better, even from within sfgetfile/sfputfile.
- With Desktop Printing v2.1, any attempts to save non-spool files into Desktop Printers, through the Standard File Dialog, automatically moves the file to the desktop.

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Energy Saver v2.0.1: Server Restart Option

I have two Workgroup Servers, and we just had a power outage. One server automatically restarted and the other server did not. Why?
This article has been archived and is no longer updated by Apple.
The Energy Saver control panel v2.0.1 has a Server Setting option in the Preferences menu. The "Restart automatically after a power failure" option is not selected. If this option is selected and the server still does not restart, throw out the Energy Saver Preferences in Preferences Folder and reset preferred Energy Saver options.
Published Date: Feb 18, 2012

Macintosh Performa 6200: Using 28.8 GVC Modem (8/96)

Will the Global Village internal 28.8 modem which ships with the Macintosh Performa 6300 series work in a Macintosh Performa 6200 series computer? If so, what special steps are necessary?

This article has been archived and is no longer updated by Apple.

Yes, the the Global Village internal 28.8 modem is compatible with the Macintosh Performa 5200, 5300, 6200, and 6300 series computers. However, the software included with the Global Village Gold IIv internal 14.4 modem is NOT compatible with the higher speed modem. You need to use update the software using the GlobalFax 2.5.6 installer.

Published Date: Feb 18, 2012

Power Mac Format Patch: Read Me (8/96)

This article contains the ReadMe file for the Power Mac Format Patch.
This article has been archived and is no longer updated by Apple.

Important Information About the Power Mac Format Patch
==========

The Power Mac Format Patch corrects problems that may occur with initializing or erasing 3.5-inch floppy disks. You should install this patch if:

* Your computer is a Power Macintosh 8500/180, 9500/200, or 9500/180MP, and you have replaced your existing System Folder by performing a "clean" installation of system software. The new System Folder created during the "clean" installation process does not contain the patch, and needs it to function properly. (For more information about doing a "clean" installation of system software, see the manual that came with your computer.)

* You just installed a 180 megahertz (MHz) or faster PowerPC processor upgrade card in a Power Macintosh 7500, 7600, 8500, or 9500 computer.

To install the Power Mac Format Patch, you copy the patch into your Extensions folder inside your System Folder. See "Installing the Patch" below for detailed instructions.

Problems Fixed by this Patch
==========

The Power Mac Format Patch corrects the following problems that can occur while initializing or erasing a floppy disk on any Power Macintosh 7500, 7600, 8500, or 9500 computer with a 180 MHz or faster PowerPC processor.

* False warnings that your disk is defective: When initializing or erasing a floppy disk, an alert box like the one shown below usually indicates that the disk is physically defective or damaged and should be discarded. However, the disk may actually be OK; with the patch installed, the disk may initialize or erase properly.

* Less disk space available than normal: A newly initialized floppy disk may have substantially less disk space free than what should be available. For example, a 1.4-megabyte high-density floppy disk may have only 1 megabyte of space available.

Installing the Patch
==========

To install the Power Mac Format Patch, do the following:

1. While holding down the Option key on your keyboard, drag the Power Mac Format Patch icon onto the System Folder's icon.

(If you are dragging the icon from the Apple Extras folder on your hard disk, holding down the Option key causes the icon to be copied instead of moved, which leaves a copy of the icon in the Apple Extras folder in case you need to copy it again later.)

You see the following dialog box.

2. Click OK to automatically place the patch in the Extensions folder.

3. Restart your computer by choosing Restart from the Special menu.

Published Date: Feb 18, 2012

12 Inch PC Compat Card: Freezes With 32 MB & 64 MB DIMMs (3/97)

I have a 12 Inch PC Compatibility card installed into my PCI Macintosh. If I install either a 32 MB or 64 MB Dual Inline Memory Module (DIMM) into this card my card will lock up when it runs the HIMEM.SYS extended memory testing. Should I replace my DIMMs?
This article has been archived and is no longer updated by Apple.

Issue

Apple is aware of an issue that affects the 12 Inch PC Compatibility card that may prevent certain 32 MB and 64 MB DIMMs from working properly when installed into this card. Generally the symptoms associated with this issue are as follows:

1. Card locks up during the HIMEM.SYS extended memory tests only after installing a 32 MB or 64 MB DIMM.
2. Frequent crashes while running under Windows 95 only after installing a 32 MB or 64 MB DIMM.

If your 32 MB and 64 MB DIMMs meet the memory specifications for the 12 Inch PC Compatibility card and you are experiencing either of the symptoms listed above then you probably need to update your "PC Setup" control panel.

Use the "PC Setup DIMM patch" software to update your "PC Setup" control panel. The patch file can be found in several different locations including the "Apple Support and Information Web" (www.info.apple.com/swupdates/) in the Apple Software Updates.

Follow the instructions in the "Read Me" file included with the PC Setup DIMM Patch software.

How To Tell If the Patch Has Already Been Installed
There is a way to tell if the patch(version 4.0.4) has been applied over an existing PC Setup 1.5 control panel.

Check the version number of the PC Setup 1.5 control panel by clicking on the Control Panel icon and then choosing Get Info from the File menu. The version number should say Version: 1.5, w/12" Card large DIMM patch.

Also, you cannot to patch the control panel a second time. If a second attempt is made, you will get a halt message which says,

"An unrecoverable error occurred while verifying resource vers 1 in the file PC Setup on Hard Drive. This resource needs to be patched, but its attributes aren't what was expected. Please make sure that you are patching the correct file and version."

Additional Information
Please see the following Technical Information Library articles for related 12 Inch PC Compatibility card memory and Software Update information:

"PC Compatibility Card (12-inch): Adding Memory"
"Apple ftp Sites Frequently Asked Questions"
"Where To Find Apple Software Updates" - Lists locations on online services where you can find free Apple software updates.
"Obtaining Apple Product Support in the USA" - Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech Info Library.
Published Date: Feb 18, 2012

StyleWriter EtherTalk Adapter: Cannot Turn Off Printer (8/96)

I am using a StyleWriter printer with the StyleWriter EtherTalk Adapter. When the EtherTalk Adapter is connected, the StyleWriter continually cycles the power, the rollers continually spin, and the StyleWriter will not turn off.
This article has been archived and is no longer updated by Apple.
The most common cause of this problem is the lack of a cartridge in the StyleWriter printer. If the adapter is connected without a cartridge in the printer, or if a print job is sent to the printer without a cartridge, the printer runs a self-test that does not complete.

To correct this problem, disconnect the power cord from the StyleWriter EtherTalk Adapter. Install a cartridge in the printer, and turn the printer off. Reconnect power to the StyleWriter EtherTalk Adapter. The printer will power up and go through a test cycle. After the self-test, you will be able to print and power off the printer properly.

Published Date: Feb 18, 2012

System 7.5.3, Telecom 2.3.2, Quadra 840AV & Type 1 Error

After installing System 7.5 Update 2.0 on my Macintosh Quadra 840AV with Apple Telecom 2.3.2, I now get Type 1 errors when opening Fax Terminal and Fax Viewer. This error only happens if AppleGuide 2.0.2 is active.
This article has been archived and is no longer updated by Apple.
The issue you describe, which occurs only on the Centris/Quadra 660AV and Quadra 840AV, has been fixed with Apple Telecom 2.3.3. You should upgrade to Apple Telecom 2.3.3 or later, available from Apple Software Updates Web site at http://www.apple.com/swupdates/ .
Published Date: Feb 18, 2012

AppleColor RGB Monitor: How To Connect It To The Apple IIc

This article has been archived and is no longer updated by Apple.

While limited to only 8 colors, the AppleColor RGB Monitor does work with the Apple IIc with:

1) a Telemax Inc. "Peacock" RGB interface for the complete connection (like the connection for the Apple Color 100 Monitor)
and

2) a new interface cable, the pinouts of which are:

DB15 Pin DB15 Pin

1 <----------> 6
2 <----------> 5
3 <----------> 3
5 <----------> 2
6 <----------> 1
9 <----------> 9
10 <----------> 10
13 <----------> 13
Shell <----------> Shell

For more information, search under: "Telemax Inc."

Published Date: Feb 18, 2012

System 7.5.5 Update: Overview and Installation

This article comprises the Macintosh System 7.5.5 Update: Overview and Installation Read Me.
This article has been archived and is no longer updated by Apple.

What is the System 7.5.5 Update?

The System 7.5.5 Update is a set of system software enhancements that improves the reliability and performance of all Macintosh and Mac OS-compatible computers running system software version 7.5.3. The System 7.5.5 Update also includes all of the improvements delivered with System 7.5.3 Revision 2. Therefore, it is not necessary to install System 7.5.3 Revision 2 before installing System 7.5.5 Update.

Who should install the System 7.5.5 Update?

Apple recommends that all customers who are currently using System 7.5.3 should install the System 7.5.5 Update. If you are using a system software version prior to System 7.5.3, you must upgrade to System 7.5.3 before you install this update. (If you are using System 7.5, 7.5.1, or 7.5.2, you can use System 7.5 Update 2.0 to upgrade to System 7.5.3.).

To find out what system software version your computer is using, follow these steps:

1. Make sure you are in the Finder. You can do this by selecting the Finder item from the application menu in the upper right corner of your desktop.

2. Choose About This Macintosh from the Apple menu. The system software information is in the About This Macintosh window. Make sure System Software 7.5.3 is in the upper-right corner of the window.

What does installing the System 7.5.5 Update do?

- After you install the System 7.5.5 Update, you should notice improved performance and stability, specifically:

  Significant performance improvements when using virtual memory
  If you use virtual memory, this software improves the time it takes to:
  - launch a large application program that requires a significant amount of RAM
  - switch between large application programs
  - switch between large documents within an application
  - access SCSI devices
- Improved memory management on PowerPC computers
  If you could not launch an application program because you did not have enough RAM to open it, you may be able to use the application after you install this update. This update also eliminates the cause of one Type 11 error.
- Improved reliability when using floppy disks in a computer equipped with a DOS Compatibility Card
  If you have a computer with a DOS compatibility card installed, you may have experienced problems inserting floppy disks while Windows is launching. T
- Improved reliability on PowerPC PowerBook computers (PowerBook 5300 and 2300 series computers) and PCI-based computers (Macintosh 5400, 6400, 7200, 7500, 7600, 8500, and 9500 series computers)
  If you have a PowerPC PowerBook or a PCI-based computer, your computer may have frozen from time to time while accessing a hard disk.
- Improved reliability when using Ethernet and virtual memory
  If you use Ethernet and have virtual memory turned on, you may have experienced problems transferring large files over Ethernet.
- Better reliability when using the Apple TV Tuner or Macintosh TV Remote Control
  When using the remote control for the Apple Video Player, the channel and volume buttons may have stopped working when you press them rapidly.
- Improvements in LocalTalk
  This update includes improvements in LocalTalk that provide:
  - better reliability on Macintosh 5400 series computers
  - better performance when using some third-party infrared software products
- Improved stability when using multiple background application programs
  If your computer crashed when using more than one background program, this update fixes the problem. A background program is one that works behind the scenes, so you don't see it in the Application menu. Some e-mail programs have this background feature.
- Improved stability when using a shared printer on a network
  If your computer crashed when you were trying to use a shared printer on a network.
- Improved reliability on high performance (180MHz or greater) Macintosh and Mac OS-compatible computers that have the PowerPC 604 or 604e processors
  If you have experienced system freezes during startup or difficulties when formatting floppy disks.
- Improved reliability when using Ethernet on the Macintosh 5400 and 6400 series computers
- Improved reliability when using sound intensive applications on Macintosh Quadra and Centris computers that contain the PowerPC

upgrade card
- The System 7.5.5 extension set in Extensions Manager now includes all of the QuickTime 2.5 extensions.

With this update, you also get the following enhancements, which were available with System 7.5.3 Revision 2:

- Better reliability for PowerBooks using RAM Doubler
  If you have a PowerBook using system software 7.5.3 and you use RAM Doubler (version 1.6.1 or earlier), you may have experienced a problem when waking your PowerBook from sleep.
- Overall performance enhancements for PowerBook 2300 series and PowerBook 500 series computers with the PowerPC Upgrade Card installed
- Improved reliability when using PC-formatted floppy disks with PowerBook 500 series computers with the PowerPC Upgrade Card installed
  If you have a PowerBook 500 series computer with the PowerPC Upgrade Card installed, PC-formatted floppy disks that were formatted on your computer may be unreadable in DOS or Windows computers.
- Improved reliability on PCI-based computers and PowerBook 5300 computers, PowerBook 2300 computers, and PowerBook 500 series computers with the PowerPC Upgrade Card installed
- Improved reliability when copying files to some 1 gigabyte hard disks
  If you have a PCI-based computer with a 1 gigabyte hard disk, this software helps avoid problems when copying files to the hard disk.
- Improved reliability when using the Startup Disk control panel
  In rare instances, when you turn on a PCI-based Power Macintosh computer it may not start up from the disk selected in the Startup Disk control panel.

Known problems

- Using Express Modem 3.0 (delivered by Apple Telecom 3.0) software with the System 7.5.5 Update
  If you install Apple Telecom 3.0 or Express Modem 3.0 after installing the System 7.5.5 Update you will not be able to switch on your Express Modem. To fix this incompatibility, run the System 7.5.5 Update again. The System 7.5.5 Update updates your Express Modem 3.0 to Express Modem 3.0.1. (Note: Apple Telecom 3.0 shipped on some new Macintosh systems and is not presently available from Apple for download or purchase.)
- Using the volume buttons on 5200, 5300, 6200, 6300, and 630 series computers
  There is a known problem that if you rapidly press the volume buttons on the front of your computer, the computer may crash. This software does not fix this problem. Apple is working on a solution to this problem.
- Using Assistant Toolbox with desktop computers
  If you use the Assistant Toolbox extension (meant to be used on PowerBook computers) on a desktop computer, you will not be warned that the contents of your RAM disk will be lost when you shut down your computer. Apple is working on a solution to this problem.
- Using the Motorola Math Library and Connectix Speed Copy 1.3.1 (part of Speed Doubler) 1.3.1
  There is a known incompatibility with the System 7.5.5 Update when used with two specific products at the same time: the Motorola Math Library and Connectix Speed Copy 1.3.1 (part of Speed Doubler 1.3.1). If you have both of these items in the System Folder when you use the System 7.5.5 Update, Speed Copy 1.3.1 cannot be used. In order to use Speed Copy, remove the Motorola Math Library from the Extensions folder and restart your computer.
- Programs use slightly more memory
  If you are having new problems with programs reporting that they do not have enough memory, System 7.5.5 Update may require programs to use an additional 23K of memory. To fix the problem:
  1) Quit the program if it is open.
  2) Click the program's icon to select it.
  3) Open the File menu and choose Get Info.
  4) In the Info window, increase the value in the Preferred size box by 23.
  5) Close the window.
- Using Energy Saver and Audio CDs on PCI-based desktop computers
  On PCI-based desktop computers, Energy Saver is known to interrupt the play of Audio CDs if Shutdown instead of sleep is selected. This update does not fix this problem. To avoid this problem, uncheck Shutdown instead of sleep in the Energy Saver control panel.
- Using Desktop Shortcut feature of Aladdin DesktopTools with System 7.5.5 Update
  One feature of Desktop Shortcut, a component of the Aladdin DesktopTools by Aladdin Systems, Inc. is known to fail under System 7.5.5 Update. If Shortcut is installed, when you are in an Open or Save dialog box, normally you can click in any window in the Finder. The files/folders in that window will then appear in the Standard File Dialog box's scrolling list. This feature does not work with System 7.5.5 Update. To work around this problem, navigate using the Shortcut Menu icon. Aladdin Systems has been contacted about this problem and expects to release an update in the future to address the issue.
- Using Sagem GeoPort ISDN Adapter 1.0 with System 7.5.5 Update
  There is a known incompatibility with the Sagem GeoPort ISDN Adapter 1.0 and System 7.5.5 Update, resulting in the inability to use the GeoPort ISDN Adapter. Sagem has been contacted about this problem and is working on a solution. If you have a Sagem GeoPort ISDN Adapter, you should not install the System 7.5.5 Update until Sagem resolves the conflict. For more information, visit the Sagem web site at **http://www.satusa.com** or e-mail sathelp@satusa.com.

For advanced users who need additional technical information, please see the System 7.5.5 Update Tech note.

Before You Install

You should use the Disk First Aid application program before you install the System 7.5.5 Update to check your hard disk for problems. Disk First Aid comes on the System 7.5.5 Update, Disk 1 disk and on the Disk Tools disk that came with your computer. Follow these steps:

1. Insert the System 7.5.5 Update, Disk 1 disk into the floppy disk drive and double-click its icon to open it.
2. Double-click the Disk First Aid icon to open it.
3. Click the icon for the disk you are installing software on.
4. Click Verify.
5. If Disk First Aid tells you your disk appears to be OK, choose Quit from the File menu. If Disk First Aid reports problems with your hard disk, see the manual that came with your computer.

Note: If you have a problem using Disk First Aid, see the manual that came with your computer.

Installing the System 7.5.5 Update

Before you install the System 7.5.5 Update, your computer must have System 7.5.3 or System 7.5.4 installed. You should also have at least 10 MB of disk space temporarily available on your hard disk. To find out what system software version your computer is using, follow the steps in Who Should Install the System 7.5.5 Update? above.

It is very important that you follow these steps in the order listed below to install the System 7.5.5 Update:

1. Open the Extensions Manager control panel.
2. Choose System 7.5.3 from the Sets pop-up menu. (This choice will appear if you are using system software version 7.5.3. If this does not appear, you need to upgrade to System 7.5.3 before installing this update.)
3. If you have third-party peripheral devices that are required for installation and that require an extension, turn those extensions back on. (Examples include video drivers, alternative input devices, network card drivers, and removable media.)
4. Restart your computer.
5. Insert the System 7.5.5 Update, Disk 1 disk into the floppy disk drive and double-click its icon to open it.
6. Double-click the Installer icon to open it.
7. After you read the licensing agreement, click Agree to continue with the installation.
8. Make sure that the destination disk indicated on the screen is the one on which you want to install system software. If the wrong disk name appears, click the Switch Disk button until the correct disk name appears.
9. Click Install.
10. Follow the instructions on the screen. On-screen messages tell you when you need to insert the other disks.
11. When the installation is complete, click Restart to restart your computer.
12. Use the Extensions Manager to turn on additional extensions (you'll need to restart your computer for the extensions to work). If you encounter problems, choose System 7.5.5 from the Sets pop-up menu , restart your computer, then turn on other extensions one at a time to determine if one of them is incompatible.

IF YOU CANNOT INSTALL THIS UPDATE SUCCESSFULLY: If you have trouble installing this update, try choosing All Off from the pop-up menu in Step 2. If you are installing from a CD, turn all the extensions off, and then check the Apple CD-ROM extension so you can access your CD-ROM drive.

Updating a universal System Folder

This section describes how to update a single System Folder that can start up any Mac OS computer introduced since the Macintosh Plus. This update will allow the universal system folder to also support the 5400 and 6400 series systems.

TA35939_System_Update_Overview_and_Installation_(TIL20340).pdf

Overview

Only some users need a universal System Folder. You might want to create a universal System Folder if you

- start up different Macintosh models using removable media or an external startup disk
- want to simplify support of multiple users by giving all users the same System Folder

If you are responsible for only one computer, you shouldn't need to create a universal System Folder.

Instructions

1) You must start with a universal System 7.5.3 folder with either System 7.5 Update 2.0 or System 7.5 Version 7.5.3.

2) Update your universal system folder by installing System 7.5.5 Update.

Important information regarding System 7.5.4 Update

System 7.5.4 Update was released by Apple Computer to a limited distribution, prior to an anticipated general release. Shortly after this limited distribution, an issue with the software was found which required a revision. This revision was named System 7.5.5 Update. It replaces System 7.5.4 Update and will install on computers which have System 7.5.4 Update installed.

The following Tech Info Library article can help you find the Tech Note mentioned here:

Article 24493: "**Apple Tech Notes: What They Are, Where To Find Them**"

Published Date: Feb 18, 2012

Power Macintosh: Difficulty Using Floppy Disks

I have a Power Macintosh 8500/180 computer, when initializing or erasing floppy disks, an error message occurs stating that the disk is damaged. Also, some of the high-density floppy disks have only 1 MB of available space after being initialized rather than the normal 1.4 MB that should be available.
This article has been archived and is no longer updated by Apple.
You likely need to reinstall the Power Mac Format Patch, which corrects the problems that you are experiencing with floppy disks. The Power Mac Format Patch is required on any Power Macintosh 7500, 7600, 8500, or 9500 computer with a 180 MHz or faster PowerPC processor. This Patch is also required if you have a Mac OS-compatible PowerPC-based computer operating at 180 MHz or faster.

If these errors just started occuring, then you have probably recently performed a clean installation of system software. The new System Folder created during the "clean" installation process does not contain the patch, and needs it to function properly.

Or, you may have just installed a 180 megahertz (MHz) PowerPC processor upgrade card into your computer.

The Power Mac Format Patch is included with computers that include a 180 MHz or faster processor card. This patch is also included in System 7.5.5 Update. If you have System 7.5.5 Update installed on your computer, you do NOT need to install the Power Mac Format Patch.

To install the Power Mac Format Patch, do the following:

1. While holding down the Option key on your keyboard, drag the Power Mac Format Patch icon onto the System Folder's icon. (If you are dragging the icon from the Apple Extras folder on your hard disk, holding down the Option key causes the icon to be copied instead of moved, which leaves a copy of the icon in the Apple Extras folder in case you need to copy it again later.)

2. Click OK to automatically place the patch in the Extensions folder.

3. Restart your computer by choosing Restart from the Special menu.

Published Date: Feb 18, 2012

Macintosh Performa 6400: Tutorial 2 Runs in Endless Loop (8/96)

I am trying to run the Tutorial Part 2 on my Macintosh Performa 6400 series computer. However, I noticed that the Tutorial appears to run in an endless loop. For example:

Step 1

Open Tutorial Part 2 from the Launcher.

Step 2

Choose the Getting Started item (#1) from the list of nine (9) menu options. The Tutorial: 1. Getting Started slide (1) appears.

Step 3

Click the right arrow. The Tutorial: 1. Getting Started slide (2) appears.

Step 4

Click the right arrow. A slide appears telling you to click Continue when the Launcher is the active window.

Step 5

Click Continue. The Tutorial: 1. Getting Started slide (2) appears again, which is the same as Step 3.

Another example is:

Step 1

Open Tutorial Part 2 from the Launcher.

Step 2

Choose the Creating a Document (#4) item from the list of (9) nine menu options. A slide appears telling you to click Continue to go to section 4.

Step 3

Click Continue. The Tutorial: 4. Creating a Document slide (1) appears.

Step 4

Click the right arrow. A slide appears telling you to click Continue when the Launcher is the active window.

Step 5

Click the Continue button. The Tutorial: 4. Creating a Document slide (1) appears again, which is the same as Step 3.

This article has been archived and is no longer updated by Apple.
Apple is aware of this issue, which appears to be caused by a conflict between the Tutorial and the DateBook Pro extension. However, until the exact cause is verified, when you want to use the Tutorial Part 2, disable the DateBook Pro extension in the Extensions Manager and then restart the computer.

The DateBook Pro Extension controls the alarms for DateBook Pro. Disabling this extension will prevent any DateBook Pro alarm notifications from appearing while you are running applications besides DateBook Pro.

The DateBook Pro Extension also facilitates access to Mini DateBook Pro, which allows you to perform DateBook Pro tasks without having the application running. Thus, disabling the DateBook Pro Extension will disable access to Mini DateBook Pro.

TA35943_Macintosh_Performa_Tutorial_Runs_in_Endless_Loop__(TIL20344).pdf

Published Date: Feb 18, 2012

Speech Recognition: Speakable Items Won‘t Run

Whenever I attempt to use the English Speech Recognition capabilities of PlainTalk 1.4.x, an error occurs stating: "Speakable items could not run because an unexpected error occurred. Restarting your computer or reinstalling the Speech Recognition software may correct this problem."

I have attempted to resolve this error by reinstalling the Speech Recognition software, but it still occurs.
This article has been archived and is no longer updated by Apple.
Several things could be causing the error message to occur. Check the following:

- Verify that there is not a folder in the Speakable Items folder.
- Verify that you have enough memory available.
- Verify that the following items are installed and enabled in the System Folder:
  - Speech control panel
  - Finder Scripting extension
  - AppleScript extension
  - Speech Recognition extension
  - Speech Manager extension
  - MacinTalk 3 extension
  - Speakable Items extension
- Verify that the Voice folder is in the Extensions folder and that it contains several voice files (including "Fred")

Published Date: Feb 18, 2012

MAE 2.0.2: Home Directory Space and MS Office Issue (9/96)

This article describes an installation issue with MAE 2.0.2 and Microsoft Office.
This article has been archived and is no longer updated by Apple.
If the users Home directory has less than 80 MB available, a Microsoft Office installation may fail. This will happen even though the installation is going to a different directory which has enough space, and a New Folder is selected.

Published Date: Feb 18, 2012

LaserWriter IIntx: What The ROM/Font Expansion Card Is For

This article has been archived and is no longer updated by Apple.

The purpose of the LaserWriter IIntx Font Expansion Card is to provide additional ROM storage for fonts. The fonts must be stored either as character bitmaps or as character outlines. Refer to the PostScript Language Reference Manual for the character outline definitions and contact Adobe Systems for information about conforming to the Adobe cartridge-font definition.

The Font Expansion Card, 5.25 x 4.6 inches, interfaces with the controller ROM through a 96-pin DIN connector.

For more information about cartridge-font definition, search under: Adobe Systems Inc.

Published Date: Feb 18, 2012

PowerBook 2300: Amperage Comparison of Duo & Mini Dock (9/96)

Article Reviewed/Updated: 10 September 1996

I have noticed that the Macintosh PowerBook Duo 2300 series computers are rated at 24V and 1.5A. I found this information on its FCC ID label. I also noticed that the Apple Mini Dock is rated at 24V, but only 1.0A. Could this cause any operational difficulties or damage the Apple Mini Dock?
This article has been archived and is no longer updated by Apple.
Apple engineering has stated that there is no problem running the Macintosh PowerBook (Duo) 2300 series computers with the Apple Mini Dock. The Apple Mini Dock was "over-engineered" (that is, designed to handle more power than it needs be able to handle). Therefore, it can support the 1.5 amps the Macintosh PowerBook 2300 series computers draw through it with no adverse effects.

This article was published in the Information Alley on 10 September 1996.

Article Change History:
10 Sep 1996 - Added keyword.
Published Date: Feb 18, 2012

PowerBook 500 or 5300: Freezes When Exiting HD Target Mode

I have a Macintosh PowerBook 5300 series computer which "hangs/freezes" up when I shut it down after it has been functioning in HD Target Mode connected to my Macintosh Performa 6200 computer.

The PowerBook computer's hard disk drive appears on the desktop of the Performa computer and it seems to operate normally in HD Target Mode. However, when I shut down the Performa computer, following the procedures in the PowerBook User's manual, the PowerBook hangs up. The arrows in the SCSI icon indicate activity but the PowerBook computer cannot be powered off except by the power/reset switch on the back.

Am I doing something wrong or are the directions in the PowerBook manual wrong?
This article has been archived and is no longer updated by Apple.
The issue you have encountered is an operational anomaly which may occur with both the Macintosh PowerBook 500 and 5300 series computers. Also, it should be noted that this same scenario can happen when one of these PowerBook computer models is connected to ANY desktop Macintosh computer, not just the Macintosh Performa 6200 series computers.

If you follow the directions in the PowerBook user's guide, which instructs the you to power down the desktop Macintosh computer before powering down the PowerBook, the PowerBook computer may lock up. This forces you to use the power/reset switch on the back of the PowerBook computer to shut it down. This shutdown method is not advised because it may corrupt the power manager of the PowerBook computer.*

Workaround

1. Highlight the PowerBook computer's hard drive in the Finder on the desktop of the desktop Macintosh computer by clicking on its icon.
2. Select "Put Away" (Command Y) from the File menu to unmount the PowerBook computer's hard drive. (It should disappear from the desktop.)
3. Press and hold the power key (upper right corner of the keyboard) on the PowerBook computer's keyboard for approximately three seconds, then release it. This will shut down the PowerBook safely.

For more information on resetting the Power Manager on Macintosh PowerBook computers, please see the following Tech Info Library article:

Article 14449: "**PowerBook: Resetting Power Manager**"

This article was published in the Information Alley on 3 September 1996.
Published Date: Feb 18, 2012

PowerBook 5300: Slow SCSI Extension Read Me

Name: Slow SCSI Extension
Version: 1.0f1
Released: August 13, 1996
Description: INIT to address a potential SCSI incompatibility between slow SCSI devices and the PowerBook 5300.

This software consists of a self-extracting archive. To use, download, double-click the downloaded file (this decompresses it).

Several PowerBook owners I know told me that I need to install something called the Slow SCSI Extension on my PowerBook 5300. What is it? How do I know if I really need it? Where can I get it?
This article has been archived and is no longer updated by Apple.
From the Readme included with this archive:

Slow SCSI Extension

Slow SCSI Extension is an INIT for PowerBook 5300 series computers that addresses a potential conflict with slow SCSI devices such as 1x CD-ROM drives (like the Apple CD150), Zip drives, and PowerBooks in SCSI disk mode. Not all PowerBooks will experience the problem and a PowerBook that does may not experience the problem all the time (even with different units of the same make and model).

Important: You should only install this extension if you are experiencing constant freezes or crashes when transfering files with a particular slow SCSI device. Installing this extension will impact performance with ALL SCSI devices by 10 to 50 percent, so only install it if it is absolutely needed! You can use the Extensions Manager to disable Slow SCSI Extension when it is not needed.

To install Slow SCSI Extension, put it in the Extensions folder and restart.

This software is posted to Apple Software Updates online. It is provided "as is" and is not supported by Apple technical support.
Published Date: Feb 18, 2012

CompuServe Mail for Newton 2.0: Large E-mail Issue

When I receive a large e-mail with my MessagePad 130, the e-mail is split into 5 KB segments by CompuServe Mail Software for Newton 2.0, but a lot of the text is lost in the process. To test, I sent myself a 38 KB message and found that about 1000 bytes were missing between parts 1 and 2, and about 1500 bytes were lost between each of the other parts.
This article has been archived and is no longer updated by Apple.
Based on your description, you are likely using version 1.0.1 of CISmail. Version 1.0.2 of the software remedies the situation.

There is one way to tell which version of the software you have. Look at the "text stationery". If its size is 4 kilobytes, you have version 1.0.1. If its size is 5 kilobytes, you have version 1.0.2.

CISmail 1.0.1 sometimes miscalculates the vertical size of a message displayed with a large point font. Long sections of text may become cut off because the vertical arrows will not scroll far enough to display the bottom of the message. While using version 1.0.1 of the software, here is a workaround:

Workaround
---
1) Open the In Box
2) Select CompuServe Prefs (from the "I" button).
3) Click on mail font button.
4) Choose either a 9 point, or 10 point font size.
Published Date: Feb 18, 2012

Apple Remote Access MultiPort Server 2.1.1: Read Me

This article is the Apple Remote Access (ARA) MultiPort Server 2.1.1 Read Me file.
This article has been archived and is no longer updated by Apple.
Apple Remote Access MultiPort Server 2.1.1 Read Me
==========

This document provides late-breaking news about the Apple Remote Access MultiPort Server that is not covered in the "Apple Remote Access MultiPort Server Administrator's Guide." You may need to refer to that guide to understand the use of several terms in this document, and you may want to print this document to keep with your user's guide.

Modem Scripts
==========

The Remote Access MultiPort Server supports any Hayes-compatible 9600-bps or higher-speed modem so long as the appropriate modem script is available. Scripts for some of the most popular modems are provided on the Apple Remote Access MultiPort Server installation disks. You can also use 9600-bps or higher-speed modem scripts included with the Apple Remote Access Personal Server/Client for Macintosh software. Alternatively, if you're familiar with connection control languages (CCLs), you can write an appropriate script for your modem by using the "Apple Remote Access Scripting Guide" and the Modem WorkShop software, which are included with the Apple Remote Access MultiPort Server.

If an appropriate script is not included, and you do not choose to write a script, you should contact your modem manufacturer. The contact information for some modem manufacturers is contained at the end of this note.

Beginning with version 2.1.1 of the Apple Remote Access MultiPort Server, modem scripts are no longer stored in the Extensions Folder. A new folder called "Modem Scripts" within the Extensions Folder is created by Apple Remote Access to hold modem scripts.

The Apple Remote Access MultiPort Server Installer will move any existing scripts you may already have in your Extensions Folder to the new Modem Scripts folder in addition to placing scripts for all the modems listed above into the Modem Scripts folder.

Future remote access products from Apple will also use the Modem Scripts folder. However, there will be a transition period before other products are updated to use the new folder. Some existing products may install modem scripts into the Extensions Folder. If such a product is installed after Apple Remote Access MultiPort Server 2.1.1, you will have to open your Extensions Folder and drag the scripts into the Modem Scripts folder in order for Apple Remote Access MultiPort Server to recognize the script.

Adding Additional Ports
==========

Apple no longer sells the Apple Remote Access MultiPort 4-Port Expansion Kits; add additional ports by buying additional server packages and installing the cards into the same machine.

Open Transport Compatibility
==========

The MultiPort Server does not rely upon nor does it install Apple's new Open Transport networking architecture. As of this writing, however, the MultiPort server is compatible with machines running Open Transport.

Using a Remote Access MultiPort Server With an Apple Internet Router
==========

The Apple Remote Access MultiPort Server may be installed on a Macintosh computer along with an Apple Internet Router version 3.0.1 or later, and the two applications can be active concurrently. If you have Apple Internet Router 3.0 installed, you must upgrade to Apple Internet Router 3.0.1 before installing the MultiPort Server.

NOTE: Apple Internet Router is not compatible with Open Transport, and thus can not run on a Macintosh computer with PCI bus.

Using the Remote Access MultiPort Server With AppleShare
==========

The Apple Remote Access MultiPort Server may be installed on a Macintosh computer along with AppleShare version 4.0.1 or later. The Apple Remote Access MultiPort Server and AppleShare can be active concurrently.

Using the Remote Access MultiPort Server With Macintosh File Sharing
==========

You cannot use the Remote Access MultiPort Server software concurrently with System 7 Macintosh file sharing. When you start the Remote

Access Manager program, you will be asked to convert the Users & Groups Data File. After it is converted, only Remote Access Manager and AppleShare 4.0.1 (or later) can use the Users & Groups Data File.

Using the Remote Access MultiPort Server With the Built-in Serial Ports

The built-in serial ports in your Macintosh are not available for use with the Remote Access MultiPort Server.

Automatically Starting the Remote Access MultiPort Server

If you want the MultiPort Server to start automatically after you restart your computer, or if you want the server to restart after a power failure, place the Remote Access Manager application (or an alias) in the Startup Items folder, located in the System Folder. The MultiPort Server will only start automatically if it was running the last time you quit the Remote Access Manager application.

Printing the Remote Access MultiPort Server Log

For best results when printing the Remote Access Manager server log:

1. Choose Page Setup from the File menu.

2. Click the Landscape icon (the icon showing a horizontal format) in the Orientation section of the dialog box.

3. Enter 70% in the Reduce or Enlarge box.

4. Click OK.

Using the Remote Access MultiPort Server With a Security Zone

If a security zone is advertised by a network router, make sure the security zone is available when Remote Access Manager ports are configured and turned on. Otherwise users will be disconnected and the port turned off when they attempt to dial in. See the "Apple Remote Access Security Zone Read Me" file (on the "Apple Remote Access MultiPort Server Toolkit" disk) for more information.

Zone Lists and Server Performance

Overall performance of the MultiPort Server may be diminished if a large number of zones are included as part of a user's zone access privileges. If you wish to allow or disallow a user's access to a large number of zones, it would be better to choose either "All Zones except listed" or "Only Zones listed," respectively. (See the section "Creating a New User" in Chapter 3 of the "Apple Remote Access MultiPort Administrator's Guide" for details on how to set these options.) Always try to minimize the number of zones in a user's zone list for best performance.

Using Third-Party Serial Card with Apple Remote Access MultiPort Server

The MultiPort server is no longer bundled with an Apple-manufactured serial NuBus card. The software may be available with or without a bundled communication card. As of this writing, there are currently two bundles available; a 4-port serial NuBus card manufactured by Creative Solutions, Inc. and a 6-port serial PCI card manufactured by Keyspan. The CSI NuBus card has several advantages over the Apple Serial NB card: 1) it is a short NuBus card and will fit in those Macintoshes that do not support a full-length NuBus card. 2) It is possible to use more than one of these cards concurrently in a PowerPC NuBus machine. The Keyspan PCI card makes it possible for the MultiPort Server to run on new Macintoshes with PCI bus.

Neither the CSI NuBus card nor the Keyspan PCI card supports the Apple X.25 server. This means that a MultiPort Server equipped with these cards will no longer accept incoming ARA connections over X.25. However, this version of the MultiPort server software will continue to support X.25 for customers who already have the Apple Serial NB card and are simply upgrading the MultiPort Server software.

Using ARA 1.0 Clients with Apple Remote Access MultiPort Server

Apple Remote Access MultiPort Server 2.1 and 2.1.1, unlike unupdated 2.0.1 software, support ARA 1.0 clients. Customers, however, are encouraged to have ARA 1.0 clients upgrade to the current client software. Future Apple Remote Access products will not support ARA 1.0 clients.

Here is a list of the 2.0 security features that have no counterpart in 1.0 clients:

* The client's account requires an external security module.
* The "Always Require User to Enter Password" checkbox is checked in the Server Preferences dialog box.
* The client's account has "Require New Password on Next Login" checked.
* The client's password has an expiration date.
* The client's password must be of a minimum size specified by the administrator.

When a 1.0 client attempts to connect to a server that has 2.0-only security features in place that apply to the client's ARA account, the connection attempt is refused by the server. The client receives the following message in a dialog box:

"The connect attempt failed. Remote Access on the computer you are calling refused to connect."

The server records the following two messages in the activity log:

"Connection attempt refused."
"Caller's ARA version insufficient for security or password settings."

Note: For all the security features just listed, if a 1.0 call is denied access and is followed by a 2.0 call to the same account, the security is handled in the standard 2.0 way. For example, say that the user's password has expired and he or she is refused access when calling in with 1.0. The next time the user calls in with 2.0, he or she will be presented with the normal password-expired dialog box.

In addition, if dial-in-and-transfer and callback-only ports are being used on the 2.0.1 MultiPort server, 1.0 clients may encounter the "The connect attempt failed ╔" error message if their accounts are not set up properly for callback. The administrator should verify that a callback number is entered and checked for each 1.0 client that uses a dial-in-and-transfer port.

Other Changes in Apple Remote Access MultiPort Server since 2.0.1

Previous versions of the MultiPort server did not correctly respond to SNMP queries. This problem has been corrected since version 2.1. NOTE: MacSNMP 1.x is not compatible with Open Transport, and thus can not run on a Macintosh with PCI bus.

When using 28.8 modems, the server would sometimes start resending data needlessly resulting in a dramatic drop in throughput. This problem has been corrected since version 2.1.

Computers running System Software version 7.5.1 and 7.5.2 occasionally experienced a crash in the Port Configuration Window in the Remote Access Administration program. This was due to a bug that has been corrected in System Software version 7.5.3 and above. The MultiPort Server Installer adds a system extension to correct this bug even with the earlier systems. The extension does not run if the bug is not present.

It is normal for some corrupted packets to pass the data integrity checks in the dial-up protocol. With earlier versions of the server, however, corrupted packets caused occasional crashes. This problem has been corrected since version 2.1.

Sorting of the network zone lists for networks with a large number of zones (500 and over) has been significantly speeded up.

Reliability of the server when using 3rd party security modules has been improved.

Reliability of the serial drivers for the Apple Serial NB card has been improved.

Version 2.1.1 of Apple Remote Access MultiPort Server supports serial connection speed of 115200 when running over a serial port on Keyspan PCI card.

Starting with version 2.1.1, it is no longer necessary to enter serial numbers to enable ports.

Virtual memory may adversely affect the performance of some server application programs, such as Apple Remote Access MultiPort Server and AppleShare. Version 2.1.1 of Apple Remote Access MultiPort Server requires virtual memory being turned off.

Modem Manufacturer Contact Information

Global Village Communication, Inc.

Global Village Communication, Inc.
1144 East Arques Avenue
Sunnyvale, CA 94086

Tel: 408-523-1050

Fax: 408-523-2423
TDD: 408-523-2414
BBS: 408-523-2403
AOL: GLOBALVILL
Prodigy: FMJM51A
CompuServe: 75300,3473
Internet: techsupp@globalvillage.com
FTP: ftp://ftp.globalvillage.com
WWW: http://www.globalvillage.com

Motorola Information Systems Group

Motorola Information Systems Group
20 Cabot Boulevard
Mansfield, Massachusetts 02048-1193

Tel: 508-261-4000
Fax: 508-337-8004
BBS: 508-261-1058
WWW: http://www.motorola.com/MIMS/ISG
FTP: ftp://www.mot.com/pub/MIMS/ISG

Technical Support Centers:
Mansfield, MA
508-261-0366
800-544-0062 (In U.S. and Canada only)

Huntsville, AL
205-726-0798
800-221-4380 (In U.S. and Canada only)

USRobotics

USRobotics
8100 North McCormick Blvd.
Skokie, Illinois 60076-2999

BBS: 708-982-5092
FTP: FTP.USR.COM
WWW: WWW.USR.COM
CompuServe: GO USROBOTICS 76711,707
Internet: SUPPORT@USR.COM

Sportster and Worldport Products:
Fax: 708-676-7314
Telephone: 708-982-5151

Courier Only:
Fax: 708-982-0823
Hot Line: 800-550-7800 or 708-982-5010

Shared Access, and Total Control Only:
Hot Line: 800-231-8770 or 708-982-5010

Zoom Telephonics

Zoom Telephonics, Inc.
207 South Street
Boston, MA 02111

Tel: 617-423-1076
Fax: 617-423-9231

BBS: 617-423-3733
WWW: http://www.zoomtel.com
CompuServe: GO ZOOM

These articles can help you locate the software update mentioned here:

"Where To Find Apple Software Updates" - Lists online services for free Apple software updates.

"Obtaining Apple Product Support in the USA" - Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech Info Library.
Published Date: Feb 18, 2012

AppleColor RGB Monitor input connector: Pinouts

This article has been archived and is no longer updated by Apple.

Pin	Function
1	Red video ground
2	Red composite video
3	Composite sync
4	(not used)
5	Green composite video
6	Green video ground
7	(not used)
8	(not used)
9	Blue composite video
10	(not used)
11	(not used)
12	(not used)
13	Blue video ground
14	(not used)
15	(not used)
Shell	Shield ground

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Why Does The Trash Empty Automatically?

I have a Performa 6400/200 computer. Whenever I put anything in the Trash and Restart the computer, the trash can automatically empties itself. I have reset the Parameter RAM (PRAM) and I started up with extensions off, but it makes no difference.

I checked the "Get Info" window on Trash and it IS marked to WARN BEFORE EMPTYING. I started from the disk and ran Disk First Aid which says everything is fine.

What is wrong?

This article has been archived and is no longer updated by Apple.
There is an application called At Ease that ships on Performa 6400/180 and 6400/200 computers. At Ease has a feature that will empty the trash after each user logs out or restarts/shuts down, to prevent the next user from accessing the previous user's documents.

It is possible that you may have turned on At Ease 3.0. If there is only one user assigned to At Ease (you have not created any others), then the initial login screen will not appear, so you may not realize that At Ease is running. The computer just goes ahead and selects the only user there is and proceeds. At Ease ignores the Trash's Warn Before Emptying option.

To stop the Trash from automatically emptying itself after a restart, turn off At Ease.

Published Date: Feb 18, 2012

Apple Peripherals: Electrical Specifications

This article provides the electrical specifications for Apple peripherals, including printers, monitors, scanners, drives, modems, and so on. For information about other Apple hardware, see the Tech Info Library article 267, **"Apple Computers: Electrical Specifications"**.
This article has been archived and is no longer updated by Apple.
The following Apple products are manufactured for use in the USA. In determining whether a particular product can be used internationally, there are three classes, depending on whether a product accepts a range in voltage, frequency or both (for more specific information, see the article, "Using U.S. Apple Equipment Internationally"):

Universal
These products can be used internationally out of the box. Some of Apple's products are self-configuring devices or "universal" within a certain range. They can accept a range in both voltage and frequency, and only require a plug adapter for the specific locale.

Example: The Quadra 800 accepts between 100-125 and 200-240 volts, 47-63 Hz.

Frequency Independent
These products can be used internationally with a voltage transformer. Generally they are geared for U.S. 120 volt current, but are flexible as to the frequency they accept (for example, 47-63 Hz), and are known as "frequency independent." These products need a stepdown isolation transformer to adapt the voltage, and will handle the different frequency on their own.

Example: The U.S. Performa 200 accepts 120 volts, 47-63 Hz.

Frequency Dependent

These products generally cannot be used internationally. These are products that can work only within a narrow range of frequency; they are "frequency dependent."

Transformers only transform voltage, so if the product requires a certain frequency, there's no practical way to convert both voltage and frequency.

These products can ONLY be used internationally in countries with the same frequency as the country for which the product was manufactured. Further, a voltage transformer will be required if the destination country has a voltage different from the home country.

Example: The U.S. Apple Color OneScanner accepts 108-132 volts, 58-62 Hz.

NOTE:
Computers with power outlets for peripherals do not condition the current as it passes through. So, for example, a monitor requiring 120v-60Hz current could not be used in a 220v-50Hz environment even if the computer from which it gets its power is able to accept the local current.

The AC output of a Macintosh II is as follows: the monitor receptacle is rated for 3 amps steady state, 40 amps peak power. The power supply is fused for 6 amps to include the Macintosh II and monitor.

The amperage on the back of the computer is what should be used to calculate load on a circuit. Typical circuits in businesses and houses are 15 Amps (some are 20, but rarer, and an electric dryer is usually 30, an electric range may have DUAL 30 Amp circuits wired together).

With that capacity, you could have the following configuration (from the back of the CPU):

- CPU - 5 Amps
- Monitor - 3 Amps

- LaserWriter - 7 Amps
- Total - 15 Amps

Most of the time, the CPU will draw only 1-1.5 Amps, the Monitor about .5-1 Amp, and the LaserWriter about 2 Amps. The difference is sometimes referred to as Nominal (high) versus Actual (draw).

These following values are accurate regardless of peripherals used with each device.

Example: A Macintosh II with an EtherTalk NB Card, an 8-bit video card, and HD40 SC draws a maximum of 230 watts and 6 amps from the power outlet it is plugged into.

Electrical Specifications:

LaserWriter Printers	Watts*	Amps**	BTU/hr**	Volts	Hertz
LaserWriter	760	6.3	2599.2	115	60
LaserWriter II	900	7.5	3078	90-126	50-60
LaserWriter IISC	900	7.5	3078	90-126	50-60
LaserWriter IINT/NTX	900	7.5	3078	90-126	50-60
LaserWriter IIg/IIf	900	7.5	3078	90-126	50-60
Personal LaserWriter SC	600	5	2052	110-115	50-60
Personal LaserWriter LS	600	5	2052	110-115	50-60
Personal LaserWriter NT	600	5	2052	110-115	50-60
Personal LaserWriter NTR	600	5	2052	110-115	50-60
Personal LaserWriter 300	360	3.00	1231	100-115	50-60
Personal LaserWriter 320	120	1.0	410.4	100-115	50-60
LaserWriter Pro 600	560	4.67	1915	90-110	58-62
LaserWriter Pro 630	560	4.67	1915	90-110	58-62
LaserWriter Pro 810	560	4.67	1915	90-110	58-62
LaserWriter Select 300	450	3.75	1539	110-115	50-60

LaserWriter Select 310	450	3.75	1539	110-115	50-60
LaserWriter Select 360	450	3.75	1539	110-115	50-60
LaserWriter 4/600	450	3.75	1539	110-115	50-60
LaserWriter 16/600 PS	790	6.8	2701	100-120	58-62
Clr LaserWriter 12/600 PS	1100	9.2	3762	100-120	50-60

Other Printers	Watts*	Amps**	BTU/hr**	Volts	Hertz
Dot Matrix Printer	180	1.5	615.6	100-115	60
Daisy Wheel Printer	150	1.25	513	120	60
Color Plotter	33	.28	112.9	120	48-63
Scribe	60	.5	205.2	120	60
ImageWriter	180	1.5	615.6	120	60
ImageWriter II	180	1.5	615.6	120	60
ImageWriter LQ	180	1.5	615.6	120	60
StyleWriter	23	.19	78.7	110-120	48-62
StyleWriter II	19.5	.16	67	100-120	48-62
StyleWriter 1200	19.5	.16	67	100-120	48-62
StyleWriter 1500	19.5	.16	67	100-120	48-62
Portable StyleWriter	23	0.19	79	100-115	50-60
Color StyleWriter 2200	31.5	1.0	107	120	60
Color StyleWriter 2400	45	.38	154	100-120	50-60
Color StyleWriter 2500	27.6	1.0	92	120	60

Color StyleWriter Pro	28	.23	95.8	90-132	50-60
Apple Color Printer	30	.25	103	120	60

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OTHER PERIPHERALS	Watts*	Amps**	BTU/hr**	Volts	Hertz
Disk Drives					
ProFile	120	1	410.4	110	50-60
Hard Disk 20	30	.25	102.6	85-125/ 200-240	47-64
Apple HD20/40/80/160 SC	30	.25	102.6	85-125/ 200-240	47-64
Apple External160/230/500	40	.33	136.8	85-125/ 200-240	47-64
HD40 SC Tape Backup	15	.125	51.3	85-125/ 200-240	47-64
AppleCD SC	40	.33	136.8	120	47-64
AppleCD SC Plus	40	.33	136.8	100-125/ 200-240	50-60
AppleCD 150	30	.25	102.6	100-125/ 200-240	50-60
AppleCD 300	33	.28	112.9	100-125/ 200-240	50-60
AppleCD 600e	33	.28	112.9	100-125/ 200-240	50/60
Apple PowerCD	15	.125	51.3	100-125/	50-60

Scanners	Watts*	Amps**	BTU/hr**	Volts	Hertz
Apple Scanner	65	.54	222.3	120	58-62
Apple OneScanner	45	.38	153.9	120	58-62
Apple Color OneScanner	45	.38	153.9	120	58-62

Modems	Watts*	Amps**	BTU/hr**	Volts	Hertz
AppleFax Modem	10	.08	34.2	120	60
Apple DataModem 2400	7	.06	23.9	110	60

+

MONITORS	Watts*	Amps**	BTU/hr**	Volts	Hertz
Apple II Monitors					
Color Monitor 100	70	.58	239.4	117	50-60
Color Monitor IIe	48	.4	164.2	108-132	50-60
Color Monitor IIc	48	.4	164.2	108-132	50-60
Monitor II	45	.38	153.9	115	50-60
Monitor IIc	35	.29	119.7	115	50-60
Monitor III	30	.25	102.6	115	50-60
AppleColor RGB	90	.75	307.8	108-132	50-60
AppleColor Monitor	75	.6	256.5	108-132	50-60

Macintosh Monitors	Watts*	Amps**	BTU/hr**	Volts	Hertz

12-Inch Monochrome Display	30	.25	102.6	90-125/ 200-240	47-63
12-Inch RGB Display	90	.75	307.8	110	50-60
Performa Display	85	.71	290.7	100-125	57-63
Performa Plus Display	85	.71	290.7	100-125	57-63
Apple Hi-Res Monochrome	40	.33	136.8	100-125/ 200-240	50-60
AppleColor Hi-Res RGB	160	1.3	547.2	85-125/ 200-240	47-63
14-Inch Color Display	55	.46	188.1	90-125/ 200-240	47-63
Portrait Display	75	.6	256.5	90-125/ 200-240	47-63
16-Inch Color Display	130	1.18	445	90-125/ 200-240	47-63
Two-Page Mono. Monitor	95	.8	324.9	90-125/ 200-240	47-63
21-Inch Color Display	165	1.38	564.3	120	47-63
Apple Basic Color Monitor	70	.58	240	100-125	50-60
AudioVision 14 Display (US)	55	.46	188.1	100-125	47-63
AudioVision 14 Display (INT)	101	.46	350.1	200-240	50
Apple Color Plus Display	70	.58	240	100-125	50-60
Multiple Scan 14 Dis. (US)	80	.66	273.6	100-125	57-63
Multiple Scan 14 Dis. (INT)	80	.33	1.14	200-240	43-53

Multiple Scan 15 Display	90	.75	307.8	100-125/ 200-240	47-63
Multiple Scan 17 Display	150	1.25	513	100-125/ 200-240	47-63
Multiple Scan 20 Display (Rev A)	180	1.38	615.6	100-125/ 200-240	47-63
Multiple Scan 20 Display (Rev B)	165	1.38	564.3	100-125/ 200-240	47-63
AppleVision 1710AV	130	1.8	445	100-120/ 200-240	50-60
AppleVision 1710	130	1.8	445	100-120/ 200-240	50-60
Multiple Scan 1705 Display	100	n/a	342	100-125/ 200-240	47-63
Apple Studio Display 15	30	n/a	137	100-120	50-60
Apple Studio Display 17	150	n/a	513	90-264	47-63
Apple Studio Display 21	180	n/a	616	90-264	47-63

Additional Information:

Current leakage is the amount of current that is passed to earth ground.

The current leakage of all Apple equipment meets the following specifications:

- As specified by the UL standard for Apple equipment distributed in the United States, the current leakage will be less than 5.0 milliamperes.
- As specified by the IEC 380 & 950 standards for Apple equipment distributed in France and most of Europe, the current leakage will be less than 3.5 milliamperes.

The PowerBook 500 series AC adapter has two separate outputs, VBatt and Vmain. The VBatt supply is used for charging the batteries while the VMain supply provides power for the PowerBook. Power from VBatt is automatically diverted to power the PowerBook if additional power is

needed.

Amps calculated based on efficiency of power supply, except for Macintosh PowerBooks (amps calculated at 7.5 volts) and Macintosh Duos (amps calculated at 24 volts).

The BTU calculation is Watts X 3.42 = BTU/hour.

The BTU ratings for the Macintosh systems take into account any hard disk or expansion card(s) that may be installed internally.

Published Date: Feb 18, 2012

Performa Computers: Apple Remote Access Not Installed

I have a Macintosh Performa computer, and I'm following the instructions in the Global Village manual to set up my modem. I'm at the part which refers to setting up Apple Remote Access (ARA).

The instructions say to double click the Remote Access application icon. I cannot find this application. All I can find with "ARA" on it is a file called "GV High Speed for ARA 2.0". When I double click on this, I can get an error message. What is wrong?

This article has been archived and is no longer updated by Apple.
The Global Village manual also states their instructions assume that you have already installed ARA software on your computer. It also explains that the file "GV High Speed for ARA 2.0" is a modem script, not an application.

Apple Remote Access is a separate application which does not come with a Performa computer, and must be purchased separately and then installed.

Published Date: Feb 18, 2012

AppleShare 4.2.1 Upgrade CD: Santorini Server Manager

My AppleShare 4.2.1 Upgrade CD came with Santorini's Server Manager software, but not a serial number. Where do I get the serial number?

This article has been archived and is no longer updated by Apple.
Like AppleShare on the AppleShare 4.2.1 Upgrade CD, Santorini's Server Manager software is an upgrade only. You need to use the serial number from your previous version of Server Manager software.

Published Date: Feb 18, 2012

Apple OneScanner 600/27: TextBridge Scan Option Dimmed (9/96)

The first time I tried to use the Apple OneScanner TextBridge software, the scanner option is dimmed. The only option available is to translate an existing scanned document. How can scan a new document?
This article has been archived and is no longer updated by Apple.
First, check the hardware connections. If you can scan using the Apple OneScanner Dispatcher software, then the scanner and software are configured properly.

If the hardware operates properly, The Apple OneScanner settings and TextBridge Preferences need to be deleted, so new preferences can be built.

Step 1

Open the System Folder.

Step 2

Drag the Scanner Settings file to the Trash.

Step 3

Open the Preferences Folder.

Step 4

Drag the TextBridge Preferences file to the Trash.

Step 5

Close both the Preferences and System folders.

Step 6

Empty the Trash.

Step 7

Verify the Apple OneScanner is powered on.

Step 8

Open the Chooser and Select the "One Scanner".

Step 9

Close the Chooser.

Step 10

Launch the TextBridge software.

You should now be able to select the Scanner option.

Published Date: Feb 18, 2012

LaserWriter 8.4: Corrupt Prefs Can Cause Errors

I am using the LaserWriter 8.4 printer software, which worked properly when I first installed it. But, now I am getting errors stating that the paper size is wrong, or it times out, or sometimes I just get PostScript errors.
This article has been archived and is no longer updated by Apple.
Many times, those errors can be caused by a corrupted preference file. Deleting the preference file can help resolve the problem. This preference files are automatically rebuilt. The preferences for LaserWriter 8.4 software are organized differently than previous versions.

There are two parts of the LaserWriter 8.4 software, the LaserWriter 8.4 Prefs file, and a Parsed PPD folder. You must remove both of the LaserWriter 8.4 Prefs file and the Parsed PPD folder.

LaserWriter 8.4 File Locations

```
System Folder

 - Preferences Folder

     - LaserWriter 8 Prefs   <-- This is from previous LW software

     - Printing Prefs folder

         - LaserWriter 8.4 prefs

         - Parsed PPDs folder

             -  Parsed PPDs for printers selected.

         - Watermark files for StyleWriter Printers
```

Removal Steps

1. Open the Preferences folder, inside the System folder.

2. Open the Printing Prefs folder.

3. Move the Parsed PPD folder to the Trash.

   The Parsed PPD folder contains the PostScript Printer Description information as well as printer configuration.
4. Move the LaserWriter 8.4 Prefs to the Trash.

Just removing the LaserWriter 8.4 Prefs file will usually not correct any printing trouble you are having. You must also remove the Parsed PPD folder.

LaserWriter 8.4 Notes

If you already have a Desktop printer created by a previous LaserWriter version, a new Desktop printer is created when you install the LaserWriter 8.4 software.

TA35961_LaserWriter_Corrupt_Prefs_Can_Cause_Errors_(TIL20365).pdf

Published Date: Feb 18, 2012

Sound Manager 3.2.1: Minor Fixes for QuickTime 2.5

When I installed QuickTime 2.5, Sound Manager 3.2.1 was also installed. Sound Manager was integrated into the Mac OS, so why is there a new version of Sound Manager?

This article has been archived and is no longer updated by Apple.
During the development of QuickTime 2.5, the QuickTime engineering team uncovered a few minor problems in Sound Manager 3.2 (which is integrated into System 7.5.3) that could affect QuickTime. So, a new version of Sound Manager, Sound Manager 3.2.1 was created and shipped with QuickTime 2.5.

If you are using QuickTime 2.5, you should have Sound Manager 3.2.1 installed. If you are running versions of QuickTime prior to 2.5, it shouldn't make a difference which version of Sound Manager is used since the problems only appear when QuickTime 2.5 are used.

For more information on how to get Sound Manager see the following article:

- Article 24455: "**Sound Manager: Where To Get It**"

Published Date: Feb 18, 2012

PowerPC 603e and 604e: Performance Comparison (9/96)

What is the performance difference between the PowerPC 603e processor and the PowerPC 604e processor used in Performa and Power Macintosh computers.

This article has been archived and is no longer updated by Apple.

A PowerPC 604e processor provides 1/3 (33%) greater performance than the PowerPC 603e at the same clock speed. For example, in Macintosh computers, this suggests that the Power Macintosh 8500/180 computer will be approximately 33% faster than the Macintosh Performa 6400/180.

Published Date: Feb 18, 2012

PowerPC 604 and 604e: Comparison (10/96)

What features does the PowerPC 604e processor provide over the PowerPC 604 processor?

This article has been archived and is no longer updated by Apple.

The 604e is a second version of the 604 with double the internal L1 cache sizes that total 64K (32K for the instruction cache and 32K for the data cache). The 604 has a total of 32K L1 caches (16K instruction and 16K data). Additionally, the 604e shrinks the 5.6 million transistors to 148 sq mm (from 196 sq mm). The smaller die also provides a lower power requirement and can use up to a 5:1 bus multiplier (604 has 3:1). With the 5:1 multipliers, these cards can support 250 MHz.

This article was published in the Information Alley on 10 September 1996.

Article Change History:
17 Oct 1996 - Added alley info.
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Apple IIc: Memory Expansion Card

The Apple IIc Memory Expansion Card is a dealer-installed option available for Apple IIc computers that have a memory expansion connector. This article has been archived and is no longer updated by Apple.
The card requires a memory expansion connector found on the IIc logic board. Simply exchange a logic board that does not have the connector for a board with the connector.

The Memory Expansion Card is sold with 256K RAM and may be expanded to 512K, 768K, or 1 Megabyte of RAM. Additional memory may be added at any time by plugging 256K RAM increments into the board's sockets.

Note: The Memory Expansion Card is static sensitive, so that proper electrostatic discharge precautions must be taken before handling the card.

The Memory Expansion Card will be available under ProDOS as a RAM disk, with the name /RAM4. Some software, such as AppleWorks 2.0, will use the extra RAM within the program.

To test the Memory Expansion Card, power on the Apple IIc and follow these steps:

1. Simultaneously press CTRL and RESET
2. Type CALL -151(CR)
3. Type C40AG(CR)

The Apple IIc responds with a message that indicates the RAM size found (256, 512, 768K, or 1M) and then tests the card until an error or until you press ESC.

The Memory Expansion Card test on an Apple IIc will give results whether or not a card is actually installed. You must make sure that a card is properly installed before getting valid results from the test.

When you run the diagnostics and there is no card, you should see:

MEMORY CARD TEST
ESC TO EXIT
TEST WILL TAKE 180 SECONDS
CARD SIZE = 1 MEG

PASSES = 0000

CARD FAILED
ADDRESS ERROR
SEE DEALER FOR SERVICE

8002- M=00 A=04 X=C1 Y=A0 P=B0 S=CE

(M is the memory bank where failure occurred)

If this is the message you are getting, then you may not have a RAM card (or it may not have RAM in it).

There is no other way of determining how much memory the Apple IIc has without writing a machine language program.
Published Date: Feb 18, 2012

QuickTime 2.5: Software MPEG Available

A few reviews of QuickTime 2.5 mention software MPEG playback is included. When I downloaded the software, I tried playing a MPEG video I downloaded, and it would not open or play.

This article has been archived and is no longer updated by Apple.

QuickTime 2.5 as it shipped in August 1996, does not have the ability to decode, playback, MPEG encoded files. A separate software MPEG extension was released later that added the ability to decode MPEG files. QuickTime MPEG Extension requires a Mac OS computer with a PowerPC processor, 16MB of RAM, and QuickTime 2.5.

Published Date: Feb 18, 2012

Workgroup Server 8550/200: Description (3/97)

This article describes the Workgroup Server 8550/200.

This article has been archived and is no longer updated by Apple.

The Workgroup Server 8550/200 is the most powerful member of the PowerPC processor-based Workgroup Server family from Apple. It delivers file and print, database, Internet, and communications capabilities that meet the needs of growing workgroups in education, business, and publishing. And it's ideal for workgroups that use both Macintosh and Windows software-based computers.

Apple Workgroup Servers are highly reliable, high-performance systems with large storage capacity that provide organizations with faster, more efficient shared network services and secure centralized storage. And the Workgroup Server 8550/200 not only meets these criteria, but also runs the familiar graphical interface of the Mac OS, making all of its capabilities incredibly easy to use.

Featuring a 200-megahertz PowerPC 604e processor with 64K on-chip cache and 512K level 2 memory cache, the Workgroup Server 8550/200 delivers all the performance benefits of state-of-the-art RISC technology. And for easy, flexible expansion, the Workgroup Server 8550/200 features three PCI slots that let you add capabilities by installing any of a variety of cards.

To make sure that network administrators can work as efficiently as possible, and that users get the most out of all that power and capacity, the Workgroup Server 8550/200 offers a choice of three software bundle solutions. The Applications Server Solution provides a variety of useful Apple and third-party software for administration, reliability, productivity, and performance. The AppleShare Server Solution includes all of the software that comes with the Applications Server, plus AppleShare file and print server software, remote administration software from Santorini, and Apple Remote Access MultiPort Server software. These two Workgroup Server 8550/200 solutions also include AppleShare Client for Windows software, so Windows users on the network can access networked printers and files stored on a Workgroup Server running AppleShare file and print server software. The Apple Internet Server Solution comes with all the software you need to create a presence on the World Wide Web-quickly, easily, and affordably.

So if you need a high-performance server for a demanding workgroup, we have the solution-the powerful and expandable Workgroup Server 8550/200.

Features

Expansion and storage

* Three PCI (Peripheral Component Interconnect) slots for expansion cards
* Internal 2GB, 7200-rpm hard disk drive, with bracket and cable for a second drive
* Internal 8x-speed CD-ROM drive
* Internal DDS-2 digital audio tape (DAT) drive (some configurations)
* Two SCSI DMA buses to support up to eight devices and transfers up to 10MB/s (internal only)
* Eight ports to support a wide range of peripherals

Networking

* Built-in Ethernet and LocalTalk capabilities
* Support for AppleTalk and TCP/IP networking protocols
* Token Ring support optional (with PCI card)

Power, speed, and memory

* 200-MHz PowerPC 604e RISC processor with floating-point processor and 64K on-chip cache on an upgradable CPU card
* 512K level 2 cache
* 32MB of RAM, expandable to 512MB

Fast, easy setup

* Comes with System 7.5.3 software installed
* Includes AppleShare 4.2.1 file and print server software
(some configurations)

Compatibility

* Comes with AppleShare Client for Windows (some configurations)

Bundled software
* Includes a variety of software for administration, reliability, productivity, and performance

Service and support
---
* Hardware troubleshooting for the life of the server; 90 days of assistance for Apple-branded software (phone support)
* One-year, on-site hardware warranty providing two-business-day response
* Additional service and support available

Ordering Information
==========

Workgroup Server 8550/200 (Applications Server Solution)

(32MB/2GB/CD/DAT)
Order No. M5488LL/A
* 512K level 2 cache, 1.4MB Apple
SuperDrive floppy disk drive, and mouse
* System software version 7.5.3
* Server Solutions CD and other bundled software

Workgroup Server 8550/200 (AppleShare Server Solution)

(32MB/2GB/CD/DAT)
Order No. M5489LL/A
* Identical to Order No. M5488LL/A, plus AppleShare 4.2.1, Apple Remote Access MultiPort Server software, and Server Manager from Santorini

Workgroup Server 8550/200

(32MB/2GB/CD)
Order No. M5486LL/A
* AppleShare Server Solution without a DAT drive or Retrospect Remote software

Workgroup Server 8550/200
(Internet Server Solution for the World Wide Web)

(32MB/2GB/CD)
Order No. M5487LL/A
* 512K level 2 cache, 1.4MB Apple SuperDrive floppy disk drive, and mouse
* System software version 7.5.3
* Apple Internet Server Solution CD (WebSTAR; PageMill; MacDNS; HomeDoor; NetCloak; ServerStat; RealAudio; Acrobat Pro; HyperCard; Web connectivity software for your existing EveryWare Butler SQL and FileMaker Pro databases; Navigator; BBEdit; clickable maps, e-mail, and database AppleSearch CGIs; cus-tomizable WWW pages and forms; AppleScript and scripting additions; AppleSearch; Apple RAID). Does not include Workgroup Server Solutions CD, AppleShare 4.2.1, or Server Manager.
* Includes WebMaster Macintosh by Bob LeVitus and Jeff Evans

Included with all Workgroup Servers:
---
* Complete setup, learning, and reference documentation
* Limited one-year hardware warranty

Macintosh Memory Expansion Kits

A variety of memory expansion kits are available. 168-pin DIMMs are required. Check with your Apple reseller for details.

Product specifications are subject to change. Check with your Apple reseller for the most current information about product specifications and configurations.

Article Change History:
03 Mar 1997 - Added keyword.
Published Date: Feb 18, 2012

Workgroup Server 8550/200: Technical Specifications (3/97)

This article lists the technical specifications for the Workgroup Server 8550/200.

This article has been archived and is no longer updated by Apple.

Microprocessor
==========

* PowerPC 604e RISC processor running at 200 MHz, located on upgradable CPU card
* Integrated floating-point unit and 64K on-chip cache
* 512K level 2 cache

Memory
======

* 32 MB of RAM, expandable to 512 MB

Storage
=======

* Internal 2 GB, 7200-rpm hard disk drive, with bracket and cable for a second drive
* One DDS-2 DAT drive-4 GB uncompressed, 14 GB compressed (some configurations)
* One 8x-speed CD-ROM drive (up to 1.2 MB/s
data-transfer rate)
* One Apple SuperDrive 1.4 MB floppy disk drive that reads, writes, and formats Mac OS, Windows, MS-DOS, and OS/2 disks

Bundled software/Server Solutions CD
==========

Administrative software
---
* Server Manager-remote AppleShare server management tools (with AppleShare Solution only)
* FileWave-automated software and data distribution
* netOctopus-setup assessment and configuration
file editing
* Adobe Acrobat Reader-viewing application for portable document format (PDF) files

Reliability software
---
* Apple RAID Software-data mirroring to protect against drive failures (RAID 1)
* Retrospect Remote-automated backup software
(DAT configurations only)
* Virex-automated virus screening and virus check

Productivity software
---
* AppleShare Client for Windows-enables Windows clients to connect to an AppleShare server (some configurations)
* 4-Sight FAX-lets you send and receive faxes from your desktop
* Now Contact-provides contact management tools
* Now Up*to*Date-handles group scheduling
* Viper Instant-Access-provides a cross-platform information retrieval system

Performance software
---
* Apple RAID Software-optimizes performance
of multiple hard disks through disk striping (RAID 0)
* Skyline/Satellite-enables monitoring of the network and server traffic over time

Note: Software bundled with the 8550/200 Apple Internet Server Solution for the World Wide Web includes Apple RAID Software and the Internet Server Solution CD.

Networking

==========

* Built-in Ethernet with 10BASE-T and AAUI
* Two serial ports for LocalTalk
* Support of TCP/IP networking software with Apple Open Transport

Displays
==========

* Supports up to 14-inch Apple displays at millions
of colors; 16- and 17-inch Apple displays at up to millions of colors
* Supports most third-party displays as well as VGA and SVGA monitors

Video support
==========

* Built-in 2 MB VRAM display support

Interfaces
==========

* Three PCI expansion slots
* One Apple Desktop Bus (ADB) port for a keyboard, mouse, and other devices
* On-board Ethernet using either AAUI-15 or RJ-45
* Two DMA serial (RS-232/RS-422) ports compatible with LocalTalk
* Two SCSI DMA buses supporting up to eight SCSI devices and transfers up to 10 MB/s (internal bus only)
* 16-bit stereo sound input and output ports
* DB-15 video port for display support

Clock/calendar
==========

* Custom integrated circuit with long-life lithium battery

Disability access
==========

* System software includes CloseView and Easy Access, and can substitute visual cue for beep. Built-in solutions and third-party options provide alternative input and output solutions for people with disabilities.

Keyboard and mouse
==========

* Supports ADB keyboards with numeric keypads
* ADB Mouse II included

Electrical requirements
==========

* Line voltage: 100 to 240 V AC, RMS single phase, automatically configured
* Frequency: 50 to 60 Hz, single phase
* Power: 225 W maximum, not including display

ADB power requirements
==========

* Maximum current draw for all ADB devices: 500 mA
(a maximum of three ADB devices is recommended)
* Mouse draws 10 mA; keyboard draws 25 to 80 mA (varies with keyboard model used)

Operating environment
==========

* Operating temperature: 50 degrees to 104 degrees F
(10 degrees to 40 degrees C)
* Storage temperature: -40 degrees to 116.6 degrees F
(-40 degrees to 47 degrees C)
* Relative humidity: 5 percent to 95 percent noncondensing
* Altitude: 0 to 10,000 ft. (0 to 3,048 m)

Size and weight
==========

* Height: 14 in. (35.6 cm)
* Width: 7.7 in. (19.6 cm)
* Depth: 15.75 in. (40.0 cm)
* Weight: 25 lb. (11.3 kg)-varies based on internal devices installed

Regulatory approval
==========

* FCC Class A

Article Change History:
03 Mar 1997 - Added keyword.

Published Date: Feb 18, 2012

Macintosh Computers: Average Static Propensity Values (9/96)

A Customer is having carpet installed in their Macintosh computer lab room. The carpet company that will be installing the anti-static carpet wants to know what the average Static Propensity level Macintosh computers have as to not harm the computers in the case of static build up. Knowing this value would allow them to put in carpeting with sufficient anti-static capabilities.

Can you tell me what the average stactic Propensity level is for most Macintosh computers?
This article has been archived and is no longer updated by Apple.
All Apple products are tested to comply with standard EC 55101-2. This ensures that Apple products are tested to withstand static electricity levels up to 15kv without permanent damage.

The level that is practical would be between 2kv to 4kv if the static is "directly" discharged to the product or 4kv to 8kv if "air" discharged (that is like a spark from your finger just before you touch something).

After researching the World Wide Web for "Static Propensity" we found that most carpet manufacturers list a level for Static Propensity in their carpet specifications. For example a specification for Mannington Commercial Carpet list the following: Static Propensity 3.0 kilovolts (kv) or Less as Tested in Accordance with AATCC-134, tested at 70 degrees Farenheit and 20 percent Relative Humidity. It is important to remember that static electricity increases in lower humidity environments.

While Apple cannot make a recommendation as to what static propensity level to look for when purchasing carpet, we can say that based on the static electric testing that Apple does, and the numbers specified that when looking for average values for most carpeting, it seems that 3kv would be an acceptable level.

This article was published in the Information Alley on 16 September 1996.

Article Change History:
16 Sep 1996 - Added Info Alley publication information.
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Item Text Copied In The Finder

The clipboard seems to be unusually limited in its capacity to hold text when it comes to copying the contents of a Finder window.

I opened a Finder window which contained many files and select them all. I then chose the Show Clipboard command under the Edit menu and only 10 to 15 items typically appeared. I was able to reproduce this with either 680x0-based, or PowerPC-based computers running System 7.5.3.

Chalk this a clipboard peculiarity?

This article has been archived and is no longer updated by Apple.
There is a 256 byte limit for item text copied in the Finder. This means the number of characters you would be able to copy from a set of items is 256 minus the number of items, and the Finder will not copy partial names. The number of items enters into it because a carriage return character (0x0D) is copied along with every item. This limit does not apply to icons.

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LaserWriter IINTX SCSI Hard Disks: General Information

This article has been archived and is no longer updated by Apple.

Configuring the hardware:

The extended ROM support of a disk-based file system and the 53C80 SCSI controller with a 50-pin external connector allows you to attach one or more SCSI hard disks to the LaserWriter IINTX. The addition of a hard disk acts as "virtual memory", increasing the space available for font storage, font caching, or a display list buffer.

When connecting hard disks to the LaserWriter II?ϕ follow the standard SCSI procedures:

- each disk drive must have a unique SCSI ID number

- no more than two SCSI cable terminators in a chain

- no more than 7 devices.

The LaserWriter IINTX controller does NOT provide termination of the SCSI signals or active power for external terminators.

LaserWriter IINTX will NOT recognize any of the attached disks unless they are ALL turned on when you want to use any one of them.

(NOTE: some manufacturer's disk drives do not have the intelligence to report their size. These disk drives SHOULD NOT be used on the LaserWriter IINTX.)

Initialization:

Initialize the disks and download fonts to them with the LaserWriter Font Utility application on the LaserWriter II installation disk.

Initialization allots 20 percent of total disk space to font storage, and 80 percent to font-caching. The LaserWriter IINTX automatically increases the storage percentage as needed. The Font Utility application warns you when the percentage is high enough to threaten font-caching performance.

The LaserWriter IINTX regards all attached hard disks as a single logical unit. Therefore, if you add a disk to the system you will have to re-intialize ALL your disks and rebuild your font storage. The font cache rebuilds itself automatically. Because you can chain several hard disks, the space available for font-caching is essentially unlimited, and thus the bit-maps are always available.

Downloading:

When you download a font (and you have a hard disk attached,) you can choose to download it either to the disk or to RAM. Downloading fonts to the disk stores them there permanently (until you remove them). This process saves time, because you won't have to download repeatedly over the AppleTalk network.

Start-up Sequence:

Postscript checks the disk device for file-system integrity -- and the disk-based font cache for internal consistency -- each time the LaserWriter

IINTX is turned on. If the check for file-system integrity fails, the disk device is re-initialized; for this reason you should ensure that ALL data on the device is recoverable from another source.

If the check of the internal consistency of the disk-based font cache fails, the information in the font cache is discarded, and associated data structures and files are restored to their initial state. If these start-up diagnostics are completed successfully, PostScript searches the disk device for a file named Sys/Start.

Sys/Start File:

A Sys/Start file can be used to set volatile parameters and to load special items into virtual memory before any other job is executed. If a Sys/Start file is stored on the disk device, it will be executed if "dosysstart" is true, right after completion of the start-up diagnostics.

If the file has become corrupt, it is necessary to restart the printer with the disk device turned off. To prevent the file from being run, you need to set "dosysstart" to FALSE -- then the Sys/Start file would not be executed the next time the printer is turned on. (To replace the bad Sys/Start file, restart the printer with the disk device turned on.)

Storing/Replacing the Start-up File:

The procedure used to download your Sys/Start file to the printer's disk device is broken into two PostScript programs to preserve virtual memory, which is consumed when working outside the server loop:

(NOTE: Virtual memory is not recovered until the printer is powered-down and on again. To protect the system files, it is necessary to work outside the server loop when accessing these Sys files.)

- The first job stores the text of your Sys/Start file to a temporary file. It is not necessary to exit the server loop to perform this function.

- The second job exits the server loop, deletes the Sys/Start file if one already exists, and renames the temporary file to Sys/Start.

Actual code is provided in the current Apple LaserWriter Reference manual.

Article Change History
15 September 1993 - Changed the LaserWriter model designators to upper case.

Published Date: Feb 18, 2012

At Ease Admin: Access Information No Longer Valid

I have the Apple Network Administrator Toolkit (ANAT), and when I launch the At Ease Administration application, to administer our At Ease 4.0 computers, I get this error message, "User's access information is no longer valid." I keep getting this message, no matter what workstation I launch the program from. How do I fix this?
This article has been archived and is no longer updated by Apple.

Symptom

Using Apple Network Administrator Toolkit (ANAT), and launching the At Ease Administration application, the following error message appears: "User's access information is no longer valid."
Below are four items to check which should resolve this issue:

Solutions

One of the four items below should resolve this issue:

- Make sure you are entering the proper name and password.
- Make sure the owner of the At Ease volume on the server has not changed.
- On the server, delete the At Ease Server preferences file. (The At Ease Server preferences file is in the Preferences folder which is in the System Folder.) Then restart the server. When you launch the At Ease Administration application, you will be prompted to enter the volume name and the name and password of the owner of the At Ease volume.
- If you have mounted any volume of the server on your desktop, unmount it first before trying to open the At Ease Administration Application. If you are using At Ease Administration Application, which is signed on to an active workgroup, you may need to quit from that workgroup.

Published Date: Feb 18, 2012

LaserWriter Printers: PostScript for Configuration Page (9/96)

I am using a UNIX workstation to print to an Apple LaserWriter printer. Is there some way to use PostScript to generate a configuration page?

This article has been archived and is no longer updated by Apple.

You can use the following PostScript code fragment to generate a LaserWriter configuration page. This only works on PostScript LaserWriter printers. Printers such as the Personal LaserWriter LS, or Personal LaserWriter SC, which use QuickDraw instead of PostScript do not work with this PostScript code fragment.

```
%==========================================================
% Begin PostScript code
%
/SamplePages/ProcSet findresource/TestPage get cvx exec
%
% End PostScript code
%==========================================================
```

Published Date: Feb 18, 2012

Korean Language Kit: Read Me

This article contains the Read Me file for the Korean Language Kit 1.0. It provides specific information and tips for using the Korean Langauge Kit, including important imformation on installation and compatibility.
This article has been archived and is no longer updated by Apple.

Sample Software Folder

The floppy disk set and the CD-ROM both contain the software needed to install the Korean Language Kit. The CD-ROM includes demo applications you can use with your Korean Language Kit.

Installation

- Refer to the Macintosh Korean Language Kit Installation and User's Guide for installation and setup information.
- If you are installing the Korean Language Kit on the Arabic or Hebrew version of the Mac OS, you may want to choose the left-to-right setting in the "Text" control panel for proper justification of Roman text during installation.
- Installing over a pre-System 7.5.1 system.

We recommend that you use system 7.5.1 or newer for best results.

Compatibile Apple WorldScript and QuickDraw GX Application Programs

Apple makes no warranties or representations regarding the quality or compatibility of third party products. Warranties, if any, relating to such third-party products are between the software vendors and their customers.

The Korean Language Kit can be used with many non-Korean application programs that use the Apple WorldScript and/or QuickDraw GX software technology. Programs that use one or both of these technologies include:

- HyperCard, from Apple Computer, Inc.

Note: The above list is not intended to be comprehensive. Many non-Korean application that do not employ WorldScript software technology may provide limited functionality and allow input of Korean characters. Please check with application vendors for more information about their product's support for multilingual systems available on the Mac OS.

- ClarisWorks
  If you are using the Korean version of ClarisWorks 2.0 or 3.0, with the Korean Language Kit, you will need to update to a later version to achieve compatibility. Please contact your distributor for the update.

Published Date: Feb 18, 2012

Korean Language Kit: Troubleshooting

This article contains troubleshooting solutions for the Korean Language Kit 1.0.
This article has been archived and is no longer updated by Apple.
1) Question: I see odd characters that I cannot read in some of my file and folder names.

Answer: The font your system is using for file and folder names does not contain any Korean characters. Korean names cannot be properly displayed unless your system uses a font that contains Korean characters.

Choose Control Panels from the Apple menu and open the Views control panel. Change the font for views to Seoul.

The Seoul font contains Korean characters as well as the most commonly used Roman characters. If you are using a Roman-based primary script, you can usually view all your file and folder names correctly by setting the font for views in the Views control panel to the Seoul font. If your primary script is non-Roman (such as Japanese or Chinese), the Seoul font should not display your file and folder names correctly, and we recommend that you continue using a font from your primary script to display file and folder names.

2) Question: I changed my Views control panel to the Seoul font, but I still see odd characters in my Korean application program.

Answer: Your system may not recognize your Korean application as Korean.

1. Open the Korean Language Register, which is in the Apple Extras folder on the disk where you installed the Korean Language Kit.

2. Click the Register Application button.

A list of application programs appears.

3. Click the application program you want to register as Korean.

4. Click the Register button.

Now you can open your program and begin working in Korean.

3) Question: I changed my Views control panel to the Seoul font, and now I cannot read all my non-Korean file and folder names.

Answer: If you have file or folder names that contain non-English Roman characters, they should not be correctly displayed after you change the Views control panel to the Seoul font. The Seoul font does not contain these other characters.

In the Views control panel, choose a font that can correctly display your non-Korean file and folder names. Then use non-Korean names for all your files and folders, even those that contain Korean.

The Seoul font is only necessary to read Korean file and folder names. If you do not set the Views control panel to Seoul, you would still see Korean correctly displayed within your Korean or WorldScript-savvy application programs. You can write and print in Korean; just remember to give your files non-Korean names.

4) Question: I changed my Views control panel to the Seoul font, but I still see odd characters in my Application menu.

Answer: The Application menu cannot display Korean names, even after you set your Views control panel to the Seoul font. The names of your Korean application programs would not be correctly displayed in the Application menu and in certain dialog boxes.

The icons that appear in the Application menu next to each program's name may help you identify your Korean programs.

5) Question: After setting the font in the Views control panel to Seoul, I cannot edit a Korean file or folder name.

Answer: You may have a non-Korean keyboard selected in the Keyboards menu. Choose the Power Input Method from the Keyboards menu.

6) Question: I cannot open a file in SimpleText Korean.

Answer: If you have more than one version of SimpleText on your computer, such as the Korean and English versions, the wrong version may start when you try to open a SimpleText Korean file.

Start SimpleText Korean, then choose Open from the File menu to open your SimpleText Korean file.

7) Question: My Korean dates and times are not displayed correctly.

Answer: If you are used to working on a Korean Macintosh, you may expect to see dates and times displayed according to the Korean format. But the Korean Language Kit does not change your whole system to Korean. Your primary system language is still the same, so your dates and times are displayed according to the original format.

8) Question: I re-installed one of my Korean application programs. Do I need to re-register it in Korean?

Answer: If the name of your program changes, you must re-register it. See instructions on registering a program in Korean.

9) Question: I have been using another Korean product on my Macintosh computer, but I cannot read the documents I created with it.

Answer: The Korean Language Kit fonts are based on the standard Korean encoding as defined by the Korean information technology standards committee. The product you have been using may be based on another character encoding; therefore the documents would not be compatible. Please check with the developer of the other Korean product.
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Megaphone: Sound Input Device Already in Use (9/96)

When I attempt to open MegaPhone, an error message occurs stating that the sound input device is already in use. What causes this error message?

This article has been archived and is no longer updated by Apple.

Step 1

From the Apple menu, open the Extensions Manager control panel.

Step 2
---
* Global Village Telport Gold IIv modems:

Verify that the the following extensions are on (checked):
- Internal Modem Sounds
- Serial Update 406
- Telephone Manager Extension

* Global Village Telport Platinum V modems:
Verify that the the following extensions are on (checked):
- Audio Volume Extension
- Processor Info Extension
- Serial Update 406
- Telephone Manager Extension

Step 3

Close the Extensions Manager window and restart your computer. MegaPhone should run correctly.

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The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.

This article was published in the Information Alley on 13 September 1996.

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Korean Language Kit: Requirements for Installation

This article details the system requirements for the Korean Language Kit 1.0.
This article has been archived and is no longer updated by Apple.

Computer & Memory

One of the following Macintosh or other Mac OS-compatible computers:

- An Apple Macintosh or PowerBook computer with a 68020 or later processor and 5 MB of RAM (8 MB if you are using System 7.5 and QuickDraw GX installed).
- A Power Macintosh computer with 8 MB of RAM (16 MB if you are using System 7.5 and QuickDraw GX installed).

System software

- Macintosh System 7.1 or later. System 7.5 is recommended.

Storage capacity

- Full installation--approximately 30 MB.
- An Apple SuperDrive floppy disk drive or a CD-ROM drive

Other

- An application that supports WorldScript or has been localized for Korean

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Apple IIGS: Alternate Display Mode Desk Accessory

This article has been archived and is no longer updated by Apple.

The Alternate Display Mode is a small firmware routine that can be activated from the Desk Accessory menu. It makes the Apple IIGS compatible with applications that display text or graphics on Page 2 (memory $800-$BFF).

The Apple IIGS does not shadow this range of memory to the Mega II normal RAM. However, some programs depend on this shadowing in order to display Text or Low-Res Graphics from Page 2. These programs will not work because the hardware is not updating the slow screen memory with the appropriate memory range from the Fast RAM.

Enabling the Alternate Display Mode will install a small routine into the Heartbeat Manager routine queue. This fast routine copies the appropriate values every 1/60 of a second, assuming that VBL interrupts have been turned on and the Heartbeat Manager has been initialized. While this slows overall execution speed of any programs on the Apple IIGS, they still run faster than on an Apple IIe or Apple IIc.

For more information on the Apple IIGS Heartbeat Manager, see the Apple IIGS Firmware Reference Manual or the appropriate database article.

Published Date: Feb 18, 2012

Control Panels: Obtaining Version Information

I am trying to obtain the version of the Launcher control panel. To do this, I have selected Get Info from the File menu in the Finder. However, the version is displayed as "n/a" in the Get Info window. How can I determine which version of the Launcher I have?

This article has been archived and is no longer updated by Apple.
The Launcher is a control panel. When a control panel is open, its resources are in use. Since the version information is kept in a version ('vers') resource in the control panel's resource fork, the Finder is unable to access this information. This why "n/a" (not available) is displayed in the version section of the Get Info window.

If you want to obtain the version of a control panel, close the control panel and then close and re-open the folder that contains the control panel, which is typically the Control Panels folder within the System Folder.

By closing and re-opening that folder, the cached Finder information is updated.

The Finder caches many resources that are displayed in Get Info window such as custom icons and 'vers' resources to increase performance.
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Macintosh 5200 w/8-bit Sound: Clicks in Sound Control Panel

I have a Macintosh Performa 5200 computer that included System 7.5.1. After updating to System Software 7.5.3 using System 7.5 Update 2.0, I hear clicking sounds before the Alert sound is played in the Sound control panel. This seems to occur only in the Sound control panel. What is causing these clicking sounds?
This article has been archived and is no longer updated by Apple.
These clicking sounds appear to be related to the interaction between the version of Sound Manager that is installed with System 7.5 Update 2.0 and the sound chip in some Power Macintosh and Macintosh Performa 5200 series computers. The computers that may be affected have 8-bit, 22.254 sound output. To determine whether your computer has 8-bit sound follow these steps:

1. Choose Control Panels from your Apple menu.
2. Open the Sound control panel.
3. Choose "Sound Out" from the "Alert Sounds" pull down menu. If the 16-bit sound input radio button is grayed out, you have 8-bit sound.
4. Use the close box in the upper left corner to close the Sound control panel.

System 7.5.1, which was included on your computer, has Sound Manager version 3.0.2 built into it. After updating with System 7.5 Update 2.0, Sound Manager 3.2 is installed. The clicking sound occurs only on Power Macintosh and Performa 5200 series computers which have 8-bit sound and which have Sound Manager 3.2 installed.

To resolve this issue, you should install QuickTime 2.5, which installs Sound Manager 3.2.1. After upgrading the Sound Manager to 3.2.1, the clicking sound no longer occurs in the Sound control panel.

QuickTime software can be found at:

http://www.apple.com/quicktime/

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Macintosh Performa 6400: Difficulty Connecting to AOL (9/96)

I am having difficulty connecting to America Online using the Global Village Platinum V modem that was included with my Macintosh Performa 6400 computer. Are there any special configurations that I need to set?

This article has been archived and is no longer updated by Apple.

The instructions for properly setting up America Online for use with your Global Village Platinum V modem are included in the On-line Settings Read Me file which is located: Applications -> Global Village TelePort Extras -> On-line Service Settings.

Following are the steps included in that Read Me file:

Step 1

Install America Online according to the installation instructions supplied with the application.

Step 2

Copy the "GV TelePort Platinum" modem script to the Online Files folder in the America Online folder.

The America Online modem script is located in the America Online subfolder of the On-line Service Settings folder in the Global Village TelePort Extras folder (Global Village TelePort Extras:On-line Service Settings:America Online:GV TelePort Platinum).

Step 3

Launch the America Online application.

If this is the first time you are using America Online, you may need to personalize and set up the application.

Step 4

When the Welcome to America Online! screen appears, click the Setup button.

The Connection Settings dialog box appears. You will specify the settings in the First Try section of the dialog box first.

Step 5

Choose the GV TelePort Platinum modem script from the Modem Type pop-up menu.

Step 6

Click the Hardware Handshaking check box.

Step 7

Set the Connection Speed to 38,400.

Step 8

Enter your access number and dialing options (if they are not already entered).

For more information about specifying an access number and dialing options, refer to the America Online documentation.

Step 9

Repeat steps 5ð8 for the Second Try section.

Step 10

Click the Save button to save your configuration.

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TA35985_Macintosh_Performa_Difficulty_Connecting_to_AOL__(TIL20394).pdf

The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.

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Bundled Performa Modems: Factory Reset Commands (12/96)

What are the factory reset commands, default flow control settings, and initialization strings (for high-speed access) for each of the modems bundled with Macintosh Performa computers?

This article has been archived and is no longer updated by Apple.

Modem	Factory Reset Command	Setting for High Speed Access	Flow Control
Bronze, Bronze II	AT&F	AT&F	N/A
Gold II (external)	AT&F1*	AT&F1&K3**	CTS Only
Gold IIv	AT&F1	AT&F1	CTS Only
Platinum V	AT&F1	AT&F1	CTS Only
Platinum external	AT&F1	AT&F1	CTS Only
GeoPort Internal	AT&F	AT&F	Not applicable; bus modem.
GeoPort External	AT&F	AT&F	Not applicable; bus modem.

NOTES
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* AT&F and AT&F0 is discouraged on the TelePort Gold II for Performa. If they are used, the connection light will not function properly: it may indicate a connection even if none is present. (This information is taken from page 166 of the Global Village Gold II User's Guide.)

** The AT&F1 command invokes both CTS flow control and Xon/Xoff flow control. Using the AT&F3 forces the modem to use just CTS flow control.

1) Each of the above commands (except for the Bronze) also enable V.42bis and MNP5 data compression/error correction, and enable the modem to automatically determine what the service provider is using.

2) Note that the Gold II for Performa only supports error correction and data compression with the Global Village 2.5P or later software.

3) Note that not all modems are identical. Therefore, if the above commands invoke modes which are not supported by the modem on the other side, other AT commands may need to be used to modify modem behavior. See your modem user's guide and consult with the service provider for additional information.

4) The connection dialog used should have a section to select the flow control option. If the flow control option is not the same as what the modem is configured to use, you may lose characters when receiving (or, in some cases, transmitting) data. Whenever you use hardware-based flow control, such as CTS Only, always turn off Xon/Xoff if the software provides you with such an option.

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The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.

Article Change History:
10 Dec 1996 - Added information for all modems.
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Macintosh Performa 6400: Reset Button for Modem? (10/96)

The online documentation for the Macintosh Performa 6400 indicates that there is a reset button for the Global Village modem in the TelePort control panel. However, there is no TelePort control panel. How do I reset the modem?

This article has been archived and is no longer updated by Apple.

Although the computer includes a Global Village modem, it has been bundled with Apple Telecom 3.0 software. The documentation refers to the Global Village software bundled with this modem on other computers.

To reset the modem, follow these steps:

Step 1

Open ClarisWorks and open a new Communications document.

Step 2

From the Settings menu, choose Connection. A dialog box appears.

Step 3

Choose Serial Tool from the Method pop-up menu, and confirm that the Modem Port icon at the bottom of the dialog is selected.

Note: The Method pop-up menu is at the top of the dialog box and by default it is normally set to Apple Mode.

Step 4

From the Sessions menu, choose Open Connection.

Step 5

Type AT and press the Return key. If an OK appears, you are ready to proceed. If not, review the steps listed above.

Step 6

Type AT&F1 and then press the Return key. You should get an OK in response.

You may wish to save the current configuration as a document by using the Save command from the File menu. If you subsequently need to issue a factory reset or otherwise test the modem with AT commands, you can open that saved document, then use Open Connection from the Sessions menu to use such commands.

This article was published in the Information Alley on 17 October 1996.

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17 October 1996 - Added info alley information.
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Macintosh 5xxx/6xxx: Wrong Sound Capabilities Reported (9/96)

I have a Macintosh Performa 5300 series computer, and I am attempting to use a program that requires 16-bit sound. Although I think my computer has 16-bit sound, the program is reporting that the computer is only capable of 8-bit audio. Does this computer have 16-bit sound? If so, why am I unable to use this program?

This article has been archived and is no longer updated by Apple.

When System 7.5.1 is running on Power Macintosh and Performa 5200, 5300, 6200, or 6300 series computers capable of 16-bit audio input*, programs that use a Gestalt call to determine the audio input capabilities of the computer may report that the computer is only capable of 8-bit audio input. This is incorrect. The computer will correctly record 16-bit audio data unless the program disables 16-bit sound recording based on the incorrect report from the computer.

This is resolved in System 7.5.3. You can upgrade from System 7.5.1 to System 7.5.3 by installing System 7.5 Update 2.0 (available on the Internet and online services) or by installing System 7.5 version 7.5.3 (available for purchase).

* Note: All Power Macintosh and Performa 5300, 6200, and 6300 series computers support 16-bit audio input. Some Macintosh 5200 series computers support 16-bit audio and some do not. The following models only support 8-bit audio input:

Order no.	Product Name	Sound
M3947LL/A	Power Macintosh 5200 LC 8/500/CD	8-bit
M3917LL/A	Power Macintosh 5200 LC 8/500/CD/VI/TV	8-bit
M3947LL/B	Power Macintosh 5200 LC 8/500/4XCD	8-bit
M3940LL/A	Macintosh Performa 5200CD 8/500	8-bit
M3941LL/A	Macintosh Performa 5200CD 8/500/TV/VI	8-bit

If your computer is not listed and you would like to verify whether your computer has 8-bit or 16-bit sound, follow these steps:

Step 1

Choose Control Panels from your Apple menu.

Step 2

Open the Sound control panel.

Step 3

Choose "Sound Out" from the "Alert Sounds" pull down menu. If the 16-bit sound input radio button is grayed out, you only have 8-bit input.

If 16-bit is not grayed out, make sure there is a dot in the radio button next to it.

Step 4

Use the close box in the upper left corner to close the Sound control panel.

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At Ease 4.0: How To Setup For Workgroups

This article describes how to setup At Ease 4.0 for Workgroups.

This article has been archived and is no longer updated by Apple.
For more information, see the "Apple Network Administrator Toolkit" manual in Part 2, Chapter 3 -- Setting Up Your At Ease Server -- page 2-27.

Step One - Configure the Server

1. Install the At Ease Server software on the AppleShare file server that can function as the At Ease server. This installation installs the At Ease Server extension on the AppleShare file server.

If you have already installed the At Ease Server software, you should throw the "At Ease Server Prefs" file (located in the Preferences folder) in the Trash so that no preferences remain while you follow these steps. You would have to restart the server after throwing the "At Ease Server Prefs" file in the Trash.

2. Create a new folder on the AppleShare file server and call it something like, "At Ease Folder". This folder would become the At Ease Volume.

3. Open the AppleShare Admin application and create a new user. (NOTE: To open the AppleShare Admin application, you must know the Admin
password or key. If you do not know the password, find out who the server administrator is to preform these steps on the AppleShare file server.)

In the Name field enter something like, "At Ease Admin" and assign a password. Select the Login Enabled checkbox, and BE SURE the All Privileged Enabled checkbox is NOT selected. If the All Privileges Enabled option is selected, this user would be an AppleShare super user. What this means is, when At Ease mounts the At Ease volume, everything on the server would be available all At Ease users. In other words, At Ease users would be able to See Folders, See Files, and Make Changes to all files on the server. This is NOT a good security practice.

4. While the AppleShare Admin application is still open, share the "At Ease Folder" you created in item 2 above. Make the Owner "At Ease Admin" and select the See Folders, See Files, and Make Changes checkboxes for the owner. No User/Group is necessary, so both User/Group and Everyone need NO privileges. In other words, do not select the See Folders, See Files, and Make Changes checkboxes. Also it is not necessary to select "Change All Enclosed Folders" checkbox, AppleShare assumes any enclosed folders would "inherit" these settings when you click save.

5. Make sure the AppleShare File Server application is running on the server.

Step Two - At Ease Administration

1. You can set up your At Ease server from a Macintosh computer on your network on which the At Ease for Workgroups administrator software is installed. This might be your own computer (the Administrator's computer) or any other Macintosh computer on the network, EXCEPT the At

Ease server computer. AppleTalk must be active on the computer you are using to set up the At Ease server, and you must be able to see the AppleShare serve which would be the At Ease server in the Chooser. You should not mount the AppleShare server.

2. On the workstation you choose to set up your At Ease server, install At Ease for Workgroups 4.0 administrator software. The installer would place the Network Administrator Toolkit folder at the root level of the hard disk. In this folder is the At Ease Administration application.

If you have already installed the At Ease for Workgroups 4.0 administrator software and you have already run the At Ease Administration application, you should throw the At Ease Items WG folder, in the System Folder, in the Trash. Be sure you throw the entire At Ease Items WG folder in the Trash because At Ease can create another one.

3. Open the At Ease Administration application, which would look for the At Ease server on the network. If the At Ease server is in the same AppleTalk zone as the computer you are using, a dialog box would appear with this message, "The At Ease server, 'Server Name', has not been configured properly. You would need to do this before continuing." Click OK, and the At Ease Server dialog box appears requesting the volume name (from item 2, Step One above), and the AppleShare user's name and password (from item 3, Step One above). Click OK, and the At Ease Administration connection dialog appears. Click OK, and the At Ease Administration window opens.

4. Create a new user and a new setup within At Ease, something to write back to the At Ease server. Also, leave At Ease Off for now. Select quit from the file menu, a progress bar appears with the message, "Cleaning up and optimizing."

Then go back to the At Ease server.

Step Three - Checking at the Server

Back at the server, open the At Ease Folder. There should be an At Ease Items WG folder which contains all of the At Ease Information.

If you are not updating from a previous version of At Ease for Workgroups, you may skip the following instructions.

If you are updating from a previous version of At Ease for Workgroups, you should have a folder called "At Ease Items" located on the volume which was previously specified as the At Ease Disk. MAKE A BACKUP OF THIS FOLDER BEFORE PROCEEDING. Drag the At Ease Items WG folder from the At Ease folder to the trash. Place the At Ease Items folder from the previous At Ease for Workgroups in the At Ease folder. Go to the administration workstation and launch At Ease Administration. You should get a message stating:

"At Ease Administration found preferences for an older version of At Ease. Do you want to convert this information to work with this version of At Ease? Note: The old preferences would not be modified in any way."

Click "Yes".

At Ease Administration can then convert the old information into the new format.

Step Four - Try it out

1. Go back to the administration workstation and open the At Ease Administration application. Click Workstations and add all of the remaining workstations to the At Ease computers list. Turn At Ease On and quit the At Ease Administration application.

2. Restart a different workstations on the network that already has At Ease Workstation software installed.

3. This workstation should startup to the login screen. At Ease is now up and running.

Note: It does not matter what you name the At Ease Volume, or what you name the owner. The names chosen are examples that "made sense" to use when configuring At Ease. If you wish to name them something else, that is fine.

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Apple IIc, IIc Plus And IIe: Interfacing To An RGB Monitor

Can you interface an Apple IIc, IIc Plus or IIe to an RGB Monitor?
This article has been archived and is no longer updated by Apple.
To interface an Apple IIe, Apple IIc, or Apple IIc Plus to a digital RGB color monitor, you must get an interface card, as well as a device called a Peacock, model CM2C. This device is available from Telemax Inc.

To interface an Apple IIe to an analog RGB color monitor, you'll need something like the RamWorks memory card and the ColorLink RGB card, both available from Applied Engineering.

The Tech Info Library Article 17159: "**Locating Vendor Information**" can help you search for a particular vendor's address and phone number.
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Apple IIGS Super Control Panel: Refresh rate

This article has been archived and is no longer updated by Apple.
From the Control Panel on the Apple IIGS, one can set many of the system configuration settings stored in the battery RAM. These include such settings as screen color, microprocessor speed, slot assignment, and others. However, one of the configurable settings that is not included as an option in the Control Panel is the screen refresh rate.

Because the Apple IIGS is an international machine, it must be able to conform to European standards. In Europe, the screen refresh rate is 50 Hz, rather than 60 Hz as defined by the U.S. standard.

In order to change the screen refresh rate, one must enter the "Super" Control Panel. This control panel is kept separate from the regular Control Panel for safety reasons. No harm will come to the Apple IIGS or the monitor if the refresh rate is incorrectly set. However, the screen display may become unreadable as long as the incorrect mode is set. The Super Control panel was made less accessible so that it would be more difficult to accidentally change the setting.

Entering the Super Control Panel is done by re-booting the computer in a special way. Rather than pressing Open-Apple/CTRL/Reset, the normal key sequence for rebooting, simultaneously press OPTION, CTRL, and Reset. The computer will cold start and then display the Super Control Panel screen. From there one can change the screen refresh rate, enter the regular Control Panel, or continue with the boot process.
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At Ease 3.0.x, Restricted Finder, and Installer Issue

I'm using At Ease 3.0.1 on the workstations in my workgroup, and I have set the users to have a Restricted Finder. I have deselected items users are not allowed to access on a CD-ROM disc, however, users are able to access these deselected items, like an application installer. What am I doing wrong?

This article has been archived and is no longer updated by Apple.
This issue happens with all versions of At Ease for Workgroups 3.0, including the latest version 3.0.2. The Restricted Finder, in At Ease for Workgroups 3.0.x, does not handle removable media properly. In fact, when a user goes into the Settings... option, to specify which files can or cannot be seen on a particular CD, the instructions at the top of the window states, these settings are for the Panels.

Below that it says, everything will be visible in the Finder. What is not specifically stated is, what is true for the Finder is also true for the Restricted Finder.

This issue has been resolved in At Ease 4.0 which is part of the Apple Network Administrator Toolkit.

The feature works properly both in Panels and Restricted Finder.

You should do one of the following:

'Not use the Restricted Finder with At Ease 3.0.x version
' Upgrade to At Ease 4.0 if you need this control in the Restricted Finder

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Published Date: Feb 18, 2012

Global Village Modems: Smeared Status Bar in PPP Sessions (9/96)

When using FreePPP, the Global Village status bar appears to be multi-colored or smeared. What is causing this?
This article has been archived and is no longer updated by Apple.
According to Global Village, version 2.5.2v2 of FreePPP resolves this issue.

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The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.

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Global Village Modems:Faxing from Office 4.2.1 Apps & Type 3 Error

I have a Macintosh Performa computer that included a Global Village modem. I am attempting to fax a Microsoft Word document by holding down the Option key and selecting Fax from the File menu. However, I get a Type 3 error whenever I try this.
This article has been archived and is no longer updated by Apple.
According to Global Village, this issue occurs in Microsoft Word or Excel, which are included with Microsoft Office 4.2.1, when using version 1.0 of the Office 4.2.x Update for Power Macintosh. Version 1.0.1 resolves the issue, and is available on the Microsoft web site.

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The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.

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Global Village Modems: Cropping on Legal Size Faxes (5/97)

I have a Macintosh Performa computer that was bundled with a Global Village modem. When I attempt to fax a legal-sized document, the image is cropped in unusual places. How can I prevent the fax from being cropped?

This article has been archived and is no longer updated by Apple.

You should have a margin of at least 1/2 inch in any document that you are planning to fax. Otherwise, unwanted cropping may occur.

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Performa 6400: Installing Macintosh Tutorial Part II

How can I reinstall the Macintosh Tutorial Part II on my Macintosh Performa 6400 series computer?
This article has been archived and is no longer updated by Apple.
Macintosh Tutorial Part II is available on the Macintosh Performa 6400 Guided Tour CD-ROM disc. Follow these steps to reinstall it:

1. Open the Macintosh Performa 6400 Series Guided Tour CD-ROM disc.

2. Locate and open the Hard Disk Files folder.

3. Locate and open the System Folder Files folder.

4. Locate and open the Extensions folder.

5. Locate the file, Macintosh Tutorial Part II, and drag it to the Extensions folder located in your System Folder on your hard drive.

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Network Server 500 or 700: Creating a Logical Volume (10/96)

How do I create a Logical Volume on my Apple Network Server 500 or 700 running AIX?

This article has been archived and is no longer updated by Apple.

There are four methods for adding a logical volume to the Network Server: command line, SMIT, visual Storage Manager, or the AppleTalk Disk Management Utility. Also, a logical volume will be created when a file system is created not using an existing logical volume. A logical volume is made up of a number of logical partitions. There are various options available when creating a logical volume, from as simple as just specifying size, to specifying mirror or stripe, to specifying the exact physical volume and physical partition mapping.

* Command line: Command line options are not recommended for novice users unfamiliar with Unix commands; for more information see mklv and chlv. Below is an example of how to creat a logical volume on the root volume group with a name of workvg and having a size of 12 logical partitions:

mklv -y'workvg' rootvg 12

* SMIT: This is the recommended method for Unix novices, enter 'smit mklv', then enter or select the volume group where the logical volume will be created. The only required field is for the number of logical partitions that will be used to create the logical volume. Additional fields can be completed to customize the logical volume.

* Visual Storage Manager: Open the Volume Manager from the Application Manager - System_Admin on the tool bar or execute the '/usr/bin/X11/xlvm' command. Select the logical volume template type and drag the appropriate logical volume template using the middle mouse button to a volume group or in a logical volume pane expanded from a volume group.

* AppleTalk Disk Management Utility, AppleTalk and ppcd services must be configured on the server. Launch the Disk Management Utility on a Macintosh and connect to the server as root. Select a volume group and select the 'New File System...' command under the Configuration menu. Set the size and type of logical volume or file system.

Useful Commands

The 'lsvg' command can be used to gather information about a volume group and the physical volumes in a volume group.

lsvg :lists all volume groups
lsvg -p <volume group> :lists physical volumes in a volume group
lsvg -n <physical volume> :lists information about the volume group, such
as size, free space, and physical partition
size
lsvg -M <volume group> :lists allocation of each physical partition in
a volume group
lsvg -l <volume group> :lists each logical volume in a volume group
and some of the logical volume characteristics

For more information see Info Explorer
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* Topics & Task Index, Managing Physical and Logical Storage, Logical Volumes

* List of Books, System Management Guide: Operating System and Devices, Chapter 5. Logical Volumes

Published Date: Feb 18, 2012

AIX: Information Sources

I have purchased an Apple Network Server 500 and Apple Network Server 700, where can I find additional information on AIX?

This article has been archived and is no longer updated by Apple.
You can find training and other information on these IBM published Internet web sites:

- IBM AIX Support Site: http://service.boulder.ibm.com/aixsupport/
  Links to conferences, training, information sources, hints, and tips.
- IBM AIX Site: http://www.austin.ibm.com/services/

  For specific information on ordering classes and documentation, call:

  IBM Direct Order: 800-IBM-CALL (426-2255)
- IBM Software Registration: 800-446-8989
- IBM FaxBack Server: 1-800-IBM-4FAX
- IBM Customer Publication Support: 1-800-879-2755
  - to order documentation

  Other information can be found on these Internet resources: AIX Public Domain/Shareware Site: http://aixpdslib.seas.ucla.edu/
- AIX FAQ's: http://www.emerson.emory.edu/services/aix-faq/
- UUSENET: comp.unix.aix

  For compilers, order the Software Development Solutions for AIX 4.1 CD and appropriate licenses from IBM Direct. Also the gcc compiler for AIX is available on the Internet.

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System 7.5.5 Update: Frequently Asked Questions (1 of 2)

This article contains part 1 of the answers to frequently asked questions (FAQ) about System 7.5.5 Update.

Part two is available at the following URL:

Article 58286: **System 7.5.5 Update: Frequently Asked Questions (2 of 2)**

Questions in this FAQ

1. What is System 7.5.5 Update?
2. Who should install System 7.5.5 Update?
3. Should I install System 7.5.5 Update if I do not have System 7.5.3?
4. What improvements does System 7.5.5 Update deliver?
5. Why can't I see performance improvements when I run MacBench with the new Virtual Memory?
6. I sometimes have problems playing Audio CDs with Energy Saver installed. Does the updated Energy Saver control panel fix this?
7. The "About System 7.5.5 Update" document says that I may have to increase the preferred memory size of some applications by 23K. Why?
8. What is different about this new math library?
9. What tips are there to ensure I have a more trouble-free installation of System 7.5.5 Update?
10. Can I install the U.S. version of System 7.5.5 Update on a system which has a non-U.S. version of the system software?
11. Why is there no "custom install" and "custom remove" option for the installer?
12. The installer says "optimizing system for speed" during the installation. What does this mean?

This article has been archived and is no longer updated by Apple.

1) Question: What is System 7.5.5 Update?

Answer: This is a three-disk set of system software enhancements that delivers improvements in stability and performance improvements for Macintosh and Mac OS-compatible computers. This important update is for all Macintosh and Mac OS-compatible computers running System 7.5.3, and will update a system to System 7.5.5.

2) Question: Who should install System 7.5.5 Update?

Answer: Apple is recommending that any Macintosh or Mac OS-compatible computer with System 7.5.3 install this update.

IMPORTANT: System 7.5.5 Update will not install on PowerBook 1400 computers. The System 7.5.5 Software Installer will not let the upgrade take place. However, PowerBook 1400 owners can install Mac OS 7.6.

3) Question: Should I install System 7.5.5 Update if I do not have System 7.5.3?

Answer: You must have System 7.5.3 in order to install this software. You can tell if you are currently using System 7.5.3 on your system by choosing "About This Macintosh" from the Apple menu. In the top right-hand side of this window will be the system software information. Your system has System 7.5.3 installed if it reads:

System Software 7.5.3

If you have System 7.5, 7.5.1, or 7.5.2, you can update to System 7.5.3 by obtaining System 7.5 Update 2.0. If you have a version earlier than System 7.5, you will need to purchase it from an Apple reseller, or by calling the Apple Order Center. In the U.S. call 800-293-6617.

4) Question: What improvements does System 7.5.5 Update deliver?

Answer: System 7.5.5 Update provides reliability improvements for all systems by eliminating some causes of system freezes and improves the reliability of sharing a printer over the network. In addition, there are a number of improvements which only affect certain models, including:

- More reliable use of the floppy drive on DOS-compatible systems
- Improved floppy formatting and better reliability during system startup for high performance (180MHz or higher) 604 or 604e

microprocessor-based systems
- Improvements in the reliability of the remote control included with the Apple TV tuner and Macintosh TV
- The elimination of a cause of Type 11 errors on PowerPC-based systems
- More trouble-free networking with the 5400 and 6400 series systems
- Improvements in data integrity when accessing a 5400 series system over the network
- More reliable use of sound-intensive applications for Macintosh Quadra and Centris systems which have been updated with the Apple Power Macintosh Upgrade Card.
- A revised Energy Saver control panel which removes references to the EnergyStar program.

The performance improvements provided in System 7.5.5 Update are primarily for people who use Virtual Memory(VM). The VM offered in System 7.5.5 Update will deliver significantly better performance when performing specific tasks than the VM provided in earlier versions of the system software. Areas where you may see performance include launching large applications, switching between large applications, switching between large documents in applications, and accessing SCSI devices.

However, this improvement will vary greatly depending on the amount of RAM installed in the system , the amount of virtual memory allocated, and the applications being used. A revised Code Fragment Manager enables some large PowerPC-native applications to launch faster, while enabling some applications to be launched in low-memory situations. The Universal System Folder, which let customers with System 7.5.3 create a single system folder on an external hard disk or removable-media drive and use it to boot up everything from Macintosh Plus to a Power Macintosh 9500, has been enhanced to support the latest Apple computers, including the Apple Macintosh 5400 and 6400 series.

5) Question: Why can't I see performance improvements when I run MacBench with the new Virtual Memory?

Answer: The performance measurements made in MacBench do not measure the particular type of performance improvements delivered with System 7.5.5 Update. Other bench marking programs also may not measure these particular performance improvements.

6) Question: I sometimes have problems playing Audio CDs with Energy Saver installed. Does the updated Energy Saver control panel fix this?

Answer: On some occasions when playing an Audio CD on a Macintosh with Energy Saver installed, the CD will play for a while and them stop, resetting to track 1 and time 0:00. This problem is caused by the Energy Saver control panel and will be fixed in a future system update. This can affect all PCI-based Power Macintosh computers. The problem can be avoided by opening the Energy Saver control panel, deselecting "Shutdown instead of Sleep", and then closing the Energy Saver control panel.

7) Question: The "About System 7.5.5 Update" document says that I may have to increase the preferred memory size of some applications by 23K. Why?

Answer: System 7.5.5 Update includes a new library of mathematical routines. Certain applications which use this library may require 23K additional memory in order to run. You do not need to change the preferred memory size of every application you use. Only change the preferred memory size for applications which report an insufficient memory message when you try to launch them.

8) Question: What is different about this new math library?

Answer: This library includes more efficient routines for calculating certain mathematical functions. You may see a slight performance increase when using applications that use these improved mathematical routines.

9) Question: What tips are there to ensure I have a more trouble-free installation of System 7.5.5 Update?

Answer: It is very important to read the "About System 7.5.5 Update" document which comes with the update, and follow the directions on installing System 7.5.5 Update.

In general, it is best to not to rename or move files around within your System Folder. The System 7.5.5 Update Installer makes some assumptions that certain files will be in certain places, and if these files are moved or renamed, files that System 7.5.5 Update installs could be placed in the wrong place, or not installed at all.

10) Question: Can I install the U.S. version of System 7.5.5 Update on a system which has a non-U.S. version of the system software?

Answer: No.

11) Question: Why is there no "custom install" and "custom remove" option for the installer?

Answer: System 7.5.5 Update only updates the existing installed components on your computer. It does not add functionality. These updates are necessary to ensure your computer is operating optimally based on your installed configuration. A custom install option is only available when an installation provides new features that you may not wish to install, such as those found in System 7.5.3. Because System 7.5.5 Update adds no new features to your computer, the custom install and custom remove options are not provided.

12) Question: The installer says "optimizing system for speed" during the installation. What does this mean?

Answer: Some resources installed in your System file by System 7.5.5 Update are compressed. The installer expands these resources to increase system performance.

TA36000_System_Update_Frequently_Asked_Questions_of__(TIL20408).pdf

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AICK and Previously Installed Netscape Navigator (9/96)

I just installed the Apple Internet Connection Kit (AICK) on my Macintosh which is connected to a local area network (LAN). Netscape was already installed and was working correctly. However, after installing AICK I get this message when I launch Netscape, "There is an error in the PPP preferences file." I removed the PPP preference and Netscape preference files and I still get this message, what is wrong?

This article has been archived and is no longer updated by Apple.

The TCP/IP or MacTCP control panel has become configured for a PPP connection. You need to switch it to either a EtherTalk, Ethernet, or LocalTalk connection as is appropriate.

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Apple IIGS System Disk: Overview

This article has been archived and is no longer updated by Apple.

Every Apple IIGS user needs at least one complete system disk. This disk is shipped with every Apple IIGS system, and is provided on an 800K, double-sided, 3.5 inch disk; the complete set of files will not fit on a 5 1/4" disk.

CONTENTS OF A COMPLETE APPLE IIGS SYSTEM DISK

DIRECTORY/FILE DESCRIPTION
--- ---
PRODOS A routine that loads the proper operating system and selects an application, both at boot time and whenever an application quits.

SYSTEM/ A sub-directory containing the following files:
P8 ProDOS/8 operating system kernel and loader
P16 ProDOS/16 operating system kernel
LOADER The Apple IIGS System Loader
START The Apple IIGS Finder
LIBS/ a sub-directory containing the standard system libraries
TOOLS/ a sub-directory containing all RAM-based tools
FONTS/ a sub-directory containing all fonts
DESK.ACCS/ a sub-directory containing all desk accessories
SYSTEM.SETUP/ a sub-directory containing system initialization programs
TOOL.SETUP a load file containing patches to ROM and a program to install them. This is the only required file in the SYSTEM.SETUP sub-directory; it is executed before any others in the sub-directory

BASIC.SYSTEM The Applesoft BASIC system interface program

These are all of the programs that come on a standard and complete System disk. In many cases, however, an application will not need all of these files, and some may be removed. The following is a list of the required files, and a short description of when it is safe to remove the others:

DIRECTORY/FILE REQUIRED/(REQUIRED IF...)
--- ---
PRODOS required

SYSTEM/ required
P8 (required if the application is ProDOS/8-based)
P16 required
LOADER required
START (required if the application works from the Finder)
LIBS/ (required if the application uses the standard libraries)
TOOLS/ (required if the application needs RAM-based tools)
FONTS/ (required if the application needs fonts)
DESK.ACCS/ (required if the application supports desk accessories)
SYSTEM.SETUP/ required
TOOL.SETUP (required if the application uses ROM-based tools)

BASIC.SYSTEM (required if the application is written in Applesoft)

SYSTEM STARTUP

Disk blocks 0 and 1 on an Apple IIGS system disk contain the startup (boot) code. They are identical to the boot blocks on Apple IIe/IIc system disks. This allows ProDOS system disks to boot on an Apple IIGS, and it also means that the initial part of the ProDOS/16 bootstrap procedure is identical to the procedure for ProDOS. For a system disk with a volume name of /SYS, the boot process is outlined as follows:

1. The boot code searches the disk's volume directory for the first file named /SYS/PRODOS with the file type $FF.

2. If the file is found, it is loaded and executed at location $2000 of bank $00. If it is not found, then a message stating that PRODOS cannot be found on the disk is displayed.

On an Apple IIe/IIc system disk, the file named PRODOS is the ProDOS operating system. On an Apple IIGS system disk, however, this PRODOS file is not the operating system itself; it is an operating system loader and application selector. When it receives control from the boot code, /SYS/PRODOS on the Apple IIGS performs the following tasks:

3. It relocates the part of itself name PQUIT to an area in memory where PQUIT will reside permanently. PQUIT contains the code required to terminate one program and start another.

4. /SYS/PRODOS loads the ProDOS/16 operating system kernel.

5. Using ProDOS/16 calls, /SYS/PRODOS loads the System Loader.

6. /SYS/PRODOS performs any necessary boot initialization of the system by executing the files in the sub-directory /SYS/SYSTEM/SYSTEM.SETUP. If there is a file named TOOL.SETUP in that sub-directory, it is executed first -- it loads RAM-based tools and RAM patches to ROM-based tools. Every file in the sub-directory /SYS/SYSTEM/SYSTEM.SETUP must be an Apple IIGS load file of type $B6. /SYS/PRODOS loads it and makes a JSL to each file in turn; when the file returns with an RTL, /SYS/PRODOS unloads it from memory.

7. Now /SYS/PRODOS selects which program to run.

a. It first searches for a type $B3 file named /SYS/SYSTEM/START. Typically, that file is the Apple IIGS Finder, but it could be any Apple IIGS system program. If START is found, it is selected.
b. If there is no START file, /SYS/PRODOS searches the boot volume directory for the first file that is either (1) a ProDOS system program (type $FF with the filename extension .SYSTEM), or (2) a ProDOS/16 system program (type $B3 with the filename extension .SYS16). Whichever is found first is selected.

Note: If a type $FF file is found first, but the ProDOS operating system (file /SYS/SYSTEM/P8) is not on the system disk, /SYS/PRODOS will then search for and select the first ProDOS/16 system program.

c. If /SYS/PRODOS cannot find a file to execute, it will bring up an interactive routine that prompts the user for the filename of a system program to load.

8. Finally, /SYS/PRODOS passes control to an entry point in PQUIT. It is PQUIT, not /SYS/PRODOS, that actually loads and executes the selected program.

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ARA MultiPort Server 2.1: Serial PCI Card Issue

I received Apple Remote Access MultiPort (ARA MP) Server 2.1 with my Workgroup Server, but I cannot get ARA to recognize the Serial PCI card I purchased separately for the computer. Why will this not work?

This article has been archived and is no longer updated by Apple.
The ARA MP Server v2.1 that ships with the Workgroup Server 7250 and 8550 works only with the built-in enabler on those computers. Only ARA MP Server v2.1.1 supports PCI cards.

There is no upgrade from the bundled version (2.1) of ARA MP Server to 2.1.1. If you wish to use ARA MP Server with a PCI card, you should purchase version 2.1.1.
Published Date: Feb 18, 2012

ClarisWorks 4.0-4.0v4: 32 MB RAM Causes Crash (9/96)

I have ClarisWorks installed on my Macintosh computer (v4.0). I just upgraded my computer's memory to 32 MB. Since this upgrade, I no longer have to use Virtual Memory, but my computer crashes a lot in ClarisWorks. Do you have any idea what is wrong?

This article has been archived and is no longer updated by Apple.

Issue

If you 32 MB or more of *physical* RAM (not Virtual Memory) installed in your computer, ClarisWorks 4.0 (all versions including 4.0v4) will randomly crash when the you click on the close box to close a ClarisWorks document. Additionally, this problem will sometimes manifest itself when you select Save or Save As from the File menu.

Workaround

There are two workarounds. One workaround is to open SimpleText and keep it open in the background while you work in ClarisWorks. The second workaround is to open another application and increase its memory partition to about 10,000K to reduce the amount of free RAM.

Resolution

Claris Technical Support has confirmed the issue and the workarounds. Claris plans to address this issue in the next release of ClarisWorks.

NOTE:
This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor, Claris, for additional information.

The Tech Info Library (TIL) article titled "Locating Vendor Information" can help you search the TIL for a particular vendor's address and phone number.

Published Date: Feb 18, 2012

Apple Ethernet Card: Requires Network SW Installation (9/96)

I work for a school district that has several Power Macintosh 5260/100 computers. We had an Apple Ethernet Comm Slot card installed in each of the computers. However, I cannot get any of them to switch over to EtherTalk using the Network control panel.

This article has been archived and is no longer updated by Apple.

Once the Apple Ethernet Comm Slot cards are installed, you must install the networking software. You can install the network software by using the Network Software Installer (NSI) 1.5.1 or later disk which came with the Ethernet Comm Slot card. If you cannot locate the NSI installer disk, you can install the network software by performing a Custom Install of the Networking software from the System Software CD-ROM disc.

Once the networking software is installed, you can use EtherTalk by selecting EtherTalk in the Network control panel, or AppleTalk control panel if Open Transport is being used.

Article Change History:
30 Sep 1996 - Added NSI to install network software.

Published Date: Feb 18, 2012

Power Macintosh 5260/120: Description (10/96)

This article contains the description for the Power Macintosh 5260/120 computer.

This article has been archived and is no longer updated by Apple.

The Power Macintosh 5260/120 computer brings 120-megahertz PowerPC processor performance to a new low cost. And this is a system that can grow as your needs change, with such options as 256K of Level 2 cache memory to further boost processor performance, and a wide variety of multimedia, networking, and communications expansion cards.

The Power Macintosh 5260/120 is an all-in-one system, so it's economical, easy to set up, and easy to start using. And it's optimized for multimedia, with built-in features and expansion slots that let you enjoy stunning graphics, video, and audio now--and add advanced features later.

Already included in the main unit are a 14-inch color display (diagonal viewable image size 12.3 inches), a 1.2-gigabyte hard disk, a 1.4-megabyte floppy disk drive, an 8x-speed CD-ROM drive, a microphone, and stereo speakers. The whole system is on a tilt-and-swivel base that lets you position it precisely for the most comfortable viewing. A keyboard and mouse are also provided, as are more than a dozen home, education, and home-business programs, and a collection of multimedia reference CDs.

The 16-bit sound provides high-quality audio playback through the built-in stereo speakers or external speakers (not included). You can record voice, music, and other audio of your own choosing through the front microphone or the rear audio-input port.

Multimedia expansion is easy on the Performa 5260/120 computer. Your computer comes with special slots for video-input, TV tuner, and communications or networking cards. A general-purpose slot supports a variety of expansion options, such as an MPEG card for viewing CD-ROM-based movies and interactive "edutainment" programs. You can also add video-output capability to display your Macintosh screen on a TV or a projection system, or to record your work on a VCR.

Features
==========

Complete, ready-to-use system
---
* Computer, 14-inch color display (12.3-inch diagonal viewable image size), 8x-speed CD-ROM drive, floppy disk drive, hard disk, microphone, and speakers built into one unit
* Matching keyboard, mouse, and all necessary cables
* Apple System 7.5 software, including Apple Guide software for step-by-step help with basic system operation, and QuickTime multimedia software
* Built-in 8x-speed CD-ROM drive
* Front-panel volume control and headphone/speaker jack
* CD-quality digital sound

Ordering Information
==========

Power Macintosh 5260/120

Power Macintosh 5260/120 Computer with built-in 14-inch display (12.3-inch diagonal viewable image size), 1.2GB hard disk, 8x-speed CD-ROM drive, and Apple SuperDrive floppy disk drive. Mouse, keyboard, and cables also included.

Check with your Apple reseller for specific configuration information and ordering numbers.

Optional Enhancements
---
* High Performance Module
(256K level 2 cache)
Order No. M4849LL/A

* Apple MPEG Media System
Order No. M4243LL/A

* Apple Video System
Order No. M2894LL/C

* Apple TV/FM Radio System

Order No. M4586LL/A

* Apple TV/Video System
Order No. M2896LL/C

* Apple External Video Connector
Order No. M4099LL/A

* Apple Presentation System
Order No. M2895LL/A

vApple Ethernet CS Twisted-Pair Card
Order No. M3065Z/A

* Apple Ethernet CS AAUI Card
Order No. M3066Z/A

* Apple Ethernet CS Thin Coax Card
Order No. M2708Z/A

Product specifications are subject to change. Check with your Apple reseller for the most current information about product specifications and configurations.

Article Change History:
09 Jan 1997 - Corrected the product name.
31 Oct 1996 - Changed distribution status.

Published Date: Feb 18, 2012

Power Macintosh 5260/120: Specifications (10/96)

This article contains the technical specifications for the Power Macintosh 5260/120.

This article has been archived and is no longer updated by Apple.

Microprocessor
==========

* PowerPC 603e processor running at 120 MHz
* 32K internal cache
* Integrated floating-point unit
* 40-MHz, 64-bit bus
* Optional 256K level 2 cache

Memory
======

* Comes with 16 MB of RAM
* Can be expanded to 64 MB
* Uses 72-pin, noncomposite, 70-nanosecond or faster SIMMs

Disk drives
==========

* Internal 1.2GB IDE hard disk drive
* Internal Apple SuperDrive floppy disk drive
- Uses high-density, 1.4MB floppy disks
- Reads, writes, and formats Macintosh, Windows, MS-DOS, OS/2, and ProDOS disks
* Internal 8x-speed CD-ROM drive

Display
=======

Built-in display
---
* 14-in. (12.3-in. diagonal viewable image size) shadow-mask color display
* 16-bit-per-pixel RGB color
* 640- by 480-pixel resolution
* 0.28-mm dot pitch
* 66.67-Hz refresh rate
* Tilts from -5í to +15í, swivels a full 360í
* Front-panel controls for adjusting screen brightness
* Very low ELF/VLF emissions

Display support
---s
* 16-bit color for display of up to 32,768 colors
at 640- by 480-pixel resolution
* 1MB video frame buffer (independent of system RAM)

Sound
=====

* Stereo 16-bit sound
* Built-in stereo speakers
* Sound-output port
* Sound-input port
* Front headphone jack and volume control
* Built-in monophonic microphone

Expansion interfaces
==========

* LC processor-direct slot for networking, communications, and multimedia expansion, such as a modem, Ethernet card, or MPEG video card
- Compatible with most Macintosh Performa 400 and 500 series; Macintosh Quadra 605; Macintosh LC II, LC III, LC 475, LC 550, LC 575, and LC 630; Performa 630; and Performa and Power Macintosh 5200, 5300, 6200, and 6300 series processor-direct cards
* Apple Desktop Bus port for mouse, keyboard, and other devices (multiple devices can be connected
to each other from one port)
* Two RS-232/RS-422 serial ports for an AppleTalk network connection, other networking connections, communications equipment, or a printer

(some models include built-in modem that uses one serial port)
* SCSI interface port for as many as five external SCSI devices, such as disk drives or CD-ROM drives
* Communications slot for Ethernet card or fax/data modem card
* Video slot for video-input card (such as the Apple Video System)
* TV tuner connector and infrared control sensor for TV tuner card (such as the Apple TV/FM Radio System or the Apple TV/Video System)

Electrical requirements
==========

* Line voltage: 110 to 240 V AC, RMS, single phase, nominal
* Frequency: 50 to 60 Hz
* Power: 240 W maximum
* U.S. EPA Energy Star compliant

Size and weight
==========

* Height: 17.5 in. (44.5 cm)
* Width: 15.1 in. (38.3 cm)
* Depth: 16 in. (40.6 cm)
* Weight: 45 lb. (20.5 kg)

Operating environment
==========

* Operating temperature: 50í to 104í F (10í to 40í C)
* Storage temperature: -40í to 116í F (-40í to 47í C)
* Relative humidity: 20% to 95%, noncondensing
* Maximum altitude: 10,000 ft. (3,048 m)

Disability access
==========

* CloseView software magnifies screen image up to 16 times
* Easy Access software permits combination keys to be pressed sequentially and enables cursor control from the numeric keypad instead of the mouse
* "Visual beep" replaces audible system alerts

Article Change History:
31 Oct 1996 - Changed distribution status.

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Global Village Platinum V Modem: Settings for PPP (9/96)

What are the recommended configuration settings for maintaining a reliable internet connection with my Global Village Platinum V modem that was included with my Macintosh Performa 6400 series computer?

This article has been archived and is no longer updated by Apple.

According to Global Village the steps are as follow:

Step 1

Set the port speed to 57600 bps.

Step 2

Set the Flow Control to CTS + RTS (DTR).

Step 3

Set the Init string to:
AT&F1W1S95=44

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The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.

Published Date: Feb 18, 2012

Global Village Modem: Isolating Voice/Data Integrity (9/96)

Is there a way to rapidly isolate an internal Global Village voice-capable modem failure on a Performa computer?
This article has been archived and is no longer updated by Apple.
The following information will help isolate both data and voice integrity. However, keep in mind that these steps are guidelines used in troubleshooting the Global Village modems. A failure of these diagnostics means there is a problem with the modem. However, success simply suggests that the voice and data capabilities of the modem are intact, but there still may be an additional failure symptom with the modem.

Step 1
═══

Open and configure a ClarisWorks serial session. Verify that it is set as follows:

Data Rate: 57600
Parity: None
Data Bits: 8
Stop Bits: 1

Step 2
═══

To test for voice issues, type the following commands, which should elicit the corresponding responses:

Command Response
------- --------
AT OK
AT#CLS=8 OK
AT#VRN=0 OK
ATDTn VCON (n = phone number, e.g. 555-5555)
ATH OK (hangs up)

If all four tests pass, the voice component of the modem is probably functioning correctly.

Step 3
═══

To test for data issues, type the following commands, which should elicit the corresponding responses:

Command Response
------- --------
AT OK
AT&F0 OK
ATZ OK
ATDT Dialtone. Press Space to get a NO CARRIER message.

If all four tests pass, the data component of the modem is probably functioning correctly.

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The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.

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Apple IIGS Incompatibilities: CP/M Cards

This article has been archived and is no longer updated by Apple.

The Apple IIGS is designed to be used with the vast majority of Apple IIe hardware and software. However, there are some design differences that will cause some products to be incompatible with the Apple IIGS.

Some CP/M cards designed for the Apple IIe use non-Apple conventions on the I/O Select and Device Select lines in the expansion I/O slots. These cards are not compatible with an Apple IIGS.

There are several CP/M card that work on the Apple IIGS. Please note, though, that they MUST be run only when the Apple IIGS is in normal speed mode.

Manufacturer Card

Applied Engineering Z80
Advanced Logic Systems Z Engine
MicroSoft SoftCard
MicroSoft CATS
Digital Research any of the GoldCard series
Published Date: Feb 18, 2012

Macintosh Performa: Global Village Toolbox Won‘t Load (9/96)

I have a Macintosh Performa computer that included a Global Village modem. I am getting an error message on the computer that states that the Global Vilage Toolbox will not load. What is the most likely cause of this?
This article has been archived and is no longer updated by Apple.
According to Global Village, this may occur if you perform a Custom Install of ONLY Open Transport 1.1 using System 7.5 Update 2.0.

The workaround is to either install the entire System 7.5 Update 2.0 (which will automatically include Open Transport 1.1) or make the Global Village Toolbox extension load first by renaming it (such as by putting a space at the beginning of the file name).

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The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.

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Cyberdog 1.1: Readme File (9/96)

This article contains the Cyberdog v1.1 Read Me file.

This article has been archived and is no longer updated by Apple.

Using the Mail System

To use the Cyberdog mail system you will need an SMTP/POP3 account on a UNIX machine or other system or a Macintosh server running software such as MailShare or the Apple Internet Mail Server. See your system administrator to acquire an account. Once Cyberdog has been installed, to set up a connection to your server select the Connect To item from the Cyberdog menu, then click on the Mail icon. Mail and other preferences are stored in the "Internet Preferences" file in the Preferences folder, created by the Internet Config extension. If you have currently been using Internet Config and have set up another POP3 mail server your Cyberdog mail connection will already be set up.

Quicktime Version 2.1

To play movies and sounds you find on the network in Cyberdog you will need to have QuickTime version 2.1 or later installed. In previous Cyberdog installers this was installed automatically, but to save space this is no longer included in the Cyberdog installation package.

Reporting Problems

Please use our bug reporting Web page (http://cyberdog.apple.com/) to report any bugs or problems you may encounter in using Cyberdog.

Known Incompatibilities

Cyberdog is incompatible with Adobe Type Reunion. If you have this installed in your System, please remove it prior to running Cyberdog.

Known Problems

There is a known problem in Cyberdog when you drag text or picture clippings from the text, picture, web viewer, message editor or the URL field in any Navigator window to the Finder. The document that is created will not open in OpenDoc unless you have previously set your OpenDoc Default memory to 1,400 K or greater. To make this change, do the following:

1. Launch any OpenDoc or Cyberdog document.
2. In the Document menu, select the Document Info menu item.
3. When that dialog opens, click the Size button at the bottom of the dialog.
4. This opens the OpenDoc Memory Requirements dialog.
5. Set the radio button for the OpenDoc Default Size.
6. Increase the memory size to 1,400 K or greater.
7. Close the dialogs by clicking OK.
8. Then close all Cyberdog and OpenDoc documents.

Article Change History:
23 Sep 1996 - Updated title.
Published Date: Feb 18, 2012

Apple Network Server 500 or 700: Seems Slow

Customer says that their Apple Network Server 500 or 700 running AIX seems slow.

This article has been archived and is no longer updated by Apple.
Please keep in mind that Performance tuning is an art and at present we do not have any numbers as to what is healthy performance on the Network Servers. We will be getting better information after we and our customers spend considerable time exercising these boxes.

Also, consider that any good UNIX tuning guide is usually between 200 and 400 pages long. IBM offers a 3 to 4 day class in this area. Also the Info Explorer List of Books contains "AIX Versions 4.1 Problem Solving Guide and Reference." This FAQ is only a brief introduction.

Four Areas To Check

If an AIX system appears to be slow there are four general areas that need to be examined over time before making any suggestions to improve Performance: CPU Usage, Memory Usage, Disk and Local Peripheral I/O Performance, and Network Performance.

CPU Usage
"ps aux" will show you the memory usage of processes presently running.

ps aux

USER	PID	%CPU	%MEM	SZ	RSS	TTY	STAT	STIME	TIME	COMMAND
root	516	78.1	0.0	0	4	-	A	Apr 08	4617:22	kproc
root	3254	19.7	7.0	1756	1756	rcm0	A	Apr 08	1165:17	/usr/lpp/ X11/bin

The columns of interest are SZ and RSS. Processes in UNIX consist of text (code), data, and stack segments. SZ is a measure of the virtual memory allocated for the data and stack segments of a running process and the text segment if it is not shared code. The RSS is a measure of the actual memory allocated for a process. Processes that are using a large percentage of the available memory might be candidates for either program optimization or jobs that could run when the system use is low, by using the cron or batch facilities. Also, nice or renice could be used to lower these processes priorities

"iostat" can tell you in general if CPU usage is high. If it is, sar -q will show you the run queue size under the heading runq-sz

sar -q 1 2

AIX einstein 1 4 002AC5884C00 04/12/96				
20:25:40	runq-sz	%runocc	swpq-sz	%swpocc
20:25:41	3.0	100	5.0	100
20:25:42	1.0	100	6.0	100
Average	2.0	99	5.5	99

w can tell you load average. This is a count of the size of the run queue and can indicate if the cpu can handle the number of processes that are attempting to run at any one time. If this count is too high, some jobs may be good candidates to be run at times when the system use is low, by using the cron or batch facilities. Also nice or renice could be used to lower their priority.

w

08:26PM up 4 days, 2:39, 4 users, load average: 1.16, 0.63, 0.42					
User	tty	login@	idle	JCPU	PCPU what
root	lft0	Thu07PM	4days	0	0 /usr/sbin/getty
root	pts/0	Thu07PM	1day	0	0 /bin/ksh
root	pts/1	Thu07PM	2:15	17	0 /bin/ksh
root	pts/2	08:19PM	0	44	0 w

Another method to control the usage of system resources by processes is by using /etc/security/limits. Please see the man page on limits for more details.

Memory Usage

vmstat will show memory usage. Remember to throw out the first entry since it is the sum total activity since the system booted.

vmstat 2

kthr	memory	page	faults	cpu
r b	avm fre	re pi po fr sr cy	in sy cs	us sy id wa
0 0	6623 1613	0 0 0 0 0 0	2 659 252	20 278 0
0 0	6623 1613	0 0 0 0 0 0	2 814 314	25 471 0

vmstat can indicate if a high paging rate is slowing down the system. The pi and po fields under the page heading are of particular importance. pi may be meaningless since some processes page in at start time. po on the other hand, if the count is large, could be an indication of paging problems. This may indicate that more memory is needed if all the present processes need to be run at the same time.

Possible solutions to this are to run some jobs at later times using the cron and/or batch facilities. If code is written in house it might help to check to make sure code optimization techniques, such as shared libraries are used.

Make sure that there is sufficient paging space on all the disks on the system. As a general rule, paging should be spread throughout the first 4 or 5 disks on a system to minimize paging problems.

Disk and Local Peripheral I/O Performance

iostat can be used to determine usage. Remember to throw out the first entry since it is the sum total of activity since the system was booted.

iostat

tty:	tin	tout	avg-cpu:	% user	% sys	% idle	%iowait
	0.0	0.9		20.2	1.8	77.9	0.1
Disks:	% tm_act	Kbps	tps	Kb_read	Kb_wrtn		
hdisk0	0.2	0.8	0.2	152435	141661		
cd0	0.0	0.0	0.0	1050	0		

iostat can indicate whether disk usage is well balanced or not. It may be possible to increase performance by moving certain well used logical

volumes from a heavily used disk to a less used disk.

If the disk usage is well balanced iostat can also indicate if there are possible scsi or disk hardware problems.

Network Performance

netstat can indicate that there are excessive network errors. The Ierrs and Oerrs columns from "netstat -i" are of particular interest here. Ierrs and Oerrs should not greater than 1% of the Ipkts or Opkts, respectively. The Coll (collision) column should not be more than 5 or 10 percent of the network bandwidth generally with Ethernet. (There is some question as to if AIX is keeping track of this which we need to review). This may be an indication of faulty network components or network congestion.

netstat -i

Name	Mtu	Network	Address	Ipkts	Ierrs	Opkts	Oerrs	Coll
lo0	16896	<Link>		12470	0	12491	0	0
lo0	16896	127	loopback	12470	0	12491	0	0
en0	1500	<Link>	0.5.2.54.a3.11	146177	0	1520	0	0
en0	1500	17.104.96	einstein	146177	0	1520	0	0

nfsstat can ind
icate that there are excessive network errors. This can be caused by overloaded NFS servers, or possible network congestion or hardware problems.

nfsstat

Server rpc:						
calls	badcalls	nullrecv	badlen	xdrcall		
0	0	0	0	0		
Server nfs:						
calls	badcalls					
0	0					
null	getattr	setattr	root	lookup	readlink	read
0 0%	0 0%	0 0%	0 0%	0 0%	0 0%	0 0%
wrcache	write	create	remove	rename	link	symlink
0 0%	0 0%	0 0%	0 0%	0 0%	0 0%	0 0%
mkdir	rmdir	readdir	fsstat			
0 0%	0 0%	0 0%	0 0%			
Client rpc:						
calls	badcalls	retrans	badxid	timeout	wait	newcred
0	0	0	0	0	0	0
Client nfs:						
calls	badcalls	nclget	nclsleep			
0	0	0	0			
null	getattr	setattr	root	lookup	readlink	read
0 0%	0 0%	0 0%	0 0%	0 0%	0 0%	0 0%
wrcache	write	create	remove	rename	link	symlink
0 0%	0 0%	0 0%	0 0%	0 0%	0 0%	0 0%
mkdir	rmdir	readdir	fsstat			
0 0%	0 0%	0 0%	0 0%			

Which Processes to Kill
What processes can I safely kill on my system to perhaps make its performance a little faster?

- If your system is not a router and you do not have more than one router on your network segment, there is no need to run routed.
- Unless you need to let other people use the finger command to your system, there is no need to run rwhod.
- If you are not an NFS server, there is no need to be running nfsd, rpc.mountd, rpc.statd, or rpc.lockd.
- If you are not going to be mounting NFS file systems ever, on client machines there is no need to be running biod's, rpc.statd, or rpc.lockd.
- If you are running your Apple Network Server strictly as a server, you may want to kill the CDE interface.
- We have found that graphical screen savers from the CDE interface use a considerable amount of processing bandwidth. Setting the Screen Saver in the Style Manger's Screen section to "Blank Screen" is probably best here.

Published Date: Feb 18, 2012

Display Enabler 2.0.2: Now Utilities 6.0 has Conflict

I just installed Now Utilities 6.0. When I restarted, I got an error message from Now Startup Manager stating that the Display Enabler crashed my system. Why is this happening?

This article has been archived and is no longer updated by Apple.

The Now Utilities 6.x Toolbox extension is not compatible with Display Enabler 2.0.2. The table below gives you a list of options available depending on what display and version of the Mac OS you have.

Monitor	Mac OS Version	Display Enabler	Fix
AppleVision 1710AV Display & AppleVision 1710 Display	7.5, 7.5.1, 7.5.2, 7.5.3, 7.5.5	2.0.2*	Use Display Enabler 2.0.2 until the next AppleVision Display software is released, and use the Extensions Manager, not Now Startup Manager.
Other Multiple Scan Display	7.5, 7.5.1, 7.5.2	2.0.2	Upgrade to System 7.3 or later, OR upgrade to Display Enabler version 2.0.3
Other Multiple Scan Display	7.5.3, 7.5.5	NONE	None. There are no known conflicts with built-in Display Enabler.

* You must use Display Enabler 2.0.2 with the AppleVision Displays. Display Enabler 2.0.3 is not compatible with the AppleVision software.

This article appeared in the 20 September 1996 issue of the Information Alley.

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NuBus MultiPort Server Card: No Modem Services

I have just installed a MultiPort Server card into my NuBus-based Macintosh computer. When I load up the MultiPort server software and configure the ports I have no modem access. Why?

This article has been archived and is no longer updated by Apple.
In order for the software to see all of the four ports on the card, you must have the CSI server extension loaded at startup. When this software loads it initializes the card. Even though this is non-Apple software, it is necessary.

Open the Remote Access Manager Application that is installed on the hard drive in the Remote Access MP folder. Under the Server Menu, there is an option for Configure Ports. This opens the port information window.

Look in the port information window to see how many ports are available (with one card, it will say, "4 out of 4."

If the card is not initialized or loaded properly, it will say "0 out of 4." The extension to initialize the card is included on the CSI disk.

The Remote Access MultiPort software will not allow you to "serve out" the built-in serial ports on a Nubus-based Macintosh computer.
Published Date: Feb 18, 2012

Apple IIGS Incompatibilities: Communications software

This article has been archived and is no longer updated by Apple.
The Apple IIGS is designed to be used with the vast majority of Apple IIe hardware and software. However, there are some design differences that will cause some products to be incompatible with the Apple IIGS.

A number of communications packages written for the Apple IIe bypassed the firmware available for the system. Those software programs that write directly to the IIe hardware cannot be used on the Apple IIGS, since the serial ports are now controlled by a 8530 Serial Communications Chip, rather than a 6551. Most currently available communications packages, including Access II, version 1.1, do not work on an Apple IIGS.

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Eric‘s Solitaire: Corrupt Prefs Cause Crash (9/96)

I have a copy of Eric's Solitaire Sample that was included on the CD-ROM disc, which came with my Power Macintosh computer. It worked properly at first, but now whenever I try using the application, it just quits after I launch it. I have reinstalled the software, but that has not helped. How can I fix this?

This article has been archived and is no longer updated by Apple.

Eric's Solitaire Sample has a preference file which can get corrputed. When this happens, the application quits, or crashes after it is launched. To use the application again, open the Preference folder in your System folder, and throw away the file called Eric's Solitaire Sampler Prefs. The next time you launch Eric's Solitaire Sampler, a new copy of the prefs are created.

Published Date: Feb 18, 2012

Color OneScanner Dispatcher: Window Doesn‘t Auto Appear (9/96)

The Dispatcher window does not necessarily automatically display when OneScanner Dispatcher v2.0 launches. This is different than earlier versions of the Dispatcher. With v2.0 if the Dispatcher window was closed at the time you quit the program, then the Dispatcher window will be closed the next time you launch the application.

This article has been archived and is no longer updated by Apple.

To display this window, from the Window menu choose Dispatcher or press the command key and 0 (zero -- not 'oh, this opens the Open File dialog) simultaneously.

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Apple Media Tool: Can‘t Set Dissolve Duration

I am using Apple Media Tool to create presentations. I have selected the "dissolve" effect to transition between pictures and would like to slow down the time it takes to change. Is there a way to do this? I have also discovered that the dissolve effect does not look the same on computers using Microsoft Windows. Why?

This article has been archived and is no longer updated by Apple.
There is no way to set the number of "ticks" for the "dissolve" effect. The faster your machine, the faster the dissolve functions. The other transitions in Media Tool do let you change the duration, but not dissolve.

On Windows platforms, the dissolve feature may often appear blocky or not show a transition at all. If your video card supports it, try setting the colors to thousands, or 16-bit color. This allows more colors and creates smoother transitions.
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Memory Configurations: Servers

This article describes the memory configurations for the Apple Workgroup and Network Servers.
This article has been archived and is no longer updated by Apple.
The following table includes the memory configurations for Apple Workgroup and Network Servers.

For information about upgrading the memory in another Macintosh computer, use the search string "memory configurations" to locate the following articles:

- **Memory Configurations: Power Macintosh**
- **Memory Configurations: Portables & PowerBook**
- **Memory Configurations: Other Desktop Macintosh**

Note: 128 MB DIMMs are available and can fit into the memory slots on the Workgroup Server 7250 and 8500 computers. However, these DIMMs have not been tested with these computers and are therefore not supported by Apple.

Note: The Network Server 500 and 700 ship with and support parity DIMMs for error checking. Although parity DIMMs are not required, they are recommended.

Macintosh RAM Configurations for Apple Workgroup Servers

Computer	Soldered RAM (MB)	No. of SIMM/ DIMM Slots	Supported SIMM/ DIMM Sizes (MB)	DRAM Configs (MB)	RAM Speed (ns)	RAM Type	Max. RAM (MB)	Install in Groups of
Apple Workgroup Server 60	8	2	4, 8, 16, 32	8, 12, 16, 20, 24, 28, 32, 36, 40, 44, 48, 56, 68	80	72-pin SIMM	72	1
Apple Workgroup Server 80	8	4	4, 8, 16, 32	*	60	72-pin SIMM	136	1
Apple Workgroup Server 95	0	16	1, 4, 16	*	80	30-pin SIMM	256	4
Apple Workgroup Server 6150	8	2	4, 8, 16, 32	8, 16, 24, 40, 72	80	72-pin SIMM	72	2
Apple Workgroup Server 7250	0	4	4, 8, 16, 32, 64	*	70	168-pin DIMM	256	1, 2
Apple Workgroup Server 8150	8 or 16	8	4, 8, 16, 32	*	80	72-pin SIMM	256	2
Apple Workgroup Server 8550	0	8	4, 8, 16, 32, 64	*	70	168-pin DIMM	512	1, 2
Apple Workgroup Server 9150	8	8	4, 8, 16, 32	*	80	72-pin SIMM	264	2

* Too many to list. Check with RAM vendor for specifics.

Apple Network Servers

Computer	Soldered RAM (MB)	No. of SIMM/ DIMM Slots	Supported SIMM/ DIMM Sizes (MB)	DRAM Configs (MB)	RAM Speed (ns)	RAM Type	Max. RAM (MB)	Install in Groups of
Network Server 500	0	8	4, 8, 16, 32, 64	*	60	168-pin DIMM	512	2
Network Server 700	0	8	4, 8, 16, 32, 64	*	60	168-pin DIMM	512	2

* Too many to list. Check with RAM vendor for specifics.

TA36024_Memory_Configurations_Servers_(TIL20434).pdf

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PC Compatibility Card: Some Shipped With Bad Floppy Disks (9/96)

I am trying to install the software for the PC Compatibility Card in my PCI-based Power Macintosh computer. If I insert the PC Compatibility Card PC Software floppy disk in the PC environment, the computer ejects the floppy disk. If I insert the floppy on the Macintosh environment, it shows up on the desktop, but it shows up as a Macintosh-formatted floppy disk.

The floppy disks appear to be labelled correctly (sticker says PC Compatibility Card PC Software), but they are apparently empty Macintosh-formatted floppy disks with the name "pc comp.sw [pc disk] label." Can I somehow make these disks work?

This article has been archived and is no longer updated by Apple.

This floppy disk includes PC files that are necessary for certain features of the PC Compatibility Card. Unfortunately, some of these floppy disks were not formatted and created properly at Apple. Follow these steps to recreate this floppy disk:

Step 1

Unlock the floppy disk.

Step 2

Switch to the Macintosh environment.

Step 3

Insert the floppy disk.

Step 4

Pull down the File menu and select 'Erase Disk...'.

Step 5

Change the name to 'APPLE_PC'.

Step 6

Change format to 'DOS 1.4 MB'.

Step 7

Click 'Erase'.

Step 8

Insert the CD-ROM disc labeled 'PC Utilities'.

Step 9

Open the folder named 'Apple'.

Step 10

Copy the contents of this folder to the floppy disk.

Step 11

Eject the floppy disk.

Step 12

Lock the floppy disk.

After the floppy has been formatted for DOS and the files have been copied onto the floppy, you can install the software by running A:SETUP.

This article was published in the Information Alley on 23 September 1996.

Published Date: Feb 18, 2012

Issue With Stickies & LaserWriter Driver Version 8.4 (9/96)

I have seen four different Macintosh computers (two of my own) that appear to cause Stickies to unexpectedly quit when trying to print a note. This started to happen on all of these computers after installing LaserWriter v8.4 printer drivers (desktop printing included). What is wrong?

This article has been archived and is no longer updated by Apple.

Workaround

Apple Engineering is aware of this issue. This is not a printer driver-related issue. This issue is related to Stickies running out of memory. The easiest way to resolve this issue is to increase the "Minimum" and "Preferred" sizes of Stickies by 20K to 140K. This should resolve the problem. Stickies is normally set to 120K for all three settings: Suggested, Minimum, and Preferred.

Resolution

Future versions of the Stickies application will have the memory requirements in "Suggested," "Minimum," and "Preferred" sizes set to be 20K greater (at least 140K).

This article was published in the Information Alley on 23 September 1996.
Published Date: Feb 18, 2012

Apple IIGS Incompatibilities: Slot 2 and ProDOS 1.2

This article has been archived and is no longer updated by Apple.

The Apple IIGS is designed to be used with the vast majority of Apple IIe hardware and software. However, there are some design differences that will cause some products to be incompatible with the Apple IIGS.

When a RAM disk or ROM disk is used with ProDOS 8 and at least two disk drives are connected to the SmartPort, the IIGS maps the second (and third) drives into slot 2. This function will conflict with those multi-function cards manufactured for the Apple IIe which normally reside in slot 2. Since phantom slots are used by both the multi-function card and ProDOS 1.2, the two cannot be used in the same machine.

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OpenDoc 1.1: ReadMe File (9/96)

This article is from the Read Me file included with the OpenDoc 1.1 software.
This article has been archived and is no longer updated by Apple.

What is OpenDoc?

OpenDoc is a new plug-in software architecture that lets you extend the usefulness of your applications by easily adding new functionality. OpenDoc uses software components called parts that can be dragged-and-dropped into documents created by any OpenDoc-aware application. You can combine parts from different Mac OS software developers to add tables, graphs, outlines, and even live Internet resources into your documents. Since OpenDoc is a cross-platform technology, documents created with OpenDoc can work across different computer platforms, including Mac OS, Windows, UNIX, and OS/2.

What does OpenDoc install?

Installing OpenDoc adds the following items to your computer:

- OpenDoc system software (in the Extensions folder)

- the Editors folder (in the System Folder)

- the Stationery folder (at the root level of your hard disk)

OpenDoc system software

After you install OpenDoc system software, your computer is ready to use OpenDoc parts and OpenDoc-aware applications from popular Mac OS software developers.

The Editors folder

When you install OpenDoc parts, the part editors are placed in the Editors folder. Editors are like mini-applications that handle different types of data, such as text, graphics, or Internet information. Once an editor is installed, it works something like a system extension, its functionality is available but you do not open or use the editor itself. To use an editor, you need to locate the editors stationery (in the Stationery folder on the root level of your hard drive).

IMPORTANT NOTE:
All of your OpenDoc editors should be located in the Editors folder (inside the System Folder). Otherwise, OpenDoc will not be able to locate the editors.

The Stationery folder

When you install an OpenDoc part, part stationery is placed in the Stationery folder. You can either double-click an editors stationery to create a new document with the editor or drag the stationery into another document to add the editors functionality to any OpenDoc-aware application or document. OpenDoc stationery can be placed anywhere in your system. You do not have to leave it in the Stationery folder.

Where can I get more information?

For more information about OpenDoc and developers who are producing OpenDoc-aware software, look on the World Wide Web at http://opendoc.apple.com.

Published Date: Feb 18, 2012

Pwr Mac 9500/200: Where‘s Drive Setup Read Me (9/96)

This article contains the Read Me file for Drive Setup included with the Power Macintosh 9500/200 computer.

This article has been archived and is no longer updated by Apple.

```
Important Information About Possible Problems Initializing Your Hard Disk
==========================================================================
Read this information carefully before you initialize (or erase) the factory-installed hard disk that came
with your computer.

Contents
========
- Introduction
- Symptoms of the Problem
- Correcting the Problem
- Initializing Your Hard Disk Properly

Introduction
============
Apple supplies a hard disk utility program called Drive Setup that you can use to initialize, test, and set
other options for the factory-installed hard disk inside your computer. The hard disk was initialized and set
up properly at the factory, so you shouldn't need to initialize it unless your hard disk is damaged and cannot
be repaired by the Disk First Aid program. (See your user's manual for more information about Disk First Aid.)

If you need to initialize your factory-installed hard disk, you should use Drive Setup instead of a third-
party hard disk utility program. Your computer will only start up properly if you use Drive Setup and then run
the Drive Setup Updater utility program, which corrects a problem that could prevent your computer from
starting up properly.

Note the following:
-------------------
* The Drive Setup Updater utility is only compatible with hard disks that have been initialized with Drive
Setup; the Drive Setup Updater will not work properly with other hard disk utility programs. Therefore, until
third-party manufacturers upgrade their hard disk utility programs, you must use Drive Setup and the Drive
Setup Updater to properly initialize your factory-installed hard disk.

* If you connect one or more additional hard disks to your Macintosh, you can initialize them with a hard disk
utility program other than Drive Setup, and you do not need to run the Drive Setup Updater. However, you
should only use your factory-installed hard disk as your startup disk. (The startup disk is the disk that
contains the System Folder.)

* Drive Setup only works with factory-installed hard disks. If you replace the factory-installed hard disk
with a third-party drive, you must use a third-party hard disk utility program to initialize the drive. Before
you replace the factory-installed hard disk with a third-party drive, make sure your hard disk utility program
is compatible with your Power Macintosh model. You may need to contact the manufacturer of the hard disk
utility program to obtain a more recent version.

* If you are using a Workgroup Server, you can also initialize your factory-installed hard disk with Apple
RAID Software version 1.1.1.

Reminder: The factory-installed hard disk inside your computer was initialized and set up properly at the
factory, so you shouldn't need to initialize it unless your hard disk is damaged and cannot be repaired by the
Disk First Aid program. (See your user's manual for more information about Disk First Aid.)

Symptoms of the Problem
=======================
If you recently initialized your factory-installed hard disk or you are attempting to use a different hard
disk as your startup disk, you may be experiencing a problem starting your computer. When you turn on or
restart your computer, the screen may remain blank; or your computer may play the startup "chime," but not
show the "Welcome to Macintosh" dialog box or start up properly. This problem may be intermittent; if you
restart the computer, it may start up correctly, or the problem may reoccur.
```

Note: There are other reasons why your computer may not start up properly. (For example, if you recently connected another hard disk, you could be having a SCSI ID conflict.) In addition to the suggestions below, see the troubleshooting chapter in your user's manual for additional information.

Correcting the Problem

If you are experiencing the problem described above, you can correct it by following these suggestions.

Try running the Drive Setup Updater program

1. Start up your computer from the system software CD-ROM disc that came with your computer.

To start up from the CD, insert the CD into the computer, and turn it off by pressing the Power button on the front. (The CD remains in the drive.) Then hold down the C key on your keyboard while you press the Power key on the keyboard. Continue to hold down the C key until you see the "Welcome to Macintosh" message.

2. Insert the "Drive Setup Software" floppy disk, locate the "Drive Setup Updater" icon, and double-click it to open the program.

A dialog box appears that describes the updater.

3. Click Install.

You see a message that the installation was successful.

4. Click OK.

5. Restart your computer.

Your computer should now start up properly. If it still does not start up, follow the next suggestion.

Make sure your factory-installed hard disk is your startup disk

The startup disk is the disk that contains the System Folder. If you are using two or more hard disks with your computer, it may only start up properly if the factory-installed hard disk is the startup disk. Follow these steps to make sure your factory-installed hard disk is the startup disk.

1. Copy the System Folder from your current startup disk to the factory-installed hard disk.

2. Choose Control Panels from the Apple menu.

3. Double-click the "Startup Disk" icon.

The Startup Disk window appears.

4. Select the icon for the factory-installed hard disk.

5. Close the Startup Disk window and restart your computer.

Initializing Your Hard Disk Properly

This section describes how to initialize your factory-installed hard disk using Drive Setup and the Drive Setup Updater. If you are having problems starting up your computer, see the previous sections, "Symptoms of the Problem" and "Correcting the Problem" before you reinitialize your hard disk.

WARNING Initializing a disk erases any information on it. Before you initialize a disk, copy your important files to floppy disks or some other form of backup media.

1. Start up your computer from the system software CD-ROM disc that came with it.

To start up from the CD, insert the CD into the computer, and turn it off by pressing the Power button on the front. (The CD remains in the drive.) Then hold down the C key on your keyboard while you press the Power key on the keyboard. Continue to hold down the C key until you see the "Welcome to Macintosh" message.

2. Copy your important files from the disk you want to initialize to floppy disks or some other form of backup

media.

3. Insert the "Drive Setup Software" floppy disk, locate the Drive Setup icon, and double-click it to open the Drive Setup program.

4. In the list of drives, click the name of the drive you want to initialize.

5. Click Initialize.

6. In the Initialize dialog box, click Custom Setup if you want to partition your drive. Otherwise, click Initialize.

For information about partitioning your drive, choose Drive Setup Guide from the Guide (?) menu.

7. Click Quit when you see a message reporting that the initialization was successful.

If a message reports that initialization failed, try again. If initialization fails a second time, take the disk to your Apple-authorized service provider for repairs.

8. Find the "Drive Setup Updater" icon on the "Drive Setup Software" floppy disk and double-click the icon to open it.

A dialog box appears that describes the updater.

9. Click Install.

You see a message that the installation was successful.

10. Click OK.

11. Install the Mac OS system software from the CD-ROM disk onto the hard disk you just initialized.

See your user's manual for detailed instructions on installing system software.

Published Date: Feb 18, 2012

Macintosh 630 & Apple Personal Modem: Can‘t Hear Messages(10/96)

I have a Macintosh 630 series computer with the Macintosh Processor Upgrade installed. When I am in PPC Mode, I am unable to hear voice message from my Apple Personal Modem. However, it works fine in 68K Mode. What could be causing this?

This article has been archived and is no longer updated by Apple.

```
What is Apple Personal Modem?
-----------------------------
* The Apple Personal Modem you have is an international (Europe and Asia) product only. This modem does have
some voice capabilities. There are two models: one is 14.4 kpbs and the other is 28.8 kbps.
* Apple Personal Modem is also the name of the software that comes with these modems.
* There was also another modem (now discontinued) that was also named the Apple Personal Modem. It was a U.S.
external modem that ran at 1200 kbps or 300 kbps.

Resolution
----------
This issue you mentioned can resolved by installing Apple Personal Modem (APM) 2.1.6 in addition to System
software 7.5.3 or later.


Article Change History:
02 Oct 1996 - Updated for clarity.
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Published Date: Feb 18, 2012

Global Village Gold II Modem: Unable to Redial (9/96)

My Global Vilalge Teleport Gold II modem (which was included with my Macintosh Performa computer) connects reliably using PPP, included with the Apple Internet Connection Kit (AICK), but if I conclude that session by hanging up, and then attempt to redial, the connection is never established. What is causing this?

This article has been archived and is no longer updated by Apple.

According to Global Village Communication (GVC), ALL settings in the Teleport control panel should be OFF (unchecked). Also, the radio buttons for error correction should be set to OFF.

The Apple Internet Dialer sets the modem initialization string to AT&F1&K3. According to Global Village, if you have difficulty using this string, change this to AT&F1 (which GVC's recommended default setting and is the same as a generic modem in the AICK Dialer).

You can change to this string either by selecting 'generic' as the Modem Type or by selecting and editing Add/Modify Modem Type in the Dialer's pop-up dialog box..

Global Village notes that it may also be necessary to append the string with &D2, a command which writes out all the buffered data and then hangs up at the end of the session. In this case, the edited string would be AT&F1&D2.

Published Date: Feb 18, 2012

Apple MIDI Interface: Maximum Connected MIDI Devices (9/96)

What is the maximum number of MIDI (Musical Instrument Digital Interface) devices that can be connected to a Macintosh using the Apple MIDI interface?

This article has been archived and is no longer updated by Apple.

The Apple MIDI Interface has one Output and one Input port. However, with these ports the interface can communicate with 16 differerent MIDI channels, which is the standard established by the MIDI Developers Association.

All 16 channels can be used by one MIDI device, such as a keyboard synthesizer, or the channels can be split up among several different MIDI devices. You could even have 16 different devices each playing one part of a song, each part being received on 1 channel. A common practice is for channel 10 to go to the device that is going to play the drum parts and then the other 15 channels are used to go to other MIDI devices. One MIDI device might play the Piano sounds while another one might have that awesome bass sound that you gotta have.

The Apple MIDI Interface only has one Input so it can only accept input from one MIDI device at a time. To receive input from two sources at the same time using the Apple MIDI Interface, you would need to add a MIDI merge box (from a third-party developer).

More complicated MIDI interfaces are available from third-party companies that offer multiple Input and Output ports. If you have a more involved setup that includes multiple input devices, such as keyboards, drum triggers, MIDI guitars, and so on, you should consider a more complicated MIDI interface. The multiple Outputs allows the musician to access 16 channels per output. If the MIDI interface has 8 outputs then data can be sent to 8x16 = 128 different MIDI channels.

This article was published in the Information Alley on 24 September 1996.

Published Date: Feb 18, 2012

Global Village Modem: No Max Throughput Checkbox

I have a Macintosh Performa computer with a Global Village modem. I do not see a "Max Throughput" check-box in the Teleport control panel. Why?
This article has been archived and is no longer updated by Apple.
The "Max Throughput" checkbox is only available on computers that support Direct Memory Access (DMA). Currently, only the Macintosh Performa 6100 and 6400 series computers support this capability, and only the 6400 is bundled with a modem for which this is an option.

The feature requires that the functionality be installed in hardware; there is not a software-based patch to implement DMA. Without DMA support, Macintosh computers are limited to a 57.6 Kbaud throughput rate.
Published Date: Feb 18, 2012

System 7.5.5 Update Installer & Energy Saver 1.x Issue (9/96)

This article describes an issue with the System 7.5.5 Update installer and the Energy Saver 1.x control panel.
This article has been archived and is no longer updated by Apple.
Apple has discovered an issue in the System 7.5.5 Update installer that affects users who are updating a system with the Energy Saver 1.x control panel installed.

Details
---
* If a user has Energy Saver 1.x installed in the control panels folder, the System 7.5.5 Updater installation will fail with an error message stating the Energy Saver control panel must be moved.

* If Energy Saver 1.x has been disabled with the Extensions Manager control panel (and is in the disabled control panels folder), the installer will update it to a corrupted version of Energy Saver control panel 2.0.2.

* Users will be unable to open the corrupt Energy Saver file, and an error message is displayed stating that the file contains the Energy Saver Preferences and should be in the Preferences Folder.

Workaround
---
1) The work around is to remove the Energy Saver 1.x control panel from the System Folder, such as placing the control panel on the desk top, before installing the System 7.5.5 Updater.

2) When this is done, System 7.5.5 Update will not install Energy Saver Control Panel 2.0.2.

3) Energy Saver 1.x should then be placed back into the Control Panels folder after the update is done.

NOTE: Important information about this workaround.

* Energy Saver 1.x is only needed for those computers that have energy saving monitors but not the ability to put the whole system to sleep. This includes the NuBus-based Power Macintosh, some Performa PowerPC-based, and Macintosh Quadra computers.

* Energy Saver 2.0.x only works on desktop systems that support putting the whole system to sleep and not just the monitor, such as the PCI Power Macintosh computers.

Published Date: Feb 18, 2012

At Ease 4.0: How To Save to Floppy Disks (9/96)

I want my users to save their work to a floppy disk when using At Ease 4.0, but there is no option in the locations panel of At Ease Administration for saving to floppies.

This article has been archived and is no longer updated by Apple.

In the locations panel of At Ease Administration, there is a selection to allow opening and saving to removable media. This includes floppy disks.

Published Date: Feb 18, 2012

Apple IIGS Incompatibilities: No Apple IIe auxiliary slot

This article has been archived and is no longer updated by Apple.

The Apple IIGS is designed to be used with the vast majority of Apple IIe hardware and software. However, there are some design differences that will cause some products to be incompatible with the Apple IIGS.

Any card that is used in the Apple IIe auxiliary slot cannot be used on an Apple IIGS, since there is no auxiliary slot in the IIGS, and no other IIGS slot has the signals present in the Apple IIe's auxiliary slot.

Published Date: Feb 18, 2012

Japanese Language Kit: WordPerfect Document Error

Using System 7.5, WordPerfect 3.1 and Japanese Language Kit (JLK) 1.x., a 'document error' appears when pasting text from JLK into a WordPerfect a document.
This article has been archived and is no longer updated by Apple.

Symptom

Using System 7.5, WordPerfect 3.1 and Japanese Language Kit (JLK) 1.x., a 'document error' appears when pasting text from JLK into a WordPerfect a document.

Solution

Corel has a WordPerfect 3.1 Patch to correct this issue. From the WordPerfect Patch Read Me File:

"This updater fixes some problems with WordPerfect and the Japanese Language Kit, and adds some enhancements. Specifically:

*Problems with pasting formatted text from a third party application into
WordPerfect* Speed enhancements"

You can obtain the patch on the Internet at:

ftp://ftp.corel.com/pub/wordperfect/wordperfect/wpmac/updates/
WordPerfect_3.1_Patch.hqx

Published Date: Feb 18, 2012

Using At Ease 4.0 on a Stand-Alone Computer (9/96)

Can I set up At Ease 4.0 on a stand-alone computer?

This article has been archived and is no longer updated by Apple.

No. At Ease 4.0 was designed to be used in conjunction with an AppleShare 3.0 or later file server. It cannot be configured for use on a stand-alone computer. Here are some of the requirements:

* At Ease Server System: AppleShare File Server Software 3.0 or later, AppleShare 4.0 or later recommended.

* AppleTalk network connection, Ethernet recommended.

Published Date: Feb 18, 2012

System 7.1.2, At Ease 4.0, and Finder Crash (9/96)

When using At Ease 4.0 when running System 7.1.2, the Macintosh crashes with an unimplemented trap when entering the Finder. This problem occurs even when At Ease is installed, but turned off.

This article has been archived and is no longer updated by Apple.

Though this issue has only been seen with the 7.1.3 Finder, it is possible that some "drag aware" applications may also crash if they are used while At Ease is installed.

You will need to restart the machine with a bootable disk (like a floppy or CD-ROM). You should do one of the following:

* Update to System 7.5 (or later)

* Install the Macintosh Drag and Drop extension into the computer's Extensions folder.

You may need to temporarily remove the At Ease Startup extension in order to utilize one of the workarounds above. You should replace the extension after the workaround has been implemented.

Published Date: Feb 18, 2012

Chinese Language Kit: Must Remove Launcher to Install

When attempting to install the Chinese Language Kit, an error message occurs stating that it "cannot install onto this version of _Performa_ software." However, I do not have a Macintosh Performa computer, so why is this error is occurring.
This article has been archived and is no longer updated by Apple.
The error message is confusing, but the solution is the same whether or not you have a Macintosh Performa computer.

To Install the Chinese Language Kit 1.0 under System 7.5.x, you must remove the Launcher from the Control Panels folder. This will then allow the installation to take place. However, you will also need to install the Chinese Language Kit Update 1.1.1 to be compatible with System 7.5.x.

This article appeared in the 7 October 1996 issue of the Information Alley.
Published Date: Feb 18, 2012

System 7.5.5 Update & Express Modem 3.0 Issue (9/96)

This article describes an issue when using Express Modem 3.0 (delivered by Apple Telecom 3.0) software with the System 7.5.5 Update.
This article has been archived and is no longer updated by Apple.
If you install Apple Telecom 3.0 or Express Modem 3.0 after installing the System 7.5.5 Update you will not be able to switch on your Express Modem. To fix this incompatibility, run the System 7.5.5 Update again. The System 7.5.5 Update updates your Express Modem 3.0 to Express Modem 3.0.1.

NOTE: Apple Telecom 3.0 shipped on some new Macintosh systems and is not presently available from Apple for download or purchase.

Published Date: Feb 18, 2012

Education Software Bundles: Included CDs Run Slowly (9/96)

What can cause some of the CD-ROM discs included with the Education Software Bundles to run slowly?
This article has been archived and is no longer updated by Apple.
If Virex is installed on the computer (from mixing and matching software bundles), turn off the Scan When File Opened" preference in the Virex control panel.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.

Published Date: Feb 18, 2012

Education Software Bundles: Spelling Coach Pro Error (9/96)

I have the Teacher Solution Education Bundle installed on my computer, and when I attempt to use Spelling Coach Pro with ClarisWork 4.0, an error occurs stating that Coach Pro is having a problem converting the clipboard in this application. How can I stop this error from occurring?

This article has been archived and is no longer updated by Apple.

You need to update the version of Spelling Coach Pro to work properly with ClarisWorks 4.0. Contact Deneba Software for upgrade information.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.

Published Date: Feb 18, 2012

Education Software Bundles: Adobe Type Manager Error (9/96)

I have both the Power Macintosh 5260 Bonus and the Multimedia Learning Tools Education Bundles installed on the computers, and I am getting Adobe Type Manager error messages when the computers are started up. What could be causing this?

This article has been archived and is no longer updated by Apple.

This error is caused by a version conflict between two versions of the ~ATMcontrol panel installed by each bundle. Use the latest version of Adobe Acrobat, which is version 2.1 and remove the older version of the control panel.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.

Published Date: Feb 18, 2012

Apple IIGS Incompatibilities: Timing-Dependent Programs

This article has been archived and is no longer updated by Apple.

The Apple IIGS is designed to be used with the vast majority of Apple IIe hardware and software. However, there are some design differences that will cause some products to be incompatible with the Apple IIGS.

Some programs, especially games, depend on particular timing loops to operate correctly. If you find that a program does not work on an Apple IIGS, use the control panel to change to normal mode. Fast mode on the Apple IIGS will change timing loops to the point that some software will not operate correctly.

Published Date: Feb 18, 2012

Macintosh Performa 6360/160: Description (11/96)

This article contains the description for the Macintosh Performa 6360/160 computer.

This article has been archived and is no longer updated by Apple.

With its powerful RISC processor and industry-standard PCI expansion slot, the Apple Macintosh Performa 6360 system combines performance for today with expandability for tomorrow.

As you'd expect from Macintosh systems, the Performa 6360 includes a host of features that bring multimedia to life. A RISC-based PowerPC 603e processor running at 160 megahertz delivers the performance you need to run advanced multimedia applications, while the built-in 8x-speed CD-ROM drive provides smooth video and audio.

A 64-bit video architecture and 1 megabyte of video memory display high-quality video and realistic graphics on monitors up to 17 inches (diagonal measurement) in size.

The system also features 16-bit CD-quality stereo input and output with SRS surround sound--a combination that will add a whole new audio dimension to your multimedia experience.

With 16 megabytes of RAM (expandable to 136 megabytes), the Macintosh Performa 6360 has the memory to run powerful multimedia applications. And its 1.2-gigabyte hard disk drive gives you the storage you'll need for a long time to come.

If you need to expand your system, the built-in PCI expansion slot is perfect for graphics acceleration, high-speed networking, or other high-performance capabilities.

For connecting to the Internet, the Performa 6360 offers easy access either through America Online (in the United States) or directly via the Apple Internet Connection Kit, which features Netscape Navigator software. Both America Online and Internet Connection Kit software are installed and ready to use on your new Performa system. And with the built-in 28.8-kilobit-per-second data/voice/fax modem (fax speeds up to 14.4 Kbit/s; data speeds up to 28.8 Kbit/s), exchanging e-mail and browsing the World Wide Web can be fast.

Also preinstalled on or packaged with the computer are more than a dozen other home, education, and home-business programs, plus a collection of multimedia reference CDs.

If you need compatibility with MS-DOS or Windows software-based computers, a Performa 6360 system gives you several choices. You can share floppy disks and files by using Macintosh PC Exchange and Macintosh Easy Open software (both included). For the ultimate in compatibility, Apple's optional PC Compatibility Card puts a 100-megahertz 586-class processor right in your computer.

The Macintosh Performa 6360 computer: The power and versatility of RISC, PCI, and the Mac OS in one affordable, easy-to-use system.

Features
==========

High performance
---
* 160-MHz PowerPC 603e processor
* Built-in 28.8-Kbit/s data/voice/fax modem*
* Built-in 8x-speed, tray-loading CD-ROM drive
* Optional 256K level 2 cache

Rich multimedia
---
* Support for up to 32,768 colors (16-bit color up to 800- by 600-pixel resolution and 8-bit color up to 1,024- by 768-pixel resolution)
* 16-bit CD-quality stereo sound with SRS surround sound

Expandability and flexibility
---
* Industry-standard 6.88-inch PCI expansion slot
* Support for up to six external SCSI devices, such as hard disk drives and scanners
* Optional High Performance Module, Apple Video System, Apple TV/FM Radio System, Avid Cinema, and PC Compatibility Card

Ease of use
---
* Macintosh System 7.5 software, including Apple Guide software for step-by-step help with basic system operation
* Apple Internet Connection Kit featuring Netscape Navigator software for quick, easy access to global resources, including the World Wide Web

* Plug-and-play installation of expansion cards, storage devices, scanners, printers, digital cameras, and other accessories

Preinstalled software
---
* Macintosh System 7.5
* ClarisWorks
* Quicken Special Edition
* America Online
* Apple Internet Connection Kit
* SurfWatch
* Web Workshop
* MegaPhone for Performa
* Adobe PhotoDeluxe
* Now TouchBase and Datebook Pro
* MacLinkPlus/Easy Open Translators
* At Ease
* The American Heritage Dictionary
* Click Art Performa Collection
* MacGallery Clip Art Treasure Pak
* DOGZ Adoption Kit

CD-ROM titles
---
* The Grolier Multimedia Encyclopedia
* Our Times
* Mayo Clinic Family Health
* Amazing Writing Machine
* The American Heritage Children's Dictionary
* Blockbuster Guide to Movies & Videos
* Thinkin' Things Collection 2
* Club KidSoft CD
* 3D Atlas
* Descent

Ordering Information
==========

Macintosh Performa 6360

Order No. M5319LL/A
Computer with 160-MHz PowerPC 603e processor, 28.8-Kbit/s internal Geoport modem, 1.2 GB hard disk drive, 8x-speed CD-ROM drive, and 1.4MB floppy disk drive. Mouse, keyboard, and cables also included.

Optional Enhancements
---
* High Performance Module
(256K level 2 cache)
Order No. M4505LL/A

* Apple Video System
Order No. M2894LL/D

* Apple TV/FM Radio System
Order No. M4586LL/A
(Requires the Apple Video System)

* Avid Cinema
Order No. M4561LL/A
(Requires the Apple Video System)

* PC Compatibility Card
(with 586-class processor)
Order No. M4091LL/C

Product specifications are subject to change. Check with your Apple reseller for the most current information about product specifications and configurations.

Article Change History:
11 Nov 1996 - Clarified modem type.
21 Oct 1996 - Changed distribution status.
Published Date: Feb 18, 2012

Macintosh Performa 6360/160: Specifications (11/96)

This article contains the technical specifications for the Macintosh Performa 6360/160 computer.

This article has been archived and is no longer updated by Apple.

Microprocessor
═══════════

* PowerPC 603e processor running at 160 MHz
* Integrated floating-point unit
* 40-MHz, 64-bit bus
* Optional High Performance Module (256K level 2 cache; see ordering information)
* 32K internal cache

Memory
═══

* Two DIMM expansion slots
* Comes with 16 MB of RAM (8 MB on logic board and 8 MB in one DIMM socket)
* Can be expanded to 136 MB
* Uses 64-bit-wide, 168-pin, noncomposite, 70-nanosecond or faster DIMMs (1K or 2K refresh)

Disk drives
═══════

* Internal 1.2GB IDE hard disk drive
* Internal Apple SuperDrive floppy disk drive
- Uses high-density, 1.4MB floppy disks
- Reads, writes, and formats Macintosh, Windows, MS-DOS, OS/2, and ProDOS disks
* Internal 8x-speed CD-ROM drive

Modem
═══

* 28.8-Kbit/s internal Geoport data/voice/fax modem (fax speeds up to 14.4 Kbit/s; data speeds up to 28.8 Kbit/s)
* Built-in error correction and compression (MNP4, V.42, MNP5, V.42bis)

Sound
═══

* Stereo 16-bit sound
* SRS surround sound enhancement
* Sound-input port (for an Apple PlainTalk microphone)
* Sound-output port
* Front headphone jack and volume control

Display support
═══════

* 1 MB of video RAM
* 16-bit color for display of up to 32,768 colors on monitors using 640- by 480-pixel or 800- by 600-pixel resolution
* 8-bit color for display of 256 colors on monitors using 832- by 624-pixel or 1,024- by 768-pixel resolution

Interfaces
═══

* PCI expansion slot (requires PCI card that comes with a Macintosh driver and is PCI 2.0 compliant; a NuBus card cannot be used in this slot)
* PCI-based communications (Comm II) slot for a 28.8-Kbit/s modem (used by the built-in data/voice/fax modem)
* Two serial ports (RS-232/RS-422) for an AppleTalk network connection, other network connections, communications equipment (including GeoPort compatible devices), or a printer (one port used by the built-in modem)
* SCSI interface port for connecting as many as six external SCSI devices, such as disk drives, CD-ROM drives, and scanners (multiple devices can be connected to each other from one port)
* Apple Desktop Bus port for mouse, keyboard, and other devices (multiple devices can be connected to each other from one port)
* Video-output port
* Video-input slot for optional Apple Video System (supports NTSC, PAL, and SECAM video formats)
* Expansion bay for optional Apple TV/FM Radio System
* Infrared receiver for remote control (provided with Apple TV/FM Radio System and certain other accessories)

Disability access
═══

* CloseView software magnifies screen image up to 16 times
* Easy Access software permits combination keys to be pressed sequentially and enables cursor control from the numeric keypad instead of the mouse
* "Visual beep" replaces audible system alerts

Electrical requirements and compliance
==========

* Line voltage: 90 to 270 V AC, RMS, single phase
* Frequency: 47 to 63 Hz
* Power: 150 W maximum (continuous)
* Includes low-power sleep mode
* U.S. EPA Energy Star compliant

Size and weight
==========

* Height: 4.3 in. (11.0 cm)
* Width: 12.6 in. (32.0 cm)
* Depth: 16.5 in. (42.0 cm)
* Weight: 17 lb. (7.7 kg)

Operating environment
==========

* Operating temperature: 50 to 104 degrees F (10 to 40 degrees C)
* Storage temperature: -40 to 116.6 degrees F (-40 to 47 degrees C)
* Relative humidity: 5% to 95%, noncondensing
* Maximum altitude: 10,000 ft. (3,048 m)

Article Change History:
12 Nov 1996 - Clarified number of DIMM slots.
11 Nov 1996 - Clarified modem type.
21 Oct 1996 - Changed distribution status.

Published Date: Feb 18, 2012

Power Macintosh 6400/180 & 6400/200: Description (11/96)

This article contains the description for the Power Macintosh 6400/180 and 6400/200 computers.

This article has been archived and is no longer updated by Apple.

The Apple Power Macintosh 6400/180 and 6400/200 are among the most powerful, expandable, easy-to-use multimedia computers you can get. Continuing Apple's multimedia leadership, their robust features make them ideal systems on which to learn, create, and communicate.

A state-of-the-art RISC-based PowerPC 603e processor running at 200 megahertz or 180 megahertz (depending on the system configuration) delivers the performance you need to run an abundance of powerful multimedia applications.

As you'd expect from Macintosh systems, the Power Macintosh 6400/180 and 6400/200 computers include a host of features that will bring your multimedia applications to life. A built-in 8x-speed CD-ROM drive delivers smooth video and audio. A 64-bit video architecture and 1 mega-byte of video memory provide high-quality video and realistic graphics on monitors up to 17 inches (diagonal measurement) in size. These systems also feature 16-bit CD-quality stereo input and output, SRS surround sound, and a subwoofer speaker--a combination that will add a whole new audio dimension to your multimedia experience.

With 16 megabytes of RAM (expandable to 136 megabytes), the Power Macintosh 6400/180 and 6400/200 computers have the memory to run powerful multimedia applications. And the 1.6-gigabyte or 2.4-gigabyte hard drive gives you all the storage you'll need for a long time to come.

For connecting to the Internet, the Power Macintosh 6400/180 and 6400/200 offer easy access through the Apple Internet Connection Kit, which features Netscape Navigator software. And with built-in Ethernet, exchanging e-mail and browsing the World Wide Web through your network are a snap.

If you need compatibility with MS-DOS or Windows software-based computers, a Power Macintosh 6400/180 or 6400/200 gives you several choices. You can share floppy disks and files by using Macintosh PC Exchange and Macintosh Easy Open software (both included). SoftWindows from Insignia Solutions (available separately) lets you run Windows applications right on your Power Macintosh system. For the ultimate in compatibility, Apple's optional PC Compatibility Card puts a 100-megahertz 586-class processor right in your computer.

The Power Macintosh 6400/180 and 6400/200: High-performance multimedia systems for learning, creating, and communicating.

Features
==========

High performance
---
* 180-MHz or 200-MHz PowerPC 603e processor
* 256K level 2 cache (standard with 200-MHz configuration only)
* Built-in 8x-speed, tray-loading CD-ROM drive

Rich multimedia
---
* Support for up to 32,768 colors and moni-tors up to 17 inches (diagonal measurement)
* 16-bit CD-quality stereo sound with SRS surround sound and integrated subwoofer

Expandability and flexibility
* Two industry-standard PCI expansion slots for 6.88-inch cards
* Support for up to six external SCSI devices, such as hard disk drives and scanners
* SCSI expansion bay for additional internal storage device
* Optional Apple TV/FM Radio System, Avid Cinema, and PC Compatibility Card

Ease of use
---
* Apple System 7.5 software, including Apple Guide software for step-by-step help with basic system operation
* Apple Internet Connection Kit software for quick, easy access to global resources, including the World Wide Web
* Plug-and-play installation of expansion cards, storage devices, scanners, printers, digital cameras, and other accessories

Ordering Information
==========

Power Macintosh 6400/180

Order No. M5426LL/A
Computer with 180-MHz PowerPC 603e processor, built-in Ethernet, 1.6 GB hard disk drive, 8x-speed CD-ROM drive, and 1.4 MB floppy disk drive. Mouse, keyboard, and cables also included.

Power Macintosh 6400/200

Order No. M5427LL/A
Computer with 200-MHz PowerPC 603e processor, 256K level 2 cache, built-in Ethernet, 2.4 GB hard disk drive, 8x-speed CD-ROM drive, and 1.4 MB floppy disk drive. Mouse, keyboard, and cables also included.

Optional Enhancements
---
* High Performance Module
(256K level 2 cache)
Order No. M4505LL/A
(Included with the 200-MHz model of Power Macintosh)

* Apple Video System
Order No. M2894LL/D

* Apple TV/FM Radio System
Order No. M4586LL/A
(Requires the Apple Video System)

* PC Compatibility Card
(with 586-class processor)
Order No. M4091LL/C

* Avid Cinema
Order No. M4561LL/A
(Requires the Apple Video System)

Product specifications are subject to change. Check with your Apple reseller for the most current information about product specifications and configurations.

Article Change History:
01 Nov 1996 - Made minor correction.
31 Oct 1996 - Changed distribution status.
Published Date: Feb 18, 2012

Power Macintosh 6400/180 & 6400/200: Specifications (11/96)

This article contains the technical specifications for the Power Macintosh 6400/180 and 6400/200 computers.

This article has been archived and is no longer updated by Apple.

Microprocessor
═══════════

* PowerPC 603e processor running at 180 or 200 MHz
* Integrated floating-point unit
* 40-MHz, 64-bit bus
* 256K level 2 cache (standard with 200-MHz configuration; optional with 180-MHz configuration)
* 32K internal cache

Memory
═══

* Two DIMM expansion slots
* Comes with 16 MB of RAM (8 MB on logic board and 8 MB in one DIMM socket)
* Can be expanded to 136 MB
* Uses 64-bit-wide, 168-pin, noncomposite, 70-nanosecond or faster DIMMs (1K or 2K refresh)

Disk drives
═══════

* Internal 1.6GB or 2.4GB IDE hard disk drive
* Internal Apple SuperDrive floppy disk drive
- Uses high-density, 1.4MB floppy disks
- Reads, writes, and formats Macintosh, Windows, MS-DOS, OS/2, and ProDOS disks
* Internal AppleCD 8x drive

Sound
═══

* Stereo 16-bit sound
* SRS surround sound enhancement
* Subwoofer speaker
* Sound-input port (for an Apple PlainTalk microphone, other microphone, or standard mini-plug audio cable)
* Sound-output port
* Front headphone jack and volume control

Interfaces
═══════

* 10BASE-T Ethernet Card included in Communications Slot
* SCSI interface port for connecting as many as six external SCSI devices, such as disk drives, CD-ROM drives, and scanners (multiple devices can be connected to each other from one port)
* Pre-cabled SCSI expansion bay for additional
5.25-inch internal SCSI device
* Apple Desktop Bus port for mouse, keyboard, and other devices (multiple devices can be connected to each other from one port)
* Two serial ports (RS-232/RS-422) for an AppleTalk network connection, other network connections, communications equipment (including GeoPort compatible devices), or a printer
* Video-output port
* Two PCI expansion slots (require PCI cards that come with a Macintosh driver and are PCI 2.0 compliant; NuBus cards cannot be used in these slots)
* Video input slot for optional Apple Video System (supports NTSC, PAL, and SECAM video formats)
* Expansion bay for optional Apple TV/FM Radio System
* Infrared receiver for remote control (provided with Apple TV/FM Radio System and certain other accessories)

Display support
═══════

* 1 MB of video RAM
* 16-bit color for display of up to 32,768 colors on monitors using 640- by 480-pixel or 800- by 600-pixel resolution
* 8-bit color for display of 256 colors on monitors using 832- by 624-pixel or 1,024- by 768-pixel resolution

Electrical requirements and compliance
═══

* Line voltage: 100 to 125/200 to 240 V AC, RMS, single phase

* Frequency: 47 to 63 Hz
* Power: 220 W maximum (continuous)
* Energy-saving sleep mode

Size and weight
==========

* Height: 16.0 in. (40.6 cm)
* Width: 7.8 in. (19.8 cm)
* Depth: 16.9 in. (42.8 cm)
* Weight: 44.5 lb. (20.18 kg)

Operating environment
==========

* Operating temperature: 50 to 97 degrees F (10 to 35 degrees C)
* Storage temperature: -40 to 116.6 degrees F (-40 to 47 degrees C)
* Relative humidity: 5% to 95% noncondensing
* Maximum altitude: 10,000 ft. (3,048 m)

Disability access
==========

* CloseView software magnifies screen image up to 16 times
* Easy Access software permits combination keys to be pressed sequentially and enables cursor control from the numeric keypad instead of the mouse
* "Visual beep" replaces audible system alerts

Article Change History:
11 Nov 1996 - Removed reference to built-in Ethernet.
31 Oct 1996 - Changed distribution status.
Published Date: Feb 18, 2012

Power Macintosh 5400/180: Specifications (11/96)

This article contains the technical specifications for the Power Macintosh 5400/180 computer.

This article has been archived and is no longer updated by Apple.

Microprocessor
==========

* PowerPC 603e processor running at 180 MHz
* 32K internal cache
* Integrated floating-point unit
* 64-bit memory bus
* Optional High Performance Module (256K level 2 cache)

Memory
======

* Two DIMM expansion slots
* Comes with 16 MB of RAM (uses one DIMM socket)
* Can be expanded to 136 MB using two 64 MB DIMMs
* Uses 64-bit-wide, 168-pin, 70-nanosecond or faster, fast-paged-mode DIMMs (1K or 2K refresh rate)

Disk drives
==========

* Internal 1.6GB hard disk drive
* Internal Apple SuperDrive floppy disk drive
- Uses high-density, 1.4MB floppy disks
- Reads, writes, and formats Macintosh, Windows, MS-DOS, OS/2, and ProDOS disks

Display
=======

Built-in display
---

* 15-in. RGB color display (12.8-in. diagonal
viewable image size)
* 0.28-mm dot pitch
* Noninterlaced, flat, square cathode-ray tube (CRT)
* User-adjustable resolutions from 640 by 480 pixels to 832 by 624 pixels
* Resolution can be changed without restarting the computer
* Refresh rate up to 75 Hz
* Built-in base tilts from -5* to +15*, swivels a full 360*
* Meets SWEDAC MPR2 international guidelines for magnetic-field emissions

Display support
---

* 16-bit color for display of up to 32,768 colors at 640- by 480-pixel or 800- by 600-pixel resolution
* 8-bit color for display of 256 colors at 832- by 624-pixel resolution
* 1 MB video frame buffer (independent of system RAM)

Sound
=====

* Stereo 16-bit sound
* Apple sound enhancements, including SRS 3D surround sound
* Built-in stereo speakers
* Built-in microphone
* Sound-output port
* Sound-input port
* Front headphone jack and volume control

Expansion interfaces
==========

* 10BASE-T Ethernet connector
* PCI expansion slot for industry-standard 6.88-in., 15-watt expansion cards
* Apple Desktop Bus port for mouse, keyboard, and other devices (multiple devices can be connected
to each other from one port)

* RS-232/RS-422 serial port for an AppleTalk network connection, other networking connections, communications equipment (including GeoPort-compatible devices), or a printer
* SCSI interface port for as many as six external SCSI devices, such as disk drives and/or CD-ROM drives
* Communications slot (used by the built-in Ethernet connector)
* TV/FM radio expansion bay
* Video-output port for connection to an external monitor for video mirroring (also supports connection to an NTSC or PAL video-out interface box, such as the Apple Presentation System)
* Video-input connector (Apple Video System) for receiving video input from a VCR, video camera, or other video equipment; supports both composite and S-video input

Note: The Apple Video System is only included with some configurations of the Power Macintosh 5400/180 computer.

Disability access
==========

* CloseView software magnifies screen image up to 16 times
* Easy Access software permits combination keys to be pressed sequentially and enables cursor control from the numeric keypad instead of the mouse
* "Visual beep" replaces audible system alerts

Electrical requirements and compliance
==========

* Line voltage: 110 to 240 V AC, RMS, single phase, nominal
* Frequency: 50 to 60 Hz
* Power: 220 W maximum (continuous)
* Includes low-power sleep mode
* U.S. EPA Energy Star compliant

Size and weight
==========

* Height: 17.5 in. (44.5 cm)
* Width: 15.1 in. (38.3 cm)
* Depth: 16 in. (40.6 cm)
* Weight: 47 lb. (21 kg)

Operating environment
==========

* Operating temperature: 50 to 104 degrees F (10 to 40 degrees C)
* Storage temperature: -40 to 116 degrees F (-40 to 47 degrees C)
* Relative humidity: 5% to 95%, noncondensing
* Maximum altitude: 10,000 ft. (3,048 m)

Article Change History:
11 Nov 1996 - Clarified DIMM expansion slots.
31 Oct 1996 - Changed distribution status.

Published Date: Feb 18, 2012

Apple IIGS: How To Disable Keyboard Repeat

This article has been archived and is no longer updated by Apple.

People with limited motor skills sometimes can't adapt to the keyboard repeat rate on the Apple IIGS, causing several characters appear after each keypress.

The keyboard repeat rate can be set from the Control Panel. Here's how to disable keyboard repeat altogether:

1. In the Control Panel, select the Options menu.

The 'repeat delay' option controls the time between the first keypress and the time when keys begin auto repeating.

2. To disable the auto repeat feature, move the asterisk all the way to the left of the sliding scale.

3. To save the changes made to the Control Panel, press Return.

Published Date: Feb 18, 2012

Workgroup Servers: System 7.5.5 Isn‘t Supported (10/96)

Is System 7.5.5 supported on Workgroup Servers?

This article has been archived and is no longer updated by Apple.

As of September 1996, System 7.5.5 has not been qualified on any Workgroup Server and is not supported at this time.

Engineering is in the process of determining if the System 7.5.5 release will be supported and/or qualified with server products. Testing completion date is to be determined.

Article Change History:
03 Oct 1996 - Changed distribution status.

Published Date: Feb 18, 2012

QuickTime For Windows 2.1.2: What It Fixes

This article lists changes that were implemented in version 2.1.2 of QuickTime for Windows.

This article has been archived and is no longer updated by Apple.
The following changes are included in QuickTime for Windows 2.1.2.

Additional information about QuickTime products for Macintosh and Windows can be found on the worldwide web at: http://quicktime.apple.com
.

1. Cirrus component workaround for QTVRW bug that caused crashes.
2. Fixed DHIO_DH problem with multiple applications playing movies simultaneously.
3. Got rid of "Library not freed ... call Microsoft" error message. Problem remains.
4. Added GetMediaSampleReference API.
5. Fixed "MC paints once at (0,0), then correctly positions movie."
6. Fixed problem opening multiple movies via MCI.
7. Fixed confusing "Invalid Data Reference" message from Movie Player.
8. Several fixes to Player and Viewer command line parsing.
9. Fixed bug in Cinepak 0.5x blits to hard-banked displays.
10. Fixed longstanding bug in sound rate resampling to rates > 32767.
11. Replaced sample movie with calibration step in installer (32-bit now does it, too).
12. Updated disk space requirements in installer.
13. Fixed installer bug where it was deleting the installed copy of itself in some instances.
14. Installer no longer fails if temp directory already exists.
15. Control panel/installer updated for better control of automatic audio rate adjustment.
16. Fixed "intermittent garbage" bug in 32-bit QTW's IMA audio playback.
17. Fixed "non-1.0 rate playback plays audio at 1.0 rate" bug.
18. Fixed GetTrackEnabled (it was returning bogus values).
19. Rebased all 32-bit DLLs to speed up load time.
20. QTVHDW/DCI workaround for QTVRW bug that caused control panel crashes.
21. Fixed the infamous "DCIMAN.DLL" error message.
22. QTVHDW and DCI32 workarounds for 2 separate S3 Trio 64 DCI provider bugs.
23. Fixed automatic audio rate adjustment to deal with instability due to excessive interrupt activity.
24. Fixed a crash opening sprite movies (sprites are not yet supported in QTW)

This article was published in the Information Alley on 27 September 1996.

Published Date: Feb 18, 2012

Apple IIGS: Connecting Disk Drives

This article has been archived and is no longer updated by Apple.

The Apple IIGS is capable of using all drives available for the Apple IIe, as well as drives built for the Apple IIGS, including the Disk II, Duodisk, Unidisk, Unidisk 3.5, Profile, Apple 3.5 Drive, Apple 5.25 Drive, and SCSI-20. Some of these drives may be plugged directly into the SmartPort on the back of the IIGS, while others require an interface card in one of the expansion I/O slots.

The following drives may be plugged into the SmartPort's DB-19 connector:
-- one Duodisk
-- two Unidisk 5.25 drives
-- two Unidisk 3.5 drives
-- two Apple 5.25 drives
-- two Apple 3.5 drives

Only under Prodos 16 may a combination of up to six drives be daisy-chained to the SmartPort. The chain MUST occur in the order given below and may include up to two (excepting the DuoDisk) in each of the following three categories:

-- nearest to IIGS (maximum of two):
1. Apple 3.5 Drives
2. Unidisk 3.5 drives

-- farthest from IIGS (maximum of two):
3. 5.25 disk drives: Disk II's, Unidisk 5.25 drives, Apple 5.25 drives or ONE Duodisk drive

Under Prodos 8 (also known as Prodos 1.2), four drives are accessible through the SmartPort. These may be a combination of Apple 3.5 drives, Unidisk 3.5 drives, a RAM disk, and a ROM disk, under the same order restrictions as above.

The SmartPort is mapped to slot 5, so drives connected directly to the port are accessed as slot 5, drive 1 and slot 5, drive 2. When more than two drives are used under Prodos 8, or if the RAM disk is active, "phantom slots" are assigned.

To be used on the Apple IIGS, the Disk II requires a Disk II Controller Card, just as on the Apple II or Apple IIe. The drive may be accessed through the slot used for the card, most likely slot 6, in which case the two possible drives are referred to as slot 6, drive 1 and slot 6, drive 2.

A SCSI Interface Card is needed to use the Apple Hard Disk 20SC on the Apple IIGS A Profile Interface Card must be used with a 5 or 10 Megabyte Profile, accessible by referencing the slot where the interface card resides or by the ProFile's ProDOS pathname.

The Apple IIGS control panel allows you to select the slot from which the computer will be booted, or you may choose to scan slots on bootup to find a device that is ready.
Published Date: Feb 18, 2012

QuickTime for Windows 2.1.2: Known Issues

This article contains a list of known issues with QuickTime for Windows 2.1.2.

This article has been archived and is no longer updated by Apple.
The following list details known issues with QuickTime for Windows 2.1.2.

Additional information about QuickTime products for Macintosh and Windows can be found on the worldwide web at: http://quicktime.apple.com
.

1. 32-bit QuickTime for Windows does not have an MCI driver for Win95. This is because Windows 95 does not support 32-bit MCI drivers. 32-bit applications can still make MCI calls, but they will be serviced by 16-bit QTW.

Note: Yyou can install both 16- and 32-bit QTW on your system, and 16-bit QTW will automatically be used to support MCI. A similar but opposite situation exists on Windows NT, where 16-bit MCI drivers are not supported, and 32-bit QTW must be installed to get MCI support for both 16-bit and 32-bit applications.

2. 32-bit QuickTime for Windows runs on Windows 95 and Windows NT only. It will not run on Windows 3.1, even if you have Win32s installed.

3. MACE compressed sound is not supported.

4. QuickTime VR (distributed separately) is currently only a 16-bit component, and therefore only works with 16-bit QuickTime for Windows. As a workaround, you can install both 16- and 32-bit QuickTime for Windows on your system, and use the 16-bit Movie Player when you want to view QTVR scenes or objects.

5. QuickTime for Windows may set the audio Requested Rate to the rate of the first movie that you play (which will be 22050 Hz if you play the calibration movie during installation). You may want to change Requested Rate on the QTW control panel Audio page. QTW will not change Requested Rate once you have set it.

6. Sigma Designs' recently released Real Magic MPEG driver (v2.20) is incompatible with QuickTime for Windows. As a workaround on Win31, you can reinstall the older Real Magic driver (v2.01), but on Win95 there is no other version to install. Sigma Designs and Apple are currently working on a solution.

7. The Cirrus display driver v1.23 (that is, Compaq/CL3X v1.23) can cause QTW control panel crashes. Upgrading to v1.24 fixes the problem.

8. When you are running Windows 95 and you assign a sound to play when a program is launched, you may get a system halt when you launch the 16-bit Movie Player for the very first time. The problem will not recur after the initial system halt and reboot.

9. The game "Critical Path" incorrectly requires MCIQTW.DRV to be in its directory. When you install QuickTime for Windows 2.1.1 and delete the old version, this file is removed. You must copy C:\\{windows\\system}\\MCIQTW.DRV to x:\\CRITPATH\\QTW for the game to work.

10. The game "RedShift" incorrectly requires QTIM.DLL to be in its directory. When you install QuickTime for Windows 2.1.1 and delete the old version, this file is removed. You must copy C:\\{windows\\system}\\QTIM.DLL to x:\\REDSHIFT\\QTW for the game to work.

Published Date: Feb 18, 2012

QuickTime for Windows 2.1.2: Read Me File

This article contains the ReadMe file for QuickTime for Windows Version 2.1.2.
This article has been archived and is no longer updated by Apple.

For More Info

For more up-to-date information on QuickTime for Windows, check out our Web site at http://quicktime.apple.com/

What's In This Document

Key features
Minimum PC configuration
Quick fix for display issues
Things you need to know
Modifying QTW.INI
Making movies playable on both Macintosh and Windows

Key Features

-Improved performance and reliability
-32-Bit QuickTime for Windows 95 and Windows NT 3.51 or later
-Multifunctional 16/32-bit control panels
-Improved installation and uninstallation process
-Audio support:
MIDI Music tracks
IMA 4:1 compressed audio
-Accelerated video support:
Direct hardware support for graphics accelerators:
ATI Mach64, Tseng W32P, P9000, Cirrus Logic CL-GD54xx, WD 90C33
Direct hardware support for video drivers that support 16- or 32-bit
Display Control Interface (DCI)
-Support for burnt and searchable text tracks.
-Support for QuickTime VR for Windows (distributed separately).
-Support for MPEG file playback via Sigma Designs RealMagic Board.
-Support for all standard QuickTime decompressors:
Apple Graphics, Apple Animation, Apple Uncompressed, Apple Video,
Apple Cinepak, Apple Photo JPEG, Indeo 3.2
-Movie Player application can copy selected portions of text track and current visual to clipboard.
-16- and 32-bit QuickTime for Windows can coexist on Win95 and WinNT.
-The Movie Player is an OLE server, enabling QuickTime movies to be placed and played in 16- or 32-bit applications.
-QuickTime has MCI (Media Control Interface) that provides media integration in applications like Windows' Media Player and various multimedia authoring applications.
-Visual Basic 2.0, 3.0 and 4.0 is supported with a 16-bit VBX file for QuickTime Movie control.

Minimum Pc Configuration*

386SX at 20 MHz
4 MB RAM
6 MB hard disk space available
VGA or better display card
Windows compatible sound card
CD-ROM recommended
Windows 3.1, Windows for Workgroups 3.11, Windows 95 or Windows NT 3.51 or later

* MPC 1 and above rated machine.

Quick Fix For Display Issues

QuickTime for Windows is very reliable. However in rare cases you can experience display issues or crashes when attempting to run QuickTime movies or pictures. This is usually caused by older or poorly written system video drivers reporting incorrect video hardware configuration information. If this occurs you can almost always use the QuickTime
control panel to work around the issue:

1) Open the Windows Control Panel:
-In Windows 95, select Start/Settings/Control Panel. If you see two QuickTime control panels, perform steps 2-4 on both of them.
-In Windows 3.1 and Windows NT, double-click the Control Panel icon in the Main program group.
2) Double-click the QuickTime control panel icon.
3) Click the More button, then click the Video tab at the top of the window. The video page will appear.

4) Click Video Driver in the Draw Method box, then click Apply. Click Close to shut down the QuickTime control panel.
5) Restart Movie Player or the appropriate application to try again.
6) If the application still does not work, repeat steps 1-4, and choose a slower draw method (listed in the Draw Method box from fastest to slowest).

In the rare event you cannot gain access to the control panel (due to very serious video driver bugs), you will need to edit the QTW.INI file by hand. Most video playback issues can be corrected by adding:

[Video]
Optimize=Driver

[Video 32]
Optimize=Driver

If you still have display issues, make sure you have installed the latest video driver from your computer manufacturer.

Things You Need To Know
1) 32-bit QuickTime for Windows will not run on Windows 3.1 (even if Win32s is installed).
2) When running QuickTime VR (distributed separately) you must use the 16-bit Movie Player, until a 32-bit QuickTime VR is released.
3) Sigma Designs' recently released RealMagic MPEG driver (v2.20) is incompatible with QuickTime for Windows. As a workaround on Win3.1, you can install the old RealMagic driver (v2.01), but on Win95 there is no other version to install. Sigma Designs and Apple Computer are currently working on a solution.
4) The QuickTime for Windows control panel may crash if your computer is using Cirrus display driver version 1.23. If this happens, you must upgrade to version 1.24 or later.
5) The game "Critical Path" requires MCIQTW.DRV to be in its directory. When you install QuickTime for Windows 2.1.2 and delete the old version, this file is removed. You must copy MCIQTW.DRV from your "windows system" directory (usually C:\\WINDOWS\\SYSTEM) to \\CRITPATH\\QTW for the game to work.
6) The game "Redshift" requires QTIM.DLL to be in its directory. When you install QuickTime for Windows 2.1.2 and delete the old version, this file is removed. You must copy QTIM.DLL from your "windows system" directory (usually C:\\WINDOWS\\SYSTEM) to \\REDSHIFT\\QTW for the game to work.

Modifying QTW.INI
Do not modify QTW.INI by hand. Please use QuickTime's Control Panel. See above (Quick Fix For Display issues) for the one exception to this rule.

Making Movies Playable On Both Macintosh And Windows
To make a movie playable on both the PC and the Mac, follow these steps:
1) Open a movie file using Movie Player 2.0 or above on the Macintosh.
2) Choose Save As from the File menu.
3) In the dialog box that appears, click the radio button labeled "Make movie self-contained." This tells the utility to sever any links to other movies after incorporating the relevant video into this movie.
4) Select the checkbox labeled "Playable on non-Apple computers." This causes the movie to be saved as a single fork movie.
5) Rename the movie using PC naming conventions. The filename should be 8 characters in length for maximum portability. Use the extension ".mov." For example: MYMOVIE.MOV

The resulting file is a QuickTime cross-platform movie that can be played on either a Macintosh or any x86-based computer with Windows 3.x, Windows NT, and Windows 95.

Remember, when creating movies on the Macintosh that the following features are not yet available on Windows:
-MACE, sprites, time code, and modifier tracks
-Apple Component Video decompressor
-Multiple video tracks
-Display of non-burnt text tracks
Published Date: Feb 18, 2012

PC Compatibility Crd: AppleShare Client for Windows Set Up

I have a Power Macintosh 7200/120 computer with a PC Compatibility Card installed running Windows v3.11. I am having difficulty configuring the AppleShare Client for Windows to work under the PC/DOS card and Windows for WorkGroups. I need the IRQ, DMA and interrupt settings.

Where can I find this information?

This article has been archived and is no longer updated by Apple.
These instructions are in Appendix B of the PC Compatibility Card User's Manual, page 155.

Installing AppleShare for Windows in Windows for Workgroups

This section describes how to install and set up the AppleShare for Windows protocol for use with an ODI driver in Windows for Workgroups.

1) Install the NetWare client software.
For more information, see "Installing NewWare Client Software" earlier in this appendix.

2) Install AppleShare for windows according to the instructions that came with it.

3) Refer to "Running the Network Protocol Setup (SETNET) Utility" near the end of this appendix and follow the instructions there.

4)
After running setnet, make sure your configuration files contain the following sections.

Note: These sections assume no other network software is installed.

NET.CFG (with ODI support installed)

LINK SUPPORT

- BUFFERS 10 628
- MEMPOOL 16K

PROTOCOL APPLETALK

- DEFAULT MACODI #1
- AARP MACODI #1 H(0001) L(6) B(090007FFFFFF)

LINK DRIVER MACODI

- INT #1 10
- PORT #1 300 0
- FRAME ETHERNET_SNAP
- FRAME ETHERNET_802.3
- PROTOCOL IPX 0 ETHERNET_802.3
- PROTOCOL APPLETALK 80007809B ETHERNET_SNAP
- PROTOCOL AARP 80F3 ETHERNET_SNAP

ATDRIVER.BAT (with ODI support installed)

- C:\\APPLE\\A_SHARE\\LSL.COM
- C:\\APPLE\\A_SHARE\\MACODI.COM
- C:\\APPLE\\A_SHARE\\ODI.EXE

If you install a NetWare client after the AppleShare client, make sure that IPXODI and VLM are loaded after ATDRIVER.BAT in the NET.CFG file.

NOTE: To run the AppleTalk protocol in both the Apple and DOS environments you must have a Macintosh with the Curio Prime Ethernet interface. For more information see the Tech Info Library article titled, "DOS Compatibility Cards and Supported Protocols".

System Management Reporter - can collect and be used to report on general system health. In fact when IBM customers report problems to the IBM Software Service Organization, they are requested to submit a report from PerfPMR.

A general or detailed report on system errors can be generated by using the SMIT Problem Determination section's Error Log section. From there you can generate an error report with numerous options.

Performance and Monitoring Tools
Listed below are four general areas of performance and tools to help in monitoring these areas.

Please see the Tech Info Library article "Apple Network Server 500 or 700: Seems Slow" for sample output of these commands.

CPU usage

- "
  w" - will report on process real time activity by showing the load average, which is the number of processes in the run
- "queue

  ps" - will report on process real time activity
- "ps -el" - will show process priority
- "ps aux" - will show how much memory processes are using

- "sar -q n m" where n = interval and m = count, will report the run queue size in columns

Individual processes can be deleted if necessary, have their priority changed, or be run at a different time of day to maximize CPU usage and minimize CPU overloading.

Memory
vmstat - will report on virtual memory. The pi and po fields under the page heading are of particular importance. pi may be meaningless since some processes page in at start time. po on the other hand, if the count is large, could be an indication of paging problems.

Disk and Other Local Peripheral I/O
iostat - will report on I/O statistics. Look for the distribution of disk usage between hard drives. The iowait column can also be an indication of disk problems.

Network Performance

netstat - can report on network configuration and some statistics

nfsstat - can report on some network statistics

The SMIT Performance and Resource Scheduling

As stated above almost all of these commands can be accessed from the SMIT Performance and Resource Scheduling section which has the following sub-sections:

- Resource Status & Monitors - which uses sar, ps gv, vmstat and iostat
- Analysis Tools (to tune programs) - which uses timex -s and trace
- Resource Controls - to remove processes, set or change a process priority, set the system run level or even change the user interface
- Schedule jobs - to list scheduled jobs, schedule a job or remove a job from the schedule queue

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Color LaserWriter 12/660 PS: Technical Specifications

This article contains the Apple Color LaserWriter 12/660 PS technical specifications.
This article has been archived and is no longer updated by Apple.
Technical Specifications
==========

Print Engine and Controller
---
* 30-MHz AMD 29030 RISC processor
* Engine life of 300,000 pages monochrome, 150,000 pages color
* No monthly maximum duty cycle

Print Quality
---
* True 600-dpi resolution
* Color PhotoGrade, Apple's standard enhanced 600-dpi imaging, 200 lines per inch, nearly two times standard 600-dpi color laser printers

Memory
---
* 16MB of RAM standard; supports Color PhotoGrade Apple Contone Compression technology which enables 130MB of data to be printed with only a 16MB printer
* Expandable to 40MB with optional upgrades (1MB, 4MB, or 16MB 72-pin, 60ns SIMMs)

Interfaces
---
* Ethernet port (supports EtherTalk, TCP/IP, and Novell NetWare protocols)
* LocalTalk port
* All ports active simultaneously
* IEEE 1284 bidirectional parallel port (special cable required)
* SCSI port for external or optional internal hard disk drive for font storage

Print Speed
---
* 12 pages per minute for monochrome
* 3 pages per minute for color
* 1 page per minute for transparencies
* Actual print speed depends on file complexity, network traffic, application, and computer used

Language Supported
---
* Adobe PostScript Level 2

Fonts
---
* 39 PostScript (Type 1) fonts in ROM, plus screen fonts for Macintosh and Windows from the following families:

ITC Avant Garde Gothic, ITC Bookman Courier, Helvetica, Helvetica Narrow, Helvetica Condensed, Palatino, New Century Schoolbook, Symbol, Times, ITC Zapf Chancery, ITC Zapf Dingbats

* 64 TrueType fonts on Macintosh disks from the following families:

Chicago, Delphian, ITC Garamond Narrow, Geneva, Helvetica Black, Helvetica Compressed, Lubalin Graph, Lucida Bright, Machine, Monaco, Nadianne, New York, Old English Text, Onyx, Oxford, Swing, Zeal

* Prints any PostScript (Type 1) or TrueType fonts

Storage
---
* Optional internal 240MB hard disk drive

Paper Capacities
---
* Standard 250-sheet feeder, 100-sheet multipurpose tray

* Optional 250-sheet universal feeder

Print Materials
---
* 16- to 24-lb. (60 to 90 g/m2) bond from the 250 sheet cassette
* 16- to 28-lb. (60 to 105 g/m2) bond from the multi-purpose tray
* Paper: U.S. letter, legal, A4, and B5
* Most letterhead and colored stock
* Use only Apple Color LaserWriter 12/600 PS transparencies

Printer Supplies
---
* Cyan, magenta, yellow, and black toner cartridges
-?- Print 4,000 pages each at 5% coverage
* Photoconductor replacement kit
-- Prints 40,000 pages in black and white or 10,000 pages in color, continuous printing.
-- Prints 13,000 pages in black and white or 6,500 pages in color, intermittent printing.(Printing single-page documents only)
* Fuser oil
-? Prints 10,000 pages
* Fuser replacement kit
-? Air filter, ozone filter, fuser unit transfer drum cleaning unit; replace at 60,000 pages

Power Requirements
---
* U.S./Japan: 100 to 120 V, 50 to 60 Hz
* Europe/Australia: 220 to 240 V, 50 Hz

Power Consumption
---
* Operating mode: 100/120 V, 535 W; 220/240 V, 524 W
* Standby mode: 110/120 V, 215 W; 220/240 V, 238 W
* Energy-saving mode: 42 W (complies with EPA Energy Star)

Environmental Requirements
---
* Temperature: 50 to 86 deg. F (10 to 30 deg. C)
* Humidity: 20% to 80% noncondensing
* Toner cartridge transit environment: ð4 to 104 deg. F (ð20 to 40 deg. C)

Size and Weight
---
* Height: 18.0 in. (45.7 cm)
* Width: 21.0 in. (53.3 cm)
* Depth: 23.0 in. (58.4 cm)
* Weight: 110.0 lb. (49.5 kg)

System Requirements
==========
* An Apple Macintosh or compatible computer with at least 4MB of RAM and Macintosh system software version 7.1 or later
* An IBM or compatible computer with at least 8MB of RAM and Microsoft Windows 3.1 or Windows 95 or later

Ordering Information
==========

Apple Color LaserWriter 12/660 PS
Order No. B3020LL/A
- Color LaserWriter 12/660 PS Setup Kit (contains cyan, magenta, yellow, and black toner cartridges, photoconductor replacement kit, fuser oil, user's guide, tips and techniques for optimizing image quality and performance, and limited warranty)

Options and Accessories	Order Number
Color LaserWriter Cyan Toner Cartridge	M3757G/A
Color LaserWriter Magenta Toner Cartridge	M3760G/A
Color LaserWriter Yellow Toner Cartridge	M3758G/A
Color LaserWriter Black Toner Cartridge	M3756G/A

Color LaserWriter Photoconductor Replacement Kit	M3761G/A
Color LaserWriter Fuser Oil	M3755G/A
Color LaserWriter Transparencies ?? Letter	M3876G/A
Color LaserWriter Transparencies ?? A4	M3877G/A
Color LaserWriter 250-Sheet Feeder	M3762G/A
Color LaserWriter Universal Cassette	M3874G/A
Color LaserWriter Internal Hard Disk Drive	M3875G/A
Apple Ethernet Thin Coax Transceiver	M0329Z/B
Apple Ethernet Twisted-Pair Transceiver	M0437Z/B
Apple Ethernet AUI Adapter	M043LL/A
Apple 1284 Parallel I/O Cable	M4235ZM/A

Published Date: Feb 18, 2012

File Sharing: FoxPro Record Lock Process Issue

My Power Macintosh 9500/150 computer freezes when I try to "Close Locks" in Microsoft's FoxPro with File Sharing turned on. The computer fails during the lock process when trying to lock the 221st record. The same computer can then be restarted with the Shift key held down, which turns extensions off, and more than 220 locks can be closed.

Is something wrong with the File Sharing extension, or is this limit also imposed by the AppleShare File Server?
This article has been archived and is no longer updated by Apple.
This error is a result of a toolbox call to PBLockRange receiving return code -5015, which means a server cannot lock any additional ranges. This toolbox call is primarily used by database application to ensure integrity of file updates, by selectively locking a range of bytes, typically a record's worth, while an update write operation takes place.

This toolbox call only has meaning when applied to a file on a server volume or a local volume which is shared. Thus when the computer is booted with extensions off, no AppleShare activity like File Sharing or mounting of servers can happen. The call to PBLockRange is ignored since there is no integrity exposure of multiple shared access. This would explain why the error does not occur with extensions off.

"Inside Mac" does not state a limit for simultaneous ranges to be locked, presumably because it can change with the environment (File Sharing, AppleShare Server, Netware) or future implementations. It would appear that Mac OS File Sharing has a limit of 220 ranges that can be locked. Other implementations of AFP (AppleTalk Filing Protocol) could have other maximums.

In talking with Microsoft, they mentioned that this issue was solved with their Visual FoxPro 3.0 product.

If you want to determine the number of locks, here is a FoxPro program that can be used to determine the maximum number of locks in the File Sharing environment.

```
======== Begin Code Below ========================================
SET STATUS ON
USE SYS(2004)+"Tutorial:Customer.dbf" SHARED
SET MULTILOCKS ON
DO WHILE !EOF() AND RLOCK()
  SKIP
ENDDO
======== End Code Above ==========================================
```

This program sequences through every record in the database and locks the record, until range locks are exceeded or all records are locked. The database specified, Tutorial:Customer.dbf, is an installed FoxPro sample database or it could be your database. To determine the maximum for a server, there must be enough records in the database to exhaust all available range locks.
Published Date: Feb 18, 2012

AppleShare 4.2.1: 4.2.2 Updater

This article is the AppleShare 4.2.1 to 4.2.2 Updater read me information.
This article has been archived and is no longer updated by Apple.
This patcher application will update AppleShare from 4.2.1 to 4.2.2. Some third party applications and control panels have been found to change the modification dates of certain files to the current date even though no changes have been made to the file.

AppleShare 4.2.1 to 4.2.2 Note
With AppleShare 4.2.1, the modification date of a file can change, even if a file has read-only access. If this occurs, no modifications are made to the actual data in the file. The change is being made by the server, not the client workstation or the application. AppleShare 4.2.2 resolves this issue with third party software incorrectly changing the modification dates of certain files. This patcher application will update AppleShare 4.2.1 to 4.2.2 and prevent this problem from occurring. Apple recommends that AppleShare 4.2.1 customers install this patch.
Published Date: Feb 18, 2012

Newton MessagePad: Use Proper Localized Newton OS Patches

I have Apple MessagePad 120, which has the German Newton OS installed on it. Patches are available for the U.S. Newton OS, but not for the German Newton OS. Can I use the U.S. Patches on the German Newton OS?

This article has been archived and is no longer updated by Apple.

No. You must use the proper localized OS patches. You cannot mix the Newton OS patches.

Published Date: Feb 18, 2012

At Ease: Add CD-ROM Discs and Earlier Information Appears

This article describes an issue when adding CD-ROM discs in the At Ease 3.0.x and 4.0 Administration application.
This article has been archived and is no longer updated by Apple.

Symptom

When adding CD-ROM discs in the At Ease 3.0.x Administration application, clicking Settings displays items for earlier installed CD-ROM discs. The settings are not for a CD-ROM disc that is currently in the list, but is always for a CD-ROM disc that was added earlier.

Solution

At Ease 3.0.x

Download and install the At Ease 3 CDROM Prefs Patch. This patch can be found on Apple's Software Update Web site athttp://www.apple.com/swupdates .

This patch is a system extension that corrects an issue with the CD-ROM Preferences command in At Ease versions 3.0 and later and At Ease for Workgroups versions 3.0 through 3.0.3.

At Ease 4.0

Follow these steps:

1. Quit the At Ease Administration application.
2. Drag the CD-ROM Preferences file, located either on the server, or locally (depending on where the information is stored) to the Trash.
3. Open the At Ease Administration application.
4. Add all of the CD-ROM discs at one time. (Do not quit the Administration application until all CDs have been added.)

Published Date: Feb 18, 2012

Apple QuickTake Cameras: External Power Q&A (10/96)

This article about the QuickTake 100 and QuickTake 150 digital cameras contains questions and answers regarding the external power requirements.

This article has been archived and is no longer updated by Apple.

Question: What are the external power requirements of the Quicktake cameras?

Answer: The manuals for the QuickTake 100 and Quicktake 150 state that the external power requirements for the camera are:
4.5 V DC/1.75 A to 8.0 V DC/1.0 A.

Question: What is the voltage output of the Battery booster pack?

Answer: 6 volts (nominal).

Question: What is the polarity of the cable used to connect the battery pack to the camera?

Answer: The center terminal of the connector is positive and the shell is negative.

Published Date: Feb 18, 2012

At Ease 4.0: Location Choices Dimmed (10/96)

In the Locations window of At Ease 4.0 Setup, if I select the Require Users To Open and Save In Approved Locations radio button, I see all of the save check boxes and all but two of the location check boxes grayed out. Only the User Documents Folder Open and the Removable Media Open checkboxes are active.

In addition, balloon help will report that the options are grayed out and states something like, you have specified that members can open or save anywhere.

This article has been archived and is no longer updated by Apple.

Location choices require that at least one Open location be selected before any save options become available. The user must select Open checkbox beside either "User's Document folder" or "Removable Media" before any of the other checkboxes will become available.

The balloon help incorrectly reports that the "Allow user to Open and Save anywhere" radio button has been selected. Ignore it.

Published Date: Feb 18, 2012

PowerBook Computers: Which Modems Came With Them?

This article contains a list of Macintosh PowerBook computers that came with modems.
This article has been archived and is no longer updated by Apple.

```
U.S. or International?
----------------------
Please note that the international (INTNT'L) and United States (US) versions of the PowerBook computer models
listed in the chart below may vary in the types of modems that shipped with them. You should also be aware
that all of the international versions of the modems have mini-DIN 8 ports instead of RJ-11 ports, each of
which was designed for the appropriate country-specific DAA type.

Macintosh PowerBook Computers
-----------------------------

100, 140, 145,
145B, 170 (INTNT'L)        - Apple Fax Data Modem
                             (2400 bps data, 9600 bps fax)

100, 140, 145,
145B *, 170 (US)           - Apple Fax Data Modem
                             (2400 bps data, 9600 bps fax)

145B * (US)                 - Global Village Powerport Bronze
                             Fax modem
                             (2400 bps data, 9600 bps fax)
                             (service part number

150 ** (US & INTNT'L)       - Did not include an internal modem.

160, 165c, 180, 180c        - Apple Express Modem (14.4 bps)

Duo 200 & 2300 series
(US & INTNT'L)             - Apple Express Modem for Duo (14.4 bps)

500 Series (INTNT'L) ***    - Apple Express Modem II (14.4 bps)

500 Series (US)             - Global PowerPort Village Mercury for
                             the PowerBook 500 Series (19.2 bps)

5300 & 190 series
(US & INTNT'L)             - Do not support internal modems.
                             However, PC (PCMCIA) Card modems can
                             be used in the built-in PC Card slot.


* - Some early PowerBook 145B models did not include a modem at all
   while others shipped with the Apple Fax Data Modem.
 - Some later PowerBook 145B Plus Pack models shipped with a
   third-party modem:

   PowerBook 145B Plus Pack
   ------------------------
   + One version of the PowerBook 145B Plus Pack shipped with
     a built-in Global Village Powerport/Bronze Fax modem.
   + Other versions of the version of the PowerBook 145B Plus
     Pack were sold with several different bundled software
     applications, but did not include a modem.

** Although the PowerBook 150 did not include an internal modem, it was shipped with modem patch software from
Apple installed in the System folder. This modem patch software is necessary in order for a third-party modem
to be installed and utilized in this computer.

*** International versions of the Macintosh PowerBook 500 series computers came with the Apple Express Modem
II (not available in the U.S) instead of a Global Village Modem.
```

This article was published in the Information Alley on 4 October 1996.
Published Date: Feb 18, 2012

DOS/PC Compat Card: Error 171 When Installing Windows 95 (10/96)

I keep getting the message, "Error 171 has occurred, please contact technical support," whenever I try to install Windows 95 from the multipart floppy disks onto the PC drive container (used with a DOS or PC compatibility card).

This article has been archived and is no longer updated by Apple.

The most likely reason you are getting this error is that you have mounted the PC drive container onto the desktop in the Macintosh environment. You need to unmount the PC drive container by dragging the icon of PC drive file to the trash (or by selecting it and choosing "put away from the File menu). When the drive file is no longer on the desktop, the Windows 95 installer should be able to access the PC drive container and install per the normal instructions.

Article Change History:
04 Oct 1996 - Corrected minor typo.

Published Date: Feb 18, 2012

Network Assistant Server: Clean System Install Issue

This article describes an issue which may arise after performing a clean system software installation on an Apple Network Administration Toolkit (ANAT) server.

This article has been archived and is no longer updated by Apple.
You may encounter errors after a clean installation of system software, re-installation of AppleShare Server software, and then immediately installing ANAT, specifically AppleShare agent and At Ease server, before setting up the server with an Owner and Macintosh name.

The At Ease Server extension will return the error, "Unable to initialize At Ease Server."

The AppleShare Agent will return, "AppleShare Agent Unable to create ADSP listener. Error code -1029". Followed by a cricket-like sound.

You can either launch the AppleShare Admin application and setup the server, or open the Sharing Setup control panel and enter the Owner Name and Macintosh name. Restart the server and the ANAT software should load correctly.
Published Date: Feb 18, 2012

Performa 6400: Farallon Fast Ethernet PCI Card & Driver (10/96)

I just installed a Farallon PCI Fast Ethernet Card in my Performa 6400 and it will not working. The card came with no software.

This article has been archived and is no longer updated by Apple.

The Farallon PCI Fast Ethernet Card's drivers are in ROM on the card, so there is no software to install. With these Farallon cards, the drivers are read from ROM, but only through Open Transport. Therefore, you must use Open Transport networking when starting the computer so the drivers will load.

Published Date: Feb 18, 2012

PC Compatibility Card: Configuring GDT PowerPrint (10/96)

I am trying to get the Printer Specific option for PC Compatibility printing to work with GDT PowerPrint. GDT tech support ensured that the proper settings are made for the PC side.

Using the GDT Softworks, the Mac OS prints properly. However when printing from the DOS/Windows environment, the PC Print Spooler launches but remains idle. PC spool files appear in the System Folder:Preferences:Spooler folder, but PC Print Spooler does not appear to do anything with these files.

This article has been archived and is no longer updated by Apple.

Use the following steps to properly configure the GDT PowerPrint software.

Step 1

Connect the printer to your Macintosh using the PowerPrint cable.

Step 2

Install GDT PowerPrint 3.0.1 or later.

Step 3

Choose the Chooser in the Apple Menu, and select the printer.

Step 4

Select the correct port the printer is connected to.

Step 5

Open PC Print Spooler and select Printer Specific in the Preferences window.

Step 6

Switch to the PC environment

Step 7

Launch Windows and go to the printer area (depending on which version of Windows you have this varies).

Step 8

Double-click "Add New Printer" to add the printer.

Step 9

Follow the prompts and install the proper printer driver.

Your printer is now properly configured for printing. The printout may take a little time to print since it has to spool to the Mac OS. PC Print Spooler then tells the GDT driver to print the spool file, then the GDT driver sends the data to the printer.
Published Date: Feb 18, 2012

Pascal III: RPS File Space Allocation

This article has been archived and is no longer updated by Apple.

The Apple III Pascal RPS unit usually creates two SOS files for each RPS file; moreover, your SOS file with the .I (index) may be listed as having too many blocks compared to the disk space available. This file functions well, except that you're unable to copy this file to another disk regardless of the amount of room on the destination disk. Attempts to copy this file will give you a "NO ROOM ON VOLUME" error.

RPS uses "sparse files", files that are logically larger than the actual number of blocks required to store the information. Since early versions of SOS (pre SOS 1.3) did not know about sparse files, they will copy the files without errors.

Another example of a sparse file is a Business BASIC random access file having a record length of 1024, but only using record 1 and record 1000. Logically, this file requires 2002 blocks; actually, only 6 blocks are used. Again, an early version of SOS will copy the file.

Published Date: Feb 18, 2012

Apple IIGS Incompatibilities: ProFile Interface Cards

This article has been archived and is no longer updated by Apple.

The Apple IIGS is designed to be used with the vast majority of Apple IIe hardware and software. However, there are some design differences that will cause some products to be incompatible with the Apple IIGS.

Some Apple ProFile Interface Cards work incorrectly in an Apple IIGS and cause the information on the ProFile to be inaccessible. To avoid problems when using a ProFile in an Apple IIGS, either modify the interface card or obtain the new version of the card.

The Apple IIGS bus' higher 'noise' levels create the problem. The 'noise' is passed on to the ground traces on the ProFile interface card and will eventually (after use) corrupt the directory of the ProFile, rendering it invisible to ProDos and inaccessible to the user.
Published Date: Feb 18, 2012

PC Compatibility Card: CDR101 error reading CD-ROM Discs (10/96)

I have a PC Compatibility Card in my Power Macintosh computer. I have installed the DOS/Windows drivers for the CD-ROM, but I can only access CD-ROM discs when I am using the Mac OS. When I try to access a CD-ROM disc, I get a message, "CDR101: Not ready reading drive E:, why?

This article has been archived and is no longer updated by Apple.

CDROM.SYS is the MS-DOS driver allowing the PC Compatibility Cards to access Apple CD-ROM drives. CDROM.SYS requires the proper loading of the Apple CD-ROM extension in the Mac OS, when the Mac OS is starting up. Here are some reason why you may be getting the CDR101: Not ready reading drive E: message.

1) You may be using a third-party CD-ROM drive that uses its own CD-ROM extension instead of the Apple CD-ROM extension. Check the CD-ROM drive manufacturer to see if it is compatible with the Apple CD-ROM extension. If it is not compatible, you will not be able to use the CD-ROM drive when you are in the DOS/Windows environment.

2) You may be using CD-ROM acceleration software with an Apple CD-ROM drive that replaces the Apple CD-ROM extension. If this is the case, you need to use the Extension manager to switch between the Apple CD-ROM extension and the third-party CD-ROM extension at startup, when you plan on using the PC Compatibility Card.

3) You may be using Apple CD-ROM version 5.1.1 or 5.1.2. With these versions of Apple CD-ROM, the PC/Windows environment is unable to read CD-ROM discs if a CD-ROM is not in the drive at startup. The document titled "DOS Compatible: CD-ROM Needs to be in Drive at Startup" explains this issue. To resolve this issue, install Apple CD-ROM 5.1.6 or greater.

4) The CD-ROM you are trying to use may not be a format that the PC Compatibility Card can read. The following formats are supported:

ISO 9660
Audio
Hybrid (dual-format Mac/PC) CD-ROM discs*.

* NOTE:
Requires Apple CD-ROM 5.1.5 or later.

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PC Compatibility Card: Window for Workgroups TCP/IP Setup 10/96

This article provides instructions for installing Microsoft's TCP/IP protocols and services to your PC Compatibility Card.

This article has been archived and is no longer updated by Apple.

Equipment required:

* DOS Compatibility Card or PC Compatibility Card
* Windows for Workgroups installation media.
* Microsoft TCP/IP (32-bit) for Windows for Workgroups

TCP/IP and Windows for Workgroups
==========

Windows for Workgroups has many TCP/IP product choices that add the TCP/IP protocol and services to your machine. One of these products is Microsoft's 32bit TCP/IP product. This lab will guide you through the installation of this software using the NDIS driver supplied on the Apple PC Card installer disk.

Installation
==========

Step 1

Start "Network Setup"

All network configuration is done with the "Network Setup" application found in the "Network" group on the desktop level. When this program starts you'll find an empty configuration.

Step 2

Press the "Networks..." button to begin the installation.

Step 3

Click the "Install Microsoft Windows Network:" button.

Step 4

Click the "OK" button.

You will return to the "Network Setup" window.

Step 5

Press the "Drivers..." button to add the network interface driver software.

An empty "Network Drivers" dialog appears.

Step 6

Click the "Add Adapter..." button.

After scanning the drive a list of the built-in driver interfaces appears.

Step 7

Select Unlisted or Updated Network Adapter option.

Since you need to use the driver provided on the "PC Software" disk of the DOS Compatibility Card software you must select the Unlisted or Updated Network Adapter" option.

Step 8

Click the "OK" button.

A window will appear, which allows you to navigate to the driver file on the disk. Leave the default of "A:\\" unchanged.

Step 9

Insert the "PC Compatibility Card, PC Image" installer disk.

Step 10

Click the "OK" button.

After the floppy is scanned you are presented with one driver to select, "PC Card Network Driver (NDIS2)".

Step 11

Select PC Card Network Driver (NDIS2)

Step 12

Click the "OK" button.

The original "Network Drivers" window is redisplayed with the new adapter driver and 2 default protocols, NetBEUI and IPX/SPX.

Beginning the TCP/IP protocol installation

Step 13

Click the "Add Protocol..." button.

Step 14

Select the "Unlisted or Updated Protocol" option.

Step 15

Click the "OK" button.

The next dialog box will ask you for the location of the protocol installer. Use the default of "A:\\"

Step 16

Insert the "TCP/IP-32 for Windows for Workgroups" installer disk and click the "OK" button.

Step 17

Select the only option available in the next window, "Microsoft TCP/IP-32 3.11b" and click the "OK" button.

After the protocol stack is copied from the disk, you return to the "Network Drivers" window which now shows the new TCP/IP protocol component.

Step 18

Remove the extra protocols by highlighting NetBEUI and IPX, then clicking the remove button.

Step 19

Select the TCP/IP protocol item and press the "Setup..." button.

Fill in all relevant information in the following windows. When all the TCP/IP information is entered, click the "OK" button to return to the "Network Drivers" window.

Note:
You must provide a minimum of the IP Address and Subnet Mask. Many Installations also require the Default Gateway and DNS Information.

Step 20

Click the "OK" button.

A screen asking for some client computer information will appear. After providing the relevant information, click the "OK" button.

Windows for Workgroups now begins to install the new components your selected options require. You might need to supply original Windows for Workgroups software during this process.

When all software has been loaded you'll be asked to restart the computer.

Step 21

Click the "No" button.

You now need to make the final configuration adjustment in the PROTOCOL.INI configuration file. In the PROTOCOL.INI file you need to make an entry for the correct Ethernet Frame Type.

Step 22

Use the "Notepad" application in the "Accessories" group and open the "C:\\WINDOWS\\PROTOCOL.INI" file.

After it is displayed find the section that begins with the "[MACNDIS]" heading. You'll find a line in that section that begins "ProtocolDot2...".

Step 23

Change the "ProtocolDot2... to ProtocolDIX="800,806,8035".

NOTE:
The "800,806,8035" needs to be enclosed in double quotes). This entry informs the NDIS driver you wish to use the correct Ethernet frame type for TCP/IP applications (ETHERNET_II).

Step 24

Save the file and quit Notepad.

Step 25

Quit Windows.

Step 26

Restart your computer.

Once you restart Windows you can enter a DOS shell and use PING to test your connectivity. You'll notice a new program group, "Microsoft TCP/IP-32" that contains some basic TCP/IP software utilities.

Published Date: Feb 18, 2012

StyleWriter: Software Installation Troubleshooting

This article covers some of the more common issues when trying to install the Apple StyleWriter software.
This article has been archived and is no longer updated by Apple.

Error Message During Installation

Prior to ANY software installation, you should start with extensions off when running any installer and check to make sure there is adequate hard drive space for installation.

Remove the Fonts Folder

Sometimes when the Installer finds a font already installed, it generates an error. If you are doing the standard Easy Install and a generic error message appears instructing you that the printer software could not be installed onto the requested disk, remove the Fonts folder. To remove the Fonts folder, do the following:

1. Restart your computer with the shift key held down to turn all extensions off.
2. Open the System folder.
3. Drag the fonts folder out of the system folder and place it on the desktop.
4. Restart the computer again with extensions off
5. Launch the StyleWriter software installer (use the Easy Install).

After the installation is successfully completed, drag the individual fonts one at a time from the desktop to the NEW fonts folder created in the System folder. When a duplicate font is found, you do not need to replace the font. Once the old fonts folder has been emptied, throw it away.

Important Do not drag the old Fonts folder from the desktop into the System folder.

If the easy install did not complete, perform a custom Installation of the StyleWriter printer driver. To install just the StyleWriter printer driver, do the following:

1. Restart your Macintosh with the extensions off (hold down the shift key at startup).
2. Launch the StyleWriter software installer.
3. Select Custom Install from pop-up menu in the main Installer window.
4. Select QuickDraw Printer Software.
5. Click the Install button.

Removing Extensions, Control Panels, and Preferences Folders

If you still cannot install the StyleWriter printer software, you need to remove the Extensions, Control Panels, and Preference Folders. To do this, follow these steps:

1. Remove the Extensions, Control Panels, and Preferences folders from the System folder and place them on the desktop.
2. Restart with Extensions off.
3. Use the Custom Installation procedure again.

If this successfully installs, you can replace the Extensions, Control Panels, and Preferences by opening each folder up on the desktop and dragging the individual files from each folder into the newly created folders in the System folder. Once the old folders are emptied, you can move them to the trash.

Important: Do NOT drag the old folders themselves from the desktop into the System folder.

The reason you may have to remove these folders is that some installers lock the driver if it is already installed. Also, the printing preferences are sometimes locked, or the General Controls control panel is set to Protect System Folder. Virus software may also remain active even with Extensions off, preventing changes to the System folder. Any of these circumstances can result in the generic "installation cannot take place on this

disk" message.

Custom Installation of Desktop Printing Software

With most current StyleWriter printer models, Apple has included the Desktop Printing extension as part of the software. Once you have successfully installed the StyleWriter printer driver, you can use the Custom Installation procedure to install the Desktop Printing extension. If the Desktop Printing extension does not install, you will need to remove the Control Panels, Extensions, and Preferences folders, then perform the custom installation procedure again.

Published Date: Feb 18, 2012

Printing Stickies: Change Name at Bottom (10/96)

Whenever I print a Stickies note, a name and date show at the bottom of the page. I want to change the name, how do I do this?

This article has been archived and is no longer updated by Apple.

```
The name which prints at the bottom of the page is the Owner Name in the Sharing Setup control panel. To
change the name, open the Sharing Setup control, highlight the Owner Name field, and type the change.
```

Published Date: Feb 18, 2012

Apple IIGS: Recovering a corrupted ProFile

This article has been archived and is no longer updated by Apple.

In the Apple IIGS, the bus' higher 'noise' passes on to the ground traces on the ProFile interface card and, after use, corrupts the directory of the ProFile, rendering it invisible to ProDos and inaccessible to the user.

It is possible to recover the directory and make the ProFile usable again. On the report of a ProFile going bad after installation in a Apple IIGS, first see the article "Apple II ProFile Interface Card Modification for the Apple IIGS. This modification lets the card operate correctly for the directory fix. Don't try to repair a directory with an un-modified ProFile card.

For the recovery, use a disk editor program, like the ProDos MLI Exerciser program here:

1. Execute the ProDos Machine Language Interface Exerciser program with the '-' command and wait for the main menu.

2. From the main menu, type '80'<Return> to command a read of a block; follow that by typing in the following values from the next screen:

Parameter Count $03 (Default)
Unit Number $50 (The ProFile card's slot followed by a '0')
Data Buffer $00 (This value is where the block to be modified
$40 will be loaded)
Block Number $02 (This is the bad block to load in)
$00

After typing in each pair of numbers, press <Return> to go on to the next entry prompt. After pressing <Return> on the last entry, you see a message 'PRESS RETURN TO EXECUTE COMMAND', you press <Return> and then see another message 'Error $00: Call Successful'. At this point, press <Return> to get the main menu.

3. Type 'M' <Return> to modify the buffer. The default should read:

$00
$40

This is the correct setting; press <Return> on each entry and press it once more to go on to modify mode. At this point, you should see a table of numbers and a blinking cursor on the entry we want to 'delete', number '55'. Now that we know that problems with the directory exist, press <ESC> to go to the main menu.

If the '55' was not in the first position of the table, then this directory recovery procedure won't work. If the '55' was not shown at all, your ProFile possibly has a different reason for not operating)

4. Type '81' <Return> to write the block out to the disk. Press <Return> through the number entries until you reach the 'data buffer' entry. Change it to look like this:

$01
$40

Continue to press <Return> through the block number entries and once more to command the actual block write, after which you will see the message 'Error $00: Call Successful' will be displayed.

5. You may now reboot your system and check to see if the ProFile is now

recognized. All of the data previously inaccessible should be back and usable.

For more information about using the ProDOS Exerciser Program, see the ProDOS Technical Reference manual.

Published Date: Feb 18, 2012

StyleWriter Printers: Print Quality Depends On Paper (10/96)

I have a StyleWriter and everytime I go to print the only quality option avaialble in the print dialog is Best. The Normal and Draft options are dimmed.

This article has been archived and is no longer updated by Apple.

You need to check the paper type setting. Unless you are printing on special types of media, the paper type should be set for Plain. Some paper types such as Transparency, Glossy, and Back Print Film require you to use the Best quality mode.
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StyleWriter Printers: Out of Paper Message Troubleshooting 10/96

I keep getting an error message when I try to print from my StyleWriter printer stating that I am out of paper, but the printer has paper in the tray. When I click on Continue, I get an error message stating the paper is there, but it is the wrong size. Why?

This article has been archived and is no longer updated by Apple.

These error messages are usually caused by using an incorrect or damaged printer cable.

First check to make sure that you are using a peripheral-8 cable (serial cable), and not a LocalTalk or PhoneNet cable with the StyleWriter printer. LocalTalk cables and PhoneNet cables, use small boxes along with specialized cable to connect devices. PhoneNet cables resemble telephone cable. You can only use LocalTalk and PhoneNet cables with certain StyleWriter models containing the optional LocalTalk Adapters.

The correct cabling for most StyleWriter printers is peripheral-8 (serial) cable. The serial cable is a direction connection between the computer and the printer. You should not have any type of splitting or adapter devices between the computer and the printer. In addition, the serial cable should have eight (8) straight and intact pins on both ends of the cable.

If you are using a peripheral-8 cable and still experience problems, try connecting the printer to another computer, or try another peripheral-8 cable.
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Quadra/Centris 610 DOS Compatibility Card: Read Me

This is the Read Me file that shipped with the Centris 610 and Quadra 610 DOS Compatibility computers. These computers shipped with PC Setup version 1.0.
This article has been archived and is no longer updated by Apple.

Using DOS and Window Applications With the DOS Compatibility Card for Macintosh

This document contains important information about using your DOS Compatibility Card that is not included in your user's guide.

Using Memory Management Utilities

If you use a memory management utility such as EMM386 or QEMM, you need to configure it to be compatible with your DOS Compatibility Card.

- If you will be using EMM386 (included as part of DOS) and don't require expanded memory, set CONFIG.SYS to: DEVICE=C:\\DOS\\EMM386.EXE NOEMS RAM=D000-EFFF
- If you require expanded memory, set CONFIG.SYS to: DEVICE=C:\\DOS\\EMM386.EXE RAM=D000-EFFF FRAME=D000
- If you use QEMM, it is recommended that you use the frame option (ST:F): DEVICE=C:\\QEMM\\QEMM386.SYS RAM ST:F ARAM=B080-B7FF ARAM=C900-DFFF R:1
- If you choose to use the Stealth mapping option (ST:M), set CONFIG.SYS to: DEVICE=C:\\QEMM\\QEMM386.SYS RAM ST:M X=C800-CFFF X=FC00-FCFF X=FE00-FFFF ARAM=B080-B7FF ARAM=C900-DFFF R:2
- For other memory management utilities, configure them so that the only areas in the BIOS that can be mapped to upper memory are from D000 through EFFF.

Make sure you verify that the HIMEM.SYS line in the CONFIG.SYS file has the switch to turn memory testing off. If the HIMEM.SYS line doesn't turn memory testing off, the ROM BIOS may become corrupted when the DOS Compatibility Card is configured for 2 MB of memory: DEVICE=C:\\DOS\\HIMEM.SYS /TESTMEM:OFF

Note: Apple does not recommend using automated memory configuration utilities with the DOS Compatibility Card because they can require more memory than management utilities you configure manually. They can also be incompatible with the DOS Compatibility Card.

Using the serial ports on the Macintosh

The maximum baud rate supported by the DOS Compatibility Card when a COM port is mapped to a Macintosh serial port is 19,200. If you're capturing serial output to a Macintosh file, there is no limit.

Due to the RS-232 implementation of the Macintosh, not all RS-232 signals are available. These signals are not available:

- Carrier Detect (CD)
- Data Set Ready (DSR)
- Request to Send (RTS)
- Ring Indicator (RI)

If your application or serial device requires these signals, it will not work.

Note: See Serial Port Pinout later in this document for a list of the Macintosh and PC connectors.

The DOS Compatibility Card does not support Carrier Detect (CD). You must configure your communications applications so they do not use CD. Most communications applications can be set to respond to the CARRIER string sent back by most modems.

Using Video

Correcting video synchronization (Video Synch)

Some application programs that write directly to the hardware (especially games) may cause the Apple 13", 14", and 16" monitors to lose video synch when you start the program. If this happens, call the software company to see if one of the following conditions exists:

- There is a switch to force the application program to make BIOS calls.
- There is an upgrade available with this feature.
- These applications will run on a standard VGA, SVGA, or MultiSync monitor.

Getting Color on Your VGA Monitor

Due to the way some programs check for color VGA, they may be installed in VGA monochrome. In these cases check the documentation that came with your software to see if there is a setup option to install standard VGA. If the setup option is available, install the software with the standard VGA option. Once a program is installed with standard VGA, it will always display in color.

If you are installing Windows, even though the SETUP program comes up in color, the express setup may install in VGA monochrome. To avoid this you can use the custom setup and verify the video is set to VGA in the configuration screen.

Another way to avoid installing in VGA monochrome is to use the INSTALL.BAT file located on the DOS Compatibility Card Installer (for the

DOS Environment) disk. Follow these steps:

1. Run the INSTALL.BAT command, but choose not to install. The Installer places WINSETUP.BAT and a hardware information file on your C:/ volume.

2. Use the WINSETUP.BAT file to install Windows. This will force Windows to install in color. You can also use the Windows SETUP program to change the video at any time.

Using the Video Drivers
Included with your DOS Compatibility Card are video drivers for Windows and third-party applications. These drivers allow you to run Windows with 256 colors at 640 by 480, or if you are using an Apple 16" or VGA display, 16 colors at 800 by 600. Follow these steps:

1. Insert the Display Driver Disk 1 disk in the floppy disk drive while the PC is in the foreground.

2. From DOS, set the current drive to A by typing: A:

3. Run the setup program by typing: SETUP. Follow the instructions on the screen to install the video drivers.

Note: If you are using an Apple 16" monitor, DOS will always be displayed at 640 by 480 centered on your monitor.

Using the Apple Adjustable Keyboard
If you are using an Apple Adjustable Keyboard, you cannot use key combinations that combine keys from the main keyboard with function keys at the same time (such as shift-F1). For this reason, you cannot restart the DOS Compatibility Card using the Control, Alt, and Delete key combination. If you need to restart the DOS Compatibility Card, use the Reset button in the PC Setup control panel.

Using Backup Programs
To back up the drive files on your Macintosh, either make a copy of the files by duplicating them in the Finder, or use a Macintosh backup application program. Do not use PC backup programs. PC backup programs do not work because the floppy disk drive is controlled by the Macintosh.

Using MacShare
MacShare is a PC application program included with your DOS Compatibility Card software that allows the PC to view Macintosh folders and volumes as drive letters on the PC. MacShare allows as many shared drives as there are drive letters. To specify the number of drive letters, modify your CONFIG.SYS to include a LASTDRIVE statement: LASTDRIVE=x. "x" must be a letter between E and Z because the PC reserves drives A through D for its floppy and hard disk drives. For example, if you use M as your LASTDRIVE value, you could have up to nine extra drives (using drives labeled E through M). The CD-ROM driver, if installed, will use one letter.

Note: Each additional drive letter uses 100 additional bytes of PC memory.

Using PC Drives and Partitions
The PC Setup control panel allows you to use PC SCSI drives and partitions with the DOS Compatibility Card. If you use a PC drive or partition and you have a utility that mounts these devices on the Macintosh, be sure to unmount the drive or partition before starting the PC by dragging its icon to the Trash. If you don't unmount the drive or partition, you may lose data since both the Macintosh and the PC may write to the device at the same time.

Note: If you are using Apple's Macintosh PC Exchange 2.0 to mount PC devices, the software alerts you if you try booting the PC while the device is mounted.

If you intend to mount your PC drive file, partition, or disk on the Macintosh using a utility such as Apple's Macintosh PC Exchange, do not use a PC compression program. Drives that are compressed cannot be mounted.

Using Floppy Disks and CD-ROM discs
When the PC is in the foreground, you cannot insert Macintosh floppy disks into the floppy disk drive. The PC ejects a Macintosh floppy disk if one is inserted.

Write-protected PC floppy disks can be accessed by both the PC and the Macintosh. Write-enabled floppy disks can be accessed only by the environment that was in the foreground when the floppy disk was inserted.

To eject a floppy disk while the PC is in the foreground press Command-E.

Note: Using Command-E works only when the PC can access the floppy disk. Otherwise switch to the Macintosh and eject the floppy disk from the Macintosh.

CD-ROM discs can be accessed by both the Macintosh and PC (if the included PC software is installed). To eject a CD-ROM disc from the PC, press Command-Y. If the CD-ROM disc cannot be ejected (because a file is in use or the CD-ROM is being shared), the Macintosh beeps to notify you and will not eject the CD-ROM disc.

Printing
The recommended print driver to use with your DOS or Windows application when printing to a QuickDraw (non-PostScript) printer is the Epson

LQ-2500.

If the top and bottom of your document gets clipped when you are printing from your PC, follow these steps:

1. Double-click the System Folder on your Macintosh and open the Extensions folder.

2. Double-click the PC Print Spooler.

3. Choose Preferences from the File Menu.

4. Click the button for "Gaps between pages (60 lines)" (under "When emulating an Epson printer").

You can also set notification and status options in this dialog box.

Caches

Your DOS Compatibility Card works best with the Macintosh computer's caches enabled. Follow these steps to enable the caches:

1. Choose Control Panels from the Apple menu.

2. Open the Cache Switch control panel.

3. Click the button for Faster (caches enabled).

4. Close the Cache Switch control panel.

Serial Port Pinout

To connect existing PC serial devices to your Macintosh, you need cables with the correct pinout. The following chart matches the Macintosh pin (Mac Mini DIN-8) with the corresponding PC pin (DB-25):

Mac Signal	Mac Mini DIN-8	DB-25	RS-232 Name
HSKo	1	20	DTR
HSKi	2	5,8	CTS, DCD
TXD-	3	2	TXD
GND	4	7	GND
RXDA-	5	3	RXD
TXDA+	6	N/C	
GPi	7	N/C	
TXD+	8	7	GND

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PowerBook 1400: Won‘t Start Up From CD By Holding C Key (11/96)

The PowerBook 1400 will not start up from a CD-ROM disc by pressing the "C" key on the keyboard as many other Macintosh computers do. How can I force it to start up from a CD?

This article has been archived and is no longer updated by Apple.

PowerBook 1400 series computers can be started up from a bootable CD-ROM disc by simultaneously holding down these four keys as the computer is starting up:"COMMAND (the Apple key)" "OPTION" "SHIFT" and "DELETE". Release the keys when the "Welcome to Macintosh" dialog box appears on the display.*

This start up procedure is used when you want to bypass the internal hard drive and force the computer to start up from the next available SCSI or IDE device, which in this case, is the CD-ROM mechanism.

If you continue to hold down the keys past the "Welcome to Macintosh" dialog box appears on the display, the hard drive may not mount on the desktop. However, you can force the hard drive to mount using the Drive Setup application.

Drive Setup is located on the PowerBook 1400 CD inside a folder called "Utilities". If the internal hard drive did not mount, you can force it to mount by following these steps:

Step 1

Double click on Drive Setup.

Step 2

Highlight the hard drive <not mounted>.

Step 3

Pull down the Functions menu and select Mount Volumes. The hard drive should show up on the desktop. Quit Drive Setup.

* Note: If you find that your PowerBook computer still will not start up from the CD-ROM disc after holding down the Command-Option-Shift-Delete keys, press the Caps Lock key one time and try it again. The Command-Option-Shift-Delete key sequence will not work when the Caps Lock key is activated. However, because there is no LED light on the Caps Lock key of the PowerBook 1400 computers, it is impossible to tell if the key is active until the computer is started up.

This article was published in the Information Alley on 21 October 1996.

Article Change History:
18 Nov 1996 - Added info about when to release keys.
12 Nov 1996 - Added info about Caps Lock key.
18 Oct 1996 - Changed article status.
Published Date: Feb 18, 2012

PowerBook 1400: What Kind Of RAM Card Do I Need?

What RAM speed is required by the Macintosh PowerBook 1400 series computers?

Is it possible to know which kind of RAM card to buy to expand the memory in my Macintosh PowerBook 1400 series computer without having to open it up?

On which side do I install the RAM expansion cards?

This article has been archived and is no longer updated by Apple.

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Speed
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The PowerBook 1400 series computers require 70 nanosecond (ns) RAM. The RAM on the card must be low-profile
memory chips.

Which RAM Slot Is Expandable?
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The Apple factory slot is to the left (when looking at the PowerBook computer from the front). This slot
should not be modified. RAM cards cannot be stacked on top of one another in the Apple factory slot. This slot
already has an Apple RAM card in it when it is shipped from Apple.

The customer slot is to the right (when looking at the PowerBook computer from the front). The customer slot
supports and has enough room for two cards to be stacked on top of one another.

Which Type of RAM Card Do I Need?
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To determine which type of RAM card you need to purchase, follow these guidelines:

* If your Macintosh PowerBook 1400 series computer has a total of 12 MB or 16 MB of RAM, that probably** means
you have the original factory configuration. Only the original RAM is installed. This kind of configuration
means that your customer expansion slot is empty. Two RAM cards can be installed in the customer RAM slot, one
on top of the other.

** Note: Apple shipped the PowerBook 1400 series computers in both 12 MB
  and 16 MB configurations. However, it is possible that if your PowerBook
  has 16 MB, it originally had 12 MB and 4 MB has been added in the customer
  slot. The only way to be sure the customer slot is empty is to open the
  computer as described in the Users Manual.

If you are not sure how much RAM you have, you can tell by pulling down the Apple menu when you are in the
Finder and selecting About This Macintosh.

There is an Apple RAM expansion card available from authorized Apple Resellers for installation in the
customer RAM slot. It is called the Macintosh PowerBook 8 MB Memory Expansion Card (Order No. M4506). This
card has a passthrough connector which allows another card to be stacked on top of it.

If you choose to purchase a third-party RAM card (not from Apple), you need to ask the manufacturer if the RAM
card they sell goes specifically on the top or bottom or if it will go in either position. You may also want
to ask whether or not any other companies' RAM cards can be plugged into their card, or if only their brand of
RAM cards can be stacked on top of each other.

* If your Macintosh PowerBook 1400 series computer has a total of more than 16 MB of RAM, that means you
definitely have more than the original factory configuration. There is already a RAM card installed in the
customer expansion slot.

If the card in the customer expansion slot is an Apple RAM card, you can plug another Apple RAM card in on top
of it. If it is a third-party RAM card, you need to ask the manufacturer whether or not this particular card
can have another card (Apple or third-party) stacked on top of it.

This article was published in the Information Alley on 12 November 1996.
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PC Compatibility Card: Using ZIP drives (5/97)

How can I use Iomega Zip disks in the MS-DOS/Windows environment on a Macintosh with a DOS Compatibility Card or PC Compatibility Card installed in it?
This article has been archived and is no longer updated by Apple.
There are a couple of different ways you could access a ZIP drive volume from within the MS-DOS/Windows environment:

Create A Drive Container On the Volume or Share It

1. Load the Mac OS Drivers, either with an installed Iomega Extension or the Guest application.
2. Mount a Zip Disk in the Mac OS environment.
3. Create a drive container on a Zip disk or share a Zip disk (or a folder within the it) to the PC side using PC Setup's Sharing option.

This is the preferred method of sharing a Zip disk because PC Setup handles the access between both environments. If the Zip disk is a Container, the PC side has primary control and it is locked in the Macintosh environment when used on the PC side. If the Zip disk is shared, PC Setup updates both sides when files are added or deleted. This works with either Macintosh-formatted or PC-formatted Zip Disks.

NOTE:
With the Mac OS Iomega drivers loaded, both Mac and PC formatted disks mount properly.

Assign a PC-formatted Zip Disk to Drive D:

1. Do not load the Mac OS Iomega drivers. The Zip disk should not appear on the Mac OS Desktop.
2. You can mount a MS-DOS/Windows formatted volume (cartridge) with PC Setup [as drive D:], but the Mac OS driver software must not be loaded.This is done by selecting drive partition after the cartridge has been inserted into the Zip drive.

WARNING:
If you use this method, you should NOT load the Mac OS Zip drivers (either the Driver Extension or Guest Driver) to mount the Zip drive in the Mac OS. Without the driver loaded the Zip volume will not mount in the Mac OS, but PC Setup still recognizes the drive and allow it to be mapped as Drive D:. If the Mac OS drivers are loaded, both environments think they have full control of the Zip drive, and do not update the other environment. This could result in data and directory corruption.

Other Removable Media Types

You can also use these steps with other forms of removable media, such as Magneto Optical and Syquest disks. However, you need the proper Mac OS drivers.
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Cyrillic Language Kit: Using KeyCaps

Why doesn't my keyboard seem to match what I see in the manual when I use KeyCaps?
This article has been archived and is no longer updated by Apple.
The keyboards pictured on the keyboard layout cards, key cap labels and in the manual are representations of the ISO international keyboard. This keyboard is not sold in the US. However, it is widely used outside the US. These keyboard layouts will only have minor differences on US keyboards.

Depending on which keyboard is in use, some characters may vary from the included keyboard layout charts. For instance, when you are using the Russian Normal layout with an Apple Extended Keyboard, the square bracket character appears to the left of the number 1 key (under the Escape key), not as shown on the printed layouts.

One KeyCaps feature is the ability to hold down the Command key (in any of the Cyrillic layouts) and see the QWERTY layout (AZERTY or QWERTZ for the French or German transliterations). This is very helpful for faster keymapping recognition without having to look down at the physical keyboard.
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Cyrillic Lang Kit: Are Phonemic Stress Marks Included?

Although it is not used in the formal written language some languages, including Russian (for example) utilize something called phonemic stress. A word, therefore, can change its meaning if a different vowel is stressed. This becomes more important for students and language teachers, or where some ambiguity could be implied.

Does Apple include any kind of support for phonemic stress marks in the Cyrillic Language Kit?
This article has been archived and is no longer updated by Apple.
There is no current plan to include phonemic stress marks in Apple's Cyrillic Language Kit. There is, however, a third-party TrueType font called Nevsky which includes accented characters.

It may still be available from the following web site: http://www.language.brown.edu/LRC/ .

A Russian accented QWERTY keyboard layout is also included with the Nevsky font. The web site includes instructions and examples.

Note: This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.
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Apple IIGS: Cabling Configurations

This article has been archived and is no longer updated by Apple.

The Apple IIGS is very compatible with Apple's existing cable product line. Below you will find the possible configurations for the various Circular 8 cables.

Apple System Peripheral - 8 Cable
Product M0187 / Part 590-0340-A
Circular 8 to Circular 8

Can be used as connecting cable for the Apple IIGS to:

- ImageWriter //
- Apple Personal Modem
- Macintosh Plus (data transfe)
- Apple IIGS (data transfer)

Macintosh Peripheral - 8 Cable
Product M0185 / Part 590-0322-B
Circular 8 to DB9

Can be used as connecting cable for the Apple IIGS to:

- Macintosh 128K and 512K (data transfer)

In ny other required combination, use the Apple IIGS Adapter Cable (Circular 8 to DB25 adapter) and the appropriate DB-25 Apple II type cable used on the Super Serial Card.
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Cyrillic Language Kit: Which Languages Are Supported?

Which languages, alphabets, and keyboard layouts are supported by Apple's Cyrillic Language Kit?
This article has been archived and is no longer updated by Apple.
The Cyrillic Language Kit supports several Slavic Languages using different variations of the Cyrillic alphabet.

Apple's Cyrillic Language Kit includes two cards, scored for folding in half, to show the Russian, Cyrillic-QWERTY, Cyrillique-AZERTY, and Kyrillisch-QWERTZ layouts. Additionally, there are keyboard stick-ons for Russian, Ukrainian, and Bulgarian. There is no need for stick-ons if using a transliterated keyboard. The manual also includes all the layouts, as well as a transliteration guide (with the names of the letters and a hex table).

There are two separate installations one for English and one for French computers. The following keyboards layouts are available (if all are installed) from the keyboard menu:

Russian
This is referred to in the manual as Russian Normal. This is the one Russians would use, or learn in school. In other words, it is their version of the QWERTY keyboard used in the U.S. It includes "Option" and "Option-Shift" key layouts for additional letters used in the Ukrainian, Belorussian, Macedonian, or Serbian.

Cyrillic-QWERTY
This is a transliteration of the American English QWERTY keyboard. Transliteration means that if I type Xris (Russian for Chris, the "x" is a gutteral "h" sound), the correct Cyrillic characters are produced. This would be used by English QWERTY keyboard users who do not know the "native" Cyrillic keyboard layouts (Russian, Ukranian or Bulgarian). It also includes the "Option" and "Option-Shift" layouts.

Cyrillique-AZERTY
This is the transliteration for the French keyboard. It also includes "Option" and "Option-Shift" layouts.

Kyrillisch-QWERTZ
This is the transliteration for the German keyboard. It also includes "Option" and "Option-Shift" layouts.

Ukrainian
This keyboard layout includes some "Option" and "Option-Shift" letters.

Bulgarian
This keyboard layout includes some "Option" and "Option-Shift" letters.
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Apple Video Player: Video Startup Not Installed (10/96)

Whenever I try to open the Apple Video Player application, I get the following message, "Apple Video Player requires the Video Startup Extension to be installed. Make sure it has been installed in your Extensions folder and that the computer has been restarted."

I have checked in my Extensions folder and the Video Startup extension is installed. Why do I keep getting the error message?

This article has been archived and is no longer updated by Apple.

You need to make sure the Apple Video Player and Video Startup extension are using the same version. If the Apple Video Player version number does not match the Video Startup extension version number, this error message will be seen regardless of whether the Video Startup extension is installed in the Extensions folder.

The Apple Video Player application is normally in the Apple Extras folder while the Video Startup extension is in the Extensions folder. To find the version number of these files you can choose the Get Info command in the File menu.

If you have installed System 7.5 Update 2.0 on your computer, you should perform a custom install Apple Video Player 1.4, which will install both the Video Startup extension and the Apple Video Player.

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Power Macintosh 8500 Freezing With S-Video Cable (10/96)

When I connect an external S-video cable only, in other words there is no monitor, to my Power Macintosh 8500/120, the computer appears to hung if I open the Color Picker. The mouse moves, but only beeps when I click anywhere. I do not have to be using a video application, just changing a color in the Labels control panel or in Eudora.

This article has been archived and is no longer updated by Apple.

We were able to reproduce what you describe on a Power Macintosh 8500, by attaching an S-video cable to the secondary video port. After restarting the computer, it was apparent from the Monitors and Sound control panel that "another monitor" was present. Double-clicking a color in the Labels control panel produced the same situation as the ghost monitor, for more information see Tech Info Library article, "System 7.5: Known Color Picker Problems."

Workaround

When the computer appears to hung, you can dismiss the unseen Color Picker dialog by pressing the return or enter key. The computer should then continue to working as expected, however, you cannot change the color with Color Picker.

Another workaround is to change the relative color bit depth settings of the "ghost" and visible monitors so the greater color depth is on the visible monitor. We set the visible monitor to millions of colors and the Color Picker dialog appeared on the main monitor.

Another workaround would be to attach a second monitor and set its color bit depth lower than the first monitor.

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Apple Video Player and Scratch Disk

I want to know if there is a way to select which hard disk the Apple Video Player (AVP) uses when capturing video. When I capture video on my Power Macintosh 8500 using AVP, the video capture always occurs on my external hard drive. The external hard disk is not the startup volume.

Which hard disk will Apple Video Player use as a scratch disk, and is there a way to change the scratch disk in Apple Video Player?

This article has been archived and is no longer updated by Apple.
Apple Video Player uses the disk it was launched from for temporary disk space. However, if there is not enough space on the default disk, AVP will not look for another disk to use. There currently is no way to change this from within the Apple Video Player.
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ObjectSupportLib: Version History

This article describes the versions of ObjectSupportLib.
This article has been archived and is no longer updated by Apple.

ObjectSupportLib v1.0.2
Shipped with AppleScript 1.1 and with System 7.5, 7.5.1, 7.5.2 and 7.5.3.

ObjectSupportLib v1.0.4
This version of the ObjectSupportLib shipped to developers on the "Essentials * Tools * Objects" CD #20.

ObjectSupportLib v1.1
The ObjectSupportLib 1.1 is functionally identical to ObjectSupportLib 1.0.2. The ObjectSupportLib 1.1 originally shipped with AppleScript 1.1. This library's version was mistakenly labeled as 1.1 to match AppleScript 1.1's version string.

ObjectSupportLib v1.1.8
Shipped with Mac OS 7.6.

ObjectSupportLib v 1.2
Is part of CFM-68K (Code Fragment Manager) and Mac OS 7.6.1.

The ObjectSupportLib is now included in the System file as of Mac OS 8.0 and is no longer necessary as a separate extension.

For more information see Tech Info Library article:

Article 60184 "**Mac OS 8: ObjectSupportLib Part of System File**."
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MacTCP Control Panel: How & Where to Obtain It (10/96)

In order to use the Internet, I have been told by my Internet service provider, that I need to get the MacTCP control panel from Apple Computer, Inc. Where can I get it?

This article has been archived and is no longer updated by Apple.

You have various options depending on what version of the Mac OS you have installed.

System 6.0.8 and System 7.0.x
==========

With either Mac OS 6.0.8 or 7.0.x installed, you must use the MacTCP control panel.

Options

- Purchase the TCP/IP Connection for Macintosh kit (Apple PN: M8113Z/B).
This kit is available from Apple Developer Catalog (US: 800-282-2732,
Outside US: 716-871-6555).

- Purchase any third-party (non-Apple) software packages, or books
which license the MacTCP control panel from Apple Computer, Inc.

- Purchase the Mac OS 7.5.x software.

System 7.1.x
==========

With System 7.1 installed, you can use either classic AppleTalk, or Open Transport. If you use classic AppleTalk, you need the MacTCP control panel. If you use Open Transport, you need the TCP/IP control panel.

Options for Classic AppleTalk

- Same as Mac OS 6.0.8 and 7.0.x users

Options for Open Transport

- Purchase Open Transport (Apple PN: M4252Z/A). It is available from Apple
Developer Catalog, or wherever Apple software is sold.

- Purchase the Mac OS 7.5.x software.

System 7.5
==========

With System 7.5 installed on non PCI-based Power Macintosh computers you can use either classic AppleTalk, or Open Transport. On PCI-based Power Macintosh computers, you can only use Open Transport. If you use classic AppleTalk, you need the MacTCP control panel. If you use Open Transport, you need the TCP/IP control panel. The MacTCP control panel is integrated into System 7.5 and later.

If you are using System 7.5, you should update to the latest version available.

Options for Classic AppleTalk

- Use the Custom Installation of Mac OS 7.5 to install the MacTCP control
panel.

Options for Open Transport

- Use the Custom Installation of Mac OS 7.5 to install the MacTCP control

panel. Then use the Network Software Selector application to switch to Open Transport.

This article appeared in the 11 October 1996 issue of the Information Alley.
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EtherHelp 3.0: How to Get It (10/96)

This article describes where to get EtherHelp 3.0.

This article has been archived and is no longer updated by Apple.

EtherHelp 3.0 is a blind packet capture application specifically designed to help people, who design, build, manage, and support networks, get a better idea of what is happening on a LAN or WAN without having to visit that location.

The application works by capturing all network traffic, or a specified portion of that traffic, in the form of packets. Packets captured are not displayed in EtherHelp, but can be saved in a file, which can then be forwarded to a support organization for analysis by EtherPeek 3.0, which can display the saved packets.

If you would like a copy of EtherHelp 3.0, it is available from the Service folder in the tools folder. The URL is:

ftp://service:mesmer@ftp.aggroup.com/root/service/tools/EtherHelp_3.0_Inst aller

An EtherHelp guide is also available in the same folder.

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Energy Saver 2.0.2: Error Message on Startup

I performed a clean installation of System 7.5.3 from the Macintosh System 7.5 Version 7.5.3 CD-ROM disc, and then I installed System 7.5.5 Update on my Power Macintosh 8500. When I restarted the computer, a dialog appeared with this message:

"...the energy saver extension is incompatible with this system. It's version 2.0.2 but should be version 2.0.2."

What is wrong?
This article has been archived and is no longer updated by Apple.
Make sure you are using the same version of the Energy Saver control panel and Energy Saver extension. Then, increase the memory partition of the Energy Saver control panel by 23K to correct this.
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LaserWriters: Driver Availability for Windows NT 4.0

Are there any Apple LaserWriter printer drivers available for Windows NT 4.0?
This article has been archived and is no longer updated by Apple.
The drivers in the following list are included in Windows NT 4.0 and are supported by Microsoft.

Color LaserWriter 12/600 PS
LaserWriter 12/640 PS
LaserWriter 16/600 PS
LaserWriter Pro 810
LaserWriter Pro 630
LaserWriter Pro 600
LaserWriter Select 360
LaserWriter IIf
LaserWriter IIg
LaserWriter IInt
LaserWriter IIntx
LaserWriter IIntx-J
Personal LaserWriter NT
Personal LaserWriter NTR
LaserWriter Plus
LaserWriter

In addition, Windows NT 4.0 printer drivers are available from Apple for the following LaserWriter printers:

LaserWriter 8500
LaserWriter 12/640 PS
LaserWriter 16/600 PS
LaserWriter Pro 600
LaserWriter Pro 630
LaserWriter Select 360
Color LaserWriter 12/600 PS
Color LaserWriter 12/660 PS

This software is available as a part of the LaserWriter software for Windows NT on the Apple Software Updates sections. Installation instructions are available in the read me file.

Microsoft wrote the AppleTalk stack for Windows NT, and they support network printing to these printers (not Apple). Apple does support parallel printing on Windows NT.

For information about driver availability under Windows NT 3.5 or 3.51, please refer to the TIL Article 19551:
"**LaserWriters: Driver Availability for Windows NT 3.5.1**".
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Apple Workgroup Servers: Can PC Compat Cards Be Used? (4/97)

Are the PC Compatibility Cards supported in the PCI-based Workgroup Servers?
This article has been archived and is no longer updated by Apple.
The PC Compatibility cards were not tested by Apple in the Workgroup Server computers, so Apple cannot suggest or recommend their use. It could be theorized that they should work in the same manner as if they were installed in a PCI-based Power Macintosh computer.

An Apple Workgroup Server (WGS) with a PC Compatibility Card installed would be considered quite an unusual setup because the WGS is designed to be used only as a dedicated server. Additionally, the PC Compatibility cards have no server capabilities and will not run Microsoft Windows NT. The PC Compatibility Card could only be used to emulate a desktop PC-DOS computer.

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Apple IIGS Connectors: Power

This article has been archived and is no longer updated by Apple.
Standard 3 prong power cable used on the GS. Male end on system side, female connector on cable. Standard 107 to 132 AC volts required.
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ANS 500 or 700: Drive & PCI Card Distribution (10/96)

What is the recommended way to distribute my drives and PCI cards for increased performance in an Apple Network Server (ANS) 500 or 700?

This article has been archived and is no longer updated by Apple.

The Network Server 500 and Network Server 700 have three SCSI buses and two PCI buses.

For SCSI, there are two SCSI-2 Fast and Wide (20 MB/s) buses available internally and one SCSI-1 (5MB/s) bus available externally. The front panel covers Bus 0 IDs 0 through 3, and Bus 1 IDs 4-6, additionally available on the Network Server 700 are Bus 1 IDs 0 and 1 in the rear of the machine.

The preferable arrangement is to divide the drives among the buses as much as possible, especially in a mirror or stripe configuration. The DAT and/or CD may be moved to accommodate a more even balance. If this is done the bootlist needs to be updated for diagnostic devices. A drive that is not SCSI-2 Fast and Wide should be placed on the external bus whenever possible. When that drive is being accessed on one of the two internal buses, the SCSI-2 fast and wide features of the bus are disabled. If the drive was the only drive on one of the internal buses that would not cause any loss of performance on the other internal bus.

For PCI cards, the built-in I/O devices share one PCI bus. The top two PCI slots are for PCI bus 1 which is shared with the system. The bottom four slots are for PCI bus 2. To balance the load between PCI buses, a high bandwidth PCI device should be installed in bus 2. This should not be important with lower bandwidth devices such as a regular 10 MB/second Ethernet card. A few 100 MB/second Ethernet cards or FDDI cards can introduce a significant bandwidth on the 132 MB/second PCI bus.

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Powerbook: Why Won‘t It Read Macintosh Floppies?

When I insert some Macintosh-formatted floppy disks into my Powerbook computer it wants to initialize them. However, the same floppy disks are read by my desktop Macintosh with no difficulties. Why does this happen?

This article has been archived and is no longer updated by Apple.

This type of situation can occur even though your Macintosh Powerbook computer's floppy drive is operating within specification. The head mechanism used in Powerbook computers' floppy drives is not capable of recalibrating to the same degree as the floppy drives in desktop Macintosh computers. Therefore, PowerBook computers are "less tolerant" of poor quality disk formatting.

Commercial floppy disks which are duplicated in large volumes at very high speeds generally have lower quality formats. In order to access the information from such disks it may be necessary to format some disks on the Powerbook computer. Then duplicate the commercial software from the original disks using a desktop Macintosh computer and disk duplicating software, such as Apple Disk Copy.

In order to confirm that the Powerbook floppy drive is operating within specification try formatting a disk on the Powerbook. If it can consistently format disks and consistently read them, it is probably operating normally.

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System 7.5.5: Needs System 7.5.3 Error Message (10/96)

When installing System 7.5.5 I received an error message indicating that I need System 7.5.3 installed, however, System 7.5.3 is already installed. Is there a problem with the System 7.5.5 installation disks?

This article has been archived and is no longer updated by Apple.

System 7.5.5 will only install after System 7.5.3 has been installed. If the System 7.5.5 installer produces the error you describe and System 7.5.3 is installed, check to be sure you have not renamed any system files. Two files, when renamed, have been found to cause the install issue you describe, their original final names are:

System 7.5 Update
System 7.5.2 Update

When updated to System 7.5.3, the System 7.5 Update file is for a system updated from System 7.5, while the System 7.5.2 Update file is for a system updated from System 7.5.2.

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System 7.5.5: System Update 2.0 Custom No Longer Works

This article describes an issue involving System 7.5.5 where System 7.5 Update 2.0 custom installations no longer function.
This article has been archived and is no longer updated by Apple.
Because of the way the System 7.5 Update 2.0 installer checks for a valid system, you cannot perform a custom install from the System 7.5 Update 2.0 installer after installing System 7.5.5 Update. The System 7.5 Update 2.0 installer is looking for a System file with version 7.5. When it finds 7.5.5, it disables all install options.

If you need to custom install software from System 7.5.3, you can use another source such as the System 7.5 Version 7.5.3 software which is available for downloading from the Apple Software Updates web site at http://www.apple.com/swupdates. Additional information on the availability of System 7.5 version 7.5.3 can be found in Article 58265: "**System 7.5 Version 7.5.3: Available for Download**" You can also clean install System 7.5, or the system your computer came with, update to System 7.5.3, then reinstall System 7.5.5.

A Fix

The System 7.5 Update 2.0 Custom Install script fixes this issue, and has been placed on all Apple software update locations. Below is informaiton from the Read Me file:

System 7.5 Update 2.0 Custom Install Script For Customers Using System 7.5.5

After installing System 7.5.5 Update, you may find it necessary to reinstall components from System 7.5 Update 2.0. However, System 7.5 Update 2.0 will not allow installation of components on computers running System 7.5.5. The supported solution is to perform a clean install. In response to customer needs, Apple Computer is providing this unsupported installer script to allow the custom installation of System 7.5 Update 2.0 components. For example, if you have the need to install Open Transport 1.1, and have installed System 7.5.5 Update, you can use this unsupported script to install Open Transport 1.1 without performing a clean install.

Instructions For Use

Before using this installer script, it is extremely important that you perform the following instructions to ensure proper installation:

1. Make a backup of your system folder before attempting to use this unsupported installer script.
2. Open the Extensions Manager control panel.
3. Choose "System 7.5.5" from the Sets pop-up menu.
4. If you have third-party peripheral devices that are required for installation and that require an extension, turn those extensions back on. (Examples include video drivers, alternative input devices, network card drivers, and removable media.)
5. Restart your computer.
6. Locate the "System 7.5 Update 2.0 Install" icon that came with your original System 7.5 Update 2.0.
7. Drag the "Sys 7.5 Upd 2.0 Custom Install" icon on top of the "System 7.5 Update 2.0 Install" icon.
8. Select the components you wish to custom install.
9. Click on the "Install" button.
10. When the installation is complete, restart your computer.
11. Immediately reinstall System 7.5.5 Update by closely following the instructions in the document "About System 7.5.5 Update".

This custom installer script is not supported by Apple Computer. For customers using System 7.5 Update 2.0 to upgrade their computer to System 7.5.3, the supported solution is to perform a clean install of System 7.5 and then install System 7.5 Update 2.0. If you attempt to use this unsupported installer script and continue to experience problems, Apple Computer recommends that you follow the supported solution.
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Open Transport 1.1.1: Read Me (1 of 2)

This article is the Open Transport 1.1.1 Read Me - Part 1. For additional information, refer to article 20536: "**OT 1.1.1 Read Me (2 of 2)**".

Notes:
1. Open Transport 1.1.2 has been posted to the Apple Software Updates Web site at http://www.apple.com/swupdates .

2. If you are looking for a more recent update of Open Transport, you will need to upgrade your system software to install the most recent version, please read the following note which is an extract from article 30410: '**Open Transport 1.3 to 1.3.1: Update Information**'

- Open Transport 1.3 to 1.3.1 Update Version: 1.0 was released on February 13, 1998. This update requires the US English Mac OS 8.1 Update and version 1.3 of Open Transport.
This article has been archived and is no longer updated by Apple.

Introduction

This Read Me document contains late-breaking information about Open Transport compatibility, add-on software, and solutions to known problems with third-party software. For instructions about how to use the Open Transport control panels (AppleTalk and TCP/IP), see the Open Transport User's Guide. For additional technical information about Open Transport, see the "Open Transport Technical Info" file that came with Open Transport.

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- Known limitations and other issues
- System 7.5.3 notes

License agreement

This release of Open Transport is subject to the terms and conditions of the license agreement that accompanies the software in the file "LICENSE." By downloading the software you agree to abide by the terms and conditions of the license agreement.

System requirements

Open Transport is designed to work on Mac OS-compatible computers with a Motorola 68030 or 68040 family microprocessor, or a PowerPC 601, 603(e), or 604 microprocessor. You should use system software version 7.5.3, 7.5.5 or later with Open Transport, although the earlier system software versions 7.1, 7.1.1 and 7.1.2 releases are also compatible.

Open Transport 1.1.1 can be used on the Performa and Power Macintosh 52xx, 53xx, 62xx and 63xx product lines. When you install OT1.1.1 on a 52xx, 53xx, 62xx and 63xx model you may get a dialog box indicating a hardware issue was detected. If this alert is displayed, Open Transport cannot be installed or loaded until the Cache/ROM DIMM is replaced. Your computer will continue to run classic networking. The required repairs are covered under the Apple repair extension program. Please contact an Apple-authorized service provider to have your computer repaired.

Open Transport requires a minimum of 5 MB of RAM (68030 or 68040 computers) or 8 MB of RAM (PowerPC-based computers). Open Transport memory requirements are based on total system memory including virtual memory, minus the size of any RAM disk and disk cache you're using.

Network interface options

Open Transport 1.1.1 supports PCI bus, NuBus, communications slot, and PC Card network interface cards, as well as built-in LocalTalk, Ethernet, and Token Ring network adapters. For computers without expansion options, Open Transport 1.1.1 also supports a SCSI-attached network adapter. Third party network interface options available for Open Transport include Fast Ethernet, ATM, and FDDI.

Before you install Open Transport 1.1.1

* Read the section "Known Limitations and Other Issues" below to make sure Open Transport 1.1.1 will work on your computer.

* Make backup copies of the software and documents on your hard disk (especially your System Folder) before installing this software.

* For best results, you should install Open Transport 1.1.1 over Open Transport 1.1 and not over a beta version of 1.1.1. Several beta test sites have experienced problems when updating over a beta release. If you choose to install Open Transport 1.1.1 over a beta version, be sure to copy and save your prefs file.

* Turn on only those extensions installed with your system software. (Open the Extensions Manager control panel and select System 7.5.3 from the Sets pop-up menu, then restart your computer.) Do not turn off all extensions before installing Open Transport.

* Performa and Power Macintosh 52xx, 53xx, 62xx and 63xx models using System 7.5.3 can install Open Transport 1.1.1 directly. Other supported systems must install Open Transport 1.1 and system software version 7.1, 7.1.1, 7.1.2 or 7.5.3 before updating to version 1.1.1.

* If you use SLIP or PPP software to access the Internet, verify that your SLIP or PPP software is compatible with Open Transport. See the section under "Dialup network connectivity - TCP/IP."

* When Open Transport is installed, the Network control panel is replaced by the AppleTalk configuration utility program. The MacTCP control panel is replaced by the TCP/IP configuration utility program. Both AppleTalk and TCP/IP are located in the Control Panels folder. For simplicity and consistency, user documentation generally refers to AppleTalk and TCP/IP as "control panels" even though technically they are utility programs.

* You should download a copy of System 7.5, Update 2.0 to your hard disk or have a copy of the Open Transport 1.1 retail package available. This will give you the software to reinstall Open Transport 1.1 in case you decide to remove Open Transport 1.1.1.

How to turn off or remove Open Transport 1.1.1

Switching to Classic Networking

If your computer does not have a PCI bus, and is using system software version 7.5.3, you can use the Network Software Selector (NSS) utility to turn on classic networking instead of Open Transport. The NSS utility is installed in the Apple Extras folder when you install System Update 2.0. After selecting classic networking, close NSS and restart your computer. When your computer starts up again, open the Network control panel and choose the network connection you want to use.

Removing Open Transport with the Installer

You can remove Open Transport software with the Custom Remove option in the Installer. However, the Custom Remove option removes a file called the Apple Shared Library Manager (ASLM). If any previous version of ASLM was installed, it was automatically updated to version 2.0.1 when you installed Open Transport 1.1.1. When you remove Open Transport, your previous version of ASLM is not automatically restored.

After removing Open Transport 1.1.1, you must reinstall any applications that rely on ASLM.

To remove Open Transport 1.1.1 using the Installer, follow these steps:

1. Open the Installer included with Open Transport 1.1.1. The Welcome screen appears.
2. Click OK.
3. In the window that appears, choose Custom Remove from the pop-up menu in the upper-left corner.
4. In the list that appears, click the box next to Open Transport so an 'X' appears in it.
5. Click Remove. If a window appears asking you whether to quit any open applications, click Continue. A window will appear telling you to restart your computer.
6. Click Restart.
7. On a Power Macintosh system with PCI bus, you will then need to reinstall Open Transport 1.1 software using either (1) the System 7.5, Update 2.0 installer, (2) the Open Transport 1.1 installer, or (3) a system software CD. If you use the system update installer or the system software that came with your computer, perform a custom install of the network software.
8. On a Macintosh system without PCI bus, classic networking will be restored and made active.

Open Transport Extras Folder
This release also contains an Open Transport Extras folder which includes the following files for your convenience:

- Claris Emailer 1.1v3 patcher
- MacPPP 2.5 software files
- Remote Only ADEV software

- Network Options for AppleTalk & TCP/IP
- The Open Transport Reference Q & A
  The Open Transport User's Guide

General compatibility
Open Transport is compatible with:

- Existing applications that use AppleTalk as specified by Apple Computer, Inc.
- Existing applications that use MacTCP as specified by Apple Computer, Inc.
- Existing devices (such as printers) that you select in the Chooser
- Existing NuBus network interface cards for the Mac OS

Computers running Open Transport can be added to an existing AppleTalk or TCP/IP network without upgrading other computers on the network.

Apple product compatibility update

- At Ease version 2.x or 3.x may encounter problems when starting up with Open Transport. Apple has released an updater utility ("At Ease Basic OT Updater") on Apple Software Update sites on the Internet and selected online services. If you are using At Ease for Workgroups, you should upgrade to version 3.0.2.
- Assistant Toolbox version 1.2 is not compatible with Open Transport, and will result in AppleTalk being turned off each time you restart your system. System 7.5.3 includes an updated version of Assistant Toolbox that is compatible with Open Transport.
- The Apple PCI Token Ring Card (M3904Z/A) requires Open Transport 1.1 or later. The Apple PCI Token Ring card is compatible with Power Macintosh 7500, 8500 and 9500 computers; it is not compatible with 7200/75 and 7200/90 computers.
- Apple LaserWriter Bridge and LocalTalk Bridge versions 2.1f2 or later are compatible with Open Transport.
- Apple Internet Dialer 1.0, part of the Apple Internet Connection Kit 1.0 (stock number M4276LL/A), is not fully compatible with System 7.5.3. This is corrected in AICK 1.1 (stock number 504081U). AICK customers with version 1.0 can update their software by downloading a "patcher" from the Apple Internet Connection Kit home page, available at <http://www.online.apple.com/kit1/>.
- Apple Internet Mail Server 1.1 or later software is compatible with Open Transport 1.1 and later. System Update 2.0 (System 7.5.3) is strongly recommended.
- Apple Remote Access (ARA) Multiport Server 2.1, ARA Client 2.0.1, and ARA Personal Server 2.0.1 are compatible with Open Transport 1.1 and later.
- Apple PCI-based Workgroup servers (Application, AppleShare, and Internet) are compatible with Open Transport 1.1.
- Computers running the current versions of Apple IP Gateway and AppleTalk Internet Router must not be updated to Open Transport; these products are based on classic networking. These products do, however, interoperate with computers using either classic or Open Transport networking. Apple has not yet announced plans regarding future versions of these products.
- Apple's MacTCP Ping is not compatible with Open Transport; no update is planned. MacPing from Dartmouth, available at <ftp://ftp.dartmouth.edu>, OTTool from Neon Software, available at <ftp://ftp.neon.com> and Mac TCP Watcher v2.0 from Peter N. Lewis & Stairways Software available at <ftp://ftp.share com> are Open Transport-compatible alternatives.

Notes:

- MacTCP Ping 2.0.2 will work for simple pings, but other functions, like record route fail with no explanation.
- ZapTCP is not compatible with Open Transport.

Dialup network connectivity - AppleTalk

For dialup connectivity to AppleTalk networks, Open Transport supports Apple Remote Access version 2.0.1 or later.

Dialup network connectivity - TCP/IP

For dialup connectivity to TCP/IP networks (including the Internet) Open Transport supports third-party extensions known as "MDEVs." Serial Line Interface Protocol (SLIP) and Point to Point Protocol (PPP) connectivity are provided in this manner. Not all versions of all MDEVs are compatible with Open Transport 1.1 and later.

Open Transport 1.1 and later recognizes and is compatible with the following MDEVs. When properly installed they appear in the "Connect via" pop-up menu in the TCP/IP control panel.

* FreePPP - version 1.0.5 or later
FreePPP is shareware and can be found on the Internet, typically at "info-mac" mirror sites in the comm/tcp/conn directory. A list of info-mac mirror sites can currently be found at: <http://www.pht.com/info-mac/mirror-list.html>

Some sites where FreePPP can be found currently include:
<ftp://mirrors.aol.com/pub/info-mac/comm/tcp/conn/>
<ftp://mirror.apple.com/mirrors/Info-Mac.Archive/comm/tcp/conn/>

FreePPP versions prior to 2.5 may experience problems when running with virtual memory turned on (including RAM Doubler). If you have problems using FreePPP with VM, either update to FreePPP 2.5, or temporarily turn VM off. The current version of FreePPP is 2.5rf.

* MacPPP - version 2.1.4 or later (MacPPP 2.5 is recommended)
MacPPP versions prior to 2.5 may experience problems when running with virtual memory turned on (including RAM Doubler). If you have problems using MacPPP with VM, either update to MacPPP 2.5, or temporarily turn VM off.

An Open Transport-compatible version of MacPPP (MacPPP 2.5) is included in the Open Transport Extras folder. For more information, please referto the MacPPP Read Me document.

* InterPPP - version 1.2.9 or later; InterPPP II - version 1.1 or later
InterPPP and InterPPP II are commercial software products. For availability and ordering information in the U.S., contact InterCon Systems at 800-468-7266 or 703-709-5500.

* MacSLIP - version 3.0.3 or later
MacSLIP is commercial software developed by Hyde Park Software. For availability and ordering information in the U.S., contact TriSoft at 800-531-5170 or 512-472-0744. For more details see the MacSLIP Web page at <http//www.zilker.net/~hydepark/>

* Sonic PPP - version 1.0.2 or later
SonicPPP is commercial software developed by Sonic Systems, Inc. For availability and ordering information in the U.S., contact Sonic Systems at 408-736-1900 (voice) 408-736-7228 (fax). For more details see the Sonic Systems Web page at <http//www.sonicsys.com/>

* NTS PPP - 2.0 or later
NTS PPP is commercial software developed by Network Telesystems, Inc. For availability and ordering information in the U.S., contact Network Telesystems at 408-523-8100 (voice) 408-523-8818 (fax). For more details see the Network Telesystems Web page at <http//www.ntsi.com/>

* SAT/SAGEM PPP - 1.02b1 or later
SAT/SAGEM PPP is commercial software developed by SAT/SAGEM. For availability and ordering information in the US, contact SAT/SAGEM at 408-446-8690 (voice) 408-446-9766 (fax). For more details see the SAGEM Web page at <http//www.satusa.com/>

* LeoTCP - 2.0.1 or later
LeoTCP is commercial software developed by Hermstedt GmbH. For availability and ordering information in the U.S., contact Hermstedt USA at 1-800-828-5522 (voice). In Europe contact Hermstedt GmbH at +49621-76500 (voice) +49 621-7650100 (fax).

* T-Online CSLIP - version 1.0.3 or later
T-Online CSLIP is commercial software developed by Computer Consulting GbR. For availability and ordering information in Europe, contact format network & communication at 49 2206 95840. For more details, contact format network & communication at info@format.de.

* University of Michigan ISDN PPP - 2.0.6 or later

* OT/PPP - version 1.0f1c9 or later
Open Transport supports extensions that uses the STREAMS architecture. Apple Computer is developing a version of PPP that takes advantages of this capability. A beta version of OT/PPP 1.0 is available from the "unsupported" folder of Apple Software Updates sites and requires OT 1.1.1.

In addition to these, there are a number of other MDEVs (examples include those from Pacer, FCR, and Tribe) which are indistinguishable from one another to Open Transport. When installed, these appear in the "Connect via" pop-up menu as "TCP/IP PPP."

Tips for SLIP and PPP configurations

* Some MDEVs are known to be incompatible with other MDEVs. If you experience problems, remove unused MDEVs so that only one MDEV is installed on your computer at a time.

* Users who dial into a TCP/IP network or Internet Service Provider (ISP) may have been assigned a router (gateway) address that is not a part of their local subnet. This was an accepted but technically invalid configuration for MacTCP. Open Transport users should not enter a value for the router address or subnet mask; Open Transport/TCP generates correct values for these fields automatically. In unusual circumstances, these supplied values can be overridden using the Administration mode of the TCP/IP control panel.

* If BootP is used over SLIP or PPP for interface configuration, and if BootP returns additional default router addresses, Open Transport will automatically add those addresses to the list of default routers.

* When Open Transport is installed on a computer that previously had MacTCP configured for a server configuration, the initial configuration method-the selection in the "Configure" pop-up menu in the TCP/IP control panel-is set for the use of a BootP server. This default may not be the

appropriate choice for you; please verify.

* If your computer was previously configured for MacTCP "server" addressing and you experience connection difficulties using PPP or SLIP after installing Open Transport, follow these steps:

1. Open the TCP/IP control panel.
2. Choose Using PPP Server or Using SLIP from the Configure pop-up menu.
3. Close the TCP/IP control panel, and save changes when prompted.
4. Try connecting again.

* If your computer was previously configured for MacTCP "manual" addressing and you experience connection difficulties using PPP or SLIP after installing Open Transport, follow these steps:

1. Open the TCP/IP control panel.
2. Choose Manual from the Configure pop-up menu.
3. Verify that the correct IP address is entered in the Address field.
4. Close the TCP/IP control panel, and save changes when prompted.
5. Open the configuration utility supplied with your SLIP or PPP software, and verify that it also reflects the correct IP address in the appropriate location. Refer to the documentation supplied with your SLIP or PPP software for further information on how to enter an IP address, and how to save an updated configuration.
6. Try connecting again.

NOTE: In MacPPP's Config PPP control panel, this setting is entered in the IPCP dialog box. Refer to the documentation that came with MacPPP or FreePPP for additional information.

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Open Transport 1.1.1: Read Me (2 of 2)

This article is the Open Transport 1.1.1 Read Me - Part 2.

Notes:

1. Open Transport 1.1.2 has been posted to the Apple Software Updates Web site at http://www.apple.com/swupdates .

2. If you are looking for a more recent update of Open Transport, you will need to upgrade your system software to install the most recent version, please read the following note which is an extract from article 30410: '**Open Transport 1.3 to 1.3.1: Update Information**'

- Open Transport 1.3 to 1.3.1 Update Version: 1.0 was released on February 13, 1998. This update requires the US English Mac OS 8.1 Update and version 1.3 of Open Transport.

3. Open Transport 1.3 is installed with the Mac OS 8.1 Update. For more information refer to article 30345: '**Mac OS 8.1: About Mac OS 8.1 Update**'Me - Part 2.
This article has been archived and is no longer updated by Apple.
What's new in Open Transport 1.1.1 - general

* Open Transport can now be used on the Performa and Power Macintosh 52xx, 53xx, 62xx and 63xx product lines. When you install OT 1.1.1 on a 52xx, 53xx, 62xx and 63xx computer, you may get a dialog box indicating a hardware issue was detected. If this alert is displayed, Open Transport cannot be installed or loaded until the Cache/ROM DIMM is replaced. The required repairs are covered under the Apple repair extension program. Please contact an Apple-authorized service provider to have your computer repaired. (Your computer will continue to run classic networking until it is repaired.)

* When running System 7.5.3 on a 68020 computer that has been upgraded using a 68040 accelerator card, Open Transport will now run correctly.

* Memory management is improved. On PowerPC-based computers, memory is no longer fragmented. On 68030 or 68040 computers that have turned on the "Load only when needed" option, memory will not unfragment for 2 minutes after a TCP application completes.

* Performance enhancements for opening and closing endpoints have been added. This is particularly visible on Mac OS computers that are busy Web servers.

* Open Transport now registers and unregisters CRM serial drivers.

* The NuBus version of the DOS Compatibility Card is compatible with Open Transport 1.1.1.

* Infrared-compatible versions of LocalTalk drivers are now installed on all models. Previously these drivers were only installed on PowerBooks.

What's new in Open Transport 1.1.1 - AppleTalk

* AppleTalk now properly handles Phase I RTMP packets on LocalTalk. This was causing problems using EtherPrint, TeleBridge, and other third-party forwarding technologies.

* Fixed a problem on a PowerBook Duo where AppleTalk would awaken from sleep on the wrong port when docking with an Ethernet MicroDock.

* Fixed a problem in ARA compatibility where Open Transport would sometimes not get the complete zone list from the server.

* Fixed some problems in ARA compatibility where a packet would not get routed properly, causing computers attached to the local cable of the server not to be visible to the ARA client.

* When using ADEVs, Open Transport requests a specific address from the ADEV. Some ADEVs return no error, but modify low memory locations to indicate a different address than that requested. Open Transport now picks up that different address and uses it (however, if the User Defined option is turned on, AppleTalk will not open).

* Some Ethernet-ISDN bridges used for remote LAN-to-LAN connectivity drop the connection when there is no active data transfer, and dial on demand when there is information to be transferred. If a user's local network does not include an AppleTalk router, a message appears each time the connection is dropped. Use the AppleTalk Options control panel to fix the problem. Open the control panel, turn on the "Suppress router-related alerts" option, then close the control panel.

What's new in Open Transport 1.1.1 - TCP/IP

Server specific fixes and enhancements

* The performance of opening and closing TCP endpoints has been improved. This improvement will be most noticeable on servers with a high volume of short-duration connections (such as Web servers).

* In OT 1.1, sometimes TCP connections could not be reused. Eventually a server application would not be able to accept incoming connections. This has been fixed.

* Fixed a problem where busy TCP servers sometimes accepted no new inbound connections for about 30 seconds every 4 minutes.

* Fixed a memory leak which occurred when Hosts files were used and TCP/IP was set to "load only when needed." Previously, Hosts file entries were not properly deleted from memory when TCP/IP unloaded.

* Introduced a better DNR cache limitation algorithm. Entries that haven't been used for 15 minutes can now be flushed whenever the DNR is heavily used.

Other TCP/IP fixes and enhancements

* Open Transport's MacTCP compatibility now honors the pushFlag parameter to TCPSend call. This is required for some legacy applications to correctly communicate with older, nonconforming hosts. However, no direct control of the TCP pushFlag is or will be provided through the native OT API.

* Entries in the Address and Alias caches now flush when they reach their "time-to-die," and not when they exceed it. TCP/IP also no longer caches resource records with a 0 time to live.

* The DNR now more robustly supports service load-balancing strategies. It no longer maps directly between an alias and the IP address of the host being aliased.

* When dealing with DHCP servers, Open Transport now tries "full-size" packets first, then falls back to "short" packets.

* Fixed a problem with timer overflow on long DHCP leases. Previously, if the lease exceeded 24 days, then TCP/IP connectivity would be lost in a matter of hours.

* Fixed a problem that occurred when one end of a connection closes a "tcp" endpoint, while the other end simultaneously aborts the connection.

* Fixed a problem where a DNR SysInfo request will sporadically fail when a valid reply is mistakenly treated as having been truncated.

* Fixed a hang that occasionally occurred when flushing the DNR address cache.

* Fixed a problem where resolving a bad name sometimes returned no error, when in fact an error occurred.

* Fixed a hang that occurred with applications that use the TCPNoCopyRcv call through the MacTCP compatibility interface. This hang occurred when the MacTCP compatibility interface ran out of memory, either due to being given a small buffer by the application, or by receiving enough inbound data to fill most of the inbound buffer space.

* Fixed a memory leak when opening the resolver in MacTCP emulation mode.

* Open Transport 1.1.1 is compatible with NuBus Token Ring adapters. To ensure compatibility with existing NuBus Token-Ring drivers, Open Transport TCP/IP artificially imposes a MTU of 1500 bytes. This limit should be addressed in a future release.

* Open Transport's MacTCP emulation can now abort a connection where the underlying stream is blocked due to flow control. Applications using the native Open Transport API will have to issue an I_FLUSH ioctl before sending a disconnect when they want to disconnect/abort a flow-controlled connection.

* A new traceroute program for Open Transport/TCP, called "WhatRoute," is now available at <http://crash.ihug.co.nz/~bryanc/>. The latest version of Mac TCP Watcher (v2.0) <ftp://ftp.share.com/peterlewis/> also now supports traceroute.

Known limitations and other issues

* The AppleTalk control panel displays separate printer and modem ports on the PowerBook 190. LocalTalk will only work correctly when the modem port is selected in the AppleTalk control panel.

* The software that dims the screen of PowerBook Duo computers when the PowerBook is docked and idle is not compatible with Open Transport. Use a third-party screen saver in place of the Apple-provided module.

* In some cases, on a PowerBook 190 configured to use the Infrared Port in the AppleTalk "Connect via" pop-up menu, networking services may become disabled following a sleep/wake or restart. If this happens, try putting the computer to sleep and waking it up again, or use the AppleTalk control panel to temporarily select the modem/printer port before switching back to the infrared port.

* On a IIfx or a Quadra 950, Open Transport can only use the "compatible mode" setting in the Serial Switch control panel. Don't use the "faster mode" setting with LocalTalk.

* On 68030 and 68040 computers, changes in AppleTalk configurations can cause systems running Meeting Maker 3.5 or 3.5.1 to crash. This can occur when changing AppleTalk links, turning AppleTalk off, or bringing ARA connections up or down. This problem will occur on classic networking as well. Apple is working with ON Technology to resolve this problem.

* Open Transport generally requires more memory (RAM) than MacTCP. To conserve memory, you might try some of the following:
- Rename or re-order one or more third-party system extensions (INITs), to
change the order in which memory is allocated when your computer starts
up. If you use extensions from Global Village, try renaming those
extensions so that they load last.
- Especially on PowerPC-based computers, turn on virtual memory.

* When TCP/IP is set to "Load only when needed" (in the control panel's Options window), "pinging" an Open Transport workstation will fail if TCP/IP is not currently being used. To make sure your computer is "pingable" at all times, turn off the "Load only when needed" option (open the TCP/IP control panel and click the Options button, then click the "Load only when needed" checkbox to remove the X) and restart your computer.

* When TCP/IP is set to "Load only when needed" (in the control panel's Options window), the first TCP/IP application opened will cause Open Transport to load into memory. Some older applications don't cause Open Transport to load, and then report errors similar to those encountered when MacTCP is not installed. If this is a problem, turn off the "Load only when needed" option (open the TCP/IP control panel and click the Options button, then click the "Load only when needed" checkbox to remove the X) and restart your computer.

* The TCP/IP control panel is able to obtain and utilize multiple gateway and name server addresses from DHCP and BootP servers. However, it will currently display only the first one. This should be addressed in a future release.

* Generally, you should turn on the "Load only when needed" option in the TCP/IP control panel when using a modem. If TCP/IP is always loaded, your modem may attempt to initiate a dialup connection at startup. Some MDEVs require more system heap memory than is available at startup, which may cause the computer to hang. Also, some Internet service providers charge by connect time, so you may be charged for the connection, even if you weren't using it.

* If you use MacSLIP, you should likewise not configure the MacSLIP control panel to initialize MacSLIP at system startup time. As stated above, this may require more system heap memory than is available at startup, which may cause the computer to hang.

* If you are experiencing problems when using MacSLIP with virtual memory on, increasing your virtual memory size may give you better results. (Use the Memory control panel to increase virtual memory.)

* If you are using Netscape, 16MB or more of built-in memory (RAM) is recommended.

* Some MacTCP-based applications will not function correctly unless the MacTCP DNR file is in its original location at the root level of the System Folder. Do not delete this file when installing or configuring Open Transport.

* You should only specify use of 802.3 framing in the TCP/IP control panel if you have been directed to do so by your network manager, or if you are sure that all other stations on your network segment, including your IP router(s), are also configured to use 802.3 and not Ethernet version 2.0 framing.

* Claris Emailer version 1.1 v3 or later is compatible with Open Transport 1.1.1. Earlier versions of Claris Emailer may not be compatible with Open Transport's "Load only when needed" configuration option. If you experience a system crash 2-3 minutes after quitting Emailer, turn off the "Load only when needed" option. (Open the TCP/IP control panel and click the Options button, then click the "Load only when needed" checkbox to remove the X.) For your convenience, the Claris Emailer version 1.1 v3 patcher and Claris Emailer Lite version 1.1 v3 patcher has been provided in the Open Transport Extras folder.

* The current version of the MacTraceRoute Ethernet LAP does not work on computers running Open Transport.

* NFS/Share versions 1.4.4 or later are compatible with Open Transport.

* When using Netware Client version 5.11 configured for NetwareIP service, the first login may yield a Netware Configuration error message. To avoid this error, open the NetwareIP control panel and change the value under Domain SAP Server (DSS) Retry Attempts from 1 to 2. You can also change Open Transport TCP/IP control panel to always load TCP/IP into memory (open the TCP/IP control panel, click the Options button, and click the "Load only when needed" box to remove the X).

* eXodus 5.2.2 and later are compatible with Open Transport.

* Versions of Anarchie prior to 1.6 have a data corruption problem when used with Open Transport. Make sure you are using Anarchie 1.6 or later.

* If an Apple Remote Access (ARA) user is on a non-routed, extended (Ethernet) network, and there are devices on the local network with the same network number as devices on the remote network, the user won't be able to see the local devices. This problem can be fixed by installing a router. Another workaround is to clear the PRAM on the ARA computer. (Hold down the Control, Option, and P keys simultaneously while starting up the computer). Clearing PRAM causes the computer to start up with a new network number, which should not conflict with the remote network number.

* Daemon 1.0.0 & Daemon Killer 1.0 are not compatible with Open Transport.

* MudDweller 1.2 is not completely compatible with Open Transport. You can open new connections, but the "reconnect" choice does not work correctly.

* The system will crash during launch of NetPresenz if Open Transport TCP/IP is configured to use MacIP and the selected zone has no MacIP server.

* Current versions of VersaTerm SLIP are not compatible with Open Transport.

* Problems can occur with old versions of the KeyServer package from Sassafras Software when TCP/IP is configured to "Load only when needed" (in the control panel's Options window). Contact Sassafras for the latest revisions at <http://www.sassafras.com>.

* The combination of Open Transport 1.1.1, LocalTalk Bridge 2.1f2, Global Village Toolbox and GlobalFax extensions causes a crash. This also happens when using classic networking. The workaround is to move the LocalTalk Bridge file to the Extension folder, renaming it to "aLocalTalk Bridge." You can make an alias and rename the alias as desired. Put the alias wherever you want, including the Control Panels folder. This will allow the LocalTalk Bridge to load before Global Village and avoid the cause of the crash.

* To use the CSI Hurdler serial card with Open Transport, contact CSI to get a copy of their preference file patch. This will enable the card to be compatible with Open Transport 1.1.1.

* After installing Open Transport 1.1.1 over a network while using Classic AppleTalk, open the Open Transport 1.1.1 AppleTalk control panel. If you are not using an infrared device, open the "Connect via" pop-up menu and choose Serial Port.

* The current official release of the MPW shell will hang the system when used with virtual memory and Open Transport. When using the MPW shell and Open Transport, turn off virtual memory. The ETO #21 pre-release MPW shell, version 3.4.2b2, fixes this problem.

System 7.5.3 notes

* System 7.5.3 includes both classic and Open Transport networking.

* The Network Software Selector (NSS) utility, included in the Apple Extras folder with System 7.5.3, provides an easy way to specify either classic or Open Transport networking. The computer must be restarted for a change to take effect.

* During system startup, System 7.5.3 checks for the stored preference for networking software. The load process then causes the appropriate control panels-"Network" and "MacTCP" for classic networking, "AppleTalk" and "TCP/IP" for Open Transport-to become visible. Those control panels associated with the disabled network software are hidden.

* Prior to installing OT 1.1, it was technically possible to install the older MacTCP on a computer running Open Transport. With OT 1.1 and later this is no longer possible.

* If it becomes necessary to reinstall MacTCP or the Network System Installer (NSI) on a 68030, 68040, or NuBus PowerPC-based computers running System 7.5.3 and Open Transport, you must first use NSS to specify classic networking and restart. After restarting, MacTCP and the other components of classic networking are visible.

* If you have a PCI-based computer connected to a Novell Netware network and are using the Netware 5.1 client software, you should also install the Ethernet Compatibility extension version 1.0.3. This extension is available only through a Custom Install from the System Update 2.0 installer, selecting the Ethernet Driver Update. This corrects a problem that could cause your system to crash at shutdown when using MacIPX.

However, there will be a two-minute delay in shutting down the computer.

* Network Time v2.0.1 is not compatible with the AutoPower On/Off control panel version 1.0 on a NuBus Power Macintosh with Open Transport. To use Network Time v2.0.1, remove the AutoPower On/Off control panel.

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Open Transport 1.1.1 Technical Information

This article is the Open Transport 1.1.1 Technical Information file.
This article has been archived and is no longer updated by Apple.
This document contains technical information about Open Transport that may be useful to network managers and administrators. You do not need to read this document in order to use Open Transport.

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Introduction

Open Transport is modern networking and communications system software for the Mac OS. It is based on industry standards and brings a new level of networking connectivity, control, and compatibility to Mac OS computers, while preserving built-in support for easy-to-use networking. Open Transport 1.1.1 is compatible with system software version 7.5.3, 7.5.5 and later, as well as versions 7.1, 7.1.1, and 7.1.2.

For more important information about system requirements, compatibility, and known incompatibilities and limitations, read the Open Transport 1.1.1 Read Me document.

Files added by the Open Transport installer

Open Transport installs the AppleTalk and TCP/IP control panels into the Control Panels folder inside the System Folder of your startup disk. The Open Transport Installer also adds the following files to the Extensions folder inside the System Folder:

- Shared Library Manager
- Shared Library Manager PPC

These extensions implement a shared library mechanism on 68K and PowerPC Mac OS computers, respectively. Both extensions are required on PowerPC-based computers in order to support both emulated and native shared libraries.

- OpenTransportLib
- Open Transport Library

These shared libraries implement core Open Transport services on PowerPC-based computers. The first library contains the PowerPC implementation and an interface for native PPC applications. The second library contains the built-in Open Transport modules and an interface for emulated 68K applications.

- OpenTptAppleTalkLib
- Open Tpt AppleTalk Library

These shared libraries implement Open Transport AppleTalk services on PowerPC-based computers. The first library contains the PowerPC implementation and an interface for native PPC applications. The second library contains the built-in Open Transport modules and an interface for emulated 68K applications.

- OpenTptInternetLib

- Open Tpt Internet Library

These shared libraries implement Open Transport TCP/IP services on PowerPC-based computers. The first library contains the PowerPC implementation and an interface for native PPC applications. The second library contains the built-in Open Transport modules and an interface for emulated 68K applications.

- Open Transport 68K Library

This shared library implements core Open Transport services on 68030- and 68040-based computers.

- Open Tpt ATalk 68K Library

This shared library implements Open Transport AppleTalk services on 68030- and 68040-based computers.

- Open Tpt Inet 68K Library

This shared library implements Open Transport TCP/IP services on 68030- and 68040-based computers.

Open Transport AppleTalk Features

Static and dynamic AppleTalk address allocation
Open Transport AppleTalk supports static assigned (manually administered) protocol addresses as well as the dynamic addressing provided by AppleTalk Address Resolution Protocol (AARP). Static addressing allows AppleTalk nodes to be managed using the protocol address as a unique and stable identifier.

It is important that all nodes on each individual AppleTalk subnet (a given cable segment assigned a unique network number or network number range) be administered consistently-either all with dynamic addressing or all with pre-assigned static addresses. This avoids a potential conflict when a new dynamic node acquires an address assigned to manually-addressed node that is not connected or is off line. Administrators can enforce the addressing policy for a subnet by locking the addressing mode. As a precaution, Open Transport AppleTalk checks for duplicate protocol addresses on the LAN even when static addressing is configured.

Use of parameter RAM
Under classic AppleTalk, AppleTalk's on/off state, the selected network interface, the previous network (protocol) address, and the previous AppleTalk zone name are saved in persistent memory (parameter RAM) for reuse at startup. To ensure backward compatibility, this information is still stored and retrieved on systems using Open Transport AppleTalk. However, the following differences are found with Open Transport:

- At startup, Open Transport reads the current AppleTalk configuration file to determine if AppleTalk should be turned on or off. This value overrides the value saved in parameter RAM. The user is not explicitly notified when this occurs.
- If the network interface specified in the current AppleTalk configuration file is locked and the specified port is not available or cannot be initialized, Open Transport will not automatically switch the port back to LocalTalk. Instead, AppleTalk will remain off. The user sees a dialog box with this information.

Open Transport TCP/IP features

Open Transport brings a workstation-class implementation of TCP/IP protocols to Mac OS. As with MacTCP, Open Transport TCP/IP is a full 32-bit stack. Open Transport TCP/IP adds support for:

- dynamic path MTU discovery, for more efficient network use in heterogeneous network topologies
- Dynamic Host Configuration Protocol (DHCP), for centralized IP address configuration management. DHCP is an Internet Engineering Task Force (IETF) standards-track protocol.
- IP multicast, for participation as an MBone client for applications written to the native Open Transport API
- simultaneous TCP connections for applications written to the native Open Transport API are limited only by installed memory and processor power, for increased functionality as an Internet or other TCP/IP network server
- a new, more robust and standards-compliant domain name resolver (a caching stub DNR)
- support for developer access to raw IP services, as well as TCP and UDP
- Ethernet Version 2.0 and IEEE 802.3 framing, for better interoperability with a wider range of TCP/IP hosts
- implicit and explicit domain name search paths, for increased control of domain name resolution
- use of multiple IP routers with fail-over, for increased robustness in mission-critical applications
- TCP wildcard source port assignments start at 2048, increasing from that point.

DHCP server support
Apple's implementation conforms to the current versions of the applicable specification documents (RFCs). To date, Open Transport TCP/IP has been tested with the following DHCP server implementations:

- Competitive Automation (URL: **http://www.join.com**)
- FTP Software (URL: **http://www.ftp.com**)
- Hewlett Packard HP-UX (URL: **http://www.hp.com**)

- Microsoft Windows NT Advanced Server (URL: **http://www.microsoft.com**)
- Silicon Graphics (URL: **http://www.sgi.com**)
- Sun Solaris and SunOS (URL: **http://www.sun.com**)
- TGV (URL: **http://www.tgv.com**)

DHCP address lease support
Open Transport TCP/IP supports DHCP address leases. Open Transport TCP/IP automatically attempts to renew any address lease that reaches its renewal interval (by default, the renewal interval is reached when the lease is halfway completed). The renewal interval may be configured to a different value by making changes to the configuring DHCP server. Renewal is attempted regardless of how many times the lease has already been renewed. Lease rebinding is also supported. Should an interface's IP address lease expire, the interface is closed down. Open Transport TCP/IP does not currently support the DHCP Client ID option or the DHCPINFORM message, nor will it currently try to use the remainder of a previous but unexpired lease upon rebooting.

Windows NT advanced server support
With Open Transport 1.1 and later, Mac OS clients are interoperable with the Windows NTAS DHCP server on LAN links. However, Mac OS clients cannot acquire configuration information from an NT DHCP server across a dialup (PPP) link because there is not yet an accepted industry standard for DHCP over dialup. The NT implementation is based on proprietary Microsoft extensions. Mac OS clients cannot acquire configuration information nor register with a Microsoft WINS server. WINS is also dependent on Microsoft extensions to TCP/IP (requiring NetBIOS support).

The Internet Engineering Task Force (IETF) is developing a cross-platform industry standard technology for dynamic registration and look-up of IP names through the Dynamic Service Location working group. Apple has no current plans to implement the WINS extensions. Instead, we are fully committed to implementation of the applicable IETF standards as they emerge.

Macintosh clients running versions of Open Transport prior to 1.1 could experience some interoperability problems due to other significant differences between the Microsoft implementation and that of a typical UNIX-based server.

BootP support
Open Transport 1.1 and later fully supports Bootstrap Protocol (BootP). Versions of Open Transport prior to 1.1 failed to accept a BootP Reply sent to the unicast (subnet broadcast) address, (for example, xxx.xxx.xxx.255. Replies sent to the all-nets broadcast address (for example, 255.255.255.255) were handled properly. Also, earlier versions of Open Transport required that the BootP gateway be zero hops away.

Local Hosts file support
Open Transport TCP/IP supports a Hosts file that may be used to supplement and/or customize the Domain Name Resolver's initial cache of information. The Hosts file is normally stored in the Preferences folder in the active System Folder. When Open Transport TCP/IP is initialized, it reads the Hosts file (if any). As in MacTCP, the supported Hosts file features follow a subset of the Domain Name System Master File Format (RFC 1035).

Open Transport TCP/IP is more stringent regarding the content and format of the Hosts file than was MacTCP, which permitted violation of the FQDN requirement for <domain-name>. For instance, the format:

```
charlie              A      128.1.1.1
```

which was acceptable to the MacTCP DNR, is no longer permitted because of the use of domain search lists in Open Transport/TCP ("charlie" could potentially exist in any or all of the configured domains). To accomplish the same effect, use this format instead:

```
charlie              CNAME  myhost.mydomain.edu

myhost.mydomain.edu  A      128.1.1.1
```

This associates the local alias charlie with the fully qualified domain name myhost.mydomain.edu, and resolves it to the address 128.1.1.1. Use of local aliases is limited to CNAME entries; NS and A entries must use fully qualified domain names.

You can create a Hosts file with any text editor or word processor (the Hosts file must be stored in text format). If you use a Hosts file, keep it as short as possible, and include only entries that will be accessed frequently. This reduces the memory required to cache the DNS information and minimizes the need to maintain and update Hosts files as system information changes.

Open Transport TCP/IP automatically uses a Hosts file stored the Preferences folder of the active System Folder. If no Hosts file is found in the Preferences folder, Open Transport TCP/IP searches the active System Folder for a Hosts file. You can specify a particular Hosts file to use with a specific configuration. For example, one Hosts file might be set up for a user connecting via Ethernet, and another set up for when that user connects via modem.

For additional information about the Hosts file design of the Open Transport Domain Name Resolver, see the document Apple Open Transport Reference Q&A. The latest version of the Q&A is on the Open Transport 1.1 Installation CD, and is available on the Internet at **ftp://seeding.apple.com/ess/public/opentransport/**.

MacTCP server addressing support

Open Transport TCP/IP supports both Bootstrap Protocol (BootP) and Reverse Address Resolution Protocol (RARP) configuration methods. MacTCP Server mode addressing was a combination of BootP and RARP. When Server mode was selected, MacTCP used BootP to attempt to acquire an IP address. If that failed, MacTCP tried RARP. Whichever protocol was successful was stored as a preference, and was used first the next time the computer started up. In Open Transport, you must choose BootP or RARP explicitly.

MacTCP dynamic addressing
Open Transport does not support MacTCP dynamic addressing. MacTCP dynamic mode addressing was based on an Apple-proprietary extension to TCP/IP protocols. It applied the address negotiation and assignment rules used by the AppleTalk protocols to TCP/IP networks, making it very easy to set up a Macintosh-only standalone TCP/IP network. Use of this dynamic addressing method in other scenarios, however, could create additional work for a network administrator.

The Internet community (IETF) has since developed a multivendor standard for the dynamic assignment of IP addresses, known as Dynamic Host Configuration Protocol (DHCP). Open Transport TCP/IP supports the industry standard DHCP.

MacIP support
MacIP is a protocol specification developed for carrying TCP/IP traffic on AppleTalk-only networks, originally LocalTalk networks. MacIP is today frequently used with AppleTalk Remote Access Protocol (ARAP) to provide mobile users access to TCP/IP network services.

Use of MacIP typically requires a gateway, which strips off the AppleTalk encapsulation and places the IP packet on the TCP/IP LAN. When packets are sent back to the MacIP end-node, the gateway replaces the AppleTalk encapsulation. MacIP gateway support is most frequently offered as an integrated service within a multiprotocol router. The gateway (router) attaches to both an AppleTalk and a TCP/IP network.

Open Transport supports MacIP in the TCP/IP control panel. Once selected, TCP/IP data is encapsulated in AppleTalk packets, and is sent through the selected network interface.

PPP connectivity
With the exception of OT/PPP 1.0f1c9 or later, PPP (Point to Point Protocol) connectivity for Open Transport is currently based on the use of third-party software extensions known as MDEVs. Early versions of these MDEV extensions may not be compatible with Open Transport. For information about MDEV compatibility, see the Open Transport 1.1 Read Me document.

OT/PPP is implemented using the Open Transport native STREAMS environment.

Memory requirement
Open Transport provides many new features and capabilities to Mac OS customers and, in general, will require more system memory (RAM) than does classic networking. However, the actual memory requirements of Open Transport vary depending upon the networking services in use at a given time. This is different from classic networking, which allocates memory to networking services and keeps it allocated even after networking services are no longer in use.

Factors contributing to differences in memory requirements include:

- Open Transport provides implementations of networking as both 680x0 and native PowerPC code. PowerPC code is typically larger (but also faster).
- Open Transport provides mixed-mode applications support, making it possible for both PowerPC native and 680x0 applications to use native networking on PowerPC-based computers.
- Open Transport includes both the new implementations of networking and the libraries required to provide backward compatibility support for the older AppleTalk and MacTCP programming interfaces.
- Open Transport requires less memory on systems with virtual memory enabled. Classic networking has about the same memory requirements regardless of the VM setting.
- Open Transport is based on the cross-platform standard STREAMs environment, which requires more memory than classic networking.
- The difference in memory requirements depends upon the configuration of your computer.Some examples of base memory requirements include:

Computer System	Virtual Memory	Classic AppleTalk & MacTCP	Open Transport
PowerPC-based	On	350K to 450K	200KB
PowerPC-based	Off	350K to 450K	up to 1.2MB
608x0-based	Off	350K to 450K	700KB to 800KB

Application compatibility guidelines
Apple has defined three levels of interoperability with Open Transport. The first, Open Transport Compatible, is used to describe network applications originally developed for classic AppleTalk or MacTCP programming interfaces that now take advantage of Open Transport Compatibility Services. These applications automatically gain the benefits associated with the Open Transport control panels. However, they will not realize a significant performance increase on Power Macintosh systems, nor can they take advantage of Open Transport's transport-independence capabilities.

Open Transport Ready applications have adopted the new Open Transport APIs. They are PowerPC native, in addition to running on 680x0-based Macintosh systems. Open Transport-ready applications benefit from the new control panels and may also realize a significant performance

boost when running on PowerPC-based computers.

The highest category of interoperability is Open Transport Enhanced. In addition to adopting the new Open Transport APIs and being Power PC native, these applications can be dynamically configured to support AppleTalk, TCP/IP, or serial communication.

Applications that rely on undocumented APIs or examine private data structures in AppleTalk or MacTCP may not be fully compatible with Open Transport. Updated versions of these software products will be required for full compatibility.

Performance

Open Transport is designed to take advantage of the PowerPC processor. For maximum performance, however, networking applications must also take advantage of the PowerPC processor, and should adopt the new Open Transport programming interfaces.

In general, current Mac OS networking applications are written for the 680x0 processor and use the classic (680x0-based) networking programming interfaces. These applications can still be used with Open Transport, and may perform somewhat better. Networking applications that are PowerPC-native but not Open Transport-ready may yield better performance, but still fall short of the maximum potential performance because they make use of Open Transport backward compatibility rather than its full capabilities.

Performance improvements will be greater with protocols that use larger datagram sizes. For example, TCP/IP users will see greater improvements than AppleTalk users, because AppleTalk has a fixed and limited datagram size. On high-speed datalinks such as fast Ethernet, FDDI, and ATM, the performance of the network interface card (NIC) driver code is also a significant factor.

Overall performance also depends on the amount of RAM available. Larger packet sizes and higher throughput place increased demand on the buffering system of Open Transport. If Open Transport becomes low on memory, throughput decreases to accommodate the limitation.

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Apple IIGS: Composite Video Jack

This article has been archived and is no longer updated by Apple.

The Apple IIGS composite video output, a standard 'RCA' connector used for composite NTSC compatible monitors, does not always display in color. Because of effects known as color fringing (showing bits of color on the edges of white characters), the color burst signal is turned off when the computer is in text mode, making colored text, background, and borders appear as black, white, or shades of grey. Turning off the color burst eliminates color fringing and improves the legibility of text displayed on composite color monitors. However, it makes testing of the color modes of the Apple IIGS on a composite monitor impossible from a text-only program such as the Control Panel or the Apple IIGS Diagnostics.

Color burst is enabled whenever any of the graphics modes (lo-res, hi-res, or super hi-res) is switched on. Don't confuse the hi-res or super hi-res mode with the text mode: when characters are drawn on the graphics screen (as in the Apple IIGS Program Launcher, or when ProDOS 16 displays the 'One moment please...' message while starting up), users may get the impression that they are seeing text with a colored screen border, when in fact they're not.

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Power Macintosh 9500/200:Use HD SC Setup or Drive Setup? (11/96)

I have a Power Macintosh 9500/200 computer, and I need to initialize the hard drive. I thought this computer required Drive Setup, but I could only find Apple HD SC Setup in the Disk Tools folder on the system software CD-ROM disc. Can I use HD SC Setup to reinitialize my hard drive? If not, where is Drive Setup?

This article has been archived and is no longer updated by Apple.

No, you should not use Apple HD SC Setup to initialize the hard drive in your Power Macintosh 9500/200. Apple HD SC Setup was not intended to be included with your computer. Instead, Drive Setup is the supported disk utility for use with all PCI-based Power Macintosh computers, including the Power Macintosh 9500/200. If you have already used HD SC Setup, it should not cause any problems with your computer. However, Apple recommends that you reinitialize the hard drive using Drive Setup.

Drive Setup is included with your computer, but it is on a floppy disk called Drive Setup Software rather than on the Apple Macintosh CD System Software 7.5.3 (Version 5.0). Additionally, in order to properly use Drive Setup, you must use Drive Setup and then run the Drive Setup Updater utility program, which corrects an issue that could prevent your computer from starting up properly.

On the system software CD disc, there is a Read Me file titled, "Where is Drive Setup". This file describes this issue in detail and provides the necessary steps for using Drive Setup.

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Open Transport 1.1.1: Component Technologies FAQ

This article is the Open Transport 1.1.1, Component Technologies FAQ (frequently asked questions).
This article has been archived and is no longer updated by Apple.

Question: What technology components comprise Open Transport?
Answer: Open Transport supports LANs and WANs and will integrate serial communications, modems, and remote (dial-up) networking in a consistent model for end-users, network managers, and developers. The Open Transport architecture consists of:

* standards based programming interfaces for applications developers and for network interface controller developers,

* a new cross-platform development model for integration of networking with the underlying operating system,

* a set of dynamic link-and-load memory management services,

* new implementations of Mac OS protocol stacks,

* new human interface applications and control panels, and

* a set of backward-compatibility support modules.

Question: What current Mac OS technologies and components will Open Transport replace?
Answer: When installed, Open Transport replaces the current Mac OS implementations of AppleTalk and TCP/IP (including the protocols and the "Network", "MacTCP", and "Admin TCP" control panels).

Over time, Open Transport is also designed to replace the Connection Manager and the Communications Resource Manger of the current Communications Toolbox architecture.

Question: Does that mean that Apple is migrating serial communications away from the Communications Toolbox (CTB)?
Answer: Partially, but not entirely. The CTB File Transfer and Terminal Managers continue to be supported and will be preserved in the Mac OS 8 release - although on new Open Transport/Serial underpinnings.

Over time, plans call for the CTB Connection Manager and its tools to be phased out in favor of Open Transport. Mac OS 8 is expected to provide support for the Connection Manager APIs, although Apple has no current plans to port existing Connection Manager tools other than the Serial Tool to Mac OS 8. Apple recommends that developers plan their update to Open Transport/Serial (and away from CTB Connection Manager) to coincide with (or precede) the availability of Mac OS 8.

At this time, there are no plans to replace or eliminate the File Transfer or Terminal Manager services.

Question: What standards are implemented in the Open Transport architecture?
Answer: Open Transport brings standards based networking into MacOS with support for:

* the X/Open Transport Interface (XTI), the POSIX compliant API for support of networking applications,

* the Datalink Provider Interface (DLPI), for development of network interface controller (NIC) drivers, and,

* a port of a UNIX System V release 4.2 compatible STREAMs environment for network protocol developers.

Question: Did Apple develop the STREAMs environment for Open Transport?
Answer: To maximize the stability, performance, and robustness of Open Transport, Apple selected Mentat Inc. - the leading supplier of high performance kernel-level network software - to supply the STREAMs environment for Open Transport.

Mentat Portable STREAMs (MPS) is an independent fast, full-featured, multiprocessor safe version of the UNIX System V Release 4 STREAMs environment. Its incorporation into Open Transport provides a reliable platform for protocol development, including Apple's own implementation of a STREAMs based AppleTalk stack. MPS also allows easy porting from other platforms of third party protocols. MPS is the same implementation of STREAMs found inside many industry standard UNIX operating systems, including those from IBM and OSF, as well as other platforms such as Novell NetWare.

Question: Did Mentat supply other technology to Apple in connection with Open Transport?
Answer: Yes. Mentat supplied the source code base for Open Transport/TCP, and has worked closely with Apple on the development of an archetypal high-performance DLPI driver.

Mentat TCP (MTCP) is a robust implementation of TCP/IP that conforms with all industry standards, and is the basis of another leading workstation TCP stack. It makes a significant contribution to the performance and functionality of Open Transport/TCP.

Question: Is there more information available about Mentat Inc. and its products?
Answer: Mentat maintains a presence on the world wide web at: http://www.mentat.com

Question: What dynamic link-and-load technology is used by Open Transport?
Answer: On 680x0 Mac OS systems, Open Transport uses the Apple Shared Library Manager (ASLM) 2.0. On PowerPC Mac OS systems, Open Transport is based on a combination of ASLM (for 680x0 applications) and the newer Code Fragment Manager, CFM (for PowerPC applications).

Question: Which protocols are supported by Open Transport?
Answer: Open Transport version 1.1.1 includes implementations of AppleTalk and TCP/IP, and consistent API access to serial communications.

Apple and third parties are investigating or working to add support to Open Transport for Point to Point Protocol (PPP), NetWare (NCP/IPX), Windows 95 and Windows NT (SMB/TCP/NetBIOS), DECnet and LAT. Some of these additional capabilities may be incorporated or bundled with future releases of Apple Open Transport (see Future Directions).

Question: Are there any changes in AppleTalk or TCP/IP with Open Transport?
Answer: Yes. The new Open Transport/AppleTalk and Open Transport/TCP protocol stacks both have been implemented as Open Transport STREAMs modules and as native code on PowerPC Mac OS computers. They support the new XTI APIs, and their shared libraries can be dynamically loaded and unloaded as needed.

Both protocols also support dynamic reconfiguration (changed settings without requiring reboot), and feature new configuration applications offering Basic, Advanced, and Administrator tools. The new configuration applications - AppleTalk and TCP/IP - replace the older control panel implementations - Network, MacTCP, and AdminTCP. For backward compatibility the new applications continue to be stored in the Control Panels folder.

Each protocol stack also offers addition protocol-specific feature enhancements.

Question: When should users update their systems to Open Transport?
Answer: With the availability of Open Transport v1.1, Apple encourages all Mac OS System 7.x users with systems meeting the minimum configuration requirements to take advantage of the increased performance and new features provided by System 7.5.3 and Open Transport v1.1.

Question: Does this mean that Apple expects everyone to stop using current AppleTalk and MacTCP?
Answer: Open Transport is designed to replace current AppleTalk (58.x) and MacTCP (2.0.x) on Apple Macintosh and Mac OS compatible systems meeting minimum configuration requirements. The transition will happen over time, as developers deliver Open Transport-ready and enhanced applications, as users gain experience with Open Transport, and as Apple continues to enhance Open Transport.

Open Transport is not designed to run on 68000 or 68020 Macintosh systems, which should stabilize on current versions of classic AppleTalk and MacTCP software. If Open Transport is installed on these systems, classic networking will still be selected and loaded at system start-up time.

Developers are strongly encouraged to begin all new development for Mac OS using Open Transport.

Question: What files are installed as a part of Open Transport?
Answer: When installed, Open Transport adds the following to the Control Panels Folder:

* AppleTalk - the control panel application replacing the classic Network control panel.

* TCP/IP - the control panel application replacing the classic MacTCP and AdminTCP control panels.

Open Transport adds the following files to the Extensions Folder:

* Shared Library Manager and Shared Library Manager PPC - extensions that implement the Apple Shared Library Manager for 680x0 and PowerPC, respectively.

* OpenTransportLib and Open Transport Library - shared libraries that implement core Open Transport services on PowerPC systems. The first library contains the modules and APIs for PowerPC native applications; the second for 680x0 applications running in emulation on PowerPC systems.

* OpenTptAppleTalkLib and Open Tpt AppleTalk Library - shared libraries that implement Open Transport AppleTalk protocols and services on PowerPC systems. The first library contains the modules and APIs for PowerPC native applications; the second for 680x0 applications running in emulation on PowerPC systems.

* OpenTptInternetLib and Open Tpt Internet Library - shared libraries that implement Open Transport TCP/IP protocols and services on PowerPC Mac OS systems. The first library contains the modules and APIs for PowerPC native applications; the second for 680x0 applications running in emulation on PowerPC systems.

* Open Transport 68K Library - shared library that implements core Open Transport on 680x0 systems.

* Open Tpt ATalk 68K Library - shared library that implements Open Transport AppleTalk protocols and services on 680x0 Mac OS systems.

* Open Tpt Inet 68K Library - shared library that implements Open Transport TCP/IP protocols and services on 680x0 Mac OS systems.

Depending on the specific system configuration, the following Extensions also may be installed:

* Ethernet (Built-In) - code resource to allow access to built-in Ethernet port.

* Serial (Built-In) - code resource to allow access to built-in serial port.

Open Transport documentation is also provided in electronic format:

* Open Transport Guide Additions - AppleGuide database that updates the Macintosh Guide with information about Open Transport (System 7.5.3 only);

* a User's Guide (in Acrobat Reader format) which parallels the printed manual;

* the Open Transport Read Me containing any late-breaking news; and,

* a text file called "Open Transport 1.1 Technical Info" which contains a distillation of this Q&A.

Published Date: Feb 18, 2012

Open Transport 1.1.1: Apple Adoption of OT FAQ (10/96)

This article is the Apple Adoption of Open Transport 1.1.1 FAQ (frequently asked questions).

This article has been archived and is no longer updated by Apple.

Question: When will Open Transport become part of Mac OS?

Answer: Open Transport is a standard component of the Mac OS beginning with System 7.5.3 (System Update 2.0).

Open Transport v2.0 is being developed as an integral part of the Mac OS 8 release; support is planned for all Mac OS 8 platforms, including the Common Hardware Reference Platform (CHRP).

Question: What Apple products will support Open Transport? Will these also be native on Power Macintosh?

Answer: Apple includes or plans to include support for Open Transport in the following products, as well many other unannounced products:

* Apple Remote Access 3.0
* MacSNMP 1.5
* Mac OS 8

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Open Transport 1.1.1: AppleTalk Features FAQ (10/96)

This article is the Open Transport 1.1.1, AppleTalk Features FAQ (frequently asked questions).

This article has been archived and is no longer updated by Apple.

Question: What are some of the upgraded features of Open Transport/AppleTalk?

Answer: Open Transport/AppleTalk now includes new support for assigned (manually administered) protocol addresses. This allows AppleTalk nodes to be managed using protocol address as a unique identifier. It also may reduce the network traffic associated with AppleTalk's dynamic address assignment features (AARP).

Dynamic addressing continues to be available for those customers who prefer automated address allocation.

Question: AppleTalk preferences, such as the last used protocol address and the selected network interface, have been stored in persistent parameter RAM in the past. How does this relate to the new Open Transport network configurations and manual addressing?

Answer: Under the classic AppleTalk networking architecture, AppleTalk's ON/OFF state, the selected network interface, the previous network (protocol) address, and the previous AppleTalk zone name were saved in persistent memory (parameter RAM) for reuse at boot time. To ensure backwards compatibility, this information is still stored and retrieved on systems using Open Transport/AppleTalk.

However, there are some changes made with Open Transport to accommodate the expanded capabilities of multiple, saved configuration files, and required network settings.

* At boot time, Open Transport reads the current Open Transport/AppleTalk configuration file to determine if AppleTalk should be set to ON or OFF. This value will override the value saved in parameter RAM.

* If the network interface specified in the current AppleTalk configuration file is locked (in other words, it is a required setting) and the specified port is not available or cannot be initialized, AppleTalk will not automatically switch to LocalTalk; instead AppleTalk will remain OFF. The user will receive notification in the event this occurs.

Question: What happened to the "Network" control panel?

Answer: The Network Control Panel has been replaced by the Open Transport/AppleTalk configuration utility (control panel). This change was made to reflect the function of the utility - to configure AppleTalk network connections.

Question: Are there other changes to the human interface for AppleTalk?

Answer: Yes. The AppleTalk configuration utility now provides basic troubleshooting information. For example, the Advanced and Administrator views provide access to the hardware (Media Access Control) address, current AppleTalk router address and the current AppleTalk network number range for the cable. Previously this information was only available through the use of router administration or protocol analysis software.

Question: Are there other changes to AppleTalk of interest?

Answer: Yes. Beginning with Open Transport/AppleTalk v1.1, AppleTalk now includes integrated support for both multinode and multihomed operation, accessible to developers at the API level. Configuration and use of the second, third, or more network interfaces or protocol addresses requires application program support.

Multihoming is the term applied to the capability to communicate using more than one network interface at a time using the same protocol. This term is taken from the idea that the workstation makes a "home" on more than one network at the same time.

Multinode is the term applied to the capability to communicate through more than one network protocol address at the same time on a given network interface, using a single protocol. This term is taken from the idea that the workstation or PC appears to outside parties to be multiple end-nodes on the network.

Question: Earlier information about Open Transport said that AppleTalk could be dynamically loaded and unloaded only as needed, similar to Open Transport/TCP. Is this feature available?

Answer: This capability has been removed from Open Transport at this time. It was not technically feasible to provide this feature without creating compatibility problems with existing applications.

Question: Is Open Transport/AppleTalk "AppleTalk Phase 3"?

Answer: No. Open Transport/AppleTalk is a new, modern implementation of the AppleTalk Phase 2 protocol architecture for MacOS, from the people who invented AppleTalk.

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Open Transport 1.1.1: Availability & Distribution FAQ

This article is the Open Transport 1.1.1, Availability & Distribution FAQ (frequently asked questions).

If you are looking for a more recent update of Open Transport, You must upgrade your system software to install the most recent version. Open Transport 2.0.3 is the current version but has been qualified with Mac OS 8.6 only. Open Transport v1.1.2 is the latest version available from the Apple Software Updates Web site at http://www.apple.com/swupdates .
This article has been archived and is no longer updated by Apple.
Question: What is the current version of Open Transport, and what are its key features?

Answer: If you are looking for a more recent update of Open Transport, You must upgrade your system software to install the most recent version. Open Transport 2.0.3 is the current version but has been qualified with Mac OS 8.6 only. Open Transport v1.1.2 is the latest version available from the Apple Software Updates Web site at http://www.apple.com/swupdates .

Open Transport v1.1.1. This "rapid response" release is an update to Open Transport v1.1, to address the most pressing customer requests, in advance of the next feature release of Open Transport (currently planned as OT 1.5 - see Future Directions). Open Transport v1.1.1 includes the following updates and new features as compared to the earlier Open Transport 1.1 release:

* now also supports the Performa 5200, 5300, 6200, and 6300 systems;
* includes internal changes to minimize memory fragmentation resulting from dynamic loading and unloading of TCP/IP;
* includes changes to the TCP/IP DNR for interoperability with sites using the load-balancing name daemon;
* includes changes for support of the upcoming Open Transport/PPP release;
* includes all bug fixes available to date.

Question: How is Open Transport v1.1.1 available?

Answer: Open Transport v1.1.1 is built as a stand-alone installer, and is distributed online from a variety of Apple, and Internet sites.

Question: Does System 7.5.3 or System Update 2.0 include Open Transport 1.1.1?

Answer: No. Mac OS system software ships with Open Transport 1.1. Open Transport 1.1.1 was not yet available at the time these products went to manufacturing. Future releases of Mac OS system software are planned to include the most current release of Open Transport available at the time. However, incremental updates to OT may be provided independantly (such as with OT 1.1.1) to provide responsive customer support.

Question: Does the Open Transport single-user software package contain Open Transport 1.1.1?

Answer: No. The retail software package ships with Open Transport 1.1. Open Transport 1.1.1 was not yet available at the time this product went to manufacturing. Current plans call for the Open Transport software package to be updated with each feature-based release of Open Transport; however, incremental updates to OT may also be provided independantly (such as with OT 1.1.1) as needed to provide responsive customer support.

Question: Are there changes in the system requirements for Open Transport 1.1.1?

Answer: There are no changes from the previous release, Open Transport 1.1, in the memory, processor, or OS requirements (see Open Transport and Mac OS System 7.5.3). Installation of Open Transport 1.1.1 requires that a previous version of Open Transport already be installed and (on applicable systems) selected as the active network system via the NSS.

Question: What of the earlier Open Transport 1.1 release?

Answer: Open Transport v1.1 included the following updates and new features as compared to the earlier 1.0.x releases:

* added support for 68030 and 68040 Mac OS systems,
* added support for PowerPC Mac OS systems with NuBus,
* added support for NuBus, SCSI, and CommSlot network interface adapters,
* offered tuning to optimize performance of high speed datalinks,
* offered tuning to support multiple client, multithreaded server applications,
* added support for multinode and multihomed operation of AppleTalk protocols,
* added support for raw packet access and promiscuous mode, to enable the development of Open Transport-ready network analyzers and other network management utilities,

* recognized a significantly expanded selection of MacTCP dial-up network extensions (mdevs),
* allowed reconnection of a dial-up TCP/IP session without reloading networking and without system restart,
* provided display of the datalink Media Access Control address for Ethernet and token ring networks,
* provided user notification in the event duplicate AppleTalk or TCP/IP addresses are established,
* automatically converted user's existing AppleTalk and MacTCP setting to Open Transport configuration files during installation (only if Open Transport preferences do not already exist),
* included improved compatibility with Apple Remote Access 2.0.1,
* included improved compatibility with a wider range of DHCP servers,
* provided a basis for future support for PPP-based AppleTalk and TCP/IP remote networking,
* provided a basis for future support for modem and ISDN communications devices,
* included support for Mac OS system software System 7.5.3,
* included support for the creation of a "universal system folder",
* included support for the Network Software Selector utility to provide easy transition from classic to Open Transport networking on Mac OS systems supporting both,
* offered improved Balloon Help text for System 7 users, and,
* included all bug fixes available to date.

Question: How is Open Transport v1.1 available?

Answer: Open Transport v1.1 is available through a broad range of distribution channels:

* as a no-charge upgrade to customers with existing MacTCP volume license software maintenance agreements;
* as a no-charge upgrade to customers with existing system software volume license software maintenance agreements;
* as a component of MacOS system software release System 7.5.3;
* as a component of Mac OS system software update System 7.5 System Update 2.0;
* as a retail software product in single-user software package;
* through an OEM redistribution licensing program from Apple Software Licensing,
* bundled with Apple and third party applications software that are Open Transport-ready; and,
* from select Apple-licensed publishers and Internet Service Providers.

Question: How do volume license software maintenance customers receive Open Transport?

Answer: A master copy of the Open Transport software and documentation is automatically be mailed to the contact of record for customers with active MacTCP or Mac OS System Software maintenance contracts.

Question: How could a customer receive a copy of System 7.5.3?

Answer: System 7.5.3 will be pre-installed on Mac OS systems beginning in first half calendar 1996. System 7.5.3 will also become available as a shrink-wrap retail product in first half calendar 1996.

Question: How could a customer receive a copy System 7.5 System Update 2.0?

Answer: System 7.5 System Update 2.0 is available through a variety of channels, including:

* On the Internet:
Worldwide Web: **http://www.apple.com/swupdates**
ftp: **ftp://ftp.info.apple.com**

* On the electronic information services: America Online (keyword: applecomputer), and CompuServe (GO APLSUP);
* Through Apple User Groups

Question: What is the part number and pricing for the Open Transport single-user software package?

Answer: In the U.S. order number M4252Z/A; the estimated retail price is $39.

Question: Since Open Transport is included with System Update 2.0 and System 7.5.3, why might a customer want to purchase the Open Transport single-user software package?

Answer: The Open Transport single-user software package is designed for customers running System 7.1.x who are not ready to upgrade to

System 7.5.3, yet want to take advantage of Open Transport features. It might also be of interest to customers running System 7.5.3 who want a printed copy of the user documentation.

Question: Is Open Transport localized for non-English speaking countries?

Answer: As a part of Mac OS System 7.5.3, Open Transport 1.1 is being localized around the world. Please contact the Apple Assistance Center in your area for details. Availability of localized versions of OT 1.1.1 will vary on a country by country basis.

Question: How is Open Transport available to software developers, publishers, and/or Internet Service Providers (ISPs) for redistribution and bundling?

Answer: Apple offers two different redistribution licensing agreements for Open Transport, designed to meet the needs of publishers, software developers, and ISPs.

The first agreement is designed for Internet service providers, network and communications reference work authors and publishers, and others interested in bundling Open Transport software as an added customer benefit to their product or service offering. This license is based on a sliding-scale per-unit license fee, and requires annual reporting of licenses issued. Interested parties should send electronic mail to SW.LICENSE@apple.com.

The second agreement is designed for software developers with products that adopt the new Open Transport APIs who wish to ship Open Transport as a part of an integrated product installation process. This agreement is based on an addendum to the Mac OS SDK, and allows qualified developers to ship the Open Transport run-time environment to end-users as a part of their product.

To qualify, developers must execute the Open Transport License Addendum through Apple Software Licensing, and meet the following requirements:

* have developed an Open Transport-ready or Open Transport-enhanced software product (including applications developed for Apple's NetSprockets game architecture),
* be current subscribers to the Mac OS SDK,
* provide Apple advance notice of their intent to ship their Open Transport product(s), distribute the required Open Transport components only in conjunction with their product(s), and,
* annually report the total number of licenses issued.

Other terms and conditions apply, however, no additional fees (beyond the Mac OS SDK subscription) are required for this license. Interested parties can send electronic mail to SW.LICENSE@apple.com.

Question: Will localized versions of Open Transport software be available for developer and ISP licensing?

Answer: Initially the Open Transport redistribution licensing program will only have the U.S. English version of the software available. Licensing of localized versions of Open Transport will depend upon demand and availability.

Question: What of the earlier Open Transport v1.0.x releases?

Answer: Open Transport v1.0.x releases were all designed for use only on the Apple PCI Macintosh systems:

* Open Transport version 1.0, for the Power Macintosh 9500, was focused on offering compatibility with existing networking client applications and on upgrading the feature set and performance of TCP/IP. It shipped only as an integral part of system software with the 9500.

* Version 1.0.1 was a maintenance update, designed to correct a potential problem with data truncation in large file transfers. Open Transport v1.0.1 was distributed electronically, as an update to be applied to an existing installation of Open Transport v1.0.

* Version 1.0.6 added support for the Power Macintosh 7200, 7500, and 8500 systems and addressed bugs discovered since the 1.0 release. Open Transport v1.0.6 shipped as a component of System Software 7.5.2 version 2 on the Power Macintosh 7200, 7500, 8500, and 9500 models.

* Version 1.0.7 included changes to improve performance and compatibility of Open Transport/TCP with third party SLIP and PPP software and with certain Internet Service Providers (ISPs). Open Transport v1.0.7 was distributed electronically, as an update to be applied to an existing installation of Open Transport v1.0.6.

* Version 1.0.8 was also a maintenance release, and included better compatibility with Qualcomm Eudora, Claris Emailer and Emailer Lite, CE Software QuickMail, and Netscape Communications client software, as well as improvements in BootP and DHCP interoperability. Open

Transport v1.0.8 was distributed via a variety of information services and a number of Internet sites - as a full installation of Open Transport software.

Question: Why was Open Transport made available on PCI Power Macintosh systems first?

Answer: Starting with the introduction of the Power Mac 9500, Apple moved to adopt industry standards for both network driver software - Open Transport DLPI - and network hardware - PCI. This strengthened the business case for new and existing third party developers who could, as a result, include Mac OS on PowerPC in their plans for cross-platform network connectivity products. The Power Macintosh 9500 was the first system to incorporate both of these standards, and has since been followed by additional systems and configurations.

In particular, Apple made the business decision to move to standards for networking on the hardware and software fronts in tandem, that is, PCI and DLPI. This created a dependency that required customers deploy Open Transport with their PCI Mac OS systems. It also minimized the work by third parties needed to create drivers for new PCI networking cards. As a result customers have found a broad selection of third party PCI networking options for Mac OS.

For the most current information on what SDKs Apple offers, refer to **http://developer.apple.com/sdk/**
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Open Transport 1.1.1: Cross-Platform Issues FAQ

This article is the Open Transport 1.1.1, Cross-Platform Issues FAQ (frequently asked questions).
This article has been archived and is no longer updated by Apple.

Question: Will Apple port Open Transport to Windows or UNIX?
Answer: Apple does not plan to port Open Transport to other operating systems. Rather, Open Transport is based on Apple porting three existing, cross-platform industry standards to Mac OS. These standards have their roots in the UNIX community and experienced UNIX network developers will find themselves "right at home" when developing for Open Transport.

Question: What about Windows developers? What about Windows Sockets?
Answer: NetManage, the leading developer of TCP/IP protocols and applications for DOS and Windows, now offers Windows Socket tools for Mac OS, to provide access to Open Transport/TCP and MacTCP services via the Windows Sockets (WinSock 1.1) API.

NetManage's WinSock for the Mac OS is WinSock 1.1 compliant and is being certified by the WinSock Labs operated by Stardust Technologies, Inc., which performs compatibility testing. The SDK for Mac OS costs $250 per license, with free distribution.

For more information, contact NetManage at 1-408-973-7171.

Question: With both XTI and Windows Sockets available for Open Transport, which API should a developer use?
Answer: The choice of API will depend upon a developer's background, experience, and goals. For developers with a background in UNIX, a need for POSIX compliance, or a need to deploy an application across Mac OS and UNIX systems, XTI is the logical choice. For developers with a background on Microsoft Windows, or a need to deploy an application across Mac OS and Windows, Windows 95, and/or Windows 95 systems, the planned WinSock tools from NetManage will provide an attractive cross-platform alternative.

Apple is committed to XTI and will focus development on transport independence around this API. Mac OS developers now using classic AppleTalk or MacTCP APIs are encouraged to move to Open Transport XTI API.

For the most current information on what SDKs Apple offers, point your web browser to:

http://developer.apple.com/sdk/

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Open Transport 1.1.1: Developer Adoption FAQ (10/96)

This article is the Open Transport 1.1.1, Developer Adoption FAQ (frequently asked questions).

This article has been archived and is no longer updated by Apple.

Question: Which third party developers support Open Transport?

Answer: Seeding of Open Transport among developers began more than a year in advance of release, and reached more than 5,000 developers. Several hundred developers are actively working with Apple on development efforts.

The following software developers are among those who have announced support for Open Transport to date:

* ACI
* Adobe Systems
* AG Group
* AGE Logic, Inc.
* AsantÄ Technologies, Inc
* Atomic Games
* Carnegie Mellon University
* CE Software
* Claris Corporation
* Dantz Development
* Delphic Software, Inc.
* Digital Ocean
* EveryWare Development Corp.
* Farallon Computing, Inc.
* Gradient Technologies
* HI Resolution Software
* Hughes Advanced Systems
* IBM
* Intercon Systems, Inc.
* Maxum
* Mentat Inc.
* Metrowerks, Inc.
* Neon Software
* NetManage, Inc.
* NorthWestern University
* Novell
* Pacer Software
* Pole Position Software GmbH
* Progressive Networks
* Quark, Inc.
* Remedy Corp.
* Seaquest Software
* SoftArc
* StarNine Technologies, Inc.
* Starlight Networks
* Systematics Softworks GmbH
* The University of Michigan
* The Wollongong Group
* Thursby Systems Software, Inc
* Vicom Technology
* Wall Data
* White Pines
* WRQ

The following developers have announced support for both Open Transport and PCI on Power Macintosh:

* AsantÄ Technologies, Inc
* Attachmate
* Creative Solutions
* Dayna

* Digiboard
* Digital Equipment Corporation
* Efficient NW
* Farallon Computing, Inc.
* Focus
* Fore Systems, Inc.
* 4-Sight International Limited
* Hermstedt GmbH
* Innosys
* Interphase
* Newer Technology
* Neutral
* QLogic
* Rockwell
* SAT/Sagem
* SCii Telecom
* Silicon Valley Bus
* Spectra Systems
* Workstation Technologies

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Open Transport 1.1.1: For More Information FAQ

This article is the Open Transport 1.1.1, For More Information FAQ (frequently asked questions).
This article has been archived and is no longer updated by Apple.
Question: How can interested parties get more information on Open Transport?

Answer: Documentation for Open Transport is publicly available by anonymous ftp on the Internet at a number of sites, including ftp://seeding.apple.com/ess/public/opentransport/

Question: Can customers apply to receive pre-release copies of Open Transport for implementation testing?

Answer: The Open Transport Early Access program provided pre-release access to Open Transport v1.1. Since the product is now shipping, pre-release seeding of the Open Transport 1.1 has been discontinued. As plans for future versions of Open Transport develop, Apple expects to offer a similar customer testing and preview program. Announcement of details will occur at the appropriate time.

Question: Can developers apply to receive pre-release copies of Open Transport for development and testing?

Answer: The Open Transport v1.1 developer seeding program reached over 5,000 developers. Since the product is now shipping, pre-release seeding of the Open Transport 1.1 has been discontinued. A new seeding program is anticipated for future versions of Open Transport. Details will be announced at a later date.

The Open Transport software developers kit (SDK) is available as a component of the MacOS SDK, and is available on the Internet at ftp://seeding.apple.com/ess/public/opentransport/

Question: How can developers get support while developing Open Transport applications?

Answer: Apple Developer Support services have engineering specialists fully trained on Open Transport development and debugging. Access to these engineers is just one of the benefits of the Apple Developer Partner's program.

For more information on Apple's Developer Support services, including information on how to register as an Apple Developer Partner, contact the Macintosh Developer Services Information Line at US +1(408) 974-4897.

For developers not a part of Apple's Developer Support services programs, Apple has assigned evangelism resources to the support of Open Transport.

Question: Are there general reference sources on XTI, STREAMs and DLPI?

Answer: Sources of information that are applicable to XTI and STREAMs include:

- OSF/1 Operating System: Network Applications Programmer's Guide; Open Software Foundation, Prentice Hall, ISBN 0-13-640145-7
- UNIX Network Programming; W. Richard Stevens, Prentice Hall, ISBN 0-13-949876-1
- UNIX System V Release 4: Programmer's Guide: STREAMs; Unix Press (A Prentice Hall title), ISBN - 0-13-020660-1
- Programming UNIX SVR4.2: Network Programming Interfaces; UNIX Press (A Prentice Hall title), ISBN 0-13-017641-9
- X/Open CAE Specification: X/Open Transport Interface (XTI); X/Open Company, Ltd. (XO/CAE/91/600) ISBN 1-872630-29-4
- Transport Provider Interface Specification, rev 1.5 (92/12/10); UNIX International, OSI Special Interest Group
- Data Link Provider Interface Specification, rev 2.0.0 (91/08/20); UNIX International, OSI Work Group

For the most current information on what SDKs Apple offers, point your web browser to:

http://developer.apple.com/sdk/
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Open Transport 1.1.1: Future Directions FAQ

This article is the Open Transport 1.1.1, Future Directions FAQ (frequently asked questions).
This article has been archived and is no longer updated by Apple.

Question: What is the next planned release of Open Transport?
Answer: Open Transport 1.5 is the next planned release of Open Transport. OT 1.5 is planned to be feature-driven, and is expected for release in first quarter CY1997. Some of the key features planned include:

* AppleScript support in AppleTalk and TCP/IP control panels
* API for developers to access configuration data
* Integrated PPP for AT & TCP
* Multi-homing for AT & TCP
* Multi-node support for AT & TCP
* SNMP support

Question: What about the Apple Internet Router? Will it be revised for Open Transport?
Answer: Apple is not announcing future plans regarding this product at this time.

Question: Will Apple or Novell deliver an Open Transport-ready Mac OS client that uses IPX protocols?
Answer: Novell currently offers the NetWare Client for Mac OS v5.1, providing access to file, print, and NetWare Directory Services (NDS) using NCP/IPX protocols. An Open Transport-ready implementation of NetWare protocols and client services is currently under investigation. The two companies are not ready to announce product details or availability at this time.

Question: Will Apple or Microsoft deliver an Open Transport-ready Mac OS client that uses NetBIOS/TCP protocols?
Answer: Windows NT AS currently includes strong Mac OS connectivity solutions based on AppleTalk protocols. Other protocol options are under investigation at Apple, Microsoft, and with third parties. No additional details are available at this time.

Question: What standards are to be supported by OT/PPP?

* RFC 1661 - PPP
* RFC 1662 - PPP in HDLC-like framing
* RFC 1570 - PPP LCP extensions
* RFC 1334 - PPP Authentication protocols
* RFC 1663 - PPP Reliable transmission
* RFC 1378 - ATCP AppleTalk Control Protocol
* RFC 1332 - IPCP Internet Protocol Control Protocol
* RFC ???? - IPsec
* RFC ???? - DHCP Client ID

Question: What about IP version 6 (IPv6) support in Open Transport?
Answer: IPv6 is an proposed update of the current Internet Protocol (IPv4), part of the TCP/IP suite of protocols used to allow computers to communicate with each other over the Internet. The Internet Engineering Task Force (IETF) is in the process of specifying the standards for IPv6.

IPv6 is being designed to respond to the limitations of IPv4 - including an upcoming shortage of new IP addresses - to allow for the continued expansion of the Internet and deployment on corporate networks. IPv6 also incorporates new functionality to provide security, multimedia support, and plug and play capabilities, features necessary to usher the Internet into the twenty-first century.

At the October 1995 Networld+InterOp trade show, Apple and Mentat demonstrated a prototype of Internet Protocol Version 6 running on Open Transport. The demonstration showed the flexibility of the Open Transport environment - with current IPv4 applications such as Fetch, Netscape, and Web*Star running unmodified with IPv6 support - and showed the benefits of Open Transport's underlying standards based architecture - facilitating code portability. The demonstration also included basic interoperability testing with IPv6 prototype implementations from DEC and HP, using standard IP utilities such as Ping and Telnet.

Apple and Mentat will continue to work together to ensure timely availability of IPv6 for Mac OS once the standard has been completed.

Question: Will Open Transport v2.0, for Mac OS 8, offer any new capabilities?
Answer: Yes. Open Transport v2.0 is being designed to take full advantage of the new microkernel services available in Mac OS 8. As a result, Open Transport networking on Mac OS 8 is planned as a set of multithreaded, preemptively scheduled tasks running in protected memory.

To a user, this will mean that networking will be even more robust and higher performance. To a developer, this will mean that a rogue application running in another memory space will not be able to corrupt system level networking task.

In addition, Open Transport v2.0 is expected to incorporate a second generation update to the human interface introduced with Open Transport v1.0.

Current plans call for this release to include support for features such as:

* Configuration selection will be integrated with system level workspaces and the location assistance toolbox;

* Advanced end-users and network administrators will be able to configure a protocol stack for simultaneous support of multiple network connections (multihoming);

* Administrators will find additional trouble-shooting tools (such as Ping, traceroute, local ARP cache, access to local routing tables, and others) integrated with the configuration utilities;

* Support for AppleScript*; and

* Desktop aliases for network configurations to allow double-click reconfiguration of services.

Open Transport 2.0 is also planned to include integrated support for NetWare/IPX, X.25, ATM, and ISDN.

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Open Transport 1.1.1: General Information FAQ

This article is the Open Transport 1.1.1, General Information FAQ (frequently asked questions).
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Question: What is Apple Open Transport?
Answer: Apple Open Transport is the modern networking and communications subsystem for the Mac OS. Open Transport is based on industry standards and brings a new level of networking connectivity, control, and interoperability to Mac OS systems, while preserving and enhancing the hallmark of the Macintosh and Mac OS - built-in support for easy-to-use networking.

Question: What long-range Apple goals are advanced through Open Transport?
Answer: Apple believes that communications and collaboration technologies are integral and fundamental to personal and workgroup computing. With Open Transport our goal is to provide the foundation to make MacOS the best desktop OS for multiprotocol networking, anywhere.

Question: What needs must be addressed to be "the best"?
Answer: Networking and communications technologies are mission critical thus reliability is a base-level requirement. Organizations require interoperability in heterogeneous environments; full compliance with standards is necessary.

High performance is also key. Increasing file sizes often related to the rich media types found in graphics and publishing, multimedia, video production, and technical markets create a demand for effective use of higher bandwidth communications technologies such as ISDN, FDDI, fast Ethernet and ATM.

Beyond these base-level requirements, network managers, end-users and developers each have additional needs.

* Network managers need networked systems to support a flexible model of administration that accommodates both centralized and decentralized management models.

* Users are typically more interested in communications as a basis for productivity applications. As such, they want networking that is easy to set up and easy to use. This becomes even more important when users are mobile, needing access to networking services from wherever they may be without requiring complex reconfiguration for each connection type and location.

* Developers need to address the broadest possible markets with minimum incremental investment. In short, they need standards based, cross-platform APIs and development tools.

Question: What were some of the key goals driving the development of Open Transport?
Answer: Apple began with two key assumptions: that networking is inherently a multiplatform, multiprotocol proposition; and that customers should not have to start over to achieve networking interoperability. This led us to adopt five key design goals:

* Open Transport must protect customer and developer investments in existing network infrastructure and applications.

* Open Transport must be based on existing cross-platform industry standards.

* Open Transport must provide users with an easy to set-up, easy to use abstraction of the underlying complexity of multiprotocol networking.

* Open Transport must also provide a complementary abstraction of networking and communications services for applications developers.

* Open Transport must offer a flexible run time model - one that lets a specific protocol be configured and selected at run time, rather than linked at compile time.

TA36122_Open_Transport_General_Information_FAQ_(TIL20550).pdf

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Open Transport 1.1.1: Key Features and Benefits FAQ

This article is the Open Transport 1.1.1, Key Features and Benefits FAQ (frequently asked questions).
This article has been archived and is no longer updated by Apple.

Question: How can Open Transport benefit users?
Answer: Open Transport provides individual computer users with many benefits. Two of the most immediately visible and important benefits relate to making networking more accessible - that is, easier to configure and easier to use.

For example, Open Transport makes it easy to switch from one network configuration to another. A computer user "on the go" might want to hook up to the Internet in various locations, each requiring a different network configuration. With Open Transport settings for each network location can be stored for easy access and use. Changed settings are available immediately - no reboot of the computer is required to use the new configuration.

Open Transport also integrates on-line help, based on Apple Guide technology, to make it easier for an individual to hook up to an network, with fewer demands on network manager and support resources.

Question: How can Open Transport benefit network managers and organizations?
Answer: Open Transport provides significant new flexibility in setting up network configurations; with Open Transport, the network manager can recommend or require configuration settings for users on the network, or allow users to determine their own settings.

Open Transport also improves support for centralized configuration management. For example, Open Transport/TCP supports the Dynamic Host Configuration Protocol (DHCP), allowing network managers to administer addressing and other TCP/IP configuration information from a central server.

Question: How can Open Transport benefit developers?
Answer: Open Transport is designed to make it easier and more cost-effective to develop Mac OS-applications for a wide variety of customers and markets. With Open Transport, Mac OS has built-in networking and communications based on cross-platform industry standards including the POSIX compliant X/Open Transport Interface (XTI), UNIX STREAMs and Data Link Provider Interface (DLPI).

Applications written to support Open Transport can directly support a wide range of networking environments (serial, dial-up network, LAN, and WAN), and multiple protocols (AppleTalk, TCP/IP, serial, and others) from a common code base. This capability is sometime" referred to as transport independence."

Question: What is transport independence? Why is it important?
Answer: Different people judge networking in different ways. End-users focus on what they can do using the network, and tend to select applications based on functionality and ease of use. Network managers are interested in delivering reliable network services in a cost efficient manner. Developers want to create compelling functionality for users, but are strongly influenced by the availability of networking infrastructure.

Unfortunately, with current networking tools and systems developers are forced to tie their applications to specific network infrastructure requirements - driven by their API choices. This creates a potential conflict between individual and organizational needs. If network managers restrict protocols to control support costs, users may not have access to the applications they need. If user require specific applications they may increase support costs for the network manager by "dragging along" specific network infrastructure requirements. Developer are stuck in the middle, making decisions for both users and network managers by selection of an API at compile time.

Transport independence is a concept that breaks this undesirable linkage. When implemented, it allows developers to write to a uniform set of APIs, users to focus on selecting the best applications, and network managers to make independent decisions about network infrastructure, all on an ongoing basis.

Question: What benefits can be realized from transport independent applications?
Answer: For end-users, transport independence brings an increased freedom to select applications that meet their needs, without being concerned with the bits and bytes of networking protocols. For network managers, transport independence allows increased flexibility in designing and controlling infrastructure demands

arising from support of end-user applications, that is, the freedom to manage the bits and bytes of networking protocols.

Developers who create transport independent applications will find access to broader markets with incremental resources; code written for the AppleTalk market, for example, can be delivered to TCP/IP markets as well.

Question: How does Open Transport enable transport independence?
Answer: Open Transport brings together four technologies to support the development and deployment of transport independent applications on Mac OS:

* a set of look-and-feel guidelines that promote consistency for configuration of network services across protocols,

* a unified set of cross-platform, standards based APIs for all networking and communications protocols; for example, applications can send and receive data over an AppleTalk LAN or the TCP/IP based Internet using the same programming interfaces,

* a dynamic link-and-load architecture and set of protocols; protocols are loaded and unloaded on demand, conserving system resources, and making it possible to substitute TCP for ADSP at application launch time (for example), and

* an addressing and naming support tool box; for example, applications can open a communications end-point by name (that is, "seeding.apple.com" or "printer16:LaserWriter@sales"; Open Transport will automatically provide the appropriate name-to-address mapping services (that is, DNR, NBP, and so on).

Together these support the creation of transport independent applications on Mac OS.

Question: Are all Open Transport applications transport independent?
Answer: No. While Open Transport provides the necessary foundation, there are certain guidelines and programming practices required for developers to create transport independent applications. For example, most protocols have many features in common - but also some features that are protocol-specific. If an application depends on a protocol-specific feature, then it will depend upon that protocol as well.

In some cases it may be appropriate or desirable to develop a transport-specific application. For example, an MBone client is currently only useful when communicating using TCP/IP.

Question: Does transport independence imply that an organization can offer "AppleTalk services" without supporting AppleTalk protocols?
Answer: For each service and network environment, protocol and services choices will be determined by a combination of factors; transport independence is only one of them.

This begins with both the client and the server implementations of the particular service of interest (file, print, e-mail, directory, security, back-up, calendar, and so on) supporting the Open Transport APIs. Next, both the client and server must have the protocol stack(s) of choice installed. Finally, the server application must include some administration utility to allow the network manager to specify the protocol(s) over which application and/or presentation layer services are to be provided.

The user experience for selecting the server (that is, "Choosing", or "name-binding") may vary depending on the underlying protocol. For example, AppleTalk offers a distinctive user experience through the "Chooser" and the underlying NBP/ZIP protocols. TCP/IP offers a substantially different model for name-to-address translation (DNS); NetWare/IPX still another (NDS).

Apple is committed to evolving Mac OS networking services, including but not limited to AppleEvents, FileSharing, electronic mail, and AppleShare to Open Transport and to transport independent operation.

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Question: In addition to providing for transport independence, how is the Open Transport standards based architecture important?
Answer: Although it might seem that the use and support of standards based APIs is of direct interest only to developers writing applications code, Apple's adoption of a fully standards based architecture for networking also has important benefits for individual users, network managers, and organizations. Some of these include:

* Porting of network protocols, drivers, and applications from other platforms (especially UNIX) to MacOS becomes easier, resulting in an even wider selection of networking software for the Mac OS,

* A larger developer community is focused on STREAMs than would be focused solely on the Mac OS, making it possible to leverage development efforts underway outside Apple - for example, Apple's demonstration of IPv6 (next generation TCP/IP) on the Macintosh platform in cooperation with Mentat Inc., and,

* Developers experienced in writing high-performance, high-reliability networking hardware and software for UNIX systems can apply their expertise directly to the Mac OS, accelerating the availability of similar solutions for Mac OS customers.

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Open Transport 1.1.1 and Mac OS System 7.5.3 FAQ

This article is the Open Transport 1.1.1 and Mac OS System 7.5.3 FAQ (frequently asked questions).

This article has been archived and is no longer updated by Apple.

Question: After installing System Update 2.0 (System 7.5.3) I've noticed that the Ethernet address of a system has changed from 00:A0:40:xx:xx:xx to 00:05:02:xx:xx:xx. Why? Is this due to Open Transport?

Answer: Apple was initially assigned Ethernet MAC (Media Access Control) addresses of 00:08:07:xx:xx:xx. Apple NuBus and on-board Ethernet implementations from 1989 through part of 1995 were given addresses from this range. In 1995, however, Apple began to reach the end of the available addresses in that range, and petitioned the IEEE for an additional vendor code (address range) assignment. We were granted 00:A0:40. Apple began using these new addresses (00:A0:40:xx:xx:xx) in some of our Ethernet implementations mid-year 1995.

MAC addresses are typically stored in an EPROM (erasable programmable read-only memory) on the Ethernet chip set, in "token ring format". This format has each byte stored in bit-reversed order. For example:

Ethernet format (hex):00A040
Binary equivalent: 0000 00001010 00000100 0000
Token ring format (hex):000502
Binary equivalent:0000 00000000 01010000 0010

Some Macintosh systems - the Power Macintosh 7200, 7500, 8500, and 9500 - and some Apple NuBus Ethernet cards had their MAC address unintentionally stored in Ethernet format; not in the standard token ring format. That is, rather than storing the address as 00:05:02:xx:xx:xx and then converting to yield the assigned address range of 00:A0:40:xx:xx:xx, the addresses were stored as 00:A0:40:xx:xx:xx and would convert to 00:05:02:xx:xx:xx on the wire.

At the same time, however, there was also a bug in the Open Firmware code for these same systems that caused them to NOT convert the address stored in the EPROM. The result was that the intended MAC addresses (00:A0:40:xx:xx:xx) were being used on the wire by these Ethernet implementations, even though they were not stored in the correct format. (A rare case of "two wrongs do make a right".)

Mac OS network utilities also access the EPROM to read MAC addresses, however, and correctly assume the token ring format. Thus they convert stored addresses at the application layer before presentation to the user. When running on one of the affected systems, such a utility would report an address of 00:05:02:xx:xx:xx, even though a network analyzer packet trace would show an address in the range 00:A0:40.

Because the Open Firmware bug did not apply to Apple NuBus Ethernet cards with MAC addresses in the new range (Open Firmware is a PCI specific technology), the MAC addresses WERE converted from 00:A0:40:xx:xx:xx to 00:05:02:xx:xx:xx, resulting in the use of unauthorized addresses on the wire. Fortunately, the 00:05:02 range was still unassigned, and these cards did not create interoperability problems.

Upon original discovery of this situation, Apple quickly petitioned the IEEE and was granted the 00:05:02 range. This was in addition to the already approved 00:08:07 and 00:A0:40 ranges.

System Update 2.0 (System 7.5.3) includes a fix for the Open Firmware bug that impacted the Power Macintosh 7200, 7500, 8500, and 9500 systems. Once updated to Mac OS System 7.5.3, these systems will now convert their address before use, and as a result appear as 00:05:02:xx.xx.xx on the wire. This change impacted a Open Firmware component, and was not a part of Open Transport v1.1.

Note that because Apple has been granted use of the 00:05:02 range, these PCI Mac OS systems now have properly stored and communicated addresses. This change brings consistency to the behavior of all Apple on-board and NuBus Ethernet implementations, and allows Apple and third party network management utilities to correctly read and report these addresses to users without requiring new versions of utility software.

These changes were necessary to assure ongoing standards compliance, and to remedy the compatibility issues with network management utilities. However, they may impact networks including the Apple Ethernet implementations noted above. Specifically, any network access and configuration services which depend upon statically configured MAC addresses will require reconfiguration by the network administrator once System 7.5.3 is introduced into the environment. Such services can include BootP, DHCP, RARP, certain firewall and security products, some routing Access Control Lists, and smart Ethernet hubs incorporating MAC-level security.

The 00:A0:40 address range is now reserved for future Apple expansion, at such time as the 00:08:07 and

00:05:02 ranges are exhausted. This situation did not effect Power Macintosh 7200, 7500, 8500, and 9500 systems or other Apple Ethernet implementations with physical Ethernet addresses in the original 00:08:07 range.

Question: Does System 7.5.3 require the use of Open Transport?
Answer: System 7.5.3 supports and includes both classic and Open Transport networking.

Doing an Easy Install of System 7.5.3 on an 68030, 68040, or NuBus PowerPC Mac OS system installs Open Transport v1.1 and classic networking. Easy Install on a 68000 or 68020 Macintosh will install only classic networking. Easy Install on PCI Mac OS systems will install only Open Transport.

Question: Why does System 7.5.3 include both classic and Open Transport networking?
Answer: System 7.5.3 includes both classic and Open Transport networking to support a Universal System Folder, which could provide networking services for any Mac OS system, from the Mac Classic to the most powerful PowerPC.

Question: Since both Open Transport and classic networking are included with System 7.5.3, which network software will actually be used?
Answer: The networking software used by System 7.5.3 depends upon four factors:

* the configuration of the system where 7.5.3 was installed;

* an initial stored preference, established at system software installation time;

* the configuration of the system currently being booted, which might be the same as or different from the system where 7.5.3 was installed; and

* the user's change to the stored preference, if any.

Together these factors determine the networking software system loaded at system startup (boot) time:

* Classic networking will load and run when booting System 7.5.3 on a 68000 or 68020 Macintosh, even if Open Transport is also installed;

* Open Transport will load and run when booting System 7.5.3 on PCI Mac OS systems meeting Open Transport minimum memory requirements, even if classic networking is also installed;

* Both classic and Open Transport options are available on 68030, 68040 and NuBus PowerPC Mac OS systems meeting Open Transport minimum memory requirements. The networking software used at boot time is selected based upon the stored preference.

When System 7.5.3 is Easy Installed on these machines, the initial preference is to load and run classic networking. Open Transport can be enabled using the Network Software Selector utility, discussed below.

If Open Transport is Custom Installed from the System Update 2.0, or installed using the stand-alone Open Transport installer, the initial preference is to load and run Open Transport networking. Classic networking can be enabled using the Network Software Selector utility.

* Classic networking will load and run when booting MacOS systems with less than 5 MB (680x0) or 8 MB (PowerPC) total system memory.

  If this constrained-memory situation occurs on a 68030, 68040, or NuBus Mac OS system, classic networking will load and run, with full support for AppleTalk and MacTCP.

  If this constrained-memory situation occurs on a PCI Mac OS system - perhaps due to the definition of a large RAM disk - classic networking will become available, but will be limited to support only for AppleTalk on LocalTalk; no TCP/IP services will be available.

Question: What happens if a boot device is moved to a different system after the preference has been established?
Answer: The stored preference for network software will be honored, if possible, at boot time. Whenever the system configuration being booted meets the minimum requirements for the preferred network software, it will load and run. If the stored preference has been deleted, or is not appropriate for the system being booted, the rules noted above around minimum and recommended memory size, processor, and bus type determine which network software system loads.

Question: Why is the network software preference initially set during system installation time? Wouldn't checking system configuration at boot time be a more flexible way to support the Universal System Folder?
Answer: As described above, a number of system configuration checks are made at boot time - including processor, bus type, and system RAM - and influence the choice of network software when booting a Universal System Folder.

On Mac OS systems that support both networking software systems, however, an initial preference is established based on system configuration at installation time. For the majority of users, this system (the installation system) is the same one as where the System Folder being created will be used. In these cases, the update / installation script establishes a preference based on the recommended memory configuration (vs. the minimum required memory, which is still always tested at boot time).

There are two reasons for doing this in this manner:

* Testing for minimum memory requirements at system start-up time assures a compatible hardware-software combination each time a system is booted. If a system configuration changes to fall below Open Transport's minimum memory requirements - which might happen due to reconfiguration, or by moving an external boot device to a different system - System 7.5.3 automatically drops back to classic networking to provide basic connectivity to the outside world.

* When there is no stored preference, System 7.5.3 selects between classic and Open Transport networking based on the system configurations described above. As this check is based on total memory (including VM but less RAM disk), in the absence of a preference, a seemingly unrelated user action such as turning VM on or off could change the network system used at (next) boot time. For example, enabling VM on an 8 MB system would provide at least 9 MB RAM at next startup, moving the system from classic to Open Transport "unexpectedly"; turning on a RAM Disk could cause another reversal. Thus, setting an initial preference "locks in" a predictable behavior.

Question: How can a user specify a preference for a specific network software system, overriding the system installation preference?
Answer: Apple has developed a utility called the "Network Software Selector" (NSS), which allows a user to indicate a preference for classic or Open Transport networking. Network Software Selector is distributed as a part of System 7.5 Update 2.0, and in other System 7.5.3 configurations - it is located in the Apple Extras Folder.

NSS may not be supplied in all configurations of System 7.5.3; for example, PCI Mac OS systems manufactured with System 7.5.3 pre-installed may not have the Network Software Selector utility included, because these systems require Open Transport.

To indicate a preference, the user launches NSS and clicks the radio-button control indicating either classic or Open Transport networking. After quitting NSS, the system must be re-started for the preference to have a change to take effect.

Question: Does the Network Software Selector allow a user to specify a preference for a networking system that is "not valid" for the current system configuration?
Answer: Yes, with the Network Software Selector it is possible to set a preference for classic networking while currently booted on a PCI Mac OS system, or to set a preference for Open Transport while booted on a

68000 or 68020 Macintosh. This is designed to allow an administrator to prepare an external boot device with an Universal System Folder that has a configuration different than their own machine.

The Network Software Selector indicates a user preference; the actual network software loaded is determined when the system is booted. If a preference for Open Transport is set but the device is a 68000 or 68020, classic networking would load, ignoring the preference. If that boot volume is moved to a Power Macintosh 9500, Open Transport would load, as this PCI system requires Open Transport. Move the boot volume to a Quadra 800 and restart; Open Transport would load based on the stored preference.

Question: Can the stored preference be deleted? Why might this be a useful action?
Answer: The preference for network software system is stored as a part of the AppleTalk Prefs file, kept in the System Folder. Deleting this file will also delete the stored preference.

In some support environments it may be useful to create a Universal System Folder that does not include a stored preference. For example, if a network administrator's system is configured differently from the systems found with end-users, the preference set at system software installation time (based on the configuration of the administrator's system) may not be optimum for end-users' systems.

If all of the end user population is configured similarly, the network administrator could use the Network Software Selector utility to modify the stored preference before distributing system software. However, if end-users' system configurations vary widely, deleting the preference would have the effect of deferring the selection of network software to boot time for each individual user.

Should an end-user want to "lock-in" a preference for their system, they would need to simply launch and then close the NSS utility on their machine. This records the network system currently in use as the preference.

Question: When might a user want to use NSS to enable Open Transport, disabling classic networking?
Answer: The Network Software Selector provides System 7.5.3 users an easy way to update to Open Transport networking, without requiring custom system software installations.

Open Transport should be enabled when the user is ready to take advantage of any of Open Transport's features, such as multiple saved network configurations, reconfiguration without restart, support for PowerPC native code; when the user want to run Open Transport-ready or Open Transport-enhanced applications; or when a network manager requires the use of Open Transport to connect to a centrally administered network.

Of course, users that have previously dropped back to classic networking in order to maintain compatibility with an older network application will want to re-enable Open Transport once the application has been updated.

Question: When might a user override the default for Open Transport and specify a preference for classic networking?
Answer: The Network Software Selector provides an easy way to temporarily drop back to classic networking, if needed, on systems that support both networking models. There are two reasons why there might be a call to do so:

* a need to maximize RAM available for running applications, especially if VM is turned off; or,

* a need to run older networking software that is not yet Open Transport compatible.

Before dropping back to classic networking, users are encouraged to check with the application developer to find out if an Open Transport-compatible or Open Transport-ready version of the application is available.

Question: On systems that support both classic and Open Transport networking, how are configuration preferences managed? How does the Network Software Selector interact with these preferences?
Answer: When initially installed, Open Transport AppleTalk and TCP Preferences files are created based on the current settings for classic networking. The Prefs files will each contain a single configuration, entitled "Default". Classic settings are not modified by this installation process.

When booted with Open Transport active, classic networking components and preferences are hidden, and Open Transport initializes with the default configurations. Should the system switch back to classic networking at

a later time, Open Transport settings are hidden and the saved classic settings are restored.

Each time the system switches between classic and Open Transport - whether through the use of the Network Software Selector utility or by moving an external boot volume from system to system (where different memory sizes or processor types could cause a switch) - this process will be repeated.

Note that after the initial installation, there is no exchange of configuration information between classic and Open Transport networking. If changes are made in network addressing, and so on while running classic networking, those changes will not be in effect up on switching back to Open Transport. The inverse holds true as well.

For AppleTalk users this would very rarely be any sort of problem, as AppleTalk dynamic addressing and dynamic naming would typically adjust to the system environment at network initialization time.

For TCP/IP users, this could create the potential for some confusion if a user installed Open Transport but continued to run classic networking for a while -- making some configuration changes during that time. Later, when they enable Open Transport networking using the Network Software Selector utility, they'll find that the default Open Transport/TCP configuration reflects their "old" MacTCP settings, not the most recent version.

While there is some potential confusion for users in this behavior, Apple looked carefully at the alternatives, including the possibility of converting information every time the stored preference for network system changed. That approach would have resulted in more frequent and more difficult end-user problems, so was abandoned in favor of the single-conversion at installation time.

Question: On systems that support both classic and Open Transport networking, how are control panels managed? How does the Network Software Selector interact with these files?
Answer: During the boot process, a Mac OS system running System 7.5.3 checks for the stored preference for networking software as described above. Once the selection of network software has been determined and validated, the load process also causes the appropriate control panels -- "Network" and "MacTCP" for classic networking; "AppleTalk" and "TCP/IP" for Open Transport -- to be "unhidden". Those associated with the disabled network software are hidden (made invisible).

For the Network Software Selector "show and hide" mechanism to work, it is very important that all files associated with networking be stored in their original and proper locations, with their original file names. Users should not rename these files, nor should they partially install or de-install networking software by dragging copies of files into or out of the System Folder.

Question: Does the Network Software Selector allow running Open Transport on a 68000 or 68020 Mac? If not, why not?
Answer: While NSS can change the stored preference to Open Transport at any time, the preference will be honored at boot time only on those models that can use Open Transport - 68030, 68040, and PowerPC Mac OS systems.

68000 and 68020 systems always load and run classic networking. Open Transport was not engineered to support these two older processors as the overall processor and system memory requirements associated with Open Transport's additional features are generally higher than that available in these older systems.

Question: Does the Network Software Selector allow running classic networking on a PCI Power Mac? If not, why not?
Answer: While NSS can change the stored preference to classic networking at any time, that preference will be honored at boot time only on those models that can use classic - 68030, 68040, and NuBus PowerPC Mac OS systems.

However, certain Mac OS systems with PCI - designed for entry-level markets, where users' networking needs and system memory configurations may be limited - may ship with a default preference to initially support only AppleTalk on LocalTalk using classic networking. On these systems, a user can easily enable Open Transport using NSS when they are ready to take advantage of PCI network cards, or when they want to gain direct access to TCP/IP networks such as the Internet.

Classic networking is not generally supported on PCI Mac OS systems for a number of reasons:

* PCI Mac OS systems are based on PowerPC, and only Open Transport provides

PowerPC native code;

* Apple simultaneously adopted hardware and software standards for networking by supporting PCI networking via Open Transport's DataLink Provider Interface (DLPI) driver architecture;

* Many of the new features provided by Open Transport, such as multiple saved configurations, reconfiguration without restart, and support for current standards (DHCP, IP multicast, and so on) would have been technically difficult or impossible to retrofit to classic networking; and,

* Open Transport prepares the way for the Copland release of Mac OS, by carefully defining an execution model consistent with protected memory and preemptive scheduling.

Question: Can MacTCP be installed on a system running Open Transport?
Answer: With System 7.5.2 it was possible - although not recommended or supported - to install MacTCP on PCI Mac OS systems through drag-copy of specific files. Beginning with System 7.5.3, this is no longer possible.

In order to meet the requirements of the Universal System Folder, System 7.5.3 automatically hides files associated with classic networking on systems where Open Transport is in effect (and correspondingly hides Open Transport files on systems where classic networking is running). If a user installs MacTCP on a PCI machine - where Open Transport is always active - the "just installed' MacTCP files will be automatically be hidden by the Mac OS immediately upon reboot of the system. This could be confusing to users who may not be aware that this software configuration (MacTCP on PCI machines) is not supported.

If, for any reason, it becomes necessary to reinstall MacTCP on a 68030, 68040, or NuBus PowerPC Mac OS system running Open Transport, the end-user must first use the Network Software Selector utility to specify a preference for classic networking and reboot the system. Only after the reboot will MacTCP and the other components of classic networking be visible. The converse would also be true for Open Transport on these machines - only the currently running network system is visible and can be modified or updated.

Question: Does System 7.1.x support both classic and Open Transport networking?
Answer: System 7.1.x continues to support classic networking, and gains the option of running Open Transport v1.1.

Customers running 7.1.x on 68000 and 68020 systems will continue to use classic networking; Open Transport v1.1 will not install on these systems. (System 7.1.x does not support PCI Mac OS systems.) Customers running System 7.1.x on 68030, 68040, and NuBus PowerPC Mac OS systems can use either classic or Open Transport networking. To enable Open Transport, users must run the Open Transport installer, available as a part of the stand-alone retail distribution package.

Question: Is the Network Software Selector available for System 7.1.x customers?
Answer: No, the Network Software Selector is a feature only found in System 7.5.3.

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Open Transport 1.1.1: Network Compatibility FAQ

This article is the Open Transport 1.1.1, Network Compatibility FAQ (frequently asked questions).
This article has been archived and is no longer updated by Apple.
Question: Is Open Transport interoperable with installed AppleTalk and TCP/IP networks?
Answer: Open Transport 1.0.x is compatible with existing AppleTalk and TCP/IP networks at the "packets on the wire" level. Organizations can introduce one, a few, or hundreds of new Mac OS systems running Open Transport into their environment without worrying about interoperability with existing networking services.

Question: There have been reports of problems with the PCI Mac OS systems when transferring large files over Ethernet networks. Is this due to running Open Transport software?
Answer: Apple has received reports describing problems transferring large files from PCI Macintosh systems to a variety of AFP servers. The reports state that file transfers stop and a -1072 error is generated. The reports also state that after the problem occurs, both AppleTalk and TCP/IP services are lost and systems must be restarted to restore them. If Ethernet traces are taken, they show that the system disappears from the network.

This problem has been identified as a bug in the Ethernet driver that can exhibit itself if there is a lot of PCI bus activity. In this case, it is possible that Ethernet DMA will start to transmit a packet, and an under run will occur because DMA cannot get enough bandwidth to transfer the entire packet to the Ethernet controller. If this condition occurs more than 10 times in sequence, the bug in the driver causes it to not recover the buffers associated with the under run. The driver allocates 10 buffers; when they are gone the transmitter will not longer be able to send packets. This problem could occur in some normal situations with a lot of disk activity.

This problem is present only in the built-in Ethernet drivers that shipped with the Power Macintosh 7200, 7500, 8500, and 9500 systems prior to the availability of System 7.5.3. (The first Power Macintosh 9500 systems shipped with v1.0 of this driver; the Power Macintosh 7200, 7500, and 8500 systems shipped with v1.0.1.)

Apple has released an updated driver that fixes this problem, first available as version 1.0.2 of the "Ethernet (Built-In)". The most current version of this driver is included with System 7.5.3.

Question: There have been reports of problems with the Power Mac 7200/90 and it operation on Ethernet networks. Is this due to running Open Transport software?
Answer: Apple has determined that under certain network conditions, independent of the protocol being utilized, a Power Macintosh 7200/90 may fail to send large packets over it's built-in Ethernet The trouble mode is that the 7200/90 may lock-up, time-out, or have extremely slow Ethernet performance under certain conditions. These conditions generally occur only when transferring large packets of data over large and busy networks.

The problem has been isolated to the 7200/90 system logic board, and is limited to the subset of 7200/90 systems with a serial number lower than "XX544XXXXXXX". No other Power Macintosh, Power Macintosh LC, Performa or PowerBook models experience this problem, including the 7200/75. The problem is not related to Open Transport.

Apple has proactively notified customers of this issue, and has instituted troubleshooting procedures to make it easy to determine if a system is impacted. All manufacturing sites have implemented a logic board change and Power Macintosh 7200/90 systems currently available should not be affected by this issue.

If a customer has completed the troubleshooting procedures and finds that their 7200/90 experiences the trouble mode, they should contact their local Apple Authorized service provider or call Apple (1-800-SOS-APPLE in the US) to be advised on how to have the logic board replaced free of charge.

Question: There have been reports of problems with connecting the Power Mac 7200 to token ring networks. Is this due to running Open Transport software?
Answer: Currently, the Apple PCI Token Ring Card will not work with the Power Macintosh 7200. Apple is working on a solution that will provide support for Power Macintosh 7200 models and will advise Apple Authorized Service Providers when that solution becomes available. This problem is due on a bus timing issue and is not related to the use of Open Transport software.

Question: Open Transport doesn't seem to send packets larger than 1500 bytes on a token ring network. Is this normal?
Answer: Due to limitations in Apple's currently available token ring drivers, an artificial limit is imposed on the maximum packet size. This limit is planned to be addressed in a future version of driver software. Open Transport fully supports larger frame sizes.

Question: Is Open Transport compatible with existing Internet Service Provider offerings?
Answer: Open Transport/TCP currently supports dial-up connectivity to TCP/IP networks, including the Internet, through backward compatibility

with select third party software modules known as mdevs.

With the appropriate software installed, end-nodes can use either SLIP or PPP to connect to Internet Service Providers and other dial-up IP-access points. Not all versions of all mdevs are supported by Open Transport compatibility services, thus it is important that recommended versions of software be installed for the greatest level of compatibility.

It is also very important that TCP/IP addressing and other configuration information be properly configured. As there is a new human interface provided by Open Transport/TCP, there are some differences in the process as compared to the older MacTCP software. In particular, when running TCP/IP over a SLIP or PPP link only, it is recommended that the "router address" and "subnet mask" fields be left blank in the TCP/IP control panel.

Question: Which MacTCP dial-up extensions ("mdevs") are supported by Open Transport/TCP?
Answer: Apple has worked together with third party developers to test a variety of mdevs with Open Transport 1.1. The following mdevs, when installed, will appear listed by name in the "Connect Via:" pop-up menu in the TCP/IP control panel:

* FreePPP - Apple and the developer recommend that you use version 1.0.5
or more recent.

* InterPPP II - Apple and the developer recommend that you use version 1.1
or more recent.

* InterSLIP - Apple and the developer recommend that you use version 1.0.1
or more recent.

* MacSLIP - Apple and the developer recommend that you use version 3.0.2
or more recent.

* MacPPP - Apple and the developer recommend that you use version 2.1.4 SD
or more recent (version 2.2.0 is not recommended).

* SonicPPP - Apple and the developer recommend that you use version 1.0.2
or more recent.

Question: Earlier versions of this Q&A listed VersaTerm SLIP as compatibile with Open Transport. What is the current status?
Answer: After additional testing and field experience, Apple and Synergy Software have jointly determined that there is a compatibility problem between the current releases of VersaTerm SLIP and Open Transport. Apple and Synergy are continuing to investigate and work towards a solution.

Question: Are any other mdevs recognized by Open Transport?
Answer: There are a number of third party PPP mdevs that are all derived from a common technology base, FCR PPP. The derivative implementations have not been individually tested by Apple, although Apple and FCR have worked closely together in testing the core technology.

Each of these derivatives registers with Open Transport using the same "signature". When any one is installed, it will appear as "TCP/IP PPP" in the menu, rather than as it's own brand name. These include:

* About Software FCR PPP
* 4-Sight 4-Sight PPP
* InterCon InterPPP
* Network Telesystems NTS PPP
* Pacer Software PacerPPP
* SAT/SAGEM PlanetPPP
* Tribe TribePPP
* White Pine Software WhitePine PPP

Users are always encouraged to check with the third party developer of interest for the most recent information on versions and compatibility.

Question: Is PPP connectivity distributed as a bundled component of Open Transport v1.1.1?
Answer: Not at this time. Apple is developing an Open Transport implementation of PPP, for support of TCP/IP and AppleTalk protocols. When available, current plans call for OT/PPP to be included with future distributions of Open Transport.

Question: Does Apple currently offer a solution for SLIP or PPP dial-up to the Internet?
Answer: Yes. The Apple Internet Connection Kit (AICK) is a selection of the most popular Internet applications from third party companies, including the Netscape Navigator and RealAudio Player from Progressive Networks, as well as Claris Emailer Lite.

AICK 1.1 includes MacPPP 2.5 (Version 1.0 included MacPPP 2.1.4) along with the Apple Internet Dialer - software designed to make it simpler for Mac OS customers to register with a qualified Internet Service Provider (ISP) and get connected to the Internet. To help users work with their Internet applications, the Apple Internet Connection Kit includes AppleGuide software for on-line assistance.

Question: Does the Apple Internet Connection Kit require Open Transport?
Answer: The Apple Internet Connection Kit (AICK) can support either MacTCP 2.0.6 or Open Transport/TCP 1.x. Customers should update their copy of AICK with the Apple Internet Dialer 1.1. This revision of the dialer is fully compatible with Open Transport 1.1 and System 7.5.3

Question: What is MacPPP 2.5 / 2.1.4? Is it available on the Internet?
Answer: MacPPP 2.5 and 2.1.4 are derivatives of the MacPPP 2.1.x SD versions of Merit's PPP. They include code contributed by Apple engineering to enhance compatibility with Open Transport/TCP.

Question: There have been reports of problems with Open Transport, PPP, and the use of Virtual Memory. Is Open Transport compatible with Virtual Memory?
Answer: Open Transport fully supports the use of virtual memory. However there were some problems with MacPPP versions 2.1.x SD and versions of FreePPP prior to 1.0.4; MacPPP 2.5 and FreePPP 1.0.5 have corrected these problems. Users are advised to update to the most recent version of the software, or temporarily turn VM off.

Question: Are there known limitations to backward compatibility mdev support?
Answer: Due to some shortcomings in the Open Transport 1.0.x backward compatibility services, there were some additional limitations with earlier versions of Open Transport:

* Some mdevs were not be able to auto-dial, that is, automatically connect
to the service provider when launching a TCP/IP application. This has
been addressed with updated versions of mdevs.

* Once a TCP/IP application launched and used a SLIP or PPP mdev, use of a
different mdev could have required restarting the Macintosh.
Disconnecting from and re-dialing a service provider could also have the
same effect. This has been corrected in Open Transport v1.1.

Question: Are there differences in configuring Open Transport/TCP and MacTCP for Internet Service Providers (ISPs)?
Answer: Some ISPs do not strictly follow standards, which call for assigning end-node IP addresses on the same subnet as the router (gateway). Open Transport strictly enforced this requirement in versions prior to 1.0.7. In versions since OT 1.0.7 (including 1.1), the TCP/IP Control Panel automatically generates a compatible router address to facilitate connectivity to the ISP. To take advantage of this feature, the user simply leaves the router and subnet mask fields empty when configuring Open Transport/TCP for dial-up access.

Question: If a user needs an updated copy of an mdev, where can they find the software?
Answer: Sources for software vary, as some products are commercial, and some are shareware or public domain.

* FreePPP is shareware and can be found on a variety of Internet sites;
typically at "info-mac" mirror sites in the comm/tcp directory. A list
of info-mac mirror sites can currently be found at:

http://www.info-mac.com/mirrored.html

Some sites where FreePPP can be found currently include:

ftp://mirrors.aol.com/pub/info-mac/comm/tcp/

ftp://mirror.apple.com/mirrors/Info-Mac.Archive/comm/tcp/

* InterPPP and InterPPP II are commercial software products. For
availability and ordering information contact InterCon Systems, US
+1(800) 468-7266 or (703) 709-5500.

* MacSLIP is commercial software developed by Hyde Park Software. For availability and ordering information contact TriSoft, US +1(800) 531-5170 or (512) 472-0744.

* VersaTerm SLIP is commercial software developed by Synergy Software. For availability and ordering information contact Synergy, US +1(610) 779-0522.

* MacPPP (v2.1.4) is available as a part of the Apple Internet Connection Kit, Apple Computer Inc., US +1(800) 462-4396 for fax information or +1(800) 538-9696 to locate an Apple reseller near you.

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Open Transport 1.1.1: Network Interface Options FAQ (10/96)

This article is the Open Transport 1.1.1, Network Interface Options FAQ (frequently asked questions).

This article has been archived and is no longer updated by Apple.

Question: What network interface options are available with Open Transport?

Answer: Open Transport v1.1 supports PCI and NuBus NICs, CommSlot and built-in (LocalTalk and Ethernet) network adapters. For models without slot-based expansion options, Open Transport v1.1 supports SCSI-attached network adapters, including PC Cards compliant with the Macintosh PC Card specifications.

NIC options available for Open Transport include Ethernet, token ring, fast Ethernet, FDDI, and ATM.

Question: What about dial-up network connectivity solutions?

Answer: For connectivity to AppleTalk networks, Open Transport v1.1 and greater is fully compatible with Apple Remote Access v2.0.1 client and personal server.

For dial-up connectivity to TCP/IP networks including the Internet, Open Transport recognizes third party MacTCP software extensions (known as mdevs), providing SLIP or PPP connectivity. See Network Compatibility for more information.

Apple has now reached the beta milestone with a new, PowerPC native implementation of PPP for Open Transport. This software, OT/PPP, will support TCP/IP connections in its first released version, with AppleTalk on PPP (ATCP) in a future version.

Question: Does Open Transport influence or restrict the choice of modems for dial-up communications?

Answer: No. Open Transport provides a new, consistent programming interface for serial communications from within system software. However, there are no changes in the external behavior of the serial ports based on the presence or absence of Open Transport on a system.

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Open Transport 1.1.1: Network Planning & Admin FAQ

This article is the Open Transport 1.1.1, Network Planning & Administration FAQ (frequently asked questions).
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Question: Does Open Transport offer network managers more control over Mac OS networking?
Answer: Yes. Open Transport allows network managers to specify details of the network connection and configuration in advance, via a "preferences" file. These configurations may contain a mixture of user-provided information and network manager recommended and/or network manager required settings. Recommended data provides a default for the end-user, while required configuration data is locked with an administrator's password.

Open Transport configurations can be prepared on one machine and distributed to other systems. To support this, the Open Transport configuration utilities allow a configuration to "exported" and "imported". Exported configurations can be distributed via electronic mail, a file server, or even "sneaker net".

Question: Will Open Transport require organizations to make changes in network administration, planning, or design?
Answer: The first Open Transport protocols - AppleTalk and TCP/IP - offer new features that give a network manager more flexibility and control. Some of these features, when implemented in a network environment will require additional thought and planning by a network manager.

In particular, Open Transport/AppleTalk adds support for the use of static (manually assigned) AppleTalk node addresses. If implemented, a network manager may prefer to assign addresses based on a pre-designed protocol address management plan. Open Transport/TCP adds support for the Dynamic Host Configuration Protocol (DHCP). DHCP allows network managers to allocate IP addresses and other configuration information from a DHCP server. Optimum deployment of DHCP services within an enterprise requires planning.

In order to better conform to applicable standards, Open Transport/TCP also has somewhat more rigorous requirements regarding the content and format of the local HOSTS file. This could require some updating of existing MacTCP-compatible host files. See TCP/IP Features for more information.

Question: Does the use of AppleTalk manual addressing increase the requirement for network administration?
Answer: Open Transport/AppleTalk offers network administrators a choice. Sites that prefer to have the network infrastructure automatically assign unique protocol addresses can continue to rely on AppleTalk Address Resolution Protocol (AARP). Sites that find advantage in having fixed and well-known protocol addresses for each end-node can implement manual addressing.

When manual addressing is selected there will be a requirement to allocate and assign the initial protocol addresses, which will subsequently be "locked". Some administrators may prefer to do this allocation based on a central numbering plan, creating individual configuration templates (recommended or required settings) for each user. Others may prefer to allow the network to determine the initial address configuration (that is, use dynamic addressing once), and then lock the uniquely assigned addresses after initialization.

It is important that all nodes on each individual AppleTalk subnet (a given cable segment assigned a unique network number or network number range) be administered consistently - either all with dynamic addressing or all with pre-assigned static addresses. This avoids a potential conflict between a new dynamic node acquiring an address assigned to an off-line, manually-addressed node. Administrators can enforce the addressing policy for a subnet by locking the addressing mode in the "dynamic" or in the "manual" state. As an administrative precaution, however, Open Transport/AppleTalk does continue to check for the presence of duplicate protocol addresses on the LAN when static addressing is configured.

Question: Are there other benefits that arise from the new support for AppleTalk manual addressing?
Answer: Yes. Manual configuration of static AppleTalk addresses supports Mac OS products that utilize WAN datalinks where non-full-mesh topologies are important. This includes datalinks such as Frame Relay, SMDS, and ATM.

Question: Does Open Transport/TCP support BootP?
Answer: Yes. Open Transport v1.1 fully supports Boot Protocol (BootP).

With Open Transport v1.0.x, there was an error condition in which Open Transport would fail to accept a BootP

Reply if it were sent to the unicast (subnet broadcast) address, that is, xxx.xx.x.255; replies sent to the all-nets broadcast address (that is, 255.255.255.255) were handled properly. Both situations are correctly handled by Open Transport v1.1.

Open Transport 1.1 now also supports BootP gateways located 1 or more hops away. Earlier versions of Open Transport required that the BootP gateway be zero hops away.

Question: Which DHCP servers are supported by Open Transport/TCP?
Answer: Apple's implementation conforms to the current versions of the applicable specification documents (RFCs). To date, Open Transport/TCP has been tested with the following DHCP server implementations:

* Competitive Automation,
* FTP Software http://www.ftp.com
* Hewlett Packard HP-UX http://www.hp.com
* Microsoft Windows NT Advanced Server
* Silicon Graphics http://www.sgi.com
* Sun Solaris and SunOS http://www.sun.com
* TGV http://www.tgv.com

Question: Does Open Transport/TCP support DHCP address leases?
Answer: Yes. Open Transport/TCP fully supports DHCP address leases. Open Transport/TCP will automatically attempt to renew any address lease that reaches it's renewal interval, which defaults to half of the lease's lifetime. (The Renewal Interval may be configured to a different value by making changes to the configuring DHCP server). Renewal will be attempted regardless of how many times the lease has already been renewed.

Should an interface's IP address lease expire, the interface will be closed down.

Question: Are there interoperability issues of note regarding DHCP servers?
Answer: Some DHCP servers require padding to a fixed packet size; other servers do not accept padded packets. Open Transport 1.1 and greater automatically adapt to the type of DHCP requests that a given server accepts, while earlier (1.0.x) versions sent non-padded packets.

Network managers should also note that Open Transport 1.1 and greater support DHCP gateways located one or more hops away. Earlier versions of Open Transport required that the gateway be zero hops away.

Question: Can Open Transport/TCP act as a DHCP client to a Windows NT Advanced Server?
Answer: Yes. With Open Transport v1.1, Mac OS clients are fully interoperable with the Windows NTAS DHCP server.

Macintosh clients running earlier versions of Open Transport (1.0.x) could experience some of the following interoperability problems due to differences between the Microsoft implementation and that of a typical UNIX server.

* Clients running Open Transport v1.0 or v1.0.1 were not able to acquire leased IP addresses.

  This was due to unusually long reply-time-out values used in the NTAS implementation. Open Transport v1.0.6 was changed to accommodate NTAS behavior in this regard.

* Clients running Open Transport versions prior to v1.0.8 would be incompletely configured via DHCP.

  NTAS sends only IP address, IP address lease information, the configuring server's IP address, and a subnet mask. Investigation revealed that other configuration options entered in the NT DHCP server's database (default gateway address, domain name server addresses, domain name, broadcast address, and so on) were not sent unless specifically requested by the client using the DHCP Parameter Request List option.

Apple believes that requiring use of this option in order for the client to be properly configured is contrary to the DHCP server specification described in RFC 1541 (Dynamic Host Configuration Protocol), and it appears to be unique to the NTAS implementation. However, in interest of interoperability, Open Transport v1.0.8 and v1.1 use the Parameter Request List option to request default gateways, DNS servers, domain name, subnet mask, and broadcast address. This permits Open Transport/TCP clients to be fully configured by these servers, at the expense of a few additional packets on the wire during the initialization phase.

Question: Can Open Transport/TCP act as a WINS client to a Windows NT Advanced Server?
Answer: No, not at this time. The Microsoft WINS server is dependent on Microsoft extensions to TCP/IP (requiring NetBIOS support) that provide some automation for assignment and registration of IP host and domain names. The Internet Engineering Task Force (IETF) is developing a cross-platform industry standard technology for dynamic registration and look-up of IP names through the Dynamic Service Location working group. Apple has no current plans to implement the WINS extensions. Instead, we are fully committed to implementation of the applicable IETF standards as they emerge. We welcome customer feedback on this topic - should sufficient demand for a WINS client materialize, we'd be open to exploring this issue. A future Mac OS WINS client would be dependent upon Microsoft releasing sufficient technical detail regarding their proprietary extensions to IP to make an interoperable implementation possible.

Question: When installing and configuring Open Transport, are there any additional issues of note for network managers?
Answer: The following comments have been developed based on feedback from customers.

* Because the new domain name resolver supplied with Open Transport/TCP is both more capable and more standards compliant than the one included with MacTCP, configuration changes may be desirable or necessary. For example, although common practice in configuring MacTCP, it is no longer necessary to repeat the primary DNS server address in the configuration.

* Network managers should note that although the TCP/IP control panel can properly receive and utilize multiple gateway and name server addresses from a DHCP server, only the first one returned has been displayed in the TCP/IP control panel. This has been resolved in OT 1.1.1.

* Error -3205 can result if the user has manually modified (moved, renamed, or deleted) files installed by Open Transport. Both the Shared Library Manager and Shared Library Manager PPC files must be present on a PowerPC Mac OS system. In general, users should not attempt to modify the OT installation through any means other than the Apple supplied installer scripts.

* Users are occasionally encountering an error message like 3Cannot open connection to DNS Name Server2 when trying to run classic MacTCP applications. This can result if the user has manually modified (moved, renamed, or deleted) files installed by Open Transport. The MacTCP DNR file must remain in the System Folder at the root level for backward compatibility to function.

* With System 7.5, TCP/IP support was included but was not automatically installed (it required a Custom Install action). As of System 7.5.3 and Open Transport, TCP/IP services are always installed. However, if there are no MacTCP preferences on the target disk, TCP/IP is installed with a default configuration specifying configuration via MacIP in the current AppleTalk zone, but it is set to 3Never Load2. To enable TCP/IP, use the TCP/IP Control Panel in the Advanced or Administrator mode and select the Options dialog.

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Open Transport 1.1.1 and Servers FAQ

This article is the Open Transport 1.1.1 and Servers FAQ (frequently asked questions).
This article has been archived and is no longer updated by Apple.

Question: What role does Open Transport play for servers?
Answer: The Open Transport architecture is designed to provide server applications: file, print, database, e-mail, directory, and other: with a foundation for higher performance and for more flexible configuration, while maintaining the historical differentiation of Mac OS servers - ease of configuration and administration.

Question: How will Open Transport enhance server flexibility?
Answer: Open Transport introduces the capability of activating more than one network connection at the same time, using the same networking protocol. This capability is known as multihoming, and enables servers to support more clients, to offer greater total performance, and to increase the reliability of mission critical applications.

Open Transport also enables the development of transport independent applications. This will be especially valuable for server applications which need to be deployed in AppleTalk, or TCP/IP, or NCP/IPX, or other protocol environments.

Question: How will Open Transport enhance server performance?
Answer: Servers, as network-aware applications, gain access to the higher performance PowerPC native implementation of networking protocols that Open Transport provides. To exploit this performance opportunity, server applications must be accelerated for PowerPC and must utilize the new Open Transport XTI APIs.

Severs will also benefit through access to new high-speed PCI datalink implementations such as fast Ethernet and ATM.

Question: Will Apple's server products such as AppleShare exploit Open Transport features?
Answer: Yes. AppleShare 4.2.1 is the first version of AppleShare to be both PowerPC native and Open Transport ready. It takes advantage of other Open Transport features as well, including support for multihoming.

Question: Are PCI Mac OS systems with Open Transport recommended as application servers?
Answer: Apple recommends that server application developers adopt Open Transport v1.1 as the basis for new network applications development as soon as is possible within their product life cycles. As these updated versions of server software become available customers will find that the combination of PCI, Power Macintosh, and Open Transport makes a great platform for flexible, high-performance network applications.

It should also be noted that Apple generally recommends the Apple Workgroup Server product family, rather than re-purposed desktop hardware, for use as server platforms.

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Open Transport 1.1.1: Performance FAQ

This article is the Open Transport 1.1.1, Performance FAQ (frequently asked questions).
This article has been archived and is no longer updated by Apple.

Question: Is Open Transport native on PowerPC Mac OS? Does this make networking faster?
Answer: Open Transport is written to take advantage of the PowerPC processor - it is native code. This provides the necessary foundation for significantly increased networking performance in Mac OS. To realize the performance gains at the application level, however, it is equally important that networking applications also be accelerated for Power Macintosh, and that applications adopt the new Open Transport XTI programming interfaces.

The compatibility services for existing AppleTalk and TCP/IP applications run as 680x0 code in emulation on Power Macintosh. This protects a customer's investment in networking applications, but also obscures - or in some cases, outweighs - the underlying performance increases from the native protocol implementations.

Question: Does Open Transport PowerPC native code include drivers for Macintosh onboard Ethernet
Answer: PCI Power Macintosh systems ship with a PowerPC native DLPI driver for built-in Ethernet Power Macintosh 6100, 7100, and 8100 models currently have 680x0 drivers.

Question: Will existing networking applications see performance improvements with Open Transport on PowerPC Mac OS systems?
Answer: In general, current Mac OS networking applications are written for the 680x0 processor and use the classic networking programming interfaces. These are not likely to see performance boosts with Open Transport, as most of the performance potential comes from the move to native code for the PowerPC processor. Even for PowerPC native applications, use of the backward compatibility libraries offsets most of the performance gains in the low level protocol handling.

Users that select PowerPC native applications that are Open Transport-ready will realize the greatest performance gains. Performance of specific network applications may also be significantly influenced by the underlying processor speed of the system. Customers with demanding, network I/O intensive applications should give strong consideration to the higher performance PowerPC Mac OS systems.

However, even with existing applications using backward compatibility, TCP/IP users are likely to see some performance improvements with Open Transport. This is because of the differences in the way compatibility is provided for MacTCP vs. AppleTalk, and differences in the two protocol architectures.

Question: Will networking applications see performance improvements with Open Transport on 680x0 based applications?
Answer: Not in general, as most of the potential for increased performance with Open Transport comes from the move to PowerPC native code. However, users may find that Open Transport TCP exhibits superior performance to MacTCP, especially under adverse networking circumstances (slow links, noisy lines), due to its more robust implementation and more sophisticated error handling and recovery.

Question: When will new or updated applications that support the native Open Transport APIs become available?
Answer: Applications that are PowerPC native and Open Transport ready are available now. Users are urged to contact the specific third party vendor of interest for more details on their specific products.

Question: How is Open Transport performance being measured?
Answer: Apple has established plans for measuring the performance of Open Transport and related system components through four benchmark test suites:

* SpudPPC - this low-level benchmark tool focuses on measuring the raw throughput potential of Open Transport. It supports both AppleTalk and TCP/IP protocols, is PowerPC native code, and uses Open Transport programming interfaces. Because it measures point-to-point, memory-to-memory data transfers, it most directly measures the performance of Open Transport.

  Because this test has the most direct access to Open Transport (the

application layer is "thin"), and because it is fully accelerated for PowerPC, this benchmark will generally indicate an upper bound on the performance potential of Open Transport.

* AppleShare file copy - this end-user benchmark focuses on measuring the throughput of the AppleShare client while drag-copying a file from the Mac OS desktop using the Finder. It is specific to the AppleTalk protocol suite, runs in 680x0 emulation, and depends upon backward compatibility services to access Open Transport networking. Because it measures user-perceived throughput of a complete application chain, this test only indirectly measures the performance of Open Transport.

  Because this test depends upon emulated code, backward compatibility, and AppleTalk protocols, this benchmark will generally indicate a lower bound on the performance potential of Open Transport.

* Fetch 3.x - this end-user benchmark focuses on measuring the throughput of the popular ftp client, Fetch. It is specific to the TCP/IP protocol suite, runs as PowerPC native code, and uses Open Transport programming interfaces. Because it measures user-perceived throughput of a complete application chain, this test only indirectly measures the performance of Open Transport.

  Because this test is PowerPC native, Open Transport ready, and is based on TCP/IP protocols, this benchmark will generally tend toward the upper bound on the performance potential of Open Transport.

* ZD Labs NetBench 4.0 - this suite of benchmarks is designed to test file server implementations. It is specific to the AppleTalk protocol suite, runs in 680x0 emulation, and depends upon the File System and backwards compatibility services to access Open Transport networking. Because it measures user-perceived throughput of a complete client-server environment, this test only indirectly measures the performance of Open Transport.

  Because this test depends upon emulated code, backward compatibility, and AppleTalk protocols, this benchmark will generally indicate a lower bound on the performance potential of Open Transport. However, because it interacts with an AFP server - which may be PowerPC native and Open Transport ready - it can be useful in measuring the multi-client scaleability of file server implementations built on Open Transport.

Only a combination of tests can provide good coverage, as user-perceived networking performance is heavily influenced by a combination of a number of Mac OS components including the file system, the Finder, driver code, and the applications used to move data across the network.

Question: How much faster will native Open Transport applications be?
Answer: Networking performance is influenced by many factors. As noted elsewhere in this document, customers will see the highest performance when using PowerPC native applications that fully support Open Transport APIs.

Performance potential will be greater with protocols that use larger datagram sizes, such as TCP/IP, than with AppleTalk which has a fixed and limited datagram size. On high-speed datalinks such as fast Ethernet, FDDI, or ATM, both the performance of the network interface card (NIC) driver code and the number of allocated buffers are significant factors.

Open Transport has been clocked at over 9.3 Mbps using the SpudPPC tool. A pre-release version of a third party implementation of NFS was benchmarked at over 8.4 Mbps. Both figures approach theoretical maximum performance for 10 Mbps Ethernet

Question: What about high-speed networking connections like fast Ethernet, ATM, and FDDI?
Answer: Benchmarking on fast Ethernet, FDDI, and ATM datalinks has been underway for some time. Some sample results include:

* 48 Mbps with a Rockwell fast Ethernet card and driver (1500 byte block size)

* 72 Mbps with a Rockwell FDDI card and driver (4K block size)

* 93 Mbps with an Interphase ATM-155 card and driver (8K block size)

These tests were performed using Open Transport/TCP 1.1 beta software, running on a Power Macintosh 9500/132, using the SpudPPC tool.

Other tests, such as a the one conducted by Fore Systems on their 155 Mbps ATM cards, have shown even higher throughput. In one test, Fore was able to transmit UDP over their LAN-E stack on ATM (using 1500 byte datagrams) at over 100 Mbps.

AppleTalk performance is lower than TCP/IP performance due to the smaller DDP packet size and the ATP retry-acknowledgment algorithm. Current testing on fast Ethernet is turning in figures around 35-45 Mbps with a PowerPC native ATP test tool. This is a significant performance improvement, and further progress should be realized as application code is revised to take full advantage of Open Transport and PowerPC.

Question: Does Open Transport support the use of large datagram sizes? Does datagram size have an impact on network throughput?
Answer: Maximum allowable datagram size is dependent on both the selected datalink and the selected protocol stack. Open Transport supports the use of large datagram sizes as appropriate to the protocol and datalink in use.

Because Open Transport/AppleTalk is based on the Phase 2 architecture, datagram size for AppleTalk is limited to a maximum of 617 bytes. Open Transport/TCP supports larger datagrams; up to 1,500 bytes on Ethernet and fast Ethernet, and up to 16K on token ring; even larger block sizes can be used on FDDI and ATM.

Block size does play a role in maximum throughput; the larger the block size used, the greater the potential end-to-end throughput. Users demanding the highest network throughput may find FDDI to be a more attractive alternative than fast Ethernet because it can support larger block sizes at the same bit rate.

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Open Transport 1.1.1: System Requirements FAQ

This article is the Open Transport 1.1.1, System Requirements FAQ (frequently asked questions).
This article has been archived and is no longer updated by Apple.

Question: Which Mac OS systems can take advantage of Open Transport?
Answer: Open Transport is designed to work on portable and desktop Apple Macintosh or Mac OS compatible computers with a Motorola 68030 or 68040 family microprocessor, or a PowerPC 601, 603(e), or 604 microprocessor.

Apple recommends running Mac OS System 7.5.3 with Open Transport, although the earlier System 7.1, 7.1.1 and 7.1.2 releases are also compatible. System 7.5.3 requires a minimum of 4 MB (680x0) or 8 MB (PowerPC) total memory; Open Transport requires a minimum of 5 MB (680x0) or 8 MB (PowerPC).

Systems running Open Transport may be able to benefit from larger than minimum memory configurations when using FDDI or ATM, as these datalinks can provide increased performance by taking advantage of larger datagrams and buffer sizes. Effective use of additional system RAM for buffers is application dependent.

Question: How do settings such as Virtual Memory and RAM disk affect Open Transport's minimum memory requirements.
Answer: Open Transport minimum memory requirements are based on total system memory including VM, less the size of any RAM disk and Disk Cache defined.

Question: How is the Memory Available as reported by the "About this Macintosh..." dialog related to Open Transport's actual memory requirements.
Answer: The "About this Macintosh..." dialog reports on both the total free memory and the largest block of contiguous free memory. In practice, the latter figure is a better indicator of whether an additional application can be launched.

If a user repeatedly opens (launches) and closes (quits) multiple applications that use Internet networking services, and if the user has set Open Transport TCP/IP preferences to load networking services only when needed, this can, over time, result in a situation where Open Transport loads into memory "between" other running applications. This "memory fragmentation", in turn, can result in a smaller value reported by "About this Macintosh..." for free contiguous memory. In extreme cases, this could limit the number of concurrent applications that a user could run.

If this situation arises, Apple recommends use of the Advanced Mode of the TCP/IP Control Panel to access the Options dialog; remove the "X" in the "Load only when needed" option. After restarting the system, Open Transport TCP/IP will load when called on by an application for the first time, but will then remain loaded. This will help avoid memory fragmentation.

Open Transport 1.1.1 includes some additional internal changes designed to reduce the frequency and significance of memory fragmentation due to the dynamic loading and unloading of TCP/IP. Depending on the pattern of use, however, it may still be desirable to disable the "load only when needed" option as discussed above

Question: Does Open Transport require more system RAM than classic networking? If so, how much more, and why?
Answer: Open Transport provides many new features and capabilities to Mac OS customers and, in general, will require more system memory (RAM) than does classic networking. However, the actual memory requirements of Open Transport are dynamic; they vary depending upon the networking services in use at a given time. This is different from classic networking, which allocates memory to networking services and keeps it allocated even after networking services are no longer in use.

Factors which contribute to differences in memory requirements include:

* Open Transport provides implementations of networking as both 680x0 and native PowerPC code; RISC code is typically larger - but also faster - than CISC programming,

* Open Transport provides "mixed-mode" applications support, making it possible for both PowerPC native and 680x0 applications to use native networking on PowerPC Mac OS systems,

* Open Transport includes both the new implementations of networking and the libraries required to provide backward compatibility support for the older AppleTalk and MacTCP programming interfaces,

* Open Transport is very "VM-friendly", and has a lower memory footprint on systems with virtual memory enabled; classic network has about the same footprint regardless of the VM setting,

* Open Transport is based on the cross-platform standard STREAMs environment, which increases the total size of the implementation as compared to the proprietary classic networking implementation, and,

* To lay the groundwork for Copland's protected memory model, Open Transport allocates memory for TCP/IP applications in the system area; MacTCP allocated memory in each application.

Thus the difference in memory requirements will depend upon which configurations are measured. Some examples of base memory requirements include:

* On a PowerPC system with VM on, classic AppleTalk and MacTCP require about 350-450K; Open Transport will require about 200K to load; in other words, Open Transport base memory requirements are about 200K smaller.

* On a 680x0 system with VM off, classic AppleTalk and MacTCP require about 350-450K total system memory; Open Transport will require about 700-800K to load; in other words, Open Transport is about 350K larger.

* On a PowerPC system with VM off, classic AppleTalk and MacTCP require about 350-450K; Open Transport can require up to 1.2 MB to load, in other words, Open Transport is about 800K larger.

Question: Why does Apple recommend System 7.5.3 (System 7.5 Update 2.0)? What about System 7.5, 7.5.1, and 7.5.2?
Answer: Open Transport internal and external testing included work with all Mac OS system software releases from System 7.1 forward, however, Apple1s testing was most concentrated on System 7.1.x and System 7.5.3.

In moving from earlier versions of System 7.5 to System 7.5.3 a user1s system will benefit from a number of updates and bug fixes that -- while not a part of Open Transport -- can improve system performance and reliability on the network for a variety of tasks, including printing and file transfers. The combination of the deeper test coverage and the important system updates that are a part of the system software update leads the Open Transport team to overall recommend System 7.5.3.

System 7.1.x users are encouraged to evaluate their needs and to consider updating to System 7.5.3.

Question: Was Open Transport 1.1 released in Japan for System 7.5.2? If so, why isn't this generally recommended?
Answer: Apple did not provide Kanji localized versions of Open Transport 1.0.8; thus, Kanji customers with PCI Mac OS systems had not been able to benefit from the fixes released in OT 1.0.8. Because of the lead times required to localize System 7.5.3 for Kanji, Apple elected to complete the localization and testing of Open Transport 1.1 independently of plans to localize System 7.5.3-J.

This decision resulted in delivery of Open Transport 1.1-J for System 7.5.2-J customers. This is a regional exception to Apple's overall recommendation to use Open Transport 1.1 in combination with System 7.5.3. When KanjiTalk 7.5.3 becomes available, Apple will recommend that all KanjiTalk 7.5.2 customers update to 7.5.3.

Question: Why didn't Open Transport 1.1 support Power Macintosh 5200/5300/6200/6300 desktop computers?
Answer: Very late in the final quality assurance cycle of Open Transport 1.1, the OT team was notified of a reproducible crash affecting some, but not all, customers with Power Macintosh or Performa 5200/5300/6200/6300 desktop computers.

Rather than delay the release of OT 1.1 and System Update 2.0 (System 7.5.3) further - which both brought many

significant improvements to MacOS customers - the Performa, Open Transport, and System 7.5.3 teams working together decided that the best alternative was to disable OT 1.1 on these systems until the problem(s) were fully identified and an appropriate solution could be implemented and tested.

After additional research, this problem was isolated as a hardware issue. In response, Apple announced an Repair Extension program.

Open Transport 1.1.1 - which includes Apple Shared Library Manager 2.0.1 - (re-)enables Open Transport on these previously restricted Mac OS systems. OT 1.1.1 now includes a hardware test that runs at boot time. If OT is called for on a system affected by the hardware problem, a new dialog alerts the user that classic networking is being substituted, and directs them to consult their Apple service provider for hardware service.

Question: What models are included in the Repair Extension program; that is, which models require Open Transport 1.1.1 to take advantage of Open Transport?
Answer: The models included are:

* Power Macintosh 5200/75 LC, 5300/100 LC
* Macintosh Performa 5200, 5215, 5300
* Macintosh Performa 6200, 6205, 6214, 6216, 6218, 6220, 6230, 6290, 6300

Question: What is the nature of the hardware issue that led to the original decision to disable Open Transport on these systems?
Answer: These systems might experience a system freeze upon start-up. The system freeze may be caused by known component problems on the logic board. The Repair Extension program includes replacing the logic board, as appropriate, to correct the system freezes.

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Open Transport 1.1.1: TCP/IP Features FAQ

This article is the Open Transport 1.1.1, TCP/IP Features FAQ (frequently asked questions).
This article has been archived and is no longer updated by Apple.

Question: What are some of the features of Open Transport/TCP?
Answer: With the broad cross-platform adoption of TCP/IP - and the tremendous visibility of the Internet - Apple has made a significant investment in bringing a workstation-class implementation of TCP/IP protocols to Mac OS. As with Apple's earlier MacTCP, Open Transport/TCP is a full 32-bit stack.

Open Transport/TCP adds support for:

* dynamic path MTU discovery, for more efficient network use in heterogeneous network topologies;

* Dynamic Host Configuration Protocol (DHCP), for centralized IP address configuration management. DHCP is an Internet Engineering Task Force (IETF) standards-track protocol;

* IP multicast, for participation as an MBone client;

* simultaneous TCP connections limited only by installed memory and processor power, for increased functionality as a Internet or other TCP/IP network server;

* a new, more robust and standards-compliant domain name resolver (a caching stub DNR);

* support for RFC 1123 and RFC 793 TCP Urgent Pointer semantics;

* support for developer access to raw IP services, as well as TCP and UDP;

* Ethernet version 2 and IEEE 802.3 framing, for better interoperability with a wider range of TCP/IP hosts;

* implicit and explicit domain name search paths, for increased control of domain name resolution; and,

* multiple IP routers with fail-over, for increased robustness in mission critical applications.

Question: How does the new support for Dynamic Path MTU discovery work?
Answer: Open Transport/TCP sets the "don't fragment" bit in the IP datagram header on transmission unless the packet size is larger than the MTU for the network. Intermediate routers are required by current RFCs to send back an "ICMP can't fragment" error when presented with a "don't fragment" packet that cannot be forwarded without fragmentation with that MTU size. In that event, Open Transport/TCP moves to the next smaller MTU size for that path and re-sends the packet, again with the "don't fragment" bit set. This process automatically results in using the largest supported MTU size for off-subnet traffic.

Question: How does the new Open Transport/TCP domain name resolver (DNR) work?
Answer: The Open Transport/TCP DNR implements name-to-address (A), address-to-name (PTR), system CPU and OS (HINFO), and mail exchange (MX) queries. It does not implement negative caching, but depends on a local full service resolver to provide this facility. The DNR will always request recursion, but will follow references if recursion is not available.

The DNR caches name-to-address and cname-to-name mappings; this feature cannot be disabled. However, conforming to DNS practice, a reply that includes a Time to Live (TTL) of zero will result in a mapping that is used only once - it will not be cached and not be reused. (TTL values for DNS entries are configured by the administrator of the DNS server.) Unlike the older MacTCP DNR implementation, which has a cache limited to a maximum of nine entries, the Open Transport DNR is dynamically-sized with no hard limit; it expands as needed, limited only by the available system RAM.

The DNR does not cache host info (OS and CPU type information) nor does it cache Mail Exchange/Preference

information. It does not save name server references after a query is resolved; further queries begin anew at the configured name servers.

Fully qualified domains names or FQDNs (those ending with a "."), and provisional FQDNs (those containing at least one "." internally but not ending with ".") are submitted for resolution without manipulation. Otherwise the name is assumed to be a partially qualified domain (PQDN).

The first - but optional - step in PQDN resolution is the use of an Implicit Search Path. To be used, Implicit Search must first be configured using the Advanced or Administrator view by entering values in the "Implicit Search Path: Starting Domain Name" and "Ending Domain Name" fields. When so configured the DNR will attempt to change the PQDN to a FQDN for resolution by concatenating the PQDN with domain names in the ancestor hierarchy delimited by the Starting and Ending Domain Name values (that is, searching for a PQDN of joe could result in a search for joe.hdware.support.apple.com, joe.support.apple.com and joe.apple.com). Implicit searching stops when the FQDN is resolved, or when the Ending Domain Name value has been tried and fails (that is, joe.com would not be tried, assuming an Ending Domain Name value of apple.com).

If the PQDN has not yet been resolved (including the case where an Implicit Search Path was not configured), explicit Additional Search Domains are searched. For each Search Domain configured, name server(s) are contacted in the order specified in the Name Servers field. If the name is resolved in the first search domain from which an answer is returned other Search Domains will not be checked. Note that at least one Search Domain (roughly equivalent to MacTCP's Default Domain) must be explicitly configured in order to resolve any PQDNs.

If an authoritative answer that the "name-does-not-exist" is returned, the DNR immediately begins the search in the next configured Search Domain. The search continues through the configured Search Domains.

The DNR has an overall time-out of 2 minutes, after which it will abandon the search.

Question: Does Open Transport/TCP support a local HOSTS file?
Answer: Open Transport/TCP supports one or more HOSTS file, stored in the System Preferences folder, that may be used to supplement and/or customize the domain name resolver's initial cache of information. The selected file is opened and parsed when Open Transport/TCP is initialized. As with MacTCP, the supported HOSTS file features follow a subset of the Domain Name System Master File Format (RFC 1035).

Supported features include blank lines, comments (indicated by a semicolon), and data entry. Comments may begin at any location in a line; they may follow data entry on the same line. A comment extends from the semicolon to the end of the line. Data entry must follow the format:

```
<domain-name> <rr>
```

where <domain-name> is an absolute or Fully Qualified Domain Name, and where

```
<rr> = <type> <rdata> OR <type> <rdata>
```

The only <class> currently supported is IN (Internet Domain); <ttl>, time to live, indicates the record's configured lifetime in seconds; and <type> can be A (host address), CNAME (canonical name of an alias), or NS (name server). If <ttl> is not present the entry is assumed to have an infinite lifetime; this may also be indicated by specifying a value of minus-one (-1). $INCLUDE and $ORIGIN are not supported.

Open Transport/TCP is more stringent regarding the content and format of the HOSTS file than was MacTCP, which permitted violation of the FQDN requirement for . For instance, this format:

```
charlie                 A       128.1.1.1
```

which was acceptable to the MacTCP DNR, is no longer permitted because of the use of domain search lists in Open Transport/TCP (charlie could potentially exist in any or all of the configured domains). To accomplish the same effect, use this format instead:

```
charlie                 CNAME   myhost.mydomain.edu
myhost.mydomain.edu     A       128.1.1.1
```

This associates the local alias charlie with the fully qualified domain name myhost.mydomain.edu, and resolves it to the address 128.1.1.1. Use of local aliases is limited to CNAME entries; NS and A entries must use fully qualified domain names.

If a HOSTS file is used, every effort should be made to keep it as small as possible and to only include entries that will be accessed frequently. This reduces the total memory footprint required to cache the DNS information and minimizes the need to maintain and update the HOSTS files as system information changes over time.

In order to activate a HOSTS file, the Advanced or Administrator mode must be used to select the desired file. The text file must already exist; it could have been created with any text editor or word processor.

The HOSTS file is tied to the selected configuration. An administrator might, for example, specify different HOSTS files for use when connecting via Ethernet to the campus LAN and when dialing-in from a remote location. Thus, each OT/TCP configuration must individually specify a HOSTS file - even if the same one is to be used with each configuration.

Question: What are some of the changes to the human interface for Open Transport/TCP?
Answer: The Open Transport/TCP configuration application represents a complete overhaul of the human interface from the MacTCP software it replaces. In addition to generic new features noted elsewhere (multiple saved configurations, recommended and required settings, on-line documentation, and so on), key new features include:

* direct entry of IP addresses and subnet mask in standard "dot notation";

* explicit selection of desired configuration method, now including Manual, RARP, BootP, MacIP, and DHCP;

* support for attachment to networks using Classless InterDomain Routing (CIDR);

* support for multiple entries in the router, name server, and explicit domain search lists; and

* improved support for large AppleTalk networks when using MacIP server/gateways.

Question: Does Open Transport/TCP support MacTCP "Server" addressing?
Answer: MacTCP Server mode addressing is a combination of the Bootstrap Protocol (BootP) and Reverse Address Resolution Protocol (RARP) configuration methods. When Server mode is selected, MacTCP will use BootP to attempt to acquire an IP address. If BootP fails to provide a valid address it then tries RARP. Whichever protocol is successful is stored as a preference, and is used first on next system startup. While this "fall-back" approach adds a degree of robustness from the users point of view, it also adds a degree of unpredictability from a network administrators point of view.

Based on customer feedback, Open Transport/TCP has been designed to allow a network administrator to explicitly specify the single method they prefer to use. Thus while both RARP and BootP are individually supported, Server mode does not appear as a choice in the Open Transport/TCP configuration utility.

Question: Does Open Transport/TCP support MacTCP "Dynamic" addressing?
Answer: No. MacTCP "Dynamic" mode addressing was based on an Apple-proprietary extension to TCP/IP protocols, which applied the address negotiation and assignment rules used by the AppleTalk protocols to TCP/IP networks. This made it very easy to set-up a Mac OS only TCP/IP network, but could create additional work for a network administrator in more typical heterogeneous TCP/IP networks.

The Internet community (the IETF) has since developed a multivendor standard for the dynamic assignment of IP addresses, known as Dynamic Host Configuration Protocol (DHCP). Apple has adopted the industry standard DHCP and dropped support for the earlier Apple "Dynamic" mode addressing with Open Transport/TCP.

Question: What is MacIP?
Answer: MacIP, sometimes also referred to as KIP (Kinetics Internet Protocol), is a protocol specification developed as a method for carrying TCP/IP traffic on AppleTalk only networks - originally these would have been LocalTalk networks. MacIP is today frequently used in conjunction with AppleTalk Remote Access Protocol (ARAP) to provide mobile users access to TCP/IP network services. MacIP specifies encapsulation of TCP/IP

datagrams in AppleTalk packets for transmission over such connections.

Use of MacIP requires a gateway. AppleTalk encapsulated IP packets are sent to the gateway using AppleTalk protocols (DDP). The gateway strips off the encapsulation and places the IP packet on the TCP/IP LAN. When packets are destined for a MacIP end-node, the gateway provides the needed encapsulation services.

MacIP gateway support is most frequently offered as an integrated service within a multiprotocol router. The gateway (router) attaches to both an AppleTalk and a TCP/IP network, acting as a middleman between the MacIP end-node and the appropriate TCP/IP based hosts on the LAN or WAN.

Open Transport supports MacIP end-nodes. It is selected using the TCP/IP configuration utility by choosing "AppleTalk (MacIP)" in the "Connect via:" pop-up menu. The user (or network administrator) must also specify which zone contains the desired MacIP gateway. Once selected, TCP/IP will be encapsulated in AppleTalk and will be sent to the gateway via the NIC selected using the AppleTalk configuration utility.

Question: How is MacIP support improved with Open Transport/TCP?
Answer: Open Transport/TCP offers new features in the human interface for selecting the MacIP server, including:

* AppleTalk zones are now displayed in a scrolling list in a movable window. This display is easier to view compared to MacTCP's pop-up menu, especially when there are a large number of zones in the network.

* The Zone list window now supports selection using the mouse, the arrow keys, and/or "type-select", allowing the user to more quickly select a specific zone from the list.

* There is an option to display only those AppleTalk zones containing MacIP servers. When selected, this creates a background search task which when completed filters the zone list display to show only those zones containing active MacIP servers.

* There is a short cut "Current Zone" option which causes the Mac to check the current AppleTalk zone for a MacIP server without requiring the user to select a specific zone. This can be a time-saver for the user and a potential bandwidth-saver on the network, especially when there are mobile users that connect in different locations to a enterprise-wide network for MacIP services.

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Apple IIGS Connectors: Desktop Bus (9/95)

This article describes the Desktop Bus on the Apple IIgs computer.

This article has been archived and is no longer updated by Apple.
The Apple Front Desktop Bus connector is an intelligent interface capable of handling many input devices, hand controllers, graphics tablets, numeric pads, although it is currently used for the keyboard and mouse attachments. A serial interface (not a standard serial port), the Desktop Bus is controlled by its own built-in microprocessor, the 'ADB microcontroller'. Desktop Bus devices use inexpensive four-conductor cables and four-pin miniature DIN connectors. Additional devices can chain to devices already installed. Some devices already include a jack for connecting additional devices.

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21 Sep 1995 - Corrected minor typo. Reviewed for technical accuracy.

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At Ease 4.0: Auto-Mounting Server Volumes (10/96)

Will At Ease 4.0 let server volumes mount automatically without having to enter a name and password? In my lab, when a user selects a Workgroup they are prompted to enter a name and password for each volume marked to automatically mount. This happens for the volume designated as the place to Save the Workgroup data and any other volumes selected to mount when the workgroup is opened.

This article has been archived and is no longer updated by Apple.

Overview

Workgroup data volumes and other server volumes can automatically be mounted by At Ease 4.0. The At Ease Administrator adds the volumes to a list of "approved volumes". This is done by selecting "Access to Volumes" from the Security Menu in the At Ease Administration program. When a volume is added to the list the volume setting "At Ease Users will log in to this volume using:" defaults to "Users must enter their own name and password"

Before a volume will auto-mount (mount without prompting for a user name and password) the volume setting needs to be changed to use a predefined name and password.

Steps to configure Server Volumes

The steps to add server volumes to the list and change the volume settings are as follows:

1) From the At Ease Administration workstation, mount the server volume on the desktop. If it is to be a workgroup data server you must mount it using a name and password that has write privileges.

2) From the At Ease Administration program Security menu select "Access to Volumes".

3) Select the "Add Volume" button. This takes you to the Add Volume screen. Select the server volume and press the add button.

4) In the window of Approved Server Volumes select the newly added volume and click the Volume settings button.

5) In the settings window click the radio button stating At Ease users will log into this volume using "The user name and password for" below this options it reflects the name used to mount the volume on the desktop. This is not the default option for volumes added to the approved volumes list that is why the system forces the users to enter a name and password every time. The default is enter "Their own name and password"

With the volumes settings changed any volume designated as the workgroup location will auto-mount and not prompt the user to log in. The same is true for any other volumes marked to mount when a workgroup loads. Volumes are designated to mount via the Workgroup Login panel.

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Macintosh 5200/5300/6200/6300: Using Open Transport (11/96)

This article contains the questions and answers about using Open Transport on Power Macintosh and Performa 5200, 5300, 6200, and 6300 series computers.

Questions Answered in this Article
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1) Why didn't Open Transport 1.1 support Power Macintosh and Performa 5200, 5300, 6200, and 6300 series computers?

2) What was the cause of Open Transport 1.1 not working on the Power Macintosh and Performa 5200, 5300, 6200, and 6300 series computers?

3) Does Open Transport 1.1.1 work on all Power Macintosh 5200, 5300, 6200, and 6300 series computers?

4) What specific computer models are included in the Repair Extension Program and consequently require Open Transport 1.1.1 to take advantage of Open Transport?

This article has been archived and is no longer updated by Apple.

1) Question: Why didn't Open Transport 1.1 support Power Macintosh and Performa 5200, 5300, 6200, and 6300 series computers?

Answer: Very late in the final quality assurance cycle of Open Transport 1.1, the engineering team was notified of a reproducible crash affecting some, but not all, customers with Power Macintosh or Performa 5200, 5300, 6200, or 6300 series computers.

Rather than further delay the release of Open Transport 1.1 and System Update 2.0 (System 7.5.3)--which both brought many significant improvements to Mac OS customers--the Performa, Open Transport, and System 7.5.3 teams worked together to decide that the best alternative was to disable Open Transport 1.1 on these systems until the cause was fully identified and an appropriate solution could be implemented and tested.

2) Question: What was the cause of Open Transport 1.1 not working on the Power Macintosh and Performa 5200, 5300, 6200, and 6300 series computers?

Answer: The cause was isolated as a hardware issue caused by specific, known component issues that have been identified by Apple. Symptoms of these issues include frequent system freezes, which can be traced to these hardware issues. Apple initiated the Repair Extension Program to resolve these issues that some customers were experiencing.

3) Question: Does Open Transport 1.1.1 work on all Power Macintosh 5200, 5300, 6200, and 6300 series computers?

Answer: Yes, Open Transport (OT) 1.1.1 can be used on the Power Macintosh and Performa 5200, 5300, 6200, and 6300 series computers. However, when you install OT 1.1.1 on one of these computers, a dialog box may appear indicating that a hardware issue was detected. If this alert is displayed, Open Transport cannot be installed until the Cache/ROM DIMM is replaced. The required repairs are covered under the Apple Repair Extension Program. Contact an Apple-authorized service provider to have your computer repaired. (Your computer will continue to run classic networking until it is repaired.)

4) Question: What specific computer models are included in the Repair Extension Program and consequently require Open Transport 1.1.1 to take advantage of Open Transport?

Answer: The models included are:

* Power Macintosh 5200/75 LC, 5300/100 LC
* Macintosh Performa 5200, 5215, 5300
* Macintosh Performa 6200, 6205, 6214, 6216, 6218, 6220, 6230, 6290, 6300

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23 Oct 1996 - Changed distribution status.
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At Ease 4.0: Internet Prefs Not Copied Back to Server (10/96)

This article describes an Internet preferences issue copying back to an At Ease 4.0 Workgroup server.

This article has been archived and is no longer updated by Apple.

If the User Setting "Copy Internet User Preferences" is selected, the user preferences are copied from the server to the workstation when the user signs into any workgroup. When the user quits or restarts, the preferences are copied back to the server. However, if the user is logged into At Ease under a Finder workgroup, the Internet preferences are not copied back to the server.

The workaround is to switch to a Panels or Restricted Finder workgroup, with the At Ease menu, before quitting or restarting. The internet preferences will then be copied back to the server.

This issue will be addressed in a future release of At Ease. There is no known time frame for future At Ease releases.

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System 7.5.5 Update: For Non-US Systems Read Me (10/96)

This article is the System 7.5.5 Update, For Non-US Systems ReadMe file.

This article has been archived and is no longer updated by Apple.

Important information about System 7.5.5 Update for customers using non-U.S. English systems

On September 19, 1996, Apple Computer released System 7.5.5 Update for U.S. English systems. If your computer does not have the U.S. English version of System 7.5.3, you should not attempt to download and install the System 7.5.5 Update files located in this directory. As stated in the press update and Q&A document, Apple expects localized versions of System 7.5.5 Update to be available in many countries within 90 days after the U.S. introduction. Please contact your local Apple support center for local availability.

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System 7.5.5 Update Tips Read Me

This article is the System 7.5.5 Update Tips ReadMe file.
This article has been archived and is no longer updated by Apple.
System 7.5.5 Update: Tips for Installation

This document gives you late-breaking news about installing System 7.5.5 Update. Follow the instructions here to make installing System 7.5.5 Update as smooth as possible.

Installation when using Energy Saver version 1.2 and earlier. If you have Energy Saver version 1.2 or earlier on your system, you may experience problems installing System 7.5.5 Update. To determine the version of your Energy Saver, follow these steps:

```
1) Make sure you are in the Finder by choosing Finder from the Application
  menu at the top right of your screen.
2) Open your hard disk.
3) Open the System Folder.
4) Open the Control Panels folder.
5) Look for the Energy Saver control panel. If you don't see it, close the
  Control Panels window, open the Control Panels (disabled) folder, and
  look for the Energy Saver control panel. If you don't see the control
  panel in this folder either, you can install System 7.5.5 Update now.
6) Click the Energy Saver icon once to select it and choose Get Info from
  the File menu.
7) Look at the section called Version in the middle of the Info window.
```

If the version number is 2.0 or higher, you can install System 7.5.5 Update now. If the version number is 1.2 or lower, follow these steps:

```
1) Drag the Energy Saver control panel out of your Control Panels folder
  to your desktop.
2) Install System 7.5.5 Update.
3) Restart your computer.
4) Drag the Energy Saver control panel back to your Control Panels folder.
5) Restart your computer.
```

System 7.5.5 Update does not install QuickTime 2.5. System 7.5.5 Update is ready to work with QuickTime 2.5. However, the update does not install QuickTime 2.5. You must install QuickTime 2.5 separately. QuickTime software and updates can be found at:

http://www.apple.com/quicktime/

System 7.5.5 Update should not be installed on Apple Workgroup Servers. System 7.5.5 Update is not currently approved for installation on Apple Workgroup Servers.

System 7.5.5 Update should only be installed on U.S. English systems. System 7.5.5 Update will incorrectly install over systems based on languages other than U.S. English. You should not attempt to do this, as it may disable your system. Apple expects localized versions of System 7.5.5 Update to be available in many countries within 90 days after the U.S. introduction. Please contact your local Apple support center for local availability.

QuickTime 2.5 mentioned in this article is no longer available through Apple Software Updates. Please see http://www.apple.com/quicktime/ for QuickTime releases and download information.
Published Date: Feb 18, 2012

At Ease: Update History & How to Get Latest Version

With all the recent At Ease updates made available, which should I apply to my At Ease environment?
This article has been archived and is no longer updated by Apple.
At Ease 3.0 was released in summer of 1995 as both a workgroups and basic product. A few issues were reported by schools using the 3.0 workgroups product, and 3.0.1 was released late in 1995 to fix these issues and to increase performance. There was no concurrent release of the basic product to version 3.0.1 since the majority issues were network or workgroups related.

In early 1996, a security issue that existed in workgroups version 3.0 and 3.0.1 was found to cause an issue on certain IDE disk drives that required an immediate fix. Additionally, an incompatibility with Open Transport (shipped in System 7.5.3) caused issues with At Ease 3.0.x on some newer computers. Version 3.0.2 workgroups was created to fix these issues.

At Ease 3.0.3 is primarily a recompile of the current At Ease workgroups 3.0.2 sources, along with a small change to the basic admin application, At Ease Setup.

The At Ease 3 CDROM Prefs Patch fixes an issue discovered shortly after version 3.0.3 was released.

The following table summarizes how to get to the best update level.

What you have now	What to install to get the fixes for that version
At Ease (Basic) 2.0.x	At Ease Update 1.0
At Ease (WG) 2.0.x	At Ease 2.0.3 Update + At Ease Update 1.0
At Ease (Basic) 3.0	At Ease 3.0.3 Updater + At Ease 3 CDROM Prefs Patch -- or -- At Ease Update 1.0 + At Ease 3 CDROM Prefs Patch
At Ease (WG) 3.0.x	At Ease 3.0.3 Updater + At Ease 3 CDROM Prefs Patch
At Ease 4.0.1	At Ease 4.0.1 Updater

These articles can help you locate the software update mentioned here:

- Article 14724: "**Where To Find Apple Software Updates**" - Lists online services for free Apple software updates.

Published Date: Feb 18, 2012

System 7.5.5: Won‘t Work on Some Mac OS Compatibles (10/96)

I have read that System 7.5.5 will not work on some Mac OS compatible computers. Is this correct?

This article has been archived and is no longer updated by Apple.

This is correct. On some Mac OS compatible computers, System 7.5.5 will not work. You should use the version of the Mac OS installed on your Mac OS Compatible computer, or contact the manufacturer of your computer to find out what version of the Mac OS you can use.
Published Date: Feb 18, 2012

Apple IIGS Connectors: Drive Port

This article has been archived and is no longer updated by Apple.
A DB-19 female connector, the drive port on the back of the Apple IIGS is commonly refered to as the 'SmartPort'. Actually 'SmartPort' is a set of assembly language routines used to support block I/O devices. The 'SmartPort' firmware includes the Protocol Converter software used in the Apple IIc 3.5 ROM revision. Up to six drives (DuoDisk, Uni-Disk, Uni-Disk 3.5, Apple 5.25 Drive, Apple 3.5 Drive are all plug compatible with port) may be attached to the port at any one time.
Published Date: Feb 18, 2012

StyleWriter 1200: Use StyleWriter 1500 Driver to Improve Speed

I have a StyleWriter 1200 and a StyleWriter II printer. The StyleWriter 1200 takes longer to print the same document than the StyleWriter II does.
This article has been archived and is no longer updated by Apple.
You should use the StyleWriter 1500 driver with the StyleWriter 1200 printer. When you upgrade to the StyleWriter 1500 software, you will notice an increase in speed using the StyleWriter 1200 printer.

All customers who own a StyleWriter 1200 should upgrade to the StyleWriter 1500 printer software v2.2 or higher available from the Apple Software Updates Web site at http://www.apple.com/swupdates/ .
Published Date: Feb 18, 2012

Read Me for International Keyboards (10/96)

This article is the ReadMe for International Keyboards file.

This article has been archived and is no longer updated by Apple.

IMPORTANT KEYBOARD INFORMATION

This document provides late-breaking information that could not be included in the PC Compatibility Card User's Manual or in the DOS Compatibility Software Update User's Manual.

INSTALLING APPLE KEYBOARD FILES ON WINDOWS 3.1

1. Start Windows.
2. Insert the "International keyboard files" floppy in the drive.
3. Open the International control panel.
4. Select the desired language in the Keyboard layout area; then click OK.
5. In the Install Driver dialog box, click Browse.
6. Select the appropriate drive containing the keyboard file of the desired language. (Keyboard files have .dll file name extensions). The path is <floppy drive>\\KEYBOARD\\WIN31\\<language>\\<filename>.dll
7. Select the desired file, then close the control panel and restart Windows.

INSTALLING APPLE KEYBOARD FILES ON WINDOWS 95

1. Start Windows 95 and click the Start button.
2. Verify the keyboard file (file names have .kbd extension) for the desired language does not exist the System directory (under the Windows directory). Otherwise, delete it by dragging the file in the Recycle Bin and deleting.
3. Click on Settings; then select Control Panel.
4. Double click on the Keyboard icon.
5. Click on the Language tab.
6. If the language you desire to install already appears in the language list, select it and click on the Remove button.
7. Click on the Add button.
8. In the list that appears, select the desired language and click OK.
9. Click the name of the language whose keyboard layout you want to use; then click Set as Default.
10. On the bottom of the window, click on the Apply button.
11. At this point, a small dialog box for locating the keyboard file will appear if Windows is searching for the keyboard file for the first time.
12. Insert the "International keyboard files" floppy in the drive.
13. Click on the Browse button; then select the floppy drive.
14. In the Folders window, locate the folder containing the desired file, then click OK. The path is: <floppy drive>\\KEYBOARD\\WIN95\\<language>
15. Make sure to switch the language in the keyboard bar on bottom right hand (this bar is where the current time appears).
16. Restart any applications that were running during the keyboard installation to active recently selected keyboard file.

ADDITIONAL INFORMATION

The keyboard drivers included on the "International keyboard files" floppy correspond to the keyboard layout of the Apple Design Keyboard and the Apple ISO Extended Keyboard II. Some of the drivers are updates to the ones included on the PC Utility CD; users should install keyboard files from the floppy rather than from the CD.

Keyboard drivers are included for Window 3.1 and Windows 95 in support the following layouts: Belgian, British, Danish, Dutch, Finnish, French-Canadian, French, German, Italian, Norwegian, Spanish, Swedish, Swiss-French

In some drivers, the numeric separator in the numeric keypad does not match the separator of the Apple Design Keyboard and the Apple ISO Extended Keyboard II. If that is the case with your desired keyboard driver, you should enter the separator from the main portion of the keyboard.

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Monitors & Sound CP: Sound Out Doesn‘t Adjust RCA Volume

On my Power Macintosh 7500 computer I am trying to adjust the volume of the RCA Sound Out connectors. I have tried to adjust the volume using the Sound Out Level and Computer Speaker Volume in the Monitors & Sound control panel. But neither of these adjust the volume of the RCA Sound Out connectors.
This article has been archived and is no longer updated by Apple.
What you are describing is normal for the Sound Out connector. The RCA Sound out plugs in the back of several Power Macintosh models including the Power Macintosh 7500, 7600 and 8500 give a continuous "line-out" level used in most stereo equipment. There is no way to adjust the sound level of the RCA sound out level. You can mute the sound of the RCA sound out connectors by selecting Mute in the Computer Speaker Volume level in the Monitors & Sound control panel.

The purpose of the Sound Out Level volume control in the Monitors & Sound Control Panel is to adjust the volume of the headphone connector. With the two controls (Sound Out Level and Computer Speaker Volume), you can adjust the Internal computer speaker and the headphone connector independently of each other.

Note: Monitors & Sound control panel automatically mutes and un-mutes the Computer Speaker Volume when you plug a headphone plug into the headphone connector. You can go into the Control Panel and un-mute the control panel manually, but it defaults to mute when the computer is restarted.

This article appeared in the 21 October 1996 issue of Information Alley.
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Power Macintosh: Memory FAQ

This article contains the answers to frequently asked questions about memory expansion in Power Macintosh computers.

Note: The majority of this information is taken directly from the Developer Technical Support TECHNOTE: SIMMs to DIMMs: Making Sense Out of Memory Expansion for the Power Macintosh.

Questions Answered in this FAQ

1) Why has Apple transitioned memory expansion from 72-pin SIMMs to 168-pin DIMMs for Power Macintosh computers?

2) Why do SIMMs need to be installed in complementary pairs, when DIMMs can be added on a per module basis?

3) How does the PowerPC address memory?

4) What is memory interleaving and what advantage does it provide?

5) How is memory interleaving enabled?

6) What speed SIMMs and DIMMs are required for Power Macintosh computers?

7) Can faster speed memory modules be used in Power Macintosh computers and will they increase system performance, for example, 60 nsec instead of 70 nsec modules for a performance increase of 10 - 15 percent?

8) Can different speed memory modules be intermixed, for example, 60 and 70 nsec modules in a Power Macintosh computer that is specified at 70 nsec?

9) What does refresh rate or count refer to (such as, 1K, 2K, or 4K)?

10) How do Power Macintosh computers provide continuous refreshing?

11) How are different sized SIMMs and DIMMs -- 16 Mbytes, 32 Mbytes, etc. -- designed with different types of DRAM devices, such as 4M x 4, 2M x 8, and 1M x 16 parts?

12) Do Macintosh computers support composite memory modules?

13) Can memory modules with different refresh rates or counts be intermixed?

14) What is EDO memory and do Macintosh computers support it?

15) What is parity memory and do Power Macintosh computers support it?

16) What is ECC memory and do Macintosh computers support it?

17) My manual suggests that when upgrading my cache, I use Apple-branded cache. I would like to purchase a 512k cache module, but it does not appear that Apple sells this size. What size should I purchase?
This article has been archived and is no longer updated by Apple.
1) Question: Why has Apple transitioned memory expansion from 72-pin SIMMs to 168-pin DIMMs for Power Macintosh computers?

Answer: New Macintosh computers incorporating DIMMs provide a number of key advantages for an ever-increasing RAM footprint and memory-hungry applications (such as in multimedia development):
* a wider 64 bit data path
* higher memory capacity
* greater flexibility because systems do not require DIMMs to be installed in complementary pairs.

2) Question: Why do SIMMs need to be installed in complementary pairs, when DIMMs can be added on a per module basis?

Answer: The reason is because of differences in the "width" of the data bus. On SIMMs, the data bus is 32 bits wide while the data bus on DIMMs is 64 bits wide.

To span the PowerPC 64 bit data bus, SIMMs need to be installed in complimentary pairs . DIMMs, with their 64 bit data bus, can be installed individually in second generation Power Macintosh computers.

The only exception to this are some entry-level Power Macintosh computers, such as the Power Macintosh 5200/75 LC, which incorporate a PowerPC 603 processor configured with a 32 bit bus. In such computers, SIMMs are used for memory expansion and not installed in identical pairs.

3) Question: How does the PowerPC address memory?

Answer: PowerPC microprocessors are 32 bit processors that have 4 Gbytes of address space. This means that the processor instructions are encoded in 32 bits, and that they can address or access 4 Gbytes of data. Although the PowerPC has 4G of address space, only a portion of the 4G is allocated for main memory (DRAM memory). For example, the total RAM expansion on entry-level Macs can be as much as 136 Mbytes, while RAM expansion on Power Mac 9500 can be as much as 1.5G. The remaining portion of the address space is allocated for system ROM, PCI cards, system control, etc.

Data is transferred between the PowerPC and main memory via the 64 bit data bus by memory reads or memory writes.

There are two types of memory transactions: single- and four-beat transfers. A single-beat memory transaction reads or writes between one to 8 bytes of data. (Equating 8 bytes to 64 bits and noting that the data bus is 64 bits wide, the PowerPC can read or write eight bytes in a single memory operation.) A four-beat memory transaction reads or writes a cache block of 32 bytes to or from memory. Each of the four beats encompasses 8 bytes.

What's important to understand is that the memory bus is 64 bits wide and up to 8 bytes can be transferred in a single memory operation.

4) Question: What is memory interleaving and what advantage does it provide?

Answer: Even though the system data bus is 64 bits wide, the memory controller in Power Macintosh 7300, 7500, 7600, 8500, 8600, 9500, and 9600 computers can support 128 bit data read and write operations by interleaving data between corresponding DIMMS.

Memory interleaving provides higher bandwidth (MBytes per second) between the PowerPC microprocessor and main memory. It also provides a significant performance boost, increasing the execution speed of memory-intensive programs. How much faster depends on the program's software architecture and whether an L2 cache is present.

5) Question: How is memory interleaving enabled?

Memory interleaving is a function of the memory controller used in Power Macintosh 7300, 7500, 7600, 8500, 8600, 9500, and 9600 computers. Memory interleaving is enabled by the power-up software when it detects two DIMMs in corresponding expansion slots (such as, A1 and B1, A2 and B2, and so on) that are the same density, have the same memory bank configuration, and have the same DRAM addressing modes.

6) Question: What speed SIMMs and DIMMs are required for Power Macintosh computers?

Answer: The access time of DRAMs used to expand memory on most Power Macintosh computers are 80 nsec, 70 nsec, and faster, as we move into the future. Always be sure to check memory expansion specifications for your particular computer before making a purchase.

7) Question: Can faster speed memory modules be used in Power Macintosh computers and will they increase system performance, for example, 60 nsec instead of 70 nsec modules for a performance increase of 10 - 15 percent?

Answer: Faster speed memory modules will most likely work fine in Power Macintosh computers, for example, 60 nsec instead of 70 nsec modules. This will not increase CPU performance, however. The PowerPC processor will not access memory any faster with faster memory module speed, since Power Macintosh computers do not use memory module speed sense lines.

Note: Apple recommends that for memory expansion that you stay with the speed specified for the computer. Although faster devices most likely will work, keep in mind that these are untested configurations.

8) Question: Can different speed memory modules be intermixed, for example, 60 and 70 nsec modules in a Power Macintosh computer that is specified at 70 nsec?

Answer: As long as memory modules speeds are equal to or less than the Power Macintosh-specified memory speed, installing different speed modules should have no impact on the Power Macintosh computer's functionality.

9) Question: What does refresh rate or count refer to (such as, 1K, 2K, or 4K)?

Answer: The term "4K refresh," for example, refers to the number of refresh cycles required to refresh all sections of the memory array and is determined by the number of row addresses. (12 addresses will address 4096, or 4K, locations. Similarly, 11 addresses will address 2048, or 2K, locations.)

Data stored in DRAM devices is volatile. To maintain data integrity, DRAM requires a power source and continuous refreshing.

DRAMs are specified at different refresh rates that may or may not be compatible with a particular PC model. Macintosh computers are compatible with widely available DRAM devices.

For example, below are three common 16 MBit DRAM devices used to construct SIMMs or DIMMs.

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Organization	Refresh-Addressing	Refresh-Addressing
4M x 4	4K - 12/10	2K - 11/11
2M x 8	4K - 12/9	2K - 11/10
1M x 16	4K - 12/8	1K - 10/10

.

This information demonstrates that 4M x 4 devices come in 4K and 2K refresh rates, with 12/10 and 11/11 addressing, respectively. Addressing notation refers to a matrix array organization where 4K refresh devices (12/10) have 12 row addresses and 10 column addresses. Likewise, 2K refresh devices (11/11) have 11 row addresses and 11 column addresses. Both modes (12/10 & 11/11) have 22 address lines (number of column plus row lines) which is required for an address space of 4,194,304 (or 4M) locations, each of which contains a 4-bit word.

Note: 4M x 4 refers to a DRAM device with an address space of 4M locations, each containing a data word 4 bits wide. (4M x 4 equals 16 Mbits; DRAM devices are usually referred to by size [total number of bits].)

10) Question: How do Power Macintosh computers provide continuous refreshing?

Answer: The power source and refreshing are provided as long as the computer is powered on. The Memory Controller in Apple Macintosh and Power Macintosh computers generate a CAS (Columb Address Strobe) before RAS (Row Address Strobe) refresh cycle every 15.6 msec. DRAM devices contain an address refresh counter which is triggered by a CAS before RAS memory cycle.

A 16 MBit (11/11) device with an 11 row address - referred to as a 2K refresh part - requires all row address combinations (2048) to be accessed every 32 msec. A 4K refresh device (12/10) requires 64 msec to refresh all row addresses. DRAM row addresses are refreshed by the Refresh Address Counter, which is triggered by a CAS before RAS refresh cycle.

The importance, therefore, lies less in whether or not a Macintosh CPU supports 1K, 2K, and/or 4K refresh DRAM parts than whether the Macintosh Memory Controller and DRAM devices have compatible addressing schemes, and whether the DRAM devices are compatible with CAS before RAS refresh cycles every 15.6 use.

11) Question: How are different sized SIMMs and DIMMs -- 16 Mbytes, 32 Mbytes, etc. -- designed with different types of DRAM devices, such as 4M x 4, 2M x 8, and 1M x 16 parts?

Answer: Consider three different DIMM modules designed using 4M x 4, 2M x 8, and 1M x 16 devices: DIMM #1, DIMM #2, and DIMM #3.

Remembering that DIMMs and SIMMs have a 64 bit and 32 bit wide data bus, respectively, the following examples can be applied to SIMM modules by using half the number of devices to span 32 bits.

DIMM #1
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This is a 32 Mbyte DIMM using 4M x 4 devices in a single bank design. SIMM and DIMM memory modules accommodate one or two memory banks. This DIMM has the following characteristics:
* a single bank implementation;
* the memory is laid out to span 64 bits, so 4M x 4 devices require 16 parts per bank;
* the addressing is common across all DRAM on the module and is multiplexed via RAS and CAS singles, as noted by Control;
* the module has a density of 4M x 64 (address space of 4M by 64 bits wide), or 32 Mbytes.

Note: Macintosh computers will size and determine the addressing mode (e.g., 4M x 4, 2M x 8, etc.) of memory modules at system startup.

DIMM #2
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This is a 16 Mbyte DIMM using 2M x 8 devices in a single bank. You may be asking yourself: if both 4M x 4 and 2M x 8 parts are considered 16 Mbit devices and both examples are single bank designs, why is DIMM #1's design 32 Mbytes and DIMM #2's design 16 Mbytes?

Since the data path of a 2M x 8 device is 8 bits wide, rather than 4 bits wide -- as for 4M x 4 parts -- it requires half the number of devices to span across 64 bits.

Note: DIMM #2 uses 8 devices and DIMM #1 uses 16. DIMM #2 thus has a module density of 2M x 64, or 16, Mbytes.

DIMM #3
═══════

This is a 16 Mbyte DIMM using 1M x 16 devices in a two bank design. What's important to note for this particular design is the following:
* There are two separate memory banks;
* each bank contains four devices - spanning 64 bits
* both banks have common address and data buses

In this example, there are two 1M x 64 banks, resulting in a module density of 2M x 64 or 16 Mbytes.

12) Question: Do Macintosh computers support composite memory modules?

Answer: No. Apple defines a composite memory module as one that loads the data bus with more than one DRAM input load per bank. Both SIMM and DIMM can accommodate a maximum of two memory banks per module.

13) Question: Can memory modules with different refresh rates or counts be intermixed?

For first generation Power Macintosh computers that require SIMMs to be installed in pairs, the two SIMMs within a pair need to be identical. Other pairs can have different supported refresh rates.

DIMMs with different supported refresh rates can be intermixed. But if it's intended to enable memory interleaving, DIMMs with different refresh rates may or may not have DRAM devices with same addressing modes.

Note: DRAM devices require the same addressing mode to enable interleaving.

14) Question: What is EDO memory and do Macintosh computers support it?

EDO (Extended Data Out -- sometimes called hyperpage) memory are DRAM devices that improve access timing by extending its data out timing while allowing the memory controller to address the next column address. Although EDO devices will improve timing efficiency to main memory by approximately 10%, it does not necessarily mean programs will execute 10% faster. Because much of the time the CPU fetches instructions and data from cached memory, for example, L1 cache within the PowerPC microprocessor and or L2 cache on the main logic board.

EDO DRAM is a superset of conventional (also called Fast Page Mode) DRAM. This means that an EDO DRAM can be used in place of a Fast Page Mode DRAM, although unless the memory controller is designed to utilize the faster EDO timing, the memory performance will be the same as Fast Page Mode.

There are three categories of Power Macintosh computers based on their level of EDO memory support. In some Power Macintosh computers, you can use EDO memory and get some potential performance boosts. In others, you can use EDO memory even though you will not derive any benefits from doing so. Finally, there are some Power Macintosh computers in which Apple does not recommend using EDO memory because doing so may damage your computer.

Power Macintosh Computers that Support EDO Memory

The following Power Macintosh computers fully support EDO memory and may experience increased performance:

- Power Macintosh 4400 series
- Power Macintosh 5500 series
- Power Macintosh 6500 series
- Macintosh Performa 6400/200 with internal Zip drive

Of these computers, ONLY Power Macintosh / Performa 6400 computers support both FPM and EDO memory.

Only Power Macintosh / Performa 6400 configurations with an internal Zip drive may experience increased performance when using EDO memory. Then, all memory installed must be EDO to take advantage of the benefits. If you mix FPM and EDO RAM, the EDO modules will perform as if they were FPM (just like all 6400 configurations will behave despite the type of RAM installed).

For additional information see TIL article 19456: **PowerMacintosh: Using FPM, EDO, SDRAM, & SGRAM**

Important: There are two types of EDO memory--5 Volt and 3.3 Volt. The Power Macintosh 4400 series requires 3.3 Volt EDO memory whereas the Power Macintosh 5500, 6500, and 6400 computers require 5 Volt EDO. The two types of EDO memory are NOT interchangeable. Most 5 V and 3.3 V EDO memory are physically keyed differently to prevent you from using the wrong type, but even if the DIMM can be installed, verify that you are installing the correct type.

Additionally, EDO memory can also be used as video memory in the Power Macintosh 4400 ONLY. However, when using EDO memory as video memory, the Power Macintosh 4400 uses 5 Volt EDO memory rather than the 3.3 Volt used as DRAM.

Power Macintosh Computers that Can Use EDO memory

Although you will not derive any performance benefits by using EDO DIMMs, you can use them in the following Power Macintosh computers:

- Power Macintosh 6100 series
- Power Macintosh 7100 series
- Power Macintosh 8100 series
- Power Macintosh 5200 series
- Power Macintosh 5300 series
- Power Macintosh 5400 series
- Power Macintosh 6200 series
- Power Macintosh 6300 series
- Power Macintosh 6400 series
- Power Macintosh 7500 series
- Power Macintosh 7600 series
- Power Macintosh 8500 series
- Power Macintosh 9500 series
- Macintosh Performa 6360 series
- Some Macintosh Performa 6400 series

Power Macintosh Computers that CANNOT use EDO memory

You cannot use EDO DIMMs in the Power Macintosh 7200 computer. Using EDO memory in the Power Macintosh 7200 computer can cause damage to the logic board and to the DIMMs. Because of this, Apple does not support using EDO memory in the Power Macintosh 7200 computer. Any damage incurred from using EDO memory in the Power Macintosh 7200 computer may not be covered under Apple Computer's limited hardware warranty.

15) Question: What is parity memory and do Power Macintosh computers support it?

Answer: If a computer is designed for parity RAM, the parity bit allows the memory controller to check for DRAM errors in the form of a parity error. A parity error cannot correct system errors, but the system can be designed to alert the user that a memory error has occurred.

Apple's newly-introduced Network Server 500 and 700 products are the only computers that support parity memory; all other Power Macintosh Desktop, Tower, and PowerBook computers do not. Parity memory modules add one parity bit to each byte. Thus, a 64 bit DIMM -- eight bytes -- expands from 64 bits to 72 bits wide.

16) Question: What is ECC memory and do Macintosh computers support it?

Answer: Macintosh computers do not support ECC memory. ECC (Error Correction Coding) memory has additional check bits for each byte. This entails the memory controller calculating and writing error control check bits on each memory write operation, and recalculating and comparing the check bits on memory read operations, and then if necessary correcting the bad bits. As opposed to parity, this can automatically correct single bit RAM errors.

17) Question: My manual suggests that when upgrading my cache, I use Apple-branded cache. I would like to purchase a 512k cache module, but it does not appear that Apple sells this size. What size should I purchase?

Answer: At this time, 256k is the largest cache module Apple sells for the 7200/7300/7500/7600/8500/8600 models.

This article was published in the Information Alley on 22 October 1996.
Published Date: Feb 18, 2012

Color StyleWriter 2500: PhotoGrade Print Kit General Info

This article contains a general Information about the Color PhotoGrade Print Kit (M5577LL/A) including; contents, printing with the Color PhotoGrade Print Kit, tips for color printing, and purchasing supplies.
This article has been archived and is no longer updated by Apple.

Color PhotoGrade Print Kit Contents

In the Color PhotoGrade Print Kit you have everything you need to begin printing photo realistic images on your Color StyleWriter 2500. The kit contains :

- Color PhotoGrade Ink Cartridge (approx. 45 pages per cartridge)
- Packet of Color Ink Jet PhotoGrade Paper (60 sheets)
- Color StyleWriter 2500 PhotoGrade Updater software (on a floppy disk)
- Ink cartridge storage case
- PhotoEnchancer Plus software

Printing with the Color PhotoGrade Print Kit

Important: To get the results you want, you must use the kit contents together. That is, use the Color PhotoGrade Ink Cartridge to print on the Color PhotoGrade Paper, and choose the appropriate settings in the printer dialog box.

1) Install the PhotoGrade ink cartridge in the printer.

2) Load the PhotoGrade paper into the sheet feeder. Make sure the whiter side faces you.

3) Open the document you want to print.

4) Choose Print from the File menu.

5) Choose PhotoGrade from the Paper Type pop-up menu in the Print dialog box.

6) Click Color.

7) Select Scatter and verify ColorSync is turned on in the Color Options dialog. An X in the checkbox means ColorSync is turned on. Scatter blends the ink colors in a random scattering of dots for the best quality image.

8) Click OK when you are finished.

9) Click Print when you are ready.

Tips for color printing

* You must use the PhotoGrade paper and the PhotoGrade ink cartridge.
* Be sure to load the PhotoGrade paper so the whiter side faces you.
* Choose PhotoGrade from the Paper Type pop-up menu in the Print dialog box.
* Be sure to turn on ColorSync and leave the ColorSync settings on Automatic.
* Select the Scatter halftoning option (instead of Pattern).
* Make sure the ColorSync extension is enabled in your Extensions folder. If it is not, you must reinstall the Color StyleWriter 2500 software that came with your printer.
* If dark streaks or ink stains appear on printed documents, move the internal paper selector to the "envelope" position (leaving a bit more space between the printhead and the surface of the paper).
* The PhotoGrade Updater software does not support QuickDraw GX. You must disable QuickDraw GX before printing with the Color PhotoGrade Print Kit.

Purchasing Supplies

When you run out of PhotoGrade ink or paper, you can purchase replacement supplies from your local reseller. Each item is sold separately.

* Color StyleWriter 2500 Color PhotoGrade Ink Cartridge: M5579G/A
* Color StyleWriter 2500 Color PhotoGrade Paper, Letter-size: M5578G/A
* Color StyleWriter 2500 Color PhotoGrade Paper, A4-size: M5581G/A

Article Change History:
24 Oct 1996 - Added software title.

TA36148_Color_StyleWriter_PhotoGrade_Print_Kit_General_Info_(TIL20576).pdf

Published Date: Feb 18, 2012

AppleVision 1710AV: ADB Devices Can Cause Video Distortion 10/96

I have an AppleVision 1710AV Display connected to my Power Macintosh. I use my computer primarily for video conferencing. I have noticed that when I am in the highest resolution (1024x768), that the image is blurred slightly.

This article has been archived and is no longer updated by Apple.

The AppleVision 1710AV Display uses the Apple Desktop Bus (ADB) signals to syncronize video scan rates, when scan rates are changed and at startup.

When other peripheral devices use power from the ADB line, this may cause the video image to become slightly blurred when in the higest resolution (1024x768), however less dense formats display properly.

If you remove the devices using power from the ADB line, the image should return to normal. In order to use the ADB devices, you should use an alternate power source, or a differnt system configuration selected to avoid the loss of sharpness at high pixel density formats.

Other Apple Multiple Scan Displays do not use ADB in this way, and are unaffected by added ADB peripherals.

This article appeared in the 23 October 1996 issue of Information Alley.
Published Date: Feb 18, 2012

Apple IIGS Connectors: Game I/O

This article has been archived and is no longer updated by Apple.

The Game I/O setup on the Apple IIGS is exactly the same as the Apple IIe: the DB9 connector on the back of the machine and the 16 pin DIP socket on the main mother board. The DB9 connector has four analog inputs, three button inputs, power, and ground. The 16 pin DIP connector is the same but has a strobe line and four single-bit outputs. For pinouts, see the IIe Technical Reference Manual.

Published Date: Feb 18, 2012

Macintosh Performa 5400/160 (non-US): Specifications (10/96)

This article contans the technical specifications for the Macintosh Performa 5400/160 computer, which is only available outside of the United States.

This article has been archived and is no longer updated by Apple.

Technical Specifications
==========

Microprocessor
---
* PowerPC 603e processor running at 160 MHz
* 32K internal cache
* Integrated floating-point unit
* 64-bit memory bus
* Optional High Performance Module (256K level 2 cache)

Memory
==
* Comes with 16 MB of RAM (8 MB on the logic board and an 8MB DIMM in one of the DIMM sockets)
* Can be expanded to 136 MB using two 64 MB DIMMs
* Uses 64-bit-wide, 168-pin, 70-nanosecond or faster, fast-paged-mode DIMMs (1K and 2K refresh)

Disk drives
==
* Internal 1.6GB hard disk drive
* Internal Apple SuperDrive floppy disk drive
- Uses high-density, 1.4MB floppy disks
- Reads, writes, and formats Macintosh, Windows, MS-DOS, OS/2, and ProDOS disks
* Internal AppleCD 8x-speed CD-ROM drive

Display
==
Built-in display
---
* 15-in. RGB color display (12.8-in. diagonal viewable image size)
* 0.28-mm dot pitch
* Noninterlaced, flat, square cathode-ray tube (CRT)
* User-adjustable resolutions from 640 by 480 pixels to 832 by 624 pixels
* Resolution can be changed without restarting the computer
* Refresh rate up to 75 Hz
* Built-in base tilts from -5 to +15 degrees, swivels a full 360 degrees
* Meets SWEDAC MPR2 international guidelines for magnetic-field emissions

Display support
---
* 16-bit color for display of up to 32,768 colors at 640- by 480-pixel or 800- by 600-pixel resolution
* 8-bit color for display of 256 colors at 832- by 624-pixel resolution
* 1MB video frame buffer (independent of system RAM)

Built-in modem
==
* 28.8-Kbit/s, V.34, data/fax/voice modem
* Works with supplied software to provide answering machine capability
* Built-in error correction and compression (MNP4, V.42, MNP5, V.42bis)

Sound
==
* Stereo 16-bit sound
* Built-in stereo speakers
* Built-in microphone
* Sound-output port
* Sound-input port
* Front headphone jack and volume control

* Apple sound enhancements, including SRS 3D surround sound

Expansion interfaces
==========

* PCI expansion slot for industry-standard 6.88-in., 15-watt expansion cards
* Apple Desktop Bus port for mouse, keyboard, and other devices (multiple devices can be connected to each other from one port)
* RS-232/RS-422 serial port for an AppleTalk network connection, other networking connections, communications equipment (including GeoPort-compatible devices), or a printer
* SCSI interface port for as many as six external SCSI devices, such as disk drives, CD-ROM drives, and/or digital scanners
* Optional video-out port for connection to an external monitor for video mirroring (also supports connection to an NTSC or PAL video-out interface box, such as the Apple Presentation System)
* Communications slot (used by the built-in 28.8-Kbps data/fax/voice modem)
* Video slot (used by the optional Apple Video System to connect a VCR, video camera, or other video equip-ment; supports both composite and S-video input)
* TV tuner slot (used by the optional Apple TV/FM Radio System)

Electrical requirements
==========

* Line voltage: 110 to 240 V AC, RMS, single phase, nominal
* Frequency: 50 to 60 Hz
* Power: 220 W maximum (continuous)
* Includes low-power sleep mode
* U.S. EPA Energy Star compliant

Size and weight
==========

* Height: 17.5 in. (44.5 cm)
* Width: 15.1 in. (38.3 cm)
* Depth: 16 in. (40.6 cm)
* Weight: 47 lb. (21 kg)

Operating environment
==========

* Operating temperature: 50 to 104 degrees F (10 to 40 degrees C)
* Storage temperature: -40 to 116 degrees F (-40 to 47 degrees C)
* Relative humidity: 5% to 95%, noncondensing
* Maximum altitude: 10,000 ft. (3,048 m)

Disability access
==========

* CloseView software magnifies screen image up to 16 times
* Easy Access software permits combination keys to be pressed sequentially and enables cursor control from the numeric keypad instead of the mouse
* "Visual beep" replaces audible system alerts

Published Date: Feb 18, 2012

Macintosh Performa 5400/180 (non-US): Description (10/96)

This article contains the specifications for the Macintosh Performa 5400/180 computer.

IMPORTANT: This computer is only available for sale outside of the United States.

This article has been archived and is no longer updated by Apple.

From its state-of-the-art RISC-based processor to its sleek graphite color, the Apple Macintosh Performa 5400/180 computer is like no other Macintosh you've ever seen. This sophisticated all-in-one system is ready to use right out of the box, with everything you need to inspire your creativity and increase your productivity.

The computer's 180-megahertz PowerPC 603e processor and 16 megabytes of RAM let you easily run an abundance of Macintosh applications--and there's plenty of room to store them on the 1.6-gigabyte internal hard drive. To get you started, there are more than a dozen learning, home, and entertainment programs, plus a collection of multimedia reference CDs.

The Performa 5400/180 includes multimedia features that are expensive add-ons with other computers, including a CD-ROM drive for multimedia applications and a 15-inch monitor (12.8-inch diagonal viewable image size) to display vibrant colors. Using the built-in capabilities, you can watch television in a window, listen to FM radio, and view and record video from VCRs and video cameras. There's also a built-in microphone to directly record your own sounds. These multimedia features are made more lifelike through the built-in stereo speakers enhanced by SRS 3D surround sound and the Macintosh 16-bit stereo sound system.

To connect to the world of information services, including the Internet, the Performa 5400/180 features a built-in 28.8-kilobit-per-second modem. The modem also allows you to use your computer as a fax or answering machine.

If you need even more advanced capabilities in the future, expansion is easy through the industry-standard Peripheral Component Interconnect (PCI) slot and built-in SCSI support.

The Macintosh Performa 5400/180: Performance, convenience, and sophistication that will add elegance to your home or office.

Features
==========

Complete, ready-to-use system
---
* Computer, multiple-scan 15-inch color display (12.8-inch diagonal viewable image size), CD-ROM drive, floppy disk drive, hard disk, microphone, and stereo speakers integrated into one convenient and stylish package
* Apple TV/FM Radio System and video input
* Matching keyboard, mouse, and all necessary cables
* Apple System 7.5.3 software, including Apple Guide software for step-by-step help with basic system operation, QuickTime multimedia software, Macintosh PC Exchange software, and QuickDraw 3D
* Internal 28.8-Kbit/s modem for data, fax, voice, and digital answering machine
* Built-in 8x-speed, tray-loading CD-ROM drive
* Front-panel volume control and headphone/speaker jack
* CD-quality digital sound with SRS 3D surround sound

Preinstalled software
---
* Apple System 7.5.3

Ordering Information
==========

Macintosh Performa 5400/180

Computer with built-in multiple-scan 15-inch display (12.8-inch diagonal viewable image size), 28.8-Kbit/s modem, 1.6GB hard disk, 8x-speed CD-ROM drive, floppy disk drive, Apple TV/FM Radio System, and video input. Mouse, keyboard, and cables also included.

Optional Enhancements
---
* High Performance Module
(256K level 2 cache)
Order No. M4505LL/A

* Apple Presentation System
Order No. M2895LL/A

* Apple External Video Connector
Order No. M4099LL/D

Product specifications are subject to change. Check with your Apple reseller for the most current information about product specifications and configurations.

Published Date: Feb 18, 2012

Macintosh Performa 5400/180: Specifications (10/96)

This article contains the technical specifications for the Macintosh Performa 5400/180 computer.

IMPORTANT: This computer is only available for sale outside of the United States.

This article has been archived and is no longer updated by Apple.

Microprocessor
==========
* PowerPC 603e processor running at 180 MHz
* 32K internal cache
* Integrated floating-point unit
* 64-bit memory bus
* Optional High Performance Module (256K level 2 cache)

Memory
======
* Comes with 16MB of RAM (uses one DIMM socket)
* Can be expanded to 136MB using two 64MB DIMMs
* Uses 64-bit-wide, 168-pin, 70-nanosecond or faster, fast-paged-mode DIMMs (1K and 2K refresh rate)

Disk drives
==========
* Internal 1.6GB hard disk drive
* Internal Apple SuperDrive floppy disk drive
- Uses high-density, 1.4MB floppy disks
- Reads, writes, and formats Macintosh, Windows, MS-DOS, OS/2, and ProDOS disks
* Internal 8x-speed CD-ROM drive

Display
======
Built-in display
---
* 15-in. RGB color display (12.8-in. diagonal viewable image size)
* 0.28-mm dot pitch
* Noninterlaced, flat, square cathode-ray tube (CRT)
* User-adjustable resolutions from 640 by 480 pixels to 1,024 by 768 pixels
* Resolution can be changed without restarting the computer
* Refresh rate up to 75 Hz
* Built-in base tilts from -5í to +15í, swivels a full 360í
* Meets SWEDAC MPR2 international guidelines for magnetic-field emissions

Display support
---
* 16-bit color for display of up to 32,768 colors at 640- by 480-pixel or 800- by 600-pixel resolution
* 8-bit color for display of 256 colors at 832- by 624-pixel or 1,024- by 768-pixel resolution
* 1 MB video frame buffer (independent of system RAM)

Built-in modem
==========
* 28.8-Kbit/s, V.34, data/fax/voice modem
* Works with supplied software to provide answering machine capability
* Built-in error correction and compression (MNP4, V.42, MNP5, V.42bis)

Sound
=====
* Stereo 16-bit sound
* Built-in stereo speakers
* Built-in microphone
* Sound-output port
* Sound-input port
* Front headphone jack and volume control
* Apple sound enhancements, including SRS 3D surround sound

Expansion interfaces

* PCI expansion slot for industry-standard 6.88-in., 15-watt expansion cards
* Apple Desktop Bus port for mouse, keyboard, and other devices (multiple devices can be connected to each other from one port)
* RS-232/RS-422 serial port for an AppleTalk network connection, other networking connections, communi-cations equipment (including GeoPort-compatible devices), or a printer
* SCSI interface port for as many as six external SCSI devices, such as disk drives and/or CD-ROM drives
* Optional video-out port for connection to an external monitor for video mirroring (also supports connec-tion to an NTSC or PAL video-out interface box, such as the Apple Presentation System)
* Communications slot (used by the built-in 28.8-Kbit/s data/fax/voice modem)
* Video slot (used by the Apple Video System to connect a VCR, video camera, or other video equipment; supports both composite and S-video input)
* TV tuner slot (used by the Apple TV/FM Radio System)

Electrical requirements

* Line voltage: 110 to 240 V AC, RMS, single phase, nominal
* Frequency: 50 to 60 Hz
* Power: 220 W maximum (continuous)
* Includes low-power sleep mode
* U.S. EPA Energy Star compliant

Size and weight

* Height: 17.5 in. (44.5 cm)
* Width: 15.1 in. (38.3 cm)
* Depth: 16 in. (40.6 cm)
* Weight: 47 lb. (21 kg)

Operating environment

* Operating temperature: 50í to 104í F (10í to 40í C)
* Storage temperature: -40í to 116í F (-40í to 47í C)
* Relative humidity: 5% to 95%, noncondensing
* Maximum altitude: 10,000 ft. (3,048 m)

Disability access

* CloseView software magnifies screen image up to 16 times
* Easy Access software permits combination keys to be pressed sequentially and enables cursor control from the numeric keypad instead of the mouse
* "Visual beep" replaces audible system alerts

Published Date: Feb 18, 2012

At Ease: ClarisWorks Document In Shared Folder

This article discusses using a ClarisWorks document in a shared folder.
This article has been archived and is no longer updated by Apple.

Symptom

After moving a ClarisWorks document into the shared folder for my users to use as a template, when more than one user tries to open the document it says "This item could not be used because it contains items that are in use." How do I let all of my users access this document at the same time?

Solution

You must save the ClarisWorks document as "stationary." This will let all of your users access that document and use it as a template.

Published Date: Feb 18, 2012

Qualcomm, Inc.

Qualcomm, Inc.
This article has been archived and is no longer updated by Apple.
5775 Morehouse Drive
San Diego, CA 92121
U.S.A.

(858) 587-1121 (General phone)
(858) 658-2100 (General fax)

800-238-3672 - Main
800-338-3672 - Sales
619-587-1121 - Main
619-658-2100 - FAX

Internet:
Main: quest-rep@qualcomm.com
URL: **http://www.qualcomm.com/**
FTP site: **ftp://ftp.qualcomm.com/**

Qualcomm's Eudora division acquired Now Software
General Contact Information:
Qualcomm Incorporated
Attn: Eurdora
5775 Morehouse Drive
San Diego, CA 9212
(800) 238-3672
(619) 658-1291

Internet:
Eudora and Now Software
URL: **http://eudora.qualcomm.com**

Company Profile:
QUALCOMM develops, manufactures, markets, licenses, and operates advanced communications systems and products based on its proprietary digital wireless technologies.
Published Date: Feb 18, 2012

QuickTime: CoolTalk Description

I've seen some discussions mentioning CoolTalk. What is it?
This article has been archived and is no longer updated by Apple.
Apple Computer, Inc. and Netscape are collaborating on a video conferencing part of Navigator called CoolTalk. CoolTalk allows Navigator users to audio conference to any other CoolTalk client (Macintosh, Windows, or various flavors of Unix) as well as share data. When a Macintosh based CoolTalk user connects to another Macintosh-based CoolTalk user, they can also use video.

As of September 1996, CoolTalk is still a beta product. Since Netscape usually opens up their beta software to the public, it is available to Netscape users as public beta software.

CoolTalk is based on QuickTime Conferencing. CoolTalk has both Apple's and Netscape's name on the product, but it is distributed and supported by Netscape.

Systems Supported
==========

* Windows 3.1/NT/95
* MacOS 7.5.3 - Power Macintosh only
* HP-UX 9.0X
* IRIX 5.x
* OSF1 3.2
* Solaris 2.4 or higher
* SunOS 4.1.3 or higher

Requirements
---
* PC - 486 class with 8MB of RAM, running MS Windows 95, NT, or 3.1
* Macintosh - Power Macintosh with System Software 7.5.3 or higher
* Unix - Solaris 1, Solaris 2, HP-UX, Irix, or Digital Unix (with Multimedia Services)
* 9600 bps or faster TCP/IP Internet connection (28800 or faster for Macintosh)
* Sound card (Windows compatible for PC, Macintosh built-in sound)
* Microphone and speakers (if you wish to use the audio features; external speakers/headphones recommended)

For additional information on CoolTalk, visit Netscape's homepage.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.
Published Date: Feb 18, 2012

Macintosh Performa: No Hard Disk to Restore On (11/96)

I am attempting to use the system software CD-ROM disc to restore the system software on my Macintosh Performa 6400 computer. However, when I run the Apple Restore program an error message appears stating, "No hard disk to restore on". How can I restore the system software?

This article has been archived and is no longer updated by Apple.

The likely cause of this error is starting up the computer using the Shift-Option-Command-Delete key sequence. Holding down these keys at startup forces the system to start up from the next SCSI device (above 0), which is the CD-ROM disc. However, if you start up the computer using this key sequence on a computer with an IDE hard drive, the system may have difficulty seeing the hard disk.

Instead, you should start up the computer while holding down the C key (lower case) when you need to restore your system software. (This is noted in the User's Manual for the Macintosh Performa 6400 series computers)

Holding down the C key at startup has the same effect as does the Shift-Option-Command-Delete key sequence, but it allows the hard drive to be properly recognized.

This article was published in the Information Alley on 31 October 1996.

Article Change History:
12 Nov 1996 - Added alley blurb and keyword.
Published Date: Feb 18, 2012

MegaPhone: GeoPort Telephone Tool Named Changed (10/96)

I installed the GeoPort-EM 3.0 Update, now when I launch MegaPhone I get a message stating that the GeoPort(tm) Telephone Tool cannot be found. Will use GeoPort Telephone Tool Instead temporarily. Why?

This article has been archived and is no longer updated by Apple.

The name of the GeoPort Telephone Tool changed in the GeoPort-EM 3.0 Update. The trademark symbol was dropped from the extension.

Workaround

In order to avoid getting error message every time you launch MegaPhone, you need to change the connection tool.

Step 1

Launch MegaPhone

Step 2

Choose Preferences from the File menu

Step 3

Click the Change button under Hardware.

Step 4

Choose GeoPort Telephone Tool

Step 5

Click OK.

This article appeared in the 28 October 1996 issue of the Information Alley.
Published Date: Feb 18, 2012

Macintosh 6360,6400,5400: SCSI Devices Aren't Recognized

We are trying to use SCSI devices with our Macintosh Performa and Power Macintosh 6360, 6400, and 5400 series computers, but some of the devices are not being recognized.

* Is this a known issue with these computers?
* If so, what is the solution?

This article has been archived and is no longer updated by Apple.
Yes, Apple is aware of some timing issues with SCSI on these computers. However, many SCSI problems can be attributed to termination, cable or SCSI ID issues. Be sure to follow standard SCSI troubleshooting before assuming this is a SCSI timing problem. Also, verify that any software required for your particular SCSI device is properly installed. For more information, check the manuals that came with the computer and SCSI device. Or, see the following Tech Info Library article:

Article 9387: **Macintosh: Connecting SCSI Devices**

Apple has developed an update for the Macintosh Performa and Power Macintosh 6360, 6400, and 5400 series computers to correct a SCSI timing issue that can occur when using some SCSI devices. Apple developed this update based on reports from users who are having difficulty using some UMAX and Agfa scanners and some SCSI-based printers such as the Apple LaserWriter II SC, Personal LaserWriter SC, and some GCC SCSI-based printers. The 6360/64xx/54xx Update is available from the Apple Software Updates sites. Apple plans on including this update in future versions of the Mac OS.

The 6360/64xx/54xx Update fixes have been rolled into Mac OS 7.6. If you have installed Mac OS 7.6, you do not need the 6360/64xx/54xx Update.

The 6360/64xx/54xx Update disk will do the following:

* Fix issues with using some external SCSI devices, such as external hard disks, scanners, or removable storage devices.

* Fix issues with printing to a Personal LaserWriter SC or LaserWriter II SC printer.

Apple recommends using the LaserWriter IISC GX printer driver under QuickDraw GX, as there are known line layout problems with the non-GX Personal LaserWriter SC printer driver. QuickDraw GX can be installed from your System Software CD that came with your computer. Or, if you do not have QuickDraw GX, it is available from Apple's Software Update sites.

* Add support for additional Ethernet network protocols. If your computer uses the optional Ethernet CS II card to provide Ethernet networking, the 6360/64xx/54xx Update installs files that provide support for the MacIPX and Local Area Transport (LAT) network protocols.

These articles can help you locate the software update mentioned here:

"**Where To Find Apple Software Updates**" - Lists online services for free Apple software updates.

"**Obtaining Apple Product Support in the USA**" - Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech Info Library.

This article was published in the Information Alley on 29 October 1996.
Published Date: Feb 18, 2012

Network Server: How To Eject A Floppy Disk

On my RS6000, I have an eject button for the floppy drive. On the Apple Network Server, there is no eject button. How do I get the floppy disk out?

This article has been archived and is no longer updated by Apple.

Open a terminal window (if you are in CDE) and type the command "fdeject" to eject the floppy disk.

Published Date: Feb 18, 2012

PowerBook: What Is Trackpad Climate Control? (10/96)

This article contains the text of the Read Me file for the Trackpad Climate Control software.

This article has been archived and is no longer updated by Apple.

What Is Trackpad Climate Control?

Trackpad Climate Control is a system extension that will reduce or eliminate unexpected movements of the pointer caused by moisture on the trackpad or humidity. The extension is designed for the Macintosh PowerBook 190, Macintosh PowerBook 1400, and Macintosh PowerBook Duo 2300.

Who Should Use Trackpad Climate Control?

You should use Trackpad Climate Control if you notice the pointer moving abruptly when you initially touch the trackpad or "jumping" to its previous position when you lift your finger after moving the pointer or tapping the trackpad.

Do not use Trackpad Climate Control if you have not had pointer-movement problems on your computer. (The extension could make the pointer less responsive when you use the trackpad.)

The extension works only with the PowerBook 190, PowerBook 1400, and PowerBook Duo 2300.

Installing Trackpad Climate Control

Follow these steps to install the extension.

1. Drag the Trackpad Climate Control icon to the icon of the System Folder on your computer's hard disk.
2. When a message appears, click OK to place the file in the Extensions folder.
3. Restart your computer.

Pointer Movement with Trackpad Climate Control Installed

The Trackpad Climate Control extension monitors pointer movements and attempts to eliminate the undesired jumps that can result from moisture on or around the trackpad. Because the extension affects pointer movement, you may notice that the pointer is somewhat less responsive when you use the trackpad.

Once you've installed the Trackpad Climate Control, you can turn it off with the Extensions Manager control panel (by removing the checkmark beside its name in the control panel and restarting the computer).

Published Date: Feb 18, 2012

Mac Display Card 24AC: ROM V1.0 Not Compatible w/7.5.3

I just upgraded from Mac OS version 7.5.1 to 7.5.3 and now I am unable to use my 24AC Display Card. When I change resolutions or the bit depth (number of colors displayed), the screen is not legible. What could be happening?
This article has been archived and is no longer updated by Apple.
The symptom you are describing is related to the ROM version of the Macintosh Display Card 24AC. Version 1.0 of the ROM is not compatible with System 7.5.3 or greater. When Apple shipped the Macintosh Display Card 24AC, it had ROM v1.1 installed. ROM version 1.1 is fully compatible with System 7.5.3 and greater.

The only way you would have ROM version 1.0 on your Macintosh Display Card 24AC would be if you had a DVT card (developer version) or the card was purchased from Radius.

Identifying ROM Versions

To identify what version of the ROM is installed on the Macintosh Display Card 24AC, look for a label on the ROM chip. The label should have Radius 24AC on it with the ROM version under this title. A Bar Code number is also printed on the solder side of the card. The Bar Code number should start with ACH followed by a series of numbers.

If you have a DVT card, contact Apple Computer, or your local Service Provide to get a replacement card. If you have a Radius version of the display card, contact Radius for additional help and instructions.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

The following Tech Info Library article can help you search for a particular vendor's address and phone number:

Article 17159: "**Locating Vendor Information**"

Published Date: Feb 18, 2012

Apple IIc: Pinouts for External Disk Port

Listed below are the pinoutes for the Apple IIc external disk drive port.
This article has been archived and is no longer updated by Apple.
The Apple IIc external disk drive port is a DB-15. The signals available at the port are as follows:

1 - GND
2 - GND
3 - GND
4 - GND
5 - +12V
6 - + 5V
7 - +12V
8 - +12V
9 - /EXTINT
10 - WRPROT
11 - SEEKPH0
12 - SEEKPH1
13 - SEEKPH2
14 - SEEKPH3
15 - /WRREQ
16 - NC
17 - /DR2
18 - RDDATA
19 - WRDATA

CAUTION: Connecting anything other than an Apple Disk IIc to this connector may invaildate your warranty
Published Date: Feb 18, 2012

PC 5.25" Drive & Macintosh II PC Drive Card: Pinouts and Cabling

This article has been archived and is no longer updated by Apple.

TOPIC ----------

What are the pinouts for the Macintosh II PC Drive Card and PC 5.25" Drive?

DISCUSSION ----------

Here is the pinout for the DB37 connector on the Macintosh II PC Drive card. Note that pins not listed are not used.

DB37 Signal Name
_____
1 ---------- +12 Volts
2 ---------- Ground
4 ---------- + 5 Volts
5 ---------- Ground
6 ---------- INDEX
7 ---------- Motor Enable
8 ---------- Drive Select 1
9 ---------- Motor enable
11 --------- Direction
12 --------- STEP
13 --------- Write Data
14 --------- Write Enable
15 --------- Track 00
16 --------- Write Protect
17 --------- Read Data
18 --------- Side 1
19 --------- Diskette Change
20 --------- Ground
25 --------- Ground

This is the pinout for the cable, part number 590-0368, used on the PC 5.25 inch drive. The cable uses a 34 pin connector and smaller 4 pin connector for the DC power on the inside of the PC 5.25 inch drive and a DB37 connector that attaches to the card in Macintosh II. Note that pins not listed are not used.

DB37 | Signal Name | 34 pin edge connector | DC Connector
_____
1 ---------- +12 Volts ---------- 1
2 ---------- Ground ---------- 2
3 ---------- Low Density ---------- 2
4 ---------- +5 Volts ---------- 4
5 ---------- Ground ---------- 3
6 ---------- Index ---------- 8
7 ---------- Motor Enable A ------- 16
9 ---------- Drive Select A ------- 10
11 --------- Direction ---------- 18
12 --------- Step ---------- 20
13 --------- Write Data ---------- 22
14 --------- Write Enable --------- 24
15 --------- Track 00 ---------- 26
16 --------- Write Protect -------- 28
17 --------- Read Data ---------- 30
18 --------- Side 1 ---------- 32
19 --------- Disk Change ---------- 34
20 --------- Ground ---------- 1
25 --------- Ground ---------- 5

27 --------- FNPRES ---------- 7

Published Date: Feb 18, 2012

Apple Media Tool: Creating X-platform QTVR movies

When I try using the Apple Media Tool Converter v2.0 on my QuickTime VR movie, I get an error message that reads "not a cross-platform panoramic movie! Use QuickTime VR Utilities to convert it." Where can I find QuickTime VR Utilities?
This article has been archived and is no longer updated by Apple.
The error message you are seeing is the result of using the wrong type of tool to convert a QuickTime VR (QTVR) movie. The addendum which came with Apple Media Tool 2.0 recommends using the Apple Media Tool Converter, however it is incorrect. You cannot use Apple Media Tool Converter v2.0 to convert QuickTime VR movies. In fact, if you try checking your already-flattened QTVR movie with the converter, you will get the same error.

How to Convert QuickTime VR Movies
==========

Step 1

Launch QTVR Player.

The QTVR Player come with the QuickTime VR Authoring Tools, which is on QuickTime VR Tools CD.

Step 2

Open your QuickTime VR movie.

Step 3

Choose Save As... from the File menu.

Step 4

Check Make Movie Self-Contained and Playable on non-Apple computers options.

Step 5

Type in a name for the new cross-platform QTVR movie.

Step 6

Select the OK button.

You now have a cross-platform QTVR movie.

This article appeared in the 31 October 1996 issue of Information Alley.

The following information is for Apple Internal & Support Providers Only
Published Date: Feb 18, 2012

Dispatcher Software: Type 11 Error with HP DeskWriter (3/97)

When trying to print a scanned image from the Color OneScanner Dispatcher software v1.0, 1.2, or 2.0, to a Hewlett-Packard DeskWriter, the Dispatcher software crashes. The error is usually a Type 11 error.
This article has been archived and is no longer updated by Apple.
Service & Support Engineering has been able to reproduce the issue consistently. Hewlett-Packard is aware of the situation.

Updated software that remedies this behavior has been posted by Hewlett-Packard to their World Wide Web site. The updated software for the DeskJet 800 family of printers is version 9.3. For the DeskWriter 600 family, the updated software is version 9.2.1.

As a workaround, you can print from an application other than Dispatcher.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.

Article Change History:
10 Mar 1997 - Updated with vendor info.
28 Feb 1997 - Updated with the current status.
Published Date: Feb 18, 2012

Apple Network Server: Getting More DDS Cleaning Tapes (10/96)

My Apple Network Server came with some DDS 4mm Cleaning tapes. How can I get some more of these tapes?

This article has been archived and is no longer updated by Apple.

The DDS 4mm Cleaning tapes that come with the Apple Network Server can be purchased from Hewlett Packard (HP). The HP part number is 922-83k (2-pack).

NOTE:
Part numbers mentioned in this article are accurate as of this writing. Before ordering, verify that they are still correct as they are subject to change.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.
Published Date: Feb 18, 2012

Font Extension 3 Version 1.0.4 Information: Read Me

This article comprises the Read Me for Font Extension 3 version 1.0.4.

This software was released by Apple on November 1, 1996 and is available for downloading from the Apple Software Updates Web site at http://www.apple.com/swupdates .
This article has been archived and is no longer updated by Apple.
Font Extension 3 version 1.0.4 fixes an infinite loop in Japanese Language Kit (JLK) 1.2 when using Adobe Acrobat.

Font Extension 3 version 1.0.3 was made with this fix to ship with the PowerBook 190. 1.0.3 was a 68K only version. Font Extension was later rebuilt as a Fat binary extension to work on both 68K and PowerPC based computers. Apple recommends JLK users upgrade Font Extension 3 to version 1.0.4.
Published Date: Feb 18, 2012

Macintosh Performa: Can‘t Choose Partition to Restore (12/96)

Using Drive Setup, I have partitioned the hard drive in my Macintosh Performa 6400 computer. I want to be able to choose which partition I want to restore the system software and applications from the Macintosh Performa system CD-ROM disc. However, the Restore All Software and Restore System Software applications do not allow me to specify which volume to restore to nor do they identify which volume will be used. How can I control which hard disk the Restore applications will use?

This article has been archived and is no longer updated by Apple.

At this time, the Performa Restore application does not permit you to choose the volume on which to restore the System Software or All Software. The restoration application defaults to the internal hard disk and then to the first created partition on this disk.

However, there are two different methods you can use if you have to restore to a volume other than the internal hard drive's first partition.

* You can manually drag the necessary software from the "Hard Disk Files" folder on the Performa CD-ROM disc to the preferred volume.

* Once you start-up using the Performa CD-ROM disc, each of the hard disk volumes will appear on the desktop. Simply drag each volume, except the one you wish to restore to, into the Trash. If the volumes are not mounted, the Restore applications will not see them, and will not try to restore to them.

Note that if you subsequently run Disk First Aid or Drive Setup, the volumes may get mounted.

This article was published in the Information Alley on 1 November 1996.

Article Change History:
19 Dec 1996 - Added additional information.
Published Date: Feb 18, 2012

Apple IIGS: Resetting And Buffer Clearing

This article has been archived and is no longer updated by Apple.
Some Apple IIGS's will not reset when 'hung'.

The Apple IIGS has two levels of user reset: warm and cold. For a warm reset, hold down the 'Control' key and press and release the 'Reset' key. A 'cold' reset, which is a machine restart, requires you to hold down the 'Control' and 'Apple' keys and press and release the 'Reset' key, which makes the machine reboot as if it were just turned on.

The computer can't possibly recognize these resets usually when an application has bombed and hung the machine. The reset acts like any other keystroke in this case; moreover, if you already have some of the other keys pressed and waiting in the keyboard micro, the reset must wait its turn.

Remedy this problem with clearing the keyboard buffer by holding down the keys control and Apple and then pressing the backspace key. You can then press the reset sequence you want and the Apple IIGS can recognize it.
Published Date: Feb 18, 2012

At Ease Admin: User Info Could Not Be Authenticated

When launching the At Ease Administration application, the following error appears: "Can't access the server because the user information could not be authenticated." What user information does this refer to? How can I fix it?
This article has been archived and is no longer updated by Apple.
The user information being referred to is the name and password you are entering. The error message is informing you that you do not have privileges which can be proven. Make sure you are entering your AppleShare user name and password exactly as it was set up with the AppleShare Admin application on the server. Also make sure your user's login is enabled with AppleShare Admin.

This error can be recreated by just entering the wrong name and password when trying to configure the At Ease server for the first time.
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Macintosh: WEB (http and WWW) Servers

This article provides a partial list of third-party software which provides WEB servers for the Macintosh.

Note: This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.
This article has been archived and is no longer updated by Apple.

WEB (http and WWW) Servers for the Apple Macintosh

WebSTAR Server Suite 4.2
From StarNine/QuarterDeck
http://www.starnine.com/

WebSTAR Server Suite is a complete set of powerful and easy-to-use Internet servers for the Mac OS. Effortlessly serve web pages, host email accounts, publish databases, and share files all with the same software package on one Mac!

NetPresenz 4.1
From Peter Lewis, Stairways Software
http://stairways.com/netpresenz/

NetPresenz allows your Macintosh to become an FTP, WWW, or Gopher server so that other people can get information from your Mac over the Internet. It honours the Users & Groups privileges and passwords and supports multiple logins, anonymous FTP (user name "anonymous" or "ftp"), full CGI support, MacBinary and BinHex transfers and much more. It runs either as a background only application or as a normal application displaying the log file.

MacHTTP 2.2.2
From Chuck Shotton
http://www.starnine.com/machttp/machttp.html

MacHTTP is a shareware product, and is best used for small or internal web sites. It is the most widely-used desktop Web server on the Internet.

WebSTAR and StarNine - The commercial version of MacHTTP has become StarNine's new WebSTAR product. For more details on WebSTAR, upgrades from MacHTTP, etc., check StarNine Technology's home page.

RushHour
http://www.maxum.com/

RushHour is the Macintosh Web server optimized for what is probably the vast majority of your server volume - Graphics. Your full-featured Web server, like StarNine's WebSTAR, handles all sorts of files under virtually any conditions, but most of the overhead involved in doing so is unnecessary for most files. RushHour cuts out the overhead and adds a high-performance RAM cache to serve your GIF, JPEG, and other large binary data with extreme speed.

Sonic Servers
http://www.sonicsys.com/

Sonic Internet Servers are a group of high performance software Internet Servers which make it easy and economical for businesses to establish a presence on the Internet as well as providing Intranet solutions for intra-office communications. This group of highly integrated Internet Servers includes Web, E-mail, FTP, DNS and DHCP. These servers run on any Macintosh computer and offer easy set-up and maintenance.

All Sonic Internet Servers can be configured and managed via InterManage, Sonic's common management interface application which is included with the Internet Servers. InterManage can access each Internet Server over the LAN or through the Internet, giving the network manager the flexibility to perform configuration and maintenance from anywhere in the world!

Web for One
http://www.resnova.com/

Web for One(TM) is a personal web server designed to let every Mac OS computer on a TCP/IP network publish documents on the Internet or LAN. For small business and home users with continuous Internet connections, this provides an easy and inexpensive way to establish a presence on the Internet.

Web for One is a full featured web server, optimized to run in the background using very little memory. The web server supports CGIs, ACGIs, and has built-in support for image maps, server-side includes, server push, directory browsing and automatic form processing. By integrating these features with the server, users can create dynamic, interactive web pages without using expensive and cumbersome CGIs.

WebCenter
(From Chris Hawk)
http://www.slaphappy.com/

WebCenter is a high-performance web server for the Macintosh and Macintosh compatibles. It offers a wide range of features, making it suitable for virtually any Macintosh-based web site with features like: Multi-threading for fast connection handling, Full CGI compatibility with other Mac OS web servers, Server Side Includes to create dynamic web pages, Memory-based file caching for fast file access, Customizable through AppleScript-ability and attach-ability Password-based file access through server realms, Allow or deny clients based on their network address, Power Mac native for quick performance, Open Transport native for maximum performance.

Distributed as freeware. No other Mac OS web server has WebCenter's breadth of features. WebCenter is capable of handling tens of thousands of hits per day, enabling it service even the busiest of Macintosh-based web sites.

FireSite v1.0.2
http://www.clearway.com/

FireSite gives you fast, interactive Web serving power at an affordable price. Before ClearWay created FireSite, running a Web server had to be expensive and complicated. FireSite cuts through the cost and complications, and makes your own interactive Web server an affordable reality. With FireSite, all you need to connect your own Web server to the Internet is a simple 28.8K modem and a regular phone line. FireSite automatically uses your Internet Service Provider as a lightning-fast 'graphics cache', and accelerates your Web site far beyond the speed limits of your modem!

Common Lisp Hypermedia Server (CL-HTTP)
http://www.ai.mit.edu/projects/iiip/doc/cl-http/home-page.html

CL-HTTP is a full-featured server for the Internet Hypertext Transfer Protocol (HTTP 1.1, HTML 2.0, & pre-HTML 3.0) that comes complete with source code.

A World-Wide Web (WWW) server was implemented in Common LISP in order to facilitate exploratory programming in the interactive hypermedia domain and to provide access to complex research programs, particularly artificial intelligence systems. The server was initially used to provide interfaces for document retrieval and for email servers. More advanced applications include interfaces to systems for inductive rule learning and natural-language question answering.

InterServer Publisher 1.2.1
http://www.intercon.com/products/interserverp.html

InterCon's InterServer Publisher* answers the increasing demand for distributing information electronically. As the industry's first integrated Macintosh-based Internet server package, InterServer Publisher allows you to create a highly interactive Web, FTP (File Transfer Protocol), and Gopher server presence on the Internet in a matter of minutes.

NetWings HTTP Server
http://netwings.com/nw_home_pages/prod_info.html

Our NetWings and those Macs can get you and your students surfing and serving the Internet now. If you've got one Mac, or twenty. NetWings can let you serve and surf over any type of internet connection. It's software only, you don't need a router and it works on a LocalTalk or EtherTalk LAN. It caches pages. It has site blocking. It does web, ftp, gopher, email, and much more.

Web Server 4D
http://www.mdg.com/

Web Server 4D is a fast web server and a very fast relational database in one. This provides unparalleled site tracking without sacrificing performance. In fact, the author of Web Server Construction Kit For Macintosh (Hayden Books), Stewart Buskirk wrote in the comparisons of various packages that, "Web Server 4D is wicked fast!"

Web Server 4D can track new vs. repeat users, serves different pages based on domain, IP or browser, serves files from memory not slow disks, supports clickable maps, Guest Books, form to Email, inserts page counts, odometer page counts, current date, current time all without using CGI - although WS4D is compatible with CGI! Security for any file/folder is available with users and groups support (and tracking history for each realm, user and group!). Supports multiple hosts from one server. Other web servers cannot compare to the standard built-in features of WS4D. Developer edition includes open 4D source code which allows complete customization or integration with existing databases.
Published Date: Feb 18, 2012

Apple Quality Bundles: CDs Labeled for Windows (12/96)

I have the Early Learning Kit, which is one of the Apple Quality Bundles, and I noticed that some of the CD-ROM discs are labeled as Windows, Windows 3.1 and Windows 95 compatible. Are these discs mislabeled or are they supposed to also work on a PC running Windows or Windows 95?

This article has been archived and is no longer updated by Apple.

The Early Learning Kit includes the following CD titles:
* Playskool Puzzles by Hasbro Interactive
* Sesame Street, Let's Make a Word by Creative Wonders
* How Many Bugs in a Box? by Simon & Schuster
* Millie's Math House by Edmark
* FisherPrice Sing-Alongs by Davidson
* Putt-Putt Saves the Zoo by Humongous Entertainment
* Jump Start Kindergarten by Knowledge Adventure
* Kids Art Center by Creative Wonders

With the exception of "Jump Start Kindergarten by Knowledge Adventure", all of the above CD's are labeled as Windows, Windows 3.1 or Windows 95 compatible on the silk screen of the CD. This is incorrect as none of these CD's labeled as Windows, Windows 3.1 or Windows 95 compatible will actually run on a PC running these operating systems. This was an error during the manufacturing process of these titles. All of the titles in this bundle were developed to run under the Macintosh System Software 7.5.3 or later only. The minimum system recommendations that appear on the box are as follows:

* A PowerPC processor-based Apple Macintosh
* 5 megabytes of RAM available for running the applications
* Macintosh operating system software version 7.5.3 or later
* A double-speed CD-ROM drive
* A 13-inch monitor that can display 256 colors at 640x480 DPI resolution

Article Change History:
11 Dec 1996 - Updated article with new information.

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Apple Printers: Which Support 2-Byte Printing? (11/96)

Which Apple printers (both LaserWriter and StyleWriter models) are able to print Japanese characters?

This article has been archived and is no longer updated by Apple.

You can print Japanese Characters (Kanji) or any other 2-byte characters to ALL Apple Printers (both QuickDraw and PostScript), provided you are using 2-byte TrueType fonts. However, if you are using 2-byte PostScript Type 1 outline fonts, then you need to use a PostScript printer specifically localized for that language. The following Apple printers were specifically designed to print Kanji characters:

LaserWriter IINTX-J
LaserWriter Select 610 (360-J)
LaserWriter Pro 400
LaserWriter Pro 405
LaserWriter 16/600-J
LaserWriter 12/600-J

For additional information about printing Kanji characters, use the search string "kanji and printing" to locate the following articles in the Tech Info Library:

- Printing Kanji Characters
- LaserWriters: Printing 2-byte Languages/Characters

This article was published in the Information Alley on 4 November 1996.

Published Date: Feb 18, 2012

Performa 6400: Demo Runs Automatically After Restore (11/96)

After restoring all the software on my Macintosh Performa 6400 series computer, the screen flashes while the desktop is appearing. Then, the Performa demo starts running automatically. How can I stop this?

This article has been archived and is no longer updated by Apple.

The Restore All Software function on the Performa CD-ROM disc installs a Performa demo that automatically launches on startup. Before the demo launches, a script runs to verify that the display resolution is set to 640x480. This causes the flashing that you see as the desktop appears.

If, after restoring all software, you would like to stop the Performa Demo from automatically launching, remove the Launch Performa Demo or Launch Welcome Sequence files located in the Startup Items folder in the System Folder on the Hard Drive.

This article was published in the Information Alley on 5 November 1996.

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Apple II VisiCalc: How To Convert Its Files To MS-DOS

This article has been archived and is no longer updated by Apple.

Here's how to transfer Apple II VisiCalc files to an MS-DOS format:

1. Save the Apple II VisiCalc file to disk in the DIF format.

2. Transfer the file, via terminal software, to the MS-DOS system.

3. Save the file.

The file can now be read into any of the MS-DOS spreadsheet applications that support a DIF format -- Lotus 1-2-3, for example.

Published Date: Feb 18, 2012

PowerPC Interrupt Extension: Read Me

This article contains the ReadMe file for the PowerPC Interrupt Extension.
This article has been archived and is no longer updated by Apple.
Where Can I Find the Extension online?

The extension can be downloaded from the Apple Software Updates Web site at http://www.apple.com/swupdates .

Overview and Installation

What is the PowerPC Interrupt Extension?

This system extension may improve reliability and performance on Power Macintosh computers, PowerPC-based Performa computers, Mac OS-compatible computers, and on desktop computers upgraded with a PowerPC upgrade card. This extension requires System 7.5.5.

Who should install the PowerPC Interrupt Extension?

Apple recommends installing the PowerPC Interrupt Extension for all customers who have installed System 7.5.5 Update on a desktop Power Macintosh, PowerPC-based Performa, Mac OS-compatible, or on a desktop computer with with a PowerPC upgrade card.

What does installing the PowerPC Interrupt Extension do?

After installing the PowerPC Interrupt Extension, you may notice improvements in reliability and stability. You may have experienced your computer freezing for several seconds before returning to normal operation, or completely freezing and requiring a restart. This extension fixes one source of this problem.

I have a PowerBook with a PowerPC upgrade card. Should I install the PowerPC Interrupt Extension?

PowerBooks, both with and without the PowerPC upgrade card, do not experience the problems resolved by the PowerPC Interrupt Extension. Therefore, it is unnecessary for customers with these computers to install the extension.

I have a PowerPC-based PowerBook. Should I install the PowerPC Interrupt Extension?**

PowerBooks do not experience the problems resolved by the PowerPC Interrupt Extension. Therefore, it is unnecessary for customers with these computers to install the extension.

** The following computers are in the PowerPC-based PowerBook computer family: PowerBook 5300, 5300c, 5300ce, 5300cs, 2300c, 1400c, and 1400cs. Additionally PowerBook 200 and 500 series computers which have PowerPC upgrade cards installed are included in the PowerPC-based PowerBook computer family.

I have a Macintosh based on the 680x0 processor. Should I install the PowerPC Interrupt Extension?

Macintosh computers with a 68000, 68020, 68030, or 68040 processor do not experience the problem fixed by the PowerPC Interrupt Extension. Therefore, it is unnecessary for customers with these computers to install the extension.

How do I get System 7.5.5 Update?

To use the PowerPC Interrupt Extension, you must have System 7.5.5 Update installed. You can download the PowerPC Interrupt Extension and System 7.5.5 Update from the Internet at http://www.apple.com/swupdates as well as through America Online (keyword: applecomputer) and CompuServe (shortcut: GO APLSUP).

Once I install the PowerPC Interrupt Extension, do I need to do anything else?

No. The PowerPC Interrupt Extension works automatically once you install it according to the installation instructions.

How do I install the PowerPC Interrupt Extension?

To install this extension follow these steps:

1. Locate the System Folder icon on your computer's hard disk.

2. Drag the PowerPC Interrupt Extension icon onto the System Folder icon.

3. Click on the OK button when you see the message "Extensions need to be stored in the Extensions folder in order to be available to the Macintosh. Put 'PowerPC Interrupt Extension' into the Extensions folder?"

4. Select Restart from the Special menu for the changes to take effect.

How do I disable the PowerPC Interrupt Extension?

To disable this extension follow these steps:

1. Select Control Panels from the Apple Menu.

2. Locate the Extensions Manager icon and double click it.

3. Scroll through the list until you see PowerPC Interrupt Extension.

4. Click on the PowerPC Interrupt Extension name so that the check mark beside it disappears.

5. Select Restart from the Special menu.

Technical Details
The following is provided for application developers and others who are interested in the technical details of the PowerPC Interrupt Extension. You do not need to understand the following information to use the extension.

The PowerPC Interrupt Extension applies a fix to the low level interrupt services on desktop PowerPC-based Macintosh, Performa, and Mac OS-compatible computers, and on desktop computers upgraded with a PowerPC. Before this fix, a condition could exist where no interrupt was pending but the computer would wait for an interrupt. In this condition the computer would ignore all lower priority interrupts and no processing would continue until a higher or equal priority interrupt occurred. In some cases this would cause intermittent, long interrupt latencies. In other cases this could cause the computer to freeze.

One condition which creates the problem is when a completion routine or interrupt task lowers the current interrupt mask value during its execution. Installing the PowerPC Interrupt Extension applies a fix which will prevent this from causing a freeze or long interrupt latency.
Published Date: Feb 18, 2012

Cyberdog 1.1, OpenDoc 1.1, and Macintosh SE/30 (10/96)

I'm trying to install System 7.5.5, OpenDoc 1.1, and Cyberdog 1.1 on a Macintosh SE/30. The SE/30 freezes when I try installing OpenDoc and Cyberdog.

I've tried performing a clean system install. Stated the SE/30 with only Apple extensions with the addition of Mode 32. I have also tried starting with no SCSI devices, rebuilt the desktop, reset PRAM, start with all extensions off. Is there a known issue I do not know about?

This article has been archived and is no longer updated by Apple.

The first 680x0-based version of Cyberdog is 1.1 which also requires OpenDoc 1.1. OpenDoc 1.1 requires 32-bit ROMs in the computer. Therefore the OpenDoc 1.1 installer does not work on Macintosh II, IIx, IIcx, and SE/30 computers. Specifically, the OpenDoc 1.1 installer fails with this error, "Illegal instruction, Co-processor not installed."

Engineering is aware of this issue. They have no time frame for a solution, and there are no workarounds.

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System 7.5.3: Easy Install Does Not Install Token Ring Drivers

I cannot seem to get the System 7.5.3 Installer to "Easy install" the Token Ring drivers on my PowerBook (Duo) 280c. I am running the installer when the PowerBook is docked into a docking station which has a Token Ring card installed. It is as if the Token Ring card is not being recognized by the installer.

I tried doing a "clean install" of System 7.5.3 from the 7.5.3 CD-ROM disc, but still no Token Ring drivers were installed. Why is this happening?
This article has been archived and is no longer updated by Apple.
This situation you encountered appears to be, from our testing results, an issue with the installer, not with your hardware. This situation occurs in all Macintosh models that have Token Ring cards installed, not just the PowerBook Duo in a docking station.

The "Easy Install" option of System Software 7.5.3 CD-ROM disc does not properly detect the presence of an Apple Token Ring card, hence does not install the necessary drivers. You must select "Custom Install" and then "Networking" and "TokenTalk" to get the drivers installed.
Published Date: Feb 18, 2012

At Ease for Workgroups 4.0 and Printer Quota Settings (10/96)

This article describes an issue with Printer Quota Settings and Current Chooser Selection in At Ease for Workgroups 4.0.

This article has been archived and is no longer updated by Apple.

At Ease for Workgroups 4.0 documentation, page 2-149 of the Apple Network Administrator Toolkit (ANAT) manual states, "The printer quotas feature only works with desktop printers. It does not work if a Workgroup's users are printing on the current Chooser selection, even if the current Chooser selection is a desktop printer."

When you open the Access to Printers window and highlight the Current Chooser Selection, the Printer Setting button is dimmed. However, if you double click the Current Chooser Selection, a Quota Window for the Current Chooser Selection opens and leaves you with the impression that the option will work for the Current Chooser Selection, but it will not.

The information in the manual is correct, printer quotas will not work with the current chooser selection.

This issue has been reported to engineering, there is no time frame for a solution.

Published Date: Feb 18, 2012

Performa & Power Macintosh 5400,6360,6400: Slow Printing

My Power Macintosh 5400 prints very slowly to a LaserWriter NT over LocalTalk: in some cases the print job takes 30 minutes or even longer to complete.
This article has been archived and is no longer updated by Apple.
We corrected a problem that affected printing performance from Macintosh Performa and Power Macintosh 5400, 6360 and 6400 series computers to some LocalTalk printers. This fix was included in Mac OS 8. We recommend that customers who encounter this problem upgrade their systems to Mac OS 8 or newer versions of the Mac OS.

Note that the Power Macintosh 5500 and 6500, introduced after the systems above but prior to when Mac OS 8 became available, have this fix included in their firmware.

The printers the problems arose with and corrected by Mac OS 8 are the:

- LaserWriter NT
- Some GCC BLP-class of printers from GCC Technologies
- LaserWriter 16/600 having the original v1.0 IOP ROM: LW 16/600s with v2.0 or v3.0 IOP ROMs function fine. Other Tech Info Library articles discuss these IOP ROMs revisions in detail.

Published Date: Feb 18, 2012

Open Transport/PPP 1.0: Read Me

This article is the Open Transport/PPP 1.0 Read Me Before Installing file.
This article has been archived and is no longer updated by Apple.

Introduction

This document contains the late-breaking information about Open Transport/PPP. For instructions about how to use Open Transport/PPP--including the Modem and PPP control panels--see the Open Transport/PPP user's manual. Onscreen help is also available in Macintosh Guide. Choose Macintosh Guide from the Help menu (the question mark icon in the upper-right corner of your screen). Information about Open Transport/PPP appears in the Telecommunications topic area. Or you can click the question mark icon that appears in the Modem and PPP control panels.

Additional information about Open Transport/PPP is also available on the Open Transport/PPP home page:

http://devworld.apple.com/dev/opentransport/ppp.html

Included on this home page is a log of the release notes that describes the changes in each of the successive beta releases of the Open Transport/PPP software.

License Agreement

This release of Open Transport/PPP is subject to the terms and conditions of the License Agreement that accompanies the software in the file License. By using the software you agree to abide by the terms and conditions of the License Agreement.

System Requirements

Open Transport/PPP is designed to work on Mac OS-compatible computers with a Motorola 68030- or 68040-family microprocessor, or a PowerPC 601, 603, 603e, 604, or 604e microprocessor.

The recommended system software version for Open Transport/PPP is 7.5.3 or later, updated with Open Transport 1.1.1. System software versions 7.1, 7.1.1, and 7.1.2 releases are also compatible with Open Transport/PPP updated with Open Transport 1.1.1.

Important: You must update your system with Open Transport 1.1.1 before installing Open Transport/PPP. See the following section for information about updating to Open Transport 1.1.1.

Note: Open Transport/PPP cannot be used with system software versions 7.5, 7.5.1, or 7.5.2. Before installing Open Transport/PPP on one of these systems, run the latest 7.5.3 (or later) system updater.

Open Transport/PPP 1.0 requires a minimum of 500K of RAM (for 68030- or 68040-based computers) or 600K of RAM (for PowerPC-based computers). Open Transport/PPP memory requirements are based on the size of total system memory, including virtual memory, minus the size of any RAM disk or disk cache you're using.

Open Transport Requirements

Version 1.1.1 of Open Transport is required for use with Open Transport/PPP.

Note: The Open Transport 1.1.1 update, provided with the Open Transport/PPP installer, requires that you already have Open Transport 1.1. installed on your computer.

Here are the steps required to install Open Transport 1.1.1, depending on the system software you have:

System 7.1.x

1. Install Open Transport 1.1. (Can be purchased for $39 ERP; part number M4252Z/A.)
2. Install Open Transport 1.1.1 Update. (Available free online)

System 7.5, 7.5.1, or 7.5.2

1. Install System 7.5, Update 2.0. (Available free online at Apple Software Update sites. See the following section for information on how to find these sites.)
2. Turn on Open Transport (if it is not already on) by using the Network Software Switcher. The Network Software Selector is located in

the Apple Extras Folder.
3. Install Open Transport 1.1.1 Update. (Available free online)

System 7.5.3 or 7.5.5

1. Install Open Transport 1.1.1 Update. (Available free online)

System 7.5.3 if you have performed a custom installation without installing Open Transport

1. Use the System 7.5.3 or System 7.5.2, Update 2.0 installer to custom install Open Transport 1.1.
2. Install Open Transport 1.1.1 Update. (Available free online)

System 7.5.5 if you have updated a system on which Open Transport was not installed due to a custom installation.

1. Reinstall system software using the system software disks that came with your computer.
2. Based on the version of the system software that came with your computer, use one of the procedures above to install Open Transport 1.1.1.

Apple Software Update Online
Software updates mentioned in this article can be found on the Apple Support Web site, Apple Software Updates Library at:
http://www.apple.com/swupdates

Before You Install Open Transport/PPP 1.0

- Make backup copies of the software and documents on your hard disk (especially your System Folder) before installing this software.
- If you already use SLIP or PPP software to access the Internet, make a note of the configuration information that you entered into your previous SLIP or PPP control panels. Configurations are not automatically converted from third-party SLIP or PPP software.

Known Incompatibilities and Limitations

- Version 1.1.1 of Open Transport is required for use with this release of Open Transport/PPP. You should not attempt to use Open Transport/PPP with Open Transport 1.1.
- ARA 2.x modem CCL scripts can be used with Open Transport/PPP. However, some ARA 2.x scripts do not support modem-based error correction and data compression, so performance may not be optimal. You should try to use one of the modem scripts provided with Open Transport/PPP. If you can't find one that matches your modem, you can modify an existing script to suit your needs.
- If you are using both ARA 2.1 and Open Transport/PPP, be sure to install Open Transport/PPP after ARA 2.1 to get the correct set of modem scripts for both products.
- If you are running Open Transport/PPP on a desktop Macintosh that has sleep capabilities, your Open Transport/PPP connection will not be automatically terminated when you select Sleep from the Special menu, because sleeping desktop computers can continue network activity (unlike PowerBook models). If you don't want to remain connected to your PPP server when you put your desktop system to sleep, disconnect manually using the PPP control panel.
- If you have a copy of Open Transport/PPP older than 1.0f1c2 installed, you must discard your old Open Transport/PPP preferences files. To do so, remove the Remote Access folder from the active Preferences folder. Restart your computer and then use the Modem and PPP control panels to customize your configuration.
- Open Transport/PPP 1.0 has some incompatibilities with the Apple Express Modem. If the Internal Modem choice does not appear in the Modem control panel Port pop-up menu, uncheck the "Use internal modem instead of Modem/Printer port" checkbox in the Express Modem control panel and restart, then open the Modem control panel again.
- You may experience some difficulty with older programs that do not use Open Transport and try to use the serial port while PPP is active. To workaround, disconnect PPP using the PPP control panel before starting up the serial application.
- Claris Emailer version 1.1v3 or later is compatible with Open Transport 1.1.1. A problem in the Quit command of earlier versions of Claris Emailer sometimes causes a crash with Open Transport 1.1.1 (with or without Open Transport/PPP). For your convenience, the Claris Emailer version 1.1v3 patcher and Claris Emailer Lite version 1.1v3 patcher have been provided in the Open Transport Extras folder.
- You may experience CD and TV sound problems when you are dialing your Internet service provider from a Performa 6300CD computer. The workaround is to launch Megaphone before trying to connect.
- When entering phone numbers for the Motorola BitSURFR Pro 56K and 64K ISDN terminal adapters, do not use dashes or spaces between the numbers. For example, "555-9999" should be entered as "5559999". Entering spaces or dashes may prevent successful connections with the BitSURFR Pro, particularly when two ISDN channels are used.
- If you use PortShare Pro from Stalker GmbH to set up a virtual modem or virtual printer port, the ports appear as Modem or Printer, respectively, in the Modem control panel. They do not appear as Virtual Modem or Virtual Printer. PortShare Pro replaces the serial drivers for the on-board modem/printer ports with its own, so selecting Modem or Printer causes Open Transport/PPP (and any other

native Open Transport serial application) to use the replacement drivers.

- Open Transport/PPP will report the single channel speed of 56Kbps or 64Kbps. The 112Kbps or 128Kbps speeds are used but not displayed when using a second ISDN channel with multilink PPP. Use the terminal adapter to find out the speed of the second channel.

Compatibility With the Apple Internet Connection Kit

You can install both Open Transport/PPP and the Apple Internet Connection Kit (AICK) on your computer at the same time. Both products enable you to dial with your modem and connect to the Internet.

At the time of this release, AICK does not use the Open Transport/PPP software to dial and connect to the Internet. AICK has its own Dialer, which uses MacPPP software to establish the remote connection. MacPPP is a third-party implementation of the Point-to-Point Protocol.

All of the AICK applications, however, are compatible with Open Transport/PPP 1.0. To use Open Transport/PPP with AICK applications, you must configure Open Transport/PPP as described in the Open Transport/PPP User's Manual and in the "Connecting to the Internet" topic area of Macintosh Guide.

The currently active PPP software is selected using the "Connect via" pop-up menu in the TCP/IP control panel. MacPPP is listed as MacPPP. OT/PPP is listed as PPP. MacPPP is controlled by using the Config PPP control panel, the Apple Internet Dialer application, or the Apple Internet Status application. Open Transport/PPP is controlled by using the Modem and PPP control panels, which do not modify or change MacPPP configuration information.

If you use both PPP software packages (one at a time), note that launching either the Apple Internet Dialer or Apple Internet Status will make MacPPP active. Furthermore, you will need to switch TCP/IP configurations each time you switch from one PPP software package to the other. (Information about changing TCP/IP configurations appears in the Network topic area of Macintosh Guide.)

Interactions With Third-Party Software

Netscape 2.x will not work reliably with versions of the Mac OS before System 7.5.3 or versions of Open Transport software before 1.1. If you would like to use Netscape 2.0.1 or later, you should make sure that System 7.5.3 or later and Open Transport version 1.1.1 or later are also used. Failure to follow this recommendation may result in system crashes.

Modem Support

Scripts that support many popular modems are provided on the Open Transport/PPP installation disk(s). The scripts include:

3Com Impact Analog 14.4
3Com Impact ISDN 56K
3Com Impact ISDN 56K MLPPP
3Com Impact ISDN 64K
3Com Impact ISDN 64K MLPPP
Apple Personal Modem
AT&T Dataport 288
AT&T KeepInTouch
Best Data Smart One 28.8/33.6
Dayna CommuniCard 28800
Farallon Netopia 56K
Farallon Netopia 56K MLPPP
Farallon Netopia 64K
Farallon Netopia 64K MLPPP
GeoPort/Express Modem
GeoPort/Express Modem CNG
Global Village Gold/Silver/Merc
Global Village Platinum/Gold II
Hayes Accura 288
Hayes Optima 288
Megahertz CruiseCard 14.4
Megahertz CruiseCard 28.8
Metricom Ricochet Wireless
Microcom DeskPorte Fast/288
Microcom QX/4232bis
Motorola BitSURFR 56K
Motorola BitSURFR 56K MLPPP

Motorola BitSURFR 64K
Motorola BitSURFR 64K MLPPP
Motorola ModemSURFR 28.8
Motorola Power/Lifestyle 28.8
Null Modem 9600
Null Modem 19200
Null Modem 57600
Null Modem 115200
Practical Peripherals V.34
Smart One 28.8
Supra 14.4
Supra 28.8/33.6
TDK DF2814
Telebit QBlazer
US Robotics Universal
Zoom V-Series

Apple now installs all modem scripts in the Modem Scripts folder (in the Extensions folder) instead of directly in the Extensions folder. Future Apple products will handle modem scripts the same way. Open Transport/PPP does not recognize modem scripts stored outside the Modem Scripts folder.

Auto-routing of modem scripts has been disabled by the installer. Once Open Transport/PPP is installed, a modem script will not be routed to the Extensions folder if it is dragged into an active System folder.

The Easy Install mode of the installer copies all of the Open Transport/PPP modem scripts to your disk. You can choose Custom Install to limit the installation to only the scripts you choose.

Note: You can delete any unneeded scripts from the Modem Scripts folder, which is located inside the Extensions Folder. To recognize scripts, look for files labeled as "Modem Link Tool Personal document."

Additional (Unsupported) Modem Scripts

User-contributed scripts are available online. New modems are regularly introduced and Apple is willing to help publish scripts donated by users to aid in making Apple Remote Access and Open Transport/PPP work easily with as many modems as possible.

Important: User-contributed scripts are not tested or supported by Apple Computer, Inc., so you should contact the script's author rather than Apple if you run into difficulty using a script downloaded from the unsupported folder. User-contributed modem scripts are provided on an as-is basis as a convenience to Apple customers. They are not warranted to be complete or free from errors, although Apple may choose to review and fully test some user-contributed scripts and include them in future versions of Apple software. If you want to provide Apple with feedback about particular user-contributed scripts, send electronic mail to the following address: msg@apple.com

To find these scripts, go to the Apple Software Updates library http://www.apple.com/swupdates and use [modem and scripts] in the search field.

If you want to contribute a modem script, please use the following procedure:

1. Download the sample Read Me file from the User-contributed scripts folder. The file is named CCL_README_TEMPLATE.
2. Customize the sample Read Me as appropriate for the script you want to submit.
3. Send e-mail to msg@apple.com and enclose the script in bin/hex format.

Scripts will only be posted if they are accompanied by a Read Me explaining the script's purpose and how to contact the author.

(See "Apple Software Updates Sites" near the beginning of this Read Me for information on how to find Apple Software Updates locations.)

Modem Cable Requirements

Most modems require a cable that supports the data terminal ready (DTR) signal. In addition, certain modems require a cable that supports CTS/RTS hardware flow control. To support DTR, the cable must connect pin 20 on the DB-25 connector to pin 1 on the Mini DIN-8. To support CTS/RTS, the cable must connect pin 5 on the DB-25 connector to pin 2 on the Mini DIN-8 and pin 4 on the DB-25 connector to pin 1 on the Mini DIN-8. Contact your modem vendor or Apple-authorized dealer to obtain the necessary cable.

Open Transport/PPP and Apple Remote Access Compatibility

Open Transport/PPP and ARA versions 1.0, 2.0, 2.0.1, and 2.1 are fully compatible and can be used on the same system. Only one can be used at a time.

Versions of ARA before 2.1 install modem scripts directly in the Extensions folder. To make sure that these scripts appear as choices in the Modem control panel, move them to the Modem Scripts folder in the Extensions folder.

ARA 2.1 installs its scripts in the Modem Scripts folder with Extensions. If you are using ARA 2.1, you must install Open Transport/PPP after ARA 2.1 to get a set of scripts in the Modem Scripts folder that works optimally with both products. The Open Transport/PPP scripts support certain modem-based features, such as error correction and data compression, that improve PPP performance. The ARA 2.X scripts may not support these features.

Also, some scripts included with ARA 2.1 are no longer installed with Open Transport/PPP. These scripts are left on your disk by the Open Transport/PPP installer. They may be usable with Open Transport/PPP, but have not been tested for compatibility by Apple.

Registered User or Guest?

If your PPP server does not require a user name and password, or if the server requires only that you enter a name and password in a terminal window, you can select the Guest mode button in the PPP control panel. This will hide the Name and Password fields and will cause the Connect button to be enabled as soon as you enter a phone number.

If your server requires a PPP user name and password instead of, or in addition to, a terminal server login, you must use the Registered User mode of the PPP control panel. In this mode, you must enter something in the Name and Number fields to enable the Connect button. If you leave the Password field blank, and "Save password" is not checked, you will be prompted to confirm that you want to connect without a password.

Connect Scripts

The following varStrings have been added to the CCL scripting language for the user name and password:

Name: ^11 or ^U
Password: ^12 or ^P

When the connect script is executed, these varStrings are substituted by the strings stored in the Name and Password fields of the PPP control panel.

When you record a connect script, and you have entered your name and password in the PPP control panel, the connect script that's recorded by the terminal window will replace those strings by the appropriate varStrings.

The ^U and ^P varStrings are provided as mnemonics for the user name and password, but they cannot be used as parameters of some CCL commands like IFSTR. With those commands, use the ^11 and ^12 varStrings instead.

Connection CCL scripts that use the password varString (^12) in WRITE commands do not log the password in clear text. The password is logged as bullets. This is true whether the user records the script or types it in.

More detailed information about the syntax of the CCL language used for both modem scripts and connect scripts is in the ARA Modem Scripting Guide.PDF file in the OT/PPP Extras folder. This file is in Adobe Acrobat format.

Manual Dialing

Procedures for establishing an Open Transport/PPP connection with manual dialing vary according to the type of modem you are using. To ensure that you can make a connection while using manual dialing, you may need to experiment with pressing the Connect button slightly before or after you hear the remote modem answer the phone.

Using an Express Modem or GeoPort Telecom Adapter

If you are using Express Modem software with either an Express Modem or a GeoPort Telecom Adapter, you must turn on 32-bit addressing in the Memory control panel. Using 24-bit addressing may result in incorrect behavior.

Using Global Village PC Card Products

The Global Village software included with your modem adds an entry to the "Connect via" pop-up menu of the Modem control panel called "PowerPort PC Card". Under some circumstances, an entry for the actual slot your PC Card is plugged into will show up as well ("Upper-slot", "Lower-slot"). These slot-specific items should not be used and the "PowerPort PC Card" item should be used instead or the port will be erroneously reported as busy.

Using an ISDN Terminal Adapter

Both Open Transport/PPP and ARA 2.1 support serial connection speeds of 115,200 and 230,400 bps. By doing so, Apple enables Macintosh users to make ARA and PPP connections over ISDN lines at 64 Kbps or even 112 Kbps if the ISDN terminal adapters at both ends support channel bonding and proper modem scripts are used.

Note: The "Connected at" line of the PPP control panel status box may not accurately reflect the connection speed of ISDN connections. A slower speed may be indicated because ISDN terminal adapter hardware does not report the establishment of second channel connections to the CCL script engine. This will usually happen if you use the Multilink PPP (MLPPP) version of an ISDN script.

Connection speeds of 115,200 and 230,400 bps are not supported by the serial ports on most older Macintosh computers. Here is a partial list of Macintosh models that do have fast serial port support:

- Macintosh Centris 660AV, Macintosh Quadra 660AV, and Macintosh Quadra 840AV models
- Macintosh Performa 6100CD series
- Power Macintosh 6100, 7100, 7200, 7500, 7600, 8100, 8500, and 9500 models
- Workgroup Server 6150, 7250, 8150, 8550, and 9150 models

To set the built-in serial ports at 115,200 or 230,400 bps, a new serial driver called SerialDMA must be installed to replace the standard Macintosh serial device driver. SerialDMA 2.0.2 is provided by Apple. It is highly recommended that the file Serial (built-in) be installed in the Extensions folder as well on Macintosh models with PCI slots to support these high speeds (38,400 bps and above). System 7.5.3 or later includes the latest version of SerialDMA and the file Serial (built-in).

Note: In general, ISDN terminal adapters have more configuration options than conventional modems. At this time it is not possible for Apple to support all combinations of these options for all the ISDN terminal adapters that are supported. We have attempted to write scripts that work with the most common ISDN configurations. You may have to get a revised script from your Internet service provider or network administrator if your server uses different options. You can also modify a script yourself using the Modem Script Generator or by editing the script text directly.

How to Turn Off or Remove Open Transport/PPP

To disable and remove Open Transport/PPP software by using the Custom Remove option in the Installer, follow these steps:

1. Open the Installer application included with Open Transport/PPP 1.0. The Welcome to the Apple Installer screen appears.
2. Click the Continue button. The Open Transport PPP Installation screen appears.
3. Choose Custom Remove from the pop-up menu in the upper-left corner.
4. In the list that appears, select the files you would like to remove by clicking the box next to each file so that an "X" appears in it. To completely remove Open Transport/PPP, you should select all the files listed.
5. Click the Remove button. If a window appears asking you whether to quit any open applications, click Continue. A window will appear telling you to restart your computer.
6. Click the Restart button.
7. Reinstall and configure your previous SLIP/PPP software as required.

To disable Open Transport/PPP without using the Installer, follow these steps:

Note: Although the PPP and Modem control panels appear in the Extensions Manager, there is no component in the Extensions Manager that lets you disable Open Transport/PPP. To disable Open Transport/PPP without using the Installer, you must follow the instructions given here.

1. Move the OpenTpt Remote Access, OpenTpt Modem, and OpenTpt Serial Arbitrator shared libraries from the Extensions folder in the active System Folder.
2. Move the PPP Commands file from the Scripting Additions folder in the Extensions folder.
3. Move the PPP and Modem control panels from the Control Panels folder in the active System Folder.
4. Restart your computer.

It is not necessary to move the Modem Scripts folder from the Extensions folder.
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Open Transport/PPP 1.0: Troubleshooting

This article provides some troubleshooting techniques to common issues.
This article has been archived and is no longer updated by Apple.

Your modem is not listed in the Modem control panel

The modem script for your modem might not be properly installed. Refer to the OT/PPP Read Me file in the Open Transport/PPP folder on your hard disk for the list of modem scripts that came with OT/PPP. Modem scripts should be in the Modem Scripts folder, which is located in the Extensions folder (in your System Folder). If you do not have the script, check with one of the following sources to see if a modem script is available:

* your modem manufacturer's technical support line
* your Apple-authorized dealer
* Apple's World Wide Web site (http://www.apple.com)

You are unable to make a call

If you cannot make a call, something may be wrong with your telephone line, your modem, or the modem setup.

* Make sure your modem is connected properly and turned on. Refer to your modem documentation if you have any problems.
* Make sure your modem type and port are correctly selected in the Modem control panel.
* Test the telephone line wall outlet with a telephone or different modem.

You cannot hear the modem working

Most modems have built-in speakers that let you hear that the modem is working. While connecting to a remote server, you can hear the dial tone, the tones of the numbers being dialed, and the sounds of the modems communicating with each other. After a connection is successfully established, the modem typically turns the speakers off. If you cannot hear these sounds, try the following:

* Make sure that the Sound option in the Modem control panel is set to On.
* If your modem has a volume control, make sure that it is not turned all the way down.
* Modem script may be using an AT command to turn off the modem sound. Use a different modem script or edit the modem script.

You are unable to connect to a server

If your modem is working but you cannot connect to the server, try the following suggestions, in the order in which they are listed here, until you are able to connect:

* Verify the phone number of the server you are trying to call. Dial the number using a regular telephone and listen for the "whistle" of a modem. Make sure that you are calling a PPP server.
* Make sure you are a registered user on the server or that the server is set up for guest access. If you try to connect as a registered user, check that you have entered your user name and password correctly. Passwords are "case-sensitive"-capitalization matters.
* You may need to create pauses while the telephone number is being dialed. Insert a comma between parts of the number where a pause might be needed. Inserting a second comma lengthens the pause. For example, the following entries cause OT/PPP to dial a "9" to get an outside line, then pause before dialing the rest of the number:
  9, 555-1234
  9,, 555-1234
* Make sure you are using the correct modem script for your modem, and that the script came from Apple or the manufacturer of your modem. To test if the problem is your modem and script, try connecting with a different modem.
* The server you are calling may require that you log in to a command-line host through a terminal window. Try selecting the "Connect to a command-line host" protocol option. (From the PPP control panel, click

the Options button, then click the Protocol tab to display the protocol options.)

* The server you are calling lets you connect directly, but you have selected the "Connect to a command-line host" protocol option. Try turning this option off. (From the PPP control panel, click the Options button, then click the Protocol tab to display the protocol options.)
* Try deselecting the "Allow error correction and compression in modem" protocol option. (From the PPP control panel, click the Options button, then click the Protocol tab to display the protocol options.)

You cannot maintain the connection

If you are losing the connection, check the following:

* Servers sometimes develop problems that log users out without explanation. Try calling back later. You might also try a different service provider.
* If you have call waiting, an incoming call can interrupt the connection. In the PPP control panel, precede the phone number with the code to turn off call waiting. Check with your telephone company to find out the code to use.
* Many servers automatically end a connection if it is inactive for a certain time. Check with your Internet service provider or network administrator.
* Some combinations of modems work better than others. Your modem may not be a good match for the modem of the server you are calling. If possible, try calling an alternate number for the server or using a different modem.
* You may have noisy phone lines. If you can hear a "crackle" during a normal voice call, have your line checked by your phone company.

You are unable to dial manually

If you have trouble using the Dial Manually feature, contact the modem manufacturer to be sure the modem script has been upgraded to support the latest features available with OT/PPP.

OT/PPP connects when you start your Macintosh

If you do not want OT/PPP to connect automatically to the Internet when you start up your computer, make sure the "Load only when needed" checkbox in the TCP/IP Options dialog box has an X in it. You open the TCP/IP Options dialog box by clicking the Options button in the TCP/IP control panel. (If the Options button is not visible, you must set the User Mode to Advanced or Administration. Choose User Mode from the Edit menu to open the User Mode dialog box.)

TCP/IP applications do not start OT/PPP automatically

Be sure that the "Connect automatically when starting TCP/IP applications" option (in the PPP control panel's Connection options) is selected.

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Pascal 1.3: Using UNITSTATUS

This article has been archived and is no longer updated by Apple.
The Pascal 1.3 operating system on all Apple systems does not detect characters with the device REMIN:. For example, when an Apple IIc with the 3.5" ROM runs the sample program from volume III, page 191 of the Apple II Pascal 1.3 Workbench Manual, the characters from the modem port (i.e. REMIN:) are not detected.

In previous versions of Pascal, the programmer was requested to use the Applestuff function RemStatus instead of UNITSTATUS when he wanted to use REMIN: and REMOUT:. RemStatus was not included with Pascal 1.3.

To employ REMIN: and REMOUT: with Pascal 1.3, use the Library program to replace the 1.3 APPLESTUFF with the 1.2 APPLESTUFF, following the procedure on pages 216-222 of chapter 8 of the Pascal 1.3 manual, volume II.

After that procedure, the following function and types will be available:

```
TYPE RStatus = (RStatBusy, RStatReady, RStatOffline);
RSChannel = (RSOutput, RSInput);

FUNCTION RemStatus (channel: RSChannel):RstatType;
```

Use this function instead of UNITSTATUS.
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Open Transport & Microsoft Exchange: Network Error (11/96)

I'm using Open Transport, with a fixed IP address, on my Macintosh connected with 10 Base-T Ethernet to a Microsoft NT Server running Microsoft Exchange mail server. When I launch Microsoft Exchange, I get the error message, "Network is not available." What is wrong?

This article has been archived and is no longer updated by Apple.

You should not select to have TCP/IP load only when needed. To do this, open the TCP/IP control panel, select User Mode... under the Edit menu and choose either Advanced, or Administration. In the Advanced or Administration user mode you can click Options... and then deselect "Load only when needed" by clicking the checkbox to remove the "X". If no "X" is in the checkbox, this option is not selected.

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PlainTalk 1.5: Read Me

This article comprises the Read Me for PlainTalk 1.5. This software was released by Apple on October 30, 1996 and is available for downloading from Apple Software Updates Online. Please see Software Updates Document Number 11288, or use the following URL to access the article directly: **http://asu.info.apple.com/swupdates.nsf/artnum/n11288**.

Description:
PlainTalk is a collection of software that enables your Macintosh to speak written text and respond to spoken commands. PlainTalk 1.5 includes three components, each with its own installer:

- English Text-to-Speech
- Mexican Spanish Text-to-Speech
- English Speech Recognition

Note: Speech recognition is not supported on Power Macintosh G3 computers with the DVD personality card, iMac, or the Power Macintosh G3 (Blue and White).
This article has been archived and is no longer updated by Apple.
About PlainTalk 1.5

PlainTalk is a collection of software that enables your Macintosh to speak written text and respond to spoken commands. PlainTalk 1.5 includes three components, each with its own installer: English Text-to-Speech, Mexican Spanish Text-to-Speech, and English Speech Recognition.

This document describes each of these three software packages, and discusses the differences between PlainTalk 1.5 and earlier versions of PlainTalk.

For more information about Apple Computer's speech software, please visit Apple's Speech web site at http://www.speech.apple.com/.

English Text-to-Speech

With the English text-to-speech software installed, many Macintosh programs can read English text out loud. To install the English Text-to-Speech software, you need the following software and hardware:

- any Macintosh or Power Macintosh computer
- version 6.0.7 or later of system software
- at least 300 kilobytes (K) of RAM in addition to what the rest of your system software requires
- at least 5 megabytes (MB) of space available on your hard disk

On System 7.0 or later (System 7.1 or later if you have a computer with less than a 68020 microprocessor) the Text-to-Speech software includes a Speech control panel. In PlainTalk 1.5 and later, this Speech control panel includes a "Talking Alerts" options panel. If you use this to turn the Talking Alerts feature on, your Macintosh will speak the contents of alerts to you. (An alert appears, for example, when your printer runs out of paper while printing.) For more information about the English Text-to-Speech software, see the Using English Text-to-Speech document in the English Text-to-Speech folder.

Mexican Spanish Text-to-Speech

With the Mexican Spanish text-to-speech software installed, many Macintosh programs can read Spanish text out loud. To install the Mexican Spanish text-to-speech software, you need the following hardware and software:

- a Power Macintosh computer or a Macintosh computer with a 68020, 68030, or 68040 processor
- version 7.0 or later of system software
- at least 1.3 MB of RAM in addition to what the rest of your system software requires
- at least 2 MB of space available on your hard disk

For more information about the Mexican Spanish Text-to-Speech software, see the Using Mexican Spanish TTS document in the Mexican Spanish Text-to-Speech folder.

English Speech Recognition

With the English Speech Recognition package and the proper hardware, your computer can respond to spoken commands. The English Speech Recognition package includes the Speech Recognition system extension, the Speech control panel, and a utility called Speakable Items.

With Speakable Items, whenever you say the name of an item inside the Speakable Items folder (which is inside the Apple Menu Items folder), the computer acts as if you double-clicked the item. You can turn Speakable Items on and off using the Speech control panel. You can also use the Speech control panel to set several preferences for how Macintosh Speech Recognition programs listen and respond.

For example, you can set the Listening options in the Speech control panel so that the recognizer only listens while you hold down a key of your choice. When you use this option recognition accuracy is improved and misfires (when the computer thinks you spoke a command but you didn't) are eliminated. To install and use the English Speech Recognition software, including the Speakable Items software, you need the following hardware and software:

- a Power Macintosh computer
- system software version 7.5 or later
- a 16-bit microphone, such as the Apple PlainTalk Microphone or the microphone built into some Apple audiovisual displays.

For more information about the English Speech Recognition software and the Speakable Items utility, see the Using Speech Recognition document in the English Speech Recognition folder. You can also learn more about Apple's speech software -- and check for updates -- by visiting Apple's Speech web site at http://www.speech.apple.com/.

Differences between PlainTalk 1.5 and PlainTalk 1.4.1

PlainTalk 1.5 is a relatively minor update to PlainTalk 1.4.1. It contains a couple new features and a few bug fixes:

- The Speech control panel in PlainTalk 1.5 includes a new feature called Talking Alerts. If you use the Talking Alerts options in the Speech control panel to turn the Talking Alerts feature on, your Macintosh will speak the contents of alerts to you. (An alert appears, for example, when your printer runs out of paper while printing.) The Speech control panel is installed when you run any of the PlainTalk 1.5 installers -- English Text-to-Speech, Mexican Spanish Text-to-Speech, or English Speech Recognition.
- The English Speech Recognition installer for PlainTalk 1.5 installs a version of the Speech Recognition extension (version 1.5.1) that allows Speech Recognition to run on all shipping Power Macintosh computers and PowerPC-based PowerBooks** with 16-bit sound input. Version 1.4.1 of the English Speech Recognition installer installed an older version of the Speech Recognition extension (version 1.4.1) which did not work on some PowerPC-based Performas and PowerBooks that had shipped after PlainTalk 1.4.1 was released. Users of those computers had to separately install an updated Speech Recognition extension (version 1.5). That is no longer necessary.
- The Speakable Items utility (which gets installed when you run the English Speech Recognition installer) contains a few new default speakable items, including "Quit Application" and "Zoom Window".
- The Speakable Items utility now accepts numbers in item names. For example, if you make an alias to an application named "Super Application 4.3" and drag the alias to the Speakable Items folder, then you can open that application by saying "Open Super Application four point three", or "Open Super Application four three" or simply "Open Super Application". In earlier versions of the Speakable Items utility, numbers in item names were ignored.
- The "listen only while key(s) are pressed" feature (also known as the push-to-talk feature) in English Speech Recognition is now even more tolerant of noise or speech that occurs before the push-to-talk key is pressed, requiring little or no pause before pressing the key down and speaking a command. Using the push-to-talk feature increases recognition accuracy and eliminates misfires (when the computer misinterprets sounds not intended for the computer).
- The English Speech Recognition installer for PlainTalk 1.5 installs a version of the Speech Recognition extension (version 1.5.1) which has features and bug fixes that help developers create more robust speech recognition applications. Developers can learn how to use speech recognition in their applications by visiting Apple's Speech web site at http://www.speech.apple.com/.

Differences between PlainTalk 1.5 and PlainTalk 1.4

PlainTalk 1.4.1 was a minor update to PlainTalk 1.4. It included a few bug fixes, including the following:

- Version 1.4.1 and later of the Speech control panel (which is installed by version 1.4.1 and later of English Text-to-Speech, Mexican Spanish Text-to-Speech, and English Speech Recognition) contains a fix to incompatibilities that version 1.4 of the Speech control panel had with HyperCard 2.3's popup menus when running on Power Macintosh computers.
- Version 1.4 of the Speech control panel failed to run on some 68000 Macintosh computers (including Macintosh SE computers). Version 1.4.1 and later of the Speech control panel runs on all Macintosh computers with system software version 7.1 or later.

Differences between PlainTalk 1.5 and PlainTalk 1.3

Version 1.3 and earlier versions of the PlainTalk software had a single installer program that installed both text-to-speech and speech recognition. PlainTalk 1.4 and later contain three separate installers to make it easier to install just the parts that are appropriate for your needs: English Text-to-Speech, Mexican Spanish Text-to-Speech, and English Speech Recognition. You don't have to install them all.

However, if you are going to install version 1.5 of English Speech Recognition or Mexican Spanish Text-to-Speech then you should first install version 1.5 of English Text-to-Speech, even if you already have an older version of English Text-to-Speech installed. English Speech Recognition version 1.5 is a relatively minor update from versions 1.4 and 1.4.1, as described above. But English Speech Recognition version 1.5 (like versions 1.4 and 1.4.1) has some significant differences from the speech recognition software in version 1.3 and earlier versions of PlainTalk. Some features were eliminated to simplify speech recognition and make it more robust and usable. Other options have been added to increase accuracy and eliminate misfires.

- Version 1.4 and later offers a new listening option in the Speech control panel, 3Listen only while key(s) are pressed,2 that lets you leave

Speakable Items on all the time without worrying about misfires. It also improves the accuracy of recognition.

- Version 1.4 and later works in a wider range of environments thanks to its improved adaptation to room acoustics.
- Version 1.4 and later does not include or support Speech Macros, the Speech Macro Editor, or Speech Rules. It still supports speaking dialog buttons and the Speakable Items folder. Any item you place inside the folder becomes speakable—saying the name of the item launches or opens the item. You can use the AppleScript ScriptEditor to create scripts that are launched by speaking a command: just save the scripts inside the Speakable Items folder. To see examples, look inside the Speakable Items folder.
- Version 1.4 and later runs on Power Macintosh computers only, and does not support Macintosh AV computers with 68040 processors. You can continue to use PlainTalk 1.3 on 68040 Macintosh AV computers.
- Version 1.4 and later does not include automatic support for recognizing the spoken names of menu commands. You can still manipulate scriptable programs, such as the Finder, using AppleScript commands. To see examples, look inside the Speakable Items folder.

Deciding whether to upgrade to version 1.5

(if you are currently running version 1.3 or earlier)

In general, version 1.5 offers a more robust and flexible set of features than version 1.3 or earlier versions. However, some people in special circumstances may do better with version 1.3.

- If you have a Macintosh AV computer that has a 68040 processor and you use PlainTalk 1.3's speech recognition capabilities, Apple recommends that you continue using version 1.3 of the PlainTalk software. Though the new text-to-speech software works with these non-PowerPC-based computers, the new speech recognition software does not (because it runs on Power Macintosh computers only). It is not recommended that you mix versions, using the old recognition software with the new text-to-speech software.
- If you make extensive use of PlainTalk 1.3's Speech Macros, the Speech Macro Editor, or the ability to speak menu commands, then you might want to continue using version 1.3. As part of the effort to make the software more robust, version 1.4 and later of English Speech Recognition supports Apple's standard AppleScript ScriptEditor instead of the Speech Macro Editor, and it does not support the ability to speak menu items.

Published Date: Feb 18, 2012

MAE & UNIX AppleTalk Software May Conflict (11/96)

Under some circumstances, MAE at startup may report that another host with the same name is already on the network. Changing the host name in the Network control panel does not prevent this message. What is wrong?

This article has been archived and is no longer updated by Apple.

AFP (AppleTalk Filing Protocol) server software for UNIX systems like KAShare, KIP/CAP, Ushare, and so on may be causing what you report. For example, KAShare modifies the UNIX kernel to support AppleTalk, as MAE does, similar AFP UNIX server packages may have conflicts as well.

Published Date: Feb 18, 2012

PowerBook 1400: SoftWindows 95 Cannot Read CDs (11/95)

I have installed Insignia Solutions SoftWindows '95 on a PowerBook 1400 series computer. Everything seems to function as expected when I am working in SoftWindows '95 except that it does not recognize anything in the CD-ROM drive in the Windows environment.

This article has been archived and is no longer updated by Apple.

SoftWindows '95 needs to be upgraded to version 1.0.2 or later in order to recognize ATAPI interface CD-ROM drives (like the CD-ROM drive in the PowerBook 1400 series computers). A patch to version 1.0.2 can be found on the Insignia Solutions' ftp site: ftp.insignia.com.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor, Insignia, for additional information.

The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.

This article was published in the Information Alley on 14 November 1996.

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Macintosh Power Sweep Voltage Adjustment

PROBLEM DESCRIPTION: Macintosh Pus, 512Ke, 512K has no video output or clicking sound is emitted from the power supply.

This article has been archived and is no longer updated by Apple.

CAUSE: The voltage on the Power/Sweep board might need adjustment.

CURE: Use the following procedure in order to adjust the voltage inside the Macintosh:

POWER/SWEEP ADJUSTMENT

The voltages must be verified whenever the logic board or the power/sweep board is exchanged. If the voltages are outside of the specified tolerances, the adjustments must be performed.

The adjustments are done with the power on, and all voltage measurements are taken on the disk drive port with no peripheral device attached. The internal disk drive should not be running when the measurements are being taken.

EQUIPMENT REQUIRED: Digital Voltmeter (accurate to 0.1 volts)
Macintosh voltage test cable
Plastic alignment tool

NOTE: If you don't have the test cable, you may use wire that has been stripped of insulation at both ends. Insert one wire into one of the drive port pin locations indicated for ground (Pin 1 or Pin 2 of the DB 19). Connect the other end of this wire to the ground probe of the voltmeter. Insert the other wire into the drive port pin location indicated for 5 or 12 volts (pin 6 for 5 volts or pin 7 for 12 volts). ALWAYS DOUBLE-CHECK THAT YOU ARE READING THE VOLTAGES FROM THE CORRECT PINS.

CAUTION: If the banana plugs on the test cable short one another, the Macintosh will be damaged. Make sure that the banana plugs are insulated by their rubber hoods when not in use.

1. The power should be off, and the back cover removed. Connect the black test lead to the ground, set the proper range on the the voltmeter and plug the connector into the disk drive port on the rear of the Macintosh.

2. Connect the orange test lead (12 volts) to the input on the voltmeter. Power on the Macintosh.

The voltage reading must be between 11.90 and 12.75 volts. If the voltage is not within these tolerances, use the alignment tool to adjust the voltage regulator on the power/sweep board to 11.90 to 12.75 volts. Access to voltage regulator is gained from the noncomponent side of the power/sweep board through the hole just above the 11 o'clock position of the speaker.

3. Power off the Macintosh. Disconnect the orange test lead and replace its insulating hood.

4. Connect the red test lead (5 volts) to the input on the voltmeter. Power on the Macintosh.

The voltage reading must be between 4.85 and 5.15 volts. If the voltage is not within these tolerances, use the alignment tool to adjust the voltage regulator (see step 2 for location of the voltage regulator access hole) on the power/sweep board to the specified limits.

6. Power off the Macintosh. Disconnect the red test lead and replace its insulating hood.

7. Return and repeat steps 2 through 6 to verify that both voltages are within the specified tolerance ranges.

IMPORTANT: If the power/sweep board cannot be adjusted so that BOTH voltages fall within the tolerances indicated above, it should be exchanged.

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PowerBook 270c: Cannot Use Apple HD SC Setup 7.3.5

If you try to reformat the 240 MB hard drive that came in the Macintosh PowerBook Duo 270c computers with Apple HD SC Setup 7.3.5 application (which comes System 7.5.3), the formatting process stops at the verification stage when it produces an error that halts the formatting.
This article has been archived and is no longer updated by Apple.
Apple HD SC Setup 7.3.5 cannot format or initialize the 240 MB hard drive that comes with PowerBook 270c computers. You need to use Apple HD SC Setup 7.3.2, which came with System 7.5, or an earlier version.

There are only two features that are included in Apple HD SC Setup 7.3.5, but are not included in version 7.3.2: support for 4 GB hard drives and support for multiple Macintosh volume partitions.
Published Date: Feb 18, 2012

Macintosh Performa 6400: Which Modem is Included?

This article helps identify which modem--Geoport or Global Village--was included with the Macintosh Performa 6400 series computer.

This article has been archived and is no longer updated by Apple.
In order to identify the type of modem a Macintosh Performa 6400 series computer contains, use any of the following information:

1) Check the last three characters of the serial number and compare it to the information below:

Computer	Part Number	Last 3 Characters of Serial Number	Modem Included
Performa 6400/180	M5167LL/A	7U7	Global Village
		838	Global Village
		95R	Geoport
Performa 6400/200	M5168LL/A	836	Global Village
		95S	Geoport

2) Compare the manuals in the "Using Your Modem" package (which was included with your computer) with those described below:

Global Village Modem	Geoport Modem
Read Me First: About Your Modem	Apple TeleCom Manual
TelePort Platinum V Telecommunications Card User's Guide	Using Your Modem, Fax, Internet, and Other Telecommunications Programs
Apple Address Book: User's Guide	
Apple Fax: User's Guide	

3) Within the Communications module in ClarisWorks, type ATI1 and compare the results obtained to the list below:

Result Codes	Modem Installed
240	Global Village Platinum 28.8
0	Apple Geoport 28.8
255	Global Village 14.4 (should not be included in Macintosh Performa 6400 computers)

Published Date: Feb 18, 2012

Newton Connection Kit 2.03 for Windows: Read Me File

This article contains the Newton Connection Kit 2.03 for Windows read me file.
This article has been archived and is no longer updated by Apple.
Welcome to Newton Connection 2.03 for Windows. This package contains a patch to replace the current Newton Connection 2.00. This document contains information about the installation of the product and details about the problems it fixes.

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I. Updating the Newton Connection Kit to version 2.03
II. Release Notes for Newton Connection 2.03
1. Equate Spreadsheet import problem fixed
2. Motorola Marco names problem fixed

I. Updating the Newton Connection Kit to version 2.03

To upgrade your existing version of the Windows Connection Kit to version 2.03, simply copy the following four files to a floppy diskette:

INSTALL.BAT
PATCH.EXE
PATCT.RTP
README.WRI

Once the floppy diskette is created with the 4 files, run the INSTALL program from a DOS prompt by typing A:\\Install. The INSTALL program will locate your existing NEWTON.EXE and update it to version 2.03 of the Windows Connection Kit.

II. Release Notes for Newton Connection 2.03

1. Equate Spreadsheet import problem fixed

The previous version of Windows Connection Kit did not allow spreadsheet data to be imported and synchronized with Equate. This problem has been corrected. Importing data with Equate requires translators provided by Holosoft Inc. If you have not received these translators, contact Holosoft at 408.748.9648.

2. Motorola Marco names problem fixed

On the Motorola Marco, email data fields would not display in the Names overview. This has been fixed so that all data associated with internal apps is now visible within the Overview window. This fix requires new synchronization files to be generated in order to display all data.
Published Date: Feb 18, 2012

LaserWriter Fax Tune-Up: Supported Printers (11/96)

What printers are supported with the LaserWriter Fax Tune-Up software.

This article has been archived and is no longer updated by Apple.

The LaserWriter Fax Tune-Up software fixes a problem with the following fax cards:

Apple LaserWriter Select 360
Apple LaserWriter Pro 810

The Apple LaserWriter 16/600 PS fax card does not have the problem, so the LaserWriter Fax Tune-Up is not needed.

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LaserWriter Printer Driver 8.4.1 & PageMaker 6 Issue (11/96)

I have just upgraded to LaserWriter 8.4 or 8.4.1 and now whenever I print from PageMaker 6, I get an extra blank page printed.

This article has been archived and is no longer updated by Apple.

This is a known issue between PageMaker 6.0 and LaserWriter driver 8.4 or 8.4.1. There have also been reports of what you describe occurring with Freehand 5.5 and PhotoShop 3.0.4, however, we have not been able to reproduce this issue with these applications.

A workaround is to hold the option key down when choosing Print from the File menu. The Option key forces PageMaker to use the LaserWriter driver instead of PageMaker's internal driver.

As a longer term solution, we have alerted Adobe to this issue. Apple Engineering will also be putting a workaround to this in place with future revisions of the LaserWriter printer driver.

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TextBridge 3.0H: Other Supported Scanners

Does the new TextBridge 3.0H software support any scanners other than the Apple Color OneScanner 600/27 and 1200/300?
This article has been archived and is no longer updated by Apple.
The TextBridge manual we distribute with the Apple Color OneScanner 600/27 and 1200/30 answers your question.

The TextBridge application will support a variety of scanners, those that are TWAIN compatible, those listed both in the TextBridge manual on pages 1-5 and 2-8, and those on their web page. The two scanner drivers bundled with the Color OneScanners provide support for the Apple Color OneScanner 600/27 and 1200/30.

TextBridge information may be obtained at: **http://www.scansoft.com/**
Published Date: Feb 18, 2012

Apple IIGS: Differences with other Apple II models

This article has been archived and is no longer updated by Apple.
Some of the features found only on the Apple IIGS:

FEATURE SPECIFICATION DESCRIPTION
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More powerful 65C816 16-bit microprocessor has 24
microprocessor bit address and 6502
compatibility

Faster Operation CPU clock speeds of 1 MHz User can select either of two
and 2.8 MHz speeds: 1 MHz speed of 6502
or fast 2.8 MHz.

Memory Expansion 24-bit address bus Expansion card can expand RAM
up to as much as 8 megabytes

Detached Keyboard 78 keys Separate keyboard includes
cursor keys and numeric pad.

Apple DeskTop Bus Low cost serial I/O Supports detached keyboard,
mouse, and other I/O devices.

RGB Video R, G, B and sync Provides both RGB and NTSC
video outputs.

40 and 80 column Text, background, and Text, background, and border
text in color border colors (RGB only) can be any of sixteen colors.

Super Hi-Res color True 320x200 or 640x200 Improved graphics with up to
16 graphics colors per scan
line-up to 256 colors on
screen out of 4096.

Desktop user Uses Hi-Res color graphics Tool box supports desktop
interface and mouse interface with mouse, menus,
and windows

Improved Sound Ensoniq digital sound IC Supports 15 independent
with 32 oscillators voices (GS retains Apple II
type sound)

Control Panel Built-in desk accessory User may set machine
parameters for display,
operating speed,
serial ports, disk drives,
etc.

Enhanced Monitor Monitor in ROM Handles 16-bit and 24-bit
addresses, assembles and
disassembles 65C816 and 6502
instructions, performs 32-bit
arithmetic, Low level I/O
included

Built-in Clock Time and Date provided Has battery back up

Built-in Serial Two standard serial ports Support modems, printers, and
ports AppleTalk. (User can still
use serial card in slot)

Built-in AppleTalk Uses one serial port No card required. User can
select either serial port to

use for AppleTalk.

Built-in Disk port Disk I/O port using custom User can select built-in
chip driveport,disk interface
cards, or both.

Apple II type features found on the Apple IIGS:

FEATURE DESCRIPTION OTHER MODELS
--- --- ---
6502 Instruction 65816 has emulation mode All Apple II
set for running 6502 programs

128k RAM Main and aux banks, with IIc, 128 IIe
language-card & I/O spaces

AppleSoft in ROM Applesoft Basic with lower All Apple II
case and 80-column features

Monitor in ROM Supports low level I/O and All Apple II
program development

40 and 80 column Black & White text displays IIc, IIe with 128k or 80
text (color text on GS only) column card

Lo-Res Color 48x40, 16 colors All Apple II
graphics

Hi-Res Color 280x192, 6 colors All Apple II
graphics

Double Hi-Res 560x192, 16 colors IIc, 128k IIe
Color graphics

Built-in serial Two RS232 compatible ports, IIc (similar)
ports for modem, printer, etc.

Built-in disk port Using IWM chip, supports IIc
both 5.25", 3.5" drives

Expansion slots (7) Slots for peripheral I/O II, II Plus, IIe
and expansion cards, in
addition to built-in ports

Game I/O 9-pin and 16-pin connectors All Apple II (9 pin IIe, IIc)
for paddles and joysticks
Published Date: Feb 18, 2012

Power Macintosh 4400: Read Me

This article contains the Read Me file for the Power Macintosh 4400 series computers.

Important: The Power Macintosh 4400 series is currently available only in Europe.
This article has been archived and is no longer updated by Apple.
This document provides late-breaking information that could not be included in your user's manual.

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Tips
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Installing Peripheral Component Interconnect (PCI) Cards

Some PCI cards must be installed in a particular slot in your computer. Consult the PCI card's user's manual, Read Me file, or the card manufacturer to determine if the card you are installing must be installed in a certain slot.

Troubleshooting
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IMPORTANT: For more troubleshooting information on the issues described below and on other topics, refer to Macintosh Guide (available in the Guide menu when the Finder is active). The manuals that came with your computer may also contain helpful information.

Issues when Resetting Parameter RAM (PRAM)

When you restart your computer while holding down the key combination Command-Option-p-r, the PRAM is not reset. To successfully reset the PRAM, restart the computer but do not hold down the key combination until after you hear the computer's startup sound (usually a musical chord, chime, or beep).

Issues Turning off System Extensions

When you hold down the shift key while starting or restarting your computer, the system extensions are not turned off. To successfully turn off system extensions, start or restart the computer but do not hold down the Shift key until after you hear the computer's startup sound (usually a musical chord, chime, or beep).

Issues Using a Video Adapter

When you use a video adapter to connect a VGA display after using an RGB display with your computer, the VGA display is at a lower resolution than the RGB display. When you use a video adapter to connect a VGA display and an RGB display, the VGA display cannot provide the same resolution as the RGB display.

Printing Issues
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* You have trouble printing on a StyleWriter or StyleWriter II printer. Use the StyleWriter 1200 printer driver that came installed on your computer. Do not install your older StyleWriter driver; it is not compatible with PowerPC-based computers.

* You can't use the "Print Later" option with a non-networked printer. If you have the Assistant Toolbox extension installed on your computer and you want to use the "Print Later" option when printing on a non-networked printer, you must turn off the Assistant Toolbox extension and restart your computer.

To turn off the Assistant Toolbox extension:

1. Open the Apple (*) menu and choose Control Panels.
2. Open the Extensions Manager control panel.
3. In the list of extensions, click next to the Assistant Toolbox extension to remove the check mark.
4. Restart your computer.

* You see a low-memory warning when you print Stickies on a StyleWriter, StyleWriter II, or StyleWriter 1200 printer. This issue can occur when the amount of memory Stickies uses is set below 150K. Try increasing the amount of memory available to Stickies. For instructions on changing the memory a program uses, refer to Macintosh Guide (available from the Guide menu when the Finder is active).

Performance Issues
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* You see a message that not enough memory is available. This issue can occur for several reasons. For detailed tips on memory-related issues, refer to both the troubleshooting information in the manuals that came with your computer, and to the information on memory in Macintosh Guide (available in the Guide menu when the Finder is active).

* If this issue occurs after you have opened the Extensions folder in the System Folder and scrolled through a long list of extensions, you can restore normal performance by restarting your computer.

* Microsoft applications such as Microsoft Word, PowerPoint, or Microsoft Excel display messages that not enough memory is available and that you need to increase the size of memory available. Try quitting all applications before launching Microsoft applications. This will free additional memory for the application. If this does not work, then try turning on virtual memory providing additional memory for the application and system. The documentation that came with your computer may contain more information about virtual memory.

Issues with Sound

HyperCard version 2.3.3 or earlier does not record sound properly on your computer. Other sound recording application programs, including SimpleSound and the Sound control panel, can record sounds that you can import and play within HyperCard 2.3.

Issues Using a RAM Disk

You notice performance issues when using a RAM disk. Make sure the RAM disk size is not set to 100% or you may experience performance issues.

Issues with Programs Freezing or Quitting Unexpectedly
---
* Maple V quits unexpectedly when you change your monitor resolution. This can occur if you use the Control Strip to change the monitor resolution while the Maple V program is active. Use the Monitors & Sound control panel instead of the Control Strip to change screen resolution. For instructions on using the Monitors & Sound control panel, refer to Macintosh Guide (available in the Guide menu when the Finder is active).

* When you try to install Adobe Premiere Deluxe, the mouse freezes. This can occur if you have virtual memory turned on and AppleTalk active when you try to install Adobe Premiere Deluxe. Turn off virtual memory and make AppleTalk inactive before installing. For instructions, refer to Macintosh Guide (available from the Guide menu when the Finder is active).

This issue does not occur if you select Adobe Premiere 4.2 installation instead of Adobe Premiere Deluxe.

Issues With Monitors
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* You have difficulty choosing a video resolution that works well with your hardware. To select the best video resolution to use with your display and computer, use the control strip displayed in the bottom left corner of your screen. (If the control strip is not visible, display it by choosing Control Strip from the Control Panels menu available under the Apple menu.) The recommended resolutions are listed in a plain font. The resolutions listed in italics may not work with your hardware.

* While using video mirroring (a second monitor connected to your computer that shows the same images displayed on the first monitor), you restart or shut down your computer and both of your monitors appear black or gray when the computer starts up again. Unplug the monitor cable that is connected to the PCI video card in your computer and restart the computer. Or, if you still want to use video mirroring, leave the second display connected to the PCI video card and turn video mirroring off in the Monitors & Sound control panel (available under Control Panels in the Apple menu) before restarting or shutting down your computer. When your computer has restarted, you may turn video mirroring back on in the Monitors & Sound control panel.

Compatibility Issues
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DOS Compatibility Cards

PCSetup is an application program that comes with DOS compatibility cards. PCSetup version 1.5 or earlier may not work with your computer due to minor incompatibility issues.

If you have the DOS compatibility card sound cables installed then the output from the audio will be reversed.

CDPlusGraphics

Your computer displays error messages when you use the CDPlusGraphics application to play a CD-ROM disc that contains both sound and graphics. The graphics tracks of CD+G discs and MIDI tracks of CD+MIDI discs cannot be played on the internal CD-ROM drive in your computer. (However, the audio tracks of these CDs can be played.) To play CD+G and CD+MIDI discs, use an external SCSI CD-ROM drive.

At Ease for Workgroups 3.0 and 3.0.1

In the At Ease Setup program, the "Lock startup volume" check box in the User Settings dialog box is dimmed and unavailable. To make the check box available, install the At Ease for Workgroups Updater version 3.0.2, which is in the Apple Extras folder on the system software CD that came with your computer.

If you are using a version of At Ease prior to 3.0.2, do not remove the "At Ease ATA Extension" in your Extensions folder. (This extension prevents the "Lock startup volume" check box from being available.) If you are using At Ease 3.0.2 or later or you are not using At Ease at all, you may remove the "At Ease ATA Extension."

For more information, refer to the SimpleText file in the At Ease for Workgroups Updater folder in the Apple Extras folder on the system software CD that came with your computer.

Ethernet Cards
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* The Ethernet CS II Card requires Open Transport software. To use Open Transport, open the Network Software Selector application in the Apple Extras folder, and select Open Transport networking. Then use the AppleTalk and TCP/IP control panels to set up networking with the Ethernet CS II Card. (Do not use the Network and MacTCP control panels.)

* MacIPX is not supported currently by Open Transport and therefore does not work with the Ethernet CS II Card or with any Ethernet PCI card.

* The currently shipping versions of Apple IP Gateway and AppleTalk Internet Router are not compatible with Open Transport.

Japanese and Chinese Language Kits
---
* To use the Japanese Language Kit with your computer, you must install version 1.2 or later. In the United States, you can obtain an upgrade by calling Claris at 1-800-293-6617.

* To use the Chinese Language Kit with your computer, make sure you use version 1.1.1 or later. To install the Chinese Language Kit version 1.1.1, follow these three steps:

1. Install the WorldScript Updater 1.0.
2. Install the Chinese Language Kit version 1.0 or 1.1.
3. Install the Chinese Language Kit Updater to update your software to version 1.1.1.

IMPORTANT: Be sure to follow the steps in the order shown.

STF PowerFax PE

If you use PowerTalk Direct Dialup Mail and have trouble sending a fax, it may be because both Direct Dialup and STF PowerFax PE are set to auto-answer. To turn off STF auto-answer, open the STF Setup window and set 'n' to "never" (in the "Answer on 'n' rings" section).

Emagic Logic Version 2.0.1

In order to use Emagic Logic version 2.0.1, the MIDI Manager extension may be required to enable this onto your computer. Similar applications may also require the MIDI Manager extension.

PCI Video Cards
---
* The Targa 1000 video card cannot be used with Adobe Premiere version 4.2.1 to capture movies on your computer (although other movie display and editing functions are still available).

* In order to use the Targa 2000 card, you must install it in slot 2 and turn virtual memory off. The manuals that came with your computer may contain more information about turning virtual memory off.

* In order to use Number 9's Imagine 128 video card with the HawkEye control panel version 4.0.6, you must install the card in either slot 1 or slot 2. If you do not install this control panel, the card can be installed in slots 1, 2, 3, 4, or 5. This card functions best when connected to a multi sync monitor.

* In order to use the Media 100qx card, you must install it in slot 2 and turn virtual memory off. The manuals that came with your computer may contain more information about turning virtual memory off. Also note that this card has special configuration requirements--consult the card's manufacturer to configure your system for best performance.

* In order to use the ATI XClaim GA video card, you must have SGRAM video memory installed in your computer. This card is not compatible with systems containing EDO and SDRAM video memory.

Video Support
==========

DIMM Support
---
4 MB EDO (Extended Data Output) video DIMMs will fit in the DIMM slots on your computer's main logic board, but they are not supported on your computer. Your computer supports SGRAM DIMMs in 1, 2, and 4 MB sizes, SDRAM DIMMs in 1, 2, and 4 MB sizes, and EDO DIMMs in 1 and 2 MB sizes.

Video DIMM Performance

EDO DIMMs provide good performance. SDRAM DIMMs provide improved performance over EDO DIMMs. SGRAM DIMMs provide the highest level of performance.

Note that if you have EDO memory installed in your computer and have reinstalled system software using either the net install or floppy disks, you may see some very small images (small dots or lines) displayed outside the perimeter of windows displaying QuickTime movies or some video games. To eliminate this issue, drag the 4400/160 Graphics Extension from the Apple Extras folder of the system software CD-ROM disc to the System Folder on your computer's hard disk. Computers with SDRAM or SGRAM installed do not experience this issue.

VGA-to-RGB Monitor Adapter

If you have a computer with an RGB video connector and a VGA monitor, you can use the black VGA-to-RGB monitor adapter (P/N 5900289-A) to connect this display to your computer to provide you with the maximum available resolutions and bit depths.

Important Information About Virtual Memory
==========
Virtual memory (VM) is a feature of the Macintosh that lets you use part of your hard disk as additional memory. If you are using an application program designed especially for Power Macintosh computers (often called a "native" application program), turning on virtual memory lets your application use less memory.

Your computer comes with virtual memory turned on. With virtual memory turned on, a Power Macintosh program uses less memory than when virtual memory is turned off. If you check the program's Get Info box before and after turning on virtual memory, you'll see that the numbers in the Memory Requirements box change. That is because turning on virtual memory allows the program to use memory more efficiently.

For information on how to turn virtual memory on and off, choose Macintosh Guide from the Guide menu when the Finder is active. Click the Memory topic area, and then click "How do I use hard disk space as memory?" and "Tips for PowerPC-based computers."

For best performance, try setting virtual memory to no more than 150% of the memory (RAM) installed in your computer, or no more than 50% of your currently available hard drive space, whichever number is lower. For example, if your computer has 16 MB of RAM and your hard drive has 50 MB of available space, set virtual memory to a maximum of 24 MB (this is 150% of your 16 MB of RAM, and less than 50% of the available space on your hard drive).

If virtual memory is turned on and you notice performance issues (such as unusually slow computer response) when using certain application programs, you may want to turn off virtual memory.

To improve performance, you can also install more memory (RAM) in your computer. See the user's manual that came with your computer for more information.

Important Information About Document Auto-Save
==========
The Energy Saver control panel contains a feature named "Document Auto-Save." The purpose of this feature is to automatically quit all open applications during an idle or scheduled shutdown, while saving changes to any open documents in each application. Since there are literally thousands of applications available for the Macintosh (with new ones always arriving), we cannot guarantee that Document Auto-Save will be compatible with every application. This is especially true for any application that does not use standard routines to implement the alerts or dialog boxes used to save changes to new or modified documents. When Document Auto-Save is incompatible with an application, it will either not automatically quit, or it will display alerts or dialog boxes that Document Auto-Save does not recognize and therefore does not dismiss.

If you intend to turn Document Auto-Save on, we recommend that you monitor its operation during the first attempted idle or scheduled shutdown and note if any of your applications are not compatible. You can avoid issues with incompatible applications simply by making sure you leave open no documents that are new or modified before an idle or scheduled shutdown is to occur. Alternatively, you can modify the Document Auto-Save preferences in the Energy Saver control panel so the computer will sleep rather than shut down when unsaved documents are open.

For instructions for using Energy Saver & Document Auto-Save, choose Macintosh Guide from the Guide menu when the Finder is active, and choose the Energy Saving topic area.

Other Document-Saving Products

There are conflicts when non-Apple document-saving control panels or extensions are used in conjunction with Energy Saver's Document Auto-Save. Examples of such products are NowSave and SuperBoomerang. For best results, use the document-saving features of only one control panel or extension.

Self-Dismissing Dialogs

Under some rare conditions, the Energy Saver control panel may continuously dismiss dialog boxes if the Document Auto-Save feature

unexpectedly fails during an idle or scheduled shutdown. (Whenever a dialog box appears, it is dismissed as if you have pressed the Return key.) To return things to normal, simply click the mouse button or press the space bar.

Important Information About Macintosh PC Exchange
==========

AutoDoubler

To use AutoDoubler with Macintosh PC Exchange, you must first open the AutoDoubler control panel and turn off the "Show DD on Compressed Files" option from the DD menu.

Compressed PC Disks and Files

Macintosh PC Exchange does not work with DOS-format floppy disks or SCSI hard disks that have been compressed using Stacker or other DOS or Windows disk-compression utilities. Before transferring compressed DOS files to a Mac OS-based computer, you must decompress the files and save them to a noncompressed DOS-format floppy disk.

Working With Disks Containing Multiple Partitions

If a SCSI hard disk or removable media cartridge has been formatted to contain multiple partitions, you can use Macintosh PC Exchange to mount the Mac OS-, DOS-, or ProDOS-format partitions as individual volumes on the Macintosh desktop. If the disk contains both Mac OS- and DOS-format partitions, Macintosh PC Exchange will recognize only the Mac OS partition. In addition, Macintosh PC Exchange will recognize ProDOS-format partitions only on SCSI hard disks that are less than 32 megabytes.

You can use Macintosh PC Exchange to erase existing individual partitions on a SCSI hard disk or removable media cartridge if they have the same format. However, you cannot use Macintosh PC Exchange to reformat and resize individual partitions contained on the disk. Nor can you format a Mac OS-format hard disk or removable media cartridge as a DOS-format disk. To resize or reformat multiple Mac OS, DOS, or ProDOS partitions, you need to use third-party software designed for partitioning hard disks and removable media cartridges.

Working with DOS-Format SCSI Removable Media Devices

In order for Macintosh PC Exchange to recognize any SCSI removable media device, you must turn on the device and eject any cartridges before you turn on your computer.

Do not install the device driver software that came with your removable media device. Instead, open the Macintosh PC Exchange control panel, click the Options button, select your SCSI device from the list, and then restart your computer. Macintosh PC Exchange will install its own device driver for that SCSI device.

The Eject Disk command is unavailable when you are working with removable media devices. To unmount and eject a removable media cartridge, click the device's icon to select it and choose Put Away from the File menu. Once the device has spun down and the red light goes out, you can manually eject the cartridge from the drive. To access a removable media cartridge that has been ejected, simply reinsert the cartridge in the drive.

When initializing and formatting Bernoulli and SyQuest cartridges on a DOS or DOS-compatible computer, use either the disk setup and partitioning software that came with the SCSI controller card installed in your PC or the one that came with your Bernoulli or SyQuest device. (Do not use the MS-DOS FDISK command.) Also, use the MS-DOS FORMAT command to format a newly initialized removable media cartridge on a DOS or DOS-compatible personal computer (PC) before you copy DOS files onto it.

When you initialize a removable media cartridge on a DOS or DOS-compatible PC, you must fully partition, initialize, and erase the cartridge using the software that came with your SCSI controller card or removable media drive. If you do not, Macintosh PC Exchange may not recognize the new DOS-format partitions on that cartridge.

Working with DOS-Format SCSI Hard Disk Drives

In order for Macintosh PC Exchange to recognize a SCSI hard disk drive, you must turn on the drive before you turn on your computer.

Do not install the device driver software that came with your removable media device. Instead, open the Macintosh PC Exchange control panel, click the Options button, select your SCSI device from the list, and then restart your computer. Macintosh PC Exchange will install its own device driver for that SCSI device.

When initializing and formatting an external SCSI hard disk connected to a DOS or DOS-compatible PC, use the MS-DOS FDISK command or the disk setup and partitioning software that came with the SCSI controller card installed in your PC. In addition, you should use the MS-DOS FORMAT command to format and erase the disk before you copy DOS files to a new SCSI hard disk connected to a PC.

Tips and Issues
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* A "Sad Mac" icon may appear on your screen at startup if a removable media cartridge has been left in the drive. To keep this issue from occurring, manually eject removable media cartridges from their drives before you turn on your computer.

* Macintosh PC Exchange cannot recognize SCSI hard disks, removable media devices, or drive container files that contain more than one gigabyte of disk space.

Published Date: Feb 18, 2012

Newton Connection Kit: New Version for Newton 2.0 OS

I recently upgraded my Apple MessagePad 120 with the Newton 1.x OS to a Apple MessagePad 130 with the Newton 2.0 OS installed. I can no longer get my Newton Connection Kit to work. Why?
This article has been archived and is no longer updated by Apple.
In order to use the Newton Connection Kit with the Newton 2.x OS, you must have a newer version of the Newton Connection Utility software. Newton Connection Utility v1.0 software provides the same functionality; including backup, restoration, and importing files, as the older Newton Connection Kit.

If you chose not to upgrade to the Newton Connection Utility, there are some other alternatives from other software vendors. The article titled "**Newton OS 2.0: Newton Connection Utility Alternatives**" provides a list for both Macintosh and Window computers.

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WGS 8550/200 & 7250/120: CD-ROM Disc Differences (4/97)

When we setup our Workgroup Server (WGS) 7250/120 and Workgroup Server 8550/200 we found very few physical differences between the two computers. We could also not immediately tell the differences on the CD-ROM entitled "Workgroup Server Software - contains System Software Version 7.5.3 for the Workgroup Server 7250 and 8550".

Can you help us determine the changes between the computers and the CD-ROMs discs? Since we have both the older and the newer Workgroup servers, it is very likely that we may mix-up the CD-ROM discs.
This article has been archived and is no longer updated by Apple.
You can tell the difference between the older and newer model Workgroup Servers 7250/120 because the newer model has an 8x CD-ROM drive. The accessory kit contents and the new 8x CD-ROM drive are all that changed on the 7250/120. The newer WGS 8550 model has an 8x CD-ROM drive and runs at 200 MHz.

The CD-ROM discs from the previous models of Workgroup Servers and the newer, faster Workgroup Servers do have unique part numbers, but have the same name as they did in the previous models:

Older Workgroup Server CD part # 691-0718-A
Newer (Speed-bumped) Workgroup Server CD part # 691-1225-A

These part numbers are on printed the CD-ROM discs.

The following is a list of differences between the two CD-ROM discs. Either CD will work just fine on either the older or the newer Workgroup server models.

Added to new CD

The following packages have been added to the CD (691-1225-A):

At Ease Updaters
DOS Compatibility
Desktop Pattern Clippings
MacLinkPlus Translators
MacPPP
OpenDoc
PC Compatibility Software
PlainTalk
Pointer Mode Control
QuickDraw 3D
QuickTime Extras
System Profiler

Was On old CD, Not on New CD

The following packages have been removed from the old CD (691-0718-A):

AppleScript
Expansion Card Info
Universal Access
WorldScript Pieces Install

Upgraded Software on new CD

The following packages have been upgraded on the new CD:

Adobe Acrobat Reader 2.1
Apple RAID 1.1.1 Installer

Article Change History:
28 Apr 1997 - Removed out dated on line references.
Published Date: Feb 18, 2012

At Ease 4.0: AppleShare Access Privileges

After I login as an At Ease user, I notice that the AppleShare access privileges get reset to full access for the Documents folder and it's sub-folders. Is this correct behavior?
This article has been archived and is no longer updated by Apple.
Yes, At Ease resets the AppleShare privileges for the Documents folder and it's sub-folders when the At Ease user logs in to At Ease. This is done to prevent possible problems with use of At Ease due to the access privileges being incorrectly set for those folders.

This has been the behavior of At Ease since version 2.0. A future release of At Ease may change this behavior.
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Macintosh 6360/64xx/54xx Update: Read Me

This article contains the 6360/64xx/54xx Update Read Me document and a link to the 6360/64xx/54xx Update software.

Note: The 6360/64xx/54xx Update fixes have been rolled into Mac OS 7.6.

If you have installed Mac OS 7.6, you do not need the 6360/64xx/54xx Update.

This article has been archived and is no longer updated by Apple.

Language	Release Date	Software Update	Read Me	OS Required
North American English	1996-11-19			North American English Mac OS
International English	1997-05-08			British Mac OS
français	1996-12-11			French Mac OS
Deutsche	---			---
Español	---			---
Italiano	1996-12-11			---
Nederlands	---			---
Japanese	---			---
Bulgarian	1997-05-08			Bulgarian Mac OS
Hrvatski	1997-05-08			Croatian Mac OS
Ceski	1997-05-08			Czech Mac OS
Polski	1996-12-11			Polish Mac OS
Romanian	1997-05-08			Romanian Mac OS
Russian	1997-05-08			Russian Mac OS

Downloading Help: Article 75098 "**Help: Downloading Software**"

All software available from this site is covered by a software license agreement included with this software.

Related Knowledge Base Articles

Article

75110 Macintosh 6360,6400,5400: SCSI Devices Aren't Recognized

75110 Macintosh Performa 6360 & 6400: Can't Update Driver (2/97)

North American English

The 6360/64xx/54xx Update corrects problems that may occur with external SCSI devices and adds support for additional Ethernet network protocols. The Update is designed for use with the following Power Macintosh and Performa models:

- Macintosh Performa 6360
- 64xx series Macintosh computers, such as the Macintosh Performa 6400 and the Power Macintosh 6400
- 54xx series Macintosh computers, such as the Macintosh Performa 5400 and Power Macintosh 5400

Fixes and Features Provided by this Update

The 6360/64xx/54xx Update provides the following corrections and features for 6360, 64xx series, and 54xx series Macintosh computers:

* Fixes problems with using some external SCSI devices, such as external hard disks, scanners, or removable storage devices.

* Fixes problems with printing to a Personal LaserWriter SC or LaserWriter II SC printer. Apple recommends using QuickDraw GX and the LaserWriter II SC GX printer driver with LaserWriter SC printers because there are known problems with the non-GX LaserWriter SC printer driver. You can install QuickDraw GX from the system software CD-ROM disc that came with your computer or download the software from the Apple Software Update sites on the Internet via <http://www.info.apple.com/swupdates/>, America Online, or CompuServe.

* Adds support for additional Ethernet network protocols. If your computer uses the optional Ethernet CS II card to provide Ethernet networking, the 6360/64xx/54xx Update installs files that provide support for the MacIPX and Local Area Transport (LAT) network protocols.

Installing the 6360/64xx/54xx Update

To install the 6360/64xx/54xx Update, do the following:

1. Start up your computer.

If one or more external SCSI devices are preventing your computer from starting up properly, turn them off before starting up. If your computer still does not start up, turn off your computer and SCSI devices. Then disconnect the SCSI devices and try starting up your computer again.

2. Double-click the Installer icon.

3. Click the Switch Disk button until your hard disk appears in the Destination Disk window.

4. Click the Install button.

5. Click the Restart button after installation was successful.

6. Shut down the computer and reconnect the external SCSI devices that you may have disconnected in step 1. Then start up your computer again.

If you are having problems starting up your computer with external SCSI devices attached, refer to the information on connecting external SCSI devices in your Macintosh user's manual, or contact the manufacturer of your external SCSI device.

Note: If you later reinitialize your internal hard disk with Drive Setup 1.1 or earlier, the fixes installed by the 6360/64xx/54xx Update will be removed, and you will need to install it again. (Most likely you will never need to reinitialize your hard disk, which was set up properly at the factory. Before you reinitialize your hard disk, see the troubleshooting information in your Macintosh user's manual for more information.)

What is installed by the 6360/64xx/54xx Update?

SCSI updates
The 6360/64xx/54xx Update installer installs a patch to a partition on your internal hard drive and installs updated resources into your System file in the System Folder. None of the SCSI Update files are visible after installation. To confirm whether or not the update is installed, you should

check that the new files listed below are in your Extensions folder.

Ethernet updates

The 6360/64xx/54xx Update installer installs the files "PCI Network Legacy Layer" and "PCI Network Legacy Loader" into your Extensions folder in your System Folder.

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Apple MPEG Media System: Cannot Copy Part of an MPEG Movie

I am using the Apple MPEG Media System and MoviePlayer to play a MPEG movie file. I copied a small part of the movie to a new MoviePlayer file, but when I save it as a self-contained movie, it saves as the same size as the original movie. If I saved it normally (with dependencies), the file size is small but cannot be played without the original MPEG movie. Why?
This article has been archived and is no longer updated by Apple.
There is an inherent limit with MPEG which disallows a subset of the whole video to be moved out by itself. It is possible to extract only the parts you want to use, but it requires writing code to go and get certain required overhead information from the MPEG movie. So, it is possible to make a smaller subset of a larger video, but only if extra code is written. Without writing code, as you have discovered, when you copy a sequence from a MPEG video and save it as a self contained movie, it will be the same size as the original.

If you do not make an edited movie self-contained (not flattened), you have a "chapter marker" movie. Since the default save mode of Movie Player is a reference file (not a flattened/self contained file), the default movie format is very small since It is only a reference to a location within the full MPEG movie file.

Important: You cannot copy a MPEG movie from a video CD (CDi) to a hard disk for playback. The block sizes of the CD-ROM disc and hard drive are different, so checksums will not match.

This article appeared in the 19 November 1996 issue of the Information Alley.
Published Date: Feb 18, 2012

AppleShare 4.2.x: Network Trash Recovery

I'm trying to recover a file I accidently deleted on the AppleShare File Server. The file is in the Network trash folder, however, this folder is invisible and I'm unable to drag the file out of the folder. How do I get it back?
This article has been archived and is no longer updated by Apple.
You cannot restore a Network Trash file from within AppleShare or AppleShare Admin. You can make the Network Trash folder visible by using ResEdit or similar utility application, and then move he file where you want to save it.

WARNING: The instructions in this article refer to using ResEdit. Apple Computer, Inc., is not liable for any damage done to your software through the use of ResEdit to alter software. The User Assistance Center phone representatives (at 800-SOS-APPL) do not provide technical support for ResEdit. It is supported by APDA. For contact information on APDA, search the Tech Info Library under "APDA".
Published Date: Feb 18, 2012

French Mac OS Update 2.0 & FU1 Version Issue (11/96)

I have a computer running the French version of System 7.5. The computer's modem sounds do not work in communications applications like Global Village's Z-Term, although MegaPhone does seem to have the modem sounds available. The modem will connect without a problem, but I cannot hear the modem handshake or connection.

After updating to System 7.5.3, I noticed other sound related problems on my computer. Audio CDs mount on the desktop and the Audio CD Player does recognize them, but there is no sound output. The Playthrough option is not available in the Sound or Monitors and Sound control panels. System sounds do not play consistently. Lastly, there is no sound output from the modem within MegaPhone. I have performed numerous clean system software installations and updates, but I cannot resolve this issues.

This article has been archived and is no longer updated by Apple.

The issues you describe are related to the FU1 version of the French OS Update 2.0. This version of the update has been available from the Apple Canada Web Site for about 6 months. The FU2 version will take care of most of the issues related to sound on Macintosh Performa and Power Macintosh computers. The only issues not addressed are modem sounds. These are more related to localized versions of the drivers supplied by Global Village and are under investigation by Apple Engineering and Global Village.

Unfortunately, the Mise A Jour FU1 -7.5.3 CD-ROM is the version currently shipping from Claris Canada. The FU2 version is available from Apple Canada's Web Site as well as from SOFTWARE Updates site in the US.

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Open Transport/PPP: Removing OT/PPP (11/96)

This article describes how to remove Open Transport/PPP (OT/PPP).

This article has been archived and is no longer updated by Apple.

To disable and remove Open Transport/PPP software by using the Custom Remove option in the Installer, follow these steps:

* Open the Installer application included with Open Transport/PPP 1.0. The Welcome to the Apple Installer screen appears.
* Click the Continue button. The Open Transport PPP Installation screen appears.
* Choose Custom Remove from the pop-up menu in the upper-left corner.
* In the list that appears, select the files you would like to remove by clicking the box next to each file so that an "X" appears in it. To completely remove Open Transport/PPP, select all of the files listed.
* Click the Remove button. If a window appears asking whether to quit any open applications, click Continue.
* When the window indicating a restart is required appears, click the Restart button.

To disable Open Transport/PPP without using the Installer, follow these steps:

NOTE: Although the PPP and Modem control panels appear in the Extensions Manager, there is no component in the Extensions Manager to disable Open Transport/PPP. To disable Open Transport/PPP without using the Installer, follow the instructions given here.

* Move the OpenTpt Remote Access, OpenTpt Modem, and OpenTpt Serial Arbitrator shared libraries from the Extensions folder in the active System Folder.
NOTE: This step is also useful in returning the computer system to a default condition.
* Move the PPP Commands file from the Scripting Additions folder in the Extensions folder.
* Move the PPP and Modem control panels from the Control Panels folder in the active System Folder.
* Restart the computer.

It is not necessary to move the Modem Scripts folder from the Extensions folder.

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OT/PPP 1.0 & Global Village Combo PC Card Incompatible

Using the Global Village PowerPort Platinum Pro PC Card (for PowerBook computers) and trying to connect with OT/PPP 1.0, I sometimes get this error dialog which states:

"The connection attempt failed: The port may already be in use by another application.

Check for other uses of the port, like an extension that receives faxes or a communication program. Also check the AppleTalk control panel to see if AppleTalk is set to use the same port being used by the Modem control panel."
This article has been archived and is no longer updated by Apple.
This behavior is caused by an incompatibility between OT/PPP 1.0, and the Global Village PowerPort Platinum Pro PC Card. This is the PC card that has combined Ethernet and a 28.8 kbps modem.

Global Village has released updated software that should resolve the issue. It is available from the Global Village software update site:

ftp://ftp.globalvillage.com/pub/software/mac/PP_PC_Card_beta_OT_PPP.sea.hqx

Note: The problem described can also occur with Apple Remote Access 3.0.
Published Date: Feb 18, 2012

Apple II Peripherals: Quick Reference Chart (2/97)

Apple II Peripherals: Quick Reference Chart (2/97)

The following table identifies compatible peripherals for the Apple II line of computers.

This article has been archived and is no longer updated by Apple.

The X means that the peripheral product is compatible with the CPU. The footnotes explain the numbers.

Item Apple II CPU

II Plus IIe IIc IIc(new) IIGS

Drives

Disk II X 1 X 1 9 9 X 1
DuoDisk X 2 X 2 14 14 X
Unidisk X 2 X 2 X X X
Unidisk 3.5 X 3,7 X 3,5 X X
IIc External X 2 X 2 X X X
Apple 3.5 X
Apple 5.25 X 11 X 11 X X X
Profile (5M,10M) X 4,7 X 4 X 4
Hard Disk 20SC X 6,7 X 6 X 6

Cards

II Memory Expansion X 7 X X
IIc Memory Expansion X
IIGS Memory Expansion X
Super Serial X X 8 8 X
Parallel Interface X X 9 9 X
80-column X 8 8
Extended 80-column X 8 8

Apple Modem 300/1200 X 12 X 12 X X X
Apple Personal Modem X 12 X 12 X X X
Imagewriter X 12 X 12 X X X
Imagewriter II X 12 X 12 X X X
Daisy Wheel Printer X 12 X 12 X X X
LaserWriter X 12 X 12 X X X

Monitors
II X X X X X
IIc X X X X X
ColorMonitor IIc, IIe X X X X X
ColorMonitor 100 X 10 9 9
AppleColor RGB 9 9 9,13 9,13 X
AppleColor Composite X X X X X
Monochrome X X X X X

Footnotes:
1 - Requires Disk II controller card
2 - Requires Duodisk/Unidisk controller card
3 - Requires Unidisk 3.5 controller card
4 - Requires Profile Interface Card
5 - Will auto boot on an enhanced IIe
6 - Requires Apple II SCSI Card
7 - Requires 64K RAM for Prodos

8 - This function is built into the Apple IIc
9 - A third party solution is available
10- Requires Extended 80-Column AppleColor Card
11- May be daisy-chained from a Unidisk
12- Requires a Super Serial Card
13- Limited color capability
14- Will only have access to one of the drives

Note: "IIe" stands for either the unenhanced or the enhanced Apple IIe.
"IIc(new)" refers to an Apple IIc with memory expansion socket.

Article Change History:
12 Feb 1997 - Reviewed for technical accuracy, revised formatting.
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At Ease Administration: Error While Editing Workgroup

I am using At Ease Administration to administer my At Ease 4.0 network. When I try to change the information in one of my workgroups I get the following error, "An error occurred while trying to edit the workgroup xxxxxx."
This article has been archived and is no longer updated by Apple.
The workgroup you are working with has probably become unusable and cannot be fixed. One option is to duplicate the workgroup by clicking the Duplicate button. The duplicate can now be edited, so you can delete the original and use the duplicate.

If you are unable to duplicate or delete the workgroup, you can force At Ease to run a Consistency Check Report. To do this, quit the At Ease Administrator application. From the Finder, open At Ease Administrator again, this time holding down the Command key. Continue pressing the Command key until you are asked for the Administrator's password. Release the Command key to type in the password, and then press the Command key again before you select the "Okay" button. When you get the next dialog box about validating the users and workgroups databases, release the Command key and select "Yes" to let the Consistency Check run. This will check for any los in the databases and At Ease will fix the issues if it can.

Another option would be to delete the workgroup which is getting errors, and build a new workgroup.
Published Date: Feb 18, 2012

At Ease 3.0.3 Updater: Read Me

This article is the At Ease 3.0.3 Updater ReadMe file, and it contains important information about the At Ease 3.0.3 Updater. The At Ease 3.0.3 Updater updates At Ease 3.0 or At Ease for Workgroups 3.0, 3.0.1, or 3.0.2 to version 3.0.3. The changes in version 3.0.3 primarily affect non-workgroups users because previous updates have addressed many issues in the workgroups product.

At Ease for Workgroups 3.0.2 users do not need to update to version 3.0.3. All issues with the workgroups product discussed in this document were corrected in At Ease for Workgroups version 3.0.2. (The only change to version 3.0.2 in this update is the correction of a rare issue with the login dialog box: if the login dialog box shows only the user list-not the workgroups list-and the user cancels out of the dialog box, the user list may disappear.)

Since this document gives information on updating both At Ease and At Ease for Workgroups, items that apply only to the workgroups product are indicated by "[WG]."
This article has been archived and is no longer updated by Apple.

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The At Ease 3.0.3 Updater updates At Ease 3.0 or At Ease for Workgroups 3.0, 3.0.1, or 3.0.2 to version 3.0.3. The changes in version 3.0.3

primarily affect non-workgroups users because previous updates have addressed many issues in the workgroups product.

At Ease for Workgroups 3.0.2 users do not need to update to version 3.0.3. All issues with the workgroups product discussed in this document were corrected in At Ease for Workgroups version 3.0.2. (The only change to version 3.0.2 in this update is the correction of a rare issue with the login dialog box: if the login dialog box shows only the user list-not the workgroups list-and the user cancels out of the dialog box, the user list may disappear.)

Since this document gives information on updating both At Ease and At Ease for Workgroups, items that apply only to the workgroups product are indicated by "[WG]."

Requirements for Updating

Version 3.0 Already Installed
You can use the Updater only on a workstation that has version 3.0 or later installed. The Updater will not run if you have an older version (2.x or earlier) of At Ease installed. If you have an earlier version of At Ease, you should first update it to version 3.0, then use the Updater.

[WG] Updating Some or All Workstations
The databases used by At Ease 3.0, 3.0.1, 3.0.2, and 3.0.3 are fully compatible. This means that if you are updating the workgroups version of At Ease, you can update some At Ease workstations on the network and not others. To benefit from all the enhancements in this version, however, you should update all At Ease workstations.

[WG] Using an AppleShare Server for At Ease for Workgroups
If your At Ease server is an AppleShare volume, all At Ease workstations on the network must have version 3.0 installed. If any workstation with an older version of At Ease tries to access the server, a message will appear reporting that the At Ease Preferences file is bad.

Updating Procedure

Installation Options
There are two ways of updating one or more machines using At Ease: by using the Updater's floppy disk on each workstation or by installing the updated software over the network.

Files the Updater Needs to Locate
In most cases, the Updater attempts to locate and update the At Ease and At Ease Startup files automatically. If it cannot find either of these files, it will ask you for the location of the missing file. If you cannot find the file, you can click the Skip button to cancel the update, leaving your files untouched. If you have more than one copy of the setup program on your disk, the Updater will require that other copies be removed before the update can take place. You can have the Updater remove the other copies automatically, or you can cancel the update and remove them manually using the Finder.

Some administrators remove the setup program on certain workstations. On these workstations, the Updater will ask you to locate the setup program. If you are updating the workgroups version of At Ease and cannot locate the program, click the Skip button to bypass this request.

If you are updating the non-workgroups version of At Ease, it is highly recommended that you update the setup program when requested. Since the Updater will probably turn off At Ease on your workstation after it has completed the update, you will need an updated setup program in order to turn At Ease back on. Therefore, it is best not to skip the update.

Updating From the Floppy Disk
Follow these steps to update At Ease from the floppy disk:

1. Turn off At Ease on each workstation that you are updating. (See the user's manual for instructions on how to do this, if necessary.)
2. Insert the Updater disk.
3. Double-click to open the At Ease 3.0.3 Updater application.
4. Click Begin in the opening screen.
5. If the Updater cannot find a file it needs to update, a message appears asking you to locate that file. If you cannot find the file, click Skip to cancel the update.
6. If necessary, locate any missing files and start the update again.

[WG] Updating Over the Network

1. Copy the Updater application to an AppleShare server volume to which your At Ease workstations have access.
2. Make sure the application is locked. (To do this, select the Updater's icon, choose Get Info from the File menu, then click to put an X in the checkbox labeled "Locked.")
3. Turn off At Ease on each workstation you are updating.

Tip: Before updating any workstations on the network, you may want to turn off At Ease on all machines you will be updating by using the Update Computers feature. After you have updated your At Ease machines, you can turn At Ease on using this same feature. (See the user's manual for instructions, if necessary.)

4. Mount the server volume that contains the Updater application.

5. Double-click to open the Updater application.
6. Click Begin in the opening screen.

Using an Updated Copy of the Administration Program
Be sure to update the copy of At Ease Setup or At Ease Setup (Workgroups) that you use to administer At Ease to version 3.0.3. You should also remove any old copies of this program from your hard disk (or disks).

New Desktop Printer Extension
The Apple Extras folder on your Updater disk contains an updated version of the Desktop Printer Extension, an extension used by printer drivers for many newer models of printers. This version of the extension corrects issues that may occur when you are in the restricted Finder mode in At Ease.

You need to install this extension (version 1.03 or later) only if you are using an older version of it. If the Desktop Printer Extension is not already in the Extensions folder in your System Folder, or you have a newer version of the extension, do not install it. (Installing this extension will not affect computers that do not already have it, but the extension will occupy a small amount of memory.) If you are not sure what version of the extension you have, select it and choose Get Info from the File menu.

To install the extension, follow these steps:

1. Open the Apple Extras folder on the Updater disk.
2. Drag the Desktop Printer Extension icon to the System Folder on your hard disk.
3. Click OK each time a message appears.

Changes Made In Previous Versions

[WG] Using the Lock Startup Disk Feature
A bug in version 3.0.1 prevents the Lock Startup Disk feature from working correctly. Although the feature may appear to be active (indicated by a checkmark in the box next to the feature), it may not be active, in which case users will be able to view the startup volume by starting up from a floppy disk (or another volume). After updating your computers to version 3.0.3, you should first attempt to make sure the feature is disabled, quit the administration application, and then re-enable it.

Note that this feature does not work on all Macintosh computers. You should read the section "Disk Security," later in this document, to find out about the compatibility of this feature with your computer.

System Startup Crashes While Using Open Transport
A change to the At Ease Startup extension in this version corrects an issue with system crashes on 68K machines that have Open Transport networking enabled. (This issue may also show up on certain PowerPC machines, notably the Power Macintosh 7500.)

[WG] Possible Hard Disk Corruption on IDE Hard Disks When Using the Lock Startup Volume Feature
This version of At Ease prevents a possible hard disk corruption that can occur when the Lock Startup Volume feature is activated on some newer computers using an IDE (ATA) internal hard disk. These computers include the Macintosh PowerBook 190, PowerBook 2300, and PowerBook 5300, but not the Macintosh Quadra 630. If this issue occurs, the computer displays a "sad Macintosh" icon when restarted.

Version 3.0.3 does not repair an already affected hard disk. If your hard disk has been corrupted, the At Ease-IDE Utility allows you to recover your hard disk. This utility is available on the Updater disk. See the At Ease-IDE Utility Read Me for additional information.

[WG] sub-launching Applications From Other Applications
For security, At Ease does not normally allow applications to open, or sub-launch, other applications. You can allow users to sub-launch applications in At Ease in one of two ways: (a) by installing the sub-launched application in the user's setup; or (b) by choosing the Application Preferences command from the Options menu in At Ease Setup and clicking to put an X in the checkbox labeled "Can be launched by other applications" for each sub-launched application.

Version 3.0.1 provides one simple way to allow sub-launching for all applications. The User Settings dialog box (which you open by choosing User Settings from the Security menu) now contains a checkbox labeled "Always permit sub-launches." When this checkbox is selected, At Ease always allows applications to open other applications. (This setting takes precedence over any setting in the Application Preferences dialog box.)

By selecting this option, an administrator avoids having to select individual applications for sub-launching. The checkbox can best be thought of as a "compatibility mode" feature that allows many applications to work better.

Login Procedure
To improve login speed, At Ease no longer saves panel or page information. Thus, when a user logs back in to the panels environment, she or he will always be brought to the first page of the "brown" panel.

[WG] At Ease Setup Changes
When At Ease Setup starts up, it now checks the internal databases. This check can take from a few seconds (when no users are logged in to the At Ease server) to almost a minute (on slow networks, when users are already logged in to At Ease). A message informs you that this check is taking place.

Clarifications

Using Kid Pix Studio (Correction to Read Me for At Ease 3.0)
In the Read Me file for At Ease 3.0, the section "At Ease for Workgroups 3.0 and Kid Pix Studio" explains how to use At Ease 3.0 with Kid Pix Studio. The information about setting up subprograms with the Application Preferences command contains an error for the file "KPS 5." The file creator for "KPS 5" should be "Kid5," not "Kid4."

Note: Due to web browser limitations, certain characters are not viewable. Therefore, in the paragraph above Kid5 and Kid4 have an "option i" rather than an "i" character.

Note: To create the option i character, hold down the option key and type the letter i, then release the option key and immediately type i again.

CD-ROMs and At Ease
An administrator can allow only certain CD-ROM discs to be used on a workstation. This feature applies only to CD-ROM discs that are used from the CD-ROM drive of the user's computer. It does not apply to discs in CD-ROM drives that are connected to an AppleShare file server. These drives appear to At Ease as AppleShare volumes, not as CD-ROM drives.

Documents Created by Approved Applications
A document that is available to users may be opened if the application that created the document is on the "approved" list of applications. At Ease creates this list by searching locations to which the users of a setup have access, including the setup folder, the Apple Menu Items folder, the Control Panels folder, and the Startup Items folder.

If any documents (or stationery pads) exist in those locations, At Ease assumes that the application that created them is also approved. For example, if the Apple Menu Items folder contains a SimpleText stationery pad, and users of that setup have access to "other items" in the Apple menu, those users will be able to open any SimpleText documents, no matter where the documents are located. This is true for both panels and for the restricted Finder.

[WG] Server Mounting in At Ease
The administrator decides whether users of a particular setup can (a) start up with the last server volumes used or (b) use the Chooser's marked startup volumes instead. At Ease permits only one of these options for a given setup.

This option can be set in At Ease Setup (Workgroups) by selecting a setup and then putting an X in the checkbox labeled "Always remember the user's last-used AppleShare logins." When the checkbox is selected, any AppleShare volumes mounted at logout will be remembered by At Ease and remounted the next time the user logs in. When the checkbox is not selected, any server volumes that were set in the Chooser to connect at startup will mount with the same privileges as were set with the Chooser. Because this feature operates on a user-by-user basis, the setting must always be the same for any user who belongs to multiple setups.

If a server has volumes (such as a CD-ROM drive) to which you want users to have access when they log in, you should leave the "remember" checkbox unselected and use the Chooser to set up the volumes to be mounted on each workstation. You must do this on each computer because the AppleShare information is stored in the System Folder of the workstation, not on the server volume.

[WG] Disk Security
The disk security feature in At Ease prevents users from starting up a workstation from a floppy disk and then accessing the startup disk. This feature was introduced in At Ease 2.0. In version 3.0, you set this feature using a checkbox labeled "Lock Startup Volume" in the User Settings dialog box.

If At Ease detects that the security option cannot be used on a workstation, it dims the checkbox for this option. There are two primary reasons why the Lock Startup Volume option cannot be used:

* Unknown hard disk driver

If you have reformatted your startup disk with a non-Apple hard disk driver, the disk security option may not work with that driver. If the Lock Startup Volume checkbox is dimmed, please contact the driver software manufacturer to see if that disk driver is compatible with this At Ease feature.

* Non-partitioned IDE drives

Some Macintosh computer models use a hard drive mechanism called IDE (or ATA) for the startup disk. (Computers that use this drive type include the Power Macintosh 5200, 5300, and 6200, and the Macintosh PowerBook models 150, 190, and 5300.)

The security in At Ease requires that the startup hard disk drives be partitioned. All SCSI hard drives are partitioned at the factory, and in the future the IDE drives will be partitioned. But for current Macintosh models with IDE drives that are not partitioned, the disk security will work only if the IDE drive is reformatted using a partitioned driver. One program that can partition these drives is Drive7, from Casa Blanca Works. (The IDE hard drive must be reformatted in order to partition it. You cannot update the driver on the disk.)

At Ease and File Sharing
Turning on file sharing on a computer using At Ease version 3.0 or 3.0.1 is not recommended. At Ease attempts to turn off file sharing when a restricted Finder user starts up. You should be sure that file sharing is turned off (by checking in the Sharing Setup control panel).

[WG] Maximum Number of Connected Users on an At Ease Server
Because At Ease can open up to four files on the server for each machine that is in the login screen, it is possible that some versions of AppleShare will not allow as many machines to connect as may be indicated in the AppleShare Admin File Server Preferences dialog. Version 4.2 of AppleShare should eliminate this restriction.

Bypassing At Ease at Startup on Certain Power Macintosh Models
Certain newer Macintosh computers using system software version 7.5.2 may allow users to bypass At Ease by holding down the Shift key when starting up. This issue has been fixed in system software version 7.5.3, but you can also prevent users from bypassing At Ease by clicking to put an X in the checkbox labeled "Don't allow shift key at startup to disable extensions" in the setup application. You may need to do this for each machine on which the issue has occurred.

At Ease and RAM Doubler
RAM Doubler version 1.6 is not compatible with At Ease 3.0.1. The computer may freeze when users launch applications from At Ease if RAM Doubler is installed. Apple recommends that customers contact Connectix Corporation to determine whether an updated version of RAM Doubler is available. For more information, contact Connectix at 800-950-5880 or 415-571-5100.

[WG] At Ease and Hard Disk Toolkit (HDT)
In rare cases, if your internal hard disk has been formatted with certain versions of the Hard Disk Toolkit (HDT), activating the Lock Startup Volume feature in At Ease for Workgroups may prevent your internal disk from starting up. If your internal hard disk has been formatted using HDT, you should back up the data on your hard disk before activating the Lock Startup Volume feature. Because all internal hard disks on computers sold by Apple are formatted using Apple software, not HDT, you will not experience this issue unless you have reformatted the internal hard disk with HDT. To determine if your internal hard disk has been reformatted with the Hard Disk Toolkit, select the hard disk, choose Get Info from the File menu, and check the Info dialog box for "<name of hard drive>, FWB."

At Ease and QuickMail
When a user attempts to save a file from QuickMail, he or she may be prompted to save the file in a location other than the user's documents folder. If the user clicks Cancel and then chooses Save again, the file will be saved in the user's documents folder.

Major Issues Corrected in Versions 3.0.1-3.0.3

Users Visible After Update From Version 2.x
After an update from version 2.x to version 3.0, users already registered in At Ease occasionally did not show up in the setup application. (The setup window showed setups, but no users.) Users should appear after the automatic update from 2.x to this version (3.0.3).

No Report of Damaged Preferences File at Login
On some networks (especially if workstations were not turned off periodically), a message appeared when a workstation logged in indicating that application preferences might be damaged, even though other computers on the network were working properly. Restarting the server usually cleared up this issue. The issue has been fixed in versions 3.0.1 or later.

[WG] Shorter Login or Logout Times on Large Systems
In server-based At Ease networks with many users, workstations took an excessively long period of time to log in or out of the system. In versions 3.0.1 and later, the login and logout times have been reduced for very large networks. Apple recommends that you use version 4.2 (or later) of AppleShare if you are encountering issues with long login or logout times.

[WG] Documents Panel Remains Visible
When an At Ease user was logged in, a message occasionally appeared indicating that the server had been disconnected, and the documents panel disappeared, even though the server volume had not actually been disconnected. This issue has been corrected.

[WG] Setup Application Correctly Recognizes Setups
The setup application occasionally interpreted one or more setups as locked, so that they could not be modified by the administrator. This issue

has been corrected.

Virex Incompatibility Corrected
The Virex application was not compatible with At Ease 3.0. If both programs were installed, the user experienced a system crash when starting up the computer. This issue has been corrected.

Items in the Apple Menu Remain Visible
Occasionally some aliases in the Apple menu were deleted when a restricted Finder user returned to the login screen. This issue has been corrected.

[WG] Servers Mount Correctly
Server volumes selected in the Chooser occasionally could not mount when a user logged in. This issue has been corrected.

Note: This feature works only if the user's setup has the "Always remember the user's last-used AppleShare logins" option turned off. See the user's manual for instructions.

[WG] Import Users Function Works Correctly
A number of changes were made to the "import users" function. an issue that prevented the cancellation of importing when many errors occurred has been corrected.

[WG] Middle-Level Administration
Middle-level administrators can now add users to setups that they own.
Published Date: Feb 18, 2012

LaserWriter Driver 8.x: LW Icon Isn‘t in Chooser (11/96)

I am installing my LaserWriter printer and the instructions say to select LaserWriter 8 in the chooser. I have installed the software multiple times, but there is still nothing in the chooser that reads LaserWriter 8.

This article has been archived and is no longer updated by Apple.

Check the listing of icons in the Chooser for a printer Labeled LaserWriter GX. If you see this printer active, you have QuickDraw GX installed and active. When QuickDraw GX is active, non-GX printer drivers, such as the LaserWriter 8 are hidden, and only the QuickDraw drivers are available. You can select and use the LaserWriter GX icon instead of the LaserWriter 8 driver if you want. For more information about Quickdraw GX consult the documentation that came with your system software, and the manual that came with your printer.

Published Date: Feb 18, 2012

Apple Internet Connection Kit: 1.1.5 ReadMe

This article is the Apple Internet Connection Kit (AICK) 1.1.5 Read Me file.
This article has been archived and is no longer updated by Apple.
Important Information About the Apple Internet Connection Kit

Before you install the Apple Internet Connection Kit, read the following information.

Getting Help for Installing and Using Your Internet Connection Kit
---
Apple will assist you with the installation and setup of the Apple Internet Connection Kit. Our specially trained telephone support staff can assist you with information on:

* installation
* registration
* configuration

Once you have selected and registered with an Internet service provider, the provider will be able to assist you with:

* basic product use
* applications questions or issues
* billing issues
* connection questions and problems

If you are accessing the Internet over a LAN, contact your network administrator for help in setup and use.

Telephone support is available Monday through Friday (excluding holidays) from 6 a.m. to 6 p.m. Pacific Standard Time. In Canada, hours are 8 a.m. to 8 p.m. Eastern Standard Time. For the appropriate phone number to call for support, see the support materials that came with your product.

Apple provides an excellent online reference source for technical information: the Apple Tech Info Library. You can search through thousands of articles on Apple products, past and present, updated regularly by Apple Support personnel. The Apple Tech Info Library (TIL) is available on the Internet (http://www.info.apple.com/til.html).

System Requirements
---
* Power Macintosh or Macintosh computer with a 68030 microprocessor or greater
* Macintosh system software version 7.5 or later
* MacTCP or Open Transport; if you are using Open Transport, you must use version 1.0.8 or later (version 1.1 is strongly recommended)
* 8 megabytes (MB) of random-access memory (RAM), 12 megabytes is recommended; you must turn on virtual memory when using less than 12 megabytes of RAM
* 21 MB hard disk space

Open Transport Users

Open Transport version 1.1 is strongly recommended for use with the Apple Internet Connection Kit. You must use Open Transport version 1.0.8 or later.

IMPORTANT: If you do not use the Dialer and you are using a version of Open Transport earlier than version 1.1, you must restart your computer if you change Internet providers or TCP/IP settings before you can connect to the Internet again.

Apple's System 7.5 Update 2.0 will install Open Transport version 1.1 for you. Look for information about this update and others on Apple forums and Apple Web sites on the Internet.

Installing and Setting Up the Internet Connection Kit

Make sure you've quit all open applications before you attempt to install the Internet Connection Kit.

To install the Apple Internet Connection Kit on your hard drive, double-click the Installer icon and then follow the instructions on your screen. Click the Apple Internet Dialer icon in the Launcher window and follow the instructions that appear on-screen.

If you already have Netscape installed on your computer before you install the Internet Connection Kit, a Backup Folder is created automatically when you install the Internet Connection Kit. The bookmarks that you have created using your previous version of Netscape will be saved in the Backup Folder.

IMPORTANT: Internet applications such as Netscape Navigator¬ must have TCP properly configured to function properly. Use the Dialer to ensure that TCP is configured correctly whether you are using the automatic registration process or manually defining your Internet Service Provider.

Problems While Registering

When you register with a service provider by using the Dialer, the Dialer will gather some personal information from you (such as your name and address) and then it will connect to the registration server and launch Netscape Navigator. If your network connection drops while you are trying to register or there is some problem you encounter with the registration server, you need to quit the Netscape Navigator application. Once you quit, the Dialer will offer you the option to Cancel or Continue the registration process. Click Continue to try to register again immediately, or click Cancel and try later.

Using or Deselecting the Launcher

The Launcher window provides an easy way to open programs and other items; you click a Launcher button once to open the item it represents. The Launcher is set to open automatically after you've installed the Internet Connection Kit.

If you don't want to use the Launcher interface for accessing the applications in the kit, open the General Controls control panel and deselect (remove the X) the "Show Launcher at startup time" option.

Saving Internet Service Provider Registration Information

You will be asked to write down your user name and password after registering with an Internet service provider. You can write the information down on paper, or you can retain this information on your computer by following these steps:

1. Press Command-Shift-3 to take a screen shot of what is on your monitor screen; the screen shot will be saved on your hard drive with the name "Picture 1," and the file can be opened with many applications, including SimpleText.
2. Select the image and copy it into your Scrapbook.

If you forget to write the information down, you will need to contact your service provider to get that information, should you need it. Apple will not be able to assist you with recapturing this information.

If You Already Have an Internet Service Provider

If you already have an Internet service provider, use the Define New Provider command in the Provider menu. You should call your service provider to get the setup information to complete the dialog box that appears.

Connecting to a News Server for the First Time

Connecting to a news server for the first time or switching service providers can take from one minute to more than 20 minutes, depending on your Internet service provider's configuration. If there is a large number of newsgroups to download from the news server to which your service provider has enabled you to connect, the initial connection time could be quite lengthy. Subsequent connections are likely to be much quicker.

Backing Up Your Internet Service Provider Information

Once you have successfully registered with an Internet service provider, it is recommended that you back up the preferences and settings in case you need to restore them. You can do this by opening the Dialer and selecting Backup Provider Information from the File menu.

Using the Correct Version of MacPPP

Apple Internet Connection Kit requires version 2.5 of MacPPP. If you have a different version of MacPPP installed on your machine, you should replace it with the version provided in your package. The Apple Internet Connection Kit Installer does this for you automatically. Older versions of MacPPP, including MacPPP 2.1.4 and 2.2, are not compatible with the Internet Connection Kit, and should not be used with this product. Other implementations of PPP are not supported.

Using SLIP Software

The Apple Internet Dialer is configured to use the MacPPP version that is included with this kit; it will not work with InterSLIP software. InterSLIP software is included with
the Internet Connection Kit as a convenience, but it will not work with the Dialer. If you need to use a SLIP connection, contact your Internet service provider for instructions on setting up and configuring your system using SLIP software.

Troubleshooting Insufficient Memory Messages

If you are attempting to run several Internet applications simultaneously and you see a message indicating that your system does not have enough memory to run an application (or if you see an insufficient memory message the first time you attempt to use the Dialer to register with an Internet service provider), you can try one of the following:

* Close all unnecessary applications.
* Turn on virtual memory (VM); see Macintosh Guide for details about how to use VM.
* Purchase more RAM.

NOTE: For best performance, never set VM to more than twice the amount of physical RAM (if you have an 8 MB system, VM should be no more than 16 MB).

Restoring Your LAN Configuration

If you inadvertently installed the Dialup configuration over your existing Internet LAN configuration, you can restore your settings by following the steps provided in one of the sections below, as appropriate for your MacTCP or your Open Transport system:

If you have MacTCP:

1. Open the Internet Connection Kit folder.
2. Open the folder called Backup Folder.
3. Open your System Folder next to the Backup Folder.
4. Copy the MacTCP Prep file from the Backup Folder into the Preferences folder of your System Folder.
5. Restart your machine.

If you have Open Transport:

1. Open the TCP/IP control panel.
2. Choose Configurations from the File menu.
3. In the list of configurations, click Default to highlight it (if it is not already).
4. Click the Make Active button.
5. Close the TCP/IP control panel.

What Is Installed in Your System Folder?

After doing an Easy Install, the Apple Internet Connection Kit puts the following items in various places in your System Folder:

* Apple Guide 2.0.2
* ObjectSupportLib 1.0.2 (AppleScript document)
* PPP 2.5 (MacPPP) extension and (if necessary) PPP Preferences (Preferences folder)
* MacTCP 2.0.6, MacTCP Prep, MacTCP Token Ring extension, Hosts file (all are installed only if you do not have Open Transport)
* Internet Config extension and Internet Config Preferences
* Internet Dialer Folder (Preferences folder)
- Modem Information
- Internet Dialer Prefs
- reg server
* Launcher 2.8, and Launcher Preferences
* QuickTime 2.1, QuickTime Musical Instruments, and QuickTime PowerPlug (on PowerPC-based computers only)
* Sound Manager 3.1, Sound control panel 8.0.5
* RealAudio Daemon
* Netscape preferences (Preferences folder)
* additional fonts

Published Date: Feb 18, 2012

LW Select 360: Paper Pulls from Multipurpose Tray (11/96)

I have a LaserWriter Select 360 and every time I try to print, the printer indicates it is out of paper. However, there is plenty of paper in the paper cassette. If I put paper in the multipurpose tray it prints from there instead, even though I have selected autoselect in the print dialog. I am also having a problem with my startup page printing off center.

This article has been archived and is no longer updated by Apple.

The LaserWriter Select 360 paper cassette allows you to use a variety of paper sizes by adjusting the cassette to meet the paper sizes used. In order to adjust the cassette, you must extend or retract a blue guide in the center of the tray to meet the top of the paper. When adjusted properly this guide clicks into place against a marking on the tray that specifically indicates what the paper size is. If this clip is damaged, the cassette indicates the wrong paper size to the printer.

When selecting autoselect from the print dialog, the Mac OS checks the printer to see what paper sizes are installed and compares them to what is selected in page setup, for example US Letter. If the printer indicates something other than US Letter paper in the cassette and there is no other source for 8.5 x 11 paper, the printer assumes you have put 8.5 x 11 in the multipurpose tray and pull from there. If there is no paper in the multipurpose tray an out of paper message appears.

When the clip is moved to adjust for paper size, a white spindle on the outer right back of the tray rotates to trigger a response from the printer. If the clip is seated properly in the cassette tray, the spindle appears as follows:

-----> three grooves pointing one direction
----->
----->
<----- followed by three groves pointing the other direction
<-----
<-----
followed by a blank area the size of three grooves

<----- followed by three groves pointing the same direction
<-----
<-----

If it appears in any other configuration, adjust the cassette one more time to be sure it is seated properly. If so, then the cassette will need to be repaired or replaced by your local Apple service provider.

Why The Printer Indicates the Wrong Paper Size

Essentially the peg on the bottom of the blue clip has come unseated from the white hook which connects it to the rotating spindle. Because of this, the spindle gives an incorrect reading and the printer believes that there is some other paper type besides U.S. Letter in the tray. This clip can be reseated by disassembling the tray, but this should only be done by an Apple Authorized Service Provider to avoid damaging the tray in a manner that is not covered by warranty.
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Power Macintosh 4400: Black Screen & Video Mirroring (11/96)

I am using video mirroring with my Macintosh Performa 4400. However, whenever I restart or shut down the computer, both monitors appear black or gray when the computer starts up again. How can I prevent this from happening?

This article has been archived and is no longer updated by Apple.

This appears to be an issue with the system software on the Power Macintosh 4400. Apple plans on resolving this issue in a future version of the Mac OS. In the interim, you can use one of the following workarounds.

* If you no longer want to use video mirroring, follow these steps:

Step 1

Shut down the computer.

Step 2

Unplug the monitor cable that is connected to the PCI video card.

Step 3

Restart the computer.

* Or, if you still want to use video mirroring after restarting, follow these steps:

Step 1

Before shutting down or restarting the computer, open the Monitors & Sound control panel.

Step 2

Turn off Video Mirroring in the Monitors & Sound control panel.

Step 3

Restart or shut down your computer.

Step 4

Once the computer has restarted, turn Video Mirroring back on in the Monitors & Sound control panel.

Published Date: Feb 18, 2012

LW Printers: Using a Multipurpose Tray w/ QuickDraw GX (11/96)

I am printing to a LaserWriter printer using Quickdraw GX and cannot find an option for the multipurpose tray in the print dialog box, or in tray options.

This article has been archived and is no longer updated by Apple.

There is no multipurpose tray option within QuickDraw GX. There is a selection for manual feed in the print dialog. You can use this option with minor setting changes to obtain the same functionality as the multipurpose Tray option.

Using the QuickDraw GX Manual Feed With A Multipurpose Tray
==========

Click on the desktop printer icon. A Printing menu appears in your menu bar next to the Special menu. If a Check appears next to Show Manual Feed Alerts, you need to disable the alert messages, by choosing Show Manual Feed Alerts. If you do not have a check next to the Show Manual Feed Alerts, manual feed alerts is already disabled, so you can use your multipurpose tray without making any changes.

The only PostScript LaserWriter you cannot use this workaround with is the LaserWriter Select 310 printer. There is no manual feed disable feature available with this printer.

This article appeared in the 22 November 1996 issue of the Information Alley.
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Apple IIGS: Sound Logic

This article has been archived and is no longer updated by Apple.

To support sound, the Apple IIGS has the Apple IIGS Sound General Logic Unit, an Ensoniq sound chip, 64K of dedicated sound RAM, and associated circuitry.

Sound General Logic Unit

The Apple IIGS Sound General Logic Unit (Sound GLU) provides an interface between the Ensoniq sound chip and the remainder of the Apple IIGS logic system. The Sound GLU permits the Ensoniq chip to run independently of the Mega II chip.

The Sound GLU contains a control register, data register, and address pointer. Bits within the control register determine the system volume level and control the flow of information between the Ensoniq chip and Sound RAM. The data register and address pointer are used to transfer information to and from the dedicated 64K of Sound RAM to the Ensoniq digital oscillator chip.

Ensoniq Digital Oscillator Chip

The Ensoniq chip contains 32 oscillators, two of which are reserved for use by the Apple IIGS itself. The remaining 30 oscillators are used in pairs to produce 15 sound voices. Each oscillator uses seven DOC registers which contain such parameters as the frequency rate at which the oscillator steps through its wavetable, the size and starting address of the wavetable, data obtained from the wavetable, and the volume and mode of the oscillator.

Sound RAM

64K of RAM is provided for the exclusive use of the Ensoniq DOC. It contains wavetables, which are digitized waveforms, for each of the oscillators.
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Avid Cinema: Don‘t Adjust Memory Requirements (11/96)

After I raised the memory allocation for the Avid Cinema application the video stutters and there seem to be other QuickTime performance problems. What is wrong?

This article has been archived and is no longer updated by Apple.

Adjusting the memory requirements of the Avid Cinema application through the "Get Info" window can have adverse effects on the performance of the application. For best results, do not adjust the Preferred Size or Minimum Size in the "Get Info" window. With virtual memory off, the correct settings for Avid Cinema 1.0 should be:

Minimum Size: 10000K
Preferred Size: 12000K
Published Date: Feb 18, 2012

Network Server 500/700: User Environment Variables (4/97)

I am trying to set environment variables unique to each user on my Network Server. I am modifying the ".profile" file for each user, but the file is never run when I log into CDE (Common Desktop Environment) so none of the variables are set in the graphical environment. However, if a user Telnet into the machine, the variables are set.

This article has been archived and is no longer updated by Apple.

The environment variables for CDE are stored in the ".dtprofile" file. This file is run whenever a user logs into CDE, and is stored in the users $home directory (ksh environment). The ".profile" script is only used for shell logins, such as Telnet or rlogin.

However, you can modify your .dtprofile to envoke your .profile if you are logging in to CDE and need to set your paths from the ".profile". To modify your .dtprofile, uncomment the last line in the .dtprofile (remove the "#" from the line DTSOURCEPROFILE=true).

Library paths will not be set, however, so you will need to modify the .dtprofile for setting these.

Article Change History:
16 Apr 1997 - Added section on .dtprofile
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PC Exchange 2.0.5: Trouble Reading Large DOS Volumes

I am having trouble reading all the information from a DOS formatted SyQuest 270 cartridge with PC Exchange v2.0.5. PC Exchange reads the first 200 MB of data, then continues trying to read the cartridge for varying amounts of time depending on how much information remains on the cartridge, then just displays the information it was able to read.

A dialog informs me that the disk is full, then shows the directory. However, the directories are incomplete. SyQuest informed me that PC Exchange has trouble reading DOS formatted cartridges with over 200 MB of data. Is this correct?
This article has been archived and is no longer updated by Apple.
Yes, PC Exchange has trouble working with large DOS volumes. When PC Exchange runs out of memory it will display a truncated list of files. This limit varies depending on the number of files on the volume. A smaller number of large files will be displayed properly and a larger number of small files will be truncated.

Note: This was fixed in PC Exchange 2.2 and File Exchange 3.x.

This article appeared in the 25 November 1996 issue of the Information Alley.
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Elementary Curriculum Connections Kit - The Cruncher (11/96)

My school is using The Cruncher v.1.21C, a CD-ROM title, that shipped with the Elementary Curriculum Connections Kit for a Power Macintosh 5260/120. Our school is using the Spreadsheet portion of the application. Every time we select a cell and choose the Cell Attributes... command from the Format menu, we receive a message that says, "Sorry, a system error occurred. 'The Cruncher' error type 11".

This behavior happens with both System Software 7.5.3 and System Software 7.5.5 on our computers. How can we fix this issue?

This article has been archived and is no longer updated by Apple.

According to Davidson & Associates, Inc., the developer of The Cruncher, this is a known issue with version 1.21C. Users can workaround this issue by turning off the Modern Memory Manager in the Memory control panel and restarting their computer. After restarting, users should be able to change Cell Attributes normally. Davidson is currently working with Apple to correct this.

For the latest information regarding The Cruncher users should contact Davidson & Associates directly. The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.

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WorldScript Power Adapter Extension: What it is Used For?

Using a Power Macintosh computer, with no language kits installed, can I remove the WorldScript Power Adapter extension?
This article has been archived and is no longer updated by Apple.
Even if you do not have a language kit installed, you should leave the WorldScript Power Adapter extension in your Extensions folder. There is a misconception that this extension is only used with language kits. However, the WorldScript Power Adapter extension is used with both Roman and non-Roman languages.

The WorldScript Power Adapter extension is poorly named; it is more closely related to the Macintosh Script Manager. It contains native PowerPC implementations of many of the general script utilities, including routines used by Roman programs, not just non-Roman. These routines include anything that has to do with laying out and drawing text in QuickDraw. When the WorldScript Power Adapter extension is not installed on a Power Macintosh computer, the routines are emulated, so you are not getting the maximum performance from your computer.

Reinstalling the WorldScript Power Adapter
If you have removed the WorldScript Power Adapter extension and want to reinstall it, you need to reinstall the entire Mac OS System 7.5.x software. The Custom Install option does not allow you to install just the WorldScript Power Adapter. The WorldScript 1.1 Updater software posted on Apple's software update sites, updates the WorldScript I and WorldScript II extensions, but it does not install the WorldScript Power Adapter.

This article appeared in the 25 November 1996 issue of the Information Alley.
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Macintosh Performa 6400: QuickDraw GX Location (11/96)

I want to install QuickDraw GX on my Macintosh Performa 6400 computer. I have searched my hard disk but could not find the software. I used the Restore All Software option on the Macintosh Performa 6400 Restoration CD, but it still did not install QuickDraw GX. How can I get QuickDraw GX?

This article has been archived and is no longer updated by Apple.

As you have discovered, QuickDraw GX is not installed using the Restore All Software option on the Macintosh Performa 6400 Restoration CD. Instead, you must open the several folder to find the installer for QuickDraw GX.

The path for the QuickDraw GX software is:

Performa CD -> Hard Disk Files -> Apple Extras Files -> System Software Extras (scroll down to see it) -> QuickDraw GX.

Other software in the System Software Extras folder includes; QuickDraw 3D, QuickDraw 3D extras, PowerTalk, PowerTalk Extras, Sound control Panel, and Text-to-Speech.
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Color StyleWriter 2200: Communication Settings

This article provides the communication specifications (baud rate, parity, start and stop bits) on the Color Stylewriter 2200.
This article has been archived and is no longer updated by Apple.
The data format for the Color Stylewriter 2200 is:

Asynchronous serial
1 Start Bit
8 Data Bits
1 Stop Bit
No Parity

The same data format is used for transmit and receive.
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At Ease 4.0: Frequently Asked Questions

This article contains answers to frequently asked questions (FAQ) about At Ease 4.0.

Questions in this FAQ

1) Is there any way to shorten the list of At Ease 4.0 users, or group them so a user does not have to scroll through a potential list of 4,000 users?

2) Can At Ease workstations recognize a CD-ROM tower connected to a server?

3) When I use the At Ease Administration program to add a workstation to my approved list I got the following error, "Could not write the workstations list out to the server." Where is the workstation list and how can I fix this?

4) Question: Do you have to install At Ease to use the Network Assistant software?

5) Do teacher handouts affect students disk quota?

6) With At Ease 4.0, I cannot select a printer for printer quotas unless a desktop printer file exists. How can I get a desktop printer file for my non-Apple printer?

This article has been archived and is no longer updated by Apple.

1) Question: Is there any way to shorten the list of At Ease 4.0 users, or group them so a user does not have to scroll through a potential list of 4,000 users?

Answer: One way is to group users is by user type. To change the list use the show option at the login screen and select only Users, Workgroup Administrators, or Administrators. The names on the login screen then appear in alphabetical order. Users can move closer to their name by pressing the first two or three letters of their name which will bring them closer to their name without scrolling through the entire list.

Another option would be to change the System Settings and require the users enter their name and password.

2) Question: Can At Ease workstations recognize a CD-ROM tower connected to a server?

Answer: Workstations can see the CD-ROM discs as shared server volumes. It does not treat them as CD-ROM drives.

3) Question: When I use the At Ease Administration program to add a workstation to my approved list I got the following error, "Could not write the workstations list out to the server." Where is the workstation list and how can I fix this?

Answer: The workstation list is kept in the At Ease Server Prefs file on the At Ease server. This file is located in the Preferences folder which is in the System Folder. You should place the At Ease Server Prefs file in the trash, choose the Empty Trash command from the Special menu, and restart you server. Then reconfigure the server with the At Ease Administration application.

4) Question: Do you have to install At Ease to use the Network Assistant software?

Answer: No, You can perform a custom install of Network Assistant without installing At Ease.

5) Question: Do teacher handouts affect students disk quota?

Answer: Yes. When a teacher uses the Hand out feature in the Panels environment, the document is copied to each users Handout folder inside the their documents folder.

6) Question: With At Ease 4.0, I cannot select a printer for printer quotas unless a desktop printer file exists. How can I get a desktop printer file for my non-Apple printer?

Answer: The Read Me file states that At Ease does not create desktop printer files for non-Apple printers, you need to check with your printer vendor.

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LocalTalk and LaserWriter Bridge 2.1: Information File

This article is the LocalTalk and LaserWriter Bridge 2.1 Information file.
This article has been archived and is no longer updated by Apple.
You use the Apple LocalTalk Bridge to share LocalTalk-only devices, such as some LaserWriter printers, PowerBook computers, or Newton MessagePad communications devices, on an Ethernet or Token Ring network. With the LocalTalk Bridge, you can access an Ethernet or Token Ring network while maintaining a seamless connection to your LocalTalk network. The LocalTalk Bridge is a commercial product, Apple part number M3246Z/A.

You use the Apple LaserWriter Bridge much as the LocalTalk Bridge, except the LaserWriter Bridge is for printers only. You can share any printer that uses the LaserWriter icon in the Chooser using the LaserWriter Bridge. The LaserWriter Bridge is available for download at Apple Software Update sites on the Internet and many online services.

To use either of these utilities with Open Transport, you need to use version 2.1 or later of the utilities. This package includes a program to update LocalTalk Bridge 2.0 or 2.01 software to version 2.1. It also includes version 2.1 of the LaserWriter Bridge program.

System requirements for the LocalTalk or LaserWriter Bridge

System software version 7.1 or later

Either classic AppleTalk networking software or Open Transport version 1.1 or later.

Memory requirements:

* System software version 7.5.3, included in this package, requires a minimum of 4 MB of RAM for computers with 68000-family microprocessors or 8 MB of RAM for computers with PowerPC microprocessors.

* Open Transport requires a minimum of 5 MB of RAM for computers with 68000-family microprocessors or 8 MB of RAM for computers with PowerPC microprocessors. Open Transport memory requirements are based on total system memory including virtual memory, minus the size of any RAM disk and disk cache you choose.

Installing the software

LocalTalk Bridge

If you have LocalTalk Bridge 2.0 or 2.0.1 software, use the updater program to update your software to version 2.1 (compatible with Open Transport).

There are two versions of the updater application. The file "LTB 2.0 to 2.1 patch" updates LocalTalk Bridge version 2.0 to 2.1. The file "LTB 2.0.1 to 2.1 patch" updates LocalTalk Bridge version 2.0.1 to 2.1.

1. To update your software, double-click the appropriate LocalTalk Bridge 2.1 updater application.

2. Choose Restart from the Special menu. When your computer starts up again, the updated LocalTalk Bridge is installed, and your LocalTalk Bridge control panel will be compatible with Open Transport.

LaserWriter Bridge

1. Replace your installed version of LaserWriter Bridge software with the version provided.

2. Choose Restart from the Special menu. When your computer starts up again, the updated LaserWriter Bridge is installed, and your LaserWriter Bridge control panel will be compatible with Open Transport.

For more information on Apple LocalTalk Bridge visit the following articles:
Article 17366: "**Apple LocalTalk Bridge: Description**"
Article 17367: "**Apple LocalTalk Bridge: Specifications**"

For more information on Apple LocalTalk Bridge visit the following articles:
Article 60290: "**Apple LocalTalk Bridge 2.1: Read Me**"

For more information on Apple LocalTalk Bridge and LaserWriter Bridge Mac OS 8.5 compatibility visit the following article:
Article 30774: "**Mac OS 8.5: LT Bridge 2.1 & LW Bridge 2.1 Compatibility**"

Note: This article mentions an Apple software update. You may search for software updates in the Software Updates Library at following URL: **http://asu.info.apple.com**

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Macintosh Internal Drive

PROBLEM DESCRIPTION: The Macintosh Internal Drive will not operate even though a new exchange module has been connected.
This article has been archived and is no longer updated by Apple.
CAUSE: The drive is not secured to the chassis.

CURE: Always make sure that the drive is screwed securely to the chassis when troubleshooting for internal drive problems.

Follow General Troubleshooting Procedures if the drive is screweed to the chassis and still does not work.

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PC Compatibility Card: Limited RS-232 Protocol Support (5/97)

I have an MS-DOS program that uses serial communications. It works properly on my desktop Pentium PC compatible, however it does not work on the Apple PC Compatibility Card installed in my Power Macintosh 7200 computer. The software developer states the problem is related to the way the Macintosh supports the RS-232 protocol. Is there a difference between RS-232 protocol in the Pentium PC and the PC Compatibility Card in my Macintosh?

This article has been archived and is no longer updated by Apple.

Macintosh computers implement the RS-422 protocol, so not all RS-232 signals are available. These RS-232 signals are not available:

- Carrier Detect (CD)
- Data Set Ready (DSR)
- Request to Send (RTS)
- Ring Indicator (RI)

If your application or serial device requires these signals, it will not work.

Neither the PC Compatibility Card or the DOS Compatibility Card support Carrier Detect (CD). You must configure your communications applications so they do not use CD. Most communications applications can be set to respond to the CARRIER string sent back by most modems.

A workaround for RTS and DSR (required for hardware handshaking flow control) is for you to configure your software to use XON/XOFF for flow control. If your software does not allow for XON/XOFF, then the software will not run on the PC Compatibility Card or the DOS Compatibility Card.

In Windows 3.x, you can configure the default port setting in the Ports control panel. Set the Flow Control option to Xon/Xoff. However, flow control is traditionally set in individual applications. Refer to application documentation on how to configure these programs to ensure they are using Xon/Xoff and not using Hardware flow control.

The Windows 95 Modem control panel has an option to set flow control which most Windows applications will follow. To change the flow control follow these steps:

1. Switch to the PC environment.
2. Open the Modem control panel.
3. Select your modem, click on the General tab, and then click on the Properties button.
4. Click on the Connection tab and then click on the Advanced button.
5. Click Flow Control and make sure Software (XON/XOFF) is selected. Make sure Hardware (RTS/CTS) is deselected.

This article appeared in the 26 November 1996 issue of the Information Alley.
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LaserWriters: Meaning of VMerror and Limitcheck Errors

This article explains the "VMerror" and "limitcheck" error messages that can occur when printing to a PostScript-based printer, and offers some ways to minimize or eliminate their occurrence.
This article has been archived and is no longer updated by Apple.
If you print a lot of complex documents to a PostScript printer, you may encounter a limitcheck or VMerror error.

The PostScript language does not restrict or limit the sizes or quantities of things described in the language, such as numbers, arrays, stacks, paths, and so on. However, a PostScript interpreter running in a particular printer does have limits: the interpreter in the printer cannot process a printjob that exceed these limits. If the PostScript Interpreter attempts to perform some operation that would exceed one of these limits it may return the error "limitcheck," or "VMerror" if it exhausts virtual memory resources.

Limitcheck

The occurrence of a limitcheck error usually indicates that the print job itself contains an error or the job has some operation that exceeds one of the printer's limits. There are different types of limitcheck errors; the specific limitcheck encountered error is typically listed when the error is reported. Appendix B of the PostScript Language Reference Manual provides an explanation and the typical values for such limits.

VMerror

A VM error may occur if the printer's memory becomes too low for the PostScript interpreter to reallocate memory to finish processing a job, or perhaps even provide a more accurate or specific error message, or to display any error message at all. It is impossible to predict accurately how much VM available to the PostScript interpreter a printjob will consume, and though adding more memory to the printer may resolve a VMerror, there may be other workarounds to printing a complex document.

To workaround limitcheck and VM errors

Here are some things you can do to minimize or eliminate limitcheck and VMerror errors.

- Try reducing unused page size area by printing to US Letter small (or US Legal small) or by removing the check from "larger print area" in page setup options. By reducing the page area, the printer needs less memory to image each page.
- Try removing all PostScript page setup options except for "unlimited downloadable fonts". This changes the way that fonts are sent to the printer to more efficiently maximize the use of memory.
- Make sure your Macintosh is configured properly. For example be sure you are using the latest version of the LaserWriter driver (which are v8.3.4 and 8.4.1 at the time this article was written).
- Make sure the proper PPD is selected. Instructions for selecting the proper PPD are listed in the Selecting a PPD File section later in this article. Old versions of the LaserWriter driver prior to LaserWriter 8.x do not use PPDs.
- If you are printing to an old printer that has PostScript Level 1 ROMs, print instead to a printer containing PostScript Level 2 ROMs.
- Install more memory in the printer, particularly if it is a printer that contains an old implementation of PostScript (PostScript Level 1).
- Try creating a new document, then copy and past the contents of the old document into the new, then print.
- If you are using fonts that are non-resident to the printer (fonts not built-in to the ROM), select the Page Setup menu option, "Unlimited Downloadable Fonts in Document." One side effect is that your print times may increase. Alternatively, use fewer non-resident fonts in your document, perhaps one or two typefaces, or merely use the built-in fonts. (A list of resident fonts can be displayed with the Apple Printer Utility, or found in the printer's specification sheet or manual.)
- Reduce the complexity of the document by removing unnecessary graphics.
- Cut down on the complexity of the graphics in a document. For example, some programs "auto-trace" graphics, and sometimes the auto-trace results in excess bezier points. In this example, try hand-tracing the document with an illustration program, or edit out some of the unnecessary points.
- Reduce the number of graduated fills (fills that go from one color to another in a rainbow-type fashion) in your document, or choose a solid screen or single percentage gray tone.
- Print the document a few pages at a time.
- If you notice that the document always stops printing when processing a certain page, try printing that page by itself, then print the pages that follow.
- Look for corruption in your document. For instance, if only some pages do not print, look for a repeating element in those pages such as a font or graphic. Try placing that font or graphic on a page by itself and print just that page. If that page does not print, the font or graphic itself may be corrupted, requiring you to reinstall the font or obtain/create a new graphic.

Selecting a PPD File

1. Open the Chooser.

2. Select the LaserWriter 8 driver.

3. Locate and select the printer from the printer list.

4. Choose Setup. Be patient after selecting Setup for a dialog to appear: it may take a little while, particularly if someone else is printing to that printer. A dialog box may appear stating "setting up PostScript printer." When a PPD has been selected, another dialog box stating "Current printer Description File (PPD) Selected: name of PPD" is displayed.

5. Verify the proper PPD has been selected. If the proper PPD was not selected (for example, Generic is listed as being the selected PPD), click on the Select PPD button, then select the PPD for your printer. If no PPD appears in the listing of PPDs (which are stored in the Printer Descriptions folder), then reinstall the printer software so that the correct PostScript Printer Description file becomes available, then repeat these steps to configure your Macintosh printer driver to use the proper PPD.

References

PostScript Language Reference Manual, Adobe Systems Incorporated. ISBN 0-201-181274-4.

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Languages Supported by ZM-System 7.5.5 Update (11/96)

What are the languages supported by System 7.5.5 Update?

This article has been archived and is no longer updated by Apple.

Spanish
Danish
Swedish
German (including Swiss-German)
Dutch
English (British, US, and International)
Norwegian
Catalan
Polish
Italian
Croatian
Finnish
French (including Swiss-French and French-Canadian)
Ukranian
Hungarian
Turkish
Bulgarian
Korean
Portuguese
Romanian
Chinese (Simplified and Traditional)

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CFM-68K Runtime Enabler Extension: Stability Issue

This article describes a stability issue with the CFM-68K Runtime Enabler and 680x0 processor based Macintosh computers. There is also a series of related questions and answers.
This article has been archived and is no longer updated by Apple.
Apple recommends customers upgrade to CFM-68K Runtime Enabler extension version 4.0.

CFM-68K Runtime Enabler is available from Apple Software Updates.

Apple Computer discovered a bug in earlier versions of the CFM-68K Runtime Enabler extension that affects the stability of Macintosh computers based on the 680x0 processor. Version 4.0 of the CFM-68K Runtime Enabler extension addresses this issue. This extension allows the use of certain applications on 680x0 computers, and is installed by an application installer only if the application requires the extension. Customers will know they have this extension installed if the file " CFM-68K Runtime Enabler" (note that the file name begins with a space) is located in their Extensions folder which resides inside their System folder.

In certain circumstances, the bug could cause applications which rely on the CFM-68K Runtime Enabler to not function properly, resulting in application instability and potential loss of data.The most obvious symptoms are what appear to be random system crashes and hangs. Macintosh and Mac OS-compatible computers based on the PowerPC processor are not affected by this bug.

Because of the potential quality impact of this bug, Apple is recommending that customers with computers based on the 680x0 processor upgrade to version 4.0 of the CFM-68K Runtime Enabler extension

What is the CFM-68K Runtime Enabler?

The CFM-68K Runtime Enabler is an extension which makes it easier for developers of applications to design their programs to run on both 680x0 and PowerPC computers without having to write separate programs for both processor families.

On a more technical level, the Code Fragment Manager ("CFM") was originally introduced by Apple only for Macintosh and Mac OS-compatible computers based on the PowerPC processor. It allows applications to share their programming code through special files known as shared libraries. In addition to being able to share programming code, applications which are programmed to use shared libraries can reduce their memory requirements. In response to the success of the PowerPC version of CFM, Apple introduced a version of CFM for Macintosh computers based on the 680x0 processor. This version of CFM for 680x0-based Macintosh computers is the CFM-68K Runtime Enabler extension.

What applications are affected by this bug?

Only applications which have been explicitly programmed to use the CFM-68K Runtime Enabler can be affected by this bug. Apple Computer products which rely on CFM-68K Runtime Enabler are: OpenDoc, Cyberdog, LaserWriter (versions 8.4 and 8.4.1 only), and the Apple Media Tool. Only the 68K versions of these software packages are affected. This bug does not affect PowerPC versions of these products. There are currently few applications which rely on the CFM-68K Runtime Enabler and therefore Apple does not believe that this problem is very widespread.

You can identify applications which rely on the CFM-68K Runtime Enabler extension once the extension is disabled (see below for instructions on disabling the extension). When the CFM-68K Runtime Enabler is disabled, applications which rely on it will report the following error when you attempt to launch them:

"This application requires installation of the 'CFM-68K Runtime Enabler'."

Is this bug caused by these applications?

Not directly. The bug is caused by the use of CFM-68K Runtime Enabler in ways it was not designed to handle. Unfortunately, its limitations were not recognized by the applications.

What should I do if I have installed one of these affected products?

You should upgrade to the version 4.0 of the CFM-68K Runtime Enabler.

If you have a PowerPC-based Macintosh or Mac OS-compatible computer, your computer is not affected by this problem and you do not need CFM-68K.

Should I contact third-party application developers about this problem?

No. Since a fix for this problem will be accomplished by updating Apple's CFM-68K Runtime Enabler, third-party application developers will not need to assist you with this problem.

I have a PowerPC-based computer. Does this affect me?

No. The bug is only in the CFM-68K Runtime Enabler extension, which runs only on Macintosh computers based on the 680x0 processor. The Mac OS on PowerPC computers does have code fragment capabilities, but it is accomplished through different programming techniques not affected by this bug.

How can I get the technical details about this bug?

Apple Technote 1084 has detailed information.

For more information on the CFM-68K Runtime Enabler, please see the following Tech Info Library article:

Article 21126: "**PCFM-68K Runtime Enabler 4.0: Final Version Read Me**"

The following Tech Info Library article can help you find the Tech Note mentioned here:

Article 24493: "**Apple Tech Notes: What They Are, Where To Find Them**"

These articles can help you locate the software update mentioned here:

- Article 14724: "**Where To Find Apple Software Updates**" - Lists online services for free Apple software updates.
- Article 17664: "**WW Apple SW Updates Available Online**" - An index to International Apple Software Updates showing the current software location on the Internet.

Published Date: Feb 18, 2012

"Macintosh 5400, 6400, & 6360: -23 Error When Printing (3/97)"

I have Power Macintosh 5400/120 computer that I am using in conjunction with a Hewlett Packard Deskwriter 660c printer. When I attempt to print, either an error -23 occurs or the computer hangs. How can I prevent this from happening?

This article has been archived and is no longer updated by Apple.

The cause appears to be the HP printer driver. Apple Computer and Hewlett Packard have verified that a -23 error may occur when printing from a Power Macintosh or Performa 5400, 6400, or 6360 computer to any HP Deskwriter 600 series printer using certain older versions of the HP Serial printer driver.

Revised printer drivers have been posted by Hewlett-Packard to their World Wide Web site.

For DeskWriter 600 series printers, use version 9.2.1 of the driver.
For DeskWriter 800 series printers, use version 9.3 of the driver.

If you need to print but do not have the revised driver, a workaround would be to either turn off virtual memory or use the AppleTalk (rather than Serial) printer drivers.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.

Article Change History:
21 Mar 1997 - Updated with HP driver information.
Published Date: Feb 18, 2012

Newton Connection Kit for Windows: Can‘t Use OS/2

I have an Apple MessagePad 120 with the Newton 2.0 OS. I am trying to get data off the Messagepad 120 into my OS/2 computer. When I try to use the Windows shell within OS/2 with the Newton Connection Kit, an error message appears on the MessagePad stating that the PC is not responding. How can I get this to work?

This article has been archived and is no longer updated by Apple.

The Newton Connection Kit for Windows is not supported using the Windows shell with OS/2. Apple Computer, Inc. does not have a solution for getting data from Apple MessagePad devices to OS/2 computers. Apple does not currently have plans to support OS/2 operating system.

Published Date: Feb 18, 2012

Writing & Publishing Tools: Author‘s Toolkit Dictionaries 12/96

The Author's Toolkit, included on the Apple Education Series, Writing and Publishing Tools Backup CD (691-1214-A v1.1) does not install the dictionaries used by the application. The dictionaries cannot be custom installed or drag copied to the hard disk. When I choose Dictionaries from the Edit menu, I get an error message that states "Can't find the spelling dictionaries. Make sure that the folder "SCET Dictionaries" is in the Preferences Folder."

Why does this happen and where can I get these dictionaries?

This article has been archived and is no longer updated by Apple.

The Apple Education Series - Writing and Publishing Tools CD installs a number of packages included with the Writing and Publishing Tools software bundle. The dictionaries were inadvertently left off the CD-ROM disc. The Author's Toolkit is specifically looking for a folder called "SCET Dictionaries" that includes the following dictionaries:

SCET Main Dictionary
SCET User Dictionary

This folder should be placed in the Preference folder located in System Folder. You can obtain a copy of the dictionaries from Sunburst Communications, the developer of The Author's Toolkit. Sunburst can be reached at following addresses and phone numbers:

Sunburst Communications
101 Castleton Street
Pleasantville, NY 10570 U.S.A.

e-mail: support@nysunburst.com OR SunHelp@aol.com
World Wide Web: http://www.nysunburst.com
America Online: keyword: SUNBURST

(800) 321-7511 (this is customer service, so ask for tech support)
(914) 747-3310 (this is an automated operator, so press the number for customer service and ask for technical support)
Published Date: Feb 18, 2012

Monitor II Displays Raster Line

This article has been archived and is no longer updated by Apple.

PROBLEM DESCRIPTION: The Monitor II displays a single line across the screen. There is no other display.

CAUSE: Yoke wires might not be connected properly.

CURE: Check the connections for the green/white pair of yoke wires and make sure they are properly connected to the main electronics assembly. At present they are connected to location V-DY (center of main electronics assembly).

Published Date: Feb 18, 2012

7500/7600/8500: Use Built-In Video For Video Digitizing (12/96)

This article discusses potential issues with digital video recording when adding and using a third-party PCI video card to a Power Macintosh 7500, 7600, or 8500 series computer.

This article has been archived and is no longer updated by Apple.

The Power Macintosh 7500, 7600, and 8500 series computers come with built-in video support and support for digital video recording. Because the video digitizer is tied to the built-in video on these computers, digital video recording will work best when the built-in video is used.

If a PCI video card is added, and the built-in video is not used at all (that is, there is nothing connected to the built-in video connector), video digitizing applications such as Apple Video Player will record sluggishly.

If a PCI video card and built-in video are being used simultaneously (that is, there are two monitors connected to the computer), Apple Video Player will work best when the video window is on the monitor connected to the built-in video connector.

This article was published in the Information Alley on 2 December 1996.
Published Date: Feb 18, 2012

6360/54xx/64xx: Digitizer Not Available w/Only PCI Video

This article discusses issues of which you should be aware when adding and using a third-party PCI video card to a Power Macintosh or Macintosh Performa 6360, 5400, or 6400 series computer.
This article has been archived and is no longer updated by Apple.
The Power Macintosh or Macintosh Performa 6360, 5400 series, and 6400 series Power Macintosh come with built-in video support. These computers also have support for video editing, the TV Tuner Card, and the FM/TV Tuner Card. Because the video digitizer is tied to the built-in video on these computers, there are two situations of which you should be aware:

1) If a PCI video card is added, and the built-in video is not used at all (that is, there is nothing connected to the built-in video connector):

The video digitizer will not initialize on startup and will not be available to applications such as Apple Video Player and Apple FM Radio. Apple Video Player, Apple FM Radio, Avid Cinema, and any other application requiring the video digitizer will not function when the built-in video connector is not being used.

2) If a PCI video card and built-in video are being used simultaneously (there are two monitors connected to the computer):

Apple Video Player will launch, but will perform much better when the video window is on the monitor connected to the built-in video connector. Apple FM Radio will work with no problems (assuming the FM/TV Tuner Card is installed). Avid Cinema will work with no problems (assuming the Avid Cinema hardware and software are installed) as long as the monitor connected to the built-in video connector is the monitor with the menu bar. The menu bar must be on this monitor when the computer is started up. To change the location of the menu bar, open the Monitors & Sound control panel and click the Arrange button.

This article was published in the Information Alley on 2 December 1996.
Published Date: Feb 18, 2012

AppleShare Workstation: Maximum Viewable Volumes

What is the maximum number of viewable volumes in the AppleShare client login window?

The reason I ask is our Windows NT server has 200 volumes, and when connecting to the server with AppleShare Workstation client software we can only see 150. We are at the point where AppleShare and the server have been chosen in the Chooser; guest or registered user and password has been entered; then in the volume selection window, only 150 volumes are available to be selected.
This article has been archived and is no longer updated by Apple.
AppleShare Workstation (client software) 3.6.1 or later should support up to 256 volumes. You should upgrade to the latest version of AppleShare Workstation software which can be found on Apple Computer's online software update locations.

Note: This article mentions an Apple software update. You may search for software updates in the Software Updates Library at following URL: "**http://asu.info apple.com/**"
Published Date: Feb 18, 2012

PowerBook 5300 Series: Hard Drive Speed (12/96)

What are the rotational speeds of the IDE drives installed by Apple in the PowerBook 5300 series computers?

This article has been archived and is no longer updated by Apple.

The rotational speed of the 500 MB, 750 MB, and 1.1 GB IDE hard drives used in the PowerBook 5300 series is 4000 RPM.

Published Date: Feb 18, 2012

GeoPort/Express Modem Update 3.0 & Apple Telecom 3.0 (12/96)

Is the Apple Telecom 3.0 software included in the GeoPort and Express Modem Update 3.0 software found on Apple Computer's software update locations?

This article has been archived and is no longer updated by Apple.

The GeoPort and Express Modem Update 3.0 upgrades the lower level components of Apple Telecom software to 3.0.3. It does not provide the Apple Telecom 3.0 applications, in other words the Apple Telecom 2.x applications are not upgraded.

As of November, 1996 the only users that should have Apple Telecom 3.0 applications are Macintosh or Performa computers that contain a bundled GeoPort internal modem.

Published Date: Feb 18, 2012

Apple Printer Utility: How To Install a ‘Fat‘ Version (12/96)

How do I install a 'fat' version of the Apple Printer Utility?

Note:
A 'fat' version of an application means the application contains both PowerPC native code and 68000 code.

This article has been archived and is no longer updated by Apple.

If you to install a 'fat' version of the Apple Printer Utility from the LaserWriter 8.4 or LaserWriter 8.4.1 installation disks, you must install the software in the following order.

Step 1

Launch the LaserWriter software Installer.

Step 2

Select Custom Install

Step 3

Select the first option; Printer software fro all Macintosh computers.

If you perform an easy install or Custom Install of the Apple Printer Utility, only a version that runs on the computer architecture of the target computer is installed. So, if you have a Macintosh Quadra 700, only a 68k version of the software would be installed. If you had a Power Macintosh 6100 computer, only a PowerPC version of the software would be installed.

This article appeared in the 3 December 1996 issue of the Information Alley.

Published Date: Feb 18, 2012

LisaTerminal: Manual Errata, Versions 1.0 - 2.0

This article has been archived and is no longer updated by Apple.

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Page 81 in Appendix 4:  VT52 Compatible Mode, (Table)

READS:
    Direct cursor address     ESC PI Pc*

IT SHOULD READ:
    Direct cursor address     ESC Ylc*  [NOTE: "ell" not "one"
```

Published Date: Feb 18, 2012

LaserWriter Generates Documents with Missing Portions of Print

This article has been archived and is no longer updated by Apple.

BEFORE YOU START: Familiarize yourself with the LaserWriter Technical Procedures. Be sure to follow proper ESD procedures.

PROBLEM DESCRIPTION: The LaserWriter printer generates documents with missing top and side portions. The LaserWriter test print is missing the vertical lines that make up its outer border.

#1 - CAUSE: The paper cassette might be deformed, causing the printer to assume that larger size paper is being used.

CURE: Swap the paper cassette and generate a test print.

#2 - CAUSE: A legal-size paper tray is possibly being used.

CURE: Install a standard-size paper tray if legal-size paper is not what the user intended for the print job.

#3 - CAUSE: The paper cassette detect switch assembly is bent or damaged. This can be caused by rough handling of the paper tray during insertion or removal of the paper tray.

CURE: Replace the paper cassette detect switch assembly in the LaserWriter pedestal. Be sure to refer to the LaserWriter Technical Procedures for instructions on removing the printer from the pedestal.

Published Date: Feb 18, 2012

QuickDraw 3D v1.5: Read Me

This article contains the QuickDraw 3D version 1.5 Read Me document.
This article has been archived and is no longer updated by Apple.

Important Information About QuickDraw 3D

QuickDraw 3D enables your computer to display three-dimensional graphics using applications designed to take advantage of QuickDraw 3D. It also provides a common file format, called QuickDraw 3D Metafile (or 3DMF for short), for exchanging 3D documents. QuickDraw 3D also provides acceleration services which support plug-and-play accelerator cards.

For computers running the Mac OS, the following are required to install and run QuickDraw 3D:

A PowerPC based computer with a minimum of 16 megabytes of memory (RAM)

Mac OS System 7.1.2 or later

Additional information is available through the Internet at the following site:

http://developer.apple.com/techpubs/quicktime/qtdevdocs/QD3D/qd3d_book.htm

Using QuickDraw 3D

The QuickDraw 3D folder includes the following applications, 3D models, and textures that allow you to explore the 3D capabilities of your computer:

- SimpleText version 1.3.1 and Scrapbook version 7.5.2. These applications allow you to open and interact with 3DMF models.
- A new Scrapbook File with sample 3DMF models.
- A number of 3DMF models provided by:

  Model Masters at http://www.interaccess.com/modelmaster

  Plastic Thought, Inc. at http://www.3d-active.com

  Viewpoint DataLabs International at http://www.viewpoint.com

  Zygote at http://www.zygote.com

You can expect even more applications that use QuickDraw 3D in the near future, including new versions of application programs you may already own. Contact your software vendors for more information about their plans to support this new technology.

Troubleshooting

If you try to start an application that uses QuickDraw 3D and get the message "The application '<application name>' could not be launched because QuickDraw 3D could not be found," make sure that the following files are in the Extensions folder, inside the System Folder:

- QuickDraw 3D
- QuickDraw 3D IR
- QuickDraw 3D RAVE
- QuickDraw 3D Viewer

If the files are there and you still get the message, it means that you don't have enough memory to run the application. You may be able to open the application if you try the following:

* Quit other open applications.

* Reduce the amount of memory allocated to the application. This is done by:
- selecting the application's icon in the Finder
- choosing Get Info from the File menu
- typing a lower number in the boxes for Minimum Size and Preferred Size

* Install more memory (RAM).

If you are using a localized system, and you install this U.S. software, you will need to copy the Scrapbook File in the QuickDraw 3D Folder to the System Folder on your computer. Otherwise, when you choose Scrapbook from the Apple menu, you will get an empty scrapbook. Note that this operation will replace any existing Scrapbook File in the System Folder, thus erasing any previously stored contents.

Some of the sample models included with QuickDraw 3D, such as Big Ben and Red Hatchback, are highly detailed (they contain additional 3D modeling data such as vertex normals and surface UVs) and thus will require a larger amount of memory than the other supplied models. If you experience problems when opening these files from SimpleText, you should open only one file at a time.

How QuickDraw 3D uses memory

QuickDraw 3D is a shared library. When no applications that rely on QuickDraw 3D are open, the library does not take up memory space (RAM). Once a QuickDraw 3D-based application is open, the amount of memory taken up by the shared library doesn't increase if other QuickDraw 3D-based applications are launched. Of course, each application will take up memory according to their size and the complexity of the files being used. The memory taken up by QuickDraw 3D becomes available when you quit all QuickDraw 3D-based applications.

While a QuickDraw 3D application is open, the QuickDraw 3D library allocates memory from temporary memory. This memory shows up in the About This Macintosh window as memory used by the System. When you quit the application, the memory becomes available, but the size shown in the About This Macintosh window may not reflect this. The memory previously used by QuickDraw 3D is, nonetheless, available for other applications (it is released to the applications as needed).

Apple QuickDraw 3D Accelerator Card

If you have an Apple QuickDraw 3D Accelerator Card present in your machine, the following files will also be installed in the Extensions folder, inside the System Folder:

- Apple QD3D HW Driver
- Apple QD3D HW Plug-In

If you need to re-install these files at a later time, you can do so by launching the Installer, as described in the section below under "If you need to reinstall QuickDraw 3D," selecting Custom Install from the pop-up menu, and then selecting the Apple QuickDraw 3D Accelerator Card item in the list.

We recommend that you turn off Virtual Memory when using Apple's QuickDraw 3D Accelerator Card.

Scrapbook 7.5.2

We strongly recommend that the Scrapbook not be used with less than 300k of memory available. To determined how much memory is available, choose About This Macintosh from the Apple menu and look at the value next to Largest Unused Block.

If you need to reinstall QuickDraw 3D

If you need to reinstall QuickDraw 3D, follow these steps:

1. Open the QuickDraw 3D Install folder and double-click the Installer icon.

2. After installing QuickDraw 3D, restart your computer.

3. If you want the items in the QuickDraw 3D Extras folder, drag the folder to the newly-created QuickDraw 3D Folder inside the Apple Extras folder. (Editor's Note: Step 3 of the reinstall only applies when using a Mac OS CD-ROM, which has a "CD Extras" folder present. Otherwise, the QuickDraw 3D Extra material is not available.)

Removing QuickDraw 3D

If you wish to remove QuickDraw 3D, follow these steps:

1. Open the QuickDraw 3D Install folder and double-click the Installer icon.

2. Choose Custom Remove from the pop-up menu.

3. Click the box next to each item to put a check in it.

4. Click Remove.

5. Restart your computer.

Published Date: Feb 18, 2012

Apple Network Server: Shutting Down uShare

I am attempting to unmount volumes on an Apple Network Server but get an error saying the volumes are in use. I suspect this is because uShare still has active processes. I shut down uShare using the following command:

/ushare/bin/ustop
This article has been archived and is no longer updated by Apple.
Though the command above generally works well for shutting down uShare, it may leave a number of processes active. The following command will force uShare to kill all open processes with a timeout value set to zero:

/ushare/bin/usstop to=0 all
Published Date: Feb 18, 2012

Apple Media Tool: Windows PCs Audio Issue

There is a issue with audio when running an AMT project on PCs under Windows (Windows 95, Windows NT Workstation 3.51, and Windows 3.1). Here is the brief description:

In a project with audio narration for each screen, sound is in the form of an audio-only QuickTime movie, a keyboard object is used in each screen to let the user set the audio volume level.

Everything works fine on the Macintosh computer. On the PC, the number (volume) keys work, but if you set the volume low or off, when you advance to the next screen, the audio level gets reset to a louder setting -- possibly the default volume setting for the sound card.
This article has been archived and is no longer updated by Apple.
This behavior, and the possibility of a change, is under investigation. This behavior does not occur when using .WAV audio files. If the setting the sound level for Windows users is an important feature for your project, try using .WAV files for your sounds.
Published Date: Feb 18, 2012

About At Ease 4.0.1 Updater: Read Me

The following software update has been posted to Apple Support online, Apple Software Updates:

Name: At Ease 4.0.1 Updater
Version: 1.0.1
Released: January 9, 1997

Description: The At Ease 4.0.1 Updater updates At Ease for Workgroups 4.0 to the latest version. This updater does not apply to any previous versions of At Ease.

This software consists of a self-extracting archive of a Disk Copy 1440K disk image. To use, download, double-click the downloaded file (this decompresses it), and use Disk Copy to create a disk.
This article has been archived and is no longer updated by Apple.

```
Important Information about At Ease 4.0.1 Updater

The At Ease 4.0.1 Updater updates At Ease for Workgroups 4.0. This updater works only with At Ease version
4.0.
```

Requirements for Updating

```
Version 4.0 Already Installed
-----------------------------
You can use the Updater only on a workstation that has version 4.0 installed. The Updater will not run if you
have an older version (3.x or earlier) of At Ease installed. If you have an earlier version of At Ease, you
must obtain At Ease 4.0 (which is part of the Apple Network Administrator Toolkit) before you can use this
updater.

At Ease Server Not Changed
--------------------------
Only the At Ease client and administrator workstations need to be updated. The At Ease Server used in version
4.0 has not changed for 4.0.1 and will not be updated by this updater application program. You should continue
to use the At Ease 4.0 version of the At Ease Server extension.
```

Updating Procedure

```
Installation Options
--------------------
There are three ways of updating At Ease 4.0 on one or more machines: by using Network Assistant 2.0 or later,
by using an At Ease 4.0.1 Updater's floppy disk on each workstation, or by installing the updated software on
each workstation by launching the Updater over the network on a server. Note that if you choose to perform the
update by using Network Assistant, you must first update one workstation via floppy disk or over the network.
It is probably most convenient to first update the administrator workstation from which you will perform the
At Ease 4.0.1 update. On this workstation you must install both the administrator and client workstation
software. The administrator workstation and every client workstation which you wish to update must already
have Network Assistant installed on it.

Files the Updater Needs to Locate
---------------------------------
The Updater attempts to locate and, in most cases, update all of the files automatically.

If it cannot automatically find a file, it will ask you for the location of the missing file. If you cannot
locate the file, or if you know the file does not exist on the machine, you can click the Skip button to
bypass that particular file. You may need to do this if you want to update just the administration program on
your machine because it does not also have the workstation software installed on it.

If the Updater finds multiple copies of a file, it will ask if you want to remove the other copies before it
updates. Other copies must be removed before the update can take place. You can have the Updater remove the
other copies automatically, or you can cancel the update and remove them manually using the Finder. If you
cancel the update, no files will be touched.
```

TA36275_About_At_Ease_Updater_Read_Me_(TIL20709).pdf

Updating Using Network Assistant

Using the Network Assistant application program to perform the update, it is not necessary to visit each individual workstation; the updating can be done from an administrator's workstation, as long as the administrator's workstation has already been updated to At Ease 4.0.1, and as long as the four boxes "Allow administrators to:", "Restart and shut down this workstation", "Copy items to this workstation", and "Delete and Replace items on this workstation" are checked.

Follow these steps to update At Ease 4.0 to version 4.0.1 by using Network Assistant 2.0 or later:

1) Launch the At Ease Administration application program from an administrator workstation. Make sure the At Ease server that you want to administer is listed in the upper left-hand corner of the initial window. If it is not, click the Change Server button and find the correct At Ease server. Enter the administrator's password and click the OK button.

2) The next window that appears is the main At Ease Administration window. Turn off At Ease on each client workstation you are updating by clicking the "Off" button in the upper right-hand corner. Now quit At Ease Administration.

3) Launch Network Assistant, enter your password, and click OK. In the Workstation Status window will appear each client workstation which can be administered by the workstation running Network Assistant. Hold down the shift key and click on each workstation which you want to update to At Ease 4.0.1.

4) From the Manage menu select the Restart╔ menu item. In the resulting dialog click on the "Let users save their work" button and then click the restart button. The selected machines will restart and launch the Finder.

5) In the Workstation Status window, reselect the workstations you selected in step 3 above, and from the Manage menu, select the Copy Items... menu item.

6) In the resulting dialog, click on the word "contains" and from the pop-up menu select the word "is". In the white box to the right enter the words "At Ease" and click the Find button below. In the "Items found on" list, select the line whose "Kind:" is "system extension" and whose "Location:" ends with ":System Folder:" in the panel below (there may be only one item in the list). Click on the Copy button below the list.

7) A dialog will appear warning you that the item already exists. Click on the Replace button.

8) In the box to the right of the "name" and "is" buttons, change "At Ease" to "At Ease Startup" and click the Find button. In the "Items found on" list, select the line whose "Kind:" is "system extension" and whose "Location:" ends with ":System Folder:Extensions:" in the panel below (there may be only one item in the list). Click on the Copy button below the list.

9) A dialog will appear warning you that the item already exists. Click on the Replace button.

10) Click on the Close Window button which is below the Find button. Quit the Network Assistant application program.

11) Launch the At Ease Administration application program as you did in step 1 above. Make sure the At Ease server that you want to administer is listed in the upper left-hand corner of the initial window. If it is not, click the Change Server button and find the correct At Ease server. Enter the administrator's password and click the OK button.

12) The next window that appears is the main At Ease Administration window. Turn on At Ease on each client workstation you updated by clicking the "On" button in the upper right-hand corner. Quit the At Ease Administration application program.

13) Repeat steps 3 and 4 above to restart each client workstation in order to activate At Ease again.

Updating From a Floppy Disk

If you want to update to At Ease 4.0.1 by using a floppy disk, and you do not have one, you can make an update floppy disk from the on-line image by using the Disc Copy application program.

Turn off At Ease on each client workstation you are updating by launching the At Ease Administration application program on an administrator workstation. Turn At Ease "Off" in the main window.

Follow these steps on each client workstation to update At Ease from the floppy disk:

1) Restart the client workstation; it will now start up in the Finder instead of in At Ease.

2) Insert the Updater disk.

3) Double-click to open the At Ease 4.0.1 Updater application program.

4) Click Begin in the opening screen.

5) If the Updater cannot find a file it needs to update, a message appears asking you to locate that file. If you cannot find the At Ease or At Ease Startup files, click Skip to cancel the update.

6) If necessary, locate any missing files and start the update again.

When each client workstation has been updated, turn At Ease back on at each client workstation by launching the At Ease Administration application program on an administrator workstation; turn At Ease "On" in the main window. Restart each client workstation, which will now start up in At Ease.

Updating Over the Network

Perform these steps on an administrator workstation:

1) Copy the Updater application to an AppleShare server volume to which your At Ease workstations have access.

2) Make sure the application is locked. (To do this, select the Updater's icon, choose Get Info from the File menu, then click to put an X in the checkbox labeled "Locked.")

3) Turn off At Ease on each workstation you are updating by running the At Ease Administration application and turning At Ease "Off" in the main window.

Perform these steps on each client workstation to be updated:

1) Restart the client workstation; it will now start up in the Finder instead of in At Ease.

2) Mount the server volume that contains the Updater application and locate it.

3) Double-click to open the Updater application.

4) Click Begin in the opening screen.

When each client workstation has been updated, turn At Ease back on at each client workstation by running the At Ease Administration application program from an administrator workstation. Turn At Ease "On" in the main window. Restart each client workstation, which will now start up in At Ease.

Clarification: User's Own AppleShare Privileges

A change has been made to version 4.0.1 to allow certain AppleShare volumes mounted by At Ease users to use their AppleShare access privileges instead of having At Ease mandate additional restrictions. This change mostly benefits restricted Finder users, but panels users may also benefit from this. Because this change may unknowingly and adversely affect security at some sites, this feature is initially OFF in At Ease 4.0.1, and must be activated by the administrator for every workgroup that he or she wishes to allow this.

What this feature does is to allow any mounted AppleShare volume, other than the current workgroup data server volume, to use the access rights that are given to the AppleShare user. If turned on, At Ease will no longer attach read-only privileges to folders that the user are able to open. Additionally, copy restrictions are removed, allowing the user to copy files to and from the AppleShare volume if permitted by AppleShare. At Ease does not (and cannot) give more access than was set by the AppleShare Administration program for that logged-in AppleShare user on that server. Users are still restricted to applications that are allowed to be launched on these volumes.

When a user attempts to open or save a document using the standard open or save file dialog and the feature has been turned on, the "Places" location will also show any AppleShare volumes that are mounted. This permits

the user to open or save to the AppleShare volume; a feature that did not exist previously.

To activate this feature, the administrator should create or edit a workgroup and select the Locations pane for that workgroup. At the bottom of the pane, select the "Use existing AppleShare privileges..." checkbox to turn this feature on. Administrators may want to make sure that any AppleShare volumes that they have set to auto mount (using the Access To Volumes menu command), use the user's own names and passwords if security is an issue for that volume.

As mentioned earlier, the workgroup data server volume's rights do not change when using this feature. This is because of security concerns with the Documents folder used on the server volume.

Other Changes and Enhancements

The following additional changes have been made in At Ease 4.0.1 and are described in detail below.

Major Changes

1) Deletions of large numbers of users in the main window of the administration program has been speeded up. Administrators should note that if you decide not to delete the user's documents folders (and its contents), then this will also speed up deletion, regardless of whether or not the user had any existing documents (that is, if you want to make it go the fastest, you should select NO when asked to delete the user's documents).

2) A problem where CD-ROM settings shown in the CD-ROM Preferences menu command in the administration program, showing information for a different CD-ROM has been fixed. This problem most often showed itself on 7.5.3 or later machines, and usually running on PPC systems. If you are having this problem, you MUST delete your CD-ROM Preferences file on the server before attempting to add or alter any CD-ROM discs since the fix cannot repair an already corrupted file.

3) A crash problem was fixed on At Ease workstations when entering the Finder (either restricted or non-restrictive). This problem would only occur on pre-7.5 systems that did not have the Drag Manager extension installed. Most likely, you would only see this with system 7.1.2, but it was possible on other earlier 7.x systems.

4) If there is more than one At Ease server in your AppleTalk zone, and one of the servers was not set up properly, there would be a chance that the very first time you ran the At Ease Administration program on a given system that it would locate the not-setup machine and not allow you to administer the other machine.

5) If, when printing the activity log file, there was one or more applications that the administration program did not recognize, the print out (or export) would not include the signature, even though the screen display would show it (for example, creator 'chzr').

6) If a user logged into a restricted Finder workgroup that wasn't using desktop printers (that is, by using either the current Chooser selection, or no printers options instead), but there happen to be desktop printers on the desktop, they were not removed.

7) Fixed a problem with some routers where the machine would hang when trying to obtain the zone list. This normally occurred only if the local network had multiple AppleTalk zones.

8) Fixed problems involving removable media with restricted Finder workgroups.

9) Fixed a problem where workgroup administrators could not remove items left in the hand in folder's by users in the restricted Finder environment. The administrator can now delete these items.

10) Fixed a problem when using LaserWriter 8.4 desktop printers; panels users could change to any desktop printer in the Print dialog even if the workgroup did not have access to previously installed printers.

11) Fixed a printing problem with LaserWriter 300 printers using Printer Share.

12) When using the "Copy Internet Preferences" feature, if a user logs into an unrestricted Finder workgroup, internet preferences will now be copied back to the server when the user logs out.

13) Users can no longer access the At Ease Items WG folder located on the server volume. This normally only affects restricted Finder workgroup users that have their workgroup data server volume set to be the same as

the At Ease server volume.

Minor or Cosmetic Changes
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1) Some dialogs that referred to "floppy disks" that should have said "removable media" have been changed.

2) Cosmetic change to the administration program's Location pane when editing a workgroup. The text that said "Allow applications to be opened from removable media" has been changed to say "Allow any applications..." since it was unclear that this option allowed all applications, not just applications added to the workgroup, to be opened from removable media.

3) When importing users in At Ease, a minor problem was fixed where you could sometimes single click on items in the Available Fields list to add it to the Imported Fields list.

4) If the minimum password length was greater than seven, and you edited an existing user in the administration program, an erroneous alert would be displayed which required you to re-enter the password again.

5) Removable media volumes (other than floppies) now show a "floppy" icon instead of a "hard disk" icon in the Eject disk dialog.

6) The At Ease Administration's Activity Log and Disk Space windows did not properly track the mouse click in the close box of the window.

7) On PowerPC machines, the At Ease Administration application now shows color icons when displaying them in the Items pane of the workgroup setup.

Published Date: Feb 18, 2012

Macintosh Displays Single Raster Line

PROBLEM DESCRIPTION: The Macintosh displays a single white raster line. The line is usually positioned horizontally or vertically across the screen.

BEFORE YOU START: Familarize yourself with Macintosh Technical Procedures. ALWAYS DISCHARGE THE CRT TO THE "GROUND LUG". The Macintosh uses an isolated ground. Performing a discharge to the chassis will DESTROY the logic board!

This article has been archived and is no longer updated by Apple.

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CAUSE:  In most cases this is an indication of a faulty Power
Supply Board but there exists a possibility that more than one
module is defective.

CURE:  Replace the modules in the following order:

1. Replace the power supply and test. If the system is still
  inoperative
  perform Step 2.
2. Replace the Logic Board. If the system is still inoperative
  perform
  Step 3.
3. Replace the CRT. If the system is still inoperative perform
  Step 4.
4. Replace the Power Supply and the Logic board as a set.
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Published Date: Feb 18, 2012

Energy Saver 2.0.x and Monitor Sleep Modes

I have noticed that my 15-inch Multiple Scan Display does not seem to go into sleep mode with Energy Saver 2.0.x. The screen goes black but the power indicator does not change to indicate the monitor is asleep. At this point, just moving the mouse will wake up the system.

If I choose Sleep from the Special menu, the monitor does go into sleep mode and the system will only wake up when a key is pressed. What is happening?
This article has been archived and is no longer updated by Apple.
This will happen if you are using the separate timings for monitor sleep, system sleep, and hard drive spin down in the Energy Saver control panel. If the monitor is set to sleep before the system is set to sleep, the monitor is put into suspend mode. That is the video is turned off but one of the sync lines is still active to keep the monitor awake. The system itself is still functioning and moving the mouse or pressing a key will cause the video to return instantly. This is more of a screen saver feature than an energy saving feature although it does save some energy.

If the system continues idle for the amount of time set for system sleep, the monitor will be put into sleep mode. Actually, the whole system will be put to sleep. Selecting Sleep from the Special menu also puts the whole system to sleep. A key must be pressed to wake up the system at this point.
Published Date: Feb 18, 2012

Can HD SC Setup or Drive Setup Format Any Disk (12/96)

Can I format any disk with Apple HD SC Setup or Drive Setup?

This article has been archived and is no longer updated by Apple.

No. Hard disks that Apple builds into their products include a firmware response, which identifies the disk as an Apple-supplied disk, and is used in communicating with Apple's formatting utilities. Third-party disks normally do not identify themselves as being produced by Apple. Apple formatting software will therefore dim the format, initialize, or update functions when a non-Apple disk is selected for actions in the utility.

For this reason, when replacing or adding either an internal, or external disks to your Macintosh, Apple recommends choosing a third-party formatting utility that can initialize and update any disk.

An exception to the above is in the A/UX environment. The version of Apple HD SC Setup provided with A/UX does not check for the Apple disk firmware response. This is because in a UNIX environment, third-party disks are frequently used for expansion so the Apple disk identification was bypassed.

Published Date: Feb 18, 2012

Macintosh Performa 6360 & 6400: Can‘t Update Driver (2/97)

Article Review/Update: 25 February 1997

I am unable to use Drive Setup (v1.1) to update the hard disk driver on any Macintosh Performa 6360 or 6400 series computer because the Update
option under the Functions menu is disabled. Why is the Update option disabled? How can I update the driver on these computers?

This article has been archived and is no longer updated by Apple.

The Update option is disabled because Drive Setup has detected that a newer version of the driver is already installed on the hard drive.

In manufacturing, Apple uses a software loading system which loads the driver onto the hard drive. Since the SCSI issues corrected in the 6360/64xx/54xx Update disk were found and corrected, Apple included the driver update into the manufacturing process.

Future versions of Drive Setup will incorporate the new driver. Until this version Drive Setup is available, if you need to reinstall your driver your will need to reformat the hard drive with Drive Setup 1.1 and then install the 6360/64xx/54xx Update disk. The 6360/64xx/54xx Update disk is available from the Apple Software Updates areas on the online services and Internet.

The 6360/64xx/54xx Update fixes have been rolled into Mac OS 7.6. If you have installed Mac OS 7.6, you do not need the 6360/64xx/54xx Update.

These articles can help you locate the software update mentioned here:

* "Where To Find Apple Software Updates" - Lists online services for free Apple software updates.

* "Obtaining Apple Product Support in the USA" - Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech Info Library.

Article Change History:
25 Feb 1997 - Added Mac OS 7.6 information.

Published Date: Feb 18, 2012

Megaphone: Answers Calls When Computers Are Asleep (12/96)

If a Macintosh Performa 6360 or 6400 series computer is set to Sleep (from the Special menu or through Energy Saver), will Megaphone still answer calls?

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Yes, provided that Megaphone is open, Megaphone will wake up the computer and answer the call; the hard drive spins up to allow Megaphone to record the message. Also, for more reliable performance, verify that Megaphone is set to be the front-most application when the telephone rings.

To do this using Megaphone 2.0.3P and 2.0.5P, follow these steps:

Step 1

Open Megaphone.

Step 2

Choose Preferences from the File menu

Step 3

Choose "Incoming Calls" from the Topic: pop-up menu.

Step 4

Click on the "Come to Front when Ringing" check-box.

Published Date: Feb 18, 2012

Lisa or Macintosh XL RAM Cache and Mouse Tracking Problems

PROBLEM DESCRIPTION: RAM cache and mouse tracking indicators are empty even though the computer has successfully passed diagnostics. The system software is Finder 5.3 or System 3.2.

This article has been archived and is no longer updated by Apple.

CAUSE: The I/O board is defective.

CURE: Remove and Replace the I/O board.

Follow the General Troubleshooting Procedures for Lisa/Macintosh XL if the problem still persists.

Published Date: Feb 18, 2012

PC Compatibility Card: HP PostScript Printer Issue W/Win95 12/96

I have a PC Compatibility Card running Windows 95 in my Macintosh computer. I also have a Hewlett-Packard PostScript printer connected to my computer. When I print from the Mac OS, it prints correctly. When I print from Windows 95, I get several pages of odd-looking text. I am using a PostScript version of the printer driver for my HP printer.

This article has been archived and is no longer updated by Apple.

This occurs with some Hewlett Packard printers that support both PCL and PostScript, including the following printers:

* LaserJet 6 Series w/ PostScript
* LaserJet 5 Series w/ PostScript
* LaserJet 4 Series w/ PostScript
* DeskJet 1600C/CM
* DeskJet 1200C/PS

The Windows 95 printer drivers for these printers include non-PostScript information called a PJL (Printer Job Language) header that causes the PC Compatibility Card to incorrectly print the PostScript code.

Identification

If the first line of every print job contains the letters "PJL", you are experiencing this issue.

Workaround

Configure the printer driver to not send a PJL header with each print job by setting the printer driver to "archive format". Follow these steps to set the driver to archive format:

Step 1

Open the Properties window for the HP printer driver.

Step 2

Select the PostScript tab.

Step 3

Change the 'PostScript output format' option to 'Archive format'.

Step 4

Click 'OK'.

This article appeared in the 10 December 1996 issue of the Information Alley.
Published Date: Feb 18, 2012

Apple Internet Dialer and AOL Link Extension (12/96)

My Performa computer came with AOL (America Online) 2.7 and AICK (Apple Internet Connection Kit) pre-installed, and I can connect with both without a problem. However, when connecting to AOL I am encouraged to download AOL 3.0. After installing AOL 3.0, the Apple Internet Dialer does not work properly, are there any workarounds?

This article has been archived and is no longer updated by Apple.

AOL 3.0 installs the AOL Link extension, which conflicts with the Apple Internet Dialer.

Here are some workarounds:

If you no longer want to use AOL 3.0

Click and drag the AOL Link extension from the Extensions folder to the desktop, restart the computer, and try the Apple Internet Dialer again. Removing the AOL Link extension does not disable AOL entirely, but it does nullify the benefits of the AOL Link extension.

If you want to continue using AOL 3.0

Insert a tilde(~) character at the beginning of the extension name, for example, ~AOL Link. When you want to use AOL, an error message appears indicating that AOL Link needs to load first, AOL will then make the needed changes (requiring a couple computer restarts) and then let you proceed. At the end of the AOL session, AOL will ask if you want to restore your provider information to it's original configuration -- select yes, restart the computer and the Apple Internet Dialer should function normally.

Published Date: Feb 18, 2012

Mac OS: -44 Error Occurs When Installing Software

I tried installing America Online from the CD-ROM that came with my computer. After it starts to install, an error message appears stating "Sorry, but a disk related error (-44) has occurred."

I have reinstalled the Mac OS using the clean install procedure. I have also run Disk First Aid which states that the hard disk appears to be OK. What is the problem?
This article has been archived and is no longer updated by Apple.
A -44 error indicates you are attempting to write to a locked disk. This error can occur if a CD-ROM disc is used as the startup disk, instead of your computer's hard disk.

The AOL installer attempts to install into the System Folder of the current startup drive rather than to the System Folder on the disk selected in the AOL installer. So even if you indicated that you wanted the AOL software installed on the hard disk, the installer still tries to copy resources to the System Folder of the startup disk. In this case your startup disk is the CD-ROM disc.

To correct this situation, restart the computer from the hard disk, insert the CD, then run the AOL installer again.

Note: This same situation could potentially occur with any application installer if it tries to install resources into the current startup disk's System Folder rather than the disk selected in the installer.

Published Date: Feb 18, 2012

GVC Platinum Modem: Error Correction & Data Compression (12/96)

How can I set error correction and data compression modes on the Global Village Platinum V modem, which was included with my Macintosh Performa 6400 series computer?

This article has been archived and is no longer updated by Apple.

To set those, you will need to use the Communications module within ClarisWorks to issue AT commands, which are described on pages 47 and 48 of the TelePort User's Guide. Below is a summary of these commands:

%C0 Disables data compression.
%C1 Enables MNP 5 data compression
%C2 Enables V.42 bis data compression.
%C3 Enables both V.42bis and MNP 5 data compression (factory default)

\\N0 Selects normal speed buffered mode; no error correction.
\\N1 Selects direct mode and is equivalentto &M0 and &Q0.
\\N2 The modem will first attempt a LAP-M connekion and then an MNP connection.
\\N3 Same as \\N2, except failure falls back \\N0. Factory default.
\\N4 Tries to establish LAP-M correction; if failure, modem hangs up.
\\N5 MNP mode. Failure to make an MNP connection results in the modem hanging up.

Published Date: Feb 18, 2012

Why Do My Launcher Items Keep Disappearing? (12/96)

I have a Performa 6100* computer on which I recently performed a clean install of the system software. My Launcher is now empty. Even if I add new aliases to the Launcher the items are gone after I restart the computer.

Disk First Aid does not report any directory problems. The only thing I've found that fixes this issue is erasing/reformatting the hard drive. This is obviously not a good solution.

Is there some kind of software update or other workaround available that will fix this problem?

This article has been archived and is no longer updated by Apple.
This "empty Launcher" issue you mention has been fixed in Launcher version 2.8. To resolve the "disappearing Launcher contents/items" issue all you need to do is throw away your Launcher and replace it with version 2.8 or later.

* NOTE:
This issue could affect any "heavily used" Macintosh computer's operating system, not just the Performa 6100 series.

These articles can help you locate the software update mentioned here:

* "Where To Find Apple Software Updates" - Lists online services for free Apple software updates.

* "Obtaining Apple Product Support in the USA" - Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech Info Library.

Published Date: Feb 18, 2012

ProFile Formatting Error #21

This article has been archived and is no longer updated by Apple.

PROBLEM DESCRIPTION: Error #21 is generated when the ProFile is formatted using the Apple III System Utilities.

BEFORE YOU START: Familiarize yourself with the Apple III Owners Guide and ProFile Owners Manual.

CAUSE: Software damage has occured.

CURE: Use the following procedure:

1. Format the ProFile using the Apple III Systems Utilities and define the volume name as HVRMHGL. Another volume name can be defined once the ProFile has been formatted.

Proceed to Step 2 if you again receive the error #21.

2. Format the ProFile using an Apple II/IIe with the ProDos utilities. Reconnect the ProFile to the Apple III once the ProFile has been successfully formatted and perform Step 1.

Use the ProFile troubleshooting procedure (documented in ProFile Technical Procedures) if both Steps 1 and 2 fail to produce satisfactory results.

Published Date: Feb 18, 2012

LC Ethernet Card: Wasn‘t tested in all Power Mac Computers 12/96

I recently upgraded from a Macintosh LC III to a Power Macintosh 6200 series computer. Can I use my PDS Ethernet card in my new computer?

This article has been archived and is no longer updated by Apple.

Apple has not tested the Apple Ethernet LC Card (M0443LL/B) in every Power Macintosh computer with an LC-style Processor Direct Slot (PDS). The LC PDS Ethernet cards fit, and you should not have any problems using them, but they were not tested in every Power Macintosh computer.

Published Date: Feb 18, 2012

Open Transport 1.1.2 Read Me (1 of 2)

This article is the Open Transport 1.1.2 Read Me - Part 1.

Notes:
1. Open Transport 1.1.2 has been posted to the Apple Software Updates Web site at http://www.apple.com/swupdates .

2. If you are looking for a more recent update of Open Transport, you will need to upgrade your system software to install the most recent version, please read the following note which is an extract from article 30410: '**Open Transport 1.3 to 1.3.1: Update Information**'

- Open Transport 1.3 to 1.3.1 Update Version: 1.0 was released on February 13, 1998. This update requires the US English Mac OS 8.1 Update and version 1.3 of Open Transport.

3. Open Transport 1.3 is installed with the Mac OS 8.1 Update. For more information refer to article 30345: '**Mac OS 8.1: About Mac OS 8.1 Update**'
This article has been archived and is no longer updated by Apple.

Introduction

This Read Me document contains late-breaking information about Open Transport compatibility, add-on software, and solutions to known problems with third-party software. For instructions about how to use the Open Transport control panels (AppleTalk and TCP/IP), see the Open Transport User's Guide. For additional technical information about Open Transport, see the "Open Transport Technical Info" file that came with Open Transport.

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License agreement

This release of Open Transport is subject to the terms and conditions of the license agreement that accompanies the software in the file "LICENSE." By downloading the software you agree to abide by the terms and conditions of the license agreement.

What's new in Open Transport 1.1.2 - general

* Fixes a performance problem which only affects Print Server Developers using native PAP.

* Introduces a change to TCP that should provide a minor increase in Web servers reusing TCP connections. Open Transport will now unbind while the 2 minute disconnect timer is expiring.

* Fixes a problem with the Open Transport serial STREAMS module that could cause a crash. The crash could result if the modem was turned off, hung, or unresponsive while a connection was attempted with OT/PPP.

* Fixes a problem where disconnecting with MacPPP 2.5.1 could cause a crash if QuickTime Conferencing was running and waiting for connections.

* Includes minor modifications to improve performance, compatibility and reliability.

System requirements

Open Transport is designed to work on Mac OS-compatible computers with a Motorola 68030 or 68040 family microprocessor, or a PowerPC

microprocessor. Open Transport is supported on system software versions 7.1, 7.1.1, 7.1.2, 7.5.3, 7.5.5 or later. System software version 7.5.3 or later is recommended. No other system software versions are supported.

Open Transport 1.1.2 can be used on Apple Power Macintosh 5200/75 LC and 5300/100 LC, and Macintosh Performa 5200, 5215, 5300, 6200, 6205, 6214, 6216, 6218, 6220, 6230, 6290 and 6300. (The recently introduced Power Macintosh 5260 and 6320 are not included in this because all known issues were fixed prior to manufacturing.) When you install OT 1.1.2 on a these 52xx, 53xx, 62xx and 63xx models you may get a dialog box indicating a hardware issue was detected. If this alert is displayed, Open Transport cannot be installed or loaded until the Cache/ROM DIMM is replaced. Your computer will continue to run classic networking. The required repairs are covered under the Apple repair extension program. Please contact an Apple-authorized service provider to have your computer repaired.

Open Transport requires a minimum of 5 MB of RAM (68030 or 68040 computers) or 8 MB of RAM (PowerPC-based computers). Open Transport memory requirements are based on total system memory including virtual memory, minus the size of any RAM disk and disk cache you're using.

Network interface options

Open Transport 1.1.2 supports PCI bus, NuBus, communications slot, and PC Card network interface cards, as well as built-in LocalTalk, Ethernet, and Token Ring network adapters. For supported computers without expansion options, Open Transport 1.1.2 also supports a SCSI-attached network adapter. Third party network interface options available for Open Transport include Fast Ethernet, ATM, and FDDI.

Before you install Open Transport 1.1.2

* Read the section "Known limitations and other issues" below to make sure Open Transport 1.1.2 will work on your computer.

* Make backup copies of the software and documents on your hard disk (especially your System Folder) before installing this software.

* For best results, you should install Open Transport 1.1.2 over Open Transport 1.1 or Open Transport 1.1.1, but not over any beta version of Open Transport.

* Turn on only those extensions installed with your system software. (Open the Extensions Manager control panel and select System 7.5.3 or 7.5.5 from the Sets pop-up menu, then restart your computer.) Do not turn off all extensions before installing Open Transport.

* Performa and Power Macintosh 52xx, 53xx, 62xx and 63xx models using System 7.5.3 or later can install Open Transport 1.1.2 directly. Other supported systems must install Open Transport 1.1 or have Open Transport 1.1.1 on system software version 7.1, 7.1.1, 7.1.2 , 7.5.3, or 7.5.5 before updating to Open Transport 1.1.2.

* If you use SLIP or PPP software to access the Internet, verify that your SLIP or PPP software is compatible with Open Transport. See the section under "Dialup network connectivity - TCP/IP."

* When Open Transport is installed, the Network control panel is replaced by the AppleTalk configuration utility program. The MacTCP control panel is replaced by the TCP/IP configuration utility program. Both AppleTalk and TCP/IP are located in the Control Panels folder. For simplicity and consistency, user documentation generally refers to AppleTalk and TCP/IP as "control panels" even though technically they are utility programs.

* You should download a copy of System 7.5 Update 2.0 to your hard disk or have a copy of the Open Transport 1.1 retail package or Open Transport 1.1.1 Internet GM package available. This will give you the software to reinstall Open Transport 1.1 or Open Transport 1.1.1 in case you decide to remove Open Transport 1.1.2.

How to turn off or remove Open Transport 1.1.2

Switching to Classic Networking
If your computer does not have a PCI bus, and is using system software version 7.5.3 or 7.5.5, you can use the Network Software Selector (NSS) utility to turn on classic networking instead of Open Transport. The NSS utility is installed in the Apple Extras folder when you install System Update 2.0. After selecting classic networking, close NSS and restart your computer. When your computer starts up again, open the Network control panel and choose the network connection you want to use.

Removing Open Transport with the Installer
You can remove Open Transport software with the Custom Remove option in the Installer. However, the Custom Remove option removes a file called the Apple Shared Library Manager (ASLM). If any previous version of ASLM was installed, it was automatically updated to version 2.0.1 when you installed Open Transport 1.1.2. When you remove Open Transport, your previous version of ASLM is not automatically restored.

After removing Open Transport 1.1.2, you must reinstall any applications that rely on ASLM. Reinstalling these applications will install the required ASLM files.

To remove Open Transport 1.1.2 using the Installer, follow these steps:

1. Open the Installer included with Open Transport 1.1.2. The Welcome screen appears.
2. Click OK.
3. In the window that appears, choose Custom Remove from the pop-up menu in the upper-left corner.
4. In the list that appears, click the box next to Open Transport so an 'X' appears in it.
5. Click Remove. If a window appears asking you whether to quit any open applications, click Continue. A window will appear telling you to restart your computer.
6. Click Restart.
7. On a Power Macintosh system with PCI bus, you will then need to reinstall Open Transport 1.1 software using either (1) the System 7.5, Update 2.0 installer, (2) the Open Transport 1.1 installer, or (3) a system software CD. If you use the system update installer or the system software that came with your computer, perform a custom install of the network software.
8. On a Macintosh system without PCI bus, classic networking will be restored and made active.

Open Transport Extras Folder

* This release also contains an Open Transport Extras folder which includes for your convenience:

- Claris Emailer updaters
- MacPPP 2.5 software files
- Remote Only ADEV software
- Network Options for AppleTalk & TCP/IP
- the Open Transport Reference Q & A
- the Open Transport User's Guide

General compatibility

Open Transport is compatible with:
* existing applications that use AppleTalk as specified by Apple Computer, Inc.
* existing applications that use MacTCP as specified by Apple Computer, Inc.
* existing devices (such as printers) that you select in the Chooser
* existing NuBus network interface cards for the Mac OS

Computers running Open Transport can be added to an existing AppleTalk or TCP/IP network without upgrading other computers on the network.

Apple product compatibility update

* At Ease version 2.x or 3.x may encounter problems when starting up with Open Transport. At Ease Update 1.0 will update non-Workgroup versions of At Ease 2.x or 3.x to include Open Transport compatibility. If you are using At Ease for Workgroups, you should upgrade to version 3.0.2 or later. Both can be found on Apple Software Update sites on the Internet and selected online services.

* Assistant Toolbox version 1.2 is not compatible with Open Transport, and will result in AppleTalk being turned off each time you restart your system. System 7.5 update 2.0 and 7.5.5 includes Assistant Toolbox version 1.3 or later that is compatible with Open Transport.

* The Apple PCI Token Ring Card (M3904Z/A) requires Open Transport 1.1 or later. The Apple PCI Token Ring card is compatible with Power Macintosh 7500, 8500 and 9500 computers; it is not compatible with 7200/75 and 7200/90 computers.

* Apple LaserWriter Bridge and LocalTalk Bridge 2.1 or later are compatible with Open Transport.

* Apple Internet Dialer 1.0, part of the Apple Internet Connection Kit 1.0 (stock number M4276LL/A), is not fully compatible with System 7.5.3. This is corrected in AICK 1.1 (stock number 504081U). AICK customers with version 1.0 can update their software by downloading a "patcher" from the Apple Internet Connection Kit home page, available at <http://aick.apple.com/>.

* Apple Internet Mail Server 1.1 or later software is compatible with Open Transport 1.1 and later. System Update 2.0 (System 7.5.3) is strongly recommended.

* Apple Remote Access (ARA) Multiport Server 2.1, ARA Client 2.0.1, and ARA Personal Server 2.0.1 are compatible with Open Transport 1.1 and later.

* Apple PCI-based Workgroup servers (Application, AppleShare, and Internet) are compatible with Open Transport 1.1 or later.

* Computers running the current versions of Apple IP Gateway and AppleTalk Internet Router must not be updated to Open Transport; these products are based on classic networking. These products do, however, interoperate with computers using either classic or Open Transport networking. Apple has not yet announced plans regarding future versions of these products.

* Apple's MacTCP Ping is not compatible with Open Transport; no update is planned. MacPing from Dartmouth, available at <ftp://www.dartmouth.edu/pages/softdev/>, OTTool from Neon Software, available at <ftp://ftp.neon.com> and Mac TCP Watcher v2.0 from Peter N. Lewis & Stairways Software available at <ftp://ftp.share.com> are Open Transport-compatible alternatives.

* ZapTCP is a classic networking tool and is neither compatible nor needed with Open Transport. Functionality similar to ZapTCP is built into Open Transport.

Dialup network connectivity - AppleTalk

For dialup connectivity to AppleTalk networks, Open Transport supports Apple Remote Access version 2.0.1 or later.

Dialup network connectivity - TCP/IP

For dialup connectivity to TCP/IP networks (including the Internet) Open Transport supports third-party extensions known as "MDEVs." Serial Line Interface Protocol (SLIP) and Point to Point Protocol (PPP) connectivity are provided in this manner. Not all versions of all MDEVs are compatible with Open Transport 1.1 and later.

Open Transport 1.1 and later recognizes and is compatible with the following MDEVs. When properly installed they appear in the "Connect via" pop-up menu in the TCP/IP control panel.

* FreePPP - version 1.0.5 or later
FreePPP is shareware and can be found on the Internet, typically at "info-mac" mirror sites in the comm/tcp/conn directory. A list of info-mac mirror sites can currently be found at:

<http://www.pht.com/info-mac/mirror-list.html>

Some sites where FreePPP can be found currently include:

<ftp://mirrors.aol.com/pub/info-mac/comm/tcp/conn/>
<ftp://mirror.apple.com/mirrors/Info-Mac.Archive/comm/tcp/conn/>

FreePPP versions prior to 2.5 may experience problems when running with virtual memory turned on (including RAM Doubler). If you have problems using FreePPP with VM, either update to FreePPP 2.5, or temporarily turn VM off. The current version of FreePPP is 2.5v2.

* MacPPP - version 2.1.4 or later (MacPPP 2.5 is recommended)
MacPPP versions prior to 2.5 may experience problems when running with virtual memory turned on (including RAM Doubler). If you have problems using MacPPP with VM, either update to MacPPP 2.5, or temporarily turn VM off.

An Open Transport-compatible version of MacPPP (MacPPP 2.5) is included in the Open Transport Extras folder. For more information, please refer to the MacPPP Read Me document.

* InterPPP - version 1.2.9 or later; InterPPP II - version 1.1 or later
InterPPP and InterPPP II are commercial software products. For availability and ordering information in the U.S., contact InterCon Systems at 800-468-7266 or 703-709-5500.

* MacSLIP - version 3.0.3 or later
MacSLIP is commercial software developed by Hyde Park Software. For availability and ordering information in the U.S., contact TriSoft at 800-531-5170 or 512-472-0744. For more details see the MacSLIP Web page at <http//www.zilker.net/~hydepark/>

* Sonic PPP - version 1.0.2 or later
SonicPPP is commercial software developed by Sonic Systems, Inc. For availability and ordering information in the U.S., contact Sonic Systems at 408-736-1900 (voice) 408-736-7228 (fax). For more details see the Sonic Systems Web page at <http//www.sonicsys.com/>

* NTS PPP - 2.0 or later
NTS PPP is commercial software developed by Network Telesystems, Inc. For availability and ordering information in the U.S., contact Network Telesystems at 408-523-8100 (voice) 408-523-8818 (fax). For more details see the Network Telesystems Web page at <http//www.ntsi.com/>

* SAT/SAGEM PPP - 1.02b1 or later
SAT/SAGEM PPP is commercial software developed by SAT/SAGEM. For availability and ordering information in the US, contact SAT/SAGEM at 408-446-8690 (voice) 408-446-9766 (fax). For more details see the SAGEM Web page at <http//www.satusa.com/>

* LeoTCP - 2.0.1 or later
LeoTCP is commercial software developed by Hermstedt GmbH. For availability and ordering information in the U.S., contact Hermstedt USA at 1-800-828-5522 (voice). In Europe contact Hermstedt GmbH at +49 621-76500 (voice) +49 621-7650100 (fax).

* T-Online CSLIP - version 1.0.3 or later
T-Online CSLIP is commercial software developed by Computer Consulting GbR. For availability and ordering information in Europe, contact format network & communication at 49 2206 95840. For more details, contact format network & communication at info@format.de.

* University of Michigan ISDN - 2.0.6 or later

In addition to these, there are a number of other MDEVs (examples include those from Pacer, FCR, and Tribe) which are indistinguishable from one another to Open Transport. When installed, these appear in the "Connect via" pop-up menu as "TCP/IP PPP."

Native dialup network connectivity - TCP/IP

* OT/PPP - version 1.0 or later
Open Transport supports extensions that use the STREAMS architecture. OT/PPP is available on the Apple Software Update sites on the Internet and requires Open Transport 1.1.1 or later.
Published Date: Feb 18, 2012

Open Transport 1.1.2 Read Me (2 of 2)

This article is the Open Transport 1.1.2 Read Me - Part 2.

Notes:
1) Open Transport 1.1.2 has been posted to the Apple Software Updates Web site at http://www.apple.com/swupdates .

2) If you are looking for a more recent update of Open Transport, you will need to upgrade your system software to install the most recent version, please read the following note which is an extract from article 30410: '**Open Transport 1.3 to 1.3.1: Update Information**'

- Open Transport 1.3 to 1.3.1 Update Version: 1.0 was released on February 13, 1998. This update requires the US English Mac OS 8.1 Update and version 1.3 of Open Transport.

3) Open Transport 1.3 is installed with the Mac OS 8.1 Update. For more information, refer to article 30345: '**Mac OS 8.1: About Mac OS 8.1 Update**'
This article has been archived and is no longer updated by Apple.
Tips for SLIP and PPP configurations

- Some MDEVs are known to be incompatible with other MDEVs. If you experience problems, remove unused MDEVs so that only one MDEV is installed on your computer at a time.
- Users who dial into a TCP/IP network or Internet Service Provider (ISP) may have been assigned a router (gateway) address that is not a part of their local subnet. This was an accepted but technically invalid configuration for MacTCP. Open Transport users should not enter a value for the router address or subnet mask; Open Transport/TCP generates correct values for these fields automatically. In unusual circumstances, these supplied values can be overridden using the Administration mode of the TCP/IP control panel.
- If BootP is used over SLIP or PPP for interface configuration, and if BootP returns additional default router addresses, Open Transport will automatically add those addresses to the list of default routers.
- When Open Transport is installed on a computer that previously had MacTCP configured for a server configuration, the initial configuration method-the selection in the "Configure" pop-up menu in the TCP/IP control panel-is set for the use of a BootP server. This default may not be the appropriate choice for you; please verify.

If your computer was previously configured for MacTCP "server" addressing and you experience connection difficulties using PPP or SLIP after installing Open Transport, follow these steps:

1. Open the TCP/IP control panel.
2. Choose Using PPP Server or Using SLIP from the Configure pop-up menu.
3. Close the TCP/IP control panel, and save changes when prompted.
4. Try connecting again.

If your computer was previously configured for MacTCP "manual" addressing and you experience connection difficulties using PPP or SLIP after installing Open Transport, follow these steps:

1. Open the TCP/IP control panel.
2. Choose Manual from the Configure pop-up menu.
3. Verify that the correct IP address is entered in the Address field.
4. Close the TCP/IP control panel, and save changes when prompted.
5. Open the configuration utility supplied with your SLIP or PPP software, and verify that it also reflects the correct IP address in the appropriate location. Refer to the documentation supplied with your SLIP or PPP software for further information on how to enter an IP address, and how to save an updated configuration.
6. Try connecting again.

NOTE: In MacPPP's Config PPP control panel, this setting is entered in the IPCP dialog box. Refer to the documentation that came with MacPPP or FreePPP for additional information.

Known limitations and other issues

- The AppleTalk control panel displays separate printer and modem ports on the PowerBook 190. LocalTalk will only work correctly when the modem port is selected in the AppleTalk control panel.
- The software that dims the screen of PowerBook Duo computers when the PowerBook is docked and idle is not compatible with Open

Transport. Use a third-party screen saver in place of the Apple-provided module.

- In some cases, on a PowerBook 190 configured to use the Infrared Port in the AppleTalk "Connect via" pop-up menu, networking services may become disabled following a sleep/wake or restart. If this happens, try putting the computer to sleep and waking it up again, or use the AppleTalk control panel to temporarily select the modem/printer port before switching back to the infrared port.
- On a IIfx or a Quadra 950, Open Transport can only use the "compatible mode" setting in the Serial Switch control panel. Don't use the "faster mode" setting with LocalTalk.
- On 68030 and 68040 computers, changes in AppleTalk configurations can cause systems running Meeting Maker 3.5 or 3.5.1 to crash. This can occur when changing AppleTalk links, turning AppleTalk off, or bringing ARA connections up or down. This problem will occur on classic networking as well. Apple is working with ON Technology to resolve this problem.

Open Transport generally requires more memory (RAM) than MacTCP. To conserve memory, you might try some of the following:
- Rename or re-order one or more third-party system extensions (INITs), to change the order in which memory is allocated when your computer starts up. If you use extensions from Global Village, try renaming those extensions so that they load last.
- Especially on PowerPC-based computers, turn on virtual memory. This may affect performance.

When TCP/IP is set to "Load only when needed" (in the control panel's Options window), "pinging" an Open Transport workstation will fail if TCP/IP is not currently being used. To make sure your computer is "pingable" at all times, turn off the "Load only when needed" option (open the TCP/IP control panel and click the Options button, then click the "Load only when needed" checkbox to remove the X) and restart your computer.

When TCP/IP is set to "Load only when needed" (in the control panel's Options window), the first TCP/IP application opened will cause Open Transport to load into memory. Some older applications don't cause Open Transport to load, and then report errors similar to those encountered when MacTCP is not installed. If this is a problem, turn off the "Load only when needed" option (open the TCP/IP control panel and click the Options button, then click the "Load only when needed" checkbox to remove the X) and restart your computer.

The TCP/IP control panel is able to obtain and utilize multiple gateway and name server addresses from DHCP and BootP servers. However, it will currently display only the first one. This should be addressed in a future release.

Generally, you should turn on the "Load only when needed" option in the TCP/IP control panel when using a modem. If TCP/IP is always loaded ("Load only when needed" is not checked), your modem may attempt to initiate a dialup connection at startup. Some MDEVs require more system heap memory than is available at startup, which may cause the computer to hang. Also, some Internet service providers charge by connect time, so you may be charged for the connection, even if you weren't using it.

If you use MacSLIP, you should likewise not configure the MacSLIP control panel to initialize MacSLIP at system startup time. As stated above, this may require more system heap memory than is available at startup, which may cause the computer to hang.

If you are experiencing problems when using MacSLIP with virtual memory on, increasing your virtual memory size may give you better results. (Use the Memory control panel to increase virtual memory.)

If you are using Netscape, 16MB or more of built-in memory (RAM) is recommended.

Some MacTCP-based applications will not function correctly unless the MacTCP DNR file is in its original location at the root level of the System Folder.

You should only specify use of 802.3 framing in the TCP/IP control panel if you have been directed to do so by your network manager, or if you are sure that all other stations on your network segment, including your IP router(s), are also configured to use 802.3 and not Ethernet version 2.0 framing.

Claris Emailer version 1.1 v3 or later and Claris Emailer Lite version 1.1 v4 or later is compatible with Open Transport 1.1.2. Earlier versions of Claris Emailer may not be compatible with Open Transport's "Load only when needed" configuration option. If you experience a system crash 2-3 minutes after quitting Emailer, turn off the "Load only when needed" option. (Open the TCP/IP control panel and click the Options button, then click the "Load only when needed" checkbox to remove the X.)

The current version of the MacTraceRoute Ethernet LAP does not work on computers running Open Transport.

NFS/Share versions 1.4.4 or later are compatible with Open Transport.

When using Netware Client version 5.11 configured for NetwareIP service, the first login may yield a Netware Configuration error message. To avoid this error, open the NetwareIP control panel and change the value under Domain SAP Server (DSS) Retry Attempts from 1 to 2. You can also change OpenTransport TCP/IP control panel to always load TCP/IP into memory (open the TCP/IP control panel, click the Options button, and click the "Load only when needed" box to remove the X).

eXodus 5.2.2 and later are compatible with Open Transport.

Versions of Anarchie prior to 1.6 have a data corruption problem when used with Open Transport. Make sure you are using Anarchie 1.6 or later.

If an Apple Remote Access (ARA) user is on a non-routed, extended (Ethernet) network, and there are devices on the local network with the same network number as devices on the remote network, the user won't be able to see the local devices. This problem can be fixed by installing a router. Another workaround is to clear the PRAM on the ARA computer. (Hold down the Command, Option, and PR keys simultaneously while starting up the computer). Clearing PRAM causes the computer to start up with a new network number, which should not conflict with the remote network number.

Daemon 1.0.0 & Daemon Killer 1.0 are not compatible with Open Transport.

MudDweller 1.2 is not completely compatible with Open Transport. You can open new connections, but the "reconnect" choice does not work correctly.

The system will crash during launch of NetPresenz if Open Transport TCP/IP is configured to use MacIP and the selected zone has no MacIP server.

Current versions of VersaTerm SLIP are not compatible with Open Transport.

Problems can occur with old versions of the KeyServer package from Sassafras Software when TCP/IP is configured to "Load only when needed" (in the control panel's Options window). Contact Sassafras for the latest revisions at <http://www.sassafras.com>.

The combination of Open Transport 1.1.2, LocalTalk Bridge 2.1f2, Global Village Toolbox and GlobalFax extensions causes a crash. This also happens when using classic networking. The workaround is to move the LocalTalk Bridge file to the Extension folder, renaming it to "aLocalTalk Bridge." You can make an alias and rename the alias as desired. Put the alias wherever you want, including the Control Panels folder. This will allow the LocalTalk Bridge to load before Global Village and avoid the cause of the crash.

To use the CSI Hurdler serial card with Open Transport, contact CSI to get a copy of their preference file patch. This will enable the card to be compatible with Open Transport 1.1.2.

After installing Open Transport 1.1.2 over a network while using Classic AppleTalk, open the Open Transport 1.1.2 AppleTalk control panel. If you are not using an infrared device, open the "Connect via" pop-up menu and choose Serial Port.

The current official release of the MPW shell will hang the system when used with virtual memory and Open Transport. When using the MPW shell and Open Transport, turn off virtual memory. The ETO #21 pre-release MPW shell, version 3.4.2b2, fixes this problem.

Apple is working on acceptable solutions to the following known problems for future versions of Open Transport:
- TCP "Ping of Death"
- TCP "Denial of Service Attacks"
- Differences in WebStar throughput using Open Transport versus MacTCP over low speed lines.

System 7.5.3 notes

System 7.5.3 includes both classic and Open Transport networking.

The Network Software Selector (NSS) utility, included in the Apple Extras folder with System 7.5.3, provides an easy way to specify either classic or Open Transport networking. The computer must be restarted for a change to take effect.

During system startup, System 7.5.3 checks for the stored preference for networking software. The load process then causes the appropriate control panels-"Network" and "MacTCP" for classic networking, "AppleTalk" and "TCP/IP" for Open Transport-to become visible. Those control panels associated with the disabled network software are hidden.

Prior to installing OT 1.1, it was technically possible to install the older MacTCP on a computer running Open Transport. With OT 1.1 and later this is no longer possible.

If it becomes necessary to reinstall MacTCP or the Network System Installer (NSI) on a 68030, 68040, or NuBus PowerPC-based computers running System 7.5.3 and Open Transport, you must first use NSS to specify classic networking and restart. After restarting, MacTCP and the other components of classic networking are visible.

If you have a PCI-based computer connected to a Novell Netware network and are using the Netware 5.1 client software, you should also install the Ethernet Compatibility extension version 1.0.3. This extension is available only through a Custom Install from the System Update 2.0 installer, selecting the Ethernet Driver Update. This corrects a problem that could cause your system to crash at shutdown when using MacIPX. However, there will be a two-minute delay in shutting down the computer.

Network Time v2.0.1 is not compatible with the AutoPower On/Off control panel version 1.0 on a NuBus Power Macintosh with Open Transport. To use Network Time v2.0.1, remove the AutoPower On/Off control panel.

System 7.5.5 notes

The System 7.5.5 Update is a set of system software enhancements that improves the reliability and performance of all Macintosh and Mac OS-compatible computers running system software version 7.5.3.

System 7.5.5 Update includes improved reliability when using Ethernet and virtual memory. If you use Ethernet and have virtual memory turned on, you may have experienced problems transferring large files over Ethernet. System 7.5.5 Update fixes this problem.

System 7.5.5 Update includes improvements in LocalTalk that provide:
- better reliability on Macintosh 5400 series computers
- better performance when using some third-party infrared software products

System 7.5.5 Update includes improved reliability when using Ethernet on the Macintosh 5400 and 6400 series computers.

System 7.5.5 Update includes improved stability when using a shared printer on a network. If your computer crashed when you were trying to use a shared printer on a network, System 7.5.5 Update fixes the problem.

If you install Apple Telecom 3.0 or Express Modem 3.0 after installing the System 7.5.5 Update you will not be able to switch on your Express Modem. To fix this incompatibility, run the System 7.5.5 Update again. The System 7.5.5 Update updates your Express Modem 3.0 to Express Modem 3.0.1.

There is a known incompatibility with the Sagem GeoPort ISDN Adapter 1.0 and System 7.5.5 Update, resulting in the inability to use the GeoPort ISDN Adapter. Sagem has been contacted about this problem and is working on a solution. If you have a Sagem GeoPort ISDN Adapter, you should not install the System 7.5.5 Update until Sagem resolves the conflict. For more information, visit the Sagem web site at <http://www.satusa.com> or e-mail sathelp@satusa.com.

Programs use slightly more memory
If you are having new problems with programs reporting that they do not have enough memory, System 7.5.5 Update may require programs to use an additional 23K of memory. To fix the problem:

1. Quit the program if it is open.
2. Click the program's icon to select it.
3. Open the File menu and choose Get Info.
4. In the Info window, increase the value in the "Preferred size" box by 23.
5. Close the window.

Launching Timbuktu on System Update 7.5.5 with VM "on" from the Timbuktu menu may cause a crash. Workaround is to launch Timbuktu from the Finder instead.
Published Date: Feb 18, 2012

Open Transport 1.1.2 Technical Information

This article is the Open Transport 1.1.2 Technical Information file.
This article has been archived and is no longer updated by Apple.
This document contains technical information about Open Transport that may be useful to network managers and administrators. You do not need to read this document in order to use Open Transport.

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Introduction
==========

Open Transport is modern networking and communications system software for the Mac OS. It is based on industry standards and brings a new level of networking connectivity, control, and compatibility to Mac OS computers, while preserving built-in support for easy-to-use networking. Open Transport is supported on system software versions 7.1, 7.1.1, 7.1.2, 7.5.3, 7.5.5 or later. System software version 7.5.3 or later is recommended. No other system software versions are supported.

For more important information about system requirements, compatibility, and known incompatibilities and limitations, read the Open Transport 1.1.2 Read Me document.

Files added by the Open Transport installer
==========

Open Transport installs the AppleTalk and TCP/IP control panels into the Control Panels folder inside the System Folder of your startup disk. The Open Transport Installer also adds the following files to the Extensions folder inside the System Folder:

Shared Library Manager
Shared Library Manager PPC
These extensions implement a shared library mechanism on 68K and PowerPC Mac OS computers, respectively. Both extensions are required on PowerPC-based computers in order to support both emulated and native shared libraries.

OpenTransportLib
Open Transport Library
These shared libraries implement core Open Transport services on PowerPC-based computers. The first library contains the PowerPC implementation and an interface for native PPC applications. The second library contains the built-in Open Transport modules and an interface for emulated 68K applications.

OpenTptAppleTalkLib
Open Tpt AppleTalk Library

These shared libraries implement Open Transport AppleTalk services on PowerPC-based computers. The first library contains the PowerPC implementation and an interface for native PPC applications. The second library contains the built-in Open Transport modules and an interface for emulated 68K applications.

OpenTptInternetLib
Open Tpt Internet Library
These shared libraries implement Open Transport TCP/IP services on PowerPC-based computers. The first library contains the PowerPC implementation and an interface for native PPC applications. The second library contains the built-in Open Transport modules and an interface for emulated 68K applications.

Open Transport 68K Library
This shared library implements core Open Transport services on 68030- and 68040-based computers.

Open Tpt ATalk 68K Library
This shared library implements Open Transport AppleTalk services on 68030- and 68040-based computers.

Open Tpt Inet 68K Library
This shared library implements Open Transport TCP/IP services on 68030- and 68040-based computers.

Open Transport AppleTalk Features
==========

Static and dynamic AppleTalk address allocation

Open Transport AppleTalk supports static assigned (manually administered) protocol addresses as well as the dynamic addressing provided by AppleTalk Address Resolution Protocol (AARP). Static addressing allows AppleTalk nodes to be managed using the protocol address as a unique and stable identifier.

It is important that all nodes on each individual AppleTalk subnet (a given cable segment assigned a unique network number or network number range) be administered consistently-either all with dynamic addressing or all with pre-assigned static addresses. This avoids a potential conflict when a new dynamic node acquires an address assigned to manually-addressed node that is not connected or is off line. Administrators can enforce the addressing policy for a subnet by locking the addressing mode. As a precaution, Open Transport AppleTalk checks for duplicate protocol addresses on the LAN even when static addressing is configured.

Use of parameter RAM

Under classic AppleTalk, AppleTalk's on/off state, the selected network interface, the previous network (protocol) address, and the previous AppleTalk zone name are saved in persistent memory (parameter RAM) for reuse at startup. To ensure backward compatibility, this information is still stored and retrieved on systems using Open Transport AppleTalk. However, the following differences are found with Open Transport:

* At startup, Open Transport reads the current AppleTalk configuration file to determine if AppleTalk should be turned on or off. This value overrides the value saved in parameter RAM. The user is not explicitly notified when this occurs.

* If the network interface specified in the current AppleTalk configuration file is locked and the specified port is not available or cannot be initialized, Open Transport will not automatically switch the port back to LocalTalk. Instead, AppleTalk will remain off. The user sees a dialog box with this information.

Open Transport TCP/IP features
==========

Open Transport brings a workstation-class implementation of TCP/IP protocols to Mac OS. As with MacTCP, Open Transport TCP/IP is a full 32-bit stack. Open Transport TCP/IP adds support for:

* dynamic path MTU discovery, for more efficient network use in heterogeneous network topologies.

* Dynamic Host Configuration Protocol (DHCP), for centralized IP address configuration management. DHCP is an Internet Engineering Task Force (IETF) standards-track protocol.

* IP multicast, for participation as an MBone client for applications written to the native Open Transport API.

* simultaneous TCP connections for applications written to the native Open Transport API are limited only by installed memory and processor

power, for increased functionality as an Internet or other TCP/IP network server.

* a new, more robust and standards-compliant domain name resolver (a caching stub DNR).

* support for developer access to raw IP services, as well as TCP and UDP.

* Ethernet Version 2.0 and IEEE 802.3 framing, for better interoperability with a wider range of TCP/IP hosts.

* implicit and explicit domain name search paths, for increased control of domain name resolution.

* use of multiple IP routers with fail-over, for increased robustness in mission-critical applications.

* TCP wildcard source port assignments start at 2048, increasing from that point.

DHCP server support

Apple's implementation conforms to the current versions of the applicable specification documents (RFCs). To date, Open Transport TCP/IP has been tested with the following DHCP server implementations:

* Competitive Automation (URL: http://www.join.com)
* FTP Software (URL: http://www.ftp.com)
* Hewlett Packard HP-UX (URL: http://www.hp.com)
* Microsoft Windows NT Advanced Server (URL: http://www.microsoft.com)
* Silicon Graphics (URL: http://www.sgi.com)
* Sun Solaris and SunOS (URL: http://www.sun.com)
* TGV (URL: http://www.tgv.com)

DHCP address lease support

Open Transport TCP/IP supports DHCP address leases. Open Transport TCP/IP automatically attempts to renew any address lease that reaches its renewal interval (by default, the renewal interval is reached when the lease is halfway completed). The renewal interval may be configured to a different value by making changes to the configuring DHCP server. Renewal is attempted regardless of how many times the lease has already been renewed. Lease rebinding is also supported. Should an interface's IP address lease expire, the interface is closed down. Open Transport TCP/IP does not currently support the DHCP Client ID option or the DHCPINFORM message, nor will it currently try to use the remainder of a previous but unexpired lease upon rebooting.

Windows NT advanced server support

With Open Transport 1.1 and later, Mac OS clients are interoperable with the Windows NTAS DHCP server on LAN links. However, Mac OS clients cannot acquire configuration information from an NT DHCP server across a dialup (PPP) link because there is not yet an accepted industry standard for DHCP over dialup. The NT implementation is based on proprietary Microsoft extensions. Mac OS clients cannot acquire configuration information nor register with a Microsoft WINS server. WINS is also dependent on Microsoft extensions to TCP/IP (requiring NetBIOS support).

The Internet Engineering Task Force (IETF) is developing a cross-platform industry standard technology for dynamic registration and look-up of IP names through the Dynamic Service Location working group. Apple has no current plans to implement the WINS extensions. Instead, we are fully committed to implementation of the applicable IETF standards as they emerge.

Macintosh clients running versions of Open Transport prior to 1.1 could experience some interoperability problems due to other significant differences between the Microsoft implementation and that of a typical UNIX-based server.

BootP support

Open Transport 1.1 and later fully supports Bootstrap Protocol (BootP). Versions of Open Transport prior to 1.1 failed to accept a BootP Reply sent to the unicast (subnet broadcast) address, (for example, xxx.xxx.xxx.255. Replies sent to the all-nets broadcast address (for example, 255.255.255.255) were handled properly. Also, earlier versions of Open Transport required that the BootP gateway be zero hops away.

Local Hosts file support

Open Transport TCP/IP supports a Hosts file that may be used to supplement and/or customize the Domain Name Resolver's initial cache of information. The Hosts file is normally stored in the Preferences folder in the active System Folder. When Open Transport TCP/IP is initialized, it reads the Hosts file (if any). As in MacTCP, the supported Hosts file features follow a subset of the Domain Name System Master File Format (RFC 1035).

Open Transport TCP/IP is more stringent regarding the content and format of the Hosts file than was MacTCP, which permitted violation of the FQDN requirement for <domain-name>. For instance, the format:

charlie A 128.1.1.1

which was acceptable to the MacTCP DNR, is no longer permitted because of the use of domain search lists in Open Transport/TCP ("charlie" could potentially exist in any or all of the configured domains). To accomplish the same effect, use this format instead:

charlie CNAME myhost.mydomain.edu
myhost.mydomain.edu A 128.1.1.1

This associates the local alias charlie with the fully qualified domain name myhost.mydomain.edu, and resolves it to the address 128.1.1.1. Use of local aliases is limited to CNAME entries; NS and A entries must use fully qualified domain names.

You can create a Hosts file with any text editor or word processor (the Hosts file must be stored in text format). If you use a Hosts file, keep it as short as possible, and include only entries that will be accessed frequently. This reduces the memory required to cache the DNS information and minimizes the need to maintain and update Hosts files as system information changes.

Open Transport TCP/IP automatically uses a Hosts file stored the Preferences folder of the active System Folder. If no Hosts file is found in the Preferences folder, Open Transport TCP/IP searches the active System Folder for a Hosts file. You can specify a particular Hosts file to use with a specific configuration. For example, one Hosts file might be set up for a user connecting via Ethernet, and another set up for when that user connects via modem.

For additional information about the Hosts file design of the Open Transport Domain Name Resolver, see the document "Apple Open Transport Reference Q&A." The latest version of the Q&A is in the Open Transport Extras Folder and is available on the Internet at ftp://seeding.apple.com/ess/public/opentransport/.

MacTCP "server" addressing support

Open Transport TCP/IP supports both Bootstrap Protocol (BootP) and Reverse Address Resolution Protocol (RARP) configuration methods. MacTCP Server mode addressing was a combination of BootP and RARP. When Server mode was selected, MacTCP used BootP to attempt to acquire an IP address. If that failed, MacTCP tried RARP. Whichever protocol was successful was stored as a preference, and was used first the next time the computer started up. In Open Transport, you must choose BootP or RARP explicitly.

MacTCP "dynamic" addressing

Open Transport does not support MacTCP "dynamic" addressing. MacTCP dynamic mode addressing was based on an Apple-proprietary extension to TCP/IP protocols. It applied the address negotiation and assignment rules used by the AppleTalk protocols to TCP/IP networks, making it very easy to set up a Macintosh-only standalone TCP/IP network. Use of this dynamic addressing method in other scenarios, however, could create additional work for a network administrator.

The Internet community (IETF) has since developed a multivendor standard for the dynamic assignment of IP addresses, known as Dynamic Host Configuration Protocol (DHCP). Open Transport TCP/IP supports the industry standard DHCP.

MacIP support

MacIP is a protocol specification developed for carrying TCP/IP traffic on AppleTalk-only networks, originally LocalTalk networks. MacIP is today frequently used with AppleTalk Remote Access Protocol (ARAP) to provide mobile users access to TCP/IP network services.

Use of MacIP typically requires a gateway, which strips off the AppleTalk encapsulation and places the IP packet on the TCP/IP LAN. When packets are sent back to the MacIP end-node, the gateway replaces the AppleTalk encapsulation. MacIP gateway support is most frequently offered as an integrated service within a multiprotocol router. The gateway (router) attaches to both an AppleTalk and a TCP/IP network.

Open Transport supports MacIP in the TCP/IP control panel. Once selected, TCP/IP data is encapsulated in AppleTalk packets, and is sent through the selected network interface.

PPP connectivity

PPP (Point to Point Protocol) connectivity for Open Transport is currently based on the use of third-party software extensions known as "MDEVs." Early versions of these extensions may not be compatible with Open Transport. For information about MDEV compatibility, see the Open Transport 1.1.2 Read Me document.

Memory requirements

Open Transport provides many new features and capabilities to Mac OS customers and, in general, will require more system memory (RAM) than does classic networking. However, the actual memory requirements of Open Transport vary depending upon the networking services in use at a given time. This is different from classic networking, which allocates memory to networking services and keeps it allocated even after networking services are no longer in use.

Factors contributing to differences in memory requirements include:

* Open Transport provides implementations of networking as both 680x0 and native PowerPC code. PowerPC code is typically larger (but also faster).

* Open Transport provides "mixed-mode" applications support, making it possible for both PowerPC native and 680x0 applications to use native networking on PowerPC-based computers.

* Open Transport includes both the new implementations of networking and the libraries required to provide backward compatibility support for the older AppleTalk and MacTCP programming interfaces.

* Open Transport requires less memory on systems with virtual memory enabled. Classic networking has about the same memory requirements regardless of the VM setting.

* Open Transport is based on the cross-platform standard STREAMs environment, which requires more memory than classic networking.

The difference in memory requirements depend upon the configuration of your computer. Some examples of base memory requirements include:

Computer	Virtual System Memory	Classic AppleTalk & MacTCP	Open Transport
PowerPC-based	On	350K to 450KB	200KB
PowerPC-based	Off	350K to 450KB	up to 1.2MB
608x0-based	Off	350K to 450KB	700KB to 800KB

Application compatibility guidelines

Apple has defined three levels of interoperability with Open Transport. The first, "Open Transport Compatible," is used to describe network applications originally developed for "classic" AppleTalk or MacTCP programming interfaces that now take advantage of Open Transport Compatibility Services. These applications automatically gain the benefits associated with the Open Transport control panels. However, they will not realize a significant performance increase on Power Macintosh systems, nor can they take advantage of Open Transport's transport-independence capabilities.

"Open Transport Ready" applications have adopted the new Open Transport APIs. They are PowerPC native, in addition to running on 680x0-based Macintosh systems. Open Transport-ready applications benefit from the new control panels and may also realize a significant performance boost when running on PowerPC-based computers.

The highest category of interoperability is "Open Transport Enhanced." In addition to adopting the new Open Transport APIs and being Power PC native, these applications can be dynamically configured to support AppleTalk, TCP/IP, or serial communication.

Applications that rely on undocumented APIs or examine private data structures in AppleTalk or MacTCP may not be fully compatible with Open Transport. Updated versions of these software products will be required for full compatibility.

Performance

Open Transport is designed to take advantage of the PowerPC processor. For maximum performance, however, networking applications must also take advantage of the PowerPC processor, and should adopt the new Open Transport programming interfaces.

In general, current Mac OS networking applications are written for the 680x0 processor and use the "classic" (680x0-based) networking

programming interfaces. These applications can still be used with Open Transport, and may perform somewhat better. Networking applications that are PowerPC-native but not Open Transport-ready may yield better performance, but still fall short of the maximum potential performance because they make use of Open Transport backward compatibility rather than its full capabilities.

Performance improvements will be greater with protocols that use larger datagram sizes. For example, TCP/IP users will see greater improvements than AppleTalk users, because AppleTalk has a fixed and limited datagram size. On high-speed datalinks such as fast Ethernet, FDDI, and ATM, the performance of the network interface card (NIC) driver code is also a significant factor.

Overall performance also depends on the amount of RAM available. Larger packet sizes and higher throughput place increased demand on the buffering system of Open Transport. If Open Transport becomes low on memory, throughput decreases to accommodate the limitation.

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Multiprocessing Software Read Me (12/96)

This article is the Multiprocessing Software ReadMe file.

This article has been archived and is no longer updated by Apple.

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Important Information
About the Multiprocessing Software

Contents
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- Introduction
- Installing Multiprocessing Software
- Turn off virtual memory and do not install RAM Doubler
- Turn off hard disk sleep
- Important Information About Document Auto-Save

Introduction
------------
This document provides information about the multiprocessing software that is included with your
multiprocessor Power Macintosh computer, and how to configure your computer properly to take advantage of
multiprocessor performance.

Installing Multiprocessing Software
-----------------------------------
Your multiprocessor Power Macintosh computer comes with Apple Multiprocessing software already installed, but
doing a "clean" installation of system software will remove the multiprocessing software, and may also turn on
virtual memory. (See the "Troubleshooting" chapter of your Power Macintosh User's Manual for more information
about clean installation of system software.)

After doing a clean installation of system software, be sure to reinstall the multiprocessing software on this
disk. Also, follow the instructions in the next section to turn off virtual memory if necessary. Otherwise,
your multiprocessor-compatible software applications will not be able to take advantage of the second PowerPC
processor.

To reinstall the multiprocessing software, double-click the Installer icon on the disk, and follow the
instructions on the screen.

Turn off virtual memory and do not install RAM Doubler
------------------------------------------------------
Turn off virtual memory in the Memory control panel, and do not install Connectix RAM Doubler software. If
virtual memory is turned on or RAM Doubler is installed, then your multiprocessor-compatible software
applications will not be able to take advantage of the second PowerPC processor.

To turn off virtual memory, open the Memory control panel and in the Virtual Memory section, click the Off
button. Then restart your computer. For more detailed information about virtual memory, see the "Memory" topic
area in Macintosh Guide, available in the Guide menu.

Turn off hard disk sleep
------------------------
Make sure that the hard disk sleep interval is set to "Never" in the Energy Saver control panel. Otherwise,
software applications designed to work with your multiprocessor Power Macintosh may not work properly.

To set your hard disk sleep interval, do the following:

1) Open the Energy Saver control panel.

2) If necessary, click Show Details to make the additional options
  available.

3) Drag the top and bottom sliders as shown below.

If you wish, you can set a display sleep interval by dragging the middle slider. Display sleep works properly
```

with multiprocessor-compatible software applications.

Important Information About Document Auto-Save

The Energy Saver control panel contains a feature named "Document Auto-Save." The purpose of this feature is to automatically quit all open applications during an idle or scheduled shutdown, while saving changes to any open documents in each application. Since there are literally thousands of applications available for the Macintosh (with new ones always arriving), we cannot guarantee that Document Auto-Save will be compatible with every application. This is especially true for any application that does not use standard routines to implement the alerts or dialog boxes used to save changes to new or modified documents. When Document Auto-Save is incompatible with an application, it will either not automatically quit, or it will display alerts or dialog boxes that Document Auto-Save does not recognize and therefore does not dismiss.

If you intend to turn Document Auto-Save on, we recommend that you monitor its operation during the first attempted idle or scheduled shutdown and note if any of your applications are not compatible. You can avoid problems with incompatible applications simply by making sure you leave open no documents that are new or modified before an idle or scheduled shutdown is to occur. Alternatively, you can modify the Document Auto-Save preferences in the Energy Saver control panel so the computer will sleep rather than shut down when unsaved documents are open.

For instructions for using Energy Saver & Document Auto-Save, choose Macintosh Guide from the Guide menu when the Finder is active, and choose the Energy Saving topic area.

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Apple IIGS: Video Generation Chip (VGC)

This article has been archived and is no longer updated by Apple.

The Video Generation Chip (VGC) supports video output from the Mega II for both Apple II graphics and Super Hi-res graphics, provides an interface to the Real Time Clock chip, supports interrupt handling, and assists disk drive interfacing.

The VGC accepts color information from the Mega II, modifies it according to the current Control Panel selections, and puts out appropriate display information for the NTSC composite video jack and the Video RBG port. The VGC accesses text, background, and border information maintained in the Text and Background Color Register and Border Color Register. 4-bit value determines each of the three color areas, so that there are 16 possible colors for each. These colors correspond to the 16 Apple II Lo-res colors.

Apple II Graphics and Text

If Apple II text mode is used, the VGC removes color information from the NTSC composite output signal, so that color fringing does not occur on a color composite monitor. If a mixed text/graphics mode is chosen, color fringing is unavoidable, since most composite monitors do not have the ability to respond quickly enough to a change in the chroma information. In this case, the bottom four lines of text will show a color fringing anomaly.

The VGC polls the Monochrome/Color Register to determine which type of video signal should be output. If monochrome has been chosen, the VGC will output appropriate dot patterns to represent the chosen colors, so that a monochrome composite monitor will display gray-scale images. An AppleColor RGB Monitor displaying double Hi-res graphics will also display gray-scale images if monochrome is selected.

Super Hi-res Graphics

After the selection of one of the new Apple IIGS Graphics modes, the VGC is responsible for implementing the color mode. It uses memory in the auxiliary 64K bank of Apple II RAM to implement Super Hi-res graphics. In this display buffer, locations $2000-$9CFF are used for pixel information, $9D00-$9DFF are pointers that determine the charactistics of each line, and $9E00-$9FFF hold color pallette information.

For 640 or 320 graphics modes, each pixel may be represented respectively by either 2 or 4 bits, wherein the value is a number of a color in the appropriate color palette. Each of the 200 pointers (one for each line) stores the display mode used, the color palette associated with that line, and a flag of enabled or disabled for scan line interrupts. Each of the 16 color palettes contains information on 16 colors. Each of the colors takes two bytes: 4 bits each for the value of red, green, and blue, which allows the three primary colors can be combined in 4096 different ways.

Real Time Clock Interface

The Video Generation Chip also works as an interface between the 65816 microprocessor and the Real Time Clock Chip (RTC). A Real Time Clock register in the VGC is used as a command register for the RTC. The RTC then maintains calendar and clock information within parameter RAM.

VGC Interrupts

Two types of internal interrupts are handled by the VGC: the One-Second interrupt generated by the Real Time Clock Chip and the Scan-Line interrupt generated by scan line information in Super Hi-res mode. The status and enable states of these interrupts are found in the VGC Interrupt Register and

the VGC Interrupt Clear Register. The VGC also handles one external interrupt line.

VGC Disk Register

The VGC Disk Register, used as a control register for the disk drive interface, functions in choosing the head to use and the type of drive selected.

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Power Macintosh: Read Me (1 of 2)

This article is part 1 of 2 of the Power Macintosh Read Me file.
This article has been archived and is no longer updated by Apple.
Important Information
For Your Power Macintosh Computer

Contents Part 1 of 2
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Tips
- Using a Microphone
- Using the Pointer Mode Control Panel for the Power Macintosh 7200
- Improving Video Capture
- Software for the GeoPort Telecom Adapter or Express Modem
- Installing QuickTime 2.5 and Open Transport 1.1.1
- Installing Acrobat Reader Software from the System Software CD
- Using Power Macintosh MP-Compatible Application Programs

Troubleshooting
- Printing Issues
- Performance Issues
- Issues with Sound
- Issues with Monitors
- Networking and File Sharing Issues
- Issues Using a RAM Disk
- Issues with Programs Freezing or Quitting Unexpectedly
- Issues Sending a Fax
- Issues Using Infrared Features

Tips
====

Using a Microphone

For best results when using a microphone with your computer, be sure to use the Apple PlainTalk Microphone. To use speech-recognition technology with your computer, you must use the Apple PlainTalk Microphone (or a compatible powered microphone).

Some models come with the PlainTalk microphone. You can obtain the microphone from an Apple-authorized dealer. (You can't use the round microphone supplied with some other computers.)

The Apple AudioVision 14 Display and AppleVision 1710AV Display have the Apple PlainTalk Microphone built in.

Using the Pointer Mode Control Panel for the Power Macintosh 7200

The Pointer Mode control panel lets you control the way the mouse pointer works with certain types of graphics software and screen capture programs. For more information, read the document titled "Pointer Mode Read Me" in the Pointer Mode folder (inside the Apple Extras or CD Extras folder, whichever is available on your computer or system software CD).

Improving Video Capture

For best video capture performance, you need at least 16 megabytes (MB) of random-access memory (RAM) installed in your computer.

You can increase the speed of video capture by taking one or more of the following actions:

* Turn off virtual memory.
* Set the screen bit depth to millions of colors.
* Reduce the size of the capture window (320x240 and smaller are the best sizes).
* Make sure that the application program you use for capturing video has enough extra memory allocated for one second of video at the size and bit depth that you are using to record. For example, to record 30fps at 320x240 in millions of colors requires at least 4500K (4.5 MB) free in the application partition. About This Macintosh (in the Apple menu) lets you to estimate memory usage.
* Do not allocate all of the available memory to the capture application. When your capture application is running, you should have an unused block size of at least 500K in About This Macintosh.
* Do not run programs other than the capture application while capturing video. If possible, turn off AppleTalk, the menu bar clock, and all

unnecessary extensions. Do not turn off QuickTime. (Use the Extensions Manager control panel to turn off these extensions; then restart your computer.)
* Make sure that your hard disk has enough free space to record. If you notice a decline in performance, use a disk optimizer to improve your disk's efficiency.

When working with applications that support adjusting video and sound settings, the following settings allow the highest video capture performance:

* Use the Component Video video compressor. Do not use post-compression.
* Set sound input sampling to 16 bits, stereo, and 44.1KHz. Do not use a sound compressor.

Software for the GeoPort Telecom Adapter and Express Modem

Apple Telecom software is available on the CD that came with your computer. Apple Telecom is the software for the GeoPort Telecom Adapter for PowerPC-based computers and the Express Modem for PowerBook computers.

In the U.S. and Canada, MegaPhone is also available with the Apple Telecom software. It is a screen-based telephone application that supports the telephone capabilities of the Apple Telecom 2.x software using the GeoPort Telecom Adapter, including dialing from a graphical keypad, copying and pasting telephone numbers, and dragging and dropping business card information.

If you are using a GeoPort Telecom Adapter with Apple Telecom software on a Power Macintosh 7200, 7600, 8500, or 9500, be sure to disable LocalTalk. To do this, disconnect any devices attached to the printer port (serial devices can remain attached).

In the U.S., Canada, and Japan, Apple Telecom is available as part of the GeoPort Telecom Adapter Kit, which can be purchased separately. The kit includes MegaPhone as well as SITcomm SE/GTA (a terminal emulation program). Apple Telecom, along with MegaPhone (but without SITcomm) is also available as a free upgrade on CompuServe, America Online, and all Apple Internet sites.

Installing QuickTime 2.5 and Open Transport 1.1.1

Updated Open Transport 1.1.1 and QuickTime 2.5 software are included in the CD Extras folder on the system software CD-ROM disc that came with your computer. You can install these updates if you wish.

Open Transport 1.1.1 is an enhanced version of the networking and communications software for Macintosh computers. QuickTime 2.5 is the latest version of Apple's digital video software, and is particularly useful for content creators using software applications such as Adobe Premiere. For more information about Open Transport and QuickTime, see their folders in the CD Extras folder on the CD.

Installing Acrobat Reader Software from the System Software CD

To install Acrobat Reader software from the system software CD onto your hard disk, make sure that the system software CD that came with your computer is not the startup disk. Then locate the Acrobat Reader folder on the CD and follow the installation instructions.

Note: To make sure that the system software CD is not the startup disk, shut down your computer. Then start up the computer while pressing the eject button on the CD-ROM drive (the disc is ejected). After the computer restarts, reinsert the CD and install the Acrobat Reader software.

Using Power Macintosh MP-Compatible Application Programs

If you're using a Power Macintosh 9500/180MP multiprocessing model, your computer contains two PowerPC processors for faster performance. Though you can use any Macintosh program with a Power Macintosh MP computer, you will get the best performance when you use MP-compatible programs that are designed to take advantage of the second PowerPC processor. These programs can provide significant performance improvements in processor-intensive tasks such as video-editing, 3D modeling, and scientific/technical applications.

To find out if an application program performs better on a Power Macintosh MP model, check the system requirements for the program. As of 11/6/96, the following software applications are known to be MP-compatible:

* Adobe After Effects 3.1
* Adobe Photoshop 3.0.5
* Adobe Premiere 4.2.1 with Movie Capture Module 4.2.2
* Deneba Canvas 5.0
* Kodak Color Processor
* Strata Studio Pro 1.7.5+

An additional listing of MP-compatible programs is available at the Daystar Digital World Wide Web site at <http://www.daystar.com/Superfast.Apps/Aps.html>.

If you don't notice a performance increase when using an MP-compatible program, make sure virtual memory is turned off in the Memory control

panel.

The following sections list some usage tips and known compatibility issues with MP-compatible application programs on the Power Macintosh 9500/180MP. If you experience other software issues, contact the program's publisher for assistance.

Strata Studio Pro 1.7.5+
* Make sure sufficient random-access memory (RAM) is available to do a render.
* Make sure to manually save your document after a render is complete. If you quit the program without saving, an alert box will not appear to warn you that there are unsaved changes, and your changes will be lost.
* After a render is complete, choosing "Show Balloons" from the Guide (?) menu will cause the program to unexpectedly quit. (This also can occur in Strata Vision 3D version 4.0.)
* You cannot print a Studio Pro document by dropping the document icon onto a Desktop Printer icon. To print a Studio Pro document, start the Studio Pro program and use the Print command in the program.
* When you save a Studio Pro document, its name does not immediately appear in the "Recent Documents" submenu in the Apple menu.

Premiere 4.2.1
* Use the latest 1.0.0 Premiere MP plug-in from Daystar. There are incompatibilities between the 1.0.0d0 version and the Media 100.
* Using the Copy to Construction commands in the Edit menu will cause the program to unexpectedly quit.

Troubleshooting

IMPORTANT: For more troubleshooting information on the issues described below and other topics, refer to Macintosh Guide (available in the Guide menu when the Finder is active) and the manuals that came with your computer.

Printing Issues

Your system freezes or experiences other issues when printing on a LaserWriter Select 300 or 310 printer. This issue can occur when you attempt to print but your printer is not connected to your computer. Trying to cancel printing in the Print Monitor does not solve the issue and may produce a flashing error message or cause your computer's performance to slow down.

Connect the printer to the computer. If you see a message with a Continue button, click Continue. Normal printing is resumed.

You have trouble printing on a StyleWriter or StyleWriter II printer. If you use a StyleWriter or StyleWriter II printer with your computer, use the StyleWriter 1200 printer driver that came installed on your computer. Do not install your older StyleWriter driver; it is not compatible with PowerPC-based computers.

You have trouble printing with Apple PhotoFlash. If you have issues printing images with the PhotoFlash software, make sure that you choose a printer in the Chooser before you choose the Print command from the File menu.

You can't use the "Print Later" option with a non-networked printer. If you have the Assistant Toolbox extension installed on your computer and you want to use the "Print Later" option when printing on a non-networked printer, you must turn off the Assistant Toolbox extension.

Use the Extensions Manager control panel to turn off the Assistant Toolbox extension:

1) Open the Apple menu and choose Control Panels.
2) Open the Extensions Manager control panel.
3) In the list of extensions, click next to the Assistant Toolbox extension to remove the checkmark.
4) Restart your computer.

You see a low-memory warning when you print Stickies on a StyleWriter, StyleWriter II, or StyleWriter 1200 printer. This issue can occur when the amount of memory Stickies uses is set below 150K. Try increasing the amount of memory available to Stickies. For instructions on changing the memory a program uses, refer to Macintosh Guide, available from the Guide menu when the Finder is active. To locate the Stickies application program so you can increase its memory, open the System Folder, then look in the Apple Menu Items folder (inside the System Folder).

Performance Issues

You see a message that not enough memory is available. This issue can occur for several reasons. For detailed tips on memory-related issues, refer to the troubleshooting information in the manuals that came with your computer, and the information on memory in Macintosh Guide (available in the Guide menu when the Finder is active).

If this issue occurs after you open the Extensions folder in the System Folder and scroll through a long list of extensions, restarting your computer will restore normal performance.

Issues with Sound

You can't hear alert sounds, QuickTime movie sound, or text-to-speech sound. You can't record sound using SimpleSound or other sound recording software. If you experience these issues after installing Apple Telecom software, you need to remove the Audio TuneUp system software extension in your System Folder. To remove the extension:

1) Open the System Folder on your hard disk.
2) Open the Extensions folder (inside the System Folder).
3) Locate the Audio TuneUp extension and drag it out of the Extensions folder and out of the System Folder. You can save a copy of Audio TuneUp in another folder or on a floppy disk, but be sure that no copy remains in the Extensions folder or the System Folder. Removing Audio TuneUp does not affect the functionality of your computer.
4) Restart your computer.

When you play back sound you've recorded, you notice clicks, pops, or skips. This issue can occur if you have virtual memory turned on while you're recording sound. Turn off virtual memory before recording. For instructions on turning off virtual memory, refer to Macintosh Guide, available from the Guide menu when the Finder is active.

Adjusting the volume slider in Apple Video Player and other sound applications does not affect the volume, or turns the volume all the way up or all the way down (no in-between settings). This issue occurs on some newer models that handle sound differently from some application programs. You can use the system sound settings to adjust the volume. Follow these steps:

1) Open the Apple menu and choose Control Panels.
2) Open the Monitors & Sound control panel.
3) Click the Sound button.
4) Use the volume or level slider (whichever is available) to adjust the sound volume.

Your program requires the Sound control panel to set sound options. Some application programs that use sound require the Sound control panel, an older control panel that has been replaced on your computer by the Monitors & Sound control panel.

If your application requires the Sound control panel, you can install it from the Apple Extras folder. For instructions, read the file titled "Installing the Sound Control Panel" in the Sound folder, which is inside the Apple Extras or CD Extras folder. (The Apple Extras folder is on the computer's hard disk, and the CD Extras folder is on the system software CD that came with your computer.)

Note: You can also install the Sound control panel by doing a custom installation of system software. For instructions, refer to the information on doing a custom installation in the Troubleshooting chapter of the manual that came with your computer. When the Custom Install dialog box appears, click "Sound control panel" in the list, then click Install.

HyperCard version 2.3.3 or earlier does not record sound properly on your computer. Other sound recording application programs, including SimpleSound and the Sound control panel, can record sounds that you can import and play within HyperCard 2.3.

Issues with Monitors

There is no image when you try to use a TV as a monitor with a Power Macintosh 8500. You can use a TV or other composite monitor with a Power Macintosh 8500 equipped with 2 MB of video RAM (VRAM), but the VRAM must be installed in the two DIMM slots labeled "VRAM Bank 1." For more information about installing memory DIMMs, refer to the Technical Information booklet that came with your computer.

Networking and File Sharing Issues

IMPORTANT: For information about Open Transport, see the information on networking in Macintosh Guide and in the manual that came with your computer. Additional information about Open Transport is on your hard disk in a separate folder.

AppleShare displays incorrect information for large drives. If you use File Sharing to share a disk larger than 2 gigabytes (GB), some older computers connected to your computer may display an incorrect size for the disk in the Get Info box. (Get Info reports the disk to be 2 GB in size, even if it is larger.)

Since these older computers do not support the larger drives, they also cannot report correct information about the drives. (Computers with System 7.5 display correct information.)

You can't reconnect to a server. If you unexpectedly lose a connection to a server on which you have items in use, and then choose the server from the Recent Servers item in the Apple menu, you get a message that the disk could not be opened because you do not have enough access privileges or because the server can't be found on the network. Before you can reconnect to the server, you must close any open files. If you need to save work in a file, use Save As to save it on a different disk.

You see zones and/or servers listed in the Chooser, but the network cable is not connected to the computer. This issue can occur if you disconnect the network cable from the back of your computer while the Chooser is open. Be sure to shut down your computer before disconnecting a

network cable.

You have issues using AppleShare Server Software version 4.1 or 4.2. AppleShare server software versions 4.1 and 4.2 are not intended for use with PCI-based computers, including Power Macintosh 7200, 7600, 8500, and 9500 computers. If you attempt to use AppleShare server software version 4.1 or 4.2 with these models, you may experience issues.

Issues Using a RAM disk

You see a message that your RAM disk is unreadable. Under some circumstances you may see the following message after setting up a RAM disk:

"This disk is unreadable by this Macintosh. Do you want to initialize the disk?" (Important: This message applies to the RAM disk, not to your hard disk, which will not be initialized.)

Decrease the size of the RAM disk. If you see the message again, decrease the size again. Continue to decrease in small amounts until the message no longer appears.

Issues with Programs Freezing or Quitting Unexpectedly

MoviePlayer quits unexpectedly. Using MoviePlayer 2.1, you can play a movie at double (2X) size. You cannot present a movie (that is, play the movie on a second monitor) at double size. Presenting a movie at 2X size results in the Movie Player quitting without warning.

WiggleWorks freezes, quits unexpectedly, or won't produce sound. WiggleWorks 1.0 requires special software, Macintalk Pro, to produce sound. The version of Macintalk Pro that comes with WiggleWorks is not compatible with your computer. After installing WiggleWorks, you need to drag a newer version of Macintalk Pro (version 1.4 or later) to the Extensions folder (inside your System Folder).

There are two ways to obtain Macintalk Pro version 1.4:

* Install PlainTalk from the Apple Extras or CD Extras folder. (The Apple Extras folder is on the computer's hard disk, and the CD Extras folder is on the system software CD that came with your computer.) PlainTalk includes Macintalk Pro version 1.4, which is placed in the Extensions folder when you install PlainTalk.

* Install Macintalk Pro from Apple Computer's America Online or Internet sites. Refer to the manual that came with your computer for information about connecting to Apple's online sites.

If you are unable to obtain Macintalk Pro version 1.4, contact Apple for assistance.

Note: Your computer comes with Macintalk 3. WiggleWorks 1.0 does not work with Macintalk 3. To hear sound with WiggleWorks you must have Macintalk Pro version 1.4 in your Extensions folder, but it is not necessary to remove Macintalk 3.

Maple V quits unexpectedly when you change your monitor resolution. This can occur if you use the Control Strip to change the monitor resolution while the Maple V program is active. Use the Monitors & Sound control panel instead of the Control Strip to change screen resolution. For instructions on using the Monitors & Sound control panel, refer to Macintosh Guide (available in the Guide menu when the Finder is active).

When you try to install Adobe Premiere Deluxe, the mouse freezes. This can occur if you have virtual memory turned on and AppleTalk active when you try to install Adobe Premiere Deluxe. Turn off virtual memory and make AppleTalk inactive before installing. For instructions, refer to Macintosh Guide, available from the Guide menu when the Finder is active.

This issue does not occur if you select Adobe Premiere 4.2 installation instead of Adobe Premiere Deluxe.

Issues Sending a Fax

You have trouble sending a fax. If you use PowerTalk Direct Dialup Mail and have trouble sending a fax, it may be because both Direct Dialup and STF PowerFax PE are set to auto-answer. To turn off STF auto-answer, open the STF Setup window and set 'n' to "never" (in the "Answer on 'n' rings" section).

Issues Using Infrared Features

Farallon AirPath v1.0 and Apple IR File Exchange don't work on your computer. Also, Farallon AirDock and other infrared devices are not detected through a serial port that has been selected in the AppleTalk control panel, and the string "(IR)" is not appended to the port name. Infrared (IR) features are not fully supported on desktop computers running system software version 7.2.3. An AirDock connected to a selected AppleTalk serial port will, in most cases, operate normally (though forwarding features are disabled). This lets you connect to the desktop system using Personal File Sharing. These issues do not occur on PowerBook computers, and will be corrected on desktop computers in a future update.
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PowerFrax Read Me (12/96)

This article is the PowerFrax Read Me file from DayStar Digital dated 7/22/96.

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PowerFrax
=========

PowerFrax is a benchmarking application that generates fractals from the classic Mandelbrot set. The fractal
patterns that are shown on the screen are the result of intense floating point calculations performed for each
pixel in the image. The length of time required to perform these calculations is a good measure of the
capabilities of the processor or processors performing them. PowerFrax has a built-in timer that allows
comparisons to be easily made.


Using PowerFrax
===============

PowerFrax has a number of features that make exploring fractals easy and fun.

When you first launch PowerFrax it will open a new window and display the Mandelbrot set. To explore the
fractal select the Crop tool in the Info window.

Now click and drag out a selection within the fractal to create a new fractal zoomed in on the area selected.
This is the principle way to explore the fractal. To make a square selection hold down the shift key. The area
selected is magnified into a new window. Clicking and dragging will work in any fractal window.


The PowerFrax Tools
===================

This section describes the function of the PowerFrax tools.

Drag And Drop
-------------
This tool will let you drag a copy of the current window to any application that will accept a dropped
picture, e.g. the Scrapbook or the Finder.

Crop
----
As described above, this tool will let you magnify a selection from an existing fractal into a new window.

Magnify
-------
This tool will let you magnify a fractal. Holding the option key down will let you reduce the fractal.

Shift
-----
This tool will let you shift the fractal. Only the exposed areas will be recalculated. The generation time is
not applicable and will not be displayed for a shifted fractal.

Sample
------
This tool is only available for Julia Set fractals. It is described below.


The PowerFrax Menus
===================

This section describes the options available in the PowerFrax menus.

The File Menu
```

New - Creates a new Mandelbrot set or one of a number of different types of documents if plug-ins are installed.

Open - Opens a previously saved fractal.

Cycle - All previously saved fractals in the selected folder will be played back repeatedly until 'Stop Cycling' is selected from the File menu.

Close - Closes the current fractal. Hold down the option key to close all the fractals.

Save - Saves the current fractal. Note that PowerFrax does not prompt the user to save changed fractals so be sure to save fractals that you like before closing them or quitting PowerFrax.

Save As - Same as save except that the user will be prompted to name the fractal.

Page Setup - Sets up printing parameters using the standard Page Setup dialog.

Print - Prints the current fractal.

Quit - Quits PowerFrax.

The Edit Menu

Copy - Copies the current fractal to the clipboard.

Default Fractal - Changes the fractal that will be generated when 'New' is selected. This option can also be used to restore the original default fractal.

The Control Menu

Restart - Restarts the current fractal from the beginning.

Repeat - Restarts the current fractal from the beginning. Each time it finishes it will be restarted again after a one second delay.

Exact Colors - Uses the precise color set associated with the fractal. This option is not needed and is not available when the monitor is in millions of color mode. When this option is used, colors in windows other than the current fractal window may not appear correctly. Monitors with at least 256 colors capability are required for this option to work well.

Animate Colors - Centers the current fractal on the monitor, grays out the rest of the screen then cycles through all the available colors in the color set associated with the fractal. Use the command key to reverse the direction of the animation. The option key freezes the animation temporarily. The shift key will slow the animation down. Click the mouse or push any other key to end the animation. Note that on multiple monitor systems the fractal will not be centered.

The Window Menu

Hide Info - Hides the Info window.

Window Name - Selects the named window.

The Multiprocessing Menu

Use 'n' Processors - Selects the number of processors to be used to regenerate all open fractals and to generate all subsequent fractals. This menu is only available on multiprocessing systems.

If you type command-'d', the contents of the multiprocessing menu will change. It will provide an option to specify the number of tasks to generate fractals with. The number of tasks that can be created is restricted to 100. Typing command-'d' again will restore the menu to its original state.

PowerFrax Plug-ins
==========

PowerFrax supports plug-ins that can generate documents with content other than the Mandelbrot set. The available plug-ins are Julia Sets and 3D Projection. They are described after the Mandelbrot section below. Plug-ins appear in a hierchical New menu when they are installed.

Mandelbrot

The Mandelbrot set is named after Benoit Mandelbrot, a mathematician who did considerable research into fractal systems. It is based on the iterative application of the function f(z) = z*z + c, where z is the result of the previous application and c is a constant point in the complex plane.

To generate a fractal the function f(z) is applied iteratively for each pixel in the image. For each pixel the initial value of z is set to 0 and the value of c is set to the pixel's corresponding point in the complex plane. The function f(z) is applied repeatedly until the magnitude of f(z) exceeds the escape radius or until the number of iterations equals 255. The number of iterations performed determines the color of the pixel.

When a Mandelbrot window is active the Info window appears. The Info window's fields are described below:

* The PowerFrax Info window describes the current fractal. White text fields in the Info window can be edited.

* The Center fields are the center of the current fractal in the complex plane.

* The Step field is the degree of separation of each pixel from its immediate neighbors in the complex plane.

* The Escape Radius field is used to determine when to stop performing iterations.

* The Size fields are the pixel dimensions of the fractal. Editing these two fields is the only way to make the fractal bigger or smaller.

* The Colors menu allows the user to recolor the fractal with any one of a variety of different color sets.

* The Generation Time display shows how long it took to calculate the current fractal. Only the time required to perform the calculations is measured -nothing else.

* The Cursor display shows the position in the complex plane of the pixel under the cursor. If the cursor is not over a fractal then this display will be blank.

Julia Sets

There is one Julia set for every point in the Mandelbrot set. The Info window content for a Julia Set is very similar to that for a Mandelbrot set.

There are two additional fields defining the point lambda in the Mandelbrot set to which the Julia set corresponds.

There is also a sample tool which will allow lambda to be set quickly by clicking on a point in any open Mandelbrot window. The sample tool may be activated at any time by holding down the option key. Try holding the mouse button down and moving the sample tool around inside a Mandelbrot window. The results can be very impressive on a fast machine.

3D Projection

This plug-in does not generate a fractal. Instead, it creates a three-dimensional projection of an existing fractal. This plug-in will not be available unless QuickDraw 3D is installed.

The Info window for 3D projections is significantly different from the other two types of plug-ins:

* The Projection field states which fractal the projection was derived from. Note that the fractal from which the projection was derived does not have to be left open.

* The Tessalation field defines how many pixels in the corresponding base fractal are traversed before a new vertex in the projection is defined. The smaller this number the more polygons there will be in the projection.

* Maximum Height defines how 'tall' the projection will be. Making this number negative will turn the projection into valleys instead of mountains.

* Rotation Speed defines the angle in degrees between each subsequent frame displayed in a 3D projection window. Setting this number to 0 will make the projection stationary.

* Polygon Count states how many polygons are in the 3D projection.

* Frame Rate states how many frames per second are being displayed.

* The Size fields are the pixel dimensions of the projection document.

* The Drag And Drop tool is the only tool available for 3D projections.

The 3D Projection plug-in also installs the 3D Projection Menu which contains the following options:

Wire Frame - Renders the projection as a wire frame.

Vertex Shading - Renders the projection using vertex interpolation.

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Power Macintosh 6400: Why is Modem Port Covered? (12/96)

I have a Power Macintosh 6400/200 computer, and I want to attach an external modem to it. However, the modem port is covered. Why is this port covered? How can I use a modem with this computer?

This article has been archived and is no longer updated by Apple.

Keep in mind that there are two different versions of an Apple "Macintosh 6400" computer: a Macintosh Performa 6400/200 and a Power Macintosh 6400/200. These two computers differ in the bundled hardware and software configurations.

The Macintosh Performa 6400/200 has the modem port covered because it has an internal modem installed in the communications slot. When an internal modem is installed, the external modem port is not functional so Apple provides a port cover.

However, the Power Macintosh 6400/200 does NOT have an internal modem installed. Instead, this configuration has an Ethernet card installed in the communications slot. Having an Ethernet card installed, does NOT disable the modem port. So, if you have a Power Macintosh 6400/200, the modem port is still functional.

The confusion arises because some Power Macintosh 6400/200 computers have inadvertantly shipped with the modem port covered. In these cases, if you remove the port cover, you can use the external modem port.

Published Date: Feb 18, 2012

Power Macintosh Read Me - Part 2 of 2

This article is part 2 of 2 of the Power Macintosh ReadMe file.
This article has been archived and is no longer updated by Apple.

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Important Information
For Your Power Macintosh Computer

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====================
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Compatibility Problems
======================

Japanese and Chinese Language Kits
----------------------------------
To use the Japanese Language Kit with your computer, you must install version 1.2 or later. In the United
States, you can obtain an upgrade by calling Claris at 1-800-293-6617.

To use the Chinese Language Kit with your computer, make sure you use version 1.1.1 or later. To install the
Chinese Language Kit version 1.1.1, follow these three steps:

1) Install the WorldScript Updater 1.0.
2) Install the Chinese Language Kit version 1.0 or 1.1.
3) Install the Chinese Language Kit Updater to update your software to
  version 1.1.1.

IMPORTANT: Be sure to follow the steps in the order shown.

QuarkXPress
-----------
To use QuarkXPress with System 7.5.3 or later on a PowerPC-based computer, you must upgrade to QuarkXPress
version 3.3.2.

Microsoft Office
----------------
If you are using Microsoft Office 4.2.1, you need the "Office 4.2x Update For Power Mac" version 1.0.1
extension, and the "Microsoft Office Manager" version 4.2.1b control panel. These can be found on the
Internet. Download the MC1164.HQX and MOMPATCH.HQX "patch" (update) files from Microsoft. The patches are
available on the Internet at:

ftp://ftp.microsoft.com/softlib/mslfiles

Monochrome Monitor
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The Apple 12-inch monochrome monitor (M1050) cannot be used with the Power Macintosh 7200, 7600, 8500, 9500, or future models.

Important Information About Document Auto-Save

The Energy Saver control panel contains a feature named "Document Auto-Save." The purpose of this feature is to automatically quit all open applications during an idle or scheduled shutdown, while saving changes to any open documents in each application. Since there are literally thousands of applications available for the Macintosh (with new ones always arriving), we cannot guarantee that Document Auto-Save will be compatible with every application. This is especially true for any application that does not use standard routines to implement the alerts or dialog boxes used to save changes to new or modified documents. When an application is incompatible with Document Auto-Save, it will either not automatically quit, or it displays alerts or dialog boxes which Document Auto-Save does not recognize and therefore does not dismiss.

If you intend to turn Document Auto-Save on, we recommend that you monitor its operation during the first attempted idle or scheduled shutdown and note if any of your applications are not compatible. You can avoid problems with incompatible applications simply by making sure you leave no documents open that are new or modified before an idle or scheduled shutdown is to occur. Alternatively, you can modify the Document Auto-Save preferences in the Energy Saver control panel to sleep instead of shutting down when unsaved documents are open.

For instructions for using Energy Saver & Document Auto-Save, choose Macintosh Guide from the Guide (question mark) menu, and choose the Energy Saving topic area.

Other Document-Saving Products

There are conflicts when non-Apple document-saving control panels or extensions are used in conjunction with Energy Saver's Document Auto-Save. Examples of such products are NowSave and SuperBoomerang. For best results, use the document-saving features of only one control panel or extension.

Self-Dismissing Dialogs

Under some rare conditions, the Energy Saver control panel may continuously dismiss dialog boxes if the Document Auto-Save feature unexpectedly fails during an idle or scheduled shutdown. (Whenever a dialog box appears, it is dismissed as if you have pressed the Return key.) To return things to normal, simply click the mouse button or press the space bar.

Important Information About Macintosh PC Exchange

Apple File Exchange and Macintosh PC Exchange

The Apple File Exchange software is not compatible with your Macintosh model or with Macintosh PC Exchange. Version 2.0.5 of PC Exchange contains an easier method for accessing DOS and Apple II ProDOS disks on a MacOS-based computer.

AutoDoubler

To use AutoDoubler with Macintosh PC Exchange, you must first open the AutoDoubler control panel and turn off the "Show DD on Compressed Files" option from the DD menu.

Compressed PC Disks and Files

Macintosh PC Exchange does not work with DOS-format floppy disks or SCSI hard disks that have been compressed using Stacker or other DOS or Windows disk-compression utilities. Before transferring compressed DOS files to a MacOS-based computer, you must decompress the files and save them to a noncompressed DOS-format floppy disk.

DMF Format PC Disks

Microsoft provides some PC software on floppy disks that use a formatting scheme called DMF. PC Exchange version 2.0.5 can't read DMF-formatted floppy disks. Standard DOS-format floppy disks work correctly with PC Exchange 2.0.5.

Working With Disks Containing Multiple Partitions

If a SCSI hard disk or removable media cartridge has been formatted to contain multiple partitions, you can use PC Exchange to mount the Mac OS, DOS-, or ProDOS-format partitions as individual volumes on the Macintosh desktop. If the disk contains both MacOS- and DOS-format partitions, PC Exchange will recognize only the MacOS partition. In addition, PC Exchange will recognize ProDOS-format partitions only on SCSI hard disks that are less than 32 megabytes.

You can use PC Exchange to erase existing individual partitions on a SCSI hard disk or removable media cartridge if they have the same format. However, you cannot use PC Exchange to reformat and resize individual partitions contained on the disk. Nor can you format a MacOS-format hard disk or removable media cartridge as a DOS-format disk. To resize or reformat multiple MacOS, DOS, or ProDOS partitions, you need to use third-party software designed for partitioning hard disks and removable media cartridges.

Working with DOS-Format SCSI Removable Media Devices

In order for PC Exchange to recognize any SCSI removable media device, you must turn on the device and eject any cartridges before you turn on your computer.

Do not install the device driver software that came with your removable media device. Instead, open the PC Exchange control panel, click the Options button, select your SCSI device from the list, and then restart your computer. PC Exchange will install its own device driver for that SCSI device.

The Eject Disk command is unavailable when you are working with removable media devices. To unmount and eject a removable media cartridge, drag the device's icon to the Trash. Once the device has spun down and the red light goes out, you can manually eject the cartridge from the drive. To access a removable media cartridge that has been ejected, simply reinsert the cartridge in the drive.

When initializing and formatting Bernoulli and SyQuest cartridges on a DOS or DOS-compatible computer, use the disk setup and partitioning software that came with the SCSI controller card installed in your PC or that came with your Bernoulli or SyQuest device. (Do not use the MS-DOS FDISK command.) Also, use the MS-DOS FORMAT command to format a newly initialized removable media cartridge on a DOS or DOS-compatible personal computer (PC) before you copy DOS files onto it.

When you initialize a removable media cartridge on a DOS or DOS-compatible PC, you must fully partition, initialize, and erase the cartridge using the software that came with your SCSI controller card or removable media drive. If you do not, PC Exchange may not recognize the new DOS-format partitions on that cartridge.

Working with DOS-Format SCSI Hard Disk Drives

In order for Macintosh PC Exchange to recognize a SCSI hard disk drive, you must turn on the drive before you turn on your computer.

Do not install the device driver software that came with your removable media device. Instead, open the PC Exchange control panel, click the Options button, select your SCSI device from the list, and then restart your computer. PC Exchange will install its own device driver for that SCSI device.

When initializing and formatting an external SCSI hard disk connected to a DOS or DOS-compatible PC, use the MS-DOS FDISK command or the disk setup and partitioning software that came with the SCSI controller card installed in your PC. In addition, you should use the MS-DOS FORMAT command to format and erase the disk before you copy DOS files to a new SCSI hard disk connected to a PC.

Tips and Problems

* A "Sad Mac" icon may appear on your screen at startup if a removable media cartridge has been left in the drive. To keep this problem from occurring, manually eject removable media cartridges from their drives before you turn on your computer.

* Macintosh PC Exchange cannot recognize SCSI hard disks, removable media devices, or drive container files that contain more than one gigabyte of disk space.

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Launcher: Category Buttons Not Appearing

When I create category folders inside the Launcher Items folder in my system folder, whose names start with the bullet character (Option-8), the Launcher does not display a new category button. What's am I doing wrong?
This article has been archived and is no longer updated by Apple.
There is a bug in the Launcher previous to version 2.8. System 7.5 Update 2.0 includes Launcher 2.8, which fixes this issue. Users are encouraged to install System 7.5 Update 2.0 to fix this bug along with other fixes addressed in this update.

System 7.5 users may update the Launcher only by acquiring disks one and three of the System 7.5 Update 2.0 disk set and performing a custom install of the Launcher control panel.

Other workaround solution
This issue shows up in environments where creation of folders is very frequent. Eventually, the directory ID, known as dirID (an unseen folder counter in the file system) becomes too large for the Launcher to process correctly. With this understanding, the following solution could also be adopted.

Locate a folder on the hard drive that has been around for while and would therefore have low dirID number. Using a temporary folder -- the contents of the old folder and the Launcher's failing bullet-named category folder can be swapped, the folder names interchanged, and the folder locations reversed. The old folder with the lower dirID should be processed correctly as a Launcher category folder.

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Performa 6360 & 6400: No QuickDraw GX Installer?

I have both a Macintosh Performa 6360 and 6400 computer. I cannot find the QuickDraw GX installer on either my hard disk or my Performa CD-ROM disc. Was I supposed to get it? If not, why was it not included on the CD-ROM disc?
This article has been archived and is no longer updated by Apple.
Performa 6400 w/Internal Global Village Modem

QuickDraw GX installer is only included with the Macintosh Performa 6400 computers which come with the internal Global Village communication slot card modem. QuickDraw GX can be found on the Macintosh Performa 6400 CD-ROM disc by following this path:

Hard Disk Files
Apple Extras Files
System Software Extras
QuickDraw GX

Performa 6360, 6400 & 6400 (Video Editing) w/Internal Geoport
---
The Macintosh Performa 6360, 6400 and 6400 Video Editing Edition computers do not include QuickDraw GX in the System Software Extras folder. All of these computers currently ship with internal Geoport communication slot modem, instead of the Global Village communication slot card modem.

These computers also ship with Adobe Acrobat 2.1 preinstalled. If you install QuickDraw GX over a System Folder that already has Adobe Acrobat 2.1 installed, you may receive an error message that says "substitution fonts for Acrobat or ATM may be damaged or missing...".

Where to Get QuickDraw GX

If you did not receive QuickDraw GX with your Macintosh Performa computer, but you would like to install it, you can download it from all Apple Software Update online sites.

These articles can help you locate the software update mentioned here:

* "Where To Find Apple Software Updates" - Lists online services for free Apple software updates.

* If you did not receive QuickDraw GX with your Macintosh Performa computer, but you would like to install it, you can download it from the Apple Support Website, Apple Software Library at: "**http://www.apple.com/swupdates**"
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AppleFax Cover Page and the "To:" Field

When faxing with a Cover Page with AppleFax, some information in the "To:" field is truncated, omitted, or out of logical order.

- The last name is omitted
- There is no line break after the Address Field
- The Zip Code appears before the city
- The State doesn't appear at all

What is wrong?
This article has been archived and is no longer updated by Apple.
You have encountered a bug in the AppleFax software. Some, but not necessarily all of the issues listed may occur.

Apple engineers are investigating the issue. We hope to have a resolution soon.
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AIX & Journaled File System: Logical Volume Limitation

This article provides an understanding of journaled file system (JFS) size limitations.
This article has been archived and is no longer updated by Apple.

The maximum size for a JFS is defined when the file system is created. When you create a JFS, there are two significant issues to consider, maximum journaled file system size and journaled file system log size.

Maximum Journaled File System Size

The maximum JFS size is a function of the following three variables, which are set when the file system is created:

* Logical partition size of the volume group
* Fragment size
* Number of i-nodes

The Logical Volume Manager (LVM) limits a volume group to 32 physical volumes and restricts a physical volume to 1016 logical partitions. This means that the maximum file system size as a function of volume group geometry is as follows:

32 x 1016 x PartitionSize

The fragment size limits the JFS size due to addressability constraints. Each fragment within a file system must be addressable by a 28-bit value. This means that the maximum file system size as a function of fragment size is as follows:

228 x FragmentSize

Journaled file systems are also restricted to 224 i-nodes. This limitation yields the following maximum file system size:

number of bytes per i-node (NBPI) x 224

The following table summarizes the restrictions on journaled file system size:

NBPI Ratio (bytes)	Fragment Size (Megabytes)	Partition Size (Gigabytes)	Maximum File System Size
512	512, 1024, 2048, 4096	2	8
1024	512, 1024, 2048, 4096	2	16
2048	512, 1024, 2048, 4096	2	32
4096	512, 1024, 2048, 4096	4	64

Journaled File System Log Size Issues

Another size-related issue is the size of the JFS log. Changes to JFS on disk control structures are recorded in a separate log logical volume.

In most instances, multiple journaled file systems use a common log configured to be 4MB in size. For example, after initial installation all file systems within the root volume group use logical volume hd8 as a common JFS log. The default logical volume partition size is 4MB, and the default log size is one partition, therefore, the root volume group normally contains a 4MB JFS log. When file systems exceed 2GB or when the total amount of file system space using a single log exceeds 2GB, the default log size may not be sufficient. In either case, the log sizes should be scaled upward.

NOTE: The log should contain 4MB of record space for each 2GB of file system space.

* The default log size may be implicitly increased by creating a volume group with a larger than 4MB partition size.

* On a newly created volume group, the crfs command creates the default log for the volume group. The size of this default log can be specified by using the -l <log_partitions> option of the crfs command.

* JFS logs may be created on an individual basis by using the mklv -t jfslog command followed by the logform command. To associate the new log with a file system, use the -a log=<log_name> option of either the crfs or the chfs command.

* The size of an existing log may be increased only if all file systems using the log are unmounted. After unmounting all necessary file systems, use the extendlv command to increase the size of the log logical volume followed by the logform command. Failure to unmount all file systems using the target log may result in file-system corruption and data loss.

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PowerBook 1400: Why Does 1GB Hard Drive Show As 750MB? (12/96)

I have a PowerBook 1400c computer which was supposed to have come with a 1 gigabyte (GB) Hard drive. However, from what I can tell in the hard drive window, there is only a total of 750 megabytes (MB) of hard disk space. What's wrong?

This article has been archived and is no longer updated by Apple.

Issue
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If your computer was supposed to have come with a 1 GB hard drive, it probably did, but it may have been formatted improperly. The improper formatting, in this case, causes 1 GB hard drives to appear to have less total disk space. The total space showing in the hard drive window is 750 MB. This formatting issue has been noted and corrected at Apple's manufacturing site. This issue should no longer be a factor in any new PowerBook computers.

Which Models Shipped With A 1 GB Hard Drive?
═══

Not all PowerBook 1400 computers shipped with 1 GB hard drives. Only the following models shipped with 1 GB hard drives.

M4856 Macintosh PowerBook 1400c/117
M5576 Macintosh PowerBook 1400c/133

How Can I Tell If My 1 GB Hard Drive Is Formatted Improperly?
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If you aren't sure whether or not your hard drive has been improperly formatted, do the following:

Step 1

Open the hard drive window.

Step 2

Pull down the View menu.

Step 3

Select "by icon" from the menu.

Step 4

Add up the numbers for "in Disk" and "available". If these numbers add up to approximately 750 MB, then the drive will need to be reformatted to obtain the full size of 1 GB.

Resolution
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If your PowerBook computer has an improperly formatted hard drive, you will need to follow these steps to reformat* the drive:

* Note: Reformatting your hard drive will cause all the data files on the drive to be permanently erased. Be sure to save your important files to other media before reformatting.

Step 1

Back up the important data from your hard drive to another hard drive or to floppy disks. All of the software that came with your computer is contained on the CD that came with it, so you only need to back up the files you have created.

Step 2

Startup from the PowerBook System CD.

Step 3

Run Drive Setup to reformat/initialize the hard drive.

Step 4

Restore all the software from the PowerBook 1400 CD.

Step 5

Restart

When you open your hard drive window now the amount of space "in disk" and "available" should show that you have approximately 1 GB of hard drive space.

This article was published in the Information Alley on 18 December 1996.
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Network Server AIX: Altering the ODM

On a Network Server 500 or 700 running AIX, I moved a PCI Ethernet card to another PCI slot. I was not able to remove the old device, however. The device was in the defined state, but it could not be removed even if I manually deleted the device. This leaves an "en1" device, and a configured "en2" device which should be "en1".
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This is a special case where an object defined in the ODM could not be deleted by deleting the device. You can selectively alter the ODM with the following steps:

Step 1
Before running any "<odmdelete>" or "odmadd" commands, it is recommended that you save the original copies of the Cu* files, like this:

```
cd /etc/objrepos
cp CuAt cuat.old
cp CuDep cudep.old
cp CuDv cudv.old
cp CuDvDr cudvdr.old
cp CuVPD cuvpd.old
```

Step 2
In general, to find out what is in the ODM, you can run the odmget command. There are five files on which you would want to run odmget. These files are in /etc/objrepos; their names are CuAt, CuDep, CuDv, CuDvDr, and CuVPD. The syntax for odmget would be:

```
odmget CuAt > /tmp/cuat
odmget CuDep > /tmp/cudep
odmget CuDv > /tmp/cudv
odmget CuDvDr > /tmp/cudvdr
odmget CuVPD > /tmp/cuvpd
```

Then you can use pg, vi, or another editor on the /tmp/cu* files to "see" what is in the ODM. You can also "grep" for items, if you know what you are looking for, like this: (This assumes that you put the output of the odmget commands in the /tmp directory, in files beginning with the letters "cu".)

```
grep 'ent_name' /tmp/cu*
```

where "ent_name" is the word for which you are looking. For example:

```
grep ent2 /tmp/cu*
```

Step 3
WARNING: If you run "<odmdelete> -o CuAt", you will delete EVERYTHING in /etc/objrepos/CuAt! Consider backing up each /etc/objrepos/Cu* file if you have not already done so.

You can put the commands below in a file, make it executable, and run it. It will delete anything in the ODM that is associated with et2. You will want to also delete all ent2 entries.

DEVICE=et2

odmdelete -q "name= $DEVICE" -o CuAt

odmdelete -q "parent = $DEVICE" -o CuDv

odmdelete -q "name = $DEVICE" -o CuDv

odmdelete -q "name = $DEVICE" -o CuDep

odmdelete -q "dependency = $DEVICE" -o CuDep

odmdelete -q "value1 = $DEVICE" -o CuDvDr

odmdelete -q "value3 = $DEVICE" -o CuDvDr

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AIX: TCP/IP Communication Failure, Cannot "ping"

Tips for network communication failure, cannot "ping".
This article has been archived and is no longer updated by Apple.
Communication on a network (using "ping", "telnet", "rlogin", and so on) requires the configuration of hardware and software to work correctly. If you have either a hardware failure, or a software communication problem, you may see anything from a slowdown in communication to 100% packet loss (no communication).

The "ping" command is often used to check network configuration. "ping" is a two part application, one part on the sending machine and the other on the receiving machine. When you send a ping to another host, the software dispatches packets. The packets activate a process at the receiving machine that responds by sending the packets back. If Machine A sends the packet, but the packet never reaches Machine B, you will see 100% packet loss from Machine A. If Machine B receives the packet, sends it back by a different route, and the packet gets lost, you will also see 100% packet loss on Machine A.

The following strategy for problem determination is divided as follows:

* Checking the Hardware
* Checking the Environment
* Checking the Configuration

Checking the Hardware

Hardware Tip 1

Ensure that all plugs are secured and screwed down on the adapters.

Hardware Tip 2

View the status of existing adapters and interfaces (the adapter is the physical hardware; the interface is the software that enables communication on that hardware):

Execute the following to check the adapters and interfaces: lsdev -C | pg

The following adapters may be listed:

ent# Standard <Ethernet> Adapter or High Performance <Ethernet> Adapter

tok# Token Ring High Performance Adapter

Verify that the adapter you are using is "Available". The term "Available" indicates that the Network Server recognized that this adapter was ready for use. If the adapter is "Defined", then you need to verify that your hardware is installed correctly. The term "Defined" indicates that the Network Server at one time knew it had available hardware in that slot but currently cannot identify that it has the hardware.

The following interfaces may be listed:

en# Standard <Ethernet> Network Interface
et# IEEE 802.3 <Ethernet> Network Interface

Verify that the interface you are using is "Available". If it is listed as "Defined", then you do not have your interface configured. The Standard <Ethernet> Adapter and the High Performance Adapter can utilize either the en# or et# interface. (These designate which protocols are available on the <Ethernet> style adapters.)

Hardware Tip 3

Check the error report by executing the following: errpt -a | more

Look at the Date/Time line. The error log is in LIFO order (last in, first out) so the last error logged will be the first one displayed. If the date is not today's date, then you may not have a hardware error. If it is the current date, check the ERROR LABEL field for errors such as:

<Ethernet>

ENT_ERR2

ENT_ERR4
ENT_ERR6

The above errors will generally mention that the error is hardware related. Reverify that all plugs are secured and screwed down on the adapters. You may want to reseat the adapters in their slots (proceed with caution) and then ping again and see if any more errors are reported.

Checking the Environment
==========

Environment Tip 1

Execute the following to check the network statistics: netstat -m

If the last three lines have something other than "0" then your system may be exhibiting an "mbufs full" problem. Refer to IBM AIX Version 3.2/4.1 Performance Monitoring and Tuning Guide (SC23-2365).

26 mbufs in use:
16 mbuf cluster pages in use
70 Kbytes allocated to mbufs
0 requests for mbufs denied
0 calls to protocol drain routines

Kernel malloc statistics: . . .

If the "requests for mbufs denied" line has something other than "0", your system may be exhibiting an "mbufs full" problem. Refer to the IBM AIX Performance Monitoring and Tuning Guide (SC23-2365-03).

Environmental Tip 2

Determine which machine is having the communication failure:

From Machine A, ping Machine B. On Machine B, execute the following: arp -a

The output will look similar to:

ausvm3.austin.ibm.com (129.35.26.21) at 10:0:5a:ac:22:71 [token ring]
rt=a40:22a1:c211:bb11:d3a0

cia.austin.ibm.com (129.35.22.192) at 10:0:5a:a8:e1:9d [token ring]

risc.austin.ibm.com (129.35.28.168) at 10:0:5a:9:2c:b1 [token ring]
rt=830: 22 a1:c211:2270

ausname1.austin.ibm.com (129.35.17.2) at 10:0:5a:a8:2b:92 [token ring]
rt=a40: 22a1:c211:bb11:cff0

Check the listing for Machine A's hostname and IP address. If Machine A is NOT in the list, then packets never get from Machine A to Machine B. Either Machine A is the problem or something between Machine A and Machine B is the problem. If Machine B DOES have Machine A in the list, then either Machine B is the problem, or the return path to Machine A is a problem. Go back to the beginning of this fax and begin to work through the steps with Machine B.

Environmental Tip 3

If NIS is running, it may interfere with pinging by hostname. You may want to disable this option until ping and telnet are working to simplify problem determination. Then, once you can ping, enable NIS and see if you have ping problems. If you do, your NIS configuration needs to be reviewed for correctness.

To disable NIS, start smit with "smit communications" and choose the following:

NFS:
Network Information Service (NIS)
Start / Stop Configured NIS Daemons

Then choose the appropriate stop items from those displayed:

Stop the Server Daemon, ypserv
Stop the Client Daemon, ypbind
Stop the yppasswdd Daemon
Stop the ypupdated Daemon

Environmental Tip 4

Verify that your netmask is correct. (A full discussion of a netmask is outside the scope of this document.)

If your Address is	If your Netmask is	You can access Machines with IPaddresses listed below without additional routing information
110.120.130.140	255.255.255.0	110.120.130.*
110.120.130.140	255.255.0.0	110.120.*.*
110.120.130.140	255.0.0.0	110.*.*.*

Checking the Configuration
==========

Configuration Tip 1

To verify that the hostname is still the correct hostname for this machine, execute the following: hostname

The string returned should be the hostname of this machine. If the name returned was not what was expected, run "smit tcpip" and choose the following to set the hostname.

Further Configuration
Hostname

Configuration Tip 2

Verify that the IP address is what is expected by executing the following: host your_hostname

The output should be similar to: zcomm1.austin.ibm.com is 129.35.31.99

If the output is not what was expected, you need to correctly configure the IP address for this adapter or check the name resolution (see steps below).

Configuration Tip 3

Check to see if you are running Domain Name Service (DNS):

If /etc/resolv.conf exists, then you are using DNS. Disable DNS by renaming this file to some other filename:

mv /etc/resolv.conf /etc/resolve.conf.hold

If you can now ping, then something is wrong with DNS configuration. (In the /etc/hosts file, you may have to add the IP address and host of the machine you are trying to ping.)

Configuration Tip 4

Examine the /etc/hosts file. Verify that your hostname is in the file only once and that there is no corruption in the file. If your hostname belongs to two IP addresses, then the first hostname it finds in the file will be the IP address that is used. Also, check for a duplicate IP address.

Configuration Tip 5

Execute the following to ensure that software is loaded correctly: lppchk -v

This will execute for a while and then come to a prompt. If any error messages are displayed, it indicates a possible install or update problem; correct the error and then try pinging.

Configuration Tip 6

Ping by hostname, then by IP address. Both should respond in the same manner. If they don't, check the /etc/hosts file again for duplicates.

Configuration Tip 7

Ping other machines, routers, etc. If only one machine is failing on the ping, your machine could have one of the following:

a gateway problem
a route problem

Configuration Tip 8

The following steps illustrate the procedure you will need to use to verify the adapter configuration: netstat -i

The above command should produce output similar to the following:

Name	Mtu	Network	Address	Ipkts	Ierrs	Opkts	Oerrs	Coll
lo0	1536	<Link>	-	149827	0	149827	0	0
lo0	1536	127	localhost.xxxxx	149827	0	149827	0	0
tr0	1492	<Link>	-	5603085	48642	89675	0	0
tr0	1492	129.35.16	xxxxxx.xxxxxx.x	5603085	48642	89675	0	0

Some fields and values you may see in the above output are:

tr0 Represents token ring interface
en0 Represents standard <Ethernet> interface
et0 Represents IEEE 802.3 <Ethernet> interface
lo0 Represents the loopback mechanism
Ierrs/Oerrs Shows errors for incoming and outgoing packets

If you see only lo0, or if there is an "*" next to your interface, you need to configure the interface again.

Oerrs are bad and may point to a hardware error.

Ierrs generally indicate that your interface is receiving packets for which it does not recognize the format and is discarding them.

If you have checked everything and the ping is still not working and you are running <Ethernet>, try reversing protocols (en0 to et0 and vice versa).

As a final try, you can remove the interface and adapter and try starting again. You can do this from the command line:

ifconfig <interface> detach
rmdev -d -l <interface>
rmdev -d -l <adapter>

Then you will need to reconfigure the adapters and interfaces. You can do that in any of these ways:

* Reboot, or

* In smit, choose:

Devices
Configure Devices Added After IPL

or

* From the command line, execute: cfgmgr

The above procedures will configure interfaces in a defined state and adapters in an available state. Use normal procedures to customize the configuration for your system.
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AIX: Snap Command and Troubleshooting

This article describes the snap command and provides some troubleshooting help for users who may not know how to navigate AIX on a Network Server 500 or 700.
This article has been archived and is no longer updated by Apple.
The snap command gathers system configuration information and compresses the information into a tar file. The file can then be downloaded to disk or tape, or transmitted to a remote system. The information gathered with the snap command may be required to identify and resolve system problems.

NOTE: Root user authority is required to execute the snap command.

Use the snap -o /dev/rfd0 command to copy the compressed image to diskette. Use the snap -o /dev/rmt0 command to copy the image to tape.

Approximately 8 MB of temporary disk space is required to collect all system information, including contents of the error log. If you do not gather all system information with the snap -a command, less disk space may be required (depending on the options selected).

The snap -g command gathers general system information, including the following:

- Error report
- Copy of the customized Object Data Manager (ODM) database
- Trace file
- User environment
- Amount of physical memory and paging space
- Device and attribute information
- Security user information

The output of the snap -g command is written to the /tmp/ibmsupt/general/general.snap file.

You should run "snap -a". This will gather all information collected to a subdirctory under /tmp. Use "fdformat" to format a few disks. It should only take one if you delete the core file named unix in /tmp/ibmsupt/dump. Run "snap -o /dev/rfd0" to put the compressed files on the floppy disk.
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Apple Media Tool 2.x: Setting QuickTime VR Correction

I have created my own QuickTime VR movies using the Apple Media Tool (AMT) 2.0. When I ply them with the QTVR Player, I have the option of selecting No Correction, Partial Correction, or Full Correction. I prefer No Correction, however when running the QTVR movies in AMT, some kind of correction is being performed. Is there a way to change the default correction in Apple Media Tool?
This article has been archived and is no longer updated by Apple.
Version 2.0 of AMT does not allow you set the level of correction -- it defaults to full correction. However, AMT 2.1.1 allows you to set the correction level, similar to the way that the QTVR Player does.

To set the correction level using AMT 2.1.1, do the following:

Step 1

Add a QuickTime VR panoramic movie as a media element.

Step 2

Designate the movie as panoramic (click and hold until the menu appears)

Step 3

Double-click on the movie, the correction setting is available at the bottom of the dialog.
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Apple Video System: How to Perform a Screen Capture (12/96)

I have the Apple Video System installed in my computer and was trying to capture a frame in Apple Video Player using the screen capture function of the Mac OS (Shift-Command-3). I hear the click sound, but when I open the picture file with SimpleText, the captured frame is missing - the Apple VideoPlayer window is black. How do I capture video frames?

This article has been archived and is no longer updated by Apple.

Apple Video Player and the Video-In System does not support the screen capture function of the Mac OS to capture individual frames. To capture an individual frame, use the controls that are part of Apple Video Player.

How to Capture Video Frames
==========

Step 1

Open Apple Video Player.

Step 2

Select the camera icon from the Controls window.

Step 3

Click "Capture Picture" when the frame you want to save appears.

A dialog appears.

Step 4

Click Save.

Step 5

Enter a name for the file.

The file opens using SimpleText and shows the captured frame.

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Korean Language Kit: Installation Options

This article contains questions about the installation options for the Korean Language Kit.
This article has been archived and is no longer updated by Apple.
1) Question: What are the minimum items needed to install the Korean Language Kit and how much free space on the hard disk does this installation require?

Answer:

Minimum Install
Choose Custom Install from the pop-up menu in the Korean Language Kit installer window. Check the following items to install the minimum items necessary to use the Korean Language Kit:

- Korean Language Support, which includes:
  - Korean support files
  - System resources
  - Seoul font
  - Korean Input Method
  - Language Register
- Read Me and SimpleText

This installation requires approximately 8 MB of free space available.

2) Question: What items are installed when I select the Easy Install option for the Korean Language Kit and how much free space on the hard disk does this installation require?

Answer:

Easy Install
The following items are installed if you choose Easy Install from the pop-up menu in the Korean Language Kit installer window:

- Korean Language Support, which includes:
  - Korean support files
- - System resources
  - Seoul font
  - Korean Input Method
  - Language Register
- Read Me and SimpleText
- AppleGothic Font
- AppleMyungjo Font

Note: The only items that are installed beyond the Minimal Install are the AppleGothic and AppleMyungjo fonts.

This installation requires approximately 20 MB of free space available.

3) Question: What specific files and fonts are installed into the System Folder when I use the Easy Install option to install the Korean Language Kit?

Answer:
The following files and fonts are installed when you use the Easy Install option to install the Korean Language Kit.

System Folder

- Asian Font Arbitrator v1.0.3
- Font Cache
- Hanja.Dic

Fonts Folder

- AppleGothic (suitcase)

- AppleGothic (file)
- AppleMyungjo (suitcase)
- AppleMyungjo (file)
- GHanja24Disk
- GSymbol24Disk
- Hanja24Disk
- Korean Font Icons v7.5.3
- KSSymbol12
- KSSymbol24Disk
- Seoul (suitcase)
- Seoul (file)

Extensions Folder

- FontExtension (Bitmap).K42
- FontSize Patch v1.0
- Inline Support v1.1.3
- Inliner v2.2.3
- InputBackSupport v7.5.3
- Language Kit Additions folder (contains localized menu and dialog resources)
- Language Kit Extension v7.5.3
- Power Input Method v2.0
- WorldScript II v7.5.1
- WorldScript Power Adapter v7.5.3

4) Question: What items do I need to Custom Install if I wish to install all of the items included with the Korean Language Kit, and how much free space on the hard disk does this installation require?

Answer:

Full Install
Choose Custom Install from the pop-up menu in the Korean Language Kit installer window. Check the following items to install all of the items included with the Korean Language Kit:

- Korean Language Support
  - Korean support files
  - System resources
  - Seoul font
  - Korean Input Method
  - Language Register
- Read Me and SimpleText
- AppleGothic Font
- AppleMyungjo Font
- Gungseoche Font
- Pilgiche Font

Note: The only items that are installed beyond the Easy Install are the Gungseoche and Pilgiche fonts.

This installation requires approximately 30 MB of free space available.
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Performa 6360 & 6400 Video Editing: Can‘t Register (12/96)

When I try to register my Macintosh Performa 6360 or Macintosh Performa 6400 Video Editing System computer, I do not see an option for my computer. Does this mean I have the wrong software bundle?

This article has been archived and is no longer updated by Apple.

The registration Model Number pop-up menu only shows options for the
Macintosh Performa 6400/180 and 6400/200, which are very similar to your computer. This software was originally introduced on those computers, but the release of the Macintosh Performa 6360 and Macintosh Performa 6400 Video Editing System followed soon thereafter.

For the purposes of registration, choose one of the Macintosh Performa 6400 options. Although the software was inadvertantly not updated for your computer, this will not affect your registration process. Also, you do have the correct software bundle for your computer.

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Macintosh Performa 6360 & 6400: Voice Answered as Fax (1/97)

I am using Megaphone and the Apple Telecom fax software which was bundled with my Macintosh Performa 6400 series computer. Sometimes when a voice call is coming through, the fax software seems to take over and attempts to handle the voice call as a fax. How can I prevent this from happening?

This article has been archived and is no longer updated by Apple.

To prevent voice calls from being answered as fax calls, follow these steps:

Step 1

Choose Control Panels from the Apple menu, and open the Express modem control panel.

Step 2

Click on the "On" radio button to turn on the Express Modem.

Step 3

Click on the "Auto-answer incoming calls" check-box to enable the receiving capability.

Step 4

Click on the General Settings pop-up menu and choose "Advanced Options."

Step 5

Verify that the "Voice application" radio button is selected. The dialog should read "Transfer incoming calls which cannot be identified to: "Voice application."

Step 6

This step is optional. If steps 1 through 5 do not work, try resetting PRAM (parameter RAM) by restarting your computer while pressing and holding the CMD-OPT-P-R keys until you hear the startup chimes the second time.

Article Change History:
15 Jan 1997 - Added step 6.

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AppleScript: Accessing Clipboard From the Finder

We're trying to get information from the clipboard in AppleScript. The following AppleScript works with the Scriptable Text Editor.

```
tell application "Scriptable Text Editor"
activate
select first word of window 1 -- there's text in window 1
copy
set WordOne to clipboard as text
display dialog WordOne
end tell
```

However, trying something similar in the Finder does not work. We manually copied the name of a folder, then tried to write a script that would display the contents to the clipboard. Although selecting "show clipboard" from Edit menu shows text on clipboard, the following script does not work, the clipboard appears empty:

```
tell application "Finder"
set ClipBoardData to clipboard as text
display dialog ClipBoardData
end tell
```

What gets displayed is "" (nothing). If I go to the Scriptable Text Editor and tell it the same thing, it displays the folder name.
This article has been archived and is no longer updated by Apple.
There are several AppleEvent Suites, such as Text, Database, Telephony, Finder, and so on that are defined and generally agreed upon by developers. Manipulation of the Macintosh clipboard is covered in the Miscellaneous Apple Event Suite. In that suite are defined the ways that applications should implement Cut, Copy and Paste, undoing and redoing operations, creating Edition Manager publishers, initiating and ending transactions, and other miscellaneous actions. Not all applications support all of the actions in this suite and so do not implement these functions. Some applications implement the suite partially or under the guise of their own custom suite.

The Scriptable Text Editor did not implement the complete Miscellaneous Suite, but Scriptable Text Editor does implement Cut, Copy and Paste as part of what they call the Scriptable TE suite. The Finder did not implement the Miscellaneous Suite or Cut, Copy and Paste as a subset anywhere. This is why your AppleScript gives desired results with Scriptable Text Editor, but not with the Finder.

Jon Pugh saw the need to extend the capabilities of AppleScript back in the days before the Scriptable Finder became available. He has released a package of "Free for noncommercial use" Scripting Additions known as Jon's Commands. The extended commands include:

clipboard info - get a list of data on the clipboard
set the clipboard to - put data on the clipboard
the clipboard - get data from the clipboard

This particular set of commands is so popular that Jon separated the clipboard extensions into a stand alone Scripting Addition called clipboard. This scripting addition can be found on the internet.

Scripting the Finder in Mac OS 8.5

Beginning with Mac OS 8.5 it is possible to manipulate data in the Clipboard with the Finder.

The scripting addition file called "Standard Additions" that's part of Mac OS 8.5 has commands for setting the contents of the clipboard, getting the contents of the clipboard and getting information about the contents of the clipboard.

Examples of how to write AppleScripts that do this are available in Mac OS 8.5's AppleScript help under the topic: "Using the clipboard."

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At Ease 4.0.1 Updater Installation Issue (12/96)

This article describes an installer issue of the At Ease 4.0.1 Updater.

This article has been archived and is no longer updated by Apple.

The At Ease 4.0.1 Updater attempts to patch three files:

* At Ease - In the System Folder of At Ease Workstations
* At Ease Startup - In the Extensions folder of At Ease Workstations
* At Ease Administration - An application located in the Network Administrator Toolkit folder of computers with the administration software installed.

If a user performed a custom installation of the At Ease Administration software without installing the workstation software (which is a supported configuration), the At Ease and At Ease Startup files will not be present in the system.

The first file the updater needs to patch is At Ease. If the user does not have this file installed and tries to skip it, the updater will cancel the update.

This issue has been reported to Apple engineering, however, there is no known date a fix will be available.

Workaround

Perform one of the following:

* Install the workstation software on the administration computer before running the update,

or

* Copy the At Ease and At Ease Startup files from a workstation to a floppy disk. Insert the floppy disk into the administration computer before running the update. When the updater asks you to locate the file "At Ease" point it at the file located on the floppy disk. It will then let you update the At Ease Administration program on the hard disk of the Administrator computer.

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PowerBook 1400: Low Battery Warning Is Too Early (12/96)

I have a PowerBook 1400 series computer which seems to get the first battery warning message as early as 30 minutes. Why does this happen?

This article has been archived and is no longer updated by Apple.

Some PowerBook 1400 owners have noted that the first battery low warning message does occur earlier than expected. Apple is aware of this issue. The first battery warning message is not a good prediction of the total battery life. There are three warnings before the battery completely runs out. To truly test the battery life you should run the computer from the battery until the third (last) battery warning appears.

The computer should run from the battery for over an hour even if you have taken no steps to conserve power. A few of the things that affect battery life include: CD usage, PC card usage, screen brightness, hard disk access/usage, the amount of RAM installed, and whether or not processor cycling is enabled.

Note: Battery recharging takes longer if you use a power adapter designed for the PowerBook 200 or 2300 (Duo) series computers instead of the 45 Watt power adapter that shipped with the PowerBook 1400 series computer.

Published Date: Feb 18, 2012

At Ease 4.0: "-5000" Error When Launching CD-ROM Discs (12/96)

When I try to launch an application from a CD-ROM disc on our workstations using At Ease 4.0, part of Apple Network Administrator Toolkit (ANAT), I get a "-5000" error. What am I doing wrong? I have allowed access to all CD-ROM discs in the At Ease Administration application, I thought this should be enough.

This article has been archived and is no longer updated by Apple.

You are correct, allowed access to all CD-ROM discs in At Ease Administration should be enough. However, some applications on CD-ROM discs require that they sublaunch other applications. To fix this, open the At Ease Administration application, choose the System Settings command under the Security menu, and select the "allow sublaunching" radio button. This will resolve this issue.

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Iomega Zip Drive: Accessing from PC Compatible Card

I have a Macintosh Performa 6400/200 computer which included an Iomega Zip Drive in it. I also have the 586-PC Compatible Card installed. I would like to be able to access the Zip Drive from the DOS Environment. How can I do this?
This article has been archived and is no longer updated by Apple.
Follow these steps to use your Zip Drive from the DOS environment:

1. Insert a disk into the Iomega Drive and wait for it to appear on the desktop.
2. Open the PC Setup control panel.
3. From the Sharing option in the PC Setup control panel, select the drive letter to be used for the Iomega Drive.
4. After selecting a drive letter, an Open dialog box appears. Click the Desktop button and locate the Iomega disk you want to share.
5. Select the Iomega disk and click the button that says "Select <disk name>".
6. Switch to DOS and the Iomega Drive is now accessible at the drive letter specified in Step 3.

Note: These steps may have to be repeated each time the computer starts up.

To switch Iomega disks, follow these steps:

1. Switch to the Finder in the Macintosh environment.
2. Drag the DOS Iomega Drive Icon to the Trash.
3. Remove the Iomega Disk from the drive and insert the next disk.
4. After the Iomega Disk appears on the desktop, switch back to DOS and the Iomega Disk is accessible at the drive letter specified in the steps above.

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Photoflash Script Errors With Some Computers

I am attempting to use my QuickTake 150 camera with my Macintosh Performa 6400 series computer. Whenever I attempt to use the Photoflash scripts: "Get All Images", "Take a High-Quality Image", or "Take a Standard Quality Image", an error occurs stating to "check the connections and make sure the camera is turned on".

However, I can successfully transfer the images from the camera to the computer if I mount the camera on the desktop with QuickTake Image Access. Is Photoflash compatible with the Performa 6400?
This article has been archived and is no longer updated by Apple.
Apple is aware of incompatibilities with the 5400, 6400, 5500, 6500 and G3 computers when using certain scripts within Photoflash. These scripts duplicate functions which are available through other features of the software. Use the workarounds provided below:

To get all images, mount the camera on the desktop with the QuickTake Image Access control panel and copy the images to your hard drive. Once copied, these images can be opened with the Photoflash application.

To take a high-quality or standard quality image use either the physical controls on the camera, or use the camera control script which is still functional from within Photoflash.
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MacPPP 2.5.1: Pulse Dialing

This article provides direction on access your ISP through Pulse Dial using MacPPP 2.5.1.
This article has been archived and is no longer updated by Apple.
These directions will let you access your ISP through Pulse Dial when using MacPPP 2.5.1. It assumes the Apple Internet Connection Kit Version 1.2 has been installed, and you already have an ISP (Internet Service Provider) account established.

1) Open Config PPP. You can double click the Config PPP file which is found in the following path:

Internet Connection Kit:Internet Utilities:Config PPP

2) Access the Terminal Window. Select the Terminal Window checkbox in the Config PPP Window. Click Open for a PPP Terminal Window.

IMPORTANT: Be sure to deselect the Autodetect PPP Startup checkbox.

3) Instruct the Modem to dial your ISP's access telephone number. Type in the window "ATDP", followed by the telephone number, then press the Return key. For example, the number 555-1212 would be entered like this:

ATDP5551212<Return>

4) Start the PPP Protocol. As soon as the modem reports Connect, click the Start PPP button.

NOTE: Timing is important, you must wait for the "Connect" message and start the PPP Protocol (click the Start PPP button) before the window starts showing other information.

Expected Results
You should see the MacPPP Connection Status window track the logon progress.

Troubleshooting
If you experience problems confirm the following:

- Verify that your account information valid. Confirm your account name, password and the access telephone number with your ISP.
- Make sure that either the MacTCP, or TCP/IP control panel specify MacPPP as the connection method.
- Is the Autodetect PPP Startup checkbox in the PPP Terminal Window deselected? In other words, does the checkbox have an "x" in it? If it does, deselect or remove the "x" by clicking on it.
- Attempt the connection again, remember timing is important when you click the Start PPP Button.

This article was published in the Information Alley on 6 January 1997.
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ImageWriter II: Ribbon Advance Issues

The print will become light then dark again, or that the ribbon wears through in certain spots.
This article has been archived and is no longer updated by Apple.
BEFORE YOU START: Familiarize yourself with the ImageWriter II Technical Procedures. Be sure to follow proper ESD procedures.

CAUSE: The ribbon frame assembly might be defective.

CURE: Replace the ribbon frame assembly.

Note: Refer to General Troubleshooting Procedures if replacing the ribbon frame assembly did not cure the problem.
Published Date: Feb 18, 2012

Math - Grades 5-8 bundle: Current Issues (1/97)

This article contains a list of known issues with the Math: Grades 5-8 bundle V3.4.

This article has been archived and is no longer updated by Apple.

* Probability Constructor is unable to print to a Color StyleWriter 2500 when Background Printing is enabled.

Workaround: Disable Background printing. This is documented in the bundle's documentation.

* Probability Constructor: printing to a LaserWriter may cause the computer to freeze. There is no workaround. This is documented in the bundle's documentation.

* Tesselmania! does not support desktop printing.

Workaround: Print from within Tesselmania! application.

* Tesselmania! cannot run properly with a display of more than 256 colors.

Workaround: Set display to 256 colors. This is documented in the bundle's documentation.

Note:
Measurement in Motion installs system software extensions QuickTime, and Sound Manager, or allows you to drag-install these extensions.
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Network Administrator Toolkit: Three Error Messages

This article describes three error messages of the Apple Network Administrator Toolkit (ANAT).
This article has been archived and is no longer updated by Apple.
1) Question: When I startup my AppleShare/At Ease for WorkGroups 4.0 server, I get the following message, "Unable to initialize At Ease Server." What is causing this error message?

Answer: AppleTalk is inactive.

If you are using Open Transport, open the AppleTalk control panel, click OK in the dialog asking if you want to make AppleTalk active, close the AppleTalk Control panel, and click Save. Then restart the server.

You can also open the Chooser, ckick the AppleTalk Active radio button, close the Chooser window and click OK. Then restart the server.

If you are using Classic AppleTalk, use the Chooser to make AppleTalk active. Then restart the server.

NOTE: You must restart the server in order to initialize the At Ease Server.

2) Question: On a different AppleShare/At Ease for WorkGroups 4.0 server I get a second message after the one above. It says "AppleShare Agent: Unable to create ADSP listener. Unable to open port. Make sure AppleTalk is turned on in the Chooser (Error: -98)". Why don't I get this message, which clearly says AppleTalk needs to be turned on, on the first server?

Answer: This second server is using Open Transport and has the AppleShare Agent extension installed, which is used by the User & Group Manager application to administer AppleShare File Server users & groups.

3) Question: On a third AppleShare/At Ease for WorkGroups 4.0 server I get a second message after the first one. It says "AppleShare Agent: Unable to create ADSP listener. Error Code: -23". Why doesn't this message indicate that AppleTalk needs to be turned on?

Answer: This server is using Classic AppleTalk instead of Open Transport.

4) Question: On startup I get an AppleShare Agent error. I've read that if I don't use the User and Groups manager program, I don't need this. Is that true?

Answer: There is a component of ANAT called "AppleShare Agent" which allows you to manipulate AppleShare users and groups using the "User and Group Manager" application.

If you have no plans to use "User and Group Manager", you can remove the files "AppleShare Agent" and "FirstClass Agent" from your server's "Extensions" folder and reboot the server.
Published Date: Feb 18, 2012

Early Language Connections bundle: Current Issues (1/97)

This article contains a list of known issues with the Early Language Connections bundle V5.2.

This article has been archived and is no longer updated by Apple.

* At Ease sometimes draws a gray menu bar. However, the menu is still active and functional.

* At Ease and Energy Saver: If you skip the configuration of Energy Saver, and do set-up At Ease, an error message appears from At Ease upon launching.

Workaround: This issue and the workaround is documented in the Early Language Connection Bundle documentation.

* At Ease: when "Speak Button Names" is enabled and Virtual Memory is active, the voice stutters when the button name is spoken.

Workaround: Turn-off Virtual Memory.

* Muppets on Stage: Pressing Command-period causes Muppets On Stage to quit. There is no workaround.

* SuperPrint does not support desktop printing.

Workaround: Print from within the SuperPrint application.

* Grady Profile: when the date is asked for, the default year displayed is "94-95". The year can be changed and does not affect the performance of the application.

Note:

Cinderella, Paperbag Princess, Peter Rabbit, and Mud Puddle install the system software extensions QuickTime, and Sound Manager, or make them available for you to drag-install.

Published Date: Feb 18, 2012

Writing and Publishing Tools bundle: Current Issues (1/97)

This article contains a list of known issues with the Writing and Publishing Tools bundle v1.1.

This article has been archived and is no longer updated by Apple.

* At Ease sometimes draws a gray menu bar. However, the menu is still active and functional.

* Using At Ease to launch ClarisWorks, you are unable to access help features.

Workaround: Add "Claris Quick Help" to the application list for all users using the application preferences in At Ease.

* American Heritage Dictionary may sometimes crash with "Couldn't complete the last command because there was not enough memory...Result Code = -108".

Workaround: Increase application memory size to reduces the chance of encountering this error.

* Cannot get Aspects to work with ClarisWorks documents.

Workaround: The errata provides information about getting an upgrade which provides this feature.

* At Ease: when "Speak Button Names" is enabled and Virtual Memory is active, the voice stutters when the button name is spoken. This problem does not otherwise affect the performance of the application.

Workaround: Turn-off Virtual Memory.

* Digital Chisel: When quitting Digital Chisel, navigation window may sometimes remain open.

Workaround: Close navigation window, then quit.

* Media Weaver unable to paste pictures copied from the Scrapbook. There is no workaround.

Note:
Digital Chisel and MacLink Plus install the system software extensions QuickTime, and Sound Manager, or make them available for you to drag-install.

Published Date: Feb 18, 2012

Button Disabler CP: Doesn‘t Work w/Power Macintosh 5400

I have a Power Macintosh 5400 and want to use the Button Disabler control panel that shipped with my Power Macintosh 5200. After installing this control panel, it says that it will not work with this Macintosh. Is this correct?
This article has been archived and is no longer updated by Apple.
Yes. This is correct. Button Disabler version 1.1 was the last version of the control panel released by Apple as part of System Software 7.5. The Power Macintosh 5200/75, 5260/100 and 5300/100 computers shipped with a System Software 7.5 based installer. This installer for these computers was created from System Software 7.5. This computer specific installer allows users to custom install the Button Disabler control panel v1.1. The Power Macintosh 5260/120*, 5400/120 and 5400/180 computers currently ship with a System Software 7.5.3 based installer which does not include the Button Disabler control panel.

Note: The Power Macintosh 5260/120 does not ship with the Button Disabler control panel. However, since the Power Macintosh 5260 logic board is based on the Power Macintosh 5200/5300 logic board, the control panel should install and work correctly.

Button Disabler 1.2
This control panel lets you disable the bezel buttons on the front of certain computer models. If you have a Performa or Power Macintosh 52xx, 53xx, 62xx, 63xx, 5400, 6400, 5500, or 6500 series computer you may use this control panel while running Mac OS 7.6.1 or later. Version 1.2 of the control panel does not support any Quadra or LC series computers or computers with a PowerPC upgrade card. Continue to use the version 1.1 of the Button Disabler with those Quadra and LC series computers.

These articles can help you locate Button Disabler 1.2:

- "Where To Find Apple Software Updates" - Lists online services for free Apple software updates.
- "Obtaining Apple Product Support in the USA" - Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech Info Library.

This article was published in "Information Alley" on .12 Sep 1997
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QuickDraw 3D v1.5: Supports Multiprocessing

I've installed QuickDraw 3D version 1.5 on my 9500/180MP. I heard that QuickDraw 3D took advantage of my multiprocessor - but I can't really see an increase in performance. My application seems to render 3D files at the same speed. Can you explain this?
This article has been archived and is no longer updated by Apple.
When properly installed, QuickDraw 3D 1.5 is both multiprocessor and hardware acceleration aware. However, features such as Virtual Memory, Energy Saver and the amount of RAM available, can affect performance of multiprocessor aware applications and support libraries.

QuickDraw 3D 1.5 marks the first step in offering multiprocessor functionality, seen primarily when using the interactive renderer with large datasets (models). Future releases of QuickDraw 3D will include additional performance enhancements.

For more information on Apple Power Macintosh Multiprocessor equipped computers, look at the Tech Info Library article titled "Power Macintosh Multiprocessor FAQ".

This article appeared in the 7 January 1997 issue of the Information Alley.
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Macintosh SE/30: Displays Horizontal Lines at Startup

Problem: The Macintosh SE/30 begins to display short horizontal lines during the first few minutes of operation. The lines tend to appear whenever the mouse is moved. Some applications may make the problem appear more pronounced than others.

This article has been archived and is no longer updated by Apple.

Cure: Exchange the logic board and thoroughly retest the system. If the problem continues then consult the Technical procedures manuals for additional information.

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Macintosh Performa: Can‘t record while using GV Modem (1/97)

I have a Macintosh Performa 5200 and I am using the Global Village Gold IIv modem. When I am online and the modem is in use, I cannot record any kind of sound. When I try using the Sound control panel, I get an error stating that "The sound input device is already in use and cannot be used for recording." If I use SimpleText to record the sound, I get a slightly different error: SimpleText cannot record at this moment. Another application may be using the Sound input."

What should I do?

This article has been archived and is no longer updated by Apple.

If you are using a Macintosh Performa 5200, 6200, 5300, 6300, 5260, or 6320 series computer and either a Platinum V or Gold IIv modem, you may experience the problem you described.

The Global Village Toolbox, in order to route sound from the modem through the internal speakers, needs to use the sound hardware. Therefore, sound input is disabled.

If you need to use your microphone while simultaneously online, you need to disable the Global Village Toolbox. You can do this using the Extensions Manager control panel, then restart your computer.

Having the Global Village Toolbox disabled should not affect the performance of your data connections using either the Gold IIv or Platinum V modem.

IMPORTANT:
In order to use the fax capabilities of your modem, you need to enable the Global Village Toolbox.

This article appeared in the 8 January 1997 issue of the Information Alley.

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PowerBook 1400: Not An HFS Disk & Installation Errors

I just got a new PowerBook 1400 series computer. I started up with extensions off. Then I tried to install some software, but it kept crashing and freezing during the installation process. The same installation disks work with my other PowerBook 1400. I ran Disk First Aid on the internal hard drive and it says, "this is not an HFS disk." What could be wrong?
This article has been archived and is no longer updated by Apple.

Issue

A limited number of PowerBook 1400 series computers were shipped out with their hard drives not formatted properly. If you run Disk First Aid on your PowerBook computer and get the message that "this is not an HFS disk", then your computer's hard drive has this formatting problem. Another symptom of not having the hard drive formatted correctly is that software cannot install properly onto the hard drive.

Resolution

To resolve this issue you need to download and install the PowerBook 1400 HD Updater. It is available free from Apple on a variety of online services.

Note: There was a toll-free number to call to receive the PowerBook 1400 HD Updater disk. Because Apple believes that the majority of customers that needed the disk have now obtained it, Apple disabled the toll-free number on Saturday, May 31, 1997.

What Is the PowerBook 1400 HD Updater?

The PowerBook 1400 HD Updater is designed to provide a reference file that may not have been copied onto the hard disks of some Macintosh PowerBook 1400 series computers. The reference file is not needed for normal operation of the PowerBook computer.

Disk utility programs, such as Disk First Aid, look for the reference file. If the file is not on the hard disk and you use Disk First Aid or another disk utility, you will see a message reporting that the hard disk is not an HFS volume and cannot be checked by the program. (The message may be somewhat different with a disk utility other than Disk First Aid.)

Who Needs to Use the Updater?

If the reference file is not on your computer's hard disk, you should use the PowerBook 1400 HD Updater to copy the file on the disk. To determine whether you need to use the Updater, follow these steps.

Checking Your Hard Disk

1. Locate Disk First Aid (in the Utilities folder on your hard disk) and open it by double-clicking its icon.
2. Click the icon of the hard disk to select it.
3. If you see a message that you can't repair the startup disk, click OK. (You want to verify the disk, which can be done on the startup disk.)
4. Click Verify.
5. If you see a message "This drive is not an HFS disk," you need to use the PowerBook 1400 HD Updater. (If a status message appears reporting the progress of verification, you do not need to use the Updater. You can click Stop to end the verification process.)

Using the PowerBook 1400 HD Updater

1. Copy the Updater to your computer's hard disk.
2. Double-click the Updater's icon to open it. The Updater automatically copies the reference file on your hard disk.
3. Click OK to quit the Updater.

It is a good idea to check your hard disk after using the Updater. To do this, run Disk First Aid and select the Verify option. If Disk First Aid reports a problem, follow the instructions on the screen. You can also use the Drive Setup program (in the Utilities folder) to check the hard disk. See "Testing Your Hard Disk" in Chapter 7 of the PowerBook 1400 manual for your computer for more information about testing the drive.

Using the Updater will not cause any problem if the reference file is already on the hard disk.

These articles can help you locate the software update mentioned here:

"**Where To Find Apple Software Updates**" - Lists online services for free Apple software updates.

"**Obtaining Apple Product Support in the USA**" - Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech Info Library.

This article was published in the Information Alley on 9 January 1997. It was published again with new resolution information on 15 January 1997.
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Performa 6360/6400: How to Restore the Performa Demo (2/97)

I have just restored the Guided Tour on my Macintosh Performa 6360 (or 6400) computer. The Performa Intro and Demo do not automatically appear as I expected they would. How do I restore the Intro and Demo so they launch automatically like it did when I originally powered on my Macintosh Performa 6360 (or 6400) computer?

This article has been archived and is no longer updated by Apple.

There is nothing wrong with the Guided Tour CD. Below are the steps to restore both the Performa Intro and Performa Demo so it behaves as it did when the computer was first turned on out of the box. These directions apply to both the Macintosh Performa 6400 and the Macintosh Performa 6360 computers.

Step 1

After restoring all software to the hard drive, restart your computer with either the "Macintosh Performa 6400 Series Guided Tour" or "Macintosh Performa 6360 and 6400 Series Guided Tour" compact disc.

Step 2

Choose Restore Guided Tour button from the Launcher window.

Step 3

Restart the computer after restoration is complete.

Step 4

Open the Apple Extras folder inside the hard disk.

Step 5

Open the Performa Extras folder.

Step 6

Open the Peforma Demo folder.

If you do not see a "Launch Performa Demo" icon, open the Media folder. Newer versions of the Performa Demo (the "Macintosh Performa 6360 and 6400 Series Guided Tour" and later) do not place the Launch Performa Demo applet at the top level of the Performa Demo folder.

Step 7

Make an alias of the "Launch Performa Demo".

(select the icon, then choose Make Alias from the File menu [the keyboard shortcut is Command-M]).

NOTE: Do NOT make an alias of the "Performa Demo" applet. To be properly run, the Launch Performa Demo applet must be run first; it sets up the operating environment so that the Performa Demo can run well. Typical indications that the wrong file has been used include the regular Launcher overlapping the regular demo startup, and possibly an error dialog indicating that the user must reset the number of colors in use.

Step 8

Put this alias into the Startup Items folder in the System Folder.

Step 9

Restart your computer.

After the computer restarts, the Performa Intro and Demo work just like they did when the computer was first powered up out of the box.

Article Change History:
26 Feb 1997 - Added 6400 info and reworded for clarity.
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TA36338_Performa_How_to_Restore_the_Performa_Demo__(TIL20782).pdf

At Ease: Set Up For Workgroups and ClassWorks

I'm trying to use At Ease for Workgroups 4.0 with ClassWorks 3, a courseware package from EPC. At Ease was working fine before I installed ClassWorks 3, however, after the installation the workstations now give me an error message indicating they cannot find the At Ease server.

Based on the setup suggestions in the At Ease manual, I made some changes to the AppleShare file server. I put the Documents and At Ease Items WG folders inside a new folder called At Ease, and changed the access privileges on the server so the new folder is now the shared volume for At Ease. After re-configuring the At Ease server information at my Administrator workstation, all my workstations can see the server and At Ease is working fine again.

However, when I run the ClassWorks application and try to log in as a user, from inside the ClassWorks application, I get an error message that the data file could not be found or a -54 error. Why am I getting these errors, and how should I setup the server so both At Ease and ClassWorks work together?
This article has been archived and is no longer updated by Apple.
The access privileges on the AppleShare file server are set incorrectly. Follow the steps below to obtain the correct access privileges for both At Ease for Workgroups and ClassWorks.

Note: The "CW3" user referred to below is the user name EPC sets up when installing ClassWorks 3.

Overview
Move the Documents and At Ease Items folders to the root or top level of the boot or startup volume. Share the entire boot volume with Read Only privileges for user CW3. Change the privileges for only the following folders to Read/Write for user CW3:

- Documents
- At Ease Items WG
- ClassWorks 2xxx

Note: It is important that the privileges be set to Inherit, not Explicit, and that the Courseware folder be Read Only.

Start the Administrator workstation and enter the new Volume name for At Ease. Start the user workstations and re-select the At Ease Server.

Detailed Instructions

1. Shut down all the user workstations except the Administrator workstation, which should be at the Finder.

2. The At Ease manual suggests that a folder be created on the server and shared as the At Ease volume, so that all of the At Ease files and student documents will be in a single folder. However, because of the way ClassWorks looks for its data files, this should NOT be done. Instead, you need to share the entire hard drive for both At Ease and ClassWorks.

Note: According to EPC, ClassWorks will only look at the root or top level of the boot or startup volume, so if multiple partitions or hard drives are on the server the startup volume should be used.

On the server, quit AppleShare File Server and open the AppleShare Admin application. Select Access Information from the Privileges menu, select the At Ease folder previously created in the Shared Items box, and click UnShare.

3. Select the startup volume in the Volumes box, click on Share, and move the CW3 user into the User/Group box; select See Files and See Folders for the CW3 user, and select Change all Enclosed Folders; click Save. In the dialog window that appears, choose "Inherit" and click on OK.

4. In the Volumes box, double-click the startup volume and repeat the following steps for the Documents, At Ease Items WG, and ClassWorks 2xxx folders:

A. Select the folder
B. Unselect the "Same as Enclosing Folder" box
C. Select Make Changes for the CW3 user
D. Click on Save

5. Quit AppleShare Admin and open AppleShare File Server.

6. After the file server is running, open At Ease Administration on the Administrator's workstation. You will get a message indicating the server is not setup properly or could not be found. Click OK and enter the name of the startup volume in the window that appears. Change the login information in the lower part of the window to username= CW3, and leave the password field blank; click OK.

7. You will see a couple of messages indicating that the workgroup data volume could not be found, keep clicking OK. Once the main program window opens, go into each Workgroup and change the "Save workgroup data on" option to the server volume listed in the pop-up menu (it should be the <startup volume name>). Click OK and repeat for each workgroup (this assumes you want to store the data on the server).

8. Start each workstation, and after the message appears that the At Ease Server could not be found, click OK, then select the At Ease Server in the window and click OK again.

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PowerBook 1400: Video Out Questions & Answers

This article contains the following common questions and answers about the video out capabilities and differences of the PowerBook 1400 series computers.

1. Does the video out connector insert differently than other PowerBook models?
2. Is there a PowerBook Display Control Panel?
3. How can I select which monitor I want to be the startup monitor?
4. What does the Hide Cursor option do?
5. I know how to change the color depth on the PowerBook 1400 series computer's display. Can I change the resolution and color depth on the external monitor using the Monitors & Sound control panel?
6. How do I turn on video mirroring? I do not see an option in the Monitors & Sound control panel.
7. When I connect the external display and drag the monitor in the icon Monitors & Sound control panel for video mirroring, the PowerBook computer's display has a 1 1/2 inch border around it. Why?

This article has been archived and is no longer updated by Apple.

1) Question: Does the video out connector insert differently than other PowerBook models?

Answer: The connector faces in the opposite direction than previous PowerBook computer models. That is, the PowerBook video adaptor cable plugs in facing downwards, unlike previous PowerBook computers on which the PowerBook video adaptor cable plugs in facing upwards.

2) Question: Is there a PowerBook Display Control Panel?

Answer: No, the PowerBook 1400 series computers use the Monitors & Sound Control Panel. See Figure 1 below.

Figure 1: Monitors & Sound control panel.

3) Question: How can I select which monitor I want to be the startup monitor?

Answer: There is a checkbox for "identify startup monitor". All you have to do is check the box. There is no more need to hold down the Option key while clicking on the Options button. The Happy Macintosh face is available for dragging if you select the Options button. See Figure 2 below.

Figure 2: Identifying the startup screen.

4) Question: What does the Hide Cursor option do?

Answer: This option is only available when video mirroring is active. This option is beneficial when showing presentations, or other operations where you want the cursor to be hidden on the big screen. It hides the cursor on the screen which has the menu bar in non-mirroring mode. So if you want the external monitor to not have the cursor, you need to first drag the menu bar to the external monitor, then activate video mirroring, then select hide cursor.

5) Question: I know how to change the color depth on the PowerBook 1400 series computer's display. Can I change the resolution and color depth on the external monitor using the Monitors & Sound control panel?

Answer: When the Monitor & Sound Control Panel is opened a second window opens on the external monitor for the selections for that external monitor.

6) Question: How do I turn on video mirroring? I do not see an option in the Monitors & Sound control panel.

Answer: When a second monitor is recognized by the PowerBook computer the Monitors & Sound control panel will have a fourth button called Arrange. When Arrange is selected a window below shows a icon representing each monitor. When one icon is put on top of the other video mirroring results.

7) Question: When I connect the external display and drag the monitor in the icon Monitors & Sound control panel for video mirroring, the PowerBook computer's display has a 1 1/2 inch border around it. Why?

Answer: What you describe is correct if the external monitor is working at lower resolution than the PowerBook. The PowerBook computer's internal display is reduced (for example, from 800x600) to match the lower resolution (for example, 640x480) of the external monitor.

This article was published in the Information Alley on 9 January 1997.
Published Date: Feb 18, 2012

MAE World Wide Web Information (1/97)

Where can I find the latest information from Apple Computer on the Macintosh Application Environment (MAE)?

This article has been archived and is no longer updated by Apple.

MAE provides the ability to run Macintosh software on Unix workstations. Current technical and marketing information, including a full working demo copy of the current version can be found at the MAE website. Use the following URL:

http://www.mae.apple.com.

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PowerBook 1400, 200, 2300: Disk Copy Needs Floppy Drive Error

I have a Powerbook 1400 series computer. I need to make some duplicate back up application floppy disks. I tried to make disk images with Apple Disk Copy 4.2, but it tells me that, "This Macintosh cannot use this version of Disk Copy. Certain required support is not provided." What does this mean?
This article has been archived and is no longer updated by Apple.
You are probably getting this message because you have an expansion bay device in your PowerBook other than the Floppy drive. For example, if the CD-ROM drive is installed, you need to eject the CD from the bay and close the bay door. Choose Sleep from Special Menu, remove the CD-ROM drive from the computer, and insert the Floppy drive module into the computer.

The Disk Copy utility program checks for the presence of a floppy drive. If there is not a floppy drive, you get a message that it "will not run on this kind of Macintosh computer since certain required support is not provided." You can get this same message on PowerBook 200 or 2300 series (Duo) computers that do not have a floppy disk drive attached externally or in a docking station.

Later versions of Disk Copy do not report this error message. The latest version can be downloaded from the Apple Software Updates Web site at http://www.apple.com/swupdates.

Published Date: Feb 18, 2012

OT/PPP 1.0: Time Remaining Feature

When I sign onto the Internet using Open Transport PPP 1.0 (OT/PPP), I notice that it shows a time remaining. What is this referring to? Is this somehow tapping into the server that I am connected to?

This article has been archived and is no longer updated by Apple.

A PPP server can use a "time remaining" feature to notify a dial-in client how much time remains in the current session. The implementation of this feature (as defined in RFC 1570) is optional and may not be in use by a server you are connected to.

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"Power Macintosh 7300,7600,8600,9600: New Features (2/97)"

What are the new features of the Power Macintosh 7300, 7600, 8600, and 9600 computers?

This article has been archived and is no longer updated by Apple.

The table below outlines the primary differences among the Power Macintosh 7500, 7600, 8600, and 9500 computers and the Power Macintosh 7300, 7600, 8600, and 9600 computers. These new features are described in more detail in the sections following the table.

New models	Previous models	Major changes
Power Macintosh 7300/166 Power Macintosh 7300/180 Power Macintosh 7300/200	Power Macintosh 7500/100	Clock speeds 166-200 MHz,256K L2 Cache installed, 2 GB hard drive, 12X-speed CD-ROM drive
Power Macintosh 7600/200	Power Macintosh 7600/120 Power Macintosh 7600/132	Clock speed 200 MHz, 2 GB hard drive, 12X-speed CD-ROM drive
Power Macintosh 8600/200	Power Macintosh 8500/150 Power Macintosh 8500/180	Clock speed 200 MHz, new tower enclosure, 2 GB AV-capable hard drive, 12X-speed CD-ROM drive, internal Zip cartridge drive
Power Macintosh 9600/200	Power Macintosh 9500/200	New tower enclosure, 12X-speed CD-ROM drive, new accelerated display card
Power Macintosh 9600/200MP	Power Macintosh9500/180MP	Clock speed 200 MHz, dual PPC604e microprocessors, new tower enclosure, 12X-speed CD-ROM drive, new accelerated display card

Summary of Changes

The new features in the faster Power Macintosh 7300, 7600, 8600, and 9600 computers include:

* PowerPC 604e microprocessor in all models
* Dual microprocessor configuration (Power Macintosh 9600/200MP)

* Faster processor speeds, ranging from 166 to 200 MHz
* Second-level (L2) cache in all models
* Larger size internal hard disks: 2 or 4 GB
* AV-capable hard disk (Power Macintosh 8600 only)
* Built-in 12X-speed CD-ROM drive
* Built-in Iomega Zip removable cartridge drive (Power Macintosh 8600 only)
* New accelerated display card (Power Macintosh 9600 only)
* Security bar on the Power Macintosh 7300 and 7600 models
* New tower enclosure with easy access and security lock (Power Macintosh 8600 and 9600 models)
* Mac OS in the new models is Macintosh System 7.5.5

PowerPC 604e Microprocessor

All the new models use the PowerPC 604e microprocessor. The PowerPC 604e is a version of the PowerPC 604 with the following enhancements:

* On-chip data and instruction caches of 32 KB each
* Processor clock speed up to 5 times the bus clock speed

Dual Processor Configuration

In the 9600/200MP model, two PowerPC 604e microprocessors are on the processor card. With applications that support the new multiprocessor API, the MP configuration provides up to 2 times the performance of the equivalent single-processor computers. The operation of the dual-processor configuration is asymmetric multiprocessing. One processor is the primary processor: it runs the Mac OS and handles interrupts from the I/O systems. The second processor runs MP tasks as set up by the primary processor.

Processor Clock Speeds

The clock speeds for the microprocessors in the Power Macintosh 7300, 7600, 8600, and 9600 computers are increased over their earlier counterparts. The table below shows the microprocessor clock speeds along with the corresponding processor bus speeds.

Model	Processor clock speed	Processor bus speed
Power Macintosh 7300/166	168 MHz	48.0 MHz
Power Macintosh 7300/180	180 MHz	45.0 MHz
Power Macintosh 7300/200	200 MHz	50.0 MHz
Power Macintosh 7600/200	200 MHz	50.0 MHz
Power Macintosh 8600/200	200 MHz	50.0 MHz
Power Macintosh 9600/200	200 MHz	50.0 MHz
Power Macintosh 9600/200MP	200 MHz	50.0 MHz

Second-Level Cache

All the new models include a second-level (L2) cache. The L2 cache provides a performance improvement of up to 40% over machines without such a cache. The L2 cache in the Power Macintosh 9600/200 and 9600/200MP consists of 512 KB of fast static RAM on the main logic board. The L2 cache in the other models consists of a 256 KB DIMM installed in a slot.

Hard Disk Sizes

The built-in hard disks in the new Power Macintosh computers are either 2 or 4 GB.

AV-Capable Hard Disk

The 2 GB hard disk in the Power Macintosh 8600 can support AV applications. It can transfer video data at 30 frames per second with no dropped frames.

12X-Speed CD-ROM Drive

All the new models include a built-in 12X-speed CD-ROM drive, an AppleCD 1600i. The AppleCD 1600i supports the worldwide standards and specifications for CD-ROM and CD-digital audio discs described in the Sony/Philips Yellow Book and Red Book. The drive can read CD-ROM, CD-ROM XA, CD-I, and PhotoCD discs as well as play standard audio discs. The AppleCD 1600i CD-ROM drive has a sliding tray to hold the disc. The drive features an 12X-speed mechanism that supports sustained data transfer rates of 1600 KB per second and a data buffer that further enhances performance.

Built-in Removable Cartridge Drive

One of the new models, the Power Macintosh 8600, has a built-in Iomega Zip removable cartridge drive. The built-in Zip drive is similar to its external counterpart. The user has the option of placing a system folder on a Zip cartridge and starting up the computer from the Zip drive.

Video Input

The new Power Macintosh 7600 has the same video input capabilities as the Power Macintosh 8500 and 8600 models. The back of the computer has a small panel with RCA jacks for stereo pairs of audio inputs and outputs, an RCA jack for composite video input, and a multipin connector for S-video input.

Accelerated Display Card

The Power Macintosh 9600 includes a video display card that supports acceleration of 2D graphics and text. The display card has 4 MB of buffer memory and cannot be expanded. The display card supports pixel depths of 8, 16, and 24 bits per pixel (256, Thousands, and Millions of colors) on small and medium-sized monitors, and 8 and 16 bits on large monitors, as shown in the table below. (NOTE: Not all resolutions are available on all displays.)

The following table summarizes supported resolutions and vertical refresh rates.

Resolution (pixels)	Vertical Frequency (Hz)	Supported Colors*
512 x 384	60	256, Thousands, Millions
640 x 480	60, 67	256, Thousands, Millions
640 x 870	75	256, Thousands, Millions
800 x 600	60, 72, 75	256, Thousands, Millions
832 x 624	75	256, Thousands, Millions
1024 x 768	60, 72, 75	256, Thousands, Millions
1152 x 870	75	256, Thousands, Millions
1280 x 960	75	256, Thousands
1280 x 1024	75	256, Thousands
1600 x 1200	60, 67, 75	256, Thousands

* Monochrome (grayscale) monitors can display a maximum of 256 grays at all resolutions listed.

Security Bar

The Power Macintosh 7300 and 7600 models have a security bar that conceals the latches for the top cover. The security bar snaps into place on the front of the case and is held in place by a screw.

New Tower Enclosure

The new tower enclosure has the following new features:

* More space for internal storage devices
* Larger power supply
* Easier access to internal components
* Locking feature
* Space for larger-size DIMMs

Internal Storage Devices

The new tower enclosure has spaces for up to seven internal storage devices. Four of those spaces are accessible from the front; of those four, three can accommodate 5.25-inch devices and one can accommodate a 3.5-inch device. The other spaces are not accessible from the front; they can accommodate three 3.5-inch devices or one 5.25-inch device and one 3.5-inch device.

Larger Power Supply

The power supply in the new tower enclosure now provides a total of 390 watts to support the larger number of drives and the faster processor. The table below shows the maximum power available for additional internal devices such as expansion cards and storage devices. The power supply can support as many as six 15-watt cards or four 25-watt cards.

Device	Voltage	Current	Power
Expansion card (15 watts)	+5 V	3 A	15 W
	+12 V	0.5 A	6 W
	ð12 V	0.1 A	1.2 W
	+3.3 V	2 A	6.6 W
Expansion card (25 watts)	+5 V	5 A	25 W
	+12 V	0.5 A	6 W
	ð12 V	0.1 A	1.2 W
	+3.3 V	2 A	6.6 W
Storage devices	+5 V	9 A	45 W
	+12 V	3 A	36 W
	+12 V	7.5 A peak*	--

Access to Internal Components

Two features of the new tower enclosure makes it easier to obtain access to the internal components:
- Removable side panel
- Hinged subchassis

* Removable Side Panel

The entire side panel on the left side of the enclosure is removable. The panel is held in position by a latch with a pushbutton at the top of the enclosure. To remove the side panel takes three steps:

Step 1

Gently tilt the computer onto its right side, as viewed from the front. Small rubber bumpers on the right side act as feet when the computer is on its side.

Step 2

Press down on the button at the top of the side panel and pull the panel away from the enclosure at the top.

Step 3

Pull the side panel to the right (the top of the enclosure) to release it from the bottom of the enclosure, then lift it up and away.

With the side panel out of the way, you have access to the components at the bottom of the computer: PCI expansion slots, the DAV connector, and the space for internal RAID storage devices. Press the button and lift the cover up a few inches.

* Hinged Subchassis
As in earlier Power Macintosh 8500 and 9500 models, access to the DIMM slots is obstructed by the power supply and disk drives. In the new tower enclosure, those components are mounted on a hinged subchassis that can be tilted out of the enclosure.

With the side panel removed, moving the hinged subchassis out of the way takes two steps:

Step 1

Raise the two plastic catches at the top of the open area to release the subchassis. With the computer on its side, and viewed from the front, the catches are at the right of the open space.

Step 2

Grasp the large plastic handle below the catches and slowly lift up, tilting the subchassis to the right. When the subchassis is clear of the internal components, it will rest on its top.

With the computer on its right side, and the subchassis in the open position, the main logic board with its array of expansion slots is facing up. The user can now insert expansion DIMMs into the appropriate slots.

Locking Feature

The new tower enclosure for the Power Macintosh 8600 and 9600 has a locking feature. A tab on the back of the enclosure connects to an internal latching mechanism for the removable side panel. Pulling out the tab engages the locking mechanism and exposes a hole in the tab. By inserting a security cable or a padlock through the hole, you can secure the tab in the locked position.

Taller RAM DIMM

The method of RAM expansion in the new models is the same as in their earlier counterparts. However, Apple Computer has made the following change to the mechanical specification for the RAM DIMM:

The JEDEC MO-161 specification shows three possible heights for the 8-byte DIMM. All Power Macintosh computers can accommodate DIMMs with the shortest of the three specified heights: 1.100 inches. The new Power Macintosh 8600 and 9600 can also accommodate DIMMs with a height of 1.255 inches.

System Software
==========
The system software has been modified to support the new hardware features. The Mac OS for the new models is a modified version of System 7.5.5 with a new enabler.

Note: The information contained in this article was taken from the Power Macintosh 7300, 7600, 8600, and 9600 Developer Note.

Published Date: Feb 18, 2012

Apple IIc Power-On Light Flashes

The Apple IIc power-on light flashes after installing a new logic board.
This article has been archived and is no longer updated by Apple.
The internal power supply or keyboard might need to be replaced.

This can be caused by low voltage conditions. Confirm the failure by trying another circuit or AC Power Pack before proceeding. Then replace the keyboard. If the keyboard does not solve the problem replace the internal power supply.

Note: Refer to the Apple IIc General Troubleshooting Procedures if replacing the keyboard or power supply does not solve the problem.
Published Date: Feb 18, 2012

QuickDraw GX and Desktop Printing Issue (1/97)

I have installed both standard Desktop Printing and QuickDraw GX. After I restart my computer, it is not clear which is running since I see the GX desktop printers as well as the non-GX desktop printers. There is a Desktop Printers menu item in the Apple menu as well. Is it possible for both GX and non-GX desktop printers to be installed, and are they compatible? Also, the Desktop Printer menu item in the Apple menu does not display my GX desktop printers.

One last question, are the printer icons in the menu bar (next to the Balloon Help icon) and the Control Strip related to GX or non-GX Desktop Printing?

This article has been archived and is no longer updated by Apple.

QuickDraw GX desktop printing and non-GX Desktop Printing are NOT compatible. If both are installed and enabled when the system starts, QuickDraw GX desktop printing takes precedence over the non-GX Desktop Printing software. Non-GX Desktop Printing is automatically disabled along with its desktop printers -- an "X" mark will appear through each non-GX desktop printer.

The "Desktop Printer" menu item (if present) in the Apple menu is associated with non-GX Desktop Printing. It will still be displayed even with QuickDraw GX running, but will be non-functional until QuickDraw GX is disabled in the Extensions Manager. As the menu item is in no way associated with QuickDraw GX, GX desktop printers will NOT show up in this menu.

NOTE: The Desktop Printer menu is only installed with printer software and stand-alone Desktop Printer installs. It does not get installed as part of regular system installations. Future versions beyond Desktop Printing v2.0.x will no longer install this menu item.

The printer icons in the menu bar and Control Strip are both part of non-GX Desktop Printing and will only show non-GX desktop printers.

Article Change History:
24 Jan 1997 - Changed title to better reflect article subject.

Published Date: Feb 18, 2012

QuickTime for Windows 2.1.x: Error Updating INI Files

When I try installing QuickTime for Windows 2.1.x (QTW), I get an error message that states "An error occurred while updating ..INI files." when running the QTW 2.1.x installer." How can I correct this?
This article has been archived and is no longer updated by Apple.
When an INI file is larger than 32K bytes, the 16-bit Windows APIs in both Windows 3.1.x and Windows 95, cannot read or write to the INI file. This creates a problem when using the 16-bit Windows APIs, as does QuickTime for Windows, to modify a INI file when it is greater then 32K bytes. However, INI files are text files and you can use the workaround listed below when the INI file is larger than 32K bytes. In this workaround, you will create INI files, which are smaller than 32K bytes, then rejoin the files once you have installed QuickTime for Windows.

Generally INI files are less than 32K. If your INI files are larger than 32K you may have unused or outdated information. The procedure outlined below is the only one we are aware of at this time. Please call Microsoft if you require another method or further explanation.

Workaround
==========

In this example MS Write is used, but you can use any text editor that allows you to create files larger than 32K bytes.

Step 1

Locate the INI files which are 32k bytes or more.

Examples: SYSTEM.INI or WIN.INI

Step 2

Open the SYSTEM.INI or WIN.INI file, using MS Write.

Step 3

PAGE DOWN to about 30 pages.

IMPORTANT:
- The first 30 pages of the SYSTEM.INI file needs to contain the [mci] section.
- The first 30 pages of the WIN.INI, needs to contain the following sections: [Extensions],[mci extensions],[embedding].

Step 4

Hold the SHIFT key while PAGE DOWN through the rest of the file.

Step 5

Cut the selected text.

Step 6

Launch another MS Write document.

Step 7

PASTE into the new MS Write.

Step 8

Save as SYSTEM.QTW

Step 9

Click on the title bar of the first opened Write document. Make sure the selection still there.

Step 10

Delete the section by pressing the DEL key.

Step 11

SAVE AS SYSTEM.INI or WIN.INI

Step 12

Repeat for WIN.INI or SYSTEM.INI if necessary.

Step 13

Run the QuickTime for Windows (QTW) installer.

Once you have installed QTW, you need to re-append the INI files you split.

How to re-append INI files
==========

Step 1

Open the SYSTEM.QTW or WIN.QTW file using MS Write.

Step 2

Choose Select All from the Edit menu.

Step 3

Choose Copy from the Edit menu.

Step 4

Open the SYSTEM.INI or WIN.INI file.

Step 5

Page Down to the end of the file.

Step 6

Choose Paste from the Edit menu.

Step 7

Choose Save from the File menu.

Step 8

Delete SYSTEM.QTW or WIN.QTW

Step 9

Exit and re-enter Windows.
Published Date: Feb 18, 2012

QuickTime for Windows: How to Uninstall W/ Windows 3.1.x

How do I uninstall all of the QuickTime for Windows files? I am using Windows 3.1.x.
This article has been archived and is no longer updated by Apple.
Here are the steps to uninstall QuickTime for Windows.

1) Find PLAYER.EXE and select it using File Manager.

2) List items by date.
All QuickTime files will cluster around the PLAYER.EXE file.

3) Delete the following:
{Windows}:
\\PLAYER.EXE
\\VIEWER.EXE
\\MCENU.HLP
\\PLAYENU.DLL
\\PLAYENU.HLP
\\QTINSTAL.EXE
\\READ_QTW.WRI
\\SAMPLE.MOV
\\VIEWENU.DLL
\\VIEWENU.HLP

4) Find ATIVIDEO.QTC and select it.

5) List items by date.

NOTE: All QuickTime files will be write protected, list names with detail and you will see the "r" for write protection.

6) Delete the following files:
{Windows}:
\\SYSTEM*.QTC
\\MCIQTENU.DLL
\\MCIQTW.DRV
\\QTHNDLR.DLL
\\QTIM.DLL
\\QTIMCMGR.DLL
\\QTMOVIE.VBX
\\QTNOTIFY.EXE
\\QTOLE.DLL
\\QTPIC.VBX
\\QTW16.CPL
\\QTWCP.HLP

7) Open Write.exe and open SYSTEM.INI

Note: Removing the following items are not necessary.

- delete this line from the [mci] section in the SYSTEM.INI
QTWVIDEO={Windows' directory}\\MCIQTW.DRV

- delete these lines from the [Extensions] section in the WIN.INI
mov={Windows' directory}\\player.exe ^.mov
pic={Windows' directory}\\viewer.exe ^.pic

- delete these lines from the [mci extensions] section in the WIN.INI
mov=QTWVideo
pic=QTWVideo
jpg=QTWVideo

- delete these lines from the [embedding] section in the WIN.INI
-- PlayerFrameClass=QuickTime Movie, QuickTime Movie,
{Windows' dir}\\Player.exe,picture

-- ViewerFrameClass=QuickTime Picture, QuickTime Picture,
{Windows' dir}\\viewer.exe,picture

8) Delete the QuickTime for Windows Program Group:
- select the QuickTime for Windows group icon delete it.
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LaserWriter Select: Japanese Postcard adapter (1/97)

The service price pages for the LaserWriter Select 360 list a Postcard Attachment (part #922-1103). What is this used for?

This article has been archived and is no longer updated by Apple.

In order to meet the requirements for the Japanese market a special adapter was created to support the very small Kansei-Hagaki paper size used for Japanese postcards. The Japanese Postcard Attachment is installed in the envelope cassette tray rear paper support guide. This allows the very short paper size to be fed through the printer properly.

The Postcard Attachment works with these printers:

- LaserWriter Select 300
- LaserWriter Select 310
- LaserWriter Select 360
- LaserWriter Select 610 <-- Only sold in Japan.

Published Date: Feb 18, 2012

Apple Media Tool 2.1.1: Read Me document

This article provides the Apple Media Tool 2.1.1 Read Me file.
This article has been archived and is no longer updated by Apple.
This Read Me file provides the following information about Apple Media Tool 2.1.1:

* Apple Media Tool 2.1.1 CD Disc
* Tips and Hints for Using Apple Media Tool 2.1.1
* Known Problems and Limitations of Apple Media Tool 2.1.1
* Known Problems and Limitations of QuickTime VR
* Interesting Web Sites Related to Apple Media Tool

Apple Media Tool 2.1.1 CD Disc
The Apple Media Tool 2.1.1 CD-ROM is a hybrid disc that you can use on Mac OS-based and Windows-based computers. On a Mac OS-based computer, you can see all the folders and files on the CD, including the Windows files.

On a Windows-based computer, you can see these two folders and their contents:

* AMT_PROJ contains Windows versions of the Apple Media Tool demonstration projects.
* AMT_UTIL contains files that allow you to install QuickTime for Windows 2.1.2 and other related AMT files from the CD.

Tips and Hints for Using Apple Media Tool 2.1.1
Here are some tips and hints for using Apple Media Tool that will help you be more productive.

* Because Apple Media Tool requires software in specific locations on your hard disk, you should use the Installer program provided on the Apple Media Tool 2.1.1 CD to install the software.

* If you move your project from one disk to another, choose Check All from the Media menu before you run the project to make sure that Apple Media Tool can locate the media for the project.

* Before your project executes the Open URL command, be sure that an Internet browser program, such as Netscape Navigator, is open and a connection to the Internet is established. You can use the Application Launcher object and the Launch command to open the program. Many Internet browser programs open a connection to the Internet automatically, if configured to do so.

* Experienced Apple Media Tool developers find it useful to increase the amount of memory the program uses while they are designing and prototyping their projects. Doing so can speed up development by improving the performance of Apple Media Tool. You can adjust the memory required by your project later. To increase the amount of memory Apple Media Tool uses, select the program's icon in the Finder and choose Get Info from the File menu. In the Get Info window that appears, change the "Preferred size" setting, then close the window.

* To link two screens that are not linked in the Map window, hold down the Control key, then drag the screen you are linking to from the Screens pane to the Link command in the Actions pane of the Browser miniwindow.

* Because ambient sounds can continue to play while screens change, you do not place the media for an ambient sound as an object in a screen. Instead, create an object with an event and Ambient Sound command to play the sound, then drag the sound media from the Media miniwindow to the Ambient Sound command. (The media for an Ambient Sound command must be a .WAV file.)

* You cannot use the same hot text more than once to execute different actions in a single RTF file.

* Because a hot spot region defines a region of the object, not the media, be cautious using hot spot regions in Picture objects that scroll--Picture View and Picture Scoller objects--or if you use the Switch Media command to change the media displayed in an object.

* Depending on the size of the media and the way you use a Picture View object, your title can require a lot of memory to display the screens containing the Picture View object.

Known Problems and Limitations of Apple Media Tool 2.1.1

* If you use the Text Field object's Save File Name feature, do not include an apostrophe (') character in the file name.

* If you modify an RTF file which is used as media in a project, you will need to save the changes and then choose Replace from the Media menu to add the new file to your project.

* To use the Text Field object's Save File Name feature in a title that plays on Windows-based computers, the file name you specify must conform to the DOS file name format. Therefore, the name you enter in the Save File Name box must be 8 characters or less, followed by a period and a 3 character suffix, such as "TXT."

* If you use the Application Launcher object and the Launch command to launch one or more titles from another title, all of the titles in the sequence must be in the same folder. If these titles are compiled to play on Windows-based computers, each title consists of four separate files, including a .DLL file. By default, Runtime Maker names a .DLL file KEY.DLL. However, because all the .DLL files for a sequence of titles must be in the same folder, you need to give each .DLL file for each title a unique name. For each title you must then change the [DLL] section of the .INI file to correspond to the new name of that title's .DLL file. To do so, follow these steps:

1. Open the .INI file and find the [DLL] section.
2. Find the line that reads ";DLL name=key.dll."
3. Delete the ";" character.
4. Change "key" to the name you assigned to that title's .DLL file.

* From within an AppleScript script, the 'Quit' command will not work.

Known Problems and Limitations of QuickTime VR

* You cannot print the contents of a QuickTime VR movie object from a title using the Print command.

* A QuickTime VR movie is always the front-most object in the screen, regardless of the order in which it appears in the Objects pane in the Browser miniwindow.

* You cannot use Apple Media Tool Converter to convert a QuickTime VR movie to one that plays on both Mac OS-based and Windows-based computers. If you attempt to do this, a message appears saying that you must use a QuickTime VR editing tool to create a cross-platform movie. You can use QTVRPlayer to convert the movie. QTVRPlayer is located in the Utilites folder on the Apple Media Tool 2.1.1 CD.

* To play a title that includes a QuickTime VR movie on a Windows-based computer, you must install certain QuickTime VR software on the computer. To do so, copy the QTVRW.QTC file into either the same folder as the title or the WINDOWS folder. On a Windows-based computer, this file is in the QTVRW.QTC folder in the AMT_UTIL folder on the CD. On a Mac OS-based computer, it is in the QTVRW.QTC folder in the Windows Files folder in the Utilities folder on the CD.

* A QuickTime VR movie requires most of a computer's processing time when it is playing. Therefore, a title cannot execute effect transitions, play sounds, or play other movies when it is playing a QuickTime VR movie. A QuickTime VR movie is playing any time the pointer is within the object that contains the movie.

* Although you can change the size of an Object Movie or Panoramic Movie object in the Display window, when you run the project or play the title the movie appears at the size specified for the movie in the QuickTime VR editor. To change the size of a movie, you must use a QuickTime VR editor.

For additional information see the following Technical Note:

Technical Note 1056: Apple Media Tool Memory Usage Explained

The following article can help you find the Technical Note mentioned here:
Tech Info Library Article 24493: "**Apple Tech Notes: What They Are, Where To Find Them**"
Published Date: Feb 18, 2012

Apple Media Tool 2.0: Creating Transparent Colors

I created a new project in Apple Media Tool 2.0 (AMT) that has color preferences set to:

1) millions
2) 256
3) Thousands

One of my pict files has a dark gray (RGB=8,8,8) background which I made transparent. When I view the project in thousands of colors, the background is transparent, as I expect. But when I play the project on a machine that only supports 256 colors, the background is no longer transparent. How can I fix this?
This article has been archived and is no longer updated by Apple.
Apple Media Tool does not handle transparency well when changing color depths. Here are some recommendations on how you can avoid the problem:

* Keep it Simple. Stick to white or black as a transparent color. Never use 16- or 24-bit transparent colors.

* Do as much as possible with QuickTime background stills. QuickTime does a good job of dithering images down to 256 color palettes on Macintosh and Window computers.

* Use Equilibrium's DeBabelizer Toolbox software to create superpalettes that play on Macintosh and Window computers, then make a QuickTime Pict from the result.

* Test extensively on both Macintosh and Window computers using a wide variety of video boards.
Published Date: Feb 18, 2012

Mac OS 7.6: Correct Version of MacsBug to Use (3/97)

In the About Mac OS 7.6 Read Me file it states that I need to upgrade to version 6.5.4 of MacsBug. I know people using version 6.5.3 of MacsBug and it works properly for them. Do I really need a new version of MacsBug?

This article has been archived and is no longer updated by Apple.

Certain PCI-Based Mac OS computers using Mac OS 7.6 are not compatible with MacsBug v6.5.3 or earlier. On these computers the display turns a solid shade of gray, or the text is yellow when you enter MacsBug.

Note:
MacsBug is a developer tool, and is not required to use Mac OS 7.6.

MacsBug 6.5.4
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MacsBug v6.5.4 is not completed as of the writing of this article. If you are experiencing the problem described above with MacsBug, you can install an alpha version of this software, version 6.5.4a1. It is posted to Apple's Developer World ftp site in the following location:

ftp://ftp.apple.com/devworld/Tool_Chest/Testing_-_Debugging/Debuggers_-_dcmds/MacsBug_6.5.4a1.sit.hqx

If you are not experiencing problems with MacsBug and Mac OS 7.6, then you do not need to install MacsBug 6.5.4a1.

This article appeared in the 4 February 1997 issue of the Information Alley.

Article Change History:
03 Mar 1997 - Corrected the URL.
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PCI-Based Macintosh Computers: Won‘t Mount CD-ROM (5/97)

After performing a "clean install" of the system software on my Power Macintosh 8500 computer with version 3.0 of the 7.5.3 System Software CD, I cannot get the computer to mount any compact discs. However, I can startup the comuter using the System Software CD. I have tried troubleshooting both the software and hardware, but have not been able to correct this.
This article has been archived and is no longer updated by Apple.
You may have the incorrect version of the System software CD for your computer.

Note: This issue may occur on any of the newer PCI-based Power Macintosh computers including the Power Macintosh 7600, 8500, and 9500.

Verification

Here is how you can verify you were shipped the incorrect System Software CD.

1. Check the version number of the 7.5.3 System Software CD. Is it version 3.0?
2. Check the version number of the Apple CD-ROM extension in the Extensions folder. Is it version 5.1.2?
3. Can you startup your Power Macintosh computer from the System Software CD?
4. When you startup from your hard disk and have version 3.0 of the 7.5.3 System Software CD in the CD-ROM drive, do you get a -50 error dialog when ejecting the CD? (Either using the Put Away command or dragging the icon to the Trash).

If you answered yes to these questions, then you were shipped the wrong System Software CD.

Background

The 3.0 version of the 7.5.3 System Software CD installs version 5.1.2 of CD-ROM Setup software, which does not support the 8x-speed CD-ROM drive in the newer PCI-Based Power Macintosh computers. When the computer starts-up from the hard drive with the incorrect CD in the CD-ROM drive, the older driver loads causing the -50 error when trying to eject the disk. The Tech Info Library article titled "**PCI-Based Power Macintosh: -50 Error When Ejecting CD**" (TECHINFO-0019271) contains additional information on this issue.

Correcting This Issue

In order to use your CD-ROM drive, you need CD-ROM Setup v5.1.7. This version of the CD-ROM Setup supports 8x-speed CD-ROM drives and it is available through online services. If you do not have access to Apple's online software update libraries, check with your local Apple service provider, or call the Apple support line.

This article was published in the 14 April 1997 "Information Alley."
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Softcard III (CP/M): Terminal Emulator Program

This article has been archived and is no longer updated by Apple.

A terminal emulator program for Apple III CP/M users called "The Micro-link II" is available from:

Digital Marketing
2363 Boulevard Circle
Walnut Creek, Ca. 94505
(415) 938-2880

This program allows the Apple III CP/M user to call THE SOURCE, CompuServe, along with other Electronic mail systems; additionally, it's capable of a transporting CP/M files from one micro to another. Contact Digital Marketing for the specifics!

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Using the DuoDisk with the Apple IIGS

This article has been archived and is no longer updated by Apple.

The DuoDisk can not be used as the last daisy-chained device on the built-in IWM disk port of the Apple IIGS. For instance, a UniDisk 3.5 will be rendered inoperable when the DuoDisk is installed in the above manner - although using the DuoDisk by itself is not a problem.

A qualified technician will have to modify the DuoDisk analog board if the DuoDisk is to be used as the last device on the chain. Please use the following procedure to determine how to modify the analog board.

Identifying Which Analog Board You Have

Remove the top cover as documented in Technical Procedures. Turn the drive so that the I/O connector is facing toward you. The identifying number will be at the bottom left of the analog board. The number might read 676-[]101, 676-[]102 or 676-[]107.

Performing the Modification

If the I.D.# for the analog board is 676-[]101 or 676-[]102, use a pair of nippers to cut out resistor R8 (located at position A2).

If the I.D.# for the analog board is 676-[]107, use a pair of nippers to cut out resistor R39 (located at position C3).

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Mac OS 7.6: Read Me

This article contains detailed information found in the Mac OS 7.6 Read Me file.
This article has been archived and is no longer updated by Apple.
You may purchase Mac OS 7.6.1 on CD in the U.S. ($99.00 +tax and shipping) by calling 1-800-293-6617 or in Canada by calling 1-888-295-0653 ($149 +tax and shipping).

The updater from Mac OS 7.6 to Mac OS 7.6.1 is available as a download on the web

Two places to check online are:

Sun Remarketing: '**http://www.sunrem.com/**'
Shreve Systems: '**http://www.shrevesystems.com/**'

About Mac OS 7.6

This document provides information about improvements you'll find in Mac OS 7.6, supplementing the information in your installation manual. This document also contains information about known problems with this release and possible solutions.

Mac OS 7.6 includes the following new features and improvements:

* Performance improvements when using virtual memory
Performance is faster than previous versions of virtual memory when you
- open a large application program that requires a significant amount of RAM
- switch between large application programs
- switch between large documents within an application
- access SCSI devices

The amount of improvement will vary depending on the amount of RAM installed, the amount of virtual memory allocated, and the applications being used.

Virtual memory is automatically turned on when you install Mac OS 7.6. If you have less than 16 MB of built-in memory, do not turn virtual memory off or you may experience problems.

* Volume buttons on 5200, 5300, 6200, 6300, and 630 series computers
Problems with the volume buttons on the front of your computer have been fixed.

* Support for multiprocessor cards on computers with PowerPC microprocessors
You can install cards with additional processors to increase speed and performance when using applications that take advantage of multiprocessor technology.

* WorldScript Power Adapter provides performance and stability enhancements on computers with PowerPC microprocessors
Computers that use languages based on the Roman alphabet (French and English, for example) also benefit from the improvements provided by WorldScript.

* Computers with 68040 microprocessors and computers with PowerPC processors that use the NuBus expansion bus can use large disks
These computers can now use disks larger than 4 gigabytes, up to a maximum of 2 terabytes. On 68040 computers, large disks cannot be used as startup disks, and cannot contribute to virtual memory totals.

* Enhanced screen capture options
You can copy portions of the screen, and copy the screen images to the Clipboard or a file. Use the following keyboard combinations:

- Command-Shift-Control-3 copies a picture of the entire desktop to the Clipboard.

- Command-Shift-4 creates a picture file of a rectangular selection of the desktop. After pressing and releasing the key combination, position the cursor at the upper-left corner of the area you want to capture, then drag to the lower-right corner. If you continue to press the Shift key while dragging the cursor, the capture area will be constrained to a square.

- Command-Shift-4-Caps Lock creates a picture file of a window. After pressing the key combination, click the window you want to capture.

To save the rectangle or window on the Clipboard instead of as a file, press the Control key as you click. To cancel a Command-Shift-4 screen selection, press the Space bar.

* Compatibility problem fixed

Mac OS 7.6 fixes a problem in system software versions 7.5.3 and 7.5.5 in which the system took some of an application's memory, which occasionally caused compatibility problems.

* Fewer out of memory messages when using the Finder
The Finder has more memory allocated to it, which should reduce error messages and reduce conflicts with certain extensions.

* Improved data integrity
Mac OS 7.6 will save information stored in the disk cache more often, which reduces the chance of a crash causing disk corruption.

* Improved Resource Manager
Resource Manager performance has been improved. Since both system software and applications use the Resource Manager, overall performance is enhanced.

* Shorter startup time
Input devices are no longer reinitialized during startup.

* Virtual memory uses less system RAM
More RAM is now available for applications.

* OpenDoc performance improved
A commonly-used memory allocation routine was made twice as fast as it was previously, resulting in faster OpenDoc performance.

* The Modern Memory Manager is always on
The Modern Memory Manager, used on computers with PowerPC processors, cannot be turned off in the Memory control panel.

You will also notice these improvements, first provided in the 7.5.5 System Update:

* Improved memory management on PowerPC computers
If you could not open an application program in a low-memory situation, you may be able to use the application after you install this software.

* Improved floppy disks reliability in computers with a DOS Compatibility Card
Problems inserting floppy disks while Windows is starting up have been fixed.

* Improved reliability on PowerBook 5300 and 2300 series computers and Macintosh 5400, 6400, 7200, 7500, 7600, 8500, and 9500 series computers
If you have a PowerPC PowerBook or a PCI-based computer, your computer may have "frozen" from time to time while accessing the hard disk. This release fixes one cause of this problem.

* Improved reliability when using Ethernet and virtual memory
Transferring large files over Ethernet with virtual memory turned on is more reliable.

* Improved reliability when using the Apple TV Tuner or Macintosh TV Remote Control
The channel and volume buttons on the remote control now work when pressed rapidly.

* Improvements in LocalTalk
LocalTalk now works more reliably on Macintosh 5400 series computers and performs better when using some infrared software products.

* Improved stability with multiple background application programs
This release fixes a problem that caused a crash when using more than one background program. (A background program is one that works behind the scenes, so you don't see it in the Application menu. Some e-mail programs have this background feature.)

* Improved stability when using a shared printer on a network
The computer will no longer crash when using a shared printer on a network.

* Improved reliability on computers with PowerPC 604 or 604e processors that run at 180 MHz or greater
These computers are less likely to freeze during startup or experience problems when formatting floppy disks.

* Improved reliability using Ethernet on Macintosh 5400 and 6400 series computers

* Improved reliability using sound-intensive applications on Macintosh Quadra and Centris computers with the PowerPC upgrade card

Known problems and compatibility issues

* PowerTalk is not compatible with Mac OS 7.6

PowerTalk mail, catalogs, the keychain, and other PowerTalk services are not available with Mac OS 7.6. See the Mac OS 7.6 installation manual for more information.

* OpenDoc, Cyberdog, and LaserWriter 8.4 are not installed on computers with 68030 and 68040 microprocessors
OpenDoc, Cyberdog, and the LaserWriter 8.4 driver use a common piece of software called the CFM 68K Runtime Enabler. Apple has discovered a problem with the CFM 68K Runtime Enabler and is not including it with Mac OS 7.6. You cannot install OpenDoc, Cyberdog, and the LaserWriter 8.4 driver on computers with 68030 and 68040 microprocessors. Additionally, other application programs that use the CFM 68K Runtime Enabler will not work on computers with 68030 or 68040 processors and Mac OS 7.6. Other Apple products that use the CFM 68K Runtime Enabler include Apple Telecom software, version 3.0 and later, and the Apple Media Tool.

* Select a printer driver even if you don't have a printer connected
If you don't have a printer connected, either locally or over a network, you should still select a printer driver in the Chooser. To select a printer driver, open the Apple () menu and choose Chooser. Click a type of printer (for example, LaserWriter 8) in the box on the left side of the Chooser. If you don't select a driver, you could experience problems.

* Using AppleVision software on computers with 68040 processors and on computers with PowerPC processors that use the NuBus expansion bus after a clean installation of Mac OS 7.6
Computers with 68040 processors and computers with PowerPC processors that use the NuBus expansion bus use AppleVision software version 1.0.2. If you do a clean installation of Mac OS 7.6, version 1.0.4 of the AppleVision software is installed. (If you do a normal installation, your AppleVision software is not touched, and you retain version 1.0.2.) AppleVision software version 1.0.4 was not meant for computers with 68040 processors or computers that use the NuBus expansion bus. You can still use your computer and monitor with version 1.0.4, but you won't be able to use all of your monitor's features. To regain all the features of your monitor software, reinstall your AppleVision software from its original disks.

* PowerBook 190, 190cs and 5300cs
The PowerBook 190cs and 5300cs display may appear blank upon the first restart after installing Mac OS 7.6, as well as every time after resetting PRAM. This is because the power manager is being updated on the PowerBook. Restarting the PowerBook once more will result in a normal screen. To shut the PowerBook down safely, press the power button one time (which brings up the shutdown dialog) and then press return.

* Power Macintosh Upgrade Card users cannot use LaserWriter driver 8.4 in 68040 mode
LaserWriter driver version 8.4, installed on PowerPC computers, will not work on computers with 68040 microprocessors. If you have a Power Macintosh Upgrade Card and switch between PowerPC and 68040 modes, you will not be able to print in 68040 mode unless you install LaserWriter driver version 8.3.4 instead of version 8.4. You can install this LaserWriter version by installing a universal system on your computer. (The universal system is a custom installation option.)

Some features in LaserWriter version 8.4 are not available in version 8.3.4. In LaserWriter 8.3.4, you cannot print a PostScript file by dragging it to a desktop printer icon; you must use the Apple Printer Utility or the LaserWriter Utility. (One of these programs was included on the disks that came with your printer.) Also, in LaserWriter 8.3.4, you set up printers in the Chooser, not in the Printing menu.

* Printing with QuickDraw GX while using Cyberdog
Printing is not available with QuickDraw GX while using Cyberdog (both QuickDraw GX and Cyberdog are available with Mac OS 7.6). To work around this problem, save e-mail messages and other Cyberdog files as text, then print them using another application.

* Color OneScanner driver will not work with Virtual Memory turned on
If you are using an Apple Color OneScanner with Scanner extension version 4.1 or earlier, you need to turn VM off. Apple will have a new scanner driver available to address this problem as soon as possible.

* Macintosh Tutorial Part 1 will not work on computers with 68030 or 68040 processors
Part 1 of the Macintosh Tutorial, version 1.2 will not work on computers with 68030 or 68040 processors and Mac OS 7.6. Part 2 of the Macintosh Tutorial will work normally.

* PC Compatibility software and Mac OS 7.6
Mac OS 7.6 does not include PC Compatibility software. If you perform a clean installation of Mac OS 7.6, you will need to reinstall PC compatibility software.

* Apple Telecom software and Mac OS 7.6
Mac OS 7.6 does not include Apple Telecom software. If you perform a clean installation of Mac OS 7.6, you will need to reinstall Apple Telecom software.

* Apple CD-ROM and non-Apple CD-ROM incompatibilities
If your computer or CD-ROM drive is not manufactured by Apple, or you have an Apple CD-ROM drive which has been updated with a non-Apple driver, incompatibilities may result. To permit your CD-ROM drive to function correctly, remove "Apple CD-ROM" from the Extensions Folder, and reinstall the software to support your CD-ROM device.

* Macintosh Easy Open control panel renamed "Mac OS Easy Open" control panel
Some software, including PC Compatibility software versions 1.5 and earlier, installs the Macintosh Easy Open control panel. If you install software that includes the Macintosh Easy Open control panel, remove it and use the Mac OS Easy Open control panel which is installed with Mac OS 7.6.

* Network Software Installer version 1.5.1 installs older version of AppleTalk
The Network Software Installer installs an earlier version of AppleTalk than the one included with Mac OS 7.6. If an earlier AppleTalk version is installed, Open Transport networking software will not work. Do not use the Network Software Installer after installing Mac OS 7.6.

* QuickTake 150 software installs old version of QuickTime PowerPlug
Mac OS 7.6 includes QuickTime PowerPlug version 2.5 for computers with PowerPC microprocessors. The QuickTake 150 installer replaces this with version 2.0. Remove the QuickTime PowerPlug file from your Extensions folder (inside the System Folder) before installing QuickTake 150 software. After the QuickTake software is installed, drag the PowerPlug file back to the Extensions folder.

* Switching between a LocalTalk network and a serial printer
If you use the same port to alternately connect to a LocalTalk network and a serial printer, the port is not always correctly released after you turn off AppleTalk to use the printer. If you have trouble printing after turning AppleTalk off, restart the computer.

* Using the QuickDraw GX Installer when Adobe Acrobat is installed
If you use the QuickDraw GX Installer to either install or remove QuickDraw GX and your computer has Adobe Acrobat installed, Acrobat will display a message about missing fonts each time the computer is restarted. Reinstall or turn off Acrobat to stop the warning message. (Turning off QuickDraw GX in the Extensions Manager will not solve the problem.)

* Using Open Transport PPP with other versions of PPP
If you use other versions of PPP (such as MacPPP), settings for each control panel must be updated separately. If an application (such as the Dialer application included with the Apple Internet Connection Kit) makes changes to one control panel, the other must be updated manually. The Apple Internet Connection Kit Dialer will only work with MacPPP.

* Quadra owners with a PowerPC Upgrade Card
The Drive Setup disk utility does not work with your upgrade card. You can use HD SC Setup to update your driver or initialize a disk, but you need to turn off the PowerPC upgrade card before using HD SC Setup. If you need to start up your computer from a Disk Tools floppy disk, either turn off the upgrade card and use the Disk Tools 1 disk, or make a copy of the Disk Tools 2 disk and replace Drive Setup with HD SC Setup. Then start up your computer with the new Disk Tools 2 you just created.

* Apple HD SC Setup should not be used to update the driver after using Drive Setup
Once a hard drive has been initialized with Drive Setup, do not update the driver with HD SC Setup.

* OpenDoc ODFLibrary and non-Apple installers
Some non-Apple applications and OpenDoc part editors require a later version of the OpenDoc ODFLibrary than the one installed with Mac OS 7.6. In some cases the installers for these products may not replace the older version of ODFLibrary with the newer version they require. If a newly-installed OpenDoc product doesn't work, remove the ODFLibrary file from the Editors folder inside the System Folder, then reinstall the product. This should cause the product's installer to install the correct ODFLibrary. If the product still fails to work, contact the manufacturer.

* Apple Menu Options, General Controls, and Views control panels restored to default values
These control panels are restored to their default values after installing Mac OS 7.6. If you have made changes to either of these control panels, you will need to restore your settings. The Empty Trash warning is also turned back on.

* Macintosh Guide has been renamed "Mac OS Guide"
This change appears in the Guide (question mark) menu when the Finder and Energy Saver control panel are active, but not when some other control panels are active. All instances of Macintosh Guide will be renamed in a future release.

* Aliases in Extensions Manager
The Extensions Manager control panel does not display aliases. If you have aliases in the Startup Items folder or the Shutdown Items folder, you can't turn off those items using the Extensions Manager.

* Using Assistant Toolbox with desktop computers
If you use the Assistant Toolbox extension (for portable computers) on a desktop computer, the contents of your RAM disk will be lost when you shut down your computer. Apple is working on a solution to this problem.

* Apple System Profiler program displays incomplete information
With the exception of internal ATA hard disks, Apple System Profiler does not display information about non-SCSI devices, including PC Cards, ATA devices, and ATAPI devices.

* Using Desktop Shortcut feature of Aladdin Desktop Tools with Mac OS 7.6
With Shortcut, when you are in an Open or Save dialog box, you should be able click any Finder window and see that window's contents in the

Open or Save dialog box's scrolling list. This feature does not work with Mac OS 7.6. Aladdin Systems expects to release an update to address the issue.

* Using MacsBug and Mac OS 7.6
Mac OS 7.6 requires MacsBug version 6.5.4. (MacsBug is a tool for software developers.) For information, check the Apple developer Web site at http://devworld.apple.com.

Advanced users can find additional technical information in the Mac OS 7.6 Tech Note document (Tech Note document #1090). See also, Tech Note 1096, which provides technical information on Mac OS 7.6.1.

The following Tech Info Library article can help you find the Tech Note mentioned here: Article 24493: "**Apple Tech Notes: What They Are, Where To Find Them**"

This article can help you locate the software update mentioned here:

- Article 14724: "**Where To Find Apple Software Updates**" - Lists online services for free Apple software updates.

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PowerBook 1400: Not Recognizing Added Memory

I installed additional memory (RAM) into my PowerBook 1400 series computer, but it is not recognizing it, that is, it does not show up in the About This Macintosh or I see a "failing built in memory test" message at startup. What is wrong?
This article has been archived and is no longer updated by Apple.
This type of symptom has been reported to Apple by some customers who have added memory to the user expandable memory slot in their PowerBook 1400 series computers.

Possible solutions:

1) Try reseating the memory card. A memory card that has become unseated will give this error.

2) Apple has worked closely with developers of third-party (non-Apple) memory upgrades and have identified timing issues between the added RAM and the Power 1400 series computers. Many of these third party memory vendors are now modifying their cards to allow for proper signal timing.

Customers that have added third-party memory upgrades that are not being recognized, or that report memory errors after reseating the memory card, should contact the vendor of the memory upgrade.
Published Date: Feb 18, 2012

AICK and Telecom 3.0 Connect Speed Issue (1/97)

When configuring the Internet Dialer, the port speed setting for a GeoPort defaults to 14.4 kbps. If I'm running Apple Telecom 3.x or the Express Modem 3.x update, why do I not get connect speeds greater than 14.4 kbps? I think that I should set this to 115k or at least 57k. With v.34/.42 protocols, I would want the port speed to be higher than the connect speed to take advantage of compression.

Also, will this setting really have an affect on the speed I will see. When I connected to the AICK (Apple Internet Connection Kit) registration server, I got a connect speed of 28.8 kbps. Why is it connecting at 28.8 kbps speeds when the port appears to be set for 14.4 kbps? That should not happen should it? I have not checked the default settings but I thought connect speed would be dependent on port speed.

This article has been archived and is no longer updated by Apple.

The serial port speed setting determines the communication speed between the serial port and the modem and, in order to take advantage of the full bandwidth of your modem connection that's using compression, your port speed should be set higher than the expected speed from modem to modem. However, the GeoPort modem isn't really using the serial port in the same way. If you read page 115 of the Express/Fax Modem manual that came with the GTAK I it states:

"Traditional modems-external modems or even modems that plug into a slot on a main logic board-use an RS-232-like serial connection protocol between the CPU (Data Terminal Equipment-DTE) and the modem (Data Communications Equipment-DCE). Your modem does not use this type of serial connection.

Since your modem has no DTE-DCE serial interface, commands related to the serial interface have no effect, but still exist for script compatibility reasons."

The fact that the other modems may set the serial port speed to 57.6 kbps indicates to me that the AICK team just chose that modem speed to put there.

On why the modems connect at higher than 14.4 kbps anyway. By default, modems will attempt to connect at the highest speed they are capable of (providing the other end can support the same speed). Therefore, even if the port speed is set to 14.4 kbps, the modem is still negotiating V.34 protocols. However, as you point out, it is desirable to have your serial port speed higher than your modem speed to take advantage of the compression (for traditional style modems).

Published Date: Feb 18, 2012

PC Compatibility Card: Support For 32-Bit Network Drivers (1/97)

Are there any inherent hardware limitations of the Apple Macintosh PC Compatibility cards which would prevent use of a true 32-bit network driver, once one is written to work with the PC Compatible?

This article has been archived and is no longer updated by Apple.

There is not a technical reason why a true 32-bit network driver would not work, once such a driver is written specifically for the Apple PC Compatibility Cards.

At the current time, the drivers enclosed with the Apple PC Compatibility Cards such as MacNDIS and MacODI are both 16-bit real mode drivers.

Published Date: Feb 18, 2012

At Ease for Workgroups 4.0.x: Issues Reading DOS Disks (1/97)

I am having problems reading DOS formatted disks using At Ease for Workgroups 4.0.x. When I place a disk into the computer, an error appears stating that the disk is unreadable and needs to be formatted. However, if I have ClarisWorks open, then insert the DOS disk, it works properly. Why?

This article has been archived and is no longer updated by Apple.

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The error message you are seeing only happens with the workgroup being used prohibits access to Control
Panels. PC Exchange patches the Disk Init package, and it loads the new package from the control panel file.
However, At Ease patches prevent the Finder from opening any control panel when access to control panels is
disabled.


WORKAROUNDS
===========

Here are some workarounds to prevent this error dialog.

* Enable control panel access in the workgroups that must have PC Exchange
 access.

* Launch any application and insert the DOS formatted disk while that
 application is in the foreground. When you quit the application, the
 disk is still mounted on the desktop (in the Finder).

* Add PC Exchange to the workgroups (as an item) that must have PC
 Exchange access.

* Place an alias to PC Exchange in the Apple Menu Items folder. This
 allows access to PC Exchange if other Apple Menu Items are allowed
 (another option in the Menus pane of the workgroup setup dialog). This
 alias does not appear in the Apple Menu while in the Restricted Finder,
 but still allows a DOS formatted disk to be mounted properly.


This article appeared in the 17 January 1997 issue of the Information Alley.
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PowerBook 1400 HD Updater Read Me

This article contains the Read Me file for the PowerBook 1400 HD Updater.
This article has been archived and is no longer updated by Apple.

Important Information About the PowerBook 1400 HD Updater

This document describes the PowerBook 1400 HD Updater. You may want to print this document for reference.

What Is the PowerBook 1400 HD Updater?

The PowerBook 1400 HD Updater is designed to provide a reference file that may not have been copied on the hard disk of some Macintosh PowerBook 1400 series computers. The reference file is not needed for normal operation of the PowerBook.

However, a disk utility program, such as Disk First Aid, looks for the reference file. If the file is not on the hard disk and you use Disk First Aid or another disk utility, you will see a message reporting that the hard disk is not an HFS volume and can't be checked by the program. (The message may be somewhat different with a disk utility other than Disk First Aid.)

Who Needs to Use the Updater?

If the reference file is not on your computer's hard disk, you should use the PowerBook 1400 HD Updater to copy the file on the disk. To determine whether you need to use the Updater, follow these steps.

Checking Your Hard Disk

1. Locate Disk First Aid (in the Utilities folder on your hard disk) and open it by double-clicking its icon.
2. Click the icon of the hard disk to select it.
3. If you see a message that you can't repair the startup disk, click OK. (You want to verify the disk, which can be done on the startup disk.)
4. Click Verify.
5. If you see a message "This drive is not an HFS disk," you need to use the PowerBook 1400 HD Updater. (If a status message appears reporting the progress of verification, you do not need to use the Updater. You can click Stop to end the verification process.)

Using the PowerBook 1400 HD Updater

1. Copy the Updater to your computer's hard disk.
2. Double-click the Updater's icon to open it. The Updater automatically copies the reference file on your hard disk.
3. Click OK to quit the Updater.

It's a good idea to check your hard disk after using the Updater. To do this, run Disk First Aid and select the Verify option. If Disk First Aid reports a problem, follow the instructions on the screen. You can also use the Drive Setup program (in the Utilities folder) to check the hard disk. See "Testing Your Hard Disk" in Chapter 7 of the manual for your computer for more information about testing the drive.

Using the Updater does not cause any difficulty if the reference file is already on the hard disk.

Published Date: Feb 18, 2012

Performa 6320: SoundLib In Extensions Folder Not Needed (1/97)

I have a Macintosh Performa 6320 computer. After using my computer for a few weeks, the sound no longer worked. My menu bar flashed, but I did not hear any sound. I checked my Extensions folder and I noticed a file called "SoundLib". After removing this file from my System Folder and restarting, I was able to restore sound on my computer. Do I need this in my System Folder or can I delete it permanently?

This article has been archived and is no longer updated by Apple.

Owners of Macintosh Performa 6320 computers should delete this SoundLib file from the Extensions folder. However, any time you "Restore System Software" or "Restore all Software" from the Performa CD, it will be reinstalled, so you need to remove this file again.

The SoundLib file is used only for development and is not needed by any of the third party or Apple Computer software applications included with your Macintosh Performa computer. This SoundLib file is harmless and will not cause any data loss or crashes.

Published Date: Feb 18, 2012

Mac OS 7.6: Extensions Manager Spelling Error

This article describes a spelling error found in the Extensions Manager control panel.

After I installed System 7.6, opened the Extensions Manager control panel, and viewed by package; I found a "System Software 7.6" package and a "System Sofware 7.6" package. The "t" was missing from one of the package names.
This article has been archived and is no longer updated by Apple.
This is a known issue, and it was found too late for changes to be made. It will be fixed in the next system software update. The package name comes from one of the 'vers' resources. This spelling error affects these five files:

- Apple Ethernet CF
- Apple Ethernet LC
- Apple Ethernet NB
- Apple Built-in Ethernet
- Apple Token Ring NB

Published Date: Feb 18, 2012

Mac OS 7.6: AppleShare 3.6.4 Required For Net Install (1/97)

What version of AppleShare Workstation software must a client have installed when installing MacOS 7.6 from a file server?
This article has been archived and is no longer updated by Apple.
You must have AppleShare Workstation software version 3.6.4 installed before starting a network installation of Mac OS 7.6.

If you have AppleShare Workstation software version 3.6, 3.6.1, or 3.6.2, you need to upgrade to version 3.6.4 before you can install Mac OS 7.6 over a network. This software is provided in the Utilities folder on the Mac OS 7.6 CD-ROM disc. Install this version of AppleShare before proceeding with the Mac OS 7.6 installation.

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Mac OS 7.6: AppleShare Workstation Version Issue (1/97)

I installed AppleShare Workstation software version 3.6.4 on my system, however when I select a file server from the Chooser, the version that shows up in the login dialog box says v 3.6.3. What version of AppleShare Workstation software do I have installed?

This article has been archived and is no longer updated by Apple.

You have version 3.6.4 installed, the file server login dialog box contains a typographical error. If you choose Get Info in the File menu on the file AppleShare in your Extensions folder, you will see the correct software version number.

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WARNING: Discharging the Macintosh CRT

This article has been archived and is no longer updated by Apple.

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ALWAYS discharge the Macintosh CRT to the "GROUND LUG" (as
described in Macintosh Technical Procedures) of the Macintosh.
Discharging the CRT to the Macintosh chassis will destroy the
logic board! Make sure you follow the saftey precautions for
working with the CRT as described in Macintosh Technical
Procedures.
```

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PowerBook 1400: External Displays & Resolutions Supported

What resolutions are supported by the optional external video card (M4509LL/A) available for the PowerBook 1400 series computers?
This article has been archived and is no longer updated by Apple.

External Video Support Matrix
==========

Display	Resolution(HxV)	Bits/Pixel
12-in. RGB Display	512x384	1-8bpp
12-in. Monochrome Display	640x480	1-8bpp
13/14-in. RGB Display	640x480	1-8bpp
VGA (60 Hz)	640x480	1-8bpp
SuperVGA (56 Hz)	800x600	1-8bpp*
VESA 1024x768 (60 Hz)	1024x768	1-4bpp*
Portrait Display	640x870	1-4bpp
Portrait Display	640x818	1-8bpp
15-in. RGB Display	640x870	1-4bpp
15-in. RGB Display	640x818	1-8bpp
16-in. RGB Display	832x624	1-8bpp
Apple 14" Multiple Scan	512x384	1-8bpp
	640x480	1-8bpp
	832x624*	1-8bpp
Apple 17" Multiple Scan	640x480	1-8bpp
	832x624*	1-8bpp
Apple 20" Multiple Scan	640x480	1-8bpp
	832x624*	1-8bpp

* SuperVGA is accessed as a "family mode" option of VGA. To use SuperVGA, you have to use the Monitors control panel when connected to a VGA display capable of doing both VGA and SuperVGA timings.

Published Date: Feb 18, 2012

Macintosh Performa 6400/200 Zip: Specifications (2/97)

This article contains the technical specifications for the Macintosh Performa 6400/200 computer, which includes an internal Iomega Zip Drive.

This article has been archived and is no longer updated by Apple.

Microprocessor
==========

* PowerPC 603e processor running at 200 MHz
* Integrated floating-point unit
* 40-MHz, 64-bit bus
* 32K internal cache
* 256K level 2 cache

Memory
======

* Two DIMM expansion slots
* Comes with 16 MB of RAM (8 MB on logic board and 8 MB in one DIMM socket)
* Can be expanded to 136 MB
* Uses 64-bit-wide, 168-pin, noncomposite, 70-nanosecond or faster DIMMs (1K or 2K refresh)

Disk drives
==========

* Internal Zip Drive (Zip disks hold up to 100 MB of data)
* Internal 2.4 GB IDE hard disk drive (Macintosh Performa 6400/200)
* Internal Apple SuperDrive floppy disk drive
- Uses high-density, 1.4MB floppy disks
- Reads, writes, and formats Macintosh, Windows, MS-DOS, OS/2, and
ProDOS disks
* Internal AppleCD 8x drive

Modem
=====

* 28.8-Kbit/s data/voice/fax modem
* Built-in error correction and compression (MNP4, V.42, MNP5, V.42bis)

Sound
=====

* Stereo 16-bit sound
* SRS surround-sound enhancement
* Subwoofer speaker
* Sound-input port (for an Apple PlainTalk microphone, other microphone, or standard mini-plug audio cable)
* Sound-output port
* Front headphone jack and volume control

Interfaces
==========

* SCSI interface port for connecting as many as five external SCSI devices, such as disk drives, CD-ROM drives, and scanners (multiple devices can be connected to each other from one port)
* Pre-cabled SCSI expansion bay for additional 5.25-inch internal SCSI device
* Apple Desktop Bus port for mouse, keyboard, and other devices (multiple devices can be connected to each other from one port)
* Two serial ports (RS-232/RS-422) for an AppleTalk network connection, other network connections, communications equipment (including GeoPort compatible devices), or a printer
* Video-output port
* Two PCI expansion slots (require PCI cards that come with a Macintosh driver and are PCI 2.0-compliant; NuBus cards cannot be used in these slots)
* Communications (Comm II) slot for a 28.8-Kbit/s modem (used by built-in modem)
* Video input slot for optional Apple Video System (supports NTSC, PAL, and SECAM video formats)
* Expansion bay for optional Apple TV/FM Radio System
* Infrared receiver for remote control (provided with Apple TV/FM Radio System)

Display support
==========

* 1 MB of video RAM
* 16-bit color for display of up to 32,768 colors on monitors using 640- by 480-pixel or 800- by 600-pixel resolution
* 8-bit color for display of 256 colors on monitors using 832- by 624-pixel or 1,024- by 768-pixel resolution

Electrical requirements and compliance
==========

* Line voltage: 100 to 125/200 to 240 V AC, RMS, single phase
* Frequency: 47 to 63 Hz
* Power: 220 W maximum (continuous)
* Includes low-power sleep mode
* Energy saving in sleep mode.

Size and weight
==========

* Height: 16 in. (40.6 cm)
* Width: 7.8 in. (19.8 cm)
* Depth: 16.9 in. (42.8 cm)
* Weight: 44.5 lb. (20.18 kg)

Operating environment
==========

* Operating temperature: 50 to 97 degrees F (10 to 35 degrees C)
* Storage temperature: -40 to 116.6 degrees F (-40 to 47 degrees C)
* Relative humidity: 5% to 95%, noncondensing
* Maximum altitude: 10,000 ft. (3,048 m)

Disability access
==========

* CloseView software magnifies screen image up to 16 times
* Easy Access software permits combination keys to be pressed sequentially and enables cursor control from the numeric keypad instead of the mouse
* Visual beep replaces audible system alerts

Included software
==========

* ClarisWorks
* Quicken Special Edition
* MacLink Plus/Easy Open Translators
* MacGallery Clip Art Treasure Pak
* ClickArt Performa Collection
* Photo Deluxe
* Now Touchbase & Datebook
* America Online
* Web Workshop
* SurfWatch
* Apple Internet Connection Kit
* At Ease
* Apple Telecom
* Address Book
* AppleFax
* MegaPhone

* The Amazing Writing Machine
* Thinking Things Collection 2
* American Heritage Dictionary
* American Heritage Children's Dictionary
* ABC World Reference: 3D Atlas
* Grolier's Multimedia Encyclopedia
* Our Times
* Mayo Clinic Family Health v2.0
* Descent
* Blockbuster Guide to Movies & Video
* Club Kidsoft

Software titles may vary and may be modified versions of commercially available products.

Article Change History:
13 Feb 1997 - Changed distribution status.

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Indian Language Kit: Read Me

This article contains the ReadMe file for the Indian Language Kit.
This article has been archived and is no longer updated by Apple.
This document provides specific information and tips for using the Indian Language Kit, including important information on installation and compatibility.

Installation
Locate the Installer application inside Install 1.

Sample Software Folder
The floppy disk set and the CD-ROM both contain the software needed to install the Indian Language Kit. The CD-ROM includes demo applications you can use with your Indian Language Kit.

Installation
Refer to the Macintosh Indian Language Kit Installation and User's Guide for installation and setup information.

If you are installing the Indian Language Kit on the Arabic or Hebrew version of the Mac OS, you may want to choose the left-to-right setting in the "Text" control panel for proper justification of the Roman installer interface during installation.

Installing over a system software older than System 7.5.5
We recommend that you use System 7.5.5 or 7.6 for best results. The Indian Language Kit will not install on system software earlier than 7.5. Users of Apple Menu Options versions earlier than 1.1 (version 1.1 is in systems 7.5.3 and 7.5.5) may get an out of memory message during boot after installing any Apple Language Kit. Version 1.1 does not have this issue. If you update your software, such as upgrading System 7.5.3 to System 7.5.5, you should boot with extensions off and reinstall the Indian Language Kit.

Installing with other Apple Language Kits
Multiple Apple Language Kits can be installed on one computer for true multilingual computing. However, language kits which are older than the Indian Language Kit should be installed first so that those language resources can be updated by the Indian Language Kit installer. Older Apple Language Kits which should be installed first include: Chinese Language Kit 1.1, Chinese Language Kit 1.1.1, Arabic Language Kit 1.0.1, Hebrew Language Kit 1.0.1, Cyrillic Language Kit 1.0, Japanese Language Kit 1.2 and Korean Language Kit 1.0.

Key Caps Application
The Key Caps Desk Accessory included with the system software (up to 7.6) has been updated to provide better support of Indian languages as part of the Indian Language Kit project. This new Key Caps is an application which can be launched from anywhere you place it on your hard disk. The Indian Language Kit automatically places it in your Apple Menu if one already exists there with the name "Key Caps." On any non-English system, the new Key Caps application is installed into the Apple Extras folder. You can drag it into the Apple Menu Items folder within the active system folder if you want to see it in the Apple Menu. There is no harm in deleting the localized Key Caps DA with other names. If you remove the Indian Language Kit, Key Caps will not be deleted. You can delete it manually by opening your Apple Menu Items folder inside the System Folder, but there is no need to do so.

One anomaly found too late to fix, is that when switching keyboard layouts on NuBus Power Macintosh models running a system older than Mac OS 7.6, the font will occasionally display improperly. If this happens, switch to a keyboard layout of another language and switch back to the desired keyboard layout.

Printer Drivers
The Indian Language Kit is not compatible with LaserWriter drivers earlier than 8.3. For best results, use the LaserWriter 8.4.1 installer included on the Indian Language Kit 1.0 CD.

Indian System and Application fonts
In Font menus throughout the system you will see additional fonts for each language with a different suffix. For example, you will see Devanagari MTS and Devanagari MT. These are mostly the same, except the MTS version uses Chicago as its associated Roman font and has no bold. For this reason you should avoid using the MTS versions of the fonts. Instead use the MT versions of the fonts for each Indian language.

Furthermore, if QuickDraw GX is being used, you will see some additional fonts that begin with a period (.) and end with X at the top of the Font menu of GX savvy applications. These should NOT be used. For example, you can see a font listed with the name ".Devanagar MT X" which should not be used. Instead, select the font "Devanagari MT." For technical reasons, these fonts cannot be hidden. In future versions of the Indian Language Kit with QuickDraw GX, we hope these fonts will not be visible.

* The fonts you might see in Font menus of GX savvy applications throughout a system with QuickDraw GX installed, which you must NOT use are:

Devanagari MT X
Devanagari MT X (Bold)

Gujarati MT X
Gujarati MT X (Bold)

* Fonts you will see on any system with the Indian Language Kit installed, which do not print well in bold and which you should avoid using are:

Devanagari MTS
Gujarati MTS
Gurmukhi MTS

* Preferred fonts for all normal usage:

Devanagari MT
Gujarati MT
Gurmukhi MT

* Third-Party Fonts
The Indian Language Kit only supports non-Apple fonts which are both ISCII and WorldScript compliant.

Removing all or part of the Indian Language Kit
You can remove the Indian Language Kit from your system by using the installer and selecting "Custom Remove" from the popup at the top of the Installer window. If you remove the entire Indian Language Kit by selecting all buttons, a few things which were installed by the Indian Language Kit will remain. These things, for instance SimpleText, will not affect your system in anyway. Anything left behind by the installer after performing a removal of the entire Indian Language Kit can be removed manually by dragging the item to the trash.

You can remove particular keyboards shipped with the Indian Language Kit by expanding the packages in the Installation window, selecting "Custom Remove" from the popup and removing the undesired keyboard only. If you remove an entire package, you will disable input with Indian languages. You must not remove all keyboards for a language unless you remove the "Language Support" as well. In other words, if you have installed Devanagari, you must not then remove all of the Devanagari keyboards: "Inscript Keyboard," "QWERTY Keyboard" and "Nepali Keyboard."

Font Line Height
The height of lines when typing or displaying Indic text is significantly more than that of Roman text of the same point size. This is due to the nature of some Indic characters which extend far below the baseline.

Gujarati QWERTY Keyboard and Period
The Gujarati QWERTY keyboard underwent a minor change after the manual was printed. Instead of the Viraam as the default period (full-stop) on the period key, the period (.) is the default and Viraam can be typed by holding down the Option and Shift keys and typing a period.

Compatible Apple WorldScript and QuickDraw GX Application Programs
Apple makes no warranties or representations regarding the quality or compatibility of third party products. Warranties, if any, relating to such third party products are between the software vendors and their customers.

The Indian Language Kit can be used with many non-Indian application programs that use the Apple WorldScript and/or QuickDraw GX software technology. Refer to the Indian Language Kit User's Guide for features that are only available on a system with QuickDraw GX installed. Programs that use one or both of these technologies include these (or later) versions:

* HyperCard 2.3, from Apple Computer, Inc.
* SimpleText 1.3.1, from Apple Computer, Inc.
* CyberDog 1.2, from Apple Computer, Inc.
* LightningDraw GX 1.0.3
* Ready, Set, Go! GX 7.0.3
* WorldWrite 3.0.1
* NisusWriter 5.0
* Netscape 3.0.1

Note: The above list is not intended to be comprehensive. Many non-Indian applications that do not employ WorldScript software technology may provide limited functionality and allow input of Indian characters. Please check with application vendors for more information about their product's support for multilingual systems available on the Mac OS.

Language Kit Additions Folder
After a Custom Remove operation to remove the Indian Language Kit, the Language Kit Additions folder will remain in the Extensions folder. This folder takes almost no hard disk space and causes no harm. It can bemanually dragged to the Trash. This folder stores Language Kit Additions files. These files are used by the Language Kits to provide a more localized environment while applications programs, that have been localized, are in use.
Published Date: Feb 18, 2012

Power Macintosh 5500/225: Technical Specifications (2/97)

This article contains the technical specifications for the Power Macintosh 5500/225 computer.

This article has been archived and is no longer updated by Apple.

Microprocessor
==========

* PowerPC 603ev processor running at 225 MHz
* Integrated floating-point unit
* 50-MHz, 64-bit bus
* 32K internal cache
* 256K level 2 cache

Memory
======

* Two DIMM expansion slots, no RAM on logic board
* Includes 32 MB of memory
* Can be expanded to 128 MB
* Uses 64-bit-wide, 168-pin, EDO DIMMs (1K or 2K refresh)

Disk drives
==========

* Internal 2.0 GB IDE hard disk drive
* Internal Apple SuperDrive floppy disk drive
- Uses high-density, 1.4MB floppy disks
- Reads, writes, and formats Macintosh, Windows, MS-DOS, OS/2, and
ProDOS disks
* Internal AppleCD 12x drive

Display
=======

Built-in display
---
* 15-in. RGB color display (12.8-in. diagonal
viewable image size)
* 0.28-mm dot pitch
* Noninterlaced, flat, square cathode-ray tube (CRT)
* User-adjustable resolutions from 640 by 480 pixels to 832 by 624 pixels
* Resolution can be changed without restarting the computer
* Refresh rate up to 75 Hz
* Built-in base tilts from -5 to +15 degrees, swivels a full 360 degrees
* Meets SWEDAC MPR2 international guidelines for magnetic-field emissions

Graphics support
---
* 2 MB synchronous graphics RAM (SGRAM) frame buffer on the logic board.
* Video display modes supported on built-in monitor port: 640 by 480, 800 by 600, and 832 by 624 at 32 bits per pixel; 1024 by 768 and 1152 by 870 at 16 bits per pixel; 1280 by 1024 at 8 bits per pixel
* Built-in 2D and 3D hardware graphics acceleration.

Sound
=====

* Stereo 16-bit sound
* Apple sound enhancements, including SRS 3D surround sound
* Built-in stereo speakers
* Built-in microphone
* Sound-output port
* Sound-input port
* Front headphone jack and volume control

Expansion interfaces
==========

* PCI expansion slot for industry-standard 6.88-in., 15-watt expansion cards

* Apple Desktop Bus port for mouse, keyboard, and other devices (multiple devices can be connected to each other from one port)
* RS-232/RS-422 serial port for an AppleTalk network connection, other networking connections, communications equipment (including GeoPort-compatible devices), or a printer
* SCSI interface port for as many as six external SCSI devices, such as disk drives and/or CD-ROM drives
* Communications slot (used by the built-in Ethernet connector)
* TV/FM radio expansion bay
* Video-output port for connection to an external monitor for video mirroring (also supports connection to an NTSC or PAL video-out interface box, such as the Apple Presentation System)
* Video-input connector (Apple Video System) for receiving video input from a VCR, video camera, or other video equipment; supports both composite and S-video input

Disability access
==========

* CloseView software magnifies screen image up to 16 times
* Easy Access software permits combination keys to be pressed sequentially and enables cursor control from the numeric keypad instead of the mouse
* "Visual beep" replaces audible system alerts

Electrical requirements and compliance
==========

* Line voltage: 110 to 240 V AC, RMS, single phase, nominal
* Frequency: 50 to 60 Hz
* Power: 220 W maximum (continuous)
* Includes low-power sleep mode
* U.S. EPA Energy Star compliant

Size and weight
==========

* Height: 17.5 in. (44.5 cm)
* Width: 15.1 in. (38.3 cm)
* Depth: 16 in. (40.6 cm)
* Weight: 47 lb. (21 kg)

Operating environment
==========

* Operating temperature: 50 to 104 degrees F (10 to 40 degrees C)
* Storage temperature: -40 to 116 degrees F (-40 to 47 degrees C)
* Relative humidity: 5% to 95%, noncondensing
* Maximum altitude: 10,000 ft. (3,048 m)

Configurations
==========

Power Macintosh 5500/225

Order No. M5761LL/A
Computer with 225-MHz PowerPC 603ev processor, 32 MB of RAM, 256K level 2 cache, built-in Ethernet, 2.0 GB hard disk drive, 12x-speed CD-ROM drive, 1.4 MB floppy disk drive, and Apple Video System.

Article Change History:
13 Feb 1996 - Changed distribution status.

Published Date: Feb 18, 2012

Apple Telecom 3.0 & Keyboard Character No Longer Works (1/97)

This article describes a situation where a keyboard character no longer works after installing Apple Telecom 3.0.

This article has been archived and is no longer updated by Apple.

If a keyboard character is not working after installing Apple Telecom 3.0, below is a description of what may have happened.

While in Apple Phone if you:

1) clicked the Opens Preferences Window button or choose Preferences under
the edit menu,
2) clicked the Modem option,
3) selected the "use the key combination for answering/hanging up any
application",

the default is set to command-space. If you set this to the letter "A" for example, this letter will continue to function in key caps but will stop working in other applications.

Try changing the key character set in "use the key combination for answering/hanging up any application", to a more unique key combination to resolve this.

Published Date: Feb 18, 2012

Mac OS 7.6 and Passive Matrix PowerBook Display Issue (1/97)

Sometimes on the restart after installing Mac OS 7.6, or more often after resetting PRAM, the contrast of my PowerBook passive matrix display is very dark. The brightness and contrast controls do not let the screen be adjusted to a more usable level. Is there a workaround?

This article has been archived and is no longer updated by Apple.

Here is a workaround. Restart the PowerBook; after it has fully started press and hold the power button to get the shutdown dialog, then press the "R" key to restart the computer. On startup, the display should be functioning normally, or allow adjustment if you changed the brightness and contrast settings while the display was dark.

Engineering is aware of this issue, and they are working to correct it in a future update.

Affected PowerBook computers

This issue has been duplicated on PowerBook 5300/190 computers only, but may occur on other passive matrix equipped PowerBook computers. It has not been duplicated on the PowerBook 1400cs computer.

This information can also be found in the About Mac OS 7.6 Read Me file.

Published Date: Feb 18, 2012

Mac OS 7.6: Installs Open Transport 1.1.1

What version of Open Transport comes with Mac OS 7.6?
This article has been archived and is no longer updated by Apple.
Mac OS 7.6 ships with Open Transport (OT) version 1.1.1. Open Transport 1.1.2 was completed after the date that Mac OS 7.6 was closed for new component submissions, therefore OT 1.1.1 was used.

If you install Mac OS 7.6 on top of a system that already has OT 1.1.2 installed, you get the error "The file "File Name" already on "Hard Disk Name" is more recent than what you are about to install. Click Continue to replace "File Name" with the older version. Click Cancel to leave the disk "Hard Disk Name" untouched".

If you have Open Transport 1.1.2 installed, you get this error dialog seven times during the installation process. The following files need to be replaced during this process:

OpenTransportLib
OpenTptInternetLib
OpenTptAppleTalkLib
Open Transport Library
Open Tpt Internet Library
Open Tpt AppleTalk Library
TCP/IP

This message occurs because there are resources in the System file specific to the OT 1.1.1 in the 7.6 system file. To avoid a mismatch of Opent Transport componenets, and compatibility problems, the Installer removes OT 1.1.2, and installs OT 1.1.1. After installing System 7.6, with Open Transport 1.1.1, you may reinstall OT 1.1.2 and it will work fine.

For a list of changes made to Open Transport, please see the following Tech Info Library articles:

Article 20734: **Open Transport 1.1.2 Read Me - Part 1**
Article 20735: **Open Transport 1.1.2 Read Me - Part 2**
Published Date: Feb 18, 2012

Mac Performa 6400/200: LW Select 310 Isn‘t Available (1/97)

Occasionally when printing to my LaserWriter Select 310 printer from my Macintosh Performa 6400/200, I get an error dialog that states it cannot find the printer. When I open the Chooser and try to reselect the LaserWriter Select 310 printer, I get the same error message.

This article has been archived and is no longer updated by Apple.

This issue is currently under investigation by Apple engineers. Apple has been able to reproduce the this issue when a LaserWriter Select 310 is connected to a Macintosh Performa 6400/200 and is turned off while the computer is starting up. In this case, the Macintosh Performa 6400/200 computer will not be able to see the printer until the computer is restarted.

Important Note

It only occurs on Macintosh Performa 6400/200 computers. Macintosh Performa 6400/180 computers are not affected by this issue.

Workaround
==========

The only workaround to this issue, at this time, is to make sure the LaserWriter Select 310 printer is powered on before powering on the computer. After the Macintosh Performa 6400/200 finishes starting-up, you can power the printer on or off at any time.
Published Date: Feb 18, 2012

Power Macintosh 6400, 5400, 6500, 5500, 4400: Comparison (6/97)

What are the differences and similarities among the Power Macintosh 6400, 5400, 6500, 5500, and 4400 series computers?
This article has been archived and is no longer updated by Apple.
The table below describes the differences and similarities among the Power Macintosh 6400, 5400, 6500, 5500, and 4400 series computers.

IMPORTANT: This chart reflects Power Macintosh models available in the US ONLY.

Power Macintosh model

Features	6400	5400	6500	5500	4400
Processor Type	PowerPC 603e	PowerPC 603e	PowerPC 603e	PowerPC 603e	PowerPC 603e
Processor Speed	180,200	120,180	225, 250	225	200
Cache	256K level-2 cache	256K level-2 cache	256K level-2 cache	256K level-2 cache	256K level-2 cache
RAM Configurations	16-136 MB 8 MB on logic board	16-136 MB 8 MB on logic board	16-128 MB 0 MB on logic board	16-128 MB 0 MB on logic board	0-160 MB 0 MB on logic board
RAM expansion	2 DIMM slots 168-pin 5-volt fast-paged DIMM	2 DIMM slots 168-pin 5-volt fast-paged DIMM	2 DIMM slots 168-pin 5-volt EDO DIMMs	2 DIMM slots 168-pin 5-volt EDO DIMMs	3 DIMM slots 168-pin 3.3 volt EDO DIMMs
System bus	64 bits 40 MHz	64 bits 40 MHz	64 bits 50 MHz	64 bits 50 MHz	64 bits 40 MHz
Video RAM	1 MB DRAM	1 MB DRAM	2 MB SGRAM	2 MB SGRAM	1-4 MB EDO DRAM,SDRAM, or SGRAM
Video Input	Optional card for video input, capture, overlay. Included with some configurations. Apple Video System				Third-party PCI card
Graphics Acceleration	None	None	2D and 3D hardware	2D and 3D hardware	2D hardware
Sound	8 or 16 bits/channel stereo in, stereo out SRS surround-sound mode				8 or 16 bits/channel stereo in, stereo out
Remote control	Built-in IR receiver for optional TV/FM tuner card				None
Form Factor	Tower	All-in-one	Tower	All-in-one	Modular
Floppy disk drive	1, internal				
Zip drive	Some models	None	1,internal	None	None

ADB ports	1				
Internal hard disk	1 (IDE)				
Size of internal hard disk	1.6 or 1.4 GB	1.6 GB	2.0 or 3.0 GB	2.0 GB	1.2 GB
Internal CD-ROM	1,8x-speed SCSI	1,4x or 8x SCSI	1,12x-speed SCSI	1, 12x-speed SCSI	1,8x-speed ATAPI
Internal SCSI expansion bay	1, for one 5.25-inch device	None	1, for one 5.25-inch device	None	None
External SCSI	1				
Communications slot	1, for optional modem or Ethernet configuration				
Expansion slot	2 PCI slots for 7-inch cards	1 PCI slot for 7-inch cards	2 PCI slots for 7-inch cards	1 PCI slot for 7-inch cards	2 PCI slots. One for 7-inch cards. One for 12-inch cards.
DMA I/O	10 DMA channels				
Serial ports	2, LocalTalk and Geoport supported				

Published Date: Feb 18, 2012

Power Macintosh 5500 & 6500: Memory Expansion (5/97)

What type of memory is supported in Power Macintosh 5500 and 6500 series computers?
This article has been archived and is no longer updated by Apple.

The Power Macintosh 5500 and 6500 series computers do not have any DRAM memory soldered on the logic boards. All RAM expansion is provided by DIMMs installed in one of the two 168-pin sockets.

The RAM expansion slots accept DIMMs with the following characteristics:

- 168-pin 5-volt EDO (Extended Data Out) DIMMs
- 64-bit wide
- 70 ns access time or faster
- 2K refresh rate
- Acceptable DIMM sizes include 8, 16, 32, and 64 MB

EDO memory is the only supported memory type in these computers. Note however that 3.3-volt EDO DIMM cards are not supported and will not mechancially fit into the DIMM connectors on the logic board.

You cannot use Fast-Paged Mode (FPM) memory in Power Macintosh 5500 and 6500 series computers.

For additional information about EDO memory and its benefits use the search string "edo and memory" to locate the article, "Power Macintosh Computers: Using FPM, EDO, SDRAM, & SGRAM."
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Mac OS 7.6: Not Enough Memory & MetroNub

After Installing Mac OS 7.6 on my Power Macintosh 8100 computer, I get an error about not enough memory to initialize the MP API. My system has 96 MB of RAM. What is this, and how much does it need?
This article has been archived and is no longer updated by Apple.
This error message occurs if you have MetroNub 1.2 from MetroWerks installed. On the Code Warrior CD by MetroWerks, they have a document called "MP API FAQs", which is in their Multiprocessing SDK (Software Developer's Kit). MetroWerks states, "The MetroNub debugger extension must have the size specified in its 'sysz' resource increased to 2,580,000 bytes. Use ResEdit or Resourcer to do this."

Please refer to the CD-ROM disc mentioned above, or the System 7.6 Tech Note published by Developer Technical Support.

The following Tech Info Library article can help you find the Tech Note mentioned here:

Article 24493: "**Apple Tech Notes: What They Are, Where To Find Them**"

For the most current information on what SDKs Apple offers, point your web browser to:

http://developer.apple.com/sdk/
Published Date: Feb 18, 2012

Mac OS 7.6: About Apple Remote Access Client Read Me (1/97)

This article is the About Apple Remote Access Client ReadMe file which comes with the Mac OS 7.6 installer.

This article has been archived and is no longer updated by Apple.

Apple Remote Access Client for Macintosh Read Me
==========

This document provides late-breaking news about the Apple Remote Access Client that is not covered in the "Apple Remote Access Client User's Guide." You may need to refer to that guide to understand the use of several terms in this document, and you may want to print this document to keep with your user's guide.

Modems Supported by the Apple Remote Access Client
==========

Scripts that support most popular modems are provided on the Remote Access Client installation disks. The scripts include:

3Com Impact Analog 14.4
3Com Impact ISDN 56K
3Com Impact ISDN 64K
Apple Modem 2400
AT&T Dataport 288
AT&T KeepInTouch
Dayna CommuniCard 28800
Farallon Netopia 56K
Farallon Netopia 64K
GeoPort/Express Modem
GeoPort/Express Modem CNG
Global Village Gold/Silver/Mercury
Global Village Platinum
Hayes Accura 288
Hayes Optima 14.4
Hayes Optima 288
Megahertz CruiseCard 14.4
Megahertz CruiseCard 28.8
Metricom Ricochet Wireless
Microcom MicroPorte 4232bis
Microcom QX/4232bis
Motorola 326xV34
Motorola BitSURFR 56K
Motorola BitSURFR 64K
Motorola Power/Lifestyle 28.8
Practical Peripherals V.34
Prometheus ProModem 144e
Prometheus ProModem 96
PSI PowerModem II
PSI PowerModem III/IV
Supra 144
Supra 288
TDK DF2814
Telebit QBlazer
Telebit T3000
Telebit Worldblazer
US Robotics Universal
Zoom V-series

Beginning with version 2.1 of the Apple Remote Access Client and the companion Personal Server product, modem scripts are no longer stored in the Extensions Folder. A new folder called "Modem Scripts" within the Extensions Folder is created by Apple Remote Access to hold modem scripts.

The Apple Remote Access Installer will move any existing scripts you may already have in your Extensions Folder to the new Modem Scripts folder in addition to placing scripts for all the modems listed above into the Modem Scripts folder.

Future remote access products from Apple will also use the Modem Scripts folder. However, there will be a transition period before other products are updated to use the new folder. Some existing products may install modem scripts into the Extensions Folder. If such a product is installed after Apple Remote Access 2.1, you will have to open your Extensions Folder and drag the scripts into the Modem Scripts folder in order for Apple Remote Access to recognize the script.

You can use modem scripts included with the Apple Remote Access MultiPort Server (any version) with version 2.1 of Apple Remote Access Client. You can also use AppleTalk Remote Access version 1.0 modem scripts with version 2.1 of the Client, but certain new features, such as Ignore Dial Tone, Manual Dialing, and MNP 10 support, won't be available. Additionally, you will be able to use scripts from future Apple dial-up products with version 2.1 of Apple Remote Access. But, see the note below on some issues related to manual dialing.

Apple Remote Access and System 7.5.3

The Read Me documents for System 7.5.3 and System Update 2.0 suggest that Apple Remote Access should be installed before System 7.5.3. This is not necessary. Beginning with version 2.1, Apple Remote Access should be installed after System 7.5.3.

Installing ARA X.25 Client over Apple Remote Access 2.1

The Apple Remote Access X.25 Client installer places X.25 scripts into the Extensions folder. If you install the X.25 additions after installing Apple Remote Access 2.1, you will have to open your Extensions Folder and drag the X.25 scripts into the Modem Scripts folder in order for Apple Remote Access to recognize the scripts.

If you use the Apple Remote Access 2.1 installer to upgrade your existing Remote Access 2.0.1 and X.25 Client, the installer will move the scripts for you.

Compatibility with AppleTalk Remote Access 1.0

Version 2.1 of the Apple Remote Access Client will successfully connect to both AppleTalk Remote Access 1.0 compatible servers and Apple Remote Access 2.x compatible servers. The compatibility setting in the connection document of earlier version 2.0 and 2.0.1 has been removed. Since connection to either style server is automatic, the setting is no longer necessary.

The next major upgrade to Apple Remote Access will no longer support ARA 1.0 clients or servers.

Using an MNP 10 Modem

MNP 10 is an error-correction protocol that allows for more reliable data connections over cellular modems. Clicking the "Use MNP 10 error correction in modem" checkbox in the Remote Access Setup window puts MNP 10 modems into cellular mode. Do not click the "Use MNP 10 error correction in modem" checkbox to use MNP 10 over land lines.

To establish an MNP 10 connection, both your modem and the modem you're calling must support MNP 10; clicking the "Use MNP 10 error correction in modem" checkbox in the Remote Access Setup window is not by itself sufficient to establish an MNP 10 connection.

Manual Dialing

The method used to do manual dialing in Apple Remote Access 2.0/2.0.1 has not worked well. Apple Remote Access presents a dialog asking you to dial, wait for the phone to ring, and then press OK. Often the user has to experiment to determine exactly when to press OK to dismiss the dialog.

To improve manual dialing, a new dialog has been incorporated into the modem scripts installed along with version 2.1 of Apple Remote Access. Two dialogs are now displayed when doing manual dialing. This first dialog is still present to provide backwards compatibility with the wide variety of existing modem scripts. When using newer scripts, the first dialog box should be dismissed before dialing, and you will be prompted by the modem script when to actually dial the phone. If you are using a modem script not included with this product, you may have to experiment to determine if the first dialog box should be ignored.

Future remote access and dial-up products from Apple will require the new style scripts and will not present two dialog boxes.

Using the Redialing Feature

If the redialing option is selected, the Remote Access Client attempts redialing only when the phone number that has been dialed is busy. If the connection attempt fails for any other reason including a failed callback attempt, Remote Access stops redialing so that you can correct any

problems.

If you use the Redialing option, set the "Time between retries" number to five seconds or greater. Anything less than five seconds may not give your modem sufficient time to reset.

When using the Redialing Alternate Number option, the main number is dialed once and then redialing sequence alternates between the alternate and main numbers.

Using DialAssist
==========

If you are calling within a country with no city or area codes, and you encounter problems using DialAssist, try entering a space in the "Connect To City/Area Code" box in your connection document.

Serial Port Arbitration
==========

When a Remote Access connection is established, Remote Access prevents other application programs from using the serial port selected in the Remote Access Setup control panel. Most programs will inform you that the port is in use.

Remote Access Client provides this port arbitration through a system extension called the Serial Port Arbitrator located in the Extensions folder. Some programs that use the serial port may not be compatible with this extension. If you suspect that a program is not compatible with the Serial Port Arbitrator:

1) Remove the Serial Port Arbitrator file from the Extensions folder.
2) Restart your Macintosh.
3) Try the program again.

NOTE: The Serial Port Arbitrator will not work on a Macintosh if Remote Access Client has not been installed.

High Speed Serial Connections
==========

Both Apple Remote Access Personal Server 2.1 and Client 2.1 support specifying a serial connection speed of 115,200 bps in a modem script. Not all Macintosh built-in serial ports support connection speed of 115,200 bps. Here is a list of Macintosh computers that do.

Centris/Quadra 660AV, Quadra 840AV
Macintosh Performa 61xx
Power Macintosh 61xx, 71xx, 72xx, 75xx, 76xx, 81xx, 85xx, 95xx
Workgroup Server 6150, 7250, 8150, 8550, 9150

In order to use the serial port at 115200 bps on one of these computers, you need a new serial extension called SerialDMA. System 7.5.3 or later incorporates this driver into the operating system.

If you use a modem script that specifies 115200 bps, and your computer does not support this data rate, Apple Remote Access will automatically fall back to 57600 bps.

Using a Local Printer
==========

If you are using a non-networked printer connected to the printer port of your Macintosh, you may get an error dialog when trying to initiate a connection or when trying to print while connected saying that one of your serial ports is already in use. You may need to select Remote Only in the Network Control Panel (AppleTalk Control panel for Open Transport-based machines).

Apple Remote Access Client and the Apple Internet Router
==========

Apple Remote Access Client should not be installed on the same Macintosh as the Apple Internet Router.

Using ARA Security Modules (like SecurID) with Virtual Memory
==========

There is an incompatibility between some ARA security modules (like SecurID) and Virtual Memory. This bug has been fixed in the latest system release (7.5.3).

Changes in version 2.1 of the Apple Remote Access Client

Modem scripts have been moved to a new Modem Scripts folder within the Extensions Folder.

The compatibility option in the connection document is no longer necessary and has been removed.

The method of manual dialing has been changed. See the section above.

Interoperability with some non-Apple Remote Access Servers has been improved.

The installer has been upgraded from version 3.4 to version 4.0.3.

There is no longer a separate Remote Access Aliases extension.

The installer is now on a single high-density diskette.

A bug that caused machines with certain extensions to crash during boot has been fixed in the Serial Port Arbitrator.

Serial port rates of up to 115,200 bps are now supported in modem scripts. If the computer doesn't support 115,200, Apple Remote Access will use 57,600 bps instead.

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Mac OS 7.6: About AppleShare 3.6.4 Read Me (1/97)

This article is the About AppleShare 3.6.4 ReadMe file.

This article has been archived and is no longer updated by Apple.

About AppleShare 3.6.4

If you have AppleShare versions 3.6, 3.6.1, or 3.6.2, you should update to AppleShare 3.6.4 before installing Mac OS 7.6 over a network.

If you have an earlier version of AppleShare, you do not need to install AppleShare 3.6.4.

Installing AppleShare 3.6.4
---
1) Drag the AppleShare 3.6.4 icon to your closed System Folder icon.

2) In the dialog box that appears, click OK to place AppleShare in your Extensions folder.

3) In the next dialog box that appears, click OK to replace your older version of AppleShare with the newer one.

4) Restart your computer.

5) Connect to the server you're using to install Mac OS 7.6.

6) Double-click the Install Mac OS icon to install the software.

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Mac OS 7.6: About CD Extras Read Me (1/97)

This article is the About CD Extras ReadMe file.

This article has been archived and is no longer updated by Apple.

About CD Extras

This document includes brief descriptions of the software in the CD Extras folder. This Apple and third-party software extends the usefulness and power of Mac OS 7.6. Check the folders for each software product for more information about the software.

IMPORTANT: If you have questions about any third-party application programs in the CD Extras Folder, contact the software vendor directly. The telephone number or address for each vendor is located with the software program.

At Ease Updaters

Use these programs to update At Ease versions 2.0 or 2.01 to version 2.03, and to update At Ease for Workgroups version 3.0 to version 3.01.

QuickDraw 3D Extras

This folder includes sample 3D textures and models. It also includes a pre-release version of Cumulus 2.5, an image database system. You can use Cumulus to view all the images and textures included with the QuickDraw 3D Extras. The folder also includes the Gerbils game, to experiment with 3D images as you maneuver images of gerbils on a roller coaster.

HyperCard Player

You use the HyperCard Player to open HyperCard stacks. HyperCard stacks are arrangements of text, pictures, and other elements on sequential screens, or cards. Some HyperCard stacks hold information; other stacks work like applications, requesting information from users and making calculations with that information.

MoviePlayer Extras

The MoviePlayer application, installed in your Apple Extras folder, plays QuickTime movies. The MoviePlayer Extras folder includes two "plug-in files"-Authoring Extras and Goodies, that add some extra features to the MoviePlayer application. MoviePlayer Extras also includes some sample QuickTime movies.

Other Extras
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* Eric's Solitaire Sampler, a solitaire game by Delta Tao Software
* Pointer Mode control panel, to ensure the pointer appears in screen captures
* additional desktop patterns

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Mac OS 7.6: About Desktop Printing Read Me

This article is the About Desktop Printing ReadMe file.
This article has been archived and is no longer updated by Apple.
Important Information About Desktop Printing

This document contains information about using the desktop printing feature on your computer. With desktop printing, a printer icon is created on your desktop whenever you select an Apple LaserWriter or StyleWriter printer in the Chooser. You can use these "desktop printer" icons to print documents and manage printing.

With desktop printing, you can

- print a document in the Finder by dragging it to a desktop printer icon
- select the default printer without opening the Chooser
- manage and schedule printing documents

Contents of this document

Creating Desktop Printers
Printing With a Desktop Printer
Selecting a Default Printer
Working With Desktop Printer Icons
Managing Printing
Turning Off Desktop Printing
Support and Compatibility Information
Troubleshooting
Desktop PrintMonitor Software Components

IMPORTANT: Desktop printing works with Apple StyleWriter printers, Apple LaserWriter printers, and many other PostScript printers. Desktop printing does not work with other types of printers and Fax Sender.

Creating Desktop Printers

To create a desktop printer, follow these steps:

1. Open the Chooser.
2. Select the print driver for the printer you are using.
3. Select the printer you want to use.
4. Close the Chooser.

When you close the Chooser, an icon for the printer appears on the desktop. The name of the icon is the name of the printer. The name of the printer also appears in the Printer menu to the left of the Guide menu and in the Desktop Printers item in the Apple menu.

After the desktop printer icon appears, you can move it to any location on your startup disk.

You can have as many desktop printers as you want. To create other desktop printers, you must open the Chooser, select the printer, and close the Chooser for each printer you want to use.

The last printer you select in the Chooser becomes the default printer. The default printer is used whenever you choose Print from the File menu. The desktop printer icon for the default printer has a bold outline. For other ways to select the default printer, see "Selecting a Default Printer" later in this document.

NOTE: If you use different versions of the LaserWriter 8 software to print to the same printer, you can create a desktop printer icon for each version of the LaserWriter software. For example, you might use LaserWriter driver version 8.3 for printing and version 8.2.2f for faxing. To create a desktop printer for each driver, select the LaserWriter 8.3 driver and your printer in the Chooser, then close the Chooser. Reopen the Chooser and select the LaserWriter 8.2.2f driver and your printer, then close the Chooser. To choose which version of the driver to use, change the default printer (see "Selecting a Default Printer"). To avoid confusion, rename the desktop printer icons to indicate which version of the printer software the icon uses.

Printing With a Desktop Printer

You use desktop printers to print documents from the Finder. Using desktop printers, you can print several documents at the same time, including documents created with different programs. (You can still print documents from within applications using the Print command in the File menu.)

To print documents with a desktop printer, follow these steps:

1. Select the icons of the documents you want to print.
2. Drag the documents to the icon of the desktop printer you want to use.
NOTE: When you drag a document to a desktop printer, that printer becomes the default printer.

The document opens and the Print dialog box appears.

3. Choose your printing options, then click the Print.

Selecting a Default Printer

The default printer is the printer you use when you choose Print from the File menu.

To change the default printer, you can do the following:

- Print documents from the Finder with a desktop printer icon.
- Select a desktop printer icon and choose Set Default Printer from the Printing menu.
- Choose the printer from the Printer menu that appears to the left of the Guide menu.
- Select the printer name using the Printing module in the Control Strip.
- Select a new printer in the Chooser.

NOTE: Changing the printer you are using may change how much information appears on a page of your document. If you change printers, check the formatting of your document.

Working With Desktop Printer Icons

Desktop printer icons show the status of the printer:

- Plain icon indicates a printer that is not currently chosen for printing.
- Default icon indicates the printer you have currently chosen to print on.
- Printing icon indicates a document is printing on this printer.
- Stopped icon indicates you have stopped the print queue.
- Error icon indicates there is an error on this printer. Double-click the icon to see a message.
- Disabled icon indicates this desktop printer is not available.

You can rename desktop printer icons, make aliases of them, and throw them away, just like other Finder icons.

NOTE: You can't throw away a desktop printer icon while the printer is printing a document.

If you throw away the icon for the default printer, another desktop printer is automatically selected as the default printer. If you do not have another desktop printer another icon is automatically created for the desktop printer you are throwing away. To throw away the last desktop printer icon, you must select a printer in the Chooser that does not support desktop printing.

Managing Printing

If background printing is turned on for the printer you are using, you can use desktop printing to manage print jobs. You perform tasks with the Printing menu that appears when you select a desktop printer. You perform other tasks by using the desktop printer window that opens when you double-click a desktop printer icon.

To manage printing using the Printing menu:

- The Printing menu appears to the right of the Special menu when you select a desktop printer icon.

Using the Printing menu you can do the following:

- Choose Start Print Queue to restart printing.

NOTE: You need to choose Start Print Queue to restart printing if you click the Stop Queue button in a printer alert message.

- Choose Stop Print Queue to stop printing all of your documents. The icon of the printer indicates that you have stopped printing.
- Choose Get Printer Info to see information about the printer. (Only available for some printers.)
- Choose Change Setup to change the setup of the printer. (Only available for some printers. You can change the setup of other printers using the Chooser.)

- Choose Show Manual Feed Alert to turn the manual alert on or off.
- Choose Set Default Printer to select the printer as the default printer, if it isn't selected already.

To manage printing using the desktop printer window:

- Double-click a desktop printer icon to open its window.

The name of the document currently printing and status messages about the current print job appear in the upper box. The status messages can help you troubleshoot a printing problem.

When you are printing more than one document, a list of the print jobs appears in the lower box. If this list is sorted by the Print Time column, it shows the order in which the documents will be printed.

Using the desktop printer window, you can do the following tasks:

- To change the sort order of the print job list, click the title of the column by which you want to sort. The column title by which the list is sorted is underlined. For example, to sort by the name of the document, click Document Name.

Note: Changing the sort order of the print jobs does not change the order in which they will print. To see that order, click the Print Time heading.

- To cancel printing a document, select the print job in the list and click the Remove button. You can also drag the print job from the window to the Trash icon on the desktop.

Note: These methods do not delete the document itself.

- To put printing a document on hold, select the print job in the list and click the Hold Job button. You can also put the document that's currently printing on hold by dragging it to the print job list.
- To resume printing a document, select the print job and click the Resume Job button.
- To print a document immediately, select the print job and put it on hold. Next, click the Set Print Time icon button and select Urgent in the dialog box that appears, then click OK. You can also drag the print job to the top of the print job list or to the area reserved for the currently printing job.
- To schedule printing, select a print job and click the Set Print Time button. In the Set Print Time dialog box, click At Time and set the time you want. Then click OK.
- To change the print order, drag the name of a print job up or down in the print job list.
- To print the document using another desktop printer, drag the print job to the icon of the other desktop printer. That printer becomes the default printer. You can only move a print job to another printer of the same type. For example, you can't move a print job from a LaserWriter printer to a StyleWriter printer.
- To stop printing all documents, hold down the Option and Shift keys and click the Hold Job button. You can also choose Stop Print Queue from the Printing menu.
- To start printing documents, hold down the Option and Shift keys and click the Resume Job button. You can also choose Start Print Queue from the Printing menu.

Turning Off Desktop Printing

If you don't want to use desktop printers, you can turn off Desktop PrintMonitor using the Extensions Manager control panel.

IMPORTANT: Before you turn off Desktop PrintMonitor, be sure that all documents have finished printing. If there are documents waiting to print that you do not want to print, you can cancel printing as described in the previous section on this document.

To turn off Desktop PrintMonitor, follow these steps:

1. Open the Extensions Manager control panel.
2. Click the boxes next to these extensions to remove the X:

- Desktop PrintMonitor
- Desktop Printer Extension
- Desktop Printer Spooler
- Desktop Printer Menu extensions

3. Click the close box to close the control panel.
4. If your computer has a Control Strip, drag the Printer Selector file from the Control Strip Modules folder in the System Folder to the Trash.
5. Restart your computer.

Support and Compatibility Information

- Some third-party printers do not support desktop printing. If no desktop printer icon is created after you select your printer in the Chooser, it is likely that your printer does not support Desktop PrintMonitor. Please contact the vendor of your printer to see if there is a version of the print driver that is compatible with Desktop PrintMonitor.
- When you choose Save or Open in an application and look at files and folders on the desktop, desktop printers appear in the list as if they are folders. Do not save documents in a desktop printer "folder." If you do, you will not be able to access the document in the Finder.

IMPORTANT: If you save a document in a desktop printer "folder," use the Save As command to save the document in a different location as soon as possible.
NOTE: You cannot remove a document that you save in a desktop printer icon. If you want to delete the document, throw away the desktop printer icon and select the printer in the Chooser again.

- Desktop PrintMonitor supports drag-and-drop printing for all files that cause the Print command in the File menu to become available. Since clipping files do not make the Print command available, they cannot be dragged to a desktop printer icon for printing.
- Apple's Fax Sender software is not supported by Desktop PrintMonitor. Fax Sender is fully functional when Desktop PrintMonitor is installed; however, it does not use Desktop PrintMonitor's features.

IMPORTANT: When you select Fax Sender in the Chooser, you will not have a default desktop printer until you select a printer icon and choose Set Default Printer from the Printing menu.

Troubleshooting Tips

You see an alert message with error numbers "-192" or "15."

- Problem: After installing Desktop PrintMonitor and restarting your computer, you see error message "-192" or "15" when you try to open files or folders in the Finder. This may occur when the Now Startup Manager preferences file has become corrupted.
- Solution: Hold down the Shift key while restarting your computer to turn off extensions. Then throw away the Now Startup Manager preferences file. Restart your computer normally.
  IMPORTANT: Before you throw away the Now Startup Manager preferences file, you may want to write down your preferences.

You receive an alert message that the desktop printer cannot be found.

- Problem: When you try to print, the spool file for the print job is moved to the Trash and an alert message appears saying that the desktop printer could not be found.
- Solution 1: It's possible that the desktop printer icon is damaged. To fix this, drag the desktop printer icon to the Trash and reselect the printer in the Chooser. A new desktop printer icon will be created.
- Solution 2: If your printer software is not published by Apple Computer or Adobe Systems, it may not be compatible with Desktop PrintMonitor. If this is the case, turn off Desktop PrintMonitor (as described earlier in this document) and use an older version of PrintMonitor.

The "Not enough memory" message appears after you drag files to a desktop printer icon.

- Problem: When you drag documents created by different software applications to your desktop printer icon, a message appears that says there is not enough memory to continue.
- Solution: Because the application used to create a document opens when you print the document, your computer must have enough random-access memory (RAM) available to open all of the programs for the documents you are printing. To resolve this situation, print your documents individually or in smaller groups.

The "Out of Paper" message remains after you add paper to the printer.

- Problem: You are using a LaserWriter 300 and the "Out of Paper" message doesn't go away automatically after you add paper to the printer.
- Solution: If you are using Desktop PrintMonitor with the LaserWriter 300 driver, the "Out of Paper" message will not go away automatically after you add paper to the printer. The only way to work around this problem is to turn off Desktop PrintMonitor as described earlier in this document and use an older version of PrintMonitor.

A document printed on a Color StyleWriter does not have the correct colors.

- Problem: Documents printed on a Color StyleWriter do not have the correct colors after you put printing on hold and then resumed printing.
- Solution: To avoid this problem, always resume printing on page one.

TA36383_Mac_OS_About_Desktop_Printing_Read_Me_(TIL20827).pdf

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Mac OS 7.6: About English Text-to-Speech Read Me (1/97)

This article is the About English Text-to-Speech ReadMe file.

This article has been archived and is no longer updated by Apple.

Using the English Text-to-Speech Software.

With the English text-to-speech software installed, many Macintosh programs can read English text out loud. One of the programs that can read to you is the SimpleText program, which comes with this computer and is already installed on your hard disk. (You are probably reading this document using the SimpleText program.)

The instructions in this document tell you:

* what you need to use this software;
* how to install the software;
* how to try out the software using SimpleText;
* how to choose a standard (default) voice;
* some technical details;
* how to solve common problems.

What you need to use the English text-to-speech software.

To use the software, you need the following software and hardware.

* a Macintosh or Power Macintosh computer;
* version 6.0.7 or later of system software;
* at least 300 kilobytes of RAM in addition to what the rest of your system software takes;
* at least 5 megabytes of space available on your hard disk.

Installing the software.

To install the English text-to-speech software, follow these steps.

1. Print these instructions before you start. You will not be able to view them on screen during the installation.

2. If you have been using an earlier version of text-to-speech software, see the note for you at the end of this section.

3. Quit any programs you have been using.

4. While holding down the Shift key on the keyboard, choose Restart from the Special menu. Don't release the Shift key until you see the "Extensions Off" message on your screen.

5. To start the Installer program, double-click its icon. You can find the Installer program in the same place you found these instructions.

6. In the introductory screen that appears, click Continue.

7. In the next screen, click Install. The installation takes a few minutes.

8. When you see a message reporting that the installation was successful, click Restart.

After the computer restarts, you can start using the text-to-speech software. You can try it out using the instructions in the next section.

Note for users of PlainTalk 1.0: The improved version of MacinTalk Pro included with this text-to-speech software is intended to replace the old PlainTalk text-to-speech software. However it may not work with some computers that have a 68030 processor. If you have such a computer and want to keep using the old PlainTalk text-to-speech software, you should not use the standard Install procedure described in these steps. Instead, after step 6, choose Custom Install from the pop-up menu, select MacinTalk 2 or MacinTalk 3, then proceed with steps 7 and 8.

Trying out the text-to-speech software.

You can try out the text-to-speech software in the SimpleText program by following these steps.

1. Open any SimpleText document. Or, since this document is already open, you can do the remaining steps with it.

2. Click anywhere in the text to make sure nothing is selected.

3. Choose "Speak All" from the Sound menu. (If you cannot hear anything, you may have the sound turned all the way off. Check in the Sound or "Sound & Displays" control panel.)

4. If you want the computer to stop reading, choose Stop Speaking from the Sound menu.

You can also try the following:

* To read a portion of the file, select the words you want to read then choose Speak Selection from the Sound menu.

* To have the computer speak in a different voice, select a voice from the Voices sub-menu in the Sound menu, then choose the Speak All or Speak Selection command from the Sound menu.

* To use the text-to-speech features of other programs, see the instructions that came with those programs.

Choosing a standard (default) voice.

If you have system software version 7.0 or later, you can use the Speech control panel to choose your favorite voice to be the default voice for all your programs. (To use the Speech control panel on some black-and-white 68000 computers, like the Macintosh SE, you need to have system software 7.1 or later.) To set the default voice, follow these steps.

1. Open the Control Panels window by pulling down the Apple menu and choosing Control Panels.

2. Open the Speech control panel by double-clicking its icon in the Control Panels window.

3. Open the Options pop-up menu at the top of the Speech control panel and choose Voice.

4. To change the default voice, choose the voice you want from the Voice pop-up menu. To hear what the voice you chose sounds like, click the speaker button. If you're concerned about RAM usage, Agnes, Bruce, and Victoria take about 1,500 kilobytes of RAM; the rest take 300 kilobytes or less.

5. To change the rate at which the default voice speaks, move the slider.

6. Close the control panel.

Turning Talking Alerts on or off.

If you have system software version 7.0 or later, you can use the Speech control panel to turn the Talking Alerts feature on or off. When this feature is on, your Macintosh will speak the contents of alerts to you. (An alert appears, for example, when your printer runs out of paper while printing.) To turn the Talking Alerts feature on, follow these steps.

1. Open the Control Panels window by pulling down the Apple menu and choosing Control Panels.

2. Open the Speech control panel by double-clicking its icon in the Control Panels window.

3. Open the Options pop-up menu at the top of the Speech control panel and choose Talking Alerts.

4. To have your Macintosh speak a phrase like "Alert!" or "Hey!" when an alert appears, click the "Speak the phrase" check box to put an X in it, and choose the phrase you want to be spoken from the adjacent pop up menu.

5. To have your Macintosh speak the content of an alert when one appears, click the "Speak the alert text" check box to put an X in it.

6. To adjust how long your Macintosh delays after an alert appears before speaking the alert text, adjust the slider beneath the "Speak the alert text" check box.

7. To test how Talking Alerts will behave with your chosen settings, click on the speaker icon to the right of the slider.

Whenever Talking Alerts is speaking the text of an alert, you can stop it by clicking the mouse or typing any key.

Technical details.

The software that enables your computer to speak has these components:

* Speech Manager, a system extension;

* one or more of these English speech synthesizers, depending on your hardware and software:
- MacinTalk 2 for standard-quality speech,
- MacinTalk 3 for high-quality speech,
- MacinTalk Pro for highest-quality speech.

* several voice files, each identified with one particular synthesizer;

* the Speech control panel (if you have system software 7.0 or later).

The Installer installs the files that are appropriate for your system.

* If you have version 6.0.7 or 6.0.8 of system software on any Macintosh, these files are installed.
- Speech Manager, in the System Folder;
- MacinTalk 2, in the System Folder;
- 9 voices, in the Voices folder, which is in the System Folder.

* If you have version 7.0 or later of system software on a Power Macintosh or on a Macintosh with a 68040 processor, the following files are installed.
- Speech Manager, in the Extensions folder;
- the Speech control panel, in the Control Panels folder;
- MacinTalk 3 and MacinTalk Pro, in the Extensions folder;
- 19 MacinTalk 3 voices, in the Voices folder, which is in the Extensions folder;
- 3 MacinTalk Pro voices (Agnes, Bruce, and Victoria), also in the Voices folder.

* If you have version 7.0 or later of system software on a Macintosh with a 33 MHz or faster 68030 processor, the following files are installed.
- Speech Manager, in the Extensions folder;
- the Speech control panel, in the Control Panels folder;
- MacinTalk 3, in the Extensions folder;
- 19 voices, in the Voices folder, which is in the Extensions folder.

* If you have version 7.0 or later of system software on any other computer, the following files are installed.
- Speech Manager, in the Extensions folder;
- the Speech control panel, in the Control Panels folder;
(Note: On Macintosh SE computers, the Speech control panel requires version 7.1 or later of the system software)
- MacinTalk 2, in the Extensions folder;
- 9 voices, in the Voices folder, which is in the Extensions folder.

Troubleshooting (problems and solutions).
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* My Macintosh won't speak.
- Turn up the speaker volume in the Sound control panel.
- Choose a voice that requires less random-access memory. The voices Agnes, Bruce, and Victoria take the most memory.

* The Installer program says there's a problem with the hard disk.
- Re-install your system software, then try installing the English text-to-speech software again.

* The Installer program displays other error messages.

- Make sure you restart the computer with extensions off, as described in "Installing the Software," above.

* I had an older version of text-to-speech software, then did a custom installation of the new software, but some of my older voices disappeared.
- The custom installation you chose erased the older version of the software that can use those voices. You can install newer versions of the voices by doing another custom installation of the new software to install MacinTalk 2 or MacinTalk 3 -- whichever you used to have. (If you're not sure which you had, you can install both.)

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Mac OS 7.6: About MacLinkPlus Read Me (1/97)

This article is the About MacLinkPlus Read Me file which comes with the Mac OS 7.6 CD-ROM disc.

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For more information regarding MacLinkPlus, check out our World Wide Web page at http://www.dataviz.com or e-mail us at info@dataviz.com.

What is MacLinkPlus?

MacLinkPlus is file translation software which allows you to:

- Easily use DOS/Windows files on your Mac
- Convert Mac files into DOS/Windows files
- Convert between different Mac formats

When translating between different Mac and PC formats, such as Word Mac and WordPerfect for Windows, MacLinkPlus makes sure the file's original formatting remains intact (that is, bold, italics, graphics, etc.). Once a file is translated, you can actually use the file in the new application format (in this case WordPerfect for Windows) just as if it were originally created there! MacLinkPlus can convert between thousands of combinations of files, including word processing, spreadsheet, graphics and database formats.

Who needs MacLinkPlus?
---
* Anyone who needs to use files created in DOS or Windows applications
* Anyone who needs to use files created in Macintosh applications
different from the one they use (that is, you use Word Mac, but your
colleagues use ClarisWorks or WordPerfect, etc.)

It's there when you need it - automatically!

Perhaps the best thing about MacLinkPlus is that you won't see it until you need it. Your Macintosh came with a System Extension called Macintosh Easy Open. When you double-click on a file that wasn't created by an application you have, Easy Open pops up choices of applications on your Mac you can open the file into with the help of MacLinkPlus file translation.

The MacLinkPlus QuickStart "card" included in the MacLinkPlus folder provides more information on the uses of MacLinkPlus.

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Mac OS 7.6: About MoviePlayer Extras Read Me (1/97)

This article is the About MoviePlayer Extras ReadMe file.

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What is MoviePlayer?

MoviePlayer is the default application for playing QuickTime movies on Mac OS-based computers. When you double click a QuickTime movie, the MoviePlayer program opens. MoviePlayer is automatically installed with Mac OS version 7.6 and later versions. You can find MoviePlayer in the Apple Extras folder.

What's in MoviePlayer Extras?

MoviePlayer Extras includes two "plug-in files"-Authoring Extras and Goodies. These files add some extra features to the MoviePlayer application. These extra features are useful for creating your own movies. Some of the added features include:

* editing a movie's text track
* adding or editing copyright information
* adding or switching to a different color table
* specifying track preloading

To utilize these and other authoring features, place the plug-in files in the same folder as MoviePlayer.

Sample QuickTime movies are also included. Double-click a movie to watch it.

Problems playing long movies?

MoviePlayer's application memory size is preset to 400K. This size should work well for short movies. If you find that playback of higher data-rate movies is not smooth, increase MoviePlayer's minimum memory size. (First, quit the MoviePlayer application. Then select the MoviePlayer icon and choose Get Info from the File menu. Increase the number in the Minimum Size box.)

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Mac OS 7.6: About Multiprocessing Software Read Me (1/97)

This article is the About Multiprocessing Software ReadMe file.

This article has been archived and is no longer updated by Apple.

Important Information
About the Multiprocessing Software

This document provides information about the multiprocessing (MP) software included with Mac OS 7.6 and how to configure your computer properly to take advantage of multiprocessor performance. You use multiprocessing software to use two processors at the same time, which increases your computer's speed. Multiprocessing software is only installed on computers with more than one PowerPC processor.

CORRECTION: Mac OS 7.6 will install the MP Software folder into the Extensions folder on every PowerPC-based computer, no matter how many processors.

Turn off virtual memory and do not install RAM Doubler

Turn off virtual memory in the Memory control panel, and do not install Connectix RAM Doubler software. If virtual memory is turned on or RAM Doubler is installed, then your multiprocessor-compatible software applications will not be able to take advantage of the second PowerPC processor.

To turn off virtual memory, open the Memory control panel. In the Virtual Memory section, click the Off button. Then restart your computer. For more detailed information about virtual memory, see the topics on memory in Mac OS Guide, available in the Guide menu.

Turn off hard disk sleep

Make sure that the hard disk sleep interval is set to "Never" in the Energy Saver control panel. Otherwise, software applications designed to work with your multiprocessor computer may not work properly.

To set your hard disk sleep interval, do the following:

1) Open the Energy Saver control panel.

2) If necessary, click Show Details to make the additional options available.

3) Drag the top and bottom sliders as shown below.

If you wish, you can set a display sleep interval by dragging the middle slider. Display sleep works properly with multiprocessor-compatible software applications.

Important information about Document Auto-Save

The Energy Saver control panel contains a feature named "Document Auto-Save." The purpose of this feature is to automatically quit all open applications during an idle or scheduled shutdown, while saving changes to any open documents in each application. Since there are literally thousands of applications available for the Mac OS (with new ones always arriving), we cannot guarantee that Document Auto-Save will be compatible with every application. This is especially true for any application that does not use standard routines to implement the alerts or dialog boxes used to save changes to new or modified documents. When Document Auto-Save is incompatible with an application, it will either not automatically quit, or it will display alerts or dialog boxes that Document Auto-Save does not recognize and therefore does not dismiss.

If you intend to turn Document Auto-Save on, we recommend that you monitor its operation during the first attempted idle or scheduled shutdown and note if any of your applications are not compatible. You can avoid problems with incompatible applications simply by making sure you leave open no documents that are new or modified before an idle or scheduled shutdown is to occur. Alternatively, you can modify the Document Auto-Save preferences in the Energy Saver control panel so the computer will sleep rather than shut down when unsaved documents are open.

For instructions for using Energy Saver & Document Auto-Save, choose Mac OS Guide from the Guide menu when the Finder is active.

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Mac OS 7.6: About Open Transport 1.1.1 Read Me

This article is the About Open Transport 1.1.1 Read Me file which comes with Mac OS 7.6.
This article has been archived and is no longer updated by Apple.

Introduction

This document contains information about Open Transport compatibility, add-on software, and solutions to known issues with third-party software. For instructions about how to use the Open Transport control panels (AppleTalk and TCP/IP), see the networking topics in Macintosh Guide, available in the Guide menu when the Finder is active. For additional technical information about Open Transport, see the "Open Transport Technical Info" file.

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Network interface options

Open Transport 1.1.1 supports PCI bus, NuBus, communications slot, and PC Card network interface cards, as well as built-in LocalTalk, Ethernet, and Token Ring network adapters. For computers without expansion options, Open Transport 1.1.1 also supports a SCSI-attached network adapter. Third party network interface options available for Open Transport include Fast Ethernet, ATM, and FDDI.

General compatibility

Open Transport is compatible with:
* existing applications that use AppleTalk as specified by Apple Computer, Inc.
* existing applications that use MacTCP as specified by Apple Computer, Inc.
* existing devices (such as printers) that you select in the Chooser
* existing NuBus network interface cards for the Mac OS

Computers running Open Transport can be added to an existing AppleTalk or TCP/IP network without upgrading other computers on the network.

Apple product compatibility update

* At Ease version 2.x or 3.x may encounter issues when starting up with Open Transport. Apple has released an updater utility ("At Ease Basic OT Updater") on Apple Software Update sites on the Internet and selected online services. If you are using At Ease for Workgroups, you should upgrade to version 3.0.2.

* The Apple PCI Token Ring Card (M3904Z/A) requires Open Transport 1.1 or later. The Apple PCI Token Ring card is compatible with Power Macintosh 7500, 8500 and 9500 computers; it is not compatible with 7200/75 and 7200/90 computers.

* Apple LaserWriter Bridge and LocalTalk Bridge versions 2.1f2 or later are compatible with Open Transport.

* Apple Internet Mail Server 1.1 or later software is compatible with Open Transport 1.1 and later.

* Apple Remote Access (ARA) Multiport Server 2.1, ARA Client 2.0.1, and ARA Personal Server 2.0.1 are compatible with Open Transport 1.1 and later.

* Apple PCI-based Workgroup servers (Application, AppleShare, and Internet) are compatible with Open Transport 1.1.

* Computers running the current versions of Apple IP Gateway and AppleTalk Internet Router must not be updated to Open Transport; these products are based on classic networking. These products do, however, interoperate with computers using either classic or Open Transport networking. Apple has not yet announced plans regarding future versions of these products.

* Apple's MacTCP Ping is not compatible with Open Transport; no update is planned. MacPing from Dartmouth, available at <ftp://ftp.dartmouth.edu>, OTTool from Neon Software, available at <ftp://ftp.neon.com> and Mac TCP Watcher v2.0 from Peter N. Lewis & Stairways Software available at <ftp://ftp.share com> are Open Transport-compatible alternatives.

* ZapTCP is not compatible with Open Transport.

Dialup network connectivity - TCP/IP
To connect to TCP/IP networks (including the Internet) using a modem, Open Transport supports extensions known as "MDEVs." Serial Line Interface Protocol (SLIP) and Point to Point Protocol (PPP) connectivity are provided in this manner. Not all versions of all MDEVs are compatible with Open Transport 1.1 and later.

An Apple version of PPP 1.0, designed specifically to work with Open Transport, is provided with Mac OS 7.6. The following third-party MDEVs are also compatible with Open Transport. When properly installed, these MDEVs appear in the "Connect via" pop-up menu in the TCP/IP control panel.

* FreePPP - version 1.0.5 or later
FreePPP is shareware and can be found on the Internet, typically at "info-mac" mirror sites in the comm/tcp/conn directory. A list of info-mac mirror sites can currently be found at:

<http://www.pht.com/info-mac/mirror-list.html>

Some sites where FreePPP can be found currently include:

<ftp://mirrors.aol.com/pub/info-mac/comm/tcp/conn/>, and <ftp://mirror.apple.com/mirrors/Info-Mac.Archive/comm/tcp/conn/>.

FreePPP versions prior to 2.5 may experience issues when running with virtual memory turned on (including RAM Doubler). If you have issues using FreePPP with virtual memory, either update to FreePPP 2.5 or turn virtual memory off when using FreePPP. The current version of FreePPP is 2.5rf.

* MacPPP - version 2.1.4 or later (MacPPP 2.5 is recommended)
MacPPP versions prior to 2.5 may experience issues when running with virtual memory turned on (including RAM Doubler). If you have issues using MacPPP with virtual memory, either update to MacPPP 2.5 or turn virtual memory off when using MacPPP.

* InterPPP - version 1.2.9 or later; InterPPP II - version 1.1 or later
InterPPP and InterPPP II are commercial software products. For availability and ordering information in the U.S., contact InterCon Systems at 800-468-7266 or 703-709-5500.

* MacSLIP - version 3.0.3 or later
MacSLIP is commercial software developed by Hyde Park Software. For availability and ordering information in the U.S., contact TriSoft at 800-531-5170 or 512-472-0744. For more details see the MacSLIP Web page at <http//www.zilker.net/~hydepark/>

* Sonic PPP - version 1.0.2 or later
SonicPPP is commercial software developed by Sonic Systems, Inc. For availability and ordering information in the U.S., contact Sonic Systems at 408-736-1900 (voice) 408-736-7228 (fax). For more details see the Sonic Systems Web page at <http//www.sonicsys.com/>

* NTS PPP - 2.0 or later
NTS PPP is commercial software developed by Network Telesystems, Inc. For availability and ordering information in the U.S., contact Network Telesystems at 408-523-8100 (voice) 408-523-8818 (fax). For more details see the Network Telesystems Web page at <http//www.ntsi.com/>

* SAT/SAGEM PPP - 1.02b1 or later
SAT/SAGEM PPP is commercial software developed by SAT/SAGEM. For availability and ordering information in the US, contact SAT/SAGEM at 408-446-8690 (voice) 408-446-9766 (fax). For more details see the SAGEM Web page at <http//www.satusa.com/>

* LeoTCP - 2.0.1 or later
LeoTCP is commercial software developed by Hermstedt GmbH. For availability and ordering information in the U.S., contact Hermstedt USA at 1-800-828-5522 (voice). In Europe contact Hermstedt GmbH at +49 621-76500 (voice) +49 621-7650100 (fax).

* T-Online CSLIP - version 1.0.3 or later
T-Online CSLIP is commercial software developed by Computer Consulting GbR. For availability and ordering information in Europe, contact format network & communication at 49 2206 95840. For more details, contact format network & communication at info@format.de.

* University of Michigan ISDN PPP - 2.0.6 or later

* OT/PPP - version 1.0f1c9 or later

In addition to these, there are a number of other MDEVs (examples include those from Pacer, FCR, and Tribe) which are indistinguishable from one another to Open Transport. When installed, these appear in the "Connect via" pop-up menu as "TCP/IP PPP."

Tips for SLIP and PPP configurations
* Some MDEVs are known to be incompatible with other MDEVs. If you experience issues, remove unused MDEVs so that only one MDEV is installed on your computer at a time.

* Users who dial into a TCP/IP network or Internet Service Provider (ISP) may have been assigned a router (gateway) address that is not a part of their local subnet. This was an accepted but technically invalid configuration for MacTCP. Open Transport users should not enter a value for the router address or subnet mask; Open Transport/TCP generates correct values for these fields automatically. In unusual circumstances, you can override the supplied values using the Administration mode of the TCP/IP control panel.

* If BootP is used over SLIP or PPP for interface configuration, and if BootP returns additional default router addresses, Open Transport will automatically add those addresses to the list of default routers.

* When Open Transport is installed on a computer that previously had MacTCP configured for a server configuration, the initial configuration method -- the selection in the "Configure" pop-up menu in the TCP/IP control panel -- is set for the use of a BootP server. This default may not be the appropriate choice for you; please verify.

* If your computer was previously configured for MacTCP "server" addressing and you experience connection difficulties using PPP or SLIP after installing Open Transport, follow these steps:

1) Open the TCP/IP control panel.
2) Choose Using PPP Server or Using SLIP from the Configure pop-up menu.
3) Close the TCP/IP control panel and save changes when prompted.
4) Try connecting again.

* If your computer was previously configured for MacTCP "manual" addressing and you experience connection difficulties using PPP or SLIP after installing Open Transport, follow these steps:

1) Open the TCP/IP control panel.
2) Choose Manual from the Configure pop-up menu.
3) Verify that the correct IP address is entered in the Address field.
4) Close the TCP/IP control panel, and save changes when prompted.
5) Open the configuration utility supplied with your SLIP or PPP software, and verify that it also reflects the correct IP address in the appropriate location. Refer to the documentation supplied with your SLIP or PPP software for further information on how to enter an IP address, and how to save an updated configuration.
6) Try connecting again.

Note: In MacPPP's Config PPP control panel, this setting is entered in the IPCP dialog box. Refer to the documentation that came with MacPPP or FreePPP for additional information.

What's new in Open Transport 1.1.1 - general
* Memory management is improved. On PowerPC-based computers, memory is no longer fragmented. On 68030 or 68040 computers that turn on the "Load only when needed" option, memory will not unfragment for 2 minutes after a TCP application completes.

* Performance enhancements for opening and closing endpoints have been added. This is particularly visible on Mac OS computers that are busy Web servers.

* Open Transport now registers and unregisters CRM serial drivers.

* The NuBus version of the DOS Compatibility Card is compatible with Open Transport 1.1.1.

* Infrared-compatible versions of LocalTalk drivers are now installed on all models. Previously these drivers were only installed on portable computers.

What's new in Open Transport 1.1.1 - AppleTalk
* AppleTalk now properly handles Phase I RTMP packets on LocalTalk. This was causing issues using EtherPrint, TeleBridge, and other third-party forwarding technologies.

* Fixed an issue on a PowerBook Duo where AppleTalk would awaken from sleep on the wrong port when docking with an Ethernet MicroDock.

* Fixed an issue in ARA compatibility where Open Transport would sometimes not get the complete zone list from the server.

* Fixed some issues in ARA compatibility where a packet would not get routed properly, causing computers attached to the local cable of the server not to be visible to the ARA client.

* When using ADEVs, Open Transport requests a specific address from the ADEV. Some ADEVs return no error, but modify low memory locations to indicate a different address than that requested. Open Transport now picks up that different address and uses it (however, if the User Defined option is turned on, AppleTalk will not open).

* Some Ethernet-ISDN bridges used for remote LAN-to-LAN connectivity drop the connection when there is no active data transfer, and dial on demand when there is information to be transferred. If a user's local network does not include an AppleTalk router, a message appears each time the connection is dropped. Use the AppleTalk Options control panel to fix the issue. Open the control panel, turn on the "Suppress router-related alerts" option, then close the control panel.

What's new in Open Transport 1.1.1 - TCP/IP
Server-specific fixes and enhancements

* The performance of opening and closing TCP endpoints has been improved. This improvement will be most noticeable on servers with a high volume of short-duration connections (such as Web servers).

* In OT 1.1, sometimes TCP connections could not be reused. Eventually a server application would not be able to accept incoming connections. This has been fixed.

* Fixed an issue where busy TCP servers sometimes accepted no new inbound connections for about 30 seconds every 4 minutes.

* Fixed a memory leak which occurred when Hosts files were used and TCP/IP was set to "load only when needed." Previously, Hosts file entries were not properly deleted from memory when TCP/IP unloaded.

* Introduced a better DNR cache limitation algorithm. Entries that haven't been used for 15 minutes can now be flushed whenever the DNR is heavily used.

Other TCP/IP fixes and enhancements
* Open Transport's MacTCP compatibility now honors the pushFlag parameter to TCPSend call. This is required for some legacy applications to correctly communicate with older, nonconforming hosts. However, no direct control of the TCP pushFlag is or will be provided through the native OT API.

* Entries in the Address and Alias caches now flush when they reach their "time-to-die," and not when they exceed it. TCP/IP also no longer caches resource records with a 0 time to live.

* The DNR now more robustly supports service load-balancing strategies. It no longer maps directly between an alias and the IP address of the host being aliased.

* When dealing with DHCP servers, Open Transport now tries "full-size" packets first, then falls back to "short" packets.

* Fixed an issue with timer overflow on long DHCP leases. Previously, if the lease exceeded 24 days, then TCP/IP connectivity would be lost in a matter of hours.

* Fixed an issue that occurred when one end of a connection closes a "tcp" endpoint, while the other end simultaneously aborts the connection.

* Fixed an issue where a DNR SysInfo request will sporadically fail when a valid reply is mistakenly treated as having been truncated.

* Fixed a hang that occasionally occurred when flushing the DNR address cache.

* Fixed an issue where resolving a bad name sometimes returned no error, when in fact an error occurred.

* Fixed a hang that occurred with applications that use the TCPNoCopyRcv call through the MacTCP compatibility interface. This hang occurred when the MacTCP compatibility interface ran out of memory, either due to being given a small buffer by the application, or by receiving enough inbound data to fill most of the inbound buffer space.

* Fixed a memory leak when opening the resolver in MacTCP emulation mode.

* Open Transport 1.1.1 is compatible with NuBus Token Ring adapters. To ensure compatibility with existing NuBus Token-Ring drivers, Open Transport TCP/IP artificially imposes a MTU of 1500 bytes. This limit should be addressed in a future release.

* Open Transport's MacTCP emulation can now abort a connection where the underlying stream is blocked due to flow control. Applications using the native Open Transport API will have to issue an I_FLUSH ioctl before sending a disconnect when they want to disconnect/abort a flow-controlled connection.

* A new traceroute program for Open Transport/TCP, called "WhatRoute," is now available at <http://crash.ihug.co.nz/~bryanc/>. The latest version of Mac TCP Watcher (v2.0) <ftp://ftp.share.com/peterlewis/> also now supports traceroute.

Known limitations and other issues
* The AppleTalk control panel displays separate printer and modem ports on the PowerBook 190. LocalTalk will only work correctly when the

modem port is selected in the AppleTalk control panel.

* The software that dims the screen of PowerBook Duo computers when the PowerBook is docked and idle is not compatible with Open Transport. Use a third-party screen saver instead of the Apple-provided module.

* In some cases, on a PowerBook 190 configured to use the infrared port in the AppleTalk "Connect via" pop-up menu, networking services may become disabled following a sleep/wake or restart. If this happens, try putting the computer to sleep and waking it up again, or use the AppleTalk control panel to temporarily select the modem/printer port before switching back to the infrared port.

* On a IIfx or a Quadra 950, Open Transport can only use the "compatible mode" setting in the Serial Switch control panel. Don't use the "faster mode" setting with LocalTalk.

* On 68030 and 68040 computers, changes in AppleTalk configurations can cause systems running Meeting Maker 3.5 or 3.5.1 to crash. This can occur when changing AppleTalk links, turning AppleTalk off, or bringing Apple Remote Access connections up or down. This issue will occur on classic networking as well. Apple is working with ON Technology to resolve this issue.

* Open Transport generally requires more memory (RAM) than MacTCP. To conserve memory, you might try some of the following:
- Rename or re-order one or more third-party system extensions (INITs), to change the order in which memory is allocated when your computer starts up. If you use extensions from Global Village, try renaming those extensions so that they load last.
- Especially on PowerPC-based computers, turn on virtual memory.

* When TCP/IP is set to "Load only when needed" (in the control panel's Options window), "pinging" an Open Transport workstation will fail if TCP/IP is not currently being used. To make sure your computer is "pingable" at all times, turn off the "Load only when needed" option (open the TCP/IP control panel and click the Options button, then click the "Load only when needed" checkbox to remove the X) and restart your computer.

* When TCP/IP is set to "Load only when needed" (in the control panel's Options window), the first TCP/IP application opened will cause Open Transport to load into memory. Some older applications don't cause Open Transport to load, and then report errors similar to those encountered when MacTCP is not installed. If this is an issue, turn off the "Load only when needed" option (open the TCP/IP control panel and click the Options button, then click the "Load only when needed" checkbox to remove the X) and restart your computer.

* The TCP/IP control panel is able to obtain and utilize multiple gateway and name server addresses from DHCP and BootP servers. However, it will currently display only the first one. This should be addressed in a future release.

* Generally, you should turn on the "Load only when needed" option in the TCP/IP control panel when using a modem. If TCP/IP is always loaded, your modem may attempt to initiate a dialup connection at startup. Some MDEVs require more system heap memory than is available at startup, which may cause the computer to hang. Also, some Internet service providers charge by connect time, so you may be charged for the connection, even if you weren't using it.

* If you use MacSLIP, you should likewise not configure the MacSLIP control panel to initialize MacSLIP at system startup time. As stated above, this may require more system heap memory than is available at startup, which may cause the computer to hang.

* If you are experiencing issues when using MacSLIP with virtual memory on, increasing your virtual memory size may give you better results. (Use the Memory control panel to increase virtual memory.)

* If you are using Netscape, 16 MB or more of built-in memory (RAM) is recommended.

* Some MacTCP-based applications will not function correctly unless the MacTCP DNR file is in its original location at the root level of the System Folder. Do not delete this file when installing or configuring Open Transport.

* You should only specify use of 802.3 framing in the TCP/IP control panel if you have been directed to do so by your network manager, or if you are sure that all other stations on your network segment, including your IP router(s), are also configured to use 802.3 and not Ethernet version 2.0 framing.

* Claris Emailer version 1.1 v3 or later is compatible with Open Transport 1.1.1. Earlier versions of Claris Emailer may not be compatible with Open Transport's "Load only when needed" configuration option. If you experience a system crash 2-3 minutes after quitting Emailer, turn off the "Load only when needed" option. (Open the TCP/IP control panel and click the Options button, then click the "Load only when needed" checkbox to remove the X.)

* The current version of the MacTraceRoute Ethernet LAP does not work on computers running Open Transport.

* NFS/Share versions 1.4.4 or later are compatible with Open Transport.

* When using Netware Client version 5.11 configured for NetwareIP service, the first login may yield a Netware Configuration error message. To avoid this error, open the NetwareIP control panel and change the value under Domain SAP Server (DSS) Retry Attempts from 1 to 2. You can

also change Open Transport TCP/IP control panel to always load TCP/IP into memory (open the TCP/IP control panel, click the Options button, and click the "Load only when needed" box to remove the X).

* eXodus 5.2.2 and later are compatible with Open Transport.

* Versions of Anarchie prior to 1.6 have a data corruption issue when used with Open Transport. Make sure you are using Anarchie 1.6 or later.

* If an Apple Remote Access (ARA) user is on a non-routed, extended (Ethernet) network, and there are devices on the local network with the same network number as devices on the remote network, the user won't be able to see the local devices. This issue can be fixed by installing a router. Another workaround is to clear the PRAM on the ARA computer. (Hold down the Control, Option, and P keys simultaneously while starting up the computer). Clearing PRAM causes the computer to start up with a new network number, which should not conflict with the remote network number.

* Daemon 1.0.0 & Daemon Killer 1.0 are not compatible with Open Transport.

* MudDweller 1.2 is not completely compatible with Open Transport. You can open new connections, but the "reconnect" choice does not work correctly.

* The system will crash during launch of NetPresenz if Open Transport TCP/IP is configured to use MacIP and the selected zone has no MacIP server.

* Current versions of VersaTerm SLIP are not compatible with Open Transport.

* Issues can occur with old versions of the KeyServer package from Sassafras Software when TCP/IP is configured to "Load only when needed" (in the control panel's Options window). Contact Sassafras for the latest revisions at <http://www.sassafras.com>.

* The combination of Open Transport 1.1.1, LocalTalk Bridge 2.1f2, Global Village Toolbox and GlobalFax extensions causes a crash. The workaround is to move the LocalTalk Bridge file to the Extensions folder, renaming it to "aLocalTalk Bridge." You can make an alias and rename the alias as desired. Put the alias wherever you want, including the Control Panels folder. This will allow the LocalTalk Bridge to load before Global Village and avoid the cause of the crash.

* To use the CSI Hurdler serial card with Open Transport, contact CSI to get a copy of their preference file patch. This will enable the card to be compatible with Open Transport 1.1.1.

* After installing Open Transport 1.1.1 over a network while using Classic AppleTalk, open the Open Transport 1.1.1 AppleTalk control panel. If you are not using an infrared device, open the "Connect via" pop-up menu and choose Serial Port.

* The current official release of the MPW shell will hang the system when used with virtual memory and Open Transport. When using the MPW shell and Open Transport, turn off virtual memory. The ETO #21 pre-release MPW shell, version 3.4.2b2, fixes this issue.
Published Date: Feb 18, 2012

Mac OS 7.6: About QuickDraw GX Read Me

This article is the About QuickDraw GX ReadMe file which comes with Mac OS 7.6.
This article has been archived and is no longer updated by Apple.
About QuickDraw GX

This document includes information about new features of version 1.1.5 of QuickDraw GX, as well as tips and compatibility information. It also includes information about obtaining printer and fax drivers for use with QuickDraw GX. This document also contains information about using fonts with QuickDraw GX.

For the latest information about applications, utilities, fonts and printer drivers, see the Web site at http://www.macos.apple.com/macos/tech.html.

Compatibility Information
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QuickDraw GX and WorldScript II

Make sure that you are using WorldScript II version 7.2 or later.

QuickDraw GX and At Ease

Make sure that you are using At Ease version 2.0.3 or later.

Installing QuickDraw GX with the Power Macintosh Upgrade Card
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When you install QuickDraw GX on a computer with the Power Macintosh Upgrade Card, make sure that the upgrade card is enabled before installing QuickDraw GX.

Manual Feed and the LaserWriter IISC GX Driver

When you print a manual feed job to a printer using the LaserWriter IISC GX driver, wait for the manual feed alert to appear before inserting the next page. If you insert the page before the alert appears, your printer will print the first page twice and then stop printing. Opening and closing the cover on your printer will clear it.

QuickDraw GX and Application Programs
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* In application programs which do not take advantage of QuickDraw GX, Tekton Plus appears as two fonts: Tekton Plus Regular and Tekton Plus RegularSC. Applications such as Adobe Illustrator, QuarkXPress, and Aldus PageMaker print characters from Tekton Plus RegularSC as Courier on PostScript printers.

* If possible, do not use the QuickDraw GX Helper (to turn off desktop printing) with WordPerfect versions 3.0 and earlier. In WordPerfect, when you turn desktop printing off, the third item on the Apple menu (which corresponds to the first alphabetic item in the Apple Menu Items folder) opens. WordPerfect versions 3.1 and later are compatible with QuickDraw GX.

* In PageMaker version 5.0, documents containing PICT files will print without the PICT files and an extra blank page may be printed at the end of some documents. To print correctly, hold down the Option key when you choose Print from the File menu.

* To print on a PostScript printer using Insignia Solutions SoftPC and SoftWindows versions earlier than 1.0.2a, you must turn off desktop printing or use the Epson LQ-2500 output option. To turn off desktop printing, use the QuickDraw GX Helper (one of the QuickDraw GX Utilities). You can install the QuickDraw GX Utilities with the custom installation option of QuickDraw GX. SoftWindows versions 1.0.2a and later are compatible with QuickDraw GX.

* Adobe Acrobat Reader versions earlier than 2.0.1 and all versions of Adobe Acrobat Exchange are incompatible with QuickDraw GX 1.1.5. A compatible version of the Acrobat Reader is available in the Utilities folder on the Mac OS 7.6 CD-ROM disc.

* The substitution fonts included with Adobe Illustrator 5.5 and SuperATM are not compatible with QuickDraw GX 1.1.5. If you install QuickDraw GX 1.1.5 on a computer where these substitution fonts have already been installed, you will see this message: "The substitution fonts necessary for Acrobat and SuperATM are missing. Please re-install either software package." QuickDraw GX-compatible versions of these fonts are available as part of the Adobe Acrobat Reader, version 2.0.1, available in the Utilities folder on the Mac OS 7.6 CD-ROM disc.

* You should print documents that use the Al-Nashir Al-Sahafi font (Arabic Design Studio) on raster (non-PostScript) printers. If you try to print an Al-Nashir Al-Sahafi document on a PostScript printers, no document will print.

QuickDraw GX Printer Driver Upgrade Information
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To print with QuickDraw GX, you need a QuickDraw GX printer driver for your printer.

* If you have an Apple printer, QuickDraw GX versions of your printer drivers are installed with QuickDraw GX.

* If you have a non-Apple printer, check with your Apple-authorized dealer or contact your printer vendor directly to obtain a GX driver for your printer. See the list below for vendor information.

CalComp

PostScript compatible printers from CalComp should work with the standard LaserWriter GX PostScript driver. If you have any problems using QuickDraw GX with CalComp products and are within the United States or Canada, call CalComp at 800-451-7568. Outside the United States or Canada, contact the office in your area as listed in an appendix of your printer manual.

Epson America

For information about Epson QuickDraw GX drivers, call the Epson End User Support Center at 1-800-922-8911.

GCC Technologies

For information about GCC QuickDraw GX drivers and upgrade information contact GCC Technical Support at one of these numbers:

Phone Number: 617-276-8620
Fax Number: 617-275-1115
CompuServe: 67004,2302
GEnie: GCC.TECH
America OnLine: GCC TECH

GDT Softworks Inc.

For upgrade information about GDT Softworks products (PowerPrint 2.5, PowerPrint/GX 3.0, PowerPrint/LT 3.0, PowerPrint/NW 3.0, PLOTTERgeist 3.0, PowerPlot 2.0, PowerPlot/LT 2.0, StyleScript 2.0), contact GDT:

GDT Softworks Inc.
Customer Service Upgrades
4664 Lougheed Highway, Suite 188
Burnaby, BC V5C 6B7 Canada

Phone Number: 1-800-663-6222 or 604-291-9121
Fax Number: 604-291-9689
CompuServe: 72137,3246
Internet: customer_service@gdt.com

Hewlett-Packard

If you need Post-Sale Assistance, Technical Assistance, or if you have any kind of questions about H-P peripherals, contact the HP Computer Products Customer Support Center at 208-323-2551.

For users of Hewlett-Packard printers, the fastest way to get a QuickDraw GX printer driver is from one of these electronic online services:

CompuServe: HP Peripherals forum (HPPER)
Library 9
Internet: FTP to IP address 192.6.71.2
Name - Anonymous
Password - Send User Identification
HP Download Service: 208-344-1691
(modem settings: parity, N; data bits, 8; stop bits, 1)

To receive detailed instructions on accessing these online services, contact HP FIRST, Hewlett-Packard's document FAX retrieval service: Inside the U.S. and Canada: 1-800-333-1917 (Then press 1 for HP FIRST.) Outside the U.S. and Canada: 208-344-4809

To receive a disk with the QuickDraw GX printer driver, contact the HP Software Distribution Center at 303-339-7009. A nominal charge for

materials and shipping applies.

Kodak

Call 1-800-CDKODAK for technical support. To update EKC drivers and print utilities, connect to CompuServe and 'go kodak'. In the Library menu, choose Browse. In the Browse sections, choose Kodak Printers. You can download these upgrades from CompuServe.

Lasermaster

For QuickDraw GX driver updates from Lasermaster, call Lasermaster Technical Support at 612-944-8509.

Lexmark International

Lexmark/IBM customers can get the latest QuickDraw GX drivers from:
Technical Support: 606-232-3000
Lexmark Bulletin Board: 606-232-5238
Internet: anonymous ftp at ftp.lexmark.com
CompuServe: Go Lexmark

Microspot

For information about MacPlot Raster GX and MacPlot Pen Plotter Professional GX drivers or upgrade information, contact the Sales Department:

Microspot
12380 Saratoga-Sunnyvale Road, Suite 6
Saratoga, CA 95070

Phone Number: 1-800-622-7568 (1-800-MACPLOT) or 408-257-4000
America Online: MICROSPOT1
CompuServe: 70274,3650

NEC Technologies

Contact NEC Technical Support at 800-388-8888 or use one of the following:
NEC Bulletin Board: 508-635-4706
Main Phone Number: 508-264-8000
Main FAX Number: 508-264-8673

QMS, Inc.

For assistance with QMS printers, drivers, and driver updates, call QMS Customer Technical Assurance:
Phone Number: 205-633-4500
FAX Number: 205-633-3716

Seiko Instruments

QuickDraw GX is supported by Seiko Instruments for the ColorPoint PostScript printer line with four drivers:

Printer Names Required GX Driver
--- ---
ColorPoint PS, PSX or PSN ColorPoint PS/PSX/PSN GX driver
ColorPoint PSE ColorPoint PSE GX driver
ColorPoint PSH ColorPoint PSH GX driver
ColorPoint PSF ColorPoint PSF GX driver

All driver upgrades are free and are available now:
Technical Support Department: 1-800-553-5312 (inside USA)
Technical Support Department: 408-922-5800
Seiko Bulletin Board: 408-428-9810

SuperMac Technology

For the SuperMac ProofPositive and the SuperMac Splash, contact SuperMac Technical Support at 1-800-541-7680.

Tektronix

In the US and Canada, call Customer Support at 1-800-835-6100 or use the following:
Fax Number: 503-682-2980
Tektronix Bulletin Board: 503-685-4504
International Customers: Please contact your local Tektronix office

Xerox

Xerox offers QuickDraw GX printer drivers for Xerox DocuTech Network Publisher Model 90 and Xerox DocuTech Network Publisher Model 135. For information on how to obtain the driver, customers can send an electronic mail message to: GX.Roch817@Xerox.com

QuickDraw GX Fax Information

To fax with QuickDraw GX, you need a QuickDraw GX fax driver for your modem. Use the information below to contact the vendor about a fax driver for your modem.

Apple Telecom software

A version of Apple Telecom that supports GX is included with Mac OS 7.6.

Global Village

GlobalFax version 2.5 supports QuickDraw GX. If you purchase a modem that includes GlobalFax 2.5 software, it will automatically install the GlobalFax GX fax driver as part of the standard installation. If you are using an older version of GlobalFax software, you can buy a GlobalFax 2.5 Upgrade from Global Village by calling 1-800-736-4821 or 1-408-523-1036. For more information about GlobalFax software, check Global Village forums on the following online services:

America Online: global
CompuServe: go global
Global Village BBS: 415-390-8334
Web: http://www.globalvillag.com

Cypress Research

If you use Cypress Research FaxPro II, call 408-752-2700 and ask for Technical Support.

STF Technologies

For information about the FaxPrint GX printer driver, contact STF Customer Service.

Using Fonts

Type 1 Fonts Enabled During Installation

During installation, QuickDraw GX enables any Type 1 fonts found in the System Folder, the Fonts folder, or the Extensions folder. However, you must ensure that each Type 1 font family is in its own suitcase. The Installer will not enable multiple font families contained in one suitcase.

Adobe Type Manager version 3.8.3

ATM version 3.8.3 is installed with this version of QuickDraw GX. ATM 3.8.3 includes native support for computers with PowerPC microprocessors.

Type 1 fonts will display and print properly only if ATM is installed and turned on. As with previous versions, ATM 3.8.3 rasterizes Type 1 font data from the POST resource in conventional outline font files (file type LWFN). In addition, ATM 3.8.3 rasterizes Type 1 font data from the 'sfnt' resource in suitcase files (file type FFIL). ATM 3.8.3 does not include font substitution capability.

Enabling Type 1 Fonts After Installation

You may need to enable Type 1 fonts after you install QuickDraw GX. To enable Type 1 fonts, use the Type 1 Enabler, one of the QuickDraw GX Utilities. Each Type 1 font family must be in its own suitcase before using the enabler.

To install the QuickDraw GX Utilities, use the custom installation option with QuickDraw GX. For more information, see your Mac OS installation manual.

The Type 1 Enabler supports only Type 1 fonts. If the Type 1 Enabler program encounters a suitcase containing Type 3 fonts, it displays the message "Contains a Type 3 font program" and does not enable the suitcase.

The Type 1 Enabler does not enable hybrid fonts. Old versions of Optima or ITC Eras fonts are hybrid fonts. If you are a registered owner of Optima or ITC Eras, call Adobe Systems Technical Support to obtain an upgrade to the non-hybrid versions of these families.

Removing Duplicate Fonts

To make sure that QuickDraw GX properly manages currently installed fonts, you should make sure you have no duplicate fonts installed in the System Folder. Remove any duplicates that you find.

Restoring Type 1 Fonts to Their Original State

If you remove QuickDraw GX from your system, you need to restore your Type 1 fonts. To restore Type 1 fonts, follow these steps:

1) Open the System Folder.
2) Open the Fonts folder.
3) Drag any suitcases that have been enabled to the Trash.
4) Open the *Archived Type 1 Fonts* folder.
5) Move the contents of the *Archived Type 1 Fonts* folder to the Fonts folder.
6) Drag the *Archived Type 1 Fonts* folder to the Trash.

Tips
===

Envelope Paper Types and the LaserWriter GX Driver

The LaserWriter GX printer driver handles three types of No. 10 envelopes. However, each of the three types is designed for a different type of LaserWriter printer. Your choice of envelope should be based on how your printer feeds envelopes from the paper input tray:

* "Envelope - Center Fed" is for printers that feed the envelope in the center of the paper input tray.

* "Envelope - Edge Fed" is for printers that feed the envelope on the left edge of the paper input tray.

* "No. 10 Envelope" is for certain new printers (for example, the LaserWriter 16/1600PS) that use a different method of determining paper size.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

The following Tech Info Library article can help you search for a particular vendor's address and phone number:

Article 17159: "**Locating Vendor Information**"
Published Date: Feb 18, 2012

Mac OS 7.6: About QuickDraw 3D Read Me

This article is the About QuickDraw 3D ReadMe file which comes with Mac OS 7.6.
This article has been archived and is no longer updated by Apple.

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Important Information About QuickDraw 3D

QuickDraw 3D enables your Macintosh computer to display three-dimensional graphics using applications designed
to take advantage of QuickDraw 3D. It also provides a common file format, called 3DMF (for "3D metafile"), for
exchanging 3D documents, and acceleration services which support plug-and-play accelerator cards.

The following are required to install and run QuickDraw 3D:

* a PowerPC based computer with a minimum of 16 megabytes of memory (RAM)
* Mac OS System 7.1.2 or later

Using QuickDraw 3D
------------------
The QuickDraw 3D folder includes the following applications, 3D models, and textures that allow you to explore
the 3D capabilities of your Macintosh:

* SimpleText version 1.3.1 and Scrapbook version 7.5.1. These applications allow you to open and interact with
3DMF models.

* A new Scrapbook File with sample 3DMF models.

* A number of 3DMF models provided by Model Masters and Viewpoint Datalabs International.

* Textures provided by Wraptures and Xaos Tools.

You can expect more applications using QuickDraw 3D in the near future, including new versions of application
programs you may already own. Contact your software vendors for more information about their plans to support
this new technology.

QuickDraw 3D performance and image quality
------------------------------------------
For better performance, we recommend that Virtual Memory be turned off.

QuickDraw 3D has been optimized to display three-dimensional graphics of high quality. To display high-quality
images, and obtain the best performance from your system, we recommend that you set your system to display
thousands or millions of colors.

Troubleshooting
---------------
If you try to start an application that uses QuickDraw 3D and get the message "The application '<application
name>' could not be launched because QuickDraw 3D could not be found," make sure that the following files are
in the Extensions Folder, inside the System Folder:

* QuickDraw 3D
* QuickDraw 3D Accelerator
* QuickDraw 3D Viewer

If the files are there and you still get the message, it means that you don't have enough memory to run the
application. You may be able to open the application if you try the following:

* Quit other open applications.
* Reduce the amount of memory allocated to the application. This is done
 by:
 - selecting the application's icon in the Finder
 - choosing "Get Info╔" from the File menu
 - typing a lower number in the boxes for Minimum Size and Preferred Size
* Install more memory (RAM).

If you are using a localized system, and you install this U.S. software, you will need to copy the "Scrapbook
File" in the "QuickDraw 3D Folder" to the System Folder on your Macintosh. Otherwise, when you select the
```

Scrapbook from the Apple menu, you will get an empty scrapbook. Note that this operation will replace any existing Scrapbook File in the System Folder, thus erasing any previously stored contents.

Some of the sample models included with QuickDraw 3D, such as Big Ben and Red Hatchback, are highly detailed (they contain additional 3D modeling data such as vertex normals and surface UVs) and thus will require a larger amount of memory than the other supplied models. If you experience problems when opening these files from SimpleText, you should open only one file at a time.

How QuickDraw 3D uses memory

QuickDraw 3D is a shared library. When no applications that rely on QuickDraw 3D are open, the library does not take up memory space (RAM). Once a QuickDraw 3D-based application is open, the amount of memory taken up by the shared library doesn't increase if other QuickDraw 3D-based applications are launched. Of course, each application will take up memory according to their size and the complexity of the files being used. The memory taken up by QuickDraw 3D becomes available when you quit all QuickDraw 3D-based applications.

While a QuickDraw 3D application is open, the QuickDraw 3D library allocates memory from "temporary memory." This memory shows up in the "About This Macintosh╔" window as memory used by the System. When you quit the application, the memory becomes available, but the size shown in the "About This Macintosh╔" window may not reflect this. The memory previously used by QuickDraw 3D is, nonetheless, available for other applications (it is released to the applications as needed).

If you need to reinstall QuickDraw 3D

If you need to reinstall QuickDraw 3D, follow these steps:

1) Open the "QuickDraw 3D Install" folder and double-click the Installer icon.
2) After installing QuickDraw 3D, restart your computer.
3) If you want the items in the "QuickDraw 3D Extras" folder, drag the folder to the newly-created "QuickDraw 3D Folder" inside the "Apple Extras" folder.

Removing QuickDraw 3D

If you wish to remove QuickDraw 3D, follow these steps:

1) Open the "QuickDraw 3D Install" folder and double-click the Installer icon.
2) Choose Custom Remove from the pop-up menu.
3) Click the box next to each item to put a check in it.
4) Click Remove.
5) Restart your computer.

Published Date: Feb 18, 2012

Mac OS 7.6: About the Control Panels Folder Read Me (1/97)

This article is the About the Control Panels Folder ReadMe file.
This article has been archived and is no longer updated by Apple.
Mac OS 7.6
What's Inside the Control Panels Folder?

About this document

If you're curious about the contents of the Control Panels folder, this document provides a brief description of each control panel. You can use these descriptions to help determine which control panels you may need and which ones you may not need.

What is a control panel?

A control panel is a small piece of software that allows you to change your computer's settings to meet your needs. For example, you can change the pattern or color of your computer's desktop using the Desktop Patterns control panel.

You can use the Extensions Manager control panel to turn off any control panel you don't need on your computer.

Depending on the type of computer you have, the contents of your Control Panels folder may vary. You might also have control panels that were added by third-party applications. For complete instructions on using control panels, see Macintosh Guide, available in the Guide (question mark) menu when the Finder is the active program.

Apple Menu Options: You can turn the submenus available in the Apple menu (for recently used documents, programs and servers) on or off. You can also set the number of items that will appear in the menus.

AppleTalk: You can specify AppleTalk settings (such as connection port and zone) for use with Apple's Open Transport networking.

ATM: Makes your Type 1 fonts look sharp and clear at any point size?both on your screen and on paper. Improves the output of QuickDraw printers, such as the ImageWriter and StyleWriter series.

Auto Power On/Off: You can specify dates and times for your computer to automatically turn on or off, set a warning interval before turning off, and specify that your computer automatically restart after a power failure. Works only on computers that can be turned on from the keyboard (does not work on Macintosh PowerBook 500 models).

AutoRemounter: You can turn off the Losing Network Services message that appears when your PowerBook sleeps. You can also automatically reconnect your computer to any shared disks that were disconnected when your PowerBook went to sleep. Works on all Macintosh PowerBooks except models 100, 140, 145, 145B, and 170.

Button: You can disable the built-in volume and contrast buttons on the front of your computer. Useful in classroom situations with young students. Works on the Macintosh Performa and Macintosh LC 500 series of computers.

Cache Switch: You can turn processor caching on or off. For compatibility reasons, processor caching may need to be turned off for some applications. Works on computers with 68040 processors, such as the Macintosh Quadra, Macintosh Centris, and Performa 400/500 models.

Color: You can set the color of highlighted text and window borders.

CloseView: You can magnify your computer display for easier viewing.

ColorSync System Profile: Part of the ColorSync system that provides consistent color across various types of equipment (printers, scanners, monitors, and so on). In the control panel, you can view and select ColorSync profiles for the types of equipment you use.

Control Strip: You can display or hide the Control Strip, and specify a font for Control Strip menus. With the Control Strip, you can control a variety of settings directly from your desktop, such as sound volume, monitor resolution, file sharing, and so on.

Date & Time: You can set the date, time, and time zone on your computer. You can also set how dates and times are displayed.

Desktop Patterns: You can change the pattern or color of your computer's desktop.

Easy Access: You can press keys used in keyboard combinations one at a time (Sticky Keys), move the pointer using the numeric keypad (Mouse Keys), and set typing speed with audible response (Slow Keys).

Editor Setup: You can specify which OpenDoc parts to use for different kinds of file formats.

Extensions Manager: You can turn your computer's system extensions on or off. Extensions include items in the Extensions folder, control panels, and other startup programs in the System Folder.

File Sharing Monitor: When file sharing is turned on, this control panel displays a list of users who are connected to your computer.

General Controls: You can set various options, including desktop hiding, Launcher visibility at startup, folder protection to prevent folders and files from being deleted, insertion point blinking rate, menu selection blinking, and the default folder that appears in the Save dialog box.

Keyboard: You can set the repeat rate and delay before repeat for your keyboard. Also lets you switch keyboard layouts.

Labels: You can customize the color and text of icon labels.

Launcher: You can open the Launcher window, where you can easily find and open programs. You can add items to the Launcher by placing an alias to your favorite applications, files, or folders in the Launcher Items folder in the System Folder.

Mac OS Open: You can customize the way documents are translated into alternate applications, so you can open a document when you do not have the application that was used to create the document.

Map: You can locate popular cities around the world, and display longitude and latitude coordinates and local time. Lets you set the location of your computer.

Memory: You can control memory settings, including disk cache, virtual memory, and RAM disk configuration. Do not remove this control panel if you use a RAM disk.

Monitors: You can set the number of colors or shades of gray that are displayed. Sets monitor resolution for multiple scan monitors. On some computers, the Monitors control panel is replaced by the Monitors & Sound control panel.

Monitors & Sound: A combined control panel that replaces the separate Sound and Monitors control panels. (It also replaces the Sound & Displays control panel.) You can use this control panel to specify information about monitors attached to your computer (for example, monitor resolution, monitor bit depth, monitor arrangement, and so on). You can also use this control panel to specify information about other audiovisual equipment attached to your computer (for example, audio CD players, VCRs, video cameras, external speakers, and so on.) Works on PowerPC-based computers with PCI slots.

Mouse: You can set the tracking speed and double-click speed for your mouse.

Numbers: You can control how numbers and currencies are displayed on your computer (for example, where decimal points appear).

PC Exchange: Allows your computer to read files from ProDOS and MS-DOS disks. You can specify the Mac OS application program used to open a DOS document. You can also use SyQuest and Bernoulli disks on your desktop.

PC Setup: You can set options for the DOS Compatibility Card. Works on all that support the DOS Compatibility Card.

Power Macintosh Card: Used with 68040-based Mac OS computers that have an expansion card with a PowerPC processor. You can select which processor to use. Works on all computers with a Power Macintosh Upgrade card.

PowerBook: You can set portable-specific items, including hard disk sleep, system sleep, and screen dimming. You can also set processor cycling and (on certain computers) reduced processor speed. Controls backlight intensity and built-in video. Works on all portable computers.

PowerBook Display: You can duplicate the images on your portable computer's display on an external monitor. Useful for controlling a presentation from your portable while displaying the presentation on a large room monitor. Works on Macintosh PowerBook 160, 165c, 180, 180c, 200, and 500 models.

PowerBook Setup: You can set a unique SCSI ID number for your portable computer for use with SCSI disk mode. You can also specify a Normal or Compatible modem setting for your PowerBook. Use Normal for communication applications that are compatible with the Macintosh Communications Toolbox. Use Compatible for communication applications that are not compatible with the Communications Toolbox. Works on all Macintosh PowerBook 200 and 500 models.

QuickTime Settings: You can set options for MIDI instruments, and set a CD to play automatically when inserted.

Screen: You can control brightness and contrast for a built-in monitor. Works on all computers with built-in monitors.

Serial Switch: Provides compatibility for some applications that use the printer or modem port. You can set the serial port option to Faster or More Compatible. Works on Macintosh IIfx and Macintosh Quadra 950 computers.

Sharing Setup: You can set file sharing options and specify a network name for your computer.

Sound: You can set the alert sound and volume and specify a sound input and sound output source for your computer. On PowerPC-based computers with PCI slots, this control panel is replaced by the Monitors & Sound control panel.

Speech: You can set options for hearing text read aloud by the computer. If you have Speakable Items software and a PlainTalk-compatible microphone, you can set options for giving spoken commands to the computer. Works on all Macintosh 660AV and 840AV computers. Also works on all computers with PowerPC microprocessors.

Startup Disk: You can select the disk used to start up your computer.

TCP/IP: You can specify TCP/IP settings for use with Apple's Open Transport networking.

Text: You can select from the text features for the script systems installed on your computer.

Trackpad: You can set how far the pointer moves when you move your finger on the trackpad, and how fast you double-click. Works on all Macintosh PowerBook 500/5000 models.

Users & Groups: You can specify who can access your computer's hard disk when file sharing is turned on.

Views: You can customize how information is displayed in Finder windows.

WindowShade: You can set whether to hide a window by clicking on its title bar.

Published Date: Feb 18, 2012

PowerBook VM Tuner 1.0 Read Me

Name: PowerBook VM Tuner
Version: 1.0
Released: March 12, 1997
Requires: System 7.6
Description: The PowerBook VM Tuner enhances system stability while using virtual memory on the PowerBook 1400 with Mac OS 7.6. Previous or later versions of the system software do not require this extension.

This software is available on the Apple Support Website, Apple Software Updates. It consists of a self-extracting archive. To use, download it to your hard drive and then double-click it to decompress the software.
This article has been archived and is no longer updated by Apple.
From the Read Me included with this software:

Important Information About the PowerBook VM Tuner

The PowerBook VM Tuner enhances system stability while using virtual memory on your PowerBook 1400. During the manufacturing process, the PowerBook VM Tuner file is preloaded into the System Folder on your hard disk, but it is not part of the "Install Mac OS" system software installer. Therefore, if you reinstall the Mac OS 7.6 system software, you may need to manually reinstall the PowerBook VM Tuner file.

This document describes the PowerBook VM Tuner and when you need to reinstall it.

What Is the PowerBook VM Tuner?

The PowerBook VM Tuner is a system extension that enhances system stability on PowerBook 1400 models when running memory intensive applications. It eliminates a problem with moving the cursor during heavy memory use while virtual memory is turned on.

Who Needs to Install the PowerBook VM Tuner?

The PowerBook VM Tuner was preloaded into the System Folder during the manufacturing process, but if you reinstall the Mac OS 7.6 system software, you may need to manually reinstall the PowerBook VM Tuner file. If you do a "normal" system software installation, you do not need to reinstall the PowerBook VM Tuner. If you do a "clean" system software installation, you will need to reinstall the PowerBook VM Tuner.

A normal system software installation replaces changed system files and adds new ones, but leaves alone other files (such as the PowerBook VM Tuner). A clean system software installation creates a new System Folder on your hard disk. The old System Folder is renamed Previous System Folder. Since your computer has a new System Folder, you must reinstall the PowerBook VM Tuner in the new System Folder.

For more information about the differences between a normal and a clean installation of system software, refer to the Mac OS installation instructions in your PowerBook 1400 user's manual.

Installing the PowerBook VM Tuner

To install the PowerBook VM Tuner after performing a clean installation of system software, follow these steps.

1. While holding down the Option key, drag the PowerBook VM Tuner to the icon of the System Folder on your hard disk.
2. Click OK in the dialog box that appears.
3. Restart the computer.

Published Date: Feb 18, 2012

About the Mac OS 7.6 Utilities Read Me (1/97)

This article is the About the Mac OS 7.6 Utilities ReadMe file.
This article has been archived and is no longer updated by Apple.
About the Mac OS 7.6 Utilities

This document contains information about the utilities provided with Mac OS 7.6.

5xxx/6xxx Tester

This program tests Performa and Power Macintosh 5200, 5300, 6200, and 6300 computers for a possible hardware problem. If you have a Performa or Power Macintosh 5200, 5300, 6200, or 6300 series computer, you should use the tester before installing Mac OS 7.6. See the document inside the Tester folder for instructions on using the tester.

IMPORTANT: The Power Macintosh or Performa 6360 does not have this hardware problem. If you have a Power Macintosh or Performa 6360, you do not need to use the tester program.

AppleShare software

If you have AppleShare software version 3.6, 3.6.1, or 3.6.2, you should upgrade to version 3.6.3 before installing Mac OS 7.6 over a network. See the document inside the AppleShare folder for instructions.

Disk First Aid

You use the Disk First Aid program to test and repair your hard disk.

To test a disk, follow these steps:

1) Open the Disk First Aid program.
2) In the screen that appears, click the icon of the disk you want to check.
3) Click Verify to test the disk for problems.

Drive Setup and HD SC Setup

You use the Drive Setup or HD SC Setup programs to update your disk driver or to reintialize a disk. You should update the drivers on your hard disks before installing system software.

The following computers should use the Drive Setup program:
all computers with PowerPC microprocessors
Macintosh LC 580
Macintosh LC 630
Macintosh LC 630 DOS Compatible
Macintosh Quadra 630 series computers
Macintosh Performa 580 series computers
Macintosh Performa 630 and 640 series computers
PowerBook 150 series computers
PowerBook 190 series computers

All other computers should use HD SC Setup.

Note for PowerBook 150 owners: You do not need to update the driver for your internal hard disk. That driver is contained in your computer's ROM. If you try using either utility program to update the driver, nothing will happen.

Note for Quadra owners with a PowerPC Upgrade Card: Drive Setup does not work with your upgrade card. You can use HD SC Setup to update your driver or initialize a disk, but you need to turn off the PowerPC upgrade card before using HD SC Setup.

To update the disk driver with Drive Setup, follow these steps:

1) Open the Drive Setup program.
2) Click the disk whose driver you want to update.
3) Choose Update Driver from the Functions menu.

To update the disk driver with HD SC Setup, follow these steps:

1) Open the HD SC Setup program.
2) Click Drive until the "volume name" is the name of the disk whose driver you want to update.
3) Click Update.

WARNING: Before using Drive Setup or HD SC Setup to update your disk driver, make sure you turn off any disk protection software you may be using.

IMPORTANT: If the Update Driver command is dimmed, or if the disk name never appears when you click Drive, the problem disk is either not supported, or it's previously been updated with a non-Apple utility.

* If the disk isn't supported, check the instructions that came with your computer or disk to see if the manufacturer includes or recommends a disk utility, and use that utility to update the driver. To ensure a successful update, obtain the latest version of the utility.

* If you've updated or formatted the disk with a non-Apple utility, you'll need to use that utility again to perform the update. To ensure a successful update, obtain the latest version of the utility.

Adobe Acrobat Reader

With the Acrobat Reader, you can read and print documents saved in the Acrobat .pdf format. You don't need the the fonts or applications used to create these files; you only need the Acrobat Reader software.

To install the Acrobat Reader, double-click the Installer icon in the Acrobat folder.

Published Date: Feb 18, 2012

Mac OS 7.6: About the System Folder Read Me (1/97)

This article is the About the System Folder ReadMe folder.

This article has been archived and is no longer updated by Apple.

Mac OS 7.6
What's Inside the System Folder?

About this document

If you're curious about the contents of the System Folder, this document provides a brief description of what's inside.

Depending on the type of computer you have, the contents of the System Folder may vary. You might also have items that were added by third-party applications.

Finder: Displays the desktop area, where you work with files and disks, and keeps track of your files.

Apple Menu Items folder: When you place an item (folder, application, or document) in this folder, it appears in the Apple () menu. To create submenus, you can place folders inside of folders.

Clipboard: Temporarily stores the last item you cut or copied from a document.

Control Panels folder: Contains individual control panels. You use control panels to adjust your computer's settings. See the "About the Control Panels" document in the Apple Extras folder for more information.

Control Strip Modules folder: Contains modules used by the Control Strip.

Editors: Contains OpenDoc part editors. Editors provide functionality to OpenDoc parts, but you don't work with editors directly. To use an editor to create a document, double-click the editor's stationery icon. Your stationery icons are probably located in the Stationery folder on your hard disk.

Extensions folder: Contains individual extensions that modify the operation of your computer. Unlike a control panel, an extension works automatically, without your intervention. See the "About the Extensions Folder" document in the Apple Extras folder for more information.

Fonts folder: Contains font suitcases or individual font files. You can place up to 128 suitcase or font files in this folder. PostScript fonts are not included in the 128 file limit. Font suitcases can hold any number of font files, up to a limit of 16 MB.

Launcher Items folder: Contains files, folders, and applications that appear in the Launcher window.

Macsbug: A debugger used by programmers to help diagnose problems with programs, extensions, and so on. Unless you're programming, you don't need Macsbug.

Preferences folder: Contains preferences files created by individual applications. A preference file determines application settings.

PrintMonitor Documents folder: Stores information waiting to be printed.

Scrapbook: Stores items placed in the Scrapbook. (The Scrapbook is available in the Apple menu.)

Shutdown Items folder: Contains applications or scripts that run automatically when you shut down your computer. You can add or remove items from this folder.

Startup Items folder: Contains applications or scripts that run automatically when you start your computer. You can add or remove items from this folder.

System file: Contains some system-wide resources, such as sounds and keyboard layouts.

Published Date: Feb 18, 2012

LaserWriter: Cause and Elimination of Ghost Image

What causes of the ghosting effect on the LaserWriter printers? How can it be reduced or eliminated?
This article has been archived and is no longer updated by Apple.

Overview and Recommendation

The most common type of ghosting problem exhibited by the LaserWriter is developer system ghosting. This form of ghosting is inherent in the design of the cartridge. In an effort to reduce or eliminate the ghosting problem, many alternate toners and cartridge designs were considered, but all of them would have substantially increased the cost of the printers.

The problem can be reduced by either increasing the copy density level (turning the print density dial counterclockwise or software density indicator if the printer is so equipped to a lower value) or by running several pages of the desired document (in many cases, the ghost image is reduced to acceptable levels by the third copy).

Detailed Explanation: the Causes of Ghosting

The xerographic process used in the LaserWriter has two major sources of ghost images:

-
- latent image on the photosensitive drum
- latent image on the developer cylinder

One source of ghosting is a latent image on the photosensitive drum. This results from either the failure of the cleaning system to remove a toner image from the drum, or failure of the drum preconditioning system to remove electrostatic image from the drum. It is also possible to "burn" an image into a drum by exposing a drum, which has a toner image on the surface, to bright light for a long enough period of time.

The second source of ghosting is the image developer system. It manifests itself either as a darker or lighter ghost image in the solid areas of output copy.

The darker ghost is caused by the reduced ability of the toner, left for a period of time on the developer cylinder, to adequately develop the electrostatic image on the photosensitive drum. This reduced development capability results in a lighter image. Once replaced by more active toner from the toner supply bin, the image is noticeably thicker and darker. This effect can be seen when a solid black page is printed after the machine is allow to sit unused for several minutes. In this case, the first two inches or so (one revolution of the developing cylinder) of the image will be lighter than the rest of the page.

This darker form of ghosting occurs when an image is created from the less active toner on the developer cylinder. The toner that was removed from the cylinder to develop the image on the drum, is replaced by the more active toner from the toner bin. Images formed on subsequent revolutions of the developer cylinder will be made of a combination of the more active and less active toners. These subsequent images will be dark where they are made by the active toner (remember that the active toner is in the shape of the earlier image which selectively removed the inactive toner) and lighter, where the less active toner is placed. This is why you see a dark "ghost" image approximately two inches from the original image, in what should be a uniform solid-area image. Of course, as the machine is run, more and more of the less-active toner is replaced by the more-active toner, resulting in decreased ghosting.

The visual effect of "dark" developer ghosting can also be diminished by increasing the print density. Because, once the paper is completely coated with toner, the paper no longer shows through to visually decrease the image density, increasing the print density to cover up the ghosting by making the light areas darker. Although the problem is still there, it is not as visible, and may be acceptable to the user.

The lighter form of developer system ghosting is caused by the lack of sufficient replenishing toner in the toner bin. It usually occurs as the toner supply in the cartridge is depleted. In this case, as above, toner is removed from the developer cylinder in forming a toner image on the drum. But, unlike the case above, there is a lack of toner in the bin to replace the lost toner on the cylinder. This results in a light form of ghost in the solid area parts of the output copy. With this form of ghosting, rocking the cartridge may be enough to redistribute the toner to the developer cylinder.

Because ghosting is affected by several other factors of environment and machine tolerance, you may notice different ghosting levels at various times during the year or from one machine to another.

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Mac OS 7.6: Desktop Patterns Information Read Me (1/97)

This article is the Desktop Patterns Information ReadMe file which comes with Mac OS 7.6.

This article has been archived and is no longer updated by Apple.

About the Desktop Patterns Clipping Folder

What are Desktop Patterns?

Desktop Patterns allow you to change the pattern or color of your computer's desktop. Since you are using System 7.5, you already have Desktop Patterns installed in your Control Panels folder. The files in the Desktop Pattern Clippings folder provide additional patterns. To view any of these patterns, simply double-click its icon.

How can I install these Desktop Pattern clippings into my system?

To install any of the Desktop Pattern clippings, follow these steps:

1) Open the Desktop Pattern Clippings folder.

2) Open the Desktop Patterns control panel (in the Control Panels folder inside the System Folder).

3) Drag the desired Desktop Pattern clipping from the Desktop Pattern Clippings folder onto the pattern currently displayed in the Desktop Patterns control panel, and release the mouse button.

The Desktop Pattern clipping that you dragged now appears in the window of the Desktop Patterns control panel. You can choose it as your desktop pattern by clicking Set Desktop Pattern.

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Installing Mac OS 7.6 Read Me (1/97)

This article is the Installing Mac OS 7.6 ReadMe file.
This article has been archived and is no longer updated by Apple.
Installing Mac OS 7.6

This document describes how to install Mac OS 7.6. It includes compatibility information, instructions for the Install Mac OS application program, and basic installation troubleshooting.

For more detailed information, see the Mac OS 7.6 installation manual.

WARNING: PowerTalk is not compatible with Mac OS 7.6. After you install Mac OS 7.6, you won't be able to access your PowerTalk mail or catalogs, nor will you be able to use your keychain or other PowerTalk services. See the Mac OS 7.6 installation manual for more information.

IMPORTANT: OpenDoc, Cyberdog, and the LaserWriter 8.4 driver use a common piece of software called the CFM 68K Runtime Enabler. Apple has discovered a problem with the CFM 68K Runtime Enabler and is not including it with Mac OS 7.6. You cannot install OpenDoc, Cyberdog, and the LaserWriter 8.4 driver on computers with 68030 and 68040 microprocessors. (These items are included with Mac OS 7.6 for computers with PowerPC microprocessors.)

You may have applications that use the CFM 68K Runtime Enabler. Additional Apple products that use this software include Apple Telecom software, version 3.0 or later, and the Apple Media Tool. These applications will not work on computers with 68030 and 68040 microprocessors and Mac OS 7.6. However, since the problem exists independently of Mac OS 7.6, you should still install Mac OS 7.6 and not use applications or versions of applications that require the CFM 68K Runtime Enabler. Apple is working on a solution to this problem and will release a new version of the 68K Runtime Enabler as soon as possible.

Before you install

* Start up your computer using the Mac OS 7.6 CD-ROM disc or the Mac OS 7.6 Install Me First floppy disk. See your installation manual for instructions.

* Although compatibility problems are not expected, you can ensure a smooth upgrade by checking with the manufacturers of any non-Apple software you use to make sure it is compatible with Mac OS 7.6. If you do experience a problem, see the troubleshooting chapter in your installation manual for more information on isolating compatibility problems.

* If you have a portable computer, make sure that the computer is plugged in.

* You cannot install this software onto a portable computer running in SCSI disk mode. (With SCSI disk mode, you connect your portable computer with a SCSI Disk Adapter cable to another computer and use the portable computer as an external hard disk.)

If you're installing over a network or can't start up with the Mac OS 7.6 disks, be sure to do the following:

* Turn off any installed disk security, virus protection, and screen saver programs before beginning. Also turn off At Ease software, if you have it installed.

* If you are installing on a portable computer, or a desktop computer with energy-saving software installed, set the computer so it will not go to sleep or shut down automatically. For instructions, see the documentation that came with your computer.

* If you have AppleShare Workstation software version 3.6, 3.6.1, or 3.6.2, you need to upgrade to version 3.6.4 before you can install Mac OS 7.6 over a network. This software is provided in the Utilities folder on the Mac OS 7.6 CD-ROM disc. Install this version of AppleShare before proceeding with the Mac OS 7.6 installation.

Compatibility information

* MacTCP users should note network settings before installing Mac OS 7.6
MacTCP is removed when Mac OS 7.6 is installed. (Mac OS 7.6 includes the TCP/IP control panel instead.) If you are currently using MacTCP, you should note your current network settings (IP address, subnet mask, and so on) before installing Mac OS 7.6. After the installation, enter your network settings in the TCP/IP control panel.

* Computers with 68030 or 68040 processor upgrade cards
Computers upgraded to 68030 or 68040 with a processor upgrade card are not supported by Mac OS 7.6.

* Performa or Power Macintosh 5000 and 6000 series computers
Some Performa or Power Macintosh 5200 series, 5300 series, 6200 series and 6300 series models cannot use Mac OS 7.6 until a hardware problem is fixed. The repairs are covered under the Apple repair extension program. To see if your computer has this hardware problem, use the 5xxx/6xxx Tester utility in the Utilities folder on the CD before installing Mac OS 7.6.

IMPORTANT: The Power Macintosh or Performa 6360 does not have this hardware problem. If you have a Power Macintosh or Performa 6360, you do not need to use the tester program.

* Open Transport versions later than 1.1.1
Mac OS 7.6 installs Open Transport version 1.1.1. If you have a later version, you will need to reinstall it after installing Mac OS 7.6.

* Installing QuickDraw GX for use with a non-Apple printer
If you want to use QuickDraw GX with a non-Apple printer, you need to obtain a QuickDraw GX printer driver. You will not be able to use your non-Apple printer without a GX driver. Contact your printer vendor for details.

* Using the QuickDraw GX Installer when Adobe Acrobat is installed
If you use the QuickDraw GX Installer to either install or remove QuickDraw GX and your computer has Adobe Acrobat installed, Acrobat will display a message about missing fonts each time the computer is restarted. Reinstall Acrobat to stop the warning message.

* Installing Apple Remote Access client software when Open Transport PPP is already installed
Apple Remote Access installs older versions of modem scripts. If you install Apple Remote Access after Open Transport PPP, you'll see messages during the installation process. Respond that you want to use the newer versions of the modem scripts.

Using the Install Mac OS program

To ensure a successful upgrade, you should use the Install Mac OS program to install the software. This program unifies the tasks recommended for a successful installation and simplifies the installation process. Be sure to follow all the steps on the Install Mac OS screen.

Update your hard disk drivers

Hard disks with drivers older than those included with System 7.5 might cause problems after installing Mac OS 7.6. Your computer might not start up, or you might not see the disk icons on the desktop. To avoid these and other potential problems, you should update your drivers.

To update your hard disk drivers, click the button for step 2 on the Install Mac OS screen. Read the dialog box that appears. You can't use the disk utilities provided by Apple if:

* You don't have an Apple computer, or you don't have an Apple hard disk. Check the instructions that came with your computer or hard disk to see if the manufacturer includes or recommends a disk utility, and use that utility to perform the update. Make sure to get the latest version of the disk utility (an old utility will install an old driver).
* You've previously used a non-Apple disk utility to format your disk or update the driver. You'll need to use that utility again to perform the update. Make sure to get the latest version of the disk utility (an old utility will install an old driver).
* You have a PowerBook 150 and no external drives attached to the computer. The driver for the PowerBook 150's internal hard disk is in the computer's ROM and doesn't need to be updated.

Otherwise, click Continue.

If you see an Update Driver button: Select a hard disk, then click Update Driver. Repeat this step for each hard disk attached to your computer.

If you don't see an Update Driver button: Click Drive until the "volume name" is a hard disk attached to your computer. Then click Update. Repeat this step for each hard disk attached to your computer.

Select a disk for installation

Click the button for step 3 on the Install Mac OS screen. Use the pop-up menu to choose the disk on which you want to install Mac OS 7.6.

For a typical installation, you need about 70 MB of disk space available on the disk you select. To install a minimal system, you need about 40 MB; to install all the optional software, you need about 120 MB.

Install the software

Click the button for step 4 on the main Install Mac OS screen. You'll see a list of software products.

Basic system software is automatically installed. On computers with PowerPC processors, OpenDoc and OpenDoc Essentials are also automatically installed. You can also choose to install the following software products. (Recommended choices are preselected.)

* QuickDraw 3D, to view and manipulate 3D images on your computer. Only computers with PowerPC microprocessors can use QuickDraw 3D.
* MacLinkPlus translators, to open documents created in applications you don't have with appropriate applications you do have, including DOS and Windows documents. (These translators work with the Mac OS Easy Open control panel.)
* Apple Remote Access client software, to connect to a remote computer (such as your computer at work) using a modem. (The remote computer must have ARA server software installed.)
* Cyberdog, an application to access the Internet. Cyberdog requires the PowerPC microprocessor.
* Open Transport PPP software, to connect to the Internet using a modem.
* English text-to-speech software, to have your computer read text and alert messages.
* QuickDraw GX, for enhanced printing and typographical capabilities.

For more information about these components, see the What's New chapter of your installation manual.

Click Start to install the software you selected.

Note for expert users: To perform a custom installation, click the Customize button in the Software Installations window. For more information, see the chapter on installing in the Mac OS 7.6 manual.

Update to Mac OS 7.6 manual for Custom Installation: The Mac OS 7.6 Custom install has three options for the type of system software you can install:
* Universal system for any supported computer
* System for this computer
* Minimum system for any supported computer
Only one of these items should be selected at a time.

Troubleshooting suggestions
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Some Apple-branded disks manufactured by third parties, including the Apple 365 MB external hard disk, are not supported by the Apple disk utilities. If your disk cannot be updated with the Apple utilities, you'll need to use a third-party disk utility to update the driver.

If you see a message that your disk has problems and cannot be repaired, turn off file sharing if it is on, then try installing again. If that doesn't work, try using another disk-repair utility. If you don't have another utility, or if that utility also doesn't work, you may need to reinitialize the disk. Copy all your files to another disk first, as reinitializing erases the disk. For more information about reinitializing, see the manual that came with your computer.

If you experience problems during installation, be sure to start up with the Mac OS 7.6 CD-ROM disc or the Mac OS 7.6 Install Me First floppy disk. See your Mac OS 7.6 installation manual for instructions.

If you're installing over a network, or if you have a non-Apple CD-ROM drive and can't start up with the CD, turn off all extensions that weren't provided with your system software. Then restart the computer.

* With System 7.5 or later, you can open the Extensions Manager control panel and choose System 7.5.x in the Sets pop-up menu, then restart the computer.

* If you're using an earlier version of system software, drag any non-Apple extensions out of your Extensions folder in the System Folder, then restart the computer. If you need to use non-Apple devices during installation, retain only those extensions. (Examples include video drivers, alternative input devices, network card drivers, and removable media.) If you don't know where a particular extension came from, select its icon, then choose Get Info from the File menu. Apple extensions all have "® Apple Computer, Inc" in the Version section of the Get Info box.

See the troubleshooting chapter in your installation manual for additional suggestions.

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Mac OS 7.6: OT 1.1.1 Technical Info Read Me

This article is the OT 1.1.1 Technical Info Read Me file which is found with the Mac OS 7.6 installer.

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This article has been archived and is no longer updated by Apple.
Open Transport 1.1.1 Technical Information

This document contains technical information about Open Transport that may be useful to network managers and administrators. You do not need to read this document in order to use Open Transport.

Introduction
Open Transport is modern networking and communications system software for the Mac OS. It is based on industry standards and brings a new level of networking connectivity, control, and compatibility to Mac OS computers, while preserving built-in support for easy-to-use networking. Open Transport 1.1.1 is compatible with system software version 7.5.3, 7.5.5 and later, as well as versions 7.1, 7.1.1, and 7.1.2.

For more important information about system requirements, compatibility, and known incompatibilities and limitations, read the About Open Transport 1.1.1 document.

Files Added by the Open Transport Installer
Open Transport installs the AppleTalk and TCP/IP control panels into the Control Panels folder inside the System Folder of your startup disk. The Open Transport Installer also adds the following files to the Extensions folder inside the System Folder:

- Shared Library Manager
- Shared Library Manager PPC

These extensions implement a shared library mechanism on 68K and PowerPC Mac OS computers, respectively. Both extensions are required on PowerPC-based computers in order to support both emulated and native shared libraries.

- OpenTransportLib
- Open Transport Library

These shared libraries implement core Open Transport services on PowerPC-based computers. The first library contains the PowerPC implementation and an interface for native PPC applications. The second library contains the built-in Open Transport modules and an interface for emulated 68K applications.

- OpenTptAppleTalkLib
- Open Tpt AppleTalk Library

These shared libraries implement Open Transport AppleTalk services on PowerPC-based computers. The first library contains the PowerPC implementation and an interface for native PPC applications. The second library contains the built-in Open Transport modules and an interface for emulated 68K applications.

- OpenTptInternetLib
- Open Tpt Internet Library

These shared libraries implement Open Transport TCP/IP services on PowerPC-based computers. The first library contains the PowerPC implementation and an interface for native PPC applications. The second library contains the built-in Open Transport modules and an interface for emulated 68K applications.

- Open Transport 68K Library

This shared library implements core Open Transport services on 68030- and 68040-based computers.

- Open Tpt ATalk 68K Library

This shared library implements Open Transport AppleTalk services on 68030- and 68040-based computers.

- Open Tpt Inet 68K Library

This shared library implements Open Transport TCP/IP services on 68030- and 68040-based computers.

Open Transport AppleTalk Features

Static and dynamic AppleTalk address allocation
Open Transport AppleTalk supports static assigned (manually administered) protocol addresses as well as the dynamic addressing provided by AppleTalk Address Resolution Protocol (AARP). Static addressing allows AppleTalk nodes to be managed using the protocol address as a unique and stable identifier.

It is important that all nodes on each individual AppleTalk subnet (a given cable segment assigned a unique network number or network number range) be administered consistently?either all with dynamic addressing or all with pre-assigned static addresses. This avoids a potential conflict when a new dynamic node acquires an address assigned to manually-addressed node that is not connected or is off line. Administrators can enforce the addressing policy for a subnet by locking the addressing mode. As a precaution, Open Transport AppleTalk checks for duplicate protocol addresses on the LAN even when static addressing is configured.

Use of parameter RAM
Under classic AppleTalk, AppleTalk's on/off state, the selected network interface, the previous network (protocol) address, and the previous AppleTalk zone name are saved in persistent memory (parameter RAM) for reuse at startup. To ensure backward compatibility, this information is still stored and retrieved on systems using Open Transport AppleTalk. However, the following differences are found with Open Transport:

- At startup, Open Transport reads the current AppleTalk configuration file to determine if AppleTalk should be turned on or off. This value overrides the value saved in parameter RAM. The user is not explicitly notified when this occurs.
- If the network interface specified in the current AppleTalk configuration file is locked and the specified port is not available or cannot be initialized, Open Transport will not automatically switch the port back to LocalTalk. Instead, AppleTalk will remain off. The user sees a dialog box with this information.

Open Transport TCP/IP Features
Open Transport brings a workstation-class implementation of TCP/IP protocols to Mac OS. As with MacTCP, Open Transport TCP/IP is a full 32-bit stack. Open Transport TCP/IP adds support for:

- dynamic path MTU discovery, for more efficient network use in heterogeneous network topologies
- Dynamic Host Configuration Protocol (DHCP), for centralized IP address configuration management. DHCP is an Internet Engineering Task Force (IETF) standards-track protocol.
- IP multicast, for participation as an MBone client for applications written to the native Open Transport API
- simultaneous TCP connections for applications written to the native Open Transport API are limited only by installed memory and processor power, for increased functionality as an Internet or other TCP/IP network server
- a new, more robust and standards-compliant domain name resolver (a caching stub DNR)
- support for developer access to raw IP services, as well as TCP and UDP
- Ethernet Version 2.0 and IEEE 802.3 framing, for better interoperability with a wider range of TCP/IP hosts
- implicit and explicit domain name search paths, for increased control of domain name resolution
- use of multiple IP routers with fail-over, for increased robustness in mission-critical applications
- TCP wildcard source port assignments start at 2048, increasing from that point.

DHCP server support
Apple's implementation conforms to the current versions of the applicable specification documents (RFCs). To date, Open Transport TCP/IP has been tested with the following DHCP server implementations:

- Competitive Automation (URL: http://www.join.com)
- FTP Software (URL: http://www.ftp.com)
- Hewlett Packard HP-UX (URL: http://www.hp.com)

- Microsoft Windows NT Advanced Server (URL: http://www.microsoft.com)
- Silicon Graphics (URL: http://www.sgi.com)
- Sun Solaris and SunOS (URL: http://www.sun.com)
- TGV (URL: http://www.tgv.com)

DHCP address lease support
Open Transport TCP/IP supports DHCP address leases. Open Transport TCP/IP automatically attempts to renew any address lease that reaches its renewal interval (by default, the renewal interval is reached when the lease is halfway completed). The renewal interval may be configured to a different value by making changes to the configuring DHCP server. Renewal is attempted regardless of how many times the lease has already been renewed. Lease rebinding is also supported. Should an interface's IP address lease expire, the interface is closed down. Open Transport TCP/IP does not currently support the DHCP Client ID option or the DHCPINFORM message, nor will it currently try to use the remainder of a previous but unexpired lease upon rebooting.

Windows NT advanced server support
With Open Transport 1.1 and later, Mac OS clients are interoperable with the Windows NTAS DHCP server on LAN links. However, Mac OS clients cannot acquire configuration information from an NT DHCP server across a dialup (PPP) link because there is not yet an accepted industry standard for DHCP over dialup. The NT implementation is based on proprietary Microsoft extensions. Mac OS clients cannot acquire configuration information nor register with a Microsoft WINS server. WINS is also dependent on Microsoft extensions to TCP/IP (requiring NetBIOS support).

The Internet Engineering Task Force (IETF) is developing a cross-platform industry standard technology for dynamic registration and look-up of IP names through the Dynamic Service Location working group. Apple has no current plans to implement the WINS extensions. Instead, we are fully committed to implementation of the applicable IETF standards as they emerge

Macintosh clients running versions of Open Transport prior to 1.1 could experience some interoperability problems due to other significant differences between the Microsoft implementation and that of a typical UNIX-based server.

BootP support
Open Transport 1.1 and later fully supports Bootstrap Protocol (BootP). Versions of Open Transport prior to 1.1 failed to accept a BootP Reply sent to the unicast (subnet broadcast) address, (for example, xxx.xxx.xxx.255. Replies sent to the all-nets broadcast address (for example, 255.255.255.255) were handled properly. Also, earlier versions of Open Transport required that the BootP gateway be zero hops away.

Local Hosts file support
Open Transport TCP/IP supports a Hosts file that may be used to supplement and/or customize the Domain Name Resolver's initial cache of information. The Hosts file is normally stored in the Preferences folder in the active System Folder. When Open Transport TCP/IP is initialized, it reads the Hosts file (if any). As in MacTCP, the supported Hosts file features follow a subset of the Domain Name System Master File Format (RFC 1035).

Open Transport TCP/IP is more stringent regarding the content and format of the Hosts file than was MacTCP, which permitted violation of the FQDN requirement for <domain-name>. For instance, the format:

charlie	A	128.1.1.1

which was acceptable to the MacTCP DNR, is no longer permitted because of the use of domain search lists in Open Transport/TCP ("charlie" could potentially exist in any or all of the configured domains). To accomplish the same effect, use this format instead:

charlie	CNAME	myhost.mydomain.edu
myhost.mydomain.edu	A	128.1.1.1

This associates the local alias charlie with the fully qualified domain name myhost.mydomain.edu, and resolves it to the address 128.1.1.1. Use of local aliases is limited to CNAME entries; NS and A entries must use fully qualified domain names.

You can create a Hosts file with any text editor or word processor (the Hosts file must be stored in text format). If you use a Hosts file, keep it as short as possible, and include only entries that will be accessed frequently. This reduces the memory required to cache the DNS information and minimizes the need to maintain and update Hosts files as system information changes.

Open Transport TCP/IP automatically uses a Hosts file stored the Preferences folder of the active System Folder. If no Hosts file is found in the Preferences folder, Open Transport TCP/IP searches the active System Folder for a Hosts file. You can specify a particular Hosts file to use with a specific configuration. For example, one Hosts file might be set up for a user connecting via Ethernet, and another set up for when that user connects via modem.

For additional information about the Hosts file design of the Open Transport Domain Name Resolver, see the document "Apple Open Transport Reference Q&A." The latest version of the Q&A is available on the Internet at ftp://seeding.apple.com/ess/public/opentransport/.

MacTCP "server" addressing support
Open Transport TCP/IP supports both Bootstrap Protocol (BootP) and Reverse Address Resolution Protocol (RARP) configuration methods. MacTCP Server mode addressing was a combination of BootP and RARP. When Server mode was selected, MacTCP used BootP to attempt to acquire an IP address. If that failed, MacTCP tried RARP. Whichever protocol was successful was stored as a preference, and was used first the next time the computer started up. In Open Transport, you must choose BootP or RARP explicitly.

MacTCP "dynamic" addressing
Open Transport does not support MacTCP "dynamic" addressing. MacTCP dynamic mode addressing was based on an Apple-proprietary extension to TCP/IP protocols. It applied the address negotiation and assignment rules used by the AppleTalk protocols to TCP/IP networks, making it very easy to set up a Macintosh-only standalone TCP/IP network. Use of this dynamic addressing method in other scenarios, however, could create additional work for a network administrator.

The Internet community (IETF) has since developed a multivendor standard for the dynamic assignment of IP addresses, known as Dynamic Host Configuration Protocol (DHCP). Open Transport TCP/IP supports the industry standard DHCP.

MacIP support
MacIP is a protocol specification developed for carrying TCP/IP traffic on AppleTalk-only networks, originally LocalTalk networks. MacIP is today frequently used with AppleTalk Remote Access Protocol (ARAP) to provide mobile users access to TCP/IP network services.

Use of MacIP typically requires a gateway, which strips off the AppleTalk encapsulation and places the IP packet on the TCP/IP LAN. When packets are sent back to the MacIP end-node, the gateway replaces the AppleTalk encapsulation. MacIP gateway support is most frequently offered as an integrated service within a multiprotocol router. The gateway (router) attaches to both an AppleTalk and a TCP/IP network.

Open Transport supports MacIP in the TCP/IP control panel. Once selected, TCP/IP data is encapsulated in AppleTalk packets, and is sent through the selected network interface.

PPP connectivity
PPP (Point to Point Protocol) connectivity for Open Transport is currently based on the use of third-party software extensions known as "MDEVs." Early versions of these extensions may not be compatible with Open Transport. For information about MDEV compatibility, see the Open Transport 1.1 Read Me document.

Memory Requirements
Open Transport provides many new features and capabilities to Mac OS customers and, in general, will require more system memory (RAM) than does classic networking. However, the actual memory requirements of Open Transport vary depending upon the networking services in use at a given time. This is different from classic networking, which allocates memory to networking services and keeps it allocated even after networking services are no longer in use.

Factors contributing to differences in memory requirements include:

- Open Transport provides implementations of networking as both 680x0 and native PowerPC code. PowerPC code is typically larger (but also faster).
- Open Transport provides "mixed-mode" applications support, making it possible for both PowerPC native and 680x0 applications to use native networking on PowerPC-based computers.
- Open Transport includes both the new implementations of networking and the libraries required to provide backward compatibility support for the older AppleTalk and MacTCP programming interfaces.
- Open Transport requires less memory on systems with virtual memory enabled. Classic networking has about the same memory requirements regardless of the VM setting.
- Open Transport is based on the cross-platform standard STREAMs environment, which requires more memory than classic networking.

The difference in memory requirements depend upon the configuration of your computer. Some examples of base memory requirements include:

Computer System	Virtual Memory	Classic AppleTalk & MacTCP	Open Transport
PowerPC-based	On	350K to 450K	200KB
PowerPC-based	Off	350K to 450K	up to 1.2MB
608x0-based	Off	350K to 450K	700KB to 800KB

Application Compatibility Guidelines
Apple has defined three levels of interoperability with Open Transport. The first, "Open Transport Compatible," is used to describe network applications originally developed for "classic" AppleTalk or MacTCP programming interfaces that now take advantage of Open Transport Compatibility Services. These applications automatically gain the benefits associated with the Open Transport control panels. However, they will not realize a significant performance increase on Power Macintosh systems, nor can they take advantage of Open Transport's transport-independence capabilities.

"Open Transport Ready" applications have adopted the new Open Transport APIs. They are PowerPC native, in addition to running on 680x0-based Macintosh systems. Open Transport-ready applications benefit from the new control panels and may also realize a significant performance boost when running on PowerPC-based computers.

The highest category of interoperability is "Open Transport Enhanced." In addition to adopting the new Open Transport APIs and being Power PC native, these applications can be dynamically configured to support AppleTalk, TCP/IP, or serial communication.

Applications that rely on undocumented APIs or examine private data structures in AppleTalk or MacTCP may not be fully compatible with Open Transport. Updated versions of these software products will be required for full compatibility.

Performance
Open Transport is designed to take advantage of the PowerPC processor. For maximum performance, however, networking applications must also take advantage of the PowerPC processor, and should adopt the new Open Transport programming interfaces.

In general, current Mac OS networking applications are written for the 680x0 processor and use the "classic" (680x0-based) networking programming interfaces. These applications can still be used with Open Transport, and may perform somewhat better. Networking applications that are PowerPC-native but not Open Transport-ready may yield better performance, but still fall short of the maximum potential performance because they make use of Open Transport backward compatibility rather than its full capabilities.

Performance improvements will be greater with protocols that use larger datagram sizes. For example, TCP/IP users will see greater improvements than AppleTalk users, because AppleTalk has a fixed and limited datagram size. On high-speed datalinks such as fast Ethernet, FDDI, and ATM, the performance of the network interface card (NIC) driver code is also a significant factor.

Overall performance also depends on the amount of RAM available. Larger packet sizes and higher throughput place increased demand on the buffering system of Open Transport. If Open Transport becomes low on memory, throughput decreases to accommodate the limitation.
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LaserWriter 16/600 PS: Stairstep Pattern w/ Solaris (1/97)

I have setup the printer queue for my LaserWriter 16/600 PS on my workstation running Solaris 2.5.1. The output is staggered down the page, looking like a stairstep. How can I correct this?

This article has been archived and is no longer updated by Apple.

You will need to make some modifications to the way the printer queue is setup on the LaserWriter 16/600 PS printer.

Step 1

Recreate the print queue, but use the print server as:
<hostname>!text

Example: printer name lw16, use lw16!text as the print queue

Step 2

Set the printer in the autoselect mode

Text is delivered to the remote queue "text" on remote server "lw16." The text's line feed problem solved because the remote queue "text" handles carriage returns properly. PostScript ignores white space, so any files sent to this queue will be functionally unaffected when PostScript RIPs.

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Mac OS 7.6: Multiprocessing Software Q & A

This article provides answers to common questions about the multiprocessing software which comes with Mac OS 7.6.
This article has been archived and is no longer updated by Apple.
Question: Is the MP Software needed on Mac OS computers with only one processor?

Answer: It is not required for the computer to function. However, applications which use some multi-processing API (application programming interface) calls may crash if the MP Software folder is removed, whether or not the computer has more than one processor. The MP kernel allocates tasks to available processors. So on single-processor systems all tasks go to the one and only processor. On multi-processor systems tasks can be sent to any slave processor.

Question: Why does the "About multiprocessing software" document say that the software is only installed on computers with more than one processor?

Answer: The document is in error. The software will install on all PowerPC-based Mac OS computers.

Question: What are the repercussions of removing the software on a single-processor machine?

Answer: In the future, more and more applications will become multi-processor aware and therefore will start to use Apple's MP API's. If the MP libraries are not present, a multi-processor aware application may crash or fail to launch.

Question: I get the message "The MP library could not be completely initialized due to insufficient memory" when my computer is starting up with System 7.6. Why?

Answer: You have the MetroNub debugger extension installed from Metroworks Code Warrior. The Code Warrior documentation advises - "The MetroNub debugger extension must have the size specified in its 'sysz' resource increased to 2,580,000 bytes. Use ResEdit or Resourcer to do this."
Published Date: Feb 18, 2012

Mac OS 7.6: Processor Upgrade Card Compatibility

Which processor upgrade cards work with Mac OS 7.6?
This article has been archived and is no longer updated by Apple.
Mac OS 7.6 is not recommended for a 68030-based computer with a 68040 upgrade card installed. If Mac OS 7.6 is installed on a computer with this configuration, it will exhibit problems starting up.

The performance improvements implemented in System 7.5 update 2.0 (7.5.3) specifically for 68030-based computers, can cause cache flushing problems on the 68040 upgrade card when Mac OS 7.6 is installed. There is no workaround to user Mac OS 7.6 with these upgrade cards installed. System 7.5.x users can startup in 24 bit mode with Virtual Memory turned off, turn off the cache of their 68040 cards, and still see benefit from their upgrade card.

Although Apple has not done extensive testing, cards which only increased the speed of an existing processor should work. For example, a 33 MHz 68040 upgrade card in a 25 MHz 68040 computer, or a 33 MHz or 40 MHz 68030 upgrade card in Macintosh IIci class computers. These cards should work correctly with Mac OS 7.6.

Power Macintosh Upgrade Card users cannot use LaserWriter driver 8.4 in 68040 mode. LaserWriter driver version 8.4, installed on PowerPC computers, will not work on computers with 68040 microprocessors. If you have a Power Macintosh Upgrade Card and switch between PowerPC and 68040 modes, you will not be able to print in 68040 mode unless you install LaserWriter driver version 8.3.4 instead of version 8.4. You can install this LaserWriter version by installing a universal system on your computer. (The universal system is a custom installation option.)

This article was published in the 24 January 1997 "Information Alley."
Published Date: Feb 18, 2012

Mayo Clinic Family Health CD-ROM Disc Issue (1/97)

I have a Performa 6360/6400 computer and I received the Mayo Clinic Family Health CD-ROM disc with the computer. Here are two things I noticed when using this Compact Disc.

* After I install the Family Health application and launch it without the Compact Disc in the CD-ROM drive, I get the following message, "Please insert the Health Disk 2.0 CD in drive F: before running the program."

* When using the Family Health application, after doing the following steps, I get a Type 11 error or a system freeze:

1) Install Mayo Clinic Family Health Application from the CD.
2) Run the program
3) Click on the splash screen movie to continue and click OK on the disclaimer
4) Click General
5) Click Staying Well
6) Click Controlling Stress
7) Click Keeping your Stress Under Control
8) A type 11 error or system freeze occurs

Does Apple and IVI Publishing know about this, and are there any known fixes or workarounds for this?

This article has been archived and is no longer updated by Apple.

Yes, this is a known issue. Apple has reported these Mayo Clinic Family Health CD v2.0 issues to IVI Publishing this titles developer. This title currently ships with the Macintosh Performa 6360 and 6400 computers.

To avoid the "Please insert the Health Disk 2.0 CD in drive F: before running the program." message, make sure you have the compact disc in the CD-ROM drive before launching the Family Health application.

For the latest information regarding these issues, contact IVI Publishing at:

IVI Publishing
Phone: (612) 996-6300
Internet: http://www.ivi.com

Published Date: Feb 18, 2012

Modem Setup Packages for Newton 2.0: Read Me

This article is the Modem Setup Packages for Newton 2.0 Read Me file.
This article has been archived and is no longer updated by Apple.
What are Modem Setup Packages?

Modem setup packages enable a MessagePad to configure and operate non-Apple modems. It contains definitions of modem capabilities and sets of command/initialization strings. Each modem or class of modems has its own modem setup package. Once installed on a MessagePad 120 or 130 with Newton 2.0 OS, the package appears in the modem portion of Prefs in Extras.

Installing Modem Setups

Install one or more modem setups using Newton Backup Utility, Newton Connection Kit, or Newton Package Installer.

Using Modem Setups

To select a modem setup, follow these steps:
1) Tap Extras to open the Extras Drawer, then tap Prefs (if you don't see Prefs, choose All Icons from the popup at the top of the Extras screen)
2) Tap Modem.
3) Tap Connect using a list of modem setups installed on your MessagePad appears.
4) Tap your choice in the list.

To remove a modem setup, follow these steps:
1) Tap Extras to open the Extras Drawer, then tap Prefs (if you don't see Prefs, choose All Icons from the popup at the top of the Extras screen)
2) Tap Modem.
3) Tap Remove Setup. A list of modem setups installed on your MessagePad appears.
4) Tap the modem setup you want to remove from the list. A message appears telling you the selected modem setup was removed.

Modem Compatibility Disclaimer

While a sample of each modem was tested by Apple, modem manufacturer specifications are subject to change without notice, resulting in potential incompatibilities. Accordingly, Apple Computer, Inc. cannot guarantee the operability of any individual modem and will not be liable for damages resulting from the use of this information. Please contact the modem manufacturer for additional information.

Troubleshooting

If you receive error messages when using a modem for the first time, either the Newton cannot see the modem or the commands it is sending are not recognized. Open the modem portion of Prefs in Extras and verify that the appropriate port (Serial Port vs. PC Card) and modem setup is selected. If the problem persists, try using each of the other available modem setups (modems often have similar setup strings and capabilities). If none of the other modem setup work, contact the modem manufacturer or check www.newton.info.apple.com to see if other modem setups are available.
Published Date: Feb 18, 2012

PowerBook 2300: Cannot Startup From Partitioned Drive

I have a PowerBook 2300c (Duo) series computer. The hard drive is split into multiple partitions with bootable System Folders. After updating the hard disk drive with Drive Setup 1.2.2, I can no longer select a different partition as the startup volume in the Startup Disk control panel. What's wrong?
This article has been archived and is no longer updated by Apple.

Issue

When the ATA hard disk driver is installed by Drive Setup 1.2, 1.2.1, and 1.2.2 you can no longer change from which partition you want your 2300c to start up. One of two things may happen:

1) The computer beeps when a partition icon is clicked in the Startup Disk window. Startup Disk control panel does not accept any attempts to change the setting that determines which partition is to be the startup partition.

2) In other instances, you do not hear a beep when a partition icon is clicked in the Startup Disk window. The Startup Disk control panel does accept your attempts to change the startup disk setting, but the setting is not saved.

Because the startup disk/partition selection cannot be changed, even if there are usable System Folders on multiple partitions, you cannot start up from the other partitions without disabling the System Folder on the selected partition. If you partition a PowerBook 2300c hard drive with Drive Setup 1.2.x, or you update a previously partitioned PowerBook 2300c hard drive with Drive Setup 1.2.x, you will have this problem.

FIX

This problem is fixed in Mac OS 8.0, rev the startup disk control panel with the the new version in Mac OS 8.0.

Note: Drive Setup 1.2.2 allows you to update a volume even when Password Security installed and activated. It also fixes an issue which caused the drive to sometimes spin up and then down again before going to sleep or shutting down. If you use Drive Setup 1.0.5 instead of 1.2.2, you will lose these enhancements.
Published Date: Feb 18, 2012

Macintosh Programming Seminars: How To Enroll

This article has been archived and is no longer updated by Apple.

Macintosh Programming Seminars are for people who want to develop Macintosh applications but aren't sure where to begin. The only prerequisites are familiarity with the Macintosh and one or more Macintosh applications.

Classes

- Introduction to Macintosh Programming
- Developing a Macintosh Program
- Using MPW
- MacApp and Object-Oriented Programming

Locations

At this writing, classes are available in
- Cupertino, Pleasanton, Newport Beach, and San Francisco, California
- Chicago
- Boston
- Dallas

Registration

Call (408) 974-2726

Published Date: Feb 18, 2012

PowerBook 1400 HD Updater Read Me File

Name: PB 1400 PMU Updater
Version: 1.0.1
Released: February 7, 1997
Description: The PowerBook 1400 PMU Updater is a system extension that remedies a potential problem with the contrast and brightness controls on some PowerBook 1400's. Please refer to the Read Me file included with with this software for complete details.

This software is available from the Apple Support Website, Apple Software Updates. It consists of a self-extracting archive. To use, download, double-click the downloaded file (this decompresses it).
This article has been archived and is no longer updated by Apple.
From the Read Me included with this software:

Important Information About the PowerBook 1400 PMU Updater

This document describes the PowerBook 1400 PMU Updater. You may want to print this document for reference.

IMPORTANT The PowerBook 1400 PMU Updater is preloaded on your hard disk in the manufacturing process. If you reinstall the system software, you must install this extension separately if you are using System 7.5.3 or System 7.6. Be sure to save this disk (or a copy of the PowerBook 1400 PMU Updater) for this purpose.

What Is the PowerBook 1400 PMU Updater?

The PowerBook 1400 PMU Updater is a system extension that remedies two situations which potentially can occur in some Macintosh PowerBook 1400 computers. The conditions are: * the contrast controls on the computer operate incorrectly, so that pressing the upward-pointing end of the control reduces contrast and pressing the downward-pointing end of the control increases contrast. * the brightness controls on the computer operate incorrectly, so that pressing the upward-pointing end of the control reduces brightness and pressing the downward-pointing end of the control increases brightness.

Who Needs to Use the Updater?

The PowerBook 1400 PMU Updater corrects the conditions noted above but does not change other parts of the system software or hardware. If you reinstall the system software (System 7.5.3 or System 7.6), be sure to install the Updater on your computer after the system installation, even if you have not experienced these problems.

To install the Updater, follow these steps.

1. Drag the Updater to the icon of the System Folder on your hard disk and click OK in the dialog box that appears.
2. Restart the computer.

When the computer starts up, the Updater automatically updates the parts of the system that potentially could cause the situations noted above.

Published Date: Feb 18, 2012

PowerBook 1400: Mac OS 7.6 Why Separate Monitors & Sound? (1/97)

Why do I have three control panels for controlling the display and sound on my PowerBook 1400 computer after installing Mac OS 7.6?

This article has been archived and is no longer updated by Apple.

Issue

The Mac OS 7.6 installer incorrectly installs two additional control panels, 'Monitors' and 'Sound' on PowerBook 1400 series computers if you choose the Easy Install option, and are installing over an existing System Folder. You only need the one control panel, 'Monitors and Sound'. You can throw the other two away. All of these control panels work, but only the one which controls both the Monitors and Sound is needed.

If you are creating a new System folder (clean install) and you choose the Easy Install option, the Mac OS 7.6 installer incorrectly installs two separate control panels: 'Sound' and 'Monitors.', NOT the one 'Monitors and Sound'.

Resolution

To get the correct Monitors and Sound control panel, you must perform a Custom Installation in which you specifically select the desired control panel.

This article was published in the Information Alley on 10 February 1997.

Article Change History:
10 Feb 1997 - Added keyword.
Published Date: Feb 18, 2012

PowerBook 1400: Minimum & Full Set Same Number Of Disks? (2/97)

I have a PowerBook 1400 series computer. I ran Floppy Disk Maker to create backup floppy disks of the System Software. Why do Minimum Set and the Full Set use the same number of disks? Shouldn't the Minimum Set have fewer disks?

This article has been archived and is no longer updated by Apple.

Apple's Floppy Disk Maker utility was designed for all Macintosh computers, not just the Powerbook 1400 series computers.

* Floppy Disk Maker's Minimum Set only makes images of the contents of the System Software Images folder in the Disk Images folder.

* Floppy Disk Maker's Full Set makes disks for every folder in the Disk Images folder. On other Macintosh computers this may include additional support files in other folders.

Since the only disk images in the PowerBook 1400 series computers' Floppy Disk Maker folder are the System disk images, both the Minimum and Full sets are the same.

This article was published in the Information Alley on 13 February 1997.

Article Change History:
13 Feb 1997 - Added keyword.
Published Date: Feb 18, 2012

Power Macintosh 7600/200 Series: Description (2/97)

This article contains a description of the Power Macintosh 7600/200 series computer.

Note: This product is available in Japan ONLY.

This article has been archived and is no longer updated by Apple.

If you need a computer that offers increased performance and expandability for your business, the Power Macintosh 7600/200 is an ideal choice. With a 200-megahertz PowerPC 604e RISC processor on a removable card that can be easily swapped out for a card containing an even more powerful processor (as available),the Power Macintosh 7600/200 gives you all the advantages of PowerPC technology now-with plenty of room to grow later. Built-in video-input capability, high-resolution graphics, 12x-speed CD-ROM drive, and CD-quality stereo sound add new excitement to everyday business projects. And because the Power Macintosh 7600/200 optimizes the transfer of video data, it's an ideal system for videoconferencing.

The three industry-standard Peripheral Component Interconnect (PCI) high-performance expansion slots on the Power Macintosh 7600/200 let you customize this computer easily to meet your needs more precisely. You can find PCI cards for a variety of uses, including graphics, storage, and high-speed networking. And if you want to use your Power Macintosh 7600/200 to run MS-DOS and Windows applications as well as software written for the Macintosh, you can install a PC Compatibility Card from Apple in one of the system's PCI slots--and switch instantly between computing environments. In addition, connecting your Power Macintosh 7600/200 computer to an Ethernet network is easy, because it includes both AAUI and 10BASE-T connectors.

Today, more and more computer users are discovering the wealth of information and communications resources and opportunities offered by the Internet. The Power Macintosh 7600/200 makes it easy to get involved in this rapidly expanding community, because it comes with all of the software you need for easy Internet access-including the Apple Internet Connection Kit and America Online.

Whether you are selecting a computer for a large corporation or a single-person home office, the Power Macintosh 7600/200 system offers PowerPC performance, upgradability, and advanced multimedia features to give you the versatility you need for professional computing.

Features
==========

High performance
---
* 200-MHz PowerPC 604e processor
* Built-in floating-point processor and 64K cache
* 256K level 2 cache

Communications and multimedia
---
* 24-bit composite and S-video input
* 64-bit VRAM graphics subsystem
* Two high-speed serial ports compatible with GeoPort and LocalTalk cables
* 12x-speed CD-ROM drive
* 16-bit stereo audio input and output

Expandability
---
* Removable processor card allows easy upgrades
* Three industry-standard PCI expansion slots
* SCSI connector for hard disks, CD-ROM drives, and other SCSI devices
* Internal expansion bay for additional 3.5-inch hard disk drive

Compatibility
---
* Includes 10BASE-T and AAUI Ethernet connectors
* Supports Open Transport networking software (TCP/IP and AppleTalk)
* Runs 680x0 Macintosh applications as well as applications accelerated for Power Macintosh computers
* Reads Mac OS, Windows, MS-DOS, OS/2, and ProDOS floppy disk formats
* Runs MS-DOS and Windows applications via optional PC Compatibility Cards
* Comes with all of the software required for Internet access

System 7.5.5 software

---
* Makes working with different applications consistent, so they're easier to learn and use
* Allows easy customization of your Macintosh to reflect the way you work
* Provides active assistance in learning new features with Apple Guide
* Includes MacLinkPlus file translation software from DataViz

Ordering Information

* Power Macintosh 7600/200
Order No. M4947LL/A

Power Macintosh 7600/200 computer with 32 MB of RAM, a built-in 1.4 MB Apple SuperDrive floppy disk drive, an internal 1.2 GB hard disk drive, and internal 12x-speed CD-ROM drive, and a PlainTalk microphone. Includes keyboard and mouse; system software version 7.5.5 or later; Internet access software; complete setup, learning, and reference documentation; and limited warranty.

Optional Enhancements

* PC Compatibility Card Solutions
- PC Compatibility Card with Pentium 100-MHz processor
Order No. M4092LL/A
- PC Compatibility Card with 100-MHz 586 processor
Order No. M4091LL/A

* GeoPort Telecom Adapter Kit
Order No. M5438LL/A

* Apple QuickDraw 3D Accelerator Card
Order No. M4333LL/A

Product specifications are subject to change. Check with your Apple reseller for the most current information about product specifications and configurations.

Article Change History:
13 Feb 1997 - Changed distribution status.
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Power Macintosh 7600/200 Series: Technical Specifications (2/97)

This article contains the technical specifications for the Power Macintosh 7600/200 series computer.

Note: This product is available in Japan ONLY.

This article has been archived and is no longer updated by Apple.

Processor
---
* 200-MHz PowerPC 604e microprocessor
* Integrated floating-point unit and 64K cache
* Processor is mounted on a removable card for easy upgrades

Memory
---
* 32 MB of RAM, expandable to 512 MB via 8 DIMM sockets
* 4 MB of ROM
* 256K level 2 cache

Disk drives
---
* Internal 2 GB Fast SCSI hard disk
* Internal Apple SuperDrive floppy disk drive
* Accepts high-density 1.4MB disks and 800K disks
* Reads, writes, and formats Macintosh, Windows, MS-DOS, OS/2, and ProDOS disks
* Internal 12x-speed CD-ROM drive
* Expansion bay for additional 3.5-inch hard disk

Interfaces
---
* Composite connectors (RCA phono jacks) for composite video input
* S-video input connector
* Internal digital audio/video (DAV) connector for video compression/decompression card
* Three PCI expansion slots compatible with PCI 2.0-compliant cards
* Two high-speed DMA serial (RS-232/RS-422) ports compatible with LocalTalk and GeoPort cables
* 10BASE-T and AAUI-15 Ethernet connectors; optional PC Compatibility Cards provide multinode support for simultaneous network connections
* Internal Fast SCSI bus (up to 10 MB/s)
* External SCSI bus (up to 5 MB/s)
* Apple Desktop Bus (ADB) expansion port
* RCA phono jacks for line-level stereo audio input and output
* Mini jacks for stereo audio input and output
* All sound ports support 16-bit audio and up to 44.1-kHz sampling rate
* DB-15 connector for monitor

Video capabilities
---
* Real-time video play through of up to 640 by 480 pixels with NTSC; 768 by 576 pixels with PAL and SECAM
* Up to 320- by 240-pixel capture at 15 frames per second with NTSC
* Maximum capture size of 640 by 480 pixels with NTSC

Graphics support
---
* 2 MB of VRAM, expandable to 4 MB
* Fast 64-bit data path to VRAM
* Support for display resolutions of up to 1,280 by 1,024 pixels
* 24-bit color up to 1,152- by 870-pixel resolution
* Refresh rate of up to 75 Hz

GeoPort telephony
---

* 28.8-Kbps modem support
* V.17 fax support
* GeoPort Fax and GeoPort Telephony software included
* Speaker phone and answering-machine capability

Note: Requires GeoPort Telecom Adapter

Clock/calendar
---
* Custom integrated circuit with long-life battery

Keyboard and mouse
---
* Includes keyboard and ADB Mouse II

Electrical requirements and compliance
---
* Line voltage: 100 to 1225/220 to 240 V AC, RMS single phase
* Frequency: 50 to 60 Hz, single phase
* Power: 150 W maximum, not including display ADB power requirements
* Maximum current draw for all devices: 500 mA (a maximum of three ADB devices is recommended)
* Mouse draws 10 mA
* Keyboard draws 25 to 80 mA (varies with keyboard used)

Size and weight
---
* Height: 6.15 in. (15.6 cm)
* Width: 14.37 in. (36.5 cm)
* Depth: 16.93 in. (43.0 cm)
* Weight: 22 lb. (9.97 kg)

Environmental requirements
---
* Operating temperature: 50 to 104 degrees F (10 to 40 degrees C)
* Storage temperature: -40 to 116 F (-40 to 47 degrees C)
* Relative humidity: 5% to 95% noncondensing
* Maximum altitude: 10,000 ft. (3,048 m)

Article Change History:
13 Feb 1997 - Changed distribution status.

Published Date: Feb 18, 2012

Apple IIGS Adapter Cable: Pinouts

This article has been archived and is no longer updated by Apple.

```
Mini-8 Function DB-25

1 HSKo --> DSR 6

2 HSKi <-- DTR 20

3 TXD- --> RXD 3

+--4 SGND --- SGND 7
|
| 5 RXD- <-- TXD 2
|
| 6 NC 8
|
| 7 GPi* <-- RTS 4--+
| |
+--8 NC CTS 5--+

- FGND NC FGND 1-----+
|
Shield o----------o Shield---+
```

Pins 4 and 8 are jumpered on the mini-8 side of the cable; pins 4 and 5 are jumpered on the DB-25 side of the cable as are pins 1 and the shield.

To connect DB-25 cables of Apple II family peripheral cables to the serial ports of the Apple IIGS, use the Apple IIGS Peripheral Adapter Cable. This short cable's male mini-circular 8 connector plugs into the IIGS printer and phone serial ports with the female mini-circular 8 connectors on the back of the IIGS. The DB-25 connector at the other end of the adapter cable will take the DB-25 connectors of the DB-25 cables used with many Apple peripherals.

Some modems and communications software may need a DCD signal and therefore may require a modem eliminator cable in the cable configuration. The modem eliminator cable flips pins 2 with 3 and 6 with 20 and passes GPi access through to pin 8. GPi, for General Purpose input, is a high or low signal read from and determined by the connecting device.

Published Date: Feb 18, 2012

Iomega Zip Drive: Tools & Iomega Drive Options Overview

This article explains how to use the Iomega Drive Options control panel and the Iomega Tools application with an Iomega Zip drive.

This article has been archived and is no longer updated by Apple.
The Tools application and the Iomega Drive Options control panel provide a package of utilities for your removable drives and disks.

Tools application

Erase Disk
This tool allows you to prepare the disk in the selected drive, either with Erase Disk or Erase Disk with Surface Verify (useful for disks that show read/write problems).

Change Disk Protection
This tool enables software protection for the disk in the selected drive.

Set Drive Options
This tool allows you to change the automatic drive sleep time for the selected drive or turn write verification on or off.

Eject Disk
This option automatically releases and ejects the disk in the selected drive.

Erase or Initialize Disk
Erase or Initialize Disk in the Tools application is similar to Erase Disk under the Finder, but it offers features not available under the Finder. Erase or Initialize Disk provides two format options: a quick Erase Disk and a longer Erase Disk with Surface Verify (useful for repairing a disk that has developed read/write errors). Erase or Initialize Disk also may allow you to switch to other applications while the disk is formatting.

NOTE: If you are using PC Exchange and you want to change a PC-formatted disk to a Macintosh format, you must use Erase or Initialize Disk in the Tools application. PC Exchange will not allow the format to be changed when using the Finder.

CAUTION: All of the information on a disk is lost when a disk is erased. Make sure that any information you may need from a disk has been copied before you erase the disk.

Erase or Initialize Disk offers two erase options:

- Erase Disk allows you to quickly erase or prepare a disk for new data. Using this option is just like using the Erase Disk command in the Finder. No surface verify is performed with Erase Disk. This option is very fast but should not be used on disks that are having problems or that may have bad sectors.

- Erase Disk with Surface Verify (also called a low-level format) performs a complete surface verify on the disk as it is erased. The surface verify checks each sector and replaces bad sectors with spare sectors. It also restores the pool of spare sectors available for use during read/write operations. Erase Disk with Surface Verify may take up to 20 minutes to complete on a 100 MB Zip disk.

This option should be used for all disks that have developed read/write errors. When you are repairing a disk, make sure you copy any information you need from the disk to another disk before erasing the disk.

Change Disk Protection
Change Disk Protection allows you to set protection options for the disk in a selected drive. Whenever you set a disk protection option, you need to close any open files and quit all applications running from the disk. If you want to set disk protection for a shared disk, you must first turn off sharing. Once the disk is protected, you can turn sharing back on.

Note: Although Zip disk protection options are set and removed using the Tools program, the actual protection mechanism is secured in the drive hardware. Because Iomega disk protection is not software-based, it cannot be bypassed using other software programs.

Change Disk Protection offers options that replace and augment the functionality of a conventional write-protect tab:

- You can Write Protect a Zip disk to prevent anyone from overwriting critical data. When a disk is write-protected, no one can write files to the disk until it is unprotected. If desired, you can assign a password which must be used to unprotect the disk. If you forget the password, the data can be recovered by simply copying it to another disk (using the Finder). Use Erase Disk with Surface Verify to reclaim the disk for reuse.

- You can Read/Write Protect a Zip disk to protect highly sensitive data. When you use this option, no one can read files from the disk or write files to the disk until it is unprotected using the password you assign. **Caution:** If you forget the password, the data on the disk cannot be recovered (even by Iomega). In order to use the disk again, you will have to reformat it using Erase Disk with Surface Verify.

Temporarily Unprotect
This option gives you temporary access to a protected disk. If a password was assigned when the disk was protected, you must enter the password to use this option. When you temporarily unprotect a write-protected disk, it will be automatically write-protected again when ejected.

CAUTION: If you temporarily unprotect a read/write-protected disk, you must restart your computer to restore protection.

Remove Protection
This option completely removes either write protection or read/write protection. If a password was assigned when the disk was protected, it will be required when you select this option.

Change Password
This option allows you to update or vary the password assigned to a protected disk. In order to change the password, you must first enter the current password for the disk. You will need to verify the new password by retyping it.

Iomega Drive Options Control Panel

Verify disk writes
Activates an additional data protection feature. When this option is set, the drive will take extra steps to make sure that everything it writes to any disk used in the drive is written correctly. You may want to select "No" to potentially increase performance of the drive.

Eject disk at Shutdown
When selected, this option causes the Zip disk to be ejected anytime you shut down your computer. If you do not want your disk ejected when you shut down, simply deselect this option.

Eject disk at Restart
When selected, tthis option causes the Zip disk to be ejected anytime you start up your computer. If you do not want your disk ejected when you start up, simply deselect this option.

Drive sleep in ... [ ] Minutes
This option specifies the amount of time a drive must be inactive before the disk automatically spins down. If you don not change the sleep time setting, a Zip drive will automatically spin down the disk after 15 minutes of inactivity. If desired, you can change the period of inactivity before drive sleep occurs from a minimum of 1 minute to a maximum of 60 minutes.

Factory Settings
Returns the control panel options to their factory settings.

Don't Save
Exits the Control Panel without implementing any changes you have made to your settings. Pressing the ESC key does the same thing.

Save
Exits the Control Panel and implements any changes you have made to your settings. Pressing the RETURN or ENTER keys will do the same thing.

Advanced Drive Options
The Advanced Driver Options Control Panel allows you to:

- Specify how your Iomega Zip disks will be updated to newer versions of the Iomega Driver.

- Specify whether or not the Iomega driver extension icon appears during your computer's startup. By default the Iomega driver icon does NOT appear. If you want to be sure that the driver is loading properly, simply click on the box on the Advanced Drive Options screen and click "OK." The Driver icon will then appear the next time you start your computer.

Tools Menu Button

NOTE: If the Iomega Drive Options control panel is in the Control Panels folder, it will appear when you press the Set Drive Options button on the Tools menu.If you delete the Control Panel or move it to a different location, for example the (Disabled) folder, the following options will appear (see above for descriptions):

* Write with Verify
* Drive Sleep Time
* Eject Disk: Eject Disk automatically ejects the disk in a selected drive, and works the same as dragging the disk to the Trash icon in Finder. Use Eject Disk when you want to set disk protection options on more than one disk or erase more than one disk in a single session.

If an application or file on the disk is open, the disk cannot be ejected. Close files and quit any open applications, then drag the disk icon to the Trash icon or return to the Tools application and use the Eject Disk button again.

Note: This information was taken directly from the online Tools Online manual, which was included with your computer.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.
Published Date: Feb 18, 2012

Mac OS 7.6: Printer Control Strip Module Dimmed (1/97)

I performed a "clean" installation of Mac OS 7.6, selecting all options including QuickDraw GX. I created a desktop printer through the Chooser, but my Control Strip Module Printer Selector is dimmed. Why doesn't it show me the printers I have created and chosen?

This article has been archived and is no longer updated by Apple.

The control strip is for non-QuickDraw GX printers. If you want to use the Control Strip to select and change printers, you must turn off QuickDraw GX and restart your computer. Once you have restarted, you must select your printer using the Chooser. This creates a new desktop printer, which does not use the QuickDraw GX technology. You can use the Control Strip module to change or select this printer.

Note

The QuickDraw GX desktop printer icon, will have an 'X' over it once you disable QuickDraw GX.

Published Date: Feb 18, 2012

Newton OS 2.0: CSTW 2200 Printing Errors with Some Apps

I am using a Color StyleWriter 2200 printer with my Newton 2.0 device. Sometimes I get an error when printing stating the Newton device has lost contact with the printer.

This article has been archived and is no longer updated by Apple.

This happens because there is a partial incompatibility between the Color StyleWriter 2200 and printing from some third-party Newton applications. Not all Newton Applications are affected. Apple Computer, Inc. does not currently have a fix for this issue.

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QuickTime Conferencing: Can‘t Upgrade to Apple VideoPhone

Our company purchased the QuickTime Conferencing Kit and now would like to upgrade to the Apple VideoPhone software. Where can we get this upgrade? What differences are there between upgrading to Apple VideoPhone Lite and the software purchased with the Apple VideoPhone Kit?
This article has been archived and is no longer updated by Apple.
Apple Media Conference (bundled with the QuickTime Conferencing Kit) has been replaced by Apple VideoPhone as the software used for audio and video conferencing.

Apple VideoPhone Lite is essentially the same application as Apple VideoPhone bundled with the Apple VideoPhone Kit. The biggest difference between Apple VideoPhone and Apple VideoPhone Lite is the H.263 video codec (compression/decompression) extension. In addition to the new codec, there are some additional pieces of software including Apple Internet Dialer, Apple Internet Status, and Apple Guide support.

About the H.263 Codec

The H.263 codec improves overall performance and error recovery when using low-bandwidth dial-up connections. However, H.263 may be used over other networking standards to improve performance and reduce network use.

H.263 adds several resolutions in addition to those supported under H.261. Supported resolutions include CIF (352x288) and QCIF (Quarter Common Interchange Format, 176x144) - both part of H.261, as well as SQCIF (Sub-QCIF, 128x96), 4CIF (704x576), and 16CIF (1408x1152) resolutions.

More information on the H.263 ITU Recommendation may be found on the Internet. The International Telecommunications Union (ITU) website (http://www.itu.ch) provides information on the H.263 standard.
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LaserWriter 8.4.x: Type 15 Errors With Desktop Printing (1/97)

When I try to print, I get Type 15 errors when I have Desktop Printing on. I am using the LaserWriter 8.4.x printer drivers.

I get error type 15's and/or multiple printer icons when printing with LaserWriter 8.4.x with Desk top Printing turned on.

This article has been archived and is no longer updated by Apple.

When you remove or disable the AppleScript and Finder Scripting extension, when Desktop Printing is on, you will either get Type 15 errors, or multiple Desktop Printer icons.

The AppleScript and Finder Scripting extension are used by the LaserWriter 8.4.x and desktop printing software.

How to Correct
==========

Step 1

Force quite the Finder (command-option-escape).

Step 2

Restart with Extension off.

Hold down the Shift key after the startup chime to turn off extensions.

Step 3

Drag all icons with an X to the Trash.

Step 4

Choose Empty Trash from the Special menu.

Step 5

Reinstall AppleScript and Finder Scripting Extensions.

Use your original Mac OS disks or CD disc to reinstall these extensions.

Step 6

Restart your computer.

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Mac OS 7.6 and PowerPC Interrupt Extension (1/97)

Is the PowerPC Interrupt Extension a part of Mac OS 7.6?

This article has been archived and is no longer updated by Apple.

The PowerPC Interrupt Extension is no longer a separate extension in Mac OS 7.6, it is now part of the OS. If the extension is installed on a computer running System 7.5.5, the extension will be removed during the Mac OS 7.6 installation.

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V-Twin Information Access Toolkit (1/97)

This article provides a summary of V-Twin and the URL for more information.
This article has been archived and is no longer updated by Apple.

V-Twin is the code name for the information access toolkit developed in the Apple Research Labs (formerly known as ATG). V-Twin provides fast and efficient text indexing and search for use by a variety of applications. Eventually, Apple believes V-Twin will enable a new generation of "content-aware" applications.

Additional information can be found on the internet at the following URL:

http://www.atg.apple.com/research/tech/V-Twin/default.html.

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PC Compatibility Card: Cannot Share Memory with Mac OS (1/97)

Can I share memory on the PC Compatibility Card with the Mac OS, or do I need to add memory to both the PC Compatibility Card and Mac OS computer?

This article has been archived and is no longer updated by Apple.

Unlike the DOS Compatibility Cards, you cannot share memory with the Mac OS on the PC Compatibility Cards. You must add memory to both the PC Compatibility Card and the Mac OS computer.

Published Date: Feb 18, 2012

Mac OS 7.6: No Classic AppleTalk Support (1/97)

I installed Mac OS 7.6 and when I run the Network Software Selector a dialog reports, "You have selected Classic AppleTalk for your network services. Classic AppleTalk is not supported on your CPU. Open Transport will be used instead." Does Classic AppleTalk work with Mac OS 7.6?

This article has been archived and is no longer updated by Apple.

Open Transport 1.1.1 is installed as a standard part of Mac OS 7.6 on every system. Classic networking is no longer an option, therefore the Network Software Selector switch is no longer included and will not function properly.

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Iomega Zip Drive: Included Software

I have a Macintosh computer which included an Iomega Zip drive. I noticed that there are several files included with the Iomega software, but I am not sure what they do or if I need them.
This article has been archived and is no longer updated by Apple.
Here is a description of the files included when an Iomega Zip drive is installed in a Macintosh:

Iomega Driver

The Iomega Driver is an extension which allows your Macintosh to communicate with your Zip drive. The Iomega Driver is located in the Extensions folder within the System Folder.

Iomega Drive Options

The Iomega Drive Options is a control panel that allows you to perform some basic control functions from the Control Panels folder.

Tools

The Tools application program is a collection of utilities for Zip drives and disks, including format, write protection (with or without password), read/write disk protection (password required), and drive sleep time. This application is located in the Iomega Tools folder within the Applications folder.

Iomega Guest

Iomega Guest is a utility that allows you to use a Zip drive temporarily on a Macintosh computer without having to install the Iomega Driver in the System Folder. Iomega Guest will also let you access your Zip drive if you start your computer with the extensions disabled.

Copy Machine

Copy Machine allows you to copy one Zip disk to another using a single Zip drive. The advantage of using Copy Machine to duplicate your Zip disks is that copies are just as accessible as the original files. Most copy utilities compress data and require time-consuming restore processes before you can access your files. Copy Machine creates complete copies with no decompression time to slow you down.

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Extended 80-Column/AppleColor Card: Cable Pinout (11/96)

What is the pinout for the cable included with the Extended 80-Column/AppleColor card?

This article has been archived and is no longer updated by Apple.

The cable pinout for this cable is straight through except for no connection on pin 16 of the in-line 16 female connector (there is no matching pin on the DB-15 side).

DB-15 connector: Female, plugs into monitor cable.

8 7 6 5 4 3 2 1

15 14 13 12 11 10 9

Inline 16: Female, plugs into card.

16 14 12 10 8 6 4 2

15 13 11 9 7 5 3 1

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Iomega Zip Drive: How to Use

How do I use the Iomega Zip drive that came with my Macintosh computer?

This article has been archived and is no longer updated by Apple.

Operating the Zip Drive

The Zip drive works like any other drive on the Macintosh. When a Zip disk is inserted in the drive, an icon for the disk should appear on the desktop.

After a Zip disk icon mounts on the desktop, you can use the Finder to copy files to or from the Zip drive following the same procedures used for other Macintosh drives. You can also install and run applications on the Zip disk.

Inserting Zip Disks

Verify the Zip drive is on and insert a Zip disk into the drive. When the disk is fully inserted, it rests flush with the front of the drive case. The amber data light on the drive blinks a few times while the disk spins up. When the amber light goes out, the disk is ready to use.

Important: Do not use ordinary 3.5-inch floppy disk in the Zip drive! Doing so could result in damage to the Zip drive.

Removing Zip Disks

To remove a Zip disk that has mounted on the Desktop, select the Zip disk icon and use Put Away from the File menu. You can also click and drag the Zip disk icon to the Trash icon as you would a floppy disk. Both methods automatically eject the disk from the Zip drive.

Formatting Blank Zip Disks

New, blank Zip disks come preformatted for Macintosh or for IBM-compatible computers. If you are using PC Exchange, you can use PC-formatted Zip disks to transfer files between a PC and your Macintosh. Use PC-formatted Zip disks for file transfer only. If you are storing data for use only on Macintosh computers, use Macintosh-formatted Zip disks. There is a risk of losing data (in particular file resource information) when files you use on your Macintosh are stored on a PC-formatted disk.

If you want to reformat a Zip disk you can use the Erase Disk command in the Finder, or Erase or Initialize Disk in the Tools program. To reformat a Zip disk using the Finder, insert the disk and select Erase Disk from the Special menu. Reformatting a Zip disk using Erase Disk in either the Finder or Tools take less than a minute.

If you are reformatting a disk that has read/write difficulties, use the Erase Disk with Surface Verify option in the Tools program. You can also use Erase Disk with Surface Verify from the Finder by holding down the Option key when you start the format. Be sure you hold down the Option key until the disk starts to erase. Using Erase Disk with Surface Verify from either the Finder or Tools takes about 20 minutes.

Note: If you are using PC Exchange and you want to change a PC-formatted disk to a Macintosh format, you must use Erase or Initialize Disk in the Tools program. PC Exchange does not allow the format to be changed when using Erase Disk in the Finder.

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Macintosh Performa 6400: Read Me

This article contains the Read Me file for the Macintosh Performa 6400 series computer.

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This article has been archived and is no longer updated by Apple.

Tips

Improving Video Capture

You can increase the speed of video capture by taking one or more of the following actions:

* Turn off virtual memory in the Memory control panel.
* Turn off AppleTalk. (You can quickly turn AppleTalk on or off with the Control Strip, or use the Chooser instead.)
* Reduce the size of the capture window. (160x120 is the best size; also, 320x240 is good.)
* Do not run programs other than the capture application while capturing video.
* Turn off the Menubar Clock in the Date & Time control panel.
* Turn off all unnecessary extensions. Do not turn off QuickTime. (Use the Extensions Manager control panel to turn off extensions; then restart your computer.)
* Make sure that your hard disk has enough free space to record. If you notice a decline in performance, use a disk optimizer to improve your disk's efficiency.

Using the QuickTake 150 Camera

For best results, use the QuickTake Image Access control panel to look at images in the camera and transfer them to your Macintosh. This method is faster and more reliable than using the PhotoFlash program.

Troubleshooting

IMPORTANT: For more troubleshooting information on the issues described below and on other topics, refer to Macintosh Guide (available in the Guide menu when the Finder is active) and the manuals that came with your computer.

Issues Turning on your Computer
When you turn on your computer, a disk icon with a blinking question mark appears in the middle of the screen. Then after a moment, your computer starts up normally. Your computer is having difficulty locating the startup disk with the system software. (This minor issue can occur if you have reset your parameter RAM.) To correct the issue, do the following:

1. Open the Apple menu and choose Control Panels.
2. Open the Startup Disk control panel.
3. Select your startup disk in the window that appears.
4. Close the Startup Disk control panel window.

Printing Issues
Your system freezes or experiences other issues when printing on a LaserWriter Select 300 or 310 printer. This issue can occur when you attempt to print and your printer is not connected properly to your computer. Trying to cancel printing in the Print Monitor will not solve the issue and may either produce a flashing error message or cause your computer's performance to slow down.

Check to make sure your printer is connected to your computer. If you see a message with a Continue button, click Continue. Normal printing is resumed.

You have trouble printing on a StyleWriter or StyleWriter II printer. Use the StyleWriter 1200 printer driver that came installed on your computer. Do not install your older StyleWriter driver; it is not compatible with PowerPC-based computers.

You have trouble printing with Apple PhotoFlash. Make sure that you have designated a printer in the Chooser. After doing so, open the File menu and choose the Print command.

You can't use the "Print Later" option with a non-networked printer. If you have the Assistant Toolbox extension installed on your computer and you want to use the "Print Later" option when printing on a non-networked printer, you must turn off the Assistant Toolbox extension and restart your computer.

To turn off the Assistant Toolbox extension:

1. Open the Apple menu and choose Control Panels.
2. Open the Extensions Manager control panel.
3. In the list of extensions, click next to the Assistant Toolbox extension to remove the checkmark.
4. Restart your computer.

You see a low-memory warning when you print Stickies on a StyleWriter, StyleWriter II, or StyleWriter 1200 printer. This issue can occur when the amount of memory Stickies uses is set below 150K.Try increasing the amount of memory available to Stickies. For instructions on changing the memory a program uses, refer to Macintosh Guide (available from the Guide menu when the Finder is active).

Performance Issues
You see a message that not enough memory is available. This issue can occur for several reasons. For detailed tips on memory-related issues, refer to both the troubleshooting information in the manuals that came with your computer, and to the information on memory in Macintosh Guide (available in the Guide menu when the Finder is active).

If this issue occurs after you have opened the Extensions folder in the System Folder and scrolled through a long list of extensions, you can restore normal performance by restarting your computer.

Issues with Sound
When you play back sound you've recorded, you notice clicks, pops, or skips. This issue can occur if you have virtual memory turned on while you're recording sound. Turn off virtual memory before recording. For instructions on turning off virtual memory, refer to Macintosh Guide, available from the Guide menu when the Finder is active.

Adjusting the volume slider in Apple Video Player and other sound applications does not affect the volume, or it turns the volume all the way up or all the way down (allowing no in-between settings). This issue occurs on some newer models that handle sound differently from some older application programs. You can use the system sound settings to adjust the volume. Follow these steps:

1. Open the Apple menu and choose Control Panels.
2. Open the Monitors & Sound control panel.
3. Click the Sound button.
4. Use the volume or level slider (whichever is available) to adjust the sound volume.

Hypercard version 2.3.3 or earlier does not record sound properly on your computer. Other sound recording application programs, including

SimpleSound and the Sound control panel, can record sounds that you can import and play within Hypercard 2.3.

Networking and File Sharing Issues
IMPORTANT For information about Open Transport, see the information on networking in Macintosh Guide. For information about networking in general, see the Performa user's manual that came with your computer. Additional information about Open Transport is on your hard disk in a separate folder.

AppleShare displays incorrect information for large drives. If you use File Sharing to share a disk larger than 2 gigabytes (GB), some older computers connected to your computer may display an incorrect size for the disk in the Get Info box. (Get Info reports the disk to be 2 GB in size, even if it is larger.)

Since these older computers do not support the larger drives, they also cannot report correct information about the drives. (Computers with System 7.5 display correct information.)

You can't reconnect to a server. If you unexpectedly lose a connection to a server on which you have items in use, and then choose the server from the Recent Servers item in the Apple menu, you get a message that the disk could not be opened because you do not have enough access privileges or because the server can't be found on the network. To reconnect to the server:

1. Close any open files. If any of your files contain changes that need to be saved, use the Save As command to save them on an available disk.
2. Choose the server from the Recent Servers item in the Apple menu.
3. If necessary, replace the files on the server with the ones you saved on an available disk when the server was not available.

You see zones and/or servers listed in the Chooser, but the network cable is not connected to the computer. This issue can occur if you disconnect the network cable from the back of your computer while the Chooser is open. Be sure to shut down your computer before disconnecting a network cable.

You have issues using AppleShare Server Software version 4.1 or 4.2. AppleShare server software versions 4.1 and 4.2 are not intended for use with PCI-based computers, such as the Macintosh 5400, 7200, 7500, 8500, and 9500 computers. If you attempt to use AppleShare server software version 4.1 or 4.2 with these models, you may experience issues.

Issues Using a RAM disk
You see a message that your RAM disk is unreadable. Under some circumstances you may see the following message after setting up a RAM disk:

"This disk is unreadable by this Macintosh. Do you want to initialize the disk?" (Important: This message applies to the RAM disk, not to your hard disk, which will not be initialized.)

Decrease the size of the RAM disk. If you see the message again, decrease the size again. Continue to decrease in small amounts until the message no longer appears.

Issues with Programs Freezing or Quitting Unexpectedly
MoviePlayer quits unexpectedly. Using MoviePlayer 2.1, you can play a movie at double (2X) size. You cannot present a movie (that is, play the movie on a second monitor) at double size. Presenting a movie at 2X size results in the Movie Player quitting without warning.

Wiggleworks freezes, quits unexpectedly, or won't produce sound. Wiggleworks 1.0 requires special software, Macintalk Pro, to produce sound. The version of Macintalk Pro that comes with Wiggleworks is not compatible with your computer. After installing Wiggleworks, you need to drag a newer version of Macintalk Pro (version 1.4 or later) to the Extensions folder (inside your System Folder).

There are two ways to obtain Macintalk Pro version 1.4:

* Install PlainTalk from the Apple Extras folder. PlainTalk includes Macintalk Pro version 1.4, which is placed in the Extensions folder when you install PlainTalk.

* Download Macintalk Pro from Apple Computer's America Online or Internet sites. Refer to the service and support information that came with your computer for information about connecting to Apple's online sites.

If you are unable to obtain Macintalk Pro version 1.4, you can order it from Apple by phone. Refer to the service and support information that came with your computer for the phone number you should call.

Note: Your computer comes with Macintalk 3. Wiggleworks 1.0 does not work with Macintalk 3. To hear sound with Wiggleworks you must have Macintalk Pro version 1.4 in your Extensions folder, but it is not necessary to remove Macintalk 3.

Maple V quits unexpectedly when you change your monitor resolution. This can occur if you use the Control Strip to change the monitor resolution while the Maple V program is active. Use the Monitors & Sound control panel instead of the Control Strip to change screen resolution. For instructions on using the Monitors & Sound control panel, refer to Macintosh Guide (available in the Guide menu when the Finder is active).

When you try to install Adobe Premiere Deluxe, the mouse freezes. This can occur if you have virtual memory turned on and AppleTalk active when you try to install Adobe Premiere Deluxe.Turn off virtual memory and make AppleTalk inactive before installing. For instructions, refer to Macintosh Guide (available from the Guide menu when the Finder is active).

This issue does not occur if you select Adobe Premiere 4.2 installation instead of Adobe Premiere Deluxe.

Issues Using Infrared Features
Farallon AirPath(TM) v1.0 and Apple IR File Exchange don't work on your computer. Also, Farallon AirDock(TM) and other infrared devices are not detected through a serial port that has been selected in the AppleTalk control panel, nor has the string "(IR)" been appended to the port name. Infrared (IR) features are not fully supported on desktop computers running system software version 7.5.3. An AirDock(TM) connected to a selected AppleTalk serial port will, in most cases, operate normally (though forwarding features are disabled). This lets you connect to the desktop system using Personal File Sharing. These issues do not occur on PowerBook computers, and will be corrected on desktop computers in a future update.

Compatibility Issues

Ethernet Cards
* The Ethernet CS II Card requires Open Transport software. To use Open Transport, open the Network Software Selector application in the Apple Extras folder, and select Open Transport networking. Then use the AppleTalk and TCP/IP control panels to set up networking with the Ethernet CS II Card. (Do not use the Network and MacTCP control panels.)

* MacIPX is not supported currently by Open Transport and therefore does not work with the Ethernet CS II Card or with any Ethernet PCI card.

* The currently shipping versions of Apple IP Gateway and AppleTalk Internet Router are not compatible with Open Transport.

Japanese and Chinese Language Kits
To use the Japanese Language Kit with your computer, you must install version 1.2 or later. In the United States, you can obtain an upgrade by calling Claris at 1-800-293-6617.

To use the Chinese Language Kit with your computer, make sure you use version 1.1.1 or later. To install the Chinese Language Kit version 1.1.1, follow these three steps:

1. Install the WorldScript Updater 1.0.
2. Install the Chinese Language Kit version 1.0 or 1.1.
3. Install the Chinese Language Kit Updater to update your software to version 1.1.1.

IMPORTANT: Be sure to follow the steps in the order shown.

QuarkXPress
To use QuarkXPress with System 7.5.3 on a PowerPC-based computer, you must upgrade to QuarkXPress version 3.32.

SAM Virus Detection
SAM (Symantec AntiVirus for Macintosh) version 4.0 does not work with System Software version 7.5.3. To use SAM, you must obtain SAM version 4.0.6 or later from Symantec Corporation.

Note: The first time you restart your computer after installing SAM, the screen may be only partially redrawn (with a rectangular area missing) after you dismiss the SAM startup message. This screen issue only occurs once after you install SAM.

STF PowerFax PE
If you use PowerTalk Direct Dialup Mail and have trouble sending a fax, it may be because both Direct Dialup and STF PowerFax PE are set to auto-answer. To turn off STF auto-answer, open the STF Setup window and set 'n' to "never" (in the "Answer on 'n' rings" section).

Important Information About Virtual Memory
Virtual memory (VM) is a feature of the Macintosh that lets you use part of your hard disk as additional memory. If you are using an application program designed especially for PowerPC-based computers (often called a "native" application program), turning on virtual memory lets your application use less memory.

Your computer comes with virtual memory turned off. With virtual memory turned on, a PowerPC-based program uses less memory than when virtual memory is turned off. If you check the program's Get Info box before and after turning on virtual memory, you'll see that the numbers in the Memory Requirements box change. That is because turning on virtual memory allows the program to use memory more efficiently.

For information on how to turn virtual memory on and off, choose Macintosh Guide from the Guide menu when the Finder is active. Click the Memory topic area, and then click "How do I use hard disk space as memory?" and "Tips for PowerPC-based computers."

For best performance, try setting virtual memory to no more than 150% of the memory (RAM) installed in your computer, or no more than 50% of your currently available hard drive space, whichever number is lower. For example, if your computer has 16 MB of RAM and your hard drive has 50 MB of available space, set virtual memory to a maximum of 24 MB (this is 150% of your 16 MB of RAM, and less than 50% of the available space on your hard drive).

If virtual memory is turned on and you notice performance issues (such as unusually slow computer response) when using certain application programs, you may want to turn off virtual memory.

To improve performance, you can also install more memory (RAM) in your computer. See the Performa user's manual that came with your computer for more information.

Important Information About Document Auto-Save
The Energy Saver control panel contains a feature named "Document Auto-Save." The purpose of this feature is to automatically quit all open applications during an idle or scheduled shutdown, while saving changes to any open documents in each application. Since there are literally thousands of applications available for the Macintosh (with new ones always arriving), we cannot guarantee that Document Auto-Save will be compatible with every application. This is especially true for any application that does not use standard routines to implement the alerts or dialog boxes used to save changes to new or modified documents. When Document Auto-Save is incompatible with an application, it will either not automatically quit, or it will display alerts or dialog boxes that Document Auto-Save does not recognize and therefore does not dismiss.

If you intend to turn Document Auto-Save on, we recommend that you monitor its operation during the first attempted idle or scheduled shutdown and note if any of your applications are not compatible. You can avoid issues with incompatible applications simply by making sure you leave open no documents that are new or modified before an idle or scheduled shutdown is to occur. Alternatively, you can modify the Document Auto-Save preferences in the Energy Saver control panel so the computer will sleep rather than shut down when unsaved documents are open.

For instructions for using Energy Saver & Document Auto-Save, choose Macintosh Guide from the Guide menu when the Finder is active, and choose the Energy Saving topic area.

Other Document-Saving Products
There are conflicts when non-Apple document-saving control panels or extensions are used in conjunction with Energy Saver's Document Auto-Save. Examples of such products are NowSave and SuperBoomerang. For best results, use the document-saving features of only one control panel or extension.

Self-Dismissing Dialogs
Under some rare conditions, the Energy Saver control panel may continuously dismiss dialog boxes if the Document Auto-Save feature unexpectedly fails during an idle or scheduled shutdown. (Whenever a dialog box appears, it is dismissed as if you have pressed the Return key.) To return things to normal, simply click the mouse button or press the space bar.

Important Information About Macintosh PC Exchange

Apple File Exchange and Macintosh PC Exchange
The Apple File Exchange software is not compatible with your Macintosh model. Macintosh PC Exchange provides an easier method for accessing DOS and Apple II ProDOS disks on a MacOS-based computer.

AutoDoubler
To use AutoDoubler with Macintosh PC Exchange, you must first open the AutoDoubler control panel and turn off the "Show DD on Compressed Files" option from the DD menu.

Compressed PC Disks and Files
Macintosh PC Exchange does not work with DOS-format floppy disks or SCSI hard disks that have been compressed using Stacker or other DOS or Windows disk-compression utilities. Before transferring compressed DOS files to a MacOS-based computer, you must decompress the files and save them to a noncompressed DOS-format floppy disk.

Working With Disks Containing Multiple Partitions
If a SCSI hard disk or removable media cartridge has been formatted to contain multiple partitions, you can use Macintosh PC Exchange to mount the MacOS-, DOS-, or ProDOS-format partitions as individual volumes on the Macintosh desktop. If the disk contains both MacOS- and DOS-format partitions, Macintosh PC Exchange will recognize only the Mac OS partition. In addition, Macintosh PC Exchange will recognize ProDOS-format partitions only on SCSI hard disks that are less than 32 megabytes.

You can use Macintosh PC Exchange to erase existing individual partitions on a SCSI hard disk or removable media cartridge if they have the same format. However, you cannot use Macintosh PC Exchange to reformat and resize individual partitions contained on the disk. Nor can you format a MacOS-format hard disk or removable media cartridge as a DOS-format disk. To resize or reformat multiple MacOS, DOS, or

ProDOS partitions, you need to use third-party software designed for partitioning hard disks and removable media cartridges.

Working with DOS-Format SCSI Removable Media Devices
In order for Macintosh PC Exchange to recognize any SCSI removable media device, you must turn on the device and eject any cartridges before you turn on your computer.

Do not install the device driver software that came with your removable media device. Instead, open the Macintosh PC Exchange control panel, click the Options button, select your SCSI device from the list, and then restart your computer. Macintosh PC Exchange will install its own device driver for that SCSI device.

The Eject Disk command is unavailable when you are working with removable media devices. To unmount and eject a removable media cartridge, click the device's icon to select it and choose Put Away from the File menu. Once the device has spun down and the red light goes out, you can manually eject the cartridge from the drive. To access a removable media cartridge that has been ejected, simply reinsert the cartridge in the drive.

When initializing and formatting Bernoulli and SyQuest cartridges on a DOS or DOS-compatible computer, use either the disk setup and partitioning software that came with the SCSI controller card installed in your PC or the one that came with your Bernoulli or SyQuest device. (Do not use the MS-DOS FDISK command.) Also, use the MS-DOS FORMAT command to format a newly initialized removable media cartridge on a DOS or DOS-compatible personal computer (PC) before you copy DOS files onto it.

When you initialize a removable media cartridge on a DOS or DOS-compatible PC, you must fully partition, initialize, and erase the cartridge using the software that came with your SCSI controller card or removable media drive. If you do not, Macintosh PC Exchange may not recognize the new DOS-format partitions on that cartridge.

Working with DOS-Format SCSI Hard Disk Drives
In order for Macintosh PC Exchange to recognize a SCSI hard disk drive, you must turn on the drive before you turn on your computer.

Do not install the device driver software that came with your removable media device. Instead, open the Macintosh PC Exchange control panel, click the Options button, select your SCSI device from the list, and then restart your computer. Macintosh PC Exchange will install its own device driver for that SCSI device.

When initializing and formatting an external SCSI hard disk connected to a DOS or DOS-compatible PC, use the MS-DOS FDISK command or the disk setup and partitioning software that came with the SCSI controller card installed in your PC. In addition, you should use the MS-DOS FORMAT command to format and erase the disk before you copy DOS files to a new SCSI hard disk connected to a PC.

Tips and Issues
* A "Sad Mac" icon may appear on your screen at startup if a removable media cartridge has been left in the drive. To keep this issue from occurring, manually eject removable media cartridges from their drives before you turn on your computer.

* Macintosh PC Exchange cannot recognize SCSI hard disks, removable media devices, or drive container files that contain more than one gigabyte of disk space.
Published Date: Feb 18, 2012

Macintosh Performa 6400/200 Zip: Supported Memory Types (2/97)

This article contains important information about installing memory in some Macintosh Performa 6400 computers.

Note: This information was included in a document included with these computers titled, "Update: New Information About DRAM Installation."
This article has been archived and is no longer updated by Apple.
This update contains information you need to know if you decide to add random access memory (RAM) to your computer. It replaces information about dynamic RAM (DRAM) specifications in the user's manual in the Technical Information booklet for your computer. If you don't need the information immediately, save it with your user's manual so that you'll have it ifyou ever decide to install additional DRAM in your computer.

Your computer has Extended Data Output (EDO) DRAM Dual Inline Memory Modules (DIMMs), not the fast-paged-mode DIMMs referred to in the user's manual and in the Technical Information booklet for your computer. To take advantage of the faster RAM access time of the EDO DRAM DIMMs already in your computer, DIMMs installed later should be 64-bit wide, 168-pin 5-volt (V) buffered EDO DRAM DIMMs, with 60-nanosecond (ns) RAM access time or faster, and a 1K or 2K refresh count.

Fast-paged-mode will be the default speed, if fast-paged-mode DIMMs are mixed with EDO DIMMS.

Fast-paged-mode DIMMs slower than 60 nanosecond are not recommended.

The Single Inline Memory Modules (SIMMs) from older Macintosh computers are not compatible with your computer and should not be used.

DIMMs that require a 4K refresh count should not be used, either.

Article Change History:
13 Feb 1997 - Changed distribution status.

Published Date: Feb 18, 2012

Power Macintosh 5500 & 6500: Supported Graphics Modes

This article contains a description of the video memory and 2D and 3D graphics acceleration support in the Power Macintosh 5500 and 6500 series computers.
This article has been archived and is no longer updated by Apple.
The logic board in the Power Macintosh 5500 and 6500 series computers has the following built-in video and graphics capabilities:

- ATI 3D RAGE II 64-bit graphics and multimedia accelerator (ATI264GT graphics controller (see description below))
- 2 MB of synchronous graphic RAM (SGRAM)
- Hardware acceleration of 2D QuickDraw graphics and video to speed up scrolling text and graphics and screen redraw operations
- Hardware acceleration of video for full screen, full motion, TV-quality playback of Cinepak and MPEG1 QuickTime movies
- Bilinear hardware interpolation and scaling
- Accelerated 3D QuickDraw rendering up to 6 times that of software-only rendering
- Real-time 3D shaded object manipulation, animation, and virtual world navigation
- Includes 16-bit Z buffer for hidden texture surface removal
- Provides six perspectively correct texture-mapping functions
- Alpha blending, transparency, and fog effects
- Flat and Gouraud shading
- Video textures and video lighting

ATI264GT Graphics Controller
The ATI264GT graphics controller contains the logic for the video display. It includes the following functions:

- Display memory controller, built-in drawing coprocessor, video scaler, color space converter, clock generator, and true color palette video DAC (digital-to-analog converter)
- Video CLUT (color lookup table)
- Hardware graphics acceleration with a 16-bit Z-buffer
- Accelerates QuickDraw 3D rendering up to 6 times that of software-only acceleration
- True color palette DAC supporting pixel clock rates to 135 MHz for 1280 by 1024 resolution at 75 Hz
- Graphics and video line buffer for superior video scaling and playback quality
- Hardware cursor up to 64 x 64 x 2
- DCC1 and DDC2B plug-and-play monitor support
- Supports synchronous graphics RAM (SGRAM) at up to 67 MHz memory clock, providing a bandwidth up to 536 MB per second
- Graphics control accessible through the QuickDraw , QuickDraw 3D, QuickDraw 3D RAVE, and QuickTime components APIs

A separate data bus handles data transfers between the ATI264GT IC and the display memory. The display memory data bus is 64 bits wide, and all data transfers consist of 32 bits at a time. The ATI264GT IC breaks each 64-bit data transfer into several pixels of the appropriate size for the current display mode--4, 8, 16, 24, or 32 bits per pixel.

The ATI264GT IC uses several clocks. Its transactions are synchronized with the PCI bus. Data transfers from the frame-buffer RAM are clocked by the MEM_CLK signal, which runs at 67 MHz. Data transfers to the CLUT and the video output are clocked by the dot clock, which has a different rate for different display monitors.

The 2D graphics accelerator is a fixed-function accelerator for rectangle fill, line draw, polygon fill, panning/scrolling, bit masking, monochrome expansion, and scissoring.

Video Memory & QuickDraw 3D Acceleration
The display memory on the Power Macintosh 5500 and 6500 computers is separate from the main memory. The display memory consists of 2 MB of 12-nanosecond (ns) SGRAM devices configured to make a 64-bit data bus. The display memory cannot be expanded. The display data generated by the computer can have pixel depths of 8, 16, or 32 bits for monitors up to 832 by 624 pixels, 8 or 16 bits for larger monitors up to 1152 by 870 pixels, and 8 bits for monitors supporting 1280 by 1024 pixels. Data from the video input module is always stored and transferred at 16 bits per pixel. The video frame buffers support live video in a 320-by-240 pixel frame at 30 frames per second.

Although the display modes up to 1152 by 870 at 16 bits of resolution are supported, the largest supported display size is useful for standard 2D applications. For 3D applications, the 2 MB of video memory space is used differently, which restricts the useful display size and supported bit depth.

For example, QuickDraw 3D uses double buffering if the hardware supports it. Double buffering immediately reduces the available video memory for application use. In addition, 3D applications that use a Z buffer for hidden texture removal have even less space available for caching textures to increase graphics rendering speed.

To get the most performance out of 3D applications in the 2 MB of video memory, the display mode size should be reduced. A 512 by 384 display mode is provided specifically for increasing the available memory space for texture caching to improve 3D graphics rendering speed.

Hardware acceleration for 3D applications is not provided for all of the supported 2D display modes. Refer to the tables below for specific

information.

Power Macintosh 6500 Video Input and Graphics Acceleration Display Modes

Display Resolution	Pixel Depth	Vertical Scan Rate	Video Input	QuickDraw 2D Acceleration	QuickDraw 3D Acceleration
512 x 384	8	70 Hz	Yes	Yes	No
512 x 384	16,32	70 Hz	Yes	Yes	Yes
640 x 480	8	60,67,72,75,85 Hz	Yes	Yes	No
640 x 480	16	60,67,72,75,85 Hz	Yes	Yes	Yes
640 x 480	32	60,67,72,75,85 Hz	Yes	Yes	Depends on application window size
640 x 870	16	75 Hz	Yes	Yes	No
800 x 600	8,32	56,60,72,75,85 Hz	Yes	Yes	No
800 x 600	16	56,60,72,75,85 Hz	Yes	Yes	Depends on application window size
832 x 624	8,32	75 Hz	Yes	Yes	No
832 x 624	16	75 Hz	Yes	Yes	Depends on application window size
1024 x 768	8,16	60,70,75 Hz	Yes	Yes	No
1152 x 870	16	75 Hz	Yes	Yes	No
1280 x 980	8	75 Hz	Yes	Yes	No

Power Macintosh 5500 Video Input and Graphics Acceleration Display Modes

Display Resolution	Pixel Depth	Vertical Scan Rate	Video Input	QuickDraw 2D Acceleration	QuickDraw 3D Acceleration
640 x 480	8	60,67 Hz	Yes	Yes	No
640 x 480	16	60,67 Hz	Yes	Yes	Yes
640 x 480	32	60,67 Hz	Yes	Yes	Depends on application window size
800 x 600	8,32	60,72 Hz	Yes	Yes	No
800 x 600	16	60,72 Hz	Yes	Yes	Depends on application window size

```
832 x 624  | 8,32  | 75 Hz          | Yes   | Yes          | No
-----------+-------+----------------+-------+--------------+-------------
832 x 624  | 16    | 75 Hz          | Yes   | Yes          | Depends on
           |       |                |       |              | application
           |       |                |       |              | window size
-----------+-------+----------------+-------+--------------+-------------
1024 x 768 | 8,16  | 60 Hz          | Yes   | Yes          | No
-----------+-------+----------------+-------+--------------+-------------
```

Published Date: Feb 18, 2012

AppleShare Print Server 3.0.3 Rev. B: Read Me

This article is the AppleShare Print Server 3.0.3 Rev. B Read Me file.
This article has been archived and is no longer updated by Apple.
This Read Me document provides important information about AppleShare Print Server 3.0.3 Rev. B. You may want to print this Read Me document and keep it with your "AppleShare Server Administrator's Guide."

Using Disk Cache with AppleShare Print Server
Depending on how you use AppleShare Print Server, you may notice an improvement in performance by adjusting the server computer's disk cache size. System 7 is shipped with disk cache on automatically and set to 32K for every megabyte of available RAM. You may wish to experiment with higher settings. (You adjust the cache size in the Memory control panel.)

If you change the size of the disk cache, be sure to restart the server computer after changing the setting for the new size to take effect.

Running AppleShare Print Server with Virtual Memory Turned On
It is possible to run AppleShare Print Server 3.0.3 Rev. B software with virtual memory turned on; however, doing so is not recommended. If you choose to run the software with virtual memory turned on, you will likely notice a decrease in server performance. See the manuals that came with your server computer for more information on using virtual memory.

Problems Fixed in 3.0.3 Rev. B
This version fixes a problem with AppleShare Print Server 3.0, 3.0.1, and 3.0.2. Specifically, printing large graphics files could cause connections to the print server to be dropped prematurely.
Published Date: Feb 18, 2012

Twentieth Anniversary Macintosh: Memory Expansion

This article details the type of memory used in the Twentieth Anniversary Macintosh.
This article has been archived and is no longer updated by Apple.
The Twentieth Anniversary Macintosh uses the same logic board and memory as the Power Macintosh 5500 and 6500 series computers. Like those computers, the Twentieth Anniversary Macintosh does not have any DRAM memory soldered on the logic boards. All RAM expansion is provided by DIMMs installed in one of the two 168-pin sockets. It includes 32 MB installed in one of the two DIMM slots.

The RAM expansion slots accept DIMMs with the following characteristics:

- 168-pin 5-volt EDO (Extended Data Out) or fast-paged DIMMs
- 64-bit wide
- 70 ns access time or faster.
- 2K or faster refresh rate
- Acceptable DIMM sizes include 8, 16, 32, and 64 MB.

Using EDO memory in your computer may provide you with increased performance. However, although you can use either EDO or fast-paged mode devices in the DIMM slots, all memory installed must be EDO to take advantage of these performance benefits. If you mix fast-paged and EDO RAM, the EDO modules perform as if they were fast-paged memory.

3.3-volt EDO DIMM cards are not supported and will not mechanically fit into the DIMM connectors on the logic board.

For additional information about EDO memory and its benefits, read Tech Info Library article:

- Article 19456: "**Power Macintosh: Using FPM, EDO, SDRAM, & SGRAM**"

Published Date: Feb 18, 2012

Access II: Configuring version 1.2 on an Apple IIGS

This article has been archived and is no longer updated by Apple.
Apple has issued an upgraded version of Access II for support of the Apple IIGS internal modem port.

While version 1.2 is essentially the same as the previous version of Access II, sucessfully using version 1.2 constrains the IIGS system in the configuration of slots 1 and 2. Access II works properly when slots 1 and 2 are set up in their default configurations from the Control Panel:

Under the 'SLOTS' menu item:

Slot 1: Printer Port
Slot 2: Modem Port
Slot 7: Your Card

Under the 'Modem Configuration' menu item:

Device Connected: Modem

Unless the following change is made to the default settings of the modem port, Access II will freeze and no dialing will occur.

1. enter the Control Panel
2. select Modem Port
3. select DCD Handshake: it MUST be answered NO
4. select DST/DTR Handshake: it MUST be answered NO
5. tap the RETURN key to save your change.

Be sure to turn the computer off before trying Access II again.

The Modem Port setting should look like this:

Device Connected: Modem
Line Length: Unlimited
Delete fisrt LF after CR: No
Add LF after CR: No
Echo: No
Buffering: No
Baud: 1200
Data/Stop Bits: 8/1
Parity: None
DCD Handshake: No
DSR/DTR Handshake: No
XON/XOFF Handshake: No

When using Access II 1.2 through the IIGS internal port, there cannot be any type of interface card in slots one or two, regardless of control panel settings. If they are present, various results may be encountered including the Utilities function of the program becoming inaccessable.

Also, if you are using AutoDial to dial out, you must wait about 30 seconds before you will hear a dial tone and the number dialed. If after 30 seconds you don't hear the dial tone, check the cable connections and settings of the IIGS Control Panel and Access II and try again.

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AppleShare Workstation 3.6.5: Read Me File

This article is the AppleShare Workstation 3.6.5 Read Me file.
This article has been archived and is no longer updated by Apple.

Contents

- Changes from AppleShare Workstation 3.6.2
- Changes from AppleShare Workstation 3.6.3 & 3.6.4
- System Software recommendations

Changes from AppleShare Workstation 3.6.2

AppleShare Workstation 3.6.2 was modified to allowed the user to change his or her password during alias resolution. This modification caused two problems:

- Utilities (such as virus-protection utilities) that patch GetResource could cause AppleShare Workstation software to crash when opening an alias that required a password.

- The system could hang if a background application performed file I/O while an alias that required a password was being opened.

For AppleShare Workstation 3.6.3, this modification was removed. It will be re-implemented in a future version of AppleShare Workstation software.

A conflict with applications that quit the Finder, notably the Apple Installer, was fixed.

Changes from AppleShare Workstation 3.6.3 & 3.6.4

AppleShare Workstation 3.6.3 and 3.6.4 differ only in the bundle bit being set on the AppleShare extension.

AppleShare Workstation 3.6.5 fixes some internal version strings that were not updated with 3.6.4.

System Software recommendations

Computers running system software prior to 7.5.1 should run AppleShare Workstation 3.5.

Computers running system software 7.5.1 or later should run AppleShare Workstation 3.6.5.

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Network Server 500 or 700: Configure PPP Server in AIX (1/97)

This article describes configuring a simple PPP Server in AIX 4.1.4 on an Apple Network Server 500, or 700.
This article has been archived and is no longer updated by Apple.
To configure a simple PPP Server on an Apple Network Server 500 or 700 running AIX 4.1.4, follow the steps below:

Step 1

Create a tty for your serial port with login enabled, rts or cts flow control, and a serial port rate at 38400 for modem that are over 14400 kbps.
Use smitty devices or type this shell command:

mkdev -c tty -t 'tty' -s 'rs232' -p 'sa0'

This command will create the tty on serial port 1.

Step 2

Add this line in your Devices file in the "/etc/uucp" directory.

Direct tty0 - any direct

Be sure to save the file with the "w!" in vi because the file is read only and then exit with "wq" when finished.

Step 3

Type smitty ppp and go to link control configuration, go to add a link configuration.

1 server
0 client
0 demand (available only on AIX 4.2)
1 interface
1 hdlc

Leave the rest at default values.

Step 4

Go to smitty addpppserver

a) fill in local address (your local system IP address)
b) starting remote address (your remote address for the peer)
c) number of addresses (1)

Step 5

Start the PPP subsystem through smitty or type

/etc/ppp/mkppp -start 'both'

Step 6

When you login, the .profile should contain:

exec /usr/sbin/pppattachd server

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LaserWriter Select Series: Printing Light on Half of Page

I have a LaserWriter Select 360 printer, which is printing light on one-half of the page. I replaced the toner cartridge, but that did not correct the light printing.
This article has been archived and is no longer updated by Apple.
On the LaserWriter Select 300, LaserWriter Select 310, and LaserWriter Select 360 printers this problem can occur when there is a build-up of toner on the glass inside the printer.

The laser beam passes through a window in the printer chassis before striking the photosensitive drum within the toner cartridge. The window is in a long narrow slit directly behind the toner cartridge. If toner build-up occurs on this window, printouts exhibit a faded inconsistent look, similar to the appearance of a toner cartridge at the end of its life. The faded appearance is often more pronounced on the left side of the page.

How to Correct Image Fading

1. Remove the toner cartridge.
2. Wipe the front surface of the glass with a lint free cloth.
3. Replace the toner cartridge.
4. Print a startup page. (If the print quality does not change, the problem is not with the window.)
5. Replace the toner cartridge with a known good cartridge.

If the problem does not go away, your printer needs to be examined by an Apple service technician.
Published Date: Feb 18, 2012

PC Compatibility Card and IMS Video (1/97)

I have a Power Macintosh 7200/120 with a PC Compatibility card and an IMS Twin Turbo Video card installed. If I am using built-in video, the PC Setup control panel allows for configuration of my 20-inch display. If I am using the IMS video card, the PC Setup control panel only allows configuration of a 640 x 480 display. What could be causing this?

This article has been archived and is no longer updated by Apple.

When a PC Compatibility card is present, the correct video driver to use with the IMS Twin Turbo video card is version 3.6. Older versions of the driver may not provide full functionality for the display you are using.

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LaserWriter: RS-232 Direct Cable Pinouts To The Macintosh Plus

This article has been archived and is no longer updated by Apple.

```
      Macintosh           Laserwriter
Signal Mini-Circular 8       (DB-25)   Signal

 Name    pin                   pin      Name   Comments
-------------------------------------------------------------------------------
 No connection                  1       GND  Chassis Ground

 GND      4       <->           7       GND  Signal Ground

 RxD+     8       <->           7       GND  Signal Ground

 TxD-     3       <->           3       Rx   Macintosh data output:
                                            Transmit data, negative going
                                            Laserwriter data input:
                                            Receive data
 Hsk
 Out      1       <->           5,6,8        Power detection; ready signal

 RxD-     5       <->           2        Tx  Laserwriter signal output:
                                            Transmit data
                                            Macintosh signal input:
                                            Receive data, negative
                                            going
```

Published Date: Feb 18, 2012

Performa 6400/6360 & GeoPort Modem: Data/Fax Arbitration

I cannot get the data/fax arbitration to work correctly on a Macintosh Performa 6400 or 6360 with a GeoPort modem. What should I do?
This article has been archived and is no longer updated by Apple.

1. Open the Express Modem control panel and verify the Express Modem is turned on.
2. From the General Settings pop-up menu, choose "Advanced Options." Make sure that unknown calls are selected to be transferred to the Voice application.
3. Open AppleFax and verify that the Receive Faxes option is in the ON position.
4. Open Megaphone and choose Preferences from the File menu.
5. From the Topics pop-up menu, choose Mailboxes. Ensure that "Allow Megaphone Voice Messaging" is enabled.
6. From the Topics pop-up menu, choose Incoming Calls. Ensure that "Come to Front When Ringing" is chosen.

This should suffice to allow the computer to automatically arbitrate between fax and voice calls.

Note that Megaphone must always be open for this feature to work.

If the above steps did not resolve your issue, you may have a software conflict. Please review the Tech Info Library articles listed below. They provide general guidance on how to troubleshoot extension conflicts.

Note that certain types of third-party performance enhancement utilities which modify the system at a low level can modify system performance enough that some features may not work correctly.

REFERENCES

Article 17768: "**System SW Clean Restore: Macintosh Performa Computers w/CD**"
Article 15926: "**System 7.5: Troubleshooting Extension Conflicts**"
Article 14343: "**Troubleshooting Macintosh INIT Conflicts**"

This article was published in the Information Alley on 31 January 1997.
Published Date: Feb 18, 2012

Newton 2.x OS: Known Windows Serial Connection Issues

This article provides information on known Windows serial connection issues.
This article has been archived and is no longer updated by Apple.
On some Windows-based computers, customers with Newton OS 2.x units may experience serial connection problems with the Newton Backup Utility for Windows 1.0 and the Newton Package Installer 2.0. Users may experience the following symptoms:

Newton Backup Utility for Windows 1.0

- does not establish a connection to the unit
- drops connections to the unit
- completes backs up but does not create the backup file
- will not install a package onto a storage card
- experiences random serial connection failures

Newton Package Installer 2.0

- does not establish a connection to the unit
- drops connections to the unit
- will not install a package onto a storage card
- experiences random serial connection failures

Products with Revised Serial Driver

The following products incorporate a revised serial driver in the Windows host software that do not exhibit these symptoms.

- Newton Backup Utility for Windows 1.0.1
- Newton Press for Windows 1.0
- Newton Connection Utilities for Windows 1.0

The following products are intended for Newton 1.x units and are not affected by this issue

- Newton Connection Kit for Windows 1.x and 2.x
- Newton Package Installer for Windows 1.1

Published Date: Feb 18, 2012

Mac OS 7.6 and Connectix Speed Doubler Issue

This article describes an issue between Mac OS 7.6 and Connectix Speed Doubler.
This article has been archived and is no longer updated by Apple.
Some versions of Connectix Speed Doubler are not compatible with Mac OS 7.6. If you are using Speed Doubler version 1.3.1 or earlier, you should update to version 1.3.2. If you are using version 2.0, you should update to version 2.0.1. You should disable Speed Doubler until you can update your Speed Doubler software. Speed Doubler Updaters and more information on this problem are available from Connectix on the World Wide Web at:

http://www.connectix.com/html/speed_doubler_updates.html

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

The Tech Info Library article titled "**Locating Vendor Information**" can help you search for a particular vendor's address and phone number.
Published Date: Feb 18, 2012

Mac OS 7.6: Netscape Navigator Freezes (1/97)

This article describes a situation where Netscape Navigator may fail with Mac OS 7.6 if the Shared Library Manager extension is turned off by the Extensions Manager control panel.
This article has been archived and is no longer updated by Apple.
The Shared Library Manager extension is needed on PowerPC processor-based computers, and when this extension is turned off, Netscape Navigator v3.0 freezes after it attempts to access a URL (uniform resource locator). Occasionally, Netscape will load a URL or two and freeze within the next minute or so.

Also, the description in Extensions Manager control panel, in the Item Information section, of the Shared Library Manager is not correct. This description incorrectly states, "... Needed if your computer is using Open Transport and has a 68020, 68030, or 68040 processor."

The two extensions, Shared Library Manager PPC and Shared Library Manager, are both needed for a PowerPC processor-based Mac OS computer.

This article appeared in the 31 January 1997 issue of the Information Alley.
Published Date: Feb 18, 2012

Newton MessagePad: Where to Locate Windows Serial 9600 Driver

I removed the Serial 9600 driver from my Newton 2.x OS device, and did not have a backup of my data. I would like to reinstall the Serial 9600 driver. Where can I get this driver?
This article has been archived and is no longer updated by Apple.
The Serial 9600 driver is not available separately. However, it is included in the following products listed below, which are available on the Apple Software Updates sections online.

Product name	Online Filename
Newton Backup Utility 1.0.1	NBU101EN.ZIP
Handwriting Instructor and Tour	TOUR_HWI.ZIP
Newton Package Installer 2.0	WINNPI2.EXE

This article can help you locate the software update mentioned in this article:

- Article 14724: "**Where To Find Apple Software Updates**" - Lists online services for free Apple software updates.

Published Date: Feb 18, 2012

MegaPhone: Type 11 Error With GeoPort Software

I have a Macintosh Performa 6360 or 6400 series computer, running MegaPhone. When I launch MegaPhone, I get a type 11 error. What could be causing this?

Note: Macintosh Users
MegaPhone for the Macintosh is now distributed and supported by Bing Software. If you need technical support, please contact Bing Software directly:

Monday through Friday, 9 am to 5pm Pacific time.
Technical Support: (714) 888-6639
Fax: (714) 888-6635
For Sales, call: (714) 888-6633
E-mail:bingsoftware@mindspring.com
Web:http://www.BingSoftware.com
This article has been archived and is no longer updated by Apple.
MegaPhone can fail with a type 11 error if the Telephone Manager extension is turned off. This could result if you start with extensions off, or if you choose System 7.5.3 Only from the Extensions Manager. This issue is unique with GeoPort software. Cypress Research has been notified and they will fix MegaPhone in an upcoming version In the interim, follow the troubleshooting steps below:

1. Restart the computer without holding down any keys, and see if that helps.
2. Choose Control Panels from the Apple menu, then open the Extensions Manager control panel.
3. Choose Save Set from the Sets menu. Give the set a name. This is your reference set.
4. At a minimum, verify that the following software components are checked:
Extensions: MegaPhone Menu, and Telephone Manager Extension
Control Panels: MegaDial
5. Restart the computer, and try MegaPhone again.

If the problem persists, there may be something else going on, like an extensions conflict. It is very unlikely that the actual application has become corrupted. You may wish to try the following steps, in order of severity:

1. Attempt regular system software troubleshooting. A conflicting extension or control panel can be causing MegaPhone to fail. Review what types of applications you may have installed prior to MegaPhone failing, and disable the System Folder components of any application or utility package which introduces components into the System Folder.
2. Open the System Folder -> Preferences -> Cypress -> MegaPhone folder. Throw away MegaPhone Preferences.
3. Start your computer with the Performa CD, then choose Restore All Software.
4. Perform a clean install.

The Tech Info Library has several articles that provide guidance on how to troubleshoot software conflicts, and how to perform clean installs.
Published Date: Feb 18, 2012

Newton Connct Kit for Windows: Limited Windows 95 Support

Is the Newton Connection Kit for Windows supported under Windows 95?
This article has been archived and is no longer updated by Apple.
The Newton Connection Kit for Windows was originally written for Windows 3.1x, and it was only tested under Windows 3.1x. Although it has not been qualified for use under Windows 95, informal usage indicates that it functions properly.

Although it is not officially supported under Windows 95, Apple recommends customers run Newton Connection Kit for Windows 2.0.3, which is the latest version of this software.

This article appeared in the 31 January 1997 issue of the Information Alley.
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PowerBook: System 7.6 & Speakable Items Issue

Is there a known incompatibility with using Speech Recognition 1.5 on PowerBook computers running System software 7.6?
This article has been archived and is no longer updated by Apple.
There is a problem with Speech Recognition 1.5 on PowerBooks running System 7.6. If Speakable Items is turned on, and the PowerBook computer is put to Sleep, the PowerBook may crash when it comes out of sleep. The crash may manifest itself as a freeze, a "Finder CHK error", a Type 10 error, or a Type 11 error.

This behavior only occurs if System 7.6 is installed; it does not occur with earlier versions of the system software. It has been reproduced on PowerBook 1400 and 5300 computers, but may also occur on other Speech Recognition-capable PowerBook computers.

This behavior is fixed in the Mac OS 7.6.1 Update which is available from the Apple Software Updates library.

These articles can help you locate the software update mentioned here:

"**Where To Find Apple Software Updates**" - Lists online services for free Apple software updates.

"**Obtaining Apple Product Support in the USA**" - Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech Info Library.
Published Date: Feb 18, 2012

Pwr Mac 6360/Performa 6400: Pulse Dialing Does Not Work (3/97)

I cannot use pulse dialing to fax from the Apple Telecom software. It always defaults to tone dialing.
This article has been archived and is no longer updated by Apple.
Apple is aware of the issue. However, at this time there are no known workarounds, and there is no date estimates when this will be corrected in the Telecom software.

Article Change History:
03 Mar 1997 - Added current information.
Published Date: Feb 18, 2012

Apple Telecom 3.1: Fax Sender GX sends Reduced Size Fax (2/97)

I have a Macintosh Performa 6360 and a Macintosh Performa 6400 with the internal GeoPort modem. I have updated my Apple Telecom software with the 3.1.1 updater from Apple's Software Updates web site, and installed QuickDraw GX 1.1.5. Now when I send a fax from some of my word processing applications using Fax Sender GX, I notice that the faxed pages are reduced to about 20% of their actual size. How can I correct this?

This article has been archived and is no longer updated by Apple.

Some word processing applications do not support QuickDraw GX. Fax Sender GX (part of Apple Telecom 3.1) allows you to fax from QuickDraw GX-savvy applications when QuickDraw GX is installed. Applications that support QuickDraw GX do not experience this reduction problem when printing through Fax Sender GX. In order to avoid this reduction problem, you can temporarily disable QuickDraw GX by disabling the QuickDraw GX extension using the Extensions Manager control panel. After restarting your computer, you can select the regular Fax Sender driver in the Chooser and fax normally.

This article appeared in the 3 February 1997 issue of the Information Alley.

Published Date: Feb 18, 2012

Performa 6400: No Difference Between System files (2/97)

Is there any difference between the System suitcase on the Performa 6400 GVC (691-1109-A) Restore All Software and the one in the Hard Disk files folder on the CD?

This article has been archived and is no longer updated by Apple.

No, there are no differences between the two files.

Published Date: Feb 18, 2012

LW 8.4.x: Type 11 Error When Setup Used With ATM 4.0 (2/97)

I am using the LaserWriter 8.4.1 printer software and just installed Adobe Type Manger (ATM) 4.0. Now when I select the LaserWriter icon and select Setup, I either get a Type 11 error or my computer "freezes".
This article has been archived and is no longer updated by Apple.
This can occur with any combination of LaserWriter 8.4.x and ATM 4.0 when setting up a printer for the first time. Once a LaserWriter has gone through Setup in Chooser, successive Setups of that printer work properly.

This issue should be resolved in a future version of the LaserWriter driver software. Until then, you can use one of the workarounds listed below.

Workarounds

Disable ATM 4.0 before setting up a LaserWriter for the first time in Chooser.

Use the LaserWriter 8.3.4 software. Versions of the LaserWriter driver earlier than 8.4 do not exhibit this issue.

Use LaserWriter 8.4.2. Although susceptible to this issue, results are better when using the LaserWriter 8.4.2 with ATM 4.0 software.

Published Date: Feb 18, 2012

LaserWriter 12/640 PS: Altitude Specifications

The output quality on my LaserWriter 12/640 PS degrades when I take the printer to my vacation home which is above 8,000 feet. The output contains a lot of small black circles (bubbles). What is the operating altitude limit for the LaserWriter 12/640 PS printer? Is there anything that I can do to correct the situation?

This article has been archived and is no longer updated by Apple.

The LaserWriter 12/640 PS has a maximum operating altitude limit of 8,200 feet. If the printer is used at altitudes above this limit, the toner charging and transfer characteristics are affected, usually with an adverse affect on the output quality. Some customers report that a varying number of small black circles (bubbles) may appear which cover anywhere from 1% to 60% of the printed page.

Published Date: Feb 18, 2012

Performa 6400: Location of GeoPort AT Modem Commands (2/97)

I have purchased a Macintosh Performa 6360 with the internal GeoPort modem. After checking through all of the Read Me documents and hard copy documentation, I cannot locate the AT modem command set references. Where can I find this information?

This article has been archived and is no longer updated by Apple.

Performa 6360 and 6400 computers shipped without an AT Command Set reference booklet. This command set is available on Apple Software Updates as part of the "Geoport-EM 3.1.1 Update" disk set. Macintosh Performa 6360/6400 users are encouraged to update their software to this version or later. After installing the update, you will find to reference booklet in the "Telecom Documents" folder on your hard disk. This document is called "AT Command Set (US) 33.6.pdf". This document is in the Adobe Acrobat PDF file format.

These articles can help you locate the software update mentioned here:

"Where To Find Apple Software Updates" - Lists online services for free Apple software updates.

"Obtaining Apple Product Support in the USA" - Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech Info Library.

This article appeared in the 4 February 1997 issue of the Information Alley.
Published Date: Feb 18, 2012

Performa 6360: No Difference Between System files (2/97)

Is there any difference between the System suitcase on the Performa 6360 GP (691-1210-A) Restore All Software and the one in the Hard Disk files folder on the CD?

This article has been archived and is no longer updated by Apple.

No, there are no differences between the two files.

Published Date: Feb 18, 2012

Performa 6360/6400: Apple Fax & Cover Page Problems (2/97)

I have a Performa 6360 & 6400 with an internal Geoport modem installed. I am using the Apple Fax software that is included with my Performa to send faxes from various applications. I have updated my software using the Apple Telecom 3.1.1 Updater.

I have noticed some errors with the Sample, Standard and Homemade cover pages. Some of the text in the <Recipient Name> field is either missing or showing in the wrong place within the field on the imaged or sent fax. Specifically, the zip code appears after the street name and the state does not appear at all. Also, when using the calling card feature, I notice that my calling card number appears in the <Recipient Fax Number> field on the imaged or sent fax.

Are there any known workarounds for these issues? Will this be investigated?

This article has been archived and is no longer updated by Apple.
Apple is aware of these issues with the fax Cover Pages and is working to correct them in a future release of Apple Telecom software.

At this time, there are no known workarounds for the zip code appearing in the wrong place and state not appearing at all in the <Recipient Name> field. For the issue with the calling card being printed in the <Recipient Fax Number> field, users can open the cover page using the Apple Fax application and delete the <Recipient Fax Number> field entirely.

Modified fax cover sheets with the <Recipient Fax Number> field deleted are available through Apple Software Update sites.

The latest version of the Apple Telecom updater software is version 3.1.1. It is available through all Apple Software Update sites.

These articles can help you locate the software updates mentioned here:

"Where To Find Apple Software Updates" - Lists online services for free Apple software updates.

"Obtaining Apple Product Support in the USA" - Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech Info Library.
Published Date: Feb 18, 2012

Apple Equipment: Using On 12 Volts

This article discusses using Apple equipment with a 12V DC power supply.
This article has been archived and is no longer updated by Apple.
Apple Computer, Inc. is not responsible for any damages, real or implied, resulting from the use of this information. The responsibility for any damage lies completely with the user.

If you want to use Apple equipment on 12V DC, bear in mind the following precautions prior to powering up.

An inverter is a power converter that takes a direct current voltage, commonly 11.4 to 14.4 volts DC, and changes it to a nominal 120 Volts AC. Care must be taken to ensure an adequate supply of direct current to the inverter so the output voltage will be within the normal requirements of the attached equipment. This means that the minimum power capability of the converter would have to be at least 50% higher than the combined maximum current of the attached equipment.

Example: To connect a Macintosh Plus and an ImageWriter II to a 12v inverter, the maximum current draw of the equipment is 300 watts. The minimum safe rating of an inverter would be 450 watts, and 500-600 would be better. This allows a high enough safety factor so the inverter will not overheat, and the current draw will not be high enough to drop the AC output voltage.

The majority of the inverters on the market output the AC power as a square wave. Most Apple CPUs use switching power supplies which can handle this square wave power without any difficulties. However, square wave power causes the equipment to generate more than the normal amount of heat. You can eliminate the cause, the high frequency component of the square wave, by placing a line filter between the square wave power source (the inverter) and the attached equipment to provide a modified sine wave. The filter doesn't reduce the power but does soften the waveform enough to minimize the effect of abnormal heat. The line filter should have a current (or power) rating equal to the rating of the inverter. While a matching filter is not absolutely necessary, it should be considered if the life of the equipment is a factor.

Damage to the equipment can occur when too much heat or too little power is running through the system. Be very sure to observe power and current ratings to match an inverter to any electronic equipment so that the inverter will supply the proper amount of power.

Powering computer equipment with an inverter gets you and your computer into many different environments: boats, planes, trains, as well as some solar powered homes, and other places that previously could not support electronic equipment.
Published Date: Feb 18, 2012

AppleFax: Can‘t Print Legal-Sized Fax Documents (2/97)

I have a legal-sized fax that I received using AppleFax. When I print it, it is truncated, and I cannot view the entire fax, even if I use legal-sized paper. How can I print the entire fax?

Note:
Apple Fax is installed as part of the Apple Telecom Software.
This article has been archived and is no longer updated by Apple.
This issue is currently being investigated by Apple Computer Inc. Until a permanent solution is found, you can use one of the workarounds listed below.

Workarounds
==========

Change the Scale

Step 1

Choose Page Setup from the File Menu.

Step 2

Change the Scale to 80 percent.

Step 3

Click OK.

Step 4

Print the fax.

Save as a PICT

Step 1

Choose Save AS from the File Menu.

Step 2

Save the fax as a PICT file.

Step 3

Print the document using SimpleText.

This article appeared in the 5 February 1997 issue of the Information Alley.
Published Date: Feb 18, 2012

CD Control Strip: Isn‘t Installed w/ Clean Install

I just did a clean install of 7.5.3 on my PowerBook 1400 and noticed that the CD Strip was not installed. I performed a complete install and it still is not there. How can I get it back?

This article has been archived and is no longer updated by Apple.

The CD Strip is on the PowerBook 1400 CD-ROM System Software disc. It is located in the Install Apple Extras folder. You can install the CD Strip module by dragging it to the Control Strip Modules folder, which is located inside the System folder.

Published Date: Feb 18, 2012

LaserWriter 8.4.x: Doesn‘t Support Custom Page Sizes

After upgrading to LaserWriter 8.4.x from LaserWriter 8.3.4, I can no longer select a custom page size in my Page Setup dialog. I am printing to an imagesetter which supports various paper sizes, and have been able to input custom page sizes with prior versions of the LaserWriter 8 printer driver. What is wrong?
This article has been archived and is no longer updated by Apple.
As of LaserWriter 8.4, support for custom page sizes was removed from the LaserWriter 8 printer driver. This feature was not implemented well, so it was removed. There are plans to incorporate custom page sizes again in later releases of the LaserWriter 8 printer driver using a new and improved user interface.

8.4 Workarounds
==========

- Use the Adobe PS Printer driver
- Use the LaserWriter 8.3.4 printer driver.

LaserWriter 8.5.1
Custom page sizes are now supported in the LaserWriter 8.5.1 drives. You may wish to upgrade to LaserWriter 8.5.1.

Note: Custom page sizes are not supported on ANY Apple LaserWriters.

This article appeared in the 5 February 1997 issue of the Information Alley.
Published Date: Feb 18, 2012

Mac OS 7.6 Checks For Defective L2 Cache (2/97)

This article describes an issue when a dialog informs a user that they have defective hardware.
This article has been archived and is no longer updated by Apple.
Mac OS 7.6, because Open Transport is required, has a "sniffer routine" which checks for the presence of defective L2 cache. If defective hardware is discovered, a dialog is displayed informing the user that a hardware issue was detected and repairs are necessary. The required repairs are covered under the Apple Repair Extension Program.

For more information see Technical Information Library article, "Macintosh 5200/5300/6200/6300: Using Open Transport".

Published Date: Feb 18, 2012

PowerBook: Modem/Ethernet PC Card Not Recognized (2/97)

I just did a clean install of my system software and now when I insert my Global Village Platinum Pro modem/Ethernet PC card, I get the following message.

"The correct software you need to use the PC Card in the Lower PC Card slot is not installed. Do you want to eject the card now?

I thought that the system software came with the necessary software to recognize modem cards. Why am I getting this message?

This article has been archived and is no longer updated by Apple.

The system software does include software which enables it to use standard Type II modem cards. However, the Global Village Platinum Pro and other "combo" cards need additional software to be recognizable by the PowerBook computer.

"Combo" or combination cards include cards that have functionality in addition to being a modem, such as Ethernet. These cards require additional software to be recognized by the computer even if you are just using the modem and not using the Ethernet or other capabilities. In addition to Global Village, some examples of the other vendors making these types of cards are Farallon, Dayna and Asante.

To resolve this situation, you simply need to install the software that came with your PC card. After you install the necessary software the card should be functional again.

This article was published in the Information Alley on 5 February 1997.
Published Date: Feb 18, 2012

At Ease 4.0, Power Macintosh, & Student Writing Center (2/97)

Some early versions of the Apple Education Series Bundles shipped with the Student Writing Center version 1.0.1. This version of the Student Writing center conflicts with At Ease 4.0.x when installed on a Power Macintosh 5400 computer, this may affect other Power Macintosh models as well. In a Panels environment, at launch the Student Writing Center quits back to the Panels environment. In a Restricted Finder environment, the program quits with a Type 1 error. The application works correctly in a Full Finder environment.

This article has been archived and is no longer updated by Apple.

To resolve this update to Student Writing Center version 1.0.5. For more information about updating, contact:

The Learning Company
Product Support Center
9715 Parkside Dr.
Knoxville, TN 37922
423-670-2020
web site: http://www.learningco.com/

Published Date: Feb 18, 2012

MAE 3.0: Obtaining Volume or Multiple License Keys (1/97)

This article describes the procedure for obtaining a volume (multiple) license keys for Macintosh Application Environment (MAE) 3.0. The process differs from previous versions of MAE.
This article has been archived and is no longer updated by Apple.
Users who order a volume license for the MAE 3.0 from Claris will receive these two important items:

The "Volume License Agreement" from Claris. This document is NOT inside the product package, and has code number which is needed for a volume license.

The MAE product package which contains the MAE 3.0 software and documentation on a CD-ROM disc, plus two important paper documents. There is only one distributed software product which is identical for single user and volume user licenses. Below is a description of the two paper documents inside the package:

- "About MAE 3.0 License Keys" which broadly describes how an administrator should decide to install the license keys, and how the keys are obtained from the license vendor, Globetrotter. The reverse side of this document contains contact information for product support.

- "MAE 3.0 License Registration" which is filled out and Faxed to the license registration Fax system. This document has a sticker with a unique single-user authorization code that is the only code necessary to obtain a single-user license key.

Both single-license users and volume administrators must submit the "MAE 3.0 License Registration" form to the license vendor, Globetrotter, to obtain a valid and permanent single-user MAE 3.0 license key file.

In addition to the unique single-user authorization code attached to the "MAE 3.0 License Registration" form, volume users must also supply the Claris' "Volume License Agreement" code number to the "MAE 3.0 License Registration".

While a soft copy of the Registration form is provided in Adobe Acrobat format on the compact disc, neither license, nor volume agreement code number is entered. Both must be entered in by the applicant along with other requested information.

Licensing is controlled by flex-lm software from Globetrotter. All license keys are issued by Globetrotter only in response to a Fax or e-mail (preferred) submission. Turn around time for license key files may be one business day when e-mail is used.

IMPORTANT: The volume license applicant must supply the Claris Volume License Agreement code number. If this is not done, Globetrotter will correctly issue only a single-user license, regardless of the quantity entered in the number of licenses requested field.

NOTE: If an applicant desires to implement more than a single license key file for his licensees, then the applicant must supply information about the distribution desired. For example, a fifty user license might be broken down as a group of twenty and thirty individual licenses. This would let thirty users have exclusive access, and an additional twenty 'floating' licenses.

NOTE: If individual licenses are to be run locally on the user's workstation, then the individual host ids of these machines must also be provided for correct key generation.

Published Date: Feb 18, 2012

Pwr Macintosh 7300, 8600,9600: Support EDO Memory? (2/97)

I heard that the Power Macintosh 7300, 8600, and 9600 series computers ship with EDO memory installed. Does this mean these computers support EDO memory?

This article has been archived and is no longer updated by Apple.

Although the Power Macintosh 7300, 8600, and 9600 series computers do ship with EDO (Extended Data Out) memory installed, these computers are not EDO compatible.

The memory controller of these computers does not support EDO memory. Instead, the EDO memory in these computers functions as FPM (Fast Paged Mode) memory.

Article Change History:
24 Feb 1997 - Changed distribution status.

Published Date: Feb 18, 2012

Twentieth Anniversary Macintosh: Setting Up the Bass Unit

This article explains how to set up and connect the bass unit (subwoofer) to the Twentieth Anniversary Macintosh computer.
This article has been archived and is no longer updated by Apple.
Follow these steps to properly set up the bass unit on the Twentieth Anniversary Macintosh.

The steps include:

- Positioning the bass unit
- Attaching the bass unit to the computer
- Plugging in the power cord

Positioning the bass unit

Place the bass unit near a grounded outlet, within six feet of the computer. the bass unit is designed to be placed under your work surface and will perform best acoustically when placed on the floor. It can also be placed on any stable, flat surface.

Caution: The bass unit contains a very strong magnet. To prevent the magnet from interfering with the computer's screen, do not place the bass unit next to the computer. Do not place floppy disks on top of the bass unit (data may be lost).

Attaching the bass unit to the computer

Follow these steps to attach the bass unit to the computer:

Step 1
Locate the large cable attached to the computer. This cable plugs into the bass unit.

Step 2
Locate the recessed well on the underside of the bass unit, and the groove containing a short cable already attached to the bass unit.

Note: The recessed well also contains the bass unit's level control. The control is preset at the level that is appropriate in an average size carpete room. Note the location of the control in case you want to adjust it after you start up the computer

Step 3
Loosen the short cable from the groove.

Step 4
Plug the connector at the end of the computer's cable into the subwoffer's connector. Align the two connectors and press them together. Do not force the connectors.

Note: The connectors are keyed so that they will only fit together one way. Rotate the connectors around until the small internal ribs and groovers on the connectors line up. You will then be able to push the two connectors together.

Step 5
Secure the connection by firmly rotating the metal band until you hear a click.

Step 6
Press the bass unit cable back into the groove.

Plugging in the power cord

Follow these steps to plug your equipment into a wall outlet:

Step 1
Make sure the voltage switch inside the well on the bottom of the bass unit is set for the voltage you connect to.

The voltage switch is preset in the factory to the correct voltage for the area where you bought the computer.

If there is any chance that the setting has been changed, or if you take the computer to a country with a different voltage system, it is important to check the voltage and change the setting if necessary. The voltage switch must be set correctly to avoid damaging your computer.

Country	Voltage Setting

France, Germany, and United Kingdom	230
Japan and United States	115

Step 2
Plug the socket end of the power cord into the recessed power plug inside the well on the bottom of the bass unit.

Step 3
Plug the other end of the power cord into a three-hole grounded outlet or power strip.

Important: The only way to disconnect power completely is to unplug the power cord. Make sure the power cord is within easy reach so that you can unplug the computer when you need to.

Step 4
Turn the bass unit right side up.

You can store any extra length of the power cord in the well.
Published Date: Feb 18, 2012

System 7.5.x Troubleshooting (2/97)

This article provides troubleshooting tips to help solve problems with System 7.5 Update 2.0 and a Mac OS-based computer.
This article has been archived and is no longer updated by Apple.
Print this document This document contains troubleshooting information that you may need when the computer is not turned on. For reference, keep a printed copy of this document near your computer. To print this document, open the File menu and choose Print.

Contents

This document provides information about what to do if your computer freezes:

when the "happy Macintosh" icon appears during startup
while system software extensions are being loaded during startup
after startup as the Finder is being started
while the computer is turned on but not being used (idle)
when starting, using, or quitting an application program
when printing from an application program

Before You Read This Document

It is a good idea to try to pinpoint when the freezes or hangs you experience with your computer first began to occur. For instance, if you installed additional memory in your computer and the freezes or hangs began to occur after that, the problems are likely to have something to do with the memory or the way it was installed. Two other actions that sometimes cause problems are connecting a new SCSI device to your computer (the device, its cable, or its SCSI ID number may cause problems), or installing new software (the software may contain incompatibilities or need more memory than is actually available).

Other Sources Of Troubleshooting Information

Besides this document and online services, there are several other good sources of troubleshooting information:

User's manual. See the troubleshooting section of the user's manual that came with your computer for detailed troubleshooting instructions.

Macintosh Guide. Open the Guide menu and choose Macintosh Guide. (The Guide menu is under the question mark near the upper right corner of your screen). Click the Index button in Macintosh Guide, and choose a topic from the index.

Apple Technical Information Library (TIL). The TIL can be found on several online services including America Online and Compuserve, and Apple Computer's Internet web site @ http://www.info.apple.com/.

The Computer Freezes When The Happy Macintosh Icon Appears During Startup
---
When the computer first starts up you see a smiling "happy Macintosh" icon. (If you see a "sad" icon or one with a question mark, refer to the user's manual that came with your computer.) If the computer freezes while the happy Macintosh icon is on the screen, follow the steps below.

1) Remove any SCSI or serial devices attached to your computer:
Turn the computer off by pressing the power switch on the back of the computer.
Disconnect any devices attached to the computer's external SCSI and serial (printer and modem) ports.
Wait 710 seconds. This allows time for the hard disk drive to stop spinning.
Turn the computer on by pressing the power switch on the back of the computer.

2) If the computer starts up successfully, try the following:
Shut down the computer and plug the devices back in one at a time.
The problem may be with one of the devices. Restart after each device to identify which one is causing the problem.
Refer to the user's manual that came with the computer for more information about SCSI devices, and refer to the devices' manuals and

manufacturers.

3) If after unplugging all SCSI and serial devices the computer continues to freeze at the "happy Macintosh" icon, try the following:
Start up from a CD-ROM disc that contains system software for your computer, or a Disk Tools floppy disk. Then run Disk First Aid to make sure that the hard disk is OK.
Test the hard disk using Apple HD SC Setup or Drive Setup (whichever came with your computer).

Refer to the user's manual that came with your computer for instructions on starting from a CD-ROM disc or Disk Tools disk and using Disk First Aid, Apple HD SC Setup, or Drive Setup.

If the computer does not start up successfully after you test the hard disk, perform a clean installation of system software. Follow the instructions for doing a clean installation in the Troubleshooting section of the user's manual that came with your computer (for Power Macintosh 5200/5300 LC computers), or in the Macintosh Performa CD booklet (Performa computers).

If the computer still freezes during startup after a clean installation of system software, or if it freezes at the "happy Macintosh" icon while starting up from the compact disc or Disk Tools floppy disk, take the computer to an Apple-authorized service provider.

Computer Freezes While System Software Extensions Are Loading
---
During startup a line of icons "march" across the bottom of your screen. These icons represent the system software extensions being loaded (started) on your computer. If the computer freezes at this point in the startup, follow the steps below.

1) Remove any SCSI or serial devices attached to your computer:
Turn the computer off by pressing the power switch on the back of the computer.
Disconnect any devices attached to the computer's external SCSI and serial (printer and modem) ports.
Wait 710 seconds. This allows time for the hard disk drive to stop spinning.

2) Turn off all unnecessary system software extensions:
Open the Special menu and choose Restart while holding down the space bar. The Extensions Manager control panel opens.
(If you can't open the Special menu, press the Command, Control, and Power keys simultaneously while holding down the space bar. The Command key is marked with a "curly" icon, and the Power key is marked with a triangle.)
Open the "Sets" pop-up menu and choose "System 7.5.3" or "System 7.5" (whichever is available).
Open the Special menu and choose Restart.

3) If the computer starts up successfully, try the following:
Open the Apple menu and choose Control Panels.
Double-click the Extensions Manager to open it. In the list of extensions only the ones required for system software version 7.5.3 are turned on (marked with a check mark); the rest are turned off (disabled).
The problem may be with an extension or control panel that is not compatible with your computer. Try turning on each of the disabled extensions, restarting after each extension, to identify which one is causing the problem. (To turn on an extension, click to put a check mark next to it.)

For more information about incompatible extensions and other software, refer to the user's manual that came with your computer or contact the company that supplies the software.

If the computer does not start up successfully after you follow steps 13 above, perform a clean installation of system software. Follow the instructions for doing a clean installation in the Troubleshooting section of the user's manual that came with your computer (for Power Macintosh 5200/5300 LC computers), or in the Macintosh Performa CD booklet (Performa computers).

If the computer still freezes during startup after a clean installation of system software, take the computer to an Apple-authorized service provider.

IMPORTANT: Before you plug your SCSI or serial devices back into the computer, be sure the computer is shut down and turned off.

The Computer Freezes As The Finder Is Being Loaded

During startup the Finder (the program that runs your computer and keeps its activities organized) is loaded after the line of icons representing your computer's system software extensions have finished "marching" across the screen. If the computer freezes at this point in the startup, follow these steps:

1) Turn off all unnecessary system software extensions:
Open the Special menu and choose Restart while holding down the space bar. The Extensions Manager control panel opens.
(If you can't open the Special menu, press the Command, Control, and Power keys simultaneously while holding down the space bar. The Command key is marked with a "curly" icon, and the Power key is marked with a triangle.)
Open the "Sets" pop-up menu and choose "System 7.5.3" or "System 7.5" (whichever is available).
Open the Special menu and choose Restart.

2) If the computer starts up successfully, try the following:
Open the Apple menu and choose Control Panels.
Double-click the Extensions Manager to open it. In the list of extensions only the ones required for system software version 7.5.3 are turned on (marked with a check mark); the rest are turned off (disabled).
The problem may be with an extension or control panel that is not compatible with your computer. Try turning on each of the disabled extensions, restarting after each extension, to identify which one is causing the problem. (To turn on an extension, click to put a check mark next to it.)
For more information about incompatible extensions and other software, refer to the Troubleshooting section of the user's manual that came with your computer or contact the company that supplies the software.

3) If the computer still freezes as the Finder is being loaded, try the following:
Open the Special menu and choose Restart while holding down the Option key. The Extensions Manager control panel opens.
(If you can't open the Special menu, press the Command, Control, and Power keys simultaneously while holding down the Option key. The Command key is marked with a "curly" icon, and the Power key is marked with a triangle.)

If the computer still does not start up successfully, perform a clean installation of system software. Follow the instructions for doing a clean installation in the Troubleshooting section of the user's manual that came with your computer (for Power Macintosh 5200/5300 LC computers), or in the Macintosh Performa CD booklet (Performa computers).

If the computer still freezes during startup after a clean installation of system software, take the computer to an Apple-authorized service provider.

The Computer Freezes While It Is Turned On But Not Being Used
---
1) Turn off all unnecessary system software extensions:
Open the Special menu and choose Restart while holding down the space bar. The Extensions Manager control panel opens.
(If you can't open the Special menu, press the Command, Control, and Power keys simultaneously while holding down the space bar. The Command key is marked with a "curly" icon, and the Power key is marked with a triangle.)
Open the "Sets" pop-up menu and choose "System 7.5.3" or "System 7.5" (whichever is available).

2) Remove any screen saver programs:
Double-click the System Folder (on the hard disk) to open it.
Check to see if any screen savers are in the System Folder. The screen saver programs may be inside the Control Panels folder or the Extensions folder.
Temporarily disable or remove any screen saver programs. Some incompatible screen savers can cause freezes. For more information about incompatible software, refer to the user's manual that came with your computer and contact the company that supplies the screen saver.
Open the Special menu and choose Restart.

If the computer still freezes when it is not in use perform a clean installation of system software. Follow the instructions for doing a clean installation in the Troubleshooting section of the user's manual that came with your computer (for Power Macintosh 5200/5300 LC computers), or in the Macintosh Performa CD booklet (Performa computers).

If the computer still freezes during startup after a clean installation of system software, take the computer to an Apple-authorized service provider.

Computer Freezes When An Application Is Being Started, Used, Or Quit
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This problem can occur when an application program needs more memory than its actually available, or when a program is incompatible with the computer's system software.

1) Check to see how much available memory your computer has:
Open the Special menu and choose Restart.
(If you can't open the Special menu, press the Command, Control, and Power keys simultaneously. The Command key is marked with a "curly" icon, and the Power key is marked with a triangle.)
After the computer starts up, open the Apple menu and choose About This Macintosh.
Make a note of the number next to "Largest Unused Block." This is the amount of available memory on the computer.

2) Check to see how much memory the application program requires:
Click the icon for the application program you are trying to open or use.
Open the File menu and choose Get Info.
Check the Memory Requirements box. In order to open and run properly, the computer's available memory must be greater than the number next to "Minimum size" in the Memory Requirements box.

3) If necessary, make more memory available for the program:
To learn how to make more memory available for a program, look for help in Macintosh Guide. Open the Guide menu and choose Macintosh Guide. (The Guide menu is under the question mark near the upper right corner of your screen).
Click the Index button in Macintosh Guide, and choose "memory" in from the index. The help topics appear on the right. The "How do I" help topics contain the information you need, particularly the topics regarding making more memory available, changing the memory a program uses, and using hard disk space as memory.

4) If the computer still freezes when you use the program, turn off all unnecessary system software extensions:
Open the Special menu and choose Restart while holding down the space bar. The Extensions Manager control panel opens.
(If you can't open the Special menu, press the Command, Control, and Power keys simultaneously while holding down the space bar. The Command key is marked with a "curly" icon, and the Power key is marked with a triangle.)
Open the "Sets" pop-up menu and choose "System 7.5.3" or "System 7.5" (whichever is available).
Open the Special menu and choose Restart.

5) If the computer still freezes when you use the program, turn off the
Modern Memory Manager or 32-bit addressing:
Open the Apple menu and choose Control Panels.
Double-click the Memory control panel to open it.
Turn off the Modern Memory Manager (for Power Macintosh computers) or
32-bit addressing (for earlier Macintosh computers).

Some older programs may not be compatible with these options. If the program works with these options turned off, contact the company that supplies the program for a more recent version.

If the computer still freezes when you open or use the program, the program may not be compatible with your computer. Check the manuals that came with the program or contact the company that supplies the program to determine if the program is compatible with your computer.

The Computer Freezes When Printing From An Application

First, follow all the instructions under "The computer freezes when an application program is being started, used, or quit," above.

If the computer still freezes when printing, follow the additional steps below.

1) If the problem only occurs during Background Printing, increase the
Memory Requirements for the PrintMonitor program:
Double-click the System Folder (on the hard disk) to open it.
Double-click the Extensions folder (inside the System Folder) to open
it.
Click the PrintMonitor program to highlight it.
Open the File menu and choose Get Info.
In the Memory Requirements box, increase the number next to "Minimum
size" to at least 160.

Note: You can also try turning on virtual memory. See the instructions
earlier in this document for opening Macintosh Guide and learning about
virtual memory.

2) If the computer still freezes when printing, turn off Background
Printing:
Open the Apple menu and choose the Chooser.
In the upper left box in the Chooser, click the software for your
printer (for example, "LaserWriter 8") to highlight it.
Under Background Printing on the right side of the Chooser, click the
Off button.

If the computer still freezes when printing, the print driver may not be compatible with the application or system software. Check the manuals that came with the printer documentation or contact the manufacturer of the printer to determine if the print driver is compatible with your computer.

Published Date: Feb 18, 2012

LaserWriter Pro 810: Set, Define, Change Usage

I am using the maintenance port on the LaserWriter Pro 810 to change some of the settings. However, when I issue the SET commands, power off the printer, then power it back on, the commands are not retained. Why?
This article has been archived and is no longer updated by Apple.
When using the Remote Console Facility (RCF), there are three different commands you need to use; SET, DEFINE, and CHANGE.

SET

Temporary change. Commands entered using the SET command are lost when the printer reinitialized.

DEFINE

Permanent change, effective when the printer is reinitialized.

CHANGE

Permanent change, effective immediately.

In your example, the DEFINE or CHANGE command may be more appropriate if the change needs to be permanent.
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Mac OS 7.6 CD and Computers With 8 MB RAM (2/97)

Mac OS 7.6 CD's packaging and manual list the memory requirements as, "8 MB installed RAM, with an additional 8 MB through installed RAM or Virtual Memory."

This article has been archived and is no longer updated by Apple.

The memory requirements as listed on the packaging and manual are correct. However, an optional installation of QuickDraw 3D requires at least 16 MB of installed memory. The Apple Internet Connection Kit 1.2, included with the Mac OS 7.6 CD, requires at least 12 MB of installed memory. Therefore, if you install some of the software included on the Mac OS 7.6 CD, you will need more than 8 MB installed RAM.

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Mac OS 7.6: Wacom Tablet

This article describes running Mac OS 7.6 with a Wacom Tablet.
This article has been archived and is no longer updated by Apple.
If you install Mac OS 7.6 on your computer with a Wacom tablet, make sure you have the latest Wacom driver version 2.5.1 and remove the OpenTpt Serial Arbitrator from your system. Wacom has an extension called SerialDMA which replaces the OpenTpt Serial Arbitrator.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

The Tech Info Library article titled "**Locating Vendor Information**" can help you search for a particular vendor's address and phone number.

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Apple IIc: 80/40 switch

The 80/40 switch on the Apple IIc only sets a bit in memory. While a program can read this bit and use the setting in a decision to display 80 or 40 columns, in practice, only a few programs, e.g. Apple Writer, take advantage of the switch in that way. In itself, the 80/40 switch does not force 80 column firmware on or off; only a software command like Applesoft's PR#3 or PR#0 can do that.
This article has been archived and is no longer updated by Apple.
The 80/40 switch on the Apple IIc was designed for customers who use their television set as a monitor. A television set doesn't display 80 columns of text very legibly; 40 columns reads much better. Unfortunately, most Apple II software packages, written before the Apple IIc, don't check the bit set by the 80/40 switch.

Because the bit setting is independent from the PR#3 command, programmers can use the bit set by the 80/40 switch for features other than 80/40 column display:

```
10 TEXT:HOME:REM INITIALIZATION
100 SWITCH = PEEK(49248):REM MEMORY LOCATION FOR CURRENT SWITCH SETTING
110 VTAB 12
120 IF SWITCH > 127 THEN PRINT "80/40 SWITCH DOWN":REM OR ANYTHING ELSE
130 IF SWITCH < 128 THEN PRINT "80/40 SWITCH UP ":REM OR ANYTHING ELSE
140 GOTO 100
```

For more info, see the two-volume Apple IIc (16K ROM) Technical Reference Manual, pages 5 and 77 of Volume I and page 128 of Volume II, or the one-volume manual published by Addison-Wesley, pages 5, 80, and 342.
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Wacom Technology Corporation

Wacom Technology Corporation
This article has been archived and is no longer updated by Apple.
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Company Profile:
Wacom graphic tablets provide artists, illustrators, and design professionals the way to illustrate, paint, or manipulate imagery on a computer.
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Indian Language Kit: Troubleshooting

This article contains troubleshooting suggestions for the Indian Language Kit. These tips were taken from the Indian Language Kit User's Manual. This article has been archived and is no longer updated by Apple.

1) I can't work in the Indian language of my choice with my usual application program.

Your application program may not be compatible with WorldScript I or QuickDraw GX. If it is not, it won't automatically switch to an Indian language font when you select an Indian language keyboard, or it may not let you see the fonts in the font menu.

To make sure your application program is compatible with WorldScript I and QuickDraw GX, consult the program's manufacturer or the dealer from whom you purchased the program.

2) I see odd characters that I can't read in some of my file and folder names.

The font your system uses for file and folder names does not contain any Indian language characters. Open the Views control panel and choose an Indian language from the "Font for views" pop-up menu.

3) I changed my Views control panel to an Indian language font, but I still see odd characters in my Application menu.

The Application menu is unaffected by the changes you make in the Views control panel. However, the icons that appear in the Application menu next to each program's name will help you identify your Indian Language programs.

4) I can't edit an Indian language file or folder name.

You may have the wrong keyboard selected in the Keyboards menu. Open the Keyboards menu and select the right keyboard for your language.

5) Ever since I installed the Indian Language Kit, I haven't been able to work with some of my other application programs, even in Roman.

This issue may be caused by insufficient memory. However, if you are sure your computer has enough memory, the program may be due to incompatibility between non-Roman scripts and a particular application program. Try registering that application as an English language application. To do this, use the Language Register program in the Extras folder on the disk where you installed the Indian Language Kit. If you still have issues working with the application, you may have to deactivate the Indian Language Kit to use with the application. You can do so by disabling the WorldScript I extension in the Extensions Manager control panel.

6) After I installed the Indian Language Kit, unwanted keyboard layouts appeared in my Keyboards menu. How do I remove them?

Open the System file in the System Folder, select the unnecessary keyboard layouts, and drag them to the Trash or to a temporary folder.

7) When I open the Keyboards menu, my Indian language keyboards are not highlighted, so I cannot choose them.

You don't have a text field currently open that supports these keyboard layouts. Open SimpleText or any text field you would use for your Indian languages, and the Indian language options would be highlighted along with the other keyboard options in your Keyboards menu.

8) When I open the Font menu, I see several different fonts listed for each Indian language. Which font should I use?

After you install the Indian Language Kit, your Font menus contain at least two fonts for each Indian Language. These fonts have different suffix--for example, Devanagari MTS and Devanagari MT. You should use the MT version of each Indian language font. (Do not use the MTS version; MTS fonts use Chicago as their associated Roman font and have no bold style).

Furthermore, if your have QuickDraw GX installed, you would see some additional fonts at the top of the Font menu that begin with a period (.)--for example: .Devanagari Mt. Do NOT use these fonts.

The following list shows the fonts that you should NOT use. (You cannot remove these fonts from your Font menu.)

.Devanagari MT X
.Devanagari MT X (Bold)

TA36477_Indian_Language_Kit_Troubleshooting_(TIL20941).pdf

.Gujarati MT X
.Gujarati MT X (Bold)
.Gurmukhi MTX
.Gurmukhi MTX (Bold)
Devangari MTS
Gujarati MTS
Gurmukhi MTS
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Apple Language Kits: Scripts & Languages Supported

This article lists the scripts and languages supported by the various Apple Language Kits.
This article has been archived and is no longer updated by Apple.

Language Kit	Script	Languages
Arabic and Persian	Arabic	Arabic, Persian
Chinese	Simplified Chinese	Simplified Chinese
	Traditional Chinese	Traditional Chinese
Cyrillic	Cyrillic	Russian, Ukranian,Bulgarian, Serbian, Macedonian, Belorussian
Hebrew	Hebrew	Hebrew
Indian	Devanagari	Hindi, Marathi, Nepali,Sanskrit
	Gujarati	Gujarati
	Gurmukhi	Punjabi
Japanese	Japanese	Japanese
Korean	Korean	Korean

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AIX: White Screen After Typing xinit Command

When trying to start CDE, I typed the command below, from the user manual, and got a white screen:

xinit /usr/dt/bin/dtlogin

What happened, and how do I exit?
This article has been archived and is no longer updated by Apple.
You are in X-windows. You can exit X-windows by pressing the key sequence control-alt-delete. (The delete key is the one above the return key.) This will kill the X-server and the prompt should appear.

If you are defaulting to a command line login, the "xinit /usr/dt/bin/dtlogin" command will take you to CDE. However, if you enter the login from CDE and pick the command line login option, you must type exit at the command line to return to CDE.
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Mac OS Computers on a TCP/IP Network (2/97)

I just purchased a Mac OS-based computer. I am hooking up to my Ethernet network and want to communicate with other computers that are not running the Mac OS. The computers on my network use TCP/IP. I setup my TCP/IP control panel but I do not see any zones in the chooser. Also, when I click on AppleShare in the chooser, I do not see any computers.

This article has been archived and is no longer updated by Apple.

Without adding third-party software to your Mac OS computer, the information you see in the chooser is for computers which communicate with the AppleTalk protocol. For example, if you click AppleShare in the chooser, it looks for other computers on your network that are using the AppleTalk protocol and are "AFP" (Apple Filing Protocol) services. An AFP service may be another Mac OS computer using personal file sharing, an AppleShare file server, or any server that communicates using AppleTalk that provides AFP services.

If the computers on your network use TCP/IP, there are other ways to "see" the these computers using third-party software. Some of the utilities you may use include (but are not limited to) MacTCP Ping, MacTCP watcher, MacPing. These utilities let you "ping" another IP addresses on the network.

NOTE: ping is a command which sends simple TCP/IP packets to a computer to determine whether or not the computer is functioning on the network.

Many TCP/IP computers exchange files using FTP (file transfer protocol). If computers on your network use ftp, your Mac OS computer can use third-party software like Fetch to exchange files.

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AIX: .profile Not Sourced in CDE

I just installed CDE on AIX and my .profile is not being sourced "run" when I login to CDE.
This article has been archived and is no longer updated by Apple.
When CDE starts a shell, it will no longer source .profile. It will source .dtprofile located in the same directory as your .profile.

If you would like your .profile to be sourced, you need to uncomment the last line in you .dtprofile by removing the "#" from the line:

DTSOURCEPROFLE=true
Published Date: Feb 18, 2012

Power Macintosh 4400/200: Memory Expansion (5/97)

What type of memory is supported in the Power Macintosh 4400 series computers?
This article has been archived and is no longer updated by Apple.

The Power Macintosh 4400/200 computer does not have any DRAM memory soldered on the logic board. All RAM expansion is provided by DIMMs installed in any of the three 168-pin DIMM sockets. DRAM expansion slot 1 supports single-bank DIMMs (a maximum of 32 MB). DRAM expansion slots 2 and 3 support both single-bank and dual-bank DIMMs (a maximum of 64 MB per slot with dual-bank DIMMs). A total of 160 MB of DRAM is supported.

DIMMs types used in the 4400/200 must meet all three of the following criteria to function:

* 168-pin 3.3-volt EDO (Extended Data Out) DIMMs
* 64-bit wide
* Acceptable DIMM sizes include 8, 16, 32, and 64 MB.

IMPORTANT: The Power Macintosh 4400/200 uses 3.3-volt EDO DIMMs, which are NOT compatible with the Macintosh Performa 6400 and Power Macintosh 5500 and 6500 computers. Although these other computers also may support the use of EDO DIMMs, they require 5-volt EDO DIMMs.

Also, the Power Macintosh 4400 does NOT support the use of Fast-Page-Mode (FPM) memory.

For additional information about EDO memory and its benefits, using the search string, "edo and memory" to locate a related article titled, "Power Macintosh Computers: Using FPM, EDO, SDRAM, & SGRAM."
Published Date: Feb 18, 2012

PC Compatibility Card: Drive Container Size Limit (2/97)

When I create a 2 GB drive container for use with the PC Compatibility Card, the PC crashes and other problems occur. If the drive container is only 500 MB, everything works fine. What is wrong?

This article has been archived and is no longer updated by Apple.

Only drive containers that are 1023 MB or less are supported. Any drive container larger than 1023 MB could cause your machine to crash when it is in the PC environment.

This article was published in the Information Alley on 25 February 1997.

Article Change History:
25 Feb 1997 - Added keyword.
Published Date: Feb 18, 2012

Open Transport AppleTalk: Needs Assistant Toolbox v1.3 (2/97)

This article discusses an incompatibility between Open Transport AppleTalk and early versions of the Assistant Toolbox turning off AppleTalk when you restart your computer.
This article has been archived and is no longer updated by Apple.
Open Transport is incompatible with all Assistant Toolbox versions prior to version 1.3. If you are using Mac OS 7.5.x and AppleTalk is off every time you restart your computer, check the version of Assistant Toolbox installed in your Extensions folder. You can install Assistant Toolbox v1.3 using the System 7.5 Update 2.0 Custom Install option.

If you need help checking the version number, see the section Checking the Assistance Toolbox Version.

If you are using Mac OS 7.6 or later, Assistant Toolbox is built into Mac OS 7.6, so you do not have to check the version. However, if you have a version of Assistant Toolbox installed with Mac OS 7.6, throw it away.

Checking the Assistant Toolbox Version
==========

Step 1

Open the System folder.

Step 2

Open the Extension folder.

Step 3

Click once on the Assistant Toolbox extension.

Step 4

Select Get Info from the File menu (CMD-I).

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Open Transport: "Access to AppleTalk Network" Alert

Since installing Open Transport, we have users getting intermittent messages indicating that access to their AppleTalk network has become unavailable. Subsequently they get a similar message indicating that access to their AppleTalk network has become available. What generates these messages?
This article has been archived and is no longer updated by Apple.
These are messages are generated when a Macintosh computer is unable to communicate with its router. This usually indicates a routing device on the network which is not configured properly, or marginal network wiring. In either case, network administrators will need to investigate and resolve the root cause.

As an interim measure to reduce occurrences of these alert messages, the AppleTalk Options control panel can be installed. This control panel has the option to suppress router related alerts. It is intended for use by ISDN users who have connections which go up and down as needed by network traffic.

CAUTION: The AppleTalk Options control panel should not be used as a long term solution for Macintosh computers receiving router alerts on routed networks.

The AppleTalk Options control panel can be found in the Open Transport Extras folder with Open Transport 1.1.1 and later.

There is also an issue with Apple Remote Access 3.0 which can cause the message. For information on this related topic, please see the following Tech Info Library article:

Article 24549: "**ARA 3.0: "AppleTalk Network Not Available" Message**"
Published Date: Feb 18, 2012

Power Macintosh 7300, 8600, 9600: Read Me (1 of 2)

This article contains Part 1 of the ReadMe file for the Power Macintosh 7300, 8600, and 9600 series computers.
This article has been archived and is no longer updated by Apple.
This document provides information about your Power Macintosh computer that could not be included in your user's manual or in online help.

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Tips
====

Improving Video Capture

To increase the speed and quality of video captures on Power Macintosh models that support video capture, follow these guidelines:

* Turn off virtual memory in the Memory control panel.

* In the Monitors & Sound control panel, set the color depth to Millions. (The Millions setting may not be available until you select a smaller screen resolution setting first.)

* Turn off AppleTalk. (You can quickly turn AppleTalk on or off with the Control Strip, or use the Chooser instead.)

* Turn off the Menubar Clock in the Date & Time control panel.

* Turn off all unnecessary extensions. Do not turn off QuickTime. (Use the Extensions Manager control panel to turn off extensions; then restart your computer.)

* If you have installed Apple VideoPhone, remove the "QTCComponentDV" extension from the Extensions folder inside your System Folder, and then restart. (The "QTCComponentDV" video digitizer extension is optimized for video conferencing, but your Power Macintosh contains equivalent software that is optimized for video capture.)

* Do not run programs other than the capture application while capturing video.
* Reduce the size of the capture window. (160x120 is the best size; also, 320x240 is good.)
* Make sure that your hard disk has enough free space to record. If you notice a decline in performance, use a disk optimizer to improve your disk's efficiency.
* Make sure that the application program you use for capturing video has enough extra memory allocated for one second of video at the size and bit depth that you are using to record. For example, to record 30fps at 320x240 in millions of colors requires at least 4500K (4.5 MB) free in the application partition. About This Macintosh (in the Apple menu) lets you estimate memory usage.
* Do not allocate all of the available memory to the capture application. When your capture application is running, you should have an unused block size of at least 500K in About This Macintosh.

When working with applications that support adjusting video and sound settings, the following settings allow the highest video capture performance:

* Use the Component Video video compressor. Do not use post-compression.
* Set sound input sampling to 16 bits, stereo, and 44.1KHz. Do not use a sound compressor.

Improving the Quality of Audio CD Recordings

You can use the AppleCD Audio Player and SimpleSound (both available in the Apple menu) to record from an audio CD to a file on disk. If your recordings sound distorted when you play them, try lowering the volume level in the AppleCD Audio Player and record the sound again.

Usually, you should get acceptable results when the volume is set to about the middle level. However, you may want to experiment with different volume settings; because audio CDs are recorded at various sound levels, individual CDs may require a different setting for optimal recording.

Allocating More Memory to Application Programs

If you are having new issues with application programs reporting that they do not have enough memory, System 7.5.5 may require programs to use an additional 23K of memory. To fix the issue:

1. Quit the program if it is open.
2. Click the program's icon to select it.
3. Open the File menu and choose Get Info.
4. In the Info window, increase the value in the "Preferred size" box by 23.
5. Close the window.

Using the Recent Documents Command in the Apple Menu

You can easily open any of your most recently used documents by choosing the Recent Documents command in the Apple menu, then choosing a document from the submenu. However, this feature can increase the time it takes to open some applications. This occurs because the recent-documents tracking includes all files that are opened--even those opened by an application as part of its launch sequence (such as drop-in filters used by desktop publishing packages). You can reduce the increased opening time by turning off the recent-documents tracking. You can either:
* turn off "recent documents" tracking in the Apple Menu Options control panel
* turn off Apple Menu Options in the Extensions Manager

Installing Acrobat Reader Software from the System Software CD

To install Acrobat Reader software from the system software CD onto your hard disk, make sure that the system software CD that came with your computer is not the startup disk. Then locate the Acrobat Reader folder on the CD and follow the installation instructions.

Note: To make sure that the system software CD is not the startup disk, shut down your computer. Then start up the computer while pressing the eject button on the CD-ROM drive (the disc is ejected). After the computer restarts, reinsert the CD and install the Acrobat Reader software.

Reinstalling or Removing Zip Drive Software

Some Power Macintosh models come with an internal Zip drive. Normally when you insert a Zip disk into this drive, an icon for the Zip disk appears on the Macintosh desktop. If an icon for the inserted disk does not appear on the desktop, the Iomega Driver in your System Folder may be missing or damaged. You can reinstall the Iomega Driver by following these steps:

1. Insert the system software CD-ROM disc that came with your computer.
2. Open the Iomega Tools folder in CD Extras folder on the CD-ROM disc.
3. Drag the Iomega Driver icon to the System Folder icon on your hard disk.

One or more alert messages may appear. One will ask if you want to store the Iomega Driver in your Extensions folder, and another may ask if you want to replace a file that already exists.

4. Click the OK button in these alert messages.
5. Eject the CD-ROM disc. (Select the disc icon and choose Put Away from the File menu.)
6. Restart your computer.
7. Try inserting a Zip disc again.

Though only some Power Macintosh models include an internal Iomega Zip drive, your model includes Iomega software on your hard disk, even if your model does not come with a Zip drive.

If your Power Macintosh model does not include a Zip drive, you can remove this software if you wish. (Or you may also wish to keep this software in case you later purchase and connect a Zip drive.) Removing the software frees up disk space and makes your computer start up slightly faster. If you ever need to reinstall the Iomega software, it is available on the CD-ROM disc that comes with your computer.

To remove the Iomega software, drag the following icons to the Trash:

* Iomega Driver (located in the Extensions folder inside your System Folder)
* Iomega Tools folder (located in the Apple Extras folder)

Removing the 9600 Graphics Accelerator

When you turn on your computer, icons appear along the bottom of the screen to indicate which system software extensions are being loaded during startup. On Power Macintosh 7300, 7600, and 8600 models, this extension may appear with a red "X" through it.

This "9600 Graphics Accelerator" extension file is only required for use on Power Macintosh 9600 models that contain the optional video card. If you are using a Power Macintosh other than the 9600 model, you can delete this extension file if you wish. To delete the "9600 Graphics Accelerator" extension (located in the Extensions folder inside your System Folder), drag its icon to the Trash.

Installing and Removing PCI Cards

Your Power Macintosh User's Manual contains detailed instructions about installing peripheral component interconnect (PCI) expansion cards. Follow these instructions carefully when installing a PCI card. To avoid damaging the PCI slot when you install or remove a PCI card, do the following:

* Do not rock the card from side to side; instead, press or pull the card straight into or out of the slot.

* Do not physically insert or remove two cards at the same time; insert or remove each card individually.

Important Information About Desktop Printing
==========
This document contains information about using the desktop printing feature on your computer.

With desktop printing, a printer icon is created on your desktop whenever you select an Apple LaserWriter or StyleWriter printer in the Chooser. You can use these "desktop printer" icons to print documents and manage printing.

With desktop printing, you can
* print a document in the Finder by dragging it to a desktop printer icon
* select the default printer without opening the Chooser
* manage and schedule printing documents

IMPORTANT Desktop printing works with Apple StyleWriter printers, Apple LaserWriter printers, and many other PostScript printers. Desktop printing does not work with other types of printers and Fax Sender.

Creating Desktop Printers

To create a desktop printer, follow these steps:

1. Open the Chooser.
2. Select the print driver for the printer you are using.
3. Select the printer you want to use.
4. Close the Chooser.

When you close the Chooser, an icon for the printer appears on the desktop. The name of the icon is the name of the printer. The name of the printer also appears in the Printer menu to the left of the Guide menu and in the Desktop Printers item in the Apple menu.

After the desktop printer icon appears, you can move it to any location on your startup disk.

You can have as many desktop printers as you want. To create other desktop printers, you must open the Chooser, select the printer, and close the Chooser for each printer you want to use.

The last printer you select in the Chooser becomes the default printer. The default printer is used whenever you choose Print from the File menu. The desktop printer icon for the default printer has a bold outline. For other ways to select the default printer, see "Selecting a Default Printer" later in this document.

Note: If you use different versions of the LaserWriter 8 software to print to the same printer, you can create a desktop printer icon for each version of the LaserWriter software. For example, you might use LaserWriter driver version 8.4.1 for printing and version 8.2.2f for faxing. To create a desktop printer for each driver, select the LaserWriter 8.4.1 driver and your printer in the Chooser, then close the Chooser. Reopen the Chooser and select the LaserWriter 8.2.2f driver and your printer, then close the Chooser. To choose which version of the driver to use, change the default printer (see "Selecting a Default Printer"). To avoid confusion, rename the desktop printer icons to indicate which version of the printer

software the icon uses.

Printing With a Desktop Printer

You use desktop printers to print documents from the Finder. Using desktop printers, you can print several documents at the same time, including documents created with different programs. (You can still print documents from within applications using the Print command in the File menu.)

To print documents with a desktop printer, follow these steps:

1. Select the icons of the documents you want to print.
2. Drag the documents to the icon of the desktop printer you want to use.

Note: When you drag a document to a desktop printer, that printer becomes the default printer.

The document opens and the Print dialog box appears.

3. Choose your printing options, then click the Print.

Selecting a Default Printer

The default printer is the printer you use when you choose Print from the File menu.

To change the default printer, you can do the following:

* Print documents from the Finder with a desktop printer icon.

* Select a desktop printer icon and choose Set Default Printer from the Printing menu.

* Choose the printer from the Printer menu that appears to the left of the Guide menu.

* Select the printer name using the Printing module in the Control Strip.

* Select a new printer in the Chooser.

Note: Changing the printer you are using may change how much information appears on a page of your document. If you change printers, check the formatting of your document.

Working With Desktop Printer Icons

Desktop printer icons show the status of the printer.

You can rename desktop printer icons, make aliases of them, and throw them away, just like other Finder icons.

Note: You can't throw away a desktop printer icon while the printer is printing a document.

If you throw away the icon for the default printer, another desktop printer is automatically selected as the default printer. If you do not have another desktop printer another icon is automatically created for the desktop printer you are throwing away. To throw away the last desktop printer icon, you must select a printer in the Chooser that does not support desktop printing.

Managing Printing

If background printing is turned on for the printer you are using, you can use desktop printing to manage print jobs. You perform tasks with the Printing menu that appears when you select a desktop printer. You perform other tasks by using the desktop printer window that opens when you double-click a desktop printer icon.

To manage printing using the Printing menu

The Printing menu appears to the right of the Special menu when you select a desktop printer icon.

Using the Printing menu you can do the following:

* Choose Start Print Queue to restart printing.

Note: You need to choose Start Print Queue to restart printing if you click the Stop Queue button in a printer alert message.

* Choose Stop Print Queue to stop printing all of your documents. The icon of the printer indicates that you have stopped printing.

* Choose Get Printer Info to see information about the printer. (Only available for some printers.)

* Choose Change Setup to change the setup of the printer. (Only available for some printers. You can change the setup of other printers using the Chooser.)

* Choose Show Manual Feed Alert to turn the manual alert on or off.

* Choose Set Default Printer to select the printer as the default printer, if it isn't selected already.

To manage printing using the desktop printer window

Double-click a desktop printer icon to open its window.

The name of the document currently printing and status messages about the current print job appear in the upper box. The status messages can help you troubleshoot a printing issue.

When you are printing more than one document, a list of the print jobs appears in the lower box. If this list is sorted by the Print Time column, it shows the order in which the documents will be printed.

Using the desktop printer window, you can do the following tasks:

* To change the sort order of the print job list, click the title of the column by which you want to sort. The column title by which the list is sorted is underlined. For example, to sort by the name of the document, click Document Name.

Note: Changing the sort order of the print jobs does not change the order in which they will print. To see that order, click the Print Time heading.

* To cancel printing a document, select the print job in the list and click the Remove button. You can also drag the print job from the window to the Trash icon on the desktop.

Note: These methods do not delete the document itself.

* To put printing a document on hold, select the print job in the list and click the Hold Job button. You can also put the document that's currently printing on hold by dragging it to the print job list.

* To resume printing a document, select the print job and click the Resume Job button.

* To print a document immediately, select the print job and put it on hold. Next, click the Set Print Time icon button and select Urgent in the dialog box that appears, then click OK. You can also drag the print job to the top of the print job list or to the area reserved for the currently printing job.

* To schedule printing, select a print job and click the Set Print Time button. In the Set Print Time dialog box, click At Time and set the time you want. Then click OK.

* To change the print order, drag the name of a print job up or down in the print job list.

* To print the document using another desktop printer, drag the print job to the icon of the other desktop printer. That printer becomes the default printer. You can only move a print job to another printer of the same type. For example, you can't move a print job from a LaserWriter printer to a StyleWriter printer.

* To stop printing all documents, hold down the Option and Shift keys and click the Hold Job button. You can also choose Stop Print Queue from the Printing menu.

* To start printing documents, hold down the Option and Shift keys and click the Resume Job button. You can also choose Start Print Queue from the Printing menu.

Turning Off Desktop Printing

If you don't want to use desktop printers, you can turn off Desktop PrintMonitor using the Extensions Manager control panel.

IMPORTANT Before you turn off Desktop PrintMonitor, be sure that all documents have finished printing. If there are documents waiting to print that you do not want to print, you can cancel printing as described in the previous section on this document.

To turn off Desktop PrintMonitor, follow these steps:

1. Open the Extensions Manager control panel.

2. Click the boxes next to these extensions to remove the X:
* Desktop PrintMonitor
* Desktop Printer Extension
* Desktop Printer Spooler
* Desktop Printer Menu extensions

3. Click the close box to close the control panel.

4. If your computer has a Control Strip, drag the Printer Selector file from the Control Strip Modules folder in the System Folder to the Trash.

5. Restart your computer.

Support and Compatibility Information
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* Some third-party printers do not support desktop printing. If no desktop printer icon is created after you select your printer in the Chooser, it is likely that your printer does not support Desktop PrintMonitor. Please contact the vendor of your printer to see if there is a version of the print driver that is compatible with Desktop PrintMonitor.

* When you choose Save or Open in an application and look at files and folders on the desktop, desktop printers appear in the list as if they are folders. Do not save documents in a desktop printer "folder." If you do, you will not be able to access the document in the Finder.

IMPORTANT If you save a document in a desktop printer "folder," use the Save As command to save the document in a different location as soon as possible.

Note: You cannot remove a document that you save in a desktop printer icon. If you want to delete the document, throw away the desktop printer icon and select the printer in the Chooser again.

* Desktop PrintMonitor supports drag-and-drop printing for all files that cause the Print command in the File menu to become available. Since clipping files do not make the Print command available, they cannot be dragged to a desktop printer icon for printing.

* Apple's Fax Sender software is not supported by Desktop PrintMonitor. Fax Sender is fully functional when Desktop PrintMonitor is installed; however, it does not use Desktop PrintMonitor's features.

IMPORTANT When you select Fax Sender in the Chooser, you will not have a default desktop printer until you select a printer icon and choose Set Default Printer from the Printing menu.

Troubleshooting Tips

Issue: When you try to print, the spool file for the print job is moved to the Trash and an alert message appears saying that the desktop printer could not be found.
Solution 1: It's possible that the desktop printer icon is damaged. To fix this, drag the desktop printer icon to the Trash and reselect the printer in the Chooser. A new desktop printer icon will be created.
Solution 2: If your printer software is not published by Apple Computer or Adobe Systems, it may not be compatible with Desktop PrintMonitor. If this is the case, turn off Desktop PrintMonitor (as described earlier in this document) and use an older version of PrintMonitor.

Issue: When you drag documents created by different software applications to your desktop printer icon, a message appears that says there is not enough memory to continue.
Solution: Because the application used to create a document opens when you print the document, your computer must have enough random-access memory (RAM) available to open all of the programs for the documents you are printing. To resolve this situation, print your documents individually or in smaller groups.

Issue: You are using a LaserWriter 300 and the "Out of Paper" message doesn't go away automatically after you add paper to the printer.
Solution: If you are using Desktop PrintMonitor with the LaserWriter 300 driver, the "Out of Paper" message will not go away automatically after you add paper to the printer. The only way to work around this issue is to turn off Desktop PrintMonitor as described earlier in this document and use an older version of PrintMonitor.

Issue: Documents printed on a Color StyleWriter do not have the correct colors after you put printing on hold and then resumed printing.
Solution: To avoid this issue, always resume printing on page one.
Published Date: Feb 18, 2012

Power Macintosh 7300, 8600, 9600: Read Me (2 of 2)

This article contains Part 2 of the ReadMe file for the Power Macintosh 7300, 8600, and 9600 series computers.
This article has been archived and is no longer updated by Apple.

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Troubleshooting

For more troubleshooting information on the Issues described below and other topics, refer to Macintosh Guide online help (available in the Guide menu when the Finder is active) and the manual that came with your computer.

Printing Issues

Issue: You have trouble printing on a StyleWriter or StyleWriter II printer.
Solution: If you use a StyleWriter or StyleWriter II printer with your computer, use the StyleWriter 1200 printer driver that came installed on your computer. Do not install your older StyleWriter driver.

Issue: You see a low-memory warning when you print Stickies on a StyleWriter, StyleWriter II, or StyleWriter 1200 printer.
Solution: This issue can occur when the amount of memory Stickies uses is set below 150K.Try increasing the amount of memory available to Stickies. For instructions on changing the memory a program uses, refer to Macintosh Guide, available from the Guide menu when the Finder is active. To locate the Stickies application program so you can increase its memory, open the System Folder, then look in the Apple Menu Items folder (inside the System Folder).

Issues with Sound

Issue: When you play back sound you've recorded, you notice clicks, pops, or skips.
Solution: This issue can occur if you have virtual memory turned on while you're recording sound. Turn off virtual memory before recording. For instructions on turning off virtual memory, refer to Macintosh Guide, available from the Guide menu when the Finder is active.

Issue: Adjusting the volume slider in Apple Video Player and other sound applications does not affect the volume, or turns the volume all the way up or all the way down (no in-between settings).
Solution: This issue occurs on some newer models that handle sound differently from some application programs. You can use the system sound settings to adjust the volume. Follow these steps:

1. Open the Apple (*) menu and choose Control Panels.
2. Open the Monitors & Sound control panel.
3. Click the Sound button.
4. Use the volume or level slider (whichever is available) to adjust the sound volume.

Issue: Your program requires the Sound control panel to set sound options.
Solution: Some application programs that use sound require the Sound control panel, an older control panel that has been replaced on your computer by the Monitors & Sound control panel.

The Sound control panel is located in the Apple Extras folder on your hard disk and in the CD Extras folder on the system software CD that came with your computer. To install it, drag it to the System Folder on your hard disk and then restart your computer.

Note: You can also install the Sound control panel by doing a custom installation of system software. For instructions, refer to the information on doing a custom installation in the Troubleshooting chapter of the manual that came with your computer. When the Custom Install dialog box appears, click "Sound control panel" in the list, then click Install.

Networking and File Sharing Issues

Issue: AppleShare displays incorrect information for large drives.
Solution: If you use File Sharing to share a disk larger than 2 gigabytes (GB), some older computers connected to your computer may display an incorrect size for the disk in the Get Info box. (Get Info reports the disk to be 2 GB in size, even if it is larger.) Because these older computers do not support the larger drives, they also cannot report correct information about the drives. (Computers with System 7.5 display correct information.)

Issue: You can't reconnect to a server.
Solution: If you unexpectedly lose a connection to a server on which you have items in use, and then choose the server from the Recent Servers item in the Apple menu, you get a message that the disk could not be opened because you do not have enough access privileges or because the server can't be found on the network. Before you can reconnect to the server, you must close any open files. If you need to save work in a file, use Save As to save it on a different disk.

Issue: You have issues using AppleShare Server Software version 4.1 or 4.2.
Solution: AppleShare server software versions 4.1 and 4.2 are not intended for use with PCI-based computers, including Power Macintosh 7300, 7600, 8600, and 9600 computers. If you attempt to use AppleShare server software version 4.1 or 4.2 with these models, you may experience issues.

Issues Using a RAM disk

Issue: You see a message that your RAM disk is unreadable.
Solution: Under some circumstances you may see the following message after setting up a RAM disk:

"This disk is unreadable by this Macintosh. Do you want to initialize the disk?" (Important: This message applies to the RAM disk, not to your hard disk, which will not be initialized.)

Decrease the size of the RAM disk. If you see the message again, decrease the size again. Continue to decrease in small amounts until the message no longer appears.

Compatibility Issues
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Adobe Premiere

Turn off virtual memory, make AppleTalk inactive, and restart your computer prior to installing Adobe Premiere Deluxe. Otherwise the mouse may freeze during installation. You turn off virtual memory in the Memory control panel. You make AppleTalk inactive in the Chooser or in the AppleTalk control panel. For instructions, refer to Macintosh Guide, available from the Guide menu when the Finder is active.

Aladdin DesktopTools

One feature of Desktop Shortcut, a component of the Aladdin Desktop Tools 1.0.2, is known to fail. If Shortcut is installed, when you are in an Open or Save dialog box, normally you can click in any window in the Finder. The files/folders in that window will then appear in the Standard File Dialog box's scrolling list. To work around this issue, navigate using the Shortcut Menu icon. Aladdin Systems <http://www.aladdinsys.com> has been contacted about this issue and expects to release an update in the future to address the issue.

Apple PC Compatibility Card

If you purchase and install an Apple PC Compatibility Card and the PC Compatibility Software version 1.5 on a Power Macintosh 7300, you should reinstall the PC Exchange software from the CD-ROM disc that came with your Power Macintosh. The PC Compatibility Software includes PC Exchange 2.0.7, which is not compatible with Power Macintosh 7300 models.

The system software CD-ROM disc that came with your computer contains PC Exchange 2.0.5, which is compatible with Power Macintosh 7300 models. The features that were added to PC Exchange 2.0.7 are now part of other system software components, so you will not loose any features or functionality by installing the older 2.0.5 version of PC Exchange.

To install PC Exchange 2.0.5, do the following:
1. Follow the instructions in your user's manual to perform a custom installation of system software.
2. When you see the Custom Install dialog box that lists all the available system components, click the triangle next to the "Compatibility Software" listing, and click the checkbox next to PC Exchange.
3. Follow the remaining custom installation steps in your user's manual to complete the installation.
4. You may see an alert warning that you are replacing a newer version with older software. Click the "Older" button to proceed with the installation of the older version of PC Exchange.

AppleShare and Connectix Speed Copy

There is an incompatibility between AppleShare Workstation software version 3.6.1 and Connectix Speed Copy (part of Speed Doubler version 1.1 or earlier). Use the Extensions Manager to turn off Speed Copy before you install this system software version, and contact Connectix to get the latest version of Speed Doubler. (You can contact Connectix at http://www.connectix.com, 415-571-5100, or 800-950-5880.)

Conflict Catcher

When using Conflict Catcher, a disabled extension may be moved to the top level of your hard disk. If this happens and you try to turn on the extension in the Extensions Manager control panel, you will not be able to turn it on, even though it appears in the list. To fix this issue, drag the desired extension into the "Extensions (Disabled)" folder (in the System Folder) before using the Extensions Manager.

Energy Saver control panel

The Energy Saver control panel is known to interrupt the play of audio CDs if "Shutdown instead of sleep" is selected. To avoid this issue, uncheck "Shutdown instead of sleep" in the Energy Saver control panel.

FWB Hard Disk ToolKit

If you are using a Power Macintosh model with an internal Zip drive and Hard Disk ToolKit is installed, you may see an alert message stating that the Iomega driver could not load because another driver is already controlling the drive. To prevent this message from appearing, do the following:

1. Open the Hard Disk ToolKit Extension Configuration application.
2. Turn off the "Check All SCSI Addresses" option.
3. Turn on individual checking for each SCSI ID except for SCSI ID number 5, which is the default SCSI ID for the Zip drive.
4. Restart your computer.

Hypercard 2.3.3 or earlier

The Hypercard Audio Palette does not record sound properly. To correct the issue, update to Hypercard 2.3.5, or use another sound recording application program such as SimpleSound to record sounds and then import them into Hypercard. You can download a Hypercard 2.3.5 updater from the Apple World Wide Web site <http://www.apple.com> or America Online. It will update Hypercard 2.3 or later to version 2.3.5.

Japanese and Chinese Language Kits

To use the Japanese Language Kit with your computer, you must install version 1.2 or later. In the United States, you can obtain an upgrade by calling Claris at 1-800-293-6617.

To use the Chinese Language Kit with your computer, make sure you use version 1.1.1 or later. To install the Chinese Language Kit version 1.1.1, follow these three steps:

1. Install the WorldScript Updater 1.0.

2. Install the Chinese Language Kit version 1.0 or 1.1.
3. Install the Chinese Language Kit Updater to update your software to version 1.1.1.

IMPORTANT: Be sure to follow the steps in the order shown.

Microsoft Office

If you are using Microsoft Office 4.2.1, you may need the "Office 4.2x Update For Power Mac" version 1.0.1 extension, and the "Microsoft Office Manager Updater" version 4.2.1c. These files are available from the Microsoft World Wide Web site at <http://www.microsoft.com>. Download the MC1164.HQX and MOMUPDAT.HQX files.

Motorola Math Library and Connectix Speed Copy 1.3.1

There is a known incompatibility when these two products are used at the same time: the Motorola Math Library and Connectix Speed Copy 1.3.1 (part of Speed Doubler 1.3.1). If you have both of these items in the System Folder, Speed Copy 1.3.1 cannot be used. In order to use Speed Copy, remove the Motorola Math Library from the Extensions folder and restart your computer.

Novell Netware

The Ethernet Compatibility extension version 1.0.3 is installed with this system software to fix a issue in the system shutdown code that affected PCI computers connected to certain networks, such as Novell Netware. A side effect of this fix is a two-minute delay in shutting down the computer.

QuarkXPress

To use QuarkXPress on a PowerPC-based Macintosh computer, you must upgrade to QuarkXPress version 3.3.2 (or later).

Sagem GeoPort ISDN Adapter 1.0

There is a known incompatibility with the Sagem GeoPort ISDN Adapter 1.0, resulting in the inability to use the GeoPort ISDN Adapter. Sagem has been contacted about this issue and is working on a solution. For more information, visit the Sagem web site at http://www.satusa.com.

Important Information About Virtual Memory
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Virtual memory (VM) is a feature of the Macintosh that lets you use part of your hard disk as additional memory. If you are using an application program designed especially for Power Macintosh computers (often called a "native" application program), turning on virtual memory lets your application use less memory.

With virtual memory turned on, a Power Macintosh program uses less memory than when virtual memory is turned off. If you check the program's Get Info box before and after turning on virtual memory, you'll see that the numbers in the Memory Requirements box change. That is because turning on virtual memory allows the program to use memory more efficiently.

If you notice performance issues (such as your computer's responses seeming unusually slow) using certain application programs, you may want to turn off virtual memory.

For information on how to turn virtual memory on and off, choose Macintosh Guide from the Guide (question mark) menu, and click the Memory topic area. For best performance, try setting virtual memory to no more than 150% of the random-access memory (RAM) installed in your computer, or no more than 50% of your currently available hard drive space, whichever number is lower. For example, if your computer has 16 MB of RAM and your hard drive has 50 MB of available space, set virtual memory to a maximum of 24 MB (this is 150% of your 16 MB of RAM, and less than 50% of the available space on your hard drive).

To improve performance, you can also add memory (RAM) to your computer. See the user's manual that came with your computer for more information.

Important Information About Document Auto-Save
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The Energy Saver control panel contains a feature named "Document Auto-Save." The purpose of this feature is to automatically quit all open applications during an idle or scheduled shutdown, while saving changes to any open documents in each application. Since there are literally thousands of applications available for the Macintosh (with new ones always arriving), we cannot guarantee that Document Auto-Save will be compatible with every application. This is especially true for any application that does not use standard routines to implement the alerts or dialog boxes used to save changes to new or modified documents. When an application is incompatible with Document Auto-Save, it will either not automatically quit, or it displays alerts or dialog boxes which Document Auto-Save does not recognize and therefore does not dismiss.

If you intend to turn Document Auto-Save on, we recommend that you monitor its operation during the first attempted idle or scheduled shutdown and note if any of your applications are not compatible. You can avoid issues with incompatible applications simply by making sure you leave no

documents open that are new or modified before an idle or scheduled shutdown is to occur. Alternatively, you can modify the Document Auto-Save preferences in the Energy Saver control panel to sleep instead of shutting down when unsaved documents are open.

For instructions for using Energy Saver & Document Auto-Save, choose Macintosh Guide from the Guide (question mark) menu, and choose the Energy Saving topic area.

Other Document-Saving Products

There are conflicts when non-Apple document-saving control panels or extensions are used in conjunction with Energy Saver's Document Auto-Save. For best results, use the document-saving features of only one control panel or extension.

Self-Dismissing Dialogs

Under some rare conditions, the Energy Saver control panel may continuously dismiss dialog boxes if the Document Auto-Save feature unexpectedly fails during an idle or scheduled shutdown. (Whenever a dialog box appears, it is dismissed as if you have pressed the Return key.) To return things to normal, simply click the mouse button or press the space bar.

Important Information About Macintosh PC Exchange
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Compressed PC Disks and Files

Macintosh PC Exchange does not work with DOS-format floppy disks or SCSI hard disks that have been compressed using DOS or Windows disk-compression utilities. Before transferring compressed DOS files to a MacOS-based computer, you must decompress the files and save them to a noncompressed DOS-format floppy disk.

Working With Disks Containing Multiple Partitions

If a SCSI hard disk or removable media cartridge has been formatted to contain multiple partitions, you can use PC Exchange to mount the MacOS-, DOS-, or ProDOS-format partitions as individual volumes on the Macintosh desktop. If the disk contains both MacOS- and DOS-format partitions, PC Exchange will recognize only the Mac OS partition. In addition, PC Exchange will recognize ProDOS-format partitions only on SCSI hard disks that are less than 32 megabytes.

You can use PC Exchange to erase existing individual partitions on a SCSI hard disk or removable media cartridge if they have the same format. However, you cannot use PC Exchange to reformat and resize individual partitions contained on the disk. Nor can you format a MacOS-format hard disk or removable media cartridge as a DOS-format disk. To resize or reformat multiple MacOS, DOS, or ProDOS partitions, you need to use third-party software designed for partitioning hard disks and removable media cartridges.

Working with DOS-Format SCSI Removable Media Devices

In order for PC Exchange to recognize any SCSI removable media device, you must turn on the device and eject any cartridges before you turn on your computer.

Do not install the device driver software that came with your removable media device. Instead, open the PC Exchange control panel, click the Options button, select your SCSI device from the list, and then restart your computer. PC Exchange will install its own device driver for that SCSI device.

The Eject Disk command is unavailable when you are working with removable media devices. To unmount and eject a removable media cartridge, drag the device's icon to the Trash. Once the device has spun down and the red light goes out, you can manually eject the cartridge from the drive. To access a removable media cartridge that has been ejected, simply reinsert the cartridge in the drive.

When initializing and formatting Bernoulli and SyQuest cartridges on a DOS or DOS-compatible computer, use the disk setup and partitioning software that came with the SCSI controller card installed in your PC or that came with your Bernoulli or SyQuest device. (Do not use the MS-DOS FDISK command.) Also, use the MS-DOS FORMAT command to format a newly initialized removable media cartridge on a DOS or DOS-compatible personal computer (PC) before you copy DOS files onto it.

When you initialize a removable media cartridge on a DOS or DOS-compatible PC, you must fully partition, initialize, and erase the cartridge using the software that came with your SCSI controller card or removable media drive. If you do not, PC Exchange may not recognize the new DOS-format partitions on that cartridge.

Working with DOS-Format SCSI Hard Disk Drives

In order for Macintosh PC Exchange to recognize a SCSI hard disk drive, you must turn on the drive before you turn on your computer.

Do not install the device driver software that came with your removable media device. Instead, open the PC Exchange control panel, click the Options button, select your SCSI device from the list, and then restart your computer. PC Exchange will install its own device driver for that SCSI

device.

When initializing and formatting an external SCSI hard disk connected to a DOS or DOS-compatible PC, use the MS-DOS FDISK command or the disk setup and partitioning software that came with the SCSI controller card installed in your PC. In addition, you should use the MS-DOS FORMAT command to format and erase the disk before you copy DOS files to a new SCSI hard disk connected to a PC.

Tips and Issues
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* A "Sad Mac" icon may appear on your screen at startup if a removable media cartridge has been left in the drive. To keep this issue from occurring, manually eject removable media cartridges from their drives before you turn on your computer.

* Macintosh PC Exchange cannot recognize SCSI hard disks, removable media devices, or drive container files that contain more than one gigabyte of disk space.
Published Date: Feb 18, 2012

At Ease 4.0: Screen Shots Disabled When At Ease is Off

This article describes an issue where if At Ease 4.0 is turned off with the At Ease Administrator, taking screen shots is disabled on all At Ease workstations.
This article has been archived and is no longer updated by Apple.
If At Ease is turned off through the At Ease Administrator, taking screen shots are disabled on all At Ease workstations, even if screen shots were not previously disabled when At Ease was on.

Workaround

If you need to have At Ease off and have the ability to take screen shots, you will need to either disable, or remove the At Ease Startup extension on the workstation.

Apple engineering is aware of this, however, there is no known time frame for a fix being made available.

Published Date: Feb 18, 2012

7.5.5 SCSI Server Update Read Me (4/97)

This article contains the 7.5.5 SCSI Server Update Read Me document and a link to the 7.5.5 SCSI Server Update software.
This article has been archived and is no longer updated by Apple.

Language	Release Date	Software Update	Read Me	OS Required
North American English	2001-01-16			North American English Mac OS 9.0.4 - 9.1
International English	---			---
français	---			---
Deutsche	---			---
Español	---		---	
Italiano	---			---
Nederlands	---			---
Japanese	---			---

7.5.5 SCSI Server Update

This extension has been created to resolve a bug that could cause a server to hang when a client computer performed a find file search on a server volume. This extension is only for use on PowerPC Apple Workgroup Servers running AppleShare 4.2.x and System 7.5.5.

This is intended for use with PowerPC NuBus- and PCI-based Workgroup Servers, AppleShare 4.2.x, System Software version 7.5.5, and Open Transport 1.1.1. They have undergone extensive testing and together are fully compatible. Installation of the PowerPC Interrupt Extension is also recommended.

Note: 7.5.5 SCSI Server Update is designed for use only with System 7.5.5, and only with Apple Workgroup Servers. Customers with computers that are not Apple Workgroup Servers will receive no benefit from installing this extension.

IMPORTANT: It is important that the instructions provided in this document are followed in the order written. If you encounter problems with this installation, you may have to perform a clean System Software installation and reinstall all of the listed software in the order presented below.

Instructions for installing 7.5.5 SCSI Server Update 1.0

1. As a precaution, Apple recommends performing a complete backup of the server volumes with a third-party backup utility before installing this patch.

2. Locate your "Workgroup Server Software" CD-ROM disc. Boot the Macintosh or Workgroup Server from the bootable CD by holding down the C-key while the server is starting up. You can verify that the CD is the boot volume by checking for its icon in the uppermost position on the desktop.

3. Use the Disk First Aid program to verify and, if necessary, repair all volumes. Disk First Aid should be run from the CD (located in the Utilities folder on most System Software CD-ROM discs). Do not install this patch if any drive cannot be repaired.

4. Install the Mac OS System Software 7.5.5 Update.
If you do not have this patch, you can download it from http://www.info.apple.com/swupdates/
The software is located at the following path: US/Macintosh/System
Note: Please read the Read Me files that are included with all system software patches to ensure installation is performed correctly. Note that "SCSI Update 1.0" requires Mac OS 7.5.5 to be running on the computer.

5. Install Open Transport 1.1.1 if it is not already installed. Use Network Software Selector to switch over to Open Transport. (This is located in your Apple Extras folder.)

6. Install the 7.5.5 SCSI Server Update extension by dragging it to a closed System Folder. Click OK when asked to place the extension in the Extensions folder.

7. Install the PowerPC Interrupt Extension by dragging it to a closed System Folder. The extension will automatically be placed in the Extensions folder.
If you do not have this extension, you can download it from
http://www.info.apple.com/swupdates/
The software is located at the following path: US/Macintosh/System/Other_System

8. Restart the server.

9. Proceed with the regular launching of the AppleShare File Server application.

IMPORTANT: If you have any problems with any of the above steps, please call the AppleAssist Technical Support center for help. The number to call is in your Apple Service documentation included with your server.
Published Date: Feb 18, 2012

System 7.5.5 & AppleShare 4.2.1 Compatibility (2/97)

This article is the System 7.5.5 and AppleShare 4.2.1 compatibility notice.
This article has been archived and is no longer updated by Apple.
For PowerPC Nubus- and PCI-based Apple Workgroup Servers, AppleShare 4.2.1, Mac OS 7.5.5, and Open Transport 1.1.1 have undergone extensive testing and together are fully compatible.

For PowerPC Desktop Computers compatible with the retail version of AppleShare 4.2.1, AppleShare 4.2.1, Mac OS 7.5.5, and Open Transport 1.1.1 have undergone extensive testing and together are fully compatible.

An extension named 7.5.5 SCSI Server Update has been created to resolve a bug that could cause a server to hang when a client computer performed a Find File operation on a server volume.

This extension is only for use on PowerPC Apple Workgroup Servers and compatible PowerPC Desktop Computers running AppleShare 4.2.1 and Mac OS 7.5.5.

The 7.5.5 SCSI Server Update has been rolled into Mac OS 7.6.

For customers who need to run Mac OS 7.5.5 and AppleShare 4.2.1 on PowerPC Workgroup Servers, Apple requires that customers update their servers with the following software in this order:

1) Mac OS 7.5.5 Update,
2) Open Transport 1.1.1,
3) 7.5.5 SCSI Server Update, and
4) PowerPC Interrupt Extension

Where are these Updates located?

All of the following Updates can be found at the following URL:
http://www.info.apple.com/swupdates

The "7.5.5 SCSI Server Update" path:
US
Macintosh
Networking-Communications
AppleShare

The "PowerPC Interrupt Extension" path:
US
Macintosh
System
Other_System

The "AppleShare 4.2->4.2.1 Updater" path:
US
Macintosh
Networking-Communications
AppleShare

Article Change History:
14 Feb 1997 - Updated article with additional information.

Published Date: Feb 18, 2012

Mac OS 7.6 & ATI‘s Xclaim VR Card (3/97)

After Installing Mac OS 7.6, the computer freezes at startup. I have an ATI Xclaim VR card installed.
This article has been archived and is no longer updated by Apple.
When using the Xclaim VR card from ATI Technologies with Mac OS 7.5.3 or Mac OS 7.6, you should remove the Graphics Accelerator extension that is installed.

Article Change History:
10 Mar 1997 - Added Information about Mac OS 7.5.3.
Published Date: Feb 18, 2012

Indian Language Kit: Includes New Key Caps Application

When I installed the Indian Language Kit it appears that a new version of the Key Caps desk accessory was installed in the Apple menu. Why?
This article has been archived and is no longer updated by Apple.
The Indian Language Kit includes an updated version (beyond the version included with Mac OS 7.6) of the Key Caps desk accessory to provide better support of Indian languages. This new Key Caps is an application which can be launched from anywhere on your hard disk.

During installation of the Indian Language Kit, the installer automatically places Key Caps in the Apple Menu if an item already exists there with the name "Key Caps." On computers with a non-English version of Mac OS (which would not have an item called "Key Caps") the new Key Caps application is installed in the Apple Extras folder. You can drag it into the Apple Menu Items folder within the active System Folder if you want it to appear in the Apple Menu. You can also safely remove the localized version of the Key Caps desk accessory.

If you remove the Indian Language Kit, Key Caps will not be deleted. You can delete Key Caps manually by locating it in the Apple Menu Items folder inside the System Folder (or from wherever you placed it on your hard drive) and dragging it to the Trash. However, there is no need to do so because you can continue to use this version of Key Caps even without the Indian Language Kit installed.
Published Date: Feb 18, 2012

Power Macintosh 5500 & 6500: Read Me (1 of 2)

This article contains Part 1 of the ReadMe file for the Power Macintosh 5500 and 6500 series computers.
This article has been archived and is no longer updated by Apple.
This document provides information about your Power Macintosh computer that could not be included in your user's manual or in online help.

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- Improving Video Capture
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- Allocating More Memory to Application Programs
- Using the Recent Documents Command in the Apple Menu
- Installing Acrobat Reader Software from the System Software CD
- Reinstalling or Removing Zip Drive Software
- Installing and Removing PCI Cards

Tips
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Improving 3D Performance

To increase 3D graphics performance on Power Macintosh models that include built-in hardware acceleration, follow these guidelines:

* Make sure that the applications you are using support QuickDraw 3D.
* Turn off virtual memory in the Memory control panel.
* Hide the control strip in the Control Strip control panel.
* Set the monitor Color Depth to Thousands and set the Resolution to 640x480, 67Hz in the Monitors & Sound control panel.

Improving Video Capture

To increase the speed and quality of video captures on Power Macintosh models that support video capture, follow these guidelines:

* Turn off virtual memory in the Memory control panel.

* In the Monitors & Sound control panel, set the color depth to Thousands.

* Turn off AppleTalk. (You can quickly turn AppleTalk on or off with the Control Strip, or use the Chooser instead.)

* Turn off the Menubar Clock in the Date & Time control panel.

* Turn off all unnecessary extensions. Do not turn off QuickTime. (Use the Extensions Manager control panel to turn off extensions; then restart your computer.)

* If you have installed Apple VideoPhone, remove the "QTCComponentDV" extension from the Extensions folder inside your System Folder, and then restart. (The "QTCComponentDV" video digitizer extension is optimized for video conferencing, but your Power Macintosh contains equivalent software that is optimized for video capture.)

* Do not run programs other than the capture application while capturing video.
* Reduce the size of the capture window. (picture quality is improved in smaller windows)
* Make sure that your hard disk has enough free space to record. If you notice a decline in performance, use a disk optimizer to improve your disk's efficiency.
* Make sure that the application program you use for capturing video has enough extra memory allocated for one second of video at the size and bit depth that you are using to record. For example, to record 30fps at 320x240 in thousands of colors requires at least 4500K (4.5 MB) free in the application partition. About This Macintosh (in the Apple menu) lets you estimate memory usage.
* Do not allocate all of the available memory to the capture application. When your capture application is running, you should have an unused block size of at least 500K in About This Macintosh.

When working with applications that support adjusting video and sound settings, the following settings allow the highest video capture performance:

* Use the Component Video video compressor. Do not use post-compression.

* Set sound input sampling to 16 bits, stereo, and 44.1KHz for the highest quality. Do not use a sound compressor.

Improving the Quality of Audio CD Recordings

You can use the AppleCD Audio Player and SimpleSound (both available in the Apple menu) to record from an audio CD to a file on disk. If your recordings sound distorted when you play them, try lowering the volume level in the AppleCD Audio Player and record the sound again.

Usually, you should get acceptable results when the volume is set to about the middle level. However, you may want to experiment with different volume settings; because audio CDs are recorded at various sound levels, individual CDs may require a different setting for optimal recording.

Allocating More Memory to Application Programs

If you are having new issues with application programs reporting that they do not have enough memory, System 7.5.5 may require programs to use an additional 23K of memory. To fix the issue:

1. Quit the program if it is open.
2. Click the program's icon to select it.
3. Open the File menu and choose Get Info.
4. In the Info window, increase the value in the "Preferred size" box by 23.
5. Close the window.

Using the Recent Documents Command in the Apple Menu

You can easily open any of your most recently used documents by choosing the Recent Documents command in the Apple menu, then choosing a document from the submenu. However, this feature can increase the time it takes to open some applications. This occurs because the recent-documents tracking includes all files that are opened--even those opened by an application as part of its launch sequence (such as drop-in filters used by desktop publishing packages). You can reduce the increased opening time by turning off the recent-documents tracking. You can either:
* turn off "recent documents" tracking in the Apple Menu Options control panel
* turn off Apple Menu Options in the Extensions Manager

Installing Acrobat Reader Software from the System Software CD

To install Acrobat Reader software from the system software CD onto your hard disk, make sure that the system software CD that came with your computer is not the startup disk. Then locate the Acrobat Reader folder on the CD and follow the installation instructions.

Note: To make sure that the system software CD is not the startup disk, shut down your computer. Then start up the computer while pressing the eject button on the CD-ROM drive (the disc is ejected). After the computer restarts, reinsert the CD and install the Acrobat Reader software.

Reinstalling or Removing Zip Drive Software

Some Power Macintosh models come with an internal Zip drive. Normally when you insert a Zip disk into this drive, an icon for the Zip disk appears on the Macintosh desktop. If an icon for the inserted disk does not appear on the desktop, the Iomega Driver in your System Folder may be missing or damaged. You can reinstall the Iomega Driver by following these steps:

1. Insert the system software CD-ROM disc that came with your computer.
2. Open the Iomega folder in CD Extras folder on the CD-ROM disc.
3. Drag the Iomega Driver icon to the System Folder icon on your hard disk.

One or more alert messages may appear. One will ask if you want to store the Iomega Driver in your Extensions folder, and another may ask if you want to replace a file that already exists.

4. Click the OK button in these alert messages.
5. Eject the CD-ROM disc. (Select the disc icon and choose Put Away from the File menu.)
6. Restart your computer.
7. Try inserting a Zip disc again.

Though only some Power Macintosh models include an internal Iomega Zip drive, your model includes Iomega software on your hard disk, even if your model does not come with a Zip drive.

If your Power Macintosh model does not include a Zip drive, you can remove this software if you wish. (Or you may also wish to keep this software in case you later purchase and connect a Zip drive.) Removing the software frees up disk space and makes your computer start up slightly faster. If you ever need to reinstall the Iomega software, it is available on the CD-ROM disc that comes with your computer.

To remove the Iomega software, drag the following icons to the Trash:

* Iomega Driver (located in the Extensions folder inside your System Folder)
* Iomega folder (located in the Apple Extras folder)

Installing and Removing PCI Cards

Your Power Macintosh User's Manual contains detailed instructions about installing peripheral component interconnect (PCI) expansion cards. Follow these instructions carefully when installing a PCI card. To avoid damaging the PCI slot when you install or remove a PCI card, do the following:

* Do not rock the card from side to side; instead, press or pull the card straight into or out of the slot.

* Do not physically insert or remove two cards at the same time; insert or remove each card individually.

For more information, see the file "Power Mac Read Me - Part 2."
Published Date: Feb 18, 2012

Power Macintosh 5500 & 6500: Read Me (2 of 2)

This article contains Part 2 of the ReadMe file for the Power Macintosh 5500 and 6500 series computers.
This article has been archived and is no longer updated by Apple.
Important Information
For Your Power Macintosh Computer - Part 2

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Troubleshooting
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A Note on Troubleshooting Software

Many of the tips for troubleshooting software require you to know the version number of the application or system component you're working with. If you have more than one version of the item, the higher number is the more recent version. Before you begin troubleshooting, follow these steps to try determining the item's version number:

* In the Finder, select the file in question.

* Open the File menu and select the Get Info menu item.

The information displayed about the file frequently includes the item's version number.

For more troubleshooting information on the issues described below and other topics, refer to Macintosh Guide online help (available in the Guide

menu when the Finder is active) and the manual that came with your computer.

Printing Issues

You have trouble printing with Apple PhotoFlash. Make sure that you have designated a printer in the Chooser. After doing so, open the File menu and choose the Print command.

You can't use the "Print Later" option with a non-networked printer. If you have the Assistant Toolbox extension installed on your computer and you want to use the "Print Later" option when printing on a non-networked printer, you must turn off the Assistant Toolbox extension and restart your computer.

To turn off the Assistant Toolbox extension:

1. Open the Apple (*) menu and choose Control Panels.
2. Open the Extensions Manager control panel.
3. In the list of extensions, click next to the Assistant Toolbox extension to remove the checkmark.
4. Restart your computer.

Issues with Sound

Issue: When you play back sound you've recorded, you notice clicks, pops, or skips.
Solution: This issue can occur if you have virtual memory turned on while you're recording sound. Turn off virtual memory before recording. For instructions on turning off virtual memory, refer to Macintosh Guide, available from the Guide menu when the Finder is active.

Issue: Your program requires the Sound control panel to set sound options.
Solution: Some application programs that use sound require the Sound control panel, an older control panel that has been replaced on your computer by the Monitors & Sound control panel.

The Sound control panel is located in the Apple Extras folder on your hard disk and in the CD Extras folder on the system software CD that came with your computer. To install it, drag it to the System Folder on your hard disk and then restart your computer.

Note: You can also install the Sound control panel by doing a custom installation of system software. For instructions, refer to the information on doing a custom installation in the Troubleshooting chapter of the manual that came with your computer. When the Custom Install dialog box appears, click "Sound control panel" in the list, then click Install.

Networking and File Sharing Issues

Issue: AppleShare displays incorrect information for large drives.
Solution: If you use File Sharing to share a disk larger than 2 gigabytes (GB), some older computers connected to your computer may display an incorrect size for the disk in the Get Info box. (Get Info reports the disk to be 2 GB in size, even if it is larger.) Because these older computers do not support the larger drives, they also cannot report correct information about the drives. (Computers with System 7.5 display correct information.)

Issue: You can't reconnect to a server.
Solution: If you unexpectedly lose a connection to a server on which you have items in use, and then choose the server from the Recent Servers item in the Apple menu, you get a message that the disk could not be opened because you do not have enough access privileges or because the server can't be found on the network. To reconnect to the server:

1. Close any open files. If any of your files contain changes that need to be saved, use the Save As command to save them on an available disk.
2. Choose the server from the Recent Servers item in the Apple menu.
3. If necessary, replace the files on the server with the ones you saved on an available disk when the server was not available.

Issue: You have issues using AppleShare Server Software version 4.1 or 4.2.
Solution: AppleShare server software versions 4.1 and 4.2 are not intended for use with PCI-based computers, including Power Macintosh 5500 and 6500 computers. If you attempt to use AppleShare server software version 4.1 or 4.2 with these models, you may experience issues.

Issues Using a RAM disk

Issue: You see a message that your RAM disk is unreadable.
Solution: Under some circumstances you may see the following message after setting up a RAM disk:

"This disk is unreadable by this Macintosh. Do you want to initialize the disk?" (Important: This message applies to the RAM disk, not to your hard disk, which will not be initialized.)

Decrease the size of the RAM disk. If you see the message again, decrease the size again. Continue to decrease in small amounts until the message

no longer appears.

Issues using a Zip Drive

Issue: You startup your Power Macintosh from a Zip cartridge (which contains a System Folder) and you get an error message instructing you to insert the Zip cartridge, even though it is already inserted.
Solution: This is an issue caused by an incompatibility between the Zip software and the Energy Saver control panel. You may work around this issue by creating an Energy Saver preferences file:

1. Click the Cancel button in the error dialog box.
2. Select Control Panels under the Apple Menu and select the Energy Saver control panel.
3. Choose your Energy Saver settings or if they are ok, select Quit from the File menu.

Your Zip cartridge will now startup without the error message.

Compatibility Issues with Added Software
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Adobe Premiere

Turn off virtual memory, make AppleTalk inactive, and restart your computer prior to installing Adobe Premiere Deluxe. Otherwise the mouse may freeze during installation. You turn off virtual memory in the Memory control panel. You make AppleTalk inactive in the Chooser or in the AppleTalk control panel. For instructions, refer to Macintosh Guide, available from the Guide menu when the Finder is active.

Aladdin DesktopTools

One feature of Desktop Shortcut, a component of the Aladdin Desktop Tools 1.0.2, is known to fail. If Shortcut is installed, when you are in an Open or Save dialog box, normally you can click in any window in the Finder. The files/folders in that window will then appear in the Standard File Dialog box's scrolling list. To work around this issue, navigate using the Shortcut Menu icon. Aladdin Systems <http://www.aladdinsys.com> has been contacted about this issue and expects to release an update in the future to address the issue.

Apple PC Compatibility Card

If you purchase and install an Apple PC Compatibility Card, you must use PC Setup software version 1.5.4 or a more recent one. Older PC Setup software will not function properly in this Power Macintosh. To get an updated version of the software, first check for it on Apple's World Wide Web site: www.apple.com. Look under the item Product Information. If you do not find the software there, check with an Apple-authorized retailer and the Service and Support information that came with your computer.

Apple VideoPhone

If the Self View window is completely covered by any window, the receiver on the other end of the Apple VideoPhone connection will not get any picture. Make sure the Self View window is not covered by anything.

If you move the Self View window so it is partially off the bottom of the display, the window will turn black.Moving the Self View window so it is completely seen on the display will restore the window.

Apple Video Player

If you move the video window so it is partially off the bottom of the display, the video in the window may become distorted.Moving the video window back so it is completely on the display will restore the video.

Some TV or video sources may have "lines" appear at the top of the video window. These "lines" are a normal part of the video signal and are not due to any video issues. A TV set normally does not show the entire picture so these lines are hidden. Apple Video Player always displays the entire picture.

AppleShare and Connectix Speed Copy

There is an incompatibility between AppleShare Workstation software version 3.6.1 and Connectix Speed Copy (part of Speed Doubler version 1.1 or earlier). Use the Extensions Manager to turn off Speed Copy before you install this system software version, and contact Connectix to get the latest version of Speed Doubler. (You can contact Connectix at http://www.connectix.com, 415-571-5100, or 800-950-5880.)

Conflict Catcher

When using Conflict Catcher, a disabled extension may be moved to the top level of your hard disk. If this happens and you try to turn on the extension in the Extensions Manager control panel, you will not be able to turn it on, even though it appears in the list. To fix this issue, drag the desired extension into the "Extensions (Disabled)" folder (in the System Folder) before using the Extensions Manager.

Energy Saver control panel

The Energy Saver control panel is known to interrupt the play of audio CDs if "Shutdown instead of sleep" is selected. To avoid this issue, uncheck "Shutdown instead of sleep" in the Energy Saver control panel.

FWB Hard Disk ToolKit

If you are using a Power Macintosh model with an internal Zip drive and Hard Disk ToolKit is installed, you may see an alert message stating that the Iomega driver could not load because another driver is already controlling the drive. To prevent this message from appearing, do the following:

1. Open the Hard Disk ToolKit Extension Configuration application.
2. Turn off the "Check All SCSI Addresses" option.
3. Turn on individual checking for each SCSI ID except for SCSI ID number 5, which is the default SCSI ID for the Zip drive.
4. Restart your computer.

Japanese and Chinese Language Kits

To use the Japanese Language Kit with your computer, you must install version 1.2 or later. In the United States, you can obtain an upgrade by calling Claris at 1-800-293-6617.

To use the Chinese Language Kit with your computer, make sure you use version 1.1.1 or later. To install the Chinese Language Kit version 1.1.1, follow these three steps:

1. Install the WorldScript Updater 1.0.
2. Install the Chinese Language Kit version 1.0 or 1.1.
3. Install the Chinese Language Kit Updater to update your software to version 1.1.1.

IMPORTANT: Be sure to follow the steps in the order shown.

Microsoft Office

If you are using Microsoft Office 4.2.1, you may need the "Office 4.2x Update For Power Mac" version 1.0.1 extension, and the "Microsoft Office Manager Updater" version 4.2.1c. These files are available from the Microsoft World Wide Web site at <http://www.microsoft.com>. Download the MC1164.HQX and MOMUPDAT.HQX files.

Motorola Math Library and Connectix Speed Copy 1.3.1

There is a known incompatibility when these two products are used at the same time: the Motorola Math Library and Connectix Speed Copy 1.3.1 (part of Speed Doubler 1.3.1). If you have both of these items in the System Folder, Speed Copy 1.3.1 cannot be used. In order to use Speed Copy, remove the Motorola Math Library from the Extensions folder and restart your computer.

QuarkXPress

To use QuarkXPress on a PowerPC-based Macintosh computer, you must upgrade to QuarkXPress version 3.3.2 (or later).

Sagem GeoPort ISDN Adapter 1.0

There is a known incompatibility with the Sagem GeoPort ISDN Adapter 1.0, resulting in the inability to use the GeoPort ISDN Adapter. Sagem has been contacted about this issue and is working on a solution. For more information, visit the Sagem web site at http://www.satusa.com.

Important Information About Virtual Memory
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Virtual memory (VM) is a feature of the Macintosh that lets you use part of your hard disk as additional memory. If you are using an application program designed especially for Power Macintosh computers (often called a "native" application program), turning on virtual memory lets your application use less memory.

With virtual memory turned on, a Power Macintosh program uses less memory than when virtual memory is turned off. If you check the program's Get Info box before and after turning on virtual memory, you'll see that the numbers in the Memory Requirements box change. That is because turning on virtual memory allows the program to use memory more efficiently.

If you notice performance issues (such as your computer's responses seeming unusually slow) using certain application programs, you may want to turn off virtual memory.

For information on how to turn virtual memory on and off, choose Macintosh Guide from the Guide (question mark) menu, and click the Memory

topic area. For best performance, try setting virtual memory to no more than 150% of the random-access memory (RAM) installed in your computer, or no more than 50% of your currently available hard drive space, whichever number is lower. For example, if your computer has 16 MB of RAM and your hard drive has 50 MB of available space, set virtual memory to a maximum of 24 MB (this is 150% of your 16 MB of RAM, and less than 50% of the available space on your hard drive).

To improve performance, you can also add memory (RAM) to your computer. See the user's manual that came with your computer for more information.

Important Information About Document Auto-Save
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The Energy Saver control panel contains a feature named "Document Auto-Save." The purpose of this feature is to automatically quit all open applications during an idle or scheduled shutdown, while saving changes to any open documents in each application. Since there are literally thousands of applications available for the Macintosh (with new ones always arriving), we cannot guarantee that Document Auto-Save will be compatible with every application. This is especially true for any application that does not use standard routines to implement the alerts or dialog boxes used to save changes to new or modified documents. When an application is incompatible with Document Auto-Save, it will either not automatically quit, or it displays alerts or dialog boxes which Document Auto-Save does not recognize and therefore does not dismiss.

If you intend to turn Document Auto-Save on, we recommend that you monitor its operation during the first attempted idle or scheduled shutdown and note if any of your applications are not compatible. You can avoid issues with incompatible applications simply by making sure you leave no documents open that are new or modified before an idle or scheduled shutdown is to occur. Alternatively, you can modify the Document Auto-Save preferences in the Energy Saver control panel to sleep instead of shutting down when unsaved documents are open.

For instructions for using Energy Saver & Document Auto-Save, choose Macintosh Guide from the Guide (question mark) menu, and choose the Energy Saving topic area.

Other Document-Saving Products

There are conflicts when non-Apple document-saving control panels or extensions are used in conjunction with Energy Saver's Document Auto-Save. For best results, use the document-saving features of only one control panel or extension.

Self-Dismissing Dialogs

Under some rare conditions, the Energy Saver control panel may continuously dismiss dialog boxes if the Document Auto-Save feature unexpectedly fails during an idle or scheduled shutdown. (Whenever a dialog box appears, it is dismissed as if you have pressed the Return key.) To return things to normal, simply click the mouse button or press the space bar.

Important Information About Macintosh PC Exchange
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Compressed PC Disks and Files

Macintosh PC Exchange does not work with DOS-format floppy disks or SCSI hard disks that have been compressed using DOS or Windows disk-compression utilities. Before transferring compressed DOS files to a MacOS-based computer, you must decompress the files and save them to a noncompressed DOS-format floppy disk.

Working With Disks Containing Multiple Partitions

If a SCSI hard disk or removable media cartridge has been formatted to contain multiple partitions, you can use PC Exchange to mount the MacOS-, DOS-, or ProDOS-format partitions as individual volumes on the Macintosh desktop. If the disk contains both MacOS- and DOS-format partitions, PC Exchange will recognize only the Mac OS partition. In addition, PC Exchange will recognize ProDOS-format partitions only on SCSI hard disks that are less than 32 megabytes.

You can use PC Exchange to erase existing individual partitions on a SCSI hard disk or removable media cartridge if they have the same format. However, you cannot use PC Exchange to reformat and resize individual partitions contained on the disk. Nor can you format a MacOS-format hard disk or removable media cartridge as a DOS-format disk. To resize or reformat multiple MacOS, DOS, or ProDOS partitions, you need to use third-party software designed for partitioning hard disks and removable media cartridges.

Working with DOS-Format SCSI Removable Media Devices

In order for PC Exchange to recognize any SCSI removable media device, you must turn on the device and eject any cartridges before you turn on your computer.

Do not install the device driver software that came with your removable media device. Instead, open the PC Exchange control panel, click the Options button, select your SCSI device from the list, and then restart your computer. PC Exchange will install its own device driver for that SCSI device.

The Eject Disk command is unavailable when you are working with removable media devices. To unmount and eject a removable media cartridge, drag the device's icon to the Trash. Once the device has spun down and the red light goes out, you can manually eject the cartridge from the drive. To access a removable media cartridge that has been ejected, simply reinsert the cartridge in the drive.

When initializing and formatting Bernoulli and SyQuest cartridges on a DOS or DOS-compatible computer, use the disk setup and partitioning software that came with the SCSI controller card installed in your PC or that came with your Bernoulli or SyQuest device. (Do not use the MS-DOS FDISK command.) Also, use the MS-DOS FORMAT command to format a newly initialized removable media cartridge on a DOS or DOS-compatible personal computer (PC) before you copy DOS files onto it.

When you initialize a removable media cartridge on a DOS or DOS-compatible PC, you must fully partition, initialize, and erase the cartridge using the software that came with your SCSI controller card or removable media drive. If you do not, PC Exchange may not recognize the new DOS-format partitions on that cartridge.

Working with DOS-Format SCSI Hard Disk Drives

In order for Macintosh PC Exchange to recognize a SCSI hard disk drive, you must turn on the drive before you turn on your computer.

Do not install the device driver software that came with your removable media device. Instead, open the PC Exchange control panel, click the Options button, select your SCSI device from the list, and then restart your computer. PC Exchange will install its own device driver for that SCSI device.

When initializing and formatting an external SCSI hard disk connected to a DOS or DOS-compatible PC, use the MS-DOS FDISK command or the disk setup and partitioning software that came with the SCSI controller card installed in your PC. In addition, you should use the MS-DOS FORMAT command to format and erase the disk before you copy DOS files to a new SCSI hard disk connected to a PC.

Tips and Issues
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* A "Sad Mac" icon may appear on your screen at startup if a removable media cartridge has been left in the drive. To keep this issue from occurring, manually eject removable media cartridges from their drives before you turn on your computer.

* Macintosh PC Exchange cannot recognize SCSI hard disks, removable media devices, or drive container files that contain more than one gigabyte of disk space.
Published Date: Feb 18, 2012

Indian Language Kit: Gujarati QWERTY Keyboard Change

I am trying to type a Viraam character using the Indian Language Kit. According to the Indian Language Kit User's Guide, the Viraam should be the default period (full-stop) on the Period key. However, it appears that the period (.) is the default. How can I type a Viraam?

This article has been archived and is no longer updated by Apple.

The Gujarati QWERTY keyboard underwent a minor change after the Indian Language Kit User's Guide was printed so there is an error in the manual. Instead of the Viraam as the default period (full-stop) on the Period key, the period (.) is the default. Viraam can be typed by holding down the Option key and pressing the Period key.

Published Date: Feb 18, 2012

Indian Language Kit: Fonts Appear Garbled

I recently installed the Indian Language Kit on my Power Macintosh 8100 computer, and I have realized that when I switch keyboard layouts the fonts appear garbled.
This article has been archived and is no longer updated by Apple.
This issue may occur on any NuBus-based Power Macintosh computers using system software older than Mac OS 7.6. This was noted in the Indian Language Kit Read Me file.

Solution
Switch to a keyboard layout of another language and then switch back to the desired keyboard layout.
Published Date: Feb 18, 2012

Indian Language Kit: Which Fonts To Use?

I have the Indian Language Kit installed on my computer, and I am confused by the number of fonts that are now appearing in the Font menu of my applications. Which fonts should I be using?
This article has been archived and is no longer updated by Apple.
After installing the Indian Language Kit, your Font menus contain at least two fonts for each Indian Language. These fonts have different suffix--for example, Devanagari MTS and Devanagari MT. You should use the MT version of each Indian language font. (Do not use the MTS version; MTS fonts use Chicago as their associated Roman font and have no bold style).

Furthermore, if your have QuickDraw GX installed, you will see some additional fonts at the top of the Font menu that begin with a period (.) For example, you may see a font listed with the name ".Devanagari MT X" Do NOT use this or similar fonts. Instead, select the font "Devanagari MT."

For technical reasons, these fonts cannot be hidden, and in future versions of the Indian Language Kit, we hope these fonts will not be visible. In the meantime, follow these suggestions for choosing the proper font.

** The following list shows the fonts that you should NOT use. (You cannot remove these fonts from your Font menu.)

* On any computer with the Indian Language Kit installed, do NOT use these fonts:

Devangari MTS
Gujarati MTS
Gurmukhi MTS

* Additionally, if you have QuickDraw GX installed, these additional fonts may appear, which you should NOT use:

.Devanagari MT X
.Devanagari MT X (Bold)
.Gujarati MT X
.Gujarati MT X (Bold)
.Gurmukhi MTX
.Gurmukhi MTX (Bold)

** The fonts that you SHOULD use in conjunction with the Indian Language Kit:

Devanagari MT
Gujarati MT
Gurmukhi MT

** Also, if you are using third-party fonts, you should note that the Indian Language Kit only supports non-Apple fonts which are both ISCII and WorldScript compliant.
Published Date: Feb 18, 2012

Apple II SCSI Card: Interrupt Problem (11/96)

This article discusses a potential problem with the Apple IIGS, Apple II SCSI card and programs using interrupts.

This article has been archived and is no longer updated by Apple.

Apple IIGS system crashes may occur with programs using interrupts during access of SCSI disk drives connected to the Apple II SCSI card. Once interrupts are enabled, it is possible an interrupt may occur during a SCSI drive data transfer. Programs initiate data transfer by passing control to the SCSI card.

The SCSI card firmware places code in its own stack for executing. If taking an interrupt also places code on the same stack it may wipe out some or all of the previous SCSI firmware code. Returning from the interrupt, returns to the portion of the stack corrupted by the interrupt, which results in some kind of unidentifiable system crash.

Crashes are possible if BOTH of the following conditions apply:

- The SCSI card is used with an interrupt driven program, like AppleTalk.

- This application program calls the SCSI card directly, NOT using ProDOS.

To work around this possibility, make sure your applications use ProDOS to handle any interrupts. This may decrease SCSI disk data transfer rates but will help reduce system crashes.

Article Change History:
15 Nov 1996 - Reviewed for technical accuracy, revised formatting.
Published Date: Feb 18, 2012

Mac OS 7.6: Seeing Duplicate System Folders (2/97)

I recently performed a clean system installation of Mac OS 7.6. When I restarted the computer I saw a duplicate system folder. Clicking around in the window made the duplicate system folder disappear but after another restart, the duplicate was back. What is wrong?

This article has been archived and is no longer updated by Apple.

Mac OS 7.6 and earlier versions of the Mac OS, like 7.5.x, are not the cause of this behavior. If you have installed Desktop Printing and have not selected a printer in the Chooser, double system folders may appear. This is a Desktop Printer issue.

To correct this, select a printer in the Chooser and a duplicate system folder should not reappear.

Published Date: Feb 18, 2012

Power Macintosh: About Using Your CD-ROM Drive (2/97)

This article contains the Read Me file, "About Using Your CD-ROM Drive", which is included with Power Macintosh 5500 and 6500 computers.
This article has been archived and is no longer updated by Apple.
CD-ROM Sound and Vibration
==========

Your computer comes with a 12-speed (12x) CD-ROM drive, one of the fastest speeds available. The 12x CD-ROM drive reads CD-ROM discs very quickly, but because of the drive's high rotation speed, you may hear unanticipated sounds coming from it.

During CD start Up and long searches

For example, when you insert a CD disc into the CD-ROM drive, you may notice a few seconds of sound that makes you think either the disc is loose in the drive or something inside the computer has come into contact with the spinning disc. This sound may also occur occasionally when the drive scans the disc for data. If you hear it, do not be concerned. The sound is normal and the disc remains undamaged.

During regular CD-ROM operation

Today's high-speed CD-ROM drives normally cause a certain amount of sound and vibration. However, there are also some cases in which a CD-ROM disc label has artwork that causes the disc's weight to be slightly off-center. Occasionally, this uneven distribution of weight coupled with the high rotation speed of your CD-ROM drive can cause a disc to wobble in the drive and cause vibration. If your CD-ROM drive does begin to vibrate, you don't need to do anything special; continue to use the CD-ROM disc as you normally would. The vibration damages neither the CD-ROM disc nor the computer.

Published Date: Feb 18, 2012

Power Macintosh 4400/200: Read Me

This article contains the Read Me file for the Power Macintosh 4400/200 computer.
This article has been archived and is no longer updated by Apple.
This document provides late-breaking information that could not be included in your user's manual.

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- Working with DOS-Format SCSI Hard Disk Drives
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Tips
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Installing Peripheral Component Interconnect (PCI) Cards

Some PCI cards must be installed in a particular slot in your computer. Consult the PCI card's user's manual, Read Me file, or the card manufacturer to determine if the card you are installing must be installed in a certain slot.

Troubleshooting

IMPORTANT The troubleshooting information in this Read Me file supplements the information provided in Macintosh Guide (available in the Guide menu when the Finder is active) and the manuals that came with your computer.

Printing Issues

You have trouble printing on a StyleWriter or StyleWriter II printer. Use the StyleWriter 1200 printer driver that came installed on your computer. Do not install your older StyleWriter driver; it is not compatible with PowerPC-based computers.

You can't use the Print Later option with a non-networked printer. If you have the Assistant Toolbox extension installed on your computer and you want to use the Print Later option when printing on a non-networked printer, you must turn off the Assistant Toolbox extension and restart your computer.

To turn off the Assistant Toolbox extension:

1. Open the Apple (*) menu and choose Control Panels.
2. Open the Extensions Manager control panel.
3. In the list of extensions, click next to the Assistant Toolbox extension
to remove the checkmark.
4. Restart your computer.

You see a low-memory warning when you print Stickies on a StyleWriter, StyleWriter II, or StyleWriter 1200 printer. This issue can occur when the amount of memory Stickies uses is set below 150K. Increase the amount of memory available to Stickies. For instructions on changing the memory a program uses, refer to Macintosh Guide (available in the Guide menu when the Finder is active).

Performance Issues

You see a message that not enough memory is available. This issue can occur for several reasons. For detailed tips on memory-related issues, refer to both the troubleshooting information in the manuals that came with your computer and to the information on memory in Macintosh Guide (available in the Guide menu when the Finder is active).

If this issue occurs after you have opened the Extensions folder in the System Folder and scrolled through a long list of extensions, you can restore normal performance by restarting your computer.

Microsoft applications such as Microsoft Word, PowerPoint, or Microsoft Excel display messages that not enough memory is available and that you need to increase the size of memory available. Try quitting all applications before launching Microsoft applications. If this does not work, then try turning on virtual memory. The documentation that came with your computer and Macintosh Guide (available in the Guide menu when the Finder is active) contain more information about virtual memory.

Issues with Sound

HyperCard version 2.3.3 or earlier does not record sound properly on your computer. Other sound-recording application programs, including SimpleSound and the Sound control panel, can record sounds that you can import and play within HyperCard 2.3.

Some application programs that use sound require the Sound control panel, an older control panel that has been replaced on your computer by the Monitors & Sound control panel.

You can install the Sound control panel by doing a custom installation of system software. For instructions, refer to the information on doing a custom installation in the Troubleshooting chapter of the manual that came with your computer. When the custom dialog box appears, click "Sound control panel" in the list, then click Install.

Issues with Energy Saver

When using Energy Saver, if you schedule a startup time for your computer of 24 hours (or more) after the scheduled shutdown time, the computer may not start up at the scheduled time.

To solve this issue, after you change the scheduled shutdown or startup time, click the "Sleep Setup" button in the Energy Saver control panel.

Issues Using a RAM Disk

You notice performance issues when using a RAM disk. Make sure the RAM disk size is not set to 100% or you may experience performance issues.

Issues with Programs Freezing or Quitting Unexpectedly

Maple V quits unexpectedly when you change your monitor resolution. This can occur if you use the Control Strip to change the monitor resolution while the Maple V program is active. Use the Monitors & Sound control panel instead of the Control Strip to change screen resolution. For instructions on using the Monitors & Sound control panel, refer to Macintosh Guide (available in the Guide menu when the Finder is active).

When you try to install Adobe Premiere Deluxe, the mouse freezes. This can occur if you have virtual memory turned on and AppleTalk active when you try to install Adobe Premiere Deluxe.Turn off virtual memory and make AppleTalk inactive before installing. For instructions, refer to Macintosh Guide (available from the Guide menu when the Finder is active).

This issue does not occur if you select Adobe Premiere 4.2 installation instead of Adobe Premiere Deluxe.

Issues with Monitors

You have difficulty choosing a video resolution that works well. To select the best video resolution to use with your monitor and computer, use the Control Strip displayed in the bottom left corner of your screen. (If the Control Strip is not visible, display it by choosing Control Strip from the Control Panels submenu in the Apple menu.) The recommended resolutions are listed in a plain font. The resolutions listed in italics may not work with your hardware.

Compatibility Issues
==========

DOS Compatibility Cards

PCSetup is an application program that comes with DOS Compatibility Cards. PCSetup version 1.5 or earlier may not work with your computer.

If you have the DOS Compatibility Card sound cables installed, the output from the audio will be reversed.

CDPlusGraphics

Your computer displays error messages when you use the CDPlusGraphics application to play a CD-ROM disc that contains both sound and graphics.The graphics tracks of CD+G discs and MIDI tracks of CD+MIDI discs cannot be played on the internal CD-ROM drive in your computer. (However, the audio tracks of these CDs can be played.) To play CD+G and CD+MIDI discs, use an external SCSI CD-ROM drive.

At Ease for Workgroups 3.0 and 3.0.1

If you are using a version of At Ease prior to 3.0.2, do not remove the At Ease ATA Extension from your Extensions folder. (This extension prevents the "Lock startup volume" checkbox from being available.) If you are using At Ease 3.0.2 or later or you are not using At Ease at all, you may remove
the At Ease ATA Extension.

Ethernet Cards

The Ethernet CS II Card requires Open Transport software. To use Open Transport, open the Network Software Selector application in the Apple Extras folder and select Open Transport networking. Then use the AppleTalk and TCP/IP control panels to set up networking with the Ethernet CS II Card. (Do not use the Network and MacTCP control panels.)

MacIPX is not supported currently by Open Transport and therefore does not work with the Ethernet CS II Card or with any Ethernet PCI card.

The currently shipping versions of Apple IP Gateway and AppleTalk Internet Router are not compatible with Open Transport.

Shut down your computer before you connect or disconnect network cables from your computer.

If multiple network cards are installed, the AppleTalk Control Panel identifies the cards as A1, B1 or C1; slot A1 is the middle (PCI) slot, slot B1 is the top (PCI) slot, and slot C1 is the bottom (communication) slot.

External Modem Port

The installation of any internal modem in the communication slot will disable the external modem port. You can configure the printer port for an equivalant use after turning AppleTalk off.

Japanese and Chinese Language Kits

To use the Japanese Language Kit with your computer, you must install version 1.2 or later. In the United States, you can obtain an upgrade by calling Claris at 1-800-293-6617.

To use the Chinese Language Kit with your computer, make sure you use version 1.1.1 or later. To install the Chinese Language Kit version 1.1.1, follow these three steps:

1. Install the WorldScript Updater 1.0.
2. Install the Chinese Language Kit version 1.0 or 1.1.
3. Install the Chinese Language Kit Updater to update your software to version 1.1.1.

IMPORTANT: Be sure to follow the steps in the order shown.

STF PowerFax PE

If you use PowerTalk Direct Dialup Mail and have trouble sending a fax, it may be because both Direct Dialup and STF PowerFax PE are set to auto-answer. To turn off STF auto-answer, open the STF Setup window and set 'n' to "never" (in the "Answer on 'n' rings" section).

Emagic Logic Version 2.0.1

In order to use Emagic Logic version 2.0.1 and similar applications, the MIDI Manager extension may need to be installed.

PCI Video Cards

In order to use the Targa 2000 card, you must install it in slot A1 and turn virtual memory off. Refer to Macintosh Guide (available from the Guide menu when the Finder is active) for more information about turning virtual memory off.

In order to use the Media 100qx card, you must install it in slot A1 and turn virtual memory off. Refer to Macintosh Guide (available from the Guide menu when the Finder is active) for more information about turning virtual memory off. Also note that this card has special configuration requirements -consult the card's manufacturer to configure your system for best performance.

You may experience issues with other video capture cards on your computer. Please contact the card's manufacturer for instructions.

Important Information About Virtual Memory
==========
With virtual memory turned on, a Power Macintosh program uses less memory than when virtual memory is turned off. If you check the program's Get Info box before and after turning on virtual memory, you'll see that the numbers in the Memory Requirements box change. That is because turning on virtual memory allows the program to use memory more efficiently.

For information on how to turn virtual memory on and off, choose Macintosh Guide from the Guide menu when the Finder is active. Click the Memory topic area, and then click "How do I use hard disk space as memory?" and "Tips for PowerPC-based computers." Also, refer to the user's manual that came with your computer.

Important Information About Document Auto-Save
==========
The Document Auto-Save feature in the Energy Saver control panel automatically quits all open applications during an idle or scheduled shutdown, and saves changes to any open documents in each application. Since there are literally thousands of applications available for the Macintosh (with new ones always arriving), Apple cannot guarantee that Document Auto-Save will be compatible with every application. When Document Auto-Save is incompatible with an application, the application will not automatically quit and the computer will not be shut down.

If you intend to turn Document Auto-Save on, monitor its operation during the first attempted idle or scheduled shutdown and note if any of your applications are not compatible. You can avoid issues with incompatible applications simply by making sure you leave open no documents that are new or modified before a scheduled shutdown is to occur. You can modify the Document Auto-Save preferences in the Energy Saver control panel so the computer will sleep rather than shut down when unsaved documents are open.

For instructions for using Energy Saver & Document Auto-Save, choose Macintosh Guide from the Guide menu when the Finder is active and choose the Energy Saving topic area.

Other Document-Saving Products

There are conflicts when non-Apple document-saving control panels or extensions are used in conjunction with Energy Saver's Document Auto-Save. Examples of such products are NowSave and SuperBoomerang. For best results, use the document-saving features of only one control panel or extension.

Self-Dismissing Dialogs Boxes

Under some rare conditions, the Energy Saver control panel may continuously dismiss dialog boxes if the Document Auto-Save feature unexpectedly fails during an idle or scheduled shutdown. (Whenever a dialog box appears, it is dismissed as if you have pressed the Return key.) To return things to normal, simply click the mouse or press the Space bar.

Important Information About Macintosh PC Exchange

AutoDoubler

Before you use AutoDoubler with Macintosh PC Exchange, you must open the AutoDoubler control panel and turn off the "Show DD on Compressed Files" option from the DD menu.

Compressed PC Disks and Files

Macintosh PC Exchange does not work with DOS-format floppy disks or SCSI hard disks that have been compressed using Stacker or other DOS or Windows disk-compression utilities. Before transferring compressed DOS files to a Mac OS-based computer, you must decompress the files and save them on a noncompressed DOS-format floppy disk.

Working With Disks Containing Multiple Partitions

If a SCSI hard disk or removable media cartridge has been formatted to contain multiple partitions, you can use Macintosh PC Exchange to mount the Mac OS-, DOS-, or ProDOS-format partitions as individual volumes on the Macintosh desktop. If the disk contains both Mac OS- and DOS-format partitions, Macintosh PC Exchange will recognize only the Mac OS partition. In addition, Macintosh PC Exchange will recognize ProDOS-format partitions only on SCSI hard disks that are less than 32 megabytes.

You can use Macintosh PC Exchange to erase existing individual partitions on a SCSI hard disk or removable media cartridge if they have the same format. However, you cannot use Macintosh PC Exchange to reformat and resize individual partitions contained on the disk. Nor can you format a
Mac OS-format hard disk or removable media cartridge as a DOS-format disk. To resize or reformat multiple Mac OS, DOS, or ProDOS partitions, you need to use third-party software designed for partitioning hard disks and removable media cartridges.

Working with DOS-Format SCSI Removable Media Devices

In order for Macintosh PC Exchange to recognize any SCSI removable media device, you must turn on the device and eject any cartridges before you turn on your computer.

Do not install the device driver software that came with your removable media device. Instead, open the Macintosh PC Exchange control panel, click the Options button, select your SCSI device from the list, and then restart your computer. Macintosh PC Exchange will install its own device driver for that SCSI device.

The Eject Disk command is unavailable when you are working with removable media devices. To unmount and eject a removable media cartridge, click the device's icon to select it and choose Put Away from the File menu. Once the device has spun down and the red light goes out, you can manually eject the cartridge from the drive. To access a removable media cartridge that has been ejected, simply reinsert the cartridge in the drive.

When initializing and formatting Bernoulli and SyQuest cartridges on a DOS or DOS-compatible computer, use either the disk setup and partitioning software that came with the SCSI controller card installed in your PC or the one that came with your Bernoulli or SyQuest device. (Do not use the MS-DOS FDISK command.) Also, use the MS-DOS FORMAT command to format a newly initialized removable media cartridge on a DOS or DOS-compatible personal computer (PC) before you copy DOS files onto it.

When you initialize a removable media cartridge on a DOS or DOS-compatible PC, you must fully partition, initialize, and erase the cartridge using the software that came with your SCSI controller card or removable media drive. If you do not, Macintosh PC Exchange may not recognize the new DOS-format partitions on that cartridge.

Working with DOS-Format SCSI Hard Disk Drives

In order for Macintosh PC Exchange to recognize a SCSI hard disk drive, you must turn on the drive before you turn on your computer.

Do not install the device driver software that came with your removable media device. Instead, open the Macintosh PC Exchange control panel, click the Options button, select your SCSI device from the list, and then restart your computer. Macintosh PC Exchange will install its own device driver for that SCSI device.

When initializing and formatting an external SCSI hard disk connected to a DOS or DOS-compatible PC, use the MS-DOS FDISK command or the disk setup and partitioning software that came with the SCSI controller card installed in your PC. In addition, you should use the MS-DOS FORMAT command to format and erase the disk before you copy DOS files to a new SCSI hard disk connected to a PC.

Tips and Issues
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* A "sad Macintosh" icon may appear on your screen at startup if a removable media cartridge has been left in the drive. To keep this issue from occurring, manually eject removable media cartridges from their drives before you turn on your computer.

* Macintosh PC Exchange cannot recognize SCSI hard disks, removable media devices, or drive container files that contain more than one

gigabyte of disk space.

Published Date: Feb 18, 2012

Performa 6400/6360/GeoPort: How to Remove Modem Software

I have a Macintosh Performa 6360 or 6400 series computer that ships with a GeoPort Telecom Adapter and I want to remove the modem software from the System Folder. How do I do this?

Note: Macintosh Users
MegaPhone for the Macintosh is now distributed and supported by Bing Software. If you need technical support, please contact Bing Software directly:

Monday through Friday, 9 am to 5pm Pacific time.
Technical Support: (714) 888-6639
Fax: (714) 888-6635
For Sales, call: (714) 888-6633
E-mail:bingsoftware@mindspring.com
Web:http://www.BingSoftware.com
This article has been archived and is no longer updated by Apple.
Not all Performa 6400 series computers ship with GeoPort internal modems. To determine what type of modem you have, search for Tech Info Library article "Macintosh Performa 6400: Which Modem is Included?". If you have a Global Village modem, search for Tech Info Library article "Performa 6400/GVC: How to Remove Modem Software".

IMPORTANT:

- Do not use this article if you do not have a Performa 6360 or 6400 series computer.
- Do not use this article for guidance on how to deal with Apple Telecom 2.x or earlier.

How to Remove Modem Software

There are three operational components to the "modem software": the modem software, the fax software, and a few support files for Megaphone.

If you are installing a new, external, voice capable modem, you should normally remove all three components in order to ensure there are no conflicts with your new modem.

This discussion is mainly concerned with software that modifies the operation of the computer each time you start up. You will also need to remove the Megaphone folder from the Applications folder, and the Apple Telecom folder from the top (root) level of the hard disk -- be sure that Application Folder Protection is turned off in the General Controls control panel. If you throw away the latter folder, you will risk deleting any received faxes, as well as the only software which is capable of reading those faxes.

Also, there are a number of modem and communications utilities provided to support ClarisWorks, America Online (AOL), and the Apple Internet Connection Kit (AICK). These utilities are not modem specific, and should work with any type of modem.

Modem Software

Since the GeoPort Telecom Adapter is a software-based modem, there is basic modem software that lets the modem card serve as a modem. If you wish to remove this software, remove the following files:

Control Panels
Express Modem

Extensions
Apple Telecom Modem
Express Modem Tool
GeoPort for Power Macintosh
GeoPort Serial Driver
GeoPort Telecom Adapter
GeoPort Telephone Tool
GeoPort/Express Modem
GeoPort/Express Modem CNG

Preferences
Express Modem Preferences

Fax Software

The next major package is the fax software. The fax software is comprised of the following files:

Apple Menu Items
Apple Telecom Status

Extensions
AddressBookLib.ppc
Apple Fax Gateway
Fax Extension
Fax Sender
Fax Sender GX
Log Extension
Modem Scripts
GeoPort/Express Modem
GeoPort/Express Modem CNG
Scripting Additions
Received fax folder

Mimetics
EasyReader Fax
Neuroneye
UK Dictionary
US Dictionary

Preferences
Fax Extension Preferences

System suitcase (free in System Folder):
Bell Telephone (sound resource)
Electronic Telephone

CAUTION:
Do not throw away the System suitcase. Open the system suitcase and remove the sound files, if desired. If you move the System suitcase out of the System Folder, the computer will not start correctly the next time you start up.

Megaphone Software

The last major package is Megaphone. This support software is as follows:

At Ease Items
At Ease Setups
Parents
MegaPhone
MegaPhone 2.0 Tour

Control Panels
MegaDial

Extensions
ANSI C++ PPC Lib
Cypress
MegaDial Files
MegaDial Locations
MegaDial Resources
MegaPhone Menu
MWRuntimeLib
Telephone Manager Extension

Launcher Items
MegaPhone II
*Learning
MegaPhone 2.0 Tour

NOTE: Apple only supports the bundled version of Megaphone with the modem which was shipped with the computer. Even if you purchase an external voice-capable modem, this version of Megaphone may not work with it. If the external modem did not come with its own telephony

software, contact Cypress Research Corporation for compatibility and purchasing information.

Published Date: Feb 18, 2012

Performa 6400/GVC: How to Remove Modem Software

I have a Macintosh Performa 6400 series computer that ships with a Global Village Platinum V modem. I want to remove the modem software from the System Folder, how do I do that?

Note: Macintosh Users
MegaPhone for the Macintosh is now distributed and supported by Bing Software. If you need technical support, please contact Bing Software directly:

Monday through Friday, 9 am to 5pm Pacific time.
Technical Support: (714) 888-6639
Fax: (714) 888-6635
For Sales, call: (714) 888-6633
E-mail:bingsoftware@mindspring.com
Web:http://www.BingSoftware.com
This article has been archived and is no longer updated by Apple.
NOTE: Not all Performa 6400 series computers have a Global Village modem. To determine the type of modem you have, search for Tech Info Library article "Macintosh Performa 6400: Which Modem is Included?". If you have a GeoPort modem, search for Tech Info Library article "Performa 6400/6360/ GeoPort: How to Remove Modem Software".

IMPORTANT:
Do not use this article for guidance on removing modem software from any other Performa computer bundled with Global Village software. The Performa 6400 includes no Global Village software, even if it comes with a Global Village modem, so the information below cannot be used for other systems. Search for Tech Info Library article "How to Remove Global Village Software" instead.

Do not use this article for guidance for dealing with Apple Telecom 2.x or earlier software.

How to Remove Modem Software

There are actually two operational components to the modem software: the fax software, and a few support files for Megaphone.

If you are installing a new, external, voice capable modem, you should normally remove all components of the bundled software in order to ensure there are no conflicts with your new modem.

This discussion is mainly concerned with software that modifies the operation of the computer each time you start up. You will also need to remove the Megaphone folder from the Applications folder, and the Apple Telecom folder from the top (root) level of the hard disk -- be sure that Application Folder Protection is turned off in the General Controls control panel. If you throw away the latter folder, you will risk deleting any received faxes, as well as the only software which is capable of reading those faxes.

Also, there are a number of modem and communications utilities provided to support ClarisWorks, America Online (AOL), and the Apple Internet Connection Kit (AICK). These utilities are not modem specific, and should work with any type of modem.

Fax Software

The first major package is the fax software. The fax software is comprised of the following files:

Apple Menu Items
Apple Telecom Status

Control Panels
MegaDial

Extensions
AddressBookLib.ppc
Apple Fax Gateway
Apple Personal Modem
Fax Extension
Fax Sender
Fax Sender GX
Log Extension
Scripting Additions
Received fax folder

Mimetics
EasyReader Fax
Neuroneye
UK Dictionary
US Dictionary

System suitcase (free in System Folder):
Bell Telephone (sound resource)
Electronic Telephone

CAUTION:
Do not throw away the System suitcase. Open the system suitcase and remove the sound files, if desired. If you move the System suitcase out of the System Folder, the computer will not start correctly the next time you start up.

Megaphone Software

The last major package is Megaphone. This support software is as follows:

At Ease Items
At Ease Setups
Parents
MegaPhone
MegaPhone 2.0 Tour

Control Panels
MegaDial
Telephone Setup

Extensions
ANSI C++ PPC Lib
CRC Address Book Extension
CRC TelePort TelTool
Cypress
MegaDial Files
MegaDial Locations
MegaDial Resources
MegaPhone Menu
MWRuntimeLib
Telephone Manager Extension

Launcher Items
MegaPhone II
*Learning
MegaPhone 2.0 Tour

NOTE: Apple only supports the bundled version of Megaphone with the modem which was shipped with the computer. Even if you purchase an external voice capable modem, this version of Megaphone may not work with it. If the external modem did not come with its own telephony software, contact Cypress Research Corporation for compatibility and purchasing information.
Published Date: Feb 18, 2012

Apple Network Server: Viewing the AIX Boot Log

How can I view the boot log on AIX 4.x?
This article has been archived and is no longer updated by Apple.
The boot log on AIX 4.X can be view by typing the command:

alog -o -t boot

There may be more information than can fit in one screen, so you might want to try the command below and then press the space bar to the next screen:

alog -o -t boot | more

This information may prove useful if AIX stops during the boot process. You can boot AIX from the installation CD-ROM disc and enter the maintenance mode to view the boot log.

This article was published in the 21 February 1997 "Information Alley."
Published Date: Feb 18, 2012

GeoPort & EM Updater: Change History

This article is a brief description of the GeoPort and Express Modem Updater change history.
This article has been archived and is no longer updated by Apple.

3.0 - Added V.34 functionality, up to 28.8 kbps, for GeoPort hardware running on a Power Macintosh computer and fixed minor bugs. Based on Apple Telecom 3.0.3 (ships in Japan only).

3.1 - Implemented up to 33.6 kbps connection speeds on GeoPort hardware running on a Power Macintosh computer, and fixing a memory fragmentation issue with the software. This update was never posted because it was superseded by 3.1.1

3.1.1 - Fixed the installer script. The installer was removing the old GeoPort Extension on a Macintosh Quadra AV computer, but not installing the new one. This version is also referred to as Telecom 3.1.1 and can be downloaded from **Apple Software Updates** search for Geoport EM 3.1.1.

05 May 1997 - included information to find Software Updates.

Published Date: Feb 18, 2012

Open Transport/PPP: Error Codes

This article provides a listing of the Open Transport/PPP (OT/PPP) error codes found in the Users Manual, pp. 62-63.
This article has been archived and is no longer updated by Apple.

```
7102: OT/PPP did not load properly at system start up.
7103: OT/PPP could not set up a port.
7104: OT/PPP is out of memory.
7105: The requested action is not supported.
7106: One or more resources are missing from OT/PPP's installed files.
7107: The Remote Access Connections file is not compatible with the
     installed version of OT/PPP.
7108: An action requiring a connection was requested when there was no
     connection.
7109: The connection attempt or established connection was terminated by
     the user.
7110: The user name is unknown.
7111: The password is invalid.
7112: An unexpected error with no useful information has occurred.
7113: One or more of the installed OT/PPP files is damaged.
7114: The requested action could not be performed because OT/PPP was busy.
7115: The OT/PPP logical port is in an unknown state.
7116: The OT/PPP logical port is in an invalid state.
7117: The OT/PPP logical port has detected an invalid serial protocol.
7118: Login is disabled for the given user.
7120: The server administrator requires the user to enter a password.
7122: OT/PPP could not initialize Open Transport.
7123: The requested action could not be performed because OT/PPP is not
     fully initialized yet.
7124: TCP/IP is inactive and cannot be loaded.
7125: TCP/IP is not yet configured.
7126: PPP is not selected as the TCP/IP interface in the current TCP/IP
     configuration.
7128: The requested PPP protocol was rejected by the PPP peer.
7129: PPP authentication failed.
7130: PPP negotiation failed.
7131: PPP was disconnected locally.
7132: The PPP peer disconnected unexpectedly.
7133: The PPP peer is not responding.
7134: The OT/PPP log file is not open.
7135: The OT/PPP log file is already open.
7136: The OT/PPP log entry could not be retrieved.
7138: OT/PPP can not locate the active System Folder.
7139: OT/PPP can not locate its Preferences folder.
7140: There is a preexisting file using an OT/PPP type or creator.
7141: There is a preexisting folder using an OT/PPP folder name and
     location.
7142: The Remote Access Connections file is not open.
7144: An unknown PPP control protocol type was received.
7145: PPP received a packet with an invalid length.
7146: PPP received a negotiable option with an invalid value.
7147: PPP received a negotiable option with invalid flags.
7148: PPP ran out of memory while negotiating with the peer.
7152: PPP encountered an error with no useful information.
7153: PPP is in an invalid state.
7163: The user canceled the password entry dialog.
7164: The user did not respond to the password entry dialog in time.
7165: An unknown Open Transport serial port was referenced.
7166: The OT/PPP logical port is not configured.
7167: No AppleTalk services endpoints are available.
7168: The user canceled the modem script ASK or the Manual Dialing dialog.
```

Published Date: Feb 18, 2012

AIX: Recovering From an Unknown Root Password

User entered root password with ergonomics keyboard in install_assist after installing operating system and password is not what user entered on the keyboard. So he does not know what the root password is.
This article has been archived and is no longer updated by Apple.
Switch server key to the maintenance mode with the AIX installation CD and boot into maintenance mode or do a hard reset. Then access the rootvg from the CD and start a shell. You can modify the "/etc/security/passwd" file with vi by removing the encrypted password after the "=", leave the rest of the information intact and save the file.

The root section of the passwd file should look similar to this:

```
root:
password =
lastupdate =
flags =
```

Before you shut down the server, type:

```
sync; sync; sync
```

and press return.

To restart the server, press the reset button and move the key to the normal mode.
Published Date: Feb 18, 2012

Apple IIGS: Printing to the LaserWriter from AppleWorks

This article has been archived and is no longer updated by Apple.

The following instructions are valid for AppleWorks versions 1.3 and 2.0; earlier versions of AppleWorks have not been tested with these modifications. These changes support both the LaserWriter and the LaserWriter Plus.

You first create an AppleWorks program disk with all the files required to print AppleWorks documents to the LaserWriter and thereupon you test the disk by printing a document.

Then you can create a bootable disk that effectively reduces the number of manual steps needed to prepare the system for printing your AppleWorks documents to the LaserWriter.

Creating a program disk:

Using the System Utilities program,

-- Name a disk /APPLEWORKS. For this set of instructions, we'll say the disk is a single 3.5" disk.

-- Copy all files from the master AppleWorks disk to the single 3.5" disk you have named /APPLEWORKS.

-- Put away the master AppleWorks disk

-- Delete the old version of ProDOS 1.1.1 from your /APPLEWORKS disk.

-- Copy the new version of ProDOS, P8, from the Apple IIGS System Disk to your /APPLEWORKS disk.

-- On your AppleWorks disk, rename P8 with the name PRODOS.

-- Copy the following files from the Apple IIGS System Disk to your /APPLEWORKS disk:

ATINIT ------ AppleTalk initialization program
IWEM -------- ImageWriter Emulator program
MTXABS.0 ---- Mousetext tool kit
NAMER.0 ----- Namer Object Code
NAMER.II ---- Namer program
CHOOSER.O --- Chooser Object Code
CHOOSER.II -- Chooser program

Printing a document with AppleWorks and the LaserWriter:

You need only do steps 3a through 3f once; after that, the disk has the necessary information.

1. Plug the AppleTalk cable into the printer port on the back of the Apple IIGS.

2. Change the Control Panel Slot settings to "Your Card" for Slot 1 and to "Built-In AppleTalk" for Slot 7. (Note: If you have the newer model Apple IIGS with 1MB of RAM on the logic board, set Slot 7 to AppleTalk and EITHER slot 1 or slot 2 to AppleTalk.)

3. Tell AppleWorks how to send information to the LaserWriter:

a. Start up AppleWorks and choose Other Activities from the Main Menu (item #5).

b. Choose Specify information about your printer(s) (item #7).

c. Choose Add a printer (item #2).

d. Choose Apple ImageWriter.

e. To name the printer, type "LaserWriter" and press Return.

f. Choose Slot 7.

4. Start up the application called Chooser on your System Disk.

5. Click on LASERWRITER and choose the LaserWriter to which you want to print.

6. Quit Chooser.

7. Start AppleWorks by typing:

-/APPLEWORKS/APLWORKS.SYSTEM

Note: The Chooser and the ImageWriter Emulator

The Chooser program "CHOOSER.II" must be run and the LaserWriter selected each time your LaserWriter is turned off and on. The CHOOSER program is used to download the IWEM file from the Apple IIGS into the LaserWriter. If the LaserWriter has been powered off since the last time the IWEM program was downloaded, the AppleWorks program will not print to the LaserWriter.

A problem surfaces when a network only has one AppleTalk device available at the time of a Chooser boot. The very first time you boot the Chooser and select the LaserWriter, it will download the emulator and everything will work fine. The problem starts when the Chooser saves the user name and last selected printer to disk: when you re-run the Chooser, the one and only LaserWriter is already selected and won't let you click on it again to re-download the ImageWriter Emulator.

This has been fixed in Chooser 1.1. The only AppleTalk device that is available allows you to 're-click' on it to load the ImageWriter Emulator.

Creating a bootable disk:

To run the Namer, Chooser, or AppleWorks at boot time, create the simple startup program below and copy it to the disk. Follow the file copying instructions above in "Creating a program disk," and then:

1. Using the System Utilities

-- Copy the file BASIC.SYSTEM from the Apple IIGS System Disk to your AppleWorks disk.

-- On your AppleWorks disk, rename the file called APLWORKS.SYSTEM to APLWORKS

-- Exit to BASIC

2. Create the following Applesoft BASIC program:

```
10 HOME : REM Startup program
20 PRINT " Program Loader ": PRINT
30 PRINT " 1) AppleWorks "
40 PRINT " 2) Chooser"
50 PRINT " 3) Namer": PRINT
60 INPUT " Enter your choice:";A$
```

```
70 A = VAL (A$)
80 ON A GOTO 100,200,300
90 GOTO 10
100 PRINT CHR$ (4);"-APLWORKS"
110 END
200 PRINT CHR$ (4);"-CHOOSER.II"
210 END
300 PRINT CHR$ (4);"-NAMER.II"
310 END
```

3. Check to be sure you entered the BASIC program exactly as shown.

4. Type SAVE STARTUP and press Return.

Boot your AppleWorks disk; the following appears on the screen:

Program Loader

1) AppleWorks
2) Chooser
3) Namer

Enter your choice:

Type in the number of the program you wish to run, and press Return. Whenever you print to "LaserWriter," your output will be directed to the last LaserWriter chosen using Chooser.

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LC 580: CD-ROM Disc Not Mounting, Will Boot Off CD

The Macintosh LC 580 will boot off the backup CD-ROM but will not mount CD-ROM discs after restarting. If booting up with the backup CD-ROM, it mounts but will not eject and gives a -50 error.
This article has been archived and is no longer updated by Apple.
The Macintosh LC 580 shipped with two different CD-ROM drives. The original LC 580 shipped with a double speed AppleCD 300i plus; later the LC 580 was revised and shipped with a quad speed AppleCD 600i. The faster CD-ROM drive requires a newer version of the AppleCD driver. The backup compact discs shipped with the revised LC 580 computer has this updated driver software.

If your environment contains a mix of CD-ROM drives, you will have two kinds of backup compact discs. Neither the computer, nor the backup CD-ROM disc indicate on their exteriors what version they are for.

The AppleCD 300i drive's product code is CR-8004x. The AppleCD 600i drive's product code is CR-8005x.

If you have System 7.5.x or PC Exchange, you can use the PC Exchange control panel to determine which version of the CD-ROM drive you have in your computer. Follow the steps below:

1. Open the PC Exchange control panel.
2. Click Options in the lower right corner.
3. If no compact disc is mounted, the drive make and CD-ROM product code will be listed under the Device Name section of the PC Exchange Options Window. As noted above, the AppleCD 300i drive will have a product code of CR-8004x. The AppleCD 600i drive will have a product code of CR-8005x.

You will be able to boot a computer with a quad speed CD drive with a double speed backup compact disc to install system software, however, this compact disc will not mount once the computer is started from the hard disk. You need to use the updated version of the drivers which are on the quad speed backup compact disc, which will install the newer CD-ROM Setup application. The newer version of the driver will NOT be installed if only the System 7.5 installer is run from this newer compact disc. The CD-ROM setup program must be installed as well.

The versions of the backup compact disc can be distinguished by their part numbers. The older, double speed versions of the compact disc are:

- Version 1.0.1 part number 691-0462-B
- Version 1.1 part number 691-3305-A

The newer, quad speed version of the compact disc is:

- Version 1.1 part number 691-0793-A (has CD-ROM Setup v5.1.1)

During the startup process, the computer checks all available SCSI volumes, including the CD-ROM drive. If the CD-ROM disc contains the ".AppleCD" driver, it will be loaded and used by the computer to access the CD-ROM drive in lieu of the CD-ROM software that would have loaded off the hard disk. If the CD-ROM disc has the drivers for a double speed drive it will load those drivers even if there is a quad speed drive. The boot process will force the drive to mount the CD-ROM disc even with the wrong version of the driver.

This causes the -50 error, which indicates that the internal parameters being used to eject the compact disc are incorrect. You should be able to eject the CD-ROM disc if you restart the computer again, and press the eject button on the CD-ROM drive before the computer displays "Welcome to Macintosh".
Published Date: Feb 18, 2012

Using Apple Printer Drivers W/Third Party Applications (2/97)

Why do I have a different Print dialog box when using certain applications such as Adobe Pagemaker? There are print options that I would like to invoke but they don't appear in the dialog box. Is there a way to force my applications to use the Apple version of the printer driver?

This article has been archived and is no longer updated by Apple.

As you have suggested, certain applications use custom printer drivers. These drivers use their own dialogs to set print options. To customize print jobs from applications that use custom printer drivers, consult the accompanying documentation.

For Adobe and many other third party applications, holding down the option key while selecting the Print menu item signals the application to use the Apple version of the printer driver rather than the application's custom printer driver.

Some fax software, such as that from Global Village, recognizes the option key being held down when selecting the Print menu item. In that case, the fax software is invoked rather than the Apple printer driver. Contact the software publisher for information on working around this issue.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.

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PC Compatibility Card: Supporting Desktop Print Spooling (2/97)

I have a PC Compatibility Card in my Macintosh. I am trying to print a Postscript file to my LaserWriter Select 310 while in the PC environment. The file is successfully spooled to the desktop printer folder on my Macintosh but then I get an error -7057 or an error -7805. What is wrong?
This article has been archived and is no longer updated by Apple.
The -7075 error is "AppleTalk is not active". The error -7085 is "an unknown printer".

Desktop Printing software uses the LaserWriter 8.4 driver to perform the download of the print job to the printer. The LaserWriter 8.4 driver does not support serial printers. There are two solutions.

SOLUTION ONE
==========

You can disable Desktop Printing by disabling the following files:

Desktop Printer Extension
Desktop Printer Spooler
Desktop PrintMonitor

The Extensions Manager can be used to disable these files without removing them from your system, thereby allowing you to re-enable Desktop Printing in the future.

SOLUTION TWO
==========

Use Epson emulation when printing from the PC. The PC Compatibility Card User's Manual contains information on how to set PC Compatibility Card printer options.
Published Date: Feb 18, 2012

Apple QuickTake 200: Extending Battery Life (2/97)

Is there any way to extend the life of the batteries in the Apple QuickTake 200 camera?
This article has been archived and is no longer updated by Apple.
Here are several tips for extending the battery life.

- Use lithium batteries. These will give about twice the life of alkaline batteries.

- Use the clip on viewfinder and place the camera in the Battery-saving mode. The Battery-saving mode turns on the LCD screen for 5-8 seconds after you take a picture, allowing you to review the picture before the screen goes back to sleep.

- Use the Auto-Power-Off function. This turns the camera off after it is not used for two minutes.

- When you connect the QuickTake 200 camera to a computer, use the optional AC Adapter.

Published Date: Feb 18, 2012

QuickTake 200: Difficulty Downloading Pictures to Camera (2/97)

I am trying to download pictures from my QuickTake 200 to my computer, but the software states it cannot find the camera. Why?
This article has been archived and is no longer updated by Apple.
You need to check the following items.

- Make sure the QuickTake 200 is set to the Computer mode on the mode dial.

- Make sure Apple QuickTake 200 extension is installed in the Extensions folder, located inside your System folder.

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Apple Media Tool 2.0: Creating an Automated Slide Show

I am trying to create a project in AMT 2.0 that acts like an automated slide show. I want it to go from one screen to next every 30 seconds with no user interaction. How can I do this?
This article has been archived and is no longer updated by Apple.
In Apple Media Tool 2.0 you can achieve this by creating on each screen an object with a certain duration. For example, you might use your bg pict file and give it a duration of 30 seconds.

On screen 1, set an "after display" event, with command to "start" the object with the duration.

Set a "finished" event for that object, with a link command to bring you to the next screen.

Each screen should have an object with a duration, some event to start the object, and another "Finished" event that will link to the new screen.

In Apple Media Tool 2.1, a new feature called Timer Object with an On Time event can be used for the same purpose. See the Apple Media Tool 2.1 addendum for instructions on using this new feature.

This article appeared in the 18 February 1997 issue of the Information Alley.
Published Date: Feb 18, 2012

ProDOS 1.1.1: Incorrrectly Displays 1982 as the Current Year

ProDOS 1.1.1 has problem with dates after 1987.
This article has been archived and is no longer updated by Apple.
One result is that when you set the date in AppleWorks, then you turn off the computer and back on again, the displayed date is correct except the year is shown as 1982 rather than 1988.

If you upgrade the ProDOS on your startup disks to ProDOS 1.4, this problem should disappear.
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At Ease 4.0 Administrator Application & Restricted Finder (2/97)

All of my At Ease 4.0 users work in the Restricted Finder environment, and I did not add At Ease Administration to the list of allowed applications for the workgroup. If a user navigates the hard disk to find and double click on At Ease Administration, it will launch and request the password. If another application, not on the allowed applications list, is launched, users get an access denied message. Is this normal for At Ease Administration to not produce the access denied message?

This article has been archived and is no longer updated by Apple.

This is a feature of the At Ease Administrator application. The At Ease Administrator is a special case in letting it launch from the Restricted Finder environment. This is because the At Ease Administrator requires a password before access is allowed.

This article was published in the 19 February 1997 "Information Alley."

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AIX 4.x: Sending Mail to Hosts You Cannot Ping

With my Apple Network Server running AIX 4.x, I am unable to send mail to hosts that I cannot ping. Is there a way to do this?
This article has been archived and is no longer updated by Apple.
With AIX 4.x, by default you are not able to send mail to hosts you cannot ping on the Internet. To enable sendmail, to forward mail to hosts that cannot be pinged, you will need to uncomment the "OK MX" statement in your "/etc/sendmail.cf" file. In other words, remove the # symbol before the "OK MX" statement. Below is an example showing what that section of the sendmail.cf file should look like.

```
# You may use any combination of these, although it is recommended that
# you specify MB if MR is specified. For example, "OK MG MX" would enable
# the use of Mail Group and Mail Exchanger resource records.
#
# The default is not to use a name server for resolving recipients.
#
OK MX

# Name of the codeset for Japanese network.
# Sendmail will convert mail from/to the codeset of a locale to/from
# the codeset of the network specified with this option.
# Note: The OOcodeset option must also be set when using the Obcodeset
# option.
# Obcodeset
```

This is the only modification you need to make. For this change to take effect, you need to rebuild the sendmail configuration database and refresh the sendmail subsystem. The commands below are an example of how to do this:

```
/usr/sbin/sendmail -bz
refresh -s sendmail
```

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Open Transport Client & DHCP Update (3/97)

How can we force Open Transport clients to re-acquire their DHCP (Dynamic Host Configuration Protocol) configuration? We want to be assured that when a change is made on the DHCP server that the change is propagated to the client in a timely fashion. Windows 95 includes the ability to cancel and re-acquire DHCP leases in its WINIPCFG utility and we would like something similar for Macintosh computers.

This article has been archived and is no longer updated by Apple.

Open Transport clients release their DHCP address lease whenever the TCP/IP stack becomes inactive. This can be accomplished by:

* Restarting the Macintosh

* Select "Make TCP/IP Inactive" in TCP/IP Options of the TCP/IP control panel. You must save the changes after closing the TCP/IP control panel and wait two minutes for the timers to release the current TCP/IP sessions. Then select "Make TCP/IP Active" in the TCP/IP Options of the TCP/IP control panel. Once again save the changes after closing the TCP/IP control panel.

NOTE: User Mode in the TCP/IP control panel must be Advanced or Administrative. TCP/IP Options button is not available in Basic mode.

When the TCP/IP stack becomes active again, it contacts the DHCP server for configuration information and will acquire any changes made at the server.

This article was published in the 19 February 1997 "Information Alley."

Article Change History:
10 Mar 1997 - Made minor typographical correction.
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AIX: Backspace Does Not Work in Command Shell Utility

The command shell utility supplied with the AIX on the Apple Network Server does not let the user use the back space key.
This article has been archived and is no longer updated by Apple.
The easiest solution is after the user has a command shell login, type:

```
set -o emacs
```

This will correct backspace key mapping.
Published Date: Feb 18, 2012

Desktop Patterns: Pattern Settings Stored In System File

Where are the desktop and utility pattern settings configured by the Desktop Patterns application stored?
This article has been archived and is no longer updated by Apple.
The collection of patterns from which you may choose is stored in the Desktop Pattern Prefs file. You can transport one collection of patterns between computers by moving this file alone.

The desktop and utility pattern choices you make with the Desktop Pattern application are written directly to the 'ppat' resource of the System suitcase. These pattern choices can be altered with the Desktop Patterns application; an AppleScript, QuicKeys, or Frontier script designed to perform the same function; or by using a resource editor like ResEdit and modifying the 'ppat' system resource.

The Desktop Patterns application is a component of System 7.5 and later and is located in the Control Panels folder.

Warning: The instructions in this article refer to using ResEdit to alter your software. Apple Computer, Inc., is not liable for any damage done to your software through the use of ResEdit.
Published Date: Feb 18, 2012

Apple III: Using the Super Serial Card

Will the Super Serial Card work in the Apple III?
This article has been archived and is no longer updated by Apple.
The Super Serial Card can be used in the Apple III with the appropriate driver. But, since the Apple III is an interrupt driven system, switches S2-6 and S2-7 must be ON to enable interrupts from the card. The Apple III will hang when the driver is opened if this is not done.
Published Date: Feb 18, 2012

Business BASIC III: Routine to read a SOS directory

This article has been archived and is no longer updated by Apple.

```
10  TEXT:NORMAL:HOME
15  Directory$= PREFIX$
20  OPEN#1 AS INPUT,Directory$
25  DIM Title$(54):REM May require increase for sub-directories.
30  ON EOF#1 OFF EOF#1:CLOSE#1:GOTO 45
35  Count=0:REM Initialize variable
40  INPUT#1;Title$(Count):Count=Count+1:GOTO 40
45  FOR Line=0 TO Count:PRINT Title$(Line):NEXT
```

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PowerBook 3400 Series: Frequently Asked Questions

This article contains the following frequently asked questions (FAQ) about the PowerBook 3400 series computers and answers to those questions.

1) Can the PowerBook 3400 Series CD install Mac OS 7.6 onto my desktop Power Macintosh computers?

2) Can I install Mac OS 7.6 (the general release) onto my PowerBook 3400 series computer?

3) Question: When I "Get Info" from the File menu on the System File in my PowerBook 3400 computer's System Folder it says it is version 7.5.3. Is this a mistake? I thought it was supposed to be running Mac OS 7.6.

4) Will I be able to install newer Macintosh system software versions and/or Mac OS updates onto my PowerBook 3400 series computer?

5) Question: Why do I get a dialog box when I restart my machine stating that, "QuickTime MPEG Extension did not load. It requires the Thread Manager extension or ThreadsLib extension (version 2.1.5 or later)"?

6) Why can I not print some of the user manuals (.pdf files) any more? They used to print with no trouble.

7) Why does the sound from the right speaker of my PowerBook 3400 computer sound louder than the sound from the left speaker when I'm using the built-in modem that came with the computer?

8) Why can I not use the Speed access part of Speed Doubler version 2.x with System 7.6?

9) Can I add RAM to a PowerBook 3400 computer the same way it is added in a PowerBook 1400 - stacked on top of each other? Can I use RAM made for a PowerBook 5300 in a PowerBook 3400?

10) What is the appropriate modem initialization string for the internal modem in the PowerBook 3400?

This article has been archived and is no longer updated by Apple.

1) Question: Can the PowerBook 3400 Series CD install Mac OS 7.6 onto my desktop Power Macintosh computers?

Answer: No, the PowerBook 3400 series CD is specifically intended for use the PowerBook 3400 series of computers only. Although some past model-specific CDs have allowed installation on other computers, the PowerBook 3400 Series CD installer is set up to install only onto PowerBook 3400 series computers.

2) Question: Can I install Mac OS 7.6 (the general release) onto my PowerBook 3400 series computer?

Answer: No, the PowerBook 3400 series computers require additional software that is available only from the version of Mac OS 7.6 that shipped with these computers. The General Release of Mac OS 7.6 does not contain this software. **Note:** The PowerBook 3400 Enabler, among other files, is not included in the general release version of Mac OS 7.6. The PowerBook 3400 cannot operate properly without this file.

3) Question: When I "Get Info" from the File menu on the System File in my PowerBook 3400 computer's System Folder it says it is version 7.5.3. Is this a mistake? I thought it was supposed to be running Mac OS 7.6.

Answer: The version number in the Get Info window is correct. The PowerBook 3400 series computers are running a version of Mac OS 7.6 that was created especially for the PowerBook 3400 series computers. Although the "packaging" is a little different, the operating system itself is the same with some specific files added for this computer.

For the technically inclined: The same code is being executed at run time, but on the PowerBook 3400 series computers, the newer system code runs from the PowerBook 3400 Enabler file rather than from the System File.

4) Question: Will I be able to install newer Macintosh system software versions and/or Mac OS updates onto my PowerBook 3400 series computer?

Answer: Yes, when Apple releases an update to the system software, you should be able to install it on your PowerBook 3400 series computer.

5) Question: Why do I get a dialog box when I restart my machine stating that, "QuickTime MPEG Extension did not load. It requires the Thread Manager extension or ThreadsLib extension (version 2.1.5 or later)"?

Answer: It is possible that you have removed or altered the pre-installed System folder that was installed on your PowerBook 3400 series computer. If you have installed just the system software required (Mac OS 7.6 for PowerBook 3400 series), the Thread Manager extension is deleted because the functionality was rolled into the system file. Unfortunately, a newer version of the Thread Manger extension is needed by the QuickTime MPEG software. To remedy the situation, reinstall the QuickTime MPEG software. The QuickTime MPEG installer is available on the PowerBook 3400 Series CD in the Apple Extras folder.

6) Question: Why can I not print some of the user manuals (.pdf files) any more? They used to print with no trouble.

Answer: The pre-installed software bundle on the PowerBook 3400 series computers is set up so that you can print and view Adobe Acrobat files. If you choose to erase the bundle and install just the system software, you have to install Adobe Acrobat Reader as well in order to view and print the .pdf manual files. The Adobe Acrobat Reader installer is located in the Install Applications folder on the CD.

7) Question: Why does the sound from the right speaker of my PowerBook 3400 computer sound louder than the sound from the left speaker when I'm using the built-in modem that came with the computer?

Answer: When the modem portion of the internal dual Ethernet/33.6 modem card is in use (online) or is waiting for a fax call it will attenuate (decrease the output to) the left channel sound level by 50 percent. This happens because the modem only drives the left channel and it is connected to the sound circuitry when the modem software is active. The balance control in the Monitors & Sound control panel may be used to restore the sound balance if desired during modem use.

8) Question: Why can I not use the Speed access part of Speed Doubler version 2.x with System 7.6?

Answer:

IMPORTANT NOTE: This information comes from a Connectix press release, the makers of Speed Doubler.

There is a problem which is usually triggered by using the Find function within the Mac OS Finder. Usually, the result is that the display within the Find results dialog box is missing the found information. Sometimes, after using Find, if you move, delete, or create new files. This problem can result in disk directory corruption.

Because of the potential seriousness of this issue, Connectix recommends that all customers using Mac OS 7.6 with Speed Doubler 2.0 do one of the following things:

1) Update to Speed Doubler version 2.0.1 - download from the web at:
http://www.connectix.com/html/speed_doubler_updates.html

-OR-

2) Turn off "Faster Disk Performance" in the Speed Doubler 2.0 Control Panel.

If you are using Speed Doubler version 1.x and Mac OS 7.6, you should remove your Speed Access extension entirely.

9) Question: Can I add RAM to a PowerBook 3400 computer the same way it is added in a PowerBook 1400 - stacked on top of each other? Can I use RAM made for a PowerBook 5300 in a PowerBook 3400?

The PowerBook 3400 does NOT support "piggy-back" RAM cards like those that can be used in a PowerBook 1400. All PowerBook 3400 configurations ship with 16 MB soldered on the logic board and one open memory slot for expansion. A single card of up to 128 MB in size can be put in the slot for a total of up to 144 MB of RAM.

RAM cards designed for a PowerBook 5300 are not compatible with the PowerBook 3400. The connector for the RAM expansion card on a PowerBook 3400 logic board is rotated 180 degrees from that of the PowerBook 5300.

10) Question: What is the appropriate modem initialization string for the internal modem in the PowerBook 3400?

Answer: Although several different initialization strings will work, AT&FW2 works the best for most situations. For more information on the PowerBook 3400 internal modem/Ethernet card and the AT command set, see the TIL articles listed below:

Article 30013: **PowerBook 3400: Internal Modem/Ethernet Card**
Article 17931: **Modem AT Command Set: Description Part 1/2**
Article 17945: **Modem AT Command Set: Description Part 2/2**
Article 17946: **Modem AT Command Set: S Registers**

This article was published in the Information Alley on 20 February 1997.
Published Date: Feb 18, 2012

Mac OS: System Software Naming Convention (2/97)

What do I call the system software which operates Macintosh or Mac OS-compatible computers?
This article has been archived and is no longer updated by Apple.
* For versions 7.5.5 and earlier, refer to "System" and version,
Example: System 7.5.3

* For versions 7.6 and later, refer to "Mac OS" and version,
Example: Mac OS 7.6

This article was published in the 20 February 1997 "Information Alley."

Published Date: Feb 18, 2012

PowerBook 3400: General Usage Tips

The following article contains some general tips for using your PowerBook 3400 computer. Topics covered include the following:

- Infrared Related Information
- Expansion Bay-Related Information
- PC Card-Related Information
- Serial Port Related Information
- Video/Graphics Related Information

This article has been archived and is no longer updated by Apple.

Infrared Related Information

- For best performance when using the infrared networking capabilities (IrDA) of the PowerBook 3400 series computers turn ON Virtual Memory.
- GeoPort modems and IrTalk do not work together. In other words, you should not attempt to transfer files over IrTalk while using a GeoPort modem.

Expansion Bay-Related Information

Hot Swapping Devices - It is critical for PowerBook 3400 computer owners to understand that they should NEVER remove the expansion bay device when it is in use. Any time that the light is on or flashing, the expansion bay device should not be removed. Failure to heed this warning can result in a system crash and/or data loss.

Vibration of the CD-ROM drive - All higher speed CD-ROM drives are sensitive to unbalanced CDs. The reason is that the speed at which the CD is rotating is fast enough that even the slightest bit of extra weight (like excessive silkscreen ink on one half of the CD or an address-type label on one side of the CD) will cause the CD to make a rattling sound.

Because of this sensitivity of these high speed CD-ROM drives it is very important for you to refrain from placing labels onto your CDs.

Note: This is not a PowerBook 3400 computer-specific issue. This information applies to all high-speed CD-ROM drives.

PC Card-Related Information

Existing multi-function cards (for example, combined modem and networking cards) may not work in PowerBook 3400 computers if you do not install a new/updated software driver from the developer of the that specific third party PC card.

Network-Related Information

Zones are not visible when connected to an Ethernet network - One reason this may happen is that the user's Node ID is no longer valid. If this is the case, you can perform the following steps to make the network zones accessible:

1. Open the AppleTalk Control Panel.
2. Select User Mode from the Edit menu.
3. Click the Advanced radio button (to get into the advanced user mode) and click OK.
4. Click the User defined check box.
5. Find out from your network administrator what the network range numbers are.
6. Select a Network number within the network range that is displayed.
7. Select a different Node ID (between 1 and 256)
8. Close the control panel and Save changes.
9. Sometimes you may get a dialog box at this point stating that the Node ID is in use by someone else. In this case, you need to select a different Node ID. Repeat steps 7 and 8 until a valid number is selected (usually once or twice).

Note: This is not a PowerBook 3400 specific issue. This situation could occur on any Macintosh or Power Macintosh computer.

Serial Port Related Information

The PowerBook 3400 has the same serial chip as Power Macintosh 5400 and 6400 series computers, hence they may encounter some of the same serial port related issues.

If you have a serial device that does not function properly with your PowerBook 3400 series computer, you should contact the vendor of that device for more information. It is possible that the manufacturer of your serial device may have written a new software driver for Mac OS 7.6 or the specifically for the PowerBook 3400 computer.

Video/Graphics Related Information

TA36528_PowerBook_General_Usage_Tips_(TIL21003).pdf

Question: When I start up with an AppleVision monitor connected to my computer, the display on the external monitor is not centered at first. Then, during the startup process, the image on the screen jumps and is correctly centered. Is my PowerBook computer or my AppleVision display defective? What is going on?

Answer: No, your PowerBook computer and your display are working fine. What you are seeing is a correction to the timing that is being driven from your PowerBook computer to your external display.

At startup, the timing that is driven to a display when it is in simulscan mode is not exactly what the monitor expects. Once the system starts to load, the timing adjusts so that it is centered correctly on your screen.

There is nothing wrong with your PowerBook computer or monitor. This anomaly will not damage your PowerBook computer or monitor. You could use the horizontal and vertical controls on the monitor to adjust the initial screen so that it is centered, but it is not necessary.

Note: This could happen with other VGA or Apple displays as well, but only in the 800x600, 60Hz (Simulscan) timing.

An external VGA device is not working properly - PowerBook 3400 computers sense external multi-sync VGA displays by detecting whether or not pin 11 on the video connector is grounded. Most VGA monitor manufacturers are compliant with the VESA specification and they do ground this pin. However, some devices do not have this pin grounded.

By using a VGA to Macintosh adapter along with the Macintosh to VGA adapter (supplied with your PowerBook 3400 computer) it is possible to get the 640 x 480 at 67hz mode to work, but you will not be able to access the VGA modes (800 x 600 and 1024 x 768).

Note: For more information about using a third-party VGA display with your PowerBook 3400 computer, contact the vendor who manufactures and supports that display.

Published Date: Feb 18, 2012

Color LW 12/600 PS: Successful Transparency Printing

What suggestions do you have for printing transparencies on the Color LaserWriter 12/600 PS and 12/660 PS? I regularly experience transparency jams that I would like to eliminate.
This article has been archived and is no longer updated by Apple.
In order to optimize the print quality when printing transparencies the Color LaserWriter 12/600 PS and 12/660 PS require a special transparency material.

The Color LaserWriter uses a photosensor to detect the presence of the special transparencies by looking for a white paper tape strip at the leading edge of the transparency. When the white tape strip is detected the printer enters into the transparency mode. If standard transparencies are used (which do not contain the white tape strip) or if the transparency is not placed correctly into the printer, then a paper jam error is displayed on the status panel.

Before assuming that a hardware failure has occurred with the printer consult the Color LaserWriter 12/600 PS user's manual and review the following precautions to reduce jamming problems when printing on transparencies:

- Use only transparencies designed for use with the Color LaserWriter 12/600 PS (Apple part number M3876G/A).

- DO NOT print transparencies from the 250 sheet cassette, print only from the multipurpose tray.

- Insert Color LaserWriter transparencies into the multi-purpose tray with the white tape strip facing up and oriented so that the white tape strip end of the transparency enters the printer first. Note: Some Apple transparencies may have the word Apple printed on the white tape strip.

Carefully following these steps will help ensure problem-free printing.

Part numbers mentioned in this article are accurate as of this writing. Before ordering, verify that they are still correct as they are subject to change.
Published Date: Feb 18, 2012

Apple Media Tool 2.1.1: Windows Titles Are 16-bit Applications

Will the titles I create with Apple Media Tool (AMT) 2.1.1 for the Windows platform be 16- or 32-bit applications?
This article has been archived and is no longer updated by Apple.
Apple Media Tool Titles for the Windows platform are still 16-bit applications. This is so both Windows 3.1 and Windows 95 can be supported.
Published Date: Feb 18, 2012

AppleWorks: Getting 10 CPI Single Spaced on the LaserWriter

The Diablo emulation mode command string, ESC, CTRL-Underscore, CTRL-M, for 10 characters per inch becomes a problem when used with conventionally configured AppleWorks.
This article has been archived and is no longer updated by Apple.
The code sets the LaserWriter to 10 CPI, but because the Super Serial Card firmware includes a Line Feed as it picks up the CTRL-M, it adds a line feed to each line: single space text comes out double spaced, double space triple spaced, etc, making single spacing in 10 characters per inch impossible.

In order to fix this problem, tell AppleWorks to insert the linefeeds and configure the serial card NOT to add linefeeds by setting swtich SW2-5 to OFF. For the built-in serial port in an Apple IIGS, use the Control Panel; for the printer port of the Apple IIc, use the Apple IIc System Utilities. AppleWorks will be smart enough not to insert linefeeds after any carriage returns in the printer codes.
Published Date: Feb 18, 2012

Power Macintosh 5400/200: Description (2/97)

This article contains a description of the Power Macintosh 5400/200.
This article has been archived and is no longer updated by Apple.
The Power Macintosh 5400/200 is a convenient, highly economical, all-in-one system. It combines high-performance features designed to enhance productivity with multimedia capabilities and Internet access tools that make using technology to improve the educational experience easier than ever before.

The Power Macintosh 5400/200 Color System includes Power Macintosh 5400/200 (24/1.6GB/256K L2 cache) with built-in 15-inch (12.8-inch diagonal viewable image size) multiple-scan color display, 8x-speed CD-ROM drive, built-in Ethernet, stereo speakers, microphone, AppleDesign Keyboard, and mouse.

Enhance the Educational Experience-and Productivity

Innovative educators know that students learn best when they're actively engaged-and multimedia learning activities are uniquely engaging. With its high-quality stereo sound, advanced color display, and built-in 8x-speed CD-ROM drive, the Apple Power Macintosh 5400/200 makes it easy to take advantage of the wealth of existing educational multimedia materials on CD-ROM, as well as to develop multimedia projects of your own. In fact, this powerful computer even lets you install optional video-input/output capabilities and comes with a bay that can accommodate an optional TV/FM radio tuner1, so you can easily opt to further enhance the teaching and learning experience through multimedia. In addition, with its 200-megahertz PowerPC 603e processor, the Power Macintosh 5400/200 brings high performance to educational computing. And this processing speed is complemented by the system's built-in Ethernet connection, for high-speed networking.

Easy Access to the Internet

Speaking of networking, every day, more and more schools are discovering the edu-cational value of access to the Internet-with its vast wealth of informational resources and communications oppor-tunities. The Power Macintosh 5400/200 makes it easy to join their ranks, because it comes with a CD containing all the soft-ware you need for Internet access. (Modem or direct connection to the Internet is required. Access fees from Internet service provider are extra.) So you and your students can use this computer to do everything from "surfing the net" for news on current events to using Internet-based electronic mail and bulletin boards to collaborate on projects with geographically distant peers. It can even run Apple's innovative Cyberdog software, which lets you tailor access to the Internet to enhance its educational utility-for example, by creating computer-based curriculum materials that contain actual live links to appropriate web sites.

Flexible Expansion Capabilities to Take You into the Future

To accommodate educators' future con-cerns, the Power Macintosh 5400/200 features the Peripheral Component Interconnect (PCI) expansion bus architecture, which makes it easier-and more affordable-than ever to customize your system for optimal utility. For example, you could add Avid Cinema-a package that consists of a PCI card, accompanying soft-ware, and connector cables-which enables simple, straightforward video creation and editing on the desktop. The possibilities are nearly limitless-and they're growing, because more PCI cards are becoming available all the time.

The Power Macintosh 5400/200-everything you need in an educational computer, at an economical price.

Macintosh Advantages

Because they're so easy to set up, learn, use, and expand, Macintosh computers let schools accomplish more, in less time and with less effort, than other computers. And Power Macintosh computers offer new levels of performance and advanced applications.

It's a Great Value

The Power Macintosh 5400/200 is Apple's economical, all-in-one computer designed expressly for education. This flexible, convenient workstation can help schools get more out of their computing budgets in the short term, while providing room to grow in the future. You should also keep in mind that, over the long term, Macintosh computers consistently cost less than PCs because they require less training, maintenance, and support.2

Schools Can Do More with Macintosh

Like all Macintosh computers, the Power Macintosh 5400/200 runs thousands of applications, including productivity, reference, resource, and administration tools. You can do more with Macintosh computers because more top-rated education software runs on Macintosh.3

It's Easy to Use

Because the Power Macintosh 5400/200 features an all-in-one design that makes it incredibly easy to set up, you can start using it to do productive work as soon as you take it out of the box. And it's easy to learn to use new applications, because all Macintosh software works in the same intuitive fashion.

It's Ideal for Multimedia

The Power Macintosh 5400/200 has advanced multi-media features built in-so you can get involved with every aspect of this exciting new technology. Teachers and students can take advantage of the built-in multi-media capabilities to create compelling presentations as well as to work with existing multimedia courseware.

Features

Power and Speed

* 200-MHz PowerPC 603e processor
* Standard 256K level 2 cache
* Built-in high-speed Ethernet connection (twisted-pair)

Memory and Storage

* 24 MB of RAM, expandable to 136 MB (8 MB on the logic board and two DIMM slots, one occupied by a 16 MB DIMM
* Apple SuperDrive floppy disk drive (reads and writes Mac OS, Windows, DOS, OS/2, and ProDOS files)
* Internal 1.6GB IDE hard disk drive
* Internal tray-loading 8x-speed SCSI CD-ROM drive

Display

* 15-inch (12.8-inch diagonal viewable image size) multiple-scan color display
* 1 MB dedicated video RAM
* Supports 640 by 480 pixels and 800 by 600 pixels at 16 bits (thousands of colors)
* Supports 832 by 624 pixels at 8 bits (256 colors)
* 0.28-mm dot pitch

Expansion

* PCI slot (accommodates industry-standard 6.88-inch/short cards)
* Optional Multimedia Features
* Optional video-out connector for connecting to an LCD projection panel or a second monitor
* Optional video-in card, so you can record video from a camcorder, VCR, or laserdisc
* Expansion bay included for optional TV/FM radio tuner
* Avid Cinema card and software for simple, straightforward digital video creation and editing on the desktop (available Spring 1997)

Features Built into Every Macintosh

Usability

* Runs thousands of Macintosh applications, including most top-rated curriculum programs and administrative software, as well as hundreds of applications optimized to take advantage of PowerPC processor technology
* Is easy to set up, learn, use, and expand

System Software

* Includes Apple Guide, Drag and Drop, AppleScript, Macintosh PC Exchange, Macintosh Easy Open, and more

Networking

* Built-in AppleTalk networking
* File sharing without a dedicated server

Ordering Information
==========

Power Macintosh 5400/200 (24/1.6GB/256K L2 cache) with built-in 15-inch (12.8-inch DVIS) multiple-scan color display, 8x-speed CD-ROM drive, Ethernet networking, stereo speakers, microphone, AppleDesign Keyboard, and mouse.

Order No. M5823LL/A

Published Date: Feb 18, 2012

Power Macintosh 5500/225: Description (2/97)

This article contains a description of the Power Macintosh 5500/225.
This article has been archived and is no longer updated by Apple.
The Power Macintosh 5500/225 is a convenient, innovative all-in-one system. It com-bines high-performance features designed to enhance productivity with state-of-the-art multimedia capabilities and Internet access tools to offer a combination of performance, convenience, and outstanding value.

The Power Macintosh 5500/225 Color System includes Power Macintosh 5500/225 (32/2GB/256K L2 cache) with built-in 15-inch (12.8-inch diagonal viewable image size) multiple-scan color display, 12x-speed CD-ROM drive, built-in Ethernet, video-capture card, NTSC TV video-out connector, stereo sound, microphone, AppleDesign Keyboard, and mouse.

Come Up to a New Level of All-In-One Performance

All-in-one computers have always been convenient-and often economical-but today they're reaching new levels of performance. The advanced Apple Power Macintosh 5500/225 features one of the most powerful processors ever made available in a system developed for education: a 225-megahertz PowerPC 603e. This processing speed is complemented by the system's built-in Ethernet connection, for high-speed networking. And to ensure that the Power Macintosh 5500/225 can continue to meet your needs in the future, it offers an industry-standard PCI expansion slot.

Next-Generation Multimedia

Educational multimedia has been an Apple stronghold for years-ever since instructors first learned the educational value of its unique ability to engage students in the process of learning. The Power Macintosh 5500/225 builds on Apple's legacy in this area by providing several innovative features designed to further enhance your multimedia capabilities. For example, it provides built-in 2D and 3D graphics acceleration, as well as a 12x-speed CD-ROM drive. In addition, the 5500/225 features a new kind of video-out capability-TV video-out, which allows for easy and instant connection to any video-in NTSC television. It also comes with a standard built-in video-in card and optional TV/FM radio tuner capabilities. And on the audio side, built-in stereo speakers offer rich digital sound quality.

Easy Access to the Internet

In addition to multimedia, the other hot topic in education is the Internet. Every day, more and more schools are discovering the educational value of this amazing information and communications resource. The Power Macintosh 5500/225 makes it easy to join the ranks of the Internet world, because it comes with a CD containing all the software you need for Internet access. (Modem or direct connection to the Internet is required. Access fees from Internet service provider are extra.) You and your students can use this computer to do everything from "surfing the net" for news on current events to using Internet-based electronic mail and bulletin boards to collaborate on projects with geographically distant peers. It can even run Apple's innovative Cyberdog software, which lets you tailor access to the Internet to enhance its educational utility-for example, by creating computer-based curriculum materials that contain actual live links to appropriate web sites.

The Power Macintosh 5500/225-the next generation of advanced capabilities in a convenient, affordable all-in-one computer.

Macintosh Advantages

Because they're so easy to set up, learn, use, and expand, Macintosh computers let schools accomplish more, in less time and with less effort, than other computers. And Power Macintosh computers offer new levels of performance and advanced applications.

It's a Great Value

The Power Macintosh 5500/225 is the next generation in Apple's economical, all-in-one computer line designed expressly for education. This flexible, convenient workstation can help schools get more out of their computing budgets in the short term, while providing room to grow in the future. You should also keep in mind that, over the long term, Macintosh computers consistently cost less than PCs because they require less training, maintenance, and support.

Schools Can Do More with Macintosh

Like all Macintosh computers, the Power Macintosh 5500/225 runs thousands of applications, including productivity, reference, resource, and administration tools. You can do more with Macintosh computers because more top-rated education software runs on Macintosh.

It's Easy to Use

Because the Power Macintosh 5500/225 features an all-in-one design that makes it incredibly easy to set up, you can start using it to do productive work as soon as you take it out of the box. And it's easy to learn to use new applications, because all Macintosh software works in the same intuitive fashion.

It's Ideal for multimedia

The Power Macintosh 5500/225 has advanced multimedia features built in-so you can get involved with every aspect of this exciting new technology. Teachers and students can take advantage of the on-board 2D/3D graphics acceleration and built-in video-input/output and sound capabilities to create compelling presentations, as well as to work with existing multimedia courseware.

Features

Power and Speed

* 225-MHz PowerPC 603e processor
* Standard 256K level 2 cache
* Powerful 50-MHz system bus architecture
* Built-in high-speed Ethernet connection (twisted-pair)

Memory and Storage

* 32 MB of RAM, expandable to 128 MB
* Two DIMM slots (one occupied by a 32 MB DIMM)
* Apple SuperDrive floppy disk drive (reads and writes Mac OS, Windows, DOS, OS/2, and ProDOS files)
* Internal 2GB IDE hard disk drive
* Internal tray-loading 12x-speed SCSI CD-ROM drive

Display

* 15-inch (12.8-inch diagonal viewable image size) multiple-scan color display
* 2 MB dedicated video RAM
* Supports 2D/3D onboard video acceleration

* Supports 640 by 480, 800 by 600, and 832 by 624 pixels at 24 bits (millions of colors)
* Supports 1,024 by 768 pixels at 16 bits (thousands of colors)
* 0.28-mm dot pitch

Expansion
---
* PCI slot (accommodates industry-standard 6.88-inch/short cards)

Multimedia Features
---
* TV video-out for connecting directly to any NTSC television with video-in
* Video-in card, so you can record video from a camcorder, VCR, or laserdisc

Optional Multimedia Features

* TV/FM radio tuner
* Avid Cinema card and software for simple, straightforward digital video creation and editing on the desktop (available spring 1997)

Features Built into Every Macintosh
==========

Usability
---
* Runs thousands of Macintosh applications, including most top-rated curriculum programs and administrative software, as well as hundreds of applications optimized to take advantage of PowerPC processor technology
* Is easy to set up, learn, use, and expand

System Software
---
* Includes Apple Guide, Drag and Drop, AppleScript, Macintosh PC Exchange, Macintosh Easy Open, and more

Networking
---
* Built-in AppleTalk networking
* File sharing without a dedicated server

Ordering Information
==========

Power Macintosh 5500/225 (32/2GB/256K L2 cache) with built-in 15-inch (12.8-inch DVIS) multiple-scan color display, 12x-speed CD-ROM drive, twisted-pair Ethernet networking, video-capture card, NTSC TV video-out connection, stereo speakers, microphone, AppleDesign Keyboard, and mouse.

Order No: M5761LL/A

Published Date: Feb 18, 2012

Apple Internet Connection Kit: AppleGuide Files (3/97)

I installed Apple Internet Connection Kit (AICK) 1.2. Before, I could use AppleGuide from the Apple Internet Dialer's Help menu to obtain usage information about AICK, now, I cannot do this. Yet I notice that there is a folder called "Guide Files" in the Internet Connection Kit folder. What gives?

This article has been archived and is no longer updated by Apple.

Generally, for Guide files to be recognized, they must be in the same folder as the application they are to be used with.

AICK 1.1.5 comes with a solitary Guide file, "Apple Internet Conn Kit Guide." This was pre-installed in the Internet Connection Kit folder, at the same level as Apple Internet Dialer version 1.1.3.

AICK 1.2 comes with six Guide files. These are located in the Guide Files folder, which is in the Internet Connection Kit folder. They provide more information about how the various Internet clients which come with AICK 1.2 work. The files are:

* Apple Internet Conn Kit Guide
* NewsWatcher Guide Additions
* Emailer Guide Additions
* Navigator Guide Additions
* Fetch Guide Additions
* Telnet Guide Additions

To use these files, move them to the same folder as the Apple Internet Dialer. To access them, open the Apple Internet Dialer and choose "Apple Internet Connection Kit Guide" from the Help menu (the question mark in the top right corner of the screen). To see the various product categories, click on the Topics button, once AppleGuide launches.

NOTE: Do not move the Guide Additions into the various client folders (for example, don't move the Navigator Guide Additions into the Netscape folder). They are designed for use with the Apple Internet Conn Kit Guide file, which can only be read by the Apple Internet Dialer.

Published Date: Feb 18, 2012

AppleTalk: How do I Create Zones? (2/97)

My AppleShare File Server documentation refers to AppleTalk zones in several places. How do I set up zones with AppleShare? Will this improve network performance?

This article has been archived and is no longer updated by Apple.

AppleTalk Zones are created by AppleTalk routers, like the Apple Internet Router, to divide devices on one or more networks up into logical groups. For example, these groups can be geographical like the "third floor" or departmental like the "sales department." When no router is present, all devices are considered to be on the same zone.

AppleTalk Zones, in themselves, do not alleviate network traffic on a single network. To improve performance on a heavily-used network, consider dividing the network into two separate networks, and use routers and zones, if desired, to let devices on the two separate networks continue communicating with each other.

More information on setting up zones and networks with routers should be available in the router's documentation.

Published Date: Feb 18, 2012

Mac OS-Based Computers Not Responding to Ping (2/97)

I cannot ping a Mac OS-based computer from my PC until I run a TCP application on the Mac OS computer. I am trying to monitor when these computers are running, however, the users generally do not use TCP applications. How do I get the TCP/IP stack to initialize on startup?

This article has been archived and is no longer updated by Apple.

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For Open Transport
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If Open Transport is being used, it can be configured to always have the protocol stack active by following
the steps below:

1) Open the TCP/IP control panel.
2) Choose User Mode in the Edit menu, or use the keyboard shortcut
  Command-U.
3) Select Advanced or Administration and click OK.
4) Click the Options button in the TCP/IP control panel.
5) Select Active and deselect Load only when needed, then click OK.
6) Close the TCP/IP control panel and save changes.

For MacTCP
----------
If Classic networking is being used, the protocol stack is only active when an application requiring MacTCP is
active. The workaround is to have an application which uses MacTCP launch at startup by placing an alias of
the application in the Startup Items folder inside the System Folder.


This article was published in the 25 February 1997 "Information Alley."
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Published Date: Feb 18, 2012

PC Compatibility Card: Specialty Cable Pinouts

This article lists the pinouts for the 7-Inch and 12-Inch PCI-based Apple PC Compatibility Cards specialty cable. This cable connects the DOS Compatibility Card to display devices. The article also has the pinouts for the card's on board 15-pin gameport.
This article has been archived and is no longer updated by Apple.

DB26 Connector Pin Assignments
==========

Pin number	Signal	Description
1	MAC HSYNC	Macintosh horizontal synchronize
2, 4, 6, 8	GND	Logic ground
3	MAC BLUE	Macintosh blue signal
5	SENSE0	Sense line 0
7	BLUE OUT	Blue output from PCI card
9	HSYNC OUT	Horizontal synchronize output from PCI card
10	MAC CSYNC	Macintosh contrast synchronize
11, 13, 15,	GND	Chassis ground
17, 21, 24	GND	Chassis ground
12	MAC GREEN	Macintosh green signal
14	SENSE1	Sense line 1
16	GREEN OUT	Green output from PCI card
18	CSYNC OUT	Contrast synchronize output from PCI card
19	MAC VSYNC	Macintosh vertical synchronize
20	MAC RED	Macintosh red signal
22	CABLE DET L	Cable detect low
23	SENSE2	Sense line 2
25	RED OUT	Red output from PCI card
26	VSYNC OUT	Vertical synchronize output from PCI card

DB15 Gameport Connector Pin Assignments
==========

Pin number	Signal	Description
1, 8, 9	+5 V +5 V	power input
2	JOYF0 O	Joystick F0 output
3	JRC0 O A	x-axis control
4, 5	GND	Chassis ground
6	JRC1 O A	y-axis control
7	JOYF1 O	Joystick F1 output
10	JOYF2 O	Joystick F2 output
11	JRC2 O B	x-axis control
12	MIDI OUT O	MIDI output
13	JRC3 O B	y-axis control
14	JOYF3 O	Joystick F3 output
15	MIDI IN O	MIDI input output

For more details, please refer to the Developer note which can be found at on the World Wide Web at the following URL:

<ftp://ftp.apple.com/devworld/Technical_Documentation/Developer_Notes/Peripherals/12%267_PC_Compatibility_Cards.sit.hqx>

This article was published in the Information Alley on 25 February 1997.
Published Date: Feb 18, 2012

Speech Control Panel: Voices Not Showing Up (2/97)

I downloaded Victoria High Quality and Victoria Small voices from the web, unstuffed the files, put them in the Voice Folder in the Extensions Folder, and restarted my computer. The Speech control panel Voice Menu does not list these two files, yet they are in the correct location. I'm using a Power Macintosh 9500 with Mac OS 7.6 and Speech 1.5. Why is this happening?

This article has been archived and is no longer updated by Apple.

The solution to the Speech voices issue can be understood with some explanation. There are three different types of voices that can be in the Voices folder and three corresponding synthesizers -- each synthesizer works with a different voice type. The three synthesizers, MacinTalk 2, MacinTalk 3, and MacinTalk Pro, all work through the Speech Manager.

For a voice to be supported or active, the corresponding synthesizer needs to be installed in the Extensions folder for that voice type. The voices available at the Web site, Agnes, Bruce and Victoria, are MacinTalk Pro voices and require the MacinTalk Pro synthesizer to be present. The icons of the speech synthesizers and matching voices have a small character (2, 3, or P) in the lower right corner of the icon to designate their type. This supplies a visual aid in identifying the matching voice and synthesizer types. If the voice file has a generic document icon, then the corresponding synthesizer is not present on the disk.

You can run the Mac OS 7.6 installer and custom install just the MacinTalk Pro synthesizer from the English Text-to-Speech 1.5 install package. The base Mac OS 7.6 installation does not add MacinTalk Pro voices, but the Text-to-Speech installer will when appropriate. You can do this by either running the top level "Install Mac OS" application, and choosing customize for just the English Text-to-Speech package, or by opening the English Text-to-Speech folder of the Software Installers folder and running just that one installer.

For additional information search for Tech Info Library article, "Mac OS 7.6: About English Text-to-Speech Read Me."

This article was published in the 26 February 1997 "Information Alley."

Published Date: Feb 18, 2012

PowerBook 3400: Why The Volume Control Button May Not Work(2/97)

I have noticed that when I am running some programs (for example; Dark Forces, Hexen and Abuse), that the hardware volume control (the button above the keyboard) does not affect the sound. However, when quitting the game, the new volume is set.

This article has been archived and is no longer updated by Apple.

This is an issue with these specific applications, not with the PowerBook computer or the operating system. Owners of Macintosh Performa and other desktop Macintosh and Power Macintosh computers have had to deal with these types of issues for a while.

The volume control problem is caused by applications that do not allow background processing. This situation occurs more often with games because the processor speed they require to run properly.

Pressing the volume buttons actually generates events that the system processes. Since the game does not allow background processes to run, the events are either not processed or remain in the queue until you quit the game.

The only choice you have is to change the volume through some other means. Sometimes the game applications have volume control as one of their options.

This article was published in the Information Alley on 26 February 1997.

Article Change History:
28 Feb 1997 - Added keyword.
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QuickTime MPEG Extension: Read Me Document

This article contains the ReadMe document included with the QuickTime MPEG extension.
This article has been archived and is no longer updated by Apple.

```
Introduction
============

The QuickTime MPEG extension works directly with QuickTime to provide complete playback and control of MPEG
movies. After you've installed the extension, each time you open an MPEG movie, QuickTime automatically
imports the content of the MPEG movie into a QuickTime movie as a single MPEG track. The MPEG track contains
the video and audio streams of the MPEG movie.

Note:
The QuickTime MPEG extension does not contain a compressor component. You cannot use the QuickTime MPEG
extension to compress a QuickTime movie to an MPEG file.


System Requirements
===================

To install and use the QuickTime MPEG extension, you must have the following:

* A Power Macintosh computer
* QuickTime 2.5 or newer
* Approximately 2.5 megabytes (MB) of free memory per MPEG bitstream (for optimal playback)


Installing the Software
=======================

The QuickTime MPEG Installer places the QuickTime MPEG extension in your System Folder. It also installs the
MoviePlayer application in a new QuickTime folder on your local hard disk. The MoviePlayer application can be
used to play QuickTime content as well as MPEG files. The Installer also installs Thread Manager 2.1.5. This
version of the Thread Manager is required to use the QuickTime MPEG Extension.

To install the software, follow these steps:

1. Double-click the Installer icon to open it.
2. Read the message that appears, then click Continue.
3. In the window that appears, read the software license agreement, then
  click Agree.
4. In the dialog box that appears, make sure Easy Install is selected in
  the pop-up menu. Then click Install.

  Note that by installing the software, you accept the terms of the
  license agreement.

5. When the installation is complete, click Restart.


Using the Software
==================

* Playback performance depends on your model of computer. A Power Macintosh 7100/80Mhz/601 gets approximately
10-12 fps at a window size of 320 x 240, while a Power Macintosh 8500/120MHz/604 gets approximately 24 fps at
a window size of 320 x 240.

* For best performance, make sure your sound is set to 44.1 kHz, 16-bit stereo and your video monitor is set
to 256 or thousands of colors. Turn virtual memory and RAM Doubler off.

* Some MPEG files are encoded at 15 or at 7.5 fps instead of the normal 30. If your file appears to be playing
much too fast, rename the file ".m15" and/or ".m75" and see if either of those speeds looks correct. For
example, rename the file "movie.mpg" to "movie.m15" or "movie.m75."
```

* After you've installed the QuickTime MPEG extension, you can use the QuickTime Plug-In v1.1 to play back MPEG movies within your Web browser application (such as Netscape Navigator).

* Blacklining is intentional. With large window sizes, blacklining saves CPU cycles. If you want to turn blacklining off, enable High Quality mode. While you're playing a movie in MoviePlayer, choose Get Info from the Movie menu. Choose the MPEG track from the left pop-up menu. Choose High Quality from the right pop-up menu and close the Info window. Blacklining should now be turned off.

* The QuickTime MPEG extension only supports layer II audio streams.

* To play a .DAT file from a CDi or a Video CD, you must open the file from within MoviePlayer by choosing Open from the File menu. Dragging and dropping the file onto your hard drive or onto the MoviePlayer icon will result in an error. Double-clicking the file will also result in an error.

* If you have a MPEG hardware decoder card you must remove the QuickTime MPEG Extension from your Extensions folder to use your card. The QuickTime MPEG Extension will disable your card while it is in your Extensions folder.

Known Problems

* Non-Apple CD drivers may have problems reading CDi and Video CD discs. We are working with third-party CD-ROM vendors to solve this problem.

* CDi and Video CDs with dual audio tracks encoded in the separate stereo channels may play one track out of each speaker. We are working to fix this problem in a future release. Please use the MoviePlayer Get Info (Command-I) option to access the MPEG track. Choose Volume, and adjust the pan control all the way to the left or the right.

* ClarisWorks' Text Preview extension (installed by ClarisWorks 3.0 and 4.0) interferes with the MPEG file preview. When you open an MPEG file, the Open dialog box displays text symbols rather than a movie clip in the preview window.

* Use Save As, not Save, when you are saving changes to a raw MPEG bitstream from MoviePlayer. Using Save results in an error message.

* Apple Video Player does not play the sound in an MPEG movie (sound only or video-and-sound).

* The MPEG version of Return To Zork does not play properly with the QuickTime MPEG extension. This title's MPEG movies are tuned to specifics of a hardware decompressor.

* The Performa 6205CD may hang when playing long (CDi or Video CD) movies. We are working to solve this problem.

* Some third-party audio boards interfere with synchronization. If you are having synchronization problems and have your sound output from a device other than the internal sound out, try changing to the internal sound device.

* Video CDs with audio tracks are encoded in such a way that the Audio CD Access extension prevents you from seeing the MPEG movies. Remove the Audio CD Access extension, restart your computer, and you should be able to see the MPEG movies on such a disc.

QuickTime software can be found at:

http://www.apple.com/quicktime/

Published Date: Feb 18, 2012

Apple QuickTake 200: Read Me Document

This article contains the QuickTake 200 Software ReadME document.
This article has been archived and is no longer updated by Apple.

About the QuickTake 200 Software
==========

This file includes important information about using your QuickTake 200 camera and the Camera Access software. Because this information is not included in the documentation accompanying the product, you may want to print it. To do so, choose Print from the File menu.

Installing the Software
==========

Install the Apple QuickTake 200 software before installing PictureWorks NetCard, Adobe PhotoDeluxe, or Adobe PageMill.

Using Video-in
==========

* Your computer must be compatible with Apple Video Player to use the Camera Access Video-in function. Some CPUs require specific settings. Check your computer user's manual.

* If you have a hardware play-thru video system (for example, Power Macintosh 6100AV, 7100AV, or 8100AV or Macintosh LC 630), video play-thru cannot be turned off via "Video Playthru Off During Record" in the Video-In menu.

Recording a Movie or Video
==========

* When recording with compression, you might need to hold down the mouse button longer to stop the recording process. (In most instances, a click will stop the process.)

* Sound is not supported.

Editing Movie Files
==========

When copying and pasting a movie frame into another movie within the Camera Access software, do not resize the source movie frame. (Resizing will distort the images.)

PowerBook 500 Series
==========

* Set the PowerBook Setup in the Control Panel to Compatible and then launch Camera Access.

* Don't use the Sleep command or close the PowerBook cover while the camera is connected to the Powerbook. This will cause your system to freeze.

Using the QuickTake Plug-ins
==========

* To use the Apple QuickTake 200 plug-in with PhotoDeluxe, drag a copy of the plug-in from the Goodies folder to the Plug-ins folder of the PhotoDeluxe application.

* The QuickTake 200 plug-in is compatible with Photoshop 3.0 and later; it is not compatible with PhotoFlash.

* You can open only one thumbnail at a time. (Even when multiple thumbnails are selected, only the first one will open.)

Closing the QuickTake 200 Panel

When your camera is not connected to your computer, close the QuickTake 200 panel. Leaving it open will slow down your mouse response.

Creating Floppy Disks From the CD-ROM

1. Open the "QuickTake 200 disk image" folder.

2. Click the Disk Copy icon.

3. Click the "Make a Floppy" button.

4. Select QuickTake 200 Software.image.

A message appears: "Please insert a floppy disk." The disk is erased and reformatted, and the QuickTake software is copied onto the disk. A second message appears: "Build floppy operation completed successfully."

5. Click Quit.

Your floppy disk can now be used to install the software.

IMPORTANT:
Don't drag the file onto the Disk Copy icon. You must follow the above procedure.

AppleTalk

It is recommended that you turn off AppleTalk when using a 68K CPU (Non-Power Macintosh computer). (Open the Chooser and turn off AppleTalk.)

Using Open Transport

It is recommended that you use the Modem port for Camera connection when configuring the port using OpenTransport.

Performa 6420 AV

When using Avid Cinema Extension, you should set the Monitor control panel to 32,000 colors (16 bits).

* Turn off the Avid Cinema Extension when you set to 256 colors.

Printing and Downloading Camera Images Simultaneously

There is a conflict in communication when trying to print and open an image from the camera at the same time in a 68K machine. If this problem occurs, please wait until printing is complete, then try opening the image again.

TIFF File Format

Camera Access does not support compressed TIFF files.

Power-Off Problem

On extremely rare occasions, the QuickTake 200 camera might not power off. If this happens, disconnect the camera from the optional AC power adapter. Open the battery door to reset the camera.

Technical Support for Adobe PhotoDeluxe and Adobe PageMill

* For Adobe PhotoDeluxe support, call 206-628-5726.
* For Adobe PageMill support, call 206-628-5731.

Published Date: Feb 18, 2012

Apple VideoPhone: Read Me

This article contains the ReadMe file for Apple VideoPhone.
This article has been archived and is no longer updated by Apple.

About Apple VideoPhone 1.5.1
==========

Apple VideoPhone is a new program for Power Macintosh computers that allows you to audio conference with any CoolTalk user on the Internet, whether they are using a Power Macintosh computer, or other platforms supported by Netscape CoolTalk. Apple VideoPhone takes advantage of Apple's QuickTime Conferencing technology and the built-in sound capabilities of Power Macintosh computers.

Apple VideoPhone also allows you to conference using live video in addition to audio with other Power Macintosh computers using the MovieTalk protocol. In this mode you can also conference with multiple parties.

Farallon Timbuktu Pro is a program that can be used with Apple VideoPhone to allow users to share applications in real time while conferencing.

Hardware Requirements
==========

* Performa 5400 or 6400 series
Power Macintosh 6100, 7100, 7500, 7600, 8100, 8500, or 8600 series (except the Power Macintosh 8100/110). AV capability is needed to send video.)
* 16 megabytes of RAM
* PlainTalk microphone
* Access to a TCP/IP based network
* A video source such as the QuickTime Conferencing Camera 100 (optional)
* External speakers (optional)

Note: If using Apple VideoPhone in conjunction with Netscape Navigator 3.0 or later, it is recommended that you have at least 24 megabytes of RAM.

Software Requirements
==========

* System 7.5.3 or later (System 7.5.5 strongly recommended)
* QuickTime 2.5
* OpenTransport 1.1.1 or later

Installation Tips
==========

The Apple VideoPhone installer checks for the correct versions of System Software, QuickTime and OpenTransport before it allows installation of Apple VideoPhone.

Important Information About Version 1.5.1 of Apple VideoPhone
==========

* You will see warnings if you are trying to install Apple VideoPhone 1.5.1 on a computer that already has a 1.0.x, 1.1 or 1.4 version of QuickTime Conferencing installed. Apple VideoPhone 1.5.1 is not designed to support the QuickTime Conferencing H.320/ISDN Card. If you still wish to install Apple VideoPhone on a computer with the QuickTime Conferencing H.320/ISDN Card installed, you must remove the "QTCSound" file from the Extensions folder inside your System Folder before proceeding with the install.Previous versions of Apple Media Conference or Connectix VideoPhone may not function optimally after installing Apple VideoPhone 1.5.1.

* You may experience a problem with some Internet Service Providers (ISP) where your modem connection is periodically dropped.The symptoms of this are that audio and video stops updating, but the application does not close. If this occurs, it is best to quit Apple VideoPhone, disconnect from the ISP, reset your modem, reset your PPP connection, and then relaunch Apple VideoPhone.

* You may notice that Apple VideoPhone automatically redials your ISP a few minutes after the ISP has dropped your modem connection. This is normal if you have configured your Apple VideoPhone preferences to register you on a 411 Directory Server. Apple VideoPhone periodically tries to contact the server, and will try to re-establish the ISP connection if it was closed while the Apple VideoPhone was launched. Unfortunately, you will not be able to make or receive calls once an ISP connection has dropped until you have followed the steps in the paragraph above. To avoid unattended ISP connections, it is best to quit the Apple VideoPhone application before disconnecting from an ISP.

* Using CoolTalk with the RT24 audio compressor is not recommended between two machines connected via ethernet unless they have a router between them.In some cases, users may experience problems resulting from heavy usage in this configuration. Connecting via Internet link (either modem or direct connection) is not a problem.

* Apple VideoPhone is designed to work with MacPPP 2.5.1.Users of other versions of PPP, including MacPPP 2.5 (included with OpenTransport 1.1.1 in the Extras Folder), FreePPP and OT-PPP may experience problems unless they make sure that MacPPP 2.5.1 is

selected in the TCP/IP Control Panel before dialing an ISP to use Apple VideoPhone.

Special Information for Power Macintosh 7300, 7600, 8600 and 9600 computers

Apple VideoPhone Lite 1.5.1 installs compression software and extensions that are specifically for video conferencing. If you wish to use other applications that capture video (such as Adobe Premiere or Avid Cinema) use an extension manager to temporarily disable the extensions or follow the instructions below:

1) Open the Extensions Folder within your System Folder.
2) Select the following files:

- Apple GSM Codec 1.0
- H.261 1.0.4 PowerMac
- H.263 1.0.3 PowerMac
- QTCComponentDV 2.0

3) Drag them out of the Extension folder and save in a folder outside of the System Folder.
4) Restart.
5) You are now ready to capture video in another application.
6) To use Apple VideoPhone again, place these extensions back into the Extensions folder and restart your computer.

Setup
=====

The Apple VideoPhone installer creates a new folder on your hard drive called "Apple VideoPhone."Look inside this folder for the Apple VideoPhone application icon.

* If using externally powered speakers, it is recommended that you use RCA-style connectors to connect to the left and right audio (the ones marked CD) on the back of the speakers, not to the Audio-in port (the stereo miniplug marked with the Mac icon). This will avoid a problem where low-level audio is cut off.

* The preferences file is now located in the Preferences folder inside the System Folder, in a folder called "Apple VideoPhone." If you have installed over a previous version of Apple VideoPhone, consider copying your old preferences file out of the application folder into this new folder. Most of your preferences will be retained if you do this.

* Connectix Color QuickCam users may experience problems when taking snapshots.Download the "Color QuickCam 2.1a Updater" from the Connectix web site.

* Apple VideoPhone is not intended for use on a computer running router software.

Launching
=========

* Do not try to launch this version of Apple VideoPhone with less than 3.5 megabytes of available RAM.

* If you wish to transmit a picture of yourself, copy a snapshot into a graphics editor and save it as a PICT file.

* If your preferences are configured to connect to a 411 Directory Server which is unavailable because you don't have access, the server is not running or the server already has the maximum number of connected users, you may receive an error -7974 on launch. If this happens, try launching again.To select another server, it is best to select the server in the preferences dialog, quit the application and relaunch. The 411 Directory Server at live.netscape.com is often busy.

Note: If your ISP assigns a different IP address every time you connect (dynamic addressing) you will need to notify parties of your current IP address before they can call you. Your IP address appears in your TCP/IP Control Panel.In some cases, the address may not update until you actually use an IP service, such as trying to place a CoolTalk call. The 411 Directory Server tries to alleviate the limitations of dynamic addressing.If available, static addressing is preferable.

* Apple VideoPhone checks for an available TCP/IP network.Before you launch Apple VideoPhone, you must configure and activate your TCP/IP Control Panel. If you have a direct Internet connection consult with your network administrator to make sure you have the correct IP address, subnet mask and domain name service information. If you are using a modem or ISDN terminal device, configure your TCP/IP to dial your Internet access account via PPP.Apple VideoPhone will initiate the call on launch if PPP is configured correctly.

* Before you launch Apple VideoPhone, it is recommended that you turn off Virtual Memory (VM) in the Memory Control Panel.VM is NOT recommended for use with any QuickTime application using real time video. On certain Macintosh computers you will not be able to send video unless you turn off virtual memory.

* You may notice that application memory isn't being released promptly after you quit Apple VideoPhone. If this is a problem uncheck the "Load

only when needed" checkbox in the options dialog in the TCP/IP Control Panel.

Connecting
==========

* You must allow enough time for a complete disconnection before you try to connect again. Apple VideoPhone currently requires several seconds to completely disconnect from a conference. If you try to connect (or someone tries to connect to you) before you have completely disconnected, you may experience problems. It is best to wait at least 10 seconds between connections.

* Multiparty conferences and maximum sized (2X) video windows require more memory to function well. If you plan to use these features, increase the Memory Requirements Preferred size by at least 1000k per additional party and relaunch the Apple VideoPhone. To edit Memory Requirements do the following:

- quit Apple VideoPhone (if launched)
- go to the Finder
- select the Apple VideoPhone icon by clicking on it once
- select "Get Info" in the "File" menu
- increase the value in the "Preferred size" box by the required amount
- close the Get Info window
- launch Apple VideoPhone

* You may experience problems calling a person to whom you are already connected.

* Auto answer doesn't work with Apple VideoPhone in the background and Movie Player running in Presentation mode.

* It is possible to access Netscape's 411 Directory Server from a web page. The URL is http://live.netscape.com/. The first time you use it, you will be asked by Navigator to pick an application to launch.Be sure to select Apple VideoPhone. You will experience difficulty if you select the Conferencing Helper Application included with Apple VideoPhone. For more information about the proper use of the Conferencing Helper Application, see "Using Conferencing Helper Application" section later in this document.

Audio
=====

* If you are using CoolTalk settings to audio conference, and you see a dialog box notifying you that you don't have the correct type of audio compressors, you can download the audio compressor from Netscape's FTP site at:

ftp://ftp.netscape.com/pub/cooltalk/mac/netscapeGSMCodecInstaller.hqx

* When conferencing with a CoolTalk user on a PC, you may find that you cannot hear audio sent by the PC. Some PC sound cards do not support full-duplex sound. Try clicking on the "Hold" button on the Mac side when you want to hear audio from the PC. This will temporarily block the Mac from sending sound.You will have to deselect "Hold" on the Mac when you want to talk. You can also try adjusting the silence sensor in the sound level meter. Asymmetric connections, where one computer is connected to a relatively fast network and the other computer is using a 28.8 modem connection may experience the same problem.

* Full-duplex audio is not supported on the Performa 6320. You will not be able to talk and listen at the same time.

Video
=====

* When using the H.263 video compressor, you will not be able to resize your self-view window to the largest (2X) size.

* Apple VideoPhone does not run well on multiple monitor configurations. For best results, arrange all Apple VideoPhone video windows on the monitor that is connected to the AV subsystem of your computer.

* Apple VideoPhone may not run properly in videoconferencing mode if launched when Apple Video Player is already running, or if the 1.0 extensions for the Avid Cinema Card are enabled. Quitting Apple Video Player and/or temporarily disabling the Avid Cinema extensions will enhance the video performance of Apple VideoPhone.

Collaboration
=============

* Video windows within the Timbuktu Pro window will not update unless you select the Timbuktu Pro preference to bypass QuickDraw, however, this will increase network traffic and may have an undesirable effect on video quality.

* Some applications will run very slowly over a Timbuktu Pro connection.

Using Conferencing Helper Application
=====================================

The Apple VideoPhone installer places the Conferencing Helper Application inside a folder called "Extras" in the Apple VideoPhone folder. The

TA36546_Apple_VideoPhone_Read_Me_(TIL21029).pdf

Conferencing Helper Application can be used to enable Apple VideoPhone to be launched as a helper application from a web page. Netscape Navigator 2.0 or later is pre-configured to recognize the QuickTime Conferencing mime type. Additionally, it is recommended that you configure the Macintosh Easy Open control panel by disabling "Always show dialog box" and enabling "Auto pick if only one choice."

QuickTime Conferencing and Firewalls

At those sites with Internet firewalls such as corporations, universities or other large institutions it may be necessary to configure the firewall so that QuickTime Conferencing applications can use certain features. This is typically not a problem for Internet Service Providers. Contact your network administrator to send the following information.

* To allow MovieTalk calls to be sent and received at an Internet site, allow outgoing and incoming TCP traffic on port 458.

* To allow MovieTalk media streams to flow outwards through the firewall, allow outgoing UDP traffic with static port 458 and with dynamic port values greater than or equal to 7000.

* To allow MovieTalk media streams to flow in through the firewall, allow incoming UDP traffic with static port 458 and with dynamic port values greater than or equal to 7000.

* To allow CoolTalk to access the 411 Directory Services, allow incoming TCP traffic on port 6499.

* To allow CoolTalk calls to be sent and received at an Internet site, permit outgoing and incoming TCP traffic on port 6500.

* To allow CoolTalk audio streams to flow in through the firewall, allow incoming UDP traffic with a static port of 13000.

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Apple IIGS Errors: Toolset numbers

This article has been archived and is no longer updated by Apple.
Generally, error numbers are a hybrid of the toolset number and a specific error within that toolset: the first byte is the tool number and the 2nd byte, the error number.

For example, error $110B is an error that occurred within the Segment Loader ($11 in decimal is 17). Specifically, error $110B is a 'Load Segment is Foreign' error, which can occur from the Initial Load (function $07) or Load Segment by Number (function $09) calls.

Here, you can at least identify in which Toolset an error occurred with this list of current Tool Sets and their Toolset numbers (to be superceded by an APDA mailing).

1 - Tool Locator
2 - Memory Manager
3 - Miscellaneous Tools
4 - QuickDraw //
5 - Desk Manager
6 - Event Manager
7 - Scheduler
8 - Sound Manager
9 - Front Desk Bus Manager
10 - SANE
11 - Integer Math
12 - Text Tools
14 - Window Manger
15 - Menu Manager
16 - Control Manager
17 - System Loader
18 - High Level Printer Driver
19 - Low Level Printer Driver
20 - Line Edit
21 - Dialog manager
22 - Scrap Manager
23 - Standard File
24 - Disk utilites
25 - Note Synthesizer
26 - Note Sequencer
27 - Font Manager
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Clr StyleWriter 2400, 2500: Vertical Lines Appear Jagged (2/97)

When using the High Performance Black Ink cartridge, my Color StyleWriter 2500 (or Color StyleWriter 2400) printer produces jagged vertical lines. However, printing from the color cartridge looks fine. How can I eliminate this?

This article has been archived and is no longer updated by Apple.

The design of the High Performance Black Ink cartridge with its many ink nozzles lets it rapidly print several pages per minute. If the cartridge does not mount so that the ink nozzles are perpendicular to the leading edge of the paper, then jagged lines can result. In order to maintain optimal print quality when using the High Performance Black Ink cartridge, it must be perfectly seated in the printer. Insert the high performance black cartridge in the printer and then move the blue cartridge locking lever up and down several times. DO NOT touch the printhead cartridge when performing this action or the cartridge will not remain properly aligned. This procedure has been very successful in minimizing jagged lines and is recommended for all customers when installing ink cartridges.

If the results are still not acceptable, it may be necessary to use one of the workarounds below which have been successful during testing.

1) Print using the Glossy paper mode which is available in the print dialog box under the 'paper type' settings. This mode will change the way the ink is laid down on the paper and as a result minimize the jagged vertical lines.

2) Print using the color ink cartridge. This helps eliminate the jaggedness because the number of ink nozzles that print black ink in one pass is significantly reduced. The frequency of the jagged lines increases, but their length decreases, making the lines appear nearly straight.

This article was published in the 27 February 1997 "Information Alley."

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GeoPort & Express Modem: Updater 3.1.1 Read Me

This article is the GeoPort & Express Modem Updater 3.1.1 Read Me file.
This article has been archived and is no longer updated by Apple.
Your package includes a software updater for use with the following configurations:

GeoPort Telecom Adapter and one of the following Macintosh models:

* Performa 6360 and all PowerPC processor-based Macintosh and Performa models, except Power Macintosh and Performa 5200, 5300, 6200, 6300 series

GeoPort Telecom Adapter II and one of the following Macintosh models:

* Performa 6360 and all PowerPC processor-based Macintosh and Performa models, except Power Macintosh and Performa 5200, 5300, 6200, 6300 series

GeoPort Internal Modem and one of the following computers:

* Performa 5400 series, 6400 series, and 6360

IMPORTANT:
To use the GeoPort Telecom Adapter II in the United States, Canada, or Japan, version 3.1 or later of Apple Telecom Software is required. To use the GeoPort Telecom Adapter II in all other countries or GeoPort Internal Modem in all countries, version 3.0 or later of Apple Telecom is required. To use the original GeoPort Telecom Adapter with the Power Macintosh 7200 series, 7500 series, 7600 series, 8500 series, and 9500 series, version 3.0 or later of Apple Telecom Software is recommended.

Apple PowerBook Duo 14.4 Modem (internal) and one of the following Macintosh models:

* PowerBook Duo 2300c

Apple PowerBook Express Modem II Card (internal) and one of the following Macintosh models:

* PowerBook 520, 520c, 540, 540c (with a PowerPC processor upgrade)

Note: Some models are not available in all geographic areas.

For the remainder of this document, the term GeoPort Telecom Adapter refers to all GeoPort products: GeoPort Telecom Adapter, GeoPort Telecom Adapter II, and GeoPort Internal Modem.

What this update provides

For Power Macintosh users with GeoPort Telecom Adapter

This update provides support for V.34 protocols, which allow data transfer at speeds up to 33.6 Kbps. Depending on line conditions and the capabilities of the remote modem, your connection speeds may be lower. Common data transfer speeds will be between 16.8 Kbps and 24 Kbps, although they may be higher or lower.

For Express Modem users

This update provides software improvements, but does not provide any speed increase to the Express Modem. For System 7.5.5 users, it is recommended that you install this update.

LocalTalk compatibility with GeoPort Telecom Adapter

If you are using a GeoPort Telecom Adapter on a Power Macintosh 7200 series, 7500 series, 7600 series, 8200 series, 8500 series, or 9500 series, you must disable LocalTalk. To do this, disconnect any LocalTalk devices attached to the printer port (serial devices can remain attached).

Sleep (Power Macintosh and Performa models)

Some Macintosh desktop models, including Power Macintosh 7200 series, 7500 series, 7600 series, 8200 series, 8500 series, or 9500 series, Power Macintosh and Performa 5400 series, 6400 series and Performa 6360, support the Sleep feature to conserve energy. If you select "Sleep" from the Special Menu available on these models while there is an active GeoPort connection, the GeoPort Telecom Adapter will disconnect the call without warning.

Connection (CCL) scripts for Apple Remote Access

Use the following connection script with Apple Remote Access:

GeoPort/Express Modem

This file is installed in both the Extensions folder inside the System Folder and in the Modem Scripts folder inside the Extensions folder. It is installed in two places to support all versions of Apple Remote Access.

An additional, optional connection script, named "GeoPort/Express Modem CNG," is installed in the same two places. When you use this optional script, the GeoPort Telecom Adapter or Express Modem transmits data calling tones after dialing. Data calling tones allow the remote machine to detect automatically that an incoming call is a data modem call. If you are dialing into a system that supports data, fax and voice calls (such as another GeoPort Telecom Adapter), you should select this connection script in the Apple Remote Access Setup control panel.

Communication settings

If you are using a terminal emulator or communications program that supports the Apple Communications Toolbox, you should select the "Express Modem Tool" from the connection settings menu item. This tool's default settings will always try to establish connections at the highest possible speed with error correction and compression enabled.

Using RAM Doubler

If you are using RAM Doubler from Connectix with Apple Telecom software, you should use RAM Doubler version 1.6.2 or later.

Troubleshooting

Clicking sound from GeoPort Telecom Adapter

If your computer freezes, the GeoPort Telecom Adapter can lose its connection with your computer and may generate a rapid clicking sound. This sound is a temporary side-effect of the lost connection. To stop the clicking, unplug the adapter for a few seconds or restart your computer.

Installing the updater

To install the GeoPort & Express Modem Updater

1. Turn on your computer.

2. Double-click the Installer icon.
An introductory dialog appears.

3. Click Continue.
The Easy Install dialog box appears. Easy Install automatically detects the Macintosh model you are using and installs the software you need.

4. Make sure the hard disk indicated is where you want to install the software. If the wrong disk name appears, click the Switch Disk button until the disk you want appears.

5. Click Install.
A message informs you when the installation is complete. You need to restart your computer in order to use your newly installed software.

6. Click Restart to restart your computer and activate the software.

7. The Installer places a new version of the Express Modem control panel in the Control Panels folder inside the System Folder. Be sure to verify the settings before starting to use your modem software.

What goes where

When you install the software using the Easy Install option of the Installer program, the following files and resources relating to the GeoPort Telecom Adapter or Express Modem are installed on your hard disk.

Hard Disk:
* GeoPort/Express Modem Read Me

Hard Disk: System Folder: Control Panels:
* Express Modem

Hard Disk: System Folder: Extensions:
* AudioTuneUp (GeoPort/Power Macintosh 9500 series with System 7.5.2 only)
* Apple Telecom Modem
* Express Modem Tool
* GeoPort for Power Macintosh (GeoPort configurations only)
* GeoPort Serial Driver (GeoPort configurations only)
* GeoPort Telecom Adapter (GeoPort configurations only)
* GeoPort Telephone Tool (GeoPort configurations only)
* GeoPort/Express Modem (Apple Remote Access CCL script)
* GeoPort/Express Modem CNG (optional Apple Remote Access CCL script, with calling tone)
* Serial Extension (GeoPort and 6100/7100/8100 series only)
* Serial (Built-in) version 1.2.2 (GeoPort/5400/6400 series and 6360 only)
* Shared Library Manager (GeoPort configurations only)
* Shared Library Manager PPC (GeoPort configurations only)
* Telephone Manager Extension (GeoPort configurations only)

Hard Disk: System Folder: Extensions: Modem Scripts
* GeoPort/Express Modem (Apple Remote Access CCL script)
* GeoPort/Express Modem CNG (optional Apple Remote Access CCL script, with calling tone)

Hard Disk: System Folder: System:
* Bell Telephone (sound resource)
* Electronic Telephone (sound resource)

Where to look for Apple Telecom software updates

For the latest updates, visit Apple Computer's World Wide Web site at: <**http://www.apple.com/**>
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AppleTalk Router: Differences, Seed & Non-Seed Ports (2/97)

What is the difference between a seed port and a non-seed port on an AppleTalk router?
This article has been archived and is no longer updated by Apple.
In order for routers to perform their role of routing traffic to its intended destination, they must know the identity of each network segment on the network. In the case of a LocalTalk segment, this identity is established by a network number. In the case of EtherTalk or TokenTalk segments, the identity is established by a range of contiguous network numbers known as a network range. For each network segment on an AppleTalk network, at least one router must supply the network number or range that uniquely identifies the segment.

Zone names are also linked to network segments, but do not have to be unique. This allows network segments at different locations to encompass logical groups of users. For instance, a zone named "Sales Support" could span several floors in a building with a number of network segments joined by routers.

A seed port is defined as a router port configured with a network number or network range and a zone name or zone list that identifies the network segment it is attached to. Every network segment on an extended network will have at least one router seed port active to supply its identity. A network segment may have more than one router supplying seed information, but if this is the case, each of these must absolutely agree on the information being supplied or chaos will result. Some, but not all, routers will generate alerts on startup if they detect conflicting seed information on a network segment.

A non-seed port is defined as a router port configured to obtain the network number or network range and a zone name or zone list, that identifies the network segment it is attached to from a seed router port attached to the same network segment. When a non-seed port is activated, it queries the network segment for configuration information which gets supplied in the form of a reply from a seed router on the same segment.

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Apple Internet Router and TCP/IP (2/97)

Will the Apple Internet Router route TCP/IP between network segments? What about the IP Wide Area Extension?
This article has been archived and is no longer updated by Apple.
The Apple Internet Router is an AppleTalk-only router. It will not route any other protocol, including TCP/IP.

The Apple Internet Router AppleTalk/IP Wide Area Extension provides a method for tunnelling AppleTalk traffic between two AppleTalk routers across a TCP/IP-only backbone network segment. This is accomplished by encapsulating AppleTalk packets inside of TCP/IP packets. The IP Wide Area Extension does not route TCP/IP, it rather provides a way to join AppleTalk LANs using a TCP/IP wide area link.

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Network Assistant: Not Authorized to Launch Message

When trying to launch Network Assistant, the following At Ease message appears: "You aren't authorized to use this application. Contact your At Ease Administrator for more information."
This article has been archived and is no longer updated by Apple.
This can happen if the specific workstation also has Network Assistant installed. In this case, if the user logs into At Ease as a regular user or as a Workgroup Administrator without explicit Network Assistant privileges (the default is to deny these), they will get this message.

This is a security feature of At Ease. The user will need to log back into At Ease as an At Ease Administrator or Workgroup Administrator (If Network Assistant privileges have been added). If they are neither an Administrator nor a Workgroup Administrator with Network Assistant privileges, they should contact their Network Administrator to get their privileges edited. This is done by opening the user name from within At Ease Administration, selecting "Privileges", and selecting Network Assistant privileges.

Important: A user will be able to launch At Ease Administration, Network Assistant Security, or User and Group Manager without getting this message.
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QuickTime for Windows 2.1.2: Troubleshooting Tips

This article contains error messages and problems related to installation and how to resolve them. This information is extracted from Apple's Developer Technote 1074.

Tech Info Library article 24493: "**Apple Tech Notes: What They Are, Where To Find Them**" can help you find the Tech Note mentioned here.
This article has been archived and is no longer updated by Apple.
Troubleshooting QuickTime For Windows

For most installation problems you should first check the QTW version that is installed. If it is a version earlier than 2.1.2, you should try upgrading first. This resolves a lot of installation problems. The interactive way to determine the installed version of QuickTime for Windows is to run Movie Player (player.exe in the Windows directory) and click on Help -- About Movie Player.

Errors During Installation

* If the installer reports an error indicating that it can't write to a file or that the file is being shared by another application, reboot the system. You may want to try bypassing the startup documents by holding down the shift key or by starting in Windows 95 "safe mode".

* If the installer reports an error during the "modifying .INI files" stage, the problem is that your WIN.INI file is too big. The QTW installer calls Windows' SetProfileString(), which fails if Win.ini is larger than 32KB. This is most commonly caused by the file becoming clogged with hundreds of lines of PostScript font declarations or something similar.

The workaround is to rename WIN.INI to something else, then install QuickTime for Windows. This creates a new WIN.INI that has just a few lines in it. You can then use a text editor to move those lines to the appropriate sections near the beginning of the big .INI file. Delete the small WIN.INI and rename the big file back to WIN.INI.

* A corrupted directory could cause installation problems. Run the Scandisk utility included with DOS and Windows 95. Windows 3.x users must exit to DOS to run Scandisk.

An Error During Re-Install

Sometimes when you do a re-install using the "Reinstall QuickTime" icon you may receive an error message saying that the QTINSTAL.EXE file is missing. If you look for this file, you will find that it really is missing! Because this is your executable installer file, you need to re-install from the original installation location (CD-ROM, network server, diskette, etc.)

Fixing Audio Break-up Problems

Some audio cards and drivers use a large amount of CPU time. This can cause break-up of the audio accompanied by poor video performance. The original SoundBlaster Pro, for example, has problems when the total audio data rate exceeds 22050 bytes per second. To improve performance, the audio data rate can be limited by the use of several settings in the QTW Control Panel's More|Audio screen. Here are two ways to limit the rate to 22050:

For mono audio at 22050 bytes per second, set:
Sample Rate Requested hz: 22050
Sample Depth: 8 bit
Channels: Mono

OR

For stereo audio at 22050 bytes per second, set:
Sample Rate Requested hz: 11025
Sample Depth: 8 bit
Channels: Stereo

Note: Automatic Rate Adjustment should only be selected if your only performance problem is the audio slowly drifting out of synch with the video. To save these settings, click Close, and restart Windows before retesting performance.

Audio-Video Synchronization Problems

QTW 2.1.2 contains an automatic-audio-rate-adjustment feature which was meant to correct audio playback problems on systems that contain an ESS sound chip. While this goal is usually achieved, on some systems undesirable side-effects such as high-pitched sound may occur.

The solution to this problem (when it occurs) is as follows:

1) Go to the QuickTime Control Panel and select More--Audio.
2) Change the Sample Rate-Requested hz: to "default".
3) Make sure that Automatic Rate Adjustment is selected.
4) Click Close, and then restart Windows (to be on the safe side).
5) Play the calibration movie, SAMPLE.MOV, from the Windows directory. This recalibrates the sound chip.
6) Exit Movie Player and go back to the QuickTime Control Panel.
7) Select More|Audio and deselect Automatic Rate Adjustment.
8) Click Apply, and then Close. Sound should now be fine.

Encountering DynaLink (.DLL) Errors

A Dynalink error may occur if, for some reason, there are older versions of QTW files installed. This would only occur in 16-bit QTW.

To resolve this problem, you should first try reinstalling QTW 2.1.2, making sure that you select the Check for Existing Versions option during installation. See the Installation Dialogs section of this Note for more details.

Check your SYSTEM.INI file for the line dci=rfmdci. If it is there, comment it out. The entry is a reference to dci services by the video card and has been found to occasionally cause problems.

If the problem still occurs, you are probably running an application from a read-only volume, such as a CD-ROM, which has an older version of QTW on it. Your only option at this point is to uninstall QTW 2.1.2 (see the section Un-installing QuickTime for Windows). Then you can install your application from the CD-ROM which will install the required early version of QTW.

Fixing Video Draw Problems

If QuickTime for Windows doesn't recognize or falsely recognizes the display board, or if you simply suspect that your problems are related to drawing the Movie image on the screen, you need to change the Video Draw Method. The recommended way to do this is with the QuickTime Control Panel; however, it can also be done by editing the QTW.INI file.
To do this from the Control Panel, follow these steps:

1) Select More--Video--Draw Method from the QuickTime Control Panel.
2) Change the Optimization to: Driver.
3) Click Close, and restart Windows (to be on the safe side).
4) If that doesn't work, try the other Optimizations. They are listed in order of speed (fastest to slowest), so try the faster ones first.

Editing the QTW.INI file, however, is not recommended. The reason is that it's easy to get it wrong. The only time you might have to do this is if your video is so messed up that you can't even bring up the Control panel without crashing. In that case, you need to edit the QTW.INI file.
To do this by editing the QTW.INI file, add or change the [Video] section of QTW.INI to read:

[Video]
Optimize=Driver

This is how you fix 16-bit QTW. To fix 32-bit QTW, you change the Section name from [Video] to [Video 32]. If 'Driver' doesn't work, try 'BMP', 'RAW', and 'DIB'.

MPEG and QuickTime for Windows

Currently, there are no known MPEG boards that work with QTW. In the past, the REALmagic MPEG boards did work with QTW; the latest REALmagic boards, however, do not. Those users with old REALmagic boards may be able to play MPEG videos through QTW, but only under the following configuration:

* Windows 3.1
* One of the discontinued REALmagic boards: ReelMagic, REALmagic Lite, or REALmagic Rave
* The discontinued REALmagic driver, version 2.01.

Most users will not have this configuration and, therefore, must play MPEG videos using the application or method provided with their MPEG board.

Because there was support for MPEG through QTW in the past, versions of QTW 2.0.0 - 2.1.0 associate .MPG files with the QuickTime Movie Player. This means that when you open a .MPG file, Movie Player will launch and attempt to play the MPEG video. Now that MPEG support for QTW is no longer available, Movie Player will still launch but display a message stating that QuickTime cannot play this video. The problem was fixed in QTW 2.1.1 by removing the .MPG file association.

This file association problem in the earlier versions led some hardware manufacturers to ask their customers not to install QuickTime or applications that install QuickTime. These manufacturers are not aware of the fix. Thus, any users concerned about installing QTW because their computer manufacturer recommends against it should feel safe to install QTW 2.1.2 and applications that install QTW 2.1.1 or later.

Steps to Ensure That an Old Installer Doesn't Associate .MPG Files With QuickTime

If you are installing an application that installs a version of QTW earlier than version 2.1.1, you should follow the steps below to ensure that the old installer doesn't associate .MPG files with QuickTime:

1) Check the current file association for .MPG files and make a note of it.
2) Install QTW 2.1.2.
3) Install the application.
4) Check the file association for .MPG files again.
5) If the file association for .MPG files was not changed, you are done. If it has changed, proceed to step 6.
6) Change the .MPG file association back to what it was in step 1 (see your Windows manual or below if you are unsure how to do this).
7) Reinstall QTW 2.1.2 since it was overwritten by an older version.

The reason this series of steps works is because when the application's installer attempts to install the older version of QTW in step 3 above, the installer will see that there is already a newer version installed and skip the QTW part of its installation. However, there is a possibility that the application's installer was not written to notice that a newer version of QuickTime was already installed and, as a result, the older version of QTW will be installed. This is what would cause the .MPG file association to be changed in step 4 from what it originally was in step 1. You can then correct the problem by changing the .MPG file association back to what it was and then reinstalling QTW 2.1.2.

Variations in Methods for Changing .MPG File Association

The method for changing the .MPG file association will vary depending of the version of Windows being used. For Windows 3.1, in the File Manager, you need to select Association from the File menu. For Windows 95, you need to open an explorer window and select Options from the View menu. Then, you click on File Type and edit the file association.

Note: If the file association for .MPG files was changed by an earlier installation of QTW, installing QTW 2.1.1 or 2.1.2. will not restore the file association back to what it originally was. Thus, .MPG files will continue to launch QuickTime, even with the new version installed. You need to manually correct the file association using the method described above. If you don't know what the original .MPG file association was,you need to contact your MPEG vendor to get it.

Un-Installing QuickTime for Windows

QuickTime for Windows v2.1.2 has an un-installer that works with Windows 95 and Windows NT. It does not work, however, with Windows 3.1.

There are several reasons why you may want to un-install QTW 2.1.2. For example, you may want to free up disk space, or you may need to run an application from a CD-ROM that requires an older version of QTW. You should not uninstall QTW to free up memory because, when QTW is not being called, it is not loaded into memory at all and therefore does not use any unnecessary overhead.

If you must uninstall QTW 2.1.2 and you're using Windows 3.1, remove all files in the Windows directory and Windows System directory with the date of 8/27/96 and time stamp of 2:12:00AM. The only file you do not want to delete is the 2.1.2 installer file, so that you can reinstall QTW 2.1.2 in the future. This is the safest way to manually uninstall QTW.

Follow these steps to manually un-install QTW:
1) In the File Manager, go to the Windows directory.
2) Select View--Sort by date
3) Click and select the first file with the date of 8/27/96 and time stamp of 2:12:00AM.
4) Shift-Click the last file in the list with the same date and time stamp so that all files with this date and time stamp are highlighted.
5) Control-Click on the QTINSTAL.EXE file so that you don't remove the 2.1.2 installer. This file should no longer highlighted after you Control-Click. NOTE: For 32-bit, it's QT32INST.EXE, not QTINSTAL.EXE.
6) Delete the highlighted files.
7) Repeat steps 1 through 6 for the Windows System directory but skip step 5, since the QTINSTAL.EXE file doesn't exist in this directory.
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Network Server: Determining Filesystem Usage

How can I determine how full filesystems are on an Apple Network Server?
This article has been archived and is no longer updated by Apple.
Typing the following command in an AIX command shell will return the number of blocks, number of blocks free, and percent used in each mounted filesystem.

```
df -k
```

As a general rule of thumb, any filesystem more than 90% full should be expanded to avoid potential problems. A full filesystem can result in a server crash.
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Apple IIGS Monitor: Step, Trace, and Search

This article has been archived and is no longer updated by Apple.

Step and Trace are not built into the Apple IIGS Monitor.

The format for the search command is

\\<search string>\\{<bank>/}<addr1>.<addr2>P

where <search string> is either a series of hexadecimal values or ASCII text delimited by single or double quotes. In addition, the entire search string is separated from the search range with backslashes. <Bank> is optional (as the braces are meant to indicate) and specifies the memory bank in which you want to search. If you do include a bank number, then you must separate it from <addr1> with a slash. <addr1> and <addr2> are the start and end of the memory range of the search.

For example, for look for the location of the Apple IIgs startup message, type:

\\"Apple IIgs"\\FF/0000.FFFFP

You should get

FF/F914:

as the response.
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ADB Devices: Power Requirements Cause Intermittent Failure

I have been having problems with my PowerBook 5300 ADB devices. I have a mouse, keyboard, and an AppleVision 1710AV display connected. Is there a limit to how much power ADB devices should use? I have replaced my PowerBook logic board and I'm not sure if connecting too many ADB devices is causing the problem.
This article has been archived and is no longer updated by Apple.
There should be no way that the ADB +5V line on the PowerBook 5300 can be "blown out" by connecting too many ADB devices. There is protection circuitry that shuts the ADB +5vdc lines off when the load is exceeded. The protection circuitry is reset when the ADB load is removed.

When too many ADB devices are connected and the current load is too high, to protect the PowerBook the ADB power turns off. The connected ADB devices will stop working when this protection circuitry activates and shuts the ADB power off. When this happens, the ADB devices need to be physically disconnected to reactivate the +5vdc ADB line in the PowerBook. Once the devices have been disconnected and after a few minutes, the protection circuitry on the PowerBook 5300 is reset and the ADB +5 volt line reactivated.

If you connect enough devices to exceed the 200ma ADB specification for the PowerBook 5300, you may think there is a problem with the computer. This may seem like the case when the ADB current draw activates the protection circuitry, and the power is turned off since the external devices stop working.

The PowerBook 5300 ADB supply current and keyboard/mouse current requirements are shown in the charts below. The ADB current of other Apple models is available in technical specifications section of the Knowledge Base. You can locate your specific model by searching for specsht and the Macintosh model you own.

Device	ADB Current
PowerBook 5300	Can supply 200mA maximum to connected ADB devices.
Apple Desktop Bus Mouse II	80mA
Apple Design Keyboard (M2980)	under 200mA
Apple Extended Keyboard (M3501)	85mA
Apple Keyboard II (M0487)	100mA

The AppleVision 1710 Display draws different amounts of ADB current based on its power or operating status. An AppleVision 1710 Display powers on when the following conditions exist: the AC switch is on, the display is plugged in, and there are active video signals on the video connector. Even when the display is plugged in and the power switch is on, as long as there is no video signal the display is not powered on.

These are typical ADB values for the AppleVision 1710 and AppleVision 1710AV Displays; variation from unit to unit may be 10%.

Display Device	ADB Current AC Power off	ADB Current AC Power on
AppleVision 1710	50mA	0mA
AppleVision 1710AV	100mA	1mA

Depending on which keyboard is attached, A keyboard and mouse can reliably be attached to a PowerBook 5300. When also attaching an AppleVision 1710 or AppleVision 1710AV display, it is recommended that you only use the Keyboard II or Extended Keyboard. Under circumstances where the total current for the ADB devices exceeds the 200mA specification for the PowerBook 5300, the ADB +5vdc power may shut off. This disables the ADB devices, such as the mouse and keyboard, but it does not permanently harm the PowerBook 5300.

If you have a question about whether devices will work if they are all connected, you can connect them as an experiment to see if they will work. If the devices do not work because the power requirements are greater than the PowerBook 5300 specification, the ADB devices should be disconnected. Only the configuration that has a total load less than 200ma should be used, but the PowerBook 5300 ADB will not get "blown out" by testing a particular configuration.

When the PowerBook has been activated, taken out of sleep, or powered up, the AppleVision 1710 and AppleVision 1710AV Display will be activated by the video signal from the PowerBook and the display will power up. Once the display image is active, the ADB current draw from the AppleVision Display will drop close to zero. When the display is powered up, the only current draw on the ADB line is that of the other devices attached to the ADB line, such as a mouse or keyboard.

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OpenDoc Essentials and TextEditor Object (2/97)

I installed just the Mac OS 7.6 basics on my computer, which includes OpenDoc and the OpenDoc Essentials; I did not install anything else. When I double-click the AppleDraw Stationary, the "A" button for creating a text area is grayed out. Why?
This article has been archived and is no longer updated by Apple.
The AppleDraw OpenDoc Editor Compenent is looking for a "Text Editor" Editor Compenent and can not find one. Therefore you can not create or edit text objects, you can view them only.

Solutions and Workarounds
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* Install CyberDog, which will install as part of the CyberDog Editors a text editing editor compenent, letting you create, edit, and view text objects.

* Visit the OpenDoc Web Site, <http://opendoc.apple.com/> and look for a freeware/shareware (F) and commercial (C) text editor components.

The following are examples, and are NOT supported by Apple Telephone Support. This is a partial list, and more are being developed.

(F) BBEdit Lite (OpenDoc) <http://www.barebones.com/>
(C) Corda Technologies TextBox <http://www.corda.com/>
(C) Digital Harbor WAV <http://www.dharbor.com/>
(C) Nisus(r) Writer <http://www.nisus-soft.com/>
(C) Claris "ClarisWorks" <http://www.claris.com/>

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PowerBook Computers: How Cold Temperatures Affect Them (3/97)

How can a cold environment affect a PowerBook computer's Power Manager?
This article has been archived and is no longer updated by Apple.

Issue

When a PowerBook computer's Lithium backup battery is exposed to cold temperatures it may cause the PowerBook computer to not keep time or not power on.

Description

A PowerBook computer's Power Manager and Parameter RAM (PRAM) are maintained by the backup battery when the PowerBook computer is either Shut Down or in Sleep mode.

The backup battery used in PowerBook computers is a Lithium battery which behaves differently compared to other battery types in both low-voltage and cold temperature situations.

Lithium batteries when exposed to a cold environment (less than 45 degrees Fahrenheit or 7 degrees Celsius) may either stop sending voltage completely or they may "pulse" full voltage. This inadequacy or inconsistency of voltage sent from the backup battery can corrupt the PRAM and/or Power Manager of a PowerBook computer.

Solution

A PowerBook computer which has recently been exposed to a cold environment (such as the trunk of a car, in a classroom at a school which may not be heated overnight, and so on) should be placed in a warm environment where it can be warmed to room temperature (more than 50 degrees Fahrenheit or 10 degrees Celsius) before you attempt to power it on.

If the PowerBook computer still does not power on after being allowed to warm up, you should reset the ***Power Manager***. Each model of PowerBook computer has different methods for doing this. For more information on resetting the Power Manager for your PowerBook computer model see the Tech Info Library article 0014449, titled "PowerBook: Resetting Power Manager".

*** WARNING ***** WARNING ***** WARNING ***** WARNING ***** WARNING ***

Power Manager Reset procedures for all of the Macintosh PowerBook computers will permanently remove a RAM disk, if present, and all of its contents.

*** WARNING ***** WARNING ***** WARNING ***** WARNING ***** WARNING ***

This article was published in the Information Alley on 5 March 1997.

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PowerBook 3400: Incompatible With FM Radio Extension

The extension "FM Radio Extension" causes a crash on PowerBook 3400 series computers if it is present when the computer starts up.
This article has been archived and is no longer updated by Apple.
The FM Radio Extension is installed by the TV/FM Software v1.5.3 (or 1.5.4) which comes with the TV/FM Tuner card. There is no reason that this software should be installed on a PowerBook computer since the TV/FM Tuner card cannot be installed in a PowerBook computer.

If you think you may have installed this extension and your PowerBook computer is now crashing while starting up, follow these steps:

1. Restart the computer with the Shift key held down*.
2. After the computer has started up, open the System Folder
3. Open the Extensions folder
4. Remove the "FM Radio Extension" from the Extensions folder.
5. Restart the computer. The PowerBook will restart normally after removing the extension.

*** Note:** The Extensions Manager (accessed by holding down space bar at startup) will not recognize the FM Radio Extension,sSo you must start up with the Shift key held down which turns off all extensions.

This article was published in the Information Alley on 7 March 1997.
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PowerBook 500: Sound Manager 3.2.1 Static When Recording

I have a PowerBook 520 computer, running System Software version 7.5.5. I just upgraded my QuickTime to version 2.5. Now when I record a sound through the Sound Control Panel, all that gets recorded is static. It did not do this before I upgraded to QuickTime 2.5. What is wrong?
This article has been archived and is no longer updated by Apple.

Issue

There is a conflict between non-PowerPC 500 series PowerBook computers and Sound Manager version 3.2.1, which comes as part of the QuickTime 2.5 installation package.

Workaround

Remove the Sound Manager 3.2.1 extension from the Extensions folder, restart the computer, then record the sound.

This issue does not affect PowerBook 500 series computers that have been upgraded to PowerPC-processors with either Apple's or Newer Technologies' PowerPC upgrade cards.

This article was published in the Information Alley on 4 March 1997.
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Mac OS 7.6: Incorrect Message With Custom Remove (2/97)

When I custom remove software using the Install Mac OS application on the Mac OS 7.6 CD-ROM disc, I receive a message saying the software was installed correctly. Was the software removed?

This article has been archived and is no longer updated by Apple.

The software was indeed removed. A bug in the "Install Mac OS" application causes the installed correctly message to appear. If you remove the software using the Mac OS 7.6 Installer (found in the Software Installers folder in the Mac OS 7.6 folder on the Mac OS 7.6 CD-ROM), you will receive the correct message when you custom remove software.

This article was published in the 3 March 1997 "Information Alley."

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AppleWriter II (ProDOS): Printing from an Apple IIGS

The Applewriter program works fine on the Apple IIGS until the program locks up when you try to have it print through the Apple IIGS's serial ports.
This article has been archived and is no longer updated by Apple.
If a Super Serial Card with an ImageWriter or an ImageWriter II with an AppleTalk option is used, AppleWriter prints fine.The problem occurs with prints to the internal Apple IIGS serial ports.

AppleWriter may address and only address the Super Serial Card's communications chip and not the Apple IIGS's communications chip.
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PowerBook 3400: Starts From System CD By Default (3/97)

I have a Powerbook 3400 series computer which starts up with the System Software CD as the startup volume if the CD is in the CD-ROM drive when the computer starts up. Is this normal?

This article has been archived and is no longer updated by Apple.

Yes, this is the normal and correct response to having the System CD inserted during the startup (boot) process in these computers. When the computer ships from the factory the Startup Disk Control panel is pre-configured with the CD-ROM as the default startup drive. This is only apparent when the PowerBook 3400 series System CD is actually inserted in the CD-ROM drive.

Resetting Parameter RAM (PRAM) will not disable this default startup setting. In order to disable this default open the Startup Disk Control Panel and select the hard drive as the startup drive.

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Mac OS 7.6: Printers Aren‘t Appearing in Chooser (3/97)

After installation of Mac OS 7.6 the Chooser window no longer shows any printers. How can I get my list of printers back?

This article has been archived and is no longer updated by Apple.

It appears that you have inadvertently installed QuickDraw GX, which in turn disables all non-QuickDraw GX printers. If you use the Extensions Manager to disable the GX printer driver, the Chooser will be empty. Installing QuickDraw GX improperly may cause Type 1 Errors in the Finder.

Please follow the instructions from the Tech Info Library article titled "QuickDraw GX: How to Remove".

The QuickDraw GX 1.1.5 Installer is located in the "Software Installers" folder on the Mac OS 7.6 CD-ROM.

This article appeared in the 3 March 1997 issue of the Information Alley.

Published Date: Feb 18, 2012

9600 Graphics Accelerator extension: Why Is It There? (3/97)

I have a Power Macintosh 7300. When I start up my computer and watch the screen as the extensions load, I see a large red X through the icon of one of the extensions. The extension is named "9600 Graphics Accelerator". Is there something wrong? Do I need this extension on my Power Macintosh 7300?

This article has been archived and is no longer updated by Apple.

There is nothing wrong. The file, named "9600 Graphics Accelerator", will do no harm. You may safely remove it from your Power Macintosh 7300 if you wish.

The 9600 Graphics Accelerator extension was included as part of a standard bundle of system software which was installed on Power Macintosh 7300, 7600 (Japan only), 8600, and 9600 systems at the factory. On systems that don't need this extension, a red X will be displayed across the extension's icon when the system starts up. The 9600 Graphics Accelerator extension will not be loaded, and there is no harm done.

Future versions of this system software bundle will not exhibit this behavior.

This article was published in the 10 March 1997 "Information Alley."

Article Change History:
10 Mar 1997 - Added Info Alley information.

Published Date: Feb 18, 2012

Find File Does Not Have Enough Memory

When attempting to do a simple file name search with Find File I get a "not enough memory" message. I have 40 MB of physical RAM, virtual memory is off, and the operating system is taking up about 10 MB of RAM. Prior to getting this error, I had set the find file desktop pattern to the blue plaid pattern in the desktop patterns control panel. I decided to remove the desktop pattern from Find File, and the not enough memory message went away. How can change the pattern in Find File and have enough memory?
This article has been archived and is no longer updated by Apple.
Using a desktop pattern on the Find File utility does use a bigger portion of Find File's available memory. To workaround this, increase the memory for the Find File utility because it is actually an application.

To increase the memory for Find File:

1. Make sure you have Quit the Find File utility.
2. Open the Apple Menu Items folder in the System Folder.
3. Highlight the Find File utility and select Get Info from the File menu.
4. Increase the Preferred memory size to 560.
5. Close the Find File Info window.

Published Date: Feb 18, 2012

Energy Saver: Saving Preferences

My Energy Saver software doesn't appear to be working properly. I used the Energy Saver control panel to schedule a specific shutdown time. The computer shuts down automatically, but not at the time I designate. What's wrong?
This article has been archived and is no longer updated by Apple.
The Energy Saver software is not saving your request correctly. This can occur if the control panel is closed while displaying the "Scheduled Startup & Shutdown" options in Energy Saver's window. There is a workaround. Follow these steps to ensure your startup and shutdown settings are saved:

Workaround:

1. Open the Energy Saver control panel. Set startup and shutdown times for the computer as desired.
2. Click the "Sleep Setup" button in the Energy Saver control panel window.
3. Close the Energy Saver control panel.

Note: This issue has been addressed in Mac OS 9.
Published Date: Feb 18, 2012

AppleWorks: Lining up amounts in a Spreadsheet

The following article discusses how to line up amounts in a Spreadsheet.
This article has been archived and is no longer updated by Apple.
Numbers in Dollar format misalign in columns:

$45.66 $78.99 $55.33
98.66 33.45 23.99
44.55 14.75 34.76
23.56 44.89 34.66

because AppleWorks makes space for signifiying negative amounts with parentheses:

($45.66) ($78.99) ($55.33)
98.66 33.45 23.99
44.55 14.75 34.76
23.56 44.89 34.66

To get the remaining numbers to line up with the 'Dollar' formatted numbers, use the 'Commas' format, which makes space for the same parentheses but doesn't display a dollar sign:

$45.66 $78.99 $55.33
98.66 33.45 23.99
44.55 14.75 34.76
23.56 44.89 34.66

Published Date: Feb 18, 2012

Apple Network Server: Setup & Config a PPP Client In AIX

This article describes how to setup a PPP client and then configure it for AIX on an Apple Network Server.
This article has been archived and is no longer updated by Apple.
Follow the steps below:

1. Add this line to your '/etc/uucp/Devices' file: `Direct tty0 - 38400 direct`

2. Create a tty on serial port 1.
Note: Be sure to create the tty with rtc/cts flow control and speed 38400.

The following command will create a tty1 on serial port 1: `mkdev -c tty -t tty -s rs232 -p sa1 -w s1 -a speed=38400 -a flow_disp=rts`

3. Edit the 'rc.net' file (located in the '/etc' directory) and turn on IP forwarding by adding this to the last line: `no -o ipforwarding=1`
Note: You can type this on the command line, but you will have to type it at system reboot, so you can put this command in the 'rc.net' file once.

4. Type "`smitty ppp`" and select Link Control Configuration and add a link using the sample below will work in most cases.

LINK Configuration
Type or select values in entry fields. Press Enter AFTER making all desired changes.

	Entry Fields
PPP Subsystem name	new
max server connections	1
max client connections	1
max demand connections	1
max ip interfaces	2
max async hdlc attachments	2
mru	
async character map	
negotiate MRU	yes
negotiate async map	yes
negotiate protocol compression	yes
negotiate address control compression	yes
force authentication	no
chap interval	

The settings above should let you set up an additional PPP interface in case you choose to set up a PPP server.

5. Start the PPP subsystem by typing the following command: `startsrc -s pppcontrold`

6. Modify your '/etc/ppp/dial_out.example'. All you need to add is name, password, and phone number.

7. Run the dialer script from the '/etc/ppp' directory: /dial_out.example

8. Wait for a connection and set your default route: `route add 0 gateway_address`

Debugging Information
You can use the 'syslog' file for debugging; this file displays on the root console when activated. You need to modify the 'syslog.conf' file to display debugging information by un-commenting this line in the '/etc/syslog.conf' file: *.debug /dev/console.

For this change to become active, you have to refresh the syslogd subsystem by typing: `refresh -s syslogd.`

Note: We have found it best to use two xwindows for the debugging process. The first window opened can be the console and all debug messages will be sent to it. To use xwindows, exit to command line login from the options button of the dtlogin. At the command line, type "`xinit`".

Sample Dialer Script
Below is an example of a dialer script:

startsrc -s pppcontrold	# Start the pppcontrold subsystem

sleep 5	
USER=ppp	# User ID
PASSWORD=ppp	# Password
NUMBER=xxx-xxx-xxxx	# Internet Provider phone number
CHATFILE=./chatfile	
cat << EOF > $CHATFILE	
\\"\\"	
at	
OK	
atdt$NUMBER	
CONNECT	
\\"\\"	
ogin	
$USER	
ssword	
$PASSWORD	
EOF	
/usr/sbin/pppattachd client $TTY connect /usr/sbin/pppdial -v -f	
$CHATFILE	
sleep 40	# Wait 40 to establish connection
route add 0 xxx.xx.xx.x	# Set the default gateway

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Apple Media Tool 2.1.1: Sound Conversion to WAV Fails

I am using the AMT Converter, which came with Apple Media Tool 2.1.1, to convert AIFF sound files to WAV sound files. However, the conversion fails and the log reports "***Unknown Error". This fails with both 8-bit and 16-bit AIFF files.
This article has been archived and is no longer updated by Apple.
When you install Apple Media Tool 2.1.1, QuickTime 2.5 is installed. The issue you are experiencing is related to an incompatibility with QuickTime 2.5 and the AMT Converter. In order to convert AIFF sound files into WAV sound files, remove QuickTime 2.5 and install QuickTime 2.1. When you do use the older version of QuickTime, you can successfully convert the sound files.

This article appeared in the 4 March 1997 issue of the Information Alley.
Published Date: Feb 18, 2012

LaserWriter Driver 8.4.2: Change in New Version (3/97)

What are the new changes in the LaserWriter 8.4.2 driver that is installed with Mac OS 7.6?
This article has been archived and is no longer updated by Apple.
LaserWriter driver version 8.4.2 had one single fix relating only to Adobe's PageMaker v6.0 and v6.01:

1) A problem was resolved where one extra blank page was printed at the end of every print job.

The updated version of Desktop PrintMonitor v2.0.2 also shipping with LaserWriter 8.4.2 in System 7.6 has a couple of fixes as well. They are:

1) Error type 15 and/or -192 occurring on Mac OS computers with a PowerPC card. These errors only occurred when trying to create, open, or print to a desktop printer.

2) Finder getting confused when a folder's directory ID matches that of the PrintMonitor Documents folder. Finder may not display that folder or its contents, and other strange behavior may occur with that specific folder.

This article appeared in the 4 March 1997 issue of the Information Alley.
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PowerBook 3400 & G3: Ethernet/Modem Card Questions

Question 1: Can I purchase a stand-alone internal Ethernet/modem card?

Question 2: Do I have to use the dongle even if I'm not using Ethernet?

Question 3: Tell me about the phone cord supplied with the computer for this pre-installed, internal modem. Do I have to use this one? Can I not use just a regular phone cord like I have at my house? What will happen if I use a four-wire cord?

Question 4: Does the internal modem support cellular communications?

Question 5: Which modem script should I select in Open Transport PPP or America Online?
This article has been archived and is no longer updated by Apple.
Question 1: Can I purchase a stand-alone internal Ethernet/modem card?

Answer: The combination Ethernet/modem card included in most PowerBook 3400 and G3 series computer configurations in US and Canada (and in all configurations sold in Japan) is produced for Apple using Apple specifications. Apple is responsible for all service and support for these configurations.

If US or Canadian customers purchase a PowerBook 3400 or G3 series computer without the internal Ethernet/modem card included, Apple does not supply this card as a stand-alone item for later purchase.

Question 2: Do I have to use the dongle even if I'm not using Ethernet?

Answer: You do not need to use the Ethernet/modem adapter (dongle), which is supplied with your computer, if you are using only one function at a time. Either a modem cord or a 10BaseT Ethernet cord can be plugged into the single port on the back panel of the computer. The port will recognize the type of cable that is plugged into it and it will act accordingly. The adapter is only needed if you want both Ethernet and modem at the same time.

Question 3: Tell me about the phone cord supplied with the computer for this pre-installed, internal modem. Do I have to use this one? Can I not use just a regular phone cord like I have at my house? What will happen if I use a four-wire cord?

Answer: The phone cord supplied is a two-wire (single-line) phone cord in which only the center two pins are connected. The cord has a label on it instructing you to use only a two-wire (single-line cord) for the internal modem. If you lose or break the cord it should be replaced with a two-wire cord (available at most electronic stores).

If you use a four-wire phone cord, in most cases, it will work just fine. However, it is recommended that you use the two-wire cord because, if the telephone outlet plug to which you connect the cord carries two phone lines, including a second phone line over the outer pins of the RJ-11, the second phone line will be connected to the Ethernet circuit.

Although this should cause no permanent damage, the second phone line will be taken "off hook" and may cease to function properly while the phone cord is plugged into the computer. If when you plug in your modem your other phone line stops working, check to make sure you are using a two-wire (single-line) phone cord.

A four-wire phone cord should work fine with the Ethernet/modem adapter (dongle). The dongle only has two pins which hook up to the wires on the phone jack. A four-wire phone cord will not take the second line "off hook", but you cannot access the second line from your PowerBook 3400 series computer if you use this type of cord.

Question 4: Does the internal modem support cellular communications?

Answer: The internal modem card does not support cellular communications.

Question 5: Which modem script should I select in Open Transport PPP or America Online?

Answer: Whether Open Transport PPP, America Online, or any other communication software,first check to see if the software has a selection for either "PowerBook 3400 Internal 33.6" or the "PowerBook 3400/G3 Internal Modem". If neither of these scripts are available in the communication software you are using, see if it has a "Hayes Basic" choice. If not, you will need to contact the vendor of the communications software package. The initialization string for this modem is AT&F.
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CyberDog 1.2.x: APOP Password Authentication (3/97)

I have configured CyberDog to retrieve my mail from my company's POP mail server. However, when I click the "Check" button, an error occurs. A dialog box states, "Could not complete the requested action for unknown reasons." What is wrong?

This article has been archived and is no longer updated by Apple.
This error is pretty non-descriptive, but one of the reasons this error will occur is the mail server is configured to use APOP password authentication. With APOP, the password is sent to the mail server in an encrypted form rather than in clear text.

Currently, 1.2.x versions of CyberDog do not support APOP password authentication. The user must ask their mail administrator to disable the APOP requirement for their account.

NOTE: CyberDog 2.0, when released, will support APOP password authentication, as demonstrated in the currently available CyberDog 2.0b1 beta software. Users can download this version from the CyberDog Home Page at http://cyberdog.apple.com/. Note that beta versions of software are not supported by AppleAssist.
Published Date: Feb 18, 2012

Cyberdog: About Getting Started With Cyberdog 1.2

This article describes the Getting Started With Cyberdog 1.2 user's manual, including where to find it and how to read it with Adobe Acrobat Reader.
This article has been archived and is no longer updated by Apple.
The Getting Started With Cyberdog 1.2 user's manual describes how to use Cyberdog to explore the World Wide Web, use e-mail, use Internet services such as Telnet, access AppleShare volumes from the browser, and create cyberdocuments. The manual is located in the Cyberdog Information folder on the Mac OS 7.6 CD-ROM disc. (The Cyberdog Information folder is located in the Additional Mac OS Information folder, which is in the Mac OS 7.6 Information folder.)

You must use the Adobe Acrobat Reader program to read this manual on your computer's monitor screen. You can also use the Acrobat Reader program to search for specific text in the manual or to print a copy of the manual.

Installing the Acrobat Reader

To install the Acrobat Reader:

1. Insert the Mac OS 7.6 CD.

2. Open the Adobe Acrobat Reader folder in the Utilities folder and follow the installation instructions in the file named "Installing Acrobat Reader."

Viewing The Manual

To view the manual, double-click the manual's Portable Document Format (PDF) icon. The PDF file is located on the Mac OS 7.6 CD, in the "Additional Mac OS Information" folder within the "CyberDog Information" folder.

The Acrobat Reader program requires more than 3.5 megabytes of memory for proper operation. Two error messages may appear if Acrobat Reader does not have enough memory to open a document. The first message states that the Adobe Type Manager (ATM) couldn't be installed because it requires more memory or additional system software resources. When you click OK to dismiss the message, a second message appears stating that ATM version 3.6 or newer must be installed and that Acrobat Reader is quitting.

Usually, the reinstallation process recommended by these messages is not necessary. Instead, try making more memory available by quitting other applications that are running on your computer. Then attempt to reopen the PDF document.

Using the Acrobat Reader

If you want more information about using the Acrobat Reader:

- Read the Acrobat Reader On-line Guide (open the file called "Help-Reader.pdf" in the Help folder, located in the Adobe Acrobat Reader folder) for detailed information about using Acrobat Reader.

- Read the file called "Installing Acrobat Reader" (located in the Adobe Acrobat Reader folder in the Utilities folder) for the latest troubleshooting information on the Acrobat Reader, as well as for important information about installing the Acrobat Reader software.

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Apple Internet Connection Kit 1.2: Read Me

This article is the Apple Internet Connection Kit (AICK) 1.2: Read Me file.
This article has been archived and is no longer updated by Apple.
Before you install the Apple Internet Connection Kit, please read the following information.

Getting Help:

Apple will assist you with the installation and setup of the Apple Internet Connection Kit. Our specially trained telephone support staff can assist you with information on:

- Installation
- Registration
- Configuration

Once you have selected and registered with an Internet service provider (ISP), the provider will be able to assist you with:

- Basic product use
- Application questions or issues
- Billing issues
- Connection questions and problems

Please contact the respective third-party companies regarding any questions or support issues with the following applications:

- Netscape Navigator
- Claris Emailer
- Fetch
- NCSA Telnet
- NewsWatcher

If you are accessing the Internet via a LAN connection, contact your network administrator for help with setting up the Apple Internet Connection Kit.

Telephone support is available Monday through Friday (excluding holidays) from 6 a.m. to 6 p.m. Pacific Standard Time. In Canada, hours are 8 a.m. to 8 p.m. Eastern Standard Time. For the appropriate phone number to call for support, see the support materials that came with your product.

Technical information and product updates for the Apple Internet Connection Kit are available on the Internet at http://aick.apple.com.

Apple also provides an excellent online reference source for technical information: the Apple Tech Info Library. You can search through thousands of articles on Apple products, past and present, updated regularly by Apple Support personnel. The Apple Tech Info Library (TIL) is available on the Internet (http://www.info.apple.com/til.html), AppleLink (Support -> Tech Info Library), and CompuServe (GO APLTIL).

System Requirements

- Power Macintosh or Macintosh computer with a 68030 microprocessor or greater
- System 7.5.1 or later; if you have System 7.5.2, you must upgrade to System 7.5.3 or later (System 7.5.3 and System 7.5.5 are included on the Internet Connection Kit CD)
- MacTCP (2.0.6 or later) or Open Transport (1.1 or later)
- 12 megabytes (MB) of random-access memory (RAM), 16 megabytes is recommended. If you have less than you 16 megabytes of RAM, you must turn on virtual memory (VM); see Macintosh Guide for details about how to use VM.
- 25 megabytes (MB) of hard disk space

Installing and Set Up
Make sure you've quit all open applications before you install the Apple Internet Connection Kit.

To install the Apple Internet Connection Kit on your hard drive, insert the Internet Connection Kit CD (or the first floppy disk if installing from floppies). Next, double-click the 'Installer' icon and then follow the instructions on your screen. When installation is complete, click the 'Apple Internet Dialer' icon in the Launcher window and follow the instructions that appear on-screen.

If you already have Netscape Navigator, Fetch, MacTCP or PPP installed on your computer before you install the Apple Internet Connection Kit, a 'Backup Folder' will be created. This folder will contain a document titled 'Restoring Backup Items' with instructions about restoring these files.

If You Already Have an Internet Service Provider

To connect to the Internet using an account you already have with an ISP, choose the Set Up Existing Account command in the Provider menu. You may need to call your ISP to obtain some setup information that is requested in the sequence of panels that appear.

Problems While Creating a New Account
When you create a new account with an ISP by using the Apple Internet Dialer, the Dialer will gather some personal information from you (such as your name and address) and then it will connect to the registration server and open Netscape Navigator. (The registration server is the host computer your Macintosh initially connects to and offers you a list of service providers to choose from.) If your network connection drops (that is, for some reason "breaks") while you are trying to create an account, or there is some problem you encounter with the registration server, you need to quit the Netscape Navigator application. Once you quit, the Apple Internet Dialer will offer you the option to cancel or continue the process of creating a new account. Click Continue to try to create a new account again immediately, or click Cancel and try later.

NOTE: Do not change the phone number that you see in the "Connect to Internet Registration Server" dialog box of the Apple Internet Dialer. If you erase the number inadvertently, you can retype the number in the Number text box. In the United States and Canada, the number is 1-800-247-5067. Outside the United States and Canada, contact your local Apple representative or dealer.

Adding or Modifying Modem Information
If your modem is not listed in the Modem pop-up menu in the Apple Internet Dialer, you can add or modify information about your modem. Please refer to the "Adding or Modifying Modem Information" section in chapter 3 of the printed "Getting Started" manual (and also located inside the 'Documentation' folder on the Internet Connection Kit CD).

Choosing a Modem Port When Using a PowerBook Computer With a PC Card Modem
To choose the modem port when you use a PC card modem, choose the slot ("Upper PC Card slot" or "Lower PC Card slot") that the card is in from the Port pop-up menu in the Apple Internet Dialer.

Each time you remove the card (whether you move the card to a different slot or reinsert the card in the same slot as before), you must reselect the modem port as described in the previous paragraph. To move the card to a different slot, you must quit the Apple Internet Dialer before you move the card.

Using or Deselecting the Launcher
The Launcher window provides an easy way to open programs and other items; you click a Launcher button once to open the item it represents. The Launcher is set to open automatically after you've installed the Apple Internet Connection Kit.

If you don't want to use the Launcher interface for accessing the applications in the kit, open the General Controls control panel and deselect (remove the X) the "Show Launcher at startup time" option.

Saving Internet Service Provider Account Information
You will be asked to write down your user name and password after creating an account with an ISP. You can write the information down on paper, or you can retain this information on your computer by following these steps:

1. Press Command-Shift-3 to take a screen shot of what is on your monitor screen; the screen shot will be saved on your hard drive with the name "Picture 1," and the file can be opened with many applications, including SimpleText.
2. Select the image and copy it into your Scrapbook.

If you forget to write the information down, you will need to contact your ISP to get that information, should you need it. Apple will not be able to assist you with recapturing this information.

Backing Up Your Internet Service Provider Information
Once you have successfully created an account with an ISP, it is recommended that you back up the preferences and settings in case you need to restore them. You can do this by opening the Apple Internet Dialer and selecting Back Up Provider Information from the File menu.

Restoring Your LAN Configuration
If you inadvertently installed the Dialup configuration over your existing Internet LAN configuration, you can restore your settings by following the steps provided in one of the sections below, as appropriate for your MacTCP or your Open Transport system:

If you have MacTCP:

1. Open the 'Internet Connection Kit' folder.
2. Open the folder called 'Backup Folder'.
3. Copy the 'MacTCP Prep' file from the 'Backup Folder' into the 'Preferences' folder inside your System Folder.
4. Restart your machine.

If you have Open Transport:

1. Open the 'TCP/IP' control panel.
2. Choose Configurations from the File menu.
3. In the list of configurations, click Default to highlight it (if it isn't already).

4. Click the Make Active button.
5. Close the 'TCP/IP' control panel.

Connecting to a News Server for the First Time
Connecting to a news server for the first time or switching ISPs can take from one minute to more than 20 minutes, depending on your ISP's configuration. If there is a large number of newsgroups to download from your ISP's news server, the initial connection time could be quite lengthy. Subsequent connections are likely to be much quicker.

Using Open Transport
Open Transport version 1.1 or later is required for use with the Apple Internet Connection Kit. If your computer came with System 7.5.3 or later installed, you already have Open Transport 1.1 or later. If you have a version of system software earlier than System 7.5.3, you can use the System 7.5 Update 2.0 (located on the Internet Connection Kit CD in the 'Mac OS Updates' folder) to install Open Transport version 1.1.

NOTE: It is recommended that you relaunch the Apple Internet Dialer once you have registered with an ISP. Otherwise you may encounter problems the first time Netscape Navigator is launched. This is not necessary for MacTCP users.

Using System 7.5.2
The Apple Internet Connection Kit does not work with System 7.5.2. Please upgrade to System 7.5.3 or System 7.5.5 (located on the Internet Connection Kit CD in the 'Mac OS Updates' folder) before installing this product.

Using Netscape 2.0
The Installer will place Netscape 3.0 on your disk without removing Netscape 2.0. If you decide to use Netscape 2.0 instead of Netscape 3.0, you will not be able to register with a new ISP using the Apple Internet Dialer because Netscape 2.0 is incompatible with the updated system software that has been installed. You should only attempt to use Netscape 2.0 if you have already established an account with an ISP and do not wish to create a new account.

Using Telnet 2.6
The NCSA Telnet 2.6 application will not operate correctly unless you have created an account with an Internet service provider or you have set up your LAN connection.

Using the Correct Version of MacPPP
The Apple Internet Connection Kit requires MacPPP version 2.5.1 or later. If you have a version of MacPPP earlier than version 2.5.1 installed on your machine, you should replace it with the version provided in your package. The Apple Internet Connection Kit Installer does this for you automatically. Older versions of MacPPP, including MacPPP 2.1.4 and 2.2, are not compatible with the Apple Internet Connection Kit and should not be used. Other implementations of PPP are not supported.

To find out what version of MacPPP you have, open the 'Extensions' folder inside your System Folder. Click the icon for the 'PPP extension', and choose Get Info from the File menu.

Using SLIP Software
The Apple Internet Dialer is configured to use the MacPPP software that is included with this kit. InterSLIP software is included with the Apple Internet Connection Kit as a convenience, but it will not work with the Apple Internet Dialer. If you need to use a SLIP connection, contact your Internet service provider for instructions on setting up and configuring your system using SLIP software.

Troubleshooting Insufficient Memory Messages
If you are attempting to run several Internet applications simultaneously and you see a message indicating that your system does not have enough memory to run an application (or if you see an insufficient memory message the first time you attempt to use the Apple Internet Dialer), you can try one of the following:

- Close all unnecessary applications.
- Turn on virtual memory (VM); see Macintosh Guide for details about how to use VM.
- Install more RAM.

Note: For best performance, never set VM to more than twice the amount of physical RAM (if you have a 12 MB system, VM should be no more than 24 MB).

What Is Installed in Your System Folder?
After doing an Easy Install, the Apple Internet Connection Kit puts the following items in various places in your System Folder:

- Apple Guide 2.0.2
- ATM Font Database
- ObjectSupportLib 1.1.1 (AppleScript document)
- PPP 2.5.1 (MacPPP) extension and (if necessary) PPP Preferences (Preferences folder)
- MacTCP 2.0.6, MacTCP Prep, MacTCP Token Ring extension, Hosts file (all are installed only if you do not have OpenTransport)
- Internet Config extension and Internet Config Preferences
- Internet Dialer Folder (Preferences folder)

- Modem Information
- Internet Dialer Prefs
- reg server

- Launcher 2.8, and Launcher Preferences
- Netscape preferences (Preferences folder)
- Additional fonts

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OneScanner and Color OneScanner: Scanner Software

This article provides information on software available for the Apple OneScanner and the Apple Color OneScanner.
This article has been archived and is no longer updated by Apple.
Note: Light Source (the developer of Ofoto) no longer offers support or software upgrades, and has no plans to revise Ofoto to be compatible with current versions of the Mac OS.

The following list of software packages may serve as alternatives to Ofoto software:

OneScan 1.1.1 (freeware)
Photoshop plug-in
Available from online software download sites.

ScanTastic ps
Photoshop plug-in for Apple, Epson and Hewlett-Packard scanners.
Second Glance Software
360-692-3694

ScanPrepPro 2.01
ScanPrepPro is a Photoshop acquire module designed to automate scanning and image manipulation processes.
ImageXpress
1121 Casa Nova Ct.
Lawrenceville, GA 30244
404-564-9924
404-564-1632 (fax)

DPI Art-Scan Professional
Scanning software for line art, gray-scale and color originals
DPI Electronic Imaging Systems
629 Old State Route 74, Ste. 1
Cincinnati, OH 45244
513-528-8668
800-374-7401
513-528-8670 (fax)

QuickScan
PixelCraft, A Xerox Co.
130 Doolittle Dr., #19
San Leandro, CA 94577
510-562-2480
510-562-6451 (fax)

FotoLook
Scanner interface
FotoLook is a professional plug-in that allows scanners to be driven from PCs, Macs or Power Macs.
Agfa Division, Bayer Corporation
100 Challenger Rd.
Ridgefield Park, NJ 07660
201-440-0011
201-440-8181 (fax)
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Cyberdog 1.2.1: Read Me File

This article contains the Read Me document for Cyberdog 1.2.1.

[**Note:** Cyberdog is no longer an active Apple product.]
This article has been archived and is no longer updated by Apple.
About Cyberdog 1.2.1

What is Cyberdog?

Cyberdog is a suite of Internet components that allows you to browse the World Wide Web, receive and send e-mail, read articles from Usenet newsgroups, browse AppleTalk zones and servers, exchange files with FTP, and log into other computers with Telnet. Cyberdog provides tight integration between these components, and with other OpenDoc applications. Cyberdog also allows you to customize your use of the Internet. These capabilities make Cyberdog more appropriate for Internet-savvy users.

System Requirements

Cyberdog requires a Power Macintosh and at least 16 megabytes of memory. (If less than 16mb of RAM is installed in your computer, use the Memory control panel to turn on Virtual Memory and set the amount of memory to 16M.) Cyberdog also requires System 7.5.3 or later, OpenDoc version 1.1 or later, and MacTCP 2.0.4 or later or Open Transport 1.1 or later with TCP/IP installed and configured.

IMPORTANT Install OpenDoc 1.1 or later before installing Cyberdog.

Connection Requirements

Cyberdog requires that you have Internet connectivity through either a dial-up connection with an Internet Service Provider (ISP), or a local area network (LAN) with an Internet connection. Before using Cyberdog, check that you have such service. If not, you can use the Apple Internet Connection Kit to register and configure your computer with an ISP, contact an ISP directly, or contact your network administrator.

Using the Mail System

To use the Cyberdog mail system you will need an SMTP/POP3 account from your ISP or your network Intranet services group. If you do not already have a mail account, you will need to obtain one. Once Cyberdog has been installed, set up a connection to your mail server by selecting the "Mail & News Setup" item from the Mail/News menu.

If you are currently using Internet Config 1.2 or later and have set up your mail account, your Cyberdog mail connection will already be configured. If you already use Internet Config, please make sure you upgrade to version 1.2 or later.

QuickTime

To play movies and sounds in Cyberdog you need to have QuickTime version 2.1 or later installed.

The following information is for Apple Internal & Support Providers Only
Published Date: Feb 18, 2012

Open Transport: Remote Only 2.1 Read Me

This article is the Remote Only 2.1 Read Me file for Open Transport.
This article has been archived and is no longer updated by Apple.

Introduction

Remote Only 2.1 is an extension that allows you to turn on AppleTalk networking when both the printer port and the modem port on your computer are already in use (for example, for a serial printer and a modem). Without this extension installed, you cannot use an application that requires AppleTalk to be active at the same time your computer is connected to a modem and a serial printer.

For example, if your computer has two serial ports and you use one for a modem and the other for a StyleWriter printer, Remote Only allows you to use an application such as NetPresenz (which requires AppleTalk) without disconnecting either the modem or the printer.

The Remote Only extension is compatible with both "classic" AppleTalk software (the Network control panel) and Open Transport software (the AppleTalk control panel). If you use classic networking, Remote Only appears as an icon in the Network control panel. If you use Open Transport, Remote Only appears in the "Connect via" pop-up menu in the AppleTalk control panel.

Installing Remote Only

To install Remote Only, follow these steps:

1. Drag the Remote Only icon to the System Folder icon on your startup disk (not the open System Folder window). A dialog box appears asking if you want to move Remote Only to the Extensions folder.

2. Click OK. Remote Only is placed in the Extensions folder inside your System Folder.

3. Choose Restart from the Special menu. When your computer starts up again, Remote Only is installed.

Activating Remote Only in the Network control panel

To activate Remote Only if you use classic AppleTalk software (the Network control panel), follow these steps:

1. Open the Network control panel.

2. Click the Remote Only icon.

3. Close the Network control panel. You can now turn on AppleTalk in the Chooser while using your computer's serial ports for other functions.

Activating Remote Only in the AppleTalk control panel

To activate Remote Only if you use Open Transport (the AppleTalk control panel), follow these steps:

1. Open the AppleTalk control panel.

2. Choose Remote Only from the "Connect via" pop-up menu.

3. Close the AppleTalk control panel.

4. In the dialog box that appears, click OK to save the change you made. You can now turn on AppleTalk while using your computer's serial ports for other functions.

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TCP/IP Options Control Panel Read Me

This article is the TCP/IP Options Control Panel ReadMe file.
This article has been archived and is no longer updated by Apple.
IMPORTANT Do not use the TCP/IP Options control panel (previously called TCP/IP Path Discovery Control control panel) unless instructed to do so by your network administrator. TCP/IP Options is an unsupported utility developed by Apple Computer, Inc. It allows you to modify Open Transport/TCP's default behavior to disable the "Path MTU Discovery" feature and provide compatibility with certain third-party applications. (The one most commonly encountered is ATEX's MacText, a software terminal emulator for the ATEX/SysDeco Standard/Advanced Display Terminal.)

About the Path MTU Discovery feature

Path MTU Discovery is an Internet standard implemented and automatically enabled in Open Transport/TCP. (This standard is not implemented in MacTCP.) Here's how it works:

- Unless a packet size is larger than the MTU for a network, Open Transport/TCP sets the "don't fragment" bit in an IP datagram header on transmission.
- When presented with a "don't fragment" packet that cannot be forwarded without fragmentation with the MTU size, intermediate routers send back an "ICMP can't fragment" error (required by current RFCs).
- When an "ICMP can't fragment" error is sent back, Open Transport/TCP moves to the next smaller MTU size for that path, sets the "don't fragment" bit, and re-sends the packet. This process automatically results in using the largest supported MTU size for off-subnet traffic.

The standards document that describes Path MTU Discovery is available on the Internet at http://ds.internic.net/rfc/rfc1191.txt.

Why disable the Path MTU Discovery feature?

Path MTU Discovery works by sending datagrams with the "don't fragment" bit set. Some older routers don't handle this bit properly. Disabling Path MTU Discovery prevents the use of the "don't fragment" bit and may allow connections through older routers.

The TCP/IP Options control panel lets you disable the Path MTU Discovery feature to support older network routers which don't return the "ICMP can't fragment" error. Disabling the feature provides the same behavior as MacTCP. (Note that disabling the feature may introduce a performance penalty in some network configurations.)

WARNING: Misuse of the TCP/IP Options control panel may prevent Open Transport TCP/IP from operating properly.

Disabling the Path MTU Discovery feature

To install and use the TCP/IP Options control panel, follow these steps:

1. Drop the TCP/IP Options control panel onto a closed System Folder.
2. Open the Control Panels folder from the * menu.
3. Open the TCP/IP Options control panel.
4. To disable the path discovery feature to support older routers, click the "Disable IP path MTU discovery" checkbox to put a check in it.
5. Close the TCP/IP Options control panel.
6. Reboot your system in order for your setting to take effect.

Re-enabling the Path MTU Discovery feature

To revert to the normal Open Transport TCP/IP mode, uncheck the "Disable IP path MTU discovery" check box in the control panel and reboot your system.

WARNING: Simply removing the control panel from your Control Panels folder does not re-enable the IP path MTU discovery feature. You must uncheck the "Disable IP path MTU discovery" checkbox in the control panel.
Published Date: Feb 18, 2012

Macintosh Performa 6400, 6360: Why Apple Video Player? (3/97)

I have a Macintosh Performa 6360 or 6400 series computer. There is an application available under my Apple menu named Apple Video Player. When I select it, it indicates that the necessary video hardware is missing. Should I have gotten something else with my computer?

This article has been archived and is no longer updated by Apple.

No. The Apple Video Player software is provided so as to easily support the Apple Video System, Apple TV/Video System, or Apple TV/FM Radio System (which requires the Apple Video System). These are available as options that can be added to your computer system.

If the computer you are using does not have the necessary hardware installed, Apple Video Player software will present the error message you described.

You may get a similar error message if you add the Apple TV Tuner card or Apple TV/FM Radio System without having the Apple Video System card properly installed.

Published Date: Feb 18, 2012

PC Setup Unimplemented Trap, Error Message (3/97)

After installing Mac OS 7.6 and PC Compatibility 1.5 software, everything was working fine. However, after installing Open Transport PPP 1.0 and restarting my computer, I get this error message, "Sorry, a System Error Occurred. PC Setup, Unimplemented Trap." What is wrong?

This article has been archived and is no longer updated by Apple.

During the installation process, the PC Setup preferences file was corrupted. To resolve this, you need to throw the PC Setup preferences file in the Trash, empty it, and restart your computer. A new PC Setup preferences file will be created with default settings.

This article was published in the 5 March 1997 "Information Alley."

Published Date: Feb 18, 2012

PowerMac 180MHz Processor Upgrade Card: Models Supported (3/97)

I have seen references made that the Power Macintosh 180MHz Processor Upgrade Card (M5458LL/A) is only supported in Power Macintosh 8500 series computers. Is this correct?

This article has been archived and is no longer updated by Apple.

No. Some of the initial information incorrectly stated that the 180MHz Processor Upgrade Card was for "Power Macintosh 8500 series." However, the Power Macintosh 180MHz Processor Upgrade Card (M5458LL/A) is supported in the Power Macintosh 7500, 7600, 8500 and 9500 series.

Part numbers mentioned in this article are accurate as of this writing. Before ordering, verify that they are still correct as they are subject to change.

Published Date: Feb 18, 2012

Logo II: How to print procedures

This article has been archived and is no longer updated by Apple.
To print procedures using Apple Logo II (128K), type: DRIBBLE 1

which enables the system to print procedures/variables after you type one of the following commands:

PO (name)
POALL
PON (name)
PONS
POPS
POT (name)
POTS

(For information on the above commands, see the Logo II reference manual.)

To disable this printing, type: NODRIBBLE
Published Date: Feb 18, 2012

LaserWriter 8.x: Apple Printers Paper Tray Options (3/97)

I do not understand all the paper tray options I have using the LaserWriter 8.x printer driver. Could you explain these.

This article has been archived and is no longer updated by Apple.

This article provides an outline of paper tray usage with the LaserWriter 8.x printer driver and Apple LaserWriter printers. There are many possible settings, all of which are interdependent, so paper tray behavior is not as straightforward as it appears. Most of the examples given are with the LaserWriter Pro 630 or LaserWriter 16/600 PS printers since they have the most paper tray options. With respect to localized printers and/or drivers, you would substitute references to the "Letter" page size in this article with your country's default such as "A4".

* PAGE SETUP - To use a specific paper tray, the paper size selected in Page Setup must match the paper size in the tray you want to use.

Note:
The only way to change the paper size for the Multipurpose tray is through the Apple Printer Utility. The paper sizes for other trays are either set automatically (such as specific Letter size cassette), or by setting paper guides within the tray.

* MANUAL SELECTION - If you choose a specific paper source in the Print dialog, such as Cassette (500 Sheets), that specific tray is used -- given that the above condition on PAGE SETUP has been met.

* AUTO SELECT - If Auto Select is chosen (as the Paper Source in the Print dialog), you are NOT GUARANTEED that your print job will print from any specific paper tray (except with use of the "Installed and Preferred" option outlined below). You are telling the driver to print your job on any paper tray that has the same page size as you've selected in Page Setup. Usually, Auto Select prints your job from the 250 sheet cassette. Here is the typical order of paper tray priority when Auto Select is chosen as the Paper Source:

1. Cassette (250 Sheets)
2. Multipurpose Tray
3. Cassette (500 Sheets)
4. Envelope Feeder

* INSTALLED AND PREFERRED - If "Installed and Preferred" is chosen for the 500 sheet cassette (in the Chooser-Setup-Configure dialog), this makes the 500 sheet cassette the very first paper tray choice. Auto Select MUST be chosen as the Paper Source in the Print dialog for this to work. The typical order of paper tray priority changes to:

1. Cassette (500 Sheets)
2. Cassette (250 Sheets)
3. Multipurpose Tray
4. Envelope Feeder

This ONLY affects the computer that the change is made on. There is no way to make the change affect all computers that print to the printer, except for:

- Changing every computer to have the "Installed and Preferred" setting,

or

- Downloading PostScript code to the printer (as outlined below).

* AUTOMATIC TRAY SWITCHING - When Automatic Tray Switching is enabled, the paper source switches automatically to another tray with the same paper size if the paper source you selected in the Print dialog runs out of paper. The typical order of paper tray priority for Automatic Tray Switching will follow the priority list in either AUTO SELECT or INSTALLED AND PREFERRED above.

Prior to LaserWriter driver 8.4, Automatic Tray Switching was enabled by simply switching it ON using the LaserWriter Utility or the Apple Printer Utility. Starting with LaserWriter 8.4, an extra step is now required: You also need to select the "Error Handling" pane in the Print dialog and click on "Switch to another cassette with same paper size."

* POSTSCRIPT - There are PostScript code fragments in the TIL that when downloaded, allow you to manually set a "default" paper tray. That paper tray is used if Auto Select is chosen as the Paper Source in the Print dialog. It is STRONGLY ADVISED NOT to use this method unless absolutely necessary, as it may confuse others using the printer.

There have been many unnecessary and costly service calls to customers thinking that their printer was defective when the problem was merely the default paper tray had been changed. A very good example of this is changing the default tray to the Multipurpose Tray. If the tray has no paper, the paper out LED illuminates and unknowing users will check the 250 sheet cassette instead (since it's usually default). Seeing that there is paper in the 250 sheet cassette, they report the printer as a malfunction.

* ENVELOPE FEEDER - If your LaserWriter has an envelope feeder, you must select an envelope page size in Page Setup AND have "Envelope Feeder" chosen as the paper source in the Print dialog. If both of these conditions are NOT met, then paper will be pulled from the default paper tray (such as the Cassette (250 Sheets).

NOTE:
There is an issue with the LaserWriter 16/600 PS that even without having an envelope page size selected in Page Setup, "Envelope Feeder" can be chosen as a paper source.

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Avid Cinema: Static at Bottom of Screen (3/97)

I have seen a single line of static at the bottom of videos created using Avid Cinema, and sometimes I may see a vertical line of static on the left side of the image. Do you have any information on why this is happening?

This article has been archived and is no longer updated by Apple.

Anomalies, noise, or static in digitized video can be caused by any of the following:

* Video head noise from a VHS player
* Faulty or low-quality cables
* Faulty digitizing hardware

When digitizing from VHS, you will almost always see some noise at the bottom of the video window. This noise originates on the tape. It is not visible on a television screen because TV screens crop the very bottom and top of the picture. Other video editing programs such as Premier will crop this area as well, although we believe you can set the application to not crop at all.

With Avid Cinema, the picture is never cropped so the noise is always visible. However, the noise will not be apparent if the video is printed back out to tape -- the noise is hidden by the way the TV crops the image. The noise will remain if the final product is a QuickTime movie. The image is not clipped before output to QuickTime.

This article was published in the 7 March 1997 "Information Alley."

Published Date: Feb 18, 2012

Workgroup Server 9150/120: Drive Setup Compatibility

I have a Workgroup Server 9150/120. The version of Drive Setup (1.2.2) that comes with System 7.6 gives an error message "Cannot be used with this Macintosh" when trying to launch the Drive Setup.

I used version 1.0.5 of Drive Setup and everything worked fine. What is happening?
This article has been archived and is no longer updated by Apple.
Drive Setup 1.3 or later is recommended for Power Macintosh Workgroup Server 9150 running on 7.6.

This article can help you locate the software update mentioned in this article:

- Article 14724: "**Where To Find Apple Software Updates**" - Lists online services for free Apple software updates.

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PowerBook 1400 Series: Maximum RAM Allowed (3/97)

I have a PowerBook 1400 with 40 megabytes of memory and would like to add more memory to it. I would like to add another 32 megabytes, bringing the total memory up to 72 megabytes.

The technical specifications state that the PowerBook 1400 supports a maximum of 64 megabytes of memory. Will there be any adverse effect if I attempt an upgrade to 72 megabytes?

This article has been archived and is no longer updated by Apple.

The maximum amount of total memory supported by Apple in the PowerBook 1400 is 64Mb. Individual cards may contain up to a maximum of 48Mb of DRAM.

Any combination of RAM, including the DRAM soldered to the main logic board (8Mb), the DRAM installed by Apple in the Apple factory slot (4Mb or 8Mb), and User installable RAM cards must not exceed a total of 64Mb of RAM.

Using combinations of RAM that go over the specified 64Mb limit is not supported by Apple Computer and may result in random errors.

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Mac OS 7.6: IDE Drives and Internal HD Format (3/97)

While running the Mac OS 7.6 Installer a message appears saying the application is unable to update the driver because the drive is not partitioned -- "This media is not partitioned, unable to update the driver." What's happening?
This article has been archived and is no longer updated by Apple.
This happens only when the drive has been formatted with the Internal HD Format program included on 580 Series, 630 Series, 5200 Series, and 6200 series computers. (For a list of computers with IDE drives, see the article titled "Macintosh Desktop & PowerBook Computers: IDE Hard Drive" in the Tech Info Library.)

The solution is to back up the hard drive and reinitialize (low level format) it with Drive Setup 1.2.2. Drive Setup 1.2.2 is located on the Mac OS 7.6 CD-ROM in the Utilities folder. Note that reinitializing will result in the loss of all information on the hard drive, so performing the backup operation is critical.
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Mac OS 7.6: Blinking Question Mark After Install (5/97)

I just finished running the Mac OS 7.6 Installer. Upon restart, the system displays a blinking question mark on the screen. It appears the hard drive will not mount. What's happening? What can I do?

This article has been archived and is no longer updated by Apple.

This behavior occurs only with hard drives that were formatted with an older version of Apple HDSC Setup (7.1.2 or older). Although there is nothing physically wrong with the hard drive, and no information has been lost, there is currently no utility that would allow access to the data. A drive recovery service may be able to recover the information on the drive.

This behavior will not occur with volumes that have been formatted with newer versions of Apple HDSC Setup, Drive Setup or Internal HD Format. Apple is working on resolving this issue.

You can identify the version of the driver installed on your hard drive by selecting your hard drive in the Finder and choosing Get Info from the File menu.

To reclaim the use of the affected hard drive, reinitialize it with Apple HDSC Setup 7.3.5. Apple HDSC Setup 7.3.5 is located on the Mac OS 7.6 CD in the Utilities folder. Note that reinitializing will result in the loss of all data on the hard drive.

The proper utility (and version) to use for formatting hard drives is:

Drive Setup 1.2.2

- all PowerPC-based computers
- all computers with IDE drives

Apple HDSC Setup 7.3.5

- all 68K-based computers with SCSI hard drives

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Apple Media Tool 2.x: Creating Custom Palettes

I would like to use a custom palette in Apple Media Tool (AMT) 2.x so that my 256-color images look their best. I know that AMT supports custom palettes, but I cannot seem to get them to work. How do you create custom palettes?
This article has been archived and is no longer updated by Apple.
In AMT 2.x, each screen could have a custom palette. Apple Media Tool uses the palette of the media object that is the farthest back position on the screen. This is the first item in the list in the objects miniwindow.

Here are the steps to creating a custom palette:

Step 1

Create your media object with custom palette in the graphics application of your choice.

Step 2

Place a media object with the custom palette in the farthest back position. If your image needs to be in the foreground, create another object with the same palette, and place it in the farthest position. You can set the dimensions of this object to "0,0" if you do not want the object visible.

Step 3

Select the option "use custom palettes" in Runtime Setup Preferences.

Custom palettes are only used when the application is saved as a runtime object, and not as an Apple Media Tool project.

This article appeared in the 10 March 1997 issue of the Information Alley.
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Performa 6360/6400: PhotoDeluxe User Guide Error (3/97)

This article discusses an error in the Adobe PhotoDeluxe User's Guide.
This article has been archived and is no longer updated by Apple.

The Adobe PhotoDeluxe User's Guide pages 8-9 refers to a number of items which should be on the PhotoDeluxe CD, but are missing.

These include:

* The trial version of DiAMAR Interactive's Better Photography
* Berkeley System's After Dark
* MetaTool's Special Effects.
* Acrobat Reader

Where can these items be located?

Acrobat Reader is pre-installed on the computer's hard disk. The other items have not been licensed for inclusion with the PhotoDeluxe software included with the Performa 6360/6400 computer.

They are included with the PhotoDeluxe bundle sold by Adobe or they can be purchased separately from their respective manufacturers.

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Hangul Jojung Control Panel: What Does It Do?

This article discusses the Hangul Jojung control panel.

Note: Hangul Jojung (for Korean Language Kit) 1.0 can be downloaded from the Apple Software Updates Web site at http://www.apple.com/swupdates .
This article has been archived and is no longer updated by Apple.
Here is an explanation of what can be done with the Hangul Jojung control panel. There are 2 options on the control panel:

Delete key

This gives users the option of forcing non-WorldScript savvy applications that attempt to delete 2-byte text one byte at a time to delete text 2 bytes at a time. At first glance, this may appear to conflict with the Delete by Jamo option in the Power Input Method (PIM). The PIM option is for text being processed by the input method before it is passed to an application. The Hangul Jojung control panel setting is the opposite. It is for text already entered into a document. The Hangul Jojung control panel simply forces an application to receive one or two Deletes every time the user types one Delete. The only time this is really needed is when using Asian languages in applications which aren't WorldScript II savvy.

1 or 2 byte PostScript printing

Users of printer-resident 2-byte Korean PostScript fonts need to set this option in order to embed PostScript data in PostScript files. It affects users who have printer-resident fonts that are genuine two-byte encoded. (Without the Hangul Jojung control panel, printing is done assuming one-byte fonts.) Users who have this issue should immediately see a performance increase when the Hangul Jojung control panel is installed. Users with no PostScript fonts, just Apple's TrueType fonts included in the Korean, Japanese and Chinese language kits should receive no benefit nor side effects from having the Hangul Jojung control panel installed.

The following information is for Apple Internal & Support Providers Only

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PC Compatibility Card: Serial Port Speed (3/97)

I have a PC Compatibility Card and want to know what the maximum speed of the serial port is.
This article has been archived and is no longer updated by Apple.
All the PCI-Based PC Compatibility Cards are limited to 19,200 bps serial port speeds when using MS-DOS or Windows. However, testing has shown that 9600 bps is the maximum speed you should expect while maintaining the most reliable connection.

This limitation is the result of the UARTS used, lack of hardware handshaking in the PC enviorment, and other design factors.

In the Mac OS you do not have these same limitiations.

Article Change History:
12 Mar 1997 - Added reliable connection information.
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QuickTake 200: Read Me for PowerBook Incorrect (3/97)

I have setup my PowerBook 500 computer to compatible like the QuickTake readme document stated, but I cannot get the images to download.

This article has been archived and is no longer updated by Apple.

The Read Me document is incorrect. You need to set the PowerBook Setup control panel to NORMAL, not COMPATIBLE.

The Read Me document will be updated to reflect this change at a later date.

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PowerBook 3400: Video Out Specifications

This article describes the PowerBook 3400 built-in video out specifications.
This article has been archived and is no longer updated by Apple.
The PowerBook 3400 computer has a 16-bit video out VGA connector built into the backplane for an external video monitor. The connector is standard DB9/15 for use with VGA or SVGA monitors.

You can connect a VGA or SVGA monitor all the way up to a 21" monitor with 1024 x 768 resolution projected in 256 colors (8-bit). Video projection devices can also be attached via the VGA connector.

Video Adapter
An optional video adapter allows the user to connect a standard Apple video cable to the computer. The adapter is similar to another video adapter used with older Macintosh PowerBooks. The adapter is granite colored and enables the PowerBook 3400 computer to recognize a wider range of monitor types. The Apple part number for the new adapter is 590-0289-A.

Video Ram
The PowerBook 3400 ships with 1MB of VRAM which enables it to support up to 16 bits per pixel on most monitors, and up to 8 bits per pixel on larger monitors.

NOTE: The video ram (VRAM) is not upgradeable.

Colors Supported
16 bit (thousands) at 640x480
16 bit (thousands) at 800x600
8 bit (256) at 832x624
8 bit (256) at 1024x768

Video Mirroring
There is no video mirroring control panel/strip. If the external monitor can display 800 by 600 pixels at 60 Hz, the PowerBook 3400 computer can display simultaneously on both the external monitor and the flat panel display. This mode of display, called Simulscan, provides the same information on both displays.

Examples: When connected to a 17" Multiscan monitor:

- 640x480 67Hz - Thousands of colors (external monitor available only)
- 800x600 60Hz - Thousands of colors (Simulscan "Mirroring")
- 800x600 75Hz - Thousands of colors (external monitor available only)
- 832x624 75Hz - 256 colors (external monitor available only)
- 1024x768 70Hz - 256 colors (external monitor available only)

Monitor Pixel Depths

The following table lists the pixel depths supported for each type of monitor.

Monitor Pixel Depths		
Monitor type	Resolution	Bits per pixel
12-inch color	512 by 384	1, 4, 8, 16, 24
12-inch monochrome	640 by 480	1, 4, 8
13-inch and 14-inch color	640 by 480	1, 4, 8, 16
VGA and SVGA (2)	640 by 480	1, 4, 8, 16
SVGA	800 by 600	1, 4, 8, 16
SVGA	1024 by 768	1, 4, 8
Full-page monochrome	640 by 870	1, 4, 8
Full-page color	640 by 870	1, 4, 8
16-inch color	832 by 624	1, 4, 8
Apple 15-inch multiple scan	640 by 480	1, 4, 8, 16
Apple 15-inch multiple scan (3)	800 by 600	1, 4, 8, 16
Apple 15-inch multiple scan	832 by 624	1, 4, 8
Apple 17-inch multiple scan	640 by 480	1, 4, 8, 16

Apple 17-inch multiple scan (3)	800 by 600	1, 4, 8, 16
Apple 17-inch multiple scan	832 by 624	1, 4, 8
Apple 17-inch multiple scan	1024 by 768	1, 4, 8
Apple 20-inch multiple scan	640 by 480	1, 4, 8, 16
Apple 20-inch multiple scan (3)	800 by 600	1, 4, 8, 16
Apple 20-inch multiple scan	832 by 624	1, 4, 8
Apple 20-inch multiple scan	1024 by 768	1, 4, 8
NTSC TV monitor (2, 5)	512 by 384	1, 4, 8, 16, 24
NTSC TV monitor (5)	640 by 480	1, 4, 8, 16
PAL TV monitor (2, 5)	640 by 480	16 only
PAL TV monitor (5)	768 by 576	1, 4, 8, 16

Notes	
1	The computer does not provide a display with 2 bits per pixel.
2	Indicates the startup resolution for non-multiple scan monitors. Other resolutions can be selected using the Monitors control panel or the control strip.
3	For multiple scan monitors, the table indicates the default resolution with an asterisk. For example, when first connected to the computer, an SVGA monitor's display resolution will be 640 by 480 pixels. The user can switch to a higher resolution by using the Monitors control panel or the control strip. The resolution set by the user will be used the next time the computer is started up.
4	When connected to a non-multiscan monitor you will only get the external monitor at the set resolution. Example: Apple 16" monitor 832 by 624 75Hz - 256 colors
5	Requires Apple Presentation System (M2895LL/A) or similar adaptor.

Apple Presentation System (M2895LL/A)
The Apple Presentation System makes it easy for you to create a presentation on your Macintosh, then display it to an audience on a larger television screen exactly as it appears on your Macintosh display. You can also connect your Macintosh to a VCR and record your presentation on videotape for easy and inexpensive distribution. The Apple Presentation System comes with software, cables, and video converter box. Unlike the Apple Video and Apple Video/TV systems,the Apple Presentation System can be used with any Macintosh that has a VGA or Apple 13/14-inch RGB output. This list includes, but is not limited to, any PowerBook with VGA or Apple 13/14-inch RGB output, Macintosh LC, Performa 400-600 models, Centris, Quadra, or other Macintosh systems with VGA video out.

This article was published in the 18 March 1997 "Information Alley."
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PowerBook 3400: Battery Recondition Software (3/97)

Why does the PowerBook 3400 ship with the Battery Recondition software when the Lithium Ion battery does not require reconditioning?

This article has been archived and is no longer updated by Apple.

The Battery Recondition software is included because the PowerBook 3400 can use a PowerBook 5300 or 190 Nickel Metal Hydride battery, which does require occasional reconditioning.

When a customer tries to use the Battery Recondition software on a PowerBook 3400 containing a Lithium Ion battery, the customer will get a message stating that it is not necessary.

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LaserWriter: Upper Fuser Roller Melting

Problem: Due to excessive heat from the fuser heater bulb,
the upper fuser roller is damaged or partially melted.

Cause #1: The problem can be caused by a defective thermistor.

Cause #2: There could be a defective fuser thermal protector,
or a dirty thermistor.

This article has been archived and is no longer updated by Apple.

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CURE:  First, replace the damaged upper and lower fuser rollers,
along with the cleaner felt, then go on to the steps listed
below.  Be  sure to pay close attention to the heat of the
fuser assembly to avoid damage to the new parts.

#1: Replace or clean the thermistor.

#2: Replace the fuser thermal protector.
```

Published Date: Feb 18, 2012

MacDraw 1.9, 1.9.5: Printing Without Page Breaks

The following discusses printing with MacDraw 1.9 and 1.95 without page breaks.

This article has been archived and is no longer updated by Apple.

When its rulers are set to centimeters, MacDraw 1.9 and 1.9.5 put a break between pages even though you select "No Breaks Between Pages".

You can work around this by drawing your document in the normal manner and changing the ruler increments to inches just before printing. MacDraw then prints without page breaks.

Published Date: Feb 18, 2012

PowerBook 1400: 1400 Demo Processor Speed

I just purchased a Powerbook 1400/133mHz. When I run the "PowerBook 1400 Demo" from my hard drive and click on "SPECS", it states I have a 117mHz processor? Have I been given the wrong unit?
This article has been archived and is no longer updated by Apple.
The "PowerBook 1400 Demo" is merely an interactive presentation to show the features of the 1400. It is not intended to be a diagnostic tool or system profiler. Most likely, the presentation was written before the 133 mHz processors were part of the 1400 product line.

To confirm the speed of your processor, you may run Apple System Profiler, available with Mac OS 7.6 or online at Apple Software Update sites.

These articles can help you locate the software update mentioned here:

"**Where To Find Apple Software Updates**" - Lists online services for free Apple software updates.

"**Obtaining Apple Product Support in the USA**" - Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech Info Library.
Published Date: Feb 18, 2012

Apple TV/FM Radio System Requires Video-In Card (3/97)

I just installed an Apple TV/FM Radio System, but I keep getting a message saying it is not installed. I checked it over and I'm sure I installed it correctly. What could be wrong?

This article has been archived and is no longer updated by Apple.

The Apple TV/FM Radio System (M4586LL/A) requires a Macintosh Performa or Power Macintosh computer with a video-in card. The video-in card is required even if only the FM Radio Player is used. If the video-in card is not installed, the FM Radio Player will display an error message saying, "The FM radio is not installed in this Macintosh."

While some Macintosh Performa and Power Macintosh computers come with a video-in card pre-installed (for example, the Power Macintosh 5400/120) most of these computers require the purchase of the Apple Video System (M2894LL/D or later).

This article was published in the Information Alley on 12 March 1997.
Published Date: Feb 18, 2012

Mac OS 7.6 & Macintosh TV Compatibility

I just updated my Macintosh TV from System 7.5.5 to Mac OS 7.6, and now the TV Setup control panel does not work. I did a clean install of Mac OS 7.6 and also selected the Mac OS 7.6 Base extension set in Extensions Manager. I am using version 1.0.2 of the TV Setup control panel. I can open the control panel, but if I try to select an option I get a Finder bus error. If I switch to the TV I get no video.

Is the Macintosh TV compatible with Mac OS 7.6?
This article has been archived and is no longer updated by Apple.
Mac OS 7.6 installs the Apple Video Player application and the Video Startup extension. The Video Startup extension is not compatible with the TV Setup control panel used to control the TV functions on the Macintosh TV. Either deselect the Video Startup extension in the Extensions Manager control panel, or drag Video Startup from the Extensions folder to the Trash.

The Macintosh TV does not need the Apple Video Player or Video Startup extension. The Apple Video Player may also be dragged to the Trash from the Apple Extras folder.
Published Date: Feb 18, 2012

Apple Network Server: Configuring TCP/IP

This article describes configuring TCP/IP on an Apple Network Server running AIX.
This article has been archived and is no longer updated by Apple.
The recommended time to configure TCP/IP on system running AIX is during initial software installation with Install Assist. However, if TCP/IP needs to be configured later, the following steps can be followed:

Step 1

Logout of the AIX Desktop (CDE).

Step 2

Use the Options button at the AIX login window to begin a command line login. Be sure to hit the enter or return key so that you receive a login prompt.

Step 3

Login as root.

Step 4

Execute the following command to open the TCP/IP configuration window:

smit tcpip

Step 5

Press the Enter or Return key to select Minimum Configuration & Startup.

Step 6

Select the interface to be configured (commonly en0).

Step 7

Complete the TCP/IP configuration by completing the Entry Fields. Use arrow keys to move between fields. Once the entry fields are complete, press Enter or Return.

NOTE: Do not set START now to "yes".

Step 8

Press the F10 key to exit TCP/IP configuration.

Step 9

Check the contents of the '/etc/hosts' file by entering the following command:

more /etc/hosts

The end of the file should have a line for loopback exactly as follows:

127.0.0.1 localhost loopback # loopback lo0 name/address

It should also have an entry for your hostname similar to this:

192.14.4.16 spoetzl <----your hostname; should contain one entry

If either of these lines are incorrect, the '/etc/hosts' file needs to be edited using vi to correct it before proceeding.

Step 10

Shut down and reboot the server by entering the following command:

shutdown -Fr
Published Date: Feb 18, 2012

UMAX Technologies

UMAX Technologies
This article has been archived and is no longer updated by Apple.
3353 Gateway Blvd
Fremont, CA 94538

(510) 651-9488 (Phone)
(510) 651-8834 (Fax)
(510) 651-4000 (Sales)

Technical Support : Depends on product. Check web site for number.

(510) 651-2550 (BBS)
(800) 286-6186 (Fax back)

URL: **http://www.umax.com**

Company profile:
Product: Supplier of scanners.
Published Date: Feb 18, 2012

QuickTake 200: Lens made of Optical Quality Plastic (3/97)

Is the lens used in the Apple QuickTake 200 digital camera made of optical glass or plastic?

This article has been archived and is no longer updated by Apple.

The Apple QuickTake 200 digital camera, like many other cameras built today, is manufactured using optical quality plastic.

Published Date: Feb 18, 2012

New Ground Wire to HyperDrive Bracket

This article has been archived and is no longer updated by Apple.

The current DC power supply harness of the HyperDrive 20 has a green ground wire on the line to the hard disk assembly. This green wire should be attached to the small spade on the silver DRIVE BRACKET surrounding the drive and not to any spade you might see on the drive itself. If there is no spade on the bracket, the ground wire should be snipped off.

NOTE: Apple Computer, Inc. is not responsible for the contents of this article.

Published Date: Feb 18, 2012

AIX 4.1.4, 4.1.4.1, & 4.1.5: File Size Limits

I'm interested in moving a database application from an RS-6000 to a Apple Network Server 700. One of my database files, however, is approaching (and will soon exceed) 2 GB in size.

My application support provider informs me that I will require AIX 4.2 or greater in order to handle a file of this size. Is this true or will AIX 4.1.4.X do the job? Is there a patch or do I have to wait to for AIX 4.2 release for the Apple Network Server 700?
This article has been archived and is no longer updated by Apple.
The AIX 4.1.4, 4.1.4.1, and 4.1.5 file system data structure is based on the 32-bit addressing scheme, pointers, data blocks, and so on. Therefore 2 to the 31 power which is about 2 GB, is the maximum file size allowed.

The 'ulimit' command can be used to set or examine the resource limits including the file size. The example below, would set the maximum file size to 4,194,304 blocks (512 Bytes/block) which is 2GB, the limit:

```
ulimit -f 4194304
```

If you set ulimit -f to this value, the it will show "unlimited" which is the maximum. The default file size is set to 2,097,151 blocks (1 GB).

AIX 4.2 supports 64 bit addressing, and the maximum file size exceeds the 2GB limit. However, Apple has no plans to offer AIX 4.2 for the Network Server.

This article was published in the 14 March 1997 "Information Alley."
Published Date: Feb 18, 2012

AIX: FixDist Tool and Electronic Fix Distribution

This article describes FixDist Tool and Electronic Fix Distribution for AIX running on an Apple Network Server.
This article has been archived and is no longer updated by Apple.
FixDist Tool and Electronic Fix Distribution for AIX on Apple Network Server.

ftp://fixdist.support.apple.com/ 130.43.6.8

Downloading Fixes

This site contains all AIX patches which are specific to the Apple Network Servers as well as all other AIX patches that will work on the Apple Network Server.

Apple provides a number of mirrored sites on the Internet where you may freely download Apple Software Updates. Due to the size of the archive contained in the fixdist.support.apple.com server, the Apple Software Updates archives do not mirror this site.

Though we do not guarantee all fixes will be immediately made available, we will try to make them available as soon as possible.

For more information on Apple Software Updates not specific to the Apple Network Server, please visit

<**http://www.info.apple.com/**>
or:
<**ftp://ftp.info.apple.com/**>

NOTE: Do not download AIX patches for the Apple Network Servers from the IBM servers! This fixdist server should be your only source for these patches.
Published Date: Feb 18, 2012

Newton OS 2.1: No Desktop connection Using IrDA

The Dock application on the MessagePad 2000 and the eMate 300 list an option to connect to my desktop computer using IrDA. This is also mentioned in the MessagePad 2000 User's Manual (p.128) and the eMate User's Manual (p.160). How can I connect to my desktop unit using IrDA?

This article has been archived and is no longer updated by Apple.

The IrDA option appears within the DOCK application on both the eMate 300 and MP2000. Although there is support in the Newton OS for IrDA connections, currently there is no support for this in the Newton Connection Utilities or any other connectivity application. Apple currently has no plans for implementing this feature into the Newton Connection Utilties.

Published Date: Feb 18, 2012

PowerBook 3400 & Open Transport 1.1.2 Incompatibility (3/97)

I installed Open Transport (OT) 1.1.2 on my PowerBook 3400 computer. All seemed well until the computer went into sleep mode and then it froze. I have been able to reproduce this several times. What is wrong?

This article has been archived and is no longer updated by Apple.

There are some incompatibilities between Open Transport 1.1.2 and the PowerBook 3400 computer. We were able to reproduce freezing by repeatedly switching between IRTalk and Printer/Modem port in the AppleTalk control panel.

We suggest you reinstall Open Transport 1.1.1. There are no fixes in Open Transport 1.1.2 that apply to the PowerBook 3400 computer.

Published Date: Feb 18, 2012

Apple MessagePad Devices: Power Adapter Compatibility

The Apple MessagePad 2000 and the Apple eMate 300 ship with a different AC power adapter than previous MessagePad models. Are the original power adapters compatible with the MessagePad 2000 and the eMate 300? Are the new power adapters compatible with earlier MessagePad models?
This article has been archived and is no longer updated by Apple.
The original Newton Power Adapter was designed for the original MessagePad, MessagePad 100, MessagePad 110, MessagePad 120, and MessagePad 130 models.

The Newton 9W Power Adapter was introduced with the Apple MessagePad 2000 and the Apple eMate 300 and is recommended for these models. The Newton 9W Power Adapter is included with the Apple eMate 300, and is offered as an option with the Apple MessagePad 2000.

The original power adapters are compatible with the Apple MessagePad 2000 and the Apple eMate 300. However, the Newton 9W Power Adapter that ships with the Apple MessagePad 2000 and eMate 300 are designed to provide a fast recharge (1-2 hours). The original Newton Power Adapter works on these models, but charges at a slower rate (2-3 hours).

The new power adapters are compatible with earlier MessagePad models. The Newton 9W Power Adapter that ships with the Apple MessagePad 2000 and Apple eMate 300 charges the previous Apple MessagePad models in half the original time.

Note: The 9W Power Adapter does not reduce the recharge time in the Apple MessagePad 100, whose rechargable battery recharges in the same amount of time with either adapter.

This article appeared in the 13 March 1997 issue of the Information Alley.
Published Date: Feb 18, 2012

Macintosh On Microsoft NetBEUI/NetBIOS Networks

Is there software available for my Macintosh that would allow it to participate in Microsoft NetBEUI/NetBIOS networks with file, print and message services?
This article has been archived and is no longer updated by Apple.
Yes. Thursby Software Systems offers one such solution, named DAVE.

DAVE is a software solution that enables Apple Macintosh users to participate in Microsoft networks with file, print and message services. DAVE is installed directly on the Macintosh computer and provides Macintosh users the ability to mount shared directories on Windows NT (Server and Workstation), Windows 95 and Windows for Workgroups computers.

DAVE performs all communications using the industry standard protocol TCP/IP with a NetBIOS driver that is fully RFC 1001/1002 compliant and supports Windows Internet Name Server (WINS). All services are implemented using the Common Internet File System (CIFS) protocol. CIFS is an enhanced extension of the desktop cross-platform protocol for distributed file sharing called Server Message Block (SMB).

Utilizing CIFS and X/Open protocol standards, DAVE gives Macintosh users simultaneous read and write access to files stored on remote computers without first requiring users to download or copy the files to a local drive. Using the Chooser, users mount systems and browse for resources both in their own workgroup and in other workgroups. Mounting is very similar to AppleShare but uses no AppleTalk protocols.

DAVE negotiates dialects up to and including NT LM 0.12. It provides direct integration with Services for Macintosh and NTFS by using the same format for storing Apple resource and finder information on NT servers. By using DAVE with Remote Access Services (RAS), Macintosh users can access NT servers from remote dial-up locations, sharing files and accessing numerous applications over an organization's intranet and the internet.

DAVE is implemented as a modular set of Macintosh drivers, extensions and applications that can be tailored to the needs of the individual Macintosh user. The NetBIOS driver can be configured using DHCP for simpler network management.

File and print services
DAVE provides the Macintosh user with the interface environment they are accustomed to. Downloading or copying files to a local drive is not necessary when running DAVE. Using the Macintosh Chooser, users can mount multiple shared directories on Windows NT, Windows 95 and Windows for Workgroups computers. Macintosh applications can then manipulate files directly over the network.

The print gateway works with PostScript print drivers and spools print jobs on Windows systems that are configured to share printers. Printers appear in the Macintosh user's Chooser window. The gateway supports Adobe compliant PPD configurations and handles PostScript query jobs that conform to Adobe document structuring conventions.

Message service
The Message Tool gives users the ability to compose and send messages. The Message Listener is an 'init' which loads at startup to receive messages. Message reception can be disabled and enabled by the user. The Message Listener is useful for notifying users of changes in server status and print job completion. NT administrators can use this service to broadcast messages to their users.

Security
DAVE uses encrypted passwords and works with both LanManager and Windows NT passwords.

DAVE features

- Client file services
- Client print services
- Message Tool
  - User controlled
  - Pop-up message windows for the SMB messaging service
  - Compose and send messages
- Internet and intranet access
- NetBIOS Driver
  - Control Panel to configure and monitor operation of NetBIOS driver
  - Fully RFC 1001/1002
  - WINS compatible and configurable with DHCP
- Supports 68K and PPC Macintosh, Mac OS 7.5.x
- Supports at least 10 mounts
- Supports FAT and NTFS file systems
- Uses the Apple File System Manager

- Supports aliases
- Supports browsing for resources in Chooser
- Integration with Services for Macintosh
- Supports encrypted passwords
- Provides Unicode names for Windows NT
- Apple Open Transport Native
- Compatible with MacTCP
- Supports multiple remote printers
- RAS support for mobile access via PPP
- RAS connection only utilized when user accessing remote files

Macintosh system requirements

- Any Macintosh with a 68020 or higher processor
- MacOS 7.5.x with a minimum of 8 megabytes of RAM
- Apple's MacTCP or Open Transport TCP/IP
- Any hardware required to run TCP/IP

Microsoft Network requirements
At least one of the following systems:

- Windows NT Server or Workstation V3.51 or later
- Windows 95
- Windows for Workgroups V3.11 with a Microsoft TCP/IP driver

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This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

The Tech Info Library article titled **Locating Vendor Information** can help you search for a particular vendor's address and phone number.

Published Date: Feb 18, 2012

GeoPort Modem: Slowing It To 14.4 Kbps (3/97)

I have a GeoPort modem, which I am attempting to use with Apple Telecom software version 3.1. I need to slow my modem to 14.4 Kbps. How do I do this?

This article has been archived and is no longer updated by Apple.

```
Add the command ATS110=1 to your initialization string.  This will disable V.34 (28.8/33.6 Kbps) protocols and
allow the modem to negotiate either V.32 (9600 baud) or V.32 bis (14.4 Kbps) protocols only.
```

Published Date: Feb 18, 2012

AT Command Reference: Erratum (4/97)

I have a copy of the AT Command Reference, which I downloaded from one of Apple's Software Update locations. I need to slow my GeoPort modem to 14.4 Kbps. I am confused by the presentation for the S110 register on page 17, which states the following:

S110 Modulation Selector
---
0 V32/V32bis enabled, V34/34 (33.6) disabled
1 V32/V32bis enabled, V34/34 (33.6) disabled
2 Full modulation set available
7 V34 (33.6) only enabled

The descriptions for the first two settings seem identical. Should they be?

This article has been archived and is no longer updated by Apple.

```
There is an error in the documentation.  The first two items should read:

0 V32 enabled, V32bis disabled, V34/34 (33.6) disabled
1 V32/V32bis enabled, V34/34 (33.6) disabled

To elaborate:

V32 = 9600 baud protocols
V32bis = 14.4 Kbps protocols
V.34 = 28.8 Kbps protocols.  Recently, this standard was upgraded to include 33.6 Kbps protocols; Apple
Telecom software version 3.1 or newer will support these protocols on Power Macintosh computers.

As an example, passing the command ATS110=0 to the modem will turn on 9600 baud only.

Passing the command ATS110=1 will allow the modem to adjust speed to 9600 or 14.4 Kbps as necessary, and will
turn off 28.8 or 33.6 Kbps performance.

These articles can help you locate the AT Command Reference document mentioned in this article:

"Where To Find Apple Software Updates" - Lists online services for free Apple software updates.

"Obtaining Apple Product Support in the USA" - Lists 800 numbers and online services for software updates,
Apple support information, and a subset of the Apple Tech Info Library.


This article was published in the 21 March 1997 "Information Alley."


Article Change History:
01 Apr 1997 - Made correction for technical accuracy.
21 Mar 1997 - Added Information Alley statement.
```

Published Date: Feb 18, 2012

PC Compatibility Card: Gets Multiple Resolutions In Win95 (3/97)

I have a PCI-based Power Macintosh computer with a PC Compatibility Card and an Apple multiple scan monitor. I am running Windows 95 in the PC environment. I am able to get multiple video resolutions in the Macintosh environment, but in the PC environment, the only resolution available is 640x480. How do I get Windows 95 to do higher resolutions?
This article has been archived and is no longer updated by Apple.
In order to get more than 640x480 resolution in Windows 95, you need to install the updated Windows 95 video driver software that comes with the PC Compatibility Card and select the proper display type for your monitor. Both of these changes are done in the Display control panel in Windows 95.

To install the updated video drivers for Windows 95:

1) Insert the PC Utilities CD into the CD-ROM drive
2) In Windows 95, open the Display control panel
3) Click on the tab labeled 'Settings'
4) Click on 'Change Display Type'. If the Adapter Type shows up as 'ATI mach64 (macxw4)(DirectDraw)', you have already installed the update driver and do not need to reinstall it. Skip to the section below about selecting your monitor type.
5) For 'Adapter Type', click on 'Change...'
6) Click on 'Have Disk...'
7) type in 'E:\\video\\win95'
8) Select 'ATI mach64 PCI (macxw4)(DirectDraw)' and click 'OK'

To select the proper display type for an Apple monitor:
<instructions are in 12" PC Compat Card manual, chapter 4, pp80-82>

This article was published in the 18 March 1997 "Information Alley."

Article Change History:
19 Mar 1997 - Added Information Alley statement.

Published Date: Feb 18, 2012

Mac OS: Third-Party Software and Hardware Guide

This article provides information on locating third-party hardware and software Mac OS-based computer products. Much of this information was formerly provided by Redgate Communications. Is there an alternative that provides a comprehensive listing of products than what is typically found in reseller catalogs?
This article has been archived and is no longer updated by Apple.
Apple has the Mac OS Software & Hardware Guide web site on the Internet which features over twelve thousand third-party Macintosh products in one online location. The web site also contains information on purchasing specialized Mac OS software that cannot be purchased through standard sales channels, such as scientific and technical applications. Anyone can access the web site directly at:

http://www.macsoftware.apple.com/

This web site features a search engine which locates products by name, vendor, and/or keywords. It also has a link which lets vendors submit new product information, or update existing product information in a timely manner.

This article was published in the 14 March 1997 "Information Alley."
Published Date: Feb 18, 2012

A/UX and exportFS: Using With NFS (3/97)

I want to use exportFS to NFS mount a Macintosh directory for sharing data. The Macintosh directory has spaces in the name which export can use, and the \\ and " characters are reserved for other operations in the /etc/exports file. How can I export this directory?

This article has been archived and is no longer updated by Apple.

```
Create a symbolic link (ln -s) for that directory, called shared_data or equivalent name, that is one with no
spaces. Then export the symbolic link instead of the original directory.
```

Published Date: Feb 18, 2012

Apple Scanner Dispatcher Software: Virtual Memory Issue

This article describes an issue with the Apple Color OneScanner Dispatcher software where a type 1 error is generated during a prescan with virtual memory turned on.
This article has been archived and is no longer updated by Apple.
The behavior you describe may also occur with HyperScan and Ofoto scanner software. Further, the behavior is not limited to the Apple Color OneScanner; it may occur with other Apple scanners as well like the Apple ColorOne 600/27. In all cases, the solution is the same.

There is a new version of the Scanner extension that addresses this issue. Its name is Dispatcher-Ofoto Drvr 4.2, and it has been posted to Apple Software Update locations. With the new extension, you will be able to use Dispatcher without having to turn off virtual memory. Also, if you have virtual memory on, this issue will occur with any Mac OS you use until you upgrade to the new extension.

The new extension may be used with the following scanner software:

- Dispatcher software version 2.0 (or newer)
- HyperScan
- Ofoto 2.0.1 (or newer)

Note: The Apple Color OneScanner Dispatcher software and installer is now version 2.1, which includes the new Scanner Extension.

This article can help you locate the software update mentioned here:

- Article 14724: "**Where To Find Apple Software Updates**" - Lists online services for free Apple software updates.

Published Date: Feb 18, 2012

HyperCard 2.x: Using The Dial Command (3/97)

I'm trying to use HyperCard 2.x's dial command to operate my modem, as described in the manual. I'm using the command:

dial "2551212" with modem "ATS0=0DT"

My GeoPort modem picks up and starts to dial, but then hangs up after 3 numbers. What's happening?

This article has been archived and is no longer updated by Apple.

```
Starting with HyperCard 2.1, a new global property named "dialingTime" controls the amount of time the serial
port will be kept open after a dial command.  By default, this is set to 3 seconds.  You can increase the
time, as shown in the following sample script:

on mouseUp
 set the dialingTime to 600 -- (600 ticks = 10 seconds)
 dial "2551212" with modem "ATS0=0DT"
end mouseUp

For more information about the AT modem commands which can be used with your modem, consult your modem
documentation.


This article was published in the 19 March 1997 "Information Alley."
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Published Date: Feb 18, 2012

CFM-68K Runtime Enabler 4.0: Final Version Read Me

The CFM-68K Runtime Enabler Version: 4.0 was reposted on 1997-05-02. This software requires Non-PowerPC-based Macintosh computer running System software version 7.1 through 7.6. Also requires ObjectSupportLib version 1.2 (included with this software). CFM-68K Runtime Enabler 4.0 and ObjectSupportLib 1.2 are included in Mac OS 7.6.1 Update.

Description
CFM-68K Runtime Enabler extension 4.0 for 680x0 computers needed for certain applications which require it. Versions older than 4.0 should be updated. This article is the CFM-68K Runtime Enabler final version, "How to Install CFM-68K" Read Me file.

This software is available for downloading from the Apple Software Updates Web site at: http://www.apple.com/swupdates/ .
This article has been archived and is no longer updated by Apple.
Apple Computer has released version 4.0 of the CFM-68K Runtime Enabler extension. This extension fixes an issue with earlier versions of this extension, which could result in application instability and loss of data. Because of the potential quality impact of this issue, customers with earlier versions of this extension should upgrade to version 4.0.

To determine what version of the extension you have, perform the following steps:

1. Open your hard disk.
2. Open your System Folder.
3. Open you Extensions Folder.
4. Select the " CFM-68K Runtime Enabler" file. (Note: The file name begins with a space.)
5. Choose Get Info from the File menu.
6. The version number is listed next to the Version heading.
7. If the version number is less than 4.0, you should replace the extension with version 4.0, using the following directions.

(This is not part of the Read Me file. Note: If you are using CFM-68K Runtime Enabler 4.0b1 Beta software, you should replace the extension with version 4.0.)

8. Select the file ObjectSupportLib and Choose Get Info from the File menu.
9. If the version number of the file is less than 1.2, you need to replace it with the newer version.
10. Drag ObjectSupportLib and CFM-68K Runtime Enabler from your Extensions folder onto your Desktop. If you had previously removed the CFM-68K Runtime Enabler, then drag only ObjectSupportLib onto your Desktop. The ObjectSupportLib file must be out of your Extensions folder, but cannot be thrown away or replaced because it is in use. After you restart your computer, you can drag the ObjectSupportLib file from the Desktop to the Trash.
11. Locate the folder "CFM-68K 4.0 folder" and double-click it to open it.
12. Drag the two files " CFM-68K Runtime Enabler" (**Note:** The file name begins with a space.), and "ObjectSupportLib" into the Extensions folder in your System Folder. Important: Dragging these files onto the System Folder itself may not route them to the correct location. Both need to be in the Extensions folder.
13. Restart your computer.
14. Verify that you have the correct versions installed by repeating steps 1 through 9.
15. Drag the older versions of the files from your desktop to the Trash.

Published Date: Feb 18, 2012

MessagePad Devices: Cables needed for Windows Connections

I need to know how I can obtain a cable for my Apple MessagePad, so I can use it with my Windows computer.
This article has been archived and is no longer updated by Apple.
Newton software only supports serial connections, so depending on the type of serial port on your Windows PC, you these cables:

DB-9 Serial Port on your Windows PC

922-0565 "Cable, PC Connect"
922-0675 "Cable, PC Adaptor, DB9/DB25, black"

DB-25 Serial Port on your Windows PC

922-0565 "Cable, PC Connect"

The PC Connect cable is a DIN-8 to DB25 cable. The DIN-8 Connector is the port used on the Apple MessagePad. The PC Adaptor is a DB25 to DB9 cable that goes on the end of the PC Connect cable.

You can purchase these cables from an Apple Service Center, or you can use any compatible third-party cable.

This article was published in the 21 March 1997 "Information Alley."
Published Date: Feb 18, 2012

QuickTake 200: Problems Installing Adobe Software (3/97)

On the initial CD-ROM discs containing Adobe PhotoDeluxe and Adobe PageMill 2.0, there was a problem with the serial number printed on the CD jacket for PhotoDeluxe. There are also problems installing the software. This article contains the workarounds for the problems.
This article has been archived and is no longer updated by Apple.

Adobe PhotoDeluxe Serial Number Issue
==========

The serial number printed on the CD-ROM jacket is incorrect.

If the printed the serial number begins with HEWxxxxxxxxxxx-xxx

The correct serial number is: HFWxxxxxxxxxxx-xxx (Note the second character is different)

Installation Problems with Adobe PageMill & PhotoDeluxe
==========

When customers try launching either the Adobe PageMill installer or Adobe PhotoDeluxe installer icons at the root level, they will hear a beep once and the installer will not open. The workaround is listed below.

Adobe PageMill

Step 1

Open the Adobe PageMill 2.0 folder

Step 2

Open the Adobe PageMill 2.0 folder

Step 3

Open the Disk 1 folder

Step 4

Launch the Install Adobe PageMill icon.

Adobe PhotoDeluxe

Step 1

Open the Adobe PhotoDeluxe folder

Step 2

Open the Install Adobe PhotoDeluxe folder

Step 3

Open the Install-Disk 1 folder

Step 4

Launch the Adobe PhotoDeluxe Installer icon.

Adobe's technical support staff has been informed of the workarounds and Apple is currently replacing the CD-ROM discs, so customers get a working CD-ROM Disc out of the box.

This article was published in the 24 March 1997 "Information Alley."

Article Change History:
24 Mar 1997 - Added Information Alley statement.

Published Date: Feb 18, 2012

Joystick: You‘ll Need an Adapter for Use with the Apple II

This article has been archived and is no longer updated by Apple.

The packaging for the Apple Joystick (part number A2M2012) states that the Joystick works on the Apple II Plus. In fact, it will not without an adapter plug. Apple no longer supplies that adapter, but there is one available from Southern California Research Group.

Southern California Research Group also supplies adaptors that let you simultaneously connect two joysticks to an Apple II+, Apple IIe, or Apple IIGS (but not to an Apple IIc). If a given software package is specifically written for two Joysticks, it will say so on the box.

For more information, search the library under Southern California Research Group.

Published Date: Feb 18, 2012

Where Are OT/PPP Control Panel Settings Stored? (4/97)

Where are the Open Transport/PPP control panel settings stored?
This article has been archived and is no longer updated by Apple.

The configuration information entered through the PPP control panel are stored in the Remote Access Connections document (System Folder:Preferences:Remote Access:Remote Access Connections). Removal of this file clears all PPP control panel preferences including saved configurations and connect scripts.

Modem scripts used by OT/PPP are stored in the same location as ARA modem scripts, (System Folder:Extensions:Modem Scripts).

Modem control panel settings are stored in the Modem Preferences file (System Folder: Preferences: Modem Preferences).

This article was published in the 2 April 1997 "Information Alley."

Article Change History:
02 Apr 1997 - Added Information Alley statement.

Published Date: Feb 18, 2012

PowerBook 1400: No Caps Lock Extension With Mac OS 7.6 (6/97)

I just installed Mac OS 7.6 on my PowerBook 1400 and now when I press the Caps Lock key the icon does not appear in the menu bar. How do I get the icon back?
This article has been archived and is no longer updated by Apple.
By default, the Mac OS 7.6 installer does not install the Caps Lock extension (which enables the menu bar icon), however, the extension can be custom installed. To custom install the Caps Lock extension with the Mac OS 7.6 Installer, follow the steps below:

1. Insert the Mac OS 7.6 CD.
2. Open the Software Installers folder on the CD. You may need to scroll down to see the Software Installers folder.
3. Open the Mac OS 7.6 folder.
4. Double click the Installer icon.
5. Click Continue... .
6. Click Agree.
7. Choose Custom Install from the pop-up menu ("Easy Install" is the default choice).
8. Click on the triangle next to Mobility.
9. Check the box next to Caps Lock.
10. Click Install.
11. When the installer has finished, restart the PowerBook and the Caps Lock icon will show up in the menu bar whenever the Caps Lock key is activated.

NOTE: Some PowerBook 1400 computers shipped with Mac OS 7.6 installed, and they may not have the Caps Lock extension in the Extensions folder. In these cases, follow the same steps above to install the Caps Lock extension, but use the PowerBook 1400 System CD that comes with the computer instead of the Mac OS 7.6 CD.

This article was published in the 1 April 1997 "Information Alley.
Published Date: Feb 18, 2012

Power Macintosh 7200, 7300, 7500 & 7600: Changing Fan Speed

Customer says he has noticed the Power PC 7600 fan speed apparently increases with changes in temperature. When the case is removed, the fan speed appears to decrease. Is this normal operation?

This article has been archived and is no longer updated by Apple.

The change in the speed of the fan is normal; it is a variable speed fan. The power supply used in the Power Macintosh 7200/7300/7500/7600 enclosure contains a fan speed control circuit. The circuit is designed to monitor the temperature of two critical heatsinks used in the power supply. As the temperature of those heatsinks rises and lowers, the speed of the fan is adjusted to compensate for the change in temperature.

Published Date: Feb 18, 2012

PC Compatibility Card: 80 Character Text File Printing (4/97)

When printing ASCII or Epson LQ-2500 print jobs from the PC environment to a PostScript printer, the print out will be cut off halfway through the 77th column.

This article has been archived and is no longer updated by Apple.

This is a known issue with the way PC Print Spooler converts ASCII or Epson print jobs into PostScript. Apple expects this to be resolved in the next release of the PC Setup software.

Workarounds
---
* Print to a QuickDraw-based printer.

* In the DOS environment print to a file. Then open the file in a Windows-based word processing application like NotePad, WordPad, or Word and then print. Since Windows has its own PostScript driver, it will generate the PostScript, and PC Print Spooler will not have to modify this print job because it is already in PostScript. This workaround is fine if you can print to a file, however, some applications will not let you do this.

* Adjust the AUTOEXEC.BAT file by following these steps:

Step 1
Open the PC Setup control panel

Step 2
Select COM1 to be "New Text File..." and give the file a name.

Step 3
Add the following line to AUTOEXEC.BAT:

mode lpt1=com1

This will redirect LPT1 output to COM1. Since COM1 will be saved as a file, you will have the ASCII text file in the Macintosh environment.

Step 4
To activate the port redirection, restart the PC environment for the new AUTOEXEC.BAT to be loaded or retype the above line at the command prompt.

Step 5
From the Macintosh environment, open the text file with a text editor or word processing application. SimpleText will work, but you will need to change the font size to 10 point to get 80 columns.

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QuickTime: Mac OS 7.6 Issue

This article describes an issue between Mac OS 7.6 and QuickTime.
This article has been archived and is no longer updated by Apple.
A bug in the memory manager can cause a system crash when running Mac OS 7.6 and applications using QuickTime. Although this issue can be encountered using any application which uses QuickTime, it will most likely be encountered during memory intensive tasks such as compressing QuickTime movies in high end video editing programs. Increasing the memory allocation for the video application may help avoid this, but the best way to avoid this problem is to upgrade to Mac OS 7.6.1, which fixes this bug.

Note: Tis problem only occurs with Mac OS 7.6. It does not occur with System 7.5.5 or earlier versions of system software, nor does it occur in Mac OS 7.6.1 or later.
Published Date: Feb 18, 2012

Apple Video Player: Radio Sound Only (4/97)

When the Apple Video Player and Apple FM Radio are both open, you will only hear the audio from the radio even when the TV is the foreground process.

This article has been archived and is no longer updated by Apple.

You can watch TV and listen to the radio at the same time, but the radio sound takes precedence. To hear the TV, make sure you have quit the Apple FM Radio application. To do so, click the FM Radio window to make it active, then choose Quit from the File menu.

NOTE: The radio sound doesn't work if Video or S-Video is selected in the Apple Video Player application (even if that application isn't currently open). Open the Apple Video Player application and choose Show Controls from the Windows menu. Click the video screen icon (the second button down on the left). Choose TV as your video source. You can then quit the Apple Video Player application. Now when you open the Apple FM Radio application, you will hear radio.

This article was published in the 7 April 1997 "Information Alley."

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Catalyst 3.0: Incompatible with Apple 3.5 Disk Drive

This article discusses an incompatibility with Catalyst 3.0 and the Apple 3.5 disk drive.
This article has been archived and is no longer updated by Apple.
Catalyst 3.0 on a 3.5 inch disk is not compatible with the Apple 3.5 disk drive. Quark does not currently have a fix for this problem.

The only way to use Catalyst 3.0 on an Apple IIGS is by using the 5.25 inch version or by using only UniDisk 3.5's on the Apple IIGS.

A book mentions a Catalyst version 4.0 for the Apple IIGS. Such a version does not exist and is not being worked on.
Published Date: Feb 18, 2012

PC Compatibility Card: At Ease 3.x Errors (4/97)

I get several memory related error messages when using my PC Compatibility card, with At Ease 3.0.1, in a Power Macintosh 9500/132 with System 7.5.3.

One of the errors reads: "There is not enough memory to open the 'PC Clipboard' application. You will not be able to transfer the clipboard contents between the Macintosh and PC. Try quitting an open application."

Whenever I try to print from the PC Environment nothing prints out. If I switch to the Mac environment I get the following error: "There is not enough memory to open the 'PC Print Spooler' application. Files printed from the PC will be printed when more memory becomes available."

I've got 80MB installed in my Power Macintosh 9500 and I have tried raising and lowering the memory to both PC Print Spooler and PC Clipboard with no change.

If I switch to a user in At Ease that has full Finder access, then I do not get these errors. I do get similar errors in the restricted Finder. In some cases I won't get the error, but nothing will print until I log out.

This article has been archived and is no longer updated by Apple.

In order to have Windows Clipboard and printing support when running At Ease, the PC Clipboard and PC Print Spooler applications need to be added to the list of user applications.

When they are added, they will show up on the At Ease panel like any other application. No damage can result from clicking on either PC Clipboard or PC Print Spooler. PC Clipboard will launch and automatically quit. PC Print Spooler will launch and a status window will appear. Users can change the preferences in PC Print Spooler.

Once PC Print Spooler is running (whether through printing or clicking on its icon in a panel) it will always become the foreground application when switching between Windows and the Mac OS. Users must either select Quit from the File menu or change to At Ease under the Application Menu.

If you do not wish to add PC Print Spooler to a user's At Ease screen, any jobs printed will print when the user logs out. There is no need to log in to the Finder to print. PC Print Spooler will startup and run at the login screen, printing any previously queued jobs.

Published Date: Feb 18, 2012

PC Compatibility Card: Card And Cable Pinouts

This article describes the video loopback cable that comes with the PC Compatibility cards, and provides pinouts for the cable and the card. This article has been archived and is no longer updated by Apple.
The Apple PC Compatibility cards come bundled with a three-headed video loop-back cable (part number 922-2216). The cable allows the routing of both the PC video signal and the Macintosh video signal to a single monitor.

Listed below are the pinouts for the 26-pin video connector and the 15-pin connector on the card, and the pinouts for the three-headed video loop-back cable:

Video Connector

Pin	Signal	Description
1	MAC HSYNC	Macintosh horizontal sync.
2,4,6,8	GND	Logic ground
3	MAC BLUE	Macintosh blue signal
5	SENSE0	Sense line 0
7	BLUE OUT	Blue output from PCI card
9	HSYNC OUT	Horiz. sync. output from PCI card
10	MAC CSYNC	Macintosh contrast sync.
11,13,15,17,21,24	GND	Chassis ground
12	MAC GREEN	Macintosh green signal
14	SENSE1	Sense line 1
16	GREEN OUT	Green output from PCI card
18	CSYNC OUT	Contrast sync. out from PCI card
19	MAC VSYNC	Macintosh vertical sync.
20	MAC RED	Macintosh red signal
22	CABLE DET L	Cable detect low
23	SENSE2	Sense line 2
25	RED OUT	Red output from PCI card
26	VSYNC OUT	Vertical sync. out from PCI card

Joystick Port

Pin	Signal
1,8,9	VCC I/O
2	JOYF 0
3	JRC 0
4,5	GROUND
6	JRC 1
7	JOYF 1
10	JOYF 2
11	JRC 2
12	MIDI OUT
13	JRC 3
14	JOYF 3
15	MIDI IN

Frame Ground (threaded screw holders used to attach cable)

Video "Y" Cable Pinouts, 26-pin End to PC Compatibility Card

Pin	Signal
1	MAC HSYNC

2	HSYNC RETURN
3	MAC BLUE
4	MAC BLUE RETURN
5	SENSE 0
6	BLUE OUT RETURN
7	BLUE OUT
8	HSYNC OUT RETURN
9	HSYNC OUT
10	MAC CSYNC
11	CSYNC RETURN
12	MAC GREEN
13	GREEN RETURN
14	SENSE 1
15	GREEN OUT RETURN
16	GREEN OUT
17	CSYNC OUT RETURN
18	CSYNC OUT
19	MAC VSYNC
20	MAC RED
21	RED RETURN
22	CABLE DET
23	SENSE 2
24	RED OUT RETURN
25	RED OUT
26	VSYNC OUT

Video "Y" Cable Pinouts, 15-pin End to MAC Video

Pin	Signal
1	RED RETURN
2	MAC RED
3	MAC CSYNC
4	SENSE 0
5	MAC GREEN
6	GREEN RETURN
7	SENSE 1
9	MAC BLUE
10	SENSE 2
11	MAC SYNC RETURN
12	MAC VSYNC
13	MAC BLUE RETURN
14	CABLE DETECT
15	MAC HSYNC

Video "Y" Cable Pinouts, 15-pin End to Monitor

Pin	Signal
1	RED OUT RETURN
2	RED OUT

3	CSYNC OUT
4	SENSE 0
5	GREEN OUT
6	GREEN OUT RETURN
7	SENSE 1
9	BLUE OUT
10	SENSE 2
11	CSYNC OUT RETURN
12	VSYNC OUT
13	BLUE OUT RETURN
14	HSYNC OUT RETURN
15	HSYNC OUT

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Macintosh: "Port in Use" Error Message

When setting up a serial printer in the Chooser to use the printer port, an alert box with one of these error messages appears: "port in use", or "port currently in use by another application", or "port already in use".
This article has been archived and is no longer updated by Apple.

Symptom

When setting up a serial printer in the Chooser to use the printer port, an alert box with one of these error messages appears: "port in use", or "port currently in use by another application", or "port already in use".

Solution

Reset the printer port by doing the following:

1. Open the Chooser from the Apple Menu.
2. Click Inactive.
3. Restart the computer.

If, after restarting the computer you see the same symptom, make sure AppleTalk is Inactive in the Chooser, and then reset the parameter RAM.

Resetting Parameter RAM (PRAM)

1. Restart the computer.
2. When you hear the startup sound, press and hold down simultaneously the Command-Option-P-R keys.
3. Continue to hold the keys until you hear the startup sound four times.
4. Let up on the keys. The computer will finish restarting.
5. Open the Chooser from the Apple menu.
6. Click Inactive.
7. Restart the computer.

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Powerbook 145: Display Revisions (5/97)

Service provider needs to know a simple way of identifying the different display revisions for the Powerbook 145. Service Source shows three revisions but the pictures all look the same.

This article has been archived and is no longer updated by Apple.

Use the following descriptions to determine the different revisions.

Rev A - metal all the way around the edge of the display
Rev B - PCB Board all the way around the edge of the display
Rev C - white plastic on one side over the display bulb

Once the correct revision has been determined, check Service Source CD for the correct part number.

Apple Change History
22 May 1997 - Revised text format for TIL.

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Half-Height Drive: Physical Dimensions

What are the physical dimensions of the half-height drives?
This article has been archived and is no longer updated by Apple.
A typical 3.5-inch low-profile (1-inch high) HDA, also known as "half height", has the following physical dimensions.

Physical dimensions:

- Height 1 inch
- Width 4 Inches
- Length 5.75 Inches

Other form factors in popular use on the Macintosh line are full-height drives, meant for use on the earliest all-in-one Macintoshes and the third-height drives supported by the mounting brackets used in the Workgroup Servers like the Power Macintosh 8550.
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PowerBook 1400:Target Disk Mode & Internal CD Drive

The expansion bay CD-ROM drive for the PowerBook 1400 does not mount when the PowerBook is placed in Target Disk Mode. Is there something wrong?
This article has been archived and is no longer updated by Apple.
There is nothing wrong with the comptuer. The expansion bay CD-ROM drive does not support Target Disk Mode. An external CD-ROM drive can be used in the SCSI chain with the appropriate termination.

For more information on SCSI/Target Disk Mode, please see the following Tech Info Library articles:

Article 19088: "**PowerBook: Miscellaneous Frequently Asked Questions**"
Article 13611: "**PowerBook: Using SCSI Devices**"
Published Date: Feb 18, 2012

AppleWorks: Version 2.0 requires 128K

AppleWorks 2.0 will not boot on a 64K Apple IIe.
This article has been archived and is no longer updated by Apple.
AppleWorks 2.0 requires 128K of memory to run successfully; an Apple IIe with an 80-column card installed will display the message "AppleWorks can only be used on systems with 128K of memory" when later versions of the AppleWorks program are booted.

AppleWorks 2.0 can use as a RAMDisk the 256K to 1MB of memory in the Memory Expansion Cards designed for and respectively used in the Apple IIe, Apple IIGS, or the Apple IIc with a memory expansion slot. AppleWorks 2.0 will not use an Apple IIe Memory Expansion Card in an Apple IIGS.
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PC Compatibility Card: No Video W/ 3rd Party Video Card (4/97)

I am having trouble using the 7" and 12" PC Compatibility Card along with a 3rd party video card.

When the 3rd party video card is installed into a Power Macintosh and the PC Compatibility Card and Mac video are daisy chained into one display the monitor does not work.

Under this same configuration, if I then attach two separate monitors (example: 17" monitor attached to PC Compatibility Card and a 14, 17 or 20" monitor attached to the 3rd party video card), everything is okay. Both sides display fine.

Why is this occurring?

This article has been archived and is no longer updated by Apple.
The design of certain 3rd party video cards omits the ground signal on pin 14 of the DB-15 connector on their video cards. The PC Compatibility Card checks for ground on pin 14 to determine if a monitor/video card is connected.

The system won't exhibit this behavior when using two monitors because the monitor is grounding the signal on pin 14 of the PC Card video connector.
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PC Compatibility Card: Support For Audio Input (4/97)

Can I use my external microphone to provide audio input to my PC Compatibility Card?

This article has been archived and is no longer updated by Apple.

No. The PC Compatibility Card supports CD and MIDI audio input only.

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Apple DOS And PC Compatibility Cards: Where Is BIOS? (4/97)

This article describes the Basic Input/Output System (BIOS) on the DOS Compatibility Card and the PC Compatibility Card.

This article has been archived and is no longer updated by Apple.

The BIOS code is actually stored as a resource in the PC Setup control panel and loaded into CMOS on the card when the booted. Because of this design, it is possible to update the BIOS by installing a new BIOS resource into the PC Setup control panel.

The CMOS on the card is volatile. Therefore, every time the Macintosh is shut down the CMOS on the card is erased. Note that just shutting down the PC or restarting the Macintosh is not sufficient to drain CMOS. The Macintosh must be completely powered off. Also note that it may take several minutes for the memory to be lost. When the Macintosh is powered up again, the CMOS is restored by the PC Setup control panel.

There is no user support for changing BIOS settings, such as adding password protection and the like. If you were able to actually look at the settings you would see that there are no drives. Further, if you were to change the BIOS so that drive A: is a floppy and drive C: is something else, the floppy drive would not work and the PC might not boot.

This article was published in the 14 April 1997 "Information Alley."

Article Change History:
14 Apr 1997 - Added Information Alley statement.

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LaserWriters: Drivers for Windows 95 and Windows 3.1

What Apple LaserWriter printer drivers are available for Windows 95 and Windows 3.1?
This article has been archived and is no longer updated by Apple.
The drivers in the following list are included with Windows 95 and are supported by Microsoft.

- LaserWriter Pro 810
- LaserWriter Pro 630
- LaserWriter Pro 600
- LaserWriter Select 360
- LaserWriter IIf
- LaserWriter IIg
- LaserWriter IInt
- LaserWriter IIntx
- Personal LaserWriter NT (listed as LaserWriter Personal NT)
- Personal LaserWriter NTR
- LaserWriter Plus
- LaserWriter

LW Win 95 4.2.2 (March 98) is also available for download from Apple via the Internet. It contains the printer driver for the following printers:

- LaserWriter 8500
- LaserWriter 12/640 PS
- LaserWriter 16/600 PS
- LaserWriter Pro 600
- LaserWriter Pro 630
- LaserWriter Select 360
- Color LaserWriter 12/660 PS
- Color LaserWriter 12/600 PS

WINDOWS 3.1, 3.0
The drivers in the following list are included with Windows 3.1 and are supported by Microsoft.

- LaserWriter IInt
- LaserWriter IIntx
- LaserWriter Plus
- LaserWriter

Also available for download from Apple via the Internet for Windows 3.1:

- LW Win 3.1 version 3.1 (April 98) which contains the printer driver for the following printers:

- LaserWriter 8500
- LaserWriter 12/640 PS
- LaserWriter 16/600 PS
- LaserWriter Select 360
- LaserWriter Pro 600
- LaserWriter Pro 630
- Color LaserWriter 12/660 PS
- Color LaserWriter 12/600 PS

- LW Pro 810 For Windows (Jan 95, Windows 3.1)
- LW Select 310 For Win: (Nov 8, 1994, Windows 3.1 and 3.0)
- LW SW for Win 1.0.2 (Nov 94) which contains:

WIN30DRV Directory:	Windows 3.0 printer drivers:
LW_NTR.WPD	Personal LaserWriter NTR
LWPRDM3.WPD	LaserWriter Pro 600 with 8 MB at 300 dpi, PhotoGrade Off
LWPRDM3P.WPD	LaserWriter Pro 600 with 8 MB at 300 dpi, PhotoGrade On
LWPRDM6.WPD	LaserWriter Pro 600 with 8 MB at 600 dpi
LWPRD_3.WPD	LaserWriter Pro 600 with 4 MB at 300 dpi
LWPRW_3.WPD	LaserWriter Pro 630 at 300 dpi, PhotoGrade Off

LWPRW_3P.WPD	LaserWriter Pro 630 at 300 dpi, PhotoGrade On
LWPRW_6.WPD	LaserWriter Pro 630 at 600 dpi
LWSEL310.WPD	LaserWriter Select 310
WIN31DRV Directory:	Windows 3.1 printer drivers:
LW_NTR.WPD	Personal LaserWriter NTR
LWPRODM3.WPD	LaserWriter Pro 600 with 8 MB at 300 dpi
LWPRODM6.WPD	LaserWriter Pro 600 with 8 MB at 600 dpi
LWPRODR.WPD	LaserWriter Pro 600 with 4 MB at 300 dpi
LWPROWT3.WPD	LaserWriter Pro 630 at 300 dpi
LWPROWT6.WPD	LaserWriter Pro 630 at 600 dpi
LWSEL310.WPD	LaserWriter Select 310

- PLW NTR For Windows (Nov 94) which contains:

WIN30DRV Directory:	Windows 3.0 printer drivers:
LW_NTR.WPD	Personal LaserWriter NTR
LWPRDM3.WPD	LaserWriter Pro 600 with 8 MB at 300 dpi, PhotoGrade Off
LWPRDM3P.WPD	LaserWriter Pro 600 with 8 MB at 300 dpi, PhotoGrade On
LWPRDM6.WPD	LaserWriter Pro 600 with 8 MB at 600 dpi
LWPRD_3.WPD	LaserWriter Pro 600 with 4 MB at 300 dpi
LWPRW_3.WPD	LaserWriter Pro 630 at 300 dpi, PhotoGrade Off
LWPRW_3P.WPD	LaserWriter Pro 630 at 300 dpi, PhotoGrade On
LWPRW_6.WPD	LaserWriter Pro 630 at 600 dpi
WIN31DRV Directory:	Windows 3.1 printer drivers:
LW_NTR.WPD	Personal LaserWriter NTR
LWPRODM3.WPD	LaserWriter Pro 600 with 8 MB at 300 dpi
LWPRODM6.WPD	LaserWriter Pro 600 with 8 MB at 600 dpi
LWPRODR.WPD	LaserWriter Pro 600 with 4 MB at 300 dpi
LWPROWT3.WPD	LaserWriter Pro 630 at 300 dpi
LWPROWT6.WPD	LaserWriter Pro 630 at 600 dpi

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MessagePad 2x00: Reset When Changing Batteries

When I insert my batteries into my MessagePad 2000, I receive the message:

"Do you want to erase data completely?" [Yes][No]

If I tap "yes", I receive the message:

"All your data will be lost. Do you want to continue?" [OK][Cancel]

What is this message, and why does it appear?
This article has been archived and is no longer updated by Apple.
This message is part of the "hard reset" process, which is used to erase all data and information in the MessagePad's internal memory. For more information on hard resets, see page 230 of your MessagePad 2000 User's Manual or MessagePad 2100 User's Manual PDF document on the CD-ROM.

The message appears because the power switch is down while the Newton MessagePad "cold boots". A cold boot occurs when the MessagePad is started after a period without power. The two most likely situations are as follows:

1) No AC adaptor, no batteries. Insert AC adaptor. The MessagePad 2000 will turn itself on automatically. If the switch is depressed within the first few seconds, then the "cold boot" process will display the "hard reset". Users should refrain from using the power switch for about 5 seconds after inserting the AC adaptor to prevent the hard reset message from appearing. The unit does not boot any sooner if you use the switch.

2) No AC adaptor, no batteries. Insert batteries. The MessagePad 2000 will remain off, and will cold boot when the power switch is depressed. However, if you hold the power switch, the cold boot process will display the "hard reset."

There are other, more esoteric cold boot situations as well. Remember to avoid holding down on the power switch.

This behavior is identical to previous MessagePad models, but the MessagePad 2x00 has a power switch that is easier to reach, increasing the likelihood of displaying the "hard reset" message.

If you have accidentally erased your MessagePad, you can reload the bundled applications from the "Backup Disks" and you can restore personal data you have backed up with Newton Connection Utilities.

In order to reduce customer confusion, Newton Systems Group will add an addendum to the MessagePad 2000 box that states:

Resetting your MessagePad or Installing batteries
When you do a software reset or you slide down and hold the Power switch after installing batteries, a message may appear asking if you want to erase your data completely. Tap No and your MessagePad will restart without erasing any information.

For more information about software resets, see the section, "Resetting the MessagePad" in the MessagePad 2x00 User's Manual. For more information on installing batteries, please see "Appendix A: Installing and Replacing Batteries" in the MessagePad 2x00 User's Manual.

This article was published in the 14 April 1997 "Information Alley."
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HP DAT Drives: Dip switches

What should the dip switches on the HP DAT drives be set to? What do they set?
This article has been archived and is no longer updated by Apple.
All switches need to be set to the ON position. With switches 1 & 2 set to the ON position, data compression is controlled by software.

HP DAT Drive Dip Switches

Switch 1 & 2 - Control compression
Switch 3 - Enable/disable MRS tape recognition
Switch 4 - 7 - No information at this time

Apple Change History
22 May 1997 - Updated text format for TIL.

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QuickTime VR for Windows: Component File Versions

This article describes situations that may occur when using QuickTime VR for Windows.
This article has been archived and is no longer updated by Apple.
Error messages may sometimes appear when using QuickTime VR in an Apple Media Tool project running on Windows.

An older version of the QuickTime VR component file is being used with a newer version of QuickTime for Windows.To correct the situation, you will need a copy of the QuickTime VR component file that matches the version of QuickTime for Windows loaded on your PC.

The QuickTime VR component file is called QTVRW.QTC for the 16-bit version.

If you are using Windows 95, you can use the "Properties" command to check the QTVRW.QTC file's version number. The QTVRW.QTC file may be located in the C:\\WINDOWS\\SYSTEM directory, with your application, or both. Be sure to verify that your disk does not contain multiple copies of this file.

Version 1.0.3.10 of QTVRW.QTC is available for download from http://quicktime.apple.com and should be used with QuickTime for Windows 2.1.2.

If you experience this behavior with QTVRW.QTC 1.0, try reinstalling QuickTime for Windows version 2.0.3.
Published Date: Feb 18, 2012

AppleWorks: Apple IIGS Desktop Size

When I try to boot AppleWorks 2.0 on my Apple IIGS, the message "WARNING! Desktop is full. Action not complete. Press space bar to continue."

What could be causing this?
This article has been archived and is no longer updated by Apple.
For desktop storage, AppleWorks 2.0 on an Apple IIGS will only use memory found on the Apple IIGS logic board and Memory Expansion Card. When this card is not present and AppleWorks 2.0 is booted from the Apple IIGS System Disk, the Apple IIGS Tools, using a large portion of available logic board RAM, leave only 13K for the AppleWorks desktop.

The message "WARNING! Desktop is full. Action not completed. Press space bar to continue." appears when the user attempts to create a word processor file from scratch. If you make a second attempt to create a word processor file, AppleWorks will complete the task.

AppleWorks' users should be aware of this situation before using AppleWorks 2.0 and the Apple IIGS System Disk files on an Apple IIGS without an Apple IIGS Memory Expansion Card installed.

If AppleWorks 2.0 is booted from the AppleWorks Startup Disk, an Apple IIGS 1M Expansion Card will permit up to 1149K on AppleWorks' desktop. Factors that affect the size of AppleWorks' desktop are:

- memory available on the Apple IIGS Memory Expansion Card
- memory occupied by the Apple IIGS RAM disk
- the availability of the Apple IIGS desktop
- other AppleWorks auxiliary programs that are loaded into the Apple IIGS
- the method used to start up AppleWorks.

You may create a disk that will allow AppleWorks and the Apple IIGS Desktop to be used effectively on the same disk:

1. Make a new copy of your AppleWorks 2.0 master disk.

2. Remove the file "PRODOS" from the new AppleWorks disk.

3. Copy the file called "P8" from the System folder on the Apple IIGS System Disk onto the new AppleWorks disk. Rename the copied file "PRODOS". The disk is now bootable for starting up the Apple IIGS.

If you wish to add the desktop:

1. Locate the folder "DESKTOP" on the Apple IIGS System Disk. Copy the contents of this folder onto the root directory of the new AppleWorks disk.

2. On new the AppleWorks disk, rename the file "APLWORKS.SYSTEM" -> "APPLEWORKS" and "DESKTOP1" -> "DESK1.SYSTEM".

3. Start your Apple IIGS with the modified AppleWorks disk. Once the desktop appears, double click on the "APPLEWORKS" icon to run the AppleWorks program. Using this disk on an Apple IIGS with 256K memory provides 124K of AppleWorks' desktop space.

AppleWorks versions 1.1, 1.2 and 1.3 can be used on an Apple IIGS, an Apple IIc, or an Apple IIe with either 64K or 128K memory. AppleWorks' desktop size on an Apple IIGS will vary with the version of AppleWorks in use. Because AppleWorks 1.3 and earlier versions do not recognize the newer features of the Apple IIGS, the user can obtain only a 55K AppleWorks desktop, even though the computer may have from 256K to 1.25M of memory on the logic board and in the Memory Expansion Slot. However, if the Apple IIGS has an Apple II Memory Expansion Card in one of its seven slots, AppleWorks 1.3 does recognize it and uses the Memory Expansion Card to increase the desktop size.
Published Date: Feb 18, 2012

Newton Internet Enabler 1.0: Overview

This article offers an overview of the Newton Internet Enabler 1.0.
This article has been archived and is no longer updated by Apple.
The Newton Internet Enabler (NIE version 1.0) - TCP/IP provides capabilities for the Newton 2.0 platform. Use and knowledge about this product is covered and bound by the terms of the license you will need to execute with Apple Computer, Inc.

NIE v1.0 offers:

- Support for TCP and UDP protocols over PPP and SLIP
- domain name resolver
- dialer with scripting capability

NIE v1.0 enables dial-up access to an Internet Service Provider (ISP) or any IP-based solution, including web browsers or POP/SMTP mail. Enclosed with the packages you will also find sample code and reference documentation. Please be sure to read the release notes for issues that may arise using NIE 1.0.
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LaserWriter 8.4.x: Page Range Numbering

Laserwriter 8.4, 8.4.1 and 8.4.2 do not allow me to enter 4-digit page numbers (above 999) in the page range fields of the Print dialog. Previous versions of the LaserWriter driver software (such as 8.3.4 or 8.3) allowed me to type in a 4-digit number. Is this a known issue?
This article has been archived and is no longer updated by Apple.
This is a known issue with LaserWriter driver 8.4.x versions. A newer version of the driver, LaserWriter 8.5.1, allows 4-digit page numbers to be entered into the page range fields of the Print dialog. LaserWriter 8.5.1 ships with the LaserWriter 8500 printer, and is also available for download from Apple Software Update sites.

These articles can help you locate the software update mentioned here:

"**Where To Find Apple Software Updates**" - Lists online services for free Apple software updates.

"**Obtaining Apple Product Support in the USA**" - Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech Info Library.
Published Date: Feb 18, 2012

Mac OS 7.6: Compatibility With Deck II v2.5

This article discusses compatibility between Mac OS 7.6 and version 2.5 of DECK II software.
This article has been archived and is no longer updated by Apple.
Users experiencing problems using DECK II v2.5 software with Mac OS 7.6 should update their DECK II software. Macromedia, the publisher of the software, has posted DECK II version 2.5.3 to their software update site(s).

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

The Tech Info Library article titled "**Locating Vendor Information**" can help you search for a particular vendor's address and phone number.
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Avid Cinema: No Menu Items Available

When Avid Cinema is launched, all menus except the File menu are grayed out and the only menu item available is Quit. What's happening?
This article has been archived and is no longer updated by Apple.
This can happen after installing America Online 3.0. Some versions of AOL 3.0 install ObjectSupportLib 1.1.4. ObjectSupportLib 1.1.4 is incompatible with Avid Cinema and will cause the behavior you described.

The solution is to drag the ObjectSupportLib file from your Performa CD into your Extensions folder, replacing the incompatible version, and then restart.

The ObjectSupportLib file can be found by following this path on the Performa CD: Performa CD / Hard Disk Files / System Folder Files / Extensions / ObjectSupportLib.

Published Date: Feb 18, 2012

PowerBook 3400: Speakerphone/Voicemail Capability (4/97)

Can I use the PowerBook 3400 as a speaker phone/voice mail system like I can with some desktop Power Macintosh systems?

This article has been archived and is no longer updated by Apple.

The internal PowerBook 3400 33.6 modem does not currently work with any Apple or third-party speaker phone/voice mail software. However, the PowerBook 3400 can be used as a full-functioning speaker phone and voice mail system when used with a GeoPort Telecom Adapter and PlainTalk microphone.

Published Date: Feb 18, 2012

Performa 6360 & 6400: Performa Demo and -108 Error (4/97)

I have a Performa 6360 & 6400 computer and have just upgraded my system software to 7.5.5. Now when I try to click the "Sign-Up with Apple" button in the Performa Demo, I get a blank dialog box with a -108.

What is this error and how can I avoid the problem?

This article has been archived and is no longer updated by Apple.

The error is an out of memory error. It means that there is not enough memory to run both the Performa Demo and the "Sign-Up with Apple" application. The Performa Demo was designed to run with system software 7.5.3, Revision 2.2 on a Performa 6360 or 6400 computer with 16 MB of physical memory.

After updating the system software to 7.5.5, the memory requirements for the system software increase slightly. This slight increase is enough to prevent both the Performa Demo and the "Sign-Up with Apple" application to run simultaneously. There are 2 workarounds that will allow Performa 6360/6400 users with 16 MB of memory and running system software 7.5.5 to avoid this -108 error. They are as follows:

1) Turn Virtual Memory on (set to 17 MB and restart the computer)
2) Install more physical memory than 16 MB

Published Date: Feb 18, 2012

LaserWriter 12/640 PS: Automatic Tray Switching

We have a LaserWriter 12/640 equipped with the optional 500 sheet cassette and have set that cassette as the "Installed and Preferred" tray. We have configured the printer for auto tray switching via the Apple Printer Utility, and are using LaserWriter 8.4.2.

The problem is when the 500-sheet cassette runs out of paper, the printer DOES NOT auto tray switch but instead we receive an "out of paper" error message. We are using the same paper size in all the cassettes so why is tray switching not working?
This article has been archived and is no longer updated by Apple.
Starting with LaserWriter 8.4, behavior of auto tray switching changed where control of it resides with the LaserWriter 8 driver and not with the printers' settings. To clarify further, there are two settings in the Error Handling pane of the Print dialog:

Switch to another cassette with same paper size
If "Switch to another cassette with same paper size" is selected, then auto tray switching will be ENABLED REGARDLESS of the trayswitch setting in the printer (made through the Apple Printer Utility).

Display alert
If "Display alert" is selected, then auto tray switching will be DISABLED REGARDLESS of the tray switch setting in the printer (made through the Apple Printer Utility).

To resolve the problem reported by the customer, make sure they have selected "Switch to another cassette with same paper size" chosen in the Error Handling pane.

This behavior is present in LaserWriter 8.4, 8.4.1, and 8.4.2.
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Avid, MPEG and Video-In Card Compatibility

This article provides information on compatibility between the Apple Video-In cards, the Avid Cinema card, and the Apple MPEG card.
This article has been archived and is no longer updated by Apple.
The Avid Cinema Card has a 60-pin connector and comes with a 60-pin ribbon cable; therefore, it must be used with the Video-In Card, Rev. D, which also has a 60-pin connector.

The Avid Cinema card was not tested with and, therefore, is not compatible with the older Video-In Card, Rev. B.

The Apple MPEG card has a 34-pin connector and comes with a 34-pin ribbon cable. This cable can be used with the older Video-In Cards, Rev. B and A, which also have a 34-pin connector, but not with the Video-In Card, Rev. D. To connect the MPEG card to the Video-In, Rev. D card, you will need to use the 34-pin to 60-pin, MPEG to Video-In, Rev D cable.

The part number for the MPEG to Video-In, Rev. D Cable is 922-3420.
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PowerBook 500 Series: Voltages For Low Battery Warnings

I have a PowerBook 500 series computer. I would like to know what the battery voltage levels are when the battery warnings appear.
This article has been archived and is no longer updated by Apple.
There are two factors to take into consideration when discussing the battery voltage levels and the accompanying on-screen warnings:

- the battery warning voltage parameters are contained in the system enabler file, so if a new enabler comes out (such as in a system update or new system software) these voltages may change.
- when a battery is removed and then its voltage is checked, the voltage reading will be slightly higher since the battery is not under a load as it would be inside the PowerBook.

The voltages and their accompanying warnings for the PowerBook 500 series are:

- Full Battery: 11.7 - 12.3 volts
- 1st warning: 11.35 volts
- 2nd warning: 11.15 volts
- 3rd warning: 11 volts

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System 7: 7.5.3 and Later Enabler Matrix

This article lists all Macintosh cpus and the versions of System 7.5.3 and later that they support. It also lists current versions of required enablers.

For information on System 7 software prior to 7.5.3, search the Technical Information Library using the search string "system software and 7.5.2," or "system software and 7.01."

This article has been archived and is no longer updated by Apple.
Use the following table to determine which version of system software you should be using on your Macintosh computer.

Key:

! = Not supported

OK = Works with this version of system software

* = Works with this version of system software, but requires a Macintosh System Enabler (see table at the end of this article)

System 7 Compatibility Table

Macintosh	7.6.1	7.6	7.5.5	7.5.3
128K, 512K, 512Ke, XL, Lisa	!	!	!	!
Plus	!	!	OK	OK
SE	!	!	OK	OK
SE/30	!	!	OK	OK
Classic	!	!	OK	OK
Classic II	OK	OK	OK	OK
Color Classic	OK	OK	OK	OK
II	!	!	OK	OK
IIx	!	!	OK	OK
IIcx	!	!	OK	OK
IIci	OK	OK	OK	OK
IIfx	!	!	OK	OK
IIsi	OK	OK	OK	OK
IIvi, IIvx	OK	OK	OK	OK
LC	!	!	OK	OK
LC II	OK	OK	OK	OK
LC III	OK	OK	OK	OK
LC 475	OK	OK	OK	OK
LC 520	OK	OK	OK	OK
LC 550	OK	OK	OK	OK
LC 575	OK	OK	OK	OK
LC 580	OK	OK	OK	OK
LC 630	OK	OK	OK	OK
Macintosh TV	OK	OK	OK	OK
Centris 610	OK	OK	OK	OK
Centris 650	OK	OK	OK	OK
Centris 660AV	OK	OK	OK	OK
Quadra 605	OK	OK	OK	OK
Quadra 610	OK	OK	OK	OK
Quadra 630	OK	OK	OK	OK
Quadra 650	OK	OK	OK	OK
Quadra 660AV	OK	OK	OK	OK
Quadra 700	OK	OK	OK	OK

Quadra 800	OK	OK	OK	OK
Quadra 840AV	OK	OK	OK	OK
Quadra 900, 950	OK	OK	OK	OK
Performa 450	OK	OK	OK	OK
Performa 460-467	OK	OK	OK	OK
Performa 475-476	OK	OK	OK	OK
Performa 550, 560	OK	OK	OK	OK
Performa 575-578	OK	OK	OK	OK
Performa 600	OK	OK	OK	OK
Performa 611x	OK	OK	OK	OK
Performa 630-638	OK	OK	OK	OK
Performa 5200 Series	OK	OK	OK	OK
Performa 5300 Series	OK	OK	OK	OK
Performa 6116CD	OK	OK	OK	OK
Performa 6200 Series	OK	OK	OK	OK
Performa 6300 Series	OK	OK	OK	OK
Performa 6400 Series	OK	OK	OK	*
Power Mac 4400/200	OK	!	!	OK
Power Mac 5200/75 LC	OK	OK	OK	OK
Power Mac 5260	OK	OK	OK	OK
Power Mac 5300/100 LC	OK	OK	OK	OK
Power Mac 5400	OK	OK	OK	*
Power Mac 6100 Series	OK	OK	OK	OK
Power Mac 6200	OK	OK	OK	OK
Power Mac 6300	OK	OK	OK	OK
Power Mac 6400	OK	OK	OK	*
Power Mac 6500 Series	OK	!	*	!
Power Mac 7100 Series	OK	OK	OK	OK
Power Mac 7200 Series	OK	OK	OK	OK
Power Mac 7300	OK	!	*	!
Power Mac 7500/100	OK	OK	OK	OK
Power Mac 7600	OK	OK	OK	OK
Power Mac 8100/80	OK	OK	OK	OK
Power Mac 8100/100	OK	OK	OK	OK
Power Mac 8100/110	OK	OK	OK	OK
Power Mac 8500/120	OK	OK	OK	OK
Power Mac 8600/200	OK	!	*	!
Power Mac 8600/250	OK	!	!	!
Power Mac 8600/300	OK	!	!	!
Power Mac 9500/120	OK	OK	OK	OK
Power Mac 9500/132	OK	OK	OK	OK
Power Mac 9500/150	OK	OK	OK	OK
Power Mac 9500/180MP	OK	OK	OK	OK
Power Mac 9500/200	OK	OK	OK	OK
Power Mac 9600/200	OK	!	*	!
Power Mac 9600/200MP	OK	!	*	!
Power Mac 9600/233	OK	!	*	!
Power Mac 9600/300	OK	!	!	!
Power Mac 9600/350	OK	!	!	!

Portable	!	!	OK	OK
PowerBook 100	!	!	OK	OK
PowerBook 140	OK	OK	OK	OK
PowerBook 145	OK	OK	OK	OK
PowerBook 145B	OK	OK	OK	OK
PowerBook 150	OK	OK	OK	OK
PowerBook 160	OK	OK	OK	OK
PowerBook 165c	OK	OK	OK	OK
PowerBook 170	OK	OK	OK	OK
PowerBook 180	OK	OK	OK	OK
PowerBook 180c	OK	OK	OK	OK
PowerBook 190	OK	OK	OK	OK
PowerBook Duo 210	OK	OK	OK	OK
PowerBook Duo 230	OK	OK	OK	OK
PowerBook Duo 250	OK	OK	OK	OK
PowerBook Duo 270c	OK	OK	OK	OK
PowerBook Duo 280	OK	OK	OK	OK
PowerBook Duo 280c	OK	OK	OK	OK
PowerBook Duo 2300	OK	OK	OK	OK
PowerBook 520, 520c	OK	OK	OK	OK
PowerBook 540, 540c	OK	OK	OK	OK
PowerBook 1400	OK	OK	!	*
PowerBook 3400	OK	OK	!	!
PowerBook 5300	OK	OK	OK	OK

System Enablers

System Enablers are required for the Macintosh models listed in the table below with System 7.5.3 or later. Macintosh computers which require system enablers will not operate properly with System 7.5.2 or earlier.

For a more detailed description of system enabler versions, search the Tech Info Library using the search string,"system enablers."

This table shows the appropriate system enabler for the indicated Macintosh computer:

Model	Enabler name	Use only with version	Current enabler version	Note
Power Mac 4400/200	System Enabler 827	7.5.3		A
Power Mac 5400	System Enabler 410	7.5.3		
Power Mac 6400	System Enabler 410	7.5.3		
Power Mac 6500 Series	System Enabler 411	7.5.5		B
Power Mac 7300	System Enabler 702	7.5.5		B
Power Mac 8600/200	System Enabler 702	7.5.5		B
Power Mac 8600/250	No Enabler Needed			C
Power Mac 8600/300	No Enabler Needed			C
Power Mac 9600/200	System Enabler 702	7.5.5		B
Power Mac 9600/200MP	System Enabler 702	7.5.5		B
Power Mac 9600/233	System Enabler 702	7.5.5		B
Power Mac 9600/300	No Enabler Needed			C
Power Mac 9600/350	No Enabler Needed			C
PowerBook 1400 (all models)	PowerBook 1400 Enabler	7.5.3		
Performa 6400 Series	System Enabler 410	7.5.3	1.1	

Notes:

A. The Power Macintosh 4400/200 shipped with 7.5.3 and requires the enabler that shipped with it.It does not support Mac OS 7.6 but will support Mac OS 7.6.1.

B. These computers shipped with 7.5.5 and require the enabler that shipped with it. These computers do not support Mac OS 7.6 but will support Mac OS 7.6.1.

C. These computers shipped with 7.6.1 and do not require an enabler. These computers do not support Mac OS 7.5.5 or 7.6 but will support Mac OS 8.0.

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SCSI Disk Mode: Start Up Error Message (4/97)

I have a PowerBook in SCSI Disk Mode (also known as HD Target Mode) connected to another Macintosh computer. After I turn the PowerBook on and get the moving SCSI icon and then try to turn on the other computer, I get an error message telling me that I'm using the wrong system software.

This article has been archived and is no longer updated by Apple.

The host computer is trying to boot from the PowerBook hard drive. Follow these steps to remedy the situation:

1) Turn the host Macintosh off by pressing the power button.
2) Turn the PowerBook in SCSI disk mode off by pressing the power button.
3) Disconnect the SCSI cable from the host Macintosh.
4) Start up the host Macintosh.
5) Open the Startup Disk control panel and select the internal hard drive.
6) Shut down the host Macintosh.
7) Reconnect the SCSI cable.
8) Turn on the PowerBook.
9) Turn on the host Macintosh.

The host computer should now boot up from its own internal hard drive.

This article was published in the 23 April 1997 "Information Alley."

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23 Apr 1997 - Added Info Alley information.

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Fax Option Cards: Year 2000 Support

Is the date/time stamp kept on the fax card or by the computer? If kept by the fax cards will they support the year 2000 date when we reach it.
This article has been archived and is no longer updated by Apple.
PostScript Fax Option Cards maintain their own clock which is supported by a long-life battery when the LaserWriter is off. This Fax clock is compatible with and accepts the new millennium date formats, such as March 10, 2000.

The date and time may be set from Macintoshes via the LaserWriter Fax Utility, or from DOS/Windowsµ3.1 via the Fax Control Panel. Step-by-step procedures for changing the clock settings are documented in the Fax Card User's Guide.

This pertains to any Apple Fax Option Cards available for the LW Pro 810, LW Select 360, and LW 16/600.
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Apple IIGS: Composite and analog video

This article has been archived and is no longer updated by Apple.

The Apple IIGS has two video ports: an RCA phono jack and a 15-pin D-Type connector. An EIA-standard composite video signal (2.0V white, 0.75V black, 0.0V sync., 75-ohm impedance) is available from both connectors. This composite signal drives many monitors such as the AppleColor Composite Monitor, the Apple Monochrome Monitor, and a TV unit with an RF modulator. While composite video monitors can be used with the Apple IIGS, they don't fully render the 320 x 200- and 640 x 200-pixel color graphics potential of the new system.

The 15-pin connector analog RGB signals provide full color graphics display capability. Note that the Apple IIGS outputs analog, not digital, RGB signals. The designers preferred the unrestricted character of an analog signal for the ability of the Apple IIGS to support 4096 colors. Apple offers a new platinum Apple Color RGB Monitor for the Apple IIGS. Other analog RGB monitors known to work with the Apple IIGS include several models by Hitachi, Panasonic, Sanyo, Mitsubishi, Conrac, and Commodore.

To check if your monitor is analog RGB, consult the manual. Check the pinouts before connecting the monitor to an Apple IIGS to make sure your monitor is compatible with pins 7 and 8. The Apple IIGS's 15-pin RGB video signals are as follows:

Pin Signal

1 Signal ground (Red)
2 Analog RED with sync
3 Composite sync
4 No connection
5 Analog GREEN with sync
6 Signal ground (Green)
7 -5 volts DC
8 +12 volts DC
9 Analog BLUE with sync
10 No connection
11 Sound 1V peak-to-peak
12 NTSC/composite color video out
13 Signal ground (Blue)
14 No connection
15 No connection
Shield System ground

There's no simple, straightforward way to invert sync or to separate horizontal and vertical sync on the composite signal for incompatible monitors, but it could be done as an interface product.

Some types and makes of monitors won't work at all. Digital RGB monitors either won't work at all or will work with unpredictable results. Digital RGB monitors with these problems are Apple's older Color Monitor 100 and IBM RGB monitors (IBM's RGB monitors need inverted sync in addition to TTL video signals.). Apple's Flat Panel Display has incompatible signals.

Do NOT assume that a DB-15 connector on your color monitor means it's analog RGB.
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PC Exchange: Floppy Format Problem (4/97)

I installed PC Exchange 2.0.7 on a Performa 5300 and it does not work. What is wrong?

This article has been archived and is no longer updated by Apple.

PC Exchange 2.0.7 is only for use with those Macintosh models that can support one of the PC Compatibility Cards or the DOS Compatibility Card. It will not run on all systems and is only available in the PC Setup 1.5 installer.

The machines supported by PC Exchange 2.0.7 are as follows:

Power Macintosh 6100/60 and all Performa 61xx variations
Power Macintosh 6100/66 and all Performa 61xx variations
Power Macintosh 7200 and 8200 series
Power Macintosh 7500 and 7600 series
Power Macintosh 8500 and 8600 series
Power Macintosh 9500 and 9600 series
Power Macintosh 5400 series

Quadra 630, LC 630 and all Performa 63x and 640 models

Performa 580
Performa 6360 and 64xx series

Note: Some of the systems above were released after PC Exchange 2.0.7 was tested, so PC Exchange may have problems on some of the later models.

If you are having problems with PC Exchange 2.0.7, PC Exchange 2.1.1 is now available with Mac OS 7.6

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Modem AT Commands With Small Biz Macintosh 4400,6500 (5/97)

I purchased both the Small Business Macintosh 6500/250 (M5612LL/A) and Small Business Macintosh 4400/200 (M5616LL/A) computers with the built-in GeoPort modem. I would like to be able to verify various modem settings using standard AT commands. With previous consumer versions of the Power Macintosh/Performa computers we used the communications capabilities of ClarisWorks to open a connection to the modem using the serial communications tool. How can I verify various modem settings using standard AT commands with these computers?
This article has been archived and is no longer updated by Apple.
The Small Business Macintosh 4400/6500 computers ship with the Apple Internet Connection Kit version 1.2. Part of this kit is the Config PPP control panel. Users can find this control panel by following this path on their hard disk:

Hard Disk:Applications:Internet Utilities:Config PPP:Config PPP

By opening a Terminal Window with this control panel, users can issue standard AT commands to their built-in GeoPort modem. To enter standard AT commands, users can follow the steps below:

1. Open the TCP/IP control panel.
2. Choose PPP in the Connect Via pop-up menu.
3. Close the TCP/IP control panel saving the settings.
4. Open the Config PPP control panel.
5. Click the Terminal Window checkbox option.
6. Click the Open button.
7. Users can issue AT commands in the Terminal Window that appears on the screen. NOTE: After exiting the terminal window, a dialog indicating connection status may appear and remain on the screen for up to one minute. This is normal.

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AppleShare: Extracting MacsBug Log From Crashed Server

This article describes how to extract a MacsBug log file from a crashed AppleShare server.
This article has been archived and is no longer updated by Apple.
Because you often cannot save a MacsBug log file on a crashed server, you usually have to write them down by hand. This is time consuming and inaccurate. There is an alternative, however. Here are the steps necessary to send your MacsBug log to another computer.

Setup
While the server is operating normally, you must:

1) Go to Chooser, and select the ImageWriter printer driver.

2) Select the AppleTalk/Printer port.

3) Close the Chooser.

If The Server Crashes
If the server crashes, do the following:

1) Connect another computer to the AppleTalk/Printer port.

2) Start a communications program on that computer with the following settings:
- Handshake: none
- Stop Bits: 1
- Parity: none
- Data Bits: 8
- Baud Rate: 9600

(common Macintosh programs include ClarisWorks, SITComm, ZTerm, and Black Night)

3) Turn on capture to save the session to a file. Each communications program has its own method for capturing a session to a file.

4) On the server, type 'log Printer', without the quotes. This sends all subsequent MacsBug logging to the serial port and the console.

5) Do any logging in MacsBug required. Note that running a 'stdlog' closes the logfile when done, and resets the logging output to the console only.

6) If you have not run 'stdlog', type 'log' at the console; this closes the log, and resets the logging output to the console only.

7) Stop the communications program.

The capture file should now contain all the logging results.
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QuickTime For Windows 2.1.x: Frequently Asked Questions

This article contains frequently asked questions (FAQ) regarding QuickTime for Windows, with answers to those questions.
This article has been archived and is no longer updated by Apple.
Questions answered in this article:

1. I get the error message, "PLAY32 caused an invalid page fault". What is wrong?
2. I get the error message, "Program error. Your program is making an invalid dynamic link library call to a .dll file. Your program will close". What is wrong?
3. How can I check to see if QuickTime is installed and what version number of QuickTime I have installed?
4. I am not sure I installed everything necessary to use QuickTime on (and off) the Internet. What do I need and how can I check to make sure everything is installed?
5. I am having video issues. Also, I am having trouble with the control panel, and sometimes Movie Player locks up. Can you help?
6. The movie that I downloaded will not play. Why?
7. I get the error message, "Old Version of QuickTime" or "Invalid Dynamic Link to *.DLL". What is wrong?
8. QuickTime VR will not play. What is wrong?
9. My system appears to have a conflict between the QuickTime for Windows and OLE. How can I fix this?
10. I am encountering Trumpet Winsock issues with QuickTime. I am, however, able to play QuickTime movies stored on my hard drive using Movie Player. What is wrong?
11. I am an America Online user and I am having issues with QuickTime under Windows 95. NPQTW32.DLL, NPAUDIO.DLL, NPNUL16.DLL, and NPAVI16.DLL are the only files in my plug-in directory. I assume that there are different "flavors" here but that I am only running one at a time. What is wrong?
12. Can you help me with my Internet browser configuration to be sure everything is correctly configured?
13. When using my browser, I sometimes get the error message, "Could not load plug-in 'QuickTime' for the MIME type 'video/quicktime'". What is wrong?
14. While running the installer for QuickTIme for Windows v2.1, I get the error message, "An error occurred while updating .INI files." What is wrong?
15. I am running Windows 3.1 and I need to uninstall all of the QuickTime files. How do I do this?

Question 1: I get the error message, "PLAY32 caused an invalid page fault". What is wrong?

Answer: This normally occurs due to a bad download. You will need to download and install QuickTime for Windows again. Be sure to perform an uninstall prior to reinstalling.

You can also try installing and skipping the search for old versions. Occasionally this can also work, if you have uninstalled all previous version.

Question 2: **I get the error message, "Program error. Your program is making an invalid dynamic link library call to a .dll file. Your program will close". What is wrong?**

Answer: The error is caused by having mixed versions of QuickTime on your system. The software gets a response from more than one version of QuickTime--hence the error. For example, in the early days games put versions of QuickTime into the game folder, allowing for multiple copies and versions to be installed on your system. Now QuickTime is only installed in one location by developers.

Possible Solutions:

a) The easiest solution is to uninstall the program and then do a fresh install. When running the fresh install be sure to say yes when asked if you want to delete all other versions of QuickTime on your system. For Windows 3.x (16 bit) you will need to do a manual uninstall. See Uninstall 3.1 later in this document.

b) Check your SYTEM.INI file for the line `dci=rfmdci`. If it is there, comment it out. The comment about `dci=rfmdci` is a reference to dci services by the video card and has been found to occasionally cause issues.

Question 3: **How can I check to see if QuickTime is installed and what version number of QuickTime I have installed?**

Answer: Open your control panels folder and look for the control panel named "QuickTime 32" (or "QuickTime"). If it is not there, QuickTime is not installed. If the control panel is there, open it. The version will be in the upper right hand corner of the Control Panel.

Question 4: **I am not sure I installed everything necessary to use QuickTime on (and off) the Internet. What do I need and how can I check to make sure everything is installed?**

Answer: To use QuickTime on (and off) the Internet you must have the appropriate version (2.1.2.59) and flavor (16 or 32 bit) of QuickTime for

Windows installed. In addition, you must have the appropriate version of the QuickTime Plug-In (1.1.1) and the QuickTime VR Component (1.03).

Verify and/or try the following:

- Verify that you downloaded the "easy download" from Apple's QuickTime site. You can find QuickTime software at **http://www.apple.com/quicktime/**
- Was this the first time you installed QuickTime For Windows on your system? If it was not, did you first perform an uninstall of the old version? Did you manually remove the old plug-in file in the Plug-In folder? Did you manually remove the old QTVR file from the windows/system directory?
- Verify that you double-clicked on the downloaded file and that it installed QuickTime for Windows, NPQTW32.DLL into the plug-in folder and QTWVR.QTC into the Windows/System directory.
- Verify that you have only one QuickTime Plug-In in your plug-in folder. Use either the Start...Find...files or the folders...command option, and type "NPQTW32.DLL" into the find window. It should find and list one file named NPQTW32 in your Netscape Plug-ins folder. Click the right mouse button over the icon for this file in the list and select "properties" from the popup. Next, click the "Version" tab in the Properties window that is displayed. It should say File Version: 1.1.1.0. You should have just one QuickTIme Plug-In installed.
- Verify that QuickTime for Windows was installed correctly. A sure way to tell would be to open your control panels and look for a control panel named "QuickTime 32". If the control panel is not there, then you have not installed QuickTime by double-clicking on QT32INST.EXE. If the control panel is there, take the opportunity to click the "Verify Setup" button to make sure all the files are installed properly.
- Does the sample movie included with QuickTime run correctly?
- Have you configured your browser to use the Plug-In?

Question 5: **I am having video issues. Also, I am having trouble with the control panel, and sometimes Movie Player locks up. Can you help?**

Answer: It could be that the default settings QuickTime chose when it looked at your hardware may be inappropriate, specifically for video. Verify and/or check the following:

a) Click the "Verify Setup" on the control panel to make sure all the files are there. Then you can try choosing "More" and scrutinizing the video and audio settings. Continue to the next step if you cannot access the Control Panel.

b) You can hand correct the QTW.INI file. The QTW.INI file is located in your Windows directory. If it is not there you can simply create one by using a text editor such as Notepad. Try the following:

```
[Video]
Optimize=Driver

[Video 32]
Optimize=Driver
```

If it works go to step d. If not, continue with step c.

c) You can hand correct the QTW.INI file, using a different set of parameters than those in step b above. The QTW.INI file is located in your Windows directory. If it is not there you can simply create one by using a text editor such as Notepad. Try the following:

```
[Video]
Optimize=BMP
[Video 32]
Optimize=BMP
```

If it works go to step d.

d) If things work, then the driver for your video card has compatibility issues with QuickTime. Many times the video card manufacturer's web site will have newer versions of their drivers. These newer versions may solve the compatibility issue with QuickTime.

If you find a newer driver, try installing it and then selecting "Video Driver" under the optimization section of the QuickTime control panel.

Question 6: **The movie that I downloaded will not play. Why?**

Answer: There are a couple of reasons why a downloaded movie will not play.

- The movie was encoded with a type that QuickTime does not recognize. QuickTime for Windows currently recognizes only .mov or .moov

files.
- The file was not saved for cross-platform viewing. This can be done on a Macintosh using MoviePlayer.
- The file is corrupted.

Question 7: **I get the error message, "Old Version of QuickTime" or "Invalid Dynamic Link to *.DLL". What is wrong?**

Answer: Sometimes other applications (such as games) install QuickTime on the hard drive in the application's directory. This could be confusing Netscape Navigator and the plug-in into thinking it is an old version of QuickTime.

To correct the issue for Windows 3.1:

- Uninstall QTW 3.1 by hand to ensure all items are getting removed. Once this is accomplished, reinstall version 2.1.2 of QuickTime for Windows. (Instructions for uninstalling are at the end of this article).

To correct the issue under Windows 95:

- Install QuickTime Windows 95 2.1.2.59 and answer yes when asked if you wish to delete all old versions.

Also check your SYSTEM.INI file for the line:

```
dci=rfmdci
```

If it is there, comment it out by placing a semi-colon at the beginning of the line. (The entry is a reference to dci services by the video card and has been found to occasionally cause issues.)

Question 8: **QuickTime VR will not play. What is wrong?**

Answer: Verify that the file named QTVR@.QTC (16-bit) or QTVRW32.QTC (32-bit) is in the Windows\\system directory.

If the file is there, then other possibilities include:

- The VR movie was not flattened for cross-platform playing.
- JPEG compression was used when creating the VR movie.

If the VR movie was not flattened for cross-platform play, open it up in Movie Player on a Macintosh, choose "Save As..." from the File menu. Click on the Flatten button and the Make playable on Non-Apple computers check box, and then save the movie.

If JPEG compression was used, the only way to get it to display correctly with the 1.0.3 components file is to make sure you are in 24-bit color on your PC.

Question 9: **My system appears to have a conflict between QuickTime for Windows and OLE. How can I fix this?**

Answer: When the QuickTIme is installed on Windows 3.1 occasionally the registry file gets confused. This happens with certain versions of OLE.

To correct the issue:
a) Find the file reg.dat. Delete the file.
b) Find the regedit.exe file. Double-click on the file to open it.
c) Close the file.
d) Reboot the system and try QuickTime again.

If this does not correct the issue you will need to reinstall Windows 3.1.

Question 10: **I am encountering Trumpet Winsock issues with QuickTime. I am, however, able to play QuickTime movies stored on my hard drive using Movie Player. What is wrong?**

Answer: There are 16-bit and 32-bit versions of Trumpet Winsock.

If the 16-bit version is being used with Windows 95, be aware that this is not a configuration that was tested. In any event, the system should be

set up with either ALL 16-bit or 32-bit components (QTW, QTVR, Plugin, Browser, Winsock). Remember, no mix 'n' match!

Trumpet Winsock is not recommended for use with Windows 95. We recommend you use the dial-up software that is shipped with Windows 95.

Question 11: **I am an America Online user and I am having issues with QuickTime under Windows 95. NPQTW32.DLL, NPAUDIO.DLL, NPNUL16.DLL, and NPAVI16.DLL are the only files in my plug-in directory. I assume that there are different "flavors" here but that I am only running one at a time. What is wrong?**

Answer: The issue is likely with the 16- versus 32-bit "flavors" that you are running. America Online, the Browser, and QuickTime all have to be the same to work. Windows 95 can run either 16- or 32-bit versions. Verify that everything (including any plug-ins you are using) is the same flavor. Then try again.

Question 12: **Can you help me with my Internet browser configuration to be sure everything is correctly configured?**

Answer: All the browsers that support the QuickTime Plug-In are designed to recognize it automatically and use it to play back those media types that QuickTime supports. However, it is always good practive to verify the setup with the browser you are using.

First, make sure the file NPQTW32.DLL is in the plug-ins directory within the directory where the browser is. Verify that QuickTime for Windows 95 is installed by checking the Control Panels folder. Verify that QTVRW32.QTC is installed in the systems/windows directory.

Note: Windows 95 does not let you see .DLL files by default. In order to view .DLL files in Windows 95, make sure you are in the directory window, then choose View from the Options menu and select "Show all files" in the Options dialog box.

Follow the instructions in the sections below to make sure your browser is properly set up to use the QuickTime Plug-In.

Netscape Navigator 3.x for Windows 95
a) Open Netscape Navigator.

b) Choose General Preferences from the Options menu, then click the Helpers tab.

c) Scroll down through the list of file types and click the item "video/quicktime" to highlight it. The information that appears for this item should be the following:

File/MIME Type: video
Subtype: quicktime
File Extensions: qt,mov,moov
Action: Unknown

If this information is missing or incorrect, click Create New Type. Then enter the information given above, or edit the existing information.

d) Click OK.

Internet Explorer 3.x for Windows 95/NT
If the .DLL file is in the right location and you are still having issues, install the latest version of QuickTime for Windows. QuickTime software can be found at:

http://www.apple.com/quicktime/

Question 13: **When using my browser, I sometimes get the error message, "Could not load plug-in 'QuickTime' for the MIME type'video/quicktime'". What is wrong?**

Answer: This can be caused by a number of things:

- Does the movie sample included (with QuickTIme for Windows run within Movie Player? If it does not play the sample movie there is something wrong with the installation (of QuickTIme for Windows. Uninstall and then reinstall the application.
- Does the issue occur with all movies you try to play or just a particular URL/site? If the issue occurs only with a particular site, it could be that the movie is not formatted correctly to play under Windows, or that the movie's QuickTime media type is not supported with Windows at this time.
- Verify that the NPQTW32.DLL or NPQTW16.DLL file is in the plug-in folder for the browser you are using. You should have only one QuickTime Plug-In installed in the folder and only one flavor of the plug-in in the folder.
- Verify that QTWVR32.QTC or QTVRW.QTC is in the windows/system directory.
- Are all the "flavors" of your software the same? Windows 95 can run 16 or 32 bit applications, but your browser and QuickTime need to be either 16- or 32-bit. No mixing the "flavors"! This actually tends to be the issue more often than not.

- Check your SYSTEM.INI file for the following line: dci=rfmdci. If it is there comment it out.
- You could be low on memory if you have 16 megabytes of RAM or less and you are running Netscape Navigator.

Question 14: **While running the installer for QuickTIme for Windows v2.1, I get the error message, "An error occurred while updating .INI files." What is wrong?**

Answer: When reading or writing an INI file, the 16-bit Windows APIs in both Windows 3.1x and Windows 95 have a limit of 32K bytes. This creates an issue when using the 16-bit Windows APIs to modify an INI file when it is greater then 32K bytes. However, INI files are simple text files and there is a workaround to allow a file larger than 32K bytes.

The INI file to be modified by the QuickTime Installer must be less than 32K bytes. In order to install, you must split the INI files, then install QuickTime, and then combine the INI files. We have used Microsoft Write in the example below.

a) Find the INI files that are 32K bytes or more: SYSTEM.INI and/or WIN.INI

b) Use MS Write to split the files:

- OPEN the SYSTEM.INI or WIN.INI file.
- PAGE DOWN to about 30 pages. IMPORTANT: The first 30 pages of the SYSTEM.INI file needs to contain the [mci] section.
- Hold the SHIFT key while PAGE DOWN through the rest of the file. IMPORTANT: The first 30 pages of the WIN.INI, needs to contain the following sections: [Extensions],[mci extensions],[embedding].
- Once selected CUT the selection.
- Launch another MS Write document.
- PASTE into the new MS Write.
- SAVE AS SYSTEM.QTW
- Click on the title bar of the first opened Write with the selection still there.
- Delete the section by pressing the DEL key.
- SAVE AS SYSTEM.INI or WIN.INI
- Repeat for the WIN.INI if necessary.
- Run the QTW installer.
- Re-append the offending INI files.

c) Use MS Write:

- OPEN the SYSTEM.QTW or WIN.QTW
- SELECT ALL -> COPY
- OPEN the SYSTEM.INI or WIN.INI
- PAGE DOWN to the end and -> PASTE.
- SAVE
- Delete SYSTEM.QTW or WIN.QTW
- Exit and re-enter Windows.

NOTE: Generally INI files are less than 32K bytes. If your INI files are larger than 32K you may have unused or outdated information. The procedure outlined above is the only one we are aware of at this time. Please call Microsoft if you require another method or further explanation.

Question 15: **I am running Windows 3.1 and I need to uninstall all of the QuickTime files. How do I do this?**

Answer: Here is a procedure:

a) Find PLAYER.EXE and select it using File Manager.

b) List items by date. All QuickTime files will cluster around the PLAYER.EXE. Delete the following:

```
{Windows}\\PLAYER.EXE
{Windows}\\VIEWER.EXE
{Windows}\\MCENU.HLP
{Windows}\\PLAYENU.DLL
{Windows}\\PLAYENU.HLP
{Windows}\\QTINSTAL.EXE
{Windows}\\READ_QTW.WRI
{Windows}\\SAMPLE.MOV
```

```
{Windows}\\VIEWENU.DLL
{Windows}\\VIEWENU.HLP
```

c) Find ATIVIDEO.QTC and select it.

d) List items by date. NOTE: all QuickTime files will be write protected. List names with detail and you will see the "r" for write protection.

```
{Windows}\\SYSTEM\\*.QTC
{Windows}\\SYSTEM\\MCIQTENU.DLL
{Windows}\\SYSTEM\\MCIQTW.DRV
{Windows}\\SYSTEM\\QTHNDLR.DLL
{Windows}\\SYSTEM\\QTIM.DLL
{Windows}\\SYSTEM\\QTIMCMGR.DLL
{Windows}\\SYSTEM\\QTMOVIE.VBX
{Windows}\\SYSTEM\\QTNOTIFY.EXE
{Windows}\\SYSTEM\\QTOLE.DLL
{Windows}\\SYSTEM\\QTPIC.VBX
{Windows}\\SYSTEM\\QTW16.CPL
{Windows}\\SYSTEM\\QTWCP.HL
```

e) Launch Write.exe and open SYSTEM.INI

- delete this line from the [mci] in the SYSTEM.INI file:
  ```
  QTWVIDEO={Windows' directory}\\MCIQTW.DRV
  ```
- delete these lines from the [Extensions] section in the WIN.INI file:
  ```
  mov={Windows' directory}\\player.exe ^.mov
  pic={Windows' directory}\\viewer.exe ^.pic
  ```
- delete these lines from the [mci extensions] section in the WIN.INI file:
  ```
  mov=QTWVideo
  pic=QTWVideo
  jpg=QTWVideo
  ```
- delete these two lines from the [embedding] section in the WIN.INI file:

  ```
  PlayerFrameClass=QuickTime Movie, QuickTime Movie,{Windows' dir}\\Player.exe,picture
  ViewerFrameClass=QuickTime Picture, QuickTime Picture,{Windows' dir}\\viewer.exe,picture
  ```

f) Delete the Program Group:

- select the QuickTime for Windows group icon and delete it.

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System 7.5.5 Update: No new Finder (4/97)

I upgraded from system 7.5.3 to system 7.5.5. It seems to worked fine but when I do "Get Info" on the System, the dialogue box says System 7.5.5. When I do "Get Info" on the Finder, I get System 7.5 Update 2.0. Should the System and Finder version be the same?

This article has been archived and is no longer updated by Apple.

This is a correct response. System and Finder will have a different version number as the 7.5.5 Update did not include a new Finder.

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CompuServe Mail: Version Changes (4/97)

What was the original release version of Compuserve Mail and has there been any revisions?

This article has been archived and is no longer updated by Apple.

```
The original release was v1.0.1 which has been updated to v1.0.2.

Version 1.0.2 fixes the following problems:

1. The login process hangs when using access numbers in Australia and Hong Kong.

2. If your mail font is large, you are unable to view the last part of large messages in the inbox.

Version ID Check
----------------
4K text stationary = v1.0.1
5K text stationary = v1.0.2
```

Published Date: Feb 18, 2012

3400/4400/5400/6400 Series: Modem Not Recognized (4/97)

I have a Performa 6400. It seems the computer cannot communicate with the modem. What can I do?

This article has been archived and is no longer updated by Apple.

Modems plugged into the serial port of a 3400, 4400, 5400, or 6400 are sometimes not recognized by communications programs. It does not appear that the computer exhibits this behavior with serial StyleWriter printers, QuickTake cameras, or Newton MessagePads. To see if your system exhibits this behavior with a modem:

1) Connect an external modem to the modem port.
2) Make sure the modem is powered off.
3) Restart your Macintosh.
4) Use a communications program such as ClarisWorks, ZTerm, etc. to talk to the modem.

There are two easy workarounds:
- Plug the modem in after the Macintosh restarts.
- Make sure the modem is powered up before starting the Macintosh.

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StyleWriter 1500/2500: Missing ColorSync Profiles

Using a Power Macintosh 8600 or 9600, is it possible to print to an Apple Color StyleWriter 1500 or 2500 when the ColorSync profiles are missing?
This article has been archived and is no longer updated by Apple.
It is possible to print to an Apple Color StyleWriter 1500 or 2500 from a Power Macintosh 8600 or 9600 via the printer drivers and OS that shipped with the computers, but you will be unable to use ColorSync until you install the ColorSync profiles for these printers.

If you select ColorSync (a Color option in the Print dialog), you will receive the error message: "There are no profiles in the ColorSync profiles folder for 'Color SW 1500/2500.' Please install the profiles using the installer diskettes."

Workarounds

1. Use the Halftoning options instead of ColorSync.
2. Follow the recommendations given in the error message to install the profiles via the Color StyleWriter Installation disks that shipped with your printer or which can be obtained from Apple Software Updates sites.
3. Obtain and install Mac OS 7.6.1. Mac OS 7.6.1 (and 7.6) have the proper ColorSync profiles for the Color StyleWriter 1500 and 2500.

This article can help you locate the software update mentioned here:

- Article 14724: "**Where To Find Apple Software Updates**" - Lists online services for free Apple software updates.

Published Date: Feb 18, 2012

Color StyleWriter 2200: Paper Handling Difficulties

My Color StyleWriter 2200 started experiencing difficulty pulling paper into the printer. When this occurs I get a paper jam error. How can I correct this?

This article has been archived and is no longer updated by Apple.

During use, the Color StyleWriter 2200 paper pickup rollers may accumulate paper dust. If enough paper dust accumulates the paper pickup roller friction may be reduced to the point where the rollers can no longer pull paper into the printer. When this occurs the paper pickup rollers should be cleaned using a lint free cloth that has been moistened lightly with water. The top cover must first be removed to gain access to the paper pickup rollers.

Published Date: Feb 18, 2012

DOS and ProDOS: Changing I/O Vectors

To change your I/O hooks when programming under DOS, install your I/O routine addresses in the character-out vector ($36-$37) and/or key-in vector ($38-$39); then, notify DOS (JSR $3EA) to take your addresses and swap its intercept routine addresses in.
This article has been archived and is no longer updated by Apple.
When programming under ProDOS, leave the ProDOS BASIC Command Interpreter's intercept addresses installed in $36-$39; install your I/O addresses in the global page at $BE30-$BE33. $BE30-$BE31 should contain the output address (normally $FDF0: the monitor COUT1 routine), whereas $BE32-$BE33 should contain the input address (normally $FD1B: the monitor KEYIN routine).

Keep those vectors in a global page so the special routine (JSR $3EA) for moving the vectors won't be needed; just install your addresses at their destination yourself.
Published Date: Feb 18, 2012

LaserWriter Driver 3.1: Excel printing problems

This article has been archived and is no longer updated by Apple.
Generally, turning Font Substitution OFF will help avoid many of the font printing problems encountered.

With Charts, you may encounter system errors when using the LaserWriter Driver 3.1 to print Charts created in a system with a driver prior to 3.1. Cut and Paste the Chart information to a new document and print the chart with the LaserWriter Driver 3.1 in the system.
Published Date: Feb 18, 2012

PowerBook Password Security: Use With Partitioned Drives

I have a PowerBook with an internal hard disk that has been formatted into four partitions. I would like to use the PowerBook Password Security control panel to implement password protection. Can I do this on a hard drive with multiple partitions?

This article has been archived and is no longer updated by Apple.

Apple Computer does not recommend using PowerBook Password Security on a hard drive with multiple partitions. This is because only one of the partitions will be secure if someone starts the PowerBook up from an alternate source, like a floppy disk or CD-ROM disc.

Published Date: Feb 18, 2012

PC Compatibility Card: Video Adapter Error in Win95

I am following the steps on page 80 of the PC Compatibility Card User's Guide for installing video software in Windows 95. The last step in the manual says to follow the on screen help. I do this, but I am unable to change the video adapter type in the Windows Display control panel.

I get stuck at the on screen Step 6 where it says to insert the PC Compatibility Card floppy disk and tell Windows to look on the A:\\ drive. I do this and Windows says "The specified location does not have information about your hardware."

I am able to change the monitor type using the PC Compatibility Card floppy disk. However, the adapter type still says "ATI Graphics Pro Turbo PCI (Mach64)" and I was told it should read "ATI mach64 PCI (macxw4) (DirectDraw)."
This article has been archived and is no longer updated by Apple.
This information applies only to the 7-inch and 12-inch 100MHz PC Compatibility cards for PCI Power Macintosh computers.

The adapter driver software is located on the PC Utilities CD-ROM, not the PC Compatibility Card floppy disk. The online directions are incorrectly referring you to the floppy disk.

The directions should be referring you to the E:\\VIDEO\\WIN95 directory on the PC Utilities CD-ROM.

To set the adapter type appropriately, follow these steps:

1) Open the Display control panel.

2) Click on the Settings tab.

3) Click the Change Display Type button.

4) In the Adapter Type area, click the Change button.

5) Click Have Disk.

6) Insert the PC Utilities CD and type: E:\\VIDEO\\WIN95

7) Click OK.

8) Click Apply to save changes, then click Yes to restart Windows.

The adapter type should read "ATI mach64 PCI (macxw4) (DirectDraw)" in the Display control panel. If it is set to anything else, this could cause operational issues in programs.
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Network Server 500/700: Will Not Power On

This article describes the most common reasons why a Network Server 500 or 700 will not power on.
This article has been archived and is no longer updated by Apple.
The assumptions made in this article are:
* the power cord is good
* the interlock switch in the rear is closed
* the server has a power source

Listed below are common reasons for a failure to power up, followed by notes and explanation:

1) Toggle bolts on the rear of the logic board not fully tightened.
2) Server frame slightly bent causing micro switch in rear of server to not make contact.
3) CPU card (or any other devices in the PCI slots) not fully seated.
4) Logic Board interconnect not making full connection.
5) Logic board defective.
6) Power supply defective. (Note: The Network Server 700 has two power supplies.)
7) Interlock switch in rear defective.
8) Key Switch in front defective.
9) Defective on/off switch.

Notes

The first 6 items in the list above are listed in order of probable cause; items 7, 8, and 9 are not.

When facing the rear of the network server, the micro switch is located near the lower left edge of the logic board face plate. There is a plastic protrusion which inserts into a slot in the chassis. The Micro switch can be seen if you look through the grill.
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ProDOS 1.1.1: Track O not Automatically Protected

In ProDOS 1.1.1 and ProDOS 8 v1.2, part of the Disk II I/O driver code causes occasional trashing of track 0.
This article has been archived and is no longer updated by Apple.
ProDOS 8 v1.3 and 16 were changed to solve this problem, first reported in the January 1986 issue of Open Apple. An Applesoft solution appears in the November 1986 issue in an article entitled "ProDOS bug found in Australia".

The beginning code of the driver performs a series of instructions intended to de-activate any UniDisk 3.5's that may happen to be on line.

The problem occurs when these instructions cause a clash on the disk drive port data lines. The clash may put in write mode any 5.25" disk drive (Disk II, UniDisk, Apple 5.25, DuoDisk, or Apple IIc external drive). ProDOS 1.1.1 and ProDOS 8 v1.2 do not check for this re-setting, so they act as if the 5.25 drive were in the read-only state (which it is under normal circumstances).

The next time these versions of ProDOS attempt to access a 5.25 disk, they wipe out what they would normally read. In many cases, the directory is wiped out because many applications check the directory in order to open a file.
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54xx/64xx L2 Cache Reset: Read Me

This article contains the 54xx/64xx L2 Cache Reset Read Me document and a link to the 54xx/64xx L2 Cache Reset software.
This article has been archived and is no longer updated by Apple.

Language/OS Required	Release Date	Version	Read Me	Software
North American English North American English Mac OS 7.6.1	1997-04-23	1.0		8 K

Hardware Requirements
- none

Software Requirements
- none

For help with downloading, see article 75098 "Help: Downloading Software"All software available from this site is covered by a software license agreement included with this software.

Important Information about the 54xx/64xx L2 Cache Reset

This document provides information about the 54xx/64xx L2 Cache Reset extension version 1.0.

Many Apple Performa and Power Macintosh computers now include an L2 cache which improves your overall system performance. Apple is aware of a problem which disables the L2 cache feature on some Performa and Power Macintosh computers after installing Mac OS 7.6.1 or the 54xx/64xx Update extension version 1.1. This problem also occurs on several models of Mac OS-compatible computers based on Apple's logic boards with an L2 cache.

The 54xx/64xx L2 Cache Reset extension corrects this problem and improves performance on affected computers.

The following Apple products may be affected by this problem:

- Power Macintosh 5400
- Macintosh Performa 5400
- Macintosh Performa 5410
- Macintosh Performa 5420
- Macintosh Performa 5430
- Macintosh Performa 5440
- Macintosh Performa 6360
- Power Macintosh 6400
- Macintosh Performa 6400
- Macintosh Performa 6410
- Macintosh Performa 6420

How to Install the 54xx/64xx L2 Cache Reset

To install the 54xx/64xx L2 Cache Reset extension follow these steps:

1. Locate the System Folder on the computer's hard disk. Don't open the System Folder.

2. Drag the file named "54xx/64xx L2 Cache Reset" to the System Folder.

3. A message appears asking if you want to put the "54xx/64xx L2 Cache Reset" into the Extensions folder. Click OK. If a second message appears stating that "54xx/64xx L2 Cache Reset" already exists and asks you if you would like to replace it, click OK.

4. Open the Special menu and choose Restart.

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MegaDial: Confusing Dialog Message (4/97)

While performing the initial configuration of MegaDial on a Macintosh Performa 6360 and a 6400, I finished configuring the "first startup" information and received a confusing dialog. The dialog stated:

"Thank you for continuing. To resume MegaPhone, click Exit.

Otherwise, click Continue. When you have finished, close the MegaDial window."

What should I do?

This article has been archived and is no longer updated by Apple.

There are two points of contention with this dialog:

1) MegaDial can be invoked without opening MegaPhone first. So the comment about "resuming MegaPhone" can be confusing.

2) There is only one button, the OK button. There is no Exit or Continue button. Just click OK.

The issue has been reported to the manufacturer as a cosmetic bug. It will not affect the operation of MegaDial.

This article was published in the 28 April 1997 "Information Alley".

Article Change History:
28 Apr 1997 - Added Info Alley statement.

Published Date: Feb 18, 2012

PowerBook 3400 CD: "Important Information" Document

This article contains the text of the "Important Information About the PowerBook 3400 CD" document.
This article has been archived and is no longer updated by Apple.

Important Information About the PowerBook 3400 CD

The Install Apple Extras folder contains items that are preinstalled on your computer's hard disk. You can find out about each of these programs or documents by opening its folder and reading the "read me" file.

Backing Up Software

The PowerBook 3400 CD contains a copy of all the software that was originally installed on your hard disk. You can restore the complete set of software to the hard disk (or make a copy on another disk) using the software restore program in the Restore Installed Software folder on the CD. See the file "Restoring PowerBook Software" in the Restore Installed Software folder for instructions.)

You cannot use the restore program to make floppy disks. To make floppy backup disks, use the Floppy Disk Maker program, which is located in the System Backup folder, inside the Apple Extras folder on your hard disk. (See Appendix E in the user manual that came with your computer for instructions on making backup floppy disks.)

Starting Up from the CD

If you are not able to start up the computer from the hard disk, you can use the CD as your startup disk. To start up from the CD, hold down the "C" key after you press the Power key.

Note: The PowerBook 3400 CD contains a minimal System Folder. Consequently, you cannot run the programs included on the CD until you restart the computer with another startup disk. Also, when the CD is the startup disk, you cannot install programs from the CD to your hard disk.

Installing Applications from the CD

Important: Before installing an application from the CD, you must turn off the extensions. Follow these steps to turn off extensions.

1. Chooser Restart from the Special menu.
2. After you hear the tone, hold down the Shift key until you see the "Welcome" message on the screen.
3. Install the applications you want from the CD on your hard disk.

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Color LaserWriter 12/6xx PS: Creating An Access List

How do I create an access list for my Color LaserWriter 12/660 PS printer?
This article has been archived and is no longer updated by Apple.
Here is a procedure for creating an access list for a Color LaserWriter 12/660 PS printer:

1) Open the Apple Printer Utility from a Macintosh.

2) Select Communication Configuration and then TCP/IP Configuration.

3) Click the Add button to make changes. The default is ALL.

4) In the dialog box that appears you will have the following options:

Local- to allow printing from all hosts on the same subnet as the printer, specify the printer's subnet mask.

Individual- to add a particular host to the list, type the host's IP address.

Group- to allow printing from all hosts on a different subnet, type the IP address of a host on that subnet and move the slider to specify the group's subnet mask.

5) Click the Send button when you are done adding.

6) You must restart the printer for the changes to take effect.

Note: The LaserWriter 12/640 PS does not support the access list feature.

This article was published in the 9 May 1997 "Information Alley".
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Processor Upgrades: Effect On Bus Speed

I have a Power Macintosh 8500. If I upgrade my processor card from 132 MHz to 150 MHz, will the bus speed change?
This article has been archived and is no longer updated by Apple.
Yes, the system bus speed may increase or decrease depending on which processor card is installed in the computer. Some processor speed upgrades will result in a faster bus speed, and some will result in a slower bus speed.

The table below shows the microprocessor clock speeds along with the corresponding processor bus speeds.

Processor Upgrade Card	Processor Bus Speed
100 MHz	50.0 MHz
120 MHz	40.0 MHz
132 MHz	44.0 MHz
150 MHz	50.0 MHz
166 MHz	48.0 MHz
180 MHz	45.0 MHz
200 MHz	50.0 MHz
233 MHz	46.6 MHz

Published Date: Feb 18, 2012

Avid Cinema: System Compatibility Matrix

This article provides a Macintosh computer and system software compatibility matrix for Avid Cinema.
This article has been archived and is no longer updated by Apple.

Avid Cinema Version	Notes	Supported Mac OS	Supported Systems
1.0	A	7.5.3	6400
1.1	B, C	7.5.3	6400
1.1.1	B, C	7.5.5	5400, 6360, 6400, 7500, 7600/120, 7600/132, 8500
1.1.2	D	7.6.1	5500, 6500
1.1.3	C	7.6.1 or 8.0	5400, 5500, 6360, 6400, 6500, 7500, 7600/120, 7600/132, 8500, 8600
1.1.4	C, E	7.6.1 or 8.0	5500, 6500, 7500, 7600/120, 7600/132, 8500, 8600/200
1.1.5	C, F	7.6.1 or 8.0	5500, 6500, 7500, 7600/120, 7600/132, 8500, 8600/200
1.2	G, H	8.1 with 777 Enabler	G3 All-In-One AV

Notes:

- The Power Macintosh 8600/250, 8600/300, G3, and 233MHz PowerPC Upgrade Card are not supported at this time.
- Power Macintosh 5400, 5500, 6360, 6400, and 6500 systems require the Apple Video System (Product Number M2849LL/D) in order to use Avid Cinema.

(A) Owners of Avid Cinema 1.0 should upgrade to 1.1 or later to take advantage of numerous enhancements and bug fixes. Avid Cinema Updates are available on Apple Software Updates sites in the Display-Peripherals area.

(B) On a Macintosh 5400, 6400, or 6360: the 54xx/64xx Update version 1.1 must be present in the Extensions folder. The 54xx/64xx Update version 1.1 ensures that video within Avid Cinema will run smoothly. If your computer came with Avid Cinema 1.1, then the extension should be pre-installed in your Extensions folder. If you updated to Avid Cinema 1.1 from 1.0, the updater installed the extension into the Extensions folder. This extension is not needed with Mac OS 7.6.1 or later.

(C) On a Macintosh 5400, 6400, or 6360, the 54xx/64xx L2 Cache Reset extension must be present in the Extensions folder. The 54xx/64xx L2 Cache Reset extension fixes a problem that the 54xx/64xx Update extension introduces where the computer would run slowly because its L2 Cache is disabled. Since the functionality of the 54xx/64xx Update extension was rolled into Mac OS 7.6.1, the L2 Cache Reset extension must also be present there. This extension is not needed with Mac OS 8.0 or later. The file can be downloaded from Apple Software Updates sites.

Avid Cinema versions before 1.1.2 are not supported with Mac OS 7.6 or later.

(D) Avid Cinema software v1.1.2 is only available with the 6500/275 Creative Studio bundle.

(E) Avid Cinema software versions 1.1.3 and 1.1.4 are virtually the same, except that version 1.1.4 fixes a cosmetic problem with Mac OS 8.0 where a stop sign is drawn over the camera icon in the time line.

(F) Version 1.1.5 eliminates the issue of getting a corrupt file when attempting to replace an existing movie file the "Save movie for..." option in the Send Movie Out tab.

(G) The Power Macintosh G3 All-In-One Audio-Video Avid Cinema Software Bundle provides Avid Cinema support without additional hardware because the design of the Power Macintosh G3 All-In-One provides adequate processing power without the need for an additional hardware codec card. Audio and video features are provided via the "Wings II" AV card, also found in common desktop PM G3 AV configurations.

(H) Avid Cinema 1.2 is not supported by Apple Computer. Avid Technology, Inc. (**www.avid.com**) supports v1.2 and any later versions available of Avid Cinema.

Avid Cinema software v1.1.5 is available from Apple Software Updates. These articles can help you locate the software update mentioned here:

- Article 14724: "**Where To Find Apple Software Updates**" - Lists online services for free Apple software updates.
- Article 16332: "**US Apple SW Updates Available Online**" - An index to USA Apple Software Updates showing the current software location on the Internet.

- Article 17664: "**WW Apple SW Updates Available Online**" - An index to International Apple Software Updates showing the current software location on the Internet.

This article was published in the 29 April 1997 "Information Alley."
Published Date: Feb 18, 2012

Small Business Financial Solutions CD: Slow Quit

I have a Power Macintosh 4400/200. Included with the system I purchased is an Apple-labeled CD titled "Small Business Financial Solutions". After running the software, quitting seemed to take quite a while; maybe as long as 15 seconds.

This article has been archived and is no longer updated by Apple.

The behavior you describe does not indicate an issue with the software. This is how the CD was designed.

Published Date: Feb 18, 2012

Apple Media Tool 2.0: Text Fields On Windows PCs

I am compiling projects with Apple Media Tool 2.0. Everything works fine on the Macintosh but on Windows 3.1x machines the Text fields are not positioned correctly.
This article has been archived and is no longer updated by Apple.
This is a known issue with Apple Media Tool 2.0. Upgrading to version 2.1 or higher should resolve the issue.

Useful hint: To import a project made with version 2.0 into version 2.1, first remove the print.reg objects. This works around an anomaly in the import function of version 2.1.

This article was published in the 30 April 1997 "Information Alley".
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PowerBook 3400: Reset Power Manager & Claris Organizer

I just reset the Power Manager on my PowerBook 3400, and when I restarted it locked up after drawing the desktop, menu bar, and other icons. I can move the mouse, but cannot click on anything. What is wrong?
This article has been archived and is no longer updated by Apple.
This behavior is caused by a conflict between the clock in your PowerBook and an extension associated with Claris Organizer software.

Interruption of backup battery power can cause the clock to be reset, setting the year to 1904. If you have installed Claris Organizer (which comes with the PowerBook 3400), part of the installation includes an extension named Instant Organizer. As the computer starts up, the Instant Organizer extension attempts to reconcile your appointments with the "current date" of 1904. This results in the behavior you describe.

To resolve this, force quit by simultaneously pressing the command-option-escape keys when the described behavior happens. The PowerBook will then continue starting up to the Finder. Once the startup process is complete, reset the clock to the correct time and date; the computer will start up normally.

Note: If you force quit Instant Organizer, you must restart the computer before trying to use it or before launching Claris Organizer.
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Apple Presents AppleWriter: On the Apple IIc in 80 column mode

I have a platinum Apple IIc and the 80 column side of my "Apple Presents AppleWriter" disk will not boot.
This article has been archived and is no longer updated by Apple.
The 80 Column side of the disk "Apple Presents AppleWriter" will not boot on a platinum Apple IIc unless the 80/40 column switch is down (in 80-column mode).

As far as we know, there are no plans to upgrade the program.
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QuickTake 200: PowerBook Connection Issues

This article discusses issues with connecting a QuickTake 200 to different PowerBook computer models.
This article has been archived and is no longer updated by Apple.
QuickTake 200 users may encounter connection issues with their QuickTake camera and different PowerBook computer models. Below are the steps to take when connecting a QuickTake camera to a PowerBook:

PowerBook 3400 With Internal Modem
1) Open the Modem Control Panel
2) Set port to "Modem/Printer Port". DO NOT USE "Internal Modem".
3) Save modem settings
4) Close the Modem Control Panel
5) Choose the Chooser from the Apple Menu
6) Select Inactive for AppleTalk
7) Restart the computer (if you close internal modem from its "Close" menu item, you do not need to restart the computer)

Other PowerBook Computers With An Internal Modem
1) Open the PowerBook Control Panel
2) Set to "Normal" mode
3) Close the PowerBook Control Panel
4) Choose Chooser from the Apple Menu
5) Select Inactive for AppleTalk
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QuickTake 200: Performa 6400 Communication Issue

I have a Performa 6400 with an internal modem, and I am trying to connect a QuickTake 200. However, the modem port on the Performa 6400 is covered; how can I connect the two?
This article has been archived and is no longer updated by Apple.
QuickTake 200 users may experience connection issues when initially connecting their QuickTake camera to a Performa 6400. If you have a Performa 6400 with an internal modem, the modem port, on the back of the computer, is covered with a plastic casing which will not let a serial connection be made to this port. The modem port is covered because the it is already dedicated to the internal Modem card installed in the Performa 6400. In this situation the printer port will need to be used. Below are steps you need to take when connecting the QuickTake 200 to the printer port:

1) Choose the Chooser from the Apple Menu
2) Select Inactive for AppleTalk
3) Close the Chooser

Important: If you are connected to an AppleTalk network, you will need to again activate AppleTalk through the Chooser after connecting to a QuickTake 200 camera.
Published Date: Feb 18, 2012

eMate 300: Text-To-Speech Software Not On CD

The Teacher's guide that came with my eMate 300 mentions some "text-to-speech software on the CD that came with your eMate." However, I can not find it. Am I missing something?

This article has been archived and is no longer updated by Apple.

Page 121 of the eMate Teacher's guide incorrectly states "Text-to-speech software is on the CD that came with your eMate". Text-to-speech capabilities for eMate are under development but are not shipping with the eMate 300. There is no shipping date currently set for release of Text-to-speech software for eMate. We apologize for any inconvenience this may have caused.

Published Date: Feb 18, 2012

LaserWriter: Memory requirements for downloadable typefaces

This article has been archived and is no longer updated by Apple.

The amount of LaserWriter RAM required for Adobe typefaces are given below.

When a LaserWriter receives its first downloadable typeface file, memory is loaded with information that is global to all the typeface files. This happens just once and takes, at most, 10K of LaserWriter RAM.

After the first typeface file is sent to the printer with the extra global information, all following typeface files will only take the amount of approximated memory shown below.

Note that Oblique faces have two numbers associated with them: the first represents the amount of memory used if the main face has been previously downloaded (such as the Roman version of that face), and the second number represents memory taken if the main face does not reside in memory, although you may need to account for the one-time-hit mentioned above.

Adobe downloadable fonts, with memory required (in bytes):

Roman Light Medium Bold Demi Book

ITC American Typewriter 33K 34K
ITC Avant Garde Gothic 22K 21K
Oblique 3K/26K 3K/26K
ITC Benguiat 26K 25K
ITC Bookman 25K 25K
Italic 26K 25K
ITC Friz Quadrata 25K
(Regular - 24K bytes required)
ITC Garamond 33K 35K
Italic 33K 35K
ITC Glypha 23K 25K
Oblique 3K/28K 4K/30K
ITC Lubalin Graph 24K 22K
Oblique 5K/30K 3K/28K
ITC Machine 13K
New Century Schoolbook 29K 30K
Italic 28K 28K
Palatino 27K 28K
Italic 32K 35K
ITC Souvenir 28K 28K
Italic 30K 29K
ITC Zapf Chancery Italic 26K
ITC Zapf Dingbats 37K

Roman Light Medium Bold Demi Book

Published Date: Feb 18, 2012

ImageWriter II: Factory-set Switch Settings

I have an ImageWriter II printer. What are the default switch settings are for the printer, that is, what are the "factory-set" switch settings for a new ImageWriter II?
This article has been archived and is no longer updated by Apple.
The table below shows the default, factory-set, switch settings for an ImageWriter II printer.

Note that these switch settings are the same whether the printer is used with an Apple II family computer or a Macintosh computer.

Switch Bank One

1-1 = Open
1-2 = Open
1-3 = Open
1-4 = Open
1-5 = Open
1-6 = Closed
1-7 = Open
1-8 = Open

Switch Bank Two

2-1 = Closed
2-2 = Closed
2-3 = Open
2-4 = Open
2-5 = Factory Set Hammer Timing (do not change this one)
2-6 = Factory Set Hammer Timing (do not change this one)

Notes
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Open = Off
Closed = On

Refer to the article titled "ImageWriter II: Pinouts & Switch Settings" TECHINFO 0001301 for switch descriptions and information on their functions.
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Newton Internet Enabler 1.1: Release Notes

This article contains the Newton Internet Enabler 1.1 Release Notes.
This article has been archived and is no longer updated by Apple.
Newton Internet Enabler 1.1 Release Notes
January 16, 1997
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Welcome to the Newton Internet Enabler (NIE) 1.1 Release! NIE is a set of libraries that allows developers to write Internet software for the Newton device. When used in conjunction with an NIE-compatible application it allows you to access information on the Internet.

This distribution contains the following files:

InternetEnabler.pkg -- A package file that contains the NIE 1.1 libraries and TCP/IP stack.

InternetSetup.pkg -- An application that allows you to configure NIE to work with one or more Internet Service Providers (ISP's).

ISPTemplates.pkg -- A package file used by the InternetSetup application. It contains templates for a number of popular ISPs, to help you configure NIE 1.1.

NIE 1.1 User's Guide.pdf -- An Adobe Acrobat file that describes how to set up and use NIE 1.1.

This release is an incremental update to NIE 1.0. The principal new features are:

* Support for PAP/CHAP authentication
* Support for SecurID login
* More ISP Templates
* Bug fixes.

Please see the User's Guide for information on installing and using NIE 1.1.

Last Minute Notes:

There is one known problem which is quite serious but which we have determined will have minimal, if any, impact to users.

The problem surfaced on Tuesday, January 14, 1997, when a commercial ISP experienced a problem with one of its connection ports resulting in 24 of their lines shutting down. This ISP problem caused NIE 1.1 to reset the Newton device after an alert slip was dismissed by the user. This reset problem surfaced only when a PC modem was used and did not appear when an external modem was used. No user data loss occurred.

Extensive testing has verified that this symptom will not arise through actions explicitly taken by the end user to disconnect from a service. The proper alert is displayed in each instance we've tested against and each instance did not result in the unit resetting.

Given the conditions that an ISP has to cause the connection drop through catastrophic loss of service, and the fact that it only happens with a PC modem, we feel confident that this problem will have minimal impact to NIE 1.1 users. The NIE engineering team will continue to investigate this problem with the desire to implement a fix in the next release of NIE.

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eMate 300: Read Me

This article contains the Read Me document for the eMate 300.
This article has been archived and is no longer updated by Apple.
Apple eMate 300 ReadMe
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As a result of Apple's extensive testing of this product, we've developed this guide of helpful hints and troubleshooting tips for using your eMate 300.

Using the eMate

Resetting the eMate

* If you reset your eMate and the keyboard doesn't work, the eMate probably restarted before the keyboard driver was enabled. Try closing and opening the lid to activate the keyboard.

Printing

* When printing to a LaserWriter, we recommend using the Cent. Schoolbook font (12 or 14 point), 1-inch margins, and centered- or left-justification. The LaserWriter uses substitute fonts, which may cause right- or full-justified text to be skewed when printed.

* You can't print a name card that contains a caret before a number (ex: ^2). To be able to print, you'll need to insert a space after the caret.

* When a Newton Works drawing is previewed, prior to printing, any text in the drawing may look slightly different than when the document is printed or viewed full-size. The full-size view is an accurate representation of what the text will look like when printed.

* Overlapping stamps in a Newton Works drawing may obscure each other when printed on a PostScript printer. Try printing the drawing on a non-PostScript printer, such as the Apple StyleWriter or HP DeskWriter.

Using Applications

Assist

* If you use the Assist feature to initiate a call via "Telephone," make sure you check the "Log" option.

Calls

* Certain settings in fax annotation can cause an error message to appear when you add a new name to a call slip. See Faxing in the Communications section of this document.

Clock

* If you erase all data from your eMate, please remember to adjust the clock to the current time.

Dates or Date Book

* The "Always store new tasks internally" prefs is not saved the first time you change it after closing Dates. You will need to reopen the Date Book and check or uncheck it a second time in order for the change to be saved.

* To delete all occurrences of a recurring meeting, open the meeting slip, tap the Routing button, then tap Delete. This gives you the option of deleting one or all occurrences of that meeting.

* Certain settings in fax annotation can cause an error message to appear when you add a new invitee or location to a meeting slip. See Faxing in the Communications section of this document.

* Repeating To Do tasks create separate items for each occurence. If an individual To Do item is left unchecked, it rolls over to the next day, and you may have multiple copies of the same To Do item appearing on the same day. To avoid this, check off completed To Do tasks or delete these "extra" copies.

* When duplicating To Do tasks that have alarms set for the current date, you should reset the alarm to "None" before you duplicate the item. If

necessary, reset the alarm to the current day after the To do task is duplicated.

* When To Do tasks are beamed or mailed, the alarm and freuqency information is not sent to the receiving Newton device. The user of the receiving Newton device will need to set the alarm and frequency in the To Do task.

Newton Works Word Processor

* When you use the QuickSketch tool to insert a drawing into the Notepad, the drawing becomes a single PICT file that can't be edited.

* If too many graphs are pasted into a document, you will see an error message saying the internal memory is full. Newton Works word processor documents can handled up to 60K of graphs or drawings. To work with many graphs, split the document into several separate documents.

Newton Works Drawing Program

* For best results, do not rotate drawings you created using the Freehand tool. This may distort the drawing.

Newton Works Graphing Calculator

* When printing a calculation containing floating or fixed/0 number formats, single digits or characters are not printed on a StyleWriter II printer. Set the number format to fixed/6 digits and try printing again.

* An error message may appear when you graph multiple, complex equations. This may be because the eMate is low on memory. Delete or move some of the items stored internally to a storage card.

* If the number format is set to fixed/0, and table values are displayed in floating number format, set the number format to fixed/6 digits or another format.

* If you can't use the graphing calculator to create new calculations, you may have inadvertently deleted the Calculation stationery. Reinstall the Calculations stationery using eMate Classroom Exchange or Newton Connection Utilities. The connection software and Calculation stationery is on the eMate Connectivity CD that came with your eMate. The package you'll need to install to use the stationery is called "Works Calculations.pkg."

Notes or Notepad

* Overlapping text with ink text, shapes or sketches may cause a problem with printing or faxing a multiple page document.

Setup

* If you enter "Portland, OR" as your city in the Setup application, the eMate will record your "Closest City" as "Portland, ME." To correct this, tap Extras, then tap Owner Info. Tap your Home worksite, tap the word "Home," and reset the Closest City option. Repeat this for the "Work" worksite also. Then verify that the clock setting is correct.

Teacher Setup

* When adding new users, please use unique user names. If a new user name is the same as the name of an existing user, the existing user's data disappears. If you change the new user's name to something else, the data for the existing user will reappear.

Communications

Beaming

* You cannot beam an owner card to a Newton device that has the "receive beams automatically" preference enabled. Make sure this preference is not selected on the receiving Newton device, then beam the card again.

Dialing

* If a telephone prefix is not appropriate for a location, tap the Assist button. In the slip that appears, make the necessary corrections, then tap X to close the slip. If this problem happens again, make sure your worksite card in "Owner Info" contains the correct city, country, and dialing prefix information.

* For best results when speaker dialing, try holding the telephone handset at least 1 inch or more from the eMate's speaker.

Docking or connecting

* If your connection to a desktop computer is interrupted, your eMate may take a few several seconds to detect this. You may then re-establish a connection.

Faxing

* When including shapes or sketches in a fax note, make sure you set the recognition back to Text or Ink Text before you close the Notes slip. Otherwise, an error message may appear when you add new names in other applications.

* If you need to fax a card to several addresses, send it to each address individually. You cannot fax a card from the Name File to multiple fax addresses.

* For best results, print faxes to non-PostScript printers (i.e. a StyleWriter or HP DeskWriter). Printing received faxes to a laser printer can take a very long time.

* Do not use carets (^) in your document titles. This may cause faxing problems.

Printing

* When printing Newton Works papers that use the Casual font, you might get a wider right margin than anticipated. Adjust the right margin to compensate, or use another font.

* When printing to StyleWriter printers, use a serial connection. Printing to StyleWriter printers over AppleTalk is not supported.

* Do not use a caret (^) in document titles. This may cause printing difficulties.

Using electronic mail or e-mail

* Certain settings in fax annotation can cause an error message to appear when you add a new name to a mail slip. See Faxing in the Communications section of this document.

Using the In Box

* If your storage space is limited or you have a large number of items in the internal memory of your eMate, you may notice that the items in the In Box are not displayed. These items will reappear after closing and reopening the InOut Box. (If the problem persists, you may have to back up your data and reset your eMate.)

Cards and Accessories

AC adapter

* If you use the "Don't sleep when plugged in" option, your eMate may wake up for brief periods when an AC adapter is plugged in.

Battery pack

* When a battery pack or storage card is inserted into your eMate, a slight static discharge may cause your eMate to restart. This is not dangerous or harmful to the eMate. If this occurs, your eMate will return to the previous state.

PC Cards

* Your eMate will wake up when you remove a PC card.

* If you're using a Megahertz XJ1144 modem card, it can freeze your eMate after you reset or restore information. If your eMate freezes, remove the modem card and reset your eMate. You can then reinsert the modem after your eMate has restarted.

* If you use a TDK DF2814 modem card, use the "TDK Selector" icon in the Setup folder of the Extras Drawer to set the appropriate country telecom settings. The first time you use the modem, a slip appears for you to set a permanent default country. Once you set the default country, subsequent country changes made in "TDK Selector" will only be in effect until the modem card is removed.

Newton Internet Enabler 1.1

* If you are using an eMate with a PC modem card and experience a reset during the PPP negotiation of the log in process, contact your ISP.

TA36731_eMate_Read_Me.pdf

There is probably a problem with the ISP's connection port.

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Color StyleWriter 2200: Resetting Waste Ink Amount

My Color StyleWriter 2200 has a waste ink full error; the power and error LEDs are flashing. How do I reset the printer in order to clear this error condition?
This article has been archived and is no longer updated by Apple.
Here is the procedure to reset the waste ink amount in the EEPROM of the Color StyleWriter 2200 control PCB assembly. The EEPROM in the control PCB assembly should be reset after replacing the print unit assembly.

The procedure is as follows:

1. Plug the AC adapter into a power source, but do not (yet) plug the adapter cable into the printer.
2. While holding down the POWER button and the CLEANING button, plug the AC adapter's cable into the printer. Release the POWER button and the CLEANING button after the printer's initial power-on sequence.
3. Hold down the POWER button, then release it when the ERROR LED goes out. At this point, the ERROR LED will start flashing.
4. Press the CLEANING button just after the ERROR LED has flashed for the eighth time.
5. Pull the AC adapter cable out of the printer.

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Power Macintosh 9600: Video Resolutions

What video resolutions are supported by the Power Macintosh 9600?
This article has been archived and is no longer updated by Apple.
The following table summarizes resolutions and vertical refresh rates that are supported on the Power Macintosh 9600 with IMS Twin Turbo 128 M4A accelerated video card installed. (NOTE: The IMS Twin Turbo 128 M4A is the video card sold and supported by Apple for the Power Macintosh 9600. It is not identical with the IMS Twin Turbo 128 M4 sold directly by Integrated Micro Solutions (IMS). For differences between the cards, see TIL article #34019, Power Macintosh 9600: IMS Twin Turbo 128 M4A Video Card.)

Resolution (pixels)	**Vertical Frequency (Hz)**	**Supported Colors***
512 x 384	60	256, Thousands, Millions
640 x 480	60, 67	256, Thousands, Millions
640 x 870	75	256, Thousands, Millions
800 x 600	60, 72, 75	256, Thousands, Millions
832 x 624	75	256, Thousands, Millions
1024 x 768	60, 72, 75	256, Thousands, Millions
1152 x 870	75	256, Thousands, Millions
1280 x 960	75	256, Thousands
1280 x 1024	75	256, Thousands
1600 x 1200	60, 67, 75	256, Thousands

* Monochrome (grayscale) monitors can display a maximum of 256 grays at all resolutions listed.

This article was published in the 8 May 1997 "Information Alley".

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DiskScripts: .scr Suffix On Downloaded Files

I just downloaded a file from one of Apple's software update sites. The filename has the suffix ".scr". What type of file is this?
This article has been archived and is no longer updated by Apple.
The .scr suffix stands for script. More specifically, they are files containing scripts used by the Disk Copy utility program. These scripts are referred to as DiskScripts.

A DiskScript is a special file containing commands that instruct Disk Copy 6.1 or later to perform an action on a list of disk images, and to optionally launch an application with or without a specific document. DiskScripts are not related to, and do not require AppleScript to run.

Executing a DiskScript

- Copy the DiskScript or DiskScripts into the same folder as the disk images you want to work with.
- Double-click on the "Install" DiskScript to automatically instruct Disk Copy 6.1 or later to mount all the disk images on the desktop and lauch the Installer application. When the Installer quits, all the disk images will automatically unmount.
- Double-click on the "Make Disks" DiskScript to automatically instruct Disk Copy 6.1 or later to make floppy disks from each of the disk images.

Published Date: Feb 18, 2012

Apple IIc: Owner‘s Manual Erratum on PR#7 feature

The following article describes a change to the Apple IIc Owner's manual.
This article has been archived and is no longer updated by Apple.
Received with the new Apple IIc, the manual with part number 030-1030-B shows, at the top of page 100, how to boot the computer off the external drive as part of a troubleshooting procedure.

However, the manual doesn't state that the PR#7 feature has been removed since the introduction of the UniDisk 3.5 option for the IIc.
Published Date: Feb 18, 2012

QuickTake 200: AppleScript

Is the software that comes with the QuickTake 200 scriptable with AppleScript.
This article has been archived and is no longer updated by Apple.
The Camera Access software which is included with the QuickTake 200 for downloading images from the camera to your computer is not scriptable with AppleScript. Other 3rd party scripting applications can be used to provide the same functionality.
Published Date: Feb 18, 2012

LaserWriter 12/640 & 16/600: Telneting Problem

Telneting from Macintosh to some Apple Laserwriter's fails if a password has been set.

Models affected

Laserwriter 16/600 w/ 3.0 ROMs
Laserwriter 12/640

When trying to logon to a new printer, you are prompted to enter a password. Once you enter one, you get the following:

"Verify your password by entering it again.
Password:
Your passwords do not match. Try again."

When you enter the password again, the session immediately exits.

If a password has already been recorded (through a earlier Telnet 2.7x session for example), the session immediately exits as soon as you enter the password.
This article has been archived and is no longer updated by Apple.
Customers maybe unable to telnet from a Macintosh to certain model Apple Laserwriters.

The problem affects:

1- Mac OS systems with Open Transport using NSCA Telent 2.5 or 2.6. Mac OS systems with MacTCP (Classic Networking) or other versions of NCSA Telnet should not be affected. Telnet from other operating systems should be unaffected as well.

2- Connections only to Laserwriter 16/600 w/ 3.0 ROMs or Laserwriter 12/640. All other Laserwriters configurable with telnet (Laserwriter 810 w/ 1.0 or 1.2 ROMs, Laserwriter 16/600 with 1.0 or 2.x ROMs) remain unaffected.

3- The password facility is the cause of the problem.

If the printer is being configured for the first time, attempts to set a new password will fail. If accssing a configured printer, password entry will fail.

Workaround

Customers should upgrade to the current version of NCSA telnet, or use a different OS to telnet to the printer.

If you cannot resolve the problem, please contact your local Apple Technical Support specialist.

This article was published in the 8 May 1997 "Information Alley".
Published Date: Feb 18, 2012

Color LaserWriter 12/600 & 12/660: IP Printing

I am trying to configure my print server to telnet to port 9100 so I can use a postscript code snippet to count pages. I get connected to the Color Laserwriter, but nothing happens. What am I doing wrong?

Models affected:
Color Laserwriter 12/600 (1.0 & 1.2) ROMs
Color Laserwriter 12/660 (2.0 & 2.0.1) ROMs
This article has been archived and is no longer updated by Apple.
Several laser printer vendors (including Hewlett Packard) support "interactive program" access to the Postscript interpreter via telnet at port 9100.

Adobe originally created the "Interactive program" mode for postscript programers and testing engineers. However, the architecture has many potential applications. Some creative software developers have written UNIX shell scripts or other accounting systems that send a small postscript job to the interactive program for the purpose of calculating page counts for accounting purposes.

The Color Laserwriter will answer telnet requests to the port number 9100 (which is HP's defacto port location for this service). However, the feature is not supported because the interpreter does not receive commands typed in telnet. Customers may mistakenly assume that the interpreter is receiving their commands because they receive no error messages or disconnections.

Please note that this architecture is not defined in RFC 1175 (UNIX printing).
Published Date: Feb 18, 2012

Mac OS 7.6.1: RAM Disk Issue

I installed Mac OS 7.6.1 and setup a RAM disk. Now, when I try to shut the system down, the screen goes blank but the message saying it is safe to shut down the system does not appear. On systems that power on from the keyboard, they will not shut down so I have to use the button on the back of the CPU. What is wrong?
This article has been archived and is no longer updated by Apple.
An anomaly has been found in Mac OS 7.6.1 that causes this behavior but does not affect all Macintosh models. Apple is working on a solution and it will be available in Mac OS 8. In the meantime, downgrading to Mac OS 7.6 will resolve the issue.

This freeze occurs immediately preceding the display of the shutdown message or the system powering off. At this point, it is safe to turn off the system.

This article was published in the 9 May 1997 "Information Alley".
Published Date: Feb 18, 2012

Mac OS 7.6.1 Update Read Me

This article comprises the Read Me for About Mac OS 7.6.1 Update Read Me file, with the exception of some internet addresses that may have been modifed to reflect changes to Apple's Support Web Site. This software was released by Apple on 04/07/97 and is available for downloading from the Apple Software Updates Web site at http://www.apple.com/swupdates . You must have Mac OS 7.6 installed to use the free downloadable update.

If you do not have Mac OS 7.6 installed, the complete Mac OS 7.6.1 is available from Apple Support Related Fulfillment (SRF). SRF Direct is a fulfillment method to obtain original system software applications for your Apple product. Most of this software is also available at no charge by downloading from Apple's Internet Web site. Apple SRF Direct can be reached at 888-273-3594.
This article has been archived and is no longer updated by Apple.
Mac OS 7.6.1 Update Overview and Installation.

Who can use Mac OS 7.6.1 Update?
Mac OS 7.6.1 Update improves the reliability of Mac OS computers.
If you are using a system software version prior to Mac OS 7.6, you must upgrade to Mac OS 7.6 before you install this update. Additionally, some newer PowerBooks, introduced after Mac OS 7.6, cannot use this update. To see if your computer can use this update, see "How Do I Know What Version of System Software I Have?" below.

IMPORTANT: Do not install this update if you have a Macintosh Performa 4400 or a Power Macintosh 4400, 5500, 6500, 7300, 8600, or 9600 series computer. Mac OS 7.6 and Mac OS Update 7.6.1 are no longer available through the Mac OS Up-To-Date program. If you have a PowerBook 3400, you need to download the Mac OS 7.6.1 Update for the PowerBook 3400.

How do I know what version of system software I have?
To find out what system software version your computer is using, follow these steps:

1) Make sure you are in the Finder. (To switch to the Finder, open the Application menu, marked with an icon in the upper-right corner of your screen, and choose Finder.)

2) Open the Apple menu, located at the upper-left corner of your screen.

- If the first item in the Apple menu is called About This Computer, choose this item from the menu. In the box that appears, check the words in the upper-right corner. If you see the word "Enabler" under the line that reads "System Software 7.6," you cannot install this update. If you see "PowerBook 3400 1.0," then you need to download the Mac OS 7.6.1 Update for the PowerBook 3400. If the update is not currently available, it should be available soon. If there is no text between the line that reads "System Software 7.6" and the copyright notification, you can proceed with the installation.

- If the first item in the Apple menu is called About This Macintosh, you have an earlier version of system software. You must upgrade to Mac OS 7.6 before you can install this update.

What's included in the Mac OS 7.6.1 Update?
After you install the Mac OS 7.6.1 Update, you should notice improved stability, as well as the following fixes and enhancements:

* Nearly all Type 11 errors eliminated
Type 11 errors force you to restart the computer without saving your work. Most of these errors are now properly classified as Type 1 or Type 2 errors, which cause the active application to quit, but do not force you to restart the computer. Type 11 errors occur while using "native" applications used by computers with PowerPC processors.

IMPORTANT : When you get an error that forces a program to quit, you should still save your work in other open programs and restart the computer.

* Type 112 errors eliminated
Type 112 errors, which occurred when using some multimedia applications,,have been eliminated.

* CFM-68K Runtime Enabler included for computers with 68030 and 68040 processors
Computers with 68030 and 68040 processors can now use programs that,require the CFM-68K Runtime Enabler. The CFM-68K Runtime Enabler is a,system extension which allows application programs to share code,resources. Because of a problem with this extension, it was not included,with Mac OS 7.6. This problem has been fixed.

Apple products that use the CFM-68K Runtime Enabler include OpenDoc, the LaserWriter 8.4 driver, Apple Telecom software 3.0 and later, and the Apple Media Tool. Applications from other companies that require the CFM-68K Runtime Enabler include America Online 3.0 and Internet Explorer 3.0. (If you continue to experience problems with non-Apple programs that use the CFM-68K Runtime Enabler, contact the manufacturer.)

* Improved compatibility with serial devices when using Performa 5400 and 6400 and PowerBook 3400 computers
Equipment connected to the serial port now communicates correctly with these computers. (Previously, some devices using the serial port were not recognized by these computers if the devices were connected when the computer started up.)

* Infrared problems fixed on PowerBook 1400 and 3400 computers
The computer no longer freezes if the infrared window is blocked when the computer is starting up or transferring files.

* Improved reliability when using large QuickTime files, or using
QuickTime in low-memory situations
Application programs that use QuickTime files work more reliably when working with large files and when using QuickTime files in low-memory situations.

* Printing improved for Performa and Power Macintosh 5400 and 6400 series computers using non-Apple printers over LocalTalk networks
Performa and Power Macintosh 5400 and 6400 computers now print at an acceptable speed on non-Apple printers over a LocalTalk network. (Previously, printing was very slow.)

* Video applications recognize that MPEG is installed
Video applications, including the Apple Video Player, now correctly recognize when MPEG software or hardware is installed.

* Storage PC Cards no longer require a utility program to appear on the desktop
PC Cards used for storage now appear on the desktop when inserted. A mounting utility program is no longer required.

* Only two low-battery messages displayed on PowerBooks before computer shuts itself down
Only two low-battery messages are displayed, instead of three, before the computer shuts itself down. The first message appears approximately two to four minutes before shutdown. The second occurs approximately ten seconds before shutdown.

* PowerBook 1400 computers now wake from sleep faster
When you wake the computer, there is less of a delay before the screen appears.

* Contrast and brightness controls work as expected on PowerBook 1400 computers
The screen will get brighter or show more contrast when the plus (+) controls are pressed. Previously, the functionality of the plus (+) and minus (-) controls were reversed on PowerBook 1400 computers.

* On the PowerBook 3400, the CD-ROM drive works correctly if inserted when the computer is on
The removable CD-ROM drive now appears correctly on the desktop if it is inserted in the expansion bay while the computer is on.

* New version of Apple System Profiler
IDE-based CD-ROM drives, such as the built-in CD-ROM drive for the PowerBook 1400, are now listed in the Apple System Profiler window.

* New version of AppleVision software
A new version of AppleVision software improves reliability on computers that currently use AppleVision monitors.

* Graphics acceleration software works correctly with a universal SystemFolder
Graphics acceleration software now works correctly when used with a universal System Folder. Additionally, the Graphics Accelerator extension and the Graphics Accelerator 2 extension have been merged into the ATI Graphics extension.

* New version of Apple Video Player
Video-capture and TV tuner PC Cards now work correctly on PowerBook 3400 computers. Additionally, all computers can use the AppleScript scripting language to automate tasks in Apple Video Player.

* Settings in Energy Saver control panel are saved properly
Changes made to automatic startup and shutdown settings are now saved.

* Large files copied between IDE hard disks sometimes crashed the system
Files over 1 MB can now be copied between two IDE hard disks without causing a system crash.

* Better performance when using video-capture expansion cards and ATI accelerators
Video capture is faster on computers when using video-capture PCI expansion cards with ATI graphics accelerators.

Besides the bug fixes provided by Mac OS 7.6.1 Update, several of the bug fixes and features that have been previously released as extensions are now part of the OS. You may notice that these extensions have been removed from the Extensions folder. After installing the Mac OS 7.6.1 Update, you will no longer need these extensions in your Extensions folder.

* 54xx/64xx Update version 1.0

* 54xx/64xx Update version 1.1

* 7.5.5 SCSI Server Update

* Assistant Toolbox

* PCI Network Legacy Layer version 1.0

* PCI Network Legacy Loader version 1.0

* PowerBook 1400 ATA Flash

* PowerBook 1400 PMU Updater

* PowerBook VM Tuner for OS 7.6

* PowerMac Format Patch

* PowerPC Interrupt Extension

For additional technical information, see the Mac OS 7.6.1 Update Technote. You can find it at the Apple Developer World site at http://devworld.apple.com/dev/technotes.shtml.

Known Issues with Mac OS 7.6.1

* Monitors Control Panel is not included in "Mac OS 7.6.1 base" and "Mac OS 7.6.1 all" extension manager sets
If you have a computer that does not have the Monitors & Sound control panel and you select the "Mac OS 7.6.1 base" or "Mac OS 7.6.1 all" extension manager sets, you will also need to select the Monitors Control Panel.

Known Issues with Mac OS 7.6 not fixed with this update

- Connectix Speed Doubler disabled when Mac OS 7.6.1 is installed

There is a problem using Speed Doubler versions 1.3.1 and earlier and version 2.0 with Mac OS 7.6. If you use one of these Speed Doubler versions, it will be disabled after you install Mac OS 7.6.1 Update. Connectix is aware of this problem and is providing a free update. For more information, see the Connectix Web site at http://www.connectix.com, or call 800-839-3632.

- Versions of several Apple software products compatible with computers with 68030 and 68040 processors that require the CFM-68K Runtime Enabler not included with Mac OS 7.6

Because of a problem with the CFM-68K Runtime Enabler, the extension and compatible versions of several Apple software products (such as OpenDoc, the LaserWriter 8.4 driver, Apple Telecom software 3.0 and later, and the Apple Media Tool) were not included with Mac OS 7.6. The CFM-68K Runtime Enabler problem has been fixed and computers with 68030 and 68040 processors can now use programs that require this extension. The latest version of this software is available on "Apple SW Updates" on the Internet http://www.info.apple.com, America Online (keyword: AppleComputer).

- LaserWriter 8.3.4 results in an error message when you print to a file and then drag the resulting file to a desktop printer.

If you use the LaserWriter 8.3.4 driver to print to a file and then drag the resulting file to a desktop printer, you get a message stating that the print library is missing. To work around this problem, update your LaserWriter software to LaserWriter 8.4.1. This software is available from Apple Software Updates online on the Internet http://www.info.apple.com/swupdates, America Online (keyword: AppleComputer).

- After you install Mac OS 7.6.1 Update, the easy install option no longer works for reinstalling Mac OS 7.6

Once you have installed Mac OS 7.6.1 Update, you can no longer use the easy install option for reinstalling Mac OS 7.6 (installers cannot update over newer versions of software). You must use the clean install option to reinstall Mac OS 7.6. Specific components can be installed using the custom install option.

- Notes on Custom Installs

If you perform a custom install of a component from your Mac OS 7.6 CD (or floppy) and already have system 7.6.1 running on your system, you may notice the following warning dialog: "The file <name of the component> already on <name of your hard drive> is newer than what you are

about to install. Click Newer to keep the Newer file, Older to replace that file, or Cancel to stop installation." You should pick Newer.

IMPORTANT: After the Mac OS 7.6 install finishes installing the selected components, you should then reinstall the Mac OS 7.6.1 Update to ensure that the components you just installed are up-to-date.

- Installing QuickDraw GX for use with a non-Apple printer

If you want to use QuickDraw GX with a non-Apple printer, you need to obtain a QuickDraw GX printer driver or remove QuickDraw GX. If QuickDraw GX is installed, you will not be able to use your non-Apple printer without a GX driver. Contact your printer vendor for details. (Turning off QuickDraw GX in the Extensions Manager will solve this problem.)

- Using the QuickDraw GX Installer when Adobe Acrobat is installed

If you use the QuickDraw GX Installer to either install or remove QuickDraw GX and your computer has Adobe Acrobat installed, Acrobat will display a message about missing fonts each time the computer is restarted. Reinstall or turn off Acrobat to stop the warning message. (Turning off QuickDraw GX in the Extensions Manager will not solve the problem.)

- Video Startup extension and Apple Video Player improperly installed by Mac OS 7.6

Mac OS 7.6 improperly installs the Video Startup extension and the Apple Video Player application on Macintosh TV. You should throw the Apple Video Player application and the Video Startup extension in the trash. If these components are present, the Mac OS 7.6.1 Update will update them to newer versions which still do not work on Macintosh TV.

- 3D images cannot be viewed with OpenDoc 3DMF Viewer 1.0.1 with QuickDraw 3D 1.5 or 1.5.1 installed

If QuickDraw 3D 1.5 or 1.5.1 is installed, a message about insufficient memory appears when attempting to place a 3D image in an OpenDoc document. Increasing the viewer's memory size with the Get Info command in the File menu does not solve the problem. To use the 3DMF Viewer, install an earlier version of QuickDraw 3D.

- Internal speaker on Power Macintosh 5500 and 6500 computers remains muted after disconnecting external speakers

If the external speakers are connected when the computer starts up and then disconnected, the internal speakers remain muted. To work around this problem, restart the computer after disconnecting the external speakers. The internal speaker should work normally.

- Adjusting the volume by pushing the Buttons on the front of the Macintosh LC575 will not register on the Monitors and Sound Control Panel

If you use the front bezel button to change volume on a Macintosh LC575 the change in volume will not register on the "Computer System Volume" slider in the Monitors and Sound control panel. You will only have the Monitors and Sound Control Panel on a LC575 if you have and AppleVision Monitor or are running a universal system.

- Macintosh customers with the DayStar Digital 040 cards will need to do the following:

If you use the DayStar Digital 040 card, you will have to first remove the card, then install Mac OS 7.6.1 Update, and then reinstall the DayStar Digital 040 card

- Two system folders when no desktop printer is selected

If you notice two active system folders on your hard drive, create a desktop printer to work around this problem. To create a desktop printer select the Chooser in the Apple Menu, select any printer, and then press the Create button.

Before you install

Use the Disk First Aid application program before you install the Mac OS 7.6.1 Update to check your hard disk for problems. Disk First Aid comes on the Mac OS 7.6.1 Update, Disk 1 disk and on the Disk Tools disk that came with your computer. Follow these steps:

1. Insert the Mac OS 7.6.1 Update, Disk 1 disk into the floppy disk drive.
2. Double-click the Disk First Aid icon to open it.
3. Click the icon for the disk you are installing software on.
4. Click Verify.

5. If Disk First Aid tells you your disk appears to be OK, choose Quit from the File menu. If Disk First Aid reports problems with your hard
disk, see the manual that came with your computer.

NOTE: If you have a problem using Disk First Aid, see the manual that came with your computer.

Installing Mac OS 7.6.1 Update

Before you install Mac OS 7.6.1 Update, you should have at least 10 MB of disk space temporarily available on your hard disk. It is very important that you follow these steps in order to install Mac OS 7.6.1 Update:

1) Open the Extensions Manager control panel.

2) Choose "Mac OS 7.6 Base" from the Sets pop-up menu. (This choice will only appear if you are using Mac OS 7.6. If it does not appear, you need to upgrade to Mac OS 7.6 before installing this update.)

3) If you have third-party peripheral devices that are required for installation and that require an extension, turn those extensions back on. (Examples include video drivers, drivers for alternative input devices, network card drivers, and drivers for removable media drives, such as CD-ROM drives.)

4) Restart your computer.

5) Insert the Mac OS 7.6 Update, Disk 1 disk into the floppy disk drive.

6) Double-click the Installer icon to open it.

7) After you read the licensing agreement, click Agree to continue with the installation

8) Make sure that the destination disk indicated on the screen is the disk that contains Mac OS 7.6. If the wrong disk name appears, click the Switch Disk button until the correct disk name appears.

9) Click Install.

10) Follow the instructions on the screen. On-screen messages tell you when you need to insert the other disks.

11) When the installation is complete, click Restart to restart your computer.

12) Use the Extensions Manager to turn on additional extensions.

13) To use the extensions you turned on, restart the computer. (If you encounter problems, choose "Mac OS 7.6.1 Base" from the Sets pop-up menu, restart your computer, then turn on other extensions one at a time to determine if one of them is causing the problem.)

14) After you install Mac OS 7.6.1 Update, you may want to restart yourMacintosh while holding the command (⌘) and option key. This will rebuild the desktop on your Macintosh and ensure that no Icons are generic.

IF YOU CANNOT INSTALL THIS UPDATE SUCCESSFULLY: If you have trouble installing this update, try choosing "All Off" from the pop-up menu in Step 2. If you failed to run the Disk First Aid application program, follow the steps in "Before you install," then follow the steps for installing Mac OS 7.6.1 Update.

Updating a universal System Folder

A universal System Folder can be used to start up any computer that can use Mac OS 7.6.

Only some users need a universal System Folder. You might want to create a universal System Folder if you

* start up different computer models using removable media or an external startup disk

* want to simplify support of multiple users by giving all users the same System Folder

The universal System Folder will not contain

* the Password Security control panel

* ATI 3D Accelerator, ATI MPEG Accelerator, ATI YUV Accelerator, and ATI 6500 Graphics Extension

* ATI Graphics Accelerator 1.2.2 (ATI Graphics Accelerator 1.1.4 is installed in the universal System Folder)

* the Infrared control panel, IrDALib, and IRLanScannerPPC

* the CDStrip control strip module

* the TV/FM 1.5.3 software

If you are responsible for only one computer, you shouldn't need to create a universal System Folder.

1) Start with a universal System Folder created by the Install Mac OS program (available on the CD or floppy disks that came with Mac OS 7.6).

2) Update your universal System Folder by installing Mac OS 7.6.1 Update.

Published Date: Feb 18, 2012

Applesoft BASIC: Making a text file from a program file

To transfer a program in Applesoft BASIC from the Apple II family of computers to another computer, you must first make a text file from the program.
This article has been archived and is no longer updated by Apple.
Adapt to your own situation this example:

Assume that your BASIC program begins with line number 10 and ends with line number 30000. Add these lines to the beginning of the program:

```
1 PRINT CHR$(4);"OPEN TEXTFILE"
2 PRINT CHR$(4);"WRITE TEXTFILE"
3 LIST 10-30000
4 PRINT CHR$(4);"CLOSE"
5 END
```

Save the program with the new lines added, then run the program.

This will work in DOS 3.3 or ProDOS, so long as either was used to boot the disk, and so long as there is disk space available to write the program file.

If your program has used lines 1-5, put the new lines at the end, as lines 30001-5 for example, and then type RUN 30001.
Published Date: Feb 18, 2012

Mac OS 7.6.1 Update for PowerBook 3400: Read Me

This article is the Mac OS 7.6.1 Update for PowerBook 3400 ReadMe file.
This article has been archived and is no longer updated by Apple.
Overview and Installation

What's included in the Mac OS 7.6.1 Update?

This document contains information on Mac OS 7.6.1 Update for all Power Macintosh and Mac OS Compatible computers, however this installer will only install on the PowerBook 3400.

After you install the Mac OS 7.6.1 Update, you should notice improved stability, as well as the following fixes and enhancements:

* Nearly all Type 11 errors eliminated
Type 11 errors force you to restart the computer without saving your work.
Most of these errors are now properly classified as Type 1 or Type 2 errors, which cause the active application to quit, but do not force you to restart the computer. Type 11 errors occur while using "native" applications used by computers with PowerPC processors.

IMPORTANT When you get an error that forces a program to quit, you should still save your work in other open programs and restart the computer.

* Type 112 errors eliminated
Type 112 errors, which occurred when using some multimedia applications, have been eliminated.

* CFM-68K Runtime Enabler included for computers with 68030 and 68040 processors
Computers with 68030 and 68040 processors can now use programs that require the CFM-68K Runtime Enabler. The CFM-68K Runtime Enabler is a system extension which allows application programs to share code resources. Because of an issue with this extension, it was not included with Mac OS 7.6. This issue has been fixed.
Apple products that use the CFM-68K Runtime Enabler include OpenDoc, the LaserWriter 8.4 driver, Apple Telecom software 3.0 and later, and the Apple Media Tool. Applications from other companies that require the CFM-68K Runtime Enabler include America Online 3.0 and Internet Explorer 3.0. (If you continue to experience issues with non-Apple programs that use the CFM-68K Runtime Enabler, contact the manufacturer.)

* Improved compatibility with serial devices when using Performa 5400 and 6400 and PowerBook 3400 computers
Equipment connected to the serial port now communicates correctly with these computers. (Previously, some devices using the serial port were not recognized by these computers if the devices were connected when the computer started up.)

* Infrared issues fixed on PowerBook 1400 and 3400 computers
The computer no longer freezes if the infrared window is blocked when the computer is starting up or transferring files.

* Improved reliability when using large QuickTime files, or using QuickTime in low-memory situations
Application programs that use QuickTime files work more reliably when working with large files and when using QuickTime files in low-memory situations.

* Printing improved for Performa and Power Macintosh 5400 and 6400 series computers using non-Apple printers over LocalTalk networks
Performa and Power Macintosh 5400 and 6400 computers now print at an acceptable speed on non-Apple printers over a LocalTalk network. (Previously, printing was very slow.)

* Video applications recognize that MPEG is installed
Video applications, including the Apple Video Player, now correctly recognize when MPEG software or hardware is installed.

* Storage PC Cards no longer require a utility program to appear on the desktop
PC Cards used for storage now appear on the desktop when inserted. A mounting utility program is no longer required.

* Only two low-battery messages displayed on PowerBooks before computer shuts itself down
Only two low-battery messages are displayed, instead of three, before the computer shuts itself down. The first message appears approximately two to four minutes before shutdown. The second occurs approximately ten seconds before shutdown.

* PowerBook 1400 computers now wake from sleep faster
When you wake the computer, there is less of a delay before the screen appears.

* Contrast and brightness controls work as expected on PowerBook 1400 computers
The screen will get brighter or show more contrast when the plus (+) controls are pressed. Previously, the functionality of the plus (+) and minus (-) controls were reversed on PowerBook 1400 computers.

* On the PowerBook 3400, the CD-ROM drive works correctly if inserted when the computer is on
The removable CD-ROM drive now appears correctly on the desktop if it is inserted in the expansion bay while the computer is on.

* New version of Apple System Profiler
IDE-based CD-ROM drives, such as the built-in CD-ROM drive for the PowerBook 1400, are now listed in the Apple System Profiler window.

* New version of AppleVision software
A new version of AppleVision software improves reliability on computers that currently use AppleVision monitors.

* Graphics acceleration software works correctly with a universal System Folder
Graphics acceleration software now works correctly when used with a universal System Folder. Additionally, the Graphics Accelerator extension and the Graphics Accelerator 2 extension have been merged into the ATI Graphics extension.

* New version of Apple Video Player
All computers can use the AppleScript scripting language to automate tasks in Apple Video Player.

* Settings in Energy Saver control panel are saved properly
Changes made to automatic startup and shutdown settings are now saved.

* Large files copied between IDE hard disks sometimes crashed the system
Files over 1 MB can now be copied between two IDE hard disks without causing a system crash.

* Better performance when using video-capture expansion cards and ATI accelerators
Video capture is faster on computers when using video-capture PCI expansion cards with ATI graphics accelerators.

Besides the bug fixes provided by Mac OS 7.6.1 Update, several of the bug fixes and features that have been previously released as extensions are now part of the OS. You may notice that these extensions have been removed from the Extensions folder. After installing the Mac OS 7.6.1 Update, you will no longer need these extensions in your Extensions folder.

54xx/64xx Update version 1.0
54xx/64xx Update version 1.1
7.5.5 SCSI Server Update
Assistant Toolbox
PCI Network Legacy Layer version 1.0
PCI Network Legacy Loader version 1.0
PowerBook 1400 ATA Flash
PowerBook 1400 PMU Updater
PowerBook VM Tuner for OS 7.6
PowerMac Format Patch
PowerPC Interrupt Extension

For additional technical information, see the Mac OS 7.6.1 Update Technote. You can find it at the Apple Developer site at http://www.apple.com/developer.

Known issues with Mac OS 7.6.1

Open Transport 1.1.2 and PowerBook 3400
Open Transport 1.1.2 and the PowerBook 3400 are not compatible unless you follow these instructions. Open Transport 1.1.2 was released to address issues with very specific network configurations of some customers, and is not required for most Open Transport users. If you require version 1.1.2 of Open Transport for your network configuration, first install Open Transport 1.1.2, and then immediately install the Mac OS 7.6.1 Update for PowerBook 3400. This will overwrite resources which otherwise could cause crashes when switching between Infrared and LocalTalk.

PowerBook 1400 and Newer Technology Ethernet Card
A PowerBook 1400 used with the Newer Technology Ethernet card requires Ethernet driver version 1.5 or later from Newer Technology. Drivers older than version 1.5 may cause crashes. Visit Newer Technology's web site for the latest version: http://newertech.com/software.html, or call their Tech Support at 1-800-678-3726.

Infrared Control Panel Produces Incorrect Error
If the Infrared control panel is selected on a computer that does not have infrared capability, an error -192 message is displayed. The error should state that Infrared is not supported on this computer.

Printing Speed Improvements
Improved print speed is present for some computers using third party printers over LocalTalk networks, however, Power Macintosh 5400 and

6400 computers with processor speeds less than 200 MHz without an L2 cache still exhibit slow printing. Apple is working on a solution to this issue, and will post a solution as soon possible online in the same locations as this update.

68040Computers and Closed Caption Feature in Apple Video Player
Apple Video Player's Closed Caption option will cause a hang on a 68040 computers with the Apple TV Tuner installed. Reinstalling the Apple Video Player (version 1.4) from the Mac OS 7.6 CD will remedy the issue. To reinstall, launch "Install System Software" in the Mac OS 7.6 folder within the Software Installers folder on the Mac OS 7.6 CD. Choose "Custom Install" from the pop-up, then click on the triangle next to the item "Multimedia" to expand it. Select "Apple Video Player 1.4" and click "Install." When asked if the "Newer" or "Older" file should be used, select "Older."

Apple Video Player & Mac OS 7.6.1 Incompatible with QuickTime MPEG Card
Apple Video Player will not properly recognize a QuickTime MPEG Card when run under Mac OS 7.6 or Mac OS 7.6.1. With Mac OS 7.6.1 the QuickTime MPEG extension can be used to view MPEG files using software decompression with Apple Video Player.

Apple Video Player 1.6 is not Installed on PowerBook 3400
If you need to use this application program, it can be downloaded from the Apple Software Updates Web site at http://www.apple.com/swupdates .

Power Macintosh 7100/80AV & Apple Video Player Sound Issues
If the sound is muted and the slider doesn't work in Apple Video Player on a 7100/80AV, open Apple Video Player and click on the mute button to activate it. Quitting and relaunching the Apple Video Player should then remedy the issue.

Mac OS 7.6.1 and AppleVision 1710: Missing Colorsync Profile
If you try to import the "AppleVision 1710-9300" ColorSync profile, and the error "Could not complete your request because a ColorSync error has occurred." appears, install AppleVision 1.5.1 to eliminate the issue.

Extensions Manager Mac OS 7.6.1 Sets Omit File Needed to Print
Selecting "Mac OS 7.6.1 Base" and "Mac OS 7.6.1 All" in Extensions Manager, mistakenly turns off "Printing Lib" and printing is disabled. Manually turning on "Printing Lib" within Extensions Manager after choosing one of these sets will allow printing.

Extensions Manager Mac OS 7.6.1 Sets Omit Monitors Control Panel
Selecting "Mac OS 7.6.1 Base" and "Mac OS 7.6.1 All" in Extensions Manager, mistakenly turns off "Monitors" control panel. Manually turning on "Monitors" within Extensions Manager after choosing one of these sets will allow access to this control panel.

Internal Speaker on Power Macintosh 5500 and 6500 Remain Muted
If external speakers are connected to a Power Macintosh 5500 or 6500 when the computer starts up and are then disconnected, the internal speakers remains muted. Restart the computer after disconnecting the external speakers and the internal speaker will work normally.

VM is not Turned on for 68030 & 68040 Computers with More Than 16 MB of
RAM 68030- and 68040-based Macintosh computers with more than 16 MB of physical memory do not have Virtual Memory turned on after installing Mac OS 7.6.1 Update.

Known issues with Mac OS 7.6 not fixed with this update

* Connectix Speed Doubler disabled when Mac OS 7.6.1 is installed
There is an issue using Speed Doubler versions 1.3.1 and earlier and version 2.0 with Mac OS 7.6. If you use one of these Speed Doubler versions, it will be disabled after you install Mac OS 7.6.1 Update. Connectix is aware of this issue and is providing a free update. For more information, see the Connectix Web site at http://www.connectix.com or call 800-839-3632.

* Versions of several Apple software products compatible with computers with 68030 and 68040 processors that require the CFM-68K Runtime Enabler not included with Mac OS 7.6
Because of an issue with the CFM-68K Runtime Enabler, the extension and compatible versions of several Apple software products (such as OpenDoc, the LaserWriter 8.4 driver, Apple Telecom software 3.0 and later, and the Apple Media Tool) were not included with Mac OS 7.6. The CFM-68K Runtime Enabler issue has been fixed and computers with 68030 and 68040 processors can now use programs that require this extension. The latest version of this software is available from the Apple Software Updates Web site at http://www.apple.com/swupdates, or from America Online (keyword: AppleComputer).

* LaserWriter 8.3.4 results in an error message when you print to a file and then drag the resulting file to a desktop printer
If you use the LaserWriter 8.3.4 driver to print to a file and then drag the resulting file to a desktop printer, you get a message stating that the print library is missing. To work around this issue, update your LaserWriter software to LaserWriter 8.4.1. This software is availablefrom the Apple Software Updates Web site at http://www.apple.com/swupdates, or from America Online (keyword: AppleComputer).

* After you install Mac OS 7.6.1 Update, the easy install option no longer works for reinstalling Mac OS 7.6
Once you have installed Mac OS 7.6.1 Update, you can no longer use the easy install option for reinstalling Mac OS 7.6 (installers cannot update over newer versions of software). You must use the clean install option to reinstall Mac OS 7.6. Specific components can be installed using the

custom install option.

* Notes on Custom Installs
If you perform a custom install of a component from your Mac OS 7.6 CD (or floppy) and already have system 7.6.1 running on your system, you may notice the following warning dialog: "The file <name of the component> already on <name of your hard drive> is newer than what you are about to install. Click Newer to keep the Newer file, Older to replace that file, or Cancel to stop installation." You should pick Newer.

IMPORTANT After the Mac OS 7.6 install finishes installing the selected components, you should then reinstall the Mac OS 7.6.1 Update to ensure that the components you just installed are up-to-date.

* Installing QuickDraw GX for use with a non-Apple printer
If you want to use QuickDraw GX with a non-Apple printer, you need to obtain a QuickDraw GX printer driver or remove QuickDraw GX. If QuickDraw GX is installed, you will not be able to use your non-Apple printer without a GX driver. Contact your printer vendor for details. (Turning off QuickDraw GX in the Extensions Manager will solve this issue.)

* Using the QuickDraw GX Installer when Adobe Acrobat is installed
If you use the QuickDraw GX Installer to either install or remove QuickDraw GX and your computer has Adobe Acrobat installed, Acrobat will display a message about missing fonts each time the computer is restarted. Reinstall or turn off Acrobat to stop the warning message. (Turning off QuickDraw GX in the Extensions Manager will not solve the issue.)

* Video Startup extension and Apple Video Player improperly installed by Mac OS 7.6
Mac OS 7.6 improperly installs the Video Startup extension and the Apple Video Player application on Macintosh TV. You should throw the Apple Video Player application and the Video Startup extension in the trash. If these components are present, the Mac OS 7.6.1 Update will update them to newer versions which still do not work on Macintosh TV.

* 3D images cannot be viewed with OpenDoc 3DMF Viewer 1.0.1 with QuickDraw 3D 1.5 or 1.5.1 installed
If QuickDraw 3D 1.5 or 1.5.1 is installed, a message about insufficient memory appears when attempting to place a 3D image in an OpenDoc document. Increasing the viewer's memory size with the Get Info command in the File menu does not solve the issue. To use the 3DMF Viewer, install an earlier version of QuickDraw 3D.

* Macintosh customers with the DayStar Digital 040 cards will need to do the following:
If you use the DayStar Digital 040 card, you will have to first remove the card, then install Mac OS 7.6.1 Update, and then reinstall the DayStar Digital 040 card.

* Two system folders when no desktop printer is selected
If you notice two active system folders on your hard drive, create a desktop printer to work around this issue. To create a desktop printer select the Chooser in the Apple () Menu, select any printer, and then press the Create button.

Before you install

Use the Disk First Aid application program before you install the Mac OS 7.6.1 Update to check your hard disk for issues. Disk First Aid comes on the Mac OS 7.6.1 Update, Disk 1 disk and on the Disk Tools disk that came with your computer. Follow these steps:

1. Insert the Mac OS 7.6.1 Update, Disk 1 disk into the floppy disk drive.

2. Double-click the Disk First Aid icon to open it.

3. Click the icon for the disk you are installing software on.

4. Click Verify.

5. If Disk First Aid tells you your disk appears to be OK, choose Quit from the File menu. If Disk First Aid reports issues with your hard disk, see the manual that came with your computer.

Note: If you have an issue using Disk First Aid, see the manual that came with your computer.

Installing Mac OS 7.6.1 Update

Before you install Mac OS 7.6.1 Update, you should have at least 10 MB of disk space temporarily available on your hard disk.

It is very important that you follow these steps in order to install Mac OS 7.6.1 Update:

1. Open the Extensions Manager control panel.

2. Choose "Mac OS 7.6 Base" from the Sets pop-up menu. (This choice will only appear if you are using Mac OS 7.6. If it does not appear, you

need to upgrade to Mac OS 7.6 before installing this update.)

3. If you have third-party peripheral devices that are required for installation and that require an extension, turn those extensions back on. (Examples include video drivers, drivers for alternative input devices, network card drivers, and drivers for removable media drives, such as CD-ROM drives.)

4. Restart your computer.

5. Insert the Mac OS 7.6 Update, Disk 1 disk into the floppy disk drive.

6. Double-click the Installer icon to open it.

7. After you read the licensing agreement, click Agree to continue with the installation.

8. Make sure that the destination disk indicated on the screen is the disk that contains Mac OS 7.6. If the wrong disk name appears, click the Switch Disk button until the correct disk name appears.

9. Click Install.

10. Follow the instructions on the screen. Onscreen messages tell you when you need to insert the other disks.

11. When the installation is complete, click Restart to restart your computer.

12. Use the Extensions Manager to turn on additional extensions.

13. To use the extensions you turned on, restart the computer. (If you encounter issues, choose "Mac OS 7.6.1 Base" from the Sets pop-up menu , restart your computer, then turn on other extensions one at a time to determine if one of them is causing the issue.)

14. After you install Mac OS 7.6.1 Update, you may want to restart your Macintosh while holding the command (⌘) and option key. This will rebuild the desktop on your Macintosh and ensure that no Icons are generic.

If you cannot install this update successfully: If you have trouble installing this update, try choosing "All Off" from the pop-up menu in Step 2. If you failed to run the Disk First Aid application program, follow the steps in "Before you install," then follow the steps for installing Mac OS 7.6.1 Update.

Updating a universal System Folder

A universal System Folder can be used to start up any computer that can use Mac OS 7.6.

Only some users need a universal System Folder. You might want to create a universal System Folder if you
* start up different computer models using removable media or an external startup disk
* want to simplify support of multiple users by giving all users the same System Folder

The universal System Folder will not contain
* the Password Security control panel
* ATI 3D Accelerator, ATI MPEG Accelerator, ATI YUV Accelerator, and ATI 6500 Graphics Extension
* ATI Graphics Accelerator 1.2.2 (ATI Graphics Accelerator 1.1.4 is installed in the universal System Folder)
* the Infrared control panel, IrDALib, and IRLanScannerPPC
* the CDStrip control strip module
* the TV/FM 1.5.3

If you are responsible for only one computer, you shouldn't need to create a universal System Folder.

1. Start with a universal System Folder created by the Install Mac OS program (available on the CD or floppy disks that came with Mac OS 7.6).

2. Update your universal System Folder by installing Mac OS 7.6.1 Update.

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MessagePad 2000: Cannot Open Built In Application

I am trying to open one of the built-in applications on my Newton MessagePad 2000. Instead of the application opening, I get a message saying an error of Type -48402 occurred. What is wrong?

This article has been archived and is no longer updated by Apple.

The data contained within the application you are trying to open may have become corrupt. You can delete the stored data by first opening Extras and going into the "Storage" drawer. Next, double-tap on the icon that corresponds with the item you are having a problem with. A dialog box will appear with an option to delete the item. Deleting the item will erase the stored data for that accessory. However, it will not permanently remove the accessory because it is stored in the Newton's read-only-memory (ROM).

This article was published in the 7 May 1997 "Information Alley".
Published Date: Feb 18, 2012

Power Macintosh: Supported Level 2 Cache Modules

I have a Power Macintosh 7300. It came with a 256K Level 2 cache module. I would like to upgrade the Level 2 cache.

Page 99 of the User's Guide states: You can replace the existing cache module with a larger one. Cache modules are currently available from third-party manufacturers in various sizes up to 1 MB. However, Apple recommends that you use an Apple-brand cache module if you want to upgrade your existing cache.

It appears that Apple does not sell or support cache modules larger than 256K so how do I upgrade my cache with an Apple-brand cache if Apple does not sell one? Is there a third-party manufacturer that Apple recommends?

This article has been archived and is no longer updated by Apple.
The statement in the User's Guide can cause confusion. Though Apple does not sell or support a Level 2 cache module larger than 256K, a number of Power Macintosh systems have been designed and built to theoretically accept Level 2 cache modules larger than 256K

No official testing has been done by Apple on larger modules however. The design, testing, sale, and technical support of larger L2 cache modules is entirely up to third-party developers.

Apple Computer cannot endorse a particular brand of Level 2 cache.

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ImageWriter: Codes for printing accented vowels

This article has been archived and is no longer updated by Apple.
To print an accent mark over a vowel in an AppleWorks word processor document, you can backspace and print an accent.

Or you can use the command

e<superscript>'<normal>

You must, however, turn on superscripting with command sequences you define in the custom driver.

With ImageWriter, you can use the following sequence of characters to turn on superscripting:

CTRL-H ESCAPE ESCAPE l1 ESCAPE T12 ESCAPE r CTRL-_ 1

(N.B. ESCAPE l1 is ESCAPE, lower case L, numeric one)

The characters needed to end superscripting are:

ESCAPE T09 ESCAPE f CTRL-_ 1 ESCAPE A ESCAPE l0

(N.B. T09 and 10 have numeric zero)

ESCAPE T09 compensates for the "printer slop" that the tractor feed causes when a reverse linefeeds occurs. If you are using friction feed, these codes are not necessary and may be removed.

If you are using an ImageWriter II, then the superscripting control codes are easier:

CTRL-H ESCAPE ESCAPE x

To end superscripting, use:

ESCAPE z

Character sets available on the Apple IIGS and ImageWriter may be of some help. For instance, Italian has an accented 'e'. Check the ImageWriter II manual, Appendix C, for a list of the characters in the character sets.

One of the options in the Apple IIGS is the ability to change the characters set of the display and the keyboard layout. By entering the control panel, and selecting "Display: Spanish", you will be able to display certain Spanish characters that print properly when sent to an ImageWriter in Spanish mode.
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Apple IIGS: Error in Show Text File Desktop Accessory

This article has been archived and is no longer updated by Apple.

On version 1.1 of the Apple IIGS System Disk, dated December 2, the Apple II DeskTop gives a "system error" when the desk accessory Show Text File comes to end-of-file. This doesn't happen with version 1.0, dated November 26.

Furthermore, on both versions, 1.0 and 1.1, of the system disk, this desk accessory will only show the first 32K of a text file.

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Apple IIGS: Grappler Plus cards

This article has been archived and is no longer updated by Apple.

Older Grappler Plus cards are not necessarily Apple IIGS compatible. Some of the older interface cards malfunction because of timing changes made to the IIGS slots, even though these changes were within Apple's specifications. The Grappler Plus card was designed before Apple even had those timing specifications.

On the Grappler Plus card at location U10, if the chip there is a 74LS373, then you have an old card and should contact Orange Micro. A 74LS374 is at U10 on the recent card.

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AppleWorks 2.0: Printing to Disk

When printing to disk, AppleWorks 2.0 only saves a document in this way with carriage returns ending each line (by selecting the Silentype printer option).
This article has been archived and is no longer updated by Apple.
If you need to workaround this situation, the text file printed to disk by AppleWorks can be read into AppleWriter or a BASIC program. You can then replace all spurious carriage returns with spaces, taking care to recognize and preserve carriage returns at the end of paragraphs.

The feature of putting a carriage return at the end of a line was added because many people had problems transmitting text with lines longer than 255 characters.

All previous versions of AppleWorks printed to disk a file with carriage returns only at the ends of paragraphs.
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Apple II Peripheral Cards: Sending TABs to your Printer

Problems you may have sending TAB commands to your printer may stem from the interface cards "trapping" the <CTRL-I> before it goes to the printer.
This article has been archived and is no longer updated by Apple.
To send a TAB to a DMP from an Apple IIe using a Parallel Interface Card:

Change the I/F card command character to something other than <CTRL-I>.

```
10 I$ = CHR$(9): Q$ = CHR$(17)
15 PRINT I$; Q$: REM command char for card is now CTRL-Q
20 PRINT I$: REM this sends the TAB
```

Reference: Parallel Interface Card Manual, p.12

To send a TAB to an Imagewriter from an Apple IIc:

First send <CTRL-I>Z to "zap" future commands. The I/F card will ignore following <CTRL-I>'s.

```
10 I$ = CHR$(9)
15 PRINT I$;"Z": REM zap
20 PRINT I$: REM this sends the TAB
```

Reference: Apple IIc Reference Manual, section 7.1

To send a TAB to an Imagewriter from an Apple IIe using a Super Serial Card:

Send the TAB character twice or "zap" as with the Apple IIc.

```
10 I$ = CHR$(9)
15 PRINT I$;I$: REM this sends the TAB
```

Reference: Super Serial Card Manual, page 12

BASIC's TAB command doesn't work properly with either the (old) High Speed Serial Interface or the Apple Silentype. Integer BASIC it is limited to 40 columns, while a TAB(20) in Applesoft will sometimes output 20 spaces instead of going to column 20. An example that gets around this is:

```
10 PRINT "HI";:POKE 36,55: PRINT "THERE"
```

POKE 36,55 will put the "THERE" in the 56th column (remember, Apple counts columns from 0 to 79) while still printing "HI" in column 0.

Sample program:

```
10 PRINT CHR$(4);"PR#1" :REM TURN THE PRINTER ON WITHOUT DISCONNECTING PRODOS
20 PRINT CHR$(9);CHR$(1) :REM SWITCH THE CONTROL CODE FROM CTL-I TO CTL-A
30 PRINT CHR$(27);"(010,020,030.":REM SET UP THE TAB LOCATIONS
40 I$=CHR$(9)
50 PRINT I$;"TEN";I$;"TWENTY";I$;"THIRTY":REM SEND THE LINE WITH TAB'S
60 PRINT CHR$(4);"PR#0":REM TURN OFF THE PRINTER
```

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Mac3D 2.0: System Errors

This article has been archived and is no longer updated by Apple.

```
Mac3D requires System version 3.2 and Finder version 5.3 or later to operate
properly.  If system error ID=10 or ID=02 show up, you should
make sure you are using the system software described above.

NOTE: Apple Computer, Inc. is not responsible for the contents of this
     article.
```

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Apple IIe: Keyboard and keypad in Apple IIGS upgrades

This article has been archived and is no longer updated by Apple.

When upgraded to an Apple IIGS, two different Apple IIe systems will behave exactly the same as the Apple IIGS: an Apple IIe with an external numeric keypad and a new Apple IIe with built-in numeric keypad. The "ESC" is mapped as a "Clear" on both systems. Remember, you still have extra keys on the IIe numeric pad.

Once an Apple IIe is upgraded, the keyboard behaves the same as the Apple IIGS keyboard. Remember, the Solid Apple Key is now the 'Option' key. Since there is a place on the motherboard labeled "NUMERIC KEYPAD", a connected keypad behaves the same as on the Apple IIGS keypad and then some. It is, of course, laid out differently, but all the keys that are on the IIGS keypad are on the IIe keypad. The extra keys available are: space, comma, "(", ")", and the left and right arrows. The "ESC" key is now the IIGS "Clear" key, and the "Print key" is now an "=".

An Apple IIe with a keyboard and keypad connected to an Apple IIGS motherboard in the upgrade does not affect operation of the Apple Desktop Bus. The DeskTop Bus continues to operate fine, regardless of what is hooked up via the Keyboard or Numeric pad connectors. It is possible to have both new and old keyboards hooked up and functional at the same time.

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Apple IIGS: Keyboard Connector

This article has been archived and is no longer updated by Apple.
This article last reviewed:10 November 1988

A problem concerning the connectors present on release Apple IIGS motherboards comes out of the fact that certain Special Education devices require the use of the keyboard connector (not the Game I/O) for different input devices.

The keyboard connector sockets aren't mounted on the Apple IIGS motherboard in the systems that will ship to customers; the connectors only are mounted on Apple IIGS IIe upgrade boards.

Depending on size of order, Manufacturing may do a special Apple IIGS build with keyboard and numeric keypad connectors. You should have your Sales Representative go through normal channels to investigate.

On a single unit basis, there is no way for Apple to add the connectors to an Apple IIGS board. However, all of the electronics for the external keyboard connectors exists on current Apple IIGS units. If you can find the connectors, it is possible to solder them in.

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FullPaint and the Hyperdrive

This article has been archived and is no longer updated by Apple.
FullPaint requires 384K just to launch. If the HyperDrive Volume Manager is not configured properly, the program will not load and will tell the user that he needs to check RAM Cache.

Following is the procedure for getting FullPaint to run on non-XP HyperDrives:

'Preferences' must be set to 'Maximum Compatibility'

OPEN Volume Manager

Choose PREFERENCES from the CREATE menu

Set the buttons to Maximum Compatibility

Close the PREFERENCES window

QUIT the Volume Manager

Choose SHUTDOWN from the Special menu

NOTE: Apple Computer, Inc. is not responsible for the contents of this article.
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Apple IIGS: Desk Accessories

This article has been archived and is no longer updated by Apple.

At startup, Apple IIGS Desk Accessories are automatically installed by ProDOS. It scans the sub-directory SYSTEM/DESK.ACCS on the startup disk for any files of type $B8 (CDA) and installs them. A CDA is a classic desk accessory, a menu of which can be accessed with Command-Control-Escape.

The format of a CDA is very similar to that of a regular application. The main difference is the existence of a header that contains:

- a Pascal string that contains the name of the CDA
- a pointer to the entry point of the CDA code
- a pointer to the shutdown routine of the CDA code

More documentation on writing classic and new desk accessories will be found in the chapter on the Desk Manager in the Apple IIGS Toolbox Reference Manual in summer 1987.

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Apple IIGS: Controlling speed mode from machine language

This article has been archived and is no longer updated by Apple.
In the Configuration Register, CYAREG, at location $C036, the bit to control is the high bit: setting it to 0 will set the normal mode and setting it to 1 will put the Apple IIGS in fast mode. The following machine language program shows how to use the bit.

```
300: lda C036
303: jsr FDDA ;print the value of the memory location
306: jsr 0318 ;wait a little while
309: lda C036 ;now swap the speed mode
30C: eor #80
30E: sta C036
311: jsr FDDA ;and show how it changed
314: jsr 0318 ;wait again, to show the speed difference
317: rts

318: ldx #00 ;this is a wait routine that will pause for 8 seconds
31A: ldy #00 ;in fast mode, and 19 seconds in normal mode
31C: jsr 031F
31F: jsr 0322
322: jsr 0325
325: jsr 0328
328: jsr 032B
32B: jsr 032E
32E: dex
32F: bne 032E
331: dey
332: bne 032E
334: rts
```

This program will print the value of CYAREG, pause a while, flip the speed, print the new value of CYAREG, and wait again. The speed difference is very apparent.

Take note that speed control under AppleSoft may be very difficult, if not impossible. Many firmware routines need the speed mode changed, so they often save the previous mode on the stack and then set the required speed mode. In this case, if you set the speed from AppleSoft or directly from the monitor, the speed mode will get set back to its default value (as specified in the Control Panel).

However, if you set the speed from a machine language program, the speed should remain the same for as long as that program maintains control.

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LocalTalk PC Card: Using It With TOPS On A 640K IBM-PC/XT

This article has been archived and is no longer updated by Apple.

When one PC has both an LocalTalk PC Card and a Centram TOPS card, problems (unrecognized cards and malfunctioning printing) that may occur might be isolated by testing each card separately for all functions and making sure both COM ports are free (the LocalTalk PC Card needs a free COM port).

You should also check the DMA settings of a file for the TOPS card, config.sys, and the switches for the cards for Centram TOPS and LocalTalk PC. The DMA settings must be compatible, e.g. config.sys with DMA=1, Centram TOPS card with switches set for DMA=1, and LocalTalk PC card with switches set for DMA=3.

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Macintosh: Screen font character spacing

This article discusses the Macintosh screen font character spacing.
This article has been archived and is no longer updated by Apple.
The screen fonts distributed by Adobe have a slightly different character spacing than those distributed by Apple. Page 22 of the Adobe Type Library User's Manual points out:

"If you own an older Macintosh, not a Macintosh Plus, and are concerned about character spacing, avoid using the Bold and Italic selections from the Style menus of your application. Instead, install the bold, italic, and bold italic screen fonts available in your typeface package and select these fonts from your application's pull down menu when you need to change styles. You will then get more accurate spacing when printing documents."

The manual goes on to say:

"If you own a Macintosh Plus, you can install only the Plain font and still get correct character spacing. For display clarity, however, you may want to install the Other fonts."

If you are using a Macintosh with the 128K ROM's, only the Plain font needs to be installed. Just remember to use a Font/DA Mover of version 3.1 or later so the FOND resource is correctly installed.
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AppleShare 1.0 File Services: User Limits

This article has been archived and is no longer updated by Apple.

1. Users per server:

a. Logged on: 25 maximum

b. Registration file: virtually unlimited

2. Group capability:

a. Registration file: virtually unlimited

b. Group memberships per user: 15 maximum

c. Groups having special access privileges to a folder: 1 maximum
Note that a different set of access privileges can be assigned to
EVERYONE in addition to the group privileges

3. Servers per AppleTalk network:

-- Limited by LocalTalk only
for example, you could have 31 servers and 1 user

-- An AppleTalk internetwork connected by bridges could have a virtually
unlimited number of Servers

4. Volumes per server:

a. SCSI: 7 devices

b. HD20: 2 devices

-- Limited only by the Macintosh operating system and hardware:
AppleShare can handle as many volumes as the Finder.

5. Groups per zone:

a. Logged on: 25 maximum

b. Registration file: virtually unlimited

6. Servers per zone:

-- Limited only by LocalTalk
for example, you could have 31 servers and 1 user

Published Date: Feb 18, 2012

Apple IIc: Battery packs

Two battery packs available for the Apple IIc are listed below. Both battery packs support many hours of continuous use and will also act automatically as an auxiliary power source in the event of a power failure.
This article has been archived and is no longer updated by Apple.

The Cari Portable Work Station

The Cari Portable Work Station by Discwasher measures 19 x 12 x 8 inches, is made out of cordura nylon and provides up to 6 hours of continuous power. It's big enough to carry an Apple IIc with the Flat Panel Display attached, as well as the Apple IIc Power Supply, a mouse, manuals, software and additional papers. The suggested retail price is $249.95. For further information, contact:

Maurice Evans
Discwasher Products Inc.
1407 North Providence Road
P.O. box 6021
Columbia, MD 65205
(314) 449-0941

The Prairie Power Battery

The Prairie Power battery case is 17 x 13.5 x 5.25 inches and is also made of cordura nylon. The removable battery pack and built-in charger provide up to 8 hours of power without recharging. Separate padded compartments are provided for the battery pack, software and the Flat Panel Display. The suggested retail price is $269.95. For further information, contact:

Maureen Olson
Prairie Power Systems, Inc.
(612) 475-1793

Both products have a briefcase-type handle as well as a removable shoulder strap. The combined weight of a battery pack, Apple IIc and Flat Panel display is about 20 lbs.
Published Date: Feb 18, 2012

Apple IIGS: ProDOS/8

This article has been archived and is no longer updated by Apple.
To support the old Apple II mode on the Apple IIGS, system disks have P8, or ProDOS/8, as it is a version of ProDOS 1.1.1 made especially for Apple IIGS, although ProDOS/8 works on an Apple IIe or Apple IIc.

ProDOS/8 handles the following Apple IIGS capabilites, features and operating modes:

- ProDOS/8 accepts system calls from applications running in 8-bit mode only.

- ProDOS/8 accepts system calls from the lowest 64K of memory only.

- ProDOS/8 uses a simple global page bit map.

- ProDOS/8 maintains a section of memory, which can be accessed directly, that
contains system global variables such as date and time, system level, and I/O
buffer addresses.

- ProDOS/8 reads the Apple IIGS clock rather than the ThunderClock.

On the Apple IIGS, ProDOS and ProDOS/16 are designed to the run in tandem, as a package. ProDOS/8 is provided to maintain compatibility with ProDOS v1.1.1. In normal situations, you need not be concerned with which operating system is functioning; ProDOS/8 is automatically loaded if you run an application designed to run under ProDOS 1.1.1 or versions earlier.
Published Date: Feb 18, 2012

AppleWorks: Creating database documents from text with tabs

This article has been archived and is no longer updated by Apple.
Some database programs export text files that have fields separated by tabs and records by carriage returns. AppleWorks imports a database file from a text file when all fields and records are separated by carriage returns. To convert the tabbed export format to the format AppleWorks imports, you must use a word processing application or a programming language, such as BASIC or Pascal, whether or not you have to transfer the data from the Macintosh.

Using a word processing application, open the document and change the tabs to carriage returns with a replace command. Most applications have special codes for the tab and carriage return, such as ^t and ^p in MicroSoft Word. Save the changes as a text file, which AppleWorks should accept.

For using a programming language, take this example in Applesoft BASIC under ProDOS.

```
10 ONERR GOTO 130
20 O$="<OLD FILE NAME>"
30 N$="<NEW FILE NAME>"
40 D$=CHR$(4)
50 PRINT D$"OPEN"O$
60 PRINT D$"OPEN"N$
70 PRINT D$"READ"O$
80 GET A$
90 PRINT D$"WRITE"N$
100 IF A$=CHR$(9) THEN A$=CHR$(13)
110 PRINT A$;
120 GOTO 70
130 PRINT D$"CLOSE"
140 END
```

This program should be saved, along with the exported text file, to a ProDOS disk; save the program with a name such as "TAB2CR". After substituting appropriate names in lines 20 and 30, run the program. AppleWorks should accept the output file.

Here is a MacPascal program that could convert the export file of a Macintosh application such as MacWorks.

```
program Convert;
type
text = file of char;

var
infile, outfile : text;
c : char;

begin
{an example pathname could be 'HD:MS Works:ExportFile'}
open(infile, 'export file pathname');
open(outfile, 'AppleWorks format file pathname');
while not (eof(infile)) do
begin
read(infile, c);
if ord(c) = 9 then
begin
c := chr(13);
end;
write(c); {echo to screen}
write(outfile, c);
end;
close(infile);
```

```
close(outfile);
end.
```

Substitute appropriate names for "export file pathname" and "AppleWorks format file pathname". After transferring the output file to the Apple II (with MS Works or MacTerminal), save the captured file as a text file. AppleWorks should accept the captured file.

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Apple IIGS: ProDOS/16 version 1

This article has been archived and is no longer updated by Apple.
With the Apple IIGS, Apple introduced an operating system for the IIGS, ProDOS/16, as ProDOS/16 version 1. ProDOS/16 version 1 was intended to implement the same call structure and many of the other features of ProDOS/16 in its final version.

Functioning as a shell around ProDOS/8 (the GS version of ProDOS 1.1.1), ProDOS/16 v1 has a user interface layer that mimics the external appearance and system call structure in its final version, but the actual operating system beneath the shell is ProDOS. Therefore, ProDOS/16 v1 is essentially restricted to functions that are available under ProDOS. Those parts of the final version that will involve fundamental revisions or extensions to ProDOS/8 are not available in ProDOS/16 v1. However, under ProDOS/16 v1, you will be able to:

- make ProDOS/16 system calls from anywhere in memory, using ProDOS/16 parameter blocks located anywhere in memory.

- make I/O data transfers to or from anywhere in memory.

- allow limited use of named devices in the VOLUME and GET_DEV_NUM calls. With ProDOS/8, you can only refer to a device by its volume name or its slot and drive number.

- support up to eight system prefixes; ProDOS/8 supports only one.

Published Date: Feb 18, 2012

AppleWorks 2.0: Using the Apple IIGS Clock

This article list the steps to configure AppleWorks to work with the Apple IIGS clock.
This article has been archived and is no longer updated by Apple.
To use the clock on the Apple IIGS with AppleWorks 2.0, make a backup copy of your AppleWorks disk and, with your newly made copy:

1. Delete the file "PRODOS" off of the AppleWorks Startup diskette.

2. Copy the file "P8" from the Apple IIGS System disk over to your copy of the AppleWorks Startup Disk. The "P8" file is in the subdirectory called "SYSTEM" on the Apple IIGS System Disk.

3. Rename the file "P8" to "PRODOS"

4. Startup your new AppleWorks disk to test it.

The date from the Apple IIGS clock should come up automatically now.
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Modems, PhoneNETs and Key Switch Telephones

When a modem is connected through a PhoneNET AppleTalk Connector to a RJ11 wall jack, the modem can electrically short the PhoneNET signal lines (yellow & black wires). This article describes what's going on and how to configure the modem to keep from shorting the PhoneNET signal lines.
This article has been archived and is no longer updated by Apple.
Many modems have a switch, jumper, or command thay causes it to connect the yellow and black wires in a telephone jack. This feature is provided so that modems being used with a key switch multi-line office PBX will provide the correct signals to indicate that the modem line is in use and should not be picked-up at another phone.

The following commands, switches or jumpers will disable the modem from shorting the two wires normally used by PhoneNET connectors. Doing the opposite will cause the modem to indicate that the line is in use on multi-line key switch telephone systems.

```
    Hayes Smartmodem 2400: issue commands AT&J0 or AT&J
    Hayes Smartmodem 1200: set switch 7 UP
              Avatek 1200: only uses two wires
US Robotics Password 1200: pull up jumper J1
 US Robotics Courier 2400: set switch 7 UP
     Apple Modem 300/1200: pull up jumper J1
     Apple Personal Modem: (made in USA) cannot be disabled, cut the yellow
                           and black wires in the telephone extension cable.
     Apple Personal Modem: (made in Hong Kong) only uses two wires
```

Note: Apple Computer, Inc. is not responsible for the contents of this article.
Published Date: Feb 18, 2012

FullPaint and LaserPrint

This article has been archived and is no longer updated by Apple.

2/6/87

LaserPrint

LaserPrint is a utility by A2S bundled with FullPaint that enhances the resolution of FullPaint documents for printing on the LaserWriter.

Error While Printing

Clicking 'Print Final' generates either an 'Image mask' error or Offending Command 0' within Postscript in the LaserWriter.

Correction - Use PRINT DRAFT instead of PRINT FINAL

In effect, PRINT FINAL is trying is trying to convert (smooth) documents into 300 dpi that are already 150 dpi or 300 dpi. PRINT FINAL is reserved for future versions of PostScript. PRINT DRAFT bypasses smoothing routines.

+ Clearing the error

Turn off the LaserWriter and turn it back on

Printed Documents Not Smooth

Smoothing of documents for LaserPrint must be done by hand in Fat Bits within FullPaint.

+ Correction

- After splitting into 4 or 16, go back to FullPaint

- Smooth all the documents in Fat Bits

Setting ruler untis to pixels and having Mouse Spot on screen makes it easier to retain shapes that go from one document to another.

- Return to LaserPrint

- Queue up documents as per the grid

- Click PRINT DRAFT

NOTE: Apple Computer, Inc. is not responsible for the contents of this article.

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FullPaint and MacPaint Compatibility

This article has been archived and is no longer updated by Apple.

Oftentimes users try to launch MacPaint documents from the desktop. If MacPaint is the maker, it will not find FullPaint. Following are the steps necessary to convert to FullPaint format documents.

1. Opening/Converting MacPaint Documents
   MacPaint documents will not launch from the FullPaint desktop. They are looking for MacPaint.
   - 1.1. Open FullPaint
   - 1.2. Choose OPEN form the File menu
   - 1.3. Open the desired document
   - 1.4. Choose SAVE from the File menu

NOTE: Apple Computer, Inc. is not responsible for the contents of this article.

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FullPaint and MacServe

This article has been archived and is no longer updated by Apple.
2/6/87

Following is a description of how to get FullPaint to run on a MacServe network.

RAM Caching must be set to 'Minimum' (10K) in the MacServe Manager

Open MacServe Manager

Choose STARTUP OPTIONS from the Settings menu

Set RAM caching to 10K (minimum)

Click the SET button

QUIT the MacServe Manager

Choose SHUTDOWN from the Special menu

512K Macintosh as the network server

FullPaint will NOT work under any circumstances on a 512K Mac

that is being used as the server for the network. 512K net

users may use FullPaint. MacServe software uses about 130K

and FullPaint requires 384K just to launch.

For further information contact Ann Arbor technical support.
Our AppleLink address: D0294.
Our tech support phone lines: (805) 375-1491.

NOTE: Apple Computer, Inc. is not responsible for the contents of this article.
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Apple III: 12-volt 128K Internal Diagnostic

This article has been archived and is no longer updated by Apple.

There is a RAM diagnostic built into the monitor ROMs of all Apple IIIs that's useful for testing the memory of a 12-volt 128K Apple III (typically, Apple IIIs with serial numbers less than 100,000).

NOTE: Before running this test, remove all peripheral cards from the Apple III, especially any ProFile interface cards and Grappler printer cards.

To run the diagnostic:

1. Hold down the CTRL and OA keys, and then press and release RESET key. The MONITOR prompt, a right arrow and a flashing underline, should then appear in the upper left corner of the screen.

2. Type F6E6G and then press the RETURN key.

3. The test should now begin to cycle: in the upper left hand corner of the screen you'll see, about every 20 seconds, a pattern of dots like this:

```
DIAGNOSTIC RAM
. . . . . . . .
. . . . . . . .
. . . . . . . .
. . . . . . . .
. . . . . . . .
. . . . . . . .
. . . . . . . .
. . . . . . . .
```

If the test runs for 20 minutes and displays only dots, the RAM isn't defective. If characters or inverse blocks show up in the matrix, however, the diagnostic has found defective memory chips.

The position of the non-dot character in the display (usually an inverse "1") above corresponds with the chart below, which lists the chip location on the 12-volt memory board.

B9	B8	B7	B6	B5	B4	B3	B2
B17	B16	B15	B14	B13	B12	B11	B10
B9	B8	B7	B6	B5	B4	B3	B2
B17	B16	B15	B14	B13	B12	B11	B10
C17	C16	C15	C14	C13	C12	C11	C10
D9	D8	D7	D6	D5	D4	D3	D2
D17	D16	D15	D14	D13	D12	D11	D10
C9	C8	C7	C6	C5	C4	C3	C2

Replace the bad memory chip(s) and run the test again. If the system once again fails the memory board test, replace the memory board itself. If that dosen't help, replace the main logic board. (Error messages displayed below the DIAGNOSTIC RAM grid, by the way--such as "ACIA","ROM", or "VIA"--indicate a problem with the logic board.)

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FullPaint Won‘t Boot?

This article has been archived and is no longer updated by Apple.
2/19/87

Sometimes an error message appears when the user tries to launch FullPaint saying that FullPaint requires 384K to run. This message may occur on both 512's and Plus'. Nothing is wrong with FullPaint or the Mac - the RAM cache needs to be turned off.

1. Turn RAM Cache off
RAM Caching in the Control Panel collides with the same address that FullPaint uses to open extra documents.
If Caching is on, FullPaint will NOT open under any circumstances.
1.1. Boot FullPaint
1.2. Choose CONTROL PANEL from the Apple menu
1.3. Click the OFF button for RAM Cache in lower right of window
1.4. Close the CONTROL PANEL
1.5. Click SHUTDOWN from the Special menu
1.6. Reboot

NOTE: Apple Computer, Inc. is not responsible for the contents of this article.
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Macintosh: Feature Summaries for Finder 4.1, 5.4, and 5.5

This article has been archived and is no longer updated by Apple.

TOPIC ----------

This article lists the features of Finder versions 4.1, 5.4, and 5.5.

DISCUSSION ----------

Finder 4.1

These are the features added to Finder 4.1:

* Mini Finder

* Choose Printer Desk Accessory

* New Folder option

* Print Catalog

* Page Setup

* Shut Down

* About the Finder

* Up to 500 documents can be managed. (The previous limit was 130.)

* Icons can be moved, renamed, duplicated, or discarded from directories
in any arrangement--view by icon, name, date, size, or kind.

* Directories are displayed in a text format (name, date, size or kind);
a locked file displays a small padlock next to it.

* If the Finder encounters an error and can't reconstruct folders
exactly, the top level of the folder hierarchy is always remembered
(although the associated names are not).

* Open Dialog box matches user-entered characters.

* New combined Font/Desk Accessory Mover.

Finder 5.4

These are the features added to Finder 5.4:

* Trash can bulges when there's something in it.

* Two Get Info windows go side-by-side.

* Network Support:

* Network files and volumes supported
* Get privilege
* Allows setting and viewing of access privileges
* Shows folder names, location, user name, privileges, owner, group
* Folder visual appearance indicates folder status.

* Option-drag operation copies an icon instead of moving it.

* Clean Up options: Clean Up Window, Clean Up Desktop, Clean Up Selection(s).

* Shutdown menu item initiates "housecleaning" on system, files, and desktop.

* Restart reboots the system.

* Control Panel accepts additional resources; Chooser 3.0 supports Zones.

* Size options added to RAM Cache.

* TeachText: Communicates undocumented changes; also a simple word processor.

* Startup Manager (SE and II only) Control Panel selection of any hard disk as Startup Device. Floppy insertion overrides startup selection.

Finder 5.5

These are the features added to Finder 5.5:

* Adjustment of window size from a larger screen when a window opens on a smaller screen.

* Resource errors less likely to cause a large desktop file.

* Dialogs and alerts centered on larger screens.

* Comments in the "Get Info" box copied properly when a file is duplicated.

* When boot disk is ejected, more icons (including small icons) are read into RAM, reducing the number of disk swaps required when changing disks.

Published Date: Feb 18, 2012

ProDOS: Limited to 32 megabyte access on HD40SC and HD80SC

Is there a way to address more than 32 megabytes of storage space on a hard drive?
This article has been archived and is no longer updated by Apple.
A limitation of ProDOS prevents the Apple II from accessing more than 32 megabytes of storage space on an Apple Hard Disk 40SC or Apple Hard Disk 80SC.

Those drives can be connected to an Apple II with an Apple II SCSI card.
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SCSI Hard Disk Drives: Interleave Information (11/94)

This article pertains to the interleave of Apple external SCSI hard drives of all sizes.

This article has been archived and is no longer updated by Apple.

To initilaize a SCSI hard disk drive you want to use on a Macintosh:

1. Always use Apple HD SC Setup.

2. Always initialize from the type of Macintosh the drive will be connected
to. For example, if you wish to connect a Apple HD40 SC to a Macintosh
Plus, initialize that hard disk with a Macintosh Plus.

If you want more than one type of Macintosh to access the SCSI hard disk,
always initialize it from the slowest system for the best average performance. You must do this because, with Apple HD SC Setup, different types of Macintosh computers require a SCSI hard disk with a different interleave.

Computer Interleave relative speed

Macintosh II and later 1:1 fast
Macintosh SE 2:1 medium
Macintosh Plus 3:1 slow

Apple II 3:1 slow

Interleave is the ratio of consecutive sectors a CPU can read from or write to. This means that a Macintosh II is fast enough to read from or write to every consecutive sector, a Macintosh SE can only read every other sector, and the Macintosh Plus is only fast enough to read one in every three sectors. An Apple II also has an interleave of 3:1. The Apple II can support a 3:1 interleave because the SCSI card has a 8K RAM buffer enabling it to buffer data until the CPU is ready for it.

Delays occur when you connect a "slower" Macintosh to a hard disk initialized on a "faster" Macintosh. For example, a hard disk intialized from a Macintosh II has more data on every consecutive sector than a Macintosh Plus can consecutively read, necessitating a full revolution of the platter before the Macintosh Plus can access the sectors it knows it missed. There's a delay of the revolution of only one or two sectors when a "fast" Macintosh accesses a hard disk intialized from a "slower" Macintosh.

For the change in interleave ratio between the Macintosh Plus and the Macintosh SE, there are three reasons: improved performance, hardware handshaking, and changes in SCSI firmware. First, the Macintosh SE performs more quickly, even though it uses the Macintosh Plus' 68000 processor running at the same speed. The Macintosh SE has a change in hardware design that allows the video circuitry 1 long word access to the RAM for every 3 made by the processor, as opposed to the 1 video access for every 1 made by the processor on previous Macintoshes. Next, hardware handshaking was implemented, allowing cleaner and faster communication between the Macintosh SE and the drive. Finally, the SCSI firmware was cleaned up and optimized for the SE. Previous bugs and patches caused the SCSI driver to not perform as quickly as it should.

Article Change History:
09 Nov 1994 - Reviewed for technical accuracy, revised formatting.

Support Information Services
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Macintosh SE: SCSI ID Number for Internal Hard Disk

What is the SCSI (Small Computer Systems Interface) ID number for the optional internal 20MB SCSI hard disk?

This article has been archived and is no longer updated by Apple.
The SCSI ID number is 0 for the optional internal 20MB SCSI hard disk available in the Macintosh SE. The CPU uses ID number 7, so additional SCSI devices connected to the Macintosh SE may use ID numbers 1 through 6. You must be able to set numbers 1 through 6 on any more SCSI devices you connect to a Macintosh SE with the optional 20MB SCSI internal hard disk. The internal hard disk's ID number, set in firmware, can't be changed.

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Apple Tape Backup 40SC: Cleaning guidelines

This article has been archived and is no longer updated by Apple.

Your Apple Tape Backup 40SC unit requires very little maintenance. To clean the outside of the tape back up unit, just wipe it with a soft, damp cloth. To remove stains or dirt, add a drop of liquid detergent to the cloth and wipe the surface of the tape backup device.

It's time to clean the tape recording head when its suface looks dull (you can check this with a flashlight) or when it takes longer than normal to restore files or a volume from the tape backup unit. While similar to the heads on a hard disk, the ferrite-ceramic head of the tape unit may be cleaned as the heads are cleaned on a audio tape player or VCR. To remove debris and materials rubbed off from the tape surface, clean the head with a cotton swab soaked in isopropyl alcohol.

Caution: Never clean the head with a head cleaner that contains active or abrasive ingredients.
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Macintosh II, IIx, IIfx: Power On and Power Off

Is there any difference between turning on my Macintosh II by using the Power On key on the keyboard or by pressing the button in back? What about powering off? Should I always do a Shut Down or can I just hit the button in back?

This article has been archived and is no longer updated by Apple.
The Macintosh II, Macintosh IIx, and Macintosh IIfx computers do not have a "hard" power on and power off switch. There are two ways to turn on the computer: you can use the keyboard's Power On key or the power button next to the sound jack on the back panel of the computer.

Pushing the Power On key or the power button sends a request to the logic board to begin the startup sequence. Either way may be used; they are equivalent.

To power off the Macintosh II, IIx or IIfx, use the Shut Down command from the Finder. Choosing Shut Down permits the computer to close files that are open, update the directory on each disk, and power off the system.

Alternatively, you may press the power button on the back panel of the Macintosh. Doing so will power off the system immediately and any work that wasn't saved will be lost. Do not remove AC power from the system unless neither Shut Down nor the power button produce results. Removing power is likely to result in lost or damaged files because there isn't enough time for the computer to update disk information.

To restart the computer with a different boot disk or to cause the computer to recognize newly installed devices, you may wish to reboot the Macintosh by choosing Restart from the Special Finder menu. The Macintosh will save file information as needed, power off the system, and immediately startup the system again.

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Macintosh 128K ROMs: RAM cache

This article has been archived and is no longer updated by Apple.
Macintosh computers with 128K ROMs include a Control Panel feature, RAM cache, through which the user can select the cache memory size.

To reduce the time the program uses for accessing a disk, RAM cache acts as a special RAM buffer between applications and disk drives. Blocks of data are read from disk into program memory and RAM cache. The application can flush from program memory certain data that the program needs later on. At that time, the program submits a request for the data from blocks on disk. If the blocks are still in RAM cache, the data can go from the RAM cache blocks to the application heap, saving the significantly greater time needed for disk access.

Of course, the RAM cache will eventually run out of space as the number of blocks of data read from disk increases. When this happens, new blocks overwrite the blocks of data used least recently, keeping frequently used sections of code in RAM cache to speed up operation of the system.

The RAM cache is capable of tracking 36 different files and may occupy from 32K to 768K of memory. A RAM cache of moderate size will not only increase speed within an application but will also cause applications to be launched from and return to the Finder more quickly.

The optimum RAM cache size depends on (and the use of RAM cache is largely dictated by) how memory and disk segments of code are juggled by one or more of the applications in use. Rarely are applications larger than 300K on disk, so a RAM cache of a slightly smaller size should be sufficient - say 256K. If you are using a very large program, it might be of some benefit to increase the size of the cache to 384K. However, if the cache is much larger than that, the document and program segments in use will only have available the restricted memory that begins to degrade performance.

While applications accessing a LaserWriter increase the need for disk access, there is only a small benefit to be had in increasing the size of the cache in this situation. Most applications will continue to operate very efficiently with a RAM cache of 256K.

It is possible to set the size of the RAM cache so high that the program cannot operate in the remaining space. MacWrite 4.5, for example, must have a minimum of 144K of memory to run and print to the LaserWriter. Don't set the RAM cache so high that less than 144K remains for the program.

The AppleLink article "Switcher: Memory Configurations for LaserWriter printing" includes a table that lists the preferred memory size needed by applications under Switcher. This information can provide a guideline for safe RAM cache sizes. Note that many of the programs will take advantage of more memory if it is available. If RAM cache is set high enough to cut into that capability, the cache will not necessarily improve overall performance.

Remember also that active desk accessories require dedicated memory. Some combinations of applications and desk accessories will occupy so much memory that the size of the RAM cache must be severely limited.
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AppleColor High-Resolution RGB Monitor: Specifications

This article describes the specifications of the AppleColor High-Resolution RGB Monitor.
This article has been archived and is no longer updated by Apple.

Picture tube:

--13-inch viewable diagonal
--.25mm aperture grill pitch Crinitron CRT

Input signals:

--Red, green, and blue video signals using RS-343 standard.
--Composite sync., negative going TTL.

User controls:

--Power switch (back panel)
--Degauss switch (back panel)
--Brightness, with detent reference (right side)
--Contrast (right side)
--V-twist misconvergence adjustment back panel)
--H-stat misconvergence adjustment (back panel)

Scanning frequencies:

--Horizontal: 35.000 kHz
--Vertical: 66.7 Hz

Video:

--Bandwidth: +/-1.0 dB to 23 MHz
--Resolution: 640 horiz. pixels by 480 vert. lines
--Active display area: Adjusted at the factory to produce an active video area of 235 mm horizontal by 176 mm vertical. The remainder of the screen is used for the dark border around the display.

Weight:

--34 lbs. including video cable and power cord.

Power requirements:

--Watts: 160 watts maximum
--Input voltage: 85-270 Vrms, self-configuring
--Frequency: 50-60 Hz

Environmental requirements:

--Ambient operating temperature: 10 to 35 deg C (50 to 95 deg F)
--Operating humidity: 90% maximum, non-condensing
--Operating altitude: 10.000 feet maximum

Fuse protection:

--The monitor contains internal power line fuse protection. This fuse should be replaced with the same type by a qualified service technician.

Warm-up time:

--20 minutes to meet all specifications

Input signal jack pin assignments:

DA-15 style connector

Pin Function
1 Red video return
2 Red video
3 Composite TTL sync
4 Composite sync return
5 Green video
6 Green video return
7 (not used)
8 (not used)
9 Blue video
10 (not used)
11 (not used)
12 (not used)
13 Blue video return
14 (not used)
15 (not used)
Shell Shield ground

Published Date: Feb 18, 2012

AppleColor High-Resolution RGB: Degauss adjustments

This article has been archived and is no longer updated by Apple.
The Degauss switch corrects small patches of color distortion that can occur on the screen. You should press the Degauss switch if, for example, you notice that a small area in an all-red field of the screen seems to be slightly off color, say, with blue. This situation is more likely if you've left the monitor on for a long time or if you moved the monitor while the power was on.

The switch is located just below the On-Off button on the back panel. Pressing the Degauss switch makes the screen flicker for a few seconds as the monitor corrects the colors in your display. When the image steadies, the colors should be correct.
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LaserWriter Driver 3.3: Enhancements and fixes

This article has been archived and is no longer updated by Apple.
LaserWriter Version 3.3 and LaserPrep Version 3.3 are on the disks for the Macintosh System Tools Version 1.0 and Utility Version 1.0 that ship with the Macintosh SE. Outlined below are some of the differences, enhancements and problem fixes, between these LaserWriter drivers and the older driver, 3.1, and earlier. Not listed are fixes to several obscure, minor, and cosmetic problems.

A. The driver resets (software power-cycle) the LaserWriter if it was initialized with an incompatible driver version.

B. There's a fix to a problem encountered in all applications, most notably in Microsoft Excel: bytes were randomly written in memory, causing some programs to crash when printing.

C. Bitmap printing has been completely changed to improve appearance and performance.

1. There's an added routine, similar to smoothing, which pre-stretches bitmaps to the required dimensions before imaging; this allows bitmaps to print much faster.

2. Clipping problems in bitmaps are gone.

3. Random garbage in stretched bitmaps is gone.

4. "Stitching" between bands of adjacent bitmaps has been greatly improved to eliminate hairline gaps.

D. Bitmap fonts have been changed for greater speed. Bitmap fonts above 36 points now download and print correctly and print faster in a higher quality.

E. There's a fix to a long-standing bug in the orientation of rotated QuickDraw patterns on various types of printers.

F. Fonts on PostScript printers are no longer pre-coordinated at printer initialization time but only as they are needed. This frees room for downloading other fonts and doesn't require spoolers to know anything about font coordination.

G. Because they required more than 30 seconds to generate data for the printer, some applications were aborted for insufficient activity on the network. This timeout has been extended to 5 minutes.

H. If a PostScript error occurs, a print error is now generated by the driver to tell the application to stop printing. The error message stops the application from having to generate any more document data which the driver would ignore anyway.

I. Font substitution is now disabled in all cases where fractional pixel widths have been enabled. Disabling font substitution fixes a bug encountered by applications that use the fractional pixel width mode, such as WriteNow, Word 3.0, PageMaker 2.0, and MicroSoft Works.

Previously, single-font paragraphs could appear printed with different lines in the non-substibuted form as well as the substituted font.

J. Font downloading now occurs whenever it might improve output or if the font might not be available on the printer. This solves the problem on some 3rd party spoolers which sometimes did not have the font available.

K. Some minor problems with dialog boxes were fixed along with some cosmetic changes made to dialog boxes and alert windows.

L. Bitmaps one pixel wide can be printed.

M. Zero width characters are now printed correctly. This fixes a bug where some characters in fonts such as Music and other symbols could not be printed.

N. Cover sheets now default to print in Helvetica instead of Courier.

O. Document names sometimes defaulted to the last document printed. Now, if a document name is not known, "unknown" appears in the dialog box.

P. There's a fix to a bug in printing circles and ovals where some of these objects, when rendered extremely narrow or flat, had gaps at the beginning and end joints.

Q. Sometimes the driver had difficulty printing when the amount of memory available in the Macintosh was low. This caused unrepeatable crashes with strange result codes. Though this problem cannot be detected or eliminated in all cases, the fix has made the situation significantly more robust and reliable.

-- If enough memory is not available for printing, the driver will try to reduce its memory requirements enough to print. If it cannot, it will abort the printing altogether. It will print slowly or not at all, but at least it won't crash.

R. A problem in the QuickDraw comment to include PostScript in a handle has been fixed so that the QuickDraw comment now works correctly.

S. If the printer is reintializing, the driver will now wait until the printer is available.

T. Another alert for spoolers was added. If the remote printer is actually a spooler rather than a printer, initialization of the printer is not permitted.

Published Date: Feb 18, 2012

FORTRAN: Understanding "Code Write Error"

This article has been archived and is no longer updated by Apple.

Insufficient room on a diskette to save a file is the most common cause of a "Code Write Error." A file name having more than ten characters (not including the prefix or suffix) also causes this error; this error is easy to detect, though, since the error message is displayed before the drive is accessed. A third cause is the disk directory having more than 51 file names.

When A)ssembling, C)ompiling or L)inking, the largest consecutive disk blocks are allocated for the code file. If the disk is new or recently Krunched, the system creates a temporary Linker.Info file while running; upon attempts to open the Linker.Info file, you'll get a code write error.

To avoid this error, enter the F)iler to check your disk space. If your disk shows plenty of space, M)ake two files: the first file you create should be 8 blocks in size, while the second should be 1 block in size. Next, delete the first file. These steps segment the disk file space leaving 8 blocks open for the Linker.Info file.

If an error occurs when using the "include" file option, M)ake a 4 block file named SYSTEM.SWAPDISK on the volume where the compiler resides, allowing the compiler to swap out some information in order to read in the new directory for the include.

Published Date: Feb 18, 2012

Apple Desktop Bus: Maximum Number of Devices

This article discusses how many devices can be connected to the Apple Desktop Bus port.
This article has been archived and is no longer updated by Apple.
You can use the ADB port to connect input devices such as a keyboard, mouse, trackball, etc. The Apple Desktop Bus protocol can accomodate up to 16 devices. However, the practical limit is three or four devices.

ADB devices are typically daisy-chained together. Some devices may contain enough internal resistance to limit the number of devices you can connect. For instance, a maximum of four Apple Extended Keyboards plus one Apple Desktop Bus mouse may be daisy-chained together before increases in DC resistance result in drops below TTY levels. This will prevent other devices on the ADB chain from communicating with the computer.

If input isn't reaching the computer (you type but nothing happens, or you click the mouse button but nothing happens), turn the computer off and disconnect any extra devices you are not using. Connect only those that are necessary. Some Macintosh computers have two ADB ports. In this case, you could break a single chain into two chains.

Note: you should only connect and disconnect ADB devices when the computer is turned off. Damage to the device and the computer may result if you connect an ADB device with the computer turned on.

Note: Apple computers introduced after August, 1998 do not use the Apple Desktop Bus. They use the Universal Serial Bus (USB) to connect input devices.
Published Date: Feb 18, 2012

Apple DeskTop Bus: Pinouts

This article list the pinouts and signals for the Apple DeskTop Bus (ADB).
This article has been archived and is no longer updated by Apple.

```
Pin   Names       Meaning
1     Data        Bi-directional data bus for input and output
2     Reserved
3     Power       +5 volts from the CPU
4     Return      Ground from the CPU

There are two identical Mini DIN-4 Ports.

      4        3
     2          1
```

Published Date: Feb 18, 2012

Apple Tape Backup 40SC: Priority number

This article has been archived and is no longer updated by Apple.

SCSI device users have available eight priority numbers, 0 through 7. The Macintosh is always assigned number 7. An internal hard disk is always assigned 0. That leaves 1 through 6 to assign to your tape backup unit or 0 thru 6, if you don't have an internal SCSI hard disk.

Though the manual recommends you use priority 1 for the Tape Backup 40SC and connect it to the last SCSI device in the chain, you can use any of the other priority numbers if they are not already used. You may place the tape backup unit anywhere else in the SCSI bus as long as it is properly terminated. For a more complete description on how to connect SCSI devices, refer to the manual, "The Apple SCSI Cable System."
Published Date: Feb 18, 2012

Apple PC 5.25 Drive: Not Compatible with MS/DOS Computers

12/15/92 - RETITLED
* To clarify the article

Can you attach an Apple PC 5.25 Drive to a MS/DOS computer?

This article has been archived and is no longer updated by Apple.
No, you cannot attach an Apple PC 5.25 Drive to a MS/DOS computer.

First, MS/DOS computers do not supply power to an external floppy drive. The Apple PC 5.25 drive requires the computer to supply power to it, since it does not have its own power source.

Also, the Apple PC 5.25 Drive requires there be a control line for the signal "disk insert". MS/DOS computers put a different signal on this control line.

Published Date: Feb 18, 2012

Macintosh II Managers: Changes From Macintosh Plus ROMs

A number of existing managers in the Macintosh Plus ROM have been expanded for use in the Macintosh II. This article provides a short description of these managers and the changes.

This article has been archived and is no longer updated by Apple.

?ont Manager

Fonts in ROM now include Monoco 9, Geneva 9 and 12, as well as Chicago 12. There are also 4 and 8-bit versions of Chicago 12 and a 4-bit Geneva 9 font. No new data structures are defined within the Font Manager, but the fontType structure has been modified to support color fonts. It now includes a field that indicates the depth of the font.

Window Manager

A new data type, CWindowRecord, has the same structure and size as the old WindowRecord, except the field port is now defined as a CGrafPort rather than the old GrafPort. Two other new types related to CWindowRecord are CWindowPtr and CWindowPeek. Another new data structure, AuxWinRec, stores the necessary information for drawing windows in color. Its primary function is to hold the handle to the window's individual color table.

Control Manager

The Control Manager has been expanded to include color support with the definition of a new data structure, AuxCtlRec, and its corresponding resource type cctb. These structures define a color table associated with the control and determine the border color, fill color, and text color for the control.

Menu Manager

The Menu Manager now uses scrollable menus instead of QuickDraw to display menu text. Scrollable menus means that scrolling is possible with an up or down arrow at the top or bottom of the menu. The Menu Manager now implements up to five levels of hierarchical menus

A new data structure, MbarProc, holds information pertaining to the menu bar. Menu items themselves have been disassociated from the menu bar definition to permit hierarchical menus to be handled more easily.

Color menus are implemented through the Menu Color Information Table. A distinct MCInfoRec may exist for the menu bar and for each menu title and item. Within each MCInfoRec, you find RGBColor information for the item in question and its background color.

TextEdit

A TextEdit record may now have style information associated with it. A handle to a TEStyleRec structure can replace the TextEdit fields txFont and txFace. This style record holds an array of "runs", each of which may use a different text style (font, face, size, color, line height, and font ascent).

Style information can be passed from TextEdit to the application through a TextStyle record, which includes font, face, size, and color information. When the scrap is used to cut and paste style information, a new scrpSTElement type is used to transfer style and start character information.

Dialog Manager

Two new resource types, actb and ictb, add color and style information to alerts and dialogs, and dialog item lists. These resources are associated with a dialog or alert by assigning them the same resource ID as the parent ALRT or DITL.

International Utilities Package

The International Utilities Package has been extended to support the new Script Manager. It now includes multiple resources within a given script, and new date and time formatting options. International scripts with non-Roman sorting rules may specify the details via hooks in this package, so that the many diacritical forms of the same letter may be treated for sorting purposes as equals regardless of diacritical marks, accents, umlauts, circumflexes, etc., e.g. a umlauted can be equated with a accented.

File Manager

The Macintosh II File Manager can be used with an external file system other than the traditional Macintosh code.

Print Manager

The Printing Manager has added one call to ROM: the print glue file (called PRLINK or PRSCREEN) has moved from the system file into the Macintosh II ROM.

Device Manager

The Device Manager has been modified to include support for NuBus cards, both as boot devices, and through the interrupt process.

The Device Manager gains control of the Macintosh II bootup process shortly after video and boot drivers have been initialized. If the Startup Device has been set to one of the NuBus slots, and the configuration ROM found there contains boot code, the Device Manager will pass control to that NuBus device. If the Macintosh II continues its boot process from a Macintosh disk, the Device Manager will search all NuBus slots, looking for device drivers in the configuration ROM of each NuBus device. Any that are found there are installed into the system heap and initialized for later use by an application.

The Device Manager is the software interface for tracking the interrupt queue, determining the priority level that is proper to address, and, if necessary, posting an error when the interrupt cannot be serviced.

SCSI Manager

The Macintosh II and Macintosh SE ROMs implement an SCSI "blind" transfer mode. The types of SCSI drives used in these computers may support hardware handshaking, when blind transfer mode will result in faster transfer rates.

AppleTalk Manager

The AppleTalk Manager supports several changes to its code to assist servers, workstations, and spoolers:

-- The node number of the computer may be requested in the server range.

-- Packets may be sent to one's own node, or through a client-specified socket.

-- The Name Binding Protocol can now accept multiple active requests.

-- An Echo Protocol and an AppleTalk Session Protocol have been added.

-- An Extended Protocol Package (XPP) combines portions of the AppleTalk Session Protocol and AppleTalk Filing Protocol.

Vertical Retrace Manager

The Vertical Retrace Manager has been changed slightly to take into account the flexible video interface on the Macintosh II. Since certain tasks on the Macintosh depend on the vertical retrace interrupt that occurs on the Macintosh 60 times every second, the Macintosh II must continue to supply that signal. The Vertical Retrace Manager can attach tasks to that pseudo VBL signal.

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Macintosh II: Color capabilities

The Macintosh II adds color capabilities to the Macintosh line of computers. Its implementation depends on the Toolbox calls available, and on the hardware installed in the system. This document describes the relationship between the hardware and firmware, and discusses color implementation in the Macintosh II Toolbox.

This article has been archived and is no longer updated by Apple.

ABSOLUTE COLOR

Color QuickDraw, as defined in the Macintosh II ROMs, uses an absolute approach to determine color representation. A new data type, RGBColor, is defined to be a record containing three 16-bit integers, each of which represents an intensity value for one of the three additive primary colors: red, green, and blue.

```
type
RGBColor = record
red:integer; {Red component}
green:integer; {Green component}
blue:integer; {Blue component}
end;
```

Under Color QuickDraw, the application need not be concerned with the type of output device. The application specifies a color in RGBColor format, but the Color Manager then uses information from the device's driver to translate the RGBColor definition into the best available match on the output device. Some output devices may be limited to 8 or 16 colors; others use a lookup table to select from a wide range of possible display colors. In any event, the Color Manager handles these details independently of Color QuickDraw or the application.

COLOR DEPTH

On the Macintosh II, the user can choose the depth to which the screen image should be displayed, up to the limits of the video hardware, by using the Control Panel desk accessory. This permits choosing a display consistent with the type of program. A word processing application may need only black and white, and a greater selection of colors (i.e., greater depth) would only slow down the application. On the other hand, drawing and charting applications benefit from the ability to use more colors, so the user might choose to use a greater pixel depth.

Pixel depth must be a power of 2. A display of 4 bits per pixel permits each pixel to choose from among 16 colors, while 8 bits per pixel allows a selection of 256 colors. Normally, the device implements these choices through a color lookup table controlled by the Color Manager.

THE PIXMAP

All drawing by Color QuickDraw is done in a pixel map, which is analogous to the bit map of old. New fields have been added to track the horizontal and vertical resolution in pixels per inch, the number of bits per pixel, and the handle to the pixel map's color table.

COLOR PATTERNS

Color QuickDraw includes color patterns. It provides an undefined limit to the size of the pattern, and a variable pattern depth. Although Color QuickDraw is capable of translating the depth of a pattern to the current screen display depth, this can be a time-consuming process, and should be avoided. As always, color patterns provide a method of dithering, which

increases the number of perceived colors shown on the screen.

COLOR TRANSFER MODES

Color capabilities introduce new opportunities for transfer modes. Some previously defined transfer modes aren't useful when color display is used, so Color QuickDraw offers new ones:

- Replace with transparency
Permits overlay of pictures

- Additive
Adds red, green and blue components on the screen, resulting in a lighter screen image.

- Subtractive
Subtracts red, green and blue components on the screen, resulting in a darker screen image.

- Max and min
Compares the source and destination values, and chooses either the smaller or the larger. Used to smooth the edges of two objects displayed next to each other.

- Blend
Uses a formula to calculate a mix of the source and destination values of each component.

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Macintosh II: NuBus capabilities

The Macintosh II includes six NuBus slots to provide expansion capabilities for the computer. These slots may be used for video output, processors and coprocessors, terminal devices, and serial and parallel devices, among other uses.

This article has been archived and is no longer updated by Apple.
The logic board's 68020 communicates with each of the six synchronous NuBus slots through the memory management unit. A full 32-bit address/data transfer is available between each slot and the 68020. Each slot is identified to the microprocessor by four ID lines, which the 68020 uses to determine the source of the communication. Power, timing, acknowledge, and parity lines are also implemented. Apple has changed Texas Instruments' NuBus definition by adding an interrupt line from each slot, so that each card can generate an interrupt to the 68020.

The 32-bit address space (equating to 4G bytes) available for all NuBus slots is partitioned to provide space for each slot. First, the top 256M of address space is divided into 16 "slots." This allows each physical slot to "own" 16M, which is referred to as its Slot Space. Each NuBus slot is also allocated 256M of "SuperSlot Space" from the portion of memory remaining in the 4G of address space.

Each NuBus card should contain a configuration ROM mapped to the top of its Slot Space to provide information for the Macintosh II operating system at startup time. The Macintosh II looks at the ROM to determine the type of card, how it is to be accessed, and slot resource data.

Pre-defined card categories include display, network, terminal emulator, serial, parallel, intelligent bus, and human input devices. Each category is further defined by a type indicator. For example, the network category is subdivided into AppleTalk, EtherNet, Token Ring and so on. NuBus device drivers can then locate any appropriate card by checking these bytes in configuration ROM on each card.

NuBus cards can be designed to be "masters" of the bus, or as slaves only. A master card must be able to initiate bus transfers of 8, 16, or 32 bits, and must be able to arbitrate requests for bus mastership. It may include the ability to lock the bus from access by other NuBus devices for a specified period of time. A slave card responds to requests, but can only send a "non-master request." It need not support the full 32-bit transfer.

Card manufacturers may choose to implement a NuBus card with only a 24-bit logical address mode to provide compatibility with existing Macintosh products. This mode is supported by using only address lines 0 through 23, and is called "24-bit aliasing."

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Macintosh II: Sound capabilities (3/94)

This article provides an overview of the sound capabilities introduced by the Macintosh II.

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The Macintosh II extends the sound capabilities of the Macintosh Plus by implementing the software Sound Driver in an Apple Sound Chip and the Sound Manager in the Macintosh II Toolbox. The hardware permits sound to be played asynchronously of other Macintosh II operation, while the software is flexible enough to support additional sound hardware through a NuBus slot or the external stereo sound port.

Macintosh II Sound Hardware

Sound is produced on the Macintosh II by a custom digital sound chip (the Apple Sound Chip), two Sony sound chips, and an internal speaker or through the external sound jack. The Apple Sound Chip generates an audio/stereo signal, which is then filtered and buffered by the Sony sound chips. The Apple Sound Chip also contains a 1024 byte FIFO buffer to accept sound values. This permits the Macintosh II to more frequently operate asynchronously of sound generation, and to provide stereo capabilities.

Sound may be played through the 2 1/4" internal speaker, or through the external stereo mini-jack. The jack will not drive a speaker directly, but can use a Walkman-style headphone.

The Sound Manager

There are four standard synthesizers defined within the Macintosh II Sound Manager. Each of the synthesizers is controlled by commands passed to them via a channel, or queue, of commands. A common set of commands is available to each of the synthesizers, with extensions as appropriate for each individual driver. Sound Manager routines can direct a synthesizer to the queue that holds the sound commands, play the channel, set up new channels, etc.

Each channel is interpreted according to the rules supplied by the called synthesizer, and data is passed through the Apple Sound Chip's two FIFO buffers to the internal speaker or to the external sound jack. Since the internal speaker is monophonic, the Sound Chip will combine all four channels (if used) into one voice for the speaker. When the external sound jack is used, two voices are kept separate, with two channels used in each. Either sound output device may be used asynchronously of other Macintosh II operation while the Sound Chip feeds channel information to the speaker in use.

The note synthesizer allows a simple melody to be played. It permits monophonic sound only, and should be used to play simple sounds, such as SysBeep.

Either monophonic or polyphonic sound is possible using the wave table synthesizer. It may be used to produce voice sound by triggering the synthesizer at non-regular intervals.

The MIDI (Musical Intstrument Digital Interface) synthesizer provides a way to play music on an external device via a MIDI synthesizer through the serial ports of the Macintosh II. Since the type of sound depends largely on the type and sophistication of the external equipment, the limits of its capabilities are largely hardware defined.

Pre-recorded sounds may be played back through the sampled sound synthesizer. The pitch, rate, and amplitude may be varied as the sound sample is played. The synthesizer has the ability to alternately play two buffers to provide uninterrupted sound as long as the buffers are refilled by the application when a channel of sound is completed.

If a programmer wishes to expand upon the synthesizers provided in the Macintosh II ROM, he may do so by defining a synthesizer or sound resource. The Sound Manager can call the new resources to play existing channels, using the rules defined by the new synthesizer. This feature permits developers the flexibility to develop external sound hardware via NuBus slots, while using the Sound Manager to provide a consistent interface for sound software.

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9 March 1994 - Updated formatting.

Support Information Services
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Macintosh II, IIx, & IIfx: Startup sequence

What happens exactly when I turn on my Macintosh II by pressing the Power On key on the keyboard?

This article has been archived and is no longer updated by Apple.
The Macintosh II, IIx, and IIfx are turned on via the Power On key, which is located above the numeric row of keys on Apple Desktop Bus Extended keyboards.

When this key is pressed on an ADB keyboard connected to one of these Macintosh computers, it grounds pin 2 (the Power On signal) on the Apple Desktop Bus port. This line is physically connected through a resistor to the lithium batteries found on the logic board.

The batteries charge a capacitor which toggles the power supply to turn on (assuming AC power is present). Power-up continues with a system check before control is passed to the Startup Manager in the ROM.

After power is supplied to the system, the Versatile Interface Adapters and IWM (SWIM in the IIfx's case) are initialized, memory is tested, and RAM and ROM are mapped to permanent locations. A video card is located, and video is initialized. The Start Manager is then ready to check for a startup device.

If a bootable disk is present in an internal floppy drive, that disk is used to start the system. If both floppy drives are empty, parameter RAM is checked for the location of the designated startup device, and that device is searched for system startup blocks. Should that be unsuccessful, SCSI devices are checked followed by a search for intelligent NuBus cards.

Once a device with boot block information has been found, the blocks are read and the code is executed. At that point, control passes from the Start Manager to the start application code.

Published Date: Feb 18, 2012

The Macintosh II and SE: Differences that aren‘t apparent

There are a number of obvious differences between the Macintosh SE and the Macintosh II. The situations below describe differences that are not apparent.

This article has been archived and is no longer updated by Apple.

Number of Supported Floppy Drives

The Macintosh SE has an external drive port, but the Macintosh II does not. If two floppies are installed internally, the Macintosh SE can support as many as three floppy drives. The Macintosh II can support no more than two floppy drives, and cannot support an Apple HD20 or external floppy drive.

SCSI Drive Interleave Scheme

The ROMs of the Macintosh SE and Macintosh II have different SCSI disk interleaving schemes. Although disks are interchangeable, they will work most efficiently on the system on which they were initialized. The Macintosh SE uses a 2-to-1 interleaving scheme, while the Macintosh II uses 1-to-1 interleaving.

Therefore, a SCSI disk initialized on a Macintosh SE and moved to a Macintosh II will not transfer data as quickly as a Macintosh II SCSI drive, since the Macintosh II will be forced to wait for every other block of data, rather than using them in sequence.

If a Macintosh II SCSI drive is taken to a Macintosh SE, the speed difference will be even more apparent. The Macintosh II drive will have blocks allocated in sequence on each track. But the Macintosh SE will not be able to accept the data that quickly, so the drive must make almost a full rotation before the second block again passes under the head, and the information can be read from the drive.

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FORTRAN: Sending Compiler Listings to the Console

This article has been archived and is no longer updated by Apple.

```
While an asterisk (*) specifies the console under Apple FORTRAN, FORTRAN I/O
operations take place within the Pascal operating system, where the asterisk
has an entirely different use.

DO NOT TYPE AN ASTERISK (*) in response to the "LISTING?" prompt when using
the FORTRAN compiler.  Otherwise, the system will appear to compile, then
damage you FORTRAN 2 diskette, severely
crippling the operating system.

Type "CONSOLE" to display the listing on your video monitor.
```

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Comparing the Macintosh Plus and Macintosh II

This article has been archived and is no longer updated by Apple.

TOPIC ----------

What are the major differences between the Macintosh Plus and the Macintosh II?

DISCUSSION ----------

Several notable differences exist between Macintosh Plus and Macintosh II functions. Some of these items are listed below:

External Drive Port

There is no external drive port on the Macintosh II. An Apple HD20, 400K external drive, or 800K external drive cannot be connected to the Macintosh II.

Battery Location

The battery is no longer located within the power supply. Instead, it is soldered onto the logic board, and can only be replaced by a level 1 technician.

Serial Port Pinouts

While both the Macintosh Plus and Macintosh II use mini-DIN-8 connectors for serial ports, one signal has been changed on the Macintosh II and the Macintosh SE. Pin 7, which is not used on the Macintosh Plus, is now a general purpose input pin. It is connected to the serial communication chip's data carrier detect line on the Macintosh II. Pin 7 on the modem port may also be used as a SYNC line, since it is connected to the clock line from the VIA.

SCSI Terminator Power

The Macintosh Plus does not provide terminator power on its SCSI port. The Macintosh II has added this signal to pin 25 of the external SCSI connector.

Keyboard and Mice Connections

Keyboards, mice, and other input devices on the Macintosh II are now connected through an Apple Desktop Bus port. The DB-9 connector used for this purpose on the Macintosh Plus is no longer available.

SCSI Interleaving Schemes

The ROMs of the Macintosh Plus and Macintosh II have different SCSI disk interleaving schemes. Although disks can be used interchangeably, they will work most efficiently on the system on which they were initialized. The Macintosh Plus uses a 3-to-1 interleaving scheme, while the Macintosh II uses 1-to-1 interleaving.

Therefore, a SCSI disk initialized on a Macintosh Plus and moved to a Macintosh II will not transfer data as quickly as a Macintosh II SCSI drive, since the Macintosh II will be forced to wait for every third block of data, rather than using them in sequence.

If a Macintosh II SCSI drive is taken to a Macintosh Plus, the speed difference will be even more apparent. The Macintosh II drive will have blocks allocated in sequence on each track. But the Macintosh Plus will not be able to accept the data that quickly, so the drive must make almost a full rotation before the second block again passes under the head, and the information can be read from the drive.

Power On/Off Switch

The Macintosh II has no hard power on/off switch. Instead, the Power On key on the Apple Desktop Bus keyboard initiates a request for power-on to the Macintosh II. This key is not a power-off key; power-off is provided through software via the Shut Down command in the Finder.

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Macintosh II: New Managers

The Macintosh II has a number of new managers in ROM and in system software that have no analog on the Macintosh Plus. This article provides a brief description of each of these new managers.

This article has been archived and is no longer updated by Apple.

Color Manager

The Color Manager controls the task of translating an application's color requests to a color capable of being displayed by the current hardware. It keeps information about the display in a device record with information concerning the type of search mechanism to be used for color matching and inverting, as well as a handle to its pixel map.

The Color Manager sets up an initial color table for each GrafDevice with default values, which correspond to the colors defined by the original QuickDraw. Color Manager procedures can also manipulate individual colors in a color table, so that an application can "fine tune" the mapping of the program's color description to the color displayed on the screen device.

Color QuickDraw

Color QuickDraw includes the same types of procedures and calls found in "old" QuickDraw, but it has expanded to support color on the Macintosh II in GrafPorts, pixel maps, icons, polygons, and cursors.

Color cursors and color icons are implemented through two new data structures, CCrsr and CIcon. Each type of polygon has a new fill procedure to permit color drawing. A typical definition is:

Procedure FillCRect(r: rect; ppat: PixPatHandle);

Script Manager

The Script Manager is used by TextEdit, or may be called by an application directly, to provide the means for an application to be written independently of the language (or script) in use.

The Script Manager provides a consistent interface to Roman and non-Roman alphabets, those that use right-to-left and left-to-right progression, and alphabets with other than the "standard" 26 Roman characters.

Start Manager

The Start Manager controls the bootup process on the Macintosh II. Once power is supplied to the Macintosh II and control has been transferred to the ROM, the Startup Manager determines which microprocessor is present, initializes ROM Managers, and checks for initialization code within the declaration ROM of all NuBus cards. The Start Manager then attempts to locate an appropriate startup device, and executes its boot blocks.

Apple Desktop Bus Manager

The Apple Desktop Bus Manager controls those devices on the Apple Desktop Bus (typically a keyboard and mouse). The ADB Manager supports calls to and from ADB devices and supplies information about keys pressed, mouse clicks, etc., to other managers.

Slot Manager

The Slot Manager in the Macintosh II provides the means for the on-board

ROM and logic to communicate with cards in the NuBus slots. The Slot Manager interprets the information supplied by NuBus cards, and arbitrates requests for bus mastership.

The Slot Manager checks each NuBus card's declaration ROM and sets up a Slot Parameter Block data structure, which can be accessed by other Slot Manager routines. Applications, or more likely, device drivers, may then request the Slot Manager to read data of varying lengths from a card in a NuBus slot.

Sound Manager

The Macintosh II Sound Manager replaces the 64K and 128K ROM Sound Driver. All previous data structures, routines, and synthesizers are supported in the Sound Manager, and new routines have been added to take advantage of the new Apple Sound Chip on the Macintosh II logic board, including four standard synthesizers:

-- Note synthesizer
-- Wave table synthesizer
-- M.I.D.I synthesizer
-- Sampled sound synthesizer

A programmer may expand upon these synthesizers by defining a synthesizer or sound resource. The Sound Manager can call the new resources to play existing channels, using the rules defined by the new synthesizer.

Deferred Task Manager

Because the Macintosh II supports interrupts through all six NuBus slots, a manager is needed to handle the interrupts in an orderly fashion. The Deferred Task Manager determines the appropriate time to service each of the requested interrupts, depending on the level of interrupt requested and other activity occurring within the Macintosh II.

Shutdown Manager

The Shutdown Manager is designed to provide a consistent way for the Macintosh to be turned off or to be rebooted from the Finder as well as from within an application. It allows the system to perform some housekeeping prior to turning off or rebooting. Custom ShutDown procedures may be installed and removed through routines available in the ShutDown Manager.

Operating System Utilities

Routines in the Operating System Utilities provide the ability to switch between 24-bit address mode, required for compatibility with existing Macintosh applications, and 32-bit address mode allowing access to the full 32-bit addressing capability of the MC68020 and NuBus slots.

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NuBus: Glossary of terms

This article contains a glossary of NuBus terms.

This article has been archived and is no longer updated by Apple.
Following are common NuBus terms:

- NuBus

A synchronous bus defined by Texas Instruments. It operates on a 10 MHz clock, with a full 32-bit data and address transfer. Apple's implementation of NuBus does not include parity checks, but does add interrupt lines to each of the Macintosh II NuBus slots.

- Bus master

At a given time, the bus device that initiates a transaction. Also, a device with the ability to initiate a NuBus transaction by asserting the START* line.

- Configuration ROM (also declaration ROM)

A 1M portion of the minor slot space. Each card must include information within this space to identify itself to the Macintosh II at startup. Items included here are the type of card, the location of its driver, if present, the byte lanes it will use to communicate with other NuBus devices, and slot resource data.

- Major slot space (also SuperSlot Space)

A portion of memory in the address range $9000 0000 to $F000 0000. By convention, each card may use 256M in this space. A card in slot 1 would use from $9000 0000 to $9FFF FFFF, a card in slot 2 would use addresses $A000 0000 to $AFFF FFFF, and so on. This address assignment is not enforced; cards may use more than 256M of space, as long as addressing conflicts do not occur between slots.

- Minor slot space (also Slot Space)

A portion of memory within the NuBus address space from $F000 0000 to $FFFF FFFF. Each slot is assigned 16M of memory beginning at $Fs00 0000, where s is the card's physical slot location.

- Slave device

At a given time, a device that responds to a transaction. Also, a device that cannot initiate a NuBus transaction or arbitrate requests for bus mastership.

Published Date: Feb 18, 2012

Macintosh: External SCSI Port Pinouts

What are the pinouts for the 25-pin SCSI port on the rear of most desktop Macintosh computers?
This article has been archived and is no longer updated by Apple.
All Macintosh computers with the external 25-pin SCSI port have the pinouts listed below. Note that the Macintosh II and Macintosh SE do supply terminator power on pin 25, unlike the SCSI port on the Macintosh Plus.

Pin	Signal name	Signal description
1	REQ/	Request
2	MSG/	Message
3	I/O/	Input/Output
4	RST/	SCSI bus reset
5	ACK/	Acknowledge
6	BSY/	Busy
7	GND	Signal ground
8	DB0/	Data bit 0
9	GND	Signal ground
10	DB3/	Data bit 3
11	DB5/	Data bit 5
12	DB6/	Data bit 6
13	DB7/	Data bit 7
14	GND	Signal ground
15	C/D/	Common/Data
16	GND	Signal ground
17	ATN/	Attention
18	GND	Signal ground
19	SEL/	Select
20	DBP/	Data parity
21	DB1/	Data bit 1
22	DB2/	Data bit 2
23	DB4/	Data bit 4
24	GND	Signal ground
25	TPWR	Terminator power

IMPORTANT: Because the SCSI port is a DB-25 connector, it looks like a RS-232 port. It is NOT a RS-232 port. Do NOT plug an RS-232 device into the SCSI port. Doing so will most likely damage the SCSI chip on the logic board.
Published Date: Feb 18, 2012

Macintosh II: ROM Features Different From Mac Plus

Article Review/Updated: 1 September 1995

The Macintosh II ROM features were greatly extended from those found in the Macintosh Plus. A number of new managers were added to the ROM, and most existing managers were modified to support the new hardware capabilities of the Macintosh II.

The modifications most frequently introduced involved color support - QuickDraw, menus, dialog boxes, and TextEdit are among those items that were extended with color features. The Nubus slots were also a prime candidate for causing additions and changes. The Macintosh II introduced a Slot Manager, an Operating System Utilities Manager, and the Deferred Task Manager to support Apple's Nubus implementation.

Other managers were rewritten to remove previous limitations: the Macintosh II was an open machine, so the ROM designers made every effort to permit developers the freedom to design products for the Macintosh II without being concerned with ROM limitations.

This article has been archived and is no longer updated by Apple.

```
The following managers are new to the Macintosh II ROM:

Color Manager
Color QuickDraw
Scrip Manager
Start Manager
Apple Desktop Bus Manager
Slot Manager
Sound Manager
Deferred Task Manager
Shutdown Manager
Operating System Utilities


These managers underwent significant changes from the Macintosh Plus
ROM:

Font Manager
Window Manager
Control Manager
Menu Manager
TextEdit
Dialog Manager
International Utilities Package
File Manager
Printer Manager
Device Manager
SCSI Manager
AppleTalk Manager
Vertical Retrace Manager

In all cases, previously defined calls, data types, and resources are recognized by the Macintosh II ROM, but
extensions to those capabilities were added in the revised managers.
```

Published Date: Feb 18, 2012

HD-20SC: What You'll Need to Format It With an Apple II

This article has been archived and is no longer updated by Apple.

To format an HD-20SC drive using an Apple II, it's usually best to use System Disk 3.0. System Utilities 2.1.1 can be used for this purpose only with some versions of the Apple IIe, as described below.

- Apple IIGS: requires System Disk 3.0. (System Utilities 2.1.1 won't do it.)

- Unenhanced Apple IIe: is not compatible with System Disk 3.0. (Use System Utilities 2.1.1.)

- Apple IIe (Platinum) with Rev C logic board: use System Disk 3.0 to format an HD-20SC. (System Utilities 2.1.1 won't do it.)

- Apple IIe (Platinum) with Rev E logic board: it's advisable to use System Disk 3.0. System Utilities 2.1.1 can be used, but you'll see flashing garbage on the screen that will make it look like the system has crashed.

Published Date: Feb 18, 2012

Apple III: .RS232--Number of Stop Bits

Can the number of stop bits sent out by the .RS232 driver be controlled?
This article has been archived and is no longer updated by Apple.
There is no way to control the number of stop bits sent out by the .RS232 driver. It will send out one stop bit except at 110 baud when it sends out two.
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MouseDesk: Using It on the Apple IIGS Causes Color Problem

This article has been archived and is no longer updated by Apple.

When you exit from MouseDesk to the Control Panel and then return to MouseDesk, there is a color problem. Apple no longer uses MouseDesk, and there are no plans to upgrade it. Apple now markets the Finder as a replacement.

Published Date: Feb 18, 2012

PCI Token Ring Card: LED Lights and Status

This article provides information on the LED lights and corresponding status for the PCI Token Ring Card.
This article has been archived and is no longer updated by Apple.

Under Ordinary Operating Conditions

Amber	Green	Explanation
Off	On	Operating correctly
Blinking	On	Possible problem

Problem Indicators

Amber	Green	Explanation
Blinking	Off	Card is not open (Wire fault or self-test failure)
Blinking	On	Card has detected "beaconing" or hard error
On	On	Card has failed

Sequence Of LED Light at Computer Startup

Amber	Green	Explanation
Blinking	Blinking	Waiting for initialization
Off	Off	Card is being initialized or computer is off
Off	Blinking	Self-test OK; card waiting to open
Off	On	Card is open and operating correctly

Notes:

- Beaconing - card's signal to other devices on the network that a hard error has occurred. The card can remove itself from the network and conduct self-tests to determine if it is causing the problem.
- Hard error - a problem that requires removal of the source of the error or reconfiguration of the network before the network can resume reliable operation.
- The card is open when it has established connection with other devices on the network.
- A wire fault is an error caused by a break or a short circuit in the cable that connects the card to its access unit.

This article was published in the 12 May 1997 "Information Alley".
Published Date: Feb 18, 2012

MacTCP: Obtaining Address Dynamically

This article describes obtaining TCP/IP addresses dynamically and some issues to be aware of.
This article has been archived and is no longer updated by Apple.
An IP address has a range of valid node numbers that are determined by the address class and subnet mask. With dynamic addressing, MacTCP software randomly selects a node address in that range and, using Address Resolution Protocol (ARP), broadcasts a message to other nodes on the network, asking if there is another node using the address. If there is no response, the node number is assigned to your computer; if there is a response, the software rebroadcasts until it finds a number that is not being used by other machines on the network.

The danger in use of this method is that address conflicts can arise if a device with a static address is not active on the network when the dynamic ARP broadcasts occur. For this reason, dynamic addressing should only be used in MacTCP when an exclusive range of addresses has been set aside for that use by network administrators.

Open Transport does not support MacTCP "dynamic" addressing. MacTCP dynamic mode addressing was based on an Apple-proprietary extension to TCP/IP protocols. It applied the address negotiation and assignment rules used by the AppleTalk protocols to TCP/IP networks, making it very easy to set up a Macintosh-only stand alone TCP/IP network. Use of this dynamic addressing method in other scenarios, however, could create additional work for a network administrator.

The Internet community (IETF) has since developed a multi-vendor standard for the dynamic assignment of IP addresses, known as Dynamic Host Configuration Protocol (DHCP). Open Transport TCP/IP supports the industry standard DHCP.
Published Date: Feb 18, 2012

Workgroup Server 9650: PCI Ultra SCSI JackHammer·SE

This article provides a description of the PCI Ultra SCSI JackHammer·SE for the Workgroup Server 9650.
This article has been archived and is no longer updated by Apple.
The PCI Ultra SCSI JackHammer·SE (or JackHammer) is a high performance, single-ended, accelerated PCI to SCSI host adapter card that dramatically increases performance of SCSI devices connected to it.

The JackHammer is a PCI device that creates a high-speed interface between the CPU and disk drive. The JackHammer can transfer data though the Ultra SCSI-3 portion of the card at 40MB/sec (as allowed by the SCSI-3 specification). The PCI portion of the card is capable of data transfer rate bursts up to 132MB/sec. This means that your Workgroup Server 9650 can receive data as fast as your drives can provide it. Simply connecting the JackHammer to your SCSI drives improves their overall performance.

JackHammer ships pre-installed in the Mac OS-based Workgroup Server 9650. To ensure the best possible disk I/O performance, the Workgroup Server 9650 ships with all internal hard drives attached to the JackHammer card. The Workgroup Server 9650 allows for a total of four internal Ultra devices. Due to electrical signal limitations with Ultra devices, Apple does not recommend connecting external devices to the JackHammer.

In addition the Workgroup Server 9650 ships with the PCI SCSI JackHammer Control Panel v1.2.2 pre-configured on the server's boot drive. If for some reason you need to re-install the JackHammer Software, the CD-ROM you received with your Workgroup Server 9650 includes an installer that automatically loads all the software files needed for the JackHammer.

How the JackHammer Improves Performance
Once configured, the JackHammer operates transparently. As a user you will immediately notice faster data transfers and increased productivity. For example, the JackHammer can speed up file saves in popular programs, such as Adobe PhotoShop or Claris FileMaker Pro, by 50 percent or more. You will also notice performance increases in other disk-intensive procedures, such as general database use, image rotation, video capture, or software compiling. The JackHammer improves performance in two ways:

- By eliminating the standard SCSI bottleneck
  When you install the JackHammer, a high-speed SCSI bus is added to your computer. This new SCSI bus complements -- but does not disable -- the native SCSI bus(es). The JackHammer lets your computer sustain data transfer rates at the full speed of the drive, eliminating the constraints and restrictions of older generation SCSI controller chips. The JackHammer supports 16-bit, 40 MB/s, SCSI-3 data transfers.

- By providing on-board intelligence
  The JackHammer features bus mastering. Each JackHammer card has an embedded RISC-based, 30 MIPS (Million Instructions Per Second) microprocessor. This microprocessor processes reads and writes requests to and from a SCSI device without main logic board supervision. The JackHammer's microprocessor frees the computer to manage other tasks and increases overall system performance. It also provides automatic termination when the JackHammer is at either end of the SCSI bus chain.

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Single-Ended & Differential: SCSI Bus Technologies

This article describes single-ended and differential SCSI bus technologies.
This article has been archived and is no longer updated by Apple.
One of two bus signal technologies (or electrical specifications) may be used for the cabling that connects SCSI devices:

- Single-ended
- Differential

Single-ended and differential signal voltage levels are not compatible and must not be mixed on the same SCSI bus.

Single-ended
Single-ended cable configurations are common industry-wide because they are less expensive and quite adequate for slower speeds and short cable length systems. However, single-ended devices rely on tight termination tolerances. Going beyond this narrow margin of error can cause problems.

In a single-ended configuration, signals on a cable are identified according to the voltage of a single wire (up to 5 volts) relative to a common ground (0 volts). A signal line is recognized as asserted (true) or deasserted (false) according to the strength of its signal and whether it is active high or active low.

Note: All SCSI signals are active low.

Active low signals are deasserted (false) when the signal strength is above a certain voltage, which is typically over 2.0 volts. Active low signals are asserted when the voltage falls below a stated level, which is typically under 0.7 volts. Windows of error may occur if the bus misinterprets a signal that is close to the cutoff.

SCSI buses using the single-ended bus technology provide high-speed communication for short distances. The longer the cable, the more likely errors may be introduced into the signal.

Differential
In a differential cable configuration, the same information is sent with opposite voltages simultaneously through two sets of wires. The information is interpreted by the difference in voltage between the wires. When noise interferes with the signal in this bus configuration, both wires are affected equally. Since the noise level on both wires is the same, the difference in voltage is unchanged. This allows the device to receive information free of noise.

A differential cable configuration determines signals by contrasting the voltage difference between two wires. This has the advantage of allowing cable lengths up to 25 meters (about 80 feet). It is mainly intended for connecting devices externally. Differential configurations are much less subject to signal noise and other termination problems than single-ended configurations.

Differential cabling requires more powerful drivers, which in turn, require additional chips (two for narrow and three for wide). The peripheral device and the SCSI controller card must be designed to use a differential configuration. For these reasons, systems that use a differential electrical specification are less popular than single-ended configurations. However, the need for increased speeds is expanding the popularity of differential configurations.

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JackHammer: Connecting External Devices

This article provides important instructions for connecting any SCSI device to the PCI Ultra SCSI JackHammer·SE (or JackHammer).
This article has been archived and is no longer updated by Apple.
Important: These instructions are important when connecting any SCSI device to the JackHammer's external SCSI-3 PCI connector. Data transfer errors may occur if external SCSI devices are connected.

The JackHammer ships pre-installed in the Workgroup Server 9650. The Workgroup Server 9650 contains an internal 68-pin SCSI cable that connects to the JackHammer. This cable supports up to four internal devices.

Connecting even one external SCSI device to the JackHammer's external 68- pin connector extends the overall length of the SCSI bus beyond the limit for which Apple and StreamLogic can guarantee error-free operation. The combined length of the internal cable and external cables reduces the reliability of all devices connected to the JackHammer.

To connect external Ultra-3 devices to your server and guarantee error-free data transfer, do one of the following:

- Remove the device from its external enclosure and install it internally. For more information on this procedure, see the manuals that came with the Workgroup Server 9650.
- Obtain and install an Ultra Wide SCSI-3 PCI differential card specifically dedicated to external differential devices.

When choosing a SCSI card dedicated to external devices, Apple recommends selecting a differential card to ensure maximum expansion capability. The total cable length and SCSI card type (differential or single-ended) determines the total number of devices you can effectively connect together.

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AppleShare Workstation: Switch Launching

While using an AppleShare workstation, you can switch launch to an old Finder (even one that is not "Appleshare aware") and still be connected to AppleShare.

This article has been archived and is no longer updated by Apple.

If you do so, however, you will not get the new icons that signify access privileges to various folders; the only icon you will see is the normal white one. However, even though this signifies the ability to see files within that folder on an AppleShare volume, you will not have any more ability to view the contents of folders than you had under Finder 5.4. This is because access control checking is done in the server, not by the Finder; you get the icon that says you have access to a folder because that's the only folder icon that the older Finders have.

Switch launching loads the System and Finder of a non-startup disk into the Macintosh. Launching is double-clicking on an icon, and switch launching switches the Finder when you:

- launch an application on a non-startup disk that has an old Finder that switches automatically,

- hold down the option key when you launch the application, providing the Always Switch Launch bit is set in the application, or

- hold down the option and command keys when you launch the non-startup Finder.

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Disabling the JackHammer Card

This article describes disabling the JackHammer card.
This article has been archived and is no longer updated by Apple.
You may want to disable your JackHammer card if you experience difficulty with a device attached to it. When you disable a SCSI card, such as the JackHammer, your computer no longer has access to any of the devices attached to it. This can be helpful when troubleshooting hardware issues.

To disable the JackHammer card, simply press and hold down the Command-Option-J key combination when you start up your Workgroup Server 9650 until the Happy Mac icon appears. When the card is disabled, any devices attached to it will not be accessible to the computer until you restart the system.

When you disable the JackHammer card, you can still update the card's firmware or set its options with the JackHammer's Control Panel.
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JackHammer: Connecting Device Cables

This article describes the connects for the JackHammer card on the Workgroup Server 9650.
This article has been archived and is no longer updated by Apple.
The JackHammer card has three SCSI connectors:

- An internal Wide SCSI-3 16-bit connector (used by the Workgroup Server 9650)
- An internal Narrow SCSI-2 8-bit connector (not recommended for use with the Workgroup Server 9650)
- An external Wide SCSI-3 16-bit connector (not recommended for use with the Workgroup Server 9650)

At any given time, you can only have one SCSI cable connected to the JackHammer. To maximize your system's performance, Apple recommends having the JackHammer dedicated to internal SCSI devices and another Ultra Wide SCSI-3 PCI differential card dedicated to external devices.

Note: To ensure error-free operation, only connect one SCSI cable at a time to JackHammers installed in the Workgroup Server 9650. The internal Wide SCSI-3 connector is pre-connected to the drives in your Workgroup Server 9650.

Published Date: Feb 18, 2012

StreamLogic‘s JackHammer Card & Ultra SCSI

This article provides information about Ultra SCSI and considerations to remember when using StreamLogic's JackHammer card.
This article has been archived and is no longer updated by Apple.

About Ultra SCSI

Ultra SCSI (sometimes referred to as Fast-20, not to be confused with Fast or Fast & Wide), is part of the SCSI-3 specification. Ultra SCSI allows for faster data transfer rates than SCSI-2.

Ultra SCSI Considerations to Remember

In order to utilize Ultra SCSI you must have both an Ultra SCSI card (such as the JackHammer) and an Ultra device. Ultra SCSI's high data transfer rate means that the movement of the data is more sensitive to "noise" in the data path. To ensure optimal performance, StreamLogic recommends that you:

- Limit total cable length -- including the cabling between devices and cabling inside the devices -- to 1.5 meters (about 5 feet).
- Use only the highest quality cables.

Note: To maximize your system's performance, the JackHammer should be dedicated to internal SCSI devices and another Ultra Wide SCSI-3 differential PCI card dedicated to external devices.

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PC Exchange 2.1.1: Cannot Read Some DOS Floppy Disks

After upgrading my version of Mac OS, I am having trouble reading some DOS floppy disks. The first part of the file appears OK but the last part is garbled. What is wrong?
This article has been archived and is no longer updated by Apple.
This appears to be an issue with PC Exchange 2.1.1, which is included in Mac OS 7.6 and Mac OS 8, and the way some Window computers format floppy disks.

Floppy disks that have this problem have FAT16 written to their boot records, but these disks actually contain FAT12 directories. PC Exchange 2.1.1 reads and checks the FAT field, determines it is a FAT 16 format, and reads the data incorrectly from the clusters on the disk. However, PC Exchange 2.0.7, and earlier versions ignore the field in the boot record.

WARNING!
When PC Exchange 2.1.1 writes anything to a disk that contains a FAT12 format, but thinks it's a FAT16 format, it can corrupt all data on the disk. This can happen even if the Finder creates the file, as it does when the FINDER.DAT file is created or updated on an unlocked floppy disk for use in Mac OS environment. Therefore, just inserting and browsing the contents of an unlocked DOS formatted disk using Mac OS can corrupt the DOS disk.

Not all DOS formatted floppy disks have this problem, it depends on what was written in the boot record by the DOS computer.
Two current workarounds are:

- to use PC Exchange 2.0.5 or 2.0.7 on systems with PC Compatibility Cards, which ignores the FAT16 or FAT12 field in the boot record.
- reformat the disk as a Macintosh disk, then reformat the disk as a PC disk.

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PC Compatibility Card and Ethernet Support

The following item is from the PC Compatibility Card Specifications Sheet:

- Supports Novell NetWare IPX/SPX, TCP/IP, and NETBEUI using the Macintosh computer's logic board Ethernet ports

According to this, the PC Compatibility Card will only use the built-in Ethernet. What happens if the card is installed in a system without built-in Ethernet, like the Power Macintosh 4400/200?
This article has been archived and is no longer updated by Apple.
The PC Compatibility Card will actually use the first Ethernet interface it finds. On systems with built-in Ethernet, this is always the built-in Ethernet. On systems without built-in Ethernet, the PC Compatibility Card will use an add-in Ethernet card. For example, the PC Compatibility Card will work with the Comm Slot II Ethernet Card in the Power Macintosh 4400/200.

There is no way to select an Ethernet interface like you can in the AppleTalk control panel. Therefore, on systems with built-in Ethernet, the built-in Ethernet is always used.
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Apple Network Server: AIX Development Solutions

Where can I find a developer environment for the Apple Network Server 500 or 700? Does a C compiler come with it, or do I need to get in tough with IBM?
This article has been archived and is no longer updated by Apple.
You can buy compilers from IBM Direct Order: 800-IBM-CALL (800-426-2255).

The product named is "Software Development Solutions for AIX V4.1" which includes:

C++
C
DB2
DDCS
Fortran
Pascal
CMVC
Visualizer Query
X/WITT
KAP (for Fortran and C)
FORGE
VAST-2

Part of the licensing process is to supply the host id for the package. This can be obtained by issuing the command, "uname -m".

The AIX public domain library has GNU tools for C and C++ at:

<**http://www.aixpdslib.seas.ucla.edu**>

This article was published in the 11 June 1997 "Information Alley".
Published Date: Feb 18, 2012

TCP/IP and Name Servers: Is There a Limit of Servers?

Within the TCP/IP control panel, is there a limit to the number of servers that a user can enter in the Name Server field while in Advanced or Administration mode?

This article has been archived and is no longer updated by Apple.

There is not a limit on the number of name server addresses that can be entered. The only limitation that exists is a 255 character limit within the field the addresses are entered in.

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Workgroup Server 7350 and 9650: Software Bundles

This article contains a breakdown of the software found on the Workgroup Server 7350/180 and 9650/233.
This article has been archived and is no longer updated by Apple.

Applications Server Solution

	Vendor	Software Version	Positioning
Mac OS 7.6	Apple Computer	7.6	
Retrospect (on DAT config)*	Dantz		Reliability
AppleRAID/Conley SoftRAID	Conley	1.2	Performance/Reliability
Virex	Datawatch		Reliability
Acrobat Reader	Adobe	3	Admin
Now Contact/UTD	Now Software	3.7	Productivity
4-Sight Fax LE	4-Sight	4	Productivity
Viper Instant-Access	IT Design	2.01	Productivity/Admin
Skyline/Satellite	AG Group	1.2	Performance

AppleShare Server Solution (with DAT)

	Vendor	Software Version	Positioning
AppleShare IP 5.0 bundle**			
MacOS System 7.6			
Retrospect (on DAT config)*	Dantz		Reliability
AppleRAID/Conley SoftRAID	Conley	1.2	Performance/Reliability
RunShare	Run	3	Performance
Virex	Datawatch		Reliability
Acrobat Reader	Adobe	3	Admin
Now Contact/UTD	Now Software	3.7	Productivity
4-Sight Fax LE	4-Sight	4	Productivity
Viper Instant-Access	IT Design	2.01	Productivity/Admin
Skyline/Satellite	AG Group	1.2	Performance

Internet Server Solution

	Vendor	Software Version	Positioning
Web Master Series - Publishing bundle***			
MacOS System 7.6			
AppleRAID/Conley SoftRAID	Conley	1.2/1.5	Performance/Reliability
Acrobat Reader	Adobe	3	Admin

* On Workgroup Server 9650 only.
** AppleShare IP 5.0 bundle contains a collection of Apple and third-party software
*** Web Master Series - Publishing bundle contains a collection of Apple and third-party software

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Bar Codes and Readers

I am thinking of using bar codes for some special inventory uses, but don't know which one to choose. Can you help?
This article has been archived and is no longer updated by Apple.
There are industry standards for bar coding. Virtually every manufacturer of computers and peripherals for instance has standardized on the Code 3-of-9 (Code 39) format. They have done so for a number of reasons. While most bar code formats are numeric only, Code 39 is an alphanumeric bar code consisting of all uppercase alphas A through Z, numerals 0 through 9, and a half dozen or so punctuation marks. Code 39 is a variable-length bar code. Anywhere from a single character to 30 or more characters (space and scanning hardware permitting) can be in a bar code.

Code 39 is in the public domain, which means that programmers can freely accommodate printing Code 39 in their programs.

UPC is clearly the most visible bar code in the US, and it is also the most useless to 98% of the population. It is a special-purpose bar code that is used by manufacturers whose products will be sold in retail stores with scanning equipment. This pretty much limites UPC to supermarkets and some record stores. UPC is hard to print and there is no reason to do so. Most currently available bar code scanners "autodiscriminate" which means they automatically decode several different bar code formats.
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AppleShare IP 5.0 Read Me

This article is the AppleShare IP 5.0 ReadMe file.
This article has been archived and is no longer updated by Apple.

Contents

Introduction
Requirements for Running AppleShare IP 5.0
Requirements for Running AppleShare Client 3.7
Support
Installing AppleShare IP 5.0
Known Incompatibilities and Limitations

Introduction

AppleShare IP 5.0 is a major new release of the AppleShare software. In addition to providing traditional AppleShare file service over AppleTalk, AppleShare IP supports connections over TCP. It also provides an FTP server, which allows any FTP client application to transfer files to and from the file server. The AppleShare IP Web server allows your computer to host a Web site on an intranet or the Internet, and the AppleShare IP Mail Server provides mail service for Post Office Protocol (POP) clients over TCP and AppleTalk. AppleShare IP also features new administration programs for all of the services and a completely rewritten Print Server.

Requirements for Running AppleShare IP 5.0

- CPU: Any Apple Power Macintosh computer or Workgroup Server with a PowerPC 601, 604, or 604e microprocessor.
- RAM: 32 MB of memory with virtual memory turned on; 48 MB with virtual memory turned off.
- System Software: 7.6 or later with OpenDoc 1.1.2 or later, except for the Workgroup Server 7350 and the Workgroup Server 9650, which require system software 7.6.1
- Networking Software: Open Transport 1.1.2 or later

Requirements for Running AppleShare Client 3.7

- System Software: 7.5.3 or later
- Networking Software: Open Transport 1.1.2 or later

Support

Telephone Support

In the United States, if you have questions about AppleShare IP 5.0 that are not answered by the AppleShare IP Administrator's Manual or Apple Guide, call the Apple Assistance Center at 1-800-APL-CARE (1-800-275-2273) during telephone support hours (Monday through Friday, 6 a.m. to 6 p.m. Pacific time). When prompted, enter the support access number provided on the back of your Apple Support Card and follow the instructions.

If you are located outside of the United States, refer to the support information that came with your AppleShare IP 5.0 software for instructions.

Web Site

If you have an Internet connection, check the Apple Support Information Web site at http://www.apple.com/support and the AppleShare IP Web site at http://www.apple.com/applesharеip/ for tips, solutions to problems, or any patches that may become available after the release of the software.

AppleShare IP Mailing List

To receive information about software updates, you are cordially invited to join the AppleShare IP mailing list. By joining the mailing list, you will also have the opportunity to share your experiences, questions, and comments with others using the software. Apple employees monitor the list, but Apple does not guarantee that all questions directed to this list will be answered. To join the mailing list, send an e-mail message to applesharеip@apple.com; in the subject line of the e-mail message, type the word "subscribe". (To leave the mailing list, send an e-mail message to applesharеip@apple.com with the word "unsubscribe" in the subject line.) For more information about the mailing list, see the AppleShare IP Web site at http://www.apple.com/applesharеip/.

Installing AppleShare IP 5.0

For summary information about installing AppleShare IP 5.0, see the Installation & Getting Started file in the AppleShare IP 5.0 folder at the root level of your startup disk. For detailed information, see the AppleShare IP 5.0 Administrator's Manual. A printed version of the AppleShare IP 5.0

Administrator's Manual comes with the AppleShare IP 5.0 software. An electronic copy of the manual is available in the AppleShare Electronic Library folder on the AppleShare IP 5.0 CD-ROM disc.

You should read the remainder of this ReadMe file before you install AppleShare IP 5.0; it contains suggestions about the order in which you install software.

Known Incompatibilities and Limitations

- You can run AppleShare IP under light and moderate load with virtual memory turned on. However, you may encounter issues running AppleShare IP under very heavy load with virtual memory turned on. Under very heavy load with virtual memory turned on, the AppleShare IP Web & File Server may stop responding with a system error 112. If this error occurs, restart your computer and take steps to reduce the load by avoiding the use of other programs, quitting AppleShare IP administrative programs when they are not in use, and lowering the number of concurrent users. If taking these steps does not prevent this situation, install additional memory and turn off virtual memory.

Installation and AppleShare IP Easy Setup

- The AppleShare IP Installer installs the 7.6 Device Mgr Server Update version 1.0 on all computers and version 1.0.5 of the built-in Ethernet driver on PCI-based computers.
- On computers that run AppleShare IP, disable the sections of the Energy Saver control panel that handle hard disks. (They are enabled by default when you install system software version 7.6.) If you do not disable energy saving for disks, several seconds will elapse before an AppleShare IP server can respond to a user's request as the disk drives spin up. To disable energy saving for hard disks, in the Energy Saver control panel, make sure that the "Shut down instead of sleeping" box is not checked and that the slider is set to "Never." Click the Show Details button in the Energy Saver control panel and make sure that the "Separate timing for hard disk sleep" checkbox is not checked. Choose Server Settings from the Preferences menu, make sure that the "Never put hard disk to sleep" box is checked in the dialog box that appears, and click OK.
- When installing software on computers that run AppleShare IP, you may see a dialog box with the following message: "Installation cannot take place on the active disk while other applications are running. Please quit the AppleShare IP Registry and try again." If you see this dialog box, dismiss it and try the installation again. If the dialog box continues to appear, quit all applications and select "Mac OS 7.6 base" from the Selected Set pop-up menu in the Extensions Manager control panel. Restart your computer and try the installation again. Then use the Extensions Manager control panel to turn extensions on.
- If you want to use the Vicom Internet Gateway software (available on the AppleShare IP Companion CD-ROM disc), you should install it on a computer that does not run AppleShare IP 5.0. If you run the Vicom Internet Gateway software on a computer that also runs one or more of the AppleShare IP 5.0 servers, performance of the AppleShare IP servers may be affected, PPP connections may experience timeouts, and proxy services may perform poorly.
- The Web & File Server may stop responding if the Apple Menu Options control panel or the File Sharing Control Strip is enabled. To prevent this situation, the Installer removes them when it installs AppleShare IP 5.0.
- If you want to use Apple Remote Access (ARA) and AppleShare IP 5.0 on the same computer, use the Users & Groups control panel to set up remote access for your users. Then install AppleShare IP 5.0. Once you install AppleShare IP 5.0, you will not be able to modify a user's setup and you will not be able to set up remote access for new users. Please check the AppleShare IP Web site for an new component that will allow you to use the Web & File Admin program to set up remote access for new users and change the remote access set up for existing users.
- The AppleShare IP Administrator's Manual instructs for running AppleShare IP Easy Setup incorrectly tells you to enter the new serial number that came with your AppleShare IP 5.0 software if you are upgrading from a version of AppleShare 3 or 4. If you are upgrading from a version of AppleShare 3 or 4, AppleShare IP Easy Setup automatically displays your current serial number for you. To proceed, click the right arrow button.

Web & File Admin

- On computers that do not have a lot of memory (48 MB or less), the Web & File Admin program may display a dialog box stating that it is out of memory. When you dismiss the dialog box, the Web & File Admin program quits. To prevent the Web & File Admin program from running out of memory again, you may want to quit other administration programs that you aren't using, turn on virtual memory, or install OpenDoc 1.2. OpenDoc 1.2 corrects problems that may occur during low memory conditions. (Note that AppleShare IP 5.0 does not specifically support OpenDoc 1.2 and that the AppleShare IP Web & File Guide is not compatible with OpenDoc 1.2.)
- The AppleShare IP Web & File Guide is not compatible with OpenDoc 1.2. Please use the AppleShare IP Web & File Guide with OpenDoc 1.1.2.
- The MacAfee VirusScannerPPC application is not compatible with the AppleShare IP Web & File Admin program. If you have difficulties running VirusScannerPPC, stop using it.

Web & File Server

- If a computer that is running the Web & File Server stops responding, check your hard disks by running Disk First Aid before you start the Web & File Server again. Disk First Aid is located in the Utilities folder on the Mac OS 7.6 CD-ROM disc.
- If you need to modify your TCP/IP configuration, stop the Web & File Server, make changes to the TCP/IP control panel, and restart the

Web & File Server.

- If you installed a prerelease version of AppleShare IP 5.0 and have trouble starting the Web & File Server from the Web & File Admin program, remove your Users & Groups Data File from the Preferences folder. (Removing the Users & Groups Data File automatically causes the removal of the PDS file. The PDS file contains information about access privileges that you've assigned.) If you want to save your user information, use the Export option from the Web & File Admin program's File Menu before deleting the file. After you have rebooted, you can use the Import option to add the users back. Passwords cannot be exported and must be reentered. You will also have to reassign any access privileges that have been set. This information only applies to prerelease versions of AppleShare IP 5.0. Versions of AppleShare 3.x and 4.x upgrade correctly.
- The AppleShare IP 5.0 Web & File Server uses a new set of access privileges based on combinations of the original access privileges (See Files, See Folders, and Make Changes). The new privileges are Read Only, Read & Write, Write Only, and None. When a user connects to an AppleShare IP volume and chooses Sharing from the Finder's File menu, the dialog box that appears displays the original AppleShare access privileges. If the user changes the folder's privileges to a combination of privileges that is invalid on the AppleShare IP file server, the file server automatically applies the most secure access privilege that approximates the change. If the user closes the dialog box and chooses Sharing again for that folder, the checkboxes that are checked may be different than the checkboxes that user checked earlier.
- The Adobe Acrobat Installer cannot be used while the Web & File Server is running. Be sure to install Adobe Acrobat before you start the Web & File Server.
- The requirements for creating drop boxes on a computer that is running the AppleShare IP Web & File Server are slightly different than for previous versions of AppleShare. On computers that are running the Web & File Server, make a disk or a folder a share point and assign Read Only or Read & Write access. Inside the disk or folder that has been made a share point, create the folders that are to be drop boxes and assign the Write Only privilege to the Everyone category for each folder.
- FTP client applications that do not enable "store unique" functionality cannot transfer files to an AppleShare IP drop box (that is, a folder whose access privileges are set to Write Only). When these FTP client applications are used to transfer files to a drop box, an Access Denied error occurs (error code 550). Many Mac OS FTP applications do not enable "store unique," but most UNIX FTP applications do.
- If you are using Dartmouth College's Fetch FTP client application version 3.0.1 or earlier, upgrade to Fetch 3.0.2 or later. Fetch 3.0.2 includes changes that automatically send the appropriate FTP commands for downloading files that are in MacBinary format. (With Fetch 3.0.1 or earlier, you must use Fetch's Send FTP Command(s) command to send the MacBinary Enable command to the FTP Server and click the Binary radio button to download files correctly that are not in BinHex format.)
- Be careful when using FTP client applications to transfer files to the Web & File Server; under certain circumstances, a file may be unintentionally overwritten. Say, for example, that there is a file named X that you want to transfer in MacBinary or BinHex format. Most FTP client applications automatically append an extension of .bin (or .hqx for BinHex format) to the file, thereby implying that the file will be named X.bin (or X.hqx) when the transfer is complete. However, after the FTP client application transfers the file to the Web & File Server, it decodes the file and removes the extension. If there is a file named X in the folder to which the file is transferred, it will be overwritten. To prevent this behavior, rename the file before you transfer it. For example, name the file X1 and then transfer it.
- When using a UNIX FTP client application to retrieve a file from the AppleShare IP FTP server, you may see the error message "Data connection reset by client." If you encounter this error, you can sometimes work around it by closing the FTP session and establishing a new session. If possible, you can also try a different FTP client program.
- Some Web browsers automatically look for and display a file named Default.html or a file named Index.html as the point of entry (home page) to your Web site, regardless of the file that is selected as the default home page in the Web & File Admin program's Web & File Server Settings window. You can avoid having visitors inadvertently see the wrong home page by removing files named Default.html and Index.html from the folder that is set as the Web Folder (whether at root level or in a nested folder) unless the file is selected as the default home page. If you decide to change the name of the file that is selected as your default home page, be sure to update any links that reference it.
- AppleShare IP 5.0 is not compatible with ARA Multiport version 2.1 or earlier. You should not run them on the same computer.
- If you are upgrading from Macintosh File Sharing or a previous version of AppleShare and you previously shared a CD-ROM disc or a locked volume, you must copy their access privileges files from the File Server folder to the Access Privileges folder inside the AppleShare IP Preferences. Both the File Server folder and the AppleShare IP Preferences folder are located inside the Preferences folder in the System Folder.

AppleShare Client 3.7 Software

- AppleShare Client 3.7 Software is appropriate for computers running system software version 7.5.3 or later. See the AppleShare Client 3.7 ReadMe for the versions of AppleShare Client software that are recommended for system software versions prior to system software version 7.5.3.
- If you have problems using the AppleShare Client 3.7 software to connect to an AppleShare IP file server, use MacTCP Ping (available from Apple Computer) to make sure that you can ping the computer that is running the AppleShare IP file server software. If you can't ping successfully, there is a connectivity problem. Check cabling and the configuration of the TCP/IP control panel.
- The AppleShare Client 3.7 software is not compatible with versions of RunShare prior to version 3.0. Computers on which they are both installed will stop responding. Be sure to upgrade to RunShare version 3.0 or later before you install AppleShare Client Software 3.7.
- If a user makes an alias to an AppleShare IP volume and uses TCP to connect to that volume, AppleTalk must be active on the user's computer. AppleTalk must be active because it is used to locate the volume even though TCP is used to make the connection.
- Microsoft Office Manager (Office 4.2.1) causes the AppleShare Client 3.7 software to stop responding when you try to connect to an AppleShare file server. To correct this problem, install Office Manager Updater, available from Microsoft.
- If you are running system software version 7.5.3 on a PowerPC-based computer and set up automounting of an AppleShare volume over TCP, the automount process may use AppleTalk instead of TCP. This situation is fixed in system software version 7.5.5 and later.

- When you install Open Transport 1.1.2 on a PowerBook 3400, immediately install the Mac OS 7.6.1 Update for PowerBook 3400. The update fixes a condition that could cause the system to stop responding when you switch between Infrared and LocalTalk.
- The NetWare User Authentication Module is incompatible with the AppleShare Client 3.7 software. Contact Novell for an update.
- Some old HyperCard XCMDs that mount AppleShare volumes are incompatible with the AppleShare Client 3.7 software.
- Utilities that mount disk images from AppleShare file servers may be incompatible with the AppleShare Client 3.7 software. If you have problems, contact the vendor for a new version.
- Versions of Santorini Server Manager earlier than 4.0 are not fully functional when used with the AppleShare Client 3.7 software. Be sure to install Santorini Server Manager 4.0 from the AppleShare IP Companion CD-ROM disc.
- Server management applications that mount AppleShare volumes may be incompatible with the AppleShare Client 3.7 software. Contact the vendor for an update.

Mail Server

- If you need to modify your TCP/IP configuration, stop the Mail Server, make changes to the TCP/IP control panel, and restart the Mail Server.
- The Mail Admin folder inside the AppleShare IP 5.0 folder on your startup disk contains an application called the PowerShare Exporter. You can use PowerShare Exporter to export users from PowerShare and import them into an AppleShare IP Users & Groups Data File.
- The Mail Server should not be running when you back up the Mail Server's mail database. AppleShare IP 5.0 comes with a Retrospect script for stopping the Mail Server, backing up the mail database, and restarting the Mail Server automatically. For information on this script, see the ReadMe file for the Retrospect Event Handler script in the Mail Backup Samples folder at the root level of the AppleShare IP 5.0 CD-ROM disc.
- The Mail Server uses a special "fingerprint" to ensure that a user's account in the mail database matches the correct user in the Users & Groups Data File. The fingerprint is a unique number that is stored in the user's record in the Users & Groups Data File and in the user's account in the mail database.

The Mail Server checks for fingerprint mismatches each time it starts up. When it finds a user in the mail database whose fingerprint does not match the fingerprint of a user in the Users & Groups Data File, the Mail Server enters a summary message in the Mail Server log and a detailed message in the Mail Server error log, and disables the user's mail account. To retrieve mail from a disabled mail account, use the AppleShare IP Mail Tool (available from the AppleShare IP Web site at http://www.apple.com/appleshareip/) to assign the mail account to a valid user in the Users & Groups Data File.

You can prevent mismatch situations by taking these precautions:

- Treat the Users & Groups Data File and the mail database as a set. Always back up and restore them together. If you were to restore the Users & Groups Data File without also restoring the mail database, Mail Server would disable the mail accounts of users who are in the mail database but who are not in the restored Users & Groups Data File. If you must restore the Users & Groups Data File, make sure that all current users have retrieved their mail first (if possible). Then restore the Users & Groups Data File and the mail database from the same backup. Alternatively, you can restore the Users & Groups Data File, start the Mail Server, note the mail accounts that are disabled, and use the AppleShare IP Mail Tool to assign the disabled accounts to valid users.
- If you move the mail database to another computer, move the Users & Groups Data File, too. If you were to move the mail database to another computer without moving the Users & Groups Data File, the Mail Server would disable most (if not all) mail accounts and create new, empty mail accounts for the users in the Users & Groups Data File for whom mail is enabled. (Note, however, that if you move the Users & Groups Data File to another computer that is running the Web & File Server, any access privileges that have been assigned on that computer will be lost because the access privileges no longer match the Users & Group Data File.)
- When you delete users for whom mail is enabled, make sure the AppleShare IP Mail Server is running. If the Mail Server is not running when you delete users for whom mail is enabled, the next time the Mail Server starts up, it will report that the deleted users' mail accounts do not have a matching entry and it will disable their mail accounts.

  Note: It is always safe to throw away a mail database that is empty (as indicated by a zero in the "Number of Messages" field in the Mail Server Activity window). When you start the Mail Server again, it will create a mail account for each user in the Users & Groups Data File for the Enable Mail radio button is selected.

Print Admin

- To see updates in the Print Admin program's Log window, you need to close and open the window again.
- If you create a queue and attach printers to it when the Print Server is busy, a communication problem may occur between the Print Admin program and the Print Server and an alert box may appear. Dismiss the alert box. In a few minutes the queue will appear in the Print Server Activity window with a status message indicating that no printers are attached to the queue. You need to attach the printers again.

Print Server

- The Print Server is not compatible with QuickDraw GX client applications. If you are setting up the Print Server in an environment that requires printing by QuickDraw GX client applications, be sure to enable the "Visible in Chooser" setting for at least one printer that is

attached to a Print Server queue or be sure there is at least one printer that is not attached to a Print Server queue. That way, users who require QuickDraw GX support can use the printer directly.

- The Print Server cannot prevent printers that use the LaserWriter IIg version 2010.113 printer description file (PPD) from being visible in the Chooser even when the "Visible in Chooser" setting is not selected. To change the PPD file that the LaserWriter IIg uses, open the Chooser, click a printer icon, select the printer whose PPD file you want to change, and click Setup. In the dialog box that appears, click the Select PPD button and select a different PPD file (such as LaserWriter IIg v2010.130) from the list of PPD files. Click Select and then click OK.
- Do not choose a Print Server queue as the printer for a computer that is running the Print Server. The printing software will stop responding if you try to print on queue from a computer that is running the Print Server. If necessary, make a printer visible in the Chooser so that you can print on it directly.

Documentation

- The AppleShare IP Administrator's Manual shows that the "Enable users to save password for automatic log on" attribute in the Password Settings window is enabled by default. This is incorrect. By default, the "Enable users to save password for automatic log on" attribute is disabled.
- The AppleShare IP Administrator's Manual does not document the backup copy of the Users & Groups Data File that is made automatically the first time you start the AppleShare IP 5.0 Web & File Server. The backup is named Users & Groups Data File Backup, and it is located in the Preferences folder inside the System Folder on your startup disk. The purpose of the backup is to preserve a copy of your Users & Groups Data File in case you later decide to run Macintosh File Sharing or an earlier version of AppleShare. If you decide to run Macintosh File Sharing or a earlier version of AppleShare, you must first remove the AppleShare IP 5.0 software. Then remove the Users & Groups Data File, rename the Users & Groups Data File Backup to Users & Groups Data File, and restart your computer. These steps restore your Users & Groups Data File to its original state before you installed AppleShare IP 5.0.
- The AppleShare IP Administrator's Manual does not document that the AppleShare IP Installer installs the 7.6 Device Mgr Server Update version 1.0 on all computers and version 1.0.5 of the built-in Ethernet driver on PCI-based computers.
- The AppleShare IP Administrator's Manual incorrectly implies that you can enter more than one serial number in the Web & File Server Settings window. You can only enter one serial number.
- The AppleShare IP Administrator's Manual incorrectly tells you to enter the new serial number that came with your AppleShare IP 5.0 software if you are upgrading from a version of AppleShare 3 or 4. If you are upgrading from a version of AppleShare 3 or 4, AppleShare IP Easy Setup automatically displays your current serial number for you.
- The AppleShare IP Administrator's Manual refers to the AppleShare IP 5.0 Library folder. The correct name for that folder is the AppleShare Electronic Library.

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PC Compatibility Card & NetBEUI Issue

When using the 12-inch PC Compatibility Card in the PC environment, it crashes when transferring a large data set of files or one large file to a WindowsNT 3.51 or 4.0 server via NetBEUI. Below are some of the symptoms:

- Windows 3.11 hangs in File Manager when copying large set of files or one large file to an NT server.
- A DOS session run within Windows crashes with an "internal stack overflow, system halted" when copying files to NT server.
- The problem is not consistent with size or number of files but generally will crash after transferring more than 2 MB of data.

This article has been archived and is no longer updated by Apple.
This occurs due to the STACKS line in the CONFIG.SYS file. The usual default stacks statement is:

STACKS=9,256

To fix this, simply increase the stacks statement as follows:

STACKS=64,512

This will solve your NetBEUI problem. By including STACKS=64,512 in your config.sys file you are allocating more memory than you really need.

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Apple Language Kits: Questions and Answers

This article discusses some questions and answers about Apple Language Kits.

This article has been archived and is no longer updated by Apple.
Question: What are the minimum requirements for using the Russian and Japanese language kits?

Answer: The amount of memory and disk space required varies on Language Kit used and on your configuration. Cyrillic has the smallest RAM requirement (about 500K); Chinese has the greatest (about 1500K). The Apple Language Kits will run on Macintosh IIci computers, or any machine since the Mac Plus. Of course, newer machines are more likely to have 16 MB of RAM available, a minimum for practical usage of a complete system and medium-sized applications.

Question: Will I compromise the effectiveness of these language kits by trying to use them on computers that are already maxed out?

Answer: If the computers are "maxed out", the language kit will probably still run, but performance will be the first thing affected.

Question: In general, what are the advantages to these language kits? If I have installed Russian font on my system, what functionality will be gained if I install the Cyrillic Language Kit?

Answer: Features: standardization, system level support, localized application support.

Standardization:
Apple Computer's fonts are based on the MacCyrillic standard and that allows for the easier document sharing. We provide a keyboard layout which is based on the Cyrillic standards, and transliterated keyboard for people used to U.S. (QWERTY) or French (AZERTY) keyboard layouts.

System Level Support:
Fonts are in the proper ID range so that Mac OS features of the ScriptManager and WorldScript can be used. This means you can (i) click in text of a WorldScript-savvy application and have the font and keyboard synchronize, (ii) use input methods (for double-byte Asian languages -- Japanese, Korean or Chinese) within any application or even in the Finder, and (iii) you can change the font in the Views control panel to display with any Language Kit's font that you have installed.

Localized Application Support:
The Language Kits are the only products on any personal computer system that let the user launch a localized application for a secondary language (that is Japanese or Russian on an English system, or Arabic on a KanjiTalk OS system) and have the menus display properly in the secondary language. Apple Computer provides Russian, Bulgarian, and Ukrainian localized versions of SimpleText as examples of this with the Cyrillic Language Kit. (All of the Apple Language Kits include one or more localized applications.)

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Switching to OT, OT/PPP from Classic Networking

This article describes how to make the switch to Open Transport and install OT/PPP for the first time.
This article has been archived and is no longer updated by Apple.
OT/PPP requires that you be running System 7.5.3 or later, Open Transport 1.1.1 or later, and OT/PPP 1.0 or later.

Step 1
If you are using a Performa or Power Macintosh 6200, 6300, 5200, or 5300 series computer (except for the 5260, 6320, or 6360), you should obtain a copy of the 5xxx/6xxx Tester. This will check your computer for the presence of an issue with your level-2 cache which prevents Open Transport from installing correctly. If the tester indicates that a cache problem exists, then you must get a repair performed on your computer; this repair will be covered by the Repair Extension Program. Note that the REA tester may also fail the computer for non-cache issues: in this case, OT can be installed.

If you have Internet access, you can download the 5xxx/6xxx Tester from the Apple Software Updates Web site at http://www.apple.com/swupdates .

Step 2
If you are not already running System 7.5.3 or later, then you must upgrade with System 7.5 Update 2.0. You can download System 7.5 Update 2.0 from the Apple Software Updates Web site at http://www.apple.com/swupdates .

Note: 7.5 Update 2.0 installs OT 1.1. OT/PPP will not work with OT 1.1.

Note: Mac OS 7.6 does install OT 1.1.1 and has a copy of OT/PPP on the installation CD, but does not support Classic Networking. If you are experiencing the cache issue, installing Mac OS 7.6 will completely disable your MacTCP-based Internet access, and will not provide you with access to Open Transport until the REA repair is done.

Note: Most large installers available through the Apple Software Updates are available as either disk images or as "net installs." Disk images require the use of Disk Copy 4.2 to master actual floppy disks (you can get a copy of Disk Copy 4.2 in the Utilities area; many computers also include a copy on their restoration CD). A "net install" is typically a much larger file which is designed to be run from a hard drive. Which option you choose will depend on how many computers you need to install on, what kind of backup media you have, and how reliable your Internet connection to download the files is. Downloading a 20 MB file over a phone line is probably not a good idea; downloading 20 1 MB files improves your ability to recover from an error in the transmission.

Step 3
You will need to obtain Open Transport 1.1.1 or 1.1.2 and OT/PPP, both of which can be downloaded from the Apple Software Updates Web site at http://www.apple.com/swupdates .

We also recommend that you download the OT 1.1 Manual from the same area. The OT/PPP installer installs its own manual.

Both manuals require Adobe Acrobat Reader. If you do not have Adobe Acrobat installed, it can be downloaded from **http://www.adobe.com**.

Step 4
Installing Open Transport 1.1.1 or later will automatically switch your network connections over to Open Transport. If in the future, you wish to switch back to Classic Networking, you can do so with the Network Software Selector, an application that should be present in your Apple Extras folder.

Note: All Power Macintosh 6500, 7200, 7300, 7500, 7600, 8500, 8600, 9500, and 9600 series computers, and computers running System 7.6 or later, do not support Classic Networking, so the Network Software Selector will not be available.

Step 5
Install OT/PPP 1.0.

Step 6
The TCP/IP control panel needs to be launched, and the network connection changed to PPP. See Tech Info Library article 18238 "Open Transport TCP/IP Configuration," by clicking on this icon ▫ for more information.

Briefly: you will need to change TCP/IP's connection method to PPP (it will probably indicate MacPPP if that was the PPP client you were previously using). You will need to specify how your computer receives its TCP/IP address (likely from a PPP server, but check with your Internet Service Provider for details), and you will need to enter the IP address numbers of your Domain Name Server(s). This information can be obtained from your service provider. Normally, if you were previously provided with this information to support a connection under MacTCP, much of this would have been automatically converted when you switch over to Open Transport.

These changes should be saved, either as part of the current configuration or as a new configuration.

Step 7
The Modem control panel, which OT/PPP installed, needs to be opened and the modem type specified.

Step 8
Launch and configure the PPP control panel. Refer to the OT/PPP User's Guide for information on how to set up OT/PPP.

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LaserWriter 12/640 PS & PS Plus: Minor Safety Issue

A potential, minor safety issue has been discovered with Apple LaserWriter 12/640 PS and LaserWriter 12/640 PS Plus printers. If you own either of these printers, please review the following information.
This article has been archived and is no longer updated by Apple.

Overview

A small percentage of LaserWriter 12/640 PS and 12/640 PS Plus printers fail to disable power inside the printer when the top cover is opened. This could cause the user to come in contact with very low levels of electrical voltage and/or be exposed to rotating parts.

Though the potential risk of injury is small, Apple recommends that all LaserWriter 12/640 owners follow the steps outlined below to ensure that their printer has been or will be modified to correct this issue.

If you own a LaserWriter 12/640 PS or 12/640 PS Plus, follow these steps:

1. Check to see if your printer has already been modified. There are two markings to look for:

- If you have the original shipping box, check to see if there is a blue dot on or near the UPC code label, or
- Remove the paper tray from your printer and look for a white dot on the left side black plastic inside.

2. If you cannot locate either of these markings, please contact an Apple Authorized Service Provider to schedule an appointment to have the modification performed at no cost to you. For assistance in locating a reseller near you, United States customers can call 1-800-538-9696. Canadian customers can call 1-800-665-2775. International customers can contact your local Apple Assistance Center or Apple authorized service center for more information.

If you need to open the top cover of your printer prior to your reseller visit for modification, Apple recommends that you turn off your printer before opening the top cover.

In addition to the above procedure, modifications to reduce the possibility of paper jams will also be performed.

Note: If your printer was manufactured after May 1, 1997 your printer has already been modified. The unit will have the markings described above and the power will disable when the top cover is opened. A program is in place for Apple authorized resellers to have their existing inventories of LaserWriter 12/640 PS and 12/640 PS Plus printers modified. Check with your reseller or look for the markings outlined above to confirm a new printer has been modified.
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Correction to Open Transport/PPP 1.0.1 Read Me (6/97)

This article corrects an error in the Open Transport/PPP 1.0.1 ReadMe file
This article has been archived and is no longer updated by Apple.
The OT/PPP Read me states the following:

"Using Global Village PC Card Products

The Global Village software included with your modem adds an entry to the "Connect via" pop-up menu of the Modem control panel called "PowerPort PC Card". Under some circumstances, an entry for the actual slot your PC Card is plugged into will show up as well ("Upper-slot," "Lower-slot"). These slot-specific items should not be used and the "PowerPort PC Card" item should be used instead or the port will be erroneously reported as busy."

This is not correct. The "port busy" message is not generated by selecting the wrong slot, it is generated in low-memory conditions because of a bug in the Open Transport software. Global Village has a fix for this at their web site, here is the URL: **http://www.globalvillag.com**

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At Ease 4.0.1: Require New Password on Next Login Issue

When creating a new user in At Ease Admin 4.0.1, you are unable to check the box requiring the user to enter a new password at their next login. The option is available (not grayed out), but the box cannot be checked. This feature worked correctly before updating from 4.0 to 4.0.1.
This article has been archived and is no longer updated by Apple.

Workarounds

1) Create new users with the Users & Groups Manager software and you can select the Require new password at next login.

2) Save the new user, re-open it, and select the Require new password at next login.

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Power Macintosh 6500: Faster Faxing with FaxSTF 3.2.2 Modem Bundle

I have a Power Macintosh 6500/250 Small Business bundle computer. This computer was bundled with a FaxSTF 3.2.2 fax modem. I am not able to set the fax modem for sending faxes at speeds higher than 9600 bps, because the options for higher speeds are dimmed. What should I do to get faster speeds?
This article has been archived and is no longer updated by Apple.
STF Technologies, Inc., the creator of the software, has introduced a solution with a new set of modem profiles, the 3.2.x Profile Update. These profiles enable fax speeds higher than 9600 bps to be selected.

These profiles can be downloaded from STF Technologies' Web site, **http://www.stfinc.com**. If you do not have access to the World Wide Web, these profiles can also be downloaded from the STF Technologies BBS, or you can call STF Technologies' technical support for assistance.

The following information is provided to offer general guidance. This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information. NOTE: Apple Computer, Inc. does not provide technical support for FaxSTF. STF Technologies provides technical support for its product.

The following information complements information found in the 3.2.x Profile Update Read Me files, and is based on information in these Read Me files that were published on the STF web site as of 6/1/97. Follow the steps below:

Step 1
Download the 3.2.x Profile Update. When you have downloaded it, you should have a folder called 3.2.x Profile Update 6/1/97 (the name of the folder may vary, depending on the date STF updated the folder). This folder contains three Read Me files:

- 3.2.x Profile Update ReadME
- Approved ACD Modems
- ACD ReadMe

and four software components:

- ACD1.DRVR
- ACD2.0.DRVR
- ACD2.DRVR
- ModemProfiles (version 7-E, replaces version 3.2.2)

Step 2
Open this folder and arrange it so you can see all of its contents.

Step 3
Open your hard disk.

Step 4
Open the System Folder.

Step 5
Open the STF folder which is in the System Folder. You will see 12 items in the STF folder window: 10 folders and two documents. Arrange the STF folder window so you can also see the contents of the 3.2.x Profile Update 6/1/97 folder which you arranged in step 2.

Step 6
Drag the "ModemProfiles" file out of the 3.2.x Profile Update 6/1/97 folder and drop it onto the Components folder. When you release the mouse, you should get a message dialog asking for permission to replace an older item that is already in the folder. Go ahead and do so.

Step 7
Drag the file ACD1.DRVR out of the 3.2.x Profile Update 6/1/97 folder and drop it onto the Drivers folder. When you release the mouse, you should get a message dialog asking for permission to replace an older item that is already in the folder. Go ahead and do so.

Step 8
Drag the file ACD2.0.DRVR out of the 3.2.x Profile Update 6/1/97 folder and drop it onto the Drivers folder. When you release the mouse, you should get a message dialog asking for permission to replace an older item that is already in the folder. Go ahead and do so.

Step 9
Drag the file ACD2.DRVR out of the 3.2.x Profile Update 6/1/97 folder and drop it into the Drivers folder. When you release the mouse, you

should get a message dialog asking for permission to replace an older item that is already in the folder. Go ahead and do so.

Step 10
Close all of the windows on your monitor.

Step 11
Restart your computer by choosing Restart from the Special menu.

Step 12
Open the Launcher, if it did not open automatically, and click on the FaxSTF application.

Step 13
After the application finishes loading, choose Settings from the Edit menu. Click the Fax Modem button on the far left side of the dialog, then click the Modem button in the top right corner of the dialog.

Step 14
From the list of supported modems, choose "Apple Express Modem SW". Note, there are five other Express Modem options, so it's important to choose the correct one. You may need to scroll up to see the correct option.

After you have chosen (highlighted) "Apple Express Modem SW", click on the Select button.

Step 15
If the Send and Receive pop-up menu options do not automatically change to 14.4 kbps, see if you can select them from their pop-up menu. If not, contact STF Technologies for further assistance.

Step 16
Click the Done button.

Step 17
Choose Restart from the Special menu.

At this point, you should be able to send and receive faxes using V.17 (14.4 kbps) protocols.

NOTE: The fax speed limitations do not affect data communications performance (that is, Apple Internet Connection Kit; America Online) in any way.
Published Date: Feb 18, 2012

Extension Manager 4.0 and Packages: How They Work

I'm curious about the packages in the Extension Manager v4.0 which is part of Mac OS 7.6. I notice several items that look like they should be in packages such as communication tools, several componets of a third party utility like Norton or Now, and even some older apple extensions. Why aren't these extensions grouped into the appropriate packages?
This article has been archived and is no longer updated by Apple.
The Extensions Manager v4.0 creates packages or groups of similar extensions by scanning all the items in the System folder and then looks at each file's VERS 2 resource. Items with identical long version string fields in the VERS 2 resources are grouped into similar areas called packages.

If the ong version string fields in the VERS 2 resources are even slightly different, a seperate package will be created. There are no packages with only 1 item in them, an example of this with an additional System Sofware package in non-PCI Power Macintosh computers that contains only 2 Ethernet extensions. This is because of a typographical error in the resource.
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Workgroup Server 9650/233: Velcro Issue

A very small quantity of Workgroup Server 9650/233 computers, M5646LL/A, may have an issue with the Velcro straps that secure the Ultra wide (68 pin) SCSI cable to the internal chassis. The Velcro straps may not adhere properly to the internal chassis and/or bottom drive carrier, causing the Ultra wide SCSI cable to come loose in the enclosure and rub against the fan on the side access panel. A very small quantity of units with this potential issue, have gotten into Apple Computer's U.S. distribution. This issue is not present with units built outside of the USA.
This article has been archived and is no longer updated by Apple.
Replace the Velcro Tie-wraps on the affected unit, Service part number 922-310, there are two used per system. If necessary, replace the Ultra wide SCSI Cable, Service part number 922-3052.
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At Ease 3.x: "Save Anywhere" Option

The At Ease manual refers to an option that lets users "save anywhere," but I do not see that option on my Locations window in At Ease Setup. How do I do it?

This article has been archived and is no longer updated by Apple.

To let At Ease users save anywhere, go to the security window in setup, and do not select the options that require users to open and save into their documents folder. This will let them open and save anywhere.

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MAE Environmental Variable APPLEPATH (6/97)

This article describes the Macintosh Application Environment (MAE) environment variable APPLEPATH.
This article has been archived and is no longer updated by Apple.
Examples of APPLEPATH:

setenv APPLEPATH (insert path)

or

set APPLEPATH=/nfs/(insert your path) export APPLEPATH

You can now launch MAE with the -rebuild command line option to rebuild the desktop database if the database becomes corrupted or is deleted. Starting MAE with the -rebuild command line option, while the environment variable is set as shown above, adds to the Desktop database all the application file information contained in the applications directory and its subdirectories. This information stays in the Desktop database until the next Desktop rebuild. Once the Desktop database is rebuilt, the APPLEPATH variable can now be deleted.

Unlike the UNIX variable named PATH, APPLEPATH can specify only a single path. Also, APPLEPATH must specify a complete pathname; that is, expressions such as a period (.) and ~/applications will not work.

If new applications are added later to the directory specified in APPLEPATH, they will not be automatically updated in the Desktop database. They will be added only after the user opens the folder manually or restarts MAE with the -rebuild option.

Building the Desktop database with the entire file system (for example, by specifying APPLEPATH='/') may take a long time, depending on the size of local and remotely mounted file systems.
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MAE Command Line Options (6/97)

This article describes the Macintosh Application Environment (MAE) command line options.
This article has been archived and is no longer updated by Apple.
To alter the MAE environment use one of these command line arguments when you start MAE. These command line arguments, listed below, are invoked when MAE starts up.

-display dpy
X server on which to display
EXAMPLE: -display opus:0.0

-geometry WxH+X+Y
size and location of window (Mae.geometry)
EXAMPLE: -geometry 600x400+4+4

-iconic
start iconic (Mae.iconic)

-title string
title string (Mae.title)

-sysfol systemfolder
System Folder path (Mae.systemFolder)
EXAMPLE /tmp/sys

-appledir appledirectory
Apple resource directory path (Mae.appleDirectory)
EXAMPLE /opt/apple

This is the location of the apple directory

-memory memorysize
Macintosh memory size in megabytes (m = megabytes, k = kilobytes)
EXAMPLE -memory 17m

-maxdepth bitdepth
maximum frame buffer bit depth (Mae.maximumDepth)

-installcmap
force the installation of X colormap (Mae.installColormap)

-caseon
force case sensitivity (Mae.caseOn)

-nosound
turn off sound (Mae.noSound)

-filedouble
force Apple Double file format (Mae.fileDouble)
This is helpful when UNIX applications attempt to open files that were saved or copied from within MAE. See also asdtool.

-fstimeout
set file system timeout interval (Mae.fsTimeout)
EXAMPLE: -fstimeout 60
Useful if HOME is NFS Mounted, and Patch 2 does not fix errors such as 'Unable to access .mac'

-noextensions
startup with no Extensions

-rebuild
rebuild Desktop database

-zappram
zap VPRAM settings

-help
print out this message

-version
print out version information
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MAE Windows Do Not Refresh on Sun UltraSPARC (6/97)

The Macintosh Application Environment (MAE) sometimes does not refresh the display after being covered by another window on UltraSPARC workstations.

This article has been archived and is no longer updated by Apple.

This is a known issue with Solaris and Sun's UltraSPARC workstations. Users with systems configured with the Creator 3D video card need to get Sun patch (103076-08) to fix this issue. Both MAE 2.0.x and 3.0.x are affected

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Hypercard Bundle: How to Get Webstar Serial Number (6/97)

I just received my Hypercard 2.3.5 value bundle (includes Myst, Movie Cleaner, LiveCard and a trial copy of Webstar), but a serial number for Webstar did not come in the package.
This article has been archived and is no longer updated by Apple.
You must contact StarNine directly for their serial number. Information for contacting StarNine can be found by clicking on this icon:

This information is provided on the "Read Me First!" document in the "LiveCard from Royal" folder on the CD.
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Phone Company Upgrading to Digital Network & Modems

I operate my computer from my residence. I have not installed any special hardware to route calls in my residence, such as a PBX. My phone company has sent me a letter stating that it is upgrading to a digital network. Should I be concerned?
This article has been archived and is no longer updated by Apple.
Most modems are analog products. They are designed to send sound along the same sort of twisted-pair wires that your voice telephone uses. This twisted-pair wiring literally extends from the phone to your phone company's "central office," where it is led to a "switch," which both provides dial tone and honors your dialing requests.

Along the way, the strength of the signal diminishes. So the phone company uses analog amplifiers to improve the quality of the signal. Each time the signal is amplified, there is a potential loss of signal strength, which makes this approach less than desirable for many types of data communications.

When a phone company "goes digital," it is generally referring to a multi-step process. Many phone services have long since gone digital: the switch, for example, is a computer, so communication between central offices is generally already digital.

The "going digital" part refers to the relationship in the "local loop," which is to say, between your location and the central office. Generally, this means that they will be doing the following:

- Installing an analog-to-digital/digital-to-analog converter near your house's "demarcation point" (which is where the phone company plugs into your house).
- Replacing the analog amplifiers with digital repeaters.

The main advantages of this process are:

- Improved data reliability.
- Support for higher bandwidths.
- Potentially better voice quality.
- Better support for digital technologies like ISDN (in general).

In general, unless you have specifically ordered digital telephone service such as ISDN or (in the future, possibly ADSL), or you have installed additional hardware such as a Public Branch Exchange (PBX), then your phone service will continue to be analog and your modem will continue to work as it did before. If your telephone company has not notified you that the telephone at your location needs to be upgraded then your modem will not have to be upgraded either.

This article was published in the 16 June 1997 "Information Alley".
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Performa w/GeoPort: Restore Modem SW & Clean 7.6 Install

I have a Performa 6360 or 6400; or a Power Macintosh 4400 or 6500 system with a software bundle. I performed a clean install of Mac OS 7.6 and/or 7.6.1. Now my internal GeoPort modem does not work. What should I do?

Note: For the purposes of the following discussion, Clean Install means placing a new System Folder on the hard disk. It does not mean reformatting the hard disk. Clean system software installations can be done automatically, through the 7.6 and/or 7.6.1 installer in which case the previous System Folder is renamed to "Previous System Folder".
This article has been archived and is no longer updated by Apple.
Mac OS 7.6 and/or 7.6.1 does not include GeoPort software, or most of the third-party software which came bundled with your computer. Installers are not available to automatically install this software; therefore, you have two options:

1. Perform a clean install of the original bundled Performa software, then conduct a Restore All Software operation, then re-install Mac OS 7.6 and/or 7.6.1.
2. Drag-copy the extra elements from the old System Folder or from your Macintosh Performa CD to your hard disk.

Important: The following steps only apply to the listed systems. Apple does not support drag-installing Apple Telecom software on other computer types or with previous versions of the Mac OS.

Option 1: Clean Install and Re-Install Mac OS 7.6 and/or 7.6.1

For the first option, perform the following steps:

1. View Tech Info Library (TIL) document 17768: **System SW Clean Restore: Macintosh Performa Computers w/CD**
2. Perform the instructions in the article mentioned above, even if you have already installed Mac OS 7.6 and/or 7.6.1. Choose Restore All Software when finished. This will re-install the original system software, and all third-party software.
3. Install Mac OS 7.6 and/or 7.6.1. If you added Mac OS 7.6.1 after installing Mac OS 7.6, you will need to install Mac OS 7.6 first, then apply the Mac OS 7.6.1 Update.

After installing Mac OS 7.6.1, you are finished. You will need to then reconfigure your various third-party applications.

Option 2: Drag-Copy Necessary Software From Another System Folder

The rest of this article deals with drag-installing software from your Previous System Folder or from your Macintosh Performa CD. There are various steps involved, therefore this approach is best used by experienced Macintosh users or system administrators.

Before proceeding, understand why you are doing this. Did you perform the clean install because you were troubleshooting an extensions or control panel conflict? If so, it would be a good idea to see if your new System Folder resolved the issue before adding extraneous control panels or extensions. If you are troubleshooting a problem, use caution. There are many Tech Info Library articles describing the purpose and mechanics of a clean install; many are tailored to specific systems. Perform a search using the search string "clean install" to get a list of these articles.

The following steps are mainly intended for users who like to install "sterile" system software, but who want control over the extra functionality that is available with the Performa version of System 7.5.3. The idea in the steps is to use either your Previous System Folder, or the pristine System Folder on your Macintosh Performa CD to dragging the data (files) from.

If you choose to copy from your Macintosh Performa CD -- this is the preferred option.-- the relevant files can be found in Hard Disk Files -> System Folder. If you are troubleshooting, you should probably not choose to copy from your Previous System Folder. However if you are not troubleshooting, and you choose to copy from your Previous System Folder, the relevant files are in the Preferences Folder. You should note that sometimes corrupted preferences files can cause problems.

Note: The following is solely intended for the Performa 6360/6400 and Power Macintosh 4400/6500 Small Business/Family Macintosh bundles that ship with GeoPort modems. Since product specifications can and do change without notice, Apple cannot guarantee that this article will keep pace with changes in the bundles for these computers. Therefore, some aspects of the following discussion may not specifically apply to your computer.

The following assumes you did an Easy Install of 7.6 and/or 7.6.1 in conjunction with the clean install process. If you did a Custom Install or Minimum Install, resources needed for the proper functioning of various software packages may not be present. The resulting behavior will range from system crashes to packages refusing to open.

Also, third-party applications, you purchased, may have their own requirements. If you find that these applications no longer work correctly, or look different, certain preferences may be absent, or extensions may not have been transferred. Your options are to either identify which items are

missing and move them from the Previous System Folder to the new System Folder, or to simply re-install and re-configure these applications. Check with the application manufacturer if you are dealing with any critical data which you cannot afford to lose.

If you have a third-party printer, you will need to re-install its software from the disks that came with the printer.

Important: Do not throw away your Previous System Folder until you are absolutely certain that everything is working correctly. You may want to keep the Previous System Folder on your hard disk from two to four weeks to make sure that nothing valuable is left in it.

How to proceed
Identify which source you wish to use (your CD or your Previous System Folder), then drag the files, described below, from the source to the equivalent location in the new System Folder. For example, copy the Express Modem control panel from the CD as shown in the path below:

- Hard Disk files: System Folder files: Control Panels: Express Modem

to the same location on your computer's hard disk, using the path below:

- <name of your hard disk>: System Folder: Control Panels: Express Modem

Do not copy folders unless they are not present in the destination. For example, the Mimetics folder is not going to be in the new Mac OS 7.6 and/or 7.6.1 System Folder, so put that there.

GeoPort software (Do this first)
This provides basic modem functionality. If you do not have this, you cannot use the modem.

System Folder:Control Panels:Express Modem

System Folder:Extensions:Apple Telecom Modem
System Folder:Extensions:Express Modem Tool
System Folder:Extensions:GeoPort for Power Macintosh
System Folder:Extensions:GeoPort Serial Driver
System Folder:Extensions:GeoPort Telecom Adapter
System Folder:Extensions:GeoPort Telephone Tool
System Folder:Extensions:GeoPort/Express Modem
System Folder:Extensions:GeoPort/Express Modem CNG

System Folder:Preferences:Express Modem Preferences

Fax software
The fax software will let your computer send and receive faxes. You must install the basic modem software in order to use the fax software.

System Folder:Apple Menu Items:Apple Telecom Status

System Folder:Extensions:AddressBookLib.ppc
System Folder:Extensions:Apple Fax Gateway
System Folder:Extensions:Fax Extension
System Folder:Extensions:Fax Sender
System Folder:Extensions:Fax Sender GX
System Folder:Extensions:Log Extension
System Folder:Extensions:Modem Scripts (move whole folder)
System Folder:Extensions:Scripting Additions
System Folder:Extensions:Received fax folder (do not move the entire folder: move this single item)

System Folder:Mimetics.(move whole folder)
System Folder:Mimetics:EasyReader Fax
System Folder:Mimetics:Neuroneye
System Folder:Mimetics:UK Dictionary
System Folder:Mimetics:US Dictionary

System Folder:Preferences:Apple Fax Preferences (do not copy from CD , doing so disabled QuickFax)
System Folder:Preferences:Address Book Preferences (move whole folder)
System Folder:Preferences:Address Book Preferences:Address Book Preferences
System Folder:Preferences:Address Book Preferences:Preferred Address Book

Megaphone 2.0.5P software
Megaphone is your telephony solution. It lets you make voice phone calls using the computer, and to use the computer as an answering machine.

At Ease Items (you do not need to copy this if you re-install At Ease)
At Ease Setups:Parents:MegaPhone
At Ease Setups:Parents:MegaPhone 2.0 Tour

System Folder:Control Panels:MegaDial

System Folder:Extensions:ANSI C++ PPC Lib
System Folder:Extensions:CRC Address Book Extension
System Folder:Extensions:MegaDial Resources
System Folder:Extensions:MegaPhone Menu
System Folder:Extensions:MWRuntimeLib
System Folder:Extensions:Telephone Manager Extension

Cypress.(move whole folder)
System Folder:Extensions:Cypress:MegaDial Files
System Folder:Extensions:Cypress:MegaDial Locations

Launcher Items.(you do not need to copy this if you drag the Launcher Items)
System Folder:Launcher Items:MegaPhone II
System Folder:Launcher Items:Learning
System Folder:Launcher Items:Learning:MegaPhone 2.0 Tour

Preferences (these should be dragged from your old System Folder **)
System Folder:Preferences:Cypress

System suitcase
The System suitcase contains "ring" sounds which are used by MegaPhone and the Apple Telecom software. Open the System suitcase in the source System Folder and drag the individual "ring" sounds to the new System Folder and drop them into the System suitcase. You can verify what the sounds are like by double-clicking on them.

Apple Internet Connection Kit (AICK)
AICK is a collection of applications. However, there are some system-level extensions which some of these applications require. The following assumes you are using an "out of box" AICK environment, and that you have not added your own PPP client.

System Folder:Control Panels:Config PPP (Config PPP may not be present here; if it's not, it's OK)

System Folder:Extensions:Internet Config
System Folder:Extensions:PPP

Preferences (these should be dragged from your old System Folder **)
System Folder:Preferences:Internet Dialer folder
System Folder:Preferences:Internet Preferences
System Folder:Preferences:PPP Preferences
System Folder:Preferences:TCP/IP Preferences***

If you have installed OT/PPP, we recommend that you re-install OT/PPP from the original installer. Your preferences, after installation, can be found in
System Folder:Preferences:Remote Access

** Many Internet clients, like Netscape, store their preferences, including their bookmark files, in a folder bearing their name. This folder is also usually stored in the Preferences folder (exceptions include applications like Claris eMailer, which store them inside the application folder). You will need to determine what steps to take on a case-by-case basis. Please contact the manufacturer of the software if you need assistance.

*** Your computer originally ran Classic Networking. Mac OS 7.6 and/or 7.6.1, however, uses an networking architecture called Open Transport. Open Transport was available as an option under Mac OS 7.5.3 or 7.5.5. If you have an account with an Internet Service Provider, and did not already switch over to Open Transport while still running Mac OS 7.5.3 or 7.5.5, you will need to re-enter the information you originally entered into the Apple Internet Dialer or MacTCP. To do this, you will need to use the TCP/IP control panel. Please consult the setup information given to you by your ISP, or contact your ISP for further assistance.
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AppleScript and Date Value: Date of Current Date

According to the *AppleScript Language Guide* (p.44), a date value has the properties of "month", "weekday", and so on. One of these properties is "date" which is described as "a string that consists of the date portion of the date value, for example 'June 3, 1993'." Given this, why can we not get the date of (current date)?

Example:
the weekday of (current date)
--> Tuesday
the month of (current date)
--> January
the day of (current date)
--> 21
the date of (current date)
--> cannot get date of date "Tuesday, January 21, 1997 1:36:57 PM"
This article has been archived and is no longer updated by Apple.
This is a known problem and was documented in the Language Guide Errata document which ships in the AppleScript product box. An the excerpt from the document includes the answer to your question as well as some information about the day property which was omitted.

AppleScript Language Guide Errata

Page 44

Date property replaced: The 'date' property for date-time values as described on page 44 of the AppleScript Language Guide has been replaced by two properties: 'date string' and 'time string'. Their behavior is as follows:

date string: This property returns the date portion of a date-time value as a string, formatted according to the Date & Time Control Panel. For example:
date string of date "Monday, January 3, 1994 2:35:00 PM"
--> "Monday, January 3, 1994"

time string: This property returns the time portion of a date-time value as a string, formatted according to the Date & Time Control Panel. For example:
time string of date "Monday, January 3, 1994 2:35:00 PM"
--> "2:35:00 PM"

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Day property omitted: The 'day' property for date-time values was omitted from page 44 of the AppleScript Language Guide. It's function is to return the day of the month as an integer, or allow the day of the month to be set for a date-time value. Examples:

day of date "Thursday, February 3, 1994 12:00:00 AM"
--> 3

set myDate to date "Thursday, February 3, 1994 12:00:00 AM"
set day of myDate to 17
myDate --> date "Thursday, February 17, 1994 12:00:00 AM"

If a value which is too large to fit into that particular month is assigned to a date-time value, the date will roll over into the next month:

set myDate to date "Thursday, February 3, 1994 12:00:00 AM"
set day of myDate to 37
myDate --> date "Wednesday, March 9, 1994 12:00:00 AM"
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AIX: Mounting a CD-ROM Drive

How do I mount a CD-ROM drive on a Network Server 500 or 700 in AIX?
This article has been archived and is no longer updated by Apple.
First you must create an entry in /etc/filesystems, and then use the mount command.

To create the entry in /etc/filesystems follow these steps:

1. enter SMIT with the command "smitty" and then navigate the menus as follows:
choose System Storage Management (Physical & Logical Storage), choose File Systems, choose Add/Change/Show/Delete File Systems, choose CDROM File Systems, choose Add a CDROM File System.
2. This brings you to the screen to specify information about the filesystem.
Press F4 to get a list of valid devices to choose from to enter into the Device Name field; cd0 is the built-in CD-ROM device. For the Mount Point field, enter "/mnt" if you will be mounting this CD-ROM temporarily, like for a software installation. Choose some other valid directory name that better describes the compact disc's contents if you will usually have a specific compact disc mounted from an additional CD-ROM drive that has been added to your system.
3. After the command completes, exit smitty. You then finish mounting the compact disc by issuing the command
`mount <mount point name>` (Where <mount point name> was /mnt or some other directory specified in smitty.)
4. At this point, you should be able to list the contents of the top-level directory structure of the compact disc with the command:
`ls <mount point name>`

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Energy Saver Control Panel: Theory of Operation

This article explains how the Energy Saver control panel works.
This article has been archived and is no longer updated by Apple.
Apple designed the human interface in such a way as to allow the most precise shutdown while still maintaning an understanding of the fact that users may want to work late and not be interrupted. So, the shutdown at a specified time sequence is as follows:

Stage 1

Fifteen minutes prior to shutdown, Energy Saver notifies the user that they scheduled the computer to shut down at a certain time. We then give them the option to cancel the shutdown, postpone it by 1 hour, or to simply go ahead and shut down.

Assuming the user is there, they make their selection and everything is fine. If the user is away from their computer, the dialog will dismiss itself (disappear from the screen with no action taken) after 5 minutes.

After this initial notification, which can be disabled under the Preferences menu, the computer then makes a best faith effort to determine if the user is actually done using the machine. If the computer is idle for 5 minutes, then Energy Saver assumes that you are done for the day.

Stage 2

Ten minutes prior to shutdown, the computer starts a vigil to wait for 5 minutes of idle time in one stretch. If the computer is idle for 5 minutes, it will assume that it can shut the computer down and moves on to stage 3.

Stage 3

After 5 minutes of idle, no sooner than 5 minutes prior to the scheduled shutdown time, the computer puts up a countdown dialog that informs the user of the impending shutdown. The user then has the option of cancelling the shutdown, or postponing it by 5 minutes (or more).

If the user chooses to cancel, nothing further happens.

If the user chooses to delay 5 minutes, Energy Saver simply reverts back to stage 2, waiting for a 5 minute idle window.

If the user does nothing, Energy Saver moves on to stage 4.

Stage 4

The Finder sends quit events to all open applications and shuts the computer down.

Now, the intention is that the user sees the first dialog and know the shutdown is coming. The second dialog is not really designed to be seen since presumably the user has gone.

There is one caveat that should be pointed out. If you are in Energy Saver, and you schedule a shutdown that is less than 15 minutes away, the Energy Saver control panel adjusts the times accordingly for TODAY only. For example, if it is 4:50 PM and you pick 5:00 PM, it shuts down at 5:06 PM today, but 5:00 PM from then on. This allows the proper staging of the above mentioned dialogs box messages.

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AIX: Installing Additional Device Software

This article describes the installation of additional device software on AIX.
This article has been archived and is no longer updated by Apple.
AIX uses the configuration manager to configure devices, however, if the device does not exist, it will never be configured. You can install additional device software by running "cfgmgr" and tell it where the additional device software is located. On an AIX installation CD, the device software is located in the following directory:

/usr/sys/inst.images

Below is an illustration for installing a 100 MB Ethernet card:
If you purchase a 100 MB Ethernet card after installing AIX, and you knew the device software for the Ethernet card is on the AIX installation CD in the /usr/sys/inst.images, run this command to automatically install the device software.

1. Create a CD-ROM file system with /mnt as the mount directory: "smitty cdrfs" will take you to the correct menu
2. Place the AIX installation CD in the CD-ROM drive and type "`mount /dev/cd0`"
3. Type "`cfgmgr -i /mnt/usr/sys/inst.images`", or if you want to see what cfgmgr is doing.type "`cfgmgr -vi /mnt/usr/sys/inst.images`"

When cfgmgr polls the bus where the 100 MB Ethernet card resides, and was able to correctly identify it, cfgmgr will attempt to install the correct driver through an installp installation.
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Megaphone 1.0.3P: What does it install?

What files does the Megaphone 1.0.3P Updater install?
This article has been archived and is no longer updated by Apple.
Apart from installing the Megaphone 1.0.3P application, the installer also installs the following files in your System Folder:

Control Panels -> Telephone Setup (version 1.0.1)
Extensions -> CRC TelePort TelTool (version 2.1)
Launcher Items -> Megaphone (alias)

The Megaphone 1.0.3P Updater does not install a new Telephone Manager extension in the Extensions Folder.

Note: Depending on your Performa, some lower-level extensions may not change. For example, Telephone Setup does not change if the Update is installed on a Performa 6300, but it will change if installed on a Performa 5215.
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AICK: MacTCP, TCP/IP, Config PPP Will Not Keep Settings

These three symptoms all have the same cause:

- I'm using the Apple Internet Connection Kit (AICK), and MacTCP is not keeping its settings. I keep changing them in MacTCP, but they are changed back to previous settings?
- I'm using AICK, and Config PPP is not keeping its settings. I keep changing them in Cofig PPP, but they are changed back to previous settings?
- I'm using AICK, and TCP/IP is not keeping its settings. I keep changing them in TCP/IP, but they are changed back to previous settings?

This article has been archived and is no longer updated by Apple.
Here are five areas to check to solve what you are experiencing:

1. Be sure you are using the Apple Intenet Dialer and not MacTCP, TCP/IP, or Config PPP control panels to make their modifications.
2. Be sure you are filling in every server address blank in the "Define Provider Information" fields.
3. Make sure the System Folder is not locked. Look in the General Controls control panel at the Folder Protection section.
4. Throw the "Internet Dialer Prefs," "reg server," and "modem information" files in the Trash. Their location is as follows: System Folder/Preferences folder/Internet Dialer folder.
5. Launch the Internet Dialer and proceed by filling in the information again.

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AIX: Cannot Unmount CD or File System

I created a new file system but now I cannot unmount it. What can I do?
This article has been archived and is no longer updated by Apple.
Typically, if you start a program that resides in a file system and try to unmount the file system, it will fail to unmount. To kill any processes using a file system you can type:

```
fuser -k /dev/cd0
```

The above command will kill any processes using the cdrom file system.

To kill all processes using a logical volume / JFS named /dev/lv01 typing:

```
fuser -k /dev/lv01
```

If you do not know which logical volume is associated with a file system, type

```
mount
```

Published Date: Feb 18, 2012

Open Transport/PPP: Where Are Preferences and Password Stored?

I suspect that the preference file for the Open Transport/PPP control panel is corrupt. However, there is nothing in my Preferences folder called "Open Transport/PPP Preferences." Where are these settings stored? Also, where is the Open Transport/PPP password stored?
This article has been archived and is no longer updated by Apple.
The Open Transport/PPP preferences information is stored in a file named Remote Access Connections. The path to the file is System Folder:Preferences:Remote Access:Remote Access Connections.

Open Transport/PPP stores the password in the Remote Access Connections file mentioned above. Should you forget the password (which is set by selecting administration in the PPP control panel), simply close the PPP control panel, remove the Remote Access Connections file and launch the PPP control panel again. A restart is not necessary.
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MacX 1.5: Some BDF Fonts May Require Retranslation (6/97)

This article describes an issue with MacX and some BDF fonts.
This article has been archived and is no longer updated by Apple.
Some BDF (bitmap distribution format) fonts that worked properly with MacX 1.2 may not import properly into MacX 1.5. These may be fonts provided with X-windows applications that have long been industry standards. This has been shown to be the case with .bdf fonts provided for use with Mentor Graphics' electronic design software.

In this case, the fonts may seem to import properly, but upon attempting to connect to a client that uses them, any of the following may occur to the server:

- Going to MACSbug with an unmapped PowerPC Memory Exception,
- The computer freezing,
- A MacX error about unmapped or invalid elements in a font directory.

This can be resolved by using a UNIX hosts' utilities to convert the font files to a different X-standard format, such as PCF. Then re-importing the directories into MacX or SNF, and using the snf2bdf conversion utility prior to importing into MacX.

It is reported that Mentor Graphics is aware of the issue.

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Macintosh: Startup Sequence with Mac OS 9 and Earlier

This document explains the startup sequence your Macintosh computer uses with Mac OS 9 and earlier. Knowing how this sequence works can sometimes help troubleshoot startup symptoms.
This article has been archived and is no longer updated by Apple.
With Mac OS 9 and earlier, the Macintosh startup sequence has eight steps:

1. Turn on the computer.
2. Hardware self-test.
3. Mac OS starts up.
4. Search for a startup disk.
5. System file is found and opens.
6. System extensions load.
7. Finder opens.
8. Startup Items open.

If your computer will not start up, try isolating the symptom to one of the specific steps.

Step 1: Turn On
When you turn on the computer, the power supply sends voltage to the logic board's electrical circuits, initiating the startup sequence. You should hear the fan and power supply turn on. If absolutely nothing happens, make sure the computer is plugged in. Check the power outlet. Make sure all the cables are securely connected.

Step 2: Hardware Self-Test
After the computer is turned on, different "managers" in the computer's read-only memory begin to function. The first is the Start Manager. It makes sure that certain hardware components on the computer's logic board are working, including the microprocessor, read-only memory, drives, ports, expansion slots, and memory (RAM).

The startup sound you hear when you turn on the computer indicates that the Start Manager has successfully completed its tests. You will also see the raster (gray desktop) on the screen, along with the pointer.

If one of the Start Manager tests fails, you may

- hear a series of tones (sometimes called "error tones" or "death chimes")
- see a "sad Macintosh" icon on the screen

The kind of tones you hear will vary depending on the Macintosh model, and on the kind of component(s) that failed the test.

If you hear these tones or see a "sad Macintosh" icon on the screen, contact Apple or an Apple Authorized Service Provider for further troubleshooting.

Step 3: Mac OS Starts Up
In this step, the operating system creates and reserves for itself a portion of the RAM. This area is called the system partition.

Step 4: Search for a Startup Disk
Next, the Start Manager looks for a startup device, usually a disk drive, where the System file is stored. You choose this disk in the Startup Disk control panel. Your selection is saved in the computer's parameter memory (PRAM). If this disk is available, the startup icon appears.

If the disk you chose is not available, the Start Manager searches the system bus(es) for startup devices. (See Note 1). When the Start Manager finds a startup device with a System file, the "happy Macintosh" startup icon appears.

If no startup disk containing a System file is found, you will see either: a flashing "?" icon, or a flashing "X" icon. Either icon means that something is preventing the System file from ending up where it is supposed to be--in the sub-area of the system partition called the system heap. This symptom could be caused by a software fault--perhaps the System file is not on the startup device, or it could be there but in an unusable state. It could also be caused by a hardware issue--maybe the System file is on the disk but the disk is unusable. Other possible causes include: SCSI configuration, unusable PRAM, and third-party software. For further troubleshooting help with this symptom, see:

Document 58042: "**Macintosh: Flashing Question Mark at Startup**"

Step 5: System File Is Found and Opens
When a valid System file is located, the System file, and any ROM updates are loaded into the system heap. Other managers are initialized. If this

step is successfully completed, then the "happy Macintosh" icon is replaced by the "Welcome to Mac OS" window.

If the computer stops responding, or restarts unexpectedly during this step, suspect a missing or unusable System file. You may need to reinstall the system software.

Step 6: System Extensions Load
Other resources are loaded into the system heap as the Start Manager searches through the System Folder's Extensions folder and Control Panels folder. Finally, any extensions found at the root level of the System Folder (the level displayed in the System Folder window when you open the System Folder) are loaded.

If all goes well, icons representing extensions and control panels appear along the bottom of the screen as they are loaded.

Pay close attention to this display as it may help you in troubleshooting. The icons should appear in this order:

1. system extensions in the Extensions folder, in alphabetical order
2. control panels in the Control Panels folder, in alphabetical order
3. extensions loose in the System folder, in alphabetical order

If the computer stops responding, or restarts unexpectedly during this step, suspect conflicting or unusable extensions or control panels. See document 30929: "**Mac OS: Extension Conflict Troubleshooting/Extensions Manager Features**".

Step 7: Finder Opens
The Process Manager loads the Finder into the system heap. When this step completes successfully, the desktop environment with all its icons appears on the screen.

If an alert box appears before the desktop appears, or if it appears while any disks connected to the computer are appearing on the desktop, the computer's hard disk(s) may have an issue. Contact Apple or an Apple Authorized Service Provider for further troubleshooting.

If you see an alert box with the message: "Can't load the Finder!", there may be too many system extensions, not enough RAM, or damaged software. Alerts at this point may also indicate issues with the boot blocks on the startup device. Try reducing the number of extensions, and eliminating an extensions conflict. See document 30929: "**Mac OS: Extension Conflict Troubleshooting/Extensions Manager Features**".

If this does not work, try reformatting the hard disk and reinstalling the system software. **Warning:** Reformatting the hard disk will erase all of its contents. Make sure you have backed up all the files you want to keep before reformatting the hard disk.

Step 8: Startup Items Open
The Finder opens any applications or aliases in the Startup Items folder.

Notes

1. If the computer has floppy disk drive(s), the Start Manager looks at the first internal floppy drive, then the second internal floppy drive, and finally an external floppy drive. In dual floppy drive systems, the first drive is the right or lower one.

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Apple Internet Mail Server: QUALCOMM‘s Eudora Division

This article contains important information about the Apple Internet Mail Server (AIMS) and QUALCOMM Incorporated.
This article has been archived and is no longer updated by Apple.
QUALCOMM Incorporated has announced an agreement with Apple Computer Inc. to develop and distribute the Apple Internet Mail Server, a freeware Macintosh-based electronic mail server designed for managing messages across the Internet. The product has been renamed the Eudora Internet Mail Server for Macintosh and will continue to be made available free of charge.

QUALCOMM has stated that its Eudora division intends to provide a commercial version of the Eudora Internet Mail Server for Macintosh as part of its WorldMail Server product family. The Eudora division will provide product development, including support for future versions of the Macintosh operating system. Specific features, availability and pricing for the commercial version are not yet available.

The Eudora Internet Mail Server for Macintosh lets users send and receive e-mail over the Internet from any client that supports the Simple Mail Transport Protocol (SMTP) and Post Office Protocol version 3 (POP3), such as Eudora Pro? and Eudora Light? for Macintosh and Windows?. The Eudora Internet Mail Server for Macintosh also supports Password server and NotifyMail. Other features include support for Open Transport and extended SMTP extensions (CRFC 1869, STD10)

The freeware version of the Eudora Internet Mail Server is now available for downloading at the following URL:
<**http://www.eudora.com/freeware/servers.html**>

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Macintosh Performa 6x00-Series Sound Input Q&A

This article provides answers to questions about the Macintosh Performa 6400 and 6500 series computer sound input.
This article has been archived and is no longer updated by Apple.
Question: Can I connect any external microphone to my Performa 6400?
Answer: Use only the Apple PlainTalk Microphone. Non-Apple microphones should not be connected to the Performa 6400. If a microphone that outputs a mic level signal is used with a Macintosh that requires a PlainTalk Mic, the signal produced from the microphone will be too low and will result in noise and distortion.

Question: The Monitors & Sound control panel contains three sound sources. What are they and when do I use them?
Answer: Here is an explanation of the three sound source settings:

1. External Microphone - This should be selected when a PlainTalk Microphone is attached.
2. TV/CD/Video - The sound input from these are all internal. Select this when you want to record from a TV Tuner card (if present), the internal CD-ROM, or a video input card (if installed).
3. Line Level Input - This should be selected when you want to record from an external line level device, such as, a VCR, CD Player, cassette deck, or the tape-out outputs from a stereo receiver, and so on.

Question: Why do I need to select Line Level Input in the Monitors & Sound control panel on the Macintosh Performa 6400 and 6500 computers?
Answer: When Line Level is selected it tells the Macintosh computer that the device that is being connected has a pre-amplified signal. Therefore, the computer does not have to amplify the signal coming in.

Question: When I try to select Line Level Input in the Monitors & Sound control panel, my computer beeps and changes back to External Microphone. Why?
Answer: When an application uses the sound channel, the settings cannot be changed. You should quit the application that currently is using the sound channel, and then change the settings. If you cannot change the settings then quit all applications and attempt to change the settings again. If you still cannot change the settings, try restarting your computer.

Question: Is there any way I can adjust the sound recording gain?
Answer: There is no way to adjust the sound recording gain with any system software control panel device. However, depending on which sound recording application you are using, you may be able to adjust the sound recording gain from that application.

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Workgroup Server: Apple Internet Server Solution Product Matrix

This article provides a product matrix for the Apple Internet Server Solution (AISS) for the World Wide Web.
This article has been archived and is no longer updated by Apple.
Product Matrix for versions 3.0, 2.0, and 1.0

PRODUCT	CHANGE	AISS 3.0	AISS 2.0	AISS 1.0
Open Door LogDoor	NEW	1.1	-	-
Stairways MacTCP Watcher	NEW	2.0	-	-
Maxum PageSentry	NEW	2.1	-	-
Everywhere Tango Ent. Server	NEW	2.1.1	-	-
Everywhere Butler SQL	NEW	2.1.2	-	-
Maxum Rumpus (FTP Server)	NEW	1.0	-	-
GoLive CyberStudio	NEW	1.0	-	-
Clearway FireSite Speed Booster	NEW	1.0	-	-
Clearway FireSite Virtual Domain Manager (VDM) MultiHoming	NEW	1.0	-	-
Claris HomePage	NEW	2.0	-	-
Adobe Acrobat Reader	NEW	3.0	-	-
StarNine WebStar	UPDATED	2.0.2	1.2.5	1.0
Adobe Acrobat	NO CHANGE	-	2.1	2.0
Adobe PageMill	NO CHANGE	-	1.0.1	-
AppleSearch	NO CHANGE	-	1.5	1.5
AppleSearch Patch	NO CHANGE	-	1.5.1	-
AppleSearch ACGI	NO CHANGE	-	1.5.1	1.5
MacDNS	UPDATED	1.0.4	1.0.1	1.0
Kitchen Sink Software's ServerStat	NO CHANGE	-	1.0.5	-
Maxum Development's NetCloak	UPDATED	2.1.1	2.0	-
Open Door Network's HomeDoor	NO CHANGE	-	1.1	-
Netscape Navigator	UPDATED	3.0.1	2.0	1.1
Progressive Networks' Real Audio Server	NO CHANGE	-	1.0.1	-
ACME Script Widgets	NO CHANGE	-	2.0	2.0
AppleScript	NO CHANGE	-	1.1	1.1
HyperCard	NO CHANGE	-	2.3.4	2.2.1
HyperCard ACGI	NO CHANGE	-	2.3.4	2.2.1
Bare Bones Software BBEdit	UPDATED	4.0.4	3.5.2	3.1.1
WebMap	NO CHANGE	-	1.0.1	1.0.1
MapServe ACGI	NO CHANGE	-	1.5	1.0
MacTCP Ping	OMITTED	-	-	2.0.2
Dartmouth College MacPing	NO CHANGE	-	3.0.5	-
Eric Lease Morgan's email CGI	NO CHANGE	-	3.0.4	1.0.2
DecodeURL OSAX	NO CHANGE	-	1.0	1.0
TCP/IP OSAX	NO CHANGE	-	1.2	1.2
FileMaker Runtime & FileMaker CGI	NO CHANGE	-	-	-
Tango & Butler SQL Demo (databases limited to 100 records)	NO CHANGE	-	-	-

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Apple Color OneScanner: Performance Variables

This article provides information on performance variables with the Apple Color OneScanner Dispatcher software.
This article has been archived and is no longer updated by Apple.
The time required for the OneScanner Dispatcher to scan an high resolution image, using many of Dispatcher's image handling options, can range from under a minute to 10 minutes, or may take an hour when scanning with an older Mac OS-based computer. Generally the time required for Dispatcher to scan an image is directly proportional to the following:

- the relative performance of the Mac OS-based computer used,
- the resolution of the scan,
- the amount of memory provided to the application.

Relative Performance of the Mac OS-based Computer
A Mac OS-based computer with a faster processor, SCSI, I/O, and drive provides faster scans. An older Mac OS-based computer may be significantly slower scanning the same image with the same application settings.

Resolution of the Scan
Performance can varies if you use all or combinations of the Automatic image handling options such as Suggest Crop, Adjust Tone, and Straighten. If the scanned image's destination is the Apple Color 12/660 printer, set the resolution to 150. If the Destination is the Display, set the resolution to 75.

NOTE: Both of the resolution suggestions above are not only the likely optimal resolutions, but those suggested by Dispatcher.

Memory Provided to the Application
When scanning high Resolution imagines in combination with using some or all of the image handling options, increase the Dispatcher application's Preferred size in the application's Get Info window. To increase an application's Preferred size, click on the application, then choose Get Info from the File menu.

Conclusion
To increase scanning speed use a newer or faster Mac OS-based computer, scan the image at the appropriate resolution to meet your requirements, and increase the Preferred application memory size when scanning at high resolution and with the image handling options.

Also, if you are exporting the file scanned by Dispatcher to other programs, it may be faster to scan images directly into applications compatible with Adobe Photoshop plug-ins. The Apple Color OneScanner software ships with the plug-in "Apple Color OneScanner" for this purpose.

Examples
Knowledge of these performance variables can help you determine the most appropriate system configuration and application settings to use for your work environment. Examples of some of these variables follow:

	Minutes
Power Macintosh 6150 with System 7.6; Dispatcher Preferred Size of 4MB	
Color, Destination: Color 600, Resolution 320:	15:08
Same with Auto image features:	56:49
Power Macintosh 6150 with System 7.6; Dispatcher Preferred Size of 18MB	
Same with Auto image features:	34:24
Power Macintosh 6500 with System 7.5.3, Dispatcher Preferred Size of 4MB	
Color, Destination: Color 600, Resolution 320:	3:14
Same with Auto image features:	10:17
Power Macintosh 6500 with System 7.5.3, Dispatcher Preferred Size of 18MB	
Color, Destination: Color 600, Resolution 320:	3:12
Same with Auto image features:	3:25

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Mac OS 8: Clean Installation Instructions for Performa Computers

This article describes performing a clean installation of system software on a Performa computer.
This article has been archived and is no longer updated by Apple.
Mac OS 8 installers do not install GeoPort software, or most third-party software which came bundled on the Performa product line. You must perform a clean installation of the original bundled software, then install Mac OS 8.

Follow these steps to perform a clean installation on any of the Performa systems. For additional information see article 17768: "**System SW Clean Restore: Macintosh Performa Computers w/CD**":

1. Insert the Apple Performa CD and restart the computer.
2. After you hear the startup chime, press and hold the "C" key.
3. Run the Disk First Aid application.
4. Disable the System Folder. To disable the system folder move either the System, or Finder files from the System Folder. Once one or both of these file are removed rename the System Folder to something like "Storage".
5. Restore original software bundle by clicking Restore All Software in the Launcher.
6. Verify the newly installed system software works by restarting your computer from the hard disk.
7. Choose the Chooser from the Apple menu and make AppleTalk active. This eliminates issues from occurring when starting from the Mac OS 8 CD-ROM disc.
8. Insert the Mac OS 8 CD and restart the Performa. After you hear the startup chime, press and hold the "C" key.
9. After the Software Restore procedure is completed, check to see if Megaphone has been installed. If so, you should update your Apple Fax software using the Apple Telecom installer for Serial Modems located on the Mac OS 8 CD. The path to this software on the CD is: Mac OS 8 ->CD Extras ->Apple Telecom ->Serial Modems ->Installer. Open the installer and perform an Easy Install.
10. If your Performa does not include Megaphone, it likely has a GeoPort Telecom Adapter (either internal or external) and you should perform an Easy Install of the Apple Telecom software for Geoport/Express Modems. This installer includes the Apple Phone application, which should not be installed on computers which include Megaphone. The path to this software on the Mac OS 8 CD is: Mac OS 8 ->CD Extras ->Apple Telecom ->GeoPort/Express Modems ->Installer. Open the installer and perform an Easy Install.
11. If you are using an Apple GeoPort modem, you should also update the Telecom software to version 3.1.3, which can be found on the Mac OS 8 CD. The path to this software on the CD is: Mac OS 8 ->CD Extras ->Apple Telecom ->GeoPort/Express Modems ->Net Install ->Apple Telecom Disk 1 ->Installer.
12. Open the installer and perform a custom installation by selecting the appropriate software for your internal or external GeoPort, Fax software, and the Apple Address Book. The reasoning for this is to keep Apple Phone from being installed. Apple Phone and Megaphone conflict so by not installing Apple Phone, you can avoid further issues.

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Mac OS 7.6.1: 1710 Series Monitors Lose Resolutions

Resolutions are lost after installing Mac OS 7.6.1 on NuBus-based Power Macintosh computers with 1710-series AppleVision Displays connected to the AV Display Connector. This problem also occurs on the High Performance Video card for Non-AV Power Macintosh 7100 and 8100 computers. There may be other AV cards that exhibit this problem.
This article has been archived and is no longer updated by Apple.
The resolution loss can occur with Power Macintosh 6100, 7100, or 8100 computers that have an AppleVision 1710 or 1710AV display connected to the AV Display Connector. All resolutions above 640 x 480 are no longer selectable. The display is still recognized as an AppleVision display, and all of the other AppleVision features still function (color calibration, geometry settings, and so on).

Apple Display software addresses this issue. It can be downloaded from Apple Software Updates sites. (Apple Display software supercedes and replaces AppleVision software as of version 1.5.3 of AppleVision software.)

These articles can help you locate the software update mentioned here:

"Where to Find Apple Software Updates" - Lists online services for free Apple software updates.

"Obtaining Apple Product Support in the USA" - Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech Info Library.
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Mac OS 7.6.1: 5400/6400 With L2 Cache Turned Off

A problem was found on Power Macintosh 5400 and 6400 computers with a Level 2 cache. This problem will also occur on Mac OS-compatible computers that have Level 2 cache and are based on the same logic boards as the 5400 and 6400.

After installation of Mac OS 7.6.1, the Level 2 cache is inadvertently turned off. This is an existing problem with Mac OS 7.6 in cases where the 54XX/64XX Update extension is installed.
This article has been archived and is no longer updated by Apple.
This problem can also appear after installing Mac OS 7.6.1 Update or after installing 54xx/64xx Update 1.1. Apple is aware of the situation, and there is a solution. A software fix titled "54xx/64xx L2 Cache Reset" has been posted to Apple software update sites.

Use of the software fix requires a Power Macintosh or Performa 6360/54xx/64xx computer with either of the following installed:

- Mac OS 7.6.1 Update, or
- "54xx/64xx Update 1.1" with System Software 7.5.3 or later.

The "54xx/64xx L2 Cache Reset" software fix corrects a problem which disables the L2 cache feature on some Performa and Power Macintosh computers with a Level 2 cache. The fix also works on Mac OS-compatible computers whose logic boards are based on Apple's design. With the 54xx/64xx L2 Cache Reset" software fix, the affected computer's Level 2 cache is enabled and performance is improved.

The Tech Info Library article titled "54xx/64xx L2 Cache Reset: Read Me" offers more information on this software fix.
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Apple Telecom 3.0: Apple Serial Modem Read Me

This article is the Apple Serial Modem Read Me file which is part of Apple Telecom 3.0 software.
This article has been archived and is no longer updated by Apple.
Software included in your package

Your package includes Apple Serial Modem software for use with the following computers:

- PowerBook 5300 series
- PowerBook 3400 series
- PowerBook 1400 series
- PowerBook 500 series equipped with a PCMCIA Expansion Module rev C and PowerPC processor upgrade

Supported Data/Fax Modems

PowerBook 3400 Internal Modem

PC Card PSTN (Public Switched Telephone Network) modems for use in the United States:

Dayna CommuniCard Data/Fax Modem 28.8 PC2288
Dayna CommuniCard Data/Fax Modem 28.8 PC1288
Dayna CommuniCard Plus Ethernet/Modem PC3288
Global Village PowerPort Platinum Pro PC Card
Global Village PowerPort Platinum PC Card
Global Village PowerPort Gold PC Card
Megahertz CruiseCard 28.8 PC Card Fax Modem
Zoom/PC Card FaxModem V.34C Plus
TDK CyberExpress 3000
TDK DataVoice 3400 APB

PC Card PSTN modems for use in Europe:
Global Village PowerPort Platinum PC card
TDK DF2814APB Global Class

US Robotics Rio V.34

PC Card mixed PSTN/GSM modems for use in Europe:

COM1 Data/Fax Card 28.8 V.34 MC218 with handsets:

- Alcatel HC1000
- Panasonic G350, G400, G500
- Siemens S4, Sony DX1000

Dr. Neuhaus FURY Card 19.2 Duo with handsets:

- Siemens S3, S4

Option Intl. GSM-ready PC Card modem with handsets:

- Ericsson GH388
- Panasonic G350, G400, G500
- Siemens S3, S4

Motorola Communicate CELLect 2 with handsets:

- Motorola 8400, 8700, D460

PC Card GSM cellular data cards for use in Europe:

Nokia DTP-2 Vers. 2 with handsets:

- Nokia 2110, 8110

Ericsson Mobile Office DC-23 with handset:

- Ericsson GH388

Motorola Atlas GSM Plus with handsets:

- Motorola 8400, 8700, D460

Dr. Neuhaus Gipsy with handsets:

- Siemens S3, S4

Siemens GSM Modem Card with handset:

- Siemens S4

PC Card modems for use in Japan:

Hucom Simple 288 PC Card for Macintosh
TDK DF3314EX PCMCIA Data/Fax Modem
Omron ME2814C-M Fax/Data Card modem
Ratok System REX-5568M

Panasonic TO-CAF288MC FAX & DATA Modem Card

The Apple Serial Modem software may be compatible with other Fax Class 1-compatible and Class 2-compatible modems, and other Macintosh models. The software has been specifically qualified for compatibility with the modems and PowerBook models listed above.

The Apple Serial Modem control panel provides useful information on the status of the modem and the programs using it. Refer to it for status information or if you have a problem using your modem.

Known Incompatibilities

Dayna Communicard Plus (combo card) When using this card with PowerBook 5300 series models, you should verify the Apple Fax auto-answer preference setting after each restart.

Megahertz CruiseCard 28.8 PC Card Fax Modem When using this card with PowerBook 5300 series models, you should use the upper slot.

TDK DF2814APB card If you experience problems receiving faxes when using this card, be sure that you are using firmware version 2.1.32A/xx or later.

Global Fax software for Global Village PowerPort PC Cards This software cannot be used at the same time as Apple Telecom software on a PowerBook 500 model. When using the Global Village PowerPort Platinum and Platinum Pro PC Card modem, you must choose one software package or the other. Both are compatible with the modem, but they cannot work together.

LocalTalk and modem use

If your PowerBook computer is connected to an AppleTalk network by a LocalTalk connection and you are using your modem for data connections with serial speed setting (between your communications program and the modem) higher than 19200 bps, you should turn off AppleTalk in the Chooser to avoid possible data loss during connections.

Inserting and Removing PC cards

Do not manually eject a PC card (by using a paper clip) while your PowerBook is sleeping.
You can eject a card using the standard means when it is not in use. Make sure Apple Fax is not set to auto-answer and that the Data Port is not being used. The status field of the Apple Serial Modem control panel should indicate "The modem is not being used".

Apple Serial Modem software and Sleep

Your computer cannot detect incoming calls when sleeping. Wake on ring is not supported by the Apple PC Card Manager software. If you need this functionality, you can purchase third party devices that attach to your computer's ADB (Apple Desktop Bus) port to provide it.

Your computer will not go to sleep automatically while a fax is being sent or received, or when Apple Fax is set to auto-answer. If you manually put the computer to sleep by choosing Sleep from the Special menu or closing the cover of certain PowerBook models, communications are interrupted immediately without warning.

Apple Remote Access

If you have Apple Remote Access installed and you experience difficulties when using Apple Fax, remove the Serial Port Arbitrator from the Extensions folder in your System Folder.

If you are using Apple Remote Access over the GSM network, select the checkbox "Use MNP10 error correction in modem" on the ARA server. This helps to ensure a more stable connection.

If you are using Apple Remote Access over the GSM network, select the Apple Serial Modem GSM connection script in the Modem pop-up menu of the Apple Remote Access Setup window. This script is placed in the Extensions folder and in the Modem Scripts folder inside the Extensions folder by the Installer.

GSM Connection Kit Users

The Apple Serial Modem software includes support for GSM cellular data cards; it replaces the GSM Connection Kit software. If you were previously using GSM Connection Kit software, you should remove the GSM control panel from the Control Panels folder in your System Folder. The Easy Install option does this automatically. Use the Apple Serial Modem control panel for accessing your GSM card.

GSM network notes

Specific constraints of wireless systems

Due to the technical difficulties and constraints inherent in wireless systems, certain problems, such as disconnect during a call, are more likely to occur with wireless systems than with traditional PSTN systems. Similarly, because of the real-time constraints of the fax protocol, it is common for fax documents received from a GSM phone to have missing or blank lines.

In addition, transmission quality is further degraded when both ends of a fax or data connection are GSM phones, as opposed to a GSM phone and a fax machine or modem connected to the Public Switched Telephone Network.

Note: Using a GSM card that does not support error control for data connections is not recommended. Lack of error control is unreliable for services such as file transfer.

What goes where

When you install the software using the Easy Install option of the Installer, the following files and resources relating to Apple Serial Modem software are installed on your hard disk.

Hard Disk:

- Apple Serial Modem Read Me

Hard Disk: System Folder: Control Panels:

- Apple Serial Modem

Hard Disk: System Folder: Extensions:

- Apple Serial Modem Extension
- Serial Tool
- PC Card Modem Extension

Hard Disk: System Folder: Extensions:

- Apple Serial Modem (Apple Remote Access script)
- Apple Serial Modem GSM (Apple Remote Access script)

Hard Disk: System Folder: Extensions: Modem Scripts:

- Apple Serial Modem (Apple Remote Access script)
- Apple Serial Modem GSM (Apple Remote Access script)

Hard Disk: System Folder: System

· Bell Telephone (sound resource)
· Electronic Telephone (sound resource)

Where to look for Apple Serial Modem software updates

For the latest updates visit Apple Computer's World Wide Web site at: <**http://www.apple.com/**>
Published Date: Feb 18, 2012

Telecom Applications (Apple Serial Modem) Read Me

This article is the Telecom Applications (Apple Serial Modem) Read Me file.
This article has been archived and is no longer updated by Apple.
Apple Telecom Software

General

The Apple Telecom software includes three programs:

Apple Telecom Status
Apple Address Book
Apple Fax

System Requirements

This version of Apple Telecom is for use with PowerPC processor-based PowerBook computers running System 7.5 or greater.

Apple Telecom and 68K Macintosh computers

This version of Apple Telecom software is not supported on 680x0 Macintosh computers due to a bug in the CFM-68K Runtime Enabler extension. Apple Computer has recommended that customers with computers based on the 680x0 processor disable the CFM-68K Runtime Enabler extension and not use programs which rely on this extension.

If you have a 680x0 Macintosh computer, Apple Computer therefore recommends that you not install this version of Apple Telecom. If you are sure that you want to install some or all of the elements of Apple Telecom software on a 680x0 computer, you must use the Custom Install option, because the Easy Install option will not install the software onto a 680x0 computer. Under certain circumstances you may experience difficulties, particularly if you are using other software that uses the CFM-68K Runtime Enabler extension at the same time.

Software installation

Apple Fax Gateway is no longer supported by Apple Telecom. If Fax Gateway is present on your hard disk, the Installer removes it.

Apple Telecom Guide

Accessing Apple Telecom Guide

Apple Telecom Guide is available from the Guide menu whenever one or more of the Apple Telecom programs are active. At certain times, because of the number and sequence of active programs, you may need to choose Apple Telecom Guide twice from the menu in order to open it.

Apple Telecom Guide and your modem software

Apple Telecom Guide includes a Topic area called "Using the Modem" with information and instructions for configuring and using your modem software. Some of the questions and panels in this section apply to all modem control panels, while others are specific to a particular modem configuration.

Note: Because the modem control panels are a part of system software and not the Apple Telecom software, context checking and coach marks for modem control panel intructions may not behave in the same way as they do for program instructions. Be sure to follow the available instructions as they are presented in order to receive accurate help.

Apple Fax

Sending a fax with a calling card or credit card

WARNING If a calling card or credit card number is used when sending a fax, the card number along with the PIN is displayed on the fax cover page with the recipient's fax number. To avoid having your card number and PIN appear on the cover page, either send your fax without a cover page or delete the Recipient Fax Number field from your cover page before sending your fax.

Apple Fax program location

IMPORTANT The Apple Fax program is placed by the Installer on the startup disk. Do not move the program to another disk.

Special RAM requirements

- Using Optical Character Recognition (OCR) increases the System Memory requirement by 2MB.
- Using FastPrintTM increases the System Memory requirement by 1.5MB.

Changing date and time of your CPU

If you need to change the date and time of your CPU, do so before opening Apple Fax.

Removing fax storage folders

To protect your fax documents, the fax storage folders ("Fax Waiting To Be Sent," "Received Fax Documents," "Sent Fax Documents") are protected from accidental deletion. To bypass this mechanism, drag these folders to the trash, restart your computer, and then empty the trash. New, empty folders are created for you.

Large number of faxes in main window

It is recommended that you avoid maintaining a large number of faxes in the Apple Fax main window. If the main window contains more than approximately 200 faxes (sent and received combined), this can slow down screen refreshing whenever you switch views in the main window.

Fax Send recommendations

Enclosures When you send a fax using the Quick Fax window, make sure that the documents you enclose for sending are all set to the same page format: either US Letter or A4 Letter.

Do not enclose any document that cannot be opened by selecting it in the Finder and choosing Open from the File menu. If the document cannot be opened in this way, then Apple Fax cannot open the document for imaging. This applies to enclosures for Quick Fax and Apple Address Book Standard Mailer.

Small memory programs If you have trouble faxing an open document from a program with a small memory footprint, such as Stickies, increase the size of preferred memory. Select the program and press Command-I to display the program Info window, then increase the value in the "Preferred size" field.

Fax Receive recommendations

Page length It is recommended that you avoid receiving a fax where the page length is greater than the US Legal format (14 in./35.56 cm.). The program ignores anything on the last received fax page greater than this length.

Restart/Shut Down Do not initiate a restart or shutdown while receiving a fax. This will break the connection without saving the fax.

Fax reception over the GSM network If you are receiving a fax over the GSM network and you want to cancel it, make sure to use the Cancel button in Apple Telecom Status to cancel the fax. Do not cancel a fax by hanging up your GSM handset.

Note for Ericsson DC-23 users: If your card carries serial number KRY 105 141, it is not recommended to cancel an incoming fax. If you do, you may need to reset the card by ejecting it and then reinserting it into your PowerBook computer. If your card carries serial number KRY 105 151 or KRY 105 138, then this problem does not occur. For information about upgrading your card, contact your Ericsson service provider.

Fax Sender GX recommendations

Sending Read Only files by Fax Sender GX To send a Read Only file by Fax Sender GX, open the file and choose Print from the File menu. You cannot use drag and drop to send a Read Only file.

Setting preferences during a connection

Attempting to change the Apple Fax preferences while there is fax activity is not recommended, as changes will not take effect until fax activity is completed.

Apple Address Book

Converting old address books

The Installer preserves the Fax Terminal and AppleTel address book in a file called "Fax Addresses." This file is located in the Preferences folder inside the System Folder. Use the Address Book Translator program to convert this file to a new address book. The Address Book Translator is located in the Other Address Book Items folder inside the Address Book Folder inside the Telecom Applications folder.

When you double-click its program icon, the Address Book Translator displays a standard file dialog for choosing a file to convert to the new

Apple Address Book format. When you click OK, the file is converted and the new address book placed in the Address Book Folder.

Faxing an address book

Faxing an address book works the same way as printing from an address book. That is, you can fax either the entry list or the detailed information for the selected entry, depending on which panel is active.

To fax detailed information for several entries, export the information you want to a text file, then fax the file.

Optimizing an address book

You may want to optimize your address books from time to time, especially after several entry deletions.

To optimize the address book file, close the address book by holding down the Option key and choosing Close from the File menu. You can then reopen the address book.

Using an address book located on a server

It is not recommended to open or use an address book located on a server.

Setting Location preferences for France and French phone numbers

The new numbering system for French telephone numbers-effective 18 October 1996-divides the country into five regions, numbered 01 through 05. This 2-digit code precedes the 8-digit local number, making all calls within France 10-digit numbers, including calls within the same region.

Within France it is no longer necessary to use the code 16 for long distance calls, since the region code identifies the location of the number. International calls from France now begin with 00, like all other European telephone services, instead of 19. International calls to France require the country code (33), the region code minus the 0 (ie., 1 through 5), and the 8-digit local number.

In updating your address books and Location settings, replace 19 in the International Access Prefix field of the Location preferences with 00, but leave the In-Country Access Prefix field blank. Enter the entire 10-digit number in the Number field of Telephone, Fax, and Pager numbers. Apple Address Book will display the correct dial string for all calls. For international calls, the initial 0, if there is one, is dropped from the number entered in the Number field.

Apple Telecom Installer: Custom remove

If you want to use Custom Remove in the Apple Telecom Install window, it is recommended that you first restart your computer with extensions off.

What goes where

When you install the software using the Easy Install option of the Installer program, the files and resources listed below relating to the Apple Telecom software are installed on your hard disk.

Note: To find out where the Installer places the files related to your modem software and hardware, see the Apple Serial Modem Read Me included in your installation.

Hard Disk:

- SimpleText version 1.3.1
- Telecom Applications ASM ReadMe

Hard Disk: Telecom Applications: Address Book Folder:

- Apple Address Book (ppc) (Power Macintosh computers only)

Other Address Book Items:

- Address Book Translator
- My Import File

Hard Disk: Telecom Applications: Fax Folder:

- Apple Fax

- My First Fax
- My First Apple Fax Script

Cover Pages Folder:

- Standard Cover Page
- Sample Cover Page

Hard Disk: System Folder: Mimetics:

- EasyReader Fax
- Neuroneye
- US Dictionary
- Country-dependent Dictionary

Hard Disk: System Folder: Extensions:

- AddressBookLib.ppc (Power Macintosh computers only)
- AppleScriptLib
- Fax Extension
- Fax Sender
- Fax Sender GX
- Log Extension
- ObjectSupportLib (Power Macintosh computers only)

Where to look for Apple Telecom software updates

For the latest updates visit Apple Computer's World Wide Web site at: <**http://www.apple.com/**>

Additional language dictionaries and/or OCR upgrades can be obtained by connecting to the Mimetics world wide web site:
<**http://www.mimetics.fr**>
Published Date: Feb 18, 2012

Get Info Command and Invisible Files

I copied the entire contents of one volume to another volume by dragging one volume icon on top of the other. However, when I choose Get Info from the File menu on the resulting folder, the number of items is far less than when I choose Get Info on the original volume. Why is this?
This article has been archived and is no longer updated by Apple.
The explanation for this lies in the behavior of the Get Info command. When Get Info is performed on an entire volume, the statistics reported apply to all files, including invisible files. When Get Info if performed on a folder, the statistics do not include invisible files. So the number of items and space used will appear to be different although they are actually the same.

The reason for this behavior is that folders may have a custom icon. A user can give a folder a custom icon by pasting a graphic onto the folder icon in the Get Info window. Since folders do not have a resource fork, the custom icon is stored as an invisible file called "Icon" at the root level of the folder. The reason that the Get Info command does not display information about invisible files is because a user may perform the Get Info command on a folder with two items in it, if they see "3 items" in the Get Info window, this could lead them to believe that a file is missing or damaged. However, when a user does a Get Info on an entire volume, it's reasonable to assume that they want to know the total number of files on the volume and the total space used.
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PowerBook 2400: RAM DIMM Configurations

Which RAM DIMMs can I use in my PowerBook 2400 series computer?
This article has been archived and is no longer updated by Apple.
The PowerBook 2400 Series uses an industry standard SO (Small Outline) DIMM for RAM expansion. Purchase an industry standard 16 MB, 32 MB*, 48 MB**, or 64 MB*** DIMM to increase RAM to 32 MB, 48 MB, 64 MB, or 80 MB.

* There are two types of industry standard 32 MB SO DIMMs, one is built with four chips, and the other with 16 chips. Four chip versions that have been modified to work specifically with the PowerBook 2400c are available from certain memory vendors. JEDEC standard four chip SO-DIMMS will not work with the PB2400c. 32 MB SO-DIMMs built with 16, 2k-refresh 16Mbit DRAMs, will also work with the PB2400c.

** To date, no RAM vendors are producing a 48 MB DIMM.

*** To achieve 80 MB, the customer must purchase a non-standard SO DIMM that is specially designed to work with the PowerBook 2400.

TechWorks and **Newer Technology** ship RAM DIMMs in 8 MB,16 MB, 32 MB, and 64 MB sizes.
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Mac OS 8: Dimmed Extensions and Control Panels

With Mac OS 8, it seems that several extensions can be dimmed, even if they have no foreground windows. In some cases, there is inconsistent visual feedback about control panels. What is going on?
This article has been archived and is no longer updated by Apple.
Mac OS 8 has a new feature where extensions that launch background only processes, like the File Sharing Extension, are dimmed the same as an icon for an open application. This happens to give users feedback indicating there is a process running with the file.

This new feature also is confusing with control panels that launch background only applications. The control panel is initially displayed with a dimmed icon, but upon opening and closing, a normal control panel icon is displayed. This is a purely cosmetic issue and will not affect performance of the process or the control panel.

Examples of these types control panels are the Express Modem and Microsoft Office Manager.
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Internet Address Detectors: Contextual Menu Inconsistency

After installing Internet Address Detectors (IAD), contextual menus in some programs may be inconsistent. For example, in FileMaker Pro, a control click on fields in the layout mode no longer produces a contextual menu.

This article has been archived and is no longer updated by Apple.
IAD installs an extension called Contextual Menu Enabler. It intercepts Control-clicks and forces the front-most application to copy the current selection to the clipboard by placing a Command-C in its event queue. It then takes this content and passes it on to the Contextual Menu Manager. If this extension was not installed, the only application that would support Apple's Contextual Menu would be the Finder.

Unfortunately, the Contextual Menu Enabler does get in the way of some other application's use of the control key. It is Apple's hope that applications will be revised soon for the Contextual Menu Manager so this Enabler is not necessary. The Enabler deactivates itself in applications that have been revised for the real Contextual Menu Manager.

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Flashing "?": Solution on Performa/Power Mac 54xx, 55xx, 6400, & 6500

Apple has investigated a Flashing Question Mark on start up condition. You should read this information if you have:

- A Macintosh Performa and/or a Power Macintosh 5400 Series, 5500 Series, 6400 Series, or 6500 Series computer, and
- Your computer fails to start up and instead shows a flashing question mark on a disk.

If you do not have one of the computer models listed above, this information does not apply to you, although the same condition may occur.

If your computer fails to start up and instead shows a flashing question mark and disk, please read and follow the troubleshooting tips in article 13784: "**Flashing Question Mark on the Screen: Causes and Cures**"
This article has been archived and is no longer updated by Apple.

Description

Some customers have reported that their computers fail to start up and instead show a flashing question mark and disk.

When a Macintosh computer fails to start up and only shows a flashing question mark and disk, this indicates that a startup volume (a hard drive, CD-ROM disc, or floppy disk with a System Folder) is not available after the computer has been turned on. By inserting the system software CD-ROM or Disk Tools floppy disk that came with the computer, it should start up normally.

After starting up from the system software CD-ROM or Disk Tools floppy disk, an alert box may appear. The message warns that the hard drive or startup partition is unreadable and asks if the user would like to initialize it.

Warning: Choosing to initialize the hard drive or startup partition will erase all data on that drive or partition. Be sure the information on your hard drive has been backed up.

Solution

Apple's Drive Setup v1.3.1 prevents a reported condition where the computers listed below fail to start up and instead show a flashing question mark inside a disk icon on the display. The condition is specific to the following Apple products:

Macintosh Performa 5400CD
Macintosh Performa 5400/160
Macintosh Performa 5400/180
Macintosh Performa 5410CD
Macintosh Performa 5420CD
Macintosh Performa 5430
Macintosh Performa 5440
Power Macintosh 5400/120
Power Macintosh 5400/180
Power Macintosh 5400/200
Power Macintosh 5500/225
Power Macintosh 5500/250
Macintosh Performa 6400/180
Macintosh Performa 6400/200
Macintosh Performa 6410
Macintosh Performa 6420
Power Macintosh 6400/200
Power Macintosh 6500/225
Power Macintosh 6500/250
Power Macintosh 6500/275
Power Macintosh 6500/300
Macintosh Performa 6360
Twentieth Anniversary Macintosh

Drive Setup v1.3.1 prevents this condition by installing a new device driver for internal ATA (IDE) hard drives that ship with these computers. A driver is a software program that serves as an "interpreter" between your hard drive and your computer; it is stored in an invisible area of your hard drive. Without a driver, your computer cannot work with your hard drive.

This new device driver is installed by using the "Update" option in Drive Setup. Depending on the current state of your drive, you may need to take additional steps.

Note: Flashing question marks can occur for a number of reasons. For example, separating the Finder and System (moving one out of the System

Folder), can cause a flashing question mark. Improperly connecting devices to the SCSI port on your computer can also cause a flashing question mark.

The condition Drive Setup v1.3.1 fixes, normally produces a "do you want to initialize this disk" error when you start your computer with your Macintosh Performa or Mac OS CD-ROM disc. Since the computer cannot read the directory of the hard disk correctly, it is asking for permission to initialize it.

Important: Drive Setup 1.3.1 includes a Read Me document. Read the document completely before installing the new device driver. It contains step by step instructions for installing the new device driver along with other important technical details. The Drive Setup 1.3.1 Read Me document is contained in the following article:

Article 22090: "**Drive Setup 1.3.1: Read Me**"

This article can help you locate the Drive Setup 1.3.1 software mentioned here:

- Article 14724: "**Where To Find Apple Software Updates**" - Lists online services for free Apple software updates.

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Workgroup Server 7350 and 9650: Workgroup Server Software CD

This article describes which or the two Workgroup Server Software CDs to use with the Workgroup Server 7350/180, 9650/233 and 9650/350.
This article has been archived and is no longer updated by Apple.
There are two versions of the Workgroup Server Software CD which contain System Software Version 7.6.1 for the Workgroup Server 7350 and Workgroup Server 9650.

Part Number 691-1485 is for the Workgroup Server 7350/180 and the Workgroup Server 9650/233.

Part Number 691-1708 is required for the Workgroup Server 9650/350. This CD contains drivers needed for the 10/100 BaseT Ethernet Card and the Xclaim 3D Video Card that ship with the Workgroup Server 9650/350. This CD may also be used on the Workgroup Server 7350/180 and the Workgroup Server 9650/233.

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Apple Remote Access 3.0 Read Me

This article is the Apple Remote Access (ARA) 3.0 ReadMe file.
This article has been archived and is no longer updated by Apple.

Introduction

This document contains the late-breaking information about Apple Remote Access 3.0.

Contents

What's new in Apple Remote Access 3.0 - general
System Requirements
Open Transport Requirements
Apple Software Update Sites
Before You Install Apple Remote Access 3.0
Known Incompatibilities and Limitations
AppleShare IP Compatibility
Using an Express Modem or GeoPort Telecom Adapter
Miscellaneous Information About ARA 3.0
Troubleshooting Support
Notes for ARA 3.0 Server System Administration
Modem Support
Modem Script Generator
Additional (Unsupported) Modem Scripts
Modem Cable Requirements
Using an ISDN Terminal Adapter
How to Remove or Disable Apple Remote Access 3.0

What's new in Apple Remote Access 3.0 - general

ARA 3.0 is a major upgrade from the previous version, ARA 2.1. ARA 3.0 represents a complete rewrite, and offers a merging of capabilities previously requiring two software packages: ARA and OT/PPP and also includes features not in either of these packages.

New for ARA users:

- ARA 3.0 is rewritten "from the ground up" using native Open Transport interfaces, and runs native on PowerPC based personal computers.
- ARA now supports the open PPP standard, and can be configured to connect to multiprotocol PPP servers using both AppleTalk (ATCP) and TCP/IP (IPCP) concurrently, or can be configured to connect to PPP servers at Internet Service Providers (ISP's). ARA can now call your office or the Internet.
- ARA 3.0 offers Open Transport-style control panels, now fitting in with modern Mac OS human interface design and is now consistent with the rest of Open Transport.
- Automatic detection of server protocol support (ARAP or PPP).
- ARA 3.0 is scriptable.
- ARA 3.0 includes AppleGuide Help.
- A Control Strip Module is included.
- The Remote Access control panel includes send and receive indicators of network traffic.
- Open Transport 1.1.1 or later is required.

New for OT/PPP users:

- ARA 3.0 Client includes a control strip module.
- The Remote Access control panel replaces the PPP control panel.
- The Remote Access control panel includes a triangle control to reduce the window size.
- AppleTalk PPP (ATCP) support is now included.

System Requirements

Apple Remote Access 3.0 is designed to work on Mac OS-compatible computers with a Motorola 68030- or 68040-family microprocessor, or a PowerPC 601, 603e, 604, or 604e microprocessor.

The recommended system software version for Apple Remote Access 3.0 is 7.5.3 or later, updated with Open Transport 1.1.1. or later networking software. System Software versions 7.1, 7.1.1, and 7.1.2 releases are also compatible with Apple Remote Access 3.0 updated with Open Transport 1.1.1 or later.

Note: Apple Remote Access 3.0 cannot be used with system software versions 7.5, 7.5.1, or 7.5.2. Before installing Apple Remote Access 3.0 on one of these systems, install System 7.5, Update 2.0.

Apple Remote Access 3.0 requires a minimum of 8 megabytes (MB) of RAM however 16 megabytes is recommended.

Open Transport Requirements
Open Transport version 1.1.1 or later is required in order to install Apple Remote Access 3.0. Your Apple Remote Access 3.0 CD comes with Open Transport 1.1 and the 1.1.2 Update installers. Apple recommends installing or upgrading to this version if you are using system 7.x. If you have Mac OS 8.0 software already installed on your computer you will not need to update or upgrade your Open Transport network software.

Steps required to install Open Transport depending on what system software you have:

System 7.1.x

1. Install Open Transport 1.1.
2. Install Open Transport version 1.1.1 or later. Open Transport 1.1 and 1.1.2 has been provided with this product.

System 7.5, 7.5.1, or 7.5.2

1. Install System 7.5, Update 2.0. (Available free online at Apple Software Update sites. See the following section for information on how to find these sites.)
2. Choose Open Transport (if it is not already chosen) in the Network Software Selector which is located in the Apple Extras Folder. Once you choose Open Transport, restart your computer.
3. Install Open Transport version 1.1.1 or later. Open Transport 1.1 and 1.1.2 has been provided with this product.

Mac OS 7.5.3 or 7.5.5

1. Choose Open Transport (if it is not already chosen) in the Network Software Selector which is located in the Apple Extras Folder. Once you choose Open Transport, restart your computer.
2. Install Open Transport version 1.1.1 or later. The Open Transport 1.1.2 Update has also been provided with this product.

Mac OS 7.5.3: if you have performed a custom installation without installing Open Transport

1. Use the Mac OS 7.5.3 or System 7.5, Update 2.0 installer to custom-install Open Transport 1.1.
2. Choose Open Transport (if it is not already chosen) in the Network Software Selector which is located in the Apple Extras Folder. Once you choose Open Transport, restart your computer.
3. Install Open Transport version 1.1.1 or later. The Open Transport 1.1.2 Update has also been provided with this product.

Mac OS 7.5.5: if you have updated a system on which Open Transport was not installed due to a custom installation.

1. Reinstall system software using the system software disks that came with your computer.
2. Based on the version of the system software that came with your computer, use one of the procedures above to install Open Transport version 1.1.1 or later.

Mac OS 7.6 includes Open Transport version 1.1.1 networking software.

Mac OS 8.0 includes Open Transport version 1.2 networking software.

Apple Software Update Sites
Information about updating Apple software is available online on the World Wide Web and other online servers. On the Web, go to the Apple Software Updates Web site at http://www.apple.com/swupdates .

Reading article 14724: "**Where To Find Apple Software Updates**", you can find Apple Software Updates locations for Internet, America Online, and other online services.

Before You Install Apple Remote Access 3.0

- Save any special modem scripts from your system folder (extensions folder) prior to installing ARA 3.0.
- Please note that any previously installed Open Transport/PPP and ARA 2.x system software component will be replaced by ARA 3.0. ARA 2.x connection documents can be converted through the "import" button in the "Configuration" window of the Remote Access Control panel. Select "Configuration" from the file menu of the Remote Access Control Panel to display the "Configuration" window.

- Although your existing Open Transport/PPP configurations will be automatically converted to conform to the ARA 3.0 configuration format, you can save your existing configurations using the "export" button in the "Configuration" window. Select "Configuration" from the file menu of the PPP Control Panel to display the "Configuration" window. Using the export and import features also allows you to move configurations from one system to another.
- If you are using the ARA 2.1 Personal Server on a system that is also configured to receive Faxes using 3rd party FAX software, you may need updated FAX software before installing the ARA 3.0 Personal Server. Verify with your FAX software vendor that their package is compatible with ARA 3.0 before updating.
- Open Transport/PPP users need to be aware that ARA 3.0 subsumes Open Transport/PPP functionality.

Known Incompatibilities and Limitations

- The ARAP Client is not notified if new network services appear on the Server side. Specifically if the Client connects via ARAP to a network on which there is no router, when a router is started on the ARA Server network, the Client is neither notified that the new network connectivity is available nor can the Client access the new services available across the router. To see these new network services the user must disconnect the current ARA connection and reconnect.
- Some Client connections set to the "Automatic" protocol in the Remote Access Control Panel may get the ARAP protocol even when the PPP protocol is available. The activity log will display what protocol is being used. If PPP protocol is desired, explicitly select that protocol under the protocol option instead.
- AutoRemounter does not work with ARA. Volumes mounted via ARA 3.0 prior to Sleep mode will not be automatically remounted.
- ARAP or PPP connections will be disconnected if the machine goes into Sleep mode. The user will receive a "terminating ARAP or PPP connection" dialog upon wakening.
- If you restart a PowerBook which is set up as an ARA 3.0 Server and is using a PC Card modem, the ARA server may not enable the auto-answer mode with some PC Card modems.
- Sometimes when the PowerBook 3400 with the built-in 33.6K Modem/Ethernet card as an ARA Personal Server a Client will not be able to access AppleShare servers or machines running Personal File Sharing. The attempt to mount the server will succeed, but when the server icon is opened the connection may time out and drop the remote access connection.
- The control strip may not accurately display the amount of time connected as shown in the connection document.
- In some cases the status information in the Remote Access Control Panel is not updated correctly even if a connection is made successfully. This may happen if you make one connection where the TCP/IP Control Panel is set to use MacIP, disconnect, change to a TCP/IP Configuration that uses PPP, and then connect again. If you have the Control Strip installed, the ARA Control Strip Module can be used to verify your PPP connection was successful using the following procedure:

  1. Select Status Display in the ARA Control Strip pop-up menu.
  2. Choose the Time connected radio button.
  3. Press the OK button to dismiss the dialog box.

  The time connected status display will increment if a successful connection has been made. The status will display 0:00:00 if there is no active connection.
  The combination of a PPP call, following a MacIP call can also cause the PPP connection to fail if the "Connect automatically when starting TCP/IP applications" Protocol Option is selected. If you restart your computer between changing configurations, or after a failed connection the next connection will be successful.
- Launching a non-X.25 ARAP file server alias is successful if the X.25 check box option is set. If you have installed the X.25 option for ARA 3.0 and have created a volume alias over an ARA connection using the X.25 option, but then find that you cannot reconnect to the volume later when using the alias, check to see if the X.25 option box is still checked in the ARA Options dialog. When the alias is created, the X.25 information is not stored into the alias. As a result, if the X.25 option box is unchecked, then ARA will use it's current setting and fail to connect via X.25 when the alias is used to establish the connection.

AppleShare IP Compatibility
ARA Personal Server 3.0 and AppleShare IP 5.0 are not fully functional together. AppleShare IP 5.0 does not provide User fields for ARA CallBack or Enable Dial-In. If you install ARA Personal Server 3.0 and AppleShare IP 5.0 on the same computer - please note the following.

Installation Order - ARA Personal Server has to be installed first. If not, current User information will not be imported into AppleShare IP 5.0's User list. Your ARA server will not work if installed after AppleShare IP 5.0.

ARA User Information - the information isn't modifiable within AppleShare IP 5.0 Manager's User Window.

An unsupported solution to this scenario is available. The AppleShare IP 5.0 website has posted an OpenDoc Editor called UserARA that allows ARA User fields to be modified within AppleShare IP's User Window. It can be found on the Internet at **http://www.apple.com/applesharеip/**.

The ARAUser OpenDoc Editor provides within AppleShare IP Manager a User Remote Access menu to modify ARA CallBack and Enable ARA Dial-In. The ARA options can be found in the AppleShare IP Manager's Users & Groups List after opening a User window and switching the Pop-Up Menu to Remote Access.

Using an Express Modem or GeoPort Telecom Adapter

- If you are using Express Modem software with either an Express Modem or a GeoPort Telecom Adapter, you must turn on 32-bit addressing in the Memory control panel.
- If an ARA 3.0 Client launches an Apple installer on a remote server volume and the installer needs to quit any running applications, the connection will be dropped. Apple recommends dragging the application net install folder to the hard drive before starting an installation.
- If an ARA Server using a GeoPort modem is shut down (using the Shut Down item in the Special menu) while a Client is connected, the Client may not receive a disconnect notification. The Client will eventually timeout. Apple recommends manually disconnecting Clients before shutting down the ARA Server.
- If an ARA client using a GeoPort modem is shut down while there are open applications, the applications may display alerts to the fact that the connection has disappeared. Apple recommends manually quitting such application before shutting down the Macintosh. You can place an alias of the "Disconnect Remote Access" Apple Menu Item into the System's Shutdown Items folder. If you do this, do not cancel the disconnection.
- A client machine with an Express Modem or GeoPort software and System 7.x may stop responding when aliases are used to make a remote connections. This is resolved by upgrading to Mac OS 8, or not using the alias feature in this configuration.
  Note: This does not apply to the internal 33.6K modem on the PowerBook 3400; alias connections from the 3400 work as expected.

Miscellaneous Information About ARA 3.0

- If the user installs ARA 3.0 Personal Server software on a system that had ARA 2.1 Client software, the ARA 2.1 application is not removed. Launching ARA 2.1 will result in a failed connection. To prevent this problem remove the ARA 2.1 application.
- Users are recommended not to install Open Transport/PPP over ARA 3.0. ARA 3.0 subsumes Open Transport/PPP functionality. Open Transport/PPP is installed by default when loading Mac OS 7.6 or later. If Open Transport/PPP was installed over ARA 3.0, reinstall ARA 3.0.
- When using PPP, the user must set the TCP/IP Control Panel to Connect via: PPP before connecting to an IP service. Attempting to set the TCP/IP Control Panel to Connect via: PPP after the connection will fail forcing a reconnection to any IP service.
- Prior to Mac OS 8.0, the Mac OS Guide makes references to the PPP Control Panel. The PPP Control Panel was replaced by the Remote Access Control Panel with ARA 3.0. For assistance, open the Remote Access Control Panel and use the Remote Access Guide.
- On a Client only ARA System, if the Users&Groups Control Panel is opened, each "User" has an option to enable dial-in even though the server functionality is not present.
- When using a Terminal Window upon opening a PPP connection, the Terminal Window will be closed if the user chooses the "Cancel" option. The terminal window can be brought up only once during a PPP session.
- ARA 3.0 works with 2.x aliases but ARA 3.0 aliases cannot be used with earlier versions of ARA.
- When traveling outside of the U.S., the user may need to manually edit the area code in the Remote Access setting to remove the leading "0" in the as DialAssist does not strip the "0".
- When updating to ARA 3.0, retain your Open Transport/PPP configurations by using the export and import procedures. See your ARA 3.0 User Manual for more detail.
- If you are using a Global Village PowerPort Platinum Pro PC card modem and you get an error message stating the port is busy, please check the Global Village web site at (http://www.globalvillage.com/) for information and updates.
- The Verbose Logging checkbox does not provide additional server information.
- There is no maximum size to the Remote Access Log. If disk space is at a premium, periodically back up the log file and clear the log. The Log file is located in the Remote Access folder in the Preferences folder.

Troubleshooting Tips

- If your connection protocol is set to "Automatic" and the connection attempts repeatedly fails, set the connection protocol to either PPP or ARAP. Some servers are not compatible with Automatic connections.
- When connecting to some 3rd-Party PPP servers with AppleTalk, the ARA 3.0 software may erroneously indicate that the connection is still pending when it has actually connected. One symptom is that the ARA Control Panel will indicate that ARA is "starting network protocols" and not change. If VM is On, the problem may disappear when turning VM Off.
- When using Timbuktu 3.0.2 you should not click rapidly between different zones with some 3rd party remote access servers. The number of responses can overload the server and prevent display of devices in the selected zone until the remote access server is less busy. When dialing into an Ascend server it can sometimes take a long time (5-10 minutes) for all devices to be displayed. Apple, Ascend and Farallon are working to prevent this from happening through an update to one or more products.
- When using the ARA Client from a network without zones or a single Macintosh, if the AppleTalk Control Panel is set to Ethernet, Timbuktu 3.0.2 may not display a list of zones after the connection to the remote network is made. The workaround is is to set the AppleTalk Control Panel to Remote Only.

Notes for ARA 3.0 Server System Administration

ARA Server Security Considerations

- ARA 3.0 provides the same security features present in ARA 2.x products. In order to provide the same level of security for TCP/IP clients

the ARA Server must be configured in the following manner:
  - AppleTalk must be active.
  - TCP/IP must be set to use the same port as AppleTalk or
  - TCP/IP must be set to use MacIP (in the Connect Via pop up)
- PAP Authentication works with ARA only when Guest access is allowed, otherwise CHAP Authentication is used. Some older PPP clients (e.g. MacPPP 2.0.1) do not work with CHAP, so either the PPP client software must be updated to a version that does work with CHAP or Guest access must be allowed. Reminder: Guest access does not require a password, therefore anyone can connect to the server.

Using manually configured IP addresses for Client connections

- Enabling the "Allow client to use own IP Address" PPP Server Setup option with Open Transport 1.2 or earlier is not recommended if two or more ARA Personal Servers are installed on the same network. This option is configured in the Answering dialog of the Remote Access Control Panel.
- On the server, Open Transport continues to defend the client's IP address until the server is restarted, even after the client has disconnected. This prevents other servers from allowing a client to use the same manually configured IP address for later connections to the network. When the client using a manually configured IP address connects to the 2nd server, both the original server and the server accepting the call report a duplicate IP Address errror dialog which need to be manually dismissed. The dialog reports each server's IP address as being in conflict, not the address of the manually configured client. The 2nd server's Log will indicate the actual conflicting IP address. If this occurs both server machines should be restarted. This will clear Open Transport's ARP Table. A future version of Open Transport will remove this limitation.

Changing Server Settings While Clients are Connected

- In general, changing settings on the ARA Server while clients are connected is not recommended. In many cases, the client is not notified of the change in the network. Examples are:

  - Server: Switching Network Ports - Client will be disconnected
  - Server: Turning off AppleTalk - Client will be disconnected
  - Server: Going into Sleep Mode - Client will be disconnected
  - Router: Adding a router to the Server Network - Client needs to reconnect to get updated network information

  Note: In most of the above cases the Client will be immediately disconnected and no warning will be issued.

  Important: If changes need to be made, disconnect the Client.
- The ARA Personal Server periodically checks to see if the attached modem is working correctly if answering is enabled. It will make an entry in the Log each time it checks, if it can not communicate with the modem. The status area of the Remote Access Control Panel will still display Call answering enabled even if the modem is off or not connected. Apple recommends you not turn off the modem attached to a computer with Answer Calls enabled to prevent confusion about server status, and to avoid repetitive Log entries.

Modem Support
Scripts that work with many popular modems are provided on the Apple Remote Access installation disk(s). This is the list of scripts provided with ARA 3.0:

3Com Impact Analog 14.4
3Com Impact ISDN 56K
3Com Impact ISDN 56K MLPPP
3Com Impact ISDN 64K
3Com Impact ISDN 64K MLPPP
Apple Personal Modem
AT&T Dataport 288
AT&T KeepInTouch
Best Data Smart One 28.8/33.6
Dayna CommuniCard 28800
Farallon Netopia 56K
Farallon Netopia 56K MLPPP
Farallon Netopia 64K
Farallon Netopia 64K MLPPP
Farallon ISDN PC Card ARA 56K
Farallon ISDN PC Card ARA 64K
Farallon ISDN PC Card PPP 56K
Farallon ISDN PC Card PPP 64K
Farallon LAN/Modem PC Card
GeoPort/Express Modem

GeoPort/Express Modem CNG
Global Village Gold/Silver/Merc
Global Village Platinum/Gold II
Global Village x2
Global Village 28.8-k56
Hayes Accura 288
Hayes Optima 288
Hayes Accura 56K
Megahertz CruiseCard 14.4
Megahertz CruiseCard 28.8
Metricom Ricochet Wireless
Microcom DeskPorte Fast/288
Microcom QX/4232bis
Motorola BitSURFR 56K
Motorola BitSURFR 56K MLPPP
Motorola BitSURFR 64K
Motorola BitSURFR 64K MLPPP
Motorola ModemSURFR 28.8
Motorola Power/Lifestyle 28.8
Null Modem 115200
Null Modem 19200
Null Modem 57600
Null Modem 9600
Practical Peripherals V.34
Supra 144
Supra 288/336
Supra 336v+/336e/56e
TDK DF2814
Telebit QBlazer
US Robotics Universal
Zoom V-Series

Apple now installs all modem scripts in the Modem Scripts folder (in the Extensions folder) instead of directly in the Extensions folder. Future Apple products will handle modem scripts the same way. Apple Remote Access 3.0 does not recognize modem scripts stored outside the Modem Scripts folder.

Auto-routing of modem scripts has been disabled by the installer. Once Apple Remote Access 3.0 is installed, a modem script will not be routed to the Extensions folder if it is dragged into an active System folder.

The Easy Install mode of the installer copies all of the Apple Remote Access 3.0 modem scripts to your disk. You can choose Custom Install to limit the installation to only the scripts you choose.

Note: You can delete any unneeded scripts from the Modem Scripts folder, which is located inside the Extensions Folder.

Note: You must use the Custom Install option in order to install X.25 functionality.

Modem Script Generator
The Apple Modem Script Generator has been provided in a separate folder on the CD or on the Internet for users who prefer to generate their own modem scripts.

Additional (Unsupported) Modem Scripts
User and some vendor contributed scripts are available online or in the ARA Extras Folder on the ARA 3.0 CD. New modems are regularly introduced and Apple is willing to help publish scripts contributed by users to aid in making Apple Remote Access work easily with as many modems as possible.

> **Important**: Scripts provided in the Unsupported folder are not tested or supported by Apple, Inc., so you should contact the script's author or vendor rather than Apple if you run into difficulty using a script downloaded from the unsupported folder. These contributed modem scripts are provided on an as-is basis as a convenience to Apple customers. They are not warranted to be complete or free from errors, although Apple may choose to review and fully test some user-contributed scripts and include them in future versions of Apple software. If you want to provide Apple with feedback about particular user-contributed scripts, send electronic mail to the following address: msg@apple.com

To find these scripts, go to any **Apple Software Updates** location and use the following path:
/English-North_American/Macintosh/Misc/User_Contributed_CCLs/

Modem Cable Requirements
Most modems require a cable that supports the data terminal ready (DTR) signal. In addition, certain modems require a cable that is compatible with CTS/RTS hardware flow control. To work with DTR, the cable must connect pin 20 on the DB-25 connector to pin 1 on the Mini DIN-8. To work with CTS/RTS, the cable must connect pin 5 on the DB-25 connector to pin 2 on the Mini DIN-8 and pin 4 on the DB-25 connector to pin 1 on the Mini DIN-8. Contact your modem vendor or Apple-authorized dealer to obtain the necessary cable.

Using an ISDN Terminal Adapter
Apple Remote Access 3.0 supports serial connection speeds of 115,200 and 230,400 bps. By doing so, Apple enables Macintosh users to make ARA and PPP connections over ISDN lines at 64 kbps or even 112 kbps if the ISDN terminal adapters at both ends are compatible with channel bonding and proper modem scripts are used.

Note: The "Connected at" line of the Remote Access control panel status box may not accurately reflect the connection speed of ISDN connections. A slower speed may be indicated because ISDN terminal adapter hardware does not report the establishment of second channel connections to the CCL script engine. This will usually happen if you use the Multilink PPP (MLPPP) version of an ISDN script.

Connection speeds of 115,200 and 230,400 bps are not supported by the serial ports on most older Macintosh computers. Here is a partial list of Macintosh models that do have fast serial port support:

- Macintosh Centris 660av, Macintosh Quadra 660av and Macintosh Quadra 840av models
- Macintosh Performa 6100CD series
- Power Macintosh 6100, 7100, 7200, 7300, 7500, 7600, 8100, 8500, 8600, 9500 and 9600 models
- Workgroup Server 6150, 7250, 8150, 8550, and 9150 models

To set the built-in serial ports at 115,200 or 230,400 bps, a new serial driver called SerialDMA must be installed to replace the standard Macintosh serial device driver. SerialDMA 2.0.2 is provided by Apple. It is highly recommended that the file Serial (Built-in) be installed in the Extensions folder as well on Macintosh models with PCI slots to support these high speeds (38,400 bps and above). System 7.5.3 or later includes the latest version of SerialDMA and the file Serial (Built-in).

Note: In general, ISDN terminal adapters have more configuration options than conventional modems. At this time it is not possible for Apple to support all combinations of these options for all the ISDN terminal adapters that are available. We have attempted to write scripts that work with the most common ISDN configurations. You may have to get a revised script from your Internet service provider or network administrator if your server uses different options. You can also modify a script yourself using the Modem Script Generator or by editing the script text directly. You can find the Modem Script Generator in the Unsupported folder mentioned earlier in this document.

How to Remove or Disable Apple Remote Access 3.0

To remove Apple Remote Access 3.0 software by using the Custom Remove option in the Installer:

1. Open the Installer application included with Apple Remote Access 3.0. The Welcome to the Apple Installer screen appears.
2. Click the Continue button. The Apple Remote Access 3.0 Installation screen appears
3. Choose Custom Remove from the pop-up menu in the upper-left corner.
4. In the list that appears, select the items you would like to remove by clicking the box next to each item so that an "X" appears in it. To completely remove Apple Remote Access 3.0, you should select all the item listed.
5. Click the Remove button. If a window appears asking you whether to quit any open applications, click Continue. A window will appear telling you to restart your computer.
6. Click the Restart button.

To disable Apple Remote Access 3.0 without using the Installer:

Note: Although the Remote Access and Modem control panels appear in the Extensions Manager, there is no component in the Extensions Manager that lets you disable Apple Remote Access 3.0. To disable Apple Remote Access 3.0 without using the Installer, you must follow the instructions given here.

1. Move the OpenTpt Remote Access and OpenTpt Modem shared libraries from the Extensions folder in the active System Folder.
2. Move the Remote Access Command file from the Scripting Additions folder in the Extensions folder.
3. Move the Remote Access and Modem control panels from the Control Panels folder in the active System Folder.
4. Restart your computer.

It is not necessary to move the Modem Scripts folder from the Extensions folder.

TA36867_Apple_Remote_Access_Read_Me.pdf

Published Date: Feb 18, 2012

At Ease 4 & 5: Logging in Users with Administrator Password

This article describes how a user may log into At Ease by using the password of an Administrator or Workgroup Administrator. This functionality exist in At Ease 4 and At Ease 5, but there is an important difference between the two versions.
This article has been archived and is no longer updated by Apple.
If an At Ease user forgets their password, they can log in using their name and the password of any At Ease Administrator.

In At Ease 4, the password of any Workgroup Administrator can also be used. However, in At Ease 5, a Workgroup Administrator's password will only work if the User and Workgroup Administrator are both members of at least one common workgroup.
Published Date: Feb 18, 2012

Netware Aliases Fail with Mac OS 8.0

This article describes an issue with Netware aliases and Mac OS 8.0. This information is provided by Novell in TID#2928559.
This article has been archived and is no longer updated by Apple.
After upgrading to Mac OS 8.0 and applying MCLUPD3.BIN, Macintosh users cannot login by double clicking on a Volume Alias that was created when connected via AppleTalk NDS mode (NetWare Encryption) or Bindery Emulation mode (Standard Apple UAM). Same issue occurs when a volume alias is placed in the Startup Items folder for auto-mounting.

The following error occurs:

The alias "Vol_Name alias" could not be opened, because the shared disk "Vol_Name" could not be found on the network.

Note: The same symptoms occur on a NetWare 3.1x environment too - refer to TID#2919183.

WORKAROUND

Login via MacIPX (using the NetWare Directory Browser Application) or as GUEST via AppleShare (Bindery mode) in Chooser, then create an alias of the Volume or Directory in Volume.
Published Date: Feb 18, 2012

MacX: Fonts Needed For HP/UX 10.20 and CDE

This article describes an issue with MacX (any version) and HP/UX version 10.20 and fonts which are needed.
This article has been archived and is no longer updated by Apple.
Beginning with HP/UX version 10.20, standard fonts used for CDE (Common Desktop Environment), the graphic UNIX user interface, are no longer used. When MacX (any version) attempts to connect to a UNIX workstation with XDMCP preferences set to a host running CDE, with other than the original standard fonts, some or all of the fields normally present in the login dialog box may either appear as blank rectangles, or not at all. These fonts need to be available to MacX before the dialog will appear as it should.

Below are two options to workaround this, you need to decide to use one of them:

- Obtain the fonts from the host system or its vendor in .snf ..bdf formats, add them to the MacX fonts directory, and use the /Edit/Fonts/AddŠ UpdateŠ functionality to make them locally available.
- Turn on X11 font services on the host workstation and use the /Edit/Fonts/Font Servers to add the host as an X11 Font Server to MacX.

Published Date: Feb 18, 2012

Drive Setup 1.3.1: Read Me

This article is the Read Me for Drive Setup Version:1.3.1. It was released on October 6, 1997 and was reposted on December 5, 1997 having been updated to include additional At Ease information.
This article has been archived and is no longer updated by Apple.

About Drive Setup 1.3.1

This document provides important information about Drive Setup 1.3.1.

Drive Setup installs software that your computer uses to work with your hard disk. Drive Setup 1.3.1 updates this software to prevent a rare incident in which you may lose files on your hard disk or be unable to start up the computer using your hard disk. (If your computer is unable to start up, you see a flashing question mark on your screen.)

Important: If you see a flashing question mark on your screen or you have other issues with your computer, you should see the troubleshooting information in the user's manual that came with your computer for more information.

Important: If your computer does not start up using your hard disk, you can use a system software CD to start up your computer. When you do, you may see a dialog box asking you to initialize your hard disk. Do not initialize the disk. See "Recovering From Disk Problems" later in this document for more information.

At Ease and Drive Setup 1.3.1

If you are using At Ease 4.0, 4.0.1, or 5.0, and wish to update your hard disk driver using Drive Setup 1.3.1, please follow these steps before using Drive Setup 1.3.1. (If you are using At Ease 3.0 or earlier, these steps are not applicable.):

1. Launch the At Ease Administration program.
2. From the Security menu, choose System Settings.
3. Make sure that the option "Prevent users from bypassing security by starting up from a floppy disk." is not selected.

Who should use Drive Setup 1.3.1

This update is only required by Apple computers that have an internal ATA (IDE) hard disk. You should use Drive Setup 1.3.1 immediately to update your hard disk if you have one of the following computers with system software version 7.6.1 or 8.0 installed:

- Macintosh Performa 5400CD
- Macintosh Performa 5400/160
- Macintosh Performa 5400/180
- Macintosh Performa 5410CD
- Macintosh Performa 5420CD
- Macintosh Performa 5430
- Macintosh Performa 5440
- Power Macintosh 5400/120
- Power Macintosh 5400/180
- Power Macintosh 5400/200
- Power Macintosh 5500/225
- Power Macintosh 5500/250
- Macintosh Performa 6400/180
- Macintosh Performa 6400/200
- Macintosh Performa 6410
- Macintosh Performa 6420
- Power Macintosh 6400/200
- Power Macintosh 6500/225
- Power Macintosh 6500/250
- Power Macintosh 6500/275
- Power Macintosh 6500/300
- Macintosh Performa 6360
- Twentieth Anniversary Macintosh

Note: To determine which type of computer you are using, see the user's manual or technical information booklet that came with your computer.

To update your hard disk, see "Using Drive Setup 1.3.1 to Update a Hard Disk" later in this document. You should also use the Disk First Aid program to ensure that you do not lose any information on your hard disk.

When to use Drive Setup 1.3.1

- Immediately after you set up your computer for the first time.
- Any time you install system software version 7.6.1 or 8.0 on your computer, you should use Drive Setup 1.3.1 to update your hard disk again.

Note: When you use Drive Setup 1.3.1, it installs the ATA (IDE) device driver version 3.07 if your computer includes an ATA (IDE) hard disk. To determine which driver is installed on your hard disk, select the hard disk icon in the Finder and choose Get Info from the File menu. In the Get Info window, the version appears in the information next to the word "Where."

System Requirements

Drive Setup 1.3.1 requires system software version 7.1.2 or later.

Using Drive Setup 1.3.1 to Update a Hard Disk

This section describes how to use Drive Setup 1.3.1 to update your hard disk. You may have Drive Setup 1.3.1 on a CD or you may have downloaded the Drive Setup 1.3.1 disk image from an Apple Web site.

To use Drive Setup 1.3.1 to update your hard disk, follow these steps:

1. Back up your hard disk and turn off any hard disk security software. Using Drive Setup to update a hard disk driver with security software turned on may cause problems.

Important: Apple strongly recommends that you make a copy of your information on the hard disk before you update the disk using Drive Setup.

2. Insert your system software CD in the CD-ROM drive and restart your computer using the CD.

To learn how to start up your computer using a system CD, see the user's manual that came with your computer.

3. Locate Disk First Aid on the CD and open the program.

4. Select your hard disk and click Repair.

Disk First Aid checks your hard disk and repairs situations it finds. For more information about Disk First Aid, see the user's manual that came with your computer.

5. When you are finished, quit Disk First Aid and restart your computer.

6. When your computer restarts, eject the system CD and insert the Drive Setup 1.3.1 CD, or use Disk Copy to mount the Drive Setup 1.3.1 disk image.

7. Open Drive Setup 1.3.1.

WARNING When Drive Setup opens, do not click Initialize. Doing so erases all the information on your hard disk.

8. Select your hard disk in the List of Drives list.

9. Choose Update Driver from the Functions menu.

Important: If Update Driver is not available, your hard disk may be protected by security software. See the manual that came with the software to learn how to turn off security while you update the disk.

10. Click OK when a message appears telling you that you must restart your computer.

11. Quit Drive Setup when you see the message, "Driver update was successful."

12. In the Finder, choose Restart from the Special menu.

If you have problems or Drive Setup fails to update the disk, see the troubleshooting chapter in the user's manual that came with your computer.

Important: Your computer may come with an older version of Drive Setup installed on the hard disk. You should drag the older version of Drive Setup to the Trash and copy Drive Setup 1.3.1 to your hard disk.

Recovering From Disk Problems

If, when you start up your computer using a system software CD, you see a message asking you to initialize your hard disk, do not click Initialize. It may be possible to recover the hard disk using Disk First Aid or another disk utility. To learn how to use Disk First Aid, see the troubleshooting chapter in the user's manual that came with your computer. If you are using another disk utility, see the manual that came with the software.

Initializing Your Hard Disk

If you need to initialize your hard disk, see the user's manual that came with your computer or the system software CD you are using to learn how to do so. When you are finished initializing and installing system software on your hard disk, use Drive Setup 1.3.1 to update your hard disk. See "Using Drive Setup 1.3.1 to Update a Hard Disk" earlier in this document.

Tips and Troubleshooting

- Using Drive Setup with Energy Saver

Before you use Drive Setup to perform an extended operation, such as testing the disk, open the Energy Saver control panel and select Never for the Hard Disk Sleep option to prevent the hard disk from spinning down before Drive Setup is finished.

- Manually mounting volumes

Drive Setup allows you to partition a hard disk into several volumes when you initialize the disk. You can also select whether or not to mount a volume automatically when you start up your computer by using the "Automount on startup" option. Starting with Drive Setup 1.3, a more reliable method of mounting volumes automatically is being used, to ensure correct operation with virtual memory. You cannot use a disk utility program (for example, SCSI Probe version 4.3) to mount volumes manually if the program does not support the new way volumes are mounted. However, you can use Drive Setup to mount volumes manually.

- Reinstalling Additional Software

Some computers come with additional software installed. If you want to reinstall this additional software using the "restore" CD that came with your computer, quit Drive Setup before you reinstall the software. Icons will not appear on the desktop if Drive Setup is open when you reinstall the software.

- Waiting for initialization to complete

Sometimes Drive Setup indicates that it has finished initializing a disk when it has not completely finished. Wait for your new volumes to appear in the Finder before continuing.

Improvements to Drive Setup (version history)

- Version 1.3-Updated to work with all Macintosh computers that are supported by Mac OS 8. Incorporates Mac OS 8 appearance. Takes full advantage of the increased throughput of Ultra SCSI-2 Fast/Wide drives.
- Version 1.2.5-Limited release for Power Macintosh Workgroup Servers 7350 and 9650. NOT RECOMMENDED for other computers. Superseded by later versions.
- Version 1.2.4-Updated to access drives with SCSI IDs greater than 7 (SCSI-2 Fast/Wide). Added the ability to repair a disk that is damaged by updating with Drive Setup 1.2.2 after initializing with Apple HD SC Setup 7.1.2 or earlier.

Important: Apple HD SC Setup should only be used with older 68k-based Mac OS computers.

- Version 1.2.3-Fixed an issue in which large reads and writes on the hard disks of Performa 6400 series computers could cause the system to stop responding. Added the ability to update from Apple HDSC Setup drivers.
- Version 1.2.2-Improved recognition of secured volumes. Made minor changes for compatibility with the Mac OS 7.6 Installer.
- Version 1.2.1-Limited release for a few Power Macintosh computers sold in some European markets. NOT RECOMMENDED for other computers. Superseded by later versions.
- Version 1.2-Includes SCSI MESH patch for PCI Power Macintosh computers. Added support for selected 68k-based Mac OS computers with internal ATA hard drives.

This article can help you locate the software update mentioned here:

- Article 14724: "**Where To Find Apple Support**" - Lists online services for free Apple software updates.

Published Date: Feb 18, 2012

LaserWriter 8500: Optional Paper Sizes

This article answers these questions:

1. Will the LaserWriter 8500 duplex 11 x 17 inches output?
2. Will the LaserWriter 8500 print on 13 x 22 inches paper, and what will the largest printable area on this paper?

This article has been archived and is no longer updated by Apple.

1. Yes. The optional Duplexer and Job Separator supports: US Letter and Letter small (11 x 8.5 inches), US Legal and Legalsmall (8.5 x 14 inches), A4 and A4small (11.69 x 8.27 inches), B4 (10.13 x 14.33 inches), Ledger (11 x 17 inches), and A3 (11.69 x 16.54 inches).
2. Of the various paper input options the multipurpose tray supports, the largest paper size of 13 x 20 inches. On this oversize paper, the printable area margins are left and right: 0.219 inches or 5.0mm; top and bottom: 0.157 inches or 4.0mm.

Published Date: Feb 18, 2012

Apple PC Serial and Parallel Card and an Existing Modem

I'm planning on getting the Apple PC Serial and Parallel card when it is available for my PCI PC Compatibility card. Can I use my current modem or will I have to buy a new modem for the PC?
This article has been archived and is no longer updated by Apple.
This depends on your modem. Some modems have a built-in cable but other modems have a detachable cable. If you have a modem with a detachable cable, you should be able to exchange the cable with a PC modem cable and have it work. Be aware, you would have to exchange cables again to use the modem in the Mac OS environment.

If you have a modem with a built-in cable, a cable adapter that changes the DIN-8 Macintosh connector to a PC connector might work. You may, however, have to purchase a separate modem. An instance where a cable adapter would not work, is when you have a modem that uses the ninth pin of a Power Macintosh computer's serial port. This pin provides a level of power to the modem which is not available with a standard PC serial port.
Published Date: Feb 18, 2012

Mac OS 8.0: Identifying Hard Disk Size

This article describes how to determine the capacity of a hard disk using Mac OS 8.
This article has been archived and is no longer updated by Apple.
There are two ways to identify the capacity of the hard disk using Mac OS 8.

Get Info command

1. From the desktop, select (single-click) the hard disk icon.
2. Under the File menu, choose Get Info. (You can also press the Command key and the letter "i" key.)
3. The Get Info window will show the hard disk's capacity, space available, and space used.

Apple System Profiler

1. Under the Apple menu, choose Apple System Profiler.
2. Under the Select menu, choose Volume Information.
3. The hard disk's capacity, space available, and additional information will be displayed.

Additionally the Apple System Profiler also shows you the following information:

- System Overview
- Network/Communication Overview
- Device Information
- Control Panel Information
- Extension Information
- System Folder Information
- Applications Information

Published Date: Feb 18, 2012

LaserWriter 12/640: Setting PhotoGrade & Duplex Options in Windows 3.1x

In Windows 3.1x, I cannot set the PhotoGrade or duplex option for my LaserWriter 12/640 printer. I'm not given the choice to turn these options on. How do I set these options?
This article has been archived and is no longer updated by Apple.
The printer driver software will not let you set these options unless you specify the memory configuration first. If the printer driver is set to the default setting (4 MB), the PhotoGrade and duplex print options will be disabled. To use PhotoGrade or the duplex printing option, the LaserWriter 12/640 printer must have at least 12 MB of memory.

If you want to use a combination of PhotoGrade and duplex, the printer driver will not check that all memory requirements are met; the driver only checks that 12 or more MB of memory has been selected. In other words, the LaserWriter 12/640 printer memory requirements for various combinations of PhotoGrade and duplex options do not always match the printer driver's requirements.

Printer's memory requirements for differing print options:

- PhotoGrade only - requires 12 MB
- Duplex only - requires 12 MB
- PhotoGrade and duplex on all size paper except legal - requires 20 MB
- PhotoGrade and duplex on all size paper - requires 24 MB

Printer driver's requirements:

1. In order to use the duplex option, the Duplex Printing Unit option must be set to Installed.
2. Have the Memory Configuration set to 12 MB or more.

Note: The printer driver will let you choose any combination of PhotoGrade, duplex, and paper size as long as 12 MB or more is selected -- independent of the printer's actual memory requirements to perform the chosen operation.

For example, the printer requires 24 MB of memory to perform a print job requesting PhotoGrade and duplex on legal size paper. However, as long as the printer driver is set to 12 MB or more, it will let you choose these options in the driver. Therefore, be sure the LaserWriter 12/640 printer has at least the minimum memory requirements before setting these features in the driver, and make sure the printer driver's Memory Configuration setting is set to the correct amount before selecting the PhotoGrade and duplex options.
Published Date: Feb 18, 2012

Applesoft: Understanding Garbage Collection

If your Applesoft program mysteriously stops for up to five minutes while running your program, then resumes as if nothing happened, read on.
This article has been archived and is no longer updated by Apple.
When Applesoft re-assigns a string value, it assigns the new value just below the last one. Soon all of free memory is full of old strings that aren't used, requiring Applesoft to free up room by sorting through all its strings and throwing out unused ones. This Garbage Collection may last up to five minutes, depending on how much memory is available and the number of string variables which must be cleared out. Applesoft gives no warning of garbage collection, nor is there a way to prevent it.

Applesoft also does garbage collection when it encounters the FRE(0) function, and this gives us a tool for at least warning the user that the computer will be busy for a while. Applesoft checks the value of PEEK (112) -PEEK (110); when the value is less than one, Applesoft does its garbage collecting. You can check that value to decide when to print a "DON'T WORRY" message, then use A = FRE(0) to force garbage collection. A statement line you could use in your program is:

```
1000 IF PEEK (112) - PEEK (110) < 2 THEN PRINT "STANDBY": A = FRE(0)
```

PRINT FRE(0) may cause the Apple to "hang" if it is invoked from direct mode (from the keyboard) immediately after loading a program from disk; similarly, it appears to hang upon using Applesoft RENUMBER since the variable pointers aren't all reset properly--use CLEAR before the PRINT FRE(0).
Published Date: Feb 18, 2012

Instant Pascal 1.5 Update: Erratum

There is a technical error in the Instant Pascal 1.5 Update document.
This article has been archived and is no longer updated by Apple.
The 1.5 Update document says on page 2 that:

312K or 356 blocks of contiguous memory is required to install Instand Pascal on a hard disk or on a RAM card.

This is incorrect.

The statement should be amended to:

A utility program, IP.Custom has been added so that you can install Instant Pascal on a hard disk or RAM card with at least 512 blocks (256K) of contiguous memory. Instant Pascal does not run on the Applied Engineering RAMDisk because the RAMDisk does not contain 512 contiguous blocks of memory (independent of the size of the RAMDisk).
Published Date: Feb 18, 2012

At Ease: Flashing Question Mark After Hard Disk Driver Update

I am using the security feature in At Ease, and I want to update the hard disk driver with Drive Setup 1.3.1. Is there anything I should know before doing this?
This article has been archived and is no longer updated by Apple.
Turning off any installed disk security, virus protection, and screen saver programs is recommended before updating software. If you have At Ease installed, turn off the security feature of this software before updating software on At Ease workstations. If you do not turn off security features, you may experience a flashing question mark on restarting the At Ease workstation.

How To Avoid This Issue
If you are using At Ease 4.0, 4.0.1, or 5.0, and wish to update your hard disk driver using Drive Setup 1.3.1 or 1.4, it is important that you follow the steps below before using Drive Setup 1.3.1 or 1.4:

1. Launch the At Ease Administration program,
2. Choose System Settings from the Security menu, and
3. Make sure the option, Prevent users from bypassing security by starting up from a floppy disk, is not selected.

After you have updated to the Drive Setup 1.3.1 or 1.4 hard disk driver, you can reactivate the Prevent users from bypassing security by starting up from a floppy disk feature mentioned above.

Workaround to This Issue
If At Ease 4.0, 4.0.1, or 5.0 disk security is enabled and you update the disk driver with Drive Setup 1.3.1 or 1.4, upon restart you may experience a flashing question mark. It is important to note that your data is not lost. If you are in this situation, you will find instructions below for working around this.

SCSI Hard Disk users: If you are using Mac OS 7.6.1 or earlier, subsequent updates of the disk driver with Drive Setup 1.4, 1.3.1 or earlier, and At Ease security disabled will result in flashing question mark behavior. To get around this condition, you will need to perform the following steps:

1. Restart your computer with the Mac OS 7.6.1 CD.
2. Use Apple HD SC Setup from the Mac OS 7.6.1 CD to update driver. The volume should then mount.
3. Restart workstation .
4. Backup important files from workstation.
5. Re-initialize hard drive with Drive Setup 1.3.1 or 1.4.
   WARNING: Before you initialize your hard disk be sure you have a current backup of the hard disk's data. The initialization process will erase all data from your hard disk.
6. Restore files from backup

Important: Using Apple HD SC Setup on a hard drive that has been initialized with Drive Setup 1.3.1 or 1.4 is a temporary solution in order to backup important files. The recommended solution is to re-initialize your hard drive with Drive Setup 1.3.1 or 1.4.

IDE Hard Disk users: To work around this issue, follow the steps below:

1. Restart your computer with the System Software CD (such as the Mac OS 7.6.1 CD or the Mac OS 8.0 CD).
2. Use Drive Setup from the CD to update driver. The volume should then mount.
3. Restart workstation
4. Launch the At Ease Administration program. From the Security menu, choose System Settings. Make sure that the option "Prevent users from bypassing security by starting up from a floppy disk." is not selected.
5. Restart workstation
6. Use Drive Setup 1.3.1 or 1.4 to update driver
7. Restart workstation and reset the At Ease security feature.

Apple is investigating how to improve the process of updating the hard disk driver if At Ease security is enabled.
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1.2 GB Firmware Utility v1.1 Read Me

This article contains the 1.2 GB Firmware Utility document and a link to the 1.2 GB Firmware Utility software.

This article has been archived and is no longer updated by Apple.

Language	Release Date	Software Update	Read Me	OS Required
North American English	1997-10-21			North American Mac OS
International English	---			---
français	---			---
Deutsche	---			---
Español	---			---
Italiano	---			---
Nederlands	---			---

Downloading Help: Article 75098 "**Help: Downloading Software**"

All software available from this site is covered by a software license agreement included with this software.

1.2 GB Firmware Utility Critical Information

This utility is used to update the firmware on a 1.2 GB ATA drive in a Power Macintosh or Performa with firmware version 1.37 and below. This utility can be used on international versions of Mac OS as well as US Mac OS.

This bootable disk image contains a utility to fix a problem with a limited number of 1.2 GB ATA hard drives in some Power Macintosh and Performa configurations that can cause a flashing question mark at startup.

This software consists of a Disk Copy NDIF (New Disk Image Format) compressed image, which requires Disk Copy 6.1 or later to use. Download this software to your hard drive and then double-click it to use it.

Disk Copy 6.1 (or later) is the recommended application to access this disk image.

Note: If you do not have access to Disk Copy 6.1, you can download it from Apple Software Updates: http://www.info.apple.com/swupdates

Overview

Due to an anomaly with some of the 1.2 GB ATA hard drives, a limited number of configurations of the Power Macintosh and Performa models may experience an intermittent flashing question mark from a cold boot or a restart. Restarting the computer may allow the hard drive to boot up properly, but the flashing question mark may return upon the next cold boot.

In order to update the firmware on a hard drive, you must boot the computer from a diskette made from this image. To make a floppy, hold down the option key when opening this disk image in Disk Copy.

Note: Do not lock this diskette, since the utilities need unlocked media to run properly.

Identifying Suspect Units

You can use 1.2 GB Firmware Utility 1.1 or Apple System Profiler to check the firmware version of your drive. To use Apple System Profiler, launch it and go to the Select menu and choose Device Information. The firmware version will be displayed as the Revision Number. The 1.2 GB Firmware Utility 1.1 is not needed unless the firmware version is 1.37 or below. The 1.2 GB Firmware Utility 1.1 also checks the firmware, and

will only update the firmware of the appropriate drives.

Note: If you do not have access to Apple System Profiler, you can download it from Apple Software Updates: http://www.info.apple.com/swupdates

If troubleshooting procedures have been performed and there still is an intermittent flashing question mark, use the following hard drive identifying procedure to determine whether the hard drive should be updated or replaced:

1. If the machine is running, shut down.
2. Power off and disconnect all external SCSI devices (if any).
3. Insert the Utility floppy disk and start the Power Macintosh.
4. Double click on the "ATA_Serial_Num" application. If the internal drive is a candidate to be updated, ATA_Serial_Num automatically downloads the firmware. A window will be displayed with the drive information, including the new firmware version.
   If the drive is not one of the affected drives, the window will display the drive information and a message stating that the drive does not need to be updated.
5. Choose Quit from the File menu. You can choose to save the drive information window as a text file.
6. Reconnect external SCSI devices.
7. Restart. The Macintosh is now ready for normal operation.

Update Note

For this issue, the firmware version 1.37 and below are the affected drives. If you find a drive with the firmware version 1.37 or below, then use the firmware update utility. The utility will check the drive firmware version before update. If the drive firmware version does not qualify for the update, the utility will leave the drive untouched.

Replacement Note

If the drive is updated and it is still exhibiting problems, it may be necessary to replace the drive. See an Apple Authorized Service Provider. To locate a Service Provider in your area see: http://www.info.apple.com/

Published Date: Feb 18, 2012

MacIPX and PCI Token Ring Card Issue Resolution

MacIPX and other products, like MacIrma, which use the slot manager-based API's do not work with Apple computer's PCI Token Ring Card. This article provides a resolution to this issue.
This article has been archived and is no longer updated by Apple.
PCI Token Ring 1.0.1a2 provides a Token Ring Shim to provide backwards compatibility for legacy software which uses the slot manager API's which preceded the Open Transport networking architecture.

This software is posted in the Unsupported area of Apple Software Updates. These articles can help you locate the software update mentioned here:

Where To Find Apple Software Updates - Lists online services for free Apple software updates.

Obtaining Apple Product Support in the USA - Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech Info Library.
Published Date: Feb 18, 2012

Tech Info Library: Basic Search Techniques

This article covers basic search techniques for the Tech Info Library. More advanced search techniques are discussed in TIL article 58444: "**Tech Info Library: Advanced Search Techniques**".
This article has been archived and is no longer updated by Apple.

What Is The Technical Information Library?

The Apple Technical Information Library (TIL) is Apple's official technical support database. The TIL database contains over 15,000 articles related to product specifications, reference documentation, and Apple and third-party product technical issues. It is updated daily with new information and is the same database that Apple employees use to answer support questions.

Searching the TIL

The TIL is a full text indexed database which means that every word in every article is indexed for searching. This provides a high likelihood that your search will return a hit or hits, however, very broad searches can return more hits than are useful. To reduce the number of hits you need to narrow your search to a specific topic or issue.

The TIL uses boolean operators for searching rather than natural language. This means that rather than typing "Why won't my PowerBook battery charge?", you would type "PowerBook and battery and charge". The word "and" in the search query tells the search engine to find any articles that contain the words PowerBook, battery, charge.

Additional boolean operators are listed in the following table:

Note: AND, OR, and AND NOT are treated as operators by default. If you want to use them as literal words, place them in quotes. Capitalization does not matter for the operators. Examples using these operators can be found in TIL article 58444: "**Tech Info Library: Advanced Search Techniques**".

Typing These Operators	Finds
and	Documents that contain both the conditions or words separated by AND
and not	Documents that do not contain the condition or word following AND NOT
or	Documents that contain either of the conditions or words separated by OR
, (comma)	Same documents as OR, but increases the relevance ranking of a document when the document contains more than one matching condition or word
@	Documents which contain both of the words that are separated by @, as long as the words are next to each other in the documents. (Do not place spaces between @ and either word.)

There are three selections for what your search query looks for when in the main TIL window at http://til.info.apple.com. There are radio buttons for searching the title, article text, or article number. Most searches will be performed against the article text, unless you know the title or number of a specific article.
Published Date: Feb 18, 2012

Apple System Profiler and Startup Device Unknown

I upgraded from System 7.5.3 to Mac OS 7.6.1, and now the Apple System Profiler reports the startup devices as "Unknown". I upgrade to Mac OS 8, and I still see the same behavior. What is going on?

This article has been archived and is no longer updated by Apple.

What you describe is cosmetic, it's symptomatic of having nothing selected in the Startup Disk control panel. This issue has been corrected in Apple System Profiler 1.3.1.

Published Date: Feb 18, 2012

Mac OS 8: Dragging Multiple Items From Find File to Desktop

When dragging more than one item from the Find File results window to the Desktop, the items bounce back to the Find File window.
This article has been archived and is no longer updated by Apple.

Symptom

When dragging more than one item from the Find File results window to the Desktop, the items bounce back to the Find File window.

Solution

Workaround

- Drag items one at a time from the Find File result window to the Finder Desktop.

Note: Apple has resolved this issue in the Sherlock search engine that began shipping with Mac OS 8.5.

Note: When attempting to drag multiple items with the same name from the results window in both Find File and Sherlock, you will get an error. However, you may copy them one at a time.

Published Date: Feb 18, 2012

AppleShare IP 5.0.2: Read Me

This article contains the AppleShare IP 5.0.2 Read Me file.
This article has been archived and is no longer updated by Apple.
CONTENTS

What's New
Requirements for Running AppleShare IP 5.0.2
Requirements for Running AppleShare Client 3.7.2
Support
Installing AppleShare IP 5.0.2
Known Problems, Incompatibilities and Limitations

What's New

AppleShare IP 5.0.2 provides Mac OS 8.0 support, two new major features and a number of fixes since version 5.0. First, it supports web server plug-ins that are compatible with W*API version 1.1. Please refer to *AppleShare IP 5.0.2 Addendum* on the AppleShare IP 5.0.2 CD-ROM disc for more information on how to use web server plug-ins. Second, the ability to configure ARA user information was added to the administration software. AppleShare IP 5.0.2 also provides full compatibility with Mac OS 8.0, At Ease 5.0 and ARA 2 and 3 personal server software.

There have been several changes to the AppleShare IP 5.0.2 Mail server which improve its performance, robustness and feedback to the administrator about current mail activity.

- AppleShare IP Mail is now better behaved with regards to DNS. There were some cases in AppleShare IP 5.0 and 5.0.1 where the AppleShare IP Mail Server would ask for information from DNS that could lead to potential stalls in mail delivery performance, which have been identified and fixed in 5.0.2.
- AppleShare IP Mail is now much faster at certain operations. User access to accounts with hundreds or thousands of messages has been improved. Deleting a very large message or many small messages is also faster.
- AppleShare IP Mail now supports more than one outgoing SMTP connection. The AppleShare IP Mail Server uses SMTP to send or forward mail destined for other mail servers on the intranet or Internet. The 5.0 and 5.0.1 AppleShare IP Mail Server only allowed one of these "outgoing" connections. This could lead to delays in the delivery of mail if you frequently had mail that required connections with many different SMTP hosts. The 5.0.2 Mail server now allows many outgoing SMTP connections to be active at once. The standard memory partition in AppleShare IP Mail 5.0.2 allows for 3 outgoing SMTP connections. Increasing the memory partition of the AppleShare IP Mail Server will allow for more outgoing SMTP connections, up to a maximum of 16. You can determine how many outgoing SMTP connections are allowed by checking the ASIP Mail Server log (there will be a message right after the DNS information printed each time the server starts), or by launching AppleShare IP Mail Administration, and selecting the "Show Outgoing SMTP Activity" option from the "Server" menu.
- There is a new window in the AppleShare IP Mail Administration software. This window allows Mail Administrators to view the current status of the outgoing SMTP connections. The window shows the following information:
  - server at idle
  - SMTP host is currently being worked on
  - looking up DNS information
  - attempting to contact a SMTP host
  - transferring messages to a SMTP host

  This new window is available by choosing the "Show Outgoing SMTP Activity" option from the "Server" menu in AppleShare IP Mail Admin 5.0.2.
- If you need to modify your TCP/IP configuration, stop the Mail Server, make changes to the TCP/IP control panel, and restart the Mail Server.

Requirements for Running AppleShare IP 5.0.2

- *CPU*: Any Apple Power Macintosh computer or Workgroup Server with a PowerPC 601, 604, or 604e microprocessor.
- *RAM*: 32 MB of memory with virtual memory turned on; 48 MB with virtual memory turned off. More memory may be needed if you are using one or more web server plug-ins.
- *System Software*: Mac OS 8.0, which includes Open Transport 1.2 and OpenDoc 1.2.1, is strongly recommended. The minimum requirement is Mac OS 7.6 or later with OpenDoc 1.1.2 or later and Open Transport 1.1.2 or later, except for the Workgroup Server 7350 and the Workgroup Server 9650, which require Mac OS 7.6.1 or later.

Requirements for Running AppleShare Client 3.7.2

- *System Software*: 7.5.3 or later
- *Networking Software*: Open Transport 1.1.2 or later

Support

Telephone Support

In the United States, if you have questions about AppleShare IP 5.0.2 that are not answered by the *AppleShare IP Administrator's Manual* or Apple Guide, call the Apple Assistance Center at 1-800-APL-CARE (1-800-275-2273) during telephone support hours (Monday through Friday, 6 am to 6 pm Pacific time). When prompted, enter the support access number provided on the back of your Apple Support Card and follow the instructions.

If you are located outside of the United States, refer to the support information that came with your AppleShare IP 5.0.2 software for instructions.

Web Site

If you have an Internet connection, check the Apple Support Information Web site at http://www.apple.com/support and the AppleShare IP Web site at **http://www.apple.com/applesharеip/** for tips, solutions to problems, or any patches that may become available after the release of the software.

AppleShare IP Mailing List

To receive information about software updates, you are cordially invited to join the AppleShare IP mailing list. By joining the mailing list, you will also have the opportunity to share your experiences, questions, and comments with others using the software. Apple employees monitor the list, but Apple does not guarantee that all questions directed to this list will be answered. For more information about the mailing list, see the AppleShare IP Web site at **http://www.apple.com/applesharеip/**.

Installing AppleShare IP 5.0.2

For summary information about installing AppleShare IP 5.0.2, see the *Installation & Getting Started* file at the root level of your AppleShare IP 5.0.2 CD-ROM disc. For detailed information, see the *AppleShare IP 5.0 Administrator's Manual*. An electronic copy of the manual is available in the AppleShare Electronic Library folder on the AppleShare IP 5.0.2 CD-ROM disc.

You should read the remainder of this Read Me file before you install AppleShare IP 5.0.2; it contains suggestions about the order in which you install software.

Known Issues, Incompatibilities and Limitations

- If your server stops responding when running the AppleShare IP File and Mail servers on the same system, upgrade your server to Open Transport 1.2.1. The Open Transport 1.2.1 patch is located on your AppleShare IP CD in the folder "Open Transport 1.2.1 Update." This update requires Mac OS 8. The Open Transport 1.2.1 update has been tested and qualified on all 601, 604 and 604e based systems with 32 MB of RAM or larger. It is intended only for use with AppleShare IP 5.0.2 servers and with the U.S. version of Mac OS 8.
  If you encounter this problem with System 7.6 or 7.6.1, you must first update your server to Mac OS 8. If you are using a Workgroup Server, note that the Workgroup Server 7350 and 9650 Internet and Application bundles were developed before Mac OS 8 was released. Some of the third party applications provided with the Workgroup Server are undergoing revisions to fully support the added features of Mac OS 8. Please consult the Apple Web site at **http://macos.apple.com/macos/latebreaking/compatibility.html** for more information regarding Workgroup Server updates and application compatibility.
- You can run AppleShare IP under light and moderate load with virtual memory turned on. However, on Mac OS 7.6.x, you may encounter issues running AppleShare IP under very heavy load with virtual memory turned on. Under very heavy load with virtual memory turned on, the AppleShare IP Web & File Server may stop responding with a system error 112. If this occurs, restart your computer and take steps to reduce the load by avoiding the use of other programs, quitting AppleShare IP administrative programs when they are not in use, and lowering the number of concurrent users. If taking these steps does not prevent this situation, install additional memory and turn off virtual memory. This issue has been fixed in Mac OS 8.0.
- Mail Databases created with version 5.0 of the Mail Server are not compatible with those used by versions 5.0.1 and 5.0.2. There are two methods available for preserving e-mail that is contained in a 5.0 Mail Database.
  1. Before upgrading to 5.0.2, have all clients download their messages from the Mail Server. When that is complete, shut down the Mail Server so that you can simply throw away the AppleShare IP Mail 5.0 Database. The 5.0.2 server will create a New Database upon startup.
  2. There is a tool available on the AppleShare IP Web site (**http://www.apple.com/applesharеip/**) which can convert ASIP Mail 5.0 databases to the file format compatible with 5.0.1 & 5.0.2. This tool is called the AppleShare IP Mail Tool. The tool also allows scavenging of unusable AppleShare IP Mail Databases, compression of AppleShare IP Mail Databases, and reassignment of disabled mail account/mailboxes (see section in this Read Me about disabled accounts).

Installation and AppleShare IP Easy Setup

- If you are installing onto a computer running Mac OS 7.6, the AppleShare IP Installer installs the 7.6 Device Mgr Server Update version 1.0 on all computers and version 1.0.5 of the built-in Ethernet driver on PCI-based computers.
- On computers that run AppleShare IP, disable the sections of the Energy Saver control panel that handle hard disks. (They are enabled by default when you install system software.) If you do not disable energy saving for disks, several seconds will elapse before an AppleShare IP server can respond to a user's request as the disk drive

s spin up. To disable energy saving for hard disks, in the Energy Saver control panel, make sure that the "Shut down instead of sleeping" box is not checked and that the slider is set to "Never." Click the Show Details button in the Energy Saver control panel and make sure that the "Separate timing for hard disk sleep" check box is not checked. Choose Server Settings from the Preferences menu, make sure that the "Never put hard disk to sleep" box is checked in the dialog box that appears, and click OK.

- When installing software on computers that run AppleShare IP, you may see a dialog box with the following message: "Installation cannot take place on the active disk while other applications are running. Please quit the AppleShare IP Registry and try again." If you see this dialog box, dismiss it and try the installation again. If the dialog box continues to appear, quit all applications and select "Mac OS 7.6 base" or "Mac OS 8.0 base" from the Selected Set pop-up menu in the Extensions Manager control panel. Restart your computer and try the installation again. Then use the Extensions Manager control panel to turn extensions on and restart once more.
- If you want to use the Vicom Internet Gateway software (available on the AppleShare IP Companion CD-ROM disc that came with your original AppleShare IP 5.0), you should install it on a computer other than a computer that runs AppleShare IP 5.0.2. If you run the Vicom Internet Gateway software on a computer that also runs one or more of the AppleShare IP 5.0.2 servers, performance of the AppleShare IP servers may be affected, PPP connections may experience timeouts, and proxy services may perform poorly.
- If you are running MacOS 7.6 on your server, the Web & File Server may crash if the Apple Menu Options control panel is enabled. To prevent the crash, the Installer removes the Apple Menu Options control panel if you are running MacOS 7.6. The Apple Menu Options control panel that comes with MacOS 8.0 fixes the problem.
- The Web & File Server may crash if the File Sharing Control Strip is enabled. To prevent the crash, the Installer removes the File Sharing Control Strip when it installs AppleShare IP 5.0.2.
- The *AppleShare IP Administrator's Manual's* instructions for running AppleShare IP Easy Setup incorrectly tells you to enter the new serial number that came with your AppleShare IP 5.0.2 software if you are upgrading from a version of AppleShare 4. If you are upgrading from a version of AppleShare 4, AppleShare IP Easy Setup automatically displays your current serial number for you. To proceed, click the right arrow button.

Web & File Admin

- On computers that do not have a lot of memory (48 MB or less), the Web & File Admin program may display a dialog box stating that it is out of memory. When you dismiss the dialog box, the Web & File Admin program quits. To prevent the Web & File Admin program from running out of memory again, you may want to quit other administration programs that you aren't using, turn on virtual memory, or install OpenDoc 1.2 or later. OpenDoc 1.2 corrects problems that may occur during low memory conditions.
- The MacAfee VirusScannerPPC application is not compatible with the AppleShare IP Web & File Admin program. If you have issues with running VirusScannerPPC, stop using it.

Web & File Server

- For the latest information on web server plug-in compatiblities, please refer to AppleShare IP web site at **http://www.apple.com/appleshareip/**.
- If a computer that is running the Web & File Server stops responding, check your hard disks by running Disk First Aid before you start the Web & File Server again. Disk First Aid is located in the Utilities folder on your Mac OS CD-ROM disc.
- If you need to modify your TCP/IP configuration, stop the Web & File Server, make changes to the TCP/IP control panel, and restart the Web & File Server.
- If you installed a prerelease version of AppleShare IP 5.0 and have trouble starting the Web & File Server from the Web & File Admin program, remove your Users & Groups Data File from the Preferences folder. If you want to save your user information, use the Export option from the Web & File Admin program's File Menu before deleting the file. After you have rebooted, you can use the Import option to add the users back. Passwords cannot be exported and must be reentered. You will also have to reassign any access privileges that you've set. This information only applies to prerelease versions of AppleShare IP 5.0. Versions of AppleShare 4 upgrade correctly.
- The AppleShare IP 5.0 Web & File Server uses a new set of access privileges based on combinations of the original access privileges (See Files, See Folders, and Make Changes). The new privileges are Read Only, Read & Write, Write Only, and None. When a user connects to an AppleShare IP volume and chooses Sharing from the Finder's File menu, the dialog box that appears displays the original AppleShare access privileges. If the user changes the folder's privileges to a combination of privileges that is invalid on the AppleShare IP file server, the file server automatically applies the most secure access privilege that approximates the change. If the user closes the dialog box and chooses Sharing again for that folder, the check boxes that are checked may be different than the check boxes that user checked earlier.
- The Adobe Acrobat Installer cannot be used while the Web & File Server is running. Be sure to install Adobe Acrobat before you start the Web & File Server.
- The requirements for creating drop boxes on a computer that is running the AppleShare IP Web & File Server are slightly different than for previous versions of AppleShare. On computers that are running the Web & File Server, make a disk or a folder a share point and assign Read Only or Read & Write access. Inside the disk or folder that has been made a share point, create the folders that are to be drop boxes and assign the Write Only privilege to the Everyone category for each folder.
- FTP client applications that do not enable "store unique" functionality cannot transfer files to an AppleShare IP drop box (that is, a folder whose access privileges are set to Write Only). When these FTP client applications are used to transfer files to a drop box, an Access Denied error occurs (error code 550). Many Mac OS FTP applications do not enable "store unique," but most UNIX FTP applications do.
- Upgrade to Fetch 3.0.2 or later if you are using version 3.0.1 or earlier of Dartmouth College's Fetch application. Fetch 3.0.2 includes changes that automatically send the appropriate FTP commands for downloading files that are in MacBinary format. (With Fetch 3.0.1 or earlier, you must use Fetch's Send FTP Command(s) command to send the MacBinary Enable command to the FTP Server and click the Binary radio button to download files correctly that are not in BinHex format.)
- Be careful when using FTP client applications to transfer files to the Web & File Server; under certain circumstances, a file may be unintentionally overwritten. Say, for example, that there is a file named X that you want to transfer in MacBinary or BinHex format. Most

FTP client applications automatically append an extension of .bin (or .hqx for BinHex format) to the file, thereby implying that the file will be named X.bin (or X.hqx) when the transfer is complete. However, after the FTP client application transfers the file to the Web & File Server, the server decodes the file and removes the extension. If there is a file named X in the folder to which the file is transferred, it will be overwritten. To prevent this behavior, rename the file before you transfer it. For example, name the file X1 and then transfer it.

- When using a UNIX FTP client application to retrieve a file from the AppleShare IP FTP server, you may see the error message "Data connection reset by client." If you encounter this error, you can sometimes work around it by closing the FTP session and establishing a new session. If possible, you can also try a different FTP client program.
- Some Web browsers automatically look for and display a file named Default.html or a file named Index.html as the point of entry (home page) to your Web site, regardless of the file that is selected as the default home page in the Web & File Admin program's Web & File Server Settings window. You can avoid having visitors inadvertently see the wrong home page by removing files named Default.html and Index.html from the folder that is set as the Web Folder (whether at root level or in a nested folder) unless the file is selected as the default home page. If you decide to change the name of the file that is selected as your default home page, be sure to update any links that reference it.
- AppleShare IP 5.0.2 is not compatible with ARA Multiport Server software. You should not run them on the same computer.
- To retain CD ROM or locked volume privileges set under Macintosh File Sharing or a previous version of AppleShare, you must copy their access privileges files from the File Server folder to the Access Privileges folder inside the AppleShare IP Preferences. Both the File Server folder and the AppleShare IP Preferences folder are located inside the Preferences folder in the System Folder.

AppleShare Client 3.7.2 Software

- AppleShare Client 3.7.2 Software is appropriate for computers running system software version 7.5.3 or later. See the AppleShare Client 3.7 Read Me for the versions of AppleShare Client software that are recommended for system software versions prior to system software version 7.5.3.
- If you have issues using the AppleShare Client 3.7.2 software to connect to an AppleShare IP file server over TCP/IP, use MacTCP Ping (available from Apple Computer) to make sure that you can ping the computer that is running the AppleShare IP file server software. If you can't ping successfully, there is a connectivity issue. Check cabling and the configuration of the TCP/IP control panel.
- The AppleShare Client 3.7.2 software is not compatible with versions of RunShare prior to version 3.0, and it may cause the system to stop responding. Be sure to upgrade to RunShare version 3.0 or later before you install AppleShare Client Software 3.7.2.
- If a user makes an alias to an AppleShare IP volume and uses TCP to connect to that volume, both TCP/IP and AppleTalk must be active on the user's computer. Due to a limitation in the Alias Manager, AppleTalk must be active to resolve the alias.
- Microsoft Office Manager (Office 4.2.1) causes the AppleShare Client 3.7.2 software to crash when you try to connect to an AppleShare file server. To correct this problem, install Office Manager Updater, available from Microsoft.
- If you are running system software version 7.5.3 on a PowerPC-based computer and set up automounting of an AppleShare volume over TCP, the automount process may use AppleTalk instead of TCP. This problem is fixed in system software version 7.5.5 and later.
- When you install Open Transport 1.1.2 on a PowerBook 3400, immediately install the Mac OS 7.6.1 Update for PowerBook 3400. The update fixes a situation that could cause the system to stop responding when you switch between Infrared and LocalTalk.
- The NetWare User Authentication Module is incompatible with the AppleShare Client 3.7.2 software. Contact Novell for an update.
- Some old HyperCard XCMDs that mount AppleShare volumes are incompatible with the AppleShare Client 3.7.2 software.
- Utilities that mount disk images from AppleShare file servers may be incompatible with the AppleShare Client 3.7.2 software. If you have issues, contact the vendor for a new version.
- Versions of Santorini Server Manager earlier than 4.0 are not fully functional when used with the AppleShare Client 3.7.2 software. Be sure to install Santorini Server Manager 4.0 from the AppleShare IP Companion CD-ROM disc.
- Server management applications that mount AppleShare volumes may be incompatible with the AppleShare Client 3.7.2 software. Contact the vendor for an update.

Mail Server

- If you need to modify your TCP/IP configuration, stop the Mail Server, make changes to the TCP/IP control panel, and restart the Mail Server.
- The Mail Admin folder inside the AppleShare IP 5.0 folder on your startup disk contains an application called the PowerShare Exporter. You can use PowerShare Exporter to export users from PowerShare and import them into an AppleShare IP Users & Groups Data File.
- The Mail Server should not be running when you back up the Mail Server's mail database. AppleShare IP 5.0 comes with a Retrospect script for stopping the Mail Server, backing up the mail database, and restarting the Mail Server automatically. For information on this script, see the Read Me file for the Retrospect Event Handler script in the Mail Backup Samples folder at the root level of the AppleShare IP 5.0 CD-ROM disc.
- The AppleShare IP Mail Server uses a special "fingerprint" to ensure that a user's account in the mail database matches the correct user in the Users & Groups Data File. The fingerprint is a unique number that is stored in the user's record in the Users & Groups Data File and in the user's account/mailbox in the mail database.

The Mail Server checks for fingerprint mismatches each time it starts up. When it finds a user in the mail database whose fingerprint does not match the fingerprint of any user in the Users & Groups Data File, the Mail Server enters a summary message in the Mail Server log and a detailed message in the Mail Server error log, and disables the user's mail account/mailbox. To retrieve mail from a disabled mail account, use the AppleShare IP Mail Tool (available from the AppleShare IP Web site at **http://www.apple.com/applesharеip/**) to assign the mail account to a valid user in the Users & Groups Data File.

You can prevent mismatch problems by taking these precautions:

- Treat the Users & Groups Data File and the mail database as a set. Always back up and restore them together. If you were to restore the Users & Groups Data File without also restoring the mail database, Mail Server would disable the mail accounts of users who are in the mail database but who are not in the restored Users & Groups Data File. If you must restore the Users & Groups Data File, make sure that all current users have retrieved their mail first (if possible). Then restore the Users & Groups Data File and the mail database from the same backup. Alternatively, you can restore the Users & Groups Data File, start the Mail Server, note the mail accounts that are disabled, and use the AppleShare IP Mail Tool to assign the disabled accounts to valid users.
- If you move the mail database to another computer, move the Users & Groups Data File, too. If you were to move the mail database to another computer without moving the Users & Groups Data File, the Mail Server would disable most (if not all) mail accounts and create new, empty mail accounts for the users in the Users & Groups Data File for whom mail is enabled. (Note, however, that if you move the Users & Groups Data File to another computer that is running the Web & File Server, any access privileges that have been assigned on that computer will be lost because the access privileges no longer match the Users & Group Data File.)
- When you delete users for whom mail is enabled, make sure the AppleShare IP Mail Server is running. If the Mail Server is not running when you delete users for whom mail is enabled, the next time the Mail Server starts up, it will report that the deleted users' mail accounts do not have a matching entry and it will disable their mail accounts.

Note: It is always safe to throw away a mail database that is empty (as indicated by a zero in the "Number of Messages" field in the Mail Server Activity window). When you restart the Mail Server, it will create a mail account for each user in the Users & Groups Data File for which the Enable Mail radio button is selected.

Print Admin

- To see updates in the Print Admin program's Log window, you need to close and open the window again.
- If you create a queue and attach printers to it when the Print Server is busy, a communication issue may occur between the Print Admin program and the Print Server and an alert box may appear. Dismiss the alert box. In a few minutes the queue will appear in the Print Server Activity window with a status message indicating that no printers are attached to the queue. You need to attach the printers again.

Print Server

- The Print Server is not compatible with QuickDraw GX client applications. If you are setting up the Print Server in an environment that requires printing by QuickDraw GX client applications, be sure to enable the "Visible in Chooser" setting for at least one printer that is attached to a Print Server queue or be sure there is at least one printer that is not attached to a Print Server queue. That way, users who require QuickDraw GX support can use the printer directly.
- The Print Server cannot prevent printers that use the LaserWriter IIg version 2010.113 printer description file (PPD) from being visible in the Chooser even when the "Visible in Chooser" setting is not selected. To change the PPD file that the LaserWriter IIg uses, open the Chooser, click a printer icon, select the printer whose PPD file you want to change, and click Setup. In the dialog box that appears, click the Select PPD button and select a different PPD file (such as LaserWriter IIg v2010.130) from the list of PPD files. Click Select and then click OK.
- Do not choose a Print Server queue as the printer for a computer that is running the Print Server. The printing software will crash if you try to print on queue from a computer that is running the Print Server. If necessary, make a printer visible in the Chooser so that you can print on it directly.

Documentation

- The *AppleShare IP Administrator's Manual* shows that the "Enable users to save password for automatic log on" attribute in the Password Settings window is enabled by default. This is incorrect. By default, the "Enable users to save password for automatic log on" attribute is disabled.
- The *AppleShare IP Administrator's Manual* does not document the backup copy of the Users & Groups Data File that is made automatically the first time you start the AppleShare IP 5.0 Web & File Server. The backup is named Users & Groups Data File Backup, and it is located in the Preferences folder inside the System Folder on your startup disk. The purpose of the backup is to preserve a copy of your Users & Groups Data File in case you later decide to run Macintosh File Sharing or an earlier version of AppleShare. If you decide to run Macintosh File Sharing or a earlier version of AppleShare, you must first remove the AppleShare IP 5.0 software. Then remove the Users & Groups Data File, rename the Users & Groups Data File Backup to Users & Groups Data File, and restart your computer. These steps restore your Users & Groups Data File to its original state before you installed AppleShare IP 5.0.2.
- The *AppleShare IP Administrator's Manual* incorrectly implies that you can enter more than one serial number in the Web & File Server Settings window. You can only enter one serial number.
- The *AppleShare IP Administrator's Manual* incorrectly tells you to enter the new serial number that came with your AppleShare IP 5.0 software if you are upgrading from a version of AppleShare 3 or 4. If you are upgrading from a version of AppleShare 4, AppleShare IP Easy Setup automatically displays your current serial number for you.
- The *AppleShare IP Administrator's Manual* refers to the AppleShare IP 5.0 Library folder. The correct name for that folder is the AppleShare Electronic Library.

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AppleShare IP 5.0.2 Updater: Read Me

This article is the AppleShare IP 5.0.2 Updater Read Me file.
Note: Some information in this Read Me has been updated. See the Revisions section at the end of this article.
This article has been archived and is no longer updated by Apple.
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What is the AppleShare IP 5.0.2 Updater?
Installing the AppleShare IP 5.0.2 Updater
How to order the AppleShare IP 5.0.2 Update CD
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What is the AppleShare IP Web & File 5.0.2 rev B patch?

What is the AppleShare IP 5.0.2 Updater?

The AppleShare IP 5.0.2 Updater provides a convenient, easy way for AppleShare IP 5.0 and 5.0.1 customers to upgrade to AppleShare IP version 5.0.2. This updater is available for download from the AppleShare IP web site at **http://www.apple.com/appleshareip/**. In addition to including software for updating previously installed versions of AppleShare IP 5.0 and 5.0.1, the Updater includes the *AppleShare IP 5.0.2 Addendum* to the *AppleShare IP 5.0 Administrator's Manual*. It does not contain the NetCloak, Log Door, or Mac OS 8 software that is included with the AppleShare IP 5.0.2 Update CD. For information on how to order the AppleShare IP 5.0.2 Update CD, please see the section "How to order the AppleShare IP 5.0.2 Update CD" below.

AppleShare IP 5.0.2 provides Mac OS 8.0 support, two new major features and a number of bug fixes since version 5.0. First, it supports web server plug-ins that are compatible with W*API version 1.1. Please refer to *AppleShare IP 5.0.2 Addendum* for more information on how to use web server plug-ins. Second, the ability to configure ARA user information was added to the administration software. AppleShare IP 5.0.2 also provides full compatibility with Mac OS 8.0, At Ease 5.0 and ARA 2 and 3 personal server software. For further details, please read the AppleShare IP 5.0.2 Read Me.

In addition to the AppleShare IP 5.0.2 updates, the download includes two patchers for updating Open Transport 1.2 and the AppleShare IP 5.0.2 Web & File Server. For more information on these patchers, see the last two sections of this Read Me file.

The AppleShare IP 5.0.2 Updater cannot be installed over beta releases of AppleShare IP. If you are currently running a beta release of AppleShare IP, install a retail copy of AppleShare IP 5.0 or 5.0.1 before proceeding.

Installing the AppleShare IP 5.0.2 Updater

After downloading the AppleShare IP 5.0.2 Updater, please read the AppleShare IP 5.0.2 Read Me file for additional information on installing the AppleShare IP 5.0.2 software on your disk. After you have successfully run the AppleShare IP Update installer and rebooted your system, you are ready to run the AppleShare IP Update applications that were copied to your hard disk along with the rest of the AppleShare IP 5.0.2 software. The Update applications "Web & File 5.0.2 Update" and "Mail Server 5.0.2 Update" are located in the "AppleShare IP 5.0" folder copied to the root of your startup volume.

The "Web & File 5.0.2 Update" application will update your 5.0 or 5.0.1 version of the AppleShare IP Web & File extension residing in the Extensions folder. If the 5.0 or 5.0.1 version of the AppleShare IP Web & File extension can not be located then no further changes will be made. If the Update application detects multiple copies of the Web & File extension, please select the copy residing in the Extensions folder to update. If you have previously run the Update application, then no further updates will occur since the extension has already been upgraded to 5.0.2.

The "Mail Server 5.0.2 Update" application will update your 5.0 or 5.0.1 version of the AppleShare IP Mail Server application residing in the Extensions folder. If the 5.0 or 5.0.1 version of the AppleShare IP Mail Server application can not be located then no further changes will be made. If the Update application detects multiple copies of the Mail Server application, please select the copy residing in the Extensions folder to update. If you have previously run the Update application, then no further updates will occur since the Mail Server has already been upgraded to 5.0.2.

At this time, you may choose to run the Open Transport 1.2.1 patcher to update your existing Open Transport software. If you will be running the AppleShare IP Web Server, you may also choose to run the AppleShare IP Web & File 5.0.2 rev B patcher to update the AppleShare IP Web & File 5.0.2 extension.

How to order the AppleShare IP 5.0.2 Update CD

Customers in the US can order the AppleShare IP 5.0.2 Update by fax or U.S. mail for $25.00 plus tax plus $6.95 for shipping and handling (tax exempt customers must include a copy of their tax exempt certificate. To order by mail in the U.S., please send a copy of the receipt or manual cover for AppleShare IP 5.0, and a request to order the AppleShare IP 5.0.2 Update with payment. The mailing address is:

Apple Order Center

PO Box 1470
Buffalo, NY 14240-8640

To fax in an order with proof of purchase and payment information, send your fax to 716-447-7305. For more information on Apple Order Center, see article 13406: "**Apple Order Center**."

Visa, MasterCard, American Express, and Personal Checks are accepted. Please make checks payable to Claris Corporation. No purchase orders will be accepted. Please allow 2-3 weeks for orders to be received, processed and delivered. Pricing and availability subject to change without notice. Offer good in the US only. To check the status of an order placed through one of the above options please call 1-800-293-6617.

What is the Open Transport 1.2.1 patch?

The Open Transport 1.2.1 patch is available for customers of AppleShare IP 5.0.2 that experience server crashes when running the AppleShare IP File and Mail servers on the same system. The Open Transport 1.2.1 patch is downloaded in the folder "Open Transport 1.2.1 Update." This update requires Mac OS 8 which contains Open Transport 1.2. The Open Transport 1.2.1 update has been tested and qualified on all 601, 604 and 604e based systems with 32 MB of RAM or larger. It is intended only for use with AppleShare IP 5.0.2 servers and with the U.S. version of Mac OS 8.

If you encounter this problem with System 7.6 or 7.6.1, you must first update your server to Mac OS 8. If you are using a Workgroup Server, note that the Workgroup Server 7350 and 9650 Internet and Application bundles were developed before Mac OS 8 was released. Some of the third party applications provided with the Workgroup Server are undergoing revisions to fully support the added features of Mac OS 8. Please consult the Apple Web site at **http://macos.apple.com/macos/latebreaking/compatibility.html** for more information regarding Workgroup Server updates and application compatibility.

What is the AppleShare IP Web & File 5.0.2 rev B patch?

There is a bug in AppleShare IP Web & File 5.0.2 that causes a performance degradation in the Web Server portion of the software. You should update your copy of the AppleShare IP Web & File extension if you use the AppleShare IP Web Server. To update, first follow the instructions for installing the AppleShare IP 5.0.2 Updater and running the "Web and File 5.0.2 Update" application and then run the "Web & File 5.0.2 revB Patch" application.

Revisions
To obtain updates or upgrades to the AppleShare software, first check the Apple Software Updates web site at **http://www.apple.com/swupdates**. If the update you require is not available there, check the AppleShare IP web site at **http://www.apple.com/appleshareip/text/purchasing.html** for additional upgrade options.
Published Date: Feb 18, 2012

AppleShare IP 5.0.2: Verifying It is Installed Correctly

This article provides information for verifying the correct installation of AppleShare IP 5.0.2.
This article has been archived and is no longer updated by Apple.
Make sure you updated to AppleShare IP 5.0.2 correctly through one of the following procedures.

If you installed AppleShare IP 5.0.2 with the fulfillment CD, then the Web, File, and Mail server files should be installed correctly.

If you downloaded the ASIP 5.0.2 Updater from **http://www.apple.com/appleshareip/**, there will be an Update AppleShare IP 5.0.2, a Web & File 5.0.2 rev B Patch Vise installer, and an Open Transport 1.2.1 patch. You will need to run each of these individual installers to update their respective server components, that is Web & File or Mail servers. If the Vise installers do not find the previous versions of those server files, they will cancel the installation. Once all of the Installations have been performed, you can verify that you have the correct version of AppleShare IP by doing the following. To verify the version of AppleShare IP that you have installed:

1. Open the System Folder
2. Open the Extensions Folder
3. Highlight either the AppleShare IP Mail Server, AppleShare IP Libraries, or AppleShare IP Registry file
4. Select Get Info from the File Menu
5. The second line of the File Name field should read "AppleShare IP 5.0.2"

Published Date: Feb 18, 2012

AppleShare IP 5.0.2: Update Availability

This article provides information on how and where to get the AppleShare IP 5.0.2 update.
This article has been archived and is no longer updated by Apple.
Apple is making AppleShare IP 5.0.2, an update to AppleShare IP 5.0 available. Version 5.0.2 provides support for Mac OS 8 and the WebSTAR APIs.

The AppleShare IP 5.0.2 Update includes the following software:

- AppleShare IP 5.0.2
- NetCloak from Maxum (on the fulfillment CD only)
- LogDoor from Open Door Networks (on the fulfillment CD only)
- Mac OS 8 (on the fulfillment CD only)
- Open Transport 1.2.1

The update is available for download at **http://www.apple.com/swupdates**.
Published Date: Feb 18, 2012

Open Transport 1.2.1: About This Patch

This article is the Open Transport 1.2.1 about this patch information.
This article has been archived and is no longer updated by Apple.
This patch fixes a bug with Open Transport 1.2 that can cause problems when running the AppleShare Mail Server and AppleShare IP File Server under heavy load. The OpenTransportLib and Open Transport Library files, found in the Extensions folder of your active System Folder, will be updated to version 1.2.1. This patch is for PowerPC computers only and is only recommended for AppleShare IP servers. You will need to restart your computer when the patcher has been run.
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Power Macintosh G3: Color StyleWriter 4100/4500 Printer Issue

This article describes a compatibility issue between the Power Macintosh G3 computers and the Color StyleWriter 4100 and 4500 printers using version 1.0.3 of the StyleWriter print driver.
This article has been archived and is no longer updated by Apple.
The Color StyleWriter 4100 and Color StyleWriter 4500 are not compatible with the Power Macintosh G3 computers. When attempting to print using the V1.0.3 driver the following error dialog is displayed: "The printer is not responding. Make sure that the current port is selected in the Chooser and that the printer is properly connected and turned on. Click Cancel to terminate printing."

The PowerBook G3, Power Macintosh 8600 250/300, Power Macintosh 9600 300/350 and Power Macintosh computers equipped with the 233-MHz processor upgrade may also exhibit this behavior. For these models it may be possible to significantly improve reliability by turning virtual memory ON.

Solution:
Upgrade to the Color StyleWriter 4000 Series Driver v1.1 Update .

This update should be used when your computer is connected directly to the Color StyleWriter 4100 or 4500 printer using the serial cable that came with the printer. This update fixes communication problems in which documents fail to print with messages such as "The printer is not responding" or "Sorry, a system error occurred (-23)."

This update also improves printing behavior in some low memory situations.

If your printer is connected to a Power Macintosh G3 computer using the serial cable, or you experience these problems frequently, you should install the update. If your Color StyleWriter is connected to your computer via a LocalTalk network, you do not need to install the update.

This article can help you locate the software update mentioned here:

- Article 14724: "**Where To Find Apple Software Updates**" - Lists online services for free Apple software updates.

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At Ease 4.0.x and HP Printer Drivers

I get the message, "Items for <user name>", remaining up on the desktop after logging out for each user that was logged on; the users are all members of restricted Finder workgroups. Also, sometimes I get a dialog asking me to rename the HP printer when I logout of At Ease.

These simptoms only seem to occur on computers with HP Printer drivers installed. Is there anything I can do to prevent this?
This article has been archived and is no longer updated by Apple.
At Ease 5.0 address this issue with Hewlett Packard (HP) Printer drivers.
Published Date: Feb 18, 2012

eMate: Power On Procedure After Extended Storage

We just pulled our eMate computers out of storage. What is the best method for using an eMate for the first time after its been in storage?
This article has been archived and is no longer updated by Apple.
After an eMate has been in long term storage, it may not have a sufficient battery charge to power on without using a power adapter. The following steps should be used before powering on the eMate after long term storage:

1. Remove inserted PC cards and disconnect serial devices.
2. Connect the eMate to a Newton AC Power Adapter. A Newton 9-watt AC Power Adapter is recommended.
3. Plug the Newton AC Power Adapter into a wall power outlet or power strip.
4. Allow the eMate to charge.
5. If the eMate displays an error message that says the battery is not accepting a charge, perform a short or soft reset and repeat steps 2-4. (This step may need to be repeated as many as 5 times.)
6. Let the eMate charge for approximately one to two hours.

After a reset, the eMate may take a minimum of 30 seconds and up to two minutes to power on. Adjust the screen contrast slider (left slider) for proper contrast.

The following information appears in the eMate 300 User's Manual on page 414 in Appendix C: Using the Battery.

--Begin Quote--

Recharge the battery by plugging the eMate into the power adapter, then plugging the adapter into an electrical outlet or power strip.

Note: Don't worry about overcharging the battery; the eMate is designed so this can't happen.

The charging status light on the eMate shows the status of battery charging.

* Green - the battery is fully charged.

* Amber - the battery is being charged.

* No color/off - the battery is not being charged from the power adapter (the power adapter is not plugged into the eMate).

Note: Whenever the eMate is not plugged into the power adapter, the charging status light is off. You can't use the light to determine whether the battery is low. To check the battery status, see "Determining the Battery Level" on page 414.

It takes approximately one to two hours to recharge the eMate battery. This time depends on:

* How much charge the battery contains when you recharge it. A battery that's fully discharged takes longer to fully recharge than one that's partially charged.

* What the eMate is being used for while it's being charged. If you're using the eMate while you're recharging it, you're using some of the power that's going into the battery. Therefore, it takes longer to charge an eMate that's in use than one that is idle. If for some reason, you think you need to replace the battery, contact an Apple Authorized Service Provider.

--End Quote--

Newton OS System Update 737246 updated eMate charging characteristics. For more information, please see the following Tech Info Library article:

Article 24524: "**eMate 300 Update 2.1 (737246)**"

It is recommended not to leave PC cards inserted or serial devices connected to the eMate overnight or when left in storage. Some PC cards draw power when not in use, and may cause difficulty when powering on the unit.

During extended or longterm storage, the eMate battery may be removed to prevent charge loss.

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AppleWorks: Number Of Copies Printable At One Time

In AppleWorks, you have many different printing options. One of these options is the "How many copies?" you want to print. The default setting for this option is 1 copy. You can print up to 9 copies from AppleWorks at one time. If you attempt to enter a number larger than 9, the speaker beeps.
This article has been archived and is no longer updated by Apple.
If you are in the Word Processor, you can have the computer print more than
one copy of the document at a time.

1. Move the cursor to the bottom of the document.

2. Place a NEW PAGE option after the last line.

3. Enter Open-Apple-C, Copy to the Clipboard, and enter Open-Apple-1. This selects all of the document. Press RETURN and a copy of the document will be placed in the clipboard.

4. You can now copy aditional documents at the end of the existing report. Use the Open-Apple-C, "Copy FROM the Clipboard", and a copy of the document will be added to the end of the file.

You can now print up to 18 copies of the document. Depending on the size of the document, you can Open-Apple-Copy more copies of the document and print even larger quantities of the document.
Published Date: Feb 18, 2012

LaserWriter: Jobs not Deleted From Windows NT 3.51 Spooler

I am using AppleTalk on Windows NT to print to a Color LaserWriter 12/600 PS and a LaserWriter 16/600 PS. I get a printout, but then the printjob is not deleted from the Windows NT Spooler.
This article has been archived and is no longer updated by Apple.
Microsoft is aware of the issue, and has solved it with the release of Service Pack Four for Windows NT 3.51.
Published Date: Feb 18, 2012

Macintosh SE Internal System Expansion Slot: Pinout Information

This article has been archived and is no longer updated by Apple.

Row	Column 1	Column 2	Column 3
32	-12V	-5V	+12V
31	Spare	+12V	+12V
30	Ground	+12V	Ground
29	D15	Ground	C16M
28	D14	Ext.STK/	C8M
27	D13	Reserved	E
26	D12	Reserved	A23
25	D11	Reserved	A22
24	D10	Reserved	A21
23	D9	Reserved	A20
22	D8	Spare	A19
21	D7	BERR/	A18
20	D6	IPL2/	A17
19	D5	IPL1/	A16
18	D4	IPL0/	A15
17	D3	+5V	A14
16	D2	+5V	A13
15	D1	+5V	A12
14	D0	+5V	A11
13	+5V	+5V	A10
12	RESET/	HALT/	A9
11	PMCYC/	Reserved	A8
10	AS/	Reserved	A7
9	UDS/	Ground	A6
8	LDS/	Ground	A5
7	R/W/	Ground	A4
6	DTACK/	Ground	A3
5	BG/	Ground	A2
4	BGACK/	Ground	A1
3	BR/	Ground	FC0
2	VMA/	Ground	FC1
1	VPA/	Ground	FC2

Here is a description of the signals in the system expansion slot.

Signal Description

FC0-FC2 68000 Function Code lines

A1-A23 68000 Address lines

E 68000 E Clock

C8M Microprocessor clock = 7.8336 MHz = C16M divided by 2.

C16M Gate Array Clock = 15.6672 MHz

HALT/ 68000 Halt. Wired directly to RESET/

IPL0/-IPL2/ 68000 Interrupt Priority Level lines

BERR/ 68000 Bus Error. Generated by gate array due to SCSI access timeout.

Ext.DTK/ Pull low to put the gate array generated DTACK/ into a

high-impedance state. The expansion board is then
responsible for generating the DTACK/signal (as an output
to the microprocessor, throught the DTACK/signal line).

VPA/ 68000 Valid Peripheral Address. Supplied to 68000.
For Macintosh SE, VPA space is $E0 0000 to $FF FFFF.

VMA/ 68000 Valid Memory Address

BR/ 68000 Bus Request

BGACK/ 68000 Bus Grant Acknowledge

BG/ 68000 Bus Grant

DTACK/ 68000 Data Transfer Acknowledge. Inserts wait states until
data bus is available. Normally supplied by the gate array.
Gate array generation of DTACK/ can be suppressed (put into
a high-impedance state) by pulling the EXT.DTACK/line low;
this allows DTACK/ to be externally generated by an add-on
device. DTACK/ is not supplied for accesses to VPA space,
is held off to separate 2 successive accesses to the SCC and
is held off during RAM access by video.

R/W/ 68000 Read/Write

LDS/ 68000 Lower Data Strobe

UDS/ 68000 Upper Data Strobe

AS/ 68000 Address Strobe

PMCYC/ Processor-Memory Cycle. Used to synchronize with the gate
array for RAM accesses. PMCYC/ is low when RAM is available
for microporcessor accesses and is high during video acesses.
PMCYC/ is always high during SO.

RESET/ 68000 Reset. Wired directly to HALT/.

D0-D15 68000 Data Bus

Additional information may be found in the the Motorola 68000 manual.

Published Date: Feb 18, 2012

Laserwriter 8.5.1: Acrobat PDF Option Unavailable?

How do I create PDF format files using LW 8.5.1? According to page 135 of the Laserwriter 8500 user's guide, documents can be saved as PDF files using the Laserwriter 8.5.1 driver. When I try this, the option is grayed out and is therefore unavailable.
This article has been archived and is no longer updated by Apple.
Below is the PDF printing requirement as documented in the LW 8.5.1 *Apple Printer Software Read Me* file:

Acrobat Save as File Format - LaserWriter 8.5.1's Save-As-File panel adds Acrobat PDF as one of the supported formats. You must have the full version of Acrobat 3.0 or later installed for this option to be enabled. The Acrobat Reader alone is not sufficient. The application may be purchased from Adobe Systems. For some applications, PDF formatting can be performed in the background only.

Turning on Balloon Help and viewing the help messages for the Print dialog confirms this.
Published Date: Feb 18, 2012

Condor Power Supply for StyleWriter Ethernet Adapter

I have a power adapter marked "Condor" that is rated at 12v DC, 500ma; do you have any idea what this is for?
This article has been archived and is no longer updated by Apple.
Apple shipped an external power supply made by Condor rated at 12v DC, 500ma with the StyleWriter Ethernet adapter. The power supply is also marked model DV-1250.
Published Date: Feb 18, 2012

Mac OS 8: Red X Through CFM-68K Runtime Enabler at Start Up

After installing Mac OS 8, the CFM-68K Runtime Enabler extension loads with a red X through it. Some of my applications require this extension to be installed. They seem to work fine, even though the enabler is marked out.
This article has been archived and is no longer updated by Apple.
Version 4.0 of the CFM-68K Runtime Enabler has been included in the System resources of Mac OS 8. You do not need to include the separate CFM-68K Runtime Enabler in the Extensions folder. By marking it with a red X, system software is indicating the extension is not necessary and therefore not loading.

Your applications should work correctly, since the system software contains the software already. Some applications may not realize that Mac OS 8 included this extension, and may install the CFM-68K Runtime Enabler during installation. In any event, you may throw the CFM-68K Runtime Enabler in the Trash after installing Mac OS 8.
Published Date: Feb 18, 2012

Apple IIGS: Setting and using a RAM disk

This article has been archived and is no longer updated by Apple.

To set and use the RAM disk, follow these steps:

1. Go into the control panel (CTRL-Open Apple-ESC) and set the RAM disk at a convenient size, say a minimum and maximum of 800K, the size of the Apple 3.5 drive.

2. Reset the Apple IIGS with a warm boot: CTRL-Open Apple-RESET.

3. Load system utilities.

a. List volumes. The RAM disk should be recognized in slot 5, drive 2, as "/RAM".

b. Format the RAM disk.

c. Copy to the RAM disk whichever files you wish, such as AppleWorks 2.0.

Now if you want to use the RAM disk as the system volume:

1. Make sure that you have loaded ProDOS onto the RAM disk.

2. Go into the control panel desk accessory. To set the startup, use the up or down arrow keys to choose the menus Slots and Start up slots, and then use the right or left arrow keys to choose the RAM disk.

3. Warm boot the Apple IIGS by pressing CTRL-Open Apple-RESET. Whatever is in the RAM disk should start up.

To get the RAM back:

1. Set the RAM disk to 0K.

2. Turn off the power on the IIGS. A reset will not reset the memory.

BEWARE: Save the data periodically in case of crash or power failure!
Published Date: Feb 18, 2012

AppleFax: Error When Changing Number of Retries

I'm trying to change the number of retries in the modem section of the AppleFax preferences window, however, it's giving me the following error message, "The number of retries must be in the range allowed by the current country setup." What is wrong?
This article has been archived and is no longer updated by Apple.
The AppleFax software will give this error when the retry field is empty. What many users attempt to do is delete the number that is in the number of retries field and then enter a new number. However, when you try to delete the existing number, AppleFax will immediately report the error message you describe before you can type a new number.

The way to successfully change the number in the retries field is to high light the number in the box, and then type the number of retries you want to change to. When you type the new number, it will replace the existing number.
Published Date: Feb 18, 2012

Mac OS 8.1: Certain Extensions Appear to Be Damaged

Mac OS 8.1 installs various system extension that may appear to be damaged when inspected by certain utility software when in fact they are not. This article has been archived and is no longer updated by Apple.
The Mac OS 8.1 extension files listed below are not damaged and function normally. These files, installed by the Open Transport installer package, have extra space allocated in the resource portion of the file.

Some utility programs report those extra bytes as a damaged file. These extra bytes do not cause these files to function improperly. It is not necessary to use utility software to fix or correct these them.

The following files have these extra bytes:

- Open Tpt AppleTalk Library
- Open Tpt Internet Library
- Open Transport Library
- OpenTptAppleTalkLib
- OpenTptInternetLib
- OpenTransportLib
- AppleTalk control panel
- TCP/IP control panel

Note: Open Transport 1.3 to 1.3.1 Update Version 1.0 was released on 1998-02-13. This update removes the extra bytes of unused data. This update requires the North American English Mac OS 8.1 Update and version 1.3 of Open Transport and is not required by any localized version of the Mac OS 8.1 Update.

For more information on this update please see article 30410: **Open Transport 1.3 to 1.3.1: Update Information**.

Note: Mac OS 8.1 Update was posted again on 1998-02-27 to prevent these files from appearing to be damaged. If you downloaded the Mac OS 8.1 Update prior to this date, it is not necessary to download Mac OS 8.1 Update a second time. Instead, download the OT 1.3 to 1.3.1 Update.
Published Date: Feb 18, 2012

Power Macintosh G3: Sound Input Settings

This article discusses a recording issue with Power Macintosh G3 Minitower and the Apple PlainTalk Microphone
This article has been archived and is no longer updated by Apple.
Audio may not be recorded if the application you are using to record audio is monitoring another sound source. If the application does not let you change the sound source your Apple PlainTalk Microphone, you can use the SoundSource control strip.

The Power Macintosh G3 computers include a new sound architecture which is also included in Mac OS 8.1. With this new sound architecture, applications are now able to change which sound source to monitor. Apple provides a new SoundSource Control Strip which lets you select the sound source your computer will use. This is helpful if the application you are using does not provide a way to change the sound source from which you are trying to record. The benefits of this new sound architecture include:

- User interface changes to support monitor sources instead of input sources for the user to play back analog audio devices such as compact discs.
- The internal speaker and headphone port(s) act as a single output port once again. Thus, if a headphone is inserted, the internal speaker will always be inactive. This simplifies the user interface for output controls to a single set of controls, for example volume, mute, and so on.

Some applications may not be looking at the correct monitoring source for audio capture when they are launched. For example on a Power Macintosh G3 Minitower computer with the Audio/Video card, Apple Video Player defaults to the RCA In source upon launch. This is because most users will use Apple Video Player to record or display audio and video from their VCR or video camera. Since Apple Video Player does not provide a choice for which sound source you would like to use, the SoundSource control strip can be used instead.

If you are having difficulty recording audio from third-party applications on a Power Macintosh G3, check with the developer of the application for the latest Power Macintosh G3 or Mac OS 8.1 compatibility information. Apple Developers should refer to Tech Note 1121 for details about the new sound architecture.

The following article can help you find the Tech Note mentioned here:

Article 24493: "**Apple Tech Notes: What They Are, Where To Find Them**"

Published Date: Feb 18, 2012

Maximum Number of Monitors Connected to a Macintosh Computer

Is there a limit to the number of monitors and display adapters that can be added to a PCI or NuBus Macintosh computer?
This article has been archived and is no longer updated by Apple.
On most PCI and NuBus Macintosh computers, you can connect as many monitors and video cards as you have available expansion slots. The Performa and Power Macintosh 6400 and 6500 lines of computers support a maximum of two attached monitors.

Note that you should not use more than two AppleVision displays at once. If you try to use more than two AppleVision displays, the additional displays must operate at 640 x 480 resolution.

For information on this subject pertaining to Power Macintosh 6400 and 6500 computers, please see the following Tech Info Library article:

Article 20230: "**Power Macintosh 6400/6500: Connecting Multiple Monitors**"

Published Date: Feb 18, 2012

Composite Color Monitors: Why They Display 80-Column Text Poorly

This article has been archived and is no longer updated by Apple.

80-column text is usually difficult to read when displayed on a composite color monitor.

The major problem is the bandwidth of the monitor: to properly display 40-column monochrome information requires a minimum of 4 MHz bandwidth. Television receivers are near the bottom end at 4.5 MHz. Monochrome monitors are usually specified with a bandwidth of 12 MHz, for sharpness with an 80-column display. If color information is displayed too, the minimum bandwidth doubles, to 24 MHz. The problem with many televisions that have direct video inputs is that they are still limited to the television bandwidth of 4.5 MHz, which is inadequate for displaying 80-column information.

Published Date: Feb 18, 2012

Workgroup Server 9650/350 and Fast Ethernet

I have a Workgroup Server 9650/350 which came with an 10/100 Ethernet card. What do I need to do to get the card working on my 100Base-T network.
This article has been archived and is no longer updated by Apple.
The Fast Ethernet card you describe is included with all Workgroup Server 9650/350 configurations. This Fast Ethernet card is not available on the Workgroup Server 9650/233. The software you need is the Apple 10/100 Fast Ethernet extension which you'll find it on the WGS CD in the Server Additions folder. When the Apple 10/100 Fast Ethernet extension is installed, you will see an additional choice in the AppleTalk and TCP/IP control panels, Ethernet Slot D2.

NOTE: The driver does not support raw mode. If you need raw mode, you have to use built-in Ethernet.
Published Date: Feb 18, 2012

At Ease Security: Drive Setup 1.3.1 Issue

This article provides a workaround for an issue with Drive Setup 1.3.1 and At Ease.
This article has been archived and is no longer updated by Apple.
After using Drive Setup 1.3.1 to update the drivers for a hard disk drive, the computer may not start up due to an issue stemming from running Drive Setup 1.3.1 while At Ease Security was active (see article 22101: "**Global Product Support Flash: Drive Setup 1.3.1, 1.4 and At Ease**").

There is a workaround for the Disk Setup 1.3.1 and At Ease Security (disk locking) issue. Follow the steps outlined below:

1. Restart your computer from a system CD-ROM disc.
2. Run Drive Setup 1.3.1 from floppy disk.
3. Update the drivers again and restart your computer.
4. Run Disk First Aid to make repairs to any errors returned.

This process should be attempted before formatting your hard disk.

Published Date: Feb 18, 2012

Apple PC Serial & Parallel Card: Non-ECP Printers & Loss of Reset Signal

When using an older, non-ECP (Extended Capabilities Port), printer with the new Apple PC Serial & Parallel Card, I notice that the printer goes into an unknown state and will not reset as long as the cable is attaching the printer and the card. If I disconnect the cable from either the printer, or PC Serial & Parallel Card, the printer resets and goes on-line. What is causing this, and is there a workaround?
This article has been archived and is no longer updated by Apple.
In testing an Epson LQ-800 with a Power Macintosh 9600/200, 7300/180 and 4400/200 with a PC Compatible card and an Apple PC Serial & Parallel Card installed, we were able to reproduce the issue you described. The printer would not become ready when the cable was attached to the parallel port on the Apple PC Serial & Parallel Card.

In searching Epson's web site, **http://www.epson.com/home.shtml**, we found information on the ECP standard and some older Epson printers. If this error state is encountered, Epson recommends to first verify that you are using a known good parallel cable. If the error state persists, then try disabling the ECP specification and communication from your parallel port, however, the parallel port on the PC Serial & Parallel card cannot be modified in the way it handles print jobs - EPP (Enhanced Parallel Port), ECP, and so on. Epson also referenced masking pin 31 on the Centronix connector to keep that signal from being sent. In testing, we successfully printed from a Power Macintosh 9600/200, 7300/180 and 4400/200 using the PC Serial & Parallel card when Pin-31 masking was applied and the printer than reset as expected.
Published Date: Feb 18, 2012

Mac OS 8.1: Copying Files From Shared CD Issue

This article discusses a potential issue when sharing a CD-ROM disc on a PCI based Mac OS computer running Mac OS 8.1.

This article has been archived and is no longer updated by Apple.

Symptom

Files copied from the shared CD to another Mac OS-based computer may not copy correctly possibly resulting in incomplete or corrupted files on the destination computer.

This CD-ROM disc sharing issue is likely to occur only under the following conditions:

- The Mac OS-based computer is PCI equipped
- The computer sharing the CD-ROM disc is running Mac OS 8.1
- The Apple or third party CD-ROM drive uses the Apple CD-ROM driver

If any of the above conditions are not true, then the issue will not occur. This issue only affects the sharing of CD-ROM discs, it does not affect the sharing of files or folders on the computer's hard disk.

Products affected

- North American English Mac OS 8.1
- Localized versions of Mac OS 8.1

Solution

Workaround

If you have a PCI equipped Mac OS-based computer running Mac OS 8.1 and you wish to share a CD-ROM disc with others, you should:

1. Copy the CD-ROM disc's contents to a new folder on the hard disk.
2. Share the contents of that folder.

Published Date: Feb 18, 2012

Macintosh 68000 Development System Becomes Consulair

This article has been archived and is no longer updated by Apple.
The product Macintosh 68000 Development System, MDS, is obsoleted as of March 2, 1987. After this date, MDS will be available as the "Consulair 68000 Development System" from:

Consulair Corporation
140 Campo Drive
Portola Valley, CA 94025

The MDS upgrade also ended March 2, 1987.
Published Date: Feb 18, 2012

Mac OS 8.1: Ethernet (Built-In) Driver v2.0.2

Is the 2.0.1 Ethernet driver update, which is posted online for the Power Macintosh G3 computers, included with Mac OS 8.1?
This article has been archived and is no longer updated by Apple.
Mac OS 8.1 includes Ethernet (Built-In) driver v2.0.2.
Published Date: Feb 18, 2012

PowerBook G3: Sound Cuts Out When Volume Is Set To Maximum

When the volume is near (or at) maximum on a PowerBook G3 with Mac OS 8.1, the sound sometimes cuts out or stutters. The video portion of a movie may also be affected. Upgrading to Mac OS 8.5 resolves the issue.

This article has been archived and is no longer updated by Apple.

Symptom

When the volume is near (or at) maximum, the sound sometimes cuts out or stutters. The video portion of a movie may also be affected.

Products affected

- PowerBook G3
- Mac OS 8.1

Solution

Upgrade to Mac OS 8.5.

Alternatively, lower the volume or change the Sound Monitoring Source so that it is not set to None or Built-In Mic. (The Sound Monitoring Source can be set with the Sound control panel or with the Sound portion of the Control Strip.)

Published Date: Feb 18, 2012

Macintosh Video Capture: Interlaced or Non-Interlaced

Is the video captured on a Macintosh, using an Apple video in solution, interlaced or non-interlaced?
This article has been archived and is no longer updated by Apple.
An interlaced image is an NTSC 525 line frame which is separated into two sequential scans, or fields, of 262.5 lines each. Field one scans the odd numbered lines and field two scans the even numbered lines creating two interlaced images per frame. The process results in 60 fields per second and is used to enhance image clarity as well as to reduce the flickering which is apparent when the eye is presented with 30 images per second.

The quality of a captured frame, or fields captured, differs between Macintosh models. The Power Macintosh G3 and those systems that utilize the Apple Video System video-in card, such as the Power Macintosh/Performa 5xx/6xx/5200/5300/5400/5500/62xx/63xx/ 6400 and 6500 series computers capture only 30 fields/second which results in a non-interlaced image. Other Macintosh systems with video-in features, such as the Quadra 660AV, 840AV, and Power Macintosh 6100/7100/7200/7300/7500/7600/8500 and 8600, all capture at 60 fields/second which results in an interlaced image

If a user wishes to capture interlaced video on one of the systems not equipped for interlaced video capture, they would have to add an additional video capture card to achieve this quality. Companies like ATI, Avid, IxMicro, Radius, Media, iWonder, and Pinnacle all offer video capture solutions capable of capturing video at 60 fields/second.
Published Date: Feb 18, 2012

Cyberdog: Printing E-mail Without Header Page

When I try to print an e-mail from Cyberdog, the header information prints on a separate page which is mostly blank, then it prints out the message on a second page. How can I stop this from happening and save paper?

This article has been archived and is no longer updated by Apple.

With a mail message open, select Print from the file menu. When the Print dialog box opens use the pull-down menu in the upper left to select Cyberdog, the default is General. This option presents the Print Envelope checkbox. The header of the mail is considered the "envelope," so deselecting Print Envelope will print just the text.

Published Date: Feb 18, 2012

Dot Matrix Printer (DMP): Printer codes

This article has been archived and is no longer updated by Apple.

The following are the printer codes used by the Apple Dot Matrix Printer (DMP).

Ascii	Hex	Decimal	Resulting Printer Action
Esc n	1B 6E	27 110	9 Characters Per Inch (cpi)
Esc N	1B 4E	27 78	10 cpi
Esc E	1B 45	27 69	12 cpi
Esc q	1B 71	27 113	15 cpi
Esc Q	1B 51	27 81	17 cpi
Esc P	1B 50	27 80	Proportional-1
Esc p	1B 70	27 112	Proportional-2
Esc A	1B 41	27 65	6 Lines per inch (1/6-inch Line Feed)
Esc B	1B 42	27 66	8 Lines per inch (1/8-inch Line Feed)
DC1	11	17	Select printer (online)
DC3	13	19	Deselect printer (offline)
Esc >	1B 3E	27 62	UniDirectional print
Esc <	1B 3C	27 60	Bidirectional print
Esc !	1B 21	27 33	Bold print
Esc "	1B 22	27 34	Deselect Bold print
SO	0E	14	Select Elongated characters (Headline mode)
SI	0F	15	Deselect Elongated characters
Esc X	1B 58	27 88	Start Underline
Esc Y	1B 59	27 89	Stop underline

For additional information or information on graphics, please see the Apple Dot Matrix Printer manual, Apple service part number 030-0607, and see the media exchange listing for price.

Apple II Keystrokes:

DC1: Control-Q
DC3: Control-S
SO: Control-N
SI: Control-O
Esc: Escape key

Published Date: Feb 18, 2012

Apple LaserWriter Driver for Windows 3.1.x

Name: Apple LaserWriter Driver for Windows 3.1.x, Revision 3.1
Released: April 20, 1998

Requires:
Windows 3.1.x or Windows for Workgroups 3.11 and one of the following printers: LaserWriter 8500, Color LaserWriter 12/660 PS, Color LaserWriter 12/600 PS, LaserWriter 12/640 PS, LaserWriter 16/600 PS, LaserWriter Pro 600, LaserWriter Pro 630, LaserWriter Select 360

Description:
This is the Apple LaserWriter Printer Software for Windows 3.1x-based computers. NOTE: This installer updates only the printing software. Use your original disks to install fonts. Please see the Read Me included with this software for more information.

Instructions:
The software posted here is available in two formats (.img & .zip).

1. This software consists of two Disk Copy NDIF (New Disk Image Format) compressed images, which requires Disk Copy 6.1 or later to use. Download this software to your hard drive and then open Disk Copy to create the installation diskettes. Disk Copy is available in the Utilities folder.

```
Name as Posted            Actual DOS Disk Name
---------------------------------------------
LW Win 3.1 v3.1-1of2.img       PRINT SW 1
LW Win 3.1 v3.1-2of2.img       PRINT SW 2
```

2. One ZIP archive of Windows 3.1.x files. To use, download this file, then extract to your hard drive.

Disk Copy 6.1 (or later) or Disk Image Mounter 2.1 (or later) from Apple are the recommended applications to access all disk images released by Apple and are the only supported applications to access NDIF disk images.
This article has been archived and is no longer updated by Apple.
ABOUT YOUR APPLE LASERWRITER PRINTER SOFTWARE FOR WINDOWS 3.1

This document contains some important reminders and some information that is not in the manual that comes with your printer.

Your Apple LaserWriter CD-ROM or floppy disk set contains all the software you need to print to these Apple LaserWriter printers:

- LaserWriter 8500
- Color LaserWriter 12/660 PS
- Color LaserWriter 12/600 PS
- LaserWriter 12/640 PS
- LaserWriter 16/600 PS
- LaserWriter Pro 600
- LaserWriter Pro 630
- LaserWriter Select 360

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- LaserWriter 8500 Printer Tips
- Installing The Printer Software On Windows 3.1
- About The Apple LaserWriter Utility For Windows
- Additional Information For 8500, 12/640 or 16/600 on Netware
- General Driver Compatibility Issues
- General Font Downloader Compatibility Issues
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- Files Installed
- How To Get Updated Software

OBTAINING PRINTER SUPPLIES

You can order printer supplies direct from Apple for the LaserWriter 8500, Color LaserWriter 12/660, Color LaserWriter 12/600, and LaserWriter 12/640 PS printers. For other LaserWriter printers see your Apple-authorized dealer. For the location of the nearest Apple-authorized dealer, in the U.S. call 1-800-538-9696, extension 525.

Obtaining Supplies for the Apple LaserWriter 8500

In the U.S., to order toner for the LaserWriter 8500, call 1-800-600-7805. For your reference, the part number is listed below:
M5893G/A LaserWriter 8500 Toner Cartridge

You can obtain other parts from your Apple-authorized dealer. The parts available are:
M5894G/A LaserWriter 8500 A3 500-Sheet Cassette and Feeder
M5895G/A LaserWriter 8500 A4 500-Sheet Cassette and Feeder
M5896G/A LaserWriter 8500 A3 Duplex Printing Unit
M5897G/A LaserWriter 8500 Envelope Cassette

Obtaining Supplies for Color LaserWriters 12/660 PS and 12/600 PS

In the U.S., to order printer supplies for the Color LaserWriter 12/660 PS and Color LaserWriter 12/600 PS direct from Apple, call 1-800-600-7805. For your reference, the part numbers are listed below:
M3755G/A Fuser Oil
M3756G/A Black Toner Cartridge
M3757G/A Cyan Toner Cartridge
M3758G/A Yellow Toner Cartridge
M3760G/A Magenta Toner Cartridge
M3761G/A Photoconductor Replacement Kit
M3867G/A Fuser Replacement Kit, 110v
M3876G/A Color LaserWriter Transparencies, LTR size (50 per pack)

Obtaining Supplies for the Apple LaserWriter 12/640 PS

In the U.S. to order printer supplies for the LaserWriter 12/640 PS direct from Apple, call 1-800-600-7805. For your reference, the part numbers are listed below:
M4683G/A LaserWriter 12/640 PS Toner Cartridge
M4682G/A LaserWriter 12/640 PS 500-Sheet Cassette and Feeder
M4680G/A LaserWriter 12/640 PS Envelope Cassette
M4697G/A LaserWriter 12/640 PS Duplex Printing Unit
M4698G/A LaserWriter 12/640 PS Face-Up Output Tray

LASERWRITER 8500 PRINTER TIPS

Using Letter and A4 Paper Sizes - If you want to alternate between doing letter and A4 print jobs, be sure to specify the specific cassette you want the printer to use. If you use AutoSelect, the printer may detect Letter as A4 or detect A4 as Letter.

Additional Regulatory Information - This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. See instructions if interference to radio or television reception is suspected.

Responsible Party:

Robert Steinfeld
Apple Computer, Inc.
1 Infinite Loop
Cupertino, CA 95014
Telephone: 408-974-2618 (For FCC Compliance Information Only)

Using Centronics to Print a PostScript File - When using Centronics to print a PostScript file Apple recommends that the following DOS command be present in the autoexec.bat file on your PC system:

mode lpt1:,,p
or
mode lpt1:,,b

This will ensure that the host computer will not time-out prematurely before the print job completes.

Using Centronics to Print a PostScript File from DOS - If you will be printing from an IBM PC or compatible in DOS mode make sure that there is a Ctrl-D character at the end of the file or append another job containing a Ctrl-D.

Using NetWare 3.12 and RPRINTER mode - If you will be using NetWare 3.12 with the printer in RPRINTER mode, be sure to check that NetWare banner pages are off or the print job will not print.

INSTALLING THE PRINTER DRIVER SOFTWARE ON WINDOWS 3.1

This release of the software includes a separate disk set for Windows NT software
installation. For Windows NT, you no longer use the Windows 3.1 disk set. Use the Windows 3.1 disk set only for Windows 3.x systems.

1) Start Windows 3.1.

2) Exit from any applications that are now running. Before installing the software, make sure the Control Panel and Printers control panel are closed. Also, check that you have sufficient hard disk space for the files. You should have at least three megabytes of free hard disk space.

3) Insert the CD into the CD-ROM drive.

NOTE: These instructions assume you are installing the software from the Apple LaserWriter CD-ROM 2.0. If you are installing from floppy disks, insert disk 1 into the floppy drive. Then, select Run from the Program Manager File menu and type a:\\setup.exe and press Return. Then, follow the instructions on the screen. If installing from floppy disks, be careful not to eject the floppy until the installer has finished copying the files from it.

4) Using the File Manager, open the directory on the CD called
Win_os\\Win_31\\Disk1.

5) Double-click the setup.exe file.
After a few moments, a message appears warning you to close all other applications before continuing with this installation.

6) Click Continue if you have no other open applications.

If you have open applications, click Exit to stop this installation. Close all other applications and start the installation process again.

A message appears that lets you view this README.WRI file for late-breaking news.

7) Click Yes to view the README.WRI file. When you have finished reading the README.WRI file, choose Exit from the File menu in the Microsoft Write application.

A welcome message is displayed that allows you to select Express installation, Custom Installation, Print Driver Only, or De-Install.

Express Installation installs all the software you need for your printer. It installs LaserWriter PostScript Driver version 3.0.1. It also creates the Apple LaserWriter Software program group and installs within it the Read Me file.

Print Driver Only installs the minimum software needed for printing only. It installs the LaserWriter PostScript Driver version 3.1 if it is not already installed and the PostScript Printer Description file for the desired printer.

Custom Installation lets you specify what portions of the software you would like to install. You can install either the LaserWriter PostScript Driver or the Apple LaserWriter Utility.

De-Install lets you remove previously installed LaserWriter software.

8) Click Express Installation.

A window appears that keeps you informed as file decompression proceeds.

Next, the Installer asks you to restart Windows.

9) Click Restart Windows.

After Windows restarts, the Adobe PostScript Printers Control Panel appears.

10) Select the drive that holds your CD from the Drives list box.

11) Select the desired printer model from the PostScript Printer Descriptions Available list and click Install.

The PostScript Printer Driver files are installed on the hard disk. A message appears telling you that the driver software was successfully installed.

12) Click OK to dismiss the message.

13) Select another Apple printer, if you want, and click Install to install. Repeat for each printer you want to install.

You can install other Apple LaserWriter printers supported by the software.

14) When you're done, click Close.

A message appears telling you to use the Printers control panel to connect and set up the printers you've installed. By default, each printer uses LPT1. The Printers control panel Setup dialog box lets you specify a different port, for example, LPT2 or a NetWare queue.

IMPORTANT: If you will be using the printer over NetWare you must change two of the default settings. In the Printers control panel select Setup. Then, select the PostScript tab. Turn off the setting "Send Data in Binary" in Performance Options. Also, set "Protocol Options" to "None (AppleTalk)". If you will be using the printer over its parallel port "Send Data in Binary" should be on and "Protocol Options" should be set to "Default - Serial/Parallel".

Software installation is now complete.

Installing Additional PostScript Printers Using Their PPDs

1) Your CD contains all the PostScript Printer Description (PPD) files for the Apple LaserWriter printers supported under Windows 3.1 in directory Win31\\Disk2. Alternatively, you can install the desired PPD from a floppy disk. Insert the CD or disk containing the PPD to be installed in the drive.

2) In the Control Panel of the Windows Program Manager, double-click the Adobe PostScript Printers icon. The Adobe PostScript Printers dialog box appears.

3) In the Drives list box, select the drive and path containing the PPD that you wish to install.

4) In the Printer Descriptions Available list box, select the print model that you wish to install.

5) Click Install. You can continue to install PPDs by selecting entries in the Printer
Descriptions Available list box and clicking Install.

6) Click Close when you have installed all the desired PPDs.

Deleting Previous Versions of the Driver

To install AdobePS, you are not required to remove previous versions of the driver or delete any previously installed PostScript printers. However, if you suspect installation problems, first remove your installed printers from the Printers Control Panel and reinstall them via the Adobe PostScript Printers
Control Panel.

If, after removing and reinstalling your printers, you are still experiencing problems, delete all previous versions of the driver and reinstall your printers using the Adobe PostScript Printers dialog box.

To delete a previous version of the driver:

1) Exit Windows.
2) From DOS, delete the following files (not all files may actually exist in your configuration) from both your Windows and Windows\\System directories:

*.ebf
*.ppb
*.ppd
*.pfm (delete these ONLY if you did not place them here using the ATM Control Panel or a font installation program)
Adobeps?.*
Run_enum.*
Psinstdv.exe
Windown.exe
Ps_enum.*
Down.dll
Dwn.hlp

3) Using a text editor that can save in text-only format (e.g., DOS Edit, Notepad), delete the following lines from the Win.ini file in the Windows

directory:

,
PrinterName=<printer_nickname>

[devices]
<printer_name>=ADOBEPS,<port>,...

[PrinterPorts]
<printer_name>=ADOBEPS,<port>,15,45,...

If the device= line in the [windows] section of the Win.ini file refers to AdobePS, delete that line.

4) Save the Win.ini file in text-only format, then restart Windows.

ABOUT THE APPLE LASERWRITER UTILITY FOR WINDOWS

Use the Apple LaserWriter Utility with these printers only:
Apple LaserWriter 8500
Apple LaserWriter 12/640 PS
Apple LaserWriter 16/600 PS
Apple LaserWriter Pro 600 PS
Apple LaserWriter Pro 630 PS
Apple LaserWriter Select 360

Default printer - The Apple LaserWriter Utility writes to the default printer, so before using the utility be sure that the default printer is pointing to the printer that you want to configure.

Using NetWare configuration (for printers that support NetWare) - Be sure not to turn off your printer while you are using any function on the Apple LaserWriter Utility's NetWare menu. If you turn off your printer while using these functions, your computer will hang. If you need to power off your printer, do so after you exit from the NetWare menu.

Changing a printer from Rprinter to Pserver or from Pserver to Rprinter - When you change a printer from Rprinter to Pserver or from Pserver to Rprinter, make the change with the Apple LaserWriter Utility first. Then change the configuration on the NetWare file server. If you change the NetWare file server configuration first, you may not be able to select the printer from the Apple LaserWriter Utility's NetWare Configuration menu. The symptom is that the printer displays "N/A" in the Mode field and cannot be selected. If this occurs connect to the printer manually to reconfigure it. For instructions on doing this, see your Apple LaserWriter 8500 User Manual, Appendix A, Connecting to a network printer manually.

PCL mode - Some Apple LaserWriter printer models support PCL. Note that the Apple LaserWriter 8500 does not support PCL. The Apple LaserWriter Utility uses PostScript commands to set the printer parameters. If the printer has been set to PCL, PostScript commands sent by the utility will not be recognized by the printer. To correct this, place your printer's communication switch in the factory default position and restart the printer. This returns the printer to AutoSelect mode and PostScript commands will now be processed by the printer.

ADDITIONAL INFORMATION FOR 8500, 12/640, OR 16/600 ON NETWARE

If you select Print Server Configuration from the Apple LaserWriter Utility's Network menu and you don't see your LaserWriter 12/640 or 16/600 printer model's name in the list of printers available to configure, follow these steps to connect to your printer manually.

1) Run the Apple LaserWriter Utility and select your printer model.

2) From the Network menu, choose Connect to network printer.

The Network Printer Manual Connect dialog box appears.

3) The Network number field displays the eight-digit ipx network number for this segment. If your printer is connected to another segment, enter that segment's Network number, then press Tab to enter the Node Address.
Type the last six digits of your printer's Ethernet address in the Node Address field. You will find the Ethernet address on the startup page. Press Connect.

The Printer Configuration and Status dialog box for your printer is displayed.

4) From the Frame Format list box, select the Frame Format that your NetWare file server uses. By default, NetWare 3 uses frame format 802.3;

NetWare 4 uses frame format 802.2. If you want to use both NetWare 3.x and 4.x file servers with your printer, configure the NetWare file servers so that they use the same frame format.

Note: The Frame Format list box may display "Autodetect" as its value. This indicates that the printer's frame format is not set yet.

5) Press Send to send the Frame Format to the printer. Then, wait about 30 seconds.

You can now use Print Server Configuration to configure your printer. However, be sure to complete your PCONSOLE configuration for the printer first before doing so.

GENERAL DRIVER COMPATIBILITY ISSUES

Windows 3.0
This version of AdobePS supports Windows 3.1x only.

Installation
When installing the driver or a PPD file, you must first exit all applications.

Interaction With Printers Control Panel
Some selections made in the Printers dialog box, such as Set as Default Printer and Connect, take effect only after the Printers Control Panel is closed.

Adobe Illustrator
If you install Adobe Illustrator after AdobePS, the following message may appear:
"The file C:\\Windows\\SYSTEM\\PS_ENUM.DLL already exists and has a different date than the file Illustrator is about to install. Do you wish to overwrite the current file on the system?"

Click No. Do not overwrite the file.

This same dialog will again appear for RUN_ENUM.EXE. Click No. Do not overwrite this file.

If Illustrator has been installed without regard to the above instructions, reinstall the driver using the instructions listed in "Deleting Previous Versions of the Driver." You must delete all previous files to ensure a successful installation.

Duplicate Features in the Driver and Application
If your application contains the same feature as the driver (such as scaling, orientation, or number of copies), use the application to set the feature; do not set it using the driver. Use the driver options only to set printer options you cannot control via your application's Print or Print Setup dialog box. If you do use the driver to set features that your application also provides, those features may not work as expected.

Printing From Multiple Applications
Multiple applications cannot use AdobePS 3 at the same time. You must wait until one application has finished printing before printing from another.

Image Printing Performance
For some applications, printing graphics may be slower than expected. Printing performance will depend on bitmap characteristics (such as size or color) and the method the application uses to print bitmaps. For example, 24-bit color graphics will generally print out more slowly than 1-bit black-and-white graphics.

Optimize for Speed vs. Optimize for Portability
The PostScript tab has a PostScript Performance section. When you select Optimize for Speed, you may find certain jobs cause the printer to run out of memory, terminating the job with a VM or rangecheck error. If you encounter problems, try setting the PostScript Performance option to Optimize for Portability.

Downloadable Fonts
Printing lengthy documents that require the driver to download several fonts may generate one or more of the following error messages or conditions:

PostScript Error: limit check
PostScript Error: VM error
Page with the message that the printer has insufficient memory
Printer simply does not finish printing the job or resets.

Workarounds: Try one of the following:
1) Reduce the number of fonts in the document.

2) Change the PostScript Performance setting on the PostScript tab to Optimize for Portability.
3) Add memory to your printer.

Do Not Download Fonts Option
The Job Control tab contains the Font Control option Do Not Download Fonts. Use this option only if you know that the fonts that you use in your documents are always available to your printer. Otherwise, the printer may substitute Courier for your fonts.

Document Structuring Conventions
AdobePS 3 does not emit the DSC comments "%%BeginData ... %%EndData." Without these comments, some network spoolers may fail to process jobs correctly.

Some Images Print With Limited Color
Images based on RLE-4 and RLE-8 compression print with limited halftoning effects. Typically, shades of gray or color will print as either black or white.

Installation of Printer Font Metrics
The list of characters available in a font has changed from Windows 3.0 to Windows 3.1. AdobePS 3 uses the information in Printer Font Metrics (PFM) files to help applications lay out text correctly and to instruct PostScript printers how to print text correctly. However, because of the changes in characters available, some older PFMs may incorrectly list character widths and cause either errors in layout of text on the screen, in the printer, or both. AdobePS 3 includes the newest versions of font PFMs for all of the printers it installs.

If Adobe Type Manager (ATM) is installed and has included PFMs for fonts on your printer, AdobePS 3 uses those PFMs.

If you suspect that your ATM fonts are outdated, you can force AdobePS 3 to use its own PFMs by following these steps:

1) Using a text editor that can save in text-only format (e.g., DOS Edit, Notepad), edit the PFM directory line in the [Setup] section of the Atm.ini file to read as follows:

;PFM_Dir=c:\\psfonts\\pfm

2) Save the Atm.ini file in text-only format.
3) Restart Windows.
4) Proceed to install a new printer using the Printers dialog box in the Control Panel.
5) Restore the line in Atm.ini to its previous value.

Using Print Manager
Windows Print Manager will create a temporary file when you print from an application. Deleting this temporary file terminates the print job.

Suggested use: Click Cancel from the Print Manager dialog box to terminate the print job or delete it from within Print Manager.

Custom Paper Dimensions
In some PPD files, the minimum width and height values for the Custom Paper option are represented by three decimal digits. AdobePS 3 rounds off the value to two decimal digits, which may result in an error indicating that one or both of your dimensions are invalid.

Workaround: If you wish to use the minimum value, change the AdobePS 3 rounded value (such as 8.26) to the exact value of the dimension with all decimal digits (such as 8.264).

Page Preview Image
The Page Preview image on the Paper tab reflects only an approximation of the actual printed page. Paper size, color, and border filling in the page preview, for example, may not accurately represent the corresponding characteristic of the printed page.

When you specify a watermark to print in outline format, the Page Preview image of the Watermark and Paper tab boxes do not display the outline watermark. This is a limitation of the driver's display feature only; the watermark will print correctly on the physical page.

Watermark Printing
In some applications, watermarks will print either in the background (the default) or in the foreground, but not in both.

Workaround: Try printing the watermarks in both the foreground and background to discover which location works best with your application and printed document.

AdobePS uses the PostScript Level 2 Forms capability. Watermarks do not print to a PostScript Level 1 printer.

Workaround: Send jobs specifying watermarks to a PostScript Level 2 printer.

In some applications, when the Watermark First Page Only feature and Number of Copies features are combined, the watermark prints only on

the first page of the first copy.

Workaround: Print each copy as a separate job.

Some applications don't support multiple pages, but can tile one page when printing. Depending on how your application tiles the page, AdobePS 3 may not know that a single logical page is being printed as two physical pages, for example. If so, the watermark may appear only on the second physical page.

N-Up Printing
N-up printing may yield unanticipated results. When you combine layout and orientation page-setup options in one document, the first logical page of a job determines the layout for the rest of the job. For example, if you choose portrait orientation for the first page of a document printed in 6-up, all pages in the document will print in the standard order for portrait orientation, left to right, top to bottom, even if you change to landscape orientation in the middle of the job. If you specify landscape orientation for the first page of a 6-up document, all document pages print bottom to top, left to right. For rotated landscape orientation, document pages print top to bottom, right to left.

```
=======    =======    =======
|  1       |  2  |    |  3  |  6  |    |  4  |  1  |
=======    =======    =======
|  3       |  4  |    |  2  |  5  |    |  5  |  2  |
=======    =======    =======
|  5       |  6  |    |  1  |  4  |    |  6  |  3  |
=======    =======    =======
Portrait   Landscape  Rotated Landscape
```

Additionally, if you request a different resolution, page size, or paper source, or if you request duplex settings for different pages of a document while using the n-up feature, AdobePS 3 completes the previous request and then starts a new page, applying the currently requested page-setup settings. The order of the layout remains the same, although virtual pages of an n-up layout may appear to be missing. This is because AdobePS 3 starts the next set of instructions on a new sheet of paper.

In some applications, when the Layout and Copies features are combined, new pages are started, as needed, only in the first copy.

Workaround: Print each copy as a separate job.

Dialog Box Warning of Application Incompatibility with Watermark and N-Up Features
Some applications are incompatible with watermark and page layout (n-up) features. If this is true for an application you are using, AdobePS 3 displays the Application/Printer Setup Incompatibility dialog box, which lets you cancel the print job, try to print using the driver's features, or print without using the driver's features. By default, AdobePS 3 displays this dialog box each time you send a print job specifying features with which the application is incompatible. You can disable the dialog box.

To disable the Application/Printer Setup Incompatibility dialog box:

1) Using a text editor that can save in text-only format (e.g., DOS Edit, Notepad), open the Win.ini file and go to the [AdobePS] section.
2) Edit the Show Compatibility Alert line in the [AdobePS] section from:

Show Compatibility Alert=1

to:

Show Compatibility Alert=0

OR: Add the following line if necessary:

Show Compatibility Alert=0

3) Save the Win.ini file in text-only format.
4) Restart Windows.

Problems Printing Envelope and Document in a Single Job
When you print an envelope-and-letter job involving paper source changes, if the first page uses the manual-feed paper tray and the next page changes to Auto Tray Select, printing may yield unexpected results. For example, envelope text may be printed on letter-size paper instead of the expected envelope.

Workaround: Specify specific paper sources instead of Auto Tray Select, or print each page as a separate job.

Problems Printing to Printers in Adobe IntelliSelect (AIS) Mode

A Printer Mode value of ASCII Mode, set via the Job Control tab, is incompatible with printers in AIS mode and results in an error. Also, files with embedded EPS graphics or text created via drivers other than AdobePS 3 may not print correctly to a printer in AIS mode.

Workaround: If your printer has a front panel, change from AIS mode to standard PostScript or TBCP and then reprint the job. Or do not select a Send Mode mode and use only the printer's default mode.

Full-Color Bitmap Printing Performance
When you select the PostScript option Send Full Color Data and are using 24-bit color images, AdobePS 3 sends the full image data to the printer. You may not need this data for printers that are unable to render 24-bit color images. However, selecting this option allows the printer's halftoning capabilities to be used to their greatest extent to print the best possible image.

Alternative: If improved performance is more important than accurate color halftoning, turn off the Send Full Color Data option.

Accidentally Printing EPS Files
If a printer driver is accidentally configured to print EPS output to a printer rather than a file, AdobePS 3 displays a warning that EPS should not be output to a port; the job prints correctly within the application, then the printer stays in a waiting mode until another job is sent or a time-out error occurs. To avoid this situation, ensure that EPS format is only output to File, not Printer.

Font Installation
The presence of fonts installed by some font installers may not be recognized.

Workaround: To notify the driver of fonts installed by non-Adobe font installers, manually update the Atm.ini file. For more information, consult the ATM user guide.

Match Color Across Printers Option
The Match Color Across Printers option uses the device-independent color-rendering feature available in PostScript Level 2 color printers to render color output as close as possible to the colors of other Level 2 printers. This feature is intended to give accurate and consistent color rendering across a wide range of color devices.

GENERAL FONT DOWNLOADER COMPATIBILITY ISSUES

Downloading Task Thermometer
The task-progress thermometer does not always reflect the true status of the font downloading task. Even though the font does download, the thermometer may not reflect 100%.

Downloading PostScript Files Containing Binary Data
The Font Downloader can download only PostScript files containing ASCII data and may display an error if the PostScript file contains binary data.

Workaround: In the PostScript tab, turn off the Send Data in Binary option in the Performance Options section, and redownload the PostScript file. Or do not use the Font Downloader. Instead, send PostScript files containing binary data to the printer from DOS using the Copy command.

Device Installer Problems
Sometimes the Font Downloader does not let you delete installed devices, does not display newly installed devices in the device list box, or continues to list fonts previously deleted.

Workaround: Set up the downloader to recognize new or deleted devices:
1) Exit the driver dialog box.
2) From the Printers Control Panel, select the printer, then click Setup.
3) Click the Fonts tab.
4) Click Font Downloader.
5) In the Font Downloader dialog box, click Device Installer. The newly installed devices should appear. To delete a device, select it then click Remove.

Update of Win.ini File
The Font Downloader does not update the Win.ini file to reflect the fonts that it has downloaded; therefore, other PostScript drivers or applications that read Win.ini file for information updates will not know which fonts have already been downloaded.

Misleading Memory Messages
Sometimes when you are downloading a group of fonts, the Font Downloader sends messages indicating that there may not be enough available memory to download the individual font. This message may or may not reflect the true state of your printer.

Workaround: If you know your printer has plenty of memory, click Yes in the Font Downloader message and continue downloading the fonts. To avoid display of the insufficient- memory message, download the fonts individually, not by group. If your printer is low in memory, you may not be

able to download all fonts to it.

APPLICATION SOFTWARE COMPATIBILITY ISSUES

Aldus Freehand
Aldus Freehand does not support the Rotated Landscape Orientation option of the Paper tab.

Fractal Design Painter 2.0
Fractal Design Painter 2.0 is compatible only with the Optimize for Portability option in the PostScript Performance section of the driver dialog box.

Micrografx ABC FlowCharter 3.0
In documents over seven pages long, letters might print superimposed upon each other. This problem seems to occur on printers with a resolution of 600dpi or higher.

Workaround: Print to a printer with a resolution lower than 600dpi.

Micrografx Designer 4.0
AdobePS 3 does not support the Colored Pattern Brush feature of Designer 4.0 or Charisma. It prints filled areas of color bitmaps in black and white.

MS Excel
Printers with resolutions in excess of 300dpi may exhibit uneven patterning in graphics using color fill patterns.

MS Notepad and Cardfile
Resolution of 600dpi or above may cause Notepad and Cardfile to print with incorrect margins. You may be able to correct this by changing the margins from 0.75", the default margins, to another .

Workaround: Most printers with resolution above 600dpi have lower resolution modes. If so, select a lower resolution in the printer's Print Setup, Setup, and Features tabs. If not, install the Adobe Default Printer and select it when printing from Cardfile or Notepad.

MS Online
Microsoft Online may not print when AdobePS 3 is selected and the printer name is longer than 29 characters.

Workaround: Choose a printer name with fewer than 30 characters.

MS PowerPoint 3.0
Resolution changes requested from within the PowerPoint 3.0 Print Setup dialog box do not take effect.

Workaround: For printers that allow control of their resolution, use the AdobePS 3 Features tab to change resolution in your PowerPoint 3.0 files.

When printing some colored text from PowerPoint 3.0, the text prints in black rather than the selected color.

MS PowerPoint 4.0
Printing files containing multiple embedded EPS objects from this application may results in either lost text or lost EPS objects.

Workaround: Convert the embedded EPS objects to PowerPoint objects by double-clicking on them.

MS Publisher 2.0
The BorderArt feature of MS Publisher 2.0 is incompatible with AdobePS 3. If you try to use this feature with AdobePS 3, the printed file may be missing lines from the upper and bottom right and left corners of the border.

Some PageMaker files may print with unexpected results.
Workaround: Make sure that you have selected the correct type of printer in the PageMaker print dialog box and that PageMaker's PPD file directory contains the correct PPD file for the printer you are using.

Persuasion 3.0
Depending on the file you are trying to print, Persuasion 3.0 is sometimes incompatible with AdobePS 3. Printing sometimes results in a blank first page or a PostScript error.

Quicken 3.0
If you choose to print partial checks in batches of one or two, instead of the standard batch of three, you may get unexpected results. When you request partial check printing, Quicken prints a blank first page, a second page in portrait orientation, and a third page in landscape orientation.

WordPerfect 5.1
Early versions of WordPerfect may exhibit some problems with this driver. Examples include: unreadable text in the WordPerfect Select Printers dialog, dimmed Select control in the Select Printers dialog when switching printers, and mismatched settings between AdobePS 3 and WordPerfect.

Workaround: Use WordPerfect 5.1 or later.

FILES INSTALLED

This section identifies the files that are installed by an Express Installation:

These PostScript Driver files are placed by default in c:\\windows\\system:
ADOBEPS.DRV
ADOBEPS.HLP
ADOBEPSI.CPL
ADOBEPSI.HLP
CTL3CV2.DLL
DOWN.DLL
DWN.HLP
FONTS.MFM
LTCCNTRL.DLL
PS_ENUM.DLL
PSINSTDV.EXE
RUN_ENUM.EXE
WINDOWN.EXE

The README file is placed in c:\\LWUTILS:
README.WRI

The Apple LaserWriter Utility is installed on a Custom Install only. Files are placed by default in c:\\LWUTILS:

ALWPU.EXE
ALWPU.HLP
ALWPUNET.DLL

The Adobe PostScript Printers control panel installs PostScript Printer Description files into c:\\windows\\system. These PPDs for the printer models indicated may be installed at the user's request:
LaserWriter 8500 - APLWBGR1.PPD
Color LaserWriter 12/660 PS - APLWCSB1.PPD
LaserWriter 12/640 PS - APLWMGS1.PPD
Color LaserWriter 12/600 PS - APLWCOB1.PPD
LaserWriter 16/600 PS - APLWGRI2.PPD
LaserWriter Select 360 - APLWSEL.PPD
LaserWriter Pro 600 - APTOLLD1.PPD
LaserWriter Pro 630 - APTOLLW1.PPD
DEFPRTR.PPD

NetWare DLLs are installed by default in the C:\\LWUTILS directory for the administrator's convenience:
NWCALLS.DLL
NWIPXSPX.DLL

HOW TO GET UPDATED SOFTWARE

To find the most recent version of this software, please consult the Apple Software Updates Library available at **http://asu.info.apple.com/**.

To obtain the latest Adobe PostScript printer driver use:
http://www.adobe.com/prodindex/printerdrivers/main.html

Published Date: Feb 18, 2012

LaserWriter Printer: Software For Windows NT 4.0 Read Me

Name: Apple LaserWriter Driver for Windows NT
Version: Revision 1.0
Released: April 20, 1998

Requires:
Windows NT 3.5x or 4.0 with most recent Service Pack from Microsoft, and one of the following printers:
LaserWriter 8500, Color LaserWriter 12/660 PS, Color LaserWriter 12/600 PS, LaserWriter 12/640 PS, LaserWriter 16/600 PS, LaserWriter Pro 600, LaserWriter Pro 630, LaserWriter Select 360

Description:
This Apple LaserWriter Printer Software is for Windows NT-based computers.

NOTE: This installer updates only the printing software. Use your original disks to install fonts. Please see the Read Me included with this software for more information.

Instructions:
The software posted here is available in two formats (.img & .zip).

1. This software consists of three Disk Copy NDIF (New Disk Image Format) compressed images, which requires Disk Copy 6.1 or later to use. Download this software to your hard drive and then open Disk Copy to create the installation diskettes. Disk Copy is available in the Utilities folder.

```
Name as Posted            Actual DOS Disk Name
-------------------------------------------------
LW Win NT 1.0-1of3.img       PRINT SW 1
LW Win NT 1.0-2of3.img       PRINT SW 2
LW Win NT 1.0-3of3.img       PRINT SW 3
```

2. One ZIP archive of Windows NT files. To use, download this file, then extract to your hard drive.

Disk Copy 6.1 (or later) or Disk Image Mounter 2.1 (or later) from Apple are the recommended applications to access all disk images released by Apple and are the only supported applications to access NDIF disk images.
This article has been archived and is no longer updated by Apple.

ABOUT YOUR APPLE LASERWRITER PRINTER SOFTWARE FOR WINDOWS NT 4.0

This document contains some important reminders and some information that is not in the manual that comes with your printer.

Your Apple LaserWriter CD-ROM or floppy disk set contains the software you need to print to these Apple LaserWriter printers:

- LaserWriter 8500
- Color LaserWriter 12/660 PS
- Color LaserWriter 12/600 PS
- LaserWriter 12/640 PS
- LaserWriter 16/600 PS
- LaserWriter Pro 600
- LaserWriter Pro 630
- LaserWriter Select 360

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- OBTAINING PRINTER SUPPLIES
- LASERWRITER 8500 PRINTER TIPS
- INSTALLING THE PRINTER SOFTWARE ON WINDOWS NT 4.0
- USING THE ADD PRINTER WIZARD TO INSTALL A PRINTER
- USING NETWARE CLIENT SOFTWARE
- ABOUT THE APPLE LASERWRITER UTILITY FOR WINDOWS
- ABOUT THE APPLE PORT MONITOR FOR TCP/IP
- ADDITIONAL INFORMATION FOR 8500, 12/640, OR 16/600 ON NETWARE
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- HOW TO GET UPDATED SOFTWARE

OBTAINING PRINTER SUPPLIES

You can order printer supplies direct from Apple for the LaserWriter 8500, Color LaserWriter 12/660, Color LaserWriter 12/600, and LaserWriter 12/640 PS printers. For other LaserWriter printers see your Apple-authorized dealer. For the location of the nearest Apple-authorized dealer, in the U.S. call 1-800-538-9696, extension 525.

Obtaining Supplies for LaserWriter 8500
In the U.S. to order toner for the Apple LaserWriter 8500 direct from Apple, call 1-800-600-7805. For your reference, the part number is listed below:

M5893G/A LaserWriter 8500 Toner Cartridge

You can obtain other parts from your Apple-authorized dealer. The parts available are:

M5894G/A LaserWriter 8500 A3 500-Sheet Cassette and Feeder
M5895G/A LaserWriter 8500 A4 500-Sheet Cassette and Feeder
M5896G/A LaserWriter 8500 Duplex Printing Unit
M5897G/A LaserWriter 8500 Envelope Cassette

Obtaining Supplies for Color LaserWriters 12/660 PS and 12/600 PS
In the U.S., to order printer supplies for the Color LaserWriter 12/660 PS and Color LaserWriter 12/600 PS direct from Apple, call 1-800-600-7805. For your reference, the part numbers are listed below:
M3755G/A Fuser Oil
M3756G/A Black Toner Cartridge
M3757G/A Cyan Toner Cartridge
M3758G/A Yellow Toner Cartridge
M3760G/A Magenta Toner Cartridge
M3761G/A Photoconductor Replacement Kit
M3867G/A Fuser Replacement Kit, 110v
M3876G/A Color LaserWriter Transparencies, LTR size (50 per pack)

Obtaining Supplies for the Apple LaserWriter 12/640 PS
In the U.S. to order printer supplies for the LaserWriter 12/640 PS direct from Apple, call 1-800-600-7805. For your reference, the part numbers are listed below:
M4683G/A LaserWriter 12/640 PS Toner Cartridge
M4682G/A LaserWriter 12/640 PS 500-Sheet Cassette and Feeder
M4680G/A LaserWriter 12/640 PS Envelope Cassette
M4697G/A LaserWriter 12/640 PS Duplex Printing Unit
M4698G/A LaserWriter 12/640 PS Face-Up Output Tray

LASERWRITER 8500 PRINTER TIPS

Using Letter and A4 Paper Sizes - If you want to alternate between doing letter and A4 print jobs, be sure to specify the specific cassette you want the printer to use. If you use AutoSelect, the printer may detect Letter paper as A4 and vice versa.

Additional Regulatory Information - This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. See instructions if interference to radio or television reception is suspected.

Responsible Party:

Robert Steinfeld
Apple Computer, Inc.
1 Infinite Loop
Cupertino, CA 95014
Telephone: 408-974-2618 (For FCC Compliance Information Only)

Using Centronics to Print a PostScript File - When using Centronics to print aPostScript file Apple recommends that the following DOS command be present in the autoexec.bat file on your PC system:

mode lpt1:,,p
or

mode lpt1:,,b

This will ensure that the host computer will not time-out prematurely before the print job completes.

Using Centronics to Print a PostScript File from DOS - If you will be printing from an IBM PC or compatible in DOS mode make sure that there is a Ctrl-D character at the end of the file or append another job containing a Ctrl-D.

Using NetWare 3.12 and RPRINTER mode - If you will be using NetWare 3.12 with the printer in RPRINTER mode, be sure to check that NetWare banner pages are off or the print job will not print.

INSTALLING THE PRINTER SOFTWARE ON WINDOWS NT 4.0

1) Start Windows NT. The installer supports Windows NT 3.5.1 and NT 4.0. You can use the installer to install the PostScript printer driver for these printers:

- LaserWriter 8500
- Color LaserWriter 12/660 PS
- Color LaserWriter 12/600 PS
- LaserWriter 12/640 PS
- LaserWriter 16/600 PS
- LaserWriter Select 360
- LaserWriter Pro 600
- LaserWriter Pro 630

Before installing the software, make sure the Control Panel and Printers folders are closed. Quit any applications running.

2) Insert your CD into the CD-ROM drive.

3) Open the directory on the CD called \\Win_os\\Win_NT\\Disk1 and double-click the setup.exe file.

Follow the installer's instructions. When the installer asks you to select the printer model to install, select Apple from the Manufacturer list and Apple LaserWriter 8500 from the printer list.

If asked to insert the Windows NT CD-ROM into drive A:, Click OK. Click Browse to see the PSCRIPT.DLL file in the I386 folder on Disk 2. Click Open and Click OK to continue the installation.

4) Complete the installation by making any desired changes to the Property sheets.

Configuring the PostScript Printer Driver

Before you can print, you may need to configure the printer driver. If you will be using a NetWare network, you may need to configure the printer for NetWare before you can configure the printer driver for NetWare. See Chapter 3 of your LaserWriter user's manual for instructions on setting up the printer for NetWare.

1) You configure the PostScript Printer Driver by accessing and changing its Properties. To display the printer's properties, from Start select Settings. Then, select Printers. The Printers folder opens. Highlight the printer icon whose properties you want to access. Then, from the File menu select Properties. The properties tab dialog boxes are displayed.

Select the Details tab dialog box. This tab dialog box defines which port your computer will use to print to the printer.

2) Select the Port the printer is connected on by selecting the port from the "Print to the following port" list box. If the printer is connected via the parallel port, select the desired LPT port. If you are using NetWare, select the NetWare queue that you will use. If you are using TCP/IP, select the Apple Port Monitor for TCP/IP.

3) If you are using NetWare, you will also need to associate the queue with a LPT port. Once associated, jobs printed to the LPT port will be routed to the destination you associate with it. Click Capture Port. In the Path field, enter the queue name. Then click OK.

4) Review the remaining tab dialog boxes. If you have purchased printer options, use the Device Options tab dialog box to inform the PostScript driver of their availability.

5) When you are finished making changes, click OK.

USING THE ADD PRINTER WIZARD TO INSTALL A PRINTER

Follow these steps to install a printer using the Add Printer Wizard:

1) On your Windows NT 4.0 system from Start select Settings and then Printers.

2) Double-click Add Printer. Follow the Add Printer Wizard prompts.

3) When the Add Printer Wizard asks you to select the manufacturer and model of the printer you are installing press Have Disk...

4) If you are using your CD to add the printer, enter D:\\Win_os\\Win_NT\\Disk2
(where D: represents the letter of the CD drive you are using) as the path or if you are using a floppy disk set, insert Disk 2 into the floppy drive.

The list of printer drivers available appears. Select the printer driver desired and press OK. The appropriate files are copied to your hard disk.

5) Complete the installation by responding to the Add Printer Wizard's remaining prompts.

USING NETWARE CLIENT SOFTWARE

For NetWare networks, be sure to install on your client workstation either Novell or Microsoft Client for NetWare Networks. From the Network Control Panel select the desired client.

ABOUT THE APPLE LASERWRITER UTILITY FOR WINDOWS

Use the Apple LaserWriter Utility with these printers only:

- Apple LaserWriter 8500
- Apple LaserWriter 12/640 PS
- Apple LaserWriter 16/600 PS
- Apple LaserWriter Pro 600 PS
- Apple LaserWriter Pro 630 PS
- Apple LaserWriter Select 360

Default printer - The Apple LaserWriter Utility writes to the default printer, so before using the utility be sure that the default printer is pointing to the printer that you want to configure.

Using NetWare configuration (for printers that support NetWare) - Be sure not to turn off your printer while you are using any function on the Apple LaserWriter Utility's NetWare menu. If you turn off your printer while using these functions, your computer will hang. If you need to power off your printer, do so after you exit from the NetWare menu.

Changing a printer from Rprinter to Pserver or from Pserver to Rprinter - When you change a printer from Rprinter to Pserver or from Pserver to Rprinter, make the change with the Apple LaserWriter Utility first. Then change the configuration on the NetWare file server. If you change the NetWare file server confguration first, you may not be able to select the printer from the Apple LaserWriter Utility's NetWare Configuration menu. The symptom is that the printer displays "N/A" in the Mode field and cannot be selected. If this occurs connect to the printer manually to reconfigure it. For instructions on doing this, see your Apple LaserWriter 8500 User Manual, Appendix A, Connecting to a network printer manually.

PCL mode - The LaserWriter 8500 does not support PCL. However, some Apple LaserWriters support PCL. The Apple LaserWriter Utility uses PostScript commands to set the printer parameters. If the printer being configured is set to PCL mode, PostScript commands sent by the utility will not be recognized by the printer. To correct this, place your printer's communication switch in the factory default position and restart the printer. This returns the printer to AutoSelect mode and PostScript commands will now be processed by the printer. Note, that this is not an issue for the LaserWriter 8500 because it cannot be set to PCL mode.

Apple LaserWriter Utility Uninstall - Uninstall is not available for the Apple LaserWriter Utility. If you wish to remove the utility, you can do so by deleting these files (default directory is C:\\LWUTILS):
ALWPU.EXE
ALWPU.HLP
ALWPUNET.DLL

Also delete the ALWPU.INI file from the C:\\WINDOWS directory.

ABOUT THE APPLE PORT MONITOR FOR TCP/IP

Before you can use the Apple Port Monitor for TCP/IP your LaserWriter 8500 must have a TCP/IP address. To assign a TCP/IP address connect the printer initially using the parallel port. Then, use the Apple LaserWriter Utility to assign a TCP/IP address. Use the "." character to separate the digits of the TCP/IP address. The Apple Port Monitor for TCP/IP can only be used with the LaserWriter 8500.

Deleting a Port - To delete an Apple IP port follow these steps:

1. From Start, select Settings and then Printers.
2. Select the Printer that is using the port you want to delete.
3. From the File menu select Properties.
4. Assign a different port to the printer by clicking on one of the other available ports.
5. Press OK to exit thedialog and save the changes.
6. Repeat Steps 2 through 5 for each printer that is using the port.
7. Once all printers have been assigned other ports, select the Properties dialog, select the ports tab, and then select Delete Ports.
8. Highlight the port you want to delete and press OK.

ADDITIONAL INFORMATION FOR 8500, 12/640 OR 16/600 ON NETWARE

If you select Print Server Configuration from the Apple LaserWriter Utility's Network menu and you don't see your LaserWriter 12/640 or 16/600 printer model's name in the list of printers available to configure, follow these steps to connect to your printer manually.

1) Run the Apple LaserWriter Utility and select your printer model.

2) From the Network menu, choose Connect to network printer.
The Network Printer Manual Connect dialog box appears.

3) The Network number field displays the eight-digit ipx network number for this segment. If your printer is connected to another segment, enter that segment's Network number, then press Tab to enter the Node Address.

Type the last six digits of your printer's Ethernet address in the Node Address field. You will find the Ethernet address on the startup page. Press Connect.

The Printer Configuration and Status dialog box for your printer is displayed.

4) From the Frame Format list box, select the Frame Format that your NetWare file server uses. By default, NetWare 3 uses frame format 802.3; NetWare 4 uses frame format 802.2. If you want to use both NetWare 3.x and 4.x file servers with your printer, configure the NetWare file servers so that they use the same frame format.

Note: The Frame Format list box may display "Autodetect" as its value. This indicates that the printer's frame format is not set yet.

5) Press Send to send the Frame Format to the printer. Then, wait about 30 seconds.

You can now use Print Server Configuration to configure your printer. However, be sure to complete your PCONSOLE configuration for the printer first before doing so.

PRINTING FROM WINDOWS NT 4.0

PostScript Level 2 Driver - Some features available with the Windows 3.1 and Windows 95 drivers are not yet available on Windows NT:
a. watermarks,
b. n-up printing,
c. certain printer features - for example, for the Color LaserWriter 12/600 and 12/660 the transparency paper selection and print quality cannot be made,
d. PostScript 3 features are not available.

PostScript Options Negative Output - Only every other page is printed as negative output when this option is selected.

Printing multiple copies from Acrobat - With Acrobat only one copy at a time can be printed.

FILES INSTALLED

This section identifies the files that are installed by an Express Installation:

The Setup program places these PostScript Driver files in the Windows NT system directory you select:

PSCRIPT.DLL
PSCRIPTUI.DLL
PSCRIPT.HLP
PSCRIPT.CNT

The Apple Port Monitor for TCP/IP files are installed by default into c:\\windows\\system. The files are:
APPLE_IP.DLL
APPLE_UI.DLL

This README.WRI file and the Apple LaserWriter Utility are placed by default in c:\\lwutils. The files are:
README.WRI
ALWPU.EXE
ALWPU.HLP
ALWPUNET.DLL

NetWare client software is placed by default in c:\\lwutils:
NWCALLS.DLL
NWIPXSPX.DLL

The driver setup program installs PostScript Printer Description (PPD) files you select into the Windows system directory. These PPDs for the printer models indicated may be installed at the user's request:
LaserWriter 8500 - APLWBGR1.PPD
Color LaserWriter 12/660 PS - APLWCSB1.PPD
LaserWriter 12/640 PS - APLWMGS1.PPD
Color LaserWriter 12/600 PS - APLWCOB1.PPD
LaserWriter 16/600 PS - APLWGRI2.PPD
LaserWriter Select 360 - APLWSEL.PPD
LaserWriter Pro 600 - APTOLLD1.PPD
LaserWriter Pro 630 - APTOLLW1.PPD
Default printer - DEFPRTR.PPD

HOW TO GET UPDATED SOFTWARE

Apple Software Updates are available on CompuServe, America Online, and on the Internet at:
http://asu.info.apple.com/

To obtain the latest Adobe PostScript printer driver use:
http://www.adobe.com/prodindex/printerdrivers/main.html
Published Date: Feb 18, 2012

QuickTime 2.5 to 3 Information Statement

This article provides a statement on QuickTime 2.5 to 3 from Apple Product Marketing.
This article has been archived and is no longer updated by Apple.
Previous versions of QuickTime for Macintosh have been replaced with QuickTime 3.

This powerful new product provides support for DV Camcorders, new compression for Internet delivery, an updated plug-in supporting streaming of QuickTime media including VR, a new encoding architecture for exporting both media types and compression, and the ability to read and enjoy all kinds of media from Windows based systems.

The QuickTime 3 installer also includes MoviePlayer 3, the updated plug-in, and a new application, PictureViewer to be able to open and read a variety of still images including BMP, JPEG, SGI and Photoshop.

As an component architecture, QuickTime only loads as much memory as needed for that particular function, so it is memory efficient, backwards compatible, and continues to run on older Macintosh computers as you would expect.
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At Ease 4.x, 5.x: Printer Issue

We're running an At Ease network and when we try to print we get an error saying there is no printer selected in the Chooser. Can you help?
This article has been archived and is no longer updated by Apple.
At Ease remembers which printer is the default printer at the login screen so it can restore that printer when a user logs out. This includes the "no printer" case. Because a Finder user is still considered a user by At Ease, when you log out of a Finder WG, the printer is restored to no printer.

First of all, be sure that the printer is a LaserWriter 8-compliant printer (most PostScript printers are). Apple is not responsible for third-party printers that take advantage of the LaserWriter 8 driver.

The way to change the default printer is as follows:

1. From the At Ease login screen, hold down the Command and Shift keys, and press the Esc key. You will be asked for an administrator password. Enter your password and you will be taken to the full Finder.
2. Disable the At Ease Startup extension (using the Extensions Manager) and restart; this will turn At Ease off.
3. Use the Chooser under the Apple menu to select the printer you want to be the default printer.
4. Go back into the Extensions Manager and enable the At Ease Startup extension and restart the computer.

If this does not work, then you may need to trash the Printing Preferences while started with the At Ease Startup extension off (during step 3 above).

If it still does not work, then perform a clean installation of the system software. Run through the Mac OS Setup Assistant and be sure to set up a printer when asked to do so. Then install ANAT (At Ease). Then restart into At Ease and try to print.
Published Date: Feb 18, 2012

Color StyleWriter 6500: Updated Version of Logic Board Diagnostics

When you swap logic boards on a Color StyleWriter 6500, certain diagnostic programs are required to be run to download parameters, calibrate the print head, and test the printer. One of the programs, the Default Settings program, does not download all the parameters. As a result, when a customer attempts to use the printer on a LocalTalk network, they cannot see the printer in the Chooser.

This article has been archived and is no longer updated by Apple.

Make sure you are using the latest version of the default file when downloading and verifying logic board parameters. The latest version can be identified by the modification date on the CSW6500.Def file. The correct file has a date of May 4, 1998. The latest file can be found on the Service Source Companion 2 CD, or it may be downloaded from Service Source Online.

Published Date: Feb 18, 2012

Macintosh Pascal: Doing Screen Dumps

This article has been archived and is no longer updated by Apple.
To print a screen shot from Macintosh Pascal (versions 1.0, 1.1, 2.0, and 2.1):

--Select the ImageWriter or ImageWriter II from the Chooser. It may be connected to either the Printer or the Modem port. (The Modem port is available only in versions 2.0 and 2.1.)

--Type "Command-Shift-4" to print the current screen.

NOTES: --Command-4 does not print the current window.

--If you have a LaserWriter or an AppleTalk ImageWriter selected as the printer when you try to do a screen dump, Macintosh Pascal will simply "beep". If you wish to print a screen to an AppleTalk ImageWriter or LaserWriter, use Command-Shift-3 (to create a MacPaint file) and then print from MacPaint.
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Workgroup Server 9650: Clean Install & JackHammer Card

This article covers additional procedures when performing a clean installation of all software on a Workgroup Server 9650.
This article has been archived and is no longer updated by Apple.
The Workgroup Server 9650 comes with an internal PCI JackHammer card which may need to be reset in conjunction with a clean installation of all server software. To reset the card startup from the Workgroup Server Software CD by holding down command-option-j at startup which will disable the card. Once the computer has started up from the CD open the Jackhammer control panel while holding down the command key. This will run a diagnostic on the card and update the flashROM. Here is the path to the JackHammer control panel:

Workgroup Server Software/Software Installers/Workgroup Server Update/Workgroup Server Disk 1/Workgroup Server Pieces/PCI SCSI JackHammer? 1.2.2

Once this is done restart the Workgroup Server again from the CD-ROM disc by using either the Startup Disk control panel or pressing and holding the C key. Run Disk First Aid and make repairs if necessary. Update hard disk drivers using Drive Setup or AppleRAID (assuming the drives have not been formatted with some other utility). Now continue with the software installation by selecting the Perform Clean Installation checkbox in the installer application. If the server is going to run AppleShare IP, the minimum required components are the Mac OS and OpenDoc. OpenDoc is not required for AppleShare 4.x and earlier.

For complete information on performing a clean installation on AppleShare File Servers while maintaining Users & Groups data and Access Privileges, please refer to the Tech Info Library Article 24454: "**AppleShare IP: Retaining File & Folder Permissions After Clean Install**."
Published Date: Feb 18, 2012

Copying or Saving PostScript Files to an Xinet Server

I have encountered difficulties "ripping" or printing my PostScript print jobs, created by the Apple LaserWriter driver, once the PostScript files have been copied to a Xinet server. What is wrong?
This article has been archived and is no longer updated by Apple.
If you print to File using the Apple LaserWriter and then drag or copy that file to a Xinet server to be processed by a Raster Image Processor or spooled to a printer, problems may occur with print jobs that contain embedded binary data because the server performs some pre-processing on the file. The Xinet server automatically converts all of the carriage returns <CR> in the file to linefeeds <LF> which causes these jobs that contain binary data to fail.

Xinet's suggests some workarounds in their Technote 001 posted on their web site: **http://www.xinet.com/**

We believe a more simple solution is to use the LaserWriter 8 driver's Save as File default data format setting of ASCII. This tells the driver to create a job using the standard 7-bit ASCII encoding, re-encoding any binary data into ASCII, so when Xinet converts the <CR>s to <LF>s nothing gets damaged.

Newer versions of the LaserWriter beginning with 8.4 let you change and then save a default setting. If you changed the default Data Format to Binary in the Save as File panel in one of these newer versions of the driver, you can make ASCII the default again by clicking on the ASCII radio button, then select Save Settings.

Following Apple's recommendation should provide continued compatibility with the majority of PostScript file downloaders, utilities, parsers, printers, and so on, that we believe will be appreciated by users who edit or otherwise manage PostScript files directly.
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Pascal 1.3: Using it on a Hard Disk 20SC

This article has been archived and is no longer updated by Apple.
When using Apple Pascal 1.3 (as well as versions 1.0, 1.1, and 1.2) on an Apple II, you cannot use the Hard Disk 20SC as a volume: since Pascal stores the volume size as a signed integer, it cannot work with volumes larger than 32767 blocks. (The HD 20SC has 39165.) The Hard Disk 20SC can be formatted from Apple Pascal, but when you attempt to use the Pascal FILER to copy files to the drive, you get a "NO ROOM ON VOLUME" message. Furthermore, Apple Pascal only supports 77 files per directory, so even if you could use the Hard Disk 20SC, you would run out of directory space before you could even come close to running out of disk space.

The directory limitation applies to 5 meg and 10 meg ProFile drives as well. You can use a ProFile hard drive with Pascal 1.3, but you cannot "share" the drive with ProDos: you must dedicate the entire hard drive to a maximum of 77 Pascal files.
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AppleScript: Missing AppleScript Dialect Message

When I launch an AppleScript file or edit a script in the Script Editor, I get the message "dialect is not available." Why is this happening?
This article has been archived and is no longer updated by Apple.
Starting with Mac OS 8, the Scripting Additions folder has been moved from the Extensions Folder to the System Folder. AppleScript looks in this Scripting Additions folder for its dialects and scripting additions first. When you drop a scripting addition onto the closed System Folder, it will offer to place it in this Scripting Additions folder for you.

To support scripts, applications, and installers that depend on the old location of the Scripting Additions folder, AppleScript will also recognize items placed in a Scripting Additions folder in the Extensions folder. However, it will not recognize dialects in a Dialects folder in the Scripting Additions folder in the Extensions folder, if dialects are already present in the System Folder-level Scripting Additions folder. If duplicate scripting additions are found in the second folder, only the ones in the first folder will be functional.

Verify the English Dialect file is in the Dialect folder in the Scripting Additions folder at the System Folder level. If you have a duplicate Scripting Additions folder, compare the two folders and remove the duplicate dialects found in the Scripting Additions at the Extensions folder level.
Published Date: Feb 18, 2012

Apple Network Utility for NDS: Frequently Asked Questions

This article contains the most frequently asked questions (FAQ) about Apple Network Utility for NDS.

- Questions answered in this FAQ:
- What is the Apple Network Utility for NDS?
- What are the requirements for the Apple Network Utility for NDS?
- How is the Apple Network Utility for NDS distributed?
- How do I install the Apple Network Utility for NDS?
- Where is the documentation for the Apple Network Utility for NDS?
- What files get installed when I install the Apple Network Utility for NDS?
- Once installed, how do I use it to create an NDS object for my Apple LaserWriter printer?

This article has been archived and is no longer updated by Apple.
1) Question: What is the Apple Network Utility for NDS?
Answer: The Apple Network Utility for NDS is a piece of software that lets NetWare administrators set up and use certain Apple LaserWriter printers with NetWare Directory Services (NDS) on a NetWare 4.1 or 4.11 server. This software is not a stand-alone application. Instead, it becomes a part of the NetWare Administrator Utility for your NetWare server.

2) Question: What are the requirements for the Apple Network Utility for NDS?
Answer: The Apple Network Utility for NDS requires:
A NetWare 4.1 or 4.11 server running NDS.
A Windows 3.1x or Windows 95 machine with an NDS-capable network client.
At least one of the following printers:

- Apple LaserWriter 8500
- Apple LaserWriter 12/640
- Apple LaserWriter 16/600

3) Question: How is the Apple Network Utility for NDS distributed?
Answer: The Apple Network Utility for NDS is only available with the LaserWriter 8500. It is located in the WIN_OS\\APPLENDS folder on the LaserWriter 8500 CD-ROM disc. Although Apple provides support for the use of this utility with the LaserWriter 12/640 and LaserWriter 16/600, Apple has no plans to release this utility separately.

4) Question: How do I install the Apple Network Utility for NDS?
Answer: Follow the steps below:

1. Insert the LaserWriter 8500 CD-ROM disc
2. Run INSTALL.EXE in the \\WIN_OS\\APPLENDS directory of the LaserWriter 8500 CD-ROM disc 3. Enter the full path (including drive letter) to the NetWare Administrator Utility (NWADMIN, NWAdmn95, or NWAdmn3x). You may select a copy of the NetWare Administrator Utility that is located on a client or on the server.

5) Question: Where is the documentation for the Apple Network Utility for NDS?
Answer: The documentation for the Apple Network Utility for NDS is in a Windows Help file that is installed in the same directory as the NetWare Administrator Utility which you specified during installation. The file name will be either APPLE16.HLP or APPLE32.HLP.

6) Question: What files get installed when I install the Apple Network Utility for NDS?
Answer: The server will copy the following files into the same folder that contains the copy of the NetWare Administrator Utility you specified during installation:

For NetWare 4.1 (NWADMIN.EXE)

- README.NDS - Text file that provides additional information about the Apple Network Utility for NDS
- APPLE16.HLP - Windows Help file with documentation for the Apple Network Utility for NDS
- APPLESNP.DLL

For NetWare 4.11 (NWADMN95)

- README.NDS - Text file that provides additional information about the Apple Network Utility for NDS
- APPLE32.HLP - Windows Help file with documentation for the Apple Network Utility for NDS
- APPLE32.DLL
- SNAPIN32.DLL

For NetWare 4.11 (NWADMN3X)

- README.NDS - Text file that provides additional information about the Apple Network Utility for NDS
- APPLE16.HLP - Windows Help file with documentation for the Apple Network Utility for NDS
- APPLE16.DLL

7) Question: Once installed, how do I use it to create an NDS object for my Apple LaserWriter printer?
Answer: Consult the Windows Help file documentation (APPLE16.HLP or APPLE32.HLP) for full instructions on usage and tips. Here are the basic steps:

1. Launch the NetWare Administrator Utility
2. Select the container in which you want to create the object.
3. From the Object menu, choose Create. If the Create option is not available, you do not have sufficient rights, or you selected a leaf object.
4. Select "Apple Print Server" from the list of object classes and click OK.
5. If desired, define filter and sort criteria for displaying the list of devices you are about to create
6. Click OK
7. In the "Print Server Name" field, enter a name for the new Apple Print Server object you are about to create.
8. In the list of devices, select the LaserWriter printer you wish to assign to the object.
9. Click Create

The new Apple Print Server object should appear in the Directory tree. You now need to configured this object:

1. Open the Apple Print Server object you just created
2. Click the button labeled "Assignments"
3. Select an existing Print Server object or click the New button to create a new one
4. Click the Assign button
5. Select a Printer object or click the New button to create a new one
6. Select a Print Queue object or click the New button to create a new one
7. Click OK
8. Click OK to save settings
9. Restart PSERVER.NLM from the server console.

You should now be able to submit jobs to the queue and receive jobs on the specified printer.
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Performa 52xx/53xx/62xx/63xx: Continuous Sound on Startup

This article describes a sound issue which occurs with certain Performa computers running Mac OS 8.1, and provides a workaround.
This article has been archived and is no longer updated by Apple.

Symptom

During startup, the computer may emit a "squealing" sound, similar to a car horn sounding continuously. The sound will continue until a new sound is played or the volume is changed.

Solution

Apple is aware of this issue. It has been fixed in Mac OS 8.5. Power Macintosh users who have upgraded to Mac OS 8.5 should not experience this issue. For Mac OS 8.1 users who do not wish to upgrade to Mac OS 8.5, a workaround is available below.

Under Mac OS 8.1, the issue will occur under the following conditions:

- the computer is a Performa or Power Macintosh 52xx/53xx/62xx/63xx series computer.
- the computer is running Mac OS 8.1
- the system volume is set to an even numbered value (2, 4, or 6).

The workaround for this issue is to set the volume to an odd numbered setting (1, 3, 5, or 7). If the volume setting is 2, 4, or 6 you will get the continuous "squealing" sound on startup. Keep in mind that some applications will set the volume setting on their own, so it is possible that the sound could return unexpectedly. Using AppleScript, you can create a script which will automatically set the volume to an odd value. Placing the script in the Shutdown Items folder should prevent the issue from occurring.

Note: To reset the volume at shutdown, make sure the Extensions Manager has AppleScript enabled.

To reset the volume automatically at each shutdown, perform the following steps (you may wish to print these instructions to follow them closely):

1. Open the application Script Editor (located in the AppleScript folder in the Apple Extras folder on your hard disk).

2. Type the text listed below into the untitled window below the Record button (or Copy & Paste from here).
Note: Make sure you are using 1, 3, 5, or 7 for the volume level. Do not use an even number.
```
tell application "Finder"
set volume "3"
end tell
```

3. From the File menu, select Save As Run-Only...

4. Change the popup menu from Compiled Script to Application.

5. Put an 'x' in the box entitled Never Show Startup Screen.

6. Type in a name for the file such as, "Set Volume to 3"

7. You want to save the application in a VERY specific location. In the Save dialog box you are still in, navigate to the following path:
<your hard disk>
System Folder
Shutdown Items

8. Click the Save button, so that the file is saved into the Shutdown Items folder in your active System Folder.

9. From the File menu, select Quit. Click Don't Save at the prompt.
(You've already saved the file).

Because the Shutdown Items folder in your System Folder now contains this simple AppleScript application, the volume level will be reset every time you shut down your computer normally. This will eliminate the startup squeal issue present on specific computers with Mac OS 8.1 installed.

For specific reasons, you may want the volume to be at a specific level **after** startup. To accomplish this, modify the script above with your desired volume level ("7" for example), and save the file in the Startup Items folder instead. At every startup, the sound will be reset to your desired level.

TA36939_Performa_xxxxxxxx_Continuous_Sound_on_Startup.pdf

Published Date: Feb 18, 2012

QuickTake Camera and Year 2000 Compliance

I have an Apple QuickTake 150 and I'm wondering if it is year 2000 (Y2K) compliant. Are all the QuickTake cameras 2000 compliant?
This article has been archived and is no longer updated by Apple.
Yes, the QuickTake 100, QuickTake 150, and the QuickTake 200 are all year 2000 compliant as well as the software used with them.
Published Date: Feb 18, 2012

QuickFile: Left-Justifying Labels

When printing mailing labels from QuickFile, it's sometimes desirable to place an optional title (e.g., Mr., Mrs., Mr. & Mrs.) in front of the name. See example below.
This article has been archived and is no longer updated by Apple.
The following example:

Title <First Name <Last Name
Street Address
City/State/Zip

will indent the first line of every mailing label that doesn't contain a title 3 spaces.

The following example solves the indenting problem.

<Title <First Name <Last Name
<Street Address
<City/State/Zip

The trick is to get the left-most field left-justified. Since QuickFile won't let you OPEN-APPLE-J the left-most field, move the left-most field to where it is not left-most, OPEN-APPLE-J it, then move the line back to its left-most position. This causes all occurrences of this line to be preceded by 3 spaces. OPEN-APPLE-J the rest of the lines you wish to straighten out.
Published Date: Feb 18, 2012

Apple Personal Modem: Making it Work with AppleLine

This article has been archived and is no longer updated by Apple.
If you have no problems accessing an Apple Modem 300/1200 through AppleLine but cannot seem to access an Apple Personal Modem, the APM's auto-answer mode is most likely preventing it from answering.

The auto answer mode is one of the differences between the Apple Modem 300/1200 and the APM. With the Apple Modem 300/1200, the default for the S0 register is S0=1 (that is, "answer the phone on the first ring"). The default for the APM's S0 register, though, is S0=0 (that is, "do not answer any ring"). Try connecting a system to the APM and resetting the S0 register to S0=1. Then, without powering down the modem, connect it to the AppleLine. The modem will now be in auto answer mode, and, unless powered down or reset, it will answer incoming calls on the first ring.

Another possibility is that you are using the wrong cable. For the APM, you should be using a 590-0331 (the cable used for connecting an Apple Personal Modem to an Apple IIe with a Super Serial Card) along with the modem elinator cable 590-0029.

Published Date: Feb 18, 2012

LaserWriter 8500: Selecting Envelope Cassette

My LaserWriter 8500 User Guide instructs me to select an envelope cassette in the print dialog box and to set it to installed and preferred. I do not see a choice for this in my printer setup or print dialog box. What do I do?
This article has been archived and is no longer updated by Apple.
The manual is misleading in its intention. To be certain that the optional feeder is recognized in the printer setup, and to specify this feeder when printing envelopes you have to install the optional sheet feeder and the envelope cassette.

You do not have to have an optional feeder to use the envelope cassette on the LaserWriter 8500. All of the cassettes work in both the optional and built-in feeder of the printer. If you are using the envelope cassette in the built-in feeder, simply specify cassette (standard) in the print dialog box. Otherwise, specify which optional cassette feeder to pull from or allow the printer to pull from the proper source automatically.
Published Date: Feb 18, 2012

Newton Connection Utilities 1.0 Windows NT 4.x Compatibility

I would like to use Newton Connection Utilities (NCU) 1.0 with Windows NT 4. All of the information I have seen indicates that it is compatible with Windows NT 3.5. However, I cannot find any mention of NT 4. Is NCU 1.0 compatible with Windows NT 4.x?
This article has been archived and is no longer updated by Apple.
When preparing Newton Connection Utilities 1.0 for release in early 1997, product testing included Windows 3.x, Windows 95 and Windows NT 3.5, but did not include Windows NT 4 or Windows 98. The decision of what software to test was based on the software being used by Newton users, rather than an exhaustive list of software. This list did not include Windows NT 4 or Windows 98.

Apple understands that since Newton Connection Utilities 1.0 was released, users have begun to migrate to Windows NT 4.0 from Windows 95. Apple understands that some users may want compatibility information regarding Windows NT 4 prior to installing and using NCU. However, we do not have official testing that would verify Windows NT 4 or Windows 98 as a recommended solution for use with NCU.

For more information regarding Windows troubleshooting, please use the Technical Information Library to search in the Newton directory for "Windows." There are several articles that are helpful with resolving normal Windows-related issues.
Published Date: Feb 18, 2012

Macintosh Application Environment (MAE) Discontinued

This article is the press release announcing that MAE is discontinued.
This article has been archived and is no longer updated by Apple.
Effective with the May 14, 1998, Apple Confidential Price Lists, the Macintosh Application Environment (MAE), Part Number 449000U, has been discontinued. This decision has been reached as part of Apple's continuing efforts to focus all our software development resources on extending the Mac OS.

MAE 3.0.4 software provides a Macintosh system 7.5.3 environment in an X Window. It enables off-the-shelf Macintosh applications to run on a UNIX workstation. It supports a variety of releases of HP-UX and Solaris Operating System on the following models of HP and Sun workstations:

- Sun SPARC 2, 5, 10, and UltraSparc workstations running Solaris 2.4 to 2.6
- HP 9000 series 700 workstations running HP-UX 9.0.x, HP-UX 10.10, 10.20 and 10.30 X Window System version 11, release 5

MAE does not support any other hardware platforms. Additionally, MAE 3.0.4 will not run PowerPC-only applications and will therefore not support some of the recently introduced Macintosh applications.

Apple is committed to working with its customers to ensure a smooth transition to Mac OS-based products, and for a limited time will continue to provide up-and-running support for the installed base of MAE users. Any current MAE customer that has not yet received a MAE key code or needs a replacement key code can call Apple Computer at 1-800-SOS-APPL, extension 943. Customers outside the U.S. should contact their local support centers to request the keys.

For replacement solutions, former MAE users should consider a third-party solution called the "G3 UNIX Workstation." This product uses the Macintosh G3 as the basis for running a full-service UNIX environment including, X-Windows, NIS, NIS+, NFS and OpenGL support along with C, C++ and FORTRAN compilers. Performance of the G3 UNIX Workstation exceeds that of computers costing more than twice as much. There is also a PowerBook version of this solution which boasts the only true portable UNIX solution including power management. The G3 UNIX Workstation and PowerBook are also capable of running Windows 3.1, 95 or NT at high-end Pentium speeds simultaneously with UNIX and the Mac OS. For more information on these products see the Joint Solutions web site at **http://www.jointsolutions.com/g3/** or for full system integration support contact FGM at 1-800-346-1705, **http://www.fgm.com**.

Effective with the distribution of this message, the MAE-ANNOUNCE mailing list will be discontinued. The MAE-USERS mailing list will continue to operate as long as the list is useful to our MAE users.
Published Date: Feb 18, 2012

Language Kits: Viewing Foreign File/Folder Names In The Finder

This article explains how to set the font used in Finder to a Language Kit font.
This article has been archived and is no longer updated by Apple.
The preference setting that determines which font the Finder uses for file and folder names may have changed since your Language Kit manual was printed.

To set the font that the Finder uses for file and folder names follow these steps:

System 7.x

1. Open the Views control panel.
2. Set the Views Font to one of the fonts installed by the Language Kit.

Mac OS 8.0 and 8.1

1. In the Finder, select Preferences from the Edit menu.
2. In the Font for views pop-up menu, choose one of the fonts installed by the Language Kit.

Mac OS 8.5, 8.6, and 9.x

1. Open the Appearance control panel, select the Fonts tab.
2. In the Views Font pop-up menu, choose one of the fonts installed by the Language Kit.

Note: The fonts included with each Language Kit are designed to support English characters and each Kit's specific language only. The Language Kits do not currently support viewing multiple languages (for example, Japanese and Korean) simultaneously with the same font.

If you are using a Language Kit with Mac OS 8.0 or later, you may need to install a Lanaguage Kit Updater for compatibility. For more information, see the following articles:

Article 26026: "**Language Kit Updater for Mac OS 8 Version 1.0 Read Me**"
Article 24799: "**Language Kit Updater For Mac OS 8.5: Read Me**"
Article 60364: "**Mac OS 8.6: Language Kit Update**"
Published Date: Feb 18, 2012

LaserWriter 8500: PostScript for Changing Paper Tray

This article provides PostScript commands that let you change the paper tray selection for the Apple LaserWriter 8500 printer.
This article has been archived and is no longer updated by Apple.
The PostScript information below may be useful for users who are using Apple LaserWriter 8500 printers with systems, typically UNIX-based, that do not provide PostScript driver support for selecting paper trays.

NOTE: This information only applies to the Apple LaserWriter 8500 printer; commands may vary between printer models.

NOTE: The information below does not apply to users with Mac OS and Windows-based computers, since this functionality is built into the PostScript printer drivers for these operating systems.

If your printing system lets you append PostScript to your jobs, the following PostScript code fragments will allow you to change the paper tray selection on a per-job basis. Information on how to change the printer's default tray selection is also provided.

The details of how to automate this process on a per-job basis vary from system to system (if it can be automated at all). Please consult your system's documentation for specifics.

CAUTION: If you choose to use the PostScript code provided in this article, you assume all risks involved in making these changes. PostScript code, if not entered correctly, can place the LaserWriter into a condition requiring service.

250 Page Tray (Standard Cassette)

```
%!
currentpagedevice /InputAttributes get 0 get
dup null eq
{ pop }
{ dup length 1 add dict copy
dup /InputAttributes
1 dict dup /Priority [0 1 2 3] put
put setpagedevice
} ifelse
%% End PostScript
```

Multipurpose Tray

```
%!
currentpagedevice /InputAttributes get 1 get
dup null eq
{ pop }
{ dup length 1 add dict copy
dup /InputAttributes
1 dict dup /Priority [1 0 2 3] put
Ê put setpagedevice
} ifelse
%% End PostScript
```

Optional Cassette 1

```
Ê    %!
Ê currentpagedevice /InputAttributes get 2 get
          dup null eq
          { pop }
          { dup length 1 add dict copy
          dup /InputAttributes
          1 dict dup /Priority [2 0 1 3] put
          put setpagedevice
          } ifelse
          %% End PostScript
```

Optional Cassette 2

```
%!
currentpagedevice /InputAttributes get 2 get
dup null eq
{ pop }
{ dup length 1 add dict copy
dup /InputAttributes
1 dict dup /Priority [3 0 1 2] put
put setpagedevice
} ifelse
%% End PostScript
```

Changing the Default Tray

Use the following information to change the default paper tray selection for the Apple LaserWriter 8500 printer. These settings will remain until the defaults are changed again. The PostScript code fragments below should be downloaded by themselves; they should not be appended to any other PostScript jobs like the per-job fragments discussed above.

The tray selections below are based on the following numbering scheme:

0 (StandardCassette)
1 (Multipurpose)
2 (OptionalCassette1)
3 (OptionalCassette2)

This is the PostScript Level 2 code format for changing the default tray:

```
%!
serverdict begin 0 exitserver
1 dict dup /InputAttributes 1 dict dup /Priority [2 1 0 3] put put
setpagedevice
%% End PostScript
```

This sets the paper tray priority to:

1st Priority: Optional Cassette 1 - designated by the "2" in the array above.
2nd Priority: Multipurpose Tray - designated by the "1" in the array above.
3rd Priority: Standard Cassette - designated by the "0" in the array above.
4th Priority: Optional Cassette 2 - designated by the "3" in the array above.

You can change the paper tray priority order by changing the order of the values in the "/Priority" section, above. For example, /Priority [0 1 2 3] makes the standard cassette first priority, then the Multipurpose tray next, then optional cassette 1, and finally optional cassette 2.
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Macintosh Internal Hard Drive: Problems When Using Other Drives

When I hook up an external SCSI hard drive to my Macintosh SE, the internal drive crashes at bootup. What's going on?

This article has been archived and is no longer updated by Apple.
When used with other external SCSI drives, a Macintosh SE or Macintosh II equipped with an internal SCSI drive may develop compatibility problems, such as the inability to boot up without crashing. This happens because:

- The Macintosh internal SCSI drive and the external hard drive have the same SCSI priority number.

- The external drive contains an older driver that will not work with the newer Macintoshes.

The first problem pertains only to those external SCSI drives that have the SCSI priority number set to 0 in their firmware, such as the AST 4000. Although AST drives are presently jumpered to have a priority number of 0, AST is replacing the jumper block on the 4000 with a dip switch, which will make changing the priority easier. The priority numbers in other AST and external Rodime drives are either set to a number other than 0 or can be changed easily. A customer who needs to change the priority number of a AST 4000 should contact AST for complete directions.

The workaround to the second problem is simply to update or reinitialize the driver using the Apple HD SC Setup.

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ClarisWorks 5.0v2 Updater: Read Me for Windows

Name: ClarisWorks 5.0v2 Update
Released: June 24, 1998

Requires:
U.S. English 5.0v1 of ClarisWorks for Macintosh or Windows.

Description:
ClarisWorks 5.0v2 Updater will upgrade U.S. versions 5.0v1 to the current U.S. release, 5.0v2. This Updater WILL NOT update any international versions of ClarisWorks. ClarisWorks 5.0v2 is a maintenance release which addresses 23 bugs on both platforms. On Mac OS, the ClarisWorks application, HTML translator, and HTML config assistant are updated. On Windows, the application and HTML filter are updated. Please see the updated "Read Me" document included with this software for a complete list of issues addressed with this update.

This update includes the following:
* (Mac OS) In 5.0v1, the Microsoft Word 6 translator ("MS Word 6 Mac [MacLink]") would not appear in the list of available translators in the Open or Save As dialog boxes if Microsoft Word 6 was installed. It will now appear correctly.
* (Mac OS & Windows) Spaces that have been formatted with the underline style will now print correctly.

Mac OS Instructions:
Launch the Installer, which will install and automatically launch the updater application. The updater searches local volumes for candidate files (i.e. ClarisWorks 5.0v1) and lists them. The user selects one, which is then updated to 5.0v2. Additionally, the installer will update the HTML translator (System : Claris : Claris Translators) and the HTML config assistant (ClarisWorks 5.0 Folder : ClarisWorks Assistants).

Windows Instructions:
Launch the updater, which will present a standard dialog in which to locate ClarisWorks 5.0v1. The updater will then update the app and the HTML translator.
This article has been archived and is no longer updated by Apple.

Welcome to ClarisWorks 5.0v2 for Windows!

Thank you for choosing ClarisWorks 5.0 software. We're excited about this latest release of ClarisWorks and hope that it will help you to be more productive and creative. This Read Me file documents some tips that may prove helpful when using ClarisWorks 5.0, including changes for users of previous versions of the program. In particular, this document provides information about:

I. New Features in ClarisWorks 5.0
II. Usability and Design Changes in Version 5.0
III. Technical Notes and tips
IV. Problems and Issues Addressed in 5.0v2

I. NEW FEATURES IN CLARISWORKS 5.0

For a detailed list of the new ClarisWorks 5.0 features, refer to the "ClarisWorks Installation and New Features Guide" (chapter two) or to ClarisWorks Help.

Launching Help

- From the Help menu, choose "ClarisWorks Help Contents..."
- Choose "What's New" then click Open.
- Choose "New features in ClarisWorks 5.0" then click Display.

Changes to the Interface
The Button Bar
The most noticeable change in ClarisWorks is the button bar. The button bar gives you one-click access to 150 shortcuts to make your work easier. You can also create your own buttons to appear on the button bar. The button bar could get pretty crowded, so we've added the ability to create multiple button bars. There are 4 different button bars (Default, Assistant, Internet and Document), and you can create your own button bar! You can switch between button bars at any time. Also, you can dock your button bar at the top, bottom, left or right on your screen. You can even tear it off to make it into a palette.

The Text Ruler
The text ruler has been streamlined to make it easier to set up tabs and margins. When you move tabs or margins, page guides allow you to align text precisely.

The Paste Function Dialog
In a spreadsheet, clicking the Paste Function button displays a dialog box that shows all functions, organized by category, that you can paste into your spreadsheet. This feature makes memorizing the syntax of a function unnecessary.

Compatibility
ClarisWorks can now read documents created in Microsoft Word and Excel, WordPerfect, Lotus 1-2-3, and other applications. You can save files in these formats as well.

Content
New content in ClarisWorks includes many new stationery (template) files. To see the new stationery files, select New from the File menu, click the button "Use Assistant or Stationery" and select "About Stationery" from the pull down menu. Additionally, there are new clip art libraries. Choose "Library" from the File menu to show a menu containing all the libraries in the application.

The Internet
You can take advantage of the Internet by starting your browser or email program from ClarisWorks, linking a ClarisWorks document to a Web page, creating custom buttons for your favorite Web pages, making your own Web page, or linking documents together.

II. USABILITY AND DESIGN CHANGES IN VERSION 5.0

Styles
In ClarisWorks 4.0, applying a style to text (for example) then applying another style would "compound" (overlap) the two styles. In ClarisWorks 5.0, you can choose to compound styles or not. By default, compounding styles is turned off. Refer to the Help system using the keyword "Compound Styles command" for more information.

The Access Menu
The Access Menu is exclusive to the Windows 95 and Windows NT 4.0 version of ClarisWorks 5.0. With the Access menu, users who prefer not to use a mouse can use their keyboard to navigate to various palettes. To activate the Access menu, choose Preferences from the Edit menu. Choose General from the Topic list, select "Show Access Menu" and then click OK. The Access menu will appear in the menu bar. It contains the following items: Arrows, Fill Color, Fill Pattern, Fill Texture, Gradient, Pen Color, Pen Pattern, Pen Width, Text Color, Configure HTML, Links, and Button Bar.

Here are some examples of how you might use the Access menu:
To access the Fill Texture palette using the keyboard, choose Alt+A to open the Access menu. Use the down arrow key to navigate to the item "Fill Texture". Use the right arrow key to open the submenu. From here, you can use the up, down, left, and right arrow keys to select a texture. Once you've decided upon a texture, hit the Esc key. The Texture palette will close but your choice is preserved.

To activate the Stylesheet palette, choose "Show Stylesheet" from the Window menu. To open a library, choose "Library" from the File menu and pick a library. Once these are open, they will appear activated in the Access menu. The Links Palette is always active under the Access menu.

To hide the Access menu, choose Preferences from the Edit menu. Choose General from the Topic list, deselect "Show Access Menu" and then click OK. The Access Menu will no longer appear in the menu bar.

Palettes
The Texture palette is new in ClarisWorks 5.0. You can also edit textures as well as patterns and save your customized palettes. For more information, use the keyword "textures" or "palettes" in onscreen Help.

Access to Onscreen Help from Any Dialog Box
In ClarisWorks 5.0, you can access onscreen Help from any dialog box. This is helpful if you are using a feature and have a question about how it works. Just click the Help button (a question mark in the upper right corner of the dialog box) to display a Help topic that is applicable to the current dialog box. You can also press the F1 key to display Help.

Intellimouse Support
The Windows version of ClarisWorks 5.0 supports certain features of the Intellimouse, such as Wheel Settings and Mouse Properties. For information on configuring your Intellimouse, consult the documentation that came with it or with your computer.

III. TECHNICAL NOTES AND TIPS

Using Documents Created in ClarisWorks 4.0
When you open ClarisWorks version 1.0, 3.0, and 4.0 files in ClarisWorks 5.0, you will see the message "This document was created by a previous version of ClarisWorks. A copy will be opened and '[v5.0]' will be added to the filename."

To replace your ClarisWorks 1.0, 3.0, or 4.0 files with ClarisWorks 5.0 versions, choose Save or Save As from the File menu, remove [v5.0] from the file name, and click Yes when ClarisWorks asks if you want to replace the existing file. If you are converting a number of files to the 5.0

file format, you can turn off the warning and the [v5.0] filename suffix by choosing Preferences from the Edit menu. Select General item from the Topic list, and then deselect "Old Version Alert" and "[v5.0] Suffix."

Note: Macros and shortcut buttons created in ClarisWorks 3.0 and 4.0 documents are not supported in ClarisWorks 5.0 and will need to be recreated.

Installing and Using the ClarisWorks File Converter
The "ClarisWorks 4 to 3 Converter" formats version 4.0 files so they can be opened by 3.0 (Windows and Macintosh), 2.0, and 2.1 (Macintosh only) versions of ClarisWorks. To install the ClarisWorks 4 to 3 Converter application, you must run the file "Setup.exe" in the \\CWOffice folder on the CD, choose the Custom Install option, then select "File Conversion Tool".

To share ClarisWorks 5.0 files with users of 3.0 (Windows and Macintosh), 2.0, and 2.1 (Macintosh only), you first save the ClarisWorks 5.0 files in 4.0 format by choosing Save As from the File menu and selecting ClarisWorks 4.0 from Save As Type list. Then you use the separate ClarisWorks 4 to 3 Converter application to convert the 4.0 documents so they can be used with these versions.

For more on using the ClarisWorks 4 to 3 Converter, see the document "ClarisWorks 4 to 3 Converter.cwk" that is installed with the converter.

Using ClarisWorks 4.0 and 5.0 on the Same PC
Some users may want to have both versions 4.0 and 5.0. Keep in mind that the desktop icons for documents created in older versions of ClarisWorks may look the same as the desktop icons of documents created in version 5.0.

Sharing Files with ClarisWorks 5.0 for Macintosh
ClarisWorks 5.0 for Windows 95 and Windows NT has the same file format, user interface, and features as ClarisWorks 5.0 for Macintosh. ClarisWorks 5.0 for Windows 95 and Windows NT also opens files created in ClarisWorks for Macintosh versions 1.0, 2.0, 2.1, 3.0, and 4.0 and converts the files to version 5.0 format. You can create a ClarisWorks document on Windows and edit it on a Macintosh computer or vice versa. Consequently, if you work with both Windows 95/NT and Macintosh versions of ClarisWorks, or if you collaborate with colleagues who use ClarisWorks 5.0 for Macintosh, you can work without translating files or learning a different program.

Due to differences between Windows 95/NT and Macintosh platforms, you must use a file transfer program such as PC Exchange, AccessPC, or a similar utility to transfer files via floppy disk. Most Macintosh computers come with PC Exchange installed as part of the operating system. Follow the directions in the documentation for the file transfer utility program. Before copying the files to or from a PC-formatted diskette, rename the ClarisWorks files with DOS-Compatible filenames (8 characters or less, no space or punctuation marks) and be sure to include the .CWK extension. (.CWS for stationery files)

After copying your files to a PC-formatted floppy diskette, you can copy them to your PC's hard drive and open them as you would any ClarisWorks document.

Fonts, margins, page breaks, and graphics may look different after they are transferred to the Macintosh. You can minimize unintended font changes by using TrueType fonts on both platforms. Helvetica on the Macintosh converts well to Arial on Windows 95/NT, and Times converts well to Times New Roman. To restore the original page breaks, you may need to change the margins and page breaks. Some macros created on Windows 95/NT may not run as expected on the Macintosh. In these cases, you'll need to recreate those macros.

Equations created with the Equation Editor become PICTs (picture objects) when transferred to the Macintosh. You will need to recreate the equation should you want to edit it.

Textures will also appear altered when moving from one platform to another. Default textures are replaced by the texture in the same location in the palette on the other platform. Custom textures will come across, but will be altered to meet the size conventions on each platform. Macintosh textures can be as large as 64 x 64 pixels; Windows textures are limited to 8 x 8 pixels. Textures will be enlarged or shrunk as appropriate to fit in the texture palette.

Using OLE servers with ClarisWorks 5.0
ClarisWorks documents can contain objects, such as charts or video clips, created by any Windows OLE server application. The new OLE tools palette collects all the OLE features into one convenient place. To display the OLE tools palette, choose Show OLE Palette from the Window menu. The following list of servers have been tested with ClarisWorks and are displayed by default in the OLE tools palette:

- Excel
- WordArt
- Media Player
- Equation Editor
- Visio
- ClipArt Gallery
- Paint

Although the above list of servers have been tested to work with ClarisWorks, any OLE server that adheres closely to Microsoft's OLE 2.0

specifications should work with ClarisWorks as well. If you ever encounter unexpected results while using OLE, the problem may be a server which doesn't fully adhere to Microsoft's OLE 2.0 specifications. Try the operation again using a client other than ClarisWorks (such as WordPad or Excel). If you still get unexpected results, you may want to contact the manufacturer of the server application.

Printing
ClarisWorks 5.0 was tested with the printer drivers which ship with Windows 95/NT. If you encounter difficulties while printing, you may be using a printer driver which does not function correctly with Windows 95 or Windows NT. Reinstall the printer using the driver that came with Windows 95 or Windows NT. Set this printer as the default printer driver.

If you are having difficulty with a printer driver, make sure you are using the latest version of the driver. If that doesn't work, try going back to the version that shipped with Windows 95 or Windows NT. If this fixes the problem, you may want to let the printer manufacturer know.

If you encounter printing errors while printing Gradients to inkjet printers, try the Faster Gradients option. Choose Preferences from the Edit menu. In the Preferences dialog box, select the Graphics item from the scrolling list, and then select Faster Gradients.

If you have a color matching problem, make sure you are using a Windows 95 or Windows NT compatible video card and printer drivers.

Generic / Text Only Printer Driver
Because ClarisWorks integrates text with graphic objects, it is not compatible with the Generic / Text Only printer driver. If you attempt to print using this driver, you will receive an error message saying "Unable to start print job." To correct this problem, choose Print Setup from the File menu and select a printer driver that is compatible with your printer.

Printing patterns
ClarisWorks supplies palettes of patterns and textures that you can apply to graphic objects. Because these patterns are 72 dots per inch, high resolution printers do not print patterns as they appear on the screen. You might want to select patterns that are less dense than others. Another alternative is to copy your object, use the paint tool to draw out a paint frame, paste the graphic object into the paint frame, and set the line width of the paint frame to None. Objects within a paint frame do not scale to the resolution of the printer, so the pattern will print as it appears on the screen.

Portable computers
To conserve battery life, turn off "Tool tips" within ClarisWorks. This will allow the CPU to cycle down and allow your notebook or laptop computer to conserve battery power. To turn off "Tool tips", choose Preferences from the Edit menu, select Graphics from the scrolling list, and click "Tool tips" to deselect it.

Running under non-US Versions of Windows 95
When installing on international versions of Windows 95, the ClarisWorks installer ignores upper ASCII characters, e.g. accent marks. You may rename folders with upper ASCII characters after installation of ClarisWorks. We recommend using a the version of ClarisWorks designed for use with the international version of Windows that you are running.

Video Card Specific Problems
With certain video cards, ClarisWorks may display dialogs with solid black text items or display vertical white lines in selected text. If you experience these or other display problems, try the following:

1. For video adapters that support hardware acceleration, turn acceleration off.
2. For Video adapters that provide control for Video Bios Shadowing, turn Video Bios Shadowing off.
3. Use Microsoft's Standard Video drivers.

Contact your display adapter manufacturer or check the manufacturer's Web sites for the latest drivers and instructions on how to modify the above settings.

Editing Documents Created with the ClarisWorks Assistants
Some documents created using the ClarisWorks Assistants or provided as Stationery files contain objects that are locked or grouped. (Locking and grouping keeps text and graphics objects in position and prevents accidental edits.)

To unlock and ungroup objects so you can move or edit them, select the Arrow tool, select the object, and then choose Unlock or Ungroup from the Arrange menu. If an object is both locked and grouped, first unlock it and then ungroup it.

To edit a text object, click the Text tool and then click the text you want to edit.

Importing EPSF Images
When you import or insert an EPSF (Encapsulated Postscript File) image into a ClarisWorks document, it is converted to a bitmap.

Changing your Communications Document Default
If you frequently use another communications package other than Microsoft Windows 95 Hyperterminal, ClarisWorks can launch the program

automatically. Choose Preferences from the Edit menu and click the Communication icon (on the left) to display preferences for this category. Click the Change To... button under HYPERTRM.EXE and select your communications software program (an .exe file).

ClarisWorks 5.0 contains portions of the files translation library of Conversions Plus, a product of DataViz, Inc.

IV. Problems and Issues Addressed in 5.0v2

The ClarisWorks 5.0v2 Update corrects several minor problems with the initial release of ClarisWorks 5.0.

- In 5.0v1, running the business card assistant under certain conditions would cause the application to crash. This is corrected in 5.0v2.
- Pressing a combination of keys which includes the Ctrl key while there is a library palette and the Configure HTML dialog box open will no longer cause the program to crash.
- Curly quotes now appear correctly after section and page breaks.
- Outline styles can now be imported correctly when overwriting an existing style.
- Double-clicking on a file icon, when there are two similarly named files in the same folder, now opens the correct file.
- Custom indents can now be applied correctly when editing an outline style.
- Spaces that have been formatted with the underline style will now print correctly in all cases.
- The Register ClarisWorks Assistant no longer runs automatically when the application is first launched.
- In 5.0v1 setting page numbering to begin with 0 would in some cases cause improper page ranges to be printed, and it was not possible to start a print job with the page numbered 1. 5.0v2 corrects these problems.
- Running ClarisWorks 5.0v1 under an NT user account without administrator privileges caused file types associated with certain other programs to be associated with ClarisWorks instead; 5.0v2 no longer does this. Any current associations which do not match the appropriate applications must be manually reset to the desired associations.

Apple Computer and the ClarisWorks team thank you for your purchase of ClarisWorks 5.0. Your support, comments, and suggestions help us to continue to bring you better solutions for your future productivity needs.

Mention of third party products and companies is for informational purposes only and constitutes neither an endorsement nor a recommendation.
Published Date: Feb 18, 2012

Newton Software: Windows 98 Compatibility

Before I upgrade to Windows 98, I would like to know if the Newton software I am using will be compatible with my new operating system.
This article has been archived and is no longer updated by Apple.
When preparing Newton software for release, products tested were Windows 3.x, Windows 95, and Windows NT 3.5. Apple did not include testing for Windows 98. The decision of what software to test was based primarily on the software being used by Newton customers at the time the software was released. This list did not include Windows 98.

Apple understands that migration to Windows 98 will occur and that some users may want compatibility information prior to using their Newton software. However, Apple does not have results from official testing that would verify Windows 98 as being a recommended environment for use with Newton software. Apple recommends using a tested and supported operating system as noted in the official product release information.
Published Date: Feb 18, 2012

AppleWorks 2.0: Arithmetic Expressions Eevaluation Order

This article discusses the order of evaluation of arithmetic expressions.
This article has been archived and is no longer updated by Apple.
AppleWorks evaluates all arithmetic expressions strictly from left to right, as does Applesoft. Before doing so, though, AppleWorks first evaluates all parenthetical expressions (from left to right, of course).
Published Date: Feb 18, 2012

Power Macintosh G3: Zip Drive Not Shown in Apple System Profiler 1.3.2

I have Power Macintosh G3 computer with an internal ATAPI Zip drive. Apple System Profiler version 1.3.2 will see the internal hard drive and two CD-ROM drives (I only have one) but not the Zip drive. Is there a workaround or fix?
This article has been archived and is no longer updated by Apple.
All Power Macintosh G3 Desktop, Minitower, All-In-One, and Server computers that ship with Mac OS 8.1 ship with Apple System Profiler (ASP) 1.3.2. An issue has been identified that prevents this version of ASP from seeing the ATAPI Zip drive. Instead, it incorrectly identifies the Zip drive as a second ATAPI CD-ROM drive.

This issue has been corrected in later versions of Apple System Profiler following version 2.0.1. Refer to Apple Software Updates Web site at http://www.apple.com/swupdates for later versions of Apple System Profiler.

All Power Macintosh G3 Desktop, Minitower, All-In-One, and Server users with an ATAPI Zip drive should use Iomega Driver version 6.0 or later which is pre-installed by Apple. You may also download Iomega Tools 6.0 or later for Macintosh/Power Macintosh at Iomega's web site at, **http://www.iomega.com/**.
Published Date: Feb 18, 2012

LaserWriter 8500: Does Not Support PCL5

Does the LaserWriter 8500 support Postscript level 5 (PCL5) communications mode?
This article has been archived and is no longer updated by Apple.
No, the LaserWriter 8500 only supports Postscript level 3 which is also backward compatible with Postscript level 2.
Published Date: Feb 18, 2012

iMac: PPP Control Panel Replaced by Remote Access

This article describes how to manually configure an iMac, or other Power Macintosh computer using the Remote Access control panel, to connect to an Internet service provider using the point to point protocol (PPP). Note that the PPP control panel functionality has been incorporated into the Remote Access control panel.
This article has been archived and is no longer updated by Apple.
To make a PPP connection via the Remote Access control panel, follow the instructions below.

1. Open the Modem control panel.
2. Make sure the port is set to the "Internal Modem" at the top of the window next to Connect via.
3. Select the "iMac Internal 56k" modem for the Modem pop up menu.
4. Select sound on or off and the proper type of Dialing (tone or pulse).
5. Open the TCP/IP control panel and select PPP in the Connect via pop up menu .
6. Select the type of IP addressing (using PPP server or manually) in the Configure pop up menu.
7. Enter the correct Name Server Address and the correct Search Domain for your ISP (if configuring manually you must also enter the IP address assigned to you).
8. Open the Remote Access control panel.
9. Enter the user name, password and dial up phone number which should be provided by your ISP.

At this point you should be able to connect using the Connect button in the Remote Access control panel.

If there are any problems, try opening the AppleTalk control panel and set the Connect Via choice to Remote Only and try connecting again. If it still fails to connect, contact your ISP for further troubleshooting.

Published Date: Feb 18, 2012

iMac: Using Help for PPP Internet Connections

This article describes how to use the Help menu to get assistance with a PPP connection to the Internet.
This article has been archived and is no longer updated by Apple.
The Remote Access control panel has replaced the PPP control panel so there is no Help for the PPP control panel.

To use the Help menu for Internet connections, open the Remote Access control panel and then click the question mark in the lower left-hand corner to get Remote Access specific assistance.
Published Date: Feb 18, 2012

HD-20: Erasing Information to Government Specs

Article Change History

08/27/92 - REVISED
* To provide information on "HD 20 Test" version 1.1, and how to use it to perform a low-level format of the hard drive that meets Government specs for erasing the disk.

I used my HD-20, non-SCSI hard drive, while working on a U.S. Government contract, which is now completed. I need to erase the information on the hard drive in accordance with Government specs, or the Government will confiscate my hard drive, so they can destroy it.

The Finder's Erase Disk option is not suitable for erasing sensitive Government information because it simply erases the disk's directory.

Do you have a utility that zeros all blocks, including those that were previously spared?

This article has been archived and is no longer updated by Apple.
"HD 20 Test" version 1.1 has a data-destructive, low-level formatting feature that can be used for this.

The low-level formatting feature of "HD 20 Test" version 1.1 is hidden. To access it:

1) Launch the program.

2) When the main dialog appears, press "Command-D", and a new dialog appears. This dialog displays what is actually happening during the diagnostic cycle. It also provides more detailed options.

3) Click the radio button marked "Dstrct" at the lower right of the dialog box to perform a data-destructive, low-level format on the drive (all zeros are written to every block).

Note

A 24-hour extended diagnostic test is also available with "HD 20 Test" version 1.1 as a hidden feature. Press "Command-E" when the main dialog appears to access this feature.

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Apple IIGS: 6502 communications applications (1 of 2)

This article has been archived and is no longer updated by Apple.
Some assembly language programmers may want to convert 6502 communications software to use the IIGS logic boards to the full. To insure future compatibility when using the Apple IIGS serial ports through assembly language, you should use the built-in firmware calls. The firmware works very well, is very fast, and also provides you with a built-in interupt handler and input/output buffers. All of these features can be managed through ROM calls.

More advanced use (bit and register handling) would require familiarity with the "Z8030/Z8530 Serial Communication Chip Technical Manual" from Zilog. Information there reveals that communications on the 8530 is much more complicated than that on the 6551; a straight conversion may not be that simple.

Zilog Inc.
210 Hacienda ave.
Campbell CA. 95008

Here are some examples of how you might use the serial ports with the built-in firmware. NOTE: all these examples use the Pascal interface in the ROM.

To initialize your programs and the port you might use something like this:

```
InitVector equ $C20D ; pointer to the init routine in ROM
ReadVector equ $C20E ; Pointer to the read char routine
WriteVector equ $C20F ; pointer to the Write routine
StatVector equ $C210
ExtendVect equ $C212 ; Pointer to the extended interface routine

InitPort equ $F8 ; set up some area's for indirect jumps
ReadChar equ $FA ; to be used in the program to make the
WriteChar equ $FC ; calls to ROM
StatusCall equ $FE ;
ExtendCall equ $F6 ; New vector for extended interface

InitPort lda InitVector ; First set up your indirect pointers
sta InitPort

ldy #$C2 ; make sure to set the high byte
sty InitPort+1
lda ReadVector
sta ReadChar
sty ReadChar+1
lda WriteVector
sta WriteChar
sty WriteChar+1
lda StatVector
sta StatCall
sty StatCall+1
lda ExtendVect
sta ExtendCall
sty ExtendCall+1

ldx #$C2 ; Now make the init call to the ROM
ldy #$20 ; Always set up the X and Y Regs first
jsr (InitPort) ; and indirect jump to the init routine
cpx #0 ; test for an error
beq *+5 ; if its zero skip next jump
jmp Error ; if non-zero an error occured call error rtn
RTS
```

TA36962_Apple_IIGS_communications_applications_of__(TIL02226).pdf

Published Date: Feb 18, 2012

Apple IIGS: 6502 communications applications (2 of 2)

This article has been archived and is no longer updated by Apple.

...

```
CharWait NOP ; This rtn checks the input buffer for chars
ldx #$C2 ; and returns the result in the carry flag
ldy #$20
lda #$01 ; status call 1 is input status
jsr (StatusCall)
cpx #0 ; test for an error
beq *+5 ; if its zero skip next jump
jmp Error ; if non-zero an error occured call error rtn
RTS

OutEmpty NOP ;This rtn checks the output buffer for chars
ldx #$C2 ; and returns the result in the carry flag
ldy #$20
lda #$01 ; status call 1 is input status
jsr (StatusCall)
cpx #0 ; test for an error
beq *+5 ; if its zero skip next jump
jmp Error ; if non-zero an error occured call error rtn
RTS

GetChar NOP ; This routine gets an input char from the
; serial port and places it into <A>
ldx #$C2
ldy #$20
jsr (ReadChar)
cpx #0 ; test for an error
beq *+5 ; if its zero skip next jump
jmp Error ; if non-zero an error occured call error rtn
RTS

PutChar NOP ; This routine writes a char in <A> to the
; serial port
ldx #$C2
ldy #$20
jsr (WriteChar)
cpx #0 ; test for an error
beq *+5 ; if its zero skip next jump
jmp Error ; if non-zero an error occured call error rtn
RTS

DTROn NOP ; This routine turns the DTR line on
lda #$00 ; this rtn uses the extended interface calls
sta DTRData+4 ; set up the data block
sta DTRData+5
ldy #$00 ; on entry <x> <y> and <A> contain address of
ldx DTRDPtr+1 ; the call parm block
lda DTRDPtr
jsr (ExtendCall)
rts

DTROn NOP ; This routine turns the DTR line off
lda #$80 ; this rtn uses the extended interface calls
sta DTRData+4 ; set up the data block
sta DTRData+5
ldy #$00 ; on entry <x> <y> and <A> contain address of
ldx DTRDPtr+1 ; the call parm block
lda DTRDPtr
jsr (ExtendCall)
rts
```

```
DTRDPtr dw DTRData ; pointer to our data structure
DTRData DFB 03 ; # of params in call
DFB $0B ; call # (0B means set DTR line)
DW 0000 ; word for result code
DW 0000 ; call data
;(0000 means clear DTR, 8000 means set it)

SwitchBaud NOP ; This rtn shows how to change the Baud Rate
; it turns on 1200 Baud and buffering. It
could
; be expanded to handle all port commands
ldx #00 ; Init the string index
SB0010 lda theString,x ; get the next byte to send
phx ; save index
jsr PutChar ; Write out the char to the port
plx ; get the index back
cpx StrLength ; are we done?
beq SB0020 ; if so then end
inx ; if not get the next char and continue
jmp SB0010
SB0020 rts

theString dfb 01 ; command char (Control-A)
asc '8B' ; 1200 baud command
StrLength dfb 02
```

Published Date: Feb 18, 2012

AppleWorks: Sending Word Processor Files to the Macintosh

This article discusses how to send AppleWorks word processor files to a Macintosh.
This article has been archived and is no longer updated by Apple.
By printing a text file through the printer port, you can send an AppleWorks word processor file to the Macintosh. You can make the text file by selecting the disk drive as the "Printer" in the "Specify Printer Information" section.

You may have some problems with the communications program you are using on the Macintosh. For instance, MacTerminal will ignore all characters past the 80th character if it does not receive a carriage return (in fact, this was the reason for the change in AppleWorks 2.0). Microsoft Works requires that you enter a "Capture Text" mode; otherwise, it will receive just one page of information.

AppleWorks 1.3 or earlier will print the file to a text file with carriage returns at the end of every paragraph. After it is in a text file, you can use a terminal program, such as Access II, to send the file over the modem line. If you do not have a communications program, then the following small BASIC program should suffice:

```
5 ONERR GOTO 90
7 SLOT = 1
10 D$ = CHR$(4)
15 F$ = "textfile" : REM You may use any file name.
17 PRINT D$;"PR#";SLOT
20 PRINT D$;"OPEN";F$
30 PRINT D$;"READ";F$
40 GET A$
60 PRINT A$;
80 GOTO 40
90 PRINT D$;"CLOSE"
95 PRINT D$;"PR#0"
100 END
```

AppleWorks 2.0 inserts a carriage return at the end of every line when printing to disk. However, the program below strips off the carriage returns if the following character is not a space or another carriage return.

```
10 ONERR GOTO 130
20 O$ = "oldfilename" : REM You may use any file name.
30 N$ = "newfilename" : REM You may use any file name.
40 D$ = CHR$(4)
50 PRINT D$;"OPEN";O$
60 PRINT D$;"OPEN";N$
70 PRINT D$;"READ";O$
80 GET A$
82 IF A$ <> CHR$(13) THEN 100
83 B$ = A$
84 GET A$
86 IF A$ <> CHR$(13) AND A$ <> " " THEN B$ = " " : REM Convert CR to space
88 PRINT D$;"WRITE";N$
90 PRINT B$; : GOTO 110
100 PRINT D$;"WRITE";N$
110 PRINT A$;
120 GOTO 70
130 PRINT D$;"CLOSE"
140 END
```

After you have passed the text file through this "pre-processor", you can transmit it with the first program.
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LaserWriter Driver: Laser Prep and PostScript

DISCUSSION

This article has been archived and is no longer updated by Apple.

The Apple LaserWriter driver is a program that takes a print record created by an application and the Macintosh Print Manager and converts this print record into a format appropriate for a LaserWriter. The driver captures all QuickDraw calls and converts them into equivalent PostScript calls and commands.

Until System 7, abbreviations for long PostScript commands and routines for repetitive and common tasks went into a dictionary of definitions called Laser Prep, created for two reasons:

- Unlike printer software that requires commands of a single byte, PostScript accepts commands that are a series of ASCII characters.

- There are some common tasks that needed to be done repeatedly by virtually all documents sent the LaserWriter.

Once Laser Prep downloaded itself into the LaserWriter when the LaserWriter was initialized, the LaserWriter driver didn't have to generate and send redundant and unnecessary information with each printing. Translating, sending, and printing a document was much quicker with a LaserPrep file than without one. However, each time a Macintosh using a different version of Laser Prep or of the LaserWriter driver sent a print job, Laser Prep was forced to download again and reinitialize the printer. Under System 7, the prep information is downloaded to the printer with each print job.

If you look at a PostScript text file generated from the Macintosh, you'll see that almost all the PostScript commands sent by the driver are not abbreviated commands. These abbreviations were sent to the LaserWriter, which (using Laser Prep with pre-System 7 versions of the driver) had the prep file resident from the first printer session after startup. The prep file took these abbreviated commands and, through its dictionary, which is actually almost the entire prep file, provided full PostScript commands to the LaserWriter.

The requirements do not differ from application to application, because they all (all that use the Apple LaserWriter driver) generate the abbreviated PostScript commands. Applications - PageMaker for example - use their own prep and driver files, especially if they perform their function differently than the Apple drivers. The end result is that all full PostScript commands are common to all PostScript printers.

The Laser Prep header file is found at the beginning of the PostScript text file that can be generated by the LaserWriter driver instead of printing. You can create this file under System 7 simply by clicking "PostScript File" instead of "Printer" in the Destination option of the Print dialog box. Under System 6.x, click Okay in the Print dialog box and then hold down Command-K until the Print Status dialog tells you it is creating a PostScript file. This will create a PostScript file with the Laser Prep header (hold down Command-F instead to generate a PostScript text file without the header under System 6.x or earlier; this does not work under System 7).

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International Versions of Lisa Software

This article has been archived and is no longer updated by Apple.

International versions (beginning with release 2.0) of the Lisa Office System differed from the U.S. versions only in the language used in the alert boxes, menus, etc.

One version of the Workshop was available worldwide. For example, France did not have a "French" vesion of the Workshop -- available to France was the same English version distributed to all countries.

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Apple IIGS: System Diagnostic Errors

This article has been archived and is no longer updated by Apple.

Here's the currently available, though incomplete, list, with explanations,
of error codes generated by the Apple IIGS when running system diagnostics
for the Apple II Family (V1.0B1).

Apple IIGS error codes have the form AABBCCDD.

Test numbers AA

Error Code (AA) Test
--- ---
"RM"/01 Checksum
02 RAM Moving Inversions
03 Softswitch
04 RAM Address
05 FPI Speed
06 Serial I/O
07 Real Time Clock
08 Battery RAM
09 Front Desk Bus
0A Shadowing
0B Interrupts

AA=06 serial test
BB Meaning
-- ---
01 Register R/W
04 Tx Buffer empty status
05 Tx Buffer empty failure
06 All sent status fail
07 Rx char available
08 Bad data

AA=03 RAM test
BBCC= Address

AA=01 ROM Checksum
BB= Failed checksum
DD=1 Bad RAM

AA=05 Speed
BB=1 speed stuck slow
BB=2 speed stuck fast

AA=08 Battery RAM
BB=01 address test failure and CC= bad address
BB=02 memory failure and CC = pattern, DD = Address

AA=02 Softswitches
Bb= Statereg bit
CC= Read softswitch address

AA=04 Front Desk Bus
BBCC= Bad checksum found
DD=01 FDB toolcode encountered a fatal error and no checksum computed

AA=04 Ram Adddress
BB= failed bank No
CC= failed bit

AA=06 Clock Test

BBCCDD=not used
DD=01 a fatal error occcurred after the test to within a second

AA=0A shadow register functionality

AA=0B Mega II and VGC capability of generating interrupts.
BB=01 VBL interrupt timeout
BB=02 VBL IRQ status fail
BB=03 1/4 SEC interrupt
BB=04 1/4 SEC interrupt
BB=05 ---
BB=06 VGC IRQ
BB=07 SCAN Line

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LaserWriter Plus: Diablo emulation printable area

This article has been archived and is no longer updated by Apple.

When printing a full page of text in Diablo emulation on a LaserWriter Plus, the top and bottom line of the text may be cut in half, or there may be a similar problem.

In order to get maximum lines per page in Diablo mode, reduce the lines per page (or lines per inch) setting. There is no other workaround for this situation. The margins set in Diablo mode are the print engine's margins and cannot be reset.

For a long time, there's been a known bug in Diablo mode that causes margins to be wrong sometimes. There has been no fix for it because the problem cannot be found.

Some users may think that when Apple upgraded the LaserWriter and reduced the printable area, Apple neglected to test the Diablo emulation. This misconception needs to be cleared up. There's no difference in the margins between a LaserWriter and a LaserWriter Plus in Diablo 630 Emulation Mode. The increased margins come into play only when the printer is being driven by a LaserWriter driver and is using the Laser Prep file that is downloaded from the Macintosh.

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AppleWriter IIe DOS 3.3: Ignores Control-O from Apple IIGS

The DOS 3.3 version of AppleWriter IIe is incompatible with the Apple IIGS in that it does not recognize a Control-O for the options menu. If you go into the Print/Program Commands menu, you will also notice that all the defaults are set to zero.
This article has been archived and is no longer updated by Apple.
Here's a workaround:

1. Boot up with the DOS 3.3 System Master.
2. Take out the DOS 3.3 System Master and insert AppleWriter IIe DOS version.
3. Type BRUN OBJ.BOOT and return
4. When AppleWriter comes up, press the Return Key. The disk spins, and then the program freezes.
5. Press Control-Reset. A blank screen should appear.
6. Press Control-Reset.

This should bring the program back. The values in the Print/Program are still zero'ed, but you can access the Control-O menu. Make sure not to press Control Open Apple Reset in steps 5 and 6.

The data line still shows mouse text characters. To correct this, run the Apple IIc patch for the DOS 3.3 version of Apple Writer IIe. With this patch, mouse text characters are removed from the data line.
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Interbridge: Using it with 9600 baud modems

This article has been archived and is no longer updated by Apple.

A workaround was developed after trying to get the Hayes Interbridge to work with third party 9600 baud modems, Codex model 2260's, supposed to be Hayes command compatible.

In theory, the Codex modems should work after engineers unplug the 2400 baud modems they were using and plug in the Codex's, properly configured. Unfortunately, the Interbridge seems to look for responses that the Codex does not give.

Listed below are the settings used for the Interbridges and modems.

Equipment
---
2 Macintosh Plus
2 Interbridges (upgraded ROM's)
2 Codex Model 2260 modems.
Appropriate cables

Bridge Setups

Port S1
Remote Bridge
9600 baud
Async
Leased
Port A1
AppleTalk On
Net# Must be <>
Bridge Name Must be <>
Zone Name Must be =

Modem Setup

ORIGINATING MODEM

Connect the phone lines to the Audio Line (NOT the LLine) jack.
Rate = 9600 only
Terminal
Format = Async
Char Length = 10
DTR = 108.1 (Note: this tells the modem to dial on Interbridge power up. If you use 108.2 you will have to select one of 8 preset numbers to dial.
RTS = Normal
RTS/CTS Delay = 0
DCD = Normal
DSR = High
Modify Audio
Answer = Auto
Default Dial = 1 (or whichever preset number you want)
Line = Dial
Modify Modem
Mode = External
Clock = Internal
AutoRetrain = On
Disconnect = PSTN
Auxiliary
This is where you enter/view/set your phone numbers.

ANSWERING MODEM

Same setup as the originating modem except the default dialer is off.

Overview

Once the above setup is completed, any time the originating Interbridge is powered on, the modem will call the other Interbridge and begin operation.
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Hard Disks: Head parking

This article has been archived and is no longer updated by Apple.

Disk parking or head parking is a feature considered essential by those who concern themselves with the long term reliability normally associated with a hard disk. Since a 'parked' head cannot 'land' on the data area, the disk becomes more reliable in terms of data integrity. Assuming the head parks in a non-data area, the disk is safer to use and move.

Apple 20 megabyte hard disks (Hard Disk 20 and SCSI HD20SC) don't have a park function. There is no park track for head resting on these hard disks.

However, when the drive is not powered up, all hard disks have braking, caused by the inertia of the head's stepper motor. If the heads don't retract, their stepper motor's intertia has to "put the brakes on them" to keep them in place. If the inertia of the stepper motor is great enough, it's difficult to get the head to land or move during "normal" use and movement. The internal SCSI drives on the Macintosh SE are rated for a shock of 40G's, so the stepper motor inertia there must be relatively significant.

The upcoming HD40SC and HD80SC will have a park function; however, be advised that this park function varies from vendor to vendor.

In other non-Apple hard disk configurations, a particular vendor's hard disk may not park the head in a non-data zone or may have stepper motor inertia that isn't great enough to provide adequate braking.

Apple's ProFile hard disk does have head parking. If the disk isn't accessed for 2-3 seconds, the Apple Profile's heads park in a non-data area.

Published Date: Feb 18, 2012

Apple IIe: Dvorak Keyboard Layout

The Dvorak keyboard layout, an option available on the Apple IIe and Apple III, is popular with many typists.
This article has been archived and is no longer updated by Apple.
Apple IIe:

The Dvorak keyboard layout is available on the revision "B" Apple IIe main logic boards. If the user prefers the Dvorak layout over the standard QWERTY, a minor modification can be made to the logic board.

The first--also the most versatile--method is to solder the main logic board "X3" jumper located at board coordinate B14, tying the character generator select line to the annunciator #2 address. The system follows the Dvorak layout until the QWERTY layout is invoked with POKE 49244,0 (annunciator #2 off). To revert back to the Dvorak layout, POKE 49245,0 (annunciator #2 on) or press CTRL-RESET. At power-on, the system defaults to the Dvorak layout.

Alternatively, jumper the "J19" solder pads together; this method, however, prevents you from toggling to the QWERTY layout. If, instead, you solder a two-pin Molex connector (available from electronics parts stores) at J19, a shorting block, similar to the one used on the Apple IIe Extended 80-Column Text Card, could be used to switch from the Dvorak to the QWERTY layout.

After making the modification of your choice, remove the video ROM (location F4) from the main logic board. Bend pin #18, then re-insert the ROM, with with pin #18 sticking out to the side instead of into the socket.

All of these modifications may void your warranty if a problem occurs as a result of improper modification--that is, poor solder job, pins bent on the wrong chip, chip plugged in backward, etc.--so be very careful.

Apple III:

Because the Apple III is a software driven machine, the Dvorak keyboard layout is enabled by "programming" the keyboard; this is done with the System Configuration Program on the System Utilities diskette. The Dvorak layout data is on the System Utilities Data diskette included in the System Utilities package.

To enable the Dvorak layout for a particular diskette:

1. Start up the System Utilities: select "System Configuration Program" from the main menu.
2. Select "Read A Driver" from the next menu.
3. Remove the Utilities diskette: insert the diskette you wish to modify into drive 1.
4. Press RETURN to read the SOS.DRIVER file.
5. Place the Utilities diskette back into drive 1.
6. Select ESCAPE to go back to the menu: choose "Change System Parameters".
7. Remove the Utilities diskette: insert the Utilities Data diskette in drive 1.
8. Select "Keyboard Layout": Type /UTILITIES.DATA/KEYBOARD.LAYOUT/DVORAK; press RETURN.
9. Place utilities diskette back into drive 1: press ESCAPE twice to return to the menu.
10. Select "Generate New System".
11. When system validation is complete, put the diskette you wish to modify into drive 1. Type .D1/SOS.DRIVER, then press RETURN. If you get a verification question here, answer "yes". You must remove the write-protect tab at this time, and you must unlock the SOS.DRIVER file (a function of the FILE HANDLING COMMANDS submenu).

Apple IIe and Apple III:

The final step is to rearrange the keycaps. At present, Apple does not offer the Dvorak keycap set. Because the keycap contours conform to the QWERTY layout, you will find your keyboard somewhat "lumpy".
Published Date: Feb 18, 2012

AppleSoft: INPUT Statement Documentation Error

The 'BASIC Programming with ProDOS' manual, published by Addison-Wesley, (service part number 030-1119) has an Appendix B which, among other things, lists changes made to AppleSoft.
This article has been archived and is no longer updated by Apple.
On page 218, the manual has inaccurate information concerning changes made to the AppleSoft INPUT statement:

"The AppleSoft INPUT command has been made more useful. This command always reads an entire line of text from a file. As before, multiple variables in an INPUT statement are assigned strings of characters that are separated by commas in the input string. When you use ProDOS, the last variable in the INPUT list is assigned all the remaining characters in the line, including commas and colons. This means that you can now use a single INPUT statement, such as 10 INPUT XX$, to read any arbitrary string of characters."

This paragraph is incorrect. The feature mentioned was considered but not implemented due to compatibility problems.
Published Date: Feb 18, 2012

LaserWriter: How To Make It Coin Operated

This article has been archived and is no longer updated by Apple.

To connect a coin-operated switch to the LaserWriter, try setting the paper tray sensor switches to a "tray out" condition (i.e., no paper tray in the LaserWriter). When a coin is inserted, check for voltage at the paper feed rollers' solenoid (this way you know a sheet of paper has been ejected from the paper tray). Then, reset the the printer to the "tray out" condition until the next coin is dropped.

The connections for the three paper tray micro-switches are at locations J214-2, J214-4, and J214-6 on the DC controller board. The paper feed solenoid is connected at locations J210-3 and J210-4, also on the DC controller board.

Keep in mind that any modifications to the LaserWriter will void any warranty or AppleCare coverage.

Published Date: Feb 18, 2012

AppleLine Cables: How to get and fit them

This article has been archived and is no longer updated by Apple.
The need AppleLine cables has finally been met (if you don't mind the AppleLine under your Macintosh Plus or Macintosh SE) by Product A9M0333,the Apple IIGS Adapter Cable.

The Adapter Cable is a female DB-25 with a circular 8 on one end. The only drawback is the cable's length (about 8 inches). Removing the screw and nuts from the cable lets it fit fully into AppleLine's unusual male plug, eliminating the need for a gender bender.

If the cable length is a problem, then Product A9C0314, the Apple II Printer - 8 Cable (smoke), is the answer. It has a male DB-25 (requiring the gender bender) along with the circular 8.

Note: While AppleLine is, logically, located on the Macintosh price list, both of the above cables are listed only on the Apple II price list. You will have to refer to both price lists when ordering this equipment.
Published Date: Feb 18, 2012

Macintosh SE: Slower Performance of Second Disk Drive

This article has been archived and is no longer updated by Apple.

In the Macintosh SE, the upper disk drive (the "external" drive) operates differently from the lower "internal" drive or from any other 800K drive. The upper drive sounds different when moving the head from track to track; it sounds like the head moves three times when seeking.

The upper drive does work, but more slowly, sometimes a third more slowly. The problem resides in the firmware. The software is testing for the source drive at each read whenever the source drive is the upper drive. There have been no fixes for the problem.

Published Date: Feb 18, 2012

LaserWriter: Issuing a restart from an IBM PC XT

This article has been archived and is no longer updated by Apple.

Assuming you are in serial batch or AppleTalk mode and not the Diablo 630 emulation mode, the following PostScript sequence should issue a restart from an IBM PC XT:

systemdict/quit get exec

This will need to go into a .bat file for output to the printer port. Do not forget that the LaserWriter requires XON/XOFF communication with standard settings of 8 data bits, 1 stop bit, and no parity. If you are using Diablo 630 mode ('special' switch setting), PostScript commands are ignored and treated as text.

Published Date: Feb 18, 2012

Installer: Why it‘s more useful than copying system files

This article has been archived and is no longer updated by Apple.
In general, the Installer is a very flexible program for installing just about anything. Since the Installer is designed to be programmable, the number and sort of items it replaces can vary, depending on the installer script.

In the case of updating a System or Finder file, the Installer will usually only replace resources it identifies as: 1. Apple's and 2. outdated. This method is better than simply swapping an old System for a new one because it lets you keep custom setups including Desk Accessories, Fonts, and special drivers, like MacServe and InBox.
Published Date: Feb 18, 2012

AppleShare 1.1: Won‘t Start Up Even Though the Server is Okay

There is a problem in AppleShare 1.1 that prevents the AppleShare server from starting up even though the server is okay.

This article has been archived and is no longer updated by Apple.

AppleShare creates and maintains a file called AppleShare PDS, which stands for "AppleShare Parallel Directory Structure." This "Parallel Directory" stores information about files, such as AppleShare short names and access privileges, that cannot be stored in the standard directory. As you add files to an AppleShare volume, the AppleShare PDS file grows.

The problem occurs when the "AppleShare PDS" file grows beyond one megabyte (1,048,576 bytes). It's hard to predict how many files you can add to a volume before you reach this limit.

AppleShare's maximum volume is somewhere between 8,000 and 12,000 files. (The variation is due to how the file names are added to the PDS file.) You can check the size of the "AppleShare PDS" file to see how close you are to the one megabyte limit. If you exceed this limit, your server will continue to report an error condition even if you remove enough files to bring the file down below one megabyte in size.

To fix this:

1. Throw away the AppleShare PDS file.

2. Run the AppleShare Admin program and verify access privileges for the volume. This will recreate the "AppleShare PDS" file, which allows your server to start up again. We recommend that your volumes contain no more than 8,000 files.

The next release of AppleShare will fix this problem.

Published Date: Feb 18, 2012

Macintosh II: Pinouts To NEC Multisync Monitor (6/94)

This article has been archived and is no longer updated by Apple.
The Macintosh II video card can drive the NEC Multisync monitor. Here are the pinouts, provided by NEC, for connecting a Macintosh II to the Multisync's 9-pin connector:

Macintosh II Nec MultiSync signal name
---
1 ---------- 6 red video ground
2 ---------- 1 red video
5 ---------- 2 green video+ Composite analog sync
6 ---------- 7 green ground
9 ---------- 3 blue video
11 ---------- 7 green ground
13 ---------- 8 blue ground
14 ---------- 9 ground

Set the monitor to Analog and manual mode.

Apple is not responsible for the contents of this article.

Article Change History:
23 Jun 1994 - Reviewed for technical accuracy.

Support Information Services
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ADB Mouse: Single click interpreted as multiple clicks

Sometimes when I make a single mouse click, my Macintosh SE interprets it as several mouse clicks. What's going on here?

This article has been archived and is no longer updated by Apple.
If a single mouse click is interpreted by your Macintosh SE as multiple mouse clicks, the problem may be a bad micro switch in the ADB mouse. Try replacing the mouse on the offending system; the problem is most likely not being generated by software.

Published Date: Feb 18, 2012

Macintosh: Upgrade for drives over 32MB (1 of 2)

This article has been archived and is no longer updated by Apple.

Important Note to Users of Disk Drives With Over 32 MB Capacity

It is extremely important that you upgrade to System 4.1 if your Macintosh computer is attached directly to a hard disk with a capacity of 32 megabytes or more.

There is a bug in versions of the system file prior to 4.1 which makes it unsafe to use disk drives larger than 32 MB. Note that there are special instructions for owners of disk drives over 134 MB as well.

-- Instructions for disks over 32 MB but less than 134 MB:

Use the installer to install System 4.1 and Finder 5.5 on the startup disks of all Macintosh Plus, SE, or II computers.

For Macintosh computers dedicated as AppleShare servers, shutdown the server, restart from the Macintosh System Tools disk Version 2.0, and use the Installer to install System 4.1, Finder 5.5, Chooser 3.1, etc., in the server folder on the server startup volume. When the install is complete, you may restart the server Macintosh as an AppleShare server by choosing Restart in the Special menu.

For the Macintosh II, and ideally the Macintosh Plus and Macintosh SE servers too, use the Install program that accompanies AppleShare 1.1. Doing so also updates the System, Finder, Chooser, etc., as well as updating AppleShare to Version 1.1 (neccessary for the Macintosh II).

Instructions for disk drives with 134 MB or more which were initialized with System 3.3 or earlier (creation date January 12, 1987 or earlier):

Since system versions 3.3 and earlier were not capable of correctly formatting disks over 134 MB, you need to reformat the disk with System 4.1.

1. Backup all information on the hard disk to another device using a file by file backup (the Finder will do). Image Backup utilities are not acceptable, since image restoration will preserve the bad format.
2. Reformat the hard disk using System 4.1
3. Restore the information back to the hard disk using a file by file technique.
4. Update the System and Finder versions to 4.1 and 5.5, respectively.

Published Date: Feb 18, 2012

Macintosh: Upgrade for drives over 32MB (2 of 2)

This article has been archived and is no longer updated by Apple.

-- Special instructions for disks attached to AppleShare Servers:

Updating a disk over 134 MB attached to an AppleShare file server is a bit more complex because access privilege information will need to be manually restored during the update process. Note that updating requires a file by file backup of and restore onto the hard disk, and that all access privilege information will need to be reset after reformatting and restoration. A note below details the difference between file-by-file and image backup.

There are two alternative approaches to the process: Method A, less a burden for the server administrator, requires coordination with all server users. Method B requires little coordination, but may entail a substantial time commitment from the server administrator.

Method A - User participation.
1. Instruct all users of the file server to make backup copies over the network of the information they own on the affected volume(s) using their own local storage resources and to delete their information and folders from the server volume as they back them up.
2. After all users have completed this process, shut the server down, run AppleShare Admin, and make a complete volume report for each volume over 134 MB and make a floppy backup of the users and groups list.
3. Copy all remaining files and folders on affected volumes that you wish to preserve (perhaps belonging to absent employees) to some other storage device using a file by file technique (like the Finder).
4. Restart the server CPU using a floppy disk containing System 4.1, such as the Macintosh System Tools disk Version 2.0, and reformat the disks over134 MB.
5. Restore the files and folders that you preserved in step 3, if any, to the reformatted volumes using a file by file restore technique.
6. Insert the AppleShare Server Installer disk and open the Admin Application. Prepare the disk(s) as server volumes. If the program asks for a users and groups file, use the one you preserved on floppy.
7. Once preparation is complete, use Admin to reassign ownership and access privileges to each folder that you restored, if any, to the reformatted volumes using the information in the volume report(s) you created in step 2.
8. Quit Admin, and install system 4.1 in the server folder of the server startup volume, replacing the existing system. Use the installer utility for this purpose.
9. Restart the server, and instruct all users to log on to the server and restore their individually backed up information to the server. Each user must reset access privileges to each folder they own as desired.

Method B - No user participation.
1. Shut the server down, run AppleShare Admin, and make a complete volume report for each volume over 134 MB and make a floppy backup of the users and groups list.
2. Copy all files and folders on affected volumes that you wish to preserve to some other storage device using a file by file technique (like the Finder).
3. Restart the server CPU using a floppy disk containing System 4.1 and reformat the disk(s) over 134 MB.

4. Copy the files and folders that you preserved in step 2 to the reformatted volumes using a file by file restore technique.
5. Insert the AppleShare Server Installer disk and open the Admin Application. Prepare the disk(s) as server volumes. If the program asks for a users and groups file, use the one you preserved on floppy.
6. Using Admin, reassign ownership and access privileges to each folder that you restored to the reformatted volumes using the information in the volume report(s) you created in step 1.
7. Quit Admin, and install System 4.1 in the server folder of the server startup volume.
8. Restart the server.

Note on Backup:

Upgrading Disks over 134 MB which were originally initialized with System 3.3 or earlier requires a file-by-file backup and restore, since the original format was incorrect.

There are basically two kinds of backup: file-by-file and image. File-by-file backup performs its functions through standard file system calls, and backs up a particular file by creating a copy on another storage resource. Only the information in the file is transferred from the original storage device to the backup device. The formatting information on the original device is not transferred to the backup device.

Image backup performs its functions at a much lower level in the system. Image backup backs up a storage device as a series of bits of data, and does not differentiate between data and formatting information on the original storage device. The image backup of a storage device will therefore contain the formatting information of the original, even if it is incorrect. Restoring from an image backup onto a storage device will replace whatever formatting information is there with the formatting information that was in the image backup.

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Apple IIGS: Printing to the LaserWriter from AppleWriter

This article has been archived and is no longer updated by Apple.
Applewriter II works correctly on the Apple IIGS, except that you cannot print using the built-in ports to a standard RS-232 serial printer. You can, however, use the ports to print to a Laserwriter or an Imagewriter II over Appletalk. You can also print to either a parallel or serial printer by simply installing a compatible interface card, such as a Super Serial or Parallel card, into one of the Apple IIGS's slots.

To print to the Laserwriter or an Imagewriter II over Appletalk, you must first use the Chooser that comes with the Apple IIGS system disk. Choose the Appletalk printer that you would like to print your documents on, and then exit the program. When you are in Applewriter II, make sure that the last line of your document contains a form feed command. To do this, just type in the following as the last line in your document:

Control-V Control-L Control-V

This command will force the Appletalk Imagewriter and Laserwriter to eject the last page of the document.

For a deeper discussion on how to print to the LaserWriter from the GS, albeit with AppleWorks, see the article in this Library called "Apple IIGS: Printing to the LaserWriter from AppleWorks."
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LaserWriter: Problem in bold italic outline 48 points or more

This article has been archived and is no longer updated by Apple.
A known problem with the LaserWriter causes it simply to print a test sheet when you ask it to print a bold italic outline font larger than 48 points.

Until a fix is made, the only workaround known is to avoid that style and size.
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Pascal III: SOS Error Codes

This article has been archived and is no longer updated by Apple.

Following is a list of errors codes available to the Pascal programmer from the Apple III's Sophisticated Operating System (SOS).

```
------->  Pascal Errors
 0       No error; normal I/O completion
 1       Out of filename storage space
 2       Bad unit number
 3       Illegal operation (e.g. read from PRINTER:)
 4       Illegal directory spec
 5       Lost unit; no longer on line
 6       Lost file; file no longer in directory
 7       Illegal pathname
 8       No room; insufficient space on diskette
 9       No unit; unit not on line
10       No such file in specified directory
11       Duplicate pathname
12       Attempt to open an already open file
13       Attempt to access a closed file
14       Bad input format; error in reading number
15       Wrong disk format
16       Write protect error; diskette is protected

------->  SOS Device Call Errors
32       (SOS) Invalid request code
33       (SOS) Invalid control/status code
34       (SOS) Invalid control/status parameter list
35       (SOS) Character device not open
36       (SOS) Device not available
37       (SOS) Resource not available
38       (SOS) Invalid operation
39       (SOS) I/O error
42       (SOS) Checksum error
43       (SOS) Device write protected
44       (SOS) Byte count not a multiple of 512
45       (SOS) Block number too large
46       (SOS) Diskette has been switched
48..63   (SOS) Device specific error

------->  SOS File Call Errors
64       (SOS) Invalid pathname syntax
65       (SOS) Too many character files open
66       (SOS) Too many block files open
67       (SOS) Invalid file reference number
68       (SOS) Path not found
69       (SOS) Volume not found
70       (SOS) File not found
71       (SOS) Duplicate file name
72       (SOS) Overrun on volume
73       (SOS) Directory full
74       (SOS) Incompatible file format
75       (SOS) Unsupported file storage type
76       (SOS) Attempted read past end of file
77       (SOS) File position out of range
78       (SOS) Access not allowed
79       (SOS) User supplied buffer too small
80       (SOS) File busy
81       (SOS) Volume format neither SOS nor Apple II
82       (SOS) Not a SOS volume
83       (SOS) Invalid length parameter
84       (SOS) Out of memory for SOS system buffer
85       (SOS) Buffer table full
```

```
86       (SOS) Invalid system buffer parameter
87       (SOS) Duplicate volume error
88       (SOS) Not a block device
89       (SOS) Invalid level
90       (SOS) Invalid bitmap address found on volume

------->  Utility Call Errors
112       Invalid Joy_Mode parameter

------->  System Call Errors
123..127

------->  Memory Call Errors
240       Invalid segment address
241       Segment request denied
242       Segment table full
243       Invalid segment number
244       Segment not found
245       Invalid Search_Mode parameter
246       Invalid Change_Mode parameter
247       Invalid pages parameter
```

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Apple IIGS: What to Check If the Finder is Starting Very Slowly

This article has been archived and is no longer updated by Apple.

When the Apple IIGS Finder starts very slowly, perhaps even seeming to be locked up, there are a number of things you can do:

- Limit the number of files/folders at the root level of the hard disk to fifty or less.

- Limit the number of files in any given folder to 50-60. This allows a reasonable number of files in a folder without any undue amount of time opening and displaying the folder. (These 50-60 files within folders can be other folders.)

- Displaying the file names by Name or Date, rather than by icon, take less time.

- Check the Control Panel and be sure there is no RAM set aside for RAM Disk. Memory is needed to build the table for displaying the files. If you have any of the RAM card assigned as RAM Disk, you will take up memory space needed to build this table. Normally this would give you an out of memory error message, but something else may be happening before the error is displayed.

When the Finder is requested to open a window, it must calculate the regions for every file/folder to show, so it knows where in the window it goes, and whether or not to display it, given the current size of the window, not to mention what color it needs to be. This can take a long time. Seven hundred files/folders could take hours to show up in the window on the screen.

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Apple IIGS Lithium Battery

BEFORE YOU START: Familiarize yourself with the Apple IIGS Technical Procedures.

PROBLEM DESCRIPTION: The lithium battery is leaking and has contaminated the logic board of the Apple IIGS.
This article has been archived and is no longer updated by Apple.
CURE: Do NOT attempt to clean the board. Do NOT install a new battery. The entire board, with leaking battery, should be returned to Apple and an exchange module installed in the customers computer. The logic board should be returned in the standard anti-static bags and the normal shipping box.
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Macintosh SE: Video Problems

BEFORE YOU START: Familiarize yourself with the Macintosh SE Technical Procedures. Be sure to follow proper ESD procedures.

PROBLEM DESCRIPTION: The Macintosh SE video screen slowly fades until there is no visible display at all.
This article has been archived and is no longer updated by Apple.
PROBLEM CURE: Replace the Video Board, part number 661-0372 (or update to new part number). The video board is located on the back of the CRT assembly.

The video Board provides video amplification and over-voltage protection to the video circuit.
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Apple IIc: Power Light Flashes

While using the IIc, the green 'power' light above the keyboard begins to flash at a steady rate. This seems to be the only failure. The computer appears to still be functional, and the video remains unchanged.
This article has been archived and is no longer updated by Apple.
The internal power supply requires the voltage from the power pack to be above a certain limit. When the voltage drops below this limit, the internal power supply signals an error to the logic board and begins to flash the 'power' light until the condition is corrected.

Some common causes of this symptom are: brownouts, custom-made battery packs with insufficient voltage or low battery power, or attempting to run the IIc from an automobile cigarette lighter while the car is running. Although the Apple IIc Reference manual states that the Apple IIc internal power supply requirements are from between 9 and 20 volts, anything below approximately 12.5 volts may cause the 'power' light to flash.

CURES:

#1: Verify that the power source is providing the correct voltage to the Apple IIc.

#2: Replace the external power supply.

#3: Replace the internal power supply

If problems still continue then refer to the Apple IIc General Troubleshooting procedures.
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ProDOS: The Machine Identification Byte

The environment is checked when ProDOS is booted, constructing the machine identification (MACHID) byte stored at $BF98 (49048). Programs operating in the ProDOS environment save time and space by referring to this byte when necessary.
This article has been archived and is no longer updated by Apple.
The MACHID byte identifies these system attributes:

- Bits 7-6: 00=II; 01=II+; 10=IIe; 11=III Emulation
- Bits 5-4: 00=Unused; 01=48K; 10=64K; 11=128K
- Bits 3-2: Reserved for future definition
- Bit 1: 1=80-column card; 0=None
- Bit 0: 1=Thunderclock or equivalent; 0=None

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Apple IIGS: Problems setting the RAM Disk

This article has been archived and is no longer updated by Apple.
You may encounter problems if you set your RAM disk to the entire capacity of your RAM card. MouseDesk may be unable to write files to the disk when it gets close to full, and programs run from it may crash. The problem is in the Memory Manager, not in MouseDesk.

Until the problem is corrected, the workaround is not to set the RAM disk size as large as the RAM card. This should be acceptable, as most people need some of the extra RAM for the Tools and for data space for programs (such as AppleWorks 2.0) that recognize it.
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LaserWriter: Buffer Space and XOFF Character

This article has been archived and is no longer updated by Apple.

When the LaserWriter's input buffer fills, it sends an XOFF character to the computer. In some cases, after receiving the XOFF character, the computer can't stop transmitting immediately. This means that if the XOFF character is not sent early enough, characters may be lost.

The LaserWriter sends the XOFF code when there are 100 characters left in the input buffer. If this is not enough, changing to version 2.0 ROMs may help. Those ROMs support DTR as a method of handshaking, which generally operates faster than XON/XOFF.

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LaserWriter: Pin 20 of the DB-25 Connector

This article has been archived and is no longer updated by Apple.

Pin 20 of the LaserWriter DB-25 connector is NOT (as sometimes stated)
a Tx (Transmit Data) line. It IS a DTR (Data Terminal Ready) line.
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ImageWriter II Sheet Feeder: Damage During Removal

Sometimes the right side of the platen (facing the front of the unit) becomes loose and disengages from its mounting bracket. This can cause intermittent print quality problems.
This article has been archived and is no longer updated by Apple.
This problem may be caused while, if removing the Sheet Feeder, the operator rocks the assembly back and forth to eject it from the printer. This puts pressure on the platen hold-down bracket, bending it in such a way that the platen is loose enough to rise out of the frame assembly. The print head then does not firing squarely on the platen.

There are three remedies for this problem:

1. Remove and straighten the bent mounting bracket, then re-install it.

2. Remove the bent mounting bracket and replace it with a new part (# 076-0200)

3. Remove and straighten the bent mounting bracket. Drill out the dimple (the raised steel stamping) on the mounting bracket with a power drill and a 3mm bit. You can then mount the bracket with two screws instead of one. Use a SMW 2.6 x 6 screw along with a nut and toothed washer.

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LaserWriter: Page Count for New Units

This article has been archived and is no longer updated by Apple.

LaserWriters are tested before they are shipped. When the customer first turns a new LaserWriter on, the page count will show a number in the range 28 to 200.

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LaserWriter: How To Print On Legal-Size Paper Without A Cassette

This article has been archived and is no longer updated by Apple.

It's possible to print on legal-size paper even if you have no legal paper input cassette. (If a letter-size paper cassette is installed, the LaserWriter or LaserWriter II assumes it's printing on letter-size paper.) This procedure assumes your application uses the standard Apple Page Setup dialog.

1. Choose Page Setup from the File menu. Select the US Legal button.

2. Click the Options button.

3. Click the box next to Larger Print Area. This shrinks the "nonprintable" area on the paper. (Without this step, the image is out of registration by 1/3 the length of the paper.)

4. Choose Print from the File menu.

5. Choose Manual Feed in the print dialog box.

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Lisa Hardware: Video State ROM

This article has been archived and is no longer updated by Apple.

If you're unable to print to a printer which previously worked with your system, the Lisa's Video State ROM, part number 341-0229, may be defective.

To check for a defective Video State ROM, follow these steps:

1. Verify the proper configuration of Preferences with the printer switches and check the connection of the cables.

2. Borrow a functioning Lisa Video State ROM and ProFile from another system, then try to print again.

3. If your system now prints, replace the borrowed ROM with the original ROM.

4. If the problem persists, check the printer switches, cables, and Preferences. once again as well as the printer itself.

5. If the problem still occurs, you will have to apply to your local Technical Support address for a new Lisa Video State ROM. There is no charge for this ROM.

The Technical Support people will need the AppleNet number and the ROM's serial number. While the Lisa's serial number may be found on the serial number sticker located underneath the left corner of the CRT, you must also get the AppleNet number. You can get both these numbers from the Lisa by placing it in service mode and using the Lisa's Service Mode to read the numbers encoded on the serialized PROM.

IMPORTANT: If the CPU board is ever replaced on a system, be sure to take the Video State ROM from the old board and install it in the replacement board.

--> Placing the Lisa in Service Mode

1. After starting up your Lisa,

    a. press either the SPACEBAR after hearing the audible "click" and before the "double-click",

    or else

    b. press the spacebar during the memory board test.

2. REMOVE any diskette from your drive, then select option 2 from the displayed "STARTUP MENU". A dialog box will display on the screen informing you there is no disk (as expected) in your drive. You are starting the Lisa from an unattached device: i.e., booting from upper drive when there is no disk in that drive.

3. After the Lisa gives you this error message, hold down the Apple key while you press the "S" key. The Lisa enters the Service Mode and displays the Service Mode menu.

--> Obtaining the Serial Number and AppleNet number with Service Mode

1. Select display memory - "Display Mem"

2. When prompted for ADDRESS, type 240 <CR>.

3. When prompted for COUNT, type 20 <CR>.

The Service Mode window then looks something like this:

```
00000240   0F0F 0002 0802 0002 0000 0400 0300 0F0F
00000250   0000 0100 0004 0102 0002 0900 0000 0000
```

The serial number is embedded in the top 16-byte memory location, which the window displays as 16 hexidecimal pairs, 0F... and so on. Each hexidecimal pair is divided into two halves or "nibbles", e.g., the hex number 0F consists of nibble 0 and nibble F. The second nibble of each of the 16 hexidecimal pairs forms the basis for the serial number.

4. First remove every other nibble like this:

```
00000240   0F0F 0002 0802 0002 0000 0400 0300 0F0F
     240    F F  0 2  8 2  0 2  0 0  4 0  3 0  F F
```

5. Then group the numbers as follows:

```
Number of the Nibble in Hex   01 23 45 678 9ABC D EF

Address        240            FF 02 82 020 0403 0 FF
                              XX PP YY DDD SSSS X XX
```

Extract the serial number from this group of 16 nibbles as follows:

a. Ignore nibbles 0,1,D,E and F, marked as XX or X above.
b. Nibbles 2 and 3 are the two digit plant code (PP).
c. Nibbles 4 and 5 are the two digit year code (YY).
d. Nibbles 6, 7 and 8 are the day of the year code (DDD).
e. Nibbles 9 thru C are the 4 digit serial number (SSSS).

You would submit this serial number, 02820200403, to Technical Support in the Lisa form B02B820200403, where the letter B merely 1) separates the plant and year codes and 2) precedes the entire number.

6. The Applenet Number is similarly embedded in the first 8 bytes of the next line of the memory dump. So, using the same method as step 4 above, we get:

```
00000250   0000 0100 0004 0102 0002 0900 0000 0000
     250    0 0  1 0  0 4  1 2  0 2  9 0  0 0  0 0

Number of the Nibble in Hex    012 34567 89ABCDEF

Address       250              001 00412 02900000
                               PPP NNNNN XXXXXXXX
```

7. To extract the Applenet Number:

a. Ignore nibbles 8 through F, marked as XXXXXXXX above.
b. Nibbles 0, 1 and 2 are the AppleNet prefix (PPP).
c. Nibbles 3 thru 7 are the AppleNet number (NNNNN).

You would submit this AppleNet number, 00100412, to Technical Support with the Lisa Video State ROM serial number to obtain a new ROM at no charge.

Published Date: Feb 18, 2012

Super Serial Card: Apple IIc Equivalents (12/96)

This article discusses how to set the switches on an Super Serial Card to match the Apple IIc's modem and printer ports as the IIc firmware sets them at power-up.

This article has been archived and is no longer updated by Apple.

Two sets of Super Serial Card switch settings are involved: the printer settings (Printer Mode) and the modem settings (Communications Mode).

Communications Mode

Switch 1 Switch 2
1 2 3 4 5 6 7 1 2 3 4 5 6 7

Mode Select ON ON
RS-232-C signals ON OFF
300 Baud ON OFF OFF ON
Stop Bit (=1) ON
Data Bits (=8) ON
Parity (=none) XXX ON
<LF> after <CR> out (=NO) OFF

Printer Mode

Switch 1 Switch 2
1 2 3 4 5 6 7 1 2 3 4 5 6 7

Mode Select OFF ON
Normal CTS ON OFF
Secondary CTS OFF ON
9600 Baud OFF OFF OFF ON
Data bits (=8)
& Stop bit(=1) ON
Delay After <CR> OFF
Line Width (=80) OFF ON
<LF> after <CR> out (=YES) ON

KEY: LF = Line Feed
CR = Carriage Return
CTS= Clear To Send
XXX= Don't Care
To set the interrupts on or off, Switch Block Two, Number 6 is either
ON or OFF respectively

The switch settings are also found in the Super Serial Card Installation and Operation Manual. Chapters 2, 3 and the reference section contain the switch settings.

The default settings for the Apple IIc are in the Apple IIc Technical Reference Manual. Printer setup is on page 148, and modem setup on page 160.

Article Change History:
16 Dec 1996 - Reviewed for technical accuracy, revised formatting.
Published Date: Feb 18, 2012

AppleSoft BASIC: Random Number Generators

Applesoft BASIC includes a pseudo-random number generator, function call RND(x).
This article has been archived and is no longer updated by Apple.
If x = 0, then the previous random number is returned.

If x > 0, then a new sequence of random numbers is generated by taking the previous random number, multiplying by a constant, and then adding the result to another constant. (The multiplication constant is -3490938.41 and the addition constant is -9.47445545 E-9.) Then the high and low bytes of the resulting 5-byte floating-point number are swapped, the exponent is rotated into the mantissa for further "randomness," and the new exponent is set to -1, insuring a number between 0 and 1. The high and low bytes are swapped to insure a random distribution of numbers greater than and less than 0.5.

If x ;@, then a new sequence is NOT generated, so the multiplication and addition by constants does NOT take place -- only the swapping process, and so on, that follows.

Operating systems have random number algorithms of their own. For details, see the operating system's documentation.
Published Date: Feb 18, 2012

AppleShare: Why Verifying the Server Can Take So Long

This article has been archived and is no longer updated by Apple.

When an AppleShare server is started up, it initiates a two-pass process that ensures that the PDS (Parallel Directory Structure) is valid. During the first pass, it makes sure that for every entry in the PDS, there is a corresponding entry in the catalog. On the second pass, it does the opposite. A server with a very large number of files can takes an hour or more to verify.

If this interval is unacceptable, turn off the server less often. To blank the screen when you don't need to see it, turn down the screen intensity or install a desk accessory that blanks the screen automatically after a period of inactivity.

Published Date: Feb 18, 2012

Macintosh II: Loose Speaker Brackets

Under some conditions, the brackets do not adequately secure the speaker to the lower pan in the Macintosh II. If the Macintosh II is handled roughly during shipping, the speaker may break loose, while the wire harness usually stays connected to the board. The speaker then swings around inside the computer, possibly cracking the main logic board or causing a hazardous short.

This article has been archived and is no longer updated by Apple.
Use a wire butterfly snap hold device similar to the Apple IIe speaker hold down assembly. In fact, the Apple IIe speaker hold down device could be reworked to be used in the Macintosh II. The existing support bars around the speaker can accommodate the wire butterfly snap hold device adequately.

Published Date: Feb 18, 2012

Macintosh: VT101 Emulation

The VT101 is a superset of the VT100, adding eight enhancements. According to the engineers that developed MacTerminal 2.2, it is supported to an extent by the entire the Macintosh line.
This article has been archived and is no longer updated by Apple.
MacTerminal defaults to the complete VT100 with two of the VT101 enhancements. These two features are implemented in:

1. Insertion of lines
2. Deletion of lines

These 2 changes increase the speed of line editing because the length of the escape sequence is substantially shorter.
Published Date: Feb 18, 2012

Macintosh: Maximum Number of Digits

This article has been archived and is no longer updated by Apple.
A customer asks: "What is the largest number of digits that can be represented in a number on the Macintosh?" The answer depends on what is meant by "digits."

Binary Digits

The maximum number of binary digits is 63. A number this large can be achieved with both the comp data type and the extended data type. In the case of the extended data type, a 15-bit exponent is part of the number.

Decimal Numbers

The maximum representable number in the extended data type is
2 exponent (16383)*(1.1 recurring 63 times) = 1.1E4932.
This number is 4,933 decimal digits long.

In terms of numbers not represented in a floating point extended data type, but one of the other data types, then the maximum decimal digit is 2 exponent 63, approximately equalling 9.2E18, which is 19 decimal digits.

For More Information

See the "Apple Numerics Manual: Standard Apple Numeric Environment," (copyright 1986, ISBN 0-201-17741-2) page 14.

Note: programming languages may further limit the data types available to the programmer.

Published Date: Feb 18, 2012

Macintosh II and Macintosh IIx: Guided Tour Disks (1/95)

The following is an explanation why the Mac II Guided Tour disk will not launch in some situations.

This article has been archived and is no longer updated by Apple.
On a 1 megabyte Macintosh II, the Guided Tour disk will not launch if the Monitors control panel setting has been changed to:

1. Colors
2. 16 shades/levels
3. or both

The additional RAM required by Color QuickDraw for data manipulation causes the memory available for the Guided Tour to decrease below the required 960K. The shipping default settings are Black & White and 2 colors.

On a Macintosh II with 2MB of RAM, even with the RAM Cache set to 1536K and Monitor control panel set to 256 Colors, the Guided Tour always boots. RAM Cache settings are ignored by the Guided Tour system file.

Article Change History:
2 Feb 1995 - Reviewed for technical accuracy.

Support Information Services
Published Date: Feb 18, 2012

ImageWriter LQ: Using it with a Macintosh

This article has been archived and is no longer updated by Apple.

The ImageWriter LQ recognizes output from the Macintosh ImageWriter driver, but, for better results, use the new ImageWriter LQ driver. This driver has options similar to those found on the ImageWriter driver:

- "draft" sends ASCII information to the printer
- "faster" prints 72 x 72 dpi
- "best" prints 216 x 216 dpi

If sheet feeder bin(s) are installed, you can also select the bin for the first page of a document and the bin for the remaining pages. However, those applications that treat each page as a separate document will not be able to take advantage of this feature, since each page will be seen as "Page 1" of a new document.

An AppleTalk ImageWriter LQ driver is also available for times when the ImageWriter LQ is connected to an AppleTalk network.

The ImageWriter LQ comes with four disks. One contains the Macintosh drivers mentioned above, and the other three include font files of various type and sizes.

Because the 27-pin head is organized in three rows of nine pins each, the best printing occurs with a font three times larger than the screen font. Therefore, we are shipping 27 point, 30 point, 36 point, and similar multiples of point sizes of fonts in common faces in the ImageWriter LQ package.

Some font families also include italic and bold. When installed in a system file, these defined faces will replace the computed versions of an italic or bold font.

Published Date: Feb 18, 2012

ImageWriter LQ: Pinouts

This article has been archived and is no longer updated by Apple.
The ImageWriter LQ has an RS-422/RS-232 serial port with a minicircular-8 socket. The signals on each of the pins are as follows:

Pin Symbol Description Direction

1 DTR Data Terminal Ready Output
2 DSR Data Set Ready Input
3 TxD- Transmitted Data Output
4 SG Signal Ground
5 RxD- Received Data Input
6 TxD+ Balanced Transmit Output
7 NC No Connection
8 RxD+ Balanced Receive Input
Shield PG Protective Ground

To connect an RS-232 interface to an ImageWriter LQ, use the following pin assignments:

Minicircular-8 RS232
Pin Number Symbol Description DB25 pin number

1 DSR Data Set Ready 6**
1 DCD Data Carrier Detect 8**
2 DTR Data Terminal Ready 20
3 RxD Received Data 3
4* GND Ground 7
5 TxD Transmitted Data 2
6 NC No Connection
7 NC No Connection
8* GND Ground
Shield Shield

* Connect together at minicircular connector
** Connect together at DB25 connector
Published Date: Feb 18, 2012

Macintosh: System Tools 5.0 with MultiFinder

This article has been archived and is no longer updated by Apple.

TOPIC ----------

This article outlines the use and features of Macintosh System Tools 5.0.

DISCUSSION ----------

System Tools 5.0 files were intended for use on the Macintosh Plus, Macintosh SE, and Macintosh II. Due to increased memory demands caused by larger system files and MultiFinder, these tools cannot be used reliably on a Macintosh with 128K or 512K, or on a Macintosh XL. In Version 5.0 of Macintosh system software, the System, Finder, and CDEV files were revised to support MultiFinder and to expand Macintosh II features.

System 5.0

The following list summarizes the changes made to Macintosh System files in Version 5.0:

- Color support for the Macintosh II

- More fully-implemented Palette Manager

- Upper drive on the Macintosh SE used at the same speed as the lower

- Command-Shift-1 and -2 (and all FKEYs) work properly under Excel

- No stray dots appear when outlined text is move

- Releases previously-used memory correctly when re-initializing the ADB port

- Supports a color desktop pattern through the Color code

- Supports color text highlighting

The Finder

- Supports color; a new menu appears when Finder 6.0 is used on a Macintosh II to let the user select the color of an icon or folder.

- Supports MultiFinder

The LaserWriter Driver

- Supports MultiFinder

- Clips the right edge of bitmaps properly

Published Date: Feb 18, 2012

Apple III: Console Driver--Screen Mode Switching Program

The following program is a demostration of how to change the Apple III screen mode.
This article has been archived and is no longer updated by Apple.

```
PROGRAM SCREENTEST;

PROCEDURE SCREENMODE (NUMBER: INTEGER);
VAR CH: CHAR;
BEGIN
IF NUMBER IN [0..2] THEN BEGIN {If the given number is valid}
WRITE (CHR (14)); {turn off the screen and}
CH := CHR (16);
UNITWRITE (1, CH, 1, , 12); {send the prefix character}
CH := CHR (NUMBER);
UNITWRITE (1, CH, 1, , 12); {and the mode character.}
IF NUMBER = 2 THEN WRITE (CHR (1)); {If 80 column, restore}
{viewport.}
WRITE (CHR (28), CHR (15)); {Clear screen and turn it on.}
END ELSE WRITELN (CHR (7), 'SCREENMODE ERROR '); {else OOPS!}
END;

PROCEDURE TESTERROR;
BEGIN
WRITE (CHR (28)); {Clear the screen.}
GOTOXY (0,11);
WRITE ('This will generate an error. '); {Write some text.}
SCREENMODE (5); {Set an invalid mode.}
WRITELN;
WRITE ('Press RETURN to continue: ');
READLN;
END;

PROCEDURE TEST40;
BEGIN
SCREENMODE (0); {Set 40 column B/W mode.}
GOTOXY (0,11);
WRITELN ('This is 40 column text mode.');
WRITELN;
WRITE ('Press RETURN to continue: ');
READLN;
END;

PROCEDURE TESTCOLOR;
BEGIN
SCREENMODE (1); {Set 40 column color mode.}
WRITE (CHR (20), CHR (4)); {Set background to Dark Green.}
WRITE (CHR (28)); {Clear the screen.}
WRITE (CHR (19), CHR (13)); {Set forground to Yellow.}
GOTOXY (0,11);
WRITELN ('This is 40 column COLOR mode.');
WRITELN;
WRITE ('Press RETURN to quit: ');
READLN;
END;

BEGIN
TESTERROR;
TEST40;
TESTCOLOR;
SCREENMODE (2);
END.
```

Published Date: Feb 18, 2012

NuBus: Apple‘s Implementation

This article discusses the features of NuBus¬ and how Apple's implementation differs from the original design.

This article has been archived and is no longer updated by Apple.
The major advantage of NuBus is its simplicity in system configuration and protocol. A simple handshake protocol between master and slave enables modules or boards with different speeds to communicate. There are no interrupt lines. Each module can interrupt a processor by writing into an address space area monitored by that processor. NuBus also relies on only one main bus, in contrast to more complicated competition, such as VME and Multibus II.

NuBus is independent in terms of system architecture and CPU. Because each board has its own ROM, there is no need for jumper and switch settings. It has synchronous bandwidth of 10 MHz and is easily adaptable to asynchronicity. (Its transactions may be a variable number of clock periods long.) It requires fewer signal lines than all other advanced buses.

The major change Apple made to the NuBus was a signal change with the NMRQ (non-master request). It is a dumb interrupt that allows a slave to interrupt without being the bus master. Apple's NuBus implementation adds interrupt lines to the 68020 from each of the slots.

NuBus data-transfer signals are all three-state and include control, address/data, and parity. Apple also does not implement the parity checks.

Another major change has to do with the form factor: Apple uses smaller cards.

Although NuBus is designed for 32-bit addressing modes, the Macintosh II logic board is typically set in a 24-bit mode. The current Operating Systems Utilities portion of the firmware will translate to accept previous 24-bit addresses.

The NuBus can handle 16 slots to provide expansion capabilities for Ethernet, terminal, serial and parallel devices, video output, and other processors and coprocessors. Apple's design implements only six.

Here are some articles on NuBus:

- "Battle of the Buses for 32-bit Systems," Systems & Software, 9/84
- "Bus Structure Eases Multiprocessor Integration," Computer Design, 6/84
- "Synchronous 32-Bit Backplane Buses Open Up Distributed System Design," EDN 6/84

For basic information such as pinout and signal descriptions, glossary of terms, addressing, and capabilities, search on "NuBus".

Published Date: Feb 18, 2012

FT/CMS: Recommended Settings

This article has been archived and is no longer updated by Apple.

When using 3270 FT/CMS, your AppleLine and terminal software (3270 FT/CMS) should be set to:

9600 baud
8 data bits, 0 stop bits
no parity
Auto-Speed setting (AppleLine) set to on/yes.

Published Date: Feb 18, 2012

AppleShare 1.0/1.1: Lost Server Volumes

The following describes a problem with server volumes being reported in need of repairs in error.

This article has been archived and is no longer updated by Apple.
When using AppleShare 1.1, the Finder may complain that the server volume needed minor repairs and then reported that the volume couldn't be fixed. Unplugging the AppleTalk connector makes the problem go away.

One way to get into this situation is to have a volume to which access has been completely denied after the volume is marked for mounting at start up. When the Finder tries to access the volume, it gets an immediate error. The Finder then tries to create a new Desktop file, which fails also, resulting in a final error message and no trace of the volume on the Desktop.

One fix: use the Chooser to select the server volume then deselect the box labeled "Mount at Startup time." That should stop the volume from being mounted without access to the root, causing the Finder no further difficulties on the next startup.

Another solution: throw away the "AppleShare Prep" file in the System folder, causing all startup information to be lost.

Future versions of AppleShare will check the root of the volume for accessibility before mounting the volume, the way the chooser already does (indicated by greying out the volume name in the volume list).

Published Date: Feb 18, 2012

Macintosh SE Hard Drive Systems: HD SC Setup Version 1.3

A problem was discovered when HD SC Setup Version 1.3 was used to initialize a hard disk inside certain Macintosh SE computers. This recalibration problem may have, in rare cases, caused a loss of data. The article below provides more information.

This article has been archived and is no longer updated by Apple.
The Macintosh SE production units which MAY experience this problem have serial numbers beginning with:

F721,
F722, or
F723

The fix for this is to use Version 1.4 or higher of HD SC Setup.

Production units with serial numbers F724 and up didn't have this problem and could be initialized with either version 1.3 or 1.4 of HD SC Setup.

HD SC Set Up 1.4 was shipped with production units starting in early July of 1987.

Customers should upgrade to HD SC Set Up 1.4 or higher (and discard version 1.3) to ensure compatibility with all hardware configurations. Any Macintosh SE that has been initialized with version 1.3 should be updated using version 1.4 to avoid loss of data in the future. If a Macintosh SE hard disk system is serviced, the hard disk must either be updated or re-initialized with HD SC Setup 1.4.

Version 1.1 may continue to be used -- with Rodime drives only -- but due to its lack of versatility, its use is not encouraged.

BACKGROUND

The Macintosh SE originally contained:
- SCSI hard drives made by Rodime
- HD SC Setup version 1.1.

When MiniScribe became a second source of drives, HD SC Setup version 1.3 was required, because version 1.1 would not recognize or initialize MiniScribe drives.

Version 1.3 was designed to be used with both Rodime and MiniScribe drives. Unfortunately, version 1.3 exposed a bug in the Rodime drive controller. Version 1.3 turned on Rodime's head recalibration feature, which activated every 20 minutes and took 5 seconds. If the Macintosh SE user attempted to save data onto the hard disk during that time, the drive controller chip interrupted the recalibration. However, the recalibration wasn't terminated properly, and scrambled data was written to the sector over which the drive head resided. The user would notice a problem at some later date, when attempting to access the file containing the scrambled sector.

HD SC Setup version 1.4 or higher works properly on both Rodime and MiniScribe drives.

Published Date: Feb 18, 2012

Disk Cache: Macintosh compared to IBM PS/2

This article has been archived and is no longer updated by Apple.
A caching device driver is included with the new IBM PS/2, models 50-80. This cache uses a technique that fetches either 2, 4, or 8 sectors (user selectable) when an I/O is issued for a single sector. This method appears to achieve significant performance improvements with relatively small cache sizes. Some have asked whether Apple (or other vendor) is looking at improving the Macintosh's disk performance this way.

Apple's disk caching is not done like IBM's, for two reasons. The first has to do with hardware: the IBM can access a multiple number of blocks in just about the same time it can access just one. We can't do that with our drives; we have to monitor the reading of each block.

Second, Apple has a very complicated file format and directory structure that can't compare to the IBM disk format. The Macintosh is constantly loading in small resource segments (often much smaller than one block) and maintaining a complex B-tree catalog structure. Our disk cache is optimized for this type of structure.

Basically, the way the cache works is to remember recently-written blocks of data. It can be thought of as a "post-written" system, rather than a "read-ahead" system. If we need that information again soon, we can retrieve it from the cache rather than from disk. However, we can do some read-ahead, as some hard disk controllers maintain a track buffer, reading in an entire track at once and doling it out to the Macintosh one block at a time.
Published Date: Feb 18, 2012

ADB Keyboard: Cure for ‘Dead‘ Keyboard

This article has been archived and is no longer updated by Apple.
Some users have reported that their ADB keyboard are sometimes 'dead' (though the mouse works fine) when they start up a Macintosh II or SE. One reported cure has been simply to unplug the keyboard then plug it back in.

Caution: this fix works only if the mouse is plugged into the second ADB plug on the back of the computer. If the mouse is plugged into the keyboard, the fix (unplugging the keyboard then plugging it in again) crashes the system.
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Apple Extended Keyboard: Key Codes

Are the key codes for the Apple Extended Keyboard different from those of the Apple Standard Keyboard?

This article has been archived and is no longer updated by Apple.
The key codes for the Apple Extended Keyboard differ slightly from those of the Apple Standard Keyboard. The following list includes only those keys whose codes are different from the Apple Standard Keyboard:

F1 7A
F2 7B
F3 63
F4 76
F5 60
F6 61
F7 62
F8 64
F9 65
F10 6D
F11 67
F12 6F
F13 69
F14 6B
F15 71
HELP 72
HOME 73
PAGE UP 74
PAGE DOWN 79
DELETE 75
END 77
CURSOR UP 7E
CURSOR DOWN 7D
CURSOR RIGHT 7B
CURSOR LEFT 7C

Application software should NOT be designed so that it depends on these key codes -- because they will probably change. These codes are used by the application and are not necessarily what the keyboard actually puts out. Any unused codes not listed here are not yet defined and should not be used.

Key codes for the Apple Standard Keyboard are found in the "Macintosh Family Hardware Reference."

Published Date: Feb 18, 2012

Hayes InterBridge version 1.06: Improvements

This article has been archived and is no longer updated by Apple.

Version 1.06 of Hayes InterBridge corrects several problems that were reported in version 1.05:

- Down bridge: causes the bridge to become inactive or inaccessible, a large number of buffer allocation errors, or cause the bridge to stop functioning completely.

- Missing bridge: could occur in AppleTalk networks connected with four or more InterBridges. Causes the network manager software to be unable to see the bridge.

- Packet errors: when an InterBridge is combined on an AppleTalk network with a Kinetics Fastpath device, a large number of packet errors occur.

Published Date: Feb 18, 2012

AppleWorks: Problems Loading, Uploading, or Saving

Three of the most common questions about AppleWorks deal with files not loading, saving, or uploading properly to a base for electronic mail or messages. The solution is often simple. Before panicking, consider the following solutions.
This article has been archived and is no longer updated by Apple.
File won't load - file not found

First, be sure you're not be trying to open more files than AppleWorks allows. AppleWorks allows no more than twelve files on the desktop at any one time -- less in the case of large files or limited memory.

If the file name appears in the directory, but AppleWorks can't access it, the file or the subdirectory may be damaged. To logically isolate the problem, use a copy utility (System Utilities 2.1.1 or the GS System Utilities 1.1) and move the suspect file to another directory and attempt to load it from there. If it will not load from the new directory, then the file itself is corrupted and the data is lost -- unless it has been backed up.

If the file is moved to a subdirectory, and it loads correctly from there, the original subdirectory is damaged. Copy all files in the subdirectory to another area, then delete the damaged subdirectory.

If you are using a floppy drive, check the disk and make sure it isn'tdamaged: it's far less expensive to discard a disk and use a new one than to continue losing data! If you are using a hard disk, and you discover a problem, you will want to back up the drive and reformat it.

File won't save - diskette is full

The most common reason for a file not saving is the tendency to overfill subdirectories. While ProDOS allows 51 files on the Root Directory, and an unlimited number in subdirectories, AppleWorks permits only 130 files in a directory. Veteran AppleWorks experts limit subdirectory entries to 30 or less. While this is not a major problem for 5.25" drive users, it can become a problem with larger-capacity drives.

Make sure that you are not saving all your files in one area. Subdirectories can be used effectively to organize and catalog your files.

AppleWorks text file won't upload

Some systems, such as CompuServe(tm), require both a Carriage Return AND a Linefeed at the end of each line to in order to upload files correctly.

In AppleWorks, Version 1.3 or earlier, writing an AppleWorks document out as text (ASCII) file, or using the AppleWorks option of "Printing to a Text (ASCII) File" will result in:

- A carriage return in the text file wherever there is a Carriage Return in a word processor document.
- A carriage return following each entry in a data base report.
- A carriage return following each cell when working with a spreadsheet document.

To get that elusive Line Feed, the work-around is to configure a Custom Printer using the "Add a Printer" option in AppleWorks. Name it "Upload" or some other appropriate name that will remind you of its purpose. Choose the SilentType printer. Change the specifications to add a Line Feed after each RETURN, [1. Needs line feed after each RETURN], and save this printer configuration to disk.

To convert an AppleWorks file to an ASCII file with the required Carriage Return/Line Feed line termination, simply print your document to "Upload." The resulting file will then upload properly.

AppleWorks 2.0 AUTOMATICALLY adds Carriage Returns at the end of each line, but you will still have to add Line Feeds with the above prodedure.

Summary

Remember the three rules that will keep you out of trouble:
1. Back up your files frequently.
2. Back up your files FREQUENTLY.
3. BACK UP YOUR FILES FREQUENTLY.
Published Date: Feb 18, 2012

Novell, Inc.

Novell, Inc.

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ProDOS: Using CONVERT with One Drive

Converting from ProDOS to DOS 3.3 is easy with one drive; however, you'll most likely want to convert DOS 3.3 files to ProDOS.
This article has been archived and is no longer updated by Apple.
When converting your file from DOS to ProDOS using a single drive, the Convert program reads the DOS file, displays the error message "cannot find the ProDOS volume", flags the file with an error and quits.

The work-around is: first, convert any file, even a short "dummy" file, from ProDOS to DOS; upon completion of the ProDOS to DOS transfer, change the direction of conversion, then follow the prompts for when to exchange the diskettes.

Do not use your ProDOS User's Disk as your destination disk; otherwise, you'll receive a Disk Full error message, due to the lack of room on the ProDOS User's Disk. Also, don't forget to change the ProDOS prefix to the new volume name. After all the files are transferred to ProDOS, delete the dummy file.

Below are the specific steps:

1. Startup ProDOS with "/USERS.DISK".

2. Select "C": DOS <-> PRODOS CONVERSION.

3. Select "C": Change DOS 3.3 Slot and Drive.

4. Set DOS 3.3 slot to "6", Drive to "1".

5. Place a ProDOS diskette, containing any file, into Drive. Lets assume the program name is "DUMMY".

6. Select "P": to set ProDOS Prefix.

7. Select "S": by Slot and Drive.

8. Set ProDOS Slot to "6": Drive to "1". /TRANS is the prefix used in this example.

9. Select "R": Reverse Direction of Transfer.

10. Select "T": Transfer (or List) Files.

11. When asked What ProDOS file(s)? Type in "/TRANS/DUMMY"; press RETURN. You'll be prompted to change diskettes several times for large programs.

12. After the transfer to DOS 3.3 is complete, press Escape to return to the menu.

13. Press "R": Reverse Direction of Transfer.

14. Select "T": Transfer (or List) Files.

15. Remove ProDOS diskette; insert your DOS 3.3 diskette

16. Type in name of DOS 3.3 file to transfer; press RETURN

17. You will get "Error: Volume Not Found". Insert ProDOS diskette; press RETURN.

18. Remove DOS 3.3 diskette. Insert ProDOS diskette; press RETURN

19. The file now transfers. To transfer other files: repeat steps 14 - 19.

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AppleFax Modem: Overview and Firmware

This article has been archived and is no longer updated by Apple.

Overview

The AppleFax Modem allows Macintosh users to send and receive Fax files/documents with the huge installed base of Fax machines currently used by most businesses. In addition to its Fax capabilities, the AppleFax Modem allows 9600 baud file transmission of Macintosh software with other AppleFax Modem users.

The AppleFax Modem's case is exactly the same size as the Apple 3.5" disk drive, letting the two products be stacked. The AppleFax Modem is compatible with Fax Group 3 ONLY (some early-release manuals erroneously\\state that the modem is compatible with Fax Group 2 as well). The firmware in this unit is a subset of the Hayes-compatible firmware in the Apple Personal Modem.

Availability

The AppleFax Modem will be sold only by authorized Apple Desktop Communications dealers.

AppleFax Firmware

The command set in the AppleFax Modem firmware is a subset of the Hayes command set used in the Apple Personal Modem, with some additional Fax only 'S' registers. The new AppleFax Modem registers are:

- S14 Error Rate / Contains a value that indicates the number of erroneous transmissions that occurred in the last 256 transmissions.

- S32-S64 Modem Chip Set / These registers map to the R96 Fax compatible modem chip set contained in the AppleFax Modem as follows:

Registers S32-47 Bank 0 registers 0..15
Registers S48-63 Bank 1 registers 0..15

The firmware in the AppleFax Modem is compatible enough with the Hayes protocol that it should run with most communication applications (MacTerminal, for example) with no problem. This will allow you to transfer Macintosh files, type messages back and forth with the other AppleFax Modem owner, and in general become familiar with the command set of this modem.

The communication application must follow these guidelines:

- Handshaking CTS (Clear To Send) or RTS (Return To Send)
- Local Echo Echo off
- Duplex Full duplex
- Bits 8 data bits, 1 stop bit and 1 start bit.
- Baud Rate 9600

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AppleFax Modem: General Information

This article provides information about the AppleFax modem. Apple no longer sells the AppleFax modem, but it is still supported.

This article has been archived and is no longer updated by Apple.
The AppleFax Modem shipped with two types of software: the resource file and the application. The easiest way to send a Fax is via the "AppleFax Modem" resource file put in your System Folder. With this resource, you can print, just as you do with a laser printer.

The AppleFax application goes beyond the resource, sending multiple Fax messages to multiple addresses at pre-set times. The application also makes a Macintosh file transfer rate 9600 baud possible.

AppleFax Software

The AppleFax package contains the AppleFax application and the AppleFax Modem resource file disk and three other disks containing LQ Fonts. The AppleFax Modem works very much like the ImageWriter LQ, in that it requires fonts when "printing" that are three times the size of the font on the Macintosh screen. When these LQ fonts are installed in the System file you can use the maximum 200 dpi density of the AppleFax Modem.

When the proper size font is not available, resolution suffers, but the Fax document is still printed to the recipient. As long as the fonts are available when the Fax is sent, even a "normal" Fax machine benefits for the 200 dpi images sent from your Macintosh.

There are two ways to use the AppleFax Modem. The first is via the AppleFax Modem resource file. Once that resource is dragged into the System Folder and selected via the Chooser as the active resource, you're in business.

The advantage of the AppleFax Modem resource is immediate conversion and sending of the document you have selected. You don't even have to leave the active application to send the Fax. You can select any document from within the Finder and "print" it just as you would to a LaserWriter. When the dialog box appears, you have the option of sending the document immediately ("Printing it") or saving it to disk.

For example, if you plan to use the AppleFax application program to send your multiple Fax documents at 1:00 AM, you would use the "Save Fax To Disk" feature for each Fax you want to send with the application. You must use the resource to convert your Macintosh documents into Fax documents. In turn, you can use this resource from within the AppleFax application. Once you have all the Fax documents saved to disk, you're ready to move on to the "AppleFax" application.

The AppleFax application program for the AppleFax Modem turns your Macintosh into a Fax station. The application does require the full attention of the Macintosh and, therefore, won't run in the background. When you start the AppleFax application, the application presents you with various options. Among the main features of the application are that it

* Sends Macintosh files like Macintosh documents and applications.

* Sends many files or facsimiles to one destination.

* Sends one file or facsimile to multiple destinations.

* Specifies the time for the AppleFax Modem station to send your files or facsimiles.

* Sends your files or facsimiles to another AppleFax Modem station that will temporarily store and then forward the files to their final destination.

* Sends your files or facsimiles and then prompts the other AppleFax Modem station to send its files back to you.

Here's a key difference between using the AppleFax resource and the AppleFax application. With the application you can both receive and send facsimiles. With the resource, you can only convert and send a Fax. The application automatically saves the Macintosh files and Fax documents as they are being received from the sender.

More About the AppleFax Application Program

The two main ingredients in the AppleFax Modem application are "Address Books" and "Envelopes." An address book contains the names of various Fax stations, their phone numbers, and the best calling times. You drag addresses over to "empty" envelopes which then become AppleFax Modem application documents. You can put Macintosh files and previously-created facsimiles into the envelope. Once that's done, you may either wait for the envelope to be sent at the time indicated, or send it "immediately."

If you choose to have the envelope sent at the pre-set time, it is wise to check the "Activity Report," when you come back. The report tells whether the contents of the envelope were really sent, when, and any other problems encountered.

One important note here. When an entry into the address book is created, one of the choices is whether or not this address belongs to a "normal" Fax machine, or to a AppleFax Modem. This is important, for when you drag your address into an empty envelope, that envelope becomes either a Fax-machine-only envelope or a Fax-document-and-Macintosh-files envelope, for use with other AppleFax Modem stations. If you want to send to separate types of stations in the same session, you can create more than one type of envelope.

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Apple IIGS Finder

Overview

The Apple IIGS Finder is similar to the Macintosh Finder, but with enough variation to make it a uniquely Apple II product. The Apple IIGS Finder works only on an Apple IIGS with at least 512K of RAM.
This article has been archived and is no longer updated by Apple.
Availability and Distribution

The Apple IIGS Finder was announced August 11, 1987. At that time, it was anticipated that it would be shipped on the Apple IIGS System Disk, revision 3.0, and be part of the Endless Disk Drive mailing the last week of August. The dealers, in turn, are expected to pass out the new System Disk revision freely to their customers. Technical Communications planned to send this disk out to all our audience around the same time.

The Endless Disk Drive mailing will contain two System Disks, revision 2.0 and 3.0. This is bound to cause some confusion, but it is necessary. The Finder application replaces the DeskTop program that has been on earlier versions of the System Disk, including version 2.0. Since the Apple IIGS Finder requires a 512K configuration, we might leave some people out in the cold with their 256K machines. This way, we are able to give them an up-to-date system disk with the DeskTop program on it, which will run on their machines.

This System Disk revision, including the Finder, will make its way into new Apple IIGS boxes in the beginning of September. Because of current stock on hand, these new systems including the Finder are not expected to hit dealer shelves until late September to mid-October.

If current Apple IIGS owners would like the Apple IIGS System Disk manual that is going to be bundled with the new Apple IIGS, along with the System Disk 3.0, they may order it from their dealer.

Finder Notes and Tips

After making a working copy of the original Apple IIGS System Disk 3.0, unlock the working diskette. If you don't, the window positions and icon arrangements won't be saved to disk.

This Finder allows the user to change and save the color of each individual volume and file icon.

To reach online Help, pull down the Apple menu.

If a volume is brought online while there is another volume of the same name already on the desktop, a dialog box appears, warning the user that the volumes have the same name and that the operation is cancelled. Note, however, that the disk is not ejected, though the volume has not appeared on the desktop. It is best after receiving such a message to manually eject the disk.

If the monochrome monitor is used, be sure to select the Monochrome setting in the Apple IIGS control panel. This will use gray scaling to produce a better overall image.

When a 5 1/4" diskette is inserted into the drive, the Apple IIGS Finder doesn't know it's there -- unless you 'tell' it. There are now 5 1/4" disk drive icons on the desktop, directly below any other volumes that are online. When a 5 1/4" disk is inserted, be sure to click on the respective icon so the finder can recognize the disk.

TA37023_Apple_IIGS_Finder_(TIL02338).pdf

The Put Back function in the Apple IIGS Finder is the same as the Macintosh Finder's Put Away function. This menu choice lets you return files, that you have thrown in the trash can or recently moved to the desktop, back to their original position.

A major difference between the Apple IIGS Finder and the Macintosh Finder is that the Apple IIGS version has a Preferences option in the Special menu. The Preferences dialog gives you six check-box options, all defaulted to a 'checked' state. They are:

- Display help for dimmed commands

If this option is chosen, the user can select a grayed out menu item, and get information on why that item isn't available.

- Double-check before removing files and folders

If this option is chosen, the Finder will not delete files or folders until the user confirms, via a dialog box, that the files or folders should be deleted.

- Color selected icon's background instead of its outline

This is personal preference, but the default (background color fill) is easier to see than a colored outline.

- Save Finder information onto disk

If this option is chosen, the Finder creates a file called FINDER.DATA that records the window position and size for all open windows. There is also a file called FINDER.ROOT that remembers what windows were open on the desktop when the disk was ejected. If you don't want these items recorded, deselect this check box.

- Hide the Finder's data files

When a window is opened, the default is not to display the FINDER.DATA and FINDER.ROOT files. If you want them displayed, deselect this check box.

- Do a smart block copy

When copying disks of the same size, the default mode for the Apple IIGS Finder is to copy only those blocks that contain information. This speeds up the process. If you want to copy all blocks, regardless of whether they contain information, deselect this check box.

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AppleWorks 2.0: Page Numbering limit in Footer and Header

While the documentation says that the limit for page numbering is 512 pages, it is actually 256.
This article has been archived and is no longer updated by Apple.
You may encounter a situation where a header is numbered from 255 through 256, and the numbering goes on to 257 and further, whereas a footer starts over after page 256 at page 1. This is a problem in either the documentation or the program.
Published Date: Feb 18, 2012

DB 19 Connectors: Where To Get Them

Where can I obtain DB 19 connectors?
This article has been archived and is no longer updated by Apple.
Here are many companies that sell DB 19 connectors.

To locate a vendor's address and phone numbers, search the web using DB-19 or DB19 as the search string.
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Apple IIGS: VGC and ROM Upgrade Notes

The serial number cutoffs given in the August Service and Support Notice to determine which Apple IIGS systems need the VGC and ROM upgrade are incorrect.

This article has been archived and is no longer updated by Apple.

Use the first three digits of the serial number on the bottom of the Apple IIGS to determine which of the two upgrades a computer needs:

- when the first three digits of the computer's serial number are 704 or lower, both the new VGC and the ROM upgrade are required.

- when the first three digits of the computer's serial number are 705 through 724 (inclusive), only the new ROM is required.

- when the first three digits of the computer's serial number are 725 or higher, neither of the upgrades is required.

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Macintosh II: Electrohome Video Projection Connection

How can I project the display of the Macintosh II Video Card?

This article has been archived and is no longer updated by Apple.
There is a product called the Electrohome RGB 2000H which is used to project the video display of the Macintosh II. The card used in this configuration is the Macintosh II Video Card with full memory (512K of video RAM) for the 8 bit color mode. Two cables are needed: the 15 pin video cable that comes with a Macintosh II color monitor, and the 10 pin cable that comes with the Electrohome projector. An interface is neccessary to convert the signals from the Video Card with Macintosh II RGB monitor cable to that of the Electrohome and its cable. Such an interface is provided by Covid, Inc.

To locate a vendor's address and phone numbers, use the vendor name as a search string.

Here are their pinouts of Macintosh II monitor and Video Card for reference:

Macintosh II Video Card

Pin# Signal
--- ------
1 GND
2 Red Channel
3 Composite Sync
4 GND
5 Green Channel (also recognized as Monochrome Signal)
6 GND
7 NC
8 NC
9 Blue Channel
10 NC
11 GND
12 Green Channnel
13 GND
14 GND
15 NC

AppleColor Hi-Res RGB Monitor

Pin# Signal
--- ------
1 Red Video Return
2 Red Video
3 Composite TTL Sync
4 Composite Sync Return
5 Green Video
6 Green Video Return
7 NC
8 NC
9 Blue Video
10 NC
11 NC
12 NC
13 Blue Video Return
14 NC
15 NC
Shell Shield GND

TA37027_Macintosh_II_Electrohome_Video_Projection_Connection_(TIL02343).pdf

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SoftCard III (CP/M): Moving Files from Apple II CP/M

This article has been archived and is no longer updated by Apple.

Application software often uses direct cursor addressing, enabling you to access specific portions of your display screen. Since a variety of computers use CP/M software, the program diskette itself, or an accompanying utility diskette, often contains a menu allowing to you conveniently configure the software for your system. The item you select from the menu informs the system to send the appropriate command to your system to achieve the desired screen effect.

Many CP/M programs for sale work with the Apple II CP/M systems; however, since the Apple III is relative newcomer to the CP/M world, applications may have to be formatted to operate with it. To format an Apple II CP/M program onto an Apple III diskette:

1. Boot with the Apple III "CP/M Master" Diskette.
2. When you see the prompt A>: type "COPY".
3. When the copy program prompts you with a "*": remove the Master Diskette from you disk drive: insert the Apple II diskette.
4. Place a blank diskette into drive 2.
5. Next type: "B:=A:/S/V".
6. When advised that the operation is complete, and asked if you want another operation: insert the Apple III CP/M Master Diskette into drive 1: type "N".
7. When you see the input prompt A>: type "PIP".
8. Upon prompted with a "*": type "B:DRIVER.SOS=A:". (This will transfer a copy of the driver file to the new diskette).

The resultant copy will be an Apple III system diskette containing all the Apple II files.

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Macintosh: Disk Repair with Copy II Mac

This article has been archived and is no longer updated by Apple.

```
When other means (Fedit+, Disk First Aid) have failed to repair a disk that's
gone bad, try this procedure:

1. Copy the disk with the sector copy mode of Copy II. When Copy II Mac
  encounters a bad block, it zeros that block on the destination disk. This
  gets rid of any unreadable blocks.

2. Run Disk First Aid v1.2 with "Repair Automatically" (Options menu) checked.

When a disk goes bad, don't be too quick to give it up for lost. There are
several ways to recover data from bad disks. Oh, yes -- back up often.
```

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HyperCard 1.0: Tiny Bug in Help Stack

In the Help stack of HyperCard 1.0, there is a single card with a small bug. It's the card named "Math functions (cont.)".
This article has been archived and is no longer updated by Apple.
If you click on the left or right screen button, nothing happens. (You CAN, however, move to the next/previous card by clicking right below one of the buttons or by using the right/left arrow key.)

The problem: the card's text fields partially overlap the arrow buttons at the bottom. (These fields are invisible, so you can't see them if you're browsing.) When you click on the buttons, you click in the text fields instead.

Here's how to repair the card:

1. Put HyperCard into Edit mode.

2. Bring up the "Math Functions (cont)" card.

3. Select the Field mode in the Tools menu (the upper-right box). When you do this, the text fields become visible, and you'll see the overlap.

4. Click the arrow in the lower parts of the three fields that overlap buttons, and move them up.

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Pascal III: SYSTEMP0000X files

This article has been archived and is no longer updated by Apple.

When a Pascal program opens new files, the files are initially named SYSTEMP000X, names which are retained until the files are closed and renamed. If the system is interrupted before the system closes (e.g., if the diskette is removed from the drive before the system is finished writing to it), the file name SYSTEMP000X will remain listed in the directory.

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Apple IIGS: ImageWriter Pinouts

This article has been archived and is no longer updated by Apple.
Here are the pinouts for connecting an Apple IIGS to the ImageWriter II or ImageWriter I printer:

```
Apple IIGS ImageWriter II ImageWriter I
---------- -------------- -------------
DTR 1 DSR 2
HSKI 2 DTR 1 DTR 20
TXD- 3 RXD- 5 RXD- 3
G 4 SG 4 SG 7
RXD- 5 TXD- 3 TXD- 2
TXD+ 6
GP 7
RXD+ 8
```

Advanced Electronic Support Products, Inc. makes switchboxes that use mini-circular 8 connectors and all necessary cables.

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MacDraw 1.9.5: Problem When Reducing an Arc

The following information describes a situation with involving system crashes when drawing an arc with MacDraw 1.9.5.

This article has been archived and is no longer updated by Apple.

If you draw an arc, reduce it to exactly .04 x .04, deselect the arc, and finally select it again, the system crashes (ID-04).

Workaround: do a Group Selection around the arc: drag a rectangle around the arc, rather than click on it.

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Apple IIGS: SuperCalc 3a Memory Use

This article has been archived and is no longer updated by Apple.
Because SuperCalc 3a does not take advantage of the 24-bit addressing capabilities of the Apple IIGS, it can access only the first 128K of RAM (by using the same bank-switching techniques used in the Apple IIe and Apple IIc.)

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Macintosh SE: Don‘t Start Up From Bernoulli Drive

This article has been archived and is no longer updated by Apple.

If you are using a Macintosh SE with two internal floppy drives and an IOmega Bernoulli drive, be sure to start up the computer with an 800K System disk in one of the drives. If you don't, the computer will try to start up from the Bernoulli drive, and will crash.

In the case of a Macintosh SE with built-in hard disk drive, the computer will always start up from the built-in hard drive.

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Macintosh SE: HD-20SC Setup and Parameter RAM

This article has been archived and is no longer updated by Apple.

When you update the SCSI driver on a Macintosh SE, using HD20SC Setup 1.4, the parameter RAM is affected in three ways:

1. It validates the SCSI ID for the internal drive. If it is determined not to be a "reasonable" number, it is set to zero.

2. The time to wait for the internal drive to start up is checked and set, if necessary.

3. There is a byte that is sometimes overwritten if the system crashes. If this happens, the Macintosh won't start up from the SCSI drive. This byte is reset if necessary.

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File Formats: Where to obtain TIFF and EPSF Specs

Where can I get information on the TIFF and EPS file formats?
This article has been archived and is no longer updated by Apple.
The TIFF 6.0 specification is available from the following FTP site:

ftp://sgi.com/graphics/tiff/TIFF6.ps.Z

The EPSF (Encapsulated PostScript File) format is available from the Technical Specialists Group at **Adobe Systems, Inc**. Additional information can also be found in the PostScript Language Reference Manual, Adobe Systems Inc.
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Apple II Family: Square Wave Power Source (2/97)

This article discusses the use of a square wave AC power source, as opposed to the normal sine wave, with the Apple II family of computers.

This article has been archived and is no longer updated by Apple.

The Apple II power supply is of a switching type that rectifies the AC input voltage to a DC voltage for use internal to the supply. The AC input is first sent through a line filter and then to a diode bridge for rectification. The line filter consists of inductors and capacitors to smooth the waveform of the input voltage. This action would soften the square waves an inverter might supply and the whole combination makes it OK to use an Apple II on a square wave AC supply.

Article Change History:
17 Feb 1997 - Reviewed for technical accuracy, revised formatting.
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Autologic and Monotype Typesetters: Introduction

This article has been archived and is no longer updated by Apple.
The Autologic APS-5 and the Monotype LaserComp are high-end typesetters used in the printing industry, especially by newspapers. These typesetters can do a limited bit-map image, but require information in ICL or PostScript.

Autologic, Monotype, and their ICL page description language were all developed in the 1970s. They are analogous to, and compete with, newer products like the Linotype LN300 using PostScript from Adobe.

To locate a vendor's address and phone numbers, use vendor name as a search string.

Article Change History:
23 July 1993 - Updated company names.

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Apple File Exchange: AppleWorks-Microsoft Works Transporter

The Work-Works Transporter for AFE translates and transports AppleWorks Files to Microsoft Works: a valuable productivity tool.
This article has been archived and is no longer updated by Apple.
The resource is copyright 1986, 1987 by Productivity Software, Inc. and must not be sold -- but it may be distributed freely. If they wish, dealers may use the resource and charge for the service of converting a user's files.
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Apple File Exchange 1.0.1: Problem Formatting ProDOS Disk On Mac

Apple File Exchange 1.0.1 (part of System 5.0, MultiFinder release) sometimes fails to correctly format a ProDOS Disk on a Macintosh.
This article has been archived and is no longer updated by Apple.
This happens when the user first types an invalid name for the new ProDOS disk, then makes a correction to it. Here's the scenario:

1. The user puts the AFE disk in the Macintosh's external drive, and starts the program.

2. User ejects the startup disk from the internal drive, via the appropriate clicks on the Drive and Eject buttons, then replaces it with a blank unformatted disk.

3. AFE tells the user that it can't read the disk, and asks if the user wants to initialize it.

4. User selects 800K, ProDOS format, and clicks Initialize.

5. AFE initializes the disk and asks the user to name it.

6. The user accidentally types a name that is too long for ProDOS (or uses illegal characters).

7. AFE ejects the newly-formatted ProDOS disk and asks for the startup disk back.

8. The user inserts the startup disk, and AFE displays an alert about an invalid ProDOS name.

9. The user clicks OK, and sees a dialog box containing a suggested (valid) name.

0. The user makes minor changes to the name, but keeps it a legal ProDOS name, and click OK, expecting AFE to eject the startup disk and ask for the newly-formatted ProDOS disk back to record the new name.

Seconds later, the user has a hybrid disk: part Macintosh startup disk, and part ProDOS volume name -- AFE didn't let the user swap disks one last time.
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LaserWriter: When to Service

This article has been archived and is no longer updated by Apple.
A LaserWriter or LaserWriter Plus should have major service after printing on the order of 100,000 pages. At 3,000 pages per month, that's about two and a half years.

Toner cartridges should be changed every 2,000 to 3,000 pages.

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LisaWrite Version 2.0: Underlining and Printing in Landscape

This article has been archived and is no longer updated by Apple.

Underlining doesn't work when you print a document in landscape mode in LisaWrite version 2.0. Versions 3.0 and 3.1 corrects this omission.

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ADB Keyboards: Sharing Among Several Computers

This article has been archived and is no longer updated by Apple.
It is possible for more than one computer (Macintosh SE, Macintosh II, or Apple IIGS) to share an ADB keyboard and the mouse attached to it. Switch the data leads only, not the power switch on the keyboard.

Only one keyboard is hooked up at a time; at power-up, each is assigned the default ADB address of 2. This default gets assigned all the time (unless the software specifies otherwise) and so they all have the same address. Thus, when the computer addresses the keyboard at address 2, whichever keyboard is attached will respond.

The switching should take place when there's no activity, so as not to lose or confuse data.

Remember: don't change the default address with software.

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AppleShare: TOPS Compatibility

This article has been archived and is no longer updated by Apple.

Overview

AppleShare volumes mounted with the new network Chooser on an AppleShare WORKSTATION Macintosh can be made available (via TOPS on the same Macintosh) to the TOPS network. The AppleShare volume can then be accessed from any TOPS station on the network, including MS-DOS computers.

TOPS allows MS-DOS connectivity to the AppleShare file server. AppleShare volumes mounted on a Macintosh workstation and then published via TOPS are 'available' in a PC TOPS window. The volume can then be mounted by the PC and accessed like any other TOPS volume.

Potential Trouble Spots

TOPS does not recognize AppleShare folder access privileges. Publishing any AppleShare volume via TOPS gives the same access privileges to any TOPS station that might access the volume. This means that if an AppleShare user published a private volume or folder via TOPS, the volume or folder would be available to all other TOPS users on the network. When an AppleShare volume is accessed through any TOPS station, it appears to the AppleShare server that the AppleShare workstation that originally mounted the volume is accessing the server. This extends the access privileges of the original user to all TOPS workstations, effectively bypassing the AppleShare user privileges and restrictions.

Volumes and folders can safely be accessed through AppleShare or through TOPS, but not both. AppleShare uses the Apple AFP file transfer protocols, while Centram uses a proprietary file transfer scheme. An AppleShare volume or folder that has been first mounted by an AppleShare workstation and then published via TOPS should not then be mounted through both AppleShare and TOPS at the same time on another AppleShare workstation. Calling the file or folder will result in the two different file transfer mechanisms clobbering each other.

TOPS should NOT be installed on the AppleShare Server. This could work if ALL volumes were published from the File Server as "Read-Only" volumes, though there is probably no reason to configure any network this way. The reason for this conflict is that AppleShare keeps a copy of the server directory, which would not be properly updated if a server volume were modified by any TOPS users.

AppleShare shows all folders on the mounted volume, irrespective of whether the workstation user has access privileges to the folders. If an AppleShare volume has first been mounted by an AppleShare user, published via TOPS on the Macintosh workstation, then viewed through the TOPS window on any TOPS workstation, all the folders in the volume will be listed. If the volume is mounted via TOPS and private folders are opened with the Finder, the folder's window will be empty. Attempting to mount a private folder via TOPS will cause an error message.

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Macintosh: How to Make a Color Startup Screen

How can I create a color startup screen for my color Macintosh? I'd also like to know if the Performa series supports color startup screens?
This article has been archived and is no longer updated by Apple.
The Macintosh line and the Performa line support startup screens. Color models will display color startup screens if the StartupScreen file contains color information. Startup screens are supported in all versions of the Macintosh and Performa operating systems.

To operate as a startup screen, a document must be in the System folder and be named StartupScreen. Some color graphics application programs, such as Canvas, SuperPaint, and Color MacCheese, have a startup screen option: they let you save a document specifically as a startup screen.

If your graphics application doesn't have that option, here's how to make a color startup screen. In summary, you'll place a PICT resource with ID 0 in the StartupScreen file.

The easiest way to create a PICT resource is to copy a color picture from an application, or from a screen "dump" and paste it into the Scrapbook. Then use ResEdit to find the resource in the Scrapbook File and paste it into the StartupScreen file.

1) Copy a color picture to the Clipboard, either with a color graphics application, or with a screen dump utility.

2) Paste the picture into your Scrapbook. (You can quit the graphics application.)

3) In ResEdit, copy the picture from the Scrapbook into the resource fork of the file named Startupscreen in your System folder. The picture will be saved as a PICT resource.

4) Still in ResEdit, change the ID of the PICT resource to 0 (zero).

5) Quit ResEdit and restart your system.

Warning:
The instructions in this article refer to using ResEdit to alter your software. Apple Computer, Inc., is not liable for any damage done to your software through the use of ResEdit to alter the software.

Note: This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.
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SCSI Terminators: Using them with a Macintosh and a SCSI Drive

This article has been archived and is no longer updated by Apple.

```
This is to clarify when to use terminators when connecting a Macintosh II
or Mac SE to a SCSI drive.  The information on EXTERNAL drives applies to the
Macintosh Plus as well.


Mac II or Mac SE with 40MB Internal Drive
-------------------------------------
The internal 40MB drive itself is automatically terminated.  When connecting
external SCSI devices, you need a terminator at the end of the chain.

- Mac II/SE + internal 40MB
 no terminator necessary

- Mac II/SE + internal 40MB + external SCSI
 terminator at external SCSI

- Mac II/SE + internal 40MB + external SCSI ... external SCSI
 terminator at end of chain


Mac II or Mac SE without 40MB Internal Drive
----------------------------------------
There must be at least one terminator between the Mac II/SE and the first
SCSI device, and one more at the end of the line if there is more than one
SCSI device.

- Mac II/SE + external SCSI
 terminator at external SCSI

- Mac II/SE + external SCSI ...  external SCSI
 terminator at beginning and end of chain

Again, the information on external drives applies to the Macintosh Plus
as well.
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Published Date: Feb 18, 2012

Macintosh II: Sharing Monitors & Keyboards

There is no way for several Macintosh II computers to share both a single keyboard and a single monitor. A switch for a monitor should be relatively easy to make, since you are only supplying the monitor with a stream of bits. A switch for the keyboard is more difficult, because you must deal with the Apple Desktop bus (ADB).

This article has been archived and is no longer updated by Apple.
The first time a keyboard is recognized, it receives an ID number from the computer and retains this ID number. When the multiple computers started up, one after the other, they would all get the same Keyboard ID. The problem is that when the keyboard is subsequently addressed, it assumes it is communicating with just one computer and forgets its ID number. So when a second computer attempts to communicate with it, nothing happens.

Conceivably, you could implement a program that echoed all the keyboard information out from one "master" Macintosh II, over AppleTalk, but still you would have to rewrite quite a bit of lower level code.

Published Date: Feb 18, 2012

Macintosh Debugger

This article has been archived and is no longer updated by Apple.

MacsBug v. 6.1 supports the Macintosh Plus, Macintosh SE, Macintosh SE/30, and the Macintosh II family. MacsBugs is compatible with all Macintosh monitor configurations and all versions of Macintosh System Software, including Multifinder. Version 6.1 of MacsBug does not work with the 64K ROMs (Macintosh 128K and Macintosh 512K) or the Macintosh XL.

MacsBug is available from APDA. You must acquire a license from Apple Software Licensing before including MacsBug in a shipping product.

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LaserWriter: How to Tell What ROM is Installed

This article has been archived and is no longer updated by Apple.

A customer reports that his LaserWriter stops printing in the middle of a job, with a message that it is unable to print or set up a spool file.

This could be caused by using a LaserWriter with version 1.0 ROM, which had an XOFF-XON problem (an XOFF was sent by never an XON). This resulted in the LaserWriter not finishing its printing. The 2.0 version LaserWriter ROM corrects the problem.

Here's how to tell what version ROM is in your LaserWriter:

1. Look at the test sheet that comes out of the LaserWriter when it's started up.

2. On the test sheet, find the picture of a page with a graph.

3. The ROM version is shown in the lower-left corner of that picture.

4. If the number is 1.0, replace the LaserWriter ROM with the latest version.

Published Date: Feb 18, 2012

System 3.3: Don‘t Use with Macintosh SE or Macintosh II

This article has been archived and is no longer updated by Apple.

A recent item in the Tech Support folder ("AppleShare 1.0: Installing with System") stated that it is OK to run System 3.3 with Finder 5.4 on a Macintosh II.

This is emphatically not OK -- you should not run 3.3 on either a Macintosh II or Macintosh SE.

- a Macintosh II requires System 4.1 or later.

- a Macintosh SE requires system 4.0 or later (4.1 is even better).

Published Date: Feb 18, 2012

Apple IIGS: Headphone Jack is Not Stereo

This article has been archived and is no longer updated by Apple.

The diagram on page 158 of the Apple IIGS Owner's Guide shows a "stereo headphone" jack. Some advertising also suggests that the IIGS produces stereophonic sound. While it's true that you can connect stereo headphones to this jack, you'll hear only monophonic sound: identical sounds from both channels.

Published Date: Feb 18, 2012

A/UX: Guide to 80SC Disk Partitions

This article has been archived and is no longer updated by Apple.

There are six partitions on the A/UX Master volume:

```
slice partition name size start
-----------------------------------------------------------
- - Partition map 128 0
- 2 Eschatology 1 6144 128
0 3 A/UX Root 111184 6272
1 4 Swap 28672 117456
- 1 Mac 4096 146128
- 5 Eschatology 2 6144 150224
- - (not used) 1 156368
```

The number in the 'slice' column is the number used in the A/UX disk specification of the form /dev/dsk/c3d0s0. The slice number is the one following the "c"--"3" in this example. A disk slice is a region of a disk accessible from the CPU. The partition number is the one used in the partition map (you don't need to know much about this one). The partition name is how some commands (such as pname) refer to the partition.

The number in the 'size' column is the size of the partition in 512-byte blocks.

The number in the 'start' column is the number of the first block in the partition (again in 512-byte blocks).

The two partitions 'root' and 'mac' are the two most used. The 'root' partition is the one that A/UX runs from, and the 'mac' partition is the one that the system boots from (in SASH). The swap partition is used by the A/UX system to swap programs out to.

The two Eschatology partitions are copies of each other. They are used with the esch program (available from SASH) to help recover the root file system in case of a crash. They are located at opposite ends of the disk, so a physical head crash will probably leave one of them intact.

This information was provided by Apple Software Configuration Management.

Published Date: Feb 18, 2012

DuoDisk: Cable Specifications and Pinouts

Article Change History

12/14/92 - EXPANDED and RETITLED
* To include specifications.

This article has been archived and is no longer updated by Apple.

Specifications
---
* Wire connection must withstand 3 lbs. without breaking.
* Each contact must withstand 10 lbs. of force.
* Cable must withstand 15 lbs. of pull without damage.

Pinouts

The pin-outs for the DB-19-to-disk cable (P/N 590-0114) are:

DB-25 Function DB-19

2----------Ground----------1
4----------Ground----------2
9,21----------Ground----------3
10,14----------Ground----------4
23----------[-12 volts]----------5
7---------- +5 volts----------6
19---------- +12 volts----------7
20---------- 12 volts----------8
8---------- ENBL B ----------9
12---------- WR PROT----------10
15---------- 00 ----------11
16---------- 01 ----------12
17---------- 02 ----------13
18---------- 03 ----------14
5---------- WR REQ ----------15
24---------- +5 volts----------16
11---------- ENBL A----------17
3---------- RD DATA----------18
6---------- WR DATA----------19
1,13,22,25----------No connection

Pins 1 and 25 of the DB-25 connector are not connected.

Published Date: Feb 18, 2012

Apple IIGS: Using ToolBox To Create/Modify Character Sets

This article has been archived and is no longer updated by Apple.

The Apple IIGS ToolBox allows programmers to do some interesting things. You can, for example, redefine the keyboard layout by patching certain calls to the ToolBox.

To create new character sets, you'll intercept the data coming from the keyboard, translate it to whatever you want, and store it it the proper place.

To learn how to do this, you'll need the Apple IIGS ToolBox Reference Manual (two volumes, APDA order number K2BGST). This book describes the ADB toolset that you would use to alter the keycodes. The Keyboard Micro gets data from the ADB keyboard, then software is called to get that data and send it to the $C000 area. Your software would read the keyboard micro, and then translate the keycode that it gets back into an ASCII (or whatever) type of code, storing it back into the $C000 vector.

Altering the character set is not possible in text mode, because the character sets are in ROM (in the VGC custom IC) and can't be changed. But there is a simple way to accomplish this: use the standard graphics environment that the Apple IIGS provides. By using the Font Manager, you can create your own customized fonts for any language and any type of symbols. This system is also documented in the Apple IIGS ToolBox Reference Manual.

Published Date: Feb 18, 2012

Apple III: Console Driver--Changing the Character Set

The console driver has a control call that will load up to eight new character definitions for the video display. Below is a Pascal program that will change one character.

This article has been archived and is no longer updated by Apple.

```
PROGRAM SWAP;
VAR
UNITNUM : INTEGER;

REQUESTCODE : PACKED RECORD
CHANNEL : 0..1;
STAT_OR_CTRL : 0..1;
REQUEST_NUM : 0..255;
RESERVED : 0..63;
END;

DATA : PACKED RECORD
NUMBER : 0..255;
CHARACTER : CHAR;
INFO : PACKED ARRAY [1..8] OF 0..255;
END;

BEGIN
WITH REQUESTCODE DO BEGIN
CHANNEL:=0;
STAT_OR_CTRL:=1;
RESERVED:=0;
REQUEST_NUM:=17; { character replace code }
END;

WITH DATA DO BEGIN
NUMBER := 1; { How many characters to change }
CH := ' '; { which character to change }
INFO [1] := 255; { character definition }
INFO [2] := 255; { See page 166 of the }
INFO [3] := 255; { STANDARD DEVICE DRIVER MANUAL }
INFO [4] := 255;
INFO [5] := 255;
INFO [6] := 255;
INFO [7] := 255;
INFO [8] := 255;
END;

UNITNUM:=1;
UNITSTATUS (UNITNUM, DATA, REQUESTCODE);
WRITELN ('ALL_SPACES_WILL_NOW_DISPLAY_AS_" "!');
END.
```

Published Date: Feb 18, 2012

Calculator: You Can Paste In Formulas From Any Text Source

This article has been archived and is no longer updated by Apple.

A little-known feature of the Calculator desk accessory is that you can make it programmable by copying numerical formulas from other text sources into it. For example, using a word processor, type the formula, 9*8-12/24. Now copy, then paste this formula into the calculator; the answer will appear.

Published Date: Feb 18, 2012

MPEG Media System: Support For Video Capture

The READ ME document for the Apple MPEG Media System states the following, under the Limitations section:

"Video capture of MPEG movies is not currently supported. Future software releases will include this functionality."

- Is this a correct statement?
- Is such an effort in the works?
- Is it technically feasible?

This article has been archived and is no longer updated by Apple.
Currently, we are not aware of any plans at Apple to update the Apple MPEG Media System to provide video capture of MPEG movies. The MPEG Media System was designed to be a playback-only solution. Future directions of Apple's support for the MPEG standards are being addressed via QuickTime technology.

Since the Apple MPEG Media System is tightly integrated with QuickTime, it is quite feasible to develop MPEG encoding functionality that takes advantage of the hardware included with the MPEG Media System. For more information on how to do this, developers should refer to the QuickTime 2.5 developers guide. This guide can be downloaded from Apple's QuickTime web site at:

http://www.quicktime.apple.com/dev/qt_25_developers_guide.pdf

This article was published in the 14 May 1997 "Information Alley".
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Avid Cinema: Incorrect Progress Status

When I export a movie from Avid Cinema using the "Save movie for..." formats, my system seems to hang. The cursor still moves, but the system does not respond as I expect it to.
This article has been archived and is no longer updated by Apple.
When exporting a movie in Avid Cinema using one of the "Save movie for..." formats, the "Time Remaining" and progress bar indicators may not work properly. In some circumstances, especially with longer movies, the "Time Remaining" indicator will reach zero and the progress bar will become full before the movie has been completely saved.

In this situation, although it may appear that Avid Cinema has "hung" (the cursor will still move), you should continue to wait until Avid Cinema has completed the export process. When the export is complete, Avid Cinema will resume normal functioning. The delay could be as long as 10 minutes or more, depending on the length and complexity of the movie being exported.

This occurs on all existing versions of Avid Cinema (1.0, 1.1, 1.1.1, and 1.1.2).

This article was published in the 14 May 1997 "Information Alley".
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CloseView: Known Compatibility Issues

Are there any configurations where CloseView is incompatible with the Mac OS?
This article has been archived and is no longer updated by Apple.
CloseView does have some known issues. Avoiding the following situations or using a workaround will improve your experience with CloseView.

- There are severe anomalies in multiple monitor situations when the menu bar is moved with CloseView active. This includes PowerBooks with external monitors. PowerBook mirroring to an external monitor should also be avoided.
- The System can hang in low memory situations with CloseView. CloseView performs its function in off-screen memory before displaying the results. In low memory situations, CloseView may cause a system hang. Situations which can lead to this are: 1) using big RAM disks 2) sharing built-in memory with PC compatibility cards. These situations reduce available RAM for CloseView to use.
- CloseView does not work properly with QuickDraw GX at all. This is because CloseView has patched all of QuickDraw and is unaware of QuickDraw GX.
- System occasionally hangs during restart when zoom set to 16x. Turn CloseView off before restart.
- System may hang if MacsBug is entered when CloseView is active. Turn CloseView off before entering MacsBug intentionally.
- Some anomalies have been observed when switching multi-scan monitor resolution modes with CloseView active. Turn CloseView off during monitor resolution switching.
- CloseView sometimes doesn't like monitors in thousands of colors. Use 256 colors when possible.
- The Finder crashes when clicking during a remote volume mount when PowerShare is active. This shouldn't be a problem with Mac OS 7.6, since PowerShare is unsupported under Mac OS 7.6.

Note: CloseView is written as a single word, not as Close View.

This article was published in the 13 May 1997 "Information Alley".
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Power Macintosh 6500: Performa Demo

Why is there a Performa Demo on the Power Macintosh 6500?
This article has been archived and is no longer updated by Apple.
The demo has value for many users. The Power Macintosh 6500 includes a flyer which states:

"We hope you'll be pleased with your new Power Macintosh computer and with the many software programs that come preloaded on it.

If you're a new computer user, or are just new to the Macintosh, we encourage you to try the Performa Demo. It gives you an overview of how to use your computer, lets you register your purchase electronically, and even teaches you about advanced features such as video editing and virtual reality.

Originally designed for Apple's Performa-brand computers aimed at new users, this guided tour is a great overview for anyone who wants to know more about the world of Macintosh computing. That's why we included it in your system.

To start the guided tour, look for the Launcher window on the computer screen after you start up the computer. Click the button labeled Learning and then click the button labeled Performa Demo."

The rest of the flyer concludes with a screen snapshot of the Launcher. The part number on the page is 033-0398-A.

This article was published in the 12 May 1997 "Information Alley".
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QTVR 1.0 to 2.0 Transition

This article contains the Read Me document included with the QuickTime VR 2.0 SDK.
This article has been archived and is no longer updated by Apple.

Transition Issues: Distributing QuickTime VR 2.0 Content

The QuickTime VR 2.0 Authoring Tools Suite includes all the pieces you need to create QuickTime VR 2.0 content and distribute it for playback on Macintosh, from CD-ROM or hard disk. However, it does not include all the pieces you need to distribute QuickTime VR 2.0 content on Windows and the Web.

The pieces you need to distribute QuickTime VR 2.0 content on Windows and the Web will become available a few months after the initial shipment of the QuickTime VR 2.0. The table below summarizes availability dates; the text below explains them.

Table 1: QTVR Availability Dates
(x=shipping; est.=estimated)

	Q1 97	Q2 97	Q3 97	Q4 97
QTVR Mac Authoring Tools 2.0	x	-	-	-
QTVR Mac System Extension 2.0	x	-	-	-
New QT-Win 32-bit	-	est.	-	-
QTVR Win32 System Extension 2.0.1	-	est.	-	-
QTVR Mac System Extension 2.0.1	-	est.	-	-
New QT Plug-In	-	est.	-	-
QTVR 2.0 Asset XTRA for Director	-	est.	-	-
Other tools support for QTVR 2.x	------- TBD -------			
QTVR Win16 System Extension 2.0.1	------- TBD -------			

We have made QuickTime VR 2.0 available in Macintosh-only form to allow you to get started on long-leadtime projects using QuickTime VR 2.0 capabilities; for short-term projects that do not require the new capabilities in QuickTime VR 2.0, you can create and distribute your QuickTime VR work in 1.0 format, as described below.

QuickTime VR 2.0 Windows Playback Capability

To play back QuickTime VR 2.0 content on Windows, from CD-ROM or hard disk, you need a new version of QuickTime for Windows and the upcoming QuickTime VR 2.01 system extension for Windows, which depends on the new version of QuickTime. The initial release of these new versions will support 32-bit Windows playback (Windows 95 and Windows NT), and are expected to be available as follows:

- New 32-bit QuickTime for Windows: second quarter 1997. Version number to be determined.
- New 32-bit QuickTime VR 2.01 system extension for Windows: shortly after the new QuickTime for Windows.

These planned releases will not support 16-bit Windows playback (Windows 3.1) for QuickTime or QuickTime VR; new versions that support 16-bit Windows playback are under consideration and may be released later in 1997.

QuickTime VR 2.0 Web Playback Capability

To play back QuickTime VR 2.0 content on the Web, you need the new 32-bit QuickTime for Windows and QuickTime VR 2.0.1 for Windows, as described above. You also need two additional pieces: the QuickTime VR 2.0.1 system extension for Macintosh, which replaces the 2.0 version included in this product, and the new QuickTime Plug-In for Macintosh and Windows. These new versions will support 32-bit Windows only and are expected to be available as follows:

- New QuickTime Plug-In for Macintosh and Windows: shortly after the new QuickTime for Windows.
- New 32-bit QuickTime VR 2.0.1 system extension for Macintosh: shortly after the new QuickTime for Windows.

QuickTime VR 2.0 Tools Support

Content creation tools such as Bryce 2, Infini-D, and Strata Studio Pro that currently support QuickTime VR 1.0 can be used with QuickTime VR 2.0. Just create the content from the tool, then bring it into the 2.0 authoring tools to add hot spots or make other changes.

Multimedia authoring tools such as Apple Media Tool, Macromedia Director, and mTropolis mFactory do not have QuickTime VR 2.0 support initially. In the case of Director, Apple and Macromedia are working together to create a QTVR 2.0 Asset XTRA, and are targeting it for shipment along with Windows and Web playback capability in the second quarter of 1997. In the case of other tools, Apple is actively

evangelizing QTVR 2.0 support; you can help by letting your tool vendors know that this is a desirable feature.

Using QuickTime VR 1.0

If you need to release QuickTime VR content on Windows or the Web before the system extensions and plug-in you require are ready, consider creating QuickTime VR 1.0 content. To do this, use the QuickTime VR 1.0 tools and documentation included in the Authoring Tools Suite 1.0 folder on this CD-ROM.

If you use QuickTime VR 1.0, you will not be able to put hot spots on objects, nor to embed objects flexibly in panoramas. Windows playback may also be less stable than under 2.0. Users playing back QuickTime VR 1.0 content using the 1.0 component will not be able to embed it in QuickTime-aware applications on Macintosh; they will not have the QuickTime VR 2.0 control strip; and they will not be able to zoom in on objects or pan them. However, 1.0 content will continue to work when users upgrade to 2.0. Using 1.0 content may be preferable to waiting for 2.0 playback for the Web and for Windows to become available in the second quarter of 1997 (later for 16-bit Windows support.)

You can use the QuickTime VR 2.0 stitcher to create QuickTime VR 1.0 content. Stitch using the 2.0 tools; then take the resulting PICT and dice it using the Version 1.0 tools. This gives you the advantages of the QuickTime VR 2.0 stitcher -- greater robustness, less memory usage, better error messages, and better documentation -- with the wide platform support that only QuickTime VR 1.0 will have in early 1997. To create QuickTime VR 1.0 objects and multi-node movies, use the QuickTime VR 1.0 tools.

Summary

To summarize the transition issues from QuickTime VR 1.0 to 2.0:

- The QuickTime VR 2.0 Authoring Tool Suite and QuickTime VR 2.0 system extension for Macintosh do not include Windows or Web playback support.
- For Windows 32-bit distribution you will need a new, upcoming 32-bit version of QuickTime and the upcoming QuickTime VR 2.0.1 system extension for Windows.
- For Web distribution on Macintosh and 32-bit Windows, you will also need the upcoming QuickTime VR 2.01 system extension for Macintosh and the upcoming new version of the QuickTime Plug-In for Macintosh and Windows.
- Director Asset XTRA support is expected in Q2 '97; we expect that other tools will support QuickTime VR 2.0 at about that time or after.
- 16-bit QuickTime and QuickTime VR Windows support is being considered for release later in 1997.
- Until these versions are available, you may wish to distribute your QuickTime VR content in 1.0 format. You can still use the QuickTime VR 2.0 stitcher; dice your panorama using the 1.0 tools, create objects and multi-node movies using the 1.0 tools, and use multimedia authoring tools that support 1.0 content.

For more information and an update on these issues, please see:

- The QuickTime Web site, **http://www.apple.com/quicktime/**
- The free QuickTime and QuickTime VR developer mailing lists; subscription instructions are available on the Web site.

This article was published in the 15 May 1997 "Information Alley".

For the most current information on what SDKs Apple offers, point your web browser to:

http://developer.apple.com/sdk/
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System 7.5.5: Muted Sound With FreePPP (5/97)

I recently installed some Internet software on a Power Macintosh 7300 and on a Power Macintosh 9600. Both systems are running System 7.5.5. After installation, the alert sound is muted. Instead of a beep sound, the menubar flashes when the system issues an alert. I have tried unsuccessfully to restore the system alert sound. How can I resolve this issue?

This article has been archived and is no longer updated by Apple.

With System 7.5.5, having the FreePPP extension in the System Folder disables sound on some Power Macintosh systems. There are two solutions:

- upgrade to Mac OS 7.6.1
- replace FreePPP with Open Transport PPP.

Open Transport PPP can be found in the Apple Extras folder on Power Macintosh 7300, 8600, and 9600 systems.

Published Date: Feb 18, 2012

Apple Network Server: TCP/IP Configuration Gone After Reboot

I have just configured TCPIP on an Apple Network Server. After rebooting, all my TCPIP information has disappeared, including my hostname and ipadress. In addition, if ethernet devices are removed using 'rmdev', the devices will not reappear after running 'cfgmgr'.

How can I fix this?
This article has been archived and is no longer updated by Apple.
Based on your description, it appears you have accidentially configured DHCP. You can verify this by viewing the file /etc/rc.net

Look for the line (shown below). If the value is USE_DHCP="0" then DHCP has been disabled. If the value is USE_DHCP="1", then DHCP has been enabled.

USE_DHCP="0"

The smitty interface for DHCP will not allow you to remove the configuration information once it is configured, so you must disable DHCP from the smitty "other available services" menu. The fast path can be accessed by typing:

smitty otherserv

and selecting the "dhcpcd subsystem" submenu. Select "stop using the dhcpcd subsystem" and select "Both".

Some of the other dhcp subsystems may also be configured to start. To check if they are started, type:

lssrc -a | grep dhcp

You should see this :

dhcpcd tcpip inoperative
dhcpsd tcpip inoperative
dhcprd tcpip inoperative

If any of the subsystems report active, they will need to be deactivated.
The commands bellow will deactivate the remaining dhcp subsystems.

/usr/sbin/chrctcp -S -d dhcpsd
/usr/sbin/chrctcp -S -d dhcprd

At this point, the server should be reconfigured for tcpip and restarted.

This article was published in the 21 May 1997 "Information Alley".
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MessagePad: PC Storage Card Support

This article provides an overview of PC storage cards for Newtons.
This article has been archived and is no longer updated by Apple.

Types of Storage Card: Static vs. Flash

Newton MessagePads use two types of PCMCIA cards (PC Cards) for storage: static-RAM (SRAM) and Flash RAM.

SRAM is volatile, so it requires that the card be powered at all times or the data disappears. Most SRAM cards ship with batteries that must be changed periodically, usually between two and four years. Additionally, SRAM cards generally have small capacities ranging between 256K and 1 MB of storage. SRAM cards generally write data to memory more quickly than Flash RAM but both types provide similar data access speeds.

Apple released and discontinued one SRAM card:

- Newton 1MB Storage Card. The card is black plastic with a red label. (Part number H0028LL/A)

Flash RAM is non-volatile, so batteries are not needed to preserve data. Flash RAM cards come with a variety of internal designs. Apple supports the use of Newton labeled cards. Cards from other vendors may work, but Apple does not provide support.

Apple released and discontinued two Flash RAM cards:

- Newton 2 MB Flash Storage card. The card has a red label. (Part number is H0008LL/A.)
- Newton 4 MB Flash Storage card. The card has a red label. (Part number is H0092LL/A.)

Apple currently sells only one Flash RAM card:

- Newton 4 MB Flash Storage Card. The card is metal with a white label. (Part number is H0230LL/A.)

Note: Only Newton OS 2.x supports this card.

Card Compatibility

Compatibility of specific cards will vary by model. As a rule of thumb, older MessagePads may not have driver support for newer MessagePads. Additionally, the eMate does not fully support some older cards.

.

Apple PC Card Compatibility				
	Newton 1MB Storage Card (SRAM) H0028LL/A (discontinued)	**Newton 2MB Flash Storage Card H0008LL/A (discontinued)**	**Newton 4MB Flash Storage Card H0092LL/A (discontinued)**	**Newton 4MB Flash Storage Card H0230LL/A**
MessagePad	Compatible	Compatible	Compatible	Not Compatible
MessagePad 100	Compatible	Compatible	Compatible	Not Compatible
MessagePad 110	Compatible	Compatible	Compatible	Not Compatible
MessagePad 120 (1.0)	Compatible	Compatible	Compatible	Not Compatible
MessagePad 120 (2.0)	Compatible	Compatible	Compatible	Compatible
MessagePad 130	Compatible	Compatible	Compatible	Compatible
MessagePad 2000	Compatible	Compatible	Compatible	Compatible
eMate 300	Compatible	Compatible; read-only	Compatible; read-only	Compatible

.

Notes

- The eMate can read 5V and 12V cards, but cannot write to 12V cards. The Newton 2MB Flash Storage Card and the red-labeled Newton 4MB Flash Storage Card are 12V cards.
- Only Newton OS 2.x supports the Newton 4 MB Flash Storage Card (part number is H0230LL/A).

Support For Other Card Architectures

TA37066_MessagePad_PC_Storage_Card_Support.pdf

Customers have asked if the ATA architecture (often used for cards with hard drives) is supported. There is no support for the ATA architecture at this time.

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Power Macintosh 54xx/64xx: Serial Port Communication

With a Power Macintosh 5400 and 6400, I sometimes have trouble communicating with my third-party serial devices. Sometimes the device is not recognized by the system. What should I do?
This article has been archived and is no longer updated by Apple.
In some cases, some serial devices may have difficulty communicating with Performa 6360, 54xx, and 64xx series computers. This issue is resolved by installing Mac OS 7.6.1. You cannot just install Mac OS 7.6. The necessary improvements were incorporated exclusively into Mac OS 7.6.1.

If you install Mac OS 7.6.1 and the issue continues, please contact the manufacturer of the device for additional compatibility and troubleshooting information.
Published Date: Feb 18, 2012

Power Macintosh 8500: Cannot Install Mac OS 7.6

When I try to install Mac OS 7.6 on my Power Macintosh 8500, the installer says it is an unknown system. What is wrong?

This article has been archived and is no longer updated by Apple.

The LED cable connected to your logic board may have a jumper in it that is causing the confusion. Having this particular variety of LED cable in a Power Macintosh 8500 can occur after upgrading a Power Macintosh 8100 or Quadra 800 to a Power Macintosh 8500. Both the Power Macintosh 8100 and Quadra 800 use jumpered LED cables. Therefore, if the Power Macintosh 8500 logic board is installed and the LED cable is not changed, you may experience this problem.

Also note that there are two different ROM chip versions, each of which handles the 'jumpered LED cable' situation differently. If the jumpered LED cable is installed on a Power Macintosh 8500 with an f1 ROM, the machine ID is reported as 110, which is incorrect. This can be verified with the Apple System Profiler program. Without the jumpered LED cable, the ID is 69, which is correct. A logic board with the f2 ROM is not affected by the type of LED cable attached to the logic board.

The table below summarizes the various combinations of logic board ROMs, LED cables, and the results:

	LED Cable With Jumper	LED Cable Without Jumper
f1 ROM	No; problematic	OK
f2 ROM	OK	OK

This article was published in the 21 May 1997 "Information Alley".
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AppleScript 1.1: Error With More Than 512MB RAM

When I try to compile my AppleScript in Script Editor, I get an error message stating "result of the numeric operation was too large". This happens under System 7.5.5, Mac OS 7.6 or 7.6.1. I have more than 512 MB of RAM (physical memory and virtual memory combined). Can you help?
This article has been archived and is no longer updated by Apple.
This is a bug in AppleScript 1.1 that happens only on systems with more than 512MB of total memory (Real or Virtual). It is fixed in AppleScript 1.1.2 , which is installed with Mac OS 8.0.

There are two solutions to this issue:

- Upgrade to Mac OS 8.0 or later.
- Adjust the virtual memory in the Memory control panel so that the sum of physical and virtual memory is not more than 512 MB. If you have more than 512 MB of RAM, you must remove enough RAM so that your combined physical memory and virtual memory is 512 MB or less.

Published Date: Feb 18, 2012

PowerBook 3400: Password Security And At Ease 4.0.x

There is a serious problem that can occur on a PowerBook 3400 if Password Security is enabled and At Ease 4.0.x is installed with the "Prevent users from bypassing security by starting up from a floppy disk" option enabled.
This article has been archived and is no longer updated by Apple.
Do not under any circumstances enable the PowerBook 3400 password security if you have At Ease 4.0.x installed on the PowerBook and you have enabled the "Prevent users from bypassing security by starting up from a floppy disk" option in the At Ease administration program.

The hard disk driver becomes corrupted in such a way that the PowerBook is unable to start up. Additionally, the computer will not start up from a floppy disk, CD, or in SCSI disk mode.

Apple is investigating the problem and working on a solution.

This article was published in the 23 May 1997 "Information Alley".
Published Date: Feb 18, 2012

Power Macintosh 5400/6400/6360: Printing To DeskWriter 680c

On Power Macintosh 5400, 6400, and 6360 series computers, when printing multiple page documents to a Hewlett Packard DeskWriter 680c over Localtalk, I get the following message:

Your document <Document Name> scheduled to print on DeskWriter 680c has been canceled because of an AppleTalk Error. Make sure the printer is properly connected and turned on. Try printing again.
This article has been archived and is no longer updated by Apple.
Apple and Hewlett Packard are aware of this issue. It occurs only when printing over an isolated LocalTalk network from Power Macintosh 5400, 6400, and 6360 series computers to the HP DeskWriter 680c. This behavior is not exhibited when printing over a serial connection, nor does it appear to occur when printing over a segmented LocalTalk network.

Workarounds

1. Use a serial connection.
2. Put the printer and the computer on separate physical LocalTalk networks and connect the networks via an AppleTalk device that retransmits packets (such as an AppleTalk router).

For further assistance with this issue, please contact Hewlett Packard technical support.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

The Tech Info Library article titled "Locating Vendor Information" can help you search for a particular vendor's address and phone number.

This article was published in the 27 May 1997 "Information Alley".
Published Date: Feb 18, 2012

Mac OS 7.6, 7.6.1: Slow Floppy Mounting In Finder

After updating to Mac OS 7.6 on my Power Macintosh computer, I notice that it takes longer for a floppy disk to appear on the desktop after it has been inserted. Usually, an 800K or 1.44 MB Macintosh/DOS/ProDOS formatted diskette will take around 10-15 seconds to appear on the desktop. Now, sometimes my diskettes will take up to 60-90 seconds to appear on the desktop. Why does this occur and how do I correct this?
This article has been archived and is no longer updated by Apple.
With Mac OS 7.6 a new version of the floppy driver was added to allow for DMF (1.6 MB) formatted floppies to be read on Power Macintosh DOS Compatible computers. With this new driver, there is a higher sensitivity to some floppies that have questionable data on the first few sectors of the disk. Because of this higher sensitivity, there may be delays of up to 90 seconds to mount a floppy. This does not happen on all floppy diskettes. Apple is currently investigating how this can be addressed in future versions of the Mac OS.

This article was published in the 26 May 1997 "Information Alley".
Published Date: Feb 18, 2012

PowerBook 3400: Internal Modem ARA Script

I just installed Apple Remote Access Client but it did not install the PowerBook 3400 Internal 33.6 script. Where is it?
This article has been archived and is no longer updated by Apple.
The modem script for the PowerBook 3400 can be found on the PowerBook 3400 CD. The name of the modem script is "PowerBook 3400 Internal 33.6". It can be found on the CD by using the Finder's Find command (in the File menu), or by following this path on the CD:

PowerBook 3400 CD:Restore Installed Software:Configurations:Real Configurations:694-0953:694-0953*89BB738C*:System Folder:Extensions:Modem Scripts:PowerBook 3400 Internal 33.6

Reinstalling Mac OS 7.6 system software will also reinstall all the PowerBook 3400 support files. System software can be found on the CD by following the path "Install System Software:System 7.6 Installation".

Restoring the entire factory bundle will also reinstall the PowerBook 3400 Internal Modem software.

This article was published in the 28 May 1997 "Information Alley".
Published Date: Feb 18, 2012

Avid Cinema: Restoring From Wrong CD (5/97)

The system configuration on my Performa was just restored from a Restoration CD. Now when I try to launch Avid Cinema, an error dialog appears stating "The application 'Avid Cinema' cannot be opened because an unexpected error occurred." What is wrong?

This article has been archived and is no longer updated by Apple.

The wrong CD was used to perform the restoration. The correct CD is part number 661-1254-A.

Published Date: Feb 18, 2012

PowerBook 1400: Read Me

This article contains the Read Me document for the PowerBook 1400.
This article has been archived and is no longer updated by Apple.
Important Information
For Your Macintosh PowerBook Computer

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Important Information About Expansion Bay Modules

WARNING Before removing or inserting a module (such as a CD-ROM drive or floppy disk drive) in the expansion bay, be sure to shut down your computer or put it in sleep. Also remove any media, such as a CD or floppy disk, from the module before switching the module. If you remove or insert a module while the computer is turned on and not in sleep, you may lose data or the computer may not recognize the module.

Important Information About SRAM PC Cards

Don't use an SRAM storage card (also called a flash RAM card) as a startup disk on your PowerBook. Use SRAM cards for extra storage only. If you try to use an SRAM card as a startup disk, you will see an error message. You must remove the SRAM card before you can restart the computer.

Important Information About Using an External Monitor

If you have an external monitor connected to your computer, be sure that the PowerBook's display is open whenever you start up or wake from sleep.

Important Information About Using Your Computer as a Hard Disk or Using External SCSI Devices

You May Need to Install the Slow SCSI Extension for SCSI Operations

Your PowerBook needs additional software to transfer data correctly with external SCSI devices that are relatively slow, such as an Iomega Zip drive or a 1x or 2x CD-ROM drive. Also, you must install the Slow SCSI Extension to use your PowerBook as the "controlling" computer for another PowerBook that is connected to it as a hard disk (called SCSI disk mode). To install the Slow SCSI Extension, follow these steps.
1. Locate the Apple Extras folder on your hard disk and open it.
2. Drag the Slow SCSI Extension to the icon of the System Folder.
3. Click OK in the dialog box that appears.
4. Restart the computer.
Note: Do not install the Slow SCSI Extension if you do not use a slow external SCSI device or control another PowerBook in SCSI disk mode.

Installing System 7.5.3 on a PowerBook in SCSI Disk Mode

Avoid installing System 7.5.3 on a PowerBook that is being used as a hard disk (SCSI disk mode), if possible. When SCSI disk mode is used, the Installer program cannot identify the computer as a PowerBook, and the correct system components may not be installed.

Important Information About Printing with an Apple Printer

If you use an Apple printer, the system software installed on your PowerBook includes software that puts an icon for your printer on the desktop and lets you change default printers from a menu or from the Control Strip. For complete information about desktop printing with an Apple printer, see "About Desktop Printing" in the folder About the Mac OS located in the Apple Extras folder on your hard disk.
Note: The desktop printing software does not create an icon on the desktop when you use Fax Sender (part of the Apple Telecom software on your hard disk).

Important Information About Audio CDs in an External CD-ROM Drive

If you connect an external CD-ROM drive to your computer, you can record sounds from an audio CD in the drive (using the Simple Sound program in the Apple menu). You won't be able to hear the CD's sound through the computer's speaker, however. To record sound, you use a miniplug cable to connect the Line Out plug on the CD-ROM drive (or audio CD player) to the Sound In port on the PowerBook.

Tips

Backing Up the System Software on Your Computer's Hard Disk

It's a good idea to make a backup copy of the System Folder and other system software that is installed on the hard disk of your PowerBook. You can use the System Backup folder, located inside the Apple Extras folder on your hard disk, for this purpose. The programs and files inside the System Backup folder allow you to create floppy disks of the system software and to reinstall the system software from special files (disk images). See the file named "System Backup Read Me" in the System Backup folder for instructions.

Reinstalling System Software from the System Backup Folder or the PowerBook 1400 CD

If you experience issues with your System Folder or other system software on your computer's hard disk, you can reinstall the system software from three sources:

- using the Installer program in the Launcher control panel. (This program uses files in the System Backup folder, inside the Apple Extras folder, on your hard disk. See "About System Backup" for instructions.)

- using files on the PowerBook 1400 CD that came with your computer (if you have a CD-ROM drive available). See the file "CD-Important Information" on the CD for instructions. (You can use the CD to restore system software only or all the software that was installed on your hard disk at the factory.)
- using floppy disks you created using files inside the System Backup folder on your hard disk. See the file "About System Backup" for instructions.

You can use the Launcher to reinstall system software or make floppy backup disks. Follow these steps to find the backup programs in the Launcher.
1. Open the Launcher control panel (in the Control Panels folder, in the Apple menu).
2. Click Service/Support at the top of the Launcher window.
3. Click Install System Software to reinstall core system software, or click Make System Floppies to make a backup set of floppy disks for core system software.

If you can't start up the computer as usual, use the Disk Tools floppy disk or the PowerBook 1400 CD that came with your computer to start up. Then use one of the options above to reinstall the system software.

Using a PC Card Modem

The PC Card Modem Files folder contains files for use with some of the software on your hard disk. If you don't see the name of your modem listed when you set up America Online, Apple Internet Connection Kit, Apple Remote Access, or Apple Telecom, check this folder for the file you need. You will have to put the file for your modem in the same location as files for other modems used by the software.

Using IR File Transfer

When using the IR window on your PowerBook, be sure to position the computer so that the IR window faces the IR window of the other computer and that the two windows are within 3 feet of each other. Adjust one or both computers' positions until they recognize each other (when Apple IR File Exchange is the active program).

Using Audio CDs

The Control Strip contains new software you can use to control audio CDs. You use this section of the Control Strip to start, stop, or pause play, choose individual tracks, and eject a CD.

Troubleshooting

IMPORTANT For more troubleshooting information on the issues described below and other topics, refer to Macintosh Guide (available in the Guide menu when the Finder is active) and the manuals that came with your computer.

Serial Port Issues with the Apple Internet Connection Kit

You see a message that the serial port is in use, or you cannot use Apple Internet Dialer. This issue can occur when the software controlling the modem does not recognize the port to which the modem is connected. You can work around this issue by following one of the procedures below for the type of modem you have.
* For a PC Card modem:
1. Open the Apple Internet Dialer program (by clicking its icon in the Launcher control panel or double-clicking the icon in the hard disk window).
2. Click OK in the greeting window.
3. Click the Settings arrow to display the modem information in the Dialer window (if necessary).
4. Open the Port pop-up menu and choose Printer-Modem Port.
5. Open the Port pop-up menu again and choose the PC Card Slot (Lower or Upper) in which the modem is located.
6. Click Register.
* For an external modem:
1. Turn off AppleTalk using the Control Strip (the AppleTalk section has a small Macintosh icon with a cable below it).
2. Disconnect the network cable from the Printer-Modem port (if necessary).
3. Connect the external modem to the Printer-Modem port.
4. Open the Apple Internet Dialer program (by clicking its icon in the Launcher control panel or double-clicking the icon in the hard disk window).
5. Click OK in the greeting window.
6. Click the Settings arrow to display the modem information in the Dialer window (if necessary).
7. Open the Port pop-up menu and choose Printer-Modem Port.
8. Click Register.

Printing Issues

Your system freezes or experiences other issues when you print on a desktop printer that is not connected to the computer. This issue can occur when you attempt to print and then close the PowerBook display, putting the computer to sleep. When the computer wakes, a dialog

box reports that the printer could not be found. Clicking any option in the dialog box causes the computer to freeze. You must restart the computer, by pressing Command-Control-Power (on/off).

Your system freezes or experiences other issues when printing on a LaserWriter Select 300 or 310 printer. This issue can occur when you attempt to print but your printer is not connected to your computer. Trying to cancel printing in the Print Monitor does not solve the issue and may produce a flashing error message or cause your computer's performance to slow down.

Connect the printer to the computer. If you see a message with a Continue button, click Continue. Normal printing is resumed.

You have trouble printing on a StyleWriter or StyleWriter II printer. If you use a StyleWriter or StyleWriter II printer with your computer, use the StyleWriter 1200 printer driver that came installed on your computer. Do not install your older StyleWriter driver; it is not compatible with current PowerBook computers.

You have trouble printing with Apple PhotoFlash. If you have issues printing images with the PhotoFlash software, make sure that you choose a printer in the Chooser before you choose the Print command from the File menu.

You see a low-memory warning when you print Stickies on a StyleWriter, StyleWriter II, or StyleWriter 1200 printer. This issue can occur when the amount of memory Stickies uses is set below 150K. Try increasing the amount of memory available to Stickies. For instructions on changing the memory a program uses, refer to Macintosh Guide, available from the Guide menu when the Finder is active. The Stickies application program is located in the Apple Menu Items folder (inside the System Folder).

Performance Issues

You see a message that not enough memory is available. This issue can occur for several reasons. For detailed tips on memory-related issues, refer to the troubleshooting information in the manuals that came with your computer, and the information on memory in Macintosh Guide (available in the Guide menu when the Finder is active) In many instances, simply restarting your computer will restore normal performance.

Issues with Sound

When you play back sound you've recorded, you notice clicks, pops, or skips. This issue can occur if you have virtual memory turned on while you're recording sound or when you have AppleTalk turned on when recording or playing digital audio. Turn off virtual memory (in the Memory control panel) and AppleTalk (in the Control Strip or the Chooser) before recording or playing sound.

Adjusting the volume slider in a sound application has no effect on the volume, or turns the volume all the way up or all the way down (no in-between settings). This issue occurs on some newer models that handle sound differently from some application programs. You can use the system sound settings to adjust the volume. Follow these steps:
1. Open the Apple menu and choose Control Panels.
2. Open the Monitors & Sound control panel.
3. Choose the sound input device you want to hear from the pop-up menu. (For an internal CD-ROM drive, choose Expansion Bay from the pop-up menu.)
4. Use the slider to adjust the sound volume of the sound input device you want to hear.

You are using a keyboard and a MIDI interface with your PowerBook and you can't play or record any sounds. If you are using MIDI applications, a keyboard, and an Apple MIDI interface with your PowerBook, you may need to change the serial cable between the MIDI interface and the keyboard. To avoid incorrect transmission of data, use a 2-foot serial cable from the MIDI interface to the keyboard (or to another computer). A longer serial cable, such as the 6-foot or 7-foot ones commonly used, can result in transmission errors or failure.

You are using an application that requires the Sound control panel. Some application programs that use sound require the Sound control panel, an older control panel that has been replaced on your computer by the Monitors & Sound control panel.

You can install the Sound control panel by doing a custom installation of system software from the Launcher control panel on your hard disk or from CD that came with your computer. To install the Sound control panel, follow these steps.
1. Insert the CD in a drive to which your computer has access (CD only).
2. Locate the folder for installing system software (CD only).
3. Open the Installer program (in the Launcher control panel of the hard disk or in the system installation folder on the CD) and click Continue in the welcome screen.
4. Choose Custom Install from the pop-up menu at the upper-left corner of the Installer window.
5. Click the triangle next to Control Panels in the list.
6. Scroll through the list of control panels and click to put an X in the box next to Sound.
7. Make sure your computer's hard disk is the destination disk. (Click the Switch Disk button if necessary.)
8. Click Install.

Networking and File Sharing Issues

You open the MacTCP control panel and don't see the icon for the network connection you want to use. MacTCP displays the icon for

the network connection currently in use. To use a different network connection in MacTCP, you must first open the Network control panel and select the icon for that network connection. Then open MacTCP again and the icon for that connection will be available.

AppleShare displays incorrect information for large drives. If you use file sharing to share a disk larger than 2 gigabytes (GB), some older computers connected to your computer may display an incorrect size for the disk in the Get Info box. (Get Info reports the disk to be 2 GB in size, even if it is larger.)

Since these older computers do not support the larger drives, they also cannot report correct information about the drives. (Computers with System 7.5 display correct information.)

You can't reconnect to a server. If you unexpectedly lose a connection to a server on which you have items in use, and then choose the server from the Recent Servers item in the Apple menu, you get a message that the disk could not be opened because you do not have enough access privileges or because the server can't be found on the network. Before you can reconnect to the server, you must close any open files. If you need to save work in a file, use Save As to save it on a different disk.

You see zones or servers listed in the Chooser, but the network cable is not connected to the computer. This issue can occur if you disconnect the network cable from the back of your computer while the Chooser is open. Be sure to shut down your computer before disconnecting a network cable.

Issues Using a RAM disk

You see a message that your RAM disk is unreadable. Under some circumstances you may see the following message after setting up a RAM disk:

"This disk is unreadable by this Macintosh. Do you want to initialize the disk?"

Decrease the size of the RAM disk. If you see the message again, decrease the size again. Continue to decrease in small amounts until the message no longer appears.

Issues with Programs Freezing or Quitting Unexpectedly

The PowerBook freezes when it is being used as a hard disk (while connected to another computer). Occasionally the PowerBook may freeze when it is connected to another computer and being used as a hard disk (often called "SCSI disk mode"). This issue can occur when the other computer is turned off. If the PowerBook freezes while being used as a hard disk, press the Reset button on the back of the computer to turn the computer off. Then turn off the other computer, if necessary, and either disconnect the two computers or restart the PowerBook (first) and the other computer (second).

The PowerBook freezes when it is starting up. When a certain combination of application programs is installed, the computer may freeze during startup because the extensions for the programs conflict. If you have installed Global Village modem software, Meeting Maker, and QuickMail, you may experience this issue. To work around the extension conflict, follow these steps.
1. Start up the computer with extensions off (by holding down the Shift key during startup).
2. Open the Extensions folder (inside the System Folder) and add the letter "z" as the first letter of the Global Village Toolbox extension. (This will cause the Global Village extension to load after other extensions and thus avoid the conflict.)
3. Restart the computer.

QuarkXPress freezes when you attempt to modify an item. To use QuarkXPress on your computer, you must upgrade to QuarkXPress version 3.3.2 or later.

Maple V quits unexpectedly when you change your monitor resolution. This can occur if you use the Control Strip to change the monitor resolution while the Maple V program is active. Use the Monitors & Sound control panel instead of the Control Strip to change screen resolution. For instructions on using the Monitors & Sound control panel, refer to Macintosh Guide (available in the Guide menu when the Finder is active).

When you try to install Adobe Premiere Deluxe, the pointer freezes. This can occur if you have virtual memory turned on and AppleTalk active when you try to install Adobe Premiere Deluxe. Turn off virtual memory and make AppleTalk inactive before installing. For instructions, refer to Macintosh Guide, available from the Guide menu when the Finder is active. This issue does not occur if you select Adobe Premiere 4.2 installation instead of Adobe Premiere Deluxe.

Issues Using a Modem

You have trouble using a modem. If you use a PC Card modem with your PowerBook, you must designate where the modem is located. Use the setup or configuration command of your communications program to select the PC Card slot in which the modem is installed.

If you connect an external modem to the printer/external modem port on the back of the PowerBook, you must choose that port in the communications software.

Issues Sending a Fax

You have trouble sending a fax. If you use PowerTalk Direct Dialup Mail and have trouble sending a fax, it may be because both Direct Dialup and STF PowerFax PE are set to auto-answer. To turn off STF auto-answer, open the STF Setup window and set 'n' to "never" (in the "Answer on 'n' rings" section).

Compatibility Issues

Japanese and Chinese Language Kits

To use the Japanese Language Kit with your computer, you must install version 1.2 or later. In the United States, you can obtain an upgrade by calling Claris Corporation at 1-800-293-6617.

To use the Chinese Language Kit with your computer, make sure you use version 1.1.1 or later. To install the Chinese Language Kit version 1.1.1, follow these three steps:
1. Install the WorldScript Updater 1.0.
2. Install the Chinese Language Kit version 1.0 or 1.1.
3. Install the Chinese Language Kit Updater to update your software to version 1.1.1.

IMPORTANT: Be sure to follow the steps in the order shown.

QuarkXPress

To use QuarkXPress with System 7.5.3 on a PowerPC-based computer, you must upgrade to QuarkXPress version 3.3.2.

Microsoft Office

If you are using Microsoft Office 4.2.1, you need the "Office 4.2x Update For Power Mac" version 1.0.1 extension, and the "Microsoft Office Manager" version 4.2.1b control panel. These can be found on the Internet. Download the MC1164.HQX and MOMPATCH.HQX "patch" (update) files from Microsoft. The patches are available on the Internet at:

ftp://ftp.microsoft.com/softlib/mslfiles

SAM Virus Detection

SAM (Symantec AntiVirus for Macintosh) version 4.0 does not work with System Software version 7.5.3. To use SAM, you must obtain SAM version 4.0.8 from the Symantec Corporation. Note: The first time you restart your computer after installing SAM 4.0.8, the screen may be only partially redrawn after you dismiss the SAM startup message. This screen issue only occurs once after you install SAM 4.0.8.

Important Information About Networking

Your computer can use either of two sets of network software, classic networking or Open Transport. You use the Network Software Selector program (in the Apple Extras folder) to switch between these sets of network software.

Open Transport and classic networking have different ways of storing information in the parameter RAM (PRAM) that are not compatible for anything but LocalTalk. Switching between Open Transport and classic networking will usually cause the network connection to revert to LocalTalk. After switching and restarting, you can use the Network control panel (for classic networking) or the AppleTalk control panel (for Open Transport) to reselect the desired network connection.

When classic networking is in effect, you use the Network control panel to select a network connection. The MacTCP control panel shows the network connection currently selected in the Network control panel. Therefore, to change the network connection in MacTCP, you must change that connection in the Network control panel.

Important Information About Virtual Memory

Virtual memory (VM) is a feature of the Macintosh that lets you use part of your hard disk as additional memory. If you are using an application program designed especially for Power Macintosh computers (often called a "native" application program), turning on virtual memory lets your application use less memory. Your computer comes with virtual memory turned on.

If you notice performance issues (such as your computer's responses seeming unusually slow) using certain application programs, you may want to turn off virtual memory. For information on how to turn virtual memory on and off, choose Macintosh Guide from the Guide menu, and select the Memory topic area. Then select the two topics "How do I use hard disk space as memory?" and "Tips for PowerPC-based computers."

For best performance, try setting virtual memory to no more than 150% of the memory (RAM) installed in your computer, or no more than 50% of your currently available hard disk space, whichever number is lower. For example, if your computer has 16 MB of RAM and your hard drive

has 50 MB of available space, set virtual memory to a maximum of 24 MB.

To improve performance, you can also add memory (RAM) to your computer. See the user's manual that came with your computer for more information.

Important Information About Macintosh PC Exchange

AutoDoubler

To use AutoDoubler with Macintosh PC Exchange, you must first open the AutoDoubler control panel and turn off the "Show DD on Compressed Files" option from the DD menu.

Compressed PC Disks and Files

Macintosh PC Exchange does not work with DOS-format floppy disks or SCSI hard disks that have been compressed using Stacker or other DOS or Windows disk-compression utilities. Before transferring compressed DOS files to a Mac OS-based computer, you must decompress the files and save them on a noncompressed DOS-format floppy disk.

DMF Format PC Disks

Microsoft provides some PC software on floppy disks that use a formatting scheme called DMF. PC Exchange version 2.0.5 can't read DMF-formatted floppy disks. Standard DOS-format floppy disks work correctly with PC Exchange 2.0.5.

Working With Disks Containing Multiple Partitions

If a SCSI hard disk or removable media cartridge has been formatted to contain multiple partitions, you can use PC Exchange to mount the Mac OS-, DOS-, or ProDOS-format partitions as individual volumes on the Macintosh desktop. If the disk contains both Mac OS- and DOS-format partitions, PC Exchange will recognize only the Mac OS partition. In addition, PC Exchange will recognize ProDOS-format partitions only on SCSI hard disks that are less than 32 megabytes.

You can use PC Exchange to erase existing individual partitions on a SCSI hard disk or removable media cartridge if they have the same format. However, you cannot use PC Exchange to reformat and resize individual partitions contained on the disk. Nor can you format a Mac OS-format hard disk or removable media cartridge as a DOS-format disk. To resize or reformat multiple Mac OS, DOS, or ProDOS partitions, you need to use third-party software designed for partitioning hard disks and removable media cartridges.

Working with DOS-Format SCSI Removable Media Devices

In order for PC Exchange to recognize any SCSI removable media device, you must turn on the device and eject any cartridges before you turn on your computer.

Do not install the device driver software that came with your removable media device. Instead, open the PC Exchange control panel, click the Options button, select your SCSI device from the list, and then restart your computer. PC Exchange will install its own device driver for that SCSI device.

The Eject Disk command is unavailable when you are working with removable media devices. To unmount and eject a removable media cartridge, drag the device's icon to the Trash. Once the device has stopped spinning and the red light goes out, you can manually eject the cartridge from the drive. To access a removable media cartridge that has been ejected, simply reinsert the cartridge in the drive.

When initializing and formatting Bernoulli and SyQuest cartridges on a DOS or DOS-compatible computer, use the disk setup and partitioning software that came with the SCSI controller card installed in your PC or that came with your Bernouli or SyQuest device. (Do not use the MS-DOS FDISK command.) Also, use the MS-DOS FORMAT command to format a newly initialized removable media cartridge on a DOS or DOS-compatible personal computer before you copy DOS files onto it.

When you initialize a removable media cartridge on a DOS or DOS-compatible PC, you must fully partition, initialize, and erase the cartridge using the software that came with your SCSI controller card or removable media drive. If you do not, PC Exchange may not recognize the new DOS-format partitions on that cartridge.

Working with DOS-Format SCSI Hard Disk Drives

In order for Macintosh PC Exchange to recognize a SCSI hard disk drive, you must turn on the drive before you turn on your computer.

Do not install the device driver software that came with your removable media device. Instead, open the PC Exchange control panel, click the Options button, select your SCSI device from the list, and then restart your computer. PC Exchange will install its own device driver for that SCSI device.

When initializing and formatting an external SCSI hard disk connected to a DOS or DOS-compatible PC, use the MS-DOS FDISK command or the disk setup and partitioning software that came with the SCSI controller card installed in your PC. In addition, you should use the MS-DOS FORMAT command to format and erase the disk before you copy DOS files to a new SCSI hard disk connected to a PC.

Tips and Issues

- A "sad Macintosh" icon may appear on your screen at startup if a removable media cartridge has been left in the drive. To keep this issue from occurring, manually eject removable media cartridges from their drives before you turn on your computer.
- Macintosh PC Exchange cannot recognize SCSI hard disks, removable media devices, or drive container files that contain more than one gigabyte of disk space.

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PowerBook 3400: Read Me

This article contains the Read Me document for the PowerBook 3400. You may want to print this document to keep with the user's manual for your PowerBook.
This article has been archived and is no longer updated by Apple.
Important Information

Important Information About Updating Your System Software

The system software on your computer and on the PowerBook 3400 CD are specially designed to work with Macintosh PowerBook 3400 series computers. In some instances, another version of Macintosh system software may not work with your PowerBook. Some specific software versions that do not work with your computer are listed below.

- Version 7.5.5 or an earlier version (with a lower number) is not compatible with PowerBook 3400 series computers.
- Version 7.6 , general release, is not compatible with your PowerBook. (The system software installed on your computer also has the version number 7.6, but it includes components designed only for your PowerBook model. These components are not included in the general release of System 7.6.) There is a specific release of Mac OS 7.6 that is compatible with the PowerBook 3400.

Important Information About LocalTalk and Modem Use

If your PowerBook is connected to an AppleTalk network by a LocalTalk connection and you are using a PC Card modem or an internal modem for data connections with a serial speed setting (between your communications program and the modem) higher than 19,200 bits per second (bps), you should turn off AppleTalk in the Chooser to avoid possible data loss during connections. This problem does not occur if your computer has an Ethernet connection.

Important Information About Using Your Computer as a Hard Disk

Be sure to use the power adapter whenever you use the PowerBook as a hard disk (SCSI disk mode). If the battery provides power when the computer is used for SCSI disk mode, the PowerBook may not display a low-power warning when the battery is low. The result could be an unexpected shutdown. If you must use SCSI disk mode without a power adapter, check the battery level first to make sure you have enough run time left to accomplish your task.

Important Information About Using the Disk Tools Floppy Disk

If you start up your PowerBook with the Disk Tools floppy disk, do not put the system to sleep (by choosing Sleep from the Special menu, closing the computerıs display, or pressing the Power key and choosing Sleep in the dialog box). The Disk Tools disk does not have all system software components needed for the computer to wake from sleep. This same advice applies to any disk or PC Card that contains a copy of the System Folder provided on the Disk Tools disk.

If you do put the computer to sleep and cannot wake the system, use the emergency restart procedure: Hold down the Command and Control keys when you press the Start key.

When the computer starts up from the Disk Tools floppy disk, the system may not recognize a PC Card that was inserted before the computer started up. If you donıt see the icon for a PC Card after the startup process is complete, eject the PC Card and insert it again.

Note: The Disk Tools floppy disk does not contain complete system software. Use this disk only as a temporary startup disk.

Important Information About Using a PlainTalk Microphone

Note: To avoid getting feedback when you use a PlainTalk microphone, be sure that the microphone is at least 1 foot away from the computer.

Note: To avoid feedback when recording with the PlainTalk microphone, be sure that the Listen option is turned off in the Monitors & Sound control panel. Follow these steps:

1. Open the Monitors & Sound control panel.
2. Click the Sound button.
3. In the Sound Recording Input section of the control panel, choose Line In from the pop-up menu.
4. Click to remove the X from the Listen box.

Important Information About Using the QuickTake Camera

For best results, use the Quick Take Image Access control panel to look at images in the camera and transfer them to your Macintosh. This

method is faster and more reliable than using the PhotoFlash program.

Important Information About Viewing MPEG Images

When using QuickTime to play MPEG movies with either MoviePlayer or Apple Video Player, you may want to change one or more settings to achieve optimum playback:
- set the disk cache to at least 1 megabyte (MB) in the Memory control panel;
- turn off virtual memory (VM) in the Memory control panel;
- hide the Control Strip, using the Control Strip control panel, if you cannot set the disk cache to 1 MB.

Changing the disk cache should permit optimum playback.

To reset the disk cache and turn off VM, follow these steps:

1. Open the Memory control panel.
2. Use the arrows at the upper-right section of the control panel to set the disk cache to 1 MB or more.
3. Click the Off button in the Virtual Memory section of the control panel.
4. Restart the computer.

To hide the Control Strip, follow these steps:

1. Open the Control Strip control panel.
2. Click the Hide button.

Important Information About Using Infrared Communication

When the IrDA method of infrared (IR) communication is selected in the AppleTalk control panel and AppleTalk is on, the computer will not go into sleep automatically.

Important Information About Using an External AppleVision Monitor

- If you want to use an AppleVision monitor with your PowerBook, be sure to install the software that came with the monitor on your computer. Follow the instructions that came with the monitor for installation details.
- When connecting an AppleVision monitor to the PowerBook, be sure to connect the monitor's ADB cable to the ADB port (on the left side of the computer, near the back panel). This connection is required by the AppleVision software.

For general information and instructions on using the external monitor, see the Mac OS Guide sections:

Using an External Monitor

Monitors

Sound (for using the sound capabilities built into an AppleVision monitor)

To set up or change most settings for an external monitor, you use the Monitors & Sound control panel.

Note: You may see two Guide files that contain information about monitors and sound. One of these is Mac OS Guide; it contains all the instructions related to an AppleVision monitor and your PowerBook. The second Guide is available when the Monitors & Sound control panel is open; it is Monitors & Sound Guide. This Guide contains only the instructions for using the Monitors & Sound control panel. You can switch back to Mac OS Guide by clicking the desktop and choosing Mac OS Guide from the Guide menu. (Mac OS Guide contains the same instructions as Monitors & Sound Guide, plus general instructions for using an external monitor and all information about using other parts of the system software.

Some special features of an AppleVision monitor may not be covered in Mac OS Guide or Monitors & Sound Guide. For information on using the Geometry, Color, and Monitor Sound settings for an AppleVision monitor, refer to the manual that came with your monitor. (Clicking the Color, Geometry, or Monitor Sound button of Mac OS Guide or Monitors & Sound Guide will display information, but this information may not be complete or accurate for an AppleVision monitor. The monitor's manual will have the correct information.)

The Monitors & Sound control panel may occasionally have "cosmetic" problems when displaying settings for an AppleVision monitor. These problems will be corrected in a future version of the control panel.

Mac OS Guide and Monitors & Sound Guide

When you access a sound or monitor topic in Mac OS Guide, the name in the main Guide window will change to Monitors & Sound Guide. When you access another topic, the name changes back to Mac OS Guide.

Occasionally the name displayed at the top of the main window of Mac OS Guide (where topics, index terms, and Look For phrases appear) may change when you return to this window from the step-by-step instructions. If this occurs, the content of Mac OS Guide does not change; the window is simply displaying the incorrect graphics for the Guide name. You can continue to use any of the items in Mac OS Guide even if a different name appears in the main window.

Note Pad Is Installed

Another Read Me document may indicate that the Note Pad software (in the Apple menu) is not installed. The Note Pad is installed on your PowerBook.

FreePPP

If you plan to connect to the Internet via PPP, use the Open Transport/PPP (OT/PPP) software that is already installed on your PowerBook computer. FreePPP is currently incompatible with the installed America Online (AOL) link extension that is also installed on your computer. America Online is working on an update to the AOL link extension. See the Connecting to the Internet topic area of Mac OS Guide for instructions on using the OT/PPP software.

Tips

Backing Up the System Software on Your Computer's Hard Disk

It's a good idea to make a backup copy of the System Folder and other system software that is installed on the hard disk of your PowerBook. You can use the System Backup folder, located inside the Apple Extras folder on your hard disk, for this purpose. The programs and files inside the System Backup folder allow you to create floppy disks of the system software and to reinstall the system software from special files (disk images). See the file named "System Backup Read Me" in the System Backup folder for instructions.

Reinstalling System Software from the System Backup Folder or the PowerBook 3400 CD

If you experience problems with your System Folder or other system software on your computer's hard disk, you can reinstall the system software from three sources:

- Using the Installer program in the Launcher control panel. (This program uses files in the System Backup folder, inside the Apple Extras folder, on your hard disk. See "About System Backup" for instructions.)
- Using files on the PowerBook 3400 CD that came with your computer (if you have a CD-ROM drive available). See the file "CD-Important Information" on the CD for instructions. (You can use the CD to restore system software only or all the software that was installed on your hard disk at the factory.)
- Using floppy disks you created using files inside the System Backup folder on your hard disk. See the file "About System Backup" for instructions.

You can use the Launcher to reinstall system software or make floppy backup disks. Follow these steps to find the backup programs in the Launcher.

1. Open the Launcher control panel (in the Control Panels folder, in the Apple menu).

2. Click Service/Support at the top of the Launcher window.

3. Click Install System Software to reinstall core system software, or click Make System Floppies to make a backup set of floppy disks for core system software.

If you can't start up the computer as usual, use the Disk Tools floppy disk or the PowerBook 3400 CD that came with your computer to start up. (You can start up from the CD by holding down "C" as the computer starts up.) Then use one of the options above to reinstall the system software.

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Power Macintosh 6500: NTSC Video Out Problems

I have a Power Macintosh 6500 with the NTSC video-out hardware, and I cannot seem to get the video hardware to drive my TV. I get no picture or a flickering picture that I cannot read on the TV. What am I doing wrong?
This article has been archived and is no longer updated by Apple.
There are two reasons this might be happening:

- In order to use this NTSC hardware, you MUST connect a display capable of driving 640 x 480 at 60 Hz. You will have to connect an Apple or 3rd party multiple scan display to get this resolution and use the NTSC video-out solution. NOTE: Several Apple displays (13 inch, 14 inch, Performa, Performa Plus and 16 inch) do not support 640 x 480 at 60 Hz, and will not work properly with the NTSC video-out hardware. Apple has had reports of no video, or unreadable video with fixed resolution displays.

- The display MUST be connected to the CPU at the time the CPU is started. You cannot solely connect an NTSC monitor and expect to see something on the TV. You will not see anything on the NTSC monitor unless a display is connected to the 6500 before it starts up.

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PowerBook 3400: How Do I Use S-Registers?

I have read a document posted on the Internet titled "AT Command Set US 33.6" or "PB 3400 AT Commands". The article discusses S-Registers but does not tell me how they are used. Do they belong in the modem initialization string? Is there a particular format that an S-Register command must subscribe to?
This article has been archived and is no longer updated by Apple.
The S command is used to assign values to various registers in a modem's memory. S-Registers are used to customize modem behavior, and most S-Registers are employed to adjust certain aspects of timing. An S-Register command should be entered as part of the modem initialization string, and it should conform to the following format:

Sn=r

The letter "S" establishes the command, the letter "n" represents the number of the register, and the letter "r" represents the assigned value.

For more information regarding AT commands and S-Registers see the TIL articles listed below.

Article 17931: **Modem AT Command Set: Description Part 1/2**
Article 17945: **Modem AT Command Set: Description Part 2/2**
Article 17946: **Modem AT Command Set: S Registers**

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PowerBook: Viewing 640 x 480 Resolution

I have a PowerBook that has a 800 x 600 display. I want to be able to view the display at 640 x 480 so that I can make sure the files I am creating are viewable on monitors with that resolution. Is there a utility that will shrink my screen to that size?
This article has been archived and is no longer updated by Apple.
There is not a readily available utility that will shrink the screen size although there are two workarounds that should help.

First, try connecting an external monitor that supports 640 x 480 and then turn on video mirroring or Simulscan.

Note: The PowerBook 3400 display will only allow Simulscan at 800 x 600. This means that attaching an external display will not give you 640 x 480 on a PowerBook 3400.

Secondly, try using a utility such as Small Screen that will draw a border that indicates the size of the 640 x 480 display.

PowerBook models that are affected by this include:

- PowerBook 5300ce
- PowerBook 1400 series
- PowerBook 3400 series

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PowerBook: Help With Printer/Modem Port Printing

I have a PowerBook computer with a single printer/modem port and I cannot print to my serial printer. What are the troubleshooting steps necessary to isolate this problem?
This article has been archived and is no longer updated by Apple.
There are a number of printer troubleshooting steps that are unique to PowerBooks, particularly PowerBooks with a single serial port. However, some of the steps used to resolve printer issues on desktop Macintosh systems also work with Powerbooks.

Follow the suggestions in the order in which they appear, because each subsequent suggestion increases in difficulty and in the amount of time required. After each step, you should attempt to print a document, such as the desktop (or a window) from the Finder.

1. Check all cabling and print a test page on the printer. Verify that the cable works (or has worked) with other computers.
2. Make sure that Appletalk is inactive in the Chooser.
3. If the driver has a selection for printer or modem port (Apple drivers do not but Hewlett-Packard drivers do), it usually works better if the printer is asked to go through the modem port rather than the printer port.
4. If you are using an Apple printer, make sure that you have not installed old drivers onto a newer PowerBook. Most of the drivers you need are already pre-installed on your PowerBook, and installing the older printer software can cause problems. Most of the Stylewriters introduced before the Stylewriter 1200 will run off of the Stylewriter 1200 driver. Newer StyleWriters will run off of either the 2400 or 2500 drivers.
5. If you have any third party fax software make sure it is not set to receive. This can often confuse the printer software and generate "port in use" errors.
6. If the computer has an internal modem, make sure that the modem (or Express Modem) control panel is set for internal.
7. If the software seems to be properly configured and functioning, and Appletalk is off, then the next step is to reset the PRAM. Please note that on PowerBook 5300/190 and newer models, successfully resetting the PRAM after a shutdown will put the computer to sleep. You must use the reset button to restart after that. Also note that resetting the PRAM will turn Appletalk back on (its default position) and this will need to be turned off again before trying to print again.
8. Run Disk First Aid to check for hard drive corruption. Allow Disk First Aid to perform the software repair if necessary.
9. Rebuild the Desktop.
10. Try running with the standard system extensions (plus any necessary third-party printer drivers) only. If this works then you probably have an extensions conflict.
11. Uninstall and re-install the printing software. If you are using a third-party printer, check and make sure the latest version of the printer driver is installed. If not, contact the printer vendor.
12. Do a clean install of the system software.

If none of these steps resolve the issue, you probably have faulty hardware.

These Tech Info Library articles contain information related to the topic of using a printer/modem port on a PowerBook.

Article 17305- "**PowerBook: Single Serial Port and GV Teleport II Conflict**"
Article 16067- "**PowerBook: Printing To Serial Printer w/One Serial Port**"
Article 12473- "**PowerBook, One Serial Port, Express Modem, and ARA**"
Article 9506- "**PowerBook: How To Print From External Modem Port**"
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Avid Cinema: Incorrect "Disk Space Remaining" Indicator

I have a 9 gigabyte (GB)hard drive connected to a system with Avid Cinema installed. However, when I go to the Bring Video In portion of Avid Cinema, it tells me that there is only 2GB of disk space remaining. Why?
This article has been archived and is no longer updated by Apple.
In most cases, the "Disk Space Remaining" indicator is just what it says it is -- the amount of free space on the volume currently being used for digitization. However, in cases where there is more than 2GB of disk space available for recording, Avid Cinema will always report a 2GB limit.

This is due to a limitation in the current Macintosh file system, HFS. The largest file that can exist on an HFS volume is 2GB due to the fact that HFS stores the file size in an unsigned 32-bit variable. Because Avid Cinema records clips of video to individual QuickTime files, the most it can record at one time is 2GB, or about 37 minutes of video.

If you want to record more than 37 minutes of continuous video, and you have a fixed source (such as pre-recorded tape), you can simply record the first 37 minutes, stop, rewind the source so there is slight overlap, and then record another 37 minutes. You can then place the clips back to back in Avid Cinema, trimming the end of the first clip and the beginning of the second so that there is no overlap. You may need to zoom in on the clip in order to make frame by frame adjustments. The two clips will then play as if they are one continuous clip. You can do this with as many clips as you like, by placing them back to back and editing as described above.

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Avid Cinema: Maximizing Output Quality

This article describes what kind of output quality to expect after inputting, editing, and saving an Avid Cinema movie to tape (outputting to NTSC). This article has been archived and is no longer updated by Apple.
The quality of the final product depends mostly on the quality of the source (input) and the quality of the production environment. For best results, use the following guidelines when inputting video into Avid Cinema.

Bring video in using the best quality video source available, such as:

- digital video camera
- 3/4 inch U-matic
- S-VHS
- unplayed Hi-8 or 8mm tape.

Always use a new tape when shooting. 8mm and Hi-8 formats degrade rapidly after repeated use of the tape. When filming, try to shoot in ample light conditions. Using poor light during the filming process can result in visual artifacts in the final product.

Use S-Video cables rather than RCA cables (if possible) because the S-video signal retains more fidelity than the composite signals. Also, longer cables may cause the signal to degrade so use the shortest possible cables.

When sending out your finished movie to tape, it is best to:

- Record to a Hi-8 or S-VHS deck using S-video cables.
- Use a new tape to record onto, not one that has been recorded onto before.
- Make sure that your deck is set to record on standard speed, not long speed.
- Clean the video heads on your deck regularly.

Keep in mind that the picture quality may look better on the computer monitor than it will on the video tape after recording. This is due to the rescaling and encoding process that the signal goes through before being sent out of the computer.

Following these guidelines, you can expect your finished product to be of second generation VHS quality (also known as consumer grade quality). If you do not follow these guidelines and use less than optimum means to produce the video, you may see visual artifacts on the final product such as color bleeding and halo effects in high contrast parts of the picture.

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Power Macintosh 4400/6500: Desktop Printing Problems

I just installed Color StyleWriter 2500 software (v2.2.1) on my new Power Macintosh 4400 and 6500 computers, and now my print jobs get "stuck" in the queue of the Desktop Printer. I can get jobs to print by stopping and then resuming them -- at which point they will then move into the active part of the Desktop Printer queue. What is happening?
This article has been archived and is no longer updated by Apple.
This is due to mixed versions of Desktop Printing extensions getting installed in the system. To resolve this problem, perform the following:

1. Go to the Extensions folder and trash the Desktop Printing Extension v1.0.3 and Desktop Printing Spooler v1.0.3 files.
2. Open the Extensions Manager Control Panel and place a check mark next to the Desktop Printing Extension, Desktop Printing Spooler, and Desktop Printer Menu files.
3. Restart the computer.

Background printing should now behave as expected.

Important

If at some point the Extensions Manager was opened and then closed, you will have received a dialog stating "An extension could not be moved because a duplicate already exists in the target folder." There are two options for dismissing the dialog: "Replace" or "Cancel".

If you click "Cancel", then the steps outlined above are all you have to do.

If you click "Replace", the best way to proceed is to:

1. Throw away all 4 Desktop Printing Extensions located in the following folders:

Extensions folder:Desktop PrintMonitor v2.0.1
Disabled Extensions folder:Desktop Printer Extension v1.0.3
Disabled Extensions folder:Desktop Print Spooler v1.0.3
Disabled Extensions folder:Desktop Printer Menu v2.0.1

2. Reinstall the Desktop Printing v2.0.1 software. It is available on the Apple Support Website at: **http://www.apple.com/swupdates**.

Note: If you are unable to obtain Desktop Printing v2.0.1 software, you can simply run the Color StyleWriter 2500 Installer from the disks that came with your printer and it will install v1.0.3 of Desktop Printing.

3. Restart the computer and open the Extensions Manager to make sure that all 4 Desktop Printing Extensions are checked. If not, put a check mark next to them and restart the computer again.

Explanation

- Print jobs getting stuck in queue:

The Power Macintosh 4400 and 6500 bundles already come with the latest versions of Color StyleWriter 2500 and Desktop Printing software (v2.0.1). The Color StyleWriter 2500 v2.2.1 disks contains an older version of Desktop Printing software (v1.0.3) and if installed, will result in mixed versions of active DTP extensions causing print jobs to get stuck in the DTP queue.

- Extension Manager problem:

The Power Macintosh 4400 and 6500 bundles are shipped with a default Extensions Manager set called "Original Set". Any extensions installed (such as the CSW 2500 software) while this setting is in effect will automatically show up unchecked in the Extensions Manager, but still usable until the Extensions Manager is opened. Once opened, the Extensions Manager generates the error dialog because it tries to move the unchecked files (Desktop Printing Extension 1.0.3, Desktop Printing Spooler 1.0.3) to the Disabled Extensions Folder and sees similar files already there.

PRIOR to the CSW 2500 install:
Extensions Folder: Desktop PrintMonitor 2.0.1 (checked)
Disabled Extensions Folder: Desktop Printing Extension 2.0.1 (unchecked), Desktop Printing Spooler 2.0.1 (unchecked), and Desktop Printer Menu 2.0.1 (unchecked).

AFTER the CSW 2500 install:
Extensions Folder: Desktop PrintMonitor 2.0.1 (checked), Desktop Printing Extension 1.0.3 (unchecked), Desktop Printing Spooler 1.0.3 (unchecked). Disabled Extensions Folder: Desktop Printing Extension 2.0.1 (unchecked), Desktop Printing Spooler 2.0.1 (unchecked), and Desktop Printer Menu 2.0.1 (unchecked).

Note: Later shipments of these CPU bundles will no longer have the Extensions Manager problem where the default set is called Original Set.

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PC Compatibility Card: Sound Blaster Not Recognized

After doing a clean install of Windows 95, there is no support for Sound Blaster installed. If I try to add new hardware, Windows 95 reports that there is no hardware. What is happening?
This article has been archived and is no longer updated by Apple.
Some 166 MHz PC Compatibility Card owners have reported difficulty with getting Windows 95 to recognize the Sound Blaster hardware installed in their computers. When doing a clean install of Windows 95, the initial Sound Blaster driver installed by Windows 95 may not be installed properly.

To correct this problem, go into the Systems Control Panel, Device Manager Tab and Remove "Creative ViBRA16CL PnP" driver under the "? Other Devices" list. Also, remove any Creative Labs entries under the "Sound, video and game controllers" list and then Restart Windows 95. At this point, during the boot, Windows 95 will report that new hardware has been detected. You will need to perform the following steps:

1. When asked for the CD-ROM that came with the Creative driver which needs to be installed, place the PC Utility CD in the CD drive.
2. Click Next
3. Click Other Location button
4. Click Browse button
5. Navigate to e:\\Sound\\Win95
6. Click OK
7. Click OK
8. Click Finish
9. When the warning comes up click OK
10. When Copy files window comes up click on Browse
11. Navigate to e:\\Sound\\Win95
12. Click OK
13. Click OK
14. DONE...

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Quadra 800: Audio Input Level Is Not Line Level

I am trying to use the sound input port on my Quadra 800. Does it use line level input?
This article has been archived and is no longer updated by Apple.
No, the Macintosh Quadra 800 does not use a true line level input, but rather one designed for the original (unamplified) Apple microphone.

For a true line level input you need an input level attenuator to avoid overloading the input amplifier stage. Here are the input level specifications:

- Sound In port sensitivity: 1.15mVrms for full scale output
- Sound In port clipping level: 150mVrms
- Sound In port overload level: 2500mVrms

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PowerBook 3400 & G3: Internal Modem Connect Speed

I have a PowerBook 3400. The internal modem sometimes reports a connect speed that is slower than the external modem I use. Why?
This article has been archived and is no longer updated by Apple.
Depending on the communication program you are using, there are a few things you can do to check your system. Remember, though, that data throughput is the real test, not the connect speed. The last section of this article explains the relationship between connection speed, transmission errors, and throughput.

Apple Remote Access (ARA)
If you are using Apple Remote Access, you can try connecting to the ARA test server that Apple has set up. Compare the connection speed you get when connecting to Apple's ARA test server with that of other ARA servers you connect to.

To perform this test, select the PowerBook 3400 Internal modem. Use a new connection document with these settings:

- Connect As Guest
- For connection to Apple's ARA 3.0 test server, the phone number is 512-908-8039. You can call into this server with either 2.0 and 3.0 ARA client software.

If you can successfully connect to Apple's ARA test server, and consistently get faster connection speeds than with other ARA servers you connect to, then check these things on the ARA servers you connect to:

- what version of Apple Remote Access is running on the server(s).
- what CCL is selected on the server(s).
- what type of modem. (If possible, try another modem on the server.)

Applications With Modifiable Initialization Strings
If you are using an application that allows you to modify the modem initialization string, try using the string AT&F, which resets the modem parameters to their factory default.

Negotiation Error Fallback Algorithm
Another reason why a PowerBook 3400 internal modem might connect at slower speeds than external modems has to do with transmission errors and error correction. When one modem calls another modem, they usually negotiate a connection speed that produces a minimal number of transmission errors. When a transmission error occurs, the modems must re-send the data. The PowerBook 3400 internal modem, however, uses a negotiation error fallback algorithm which negotiates a connection speed that produces no transmission errors. A connection with no transmission errors typically must be made at a slightly slower speed than a connection with some transmission errors.

As mentioned at the beginning of this article, though, actual data throughput is what is most important to you. A connection at a slightly slower speed but with no transmission errors can have the same data throughput as a connection made at a slightly higher speed but with occasional transmission errors.
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Macintosh Performa 6360: PCI Slot Ethernet Cards (6/97)

I have a Macintosh Performa 6360 with the built in modem in the Comm Slot. How can I make my computer Ethernet-ready and still keep my internal modem?
This article has been archived and is no longer updated by Apple.
While Apple does not sell an Ethernet card for the built-in PCI slot, there are some companies that do.

Farallon and Sonic both sell compatible PCI Ethernet cards for the Macintosh Performa 6360.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

The Tech Info Library article titled "**Locating Vendor Information**" can help you search for a particular vendor's address and phone number.
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Avid Cinema: "Unexpected Error Occurred" And QuickTime (6/97)

When I try to launch Avid Cinema, I get the error message "The application 'Avid Cinema' cannot be opened because an unexpected error occurred." Why?

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This is usually caused by having an old version of QuickTime installed. QuickTime version 2.1 or older will cause the error mentioned above and Avid Cinema will not work. Avid Cinema requires QuickTime version 2.5. Both the QuickTime and QuickTime PowerPlug files must be present in the Extensions folder.

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Avid Cinema: How To Troubleshoot Red ‘X‘ At Startup (6/97)

I have Avid Cinema installed in my computer. When I start my computer, the Avid Cinema extension has a red 'X' on it. What could be causing this?
This article has been archived and is no longer updated by Apple.
There are several reasons this may be happening.

Virtual memory is on or RAM Doubler is installed. Note: If you are using Ram Doubler 2.0, Avid Cinema 1.0 help may mistake virtual memory for RAM Doubler and try to walk you through turning virtual memory off.

QuickTime 2.5 or later is not installed. QuickTime 2.5 or later must be installed in order for the Avid Cinema Extension to load.

For some reason the Avid Cinema Extension loaded before QuickTime 2.5. Avid Cinema Extension has a degree character in front of its name to force it to load after QuickTime 2.5. If this character is removed or changed so that the extension appears before QuickTime, it will not load properly.

The Avid Cinema card is not installed or is not seated properly. Follow these steps to reseat the card:

1. Open your computer according to the instructions in your Macintosh User's Manual. (If you do not feel comfortable opening your computer, contact your Apple Authorized Reseller for help connecting the card and ribbon cable.)
2. Seat the card securely in the connector on the system board.
3. Securely connect both ends of the ribbon cable.
4. If your model computer requires a screw to hold the card in place, screw the card down tightly.

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Avid Cinema: "Digitizer Can‘t Load" Error (6/97)

I have Avid Cinema installed in my Power Macintosh and also have a video card installed that allows me to connect a second display. When I try to use Avid Cinema, I get errors that the digitizer can't load. Why is this happening?

This article has been archived and is no longer updated by Apple.

This error will occur when the main monitor (the one with the menu bar) is NOT connected to the built-in video of your computer. In order to use Avid Cinema properly, you must have a monitor connected to the built-in monitor port and the menu bar must be present on that monitor. If you have two monitors connected, the menu bar can be moved between them by using the Monitors & Sound control panel.

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PowerBook 1400: Sound Specifications (6/97)

What are the sound specifications of the PowerBook 1400 series computers?
This article has been archived and is no longer updated by Apple.

Sound System

The 16-bit stereo audio circuitry provides high-quality sound input and output through the built-in microphone and speaker. The user can also connect external input and output devices by way of the sound input and output jacks.

The sound system is based on the Singer codec IC along with input and output amplifiers and signal conditioners. In the PowerBook 1400, the Singer codec supports two channels of digital sound with sample sizes up to 16 bits and sample rates of 11.025 kHz, 22.05 kHz, and 44.1 kHz.

The frequency response of the sound circuits, not including the microphone and speaker, is within plus or minus 2 dB from 20 Hz to 20 kHz. Total harmonic distortion and noise is less than 0.05 percent with a 1V rms sine wave input. The signal-to-noise ratio (SNR) is 85 dB, with no audible discrete tones.

Note: All sound level specifications in this section are rms values.

Sound Inputs

The sound system accepts inputs from several sources:

- built-in microphone
- external sound input jack
- sound from the expansion bay
- 1-bit sound from the PC card slot

The sound signal from the built-in microphone goes through a dedicated preamplifier that raises its nominal 30 mV level to the 1 V level of the codec circuits in the Singer IC.

Stereo sound signals from the external sound input jack go through an analog multiplexer that selects either the external signals or the sound signals from the expansion bay. The multiplexer also lowers the levels of the maximum 2 V signal at the input jack to match the 1 V level of the codec circuits in the Singer IC.

The sound input jack has the following electrical characteristics:

- input impedance: 6.8kW
- maximum level: 2.0 V rms

Note: The sound input jack accepts the maximum sound output of an audio CD without clipping. When working with sound sources that have significantly lower levels, you may wish to increase the sound output level. You can do that using the Sound Manager as described in Inside Macintosh in the Sound chapter.

Stereo sound signals from the expansion bay go through an analog multiplexer that selects either those signals or the line signals from the external input jack. The multiplexer also raises the nominal 0.5 V level of the expansion bay sound to the 1 V input level of the codec circuits.
The sound input from the expansion bay has the following electrical characteristics:

- input impedance: 3.2kW
- maximum level: 0.5 V rms

Each PC card has one sound output pin (SPKR_OUT), and the computer accepts either one or two cards. The 1-bit digital signals from the sound output pins are exclusive-ORed together and routed to the built-in speaker and the external sound output jack.

Sound Outputs

The sound system sends computer-generated sounds or sounds from an expansion bay device or PC card to a built-in speaker and to an external sound output jack. The sound output jack is located on the back of the computer.

The sound output jack provides enough current to drive a pair of low-impedance headphones. The sound output jack has the following electrical characteristics:

- output impedance: 33 W
- minimum recommended load impedance: 32 W
- maximum level: 1 V rms
- maximum current: 32 mA peak

The computer turns off the sound signals to the internal speaker when an external device is connected to the sound output jack and during power cycling.

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TA37092_PowerBook_Sound_Specifications_.pdf

PowerBook 3400: Sound Specifications

What are the sound capabilities of the PowerBook 3400?
This article has been archived and is no longer updated by Apple.

Sound System

The 16-bit stereo audio circuitry provides high-quality sound input and output through the built-in microphone and speakers. The user can also connect external input and output devices by way of the sound input and output jacks.

The sound system is based on the AWAC codec IC along with input and output amplifiers and signal conditioners. In the PowerBook 3400 computer, the AWAC codec supports three channels of digital sound: two stereo channels plus a multiplexed channel. The sound system supports sample sizes up to 16 bits and sample rates of 11.025 kHz, 22.05 kHz, and 44.1 kHz.

The frequency response of the sound circuits, not including the microphone and speakers, is within plus or minus 2 dB from 20 Hz to 20 kHz. Total harmonic distortion and noise is less than 0.05 percent with a 1-V rms sine wave input. The signal-to-noise ratio (SNR) is 85 dB, with no audible discrete tones.

Note: All sound level specifications in this section are rms values.

Sound Inputs

The sound system accepts inputs from six possible sources:

- built-in microphone
- external sound input jack
- sound from the PCI expansion slot
- sound from the expansion bay
- sound from a zoomed video device in the lower PC card socket
- 1-bit sound from the PC card sockets

The microphone and the sound input jack have dedicated input channels on the AWAC IC; the other four inputs share a third input on the IC. Those four inputs are switched on and off by the hardware; they can be selected either as a group or in any combination for play-through or recording.

Built-in Microphone

The sound signal from the built-in microphone goes through a dedicated preamplifier that raises its nominal 30-mV level to the 1-V level of the codec circuits in the AWAC IC.

External Sound Input

The external sound input jack accepts a line-level signal or an Apple PlainTalk microphone. When a connector is plugged into the external sound input jack, the computer turns off the sound input from the built-in microphone. The input jack has the following electrical characteristics:

- input impedance: 6.8k
- maximum level: 2.0 V rms

Note: The sound input jack accepts the maximum sound output of an audio CD without clipping. When working with sound sources that have significantly lower levels, you may wish to increase the signal gain of the sound input circuit. You can do that using the Sound Manager as described in Inside Macintosh in the Sound chapter.

Expansion Bay Sound Input

The sound input from the expansion bay has the following electrical characteristics:

- input impedance: 3.2k
- maximum level: 0.5 V rms

PC Card Sound Input

Each PC card socket has one sound output pin (SPKR_OUT) and the computer accepts either one or two cards. The one-bit digital signals from the sound output pins are exclusive-ORed together and routed to the built-in speaker and the external sound output jack.

Sound Outputs

The sound system sends computer-generated sounds or sounds from an expansion-bay device or PC card to the built-in speakers and to an external sound output jack. The sound output jack is located on the left side of the computer near the front.

External Sound Output

The sound output jack provides enough current to drive a pair of low-impedance headphones. The sound output jack has the following electrical characteristics:

- output impedance: 33 ohms
- minimum recommended load impedance: 32 ohms
- maximum level: 1 V rms
- maximum current: 32 mA peak

Internal Speakers
The computer has a total of four internal speakers: two 20 mm speakers located beneath the bezel between the back of the keyboard and the display, and two 50 mm speakers located in a tuned port enclosure in the back of the display. The 20 mm speakers are driven by the high-frequency portion of the stereo sound signals from the computer. The 50 mm speakers are driven by a monophonic mix of the low-frequency portion of the sound signals.

The computer turns off the sound signals to the internal speaker when an external device is connected to the sound output jack and during power cycling.

PCI Slot and Expansion Bay
Sound output signals are provided at both the PCI slot and the expansion bay. The sound signals are line-level audio.

This article was published in the 9 June 1997 "Information Alley".
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Installer: Bypassing System Check (6/97)

I have a Power Macintosh with an external hard drive attached. I want to install system software onto the hard drive and then use the external hard drive on a different Macintosh model. When I run the Installer, however, I get a message stating that the software can't be installed on this computer.

Is there a way to get the Installer to ignore the type of computer being used when installing software?
This article has been archived and is no longer updated by Apple.
Yes. Hold down the option key when launching the Installer. The Installer will not check the system it is running on, and will allow you to proceed. When the Installer launches, you will be presented with the Custom Install window.

This article was published in the 11 June 1997 "Information Alley".
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Apple Video Player: Recognizing MPEG Movies (6/97)

I am using Apple Video Player. I want to view some MPEG-format movies that I have stored on my hard drive. However, Apple Video Player does not recognize them. It recognizes MPEG movies stored on CDs but not anywhere else. The QuickTime Movie Player application recognizes the movies and can play them regardless of where they are stored, so I do not think the movies are the problem.

Is there a way to get Apple Video Player to recognize MPEG movies on my hard drive?
This article has been archived and is no longer updated by Apple.
Apple Video Player 1.6 (included with Mac OS 7.6.x) lets users set a preference to Look on CDs, Look on Hard Disks and Look on Servers. Users can find this preference under the Setup menu in Apple Video Player.

Apple currently supports the playback of MPEG streams with QuickTime and the QuickTime MPEG extension. MPEG streams can be viewed by utilizing the Apple Video Player, QuickTime Movie Player application, or other applications that support QuickTime. The MPEG stream must be a legal, standard ISO 11172-1 file, with one MPEG video stream and one MPEG audio stream, in order to play back properly. It is also important to point out that not all streams created by MPEG encoders are legal. As a result, some MPEG files are not currently supported by Apple Video Player or Movie Player. In this case, users can try to playing the MPEG movie with a non-Apple application like "Sparkle". Sparkle is available for download from many online software update sites.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

This article was published in the 12 June 1997 "Information Alley".
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Avid Cinema: Video Output Pulsates (6/97)

When I output video from Avid Cinema to tape, the video on tape seems to pulsate slightly. What could be causing this?
This article has been archived and is no longer updated by Apple.
If you have a Performa or Power Macintosh 5400 or 5500 and your monitor is set to a resolution of 640 x 480, make sure that your monitor is set at a frequency of 67Hz. If the frequency is reduced to 60Hz or lower, video output from the Avid Cinema card will appear to pulsate.

Note: At 640x480, 67Hz produces less flicker and is more pleasing to the eye, so this is what your monitor should be set to for general use.

To set the resolution and frequency of your monitor, open the Monitors & Sound control panel and select "640 x 480, 67Hz" in the Resolution box.

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Avid Cinema: Troubleshooting Extension Conflicts (6/97)

This article discusses how to troubleshoot extension conflicts that might cause unusual behavior when running Avid Cinema.
This article has been archived and is no longer updated by Apple.
If you are experiencing unusual behavior in Avid Cinema, it is a good idea to rule out conflicts with extensions that other applications may have installed.

To do this, first save your current extension set so that you can restore it later if needed. Next, open the Extensions Manager and turn off everything except for the minimum extensions for your operation system and those that Avid Cinema requires. Here are the steps:

1. Pull down the Apple menu, highlight Control Panels, and select Extensions Manager from the Control Panels submenu.
2. Under the Sets pulldown, choose Save Set and name your current settings so that you can go back to them if you want to later.
3. Under the Sets pulldown menu, choose the selection indicating the Mac OS that you have loaded (for example: 7.5.5). This will enable only the minimum extensions and control panels needed for the operating system.
4. Using the list below, enable the additional extensions that Avid Cinema needs.
5. Restart and launch Avid Cinema.
6. See if the problem persists. If the problem is fixed, there was a conflict with one of the extensions that you turned off.

Additional System Extensions Needed By Avid Cinema

Listed below are the system extensions needed by Avid Cinema for proper operation on various systems, in addition to the minimum set of extensions needed to operate the computer:

5400, 6360, 6400

- Avid Cinema Extension (this is found at the bottom of the extensions list)
- 54xx/64xx Update (this is not required if you are running 7.6.1)
- QuickTime (version 2.5)
- QuickTime PowerPlug (version 2.5)

7500/7600/8500/8600

- Avid Cinema Extension (this is found at the bottom of the extensions list)
- Video Input Components
- QuickTime (version 2.5)
- QuickTime PowerPlug (version 2.5)

5500/6500

- Avid Cinema Extension (this is found at the bottom of the extensions list)
- 55xx/65xx ATA Update
- 55xx/65xx Video Input Update
- AudioTuneUp
- QuickTime (version 2.5)
- QuickTime PowerPlug (version 2.5)

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Power Macintosh 6360/6400/6500: No Apple Telecom Guide (6/97)

A friend of mine purchased a GeoPort Telecom Adapter Kit II. His machine comes with an Apple Guide-based help system, while my Power Macintosh 6500 Family Macintosh or Performa 6360/6400 does not. Why is this?
This article has been archived and is no longer updated by Apple.
The version of the Apple Telecom software that ships with the GeoPort Telecom Adapter Kit II includes Apple Phone to perform telephony. Instead, your bundle comes with Megaphone. Since the help system for the stand-alone kit has extensive references to Apple Phone, a different approach was needed. Consequently, your computer comes with a set of PDF-based help files. These are accessible via the Launcher. They include:

- Apple Address Book Guide
- Apple Fax User's Guide

In addition, an Apple Fax Scripting Guide is available in Telecom Applications: Fax Folder:
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TA37099_Lucent_InterNetworking_Systems.pdf

Lucent InterNetworking Systems

Lucent InterNetworking Systems

Note: Ascend Communications merged with Lucent in June 1999.
This article has been archived and is no longer updated by Apple.
Lucent InterNetworking Systems
One Ascend Plaza
1701 Harbor Bay Parkway
Alameda, CA 94502

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(800) 621-9578 (Phone)
(415) 688-4343 (US Fax)
(415) 688-4342 (Outside US Fax)

Technical Support
(800) 272-3634 (Phone)
(510) 814-2312 (Fax)

URL: **http://www.lucent.com**

Company Profile
Lucent InterNetworking Systems is a worldwide provider of remote networking solutions for corporate central sites, Carriers and Internet Service Providers' points of presence, remote offices, mobile workers and telecommuters. Lucent develops, manufactures, markets, sells and supports products which utilize bandwidth on demand to extend existing corporate networks for applications such as remote LAN access, Carrier services and Internet access, telecommuting, SOHO connectivity and videoconferencing/multimedia access.
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Avid Cinema: Garbage In "Disk Space Remaining" Field

I can see a string of garbage characters behind the numbers in the "Disk Space Remaining" field of Avid Cinema. Why is this?
This article has been archived and is no longer updated by Apple.
Using international (non-US) versions of Avid Cinema 1.1.1 or earlier, you may notice strange characters or a message such as "48 sec ()" instead of the actual time remaining in the Disk Space Remaining field. This is due to the way Avid Cinema handles international number formats.

To temporarily avoid this, you can select the U.S. numbers format in the Numbers control panel. This behavior is corrected in Avid Cinema 1.1.2 and 1.1.3. Avid Cinema 1.1.3 should be available on Apple and Avid web sites by July 1997.

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Mac OS 7.6.1: Apple Video Player And Muted Audio (6/97)

After I installed Mac OS 7.6.1 the sound in Apple Video Player 1.6 was muted. What caused this and how can I fix it?
This article has been archived and is no longer updated by Apple.
Apple is aware that Apple Video Player 1.6 becomes muted after installing Mac OS 7.6.1. This also happens with version 1.4 of Apple Video Player. It will be corrected in a future release, and posted to Apple Software Update sites.

To correct the situation, follow these steps:

1. Quit Apple Video Player.
2. Open the Monitors & Sound control panel (or the Sound Control Panel).
3. Select Mute.
4. Deselect Mute.
5. Close the control panel.
6. Launch Apple Video Player.

The software should now function normally.

Another workaround is to use Apple Video Player 1.4.2 which does not exhibit this behavior.
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Power Macintosh 7300, Workgroup Server 7350: Differences (6/97)

What are the differences between a Power Macintosh 7300 and a Workgroup Server 7350?
This article has been archived and is no longer updated by Apple.
Here is a summary of the differences between a Power Macintosh 7300/180 and a Workgroup Server 7350/180 (aside from the bundled software differences such as Apple RAID, Server Manager software, etc.):

Power Macintosh 7300, Workgroup Server 7350: RAM, HD, OS Differences			
	RAM	**Hard Drive**	**OS**
Power Macintosh 7300	16MB	2GB	System 7.5.5
Workgroup Server 7350	48MB	4GB	Mac OS 7.6.1

Notes

- If the 7300 is updated to 7.6.1 through the Mac OS Up-to-Date program, there are still some differences in the "Easy Installed" software on the two systems.
- The 7350 does not have Speech, Quickdraw 3D, or Multiprocessor API's installed when an "Easy Install" is performed from its CD. The Easy Install from the 7.6.1 Up-to-Date CD places these components onto a 7300.
- The 7350 includes Open Transport 1.1.2, which is not normally a component of 7.6.1.

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Power Macintosh 7350,9650: Warning When Reinstalling SSW (6/97)

I have a Power Macintosh 7350 and a Power Macintosh 9650. Earlier this week, on each system, I reinstalled 7.6.1 from my Workgroup Server CD and chose to overwrite my System Folder. I was told that the Open Transport version I was installing was older than the one on my system. After the installation, the version of Open Transport on the systems is exactly the same as I had before. What is going on?
This article has been archived and is no longer updated by Apple.
There is nothing wrong with your systems or the software. When you reinstall from the CD and choose to overwrite your System Folder, you will be notified that the version of Open Transport being installed is older than the one currently on the system.

The Workgroup Server Installer first installs Mac OS 7.6, which includes Open Transport 1.1.1. Then the Mac OS 7.6.1 Update is installed. Lastly, the Workgroup Server Components (including Open Transport 1.1.2) are installed. It must be done in this order.

The version of Open Transport on the system changes from 1.1.2 (before the re-installation), to 1.1.1 (when Mac OS 7.6 is installed), and then back to 1.1.2 (when the Workgroup Server Components are installed).

The System software installer puts up the notification. We were not able to change this.

The behavior described above only occurs if you choose to reinstall the exact same software over an existing System Folder. It does not occur if the you do either a clean install or an installation after reinitializing with RAID.

It is recommended that should you need to reinstall the system software, you check the box which says Clean Install (thereby preserving the old System Folder).

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Mac OS 7.6.1: PowerBook with PowerCD (6/97)

I have a PowerCD and a PowerBook running Mac OS 7.6.1. Can I use them together?
This article has been archived and is no longer updated by Apple.
Yes. Follow these rules:

1. Use no other CD-ROM drive at the same time (Load no other drivers at the same time.)
2. Do not have a CD in the drive at start up.
3. Use the Slow SCSI extension.
4. Remove all previously installed CD-ROM files in the System Folder before installing PowerCD software.
5. Use only PowerCD software version 1.0.1.

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System 7.5.x: Trash Icon Will Not Move (6/97)

I have a Macintosh computer running system 7.5.x. Whenever I start up, the Trash icon is right under the hard drive. I try moving it down to the bottom of the screen but when I restart, it reappears under the hard drive.
This article has been archived and is no longer updated by Apple.
The most likely reason for this would be that the System Folder is protected. Look at the control panel, General Controls, and see if "Protect System Folder" is checked. If so, un-check it, move the Trash icon to where you want it and restart. After the computer has restarted, you may re-select "Protect System Folder" and the Trash icon will stay where you have placed it.

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Avid Cinema: Ellipsis (Dots) Issue

Avid Cinema may crash when attempting to use titles or clips that begin with dots or periods.
This article has been archived and is no longer updated by Apple.
Naming Avid Cinema clips or titles starting with period (".") characters may cause Avid Cinema to quit with an error of type 1.

This error may occur after you apply such a title to your movie, when you "prepare" your movie, or when you bring video in using a clip starting with period characters.

If you need to name a clip or a title with dots at the beginning (for example "...that's all folks!"), use the keystroke combination option-semicolon to get the ellipsis character, which is a series of three dots.

In Avid Cinema version 1.0, there is a storyboard template within the home section called "This is your life". Within this template there is a clip called "...and Now". When this clip is selected and video from the clip is brought into an Avid Cinema document, it can cause this error.

When you upgrade to Avid Cinema version 1.1, this storyboard clip is renamed without the leading dots, which will allow you to use this clip without renaming it.
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Avid Cinema: Video Stutters During Part Or All Of Movie (6/97)

When using Avid Cinema, the video sometimes "stutters" during part or all of a movie. Why is this happening and how can I correct it?
This article has been archived and is no longer updated by Apple.
There are several things that could cause the video to stutter:

- Applications running in the background may cause the video to stutter. For best performance, quit other applications.
- Projects on slower media (such as a Jaz drive) with lots of single frame clips combined with audio may cause the video to stutter. Move the project to a faster media (such as a hard drive) or reduce the number of single frame clips.
- Drive fragmentation can cause the video to stutter. Use a hard drive utility to defragment the drive or move the project to a different drive.
- If the media clips are on a Jaz drive and the Disk Cache is set to greater than 96K, the video may stutter. Open the Memory control panel and set the Disk Cache to 96K or lower.
- When viewing the movie preview, parts of the movie (especially those with titles) may appear to stutter because the movie has not been fully rendered yet. This stuttering will disappear when the Send Movie Out function is performed.
- Avid Cinema is not compatible with Mac OS 7.6. Using Mac OS 7.6 with Avid Cinema may result in stuttering video. Avid Cinema **is** compatible with Mac OS 7.6.1, as long as version 1.1.2 or 1.1.3 of Avid Cinema is being used.
- Raising the memory partition of the application beyond the default via the Get Info window may cause the video to stutter. Do not adjust the Preferred Memory Size of the Avid Cinema application.

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Avid Cinema: Will Not Print With QuickDraw GX (6/97)

Avid Cinema will not print Storyboards if QuickDraw GX is installed.
This article has been archived and is no longer updated by Apple.
If you try to print a storyboard with QuickDraw GX installed, you will receive a message stating "The document 'Storyboard(print)' failed to print on the printer '...' because the application or file has been damaged."

If you need to print from Avid Cinema, use the Extensions Manager to disable the QuickDraw GX extension and restart the computer.
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Avid Cinema: Don‘t Save Movie With Same Name (6/97)

I am using Avid Cinema to create movies. When I create a movie and save it everything works fine. After I make some changes and save the movie again, it turns into gibberish. How can I avoid this?
This article has been archived and is no longer updated by Apple.
In Avid Cinema 1.1 or 1.1.1 (not 1.0), if you save a movie to the hard disk using any of the "Save movie for..." options and then save it again using the same name and in the same location, the resulting QuickTime movie will be corrupt and appear as gibberish. To avoid this, give the movie a different name or save it in a different location on the hard drive.

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Avid Cinema: Error In Tutorial (6/97)

I am learning to use Avid Cinema by going through the "Making Movies" tutorial. However, I get an error message when trying one of the special effects. How can I avoid this?
This article has been archived and is no longer updated by Apple.
In Avid Cinema 1.1 or 1.1.1 (not 1.0), if you follow along with the "Create special effects" section of the Making Movies tutorial you will receive the error "Recording failed. Please try again" when trying to apply the Peel effect. To avoid this error when working through the tutorial, do not lengthen the effect as described in Step 4.

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Avid Cinema: Version 1.0 Requires Apple Guide (6/97)

When I disable Apple Guide on my system, Avid Cinema crashes. What can I do?
This article has been archived and is no longer updated by Apple.
Do not disable Apple Guide when using Avid Cinema 1.0. If the Apple Guide extension is disabled, Avid Cinema 1.0 will crash when you quit, requiring you to restart the computer.

Avid Cinema 1.1 corrects this behavior.
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Avid Cinema: Audio CDs Jump While Switching Tabs (6/97)

If I play audio CDs on my system while using Avid Cinema, the sound occasionally cuts out. Is this normal?
This article has been archived and is no longer updated by Apple.
It is considered normal behavior. If you switch between tabs in Avid Cinema while playing an audio CD in the background, the audio CD sound may cut out momentarily. This occurs because Avid Cinema must switch sound channels.
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DateBook Pro: Turning Off Balloon Help (6/97)

If Now Datebook Pro software is used to turn off the Balloon Help menu, attempting to open the Energy Saver Control panel will generate an error message stating "could not handle to help menu".
This article has been archived and is no longer updated by Apple.
We have found 2 workarounds for users who wish to use the Energy Saver control panel with the Apple Help menu hidden.

1) Disable Apple Guide using the Extensions Manager control panel. Restart the computer. After restarting the computer, users can then check the "Display Balloon Help in Menubar" from the DateBook Menu Configuration dialog box.

or

2) Before using Energy Saver control panel, make sure that the "Display Balloon Help in Menubar" option is unchecked in the DateBook Menu Configuration dialog box.

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Avid Cinema 1.1 Update: Read Me

This article contains the Read Me document for the Avid Cinema 1.1 Update software.
This article has been archived and is no longer updated by Apple.

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Avid Cinema Update v1.1 Release Notes
December 19, 1996

Welcome to Avid Cinema!

This document explains how to update Avid Cinema 1.0 to 1.1 and
contains tips and late-breaking information about using Avid Cinema.

Upgrading the Avid Cinema software:

1.   Launch the "Avid Cinema 1.1 Updater" application.

2.   Confirm that the folder shown in the "Update Location" area contains Avid Cinema 1.0.  The updater
software automatically searches any

          mounted disks for a folder containing the Avid Cinema 1.0 software,
          so the folder shown is most likely correct.  If you think that it isn't, press the "Select Folder"
          button and select the folder that you believe is correct.

3.   Press the "Update" button.

4.   The updater will update the application, Plug-Ins, Storyboards, and Avid Cinema Extension files.  It will
also install the "54xx/64xx Update" extension.  When the update is done, press the "Restart" button.

          (The "54xx/64xx Update" will not be installed on any CPU other than a Performa
          5400/6400.)

5.   After restart, please empty the trash on your desktop by holding down the Option key on your keyboard and
selecting "Empty Trash"  from the "Special" menu.  This deletes the Avid Cinema 1.0 software and extension
from the trash.

A Word About System Software
If you updated Avid Cinema under System 7.5.3, then before updating to System 7.5.5 you need to:

1.   Move the "54xx/64xx Update" extension from the Extensions folder in the System Folder to the desktop.

2.   Update to System 7.5.5.

3.   Replace the "54xx/64xx Update" extension that the System 7.5.5 update placed in the Extensions folder
with the "54xx/64xx Update" extension that you moved to the desktop in step 1.

4.    Restart the machine.

Differences between versions 1.0 and 1.1
* Storyboards and movie files have a different type.  Version 1.1 converts

     1.0 movie files when they are opened for the first time.  Once this
     is done, they are now version 1.1 projects and can only be edited with Avid Cinema 1.1.

* You can now split clips by selecting a clip, positioning the position indicator at the place in the clip
where you want to split it, and then selecting the "Split Clip" from the "Movie" menu.

* Timeline navigation speed and ease of use has been greatly increased over 1.0.

* Avid Cinema no longer has a problem if Apple Guide isn't installed.

* Movie playback has been improved with the addition of the "54xx/64xx Update" extension.

* PAL format movies are now supported.

Compatibility Issues
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* If there is an X over the Avid Cinema extension when your system

is started, check for one of the following problems:

- Problem: You are running either Virtual memory or RAM Doubler, neither of which are compatible with Avid Cinema. If this is the case, you will receive a message explaining the problem when you start Avid Cinema.
Solution: Turn off Virtual memory or RAM Doubler, restart your system, and then run Avid Cinema again.

- Problem: You have a version of QuickTime older than QuickTime 2.5, or the °Avid Cinema extension has been renamed (the degree ° mark removed) so that it loads before the QuickTime extension.
Solution: Install QuickTime 2.5 (or later), or rename the Avid Cinema extension to °Avid Cinema extension. (To make the degree mark, hold down the Shift and Option keys and press the 8 key.)
- Problem: The Avid Cinema card isn't installed or isn't seated properly. . The Avid Cinema card is either not firmly seated in the computer,
or it is damaged,
OR
The ribbon cable (DAV cable) is either not properly connected to the Avid Cinema card on one end and the Apple Video In card on the other end; or the cable is damaged.
Solution: Follow these steps to reseat the card:
1. Open your computer** according to the instructions in your Macintosh User's Manual.
2. Seat the card securely in the connector on the system board.
3. Securely connect both ends of the ribbon cable.
4. If your model computer requires a screw to hold the card in place, screw the card down tightly.
**If you do not feel comfortable opening your computer, contact your Apple Authorized Reseller for help connecting the card and ribbon cable.

* Apple Video Player incompatibilities with Avid Cinema
- Problem: Starting Avid Cinema while Apple Video Player is running

can cause an error.
Solution: Always quit from Apple Video Player before starting Avid Cinema.
- Problem: Bringing video in from the TV Tuner can be a problem if Avid Cinema was not running before you opened the Apple Video Player to set the channel.
Solution: To remedy the problem:
1. Start Avid Cinema.
2. Open the Apple Video Player and choose a channel.
3. Close Apple Video Player.
4. In the Avid Cinema Bring Video In tab, choose TV Tuner from the Video Source menu (in the Movie menu).

* QuickTime conferencing

Problem: The Avid Cinema card and Avid Cinema Extension do not support QuickTime conferencing. If you want to use QuickTime conferencing, temporarily disable the Avid Cinema Extension and restart your system.

* Post Compression

Problem: The Avid Cinema card and Avid Cinema Extension do not support post compression, a feature of applications, such as Apple Video Player and Adobe Premiere.
Solution: If you want to bring video in using either Apple Video Player or Adobe Premiere, either turn off the post compression option where available, or temporarily disable the Avid Cinema Extension and restart your system.

* Video image in Library Preview may not display or turns black
Problem: Under the right set of circumstances, playback of a clip

in the Preview window of the Library subtab can display black or no image. This is a minor update problem that goes away after a screen refresh. Solution: To fix the problem, go to another tab (Storyboard for example) and then return to the Edit Tab.

Things to be Aware of

* Avid Cinema must be run using a monitor connected to your

  Macintosh's built-in video port. When using a third-party monitor card, such as an ATI graphic accelerator card, Avid Cinema does not function. You must change your monitor connection back to the built-in video port to use Avid Cinema.

* Send Movie Out formats

A movie saved in the Avid Cinema format is not a self-contained movie. To play the movie you need the movie's Media folder. Make sure you keep your movie's Media folder after you've saved the movie in Avid Cinema format.

* For best performance, the Largest Unused Block of memory should be 2 MB or greater when Avid Cinema is running. If you increase the Preferred Memory size for Avid Cinema, make sure your system's Largest Unused Block of memory is over 2 MB. (Choose About This Macintosh from the Apple menu to see your system's Largest Unused Block of memory.)

* Avid Cinema works best if you do not run other applications while you are using it. Bringing in video and playing it are both memory intensive operations, and running applications (email applications for example) can cause problems.

* If you have a PC Compatibility card, don't run applications on it while running Avid Cinema, as there are not enough system resources to support both.

* Don't play music CDs while bringing video in.

Instead of playing music on your internal CD drive and recording it over the microphone, use the Import button in the Sound tab to import the music track directly from the CD.

* Don't use picture clips shorter than one second.

  Cinema may not display your movie correctly if you use imported pictures whose clip length is shorter than one second.

* Close the control strip while capturing video.

  If you have the control strip over the picture while in the Bring Video In tab, the start and stop buttons will be disabled. Closing the control strip floating window will enable the start and stop buttons.

* Using the Undo feature

The Undo feature works only in the Titles tab.

* Titles and shot names cannot start with the "." (period) character.

Tips

* If your movie "stutters" when you play it:

  - Try quitting other applications, especially those that use the network, such as mail programs and internet browsers.

  - If you are adjusting the volume using the controls on the front of your computer, avoid doing so while playing the movie.

  - If the movie is currently on a Jaz drive, or other media slower than your computer's hard disk, move it to a faster disk.

  - The portions of your movie with titles may appear to stutter because the titles haven't been merged with the video yet. To remedy this, choose Preview full-screen or Make videotape in the Send Movie Out tab, and then click the Start button to render the titles. If, after doing this, you move any of the

title clips in the timeline, the stuttering will happen again until you prepare the movie in the same way.

- Lower the Disk Cache Size.
  If your system's Disk Cache Size is greater than 96K, it can cause your movie to "stutter." Before using Avid Cinema, set your Disk Cache
  Size to a maximum of 96K:
  1. Choose Control Panels from the Apple menu and then Memory
  from the Control Panels menu.
  2. Change the Disk Cache Size to 96K and close the window.
  3. Restart your system.
- Finally, use a hard drive utility to defragment your hard disk or move the project to a different drive.

* Making movies for the Internet
Netscape 3.0 (or later) downloads QuickTime movies automatically, if the movie has a .mov extension.
1. Add a .mov extension to the file name before uploading

it to the network. Upload the movie as "Raw Data" using Fetch
(a commonly used FTP application).

2. If you want to take advantage of the QuickStart movie feature that allows movies to start playing before they are completely downloaded, the person downloading the movie must have Netscape 3.0 (or later) and its plug-ins.

* A movie saved in the Avid Cinema format is not a self-contained movie.

To play the movie you still need its Media folder, because the saved movie contains references to the original clips.

* To get a more condensed version of your movie's media:
1. Save the movie in Avid Cinema format.
2. Start a new movie.
3. Import the movie saved in Avid Cinema format into the new movie.
4. Delete the old movie and its Media folder, keeping only the

new movie and its Media folder.

* If you want to lengthen a music or narration clip that is touching another clip, you must create enough blank space in the track before lengthening the clip.

* If you turn down the volume on a video clip to the minimum volume using the Clip Volume slider in the Sound tab, a popping sound

may be produced each time you play the clip. To remedy this problem, select the clip and choose Remove Audio from the Movie menu.

* Occasionally, after quitting Avid Cinema, there is an area on the desktop where the mouse pointer disappears. Restart your computer to correct this problem.

* When creating an effect longer than the default of one second, make sure that you trim back about three seconds of each clip used in the effect to get the best results.

* You can convert an Avid Cinema movie in PAL format to an Avid Cinema movie in NTSC format, or vice versa:

1. Choose Preferences from the Edit menu and then select the new format you want (PAL or NTSC).
2. Start a new movie. It'll be in this new format.
3. Go to the Library tab and import the movie that's in the other format.

Documentation Error
In the Avid Cinema Making Movies guide, the image size for

1/4-screen PAL movies is incorrectly given. The correct size is:
384 x 288 pixels.

If You Need Help

1. The online help may have answers to your questions. Click the

   Help button (the question mark) on the tab you are in, or choose
   Avid Cinema Guide or Cabling Quick Reference from the Help menu.

2. Refer to the Troubleshooting chapter of the Avid Cinema
Making Movies guide.

3. Contact Apple Customer Support with the phone number in your Performa Macintosh manual.

4. Visit our Web Site at **www.avidcinema.com** for the latest tips and updates.

Published Date: Feb 18, 2012

Avid Cinema: Media Folder And Project File Name (6/97)

This article details the organization and naming requirements of Avid Cinema's project media folder and the project file.
This article has been archived and is no longer updated by Apple.
The project media folder and project file must reside in the same folder and their names shouldn't be changed. Otherwise, Avid Cinema may not recognize them as being part of the same project.

If the names need to be changed, the media folder should have the same name as the project file with the string " Media" after it (note the space character). For example, if the project file is called "Board Meeting", the project media folder needs to be called "Board Meeting Media".
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A/UX: TCP/IP Configuration

How is TCP/IP configuration performed in A/UX?
This article has been archived and is no longer updated by Apple.

First Time Configuration

Before beginning configuration, collect the information needed which includes a unique host name for the system (31 characters (letters, numbers or hyphens) or less, all lowercase), an unique TCP/IP address, and the valid subnet mask for your network. It may be necessary to obtain this information from your network administrator.

1) Login to the system as root.

2) Open a CommandShell window.

3) Enter the following command:
```
newconfig ao
```
Note: ao stands for Apple on-board ethernet. This command will prompt for configuration of all Apple ethernet cards detected in the system, beginning with the built-in interface on the logic board, ao0.

4) At the prompt, "ao0: Would you like to configure this interface for IP? [y/n, default = y] >>>", enter:
```
y
```

5) At the prompt, "Please enter a host name (it must be unique):", enter the host name desired for this system.

6) At the prompt, "ao0: Please enter an NIS domain name [none]:" enter:
```
none
```

7) At the prompt, "ao0: Please enter an internet address:" enter the IP address for this system.

8) At the prompt, "ao0: Please enter a netmask [none]:" enter the correct netmask for your network.

9) The newconfig command routine then displays the address and subnet values for confirmation. To accept them, enter:
```
y
```

10) If additional ethernet cards are installed in your system, the process will begin again at step 4.

11) When all interfaces have been examined, the following message is displayed, "newconfig: To avoid kernel inconsistencies, reboot immediately. The new configuration will take full effect when the system is rebooted." At this point the newconfig routine is complete.

12) If your network includes a TCP/IP router and/or a domain name server, complete the configuration as indicated below.

Changing TCP/IP Address

If you want the change to be permanent, modify the "/etc/NETADDRS" file to reflect the new IP address, and restart the computer. This file contains the TCP/IP address, broadcast address, and netmask information used by the system's network interfaces in this format:
interface-id IP-address broadcast-address [netmask]

Changing The Host Name

The host name of the system is stored in the /etc/HOSTNAME file. Changes take effect after restarting the system. This file format follows the format:
host-name domain-name.

Note: It is not unusual for the domain-name to be "none".

Designating A Gateway Router

1) Adding a gateway router to the TCP/IP configuration requires modification of the /etc/rc file using the vi text editor. It is recommended that you backup this file before editing with vi. The gateway router is defined as the first TCP/IP router that traffic from this system encounters on its way to the rest of the network.

2) If you have not done so already, login to the system as root and open a command shell.

3) Enter the following command to open the /etc/rc file in vi:

```
vi /etc/rc
```

4) Use the down arrow key to move the cursor to the last line of the file.

5) Use the right arrow key to move the cursor to the last character of the last line.

6) Enter the following single letter command to append input after the last character:

```
a
```

7) Add the following line to designate the gateway router, using your gateway router's TCP/IP address in place of xxx.xxx.xxx.xxx:

```
/usr/etc/route add default xxx.xxx.xxx.xxx 1
```

8) Suspend text input by pressing the escape key.

9) Enter the following to save changes and quit vi:

```
:wq
```

10) Note: To exit vi without saving changes enter:

```
:q!
```

Designating A Domain Name Server

1) Obtain the address of your domain name server and the name of your local domain from your network administrator. This information will be added to the /etc/resolv.conf file.

2) If you have not done so already, login to the system as root and open a command shell.

3) Enter the following command to open the /etc/resolv.conf file in vi:

```
vi /etc/resolv.conf
```

4) Enter the following single letter command to append input after the cursor:

```
a
```

5) Enter the following two lines, substituting the correct information for your network:

```
domain xyz.corp.com
nameserver xxx.xxx.xxx.xxx
```

6) Suspend text input by pressing the escape key.

7) Enter the following to save changes and quit vi:

```
:wq
```

8) Note: To exit vi without saving changes enter:

```
:q!
```

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Apple RAID 1.5: Read Me

This article contains the Read Me document for Apple RAID 1.5.
This article has been archived and is no longer updated by Apple.
Apple RAID 1.5 ReadMe

- The current list of disk drives qualified for use with Apple RAID is available from <**http://www.info.apple.com**>.

- When non-Apple RAID volumes which have identical creation dates are present on the desktop or displayed in Apple RAID's volume list, there may be some confusion of names or icons. Once any such volume has been taken over by Apple RAID those problems will cease in Apple RAID because Apple RAID does not distinguish its own volumes by creation date.

- The Apple RAID driver which is installed on NuBus PowerPCs is an emulated driver. This driver does not support volumes larger than 4GB. If you create an Apple RAID volume greater than 4GB on a PCI PowerPC machine and move the drive or drives with that volume to a NuBus PowerPC, the Apple RAID driver on the NuBus machine will refuse to mount the volume.

- While multiple SCSI LUN's attached to PCI SCSI cards are supported, use of multiple LUN's on the internal bus or buses is not supported.

- If no volumes are present on any drive with the Apple RAID driver, the Macintosh ROM will not load the Apple RAID driver at startup. This is true for any driver, not just Apple RAID. When Apple RAID is launched and it detects that the driver is not installed, before it starts the initial SCSI scan it will load the Apple RAID driver and display the message, "Loading Driver," before displaying "Scanning SCSI Buses."

- The application will attempt to put custom color icons on a drive's volumes when you use the "Disk/Install Driver" command. However the custom icons can only be put on mounted volumes. If you use the "Disk/Install Driver" command on a drive with unmounted volumes, the volume's icon will default to a black and white icon if no custom color icon is already in use.
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Apple RAID 1.5: Volume Creation Limits (6/97)

What are the limits on volume creation with Apple RAID 1.5?
This article has been archived and is no longer updated by Apple.
In addition to the explicit limits on number of volumes (64), number of partitions per drive (32), and drives per stripe (16), the size of the driver memory pool and the mix of volume types limits the number of volumes which can be created by Conley's RAID software applications. Version 1.5 of Conley's RAID software enforces the driver memory limits. Earlier [unreleased] versions did not, which allowed too many volumes to be created, which used up driver memory and led to crashes. Because the released version of the software enforces the limits, driver memory should not be an issue in real-world use of the software, but this information is presented here as an FYI.

Driver memory currently defaults to 256K (it can be changed by editing a resource in the application). Of this 256K, 80K is reserved for driver operation and 32K for mirror rebuilds. The remaining 144K can be used to support volumes. Each new or exisitng volume requires the following amounts of driver memory:

```
    HFS Volume:  1360 bytes
Mirrored Volume:  2656 bytes
Striped Volume:  6304 + (n * 1152) bytes, where n is the number of drives in the stripe MINUS 2.
```

With the default driver memory of 256K, the following table indicates the maximum number of volumes of different types which can be created, assuming only one type of volume is present:

Normal Vols	Mirror Vols	Stripes, with number of drives														
		2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
108	55	23	19	17	15	13	12	11	10	9	8	8	7	7	6	6

If 512K is specified, the following table holds:

Normal Vols	Mirror Vols	Stripes, with number of drives														
		2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
325	166	70	59	51	45	40	36	33	30	28	26	24	23	21	20	19

If a mix of volume types is present, the actual limits will vary within the ranges shown in the tables.

This article was published in the 25 June 1997 "Information Alley".
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Apple RAID: Maximum Block Size Is 512 Bytes (6/97)

After initializing a hard disk with a 4096 byte block size using FWB Hard Disk Took kit, I could not initialize the volume with Apple RAID 1.5 because the block size was greater than 512 bytes.

This article has been archived and is no longer updated by Apple.

Apple RAID does not support these drives, as 512 is the standard maximum for block sizes. It will allow you to format them, but that's all. No volumes, no mounts, no driver support. This is as designed.

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Apple RAID 1.5: Changes From Version 1.1.1 (6/97)

What changes were incorporated into Apple RAID version 1.5?
This article has been archived and is no longer updated by Apple.
Apple RAID 1.5 is a SoftRAID Solution developed by Conley Corporation and bundled with all configurations of the Apple Workgroup Server 7350 and 9650 as an Apple labeled product. It is the next version of Apple RAID following the 1.1.1 version shipping with previous Apple Workgroup Servers.

Changes In Apple RAID 1.5 (from Apple RAID 1.1.1)

User Interface Refinements

- Resizable main window
- Moveable Create New Volume window
- Better expanded drive view in Create New Volume window
- HFS default on single drag
- Excess white space removed on dialog sequences
- Extraneous initialization dialog removed
- Quick initialization added
- Info button added (can display card vendor name and drive inquiry string)
- Cache mode page settings dialog
- Apple RAID 1.5 lists buses as "0,1,2..."; Apple RAID 1.2 lists buses as "A, B, C...",
- On-line help (Apple Guide)
- Single button dialogs changed from "Cancel" to "OK"
- Drive free space in the main window now indicates total free space and largest available space
- Apple RAID 1.5 driver loads volumes in partition map order; first one created is the first one mounted (1.2 loads in inverse order)

Other Improvements

- Native driver (the fastest driver, as measured by driver latency, RAID or otherwise, on PowerMac)
- VM safe driver
- Disk Write-Back Cache support
- Eight terabyte support
- Up to 16 drives per stripe
- Up to 32 partitions per drive
- Serial SCSI support (up to 128 devices per bus, SSA IDs)
- Auto-start support (if drive is waiting for startup command)
- Staggered auto-start of every eight devices (faster boot time with many devices)
- Multiple lun support
- Network notification / pager support. (not in the Apple RAID version that will ship)
- Can take over FWB, Remus and CharisMac RAID or non-RAID volumes
- Can shrink volumes if needed to install SoftRAID driver
- RAID driver can be installed without requiring low-level disk format. Three options are available: 1) Full low-level format; 2) Quick initialize (first 100 blocks); 3) Take over existing partitions
- Support of all third party PCI SCSI cards, including Ultra Fast and Wide SCSI
- Creates RAID arrays on any combination of SCSI bus/SCSI ID
- Exclusive Mirror synchronization bit check
- Clear out-of-synch re-synchs mirrored volumes manually as an alternative to rebuilding

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Apple RAID 1.5: Frequently Asked Questions (6/97)

This article contains the following frequently asked questions (FAQ) about Apple RAID 1.5 and answers to those questions.

1) Is AppleRAID 1.5 supported on NuBus machines?

2) Is there an upgrade from earlier versions of AppleRaid to 1.5?

3) Has 7.6.x been tested with older versions of Apple RAID such as 1.0.2?
This article has been archived and is no longer updated by Apple.

1) Question: Is Apple RAID 1.5 supported on NuBus machines?

Answer: Conley Corporation, the original author of the software, has not tested this version of Apple RAID on NuBus machines, nor has Apple.

2) Question: Is there an upgrade from earlier versions of Apple RAID to version 1.5?

Answer: Apple is not offering an upgrade. However, customers can check with Conley Corporation for information on upgrades from them. **Note:** If you upgrade your Apple RAID software through Conley Corporation, then your software support would come from them.

3) Question: Has 7.6.x been tested with older versions of Apple RAID such as 1.0.2?

Answer: No. Testing of AppleRAID (or SoftRAID) has not been done by Apple Computer or Conley Corporation.

The Tech Info Library article titled "**Locating Vendor Information**" can help you search for a particular vendor's address and phone number.
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Apple RAID 1.5: No Support For Removable Media

Does Apple RAID 1.5 support removable media (such as Zip drives, Jaz drives, Magneto Optical (MO) drives)?
This article has been archived and is no longer updated by Apple.
No, Apple RAID does not support removable media, although Conley Corporation's SoftRAID does.

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The Tech Info Library article titled "**Locating Vendor Information**" can help you search for a particular vendor's address and phone number.
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Avid Cinema: Errors When Recording At 256 Colors

When trying to record video into Avid Cinema I get the error "Recording stopped because of an error. (Capture overflowed). Would you like to keep the clip?" or "(Invalid JPEG data. Your movie clip may be corrupted.)". What is causing this?
This article has been archived and is no longer updated by Apple.
Avid Cinema requires that the main monitor be set to 16-bit color (Thousands of Colors). These errors are usually caused by trying to record video while the monitor is set to 256 colors. When Avid Cinema launches, it will switch the monitor bit depth to Thousands of Colors if it can, but in some configurations this may not be possible. In these cases, Avid Cinema continues to launch but may generate errors while recording.

For example, if you have a Performa 6400 and an Apple 16-inch RGB Monitor (which has a fixed resolution of 832x624), the 6400 will not be able to drive the monitor at 16-bit color (the 6400 only has 1MB VRAM) and the monitor will only work at 256 colors. The same would be true with any fixed-scan monitor that runs at a resolution larger than 640x480 on a Macintosh that has only 1MB VRAM.

If you are in this situation, you need to upgrade the VRAM to 2MB or more or get a monitor that supports the 640x480 resolution (all Apple Multiple Scan monitors support this resolution). **Note:** You cannot upgrade the Performa 6400 VRAM past 1MB.
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Power Macintosh 8600,9600: How Many Monitors Can I Connect?

The Owner's manuals for the Power Macintosh 9600 and the Power Macintosh 8600 tell me not to connect more than two monitors. Why? Does this mean that it is not supported? Is it a power draw issue? Is it an OS issue?
This article has been archived and is no longer updated by Apple.
The number of monitors that can be attached to a single Macintosh is limited only by the number of video ports or video cards that can be added to the system. There are no limits built into the operating system, control panels, PCI bus, etc.

The exceptions are:

- AppleVision 1710
- AppleVision 1710AV
- ColorSync 17-inch
- ColorSync 20-inch
- AppleVision 750 AV
- AppleVision 850 AV

Note: The ColorSync 17-inch and 20-inch Displays were formerly named the AppleVision 750 and 850 Displays, respectively.

These are the display types the manuals are referring to. With this series of displays, only configurations including one or two displays are supported. A single Macintosh with one or two of these displays attached may also add other displays.

The limit for these displays is based on the capability of the control panel software and the computer's Apple Desktop Bus connections.
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Remote Access And OT/PPP: Creating Connect Scripts

This article describes how to create a connect script with Remote Access 3.x or Open Transport/PPP.
This article has been archived and is no longer updated by Apple.

Definition

A connect script is a previously recorded set of responses to a command-line host's request for user name, password, and any other required information. A connect script enables connection to a command-line host without the need to enter this information into a terminal window each time. Most PPP servers are not configured to require such a connection. If you are not certain whether you need to create a connect script, or whether the host requires a terminal log-in, consult the host administrator (typically your internet service provider).

Note: Do not confuse a connect script with a modem script/CCL or a modem initialization string, as these three are not alike.

Creating And Saving A Connect Script

In the following steps, "PPP" can be substituted for "Remote Access" throughout. The pictures shown are from the Remote Access 3.0 control panel, which replaces (and is very similar to) the PPP control panel.

1. Open the Remote Access control panel and click "Options".

2. Click the Protocol tab.

3. Click the "Connect to a command line host" checkbox to select it, then click "Use terminal window."

4. Click "OK".

5. Ensure that the name, password, and telephone number are correct, then click "Connect." The modem will dial out and begin negotiation before opening the terminal window.

6. When the terminal window appears, click "Settings".

7. Click the "Prompt to save Connect Script on close" checkbox to select it. To have the terminal window close automatically after a connection to the host has been established, click the "Close Terminal when PPP is started" checkbox to select it.

8. Click "OK".

9. In the terminal window, enter the information requested by the command-line prompts, which will vary depending upon the host. Press Return at the end of each response. If no command-line prompts appear, such as "login" or "password," press Return once. If there is still no prompt, you may not be connecting to a command-line host.

10. If the terminal window does not close automatically, click "Continue" to close it.

11. When the connection is completed, the following dialog box appears. Name the script, choose a destination for it, then click "Save". Remember where it was saved, because it will be needed in the next step.

Important: An effective connect script is created by saving the session of a successful connection. Do not save the session if the connection was unsuccessful.

12. To use the saved connect script, return to the Protocol panel of the Options window and click "Use connect script." Then click "Import Script."

13. Select the previously saved connect script from the open file dialog box that appears. Afterward, its name will appear above the "Import Script" button.

14. Click "OK". The connect script is ready to use.

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Apple Internet Dialer: Does Not Work With AT&T Worldnet

I am an AT&T Worldnet customer, trying to use the Apple Internet Dialer that came with my Apple Internet Connection Kit software. With the Apple Internet Dialer, I cannot enternmy entire login name and so I am unable to make the connection. Why? What can I do?
This article has been archived and is no longer updated by Apple.
The Apple Internet Dialer is limited to a 25 character user login, and a 30 character password. Unfortunately, AT&T Worldnet user logins are all exactly 26 characters long (for example, johndoejr@worldnet.att.net). Further, the AT&T Worldnet user login cannot be changed by the customer.

To work around this limitation, you can use an alternate PPP package. There are three ways you can proceed.

Option 1: Config PPP

Config PPP, a control panel, is an alternate interface for MacPPP, which is the core PPP engine that the Apple Internet Dialer uses. Config PPP is included with the Apple Internet Connection Kit.

If you installed the Apple Internet Connection Kit (AICK) from a CD, Config PPP can be found in:

Internet Applications: Internet Utilities: Config PPP: Config PPP

If you have a Macintosh Performa computer which shipped with AICK pre-installed, Config PPP can be found in:

Applications: Internet Utilities: Config PPP: Config PPP

Note that Config PPP does not necessarily have to be in the Control Panels folder in order to be used.

Most Internet Service Providers are very comfortable with Config PPP-based setup procedures. You should contact your service provider for setup instructions.

Caution: Once you configure your Internet setup with Config PPP, you should never again attempt to use the Apple Internet Dialer to configure or connect to your service provider. Each time you do so, the Apple Internet Dialer will overwrite MacPPP's preferences with its own settings. You may, however, continue to use Apple Internet Status to open and maintain your connections.

Option 2: Open Transport PPP

OT/PPP is included with some Macintosh computers. If it is not included with your computer, you can download OT/PPP from Apple Software Update sites.

Caution: Once you install and configure OT/PPP, you may no longer use Apple Internet Status or the Apple Internet Dialer to configure or launch your Internet sessions. OT/PPP is not compatible with the Apple Internet Status or Apple Internet Dialer applications.

Option 3: Third-Party PPP Clients

A multitude of third-party PPP clients exist for the Macintosh. Contact your Internet Service Provider to see which one they recommend.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

The Tech Info Library article titled "**Locating Vendor Information**" can help you search for a particular vendor's address and phone number.

These articles can help you locate the software update mentioned here:

"**Where To Find Apple Software Updates**" - Lists online services for free Apple software updates.

"**Obtaining Apple Product Support in the USA**" - Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech Info Library.
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Workgroup Server 95: Removing A Bad Extension

Occasionally, users of the Apple Workgroup Server 95 will attempt to install driver software or other hardware-related extensions and be greatly disappointed with the results. (A/UX will typically give an 'unimplemented trap' error as the Mac environment begins to load.)
This article has been archived and is no longer updated by Apple.
Common things that users mistakenly install include CD-ROM drivers, the SCSI Probe control panel; drivers for devices such as CD-ROM towers, removable cartridge drives; and drivers for third-party cards. Any of these, including even Apple drivers, will crash A/UX as it begins to load the Mac environment. On these systems, A/UX must **own** the hardware; anything that interferes with this by trying to address hardware directly will kill A/UX.

WHAT FOLLOWS UNDER THE LINE OF ASTERISKS IS WHAT YOU SHOULD SEE IN THE WINDOW CALLED "A/UX Startup". To get to this point, the Server 95 should be started with the shift key down, then double-click /A/UX Startup. As soon as this program begins to load, type 'Apple-period' to enter the startup shell. If you are too late with the Apple-period, you may still click 'Cancel' as A/UX begins to load and achieve the same effect.

This example shows the best route for the typical situation, where the user directly turns off power or hits the 'restart' button. If the user turned off the system using the key (which rarely happens!), the first fsck (which includes the -b16 argument) may be omitted. When the -b16 argument is used, typically it will find the free block count in master super blocks to be incorrect; other repairs may be made as well.

IN ANY EVENT, if the first fsck that doesn't include the -b16 argument notes at the end that the file system was modified (usually because of repairs made), the fsck command should be run repeatedly until this is no longer the case.

If the item you are attempting to delete is in Control Panels, not Extensions, then the line "startup# cd Extensions" should actually be entered as cd 'Control Panels'.

Also, the line "startup# rm 'nameofthingtoremove'" should reflect the actual name of the offensive item. If the item name includes spaces, invisible characters, or illegal characters then the item name MUST be enclosed in quotes. You may COPY and PASTE the item name from the listing if you prefer; this is NECESSARY if invisible characters are present.

At the end, the 'launch' command will start up a/ux normally. You may also select 'Quit' from the File menu, and then either re-launch A/UX Startup, or restart from the Special menu, as preferred.

Occasionally, the rm command issued from the startup shell may have a problem with certain embedded invisible characters. A common example where this may happen is removal of the FWB CD ROM Toolkit control panel. To resolve this problem, you will need to navigate your way into the directory that contains the offending entity, then use the iterative (recursive) variant of the rm command:

rm -ir .

Notice the period at the end of this command -- it means 'within the current directory'. When the command is run, the utility will prompt the user successively for removal of EACH AND EVERY FILE in that directory. (USE WITH CAUTION!) Responding with 'n' will skip the file (allow it to remain); responding with 'y' will immediately and forever make that file go away.

The example below removes 'Bad Extension' from the Extensions folder of the main system folder, normally located in /mac/sys.

It is always a good idea to list the contents of the edited directory after removal to verify that what you wanted to remove is really gone, prior to starting a/ux. If any remaining incompatible files are encountered at a/ux startup, it will be necessary to go through this entire procedure again to eliminate them (including the fsck procedure, as it is never a good idea to edit a dirty file system).

****

```
chroot
chdir

startup# fsck -y -b16 /dev/default
Alternate super block location: 16
** /dev/default
** Last Mounted on
** Phase 1 - Check Blocks and Sizes
** Phase 2 - Check Pathnames
** Phase 3 - Check Connectivity
** Phase 4 - Check Reference Counts
** Phase 5 - Check Cyl groups
FREE BLK COUNT(S) WRONG IN SUPERBLK
SALVAGE?  yes
```

```
8214 files, 99876 used, 20529 free (745 frags, 2473 blocks, 0.6% fragmentation)

***** FILE SYSTEM WAS MODIFIED *****
startup# fsck -y /dev/default
** /dev/default
** Last Mounted on
** Phase 1 - Check Blocks and Sizes
** Phase 2 - Check Pathnames
** Phase 3 - Check Connectivity
** Phase 4 - Check Reference Counts
** Phase 5 - Check Cyl groups
8214 files, 99876 used, 20529 free (745 frags, 2473 blocks, 0.6% fragmentation)
startup# cd /mac/sys/'System Folder'
startup# cd Extensions
startup# ls
AppleIco
AppleIcoTwo
AppleShare
AppleTalk ImageWriter
Bad Extension
CommandShell VT102
DAL
EtherTalk Phase 2
File Server Extension
File Sharing Extension
Finder Help
ImageWriter
LQ AppleTalk ImageWriter
LQ ImageWriter
LaserWriter
MacTCP Tool
Network Extension
Personal LW LS
PrintMonitor
QuickTime
Retro.Startup
StyleWriter
StyleWriter II
System 7 Tuner
startup# rm 'Bad Extension'
ls
AppleIco
AppleIcoTwo
AppleShare
AppleTalk ImageWriter
CommandShell VT102
DAL
EtherTalk Phase 2
File Server Extension
File Sharing Extension
Finder Help
ImageWriter
LQ AppleTalk ImageWriter
LQ ImageWriter
LaserWriter
MacTCP Tool
Network Extension
Personal LW LS
PrintMonitor
QuickTime
Retro.Startup
StyleWriter
StyleWriter II
System 7 Tuner
```

```
startup# launch
```

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Apple Internet Server Solution (AISS) 3.0: Serial Number Alert

Recent buyers of the Apple Internet Server Solution v3.0 may have a faulty serial number for the WebSTAR software included in the bundle. Approximately 230 units are affected.
This article has been archived and is no longer updated by Apple.
Approximately 230 serial numbers that were recently delivered to Apple for WebSTAR from StarNine (the author of WebSTAR), were improperly coded and will not work.

StarNine is aware of the situation and is already working on a solution for affected customers. StarNine has issued the following serial number for affected customers to use until July 7, 1997 at which time serial numbers will be reissued. The interim serial number is:

WEB+-eyte-7y93-0ye9-494p

The StarNine web page containing this information is:

http://www.starnine.com/support/aiss.html

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

The Tech Info Library article titled "**Locating Vendor Information**" can help you search for a particular vendor's address and phone number.
Published Date: Feb 18, 2012

PC Compatibility Cards: Mac OS Compatibles Not Supported

Does Apple support the use of its PC Compatibilty Cards in Mac OS Compatible systems?
This article has been archived and is no longer updated by Apple.
Power Macintosh computers are required for both the 7-inch and 12-inch PC Compatibility cards.

Power Macintosh is a brand name of certain computers made only by Apple Computer, Inc. Computers made from Apple-licensed hardware designs by other companies such as UMAX, Motorola, Power Computing, DayStar, SuperMac and others are collectively known as Mac OS Compatibles.

Mac OS Compatible computers may work with the cards and software, but have not been tested by Apple and are not guaranteed to work. In some cases, adapter cables may be required to accommodate the different hardware present in a given computer. Further, the PC Compatibilty software has not been tested with the unique software bundles that accompany these machines.

Reply Corporation and Orange Micro make PCI PC Compatibility cards as well. You may wish to contact those companies to find out which computers their products support.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

The Tech Info Library article titled "**Locating Vendor Information**" can help you search for a particular vendor's address and phone number.
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PC And DOS Compatibility Cards: Freezes and Serial Port Arbitrator

I have a PC Compatibility Card (100MHz with Pentium processor). When I share a serial port (COM1 or COM2) to the printer or the modem port in PC Setup, the Macintosh freezes when I restart the computer. What can I do?
This article has been archived and is no longer updated by Apple.
Versions of the Serial Port Arbitrator earlier than 2.1 can cause a freeze at startup when a serial port is shared with the DOS and PC Compatibility cards. This is stated in the Read Me document for the DOS Compatibility version 1.5 software.

The OpenTPT Serial Arbitrator, installed by Open Transport PPP, can cause the same symptoms. If you want to share the serial port with the DOS environment as COM1 or COM2, then remove both the Serial Port Arbitrator and the OpenTPT Serial Arbitrator from the Extensions folder. You could also disable these in the Extensions Manager. After the freeze occurs it is very likely you have a corrupted PC Setup Preferences file. Remove this from the Preferences folder and reconfigure PC Setup.

Serial Port Arbitrator version 2.1 should work fine if having it is necessary. This version is installed by both the Apple Remote Access client and server software version 2.1. The primary reason to have the Serial Port Arbitrator is if you have an Apple Remote Access server set to automatically answer, but want to be able to dial out without turning off the server software. The arbitrator allows the dialing application temporary control over the serial port.

More information about how the Serial Port Arbitrator works can be found in the following Tech Info Library article:

Article 11021: "**PowerBook: How the Serial Port Arbitrator Works**"
Published Date: Feb 18, 2012

AIX: Sources For Public Domain Software

Where can I obtain public domain AIX software?
This article has been archived and is no longer updated by Apple.
This list is maintained in the AIX FAQ found on the Internet news group comp.unix.aix .

The most useful sites are the first 4 listed.

Ciaran Deignan (C.Deignan@frec.bull.fr) maintains a WWW archive of SMIT-installable packages of popular freeware at **http://www-frec.bull.com/**. Download the ".bff" files with your WWW browser, and run "smit install_latest" to install.

Below are some ftp sites that are said to have RS/6000 specific software.

US Sites

```
<ftp://aixpdslib.seas.ucla.edu/pub/>                    128.97.2.211
<ftp://aix.boulder.ibm.com/>
<ftp://software.watson.ibm.com/>
```

European Sites

```
<ftp://nic.funet.fi/pub/unix/AIX/RS6000/>               128.214.6.100
<ftp://iacrs1.unibe.ch/pub/>                            130.92.11.3
<ftp://ftp.zrz.TU-Berlin.DE/pub/aix/>                   130.149.4.50
<ftp://ftp-aix.polytechnique.fr/pub/binaries/rios/>     129.104.3.60
<ftp://ftp.uni-stuttgart.de/sw/rs_aix32/>               129.69.8.13
```

The first one is dedicated to software running on AIX. It might not always be the latest versions of the software, but it has been ported to AIX (normally AIX version 3 only).

The remaining sites are simply ones that archie indicated contained AIX related materials.

```
<ftp://ibminet.awdpa.ibm.com/>    #IBM announcements, oem hardware
<ftp://cac.toronto.ibm.com/>      #marketing-info
<ftp://ftp.egr.duke.edu/>
<ftp://straylight.acs.ncsu.edu/>
<ftp://alpha.gnu.ai.mit.edu/rs6000>
<ftp://ftp.uni-stuttgart.de/sw/rs_aix32/>
<ftp://iacrs2.unibe.ch/pub/aix/>
<ftp://ftp.u.washington.edu/pub/RS6000/>
<ftp://aixive.unb.ca/>
<ftp://ftp.ans.net/pub/misc/>
<ftp://uvaarpa.virginia.edu/pub/misc/>
<ftp://ux1.cts.eiu.edu/pub/rs6000/>
<ftp://ftp.bsc.nopub/Src/>
<ftp://ftp-aix.polytechnique.fr/pub/binaries/rios/>
<ftp://aix1.segi.ulg.ac.be/pub/aix/>
<ftp://byron.u.washington.edu/pub/aix/>
<ftp://cunixf.cc.columbia.edu/aix/>
<ftp://files1zrz.zrz.tu-berlin.de/pub/aix/>
<ftp://ftp.rz.uni-augsburg.de/pub/aix/>
<ftp://fyvie.cs.wisc.edu/pub/aix/>
<ftp://solaria.cc.gatech.edu/pub/aix/>
<ftp://spot.colorado.edu/aix/>
<ftp://swdsrv.edvz.univie.ac.at/unix/systems/aix/>
<ftp://switek.uni-muenster.de/pub/aix/>
<ftp://wuarchive.wustl.edu/systems/aix/>
<ftp://cs.nyu.edu/pub/AIX/>
<ftp://karazm.math.uh.edu/pub/AIX/>
<ftp://minnie.zdv.uni-mainz.de/pub0/pub/AIX/>
<ftp://oersted.ltf.dth.dk/pub/AIX/>
<ftp://rs3.hrz.th-darmstadt.de/pub/incoming/AIX/>
<ftp://aeneas.mit.edu/pub/rs6000/>
<ftp://cameron.egr.duke.edu/rs6000/>
<ftp://ifi.informatik.uni-stuttgart.de/pub/rs6000/>
<ftp://metropolis.super.org/pub/rs6000/>
```

<ftp://ramses.cs.cornell.edu/pub/rs6000/>
<ftp://server.uga.edu/pub/rs6000/>
<ftp://uvaarpa.virginia.edu/pub/rs6000/>
<ftp://wayback.cs.cornell.edu/pub/rs6000/>
<ftp://alice.fmi.uni-passau.de/pub/RS6000/>
<ftp://byron.u.washington.edu/pub/aix/RS6000/>
<ftp://milton.u.washington.edu/pub/RS6000/>
<ftp://pascal.math.yale.edu/pub/RS6000/>
<ftp://uxc.cso.uiuc.edu/pub/RS6000/>

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Mac OS 7.6.1: Power Macintosh 5400, 5500 and 6500 Series CD

I just received my Power Macintosh 5400, 5500 and 6500 Series CD that installs Mac OS 7.6.1. On the front of my CD, the following numbers appear:

SSW Version 7.6.1 CD Version 1.0
691-1559-A

I have Power Macintosh 5400 and 6400 series computers and I want to make a Disk Tools diskette to startup these computers. I have made a Disk Tools disk with Disk Copy using the disk image located in the following folder on the CD:

Mac OS 7.6.1: Disk Images: Disk Tools.image

The Disk Tools diskette that I have made does not boot my computer. Is this Disk Image damaged or not made for my computer?
This article has been archived and is no longer updated by Apple.
No. The disk image is not damaged. This CD was designed for Education Power Macintosh 5400, 6400, 5500 and 6500 series computers. Although the CD should boot all of these computers without problems, the Disk Tools image on the CD will only boot a Power Macintosh 5500 or 6500 series computer.

If you need a Disk Tools image that will boot your Power Macintosh 5400 or 6400 series computer, you can download the image from all Apple Software Updates locations.

These articles can help you locate the software update mentioned here:

"**Where To Find Apple Software Updates**" - Lists online services for free Apple software updates.

"**Obtaining Apple Product Support in the USA**" - Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech Info Library.
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Avid Cinema: Problems With Too Many Clips And Effects

This article details problems that can occur with Avid Cinema when too many clips and effects are used simultaneously.
This article has been archived and is no longer updated by Apple.
If more than about 270 clips and effects are used within one project in Avid Cinema, it's possible that you will start to receive one or more of the following errors:

- "The movie is unable to play back properly. Please increase the application's preferred memory size. For more information see Starting a New Movie in the Online Help.."
- "Couldn't open file for preview (there are too many files open simultaneously)."
- "(-9402)."
- "Error while creating destination movie file (there are too many files open simultaneously)."

The Mac OS allows a maximum of 348 files to be open at any time. This includes fonts, system extensions, open applications, and documents. Since Avid Cinema treats every clip and effect within a project as a separate file, having too many clips or effects can cause the maximum file limit to be reached. When this happens, Avid Cinema will stop functioning and generate one or more of the errors listed above.

If you are encountering this problem with your project, follow these steps:

1. Make a backup copy of your project file in case you accidentally save it while making the changes below.
2. Find a block of clips in the project that you know will remain together for the duration of the project. **Note:** you will not be able to add effects or edit these clips after completing this process.
3. Delete everything but those clips from the time line.
4. Save the movie in Avid Cinema format.
5. Close the project WITHOUT SAVING IT.
6. Re-open the project.
7. Delete the block of clips from the time line and the library.
8. Import the newly created Avid Cinema movie and place it back in the time line.

Repeat these steps until the project is reduced to a more manageable number of clips.
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Avid Cinema: Audio Source Options

This article describes when to use the different Audio Source options available in Avid Cinema when recording Audio into your movie. The Audio Source can be selected from the Movie menu when editing the movie in the Sound tab.
This article has been archived and is no longer updated by Apple.

Options For Power Macintosh 5400, 6360, 6400, and 6500 Systems

Microphone - For recording from a Plaintalk microphone connected to the microphone jack on the back of the computer.

Internal CD - This option can be misleading because it has multiple uses. Select this option if you need to record music from an audio CD playing in the internal CD ROM drive, audio from the TV portion of your TV or TV/FM tuner card (if present), audio from the FM portion of your TV/FM tuner card (if present), or audio from a source connected to the video in card on the back of the computer via RCA audio cables. Note: if you get unwanted noise or audio from the TV or TV/FM tuner card, open the Apple Video Player and turn the volume all the way down. You can also use the Import button in the Sound tab to import audio directly from a CD.

External Audio - For recording audio from an audio device such as a CD or cassette player connected to the microphone jack on the back of the computer via 1/8" audio cables.

Options For Power Macintosh 7500, 7600, 8500, and 8600 Systems

Microphone - For recording from a Plaintalk microphone connected to the microphone jack on the back of the computer.

Internal CD - For recording music from an audio CD playing in the internal CD ROM drive. You can also use the Import button in the Sound tab to import audio directly from a CD.

AV Connector - For recording audio from a source connected to the video in card on the back of the computer via RCA audio cables.
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PC Compatibility Card: ATI MPEG Player Hardware Error Message

I have a PC Compatibility Card. When I run the ATI Player program that comes with the card, the message "Can't load video driver! EVA video decoder not detected. Hardware may be improperly installed." Also, ATI Player contains a TeleText mode button. When I click the button, the system crashes. Can you explain these issues?
This article has been archived and is no longer updated by Apple.
At this time there is no complete resolution to the issues you describe. However, there are some workarounds.

Only European users need the TeleText mode button. If you remove the installed software and install the latest versions of the ATI Display Driver (4.03.2139), DirectX (3b), and ATI Player (3.11), the TeleText mode button will be gone. However, the message "AMC Peripheral not found. AMC Peripheral or cabling may be improperly installed" will be displayed.

You can dismiss the MPEG hardware error message by clicking on the button to proceed. At this point, however, the system has no ability to perform hardware MPEG decoding (but it does have software MPEG decoding available).
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DOS Compatibility Card: README.NET Document

This article contains the README.NET document that shipped with Power Macintosh 6100 and 640 DOS Compatible computers. It describes installation and setup of the ODI drivers in the Windows environment.
This article has been archived and is no longer updated by Apple.

README.NET

The DOS Compatibility Card supports network software that conforms to Novell's Open Data-Link Interface (ODI). The README.NET file contains additions and corrections to the network software installation instructions found in the Users Guide for the Macintosh LC630 and Power Macintosh 6100 DOS Compatibles. The information is divided in two sections. Section I applies to the Macintosh LC630 DOS Compatible, while Section II applies to Power Macintosh 6100 DOS Compatible.

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SECTION I -- Macintosh LC630 DOS Compatible

A. Installing NetWare Client Software
B. Installing Windows for Workgroups
C. Installing Spry's "Air Series" TCP/IP Software

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A. Installing NetWare Client Software

Follow the instructions in the Users Guide for the LC630 DOS Compatible Macintosh, taking note of the following:

1) NetWare client installation diskette names vary slightly, depending on the installer version.

2) Some versions of the client installer have an option to automatically modify the DOS files CONFIG.SYS and AUTOEXEC.BAT. If given the option, say YES to "Allow changes."

3) If you will be using Novell's VLM.EXE redirector in the STARTNET.BAT file (found in the C:\\NWCLIENT directory), then LASTDRIVE=Z is required in your CONFIG.SYS file. (Your NetWare client installer should automatically insert this line.) If you will be using Novell's older NETx.EXE shell instead of VLM.EXE, do not include a LASTDRIVE statement in your CONFIG.SYS file.

4) Before you can log into a network, you must be properly connected to an appropriate Ethernet segment, and your network administrator must have set up an account for you on a NetWare file server.

==========

B. Installing Windows for Workgroups

This assumes that Windows 3.1 and NetWare client software are already installed on your machine. If they are not, please do so before beginning this step. Details are listed only for the steps that deviate from the standard Windows for Workgroups 3.11 installation.

1) Run the Windows for Workgroups 3.11 installer; select Express setup.

2) When you reach Network Setup, click "Advanced", then click "Drivers", then click "Add Adapter", then scroll down the list that's displayed and highlight "IPXODI Support Driver (Ethernet)" and click "OK".

3) Click on the "IPX/SPX Compatible Transport With NetBIOS" and click "Setup". Click "Frame Type", select the proper frame type for your application, and click "OK."

4) Set the default protocol and click "Close" to continue with the installation.

5) After entering the information on the next screen, it will ask you if you want to replace the Novell Netware drivers. Answer "No." The installer will complete the installation.

Windows for Workgroups 3.11 adds two commands to the autoexec.bat file. One is "net start" which initializes

the Windows for Workgroups networking functions. The second is "odihlp.exe" which is Microsoft's ODI to NDIS mapper. Since Microsoft's networking functions work with NDIS drivers only, ODI drivers must be translated to NDIS. Microsoft's translator is supported by Microsoft, not Apple.

For further help with installing Windows for Workgroups 3.11, please consult Microsoft's Windows for Workgroups documentation. For further information on Windows for Workgroups 3.11, a suggested source is the Microsoft Windows for Workgroups 3.11 Resource Kit, available from Microsoft or your local book seller.

Here's an example of the protocol.ini file after Windows for Workgroups 3.11 installation, using a Frame Type of ETHERNET_802.2. Note that the NetBEUI protocol should NOT be installed when using the MACODI driver:

```
***** PROTOCOL.INI *****

[network.setup]
version=0x3110
netcard=ms$odimac,1,MS$ODIMAC,4
transport=ms$nwlinknb,NWLINK
lana0=ms$odimac,1,ms$nwlinknb

[net.cfg]
PATH=C:\\NWCLIENT\\NET.CFG

[MS$ODIMAC]

[Link Driver MACODI]
data=Frame Ethernet_SNAP
data=Frame Ethernet_802.2
data=Frame Ethernet_II
data=Frame Ethernet_802.3
data=Link Driver MACODI

[NWLINK]

BINDINGS=MACODI
FRAME=ETHERNET_802.2
```

==========

C. Installing Spry's "Air Series" TCP/IP Software

Follow the instructions in the Users Guide for the LC630 DOS Compatible Macintosh, with the following change:

In step (6), "rem" out the STARTNET.BAT command in your AUTOEXEC.BAT file:

```
rem CALL C:\\NWCLIENT\\STARTNET.BAT
```

and make sure that the following 5 lines are included in the file:

```
c:\\air\\bin\\lsl
c:\\air\\bin\\macodi
c:\\air\\bin\\ipxodi
c:\\air\\bin\\tcpip
c:\\nwclient\\<redirector or shell>
```

where "macodi" is substituted for the adapter driver chosen during the

installation (e.g. 3C5X9), and either VLM.EXE (Novell's newer DOS redirector) or NETx.EXE (Novell's older DOS shell) is substituted in the last line.

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SECTION II -- Power Macintosh 6100 DOS Compatible

A. Installing NetWare Client Software
B. Installing Microsoft's Windows for Workgroups

C. Installing Novell's "LAN Workplace for DOS" TCP/IP Software
D. Installing NetManage's "Chameleon" TCP/IP Software
E. Installing Spry's "Air Series" TCP/IP Software
F. Installing Mosaic

==========

A. Installing NetWare Client Software

The instructions below will guide you through installation of client software for Novell NetWare versions 3.12, 4.01, and 4.02. Personal Netware is not supported at this time. Before beginning the installation, make sure that the DOS Compatibility Card is properly installed and running, as described in the User's Guide. Also, if you plan to install Windows from floppy disks and have not yet done so, do this before installing the NetWare client software.

Before you start, be sure you have these 3.5 inch floppy disks:
- "DOS Compatibility Card Installer Disk (for the PC environment)"
- Novell "NetWare Client for DOS WSDOS_1"
- Novell "NetWare Client for MS Windows WSWIN_1" [optional]

Note: NetWare client installation diskette names vary slightly, depending on the installer version.

In addition, you will need to know the Frametype in use on your network segment. There are four different Ethernet Frametypes from which to chose, as shown in Number 11 below. If you are not certain which one to select, ask your network administrator before you begin the installation.

1) If not already installed, complete the installation of all DOS Compatibility Card software as described in the User's Guide, including the "DOS Compatibility Card Installer Disk (for the PC environment)".

2) Insert the Novell "NetWare Client for DOS WSDOS_1" disk into the disk drive.

3) At the DOS prompt, type the following:

A: <return>
INSTALL

4) The NetWare Client Install screen will appear displaying 5 steps.
Follow the instructions pressing return for each of the 5 selections:

5) Step 1 of 5 allows you to define the directory for Netware. The default is C:\\NWCLIENT -- press return or enter to confirm entry and again to execute this step.

6) Step 2 of 5 changes the CONFIG.SYS making "LASTDRIVE=Z" and adding "CALL C:\\NWCLIENT\\STARTNET.BAT" to the AUTOEXEC.BAT -- press "Y" <return>. The former is required by Novell's VLM.EXE redirector. (NOTE: If you will be using Novell's older NETx.EXE shell instead of VLM.EXE, do not include a LASTDRIVE statement in your CONFIG.SYS file.)

7) Step 3 of 5 allows you to choose if you wish to load the Windows support and the directory where you may have loaded Windows -- press "Y" or "N". If yes, press return or enter to confirm Windows subdirectory entry and again to execute this step.

8) Step 4 of 5 selects the driver for the network board -- press return or enter.

9) An "Insert the Driver Disk dialog appears. Eject the diskette <Command-E>. Insert the "DOS Compatibility Card Installer Disk (for the PC environment)" into the disk drive and press <return>.

NOTE: Do not insert the "NetWare Client for DOS WSDRV 2" driver disk supplied by Novell, since it does not contain the driver and description files required by the DOS Compatibility Card.

10) In the dialog box, select "Power Macintosh 6100 Ethernet Adapter" and press <return>

11) Next a dialog appears for selecting a Frametype, press the <return> key.

Choose the appropriate frame type for your network with the <arrow> keys:

ETHERNET_802.2,
ETHERNET_802.3,
ETHERNET_II, or
ETHERNET_SNAP

for the Novell server you will be using, then press the <return> key. Then press the <Esc> key to continue.

12) Step 5 of 5 completes the installation. Press the <return> key to copy the MACODI.COM driver from the "DOS Compatibility Card Installer Disk" to the NetWare subdirectory.

13) You will be asked to insert the "NetWare Client for DOS WSDOS_1" again. Eject diskette using <Command-E> and re-insert the NetWare diskette again.

14) [Optional] You will be asked to insert the "NetWare Client for MS Windows WSWIN_1" disk. Note that this will add files and a NetWare group to the Windows directory.

15) When installation is complete, a dialog will appear asking you reboot. Do NOT press <enter> or <return> key. Eject the diskette <Command-E> and warm reboot using <Ctrl-Alt-Del>.You will now have additional network drives and mappings available. Your first network drive letter will be Novell's default of "F:", unless this drive is already in use on your machine, or your network is setup to use a different starting drive.

16) Assuming that you are properly connected to an appropriate Ethernet segment (and your network administrator has created an account for you on a NetWare file server), you can log into the network by typing:

F: <return>
LOGIN <your user name>
PASSWORD: <your password, if any>

Memory Note:
The NetWare client installation adds the line "CALL C:\\NWCLIENT\\STARTNET.BAT" to the beginning of the AUTOEXEC.BAT file.
This command then loads four programs into DOS memory: LSL.COM, MACODI.COM, IPXODI.COM, and VLM.EXE (in this order). To conserve memory in the lower DOS region, you may wish to edit STARTNET.BAT to load those four programs with the LOADHIGH (L8) command. See your DOS documentation for details on manually optimizing DOS memory. (Be aware that the Microsoft utility "Memmaker" does not work with the DOS Compatibility Card.)

For further information, please see the Novell Installation and Administration manuals, or speak to your Network Adminstrator.

Mapping Drive Letter Note:
When you map a network resource as a drive letter, the Macintosh PC Setup recognizes that those drive letters are unavailable for use as a shared folder. However, when the network no longer uses the drive letter, PC Setup will still show them as unavailable for sharing folders until you reboot the PC.

In addition, if a drive letter is being shared prior to booting the PC and Novell needs to use that drive letter, then the Novell network drive will take precedence over that shared drive letter.

==========

B. Installing Windows for Workgroups

This assumes you are starting with Windows 3.1 installed on your machine. If you have not installed NetWare client software, do so before beginning this step. Details are listed only for the steps that deviate from the standard Windows for Workgroups 3.11 installation.

1) Run the Windows for Workgroups 3.11 installer; select Express setup.

2) When you reach Network Setup, click "Advanced", then click "Drivers", then click "Add Adapter", then scroll down the list that's displayed and highlight "IPXODI Support Driver (Ethernet)" and click "OK".

3) Click on the "IPX/SPX Compatible Transport With NetBIOS" and click "Setup". Click "Frame Type", select the proper frame type for your application, and click "OK."

4) Set the default protocol and click "Close" to continue with the installation.

5) After entering the information on the next screen, it will ask you if you want to replace the Novell Netware drivers. Answer "No." The installer will complete the installation.

Windows for Workgroups 3.11 adds two commands to the autoexec.bat file. One is "net start" which initializes the Windows for Workgroups networking functions. The second is "odihlp.exe" which is Microsoft's ODI to NDIS mapper. Since Microsoft's networking functions work with NDIS drivers only, ODI drivers must be translated to NDIS. Microsoft's translator is supported by Microsoft, not Apple.

For further help with installing Windows for Workgroups 3.11, please consult Microsoft's Windows for Workgroups documentation. For further information on Windows for Workgroups 3.11, a suggested source is the Microsoft Windows for Workgroups 3.11 Resource Kit, available from Microsoft or your local book seller.

Here's an example of the protocol.ini file after Windows for Workgroups 3.11 installation, using a Frame Type of ETHERNET_802.2. Note that the NetBEUI protocol should NOT be installed when using the MACODI driver:

```
***** PROTOCOL.INI *****

[network.setup]
version=0x3110
netcard=ms$odimac,1,MS$ODIMAC,4
transport=ms$nwlinknb,NWLINK
lana0=ms$odimac,1,ms$nwlinknb

[net.cfg]
PATH=C:\\NWCLIENT\\NET.CFG

[MS$ODIMAC]

[Link Driver MACODI]
data=Frame Ethernet_SNAP
data=Frame Ethernet_802.2
data=Frame Ethernet_II
data=Frame Ethernet_802.3
data=Link Driver MACODI

[NWLINK]

BINDINGS=MACODI
FRAME=ETHERNET_802.2
```

==========

C. Installing Novell's "LAN Workplace for DOS" TCP/IP Software

*** IMPORTANT: You must NOT have MacTCP loaded when you run DOS TCP/IP software, as the two will conflict with one another.***

You can use the IPX and TCP protocols at the same time in either the PC environment or the Mac OS, or you can use one protocol in the PC environment and the other protocol in the Mac OS. However, you cannot use the same protocol in both environments at the same time.

If you want to use the IPX protocol in the PC environment and you have previously installed MacIPX in the Mac OS, remove MacIPX from the Control Panels folder or select AppleTalk as your network interface in the MacIPX control panel.

If you want to use the TCP protocol in the PC environment and you have previously installed MacTCP in the Mac OS, remove MacTCP from the Control Panels folder or select an interface other than Ethernet in the MacTCP control panel.

Before beginning the installation, make sure that the DOS Compatibility Card is properly installed and running, as described in the User's Guide. Also, if you plan to install Windows from floppy disks and have not yet done so, do this before installing the LAN Workplace for DOS software.

In addition, you will need to know the following information before you start:

1) Do you have either a BOOTP or an RARP server to dynamically assign IP addresses? If so, you will need to know either:

- the server's name (e.g. server.edu), or
- the server's IP address (e.g. 111.222.0.0)

2) If not, you will need a legitimate, assigned IP address for the machine on which you're installing the TCP/IP software (e.g. 222.111.11.1). For connecting to the Internet, your service provider will tell you the correct address. For TCP/IP networking within your company, your network administrator can provide you with an address. DON'T TRY MAKING ONE UP, as doing so could crash the network!!!

3) If you are on a network with a subnet mask, the IP address for that mask, e.g:

255.0.0.0 for client Class A IP addresses
[those between 0.0.0.1 to 127.255.255.254]

255.255.0.0 for client Class B IP addresses
[those between 128.0.0.1 and 191.255.255.254]

255.255.255.0 for client Class C IP addresses
[those between 192.0.0.1 and 223.255.255.254]

4) If you will connect to a TCP/IP host through a router, the IP address for that router.

5) The name of your Domain Name Server (e.g. server.edu)

6) The IP address of your Domain Name Server.

Once you have this information, you can proceed with the installion by following Novell's instructions, and answering the on-screen prompts.

==========

D. Installing NetManage's "Chameleon" TCP/IP Software

*** IMPORTANT: You must NOT have MacTCP loaded when you run DOS TCP/IP software, as the two will conflict with one another.***

You can use the IPX and TCP protocols at the same time in either the PC environment or the Mac OS, or you can use one protocol in the PC environment and the other protocol in the Mac OS. However, you cannot use the same protocol in both environments at the same time.

If you want to use the IPX protocol in the PC environment and you have previously installed MacIPX in the Mac OS, remove MacIPX from the Control Panels folder or select AppleTalk as your network interface in the MacIPX control panel.

If you want to use the TCP protocol in the PC environment and you have previously installed MacTCP in the Mac OS, remove MacTCP from the Control Panels folder or select an interface other than Ethernet in the MacTCP control panel.

Before beginning the installation, make sure that the DOS Compatibility Card is properly installed and running, as described in the User's Guide. Also, if you plan to install Windows from floppy disks and have not yet done so, do this before installing the LAN Workplace for DOS software.

In addition, you will need to know the following information before you start:

a) A legitimate, assigned IP address for the machine on which you're installing the TCP/IP software (e.g. 222.111.11.1). For connecting to the Internet, your service provider will tell you the correct address. For TCP/IP networking within your company, your network administrator can provide you with an address. DON'T TRY MAKING ONE UP, as doing so could crash the network!!!

b) The name of your Domain Name Server (e.g. server.edu)

c) The IP address of your Domain Name Server (e.g. 111.222.0.0)

d) The IP address of your Internet Gateway, if any.

Once you have this information, you can proceed.

1) Install Chameleon from Windows:
- pull down the Program Manager's FILE menu
- select RUN
- type a:\\SETUP

2) Follow the on instructions and on-screen prompts. Near the end of the installation, you will be asked to fill out a series of dialog boxes. Proceed to fill each as follows.

3) ADD INTERFACE
Click "OK"

4) INTERNET ADDRESS
Enter the address provided by your network administrator or service provider.

5) SUBNET MASK
Click "OK" (The software will supply the correct mask.)

6) HOST NAME
Select a name for your client machine.

7) DOMAIN NAME
Enter the name for your Domain Name Server

Then do the following:

8) Select the Services menu
- Select Domain Servers
- Enter the IP address of the Domain Name Server
- Select Gateway
- Enter the IP address of the Internet Gateway, if any

9) Save the settings (Alt-F-S)

10) If you will be using a dial-up TCP/IP connection, you can skip this step. If not, proceed as follows:

-Go to the c:\\NWCLIENT directory
-Copy net.cfg to net.old (Save a copy of the existing net.cf7)
-Modify the net.cfg file.

A sample modified file is shown below. Note the addition of the Protocol statements in the Link Driver section and the addition of the Protocol TCPIP section. The frame types and IP addresses used in your environment may be different from this example:

```
Link Driver MACODI
Protocol IPX E0 ETHERNET_802.2
Frame ETHERNET_802.2
Frame Ethernet_II
;        Frame Ethernet_802.3
;        Frame Ethernet_SNAP

Protocol RARP 8035 ethernet_ii
Protocol ARP 806 ethernet_ii
Protocol IP 800 ethernet_ii
PORT 300
INT 10
;        node address 12d43
```

NetWare DOS Requester
FIRST NETWORK DRIVE = F

```
Protocol TCPIP
ip_router       17.131.1.0
ip_netmask      255.0.0.0
ip_address      17.131.0.14
PATH LANG_CFG   C:\\NET\\LANG
PATH SCRIPT     C:\\NET\\SCRIPT
PATH PROFILE    C:\\NET\\PROFILE
PATH LWP_CFG    C:\\NET\\HSTACC
PATH TCP_CFG    C:\\NET\\TCP

Link Support
Buffers 4 1500
MemPool 4096
```

11) Reboot DOS

12) Start Windows (you should see the Chameleon group window)

13) If you will be using a direct connection to a Domain Name server, you can test the installation by using "Ping":

- Double click the "Custom" icon in the Chameleon group
- Double click the "Ping" icon
- Click start
- Enter the name for a Domain Name Server,
(e.g. apple.com or stanford.edu).
- You should get a response back within a few seconds.

15) If you will be using a dial-up service such as Portal, you may need to edit the configuration file to reflect any differences between the default setup and your setup. Click the "Custom" icon from Windows, open the appropriate .CFG file, and edit. As an example, here is an edited version of PORTAL.CFG:

```
Setup
IP Address:         1.1.1.1    (put in your IP address)
Subnet Mask:        255.0.0.0  (put in your subnet mask)
Host Name:          jsmith     (etc.)
Domain Name:        portal.com
Port:

          Baud Rate       9600
          Data Bits       8
          Stop Bits       1
          Parity          None
          Flow Control    Hardware
          Connector       Com1

Modem:
Defaults        Hayes
Dial:               555-9755
Login:

          User Name       jsmith
          User Password   1234abcd

Interface Name:     Portal

Services
Default Gateway     123.123.123.1

Domain Servers
IP Address:         156.151.6.20
```

16) If necessary, modify the entry in the c:\\netmanag\\slip.ini file. Using the Portal example, it might read:

```
          [Portal]
```

```
          SCRIPT=-n $2$r help: ip$r login: $u$r word: $p$r -i
```

17) You can test the installation by using "Ping". For example, with Portal:

- Connect using <Alt-C>
- "Ping" the name news.ip.portal.com
- You should get a response back within a few seconds.

==========

E. Installing Spry's "Air Series" TCP/IP Software

*** IMPORTANT: You must NOT have MacTCP loaded when you run DOS TCP/IP software, as the two will conflict with one another.***

You can use the IPX and TCP protocols at the same time in either the PC environment or the Mac OS, or you can use one protocol in the PC environment and the other protocol in the Mac OS. However, you cannot use the same protocol in both environments at the same time.

If you want to use the IPX protocol in the PC environment and you have previously installed MacIPX in the Mac OS, remove MacIPX from the Control Panels folder or select AppleTalk as your network interface in the MacIPX control panel.

If you want to use the TCP protocol in the PC environment and you have previously installed MacTCP in the Mac OS, remove MacTCP from the Control Panels folder or select an interface other than Ethernet in the MacTCP control panel.

Before beginning the installation, make sure that the DOS Compatibility Card is properly installed and running, as described in the User's Guide. Also, if you plan to install Windows from floppy disks and have not yet done so, do this before installing the LAN Workplace for DOS software.

If your PC is using a VGA driver, and your Air Series software is version 3.0, you need to make the following change. (The instructions below assume that you have Windows installed in the "C:\\WINDOWS" directory. If Windows is elsewhere, type the actual Windows location.)

- Make sure the AIR Series Setup disk is NOT read-only
- Place in drive A:
- Type the following at the DOS prompt:

```
A: <return>
COPY SETUP.BMP SETUP.OLD  <return>
COPY C:\\WINDOWS\\RIVETS.BMP A:SETUP.BMP  <return>
```

In addition, you will need to know the following information before you start:

1) your Internet E-Mail address

2) A legitimate, assigned IP address for the machine on which you're installing the TCP/IP software (e.g. 222.111.11.1). For connecting to the Internet, your service provider will tell you the correct address. For TCP/IP networking within your company, your network administrator can provide you with an address. DON'T TRY MAKING ONE UP, as doing so could crash the network!!!

2) If you are on a network with a subnet mask, the IP address for that mask, e.g:

255.0.0.0 for client Class A IP addresses
[those between 0.0.0.1 to 127.255.255.254],

255.255.0.0 for client Class B IP addresses
[those between 128.0.0.1 and 191.255.255.254], and

255.255.255.0 for client Class C IP addresses
[those between 192.0.0.1 and 223.255.255.254].

4) If you will connect through a gateway, the IP address for that device.

5) The name of your Domain Name Server (e.g. server.edu)

Once you have this information, you can proceed.

1) Install Air Series from Windows:

- pull down the Windows Program Manager's FILE menu
- select RUN
- type A:\\SETUP

2) Follow the on instructions and on-screen prompts.

3) When the installation asks you to select the Ethernet card manufacturer and type, chose anything. Note the name of the adapter you select. (e.g. 3Com's 3C5x9) The Apple driver is not on the list, so you will edit the AUTOEXEC.BAT file after completing the installation.

4) When the installation asks if you want to update the AUTOEXEC.BAT file, select YES.

5) Once the installation is complete, exit Windows.

6) Edit the AUTOEXEC.BAT file as follows. (You can use any convenient text editor, such as "EDIT" in the DOS directory.)

- "rem" out the STARTNET.BAT command in your AUTOEXEC.BAT file:

```
rem CALL C:\\NWCLIENT\\STARTNET.BAT
```

- Make sure that the following 5 lines are included in the file:

```
c:\\air\\bin\\lsl
c:\\air\\bin\\macodi
c:\\air\\bin\\ipxodi
c:\\air\\bin\\tcpip
c:\\nwclient\\<redirector or shell>
```

where "macodi" is substituted for the adapter driver chosen during the installation (e.g. 3C5X9), and either VLM.EXE (Novell's newer DOS redirector) or NETx.EXE (Novell's older DOS shell) is substituted in the last line.

7) Reboot DOS for the changes to take effect.

8) Log into the network and start Windows. (You should now see the Air Series group window.)

9) You can now test the installation:

- Double click the Air Telnet icon
- An Open Telnet Session dialog box should appear
- Double click on the name of your Domain Name Server
- You should get a VT100 window with a login prompt.

==========

F. Installing Mosaic

*** IMPORTANT: You must NOT have MacTCP loaded when you run DOS TCP/IP software, as the two will conflict with one another.***

You can use the IPX and TCP protocols at the same time in either the PC environment or the Mac OS, or you can use one protocol in the PC environment and the other protocol in the Mac OS. However, you cannot use the same protocol in both environments at the same time.

If you want to use the IPX protocol in the PC environment and you have previously installed MacIPX in the Mac OS, remove MacIPX from the Control Panels folder or select AppleTalk as your network interface in the MacIPX control panel.

If you want to use the TCP protocol in the PC environment and you have previously installed MacTCP in the Mac OS, remove MacTCP from the Control Panels folder or select an interface other than Ethernet in the MacTCP control panel.

Before beginning the installation, make sure that the DOS Compatibility Card is properly installed and

running, as described in the User's Guide. Also, if you plan to install Windows from floppy disks and have not yet done so, do this before installing the LAN Workplace for DOS software.

In addition, you must have already loaded a TCP/IP software package, such as any of those shown above, prior to installing Mosaic.

1) Before installing Mosaic, you need to first install Win32s, which allows WIndows to run 32-bit applications. Win32s is freeware and can be found on a number of on-line services.

2) From the Windows File menu, run C:\\WIN32\\DISK1\\SETUP.

3) Answer all of the dialog boxes to complete the installation.

4) After Win32s is installed, a Group window labeled "Win32 Applications" will appear.

5) Create an icon for Mosaic (Alt-F-New).

6) Select Program Item in the "New Program Object dialog box."

7) Fill in the "Program Item Properties" dialog box as follows:

```
Description:    Mosaic
Command Line:C:\\MOSAIC\\MOSAIC.EXE
Working Directory: C:\\MOSAIC
```

8) Click OK. This creates a Mosaic icon in the Win32 Applications Group window.

9) Copy C:\\MOSAIC\\MOSAIC.INI to C:\\WINDOWS\\
You are now ready to use Mosaic.

==========

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Apple Network Server AIX: Compatibility With IBM RS6000 AIX

I have ordered an x.25 single port adapter for PCI that is suitable for use in an RS6000. The company producing the adapter does not have a device driver for it for PCI, only for microchannel. On PCI machines, the manufacturer recommends the use of an IBM product called AIXLINK on PPC RS6K machines running AIX 4.x; this has been to shown to work properly on IBM systems.

I want to know if I can get this package (AIXLINK, Feature number 3410, perhaps part number 5696-296; it replaced a previous product called x.25 for AIX version 1.1) to run on my Apple Network Server 700/150, and what the level of binary compatibility is.
This article has been archived and is no longer updated by Apple.
As far as the binary compatibility between Apple Network Server AIX and IBM RS6000 AIX is concerned, we believe that most of the thousands of AIX 4.1 applications running on IBM RS6000 workstations should run on the Apple Network Sever AIX 4.1.x without any modification. The exceptions would be those applications with specific hardware dependencies (such as Microchannel...), and applications which do not yet run on AIX 4.1 due to incompatibilities between IBM's AIX 4.1 and previous releases of AIX.

With the latest release of AIX 4.1.5, we believe applications written for (or compatible with) AIX 4.1.5 provide a high degree of binary compatibility among all AIX 4.1.5 systems on different hardware platforms. Hence, if the AIXLINK works under IBM AIX 4.1.5, it works under Apple Network Server AIX 4.1.5.

To summarize, the product SHOULD work just fine on this unit, but we have no way to test or guarantee 100 percent compatibility. It would be wise to contact the publisher of the application to further verify compatibility.
Published Date: Feb 18, 2012

AppleShare IP: Maximum Number Of Connected Clients

This article explains the maximum number of connected clients with AppleShare 4.2.1 and AppleShare IP 5.0.
This article has been archived and is no longer updated by Apple.
The maximum number of connected clients in AppleShare 4.2.1 (and earlier) was 250. The maximum number of simultaneous users in AppleShare IP 5.0 is also 250.
Published Date: Feb 18, 2012

Applesoft Tutorial: Apple IIc Display Issue

Customers are finding that some of the programs on the Applesoft Sampler diskette (included with the Applesoft Tutorial), when used on an Apple IIc, do not function as expected. Menus generated by these programs operate correctly when used on an Apple IIe, but there is a vertical displacement of one line between menu selection numbers and menu item descriptions when executed on an Apple IIc.
This article has been archived and is no longer updated by Apple.
The problem resides in three programs (CONVERTER, MAGIC.MENU and DISK.MENU) located on the Applesoft Sampler diskette. Load the "CONVERTER" program and list line number 625.

This line should currently read: 625 VTAB PEEK(37): IF COL80 THEN VTAB PEEK(1531)

Change this line to read: 625 IF COL80 THEN VTAB PEEK(1531) : GOTO 630

and then add the following line: 627 VTAB PEEK(37)

SAVE the file "CONVERTER".

Make the same changes to the files "DISK.MENU" and "MAGIC.MENU"

These changes will fix the problem.

We have been informed that these changes will soon be included in final product. However, the problem exists in product that is already shipping, so you can and should expect to hear from customers about this. Our suggestion is to perform the above changes to the CONVERTER MAGIC.MENU and DISK.MENU programs and give the fixed version of the program to those customers that need it. We expect to be informed when the change takes place in final (shipped) product.

As an added attraction we have found that two programs mentioned in the manual are not included on the disk. The listings for MOUSE.MOVE and
MOUSE.DRAW follow. Please distribute them to customers who did not receive copies on their disks.

MOUSE.MOVE

```
10 HOME
20 PRINT "THIS IS A DEMONSTRATION OF THE MOUSE"
30 PRINT CHR$(4);"PR#4": PRINT CHR$(1)
40 PRINT CHR$(4);"PR#0
50 PRINT CHR$(4);"IN#4"
60 INPUT "";X,Y,S
70 VTAB 10: PRINT X;" ",Y;" ",S" "
80 IF S > 0 THEN 60
90 PRINT CHR$(4);"IN#0"
100 PRINT CHR$(4);"PR#4": PRINT CHR$(0)
110 PRINT CHR$(4);"PR#0"
120 POKE - 16368,0: REM CLEAR KEYBOARD STROBE
130 END
```

MOUSE.DRAW

```
10 REM USES MOUSE TO DRAW LOW-RES GRAPHICS
100 GOSUB 1000: REM TURN ON THE MOUSE
110 PRINT CHR$(4);"IN#4"
120 INPUT "";X,Y,S: REM READ MOUSE POSITION
130 IF S = 1 THEN 100: REM CLEAR THE SCREEN
140 IF S < 0 THEN 300: REM TIME TO QUIT?
150 REM SCALE THE POSITION
160 X = INT (X / 25.575)
170 Y = INT (Y / 25.575)
180 PLOT X,Y
190 GOTO 120
300 REM CHECK IF TIME TO QUIT
310 POKE - 16368,0: REM CLEAR KEYBOARD STROBE
320 PRINT CHR$(4);"IN#0"
330 VTAB 22: PRINT "PRESS RETURN TO CONT OR ESC TO QUIT"
340 VTAB 22: HTAB 39: GET A$: PRINT
```

```
350 IF A$ = CHR$(13) THEN HOME : GOTO 110
360 IF A$ < > CHR$(27) THEN 340
370 REM CLEAR SCREEN AND TURN OFF MOUSE
380 TEXT : HOME
390 PRINT CHR$(4);"PR#4": PRINT CHR$(0)
400 PRINT CHR$(4);"PR#0"
410 END
1000 REM CLEAR SCREEN AND INITIALIZE MOUSE
1010 HOME : GR
1020 COLOR= 15
1030 PRINT CHR$(4);"PR#4": PRINT CHR$(1)
1040 PRINT CHR$(4);"PR#0"
1050 RETURN
```

Published Date: Feb 18, 2012

Apple Internet Server Solution: Web Site

This article announces the Apple Internet Server Solution web site.
This article has been archived and is no longer updated by Apple.
Apple is offering helpful Apple Internet Server Solution (AISS) information to customers and sales personnel at the Apple Internet Server Solution (AISS) web site. The URL for the site is:

http://www.servers.apple.com/prodinfo/aiss/

The site contains information such as a Data Sheet, AISS Software Version Matrix, Getting Your Apple Internet Server Online white paper, and how to get updates to bundle software.
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Apple Internet Server Solution: No Upgrade To 3.0 CD

I purchased an earlier version of the Apple Internet Server Solution (AISS), and now the newer AISS has different software. In some cases, there are newer versions of the software that was included on my AISS CD (such as a newer version of WebSTAR). In other cases, the newer AISS CD contains software that was not included on my AISS CD (such as the RealAudio Server). How can I obtain this software?
This article has been archived and is no longer updated by Apple.
There is no way to buy the AISS CD as an upgrade. Apple reserves the right to change the mix of software which is included with the Apple Internet Server Solution at any time.

To obtain newer versions of software included in the Apple Internet Server Solution, contact the individual publishers of the software. In many cases, updates have been posted to the Internet and are available for downloading from the publisher's online sites.

As another option, you may purchase any of the software included in the current AISS from the software manufacturer.
Published Date: Feb 18, 2012

PowerBook: Troubleshooting Expansion Bays

I cannot get the floppy drive or CD-ROM expansion bay module from my Powerbook 190, 5300, 1400, or 3400 series computer to recognize disks inserted into it. They either do not mount at all or the computer wants to initialize them. These are known-good disks. What can I do?
This article has been archived and is no longer updated by Apple.
Note: Remember to use either a Disk Tools floppy or the CD-ROM that came with the computer. Powerbook floppy drives, because they use a different mechanism than desktop units, are particularly sensitive to badly-formatted disks. These disks may work fine on a desktop unit or even another Powerbook but may still cause problems in a Powerbook floppy drive that is functioning within specficiations.

The following troubleshooting steps are ordered according to level of difficulty. After every step insert a Disk Tools disk or a System CD into the drive to test it.

Troubleshooting steps:

1. Reseat the drive. (Remove and re-insert).
2. Reset PRAM. (Remember that resetting the PRAM from shutdown on a Powerbook 190, 5300, or 1400 series computer will put the computer into a sleep mode. To get it to start up at this point, press the reset button on the I/O panel for a couple of seconds.)
3. Try starting up from the CD-ROM* or Disk Tools Disk. If you get the disk to boot, go to step 4. If the disk does not boot, go to step 6. (You will know that the PowerBook is booted from your Disk Tools disk or CD if the icon for the Disk Tools disk or the CD appears on the desktop in the upper right corner, ABOVE the icon for the hard drive.)
4. Run Disk First Aid. If there are no problems found (or after you repair any problems found), run Drive Setup. Select the hard drive, and update the hard drive drivers (under the "Functions" menu). Quit Drive Setup. Then reboot from the hard drive so that the new hard drive drivers will be active and test the media-bay device.
5. If nothing in Step 4 resolves the problem, then the issue lies with some element of the system software or the hard drive. To further troubleshoot a system problem use normal system software troubleshooting: boot with extensions off►?, system extensions only, extensions troubleshooting, and, as a last resort, perform a clean install of system software. If a clean install (with NO additional 3rd party applications or extensions installed) does not resolve the problem (and the system boots from the expansion bay module -- see step 3 above), then it may be necessary to reformat the hard drive because there may be a corruption or error on the hard drive that Disk First Aid cannot resolve.
6. If you cannot get the module to boot from the Disk Tools Disk or a System CD-ROM try replacing the module with another like module (floppy for floppy or CD-ROM for CD-ROM -- they use different connectors to the logic board on both the 1400 and 3400 series computers). It may be necessary to go to an Apple-Authorized Service Provider to find another drive to test in the unit. Also remember that the Powerbook 190, 5300, and 3400 series computers use the same floppy drive module and are interchangeable. If another module works in the questionable Powerbook then the problem lies with the module, which can be advance replaced (by calling Apple Computer directly or through an Apple-Authorized Service Provider). If another known-good module does not work in the Powerbook, service is indicated for the Powerbook because the problem lies on the logic board or its connection to the expansion bay module.

* To boot from a CD-ROM on a PowerBook1400 series computer, simultaneously hold down the command, option, shift, and delete keys until the "Happy Mac" icon appears on the screen. Do not hold down the keys too long if you want the hard drive to mount after the CD-ROM (necessary if you want to run Disk First Aid).

* To boot from the CD-ROM on a PowerBook 3400 series computer, hold down the "C" key.

►? With a CD-ROM module, a minimal extensions set with just the following extensions is needed to mount the drive: Apple CD-ROM and Foreign File Access. No extensions are necessary for the floppy drive to function normally.
Published Date: Feb 18, 2012

Power Macintosh 4400: Making A Norton Emergency Disk

I got Norton Utilities as part of the bundle included with my Power Macintosh 4400. I am trying to make an emergency disk and Norton is asking me to select my CPU from the listing. However, I do not see the 4400 listed.

This article has been archived and is no longer updated by Apple.

You must choose "other". But before you do this, you will need to make a Disk Tools diskette from the image provided on the Power Macintosh 4400 CD. After making the Disk Tools diskette, choose "other" from the list provided by Norton. You will then be prompted to insert the Disk Tools diskette for this CPU. Norton will use this disk to build an emergency floppy disk tailored for the Power Macintosh 4400.

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Avid Cinema: Specs for the "Save movie for..." formats

This article list the specifications for the Avid Cinema "Save movie for.." formats.
This article has been archived and is no longer updated by Apple.
This information is also available from the Avid Cinema Help guide.

Internet/WWW

- 1/16-screen image (160x120 pixels for both NTSC and PAL)
- Mono sound (11K, 8-bit)
- 10 frames per second
- 4MB disk space per minute of video
- No card required
- Cinepak compression

2X CD-ROM format

- 1/4-screen image (320x240 pixels for both NTSC and PAL)
- Mono sound (22K, 8-bit)
- 15 frames per second
- 11MB disk space per minute of video
- No card required
- Cinepak compression

4X CD-ROM format

- 1/4-screen image (320x240 pixels for both NTSC and PAL)
- Mono sound (44K, 16-bit)
- 30 frames per second
- 30MB disk space per minute of video
- No card required
- Cinepak compression

Avid Cinema format

- Plays full screen with Avid Cinema card or 1/4-screen (320x240 pixels NTSC or 392x288 pixels PAL) without the card CD-quality stereo sound (44K, 16-bit)
- 29.97 frames per second NTSC or 25 frames per second PAL (same as television)
- 55 MB disk space per minute of video
- Avid cinema card required for full screen size and frame rate
- JPEG compression

Presentation software format

- 1/4-screen image (320x240 pixels for both NTSC and PAL)
- CD-quality stereo sound (44K, 16-bit)
- 30 frames per second
- 60MB disk space per minute of video
- No card required
- Cinepak compression

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MacDNS: Works With Windows Clients

This article explains MacDNS compatibility with Windows clients.
This article has been archived and is no longer updated by Apple.
MacDNS works fine with Windows clients. It will serve clients on every platform that can communicate using the TCP/IP protocol. Some DNS clients, notably those running under Windows, require the DNS server to provide recursive service. MacDNS fulfills this requirement indirectly by utilizing the services of a recursive parent server.
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MAE 2.0x,3.0x: Bombs With Multiple System Folders

This article describes what may happen if multiple System Folders are present when running the Macintosh Applications Environment (MAE).
This article has been archived and is no longer updated by Apple.
MAE, the Macintosh Applications Environment for Unix, may be unable to start up correctly if multiple System Folders are present in the same directory if this directory is the source of Mac OS System Software at startup. Symptoms differ slightly:

- Version 2.0x concludes with a "ROM Failure" error.
- Version 3.0x bombs with a bus error ("to temporarily start without extensions, restart and hold down the shift key").

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Newton Backup Utility 1.0.1 For Windows: Read Me

This article contains the Read Me document for version 1.0.1 of the Newton Backup Utility for Windows.
This article has been archived and is no longer updated by Apple.

Newton Backup Utility 1.0.1 for the Windows Operating System

This document contains the latest information on the Newton Backup Utility (NBU). You'll find general tips for backing up, restoring, and installing packages using NBU. You'll also find troubleshooting information.

This version of NBU requires a 486 microprocessor or later generation microprocessor. NBU works with Windows 3.1 or later, Windows for Workgroups 3.11 or later, Windows NT 3.5 or 3.51, and Windows 95. NBU requires 8 megabytes (MB) of memory (RAM) to run on Windows 3.1, Windows for Workgroups 3.11, and Windows 95. To run on Windows NT, NBU requires 16 MB of memory.

Preparing to Install NBU

Before you install NBU, delete any other version of NBU on your computer that you have previously installed.

Selecting A Baud Rate

NBU and the Connection application on the Newton MessagePad are preset to use a 38400 baud rate. This data communications rate works with most Windows machines. However some computers may be unable to communicate at this speed and thus need a slower communciations rate. If you discover problems with NBU's communications, such as the connection dropping unexpectedly or seeing time-out error messages, you can set NBU and your Newton to communicate at a slower rate. To set up for a slower communications rate, install one of the transport packages placed on your desktop during installation. The three transport packages are:

9600Baud.pkg
4800Baud.pkg
2400Baud.pkg

You can install one of these packages on your Newton PDA using NBU or the Newton Package Installer (not included with NBU.) If you're unsure about which package to install, begin by selecting the package that represents a 9600 baud rate and if you still experience communication problems, install a package for a lower baud rate until you find one that works on your machine.

After installing the package on your Newton PDA, you'll see a new baud rate appear in the Newton Connection slip pop-up menu. Select the lower rate (such as "Serial 9600 Baud") on the Newton PDA.

You must also select that same baud rate in the NBU application Settings window. Select Settings from the Newton menu. When the Settings window appears, select the lower rate from the pop-up menu. Be sure to select the same speed you chose on the Newton PDA.

You may need to use a lower baud rate if your computer has the following characteristics:

- An 8250 UART or other hardware characteristics that make for slow performance
- The minimum amount of system memory recommended for use with NBU. A 486SX (or earlier) microprocessor.

You might also consider purchasing a 16550 UART that would allow you computer to use NBU at its preset speed. If you use a laptop computer equipped with PCMCIA, you can purchase a PCMCIA 16550 UART card.

Virtual Memory

If your computer uses Windows 3.1 (or later version), or Windows for Workgroups 3.11, NBU requires that virtual memory be turned on.

For all Windows versions, NBU requires that any virtual memory that you use be set to Permanent and not Temporary.

Setting Scheduling and Minimum Timeslice Parameters

NBU requires specific Windows scheduling parameters to run using Windows 3.1 and Windows for Workgroups 3.11. These settings are located in the 386 Enhanced Control Panel. In most cases, the required settings are the default Windows settings. Some communications applications set these parameters to different values, however, so it's a good idea to check these settings.

NBU requires the following settings: - Windows in Foreground must be set to 100 Windows in Background must be set to 50 - Exclusive in Foreground must not be checked. - Minimum Timeslice (in msec) must be set to 20.

NBU may not function correctly without these settings. If the Minimum Timeslice is set to a value higher than 20, NBU may not be able to maintain a 38400 baud rate.

Resetting the Newton to Solve Problems

If you are having problems using NBU after selecting a lower baud rate and checking your settings, try resetting your Newton PDA. To reset your Newton PDA, remove the battery cover from your Newton PDA and use a pen or pin to press the button marked Reset located above the batteries.

General tips

- If you cancel an operation, the Newton Backup Utility may exhibit problems on subsequent operations. If you observe this, quit the application and restart.

- NBU performs significantly better when it is the only active application. To avoid complications in the transmission of data, do not operate any other application on your desktop while NBU is communicating with the Newton PDA.

- If you experience problems using the Newton Backup Utility when initiating operations from your Newton PDA, try initiating them from your computer.

- The Newton Backup Utility and other Newton applications work best when adequate internal memory is available on your Newton PDA. If you get an out-of-memory message, close applications you are no longer using or remove unneeded applications.

- Don't use the Newton Backup Utility when you have a screen saver application program active; unexpected results may occur.

Tips on installation

- If you have problems installing the Newton Backup Utility, you may need to disable the virus-protection programs on your computer. After you install the Newton Backup Utility, you can reactivate the virus-protection programs.

Tips on the online documentation

- The Newton Backup Utility includes an online user's manual located in the NBU directory. This guide is in PDF format and you can open it using Adobe Acrobat Reader. If you don't have Acrobat Reader, you can request a copy from Adobe Systems. Call 1-800-272-3623 (U. S. customers only) or contact your local Adobe Systems distributor. If you don't have immediate access to Acrobat Reader, refer to the SUMMARY.WRI document located in the NBU directory.

Tips on backing up information

- When you first back up information on your Newton PDA, the Newton Backup Utility creates a new backup file. When you make subsequent backups, the Newton Backup Utility adds new information to the existing backup file. Occasionally, (for example, when you change time zones or when the backup file gets very large) it's a good idea to delete the existing backup file and make a new backup of all the information and packages on your Newton PDA.

- When you use a serial connection to connect your computer to your Newton PDA, Apple recommends you use your computer's hard disk to back up and restore information. Don't back up or restore using a floppy disk.

- Apple recommends that you create a permanent swap file (instead of a temporary one) for your computer system if your computer uses Win32s. See the Appendix in the SUMMARY.WRI document or the online user's guide in the NBU directory for instructions about turning on virtual memory and creating a swap file.

- The Newton Backup Utility works best when you back up and restore storage cards of 4 MB or less.

Tips on restoring information

- When you restore packages to your Newton PDA, you may see an "X" on top of the package icon. This means the package hasn't been activated. To activate the package, restart your Newton PDA or open the package by tapping its icon.

- If you transfer information from an earlier-model Newton PDA to a Newton PDA using the Newton 2.0 operating system, the Newton setup instructions may appear. If you've already entered setup information on your Newton PDA, you don't need to repeat the information. The information appears when you open the Extras Drawer and start the setup application.

Troubleshooting

When backing up a Newton PDA that is running a version of the operating system earlier than 2.0, I cannot connect to the Newton Backup Utility.

If you have a PCMCIA card in the Newton PDA, remove the card and try to backup again.

When I use the Windows 95 file browser to find a package, I can't find my package.

- If a package doesn't have the extension .PKG, it will not show up when you choose to view packages with *.PKG extensions. Set the browser to view all files by choosing "*.*" to see your packages.

I've set the communication settings for the utility, but I can't connect from the Newton PDA.

- Be sure to close the settings window and any other open menus or windows of the utility before you try to connect from the Newton PDA. The utility will not respond to the Newton PDA when a window or menu is open.

I've created a Windows 95 shortcut for a package, but when I drag and drop the shortcut onto the utility, it doesn't work.

- The Newton Backup Utility does not support the use of Windows 95 shortcuts.

When I reopened or exited the utility, Windows or the utility froze up and wouldn't work.

- Computers that have 16550 UART chips from SMC and that run Windows for Workgroups version 3.11 may freeze when you open or exit the utility. To fix the problem, install a new serial.386 driver in your Windows System directory. Contact the Microsoft Product Support Services for Windows to obtain an updated version of the serial.386 driver. Installing the driver fixes the problem with some SMC serial cards. If the problem persists, the serial card is defective, and you should purchase a new one.

When I open the utility, I see a message asking me to select a COM port.

- The first time you open the utility, you must select a COM port to use. Thereafter, the utility uses your selection each time it opens. If your selected COM port is unavailable, or a problem occurred with it, you see the message asking to select another COM port. Click the Settings button and select an available COM port.

I have a mouse connected to serial port COM1. When I choose serial port COM3 for my Newton PDA connection, my mouse stopped working.

- Exit Windows to get your mouse running again. Choose a different COM port for your Newton PDA connection. When running Windows, it's not possible to use the combinations of COM1 and COM3 or COM2 and COM4 at the same time.

When I start up NBU, I see a Win32s error message.

- Check that Win32s is properly installed on your computer. The game Freecell is provided on the NBU disks. If you start up the game and it runs fine, then Win32s is properly installed. To run the game, you must first decompress it. Use the DOS command Expand to decompress the game files. (For example, type: Expand a:\\freecell.ex_ c:\\nbu\\freecell.exe.)

I see an error message about a General Protection Fault.

- Win32s is not compatible with certain video drivers, specifically S3 drivers such as those used with Orchid, Diamond, Dell equipment. Your video driver must be a 1.3 version or higher.

- One solution may be to edit your System.ini file and add the following line in the [Display] section: aperture-base=0

Otherwise, obtain a video driver from your manufacturer that is the 1.3 version or higher.

When I try to select a COM port, no COM ports are available or a conflict message appears.

- Check to see if you have selected two ports that share an IRQ. When using a System.ini file, COM1 and COM3 both use IRQ4 and COM2 and COM4 use IRQ3. If you have selected COM ports that share the same IRQ, each port becomes inaccessible. This can also occur when another device (such as a mouse, tablet, or modem) has accessed a COM port with the same IRQ.

You can useWin Terminal to determine which ports are valid selections for your computer. If a message that a port is busy or is not available appears, NBU can't use that port.

When doing a first backup, I tapped the Stop button on the Newton and an error occurred.

- Avoid using the Stop button to stop procedures in mid-process. Use the desktop application to cancel the connection if necessary.

I cancelled a restore operation by canceling from the Newton PDA, but my computer continues to keep working.

- If pressing the Stop button on the desktop application doesn't stop the operation, an error has occurred, and you must press Control-Alt-Delete to end the NBU session and restart your computer. Avoid cancelling operations from the Newton PDA.

I see error message "Package <package name>: is not recognised as a Newton package."

- Such a problem may occur if you have decompressed packages inappropriately. If you have compressed packages on your computer, do not use Stuffit Expander to decompress Windows files (such files will decompress as a Mac binary files).

- If you use Stuffit with Windows to decompress a hqx file, open the Cross Platforms options and select Never for both the "Convert text to windows" and "Save Macintosh in Mac Binary" options.

I use a special color scheme with the Microsoft Plus Pack and the check boxes in my backup list appear as solid black boxes.

- Use the default settings for color on your computer or select a different color scheme.

Known Problems

- The barber pole in the status message may not work on some machines.
- If NBU is idle for a long period prior to connecting, you may experience problems reconnecting. If you experience such a problem, exit and restart the NBU application.
If you experience problems using NBU, you can sometimes increase the application's reliability by resetting the Newton PDA shutting off your computer and restarting Windows and then NBU.

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Avid Cinema: Volume Jumps At Beginning Of Audio Clips

I notice that in my Avid Cinema project, sometimes the volume will momentarily jump, especially at the beginning of quiet clips or clips with a fade-in. How can I fix this?
This article has been archived and is no longer updated by Apple.
This can happen if the clip volume has been lowered or a fade-in has been applied on an audio clip in the narration or music track and if the clip is preceded by silence. If this occurs on an audio clip in your project, follow these steps:

1. Create a new project.
2. Go to the Sound tab within the Edit Movie tab and click the Import button.
3. In the dialog box that appears, navigate to the media folder of the project that you are having the problem with.
4. In the media folder, select the audio clip that is having the problem. If you are not sure which one it is, you can use the Play Sound preview button on the left. When you have selected the correct file, click the Open button.
5. Click on the clip in the timeline to select it, then adjust the clip volume and the fade options for the clip as you want them in the original project. **Note:** Do not move the clip in the timeline. Moving the clip could cause the problem to reappear.
6. Go to the Send Movie Out tab and click the "Save movie for..." radio button.
7. Select "Avid Cinema" in the pop-up window below and click the Start button.
8. Give the movie an appropriate name and save it in the media folder of the current project.
9. Close the project. There is no need to save the changes in this project.
10. Open the original project.
11. Remove the audio clip with the problem from the timeline.
12. Go to the Sound tab within the Edit Movie tab and click the Import button.
13. In the dialog box that appears, navigate to the media folder of the previous project and open the movie that you just saved.
14. The corrected sound will appear in the Music track of the timeline. Drag the new clip to the desired place in the timeline.

The sound should now play back properly. You should not need to adjust the clip volume or fade options since the this was done in the previous project. If you do adjust the clip volume or fade options on this clip, the problem may reoccur.
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AppleShare IP 5.0: Installing Components On Separate Computers

This article is about installing individual components of Appleshare IP 5.0 across more than one physical server using the same serial number.
This article has been archived and is no longer updated by Apple.
The AppleShare Web and File Servers may be installed on one computer, and the Mail, and Print Server installed on additional computers using the same serial number.
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Mac OS 7.6.1: VM Performance With Power Macintosh 54xx/64xx/6360

I have a Power Macintosh 6360. I just installed Mac OS 7.6.1, and it seems relatively slow when virtual memory is active. Is this normal? What can I do to improve performance?
This article has been archived and is no longer updated by Apple.
Apple is aware of a performance issue on 5400 / 6400 / 6360 machines with Virtual Memory (VM) active on Mac OS 7.6.1. The issue was resolved in Mac OS 8. For 5400 / 6400 / 6360 customers using Mac OS 7.6.1 with VM turned on who are not satisfied with the level of performance, the recommendation is to do one of the following:

- Do not use Virtual Memory
- Re-install Mac OS 7.6.1
- Upgrade to Mac OS 8

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PowerBook 2400: Ports

This article contains photos of the ports found on a PowerBook 2400.

This article has been archived and is no longer updated by Apple.

Figure 1 Ports on the rear of a PowerBook 2400

Figure 2 Sleep Indicator, speaker, and battery locations on the front of a PowerBook 2400

Figure 3 Ports on the left side of a PowerBook 2400

Figure 4 Internal microphone opening and the PCMCIA eject buttons on a PowerBook 2400

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Power Macintosh 5500/6500, 20th Anniv. Macintosh: ATI Extensions

We have a Power Macintosh 5500, 6500 and the 20th Anniversary Macintosh that have been updated to Mac OS 8.0. We noticed that we have several ATI extensions in the Extensions folder. The ATI extensions that we found after installing Mac OS 8.0 are:

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Name	Version
ATI 3D Accelerator	3.3.5
ATI Graphics Accelerator	1.2.2
ATI Graphics Driver	1.0.14
ATI MPEG Accelerator	1.0.5
ATI Video Memory Manager	2.8
ATI YUV Accelerator	1.6.2

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What are these extensions and what are they used for?
This article has been archived and is no longer updated by Apple.
The Power Macintosh 5500 and 6500 series computers and the 20th Anniversary Macintosh include an ATI 3D RAGE II 64-bit graphics and multimedia accelerator via the built-in ATI264GT graphics controller on their logic boards. The ATI264GT graphics controller contains the logic for video display. This graphics controller provides the following specific functions:

- Display memory controller, built-in drawing coprocessor, video scaler, color space converter, clock generator, and true color palette video DAC (digital-to-analog converter).
- Video CLUT (color lookup table).
- Hardware graphics acceleration with a 16-bit Z-buffer.
- Accelerates QuickDraw 3D rendering up to 6 times that of software-only acceleration.
- True color palette DAC supporting pixel clock rates to 135 MHz for 1280 by 1024 resolution at 75 Hz.
- Graphics and video line buffer for superior video scaling and playback quality.
- Hardware cursor up to 64 x 64 x 2.
- DCC1 and DDC2B plug-and-play monitor support.
- Supports synchronous graphics RAM (SGRAM) at up to 67 MHz memory clock, providing a bandwidth up to 536 MB per second.
- Graphics control accessible through the QuickDraw, QuickDraw 3D, QuickDraw 3D RAVE, and QuickTime components APIs.

A separate data bus handles data transfers between the ATI264GT IC and the display memory. The display memory data bus is 64 bits wide, and all data transfers consist of 32 bits at a time. The ATI264GT IC breaks each 64-bit data transfer into several pixels of the appropriate size for the current display mode of 4, 8, 16, 24, or 32 bits per pixel. The ATI264GT IC uses several clocks. Its transactions are synchronized with the PCI bus. Data transfers from the frame-buffer RAM are clocked by the MEM_CLK signal, which runs at 67 MHz. Data transfers to the CLUT and the video output are clocked by the dot clock, which has a different rate for different display monitors. The 2D graphics accelerator is a fixed-function accelerator for rectangle fill, line draw, polygon fill, panning/scrolling, bit masking, monochrome expansion, and scissoring.

All of the acceleration features are controlled by application software through the use of system software extensions. The Macintosh system software (Mac OS) extensions for accessing the ATI264GT graphics controller are:

- ATI 3D Accelerator - Links Apple QuickDraw 3D to ATI 3D hardware accelerator.
- ATI Graphics Accelerator - Provides for acceleration of 2D graphics operations.
- ATI Graphics Driver - PowerPC native video driver for the ATI video hardware
- ATI MPEG Accelerator - Provides hardware color space conversion, chroma interpolation and alpha blending while scaling of YUV-9 data stream for MPEG Acceleration.
- ATI Video Memory Manager - Keeps track of bitmaps and textures in offscreen memory on ATI 3D hardware accelerator.
- ATI YUV Accelerator - Provides hardware decoding and scaling of YUV data stream for QuickTime Acceleration.

Much of the above information was taken from the "Software Components for the 2D and 3D Hardware Graphics Accelerator" chapter of the Power Macintosh 5500 and 6500 Developer Notes. For more information, see the Power Macintosh 5500 and 6500 series or the 20th Anniversary Macintosh Developer Notes.
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Avid Cinema: Menu Items Available

What are the various selections available in the Avid Cinema menus?
This article has been archived and is no longer updated by Apple.
Avid Cinema has three menus. The menus and selections from each are listed below.

File Menu

New...
Open
Close
Save
Save Storyboard only - Save the movie's storyboard as a Storyboard template that can be used again.
Page Setup
Print
Quit

Edit Menu

Undo - Undoes the las edit the the Titles tab only
Cut
Copy
Paste
Clear
Select All

Movie Menu

Video Source - Sets the source for bringing in composite video
Audio Source - Sets the source for bringing in sound
Next Clip - Places the position bar at the beginning of the next clip
Previous Clip - Places the position bar at the beginning of the previous clip
Zoom In - Zooms into timeline
Zoom Out- Zooms out of the timeline
Insert Black/Silence
Remove Black/Silence
Remove Audio
Split Clip - Inserts a cut in the clip, splitting it into two clips
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Avid Cinema: Available Transition Effects

What types of transition effects does Avid Cinema offer?
This article has been archived and is no longer updated by Apple.
The transition effects can be put into two categories: wipes and digital video. The table below details each of the transition effects, starting with the wipes.
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Avid Cinema Transition Effects	
Name	**Action**
Barndoor	The image opens from the middle, revealing the second image.
Blinds	The second image appears over the first image as though through venetian blinds opening.
Clock Wipe	The second image is revealed by an invisible line sweeping clockwise around the center.
Fan Wipe	A fan-shaped wipe around the center reveals the second image.
Iris Wipe	The second image opens over the first in an expanding circle.
Random Blocks	Small blocks of the second image gradually cover the first image.
Wipe Left	A wipe reveals the second image under the first one, from right to left.
Wipe Right	A wipe reveals the second image under the first one, from left to right.
.	.
Book Turn	Simulates turning a page in a book; the second image lies on the next page.
Cross Emboss	The second image is raised in relief over the first image.
Cross Mosaic	The second image comes out of the first one pixel by pixel.
Cross Spin	As everything spins, the first image zooms out and the second image zooms in.
Cross Zoom	The first image zooms in, and the second zooms out to replace it.
Drop	The second clip drops and bounces over the first.
Explode	The first image explodes to reveal the second image.
Peel	Peels off the first image from the top left corner to reveal the second image.
Push	The second image pushes the first one off the screen.
Sliding Boxes	Blocks slide into place one by one to reveal the second image.
Spin In	The second image spins and zooms in over the first image.
Spin Out	The first image tumbles in to cover the second one.
Tumble In	The second image tumbles in to cover the first one.
Tumble Out	The first image tumbles out to uncover the second one.

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Avid Cinema: Disk Space Requirements

What are the disk space requirements for creating movies in Avid Cinema?
This article has been archived and is no longer updated by Apple.
Disk space requirements are as follows:

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Type of Movie	1 Minute	5 Minutes	10 Minutes	15 Minutes	20 Minutes	25 Minutes
Video with sound	55Mb	275Mb	550Mb	825Mb	1100Mb	1375Mb
Narration or Music	11Mb	53Mb	105Mb	158Mb	211Mb	265Mb
Final Movie*	75Mb	375Mb	750Mb	1125Mb	1500Mb	n/a

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	1 Second	5 Seconds	10 Seconds	20 Seconds	30 Seconds
Effects	750K	4Mb	8Mb	15Mb	23Mb

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* Assumes music, full length of movie, narration half of movie, and 30 seconds of effects.
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Avid Cinema: Available Sound Effects

Are there sound effects available in the Avid Cinema software?
This article has been archived and is no longer updated by Apple.
Yes, Avid Cinema software ships with a small library of sound effects for use in your movies. They are located in the Sound Effects folder inside the Examples folder, which resides in the Avid Cinema folder.

The sound effects available are:

Applause
Bolt of Lightening
Cheering
City Traffic
Comedy Sounds
Crash
Doorbell
Fireworks
Football Game
Glass
Jet
Laughter
Ocean
Siren
Skid
Telephone
Thunder
Train
Whip Crack
Wind
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Netscape Navigator 3.0: Difficulty Downloading Email Attachments

I have a Power Macintosh 7300/200. I am trying to use Netscape Navigator version 3.0, which came bundled with my system. When I try to send an email with an attachment, the system beeps repeatedly and the message/attachment is not sent successfully. What can I do to correct this?
This article has been archived and is no longer updated by Apple.
Netscape is aware of the behavior you describe. Netscape Navigator 3.01 remedies the situation. Version 3.01 of Navigator is available for download on the Internet from Netscape.

In the meantime, if you have difficulty using Navigator 3.0 to download files/attachments, you might consider another method of connecting and downloading such files. Try ftp client software such as Fetch, or another web browser, or another email program such as Eudora.
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MessagePad 2000: System Update 2.1 U.S. Read Me

This article contains the Read Me document included with System Update 2.1 for the Newton MessagePad 2000.
This article has been archived and is no longer updated by Apple.
System Update 2.1 (717145)US is for Apple MessagePad 2000 customers in the United States. This version will install over the following system software versions for MessagePad 2000:

- version 2.1 (717006)
- version 2.1 (717041)
- version 2.1 (717132)

Before you install any system update, you should backup your MessagePad 2000 with the Newton Connection Utilities application or to a PC storage card (PCMCIA card). Apple is not responsible for any lost data. New changes in System Update 2.1 (717145):

- Data may have been lost when sending large blocks of data via the serial port. This has been fixed.
- When writing large amounts of cursive text, an out of memory condition was sometimes encountered. This has been fixed.
- Fixed a problem causing the error message "Newton still needs the card..." when certain communication cards are ejected.
- Text on the cover page of a fax is now clear.
- Battery level indicator in Extras will now accurately display battery charge.
- The power switch detection sensitivity has been improved to minimize false detection of system or backlight on/off events.

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MacDNS: No Multiple Default Home Pages

This article is about the inability to have multiple default home pages using MacDNS.
This article has been archived and is no longer updated by Apple.
Serving multiple default home pages is not an option in MacDNS. Serving up a different default HTML page based on the domain name in a URL is an issue for HTTP server software (or an add-on product which runs on a Web server machine, such as HomeDoor from Open Door Networks).
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Power Macintosh 6500: Thinkin‘ Things And Sound

This article contains the in-box flyer (marked part 033-0605-A), included with the Power Macintosh Home Edition 6500/225 (M5611LL/A), 6500/250 (M5648LL/A) and 6500/300 (M6079LL/A) computers that ship with Mac OS 7.6.1.

This article has been archived and is no longer updated by Apple.
SOUND RECORDING WITH THE THINKIN' THINGS COLLECTION 3 APPLICATION PROGRAM

You can record sounds on your Macintosh computer with the Thinkin' Things Collection 3 application. If you record a sound with this program, restart your computer immediately afterward.

In some cases, the program causes sound distortion in Thinkin' Things Collection 3 as well as in other applications. You hear the distortion as a slowdown in the sound playback speed.

The situation that causes the distortion damages neither your computer nor its software. To hear sound properly again, just restart your computer.
Published Date: Feb 18, 2012

PowerBook 2400,3400: Password Security and Mac OS 8.0

When I install Mac OS 8.0 onto my PowerBook 3400, the Password Security control panel gets automatically disabled. I cannot seem to use it anymore. What is happening?

This article has been archived and is no longer updated by Apple.
On PowerBook 2400 and 3400 systems, Password Security software is not compatible with Mac OS 8.0. Other PowerBook systems are not affected.

If the Password Security control panel is opened on PowerBook 2400 or 3400 systems while Mac OS 8.0 is running, the controls will not work or will work improperly.

If a clean install of Mac OS 8.0 is performed on a PowerBook 2400 or 3400 system, the Password Security software will not be installed. If Mac OS 8.0 is installed over a previous version of the Mac OS, the Password Security control panel will be moved into the "Control Panels (Disabled)" folder.

With Mac OS 8.0, you can still use Password Security on PowerBook 2400 and 3400 systems but you will need to start up from an earlier version of the system software in order to adjust any Password Security settings. If you do not have an earlier version of the system software on your hard drive, you can drag the Password Security control panel to the System Folder on the Disk Tools disk which came with your PowerBook. If you do not already have Password Security on your hard drive, you will need to custom install it from the system software installer on the CD which came with your computer. Then, if you start up from the Disk Tools disk you will be able to turn Password Security on and off, change the password, and so on. These settings will persist and function correctly even after restarting with Mac OS 8.0.

Apple has released a software update for PowerBook 2400 and 3400 customers with this problem. Please see TIL article **26056** for more information on Password Security 1.0.6.
Published Date: Feb 18, 2012

PowerBook 500 series: Obtaining Modem Software

I just bought a used PowerBook 500 and I need the modem software. Where and how can I obtain it?
This article has been archived and is no longer updated by Apple.
If you need the entire package, PowerPort 500 Modem Software from Global Village can be obtained from Global Village for a fee. If all you need is an update to the software, you will find updates on line at Apple and Global Village. download sites.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

The Tech Info Library article titled "**Locating Vendor Information**" can help you search for a particular vendor's address and phone number.

These articles can help you locate the software update mentioned here:

"**Where To Find Apple Software Updates**" - Lists online services for free Apple software updates.

"**Obtaining Apple Product Support in the USA**" - Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech Info Library.
Published Date: Feb 18, 2012

Mac OS 8.0: Dropping DA Suitcase on System Folder Works Differently

This article describes the behavior of Mac OS 8.0 when a suitcase containing a desk accessory is dropped onto the System Folder.
This article has been archived and is no longer updated by Apple.
Running Mac OS 8.0, the behavior when dropping a suitcase containing a desk accessory on top of the System Folder has changed.

Under Mac OS 8.0, if you drop a desk accessory suitcase on top of the System Folder the entire suitcase will automatically move to the Apple Menu Items folder. With System 7.5 and Mac OS 7.6 the desk accessory was removed from the suitcase and put in the Apple Menu Items folder, and the suitcase was deleted.

The change was not intentional; a future release of the system software will likely change this behavior.
Published Date: Feb 18, 2012

Early Language Connnections (ELC): Grady Profile 2.2 Cards

I have just installed the Early Language Connections bundle v6.0 and I am using Grady Profile 2.2. When I open Demo Student's profile I find that the evaluation cards do not seem to match the card names in the popup menu. How can I fix this?
This article has been archived and is no longer updated by Apple.
According to the developer, Aurbach & Associates, the special ELC tailoring was not completely installed in version 2.2 of Grady Profile. To remedy the situation, perform the following steps before using the Grady Profile/ELC for the first time:

1. Log in to Grady Profile as "Support Person" (password = "grady profile").
2. Click "Maintenance" to go to the Maintenance card.
3. Click "Change Card Names" to go to the Card Renamer.
4. Click "Rename" on the Card Renamer. It is not necessary to change any data on this card.
5. Quit the program (cmd-Q, even though the menu bar is hidden).

Also, there is a free update to Grady Profile version 2.2.2 for users who have Grady Profile 2.2 or 2.2.1. This new version addresses this and several other reported problems. This update can be downloaded from Aurbach's World Wide Web site.

For the latest information regarding Grady Profile, contact Aurbach & Associates.

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The Tech Info Library article titled "**Locating Vendor Information**" can help you search for a particular vendor's address and phone number.
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PC Compatibility Card (166MHz): Memory Specifications

What are the memory specifications for the 166MHz Pentium-based PC Compatibility Card?
This article has been archived and is no longer updated by Apple.
This card supports a single DRAM DIMM up to 64MB in size.

- 168-pin
- 60 ns or faster
- Fast Page Mode (FPM)
- 64-bit wide
- 5V
- supports refresh rates up to 4K

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Open Transport: How To Upgrade From Classic Networking

This article describes the steps necessary to change over to Open Transport and install OT/PPP for the first time.
This article has been archived and is no longer updated by Apple.
OT/PPP requires that you be running System 7.5.3 or later, Open Transport 1.1.1 or later, and OT/PPP 1.0 or later.

Step 1

If you are using a Performa or Power Macintosh 6200, 6300, 5200, or 5300 series computer (except for the 5260, 6320, or 6360), you should obtain a copy of the 5xxx/6xxx Tester. This will check your computer for the presence of an issue with your Level 2 cache that prevents Open Transport from installing correctly. If the tester indicates that a cache problem exists, then you must have a repair performed on your computer; the repair will be covered by the Repair Extension Program. Note that the tester program may also fail the computer for non-cache issues: in this case, Open Transport (OT) can be installed. (See the notes at the end of this article for information on how to obtain the 5xxx/6xxx Tester.)

Step 2

If you are not already running System 7.5.3 or later, then you must upgrade via System 7.5 Update 2.0. You can download System 7.5 Update 2.0 from the Apple Software Updates Web site at http://www.apple.com/swupdates.

Note that 7.5 Update 2.0 installs OT 1.1. OT/PPP will not work with OT 1.1.

Note also that 7.6 does install OT 1.1.1 and has a copy of OT/PPP on the installation CD, but it does not support Classic Networking. If you are experiencing the cache issue, installing 7.6 will completely disable your MacTCP-based Internet access, and will not provide you with access to Open Transport until the repair is done.

Note that most large installers available through Apple Software Update sites are available as either disk images or as "net installs." Disk images require that Disk Copy 4.2 be used to master actual floppy disks (you can get a copy of Disk Copy 4.2 in the Utilities area; many computers also include a copy on their restoration CD). A "net install" is typically a much larger file which is designed to be run from a hard drive. Which option you choose will depend on how many computers you need to install on, what kind of backup media you have, and how reliable your Internet connection to download the files is. Downloading a 20MB file over a phone line is probably not a good idea; downloading twenty 1MB files improves your ability to recover from an error in the transmission.

Step 3

Next, you will need to obtain Open Transport 1.1.1 or 1.1.2 and OT/PPP. These can be obtained from Apple Software Update sites. We also recommend that you download the OT 1.1 Manual. The OT/PPP installer installs its own manual.

Both manuals require Adobe Acrobat Reader. If you do not have Adobe Acrobat installed on your computer, it can be downloaded from the web site maintained by Adobe Systems, Inc.

Step 4

Installing Open Transport 1.1.1 or later will automatically switch your network connections over to Open Transport. If, in the future, you wish to switch back to Classic Networking, you can do so with the Network Software Selector, an application that should be present in your Apple Extras folder.

Note: All Power Macintosh 6500, 7200, 7300, 7500, 7600, 8500, 8600, 9500, and 9600 series computers, and computers running System 7.6 or later, do not support Classic Networking, so the Network Software Selector will not be available.

Important: Some Performa computers upgraded from System 7.5.5 to System 7.6 or later may not display the AppleTalk or TCP/IP control panels. To make these control panels active, switch from Classic Networking to Open Transport using Network Software Selector.

Step 5

Install OT/PPP 1.0.

Step 6

TCP/IP needs to be launched, and the network connection changed to "PPP". For more information, refer to the article 18238: "**Open Transport TCP/IP Configuration**"

Briefly: you will need to change TCP/IP's connection method to "PPP" (it will probably indicate "MacPPP" if that was the PPP client you were previously using). You will also need to specify how your computer receives its TCP/IP address (likely via a "PPP server," but check with your

Internet Service Provider for details). Additionally, you will need to enter the IP address numbers of your Domain Name Servers.

This information can be obtained from your service provider. Normally, if you were previously provided with this information to support a connection under MacTCP, much of this would have been automatically converted when you switch over to Open Transport.

These changes should be saved, either as part of the current configuration or as a new configuration.

Step 7

The Modem control panel, which OT/PPP installed, needs to be opened and the modem type specified.

Step 8

Launch and configure the PPP control panel. Refer to the OT/PPP User's Guide for information on how to set up OT/PPP.

These articles can help you locate the software update mentioned here:

Article 14724: "**Where To Find Apple Software Updates**" - Lists online services for free Apple software updates.

Article 7144: "**Obtaining Apple Product Support in the USA**" - Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Knowledge Base.

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Article 17159: "**Locating Vendor Information**" can help you search for a particular vendor's address and phone number.
Published Date: Feb 18, 2012

KidWorks Deluxe, Spell It, Spell It Deluxe: -35 Error During Install

When re-installing KidWorks Deluxe recently I got an error -35 (volume not found). I have re-installed the software in the past without a problem. How can I resolve the situation?
This article has been archived and is no longer updated by Apple.
The error occurs because the hard drive has been renamed. There is a bug in the ProVoice software that is a component of KidWorks. To work around this, delete the ProVoice Preferences and the ProVoice folder from the Preferences folder of the System Folder. Then, reinstall the software according to the original instructions.

For more information contact the publishers of the software, Davidson & Associates.

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The Tech Info Library article titled "**Locating Vendor Information**" can help you search for a particular vendor's address and phone number.
Published Date: Feb 18, 2012

QuickTake 200: Low Battery and Card Error

When I try to accesss images stored on the storage card and my batteries are low on the camera, I get an error message indicating "Card Error" and there are icons indicating the low battery and an icon of the storage card with an question mark on it. Does this mean my images are lost?
This article has been archived and is no longer updated by Apple.
No, this just means that the camera does not have the power resources to access the images on the card. All of the images are stored on the card and are not affected. You can access the images stored on the card by installing fresh batteries or attaching the optional AC adapter.
Published Date: Feb 18, 2012

QuickTime Conferencing Camera: Which Cables Do I Use?

I am using a QuickTime Conferencing Camera 100 with my Power Macintosh 8500. I have them connected via the S-Video to RCA and DC Power combination cable that came with the camera. I am getting an image but it only appears in black and white. This happens regardless of color depth or resolution chosen in the Monitors control panel.

Which of the three cables that came with my QuickTime Conferencing Camera am I supposed to use?
This article has been archived and is no longer updated by Apple.
There are three cables shipping with the QuickTime Conferencing Camera 100 which ships with the QuickTime Conferencing Kit as well as the Apple VideoPhone Kit:

A) 1 Combination cable, S-Video to DC Power and RCA jack

B) RCA to RCA

C) S-Video to DC Power

You must use the appropriate cable for your computer in order for QuickTime Conferencing to work correctly.

The output from the QuickTime Conferencing Camera 100 is an NTSC composite signal, not an S-Video component signal. With the exception of the Power Macintosh 7500 and 8500, AV equipped Power Macintosh computers will accept a composite video signal through the S-Video port. The S-Video port also provides 12-volt power to the QuickTime Conferencing Camera. For Power Macintosh AV computers other than the Power Macintosh 7500 and 8500, use cable A to connect the S-Video connector to the computer's S-Video port and the RCA and DC Power pigtail on the other end of the cable to the QuickTime Conferencing Camera.

The Power Macintosh 7500 and 8500 computers cannot receive a composite video signal in their S-Video connectors. Because of this, you need to connect cable B from the RCA jack on the QuickTime Conferencing camera to the RCA jack on the back of the Power Macintosh 7500 or 8500. If you use the S-Video port to deliver the video to the computer, you will see a black and white image. You also need to use cable C to deliver power from the S-Video port on the Power Macintosh 7500 or 8500 to the QuickTime Conferencing camera.

If you have a Macintosh Quadra or Centris 840AV or 660AV, there is no S-Video port to supply power to the camera. In addition to using cable B for video, you will need to purchase a 12-volt, 1.9 Watt AC adaptor. The specifications for the camera can be found in the camera manual so you can purchase the appropriate power supply. The standard 12 volt or "variable voltage" adaptor from Radio Shack will work.
.

Computer	Cable	Video Signal	Camera Power
Quadra/Centris 660AV/840AV	B	from cable B	separate power adapter
Power Macintosh 6100AV	A	from cable A	from cable A
Power Macintosh 7100AV	A	from cable A	from cable A
Power Macintosh 8100AV	A	from cable A	from cable A
Power Macintosh 7500/7600	B & C	from cable B	from cable C
Power Macintosh 8500/8600	B & C	from cable B	from cable C
Power Macintosh 5400/5500**	B & C	from cable B	from cable C
Power Macintosh 6400/6500**	B & C	from cable B	from cable C

.
**Requires the Video-In Card, which is an optional card (that is, it does not come with these computers - it has to be added).
Published Date: Feb 18, 2012

QuickTake 200: How To Identify 2MB and 4MB Storage Cards

I have the 2MB storage card that came with the QuickTake 200 and I just recently purchased the 4MB card. How do I tell them apart?
This article has been archived and is no longer updated by Apple.
This table provides information that can be used to identify the cards:
.

Identifying QuickTake 200 2MB and 4MB Storage Cards		
Card	**On Side With Copper Contacts**	**On Smooth Side (printed on the card)**
2MB Card	2MB-5	FUJIFILM MG-2 FQHM0239-00 7W22 CF0101 229515 JAPAN 9637HA
4MB Card	4MB-5	(Apple Logo) Apple Computer, Inc. 7W70 CA0101 H159BY JAPAN 9711HAK (logo) SmartMedia

Published Date: Feb 18, 2012

HP Background Software: Interferes With Installer

When I try and install the software for my QuickTake 200 camera I get an error that says "Installation on the active start up disk can not take place while applications are running. Quit HP Background". When I go to the Applications menu there is nothing running called HP Background. I also tried turning off all extensions except Apple CD-ROM and rebooting. That did not help. What do I do??
This article has been archived and is no longer updated by Apple.
The conflict with HP Background that you described can occur with any software installation that uses the Apple Installer and requires all other active applications be terminated.

HP Background is a file that is installed with Hewlett-Packard printers and is always running. Restarting with system extensions disabled does not resolve the situation.

To temporarily disable HP Background so that software installation can proceed, follow these steps:

1. Open the System Folder.
2. Open the Extensions Folder.
3. Locate the HP Background and drag it to the desktop.
4. Restart the computer.

Now you should be able to complete the installation of software with no problem. When you are done installing software you can drag the HP Background back into the Extensions folder and restart the system.

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The Tech Info Library article titled "**Locating Vendor Information**" can help you search for a particular vendor's address and phone number.
Published Date: Feb 18, 2012

Power Macintosh 5500,6500: TV remote stops working

The Apple TV or TV/FM Radio System ships with a remote control to power the computer On/Off, among other functions. Some Power Macintosh 5500/6500 users with either the Apple TV or TV/FM Radio System claim that after powering up their computer with the remote control under Mac OS 7.6.1, 8.0, or 8.1, they no longer have remote control functionality.

Is this true? If so, how can one correct this behavior?

This article has been archived and is no longer updated by Apple.
Yes. This behavior can happen under Mac OS 7.6.1, 8.0, and 8.1 on Power Macintosh 5500 and 6500 series computers. The behavior could occur if you clicked any of the remote control buttons during start up. Typically, a user would be adjusting the volume buttons on the remote control during startup. After the computer booted to the Finder, it would not respond to any of the buttons that were pressed on the remote control.

Once it occurred, the only way to reset the remote control sensor on the computer is to shut down the computer, unplug the power cord for 1 - 2 minutes, then restart without pressing any of the remote control buttons.

This behavior has been resolved in Mac OS 8.5 and later. Information on upgrading to Mac OS 8.5 can be found at the following URL: **http://www.apple.com/macos**.

Published Date: Feb 18, 2012

Mac OS 7.6.1: Streaming Audio Update Extension and PrimeTime Sound

I have downloaded the 7.6.1 Streaming Audio Update extension and installed it. My Performa 6290 now works great with audio streaming applications. Is there any more information you can tell me about how the extension works with my logic board to make audio streaming applications perform better?
This article has been archived and is no longer updated by Apple.
Yes. The 7.6.1 Streaming Audio Update extension works in conjunction with the PrimeTime II/III chip on your logic board to handle audio streaming. For more detailed information about the PrimeTime II/III chip, see the Apple Developer Notes for the Power Macintosh 5200/6200 computers at:

ftp://ftp.apple.com/devworld/Technical_Documentation/Developer_Notes/Macintosh_CPUs_-_PPC_Desktop/PowerMac_5200_6200.sit.hqx

or the Apple Developer Notes for the Power Macintosh 5260 computers at:

ftp://ftp.apple.com/devworld/Technical_Documentation/Developer_Notes/Macintosh_CPUs_-_PPC_Desktop/PowerMac_5260.sit.hqx

The Power Macintosh/Performa 5200, 5300, 6200 and 6300 depend on the PrimeTime II/III for most of the I/O on the logic board including:

- data bus buffers for the internal I/O bus
- address decoding for I/O devices
- dynamic bus sizing and data routing for the I/O bus
- interface adapters VIA1 and VIA2
- interrupt controls
- a SWIM II floppy disk controller
- sound control logic and buffers

Most Power Macintosh/Performa 5200, 5300, 6200 and 6300 computers have the PrimeTime III on the logic board because only a limited number of Power Macintosh 5200/75 LC and Performa 5200 computers ever shipped with PrimeTime II. PrimeTime III added 16-Bit audio capabilities while PrimeTime II was only 8-Bit.

An easy way to tell which PrimeTime chip you have without opening up the computer is to check the sound out capabilities in the Sound control panel. If 16-Bit can be chosen, you have PrimeTime III. If only 8-Bit can be chosen, you have Primetime II. Note: The newer Monitors & Sound control panel will not show you 8-Bit or 16-Bit. Under Mac OS 7.6.x and 8.0, the older Sound Control panel is usually installed in the Apple Extras folder on the hard drive in case you would like to use this control panel.

To identify the PrimeTime chip visually, the Power Macintosh/Performa User's Manual shows how to properly open the computer in the "Installing an Expansion Card" section. PrimeTime is located right next to the LC PDS slot on the logic board. It is one of the larger square chips that is closest to the red or black reset button. It should have a tiny U6 next to it. The manufacturer of the chip does not matter because several suppliers make the same identical chip. The part# for PrimeTime III should be either 343S1189-a, 343S1189-B, 343S1189-C, 343S1189-01 or 343S1189-03. If you have some other number, you most likely have a PrimeTime II.

With the above understood, over the life cycle of the Power Macintosh/Performa 5200, 5300, 6200 and 6300 computers with the 75 Mhz (52xx/62xx) or 100 Mhz (53xx/63xx) 603e processor, there were minor revisions to the PrimeTime III chip. This is normal for any computer manufacturer to revise various chips as long as the chips meet Apple engineering specifications. Additionally, fixes that were previously in system software are typically rolled into the newer revisions of the chip. With the revisions to PrimeTime III, it was necessary for sound fixes in system software to check which revision is installed. Based on what revision is found, some sound fixes load and some do not. The 7.6.1 Streaming Audio Update extension simply ensures that the correct fixes are loaded for all revisions of PrimeTime III to ensure optimal performance for audio streaming applications.

For reference, the Read Me from the 7.6.1 Streaming Audio Update extension 1.0b2 appears below in quotes:

"Important information about the 7.6.1 Streaming Audio Update extension, beta release.

This document provides information about the 7.6.1 Streaming Audio Update extension version 1.0b2. This extension has not been fully qualified, and it is considered 'unsupported'. It may be used at your own risk. Apple Computer, Inc. cannot provide support for this extension by telephone, fax or email.

The 7.6.1 Streaming Audio Update extension alleviates one cause of poor performance when using internet streaming media applications on certain Macintosh computers. Internet streaming media can also be adversely affected by poor connections or poor latency to a server.

The 7.6.1 Streaming Audio Update extension can be installed on Mac OS 7.6.1, 7.6, or 7.5.5. The extension will not load on earlier system

releases. The streaming audio improvement delivered in this extension will be included in future releases of Mac OS, and the extension will not load on releases after 7.6.1.

This extension addresses one problem specific to the following Apple products:

Power Macintosh 5200
Power Macintosh 5260
Power Macintosh 5300
Macintosh Performa 5200CD
Macintosh Performa 5210CD
Macintosh Performa 5215CD
Macintosh Performa 5220CD
Macintosh Performa 5260CD
Macintosh Performa 5260/120
Macintosh Performa 5270CD
Macintosh Performa 5280
Macintosh Performa 5300CD
Macintosh Performa 5320CD

Power Macintosh 6200
Power Macintosh 6300
Macintosh Performa 6200CD
Macintosh Performa 6205CD
Macintosh Performa 6210CD
Macintosh Performa 6214CD
Macintosh Performa 6216CD
Macintosh Performa 6218CD
Macintosh Performa 6220CD
Macintosh Performa 6230CD
Macintosh Performa 6260CD
Macintosh Performa 6290CD
Macintosh Performa 6300CD
Macintosh Performa 6310CD
Macintosh Performa 6320CD

How to Install the 7.6.1 Streaming Audio Update extension

To install the 7.6.1 Streaming Audio Update extension follow these steps:

1. Locate the System Folder on the computer's hard disk. Don't open the System Folder.
2. Drag the file named "7.6.1 Streaming Audio Update" to the System Folder.
3. A message appears asking if you want to put the "7.6.1 Streaming Audio Update" into the Extensions folder. Click OK. If a second message appears stating that "7.6.1 Streaming Audio Update" already exists and asks you if you would like to replace it, click OK.
4. Open the Special menu and choose Restart.

Technical Details

Poor streaming audio performance can occur from slow internet connections, slow servers, or while the computer is engaged in other work concurrently. On some specific revisions of the listed computer models, an additional cause of poor streaming audio performance was an interaction with the serial driver software, sound driver software, and serial hardware.

The 7.6.1 Streaming Audio Update extension changes the behavior of the serial and sound driver software to better support the demanding, real time nature of streaming audio. At times when the sound driver is busy servicing the sound hardware, extra checks are made to ensure that the serial driver can properly service the serial hardware. For some computers this results in a significant improvement in streaming audio performance.

June 12th, 1997

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Color StyleWriter 6500: No DOS Control Panel

In reference to cleaning the Color StyleWriter 6500 ink cartridge in DOS, the Color StyleWriter 6500 manual states the following on page 74:

"See the Read Me file for the Color StyleWriter 6500 for instructions on using the DOS control panel. The file is located on the CD that came with your printer and is also copied on your hard disk when you install the printer software."

Does the utility exist?

This article has been archived and is no longer updated by Apple.
No. There is no DOS control panel. You can only clean the ink cartridge in Windows 3.1x and Windows 95. This paragraph was mistakenly inserted into the Color StyleWriter 6500 User's Manual.
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Global Village: Dialing 10-Digit Phone Numbers With GlobalFax

I live in an area of the United States that has recently switched to a 10 digit phone number format. To make a local call, I must dial a7-digit phone number plus the 3-digit area code, but must **not** dial a 1 first. GlobalFax will not dial the number without the "1".

I am able to fax to other locations (long distance) fine, but cannot fax locally because of the new phone numbers. How can I fax to local phone numbers?
This article has been archived and is no longer updated by Apple.
There are 2 workarounds:

1. Include the area code in the fax number field in the address book for people that fall into the 10-digit local number area. For example, if Joe Smith lives in area code 123, make the number for Joe Smith 123-555-1234 instead of 555-1234. You will need to make this modification to the phone number of each local fax recipient.

2. Include a 1 before the area code of recipients outside of the local area code. Do not put a 1 in the long distance prefix area of the Dialing Setup dialog. For example, if a recipient lives in area code 456, replace the 456 with 1456. You will need to make this modification to the phone number of each long distance fax recipient. It also requires that the local area code be set to something other than the correct area code so that it always gets dialed.

There are other possible combinations using the Always Dial Area Code and the suggestions above, but they are rather tedious.

Note: For the Always Dial Area Code option you must select the extended option in the address editing mode.
Published Date: Feb 18, 2012

Desktop Printing: Collating Print Jobs

I am printing multiple copies of a multi-page document to my printer. I would like them to be collated like this:

123
123
123

The printer collates my print job like this:

111
222
333

Is there a way to collate the print job the way I want it?
This article has been archived and is no longer updated by Apple.
Normally when printing using LaserWriter 8 or other Apple print drivers you will notice that multiple copies of a job may not collate as desired.

For example, when printing three copies of a three-page document the output will stack as follows:

111
222
333

Jobs are printed this way in order to save time. When multiple copies of the same page are printed in sequence, the page is stored in memory and reproduced on the fly, only to be flushed when it is time for the next, new page. This way the printer does not have to re-process the information to produce the same page over and over again.

However, a job can be collated in the following manner:

123
123
123

1. Stop the print queue using desktop printing. (From the desktop, click once on a desktop printer icon to select it; then select "Stop Print Queue" from the Printing menu.)
2. Print one copy of the job.
3. Open the print queue by double-clicking on the desktop printer.
4. Duplicate the job waiting in the queue just like you would any other file (click on it and select duplicate from the file menu). You will need to duplicate the file as many times as you want copies.
5. Start the print queue. (From the desktop, click once on a desktop printer icon to select it; then select "Start Print Queue" from the Printing menu.

This method will take longer to print because the job is flushed between pages, but the printouts will collate in the manner described.

If you are not using desktop printing, you can achieve similar results by duplicating the spooled job waiting to be printed in the PrintMonitor documents folder (located in the System folder).
Published Date: Feb 18, 2012

PowerBook 3400: Apple System Profiler Hangs

Sometimes when I launch Apple System Profiler on my PowerBook 3400, the mouse's beachball-shaped pointer spins and spins but the application never launches and I have to force-quit or restart. What is causing this?
This article has been archived and is no longer updated by Apple.
There is a problem with earlier versions of Apple System Profiler and the PowerBook 3400 that causes the application to hang when it is launched if the CD-ROM drive is inactive. This is fixed in version 1.2.1 of Apple System Profiler which comes with Mac OS 8.0 and is posted at Apple Software Updates sites.

Also, you can work around the problem by removing the CD-ROM drive or inserting a CD into the drive before launching Apple System Profiler.

These articles can help you locate the software update mentioned here:

"**Where To Find Apple Software Updates**" - Lists online services for free Apple software updates.

"**Obtaining Apple Product Support in the USA**" - Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech Info Library.
Published Date: Feb 18, 2012

Mac OS 8: Clean Install Message

If I select a clean installation in the Mac OS 8 Installer and switch to the Finder and back, I get the message "The clean install option was reverted to an update install. Please click Options if you wish to change this option."

This article has been archived and is no longer updated by Apple.
Since the clean installation option was added to the Installer application (not the "Install Mac OS 8" application), the Installer has always reverted back to a standard installation if the user changed the destination volume or switched to another application.

Prior to Mac OS 7.6, the Installer just silently reverted and left it up to the user to notice that the Clean Install button had changed to Install. For Mac OS 7.6, Apple decided to alert the user to this change by presenting the alert you see.

The easiest way to enable the clean installation option again is to click Options in the Installer application (not the "Install Mac OS 8" application), and choose Install New System Folder. If the Installer is quit and then restarted, using the "Install Mac OS 8" application, the clean installation option will be enabled once again.

Published Date: Feb 18, 2012

Power Macintosh 5500/6500: What is Video Input Update?

I noticed the 5500/6500 Video Input Update on the Apple Software Updates web site. The Read Me document that accompanies it states that the Update "...enhances system stability on Power Macintosh 5500, 6500, and Twentieth Anniversary Macintosh models when running video capture applications."

What exactly does the extension fix?
This article has been archived and is no longer updated by Apple.
The 5500/6500 Video Input Update extension version 1.0.3 was first released with Power Macintosh 5500/6500 and 20th Anniversary Macintosh computers that ship with Mac OS 7.6.1. Additionally, this extension is installed by the 5500/6500 Extras disk for Mac OS 7.6.1 users who do not have this update. Version 1.0.3 of the extension corrected several bugs that could occur with Apple Video Player or Avid Cinema under Mac OS 7.6.1. With the release of Mac OS 8.0, this extension is no longer necessary.

The 5500/6500 Video Input Update extension version 1.0.5 was released after Mac OS 8.0 was completed to correct a problem where the Movie Capture window becomes distorted after resizing the window in any video capture application (such as Adobe Premiere). This extension will work under System 7.5.5, Mac OS 7.6.1 and Mac OS 8.0. This problem will be corrected in future releases of the Mac OS.

Version 1.0.7 was released on March 05, 1998. Any Power Macintosh 5500 or Power Macintosh 6500 running Mac OS 8.1 or earlier should install the 5500/6500 Video Input Update. Any Twentieth Anniversary Macintosh running Mac OS 8.1 or earlier should install the 5500/6500 Video Input Update.
Published Date: Feb 18, 2012

Browse the Internet and Mail Icons: Setting the Helper Applications

This article explains how to set up the applications launched by clicking on the Mail and Browse the Internet aliases on the Finder Desktop. These icons are installed in Mac OS versions 8.5 and later.
This article has been archived and is no longer updated by Apple.
First, it is important to note that the two icons are placed on the desktop as a convenience to less experienced users who may not understand which application to open in order to use the Web or email. You may choose to continue to use them or delete them and launch the mail or Web application of choice directly by double-clicking on the application itself.

When launched, these shortcuts check the Preferences folder for a file named Internet Preferences, which is created by either the Internet Config application or the Internet control panel (Mac OS 8.5 and later). This file contains, among other things, the setting for your default Internet applications. If no application has been set as the default, an error will appear.

Note: The error dialog may also appear if the Internet Preferences file is missing or damaged.

Changing the default application used by the Browse the Internet and Mail Icons
Use this procedure to change the default browser used by the Browse The Internet icon, or to set the default application for the first time.

Mac OS 8.5 and later:

1. Open the Internet control panel.
2. Click on the Web tab.
3. Choose a Web browser from the "Default Web Browser" pop-up menu at the bottom of the window. The email and News tabs have similar menus.
4. Close the control panel and allow it to save the changes.

Other Mac OS Versions:

1. Open the Internet Config application. Mac OS 8 installs it in the following location: Macintosh HD --> Internet --> Internet Utilities --> Internet Config.
2. When opened, Internet Config will display a window containing 10 options that appear as buttons. Click once on the option named Helpers.
3. A list should appear, showing a number of different file types and the applications defined to work with them. Choose the item that begins "http", then click Change.
4. If you do not have an "http" file type listed, click Add, and type "http" in the field listed "Helper for:" in the Add Helper window that comes up.
5. In the Add Helper window, click Choose Helper... . A standard Open dialog will appear, navigate to and then select the web browser of your choice.

Steps 3 and 5 may be repeated for other file types such as "https", that use a Web browser to switch to your preferred Web browser.

For setting the default application for the Mail icon, the above steps can be repeated for the file type "mailto" instead of "http".

Most other settings are fine as they are. When quitting Internet Config, be sure to save changes when it prompts you to do so. The Internet Preferences file will be modified to reflect the changes you have made.
Published Date: Feb 18, 2012

Avid Cinema: No Output Options Available

I just upgraded my Avid Cinema software. Now when I try to export my project, there are no options available in the "Save movie for..." popup menu. What is causing this?

This article has been archived and is no longer updated by Apple.
If you upgrade from Avid Cinema 1.0 directly to Avid Cinema 1.1.3 or 1.1.4, you will experience this behavior. The correct method is to update Avid Cinema 1.0 to Avid Cinema 1.1, and then upgrade to 1.1.3 or 1.1.4.

If your Avid Cinema software is currently exhibiting this behavior, you must reinstall Avid Cinema 1.0, then upgrade to 1.1, and then upgrade to 1.1.3 or 1.1.4.

Note: Avid Cinema 1.1.5 has been released.

These articles can help you locate the software update mentioned here:
"**Where To Find Apple Software Updates**" - Lists online services for free Apple software updates.
"**Obtaining Apple Product Support in the USA**" - Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech Info Library.
Published Date: Feb 18, 2012

Color StyleWriters: "Cannot replace file Proposal(color)" Message

I recently attempted to re-install the Color StyleWriter 2200 driver on my system. (My system already has the 2.1.1 version of the driver installed.) An error message appeared, stating "Cannot replace file Proposal(color)". This occurs with the original Color StyleWriter 2200 disks as well as the 2.1.2 version of the Color StyleWriter driver.

I have tried throwing away the file "Proposal(color)" and the problem still occurs. I used Find File to search the drive after throwing away the file and it is NOT on the hard drive. What can I do?
This article has been archived and is no longer updated by Apple.
You should install version 2.2.1 or newer of the Color StyleWriter 2500 printer driver software. That will resolve the situation. It is available for download from Apple Software Update sites.

Listed below are the printers supported by the driver named "Color StyleWriter 2500".

Printers Supported by Color StyleWriter 2500 Driver

Color StyleWriter 2200
Color StyleWriter 2400
Color StyleWriter 2500

These articles can help you locate the software update mentioned here:

"**Where To Find Apple Software Updates**" - Lists online services for free Apple software updates.

"**Obtaining Apple Product Support in the USA**" - Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech Info Library.
Published Date: Feb 18, 2012

LaserWriter 8 Driver: Page Numbers Over 3 Digits

LaserWriter 8.4 and other versions of the LaserWriter 8 driver do not accept page numbers over three digits long in the print dialog.

For example, using LaserWriter 8.4.3, bring up the print dialog and try to enter more than three digits in the "From" and "To" fields provided. It will only accept a maximum page range of 3 digits.
This article has been archived and is no longer updated by Apple.
Numbers up to 4 digits in size will be possible with version 8.5.1 of the LaserWriter print driver. The Print dialog "Copies" and "Pages" fields will support 4 digit numbers. LaserWriter print driver 8.5.1 is available for download from Apple Software Updates sites.

These articles can help you locate the software update mentioned here:

"**Where To Find Apple Software Updates**" - Lists online services for free Apple software updates.

"**Obtaining Apple Product Support in the USA**" - Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech Info Library.
Published Date: Feb 18, 2012

Macintosh 512K: Adding a SCSI Port

The following information provides information on how to add a SCSI port to the Macintosh 512K.

This article has been archived and is no longer updated by Apple.
If you have a Macintosh 512K and need hard disk storage (no longer provided by the discontinued Apple HD20 hard disk), you can add a third-party SCSI port.

For more information, search under:
SuperMac Technology
MacProducts
Spectra Micro Development

Published Date: Feb 18, 2012

Newton: StyleWriter Printer Package Description

This article describes the StyleWriter Printer Package for Newton.

This article has been archived and is no longer updated by Apple.

Overview

The StyleWriter Printer package enables printing from a Newton device to StyleWriter 4100, 4500 and 6500. These drivers, once installed on the Newton device will show up in the printer list under "choose other printer" in the print dialog box. (To print to a StyleWriter 4100, choose the StyleWriter 4500 option.)

Free upgrades for Mac OS and Windows users are available from the Newton, Inc. World Wide Web site and ftp site.

StyleWriter 4100/4500/6500 Read Me

General

1. I only see files for a 4500 or 6500 StyleWriter printer driver not a 4100 printer driver.

To use the 4100 printer, install the 4500 print driver onto your eMate or MessagePad 2000 and it will show the 4100 printer as an option.

2. My 6500 StyleWriter printer can be shared as a networked LocalTalk printer but it's not an option for me to select.

Currently, the printer drivers for the eMate 300 and MessagePad 2000 that work with the Stylewriter 4100, 4500 or 6500 are designed for a direct serial connection only.

3. When I print a note containing lots of ink text, words and sometimes sentences are missing from the printed output.

This is a known limitation with the high resolution printing option. To workaround this issue, select draft and the text should print.

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The Tech Info Library article titled "**Locating Vendor Information**" can help you search for a particular vendor's address and phone number.
Published Date: Feb 18, 2012

Newton: IrDA Printing Enhancement Package Description

This article describes the IrDA Printing Enhancement Package for Newton.
This article has been archived and is no longer updated by Apple.

Overview

The IrDA printing enhancement package for the MessagePad 2000 and eMate 300 significantly improves the printing time when printing to a Newton compatible IrDA printer. Printing time improvements will vary depending on the complexity of the document being printed and which IrDA printer you are printing to.

Free upgrades for Mac OS and Windows users are available from the Newton, Inc. World Wide Web site and ftp site.

IrDA Printing Enhancement ReadMe

What Newton devices support this enhancement?
This enhancement is supported by the MessagePad 2000 and the eMate 300.

What does this enhancement do?
This enhancement produces a significant increase in the speed of IrDA printing to Newtoncompatible IrDA printers.

What are the Newtoncompatible IrDA printers?
The printers which support this software enhancement are the HP DeskJet 340, HP LaserJet 5MP and HP LaserJet 6MP.

Will this enhancement increase the speed of serial printing?
This enhancement will slightly increase the speed of serial printing to Newtoncompatible HP DeskWriters.

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The Tech Info Library article titled "**Locating Vendor Information**" can help you search for a particular vendor's address and phone number.
Published Date: Feb 18, 2012

PC Compatibility Card: Cannot Write to Floppy Disk on Power Macintosh

I have installed a PC Compatibility Card in a Power Macintosh 4400/200 and cannot format a floppy disk or copy files to a floppy disk in PC mode. Also, the PC Setup icon has the generic look; the unique icon is not displayed. Rebuilding the desktop does not solve th icon problem. I am using PC Setup 1.6. Is the file corrupt? What can be done?

This article has been archived and is no longer updated by Apple.
Both of these issues are addressed in PC Setup 1.6.1 (or newer). PC Setup software is available for download from Apple Software Updates sites.

Version 1.6.1 of PC Setup is only supported for use on the Power Macintosh 4400 or Power Macintosh 7220. It has not been qualified for use on other configurations. Newer versions of PC Setup provide more universal support.

These articles can help you locate the software update mentioned here:

"**Where To Find Apple Software Updates**" - Lists online services for free Apple software updates.

"**Obtaining Apple Product Support in the USA**" - Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech Info Library.
Published Date: Feb 18, 2012

Mac OS 8: Limitations of Desktop Pictures Control Panel

This article provides information on the file types and size limitations for the Desktop Pictures control panel that is part of Mac OS 8.

This article has been archived and is no longer updated by Apple.
The Desktop Pictures control panel supports the following image formats:

- Files supported by QuickTime 2.5 graphics import components including JPEG, GIF and PhotoShop
- QuickTime Compressed PICT
- PICT
- Picture clippings

There are no known limits on dimensions or bit depth for the pictures displayed with Desktop Pictures.

For tips on troubleshooting Desktop Pictures issues, please refer to article 24305: **Mac OS 8: Desktop Picture Troubleshooting**

Published Date: Feb 18, 2012

Mac OS 8: ProDOS Partitions Will Not Mount

After upgrading to Mac OS 8, I am no longer able to see my ProDOS partitions. The Drive Setup program can see the partitions, but I am unable to get them to mount on the desktop.
This article has been archived and is no longer updated by Apple.
Drive Setup 1.3 creates ProDOS partitions locked and not automountable by default. You can choose Customize Volumes and unlock the partition but there is no way to change the automount flag. Using Drive Setup 1.3 to update the driver on hard disks that have an older version of the Mac OS installed also marks ProDOS partitions as not automountable.

Workaround:

- Initialize the drive with an earlier version of Drive Setup.
- Then install Mac OS 8 and click the Options button and uncheck the "update the hard disk drivers" option.

Published Date: Feb 18, 2012

PowerBook 2400, 3400: Conflict Between Mac OS 8.0 and Microsoft Word 6.x

This article explains a cosmetic conflict between PowerBook 2400 and 3400 models, Mac OS 8.0, and Microsoft Word 6.x.
This article has been archived and is no longer updated by Apple.
On a PowerBook 2400 or 3400 running Mac OS 8.0, you may encounter a cosmetic anomaly with Microsoft Word 6.x. When a document is open in Word, any window that "floats" over the white space of the document will get redrawn when you press the Return key. The Control Strip and Word's tool palettes will cause this behavior if they are over the white space of the document.

Mac OS 8.1 eliminates this behavior.

If you wish to continue using Mac OS 8.0, the easiest way to keep this from happening is to keep the Control Strip and floating windows off the white space of the document window. Alternatively, you can switch to the "Page Layout" mode from the View menu in Word.
Published Date: Feb 18, 2012

Avid Cinema: Sound Output On Power Macintosh 6400, 6500

When I send my Avid Cinema project out to tape, the audio sometimes sounds "tinny" or distorted. What could be causing this?

This article has been archived and is no longer updated by Apple.
On Power Macintosh 6400 and 6500 models the rear sound output jack behaves differently than the front sound output jack. The rear jack is intended for external speakers, so the lower frequency range of the audio is still diverted to the built-in subwoofer speaker. Because of this, if you use the rear sound output jack when sending your movie out to tape from Avid Cinema on these models, the resulting audio will probably lack bass frequencies. **Note:** The Avid Cinema "Setting Up" manual instructs you to use the rear jack; this is incorrect for Power Macintosh 6400 and 6500 models.

If the resulting audio sounds distorted, it may be because you have SRS Surround Sound enabled. SRS Surround Sound is only intended for external speakers and should be turned off when using headphones or sending audio to an external device.

Customers running System 7.5.3 or System 7.5.5 on a 6400 should verify that the "Sound Out Level" slider in the Monitors & Sound control panel is set to midway before bringing video in. This is because the output volume in these versions of the system software also controls the volume of your clips when you bring video in. This problem only affects the 6400 and only with System 7.5.3 or System 7.5.5.

For optimal sound quality when sending your movie out to tape with Avid Cinema on a 6400 or 6500, use the front sound output jack and disable SRS Surround Sound in the Monitors & Sound control panel. You should also set the "Headphone Volume" slider in the Monitors & Sound control panel (or the volume control in the Control Strip) to about midway. **Note:** In some instances the resulting volume will be significantly lower than that of the source. If this is the case, increase the Headphone Volume to maximum before sending the movie out to tape.
Published Date: Feb 18, 2012

Newton OS 2.0: Names And Owner Info Share The Same Storage

When I tap on the "Names" icon in the Storage folder of the Extras drawer, it shows 8 names, but I have entered only 5 in the "Names" application. Why does it show more names than I have entered?

This article has been archived and is no longer updated by Apple.

The mysterious extra items are the "Owner Info" entries. The "Owner Info" stores its information in the same place as "Names".

Published Date: Feb 18, 2012

Color StyleWriter 4100: Minimum Margins

What are the minimum print margins that can be used with the Color StyleWriter 4100?

This article has been archived and is no longer updated by Apple.
The minimum margins supported on the Color StyleWriter 4100 printer using the Macintosh driver are:

Color StyleWriter 4100: Minimum Print Margins				
Media Size	**Top Margin**	**Bottom Margin**	**Left Margin**	**Right Margin**
Paper (all sized but A5)	0.26 inch	0.59 inch	0.25 inch	0.25 inch
A5 size	0.26 inch	0.84 inch	0.25 inch	0.25 inch
Cards	0.26 inch	0.84 inch	0.25 inch	0.25 inch
Envelopes (including custom)	0.125 inch	0.125 inch	0.84 inch	0.29 inch

Published Date: Feb 18, 2012

HyperCard: Mac OS 8 Compatibility

After upgrading to Mac OS 8 my HyperCard stacks keep giving me errors. I am using the latest version of HyperCard, 2.3.5. Is HyperCard compatible with Mac OS 8?
This article has been archived and is no longer updated by Apple.
Mac OS 8 features a new system menu named "Help". HyperCard versions 2.2 through through 2.3.5 offer a help feature through the use of a menu named "Help". Consequently, stacks using HyperCard's Help feature will have a conflict when they are run on Mac OS 8 systems.

To resolve the situation, install the following updated HyperCard stacks which come with the Mac OS 8 software:

- Help Extras
- HyperCard Help
- HyperTalk Reference
- Audio Help

If you are only using HyperCard Player, instead of the full version of HyperCard, only the Audio Help stack needs to be replaced.

Here is an excerpt from the Read Me document that comes with the updated stacks on the Mac OS 8 CD:

Because Mac OS 8 has a system menu called "Help," all of the HyperCard stacks shipping with HyperCard that have scripts that look for, or try to change a menu called "Help," will produce script errors. We've revised these stacks to create menus with names other than "Help." The Audio Help stack now creates a menu called "Topics." The HyperCard Help, HyperTalk Reference, Help Extras, and HyperCard AppleScript Reference stacks now create a menu called "Reference."

How to Update the HyperCard Player

1. Locate and open the HyperCard Player folder on your hard disk; it may be located in your Apple Extras folder.
2. Replace the version of Audio Help on your hard disk with the copy that comes with this update.

How to Update HyperCard (full version) Stacks

1. Locate and open your HyperCard folder.
2. Replace the HyperCard AppleScript Reference stack located in the AppleScript Stacks folder with the one that comes with this update.
3. Replace the Help Extras, HyperCard Help, and HyperTalk Reference stacks located in the Help Stacks folder with the ones that come with this update.
4. Replace the Audio Help stack located in the HyperCard Stacks folder with the one that comes with this update.

Published Date: Feb 18, 2012

Newton OS Update Installation Memory Requirements

I am trying to install the latest Newton OS Update but receive an error saying I do not have enough memory. I have removed packages that I have installed, but still do not have enough memory. How much memory do I need to install the update?
This article has been archived and is no longer updated by Apple.
You may encounter Out of Memory errors when installing a Newton OS System Update Patch if your Newton System Heap is fragmented due to the length of time you have been using your Newton device.

During installation, the System Update Patch is stored in flash memory as the Newton device prepares the new software. The update is then moved to System Ram. A contiguous free area of System Memory is therefore required for installation of the update.

To defragment your System Heap, you may need to perform a Hard Reset as outlined in your User's Manual.

Warning
A hard reset erases all data and information in the MessagePad's internal memory. This includes any applications that were already on your MessagePad when you bought it (including the Newton Tour and HW Instructor). It also erases information you have stored, such as name cards, notes, calls, and pages in the Date Book. This procedure does not remove the MessagePad's built-in programs, operating system software, or software updates.

To do a hard reset:

1. Remove any storage or application cards that are inserted in the MessagePad.
2. Press and hold down the Reset button and then press and hold down the Power switch.
3. Hold down the Reset button for two seconds, then release it while continuing to hold down the Power switch. Continue holding down the Power switch until a message appears asking if you want to erase you data completely.
4. Tap Yes. Another slip appears telling you that all of the data will be erased.
5. Tap OK.

All the information (including any packages you loaded and other applications that are not built in) is erased and your MessagePad reverts to the defaults set at the factory. This procedure may take several minutes.
Published Date: Feb 18, 2012

Desktop Printing 2.0.1: Read Me

This article contains the Read Me document for Desktop Printing 2.0.1 software, which was released in January 1997.
This article has been archived and is no longer updated by Apple.
Name: Desktop Printing
Version: 2.0.1
Released: January 3, 1997
Description:
Desktop Printing 2.0.1 is the latest version that installs with Laserwriter 8.4.1. This installer is for customers who want to get or upgrade Desktop Printing to version 2.0.1 without installing the Laserwriter 8.4 disk set.

This software consists of a self-extracting archive of a Disk Copy 1440K disk image. To use, download, double-click the downloaded file (this decompresses it), and use Disk Copy to create a disk.

Disk Copy can be found in the Utilities folder posted here. (On the Apple Software Update site.)

From the Read Me included with this software:

System Recommendations

- An Apple Macintosh or PowerBook personal computer with a 68020 or later processor, a Power Macintosh, or another Mac OS-based personal computer
- 5 megabytes (MB) of RAM
- Macintosh Operating System (Mac OS) version 7.1 or later

New Features in Version 2.0

- Desktop printer icons can be moved off the desktop and into folders.
- A printer menu located on the right-hand side of the menu bar provides a convenient means to switch the user's default printer.
- A control strip module with functionality identical to the printer menu is provided for PowerBook systems and other systems employing the Control Strip software.

New Features in Version 2.0.1

- Add support for PPD-based DTP icons using the LaserWriter 8.4.1 driver.
- Finder startup performance increase.
- Compatibility with SpeedDoubler component of SpeedDoubler Package.

Published Date: Feb 18, 2012

Power Macintosh 5260: Energy Saver Control Panel

Everytime I try to open the Energy Saver control panel that came installed on my Power Macintosh 5260, I keep getting the error message "This machine does not support the Energy Saver control panel." What can I do to resolve this problem?

This article has been archived and is no longer updated by Apple.
The Energy Saver control panel is not compatible with the Power Macintosh 5260. The System Software Installer and the System 7.5 Update 2.0 Installer on the Power Macintosh 5260 both include the Energy Saver control panel.

When installing the system software on this system you may want to perform a Custom Install and leave the Energy Saver software off. Alternatively, you could install the system software and then remove the Energy Saver control panel and extension after the installation.

Instead of using the Energy Saver control panel, use the Screen and the CPU Energy Saver control panels. Both of these control panels are included with the Power Macintosh 5260.

The Screen control panel lets you put your Macintosh computer's internal monitor into sleep mode.

The CPU Energy Saver control panel lets you set your Macintosh to shut down at a specified time.
Published Date: Feb 18, 2012

Newton Internet Enabler 2.0: Read Me

This article contains the Read Me document for the Newton Internet Enabler 2.0.
This article has been archived and is no longer updated by Apple.
Newton Internet Enabler (NIE) 2.0

TCP/IP software for the Newton platform.

This Read Me contains important late-breaking information which was not included in the printed manual. Please read this file carefully.

ReadMe Contents

-About NIE 2.0
-Limitations of NIE 2.0
-Contents of the distribution
-Installation notes
-Known Issues with NIE 2.0

About NIE 2.0

NIE is TCP/IP software for Newton devices. NIE 2.0 represents a major upgrade and includes several important new features:

-Ethernet PC Card support
-Support for both AppleTalk and TCP/IP over ethernet
-Support for TCP/IP tunneled in AppleTalk
-Support for DHCP and MacIP servers
-Support for multiple DNS servers
-Improved modem and serial connection features such as:
--re-dialing of phone numbers
--multiple phone numbers for a single location
--login script activity window
--logout scripts
--advanced serial connection options (PC Card slot, port speed, etc.)

Limitations of NIE 2.0

-NIE 2.0 will only work on Newton 2.1 based devices, specifically:
--Newton MessagePad 2000 and follow-on products
--Apple eMate 300 and follow-on products
-NIE 2.0 will not work on MessagePad 130 or earlier devices.
-NIE 2.0 will not work with "combo" cards (dual function PC Cards, e.g. modem & ethernet cards).
-In order to use ethernet connections, you must have both a supported ethernet PC card and a Newton driver for this card. At the time of this writing, only Farallon has a PC card available for Newton devices. Many vendors have expressed interest in writing drivers for Newton devices. Check the Newton web site for the latest list of compatible ethernet PC Cards.

Software Distribution Contents

This distribution includes several files:

Notes & Documentation
-ReadMe First! - The file you are reading
-NIE 2.0 User's Manual.pdf - The NIE 2.0 User's Manual
-An NIE end-user license in multiple languages

Required Packages
-Internet Setup.pkg
-Newton Internet Enabler.pkg

Modem-Serial Support
-NIE Modem-Serial Support.pkg
-ISP Template.pkg

LocalTalk Support
-NIE LocalTalk Support.pkg

Ethernet Support
-Newton Devices.pkg
-NIE Ethernet Support.pkg
-NOTE: To use ethernet, you'll need a supported Ethernet PC card and a device driver for this card.

Installation Notes

IMPORTANT: NIE 2.0 will convert and delete your existing 1.0 and 1.1 Internet Setups. Before you install NIE 2.0, it's important that you read through these instructions!

Before installing NIE 2.0:
1 - Backup your Newton device.
2 - Remove NIE 1.0 or 1.1 (if it's installed)
-- Internet Setup - in the Setup folder of the Extras Drawer
-- Internet Enabler - in the Extensions folder of the Extras Drawer
-- ISP Templates - in the Extensions folder of the Extras Drawer
3 - Free up additional storage. The extra functionality of NIE 2.0 comes at the price of additional storage. Depending on what features you require, you may need up to three times the storage space of NIE 1.x.

Installing NIE 2.0:
1 - Use any Newton package installation program (e.g. Newton Connection Utilities).
2 - Install the "Required Packages" first.
3 - Install other packages as necessary (see the sub-folders).
4 - If you install ethernet support, it is important that you install the "Newton Devices.pkg" before you install the Farallon driver.

Read the NIE User Manual for more information on installing NIE 2.0.

Known Issues with NIE 2.0

1 - If you are using AppleTalk over an ethernet connection and attempt to initiate an AppleTalk connection when the ethernet card is not inserted, you will get an error. Either reinsert the ethernet card or change your AppleTalk preferences to use the LocalTalk connection.

2 - When using TCP/IP applications that send large amounts of data (on the order of 1 megabyte or more), you may experience failed data transfers. Breaking the data up into smaller chunks should allow you to send the data.

3 - Applications that use undocumented NIE 1.1 APIs may have problems closing or opening a network connection after the device has been put to sleep. Resetting the unit will fix the problem.

-Updated 10/8/97
Published Date: Feb 18, 2012

PC Compatibility Card (166MHz Pentium): Video "Static"

I have a Power Macintosh system with a PC Compatibility card in it. When running Windows 95 or DOS, I experience video corruption ("static"). In parts of the screen, some of the pixels flicker on and off. Also, when moving the mouse, video artifacts are left over the area the mouse has just travelled.

The problem does not occur in the Macintosh environment.

This article has been archived and is no longer updated by Apple.
Apple has identified an issue with the video DRAM chips used on some Pentium 166MHz PC Compatibility Cards and has corrected this in manufacturing and in service.

Identification

1. System exhibits random video corruption on the screen, as described above.
2. Video DRAM chips at locations U7, U8, U16, and/or U17 on the card (above the PCI bus connector) are marked with the numbers 424260.

Solution
Customers who experience this issue should have their PC Compatibility Card replaced under the Apple One-Year Limited Warranty.
Published Date: Feb 18, 2012

LaserWriter 8500: "Option 2" Message On Startup Page

I have installed the 500 Sheet Feeder on my LaserWriter 8500 and the startup page says "cassette (option 2) attached". Why is it option 2?
This article has been archived and is no longer updated by Apple.
This is a known issue. If two 500 Sheet Feeders are attached the top one says,"cassette (option 1) attached" and below it, "cassette (option 2) attached". When one 500 sheet feeder is attached the 'option 2' is printed instead of 'option 1'.

You can disregard the error as it will not affect the performance of the printer.
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DeskTop Printing Utility 1.0: Needs Shared Library Manager

When launching the DeskTop Printer Utility (1.0), I get an "unexpected error". Can you explain?

This article has been archived and is no longer updated by Apple.
Be sure to have 'Shared Library Manager' or 'Shared Library Manager PPC' (for Power PC-based Macintosh) files turned ON in the Extension Manager and restart your computer before running the application.
Published Date: Feb 18, 2012

Apple Printer Utility: Not Part of Standard Install

I have just installed the LaserWriter Driver 8.5.1 and I cannot find the Apple Printer Utility. Can you help me find it?
This article has been archived and is no longer updated by Apple.
The Apple Printer Utility (version 2.2) is a custom install item. Go back to the Installer program and click Custom. A list of items that can be installed will come up. Check only the Apple Printer Utility and install.
Published Date: Feb 18, 2012

Apple Video Player: Space Between Menus

After launching Apple Video Player, I notice that there is a space between the Windows menu and the Help menu.

This article has been archived and is no longer updated by Apple.
In versions of the Mac OS prior to Mac OS 8, the Guide menu (marked with the icon shown in Figure 1) appeared just to the left of the Application menu (in the upper-right corner of the screen). The Guide menu contains onscreen help and information and is your main source of information when working with your computer. With the release of Mac OS 8, the Guide menu is now a menu called Help. This menu has been moved from the upper-right corner of the screen to the last menu (from left to right) in the Finder or an application.

Figure 1 Guide menu icon

Apple Video Player 1.6.3 and later installs 2 invisible menus between the Windows and Help menus for compatibility with Apple Guide. Prior to Mac OS 8, users did not see these invisible menus. These invisible menus do not cause any known usability or compatibility issues.

Published Date: Feb 18, 2012

Macintosh System Software 6.0.2: Labeled Incorrectly As 6.0.1

This article has been archived and is no longer updated by Apple.

Since the end of September 1988, the Macintosh has been shipping with system software 6.0.2 labelled as version 6.0.1. These incorrectly labelled floppy disks are accompanied by an errata sheet to alert users of the discrepancy. Apple apologizes for the confusion, but a label change at this late date would have caused an excessive delay in shipping out the latest system software.

In summary, system software 6.0.1 was not and is not being shipped to customers, regardless of what appears on any labels.

Published Date: Feb 18, 2012

Drive Firmware Update 1.2: Read Me

This article contains the Read Me document for the Drive Firmware Update 1.2 software.

This article has been archived and is no longer updated by Apple.
Name: Drive Firmware Update
Version: 1.2
Released: May 12, 1995
Description: This extension addresses a problem whereby internal IDE drives on certain products emit audible noise. This problem is only found on Macintosh LC 580, Performa 58x series, Macintosh LC630, Performa 63x series and PowerMac 5200/75 computers.

Important Information About "Drive Firmware Update"

This extension will load during boot time. It detects the firmware version and drive type of your internal hard drive. If the firmware and drive type require update, the extension will download the new firmware into the drive. Once the install occurs, the extension is no longer required.

Installation Procedure:

1. Drag the "Drive Firmware Update" extension in the Extensions folder located in the System folder.
2. Restart the computer by choosing "Restart" in the Special menu.
3. As the computer is restarting you will see the "Drive Firmware Update" icon displayed along the bottom of the screen. The icon will be displayed only if the firmware update has been performed successfully.
4. After the system finishes booting, choose "Restart" from the special menu.
5. If the firmware update was successful, the icon will not be displayed along the bottom of the screen. The extension can now be removed from the Extensions folder.

May 9, 1995
Published Date: Feb 18, 2012

MessagePad 2x00 Series and eMate: Audio Recording

What are the audio recording specifications for the Newton MessagePad 2x00 and eMate 300 products?

This article has been archived and is no longer updated by Apple.
The Newton MessagePad 2x00 series offer monophonic audio recording using the built-in Microphone and Notepad application. While the eMate 300 supports audio recording, it does not have a built-in microphone and therefore relies upon third party developers to provide an audio-in solution.

To record an audio note, tap the New slip in the Notepad view and choose "Recording."

To access the audio recording preferences, tap the "Prefs" application in the Extras drawer and choose the "recording" view. The following options are available to choose from:

Recording source: None, Microphone, Line-in.

To use the built-in Microphone on the MesagePad, tap the Microphone option in the recording source menu. Choose Line-in when using an external audio source connected to the interconnect serial port.

Recording quality: Voice (2K/sec), Voice (4K/sec), Music (5K/sec)

Voice (2K/sec) - GSM encoded (8Khz, 1.65KBytes/sec). This format is not available on the eMate 300.
Voice (4K/sec) - IMA encoded (8Khz, 4Kbytes/sec). This format is labeled "Low" on the eMate 300.
Music (5K/sec) - IMA encoded (10Khz, 5Kbytes/sec). This format is labeled "High" on the eMate 300.

The Newton hardware can support up to 21k, 16 bit sound (Full native rate).

Recording volume: quiet, loud

The recording volume is similar to varying the gain of the input signal. For example, using a loud setting may result in more ambient or background noise and possible distortion of the audio signal.

Recording time

Recording time is limited by available memory. For example, when recording with a 4 Megabyte PC Flash Memory card the maximum recording time at 1650 bytes/second is 42 minutes. Using the same card with an eMate 300, the maximum recording time at 4KBytes/second is 17.5 minutes.

As a card becomes full, skipping may occur in the recording.

To record audio to an external card, tap the "Card" application in the Extras drawer and check the "Save new info and packages on this card" option. Also, make sure the Notepad Preferences slip (accessible by tapping the "i" button in the Notepad view) does not have the option "Always store new notes internally" checked.

Definitions

GSM: Global System for Mobile communication (GSM) is a lossy speech/audio compression codec. Codecs are algorithms for compressing video and audio information.

IMA: Interactive Multimedia Association is a 4:1 compression codec (**http://www.ima.org/**)
Published Date: Feb 18, 2012

Mac OS 8: Support For MacsBug

Is MacsBug 6.5.3 supported with Mac OS 8?

This article has been archived and is no longer updated by Apple.
MacsBug Version Information

Note: MacsBug is a developer tool, and is not required to use Mac OS.

If you are developing software using Mac OS 8, MacsBug version 6.5.4a3 or later is required. Previous versions will crash the computer at startup.

Certain PCI-based Mac OS computers using Mac OS 7.6 or 7.6.1 are not compatible with MacsBug 6.5.3 or earlier. On these computers the display turns a solid shade of gray, or the text is yellow when you enter MacsBug.

If you are experiencing the behavior described above with MacsBug, or are using Mac OS 8, you can install a newer version of MacsBug. MacsBug is posted to Apple's Developer Connection Web site in the following location:

http://developer.apple.com/tools/debuggers/MacsBug/
Published Date: Feb 18, 2012

Apple CD-ROM Drives: Speed Quick Reference

What are the speeds (often described as 4x, 8x, and so on) of Apple CD-ROM drives?

This article has been archived and is no longer updated by Apple.
In the order of introduction:

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Apple CD-ROM Drive Speeds		
Product	**Speed**	**Notes**
AppleCD SC	1x	
AppleCD 150	1x	
AppleCD 300	2x	also known as double-speed
AppleCD 600	4x	also known as quad-speed
AppleCD 1200i	8x	
AppleCD 1800i	12x	

.
More detailed performance specifications can be found in the individual specification sheets available for each drive in the Tech Info Library.

The AppleCD 1200 and 1800 are currently available only as internal drives shipping in select computers, as is the 24x Apple CD-ROM drive, also internal, for which the service part name is simply, "CD-ROM, 24x, SCSI."
Published Date: Feb 18, 2012

Mac OS: Finder Hiding

I am trying to hide the application I have open--SimpleText--by selecting "Hide SimpleText" from the Application Menu, but that option is grayed out. This happens regardless of which application I have open, but not always. What could be causing this?

This article has been archived and is no longer updated by Apple.
Finder hiding is probably enabled. If the icons on the desktop disappear when an application is opened, Finder hiding is enabled. When Finder hiding is enabled, the Finder will hide (and the desktop icons will disappear) whenever you open an application.

To disable Finder hiding, open the control panel called General Controls and ensure that the button labeled "Show Desktop when in background" is checked. This disables Finder hiding. After disabling Finder hiding, the system will allow you to hide the open application.

Note that having Finder hiding enabled will only prevent the hiding of another application if that application is the ONLY other one open and not already hidden. Otherwise, everything could be hidden, and it stands to reason that this would present a problem.

If more than one application besides the Finder is open and Finder hiding is enabled, then all but one of the open applications will be able to be hidden. In short, there must always be at least one application, or layer, that is not hidden.
Published Date: Feb 18, 2012

Macintosh PowerBook G3: Description

This article describes the Macintosh PowerBook G3 computer.
This article has been archived and is no longer updated by Apple.

Overview

The Macintosh PowerBook G3 builds on exciting new processor technology and the latest, greatest Apple system software to set new standards for portable computing. This innovative notebook computer eliminates the classic "mobile user's compromise" by packing the power of a desktop computer into a system small enough to fit easily into a briefcase.

Coupling performance breakthroughs with unparalleled ease of use, the Macintosh PowerBook G3 offers an outstanding overall user experience. Built around the "next-generation" PowerPC processor--the first to be optimized for the Mac OS--this exciting system significantly raises the bar for performance in a portable. In fact, with its 250- megahertz PowerPC G3 processor, new backside cache approach, faster system bus, and state-of-the-art Mac OS 8 system software, the Macintosh PowerBook G3 provides performance more than twice that of the PowerBook 3400.

Mobile professionals will quickly come to value the PowerBook G3 system's advanced multimedia capabilities. With standard features such as 2 megabytes of VRAM for powering external displays, a video controller for enhanced graphics, Zoomed Video, 20x-speed (maximum) CD-ROM drive, and four-speaker sound system, this PowerBook is not only outstanding for on-the-road presentations, but also ideal for on-the-fly brainstorming sessions.

The Macintosh PowerBook G3 features superior communications capabilities, supported by bundled software that makes staying in touch quick and easy. In fact, this high-performance portable includes software that can help you with everything from connecting to an organizational intranet to logging onto the global Internet to downloading data from a remote server.

Features

Breakthrough performance

- Uses the 250-MHz PowerPC G3 processor and 512K level 2 backside cache that take mobile computing to a new level
- Introduces the first processor designed specifically to optimize the Mac OS
- Includes large 5GB-capacity hard disk drive
- Includes 32MB of RAM; supports up to 160MB

Advanced multimedia

- Comes with 2MB of VRAM for viewing millions of colors on external displays
- Includes a dedicated video controller for accelerated graphics
- Complements its video capabilities with a four-speaker sound system, 16-bit CD-quality stereo sound input/output ports, video-in with Zoomed Video, and integrated microphone
- Includes a 20x-speed (maximum) CD-ROM drive

Integrated communications

- Comes with built-in 10-Mbps Ethernet and 33.6-Kbps modem and infrared technology
- Makes Internet access simple and convenient, with top-of-the-line tools
- Includes software for remote access, cross-platform compatibility, and file synchronization
- Features Apple Location Manager software, which allows you to easily switch system settings that vary by location

Mac OS 8 system software

- Enhances productivity through a new multitasking Finder
- Streamlines file and folder manipulation through innovative features
- Provides "assistants" to facilitate system and Internet setup
- Makes Internet access and publishing as easy and enjoyable as using a Macintosh

Ordering Information

Macintosh PowerBook G3
Order No. M5993LL/A

Macintosh PowerBook G3 computer with 250-MHz PowerPC G3 processor and 512K level 2 backside cache @ 100 MHz, 32MB of RAM, 12.1-in. (diagonal) active-matrix color display, built-in 1.4MB Apple SuperDrive floppy disk drive, internal 5GB IDE hard disk drive module, and internal 20x-speed (maximum) CD-ROM drive module. Includes keyboard and mouse; Mac OS 8; Internet access software, including Microsoft Internet Explorer, America Online, and Netscape Navigator; Apple Remote Access software; cross-platform compatibility software (PC Exchange, Mac OS Easy Open, DataViz MacLink Plus/Easy Open translators); complete setup, learning, and reference documentation; and one-year limited warranty

Accessories

Macintosh PowerBook Power Adapter for Macintosh PowerBook G3, 3400 series, and 1400 series
Order No. M4895LL/A

Macintosh PowerBook Lithium-Ion Rechargeable Battery for Macintosh PowerBook G3
Order No. M6138LL/A

Macintosh PowerBook 16MB Memory Expansion Card for Macintosh PowerBook G3 and 3400 series
Order No. M5141LL/A

Apple HDI-30 SCSI Disk Adapter for SCSI Disk Mode
Order No. M2539LL/A

Apple HDI-30 SCSI System Cable for PowerBook to SCSI Connection
Order No. M2538LL/A

For more information about Apple Macintosh PowerBook products, visit our web site at **http://www.powerbook.apple.com**
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Power Macintosh G3: Technical Information Guide

This article contains the information published in the Power Macintosh G3 Technical Information Guide, which is included with every Power Macintosh G3 desktop system.
This article has been archived and is no longer updated by Apple.

Processor

266 megahertz (MHz) PowerPC 750 processor/66 MHz system bus
233 megahertz (MHz) PowerPC 750 processor/66 MHz system bus
300 megahertz (MHz) PowerPC 750 processor/66 MHz system bus

Memory

Dynamic Random Access Memory
The computer comes with 32 megabytes (MB) of synchronous dynamic random-access memory (SDRAM), supplied in removable Dual Inline Memory Modules (DIMMs). The main logic board has three expansion slots which accept DIMMs that meet these specifications:

- 8, 16, 32, 64, or 128 MB DIMMs
- DIMMs must be 3.3 volt (V), unbuffered, 64-bit wide, 168-pin
- 100 MHz/10 nanosecond (ns) cycle time or faster using Synchronous Dynamic Random Access Memory (SDRAM).

Note: If you install DIMMs with different speeds, they will all operate at the speed of the slowest DIMM installed.

Important! Power Macintosh G3 series computers use Synchronous Dynamic Random Access Memory (SDRAM) DIMMs. DIMMs from older Macintosh computers are not compatible with your computer and should not be used even though they will fit into the DRAM DIMM slots.

To increase DRAM to the maximum of 384 MB, fill all three slots with 128 MB DIMMs.

(**Editor's Note:** *The printed version of the Technical Information Guide does not contain this additional information: a Power Macintosh G3 in a desktop enclosure is capable of taking 128MB DIMMs. However, smaller 128MB DIMM's must be used due to space constraints. For additional information, refer to Tech Info Library article 24343, "**Power Macintosh G3 (Desktop): 128MB Memory DIMM Support**"*)

Video memory
Your computer comes with 2 MB of Synchronous Graphic RAM (SGRAM) video memory built into the logic board. The logic board contains a video memory expansion slot that accepts a DIMM to increase video memory up to a maximum of 6 MB. The DIMM must meet these specifications:

- 2 MB or 4 MB SGRAM SO-DIMM.
- the DIMM must be 32-bit wide, 144-pin
- the DIMM must have 83 MHz/12 ns cycle time or faster

Important! Use only SGRAM SO-DIMMS and never use 256K or 512K video memory DIMMs used in older Macintosh computers.

Other memory

- 4 MB of read-only memory (ROM)
- 8 kilobytes (KB) of nonvolatile parameter memory
- 512K to 1 MB of static RAM used as a level 2 cache integrated into the processor module

For more information and instructions on expanding your DRAM or video memory, see Chapter 3, "Installing PCI Expansion Cards and Additional Memory," in Setting Up Your Power Macintosh G3 series computer manual.

Graphics modes

The table that follows shows the modes available for monitors that can be connected to the monitor port, along with the number of colors or grays supported with 2 MB of video memory (SGRAM) and with the optional expansion to 4 MB or 6 MB of SGRAM. The table also lists the screen refresh rates in hertz (Hz) and kilohertz (kHz). Peripheral component interconnect (PCI) expansion cards that can support other monitors and special video requirements are available from other manufacturers. See your Apple-authorized dealer for information.

Note: On some monitors from manufacturers other than Apple, the connector pinout designates one pin for both green video and timing synchronization. These "sync on green" monitors are not compatible with Power Macintosh computers. If you're not sure what type of monitor you have, check with your dealer.

You can use the Monitors & Sound control panel or the Control Strip to set a display mode that is supported by both your monitor and the built-in video circuitry. Refer to the manual that came with your monitor for a list of display modes that it supports.

Display Modes and Color Depths						
Display Mode	Screen Refresh Rate		Clock	Pixel Color Depth (bits per pixel)*		
(resolution)	vertical	horizontal		2MB	4MB	6MB
512 x 384	70.130 Hz	31.488 kHz	21.160	32	32	32
640 x 480	59.940 Hz	31.469 kHz	25.175	32	32	32
640 x 480	66.667 Hz	35.000 kHz	30.24	32	32	32
640 x 480	72.809 Hz	37.861 kHz	31.500	32	32	32
640 x 480	75.000 Hz	37.500 kHz	31.500	32	32	32
640 x 480	85.008 Hz	43.269 kHz	36.000	32	32	32
640 x 870	75.000 Hz	68.850 kHz	57.283	16	32	32
800 x 600	56.250 Hz	35.156 kHz	36.000	32	32	32
800 x 600	60.317 Hz	37.879 kHz	40.000	32	32	32
800 x 600	72.188 Hz	48.077 kHz	50.000	32	32	32
800 x 600	75.000 Hz	46.875 kHz	49.500	32	32	32
800 x 600	85.061 Hz	53.674 kHz	56.250	32	32	32
832 x 624	74.550 Hz	49.725 kHz	57.283	32	32	32
1024 x 768	60.004 Hz	48.363 kHz	65.000	16	32	32
1024 x 768	70.069 Hz	56.476 kHz	75.000	16	32	32
1024 x 768	75.029 Hz	60.023 kHz	78.750	16	32	32
1024 x 768	74.927 Hz	60.241 kHz	80.000	16	32	32
1024 x 768	84.997 Hz	68.677 kHz	94.500	16	32	32
1152 x 870	75.062 Hz	68.681 kHz	100.00	16	32	32
1280 x 960	75.000 Hz	75.000 kHz	126.000	8	16	16
1280 x 1024	60.020 Hz	63.981 kHz	108.000	8	16	32
1280 x 1024	75.025 Hz	79.976 kHz	135.000	8	16	16
1280 x 1024	85.024 Hz	91.146 kHz	157.500	8	16	16
1600 x 1200	60.000 Hz	75.000 kHz	162.000	8	16	16
1600 x 1200	65.000 Hz	81.250 kHz	175.500	8	16	16
1600 x 1200	70.000 Hz	87.500 kHz	189.000	8	16	16
1600 x 1200	75.000 Hz	93.750 kHz	202.500	8	16	16
The following five configurations are available only on Power Macintosh G3 computers with the revision 2 logic board:						
1280 x 960	75.000Hz	75.000kHz	126.000MHz	8	16	32
1280 x 1024	75.025Hz	79.976kHz	135.000MHz	8	16	32
1280 x 1024	85.024Hz	91.146kHz	157.500MHz	8	16	32
1920 x 1080	59.994Hz	70.313kHz	180.000MHz	8	16	16
1920 x 1080	71.992Hz	84.375kHz	216.000MHz	8	16	16
Table Notes: * This mode is derived from VESA 640 x 400 timings (used primarily as a games mode). Image bit depths: 32 bits=millions of colors 16 bits=thousands of colors 8 bits=256 colors						

Internal disk drives

The following drives come factory-installed in your computer:

- Apple SuperDrive 1.4 MB high-density floppy disk drive
- Apple ATA hard disk drive
- 24x-speed ATAPI CD-ROM drive

- Internal 100Mb Zip drive for fast, easy storage or backup (some configurations)

Interfaces

- One ADB port supporting up to three ADB input devices (such as a keyboard, mouse, or trackball) daisy-chained through a low-speed, synchronous serial bus
- Monitor port supporting color and grayscale monitors of various sizes and resolutions Two internal ATA connectors: one supports the hard disk drive and one supports the built-in CD-ROM drive
- Three internal expansion card slots supporting PCI expansion cards. Install only expansion cards that come with Macintosh drivers and are compliant with the PCI 2.1 standard. NuBus cards cannot be used in these expansion slots.
- One printer port and one modem port. Both ports are RS-232/RS-422 serial ports, 230.4 kilobit (Kbit) per second maximum (up to 2.048 megabit [Mbit] per second if clocked externally), and are compatible with GeoPort devices such as the GeoPort Telecom Adapter. (**Editor's Note:** *The original information printed in the guide is incorrect. The ports are compatible with LocalTalk and GeoPort cables. The GeoPort Telecom Adapter with Apple Telecom software is not supported.*)
- One built-in 10Base-T Ethernet RJ-45 connector for direct connection to 10Base-T networks
- One 3.5-mm sound output port for headphones or amplified speakers
- One 3.5-mm sound input port for stereo sound input. The sound input port supports the Apple PlainTalk Microphone that comes with some Macintosh computers. The sound input port also supports a standard stereo (miniplug-to-RCA) cable adapter for connecting stereo equipment to your computer. The sound input port does not support the omnidirectional microphone (the round microphone shipped with some earlier models of Macintosh) or the attenuated RCA adapter provided with some Macintosh models.

Optional audio/video interfaces

Some Power Macintosh G3 models include the following audio/video interfaces:

- Two pairs of RCA-type audio ports for stereo input and output
- Two composite video ports for video input and output
- Two S-video ports for video input and output

All the video ports support the NTSC and PAL video standards. The video input ports also support the SECAM video standard.

SCSI interface

Your computer has one standard SCSI chain, which is capable of transferring data at up to 5 MB per second. The SCSI chain can support up to seven internal and external SCSI devices. This section describes the internal SCSI expansion options. For information on connecting external SCSI devices, see Setting Up Your Power Macintosh G3 Series Computer manual. An Apple-authorized dealer or service provider can install internal SCSI devices.

The computer has two internal expansion bays. Each one accepts a 3-1/2" or 5-1/4" storage device that is up to 1.625" (41.3 mm) high. Some models come with a Zip drive already installed in one of these bays. An Apple-authorized dealer or service provider can install internal SCSI devices, along with any necessary data cabling or brackets to properly secure each SCSI device inside the computer. (Models with an internal Zip drive have an internal SCSI cable that includes an extra SCSI connector for the second expansion bay. Models without an internal Zip drive do not come with an internal SCSI cable; a dealer or service provider must install a SCSI cable in order to connect internal devices to the SCSI chain.) An Apple-authorized dealer or service provider could also replace the CD-ROM drive with a 5.25-inch (or smaller) device as tall as 1.625 inches (41.3 mm), or replace the floppy disk drive with a 3.5-inch device as tall as 1.04 inches (26.0 mm).

All internal and external devices on the SCSI chain must have unique ID numbers. SCSI ID numbers 0 through 6 are available. If the computer came with an internal Zip drive, the drive already has SCSI ID number 5 assigned to it. The computer itself has been assigned SCSI ID number 7.

Important Some older SCSI devices may require updated drivers to work with your computer. (A "driver" is special software that is installed in your System Folder.) Contact the device manufacturer for information on obtaining driver software.

Clock/calendar

CMOS custom circuitry with long-life battery

Keyboard

Supports all Apple Desktop Bus (ADB) keyboards

Mouse

Supports all models of the ADB mouse

Audio system

Custom sound circuitry, including a stereo generator (digital-to-analog converter, or DAC) capable of driving stereo miniplug headphones or audio equipment and stereo sampling hardware (analog-to-digital converter, or ADC) for recording stereo sound.

- 16-bit stereo input and output
- Sample rates of 44.1 and 22.05 kilohertz (kHz)

Warning! Do not attempt to replace the clock battery yourself. If the clock begins to lose accuracy, have an Apple-authorized service provider replace the battery. The service provider will dispose of the battery according to the local environmental guidelines.

Typical audio specifications

Sound input using the sound input port

- Input impedance (preamp off): more than 80 kilohm (k‡)
- Maximum input voltage (preamp off): 1 Volt (V rms) = 2.8 Volts peak-to-peak (V pp) ,nominal
- Input impedance (preamp on): more than 5 k‡
- Maximum input voltage (preamp on): 62 millivolts (mV rms) = 175 mV pp , nominal

Sound output using the sound output port

- Output impedance: 33 ‡, nominal
- Maximum output voltage: 0.94 V rms = 2.65 V pp

Noise, Distortion, and Bandwidth

- Sound input signal-to-noise ratio (SNR): 85 decibels (dB) unweighted (add +8 dB to estimate A weighting)
- Total harmonic distortion: 0.05%
- Bandwidth: 20 Hz 20 kHz at 44.1-kHz sample rate (Other sample rates scale the upper cut off frequency.)

AC line input

- Line voltage: 100 120 volts alternating current(V AC) and 200 240 V AC, rms, single phase, manually set by voltage selector switch
- Frequency: 5060 Hz
- Power: 250 watts (W) maximum continuous; 360 W peak input

AC line output

- Output receptacle: 100 120 V AC; 3 amperes (A) maximum, or 200 240 V AC; 1.5 amperes (A) maximum (determined by actual input voltage)

DC power

Continuous output: 161 W
Peak output (for 12 seconds at startup): 210 W

Output voltage	Maximum current
+5V	18.3A
+5V (trickle)	0.1A
+3.3V	12.5A
+12V	6.2A
-12V	0.4A

-- Total continuous power output cannot exceed 161 W.
-- Not more than 104 W total combined power.

Apple Desktop Bus (ADB)

The mouse draws up to 10 milliamperes (mA).
The keyboard draws 2580 mA (varies with keyboard model used).
The maximum current available for all ADB devices is 500 mA.
The ADB port can support up to three ADB devices.

Audio and telecommunications devices

The following table shows power allowances for external devices connected to input ports.

Device	Voltage	Current	Power
Microphone	+5V	20mA	100mW
A device connected to the printer port or modem port	+5V	500mA	2.5W

Expansion cards and other internal devices

If you add an expansion card or a 3.5-inch storage device to your computer, make sure the component's power requirements don't exceed the maximum power allowances allocated to it by the computer.
The maximum power allowances for expansion cards in your computer can accommodate three 15-watt, two 25-watt cards, or one 15-watt card and one-25 watt card. Some detailed guidelines are presented in the following table.

Device	Voltage	Current	Power
Expansion card (15 watts)*	+5V	3A	15W
	+12V	0.500A	6W
	-12V	0.100A	1.2W
	+3.3V	2A	6.6W
Expansion card (25 watts)**	+5V	5A	25W
	+12V	0.500A	6W
	-12V	0.100A	1.2W
	+3.3V	2A	6.6W
Storage devices (such as a hard disk)	+5V	3A	15W
	+12V	2.3A	27.6W
	+12V	6.2A peak***	-
Notes: * 15-watt expansion cards should not consume more than 15 watts of total power. ** 25-watt expansion cards should not consume more than 25 watts of total power. *** Peak power is for startup only and must not occur in normal operation.			

CD-ROM drive

Disc speed

- 24x (twenty-four times speed)

Disc diameters supported

- 120 mm (4.7 inches)
- 80 mm (3.2 inches)

Data capacity

- 656 MB, Mode 1
- 748 MB, Mode 2

Modes supported

- Audio CD
- CD-ROM: Modes 1 and 2
- CD-ROM XA: Mode 2, Forms 1 and 2

Published Date: Feb 18, 2012

PCI-Based Power Macintosh: Physical Dimensions of Processor Card

What are the physical dimensions of a standard sized Apple processor card?

This article has been archived and is no longer updated by Apple.
The physical measurements for a standard size Apple processor card is:

Length: 7 inches long
Width: 1 inch wide
Height: 3-7/8 inches high with the fingered processor slot edge extending down to 4-1/8 inches

Note: The processor slot edge is 4 inches long.
Published Date: Feb 18, 2012

Macintosh Performa 6400 Series: Frequently Asked Questions

This article contains the following frequently asked questions (FAQ) about the Macintosh Performa 6400/180 and 6400/200 computers and answers to those questions.

1. How many RAM expansion slots does the Performa 6400 have and how high can I increase the RAM?
2. Which modem comes with my Performa 6400?
3. Can I upgrade the internal modem to 33.6 Kbps by installing some type of software update?
4. I would like to connect an external modem to the modem serial port. Can I do this?
5. I just performed a clean install of the Mac OS and now my internal Geoport modem does not work. What could be the problem?
6. What can I do to improve my computer's performance while using the internal modem?
7. Can I add a second hard drive?
8. I just installed Mac OS 7.6.1 and now my computer's level-2 cache card is no longer recognized. Is there a software fix for this problem?
9. Is the video memory upgradeable on my computer?
10. I just added a PCI video card to my computer and now the TV tuner does not work. What could be causing the problem?
11. I just installed Mac OS 8 and now there appears to be a significant delay on startup. I press the power button and the computer gives a startup chime, however, the power light and monitor do not come on for another 30 seconds or so. What could be causing this problem?
12. I just installed Mac OS 8. Intermittently, I will get a flashing question mark on startup. When I startup with the Mac OS 8 CD, I get a message that hard disk needs to be initialized. I initialized the hard disk but the problem returns a few days later. What could be causing this problem?
13. Is there a Power Macintosh 6500 upgrade for the Performa 6400 series computers?
14. I have connected several SCSI devices to my Performa 6400, but some of the devices are not recognized. Are there any known issues?

For frequently asked questions regarding Performa 6400 series sound, please see the following article:

Article 20213: **Macintosh Performa 6400: Sound FAQ**
This article has been archived and is no longer updated by Apple.

1) Question: How many RAM expansion slots does the Performa 6400 have and how high can I increase the RAM?

Answer: The Performa 6400 has two DIMM expansion slots. The RAM can be expanded to 136 MB (the 8 MB that comes on your computer's logic board, plus two additional 64 MB DIMMs for a total 136 MB). The Performa 6400 uses 64-bit-wide, 168-pin, noncomposite, 70-nanosecond or faster DIMMs (1K or 2K refresh). For additional information, please see the following article:

Article 19598: **Power Macintosh 5400 & Performa 6400: Adding Memory**

2) Question: Which modem comes with my Performa 6400?

The Performa 6400 series computers come with either a Global Village Teleport Platinum V modem or a Geoport modem. You can see what modem you have by using ClarisWorks. Open a new communications document in ClarisWorks. From the Settings menu, select Connection and change the method to Serial Tool. Click OK then open a connection from the Session menu. Type `ATI1` and compare the results obtained to the list below:

240 = Global Village Platinum V modem
0 = Apple Geoport modem

For additional methods to identify the type of modem bundled with your computer, please see the following article:

Article 20642: **Macintosh Performa 6400: Which Modem Is Included?**

3) Question: Can I upgrade the internal modem to 33.6 Kbps by installing some type of software update?

Answer: If you have Geoport modem, you can install the GeoPort & Express Modem Updater (v3.1.1 or greater). This update provides support for V.34 protocols, which allow data transfer at speeds up to 33.6 Kbps. The software is available at Apple's Software Updates site at the following path:

US -> Macintosh -> Networking-Communications -> Apple_Telecom.

You can also install the Telecom software from the Mac OS 8 CD. The Apple Telecom software is available in the CD Extras folder on the CD.

There is no software upgrade available to allow the Global Village Teleport Platinum V modem to transfer at speeds up to 33.6 Kbps

4) Question: I would like to connect an external modem to the modem serial port. Can I do this?

Answer: If you need to use the external modem port, the internal modem must first be removed. Instructions for installing a card into the communications slot are included in the Macintosh Performa User's Manual. You can follow these instructions for removing the internal modem as well. Although such cards are typically user-installable, you may want to contact an Apple-authorized service provider for assistance with this procedure. To locate an Apple-authorized service provider near you, visit this site:

http://applefn.infonow.net/bin/findNow?CLIENT_ID=APPLE_SVC_USA

Or, contact the Apple Referral Center at 1-800-538-9696.

You may also need to remove the modem software for your internal modem. Depending on which modem you have, there are two good TIL articles that describe how to remove the modem software.

Article 20973: **Performa 6400/6360/GeoPort: How To Remove Modem Software**
Article 20974: **Performa 6400/GVC: How To Remove Modem Software**

5) Question: I just performed a clean install of Mac OS 8.0 and now my internal Geoport modem does not work. What could be the problem?

Answer: If you perform a clean install when installing the Mac OS, your internal modem will not work because the Apple Telecom software is not installed by the Mac OS Installer. You will have to install the software separately.

If you are using Mac OS 8, you can install the Apple Telecom software from the Mac OS 8 CD. The Apple Telecom software is stored in the CD Extras folder on the Mac OS 8 CD. When installing the software, custom install the Geoport and Faxing software only.

Apple Phone is included with the Apple Telecom software but it is not supported with the Performa 6400. MegaPhone is the only telephony solution supported with the Performa 6400 and the internal Geoport modem. To reinstall MegaPhone, please follow the MegaPhone installation instructions which are found in the following article:

Article 22048: **Performa w/GeoPort: Restore Modem SW & Clean 7.6 Install**

If you are using Mac OS 7.6/7.6.1, follow the instructions in article 22048 to reinstall the modem software.

6) Question: What can I do to improve my computer's performance while using the internal modem?

Answer: To improve your computer's performance while using the modem, you may want to try some of the following suggestions:

- If you are using a Geoport modem, install the Geoport-EM 3.1.1 Update (available from the Apple Software Updates sites). If you are using a Geoport modem and Mac OS 8, install the Apple Telecom software from the Mac OS 8 CD.
- Turn virtual memory off in the Memory control panel.
- If you are not connected to an AppleTalk network, turn off AppleTalk from the Chooser.
- Using the Extensions Manager, disable extensions and control panels which are not being used.
- If possible, add a level 2 cache card. A level 2 cache card will improve the overall performance of your computer including the modem's performance.
- If possible, add additional RAM to your computer.
- Reduce the number of applications running at the same time.

7) Question: Can I add a second internal hard drive?

Answer: Yes, you can a second internal hard drive or removable drive. The Performa 6400 comes with pre-cabled SCSI expansion bay for adding an additional 5.25-inch internal SCSI device. If your Performa 6400 came with an internal ZIP drive, you cannot add an additional internal drive because the ZIP drive is located in the expansion bay.

8) Question: I just installed Mac OS 7.6.1 and now my computer's level-2 cache card is no longer recognized. Is there a software fix for this problem?

Answer: The 54xx/64xx L2 Cache Reset has been posted to Apple's Software sites. This software corrects a problem which disables the L2 cache. The software is available from the Apple Software Updates sites

The Read Me file for the software provides more details on the issue. If you upgrade to Mac OS 8, you do not need to install the software fix. The fix has been rolled into Mac OS 8.

9) Question: Is the video memory upgradeable on my computer?

Answer: The Performa 6400 comes with 1 MB of video memory. The onboard video memory is not upgradeable on the Performa 6400, however, you can very easily add a PCI video card with more memory than the onboard video memory. You may want to check the Mac OS Software & Hardware Guide (http://www.macsoftware.apple.com) to search for information on PCI video card solutions.

Also see question 10 for additional information on adding a PCI video card to your computer.

10) Question: I just added a PCI video card to my computer and now the TV tuner does not work. What could be causing the problem?

Answer: You need to make sure that a monitor is attached to the built-in video port when using applications such as Apple Video Player, Avid Cinema, and any other application requiring the video digitizer. The video digitizer on the Performa 6400 is tied to the built-in video. The digitizer will not initialize on startup unless a monitor is connected to the built-in video port. Please see the following article for additional information:

Article 20691: **6360/54xx/64xx: Digitizer Not Available w/Only PCI Video**

11) Question: I just installed Mac OS 8 and now there appears to be a significant delay on startup. I press the power button and the computer gives a startup chime, however, the power light and monitor do not come on for another 30 seconds or so. What could be causing this problem?

Answer: With Mac OS 7.6.1 or Mac OS 8 installed, you may see as much as a 30 second delay before the power light comes on and the startup process continues. This issue is addressed in Mac OS 8.1. The Mac OS 8.1 Update is available from Apple Software Updates sites.

12) Question: I just installed Mac OS 8. Intermittently, I will get a flashing question mark on startup. When I startup with the Mac OS 8 CD, I get a message that hard disk needs to be initialized. I initialize the hard disk but the problem returns a few days later. What could be causing this problem?

Answer: Apple is aware of a condition that can cause this symptom on a Performa or Power Macintosh 54xx, 55xx, 6400, or 6500. The issue can be fixed by updating the hard drives driver with Drive Setup 1.3.1. Drive Setup 1.3.1 is available from the Apple Software Updates sites. Please see the following article for additional information on this issue:

Article 22078: **Flashing "?": Solution on Performa/Power Mac 54xx, 55xx, 6400, & 6500**

13) Question: Is there a Power Macintosh 6500 upgrade for the Performa 6400 series computers?

Answer: No, at this time Apple has not announced any upgrade plans for the Performa 6400 series computers.

14) Question: I have connected several SCSI devices to my Performa 6400, but some of the devices are not recognized. Are there any known issues?

Answer: Yes, there is a timing issue with SCSI on Performa 6400 series computers. The 6360/64xx/54xx Update resolves this issue. The update is available from the Apple Software Updates sites. The update has been rolled into Mac OS 7.6 and Mac OS 8. If you are running either of these systems, you do not need to install the update. Please see the following article for additional information.

Article 20593: **Macintosh 6360,6400,5400: SCSI Devices Aren't Recognized**
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Macintosh EIDE Drives: Drive Specifications

What are the specifications that an EIDE drive must meet or exceed to be used in an Apple product?
This article has been archived and is no longer updated by Apple.
It is important to remember that Apple qualifies several different drive vendors for a particular configuration, so the specifications are going to vary from vendor to vendor. Apple may also switch vendors periodically during the life of a product usually due to cost and availability of drives at the time of manufacturing. Since we have no way of knowing which drives the customer would actually receive, the specifications here are the general specifications for the drives.

Performance and Functional Specifications	
Average Access Time	less than or equal to 16ms
Read Cache	greater than or equal to 32KB
Write Cache	On or Enabled
Interface Burst Transfer Rate	greater than or equal to 8MBytes/sec, PIO Mode3
Minimum Sustained Data Rate	greater than or equal to 2MBytes/sec
Time to Ready from Power On	less than or equal to 10 sec typical
Mean Time Between Failures	greater than or equal to 300,000 Power On Hours
Start/Stop cycles	greater than or equal to 40,000
Acoustics - Idle	less than or equal to 33dBA, 38dBA max. No discrete tones
Acoustics - Seeking	less than or equal to 39dBA, 42dBA max.
No nonrecoverable errors allowed. AutoReallocation of bad blocks during Writes and Reads.	.

Another important factor to remember is that these specifications are Apple's requirements when we qualify a drive vendor. These specifications are the requirements for the drive only. When the drive is plugged into a computer you also have to take into account other factors that may affect the overall drive performance that are not necessarily specific to the drive. This includes things like other devices attached to the computer, drivers and the type of data being transferred.
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LocalTalk, Ethernet, TokenRing: Media Performance Characteristics

Can you compare some of the performance characteristics of various media (cabling) with LocalTalk, EtherTalk, and TokenTalk?
This article has been archived and is no longer updated by Apple.
The following tables list some of the characteristics for various media when used with LocalTalk, EtherTalk, and TokenTalk.

LocalTalk Transmission Media Comparison

Medium	Transmission Rate	Topology	Max. Number of Devices	Max. Length per Network
Apple's Unshielded Twisted Pair	230.4 Kbps	Bus	32	1000 ft.
Unshielded Twisted Pair	230.4 Kbps	Bus	24	1800 ft.
	230.4 Kbps	Passive Star	varies	750 ft. per branch, 4000 ft. total
	230.4 Kbps	Active Star	254	
Infrared Light	230.4 Kbps	n/a	128 per receiver	transceivers must be within 70 ft. diameter

Ethernet Transmission Media Comparison

Medium	Min. Distance Between Nodes	Max. Length Per Segment	Max. Length Per Network(1)	Max. Number of Devices	Transmission Speed	Standard Supported
Thin Coax (10Base2) Bus Topology	1.6 ft. (0.5 m)	600 ft. (185 m)	3000 ft. (925 m)	30/segment(2)	10Mbps	IEEE 802.3
Thick Coax (10Base5) Bus Topology	8.2 ft. (2.5 m)	1640 ft. (500 m)	8200 ft. (2500 m)	100/segment(2)	10Mbps	IEEE 802.3
Twisted-pair (10BaseT) Active-star Topology	n/a	328 ft. (100 m)	328 ft. (100 m) from hub(2)	1024	10Mbps	IEEE 802.3

Table Notes
(1) with use of repeaters
(2) segment figure is for contiguous length of cable without repeaters.

TokenRing Transmission Media Comparison

Medium	Transmission Rate	Topology	Max. Number of Devices	Max. Length per Network
Shielded Twisted Pair (IBM Type 1 or 2)	4/16Mbps	Star-wired ring	260/ring	990 ft. from MAU to node
Unshielded Twisted Pair (IBM Type 3)	4/16Mbps	Star-wired ring	72/ring	330 ft. from MAU to node

Note: Cable (media) specifications can change, so be sure and check with the cable (media) vendors for current cable specifications.
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PowerBook 2400, 3400, G3 PC Cards: Card And Socket Services Error

When I use my PC card in my PowerBook 2400 it says Card and Socket Services are not present. What is wrong?
This article has been archived and is no longer updated by Apple.
What you describe may occur with PowerBook G3 and 3400 computers as well as PowerBook 2400 computers.

The PowerBook G3, PowerBook 3400, and PowerBook 2400 all use Card & Sockets Service 3.0. If the PC Card has supporting software, which needs to be installed, it must be Card & Sockets Service 3.0 compliant. Almost all third-party vendors have updated their software to work with this new standard. It is possible that the combo card (Ethernet and Modem combination PC card) will perform as a modem but Ethernet functionality will be disabled. This also happens if the driver software does not support Card & Socket Services 3.0.

The Tech Info Library article titled "**Locating Vendor Information**" can help you search for a particular vendor's address and phone number.
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Power Computing: Channels Switched When Recording

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

Using a TEAC 16x CD drive, left and right channels get switched when recording Digital, but not when recording Analog. Can you explain?
This article has been archived and is no longer updated by Apple.
This is an issue with TEAC drives that affects all Power Computing systems. Digital recordings, but not analog, will flip right and left channels. TEAC has been informed of this behavior.

The only workaround is to use Audio recording software to flip the channels back the proper way.
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Color LaserWriter 12/600, 12/660: Explanation of Status Panel LEDs

What do the different areas on the status panel of the Color LaserWriter 12/600 and 12/660 indicate? How do you read the different errors which may exist?
This article has been archived and is no longer updated by Apple.
The status panel is divided into three areas:

- The left side will indicate the status of your toner cartridges when they are low in toner.
- The right side of the status indicator lists the maintenance lights which let you know when consumables such as the OPC, Oil, Fuser and Toner disposal box are in need of service.
- The lower part of the indicator panel contains alert lights. They illuminate when there is a problem that needs your attention.

The alert light should glow when there is any action needed, such as replacing a toner cartridge that is low or a Photoconductor that is in need of replacement.

Finally, there are also indicators on the diagram of the printer, located in the center of the status panel, which will direct you to the physical location in the printer where action is needed. For example, replacing the fuser assembly. In this case the light that corresponds to the location of the fuser will illuminate as well as the alert light and the fuser indicator on the left side of the status panel.
Published Date: Feb 18, 2012

PowerBook 3400: 12x CD-ROM Drive Not Reading Enhanced or CD Plus CDs

I have a PowerBook 3400/240 with a 12x CD-ROM drive. It appears my system cannot read enhanced CDs.
This article has been archived and is no longer updated by Apple.
Yes. Some (but not all) PowerBook 3400/200 systems will exhibit this behavior. Apple is aware of the situation. For customers whose PowerBook 3400/200 exhibits this behavior, here's what to do:

- call Apple Tech Support (if live telephone support from Apple is currently available to you)

or

- post a request to Apple Discussions at **http://support.info.apple.com/te/**. When you post your request to the Discussion Forum, be sure to include your email address in your posting, and the program will be sent to you via e-mail.

What are enhanced CDs?

Enhanced music CD is an emerging standard that has been set forth by Sony and Philips. Enhanced CD also goes by the names "CDExtra" and "CD+". The Enhanced Music CD is hosted on a standard multi-session disc. The first of two sessions contains Red Book audio (that can play in any audio CD player) while the second session contains data in the Yellow Book format (that can be viewed in most CD-ROM drives).

The Enhanced Music CD disc, or Blue Book, defines data files and formats for pictures, lyrics, credits, and custom data areas. QuickTime for Macintosh and Windows extends the features offered by the Blue Book spec through a new file format called QuickTime Audio CD (QuAC). A QuAC file provides additional information about the people who created the CD as well as QuickTime movies of interviews and music videos.

For more information on CD formats, see the following articles:

Article 17805: **CD-ROM: Standards Used**
Article 2598: **Three Compact Disc Formats Described**
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QuickTime 2.5: Picking QuickTime Musical Instruments In MoviePlayer

With QuickTime 2.5, the method for picking QuickTime musical instruments from within MoviePlayer has changed from previous versions.
This article has been archived and is no longer updated by Apple.
In MoviePlayer 2.5.x, the QuickTime Musical Instruments interface previously obtained by clicking on the Options button of the Import dialog (which is accessed from the File menu) is now obtained as follows, after the MIDI file has been converted:

1. Select Get Info from the Movie menu. (see Figure 1 below)
2. From the popup menu on the left side of the Get Info dialog, select "Music Track."
3. From the popup menu on the right side of the Get Info dialog, select "Instruments."
4. Double-click any of the instrumentation options now listed to open the standard keyboard interface. Macintosh sound files can also be dragged from the Finder to the instrument list in order to add them to the available choices as custom instrumentation. (see Figure 2 below)

Note: In order for this to function as described, the Authoring Extras file (see Figure 3 below) must be in the same folder as MoviePlayer. This file is available from Apple Software Update sites as "QuickTime Extras." It can also be found in the "MoviePlayer Extras" folder of some Mac OS CDs.

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Figure 1

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Figure 2

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Figure 3

QuickTime software and updates can be found at:

http://www.apple.com/quicktime/
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LaserWriter Printer Software 8.5.1

This article details LaserWriter Printer Software 8.5.1. It was released on November 17, 1997. It is available for download from Apple Software Updates sites.

This article has been archived and is no longer updated by Apple.
LaserWriter Software 8.5.1 requires US System Software version 7.0 or later.

It includes LaserWriter 8 Printer Driver Version 8.5.1, Desktop Printer Utility Version 1.0, Desktop PrintMonitor Version 2.1, and Apple Printer Utility Version 2.2. Please see the Read Me included with this software for more information.

LaserWriter 8.5.1 adds support for IP printing, for Custom Page Size, for PostScript 3 printers, improved support for ColorSync, support for Acrobat Save as File Format, and adds support for Desktop Printer Utility.

Note: The documentation included with this software mentions a "PS3 Fonts Installer". The "PS3 Fonts Installer" is not included in the online version of this software.

This software consists of six Disk Copy NDIF (New Disk Image Format) compressed images, which requires Disk Copy 6.1 or later to use. Download this software to your hard drive and then double-click it to use it. Disk Copy is available in the Utilities folder.

Disk Copy 6.1 (or later) or Disk Image Mounter 2.1 (or later) from Apple are the recommended applications to access all disk images released by Apple and are the only supported applications to access NDIF disk images.

This article can help you locate the software mentioned here:

"**Where To Find Apple Software Updates**" - Lists online services for free Apple software updates.
Published Date: Feb 18, 2012

LaserWriter 8.5.1: Read Me

This article contains the Read Me document for LaserWriter Software version 8.5.1.
This article has been archived and is no longer updated by Apple.

About Your Apple LaserWriter Printer Software for the Mac OS

This document contains important information about your Apple LaserWriter Printer Software for Mac OS-based computers. You may want to print this document and keep it for future reference. The four main topics are:

- LaserWriter 8 Printer Driver Version 8.5.1
- Desktop Printer Utility Version 1.0
- Desktop PrintMonitor Version 2.1
- Apple Printer Utility Version 2.2

LaserWriter 8 Printer Driver Version 8.5.1

The software includes version 8.5.1 of the Apple LaserWriter 8 printer driver, which works with Apple LaserWriter printers. This section contains information about LaserWriter 8 and how to use it with most laserwriter printers.

What's New in Version 8.5.1

LaserWriter 8.5.1 adds support for IP printing, for Custom Page Size, for PostScript 3 printers, improved support for ColorSync, Acrobat Save as File Format, and adds support for Desktop Printer Utility.

- IP printing using LPR protocol - Users can now use LPR protocol to print to Apple LaserWriters that have IP support. LaserWriter 8.5.1 will use the LPR protocol to send PostScript jobs to printers setup for IP printing. This allows network administrators to seamlessly integrate Apple LaserWriters into IP-only networks. IP printing is not available on Mac OS 8.0, but is available when LaserWriter 8.5.1 printing software is installed on Mac OS 7.5 through Mac OS 7.6.1. (The IP printing is planned to be available on the next Mac OS 8 update.)
- Custom Page Size - Custom Page Size allows the user to setup custom page sizes for devices that support page sizes not available in any standard set. When a printer's PPD file has a "*CustomPageSize True:" entry, LaserWriter 8.5.1 displays a "Custom Page Sizes" panel in the Page Setup dialog. Page sizes created are shared among all printers that support custom page sizes. If the printer selected doesn't support custom page sizes, then the Paper pop-up in the "Page Attributes" panel specifies "other" as the current paper size. For additional information, the reader should consult "PostScript Printer Description File Format Specification version 4.3", Adobe Systems, Inc.
- Improved ColorSync support - LaserWriter 8.5.1 provides improved support for ColorSync. The LaserWriter 8.5.1 Color panel now allows the user to select which intent to use.
- Acrobat Save as File Format - LaserWriter 8.5.1's Save-As-File panel adds Acrobat PDF as one of the supported formats. You must have the full version of Acrobat 3.0 or later installed for this option to be enabled. The Acrobat Reader alone is not sufficient. The application may be purchased from Adobe systems. For some applications, PDF formatting can be performed in the background only.

About LPR Printing
LaserWriter 8's LPR printing implementation is compliant with RFC 1179. You use the DTP Utility to setup your Mac OS-based computer for LPR printing specifying the IP address and the queue name if necessary. LPR printing is available with these Apple LaserWriters:

LaserWriter 8500
LaserWriter 16/600 PS
LaserWriter 12/640 PS
Color LaserWriter 12/600 PS
Color LaserWriter 12/660 PS

Using Open Transport

LaserWriter 8 now uses Open Transport by default if your system uses it. If your system uses Open Transport, use Open Transport 1.1.2 or greater which provides improved performance, compatibility, and reliability over previous Open Transport versions.

Using Collate

LaserWriter 8.5.1 now offers Collate on Mac OS 7.5 through Mac OS 7.6.1. (The collate option is not available on Mac OS 8.0, but is planned to be available on the next revision of that OS.) When you select Collate with Copies set to more than one, your copies are collated. Each copy is sent to the printer as a separate print job. If you are sharing your printer with other users, there is a possibility that your collated copies will be interleaved with other print jobs. Collated printjobs might take longer than normal multiple-copy printjobs.

Using LaserWriter 8 with Spooler Applications

If you encounter problems printing large files this may be due to the spooler application's maximum default spool file size. For example, the EtherShare maximum default spool file size is six megabytes. Contact your network administrator to increase the spooler application's maximum default spool file size.

You may encounter a problem when trying to print documents in the foreground using PC MACLAN. Change to background printing and try again.

Larger Print Area

Some printers support both US Letter and US Letter Small paper sizes. To prevent text from clipping or wrapping to the next line on different printers, use US Letter Small. To get the narrowest possible margins from your printer model, use US Letter.

Using PostScript Fax

PostScript Fax is an option for the LaserWriter Select 360, the LaserWriter 16/600 PS, and the LaserWriter Pro 810. If you use a PostScript Fax option with any of these printers, you should use LaserWriter 8f version 8.2.3f. PostScript Fax is no longer supported with LaserWriter drivers 8.3 and beyond. See the section "How To Get Updated Printer Software" at the end of this Read Me for information on obtaining LaserWriter 8f version 8.2.3f if you don't already have it.

Using Color Matching

When ColorSync 2.0 or greater is installed and the ColorSync Profiles folder contains printer profile(s), there are two options in addition to color/grayscale output:

- PostScript Color Matching/Printer's Default is the preferred color-matching choice. When you are printing to a PostScript Level 2 printer, and it is efficient to let the printer do most of the work, this option is a good choice.
- ColorSync Color Matching is an alternative color-matching selection. It invokes the ColorSync system software to perform color matching for the printed document, matching your monitor and printer's profile and sending the correct color information to the printer. With ColorSync Color Matching, most of the work is done by your Macintosh.

Here are some tips on using color matching:

- Color output will vary depending on the application you are using.
- Documents that use ColorSync 1.0 embedded profiles convert to the profile set up in the ColorSync 2.0 System Profile control panel.
- When you print with PostScript Color Matching selected and ColorSync 2.0 is not installed, the driver uses the Apple 13" RGB Standard profile.
- Applications that generate their own PostScript may have problems color matching EPS or TIFF images correctly. Converting the image to a PICT file corrects the problem.

PPD Files

The LaserWriter 8 driver uses PostScript Printer Description (PPD) files to determine the characteristics of the printers it uses. PPD files contain information about individual PostScript printers. For example, PPD files describe the paper-handling capabilities of printers: the number of paper trays, their capacity, and the paper sizes they handle.

To take full advantage of your printer's features, you need to go through a simple setup procedure. When selecting your printer for the first time, or after installing an additional option, click the Create/Setup button in the DTP Utility or in the Chooser . This procedure causes the LaserWriter driver to query the printer for its characteristics and associate a particular PPD file with the printer.

You can also change your printer's setup by highlighting your desktop printer icon and then selecting Change Setup from the Printing Menu.

If you get an error about the preferences file when you choose an option that is specific to your printer, you may have an outdated PPD file. You should contact the vendor of your printer for an update.

Using English Language Chooser 7.3 on Localized Mac OS Systems

LaserWriter 8 requires Chooser 7.3 or greater. If you have a localized Mac OS system with a Chooser earlier than version 7.3 and you install an English-language version of the printer software, an English-language Chooser 7.3 may be installed. Use Chooser 7.3 or greater to select your target printer.

Working with Language Kits

Before you install the LaserWriter 8.5.1 printer software onto a system with language kit(s), please check your "Language Kit Additions" folder

(this may or may be exist depending on the language kit(s) you installed) in your Extensions folder. Please remove any files whose names contain "LaserWriter" or "PrintLib" in the "Language Kit Additions" folder.

After installing the LaserWriter 8.5.1 printer software, you may see some scrambled text in the Page Setup or Print dialog boxes. This is purely cosmetic and will not affect the printing functionality.

Creating EPS Files

You can create an encapsulated PostScript (EPS) file in many applications by selecting Save-As-File in the Print dialog box, then clicking Save. When you create an EPS file, note the following:

- Creating EPS files with the All option selected in the Font Inclusion pop-up menu in the EPS dialog box can result in very large files. If you include all fonts in an EPS file and save the file with the Unlimited Downloadable Fonts option selected, you may create an extremely large file.
- If you create an EPS file with no fonts included and open the document, fonts in the document appear on your screen, but Courier may be substituted when you print.
- When you create EPS files with preview information included, other programs that create their own PostScript code may not display the EPS file accurately on the screen.

Using the LaserWriter 8 Driver With the Kanji System

To print Japanese characters using KanjiTalk or the Japanese Language Kit, your system must have WorldScript II version 7.5.1 or later.

Using the LaserWriter 8 Driver With Applications

Some programs do not yet take advantage of the new features of the LaserWriter 8 driver or have small incompatibilities that result in printing problems. If you experience problems with an application, please contact the publisher of the program. In some cases a newer version of the program may be available.

The following section describes some special cases that you should be aware of when working with some applications. There may be other problems with these, or with other programs, not mentioned in this document.

- Foreground vs Background Printing: LaserWriter 8.5 and greater offer both foreground and background printing. In foreground, the driver doesn't spool the file being printed. An application may fail when printing in the foreground if the application assumes the driver will make a spool file.

If you experience problems with foreground printing, change to background printing and try again.

- With many programs, you cannot use the Flip Horizontal, Flip Vertical, landscape page orientation, and Layout option in the Page Setup dialog box in combination.
- Some programs may print in color even when Black and White mode is selected.
- Tray Selection: Applications that don't utilize LaserWriter 8's capabilities have some limitations with tray selection when printing from the Finder. To work around these problems, print from within the application and contact the vendor of this application.

- Avoiding Conflicts with Application Print Options

Some applications provide their own printing options by adding checkboxes, buttons, or fields to dialog boxes. In the LaserWriter 8.5.1 printer software, these options are found in the application panes in the Page Setup and Print dialog boxes, accessible through the pop-up menus. A conflict can occur when these options are also provided by the LaserWriter 8.5.1 printer software. When the printer software and the application try to perform the same function, the results can be unexpected. If you are not getting the results you expected when setting certain options such as scaling or paper size, try setting the options in the application panes.

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Adobe Acrobat 3.0

- Acrobat retains the settings used for one printout and applies these settings to subsequent print jobs, unless options are reset by the user.
- The orientation of the .PDF file may not match the setting that appear in the printer dialogs. This is expected behavior. The .PDF file will print as displayed on your monitor.

Adobe HomePage and PageMill

- Home Page might not print the background color or the text color (other than links).
- PageMill can print the text in color, but not the background.

Adobe Illustrator 6.0.1

- Multiple-page documents may not print correctly when you choose a page layout from the Layout pop-up menu in the Page Setup dialog box.

Adobe Illustrator 7.0

- This new version of Illustrator handles fonts differently than previous versions. If your fonts do not print as expected, check the instructions provided in the Adobe manual and Read Me file.

Adobe PageMaker 6.5

- Documents that have been set up using a page layout from the Layout pop-up menu may not print correctly with the Option-Print command. Use the Print command with PageMaker's Thumbnail option.
- When using a page layout from the Layout pop-up menu with the Option-Print command, the document will be printed in reverse order.
- Rotated graphics or text may not print correctly when you hold down the Option key and click Print in the File menu.
- You cannot print legal-size documents from the paper cassette of the Personal LaserWriter 320. Print these documents by selecting Manual Feed or by holding down the Option key and click Print in the File menu.
- Foreground printing does not always print text in the correct size.
- To set up duplex printing, from PageMaker's print dialog, select "Duplex Installed" and then select "2-sided printing".

Adobe Persuasion 4.0

- Persuasion uses its page dimensions to establish the orientation. These dimensions, however, might not match the driver's orientation settings.

Adobe SuperPaint 3.5

- Rotated or filled polygons print as solid gray objects.
- Gradient fills may not print when copied into other programs.

Assistant Toolbox

- If you are installing the LaserWriter 8.5.1 software on a PowerBook portable computer, please be sure to disable your Assistant Toolbox extension before sending print jobs to non-AppleTalk printers.

Canvas 5.0

- Canvas has several tools that provide smooth output when skewed and stretched text is printed. However, these effects might not be supported by other applications. Therefore, when a PICT from Canvas is copied to another application, the result can be jagged graphics in the printouts.

ClarisDraw 2.0 and ClarisImpact

- Some shapes that contain gradients may not print correctly.
- A PostScript error is sometimes generated when attempting to print in the foreground. If you see this problem, print the document again in the background.
- Using the option for Unlimited Downloadable Fonts might generate a postscript error. If this happens, deselect this option and attempt to print again.

DeltaGraph Pro 4.0

- Printing with Unlimited Downloadable Fonts may cause some elements to be shifted and fonts to substitute Courier.
- When printing Handouts or Speaker Notes from the Sorter View, gradients in the thumbnails might print as stripes. They are drawn correctly in the full Slides, however.

Freehand 5.5 and 7.0

- Freehand has many custom print options that will effect the actual printout of your files. For example, Freehand offers a manual tiling option for printing multiple pages of a document on a single page. This should be used in combination with the LaserWriter layout settings.

Informed Designer/Manager 1.4.3

- Do not print documents that contain JPEG images in Black and White mode. Doing this will cause your system to restart.
- When you select the Unlimited Downloadable Fonts option, some graphic elements may shift or disappear when printed.

Lotus 1-2-3

- Sometimes a single document prints when multiple documents are sent to printer.

Microsoft Excel 5.0

- When you first install the new printer driver, you need to use the driver's page setup dialog to set the orientation of your document. When you select Page Setup, Excel first displays its own dialog box. Click the Options button to open the Page Setup dialog box generated by the LaserWriter driver. Then click on the orientation setting you desire. Click Okay to exit the driver's dialog. Then click Okay again to exit Excel's dialog.
- Most of the settings in Excel's Page Setup will now match the corresponding options in the driver's Page Setup. However, the scaling size may be different in the two dialog boxes. The size displayed in the Excel window is the size that will be used when you print from Excel.
- Colored horizontal cell borders will often not appear in the printout. This happens with any color printing option and on most printers.
- From the print preview window, multiple copies will not be printed.

Microsoft Internet Explorer

- Explorer prints text in the specified color, but nothing of the background.

Microsoft Word 6.0.1

- Each section of a document is treated as a separate file when printed. This will not affect your output.
- Also, another section is sometimes inserted in the document when cursor is not at the top of the document.
- A blank page will be produced when incorrect page numbers are given.
- Word has a special 'Collate' option that merges the print jobs when set to N-Up. This is a feature that may generate unexpected results when used in combination with LaserWriter options. Experiment to determine the best settings to achieve your desired printouts.

Microsoft Works 4.0

- There are 24 new shapes available through the tools palette. Colored shadows for any of these shapes will appear correctly on screen. But these colored shadows will only print in gray, regardless of what the print color options might be.
- Works 4.0 color printouts may not match what appears on your screen. Experiment with the color options to determine which one generates the best printout for your needs.

Netscape 3.0.1

- Navigator prints text in the specified color and the background graphic, but not the background color.
- Netscape might print a pale gray background to an older LaserWriter printer.
- When printing a multiple-page document, Netscape may print below the margins on the intermediate pages.
- Portions of graphics that seem to be transparent on screen will be printed on your documents.

Painter 3.0

- When you print using the Invert option, images do not print inverted correctly.
- Painter adds 2 small pop-ups to the print dialog panels. They are in the lower left quadrant of the panels and can interfere with the driver's functionality.

PixelPaint Pro 3.0

- When you print using the Invert option, images do not print inverted correctly.

QuarkXPress 3.32

- Be sure to use the PPDs provided with QuarkXPress when you choose a page layout from the Layout pop-up menu in the Page Setup dialog box. Also, be sure to select the desired paper size in the QuarkXPress panel in both the Page Setup and Print dialog boxes.
- Some imported JPEG files may not print correctly.
- MultiMaster fonts might not print correctly in the foreground. If this happens, select background printing and try again.

ReadySetGo! 6.0

- Use ReadySetGo! version 6.0 or later with the LaserWriter 8 printer driver. Earlier versions of this application will not work.
- With the Unlimited Downloadable Fonts option selected, you may not be able to print complex documents.
- Documents that use pen patterns will print patterns as solid gray.

Studio/8 & Studio/32

- When creating an EPS file with these programs and the LaserWriter 8 driver, you must select the QuickDraw Printer option.
- A blank page is sometimes printed when a document is dropped onto a DTP (Desktop Printer Icon).

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Desktop Printer Utility Version 1.0

Mac OS Systems Supported by Version 1.0

Desktop Printer Utility is a new way to make Desktop Printer icons. You can use Desktop Printer Utility on Mac OS 7.5 through Mac OS 7.6.1.

Unexpected Error on Launch

If you receive an "unexpected error" when launching the Desktop Printer Utility, please be sure the "Shared Library Manager" or "Shared Library Manager PPC" (for a Power PPC-based Macintosh) files are turned ON in the Extensions Manager and restart your computer before running the application.

Desktop PrintMonitor Version 2.1

New Features in Version 2.1

- Desktop PrintMonitor 2.1 adds support for the Desktop Printer Utility.

System Software Requirements for Desktop Printing

Desktop printing requires System 7.1.1 or later of the Mac OS. If you have System 7.0 or earlier and you want to use desktop printing, you can upgrade your Mac OS-based computer to use a later version of system software. Contact your Apple-authorized dealer.

Printing with Multiple Desktop Printers

To avoid AppleTalk errors, print to no more than five desktop printers simultaneously.

Using Desktop PrintMonitor on a Non-English System

If no desktop printer icon appears after you install the printer software, it may mean the Installer installed PrintMonitor 7.1.2 and did not install the Desktop PrintMonitor. This will depend on the version of system software in your computer.

PrintMonitor 7.1.2 is installed if you have an earlier version of the PrintMonitor. Later versions of the PrintMonitor are not replaced.

You have three options:

- Use PrintMonitor 7.1.2 (or a later version).
- Upgrade your system software to System 7.5.1 and install the printing software again.

An English language version of the Desktop PrintMonitor software is installed.

- Obtain a set of installation disks for the printer software in the language of your system software from your Apple-authorized dealer and install it. (This software might not be available in all languages.)

Desktop Printer Icons Appear Inactive

When switching Mac OS systems, Desktop Printers may appear inactive when they should be active. This can be resolved by rebuilding the desktop printer database. The desktop printer database can be rebuilt by restarting your Macintosh with the Command and Option keys pressed down until the 'Rebuilding Desktop' progress dialog appears.

Using the Desktop Printer Menu and the Printer Selector Control Strip

The desktop printer menu extension can be installed using the Custom Install option.

The Desktop Printer menu appears on the right-hand side of your menu bar. This menu lists the names of all active desktop printers. A check mark is displayed next to the name of the default printer. Selecting the name of a printer from this list makes the printer the new default.

The Printer Selector control strip module is installed only on computers that already have control strip software installed. The Printer Selector adds an item to the control strip that provides functionality identical to the Desktop Printer menu.

Support and Compatibility Information

- Some third-party printers do not support desktop printing. If your printer is not an Apple product, and no desktop printer icon is created after you select your printer in the Chooser, it is likely that your printer does not support Desktop PrintMonitor. Please contact the vendor of your printer to see if there is a version of the driver that is compatible with Desktop PrintMonitor.
- When you choose Save or Open in your applications, you will see your desktop printers listed as if they were folders, but you should not save or open any documents in them. If you do, you will not be able to access your documents.
- Desktop PrintMonitor supports drag-and-drop printing for all files that cause the Print Command in the File menu to become enabled. Since clipping files do not enable the Print command, drag-and-drop printing is not supported for them.
- Apple's Fax Sender software is not supported by Desktop PrintMonitor. Fax Sender is fully functional when Desktop PrintMonitor is installed. However, it does not get the benefit of Desktop PrintMonitor's features. When you select Fax Sender in the Chooser you will not have a default desktop printer until you choose a printer icon and select "Set Default Printer" from the Printing menu.
- Spool files and desktop printers must use the same version of the LaserWriter 8 driver. You may encounter errors if you drag spool files that were created with one version of LaserWriter 8 to a desktop printer created with another version of the LaserWriter 8 driver.

Tips for Desktop Printing Troubleshooting

If No default desktop printer appears on your desktop

- Problem: After installing the LaserWriter software, you no longer have a default desktop printer. This situation may occur if you do a Easy Install followed by a Custom Install of the LaserWriter software.

Solution: To fix this problem, click on the desktop printer icon that you want to be the default desktop printer. Then, from the Printing menu, select Set Default Printer.

If Desktop printer cannot be found

- Problem: When you try to print, your spool files are moved to the Trash and an alert is displayed saying that the desktop printer could not be found.
- Solution: There are two likely solutions to this problem. First, it is possible that your desktop printer has somehow become damaged. To fix this, drag the desktop printer icon to the Trash and reselect the printer in the Chooser. A new desktop printer icon will be created.

Second, your printer software may not be using a file format that is completely compatible with Desktop PrintMonitor. If your printer software is not published by either Apple Computer or Adobe Systems, it is possible that it is not making proper and legitimate use of PrintMonitor. If this is the case, your printer software will not work properly with Desktop PrintMonitor. The only resolution to this problem is to disable Desktop PrintMonitor and use old PrintMonitor. To print the documents you were working on follow these steps:

1. Empty the Trash.

2. Go to the Chooser and turn off background printing.
3. Print documents again.

To correct desktop printing:
4. Drag the desktop printer to the Trash.
5. Go to the Chooser and turn background printing back on.
6. Create a new desktop printer.

If "Not enough memory" message appears when dragging files to desktop printer

- Problem: When you drag documents created by different software applications to your desktop printer icon, a message is displayed indicating that there is not enough memory to continue.
- Solution: You may not have enough memory available to launch all of the software applications corresponding to the documents you have selected. You can resolve this situation by printing your documents individually or in smaller groups.

If Options are dimmed in Printing menu

- Problem: "Get Printer Info" and "Change Setup" appear in your Printing menu, but can't be selected.
- Solution: These are two new functions supported by LaserWriter v8.4 and greater. If these or other items in the menu appear dimmed and cannot be selected, it is because you are using a version of the LaserWriter 8 printing software that doesn't support their respective functions.

Apple Printer Utility Version 2.2

Apple Printer Utility is Now a Custom Install Option only

The Apple Printer Utility is now a custom install option only. If you cannot find the Apple Printer Utility version 2.2 on your system, it probably was not installed.

Printer Support

The Apple Printer Utility program works with all Apple PostScript Level 1, Level 2, and PostScript 3 printers. If this software is used with a non-Apple printer or with a printer developed after this release, a set of generic features will be available. The generic feature set consists of options that are common to most PostScript printers. These features should work with non-Apple printers but are not specifically supported by Apple.

Working with a Large Number of Downloaded Fonts

If you plan on working with a large number of downloaded fonts, you will need to increase the memory allocation for the Apple Printer Utility. To do this, quit the Apple Printer Utility, select its icon and choose Get Info from the File menu. Increase the memory in the Preferred Size box, then close the Get Info window. The amount of memory required grows dynamically as the number of fonts in the printer increase. Increase the Apple Printer Utility's Preferred Size memory by 100K to 500K and try downloading again.

Working with 2-Byte Fonts

Downloading Chinese, Japanese, or Korean fonts is not a supported feature of this software and program errors may occur.

Downloading PostScript Fonts on a QuickDraw GX System With the Apple Printer Utility

When GX is installed, any PostScript fonts (often called Type 1 fonts) in the Fonts folder are converted to GX fonts, and the original PostScript fonts are copied to a new folder called "Archived Type 1 Fonts" which is created in the System Folder. If you want to download these fonts to your printer using the Apple Printer Utility, you must send the fonts in the "Archived Type 1 Fonts" folder, not the GX-converted versions in the Fonts folder. Downloading GX fonts that were not previously Type 1 fonts and converted by GX works correctly.

How to Get Updated Software

Apple Software Updates are available on the Internet at: US, WWW site: **http://www.apple.com/swupdates**
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PC Setup 1.6.3: Where Is It?

I just got my new Power Macintosh G3. I want to put in my DOS card -- the Read Me on the Power Macintosh G3 indicates I need PC Setup 1.6.3. I can't find this in the software updates. Where do I find 1.6.3?
This article has been archived and is no longer updated by Apple.
PC Setup 1.6.3 has been superseded by PC Setup 1.6.4. PC Setup 1.6.4 is available from Apple Software Update sites.

These articles can help you locate the software update mentioned here:

"**Where To Find Apple Software Updates**" - Lists online services for free Apple software updates.

"**Obtaining Apple Product Support in the USA**" - Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech Info Library.
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PowerBook 1400: Problem Accessing 12x CD-ROM Drive

Sometimes when I am using a CD in my PowerBook 1400, the system "hangs" and I have to restart. What is causing this?
This article has been archived and is no longer updated by Apple.
Note: This only affects users who have a PowerBook 1400, are using Mac OS 7.6 or earlier, and have a 12x CD-ROM drive. You can tell what speed your CD-ROM drive is by taking it out of the PowerBook and reading the label near the back of it.

If you have a 12x CD-ROM drive in your PowerBook 1400, you will need Apple CD-ROM driver version 5.3.3 or later. System software versions 7.6.1 and later come with the appropriate software. If you have an earlier version of the CD-ROM driver software, the system will hang when trying to wake the CD-ROM from sleep.

Note: The CD-ROM drive goes to sleep when a CD is present but not accessed for about a minute.

These articles can help you locate the software update mentioned here:

"**Where To Find Apple Software Updates**" - Lists online services for free Apple software updates.

"**Obtaining Apple Product Support in the USA**" - Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech Info Library.
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PowerBook G3: Read Me

This article contains the Read Me document for the PowerBook G3.
This article has been archived and is no longer updated by Apple.
Note: Macintosh PowerBook G3 computers should not be confused with Macintosh PowerBook G3 Series computers. Though the names are similar, there are significant differences. To visually identify which type of computer you have, close the display and inspect the display case. A Macintosh PowerBook G3 has a small, six-color Apple logo on the display case. A Macintosh PowerBook G3 Series computer has a large Apple logo on the display case that is not six-colored.

Important Information About Your Macintosh PowerBook Computer

This document provides late-breaking news about your Macintosh PowerBook G3 series computer. You may want to print this document to keep with the user's manual for your PowerBook.

Important Information About Using Your Modem

If you have a software application that uses a modem connection and it does not list support for your PowerBook G3, try using the selection for the PowerBook 3400. Most modem scripts for the PowerBook 3400 will work with the PowerBook G3. Contact the vendor for that software product if you are unable to use the PowerBook 3400 selection. Known Compatible Applications: America Online, Claris Works, any terminal application using Apple Modem Tool.

Important Information About Updating Your System Software

The system software on your computer and on the PowerBook G3 CD are specially designed to work with Macintosh PowerBook G3 series computers. In some instances, another version of Macintosh system software may not work with your PowerBook. Some specific software versions that do not work with your computer are listed below.

- The general release of System 8.0 is not compatible with your PowerBook. (The system software installed on your computer also has the version number 8.0, but it includes components designed only for your PowerBook model. These components are not included in the general release of System 8.0.)

Important Information About LocalTalk and Modem Use

If your PowerBook is connected to an AppleTalk network by a LocalTalk connection and you are using a PC Card modem or an internal modem for data connections with a serial speed setting (between your communications program and the modem) higher than 19,200 bits per second (bps), you should turn off AppleTalk in the Chooser to avoid possible data loss during connections. This problem does not occur if your computer has an Ethernet connection.

Important Information About Using the Disk Tools Floppy Disk

- You must first create a Disk Tools floppy disk from the disk image on your PowerBook G3 CD.

- If you start up your PowerBook with the Disk Tools floppy disk, do not put the system to sleep (by choosing Sleep from the Special menu, closing the computer's display, or pressing the Power key and choosing Sleep in the dialog box). The Disk Tools disk does not have all system software components needed for the computer to wake from sleep. This same advice applies to any disk or PC Card that contains a copy of the System Folder provided on the Disk Tools disk.
(If you do put the computer to sleep and cannot wake the system, use the emergency restart procedure: Hold down the Command and Control keys when you press the Power key.)

- When the computer starts up from the Disk Tools floppy disk, the system may not recognize a PC Card that was inserted before the computer started up. If you don't see the icon for a PC Card after the startup process is complete, eject the PC Card and insert it again.

Note: The Disk Tools floppy disk does not contain complete system software. Use this disk only as a temporary startup disk.

Important Information About Using an External Monitor

- If you connect an external monitor to your PowerBook G3 and it remains black, you can try the following: While holding down the Control Key, click on the Monitors Resolution Control Strip module. A list of all the supported resolutions will be shown. You can click on the appropriate resolution for your monitor and the PowerBook G3 will start displaying video on it. If you use this procedure, you will need to repeat it once you shut down or put the PowerBook to sleep. Please consult your monitor specifications in order to decide which resolution is the most appropriate.

- When connecting an AppleVision monitor to the PowerBook, be sure to connect the monitor's ADB cable to the ADB port (on the left side of the computer, near the back panel). This connection is required by the AppleVision software.

- For general information and instructions on using the external monitor, see these Mac OS Guide topic areas:
- Using an External Monitor
- Monitors (standard settings)
- Monitors (AppleVision extras)
- Sound (for using the sound capabilities built into an AppleVision monitor)

To set up or change most settings for an external monitor, you use the Monitors & Sound control panel.

Note: You may see two Guide files that contain information about monitors and sound. One of these is Mac OS Guide; it contains all the instructions related to an AppleVision monitor and your PowerBook. The second Guide is available when the Monitors & Sound control panel is open; it is Monitors & Sound Guide. This Guide contains only the instructions for using the Monitors & Sound control panel. Mac OS Guide contains the same instructions as Monitors & Sound Guide, plus general instructions for using an external monitor and all information about using other parts of the system software.

- The PowerBook G3 will only support the Portrait and Two Page Grayscale Displays in 256 Colors/Grays mode.

Important Information About Using a Microphone

- To avoid getting feedback when you use a PlainTalk microphone, be sure that the microphone is at least 1 foot away from the computer.

- To avoid feedback when recording with the internal microphone, be sure that the Listen option is turned off in the Monitors & Sound control panel. Follow these steps:
1. Open the Monitors & Sound control panel.
2. Click the Sound button.
3. In the Sound Recording Input section of the control panel, choose
Internal Mic from the pop-up menu.
4. Click to remove the X from the Listen box.

Important Information About Using the QuickTake Camera

For best results, use the QuickTake Image Access control panel to look at images in the camera and transfer them to your Macintosh. This method is faster and more reliable than using the PhotoFlash program.

Important Information About Viewing MPEG Images

When using QuickTime to play MPEG movies with either MoviePlayer or Apple Video Player, you may want to change one or more settings to achieve optimum playback.
- reset the disk cache to at least 1 megabyte (MB) in the Memory control panel;
- turn off virtual memory in the Memory control panel;
- hide the Control Strip, using the Control Strip control panel, if you cannot set the disk cache to 1 MB.
Changing the disk cache should permit optimum playback.
- To reset the disk cache and turn off virtual memory, follow these steps:
1. Open the Memory control panel.
2. Use the arrows at the upper-right section of the control panel to set the disk cache to 1 MB or more.
3. Click the Off button in the Virtual Memory section of the control panel.
4. Restart the computer.
- To hide the Control Strip, follow these steps:
1. Open the Control Strip control panel.
2. Click the Hide button.

Important Information About Using Infrared Communication

- When the IrDA method of infrared (IR) communication is selected in the AppleTalk control panel and AppleTalk is on, the computer will not go to sleep automatically.

- If TCP/IP is configured for "Infrared Port (IrDA)", leave the "Load only when needed"
flag checked. This is the default, but can be changed in the TCP/IP control panel
in advanced user-modes.

-The speed of IrDA (1 Mbit) is significantly less than most Ethernet networks (10 mbit). Lan access boxes used to provide IR access to Ethernets do not have the ability to buffer arbitrarily large amounts of data between the two speeds. There is the potential for packet-loss when a large burst of Ethernet traffic is destined for IR. One way for this to happen is with the Chooser when there are a large number of servers or devices responding.

TA37241_PowerBook_G_Read_Me.pdf

Important Information About the CD Drive and Waking From Sleep

There is a period of time when waking from sleep that the CD drive will allow you to manually eject a mounted CD using the button on the drive tray. This will cause unexpected behavior. Pushing the CD tray back in will correct the situation.

Note Pad Is Installed

Another Read Me document may indicate that the Note Pad software (in the Apple menu) is not installed. The Note Pad is installed on your PowerBook.

FreePPP

If you plan to connect to the Internet via PPP, use the Open Transport/PPP (OT/PPP) software that is already installed on your PowerBook computer. FreePPP is currently incompatible with the installed America Online (AOL) link extension that is also installed on your computer. America Online is working on an update to the AOL link extension. See the "Connecting to the Internet" topic area of Mac OS Guide for instructions on using the OT/PPP software.

Tips

Getting Optimal Performance From Your PowerBook

To get even better performance from your PowerBook, open the Memory Control Panel and click on the Defaults button. This will set your disk cache to the optimal size for the amount of RAM you have installed.

Reinstalling System Software from the System Backup Folder or the PowerBook G3 CD

If you experience problems with your System Folder or other system software on your computer's hard disk, you can reinstall the system software from the files on the PowerBook G3 CD that came with your computer. See the file "CD-Important Information" on the CD for instructions. (You can use the CD to restore system software only or all the software that was installed on your hard disk at the factory.)

If you can't start up the computer as usual, use the Disk Tools floppy disk (You must first create a Disk Tools floppy disk from the disk image on your PowerBook G3 CD.) or the PowerBook G3 CD that came with your computer to start up. (You can start up from the CD by holding down the C key after you press the Power key.) Then use one of the options above to reinstall the system software.

Note: If you need to re-install your system software, boot from your PowerBook G3 CD and install using the Mac OS Installler.

Note: Be sure to disconnect any serial printers before booting from the PowerBook G3 CD.
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Power Macintosh 233-MHz Upgrade Card: When Is Fan Needed?

The "Installation Requirements" section of the data sheet for the Power Macintosh 233-MHz Processor Upgrade Kit (M6223LL/A) states that the auxiliary fan must be installed when the card is used in Power Macintosh 8500/8600 systems. However, when I tried to install the fan into my Power Macintosh 8600 system it did not fit. Can you explain?
This article has been archived and is no longer updated by Apple.
The data sheet for the Power Macintosh 233-MHz Processor Upgrade Kit (M6223LL/A) is incorrect. The data sheet information should state that the auxillary fan is required for the Power Macintosh 9500, not the Power Macintosh 8500/8600.

Please follow the installation instructions included with the Power Macintosh Upgrade card for correct installation instructions.
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Space Quest: It is Incompatible with Old Apple IIGS ROMs

This article has been archived and is no longer updated by Apple.

A software package called Space Quest, part of the Endless Disk Drive, can produce a Fatal System Error -> 0814 unless the following rules are observed:

- An Apple IIGS with serial number E704 or less needs to have both the VGC and ROM upgrades.

- An Apple IIGS with serial numbers E704 - E723 needs the ROM upgrade only.

- You must use System 2.0 or later. This means that Space Quest will not run with the old Apple IIGS ROMs (342-0077-A).

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TV Tuner Card: Problems Tuning To Cable TV Channels

This article provides troubleshooting steps to take when you are unable to successfully tune to all or most television channels received from a cable television connection to the Apple TV Tuner or TV/FM Tuner card.
This article has been archived and is no longer updated by Apple.
Problems receiving television signals via the TV Tuner card typically show as either a black or a snowy/static video window in the Apple Video Player.

1. Confirm the cable signal by attaching the same connection, using the same coaxial cable, to an actual television or VCR. If the channel signals can be readily tuned there, then the problem lies in the computer and the following steps will apply.
2. Confirm that "TV" is the selected video source in the Controls window of Apple Video Player. Failure to do so will usually result in a black video window.
3. Open the Setup menu of Apple Video Player and select Preferences. For domestic (U.S.) units, ensure that "NTSC" is selected as the Video Input Standard in this window.
4. Open the Setup menu and choose "Channel Setup...," then select "Cable" from the popup menu labeled "Connection."
5. Click the "Auto Add" button and the software will automatically tune to all of the available channels of sufficient signal strength.
6. Some cable television companies utilize a carrier type called HRC (Harmonically Related Carrier). If the Auto Add function doesn't tune to most or all of the available cable channels using the regular "Cable" selection, choose "HRC Cable" from the "Connection" popup menu, then click on "Auto Add" once more.

Channels of borderline signal strength that are not added to the channel list via "Auto Add" may be manually added by clicking the "Add..." button and selecting the channel number desired from the list provided.
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MIDI: General Description and Overview

This article contains a description of a Musical Instrument Digital Interface (MIDI), and how it is used on the Macintosh.
This article has been archived and is no longer updated by Apple.

Introduction

MIDI is a communications protocol -- a standard way of exchanging information:

- between electronic musical instruments, and

- between computers and those instruments.

By connecting the Apple MIDI interface to your Macintosh or Apple IIGS, and using MIDI software and instruments designed for the purpose, you can use your computer to compose, edit, orchestrate, and control playback of music on MIDI instruments such as keyboard synthesizers, drum synthesizers, and tone generators. You can then use your computer and MIDI software to transcribe the music into musical notation that can be edited, saved on a disk, and printed.

The most common use of a computer/MIDI setup is to record songs which can be saved onto the computer's hard disk, much like using a tape recorder to record songs. Advantages of using a computer/MIDI setup are:

- You can easily edit what you played on your instrument without having to re-play it. You can change the timing, duration, pitch, and volume of individual notes or whole passages.
- You can record several different tracks, one at a time, to make a complete song, without having to use a multi-track tape recorder.
- For difficult passages, you can play your instrument slowly, and have the computer increase the tempo.
- The computer can cue to any song or any part within a song much faster than a tape recorder can.
- You can record different tracks of a song, and then practice playing along with those parts, as though you were playing with other musicians. (You can do this with a tape recorder, but it's much more cumbersome.)
- You can record one or more tracks of a song, and play along with those parts during a live performance. This is handy if you want to be a solo musician, or if you are missing band members.
- Unlike cassette tapes, the quality of a digital computer recording will not deteriorate over time.

Recording music with MIDI instruments such as keyboards, drum machines, and sound modules is easy. MIDI translators are available for electric guitars, but they are an added expense. Although computers can make digital recordings of analog instruments such as voice and horns in addition to recording MIDI instruments, this requires expensive computer hardware and storage devices.

Typical MIDI Setup

```
------                  ----              -------------
|    |---serial cable---|  |--MIDI cable--|| ||| || |||
------                  ----              -------------
Macintosh                MIDI               Instrument
                       Interface
```

Serial Cable

Every desktop Macintosh starting with the Mac Plus in 1986 until 1998 (when Apple switched to USB input ports starting with the iMac), came with two standard DIN-8 serial ports. . You connect the Macintosh to a MIDI interface (a small box) with a standard serial cable--the same kind used to connect the Macintosh to a StyleWriter printer. It does not matter which end of the cable is used in either device.

MIDI Interface

Most MIDI-equipped instruments contain both a receiver and transmitter. However, some instruments may have only a receiver or transmitter. The receiver accepts messages in a MIDI data format and executes the MIDI commands. The transmitter originates messages in MIDI data format, and transmits them by way of a line driver and UART. The MIDI interface consists of an optoisolator, UART (Universal Asynchronous Receiver-Transmitter), and other interface function hardware. The MIDI interface has at least one MIDI IN jack and MIDI OUT socket.

A MIDI interface operates at 31.25 Kbaud (+/- 1%) asynchronously, using a data format of one start bit, eight data bits, and one stop bit. This makes a total of 10 bits for each 320 microsecond period per serial byte.

The MIDI circuit is designed to accommodate a 1.5 mA current loop with a logical 0 as current ON. Also, one Output can drive one Input, and ONLY one, with a rise and fall time of less than 2 microseconds.

As specified by the IMA (International MIDI Association), MIDI connectors are DIN 5 (180 degree) sockets. The MIDI connectors are labelled MIDI IN and MIDI OUT, with pins 1 and 3 left disconnected in both the transmitter and receiver.

MIDI cables may be a maximum of fifty feet (15 meters,) with shielding connected to pin 2 at both ends.

MIDI Setup
The MIDI OUT of the interface is connected to the MIDI IN of an instrument, and the MIDI OUT of the instrument is connected to the MIDI IN of the interface. These connections are made with standard MIDI cables.

TO RECORD MUSIC FROM A MIDI INSTRUMENT

```
------                  -----               (OUT)-------------
|    |---serial cable---|   |(IN)---MIDI cable---|| ||| || |||
------                  -----                    -------------
Macintosh                MIDI                      Instrument
                       Interface
      <-  <-  <-  <-             <-  <-  <-  <-
         INFORMATION TRAVELS IN THIS DIRECTION
```

TO PLAY BACK MUSIC THAT IS STORED IN THE COMPUTER

```
------                  -----(OUT)                -------------
|    |---serial cable---|   |----MIDI cable---(IN)|| ||| || |||
------                  -----                    -------------
Macintosh                MIDI                       Instrument
                       Interface
      ->  ->  ->  ->             ->  ->  ->  ->
         INFORMATION TRAVELS IN THIS DIRECTION
```

MIDI Instruments
A MIDI instrument is an electronic instrument which can send and receive MIDI information. Common MIDI instruments include keyboards, drum machines, and sound modules (also called tone generators). A MIDI instrument can be connected to a MIDI interface, which is in turn connected to a computer. Some MIDI instruments have a built-in MIDI interface.

A sound module, also called a tone generator, is like an electronic keyboard without the keyboard keys. It is a device containing all the sounds a keyboard would contain, and these sounds can be triggered by another MIDI keyboard, or by a computer using sequencing software.

MIDI Data Format
Except for the "Real-Time" and "Exclusive" messages, all MIDI communications are transacted through multi-byte "messages" of one Status byte followed by one or two Data bytes. The messages are divided into two main categories:

1. Channel
- Voice
- Mode
2. System
- Common
- Real-Time
- Exclusive

```
[Status] ----- + ----- [Channel] ------- or ------- [System]
                          +                            +
                    [Voice or Mode]     [Common, Real-Time, or Exclusive]
```

Status Byte
The Status byte is an eight-bit binary number with the most significant bit set (1). The purpose of the Status byte is to identify the message type for the Data bytes.

Except for Real-Time messages, a new Status byte always commands the receiver to adopt the new status, even if the receiver has not yet completed the previous message.

Channel Messages
The Channel message is identified by a four-bit number in the Status byte which address the message to one of the sixteen channels. In this way, messages are sent to any units in the system whose channel number matches the channel number encoded in the Status byte.

- Voice: A type of Channel message used for controlling an instrument's voice.

- Mode: A type of Channel message used for controlling an instrument response to a voice message.

System Messages
The System message does NOT have a channel number encoded and the message is intended for all units on the system.

- Common The Common message is intended for all units in the system.

- Real-Time: The Real-Time message is intended for all units in the system and may be sent at any time, even between messages of a different status type. A Real-Time message is either acted upon or ignored by the unit, after which the receiving unit will resume process under its previous status.

- Exclusive: The Exclusive message may contain any number of Data bytes and will include a Manufacturer's Identification (ID) code. All but the unit whose receiver recognizes the ID code should ignore the Data bytes.

Computer

You need "music processing software" to enter and edit music, just like you need word processing software to enter and edit text. Music processing software is commonly referred to as "sequencing software".

If you would like to know more about MIDI, a number of helpful books are available from bookstores.
Published Date: Feb 18, 2012

PC Compatibility Software 1.6.4

This article provides general information on PC Compatibility Software 1.6.4.

This article has been archived and is no longer updated by Apple.
PC Compatibility Software version 1.6.4 is available for download from Apple Software Update sites as of November 14, 1997.

PC Compatibility Software version 1.6.4 requires that you have system software version 7.5.3 or later and Open Transport 1.1.1 or later.

This software is the latest general release for PC Compatibility and DOS Compatibility Cards, except for the Quadra 610, which requires PC Setup 1.0.2. For complete information, please see the PC Compatibility Read Me document.

The software consists of two Disk Copy NDIF (New Disk Image Format) compressed images, which requires Disk Copy 6.1 or later to use. Download this software to your hard drive and then double-click it to use it. Disk Copy is available in the Utilities folder.

Disk Copy 6.1 (or later) or Disk Image Mounter 2.1 (or later) from Apple are the recommended applications to access all disk images released by Apple and are the only supported applications to access NDIF disk images.

This article can help you locate the software update mentioned here:

- Article 14724: "**Where To Find Apple Software Updates**" - Lists online services for free Apple software updates.

Important Information for Users of the PC Compatibility Card

This document provides late-breaking information that could not be included in the PC Compatibility Card User's Manual.

Be sure to read the first section, "Before You Install," before you install the Compatibility Card software. You can read the rest of this document later.

Contents

- Before You Install
- PC System
- Macintosh System
- Third-Party Applications
- Printing
- Video
- Networking
- Sound

Before You Install

- System Software
  The PC Compatibility Card software requires that you have system software version 7.5.3 or later installed on your computer. If you are currently using System 7.5, 7.5.1, 7.5.2, or 7.5.3 update 2.0, you should install System 7.5.3.
  For PC Compatibility Card users, System 7.5.3 is on the PC Compatibility Card Mac OS Software CD. To install the update, follow the instructions in the PC Compatibility Card User's Manual.
- Open Transport
  The PC Compatibility Card Software requires that you have Open Transport 1.1.1 or later.
  For PC Compatibility Card users, Open Transport 1.1.1 is on the PC Compatibility Card Mac OS Software CD. To install the update, follow the instructions in the PC Compatibility Card User's Manual.
  Open Transport 1.1.1 is also available from the Apple Web site at `http://www.apple.com`.
- Drive Containers
  When creating a drive container, do not use FAT32 format. If FAT32 format is used, you will not be able to mount the container on the Macintosh desktop.
- Upgrading
  If you are upgrading from an older PC Compatibility Card, do not use the Internal PC audio/video (GIMO) socket. Follow the installation instructions in the manual that came with your card.
  If you are upgrading from an older PC Compatibility Card, use the CD/Audio cable that came with your new card and set aside the older cables. Follow the installation instructions described in the manual that came with your card.
  If you are upgrading from an older PC Compatibility Card and you want to use a pre-existing drive container, you should create a new drive container, install Windows 95, and then copy your files and applications. Follow these steps:

1. Assign your old drive container to drive D.
2. Create a new drive container and assign it to drive C.
3. Install the PC system software.
4. Copy the necessary applications and files.

PC System

- Installing Windows 95
  When doing a Windows 95 clean install, be sure to check the "Detect sound card" checkbox to ensure that the proper Creative Labs Sound Blaster drivers are loaded.
- Ejecting Floppy Disks and CD-ROMs
  To eject a floppy disk in the PC environment, press Command-E.
  To eject a CD-ROM in the PC environment, press Command-Y.

Macintosh System

- Switching Drive Containers
  When switching drive containers in the PC Setup control panel, be sure to close the control panel before booting the PC.
- Starting Up the PC and Macintosh Environments
  The Energy dialog box may appear each time you start your Macintosh; you can turn off this message at startup by opening and closing the Energy Saver control panel.
- Auto-Start PC
  Do not rebuild the desktop if the "Auto-Start PC" option is selected in the PC Setup control panel.
- Switch at Startup
  If Switch at Startup is selected in the PC Setup control panel make sure the "Warn me if my computer was not shut down properly" option is not selected in the General Controls control panel and the Energy Saver control panel is set never to go into energy saving mode.
- Shared Folders
  Shared folders between the Mac and PC environment should only be used to transfer files. Do not open files or applications from a shared folder.

Third-Party Applications

- Symantec AntiVirus for Macintosh
  If Symantec AntiVirus for Macintosh (SAM) is installed and you mount a drive container, your screen will appear to freeze while SAM scans the container for viruses. The drive container will mount once the scan is complete. SAM will not detect any PC viruses.
- Symantec Norton AntiVirus for Windows 95
  Before you change the number of display colors in the Display Settings control panel, turn off Norton AntiVirus Auto-Protect by double-clicking its icon in the Task bar and clicking Disable in the dialog box that appears.
  Formatting disks or creating a Rescue disk may not work properly if Norton AntiVirus is installed. If you encounter a problem, do the following:
  1. Double-click the "Norton AntiVirus Auto-Protect" icon in the Task bar.
  2. Click Options, and then click Advanced.
  3. Change the "Low-level format of hard disk" option to "Allow," and then click OK.
- QuickTime for Windows
  When playing QuickTime movies in the PC environment, you may notice synchronization problems between the audio and video.
- SoftWindows
  Do not run SoftWindows while using the PC Compatibility Card.
- Other Programs
  For best performance, use only the memory management programs that are included with DOS or Windows. Do not use third-party memory management programs.
  Programs that attempt to directly control the floppy controller (such as a backup program) will not work properly with the PC Compatibility Card.
  Any program that sends data to the parallel port during setup or initialization may cause a blank page to print on your printer.

Printing

- LaserWriter Select 300 and Personal LaserWriter 300 Printers
  The LaserWriter Select 300 and Personal LaserWriter 300 printers are not fully supported. Files printed in the PC environment may not print properly on these printer models.
- LaserWriter 310 PostScript Incompatibility
  The LaserWriter Select 310 and Personal LaserWriter 310 with PostScript upgrades are not fully supported with Desktop Printing 2.x or later and the PC Printing Software v1.5 and later. If you are using the LaserWriter Select 310 or Personal LaserWriter 310 with a PostScript upgrade, you need to remove Desktop Printing 2.0 from the System Folder. Follow these steps:
  1. Open the System Folder.

2. Open the Extensions folder
3. Remove the following files:
   - Desktop Printer Extension
   - Desktop PrintMonitor
   - Desktop Printer Spooler
4. Close the Extensions folder.
5. Open the Control Strip Modules folder.
6. Remove Printer Selector.
7. Restart the Macintosh.

Video

For best results, use Apple multiple scan monitors with the PC Compatibility Card.

- Video Drivers
  After the Windows 95 installation process make sure to install the video drivers from the PC Compatibility Card PC Utilities CD. Follow the instructions in the instructions in the PC Compatibility Card User's Manual.
  After installing video software for Windows 3.1 you will need to install Video for Windows if you get the following error message; "Cannot load the Universal Draw Handler driver. The driver file may be missing. Try installing the driver again or contact your system administrator." This message appears when you try to open the Drivers control panel in Windows 3.1 or select the Universal Draw Handler driver in the Drivers control panel in Windows 3.1. To install video for Windows follow these steps:
  1. If necessary, switch to the PC environment.

  2. If necessary, exit Windows 3.1 into DOS.

  3. Insert the PC Compatibility Card - PC Utilities CD into the CD-ROM Drive

  4. Type the following:
  E: <return>
  CD \\VIDEO\\VFW <return>
  SETUP <return>

- Video Driver Switching in Windows 95
  Some 16-color 640 x 480 modes use the Windows 95 video drivers instead of the ATI video drivers. The ATI options will not appear in the control panel when the Windows 95 video drivers are being used. To make the ATI options available, change the color depth to a higher value, such as 256 colors.
- Monitor Adapters
  When the PC Compatibility Card does not sense the monitor because of an incorrect monitor adapter setting, it will automatically assume that the monitor is a 14" RGB monitor and restrict the resolution to 640 x 480. Make sure that the monitor adapter correctly represents the attached monitor.
- AppleVision 1705 Display
  Windows 95 will attempt to automatically recognize DDC monitors. The AppleVision 1705, while DDC capable, will not appear as a DDC display to the PC Compatibility Card when using the standard Macintosh display cable shipped with the 1705. You will need to select the 1705 display manually in the Windows 95 Display Properties Control Panel. Refer to your PC Compatibility Card user manual for information on selecting a display in Windows 95.
- Macintosh 21" Color Display
  If you are using the Macintosh 21" Color Display with Windows 95, do not select a 24-bit driver in the Display control panel, even though it is an available selection. Select an 8 or 16-bit driver instead. Choosing a 24-bit driver may cause the PC environment to boot improperly.
- Screen Display
  When used with some monitors, a particular monitor resolution (such as 640x480) may cause the display to show a smaller viewable area surrounded by a black border. To correct the problem, try selecting a different monitor resolution.
  If your PC Compatibility Card has 1 MB of video memory installed, then the only refresh rates available at 1280 x 1024 resolution are interlaced display modes. However, Apple multiple scan monitors and many third-party monitors do not support interlaced display modes. To display 1280x1024 resolution, you may have to upgrade the video memory on the 12" card to 2 MB, which supports higher refresh rates. Note: Every PCI PC Compatibility Card shipped from Apple Computer Inc.(except for the 166MHz Pentium), including the 166PR Cyrix, shipped with 1MB of Video DRAM on board.
- Fixed Frequency Monitors
  Playing a Video for Windows (.AVI) file in full-screen mode may not work properly on a fixed frequency monitor. A multisynchronous or multiple scan monitor will work properly. Refer to the PC Compatibility Card User's Manual for information about supported monitors and video modes.
  Fixed frequency monitors do not support video "Mode X" (320 x 240 resolution), which is primarily used by game programs.
- Playing Video Files
  When playing real-time based video files or games in the PC environment, you may notice synchronization problems between the audio and video.
- Changing monitors
  Be sure to shut down both the Macintosh and PC environment when replacing or changing monitors. Note: "restarting" is not sufficient, both

environments must be completely powered down and then powered back up.

Modems

- GeoPort
  The GeoPort modem is not recommended for use with the PC Compatibility Card.

Networking

To avoid PC network problems make sure to defragment your PC hard drive periodically.

- ODI and NDIS
  The MACODI.COM and MACNDIS.DOS drivers found on the PC Compatibility Card-PC Software floppy disk are also contained on the PC Compatibility Card-PC Utilities CD in the \\Apple directory.
  ODI and NDIS 2.0 network drivers are provided with your PC Compatibility Card software. If you need additional network software (such as LSL.COM 2.11) contact your network software provider.
  If you are experiencing network problems using ODI and NDIS, make the following changes to your CONFIG.SYS file:
- Windows For Workgroups
  If you are using NDIS change the stack size to 64,256
  If you are using ODI change the stack size to 64,128
- Windows 95
  If you are using NDIS change the stack size to 64,256
  If you are using ODI add the following line to your CONFIG.SYS file:
  Stacks=9,256
- Token Ring
  Token Ring is not supported by the PC Compatibility Card.
- SETNET
  After making any changes to the Windows 95 Network control panel, **ALWAYS** run SETNET. For more information, see the user's manual that came with your card.

Sound

- Sound Drivers
  After the Windows 95 installation process make sure to install the Sound Blaster drivers from the PC Compatibility Card PC Utilities CD. Follow the instructions in the instructions in the PC Compatibility Card User's Manual.
- Sound Blaster Driver
  If you hear fragmented sound after installing Windows 95, you may need change the settings of your Creative Labs Sound Driver. Follow these steps:
  1. In Windows 95 click Start, choose Settings, and then choose Control Panels.
  2. Double click the System Control Panel.
  3. Select the Device Manager Tab.
  4. Double click the current Creative Labs Sound Blaster Driver from the "Sound, video, and game controllers heading".
  5. Select the Resource Tab.
  6. Make sure that the "Use automatic setting" box is unchecked.
  7. Select "Basic Configuration 0000" from the "Setting based on" popup menu.
  8. Click OK to close the open control panels.
  9. Restart Windows 95.

Keyboard / Mouse

- Keyboards
  When in the PC environment, command-mouse click will generate a PC right mouse button click.

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Apple IDE Drives: Ultra-DMA Support

This article provides information on Ultra-DMA support.
This article has been archived and is no longer updated by Apple.
Some form of Ultra-DMA support has existed on desktop Macintosh computers since the introduction of the Power Macintosh G3 (platinum) computer. On PowerBook and iBook computers, both the iBook and PowerBook (FireWire) support some form of Ultra-DMA.
Published Date: Feb 18, 2012

PowerBook 2400-3400 Graphics Update Read Me

This article contains the 2400/3400 Graphics Update document and a link to the 2400/3400 Graphics Update software.
This article has been archived and is no longer updated by Apple.

Language	Release Date	Software Update	Read Me	OS Required
North American English	1997-12-01			North American Mac OS 7.6, 7.6.1, or 8.0
International English	---			---
français	---			---
Deutsche	---			---
Español	---			---
Italiano	---			---
Nederlands	---			---

Downloading Help: Article 75098 "**Help: Downloading Software**"

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Important Information

About the 2400/3400 Graphics Update and Monitors Resolution version 1.4.2

The "2400/3400 Graphics Update" enhances the graphics driver for the PowerBook 2400 and 3400 series. Version 1.4.2 of the "Monitors Resolution" control strip module supports the new features of the PowerBook 2400 and 3400 graphics driver. This document describes the "2400/3400 Graphics Update" and when you need to install it.

What Is the "2400/3400 Graphics Update"?

The "2400/3400 Graphics Update" is a system extension that enhances the graphics driver on the PowerBook 2400 and 3400 series, running Mac OS 8.0 or earlier. These enhancements require version 1.4.2 of the "Monitors Resolution" control strip module.

Who Needs to Install the "2400/3400 Graphics Update"?

You should install the extension and the control strip module if you connect an external monitor or projection system to your PowerBook 2400 or 3400 and it remains black. This update will allow you to force a particular video timing out the VGA connector on the back of the machine. Note: Before attempting to drive a resolution, make sure that your monitor or projection system supports that resolution. Driving an incorrect resolution might result in permanent damage to your monitor or projection system.

Any PowerBook 2400 or 3400 series running MacOS 7.6, Mac OS 7.6.1 or Mac OS 8 which needs the new capabilites should install this update.

How to use the new capabilities?

While holding down the Control Key, click on the Monitors Resolution Control Strip module. A list of all the resolutions that the PowerBook can drive will be shown. You can click on the appropriate resolution for your monitor or projection system and the PowerBook will start displaying video on it. You will need to hit the "OK" button on a confirmation dialog that will appear on the new screen. If you do not hit the "OK" key, or if you hit the return key, the video will return to your LCD screen.

If you use this procedure, you will need to repeat it once you shutdown or put the PowerBook to sleep.

Please consult your monitor or projection system specifications in order to decide which resolution is the most appropriate.

Installing the "2400/3400 Graphics Update"

To install the "2400/3400 Graphics Update", follow these steps.

1. While holding down the Option key, drag the "2400/3400 Graphics Update" to the icon of the System Folder on your hard disk.
2. Click OK in the dialog box that appears.

Installing the "Monitors Resolution" Control Strip Module

To install the "Monitors Resolution" control strip module, follow these steps.

1. Open the "Control Strip Modules" folder inside the System Folder.
2. If you wish to save your old copy of the "Monitors Resolution" control strip module, move it somewhere else for safekeeping.
3. While holding down the Option key, drag the "Monitors Resolution" file from this update to the "Control Strip Modules" folder.
4. If you did not remove the old module in step 2, then hit "OK" to confirm that you will replace the old module.
5. Reboot your computer.

Published Date: Feb 18, 2012

LaserWriter: Installing Driver On Non-Intel Windows NT Systems

I am unable to install the Apple LaserWriter software on a non-Intel based Windows NT system. I have tried Alpha/MIPS/PPC/Intel machines, and I can only get the software to work on an Intel-based NT machine.

This article has been archived and is no longer updated by Apple.
Windows NT support in Apple's LaserWriter software is only for Intel-based Windows NT machines. Other NT platforms have not been tested and are not supported by Apple Computer, Inc.

However, Microsoft provides a document in their public Knowledge Base that describes how to install third party PPD files into Windows NT (including non-Intel machines). This document can currently be found on the Internet at the following address:

http://support.microsoft.com/support/a.asp?M=S

Article ID: Q142057
Title: "How to Install PPD Files From Postscript Printer Manufacturers"

To use this information, you will need to know the filename for the appropriate PPD for your printer. The following PPDs are included with Apple's LaserWriter software for Windows NT:
.

Printer Model	PPD filename
Apple Color LW 12/600 PS	APLWCOB1.PPD
Apple Color LW 12/660 PS	APLWCSB1.PPD
Apple LaserWriter 12/640 PS	APLWMGS1.PPD
Apple LaserWriter 16/600 PS	APLWGRI2.PPD
Apple LaserWriter Select 360	APLWSEL.PPD
Apple LaserWriter Pro 630	APTOLLW1.PPD
Apple LaserWriter Pro 600	APTOLLD1.PPD
Apple LaserWriter 8500	APLWBGR1.PPD

Published Date: Feb 18, 2012

Mac OS 8: PowerPC Upgrade Card Compatibility

Will Mac OS 8 work with PowerPC upgrade cards?

This article has been archived and is no longer updated by Apple.
Yes. Mac OS 8 was tested on Macintosh computers with PowerPC upgrade cards, including the PowerBook 200 and 500 series.

Mac OS 8 will work with a NuBus PowerPC Upgrade Card when installed in a Quadra class computer(which contains a 68040 microprocessor), but not in Macintosh computers originally containing a 68030 microprocessor.

Published Date: Feb 18, 2012

System 4.1: Text Spacing Problems When Using A LaserWriter

This article has been archived and is no longer updated by Apple.

TOPIC ----------

This article describes text spacing issues with System Software version 4.1.

DISCUSSION ----------

Using System 4.1 and LaserWriter or LaserWriter Plus, you may experience text spacing problems, either with screen fonts or text fonts, or with both.

- A problem in the System 4.1 software occasionally corrupts the Fond resource, causing a font to space incorrectly. To correct the Fond resource, remove the offending fonts (all sizes) using Font D/A Mover 3.6, and reinstall them. This action will force the font table in the Fond resource to be recreated, which will correct the problem.

- Also, under the Print option in Microsoft Word 3.01, there is a selection for printing WITH or WITHOUT fractional widths. This option defaults to WITHOUT (not using fractional widths,) and must be selected to obtain correct spacing with LaserWriter fonts.

Published Date: Feb 18, 2012

At Ease 5.0 - How To Rebuild The Workgroup Items

This article explains how to rebuild the Workgroup items for At Ease 5.0.

This article has been archived and is no longer updated by Apple.

Symptom

You installed a new version of an application and At Ease won't find it, or an alias is resolving to the wrong item.

Solution

You may want to rebuild the items for the workgroup you are logging into if you are having trouble with items on the brown At Ease panel.

To rebuild the items in the workgroup:

1. Hold down both the Command and Option keys while selecting your workgroup. You will be presented with a dialog that asks "Are you sure you want to rebuild the items for the workgroup "your workgroup"?
2. If you answer Yes, At Ease rebuilds the aliases used for the workgroup's allowed items.

Published Date: Feb 18, 2012

PowerBook 2400 Control Panels: Infrared

This article contains a screen shot of the Infrared control panel on PowerBook 2400 series systems.
This article has been archived and is no longer updated by Apple.

Figure 1 Infrared control panel

.

Clicking on the Options... button will cause the following dialog to appear.
.

Figure 2 Options

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PowerBook 100 Series: Accessories

This article provides a list of accessories for PowerBook 100 series computers.
This article has been archived and is no longer updated by Apple.

M5545LL/C	Macintosh PowerBook Rechargeable Battery
M1027LL/A	Macintosh PowerBook Battery Recharger (uses AC Adapter)
M1032LL/A	Macintosh PowerBook 2MB Expansion Kit (Discontinued)
M1033LL/A	Macintosh PowerBook 4MB Expansion Kit (Discontinued)
M4664LL/A	Macintosh PowerBook 4MB Expansion Kit (Discontinued)
M0970LL/A	Macintosh PowerBook Fax/Data Modem (US, Canada, Japan) (Discontinued)
M0980LL/A	Macintosh PowerBook Fax/Data Modem (Europe, Australia, and some South American coutries) (Discontinued)
M1366LL/A	Macintosh PowerBook Express Modem Kit(Discontinued)
M1365LL/A	Express Modem Kit (Europe, Australia, and some South American coutries) (Discontinued)
M4660LL/A	Macintosh PowerBook AC Adapter(Discontinued)

Published Date: Feb 18, 2012

PowerBook: Ports

This article provides pictures and descriptions of the ports on the I/O panels of Apple PowerBook computers.

This article has been archived and is no longer updated by Apple.
HDI-30 SCSI Port
(PowerBook 100, 500, 5300, 2400, 3400, G3 series and DuoDock and MiniDock)

Figure 1 HDI-30 SCSI Port

HDI-20 Floppy Disk Adapter Port
(PowerBook100 and Duo MiniDocks)

Figure 2 HDI-20 Floppy Disk Adapter Port

Built-in Ethernet Port
(PowerBook 500 series and DuoDock II)

Figure 3 Built-in Ethernet Port

External Video Port
(Powerbook 100,500, 5300 series)
(optional on 190, NOT on 140,145,145b, 170)

Figure 4 External Video Port

ADB Port
(All PowerBooks)

Figure 5 ADB Port

Duo 152-pin connector
(PowerBook Duo Family)

Figure 6 Duo 152-pin connector

External Video Port
(PowerBook G3 and 3400)

Figure 7 External Video Port

External Floppy Disk Drive connector
(PowerBook 2400 only)

Figure 8 External Floppy Disk Drive connector

Published Date: Feb 18, 2012

PowerBook 3400 Series: System Software

This article is contains screen shots of the "About This Computer" window and hard drive window of a PowerBook 3400 series system running Mac OS 7.6.

This article has been archived and is no longer updated by Apple.
The PowerBook 3400 series is bundled with a special version of Mac OS 7.6 which includes components designed only for the 3400. The general release of 7.6 does not include these components, is not intended for use with the 3400 series, nor will it install properly on a 3400 series PowerBook. Likewise, the version of 7.6 included on the 3400 CD will not install on any other type of Macintosh. A PowerBook 3400 series running the original 7.6's About This Computer window will look like this:

Figure 1 About This Computer

There are two ways to install/reinstall the system software from the 3400CD. There is a folder for restoring all software which will not only install the system software, but also reinstall all of the sofware bundled with the 3400 series (much like a similar option on Performa CDs). There is also an install system software folder, which contains just the system software installers. The 3400 CD window looks like this:

Figure 2 3400 CD window

If you were to launch the Apple Software Restore application found in the Restore Installed Software folder on the 3400 CD, after the splash screen and some waiting you would see the following:

Figure 3 Apple Software Restore

Note: The Restore program acts much like a Clean Install, placing the items already on the drive into a folder called "Original Items", unless the ERASE "drive name" before restoring option is checked. If you attempt to install the version of 7.6 included on the 3400 CD on another type of Macintosh you will get this window (or something much like it) on launching the Installer:

Figure 4 System 7.6 Installation

Updating to Mac OS 7.6.1
In order to upgrade the 3400 version of Mac OS 7.6, the specific 3400 7.6.1 Updater must be used. The general release of the 7.6.1 Update will either not run or update the files properly. Once the 3400 7.6.1 Update has been run successfully the About This Computer window will look something like this:

Figure 5 About This Computer

The 3400 7.6.1 Updater is available free of charge online from Apple SW Update sites.

The 3400 7.6.1 Update is not included on the 3400 CD so if you have to perform a clean install/restore of the system software from the CD, the updater will have to be run again to bring the system software up to 7.6.1.

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PowerBook 2400: Restore Software

This article is intended to give you a brief overview of the Restore Software on the PowerBook 2400 CD that comes bundled with the computer. This article has been archived and is no longer updated by Apple.
Here is a snapshot for the PowerBook 2400 CD window:

Figure 1 PowerBook 2400 CD window

This is a snapshot of the Restore Installed Software folder open:

Figure 2 Restore Installed Software folder

Double click on the Apple Software Restore program. The window below will appear. Checking "Erase Macintosh HD before restoring" will do just that, erase all information on the disk before restoring. Be careful before choosing this option. With the "Special Options" opened, two choices appear. Selecting "System Folder" will restore the original 2400 System Software. Selecting "Everything Else" will restore all non-system software items, including prebundled applications and utilities.

Figure 3 Apple Software Restore window

Published Date: Feb 18, 2012

PC Serial and Parallel Card SW Installation: Read Me

This article contains the Read Me document for the PC Serial and Parallel Card.
This article has been archived and is no longer updated by Apple.
Important Information for Users of the PC Compatibility Card

Before You Install

System Software

The PC Compatibility Card software requires that you have system software version 7.5.3 or later installed on your computer. If you are currently using System 7.5, 7.5.1, 7.5.2, or 7.5.3 update 2.0, you should install System 7.5.3.

For PC Compatibility Card users, System 7.5.3 is on the PC Compatibility Card Mac OS Software CD. To install the update, follow the instructions in the PC Compatibility Card User's Manual.

Open Transport

The PC Compatibility Card Software requires that you have Open Transport 1.1.1 or later.

For PC Compatibility Card users, Open Transport 1.1.1 is on the PC Compatibility Card Mac OS Software CD. To install the update, follow the instructions in the PC Compatibility Card User's Manual.

Open Transport 1.1.1 is also available from the Apple Web site at **http://www.apple.com**

Upgrading

If you are upgrading from an older PC Compatibility Card, do not use the Internal PC audio/video socket. Follow the installation instructions in the manual that came with your card.

If you are upgrading from an older PC Compatibility Card, use the CD/Audio cable that came with your new card and set aside the older cables. Follow the installation instructions described in the manual that came with your card.

If you are upgrading from an older PC Compatibility Card and you want to use a pre-existing drive container, you should create a new drive container, install the necessary PC system software, and then copy your files and applications. Follow these steps:

1. Assign your old drive container to drive D.

2. Create a new drive container and assign it to drive C.

3. Install the PC system software.

4. Copy the necessary applications and files.

If you are using a drive container that is larger than 1023 MB you may experience problems. If you are upgrading your software and want to use a drive container that is greater than 1023 MB, you should create a new drive container, install the necessary PC system software, and then copy your files and applications as described in the steps above.
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Power Macintosh G3: RAM Disk Not Saved On Restart

This article discusses the reinitialization of the RAM disk on the platinum colored Power Macintosh G3 at restart.
This article has been archived and is no longer updated by Apple.
Note: This article only applies to the platinum G3 computer. The Power Macintosh G3 (Blue and White) computer has a software change that allows it to save the contents of a RAM disk through a restart, and a setting in the Memory control panel to decide whether to save the files through a shutdown.

The PowerMac G3 Read Me document on the Power Macintosh G3 CD states:

"The RAM Disk on the Power Macintosh G3 computer will be reinitialized on every restart or reboot. Any data you have stored on a RAM Disk should be copied to the hard drive before a restart or shutdown. The RAM Disk feature should only be used to store data and applications which will be used between restarts and shutdowns."

This was a design choice during the development of the Power Macintosh G3 computers. These systems make use of faster, industry-standard memory called synchronous dynamic random access memory (SDRAM), which adds to both their economy and their availability. The Power Macintosh G3 incorporates a new memory controller called "Grackle" that can support both extended data out (EDO) and SDRAM which have different refresh cycles.

On previous computers, as soon as the memory controller came out of reset (after restarting the computer) it would generate memory refresh cycles. However, since Grackle supports both EDO and SDRAM memory which have different refresh cycles, Grackle will not begin memory refresh cycles until it is configured at startup. The length of time between restart and when Grackle is configured can exceed the period which SDRAM can retain its contents without refresh. Hence the SDRAM can be corrupted and thus result in a corrupted RAM disk after reset. The design choice was not to preserve the RAM disk across restarts to prevent the possible corruption of the data on the RAM disk.

Note: Although the Grackle memory controller supports both EDO and SDRAM DIMMs, Apple has tested and qualified only SDRAM for use in Power Macintosh G3 systems.

For additional information on working with a RAM disk, refer to article 58260: "**Power Macintosh G3 (Blue and White): Read Me**"

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PowerBook 3400: Accessories

This article provides a list of accessories for PowerBook 3400 series computers.

This article has been archived and is no longer updated by Apple.

M4895LL/A	Macintosh PowerBook 45-watt AC adapter
M5141LL/A	16MB RAM Expansion Card
M5146LL/A	Lithium Ion Battery
M5139LL/A	6x-speed CD-ROM Module for 3400 series

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PowerBook 1400 Series: Accessories

This article provides a list of accessories for PowerBook 1400 series computers.
This article has been archived and is no longer updated by Apple.

M4508	Macintosh PowerBook 6x-Speed CD-ROM Module (Discontinued April 1997)
M5789LL/A	PowerBook 1400 8x CD Rom Expansion Media Device
M4509	Macintosh PowerBook 8-bit Color Video-out Upgrade Kit
M4895	Macintosh PowerBook AC Adapter
M4507	Macintosh PowerBook Rechargeable Battery
M4506	Macintosh PowerBook 8MB Memory Expansion Card

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PowerBook: Accessories

This article provides a list of accessories that can be used on most (or all) PowerBook computers.
This article has been archived and is no longer updated by Apple.

M2538LL/A	Apple HDI-30 SCSI System Cable
M2539LL/A	Apple HDI-30 SCSI Disk Adapter (Not supported on: 140, 145, 150, 170)
M3927LL/A	Macintosh PowerBook Video Adapter Cable (Not supported on: Portable, 100, 140, 145, 170, 150, 190(opt), 1400(opt), 3400, G3)
M1813Z	PowerBook File Assistant (software) (Discontinued)
M9400LL/A	PowerBook/Dos Companion (software) (Discontinued)

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LaserWriter: Why It Prints Only Two Pages When Using MS-DOS

This article has been archived and is no longer updated by Apple.

If you are printing to a Laserwriter from an MS-DOS machine, and can't print documents more than two pages long (for instance, a ten-page document can only be printed as 5 two-page documents,) it is most likely a "handshaking" problem.

The MS-DOS system and the LaserWriter are not set up for the same kind of handshaking, and the printout is only one buffer-length long.

Make sure that both the printer and the MS-DOS system are set for either DTR or Xon/Xoff handshaking.

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PowerBook Duo Series: Accessories

This article provides a list of accessories for PowerBook 200 series computers.
This article has been archived and is no longer updated by Apple.

M4180LL/A	PowerBook Duo Floppy Adapter(Discontinued)
M8061LL/A	Macintosh HDI-20 External 1.4MB Floppy Disk Drive (Discontinued)
M4186LL/A	PowerBook Duo Express Modem (14.4 max) (U.S., Canada, Japan)
M1835LL/A	PowerBook Duo Rechareable Battery (Type 1 & 2) (Discontinued)
M2780LL/A	PowerBook Duo Rechargeable Battery (Type III) (Discontinued)
M4178LL/A	PowerBook Duo Battery Recharger
M4174LL/A	PowerBook Duo AC Adapter
M4184LL/A	4MB RAM Upgrade (Discontinued)
M4185LL/A	8MB RAM Upgrade
M3171LL/A	Logic Board Upgrade (Discontinued) (200 series to 2300)
M1928LL/A	PowerBook Duo Dock (512kVram) (Discontinued)
M4181LL/A	PowerBook Duo Minidock (Discontinued)
M4219LL/A	PowerBook Duo Dock Plus
M2631LL/A	Duo Dock with 1MBVram and math coprocessor and 230MB hard drive (Discontinued)
M1865LL/A	Same as M2631LL/A but with 32k RAM cache and built-in Ethernet (Discontinued)
M1814Z/A	PowerBook Duo Top Cover Retrofit (Discontinued) (Upgrades older Duo Docks for use with color Duos)
M13114LL/A	PowerBook Duo Dock VRAM Expansion Kit (Discontinued)
M6775LL/A	PowerBook Duo Dock Math Coprocessor Kit (Discontinued)
M0417LL/A	PowerBook Ethernet NB Card (Discontinued)
M1921LL/A	Duo Dock II Upgrade (for any DuoDock prior to DuoDock II) (Discontinued) (Included 1MB VRAM and Ethernet.)

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Newton Internet Enabler 2.0: -60508 Error When Connecting Via LocalTalk

I am trying to connect to a MacIP server via LocalTalk network with my MessagePad 2100. Although I am able to see the MacIP server address in Internet Setup, when I attempt to connect using NetHopper I receive an error of -60508. How can I resolve this?
This article has been archived and is no longer updated by Apple.
The MessagePad 2100 does not ship with Newton Internet Enabler LocalTalk software installed. However, LocalTalk support is available for printing and other services. Although you may be able to select LocalTalk as a connection method within Internet Setup -- you will not be able to connect unless you have the Newton Internet Enabler (NIE) LocalTalk driver installed.

To install the NIE LocalTalk driver, you must have a "connection utility" such as Newton Connection Utilities 1.0. NCU is bundled with the MessagePad 2100. You can find the NCU installer on the Connectivity Software folder in the MessagePad 2100 CD. Other utilities such as Newton Package Installer may be used to install the software onto your MessagePad.

After installing NCU, verify your connection method and cable location within NCU under Preferences. When ready, tap "Dock" on your MessagePad and select the appropriate connection method. After a connection has been made, select "Install Package" and use the File:Open dialog box to navigate using the following path:

MessagePad 2100 CD -> Pre-Installed Software -> NIE 2.0 -> NIE Extras -> LocalTalk -> NIE LocalTalk Support.pkg

Note: If you have already created an Internet Setup using LocalTalk as your connection method, you may receive a -60080 error when attempting to connect. To resolve this issue, delete this setup within Internet Setup and after installing the LocalTalk Module, create a new one.
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LaserWriter 8500: Ghosting/Streaking Black Areas

I have a LaserWriter 8500 and when I print large areas of black I notice a streaking or a ghosted image of the same area further down the page. Can you explain? Can you help me resolve this?
This article has been archived and is no longer updated by Apple.
This is usually associated with a brand new toner cartridge. There are two controls for print density associated with the LaserWriter 8500 which measure the voltage applied to the toner cartridge's photoconductor. You will need to lower the print density in order to avoid the ghosting/streaking. Over time you may need to turn the print density back up if the printouts begin to look faded, since the toner cartridge will likely need more voltage with use.

The first control is a hardware dial located on the inside of the printer where the toner cartridge is inserted. Lift the front hood and look on the left, inside of the printer. You should see a dial marked with a crescendo symbol. Turning the dial towards the outside of the printer will lower the print density and turn down the voltage. For more information on the location and useage of this dial, see the user's guide that came with your LaserWriter 8500.

The other control is located in the Apple Printer Utility. Connect to the printer using the utility and locate the slider for Print Density. You can turn the density down by sliding the control to the left. After adjusting the slider, send the changes to the printer by clicking the Send button at the top of the window.
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Hard Drives: How to Find Additional Specifications

Where can I find additional specifications for the hard drive in my Mac OS-based computer?
This article has been archived and is no longer updated by Apple.
The information below can be used to find additional specifications for Apple and third-party hard drives used in Mac OS-based computers.

Many hard drive manufacturers provide detailed specifications of their hard drives on the World Wide Web. To find out the specifications of your hard drive, you need to know the following items:

1. hard drive manufacturer
2. hard drive model
3. URL to the hard drive manufacturer's web site

Use Apple System Profiler to find out the manufacturer and model of your hard drive. In Apple System Profiler, go to the Select menu, choose Device Information, and select your hard drive. If you do not have Apple System Profiler, you can download it from Apple Software Updates sites.

Vendor web sites can be found through a variety of means, including Sherlock. Additionally, the following Tech Info Library article can help you search for a particular vendor's address and phone number:

Article 17159: "**Locating Vendor Information**"

This article can help you locate the software update mentioned here:

- Article 14724: "**Where To Find Apple Software Updates**" - Lists online services for free Apple software updates.

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AppleWorks 2.0: How to Print Documents More Than 10 Pages Long

Is there any way to print a document longer than 10 pages all at once?
This article has been archived and is no longer updated by Apple.
When printing documents over 10 pages from AppleWorks 2.0 with an Apple IIGS and a LaserWriter or LaserWriter Plus, it is not possible to print the entire document all at once.

You can, however, Select the text, 10 pages at a time, and then do a Print Selected rather than Print All from AppleWorks.
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Roland Corporation U.S.

Roland Corporation U.S.
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Company Profile:
Roland Corporation U.S. is a manufacturer and distributor of electronic musical instruments including keyboards and synthesizers, guitar products, electronic percussion kits, digital recording equipment, amplifiers and audio processing devices.
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FAXstf: "Set To Answer" Conflict With America Online

When FAXstf is "set to answer" on my PowerBook 3400, America Online crashes with a Type 11 error.
This article has been archived and is no longer updated by Apple.
The version of America Online (AOL) originally bundled with the PowerBook 3400 is 3.0D. This version does not properly deal with the situation when another application, such as FAXstf, is set to answer. Upgrading to AOL version 3.0.1 or later will remedy the situation.

The article titled "**Locating Vendor Information**" can help you search for a particular vendor's address and phone number.
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PowerBook: Thin Line With Color Dual-Scan Passive-Matrix Displays

On PowerBooks with color dual-scan passive-matrix displays, you may notice a thin horizontal line at the middle of the display. This article describes why it may appear.
This article has been archived and is no longer updated by Apple.
The dual-scan color passive-matrix display actually consists of two displays butted up against each other. A thin horizontal line may be visible where the two displays meet each other in the middle. This is normal.

The following PowerBook models contain color dual-scan passive-matrix displays and will exhibit this line:

- PowerBook 520c
- PowerBook 190cs
- PowerBook 1400cs
- PowerBook 5300cs

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Newton Connection Utilities 1.0: Read Me for Mac OS

This article contains the Read Me document for the Newton Connection Utilities 1.0 for Mac OS.
This article has been archived and is no longer updated by Apple.
Newton Connection Utilities for Macintosh Operating System

This document contains the latest information on the Newton Connection Utilities 1.0 for the Macintosh operating system, released on April 15th, 1997.

Contents

* Getting Started
* Using the Import, Export, and Synchronize features
-General Information
-Names or Name File
-Dates or Date Book
-To Do Tasks
-Notes or Notepad
-Claris Organizer
-Now Contact and Now-Up-to-Date
-Troubleshooting
* Using NCU with Newton Works
* Making a connection
* Backing up and Restoring
* Using your desktop computer's keyboard
* Using the Auto Dock feature
* Using file formats

Getting Started

* Before using the Newton Connection Utilities [NCU] version 1.0, back up your Newton device and desktop application information files and store the backup in a safe place.

* NCU currently has conflicts with AutoDoubler. If you are running AutoDoubler, you won't be able to synchronize your Newton data with your desktop PIM's. Apple recommends that you don't use AutoDoubler or, if your version of AutoDoubler supports it, make sure you except NCU from compression.

* Install the appropriate Newton operating system updates on your Newton device. The latest system updates can be downloaded from the following URL: http://www.newton.apple.com/newton/solutions/solutions.html

* If you have problems installing NCU, you may need to disable a virus protection program on your computer. After you install NCU, you can reactivate the virus protection program.

* Newton Backup Utility and NCU cannot be used at the same time, although you can have both installed on your computer.

* The Newton Connection Utilities application must remain in the NCU application folder in order to run properly. If you want to move the application outside the folder, make an alias for NCU and place that alias outside the NCU application folder.

* Refer to the NCU User's Manual for information about the features of NCU. If your manual is on-line in Adobe Portable Document Format (PDF), you'll need Adobe Acrobat Reader or Adobe Acrobat Viewer to view and print the document. For more information, contact Adobe Systems, Inc. or visit Adobe's web site at www.adobe.com

Using the import, export, and synchronize features

General information

* NCU synchronization is designed to work with one Newton Device and one Mac OS computer. Attempting to synchronize a single Newton Device with multiple Mac OS computers or multiple Newton Devices with a single Mac OS computer may result in unanticipated updates to your data on either your Newton Device or PIM files on your Mac OS computer.

* If you defined a desktop Personal Information Manager [PIM] file as the file to synchronize with using NCU, be careful about replacing that PIM file with one that has the same name but different data. Differences in data between the two files will be interpreted as deliberate changes,

which will then be updated on your Newton device.

* When you import, export, and synchronize large files or documents, synchronizing may fail if there isn't enough available memory on your desktop computer. If you have large files or documents, increase the amount of memory available to NCU in 2 megabyte (MB) increments.

* If you synchronize repeating meetings with the desktop and then change information for the repeating meetings on the desktop, the meeting information may be broken into a series of individual meetings.

* If you import delimited ASCII files and the "Column Headings Exist" checkbox within the Advanced Settings is selected (there is an X in the checkbox), the first record in the file is interpreted as a column heading. If your file doesn't contain column headings, the first record will not be imported.

* If you import data from a DOS-formatted floppy diskette to your Newton device, an error message appears and NCU automatically disconnects.

* Before you initiate synchronization from your Newton device, make sure that the NCU window is active on your desktop computer.

* When you synchronize Newton folders that include categories:

- Make sure the folders and categories have exactly the same names and capitalization on your Newton device and your Mac OS computer.

- If you use Now Contact 3.5, store records in named folders. Don't store records on your Newton device in the Unfiled folder. If you do, when you synchronize on the desktop, Now Contact 3.5 places these records in a default folder called "Business." The next time you synchronize with your Newton device, these records on your Newton device will be automatically stored in the "Business" folder.

Names, or Name File

* When exporting name cards, phone numbers with the label "Phone" will not be exported unless you change the default field map. NCU currently only exports phone numbers with the labels, "Home," "Work," "Fax," and "Cellular."

* If any name cards have duplicate phone labels (for example, two numbers both use the "Work" label), only the first number with that label is exported.

* When synchronizing name cards with Now Contact, phone labels are transferred to the phone field in Now Contact (for example, <Home> 415-555-1212). These labels are used to identify the proper label when you synchronize again with NCU.

* When synchronizing name cards with Now Contact, e-mail labels are transferred to Now Contact with labels in the e-mail field (for example, <Internet> john@isp.net). These labels are used to identify the proper label when you synchronize again with NCU.

* When synchronizing name cards with Claris Organizer 2.x, the "Cellular" phone label converts to the label "Mobile" after you synchronize a second time.

* When synchronizing or importing name cards with Claris Organizer 2.x, only those phone numbers that contain the labels, 'Work', 'Home', 'Fax' & 'Cellular' will transfer. Phone numbers in Claris Organizer using labels other then these will not transfer.

* When synchronizing or importing name cards with Claris Organizer 2.x, area codes and phone numbers are imported into a single field on the Newton Device.

* Name card stationary other then those shipped with Newton OS are not supported.

Dates, or Date Book

* When you synchronize repeating items between the desktop computer and your Newton device, some of the information on the desktop may be modified, which may result in the duplication of data on your Newton device. To prevent this, modify your Date Book items, especially repeating items, on your Newton device rather than on the desktop.

* When importing Date Book items using delimited ASCII format, all meeting lengths must be in minutes format (for example, 160 minutes). If items are in the hourly and minutes format (HH:MM) such as 01:30, they are assigned a default meeting length of 15 minutes.

* When importing Date Book items using delimited ASCII format, all meeting times must be in 24hr format. Meeting times using the 12 hr. format will always import as AM.

To Do Tasks

* Don't use repeating To Do tasks with NCU. If you synchronize repeating To Do tasks not all of the information will be synchronized. Single To Do tasks synchronize correctly.

* If you start the import process from your Newton device, all of your To Do tasks on the desktop will be set to "Completed".

Notes, or Notepad

* NCU does not reliably support importing graphics greater then 640x480 pixels into the Notepad.

* Microsoft Word 6.0 will not export graphics created using its OLE object to RTF (Rich Text Format). If you import this type of RTF file, you'll export text only. To export graphics from Microsoft Word 6.0 using RTF, make sure the graphics are pasted or inserted into the Word document.

* Graphics in the Notepad may be replaced with "***" placeholders when synchronizing to Claris Organizer 2.0 because it doesn't support graphics within notes. If the corresponding note on Claris Organizer changes and requires an update of the Notepad, you'll see "***" placeholders instead of graphics.

* Exporting outline or checklist stationary to RTF format will result in an additional carriage return being inserted between your bullet items.

* Notepad stationary other then those shipped with Newton OS are not supported.

Claris Organizer

* When working with a Claris Organizer file, make sure it is closed via the 'Close File' menu item. Clicking the close box of the document window is not sufficient to close the file.

* If you synchronize Claris Organizer with the Date Book and Instant Organizer is running on your desktop computer, an error message may appear if Instant Organizer encounters an alarm time prior to the current time (which may make the alarm trigger during the synchronization). To make sure this doesn't happen, quit Instant Organizer before synchronizing.

Now Contact and Now-Up-to-Date

* Now Contact and Now-Up-to-Date keep files open even after you have closed them. In order to work with the file using NCU, make sure you quit the Now application.

Troubleshooting

* If you have problems in translation or backing up:

1. Refer to the file called XLATE.LOG on your desktop computer. Frequently this will include notifications about the information that NCU cannot translate or backup. Copy and paste the data in the "problem" record to a new record or delete the "problem" record. Then try backing up again.

2. In cases where NCU is having problems reading data, there may be more than one record that's causing problems or you may have data created with the Newton 1.x operating system. Try backing up all of the information and applications on your Newton device to a storage card and do a hard reset to delete all of the information in the internal memory of the Newton device. Then do a restore from the card.

* If you have problems importing a delimited ASCII text file ensure you specified the correct delimiters, each field is contained within a set of quotes, [for example, "field one","field two","field three"] and the last record is terminated with an end of record character [usually a carriage return].

Using NCU with Newton Works

* NCU only supports import and export of the 'Paper' and 'Drawing' stationaries. At this time the 'Drawing' stationary is not supported on the Message Pad 2000 so although you can import PICTs to the MP2000, it won't be able to display them. Graphics that are part of an RTF file can be imported and displayed to the 'Paper' stationary portion of an MP2000.

* RTF files containing graphics totaling greater then 32k will import to the 'Paper' Stationary, but only the first 32k of graphics will import. Graphics imported via the PICT filter to the 'Drawing' stationary, are not subject to this limitation.

* When you import Newton Works Drawings from your MacOS computer, gradients are not imported.

* When you export Newton Works Papers to an RTF document, gray-scale information and text from QuickFigure charts pasted into the papers are not exported to the desktop.

* Drawings with patterns exported to Claris products as PICTs may lose pattern information upon ungrouping.

* If you use line spacing in an RTF document, this line spacing is not preserved when you import it into a Newton Works Paper.

* If you import PICTs containing bit-mapped images to your Newton device, they may not properly rotate or flip.

* If you import bitmaps that are vertically greater than 320 pixels, the portion greater than 320 pixels will be truncated.

Making a connection

* If your Newton device and desktop computer are successfully connected, you initiate an action from the desktop, and you don't see a status bar on the Newton device, try tapping outside of the Connection or Dock slip. A status bar should then appear on your Newton device.

* If you experience problems using NCU from your Newton device, initiate actions from your desktop computer.

* NCU works best when there is enough available memory on your Newton device. If an error message appears saying your Newton device is out of memory, quit any applications you are no longer using, delete applications you don't need, or store information on a storage card then delete it from the internal memory of your Newton device.

* NCU does not support IrDA as a connection type.

* When using the eMate 300, ensure you are connecting to NCU using the 'Dock' package on your Newton Device. The 'Classroom Dock' package will not connect to NCU.

Backing up and Restoring

* NCU supports storage cards of 4MB or less.

* NCU cannot backup both cards in a Message Pad 2000 if the cards have an identical name. Please make sure your cards are named differently.

* NCU cannot backup Newton Works documents containing graphics greater than 32k. The first time you attempt to backup the document, you will be warned. During subsequent attempts, you will not be warned.

* NCU will fail to backup your Newton Device entirely if a Newton Works document with graphics greater than 32k is stored in your InOut Box. To complete your backup, you must remove this Newton Works document from your InOut Box.

* If you have File Sharing on a Macintosh computer turned on, make sure you specify your Backup Folder location to be different than the top level folder of your startup volume (normally your hard disk). Backing up won't work if your backup folder is at the top level of your hard disk while File Sharing is turned on.

* If you restore information to your Newton device and it has very little memory, or storage space, the restore may not be complete. Delete outdated or unnecessary information to increase the available storage space and try restoring again.

* If you have EnRoute packages (EnRoute Core, EnRoute Internet, and EnRoute Rule Editor) installed on your Newton device and you are trying to restore these packages from a backup file, you should remove these packages from the Newton device first before performing the backup; otherwise your Newton will reset in the middle of the restore operation. An alternative is to perform a selective restore that does not include these select EnRoute components.

* When you first back up information on your Newton device, NCU creates a new backup file. When you make subsequent backups, NCU creates a copy of your backup file and adds new information to it. Occasionally, it's a good idea to move the existing backup file to a different folder and make a new backup of all the information and packages on your Newton device.

Using your desktop computer's keyboard

* Using the desktop computer's keyboard with the Calculator on Newton devices with the Newton 2.0 operating system is not supported.

* Using the desktop computer's keyboard with Notes, or the Notepad, may be slow after large amounts of text, greater than 4K (kilobytes), are entered.

Using the Auto Dock feature

* If your password is not saved, AutoDock will not back up or synchronize. Make sure you indicate the password is saved in the appropriate preference or don't use a password.

Improving performance

* AppleTalk will provide a faster connection to your Newton Device than a serial connection.

* Importing, Exporting, Synchronizing and Backing up will be faster if you have performed at least one backup of your Newton Device.

Using file formats

NCU supports the following file formats:
* Claris Organizer 2.0
* Now Contact 3.5 and Now Up-to-Date 3.5
* RTF (Rich Text Format)
* Plain text (ASCII)
* Delimited text (ASCII)

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Claris Organizer is a trademark of Claris Corporation.

EnRoute is a trademark of Netstrategy Software, Inc.

Now Contact and Now Up-to-Date are trademarks of Now Software, Inc.
Published Date: Feb 18, 2012

Twentieth Anniversary Macintosh: Security Slot

Does my Twentieth Anniversary Macintosh have a security slot? Is there a security cable and lock available for my system?
This article has been archived and is no longer updated by Apple.
The 20th Anniversary Macintosh has a modified access hole for use with a security cable and lock. A standard security kit will not fit due to the rounded plastic protrusion that is part of the case.

Kensington makes a security kit that fits the 20th Anniversary Macintosh. The kit is called the Kensington Micro-Saver (p/n 64068).

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

The Tech Info Library article titled "**Locating Vendor Information**" can help you search for a particular vendor's address and phone number.
Published Date: Feb 18, 2012

MessagePad 2000: Picture On Owner‘s Manual Cover

I am curious about the picture on the front cover of my MessagePad Owner's Manual. It appears to be a mapping application. What is it?
This article has been archived and is no longer updated by Apple.
The manual shows a San Francisco bay area map, accessed through the www.mapquest.com web site on the Internet. (The name is barely visible on the top left of the screen.)
Published Date: Feb 18, 2012

PowerBook G3: Some Installers Cannot Be Run Separately

I have a Macintosh PowerBook G3. Recently, I tried running one of the installers that is on the PowerBook G3 CD that came with the system. The installer did not work properly. Can you explain?
This article has been archived and is no longer updated by Apple.
The system CD that comes with the PowerBook G3 contains a folder named "Software Installers" with individual installers that are meant to be used by the main Mac OS Install application on the CD. Some of these installers, such as the Mac OS 8 installer and the Cyberdog installer, will not function if run separately.

To install any software from the PowerBook G3 CD, run the "Mac OS Install" application which resides on the top level of the CD and then select the software you wish to install from the list provided.
Published Date: Feb 18, 2012

PowerBook G3: Custom Install/Remove Installs PowerBook G3 Software

I have a Macintosh PowerBook G3. Using the PowerBook G3 CD that came with the system, I tried doing a custom install of certain software components. The Installer did not behave as I expected. Can you explain?

This article has been archived and is no longer updated by Apple.

If you run the Mac OS Install application on the PowerBook G3 CD, then "Custom Install" or "Custom Remove" software from the Mac OS 8 package, the PowerBook G3 Installer will run immediately afterwards and install software specific to the PowerBook G3. This is to ensure that all system software necessary to operate the PowerBook G3 remains on the computer after the selected software has been installed or removed.

Published Date: Feb 18, 2012

PowerBook: Shuts Down When Swapping Batteries

Sometimes when I put my PowerBook to sleep and swap batteries, it shuts down and will not power back on until I plug it in to an AC outlet. Why is this?
This article has been archived and is no longer updated by Apple.
In the time between removing the first battery and inserting the second battery, the PowerBook is using the backup lithium battery to power the RAM. If you have a large RAM card that draws an excessive amount of power, the RAM card can drain the backup battery before the second main battery is inserted. This can also happen with a smaller RAM card that is faulty.

In each case, the PowerBook may shut down and be unable to start up until it is connected to AC power.

If you encounter this behavior, first try removing the RAM card to see if that eliminates the problem. Instructions for removing the RAM card can be found in the user's guide. If you find that removing the RAM card solves the problem, contact the RAM vendor to find out if you can get a replacement RAM card that won't cause the same behavior.
Published Date: Feb 18, 2012

At Ease: Loops Back To The Login Screen

This article describes an At Ease login situation and provides workarounds.
This article has been archived and is no longer updated by Apple.
Some users have found that when they attempt to login to At Ease, it loops back to the main At Ease login window. They are able to choose a user name and workgroup but after a short delay, the main login window appears again.
There are some known reasons for this behavior:

- If you are using Mac OS 8.0 and At Ease 5.0, this is a known issue which was fixed in Mac OS 8.1. If using Mac OS 8.0, the workaround is to turn Virtual Memory ON and turn Mac Easy Open OFF.
- If the restricted Finder workgroup is being used with Mac OS 8.0 and At Ease 5.0, make sure the Desktop Print Spooler is ENABLED or give Control Panel access to the restricted Finder workgroup. This is a known issue and will be addressed in a future release of At Ease.

The following suggestions have been reported as solutions to this behavior but have not been verified by Apple Technical Support.

- The local "At Ease Items WG" folder could be unusable. Delete the local "At Ease Items WG" or "At Ease Items WG 5.0" folder. This folder will be recreated on the next At Ease login.
- If you are using At Ease 5.0, Mac OS 8.0 and Connectix RAM Doubler v1.5.3, try turning off RAM Doubler.
- Check for any third party extensions that might be causing a conflict. Disable them using the Extensions Manager.
- Try using Appleshare Admin's "Compact Volume Access Privileges" if you are using AppleShare 4.2.x. for your At Ease server.
- Try rebuilding the desktop on the local workstation.
- Perform a **clean** install of Mac OS and At Ease.
- If all workstations are affected, try following the rebuild instructions outlined in article 34504: "**At Ease For Workgroups 5.0: Finder Access**"

Published Date: Feb 18, 2012

Where to Find Info on the PICT File Format

Where can I find information on the PICT file format?
This article has been archived and is no longer updated by Apple.
You can find information on writing graphics files in PICT format in Macintosh Technical note #27.

The following Tech Info Library article can help you find the Tech Note mentioned here:

Article 24493: "**Apple Tech Notes: What They Are, Where To Find Them**"
Published Date: Feb 18, 2012

PowerBook: No Magnetic Danger From Airline Seatback Trays

I have run across a reference on the Internet indicating that the latches on seatback trays on some airliners are magnetized, and can cause damage to my computer. Is this the case? Is my PowerBook at risk?

This article has been archived and is no longer updated by Apple.

The International Air Transport Association, which represents the interests of airlines worldwide, addresses this rumor in their press release < **http://www.iata.org/pr/pr97dece.htm**>. They indicate that they checked with the airline mentioned in the rumor, and with the manufacturers of the airplane and seats, and were unable to substantiate the rumor. The press release indicates the seats do not contain any magnetic components and therefore cannot damage electronic components via electromagnetic interference.

Published Date: Feb 18, 2012

AppleVision, ColorSync Displays: Basic Troubleshooting

This article offers some troubleshooting tips and procedures for the following monitors:

- AppleVision 1710
- AppleVision 1710AV
- AppleVision 750
- AppleVision 750AV
- AppleVision 850
- AppleVision 850AV
- ColorSync 17-inch Display
- ColorSync 20-inch Display

This article has been archived and is no longer updated by Apple.

Before you Begin

It is imperative that you install the latest version of AppleVision software. These displays rely heavily on software and each update provides enhanced communication and reliability. Version 1.5 or later is recommended in order to invoke the recovery routines (Option-Command-A-V). Mac OS 8.6 includes AppleVision 1.7.1 software. To find the most recent version of this software, refer to Apple Downloads.

No Power, No Video

- Try swapping the monitor and computer power cords.
- Reseat the video cable at the back of the computer. (1)
- Is the computer that the monitor is attached to a 68040- or PowerPC-based computer? (1)
- Be sure the monitor is connected to the built-in video. (4)
- Remove any Macintosh video adapters between the computer and the monitor. (5)
- For AV displays, disconnect the sound cables, reboot and check for a chime from the computer. (6)
- If this is a 6100, 600 or 400 series computer, suspect a dead PRAM battery (dead battery = no video on this series).
- To isolate the failure, try another monitor on this computer, or try this monitor on another computer.
- Consult with an Apple Authorized Service Provider for possible hardware service.

Green power light, Blank screen at startup

- Start with extensions off or boot from CD. If this works, skip to next section.
- Install AppleVision 1.5.x software or Mac OS 8.
- Simultaneously hold down these keys until the Finder loads: Command-Option-A-V.
- If this works, trash the display preferences and recalibrate to ensure there is not a hardware or communication failure with the monitor.
- Consult with an Apple Authorized Service Provider for possible hardware service.

Green power light, Blank screen after extension loads

- *This is not a hardware issue* if the monitor initially boots OK and blanks out after the AppleVision extension loads. In that case, it is a software issue.
- Start with extensions off or boot from a CD to bring up the display.
- Trash the display preferences from the Preferences folder and restart.
- Simultaneously hold down these keys until the Finder loads: Option-Command-A-V.
  Start with extensions off and pull out the entire Preferences Folder, restart.
  Try a clean install followed by AppleVision 1.5.x as a last resort.

Blurry Video

- Try adjusting convergence by using the Monitors and Sound control panel.
- Reseat the video cable at the back of the computer, plugging it into the built-in video. (1)(4)
- Try the monitor without the ADB connection to isolate ADB-based failures. (2)(3)

- Power up the system and simultaneously hold down these keys until the Finder loads: Command-Option-A-V.
- To isolate the failure, try another monitor on this computer, or try this monitor on another computer.
- Consult with an Apple Authorized Service Provider for possible hardware service.

Orange power light, blank screen

- This indicates the monitor is not finding a proper video signal.
- Reseat the video cable at the back of the computer. (1)
- Is the computer that the monitor is attached to a 68040- or PowerPC-based computer? (1)
- Be sure the monitor is connected to the built-in video. (4)
- Remove any Macintosh video adapters between the computer and the monitor. (5)
- If it is an AV display, disconnect the sound cables, reboot and check for a chime from the computer.
- If this is a 6100, 600 or 400 series computer, suspect a dead PRAM battery (dead battery = no video on this series).
- Consult with an Apple Authorized Service Provider for possible hardware service.

AppleVision 1710 & 1710AV: No video after waking from sleep

With an AppleVision 1710 or 1710AV display connected to a Macintosh, when the Macintosh wakes from sleep mode, the monitor's LEDs may not power on and the monitor may not display any visible raster.

This intermittent behavior may be corrected by powering the monitor off then back on.

Computer hangs when extension loads

- Start up the computer with the monitor ADB disconnected to be certain that the monitor is the source of the issue.
- Reseat the ADB connection at the back of the computer.
- Move the keyboard and mouse to the other side of the monitor.
- Remove any third party ADB devices. (2)
- Try disconnecting the Apple mouse, then keyboard. (3)
- Reset the PRAM.
- Try a clean install followed by an installation of AppleVision 1.5.x software.
- Power up the system and simultaneously hold down these keys until the Finder loads: Command-Option-A-V.
- Consult with an Apple Authorized Service Provider for possible hardware service.

Not recognized as AppleVision display or Boots in 640x480

- Be certain that the keyboard is plugged into the side of the monitor and that the monitor's ADB is connected at the back of the computer.
- Install the most recent version of the AppleVision software.
- Reseat the video cable at the back of the computer. (1)
- Is the computer that the monitor is attached to a 68040- or PowerPC-based computer? (1)
- Be sure the monitor is connected to the built-in video. (4)
- If you are using a Power Macintosh 6100/7100/8100 series off of the AV video card, you must have AppleVision 1.5.3 or higher to retain your resolution settings (Mac OS 8 does not come with 1.5.3 it comes with 1.5.2)
- Remove any Macintosh video adapters between the computer and the monitor. (5)
- Try disconnecting the Apple mouse, then keyboard. (3)
- Try a clean install followed by an installation of AppleVision 1.5.x software.

Consult with an Apple Authorized Service Provider for possible hardware service.

Not using Mac OS 8 or does not have AppleVision 1.5.3

- Start up the computer with extensions off. (shift key)
- On the left side of the monitor, there are a set of 5 buttons, number them 1-5 from left to right.
- Press button 2 twice
- Press button 5 three times
- This manually adjusts the color temperature controls to approximately 9300. In many cases this restores the display.

Notes

Some displays (AppleVision 1710, ColorSync 17-inch) will not power up without a proper video signal. Some 68020- and 68030-based machines, for example, will not output the correct signal.

1. Third party ADB devices include devices such as non-Apple keyboards/mice, joysticks, tablets, splitters, switchboxes, and extender cables.
2. Malfunctioning mice, keyboards or ADB cables will cause the computer to intermittently hang, or cause other erratic ADB behavior.
3. All Macintosh computers come with built-in video except for some PowerBooks and all-in-one computers. On 9000 series systems, built-in video is defined as the Apple-supplied video card.
4. On PowerBooks and HDI-45 machines, suspect the adapter before you suspect the monitor. Try another monitor with the same adapter or another adapter. Monitors should be plugged into the Macintosh side only of a DOS-compatible for troubleshooting, so remove any splitter/adapters in the video chain.
5. No chime usually indicates a failure with the computer. Plug the keyboard into the computer instead of the monitor, or try the reset button on the computer to be sure of where the fault lies.

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PowerBook 3400: Picture of Modem Control Panel

This article contains a picture of the Modem control panel on the PowerBook 3400.
This article has been archived and is no longer updated by Apple.
The Modem control panel is used by Open Transport PPP and AppleTalk Remote Access 3.0 to determine where the modem is located and which modem script to use.

On the PowerBook 3400, the Connect via should be set to Internal Modem and the Modem pop up menu should be set to PowerBook 3400 Internal 33.6, or PowerBook G3/3400 Internal 33.6 depending on the version of Mac OS you are using.

In the Modem control panel you can also turn off the internal modem sound, change from Pulse to Tone dialing and ignore the dial tone.

Figure 1 Modem control panel

Published Date: Feb 18, 2012

PowerBook G3: Picture of Modem Control Panel

This article contains a picture of the Modem control panel on the PowerBook G3.
This article has been archived and is no longer updated by Apple.
The Modem control panel is used by Open Transport PPP and AppleTalk Remote Access 3.0 to determine where the modem is located and which modem script to use.

On the PowerBook G3, the Connect via should be set to Internal Modem and the Modem pop up menu should be set to PowerBook G3/3400 Internal 33.6.

In the Modem Control Panel you can also turn off the internal modem sound, change from Pulse to Tone dialing and ignore the dial tone.

Figure 1 Modem control panel

Published Date: Feb 18, 2012

PowerBook G3: Pictures of Infrared Control Panel

This article contains pictures of the Infrared control panel on the PowerBook G3.
This article has been archived and is no longer updated by Apple.

Figure 1 Infrared control panel

Figure 2 Infrared control panel options

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PowerBook 3400: Pictures of Infrared Control Panel

This article contains pictures of the Infrared control panel on the PowerBook 3400.
This article has been archived and is no longer updated by Apple.

Figure 1 Infrared control panel

Figure 2 Infrared control panel options

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LaserWriter: Communication Mode Switch Setting Articles

This document provides document numbers and links to other technical documents that describe the LaserWriter Communications Mode Switch on different Apple LaserWriter models.
This article has been archived and is no longer updated by Apple.
The table below lists other technical documents containing the Communication Mode Switch information.

Printer	Document Title	Document Number
LaserWriter 12/640 PS	LaserWriter 12/640 PS: Communication Switch Settings	20288
Color LaserWriter	Color LaserWriter: Changing Communications Settings	18192
LaserWriter 16/600 PS	LaserWriter 12/640 PS: Communication Switch Settings	20288
LaserWriter Select 360	LaserWriter Select 360: Interface Configuration Settings	13712
LaserWriter Pro 600/630	LaserWriter Pro 600/630: Communication Switch Settings	15069
Personal LaserWriter NTR	Personal LaserWriter NTR: Communication Switch Settings	15070
LaserWriter IIf and IIg	LaserWriter IIf and IIg: Communication Switch Settings	15066
LaserWriter IINTX	LaserWriter IINTX: Switch Configurations	2031
LaserWriter IINT	LaserWriter IINT: Switch Configurations	1992
Personal LaserWriter NT	Personal LaserWriter NT: Switch Settings	7439

Published Date: Feb 18, 2012

Mac OS 8.1: "Where Have All My Files Gone?" File

If you have used Mac OS 8.1 to format your hard drive as a Mac OS Extended Format (HFS+), and you start the computer using an earlier version of the Mac OS, the only file that will appear on your hard drive is called "Where_have_all_my_files_gone?."
This article has been archived and is no longer updated by Apple.

Why can't you see your files?

This hard disk is formatted with the Mac OS Extended format. Your files and information are still on the hard disk, but you cannot access them with the version of system software you are using.

How can you access your files?

To access your files you must mount this hard disk on a computer that has Mac OS 8.1 or later installed. To determine the version of system software you're currently using, choose About this Computer from the Apple Menu. If you're using a version of the Mac OS earlier than 8.1, you must do one of the following:

A) Updgrade the system software on this computer

B) Start up the computer from a hard disk or CD that has Mac OS 8.1 or later

C) Connect the hard disk to another computer with Mac OS 8.1 or later installed.

If you want to access the files without upgrading your operating system, start your computer with the Mac OS 8.1 CD, or the Disk Tools for PPC disk, then access your files. The System Folder on the CD and Disk Tools for PPC disk supports the Mac OS Extended format. Apple recommends that you have the Mac OS 8.1 CD if you plan to reformat any hard disk using Mac OS Extended format

To continue to use this hard disk on this computer, you must updgrade your system software to Mac OS 8.1.

How do you upgrade to the necessary System Software?

If you have Mac OS 7.x on your computer, you can order Mac OS 8.1 on the Internet or buy it at a local Apple software reseller.

If you have Mac OS 8.0 on your computer, you can download the Update from the Internet at:

(http://info.apple.com/kbnum/n30345)

Published Date: Feb 18, 2012

Apple IIGS System 3.1: How to Make It Come Up Into The Launcher

This article has been archived and is no longer updated by Apple.

To get the Apple IIGS System Disk version 3.1 to come up into the Launcher, rather than in the Desktop:

1. Open the SYSTEM folder.

2. Rename START to STARTOLD.

3. Rename LAUNCHER to START.

Under ProDos 16, the file named START runs before any of the .SYSTEM files can execute. The Apple IIGS will now start up and run the new START file first, skipping the IIGS Finder.

Published Date: Feb 18, 2012

Multiple Scan 720 : Not Displaying All Resolutions

I have a Muliple Scan 720 Display connected to a Power Macintosh 9600. When I select the Monitors and Sounds control panel I am only able to select from three resolutions. The video card in my Power Macintosh 9600 supports all of the factory preset resolutions for the Multiple Scan 720. Is there a problem with my display?
This article has been archived and is no longer updated by Apple.
The Multiple Scan 720 supports DDC (Data Display Channel) which is not supported on most Macintosh computers. By default, this control is set to "Off". However, if you have a Power Macintosh 9600 computer, a Power Macintosh G3 Tower, Desktop, or All-In-One, an IBM PC-compatible computer, or if you have a graphics card installed in your computer that supports DDC, additional resolution settings may be available by selecting a different setting.

To select a setting, turn the Select/Adjust knob to highlight one of the following options: 2B, 1/2B, or 2AB. Then press the Enter button.

This information is located in the Multiple Scan 720 User's Manual on page 27 under "Information: Mode, Absence, DDC".
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PowerBook 1400: Mac OS Info Center Installer Error

After running the "MacOS Install" from the unique system CD (PowerBook1400CD) included with the PowerBook1400CD 1400cs/166 and selecting "Info Center" as one of the items to be installed, the "Info Center" installer aborts when run and the following message appears: "The installer document 'Info Center' could not be found. Make sure you are using the original CD or Floppy Disks." Can you help?
This article has been archived and is no longer updated by Apple.
If you encounter this behavior, there are two workarounds:

1) Uncheck the "Info Center" installer, run the rest of the installers and then separately run the "Info Center" installer located in the "Software Installers" folder on the CD.

--- or ---

2) Run the "Apple Software Restore" application located in the "Restore Installed Software" folder. This restores the hard drive to a factory-installed state with all pertinent MacOS 8 components and the bundled software.
Published Date: Feb 18, 2012

Power Computing Corporation: Support Information

This article provides support information for owners of computers made by Power Computing Corporation.
This article has been archived and is no longer updated by Apple.
Apple Computer did not purchase Power Computing Corporation.

Apple purchased core assets from Power Computing Corporation. Power Computing Corporation continues to service and support their computer hardware. If you feel you have a warranty issue, contact Power Computing Technical Support at 1-800-708-6227.

Mailing Address:

Power Computing Corp.

Liquidation Trust

P.O. Box 5069

Round Rock, TX 78683-5069

If you have issues that relate to the operation of the Mac OS, you can post your questions at the Apple **Discussions** Web site.

Note: This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

Published Date: Feb 18, 2012

56Kbps Modems: Upgrade Options

This article contains the following questions (and answers) regarding 56K modem upgrade options:

1. I would like to add an internal 56Kbps modem to my Power Macintosh G3 and Power Macintosh 6500 computers. How can I do this?
2. What about the V.90 standard for a 56Kbps modem? Is there an upgrade/update for my modem?

This article has been archived and is no longer updated by Apple.
Question 1: I would like to add an internal 56Kbps modem to my Power Macintosh G3 and Power Macintosh 6500 computers. How can I do this?

Answer: Apple currently does not offer internal 56K Flex modem upgrades for users with a slower speed internal modem or no internal modem. This includes the Power Macintosh G3 and Performa 6200, 6300, 6400, 6500, 5400, 5500, and 4400 series computers. If you have a lower speed internal modem installed, you would need to add an external modem as an upgrade.

To use an external modem on the models with an existing internal communications slot modem, you must remove both the modem and the plastic cap covering the modem port. We would recommend having an Apple-authorized service provider do this for you.

Apple has no plans to update the Apple Telecom software for the internal GeoPort modems or the external GeoPort Telecom Adapter beyond the existing V.34 standard (33.6Kbps) currently available. Apple Telecom 3.1.1 is available from Apple Software Updates sites, search for **Geoport EM 3.1.1**. Apple **Telecom 3.1.3** is on the Mac OS 8 CD in the CD Extras folder or it can be purchased from **Apple Order Center**.

Question 2: What about the V.90 standard for a 56Kbps modem? Is there an upgrade/update for my modem?

Answer: Until recently, there were two proposed standards for 56K modems--x2 and K56 Flex--and Apple included modems incorporating the latter of these two standards in some Power Macintosh 6500 and Power Macintosh G3 computers.

In September 1998, the International Telecommunications Union (ITU), one of the organizations responsible for defining international communication standards, approved the ratification of the V.90 standard.

The V.90 update is now available for the Power Macintosh G3 and Power Macintosh 6500 computers described above. It can be downloaded from the Apple Software Updates Web site at http://www.apple.com/swupdates.

Note: Apple computers introduced since 1999 have had V.90 compliant modems installed, or have software updates available to update them to the V.90 standard.
Published Date: Feb 18, 2012

Power Macintosh G3: Some Systems Sold With 6MB Of Video Memory

This article discusses the amount of video memory available on Power Macintosh G3 computers.
This article has been archived and is no longer updated by Apple.
Power Macintosh G3 systems are available with either 2MB or 6MB of video memory.

The manual "Setting Up Your Power Macintosh" and the Technical Information booklet say that the system has 2 MB of video memory built into the computer's main logic board and that you can add video memory by installing a Small Outline (SO) Dual Inline Memory Module (DIMM) in a slot on the logic board.

However, if your computer came with 6 MB of video memory, a 4 MB SO-DIMM has already been installed in the expansion slot on the logic board. You cannot add any more video memory.
Published Date: Feb 18, 2012

AppleTalk ImageWriters: Why They Switch Jobs Back and Forth

This article has been archived and is no longer updated by Apple.

Two or more AppleTalk ImageWriter users printing at the same time may find that the ImageWriter "interleaves" the pages, switching between jobs. In other words, the ImageWriter prints page 1 from the first document, then page 1 from the second document, followed by page 2 from the first document, page 2 from the second document, and so on.

The problem is caused because the application in use works by the "spool-a-page / print-a-page" method of printing: the application prints each page of a document as a separate job instead of calling PrPicFile to print the entire picture file. Many applications adopted this method of printing to avoid running out of disk space while the ImageWriter driver was spooling the document to disk. Because printing code is moved from application to application, this method is still in use.

Applications that use the method of printing described in "Inside Macintosh" (ISBN 0-2-1-17737-4), Volume II, page 155, will print by job, and will not interleaf. This method allows the multiple bin option of the ImageWriter LQ to work correctly.

Short of asking the designers, the only method of testing which method a given application uses is by testing it on multiple printing jobs.

Published Date: Feb 18, 2012

PowerBook 2400: Hard Drive Upgrades

I have a PowerBook 2400c/180. I would like to upgrade the internal hard drive to one with a larger capacity. Would Apple perform such an upgrade for me? Does Apple support such upgrades? What about third-party hard drives?
This article has been archived and is no longer updated by Apple.
At this time, Apple does not perform PowerBook 2400 hard drive upgrades--either at Apple's Central Product Repair Center or at Apple Authorized Service Providers.

If you would like to replace the hard drive in your PowerBook 2400 computer, you may be able to have it replaced by contacting third-party vendors specializing in storage devices.

Note, however, that Apple does not authorize or support PowerBook 2400 hard drive upgrades. You may void your warranty by having the hard drive replaced, should damage to the logic board or other components occur as a result of the installation of the unsupported device.
Published Date: Feb 18, 2012

LaserWriter 8.5.1: Collate Feature

I am using System 8 with the LaserWriter 8.5.1 driver, but am unable to use the collate feature. How can I get it to work properly?
This article has been archived and is no longer updated by Apple.
The LaserWriter 8.5.1 driver offers a collate feature on Mac OS 7.5 through Mac OS 7.6.1, and Mac OS 8.1 (The collate option is not available on Mac OS 8.0). Users running Mac OS 8.0 can download a free upgrade from Apple Software Updates sites. Additional information about the collate option can also be found in the LaserWriter 8.5.1 Read Me document.

This article can help you locate the software update mentioned here:

- Article 14724: "**Where To Find Apple Software Updates**" - Lists online services for free Apple software updates.

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LaserWriter 8500: PageMaker 6.5 Duplexing Issue

When printing a PageMaker 6.5 document on my LaserWriter 8500 using the duplex option, the backside of the page is printed with a 180-degree rotation, that is, it prints upside down.

This article has been archived and is no longer updated by Apple.

This issue was resolved with PrintingLib v8.6.5, which is installed by Mac OS 8.6. Apple recommends you upgrade to Mac OS 8.6 or later, thereby installing PrintingLib v8.6.5.

Published Date: Feb 18, 2012

Mac OS 8.1: Where Is Iomega Tools Software?

I just installed Mac OS 8.1 on my computer, which has a Zip drive built-in from Apple. After installing, I noticed that there are no Iomega Tools in the Apple Extras folder on my hard drive. In older versions of the Mac OS, I used to find this software installed by default. Where can I get this software with Mac OS 8.1?
This article has been archived and is no longer updated by Apple.
On the Mac OS 8.1 CD, there is a folder called CD Extras. In this folder, users will find a folder called Iomega Tools which includes Iomega's software version 5.0.3 for the Zip drive. This software is no longer installed by default. You can also download Zip drive software from Iomega's web site.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

The Tech Info Library article titled "**Locating Vendor Information**" can help you search for a particular vendor's address and phone number.
Published Date: Feb 18, 2012

LaserWriter 8500: Using 13- by 18-Inch Paper

When I print on 13- by 18-inch paper that is loaded into my optional 500 sheet A3 cassette tray, the printed image shifts down approximately 14mm. When this occurs the bottom of my printed page is clipped off. Why does this occur and how can I correct it?
This article has been archived and is no longer updated by Apple.
Until more information is available there are two effective workarounds:

- Feed 13- by 18-inch paper from the multi-purpose tray.
- Switch to 13- by 18-inch paper or any other suitable size besides 13- by 18-inch. These paper sizes image correctly from the multi-purpose and cassette trays.

Published Date: Feb 18, 2012

LaserWriter 8500: PDF File for Quark Xpress

When I print from Quark Xpress to my LaserWriter 8500 I am unable to use the optional cassette feeder or the duplex printing unit. Where can I obtain a Printer Description File (PDF) for the LaserWriter 8500 so that I can fully utilize my printer's features?
This article has been archived and is no longer updated by Apple.
Printer Description Files (PDF) are no longer utilized by the Macintosh LaserWriter driver. Applications such as Quark Xpress that used to require PDF files to obtain printer specific feature information now support the use of Postscript Printer Description (PPD) files.

Version 3.32 and 4.x of Quark Xpress work with the LaserWriter 8.5.1 driver and allow full use of all of the LaserWriter 8500 options. Contact Quark for more information on upgrades. Some Quark Xpress upgrades are available for downloading from Quark's World Wide Web site.

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Published Date: Feb 18, 2012

Node Check: Not Designed For Use With EtherNet

I have tried to use Node Check (formerly called NetCheck) with EtherNet and have gotten confusing results.
This article has been archived and is no longer updated by Apple.
(NetCheck's name was changed for legal reasons, and the function of the program did not change, though some slight fixes were incorporated into Node Check 1.0. For reference, NetCheck 1.0 was released 1/28/85, 2.0 was released 9/9/85, and Node Check 1.0 was released 2/18/87.)

Node Check was NOT designed to work with EtherNet. EtherNet uses a 48-bit address scheme that is assigned on a static basis, and AppleTalk uses an 8-bit address scheme, dynamically assigned. Furthermore, standard EtherNet does not use address names.

The current version of Node Check is 1.0 and will not be updated in the future.

AARP (Apple Address Resolution Protocol) is designed to handle addressing differences. The address and name information available to a given network is based on the developer's implementation of AARP.
Published Date: Feb 18, 2012

Novell Netware Client 5.11: Compatibility Issue

This article offers a solution for Mac OS users (version 7.6 or newer) who are having difficulty with Novell Netware Client for Macintosh version 5.11.
This article has been archived and is no longer updated by Apple.
Note: The information presented here is based on preliminary tests of a third party product (Novell), and is neither an endorsement nor a certification of compatibility.

Macintosh owners with Mac OS 7.6.x or Mac OS 8.x may experience difficulties with Novell's Netware Client for Macintosh version 5.11, the latest full release. Novell has posted a fix for these issues to their web site. Download and apply `mclupd6.bin` and follow Novell's instructions for installation. The update is also reported to work properly with the new Power Macintosh G3 systems.

The direct URL to download this file is currently:

http://support.novell.com/cgi-bin/search/download?/pub/updates/nw/nw411/mclupd6a.bin&sr

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The Tech Info Library article titled "**Locating Vendor Information**" can help you search for a particular vendor's address and phone number.
Published Date: Feb 18, 2012

Third-Party Monitors: Jittery When Connecting To Macintosh Systems

I have an old third party monitor that worked on my Quadra 800 but won't work on my Power Macintosh G3. The picture is very jittery. Why?
This article has been archived and is no longer updated by Apple.
Older Macintosh computers supported sync on Green, while newer Macintosh computers support individual line sync. Check with the monitor vendor to see if your monitor also has individual sync signals. If it does, then a different cable or adapter will allow the monitor to be used with newer Macintosh computers. For more information on which Macintosh computers support sync on green, please see the following Tech Info Library article:

Article 13798: "**Composite Sync on Green: Which Apple Computers Have It?**"

For example, many of the SuperMac monitors from Radius support both sync on green and individual sync but may require a new cable. If you are experiencing this with a SuperMac monitor, check the video cable where it connects to the monitor. If there are just three wires in the cable instead of five coming into the connector, a new cable (Radius p/n #0009344-0001) will most likely resolve the situation.
Published Date: Feb 18, 2012

PowerBook 1400: Command-Option-Shift-Delete Keys Held Too Long

I have a PowerBook 1400. Occasionally I would like to start up from the CD rather than the internal hard drive. To do so, I start up the system while holding down the Command-Option-Shift-Delete keys until the desktop appears. The system starts up from the CD, but the internal drive does not appear on the desktop. Can you help?
This article has been archived and is no longer updated by Apple.
You are holding down the keys too long. Release the Command-Option-Shift-Delete keys immediately after seeing the Welcome to Macintosh screen.

Here is an alternate solution that can be used if the system has started up and the internal hard drive does not appear on the desktop: On the CD, in the Utilities Folder, is Drive Setup folder. Run Drive Setup, select the <not mounted> list item by clicking once on it, then select Mount Volume from the Functions menu.
Published Date: Feb 18, 2012

PowerBook 3400: Cursor Not Redrawn

Under some screen dimming conditions, it seems the cursor on my PowerBook 3400 does not get redrawn, although it is still active and thus selections can be made. Can you help?
This article has been archived and is no longer updated by Apple.
This behavior, which occurred with Mac OS 7.6 and 7.6.1 under certain screen dimming conditions, was corrected in Mac OS 8. Upgrading to Mac OS 8 will resolve the situation.

Here are several possible workarounds:

- Don't set the Screen Dimming control in the PowerBook control panel to "never dim".
- Set both Screen Dimming settings (Battery and Power Adapter)to "never dim".
- Press the Power button, then click Cancel in the confirmation dialog box.

Published Date: Feb 18, 2012

PowerBook 1400: Floppy Not Recognized With 2 PC Cards

When two PC cards are in the PowerBook1400 and a floppy disk is inserted, sometimes the floppy disk is not recognized and cannot be ejected.
This article has been archived and is no longer updated by Apple.
The behavior described above may occur when one of the PC cards is a Global Village card.

Solution

If you are using a Global Village PC card, update to version 2.5.9 or newer of the software for the card.

Workaround

Remove one of the PC cards when needing to use the floppy drive.
Published Date: Feb 18, 2012

ADB: Mouse/Keyboard Security Lockout Not Available

Is there some way I can lock only ADB devices such as the keyboard and mouse?
This article has been archived and is no longer updated by Apple.
There is no application or desk accessory available that locks only ADB devices. The security utilities that are available either lock access to a disk or folder, or disable the drive at system power-down.

The Quadra 900 and Quadra 950 provide a keyswitch which can lock out ADB devices. Currently, they are the only Macintosh computers with this feature.
Published Date: Feb 18, 2012

Power 100, 120: Main Logic Board Diagram

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

This article contains a diagram of the Power 100 and Power 200 main logic board.

This article has been archived and is no longer updated by Apple.

Published Date: Feb 18, 2012

PowerBase: Main Logic Board Diagram

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

This article contains a diagram of the PowerBase main logic board.

This article has been archived and is no longer updated by Apple.

Published Date: Feb 18, 2012

PowerCenter Pro: Main Logic Board Diagram

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This article contains a diagram of the PowerCenter Pro main logic board.

This article has been archived and is no longer updated by Apple.

Published Date: Feb 18, 2012

PowerCurve, PowerCenter, PowerTower: Main Logic Board Diagram

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

This article contains a diagram of the PowerCurve, PowerCenter, and PowerTower systems' main logic board.

This article has been archived and is no longer updated by Apple.

Published Date: Feb 18, 2012

PowerTower Pro: Main Logic Board Diagram

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

This article contains a diagram of the PowerTower Pro main logic board.

This article has been archived and is no longer updated by Apple.

Published Date: Feb 18, 2012

PowerWave: Main Logic Board Diagram

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This article contains a diagram of the PowerWave main logic board.

This article has been archived and is no longer updated by Apple.

Published Date: Feb 18, 2012

LaserWriter: No Year 2000 (y2k) Issues

Will the year 2000 affect the operation of my LaserWriter printer as is predicted with some computing platforms and software packages? What about the Set Print Time feature?
This article has been archived and is no longer updated by Apple.
None of the LaserWriter printers produced thus far maintain a date or time clock within the printer itself. Therefore, the year 2000 problem will not impact the LaserWriter hardware.

The Set Print Time feature provided by the desktop printing software is the only portion of the LaserWriter printing software that uses date and time information. The Set Print Time feature correctly handles all year 2000+ dates up to and including 12/31/2019. Day and dates equal to or greater than Jan 1st, and whose last two digits of the year are greater than or equal to 20 will be handled as 20th century dates.

For instance, setting the print time values to 01/01/20 will be interpreted as January 1st, 1920 and the document will be printed immediately. The year 2000 should not create any problems for LaserWriter customers.
Published Date: Feb 18, 2012

GEMDRAW: MacDraw or PICT Conversion Currently Unavailable

This article has been archived and is no longer updated by Apple.

There is no conversion utility for transferring documents created with GEMDRAW on the IBM PC/XT to MacDraw or PICT format.

The only GEM documents that can be used on a Macintosh are those created in GEMWRITE and saved as a text file, then transferred to Macintosh by the serial port.

Published Date: Feb 18, 2012

Personal Web Sharing: Setting MIME Type For PDF Files

I have Personal Web Sharing 1.1 which came with Mac OS 8. I want to put Adobe Acrobat PDF files in my web folder so that users with the Acrobat plug-in can view PDFs directly in their browser. Every time I try to view one of these files with my web browser, however, the browser tells me it is a Postscript file and won't view it with the plug-in. Then my only option is to save the file to my hard drive. How can I view the file using Adobe's plug-in?

This article has been archived and is no longer updated by Apple.
For a browser plug-in to work properly, both the client and the server have to be properly configured.

The relevant information on the server in this case is the MIME type. A web server gives a browser a brief description of the data it is sending: whether it is text, a PDF document, a QuickTime Movie, or whatever. With Personal Web sharing 1.1, the default definition for PDF files is Postscript. Here's how to change this:

Step One
Open the Web Sharing Folder (this is in the Preferences folder, which is in the System Folder).

Step Two
Open the file named Web Sharing MIME Types.

Step Three
In the file, replace this line:

```
pdf * * application postscript
```

with these two lines:

```
pdf * * application pdf
* CARO PDF application pdf
```

Step Four
Save the changes to the file and close the file.

Step Five
Stop and restart the web server.

The web server will now send the correct information to the browser if the file the user access is one of the following: (1) any file whose name ends with .pdf, or (2) any file which is an actual Adobe Acrobat PDF file, regardless of the name.

Provided the browser is set up to use the plug in correctly, you should now be able to view the PDF using the plug-in. For any other browser plug-in, the procedure is the same, you just need to obtain the MIME type information from the plug-in vendor.
Published Date: Feb 18, 2012

Power Computing: SCSI ID and Termination Settings, IBM Hard Drives

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

This article contains diagrams of IBM hard drives used in computers manufactured by Power Computing Inc., including SCSI termination and ID settings.

This article has been archived and is no longer updated by Apple.

TA37336_Power_Computing_SCSI_ID_and_Termination_Settings_IBM_Hard_Drives.pdf

Published Date: Feb 18, 2012

Power Computing: SCSI ID & Termination Settings, Iomega Zip & Jaz Drives

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This article contains diagrams of Iomega Zip and Jaz hard drives used in computers manufactured by Power Computing Inc., including SCSI termination and ID settings.

This article has been archived and is no longer updated by Apple.

Published Date: Feb 18, 2012

Power Computing: SCSI ID and Termination Settings, Quantum Hard Drives

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This article contains diagrams of the Quantum hard drives used in computers manufactured by Power Computing Inc., including SCSI termination and ID settings.

This article has been archived and is no longer updated by Apple.

Published Date: Feb 18, 2012

Power Computing: SCSI ID and Termination Settings, Seagate Hard Drives

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

This article contains diagrams of Seagate hard drives used in computers manufactured by Power Computing Inc., including SCSI termination and ID settings.

This article has been archived and is no longer updated by Apple.

Published Date: Feb 18, 2012

Power Computing: SCSI ID and Termination Settings, Philips CD-ROM Drives

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

This article contains diagrams of Philips CD-ROM drives used in computers manufactured by Power Computing Inc., including SCSI termination and ID settings.

This article has been archived and is no longer updated by Apple.

Published Date: Feb 18, 2012

Power Computing: SCSI ID and Termination Settings, TEAC CD-ROM Drives

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This article contains diagrams of TEAC CD-ROM drives used in computers manufactured by Power Computing Inc., including SCSI termination and ID settings.

This article has been archived and is no longer updated by Apple.

Published Date: Feb 18, 2012

Canon SX Engine‘s Life Expectancy Is 300,000 Pages

This article has been archived and is no longer updated by Apple.

The Canon SX LaserWriter engine has a life expectancy of 300,000 pages. Service is required after 100,000 pages, at which time the following parts and/or assemblies should be replaced:

- Fuser Assembly
- Pick-up Roller Unit
- Transfer Guide Unit
- Transfer Corona Assembly
- Ozone Filter

Published Date: Feb 18, 2012

Power Computing: SCSI ID and Termination Settings, Toshiba CD-ROM Drives

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

This article contains diagrams of Toshiba CD-ROM drives used in computers manufactured by Power Computing Inc., including SCSI termination and ID settings.

This article has been archived and is no longer updated by Apple.

Published Date: Feb 18, 2012

Mac OS Extended Format (HFS+): Default Allocation Block Size

This article provides a table that lists the default allocation block size for Mac OS Extended format volumes of various sizes.
This article has been archived and is no longer updated by Apple.

Volume Size	Default Allocation Block Size
<=256 MB	512 bytes
256 MB <= 512 MB	1024 bytes (1K)
512 MB <= 1 GB	2048 bytes (2K)
> 1 GB	4096 bytes (4K)

Published Date: Feb 18, 2012

QuickTime 3: Location Of Browser Plug-ins

After installing QuickTime 3, new QuickTime Plug-in features do not appear.
This article has been archived and is no longer updated by Apple.
The installer does not place the QuickTime Plug-in in your browser's Plugin folder. The QuickTime Plug-in is placed in QuickTime Folder which is located in the root directory of your boot drive.

You need to move the QuickTime Plug-in to your browser's Plugin folder. If you have more than one browser, you need to make copies of the QuickTime Plug-in file to place in the additional browser Plugin folders.

Review your MIME (Helper) associations after adding the QuickTime Plug-in to your browser's folder. Occasionally The MIME connections get misdirected after replacing the QuickTime Plug-in. If this happens, simply reset them to QuickTime.
Published Date: Feb 18, 2012

QuickTime 3: Where Is npqtplugin.dll File in Windows 95/NT?

The npqtplugin.dll file does not appear in the QuickTime Folder.
This article has been archived and is no longer updated by Apple.
By default, Windows 95/Windows 98 comes configured so that .dll (Dynamic Link Library) files are not shown. Since the npqtplugin.dll file has the .dll extension, it is not shown.

To see .dll files do the following:

1. Choose Options... from the View Menu in the QuickTime 3 folder window.
2. Click the View Tab.
3. Click "Show All Files" in the Hidden Files section.

All files, including npqtplugin.dll, now appear when the folder is opened.
Published Date: Feb 18, 2012

QuickTime 3: Must Remove Old Windows 95/NT Plug-in

Remove older QuickTime plug-ins prior to installing QuickTime 3.0.
This article has been archived and is no longer updated by Apple.
You must remove the QuickTime Plug-In v1.1 installed in your internet browser plug-in folder by QuickTime 2.1.2 prior to installing QuickTime 3.0. If you do not remove the older plug-in, your browser may use the old version instead of the newer version.

You do not have to uninstall the older version of QuickTime prior to installing QuickTime 3.0, just the QuickTime Plug-in.
Published Date: Feb 18, 2012

QuickTime 3: Windows 95 Installation Summary

This article list the components installed during the Windows 95 Installation.
This article has been archived and is no longer updated by Apple.

Software Component	Where Installed	Notes
qtml.dll	\\windows\\system	Contains the core QuickTime software. Including a new Roland Sound Canvas Sound Set for reliable compatibility to General MIDI and GS
movieplayer.exe	\\QuickTime	MoviePlayer is the essential QuickTime play back and editing application. MoviePlayer is installed in the QuickTime Folder that is created at the top level of your hard drive.
npqtplugin.dll	\\QuickTime	The Plug-In lets you view movies and other media files within your Internet browser. The plug-in needs to be moved into the plug-in folder for the specific browser being used and then configured.
quicktime.cpl	windows\\system	The QuickTime Control Panel is accessible from the Control Panel folder. It lets you to customize various settings for QuickTime.
qtinfo.exe	\\QuickTime	This diagnostic application creates a file with your system configuration as the output. When reporting problems with QuickTime you need to run this application and include the log file.
readme.wri	\\QuickTime	This document summarizes what is installed, system requirements, installation procedures and how to send feedback.
sample.mov	\\QuickTime	A sample movie to verify that installation was successful.
delsl1.isv	\\QuickTime	This document contains the information necessary for uninstalling QuickTime from your system.
qtvr.qtx	\\windows\\system	Contains QuickTime VR which enables you to work with interactive photographs of objects and panoramas.
qd3d.dll	\\windows\\system	Contains QuickDraw 3D which enables QuickTime to work with 3D animations and graphics.
qd3d_ir2.q3x	\\windows\\system	This is the Interactive Renderer for QuickDraw 3D.
rave.dll	\\windows\\system	The 3D hardware abstraction layer (HAL) between applications or renderers and 3D hardware accelerator cards.

Published Date: Feb 18, 2012

QuickTime for Windows: Proper Version to Install

This article contains a description of QuickTime for Windows versions and which should be installed on your computer.
This article has been archived and is no longer updated by Apple.
It is valid and feasible to have as many as three different versions of QuickTime on a Windows 95- or Windows NT-based computer.

- QuickTime 2.1.2 16-bit
- QuickTime 2.1.2 32-bit
- QuickTime 3 or QuickTime 4

QuickTime 2.1.2 16-bit

Applications written to Windows 3.1 are 16 bit applications. QuickTime 2.1.2 16-bit was written for Windows 3.1. If you install an application that was written for Windows 3.1 and that application uses QuickTime, that application needs QuickTime 2.1.2 16-bit.

QuickTime 2.1.2 32-bit

Applications written for Windows 95/Windows NT generally take advantage of the 32-bit nature of Windows 95/Windows NT. QuickTime 2.1.2 32-bit was written for this environment. Applications written for the 32-bit nature of Windows 95/Windows NT that use QuickTime need QuickTime 2.1.2 32-bit.

QuickTime 3 and QuickTime 4

QuickTime 3 and QuickTime 4 contain an entirely different and new Application Programming Interface (API). Applications written for QuickTime 3 and QuickTime 4 do not work with QuickTime 2.1.2 (either 16- or 32-bit). They require QuickTime 3 or QuickTime 4 specifically. The QuickTime 3 and QuickTime 4 API for Windows 95/ Windows NT is a port of the Macintosh version of QuickTime 3 and QuickTime 4.

Example

Here is a scenario that requires all three versions of QuickTime on one computer:

- You have an application (such as a game or other media rich application) which was written to Windows 3.1 16-bit and uses QuickTime. (You must have QuickTime 2.1.2 16-bit installed on your system.)
- You have an application which was written as a 32-bit application using QuickTime. (QuickTime 2.1.2 32-bit must be installed on your system.)
- You have an application written to QuickTime 3. (QuickTime 3 must be installed on your system because the QuickTime 3 based application will not recognize earlier versions of QuickTime.)

Published Date: Feb 18, 2012

QuickTime: Audio dropout in Microsoft Windows

This article has been archived and is no longer updated by Apple.

When using QuickTime on a Windows computer you may experience audio breaking up. This document provides known solutions.

The default QuickTime sound settings work for most computers. However, if you experience sound drop-out problems on your computer, here are some things you can try.

If DirectSound is available for your computer, make sure you have the latest sound driver and the current version of Direct X. Check with your computer vendor for any available updates.

If you still experience sound issues, adjust the size of the sound buffer QuickTime uses. Larger buffers reduce the chance of drop-outs, but increase latency for interactive uses of sound.

If you have QuickTime 7 see iTunes and QuickTime for Windows: Songs and other audio don't play correctly.

Adjusting the size of the Sound Buffers

1. Open the Control Panels window.
2. Open QuickTime Settings.
3. Choose Sound Out from the pop-up menu.
4. Select the WaveOut or DirectSound device (Depends on your computer configuration).
5. Click the Options button.
6. Adjust the settings.

   DirectSound Settings

   The size of the sound buffer is set in milliseconds. Increase the buffer size until the drop-out is corrected.

   WaveOut Settings

   There are two numbers to adjust, the number of buffers and the size of each buffer in milliseconds. Adjust the number of buffers until any drop-outs are corrected. If you hear a stuttering, increase the individual buffer size until the stuttering is corrected.

7. Click OK and close the QuickTime Settings control panel.
8. Test the movie you were experiencing problems with.
9. If the issue continues, keep adjusting the settings until the audio is corrected.

One place to check for latest drivers and Direct X is at **Download.com**.

Published Date: Feb 18, 2012

Open Transport 1.3: Technical Information

This document contains technical information about Open Transport 1.3 that may be useful to network managers and administrators. You do not need to read this document in order to use Open Transport.
This article has been archived and is no longer updated by Apple.

Contents

Introduction
Files added by the Open Transport installer
Open Transport AppleTalk features
- Static and dynamic AppleTalk address allocation
- Use of parameter RAM
Open Transport TCP/IP features
- DHCP server support
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- Windows NT advanced server support
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- Single Link Multi-homing System Setup
- MacTCP ³server² addressing support
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Memory requirements
Application compatibility guidelines
Performance

Introduction

Open Transport is modern networking and communications system software for the Mac OS. It is based on industry standards and brings a new level of networking connectivity, control, and compatibility to Mac OS computers, while preserving built-in support for easy-to-use networking. Open Transport is supported on system software versions 7.1, 7.1.1, 7.1.2, 7.5.3, 7.5.5 or later. System software version 7.5.3 or later is recommended. No other system software versions are supported.

For more important information about system requirements, compatibility, and known incompatibilities and limitations, read the "About Open Transport 1.2" document.

Files added by the Open Transport installer

Open Transport installs the AppleTalk and TCP/IP control panels into the Control Panels folder inside the System Folder of your startup disk. The Open Transport Installer also adds the following files to the Extensions folder inside the System Folder:

Shared Library Manager
Shared Library Manager PPC
These extensions implement a shared library mechanism on 68K and PowerPC Mac OS computers, respectively. Both extensions are required on PowerPC-based computers in order to support both emulated and native shared libraries.

OpenTransportLib
Open Transport Library
These shared libraries implement core Open Transport services on both 68K and PowerPC-based computers. The first library contains the PowerPC implementation and an interface for native PPC applications. The second library contains the built-in Open Transport modules and an interface for emulated 68K applications.

OpenTptAppleTalkLib
Open Tpt AppleTalk Library
These shared libraries implement Open Transport AppleTalk services on both 68K and PowerPC-based computers. The first library contains the PowerPC implementation and an interface for native PPC applications. The second library contains the built-in Open Transport modules and an interface for emulated 68K applications.

OpenTptInternetLib

Open Tpt Internet Library
These shared libraries implement Open Transport TCP/IP services on both 68K and PowerPC-based computers. The first library contains the PowerPC implementation and an interface for native PPC applications. The second library contains the built-in Open Transport modules and an interface for emulated 68K applications.

Open Transport 68K Library
This shared library implements core Open Transport services on 68030- and 68040-based computers. It is installed instead of Open Transport Library if "Open Transport for 68k Macintoshes" is selected in a Custom Install.

Open Tpt ATalk 68K Library
This shared library implements Open Transport AppleTalk services on 68030- and 68040-based computers. It is installed instead of Open Tpt AppleTalk Library if "Open Transport for 68k Macintoshes" is selected in a Custom Install.

Open Tpt Inet 68K Library
This shared library implements Open Transport TCP/IP services on 68030- and 68040-based computers. It is installed instead of Open Tpt Internet Library if "Open Transport for 68k Macintoshes" is selected in a Custom Install.

OpenTransportLib.68K
This shared library implements CFM 68k API for Open Transport. Used by Apple and 3rd party network applications on 68030- and 68040-based computers that use the Code Fragment Manager. It is installed instead of OpenTptInternetLib if "Open Transport for 68k Macintoshes" is selected in a Custom Install.

Open Transport AppleTalk Features

Static and dynamic AppleTalk address allocation

Open Transport AppleTalk supports static assigned (manually administered) protocol addresses as well as the dynamic addressing provided by AppleTalk Address Resolution Protocol (AARP). Static addressing allows AppleTalk nodes to be managed using the protocol address as a unique and stable identifier.

It is important that all nodes on each individual AppleTalk subnet (a given cable segment assigned a unique network number or network number range) be administered consistently‹either all with dynamic addressing or all with pre-assigned static addresses. This avoids a potential conflict when a new dynamic node acquires an address assigned to manually-addressed node that is not connected or is off line. Administrators can enforce the addressing policy for a subnet by locking the addressing mode. As a precaution, Open Transport AppleTalk checks for duplicate protocol addresses on the LAN even when static addressing is configured.

Use of parameter RAM

Under classic AppleTalk, AppleTalk¹s on/off state, the selected network interface, the previous network (protocol) address, and the previous AppleTalk zone name are saved in persistent memory (parameter RAM) for reuse at startup. To ensure backward compatibility, this information is still stored and retrieved on systems using Open Transport AppleTalk. However, the following differences are found with Open Transport:

At startup, Open Transport reads the current AppleTalk configuration file to determine if AppleTalk should be turned on or off. This value overrides the value saved in parameter RAM. The user is not explicitly notified when this occurs.

If the network interface specified in the current AppleTalk configuration file is locked and the specified port is not available or cannot be initialized, Open Transport will not automatically switch the port back to LocalTalk. Instead, AppleTalk will remain off. The user sees a dialog box with this information.

Open Transport TCP/IP features

Open Transport brings a workstation-class implementation of TCP/IP protocols to Mac OS. As with MacTCP, Open Transport TCP/IP is a full 32-bit stack. Open Transport TCP/IP adds support for:

- dynamic path MTU discovery, for more efficient network use in heterogeneous network topologies.
- Dynamic Host Configuration Protocol (DHCP), for centralized IP address configuration management. DHCP is an Internet Engineering Task Force (IETF) standards-track protocol.
- IP multicast, for participation as an MBone client for applications written to the native Open Transport API.
- simultaneous TCP connections for applications written to the native Open Transport API are limited only by installed memory and processor power, for increased functionality as an Internet or other TCP/IP network server.
- a new, more robust and standards-compliant domain name resolver (a caching stub DNR).
- support for developer access to raw IP services, as well as TCP and UDP.
- Ethernet Version 2.0 and IEEE 802.3 framing, for better interoperability with a wider range of TCP/IP hosts.
- implicit and explicit domain name search paths, for increased control of domain name resolution.

- use of multiple IP routers with fail-over, for increased robustness in mission-critical applications.
- TCP wildcard source port assignments start at 2048, increasing from that point.

DHCP server support

Apple's implementation conforms to the current versions of the applicable specification documents (RFCs). To date, Open Transport TCP/IP has been tested with the following DHCP server implementations:

Competitive Automation (**http://www.join.com**)
FTP Software (**http://www.ftp.com**)
Hewlett Packard HP-UX (**http://www.hp.com**)
Microsoft Windows NT Advanced Server (**http://www.microsoft.com**)
Silicon Graphics (**http://www.sgi.com**)
Sun Solaris and SunOS (**http://www.sun.com**)
TGV (**http://www.tgv.com**)

DHCP address lease support

Open Transport TCP/IP supports DHCP address leases. Open Transport TCP/IP automatically attempts to renew any address lease that reaches its renewal interval (by default, the renewal interval is reached when the lease is halfway completed). The renewal interval may be configured to a different value by making changes to the configuring DHCP server. Renewal is attempted regardless of how many times the lease has already been renewed. Lease rebinding is also supported. Should an interface's IP address lease expire, the interface is closed down. Open Transport TCP/IP does not currently support the DHCP Client ID option or the DHCPINFORM message, nor will it currently try to use the remainder of a previous but unexpired lease upon rebooting.

Windows NT advanced server support

With Open Transport 1.1 and later, Mac OS clients are interoperable with the Windows NTAS DHCP server on LAN links. However, Mac OS clients cannot acquire configuration information from an NT DHCP server across a dialup (PPP) link because there is not yet an accepted industry standard for DHCP over dialup. The NT implementation is based on proprietary Microsoft extensions. Mac OS clients cannot acquire configuration information nor register with a Microsoft WINS server. WINS is also dependent on Microsoft extensions to TCP/IP (requiring NetBIOS support).

The Internet Engineering Task Force (IETF) is developing a cross-platform industry standard technology for dynamic registration and look-up of IP names through the Dynamic Service Location working group. Apple has no current plans to implement the WINS extensions. Instead, we are fully committed to implementation of the applicable IETF standards as they emerge.

Macintosh clients running versions of Open Transport prior to 1.1 could experience some interoperability problems due to other significant differences between the Microsoft implementation and that of a typical UNIX-based server.

BootP support

Open Transport 1.1 and later fully supports Bootstrap Protocol (BootP). Versions of Open Transport prior to 1.1 failed to accept a BootP Reply sent to the unicast (subnet broadcast) address, (for example, xxx.xxx.xxx.255. Replies sent to the all-nets broadcast address (for example, 255.255.255.255) were handled properly. Also, earlier versions of Open Transport required that the BootP gateway be zero hops away.

Local Hosts file support

Open Transport TCP/IP supports a Hosts file that may be used to supplement and/or customize the Domain Name Resolver's initial cache of information. The Hosts file is normally stored in the Preferences folder in the active System Folder. When Open Transport TCP/IP is initialized, it reads the Hosts file (if any). As in MacTCP, the supported Hosts file features follow a subset of the Domain Name System Master File Format (RFC 1035).

Open Transport TCP/IP is more stringent regarding the content and format of the Hosts file than was MacTCP, which permitted violation of the FQDN requirement for <domain-name>. For instance, the format:

charlie A 128.1.1.1

which was acceptable to the MacTCP DNR, is no longer permitted because of the use of domain search lists in Open Transport/TCP (³charlie² could potentially exist in any or all of the configured domains). To accomplish the same effect, use this format instead:

charlie CNAME myhost.mydomain.edu
myhost.mydomain.edu A 128.1.1.1

This associates the local alias charlie with the fully qualified domain name myhost.mydomain.edu, and resolves it to the address 128.1.1.1. Use of local aliases is limited to CNAME entries; NS and A entries must use fully qualified domain names.

You can create a Hosts file with any text editor or word processor (the Hosts file must be stored in text format). If you use a Hosts file, keep it as short as possible, and include only entries that will be accessed frequently. This reduces the memory required to cache the DNS information and minimizes the need to maintain and update Hosts files as system information changes.

Open Transport TCP/IP automatically uses a Hosts file stored the Preferences folder of the active System Folder. If no Hosts file is found in the Preferences folder, Open Transport TCP/IP searches the active System Folder for a Hosts file. You can specify a particular Hosts file to use with a specific configuration. For example, one Hosts file might be set up for a user connecting via Ethernet, and another set up for when that user connects via modem.

For additional information about the Hosts file design of the Open Transport Domain Name Resolver, see the document [3]Apple Open Transport Reference Q&A.[2] The latest version of the Q&A is in the Open Transport Extras Folder.

Single Link Multi-homing System Setup

Open Transport 1.3 introduces Single Link Multi-homing, a mechanism by which Open Transport can support multiple IP addresses on the same hardware interface, at the same time. Synonyms for this feature include IP Aliasing, Secondary IP address Support, IP Masquerading, "Multihoming", IP Multinode support. This is useful for sites like Internet Service Providers (ISPs), that want to give each of their clients a distinct IP address, without requiring separate computers for each address. Web server software packages, or server plug-ins that utilize this feature can offer virtual domain support that supports all web browsers. You will need to contact your application developer to see if they are supporting this new feature of Open Transport. This feature is only available with Open Transport 1.3 and later.

You configure a system to use multiple IP addresses as follows:

1. The TCP/IP Control Panel must be set for manual addressing.
2. You create a text file with the required name "IP Secondary Addresses" and put it into the Preferences folder in the System Folder.

Each line of the IP Secondary Addresses file contains a secondary IP address to be used by the system, and an optional subnet mask and router address for the secondary IP address. If there is no subnet mask entry, then a default subnet mask for the IP address class will be used. If there is no router address entry, then the default router associated with the primary address will be used.

Each secondary address entry must be prefixed by "ip=". Each subnet mask entry must be prefixed by "sm=". Each router address entry must be prefixed by "rt=". Lines proceeded by a ; are ignored. An example of the contents of the IP Secondary Addresses file follows.

- 'ip=' for ip address, 'sm=' subnet mask, 'rt=' router address. There should be no commas in this line as shown between entries.

Note: no space in 'ip=192.168.22.200'

IP address	Subnet Mask	router addresses
ip=192.168.22.200	sm=255.255.255.0	rt=192.168.20.1
ip=192.168.22.201	-	rt=192.168.20.1
ip=192.168.22.202	-	-

The order of the entries is important. The "rt=" entry must follow the "sm=" entry if used.

When Open Transport activates TCP/IP, the primary address will be obtained from the TCP/IP Control Panel setting. Open Transport then looks for the IP Secondary Addresses file in the Preferences folder to determine if additional addresses should also be configured. If there are duplicate IP address entries in the IP Secondary Addresses file, the duplicate addresses will be ignored. When Open Transport binds a TCP/IP connection, if there is an address conflict with either the primary or any secondary addresses with another host, Open Transport will present an error message using a dialog box and unload Open Transport/TCP from memory. The error dialog will display the conflicting IP address, the hardware address of the conflicting machine and note that your TCP/IP network interface has been shut down.

To resolve the conflict, quit all of the TCP/IP applications on both conflicting machines, reconfigure TCP/IP on one of the machines so there is no longer an address conflict, then relaunch your TCP/IP applications.

MacTCP "server" addressing support

Open Transport TCP/IP supports both Bootstrap Protocol (BootP) and Reverse Address Resolution Protocol (RARP) configuration methods. MacTCP Server mode addressing was a combination of BootP and RARP. When Server mode was selected, MacTCP used BootP to attempt to acquire an IP address. If that failed, MacTCP tried RARP. Whichever protocol was successful was stored as a preference, and was used first the next time the computer started up. In Open Transport, you must choose BootP or RARP explicitly.

MacTCP "dynamic" addressing

Open Transport does not support MacTCP "dynamic" addressing. MacTCP dynamic mode addressing was based on an Apple-proprietary extension to TCP/IP protocols. It applied the address negotiation and assignment rules used by the AppleTalk protocols to TCP/IP networks, making it very easy to set up a Macintosh-only standalone TCP/IP network. Use of this dynamic addressing method in other scenarios, however, could create additional work for a network administrator.

The Internet community (IETF) has since developed a multivendor standard for the dynamic assignment of IP addresses, known as Dynamic Host Configuration Protocol (DHCP). Open Transport TCP/IP supports the industry standard DHCP.

MacIP support

MacIP is a protocol specification developed for carrying TCP/IP traffic on AppleTalk-only networks, originally LocalTalk networks. MacIP is today frequently used with AppleTalk Remote Access Protocol (ARAP) to provide mobile users access to TCP/IP network services.

Use of MacIP typically requires a gateway, which strips off the AppleTalk encapsulation and places the IP packet on the TCP/IP LAN. When packets are sent back to the MacIP end-node, the gateway replaces the AppleTalk encapsulation. MacIP gateway support is most frequently offered as an integrated service within a multiprotocol router. The gateway (router) attaches to both an AppleTalk and a TCP/IP network.

Open Transport supports MacIP in the TCP/IP control panel. Once selected, TCP/IP data is encapsulated in AppleTalk packets, and is sent through the selected network interface.

PPP connectivity

PPP (Point to Point Protocol) connectivity for Open Transport is currently based STREAMs modules or on the use of third-party software extensions known as "MDEVs." Early versions of some MDEVs may not be compatible with Open Transport. For information about MDEV compatibility, see both parts of the "Open Transport 1.3 ReadMe" document.

STREAMs based PPP solutions are available from Apple and selected 3rd parties. Open Transport/PPP and Apple Remote Access 3.0 both use STREAMs. For more information about PPP see both parts of the "Open Transport 1.3 ReadMe" document.

Memory requirements

Open Transport provides many new features and capabilities to Mac OS customers and, in general, will require more system memory (RAM) than does classic networking. However, the actual memory requirements of Open Transport vary depending upon the networking services in use at a given time. This is different from classic networking, which allocates memory to networking services and keeps it allocated even after networking services are no longer in use.

Factors contributing to differences in memory requirements include:

- Open Transport provides implementations of networking as both 680x0 and native PowerPC code. PowerPC code is typically larger (but also faster).
- Open Transport provides "mixed-mode" applications support, making it possible for both PowerPC native and 680x0 applications to use native networking on PowerPC-based computers.
- Open Transport includes both the new implementations of networking and the libraries required to provide backward compatibility support for the older AppleTalk and MacTCP programming interfaces.
- Open Transport requires less memory on systems with virtual memory enabled. Classic networking has about the same memory requirements regardless of the VM setting.
- Open Transport is based on the cross-platform standard STREAMs environment, which requires more memory than classic networking.

The difference in memory requirements depends upon the configuration of your computer. Some examples of base memory requirements include:

Computer System	Virtual Memory	Classic AppleTalk & MacTCP	Open Transport
PowerPC-based	On	350K to 450KB	200KB
PowerPC-based	Off	350K to 450KB	up to 1.2MB
608x0-based	Off	350K to 450KB	700KB to 800KB

Application compatibility guidelines

Apple has defined three levels of interoperability with Open Transport. The first, "Open Transport Compatible," is used to describe network applications originally developed for "classic" AppleTalk or MacTCP programming interfaces that now take advantage of Open Transport Compatibility Services. These applications automatically gain the benefits associated with the Open Transport control panels. However, they will not realize a significant performance increase on Power Macintosh systems, nor can they take advantage of Open Transport's transport-independence capabilities.

"Open Transport Ready" applications have adopted the new Open Transport APIs. They are PowerPC native, in addition to running on 680x0-

based Macintosh systems. Open Transport-ready applications benefit from the new control panels and may also realize a significant performance boost when running on PowerPC-based computers.

The highest category of interoperability is "Open Transport Enhanced." In addition to adopting the new Open Transport APIs and being Power PC native, these applications can be dynamically configured to support AppleTalk, TCP/IP, or serial communication.

Applications that rely on undocumented APIs or examine private data structures in AppleTalk or MacTCP may not be fully compatible with Open Transport. Updated versions of these software products will be required for full compatibility.

Performance

Open Transport is designed to take advantage of the PowerPC processor. For maximum performance, however, networking applications must also take advantage of the PowerPC processor, and should adopt the new Open Transport programming interfaces.

In general, current Mac OS networking applications are written for the 680x0 processor and use the "classic" (680x0-based) networking programming interfaces. These applications can still be used with Open Transport, and may perform somewhat better. Networking applications that are PowerPC-native but not Open Transport-ready may yield better performance, but still fall short of the maximum potential performance because they make use of Open Transport backward compatibility rather than its full capabilities.

Performance improvements will be greater with protocols that use larger datagram sizes. For example, TCP/IP users will see greater improvements than AppleTalk users, because AppleTalk has a fixed and limited datagram size. On high-speed datalinks such as fast Ethernet, FDDI, and ATM, the performance of the network interface card (NIC) driver code is also a significant factor.

Overall performance also depends on the amount of RAM available. Larger packet sizes and higher throughput place increased demand on the buffering system of Open Transport. If Open Transport becomes low on memory, throughput decreases to accommodate the limitation.
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Twentieth Anniversary Macintosh: Mac OS 8.0 CD Issue

When trying to install my shrink-wrapped version of Mac OS 8.0 on my Twentieth Anniversary Macintosh, I get the error that "this machine is not supported by this installer. Please use the CD-ROM that came with your CPU". I asked a friend how to get the software installed and they suggested holding down the option key when clicking the install button.

After doing this, I was able to install Mac OS 8.0 on the machine, but now my front panel control buttons and remote control no longer work. Can you explain?

This article has been archived and is no longer updated by Apple.
The original Mac OS 8.0 CDs exhibit the behavior you describe. The issue was corrected in subsequent releases of the Mac OS 8 CD.
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Newton Print Pack 1.0: General Use and Troubleshooting

This article describes how to use the Newton Print Pack 1.0, how to troubleshoot common problems, and provides links to compatibility information.
This article has been archived and is no longer updated by Apple.

Newton Print Pack 1.0 Description

The Newton Print Pack 1.0 cable is a "smart cable". The cable contains both a serial to parallel cable converter and a ROM that stores printer drivers for Epson FX/LQ, HP LaserJet, Canon BubbleJet, and HP DeskJet printers. When the MessagePad is powered on, the print pack cable and the MessagePad communicate and transfer the drivers from the ROM to MessagePad's system memory. When the MessagePad is turned off and on again, without the cable attached, the drivers are flushed from system memory.

Using the Newton Print Pack 1.0

1. Power off both the MessagePad and the printer.
2. Connect the Print Pack between the MessagePad and the printer.
3. Power on the MessagePad and wait ten (10) seconds. During this time, the LED on the Print Pack should flash twice; the first flash is short and the second flash is longer. At the end of this period, the printer drivers should be downloaded to the MessagePad.
4. Power on the printer and print the desired item(s).
5. In the printing slip, "choose other printer" will display the following new choices: epson lx, epson fx, hp deskjet, hp laserjet, canon bubblejet.

Newton Print Pack 1.0 Troubleshooting

Most of the issues with the Print Pack cable involve the loading of the drivers from the ROM in the cable. To ensure that the MessagePad and cable are initialized and configured correctly, follow these steps:

1. Turn the MessagePad and the printer off.
2. Attach the cable between the MessagePad and the printer.
3. Turn MessagePad on. Wait 10 seconds. During this wait time, the LED on the print pack cable should flash twice; the first flash is short, the second flash is longer.
4. Turn the printer on.
5. Try to print.

If you continue to encounter printing issues, reset the MessagePad and try again. If the MessagePad powers off unexpectedly while printing or immediately after being turned on, try fresh batteries, or use an AC adapter. The Print Pack cable draws power at start up. This is when the Apple MessagePad is downloading the printer drivers. The Print Pack cable also draws power while printing.

You should repeat these steps anytime the MessagePad is turned off or disconnected from the cable and printer reconnected.

Important: You need to attach the Apple MessagePad to the cable with both the printer and Apple MessagePad off, then power the devices on. These are outlined in steps (3) and (4).

Sometimes, if the printer is turned on while turning the MessagePad on, the cable gets confused and does not transmit the drivers to the Apple MessagePad. This only happens with some printers. If you follow the steps listed above, you will get a good connection between printer and Apple MessagePad.

Issue: Powering on MessagePad: the drivers did not appear.
Verify that the red light on the parallel plug turns on as you power on your Newton. If you continue to have printing problems, reset the Newton and try these steps again. If your MessagePad unexpectedly powers off while printing or immediately after it is powered on, be sure to install fresh batteries or connect your MessagePad to AC power. The Print Pack draws a large amount of power while printing and at start up (when your MessagePad is downloading the printer drivers), and this may discharge the MessagePad's batteries.

Issue: Newton OS 1.x: the drivers disappear after a while.
Newton OS 1.x systems will unload the drivers when the MessagePad goes to sleep or loses power. You will need to reconnect the cable and cycle power before being able to print. By contrast, Newton OS 2.x systems store the drivers as normal packages.

Issue: Is Newton Print Pack 1.0 compatible with the Canon BJ 200e printer?
The Newton Print Pack 1.0 supports the Canon BJ 200, but does not support the Canon BJ 200e. When printing to the BJ 200e with Newton Print Pack version 1.0, the document may be removed from the Outbox without the Newton MessagePad displaying any error messages.

Issue: Canon Bubblejet printer outputs multiple pages of garbled text.
The Canon Bubblejet printer is capable of several types of emulation. The printer must be set to "130e" emulation mode to print properly. In some cases, having the printer set to the wrong emulation mode can cause garbled text and multiple pages to be output.

Compatibility Information

The following Tech Info Library articles list compatible printers and the driver to select:

Article 14474: "**Newton Print Pack 1.0: Compatible Printers (A-L)**"
Article 15969: "**Newton Print Pack 1.0: Compatible Printers (M-X)**"
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ImageWriter II: European Model Has A Universal Power Supply

Does the European ImageWriter II have a universal power supply?
This article has been archived and is no longer updated by Apple.
The European ImageWriter II should have a universal power supply, and can beused in the United States as is. Look under the right side of the platen: if the power supply is the universal type, there is a switch for selecting the desired power.
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Apple Portrait Display: Cable Part Number

I have an Apple Portrait Display monitor and a Portrait Display Nubus card. Unfortunately, it did not have the cable that goes between the card and display. This looks like a very special cable, not the standard 15-pin type. Where I can get this cable?
This article has been archived and is no longer updated by Apple.
A local Apple-authorized service provider can order one of these cables for you. Either cable will work. Note that one cable is 25-pin to 25-pin, while the other is 25-pin to 15-pin.

- Video Cable (DB-25 to DB-15) part number 590-0615
- Video Cable (DB-25 to DB-25) part number 590-0574.

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LaserWriter 8500: Envelope Cassette Jams

I just installed the optional LaserWriter 8500 envelope cassette. Every time that I try to print on an envelope I get a paper jam error. How can I correct this?

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LaserWriter customers who experience continuous paper jams when trying to use the optional envelope cassette may have accidentally left two plastic shipping inserts in place. Temporarily remove the envelope cassette from the printer and inspect the left and right side of the cassette interior to see whether two ivory colored plastic pieces are wedged into place. The plastic pieces are approximately 2 5/8 inches x 1 inch x 3/8 inch (67mm x 25mm x 10mm) in size. See Figure 1 below.

Figure 1: LaserWriter 8500 Envelope Cassette with shipping inserts in place.

If the plastic pieces are present, gently pull the top of each plastic shipping insert toward the front of the cassette until they release. Once removed, the shipping inserts can be discarded. See Figure 2 below.

Figure 2: Close-up View of Shipping Insert

If the paper jam conditions continue, refer to the LaserWriter 8500 user's manual for additional troubleshooting assistance.

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LaserWriter 8500: Which Way Does SIMM Go?

I am trying to install RAM on my LaserWriter 8500. The user guide text says the SIMM notch should be on the left, but the illustration shows it on the right. Which is correct?

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The notch should be on the left. The illustration is in error. Do not try to force the SIMM into the slot. If you have difficulty installing RAM, consult with an Apple Authorized Service Provider.

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PowerBook: SCSI Disk Mode and Mac OS Extended Format

I attached my PowerBook in SCSI Disk Mode or Hard Disk Target Mode to my desktop computer and all I see is one file on the hard drive of the PowerBook, "Where_have_all_my_files_gone?" Can you explain? Is there a way to resolve this?
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If the PowerBook's hard drive has been formatted as a Mac OS Extended Format (HFS+) volume, and the desktop computer to which the PowerBook is attached is using a version of Mac OS earlier than Mac OS 8.1, the situation you describe will occur. A single file will appear on the PowerBook's hard drive; the filename is "Where_have_all_my_files_gone?"

If you attempt to copy files to the PowerBook's hard drive while in this configuration, you will receive an alert box advising you that you cannot copy the file onto the disk, because the disk is locked.

Your files are not lost. Rather, they are not visible to the host system (the desktop computer to which your PowerBook is attached) because its version of Mac OS is not capable of reading the files on an Extended Format (HFS+) volume. The file that does appear, named "Where_have_all_my_files_gone?", explains the situation.

In this situation, to be able to access the files on the PowerBook from the host (desktop) computer you must do one of the following:

- Upgrade the desktop computer to Mac OS 8.1 or later, if feasible. (Note that only PowerPC-based systems can upgrade to Mac OS 8.1.)

or

- Partition the PowerBook's hard drive into multiple partitions and format one partition as a regular HFS volume (that is, not an Extended Format HFS+ volume). Before putting the PowerBook into SCSI Disk Mode, transfer the desired files from the Mac OS Extended Format volume on your PowerBook to the non-Mac OS Extended Format volume on your PowerBook. When the PowerBook is put into SCSI Disk Mode, the HFS volume will be visible to the host (desktop) computer, and its files will be accessible by the host.

If you follow either of these two steps, you should be able to copy files to the PowerBook hard disk without receiving a message that the disk is locked.
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Mac OS 8: Energy Saver Compatibility

Summary:
After performing a clean install of Mac OS 8 on a Performa 6300, the Energy Saver control panel is no longer available. However, using System 7.5.x the Energy Saver control panel was available.
This article has been archived and is no longer updated by Apple.
There are two different versions of the control panel named "Energy Saver."

Energy Saver 1.0 was originally installed in your computer. Version 1.0 of Energy Saver works with non-PCI based Power Macintosh computers (such as the 6100, 7100 and 8100 series and the 5200, 5300, 6200, and 6300 series).

Mac OS 8 installs Energy Saver 2.0, which works only on PCI-based Power Macintosh computers. Since the installer for Mac OS 8 realizes that you do not have a PCI based Power Macintosh, it does not automatically install Energy Saver. Custom installing Energy Saver actually puts Energy Saver 2.0 in your Control Panels folder, which results in an error message stating that it cannot be used on your computer.

For an in-depth look at Energy Saver, the different versions, and which computers they are supported on, refer to the following Knowledge Base article:

Article 18127: "**Energy Saving Control Panels: Description & Compatibility**"

If you are currently running Mac OS 8 and would like to install the appropriate version of the Energy Saver control panel, here are two options:

1. If you are using a Performa 5200, 5300, 6200, or 6300 series computer, you can copy the Energy Saver control panel from the Performa CD that came with your computer. The control panel is located in "Hard Disk Files:System software Files:Control Panels:Energy Saver". Copy that file to the Control Panel folder of your current System Folder.

or

2. Install Monitor Energy Saver 1.1 software (available from Apple Software Updates sites). This installer automatically installs Energy Saver 1.1 on NuBus-based Macintosh computers. (**Note:** The software is titled "Monitor Energy Saver", but it indeed installs the Energy Saver control panel.

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AppleSoft: Carriage Returns and Linefeeds

After the printer comes to the end of a line and before it prints the next line of text, it takes care of two signals, the carriage return and the line feed. The carriage return, ASCII CR (decimal 13), signals the printer to send the print head to home position if necessary. The line feed, ASCII LF (decimal 10), signals the printer to feed the paper past the print head by one line space.
This article has been archived and is no longer updated by Apple.
Most printers, printer interface cards, and application software programs offer options in ignoring or accepting these printer signals. These options help when printed output has too many or too few line spaces to your liking. With the following procedure, you select the options which produce the proper printing format.

1. Determine how many line feeds you want to add or subtract.

2. Turn off, then turn on the printer. Print a Basic program. If the program lists line after line then go to step 4.

3. Check the printer manual and/or the interface card manual for instructions on changing the linefeed option on each device. Change one of the devices to add or subtract the number of linefeeds you determined.

4. Print from your application software package(s). If the output is still not to your liking, check the application program's manual for instructions on changing the linefeed option in the program.
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AppleTalk: Diagnostic Tools For Use With Ethernet

This article has been archived and is no longer updated by Apple.

There are no diagnostic tools currently available for diagnosing AppleTalk-to-EtherNet.

However, if the Ethernet is operating with a host system such as a VAX/VMS, the Ethernet can be diagnosed using diagnostic tools such as Netstat.

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Macintosh Server G3: Wrong System Software Version Printed On CD

This article tells of a misprint on the label of the CD included with Macintosh Server G3 computers.
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The Macintosh Server G3 system software CD (part number 691-1806-A) that ships with the Macintosh Server G3 incorrectly states "SSW Version 8.0.1" on the silkscreen of the CD. The correct system software that ships on the Macintosh Server G3 CD is "SSW Version 8.1".
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Newton Connection Applications: Communication Tool Error

I am attempting to connect my MessagePad 120 to my Macintosh computer using Newton Backup Utility. I keep getting a message "Could not initialize the Serial connection because the selected communication tool was not found. Try reinstalling the communication tools." It was working fine yesterday. Can you explain?
This article has been archived and is no longer updated by Apple.
Typically, users will experience these problems after a clean system installation. Simply moving the required extension back into the System Folder is all that is required. You should be able to launch your connection application immediately without restarting your computer.

Depending upon what kind of connection has been defined in the Preferences for the connection program, you may get a message saying that a communication tool can not be found or is not installed. If you are attempting a serial connection, make sure that you have the Apple Modem Tool installed in the Extensions Folder of your computer. If you are connecting using AppleTalk, make sure that the AppleTalk ADSP Tool is installed in the Extensions Folder.

The type of connection utility or application really does not matter. These extensions are required for all of the Newton connection programs that Apple produced. Some of the actual messages are listed below.

Communication Tool Not Found

For Newton Connection Utilities and Newton Backup Utilities, attempting to connect serially: "Could not initialize the Serial connection because the selected communication tool was not found. Try reinstalling the communication tools."

Figure 1 Could not initialize the Serial connection

For Newton Connection Utilities and Newton Backup Utilities, attempting to connect with AppleTalk: "Could not select an AppleTalk connection because the selected communication tool was not found. Try reinstalling the communication tools."

Figure 2 Could not select an AppleTalk connection

For Newton Press, attempting to connect serially:
"The Apple Modem Tool was not found. Please install it using your original Newton Press disks."

For Newton Press, attempting to connect with AppleTalk:
"The AppleTalk ADSP Tool was not found. Please install it using your original Newton Press disks."

For Newton Package Installer, attempting to connect serially:
"Could not open the connection because the Apple Modem Tool is not installed.

For Newton Package Installer, attempting to connect with AppleTalk:
"Could not open the connection because the AppleTalk ADSP Tool is not installed."

Both the Apple Modem Tool and the AppleTalk ADSP Tool can be found in the original installation package included with the original connection application.

Additional Troubleshooting Steps To Follow

Make sure the serial or LocalTalk cables are securely attached in the appropriate port. Most likely this will be the modem port for a serial connection and the printer port for a LocalTalk setup.

If you are using a serial connection, confirm that AppleTalk is **inactive** in the Chooser. With Open Transport, also check the AppleTalk control panel to determine that AppleTalk is not active on the port being used.

Make sure you have properly configured the preferences under the Edit menu on your Macintosh.

Compare these settings to the ones selected in the MessagePad connection slip.

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Color LaserWriter: Wrong Colors From MS-Office 97 Apps

When I print from Microsoft Office 97 applications in Windows 95 to my Color LaserWriter 12/600 or 12/660, the colors come out wrong. If I print from other applications, the color is fine. How can I resolve this situation?
This article has been archived and is no longer updated by Apple.
The following symptoms have been reported from Microsoft Office 97 applications:

- color output prints with blue haze or only in various shades of blue.
- pictures print in monochrome but colored text on the same page prints in color.
- colored text print in wrong color.

There appears to be a conflict among Microsoft Office 97, Image Color Management (ICM), and the PostScript printer driver. This behavior has not been seen in any other Windows 95 applications.

Please use one of the following workarounds if you are encountering this issue:

Workaround 1

Disable Image Color Management support for the printer driver:

Step 1
Open the \\Windows\\System\\Color directory of your hard drive.

Step 2
Right-click on the ICM file for your printer:

for CLW 12/600, the file is named `APLWCOB1.ICM`
for CLW 12/660, the file is named `APLWCSB1.ICM`

Step 3
Select 'Uninstall'

Note: This will remove ICM support for ALL applications.

Workaround 2

By default, ICM is set to use "Host ICM". Change this setting to "Download ICM" or "Printer ICM".

1. Open the Printers Control Panel.
2. Right-click on your printer and select "Properties".
3. Click on the tab labeled "Graphics".
4. Click on "Chooose image color matching method..."
5. Select "Download ICM" or "Printer ICM" options.

Note: the "No image color matching" option does not disable ICM on some versions of the Apple LaserWriter driver.

Workaround 3

Insert your data into MS Office 97 applications via a different method. For example, if you are inserting a picture into a Word document, try the following methods:

- Paste
- Paste Special: Paste Picture
- Paste Special: Paste Object
- Paste Special: Paste Picture (Enhanced Metafile)

Also, you may want to change the data format of your graphic and then try to insert it into your document. For example, try using JPEG instead of BMP.
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Mac OS 8.1: MathLib v3 Issue

This article discusses an issue with Mac OS 8.1 and a library of math routines named MathLib.
This article has been archived and is no longer updated by Apple.
MathLib is a library of transcendental functions, which includes sine and cosine. Mac OS 8.1 includes MathLib v3. On some computers this newer version does not load--the previous version loads instead.

MathLib v3 provides a higher degree of accuracy than the previous MathLib library, which may cause slightly different calculation results. For example, the value of pi in MathLib v2 is calculated to 54 decimal places. The value of pi in MathLib v3 is calculated to 107 decimal places.

On the following computer models, MathLib v2 is loaded from ROM (instead of the newer v3 version provided with Mac OS 8.1). All other supported computer models with Mac OS 8.1 will load MathLib v3.

- PowerBook G3
- PowerBook 2400
- PowerBook 3400
- Power Macintosh 6360
- Power Macintosh 5400
- Power Macintosh 6400
- Power Macintosh 5500
- Power Macintosh 6500
- Twentieth Anniversary Macintosh

Apple expects to address this in a future release.
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LaserWriter 8.5.1: Configuring For IP Printing (LPR)

This article explains how to configure Apple printers using LaserWriter driver 8.5.1 or higher to print using LPR.

Note: Not all Apple printers support LPR printing.
This article has been archived and is no longer updated by Apple.
You may use the Desktop Printer Utility to setup your Mac OS-based computer for LPR printing. The implementation of LPR printing by the LaserWriter 8 driver is compliant with RFC 1179 and should work with any RFC 1179-compliant device.

IP printing in LaserWriter 8.5.1 is not available on Mac OS 8.0, but is available on Mac OS 8.1. IP printing is also available when the LaserWriter 8.5.1 printing software is installed on computers running Mac OS 7.5 through Mac OS 7.6.1.

Before you can set up a printer for LPR printing, you need to assign an IP address to the printer. Consult the documentation for your printer on how to assign an IP address. The following Apple LaserWriter printers work with LPR printing:

- LaserWriter 8500
- LaserWriter 16/600 PS
- LaserWriter 12/640 PS
- Color LaserWriter 12/600 PS
- Color LaserWriter 12/660 PS

How to Configure IP printing

1. Launch the Desktop Printer Utility.
2. Select "Printer (LPR)" and click OK.
3. In the "PostScript Printer Description (PPD) File" section, click on "Change..." and select the PPD for your printer.
4. In the "LPR" section, click on "Change..." to bring up the Internet Printer window.
5. Enter the printer's IP address or domain name for "Printer Address".
6. Enter the queue name, if used. Otherwise, leave it blank.
7. Click on "Verify" to verify that the printer was found.
8. Click OK.
9. Go to the File menu and select "Save".
10. Enter a name and location for the desktop printer icon and click OK. The default name is the printer's IP address, and the default location is on the desktop.
11. Quit.

Published Date: Feb 18, 2012

LaserWriter Driver 5.0: Print Problems with a Mac 512Ke & Plus

This article has been archived and is no longer updated by Apple.

TOPIC ----------

This article describes issues when using LaserWriter Driver and LaserWriter Pre version 5.0 on a Macintosh 512Ke or a Macintosh Plus.

DISCUSSION ----------

If you are running LaserWriter Driver (and Prep) 5.0 on Macintosh 512Ke or Macintosh Plus, you may experience a problem with documents containing Bit-Mapped Graphics: the LaserWriter prints the document, then the Macintosh returns to the application, hangs, and must be restarted.

The problem is due to incompatibility between the driver file and the System and Finder files. The solution is to use a previous version of the LaserWriter Driver and LaserWriter Prep files, such as version 4.0, or move up to a more current verion of the LaserWriter drivers, such as 5.2, 6.0, or 7.0 for the Macintosh Plus.

Published Date: Feb 18, 2012

LaserWriter 8.5.1: Novell ATPS Print Spooling

After installing Mac OS 8.1 (including LaserWriter 8.5.1), I can no longer print through my Novell NetWare print queues. If I print via AppleTalk to a NetWare ATPS print queue, I get the following error:

Document "filename" failed to print on the printer "queue name" because of an error. -8993

If I print via MacIPX to a NetWare print queue, I get the following error:

The document "filename" failed to print on the printer "queue name" because the requested printer could not be found.

Can you help with this?
This article has been archived and is no longer updated by Apple.
This issue was resolved in LaserWriter 8.6, so Mac OS 8.5 and later are not affected.

Here are some known workarounds for customers not running Mac OS 8.5 or later:

- Use Apple LaserWriter Driver v8.4.3.
- Use the Adobe PostScript driver v.8.5.1 or other third party driver (such as Hewlett Packard's LaserJet driver v8.5.1).
- Do not print directly to a NetWare print queue.

Published Date: Feb 18, 2012

LaserWriter Printers: TCP Maximum Segment Size

What is the TCP Maximum Segment Size (MSS) over ethernet for IP-capable Apple LaserWriter printers?
This article has been archived and is no longer updated by Apple.
Apple LaserWriter printers determine their TCP MSS by the IP address of sender, the printer's IP address, and the printer's subnet mask.

Here is a chart of the behavior:

Model	Local	Non-Local
LaserWriter 8500	1460	536
LaserWriter 12/640 PS	1460	536
LaserWriter 16/600 PS	1460	536
Color LaserWriter 12/600 PS	1460	1460
Color LaserWriter 12/660 PS	1460	1460

Table Notes
1. Local = host and printer are on same network and subnet.
2. Non-Local = host and printer are on different networks or subnets.

These are the MSS values sent from the printer to the host. The actual MSS used in a particular print job may vary depending on the network topology and the behavior of the host.
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Mac OS 8: Audio Volume Extension

This article explains why the Audio Volume Extension is not needed on Power Macintosh/Performa 5200, 5300, 6200, and 6300 series computers as of Mac OS 8.
This article has been archived and is no longer updated by Apple.
Audio Volume Extension 1.1 is no longer needed on Power Macintosh/Performa 5200, 5300, 6200, and 6300 series computers running Mac OS 8 or later.

The Audio Volume Extension had a fix to allow the internal Global Village (Gold & Platinum) modems to play sound through the internal speaker. Additionally, there were some PrimeTime3 specific audio patches. All fixes were incorporated into Mac OS 8.
Published Date: Feb 18, 2012

Express Modem Fax Software: Creating Coversheets

How can I create a coversheet using the PowerBook Express Modem Fax software? I have a PowerBook 165 and I cannot figure out how to replace dummy lines with actual text in the template for customized cover pages.

Page 93 of the manual states, referring to the template: "The text [for the sender's name, address, etc.] in angle brackets acts as a placeholder for the text you enter in the Cover Page Information dialog box and Fax Phone Book in Fax Sender." It is not clear, though, how to move information from these locations to the cover page. Can you explain?
This article has been archived and is no longer updated by Apple.
Once you have laid out the FAX Cover page the way you want it (as on page 93) then select FAX Sender in the Chooser, or hold down the control and option keys as you pull down the File menu. You should see FAX in place of Print (Sometimes this does not show properly so just select Print) and you will see the FAX Sender window.

If you have an address book you will see entries on the lower left. Drag the little face to the box on the right. If you don't have an address made already, click on the New button. This will give you a place to enter the name, address, fax and voice number.

The Cover Info button opens the window that lets you enter your information. Select the cover you designed, from the Cover Page pulldown menu. Then click on the Preview button, you will see the fax as it will be sent, all the fields that were "Placeholders" are now filled in with the data from the address book and the cover data button areas.

Click the View icon on the lower left. The right icon of the pair will enlarge the document so you can read it. Use the hand icon to move the document around to see all of it.

Once you save the cover, you must (with the cover page still open) select "Install Cover Page" from the File menu. Once this is done you will see the cover page you made appear in the "Cover Page" pulldown in the FAX Sender window.
Published Date: Feb 18, 2012

10/100 Ethernet Card: Cabling Requirement

I just got my Macintosh Server G3 and attached it to my 10BaseT Ethernet network via the 10/100 Ethernet card. It takes a long time for remote volumes to mount on my desktop. Why?

This article has been archived and is no longer updated by Apple.

Although you are on a 10BaseT Ethernet network, a Category 5 (Cat5) Ethernet cable is still recommended for use with the 10/100 Ethernet card. It will assure that you get optimum network throughput.

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Ultra Wide SCSI Card: Errata

This article contains the errata flyer found in the Macintosh Server G3 Accessory Kit.
This article has been archived and is no longer updated by Apple.

Important Information About Ultra Wide SCSI Cards

Adding Internal Devices to the Ultra Wide SCSI Card Installed in Your Server

If you add an internal Ultra Wide SCSI device to your server's Ultra Wide SCSI bus, you need to assign it a SCSI ID number in the 8 to 15 range. Devices assigned to numbers 2 through 6 may not work reliably. For more information about the Ultra Wide SCSI-3 bus, see pp. 39-40 in Setting Up Your Macintosh Server.

Adding an Additional Ultra Wide SCSI Card to Your Server

If you want to connect external Ultra Wide SCSI devices to your server, you must install a second Ultra Wide SCSI card. You cannot connect any SCSI devices to the external 68-pin SCSI-3 connector on the PCI card that supports the internal hard disks. For more information, see pp. 66-67 in Setting Up Your Macintosh Server.

If you want to install a second Ultra Wide SCSI Card, follow these guidelines for best results:

- Use a single-channel card if possible.
- If you need to add a dual-channel Ultra Wide SCSI card, choose one with a bridge chip that routes interrupts.*

* contact your SCSI card vendor for further information
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AppleShare 1.1: Problems Running It With InBox

This article has been archived and is no longer updated by Apple.

TOPIC ----------

The following discusses problems with running AppleShare 1.1 with InBox.

DISCUSSION ----------

You may have had problems running AppleShare 1.1 and InBox on the same machine and at the same time, with InBox as a background application.

This is because AppleShare 1.1 automatically configures the RAM Cache for optimal use, leaving too little memory for the next application -- the InBox background message center.

One solution is to run the AppleShare 1.1 server in the background, and the InBox message center in the foreground:

When you configure the InBox message center, you have two options: BACKGROUND or DEDICATED. Choose DEDICATED; then AppleShare will start up first in the background, followed by the InBox message center in the foreground.

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Avid Cinema: Miscellaneous Support Questions

1. Are there any books that discuss Avid Cinema and/or the authoring process in more detail? If not, does Avid know of any other books that discuss their higher-end products?
2. Is there any way to change the title background color?
3. Is there any way to perform special effects in a title sequence? I would like to have dissolve effects between words. Thus far I have been writing to tape and reading back in to get the effects I want.

This article has been archived and is no longer updated by Apple.

Question 1: Are there any books that discuss Avid Cinema and/or the authoring process in more detail? If not, does Avid know of any other books that discuss their higher-end products?

Answer: Besides the user's manual, there aren't any books that specifically discuss Avid Cinema. There is a book on non-linear editing written by one of the people who designed Media Composer, but it's not specifically on Media Composer. It is titled "Digital Non-Linear Editing" by Tom Ohanian.

Question 2: Is there any way to change the title background color?

Answer: In Avid Cinema there is no background color for titles. There is a foreground color, but the background is always transparent.

Question 3: Is there any way to perform special effects in a title sequence?

Answer: The only "effect" available for titles is scrolling.

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Apple Video Player: Importing Audio On NuBus-Based Power Macintosh

When trying to import audio with the Apple Video Player program on a NuBus-based Power Macintosh using the AV card under Mac OS 8, the only audio input that is selectable is "AV Connector." The program just beeps if you try to select any other input option. Can you help?
This article has been archived and is no longer updated by Apple.
This is a known issue with recent versions of Apple Video Player and Mac OS 8.x on NuBus-based Power Macintosh systems with the AV card installed.

To work around this issue, install Apple Video Player 1.4.2 (or earlier). Be sure to also install the appropriate version of the Video Startup extension, because Apple Video Player and the Video Startup extension must match in order for the program to launch correctly.

This issue is specific to Apple Video Player. Third party programs (Adobe Premiere, for example) appear to be unaffected.

Currently , there is no fix other than the workaround described above.
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Energy Saver: Hard Disk Sleep Can Cause Test Failures

I am getting testing failures when using my drive testing utility or when using Drive Setup. After setting the program up to do an extended test of the hard drive, I come back later (since the test takes a long time for large hard drives), and the system has either frozen or displays an error message that the drive is bad. If I replace the drive, and run the tests again, I often get similar results. Can you help?
This article has been archived and is no longer updated by Apple.
Make sure to disable the Hard Disk Sleep feature of the Energy Saver software by setting Hard Disk Sleep to "never" in the Energy Saver control panel before testing. Otherwise, the drive may go to sleep in the middle of testing, which will cause the freezing or test failures you are experiencing.

Make sure that the drive has the latest version of the Apple hard disk driver, and any firmware updates that may be required for the drive, as these may also cause these types of symptoms.
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Apple VideoPhone 1.5.2: Availability

The Power Macintosh 5500/225 ships with Apple VideoPhone 1.5.2. Apple VideoPhone 1.5 is available as part of the Apple VideoPhone kit. Apple VideoPhone 1.5.1 is available on the Power Macintosh 7300/8600/9600 CD. Where do other customers get version 1.5.2 of Apple VideoPhone?
This article has been archived and is no longer updated by Apple.
There is no upgrade path. Versions 1.5.1 and 1.5.2 were developed for compatibility with the computers that it was pre-installed on. There are no benefits or differences in functionality or performance between versions 1.5.1 and 1.5.2.

There is no upgrade path for QuickTime Conferencing Kit or VideoPhone Lite customers beyond VP Lite.
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LaserWriter 8500: External SCSI Hard Drives

I would like to install an external SCSI hard drive on my LaserWriter 8500 so that I can store fonts. What limitations should I be aware of when selecting a hard drive?
This article has been archived and is no longer updated by Apple.
The LaserWriter 8500 external SCSI port is designed to be compatible with many of the under-2GB SCSI hard drives currently available. Unfortunately, Apple does not have the resources to test and certify all of the hundreds of hard drives models that customers might have access to. When purchasing an external font hard drive make sure that it is less than 2GB in size. If possible, test the hard drive to make sure it is compatible before purchasing it.

To format the hard drive the following steps should be performed once:

1. Connect the hard drive to the printer using the appropriate cables and terminator.
2. Power on the hard drive and the LaserWriter 8500.
3. With the printer networked to at least one Macintosh, launch the Apple Printer Utility version 2.2 or newer.
4. Select the LaserWriter 8500 from the printer list and then press the 'Open Printer' button.
5. Open the 'Disks' category and select the hard drive to be initialized.
6. Wait several minutes for the initialization process to be completed.

Attempting to install hard drives larger than 2GB may cause the printer report an error when formatting or in some cases, to alternately flash the paper out and paper jam LEDs indicating hardware failure. In all cases, disconnecting the external hard drive and restarting the printer should clear the reset error.

The following hard drive mechanisms appear to format and store fonts without any problems. This list is not comprehensive so other hard drives should also work fine.

Brand	Model	Size
Quantum	ProDrive LPS	250MB
Seagate	ST-11200N SCSI-2 Fast (Hawk 1)	1GB
Seagate	ST-12550N SCSI-2 Fast (Barracuda 2)	2GB

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Color StyleWriter 6500: EtherTalk options

How can I connect my Color StyleWriter 6500 to an EtherTalk network?
This article has been archived and is no longer updated by Apple.
Apple has decided not to offer the Color StyleWriter Ethertalk adapter for the Color Stylewriter 6500. However, there are several third-party LocalTalk to EtherTalk adapters that may be used to connect your LocalTalk printer to an EtherTalk network.

Two third-party hardware options are listed below. We encourage you to contact the vendor to ensure the product has the features you want and offers the compatibility that fits your needs.

Farallon offers the EtherWave Printer Adapter which plugs into the printer's LocalTalk port and can be connected to either a 10BaseT or Thin coax Ethernet network.

Sonic System's product is the microPrint/2 which has a LocalTalk port and offers connectivity to either a 10BaseT or Thin coax Ethernet network. The Color StyleWriter 6500 is not compatible with the supplied serial cable; Sonic recomends using LocalTalk connectors instead.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

The following Tech Info Library article can help you search for a particular vendor's address and phone number:

Article 17159: "**Locating Vendor Information**"
Published Date: Feb 18, 2012

Apple Personal Modem: Pinouts for IBM-Compatible PCs

This article has been archived and is no longer updated by Apple.

You can use the Apple Personal Modem with an Epson QX 16 or other IBM compatible, as long as the compatible system has an RS-232 communication port.

Here is the standard pinout configuration for connecting the Apple Personal Modem's circular-8 connector to a common DB-25 connector:

Supported RS-232 data lines.
Mini-circular-8 RS-232
DIN Function Direction Pin

1 Data Set Ready (DSR) From Modem 6
2 Data Term Ready (DTR) To Modem 20
3 Receive Data (RXD) From Modem 3
4 Signal Ground 7
5 Transmit Data (TXD) To Modem 2
6 Signal Ground 7
7 Data Carrier Detect (DCD) From Modem 8
8 Not connected (n.c.)

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DOS Compatibility Card: Achieving 800 x 600 Resolution

At 640 x 480, I have a large black border around my screen. I would like a higher resolution, but I cannot achieve this with the drivers that Windows 95 preinstalls. I tried to have Windows 95 load my video drivers from the "Display Adapter" disk that came with my DOS Compatibility card, but Windows 95 states there are no drivers available. Can I achieve the higher resolution that I had with Windows 3.1?
This article has been archived and is no longer updated by Apple.
Apple does not provide support for Windows 95 on the DOS Compatibility card. The Chips and Technology disks do not have the *.INF files to tell Windows 95 about the drivers. These drivers were written for Windows 3.1. However, some customers have reported that the following will achieve the desired result (basically, install the drivers and tell Windows 95 to use them):

Step 1
Get to a DOS prompt on the PC side (select the "start" menu, select "shutdown", and click on the button marked "restart computer in MS-DOS mode").

Step 2
Insert the floppy disk titled "Display Driver Disk 1" that came with your computer, and type the following:

```
A:\\setup
```

Follow the instructions on the screen to install the video drivers. Select Windows 3.1 as the application.

Step 3
Reboot the PC.

Step 4
In Windows 95, go to the Start menu, and select "Settings" and "Control Panel."

Step 5
Open the "Display" control panel.

Step 6
Select the "Settings" tab, then click on the button marked "Advanced Settings."

Step 7
Click on the button marked "Change", then on the button marked "Have Disk."

Step 8
In the resulting window, type:

```
C:\\windows\\system
```

Then click on the OK button.

Step 9
In the resulting list of adapters, select "CHIPS and Technologies 450 VGA 800x600." After windows installs the drivers and builds a database file, click the button marked "Close."

Step 10
An error message entitled "Display Properties" will come up, advising that windows may not be able to correctly configure the hardware. Click on the OK button.

Step 11
Click on the button marked "Close." A dialog box asking if you want to restart will appear; click Yes. Upon reboot, Windows 95 should display at 800 x 600 resolution with 16 colors.
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PowerBook 1400: Delays In Scrolling, Typing, Cursor Movement

I recently installed Mac OS 8 on my PowerBook 1400 with VST Zip drive expansion bay module. Now I am experiencing long delays with pull-down menus and scroll bars. Typing is also very slow and the cursor seems to stick and occasionally disappear. Is this a compatibility problem between machine and OS, or is it just my computer?
This article has been archived and is no longer updated by Apple.
This issue is resolved by updating the driver for VST Technologies' expansion bay Zip drive. You can download the software from VST's web site.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

The Tech Info Library Article 17159: "**Locating Vendor Information**" can help you search for a particular vendor's address and phone number.
Published Date: Feb 18, 2012

Modem: "No Dial Tone" Error But I Can Hear One

My modem does not connect and gives a message "No dial tone, check connections make sure the modem is on." I can hear the dial tone through the modem, but I also hear a series of dial tone pulses before the solid dial tone.
This article has been archived and is no longer updated by Apple.
Call Notes is a service offered by your telephone service. It has similar features to a telephone answering machine but is done electronically by the telephone service so you do not need additional hardware.

If you have Call Notes and have unheard messages, when you pick up the phone you will hear a series of dial tone pulses before hearing the solid dial tone. These pulses can cause the modem to report that it does not hear a dial tone depending on how it has been initialized and what initialization string was used.

You may be able to work around the tone generated by CallNotes by configuring the modem to Not Use the Dial tone, if the software you are using supports this. Place commas before the phone number you wish to dial (example ATDT ,,,,555-5555) or change the initialization string. Each comma forces a one-second pause.

Please check your user manual or contact your modem manufacturer to determine how to change this intialization string. For example, changing the X register in your modem initialization string from X4 to X1 on some modems will resolve this issue as shown here: Q0E0V1X4&C1&D0 changes to Q0E0V1X1&C1&D0. Please check your modem's user manual for the configuration codes for your specific modem.
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Microsoft Word 6.0.1 For Macintosh: Printing Envelopes

This article describes how to print envelopes with Microsoft Word 6.0.1 for Macintosh.

Note: The contents of this article come from the Microsoft web site. Apple is not responsible for its content.
This article has been archived and is no longer updated by Apple.
To print a single envelope from Microsoft Word 6.0.1 for Macintosh, you need to:

- Ensure that you are using the appropriate driver.
- Set the necessary advanced settings (to see whether you need to adjust advanced settings, see the table in this document).
- Create and print the envelopes.

This document includes a table that lists the various settings you need to use in order to print envelopes.

TO VERIFY THAT YOU'RE USING THE APPROPRIATE DRIVER

1. On the Apple menu, click Chooser.
2. Select the appropriate printer driver for your printer and select the appropriate printer name or port selection.
3. If you are using a non-PostScript printer, skip to step 6. If you are using a PostScript printer, click the Setup button to select the appropriate PostScript Printer Description (PPD) File.
4. In the Select a PPD dialog box, click Select PPD, and select the PPD for your printer.
5. Click the Configure button and configure the option for your printer. (These options are listed in the table in this document.)
6. Close the Chooser.

TO SET AN ADVANCED SETTING

(Consult the table to see if you need to do this for your printer)

1. On the TOOLS menu, click MACRO.
2. Under MACROS AVAILABLE IN, click WORD COMMANDS.
3. Select TOOLSADVANCEDSETTINGS, and click RUN.
4. In the CATEGORIES list, select the printer driver that you are currently using.
5. In the OPTION box, type FLAGS.
6. In the SETTING box, type 4.
7. Click SET and then click OK.
8. Restart Word for the changes to take effect.

TO CREATE AND PRINT ENVELOPES

1. On the TOOLS menu, click ENVELOPES AND LABELS.
2. Select the ENVELOPES tab, and enter the delivery and return addresses.
3. Click FEED (in the lower-right corner) and set the appropriate settings from the table. Click OK.
4. Click PRINT.
5. If you need to set and advance setting, set the appropriate settings in the Page Setup dialog box (consult the table to see if you need to do this.) Click OK.
6. Select the appropriate PAPER SOURCE option (from the table.) Click PRINT.

Table Of Required Printer Settings

Printer Settings	Advanced U/D	Face	Rotation	Feed	Paper	Orientation
Color StyleWriter Pro	n/a	Up	n/a	2nd	n/a	n/a
LaserWriter IIg center-fed	Flags=4	Up	Off	5th	Com10	Landscape
LaserWriter Pro 630 edge-fed	Flags=4	Up	Off	6th	Com10	Landscape
LaserWriter Select 360	Flags=4		Off	5th	Com10	Landscape
Personal LaserWriter 320	Flags=4	Up	Off	4th	Com10	Landscape
LaserWriter IINT edge-fed	Flags=4	Down	On	4th	Com10	Landscape
StyleWriter	n/a	Up	n/a	2nd	n/a	n/a
LaserWriter 8500 center-fed	Flags=4	Up	Off	5th	Com10	Landscape

TA37390_Microsoft_Word_For_Macintosh_Printing_Envelopes.pdf

LaserWriter 12/640	Flags=4	Up	Off	4th	Com10	Landscape

Published Date: Feb 18, 2012

ImageWriter I & II: Same Documents Print Differently (9/95)

Why do the ImageWriter I and ImageWriter II sometimes produce differing results, even though both are working from the same document?

This article has been archived and is no longer updated by Apple.
The following are some possible reasons this could happen:

- Screen fonts print differently with different system versions. Use the font and ImageWriter driver that best suits your needs.

- MacDraw or MacPaint documents that print perfectly on ImageWriter I may show a horizontal white line when printed on ImageWriter II. This is because ImageWriter II has smaller print head wires, which allow the Imagewriter II to produce a finer text quality. The white line is caused by the finer dots failing to overlap. This can be fixed by printing in BEST mode.

Article Change History:
19 Sep 1995 - Reformatted to meet current standards.
13 Jan 1988 - Reviewed for technical accuracy

Support Information Services
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QuickTime 3: Using Plug-in 2.0 With Windows

This article details several essential steps for using the Plug-in 2.0 (that is part of QuickTime 3) on a Windows-based PC.
This article has been archived and is no longer updated by Apple.
If you want to use the QuickTime Plug-in 2.0 (which is the one that comes with QuickTIme 3), then you need to manually erase the following directory:

```
\\npqtw\\
```

It is also essential that you remove dll files named:

```
npqtw32.dll
npqtw16.dll
```

Then you can then install this file into the PLUGINS folder of the browser:

```
npqtplugin.dll
```

The default directory for Netscape Communicator plugins is

```
C:\\Program Files\\Netscape\\Communicator\\Program\\plugins\\
```

Microsoft's Internet Explorer has a similar default directory for its plugins.

If you want to view AVI files in your browser with the QuickTime Plug-in you must remove these files:

```
npavi32.dll
npavi.zip
```

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Multiple Scan 1705 Display: CIE Phosphor Settings

What are the White point, gamma and Phosphor CIE settings for the Multiple Scan 1705 Display?
This article has been archived and is no longer updated by Apple.
The White Points for the Multiple Scan 1705 Display are 9300 K +8 M.P.C.D. x=0.283, y=0.298 +/-0.020.

The gamma parameter value is 1.4.

The Phosphor CIE Coordinates for the Multiple Scan 1705 Display are as follows:

Red	x=0.625	Y=0.340 +/- 0.015
Green	x=0.285	Y=0.605 +/- 0.015
Blue	x=0.150	Y=0.065 +/- 0.015

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Capturing Video: Crash Occurs When Capturing Single Frame

On Power Macintosh 5500, 6500 and Twentieth Anniversary Macintosh computers, Apple Video Player may crash when the user clicks the Freeze button to capture a single frame of video. This only occurs when QuickTime 3 is installed.

The crash also occurs with QuickTime VR Authoring Studio when the user attempts to capture a single frame of video.
This article has been archived and is no longer updated by Apple.
It only occurs when virtual memory is turned off. To resolve the situation, turn virtual memory on or install Mac OS 8.5.
Published Date: Feb 18, 2012

Apple Video Player: Captured Frames Have Gray Tint

When I try to capture a single frame of video using the Freeze button in Apple Video Player, the resulting picture has a gray tint to it. Why is this?
This article has been archived and is no longer updated by Apple.
Apple has discovered an issue which causes this behavior on certain Power Macintosh models running Mac OS 8.0 or later. As of this writing, 5500, 6500, Twentieth Anniversary Macintosh, and G3-equipped models are thought to be affected. Also, system software releases earlier than Mac OS 8.0 are less likely to exhibit this symptom.

The gray tint is due to the fact that the video subsystem is optimized to get the best color when watching live video, but this optimization doesn't work with captured video. When the video is captured to a frame and displayed on a computer monitor the optimization can result in a gray tint over the video.
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AppleShare IP 6: Using Windows File Sharing Feature

Many have asked for help with getting AppleShare IP 6 Windows File Sharing feature to work on their network, especially with getting the AppleShare IP server to show up in the "Network Neighborhood."

This document contains background and tips for understanding Windows network browsing and Windows file sharing. Microsoft Certified System Engineers (MCSE) and experienced Windows NT administrators will not need most of this information, but folks who have mostly-Macintosh shops plus a few PCs should benefit greatly.
This article has been archived and is no longer updated by Apple.

Background on Windows Network Browsing and Windows File Sharing

The technical name for the Windows file sharing protocol is "Server Message Block" (SMB). This is the protocol that Microsoft uses for file sharing in LAN Manager, Windows for Workgroups, Windows 95, and Windows NT.

SMB runs on top of a protocol called NetBIOS, which can run on top of several other protocols such as NetBEUI, Novell IPX, and TCP/IP. Please note that AppleShare IP only supports SMB via TCP/IP.

A NetBIOS protocol called "NetBIOS Name Service" is generally used to provide network browsing support (when you go into "Network Neighborhood" -> "Entire Network" -> "Microsoft Windows Network" -> and so on). AppleShare IP 6 supports NetBIOS Name Service, but only via TCP/IP.

Comparison of Windows-Style Network Browsing To Macintosh-Style Network Browsing

To understand the differences between Windows-style network browsing and Macintosh-style network browsing, it is important to know a little bit about the differences in the protocols used.

NetBIOS Name Service is very different from the AppleTalk Name Binding Protocol ("NBP", the protocol Macintosh computers use to browse AppleTalk networks in the Chooser). NetBIOS Name Service is very conservative with the amount of network traffic it generates, and the tradeoff is that it is very slow to update the list of available servers on your network. To conserve network bandwidth, NetBIOS Name Service requires one computer in each workgroup, in each IP subnet, to act as a "Browse Master" for that workgroup on that subnet. The Browse Master maintains the list of available servers and caches it for a certain period of time so that SMB servers on the network do not have to announce their presence as often.

When a Macintosh user opens the Chooser and selects AppleShare, the Macintosh sends out an NBP lookup request to the current zone asking for all AFP servers to identify themselves. This allows the user to get an immediately up-to-date list of all the available servers.

In contrast, when a Windows 95 user opens the Network Neighborhood window, Windows asks the Browse Master for its workgroup (or NT domain) to give it a list of the other machines in the workgroup. This list may be terribly out of date because most SMB servers only announce their presence every 15 minutes, and in some cases it can take almost an hour for an SMB server to appear in the Browse Master's list. This is a limitation of the protocol and its common implementations. Very little can be done about it by an administrator.

A Big Gotcha: Crossing IP Network Boudaries with NetBIOS Name Service

By default, NetBIOS network browsing via TCP/IP does not work across IP subnets (that is, across routers). If you have ten machines in the workgroup "WORKGROUP" on one side of a router, and ten machines also in the workgroup "WORKGROUP" but on the other side of the router, you will not see one WORKGROUP with 20 machines. You will not even be able to see both WORKGROUPs at the same time. On each side of the router, machines will see one workgroup named "WORKGROUP", and it will only contain those machines on the same side of the router.

In order to get around this limitation, you must set up a WINS and/or an LMHOSTS environment. WINS is a kind of dynamic, DNS-like, server-based name service that comes as part of Windows NT Server. LMHOSTS uses manually-maintained text files to let computers in each subnet know how to contact the other computers in the other subnets. Setting up WINS and LMHOSTS environments is beyond the scope of this document. The AppleShare IP setup remains the same either way.

For more information about setting up WINS and/or LMHOSTS environments, please see Microsoft's documentation.

Getting Your AppleShare IP 6.0 Server to Appear in the Network Neighborhood

This section explains one simplified, sure way to get Windows-style network browsing to work with AppleShare IP.

There are plenty of ways to make network browsing work in more complex environments, such as using LMHOSTS or WINS as mentioned above. Once again, no matter what network browsing environment you use, the AppleShare IP setup remains the same.

Please note that your PCs do not have to be able to see your AppleShare IP 6 server in the Network Neighborhood in order to connect to it and use it. For more information, see the section below entitled, "Connecting to AppleShare IP 6.0 SMB Service Without Network Browsing".

To get AppleShare IP to appear in the Network Neighborhood, follow these steps:

1) Prepare the AppleShare IP server machine by making sure that the TCP/IP control panel is properly configured, the Web & File Server is running, the Windows File Sharing service is enabled, and the server's NetBIOS name and at least one sharepoint name are valid for NetBIOS (less than or equal to 13 characters, generally avoiding punctuation and special characters).

2) Make sure all of your PC client test machines can do SMB via TCP/IP. AppleShare IP only supports SMB via TCP/IP. You must have the Microsoft SMB client and TCP/IP stack properly installed and configured on your PC clients in order for them to connect to AppleShare IP's SMB service.

Note: In Windows 95, the SMB client is known as the "Client for Microsoft Networks" . In Windows NT, it is known as the "Workstation" service.

You should also check your network bindings on your PC clients to make sure that the SMB client is bound to NetBIOS, which is bound to TCP/IP, which is bound to the correct network adapter card. The details for checking bindings differ from release to release of Windows 95 and NT.

3) Make sure all of your test machines are on the same IP subnet. As explained earlier, without WINS or LMHOSTS, your AppleShare IP server and your Windows clients must be on the same IP subnet. Explaining IP subnetting is also beyond the scope of this document, but a fairly reliable simplification is, "If your clients and server are on the same Ethernet and can ping each other via IP, they are probably on the same subnet."

4) Make sure your test machines are in the same NetBIOS workgroup. It is harder to do step 4 if you have to deal with more than one workgroup. In Windows 95 and NT, this is done in the "Identification" panel of the Network control panel. You can set AppleShare IP's NetBIOS workgroup in the "Windows File Sharing" panel of the "Web & File Server Settings" window of the Web & File Admin application.

5) Make sure exactly one of your test machines is acting as the Browse Master for your workgroup. AppleShare IP cannot act as a Browse Master, so you need to have some other machine in the same IP subnet and NetBIOS workgroup acting as a Browse Master.

On Windows 95, the Browse Master software is installed as part of the "File and printer sharing for Microsoft networks" component. By default, Windows 95's Browse Master software is set to "Automatic", which means that it will automatically figure out if it needs to be the Browse Master for its workgroup. You can check this setting by viewing the Properties of the component.

Tip: To simplify troubleshooting, do not leave the Browse Master property set to "Automatic" on all of your Windows 95 systems. If you set the Browse Master property on one system to "Enabled" and all the rest to "Disabled", you will always know exactly which machine is your Browse Master. For best results, remember to check this setting whenever you reinstall Windows 95 or add a new Windows 95 machine to your network.

Since all of the other systems will rely on the one Browse Master system for their ability to browse the network, make sure the one you set to "Enabled" is either always powered on, or is always the first machine to be turned on and the last machine to be turned off. More information on working with Browse Masters is available from Microsoft.

6) Wait.
AppleShare IP announces itself more often than other SMB servers, but due to limitations of the protocol, it can still take a while for the AppleShare IP server to show up . Selecting the "Refresh" command from the Network Neighborhood window's "View" menu does not help any, either; rather than causing the SMB servers to reannounce themselves, it just asks the Browse Master for the most recent list, which may still be out of date.

Connecting to AppleShare IP 6 SMB Service Without Network Browsing

You can connect to AppleShare IP 6 SMB service without waiting to be able to browse to it. One way is by using the Windows "Find Computer" utility.

From Windows 95 or NT

1. Make sure your Windows username and password matches your AppleShare IP username and password. Re-login to Windows if you need to.
2. Click Start -> Find -> Computer
3. Enter the name of your AppleShare IP server.
4. Your AppleShare IP server will appear in the list of "found" items. Double-click on it to connect.

From Windows NT
Windows NT can use Internet DNS names and/or IP addresses to connect to servers. For Internet-style DNS name lookups to work properly

from NT, you need to go into the Network control panel, then to the TCP/IP protocol properties window, then to the WINS tab, and check the checkbox labelled "Enable DNS Lookups for Windows Name Resolution". Once you have done that, you can follow the same steps above, but substitute the fully-qualified domain name or IP address of your AppleShare IP server.

If you still cannot connect, test your IP configurations and network functionality by pinging the server from the client.

1. On the client, click Start -> Run.
2. Type "ping <ServerIPAddress>" into the window that comes up. Leave out the quotes, and subsitute the actual IP address of your server for <ServerIPAddress>.

If you cannot ping, then there is a problem with your TCP/IP configurations or with your network. Check your network control panels and network cabling and try again.

For more information on troubleshooting Windows 95 network browsing, see Microsoft's documentation.
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Apple Network Server: Open Firmware Booting Difficulties

In most cases, when Open Firmware fails to detect a boot device during boot, any successive attempt to boot AIX from tape, CD, or disk will fail.
This article has been archived and is no longer updated by Apple.
For AIX to boot successfully, Open Firmware must have the correct boot path.

The boot path is initially set in Open Firmware at the end of AIX basic operating system installation. A boot path is set for service mode and one for normal mode.

The boot list or path can be created from Open Firmware by placing the key in service mode and pressing the key sequence `Command-Option-p-r` all at the same time directly after you power on the server.

Note: Some Apple and third party keyboards don't work. The required keyboard is an Apple Extended Keyboard II.

If the above key sequence is pressed, the Open Firmware boot list will be reset to factory default. The server will attempt to boot to the internal SCSI bus 0 at SCSI ID 2, which is the third SCSI drawer. If your boot disk is in any other location or you have a RAID adapter, your server will fail to boot.

In some cases, you will need to set the boot list or path manually in Open Firmware To set it, first you will need to access the Open Firmware menu by pressing the key sequence `Command-Option-o-f` after a system power on. Second, type `login` and enter your root password. You should see a `0>` prompt.

To set open firmware to boot to a hard disk in the sixth bay type:

```
setenv boot-device disk6
```

To just boot to the SCSI device in the sixth bay type:

```
boot disk6
```

To boot to a SCSI tape drive in bay 0 type:

```
boot scsi-int/st@0
```

In some cases, you may need to scan the SCSI bus for the device.

To scan the external SCSI1 bus type:

```
probe-scsi0
```

To scan the internal Fast Wide bus 1 type:

```
probe-scsi1
```

Note: The above command will not work if you have a RAID adapter installed.

RAID Adapters

For AIX Network Servers with RAID adapters and hard disks physically located in the server:

To boot off the first system drive:

```
boot pci1/dac960/sd@8:aix
```

To boot to the SCSI tape drive in the second bay:

```
boot pci1/dac960/st@1
```

To boot to the SCSI CD-ROM drive in the first bay:

```
boot pci1/dac960@d/sd@0:aix
```

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LaserWriter: Printing to It With DECserver

This article has been archived and is no longer updated by Apple.

You can use DECserver to print with Macintosh and LaserWriter:

Wire the Macintosh modem port into the DECserver and hang the LaserWriter off the same server, but a different port. Use the Async LaserWriter with the Direct.ACL file.

- Set the various parameters of the server (name, baud rate, XON, etc.) to correspond to the LaserWriter.

- Start up Mac240 on the Macintosh, log in and choose 'C LaserWriter'. Quit Mac240.

- Start up PageMaker. From the Choose Print option under the File menu, select the Apple Driver to be used through the modem port.

NOTE: Only one user can have access to the port while this process is in effect.

- Select Async LaserWriter from the Chooser.

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AIX: Booting Problems With An Apple Network Server

This article lists reasons why an Apple AIX system will not boot after a power outage or crash, and provides information on how to recover from these situations.
This article has been archived and is no longer updated by Apple.
There are many reasons why the system won't boot. The most common cause is a corrupt file system that won't mount.

How To Fix A Corrupt File System

There are two steps: booting from maintenance mode, and checking the file systems with fsck. Each is detailed below.

Step 1: Booting From Maintenance Mode

If you cannot start your Network Server from your hard disk, you can access system information from maintenance mode.

To use maintenance mode to examine or restore information:

Step 1A
Insert the Installation CD or a bootable backup tape.

Step 1B
Shut down the Network Server, if it is not already down. To shut down the system, enter this command:

```
shutdown -F
```

Step 1C
Turn the front key switch to the left (service) position.

Step 1D
Turn on your Network Server. The computer starts from the CD or backup tape. A message appears asking you to define the system console.

Step 1E
Press `F1` and then the Enter key to use the local display as your console. You need an extended keyboard to identify your console unless you are installing with a terminal connected to the modem port.

Step 1F
When prompted, select a language for installation instructions. For English, type 1 and press Enter. The following message appears on your screen:

```
Welcome to the Base Operating System
Installation and Maintenance

Type the number of your choice and press Enter.

Choice is indicated by >>>.
1 Start install now with default settings
2 Change/show installation settings and install
> > > 3 Start maintenance mode for system recovery

88 HELP ?
99 PREVIOUS MENU
```

Step 1G
Choose the option (Access a root volume group)

Step 1H
Choose the disk that contains the rootvg

Note: the rootvg will contain at least these logical volumes

```
/dev/hd1
/dev/hd9var     /dev/hd8
/dev/hd2
/dev/hd3        /dev/hd4
```

If the disk contains these, choose it and continue.

Step 1I
Choose "Access a root volume group and start a shell before mounting the file system"

Step 1J
Now that you have a shell, you are ready to use fsck to check the file systems.

Step 2: fsck The File Systems

To fsck the file systems do the following.

```
fsck -y /dev/hd1
fsck -y /dev/hd9var
fsck -y /dev/hd2
fsck -y /dev/hd3
fsck -y /dev/hd4
```

This might take a few minutes depending on how large your file systems are.

Once this has finished, you can turn the key to the unlock mode and power off the server.

Other Errors

Other errors can be identified by the three digit display.

For most problems with the booting process, a three digit error code appears on the LCD panel on the front of your Network Server. This section lists the possible error codes and recommended action. For the procedures in this section, you must have root privileges.

This section describes the display values for system startup. The error codes in the following table require you to run a hardware diagnostic program to isolate and correct the problem. This table tells you what device is causing the problem and at what point in the boot cycle.

Display Value	System Action
510	The system has started the Configuration manager.
511	The Configuration manager has completed.
517	The system is attempting to mount the `/(root)` and `/usr` file systems. These file systems are of type bootfs. If the mount does not successfully complete during a network boot, the system changes the three-digit display value to 518.
585	The system is configuring the network.
591	The system is configuring the Logical Volume Manager (LVM).
594	The system is configuring an asynchronous I/O.
704	The system is configuring the 2.2 GB 16-bit SCSI disk drive.
723	The system is configuring an unknown CD-ROM or SCSI device driver.
727	The system is configuring an asynchronous device.
731	The system is configuring an unknown PTY.
811	The system is configuring the processor complex or the standard input/output. 812 The system is configuring the memory.
814	The system is configuring the NVRAM.
821	The system is configuring the standard keyboard adapter.
823	The system is configuring the standard mouse adapter.
828	The system is configuring the standard floppy disk adapter.
831	The system is configuring the serial port 2.
868	The system is configuring the integrated SCSI adapter.
871	The system is configuring the graphics subsystem adapter.
921	The system is configuring a keyboard.

925	The system is configuring a three-button mouse.
935	The system is configuring a 3.5-inch diskette drive.
9002	The system is configuring the 825 SCSI card.

Error Code 522
The display value 522 indicates that the `/etc/inittab` file has been incorrectly modified or is damaged and the configuration manager was started from the `/etc/inittab` file with conflicting options. This causes the system to stop. You can solve this problem by entering maintenance mode and either correcting the damaged file or replacing it with a copy from the installation media or another system.

Error Code 551
If the boot process halts with a display value of 551, there may be a problem with any of the following:

Problem	Solution
`/dev` is missing or corrupted	`mkdir /dev`
bad boot logical volume	`bosboot -a`
`/etc` problems	restore selective files (if possible) or reinstall

If these solutions do not correct the problem, try the following command from maintenance mode:

```
fsck hdiskn
```

...where `n` is the number of the hard disk that contains the root volume group. The `fsck` command checks file system consistency and repairs the file system.

Error Code 552
The 552 error code indicates that the Network Server is in an infinite loop. To fix the problem, clean up the file system (using the `fsck` command) and format the log volume.

To format the log volume, run the following command at the maintenance mode prompt for the root volume, after you mount all the file systems:

```
/etc/aix/logform /dev/hd8
```

This command reformats your log logical volume. After you run this command, restart your Network Server.

Error Code 553
If the Network Server stops at display value 553 during the boot process, it may be due to a problem running or reading the `/etc/inittab` file. The `/etc/inittab` file controls the initialization process. This problem occurs when `/tmp` or root (/) file systems are full. Follow these steps to solve the problem:

Step 1
Boot from maintenance mode and access the root volume group.

Step 2
Check for available space on the file system. Use the `df` command to check for space. For example, enter:

```
df -k /dev/hdisk0
```

Step 3
Erase files as necessary to get disk space. Often the /smit.log and /smit.script files cause the problem. Remove them with the following command:

```
rm /smit.log /smit.script
```

Step 4
Examine the `/etc/inittab` file for corruption. The file may be empty or missing or it may have an incorrect entry. You may have to recreate this file or fix an entry.

Step 5
If the `/etc/inittab` file is not corrupt, look for modification or permissions problems with the following files:

```
/etc/environment
/bin/sh
/bin/bsh
/etc/fsck
/etc/profile
```

```
/.profile
```

Step 6
Return the front key to the upright (unlocked) position and restart your Network Server.

Additional Codes

Error Code c31 Or c32

If the Network Server stops at value c31 or c32, it is trying to locate the system console. The Network Server may not locate the console if the console is defined but not enabled or if the console is a TTY that cannot be reached. System error messages 163

First, look for loose cables. If the cable connections are correct, boot into maintenance mode and enter a shell for the root volume group. Enter the following command to enable the console:

```
chcons -a login=enable /dev/hft/0
```

Then restart your Network Server.

System Messages During Installation

This section lists the messages that can appear during the installation of AIX.

```
0516-404 allocp: Not enough resources available to fulfill allocation. Either not enough free partitions or
not enough physical volumes to keep strictness. Try again with different allocation characteristics.

0516-788 extendlv: Unable to extend logical volume.

0503-008 installp: There is not enough free disk space in file system /usr. An attempt to extend this file
system was unsuccessful. Make more space available, then retry this operation.
```

The three messages above indicate that there is not enough space to complete the installation. To solve the problem, do one or more of the following three things:

--Select fewer file sets than the number originally selected for installation.

--Extend the root volume group to another disk. Enter:

```
extendvg rootvg hdiskn
```

where n is the number of the specified disk.

--Remove user-defined file systems to free space in the r o o t v g file system.

Here is another system message that you may encounter during installation.

```
BOS install: After saving all the data from the previous system in /tmp, it was discovered that there will not
be enough free space in /tmp to make the boot image. Please reboot in normal mode and increase the size of
/tmp or reduce the number of files to save as listed in the /etc/preserve.list file.
```

During a preservation install, files listed in `/etc/preserve.list` were copied into `/tmp`. After doing this, there was not enough room in `/tmp` to create the boot image. Reboot your Network Server in normal mode and increase the size of `/tmp` or reduce the number of files to be saved.

Here is another system message that you may encounter during installation.

```
BOS install: Could not create boot image.
```

The `bosboot` command failed. Check the `/var/adm/ras/devinst.log` file for errors.

Here is another system message that you may encounter during installation.

```
The following disks failed the preliminary diagnostic tests: <disk name>.
```

The installation disk failed the diagnostic pretest. Run full diagnostics on the specified disk.

Here are three more system messages that you may encounter during installation.

```
image.data file contains no vg_data stanza for rootvg.
The installation cannot continue.

image.data has invalid logical volume data. Cannot continue.

image data has invalid file system data. Cannot continue.
```

In the three cases above, use the default `image.data` file on the Installation CD.

Here are three more system messages that you may encounter during installation.

```
0516-366 putlvodm: Volume group rootvg is locked. Try again.

0516-788: extendlv: Unable to extend logical volume.

0503-008 installp: There is not enough free disk space in the file system /usr. An attempt to extend this file
system was unsuccessful. Make more space available, then retry this operation.
```

One of these three messages above might occur if you have interrupted the installation of your optional software. When you interrupt an installation, the Network Server sometimes locks the root volume group. To unlock the root volume group:

1. Log in as root.
2. Enter `chvg -u rootvg`
3. Enter `smit_install` and attempt to install your optional software again.

Here is another system message that you may encounter during installation.

```
installp: An error occurred during bosboot processing.
Please correct the problem and rerun.

0301-152 bosboot: not enough file space to create: /tmp/unix
```

The `bosboot` command is unable to finish because of insufficient space in `/tmp`. Extend the `/tmp` file system (use smit chfs), or free some space and restart your Network Server.

Here is another system message that you may encounter during installation.

```
installp: An error occurred during bosboot processing.
Please correct the problem and rerun.
301-155 bosboot: Invalid or no boot device specified.
```

An invalid device is specified. The `bosboot` command could not complete because it could not locate the required boot device. To solve the situation, determine if the link to the boot device is missing or incorrect. Correct the error and complete installation, follow these steps:

Step 1
To identify the book disk, enter:

```
lslv -m hd5
```

The Network Server displays the name of the boot disk.

Step 2
Create a link between the boot device indicated and the `/dev/ipldevice` file by entering:

```
ln /dev/boot_device_name /dev/ipldevice
```

An example of the boot_device_name is `hdisk0`

Step 3
Rerun or continue the installation.

Here is another system message that you may encounter during installation.

```
No disks are available.
```

No hard disks are configured on the Network Server. You can only use the maintenance option of the installation program. You can view the devices file from the maintenance shell by entering the following command:

```
cat /etc/objrepos/devs
```

Turn off your Network Server and examine devices to ensure that all SCSI devices are unique and that SCSI devices are properly terminated. Also, check the physical connections between devices. Then, restart and try the installation again.

If these steps do not work, run diagnostics on your hard disk.
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Mac OS 8: Appearance Manager Information

I have an application that says it uses an Appearance Manager for computers using system software older than Mac OS 8. What is Appearance Manager, and where do I get it?
This article has been archived and is no longer updated by Apple.
The Appearance Manager, introduced with Mac OS 8, modifies the appearance of the original Finder to include options for changing menu fonts, window-shading (collapsable window title bars), and other appearance-centric features. The Appearance Manager is now considered an integral part of the Mac OS, and is installed as part of an "Easy Install" process.

Shortly after the release of Mac OS 8, Apple introduced a version of the Appearance Manager, version 1.0.2, to developers as part of an Appearance Manager software development kit (SDK). Although version 1.0.2 is qualified for use under System 7.1 and later, it is a developer release and consequently is not directly supported by Apple. Apple developers can bundle and install the Appearance Manager using the SDK referenced above. However, it is up to the developer to support the Appearance Manager when bundled with their application.

Therefore the Appearance Manager is available when installed as part of any Mac OS 8.x system, or when installed by an application written to use the Appearance Manager with System Software 7.1 or later.

Developers interested in incorporating the advanced look and feel of the Appearance Manager in their applications, can find more information at Apple's online developer area at: **http://www.apple.com/developer**.

The Appearance Manager is covered in detail in the Mac OS 8 technotes, as well as the Appearance Manager SDK.

The following Tech Info Library article can help you locate the Tech Note(s) mentioned here:
Article 24493: "**Apple Tech Notes: What They Are, Where To Find Them**"

For the most current information on what SDKs Apple offers, point your web browser to:

http://developer.apple.com/sdk/
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Sound Manager: Where To Get It

I was looking for the latest version of Sound Manager on Apple Software Updates, but I could not find it. Can you help?
This article has been archived and is no longer updated by Apple.
Sound Manager is included with QuickTime. For more information, point your web browser to:

<**http://www.apple.com/quicktime**>
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Mac OS 8.1: Generic Chooser Icon

An issue with Mac OS 8.1 may cause the Chooser application to lose its normal icon and use the generic application icon instead.
This article has been archived and is no longer updated by Apple.
This is due to the Installer not setting the bundle bit of the Chooser correctly when performing a clean install of Mac OS 8.1. This is purely cosmetic and will not affect the functionality of the Chooser or any other part of the operating system.

Note: A clean install is a system software installation that does not overwrite or update an existing System Folder. A clean install creates an entirely new System Folder.
Published Date: Feb 18, 2012

LaserWriter 8.5.1: Can‘t Print To Server Using LPR From Non-PowerPC

When printing from non-PowerPC based computer via LPR using LaserWriter 8.5.1, I can print directly to my printer via TCP/IP. However, if I print to a print server (lpd) via LPR, it does not work. Usually, I get the message, "Printer not found." However, if I print from a PowerPC-based computer to the same server, the jobs go through.
This article has been archived and is no longer updated by Apple.
This issue is resolved in LaserWriter 8.6. LaserWriter 8.6 is available for download from Apple Software Updates.

Most, if not all, printers will not be affected by this issue.

These articles can help you locate the software update mentioned here:

- Article 14724: "**Where To Find Apple Software Updates**" - Lists online services for free Apple software updates.
- Article 17664: "**WW Apple SW Updates Available Online**" - An index to International Apple Software Updates showing the current software location on the Internet.

Published Date: Feb 18, 2012

ClarisWorks: Seconds Are Lost When In List Mode

I have created a database file in ClarisWorks to track my CD collection. When I view the database in List mode, the seconds in the time field do not display.
This article has been archived and is no longer updated by Apple.
While in List mode, time fields are formatted to show the hours and minutes only. If you alter the content of one of these fields and then revert to Browse mode, you will find that the seconds have been zeroed-out. If you do not alter the time field in List mode, the seconds will display correctly in Browse mode.

Workaround: Do not use List mode for viewing multiple records containing time fields. If you need to see multiple records with time fields at the same time, you may create a layout with a short body.
Published Date: Feb 18, 2012

At Ease: Watch Instead Of Arrow Pointer

This article is about a situation in At Ease 5.0. in which the pointer may be displayed as a watch rather than an arrow.
This article has been archived and is no longer updated by Apple.

Symptom:

I have a network of computers running At Ease 5.0. I updated At Ease to version 5.0.1, and the operating system to Mac OS 8.1. When users are in the Panels environment, the pointer is displayed as a watch rather than an arrow.

Solution:

The behavior you are experiencing is cosmetic and does not affect the functionality of At Ease.

The issue is resolved in version 5.0.2 of At Ease.

Published Date: Feb 18, 2012

HyperCard 2.4: Using HyperCard 2.4

This article contains the document titled, "Using HyperCard 2.4" which is included with HyperCard 2.4 software.
This article has been archived and is no longer updated by Apple.

Using HyperCard 2.4

The 2.4 update of HyperCard provides several new useful features, including functions related to the newly released QuickTime 3. This HyperCard update also provides enhancements and fixes problems from previous releases.

System, Memory, and Software Requirements

The HyperCard 2.4 Update requires:

- an Apple Macintosh, Power Macintosh, or PowerBook computer
- system software version 6.0.5 or later
- at least 2MB of RAM; 4MB of RAM required for System 7 or later; 8MB of RAM required for Power Macintosh computers
- HyperCard 2.3 or 2.3.5. (This Update cannot upgrade any versions of HyperCard prior to 2.3.)

Features and components of HyperCard have additional requirements:

QuickTime

To use QuickTime features, you must have a 68020 or later microprocessor and the QuickTime extension. QuickTime 1.6 or later is required. Some new features require QuickTime 3. To use QuickTime VR features, you must have QuickTime VR 2.0 or later.

Button Tasks

System 7 or later and the Component Manager are required for button tasks. Component Manager is a part of System 7.1 and later.

Macintosh computers with 68000 series microprocessors require System 7.1 or later or System 7.0 with the AppleScript or QuickTime extension.

On Power Macintosh computers, button tasks require the ObjectSupportLib file. The ObjectSupportLib file is a part of MacOS 8.

The movie button task and the HyperTalk movie command require the QuickTime extension. (QuickTime 3 is recommended.)

The text-to-speech button task and the HyperTalk speak command require Speech Manager software.

The sound button task requires system software version 6.0.7 or later and a computer with a 68020 or higher microprocessor.

The Link to URL button task and the HyperTalk open URL command require the Internet Config extension. Version 1.4 or later is recommended. Go to the World Wide Web site **http://quinn.echidna.id.au/Quinn/Config/** for more information about Internet Config, or download it from your favorite shareware server.

Color

To use Color Tools, you need a color-capable computer and 32-Bit QuickDraw (included with System 7 and later). The HyperCard memory partition must be set at least 2200K, and 5 MB of RAM is recommended. On Power Macintosh computers, the memory partition should be set to at least 5120K and virtual memory should be turned off. The monitor's color depth should be set to display at least 256 colors or shades of gray.

Color paint tools require System 7 or later.

Saving stacks as applications

System 7 or later and Component Manager are required to save a stack as an application. Component Manager is a part of System 7.1 and later.

On Power Macintosh computers, the ObjectSupportLib file is required. The ObjectSupportLib file is a part of Mac OS 8.

AppleScript

To use AppleScript, you need the AppleScript software, which requires System 7 or later.

Contents of This Update

After you install this Update, the following files will be updated in your HyperCard folder:

- HyperCard 2.4: The 2.4 version of HyperCard for 68000 series or PowerPC-based Macintosh computers.
- Using HyperCard 2.4: The document you are reading.
- Read Me HyperCard 2.4: A file with general product information.
- HyperCard 2.4 Updater: An application you can use to update any other 2.3 or 2.3.5 versions of HyperCard you have.
- QuickTime Tools: A stack explaining the new QuickTime and QuickTime VR features.
- Power Tools: A collection of tools and techniques for scripters.
- Color Tools: A stack that lets you add color to HyperCard stacks.
- Audio Help: A stack providing instructions for audio features.
- Help Extras: A Help stack providing search functionality.
- HyperCard Help: A Help stack providing general instructions for HyperCard.
- HyperTalk Reference: A stack providing syntax examples and explanations.
- Readymade Buttons: A collection of various buttons styles for use in stacks.
- StackToApp: A file that allows you to save stacks as applications (in the Stack Translators folder).
- Tasks: A file that allows you to assign tasks to buttons without scripting (in the Button Tasks folder).
- Sample Movie: A new QuickTime sample movie.
- About HyperCardŠ: HyperCard development credits.

General Features

Improved Movie button task: The Movie button task now allows you to open any file that QuickTime can open. For example, with the latest versions of QuickTime (2.5 or later) installed on your computer, you can assign a task that opens JPEG and MPEG files and displays them in movie windows.

Note: QuickTime 3 will allow you to open even more file types.

To use this new feature, assign a movie task to a button using the Button Info command as you normally would. When you are prompted to choose a movie file, more file types will be available for selection.

New Link to URL button task: A button task has been added that allows you to open the default Web browser (as defined in the Internet Config application) and connect to the URL (uniform resource locator) you specify. For this feature to work, the computer of the person using your stack must have the Internet Config extension installed and active in the System Folder, and the Internet Config application must have a Web browser specified in the Helpers window of Internet Preferences.

You'll find this new button task along with the other button tasks by using the Button Info command.

Drag-open of movie and image files: You can now drag any QuickTime-readable movie file onto the HyperCard application icon in the Finder to open and play the movie. (After installing HyperCard 2.4, you may need to rebuild your desktop for this feature to work.) If Automatic File Translation is turned on in the Mac OS Easy Open control panel, you can also open other image files, such as PICT or GIF files, this way.

Preview Button in Stack Info Dialog: The Stack Info dialog box, which appears when you select Stack Info from the Objects menu, contains a Preview button. Use Preview to change the preview image that appears when Open Stack is chosen from the File menu. To change the preview image, click Preview and select a card, or None to show no preview image, from the Source pop-up menu.

Keyboard Support of QuickTime VR Movies: You or the person viewing your stack can control QuickTime VR movies by using the keyboard navigation keys. For example, the Left Arrow key will pan the movie to the left. The viewer must click and hold the pointer in the VR movie window while using the keyboard to navigate.

Scripting Features

New QuickTime Tools features: The QuickTime Tools stack includes new versions of the the movie commands and functions which allow you to use many new features of QuickTime. See the Documentation section of the QuickTime Tools stack for a complete explanation of the new features.

Using HyperTalk QuickTime syntax, you have precise control over the presentation of QuickTime movies in a HyperCard stack. You can adjust screen location, layer, window style, language, image quality, angle of view (for QuickTime VR movies), speed and direction, sound, and other characteristics. You can search for text in text tracks and to apply such effects as flipping, scaling, rotating, and skewing. You can also specify the level of control the person using your stack has over the way movie is viewed.

QuickTime and QuickTime VR support: To make it even easier to use QuickTime and QuickTime VR movies in your stacks and to provide new functionality, the updated movie commands have been built into HyperCard 2.4. You can use either the new syntax or the same movie command syntax you've used in the past. See the Documentation section of the QuickTime Tools stack for more information and examples.

New command for Internet URL support: The command open URL <url string> opens the default Web browser (as defined in the Internet Config application) to connect to the URL (uniform resource locator) you specify. For this feature to work, the computer of the person using your stack must have the Internet Config extension installed and active in the System Folder, and the Internet Config application must have a Web browser specified in the Helpers window of Internet Preferences.

Enhanced script editor window: The new script editor window makes it easier to search and navigate through HyperTalk scripts. The top of the window shows the length of the script (number of characters). You can choose a handler or function name, and scroll to its location in the script. You can also click the side column to place checkpoints where you want a script to stop for debugging.

For added ease in navigation, follow these tips:

To see names of handlers and functions sorted alphabetically, Shift-click the Handlers and Functions pop-up menus. To see a list of handlers and functions with the names of functions italicized, Command-click anywhere in the script editing window. (To see the list sorted alphabetically, press Command-Shift and click.) To change the appearance of a handler or function in the menus, type -- menu mark followed by - (to add a dividing line), <I (for italic), or <B (for bold) before the handler or function in the script. See Inside Macintosh, a programming guide available at most software book retailers, for the entire list of options for changing the appearance of menus.

Open file limit removed: You are no longer limited to a maximum of three files open simultaneously using the open file command.

New syntax for number of movies and references to movies: The expression the number of movies returns the number of open movie windows. The expression first movie refers to the same movie as movie 1. If there are three open movie windows, last movie refers to movie 3. These ordinals function just as they do when referring to buttons, fields, cards, and so on. See "Chunk Expressions" in the HyperCard Script Language Guide for more information.

New version function: Previously a property, version is now a function that returns version information for the HyperCard application, a HyperCard stack, Mac OS, AppleScript, Sound Manager, QuickTime, and QuickTime VR. Except when used to find the version of a stack and the version of Mac OS, the long version returns an 8-digit number specifying the major version number, the minor version number, the software state (for example, beta), and the release number. It is no longer necessary to use scriptingLanguage when referring to AppleScript.

Improved Picture XCMD: HyperCard now uses QuickTime graphics importers for opening file types other than PICT or PNTG if QuickTime 2.5 or later is installed. Using the Picture XCMD, you can open all image file types that QuickTime recognizes. Unlike using Movie to open a QuickTime-compatible image, Picture XCMD allows you to open an image without displaying it in a movie window. The Picture XCMD can now accept PICT data, a filename, the Clipboard (when it contains PICT data), or the name of a PICT resource as a parameter.

New miniature and image properties: The property image returns data of type PICT representing a pictorial image of a specified card at full size. The property miniature returns data of type PICT representing a pictorial image of a specified card at a smaller size--the size that appears on the Clipboard when you select Copy Card from the Edit menu. You can use these properties to copy a card to the Clipboard for use in other applications.

Note on there is a file expression: Information regarding there is a file on page 116 of the HyperCard Script Language Guide is incomplete. When there is a file is used, HyperCard searches in the folder containing the HyperCard application.

Troubleshooting

I get an error message when I try to update HyperCard using the Updater application.
You may have selected a copy of HyperCard that is not the correct version. You can use the Updater to update HyperCard 2.3 or 2.3.5 only.

I get the error message, "-48: Duplicate file name" when I try to update HyperCard using the Installer or Updater application.
You have a file in the folder with the copy of the HyperCard application you are trying to update that has the same name followed by ".old" (example: "HyperCard.old"). This can occur if you have updated HyperCard in the past using an earlier version of the Updater program. To update the copy of HyperCard, you must move or rename this file and try updating again.

My scripts for Play, Rewind, and Pause don't work.
This can happen if you have installed an earlier version of the movie command set into your current stack or your Home stack. Remove the older versions of the movie command set from your stacks; it is now included in the HyperCard application.

I can't open certain types of files by dragging them onto the HyperCard application icon in the Finder.
Try rebuilding your desktop. For PICT files, make sure Automatic File Translation is turned on in the Mac OS Easy Open control panel.

I can't make certain types of files open in my stack.

For MPEG files, make sure the QuickTime MPEG extension is installed. For QuickTime VR files, make sure Quicktime VR 2.0 or later is installed. For QuickTime movies, make sure QuickTime 3 is installed.

When I use the open file command, the icons change for the files opened.
When you use this command with QuickTime 3 or later and you create a new file with any standard suffix used by QuickTime (such as ".gif" or ".jpeg"), the file will be changed to take the corresponding type and creator, and its icon will reflect this. For instance, files with the suffix ".gif" will show a GIF icon. To prevent file icons from being changed, open the QuickTime Settings control panel and deselect "Enable QuickTime Exchange," then restart your computer.

For More Information

For more product information, see these web sites using your Web Browser application:

For information about HyperCard, go to **http://www.apple.com/hypercard**

For information about QuickTime, QuickTime VR, or the QuickTime MPEG extension, go to **http://www.apple.com/quicktime**

For information about Apple software updates, go to **http://www.apple.com/swupdates**
Published Date: Feb 18, 2012

ColorSync 2.5: Printing With Color StyleWriter 4000 Series Driver

This article discusses an issue with ColorSync 2.5 and certain StyleWriter printers.
This article has been archived and is no longer updated by Apple.
Symptom:

After installing ColorSync 2.5, I am no longer able to use the ColorSync option when printing with the Color SW 4000 Series printer driver. If I select ColorSync, my application quits on me, usually with a type 3 error.

Solution:

This issue affected the Color StyleWriter 4100 and the Color StyleWriter 4500. It has been resolved with ColorSync 2.5.1.

This article can help you locate the software update mentioned here:

- Article 14724: "**Where To Find Apple Software Updates**" - Lists online services for free Apple software updates.

Published Date: Feb 18, 2012

LocalTalk PCI Extension: LocalTalk Printing Issues

I have a Power Macintosh G3 computer running Mac OS 8.1, and a printer connected via LocalTalk to my printer port. However, when I click on the printer driver in the Chooser, the printer name does not show up in the window on the right side where it says to select a printer. The printer and cabling work fine on another computer.
This article has been archived and is no longer updated by Apple.
Apple is aware of difficulties using LocalTalk printers when the LocalTalk PCI extension is installed on Power Macintosh G3 computers running Mac OS 8.1. During troubleshooting of any LocalTalk printing difficulty with this combination, you should try disabling this extension and restarting the computer. The most common symptom is that the printer name will not show up for selection in the Chooser. Other symptoms include loss of connection during a print job resulting in errors and difficulties sharing serial printers such as StyleWriters over a LocalTalk network.

This extension should not affect print jobs sent over Ethernet or direct serial connections.

From the 8.1 Read Me document:

"Mac OS 8.1 installs a new extension on some models called LocalTalk PCI which is a PowerPC version of the LocalTalk driver. This new driver provides improved performance when using LocalTalk. However, this improved performance can cause some LocalTalk printers to be invisible when using the Chooser to select a printer. If you encounter this, use the Extensions Manager to disable LocalTalk PCI and the printer will become visible and selectable."

LocalTalk PCI 1.2 should resolve the issues described here. If disabling the older version of LocalTalk PCI resolves your issue, try updating to LocalTalk PCI 1.2, now available on Apple Software Updates. Mac OS 8.5 also includes LocalTalk PCI 1.2.

These articles can help you locate the software update mentioned here:

- Article 14724: "**Where To Find Apple Support**" - This article details vaious Apple support offerings located on the Internet.

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At Ease 4, 5: Internet Browsers Stop Responding

This article is about an issue with At Ease versions 4 and 5, Netscape Navigator, and Internet Explorer.
This article has been archived and is no longer updated by Apple.
Symptom:

When using Netscape Navigator or Internet Explorer in At Ease 4.x or 5.x Panels or in Finder workgroup the application starts and then quits returning me to the Panel or Finder workgroup. Netscape Navigator or Internet Explorer **do** work in the restricted Finder and with At Ease off.

Solution:

Apple has been able to duplicate the situation where Navigator and Internet Explorer will either quit or cause the computer to stop responding when using At Ease versions 4 and 5 while File Sharing is active.

Disabling File Sharing on the computer does alleviate this behavior with either browser.

Published Date: Feb 18, 2012

PowerBook 2400: PC Card Not Maintaining Ethernet Connection

I have a PowerBook 2400 with a PC card that provides an Ethernet connection to my network. I am unable to maintain the Ethernet network connection through my PC card. Can you help?
This article has been archived and is no longer updated by Apple.
First, make sure you have the newest versions of the software for your PC card. Then, try these steps:

Step 1
Select the Advanced User mode in the AppleTalk control panel (select User Mode under the Edit Menu). Once you are in Advanced User mode, check the User defined box. Enter a valid network number and try a random node number (between 1 and 253) and close the AppleTalk control panel. If the node number is not already being used you can reopen the control panel and uncheck the User defined box. If the node number is already being used, reopen the control panel and try another node number. Repeat the process until a valid AppleTalk address is entered.

Step 2
Use the "AppleTalk Options" control panel, available by downloading "OT 1.1.2-Extras.sea" from the Apple Software Updates site on the World Wide Web.

The AppleTalk Options control panel may already be on your hard drive in the Open Transport Extras -> Network Options -> AppleTalk folder. Drag the AppleTalk Options control panel to your System Folder and restart. After restarting the computer, [x] the option for "Suppress router-related alerts."

If You Still Encounter Difficulties
If you still have difficulty maintaining an Ethernet connection through your PC card, consider testing the unit on an isolated network to see if the difficulty occurs only on the large network.
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At Ease: Repeated Problems With At Ease for Workgroups

I keep having problems with my At Ease network. Users cannot login for many different reasons, strange errors occur when workstations startup, etc. I have a clean backup of the At Ease Items WG folder from the server. Restoring from backup seems to resolve the problems but only temporarily. I have even gone as far as to rebuild the At Ease Users and Workgroups from scratch by trashing the At Ease Items WG Folder from the server.

This article has been archived and is no longer updated by Apple.

This article outlines some possible causes of repeat corruption in the At Ease Databases on the Server.

1. Ensure that all workstations are running the same version of At Ease. If updates have been applied to one machine they should be applied to all. (for example, At Ease 3 updated to 3.0.3 or At Ease 4 updated to 4.0.1.)
2. For computers with non-Apple ethernet cards, check driver versions and verify with the manufacturer that these are up to date and compatible with At Ease and the version of System Software installed on the computers.
3. Make sure the At Ease Administration computer is in top running order. Run Disk First Aid to ensure there is no directory corruption. Make sure hard disk, CD-ROM, and third party peripheral drivers are current. This is especially important on drives that have third party drivers installed. These are most common on Mac OS compatibles and computers that have upgraded hard drives. If necessary, perform a clean install of the system software and At Ease on the At Ease Admin computer. Throw away the At Ease Items WG folder and the AppleShare Prep file from the Preferences folder. For At Ease 5.0, also remove the At Ease Administration preferences from the Preferences folder in the System Folder.
4. With repeated At Ease problems it is also a good idea to remove the At Ease Items WG folder from the system folders of all workstations (NOT the server) as well as the AppleShare Prep file from within the preferences folder on the workstations. These will be rebuilt on the first login so don't be surprised if the first connection after doing this takes longer than usual. It may be downloading quite a bit of data.
5. Try disabling 'Remember Recently Used Items' in the Apple Menu Options control panel on the workstations.
6. Next, check the server. Run Disk First Aid and repair if necessary. If repair is necessary it is probable that the server is in need of a clean install. Make sure hard disk, CD-ROM, and third party peripheral drivers are current. This includes software for CD-ROM towers and any added hard drives on the server. Minimize unnecessary extensions and control panels on the server. Use the Extensions Manager control panel and start with the built in setting for system software only. Add in the necessary components for AppleShare and At Ease. For AppleShare 5 this includes the OpenDoc software. If applications are being launched from the server and require extensions these extensions should usually be installed in the System folder of the workstations, not the Server.
7. If your At Ease problem(s) are still unresolved, they may be related to your network. Network Assistant (bundled in the Apple Network Administrators Toolkit) can run a network performance report but it may be necessary to call a network specialist to isolate the exact location of the problem. This is especially true on more complex networks.

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Mac OS 8 and Mac OS 9: How Memory Usage Is Reported

This article explains why an application shows it is using more memory in "About This Computer..." than what is stated in the Preferred Size entry. This article has been archived and is no longer updated by Apple.
Starting in Mac OS 8 the way reporting application memory useage was changed. The information in the "About This Computer..." window now reports the application's memory partition (Preferred Size setting) and the amount of memory the program is using as temporary memory.

Temporary memory, or main memory, is made of physical RAM or Virtual Memory, a combination of physical RAM and hard disk space. Temporary memory allows the Mac OS to keep portions of programs and data currently in use by the application nearby for quick access.

Some programs may use more temporary memory than others. Programs that do not need a significant amount of temporary memory may display a number in the "About This Computer..." window that is very close to their Preferred Size setting. In both instances, this is normal behavior.

The "About This Computer..." window may be used to determine how much memory is available for an application to use. Using the Largest Unused Block memory size as a guide, set the Preferred Memory setting in the application's "Get Info" window so that additional temporary memory can be allocated without causing an out of memory condition.

If your computer is running out of available memory after launching an application, increase the Virtual Memory setting in the Memory control panel. For more information on Virtual Memory, please see the following Knowledge Base article:

15854: "Virtual Memory: How It Differs On Power Macintosh"
Published Date: Feb 18, 2012

AppleTalk Protocol: Stateless or Stateful?

We have a primarily Windows-based network and have decided to move to the Macintosh platform. In determining our network needs, we need to know whether the AppleTalk protocol is "stateless" or "stateful."
This article has been archived and is no longer updated by Apple.
AppleTalk is a stateful communication protocol, requiring a secured connection between the client and the server. Although it is possible to log in anonymously as a "guest," a login is still required. Other stateful protocols include FTP, IRC and Telnet as well as any other protocol that requires a client to "log in" to a resource.

Mac OS does support stateless communication protocols as well. For example, it is possible to use HTTP or other methods for sharing files using a browser on the Mac OS client. For example, Personal Web Sharing, bundled with the Mac OS operating system, allows the sharing of directory information over HTTP.
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PowerBook 500 Series: Battery Troubleshooting

The battery on my PowerBook 540c is not charging. Do I need to replace the battery?
This article has been archived and is no longer updated by Apple.
The information presented here applies to any member of the PowerBook 500 series.

The battery may not charge due to a hardware, software, or Power Manager issue. Here are some troubleshooting steps to help you isolate the cause for the battery charging issue.

- Test the battery in the opposite battery bay. Verify the battery is fully inserted in the battery bay and remains seated.
- Run the Intelligent Battery Recondition Software. (Refer to Knowledge Base article 18489 "**Intelligent Battery Recondition Software: Read Me**" and Knowledge Base article 17108 "**Intelligent Battery Recondition Software Troubleshooting**")
- Reset the Power Manager (refer to Knowledge Base article 14449 "**PowerBook: Resetting Power Manager**")
- Test using a different battery. When fully charged, the battery will measure 8.5 to 11.6 volts.
- Test using a different power adapter. The power adapter will measure positive 16.6 volts on two different pins.

An Apple-authorized service provider can test the battery and power adapter. If the computer needs a replacement battery, power adapter, or logic board contact Apple support or your local Apple-authorized service provider.
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PowerBook G3 Series: Graphics Performance Issue

Sometimes when I wake up my PowerBook G3 Series I notice some graphics operations, like scrolling through a window, are slower. What is causing this?
This article has been archived and is no longer updated by Apple.
Apple has discovered a behavior that affects some PowerBook G3 Series computers. After the computer has been sleeping for approximately five or more minutes, upon waking up the graphics acceleration will no longer work properly and some screen operations seem slower. The behavior is especially evident when scrolling through a window with a lot of data. It will continue until the computer is restarted.

Owners of a PowerBook G3 Series experiencing this problem should download ATI Driver Update 1.4.7, available for download from Apple Software Updates sites. These newer drivers should resolve the issue.

Note: This issue does not affect the second generation of the PowerBook G3 Series introduced on September 1, 1998 or later. These computers already have newer ATI drivers. However, they will still benefit from the newer ATI drivers. See the Read Me document included with ATI Driver Update 1.4.7 for more details.

These articles can help you locate the software update mentioned here:

- Article 14724: "**Where To Find Apple Software Updates**" - Lists online services for free Apple software updates.

Note: Macintosh PowerBook G3 Series computers should not be confused with Macintosh PowerBook G3 computers. Though the names are similar, there are significant differences. For more information differentiating between the computers, read Tech Info Library article 24604: "**PowerBook G3, G3 Series: Identifying Different Versions**"
Published Date: Feb 18, 2012

ClarisWorks 5.0: Text Alignment in Database List Mode

Using List Mode in a database allows you to display data in a columnar format. By default, data is aligned to the left side in each column. Selecting the column and choosing an alternative alignment should adjust the data in that column accordingly, but in ClarisWorks 5.0 it doesn't.

Note: AppleWorks is the new name for ClarisWorks.
This article has been archived and is no longer updated by Apple.
In ClarisWorks 4.0, this functionality works as expected. In ClarisWorks/AppleWorks 5.0.x (Mac OS version or Windows version), nothing happens when an alignment other than Left is chosen.

To get around this difficulty, you can create a Style using the Stylesheet palette, then apply the Style to a column while in List Mode. It is necessary to have a separate Style for each alignment choice (Right, Center, Justify) you want to apply.

Before performing these steps, close the Stylesheet palette if it is visible, then select 'Page View' from the Window menu (so that there is a checkmark by 'Page View' in the menu.)

To create a new Style:

1. Choose Show Stylesheet from the Window menu.
2. Click the New button in the bottom left of the palette.
3. In the New Style window, choose Paragraph for the Style Type.
4. Type a name for the Style in the Style Name box.
5. Click OK. Your cursor changes to indicate that you are in Style creation mode, and the Stylesheet palette expands to the Edit Style palette.
6. Choose Alignment from the Format menu and select the desired alignment from the sub-menu.
7. Click the Done button at the bottom of the Edit Style palette (the cursor and palette will revert to their previous state).

To apply a style:

1. Select a column by clicking on the column header (hold down the Shift key to select multiple adjacent columns).
2. Make sure the Stylesheet palette is visible (see #1 above).
3. Click the desired Style from the list in the palette. A check mark will appear next to the Style name, and the selected data will be formatted accordingly.

Published Date: Feb 18, 2012

Mac OS 8.x: Control Strip Disappears

When starting up my computer with Mac OS 8.1 installed, I noticed that the Control Strip is missing.

This article has been archived and is no longer updated by Apple.

Symptom

When starting up my computer with Mac OS 8.1 installed, I noticed that my control strip is missing.

The behavior you describe may occur with Mac OS 8.0 or Mac OS 8.1.

Non-working QuickTime preferences may cause the control strip not to appear on the screen, as well as cause the QuickTime Settings control panel to display an error and quit when you try to open it.

Solution

Should you be experiencing this issue, move the QuickTime preferences to the Trash, then restart. Your control strip should reappear (if you had made any settings within the QuickTime settings Control Panel, you will have to reset those).

Important: If you have a copy of QuickTime Pro, make sure you have your registration number recorded and in a safe place because when you delete the QuickTime preferences you will have to reenter the number.

Note: Upgrading to QuickTime 4.1 or Mac OS 8.5 or later prevents this from occurring.

If your control strip does not reappear, then you are probably experiencing a non-related issue. Here are some troubleshooting tips which may help:

1. Make sure the Control Strip control panel is present and that it is set to "Show Control strip".
2. Drag the Control Strip preferences file (located in the Preferences folder) to the Trash and restart the computer.
3. Make sure there are Control Strip modules inside the Control Strip modules folder (located in the System Folder)
4. Check to see if the Control Strip is simply collapsed (you will see a small grey tab instead of the full control strip).

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Passing strings to and from functions in Pascal III

Functions cannot return a string per se because functions cannot return a non-scalar variable, such as a string. Functions can however return the address of a string with the VARiable (VAR) parameter. The pass-by-referenceVAR parameter can pass the address of a string to and from functions and assembly language routines.

In contrast, when a value parameter is used, the value of the parameter is passed (See pp.87-90, Apple III Pascal Programmer's Manual, Volume 1). Listed below is an example of passing a string to and from a function. A procedure could have been used similarly since parameter-passing rules are the same for procedures as for functions. The value returned by the function is also used to check the success of the function. This check is a good programming convention for functions.
This article has been archived and is no longer updated by Apple.

```
PROGRAM PASS;

VAR I: INTEGER;
ST1; STRING;
TABLE: ARRAY [0..50] OF STRING (* For this program to run, *)
(* TABLE must be initialized*)
(* prior to calling DOIT. *)

FUNCTION DOIT (VAR ST2; STRING; INDEX: INTEGER):BOOLEAN;
(* VAR designates ST2 as a VARiable parameter.*)
BEGIN
DOIT := TRUE;
IF LENGTH(TABLE [INDEX]) = 0 THEN (*DOIT returns false if *)
DOIT := FALSE (*the given entry(INDEX)*)
ELSE ST2 := TABLE [INDEX] (*in the table is null. *)
END; (*ELSE, IT RETURNS TRUE.*)

BEGIN
FOR I := 0 TO 50 DO
BEGIN (* ST1 should be null unless *)
ST1:= ''; (* DOIT alters it. *)
IF DOIT(ST1,I) THEN (* If the array entry is not *)
WRITELN(ST1) (* null, print the string. *)
END; (* FOR *)
END.
```

Notes:
1. An individual element of a packed variable cannot be supplied as the actual parameter. See page 90 of the Apple III Pascal Programmer's Manual, Volume 1.

2. The addresses of strings are ALWAYS passed to the procedure or function, whether the string is a VARiable parameter or a value parameter. Declaring the string parameter to be a VARiable parameter avoids coping the entire valueof the string to the function and attendant lowering of memory and performance. Bear in mind that, it is generally good programming technique to use value parameters wherever possible for maximum "decoupling" of function and calling program.
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Mac OS X Server 1.x: Why, When, and How to Run fsck for File System Maintenance

This article details common reasons an administrator might need to run the fsck ('file system check') utility, and describes the means of so doing, from the single-user shell, when booted from the default system drive, or from the system software installer CD.
This article has been archived and is no longer updated by Apple.
Note: This article pertains to Mac OS X Server versions 1.x, which were released prior to May 2001.

The fsck utility is used to perform routine maintenance and recovery on a Mac OS X system hard disk that has either become unbootable or will not start to multi-user mode due to events or occurrences such as improper shutdown, forced restart, power outage, an accidentally disconnected power cord, and so forth.

There are several possible situations that may cause a Mac OS X system drive to fail to boot properly into the full Mach/BSD environment. Common causes of this issue include improper shutdown, power outage, pilot or visitor error such as kicking a power cord, UPS failure, improper use of front-panel buttons, or a full system disk. Yes, Mac OS X does permit the command-control-Power key restart, but don't do it!

Improper shutdown or a forced power cycle are **always** valid reasons to run the fsck utility to repair the system drive.

There are two environments from which fsck may be run. Normally, after an improper shutdown, workspace manager stops responding, or other untoward event, the system will do a partial boot, and pause in a command line environment following basic hardware initialization. Under these circumstances, there will usually be an error message, such as 'file system dirty, run fsck', followed by a new line with a # (pound-sign) prompt. In this event, fsck can be run directly, with no other maneuvering required.

In severe situations, the system information may be sufficiently unusable that the system will not get as far as the # prompt. Under these circumstances, it is necessary to boot from some other Unix-style system and manually specify the system drive as the target for fsck.

Usually, you'll know you need to do this, because when you started your system, it would only go as far as the single-user shell (the # <pound sign> prompt, as detailed above).

If the system realizes that the file system is dirty, there will be a message saying so, and what to do about it.

If the system doesn't boot up as far as the # prompt, then it will be necessary to start from some other volume, such as the Mac OS X Server Installer CD, in single-user mode. If this is your plight, skip down to the section "How To Run fsck From The Mac OS X Installer CD" below.

How To Run fsck From The Startup Disk

1. Using the System Disks application, select the Mac OS X Server partition of the hard disk as the boot device.

2. Check the "Show Diagnostic Info During Boot" option (this adds the -v flag to your Open Firmware boot command), and in the 'Other Options' field, add 's', for single-user mode. (Do **not** put quotes around the letter s in the 'Other Options' field.)
You may also click the 'Advanced Options' button and manually edit the boot command to read:
```
0 bootr -v -s
```
If you add the -s, it should be unnecessary to hold down the 's' key as described in Step 3.

3. Restart the system, holding down just the letter 's' to force single-user mode (if you didn't add it to the boot options).

4. Start (or restart) the machine in single-user mode. At the # prompt, type:
```
fsck -y
```
The fsck utility will go through five 'phases' and then return information about the disk's utilization and fragmentation. If the utility reports any errors or other conditions that it fixes or salvages, you must run it again until no errors are reported. This is because additional disk problem may be uncovered as a result of the first-pass repairs.

How To Run fsck From The Mac OS X Installer CD

Maintenance can be done on a Mac OS X formatted hard drive that won't start up by performing the following steps:

1. Boot system under Mac OS with the Mac OS X Installation CD in the CD-ROM drive. Booting from the CD is acceptable.

2. Using the System Disks application, select the Mac OS X Server partition of the Installation CD as the boot device.

3. Check the "Show Diagnostic Info During Boot" option (this adds the -v flag to your Open Firmware boot command), and in the 'Other Options' field, add 's' (for single-user mode).

Do not put quotes around the letter 's' in the 'Other Options' field.
You may also click the 'Advanced Options' button, click the checkbox to the right of "boot command" and manually edit the boot command so that it reads:

```
0 bootr -v -s
```

If you add the -s, it should be unnecessary to hold down the 's' key as described in Step 4.

4. Restart the system, holding down just the letter 's' to force single-user mode (if you didn't add it to the boot options).

5. The Mac OS X Server system should start up from CD, and after registering the attached hardware, will give a short warning and stop at the root # prompt. At the # prompt type:
fsck -y
The -y flag tells fsck that you want to answer 'yes' to all questions about fixing, repairing, or salvaging things. This is the right approach, as answering 'no' to any question will cause fsck to stop; you cannot determine that all necessary repairs have been made until fsck completes and gives its final report.
The fsck utility will go through five phases, and then return information about the disk's utilization and fragmentation. If the utility reports any errors or other conditions that it fixed or salvaged, you must run it again until no errors are reported. This is because occasionally an additional disk problem will be uncovered as a result of the first-pass repairs.

What To Do If fsck Doesn't Execute As Expected

There are two relatively common reasons why fsck might not run, even if you follow the above directions.

1. If fsck Cannot Determine The File System Type Of The Target Disk
The fsck utility may not be able to determine the filesystem type (UFS) if the directory structure is unusable, or if Mach/BSD isn't sure where the disk is located in your system.
Directory issues are not necessarily a big problem, as Mach/BSD maintains multiple copies on disk of critical directory information (called "mirrors" of the master superblocks. For more information, see the man pages for the 'disk' command by entering '`man disk`' at the command line prompt, or in a terminal window.)
This sort of directory issue is most often encountered after a sudden loss of power, a front-panel or keyboard forced restart, or kicked power plug. Adding the -b16 flag, followed by an argument indicating a location of a superblock mirror, will probably do the trick. Try:

```
fsck -y -b16
```

where -y means "answer all the questions with 'yes'" and the -b16 indicates that fsck should use the superblock image at block 16.
Note that use of the -b flag will **always** modify the file system (because you have told it to do so by using a mirror of the master superblocks). Since fsck must be run repeatedly until the system appears to be clean and no repairs are made, using -b16 will always require at least one additional run of fsck, even if no repairs were made (other than moving in the mirror superblocks).

2. If fsck Says "Filesystem Clean; Skipping Checks"
If fsck returns a message such as "filesystem is clean; skipping checks", it isn't necessarily so. Most Unix-style systems can at times be shut down improperly in such a way that the file system may appear to be clean. If this happens (that is, you know the system was restarted or turned off improperly, or that there has been a power outage), you should force the fsck utility to run by adding the 'f' flag:

```
fsck -y -f
```

Other Possible Reasons fsck Might Not Run

Mach/BSD Doesn't Know Path To Device Driver

If for some reason Mach/BSD isn't sure on which drive the startup software resides, it may help to include the entire path to the command and to the target device driver:
/sbin/fsck -y /dev/hda0a
This is correct for an internal ATAPI drive 0, with the Mac OS X Server on the first partition.
/sbin/fsck -y /dev/sd1a
This is the syntax to designate a SCSI drive with ID=1.
At the # prompt (single-user command line mode), utilities and commands such as rm, mv, vi, cd, find, disk and so forth will run just fine, and won't need the full path; the startup drive may be assumed for some, such as fsck.

Master Superblocks Missing Or Unusable

If problems are encountered reading the master superblocks, the first alternate superblocks may be read instead, by adding the -b16 argument:

```
fsck -y -b16 /dev/hd0a
```

This can be useful if the system lost power when changed directory information was cached but not yet written back to disk before the system went down.

Run It Again, Sam

Note: If anything is altered, repaired or fixed during a file system check by the fsck utility, the message:
***** FILE SYSTEM WAS MODIFIED *****
will appear at the end of execution, just prior to a return to the root prompt (#). If this result occurs, it indicates that changes were made to the filesystem. It is important to run fsck again, until this message no longer appears. If the -b16 argument is used, this message will always appear, so by definition, if the -b16 argument is used, fsck must always be run again without the -b16 as a verification that all is well.

To Continue...

Once fsck runs without error, you may continue your use of the computer with one of the following commands:
exit (the single-user shell)
reboot (restarts and proceeds through a normal boot)
shutdown (powers the computer off)

Disk Too Full For Scratch Area

Note: If the system disk is full (showing no or very few free blocks) fsck may fail to run properly. If the disk really is full (full in this sense means less than 5% free disk space), you must mount the root file system by following the instructions printed just before the single-user prompt (#) is displayed:

```
/sbin/mount -uw /
```

and then use the 'rm' command to remove a few files to make a little space on the hard disk. Any core-dump files in /cores will be of substantial size, and if not needed for diagnostics are quite expendable. Careful consideration should be given as to which files are to be discarded, as there is no 'undelete' available in Unix-style operating systems.

```
rm /cores/[filename]
rm /Local/Users/[username]/Library/OmniWeb/Bookmarks.html
```

For more information on removal of files from command line, see the man pages on 'rm', rmdir', 'disk', and 'rmdir'.

Other Information About Most Commands Abounds In The man Pages

Man pages are available in single user mode only if the '/' file system is mounted, because the pages must be written to disk temporarily.

```
man rm
man rmdir
man fsck
man disk
```

Remember, viewing man pages in single-user mode requires that the root file system be mounted (see 'Disk Too Full...' above).

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Personal Web Sharing: Uploading Files To The Host

We would like to setup the Personal Web Sharing host to allow clients to upload data to the host using a web browser. I have found instructions for how to set up the host, but not the client. Is a CGI necessary to perform this function?
This article has been archived and is no longer updated by Apple.
Personal Web Sharing uses the HTTP protocol to upload files, rather than using FTP or Telnet as do some other programs.

The following steps will allow a client using Netscape Communicator 4.x to upload pages to the Personal Web Sharing host.

Set up on the Personal Web Server host: (steps 1 - 8 were the same from the "Using Personal Web Sharing.html"). Step 0. is important!

0. Open the Web Sharing control panel, you must select "Use File Sharing to control user access"
1. With the Web Sharing control panel open and choose Preferences form the Edit menu.
2. Click the Options tab (if necessary).
3. Click to put an X in the box labeled "Allow guests with write access to replace files in the Web folder".
4. Click Save.
5. Make sure file sharing is turned on in the File Sharing control panel.
6. Make sure that he Web server folder is shared (select the folder, then choose Sharing from the File menu).
7. Use the User & Groups control panel to turn on Guest Access (open the Guest icon, choose Sharing in the pop-up menu, and click to put an X in the box labeled "Allow guests to connect to this computer").
8. Set access privileges for the server folder (select it, then choose Sharing from the File menu and use the pop-up menu to give write access).

On a client running Netscape Communicator

Step 1
Open or create a page from the Communicator's File menu.

Step 2
After editing or creating the page, select "Publish" from the File menu.

Step 3
Enter the location where the file to be published using HTTP. For example:

http://xx.xxx.xx.xxx/test.html

Note that you don't need to specify the "root" level of the PWS folder (e.g. Web Pages) on the location path.

Step 4
Click Publish.
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QuickTime MPEG Extension: Incompatibility With Third-Party Cards

I have an MPEG hardware playback card installed and it no longer works. Why?

This article has been archived and is no longer updated by Apple.
The QuickTime MPEG Extension is not currently compatible with older hardware based MPEG playback solutions. If you have an Apple or third-party MPEG hardware playback card installed in your computer and you wish to continue to use it, you should remove the QuickTime MPEG Extension from your Extensions folder.

For more information on the QuickTime MPEG extension, please see the following Tech Info Library Archive article:

Article 21026: "**QuickTime MPEG Extension: Read Me Document**"
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LocalTalk Bridge: Network Number Conflicts

This article discusses network number conflicts with LocalTalk Bridge.

This article has been archived and is no longer updated by Apple.
Network number conflicts with LocalTalk Bridge occur when both the LocalTalk segment and the ethernet segment try to use the same network number at the same time. LocalTalk Bridge will detect these situations and shut itself off to avoid network conflicts.

Networks with AppleTalk routing

Network number conflicts with LocalTalk Bridge generally do not occur on networks with AppleTalk routing enabled. As the LocalTalk Bridge is activated, it looks for a network number not already in use by a router. However, a network number conflict can occur if a router is turned on after the LocalTalk Bridge has been activated. If the router uses a network number that is already in use by the LocalTalk Bridge, the LocaTalk Bridge will shut itself off to avoid the network conflict with the router.

Networks without AppleTalk routing

Network number conflicts are more likely to occur with networks that do not route AppleTalk. When the LocalTalk Bridge starts up on a network that does not route AppleTalk, it assigns itself to network number 66. If the LocalTalk Bridge discovers any device on the ethernet segment using network number 66, the LocaTalk Bridge will shut itself off to avoid the network conflict with that ethernet device.

This may occur when moving a device from the LocalTalk segment of the LocalTalk Bridge to the ethernet segment. Many AppleTalk devices will automatically try to reuse their old address. When you switch to ethernet, these devices will continue to use network number 66, thus creating the conflict. To reenable the LocalTalk Bridge, you must locate any devices on the ethernet segment that are using network number 66 and change their network number.

To determine the AppleTalk network number of a Mac OS-based computer

1. Open the AppleTalk control panel.
2. Switch to Advanced mode (via User Mode under the Edit menu).
3. The network number will appear in the AppleTalk control panel window.

To change the AppleTalk network number of a Mac OS-based computer

- Reset Parameter RAM (PRAM)

or

1. Open the AppleTalk control panel, check the 'user defined' box.
2. Change the value for the network field.
3. Save changes and close the AppleTalk control panel.
4. Reopen the AppleTalk control panel.
5. Uncheck the 'user defined' box to prevent other future AppleTalk addressing conflicts.

You may need to consult your documentation to determine the AppleTalk address of other AppleTalk-based devices.
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Drive Setup: Test Disk Sector Sparing and Error Messages

During Test Disk, does Apple HD SC Setup/Drive Setup perform sector sparing?

Drive Setup may report 1 of 4 messages after Test Disk is performed. Under what circumstances would someone receive each of the following errors in Drive Setup?

1. This disk needs a low-level format.
2. The test is complete. A few recovered errors occurred.
3. The test was interrupted because too many errors occurred.
4. The test was interrupted. An unrecoverable error occurred and could not be fixed.

This article has been archived and is no longer updated by Apple.
Question: During Test Disk, does Apple HD SC Setup/Drive Setup perform sector sparing?

Sector sparing, often referred to as block reallocation, is explicity performed for SCSI drives during test disk. It may not be performed at other times. No explicit sparing is performed for ATA drives as block sparing is supposed to be automatically carried out by the drive's firmware.

Question: Drive Setup may report 1 of 4 messages after Test Disk is performed. Under what circumstances would someone receive each of the following errors in Drive Setup?

1. This disk needs a low-level format.
Drive Setup will poll each drive to identify device characteristics. During this process, 10 blocks of the surface are each read and written back. If a "Media format is corrupted" error is reported by the drive via the extended sense code, the disk probably needs a low-level format. In the case of SCSI drives, this means that header information must be written to every sector on the disk. No such error should be reported for ATA drives. Note that MO devices may report an extended sense code indicating "Not formatted".

2. The test is complete. A few recovered errors occurred.
During the test process, internal counters are maintained for data integrity errors, most likely checksum errors, recovered errors, and non-recovered errors. Non recovered errors are considered serious enough to abort any further testing of the media. Drive Setup considers less than 10 recovered errors as fairly benign. The message "The test is complete. A few recovered errors occurred" means that less than 10 "soft" errors have been detected.

3. The test was interrupted because too many errors occurred.
4. The Test was interrupted. An unrecoverable error occurred and could not be fixed.
The internal limits for non-recovered errors and data integrity errors are 0 and 0. The message "The test was interrupted because too many errors occurred" means that more than 0 non-recovered errors or 0 data integrity errors or 10 recovered errors have occurred.

The priority in monitoring the error counters is:

1. Non-recoverd errors take precedence over any other type of errors so these are check for first.
2. Data integrity errors take precedence over soft errors.
3. More than 10 soft errors.

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LaserWriter 8500: Erroneous Safety Notice In Paper Tray

I received a brand new LaserWriter 8500 from Apple that contains a sheet of paper in the output tray that reads "Caution - Controller PWB must be installed before shipping to customers. Without controller PWB this machine does not meet safety requirement." What is the controller PWB, and why is this message included with the printer?
This article has been archived and is no longer updated by Apple.
The controller PWB refers to the LaserWriter 8500's I/O controller board.

A limited number of LaserWriter 8500 printers were accidentally shipped with this notice in place. The notice is supposed to be removed during the assembly process when the I/O controller board is integrated with the print engine assembly. Customers who receive the notice with their printer can discard the notice and safely use the printer.
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ImageWriter LQ Fonts: How They Compare To LaserWriter Fonts

This article has been archived and is no longer updated by Apple.

The ImageWriter LQ comes with its own versions of the Helvetica, Times, Courier, and Symbol fonts. Some of the "LaserWriter" sizes of these fonts have different resource sizes than those shipped with LaserWriters. In addition, the LaserWriter and ImageWriter LQ FONDs for these fonts differ. This has led to questions from some users:

- What are the differences?

The ImageWriter LQ fonts are up to 72 points in size; their spacing and font metrics are essentially identical to the LaserWriters' fonts. The difference in font resource sizes between LaserWriter and ImageWriter LQ is about six bytes.

- What is the correct font installation procedure for machines that will be printing to both printers?

Use the Font/DA mover to move the fonts you wish to use.

(NOTE: You must have a screen font three times larger than the size you are printing installed in the system.)

- Will there be any change in spacing on documents created for the LaserWriter when these documents are printed after installing the ImageWriter LQ versions of the fonts?

There should be NO size differences in the documents (spacing, etc.) between the two fonts -- the screen fonts are fundamentally the same. The only difference should show up in the actual printout because of the differences in resolution (300 dpi vs. 216 dpi,) not because of any font differences.

Remember, the fonts you install are SCREEN fonts, not the actual font used for printing on the LaserWriter, which come from the font metrics information stored in the printer.

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Mac OS 8.5: Outlook Express Security Patch

Recently, there have been public announcements in the press and on the World WIde Web about security flaws in some Internet mail clients. Outlook Express was mentioned as one of the programs having the issue. Does the version of Outlook Express installed by Mac OS 8.5 have this issue?

This article has been archived and is no longer updated by Apple.
Yes, the version of Outlook Express 4.01 (295) installed with Mac OS 8.5 has the security exposure. The security issue became known very late in the product shipment cycle of Mac OS 8.5. A corrected version was unavailable in time, and the update/patch was not included on the Mac OS 8.5 Install CD-ROM, because it was felt that the latest solution to this issue was best obtained from the Microsoft web site.

If you plan to use Outlook Express as your Internet mail client, you should visit the Microsoft web site, and obtain either the patch or the corrected full application which includes the patch.

When Outlook Express is running, the About Outlook Express menu item under the Apple menu will show the product version. In addition to showing version 4.01, the sub-version (297) or later designates a version which includes the correction for the security flaw. In summary:

Version	Notes
Outlook Express 4.01 (297)	Not at risk.
Outlook Express 4.01 (less than 297)	At risk. Download the patch now.
Outlook Express 4.0	At risk. Patches are available only for Outlook Express 4.01.

Microsoft recommends that customers download Outlook Express 4.01 and then download the patch for Outlook Express 4.01.

The latest information and download links for Outlook Express for Macintosh can be found at the following location on the Internet:

http://www.microsoft.com/mac/

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.
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Virtual PC: Netware DOS ODI Client Issue

Using Virtual PC 2.0.1 on a PowerMac G3 with built-in Ethernet (2.0.4) will not connect to a Novell NetWare server when using the NetWare DOS ODI client. In Windows 95, I can connect to the Novell server. I can use a SMC Ethernet PCI card to connect to the Novell server using the DOS ODI client.

Are there any workarounds?
This article has been archived and is no longer updated by Apple.
Currently, if you need to connect to a Novell NetWare server using the NetWare DOS client, you will have to use a third party Ethernet PCI card such as a SMC Ethernet PCI card. **Note:** The Apple 10/100 PCI card does not work when using the NetWare DOS ODI client.
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Macintosh II and SE: A List Of Trap Words

This article has been archived and is no longer updated by Apple.

The following is an excerpt from Inside Macintosh, Volume V Appendix C (the 8/17/87 Final APDA draft, the version that APDA is currently shipping).

This appendix lists the trap macros for the new Toolbox and Operating System routines and their corresponding trap word values in hexadecimal. The NAME column gives the trap macro name (without its initial underscore character). In those cases where the name of the equivalent Pascal call is different, the Pascal name appears indented under the main entry. The routines in Macintosh packages are listed under the macros they invoke after pushing a routine sector onto the stack; the routine selector follows the Pascal routine name in parentheses.

NOTE: Traps that aren't currently used by the system are reserved for future use.

NAME TRAP WORD

ADBOp A07C
ADBReInit A07B
AttachVBL A071
CountADBs A077
DoVBLTask A072
DTInstall A082
GetDefaultStartup A07D
GetIndADB A078
GetOSDefault A083
GetTimeout
GetVideoDefault A080
GetADBInfo A079
PrGlue A8FD
RGetResource A80C
ScriptUtil A8B5
SCSIDispatch A815
SCSISelAtn (11)
SCSIMsgIn (12)
SCSIMsgOut (13)
SCSIDisconnect(16)
SCSIReselect (14)
SCSIReselAtn (15)
SetADBInfo A07A
SetDefaultStartup A07E
SetOSDefault A084
SetTimeout
SetVideoDefault A081
Shutdown A895
ShutDwnPower (1)
ShutDwnStart (2)
ShutDwnInstall (3)
ShutDwnRemove (4)
SIntInstall A075
SintRemove A076
SlotManager A06E
InitPRAMRecs
InitSDeclMgr
InitsRsrcTable
SCalcStep
SCardChanged
SCkCardStatus
SDisposePtr
SExec

SFindDevBase
SFindStruct
SGetBlock
SGetcString
SGetDriver
SIntInstall
SIntRemove
SMacBoot
SNextRsrc
SNextTypesRsrc
SOffsetData
SPrimaryInit
SPtrToSlot
SPutPRAMRec
SReadByte
SReadDrvrName
SReadFHeader
SReadInfo
SReadLong
SReadPBSize
SReadPRAMRec
SReadStruct
SReadWord
SRsrcInfo
SSearchSRT
SUpdateSRT
SlotVInstall A06F
SlotVRemove A070
SndPlay A805
SndNewChannel A807
SndAddModifier A802
SndControl A806
SndDoCommand A803
SndDoImmediate A804
SndDisposeChannel A801
SwapMMUMode A05D

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Multiple Scan 15 AV Display: Popping Sound When Powered On

I have an Apple Multiple Scan 15 AV Display. When I power it on with the power button it makes a popping noise through the speakers. Is that normal?

This article has been archived and is no longer updated by Apple.

Yes. The sound you hear is normal and should not be considered a service issue.

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Mac OS X Server 1.x: What Is the "Grab" item in the Apple menu?

This article explains what the "Grab" item in the Apple menu is and how to use it.
This article has been archived and is no longer updated by Apple.
Note: This article pertains to Mac OS X Server versions 1.x, which were released prior to May 2001. For information on Grab in Mac OS X Server or Mac OS X versions 10.0 and later, see Mac Help or search the Knowledge Base.

Grab is an application that provides ways to capture part or all of your computer screen, and then to either save the "grabbed" images to a .tiff file, or to copy them to the Pasteboard.

Selection Modes

Grab provides four separate ways to grab images from your screen. Whenever you choose one of them, Grab will display a panel on the screen to allow you to proceed or cancel. This window is always removed before you take your snapshot.

Selection

This option is used to grab arbitrary areas of the screen. When this option is selected, your mouse cursor will change to a cross-hair type shape. Move the mouse cursor to the area on the screen where you want to capture an image. As you drag the mouse, numbers will appear to the left of the cursor, indicating the current screen coordinates of the mouse. Once you are positioned properly, drag the mouse forming the rectangular area you wish to grab. Once in this mode, the numbers to the left of the mouse cursor indicate the size, in pixels, of the area you are about to grab. When the rectangular area is the correct size, release the mouse button, and a window will appear, showing you the image you just "grabbed". At this point you may save the image, or copy it to the clipboard.

Window

This option is used to grab a particular window from your screen. Once Grab brings up its panel, you should position your windows any way you like. (In the case of windows like torn off menus, which are only visible when their application is active, you might need to switch applications here). When you are satisfied, click your mouse on the "Choose Window" button. The camera icon in Grab's panel will show that it is ready to take a "picture", and your mouse cursor will change to a small camera, or one of the cursors you have chosen from the Preferences panel. Move the mouse cursor to the window you want to grab, and click on the window to "grab" it. This mode will correctly capture a window even if it is partially obscured, or partially off the screen. If you click on the screen background and not on any window when in this mode, the whole screen will be "grabbed."

Screen

This option is used to grab your whole computer screen. Once Grab's panel comes up, click anywhere outside the panel to take the screen shot. The Grab application will always hide itself before "snapping" the picture, so you do not need to move Grab windows off the screen.

Timed Screen

This option is used to grab your whole computer screen after a 10 second time interval. When you are ready to start the timer, click on the "Start Timer" button in Grab's panel, and the camera icon will start counting the ten seconds. During the last second, or so, Grab will sound an alarm indicating that the actual grab is imminent, and then the full screen will automatically be "grabbed" (as in the "Screen" option). This option is useful in order to capture popup menus, button states, etc.
Note: Once you have grabbed an image you can always re-grab smaller pieces of it right out of the grab document window, using the Selection method.

Grab File Format

The Grab application saves files in the .tiff format. Files saved in this format are typically larger than those saved in .gif or .jpeg formats. Images saved in the .tiff format can be converted to other formats which may be used on the web, in a word processor and so forth.

Published Date: Feb 18, 2012

Mac OS X Server 1.x: PrintManager‘s View Queue Option

This article describes how to view the PrintManager's print queue.
This article has been archived and is no longer updated by Apple.
Note: This article pertains to Mac OS X Server versions 1.x, which were released prior to May 2001.

To view the print queue:

Step 1
Choose PrintManager from the Apple menu.

Step 2
Select a printer's name and click View Queue.

Step 3
You can perform the following tasks with jobs in a print queue:

- See status information about print jobs in the queue;
- Delete individual print jobs;
- Stop jobs from being sent to the queue, by clicking Halt Queuing; Pause the printer.

Published Date: Feb 18, 2012

PC Compatibility Card: Using GV modems

I have been having trouble using my Global Village modem on my PC Compatibility card. I have already called Global Village technical support and have been told that this is an unsupported configuration. Are there any workarounds?
This article has been archived and is no longer updated by Apple.
(**Note:** This article contains information about third party products. This article is provided for informational purposes only and Apple makes no guarantees about the information contained in this article. Furthermore, Apple technical support does not supply support for the use of 3rd party products)

Apple has heard reports of Global Village modems not working consistently with Apple branded PC Compatibility cards. It has also been reported to Apple that Global Village technical support states that since they have not extensively tested their modems on the PC Compatibility cards, tbey consider this to be an "untested and unsupported configuration". While Apple typically does not have the resources to test and support third party hardware, it appears that a potential workaround has been brought to our attention.

Global Village ships software with their modems that provide additional functionality to thier modems (such as a status window in the menu bar that appears every time you use the modem, the ability to fax, and so forth). This software is in the form of several system extensions. While much of this software is useful, it is optional (you can still make internet and other data connections without this software installed).

When the Global Village software is installed, however, this can create a serial port contention between the Global Village software and the PC Compatibility software. When you select the modem port as being a COM port in the PC Setup Control Panel, the PC Setup Control Panel will then try to take over that port. Likewise, when the Global Village software is set to answer incoming faxes and so forth, it too tries to take over that port. Typically, since the Global Village software loads first, it grabs the port first and thus the modem cannot be used on the PC side.

That being the case, some brief tests have shown that there are three potential workarounds to this issue (again, please note that these suggestions are merely for informational purposes and they more than likely will work. However, Apple does not provide telephone technical support for third party products):

- Do not install the Global Village software that is shipped with the modem (keep in mind that you will not have faxing capabilities or the menu bar status indicator if you choose this workaround. It is also important to note that you may need to custom install just the modem script for the Global Village modem if you are using older versions of OT/PPP).
- Install the Global Village software, but when you wish to use the modem on the PC side, disable all Global Village extensions using the Extensions Manager, restart and then proceed to set up the modem port as a COM port in the PC Setup Control Panel. When you want the Global Village software to be re-enabled, tell PC Setup to release the modem port (set the COM port to "None") and then turn the Global Village extensions back on and restart.
- If you simply need to download PC software off the internet, possibly the easiest solution is to download the software on the Mac side and then set up a shared folder between the platforms and simply drop the downloaded files in there. You will be able to access the files on the PC side (consult your PC Compatibiltiy Card's manual for instructions on how to set up a shared folder)

Published Date: Feb 18, 2012

Macintosh System 4.2: Problems Displaying Text

This article has been archived and is no longer updated by Apple.

Some Macintosh users who have updated from System 4.1 to 4.2 have discovered problems with their screen fonts -- for instance, certain letter pairs occurring too close together, causing some difficulty reading the characters.

There is a problem with the new system software which may on occasion corrupt the Fond resource. To correct the offending Fond resource, the user will need to remove the offending fonts (all sizes) using Font D/A Mover 3.6, and reinstall them. This action will force the font table in the Fond resource to be recreated, correcting the problem.

Also, in Microsoft Word 3.01, under the Print option, there is a selection for either printing with or without fractional widths. The option default is for NOT using fractional widths, and must be selected to obtain correct spacing with LaserWriter fonts.

Published Date: Feb 18, 2012

AppleShare IP 6.0: Dynamic RAM Allocation

This article describes dynamic RAM allocation under AppleShare IP 6.0, and the conditions for hosting up to 500 concurrent connections.
This article has been archived and is no longer updated by Apple.
Customers have asked for AppleShare IP to allow for more concurrent connections to the server. In response to this request, AppleShare IP 6.0 will now allow up to 500 concurrent connections (up to 250 of which can be AppleTalk connections, the rest IP connections). This feature is only available if the two following conditions are met:

- The server is a G3 with at least 128 MB of RAM installed.
- There is at least 12MB of RAM available--above and beyond what has been reserved for other applications (via the cache setting)--when Web & File Services are started.

Note: There is no visible indication of whether or not the maximum number of connections allowed at a particular time is 250 or 500.

Published Date: Feb 18, 2012

LaserWriter: Sending It PostScript Files From VAX

How can I print PostScript files to a LaserWriter directly from a VAX?

This article has been archived and is no longer updated by Apple.
You can connect a Laserwriter to the RS232 backplane of a VAX and send VAX PostScript files to the printer as long as the files sent are written, saved, and sent as full PostScript files.

To be considered a full PostScript file, the LaserPrep header MUST be present in the PostScript text file. If, for instance, you create a PostScript text file on a Macintosh, and store the file on a VAX to print later, the Laser Prep header must also be included when you actually print that file.

Under System 7, choosing "PostScript File" in the Destination option of the Print dialog box automatically includes the LaserPrep header (in fact, the only way to exclude the header under System 7 is by using the shareware utility Trimmer, which can strip off the header).

Under System 6, the same result is achieved by holding down Command-K immediately after clicking Okay in the Print dialog box.

Published Date: Feb 18, 2012

AppleScript: Location Manager 2.0 Scripting

How can I script Location Manager version 2.0?
This article has been archived and is no longer updated by Apple.
The Location Manager 2.0 has some limited scripting capability.

The ability to use the AppleScript "every" phrase is not yet implemented, however this facility can be worked around by doing a little more scripting.

Example 1

```
tell application "Location Manager" to get the name of every location -- doesn't work in version 2.0
```

An example solution to the above limitation is:

```
set LocationNames to {} -- start with a null list
tell application "Location Manager"
repeat with i from 1 to count of locations
copy name of location i to LocationNames
end
end
```

At the end of this script's execution, the variable LocationNames will be a list of every location name.

Example 2

```
tell application "Location Manager" to get the name of the current location -- doesn't work in version 2.0
```

An example solution to the above limitation is:

```
set CurrentLocName to "" -- start with a null string
tell application "Location Manager"
repeat with i from 1 to count of locations
if location i is the current location then
copy name of location i to CurrentLocName
end
end
end
```

At the end of this script's execution, the variable CurrentLocName will be the name of the current location.
Published Date: Feb 18, 2012

Williams-Sonoma Guide to Good Cooking CD: Freeze/Type 10 Errors

I received the Williams-Sonoma Guide to Good Cooking CD with my iMac computer. To run this CD, I insert the CD and launch the WS Guide application that is pre-installed in my Applications folder on my hard drive. Sometimes when I launch the WS Guide application, my computer will freeze or the WS Guide application will unexpectedly quit with a Type 10 error.

Are Apple and Broderbund aware of this issue? How can I correct this?
This article has been archived and is no longer updated by Apple.
Apple and Broderbund are aware of this issue. It is not specific to iMac computers and can occur on any Power Macintosh computer running Mac OS 8.1.

To avoid the issue, either turn off File Sharing before launching the application, or insert the Williams-Sonoma CD only after the computer has finished starting up. Limited testing suggests that this issue may not occur under Mac OS 8.5.

For the latest information on Williams-Sonoma , users may visit Broderbund's web site.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

The following Tech Info Library article can help you search for a particular vendor's address and phone number:
TIL Article 17159: "**Locating Vendor Information**"
Published Date: Feb 18, 2012

AudioVision 14 Display: Video Cable Adapter

The AudioVision 14-inch Display has a special HDI-45 cable that was meant to connect to a special high density port on the PowerMac 6100 and 7100. Using this monitor on a computer that does not have a HDI-45 connector requires an adapter.
This article has been archived and is no longer updated by Apple.
The adapter is service part #922-0419. Any Apple Authorized Service Provider can order this part for you.
Published Date: Feb 18, 2012

ColorSync 2.5.1 Read Me

ColorSync version 2.5.1 was released on September 1, 1998. It requires North American English Mac OS 7.6.1, 8.0, or 8.1.

Description
ColorSync 2.5.1 is Apple Computer's color management architecture for the Mac OS. This version of ColorSync provides new and enhanced features regarding Monitor calibration, AppleScript support, Profile cache file, Profiles folder and subfolders, Photoshop plug-ins, Multiprocessing, and 16 bit image support. Please refer to the Read Me file included with with this software for complete details.

Instructions
This software is available two different ways. Each method of obtaining this software will provide you the exact same software.

(a.) One self-mounting Disk Copy image
(b.) Four parts of a self-mounting Disk Copy image

If you choose (a.), download this self-mounting image to your hard drive and then double-click it to mount the compressed disk image on your desktop. Please read the documents included on this disk image before installing the software.

If you choose (b.), download all 4 parts to your hard drive and then double-click on the first part to mount the compressed disk image on your desktop. Read the documents included on this disk image before installing the software.

You may wish to download the 4 parts instead of the individual self-mounting image if you are a using a modem connection or if you wish to transport ColorSync 2.5.1 to another machine via floppy.

Other Info
Version 2.5.1 includes support for iMac and an improved AppleScript library.
This article has been archived and is no longer updated by Apple.
ColorSync(TM) 2.5 Read Me

ColorSync(TM) 2.5 is Apple Computer's color management architecture for the Mac OS. This document describes the new capabilities provided in version 2.5.

What's New

This version of ColorSync provides new and enhanced features in several areas:
- Monitor calibration
- AppleScript support
- Profile cache file
- Profiles folder and subfolders
- Photoshop plug-ins
- Multiprocessing
- 16 bit support

Monitor Calibration

Open up the Monitors & Sound control panel and you'll notice some changes, namely the addition of the ColorSync Profiles panel showing a list of profiles.

Figure 1 ColorSync Profiles control panel

You might also notice that the list of monitor gammas (Mac Standard Gamma, Uncorrected Gamma) has been removed, since the setting of gamma has been moved into the calibration process. Clicking on the "Calibrate" button brings up the Monitor Calibration Assistant, which looks a lot like other Assistants you've probably used before. The assistant walks you through a series of screens with helpful text describing the purpose of each step in the process.

The assistant helps you create a "profile" of your monitor that describes the gamut of your monitor based on its phosphor set, the inherent gamma of your monitor, the gamma you're trying to achieve, the white point your monitor is set to, and the white point you're trying to achieve. After

you've created a profile, it shows up in the list of available profiles.

The Monitor Calibration Assistant which appears when you click on the "Calibrate" button is part of the Default Calibrator, the software-only calibrator supplied by Apple. But the new calibration system is really a calibration framework, a plug-in architecture which can easily accomodate third party calibration applications. Developers can simply write their own calibrators as plugins to the calibration framework, and when the user hits the "Calibrate" button, a list of all installed plugins comes up.

You change the monitor's display characteristics by selecting different profiles in the profile list. For example, create one profile with a target white point of D50 and a second profile with a target white point of 9300. In the profiles list (shown in the picture above), click on the D50 profile, then click on the 9300 profile. Notice the monitor changes its white point as you select first one profile, then the other. The same thing goes for different gammas. If you set the gamma to 1.8 for one profile and to 2.2 for another, when you select either in the list, the monitor's display changes to reflect the gamma setting in the profile.

If you have an AppleVision Display or a ColorSync Display, Apple's software Default Calibrator will not be available for use, since these displays have their own built in hardware calibration systems separate from the new calibration framework. As a result, you won't see the "Calibrate" button on these displays unless you've installed a third party calibrator which does take advantage of the framework.

So once you've created these profiles what do you do with them? You can use them to do ColorSync matching, using either AppleScripts, the ColorSync plug-ins for Photoshop, or ColorSync-aware third party applications.

AppleScript Support

Now you can use AppleScript to do the same kinds of ColorSync matching previously available only in the ColorSync Photoshop plug-ins or in third party applications. There are several sample scripts included with ColorSync 2.5, so you can cut, paste and modify parts of them for your own use. More documentation about each of the scripts can be found in the "Sample Scripts ReadMe" file.

This scriptability is the result of the ColorSync Extension being a faceless background application, as opposed to the simple extension ColorSync used to be. Now that it's an application, it has its own AppleScript dictionary. You can examine this dictionary by finding "ColorSync Extension" in the extensions folder and dragging it onto the Script Editor, which is in the Apple Extras folder inside the AppleScript folder. Script Editor then brings up a window with all the commands the ColorSync Extension will respond to. It can embed, match, proof, link, and even quit. But don't expect to see it in your processes list, because it's faceless...it's there, you just can't see it.

Profile Cache File

ColorSync now makes use of a cache file in the Preferences folder to keep track of the currently installed profiles. Through a series of checks on the modification date of each profile, the modification dates of folders and subfolders, and the total number of profiles installed, ColorSync is able to quickly determine whether any profiles have been added or removed, passing this information on to applications requesting it. This can potentially speed up profile management routines such as building a list of profiles, displaying a pop-up menu of the available profiles, and so on.

New Profile Folder Location and Subfolders

Earlier versions of ColorSync searched in the "ColorSync(TM) Profiles" folder inside the Preferences folder for all installed profiles. Version 2.5 now places a "ColorSync Profiles" folder directly in the System Folder. This change was made so that users would not accidentally delete all their profiles if they deleted other preferences and, perhaps more importantly, so profiles can be automatically routed to the profiles folder in future releases of the Mac OS. For backward compatibility, ColorSync creates an alias to the old "ColorSync(TM) Profiles" folder inside the new "ColorSync Profiles" folder.

A new feature of the "ColorSync Profiles" folder is that it now allows subfolders of profiles. For example you could organize your profile folders as shown below:

Figure 2 ColorSync Profiles Folder example

Applications can (and should) call ColorSync to get the list of currently installed profiles, as opposed to assuming the path to the original folder. This is especially necessary to support the new subfolder feature. Previous versions of ColorSync only looked at profiles inside the Profiles Folder, but didn't look inside subfolders. That's fine if you only have a few profiles, but it's nice to be able to organize your profiles into subfolders for clarity, especially if you have several dozen of them. Notice in the picture above that it's okay to have subfolders, individual profiles, and aliases within the profiles folder

Photoshop Plug-ins

ColorSync 2.5 ships with new versions of the Photoshop plug-ins that shipped with ColorSync 2.1. They behave pretty much the same as the original plug-ins, but now take full advantage of the new features of ColorSync 2.5.

Experimenting with the Photoshop plug-ins can be a great aid to understanding what ColorSync actually does. The ColorSync Filter is accessible from the normal "Filters" menu in Photoshop, while Export and Import are accessible from the "File" menu.

Using the ColorSync Filter to do a proof is probably the most instructional example. Open an RGB image, then run the ColorSync filter, selecting the "proof" tab. Select a monitor profile for the source, and the same monitor profile for the proof, but select a printer profile as the destination. You should be able to see the color difference between the original image and the proofed image. By the way, what you're doing is simulating what that image would look like if it were printed on that printer. By selecting different printers as the destination, you can compare what the image would look like on each printer. See the "ColorSync Plug-ins ReadMe" file for detailed information on how the plug-ins work.

Multiprocessing Support

ColorSync 2.5 can now take advantage of multiprocessor machines when performing matching operations. The matching algorithms are optimized to take advantage of multiple processors with about 90% efficiency. It's scalable too, so in the presence of four processors, a given operation will take about a fourth of the time required with a single processor.

However, in low memory conditions on systems with 16mb or less of installed memory, you may occasionally see a warning dialog appear saying "The MP library could not be completely initialized due to insufficient memory." This is an artifact of the multiprocessing library itself and can safely be ignored if your machine only has one processor - if none of this sounds familiar, then chances are you've only got one processor. If you see the warning often, you may wish to avoid its appearance by removing the Multiprocessing extensions from your extension folder.

Support for 16 bit images

ColorSync 2.5 now supports matching to and from high-resolution images which use 16 bits per channel. Most common RGB images use no more than 8 bits per channel (256 degrees of red, 256 degrees of green, 256 degrees of blue) which when combined result in 16,777,216 possible colors - that's the "millions of colors" option you may have seen when setting the color depth of your monitor using the Control Strip. In comparison, a 16 bit image may describe up to 65,536 shades in each red, green, and blue channel, resulting in over 218 trillion possible color combinations.

What gets installed

Choosing the "Easy Install" option during installation installs the control panel "ColorSync" and the extension "ColorSync Extension" into the appropriate folders of your system folder, and also installs the following files into the "ColorSync Extras" folder of the "Apple Extras" folder of your hard disk:

- AppleScript Files: AutoMatch
- AppleScript Files: DropEmbed
- AppleScript Files: DropProof
- AppleScript Files: Match to CMYK
- AppleScript Files: PC to Mac Gamma
- AppleScript Files: Sample Scripts ReadMe
- ColorSync 2.5 ReadMe

The "Easy Install" also installs the following ColorSync Profiles into the "ColorSync Profiles" folder of the "System Folder" of your hard disk:

```
- Apple 12" RGB Standard              - Generic CMYK Profile
- Apple 13" RGB Standard              - Generic Lab Profile
- Apple 16" RGB Page-White            - Generic RGB Profile
- Apple 16" RGB Standard              - Generic XYZ Profile
- Apple 21" RGB Page-White            - Mac Color Classic Standard
- Apple 21" RGB Standard              - Mac Color Display Standard
- Apple Multiple Scan 14              - Macintosh LC520 Standard
- Apple Multiple Scan 15              - PowerBook 165C Standard
- Apple Multiple Scan 17 - 9300       - PowerBook 180C Standard
- Apple Multiple Scan 17 - D50        - PowerBook 2400 Standard
- Apple Multiple Scan 17 - D65        - PowerBook 270C Standard
- Apple Multiple Scan 1705            - PowerBook 3400
```

```
- Apple Multiple Scan 20 - 9300        - PowerBook 520C Standard
- Apple Multiple Scan 20 - D50         - PowerBook 540C Standard
- Apple Multiple Scan 20 - D65         - PowerBook G3
- Apple Performa Display               - sRGB Profile
- Apple Performa Plus Display          - Twentieth Anniversary Macintosh
- ColorSync Display - 9300             - Apple Studio Display
  - iMac Display
```

You may also perform a "Custom Install" of ColorSync 2.5, allowing you to install any or all of the following:

- the Kodak CMM (into the extensions folder),
- the ColorSync Plugins and Plugins ReadMe (into the ColorSync Extras folder),
- the following additional ColorSync profiles (into the ColorSync Profiles folder):

```
- Color SW 1500 Pattern               - CSW 6500 Coated
- Color SW 1500 Scatter               - CSW 6500 Plain
- Color SW 2500 Pattern               - CSW 6500 Specialty
- Color SW 2500 Pattern Best 1        - Color LW 12/600 PS Profile
- Color SW 2500 Pattern Best 2        - Color LW 12/660 PS Profile
- Color SW 2500 Scatter               - Color OneScanner 600/27
- Color SW 2500 Scatter Best 1        - Color OneScanner 1200/30
- Color SW 2500 Scatter Best 2        - CS ColorMatch 3.01 SWOP Sf C
                                     - 4/C Ctd.TRUMATCH/RIT/Profile80
```

Supported Configurations

All parts of ColorSync 2.5 will work on both PowerPC and 68K machines running System 7.6.1 or later. The only exception is that the calibration framework requires that the Monitors & Sound control panel be present. Monitors & Sound is not part of the Easy Install option in System 7.6.1 for 68K machines, so on these systems the "Calibrate" button may not be available.

However, it is possible to go ahead and install both the Monitors & Sound control panel and the SystemAV extension onto a 68K machine by performing a "Custom Install" with the System 7.6.1 Installer. Once those are in place, you'll see the "Calibrate" button in the Monitors & Sound control panel.

To find the most recent version of this software, please refer to the Apple Software Updates Web site at http://www.apple.com/swupdates.

Published Date: Feb 18, 2012

Client‘s Router Configuration: TCP/IP And AppleTalk

I configured my TCP/IP Control Panel, put in my IP address, subnet mask, router and domain name server. Then I closed the control panel and saved the changes. Next I opened up my AppleTalk Control Panel, set my user mode to Advanced, and clicked on the "Info" button. The router information was blank. Why was it blank when I put router information in the TCP/IP Control Panel?

This article has been archived and is no longer updated by Apple.

The router information in the TCP/IP Control Panel is not related to the router information in the AppleTalk Control Panel. AppleTalk and TCP/IP are different protocols and the router for each protocol serves a different purpose.

Published Date: Feb 18, 2012

Apple Writer: Keeping Printout‘s First Line at the Page‘s Top

If the Page Interval (PI) option of Apple Writer's Print/Program Commands doesn't reflect the exact number of lines long your paper is, the first line of each page will be printed either slightly higher or slightly lower than the first line of the previous page; if the document is long enough, the text may actually begin to spill over the page boundary.

This article has been archived and is no longer updated by Apple.

To correct the problem, raise the value of PI if the first line printed is creeping upwards; lower it if the first line is creeping downwards.

Published Date: Feb 18, 2012

Macintosh Plus, SE: Modifying Screen Refresh Rate For NTSC Video

Some Macintosh users have wondered about shooting a television picture of the screen of a Macintosh SE or Macintosh Plus: Why does video-camera footage of the Macintosh result in a rolling bar across the image of the computer screen? Can anything be done to solve the problem? And if so, will the Macintosh run correctly after that?

This article has been archived and is no longer updated by Apple.

The "rolling bar" results from the Macintosh SE or Macintosh Plus computer's refresh rate (vertical scan rate) of 60.15 Hz, when television's refresh (vertical scan) rate is 59.94 Hz.

You can use an external or internal clock at 15.612515 MHz (.35% of the Macintosh's internal clock) to stabilize the scan line that rolls down the screen. There are three problems with this:

- Such adjustments void the computer's warranty.

- Ordering a specific oscillator usually takes anywhere from 8 to 12 weeks.

- Once stabilized, the visible scan line will remain visible on the screen.

You might be able to start it within the retrace period (where it rolls off bottom and begins on the top), but the odds are against it.

After the adjustments discussed above, the Macintosh would not be running correctly -- at least in a technical sense. The screen refresh rate would be incorrect, and other Macintosh components dependent on the internal clock would be slowed down accordingly. There are many possible problems, but applications would probably continue to function without anyone noticing any real problems for some time.

Published Date: Feb 18, 2012

LaserWriter 8500: Reducing Paper Skewing During Printing

How can I reduce the amount of skew that occurs when I print? The skewing varies depending on the size and type of paper that I use.
This article has been archived and is no longer updated by Apple.
Most paper skewing issues can be attributed to improper loading of the paper into the cassette tray or the use of paper types that are too heavy, or have surface finishes that are difficult to feed through the LaserWriter's paper path. To minimize skewing problems on the LaserWriter 8500 it is important that the following items are checked:

- Always make sure that the paper guides are placed against the paper stack when loading paper into the cassettes and multipurpose tray.
- The paper weight should not exceed 28 lb. when printing from the cassette trays, and 32 lb. maximum from the multipurpose tray.
- Always feed letter and A4 paper long edge first.
- Print only on the supported materials which includes plain paper, transparencies, labels, envelopes, and postcards.
- Test heavily textured or specialty papers to make sure that they work satisfactorily.
- Use only the supported paper sizes which range from 3.9 inch by 5.8 inch minimum to 13 inch by 20 inch maximum.

If skewing still occurs then carefully inspect the entire paper path for obstructions such as paper remnants from previous paper jams, stuck labels, and paper feed rollers contaminated with paper dust.
Published Date: Feb 18, 2012

LaserWriter 8500: Toner Stains On Printed Output

My LaserWriter 8500 recently began putting a light dusting of toner onto my printed output. The toner stays towards the center of the page and produces a band of 'background toner' that is 3 to 4 inches wide. The band always appears parallel to the direction of paper movement and appears to show a slight ghost image of items printed approximately 3 inches earlier on the page.
This article has been archived and is no longer updated by Apple.
When a fuser roller becomes contaminated with toner it can cause toner stains to appear on the printed output. A normal fuser roller contains a non-stick coating which is supposed to prevent the unfused toner particles on the sheet of paper from adhering to the heated fuser roller during the fusing process. If the fuser roller becomes contaminated with toner or other contaminants then the non-stick properties are diminished. The ghosting images that occur when unfused toner is picked up by the toner stained areas of the fuser and redeposited the next revolution of the fuser roller. The circumference of the fuser roller is approximately 3 1/8". Unlike most other LaserWriters, Letter and A4 paper typically feed long edge first on the LaserWriter 8500 which means that the ghosting repeats from the right to the left side of the page. Larger paper sizes feed short edge first so the ghosting will repeat from the top to the bottom of the page.

Toner stains on the fuser roller typically cannot be cleaned off without further damaging the non-stick coating. Customers should contact their service provider for further assistance.
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Macintosh: Connecting AppleTalk To A TCP/IP Network

This article has been archived and is no longer updated by Apple.

If you are a running on a TCP/IP network, and wish to upload or download files to a Macintosh (and possibly make changes to downloaded files,) MacIP can be used as a stand-alone system or across an AppleTalk network.

MacIP is an IP implementation of the Telnet and FTP communications programs developed at Stanford University, and is provided free from Kinetics with their Kinetics FastPath products.

FastPaths work with the Kinetics driver software to route normal AppleTalk communications onto Ethernet networks -- or, by using MacIP, to communicate in a limited fashion with systems across TCP/IP networks.

For more information, search under: Kinetics

Published Date: Feb 18, 2012

At Ease: Mounting CDs On PowerBook G3 Series

This article is about mounting CDs on PowerBook G3 Series computers with At Ease installed.
This article has been archived and is no longer updated by Apple.
Symptom:

I have At Ease 5 for Workgroups installed on my PowerBook G3 Series. I log in to a workgroup that should have access to any CD. However, when I insert a CD, nothing appears on the screen.

Solution:

This can occur in any At Ease environment: Panels, Restricted Finder, or full Finder. There are three workarounds:

- Have a CD in the drive at startup. After you log into At Ease, you can eject this CD and use others.
- Insert the CD, put the PowerBook to sleep, then awaken it.
- Remove the CD drive from the expansion bay and reinsert it.

Published Date: Feb 18, 2012

Macintosh II: Comparison of Internal Synthesizers (10/94)

Are the sound synthesizers in the Macintosh II the same as those used in the music industry?

This article has been archived and is no longer updated by Apple.
It's important to distinguish between the "synthesizers" built into the Macintosh II, and the "synthesizer" and "sampler" instruments used in the music industry.

In the music industry, the term synthesizer comes from the central components that synthesize or process the sounds they generate -- just as computers are sometimes called CPUs for the main component of a computer. The music industry digital instruments "synthesize" sound from digital information. These instruments store and manipulate digital information and are far more complex in their sound production than are the components built into the Macintosh II.

In the music industry, a sample is a type of digitizer that converts analog sound to digital information. Samplers derive their name from the discrete samples of analog sound that are converted at high frequencies (usually 44.56KHz) to digital information. This, like music synthesis, is possible on the Macintosh II with third-party solutions. When attempting to produce digitally sampled or generated sound on the Macintosh II, remember that the possible output may be limited by your third-party hardware and software.

The Macintosh II doesn't have hardware comparable to that found in music instruments. The methods of modifying and manipulating the digitized sounds of a music synthesizer are not in the synthesizer logic chips found in the Macintosh II, but in the design of the instrument components. The Macintosh may emulate these products through software and hardware, but is not designed to BE one of them.

Answers to some frequently-asked questions:

- What is the high and low sampling frequency, and can it be changed?

The pre-recorded or computer-generated sounds may be played through the sampled sound synthesizer from 1Hz to 44KHz samples per second. The number of samples per second can be adjusted. The effect of this adjusting is an increase or decrease in pitch.

- What is the maximum sampling length?

Maximum sampling width is 8 bits. However, maximum length of sampled sound that can be PLAYED is restricted only by disk space. This is because sound buffers can be allocated and linked end to end. As sound buffers are played, new data can be loaded from the disk, provided that each buffer is at least 256 bytes long and the load routines are programmed efficiently.

- What method does the Wave Table Synthesizer use?

The methods of wave synthesis listed here are for adjusting or editing wave forms. The wave table synthesizer merely takes a defined sound and plays it. What method is used for creating or modifying the wave is up to the software. Each of the above listed methods can be created in the software that delivers the final wave form to the wave table synthesizer.

- Do all four voices of the ASC wave-table synthesis play in stereo?

Yes, however the note synthesizer does not have the command for stereo sound built into it and therefore is excluded from its use.

Two more notes:

- There is NO sampling capability of the digitizing type built into the Macintosh hardware: the sampled sound digitizer plays pre-digitized sound.

- There are no sound editing capabilities built into the Macintosh hardware.

Article Change History:
10 Oct 1994 - Revised title to more accurately reflect contents of article.

Support Information Services
Published Date: Feb 18, 2012

AppleShare IP 6.0: Windows Client Logged In As Guest

When I connect to our AppleShare IP 6.0 (ASIP) server from a Windows client via SMB, sometimes it seems that I have lost my user privileges. Further inspection shows that I only have guest access. Why is this?
This article has been archived and is no longer updated by Apple.
This may happen if guest access is enabled and if you misentered your user name or password. Instead of denying access, ASIP will log the user in with guest access.

For further information on the ASIP 6.0 logon behavior for Windows File Sharing (SMB) clients, please see the following Tech Info Library article:

Article 24620: "**AppleShare IP 6.0: SMB Logon Behavior**"
Published Date: Feb 18, 2012

At Ease: Flashing "?" and Drive Not Mounting on Workstation

This article describes how to identify if the disk is locked by At Ease and how to unlock it.
This article has been archived and is no longer updated by Apple.
There are many conditions under which this could occur. If your workstation is running At Ease for WorkGroups and the security feature "prevent the user from starting up with a floppy disk" is enabled, the hard disk may be locked by At Ease. When something happens to the system folder on the startup volume and this feature of At Ease has been activated, the startup volume will not mount when you boot the workstation from a bootable floppy disk, CD, another hard disk or drive partition.

Start up your workstation with the CD or disk tools disk that came with your computer. If the startup volume appears on the desktop, then the volume is not locked by At Ease. Follow the troubleshooting tips in the following article to determine the problem your workstation is exhibiting:

Document 58042: "**Macintosh: Flashing Question Mark at Startup**"

Note: Blinking question marks can be caused by many things. For example, separating the Finder and System (moving one out of the System Folder), can cause a blinking question mark. Improperly connecting devices to the SCSI port on your computer can also cause a blinking question mark.

Solution
If the startup volume does not appear on the desktop run the Disk First Aid utility. Disk First Aid sees the drive if the hard disk is functioning and allow you to verify and repair the drive. If after verifying or repairing the drive it still does not mount on the desktop, try unlocking the drive with the At Ease Unlock utility. The utility prompts you for a password which can be obtained through the Apple Assistance Center.

The utility must be on a floppy disk or removable media. If necessary, the At Ease Unlock utility can be installed by means of a custom installation of the Apple Network Administrators Toolkit software and selecting "At Ease Unlock".

Additional articles you should read:

Article 22090: "**Drive Setup 1.3.1: Read Me**"
Article 22101: "**Global Product Flash: Drive Setup 1.3.1, 1.4 and At Ease**"

Published Date: Feb 18, 2012

QuickDraw 3D: Functional Summary Of Individual Extensions

QuickDraw 3D is comprised of several individual extensions. What do they all do?
This article has been archived and is no longer updated by Apple.
Starting with QuickTime 3, QuickDraw 3D is an integrated component. QuickTime now installs QuickDraw 3D, consisting of two extensions and five libraries.

QuickDraw 3D
The main extension where all the heavy work is done.

QuickDraw 3D HW Driver
The driver for the Apple QD3D hardware accelerator card.

QuickDraw 3D HW Plug-In
The RAVE plug-in for the Apple QD3D hardware accelerator card.

QuickDraw 3D Viewer
The shared library that provides a very simple method for displaying 3DMF models. (This is what the Scrapbook and SimpleText use to show 3DMF objects)

QuickDraw 3D IR
The QuickDraw 3D Interactive Renderer (IR) is the default plug-in renderer for QuickDraw 3D. (The other supplied renderer, the wireframe renderer, is built-in)

QuickDraw 3D RAVE
Renderer Acceleration Virtual Engine (RAVE) is the Hardware Abstraction Layer API--(talks to the 3D hardware accelerators, if present).

QD 3D Custom Elements
The Custom Elements file contains custom items (such as custom object types, custom attributes, custom shaders and custom renderers) for integration with QuickTime.
Published Date: Feb 18, 2012

Mac OS 8.5: Time Server Sync Crashes

The network time server synchronization feature of Mac OS 8.5 will not work if the date is set to 1963 or earlier.
This article has been archived and is no longer updated by Apple.
If the date on your computer is set to 1963 or earlier, it stops responding if you try to manually sync with the network time server using the Date & Time control panel. The clock date is reset when the battery supplying power to the internal clock drains. This situation is more common on PowerBook computers after they have been without power for several days, although it can happen to any type of computer. When the backup battery drains, the clock is reset to 1/1/1904.

How to Correct

Computer is currently not responding (has crashed)

1. Force quit the Time Synchronizer.
To force quit an appliation press and hold the command-option-esc keys simultaneously.
2. Force quite the Date & Time control panel.
3. Open the Date & Time control panel.
4. Manually set the date.

Computer Date has not Been Syncronized

1. Reset the date before using the network time server.

The **Mac OS 8.6 Update** addresses this issue.
Published Date: Feb 18, 2012

Mac OS X Server 1.x: Accessing Local Files From NetInfo Account

This article is about how to acces local files from NetInfo accounts.
This article has been archived and is no longer updated by Apple.
Note: This article pertains to Mac OS X Server versions 1.x, which were released prior to May 2001.

Question:

Why can't I modify system and private files on my local computer while logged into my NetInfo accounts?

Answer:

This is the way Mac OS X Server security works by default. If you are logged onto your NetInfo account, which you can do from any computer on the network, you only have privileges to write to the home directory on the NetInfo server's drive(s). If you are logged onto a Mac OS X Server locally, you cannot write to your NetInfo account's home directory; the two sets of directories belong to different accounts. The two user accounts are not the same, and should not logically have the same default privileges.

The situation is easily resolved if you have root access to the local computer:

1. While logged in as a local user, or as root, open /System/Administration/NetworkManager.app, and click on the 'groups of users' tab near the top of the window.

2. Double-click on 'wheel', and you will see displayed the list of those users who have this group's access privileges in addition to root.

3. Click the 'Add User' button at the bottom of the window, and after a pause, the entire list of NetInfo users in your domain will be displayed.

4. Enter the account name in the 'search' field, or select the desired account by scrolling, and click 'OK'; the window will close.

5. Save changes in the 'wheel' Groups of Users window. You will be warned that the ID of this group is outside the normal range (wheel ID=0); click 'continue'.

6. You will be prompted for the root password. You must enter the root password to authorize the change.

After completing these steps, a user logged onto this computer with the changed NetInfo ID will have complete access to the local drive system without having to su, telnet, or log out and in with a different account.
Published Date: Feb 18, 2012

LaserWriter and LaserWriter Plus: Font Substitution List

This article has been archived and is no longer updated by Apple.

You can find a complete list of the substitution fonts (the exchanges made when Font Substitution is selected) for LaserWriter and LaserWriter Plus on page 51 of the LaserWriter and LaserWriter Plus manual (Engineering Part #030-1296-C.)

The substitutions are as follows:

- NEW YORK changes to TIMES (in LaserWriter and LaserWriter Plus)

- GENEVA changes to HELVETICA

- MONACO changes to COURIER

- SEATTLE, (the font used in Microsoft Multiplan,) changes to a modified version of HELVETICA.

These are the only fonts that have LaserWriter font-substitution. Other fonts are printed as bitmaps.

Published Date: Feb 18, 2012

Mac OS: Sound Delays

System beeps seem to be delayed by a second from when they're supposed to play. This seemed to happen after I installed a game demo. I have turned off virtual memory.
This article has been archived and is no longer updated by Apple.
Sounds can be distorted or delayed if the sound ouput quality in the Monitors & Sound control panel is set to a different rate than the sounds being played were recorded at. Most system beeps were recorded at 44.1kHz.

Open the Monitors & Sound control panel and click on the Sound panel. Make sure the Sound Output Quality option is set to 44.100kHz.
Published Date: Feb 18, 2012

AppleShare IP 5.0.x: Web & File Admin Launch/Quit

This article explains how to launch AppleShare IP Web & File admin from AppleShare IP Manager.
This article has been archived and is no longer updated by Apple.

Symptom:

When AppleShare IP Web & File admin is launched from AppleShare IP Manager, the Web & File Admin application never opens.

Solution:

This is due to the unavailability of a resource file that OpenDoc uses. That file is named "SOMobjects for MacOS" and is a resource installed as part of the Internet Access option available when installing Mac OS 8 or Mac OS 8.1. Customers may disable "SOMobjets for MacOS" since it belongs to the "Internet Access" package in the Extensions Manager thinking that the server does not need it since it will not be connecting to the Internet. Doing so will cause the behavior to occur. Re-enable the "SOMobjects for MacOS" extension and the situation will be resolved.

If you double click on the Web & File Admin alias in the Web & File server folder inside of the AppleShare IP 6.0 folder you will receive a message "The application "OpenDoc" could not be opened because "SOM" could not be found". This message is referring to the same file "SOMobjects for MacOS". Disabling it will cause the behavior to occur and re-enabling it will resolve the situation if it does occur.

Published Date: Feb 18, 2012

Mac OS 8.5: Long Delay Mounting PC Volumes

I am trying to mount a PC volume created with Virtual PC, SoftWindows or the Apple PC Compatibility software in the Mac OS Finder, but my computer keeps locking up.
This article has been archived and is no longer updated by Apple.
The computer is most likely not frozen; there is simply a longer delay mounting the volume in Mac OS 8.5.

On the initial mount of the PC volume under Mac OS 8.5 the OS will attempt to build FINDER.DAT information on the drive. This could take some time depending on the size of the volume mounted. The progress indicator will almost immediately jump to indicate the mount is complete, but will stay there, giving the impression that the computer is locked or crashed. Give the computer time and the volume will mount. This long delay only occurs the first time the volume is mounted. Subsequent mounts of the PC volume in the Macintosh Finder should happen almost instantaneously.
Published Date: Feb 18, 2012

Mac OS 8.5: SoftwareFPU Incompatibility

If SoftwareFPU and Mac OS 8.5 are installed on a Power Macintosh, the computer crashes at startup.
This article has been archived and is no longer updated by Apple.
There is an interaction between Mac OS 8.5 and SoftwareFPU, made by John Neil & Associates, which results in a crash upon restart, if SoftwareFPU is installed. The crash is actually happening in the new Folder Actions faceless background application, but the issue is due to a complicated interaction between the Thread Manager and the way programs exit.

This is fixed in Mac OS 8.6, and you should download the update from Apple's software updates server. Meanwhile, a work around is to disable either SoftwareFPU or Folder Actions via the Extensions Manager. This eliminates the crash for most users.

There may be other applications which use similar code to what Folder Actions uses. Such applications will also crash when quitting. Software developers have been notified as to how to fix this issue.

This article can help you locate the software update mentioned here:

- Article 14724: "**Where To Find Apple Software Updates**" - Lists online services for free Apple software updates.

Published Date: Feb 18, 2012

PowerBook G3 Series: Sound Input Selection Changing

This article is about why the sound input source on PowerBook G3 Series computers may spontaneously change to Internal Modem.
This article has been archived and is no longer updated by Apple.
If you have FaxSTF or Global Village fax software installed and it is set to answer incoming calls, the fax software will automatically switch the sound input to Internal Modem every time the PowerBook comes out of sleep. This is normal behavior.

Also, FaxSTF may attempt to re-send a previously unsuccessful fax in the background. If you don't happen to be in the Finder to see the notification window appear, it may appear that the sound input source is changing spontaneously. In fact, the fax software is just changing the sound input to Internal Modem in preparation for sending a fax.

Note: Macintosh PowerBook G3 Series computers should not be confused with Macintosh PowerBook G3 computers. Though the names are similar, there are significant differences. For more information differentiating between the computers, read article 24604: "**PowerBook G3, G3 Series: Identifying Different Versions**"
Published Date: Feb 18, 2012

LaserWriter: Courier 9 Printing Problem

This article has been archived and is no longer updated by Apple.

LaserWriter users may experience a problem with printing MacWrite text or Microsoft Word text in the 9-point Courier font: when one of the words in the text is italic, the printed text following the italicized word is printed in bold.

This problem occurs only with the Courier font in 9-point size, and seems to occur in the LaserWriter Prep file. PageMaker, which uses its own LaserWriter Prep file -- unlike MacWrite or Word -- prints the text properly.

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Apple System Profiler 2: Practical Uses

Apple System Profiler 2 (ASP) provides an extensive overview of the hardware and software installed in a Macintosh computer. This article briefly discusses several practical uses for this utility.
This article has been archived and is no longer updated by Apple.

Overview: Key Benefits Of Using Apple System Profiler

- Many of the hardware and software configuration details reported by Apple System Profiler either cannot easily be obtained by other means, or would require time-consuming examination of the existing hardware and software. Apple System Profiler brings all this information together in one place.
- Apple System Profiler is non-intrusive--existing settings can only be viewed, not altered, thus preventing inadvertent changes.
- Profiles created with Apple System Profiler can be saved as documents and later reviewed in either Apple System Profiler or a word processor.

A saved profile provides an ideal hardware and software overview for those who either want to maintain an archival or printed record, such as those performing site inventories or audits, or are unable to examine the system personally, such as an offsite computer support technician.

A profile saved when a computer is working well can serve as a guide to restoring that hardware and software configuration should later changes introduce problems. The "Extensions" section of a saved profile, for example, could be used to determine whether any extensions were added after installing a program, or whether any of the existing extensions were replaced with different versions.

Computer support technicians often hear users wonder why two supposedly identical systems don't behave identically. Apple System Profiler helps reveal some of the differences not always apparent, such as that one system has virtual memory turned on, or AppleTalk, or File Sharing; or one has a different RAM configuration, or lacks a level-2 cache, or is using a PCI video card instead of built-in video. Maybe some of those extensions, control panels, or applications that look the same are actually of different versions. The differences between supposedly identical disk drives and other devices is also revealed--different vendors, model numbers, driver versions, and firmware revisions. Apple System Profiler makes these kinds of comparisons easy.

To save an Apple System Profiler report, open Apple System Profiler, then choose "New Report" from the File menu. Specify the information to be included in the report, as shown, then click "OK."

Figure 1: A New Report window.

In order to maintain the document's graphical appearance when opened in Apple System Profiler, click the "Apple System Profiler Document" button in the profile window:

Figure 2: "View Report" window.

Then choose "Save" from the File menu. Word processors that can open an Apple System Profiler document will always open it as a tab-delimited file. Only Apple System Profiler can open saved profiles in their original graphical form, and only when saved as Apple System Profiler documents.

Need A Hint? Turn On Balloon Help

Apple System Profiler provides some additional assistance in the form of Balloon Help. Choose "Show Balloons" from the Help menu, then point to an item in the profile window. Balloon Help works with menu commands as well. Not all items have Balloon Help descriptions.

Figure 3: Balloon Help.

Memory Overview

With Apple System Profiler, obtaining specific information about the built-in memory no longer requires opening the computer to visually inspect the memory modules and their sometimes cryptic markings. For each memory module installed, Apple System Profiler shows its size, type, and the location of the memory slot it occupies.

Figure 4: Memory information.

The user of the Power Macintosh 8500 profiled here, for example, learns that:

- A 256K level-2 cache module is installed ("external" because it is not part of the processor like a backside cache).
- Both memory banks shown (A1/B1 and A2/B2) are populated with memory modules of identical sizes, so memory interleaving is occurring on each bank. (Only specific computer models support interleaving.)
- Adding a single 32 MB DIMM instead of two 16 MB DIMMs would partially populate the third memory bank, A3/B3 (not shown, because it is empty), preventing interleaving on that bank, but leaving more slots available for future expansion.

It is easy to see how this kind of information can save time and effort.

Notes

- Apple System Profiler will describe the location and memory type differently depending upon the computer. The profile of an iMac, for example, would include "Top" and "Bottom" in its description of the RAM location.
- RAM soldered directly onto the logic board, if present, appears as "DRAM" under the "Memory type" column, instead of DIMM or SIMM.
- VRAM information may also be included, but only if the computer is a model for which this information can be accurately determined.

Hardware Overview

This information may appear self-evident to those, for example, who have maintained sole-ownership of the computer or are not in a school or corporate environment where computers change hands frequently. Apple System Profiler helps by identifying what the computer is now, after it may have had a logic board upgrade or a processor upgrade, or perhaps after having simply lost the model name sticker from the front of the computer. Note, however, that Apple System Profiler requires at least Mac OS 7.6 and a Power Macintosh to run.

Figure 5: Hardware overview.

Network Overview

Figure 6: Network information.

The information provided here may largely be of interest to network administrators, who will appreciate having these disparate settings organized in one place, but even those simply connecting to the internet with a modem may benefit from knowing that, as shown:

- The built-in serial port is active for PPP, confirming that a dial-up connection to an Internet Service Provider is either starting up or has completed and is currently underway. Otherwise, the "Active network port(s)" field would show the computer's normal configuration, such as "LocalTalk (printer) built-in," or "Ethernet PCI Slot [E1]." Note that there is a difference between successfully completing a dialup connection to a PPP server and actually having access to network services (the web, email, and so forth). For that, the TCP/IP control panel must be configured correctly, as well as the server that hosts the internet connection.
- An IP address has been assigned to this computer. Every computer must have an IP address in order to access the internet. Once a successful dial-up connection has been achieved and the IP address known, a computer support technician or network administrator could use special software to "ping" that address to confirm that the computer is in fact online. A missing IP address would indicate either that the TCP/IP control panel is not configured correctly, or TCP/IP has not loaded. To ensure that TCP/IP is loaded when checking this section, open your web browser before opening Apple System Profiler.

Devices & Volumes

Apple System Profiler provides a wealth of information about accessible internal or external hardware. This can be especially useful when it isn't clear what hardware devices are present.

Figure 7: Device information.

The "Revision number" can be used to distinguish drives of different firmware revisions. Though it is uncommon, software patches are occasionally released to address bugs discovered in the firmware of specific drive revisions. Being able to determine whether the installed hard drive is among those affected can save time.

Because driver-related issues (wrong driver, bad driver, missing driver) can render the devices they control unavailable to normal use, Apple System Profiler's ability to probe for devices can be a useful means of confirming that the device is at least logically present.

Perhaps it is not known what kind of expansion hardware is present in a computer. It would be hard to know that a QuickDraw 3D Accelerator card is installed, for example, without either opening the computer or using Apple System Profiler. Apple System Profiler will examine every possible internal and external expansion hardware location when compiling its reports.

In addition, the graphical layout of this section diagrams the order and location of connected devices. This can be especially useful when troubleshooting a large USB chain, for example. Note that ASP shows the USB version number, and the USB devices that are recognized. They

are displayed graphically to reflect the connection hierarchy.

Production Information

Not all Macintosh computers will include the serial number and original software bundle part number, but having this information available here can save searching for the bar code label on the computer, which isn't always in the most accessible place. If the hard drive has ever been low-level formatted since it was first used, the serial number and software bundle information will not appear.

ASP 2.1.2 now shows the Boot ROM version and the Mac OS ROM file version.

Figure 8: Product information.

Distinguishing Between Apple Software And Third Party Software

The information shown for Applications, Extensions, and Control panels is similar in format except that "Enabled" isn't a column appearing in the Applications pane. With this information, users can quickly isolate Apple software from third party software, plus determine at a glance what version is in use. The task of resolving software conflicts relies heavily upon ensuring that the right version, or most up-to-date version, of the software is in use. Remember, however, that Apple System Profiler cannot modify existing settings, so it is not possible to enable or disable software with it.

Figure 9: Extensions information.
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Mac OS: Differences Between AudioTuneUp Versions

This article details the differences between the various versions of AudioTuneUp software.
This article has been archived and is no longer updated by Apple.

AudioTuneUp 2.0/2.1

AudioTuneUp 2.0 is a set of extensions, libraries, and drivers which was delivered as a standalone release on Apple Software Updates. A description of AudioTuneUp 2.0 can be found in the following Tech Info Library article:

Article 30517: "**AudioTuneUp 2.0 Update: Read Me**"

The AudioTuneUp 2.1 extension is included with Apple's DVD software. The only difference between 2.0 and 2.1 is that 2.1 combines the functionality of all the files into one extension file and supports Apple's DVD hardware.

The fixes provided by AudioTuneUp 2.0 and 2.1 are rolled into Mac OS 8.5.

AudioTuneUp 1.3

AudioTuneUp 1.3 was delivered with the 5500/6500 Extras disk released in July of 1997. A description of this software can be found in the following Tech Info Library article:

Article 26017: "**5500/6500 Extras Read Me**"

The fixes provided by AudioTuneUp 1.3 are rolled into Mac OS 8.0.

AudioTuneUp 1.0.1

AudioTuneUp 1.0.1 is installed by localized versions of Apple Telecom 2.2 for modem sound support.

The fixes provided by AudioTuneUp 1.0.1 are rolled into System 7.5.3.

AudioTuneUp 1.0

AudioTuneUp 1.0 is installed by localized versions of Apple Telecom 2.1 for modem sound support.

The fixes provided by AudioTuneUp 1.0 are rolled into System 7.5.3.
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FAXstf: 5.0.4 Updater Read Me

This article contains the Read Me document for the FaxSTF 5.0.4 Updater. FAXstf is a product of STF Technologies, Inc.
This article has been archived and is no longer updated by Apple.
Note: The FAXstf 5.0.4 Updater is available for download from the STF Technologies web site.

FAXstf 5.0.X --> 5.0.4 ReadMe
28 Sept 98
STF Technologies, Inc.

STF Technologies provides technical support to our registered users. In order to receive technical support please fax us your registration form or mail in your registration card! Technical Support is available from 9:00 am to 6:00 pm Central Standard Time.

FIXED ISSUES

Below is a list of issues addressed in this updater:

- Fixed a problem in the FaxBrowser application where viewing multiple large faxes would result in a crash.
- Fixed a problem in the FaxBrowser application where printing faxes would result in a crash.
- Fixed a problem in the FaxBrowser application where printing a page range of a fax would result in a crash.
- Fixed a problem where faxes that were sent in landscape mode would appear as barcode-like data.
- Fixed a problem where if the machine slept with FAXstf set to answer on any number of rings, the software was in data mode upon waking the machine.
- Fixed a problem that resulted in an unsuccessful fax send if the user tried to change the "Answer On" setting is the FaxBrowser Preferences while sending a fax.
- Fixed a problem where items in the FaxBrowser folder list would appear "bar-coded" when items were drug on top of them.
- Fixed a problem where using the Date and Time arrows in the FaxPrint Options dialog would fail occasionally.
- Fixed a problem where redraw problems would occur if balloon help was active with the FAXstf Setting in the foreground.
- Fixed a problem where the FaxView would display a vertical line artifact on viewed faxes.
- Fixed a problem where "hot keys" to activate FaxPrint would not work if there was not a default printer chosen.
- Fixed a problem where holding down an arrow key in the FaxPrint Preview would result in redraw problems.
- Fixed a problem where the FaxBrowser window would appear as inactive (redraw problems).
- Fixed a problem where machines would not sleep or use automatic shutdown (energy saver) if FAXstf was set to answer on anything other than zero. NOTE: The only time FAXstf will still interrupt these processes is if there is an UNREAD received fax in the FaxIn folder.
- Fixed a problem where the coverpage note area did not support word wrap in QuickNote and Coverpage options dialog.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

The following Tech Info Library article can help you search for a particular vendor's address and phone number:

Article 17159: "**Locating Vendor Information**"
Published Date: Feb 18, 2012

Mac OS X Server 1.x: How To Access From a Telnet Session For Troubleshooting

This article describes how to access Mac OS X Server as root from a telnet session for troubleshooting purposes.
This article has been archived and is no longer updated by Apple.
Note: This article pertains to Mac OS X Server versions 1.x, which were released prior to May 2001. In Mac OS X Server and Mac OS X versions 10.0.1 and later, ssh is enabled in place of telnet. ssh allows root login.

For security reasons, you cannot directly log in to a server as "root" from a telnet session. You must first log in as a known user who is also part of the "wheel" group. Once you are logged in you may use the "su" command to switch to the root account.

To telnet to a Mac OS X Server computer you will have to use a telnet client from another computer. There are several telnet clients available for the Mac OS, and a telnet client is built in to many Unix-style operating systems. Using an available client, telnet to the Mac OS X Server computer. Log in to the server using an ID that is part of the wheel group, then type the following command at the prompt:

```
su
```

You will be asked for a password. Type in the root password. You are now the root user.

You add a user to the "wheel" group using the NetworkManager.app application. For instructions on adding a user to the "wheel" group, see the following articles:

Article 60025: "**Managing Users with NetworkManager.app**"
Article 30757: "**Mac OS X Server: Review Of Network Startup (1 of 2)**"
Article 24720: "**Mac OS X Server: Review Of Network Startup (2 of 2)**"

For information on how to boot into single-user mode, see:
article: 30837: "**Mac OS Server: Booting into Single-User Mode**"
Published Date: Feb 18, 2012

Mac OS X Server 1.x: How To Access MailViewer Remotely

This article explains how to access a Mailviewer mailbox remotely while using Mac OS X Server.
This article has been archived and is no longer updated by Apple.
Note: This article pertains to Mac OS X Server versions 1.x, which were released prior to May 2001.

To access your Mailviewer mailbox remotely, telnet to your Mac OS X Server system, log in, and use a mail program (such as "mail", "pine" or "elm") or a text file viewer (such as "more" or "less") to read the mailboxes (which are stored in the Mailboxes subdirectory; for example, your Active mailbox text is stored in Mailboxes/Active.mbox/mbox).

If you choose to use a Terminal mail program, make sure it has the option of exiting without updating the mailbox. Otherwise, MailViewer's table of contents will get out of synch with the messages, potentially making your mailbox unusable the next time you use it. (For this reason, you may want to use "less" to view mail remotely, although "elm" is also a safe solution if you exit using the "x" command, abandoning your changes.)
Published Date: Feb 18, 2012

Mac OS X Server 1.x: Will Not Start Up If Multiple Copies Are Installed

This article is about installing multiple copies of Mac OS X Server.
This article has been archived and is no longer updated by Apple.
Note: This article pertains to Mac OS X Server versions 1.x, which were released prior to May 2001. This issue is resolved in Mac OS X Server 10.0.3 or later.

Mac OS X Server will not boot if multiple copies are installed on a single hard disk. However, the installer will dutifully install multiple copies of Mac OS X Server if you tell it to do so. Unlike other Unix-style operating systems Mac OS X Server also only supports one UFS partition on a hard disk.
Published Date: Feb 18, 2012

AppleShare Client 3.5: Where Is It?

According to online documentation, AppleShare Client 3.5 should be used with computers using System Software (Mac OS) 7.5.1 or earlier.
Where do I get this software?
This article has been archived and is no longer updated by Apple.
Name: AppleShare Workstation

Version: 3.5

Released: October 23, 1998

Requires:
Any Macintosh running System Software version 6.0.7 through 7.6.1. Supports the following localized versions of the operationg system: North American English, British, Danish, Dutch, Finnish, French, German, Italian, Norwegian, Spanish, Swedish.

Description:
This software allows you to connect to an AppleShare File Server. With this software you can connect to any AFP server that supports version 1.1 to 2.1 of the AFP protocol. This is not the most recent version of AppleShare Workstation (Client) software. For more information, point your web browser to:
'**http://www.apple.com/support**'

Instructions:
This software consists of a self-mounting Disk Copy compressed image (.smi) file. Download this software to your hard drive and then double-click it to use it. You do not need Disk Copy to access .smi files. Please note that there is no documentation included with this software. To install, double click the "Installer" icon and follow the on-screen instructions.

Previously, AppleShare client version 3.5 was available only as part of a "File Sharing" custom install option under System Software 7.5.

AppleShare client version 3.5 has been posted to "Apple SW Updates" in the following path.

Apple Software Updates
MultiCountry
Macintosh
Networking-Communications
AppleShare Client
ZM-AppleShare WS 3.5 Info
ZM-AppleShare WS 3.5.smi

This article can help you locate the software update mentioned here:

- Article 14724: "**Where To Find Apple Software Updates**" - Lists online services for free Apple software updates.

Published Date: Feb 18, 2012

Mac OS 8.5: Multilingual Internet Access Read Me

This article contains the Read Me document for Mac OS 8.5 Multilingual Internet Access software.
This article has been archived and is no longer updated by Apple.

About Multilingual Internet Access 1.0

Multilingual Internet Access provides the software you need in Mac OS 8.5 to display text in WorldScript-aware applications, from one or more of the following language families: Arabic, Devanagari, Gujarati, Gurmukhi, Hebrew, Japanese, Korean, Simplified Chinese, and Traditional Chinese.

Installation

The Recommended Installation will install software needed to display text in Japanese, Korean, Simplified Chinese, and Traditional Chinese. The Customized Installation option for Multilingual Internet Access offers 5 more language packages than the Recommended Installation option: Arabic, Devanagari, Gujarati, Gurmukhi, and Hebrew.

Removal

Customized Removal allows you to remove individual language support by deleting the related fonts from the Fonts folder. However, it will not remove WorldScript I or WorldScript II, nor will it remove script resources. If you use applications that are not compatible with WorldScript, you might want to temporarily disable the WorldScript extensions by using Extensions Manager or by manually removing them from the Extensions folder and restarting your computer.

Known issues

* You may be able to read a document created with fonts that are not present on your computer; however you may get unreadable text when printing the document using LaserWriter 8. The workaround is to highlight the text and select a font from your application's font menu before printing. You will not have this issue with a non-PostScript printer such as a StyleWriter.

* WorldScript I languages that are installed by Multilingual Internet Access (i.e., Arabic, Devanagari, Gujarati, Gurmukhi, and Hebrew) are not fully supported by most Internet applications at the time of this writing. You may see some unreadable text on web pages with content in those languages.

* The very first time a web page using Chinese, Japanese or Korean fonts is viewed, the text may be unreadable. Reloading the page solves this issue.

* To display web pages in Chinese, Japanese or Korean, set your web browser's font preferences as follows

Japanese	Osaka
Traditional Chinese	Taipei
Simplified Chinese	Beijing
Korean	Seoul

* If you installed Multilingual Internet Access as part of the Mac OS 8.5 install, you will see only the default keyboard in the Keyboard Control Panel. You may activate and deactivate other installed keyboards as you like by using the Keyboard Control Panel.

For more information: '**http://www.apple.com/support**'

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Updated August 19, 1998
Published Date: Feb 18, 2012

Mac OS 8.5: Columns In Finder Windows Rearranged

After I upgraded to Mac OS 8.5, I've noticed something strange. In the Finder, for some windows in List View, some of the columns are no longer ordered in the normal way. In Mac OS 8.1 and earlier, the order used to be: Name, Date Modified, Date Created, Size, Kind, Label, Comments, Version. Now it is different. What happened and how do I change it back?
This article has been archived and is no longer updated by Apple.
With the release of Mac OS 8.5, all columns in the Finder's List Views are reorderable, except for the "Name" column. To reset the column information from a custom order to the standard order, do this:

1. Select "View Options" from the View Menu in the Finder.
2. Click the "Set to Standard Views" button. If the option is disabled, your window is already set to the standard views.

To change the order of columns to a custom order, drag the column heading to the new position and release. The column should be inserted where you dropped it.

Note that the only columns that will be shown are the columns enabled in the "View Options" for that window. You can change the view options for the active window by selecting "View Options" from the View menu in the Finder. These changes will change only the current window.

To change the view options for any window set to list view, change the "Standard View Options". To change the Standard View Options, do the following:

1. Select "Preferences" from the Edit menu in the Finder.
2. Click on the "Views" tab.
3. Choose "List" from the "Standard View Options for:" pop-up menu.
4. Select the columns you want to be shown in a standard list view.
5. Close the window and you're done.

Note that columns are a feature of only the List View.

Sorting Column Items

Starting with the release of Mac OS 8.1, it is also possible to sort the items within a column. For more information on this topic, please see the following Knowledge Base article:

Article 24640: "**Mac OS: Finder Lists Are In Reverse Order**"
Published Date: Feb 18, 2012

NuBus: IEEE Issue Number

What is the IEEE issue number for implementation of the NuBus standard?
This article has been archived and is no longer updated by Apple.
The IEEE issue number for implementation of the NuBus standard is 1196.
Published Date: Feb 18, 2012

Mac OS 8.5: Icon In Finder Windows‘ Title Bars

Since installing Mac OS 8.5, I find that there is an icon in the title bar of my Finder windows. What is this?
This article has been archived and is no longer updated by Apple.
This is a new feature of Mac OS 8.5. It is called a "proxy icon". It allows you to manipulate the folder whose window you are viewing, without having to close the window or change the window you are looking at.

Figure 1: Mac OS 8.5 Finder window with icon in title bar.

You can use this icon to:

- Move the folder to the desktop, trash or another drive or window.
- Make an alias of the folder. (using the command-option keys while dragging)
- Duplicate the folder. (using the option key while dragging).

There is no way to disable this feature in Mac OS 8.5.
Published Date: Feb 18, 2012

Mac OS: Flag In Menu Bar

I notice that I have a flag in my menu bar. If I turn on Balloon Help and point it at that flag, it tells me that this is the Keyboard menu. How did that get there and how do I get rid of it?
This article has been archived and is no longer updated by Apple.
The Keyboard menu will appear if any of the following are true:

1. You have selected more than one keyboard layout in your Keyboard control panel (Installed by Mac OS).
2. You have installed an Apple Language Kit (previously sold separately, now included with Mac OS 9).
3. You have installed Multilingual Internet Access (part of Mac OS 8.5).

This is normal anytime you have more than one keyboard layout or script system installed or enabled. You cannot remove this flag and still use the features of the Apple Language Kits or Multilingual Internet Access.

If you have more than one keyboard layout selected, remove the check from all but one keyboard layout. When you close the keyboard control panel, the flag should go away. It is not necessary to restart the computer.

If you do not use any of the additional keyboard layouts or scripts, you can permanently disable the Keyboard menu by removing all of the additional active layouts and scripts from the System suitcase. To do this, locate and open the System suticase in the System Folder. You can then select and move all keyboard layouts and scripts from the suitcase to another folder or the Trash.
Published Date: Feb 18, 2012

Mac OS 8.5: How To Remove Components

I have installed a component of Mac OS 8.5 that I do not want or need. What is the easiest way to remove it?
This article has been archived and is no longer updated by Apple.
If there is just a piece or two that you wish to remove and you know where it is, you can simply drag it to the Trash. For example, if you have a printer driver installed for a printer that you do not have, you can drag it from the extensions folder to the Trash.

However, if you have installed a software package and you do not know what all of the pieces are, you can use the customized removal feature of the Mac OS 8.5 Installer.

1. Insert the Mac OS 8.5 CD into your computer.
2. Double-click on the Mac OS Install icon to start the Installer, clicking continue.
3. Choose the hard drive which contains the Mac OS 8.5 package that you wish to remove.
4. Because you already have Mac OS 8.5 installed, you will see a dialog that gives you the option to Cancel, Reinstall or Add/Remove.
5. Click the Add/Remove button.
6. Choose the package you wish to remove, then choose Customized Removal.
7. A dialog box will appear. Choose the specific package(s) that you wish to remove. If you wish to remove every piece of this package, choose "All" from the selection menu.
8. Click the "OK" button.
9. Choose any additional packages whose pieces you wish to install or remove.
10. When you have selected all of the packages you wish to remove or install, click the "Start" button.

The installations and/or removals that you select will run and prompt you to restart when complete. After this occurs, you are done.
Published Date: Feb 18, 2012

Mac OS 8.5: Where Is Apple Telecom?

This article explains why, after a clean install of Mac OS 8.5, a GeoPort modem/Express modem doesn't work.
This article has been archived and is no longer updated by Apple.
Mac OS 8.x no longer includes Apple Telecom as part of the Mac OS Installer. You will have to reinstall the Apple Telecom software before your GeoPort modem or Express modem will work.

Mac OS 8.0 and 8.1 CDs have Apple Telecom in the CD Extras folder on the CD. Apple plans to make Apple Telecom Software available online. Apple recommends that you use the latest version of the Apple Telecom software with your computer on Mac OS 8.5. Versions of Apple Telecom prior to 3.1 are not recommended.

To find the most recent version of this software, refer to the Apple Software Updates Library at **http://www.apple.com/swupdates**.

Published Date: Feb 18, 2012

Mac OS X Server 1.x: Seeing Which Applications Are Currently Open

This article explains how to see which applications are currently open Mac OS X Server.
This article has been archived and is no longer updated by Apple.
Note: This article pertains to Mac OS X Server versions 1.x, which were released prior to May 2001.

You can see which applications are currently open by using the Applications menu. To open the Applications menu, click the name of the current application, which appears on the far right of the menu bar.

The names of each open application appear in this menu.

To view which applications are currently running from the command line use the ps command. To use the command line, open the Terminal application from the Apple menu.

An example of the ps command is "ps -aelx". ps -aelx prints most all processes in a wide format. The command "ps -l" prints only the processes associated with the terminal requesting the listing.

The ps command has many arguments. Use the man command "man ps" to view all the arguments for the ps command.
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Mac OS X Server: Switching To MacOS.app and Back

This article describes how to move from Mac OS X Server to the MacOS.app and back.
This article has been archived and is no longer updated by Apple.
To switch between the Mac OS and Mac OS X Server environments, use the Application menu at the far right of the menu bar. In both MacOS.app and Mac OS X Server, this menu has been extended to list all applications running in both environments, grouped by environment. If you choose an application that is running in the other environment, you will be switched to that environment and the selected application will be activated.

There is a special item in the application menu of each environment that will switch you to the other environment and bring you back to the last application you were using in that environment. That item is called "Mac OS X Server" in the Mac OS environment and "MacOS" in the Mac OS X Server environment.

Command-Return is a keyboard shortcut for choosing "Mac OS X Server" from the application menu.
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Mac OS X Server 1.x: How To Configure HFS Volume After Startup

This article is about configuring a HFS volume after Startup.
This article has been archived and is no longer updated by Apple.
Note: This article pertains to Mac OS X Server versions 1.x, which were released prior to May 2001.

Symptom:

I have an external disk, with an HFS partition When I boot Mac OS X Server with this drive connected, Mac OS X Server mounts it. Then I can use "unmount" to remove it, and "mount" to remount it.

If I boot Mac OS X without this disk connected to the SCSI chain, and connect it after Mac OS X Server loads, "mount" does not work to manipulate the drive. I get the error: "Device not configured".

How do I configure a Mac HFS formatted drive after Mac OS X Server boots?

Solution:

At this time drives added to the SCSI chain after the boot process are not recognized.

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TeachText 1.1: Adding Graphics

You can incorporate graphic elements -- boldface and centered text, graphs, pictures, etc. -- into TeachText 1.1 documents. These are "PICT resources", and may be inserted into a TeachText document as follows:

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1. Create your document, leaving five carriage returns in the places where you want to place the graphics or specially-formatted text.

2. Create your specially-formatted text or graphics and paste them into the Scrapbook.

NOTE: The text will need to be in "PICT" format. You can use MacDraw to do this.

3. Use a file editor such as FEdit to open your TeachText file to its data fork. Search for the five carriage returns (carriage return = $0D) and replace the third "0D" with "CA" and write the change to disk. Do this for all places you want to insert the specially-formatted text or graphics.

4. Using ResEdit, open your TeachText document. Select New from the File menu; type PICT in the dialog box, and press Return.

5. Select New again and paste your formatted text or graphics from the Scrapbook into the resource. When done, select Get Info -- for ID type in "1000". Do the same for all the formatted text or graphics in the Scrapbook, remembering to increment the ID by 1 for each successive resource (1001, 1002, etc.).

6. Quit ResEdit, saving changes.

7. Open your TeachText document. Insert or delete carriage returns to adjust the graphics and formatted text, which will be automatically centered.

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Mac OS 8.5: QuickTime Plugin Installation

This article discusses what to do when the QuickTime web browser plug-in, part of QuickTime 3, is not installed by the Mac OS 8.5 Installer.
This article has been archived and is no longer updated by Apple.
The Mac OS Installer included with Mac OS 8.5 will install QuickTime 3 by default, but if a custom install is performed to exclude the Internet Access installer, the QuickTime Plugin component of QuickTime 3 will not be installed.

To install QuickTime Plugin:

Step 1
Enter the Customize section of the Mac OS Installer.

Step 2
Click the Internet Access checkbox to select it.

Step 3
Select "Customized Installation" from the pop-up menu to the right. See Figure 1 below.

Figure 1 Customized Installation.

Step 4
Choose whichever of the two web browsers you prefer, then click "OK" to return to the previous window. QuickTime Plugin will automatically be placed into the "Plug-ins" folder of the web browser being installed. See Figure 2 below.

Figure 2 Choosing the components to install.

Step 5
Click "Start" and wait for the installation to complete.

Notes

1. The Internet Access installer is enabled by default unless specifically disabled during a custom install.
2. QuickTime Plugin brings the multimedia capabilities of QuickTime to your web browser. Mac OS 8.5 ships with version 2.0.1 of the QuickTime Plugin. If you already have a web browser installed, it may include an earlier version of QuickTime Plugin.

Published Date: Feb 18, 2012

Mac OS 8.5: Running Adobe Acrobat Exchange 3.01

I recently upgraded my Macintosh to Mac OS 8.5. I am now having difficulty with Adobe Acrobat Exchange 3.01. Can you help?
This article has been archived and is no longer updated by Apple.
Apple and Adobe Systems are aware of a potential issue where Acrobat Exhange 3.01 will not run under Mac OS 8.5. Adobe Systems plans to fix this in the next major release of Adobe Acrobat(TM). The cause of this crash is related to three plug-ins that are installed by default with Adobe Acrobat. Here is how to work around the issue:

If You Already Have Adobe Acrobat Installed
Remove these three files from the Adobe Acrobat 3.0:Plug-Ins folder:

- ImportPI
- OCR
- ScanPI

If You Are To Install Adobe Acrobat Under Mac OS 8.5
Do not install using the default Easy Install. Instead, select Custom Install and select Acrobat Exhange(TM), Acrobat Catalog(TM), and Acrobat Distiller(TM). Do not include Acrobat Capture(TM) for installation.
Published Date: Feb 18, 2012

Mac OS 8.5: Crashing With IXMicro Card

After installing Mac OS 8.5 on my Power Macintosh G3 equipped with the IXMicro ix3D UltimateRez video card, I find that I occasionally crash when using video applications such as Adobe Premiere, Apple Video Player, iVisit, or the QuickTime MoviePlayer.
This article has been archived and is no longer updated by Apple.
There is an incompatibility between the drivers that shipped with the IXMicro ix3D UltimateRez video card and Mac OS 8.5 that will cause the computer to crash when performing certain types of operations in video applications. IXMicro has updated their video drivers to fix this. You can download the new drivers at the IXMicro web site.

Important: Information about products not manufactured by Apple is provided for information purposes only, and does not constitute Apple's recommendation or endorsement. Please contact the vendor for additional information.
Published Date: Feb 18, 2012

Mac OS 8.5: Internet Control Panel Or Internet Config?

This article discusses important differences between the Internet control panel and the Internet Config application.
This article has been archived and is no longer updated by Apple.
Mac OS 8.5 introduced the Internet control panel, providing features previously obtained through the Internet Config application. For more detail on these features, please see the following Tech Info Library article:

Article 58100: "**Mac OS 8.5: Internet Control Panel Features**"

Internet Config is not an Apple product, but was bundled with some prior versions of the Mac OS as part of a suite of useful third party Internet utilities. Mac OS 8.5 now integrates the functionality of this application into the new Internet control panel, which offers an entirely different look and feel.

Despite the differences in appearance, both applications are so closely related that they write to the same preferences file and use the same extension. Mac OS 8.5 is thus able to accommodate any Internet application that is configured to use Internet Config. Those who obtain Internet Config are nevertheless free to use it with Mac OS 8.5 instead of the Internet control panel, but with the following cautions:

-- Neither application's settings take precedence over the other because they both write to the same preferences file. Identical settings can thus be altered equally with either application. When using the Internet control panel in Administration mode (choose "User Mode" from the Edit menu to select Administration mode) to password-protect the settings, Internet Config will honor that protection.

-- Internet Config is able to install Internet Config Extension, but since Mac OS 8.5 already includes Internet Config Extension version 2.0.2, using Internet Config to install it again may cause it to be replaced by an older version, potentially interfering with Mac OS components (such as Mac OS Help) that rely upon having the correct version present. If in doubt, use the Internet control panel instead of Internet Config, despite Mac OS 8.5's own references to Internet Config in certain alert messages.

Figure 1 Relationship between Apple's Internet control panel and the Internet Config program.

To install Internet Config Extension separately, use the Mac OS 8.5 Installer to perform a custom-install of the Internet control panel. Both the control panel and the extension will be installed. Proceed as follows:

1. After you get to the "Custom installation and removal" screen that gives you all the various check boxes to select components, check the "Mac OS 8.5" box.
2. Click in the "recommended installation" field to the right and select "customized installation".
3. Scroll down to the bottom click the arrow to the left of the Control Panels option.
4. Check the box next to "internet".
5. Select OK.

Published Date: Feb 18, 2012

At Ease 4.x & 5.x: Setting Up Internet Preferences For Netscape 4.x

This article is about setting up Internet Preferences for Netscape 4.x with At Ease installed.
This article has been archived and is no longer updated by Apple.
Symptom:

I have At Ease 4.x/5.x installed and am using Netscape Navigator/Communicator 4.x. I have set At Ease to save Internet preferences but am having problems. When a user launches Netscape it will randomly lose the path to the user's Netscape preferences. It asks the user to locate the folder but At Ease prevents access to the System Folder where the preference file resides. What is causing this and how do I prevent this from happening?

Solution:

With the release of the 4.x versions of Netscape software the way the preferences are stored has changed. This leads to Copy Internet Preferences not working at all in At Ease 4.x and issues with At Ease 5.x. The main cause of issues in a reconfigured At Ease 5.x is the User Profiles preferences file. If an At Ease user logs into a computer and the hard drive name is not the same as the hard drive of the computer used previously, Netscape loses its link to the Netscape Preferences folder for that user. This article outlines a setup that prevents this preference file from being moved and therefore links are not lost. It also conforms to Netscape's previous preferences format and so it works with At Ease 4.x.
Step 1: Preparing Netscape

While running in Full Finder install and launch Netscape 4.x. You will be prompted for some basic information needed to create a Netscape user. Since everyone using At Ease will use the same Netscape user profile we'll call this user 'Internet User'.

At this point you may want to configure default preferences that will be the same for everyone (such as mail and news server addresses, default home and search pages, bookmarks, and so forth.)

Quit Netscape.

Step 2: Revert Netscape 4.x Preferences to a Netscape 3.x Format
Netscape has now created a Netscape Users folder in your computer's Preferences folder which is located in the System Folder. Open the Netscape Users Folder. There should be a file titled User Profiles and a folder titled Internet User. Rename the Internet User Folder. The new name will be Netscape *ƒ*. Create the *ƒ* character by pressing and holding the Option key and typing the letter f. Now move the Netscape *ƒ* folder out of the Netscape Users folder to the root level of the Preferences folder. When opening the Preferences folder you should now see Netscape Users and Netscape *ƒ*.
Step 3: Locate the Netscape *ƒ* Folder from within Netscape
Launch Netscape. You should get a dialog box asking you to locate the Prefs Folder for Internet User. Navigate to and select the Netscape *ƒ* folder. Quit Netscape.

Step 4: Distribute the new Netscape preferences across the Network

Using Network Assistant copy the Netscape *ƒ* folder to 'Same relative location' on all workstations. Mount your At Ease Server. Locate the At Ease Items WG folder. Inside the At Ease Items WG folder on your server you will find a Default Prefs folder. Copy the Netscape *ƒ* folder from your Preferences folder into the Default Prefs Folder.
Step 5: Set At Ease Preferences.

At Ease 4.x
At Ease 4.0 users need to update to 4.0.1. Launch At Ease Admin. From the Security menu choose System Settings. Make sure Copy Internet user preferences is selected.

At Ease 5.x
At Ease 5.0 users should update to 5.0.1. Launch At Ease Admin. From the Options menu select Internet Preferences. Check the box 'Save and Restore Internet Preferences'. Check the list for the entries ':Netscape *ƒ*:Cache' and 'Netscape *ƒ*'. If present check both boxes and click 'OK'. If not you must add them. Click the Add Item button. Change the first pop-up menu from File to Folder. Type Cache in the blank. The Location pop-up menu should be set to Preferences Folder. Type Netscape *ƒ* in the next blank (next to 'In the folder:'). Set the Perform pop-up to Empty Folder. Click OK. Click Add Item again. Change the first pop-up menu from File to Folder and type Netscape *ƒ*. Set the Location pop-up menu to Preferences Folder. Leave the In the folder blank empty. Set the Perform pop-up menu to Copy and Delete. Click OK. Click OK in the Internet Preferences Window. Quit At Ease Administration.
Step 6: Test Client Computers

Now log in on client computers. Computers whose hard drive does not have the same name as the Admin computer's hard drive may still ask the user to locate the preferences folder for the Netscape User. If so, quit Netscape and log out. Log in as the Administrator to a Finder workgroup. Launch Netscape and point it to the Netscape *ƒ* folder in the Preferences Folder. Logout. Log in once more as an At Ease user and test. You are done!

These articles can help you locate the software update mentioned here:

- Article 14724: "**Where To Find Apple Software Updates**" - Lists online services for free Apple software updates.

Published Date: Feb 18, 2012

Mac OS 8.5: AppleShare IP Compatibility

This article is about the compatibility of various versions of AppleShare and Mac OS 8.x
This article has been archived and is no longer updated by Apple.
AppleShare IP 5.0.x and 6.0 are not compatible with Mac OS 8.5. AppleShare IP 5.0.3 customers should continue running Mac OS 8.1 on the server. AppleShare IP 5.0.3 customers who are interested in upgrading to AppleShare IP 6.0 should visit the AppleShare IP web site (**http://www.apple.com/appleshareip/**) for information.

AppleShare IP 6.1 will provide full compatibility with MacOS 8.5, and an updater for existing AppleShare IP 6.0 customers will be made available in the future. Visit the AppleShare IP web site for a future announcement of its availability (**http://www.apple.com/appleshareip/**).
Published Date: Feb 18, 2012

Apple System Profiler: Power Macintosh 6500 Cache Size

We have a Power Macintosh 6500 that shipped with a 512K L2 cache DIMM. We are using Apple System Profiler version 2.1.1 included with Mac OS 8.5 to confirm that we actually have 512K L2 cache. Unfortunately, Apple System Profiler reports that I have "External L2 cache: 256K". I have downloaded version 2.1.2 from Apple's Software Updates web site and this issue still occurs.

- Is Apple aware of this issue?
- How can I check to see if my computer actually has 512K of L2 cache?

This article has been archived and is no longer updated by Apple.
Yes, Apple is aware and is investigating why Apple System Profiler reports this information incorrectly on Power Macintosh 6500 computers. Power Macintosh 6500 computers shipped with either 256K or 512K of L2 cache from Apple depending on what configuration was purchased.

Note: The issue is also known to affect Power Macintosh 5400, 5500, 6400 and 4400 computers.

Some third party profile utilities report this information correctly. For example, Newer Technologies' Cache22 reports this information correctly. For more information about Cache22, visit Newer's World Wide Web site.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

The following article can help you search for a particular vendor's address and phone number:

Tech Info Library Article 17159: "**Locating Vendor Information**"
Published Date: Feb 18, 2012

Mac OS 8.5: LaserWriter Select 310 Compatibility

The LaserWriter Select 310 printer does not work with Mac OS 8.5 or newer versions of Mac OS.
This article has been archived and is no longer updated by Apple.
The LaserWriter Select 310 software, not modified since March 09 1993, does not work with Mac OS 8.5. At this time, there are no plans for future revisions to the LaserWriter Select 310 software.

Known Issue:
The following message is displayed when printing from a Mac OS computer running Mac OS 8.5, to a LaserWriter Select 310 using the LW Select 310 printer Extension v7.0.1:

"There is not enough memory for the print job".
Published Date: Feb 18, 2012

Mac OS: Shutdown Warning Appears At Every Startup

Every time I start my conputer I get the improper shutdown message for a brief moment on the screen. I shutdown the computer using the power key, but the message says I didn't. Why is this?
This article has been archived and is no longer updated by Apple.
The message about improper shutdown is activated by an invisible file named Shutdown Check. The file may be corrupt, causing the message to appear each time you start up the computer. The Shutdown Check file regenerates if removed from the hard disk, similar to a preference file. Try this to eliminate the errant message:

1. Open Stickies.
2. Type "shutdown check" on a note.
3. Close the note window. The "Save As..." dialog box will appear.
4. Save the note to the root level of the hard disk. A message indicating an existing "shutdown check" file will appear.
5. Click on "Replace".
6. Open the hard disk.
7. Locate the Stickie note "shutdown check".
8. Put it in the trash.
9. Restart.
10. Empty the trash.

For more information on the Shutdown Check file and its function, please see the following Knowledge Base article:

Article 18011: "**System 7.5: Improper Shutdown Notification**"
Published Date: Feb 18, 2012

Mac OS 8.5: ATM Data File Opens AOL Installer

Some users of Mac OS 8.5 may, upon attempting to install Adobe Type Manager, inadvertently double-click on the VISE data file contained in the folder rather than the actual installer program. Doing so opens the America Online 4.0 Installer.
This article has been archived and is no longer updated by Apple.
Solution

Opening either installer by double-clicking the actual installer program has the expected result. See Figure 1.

Figure 1 The ATM and AOL Installer programs

Explanation

This behavior is not due to a fault on the CD. Both America Online (AOL) and Adobe Type Manager (ATM) utilize VISE installers from MindVision in order to script the installation. If the VISE installer data file is opened, the system looks for a program with creator type VIS3. In this instance, the first program of this type the system finds is the AOL installer, so it is opened.

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AIX 4.1.5: Installing Symbios Logic Device Driver

This article contains the directions for installing the Symbios Logic adapter device driver if you updated to AIX 4.1.5 from the update CD.
This article has been archived and is no longer updated by Apple.
Adding the device driver is a multi-step procedure if you installed AIX 4.1.5 from an update CD.

Step 1

Use the AIX 4.1.4.0 or 4.1.4.1 to install the device software for the adapter.

a) Shut down the server and install the ultrawide adapter.
b) Start the server and mount the install CD on the /mnt directory.
c) Type the following:

```
cfgmgr -i /mnt/usr/sys/inst.images
```

If you typed it correctly, you should see a device install using the installp process.

d) type the following:

```
cd
unmount /mnt
```

Step 2

Install the update to the drivers from the 4.1.5 CD as follows:

a) Insert and mount the 4.1.5 update CD.
b) Type `smitty install_selectable_all`
c) Select /mnt as your INPUT device.
d) Press the f4 key to list software to install.
e) Press the / key to search and search for 1000+f

You should have made 2 selections, each ending with .diag and .rte

Press Enter again and the installation should begin.

You can verify the installation by typing

```
lscfg
```

You should see the fastwide/ultrawide adapter listed.
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PC Compatibility Printing

This article discusses how to configure the Apple PC and DOS Compatibility cards for printing through a shared Mac OS printer.
This article has been archived and is no longer updated by Apple.
From the PC environment, you can print with most printers connected to the Macintosh, using the PC Print Spooler software. These steps assume you have PC Setup 1.5 or 1.6.4 installed. Both versions are available for download from Apple Software Update sites.

Setting Up Printing In The Mac OS

To print from the PC environment to a printer connected to the Macintosh, you must select a printer in the Mac OS Chooser and set up the PC Print Spooler software. Follow these steps, then go to "Setting Up Printing in the PC Environment," later in this section.

Step 1
In the Mac OS environment, open the Chooser (in the Apple menu) and make sure a printer is selected. If you are using a PostScript printer, be sure to select the LaserWriter 8 driver. For more information on selecting a printer, see the documentation or on-screen help that came with your computer.

Step 2
Open the Extensions folder inside the System Folder.

Step 3
Open the PC Print Spooler icon.

Step 4
Choose Preferences from the File menu.

Step 5
Choose your preference for printing error notification.

Step 6
Choose an option under "Interpret Print Data as."

- Choose PostScript if your printer supports PostScript. If you plan to print non-PostScript files on a PostScript printer (such as printing files from the DOS prompt), make sure the checkbox labeled "Print non-PostScript as Epson" has an X in it.
- Choose Printer Specific if you have selected in the Chooser a printer whose driver can read PC printer information directly from the PC environment. For a list of printer drivers that support this feature, see the Read Me file that came with your DOS Compatibility Software Update. If the printer driver selected in the Chooser does not support this feature, you cannot choose this option.
- Choose Epson if you are using a QuickDraw printer (such as the StyleWriter or a LaserWriter that does not support PostScript). For more information about the Epson options, see the next section, "Epson Emulation Options."

Step 7
Click OK.

Epson Emulation Options

If you chose Epson in the Print Spooler Preferences dialog box, you can make the following settings:

- Choose "Gaps between pages" if your applications are configured to print to a 60-line page. If your pages are clipped at the top or bottom when you print, select "No gaps between pages."
- The font in the Default Font box is used when you are printing ASCII text from DOS and when the Faster Printing option is selected. For best results, use a fixed-space font such as Courier or Monaco. Using a proportional font, such as Times may change your document's formatting.
- Choose Faster Printing when you want to quickly print text from a DOS application. When this option is selected, printers that use less than 300-dpi resolution (such as ImageWriter dot-matrix printers) will print in 72-dpi resolution.
- Choose Better Quality if you want Epson printer fonts in your document to be translated to corresponding Macintosh TrueType fonts. Because Epson printer fonts are fixed-space fonts, the TrueType font will be scaled to behave like a fixed-space font. Printers that use less than 300 dpi resolution will print in 144-dpi resolution.

Printing In The DOS Environment

To print from the DOS environment, you must select a printer driver for each application from which you want to print. If you're using the PostScript printing option, choose the PostScript version of the printer driver for the printer connected to the Macintosh. If a driver is not available for that printer, you can use any PostScript Level 1 printer driver, such as Apple LaserWriter II NTX.

If you are using the Printer Specific feature, make sure to select a driver that works with the printer selected in the Chooser in each application from which you want to print.

If you are using the Epson emulation option, select the Epson LQ 2500 driver in each application from which you want to print. If that driver is not available, try one of the following:

- Epson LQ-2550/LQ-1050/LQ-1010
- Epson Action Printer 4500/ActionPrinter 4000

For best results, use a fixed-space font such as Courier or use your application's graphical fonts in your documents. See "Epson Emulation Options," earlier in this section.

Printing From Windows 3.x Or Windows For Workgroups

If you're using the PostScript printing option, you should install and select the PostScript version of the Windows driver that came with your printer. If you don't have a Windows driver specifically for your printer, you can select another PostScript printer driver, such as one of the following:

- Apple LaserWriter II NTX if you have a PostScript Level 1 printer
- LaserWriter Pro 630 if you have a PostScript Level 2 printer

If you are not sure whether you have a PostScript Level 1 or Level 2 printer, choose a PostScript Level 1 printer driver. If you select a driver for a PostScript Level 1 printer, you can print to any PostScript printer.

If you select a driver for a PostScript Level 2 printer, you can print only to printers that support PostScript Level 2. If you are using the Printer Specific feature, make sure to select the driver for the printer selected in the Chooser.
If you are using the Epson emulation option, select the Epson LQ 2500 driver. If that driver is not available, try one of the following:

- Epson LQ-2550/LQ-1050/LQ-1010
- Epson Action Printer 4500/ActionPrinter 4000

Printing From Windows 95

Before you print from Windows 95 for the first time and any time you change printer drivers, you must follow these steps:

1. In Windows 95, open the Printers folder.If no printers are installed, see your Windows 95 documentation for instructions on how to add a printer.
2. Select the printer that you are printing to.
3. Choose Properties from the File menu. A window appears.
4. Click Details. The Details page appears.
5. Click the Spool Settings button. A dialog box appears.
6. Click the button labeled "Disable bi-directional support for this printer." Then click OK. If this button is not available, click OK and go on to the next step.
7. In the Properties window, click Port Settings. The Configure LPT Port window appears.
8. Make sure the checkbox labeled "Check port state before printing" is unchecked. Then click OK.

After selecting or changing to a PostScript printer driver, you must also follow these steps:

1. In the Properties window, click PostScript.
2. Click Advanced. A dialog box appears.
3. Make sure the checkboxes labeled "Send CTRL+D before Job" and "Send CTRL+D after Job" are unchecked. Then click OK.
4. Close the Properties window. Other than these settings, setting up printing from Windows 95 is the same as printing from Windows. See the previous section, "Printing From Windows or Windows for Workgroups."

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Mac OS 8.5: DVD Player Help Will Not Launch

This article discusses an issue with the Apple DVD Player when Mac OS 8.5 is installed.
This article has been archived and is no longer updated by Apple.
With Apple DVD Player 1.0 and Mac OS 8.5, if you select "Apple DVD Player Help..." from the Help menu, the application will not respond and the help system will not appear.

As a workaround, double-click the file named "Apple DVD Player Help" located at the following location:

```
System Folder
  Help
     Apple DVD Player Help [folder]
       Apple DVD Player Help
```

You may find it useful to make an alias to this file and put it somewhere that is more accessible.
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Mac OS 8.5: Sherlock and HTTP Proxy Servers

Will Sherlock work if I am behind an HTTP proxy server?
This article has been archived and is no longer updated by Apple.
Yes. Sherlock will correctly use an HTTP proxy server if you have defined a "Web Proxy" server using the Internet Control Panel. Sherlock version 2.0 (supplied with Mac OS 8.5) does have a limitation that may prevent it from working with some HTTP proxy servers.

When an Internet search is activated Sherlock correctly sends an HTTP 1.1 style request to the proxy server. Unfortunately, the HTTP 1.1 "Host" header field is incorrectly filled in with the name of the proxy server instead of the hostname of the resource being requested. This can cause some newer HTTP 1.1 compliant proxy servers to drop the request and hence cause the search to fail.

Mac OS 8.5.1 resolves this issue. You can download the Mac OS 8.5.1 Update from Apple Software Updates sites.

Please see the following article for additional information:

Article 26165: "**About Mac OS 8.5.1 Update**"

This article can help you locate the software update mentioned here:

Article 14724: "**Where To Find Apple Software Updates**" - Lists online services for free Apple software updates.

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Mac OS: Applications Give "Disk Is Full" Error Message

When saving to AppleShare volumes with more than 2 Gigabytes free, ClarisWorks 4.0 and some other applications will report a disk is full error. This article has been archived and is no longer updated by Apple.
Several applications needed to be updated to save to large AppleShare volumes (greater than 2 GB). ClarisWorks 4.0 is one of them. Claris released a free update to ClarisWorks 4.0 that fixed this problem. The version is 4.0v6, and the updater is available for download from Apple Software Updates. Other applications displaying this symptom will need to be similarly updated.

If an update is not available for an application, a workaround for this issue is available: make the volume to which the application will be saving less than 2 Gigabytes in size. This will usually require repartitioning the drive, which will require reformatting.

Note: Most third party AppleTalk Filing Protocol servers report a maximum volume size of 2 GB, even though they may be larger. Thus, this issue isn't usually seen when saving to large volumes on UNIX or Novell servers.

For more information on ClarisWorks 4.0v6, please see the following Tech Info Library article:

Article 30187: "**ClarisWorks 4.0v5: Saving On 4GB Or Greater Volumes Issue**"

This article can help you locate the software update mentioned here:

- Article 14724: "**Where To Find Apple Software Updates**" - Lists online services for free Apple software updates.

Published Date: Feb 18, 2012

Mac OS 8.5: System Error Type 7

After installing Mac OS 8.5, my computer now crashes with a System Error Type 7. If I start up the computer with extensions off, it runs fine. What is wrong?
This article has been archived and is no longer updated by Apple.
Solution

Most of the reports of this type have involved third-party extensions. Normal extension troubleshooting will usually find the problem extension. Contact the vendor of the software regarding compatibility and upgrades.

You can probably work around the problem by enabling virtual memory.

Explanation

An Error Type 7 is a privilege access error and is generated when trying to execute a privileged instruction on the emulated 68k processor when the processor is in user mode. Privileged instructions require the processor to be in supervisor mode.

Mac OS 8.5 changed the state of the processor. With virtual memory disabled, the emulated 68k processor runs in user mode. In previous versions of the OS, the emulated 68k processor ran in supervisor mode with virtual memory disabled. Software that tests whether virtual memory is disabled or enabled and then assumes what state the processor is in based on this may crash.

Enabling virtual memory may be a successful workaround, since the emulated 68k processor always runs in user mode with virtual memory enabled. The software should check the state of the processor before making privileged calls.

For a more detailed explanation of this change, please see Tech Note 1142. (In particular, the General section of the chapter titled, "Inside the System File.")

The following article can help you find the Tech Note mentioned here:

Article 24493: "**Apple Tech Notes: What They Are, Where To Find Them**"
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Novell Groupwise: GIF Attachments May Hang Transfers

Users of Novell Groupwise Client 5.2 and 5.22 software for Macintosh have reported that transfers may fail if attachments include certain GIF files.
This article has been archived and is no longer updated by Apple.
Novell Groupwise Client for Macintosh transfers may fail if attachments include certain GIF files. Not all GIF files will cause failure, and Groupwise Client on other platforms (such as Windows systems) apparently do not experience the difficulty. This problem so far has been reproduced on Mac OS 8.1 with Novell Groupwise Client for Macintosh versions 5.2 and 5.22 only, but probably would occur when other hardware platforms with other OS releases are used.

Comment: There have been various iterations of the GIF file formats. The problem seems to occur with a subset of GIF files that show a default document icon type on Mac OS (blank page with corner turned down), even though Macintosh applications other than Groupwise have no difficulty loading, editing, recognizing, or viewing these GIF files.

This behavior is confirmed when using IPX protocols for the Macintosh client. The problem occurs even with Netware Client for Macintosh v 5.11 with update mclupd4.bin applied (this update is the required revision level for this Novell software product and Mac OS 7.6 or higher).

This is not an Apple issue, and customers experiencing the problem should contact Novell about possible patches or updates to the Macintosh Groupwise client software.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

The following Tech Info Library article can help you search for a particular vendor's address and phone number:

Article 17159: "**Locating Vendor Information**"
Published Date: Feb 18, 2012

Mac OS X Server 1.x: Configuring NetInfo Master On New Domain

This article describes how to configure NetInfo Master on a new domain.
This article has been archived and is no longer updated by Apple.
Here are the three steps to setting up a netinfo master for a new domain:

Step One

1. Install the operating system on the computer that you want to be the NetInfo master. During the setup assistant:

2. Choose not to bind to a NetInfo network. (Note: The setting for NetInfo will be changed to bind to the network at a later setting, but the boot process would be longer if the server tried to bind and then timed out.)

3. Configure the computer with the correct static IP number, router, subnet mask, and so forth.

The setup assistant will make changes and reboot the computer.

Step Two

Using the Terminal.app application, you can view NetInfo's presence. Type in the following command at the prompt:

ps -ax |grep info

and you will see one instance of NetInfo--netinfo local (master).

Note: If this host is also bootp server, the /etc/hostconfig file must be edited so that the configserver line says "=-YES-"

- Open NetInfoManager (System/Administration/NetInfoManager.app). From the "Domain" menu choose "Manage Domain Hierarchy..." In this window, select "Create a new master server on this host" and click Configure. You will be prompted to confirm this selection, and then you will be notified that all NetInfo masters need to be rebooted.
- Reboot the server.

Step Three

Again, 'ps -ax' will display NetInfo running, but you will see two instances of NetInfo -- netinfo network (master) and netinfo local (master). In the Network Preferences, "Connect to parent NetInfo server at startup" is now checked. Also, if the bootp server was started from hostconfig, the 'ps -ax' also has bootpd and bootparamd.

1. Open the NetworkManager.app application (System/Administration/NetworkManager.app). Make certain the domain (at the top of the window) is not "/hostname." If it is, click on the disclosure triangle to show the rest of the window and swith to the "/" domain. (This is the network domain).
2. Add computer with an IP address and Ethernet address (MAC) at a minimum. When prompted, select "/" as the parent domain for this computer. Do this for any computer that will connect to this NetInfo network.
3. Add network users here, too.
4. Use NetInfoManager to check that the computers added appear, and that they appear in the correct domain. Note that the initial window for NetInfoManager is often the localhost domain. Select the network domain by using the up arrow. Added hosts show up under "machines." This information is also available from the command line using Terminal.app. Type one of the following commands at the prompt:

```
nidump hosts / or niutil -list / /machines
```

At this point, clients configured to bind to the NetInfo network and entered into the domain (step three above) should find the server at boot.

Notes

1. The NetInfo clients and server should be in the same subnet.
2. On entering the Ethernet address in the NetworkManager.app, do **not** use the leading zero. for example, 00:05:02:aa:28 should be entered: 0:5:2:aa:28.

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TA37513_Mac_OS_X_Server_x_Configuring_NetInfo_Master_On_New_Domain.pdf

Mac OS X Server 1.x: Review Of Network Startup (2 of 2)

This article continues a brief review of network startup on Mac OS X Server. It is intended to be a brief introduction to allow users to become more familiar with the boot process and how network operations are configured.

The first part of the review can be found in the following article:

Article 30757: "**Mac OS X Server: Review Of Network Startup (1 of 2)**"
This article has been archived and is no longer updated by Apple.
Note: This article pertains to Mac OS X Server versions 1.x, which were released prior to May 2001.

Starting NIS

Under normal operation, most users will not need to run Network Information System (NIS) because NetInfo will provide the same services. Both systems are distributed databases that contain network wide configuration information on users, passwords, hosts, groups, and so forth. Administrators can change this information from a server instead having to make changes for each machine on the network. NIS is not a supported component of the operating system.

If the NISDOMAIN setting in `/etc/hostconfig` is set to `YES` (must be manually edited), then the computer will bind to the NIS server when `/etc/startup/1100_DirectoryServices` is executed. The computer will then be part of the NIS network and have access to that network's shared information.

Starting NFS

Network filesystem (NFS) is a way of sharing filesystems (directories) over networks. It provides transparent access to remote disks on the network. NFS uses RPCs to carry out the server-client relationship, so it is configured after RPC has already started. NFS is configured on the computer when `/etc/startup/1500_NFS` is executed.

A computer running NFS can be a client, a server, or both. A server is a computer that is exporting filesystems, and a client is one that is importing filesystems. The server exports its filesystem by using `nfsd` and `mountd` while the client imports using the mount command. These commands are executed via the NFS script. The script imports directories using the mount `-at nfs` command. The `-a` flag tells mount to mount all available filesystems, and the `-t nfs` indicates that the filesystems should be of the nfs type.

In Mac OS X Server, the filesystems are imported or exported using the File Sharing option in the HostManager.app.

Starting AppleTalk

AppleTalk is the proprietary property of Apple Computer and is often used to communicate over other networks. The Ethernet version is referred to as EtherTalk. AppleTalk is usually plug and play and much easier to configure than TCP/IP, but it may be more network intensive.

The script `1300_AppleTalk` starts the AppleTalk protocol on the computer. With this protocol active it is possible to print to AppleTalk printers, and to connect to AppleTalk computers.

Starting TCP/IP

TCP and IP are the two protocols that are at the heart of Unix-style networking. On all Unix-style systems these protocols are started with the inetd. This daemon is launched when the `/etc/startup/1700_IPServices` is executed.

Inetd is considered a super-daemon because instead of having multiple daemons running for TCP/IP services, inetd starts them as requests are received. The clients contact inetd on well-known ports that are published in `/etc/services`. Once inetd has been contacted, it notifies the client on which port the connection will be taking place. The client then connects the server on that port. Inetd uses a one to one connection between servers and clients. This means that each time a new request comes in from a client inet starts up a new daemon. For example, when starting a new telnet session the client contacts inetd on port 23. Inetd then tells the client that the telnetd process has been start on port x (x is a variable meant to specify a higher, unreserved port.) This happens each time that a new telnet session is created. The total number of telnetd processes can be seen using the "`ps -aux | grep telnetd`" command. The total number of telnet connections can be seen with the "`netstat | grep telnet`" command. This command will display the port that each session is running on, and will allow the user to verify that the above is correct. (Telnetd is the daemon started by inetd to handle telnet sessions.)

Starting Host Configuration Services

If the server is configured to be a bootp of NetBoot server, bootpd and bootparamd will be launched when the `/etc/startup/1700_IPServices` script is run. These two daemons enable the computer to receive bootp requests when a client boots. This option can be turned on using the Setup Assistant, the Preferences.app, or by manually editing the `/etc/hostconfig` file. If a client is set to request an IP address at startup, it will broadcast its Ethernet address while `/etc/startup/0800_Network` is running. If the server is running

and is on the same subnet, the server will respond to the broadcast with the client's IP address. Bootp packets can not cross a router unless the router is configured to allow this. This is one reason for NetInfo clones.

The first part of this review of network startup can be found in the following article:

Article 30757: "**Mac OS X Server: Review Of Network Startup (1 of 2)**"

Starting AppleFileServer

The Web administration services are started with the execution of `1600_AppleShare`. This script launches the Web administration daemons and allows the AppleFileServer server to be configured with a web browser.
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Network Assistant: Where Is Server Install Folder?

My older versions of Network Assistant came with an installer specifically for Servers. Is Network Assistant 3.5 not supported on Servers?
This article has been archived and is no longer updated by Apple.
Previous versions of Network Assistant came only in the Apple Network Administrator Toolkit bundle. For ease of installation installers were separated into Server and Client/Admin installers. This was done to keep At Ease Workstation software from being installed on the Server. Since Network Assistant 3.5 is not bundled with and should be considered a Network Assistant client, there is no need for a separate Server Install Folder.

What's Installed

Network Admin Toolkit 1.0

Server Install:
At Ease Server Software:
At Ease Server

Network Assistant Workstation Software:
Network Assitant Security
Network Assistant Startup

User & Group Manager:
AppleShare Agent
FirstClass Agent

Network Administrator Toolkit:
Thread Manager
ThreadsLib

Network Admin Toolkit 2.0

Server Install:
At Ease Server Software:
At Ease Server 5.0

Network Assistant Workstation Software:
Network Assitant Security
Network Assistant Startup

User & Group Manager:
AppleShare Agent
FirstClass Agent

Network Administrator Toolkit:
Thread Manager
ThreadsLib

In terms of the Network Assistant software, the server is treated as a workstation in the previous versions.
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At Ease 5.x: Restricted Finder And Desktop Printers

This article explains how to allow access to desktop printers in the Restricted Finder of At Ease 5.x.
This article has been archived and is no longer updated by Apple.

Symptom:

In At Ease 4.0 my printers were available on the desktop in Restricted Finder when using the Default Chooser Selection option. The Selected Printers option is not a feasible option in our environment. Now that I have updated to At Ease 5.x they no longer appear. This is a real inconvenience when students print long jobs or accidentally print too many copies of the same job. They can no longer flush the queue themselves but rather have to have an Administrator log in to full Finder to stop the queue or power off the printer. Is there a way in At Ease 5.x to have desktop printers available in Restricted Finder?

Solution:

At Ease 5.x removes all unlocked items from the desktop and places them in a secured folder. There are two ways to allow access to desktop printers.

Option 1

In full Finder make an alias of the desktop printer. Click once on the alias to select it. Choose Get Info from the File menu. In the Info window for the alias select the Locked option. Now when users log in they will see the alias and can open the printer to manipulate the queue.

Option 2

First, you must make sure you are using Desktop Printing 2.0.1 or later. This allows you to move printers from the desktop into other folders. Then follow these steps:

1. Create a folder named Printers at the top level of the hard drive. Place your desktop printers in this folder.
2. Launch At Ease Admin.
3. Pull down the Options menu and select 'Access to Folders'.
4. Click 'Add Folder'. Type the exact name of the folder you created for your printers. Click OK. Click OK again to close the Access to Folders window.
5. Now you must give access to your workgroups that use the printers. Select your workgroup and click 'Edit Workgroup'.
6. In the Edit Workgroup window click the Folders button. Click Add.
7. Select the Folder you have created and make sure users can open documents in this folder.

On the next log in users should be able to navigate to this folder and use the desktop printers.
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Mac OS 8.5: Sending Quick Fax With AppleFax

With Mac OS 8.5, trying to send a fax by selecting Quick Fax in the AppleFax application sends the cover letter but not the enclosed text.
This article has been archived and is no longer updated by Apple.
This is apparently an issue with an incompatability between AppleFax and Mac OS 8.5. A possible workaround is to select the Fax Sender in the Chooser, open the document to be faxed and then print the document.

The key combination used with previous versions of Mac OS (Control+Shift+Print) is also no longer functional under Mac OS 8.5.

For additional information see the following article:

- Article 30819: "**Mac OS 8.5: Is Apple Telecom Supported?**"

Published Date: Feb 18, 2012

LaserWriter 12/640 PS: Printing Envelopes Face-Up

It has been reported that the LaserWriter 12/640 PS may jam when printing envelopes face-down.
This article has been archived and is no longer updated by Apple.
When printing envelopes with the LaserWriter 12/640, you could experience jams if the envelopes feed face-down. For best results, choose Face-Up Tray under Printer Specific Options in the Print dialog box.
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At Ease 5: Netscape Communicator Will Not Send Mail

This article describes an error that occurs when At Ease prevents Netscape Communicator from sending email, and provides a workaround. This article has been archived and is no longer updated by Apple.

Symptom:

On computers that have At Ease 5 installed, when I try to send mail using Netscape Communicator I receive the following error message: "Netscape is unable to open the temporary file... ; check your temporary directory setting and try again"

Solution:

Netscape returns this error because At Ease security is preventing it from opening a temporary folder. There are two ways to avoid this error:

1. Upgrade to Netscape Communicator version 4.0.6 or later, or
2. Log in to At Ease Administration. While holding down the Option key, open the Options menu and select Application Preferences. Release the Option key, select Netscape Communicator from the list of applications and deselect "Use file level protection."

Note: Disabling file level protection weakens At Ease security. If you require maximum security, leave file level protection enabled.
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AppleShare IP 5.0.3: Wrong Name Appears In Queue

This article explains why a different name than was expected may appear in the Monitor queue window when using AppleShare IP 5.0.3
This article has been archived and is no longer updated by Apple.

Symptom:

My AppleShare IP (ASIP) Print Server sometimes lists the wrong Job or Creator Name in the Monitor Queue window when the print job contains an EPS file. Why is that?

Solution:

ASIP 5.0.3 may list a different name than was expected, if the documented contains EPS files that contain a "%%Creator: ..." comment. This was fixed beginning with ASIP 6.0.

Print jobs listed in the Print Server Activity window, Monitor Queue window, or Log, may list an incorrect file and creator name. This may occur with print jobs that contain EPS files.

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ARA 3.0: Errors Enabling Answering With IP Dial-In

This article describes two errors you may get upon enabling answering on an ARA 3.0 server set up for IP dial-in.
This article has been archived and is no longer updated by Apple.
"Answering is enabled for AppleTalk services. No IP services will be available for remote users. Check if TCP/IP and AppleTalk control panels are configure correctly."

In order to use both AppleTalk and TCP/IP in the ARA 3.0 personal server, both protocols must be set to use the same interface (Ethernet, for example). If you set TCP/IP to Ethernet and set AppleTalk to the printer port, then you will get this error.

A common misconfiguration that causes this error is setting the TCP/IP control panel to configure via PPP. This will not work for the server; TCP/IP must be configured for the interface that AppleTalk is set to.

"Answering is Disabled. Default Client's IP Address is being used by another user. Enter another IP Address and try enabling Answering again.

This message comes up in two situations:

- Another device on the IP network is already using the IP address entered in ARA's Answering dialog box.
- The IP address in the Answering dialog box is not on the same network as the IP address in the TCP/IP control panel. Double check the IP address in ARA's answering dialog box, and the IP address and subnet mask entered in the TCP/IP control panel.

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Mac OS 8.5: Inline Support Extension Missing

I am using Chinese Language Kit 1.2 with Mac OS 8.5. After running the Language Kit Update which is included in the CD Extras folder, inline input doesn't work correctly.

After using the Language Kit Update, the Inline Support extension disappears.

This article has been archived and is no longer updated by Apple.
The Language Kit Update incorrectly removes the Inline Support extension. To reinstall it, perform the following steps:

1. Run Mac OS Install from the Mac OS 8.5 CD.
2. Select the hard drive that has Mac OS 8.5 installed.
3. You will be asked if you want to reinstall or add/remove software. Select "Add/Remove."
4. Check Mac OS 8.5.
5. Select "Customized Installation..." from the Installation Method popup menu.
6. Click the turn-down triangle next to International.
7. Select WorldScript II.
8. Click OK.
9. Click Start to install.

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Mac OS 8.5: Disabling File Exchange Without Restarting

The PC Exchange control panel had On and Off buttons so that you could temporarily disable the mounting of DOS media without disabling the control panel and rebooting. These buttons are not present in File Exchange. Is there a way to disable File Exchange without using Extensions Manager and restarting?
This article has been archived and is no longer updated by Apple.
File Exchange does not have On and Off buttons, but you can still turn it on and off by using AppleScript. Here are scripts that enable and disable the PC file system.

To enable the PC file system, enter the following in Script Editor and run it.

```
tell application "File Exchange"
 set PC file system enabled to true
end tell
```

To disable the PC file system, enter the following in Script Editor and run it.

```
tell application "File Exchange"
 set PC file system enabled to false
end tell
```

If you need to disable File Exchange often, you may want to save the two scripts as applications.
Published Date: Feb 18, 2012

Mac OS 8.5: Crash When Using 720K DOS Diskettes

Sometimes when a 720K DOS diskette is inserted into my Macintosh with Mac OS 8.5, the system crashes. What is wrong?
This article has been archived and is no longer updated by Apple.
The issue with these floppies is that there is no File System Type specified in the BIOS Parameter Block. This can cause File Exchange 3.0 to crash. Floppies formatted with PC Exchange 2.1.1 and earlier may be the source of the behavior.

The workaround is to reformat the floppies on a Windows or DOS-based PC. If you do not have access to a PC, you can do the following on your Mac OS 8.5 system:

1. Disable File Exchange using Extensions Manager.
2. Restart.
3. Reformat the floppies as 800K Macintosh floppies.
4. Enable File Exchange using Extensions Manager.
5. Restart.
6. Reformat the floppies as 720K DOS floppies.

For information on disabling File Exchange without having to restart your computer, please see the following Tech Info Library article:

Article 24741: "**Mac OS 8.5: Disabling File Exchange Without Restarting**"

Substitute the steps in article 24741 for steps 1-2 and 4-5 above.

Note: This issue has been fixed in File Exchange 3.0.1, which is included with Mac OS 8.6, or File Exchange 3.0.2 in Mac OS 9.
Published Date: Feb 18, 2012

Mac OS 8.5: Eject And Leave Behind No Longer Available

Using Mac OS 8.5, I went to eject the target floppy by holding down the Option key and selecting "Eject and Leave Behind" from the Special menu but the choice was not there.
This article has been archived and is no longer updated by Apple.
Eject and Leave Behind has been removed from Mac OS 8.5. In fact, attempting to copy to any offline (greyed out) volume is no longer supported.

To duplicate floppies you can use Disk Copy which is available from Apple Software Updates.

Published Date: Feb 18, 2012

MultiFinder: Workaround for Incompatible Desk Accessories

Why do some desk accessories work with MultiFinder and others do not?

This article has been archived and is no longer updated by Apple.
Some desk accessories do not work properly under the MultiFinder DA Handler (version 1.0). If you open the DA while holding down the Option key, the DA loads into the present application's heap. This will allow some (but not all) MultiFinder-incompatible DAs to work correctly.

If you have a DA that is used in one application only, you may install it into that application using the Font/DA mover. This allows you to open the DA in the application's heap without having to hold down the Option key.

Published Date: Feb 18, 2012

PowerBook: Crash Can Cause Loss Of RAM Disk Contents

Sometimes when my PowerBook crashes or I have to force-restart it, I notice that I lose some things on the RAM disk that I have set up. Why?
This article has been archived and is no longer updated by Apple.
On PowerBooks, the system software uses a temporary file to save and rebuild the contents of a RAM disk between restarts of the computer. The file is created and the contents of the RAM disk are copied to it shortly after you select Restart from the Special menu, and the RAM disk is restored from this file when the computer is starting up. If you have "Save on Shut Down" selected in the Memory control panel, then the same process occurs when shutting down the computer except that the RAM disk file remains in the Preferences folder.

If the PowerBook crashes and needs to be force-restarted (using the Command-Control-Power key sequence after a crash, for example) or if it completely runs out of battery power while in sleep mode, the temporary RAM disk file never gets built and therefore one of two things will happen:

- If you have the "Save on Shut Down" option set in the Memory control panel (which is the default) your RAM disk will revert to the last version that was saved the last time the PowerBook was shut down (not restarted).
- If you don't have the "Save on Shut Down" option set in the Memory control panel, your RAM disk will be empty.

Published Date: Feb 18, 2012

Apple System Profiler 2.1.1: USB Removable Media Appears Incorrectly

I have an iMac that shipped with Mac OS 8.5. I have connected a third-party SuperDisk drive to iMac's USB port. When I open Apple System Profiler, and open the "Devices and Volumes" tab, I can see the SuperDisk, but it is under a header called "Internal RAM." Why is this?
This article has been archived and is no longer updated by Apple.
The SuperDisk you have inserted is not an internal RAM disk. This behavior is an anomaly under Apple System Profiler 2.1.1. It may also occur with other third-party removable-media solutions connected to iMac via the USB port. This anomaly has been corrected in Apple System Profiler 2.1.2, which is available for download from Apple Software Updates sites.

These articles can help you locate the software update mentioned here:

- Article 14724: "**Where To Find Apple Software Updates**" - Lists online services for free Apple software updates.
- Article 16332: "**US Apple SW Updates Available Online**" - An index to USA Apple Software Updates showing the current software location on the Internet.
- Article 17664: "**WW Apple SW Updates Available Online**" - An index to International Apple Software Updates showing the current software location on the Internet.

Published Date: Feb 18, 2012

Mac OS 8.5: Printing To A LaserWriter With 8.2.3f Driver

Since updating to Mac OS 8.5, printing to my LaserWriter 16/600 PS using the LaserWriter 8.2.3f driver that comes with Mac OS 8.5 does not always work. Some applications do not allow me to print at all, and the desktop print monitor goes into a loop while processing the print job.
This article has been archived and is no longer updated by Apple.
Apple has received reports of users having difficulty printing from Mac OS 8.5 to their fax-capable LaserWriters. Present workarounds include using the 8.2.3f driver for faxing only, and the LaserWriter 8.6 driver or later for printing.

Another solution is to use LaserWriter 8.3.4, which can be downloaded from Apple Software Updates sites. It supports printing and faxing, but does not contain any of the fax extras such as the address book.

This article can help you locate the software update mentioned here:

- Article 14724: "**Where To Find Apple Software Updates**" - Lists online services for free Apple software updates.

Published Date: Feb 18, 2012

Mac OS 8.5.1: Compatible With AppleShare IP 6.1

This article disusses Mac OS 8.5.1 compatibility with AppleShare IP 6.1.
This article has been archived and is no longer updated by Apple.

Upgrading

If you have installed AppleShare IP 6.1 on Mac OS 8.5, make a backup of your system folder (using the "Duplicate" command in the Finder is sufficient), and then apply the Mac OS 8.5.1 update.

If you have installed AppleShare IP 6.0 on Mac OS 8.1, and are upgrading to both AppleShare IP 6.1 and Mac OS 8.5.1, follow the instructions that came with your copy of AppleShare IP 6.1, and then apply the Mac OS 8.5.1 update as described above.

For more information, please see the following article: Article 26165: "**About Mac OS 8.5.1 Update**"

Additionally, you may visit the AppleShare IP site at:

http://www.apple.com/applesharеip/

Published Date: Feb 18, 2012

PowerBook: "The Game" DVD Does Not Run

I have a PowerBook G3 Series computer with a DVD card. I can run most DVDs fine, but I cannot load "The Game." What should I do?
This article has been archived and is no longer updated by Apple.
As discussed on page 8 of your PowerBook DVD manual, some DVDs have issues with their implementation of UDF. This will cause an error to occur when you insert the DVD on your Macintosh PowerBook; the system software will advise you that it cannot read the disk, and will prompt you to initialize it. This may give you the impression that the disk is somehow defective.

To work around this, hold down the Command, Option, and I keys while inserting the DVD. This will cause the system to read the DVD as an ISO-9000-formatted disk, rather than a UDF-formatted disk.

You may encounter an additional error while trying to run the DVD. The FBI warning and studio logos will appear, followed by an error that the disk could not be authenticated. To resolve this issue, you should download and install DVD SW Update 1.1 from Apple Software Updates.

These articles can help you locate the software update mentioned here:

- Article 14724: "**Where To Find Apple Software Updates**" - Lists online services for free Apple software updates.

Note: Macintosh PowerBook G3 Series computers should not be confused with Macintosh PowerBook G3 computers. Though the names are similar, there are significant differences. For more information differentiating between the computers, read article 24604: "**PowerBook G3, G3 Series: Identifying Different Versions**"
Published Date: Feb 18, 2012

Mac OS 8.5: Proper Driver For Umax Scanner

After performing a number of sofware updates to my iMac, my Umax Astra 1220U scanner doesn't work. When I try to use the scanner software and preview an image, the scanning bar moves slightly and then my iMac locks up, forcing a reset.
This article has been archived and is no longer updated by Apple.
The original Astra 1220U driver was VistaScan 3.0 which doesn't work with Mac OS 8.5. Version 3.1 is available for download from Umax.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

The following Knowledge Base article can help you search for a particular vendor's address and phone number:

Article 17159: "**Locating Vendor Information**"
Published Date: Feb 18, 2012

PC 5.25" Drive & Macintosh SE-Bus Drive Card: Pinouts & Cabling

This article has been archived and is no longer updated by Apple.

TOPIC ----------

What are the pinouts for the Macintosh SE Bus Drive Card and PC 5.25" Drive?

DISCUSSION ----------

Here are the pinouts for the internal cable, part number 590-0600, for the SE Bus Drive Card. It has a 26-pin in-line connector on one end for the card itself and a DB-37 connector on the other for the PC 5.25" Drive.

26 pin connector DB-37 connector

Signal Name
1 ---------- GND ---------- 2
2 ---------- Side 1 ---------- 18
3 ---------- GND ---------- NC
4 ---------- Read Data ---------- 17
5 ---------- GND ---------- 5
6 --------- Write Protect -------- 16
7 ---------- GND ---------- NC
8 ---------- Track 00 ---------- 15
9 ---------- GND ---------- NC
10 -------- Write Enable --------- 14
11 ---------- GND ---------- NC
12 -------- Write Data ---------- 13
13 ---------- GND ---------- NC
14 ---------- STEP ---------- 12
15 ---------- GND ---------- NC
16 ---------- Direction ---------- 11
17 ---------- GND ---------- NC
18 -------- Drive Select 0 ------- 9
19 ---------- GND ---------- 20
20 --------- Motor Drive 0 ------- 7
21 --------- Diskette Change ----- 19
22 ---------- INDEX ---------- 6
23 ---------- +12 Volts -------- 1
24 ---------- + 5 Volts -------- NC
25 ---------- +12 Volts -------- NC
26 ---------- + 5 Volts -------- 4

Here is the pinout for the DB37 connector on the Macintosh SE-Bus Drive Card Note that pins not listed are not used.

DB37 Signal Name
_____
1 ---------- +12 Volts
2 ---------- Ground
4 ---------- + 5 Volts
5 ---------- Ground
6 ---------- INDEX
7 ---------- Motor Enable
8 ---------- Drive Select 1
9 ---------- Motor enable
11 --------- Direction
12 --------- STEP
13 --------- Write Data
14 --------- Write Enable
15 --------- Track 00

16 --------- Write Protect
17 --------- Read Data
18 --------- Side 1
19 --------- Diskette Change
20 --------- Ground
25 --------- Ground

These are the pinouts for the cable, part number 590-0368, used on the PC 5.25 inch drive. The cable uses a 34 pin connector and smaller 4 pin connector for the DC power on the inside of the PC 5.25 inch drive and a DB37 connector that attaches to the card inside the Macintosh SE. Note that pins not listed are not used.

DB37 | Signal Name | 34 pin edge connector | DC Connector

---

1 ---------- +12 Volts ---------- 1
2 ---------- Ground ---------- 2
3 ---------- Low Density ---------- 2
4 ---------- +5 Volts ---------- 4
5 ---------- Ground ---------- 3
6 ---------- Index ---------- 8
7 ---------- Motor Enable A ------- 16
9 ---------- Drive Select A ------- 10
11 --------- Direction ---------- 18
12 --------- Step ---------- 20
13 --------- Write Data ---------- 22
14 --------- Write Enable --------- 24
15 --------- Track 00 ---------- 26
16 --------- Write Protect -------- 28
17 --------- Read Data ---------- 30
18 --------- Side 1 ---------- 32
19 --------- Disk Change ---------- 34
20 --------- Ground ---------- 1
25 --------- Ground ---------- 5
27 --------- FNPRES ---------- 7

Published Date: Feb 18, 2012

Apple File Services: Users Can Log in With Administrator‘s Password

Users are logging into my Appleshare server without entering a password. How can this be?
This article has been archived and is no longer updated by Apple.
This is caused by having no password or a blank password for the AppleShare Administrator. In AppleShare IP and Apple File Services under Mac OS X Server, the Administrator's password can be used to log in to any user's account. If this password is left blank, a user will be able to log into any active account without entering a password.

This feature is provided as a convenience for server administrators, but for this reason it is important for the Administrator to avoid using an easy-to-guess password.
Published Date: Feb 18, 2012

Macintosh Applications: Compatibility with A/UX

In general, Macintosh applications that are "absolutely well behaved" (that follow the guidelines in Inside Macintosh) can be launched under A/UX.
This article has been archived and is no longer updated by Apple.
Many of the non-compatible programs have programming flaws dealing with null pointers and handles. Because the Macintosh OS uses only 24 of the 32 bit address lines, many programmers have taken short cuts to handle locking by using one of the eight non-utilized bits as a locking status bit. But A/UX recognizes all 32 bits, and programs using those upper eight bits as status have major problems.

A/UX 2.0, 2.0.1, and 3.0 have a 24-bit compatibility mode (it is a login session type) that will allow customers to run older, poorly behaved applications.
Published Date: Feb 18, 2012

Digital Video: Export Difficulty With Some Sony Devices

This article discusses a potential incompatibility with some Sony DV products when used with Apple DV version 1.0.2 or earlier.
This article has been archived and is no longer updated by Apple.
Some customers have reported that Apple's DV software version 1.0.2 or earlier may have difficulty exporting video over FireWire to some Sony models. In particular, exported video may be broken up.

This issue has been addressed in QuickTime 4 which is available from http://www.apple.com/quicktime/.
Published Date: Feb 18, 2012

LaserWriter 8500: Hiding It With Print Servers

This article is about how print servers may "hide" or "capture" an Apple LaserWriter 8500.
This article has been archived and is no longer updated by Apple.
The Apple LaserWriter 8500 cannot be "hidden" or "captured" by print servers when you have an IP Gateway address set on the printer.

To capture the LaserWriter 8500, first reset the Gateway address to default (0.0.0.0) using a tool such as the Apple Printer Utility or the TCP/IP Printer Configuration Utility, then hide the printer with the print server. Tips on configuring the LaserWriter 8500 via the Apple Printer Utility and TCP/IP Printer Configuration Utility may be found in the LaserWriter 8500 User's Manual. If the printer does not become hidden after setting the default Gateway address to 0.0.0.0 using one of these utilities, the likely reason is there is a BOOTP or DHCP server on your network dynamically assigning the Gateway address: work with your network administrator to configure that server to not dynamically assign a Gateway address on this printer.

Note that when no Gateway address is set on the printer, only clients located in the subnet the printer is located in are able to print to it over TCP/IP. That is, if your network is attached to other networks, clients in the other networks will not be able to send the printer print jobs. Clients in other subnets can send their print jobs to the AppleShare IP print server to spool to the printer. Alternatively, one can set the Gateway address after the printer is hidden via the TCP/IP Printer Configuration Utility. However, if set, then when the printer is restarted it will again initially be visible to most AppleTalk nodes and when the print server attempts to hide it again (as many print spoolers do automatically or after the server receives a job to spool to the printer), this "recapture" will fail until you remove the Gateway address as mentioned above.
Published Date: Feb 18, 2012

Macintosh OS and A/UX: Transfer Files between the Two (9/94)

How can I transfer files between Macintosh OS and A/UX?

This article has been archived and is no longer updated by Apple.
A/UX 3.0 supports File Sharing. The Macintosh running A/UX can act as both an AppleShare client or a server (using File Sharing, not AppleShare 3.0 or 4.0). Turn on file sharing on either the Mac OS machine or the A/UX machine. Then mount the shared volume from the other machine and copy the files.

Article Change History:
13 Sep 1994 - Reviewed. Updated for A/UX 3.0.
19 Jun 1992 - Reviewed.

Support Information Services
Published Date: Feb 18, 2012

CyberDog: Articles Moved To TIL Archive

All CyberDog-specific articles have been moved to the Tech Info Library - Archive.
This article has been archived and is no longer updated by Apple.
All CyberDog-specific articles have been moved to the Tech Info Library - Archive.

The address of the Tech Info Library - Archive is:

http://til.info.apple.com/tilarchive.nsf/
Published Date: Feb 18, 2012

Mac OS: Using "Browse the Internet" To AutoLaunch the Internet

I am new to computers, and I am looking to make it as easy as possible. When I click on "Browse the Internet," my Internet browser application starts up and returns a message saying "The attempt to load 'http:livepage.apple.com' failed." I typically have to use the Remote Access program to make the connection first. Is there a way to click on "Browse the Intenet" and have it work automatically? I guess I'm looking for a one-click solution for getting the phone connection to dial automatically.
This article has been archived and is no longer updated by Apple.
If a network connection is not established prior to launching your Internet browser, it is normal for the browser to return an error message. The message "The attempt to load 'http: livepage.apple.com' failed." is common for Microsoft's Internet Explorer. It is trying to load the home page and does not have a connection. When Netscape Navigator is defined as the default browser, it returns a similar but more cryptic error message, "Netscape was unable to create a network socket connection...."

The one-click solution can be achieved by making some changes to the setup in the Apple Remote Access application.

Figure 1: The Options window.

1. Open The Remote Access control panel.
2. Click on the Options button at the bottom of the main Remote Access window. The Options window will appear (see Figure 1).
3. Click the Protocol tab at the top of the Options window.
4. Select PPP from the protocol pop-up list. (The default setting is "Automatic.")
5. Check the first box "Connect automatically when starting TCP/IP applications" to turn on this option.

Now every time the "Browse the Internet" button is clicked, the phone connection will dial automatically and attempt to establish the Internet connection first before launching the default browser.
Published Date: Feb 18, 2012

Language Kit Updater For Mac OS 8.5: Read Me

This article contains the Read Me document for the Language Kit Updater For Mac OS 8.5

Note: The Language Kit Updater for Mac OS 8.5 ships with the 8.5 CD in the CD Extras folder. In addition, computers that include 8.5 also get this updater on their install CDs in the CD Extras folder.
This article has been archived and is no longer updated by Apple.
About Language Kit Updater for Mac OS 8.5

This Language Kit Updater will update your Apple Language Kit(s) to work with Mac OS 8.5. You need to run the Apple Language Kit Updater for Mac OS 8.5 (LKU 8.5) every time you install one or more of the following Language Kits:

Arabic Language Kit 1.0.1 or 1.0
Chinese Language Kit 2.0 or 1.2
Cyrillic Language Kit 1.0
Hebrew Language Kit 1.0.1 or 1.0
Indian Language Kit 1.0
Japanese Language Kit 1.2
Korean Language Kit 1.0

Using LKU8.5 with earlier language kits is not supported.

Installation Requirements

- **Mac OS 8.5**
  You must have Mac OS 8.5 or greater installed. LKU 8.5 will not recognize older versions of the Mac OS. Install LKU 8.5 from the CD Extras Folder on the Mac OS 8.5 installation CD.

Known Issues

- You may be able to read a document created with fonts that are not present on your computer; however you may get unreadable text when printing the document using LaserWriter 8. The workaround is to highlight the text and select a font from your application's font menu before printing. You will not experience this with a non-PostScript printer such as a StyleWriter.
- Custom removing language support with a Language Kit installer will also remove Multilingual Internet Access support for that language.

For more information: **http://www.apple.com/support**

What does LKU 8.5 install/remove?

LKU 8.5 checks your system to detect which Apple Language Kit(s) you have installed and automatically updates the files you need. Regardless of which Apple Language Kit(s) you have installed, LKU 8.5 deletes obsolete files and installs or updates files as necessary:

Files added to all Language Kits

- Language Register 7.5.7
- Language Kit Extension 7.5.7
- System Z (an extraction of interface elements in the system that are used by localized applications)
- LaserWriter 8 Z (interface elements in LaserWriter 8 that are used by localized applications)
- PrintLib Z
- QuickTime Z (interface elements in QuickTime that are used by localized applications)

Note: The LKU installs the newest version of the Language Register in the Utilities folder. Older versions of Language Registers will remain in the Apple Extras folder and can be safely deleted.

Files removed, if present, from all Language Kits

- WorldScript(TM) Power Adapter version (any version)
- WorldScript(TM) I (any older version)
- All older support files: Arabic Support, Cyrillic Support, Hebrew Support, Japanese Support, Roman Support, Simplified Chinese Support, Traditional Chinese Support
- Asian Font Arbitrator

- Far East Addition
- Font Extension
- Font Extension(Bitmap).K42
- FontExtension(Protection)
- Font Extension 3
- FontSize Patch
- Inline Filter
- InputBackSupport
- Hangul Jojung control panel
- Language Kit Additions files (In the Language Kit Additions folder, which is in the Extensions folder)
    - LaserWriter 8.x.x (all the older versions)
    - PrintingLib 8.x.x (all the older versions)
    - QuickDraw GX 1.x (all the older versions)
    - QuickDraw GX Helper 1.x (all the older versions)
    - QuickTime x (all the older versions)
    - System addition files (all the older versions)
- LaserWriter TrueType Booster
- Kanji Fonts
- Simplified Chinese Fonts
- Traditional Chinese Fonts

Common files updated for Arabic, Hebrew, and Indian Language Kits
WorldScript I 7.5.5

Files updated, for Arabic Language Kit

- **Arabic fonts**
  AB AlBayan 3.0
  AB Baghdad 3.0
  AB Cairo 3.0
  AB Geeza 3.0
  AB Kufi 3.0
  AB Nadeem 3.0

- **Persian fonts**
  PS Amir 3.0
  PS Asfahan 3.0
  PS Kamran 3.0
  PS Mashad 3.0
  PS NadeemFarsi 3.0

The files listed above are installed only if previous versions are present.

Files updated for Indian Language Kit
ADBS '2' resource in System file

Common Files updated for Japanese, Chinese and Korean Language Kit
WorldScript II version 7.5.5
Inline Support version 1.5.2

Files updated for Simplified Chinese Language Kit
Simplified Chinese system resources
Beijing font 3.0

Files updated for Traditional Chinese Language Kit
Traditional Chinese system resources
Taipei font 3.0

Files updated for Japanese Language Kit
Kotoeri 1.1.8
JIS Keyboard Extension 1.0.2

Osaka font J4.1.1
Osaka Mono font J3.2.1
Japanese System resources
SimpleText Japanese J1-1.4

Note: SimpleText Japanese is now located in Applications folder.

Files updated for Korean Language Kit
Seoul KH 2.6
Seoul KH 2.6 (bitmap file)
AppleGothic KH 3.0 (will be updated only if already installed by the Korean Language Kit)
Korean System resources
SimpleText Korean KH-1.4

Note: SimpleText Korean is now located in Applications folder.

Published Date: Feb 18, 2012

AppleWorks 2.0: Memory Management on the Apple IIGS

The topic discusses how AppleWorks performs memory management on the Apple IIGS.
This article has been archived and is no longer updated by Apple.
After recognizing that it is running on an Apple IIGS, AppleWorks 2.0 uses the built-in memory manager to allocate all memory use. If the Apple IIGS is cold started, several of the tools in ROM are initialized and given small portions of memory for their own use. These tools include the Tool Locator, Memory Manager, and Desktop Manager. Also, the RAMDisk is defined, either as the number specified as the 'Minimum RAMDisk size' or 10K, whichever is larger.

When AppleWorks runs, it starts by allocating most of the first 64K bank and portions of the second 64K for itself. The rest of the memory remains free, available for expansion by the AppleWorks desktop and the RAMDisk.

Therefore, the amount stated by AppleWorks as 'nK free' is the sum of:

- the memory not allocated by the memory manager
- plus the memory already owned by AppleWorks
- less the memory owned by AppleWorks but occupied by documents currently on the desktop.

As AppleWorks runs, this nK of free space gets consumed either by AppleWorks, by the RAMDisk, or by add-on accessory programs.

AppleWorks allocates memory to:

- files that appear on the desktop
- portions, or all, of the AppleWorks program
- free space

As in all earlier versions, AppleWorks removes portions of itself from its portion of RAM if the memory is needed to store data files.
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A/UX: The INET Daemon and Network Services (8/94)

This article expands on the information in inetd(1M), servers(4), services(4), the "inittab" file, and in the Network System Administration Manual.

This article has been archived and is no longer updated by Apple.
"inetd" is one of the networking daemons (Internet super-server as quoted by the man page) started up ("fork"ed and "exec"ed) when the "init" process reads the "inittab" file and "net9"'s action field is "respawn". The inetd program waits for some process to connect to one of the "servers" that the inet daemon supports (found in /etc/servers). Only when the connection request comes in does inetd fire up ("fork" and "exec") the associated server process. It then continues listening for other connection requests (distinguished by the unique combination of the protocol type, Internet address, and port number).

In other words, "inetd" doesn't fire up all the "servers" listed in the /etc/servers file just because the "service" is listed in the file. There must be a connection request for that service before it is invoked. At this point, let's clear up possible confusion between "/etc/servers" and "/etc/services".

The servers file contains the servers ("services") that our A/UX Internet daemon supports. Additionally, "inetd" calls "getservent," which reads "/etc/services" for more information such as port number, etc. This file references all the known services on the DARPA Internet. A simple analogy: "/etc/services" is the dictionary and "/etc/servers" are the words in your vocabulary.

You could theoretically run "inetd" in background mode and it would act the same as being spawned from the "inittab" file -- EXCEPT for one crucial thing. If the daemon quits for some reason, it would not be automatically reinvoked ("respawned") as it does when it is read from the inittab file with the "respawn" action (see inittab(4) for more information on "respawn").
Why are some network services handled by init reading "/etc/inittab" and others invoked by "inetd"? The network services listed in "/etc/inittab" are:
- portmap
- ypserv
- ypbind
- nfsd
- biod
- in.routed
- in.rwhod
- named

Each of these programs must be running all the time in a network environment for reasons like caching, performance, and availability for completion of a network requests. These "services" can't be called to life when a connection request comes in and then dropped when the connection request has completed, because these programs maintain the network and must be around at all times. Therefore, we must fire them up during the creation of the networking environment.

Services that do a task, then quit, are the services listed in the /etc/servers file.

Article Change History:
23 Aug 1994 - Reviewed and updated.

Support Information Services

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Power Macintosh 8600, 9600: Processor Card Compatibility

I upgraded my Power Macintosh 8600/9600/9650 processor card (original speed of 250 MHz or faster) with a better card. Can I install the leftover PowerPC 604e procesor card into a slower Power Macintosh (original speed of LESS than 250 Mhz)?
This article has been archived and is no longer updated by Apple.
No. There were changes to the logic board of the computers listed below to support the inline cache design of the processor card that came with the computers. Their processor cards are not compatible with any computer not listed below.

For example: a 9600/350's processor card would not work on a 8600/200, but it would work in a 8600/250.

Computers that use the inline cache include the following:

- Power Macintosh 8600/250
- Power Macintosh 8600/300
- Power Macintosh 9600/250
- Power Macintosh 9600/300
- Power Macintosh 9600/350
- WorkGroup Server 9650/350

Published Date: Feb 18, 2012

iMac: CIE Phosphor Settings

This article provides the White point, gamma and Phosphor CIE settings for the iMac Display.
This article has been archived and is no longer updated by Apple.
The White Points for the iMac are 9300 K +8
M.P.C.D. x=0.283 ±0.020, y=0.298 ±0.020.

Phosphor CIE Coordinates		
Color	**X**	**Y**
Red	0.610 ± 0.020	0.342 ± 0.020
Blue	0.151 ± 0.015	0.064 ± 0.015
Green	0.298 ± 0.020	0.588 ± 0.020

The gamma parameter value is 1.8
Published Date: Feb 18, 2012

Apple Video Player: Not For Recording DV Video

When I record video from my DV camcorder through FireWire using Apple Video Player, the resulting video stutters badly. Also, I do not get any sound. Why?

This article has been archived and is no longer updated by Apple.

Apple Video Player is not intended to be used with DV video. Instead, you should use a video editing program which explicitly supports DV.

Published Date: Feb 18, 2012

Mac OS 8.5.1: Error When Installing Onto PowerBook 1400 From CD

Halfway through installing Mac OS 8.5.1 onto my PowerBook 1400 from the CD I get an error message stating:

Problems were encountered reading the source file
"Register Stuffit Expander 4.5". Installation cannot continue.

What is wrong?
This article has been archived and is no longer updated by Apple.
This particular CD may encounter difficulty during installation when used with a PowerBook 1400. It occurs when the Installer attempts to install the Internet Access component of Mac OS 8.5.1. To resolve the situation, let the Installer finish all other installations and then custom install the components of Internet Access separately. The Internet Utilities component of Internet Access must be installed by itself otherwise the error will continue to occur.

Specifically, follow these steps to resolve the situation:

1. Click the OK button at the first error dialog box.
2. Click the Skip button to skip this installation.
3. Allow the rest of the installations to finish.
4. Click Continue at the dialog box following the installations.
5. Click Continue again (not Restart).
6. Click Customize.
7. Deselect everything but Internet Access.
8. Change the pop-up menu at the right from Recommended Installation to Customized Installation.
9. In the next window, select Apple Internet Access and Microsoft. You can also select Netscape Navigator if desired although it is not installed by default. Do not select Internet Utilities yet. Click OK.
10. Click Start.
11. After the installation finishes, click Continue.
12. Select Customized Installation in the pop-up menu again.
13. Deselect everything but Internet Utilities. Click OK.
14. Click Start.
15. After the installation finishes, click Restart.

Published Date: Feb 18, 2012

At Ease 5.x: Setting It Up with AppleShare

This article is not intended to replace the Apple Network Administrators Toolkit 2.0 manual but instead will provide a basic configuration process to get At Ease up and running.
This article has been archived and is no longer updated by Apple.

1. Create a folder on the AppleShare server named At Ease Server, At Ease Folder, At Ease Volume or some other similar name.
2. Create a new AppleShare user, using the AppleShare administrative program and name the user At Ease User, At Ease Admin, or some other similar name. This user needs to be a standard user without administrative privileges.
3. Share the volume you created on the server and assign the newly created AppleShare user to that volume. Give the user read and write privileges to the volume.
4. At this point you may place any items that you or your users may need to have access to from At Ease in the folder you created on the AppleShare server.
5. At the At Ease administrators workstation, launch the At Ease Admin program, which will open the "At Ease Helper" window. Follow the instructions in the window for selecting your server, volumes to be accessed, printers to be accessed, workstations you may want to connect to the server, and creating users and workgroups. When finished click the "On" radio button to turn At Ease on. If there are other customizations that you would like to make, click the button at the bottom of the window that states "Click this button to go to At Ease Administration window".

Note: When creating users in the "At Ease Helper", make sure you create a user for the administrator and give it administrator privileges.

Please see the Apple Network Administrators Toolkit 2.0 manual for information on how to make further changes to (or customize) At Ease.
Published Date: Feb 18, 2012

Language Kits: Multilingual Internet Access After Mac OS 8.5 Upgrade

This article describes an issue with the Japanese Language Kit 1.2 and font subsitutions and provides a workaround.
This article has been archived and is no longer updated by Apple.

Symptom

After updating to Mac OS 8.5, my Japanese Language Kit version 1.2 with the Mac OS 8.5 update will sometimes switch to other language fonts in between English and Japanese (English, Korean, simple Chinese, traditonal Chinese, then Japanese). It does this in Netscape Communcator and Lotus Notes but not in Nisus Writer and some others.

Solution

The behavior described is caused by Multilingual Internet Access installing these other language scripts into the Mac OS 8.5 system folder. These language scripts are display only and will only be activated by a TCP/IP application. Therefore, the extra languages will not appear in most word processors(unless these language fonts are contained within a document) or other applications that do not use TCP/IP.

To resolve this situation, use the Mac OS 8.5 Installer program to perform a "custom remove" of the extra language scripts.

Published Date: Feb 18, 2012

Mac OS 8.5.x: Icons Clipped When Printing Finder Windows

I have an iMac running Mac OS 8.5.1. When I select and print one of the Finder's windows, it sometimes results in icons not appearing in the printout; sometimes the icons getting clipped. Can you explain?
This article has been archived and is no longer updated by Apple.
This can be duplicated by printing from any Macintosh running Mac OS 8.5.x or Mac OS 8.6. Merely open a window and select Print Window. Note that in the output not all icons will print entirely, or will not print at all.

It can occur when the View is Icon, large and small, and as a list. It can occur with windows having as few as four icons (though the clipped icon was near the edge of the printable area) or dozens of icons. The clipping may occur at the edge or bottom of the page. It can occur with a variety of printers, both PostScript and non-PostScript.

Apple is aware of the issue and is investigating a solution.
Published Date: Feb 18, 2012

Macintosh: Macros Files

Article Change History

08/31/92 - REVIEWED
* For technical accuracy.

Macintosh macros files.

This article has been archived and is no longer updated by Apple.
It is possible for Macintosh users to create macro files to automate repetitive system functions (similar to .BAT and .COM files in MS-DOS).

In the Macintosh OS, this is possible within the MPW Shell and with Manx C.

On a Macintosh II with A/UX, this can be done with shell scripts within the C, Bourne, and Korn programming environments.

For more information, see the documentation that accompanies these products.

The Finder doesn't allow these capabilities from the Desktop.

Published Date: Feb 18, 2012

ColorSync 20-inch Display: Display Calibration Setup

This article details a process for calibrating your Colorsync 20-inch display to provide the best possible image. Display calibration should be done on a regular basis and whenever the display is connected to a different video source.

Note: The ColorSync 20-inch Display was formerly named the AppleVision 850 Display.
This article has been archived and is no longer updated by Apple.
The ColorSync 20-inch Display's high accuracy color is based on Apple's DigitalColor internal calibration technology which ensures that the display's color accuracy remains true over time and in a variety of ambient lighting conditions.

The ColorSync 20-inch Display calibrates itself by measuring the video amplitude of the Red, Green and Blue video signals generated by the source CPU. The display then calibrates the video parameters to provide the best image quality. Display recalibration should be done on a regular basis and whenever the display is connected to a different video source.

In order to obtain optimum viewing from your Apple ColorSync 20-inch Display the following steps must be performed when connecting the display to a computer:

Step 1
Open the Monitors and Sound control panel. (see Figure 1)

Figure 1: Monitors & Sound control panel.

Step 2
Set the brightness to a comfortable level, then set the contrast to the maximum level. These settings can be adjusted later to suit individual tastes.

Step 3
Set the desired working resolution and frequency.

Step 4
Click the Geometry button and adjust the Height/Width of the display so that there is a 0.25-inch border around the visible raster. (see Figure 2)

Step 5
Select and adjust the other geometry settings as necessary.

Figure 2: Geometry settings.

Step 6
Click the Convergence button and adjust the convergence according to the Convergence Control window which appears. (see Figure 3) Be sure to carefully inspect each region of the display when making the adjustments to ensure optimum visual quality. Convergence can have a significant effect on the readability of text. Convergence should be rechecked whenever the display is moved or rotated.

Figure 3: Convergence test pattern and control window.

Step 7
Click the Color button at the top of the Monitors & Sound window.

Step 8
Set the White Point, Gamma Curve, and Ambient Light settings according to personal preference.

Step 9
Click the Preferences button and change the settings to those shown in Figure 4.

Figure 4: Preferences window.

Step 10
Set the Calibration Accuracy slider bar in the Preferences window to the Pro (Prepress) option. The calibration process will take slightly longer,

but is more suited to the environment that these displays are used in. Click the OK button to save the preferences selections.

Step 11
Select the Appropriate ColorSync Profile from the list provided and choose the Recalibrate button to apply these changes. (see Figure 5) The recalibration procedure will take 2-3 minutes to complete.

Figure 5: Selecting a ColorSync profile.
Published Date: Feb 18, 2012

Power Macintosh G3: Video Output After Starting Up From System CD

Can I start up my Power Macintosh G3 from the System CD and get video out to an external video monitor?
This article has been archived and is no longer updated by Apple.
It is not possible to output to TV from your Power Macintosh G3 after starting up from the system CD.

The Power Macintosh G3 does not recognize the non-standard resolutions. S-Video out to TV requires resolutions that are not supplied to the computer when started up from the CD. Further, once the computer is started up from the system CD you cannot change video resolutions because there are no control panels loaded to allow this, though it is possible to output video to an external CPU monitor through the VGA port because the computer starts up from the system CD at the optimum resolution.

For example, PowerBook G3 Series computers with the12.1-inch TFT(active matrix) display, standard resolution is 800 x 600 so the default resolution when started up from the system CD would be 800 x 600. Therefore, the computer has the ability to simulscan when started up from the system CD.

If troubleshooting a problem involving S-Video output to an external TV, starting up from the system CD is not a valid step to take.
Published Date: Feb 18, 2012

PowerBook 3400: Interchangability of Expansion Bay Devices

Can I use the floppy drive from my PowerBook 3400 in my PowerBook G3 Series computer? What about the CD-ROM drive? Can I use the 12x or 20x CD-ROM drive from a PowerBook 3400 in any other PowerBook model?
This article has been archived and is no longer updated by Apple.
We will address your questions individually.

1. Can I use the floppy drive from my PowerBook 3400 in my PowerBook G3 Series computer?
No, not in a PowerBook G3 Series computer. The floppy drive from a PowerBook 3400 will fit a PowerBook 5300, a PowerBook 190 or the original PowerBook G3 but it will not fit the PowerBook G3 Series computer.

2. Can I use the 12x CD-ROM drive from my 3400 in any other PowerBook model?
No.

3. Can I use the 20x CD-ROM drive from my 3400 in any other PowerBook model?
Yes, this module may also be used with the original PowerBook G3 computer.

In general, no expansion bay devices from the PowerBook 3400 or PowerBook G3 can be used in the PowerBook G3 Series computer. The form factor is completely different precluding any compatibility between the devices.

Note: Macintosh PowerBook G3 Series computers should not be confused with Macintosh PowerBook G3 computers. Though the names are similar, there are significant differences. For more information differentiating between the computers, read Tech Info Library article 24604: "**PowerBook G3, G3 Series: Identifying Different Versions**"
Published Date: Feb 18, 2012

Mac OS 8.5.x: Compatible ARA Versions

What versions of Apple Remote Access are compatible with Mac OS 8.5.x?
This article has been archived and is no longer updated by Apple.
The following table outlines the versions of ARA and their compatibility with Mac OS 8.5.x:

Product	Compatibile With Mac OS 8.1 (Open Transport 1.3)	Compatible With Mac OS 8.5.x (Open Transport 2.0)
ARA 2.0.1 (Client Only/Personal Server)	yes	yes
ARA 2.1 (Client Only/Personal Server)	yes	yes
ARA 3.0 (Client Only/Personal Server)	yes	yes
ARA 3.1 (Client Only)	no (update needed)	yes
ARA Multiport Server 2.1	yes	no (update needed)
ARA Multiport Server 2.1.1	yes	yes

The 2.x.x versions of ARA are compatible with Mac OS 8.5.x, however, Apple does not provide support for this configuration. Apple does support the 3.x versions of ARA under Mac OS 8.5.x.
Published Date: Feb 18, 2012

PowerBook 5300: Slow SCSI CD-ROM Drives Cause Freezes

I have a PowerBook 5300. When I start up from an external CD-ROM drive to try and install Mac OS 8, I continually experience a freeze or crash. Can you help?
This article has been archived and is no longer updated by Apple.
Slow SCSI Extension

Slow SCSI is an extension for PowerBook 5300 series computers that addresses a potential conflict with slow SCSI devices such as 1x CD-ROM drives (for example, the Apple CD150), Zip drives, and PowerBooks in SCSI disk mode. Not all PowerBook computers will experience the conflict, and a PowerBook that does experience the conflict may not experience it all the time (even with different units of the same make and model).

Important: You should install this extension only if you are experiencing constant freezes or crashes when transferring files with a particular slow SCSI device. Installing this extension will impact performance with **all** SCSI devices by 10 to 50 percent, so install it only if it is absolutely needed! You can use the Extensions Manager to disable the Slow SCSI extension when it is not needed.

Installing The Extension

Option One
You must start up the PowerBook from a valid System Folder that has the Slow SCSI installed; either from the internal or an external hard drive. Then, when starting from the external CD-ROM, the code from the Slow SCSI extension will have been loaded into the PRAM.

To install the Slow SCSI Extension, copy it into the Extensions folder and restart.

Option Two
If you do not have an external hard drive and the internal hard drive has no valid System Folder, then try the following:

1. Copy the System Folder from the CD to the internal HD.
2. Restart.
3. Then perform the Clean Install.

OR

1. Place the Apple CD-ROM extension into the System Folder of the Disk Tools diskette.
2. Boot from the Disk Tools.
3. Then perform the Clean Install.

If you are experiencing difficulty installing from a floppy diskette, do the following:

1. Start up from the Disk Tools diskette.
2. Rename System Folder on your hard drive to something such as "old System".
3. Copy the System Folder from the Disk Tools onto the hard drive.
4. Copy the Apple CD-ROM extension from the "old System" into the new System Folder just copied onto the hard drive.
5. Restart from the hard drive.
6. Perform the Clean Install.

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A/UX: Internal Operations Answers (11/95)

A/UX internal operations answers.

This article has been archived and is no longer updated by Apple.
* The per process address space of A/UX is 512 MBytes.

* A/UX supports Berkeley Sockets and TTYs. A/UX also supports ptyp's (pseudo ttys in Berkeley terms).

* A/UX fully implements STREAMS with two drivers, except for multiplexing (no I_LINK, I_UNLINK, IOCTL, POLLING, and so on).

* A/UX uses copy on write on demand.

Article Change History:
28 Nov 1995 - Updated format and changed title.
27 Aug 1992 - Reviewed for technical accuracy.

Support Information Services
Published Date: Feb 18, 2012

LaserWriter 8.6: Difficulty Printing To GCC Printers

After installing Mac OS 8.5, my Macintosh is having difficulties printing to my GCC PostScript printer. When I send a print job to the printer, the printer indicates it is receiving the job but it does not print it. Other times after I select to print a document my Macintosh displays the error -8925 or -8993.
This article has been archived and is no longer updated by Apple.
The networking code that LaserWriter 8, version 8.6 uses is not fully compatible with GCC printers. Symptoms include:

- Jobs created with LaserWriter 8.6 sent to the printer do not print.
- If the printer is busy processing a print job, when a Macintosh attempts to print to the printer using LaserWriter 8.6 that job also may fail or the Macintosh may display an error -8925 or -8993.
- This communication problem can effect other functions, such as using the Chooser to Create, Setup, or Auto Setup the GCC printer.
- If you install an older driver such as the GCC Elite 600 driver, v7.1.2, your Macintosh may freeze when you attempt to print .

Solution

Mac OS 8.6 resolves the issues described above.

Workaround

If you do not wish (or cannot) upgrade to Mac OS 8.6, then you may use LaserWriter 8.5.1 rather than LaserWriter 8.6 when printing to GCC printers. Directions follow:

Step 1
Download the six LaserWriter 8.5.1 disk images from Apple Software Updates.

Step 2
Mount the six LW_8.5.1 images, review the "Before You Install" Read Me on disk 1, then launch the Installer on disk 1.

Step 3
A splash screen is displayed that reads 'Apple LaserWriter 8.5.1 Installer:'. Click Continue.

Step 4
When the Software License Agreement is displayed, click on agree if you agree with the terms of the license agreement.

Step 5
The window titled 'Installer Script' provides you the option to select a destination disk to install this software. Verify which disk you wish to install LaserWriter 8.5.1 onto.

Step 6
In the 'Installer Script' window are the options to 'Easy Install,' 'Custom Install' or 'Custom Remove:'. Select 'Custom Install.'

Step 7
Check the radio box next to 'Printer Software for all Mac OS Computers.'

Step 8
The installer will compare the printing software already present on your hard drive (presumably LW 8.6) with the version you are about to install (LW 8.5.1) and will display many alerts that read: "The file "XXX XXX" already on "your HD" is newer than what you are about to install. Click Newer to keep the newer file, Older to replace that file, or Cancel to stop the installation."

- When the alert references the file 'LaserWriter 8': click Older.
- When the alert references the file 'PrintingLib', click Older.
- Click Newer when the alert references:
  - Printer Selector
  - Desktop Printer Spooler
  - Desktop PrintMonitor

Step 9
Once the Installation of LaserWriter 8.5.1 is complete, you will be asked to restart your Macintosh.

Step 10
The LaserWriter 8 driver uses PostScript Printer Description (PPD) files to determine your PostScript printers' characteristics such as paper-handling capabilities, the number of paper trays and capacity, the paper sizes they handle, and so on. Therefore, you may wish copy the specific

PPD for your printer to the Printer Description folder (located in the Extensions folder inside the System Folder), prior to choosing and setting up your printer with the Chooser. The PPD for your GCC printer may be obtained from the software that accompanied your printer or the newest version may be obtain from GCC. Should you not have the specific PPD for your GCC printer, you may use the 'Generic' PPD.

After installing LaserWriter 8.5.1 and selecting your printer by using the Chooser, you should be able to print to your GCC printer once again.
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Stairways Software

Stairways Software
This article has been archived and is no longer updated by Apple.
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World Wide Web Site: **http://www.stairways.com**

Company Profile:
Stairways Software Pty Ltd was founded by Peter N Lewis to distribute his programs. Products include the FTP client Anarchie, the FTP and Web server NetPresenz, the network management tool Assimilator, and other network and Internet tools.

Note: There is a Stairways Software, Inc in Virginia, which makes Word Perfect add-ons and has been around for many years--there is no connection between these two companies except the name. To avoid any confusion the company's trading name is Stairways Shareware.
Published Date: Feb 18, 2012

PowerBook G3 Series: Printing To Portable StyleWriter

This article provides a solution to printing to the Portable StyleWriter printer from a PowerBook G3 Series computer.
This article has been archived and is no longer updated by Apple.

Symptom

When using the Portable StyleWriter v1.0.1 driver the following occurs

- Only part of the document prints.
- Many lines of "gibberish-text" may print.
- Nothing prints.
- Sometimes a dialog appears stating that the printer cannot be found.

Affected Products

- Portable StyleWriter printer with the Portable StyleWriter 1.0.1 driver.
- PowerBook G3 Series

Solution

Update to a newer version of the printer driver called PowerPrint and update to a newer serial-to-parallel cable. Both of these are available from a third-party company called Infowave.

For information on compatibility and how to obtain the PowerPrint driver and cable, please contact Infowave.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

The following article can help you search for a particular vendor's address and phone number:

Article 17159: "**Locating Vendor Information**"

Note: Macintosh PowerBook G3 Series computers should not be confused with Macintosh PowerBook G3 computers. Though the names are similar, there are significant differences. For more information differentiating between the computers, read article 24604: "**PowerBook G3, G3 Series: Identifying Different Versions**"

Published Date: Feb 18, 2012

What Is MacIP?

In my TCP-IP control panel, there is a choice to "Connect Via: AppleTalk (MacIP)". What is this and when should I use it?
This article has been archived and is no longer updated by Apple.
Certain physical networks and dialup networking protocols, notably LocalTalk and ARAP (Apple Remote Access Protocol--for dial up connections), cannot transmit TCP/IP. To allow TCP/IP connectivity over these networks, MacIP wraps (tunnels) the IP packets inside of AppleTalk packets so they can be transmitted across these non-TCP/IP networks. From there, the AppleTalk packets are received by a MacIP gateway, which then forwards the unwrapped IP packets.

For example, a Macintosh LCII without Ethernet capability can connect to an Ethernet network through a LocalTalk-to-Ethernet bridge. Without a MacIP gateway, this connection would offer only AppleTalk connectivity and the user would not be able to access the World Wide Web or get Internet email. Similarly, someone dialing in to a network using Apple Remote Access 1 or 2.x (or using ARAP under 3.x) would also have only AppleTalk connectivity to the network on the other side without MacIP.

Open Transport supports MacIP in the TCP/IP control panel. Once "AppleTalk (MacIP)" is selected, TCP/IP data packets are encapsulated in AppleTalk packets and sent through the network interface selected in the AppleTalk control panel. To be unwrapped, the packets must reach a MacIP gateway (server). If the gateway is not in your current zone, you may select another zone in the TCP/IP control panel.

In the past the Apple IP gateway was an Apple product that would provide MacIP gateway services. At this time, Apple does not make a MacIP gateway. Third party solutions can be found at this address:

http://www.macsoftware.apple.com/uscategories/networking.html

MacIP gateway support is most frequently offered as an integrated service within a multiprotocol router or a LocalTalk to Ethernet bridge. The gateway (router/bridge) attaches to both an AppleTalk and a TCP/IP network.
Published Date: Feb 18, 2012

How To Boot A/UX From "startup#" Prompt or on Startup (8/94)

How do you boot A/UX from the startup shell? How do you cause A/UX to boot automatically on machine startup?

This article has been archived and is no longer updated by Apple.

Initially, to enter A/UX Startup you must cancel the startup process for A/UX. Once in the A/UX Startup shell, you see a command line prompt. The default prompt is "startup#".

To boot the system from here, pull down the "Execute" menu and select "Boot". This will launch the A/UX boot program. You can also type "launch" on the command line and press Return.

To have the Macintosh operating system automatically boot A/UX on machine startup, pull down the "Preferences" menu and select "Booting...". Place an "X" in front of the option that says "Automatically Boot at startup". Then click "OK".

Refer to the A/UX Local System Administration manual chapter on System Startup and Shutdown for more information.

Article Change History:
23 Aug 1994 - Updated to describe the startup shell.

Support Information Services

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Mac OS: Manipulating Finder Items When Viewing As Buttons

This article describes how to move items viewed as buttons to the Trash, or another Finder window.
This article has been archived and is no longer updated by Apple.
To select items in button view you must click their name rather than the button to avoid activating the button. Multiple button items can be selected by dragging a selection rectangle around them or by pressing the Shift key and clicking button names to extend a selection.

Once button items are selected they can be moved to the Trash by any of these methods:

- Select Move To Trash from the File menu.
- Type Command-Delete.
- Drag them to the Trash by dragging the name of any button item to the Trash.

Once selected, button items can be repositioned by dragging any button item by its name to a new position. You can also change the view option from button to icon to manipulate the finder items.

A selection of button item(s) can also be operated on by pressing the Control key and clicking to invoke a contextual menu of actions.

If you are still having trouble dragging buttons to new positions (that is, they snap back to the original location), look for a feedback icon in the upper left of the window beneath the window title bar. When a window is set to a "Keep arranged" View Option, a feedback icon appears in the upper left corner of the window to bring this to your attention (see Figure 1). The desktop does not have this feedback icon available, so you must select View Options from the View menu while an item on the desktop is selected to verify this setting.

Figure 1: Feedback icon in upper left corner of window beneath the window's title bar.

Published Date: Feb 18, 2012

At Ease 5.0.2: Hand-in, Copy Commands Show "Not Enough Disk Space"

This article provides solutions when trying to use the Hand-In or Copy commands from the Panels in At Ease 5.0.2.
This article has been archived and is no longer updated by Apple.

Symptom

When using the Hand-In or Copy command from the Panels in At Ease 5.0.2, "There is not enough room on your shared disk to copy "File" (an additional xx MB is needed)" message appears when the workgroup Data Volume has over 2 GB of free space.

Affected Products

- At Ease 5.0.2

Solution

Update to Macintosh Manager which runs under Mac OS X Server and AppleShare IP 6.x.

or

Use one of the following workarounds:

1. Use At Ease Administration to designate a volume with less than 2G of free space as the Workgroup Data Volume

2. Use Disk Copy to create disk image files to take up space on the server until there is less than 2G of free space on the volume holding the Workgroup Data Volume.

    1. At the server, launch Disk Copy.

    2. Under the Image menu, select Create New Image.

    3. For the Size pop-up menu, select the smallest size that will still leave less than 2G of free space. Disk copy cannot create volumes larger than 2G, so if you have an extremely large volume you may need to create multiple images.

    4. Deselect "Mount Image" and "Zero blocks."

    5. Save the image to the volume containing the Workgroup Data Volume (this is the one that contains the At Ease "Documents" folder).

    6. Get Info on the server volume and make sure that the Space Available is less than 2 GB.

A fix for At Ease requires a future software release, a date for which has not been determined.

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TA37578_Xperts_Inc.pdf

Xperts, Inc.

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This article has been archived and is no longer updated by Apple.
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Company Profile:
IT consulting firm. Publishers of freeware products HotSpotter, and the WebSTAR plug-ins FlatFiler and FindFile.
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At Ease 5.0: Internet Preferences Using Outlook Express

How do I setup At Ease 5.0 Internet preferences to use Outlook Express for each user's mail?
This article has been archived and is no longer updated by Apple.
The easiest way to do this is to setup the At Ease Internet preferences to copy and delete the entire Outlook Express folder(see Figures 1, 2 and 3), but there are some things to beware of.

1. Outlook Express is almost 6 megabytes before receiving any mail so the size of the files being copied may be a problem on slow networks or networks where there are many people using email with At Ease. Therefore, the mail administrator may want to strictly enforce spam filtering and limit file size on enclosures or not allow enclosures at all. Another alternative is to use only the Copy and Delete command for the mail data and mail preferences only. This will require much more configuration but could cut down on network traffic greatly because it will not copy the Outlook Express Application or its cache files.

2 The path to the Outlook Express folder may be difficult to enter into the At Ease Internet preferences because that field allows a limited number of characters. The path will have the subdirectories divided from their parent directories by a semicolon. For example:

```
Startup Disk:Internet:Internet Applications:Outlook Express 4.5 folder
```

You can work around the issue by changing the folder names to something shorter and/or moving the folder so that it is located on the root level of the hard drive.

Remember that the directory names must be typed exactly as they appear on their corresponding folder in the Finder.

Figure 1: Internet Preferences window.

Figure 2: The Edit Preference Item window.

Figure 3: The Edit Preference Item window; typing in the pathname.

Published Date: Feb 18, 2012

Displays 1.7.1 Software: Monitor Resolutions Control Strip Module

I just installed Displays 1.7.1 software for my monitor and now when I look in the Monitor Resolution control strip module, I don't see as many resolutions as I did before. Can you explain?
This article has been archived and is no longer updated by Apple.
This is a new feature of Displays 1.7.x which comes pre-installed on the Power Macintosh G3 1999 models. The Monitor Resolution control strip module now lists only Recommended resolutions by default.

Holding down the Control key while clicking on the Monitor Resolution control strip module will force it to list all available resolutions. If you choose a resolution that cannot be used with your display and the screen goes blank, press the Enter key on the keyboard or give the computer a few seconds; the display should change back to the previous setting.

For more information, see Mac OS Help located on your hard drive.
Published Date: Feb 18, 2012

NetBoot, Macintosh Manager: Software Compatibility

We are using an application on a NetBoot client but it sometimes does not perform as expected. The software should be compatible with iMac and Mac OS 8.5.1. Can you explain?
This article has been archived and is no longer updated by Apple.
Applications developed prior to the release of Mac OS X Server and Macintosh Manager may need updating to be fully compatible with Macintosh Manager or client NetBooting. As with any new software release, this is to be expected.

Apple has released a Developer Technical Note describing how to create "NetBoot Server-Friendly Applications." This note was published in February 1999 to assist developers in writing software that functions as well on a NetBoot client as any other computer.

The following Knowledge Base article can help you find the Tech Note mentioned here:

Article 24493: "**Apple Tech Notes: What They Are, Where To Find Them**"
Published Date: Feb 18, 2012

FireWire: Transferring Still Images From Camera To Computer

How do I transfer still images from my FireWire equipped digital camera into my computer using FireWire?
This article has been archived and is no longer updated by Apple.
In order to transfer and edit still images from your camera using FireWire, you must have an application that supports this function.

A product already announced that supports this feature is PhotoDV, from a company named Digital Origin (the company formerly named Radius, Inc.)

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

The following Knowledge Base article can help you search for a particular vendor's address and phone number:

Article 17159: "**Locating Vendor Information**"
Published Date: Feb 18, 2012

What Does RFC Mean?

I have seen references to RFC-XXXX where XXXX is a number. What does RFC mean?
This article has been archived and is no longer updated by Apple.
RFC stands for "Request for Comment". This refers to a description of a standard for new or modified internet or networking protocols. When standards are proposed, they are made available for public comment so that they can be refined and agreed upon. The document which details the proposed standards is called a "request for comment" document, or RFC. When the standards are finalized, they keep the same "RFC" name.

For example, the RFC which defines the HyperText Markup Language (HTML), the format that web pages are written in, is RFC-1866. See the following:

ftp://ftp.isi.edu/in-notes/rfc1866.txt

Note: Many of these documents are highly technical and may be difficult to understand without existing knowledge of the subject matter.

The most common reason to need to know about a specific RFC is to judge if two components (system software, application software, network hardware or computer hardware) are compatible and interoperable. Generally speaking, if two devices support the same RFCs, then they are most likely interoperable. In case of doubt, contact the manufactuer of the two components.

There are many search engines on the Internet that can aid you in finding a particular RFC, such as:

http://www.rfc-editor.org/rfcsearch.html

The following comes from the RFC Editor, which can be found at:

http://www.rfc-editor.org/

"The Requests for Comments (RFCs) are a series of notes, started in 1969, about the Internet (originally the ARPANET). The notes discuss many aspects of computing and computer communication focusing in networking protocols, procedures, programs, and concepts, but also including meeting notes, opinion, and sometimes humor. The specification documents of the Internet protocol suite, as defined by the Internet Engineering Task Force (IETF) and its steering group (the IESG), are published as RFCs. The RFC Editor is the publisher of the RFCs and is responsible for the final editorial review of the documents."
Published Date: Feb 18, 2012

Mac OS: DVD Player Compatibility With Third-Party Themes

My DVD player works, but when trying to watch a movie in full screen mode, the picture disappears and the desktop is shown as normal and the sound continues to play. Why is this?

This article has been archived and is no longer updated by Apple.

Some third-party themes will cause a conflict with the DVD player and it will keep the DVD movie from playing full screen. Changing the settings in the Appearance Manager for themes back to default may resolve this issue.

Published Date: Feb 18, 2012

A/UX: Multi-User Accessibility (8/94)

Can A/UX be used as a multi-user system?

This article has been archived and is no longer updated by Apple.
A/UX is primarily a multi-tasking system. It can be operated as a multi-user system, but A/UX is NOT expressly designed to be a central system for multiple users -- at least, not as most people would view a true multi-user system.

The idea behind A/UX on the Macintosh is to have multiple stations, networked together, that can share resources.

Multiple users can interface with the Macintosh through Ethernet, or through the serial communication ports.

Article Change History:
23 Aug 1994 - Reviewed and updated.

Support Information Services

Published Date: Feb 18, 2012

AppleShare IP 6.1: Running AppleShare IP First Aid On Older Servers

The Read Me file for AppleShare IP First Aid incorrectly states it can be used with versions of AppleShare IP prior to 6.1 and Mac OS version earlier than Mac OS 8.5.
This article has been archived and is no longer updated by Apple.

Symptom

When AppleShare IP First Aid is used with versions of AppleShare IP earlier than 6.1 and Mac OS versions earlier than 8.5, an error message that AppleShare IP First Aid could not be opened because NavigationLib could not be found occurs.

Affected Products

- AppleShare IP First Aid 6.1
- Mac OS versions prior to Mac OS 8.5
- AppleShare IP versions prior to AppleShare IP 6.1

Solution

Upgrade to AppleShare IP 6.1 or later and Mac OS 8.5 or later. This is necessary because the Read Me file for AppleShare IP First Aid 6.1 is incorrect.
AppleShare IP First Aid 6.1 and later require Navigation Services, which is not available for Mac OS versions earlier than Mac OS 8.5.

Published Date: Feb 18, 2012

QuickTime 3 for Windows: Freezing When Opening Movie Player

I am running QuickTime 3 (Standard)in Windows95. When I try to open a movie a screen comes up, but it is blank and I have to use the Task Manager to quit Movie Player. What causes this? Is there a way around this?

This article has been archived and is no longer updated by Apple.
The freeze is most likley caused by not having the proper video drivers installed. There two ways to solve the problem.

Solution One

Install the DCI and direct draw drivers.

Solution Two

Run QuickTime in safe (GDI)mode. Follow these steps:

Step 1

Select Start and Settings from the Start menu.

Step Two

Select Control Panels.

Step Three

Select the QuickTime Control Panel (the one with the slider bar at the bottom).

Step Four

Click on the pull-down menu and select Video Settings.

Figure 1 Video Settings

Step Five

In Video Settings select the Safe Mode (GDI Only) radio button.

Figure 2 Safe Mode radio button.

Step Six

Close the control panel and try playing the movie again.

Published Date: Feb 18, 2012

ClarisWorks, MacWrite Pro: XTND Technology Causes Crashes

When launching ClarisWorks or MacWrite Pro 1.5v3, my computer displays a bomb dialog box or enters MacsBug (if installed). How can I fix this?
This article has been archived and is no longer updated by Apple.
By watching the application splash screen, you may notice that the application is initializing XTND when the crash happens. XTND is Claris interchange technology that enables translating (reading) documents created by other applications.

XTND translators installed by one product may affect other products using XTND translators. This problem is caused by some product installing XTND translators that do not work for all other products using XTND translators.

If this is happening to you, the solution is to locate and remove (trash) any of the following XTND translators that are present:

- WordPerfect 2.X
- Claris XTND Bridge
- MacLinkPlus Bridge
- MacLink Plus Bridge PPC

These files can be located through the following folder path:

Macintosh HD(your hard drive name):System Folder:Claris:Claris Translators
Published Date: Feb 18, 2012

TA37591_One_Click_Systems_Inc.pdf

One Click Systems, Inc.

One Click Systems, Inc.
This article has been archived and is no longer updated by Apple.
One Click Systems, Inc.
2305C Ashland Street #412
Ashland, OR 97520-1407

(541) 488-3488 (Phone)
(541) 488-3492 (Fax)

email: **info@oneclick.com**

World Wide Web site: **http://www.oneclick.com/**

Company Profile:
Macintosh Internet software development firm. Products include ClickMail Central Directory and ClickMail for QuickMail.
Published Date: Feb 18, 2012

Mac OS X Server 1.x: Effect Of "SERVER=-YES" Option

This article describes what "SERVER=-YES" in the `/etc/hostconfig` file does in Mac OS X Server.
This article has been archived and is no longer updated by Apple.
Note: This article pertains to Mac OS X Server versions 1.x, which were released prior to May 2001.

Symptom

In Mac OS X Server n the `/etc/hostconfig` file there are two servers, "QTSSERVER" and "AFPSERVER". If either of these servers is on then "SERVER=-YES" is used later in this script.

Affected Products

- Mac OS X Server

Description

"SERVER=-YES" does several things. The most noticeable is that it may require your computer to automatically reboot and change to boot command as discussed in the following article:

Article 60173: "**Mac OS X Server: Sometimes The Computer Restarts Itself During Startup**"

If "SERVER=-YES" is in the script, the boot command is changed to include "srv=1". This causes the kernel to reserve half of the physical RAM to be used as buffer cache for these servers. The maximum reserved RAM will be 250 megabytes. For example, a server with with one gigabyte of RAM will have a buffer cache of only 250 megabytes, and a server with 256 megabytes of RAM will have a buffer cache of 128 megabytes. This is in contrast to the "SERVER=-NO" when only 3% of the RAM is reserved for the buffer cache.

This is necessary because both the QTS and AFP servers require a large buffer cache for best performance.

Published Date: Feb 18, 2012

A/UX Display Driver Is Modeled After UNIX Form

Article Change History

08/31/92 - REVIEWED
* For technical accuracy.

Some Apple UNIX (A/UX) users have asked whether the display drivers used under A/UX are pure UNIX form drivers, or dependent on the display routines in the Macintosh Toolbox.

This article has been archived and is no longer updated by Apple.
The display driver in A/UX is a text-based driver modeled after "STREAMS", a UNIX form driver. A/UX's display driver is a full implementation of a UNIX form driver, minus the multiplexing functions. The shell and UNIX-executable files that are part of A/UX are text-based.

Most of the Macintosh ToolBox routines are accessible through A/UX as library calls. These routines may be used in applications to create Macintosh environments, just as with Macintosh OS applications.

Published Date: Feb 18, 2012

Mac OS X Server 1.x: Determining Software Version

Some Mac OS X Server CDs have the incorrect version number silkscreened on them.
This article has been archived and is no longer updated by Apple.
Note: This article pertains to Mac OS X Server versions 1.x, which were released prior to May 2001.

Symptom

The Mac OS X Server CD with Part number Z691-2251-A identifies the software as version 1.1.

Affected Products

- Mac OS X Server CD part number Z691-2251-A

Solution

The correct version number for this particular release is version 1.0.

Version 1.0 of Mac OS X Server can, and should be, updated using the Mac OS X Server 1.0-1 Patch if QuickTime Streaming Server 1.0 is required. For more information on the Patch, refer to article 59005: "**Mac OS X Server: About Mac OS Server 1.0-1 Patch**"

To download the patch, go to the Apple Software Updates Web site at http://www.apple.com/swupdates.

Published Date: Feb 18, 2012

Mac OS X Server 1.x: Compatible Ethernet And SCSI Cards

This article provides a list of SCSI and Ethernet cards tested with Mac OS X Server 1.x.
This article has been archived and is no longer updated by Apple.
The cards listed below are all Apple OEM cards and were tested for compatibility with Mac OS X Server 1.x. Although the same cards can be purchased directly from the manufacturer, they may not work.

Ethernet

- Z'NYX single-port
- D-Link 4-port

SCSI (Adaptec)

- 2930 (Ultra SCSI)
- 2940 (Single-Channel Ultra2 LVD SCSI) (Standard Macintosh Server G3 (Blue and White).

Published Date: Feb 18, 2012

Mac OS X Server 1.x: Monitors Preference Offers Only 640 x 480

Some customers have reported that after installing Mac OS X Server on Power Macintosh G3 (Blue and White) systems, booting back into Mac OS causes the Mac OS X Server Montiors preference to lose knowledge of display formats ("resolution") other than 640 x 480 on certain displays.
This article has been archived and is no longer updated by Apple.
Note: This article pertains to Mac OS X Server versions 1.x, which were released prior to May 2001.

Many VGA-compatible monitors--including, for example, the Apple Color Sync displays--may appear to have only 640 x 480 available when one reboots back into Mac OS X Server after booting and running from Mac OS.

Fortunately, this can be easily overcome, and the solution is nonvolatile.

From a command shell, as root, or when telnetted in as root (you must first telnet in as a user who is a member of group "wheel" and su to root in order to be root via telnet), issue this command:

```
defaults write Preferences NSEnableShowAllDisplayModes YES
```

This will cause the monitor preferences panel to display **all** modes, after you restart the computer. This will remain in effect until you reinstall, or until the defaults file generated is thrown away.

The Blue and White Apple Studio Displays are unaffected by this issue.

Important: The above command will cause all **possible** sync frequencies and format options for your video controller to be displayed in the Monitors settings panel--even if your display might not support them. Selection of incompatible formats may cause your display to become scrambled, or even fail to synchronize at all, resulting in a black screen. Therefore, make sure that your format is one supported by your monitor. New settings will go into effect as soon as you log out.

Documentation on this system defaults feature is sketchy; the best reference with examples can be found in the following article:

Article 60126: "**Mac OS X Server: Setting Preferences**"

Also, you can learn a great deal about it conceptually by typing:

```
man defaults
```

Another useful and related command enables use of multiple monitors under Mac OS X Server:

```
defaults write NSGlobalDomain NSEnableMultipleMonitors YES
```

Article 60126 goes into more detail about this and an assortment of other default settings.
Published Date: Feb 18, 2012

Mac OS X Server 1.x: DHCP Client Services

I have Mac OS X Server and would like to use an IP address assigned by a DHCP server, though Mac OS X Server does not have an option for DHCP. What option do I choose?
This article has been archived and is no longer updated by Apple.
Mac OS X Server was primarily designed to be a server with a manually assigned (static) address. Using a dynamically assigned address on a server may affect server performance.

Although Apple has not implemented DHCP client services under Mac OS X Server, bootp may be used for Mac OS X Server to request an IP address from a DHCP server. However, bootp will not offer some services offered with a DHCP client, such as time delimited leases.

When using bootp to request an IP address from a DHCP Server, ensure that the DHCP server has the option for "reservation" to respond to any bootp request.
Published Date: Feb 18, 2012

QuickTime 4: Opening More Than One Movie At A Time

Whenever I open a second movie in QuickTime Player, the other movie disappears. Why is this?
This article has been archived and is no longer updated by Apple.
By default, QuickTime Player 4 allows only one movie window to be open at a time. This can be changed by choosing Preferences/General from the Edit menu and checking the "Open movie in new player" checkbox.
Published Date: Feb 18, 2012

TA37599_Peripheral_Enhancements_Corporation.pdf

Peripheral Enhancements Corporation

Peripheral Enhancements Corporation
This article has been archived and is no longer updated by Apple.
Peripheral Enhancements Corporation
327 E. 14th Street
Ada, OK 74820

(800) 332-6581 (Phone)
(580) 332-6581 (Phone)
(580) 436-2245 (Fax)

E-mail: **sales@peripheral.com**

World Wide Web site: **http://www.peripheral.com/**

Company Profile:
Worldwide manufacturer of computer memory and custom electronic components. Specializes in memory devices for Macintosh personal computers, IBM-compatibles, workstations, music equipment, digial cameras, and personal digital assistants of all types.
Published Date: Feb 18, 2012

Network Server 700: Deleting Configuration Of RAID Card

I manage a site with several Network Server 700 systems. I recently moved a PCI RAID Disk Array Card from one Network Server 700 to another. When trying to configure a new pack, the configuration from the old server hardware is listed. How is the old configuration deleted?
This article has been archived and is no longer updated by Apple.
The PCI RAID Disk Array Card has a Battery backup. Remove the card from the Network Server. The manual "Setting Up the Network Server" Chapter 2, "Installing Internal Server Components" can be used as a guide.

Remove the RAID card battery for 15 minutes. Once the RAID card is reinstalled it will recognize the new configuration.
Published Date: Feb 18, 2012

ProDOS: Displaying LoRes Graphics in a Startup Program

With DOS, it is possible to create a graphics picture in LoRes that can be displayed as part of the startup program.
This article has been archived and is no longer updated by Apple.
To do this, first save the picture to disk (using BSAVE 'filename',A1024,L1024), then (under program control, and after the LoRes screen has been turned on with the GR command) load the picture using BLOAD 'filename'.

With ProDOS, however, the area allocated for LoRes screen memory is protected, so the above procedure used for DOS will not work with ProDOS. To get around this, undo the protection byte, load the screen the reset the protection byte back to the original value. Below is a short program that will allow the ProDOS user to BLOAD a previously saved LoRes screen.

```
10 A= PEEK (48984)
20 POKE 48984,0
30 GR
40 PRINT CHR$(4);"BLOAD FILENAME"
50 POKE 48984,A
60 END
```

Published Date: Feb 18, 2012

Mac OS X Server 1.x: Lookupd Release Notes

This article contains the Lookupd Release Notes.
This article has been archived and is no longer updated by Apple.
Note: This article pertains to Mac OS X Server versions 1.x, which were released prior to May 2001.

Lookupd

Whenever a program needs certain kinds of information, it sends a request to a program named lookupd, which acts as an information clearing-house for your computer. lookupd is responsible for coordinating information about user accounts, printers, e-mail aliases and distribution lists, computer names, Internet addresses, and several other kinds of information.

lookupd has two main functions:

- It keeps a cache of useful information, giving its clients quick access to the information they need.
- It implements a search strategy which it uses to find information from the many information sources that are potentially available to your computer. These include the Domain Name System (DNS), Sun Microsystem's Network Information Services (NIS), Apple's NetInfo system, and a set of files found in the /etc directory on your computer.

Beginning with MacOS X Server Release 1.0, X.500-style databases that implement the schema described in RFC 2307 may be accessed using the "LDAP" protocol.

lookupd restarts in response to a SIGHUP signal. This may be used to reset lookupd's state. When it restarts, it will re-read it's configuration options and will start with an empty cache.

Lookup Strategy

Internally, lookupd uses a set of software "agents" to get information. There are agents for NetInfo, NIS, DNS, the files in "/etc (also known as the "Flat Files"), an "LDAP" agent, and an agent which manages the internal cache. There is also a special agent (the **NILAgent**) which returns "negative" entries.

When lookupd searches for information about an item, it queries agents in a specific order until the item is found or until all sources of information have been consulted without finding the desired item. By default, lookupd first queries its cache agent, and then NetInfo. If the item is a host or network, lookupd will query the DNS agent last. In some cases, lookupd creates lists of all the information available about some sort of entity. For example, all printers or all NFS mounts. In these cases lookupd queries each agent in turn and concatenates all retrieved information into a single list.

The lookup order is configurable. For example, you might specify that lookupd queries its internal cache, then NetInfo, then the Flat Files, then NIS. You may also change the lookup order for a particular category of item. The known categories are **users**, **groups**, **hosts**, **networks**, **services**, **protocols**, **rpcs**, **mounts**, **printers**, **bootparams**, **bootp**, **aliases**, and **netgroups**. You can set the lookup order (and other configuration options) for all categories, and override them for individual categories. Details on configuring lookupd are found in the Configuration section below.

Some agents may have their own configuration options. Details on configuring individual agents are found in the Agents section below.

Caching

There are caches for all categories of lookups. The caches are unlimited in capacity (although you can set a maximum size, see below). The default lookup order starts with the Cache agent for each lookup category. Caching may be disabled for all categories or for specific categories by removing the Cache agent from the lookup order.

Validation

When it retrieves an item from cache, lookupd validates the cached entry before returning it. If the entry is invalid, a fresh copy is fetched to replace the stale one in cache. The idea is that in many cases it is possible for lookupd to quickly determine that a cached entry is still valid (by checking a timestamp or a database sequence number, for example). When cache validation is enabled, performance is enhanced because many items can be stored in lookupd's cache, while at the same time clients can be certain that any data they get from lookupd is as up-to-date as possible. If cache validation is disabled, items are returned from cache without any checks. In this case it is possible that the information is out-of-date. You can place limits on how "stale" an item might be by setting the cache **TimeToLive** (see below).

You can also get the best of both worlds by having cache validation enabled and adjusting the **ValidationLatency**. The idea is that if an agent has just fetched a database version number or read a timestamp in order to validate one item in the cache, then it can use that value for a few seconds to validate other entries in the cache with only a small risk that those entries have become out-of date. Setting ValidationLatency to 0 seconds

causes validation on every fetch from cache. Setting the value to a larger number means that lookupd will avoid re-checking timestamps, sequence numbers, version numbers or other validation indicator for the indicated number of seconds. This allows you to say, for example, that you are willing to let the cache return an item that might be no more than a few seconds out-of-date in order to reduce network traffic. The default value for ValidationLatency is 15 seconds.

Validation is enabled by default, but may be disabled for all categories, or for specific categories. For example, since computer names and addresses very rarely change, you might want to turn off cache validation for the host cache to save time and reduce network traffic. This is especially useful on slow network lines. If network access is fast, cache validation is inexpensive, and ensures that all data is up-to-date.

The cache validation strategy in the NetInfo, NIS, and Flat File agents makes validation as fast and inexpensive as possible. At present, there is no cache validation for DNS. That means that objects originally obtained from DNS will only be available from the cache if validation is disabled for hosts.

The **NILAgent** returns a "negative" record for any lookup. This stops further search for an item. The NILAgent should always appear last in any LookupOrder specification (see below). The value of these negative records is that they will added to the cache (if caching is enabled). Thus if a lookup for a particular item fails (after a long, slow search of all available information sources), then subseqent lookups for the same item will fetch the negative record from the cache ± avoiding another long search. Like all other cached records, negative records are validated. By default, negative records are valid for 60 seconds. You can override the default by setting the **TimeToLive** option in the NILAgent's configuration. See the Agent Configuration section below.

When an object is placed in a cache, it is given a time to live. The default is 12 hours. Making things expire more quickly will cause the cache to stay smaller, but will result in more network traffic. Whenever an object is validated, it's time to live is reset. Agents may over-ride the default time-to-live value. For example, the DNS agent uses the time-to-live value returned by a DNS server for a host entry.

Configuration

All the configuration parameters are located in NetInfo under the **/locations/lookupd** directory, stored as values for various keys. There may also be subdirectories for each lookup category (and for each agent ±Äsee below). For example: **/locations/lookupd/hosts**, **/locations/lookupd/users**, **/locations/lookupd/printers**, and so on. lookupd will climb the NetInfo hierarchy, starting at the local domain, to find this directory. If it doesn't find it, it will use a default configuration (see below).

The keys and their allowed values are:

LogFile
Name of a log file that contains a copy of all messages sent to syslog. There is no default (i.e. no log file is kept).

MaxThreads
Maximum number of threads in the query dispatcher. The default is16. Under very heavy load, only 5 or 6 threads are used, so 16 is more than enough.

MaxIdleThreads
When a thread finishes servicing a query, it will usually go back to the message queue to wait for another query. This setting limits the maximum number of idle threads waiting on the queue. If a thread finishes servicing a query and MaxIdleThreads are already waiting on the queue, the thread will exit. The default value is 16.

MaxIdleServers
The dispatcher uses a "server" object to actually answer a client lookup. One server is required for each active thread. The dispatcher keeps a pool of servers so that they can be re-used. This setting limits the maximum number of servers in the pool, waiting for a query to answer. The default value is 16.

ValidateCache
This boolean value determines whether cache validation is enabled for all cache categories. The default is "YES". Use "NO" to disable validation. The setting of this value may be over-ridden for specific cache categories (see below).

ValidationLatency
If Cache validation is enabled, this integer value specifies the number of seconds that may elapse between successive validation checks for a particular agent. The default is 15 seconds. This value applies to specific agents rather than to the cache. The setting of this value may be over-ridden for specific agents (see below).

CacheCapacity
Maximum number of objects in the cache for each category (e.g. this many users, this many hosts, ...). Least-recently-used objects are removed when space is required. By default, there is no limit to the cache size.

TimeToLive
Time to live (measured in seconds) in cache. The default is 43200 seconds (12 hours). This is the default mechanism used to limit the growth of the

cache.

LookupOrder
Sets the lookup order for all categories, although you may override this for specific categories. This key takes multiple values. The default for all categories except host and network lookups is **CacheAgent** then **NIAgent**. For hosts and networks, the default lookup order is **CacheAgent**, **NIAgent**, then **DNSAgent**.

Configuration options for specific categories reside in the directories: **/locations/lookupd/users**, **.../groups**, **.../hosts**, **.../networks**, **.../services**, **.../protocols**, **.../rpcs**, **.../mounts**, **.../printers**, **.../bootparams**, **.../bootp**, **.../aliases**, and **.../netgroups**. Options that can be set per category are ValidateCache, CacheCapacity, TimeToLive, and LookupOrder.

Agents

Configuration parameters for agents are located in NetInfo under the **/locations/lookupd/agents/*AgentName*** directory. For example: **/locations/lookupd/agents/NIAgent**, **/locations/lookupd/agents/DNSAgent**, and so on.

CacheAgent

The operation and configuration of the Cache agent are described in detail in the sections above. The configuration options for the Cache agent are ValidateCache, CacheCapacity, and TimeToLive. These options may be set gloablly and/or for specific categories. Options set for a specific category will over-ride the global setting.

NIAgent

The NIAgent is lookupd's NetInfo client. It supports the ValidationLatency and DomainOrder options.

ValidationLatency is described above in the Caching section. NIAgent validates cached entries by checking the NetInfo server's database checksum. The NetInfo checksum changes whenever the database changes. Thus, any time a NetInfo domain is updated, all cached entries from that domain will be invalidated.

The DomainOrder option allows you to specify a list of NetInfo domains (or specific NetInfo servers) that should be queried for information. By default, the NetInfo agent starts with a computer's local domain, then climbs the NetInfo hierarchy until reaching the root domain. In very rare cases, you might find that you can solve a difficult configuration problem by altering the default lookup order. Using this option can make your information systems configuration very confusing and spaghetti-like, so exercise great caution in its use!

The domain search order may be set globally (for all categories of lookups), and/or for specific categories. A domain order for a specific category will over-ride the global order for for lookups of that type (e.g. for user lookups).

The DomainOrder option may have multiple values. Each value specifies a domain or a specific NetInfo server. Domain names may be absolute paths starting at the root domain (e.g. /sales, /sol/jupiter), or a path relative to the local domain (e.g. ../zippy, ../../marketing). A "." stands for the local domain. You may also specify a domain relative to a remote computer by using a value of the form "nidomain:path@address". For example, If you used the value "nidomain:/central@192.42.172.1", NIAgent would connect to the computer with Internet address 192.42.172.1 and locate the domain named "/central" relative to that computer.

You can also include values of the form "niserver:tag@address" to connect to a specific NetInfo server. For example, "niserver:network@192.42.172.5" would contact the server for the database tagged "network" at the given address.

You may set the domain order for a particular lookup category by creating a NetInfo directory with the category name as a subdirectory of /locations/lookupd/agents/NIAgent. For example, /locations/lookupd/agents/NIAgent/users or /locations/lookupd/agents/NIAgent/printers.

YPAgent

The YPAgent is lookupd's NIS client. The NIS domain name must be set before lookupd starts, or this agent will not be able to connect to a server (in which case it does nothing). The NIS domain name is usually set during system startup using the value of the NISDOMAIN variable in the file /etc/hostconfig. For example:

```
NISDOMAIN=quinta
```

The only configuration option which can be set for the YPAgent is ValidationLatency. YPAgent validates entries by checking the map order numbers.

Note that lookupd has separate agents for the Flat Files (see FFAgent below) and NIS. NIS and the files are viewed as independent information systems. You may use either agent or both in any order.

YPAgent reads the following maps. Note that some of these maps are extensions to the standard set of maps created by most YP servers.

ethers.byaddr	Host names keyed by Ethernet address
bootptab.byaddr	Bootp data keyed by Ethernet address
mail.aliases	E-mail aliases and distribution lists
passwd.byname	Users
passwd.byuid	Users
group.byname	Groups
group.bygid	Groups
hosts.byname	Hosts
hosts.byaddr	Hosts
networks.byname	Networks
networks.byaddr	Networks
services.byname	TCP/IP service ports and protocols
protocol.byname	IP Protocols
protocol.bynumber	IP Protocols
rpc.byname	ONC RPC programs
rpc.bynumber	ONC RPC programs
mounts.byname	Mounts (/etc/fstab entries) keyed by name (fspec)
printcap.byname	Printers (/etc/printcap entries) keyed by name
bootparams.byname	Bootparams entries keyed by name
bootp.byip	Bootp entries keyed by IP address
netgroup	Netgroups

LDAPAgent

Records retrieved by the LDAP agent must have their information organized following the schema described by RFC 2307. In addition to ValidationLatency, LDAPAgent supports the following configuration options:

host	Server name
port	Server's TCP port
suffix	Distinguished name to use as a search base
binddn	Distinguished name for binding to server Default is to bind anonymously
bindpw	Credentials to use in binding to the server
timelimit	Maximum number of secondsfor a query Default is no limit
scope	Search scope may be sub, one, or base Default is sub
deref	Control for alias dereferencing may be never, find, search, or always. Default is never.

DNSAgent

The DNSAgent is lookupd's DNS client. Since DNS does not have a fast mechanism that would allow for validation of cached entries, the agent does not support cache validation. DNSAgent is only used for host name/address and network name/address lookups.

FFAgent

The FFAgent reads the "Flat Files" in your computer's /etc directory. Specifically, it reads the files:

/etc/master.passwd	Users
/etc/group	Groups
/etc/hosts	Computer names and addresses
/etc/networks	Network names and addresses
/etc/services	TCP/IP service ports and protocols
/etc/protocols	IP protocol names and numbers
/etc/rpcs	ONC RPC servers
/etc/fstab	NFS mounts
/etc/printcap	Printers
/etc/bootparams	Bootparams settings

/etc/bootp	Bootp settings
/etc/aliases	E-mail aliases and distribution lists
/etc/netgroup	Netgroups

NILAgent

The NILAgent always returns a result for any query, so it stops any search. However, it returns a "negative" record, which means "the item you requested does not exist". The use of "negative" entries in a cache is controversial, so lookupd does not include the NILAgent in its default lookup order. However, adding NILAgent at the end of the LookupOrder can result in significant performance improvements in some cases. If there are many network information sources being searched it can take a long time for lookupd to try them all when you ask for something that doesn't exist. By including NILAgent at the end of the search, lookup will cache a negative record. The next time lookupd gets a request for that item, it will find the negative record quickly in the cache, and avoid a long (and useless) search.

It is always possible that lookupd may fail to find an item ± and cache a negative record created by NILAgent ± just before someone adds that item to one of your information systems. In that case, the negative record will then be incorrect, and should be removed from cache. Unfortunately, there's no way for lookupd to know that without doing the same expensive search all over again. As a compromise, negative records only are allowed to remain in the cache for a short time. The NILAgent assigns all negative records a short time-to-live value. By default, the time-to-live is 60 seconds. You may change this by setting the TimeToLive option for the NILAgent.

Example Configuration

Here's a sample configuration as it might appear in the output of the "nidump" utility program.

```
# nidump -r /locations/lookupd /
name = lookupd;
LogFile = /var/log/lookupd.log;
LookupOrder = (CacheAgent, NIAgent);
CHILDREN = ({
      name = users;
      LookupOrder = (CacheAgent, NIAgent, YPAgent, LDAPAgent, FFAgent);
}, {
      name = hosts;
      LookupOrder = (CacheAgent, NIAgent, DNSAgent, NILAgent);
      ValidateCache = NO;
}, {
      name = agents;
      CHILDREN = ({
            name = NIAgent;
            ValidationLatency = 60;
      }, {
            name = NILAgent;
            TimeToLive = 120;
      }, {
            name = LDAPAgent;
            suffix = mydomain.com;
            host = myservername;
            deref = always;
            scope = sub;
            suffix = "DC=base,DC=mydomain,DC=com";
            timelimit = 60;
      });
});
```

Performance Tuning and Troubleshooting

lookupd may be run in an interactive mode useful for testing and troubleshooting configuration problems. When you use the interactive mode, you start a second copy of the lookupd program from a command line with a "-d" option:

```
mycomputer> lookupd -d
lookupd version 123
Debug mode
Enter command name, "help", or "quit" to exit
>
```

This second copy of lookupd runs independently of the system's "main" lookupd, and does not provide information to other programs running on your computer. This allows you to try queries and test configuration options without disturbing the normal operation of your computer. The second copy of lookupd will attempt to read its configuration options from a NetInfo directory named /locations/lookupd_debug. If it can't find /locations/lookupd_debug, it will attempt to use /locations/lookupd instead. This means that it will then run with the same settings as the main version of the program.

The interactive mode "command line" supports escape completion for commands, so you can type a character or two then press the Escape key. lookupd will complete as much of the command as it can (sometimes there are several command that start with the same characters). To see all possible completions, press Control-d. To see all possible commands, press Control-d before you type in any characters at all. For on-line help, use the "help" command.

```
> help
Enter command name, "help" for general help, or "quit" to exit help
help> help
This is lookupd's interactive query and testing facility.
...
```

There are interactive commands for all standard queries, such as **userWithName**, **hostWithInternetAddress**, and so on. When you enter a query, lookupd will print the result that it located or "nil" if the item was not found. lookupd also keeps track of the information source for each item and a number of other useful pieces of information that can help you track lookupd's activities. For example:

```
> userWithName: jru
Dictionary: "NIAgent: user jru"
_lookup_NI_checksum: 68850661
_lookup_NI_domain: /
_lookup_NI_index: 2
_lookup_NI_server: pacific/network
_lookup_info_system: NetInfo
_writers_passwd: jru
change: 0
expire: 0
gid: 114
home: /Network/Servers/fiji/Users/jru
name: jru
netgroups: programmer
passwd: 2YEsFfX2fmC8.
realname: Jane Random User
shell: /bin/csh
uid: 1664
+ Category: user
+ Time to live: 43200
+ Age: 0 (expires in 43200 seconds)
+ Negative: No
+ Cache hits: 3
+ Retain count: 6
```

When you enter a query, lookupd follows its normal lookup order to obtain an answer. If you wish to query a specific agent, you can use the **agent** command. This stops the normal lookup and will direct all further queries to the agent you specify. You can use the **agent** command again to switch to a different agent, or use the **normalLookupOrder** command to resume normal lookups.

```
> agent: NI

> hostWithName: fiji
Dictionary: "NIAgent: host fiji"
_lookup_NI_checksum: 68850661
_lookup_NI_domain: /
_lookup_NI_index: 1
_lookup_NI_server: pacific/network
_lookup_info_system: NetInfo
bootfile: mach
bootparams:
en_address: 0:5:2:fe:ef:4b
ip_address: 192.42.172.168
name: fiji
netgroups: island
```

```
serves: fiji/local


> agent: DNS

> hostWithName: fiji
Dictionary: "D-0x6d470"
_lookup_DNS_time_to_live: 28800
_lookup_DNS_timestamp: 912796168
_lookup_domain: mydomain.com
_lookup_info_system: DNS
ip_address: 192.42.172.168
name: fiji.mydomain.com fiji


> normalLookupOrder
Using normal lookup order
```

You can get timing and usage statistics for all types of lookups using the **statistics** command. Timing measurments can help you determine what might be causing slowdowns or problems on your network. Statistics for individual agents available using the **statisticsForAgent** command includes information such as current server bindings. You can examine all items in memory using the **memory** and **showMemoryObject** commands. This includes stored configuration settings, statistical records, and cached information.
Published Date: Feb 18, 2012

Mac OS 8.5.x: Error Printing LPR Job

When printing over Line Printer Remote (LPR) this error message is displayed:

Document "document name" failed to print on the printer
"printer IP address" because of an error. -3208

This article has been archived and is no longer updated by Apple.
This error message may be displayed on a Macintosh running Mac OS 8.5.x using LaserWriter 8, version 8.6 when these two conditions are met:

- The computer's TCP/IP control panel settings are not configured, such as would be the case if you never configured TCP/IP or if the TCP/IP Preference file was thrown away.
- TCP/IP is disabled.

To configure your TCP/IP control panel settings:

1. Open the TCP/IP control panel.
2. Enter the appropriate TCP/IP settings. For assistance, refer to Help (from the Finder, choose Help in the Help menu) or enable Balloon Help (also in the Help menu). The proper TCP/IP values may be obtained from your network administrator.
3. Close the TCP/IP control panel and save changes.

If TCP/IP is already set up properly, make your TCP/IP protocol active by performing this procedure:

1. Open the TCP/IP control panel.
2. Choose User Mode in the Edit menu. The User Mode window will appear.
3. Click the Advanced button, then click OK.
4. Click the Options... button in the TCP/IP configuration window.
5. Click the Active button in the TCP/IP Options window, then click OK.
6. Close the TCP/IP configuration window and save changes.

Now that you configured (or made active) your computer's TCP/IP protocol, it should successfully print to your LPR printer.

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Mac OS 8.6: Computer Stops Responding After Printing to an LPR Printer

After trying to print to an LPR printer my computer stopped responding. Now, it stops respsonding every time it starts up.

This article has been archived and is no longer updated by Apple.
This will happen on a Macintosh computer with Mac OS 8.6 and LaserWriter 8, version 8.6.5 when either of these conditions exist:

- The computer's TCP/IP control panel settings are not configured. (If the TCP/IP control panel had never been configured, or if the TCP/IP Preference file was deleted.)
- TCP/IP is inactive.

Your computer is not responding because each time it restarts all queued print jobs are sent to the printer, but they cannot be printed because the TCP/IP control panel is not configured, or TCP/IP is inactive. Follow these steps to configure your TCP/IP control panel:

Delete the print jobs

1. Restart your computer by pressing the Shift key during system startup time to turn off system extensions, including the Desktop Printer extensions.
2. Find and select the icon of the Desktop Printer you are using. (It will have an X over it.)
3. Double-click to open the Desktop Printer.
4. Delete or remove the print job(s).
5. Restart your computer.

Configure your TCP/IP control panel settings

1. Open the TCP/IP control panel.
2. Enter your computer's TCP/IP settings. Consult your network administrator if you do not have them. For assistance, click the Help button, or choose Show Balloons from the Help menu.
3. Close the TCP/IP control panel and save changes.

Activate the TCP/IP protocol

1. Open the TCP/IP control panel.
2. Choose User Mode from the Edit menu. The User Mode window appears.
3. Click the Advanced button.
4. Click OK.
5. Click the Options button in the TCP/IP configuration window.
6. Click the Active button in the TCP/IP Options window.
7. Click OK.
8. Close the TCP/IP configuration window.
9. Save changes.

Now that the TCP/IP control panel is configured, or activated, your computer will print to the LPR printer.

TA37604_Mac_OS_Computer_Stops_Responding_After_Printing_to_an_LPR_Printer.pdf

Published Date: Feb 18, 2012

Power Macintosh G3: Excel Consistently Freezes

Every time I open a Microsoft Excel spreadsheet my new Power Macintosh G3 crashes. Is there an incompatibility between Excel and Power Macintosh G3 computers?
This article has been archived and is no longer updated by Apple.
This is an isolated issue with Microsoft Excel. If the monitor bit depth is selected as 2 bit or 256 grays, the Excel application will freeze on launch. The easiest workaround is to select a higher bit depth. Microsoft has been alerted to this issue, but there is not any additional information available from Microsoft at this time.

This issue will persist even after clean install and reinstallation of the Microsoft Office 98 suite.
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Mac OS 8.6: "Desktop Printer Extension is incompatible" Message

The following error message may cause some confusion:

"The desktop printer extension is incompatible with Mac OS 8.6. It may cause your computer to freeze when starting up."

This article explains the message in more detail.

This article has been archived and is no longer updated by Apple.
The Desktop Printer Extension is no longer needed for desktop printing. In Mac OS 8.6, the Desktop Printer Extension is incorporated into the OS and does not need a separate extension. The Mac OS Installer should remove this extension, but if it remains installed, or is installed later, it may cause your computer to stop responding when starting up.

To remove the extension:

1. Start up your Macintosh with extension off (hold down the Shift key while starting up)
2. Once the desktop appears, open the System Folder
3. Find the Desktop Printing extension file within the Extensions folder and remove the file
4. Restart your Macintosh

For additional information on this topic, refer to article 30791: "**Mac OS 8.5: Desktop Printer Extension File Is Incompatible**".

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QuickTime Streaming Server: Verifying The Version

Using QuickTime Streaming Server (QTSS) requires updating to the release version of the software and Mac OS X Server patch 1. Therefore, it maybe necessary to verify that these software items were properly installed. This article provides the steps necessary to verify the QTSS software version.
This article has been archived and is no longer updated by Apple.
For the patch, you may view the receipt using the installer.app. Here are the steps:

1. From the Apple menu, choose Server Administration, then installer.app.
2. From within installer.app, select Open from the Packages menu
and navigate to /Local/Library/Receipts/MacOSXServer 1.0-1.pkg.
3. In the resulting window, verify that the status is "installed".

For the QTSS release, you may view the receipt as above, choosing QTSS.pkg. you may also verify installation from the terminal.app.

In a terminal window, type the following:

```
QuickTimeStreamingServer -v
```

After the release version is installed, you will see:

```
[hostname:~/updates_4.21] root#  QuickTimeStreamingServer -v
QTSS/v66 Built on: Apr 16 1999, 18:10:07
-d: Run in the foreground
-l: For each RTP stream, write a log of all timestamps & sequence numbers
-r: Don't append any random offsets to timestamps & sequence numbers
-p XXX: Specify the default RTSP listening port of the server
```

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Mac OS X Server 1.2: How to Limit QuickTime Streaming to a Specific IP Address

Does QuickTime Streaming Server (QTSS) support binding to a specific IP address and/or multihoming?
This article has been archived and is no longer updated by Apple.
Note: The steps below only apply to Mac OS X Server version 1.2.

With the default configuration, QuickTime Streaming Server is available on all configured interfaces and IP addresses; a multiport server would have QuickTime Streaming Server available to clients connecting to any interface. Using the NetInfo property "bind_ip_addr" and the steps below, the server can be configured to serve from only one of the server's IP addresses. At this time this method allows only for restricting to a single IP address (not exclusive multihoming).

Graphic

Step One
Pull down the Apple menu, choose Server Administration, and open Open NetInfoManager.app. Authenticate yourself as root if you are not currently the root user. Verify that the window title includes "local@[hostname]"

Step Two
Navigate to /services/QuickTimeStreamingServer. In the lower portion of the window the properties are displayed. Locate the property "bind_ip_addr" and in the column to the left (under Values) double click and add the IP address on which QuickTime Streaming Server should be available. Save.

Step Three
Verify that the change remains. Restart QuickTime Streaming Server.

Command line

Step One
Open terminal.app. su to root if you are not already root.

Step Two
At the command prompt type:

```
niutil -appendprop . /services/QuickTimeStreamingServer bind_ip_addr [desiredipaddress]
```

Step Three
Confirm the information added using:

```
niutil -read . /services/QuickTimeStreamingServer
```

The property "bind_ip_addr" should be followed by the address. Restart QuickTime Streaming Server.

After changing the property and restarting QuickTime Streaming Server, clients should be able to connect to the server only with the specified IP address.
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iMac: Modem Control Panel Defaults to IR Under Mac OS 8.6

I installed Mac OS 8.6 on my original iMac computer (which has an Infrared Port). After setting up my computer to dial my Internet service provider using Apple Remote Access, I noticed the Status window said my modem was idle. Eventually I got the error message:

"The modem is not responding properly. Reset the modem, check its connections, and check that the correct port and modem type are selected in the Modem Control panel."

How can I correct this?
This article has been archived and is no longer updated by Apple.
After installing Mac OS 8.6 on an original iMac, the Modem control panel defaults to the Infrared port. Here are the steps for reconfiguring:

1. Open the Modem control panel.
2. Choose "Internal Modem" in the "Connect via:" pop-up menu.
3. Choose iMac Internal 56K in the Modem pop-up menu.

These settings will be saved in the Modem Preferences file.
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SoftRAID 2.1.6: Read Me

This article contains the Read Me document for SoftRAID 2.1.6.
This article has been archived and is no longer updated by Apple.

About SoftRAID 2.1.6

Contents:

- About the SoftRAID CD-ROM disc
- Creating Mac OS Extended Format Volumes
- Creating New Volumes (Mirror, Stripe or Standard)
- Creating a Mirrored Volume from an Existing Volume
- Creating a Striped Volume from an Existing Volume
- Installing Mac OS 8.x system
- Starting Up from SoftRAID Formatted Volumes
- Using Striped Volumes
- SoftRAID and Drive Setup
- Registration via Email

About the SoftRAID CD-ROM disc

The software on this CD-ROM disc enables you to create RAID volumes on your Macintosh. This CD-ROM disc is also bootable for your convenience when creating these RAID volumes. This CD contains the following items:

- About SoftRAID 2.1.6
- SoftRAID 2.1.6 application program
- SoftRAID 2.1.6 Installer
- System Folder

Creating Mac OS Extended Format Volumes

The SoftRAID driver works with both the Mac OS Standard and Mac OS Extended formats in Mac OS 8.x. SoftRAID is not compatible with Mac OS X Server. By default, SoftRAID initializes volumes using Mac OS Standard format (also called HFS). To initialize a volume using Mac OS Extended format (also called HFS+), check the box labeled "Extended (HFS+)" when you create the volume.

Creating New Volumes (Mirror, Stripe or Standard)

SoftRAID allows you to create any combination of mirrored, striped or standard volumes, on any combination of disks, using any SCSI ID numbers and any combination of SCSI buses.

To determine whether to mirror or stripe a volume, consider the following:

- Mirrored volumes offer data redundancy which helps to guarantee high availability for mission critical applications.
- Stripe volumes are useful with high-performance applications such as Digital Video and Adobe Photoshop.

To create a new volume:

1. Open SoftRAID and verify that one disk (for a Mac OS Standard format volume) or two disks (for a mirrored or striped format volume) are listed in the Disks column. If a disk icon has a question mark or you see a message about an invalid partition map, you need to install the SoftRAID driver and/or initialize the disk before continuing.
2. Drag disks to the Volumes column.
3. Select the appropriate type of Volume Type pop-up menu.
4. Select two disks (or free space). To see partition information, click the triangle.
5. Type the new volume name.
6. Enter the size in the Volume Size text box or click Maximum Available.

Creating a Mirrored Volume from an Existing Volume

With SoftRAID, you can build a mirrored volume from an existing Macintosh volume without erasing the volume's data. The building takes place in the background so you can continue to use the volume (avoiding system downtime).

For example, if you have a 1 GB volume filled with data, you can build a mirrored volume or a disk or partition of equal or larger size. Your data is copied from the original disk to the mirror disk. When the copy is complete, the mirrored volume is fully fault-tolerant.

Tips:

- The mirror disk must contain a contiguous free area at least as large as the partition on the primary disk. Two disks apparently of the same size may have slightly different capacities, and if the mirrored disk has less capacity than the existing volume, you cannot use the Convert to Mirror feature. You will need to back up your information, create a new mirrored volume, and restore the information.
- If you mirror non-identical disks, select the slower disk as the mirrored partition.

To create a mirror of an existing volume:

1. Open SoftRAID and select the volume you want to mirror. You cannot create a mirror of the startup volume or the volume that contains the SoftRAID application.
2. Select Convert to Mirror from the Volume menu.
3. Select a disk (or free area) for the mirror. To see free areas, click the triangle. The mirroring partition is designated with an M.
4. Choose a mirror build rate by sliding the bars.

SoftRAID temporarily unmounts the existing volume. When it's remounted, you can continue to use it normally.

The Convert to Mirror process involves many safety checks and can take many hours to complete. Assume a conversion rate of approximately 10 MB per minute for fast drives.

To use the new Mirrored Volume before the conversion has completed, restart your system after starting the conversion. The conversion will automatically continue after the system has booted.

Creating a Striped Volume from an Existing Volume

With SoftRAID, you can build a striped volume from an existing Macintosh volume without erasing the volume's existing data. The building (called Stripe-in-Place) takes place in the background so you can continue to use the volume (avoiding system downtime).

For example, if you have a 1 GB volume filled with data on a disk mounted inside your computer, you can install a second disk of equal or larger size and build a striped volume that incorporates the existing volume. When the Stripe-in-Place process is complete, the striped volume contains all the original data striped across two disks.

Tips:

- To use Stripe-in-Place you need a new disk with free space of equal or greater capacity than the volume you wish to convert to a stripe volume.
- The striping disk must contain a contiguous free area at least as large as the partition on the primary disk.

To create a stripe volume using Stripe-in-place:

1. Open SoftRAID and select the volume you want stripe. You cannot create a stripe of the startup volume or the volume that contains the SoftRAID application.
2. Select Convert to Stripe from the Volume menu.
3. Select a disk (or free area) for the stripe. The optimal Stripe Unit Size is 128 blocks. Click the triangle to see a list of free areas that can be used for the striped volume.
4. Adjust the build rate by sliding the two bars.
5. Click Stripe.

You can quit the SoftRAID program at any time.

Should any problems occur during the build process, see the onscreen SoftRAID Guide for more instructions.

Installing Mac OS 8.x system

The Mac OS 8.x installer does not recognize the SoftRAID driver and will warn you to update the driver. If you are installing Mac OS 8.x onto a SoftRAID volume, uncheck the Update Apple Drivers option in the Installer's Option dialog box.

If you see a warning message that the Installer could not update the driver, click the "Ignore Warning" button and proceed with the installation.

Starting Up from SoftRAID Formatted Volumes

When you create Mac OS Standard format or mirrored volumes on your Power Macintosh G3 using SoftRAID, only the first partition can be used as the startup volume. (You set the startup volume in the Startup Disk control panel.) You can determine the first partition using SoftRAID application.

Using Striped Volumes

You cannot start up your Power Macintosh G3 from a striped volume. Only standard and mirrored volumes may be used as start-up volumes.

SoftRAID and Drive Setup

After installing SoftRAID drivers onto your disk drives and creating volumes, you should restart your computer to remove the Drive Setup drivers. Otherwise a situation could occur in which a volume seems to be mounted twice.

Registration via Email

SoftRAID registration requires a TCP/IP Internet connection.
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LaserWriter 8500: Installing Central European Fonts On PC

I have a LaserWriter 8500 and a Windows-based computer. I want to install the Central European fonts that came with the printer--the fonts that were mentioned on the Read Me document on the CD. How do I do this?
This article has been archived and is no longer updated by Apple.
The fonts are on the CD and must be installed using the Adobe Type Manager (ATM) control panel. Here are the steps:

Step One
Run the ATM installer from one of these directories (whichever is appropriate for you):

```
\\Win_os\\Win_95\\Atm for windows 95
\\Win_os\\Win_31\\Atm for windows 3.1
```

Step Two
Open the ATM control panel (start->programs->main).

Step Three
Click Add.

Step Four
Navigate to this directory:

```
\\PS3_FNTS\\WIN_OS\\PC_CE
```

Step Five
Add the individual CE fonts.

If your CD does not have these fonts, you may need an updated (1.1) version of the CD. You can order this CD using part number 691-1522-B. For more information on ordering this item directly from Apple, see the following Tech Info Library article:

Article 60006: "**Software fulfillment Options**"
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SimpleText: "Document Too Large To Be Opened" Alert

SimpleText cannot open files that are greater than 32K in size.
This article has been archived and is no longer updated by Apple.

Symptom

When you try to open a text file with SimpleText, an alert box with this message appears:

> "This document is too large to be opened by SimpleText."

Solution

SimpleText can only open text files that are less than 32K in size. Use a different application program to open the text file.

WorldText, included with Mac OS 9.1 and later, can open text files that are larger than 32K. WorldText is included on the Mac OS 9 Install CD in the CD Extras folder. TextEdit, a Mac OS X application, can also open text files larger than 32K in Mac OS X.

Many freeware, shareware, and commercial text editor and word processing programs can be used to open text files that are larger than 32K.
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Mac OS X Server 1.x: Importing AppleShare IP Users

This article describes in detail how to properly import a list of user accounts from an AppleShare IP server for use with Apple File Services in Mac OS X Server.
This article has been archived and is no longer updated by Apple.
For Mac OS X Server 10.0.x please download the **Mac OS X Server Migration Guide** using the link in technical document 120002.

Note: This article pertains to Mac OS X Server versions 1.x, which were released prior to May 2001.

An administrator can easily move user accounts from an AppleShare IP 5.x or 6.x server when migrating to Mac OS X Server without having to reenter the user account information. The benefit is that users can immediately begin using Apple File Services.

The steps below describe how to export user accounts from AppleShare IP (ASIP) and then to import them into Mac OS X Server. There are certain warnings that are also explained.

Exporting Users from AppleShare IP 5.x - 6.2

1. First view the Users and Groups List from the Web & File Admin application. Select the users that need to be exported. Note: Either choose Select All or use the Command key to select individual users.

2. From the File menu choose Export Users and Groups and designate a filename to save a tab-delimited text file. For Export Attributes select all available options, however note that Mac OS X Server only takes advantage of the Internet Alias option (explained below).

3. Copy the text file to a volume on Mac OS X Server by connecting to the server as "Administrator" using the administrator password.

Exporting Users from AppleShare IP 6.3

AppleShare IP 6.3 introduced XML support for importing and exporting Users & Groups. You cannot export from AppleShare IP 6.3 to a tab delimited text file, only XML.

A workaround is to use the User & Group Manager that comes with the Apple Network Administration Toolkit (ANAT). This software will allow you to export your Users to a tab delimited text file that you can then import into Mac OS X Server. If you do not have this software, then you can download a demo version from the Apple Software Updates Web site at http://www.apple.com/swupdates.

This is considered an unsupported workaround because the User & Group Manager is not supported using AppleShare IP 6.x. Apple recommends making a backup of your Users & Groups prior to using this utility on your AppleShare IP 6.x Server. This is the only current Apple solution for exporting users from AppleShare IP 6.3 to a file for your Mac OS X Server to then import.

Importing Users into Mac OS X Server

Note: At this time exporting of passwords from ASIP 5.x, 6.0, 6.1 and 6.2 is not supported due to the security reason of having plain text in the exported file. It is recommended that users change their password when first connected to the Apple File Server. For this reason you will want to consider the implications of importing options explained below.

1. Open the NetworkManager application (under Server Administration in the Apple Menu) and view the Users tabbed screen.

2. Click the "Load users from file" button (farthest button on bottom of screen). See Figure 1.

Figure 1 "Load users from file" button.

3. In the "Import Users" window click the "Edit options for loading users from file" button. See Figure 2.

Figure 2 "Edit options for loading users from file" button.

4. In the "User Import Options" window make sure the file format is set for "AppleShare IP." See Figure 3.

Figure 3 User Import Options window.

5. Leave all options at their default with consideration for the following:

File contains internet aliases: This option will use the ASIP mail/internet alias for the user?s account when logging into Mac OS X Server. If no alias was set in ASIP, the username is created from the ASIP username.

File contains password: This feature is not currently supported.

User Account Name: Determines how the Unix-compliant username is generated from the ASIP username, especially if it is more than a one-word name. It is best to choose "Last name" for password simplicity explained below.

Password: Change to "Same as user account". This way the assigned password will be easy for users when they first connect to Apple File Services.

User ID Numbers: Leave this set to "Automatic".

User Default Group: Change this to the group named "macos". This is the default group used for new Apple File Services accounts and can be changed later.

Unix Shell: If you want these users to have access to only Apple File Services and not any Unix services (e.g., local server login or telnet), type "/bin/false" in the box.

Home Directory: If these users will not have access to Unix services, then change to "As listed in import file" which will not generate unnecessary home directories for them.

6. In the "Import Users" window click the "Select and import" button. See Figure 4. Select the exported text file to import. A list of users and their settings will appear in the table. At this time you may edit any of the text entries.

Figure 4 "Select and import" button.

7. Close the window and save the changes when prompted. At this time you will likely be prompted for an administrator name and password. The new users will now appear in the User list.

8. As a final step the new accounts must be enabled. Select only the new disabled users (in gray text) and click the button "Disable login for selected user(s)" which enable the accounts for login with Apple File Services.

Note: For more customized configurations consider first editing the exported file in a spreadsheet such as Microsoft Excel. Make sure to save the edited file in a tab-delimited text format before importing into Mac OS X Server.

For further information on configuring user account options for Apple File Services, refer to article 60063: "**Mac OS X Server: Using Apple File Services Remote Administration**"

Published Date: Feb 18, 2012

Speech Recognition 1.5.4: Error with Power Macintosh/Performa 5xxx/6xxx

I have a lab of Power Macintosh 5200/75 and 5300/100 LC computers. We have verified that all of our computers are capable of 16-Bit audio Sound Out by checking the Sound Control Panel that is preinstalled in the Apple Extras folder under Mac OS 8.6. We recently upgraded all computers to Mac OS 8.6. As part of the full installer of Mac OS 8.6, we installed English Speech Recognition 1.5.4. When we turn Speakable Items on in the Speech control panel, we get the following error message:

"Speakable items could not run because an unexpected error occurred. Restarting you computer or reinstalling the speech recognition software may correct this problem."

Is Apple aware of this issue? Which computers are affected by this issue? How do we get English Speech Recognition 1.5.x to work on these computers under Mac OS 8.6?
This article has been archived and is no longer updated by Apple.
Apple is aware of this issue and is currently investigating the root cause. This issue can occur on any of the following 16-bit audio capable computers under Mac OS 8.6 using English Speech Recognition 1.5.4:

- Power Macintosh 5200
- Power Macintosh 5260
- Power Macintosh 5300
- Macintosh Performa 5200CD
- Macintosh Performa 5210CD
- Macintosh Performa 5215CD
- Macintosh Performa 5220CD
- Macintosh Performa 5260CD
- Macintosh Performa 5260/120
- Macintosh Performa 5270CD
- Macintosh Performa 5280
- Macintosh Performa 5300CD
- Macintosh Performa 5320CD

- Power Macintosh 6200
- Power Macintosh 6300
- Macintosh Performa 6200CD
- Macintosh Performa 6205CD
- Macintosh Performa 6210CD
- Macintosh Performa 6214CD
- Macintosh Performa 6216CD
- Macintosh Performa 6218CD
- Macintosh Performa 6220CD
- Macintosh Performa 6230CD
- Macintosh Performa 6260CD
- Macintosh Performa 6290CD
- Macintosh Performa 6300CD
- Macintosh Performa 6310CD
- Macintosh Performa 6320CD

Until a final solution to this issue is available, users should be able to work around this issue by installing an older version of English Speech Recognition than version 1.5.4. Although this has not been fully tested or qualified by Apple under Mac OS 8.6, English Speech Recognition 1.5 (available for free from Apple Software Updates) and English Speech Recognition 1.5.3 (included with Mac OS 8.5) appear to work fine on these computers under Mac OS 8.6 when installed as follows:

Removing English Speech Recognition 1.5.4

If you have already installed English Speech Recognition 1.5.4, you must remove this installation using either the Mac OS 8.6 Full Installer or the English Speech Recognition 1.5.4 Installer.

Steps to remove English Speech Recognition 1.5.4 using the Mac OS 8.6 Full Install CD:

1. Launch the Install Mac OS 8.6 installer.

2. Select the drive that has Mac OS 8.6 and English Speech Recognition installed.
3. Custom Remove English Speech Recognition only.
4. Restart the computer.

Steps to remove English Speech Recognition 1.5.4 using the English Speech Recognition 1.5.4 Installer disk image:

1. Mount the image.
2. Launch the Installer and choose Custom Remove from the pop-up menu.
3. Select the English Speech Recognition checkbox and click the Remove button.
4. Restart the computer when removal is complete.

Installing English Speech Recognition 1.5 or 1.5.3

You can install either English Speech Recognition 1.5 or English Speech Recognition 1.5.3 depending on which version you have available.

You may download English Speech Recognition 1.5 from Apple Software Updates. Or, you may install English Speech Recognition 1.5.3 from any Mac OS 8.5 System Software CD. The software installer can be found on the Mac OS 8.5 CD as follows:

Mac OS 8.5:

Software Installers:
English Speech Recognition:
Installer

After Installing English Speech Recognition 1.5 or 1.5.3 and restarting your computer, you should be able to turn on Speakable Items in the Speech control panel without any error messages.

These articles can help you locate the software update mentioned here:

- Article 14724: "**Where To Find Apple Software Updates**" - Lists online services for free Apple software updates.
- Article 17664: "**WW Apple SW Updates Available Online**" - An index to International Apple Software Updates showing the current software location on the Internet.

Published Date: Feb 18, 2012

AppleWorks: Video Artifacts In Palettes

I am using AppleWorks and find that when I click the Fill color palette and move the pointer across the palette, a strange black outline appears around each color swatch that my pointer touches. I end up with a palette that has a black outline around several color swatches. Can you help?
This article has been archived and is no longer updated by Apple.
To work around this anomaly, use one of these two other methods for working with palettes:

- Click and hold the mouse button down continuously to open a palette and choose a palette item. Release the mouse button when the pointer is over the desired palette item.
- Tear the palette off, then choose an item from the palette window.

Other palettes will have similar symptoms. For example, by clicking the Arrows palette and then moving the pointer across mulitple arrow styles, you will be left with the impression that you have muliple items checked. In reality, only one item is actually checked. Using one of the methods listed above should make the palette behave properly.
Published Date: Feb 18, 2012

Mac OS X Server: Macintosh Manager--Adding Volumes Under Mac OS 8.6

In Macintosh Manager, I am unable to add a volume to mount at login. When I click on the triangle next to a server on the network, I get the AppleShare login dialog. I fill in the username and password. Then I click OK which results in the dialog disappearing. There is no change in the window, and clicking on the triangle again results in a repeat of the previous dialog box.

How can I add a volume to mount at login?
This article has been archived and is no longer updated by Apple.
The issue is with AppleShare Client 3.8.3 which is installed with Mac OS 8.6. A workaround is to mount the volume before adding it in the Macintosh Manager. You could also run the Macintosh Manager on a Macintosh running Mac OS 8.5.x which has AppleShare Client 3.8.1 installed.

This issue will be resolved in a future version of the software.
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Mac OS: "To run an Internet application via America Online" Alert

An alert box may appear at startup indicating that you must sign on to America Online in order to use TCP/IP-based services.
This article has been archived and is no longer updated by Apple.

Symptom

An alert box with this message appears after you turn on the computer:

> "To run an Internet application via America Online, you must sign on first. To run an Internet application via an ISP/LAN, you must restore your TCP configuration by clicking the Restore button in the AOL link panel within AOL's Preferences dialog."

Solution

If you are using America Online to connect to the Internet, update to America Online 5.0 or later.

If this does not resolve the issue, see technical document 24877 "Mac OS: Modem Unexpectedly Dials", which describes TCP/IP services that may unexpectedly attempt to initiate an Internet connection. These services may need to be disabled or reconfigured as outlined in the document.

If you are not using America Online as your primary ISP, use the Extensions Manager to turn off the AOL Link Enhanced extension.

Published Date: Feb 18, 2012

PowerBook G3 Series (Bronze keyboard): Modem Updater 1.3.5 Unnecessary

This article discusses why the Apple Modem Updater 1.3.5 is unnecessary for the PowerBook G3 Series (Bronze keyboard).
This article has been archived and is no longer updated by Apple.
It is not necessary to install Apple Modem Updater 1.3.5 on the PowerBook G3 Series (Bronze keyboard).

The Apple Modem Updater was posted before the release of the PowerBook G3 Series (Bronze keyboard). It is intended for installation on original PowerBook G3 Series computers. When the PowerBook G3 Series (Bronze keyboard) was released, it included all the latest modem software.

Note: Macintosh PowerBook G3 Series computers should not be confused with Macintosh PowerBook G3 computers. Though the names are similar, there are significant differences. For more information differentiating between the computers, refer to article 24604: "**PowerBook G3 & G3 Series: Identifying Different Models**"
Published Date: Feb 18, 2012

LaserWriter 8500: Fuser Temperature

I would like to use a special paper stock in my LaserWriter 8500 but I am concerned that it might melt. What is the fusing temperature for the LaserWriter 8500?

This article has been archived and is no longer updated by Apple.
The LaserWriter 8500 fuser temperature changes depending on the mode the printer is in. During the energy saver mode the fuser heating element remains off, allowing the fuser to return to room temperature.

When the printer is activated and a print job is sent to the printer the fuser sets a target temperature of between 356° F (180° C) to 385° F (196° C). After the completion of a print job, and prior to the printer returning to the energy saver mode, the printer sets a target fuser temperature of approximately 351° F (177° C).

The LaserWriter 8500 supports 16- to 28-pound laser-quality bond (60 to 105g per m^2); up to 36-pound (135g per m^2) stock when fed manually through the multipurpose tray. The printer accepts most textured and colored stock, and medium-weight photocopier transparencies and labels. Envelopes can be printed from the multipurpose tray or from the optional envelope feeder.

The paper used should not scorch, melt, transfer material, or release hazardous emmissions when heated to 200° C (400° F) for 0.1 seconds.
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Mac OS 8.6: Virtual Memory Defaults To At Least 64 MB

This article details the virtual memory defaults that Mac OS 8.6 uses.
This article has been archived and is no longer updated by Apple.
Under Mac OS 8.6 virtual memory defaults to 64 MB or 1 MB over the amount of physical RAM, whichever is greater. Under earlier versions of the Mac OS, virtual memory defaults to 1 MB over the amount of physical RAM or the minimum requirement for that version of the OS.

Note: If updating to Mac OS 8.6 from Mac OS 8.5 or Mac OS 8.5.1, virtual memory will remain at its current setting even if it is less than 64 MB, until either resetting Parameter RAM (PRAM) or clicking the "Use Defaults" button in the Memory control panel.
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Mac OS X Server 1.x: Wrong File Size Reported

File size for some files on Mac OS Extended volumes in Mac OS X Server 1.x differ depending upon whether the information is obtained in Mac OS X Server 1.x or Mac OS. For example, a 1 MB file in Mac OS is reported as 462 KB in Mac OS X Server 1.x.
This article has been archived and is no longer updated by Apple.
Mac OS X Server 1.x does not include the resource fork in the size reported. Only the data fork size is reported. Workspace has the ability to copy both forks of a file so they can be moved and copied correctly between Mac OS or Mac OS Extended volumes.

To correctly determine the file and folder sizes on Mac OS or Mac OS Extended volumes, either use MacOS.app or mount the volume on an AppleShare client (only Mac OS Extended volumes can be shared), then use the Finder's Get Info command.
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PowerBook: Scheduled Sleep

I scheduled my PowerBook to go to sleep every day at 3:00 PM, but sometimes it does not go to sleep at that time. Why is this?
This article has been archived and is no longer updated by Apple.
First, let us be clear on what is being discussed. This article discusses scheduled sleep, which is available in the Energy Saver control panel from the Scheduled Wakeup & Sleep panel. Here you can schedule the PowerBook to sleep every day, weekends, or weekdays at a certain time. This is different from idle sleep, which puts the PowerBook to sleep after one to fifteen minutes of inactivity.

The PowerBook may not go to sleep if the system thinks you are still using the computer. If you have scheduled the PowerBook to sleep at 3:00 PM, but you were using it at 2:55 PM, the system will delay the sleep time by at least twenty minutes to give you time to finish up your work.

In summary, if you schedule the PowerBook to sleep one minute from now, it won't go to sleep for about twenty minutes assuming you don't use it during that period.
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LaserWriter Bridge: Replaced by LocalTalk Bridge

This article discusses LaserWriter Bridge.
This article has been archived and is no longer updated by Apple.
LaserWriter Bridge is no longer available from Apple Software Updates and has been replaced by LocalTalk Bridge 2.1. LocalTalk Bridge is a superset of the features offered by LaserWriter Bridge and allows the support of more than one LocalTalk printer as well as LocalTalk computers.

For more information on Apple LocalTalk Bridge, see the following articles:

- Article 17366: "**Apple LocalTalk Bridge: Description**"
- Article 60290: "**LocalTalk Bridge 2.1: Read Me**"

These articles can help you locate the software update mentioned here:

- Article 14724: "**Where To Find Apple Software Updates**" - Lists online services for free Apple software updates.

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Mac OS X Server: Setting Macintosh Manager Font Size For MS-Word 98

I configured Macintosh Manager to print user information on each printed page but in Microsoft Word 98, the font size for the user information is too small to read. This only happens when I print from Word 98.

What can I do to change this?
This article has been archived and is no longer updated by Apple.
In Microsoft Word 98 under the Tools-->Preferences... menu, check the box that says "Use printer metrics to lay out document".

The user information will now be printed in a normal readable size.
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Apple Network Server 500 & 700: Documentation Resources

This article contains information about where to locate additional documentation regarding the Apple Network Server and AIX operating system.
This article has been archived and is no longer updated by Apple.
Apple maintains several Apple Network Server manuals in PDF format online. The following items are available at the path:

ftp://manuals.info.apple.com/Apple_Support_Area/Manuals

The following items may be found in the /servers/ directory:

Manuals	
Setting Up the Network Server	7941NetworkServer.pdf
Using AIX, AppleTalk Services, and Mac OS Utilities on the Apple Network Server	7941NetworkServer.pdf
Using a Network Server PCI RAID Disk Array Card	8687UsingPCIRAID.pdf
Addendums/Guides	
AIX, AppleTalk Quick Reference Guide	8974AIXQRC.pdf
Update to "Using AIX, AppleTalk Services, and Mac OS Utilities on the Network Server" and "Setting up the Network Server"	0330547AUDAIXNTWKSVR.PDF
What's New With the Network Server (AIX 4.1.4.1)	0309960ANEWNWSRV.PDF
Update to Using a Network Server PCI RAID Disk Array Card	0309816ARAIDARAYCDUD.PDF
Instructions to Update AIX for the Network Server to Version 4.1.5.0	0330559AAIXNWV4150UDI.PDF

The following item may be found in the /hardware/ directory:

Using Your Network Server SCSI Drive Adapter Kit	Z0309607ANSSCSIKIT.PDF

Apple Developer Documentation

The Apple Developer site offers a collection of documents related to AIX and the Apple Network Server.

http://devworld.apple.com/dev/aix/
http://dev.info.apple.com/dev/aix/AIXDevelopment/text/toc.html

Apple also offers software updates online. See the following Tech Info Library article:

Article 45005: "**Apple Network Servers: AIX Update Sites From Apple Computer, Inc.**"

Third Party Resources

IBM offers AIX support documentation at:

http://www.ibm.com/servers/aix/support/

Third Party List Archives

http://spud-web.tc.cornell.edu/HyperNews/get/SPUserGroup.html
http://mlarchive.ima.com/aix-l/index.html
http://www.thp.uni-duisburg.de/cuaix/cuaix.html
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Mac OS: Computer Stops Responding Because of Wrong ROM File Update

Certain combinations of Apple installers can cause the Mac OS ROM file to be downgraded to an earlier version. Since specific Mac OS ROM versions are meant for specific releases of Mac OS, mismatching these components can cause unpredictable behavior. Depending on the Mac OS version and the ROM version which are mismatched, symptoms can vary from an unnoticeable difference in operation to the computer not responding during the startup process.
This article has been archived and is no longer updated by Apple.
Affected Products

- iMac
- Power Macintosh G3 (Blue and White)
- PowerBook G3 Series (Bronze keyboard)
- Later computers (computers which use a software-based ROM file)

The resulting symptom is a computer that stops responding during the startup process after the "happy Macintosh" icon appears.

Running iMac Update 1.0

iMac update 1.0 is intended for use only on iMac computers running Mac OS 8.1. Running this update on a computer using Mac OS 8.5 or higher causes the Mac OS ROM file to be downgraded. The Mac OS ROM file included in this update does not work correctly with other versions of system software and causes the computer to stop responding during the startup sequence when improperly applied.

Note: iMac Update 1.0 is no longer available from Apple Software Updates sites.

Custom Installing OS Components

Running an OS installer from the system CD that shipped with some Macintosh computers has the potential to downgrade the Mac OS ROM file if the existing OS on the computer is more current.

Correcting The Issue

If you have inadvertently replaced your Mac OS ROM file with the incorrect version in either of these scenarios, you can replace it and repair the System Folder by running the appropriate Mac OS installer. Follow these steps:

1. Start up from the most current Mac OS CD you have.
2. Locate the System Folder on the hard drive.
3. Open the System Folder and locate the Finder.
4. Select the Finder file and choose Get Info from the File menu.
5. In the Info window, look just below the word Finder at the top of the window to see what version of the OS this System Folder is currently running. See Figure 1.
6. Run the OS installer or updater that matches this version to replace the Mac OS ROM file with the correct, matching version.

Figure 1 Info window for the Finder; Mac OS 8.6 is running.

If you are running an iMac with Mac OS 8.6 for example, and you installed Mac OS 8.6 by running the 8.6 updater, simply start up from any bootable CD and run the 8.6 updater again. You can run it either from a Mac OS 8.6 update CD (this update CD is bootable) or from the hard drive if you have downloaded the update from the Internet.

If Mac OS 8.5 is installed on the hard drive, run the Mac OS 8.5 installer. In this case, you do not have to reinstall all components such as ColorSync and Speech Recognition. To save time, choose the customize option in the installer and check to install only Mac OS 8.5.

For additional information on which ROM version goes with which OS version, see the following Knowledge Base article:

Article 24965: "**Mac OS: Matching Mac OS ROM File To Mac OS Version**"

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XClaim VR Card: Incorrect Resolution Specs In Documentation

The "Read This First" document (part number 034-0856-A) states on page 6 in the section headed "Upgrading Your Card's Memory":

"Adding more memory allows the graphics and display to use higher resolutions than 1024 x 1248 dots per inch (dpi)"

I have the XClaim VR card and I cannot set my monitor to this resolution. Can you explain?
This article has been archived and is no longer updated by Apple.
The statement in the manual is incorrect. The maximum supported resolution of the XClaim VR card is 1280 x 1024.

This was an error in compiling the information between the ATI XClaim VR retail card and the Apple branded card sold with our Teacher Workstation AV Bundle and the Rage 128 Pro card.

The maximum resolution of the XClaim VR card whether you have the standard 4 MB of VRAM or you've upgraded to 8 MB is 1280 x1024.
The only advantage to upgrading to 8 MB is to get better 3D acceleration in applications that take advantage of the 3D ASICs on the card.

The ATI Xclaim VR manual is included with the system as a PDF file.
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At Ease 5.0.x: Users & Workgroups Missing In At Ease Administration

I logged in to At Ease Administration and I no longer see any users or workgroups. What can I do to resolve this?
This article has been archived and is no longer updated by Apple.
This is a common issue that is usually easily resolved. If At Ease Administration has been run while the At Ease server's volume was mounted, the administrator will get a message that says the At Ease server needs to be reconfigured. If the administrator continues with the reconfiguration and enters incorrect user and volume information, the administrator will not see users or workgroups in At Ease Administration. Do not log in to the At Ease server prior to running At Ease Administration. Here are the steps:

1. Quit At Ease Administration. You may have to click "Off" before you can quit.

2. Use the Chooser to log in to your server as the At Ease user, and mount the volume used for At Ease. If you did not create an At Ease user or volume originally, then first refer to the following article for direction on proper AppleShare IP setup for use with At Ease:

Article 31035: "**At Ease 4 or 5: AppleShare IP Initial Setup**"

3. Now that the At Ease volume is mounted, open the At Ease Administration program and you will see the dialog box shown in Figure 1.

Figure 1: Alert.

4. Click OK and you will see the dialog box shown in Figure 2.

Figure 2: At Ease server configuration request.

Click Yes. The window shown in Figure 3 should now appear.

Figure 3: At Ease Server window.

5. Next to volume name you probably see the name of your server hard drive. Click on it and choose "Other Location..." from the list. You will now see the window shown in Figure 4. Enter the name of your At Ease volume exactly as it appears on your desktop.

Figure 4: Entering the volume or share point name.

Click OK and you will be brought back to the previous window (see Figure 5).

Figure 5: At Ease Server window.

6. You must tell At Ease what AppleShare login to use on the server. Choose Registered User and enter your At Ease user name and password. Click OK and you should now see your At Ease Administration login window. Log in to At Ease Administration with the administrator password. You should now see all the original users and groups.

Note: If the preceeding steps do not solve your issue, move the At Ease Server Preferences to the trash. These preferences are located in the Preferences folder, on the ASIP server. Restart you server and repeat the above steps.

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Final Cut Pro: Timecode Errors During Capture

Sometimes when I attempt to capture in Final Cut Pro (either Batch or Clip), I am warned of a timecode issue. The warning also tells me it can't control the deck servo, although I can control the deck during logging. Why is this?

This article has been archived and is no longer updated by Apple.

This message comes up when the pre-roll and post-roll settings (available in the Device Control Preferences) are set to something smaller than 3 seconds. If you have a clip right at the beginning of the tape or right at the end of the tape use the Capture Now function instead of Capture Batch or Capture Clip.

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Internal Modem: Modifying The Value Of Register S29

The "AT Commands.pdf" file that ships on the has incorrect information concerning the S29 register. The document states:

"The S29 register sets the length of time, in units of 10 milliseconds, that the modem will go on-hook when it encounters the flash (!) dial modifier in the dial string. The range of values for this register is 0-255. The default is 70."
This article has been archived and is no longer updated by Apple.
Symptom:

Making changes to the value does not actually change the delay--regardless of the value set, the delay seems about the same.

Products affected:

- iMac
- Power Macintosh G3 (Blue and White)

Solution:

Although the register will accept values within the range described, and appears to save them properly, the actual delay time does not seem affected. Stringing multiple "!" characters together is suggested as a workaround when the default setting of 70 (700 milliseconds) is not enough.

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Apple Printer Utility: Accessing An AppleShare IP Print Queue

This article discusses the possibility of administering print queues with the Apple Printer Utility.
This article has been archived and is no longer updated by Apple.
Though the Apple Printer Utility was designed to administer printers, you can select and open an AppleShare IP Print Server queue as well. If you attempt to do so you may be presented with one of these dialogs:

"The selected printer has a spooler attached to it. This application has only limited functionality in this case."

If you click Continue, the Apple Printer Utility will then allow you to perform these limited functions: Restart the printer, Send PostScript File, and Print Font Samples.

"A PostScript error has occurred in the LaserWriter. Restart the printer and try again."

This dialog is displayed when the print queue has security enabled. While security is enabled for that print queue, you will not be able to open it with the Apple Printer Utility. Contact your print server's administrator should you need to disable security
Published Date: Feb 18, 2012

Mac OS: Changing Energy Saver‘s Wakeup Notification Sound

Is there a way to change the sound that my computer plays when it wakes up from sleep?
This article has been archived and is no longer updated by Apple.
Yes. Use the Energy Saver control panel to change the wakeup notification sound. Here are the steps:

1. Open the Energy Saver control panel .
2. Choose Notification from the Preferences menu.
3. Use the checkbox to enable or disable a wakeup notification sound. Use the popup menu to select a wakeup notification sound (see Figure 1).

Figure 1: Energy Saver control panel's Notification window.

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Mac OS X Server: Monitoring NetBoot Process From Client

Is there anyway to monitor the NetBoot process from the client?
This article has been archived and is no longer updated by Apple.
The process can be monitored after completing the following steps:

1. Start up into Open Firmware by restarting and holding down the Command-Option-o-f keys.
2. Enter `boot enet:bootp` and press Return.

Diagnostic messages will now appear in the Open Firmware screen
Published Date: Feb 18, 2012

QTVR Authoring Studio: DV Capture Doesn‘t Work

I am using QuickTime VR Authoring Studio 1.0.1. I notice that in the Read Me it states,"Added support for Firewire DV to object video capture." However, when I connect my DV camera to the FireWire port and open QuickTime VR Authoring Studio, it does not see any video from the camera. What is wrong?

This article has been archived and is no longer updated by Apple.

To use media from a DV camera, first capture the media using a DV-capable video editing program such as Final Cut Pro, then import the media into QuickTime VR Authoring Studio.

Published Date: Feb 18, 2012

Epson HX20: Pinouts to Connect a Macintosh

This article has been archived and is no longer updated by Apple.

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TOPIC ----------------------------------------------------------

I have an Epson HX20 laptop computer and I want to connect it to my Macintosh.
What are the pinouts for a cable to connect the two?

DISCUSSION -----------------------------------------------------

Here are the pinouts for building a cable to connect a Macintosh Plus,
Macintosh SE, or Macintosh II to an Epson HX20 laptop computer.

The Epson HX20 has a DIN 8 connector for the RS-232 signals out. The pin
configuration is:

Epson HX20 Serial Port (DIN 8)           Macintosh (Mini DIN 8)
-------------------------------------    ----------------------
    1 - Signal Ground (SG)              4 - GND
    2 - Transmit Data (TXD)             5 - RXD
    3 - Receive Data (RXD)              3 - TXD
    4 - Request to send (RTS)
    5 - Clear to Send (CTS)
    6 - Data Set Ready (DSR)
    7 - Data Terminal Ready (DTR)
    8 - No Connect (NC)

             --------
           / 7      6 \\
          /            \\
         |              |
         | 3    8     1 |
         |              |
          \\            /
           \\ 5   2   4/
             --------
```

Published Date: Feb 18, 2012

Final Cut Pro: Compatible Configurations

This article has been archived and is no longer updated by Apple.

Learn about the compatible configurations of Final Cut Pro, Mac OS, QuickTime, and FireWire.

For information on compatibility with third-party cameras and boards, please consult the Final Cut Pro Device Qualifications page.

For complete product requirements for the current version of Final Cut Pro, see the specifications page.

Final Cut Pro HD 4.5 (see Note 10)

- Works with these configurations:
- PowerBook G4 (all models)
- iBook G4 (all models)
- iMac (Flat Panel) (all models)
- iMac G5 models (with AGP graphics). Models with PCI Express graphics are not supported.
- eMac (all models)
- Power Mac G4 (all models except Power Mac G4 (PCI Graphics))
- Power Mac G5 (all models with AGP graphics). Models with PCI Express graphics are not supported.
- Xserve (all models - see Note 11)
- Mac OS X 10.3.2 or later
- QuickTime 6.5 or later

Final Cut Pro 3.0.4
Works with these configurations:

- Power Macintosh G3 (Blue and White)
- PowerBook (FireWire)
- PowerBook G4
- PowerBook G4 (Gigabit Ethernet)
- PowerBook G4 (DVI)
- PowerBook G4 (1 GHz/867 MHz)
- PowerBook G4 (12-inch)
- PowerBook G4 (17-inch)
- iBook (Dual USB)
- iBook (Late 2001)
- iBook (14.1 LCD)
- iBook (16 VRAM)
- iBook (14.1 LCD 16 VRAM)
- iBook (Opaque 16 VRAM)
- iBook (32 VRAM)
- iBook (14.1 LCD 32 VRAM)
- iBook (Early 2003)
- iMac (Slot Loading) - See Note 4
- iMac (Summer 2000) - See Notes 4 and 8
- iMac (Early 2001) - See Note 4
- iMac (Summer 2001) - See Notes 4 and 8
- iMac (Flat Panel)
- iMac (17-inch Flat Panel)
- iMac (17-inch 1GHz)
- eMac
- eMac (ATI Graphics)
- Power Mac G4 (PCI Graphics)
- Power Mac G4 (AGP Graphics)
- Power Mac G4 (Gigabit Ethernet)
- Power Mac G4 (Digital Audio)
- Power Mac G4 Cube
- Power Mac G4 Cube (CD-RW)
- Power Mac G4 (QuickSilver)
- Power Mac G4 (Mirrored Drive Doors)
- Power Mac G4 (FW 800)
- Xserve
- Mac OS X 10.2.1 - 10.3

- QuickTime 6.0.2, 6.1, or 6.2

Final Cut Pro 3
Works with these configurations:

- Power Macintosh G3 (Blue and White)
- PowerBook (FireWire)
- PowerBook G4
- PowerBook G4 (Gigabit Ethernet)
- PowerBook G4 (DVI)
- iBook (Dual USB)
- iBook (Late 2001)
- iBook (14.1 LCD)
- iBook (16 VRAM)
- iBook (16 VRAM 14.1 LCD)
- iMac (Slot Loading) - See Note 4
- iMac (Summer 2000) - See Notes 4 and 8
- iMac (Early 2001) - See Note 4
- iMac (Summer 2001) - See Notes 4 and 8
- iMac (Flat Panel)
- iMac (17-inch Flat Panel)
- iMac (17-inch 1GHz)
- eMac
- Power Mac G4 (PCI Graphics)
- Power Mac G4 (AGP Graphics)
- Power Mac G4 (Gigabit Ethernet)
- Power Mac G4 (Digital Audio)
- Power Mac G4 Cube
- Power Mac G4 Cube (CD-RW)
- Power Mac G4 (QuickSilver)
- Power Mac G4 (Mirrored Drive Doors)
- Xserve
- Mac OS 9.2.2 or Later - See notes 6 and 7
- Mac OS X 10.1.1 - 10.3
- QuickTime 5.0.4 through 5.0.6
- QuickTime 6.0.1

Final Cut Pro 2.0.2
Works with these configurations:

- Power Macintosh G3 (Blue and White)
- PowerBook G3 Series (300 MHz or faster)
- PowerBook (FireWire)
- PowerBook G4
- iBook (Dual USB)
- iMac (Slot Loading) - See Note 4
- iMac (Summer 2000) - See Notes 4 and 8
- iMac (Early 2001) - See Note 4
- iMac (Summer 2001) - See Notes 4 and 8
- Power Mac G4 (PCI Graphics)
- Power Mac G4 (AGP Graphics)
- Power Mac G4 (Gigabit Ethernet)
- Power Mac G4 (Digital Audio)
- Power Mac G4 Cube
- Power Mac G4 Cube (CD-RW)
- Power Mac G4 (QuickSilver)
- Mac OS 9.1- See notes 6 and 7
- Mac OS 9.2.1 - See notes 6 and 7
- QuickTime 5.0 or 5.0.1
- FireWire 2.7 or Later

Final Cut Pro 1.2.5
Works with these configurations:

- Power Macintosh G3 - See Note 1
- Power Macintosh G3 (Blue and White)
- PowerBook G3 Series (300 MHz or faster) - See Note 2
- PowerBook (FireWire) - See Note 3
- PowerBook G4
- iMac (Slot Loading) - See Note 4
- iMac (Summer 2000)- See Note 4
- iMac (Early 2001) - See Note 4
- Power Mac G4 (PCI Graphics)
- Power Mac G4 (AGP Graphics)
- Power Mac G4 (Gigabit Ethernet)
- Power Mac G4 (Digital Audio)
- Power Mac G4 Cube
- Power Mac G4 Cube (CD-RW)
- Mac OS 9.0.4 - See Notes 3, 4 and 6
- Mac OS 9.1 - See Notes 6 and 7
- QuickTime 4.1.2 or 4.1.3 (QuickTime 5 Public Preview is not fully compatible).
- FireWire 2.3.3 or Later

Final Cut Pro 1.2.1
Works with these configurations:

- Power Macintosh G3 - See Note 1
- Power Macintosh G3 (Blue and White)
- PowerBook G3 Series (300 MHz or faster) - See Note 2
- iMac (Slot loading) - See Note 4
- PowerBook (FireWire) - See Note 3
- Power Mac G4
- Mac OS 8.6 - See Note 6.
- Mac OS 9.0 - See Notes 3, 4 and 6.
- QuickTime 4.0.3 through QuickTime 4.1.1
- FireWire 2.2.2 through 2.3.3

Final Cut Pro 1.0.1
Works with these configurations:

- Power Macintosh G3 - See Note 1
- Power Macintosh G3 (Blue and White)
- PowerBook G3 Series (300 MHz or faster) - See Note 2
- Mac OS 8.5 - See Note 6
- Mac OS 8.6 - See Note 6
- QuickTime 4.0.x
- FireWire 2.0
- FireWire 2.1
- NTSC (see Note 9)

Final Cut Pro 1.0
Works with these configurations:

- Power Macintosh G3 - See Note 1
- Power Macintosh G3 (Blue and White)
- Mac OS 8.5 - See Note 6
- Mac OS 8.6 - See Note 6
- QuickTime 4b16
- FireWire 2.0
- NTSC (see Note 9)

Notes

1. Platinum Power Macintosh G3 computers must have a 266 MHz or faster processor to work with Targa media, and a 300 MHz or faster processor to work with DV media.
2. With Final Cut Pro 1.0.1 and 1.2.1, PowerBook G3 Series computers are qualified for capturing and saving to tape with the Newer Technology FireWire 2 Go DV and Ratoc FireWire CardBus capture cards. For more information see "Final Cut Pro: Compatible PowerBook Computers."

3. PowerBook (FireWire) computers must have Mac OS 9.0.4 or later.
4. iMac computers must have a FireWire port, Mac OS 9.0.4 or later, and QuickTime 4.1.1 or later.
5. PAL video features were added to Final Cut Pro 1.2.1. PAL video does not work with versions 1.0 and 1.0.1.
6. Final Cut Pro versions 1.0 and 1.0.1 are compatible with the North American English version of the Mac OS. Versions 1.2.1 and above are compatible with International English, French Universal, German, and Japanese versions of the Mac OS.
7. If you are using Mac OS 9.1 or later with Final Cut Pro and an analog capture card, please contact the card's vendor for updated drivers that provide better compatibility.
8. The parenthetical product descriptions (Summer 2000) and (Summer 2001) refer to the summer of the Northern Hemisphere.
9. Final Cut Pro 1.0 and 1.0.1 only work with NTSC video.
10. Final Cut Pro 4 and Final Cut Pro HD require a DVD drive for installation.
11. Xserve G5 is not currently compatible.

Published Date: Feb 18, 2012

WebObjects: Documentation for WebObjects 4

Customers who purchase WebObjects as part of a bundle receive extensive online documentation, but no comprehensive written material and no general tutorial.
This article has been archived and is no longer updated by Apple.
While comprehensive enough for an experienced user, the materials included with the bundle may be insufficient for programmers new to WebObjects. Even experienced programmers may find the included examples and references to be insufficient to guide them through the conventions and processes of Web Objects programming, especially those with little or no object-oriented development experience.

A set of three paperbound manuals is included when WebObjects is purchased separately as shrink-wrapped finished goods. For those WebObjects developers and developers-to-be who would like to obtain these manuals but purchased WebObjects as part of a bundle, Apple Enterprise has made them available as a finished goods item:

M7455Z/A	WebObjects 4.0.1 Developer Set English Documentation	$49.00

This documentation package includes:

034-0675-A	Getting Started with WebObjects
034-0673-A	WebObjects Developer's Guide
034-0676-A	Enterprise Objects Foundation Developer's Guide

The set of three books may be purchased by calling Apple Enterprise Sales Support at (800) 879-6398 (select the Sales Support option), or through WebObjects authorized Apple Value Added Resellers.
Published Date: Feb 18, 2012

Mac OS 8.6: FirstClass Client Requires Font Update

After upgrading to Mac OS 8.6, when I try to open my FirstClass Client software made by SoftArc, I receive type 2 errors.
This article has been archived and is no longer updated by Apple.
You must install Font Manager Update 1.0 for Mac OS 8.6, which is available from Apple Software Updates. Font Manager Update 1.0 should remedy the issue. If it does not, contact SoftArc for further assistance.

These articles can help you locate the software update mentioned here:

- Article 14724: "**Where To Find Apple Software Updates**" - Lists online services for free Apple software updates.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

The following Tech Info Library article can help you search for a particular vendor's address and phone number:

Article 17159: "**Locating Vendor Information**"
Published Date: Feb 18, 2012

Mac OS X Server 1.x: Macintosh Manager Warning Messages Modifying Users

I just converted my At Ease users and groups to Macintosh Manager. Everything seems to be working alright, but sometimes I get errors when modifying users in Macintosh Manager. These messages include numbers -29312 and -29310, and the message "The user could not be found in the AFP registry". Macintosh Manager seems to function alright regardless of the errors. Should I be concerned?
This article has been archived and is no longer updated by Apple.
Note: This article pertains to Mac OS X Server versions 1.x, which were released prior to May 2001.

The messages you are receiving are warning messages that you may get if you modify a Macintosh Manager user who does not exist in NetInfo. One common way to get into such a situation is to convert an At Ease Items folder for use with Macintosh Manager. Macintosh Manager will convert all of the At Ease users, but it will not automatically create them in NetInfo. The warning messages do not indicate any damage to your Macintosh Manager databases and can be safely ignored.

When you use Macintosh Manager's New User command, or when you use the Import command in the File menu, it creates a user in the Macintosh Manager database (located inside the Macintosh Manager Items folder on the server), and one in NetInfo. This way, you can easily add Macintosh Manager users to the user list for Apple File Services.

For some modifications, Macintosh Manager will try to update the NetInfo user. Two examples are changing a user's status from an Administrator to a Normal user, and deleting the user. If you are making modifications of a user which does not exist in NetInfo, you will get one of the warnings above when Macintosh Manager tries to modify NetInfo and fails to find the user. Since Macintosh Manager uses its own database and only updates NetInfo as a convenience, it will still make the desired changes to the Macintosh Manager database.

Published Date: Feb 18, 2012

Apple III: Manual Errata--Standard Device Drivers Manual

This article has been archived and is no longer updated by Apple.

Page 35

There is an error in the listing at the top of the page. It reads:

```
var:
  g_array:array[0..20] of 0..255;
begin
  g_array[0]:=19; g_array[1]:=2;
  unitwrite(1,g_array,2,,12);
end;
```

It should read:

```
var:
  g_array:packed array[0..20] of 0..255;
begin
  g_array[0]:=19; g_array[1]:=2;
  unitwrite(1,g_array,2,,12);
end;
```

Page 135

All of the reference numbers on the keys need to have one added to them to match the table on page 136.

Published Date: Feb 18, 2012

High Speed Serial Interface Card: Initializing with POKEs 11/96

This article discusses how to use POKEs instead of PR# or IN# commands to initialize the High Speed Serial Interface. This information applies to the Apple II, II+, and IIe computers.

This article has been archived and is no longer updated by Apple.

Neither the PR# nor IN# commands in Applesoft and Integer Basic initialize the High Speed Serial Interface. This situation can cause problems for you if you need to modify the parameters of the interface for your application.

What happens is that the ROM on the High Speed Serial Interface card, upon receiving the first character, sets all parameters to their default settings; so, after you've POKEd the parameter you want, the first character you send will cause the ROM to overwrite all the parameter locations you just set up.

The remedy is to send a character through the card and then change the parameter locations by means of the following POKEs. Please refer to the High Speed Serial Interface Card manual for additional information about what each POKE does.

Replace all occurrences of "s" below with the number of the slot that the High
Speed Serial Interface Card is plugged into.

```
 10 POKE 1144+s,64          BRATE, page 21
 20 POKE 1272+s,2           STBITS, page 21
 30 POKE 1400+s,7           STATUS, page 22
 40 POKE 1528+s,0           Character counter
 50 POKE 1784+s,80          PWDTH, page 23
 60 POKE 1912+s,9           NBITS, page 23
 70 POKE 2040+s,129         FLAGS, page 24
```

To benefit from these POKEs, you will need to use the additional list of POKEs below; these POKESs replace the PR# and IN# commands. Use CALL 1002 if you will be doing DOS commands while the interface is enabled. Since DOS does slow down I/O, you can opt to delay using the CALL 1002 until after the data transfer has been made if you need maximum I/O speed..

These POKEs must all be on one command line separated by colons to work in command mode:

```
POKE 54,5: POKE 55,192+s: POKE 65,7: POKE 57,192+s: CALL 1002
```

They can have separate line numbers in a program:

```
 80 POKE 54,5               PR#s
 90 POKE 55,192+s
100 POKE 65,7               IN#s
110 POKE 57,192+s
120 CALL 1002
```

The normal way to reset the I/O to the Apple video and keyboard is:

```
 900 D$ = CHR$(4): REM CTRL-D
 910 PRINT D$; "PR#0"
 920 PRINT D$; "IN#0"
```

However, this will only work after a PRINT and will be ignored after a GET or PRINT terminated with a comma or semicolon. To avoid having to do an extra
PRINT you can use:

```
 900 CALL -375 : REM THIS IS IN#0
 910 CALL -365 : REM THIS IS PR#0
```

```
920 CALL 1002 : REM THIS RECONNECTS DOS
```

Video Echo

Do not allow echoing to video while printing. Your program or variables will suffer if video output is not disabled while printing lines more than 40 characters long. Refer to the High Speed Serial Interface Card manual, which came with your card, for additional information on disabling video echo.

Article Change History:
18 Nov 1996 - Reviewed for technical accuracy, revised formatting.

Published Date: Feb 18, 2012

Mac OS 8.6: Installing Games From CD With Minimal Extensions

Some third party applications or games ship on a hybrid CD-ROM/Audio CD. When installing these applications, the instructions might suggest turning off all extensions except the CD/DVD Driver. However, without all the necessary file access extensions enabled, the computer might give an error that the disc is unreadable.
This article has been archived and is no longer updated by Apple.
To properly read hybrid CD-ROM discs (discs with multiple file formats), a number of additional extensions should be enabled along with Apple CD/DVD Driver. These include:

- Foreign File Access
- UDF Volume Access
- High Sierra File Access*
- Audio CD Access*
- ISO 9660 File Access*

* Some of these extensions are not visible in the Extensions Manager control panel, so it is likely that they will already be enabled.

You can enable and disable sets of extensions using the Extensions Manager control panel.

Published Date: Feb 18, 2012

AppleWorks 5: Assistants And Stationery Unavailable

When I open AppleWorks 5 and click the radio button to "Use Assistant or Stationery" none is available. The assistants are also no longer available from the Help menu. What is causing this?
This article has been archived and is no longer updated by Apple.
The most likely cause is that the AppleWorks application has been moved out of the "AppleWorks 5" folder. For the assistants and stationery to be available in AppleWorks, the application "AppleWorks" must remain inside the "AppleWorks 5" folder with the "AppleWorks Assistants" folder and the "AppleWorks Stationery Folder". See Figure 1.

Figure 1: AppleWorks 5 folder.

If you want to have a way to access the AppleWorks application more easily, you can create an alias of the AppleWorks application and move the alias to your desktop.
Published Date: Feb 18, 2012

Font First Aid: "An Error Occurred" When Scanning

After installing the Font Manager Update 1.0, I ran Font First Aid and received the message:

> "An Error Occurred.
> While scanning the disk '(name of disk)' some problems were encountered. This may have prevented a complete scan. Please refer to "About Font Manager Updater" for more information.
>
> Click 'Continue' to continue scanning your disk(s)
> Click 'Quit' to exit this utility."

After clicking Continue the scan seemed to complete successfully. I then checked the disk with Disk First Aid and it found nothing wrong. Should I be concerned about Font First Aid's error message?
This article has been archived and is no longer updated by Apple.
Font First Aid attempts to open every file on the disk using the Resource Manager (a bult-in part of Mac OS), to check the file's resource fork. This error message is displayed when it encounters a file it cannot check. Usually this error message indicates it encountered a bad resource map or a file that was open and had restricted access.

If a file has a bad resource map, an error will be encountered when another application attempts to open it with the Resource Mananger as well.

If you have a Sound Track enabled (such as Platinum Sounds), this error message will display as that file is open and has restricted access. (To verify: open the Appearance control panel, change the sound track to None and run Font First Aid again.)

When this error message is displayed click Continue. Font First Aid will scan the rest of the volume, fixing all the remaining font faults. Only one scan should be required, even if the message above is encountered.

For more information, please see the following Tech Info Library article:

Article 60444: "**Font Manager Update 1.0: Read Me**"
Published Date: Feb 18, 2012

HyperCard: How to Open a Stack That Closes Itself

This article has been archived and is no longer updated by Apple.

If you find that you've accidentally created a HyperCard stack that closes itself immediately upon opening -- and you can't edit it to correct the problem, here's a way to force it to stay open.

In your home stack, make a button with this script:

```
on mouseUp
set lockmessages to true
go to stack "xyz"
end mouseUp
```

where "xyz" is the name of the problem stack. This will open the stack and leave you at the first card.

Published Date: Feb 18, 2012

EtherTalk Node Limits

This article has been archived and is no longer updated by Apple.

Here are the answers to several questions regarding the EtherTalk card and the associated control panel cdev for choosing a network connection.

- When you switch from local AppleTalk to the EtherTalk card, the node number is renegotiated using the Apple Address Resolution Protocol (AARP). The AppleTalk session is restarted -- you don't have to reboot the system.

- If all 254 nodes are in use, the system will be physically attached to the network but will be logically unattached. No errors will be reported. The Ethertalk can still be used for other protocol suites such as TCP/IP -- the 254-node limit applies only to EtherTalk Cards and bridges running the AppleTalk protocol.

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Power Macintosh G3 (Blue and White): QuickDraw 3D Acceleration

This article contains a table listing the display modes for QuickDraw 3D acceleration supported by the Power Macintosh G3 (Blue and White).

Note: QuickDraw 2D acceleration is supported in all modes.
This article has been archived and is no longer updated by Apple.

Display Resolution	Pixel Depth	Vertical Scan Rates (Hz)	QuickDraw 3D Acceleration
512 by 384	8	60	No
512 by 384	16, 32	60	Yes
640 by 480	8	60, 72, 75, 85	No
640 by 480	16, 32	60, 67, 72, 75, 85	Yes
640 by 870	16	75	No
800 by 600	8	56, 60, 72, 75, 85	No
800 by 600	16, 32	56, 60, 72, 75, 85	Yes
832 by 624	8	75	No
832 by 624	16, 32,	75	Yes
1024 by 768	8	60, 70, 75, 85	No
1024 by 768	16, 32	60, 70, 75, 85	Yes
1152 by 870	8	75	No
1152 by 870	16, 32	75	Yes
1280 by 960	8	75	No
1280 by 960	16, 32	75	Yes
1280 by 1024	8	60, 75, 85	No
1280 by 1024	16, 32	60, 75, 85	Yes
1600 by 1200	8	60, 65, 70, 75, 85	No
1600 by 1200	16	60, 65, 70, 75, 85	Yes
1600 by 1200	32	60, 65, 70, 75, 85	Depends on application's window size
1920 by 1080	8	60, 72	No
1920 by 1080	16	60, 72	Yes
1920 by 1080	32	60, 72	Depends on application's window size

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Power Macintosh G3 (Blue and White): Display Resolution Modes

This article provides a list of display resolution modes for a Power Macintosh G3 (Blue and White) containing the accelerated graphics card with the ATI 3D RAGE 128 GL graphics controller.
This article has been archived and is no longer updated by Apple.
When power is applied, the monitor is initially set for a display size of 640 by 480 pixels. With a multisync monitor you can switch the monitor resolution on the fly by using the BitDepths and Resolutions modules in the control strip or the Monitors & Sound control panel.

The table below shows the display resolution, vertical and horizontal scan rates, and maximum pixel depths supported by the accelerated graphics card with the ATI 3D RAGE 128 GL graphics controller. The 16 MB of video RAM on the accelerated graphics card supports pixel depths up to 32 bits per pixel at all resolutions.

Display Resolution	Vertical Scan Rate	Horizontal Scan Rate
512 by 384	70 Hz	31.488 kHz
640 by 480	60 Hz	31.469 kHz
640 by 480	67 Hz	35.00 kHz
640 by 480	72 Hz	37.861 kHz
640 by 480	75 Hz	37.500 kHz
640 by 480	85 Hz	43.269 kHz
640 by 870	75 Hz	68.85 kHz
800 by 600	56 Hz	35.156 kHz
800 by 600	60 Hz	37.879 kHz
800 by 600	72 Hz	48.077 kHz
800 by 600	75 Hz	46.875 kHz
800 by 600	85 Hz	53.674 kHz
832 by 624	74.5 Hz	49.725 kHz
1024 by 768	60 Hz	48.363 kHz
1024 by 768	70 Hz	56.476 kHz
1024 by 768 (VESA)	75 Hz	60.023 kHz
1024 by 768(19" RGB)	75 Hz	60.241 kHz
1024 by 768	85 Hz	68.677 kHz
1152 by 870	75 Hz	68.681 kHz
1280 by 960	75 Hz	75.000 kHz
1280 by 1024	60 Hz	63.981 kHz
1280 by 1024	75 Hz	79.976 kHz
1280 by 1024	85 Hz	91.146 kHz
1600 by 1200	60 Hz	75 kHz
1600 by 1200	65 Hz	81.250 kHz
1600 by 1200	70 Hz	87.500 kHz
1600 by 1200	75 Hz	93.750 kHz
1920 by 1080	60 Hz	70.313 kHz
1920 by 1080	71 Hz	84.375 kHz

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At Ease 4.x, 5.x: Setting Up Networkable Applications

This article provides a set of generalized instructions for setting up networkable applications. Please check with the software developer to see if their software requires specific instructions.
This article has been archived and is no longer updated by Apple.

1. Make the networkable application's main folder a share point on the AppleShare server at the root level of the hard drive.
2. Give the At Ease User read or read/write privileges to the share point as advised by the software developer. See the following article for information on setting up an At Ease user:
   Article 31035: "**At Ease 4 or 5: AppleShare IP Initial Setup**"
3. On the At Ease administration workstation, connect to the AppleShare server through the Chooser and sign in as the Registered User, "At Ease User".
4. On the next screen you will be prompted to "Select the items you wish to use". Highlight the networkable application's folder and click OK to mount it.
5. Open the At Ease Administration application and using "Access to Volumes", click the Add Volume button to add the application's folder as a share point.
6. With the share point selected, click the Volume Settings button, and choose the option that users will log in to this volume "as the following AppleShare user", then enter the username and password for the At Ease User. Click OK to effect the changes.
7. For workgroups that need access to the networkable application, go to the Workgroup Editor and add the volume for access by using the Servers button.
8. Quit At Ease Administration to effect the changes.

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Mac OS 8.6: Text Using The Tekton MM Font Does Not Display

On a Macintosh running Mac OS 8.6, with either ATM version 4.0.2 or 4.0.3, text using the Tekton MM font disappears after making it Italic, and some characters don't display at all.
This article has been archived and is no longer updated by Apple.
This behavior was duplicated with the Tekton MM (multiple master) font dated 1995-03-01. A newer version of Tekton MM, dated 1996-04-16, does not exhibit these behaviors. This font was distributed in the Adobe Deluxe 30 Fonts set with ATM Deluxe, and was perhaps available in other packages as well.

Customers who are experiencing the issues described in this article should update to the newer version of the font.

Published Date: Feb 18, 2012

Mac OS X Server: No Client Name Returned To NetInfo Client

I have a Netinfo client that boots binding to a NetInfo parent, but I cannot get the NetInfo parent to return the client name to the NetInfo client.
This article has been archived and is no longer updated by Apple.
If your gateway address is set to the loopback address 127.0.0.1, you will experience this behavior with NetInfo. To correct this condition, Apple recommends that you enter the correct gateway address for your network.
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Mac OS X Server 1.x: Modifying Allocation of Paging & Swapping Space

I want to change how my Mac OS X Server uses space for paging and swapping. I manually edited the file /etc/swaptab, but now mach_swapon fails.
This article has been archived and is no longer updated by Apple.
Note: This article pertains to Mac OS X Server versions 1.x, which were released prior to May 2001.

Mac OS X is pre-configured for optimum performance on PowerPC platforms. Therefore, modification of paging and swap space is not recommended. However, if you wish to modify these parameters, use /sbin/mach_swapon to make those changes rather than manually editing the /etc/swaptab file. Note that /sbin/mach_swapon will fail if the file listed in /etc/swaptab does not exist.
Published Date: Feb 18, 2012

Mac OS X Server: Standalone Mode or inetd Mode For Apache?

I have configured my Mac OS X server to run Apache in inetd mode, and the performance is not very good. Why does it fail with little or no stress to the server?

This article has been archived and is no longer updated by Apple.

Starting Apache using inetd is not recommended because of performance degradation. The Apache web server starts automatically when the system starts up and runs continuously (standalone mode) unless you shut it down. This is the recommended mode of operation for optimum performance.

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AppleShare IP 6.2: Shared Users and Groups Requires TCP/IP

I installed AppleShare IP 6.2 and I am getting the error message "AppleShare IP Registry could not establish network services to act as a primary users and groups server. Please check your connections." Can you help?
This article has been archived and is no longer updated by Apple.
Shared Users and Groups is a new feature in AppleShare IP 6.2. By default, AppleShare IP 6.2 enables the server to be a primary server for sharing users and groups information to other AppleShare IP 6.2 servers that are configured as secondary servers with the same administrator name and password.

Shared Users and Groups requires TCP/IP. If TCP/IP is disabled, you will receive this message when the server is turned on.

If you are receiving this message, make sure TCP/IP is enabled and configured properly. Alternatively, the AppleShare IP 6.2 CD-ROM disc includes an unsupported tool named "Disable Shared Users and Groups" that allows you to prevent the server from acting as a primary Shared Users and Groups server.
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Mac OS 9: Using America Online with Multiple Users

This article explains how to use America Online (AOL) with Multiple Users enabled.
This article has been archived and is no longer updated by Apple.

Symptom

When using the Multiple Users facility of Mac OS 9, and trying to open America Online 4.0, the following error message appears(see Figure 1):

"The America Online application cannot start up. The needed file 'Main Database' couldn't be opened."

Figure 1: America Online alert.

When opening America Online 3.0, it may appear to start and then quit with no error message.

Solution

The solution is to log in using the owner account for the computer, and move the whole America Online application folder to the Application Support folder within the System Folder. This will enable its use by all user accounts, with no other changes necessary.

If you have multiple copies of AOL installed on your hard drive, you may need to remove the additional copies. Keep only the one which you have placed in the Application Support folder.

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LaserWriter Pro 810: Setting LPD Desktop Printer for Macintosh Clients

My company network is switching to TCP/IP only and I need to configure my LaserWriter Pro 810 for TCP/IP printing by Macintosh clients.
This article has been archived and is no longer updated by Apple.
Follow this procedure to switch to TCP/IP. It requires that you use the Remote Control Facility to type in a few commands as well as have Desktop Printer Utility at the Macintosh clients.

Note: These instructions are provided for LaserWriter Pro 810 printers with ROM 1.0 installed.

Step One
Obtain a maintenance cable or have one made. See the following Tech Info Library article:

Article 14020: "**LaserWriter Pro 810: Cables for Maintenance RJ12 Port**"

Step Two
Connect the maintenance cable to the back of the printer as well as to the serial port on an Apple portable or desktop computer.

Step Three
Use a communications program to create a serial terminal session to the printer. A good example is AppleWorks using the Communications module and setting Communications to Serial Tool. Make AppleTalk inactive or set to Remote Only if necessary.

Step Four
Open a session to the printer. Press the return key a few times. Remote Console Facility will scroll a few lines of text on the screen. (If there is no response, turn off the printer then turn it on again.)

Step Five
Log in under superuser using "su". Password default is "system". You have successfully logged in when the prompt changes to ">>".

Step Six
Type in the following command to set an IP address:

```
define server ip <assigned IP address>
```

Step Seven
To print Postscript files from Macintosh computers to the LPD virtual printer, you must change the Interpreter for this virtual printer. By default, it is PCL. Type in the following command:

```
set service lpd postscript
```

Step Eight
Confirm that changes are accepted by typing in this command to restart the printer:

```
shutdown -r
```

Step Nine
Upon restart, the printer should print out a Status Page with one page listing all virtual printers. The LPD virtual printer should list "PostScript" as its Interpreter.

Step Ten
At the Macintosh client, open the Desktop Printer Utility and Create a Desktop... for Printer (LPR).

Step Eleven
Click the top Change button to select the PPD file for the LaserWriter Pro 810.

Step Twelve
Click the bottom Change button to make your 'LPR Printer Selection.' In the window that opens, type in:

```
Printer Address:  <assigned IP address for LW Pro 810>
Queue Name:  PASSTHRU (this is case sensitive)
```

Step Thirteen

Save your settings and name your desktop printer file.

Step Fourteen

A Macintosh can now use TCP/IP to print a file to this printer.

Published Date: Feb 18, 2012

Mac OS 8.5, 8.6: Lexmark Optra Laser Printer Desktop Printing Issue

Lexmark International, Inc. alerted Apple to a problem encountered when printing from Mac OS 8.6 to their older Lexmark Optra+ printer using an external network adapter called MarkNet XL. A customer reported similar symptoms when printing from Mac OS 8.5 to a Lexmark Optra C printer.
This article has been archived and is no longer updated by Apple.
Based on preliminary investigations, it seems that the networking code used by LaserWriter 8 version 8.6 and later and the networking protocol implementation in the Lexmark printers is not fully compatible.

When multiple jobs are queued up to be printed, a job may fail to print and become stalled in the Desktop Print queue. Neither that job nor the following jobs will print until one of these workarounds are performed:

- Stop then restart the Desktop Print queue.
  Click on the Optra DTP queue, select stop/start in the Printing menu.
- Drag the stalled job from the Optra queue to the desktop or to another queue, then drag it back into the print queue.
- Stop the Desktop Print queue and restart your computer.
  The job should print when the queue is restarted.
- Delete the job that is stalled.
  This workaround assumes you have the original file you can select to print again.

Lexmark also reported getting a -8993 error, which is a timeout error, that gives the options to Cancel, Hold Job, and Try Again. To work around this error message, click Cancel and print again, or click Hold Job followed by one of the procedures above. Remember to take the job off hold once you have performed one of the procedures listed above.

Since jobs may become stalled when queuing up multiple jobs to these printers, consider printing one job at a time when printing to these printers, waiting for the last job to complete before printing the next job. Or, you can print in the foreground.

Prior versions of the LaserWriter driver (version 8.5.1 for instance) will likely not exhibit this behavior with this Lexmark printer so you might consider using that print software instead. Though LaserWriter 8.5.1 was not formally tested with Mac OS versions newer than Mac OS 8.5, customers have reported success using it with Mac OS 8.6.

Installing LaserWriter 8.5.1 Software

1. Download the six LaserWriter 8.5.1 disk images from Apple's Software Updates.

2. Make all six LW_8.5.1 images available on the desktop.
- Review the Before You Install Read Me on disk 1

3. Open the Installer on disk 1.
- A splash screen is displayed.

4. Click Continue.
- The Software License Agreement is displayed

5. Click Agree if you agree with the terms of the license agreement, or Disagree if you do not agree with the terms of the license agreement.
- If you do not agree with the terms of the license agreement, the software installer will not install the software.

- The window titled Installer Script appears. It provides the option to select a destination disk to install this software.

6. Verify which disk onto which you wish to install LaserWriter 8.5.1. Make any necessary changes to the destination disk.

- In the Installer Script window are the options: Easy Install, Custom Install or Custom Remove.

7. Select Custom Install.

8. Click the "Printer Software for all Mac OS Computers" button.

- The installer compares the printing software already present on your hard drive with the version you are installing (LW 8.5.1). Several alerts that state: "The file 'XXX XXX' already on 'your HD' is newer than what you are about to install" appear.

9. Click Newer to keep the newer file, Older to replace that file, or Cancel to stop the installation.
- When the alert references the file 'LaserWriter 8': click Older.
- When the alert references the file 'PrintingLib', click Older.

- Click Newer when the alert references: Printer Selector, Desktop Printer Spooler, or Desktop PrintMonitor.

Once the Installation of LaserWriter 8.5.1 is complete you'll be asked to restart your Macintosh.

10. Restart your computer.

The LaserWriter 8 driver uses PostScript Printer Description (PPD) files to determine your PostScript printers' characteristics such as paper-handling capabilities, the number of paper trays and capacity, the paper sizes the paper trays can handle, and so on. Therefore, you may wish to copy the Optra's PPD to the Printer Description folder (located in the Extensions folder inside the System Folder), prior to choosing and setting up your printer with the Chooser.

The PPD for your Lexmark printer may likely be obtained from the software that accompanied your printer, from Lexmark directly.

Unsupported Workaround

Yet another (but unsupported) alternative is to disable the use of Open Transport when printing to Lexmark printers from LaserWriter 8, version 8.6 or later. This is done using a programming utility such as ResEdit that not all customers may feel comfortable using. It must be used with caution as it could render software and thus your Macintosh inoperable. The ResEdit utility is an unsupported application.

ResEdit is available for download from the following site:

http://download.info.apple.com/Apple_Support_Area/Apple_Software_Updates/English-North_American/Macintosh/Utilities/

To Disable OT PAP for LaserWriter 8, version 8.6 or later:

1. Make a backup copy of the Extension "PrintingLib" located in your Extensions folder.
- Store this backup copy of PrintingLib in a safe place.

2. Open ResEdit.

3. Open PrintingLib in ResEdit. (PrintingLib is located in the Extensions folder.)
- The PrintingLib window contains many Icons with names like BNDL, hdlg, PREC, and so on.

4. Double-click the icon named PRF2 located in the PrintingLib window.

5. Double-click the resource named -8192.

6. Scroll down the -8192 window until you see "Okay to use Open Transport PAP."

7. Click the "0" button.

8. Close the windows, saving the changes

9. Quit ResEdit.

The next time you print from LaserWriter 8, a different version of PAP (Printer Access Protocol) will be used. Disabling OT PAP should have benign consequences.

To undo disabling OT PAP, use one of these methods:

- Replace the modified PrintingLib file with the backup that was made.
- Reinstall the LaserWriter software.
- Use ResEdit following the steps above, but select 1 instead of 0.

Published Date: Feb 18, 2012

Mac OS 8.6: Cannot Save AppleShare Log-On Password

When I log on to an AppleShare server from certain computers running Mac OS 8.6, I cannot select the option to save my name and password for automatic logon at system startup time. When I check the box to open the selected item at system startup time, I see an option to "Save My Name and Password in the Keychain" but it is dimmed. This occurs only on an iBook, iMac (Slot-Loading) or Power Mac G4 (AGP Graphics) computers with Mac OS 8.6.
This article has been archived and is no longer updated by Apple.
There are three workarounds for this situation:

1. Upgrade to Mac OS 9
2. If you are familiar with using Script Editor, create an AppleScript to connect to the server volume and place it in the Startup Items folder in your System Folder. The syntax is:

```
mount volume "afp://user:password@server/volume"
```

- or -

```
mount volume "volumename or URL" on server "server" as user name "user" with password "password"
```

3. Downgrade your client from version 3.8.4 to version 3.8.3. The AppleShare Client 3.8.3 installer can be found on any AppleShare IP 6.2 server. It is also available from Apple Software Updates at http://www.apple.com/swupdates/ .

Note: Do not downgrade your AppleShare Client if you use the AutoRemounter control panel.

Installation Instructions
You cannot open the AppleShare Client 3.8.3 Installer on the hardware listed above or any computer with Mac OS 9 or later. Instead, simply locate the AppleShare Client extension on the install disk image, then drag it to the closed System Folder icon on your hard disk. It will be copied to the Extensions folder, and will be available after you restart the computer.
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Apple Pascal 1.3: Info On Remote Start-up

It is possible to set up a network so as to start up Apple IIs over the network using Apple Pascal.
This article has been archived and is no longer updated by Apple.
The Pascal 1.3 manual contains useful information concerning the Pascal boot process: basically, if the network card looks like a disk controller, and adheres to the ProDOS firmware standards (that is, ProDOS compatible without drivers), then this is very possible. (By the way, you need a multi-user license to run Pascal this way.)
Published Date: Feb 18, 2012

Mac OS X Server: Does Not Send Correct Text to JLK Clients

I have Mac OS X Server and I set the language to Japanese. The client computers are running Mac OS with Japanese Language Kit installed. If I try to send a Japanese message to the client computers (English with double-byte characters or Japanese), the message received is garbled Roman characters.

This article has been archived and is no longer updated by Apple.

Currently, messages can only be sent to the client computers in single-byte character sets, such as English.

Published Date: Feb 18, 2012

NetSelector, Inc.: Read Me for Internet Safety Kit

This article contains the Read Me document distributed by NetSelector, Inc. for their Internet Safety Kit.
This article has been archived and is no longer updated by Apple.

```
**********************************************************************
NetSelector Inc.                                    SHERLOCKREADME.TXT
Copyright (c) 1999 NetSelector Inc.                       OCTOBER 1999

**********************************************************************
NetSelector Notes
**********************************************************************
This README file covers last-minute product information for the Internet Safety Kit, shipped with your iMac.

The following topics are discussed:

* The use of Sherlock for Internet searches in conjunction with
  the use of the Internet Safety Kit.
* NetSelector compatible search engines.
* Alternate search engine at http://home.edview.com.

To help us our product, please send email with suggestions for enhancements to:

    NetSelector@NetSelector.com

Your comments are greatly appreciated.
**********************************************************************

Using Sherlock with the Internet Safety Kit
-------------------------------------------
When using The Sherlock application to conduct Internet searches, if you have enabled the Internet Safety Kit,
in some instances you will receive the following error:

    "A Network error occurred.
     There was a problem contacting one of the search
     sites you selected.  Please try again later."

This error appears when search engines are selected in Sherlock that are not approved by the Internet Safety
Kit.  Network communications are blocked from the non-approved search engines.  The result is the above error
message.

If you choose to enable the Internet Safety Kit while using the Sherlock to search the Internet, be sure to
select only search engines contained in the SmartZone (http://home.netselector.com).


NetSelector compatible search engines
-------------------------------------------
In order to avoid the error listed in the section above, be sure select search engines that are approved by
the NetSelector SmartZone. For example, Encyclopedia.com and Yahooligans.com are both search engines that are
currently approved. The approved search engines may change from time to time, as NetSelector monitors their
content.


Alternate search engine at http://home.edview.com
-------------------------------------------------------------
An alternate search engine can be found at http://home.edview.com. All the entries in the SmartZone have been
approved by certified teachers as being appropriate for children.
```

Published Date: Feb 18, 2012

AppleShare IP 6: Default Password Methods

What are the default password methods for the various services in AppleShare IP 6?
This article has been archived and is no longer updated by Apple.
AppleShare IP 6 uses the following default password methods for its services:

Service	Encryption
AFP	Two-way encrypted
POP	APOP encrypted or clear text (based on email client settings)
FTP	Clear text only
SMB	• DES-based LanManager encrypted password for Windows 9x clients. • MD5-based encryption for Windows NT clients.
IMAP	Clear text only

Published Date: Feb 18, 2012

TechTool Deluxe: Frequently Asked Questions

This article addresses some of the common questions regarding TechTool Deluxe software.
This article has been archived and is no longer updated by Apple.

What Is TechTool Deluxe?

TechTool Deluxe is a diagnostic application provided with the Apple Protection Plan. For more information on the Protection Plan please see: **http://www.info.apple.com/support/applecare_products/protectionplan/features.shtml**.

The purpose of TechTool Deluxe is to assist the user with self-diagnosing any perceived issues the user has with their Apple product. The utility will scan the computer's hardware and software with a battery of tests looking for specific issues and report the results.

Who Supports It?

Apple is supporting all aspects of TechTool Deluxe. The software is published by MicroMat who offers and supports a more feature rich version of this software called TechTool Pro. The Pro version includes other repair and maintenance features which are not present in the Deluxe version.

Some of the features included with TechTool Pro that are not part of the Deluxe version include:

- A wider variety of expert diagnostic tests (more than just the basic tests that Deluxe has).
- Disk optimization and defragmenting utilities.
- Data recovery features.

Customers who would like to upgrade to TechTool Pro from the Deluxe version should call 800-829-6227 or visit:
http://www.micromat.com/deluxe/

MicroMat supports all customers who have upgraded to the TechTool Pro version.

Using TechTool Deluxe

When running TechTool Deluxe make sure that you are using the software on the computer for which you purchased the Protection Plan. Be sure you are starting up from the Protection Plan CD. (For assistance with this, please follow the directions that came with your Protection Plan CD). After starting up from this CD open the TechTool Deluxe application program and then click the Check button. The program will run the tests and provide a report with the results. If it finds issues it will offer recommendations.

I have copied the TechTool Deluxe program to my hard drive but it asks for the Protection Plan CD when I run it.

The Protection Plan CD must be present to run TechTool Deluxe. For accurate results you should be starting up from this CD.

Why does changing TechTool Deluxe's preferences not appear to do anything?

When running the program from the CD, which is the desired method for running this program, the preferences are located on the CD. Therefore, they cannot be changed. You can open the Edit Menu, select Preferences, make changes, and click OK; the program will not report that the changes did not take effect. You can verify that the changes did not take effect by reopening Preferences; you will see that they have not changed. The only way to change the Preferences is to copy the program to the hard drive and run the program from the hard drive after starting up from the Protection Plan CD.

What does it mean when a test says "Unavailable"?

It means that the computer being tested does not have that specific hardware present. This is not an issue, nor does it imply that anything is "missing" from your computer.

In Standard Mode what do all the different tests check?

The tests are divided into these categories:

Drives

- **Hard Drive Mechanism:** This tests the hard drive mechanism to make sure it responds correctly to reading and writing data.
- **Surface Scan:** This tests the data integrity of the complete hard disk drive. It will scan all of the sectors of the drive. This can take a very long time on larger hard drives and is disabled by default.
- **Volume Structures:** This test validates and repairs HFS/HFS+ data structures on the volume by rebuilding the Master Directory Block and other crucial drive files.

- **File Structures:** This test checks the internal resource structure of files on the volume.

Chips

- **L1 Cache:** This test checks the internal cache performance of the CPU.
- **L2 Cache:** This test checks the external cache performance of the CPU.
- **Clock Chip:** The Clock test verifies the proper operation of the clock chip and performs a calculation test to determine the speed of the device.
- **SCC:** The Component test checks several critical motherboard components.
- **VIA1:** The Component test checks several critical motherboard components.
- **VIA2:** The Component test checks several critical motherboard components.
- **FPU:** The FPU Panel tests the floating point processor (if present) or the floating point circuitry embedded within the CPU.
- **Processor:** The CPU Panel tests the central processing unit on the computer motherboard.

RAM

- **RAM:** The RAM check tests the random access memory on the computer motherboard.
- **ROM:** The ROM panel tests several aspects of ROM which could fail under regular use.
- **VRAM:** TechTool's VRAM Test uses a variety of direct-access memory test procedures to verify proper operation of your video RAM.

Other

- **System File:** The File Test works by comparing almost every resource within the system file and verifies the checksum and file offsets of each resource.
- **Finder File:** The File Test works by comparing almost every resource within the Finder file and verifies the checksum and file offsets of each resource.
- **Enabler File:** The File Test works by comparing almost every resource within the Enabler file (if present) and verifies the checksum and file offsets of each resource.

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AppleWorks 5 Finnish, Danish: Creating Default Stationery Documents

In AppleWorks, you can customize the settings for default documents, so that each new document you create has the formatting you specify. However, the FAQ list in the Help menu of the Finnish and Danish versions of AppleWorks lists incorrect file names for default stationery documents.

This article has been archived and is no longer updated by Apple.

To save an AppleWorks default document in the Finnish or Danish versions, create the document you want as the default and save it as stationery with the appropriate title, based on the type of document it is:

Document Type	Danish	Finnish
Word Processing	Valg til tekstbehandling	AppleWorks TE Valinnat
Drawing	Valg til tegning	AppleWorks PI Valinnat
Painting	Valg til maleri	AppleWorks MA Valinnat
Spreadsheet	Valg til regneark	AppleWorks TA Valinnat
Database	Valg til kartotek	AppleWorks TI Valinnat
Communications	Valg til kommunikation	AppleWorks TL Valinnat

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Backup II v1.1: ProDOS 1.4 Incompatibility

There were numerous changes made from ProDOS 1.1.1 to 1.4, perhaps too many for Backup II v1.1. Backup II v1.1 was never updated to take advantage of the latest version of ProDOS, which supports the Apple IIGS.
This article has been archived and is no longer updated by Apple.
If you're using Backup II v1.1, we suggest you go back to ProDOS 1.2 instead of 1.4, to have fewer changes in the operating system.

By not using ProDOS 1.4, all you'll be giving up is support for the Apple IIGS. ProDOS versions 1.3 and 1.2 work correctly on other systems, just not on the Apple IIGS.

Note: This incompatibility has been solved in the current version of Backup II (v1.1.1), which will function perfectly well with ProDOS 1.4, and which also solves some other problems found in Backup II v1.1, such as failures of the "restore" function.
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LaserWriter 8.6.5, 8.7: Default Binding Edge

The default Binding for Landscape printing is to print along the short edge of the paper. Thereafter, when the document is printed and placed in a conventional binder, the binder must be rotated as you flip through the pages. How can I change this default setting?
This article has been archived and is no longer updated by Apple.
This is the case when printing in duplex with the short edge Binding selected, as the output is best suited for use in a binder that also has the binding along the short edge. Conversely, when using a binder with the binding along the long edge, you may wish to select the long edge Binding.

To change the default setting to long edge Binding:

1. Choose Print from the File menu; the Print dialog appears.
2. Scroll the pop-up list to Layout.
3. In the Layout panel enable"Print on Both Sides".
4. Click on the long edge Binding which is the one on the right.
5. Click Save Settings.

Should you wish to make other panels' settings the default, that are persistent for each job you send to this Desktop Printer, merely select your preferred setting then select "Save Settings" just as above.

Note that duplex printing is a selectable option in the Print dialog for printers such as the Apple LaserWriter 12/640 and LaserWriter 8500 having the optional duplex printing unit for printing on both sides of the paper.
Published Date: Feb 18, 2012

Mac OS X Server: Do Not Mount Volumes In /tmp

The files from the volume mounted on /tmp has disappeared. What has happened?
This article has been archived and is no longer updated by Apple.
There is a script that runs periodically to clean up the temporary directory, /tmp. If a volume is mounted there, all files on it will be deleted. Therefore, do not mount any volumes on /tmp.
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LaserWriter 8.6: System Requirements

The LaserWriter 8.6 Read Me states that this PostScript printer driver is supported on all Macintosh computers with a 68040 or PowerPC processor running Mac OS 7.6.1 or later, yet it will not install on my Macintosh running Mac OS 8. Why not?
This article has been archived and is no longer updated by Apple.
LaserWriter 8.6 is not supported on Mac OS 8. Documentation that accompanies the LaserWriter 8.6 installer named "Before You Install LW 8.6" more clearly states: "This software will only install on Mac System 7.6.1, Mac OS 8.1, and Mac OS 8.5 or later."

Because the printer software is not supported on Mac OS 8.0, you will receive this message if you attempt to install LaserWriter 8.6 onto Mac OS 8.0 : "This installer is incapable of updating System 8.0. Please update to System 8.5 first. Sorry!"

Though Mac OS 8.5 has many benefits over older versions of the Mac OS, the driver could also be installed on Mac OS 8.1. Should you be using Mac OS 8.6 or later, however, the recommended and supported version of the LaserWriter driver for that OS is the version of the LaserWriter driver that ships with it.
Published Date: Feb 18, 2012

Mac OS 8.6: Crash With Password Security and Japanese Language Kit

I have a PowerBook G3 with Mac OS 8.6 and Japanese Language Kit 1.2 and the Language Kit Updater installed. If I have Password Security turned on, my computer crashes with a type 11 error when I switch to the Japanese Input Method. If I turn off Password Security, I can switch to the Input Method without crashing. Why is this happening?

This article has been archived and is no longer updated by Apple.

Apple has identified an issue with the interaction of Password Security 2.0 and Kotoeri (Japanese Input Method) under Mac OS 8.6. To work around this issue, turn off Password Security when using the Japanese input method. This issue is resolved in Mac OS 9.

Published Date: Feb 18, 2012

Mac OS 9: SoftRAID Compatibility

I have a hard drive that has been formatted by SoftRAID formatting software. After installing Mac OS 9 on my Macintosh, I can no longer access the hard drive that was formatted by SoftRAID. Can you explain?
This article has been archived and is no longer updated by Apple.
It is likely that you are using an older version of SoftRAID.

Version 2.2 of SoftRAID is required for compatibility with Mac OS 9.

Note: Version 2.2 of SoftRAID is the only version that supports the Power Macintosh G4 computers.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

The following Tech Info Library article can help you search for a particular vendor's address and phone number:

Article 17159: "**Locating Vendor Information**"
Published Date: Feb 18, 2012

Apple System Profiler 2.1.2: Does Not Show FireWire

Version 2.1.2 of Apple System Profiler (ASP) will not show FireWire even though it is installed and working.
This article has been archived and is no longer updated by Apple.
Power Macintosh G3 systems running Mac OS 8.5.1 have Apple System Profiler version 2.1.2 installed. This version of Apple System Profiler does not list FireWire under Devices and Volumes. Versions 2.2 and higher of Apple System Profiler do list FireWire and its driver version number.

See the following Tech Info Library article for additional tips on troubleshooting FireWire devices:

Article 24831: "**FireWire: Testing Ports**"
Published Date: Feb 18, 2012

Apple FireWire Kit: Computer Will Not Start Up If PCI Card Not Powered

When starting up my Power Macintosh G3 that has a FireWire PCI card installed, the computer hangs during startup. Why is this happening?
This article has been archived and is no longer updated by Apple.
Your computer may hang or freeze during the startup process when a FireWire PCI card is installed without power being applied to it. The FireWire PCI card must have power going to it to ensure the computer starts up properly. The Apple FireWire Kit comes with a 2-meter power cable. Make sure this cable is connected to the FireWire PCI card and to a proper power source like the power supply in your computer.
Published Date: Feb 18, 2012

AppleSearch: Server Compatibility Up To System 7.5.3

I have AppleSearch 1.5.1 and I want to upgrade my server. What is the latest version that is compatible with AppleSearch 1.5.1 Server?
This article has been archived and is no longer updated by Apple.
AppleSearch 1.5.1 Server is compatible up to System 7.5.3.
Published Date: Feb 18, 2012

FAXstf: Restoring And Using It With Mac OS 9

I have just performed a clean installation of Mac OS 9 on my Power Macintosh G4. Can I use FAXstf with Mac OS 9? If so, how do I reinstall it after the clean install?
This article has been archived and is no longer updated by Apple.
Power Macintosh G4 computers that shipped with a built-in modem include FAXstf version 5.0.5.

Power Macintosh G4 (AGP graphics) computers ship with FAXstf on a separate CD. Power Macintosh G4 (PCI graphics) computers ship with FAXstf included as part of the Power Macintosh G4 Restore CD.

According to STF Technologies documentation, FAXstf 5.x is compatible with Mac OS 9. For more information, visit the STF Technologies website.

If you have performed a clean install of system software and need to re-install the FAXstf software, do the following:

Power Macintosh G4 (AGP graphics)

1. Locate the FAXstf install CD.
2. Locate and run the FAXstf installer.
3. When the installer has finished, restart the computer to complete the installation.

Power Macintosh G4 (PCI graphics)

1. Locate the G4 restore CD.
2. Locate the Configurations folder on the CD.
3. In the Configurations folder there is a hard drive image, "Power Mac G4 HD.img" double click this disk image to mount the virtual hard drive.
4. Once mounted, you will need to copy the following files from the mounted CD image to the corresponding locations on your hard drive:
   - Extensions folder:
     - FaxMonitor
     - FaxPrint
     - Faxstf PPC Shared Library
     - STF ToolBox
     - STFInit
   - Apple Menu Items folder:
     - FaxStatus
   - Applications folder:
     - FAXstf 5.0 (folder)
5. Once you have copied the FAXstf components, restart the computer and installation will be complete.

Published Date: Feb 18, 2012

Page Setup: What Happens When "Font Substitution?" Is Deselected

When you deselect "Font Substitution?", what size of the bitmapped font is sent to the LaserWriter?

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The font is scaled by the Macintosh Font Manager. If the Font Manager can't find a font of the requested size, and font scaling is enabled, it follows the standard scaling algorithm (described in "Inside Macintosh" Volume I, chapter 7) with one exception: if it can't find a font that's either double or half the requested size, it looks for the font that's closest to the requested size, larger or smaller.

Published Date: Feb 18, 2012

At Ease 4.x, 5.x: Cannot Open File On Shared Volume

I have a folder that is shared on the server. However, the folder and its files are not accessible from my At Ease client workstation. When I use an application's File menu and choose Open to open a file within that shared folder, the folder is either dimmed, or if not dimmed, I cannot select any of the files inside. Can you help?
This article has been archived and is no longer updated by Apple.
The proper way to provide users the ability to open files within a shared folder is to:

1. Share a folder on the server and provide the At Ease User privileges to it. See the following article for information on the recommended way to set up At Ease:

   Article 31035: "**At Ease 4 or 5: AppleShare IP Initial Setup**"

2. On the admin computer, enable the volume (the folder shared on the server) for access using "Access to Volumes". **Note:** In Access to Volumes use Volume Settings to select whether you want the user to use their own AppleShare user names to log in or allow access through a single user such as "At Ease User" which will prevent them from having to log in twice.
3. For each workgroup that you wish to provide access to this volume, select Edit Workgroup, and add the volume that you want to be shared using the Server button.
4. Place a check mark on "Apply users' AppleShare user access privileges" on the same Server pane.

If "Apply user's AppleShare user access privileges" is **not** selected (the default), At Ease allows users only to open files on the volumes you've selected to mount when they log in. They cannot copy items to or from the volumes, and they cannot see the volumes when they open or save documents in an application.

If "Apply user's AppleShare user access privileges" **is** selected, At Ease allows users to access the volumes using their AppleShare access privileges. Depending on their privileges, users may be able to copy items to and from the volumes, and to the volumes when they open or save documents in an application.
Published Date: Feb 18, 2012

Workgroup Server 60, 80: Year 2000 Readiness

Is a Workgroup Server 60 or Workgroup Server 80 Year 2000 (Y2K) ready?
This article has been archived and is no longer updated by Apple.
The hardware within the Workgroup Server 60 and Workgroup Server 80 has been tested by Apple and is Year 2000 compliant. Visit the following web page for more detail:

http://www.apple.com/about/year2000/y2khwtests.html#server

Both servers can run System Software 7.5.5, which is also Year 2000 compliant. For details visit the following web page:

http://www.apple.com/about/year2000/y2kos.html

However, the earliest version of AppleShare that has been tested for Year 2000 compliance is AppleShare IP 5.0.3, which is not compatible with the 680x0 processor in the Workgroup Server 60 and 80. The latest version of AppleShare that will run on the Workgroup Server 60 and 80 is AppleShare 4.0.2. This version of AppleShare will not be tested for Year 2000 compliance. For details, visit the following web page:

http://www.apple.com/about/year2000/y2kswtests.html#networking

For information on conducting your own informal Year 2000 Compliance tests, visit the following web page:

http://www.apple.com/about/year2000/y2ktest.html
Published Date: Feb 18, 2012

RAM Speed Specifications

This article defines and discusses the speed rating specification of RAM chips, and the ramifications of the rating.
This article has been archived and is no longer updated by Apple.
Apple's RAM specifications state the minimum speed to which the computer requires the RAM to be able to be accessed. It is the rated speed that the computer will access the RAM. The computer does not attempt to access the RAM faster if the RAM is rated faster. Faster RAM may be made of more modern chips or technology which could improve reliability. Faster rated RAM does **not** gain any speed advantage, nor does any harm as long as it meets other specifications for size, density, and so forth. Faster rated RAM would still be supported as far as compatibility, but still has to be a known good component when troubleshooting.

RAM in the same bank must be the same speed. Different banks may have different speeds, as long as they are all rated fast enough for the computer.

For example, if a computer had a speed requirement of 80 ns RAM, 60 ns would work, but not give any advantage over RAM rated at 70 ns or 80 ns.

Note: Newer RAM specifications listed as PC-100 (or similar) and beyond have other specifications beyond their speed rating to be compatible. Please see the specifications for those computers directly for more information. Two examples of such articles are:

Article 58182: "**Power Macintosh G3 (Blue and White): RAM Specifications and Maximum Configuration**"
Article 20434: "**Memory Configurations: Power Macintosh**"

Note: At one time Apple Computer had its name silk screened on the RAM or had stickers indicating that it was an Apple part. This practice was discontinued some time ago.
Published Date: Feb 18, 2012

PowerBook G3 Series (Bronze keyboard): Printing After Waking Issues

My PowerBook G3 Series (Bronze keyboard) has difficulty printing to a USB printer after it wakes from sleep. It may display a message that it cannot find the printer; it may crash or hang; or it may report an application unexpectedly quit because of a Type 1, 3, or 11 error. After it wakes from sleep two printers appear in the Chooser at USB Port 1 and USB Port 2, even though only one USB printer is physically connected to the PowerBook.

This article has been archived and is no longer updated by Apple.

This is a potential issue with the PowerBook G3 Series (Bronze keyboard) running Mac OS 8.6 or 9.0, when a printer is connected using a USB to Parallel adapter cable, sometimes referred to as a dongle. This issue is being investigated. If you encounter this issue here are some ways to work around it:

- If the printer has true USB support, use a native USB A-to-B cable instead of an adapter cable.
- Connect the printer cable to the PowerBook only when intending to print.
- If the printer cable remains connected during a sleep/wake cycle, restart the computer after it wakes from sleep prior to printing.

Published Date: Feb 18, 2012

Duo Dock: Modem Port Not Available After Mac OS 8.5 Installation

Only the Printer Port option appears in the AppleTalk and Modem control panels, after installing Mac OS 8.5 or higher, when a PowerBook Duo is in the PowerBook Duo Dock.
This article has been archived and is no longer updated by Apple.
Apple is aware of this limitation.

Workaround
Perform a clean installation of Mac OS 8.1 or earlier on the PowerBook Duo hard disk or the PowerBook Duo Dock hard disk.
Published Date: Feb 18, 2012

AppleShare: It Cannot Limit Access By Location

This article has been archived and is no longer updated by Apple.

The AppleShare server is designed to limit access by individual, not by geographical location. So it's not possible, for example, for an individual user to have differing access privileges depending on which workstation he's using at the moment.

Once networks are connected, it's not possible through AppleShare or the Chooser to limit inter-network access. Unless you're using a mail system or other system communication that requires inter-network access, it may be best not to connect your networks.

Published Date: Feb 18, 2012

DV: Frame Accuracy

This article discusses frame accuracy with DV and FireWire.

This article has been archived and is no longer updated by Apple.
DV and FireWire are not frame accurate device control protocols. This can mean that when you capture a clip it may capture several frames early or late. The Timecode numbers will still match the frames of the media (if properly calibrated). Also, when performing an Edit to Tape function, the edit may take place a few frames earlier or later. To get frame accurate control you must have a video deck which supports a device control protocol such as RS-422, or RS-232.

Note: A USB to serial adapter must be used with RS-422 or RS-232 devices on Power Macintosh G4 computers, or any Macintosh without built-in serial ports.

Published Date: Feb 18, 2012

At Ease and Mac OS 8.5: Desktop Printers Crossed Out

I am using At Ease on my computers with Mac OS 8.5. The users who log in to the Restricted Finder sporadically see their desktop printers crossed out. Rebulding the printer by using the Chooser will temporarily resolve the situation, but it always seems to come back. Can you help?

This article has been archived and is no longer updated by Apple.
This is a known issue. It is resolved in Macintosh Manager.

You will see it in the following configuration: At Ease 5.0.2 and Mac OS 8.5 - 8.6, Restricted Finder workgroups with At Ease set to allow specified printers. The printers are crossed out when At Ease moves a desktop printer to the "Secured Desktop Printers" folder. Depending on the pattern of usage on a particular workstation, the behavior can seem erratic and random.

Either of the following steps will work around the issue by preventing At Ease from moving the desktop printer to the Secured Items folder:

- Move the desktop printers off the desktop to a folder inside the local hard drive. Drawback to this method is that At Ease users will have full access to all of these printers.
- Add **all** the printers to the Restricted Finder workgroup.

Published Date: Feb 18, 2012

AppleShare IP 6.3: Enabling Guest Program Linking

I would like to allow guests to use Program Linking when connecting to my AppleShare IP 6.3 server. I cannot find the option to enable this in Mac OS Server Admin. How can I enable it?

This article has been archived and is no longer updated by Apple.
In order to allow guests to use Program Linking, you must use the Web Admin interface. Follow these steps:

1. Connect to the server using the following URL in a Java-enabled web browser substituting the hostname or IP address of your server where "my.server.com" appears.

   ```
   http://my.server.com/.admin
   ```

2. Log in and click the Users icon.

3. Click the Guest user, check "Enable Program Linking" and then Save.

Published Date: Feb 18, 2012

Final Cut Pro: Setting Preferences After Upgrading From 1.0.1 To 1.2.1

New default Sequence Settings are installed when upgrading from Final Cut Pro 1.0.1 to 1.2.1. After installation, however, the new settings might not appear. This article describes how to correct this.

This article has been archived and is no longer updated by Apple.
After upgrading to Final Cut Pro 1.2.1 from version 1.0.1, Final Cut Pro will install new default Sequence Settings files. Immediately after you upgrade, however, the previously installed Sequence Settings files will continue to be used until you delete the Preferences file. Doing so and restarting Final Cut Pro will remove the previous settings used by 1.0.1 and instead use the new sequence settings installed by 1.2.1.

Published Date: Feb 18, 2012

Pascal II: Using Library Name Files

Many people have trouble using Library Name Files in Apple II Pascal (v.1.2 and 1.3). Here is a short explanation on what library name files are, and how they are used in Pascal.
This article has been archived and is no longer updated by Apple.
Library Name files, which contain the names of libraries to be used when running a program, are designed for very large applications, or for multiple program applications that need to use the same libraries.

With small applications, when you want to use a library other than the system library, you can link your libraries (as regular units) directly into your program. For larger applications, however, this is impracticable, since each re-compilation makes linking more difficult and cumbersome. The solution for larger applications is to create Program Libraries which allow you to build your own set of intrinsic units without having to place them in the system library. (Intrinsic units have the same root name as the program, but have the suffix '.LIB' on the end; e.g., a program named TRYIT.CODE becomes TRYIT.LIB). What Library Name files do is allow you to handle up to five Program Library files for each program.

To use Library Name files, write your library code and program code in the standard way. Each library unit MUST be an intrinsic unit. When writing your program you must remember to use the "$U ..." option to tell the compiler where to find your libraries interface (program library names are used only at execution time.). After compiling your library units, don't forget to use the LIBRARY program to place a library header in the file. Now, just compile your program and create your library name file. When you execute, your program will find its units even though you did not have to link them in.

Here are three sample files that illustrate the process:

Main program source code [TRYIT.TEXT]:

```
PROGRAM USEWALLY;

USES {$U WALLY.LIB} WALLY;

BEGIN
DOWALLY;
END.
```

Wally, library unit source code [WALLY.TEXT]:

```
UNIT WALLY;

INTRINSIC CODE 17 DATA 18

INTERFACE

VAR WALLSTR:STRING[80];

PROCEDURE DOWALLY;

IMPLEMENTATION

PROCEDURE DOWALLY;

BEGIN
WRITELN('WELL WALLY WORKS WELL I THINK');
END;


BEGIN

END.
```

Library name file [TRYIT.LIB]:

```
LIBRARY FILES:

WALLY.LIB
```

$$

To build this program, you must compile the library unit first, then use LIBRARY to turn it into a library (with the proper header). Finally, compile the main program (TRYIT.TEXT) and then run it to be sure that it works.
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System 4.2 / Finder 6.0: It Can Corrupt Fond Resources

This article has been archived and is no longer updated by Apple.

TOPIC ----------

This article describes font problems that may occur with System 4.2, Finder 6.0, and LaserWriter 5.0.

DISCUSSION ----------

There is a problem in the new system software (System 4.2, Finder 6.0, and LaserWriter 5.0) that sometimes corrupts the Fond resource. This can cause inconsistent results when documents are created under older system software then opened or printed under the new system software.

To correct the offending Fond resource, use Font D/A Mover 3.6 to remove the offending fonts (all sizes), and reinstall them. This forces the font table to be recreated.

Another solution would be to update to a current version of System Software.

Published Date: Feb 18, 2012

USB Mouse: Locking The Retainer Ring

The USB mouse used by a number of Macintosh computers contains a retainer ring that can be locked to deter its removal.

This article has been archived and is no longer updated by Apple.
To lock the retaining ring, insert a straightened paper clip into the hole on the plastic ring and press down on the paper clip while you turn the ring clockwise (see Figure 1). The mouse ring is locked when the ring clicks into a position where it is at a slight angle to the rest of the mouse.

Figure 1 Locking the Retaining Ring.

To unlock the retaining ring insert a straightened paper clip into the plastic ring and turn the ring counterclockwise.

This information can also be found in the Mac OS Help online guide included with your computer.

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MacWorkStation: It Can Support User-written Code

This article has been archived and is no longer updated by Apple.

A host program can send a message to MacWorkStation telling it to execute a code module. The code modules should be in a resource whose ID is passed in the message. It is also possible to pass data or parameters to the code module.

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iMovie 1.0.x: Importing a Saved Frame PICT Looks Jittery on Camera

I saved a frame of my movie as a PICT file. I imported the PICT back into my movie project. When I export to tape, the still frame section of the movie is jittery and blurry. How can I resolve this?

This article has been archived and is no longer updated by Apple.

When using the Save Frame As... function in iMovie, save your frame in jpeg format. When you import the file back into your project, that section of video will export smoothly back to the camera.

Published Date: Feb 18, 2012

iMovie: iMovie Help Does Not Appear/Open After System Software Clean Installation

When I select iMovie Help from the Help menu in iMovie, it appears as if something launches in the background, but nothing opens up, and no error messages are displayed. When I select the Help Center from the Help menu, the Help Center opens up, but there is no iMovie Help link available. It was available before. What happened?

This article has been archived and is no longer updated by Apple.
If iMovie Help will not open from within the iMovie Help menu, and does not appear in the Help Center window, it is likely that the iMovie Help folder is not installed in the Help folder. (The iMovie Help folder is located within your System Folder.) The most likely cause of this is that a clean installation of system software has been performed.

If you still have your previous System Folder on your hard drive, follow these steps to resolve the issue:

1. Open the Previous System Folder on your hard drive.
2. Open the Help folder.
3. Drag the iMovie Help folder to the desktop. Close all windows.
4. Open the System Folder on your hard drive.
5. Drag the iMovie Help folder to the Help folder inside. Close all windows.

When you select the Help Center, you should now see a link for iMovie Help. When you open iMovie, you should be able to open iMovie Help from the Help menu.

If you don't have your previous System Folder, follow these steps to resolve the issue:

1. Insert the iMovie CD (or the iMac DV Restore CD-ROM) that came with your computer.
2. Locate and open the Software Installers folder in the iMovie CD window.
3. Open the iMovie folder.
4. Open the iMovie Help.img document to mount the disk image.
5. When the iMovie Help disk mounts, open it, and open the System Folder inside.
6. Open the Help folder, and drag the iMovie Help folder inside to the desktop. Close all windows.
7. Open the System Folder on your hard drive, and drag the iMovie Help from the desktop to the Help Folder inside the System Folder. Close all windows.

Alternatively, you can perform this process with the Restore CD-ROM using the disk image of the hard drive provided for the restore operation. To do this, locate the configurations folder on the CD-ROM, then mount the Hard Drive disk image with Disk Copy. This will contain all the files that were on the hard drive as configured from the factory. You can then copy the iMovie Help folder from the Help folder on the Hard Drive image to the System Folder's Help folder on your active hard drive partition.

Again, when you select the Help Center, you should now see a link for iMovie Help. When you open iMovie, you should be able to open iMovie Help from the Help menu.

If you are experiencing trouble opening the Help Viewer, please see article 31030: "**Mac OS 8.6: Apple Help Viewer 1.2.1 Fails to Open**"

Published Date: Feb 18, 2012

iMovie: Quits With a Type 12 Error

When I click play, iMovie unexpectedly quits with a type 12 error.
This article has been archived and is no longer updated by Apple.
iMovie will quit with a type 12 error (see Figure 1) if the Control Strip extension is not present in the Extension folder. This can occur when you improperly disable it by using the Extensions Manager control panel or by dragging it to the Trash, or if it was not installed by the default Installer.

The proper method for disabling the Control Strip is to use the Control Strip control panel to turn it off.

Figure 1 Alert dialog.

If the extension is not active, you will also receive an error message when the Apple DVD Player is opened (see Figure 2).

Figure 2 Apple DVD Player alert dialog

To resolve this issue, enable the Control Strip extension in the Extensions Manager control panel or custom install the Control Strip from the Mac OS Install CD.

To perform a custom installation of the Control Strip software, follow the steps as shown in Figures 3 - 6.

Figure 3 System software installation splash screen.

Figure 4 Selecting a destination disk.

Figure 5 Selecting Add/Remove.

Figure 6 Selecting the Control Strip software for installation.

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AppleShare IP 6.3: Import/Export Retains Passwords, Settings, Relationships

AppleShare IP 6.3 export and import of Users and Groups now retains passwords, group relationships, and account settings.

This article has been archived and is no longer updated by Apple.
AppleShare IP 6.3 Administration exports data from the Users and Groups datafile in a structured, hierarchical text format, [filename].xml. It contains group memberships, encrytped passwords, and most account status settings such as "can log in", "can administer", "require new password", and so forth.

When reimported by AppleShare IP 6.3 Admin, all these parameters will be incorporated into the new (or current) Users and Groups datafile. Note that this .xml file does **not** contain access privileges such as specific read-write access or folder ownership. The server administrator will have to assign access and ownership to the appropriate directories for the imported users and groups.

Published Date: Feb 18, 2012

AppleWorks 6: Using Auto-Sum on Mulitple Columns

I am working on an AppleWorks 6 spreadsheet. When I try to use the Auto Sum function from the Calculate menu (or the associated button in the Button Bar) on multiple columns or rows of data, not all columns or rows are summed. I get similar incomplete results when I use the Auto Average function. How can I get all the sums or averages to appear?

This article has been archived and is no longer updated by Apple.
There is a simple workaround for this situation. If you look at the contents of each cell that should show a sum or average, you will see that the correct formula is present even if the result does not appear in the cell. To make the result appear, simply select all the "empty" cells, choose Copy, then Paste. All the correct values should now appear.
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MacDraw: It Doesn‘t Have a True Tab Function

This article has been archived and is no longer updated by Apple.

MacDraw does not support a true tab function.

When the tab key is pressed in MacDraw, a representation of the character is displayed. For example, the Courier tab character has a width, whereas the Helvetica tab character does not -- so Courier moves the insertion point over the width of the tab character.

This is not really the tab function that is written into many other applications, which inserts a defined amount of space when a tab (ASCII code 9, horizontal tab) is received. With a tab function, it's not the character width being displayed, but the code being interpreted by the application, which inserts the defined amount of space.

There is no correlation between a space or tabs in MacDraw. The tab differs, different depending on the font selected and whether the tab character has been given a character width.

Published Date: Feb 18, 2012

Mac OS: System Resources File In Trash

I just started up my Macintosh computer for the first time and noticed that there is a file in the Trash named System Resources. Is it safe to delete this file?

This article has been archived and is no longer updated by Apple.
Yes, if you find a file named System Resources in your Trash you can safely empty the Trash.

This can happen when the system starts up for the first time and detects a difference between the version of the existing System Resources file and the version of the PowerPC Enabler. If the System Resources file is older, it is moved to the Trash and a newer version is created dynamically.

Published Date: Feb 18, 2012

PowerBook G3 Series (Bronze Keyboard): No Sound When Modem Dials Out

At times when using the modem on my PowerBook G3 Series (Bronze Keyboard), I have noticed there is no sound when I connect with my Internet Service Provider (ISP). Why is this?

This article has been archived and is no longer updated by Apple.
If you have experienced a recent crash or freeze while on the Internet, Sound Input for the PowerBook will be set to None and will not change automatically back to Internal Modem. Also, if using an external sound input device, it might not be changing back to Internal Modem from that selected device.

To receive the dialing and handshaking sound of the modem when attempting to connect to the Internet, make sure Sound Input is selected as Internal Modem. To do this, select Internal Modem from Sound Input on the Control Strip and restart. If the setting is already on the Internal Modem selection, change it to another option (like None) then back to Internal Modem, and then restart.

Published Date: Feb 18, 2012

iBook (Japan): Internet Setup Assistant Issue

I own an iBook with Japanese system software. When I try to use the Internet Setup Assistant to configure my Internet settings, a dialog box appears with the message, "Cannot find Internet Editor Assistant." How can I continue setting up my Internet configuration?

This article has been archived and is no longer updated by Apple.
This occurs only on recent iBook computers with Japanese system software. During the setup process, clicking Yes at the dialog box that asks "Do you already have an Internet account?" will result in this error. To work around this, open the Internet Editor Assistant manually. You can find Internet Editor Assistant at this path:

Internet : Internet Utilities : Internet Setup

Then, continue to follow the instructions on the screen to set up your iBook for Internet access.

Published Date: Feb 18, 2012

Mac OS 9: Some Options Dimmed in General Controls Control Panel

I just upgraded to Mac OS 9 and noticed that the options to "Protect System Folder" and "Protect Applications folder" in the General Controls control panel are always dimmed. Why can't I select these options?
This article has been archived and is no longer updated by Apple.
These features are now part of the Multiple Users control panel. If you need to prevent users from altering the System Folder or Applications folder, consider setting up a restricted user account with Multiple Users. Because these features are in Multiple Users, the older features in the General Controls control panel have been removed.

For information regarding other Mac OS versions, please see the following Knowledge Base articles:

Article 16597: "**Mac OS: Dimmed Options In General Controls Panel**"
Article 17172: "**System 7.5: Folder Protection Option Not Available**"

Published Date: Feb 18, 2012

FireWire Card Tester: Compatible Only With Original Apple FireWire PCI Card

I am trying to use the FireWire Card Tester application that came with Apple's original FireWire PCI card. It always tells me that the FireWire card is not responding even when it seems to be working. Why is this?

This article has been archived and is no longer updated by Apple.
The FireWire Card Tester application works only with the original Apple FireWire PCI card which it came with. It will not recognize third-party FireWire cards or the built-in FireWire on Apple's later computers.

Published Date: Feb 18, 2012

FireWire: Remove FireWire Lynx Enabler

This article discusses an obsolete extension, "FireWire Lynx Enabler".

This article has been archived and is no longer updated by Apple.
If you purchased a non-Apple FireWire PCI card, the accompanying software may have installed an extension named "FireWire Lynx Enabler". If you are using FireWire 2.3 or later, you should move this file to the Trash and restart. FireWire 2.3 includes better support for these FireWire PCI cards.

To check the FireWire software version, open the Extensions folder (inside the System Folder) and select either the FireWire Enabler or FireWire Support file. Then choose Get Info from the File menu. The version of either of these files is the FireWire software version.

Published Date: Feb 18, 2012

iMovie: Cannot Open; "SoundLib--SoundConverterSetInfo" Not Found

When opening iMovie, you may receive an error stating that iMovie could not be opened because "SoundLib--SoundConverterSetInfo" cound not be found.
This article has been archived and is no longer updated by Apple.
Make sure the Sound Manager extension is enabled. Use the Extensions Manager control panel for this task. If the Sound Manager extension is turned off, turn it on and restart the computer.

If the Sound Manager extension is not present, install QuickTime and any applicable QuickTime Updates.
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AppleWorks: Late Breaking News

This article contains late breaking news associated with the release of AppleWorks 6.1.

This article has been archived and is no longer updated by Apple.

AppleWorks Web site

Be sure to check out the AppleWorks Web site for tutorials and tips, free stuff, product information, and updates: www.apple.com/appleworks/

Upgrade issues

Tables saved in previous versions of AppleWorks or ClarisWorks

A new feature in AppleWorks 6 is the ability to create tables. When you save an AppleWorks 6 document that contains a table in AppleWorks 5, ClarisWorks 4, or ClarisWorks for Kids format, the table is converted to a non-editable object.

Macros and Button Bar buttons

You must re-create macros and Button Bar buttons created with earlier versions of AppleWorks or ClarisWorks. (For instructions, use the Search feature or the index of AppleWorks Help.)

Dictionary, hyphenation, or thesaurus files from previous versions of AppleWorks or ClarisWorks

AppleWorks 6 does not recognize dictionary, hyphenation, or thesaurus files (including user dictionary files) from previous versions of AppleWorks or ClarisWorks. For user dictionaries, however, you can avoid having to reenter terms manually. To do so, use your old version of AppleWorks or ClarisWorks to export the terms from an old user dictionary into a text file, then use AppleWorks 6 to import the terms from that text file into a new user dictionary. For instructions, see the topic "Working with dictionaries" in AppleWorks Help.

Software issues

Updating system software

For your convenience, three system software updaters are provided on the AppleWorks 6 CD. These updaters are in the System Software Updates folder in the AppleWorks Extras folder. (In some cases, only the first two updaters are on the AppleWorks CD. You can download the third update free from www.apple.com.)

- "Update to Mac OS 8.1" updates your system from Mac OS 8.0 to Mac OS 8.1.
- "Update to Mac OS 8.6" updates your system from Mac OS 8.5 or 8.5.1 to Mac OS 8.6.
- "Update to Mac OS 9.1" updates your system from Mac OS 9.0 through 9.0.4 to Mac OS 9.1.

AppleWorks 6 has not been tested on Mac OS 8.0, Mac OS 8.5, or Mac OS 8.5.1. To use AppleWorks 6, use the appropriate update to upgrade to Mac OS 8.1 or Mac OS 8.6.

Installation requires standard Views font

Installation of AppleWorks 6 requires that the Views font for the Mac OS Finder be set to a standard system font.

To confirm this setting:

- If you're using Mac OS 8.6 or later, choose Control Panels from the Apple menu, then choose Appearance from the submenu. Click the Fonts tab and confirm that Views Font is set to a standard system font, such as Geneva or Charcoal.
- If you're using Mac OS 8.1, choose Preferences from the Edit menu in the Mac OS Finder. Confirm that "Font for views" is set to a standard system font, such as Geneva or Charcoal.

On Mac OS 8.6 or earlier, restart your computer for the change to take effect. Once you've installed AppleWorks 6, you can switch back to your original Views font if you wish.

User dictionary word limit

User dictionaries in AppleWorks 6 can contain a maximum of 2883 words. If you import a text file into a user dictionary that would cause the total word count to exceed 2883, the excess words will not be added to the user dictionary.

Accessing AppleWorks Help on Mac OS 8.1 systems

If you are using Mac OS 8.1, you must have Web browser software (for example, Netscape Navigator or Microsoft Internet Explorer) installed on your computer to view AppleWorks Help and to use the Help buttons in dialog boxes. When you open Help, it displays in your default browser. With Mac OS 8.5 and later, you don't need Web browser software to view the Help.

Alignment and Spacing commands in List mode

In List mode (in a database document), the Alignment and Spacing commands in the Format menu may not be functional even though they appear to be active. The Font, Size, Style, and Text Color commands work correctly.

Using the Equation Editor

If you are using system software later than Mac OS 8.6, when you insert an Equation Editor equation into an AppleWorks document, you see a message that you must install the Symbol font included with Equation Editor. You can ignore this message.

Accessing the Web using Clippings or Starting Points

If you use a PPP dialup connection to the Internet, and you want to use Clippings or Starting Points to access images or documents on the Web, your TCP/IP settings must be active.

To make sure TCP/IP is active:

1. Choose Control Panels from the Apple menu, then choose TCP/IP from the submenu.
2. Choose User Mode from the Edit menu.
3. Click Advanced, then click OK.
4. Click Options.
5. If necessary, click Active.
6. Deselect the "Load only when needed" option.

Or connect to the Internet as usual. Opening a Web browser activates your TCP/IP settings. You do not need to keep the browser open while you use AppleWorks.

If your network connection is interrupted while your computer is in sleep, you may experience delays or the computer may appear to "freeze" when you try to get Internet content in AppleWorks. If this happens, wait a while or force AppleWorks to quit by pressing Command-Option-Escape.

To avoid this issue, make sure you have an active Internet connection before you access Internet content in AppleWorks.

Problems accessing Web content

If your network connection is interrupted while your computer is in sleep, you may have issues connecting to the Internet after you wake the computer. If this occurs, either wait a while or quit and reopen AppleWorks.

To avoid this issue, make sure your Internet connection is working before you access Internet content in AppleWorks.

Opening the same document on multiple computers in a networked environment

In a networked environment, multiple users may try to open the same document at the same time. Usually, users will be advised that the document is already is use, and asked if they would like to open a copy of it instead. In a Macintosh Manager environment, however, users are not given this option. When they try to open a document that is already in use, they see the message "The file is being used by another application."

Using the magic wand in painting documents

When using the magic wand in a painting document to pick up a graphic attribute, you may only be able to select one pixel. If this happens, try one of the following solutions:

- Choose Resolution & Depth from the Format menu and change the depth setting to 256.
- If you are using AppleWorks with Mac OS 9.0 through 9.0.4, consider upgrading to Mac OS 9.1. (This problem does not occur in Mac OS 9.1.) You can find an updater for Mac OS 9.1 in the System Software Updates folder in the AppleWorks Extras folder on the AppleWorks CD, or on the Apple Web site: www.apple.com

Uninstalling AppleWorks

To use the Uninstall option of the AppleWorks 6 Installer, make sure the AppleWorks 6 application folder is located at the top level of your hard disk (visible when you open the icon for your hard disk and not within another folder).

If the AppleWorks 6 application folder is not at the top level of your hard disk, performing an uninstall removes some components but doesn't remove the AppleWorks 6 application folder, even though you see a message reporting the uninstall action was successful.

Hardware compatibility issues

Setting monitor colors

If your monitor is set to display 256 colors (using the Monitors control panel), switching to something other than the Default color palette in the Accents window can cause the menu bar and other screen elements to change color.

For best results, set your Monitors control panel to display at least thousands of colors (if your computer and monitor support more than 256 colors).

Printing rotated text on non-PostScript printers

Rotated text printed on a non-PostScript (raster) printer may appear jagged.

To smooth the type:

1. Choose Preferences from the Edit menu, then choose General from the submenu.
2. Choose Text from the Topic pop-up menu.
3. In the Options area, click Fractional Character Widths.

Turning on this option may cause documents to look slightly different when printed.

Creating presentations on a Power Macintosh 9600 with a TwinTurbo video card by ixMicro

If you use AppleWorks 6.1 on a Power Macintosh 9600 with a TwinTurbo video card by ixMicro, you may encounter difficulties when working with presentation documents. When you move slides in the Controls window, AppleWorks may crash. If this happens, disable the 9600 Graphics Accelerator extension. (For instructions on disabling an extension, see the onscreen help that came with your computer.)

Third-party software issues

Printing on Hewlett-Packard USB printers

If you're using system software later than Mac OS 8.6 and a Hewlett-Packard USB (Universal Serial Bus) printer, and you don't see the expected dialog boxes when printing an AppleWorks document, you need to upgrade your printer driver.

The following Hewlett-Packard USB printers may be affected:

- HP DeskWriter 600, 660, 680, 690 series printer
- HP DeskJet 610, 612, 670, 680, 690 series printer
- HP DeskJet 850, 855, 870 series printer

For more information, contact Hewlett-Packard or consult the following Web site:

http://www.hp.com/cposupport/printers/support_doc/bpm06276.html

IBM's ViaVoice 1.0 isn't compatible with AppleWorks 6

You can't use IBM's ViaVoice 1.0 speech recognition software with AppleWorks 6. ViaVoice 1.0.2 is compatible with AppleWorks 6, but you must change the name of the AppleWorks application icon from "AppleWorks 6" to "AppleWorks."

AppleScript issues

Using AppleScript with AppleWorks

You can use AppleScript to automate and extend many AppleWorks features. AppleWorks 6 includes several useful scripts. These scripts, and information about how to use them, are in the Scripts folder within the AppleWorks 6 folder.

Using the Activate command in the Script Editor

When working with AppleScripts, avoid running a script from within the Script Editor application if the script includes a command to activate

AppleWorks.

For best results, run the script

- from the Script Editor, but send events to AppleWorks in the background (avoid the Activate command)
- from within AppleWorks using, for example, a Button Bar button or the AppleScript menu
- as a standalone AppleScript applet

Tips

Checking spelling in documents written in Spanish

To check the spelling of AppleWorks documents written in Spanish, you can use supplemental dictionary files provided on the AppleWorks 6 CD. These files are in the Spanish Dictionaries folder in the AppleWorks Extras folder. For information on how to use these dictionaries, see the topic "Working With Spelling Dictionaries" in AppleWorks Help.

Published Date: Feb 18, 2012

Printing Postscript to DEC‘s LN03R Printer

This article has been archived and is no longer updated by Apple.

When printing Postscript output from LaserWriter drivers to a DEC LN03R printer (LaserWriter Plus compatible) attached to a VAX, you may encounter an INVALID ACCESS ATTEMPT error for the SETDEFAULT TIMEOUTS command. When this command is removed, another error of UNDEFINED: NAME NOT FOUND is reported for the LEGAL command.

According to Adobe, you need to exit the server loop to use the setdefaulttimeout operator. The code is:

```
statusdict begin 0 exitserver
```

DEC's LN03 is LaserWriter-compatible from the Postscript side of things, but there are differences with respect to hardware options.

Published Date: Feb 18, 2012

Macintosh Manager: Access to the Control Strip

This article tells how to access the Control Strip when running Macintosh Manager or the Multiple Users feature of Mac OS.

This article has been archived and is no longer updated by Apple.
When Macintosh Manager logs out of an environment, the Control Strip is hidden for the Login Screen. Therefore, the Control Strip may not always show when logging in with the setting "Show Control Strip" enabled.

When this occurs, access the Control Strip by using its Hot Key function. When a user logs in and wants to access the Control Strip, the Control Strip can be invoked by using the hot key function. The same hot key function can be used to subsequently hide the Control Strip. Note that the Control Strip is still hidden at the Login Screen.

If an administrator wants to prevent access to the Control Strip, be sure that access to Control Panels is disabled and then set the Control Strip on each Workstation to the "Hide Control Strip" setting.

Published Date: Feb 18, 2012

Macintosh Manager: Unable to Connect to Volume During Transition From At Ease

During the transition from At Ease to Macintosh Manager, you may be unable to connect to the volume containing user documents and preferences. This article offers a solution.
This article has been archived and is no longer updated by Apple.

Symptom

While going through the At Ease to Macintosh Manager transition, you receive an error stating that you cannot connect to the volume containing user documents and preferences. See Figures 1 and 2. Additionally, the volume name that appears in the error dialog box may not be one that was in the At Ease Access to Volumes list prior to the transition.

Figure 1 "Unable to Mount" dialog box

Figure 2 "An Error Occurred" dialog box

Solution

This article references the At Ease to Macintosh Manager Transition document. It is available from the Apple Software Updates Web site at http://www.apple.com/swupdates.

A faulty Setup Preferences file causes this error. Follow these steps to recover from this error and successfully transition from At Ease to Macintosh Manager:

1. On the server, disable the Macintosh Management Server extension and enable the At Ease Server extension.
2. Restore the At Ease Items WG 5.0 folder from the backup that you made.
3. Move the At Ease Server Preferences file back into the Preferences folder.
4. Restart the server computer.
5. In AppleShare IP, open the Privileges window for the At Ease shared folder. Make your initial At Ease User the Owner of this share point with read/write access, then select "Copy these privileges to all enclosed folders."
6. Remove the file "Setup Preferences" from the At Ease Items WG 5.0 folder.
7. Open At Ease Administration. This creates a new Setup Preferences file with the default settings.
8. Enter the access to Volumes and Access to Printer information again.
9. Verify the Volumes and Printers tabs of each Workgroup in At Ease Admin.
10. Check the Workgroup Data Volume and Special Folders settings to make sure they are correct.

At this point you should test each of your At Ease Workgroups by logging in as a user. If there are issues logging in, they must be resolved before At Ease can properly convert to Macintosh Manager.

Once these settings have been restored as they were previously, you can quit At Ease Admin and continue with Step 3 of the transition document.

Published Date: Feb 18, 2012

Zapf Chancery Font: Why It Doesn‘t Print Bold or Italic

This article has been archived and is no longer updated by Apple.

Although you can produce italic and bold characters on the screen with the Zapf Chancery font, when you print them they'll seem to be plain.

Actually, plain Zapf Chancery is italic to start with and it has no bold style. Observe the delicate and precise curves of the normal style of Zapf Chancery: making it bold would fill in most of the open areas on the smaller sizes.

Published Date: Feb 18, 2012

ADB: Can Control External Devices

What is the Apple Desktop Bus (ADB) port on the LaserWriter IISC used for?

This article has been archived and is no longer updated by Apple.
The Apple Desktop Bus can be used to control external devices such as cut sheet feeders, bin feeders, and output collators for the LaserWriter IISC. The ADB port isn't currently supported in the LaserWriter IINT and LaserWriter IINTX ROMs.

Developers may contact Apple Software Licensing for additional information on developing ADB devices for the LaserWriter IIs. Search on "Software Licensing" for address information.

Published Date: Feb 18, 2012

ImageWriter: Printing from MS-DOS (9/94)

Does Apple have any driver that supports printing to a ImageWriter, ImageWriter II, or an ImageWriter LQ from a MS-DOS compatible?

This article has been archived and is no longer updated by Apple.
There is no driver that supports printing to any of the ImageWriter family of printers from MS-DOS or Windows that is made by Apple Computer, Inc. Microsoft Windows has a driver named "C-Itoh 8510" that may work with the ImageWriter II (with no LocalTalk option card) if the proper cable is used.

With the appropriate driver, it is possible for an MS-DOS computer with the AppleTalk PC Card to print to an ImageWriter II or AppleTalk ImageWriter LQ over LocalTalk. However, Apple Technical Communications is not, at this writing, aware of such a driver.

Article Change History:
30 Sep 1994 - Revised formatting slightly.

Support Information Services

Published Date: Feb 18, 2012

Mac OS X Server 1.2: Enabling More Simultaneous NetBoot Clients to Start Up

If a number of computers attempt to simultaneously start up as NetBoot clients, some may not successfully do so. You can change the configuration of the NetBoot server to reduce the size of shadow images for clients during the startup process. This allows the server to handle more clients simultaneously.

This article has been archived and is no longer updated by Apple.

Symptom

If a number of computers attempt to simultaneously start up as NetBoot clients, some may not successfully do so. Instead, they seek other startup devices, such as their internal hard disk. Additionally, entries are added to the `/var/log/system.log` file stating that the image couldn't be added.

Solution

Change the configuration of the NetBoot server to reduce the size of shadow images for clients during the startup process. This allows the server to handle more clients simultaneously. Shadow images are initially created at system startup time to be the same size as the shared "NetBoot HD.img" file and then truncated to 128 K before the computer finishes starting up. Follow these steps to change the server's configuration:

1. Open the NetInfoManager application by choosing System Administration from the Apple menu, then choosing NetInfoManager from the submenu.
2. Click to select config in the leftmost list of the Directory Browser.
3. Click to select NetBootServer in the center list of the Directory Browser.
4. Click to select any line in the list contained in the bottom half of the window. (This makes the list the focus of NetInfoManager and causes the menubar to change.)
5. Choose New Property from the Directory menu.
6. Double-click "new_property" in the bottom half of the window and change it to "shadow_size_meg".
7. Choose New Value from the Directory menu.
8. Double-click new_value and change it to 1.
9. Save your changes.
10. Restart the server.

Figure 1 shows what the NetInfoManager window should look like after the shadow_size_meg property and its value have been established.

Figure 1 NetInfoManager window

Published Date: Feb 18, 2012

Theater Mode Does Not Appear in Monitors Control Panel

Theater Mode may not be available in the Monitors control panel because the Theater Mode extension is turned off or not installed.

This article has been archived and is no longer updated by Apple.

Symptom

The Monitors control panel does not display an option for Theater Mode.

Solution

1. Open the Extensions Manager control panel.
2. Check that the Theater Mode extension is turned on.
3. If the extension is turned off, turn it on.
4. Restart your computer.

If the Theater Mode extension does not appear in the Extension Manager's list of extensions, perform a custom installation of the Monitors control panel software using your Software Install CD.

For information on software installation, please see document 50055 "**Miscellaneous Manuals**." It includes the Troubleshooting Handbook.

Notes:

1. The parenthetical product description (Summer 2000) refers to the summer of the Northern Hemisphere.

Published Date: Feb 18, 2012

iTools: Repeated Requests to Install; Cannot Log In

With iTools already installed on your computer, you cannot log in at the iTools Web page. An alert states that you must install iTools. This article lists things to check that may resolve the issue.

This article has been archived and is no longer updated by Apple.

Symptom

With iTools already installed on your computer, you attempt to log in to iTools and an alert appears. It states that your computer is not correctly set up and that you must install iTools. This cycle repeats itself endlessly.

Solution

The issue can usually be resolved by checking and correcting the items listed below. There is one list of items for users of Microsoft Internet Explorer and another for users of Netscape Navigator/Communicator.

Microsoft Internet Explorer

- Use Microsoft Internet Explorer version 5 or later.
- Using Sherlock 2, locate all copies of the iTools installer software. Drag them to the Trash and empty the Trash. Then download a new copy of iTools installer software and use it.
- Make sure that the Text Encoding Converter extension is installed in the Extensions folder located in the System Folder.
- Close all other applications before installing iTools.
- Verify that the default Web browser specified in the Internet control panel is indeed the Web browser you are using. If you have more than one copy of your Web browser on your hard disk, be sure that the copy specified in the Internet control panel is the copy you are using.
- Open Microsoft Internet Explorer preferences within the Web Browser section and select Advanced. Within the Cache area select "Empty Now". Select Cookies within the Receiving Files section delete all cookies listed under Server from the mac.com domain.
- Check these Internet Explorer preferences and set them as follows:
  - Cookies are allowed.
  - Plug-ins, ActiveX, and Scripting are enabled.
  - Java is enabled.
  - JavaScript is enabled.
  - Security is set to Medium.
- Verify that the Microsoft Internet Explorer application is in the folder in which it was originally installed.
- The Microsoft Internet Explorer application and the Plug-ins folder should both be in the same folder. (This is how the software is originally installed.)
- Use the Extensions Manager control panel to set the extensions set to Mac OS 9 all, then restart the computer.
  If this resolves the issue, review document 30929 "**Mac OS: Extension Conflict Troubleshooting/Extensions Manager Features**".

Netscape Navigator/Communicator

- Use Netscape Navigator/Communicator version 4.5 through 4.76 (Netscape 6 is not compatible with iTools).
- Using Sherlock 2, locate all copies of the iTools installer software. Drag them to the Trash and empty the Trash. Then download a new copy of iTools installer software and use it.
- Make use the Text Encoding Converter extension is installed in the Extensions folder located in the System Folder.
- Close all other applications before installing iTools.
- Verify that the default Web browser specified in the Internet control panel is indeed the Web browser you are using. If you have more than one copy of your Web browser on your hard disk, be sure that the copy specified in the Internet control panel is the copy you are using.
- Open Netscape preferences and empty the cache.
- Check these Netscape preferences and set them as follows:
  - Cookies are allowed.
  - Java is enabled.
  - JavaScript is enabled.
- Verify that the Netscape Navigator/Communicator application is in the folder in which it was originally installed.
- The Netscape Navigator/Communicator application and the Plug-ins folder should both be in the same folder. (This is how the software is originally installed.)
- Verify that the Netscape Preference files are located in the Netscape Users folder in the Preferences folder.
- Use the Extensions Manager control panel to set the extensions set to Mac OS 9 all, then restart the computer.
  If this resolves the issue, review document 30929 "**Mac OS: Extension Conflict Troubleshooting/Extensions Manager Features**".

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for

additional information.

The following article can help you search for a particular vendor's address and phone number:

Article 17159: "**Locating Vendor Information**"

Published Date: Feb 18, 2012

LaserWriter Plus: ROM Error Gives Wrong Version Number

This article has been archived and is no longer updated by Apple.

```
An error in the LaserWriter Plus ROMs gives the version number 42.2 if read
from PostScript -- even though the ROMs contain Version 47 of PostScript.
```

Published Date: Feb 18, 2012

Mac OS X Server 1.x: NetInfo is Read-Only

If the localhost computer has an unreachable IP address, NetInfo runs in a read-only mode and nothing can be modified. This article tells how to repair the system.

This article has been archived and is no longer updated by Apple.
Note: This article pertains to Mac OS X Server versions 1.x, which were released prior to May 2001.

Symptom

NetInfo runs in read-only mode. Nothing can be changed: new users, passwords, and so forth.

Solution

This can happen if the localhost computer has an unreachable IP address.

Often, it originates when Setup Assistant is run. If the computer is not given a name, localhost is inserted as the host name. If an IP address is assigned during setup, it replaces the 127.0.0.1 address for localhost. This configuration works because localhost has the computer's IP address. If the host name and IP address of the computer are later changed, though, the localhost address is neither the address of the computer, nor the loopback address (127.0.0.1). Consequently, localhost (which is the NetInfo master for the local domain) may be unreachable or may be running the wrong NetInfo database. When NetInfo cannot reach the master, it runs in read-only mode.

If liutil is installed, the repair process is much easier. Typing "which liutil" at the command line prompt in a Terminal window shows whether it is installed. Follow one of these procedures to repair the system:

If liutil is Installed

1. Start up into single user mode by restarting the computer and pressing the "s" key.
2. At the prompt, type the following command to mount the file system with write access:
   ```
   mount -uw /
   ```
3. Type the following command to correct the entry (**Note**: This line may wrap in some browsers but should be entered as one continuous line):
   ```
   liutil -createprop /etc/netinfo/local.nidb /machines/localhost ip_address 127.0.0.1
   ```
4. Restart the computer.

If liutil is not Installed

Without liutil, NetInfo must be rebuilt from the template and all data must be re-entered.

1. Rename /etc/netinfo with the following command in Terminal:

mv /etc/netinfo /etc/netinfo.bak

2. Copy /usr/template/client/etc/netinfo to /etc/netinfo with the following command:

cp -R /usr/template/client/etc/netinfo /etc/netinfo

3. Restart the computer. The computer will run through Setup Assistant.

4. Re-enter all data.

Note: The rename and copy can be done using Workspace but be sure to copy the netinfo directory from the templates and not move it.
Published Date: Feb 18, 2012

iMovie 2.0.x: Movies Larger Than 3.9 GB Will Not Play With QuickTime Player

QuickTime movies exported from iMovie 2.0 and 2.0.1 that are larger than 3.9 GB cannot be played by QuickTime Player. Export the movie with increased compression settings to lower its file size.

This article has been archived and is no longer updated by Apple.

Symptom

When attempting to open a QuickTime movie larger than 3.9 GB that was created in iMovie 2.0 or 2.0.1, QuickTime Player displays a dialog box with an error message stating:

> 'Couldn't open the file "Very Large Movie.mov" because it is not a file that QuickTime understands.'

Solution

Export the movie from iMovie with increased compression settings, so that the movie's file size is 3.9 GB or smaller. Follow these steps to change compression settings:

1. Choose Export Movie from the File menu; the Export Movie dialog box appears.
2. Choose QuickTime from the Export pop-up menu.
3. Choose Expert from the Format pop-up menu; the Expert QuickTime Settings dialog box appears.
4. Click one of the Settings buttons to change video compression settings; click the other Settings button to change audio compression settings.

Published Date: Feb 18, 2012

Macintosh Manager 1.3: Printing Documents With Images Using AppleWorks 5

Using AppleWorks 5 to print documents containing images, when logged in to a Macintosh Manager 1.3 server, may result in black pages or a thin black band across the bottom of the page.

This article has been archived and is no longer updated by Apple.

Symptom

If you log in to a Macintosh Manager 1.3 server as a user, and use AppleWorks 5 to print a document containing an image, sometimes a solid black page is printed. Alternatively, a thin black band may be printed across the bottom of the page.

Solution

Turn off the Macintosh Manager feature that prints User & Workgroup information at the top or bottom of documents. This is what causes a black page or thin black band to print.

Published Date: Feb 18, 2012

QuickTime: Where to Find Help

This document tells where to find QuickTime help.
This article has been archived and is no longer updated by Apple.
QuickTime Help is available from QuickTime Player's Help menu. Choose QuickTime Help from the Help menu. See Figure 1.

Figure 1 QuickTime Player Help menu

Similar help content is available from this address: http://helpqt.apple.com/qthelp9w5/QuickTime.Help/QuickTimeHelp.htm

QuickTime tutorials, tools, and resources can be found at http://www.apple.com/quicktime/products/qt/

QuickTime developer information can be found at http://developer.apple.com/quicktime/

QuickTime software can be found at http://www.apple.com/quicktime/
Published Date: Feb 18, 2012

Macintosh II: It Requires 120ns RAM Chips Or Faster

I know the Macintosh II requires SIMMs that are 120ns or faster. What problems will I run into with using ones that are slower?

This article has been archived and is no longer updated by Apple.
Apple recommends and supports only 120ns or faster RAM chips for the Macintosh II.

In theory, the Macintosh II does not operate properly with SIMMs containing RAM chips slower than 120ns. This is because the number of RAM wait states defined in ROM does not change dynamically to accommodate slower RAM. (This is not an issue with the Macintosh Plus and Macintosh SE because their slower processor clock speed accomodates slower RAM speeds.)

In practice, however, slower RAM chips (150ns, for example) will work on a Macintosh II because RAM chips are often faster than their labelled ratings. Nevertheless, always use RAM that is tested and rated at the required speed of the computer. Otherwise, you may eventually experience random system crashes or other inconsistent errors using SIMMs slower than 120ns.

(NOTE: Macintosh Plus and Macintosh SE do NOT dynamically allocate wait states according to memory speed.)

Published Date: Feb 18, 2012

MegaPhone Manual 2.0

This article contains a link to the MegaPhone 2.0 Manual software download.

This article has been archived and is no longer updated by Apple.

Language	Release Date	Software Update	Read Me	OS Required
North American English	1997-01-30			---
International English	---			---
français	---			---
Deutsche	---			---
Español	---			---
Italiano	---			---
Nederlands	---			---
Japanese	---			---

For help with downloading, see article 75098 "Help: Downloading Software" All software available from this site is covered by a software license agreement included with this software.

Published Date: Feb 18, 2012

AppleWorks: Paint Bucket Tool Fills Only One Pixel

Under certain conditions, the AppleWorks Paint Bucket tool may fill in only one pixel of an area. Mac OS 9.1 resolves the issue.

This article has been archived and is no longer updated by Apple.

Symptom

With the color depth of the monitor set to Thousands, the Paint Bucket tool fills in only one pixel of an area in an AppleWorks Paint document.

Solution

Download and install the Mac OS 9.1 update available from http://www.apple.com/swupdates/ .

Published Date: Feb 18, 2012

AppleWorks: Magic Wand Tool Selects Only One Pixel

Under certain conditions, the AppleWorks Magic wand tool may select only one pixel. Mac OS 9.1 resolves the issue.

This article has been archived and is no longer updated by Apple.

Symptom

With the color depth of the monitor set to Thousands, the Magic wand tool selects only one pixel in an AppleWorks Paint document.

Solution

Download and install the Mac OS 9.1 update available from http://www.apple.com/swupdates/ .

Published Date: Feb 18, 2012

Claris: Main Dictionary 2.3 for Mac OS

This article contains the Read Me for a Main Dictionary 2.3 Update for Claris products, with a link to the software download. This Main Dictionary 2.3 update is compatible with the following products: ClarisWorks, ClarisImpact, ClarisDraw, Claris Organizer and Claris Emailer. The dictionary contains important modifications to the original dictionary.

This article has been archived and is no longer updated by Apple.

Language	Release Date	Software Update	Read Me	OS Required
North American English	1998-03-16			---
International English	---			---
français	---			---
Deutsche	---			---
Español	---			---
Italiano	---			---
Nederlands	---			---
Japanese	---			---

For help with downloading, see article 75098 "Help: Downloading Software" All software available from this site is covered by a software license agreement included with this software.

North American English

Dear Claris Customer:

Enclosed please find a no-charge Main Dictionary update which is compatible with the following Claris products: ClarisWorks, Claris Resolve, FileMaker Pro, MacDraw II, MacDraw Pro, MacProject Pro, MacWrite II and MacWrite Pro. The dictionary contains important modifications to the original dictionary, as outlined below:

- Expletives have been removed as alternative suggestions
- Words that have been run together without a space are now split when run through the spell checker
- Fixes problems related to possessives and hyphenated words

To install the new dictionary:

- Locate your current Main Dictionary (either in your application folder, System Folder or Claris folder in the System Folder)
- Drag-copy the new Main Dictionary from this disk and replace the older dictionary.

If you need additional assistance please call Claris Technical Support at (408) 727-9054. For more information on any Claris product contact Customer Relations at (408) 727-8227.

Thank you for your support of Claris products.

Sincerely,

Customer Assistance

Published Date: Feb 18, 2012

MegaDial Manual 3.0

This article contains a link to the MegaDial Manual 3.0.

This article has been archived and is no longer updated by Apple.
The original 6400-series computers included a corrupted version of this manual. The fault has been corrected on newer computers. If you are experiencing difficulties viewing the MegaDial Manual on your 6400-series computer, replace it with this file.

Language	Release Date	Software Update	Read Me	OS Required
North American English	1997-01-21			---
International English	---			---
français	---			---
Deutsche	---			---
Español	---			---
Italiano	---			---
Nederlands	---			---
Japanese	---			---

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Published Date: Feb 18, 2012

MessagePad 2000 System Update 2.1 For DOS-Windows (717145)

This article contains a link to the MessagePad 2000 System Update 2.1 For DOS-Windows (717145) software download.
This article has been archived and is no longer updated by Apple.

Language	Release Date	Software Update	Read Me	OS Required
North American English	1997-06-05			---
International English	---			---
français	---			---
Deutsche	---			---
Español	---			---
Italiano	---			---
Nederlands	---			---
Japanese	---			---

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Related Articles

30451 MessagePad 2000: POP Time Out

30452 MessagePad 2000: Powers Off Instead of Turning On Backlighting

Published Date: Feb 18, 2012

MessagePad 2000 System Update 2.1 For Mac OS (717260)

This article contains the Read Me for MessagePad 2000 Update 2.1 For Mac OS (717260), with a link to the software download.
This article has been archived and is no longer updated by Apple.

Language	Release Date	Software Update	Read Me	OS Required
North American English	1998-03-13			---
International English	---			---
français	---			---
Deutsche	---			---
Español	---			---
Italiano	---			---
Nederlands	---			---
Japanese	---			---

For help with downloading, see article 75098 "Help: Downloading Software" All software available from this site is covered by a software license agreement included with this software.

North American English

MessagePadTM 2000 Update 2.1 (717260) US

This document describes the product enhancements included in the system update file named "MessagePad 2000 2.1 (717260). " System Update 2.1 (717260) is for Apple MessagePad 2000 customers.

This version will install over the following system software version for the MessagPad 2000:

- version 2.1 (717145)
- version 2.1 (717006)
- version 2.1 (717041)
- version 2.1 (717132)

Note: This version of the Newton operating system is on the MessagePad 2100.

Important Before you install any system update, you should back up your MessagePad 2000 using the Newton Connection Utilities application or a PC storage card (also known as a PCMCIA card). For more information, see the documentation that came with the software or your MessagePad 2000. Apple is not responsible for any lost data.

Adjusting the contrast
You can now recenter the contrast slider by setting a different middle point. This allows you to refine the standard contrast range. For example, the factory preset contrast slider range goes from light gray to dark gray. You might want the contrast range to go from light gray to medium gray; to do this, you'd set the middle point slightly towards the lighter end of the slider.

To recenter the contrast slider, follow these steps:
1. Tap Extras to open the Extras Drawer.
2. Tap the contrast slider to move the diamond to the desired middle point.
3. Double tap the word "Contrast" below the slider.
4. When the message appears asking if you want to center the slider, tap Yes.

The diamond on the slider returns to the middle. The middle point of the contrast slider is now at the desired contrast setting.

Note: After recentering, you may notice a lightening of the screen after lifting the stylus off the contrast slider. Tap the screen again or wait 30 seconds and the screen will adjust back to the desired setting.

Memory
In earlier system software versions, the MessagePad may seem to not have enough memory when in fact it does. This problem is fixed.

Printing
In earlier system software versions, a printing problem may occur when scrolling through a Newton Book during print preview. This problem is fixed.

Faxing
You can drop or add fax numbers before faxing a document without getting an error message.

Using PC cards
In earlier system software versions, you might get the message "Battery on card needs to be replaced..." when certain PC cards are inserted. This problem is fixed.
Published Date: Feb 18, 2012

Mac OS X Server 1.x: Adjusting Monitor Geometry

This article explains how to make software-controlled monitor geometry adjustments on a computer with Mac OS X Server 1.x.
This article has been archived and is no longer updated by Apple.
Follow these steps to make software-controlled monitor geometry adjustments on a computer with Mac OS X Server 1.x:

1. Shut down the computer.
2. Start up the computer from a Mac OS 8 or Mac OS 9 volume. For example, use a system software disc and hold down the 'c' key until the computer starts up.
3. Open the Monitors control panel.
4. Perform the geometry adjustment(s).
5. Close the Monitors control panel.
6. Restart the computer. (Remember to eject the disc used in step 2.)

Published Date: Feb 18, 2012

Macintosh II: Always Keep It Horizontal

Can I use my Macintosh II in a vertical orientation?

This article has been archived and is no longer updated by Apple.
A Macintosh II, or Macintosh IIx and Macintosh IIfx, should always be kept horizontal.

Standing it on end
- voids the warranty
- defeats the cooling design
- will eventually damage the main unit.

The above remains true even if the required 4 to 6 inches of clearance is maintained around the vents.

Published Date: Feb 18, 2012

ImageWriter LQ: Spacing Problem In "Best" Mode Caused By Driver

This article has been archived and is no longer updated by Apple.

TOPIC ----------

This article describes spacing problems with the earlier version of the ImageWriter LQ print driver, version 1.x.

DISCUSSION ----------

In the box with the ImageWriter LQ is a sheet titled "ImageWriter LQ Important Information." It says: "Macintosh users: Words printed in Best Mode may occasionally touch or overlap, depending on the font, font size, or font style you use. To correct any spacing problems, try adding one or more spaces between words that are too close together."

The problem is not with the ImageWriter LQ itself, but with the ImageWriter LQ driver.

The solution is to upgrade to the ImageWriter LQ 2.0 driver.

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Applesoft BASIC: Advancing to Next Line After a ProDOS Call

When you add a function to ProDOS and call the function from BASIC, you don't then return to the BASIC program that called the routine: at that point, you are in BASIC. If the added function is more than one word (as specified in the ProDOS Technical Reference Manual), the pointer that should automatically take you to the start of the next line is not updated properly.
This article has been archived and is no longer updated by Apple.
You must make a call to Applesoft to go to the end of the current line, which automatically sets the pointer to the start of the next line.

There is a specific call in Applesoft to make this happen. In the Tech Info Library, search on: Applesoft and internals
Published Date: Feb 18, 2012

QuickTime: Description of MPEG-2 Encoder "Write Protocol File" Option

This article describes the "Write Protocol File" option that is available in the QuickTime MPEG-2 Encoder.

This article has been archived and is no longer updated by Apple.
When exporting a QuickTime movie in the MPEG-2 format from an application such as QuickTime Player, the QuickTime MPEG-2 Encoder can write a protocol file. The "Write Protocol File" checkbox, shown in Figure 1, controls this feature.

Figure 1 QuickTime MPEG Encoder Dialog Box

"Write Protocol File" is an option you can select to create a log of the encoding process. When it is enabled, a text file is written to the same directory as the encoded audio and/or video. The text file contains information in the following format:

```
NEW SESSION
##########################################################
START:  current date : 3/5/01  current time: 6:56:45 PM
Message: current file: Sample Movie.m2v
Message: size of sourcemovie:  200 x 240
System:            NTSC
Aspect Ratio:    4:3
Audio:            yes
Bitrate:        5400000

available space on target volume: 3.8 GB estimated filesize video: 1.9 MB
estimated filesize audio: 562 KB

User settings for field order:  auto
Used field order: upper
Field order detected by Scaled
Video  -> completed successfully
Audio -> completed successfully
END:  current date : 3/5/01  current time: 6:56:58 PM
##########################################################
```

The file is named for the date in which the encoding occurred. For example, "3_5_2001.pro" indicates that the encoding occurred on 2001-03-05. If another encoding happens to the same directory, the same protocol file is appended with information about the second encoding, and so on. If you encode to a different directory, a new protocol file is created in that directory.

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Macintosh Manager 1.3: Saving Documents on the Desktop

Using Macintosh Manager 1.3, applications that use Navigation Services, such as AppleWorks 6, allow a user to save documents to the desktop. This is resolved by Macintosh Manager 1.4 or later.

This article has been archived and is no longer updated by Apple.

Symptom

Applications that use Navigation Services, such as AppleWorks, allow users to save documents to the desktop. Since the desktop is local to the computer, and not specific to the user, this can prevent users from accessing their documents when they log in using a different computer.

Solution

Update to Macintosh Manager 1.4 or later.

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AppleTalk ImageWriter: Avoiding Timeout Issues

If a program or driver is 'disconnected' from the printer long enough for the AppleTalk option card to timeout, the rest of the print job may be lost.
This article has been archived and is no longer updated by Apple.
How an application, or driver, is written is what determines whether it works correctly in all instances with networked printers.

Two ways to avoid having this happen:

- When using manual feed, don't wait for a page to finish before responding to screen prompts -- this will help you avoid AppleTalk option card timeouts.

- Use a cut-sheet feeder, which lets you use the paper you want without having to use manual feed with its attendant pauses.

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Final Cut Pro 2.0: Computer Stops Responding When Audio Meter Window Is Open

Final Cut Pro 2.0 may quit unexpectedly or stop responding if the Audio Meter window is open, particularly if the computer has more than 1 GB of memory (RAM). Close the Audio Meter window to work around the situation.

This article has been archived and is no longer updated by Apple.

Symptom

Final Cut Pro quits unexpectedly or stops responding ("freezes").

Solution

Close the Audio Meter window.

This symptom may occur in computers with any amount of memory, though it is more prevalent with computers having 1 GB or more.

Apple is investigating this issue.

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AppleShare: Documentation Error About Server‘s RAM Cache Setting

In the AppleShare Administrator's Guide (copyright 1987, Chapter 1, page 16) there is the statement: "You must also check the RAM Cache. Then when you start up the server, frequently used info will be stored in the cache. This can improve the server's performance."
This article has been archived and is no longer updated by Apple.
It goes on to state that you should set this only to the current recommended amount of 64K, and that this amount may increase in future releases of AppleShare.

This documentation is incorrect. AppleShare on the Server ignores the Control Panel RAM cache setting. AppleShare automatically allocates RAM for the foreground application, the stack, and itself, then turns all the rest of available memory into RAM cache.

This correction will be documented in AppleShare 1.1 with a release note.
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ProDOS: Can‘t Handle Disk Volumes Larger Than 32MB

Current versions of ProDOS can't handle more than 32MB of storage on a hard disk volume.
This article has been archived and is no longer updated by Apple.
If you connect a Hard Disk 40SC or Hard Disk 80SC to an Apple II, you must partition the hard disk -- that is, divide it into separate volumes. Each volume is then counted as one SCSI device.

Apple does not supply the software that does the partitioning and currently does not know of any other source for such software.
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Mac OS 8.6: Application Switcher Won‘t Tear Off From Application Menu

After installing CarbonLib 1.3.1 on a computer with Mac OS 8.6, the Application Switcher does not "tear off" from the Application menu. This article offers both a solution and a workaround.

This article has been archived and is no longer updated by Apple.

Symptom

After installing CarbonLib 1.3.1, the Application Switcher does not "tear off" into a miniwindow from the Application menu.

Solution

Download and install Carbonlib 1.4 or later. You can obtain this update by visiting the Apple Software Downloads page (http://www.apple.com/swupdates/).

Published Date: Feb 18, 2012

Final Cut Pro: Dropped Frames Warning With Batch Capture

If you use QuickTime 5.0 or earlier, you may notice dropped frames when performing a batch capture with Final Cut Pro on a PowerBook or iBook computer. QuickTime 5.0.1 resolves this issue.

This article has been archived and is no longer updated by Apple.

Symptom

When performing a batch capture with Final Cut Pro, a "dropped frames" warning is immediately displayed. If dropped frame warnings are turned off, there are dropped frames at the beginning of a batch captured clip.

Solution

Update or upgrade to QuickTime 5.0.1. For more information on updating or upgrading your QuickTime software, please see the following articles:

Article 60359: "**QuickTime: How To Get The Latest Release**"
Article 25220: "**QuickTime: How to Determine Which Edition and Version Is Installed**"

QuickTime software can be found at:

http://www.apple.com/quicktime/
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A/UX: List of Included Berkeley Utilities

A/UX: List of Included Berkeley Utilities. This list was originally compiled for A/UX 1.0 but is still applicable to later versions.
This article has been archived and is no longer updated by Apple.
Berkeley Enhancements

Although A/UX is primarily based on AT&T System V, Apple has added many of the more popular and useful utilities from BSD 4.X (U.C. Berkeley's version of UNIX).

A/UX supports the following 4.2 BSD utilities:

addbib:create or extend bibliographic database
adventure:an exploration game
aliens:alien invaders attack the earth
apply:apply a command to a set of arguments
apropos:locate commands by keyword lookup
banner7:print large banner on printer
bcd:convert to antique media
biff:be notified if mail arrives and who it is from
ccat:compress and uncompress files, and cat them
chase:escape the killer robots
checknr:check nroff/troff files
chfn:change full name of user
chsh:change default login shell
clear:clears the user's terminal screen
colcrt:filter nroff output for CRT previewing
colrm:remove columns from a file
compact:compress and uncompress files, and cat them
cribbage:the card game cribbage
ctags:maintain a tags file for a C program
ctags:processes a source program to allow ex/vi editors to quickly find
function and type definitions.
diction:print wordy sentences; thesaurus for diction
dump:incremental file system dump
expand:expand tabs to spaces, and vice versa
eyacc:modified yacc allowing much improved error recovery
finger:user information lookup program
fish:"go fish" card game
fmt:simple text formatter
fold:fold long lines for finite width output device
fortune:print a random, hopefully interesting, adage
fpr:print Fortran file
from:who is my mail from?
fsplit:split f77, ratfor, or efl files
ftp:file transfer program
groups:show group memberships
head:print the first few lines of a file
hostname:set or print name of current host system
indent:indent and format C program source
indxbib:build inverted index for a bibliography, find references in a
bibliography
last:indicate last logins of a user
leave:remind you when you have to leave
lookbib:find and insert literature references in documents
lpc:line printer control program
lpd:line printer daemon
lpq:spool queue examination program
lpr:line printer spooler
lprm:remove jobs from the line printer spooling queue
ls7:list contents of directories BSD style
mkstr:create an error message file by massaging C source
netstat:show network status
number:convert Arabic numerals to English
pagesize:print system page size

printenv:print out the environment
rain:animated raindrops display
rcp:remote file copy
rdump:file system dump across the network
refer:find and insert literature references in documents
remsh:remote shell
renice:alter priority of running process by changing nice
reset:reset the terminal to a known state
restore:incremental file system restore
rev:reverse lines of a file
rlogin:remote login
roffbib:run off bibliographic database
rrestore:restore a file system dump across the network
ruptime:show host status of local machines on a network
rwho:who's logged in on local machines
sccs:front end to SCCS
script:make typescript of terminal session
see:see what a file has in it
soelim:eliminate .so's from nroff input
sortbib:sort bibliographic database
strings:find the printable strings in a object, or other binary file
style:analyze surface characteristics of a document
sysline:display system status on status line of a terminal
talk:talk to another user
telnet:user interface to the TELNET protocol
tip:connect to a remote system
trek:trekkie game
tset:set terminal modes to its power-on settings
ul:interprets backspacing to format underlining for line printers
uncompact:compress and uncompress files, and cat them
unexpand:expand tabs to spaces, and vice versa
uptime:show how long system has been up
users:compact list of users who are on the system
uudecode:encode/decode a binary file for transmission via mail
uuencode:encode/decode a binary file for transmission via mail
uusend:send a file to a remote host
vipw:edit the passwd file with vi
w:who is on and what they are doing
whatis:describe what a command is
whereis:locate source, binary, and or manual for program
which:locate a program file including aliases and paths (under csh only)
whoami:print effective current user id
worm:the growing worm game
worms:animate worms on a display terminal
xstr:extract strings from C programs to implement shared strings
yes:be repetively affirmative

C Shell

Also included is the U.C. Berkeley command interpreter (C shell). The C shell (csh) is a command interpreter that originated at the University of California at Berkeley. Its command language is somewhat like the C programming language. In addition to the C-like control flow features of its command language, the C shell also has a command history mechanism that enables the user to repeat and edit previous commands, permits commands to have an alternative name or alias, and has built-in job control functions.

Descriptions of the following commands and built-in functions can be found in the "csh(1)" man pages.

alias
break
breaksw
case
cd
chdir
continue
default
echo

else
end
endif
endsw
exec
exit
foreach
glob
goto
history
if
kill
login
logout
newgrp
nice
nohup
onintr
rehash
repeat
set
setenv
shift
source
switch
time
umask
unalias
unhash
unset
wait
while

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Macintosh Computers: ROM Version Numbers

This article explains how to determine the ROM version of a Macintosh computer. Additional information on Macintosh ROMs can be found in article 11609: "**Macintosh: ROM Size for Various Models**".
This article has been archived and is no longer updated by Apple.
To find the ROM revision of a computer not listed in this article, use one of the following two described methods.

Apple System Profiler is the easiest. Launch the program and under the System Profile tab, look in the Production information section for the ROM revision.

Alternatively, you can use the Programmer's Interrupt Switch to determine the ROM version number of your Macintosh Computer.

1. Press the programmer's interrupt switch, or use the keyboard equivalent.

2. Type: DM 2AE

3. Press return.

   - This displays the ROMbase global which is located at memory address $0002AE. The ROMbase global is the number located in offset 0 and 2. For example, a Quadra 660AV displays: 4080 0000 XXXX XXXX XXXX XXXX XXXX XXXX

4. Type the ROMbase global. EXAMPLE: DM 40800000. The result is 5BF1 0FD1 0000 002A 077D XXXX XXXX XXXX

5. The machine type and ROM version are at offset 8 or 077D in this case which is from a 660av Macintosh Computer. You could also add the 8 bytes to the memory address and have done DM 40800008 and the first two bytes would be the type and ID.

Macintosh ROM Version Table

System	Machine Type	ROM version
Macintosh 128K	0	
Macintosh 512K	0	
Macintosh 512Ke	0	75
Macintosh Plus	0	75
Macintosh SE	2	76
Macintosh SE/30	1	78
Macintosh Classic	2	76
Macintosh Classic II	6	7C
Macintosh Color Classic	6	7C
.		
Macintosh LC	6	7C
Macintosh LC II	6	7C
Macintosh LC III	6	7C
Macintosh LC 520	6	7C
Macintosh LC 550	6	7C
Macintosh LC 575	6	7C
Macintosh LC 475	6	7C
Macintosh LC 580	6	7C
Macintosh LC 630	6	7C
Macintosh TV	6	7C
.		
Performa 200	6	7C
Performa 400, 405, 410, 430	6	7C
Performa 460, 466, 467	6	7C
Performa 475, 476	6	7C
Performa 550, 560	6	7C
Performa 575, 578, 580	6	7C

Performa 600, 600CD	6	7C
Performa 630, 631, 635, 636, 637, 638	6	7C
Performa 5200, 5215	7	7D
Performa 5260, 5300, 5320	7	7D
Performa 6110,6112,6115,6116,6117,6118	7	7D
Performa 6200,6205,6214,6216,6218,6220	7	7D
Performa 6230, 6290, 6300, 6310, 6320	7	7D
Performa 6360	7	7D
Performa 6400	7	7D
.		
Macintosh II	1	78
Macintosh IIx	1	78
Macintosh IIcx	1	78
Macintosh IIci	6	7C
Macintosh IIsi	6	7C
Macintosh IIfx	6	7C
.		
Macintosh Centris 610	6	7C
Macintosh Centris 650	6	7C
Macintosh Centris 660AV	7	7D
.		
Macintosh Quadra 605	6	7C
Macintosh Quadra 610	6	7C
Macintosh Quadra 630	6	7C
Macintosh Quadra 650	6	7C
Macintosh Quadra 660AV	7	7D
Macintosh Quadra 700	6	7C
Macintosh Quadra 800	6	7C
Macintosh Quadra 840AV	7	7D
Macintosh Quadra 900	6	7C
Macintosh Quadra 950	6	7C
.		
Macintosh Portable	3	78
PowerBook 100	3	7A
PowerBook 140	6	7C
PowerBook 145	6	7C
PowerBook 145B	6	7C
PowerBook 150	6	7C
PowerBook 160	6	7C
PowerBook 165	6	7C
PowerBook 165c	6	7C
PowerBook 170	6	7C
PowerBook 180	6	7C
PowerBook 180c	6	7C
PowerBook 190	7	7D
PowerBook Duo 210	6	7C
PowerBook Duo 230	6	7C

PowerBook Duo 250	6	7C
PowerBook Duo 270c	6	7C
PowerBook Duo 280	6	7C
PowerBook Duo 280c	6	7C
PowerBook Duo 2300	7	7D
PowerBook 520	6	7C
PowerBook 520c	6	7C
PowerBook 540	6	7C
PowerBook 540c	6	7C
PowerBook 5300	7	7D
.		
Power Macintosh 4400/200	7	7D
Power Macintosh 5200/75 LC	7	7D
Power Macintosh 5300/100 LC	7	7D
Power Macintosh 5260/100	7	7D
Power Macintosh 5400/120	7	7D
Power Macintosh 5500/225	7	7D
Power Macintosh 6100 Series	7	7D
Power Macintosh 6500/225 & 6500/250	7	7D
Power Macintosh 7100 Series	7	7D
Power Macintosh 7200 Series	7	7D
Power Macintosh 7300 Series	7	7D
Power Macintosh 7500 Series	7	7D
Power Macintosh 7600 Series	7	7D
Power Macintosh 8100 Series	7	7D
Power Macintosh 8500 Series	7	7D
Power Macintosh 8600 Series	7	7D
Power Macintosh 9500 Series	7	7D
Power Macintosh 9600 Series	7	7D

Notes:

1. The ROM version does not necessarily reflect slight differences in ROM sets. For example, the Macintosh IIfx ROMs are slightly different from the Macintosh IIci ROMs, even though the ROM version number is the same.

2. With the Centris 660AV and Quadra 840AV, a new 2 MB ROM was introduced.

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QuickTime MPEG Encoder and Field Dominance of DV Clips

This article describes the Field Dominance setting in the QuickTime MPEG Encoder, which is used when preparing MPEG-2 content for DVD Studio Pro.

This article has been archived and is no longer updated by Apple.
When preparing content for DVD Studio Pro using the QuickTime MPEG Encoder, you can set the Field Dominance for the clip that is being encoded. The "Automatic" setting attempts to determine the correct field order of the selected clip. You can override this using the "Lower" or "Upper" settings, to specify a particular field order when encoding the clip.

Figure 1 Setting field dominance

The QuickTime MPEG Encoder automatically detects the field dominance of a DV clip. Specifying a particular field order for a DV clip has no effect.

For more information on Field Dominance, refer to the following articles:

- Article 25318: "**Interlacing: How to Prevent Jagged Lines in Video**"
- Article 58634: "**Final Cut Pro: Field Dominance Discussion**"

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LaserWriter: Composition of the Drum Coating

This article has been archived and is no longer updated by Apple.

The LaserWriter drum is an organic photo-conductive layer laid on the surface of an aluminum cylinder. The ingredients of the organic layer are:

wt% OSHA (PEL) ACGIH (TLV)
aluminum alloy 95.0-98.0 - -
titanium dioxide
(13463-67-7) 0.5-2.0 * 15mg/m3(TWA) 10mg/m3(TWA)(Dust)
(20mg/m3)(Stel)

Binder resin 0.5-2.0 - -
Organic semiconductor 0.3-0.8 - -

Carcinogens: no ingredient is listed on the latest NTP Annual Report on carcinogens, IARC Monograph, or OSHA listing.

*note - m3 = m to the power of 3

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QuickTime Streaming Server: How to Set the Movies Directory

This article explains how to change the directory QuickTime Streaming Server (QTSS) uses to stream media files.

This article has been archived and is no longer updated by Apple.
Follow these steps to change the directory QuickTime Streaming Server uses to stream media files:

Step One

Connect to the Streaming Server Admin Web page by entering the URL of the server and specifying port 1220. For example:

http://www.myserver.com:1220

Step Two

Log in as 'streamingadmin'

Step Three

Click the Settings tab (near the top of the window).

Step Four

In the Movies Directory text box, enter the path to the media files you wish to stream.

Note: If the Movies Directory pathname you specify is not within the partition that the computer starts up from, you must begin the pathname with '/Volumes/'. For example, if the files are in a folder named 'myfiles' on the 'fwdrive' partition, which is not the startup partition, enter '/Volumes/fwdrive/myfiles' in the Movies Directory text box. Note the inclusion of '/Volumes/ in the pathname. Even though the hard disk partition named 'fwdrive' is at the top level of the file system, it is actually mounted in /Volumes and must be specified in the pathname.

Step Five

Click Submit.

The new setting takes effect immediately.

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Using Macintosh Manager 2.0 With Mac OS X Server 10.0, 1.x, and AppleShare IP

For authentication, Macintosh Manager 2.0 can be used only with Mac OS X Server 10.0. However, any server that provides AFP over TCP/IP can be used as a workgroup volume server, including servers with AppleShare IP and Mac OS X Server 1.x. If necessary, a Macintosh Manager 2.0 client can revert to 1.4.1 by installing Update Package 1.4.1.

This article has been archived and is no longer updated by Apple.
The Macintosh Manager 2.0 authentication server must use Mac OS X Server 10.0. However, any AppleShare File Server that supports AFP over TCP/IP can be used as a workgroup volume server for Macintosh Manager 2.0. AppleShare IP and Mac OS X Server 1.x both support AFP over IP.

Do not use Update Package 2.0 with a current Macintosh Manager 1.4.x client unless the server has been migrated to Macintosh Manager 2.0 and Mac OS X Server 10.0. If clients have already been updated to Macintosh Manager 2.0 but do not have a Mac OS X Server 10.0 to bind to, use Update Package 1.4.1 on the Macintosh Management 1.x Server. This successfully reverts the client(s) back to Macintosh Manager 1.4.1.

Notes

1. Macintosh Manager 2.0 always uses English folder names on the server.
2. The English Update Package updates only English-language clients. Clients of other languages are not updated.
3. Mac OS X Server 1.x includes all Mac OS X Server versions released prior to 2001-05.

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Macintosh Manager 2: Documents Stored in Two Places in Mixed Mac OS Environment

Macintosh Manager 2.0 stores files belonging to a user's Documents folder in two different places, depending upon the version of Mac OS on the client workstation (Mac OS 8 or 9). This can be confusing to a user working in a mixed environment, and can lead to the mistaken belief that documents have been lost.

This article has been archived and is no longer updated by Apple.

Symptom

Files saved to the Documents folder on one client workstation do not appear in the Documents folder of another client workstation.

Solution

Update to Macintosh Manager 2.0.3 or later.

Additional information

Affected Mac OS 9 client files are stored in this folder:

```
~/Documents/
```

Affected Mac OS 8 client files are stored in this folder:

```
~/Library/Documents/
```

Note: The tilde character (~) represents the user's Home directory.

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ImageWriter LQ: No Additional Fonts From Apple

This article has been archived and is no longer updated by Apple.

The only ImageWriter LQ (3X) fonts Apple intends to distribute are:

- Times
- Helvetica
- Courier
- Symbol

We expect that other fonts will become available from third-party developers or designed by individuals using such programs as FONTastic Plus or Fontographer.

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Mac OS X 10.0, Mac OS X Server 10.0: Cannot Format Volumes Larger Than 1 Terabyte

You cannot format a volume that is larger than 1 terabyte with Mac OS X 10.0 or Mac OS X Server 10.0. Use volumes that are smaller than 1 terabyte.

This article has been archived and is no longer updated by Apple.

Symptom

Attempting to format a volume larger than 1 terabyte fails. An alert box appears with a message stating:

"Error - volume size is too big"

Products affected

- Mac OS X 10.0
- Mac OS X Server 10.0

Solution

Use volumes that are less than 1 terabyte in size.

If you are using a hardware RAID, set it up to present several volumes, with each volume being smaller than 1 terabyte.

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WebObjects: UnsatisfiedLinkError Exception When Clicking Link in Solaris

Clicking a link causes a WebObjects UnsatisfiedLinkError exception when Solaris cannot find the native_threads library.

This article has been archived and is no longer updated by Apple.

Symptom

After opening a WebObjects application on Solaris, clicking a link causes these messages to appear:

> java/lang/UnsatisfiedLinkError exception occurred while handling request:
>
> java/lang/UnsatisfiedLinkError: no net in shared library path

Solution

The messages appear because WebObjects cannot find the Solaris native_threads library.

Set the LD_LIBRARY_PATH to include a link to the native_threads library. It is usually in this location:

```
${NEXT_ROOT}/Library/Executables:${NEXT_ROOT}/Library/JDK/lib/sparc/native_threads
```

You can set the LD_LIBRARY_PATH with this command:

setenv LD_LIBRARY_PATH ${NEXT_ROOT}/Library/Executables:${NEXT_ROOT}/Library/JDK/lib/sparc/native_threads

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WebObjects 4.5.1: Putting Custom Attribute Class in Separate Java Package from Enterprise Object Class

This article explains how to put a Custom Attribute Class in a Separate Java Package from the Enterprise Object (EO) Class.

This article has been archived and is no longer updated by Apple.
When using Java in a WebObjects application, successfully getting a custom attribute type working when the custom attribute class is in the Enterprise Object's package can be tricky.

There are times when a WebObjects programmer may find it useful to build a custom attribute type in a custom attribute class. This is not very difficult and directions can be found in the WebObjects 4.5 'EOF Developer's Guide'; 'Modeling Complex Attributes' Chapter; 'Custom Data Types' Section, which is located at:

http://developer.apple.com/techpubs/webobjects/System/Documentation/Developer/EnterpriseObjects/DevGuide/EOsII1.html#311

The difficulties arise because the Java language provides for Packages, which can be used to group related objects or interfaces, and can provide a means of name space protection. Getting custom attribute types to work can be tricky if the custom attribute class is not in the same package as the Enterprise Object class.

There are four things you must do to get this to work properly in Java:

- You must have a ":" (colon) at the end of your valueFactoryMethodName in EOModeler.
- Your valueFactoryMethodName must be a static method named 'objectWithArchiveData'. It cannot be named anything else if you are using Java.
- Your attribute can pass NSString or NSData to your valueFactoryMethod, but not bytes.
- You must have a clone method implemented in your custom class. (It's not enough to just inherit it.)

Example

Here is an example (the rest of the class is constructors and setters and getters and so forth):

```
// EOF valueFactoryMethodName

public static PhoneNumber objectWithArchiveData(String str) {

System.out.println("factory Here...");

PhoneNumber phone = new PhoneNumber(str);

return phone;

}

// EOF adaptorValueConversionMethodName

public String archiveData() {

return _wholePhone;

}

// EOF bug workaround

public Object clone() {

System.out.println("clone Here...");

return this;

}
```

Here is the relevant snippet from the EO:

```
{

adaptorValueConversionMethodName = archiveData;

allowsNull = Y;
```

```
columnName = PHONE;

externalType = CHAR;

factoryMethodArgumentType = EOFactoryMethodArgumentIsNSString;

name = phone;

valueClassName = PhoneNumber;

valueFactoryMethodName = "objectWithArchiveData:";

width = 10;

},
```

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Final Cut Pro: Tips For Installing 2.0.2 Update

This article lists 3 things to check if the Final Cut Pro 2.0.2 Update cannot be successfully completed.

This article has been archived and is no longer updated by Apple.

Symptom

The Final Cut Pro 2.0.2 installer displays a dialog box with this message:

"The default installation location can not be found so the installer will now quit."

Products affected

- Final Cut Pro 2.0.2

Solution

Check these 3 things:

- Make sure you are updating Final Cut Pro 2.0. The 2.0.2 updater does not update earlier versions of Final Cut Pro.
- Make sure the Final Cut Pro application is named "Final Cut Pro" exactly.
- Verify that the Final Cut Pro 2.0 Preferences and the Final Cut Pro User ID files are in the Final Cut Pro Data folder, located in the Preferences folder. If they are not, open the existing version of Final Cut Pro and enter your serial number if appropriate.

Published Date: Feb 18, 2012

Macintosh Manager 2: Does Not Provide Multiple Users Functionality

Macintosh Manager 2 does not have a Multiple Users feature. If you need a Multiple Users feature, use Macintosh Manager 1.4.1.

This article has been archived and is no longer updated by Apple.
Macintosh Manager 1 had two features:

1. connect to a server (known as a Macintosh Manager client)
2. use local databases only (known as Multiple Users client)

Macintosh Manager 2 does not have a Multiple Users feature. When it is installed, you will see that option in the Multiple Users control panel. However, if it is checked Macintosh Manager 2 will still connect to a server. This is the normal function of Macintosh Manager 2.

If you want to use the Multiple Users feature of Macintosh Manager, do not upgrade to Macintosh Manager 2. Use Macintosh Manager 1.4.1 instead.

Related Documents

106456 Macintosh Manager 2.0: Restoring Stand-Alone Multiple Users Capability

Published Date: Feb 18, 2012

WebObjects 4.5: How to Optimize LDAPAdaptor Attribute Fetching

This document explains how to optimize the WebObjects 4.5 and 4.5.1 LDAPAdaptor example source code so that it optimally fetches attributes.

This article has been archived and is no longer updated by Apple.
The WebObjects 4.5 and 4.5.1 LDAPAdaptor example source code in $NEXT_ROOT/Developer/Examples/EnterpriseObjects/Sources/LDAPAdaptor fails to fetch attibutes (the LDAP vernacular for a column in a table) optimally because it fails to get a copy of a pointer before doing a destructive copy.

In the LDAPAdaptor example, when the -attributesToFetch method returns a non-nil value, then the LDAPAdaptor will fetch only those attributes in the NSArray returned by -attributesToFetch. If -attributesToFetch returns nil, then the LDAPAdaptor will fetch all attributes, for example, all columns in the LDAP "table".

The source code solution below allows only needed attributes to get fetched from the server. It is not a mandatory modification, merely an optimization. The solution below should improve responsiveness for users with slow connections to LDAP Servers, for LDAP servers with several unneeded or unused attributes, and for users attempting to modify directory attributes with multiple values.

Refer to the - (char **) cStringArray method of LDAPPrivate.m (lines 49-63). Replace the existing implementation of cStringArray with the following one:

```
- (char **)cStringArray
{
char **result, **start;
int i, len = [self count];

result = (char **)malloc( (len * sizeof(char *)) + 1 );
start = result; // hold on to original starting place.

for (i = 0 ; i < len; i++)
{
*result = cStringCopy([self objectAtIndex:i]);
result++;
}
*result = NULL; // terminate list.

return start; // the distribution returns 'result,' e.g,
// the null at the end of the array.
}
```

After making this source code change, be sure to recompile the adaptor to incorporate the modifications.
Published Date: Feb 18, 2012

WebObjects 4.5: Memory Leak in LDAPAdaptor Example Code

This article explains how to fix a memory leak in the WebObjects 4.5 and 4.5.1 LDAPAdaptor example source code.

This article has been archived and is no longer updated by Apple.

Symptom

There is a memory leak in the LDAPAdaptor example source code located in $NEXT_ROOT/Developer/Examples/EnterpriseObjects/Sources/LDAPAdaptor

Solution

A memory leak exists in LDAPChannel.m line 417. The following method declares an NSMutableArray, but never autoreleases it:

```
- (NSArray *) ldapAttributes
```

The original line looks like this:

```
ldapAtts = [[NSMutableArray alloc] initWithCapacity:count];
```

To correct the leak, change line 417 to read:

```
ldapAtts = [[[NSMutableArray alloc] initWithCapacity:count] autorelease];
```

After making this source code change, be sure to recompile the adaptor to incorporate the modifications.

Published Date: Feb 18, 2012

Macintosh Manager: Clients Can Open Applications From Removable Media

Macintosh Manager clients can open applications saved on removable media (such as CDs) even though that capability has been disabled.
This article has been archived and is no longer updated by Apple.

Symptom

A Macintosh Manager client can open applications from removable media (such as a CD) even though that capability has been disabled by the administrator.

Solution

You can work around this by preventing users from accessing removable media or non-approved CDs. Follow these steps in the Macintosh Manager admin application:

1. At Workgroups: Privileges, set "Removable Media" to none.
2. At Computers: Security, select the option to "access approved CD-ROMs only".
3. At Global: CD-ROMs, add approved CD-ROMs to the list.

Published Date: Feb 18, 2012

Mac OS X Server 10.0: Erratum for Admin Guide Page 233 on Macintosh Manager 2

This document contains a correction for page 233 of the Mac OS X Server 10.0 Admin Guide.

This article has been archived and is no longer updated by Apple.
Here is an excerpt from page 233 of the Mac OS X Server 10.0 Admin Guide, which explains how to create Macintosh Manager 2 Managed Preferences folders:

1. Set up a workgroup data volume in the Volumes pane of the Workgroups pane.
2. From a client computer, log in to the workgroup data volume. A Managed Preferences folder containing empty Initial Preferences, Forced Preferences, and Preserved Preferences folders is automatically created on the workgroup data volume.

Step 1 must be performed from the Workgroups:Options pane, not the Workgroup:Volumes pane.

Published Date: Feb 18, 2012

LaserWriter IIntx: Don‘t Try To Put Macintosh II SIMMs In It

This article has been archived and is no longer updated by Apple.

There is no way to plug a Macintosh II SIMM into a LaserWriter IINTX, or vice versa. The two SIMMs are incompatible both physically and electrically.

The LaserWriter IINTX SIMM is .25" longer than a Macintosh II SIMM.

The LaserWriter IINTX SIMM has 128 contacts on the module, in four groups of 32 (64 on each side).

The Macintosh II SIMM has 60 contacts, 30 on each side of the module.

Published Date: Feb 18, 2012

Macintosh: Tick Rates vs. Draw Rates

What's the difference between tick rates and draw rates?

This article has been archived and is no longer updated by Apple.
On all Macintosh computers, the tick rate is 60 ticks per second, regardless of processor type or speed. Ticks are available to the programmer to provide timing sequences that are constant, independent of machine type or the application.

Two different applications, on the other hand, may draw objects on the screen at varying rates, but this is due to the different drawing algorithms the applications use -- not to varying tick rates.

And the same application may draw at different speeds on different machines. For example, certain QuickDraw routines perform about 20 percent faster on a Macintosh SE than they do on a Macintosh Plus, due to the way memory is accessed. The Macintosh II, depending on video card settings, performs QuickDraw routines two to four times faster than a Macintosh Plus, because of its 68020 processor.

Some other factors that affect how fast a Macintosh draws an object on the screen:
- INITs
- VBL tasks
- hardware interrupts
- software interrupts
- Time Manager calls
- QuickDraw overhead
- memory

Published Date: Feb 18, 2012

Mac OS X 10.2: H&R Block TaxCut Forms Are Missing Text

Forms printed from H&R Block TaxCut may have missing text near the lower margin.
This article has been archived and is no longer updated by Apple.

Symptom

Text is missing from forms printed with H&R Block TaxCut when using a printer driver that clips page elements, such as an Epson Stylus Color 740. For example, "1040" is not printed on the lower part of a 1040 tax form.

Solution

1. Open TaxCut.
2. Choose File > Page Setup.
3. Choose Settings from the Page Attributes pop-up menu.
4. Choose Format for <printer>.
5. Confirm the paper size, such as US Letter.
6. Change the Scale setting to 95%, or another scaling size in which the form fits on the page.
7. Click Print.

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Document 17159, "**Locating Vendor Information**" can help you search for a particular vendor's address and phone number.

Published Date: Feb 18, 2012

Mac OS X 10.2.4: About the Security Update 2003-03-03

The Security Update 2003-03-03 improves security for Mac OS X 10.2.4.
This article has been archived and is no longer updated by Apple.

Important: Read Before Installing

1. To install Security Update 2003-03-03, you must enter the password of an administrator account. The password cannot contain a space or special characters typed by pressing the Option key.

   If you need to change an administrator account password, choose Apple menu > System Preferences, then choose View > Accounts. Select the account name and click Edit User. Type the current password and press Return, then type the new password in both text boxes. Click OK when you are done.

2. The installation process should not be interrupted. Monitor progress by clicking the Detailed Progress disclosure triangle. If a power outage or other interruption occurs during installation, use the standalone installer (see below) from Apple Featured Software to install.

Installation

There are two ways to install this update.

Automatic Software Update Installation

Choose Apple menu > System Preferences, then choose View > Software Update. For more information on this feature, see technical document 106704, "**Mac OS X: How to Update Your Software**".

Because some updates are prerequisites for others, you may need to use Software Update more than once to get all desired updates. Mac OS X 10.2.4 is required before installing this update.

Standalone Installers

An installer is also available from Apple Featured Software (http://www.apple.com/swupdates/).

Enhancements

- Resolves a security issue in sendmail in which a remote individual could gain access and control of the system. Although sendmail is turned off by default, all users should install this security update.
- Resolves a security issue by providing a later version of OpenSSL that improves data confidentiality.

Published Date: Feb 18, 2012

Mac OS X 10.2: iPhoto, Image Capture - managed Mac OS X clients do not recognize a camera

iPhoto or Image Capture may not recognize a connected camera when users are limited to certain applications or removable media.
This article has been archived and is no longer updated by Apple.

Symptom

iPhoto and Image Capture do not recognize a connected camera when users are limited to certain applications or removable media.

Solution

Update to Mac OS X 10.3 or later.
Published Date: Feb 18, 2012

Mac OS X 10.2: Address Book - Sony Ericsson T68 Fields Appear as Periods (".") After vCard Export

When you sync your Sony Ericsson mobile phone with Address Book, name fields that are blank in an Address Book vCard may appear as a period (".") on the phone.
This article has been archived and is no longer updated by Apple.

Symptom

A Sony Ericsson mobile phone displays the first or last name of the contact as a period (".") after syncing vCards with Address Book.

Solution

Enter the name field information in Address Book, then sync with the phone again.

To avoid this issue, do not leave the first or last name fields blank.
Published Date: Feb 18, 2012

Mac OS X 10.2: Volume Indicator is Erratic With Key Repeat Rate At Maximum

The Mac OS X on-screen volume indicator may behave erratically if the volume up or down keys are held when the Keyboard Repeat Rate is set to maximum.
This article has been archived and is no longer updated by Apple.

Symptom

The volume indicator jumps erratically when you hold the volume up or down keys.

Solution

1. Choose Apple Menu > System Preferences.

2. Choose View > Keyboard.

3. Drag the slider to lower the Keyboard Repeat Rate setting.

Published Date: Feb 18, 2012

Mac OS X 10.2: Last Printer Used Becomes Default Printer

If you have set up more than one printer in Print Center, the last printer you use becomes the default printer if you switch to that printer while printing a document.
This article has been archived and is no longer updated by Apple.

Symptom

The last printer used becomes the default printer.

Solution

Make sure the printer you want to use is selected in the Print dialog window's Printer pop-up menu before printing.
Published Date: Feb 18, 2012

Mac OS X 10.2: "File cannot be found" Alert When Opening Files From a Burned CD

Update to Mac OS X 10.2.3 or later to address an issue in which files stored on a CD that was created on a Windows XP PC cannot be opened. This article has been archived and is no longer updated by Apple.

Symptom

A "Files cannot be found" alert message appears when opening a file on a CD.

Solution

Update to Mac OS X 10.2.3 or later.

Important: Information about products not manufactured by Apple is provided for information purposes only, and does not constitute Apple's recommendation or endorsement. Please contact the vendor for additional information.

Document 17159, "**Locating Vendor Information**" can help you search for a particular vendor's address and phone number.

Published Date: Feb 18, 2012

Mac OS X 10.2: Audio Application Unexpectedly Quits If Third-Party Audio Device Is Disconnected or Turned Off

An audio application may unexpectedly quit when you disconnect or turn off a USB- or FireWire-based audio device. "Audio applications" include applications that access the USB or FireWire audio device, including iTunes, Final Cut Pro, and the Sound pane of System Preferences.
This article has been archived and is no longer updated by Apple.

Symptom

Audio applications unexpectedly quit when you disconnect or turn off a third-party USB or FireWire audio device.

Solution

Download and install Mac OS X 10.2.8 or later.

Published Date: Feb 18, 2012

Mac OS X 10.2.8 or Earlier: Classic Cannot Save in Some Directories

Using a Classic application, you cannot save files to certain write-protected Mac OS X directories (such as /System).
This article has been archived and is no longer updated by Apple.

Symptom

Using a Classic application, you cannot save files to certain write-protected Mac OS X directories (such as /System).

Solution

Save in a different location, such as the desktop, the Documents folder, or your home directory.

Before saving a document, make sure the target directory is not write-protected, such as /System. You can determine access (including write) permissions by selecting the directory in the Finder and choosing Finder > Get Info. Look in Ownership and Permissions for the directory's access privileges.

Published Date: Feb 18, 2012

.Mac: How to Change Play Order of Public Slideshows

This document explains how to change the play order of Public Slideshows, if you have downloaded more than one.
This article has been archived and is no longer updated by Apple.
If you have more than one .Mac (pronounced "dot Mac") Public Slideshow, you can change the order in which they play by dragging the slideshows in the Configure window.

Note: This affects entire slideshows, not individual images within the show.
Published Date: Feb 18, 2012

Mac OS X 10.2: Classic Environment Does Not Search the Internet for Third-Party USB Device Drivers

The Mac OS X 10.2 Classic environment does not search the Internet for a device driver when you connect or install a third-party USB device.
This article has been archived and is no longer updated by Apple.

Symptom

When a you connect or install a third-party USB device, the Classic environment does not search the Internet for a driver.

Solution

This is expected behavior. Visit the device manufacturer's website for the latest device drivers, then install them manually.

Published Date: Feb 18, 2012

Mac OS X 10.2: Printing Delay When Shared Printer Is Unavailable

When you select an unavailable shared printer and try to print to it, or if it is the default printer in Print Center, the arrow pointer turns into a progress indicator (looks like spinning disc) for up to a minute.
This article has been archived and is no longer updated by Apple.

Symptom

Printing is delayed up to a minute while Print Center tries to contact an unavailable shared printer.

Solution

Select a different, available printer as the default. Use Print Center to verify the availability of your printer.
Published Date: Feb 18, 2012

Apple Video Card and Monitor: "Gray Scale" Specifications

The gray-scale capabilities of Apple video monitors are no different from those of other gray-scale monitors. ("Gray scale" is another name for a monochrome analog monitor.)

This article has been archived and is no longer updated by Apple.
The Apple Macintosh II Video Card produces true gray-scale output, in the form of an analog RS-343 standard video signal. Apple monitors are also capable of displaying true gray-scale images. The RGB monitor even displays color information.

Apple's video displays 256 shades of gray (or colors) on an analog monitor. Some manufacturers have video cards that display up to 786,432 shades of gray or colors. Apple video cards have access to the same source (16.8 million different shades of gray or colors) as these others--the differences in the number of gray and color shades is due only to the amount of memory on the video card.

Published Date: Feb 18, 2012

Instant Pascal: Not Designed To Display Text In Color

Instant Pascal is not intended to display text in color. In fact, such text approaches being unreadable.
This article has been archived and is no longer updated by Apple.
The only solution is to use a monochrome display.
Published Date: Feb 18, 2012

Mac OS X: About Print Collate Feature in Classic

The Collate checkbox isn't available in a Classic application's Print dialog unless the printer has a collation feature.
This article has been archived and is no longer updated by Apple.
The Collate checkbox is available in a Classic application's Print dialog if the printer has a collation feature. If this checkbox doesn't appear, the printer doesn't have a collation feature. Contact the printer manufacturer for further assistance or compatibility information.

Compatible printers used with native Mac OS X applications may be able to use software collation even if the printer does not include a collation feature.
Published Date: Feb 18, 2012

Mac OS X: Mail - Dragging a Unselected Message Does Not Deselect Another

Mail allows you to drag an unselected (nonhighlighted) email message to a different folder--even if a different message is selected.
This article has been archived and is no longer updated by Apple.
Mail allows you to drag an unselected email message to a different folder--even if a different message is selected. Any messages that are already selected do not move when you drag the message to a different folder. This is expected behavior.
Published Date: Feb 18, 2012

HyperCard: Two Methods For Speeding Up New Sound Retrieval

This article has been archived and is no longer updated by Apple.

If you want to load new sound resources into memory so that they can be accessed quickly on HyperCard -- normal drive response takes several seconds, which may be too long a delay for certain projects -- try one of these two methods:

- store the sounds on a small RAM disk

or

- use a resource editor such as ResEdit to PRELOAD the sound resources that you wish to speed up.

There are limitations to this preloading method: the initial stack launch time is slowed, and some sounds may be too large to reside in memory.

(NOTE: Make sure you back up your original stack before attempting this.)

Published Date: Feb 18, 2012

AppleMouse II: Printing From MousePaint

MousePaint can print directly only to Apple printers. Here's how to print MousePaint pictures to other printers.
This article has been archived and is no longer updated by Apple.
Follow these steps:

1. Save your picture to a disk file. Chapter 3 of the AppleMouse II User's Manual tells how.

2. Use a program that prints screen images on your type of printer. Many printer manufacturers furnish such a "graphics dump" program with their printer.

Published Date: Feb 18, 2012

Apple Hardware: Regulatory and Product Safety Certifications

What types of regulatory and saftey standard certification does Apple equipment meet?
This article has been archived and is no longer updated by Apple.
In most countries, electronic products are required to meet specific regulatory requirements and saftey certifications before they can be sold or leased. Apple products are tested to meet these requirements and certifications. Compliance reports are kept on file, and copies of the Declarations of Conformance or certifications are available on request.

As an indication of their compliance and certification, Apple products typically display compliance logos, markings, and compliance text on the their labels, or in any accompanying documentation. The following information may be used for general information. For the conformity or certification of a specific product, please see the label or documentation.

Regulatory Certification

Apple hardware products comply with the following Electromagnetic Compatibility (EMC) and telecommunications regulatory requirements:

Australia
Products that have satisfied Australian Spectrum Management Authority (SMA) requirements display a small round check mark, called the "c-tick mark," on the product label. Apple products that connect to a phone line also meet AUSTEL requirements.

Canada
Apple products typically comply with Industry Canada's Class B interference-causing equipment regulations-- ICES-003, Class B. ICES information is displayed on the product label and in the manual. The Department of Communications governs DOC CS03 telecommunication regulations. A red maple leaf label and a registration number are attached to products that meet Department of Communications requirements. Further information on DOC CS03 compliance is available in the product manual.

European Union
Apple products carry the "CE" mark as an indication of their conformity with relevant regulatory standards following the provisions of European Council Directives 73/23/EEC (Low Voltage Directive) and 89/336/EEC amended by 92/31/EEC (EMC Directive).

Japan
Apple products typically comply with Voluntary Control Council for Interference (VCCI) Class B regulations. Products that have satisfied these tests display a VCCI logo on the product label.

Taiwan
Taiwan established EMC requirements in January 1998. A special report needs to approved by the Taiwanese government prior to importing product into that country. The governing body in Taiwan is the Bureau of Commodity Inspection and Quarantine (BCIQ). A registration number is displayed on the product label.

United States
Apple products comply with CFR 47, Part 15 and Part 68 where applicable. Part 15 compliance has 2 classifications, A and B. Most Apple products are Class B, designed for use in the home or office. Class A products are approved for use only in a business or commercial environment and specifically not in the home. Either a Federal Communications Commission (FCC) ID number or an FCC logo is visible on the product label. Part 68 requirements are for products that provide a direct connection to a telephone line such as a modem. A registration number for Part 68 is visible on the product label. Additional information for Part 15 and Part 68 can be found in the product manual.

Saftey Standards Certification

Apple seeks certification for most of its hardware products from national and international safety standards organizations including: Underwriters Laboratory (UL), British Standards Institution (BSI), CSA (Canada and USA) VVerband Deutscher Electrotechniker--VDE (Germany), SEMKO (Sweden), DEMKO (Denmark), NEMKO (Norway), TUV-GS (Germany), and Australian StandardsMark.

Note: Apple Computer does not test Apple equipment for hospital AAMI/ANSI compliance certifications. However, depending on an individual institution's certification requirements, Apple equipment may possibly be used in certain work areas. Before installing equipment, Apple customers must check the hospital's certification requirements for the work area where the equipment is to be installed.

Contact

For additional documentation or information about the certification or compliance of Apple products, please contact your local Apple office.

Published Date: Feb 18, 2012

Mac OS X 10.2: Process Viewer May Not Display Total Process Time for Selected Process

Process Viewer's More Information feature may not display the total process time for a selected process. Use an advanced Terminal command if you need this information.
This article has been archived and is no longer updated by Apple.

Symptom

Process Viewer's More Information feature may not display the total process time for a selected process.

Solution

To view the total CPU time for a particular process:

1. Open Terminal (/Applications/Utilities).
2. Type: `ps -auxc`
3. Press Return.

The Time column displays the total CPU time for each process.
Published Date: Feb 18, 2012

Macintosh Built in Serial Ports: Not Identical

This article has been archived and is no longer updated by Apple.

TOPIC ----------

Are there any differences between the two built-in serial ports on Macintosh computers?

DISCUSSION ----------

The two built-in serial ports on Macintosh products are nearly identical, except for the differences detailed in this article. Here are the differences:

Ñ╩Port A (the modem port) has a higher interrupt priority; it is more suitable for high-speed transmission.

Ordinarily, Port B (the printer port) should be used for output-only connections, or at low baud rates; the Port A (the modem port) has no such restrictions. Whenever interrupts are turned off for longer than 100 microseconds, the Serial Driver stores any data received through Port A (the modem port,) and later passes the data to the modem port's input driver.

Note: For more information, see "Inside Macintosh Volume 2."

Ñ╩Port A on the Macintosh SE and Port A on the Macintosh II support synchronous transmission, but Port B does not. Earlier Macintosh products do not support synchronous transmission through either port.

Published Date: Feb 18, 2012

Mac OS X 10.2: Earthlink Free Trial Registration Menu Does Not List Oregon

Oregon is not listed in the registration State pop-up menu.
This article has been archived and is no longer updated by Apple.

Symptom

Oregon is not listed in the Earthlink Free Trial registration's State pop-up menu.

Solution

Contact Earthlink (1-800-EARTHLINK) to set up your Oregon-based trial account.

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Document 17159, "**Locating Vendor Information**" can help you search for a particular vendor's address and phone number.

Published Date: Feb 18, 2012

iPod with MusicMatch: No Home Application Available After Installing 2.0.1 Update

No Home Application is available in iPod Manager after installing the iPod Software 2.0.1 update.
This article has been archived and is no longer updated by Apple.

Symptom

There are no choices in the iPod Manager Home Application list. This can occur after installing the iPod Software 2.0.1 update.

Solution

1. Quit iPod Manager.
2. Open MUSICMATCH Jukebox from the Start Menu.
3. Quit MUSICMATCH Jukebox.
4. Open iPod Manager again.

Published Date: Feb 18, 2012

MultiFinder: Works With TOPS 2.0 and Single Drive

Will MultiFinder work with TOPS (version 2.0)?

This article has been archived and is no longer updated by Apple.
MultiFinder works with TOPS version 2.0, and disk space can be found to use it with only a single floppy drive.

A bootable Macintosh disk using System Software 5.0 with MultiFinder requires at least these files:

- System
- Finder
- MultiFinder

You can save more room by removing unneeded desk accessories and Fonts from the System file. The System file must contain the TOPS DA, and four fonts: Chicago 12, Monaco 9, Geneva 9, and Geneva 12. All other fonts and DAs can be removed to save space.

NOTE: If you plan to access the Control Panel, you will need that DA installed, along with the CDEVs necessary to perform the desired functions: "General", for example.

We suggest you pare down a System 5.0 disk to your minimum requirements, leaving as much disk space as possible, then install TOPS 2.0.

Published Date: Feb 18, 2012

iMovie 3.0.3 (French): Unexpectedly quits

iMovie may unexpectedly quit if French is selected as the primary language in International preferences and if there are stray clips in the iMovie project.
This article has been archived and is no longer updated by Apple.

Symptom

iMovie 3.0.3 unexpectedly quits.

This happens when you open the application and it tries to delete clips that don't belong to any projects.

Solution

Temporarily set the primary language to something other than French:

1. Quit iMovie if it is open.
2. From the **Apple** menu, choose **System Preferences**.
3. From the **View** menu, choose **International**.
4. Click Language.
5. Drag a language other than French to the top of the Languages list.
6. From the **System Preferences** menu, choose **Quit**.
7. Open iMovie.
8. Dismiss the alert message concerning stray clips.
9. Save your project.

After saving your project, you can change the primary language back to French.

Published Date: Feb 18, 2012

No AppleTalk ImageWriter LQ Message May Be Bad Software/Card

This article has been archived and is no longer updated by Apple.

Have you had this problem while using AppleTalk and an ImageWriter LQ?:

- Upon starting the application "The Namer" and selecting the AppleTalk ImageWriter LQ icon, you get a message saying that NO AppleTalk ImageWriter LQ is connected to the network -- even though one is properly connected?

Rather than a configuration problem, you are probably using corrupted software or a bad AppleTalk card. Try the job again with one or both of these variables replaced.

Published Date: Feb 18, 2012

Mac OS X 10.2 (Japanese): Mac OS 9 Clients Cannot Read My Shared Filenames

If names of shared files on a Mac OS X 10.2 computer contain certain characters, you may not be able to understand them when connecting from a Mac OS 9 computer.
This article has been archived and is no longer updated by Apple.

Symptom

At a Mac OS 9 computer, the name of a file being shared by a Mac OS X computer doesn't make sense. The filenames look fine at the Mac OS X computer.

This happens when the name includes certain SHIFT-JIS encoded characters.

Solution

Avoid using these characters when possible.

This document will be updated as more information becomes available.

Published Date: Feb 18, 2012

iCal: Subscribed Calendar Is Missing Multiple-Day Events

You subscribed to a calendar that was created with iCal 1.5.1 or later, but multiple-day events do not appear.
This article has been archived and is no longer updated by Apple.

Symptom

Multiple-day events do not appear in a calendar that you've subscribed to.

This happens when the calendar was created with iCal 1.5.1 or later, but you are viewing it with iCal 1.0.2 or earlier.

Solution

Download and install iCal 1.5.1 or later. Use it instead of iCal 1.0.2 or earlier.

Published Date: Feb 18, 2012

ALERT: Beware of "Sexy Ladies" Program

This article has been archived and is no longer updated by Apple.

*** IMPORTANT ***

Watch out for a Trojan Horse program that was distributed at MacWorld in January 1988. It's called "Sexy Ladies". When you run the program, it puts an abusive message on your screen, then ERASES your hard drive. It was distributed on a floppy named "PD".

To prevent viruses and Trojan Horses from affecting your system, make sure you:

* Know the source of an application before using it.

* Try out any dubious programs on a test system.

For more information, please search on the term VIRUS.

Published Date: Feb 18, 2012

Mac OS X 10.3: Received Faxes Aren‘t Saved in Folder Whose Name Has 2-Byte Characters

If faxes you receive with Mac OS X Panther aren't saved in the folder you've selected, update to Mac OS X 10.3.2 or rename the folder.
This article has been archived and is no longer updated by Apple.

Symptom

Received fax documents are not automatically saved.

This happens when you've enabled fax receiving, are saving faxes in a specific folder, and the name of the folder you selected to store received faxes contains 2-byte characters.

Solution

Download and install Mac OS X 10.3.2 or later.

If you're not ready to update, use this workaround: Rename the folder so that it does not contain any 2-byte characters. These types of characters are most commonly found in Japanese, Chinese, and Korean character sets.

For more information about 2-byte characters, see technical document 31106, "**WorldScript: 1-byte and 2-byte Script Systems Explained**".

Published Date: Feb 18, 2012

Macintosh Finder: How View Affects File Opening Order

This article has been archived and is no longer updated by Apple.

TOPIC ----------

Why is it that when I surround multiple files in the Macintosh Finder 6.X with a selection rectangle, and then choose Open from the File menu, the order in which files open varies?

DISCUSSION ----------

When you use the selection rectangle (also called a "marquee" or "marching ants"), the "View" you have selected affects the order in which the files open. Here are the view selections and their results:

* By Icon or By Small Icon: The most recently added, moved, clicked on, or changed file opens last. The next most recently added, moved, clicked on, or changed file opens NEXT to last,an so on.

* By Name: The files open in descending alphabetical order; for example, "Zero" would open after "Alice".

* By Date: The files open in last-modified date order; that is, the most recently modified file opens last.

* By Size: The files open in size order, smallest file opening last.

* By Kind: The files open in alphabetical order based on the kind of file. For example, a document file opens after an application file.

* By Color: The files open according to the color of their icons, based on the order of colors in the Finder's Color menu. The last color in the list opens last.

Published Date: Feb 18, 2012

Macintosh SE: Companies That Supply Option Card Products (8/94)

The following companies produce option cards for the Macintosh SE expansion slot.

This article has been archived and is no longer updated by Apple.

Expansion Chassis

ExpanSE -- from Second Wave, Inc. -- is an expansion chassis for the Macintosh SE. Its interface occupies the SE expansion slot, providing four slots. For more information on ExpanSE, search under: Second Wave, Inc.

Option Cards

The following companies have announced SE option card products for the Macintosh SE.

Please pay particular attention to the ADDRESS RANGES used by these SE option card products. To select a combination of four products to use in a Second Wave ExpanSE expansion chassis, choose products without overlapping address ranges. Products with switch-selectable addressing are the most flexible products to use in your chassis.

(NOTE: Information was not available for all products.)

Mac86: >800000->8FFFFF
- AST Research, Inc.

MacMainFrame SE: >800000->81FFFF
- Avatar Technologies, Inc.

MacIRMA: Switch-selectable addressing
- Digital Communications Associates (DCA)

Epic 2400SE: Switch-selectable addressing
- Epic Technology, Inc.

The Big Picture: >780000->799400
- E-Machines Inc.

HyperCharger 020
- General Computer Corporation
(NOTE: does not implement the Apple 68000 bus protocol completely, and
will therefore not operate in ExpanSE)

Pro Board by Addon Computer Corp.
- IO Inc.

EtherPort SE: >800000->80FFFF
- Kinetics, Inc.

Turbo SE: Math co-processor: >500000->50FFFF
- MacMemory Incorporated

Orion Galaxy LS: >540000->57FFFF
- MacPeak Systems

MegaScreen SE: >540000->57FFFF
MegaScreen SE*M: >5E0000->5FFFFF
Math co-processor at >530000->530020
- MEGA Graphics Inc.

Micah Vision: >700000->87FFFF
- MICAH

Viking 1

- Moniterm Corporation

GPIB-SE: >800000->8002FF, >500000->5000FF
- National Instruments
(NOTE: this card uses DMA.)

Stretch Screen
- Network Specialties, Inc.
(NOTE: does not use an SE option card)

MAC20
MAC20MX
- Novy Systems Inc.

Mac+PC
- PerfecTEK Corporation

Radius Accelerator: >680000->6FFFFF, >800000->8FFFFF, >C80000->CFFFFF, >FA0000->FFFFFF
Radius Full Page & Two Page Display: >600000->67FFFF, >700000->7FFFFF, >C00000->C7FFFF, >F80000->F9FFFF
- Radius, Inc.

Inspector
- Seawell Microsystems

LaserView: >800000->8FFFFF, >C00000->CFFFFF
- Sigma Designs, Inc.

Analog Connection SE-12
Analog Connection SE-16
- Strawberry Tree Computers, Inc.

SuperView: Rev. C uses>A00000->AFFFFF, Rev. E uses >C00000->C4008D & >F80000->FBFFFF, the 68881 uses >C80000->C9FFFF
- SuperMac Technology

Apple PC 5.25 Drive: >800000->8FFFFF
- Apple Computer, Inc.

NOTE

The Apple card does not strictly adhere to the 68000 Bus Arbitration Protocol. This protocol requires that after a bus request has been made and granted, the requesting device should send back a 'bus grant acknowledge' -- something the Apple card does not do.

In the case of Second Wave's ExpanSE, this signal notifies the processor to turn the tranceivers around and guarantee full communication. Without this signal, the tranceivers are never turned and an error message is returned -- "Unable to Read Disk" -- as the communication is only in one direction.

To locate a vendor's address and phone numbers, use the vendor name as a search string.

Article Change History:
08 Aug 1994 - Removed Dove Computer from listing.

Support Information Services

Published Date: Feb 18, 2012

Mac OS X 10.3: Using With Default Folder X

If you can't use St. Claire Software's Default Folder X with Mac OS X Panther, contact the vendor.
This article has been archived and is no longer updated by Apple.
For workarounds and assistance with Default Folder X, see St. Claire's website (http://www.stclairsoft.com/DefaultFolderX/panther.html).

Important: Information about products not manufactured by Apple is provided for information purposes only, and does not constitute Apple's recommendation or endorsement. Please contact the vendor for additional information.

Important: Mention of third-party websites and products is for informational purposes only and constitutes neither an endorsement nor a recommendation. Apple assumes no responsibility with regard to the selection, performance or use of information or products found at third-party websites. Apple provides this only as a convenience to our users. Apple has not tested the information found on these sites and makes no representations regarding its accuracy or reliability. There are dangers inherent in the use of any information or products found on the Internet, and Apple assumes no responsibility in this regard. Please understand that a third-party site is independent from Apple and that Apple has no control over the content on that website.
Published Date: Feb 18, 2012

Mac OS X 10.3: Mail - "The destination mailbox does not exist" Message

Update to Mac OS X 10.3.2 or later if the message, "The destination mailbox does not exist" appears when you try to move a message to a different mailbox.
This article has been archived and is no longer updated by Apple.
This can happen when you try to move a message from a local mailbox, for example, "On My Mac", to an account's In box. This only occurs with certain email messages and only in certain account configurations.

Download and install Mac OS X 10.3.2 Update to address this issue.

If you're not ready to update, you can use this workaround: Move the message to Drafts, then drag it to the account In box.
Published Date: Feb 18, 2012

Mac OS X 10.2: Cannot Deselect Kotoeri Input in International Preferences

If there are third-party input methods installed, Kotoeri-related items may still appear in the input menu even after deselecting Kotoeri in International preferences. This document applies to Mac OS X 10.2.4 through 10.2.8.
This article has been archived and is no longer updated by Apple.
To fix this, follow these steps. You may need to do this after each start up.

1. From the **Apple** menu, choose **System Preferences**.
2. From the **View** menu, choose **International**.
3. Select any third-party Japanese input methods, such as ATOK, from the list of keyboard layouts, input methods, and palettes.
4. Close International preferences.
5. From the **Input** menu (generally looks like a flag in the menu bar), choose the third-party input methods.
6. From the **Input** menu, choose **Open International**.
7. Deselect Kotoeri in the list of keyboard layouts, input methods, and palettes.

Related documents

25622 Mac OS X 10.3: Cannot Deselect Kotoeri Input in International Preferences

Published Date: Feb 18, 2012

Mac OS X 10.2, PowerBook G4: Computer Stops Responding When Window Is Moved

Your PowerBook G4 computer may stop responding when a Classic application's window is moved.
This article has been archived and is no longer updated by Apple.

Symptom

Your PowerBook G4 computer stops responding (or "freezes") when you move a Classic (Mac OS 9) application window.

Solution

This document will be updated as more information becomes available.

Related documents

25625	Mac OS X 10.3, PowerBook G4: Computer Stops Responding When Window Is Moved

Published Date: Feb 18, 2012

iChat AV 2.1 Public Beta: How to Revert to iChat AV 2.0

Learn how to revert to iChat AV 2.0.
This article has been archived and is no longer updated by Apple.
To revert to iChat AV 2.0 from iChat AV 2.1 Public Beta, choose **Revert to iChat AV 2.0** from the **iChat AV (Beta)** menu.

This alert appears:

> "Revert to iChat AV 2.0? This action will quit and permanently remove the iChat AV 2.1 Beta, restoring it to version 2.0."

Click "Quit and Revert" to continue, or "Don't Revert" (the default choice) to cancel the reversion.

Note: AppleCare does not offer phone support for iChat AV 2.1 Public Beta.

Published Date: Feb 18, 2012

iChat AV 2.1 Public Beta: "iChatAV21PanBeta Cannot be Installed on This Computer" Message

To successfully install iChat AV 2.1, quit any version of iChat that is already open before you begin the installation.
This article has been archived and is no longer updated by Apple.
Quit the iChat AV 2.1 Public Beta installer, then quit iChat and install again if this message appears:

> "iChatAV21PanBeta Cannot be Installed on This Computer. Please quit iChat before running this installer."

Note: AppleCare does not offer phone support for iChat AV 2.1 Public Beta.

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High Speed Serial Interface Card: Settings (11/96)

The Apple II Serial Interface Card (A2B0008), also known as the High Speed Serial Interface Card, is primarily used with serial letter-quality printers like the Qume, Diablo, and NEC Spinwriter series.

The following explains the functions of the various DIP switches and PROMs on the High Speed Serial Interface Card. This card has been discontinued and is no longer available from Apple.

This article has been archived and is no longer updated by Apple.

```
Baud Rate - Switches 1,2 and 3
------------------------------

      DIP Switch           Baud Rate
      1      2      3

      ON    ON     ON       110
      OFF   ON     ON       134.5
      ON    OFF    ON       300
      OFF   OFF    ON       1200
      ON    ON     OFF      2400
      OFF   ON     OFF      4800
      ON    OFF    OFF      9600
      OFF   OFF    OFF      19200

The settings of DIP switch levers 1, 2, and 3 determine the rate at which bits may be transmitted to the
external device: 300 baud is 300 bits per second.


Carriage Return Delay - Switch 4
--------------------------------

          DIP Switch     Carriage Return Delay
          4

          ON             Enabled
          OFF            Disabled

If switch 4 if Off (Delay Enabled), the Serial Interface waits briefly (approximately 1/4 second) after
transmitting a carriage return before resuming transmission of further characters, allowing the printer's
carriage to return. If you are transmitting to an external TV screen, this delay is probably unnecessary, so
lever 4 may be turned On (Delay Disabled).


Line Width plus Apple Video - Switches 5 and 6
----------------------------------------------

        DIP Switch     Line Width (characters    Apple Video
        5     6        per Line)

        ON    ON         40                        Enabled
        OFF   ON         72                        Disabled
        ON    OFF        80                        Disabled
        OFF   OFF       132                        Disabled

After a carriage return, the settings of switches 5 and 6 determine the maximum number of characters that can
be transmitted before the Serial Interface forces another carriage return to be sent. Characters are displayed
on the screen only if line width is set to 40 characters per line (levers 5 and 6 On). After initialization,
the line width can be changed from 40 characters per line, but the display on the screen will not correspond
to the display on the external device, since transmitted carriage returns are not accompanied on the screen by
line feeds.
```

Line Feed - Switch 7

DIP Switch 7	Line Feed
ON	Disabled
OFF	Enabled

If switch 7 is Off (Line Feed Enabled), the Serial Interface transmits a line feed after each carriage return. If the external device automatically supplies its own line feed after each carriage return received, you can set lever seven to On (Line Feed Disabled) to avoid unwanted double-spacing.

Important Information

Permanent Defaults

During each initialiation, five remaining operating parameters are set to permanent default values:

1. Parity defaults to diabled (no parity bit).

2. Checksum defaults to disabled (no checksum character).

3. Lower-Case defaults to disabled (converts all incoming lower-case characters to upper-case).

4. Number of Data Bits defaults to 9 (8 data bits plus one start bit).

5. Number of Stop Bits defaults to 2.

After initialization, these five parameters can only be changed by software commands.

Hardware Handshaking Flow Control

This card does not have any hardware handshaking flow control. It can therefore only be used at slow baud rates. Additional information on flow control can be found in the Tech Info Library article titled "Flow Control Protocols (XOn/XOff or DTR)".

P7-04 PROM

Early versions of the High Speed Serial Card would not work with certain cards in the next higher numbered peripheral slot. The P7-04 PROM solves this problem.

P8A PROM

After a program sends output to a printer, and before the P8A PROM allows the Apple to continue executing the program, the P8A sends an ASCII ETX (CTRL-C) to the printer at the end of each line and waits for the printer to send back an ASCII ACK (CTRL-F). So the P8A can send the ASCII ETX, make sure pins 2 & 3 on the interface connector are connected straight across; also make sure the printer can send the ACK. If the pins and the printer do not meet these conditions, then the computer stops running the program after the first line sent to the printer. Neither the original PROM, called the P8 (Apple part# 341-0018), or the basic card provided handshaking capabilities.

The PROM P8A should be installed in place of the existing PROM P8 when using Qume compatible printers. Be aware that switch 4 has a different function with this setup and must be in the OFF position.

The P8A prom uses location $3C as a temporary memory register. Many of the monitor commands cannot be used with any printer because of this conflict.

PROM 8A Printer Support

Printers that support the P8A are:

Anderson Jacobson 832 (send <ESC>!W to set the AJ's mode, page 3-30)
Qume Sprint 5
NEC Spinwriter

DB-25 Connector Pinout

DB-25 Connector	Signal Name
2	Receive Data (Rx)
3	Transmit Data (Tx)
7	Signal Ground
12	Current Loop Data In (Return)
13	Current Loop Data In
23	Current Loop Data Out

Current Loop

The High Speed Serial Interface has a 20ma current loop. It has an active send loop and a passive receive loop.

Page 8 of the card's manual tells how to connect to an 33ASR teletype. This may not work with other 20ma devices. It assumes that the device has a passive send and receive loop.

If the other device has its own active send loop then connect it as follows:

Connect pin 23 to Printer +
Connect pin 7 to Printer -
Connect pin 12 to Keyboard +
Connect pin 13 to Keyboard -

Article Change History:
19 Nov 1996 - Reviewed for technical accuracy, revised formatting.

Published Date: Feb 18, 2012

Apple Color Plotter: Using it with a IIc

This article has been archived and is no longer updated by Apple.

To use an Apple Color Plotter with a IIc, attach the plotter to Port #1 and set its switches as follows:

1	2	3	4	5	6	7	8
OFF	ON	ON	OFF	OFF	ON	ON	ON

These switch settings correspond to: 9600 baud, 8 data bits, no parity, and 2 stop bits.

Published Date: Feb 18, 2012

Apple IIGS Workstation Software: New Product Information

This article has been archived and is no longer updated by Apple.

Overview

Apple IIGS Workstation Software lets you connect an Apple IIGS to a LocalTalk network. This software performs the same function as the Apple II Workstation Card for the Apple IIe. The software makes it possible to start up from an AppleShare File Server 2.0 and run an Apple IIGS without disk drives attached.

The only additional hardware needed is an Apple IIGS Memory Expansion Card containing at least 512K of RAM, and a LocalTalk System Connector Kit.

Apple IIGS Setup

Before you can use the Apple IIGS on the AppleTalk Network System, you must configure the system correctly.

From the Control Panel (accessed via Open Apple-Control-Esc):

1. Be sure the Maximum RAM Disk Size is at least 256K less than the Largest Selectable. For example, if the Largest Selectable is 1024K, then set the Maximum RAM Disk Size to 768K or less. The default value of 0K is best if you plan to run any Apple IIGS specific programs.

```
_____________________________________________
| Control Panel |
| RAM Disk |
| |
| X Minimum RAM Disk Size: 0K |
| X Maximum RAM Disk Size: 0K |
| -Largest Selectable 1024K- |
| |
| -RAM Status- |
| RAM Disk Size: 0K |
| Total Ram in Use: 84K |
| Total Free RAM: 1195K |
| |
|_____________________________________________|
```

(The numbers following Total RAM in Use and Total Free RAM will vary, depending on phase of startup process.)

2. Set Slot 1 or Slot 2 to "Your Card" (Slot 1 is recommended).

- If slot 1 = "Your Card", plug LocalTalk connector into the Printer Port.

- If slot 2 = "Your Card", plug LocalTalk connector into the Modem Port.

3. Set Slot 7 to "Built In AppleTalk"

4. Set Startup to Slot 7

```
_____________________________________________
| Control Panel |
| Slots |
| |
| Slot 1: Your Card |
| X Slot 2: Modem Port |
```

```
| X Slot 3: Built-in Text Display |
| X Slot 4: Mouse Port |
| X Slot 5: Smart Port |
| X Slot 6: Disk Port |
| Slot 7: Built-in AppleTalk |
| |
| Startup Slot: 7 |
|_____|
```

5. Exit the Control Panel. If you had to change the RAM Disk settings, you must POWER DOWN (with the power switch). This will reset the RAM Disk to the setting you have selected. It does not change RAM disk values until power down. This way, you can restart without loss of RAM Disk contents.

Published Date: Feb 18, 2012

AppleShare File Server 2.0: New Product Information

This article has been archived and is no longer updated by Apple.

Overview

AppleShare File Server 2.0 (AFS) is an updated version of AppleShare. AFS allows you to store and share Macintosh documents, folders, and applications. The AFS software and your Macintosh Plus, Macintosh SE, or Macintosh II together create an AFS server. The server can run over any AppleTalk cable system, including LocalTalk and EtherTalk.

The rest of this article describes changes that have been made in AppleShare File Server 2.0.

Server Changes

AppleTalk Filing Protocol (AFP) 2.0

AFP has been modified to support Apple II workstations. AFP 2.0 is an extension of AFP 1.1. For more information, see "ProDOS Support" later in this article.

Large Volumes Start Up Faster

The time required to check each volume for consistency of the Parallel Directory Structure (PDS) has been reduced. During this process, all file and folders on the volume are cross-checked with the PDS file. The PDS file is used internally by AFS.

Automatic Repair At Startup

In the past, these errors were flagged, and you had to run the AppleShare Administrator to repair the PDS file. The server now repairs errors in the PDS when it finds a problem. This saves time, because you do not have to restart and run the AppleShare Administration program to start up your server. If any repair is necessary, it will be listed in the AppleShare Messages listing.

Folder Locking

You can now lock a folder, thus preventing it from moving. The option is enabled from the Access Privileges desk accessory. Only the folder's owner can check or uncheck the folder lock option. When the folder is locked, ALL users are prevented from moving, renaming, and deleting the folder.

Support for Read-Only devices (CD-ROM)

AFS 2.0 supports HFS CDs. A PDS file and Desktop Database are created in the Server Folder on the startup volume. These files are created when the AppleShare Admin program is run to setup a CD volume. Only the Macintosh partition of the CD can be accessed by AFS. (AFS disables the option to eject the CD from the drive.)

From the workstation, you will see no difference (except volume size) in the server volumes. A CD is slower due, to the seek time of the drive. If multiple users are accessing different parts of the drive at the same time, there will be a noticeable slowdown.

Workstation

Set Password

Users can now change their passwords through the Chooser DA. An encrypted version of the password is sent to the Server, to ensure security for the password.

View Information

The view (by size, name, date, type...) of a file is set by the Owner of the folder. A user can change the view of a folder, but when the folder is opened by other AFS users, the view is set from the owner's settings.

Admin Changes

Online Administration

The AppleShare Administration program can be run concurrently with the AppleShare File Server 2.0. In the past, performing administrative tasks required bringing down AppleShare. AppleShare Admin now runs as a concurrent application -- so you can add users, groups, and perform other tasks while the AFS server is still running.

Administrator (Custodian)

AppleShare File Server 2.0 allows the Administrator to function as an all-knowing and all-powerful user. This is a special user that the old version of AppleShare called the custodian. The Administrator can see ALL files and folders, create, rename, delete, and move files in any folder on the server volume, as if the administrator were the owner of the file or folder. The Administrator can also reassign any folder's owner, group, or access privileges.

Copy a volume

The Admin program lets you copy a full volume, keeping the access privileges intact for the entire volume. Although you can do this while the server is running, it's best to do it when the server is down. If you copy while the server is running, some files will not be copied, because of file locking. The server still allows users to access files, but in a very slow manner.

ProDOS Support

Apple II Admin Box

A check box to set up Apple II Administration is located in the Server Information box. Selecting this box creates the folder Users at the root level of the startup volume. It then creates a folder for each user, and places an empty Apple II boot file in each user folder. The administrator should have users entered in the User List before you perform this function.

After this box has been selected, a new APPLE II menu will appear, from which the administrator can set the printer, prefix, and startup application for each user. You first select the user from the user list, and then select Startup Information from the Apple II menu.

Published Date: Feb 18, 2012

AppleShare Print Server: New Product Information

This article has been archived and is no longer updated by Apple.

Overview

AppleShare Print Server (APS) is a new revision of the LaserShare print server.

- With APS, you can print a document without having to wait for an open printer.

- APS supports LocalTalk LaserWriters and LocalTalk ImageWriters.

- APS acts as a go-between for workstations and printers on your network.

- APS takes documents to be printed, temporarily stores them on disk, and sends them to the printer.

- The APS server is supported on a LocalTalk or EtherTalk network.

- APS can run either as a standalone application or as a concurrent application under AppleShare File Server 2.0. It does not run concurrently with older versions of AppleShare. You need to have a hard drive connected to the computer running APS.

The rest of this article describes the new features of the AppleShare Print Server.

Support of Multiple Printers

APS can act as a spooler for up to five printers. APS creates a new "printer" that is accessed from the chooser DA. Each printer that is spooled maintains a separate print log and print queue.

Warning: You can capture a printer in a different zone. The spooled printer will appear, under Chooser, in the same zone as the APS server. If bypass printing, or allowing printing from both the spooler and workstation, is not allowed, the printer will no longer appear in the original zone. This can cause a user to think there is a problem with the printer. The user will have to select the zone of the APS server to see the spooled printer.

Automatic Reconnection To All Printers

When the APS server restarts, it connects with the printers and restarts any print jobs that were not completed.

Printer and Window Menu

To display the windows on the screen, select the printer and window from the Printer menu. This brings up a list of different printers, then uses a hierarchical menu to display the options, log, or queue window. (If the hierarchical menu does not come up, the user could be operating with older system software.)

You control the display of the queue, and log windows that appear on the screen, from the Window menu. There are options to Stack, Tile, or Hide the windows. You can also move the windows using standard Macintosh click and drag techniques. The server continues to spool documents, whether or not the queue or log windows are open.

Support of AppleTalk ImageWriter II and LQ

APS supports printing to the AppleTalk ImageWriter II and ImageWriter LQ. The Options dialog contains information about these printers.

When some applications print to an ImageWriter II or LQ, they treat each page as if it were a separate document. If two or more users print at the same time, pages from the various documents will be intermixed as they come off the printer. APS can group the pages into a single print job. This feature is called the Inter Page Timeout.

After APS receives a page from the workstation, it waits (five seconds is the default) to see if any more pages are sent from the same workstation. If APS receives another page in the allotted time, it assumes the page is part of the first document, and appends the page to the current document. If APS does not receive the document in the allotted time, APS assumes that it has received all of the document. If any additional pages come in, they are treated as a separate document.

Because applications differ in how long it takes to print a page, the time-out option is adjustable. You don't want to make the time between pages too large, because the spooler may combine two documents into one document. You can adjust the time-out from zero to 60 seconds, using Set intervals in the pop-up menu.

The LaserWriter logs list the Document Name and User Name. The ImageWriter drivers don't send the necessary information to display the Document and User Name, and the space is left blank. If you are printing a Draft style document to an ImageWriter printer, the first fifteen characters of the document appear in the document name field.

Print Queue and Logs

Print Queue and Print Log are now disk-based. The new maximum is 1,000 entries in each.

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AppleCD SC: Using It With an Apple II

This article has been archived and is no longer updated by Apple.

The AppleCD SC drive can be used with any Apple II that contains an Apple II SCSI Card with at least a revision C ROM. The recommended position is at the end of the SCSI chain. The drive must have a unique priority number on the SCSI bus. With the appropriate driver, you can access a compact disc that uses either audio, ProDOS, or High Sierra format.

The AppleCD SC's accessory kit contains a version of CD Remote software for both the Apple IIe and Apple IIGS.

- To play an audio CD from an Apple IIGS, copy the file CD.AUDIO from the Apple II disk (supplied with the AppleCD SC) to the DESK.ACCS folder on the Apple IIGS startup disk.

- On the Apple IIe, run the Apple IIe CD Remote program (included with the AppleCD SC drive).

A compact disc pressed in ProDOS format will be recognized by either ProDOS 8 or ProDOS 16, and used accordingly. ProDOS 8 retains its 32MB limitation, so compact discs are likely to be partitioned if they are intended to be used on an Apple IIe. ProDOS 16 is not limited to 32MB volume sizes.

Once a High Sierra driver is placed within the System Folder under ProDOS 16, the Apple IIGS will recognize a High Sierra disc as a storage device.

Because the Apple IIe doesn't support ProDOS 16, it can't take advantage of the Driver folder structure within the System Folder. Apple will supply interested developers with the High Sierra driver, which must then be incorporated into each application that supports High Sierra formatted discs on the Apple IIe.

The eject button on the AppleCD SC operates on all types of compact discs used on an Apple II. As usual, if an application expects the volume to be on-line and the disc is ejected, ProDOS will ask the user to insert the disc.

Published Date: Feb 18, 2012

Apple Access III: Business Basic Bootable Diskette

This article has been archived and is no longer updated by Apple.

The instructions on page 36 for creating a Business Basic bootable diskette are misleading. Here is another way:

1. Use System Utilities to format disk with name APPLCOM.

2. Copy the files SOS.KERNAL, SOS.INTERP, and SOS.DRIVER from the Business Basic disk to APPLCOM.

3. Copy the files ACCESS3, ACCESS3.INV, ACS3FONT from the Apple Access III disk to APPLCOM.

4. Use the System Configuration Program to add RS232.DRIVER to /APPLCOM/SOS.DRIVER.

5. RENAME ACCESS3, HELLO

6. Type the following commands to restore the cursor wrap-around feature when you exit Access3:

```
LOAD HELLO
45 PRINT CHR$(4)
SAVE HELLO
```

7. Re-boot the system with /APPLCOM in the built-in drive.

Please refer to chapter 4 of the Apple III Owner's Guide for instructions on formatting diskettes, copying files, and using the System Configuration Program.

Published Date: Feb 18, 2012

Applesoft BASIC: Right-justifying columns of numbers

Many users want their Applesoft BASIC codes to print a right-justified column of numerals with the same number of decimal places, usually two. This article has been archived and is no longer updated by Apple.

Beginning at line 1000, the subroutine in this sample program formats the numerals of the string variable X$ before line 140 prints it. To specify the format, line 1020 assigns a decimal value to the numeric variable F. The value 8.2 specifies a format of 2 decimal places and 8 total characters (digits, decimal point, sign, and leading spaces). The subroutine rounds the number in X to the desired number of decimal places indicated by the number to the right of the decimal point in F. Then the subroutine pads X$ with spaces until the string is the length indicated by the number to the left of the decimal point.

```
100 HOME: PRINT "NORMAL","FORMATTED"
110 FOR I = 1 TO 5
120 READ X: PRINT X,
130 GOSUB 1000
140 PRINT X$
150 NEXT I
200 DATA 1,-3,.2,17,450
300 END
1000 REM PRINT FORMATTING
1010 REM
1020 F = 8.2: REM FORMAT CONTROL
1030 TC = INT (F): REM TOTAL CHARACTERS
1040 DP = VAL ( RIGHT$ ( STR$ (F),1)): REM DECIMAL PLACES
1050 X = INT (10 ^ DP * X + .5) / (10 ^ DP)
1060 X$ = STR$ (X)
1070 FOR JJ = 1 TO LEN (X$)
1080 IF MID$ (X$,JJ,1) = "." THEN 1110: REM LOOK FOR .
1090 NEXT JJ
1100 X$ = X$ + "."
1110 IF ( LEN (X$) - JJ) < DP THEN X$ = X$ + "0": GOTO 1110
1120 IF LEN (X$) < TC THEN X$ = " " + X$: GOTO 1120
1200 RETURN
```

Published Date: Feb 18, 2012

Apple II Workstation Card: Product Information (2/97)

This article describes the Apple II Workstation Card.

This article has been archived and is no longer updated by Apple.

The Apple II Workstation Card provides an AppleTalk interface for the enhanced Apple IIe computer. It makes the Apple IIe an AppleTalk node on a LocalTalk network.

Hardware

The card has its own 65C02 processor, ROM, RAM, and a custom PAL chip. The card attaches to a connector module housing two Mini-8 serial ports. One of these ports supports AppleTalk, the other emulates a Super Serial Card.

The card can be installed in any Apple IIe slot except for slot 3 (the additional 64K of RAM on the Extended 80-Column card is assigned to slot 3, making it unavailable). Slot 7 is the usual choice for the Workstation Card.

The red and green LEDs indicate only that the card has passed an internal diagnostic, and do not indicate that the network interface is active.

The upper Mini-8 connector (PORT A) supports either the AppleTalk interface or a Super Serial interface. The lower Mini-8 connector (PORT B) supports only the serial interface.

Software

The Apple IIe Workstation Card contains AppleTalk code in ROM, code to allow printing over the network, printing at the workstation, and starting up over the network. The Apple IIe Workstation Card can start up either from a local disk, or remotely over the network from a startup server running on a file server.

Local Startup

When the workstation starts up from a local device, the card makes itself look like a Super Serial Card, with special ID bytes to indicate that it is actually an Apple II Workstation Card.

Network Startup

The card emulates a Disk II drive on power up to enable network startup, and, if in the highest number slot (normal practice) downloads the operating system from a network startup server, if available.

In addition, either of these other two methods can be used to start up over a network:

- Use the PR# command specifying the card's slot and hold down the Open Apple key while pressing Return. (Issuing the PR# command and pressing Return without pressing the Open Apple key causes printing to take place.)

- Using a BOOT call also causes the startup process to take place.

Printing Over the Network

The printing task begins when you issue a PR# command from the workstation. The application program sends print data out through the SSC entry points as defined by the PR# command. The card captures the stream of characters to be printed, because it appears to be a normal Super Serial Card in a slot and sends it to the selected printer or spooler.

Only ProDOS applications are supported on the network using the card. An important feature of the card is that it does not require the use of main memory, because most applications use all or almost all of Apple IIe memory (including "reserved" areas).

Article Change History:
28 Feb 1997 - Reviewed for technical accuracy, revised formatting.
Published Date: Feb 18, 2012

NCU 1.0b6: 1.0 Updater for Mac OS Read Me

Newton Connection Utilities 1.0b6 -> 1.0 Updater for Mac OS.

This document contains the latest information on the NewtonTM Connection Utilities 1.0b6 -> 1.0 Updater for the MacintoshTM operating system.
This article has been archived and is no longer updated by Apple.
About the Updater

In order to use the Updater, you must have 1.0b6 [the version that shipped with the MessagePad 2000 & eMate 300] currently installed on your system. The Updater will ask you to locate 1.0b6 before it will proceed with the update. The Updater will not update any other version.

- The Updater will replace your 1.0b6 program files with 1.0 program files.
- The Updater will delete your 1.0b6 custom field mapping and synchronization history files.

  Using the Updater
- Before using the Updater, ensure your existing copy of NCU is not running.

- If you have been using the synchronization functions of NCU 1.0b6, before proceeding with the update, synchronize the Newton with your desktop. If you have not been using the synchronization, this step is not necessary.
- Before using the Updater, make a copy of the 1.0b6 application folder and place it somewhere safe.
- The Updater will ask you to locate 1.0b6, please do so.

- After locating 1.0b6, the Updater will present you with an install dialog. Proceed with install. The Updater will then ask you where you want to install NCU. By default, the Updater will try to install over your existing application folder.

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Aristotle: Apple II Menu Management Software

This article has been archived and is no longer updated by Apple.

Overview

Aristotle is Apple's Apple II menu manager, a user software interface. Aristotle was designed primarily for the classroom, but you can put it to work in any school, administrative, or business area. With Aristotle, users simply select from a menu, where without it they had to type complex path and prefix sequences.

With Aristotle, the network or workstation manager can control and simplify the user interface by setting up a menu of selectable applications for each student, class, and teacher. The individual can use the network server with all the network access, control, and storage needs, while enjoying the simple user interface.

Installation

Aristotle Menu Manager software is installed on an AppleShare File Server v2.0. Aristotle's software comprises the Teacher (Menu Manager) and the Student (Menu User).

The Menu Manager (or Teacher) is used only to set up the student menu selections. The AppleShare Network Administrator and the Aristotle Menu Manager (they can be the same person) work together to create specific user menus.

With Apple II Utilities, the Aristotle software is loaded from a 3.5" disk drive on a workstation (any server workstation will do) into an AppleShare File Server v2.0.

Hardware Requirements

For an Apple IIe to be a Menu Manager workstation, it must have:

- an Apple II mouse and mouse interface card

- Apple II Memory Expansion card with 256K

- the Apple II workstation card.

An Apple IIGS system can act as a Manager if the IIGS software is present in the server, and the IIGS has at least 1MB on the Apple IIGS Memory Card, to provide the needed storage area for the overlays. It is recommended that the application already be loaded into the server, so that the manager can actually see the specific path name.

Using Aristotle

After logging on, a student

1. sees a list of the teachers who have selected that student to be in any of their menus,

2. chooses a teacher,

3. see the class list (again, specific menu selections) for that teacher,

4. selects a class, and

5. chooses an application, which launches it.

Once the application is launched, quitting it returns the student to the Application menu, allowing selection of another (or the same) application.

There is no escape from the loop, and students don't have to memorize (or refer to) any ProDOS path or prefix for anything other than their own files.

Published Date: Feb 18, 2012

Apple II: Turn Off Line Feed When Using 3rd Party Printers

This article has been archived and is no longer updated by Apple.

Third party dot matrix impact printers need to receive a Carriage Return within a control code in order to set print densities to certain values. Unfortunately, when a CR is sent from an Apple IIc or a Super Serial Card, the interface automatically sends a Line Feed as well. Temporarily turning off the interface's automatic LF can be done with a Control-I K. To turn automatic LF back on, use Control-I L.

The problem is, these characters may be ignored by the interface and sent to the printer instead.

There are other ways of getting back to default conditions on a printer, such as sending a 'RESET' code, or turning off/turning on the printer. The problem with this is that some printers take a long time resetting. This can be noisy and sometimes very time consuming, especially if done often.

Here is why this happens (and a solution):

The Super Serial Card (and its Apple IIc serial port equivalent) will forward control characters if preceded by a Control-I. While it's true that Control-I is the command to send to set up specific functions, in order to send the command to the card without it forwarding said command to the printer, you must send the command preceded by TWO Control-I's.

- The first Control-I alerts the card that a command it needs to operate on is forthcoming.

- The second Control-I is used by the card, along with its attendant characters, as the command string, to change interface functions.

If what follows the first Control-I is not a control character, the card (firmware) forwards the next characters to the printer.

Published Date: Feb 18, 2012

Password Security 1.0.6 for PB 2400 or 3400

Password Security version 1.0.6 was released on January 15, 1998. It requires US Mac OS 8.0 or 8.1 and a PowerBook computer.
This article has been archived and is no longer updated by Apple.

Description:

The posting of Password Security 1.0.6 addresses a problem with the Mac OS 8.1 installer where the control panel will not get installed on a PowerBook 2400 or 3400 unless it already exists. Since Mac OS 8.0 didn't install the control panel, it is unlikely that the 8.1 installer will install it. You should download this software if you wish to use Password Security with Mac OS 8.0 or 8.1 and you have a PowerBook 2400 or 3400.
Note: This software will only work with PowerBook computers. It will not function on desktop Power Macintosh computers.

To use this software, drag the Password Security control panel to the Control Panels folder and restart the computer.
Published Date: Feb 18, 2012

Apple II Software Updates Posted Online

The following list includes all Apple II software updates that are posted to the US Apple Software Updates collection on the **Apple Support** servers. The files in this article have been separated from the larger TIL article US Apple SW Updates: Available Online. Please check **TIL 16332** if you want information on software updates for Macintosh, Newton, DOS-Windows and Power Computing.

Please read the Apple Software License before downloading any software from the Apple Support Servers.

This article has been archived and is no longer updated by Apple.
All of the following Apple II related files can be located in the **Apple II** Directory, with the exception of Apple II Setup Disk 2.2.
This file is in the **Macintosh/Networking-Communications/AppleShare** Directory

HyperCard IIGS 1.1

HCIIGS_1.1-1of6_Info.txt	HCIIGS_1.1-1of6.sea.bin	HCIIGS_1.1-1of6.bxy
HCIIGS_1.1-2of6_Info.txt	HCIIGS_1.1-2of6.sea.bin	HCIIGS_1.1-2of6.bxy
HCIIGS_1.1-3of6_Info.txt	HCIIGS_1.1-3of6.sea.bin	HCIIGS_1.1-3of6.bxy
HCIIGS_1.1-4of6_Info.txt	HCIIGS_1.1-4of6.sea.bin	HCIIGS_1.1-4of6.bxy
HCIIGS_1.1-5of6_Info.txt	HCIIGS_1.1-5of6.sea.bin	HCIIGS_1.1-5of6.bxy
HCIIGS_1.1-6of6_Info.txt	HCIIGS_1.1-6of6.sea.bin	HCIIGS_1.1-6of6.bxy
HyperMover_Info.txt	HyperMover.sea.bin	HyperMover.bxy.txt

For Macintosh

IIe_Startup_2.2.2d1_Info.tx	Apple_IIe_Card_2.2.1.sea.bin
Apple_IIe_Card_2.2.1_Info.txt	IIe_Startup_2.2.2d1.sea.bin

Apple IIGS System 6.0.1

+LICENSE_READ_ME_FIRST.txt

Disk_1_of_7-Install_Info.txt	Disk_1_of_7-Install.sea.bin	Disk_1_of_7-Install.bxy
Disk_2_of_7-System.Disk_Info.txt	Disk_2_of_7-System.Disk.sea.bin	Disk_2_of_7-System.Disk.bxy
Disk_3_of_7-SystemTools1_Info.txt	Disk_3_of_7-SystemTools1.sea.bin	Disk_3_of_7-SystemTools1.bxy
Disk_4_of_7-SystemTools2_Info.txt	Disk_4_of_7-SystemTools2.sea.bin	Disk_4_of_7-SystemTools2.bxy
Disk_5_of_7-Fonts_Info.txt	Disk_5_of_7-Fonts.sea.bin	Disk_5_of_7-Fonts.bxy
Disk_6_of_7-synthLAB_Info.txt	Disk_6_of_7-synthLAB.sea.bin	Disk_6_of_7-synthLAB.bxy
Disk_7_of_7-Apple_II_Setup_Info.txt	Disk_7_of_7-Apple_II_Setup.sea.bin	

Apple II Supplemental

+LICENSE_READ_ME_FIRST.txt

Apple_II_Video_Overlay_Info.txt	Apple_II_Video_Overlay_Card.sea.bin	Apple_II_Video_Overlay_Card.bxy
Apple_II_SCSI_Utilities_Info.txt	Apple_II_SCSI_Utilities.sea.bin	Apple_II_SCSI_Utilities.bxy
Apple_II_System_Disk_3.2_Info.txt	Apple_II_System_Disk_3.2.sea.bin	Apple_II_System_Disk_3.2.bxy
Apple_IIGS_CD_Setup_5.1_Info.txt	Apple_IIGS_CD_Setup_5.1.sea.bin	Apple_IIGS_CD_Setup_5.1.bxy
ShrinkIt1.1_Info.txt	ShrinkIt1.1.SEA.bin	

Published Date: Feb 18, 2012

Claris Emailer 2.0v3 Updater: Read Me

Claris Emailer 2.0v3 Update was posted to the Misc. Folder in Apple Software Updates on June 9, 1998. This update requires Claris Emailer 2.0v1, Claris Emailer 2.0v2, or Claris Emailer 2.0z1

Description:
This software updates Claris Emailer 2.0 to Claris Emailer 2.0v3. For more information regarding the Claris Emailer 2.0v3 Updater, please read the documentation included with this software.

Instructions:
This software consists of a self-mounting Disk Copy compressed image (.smi) file. Download this software to your hard drive and then double-click it to use it. You do not need Disk Copy to access .smi files. Claris Emailer 2.0v3 Update is provided to you free of charge.
It does not include free support from Apple Computer.
This article has been archived and is no longer updated by Apple.
This Updater will update Claris Emailer 2.0v1, Claris Emailer 2.0v2, and Claris Emailer 2.0z1 to Claris Emailer 2.0v3.

The Updater is updating installed files and installing new files. The following is a list of files that will be updated and files that will be installed.

Updated files

Claris Emailer
The Claris Emailer application is being updated to Claris Emailer 2.0v3.

AppleScripts
There are four AppleScripts that will be updated. These files are located in the *Claris Emailer Folder/Claris Emailer Files folder/AppleScripts*.
The scripts being updated are:
1. About the AppleScript Menu
2. Go to Claris Emailer Home Page
3. Register Claris Emailer
4. Resend Message

Important Info
The Important info file in the *Claris Emailer Folder* will be updated.

Claris Emailer Help
The Claris Emailer Help file is a QuickHelp document that will be updated in the *System Folder/Claris folder*. You may need to download the Claris Emailer Help File separately. On some machines the installer doesn't replace the Help File.

Installed Files

There are eight items that will be installed along with the updater. The files are:

- Address Book - Hide Contacts
- Address Book - Show Contacts
- Run mail actions on messages
- Toggle schedules
- Claris Emailer FAQ.html
- AOLnet.ccl
- PPP Plug-ins (folder) - MacPPP 2.5.3/FreePPP 2.5v3 (is installed inside of this folder.

AppleScripts
Address Book - Hide Contacts
Address Book - Show Contacts
Run mail actions on messages
Toggle schedules

These files are located in the Claris Emailer Folder/Claris Emailer Files folder/AppleScripts folder.

Claris Emailer FAQ.html
The Claris Emailer FAQ.html is installed in the Claris Emailer Folder/Support Files folder.

AOLnet.cc
The AOLnet.ccl is installed in the Claris Emailer Folder/Claris Emailer Files folder/AOL Folder/CCLs.

PPP Plug-ins and the MacPPP 2.5.3/FreePPP 2.5v3 plug-in
The PPP Plug-ins folder will be installed in the Claris Emailer Folder/Claris Emailer Files folder, and the MacPPP 2.5.3/FreePPP 2.5v3(Plugin) will be installed into the PPP Plug-ins folder.

These articles can help you locate the software update mentioned here:

- Article 14724: "**Where To Find Apple Software Updates**" - Lists online services for free Apple software updates.
- Article 26064: "**Claris Software Updates Posted to Apple Website**" - An index to Claris Software Updates showing the current software location on the Internet.
- Article 17664: "**WW Apple SW Updates Available Online**" - An index to International Apple Software Updates showing the current software location on the Internet.

Published Date: Feb 18, 2012

Apple IIe Card (2.2.1)

This article includes the information included with Apple IIe Card (2.2.1) installer disk that can be downloaded from the Apple Software Updates collection on the Apple Support Website.
This article has been archived and is no longer updated by Apple.
Files found on the IIe Installer Disk:

File Name	Version No.	Created	Modified
Apple HD SC Setup	3.1	2/11/92	2/11/92
BASIC.SYSTEM		7/17/90	7/17/90
IIe Script	2.2.1	7/6/93	7/28/93
IIe Startup	2.2.1	7/27/93	7/27/93
Installer	3.2	4/23/91	4/23/91
PRODOS		7/17/90	7/17/90
Read Me		10/5/92	10/5/92
Color	3.3.2	9/5/89	9/5/89
Finder	6.1.8	4/17/91	4/17/91
General	3.3.3	3/7/90	3/7/90
Keyboard	3.3.1	8/26/88	8/26/88
Monitors	4.3	9/4/90	9/4/90
Mouse	3.3.1	8/26/88	8/26/88
ProDOS File System	1.2.1	7/6/93	7/6/93
Startup Device	3.3.1	8/26/88	8/26/88
System	6.0.8	4/17/91	4/17/91
TeachText	1.2	4/30/88	4/30/88

From the IIe Installer Disk Read Me:

More Information About the Apple IIe Card

The Apple IIe Card Owner?s Guide contains all the information you need to use the Apple IIe Card to run Apple IIe programs on a Macintosh computer. This Read Me document presents the following additional information:

ADVICE FOR PEOPLE WHO USE THE APPLE IIE CARD WITH A HARD DISK

- If you do NOT plan to use a hard disk, the information in this section does not apply to you. Skip ahead to the next section, "More Troubleshooting."
- If you WILL be using a hard disk, you should make a note on page 57 of the Apple IIe Card Owner's Guide to follow the instructions below. You should also take note of the information in the next section, "More Troubleshooting."

FINAL PREPARATIONS FOR USING A HARD DISK.
If you are a hard disk startup person, you should read this section when you begin Chapter 4. If you are a floppy disk startup person, you should skip this section.

When you're in the Apple IIe environment, one way to start up (boot) an Apple IIe program is to restart the Apple IIe Card by pressing Control-Command-Reset. You can control where the Apple IIe Card looks for the program by rearranging the disk drive icons in the SmartPort panel so the disk drive where the program resides is in Drive 1 of Slot 5. For instance, if you want to use the Control-Command-Reset method of starting up (booting) an Apple IIe program on your hard disk, the hard disk icon should be in Drive 1 of Slot 5 of the SmartPort panel.

To arrange the drives in the SmartPort panel, follow these steps:

1. Double-click the IIe Startup icon.
2. Press Control-Command-Esc to open the Option Panel.
3. Use the big scroll bar to scroll down to the SmartPort icon.
4. Click the SmartPort icon.
5. Find the icon of the disk drive where your program is and drag it to Drive 1 of Slot 5.
6. Click the Restart IIe button.

MORE TROUBLESHOOTING

TA37820_Apple_IIe_Card_.pdf

WHEN YOU SHOULD READ THIS SECTION: Read this section if you have a problem using the Apple IIe Card or running Apple IIe programs and can't find a solution in Appendix A of the Apple IIe Card Owner's Guide.

AFTER QUITTING AN APPLE IIE PROGRAM, MY SCREEN GOES BLACK. If you started up from an AppleShare server, you can press Command-Control-Reset to return to the AppleShare logon screen.

AFTER STARTING UP MY MACINTOSH, THE APPLE IIE SCREEN SHOWS UP BEHIND MY OTHER WINDOWS. If you are using System 7, make sure that IIe Startup is the only program in the Startup Items folder in your System Folder.
Published Date: Feb 18, 2012

LaserWriter Pro 810 For Windows Online

Name: LaserWriter Pro 810 For Windows
Version: 3.56.1.08
Date Released: October 5, 1993

This file contains late-breaking news about your LaserWriter Pro 810 printer and printing with Windows 3.1. Some of this information may not be included in your "User's Guide". To print this file, double click on Notepad icon, open this file and print.

The software posted here is available in two formats:

1.) A Macintosh self-extracting archive of a Disk Copy DOS 720K disk image.
To use, download, double-click the downloaded file (this decompresses it), and use Disk Copy to create the disk.

2.) A ZIP archive of a 720K DOS disk image. To use, download this file and "unzip" to your hard drive.

This article has been archived and is no longer updated by Apple.
SOFTWARE FOR WINDOWS 3.1 Ver. 3.56.1.08 10/4/93

Windows is a registered trademark of Microsoft Corporation. This file contains late-breaking news about your LaserWriter Pro 810 printer and printing with Windows 3.1. Some of this information may not be included in your "User's Guide". To print this file, double click on Notepad icon, open this file and print.

DISKETTE CONTENTS
==========

README.TXT This file
APPLEPS.DRV Driver file for Windows 3.1
PSCRIPT.HLP On-Line help file
LWPRO810.WPD Windows Printer Description file for LaserWriter Pro 810
LWPRO810.PPD PostScript Printer Description file for LaserWriter Pro 810
OEMSETUP.INF Windows Installation setup file for this driver
USER HINTS

If you have any difficulties during installation of this drivers, refer to
Chapter 6 (Print Manager) in the Windows 3.1 User's Guide for information about
installing printer drivers.

KNOWN LIMITATIONS
==========

1. Mixed orientation mode printing from the same bin has unpredictable results.

2. Mixed bin printing from two bins of the same size or different page orientations has unpredictable results.

3. When printing an EPS file in landscape mode the EPS file may image 180 degrees relative to the application's image. This can be corrected by editing the WIN.INI file. (Note: before making any changes to your WIN.INI file make a backup copy first.)- Using the Notepad editor or any other text editor of your choice, open WIN.INI file which exists in your Windows directory.- Search for the name of whichever printer you have installed until you findthe line that states the printer name and the port it is assigned to (example: [LaserWriter PRO 810, LPT1]).- Add the statement "landscapeorient=270" to the [specific printer, port]section. Now insert "landscapeorient=270" below the last line of the group.- Add one blank line and save the WIN.INI file.

4. Corel Draw V2.0 will work with this driver successfully, only if you introduce the driver in CORELDRW.INI file in your Corel directory. Open CORELDRW.INI file using Notepad, or Write, and then under [coreldrivers] add a line: APPLEPS=1

5. When using Manual Feed operation for A4 is SEF (Short Edge Feed), and for Letter paper size is LEF (long Edge Feed) only.

6. Although some paper sizes may not be available for some specific papersource selection (i.e.: A3 or Ledger for Multimedia Power Feeder, the complete list of paper sizes is displayed for all paper sources in Printer Setup.

7. When a new paper source is selected in the Printer Setup Dialog box, the selected paper size switches to the default selection (Letter).

8. B5 paper size can be used only with the Cassette or Manual feed.

9. Applications with Printer Setup for paper size as seen in MS-Write, Paintbrush, Notepad, and CorelDraw! v3.0 will not have SEF LETTER or A4 paper size available.

TA37821_LaserWriter_Pro_For_Windows_Online.pdf

Published Date: Feb 18, 2012

LaserWriter Software For Windows (1.0.2) Read Me

This software is available on the Apple Support Web site in the Apple Software Updates collection.
This article has been archived and is no longer updated by Apple.
From the Read Me:

Apple LaserWriter Software for Microsoft Windows
Additional instructions for using your printer with a computer running Microsoft Windows

This file contains late-breaking news about your Apple LaserWriter printers and printing with Microsoft Windows. Some of this information is not included in your printer manual.

LASERWRITER PRO

Open the file \\LW_PRO\\README.TXT for additional information on the Apple LaserWriter Pro 600 or Apple LaserWriter Pro 630 printers.

LASERWRITER SELECT 310

Open the file \\LW_SELEC\\README.TXT for additional information on the Apple LaserWriter Select 310 printer.

PERSONAL LASERWRITER NTR

Open the file \\PLW_NTR\\README.TXT for additional information on the Apple Personal LaserWriter NTR printer.

DISKETTE CONTENTS

Root Directory
README.TXT This file

LW_PRO Directory
README.TXT LaserWriter Pro specific readme file

LW_PRO\\UTILITY Directory LaserWriter Pro PostScript files to configure printer options
CONFIGPG.PS Print Configuration Page
FINEPRTD.PS Disable FinePrint
FINEPRTE.PS Enable FinePrint
PHOTOGRD.PS Disable PhotoGrade
PHOTOGRE.PS Enable PhotoGrade
TRAYSWID.PS Disable TraySwitching
TRAYSWIE.PS Enable TraySwitching

LW_SELEC Directory
README.TXT LaserWriter Select 310 specific readme file

LW_SELEC\\UTILITY Directory LaserWriter Select 310 PostScript utility.
CLEANPG.PS Print the Cleaning Page

PLW_NTR Directory
README.TXT Personal LaserWriter NTR specific readme file

PLW_NTR\\UTILITY Directory Personal LaserWriter NTR PostScript utilities.
CLEANPG.PS Print the Cleaning Page
CONFIGPG.PS Print the Configuration Page

WIN30DRV Directory Windows 3.0 printer drivers
PRINTERS.INI PostScript Printer Driver required file
LW_NTR.WPD Personal LaserWriter NTR
LWPRDM3.WPD LaserWriter Pro 600 with 8 MB at 300 dpi, PhotoGrade Off

LWPRDM3P.WPD LaserWriter Pro 600 with 8 MB at 300 dpi, PhotoGrade On
LWPRDM6.WPD LaserWriter Pro 600 with 8 MB at 600 dpi
LWPRD_3.WPD LaserWriter Pro 600 with 4 MB at 300 dpi
LWPRW_3.WPD LaserWriter Pro 630 at 300 dpi, PhotoGrade Off
LWPRW_3P.WPD LaserWriter Pro 630 at 300 dpi, PhotoGrade On
LWPRW_6.WPD LaserWriter Pro 630 at 600 dpi
LWSEL310.WPD LaserWriter Select 310

WIN31DRV Directory Windows 3.1 printer drivers
OEMSETUP.INF PostScript Printer Driver required file
LW_NTR.WPD Personal LaserWriter NTR
LWPRODM3.WPD LaserWriter Pro 600 with 8 MB at 300 dpi
LWPRODM6.WPD LaserWriter Pro 600 with 8 MB at 600 dpi
LWPRODR.WPD LaserWriter Pro 600 with 4 MB at 300 dpi
LWPROWT3.WPD LaserWriter Pro 630 at 300 dpi
LWPROWT6.WPD LaserWriter Pro 630 at 600 dpi
LWSEL310.WPD LaserWriter Select 310
Published Date: Feb 18, 2012

Personal LaserWriter NTR For Windows: Read Me

Personal LaserWriter NTR For Windows was posted to the Apple Support Web Site, software updates collection November, 1994.

The enclosed file is a self-extracting archive of a Disk Copy 720K DOS disk image.
To use, download, double-click the downloaded file (this decompresses it), and use Disk Copy to create a disk.
This article has been archived and is no longer updated by Apple.
From the Read Me file:
Apple LaserWriter Software for Microsoft Windows
Additional instructions for using your printer with a computer running Microsoft Windows

This file contains late-breaking news about your Apple LaserWriter printers and printing with Microsoft Windows.
Some of this information is not included in your printer manual.

LASERWRITER PRO

Open the file \\LW_PRO\\README.TXT for additional information on the Apple
LaserWriter Pro 600 or Apple LaserWriter Pro 630 printers.

PERSONAL LASERWRITER NTR

Open the file \\PLW_NTR\\README.TXT for additional information on the Apple
Personal LaserWriter NTR printer.

DISKETTE CONTENTS

Root Directory
README.TXT This file

LW_PRO Directory
README.TXT LaserWriter Pro specific readme file

LW_PRO\\UTILITY Directory LaserWriter Pro PostScript files to configure
printer options
CONFIGPG.PS Print Configuration Page
FINEPRTD.PS Disable FinePrint
FINEPRTE.PS Enable FinePrint
PHOTOGRD.PS Disable PhotoGrade
PHOTOGRE.PS Enable PhotoGrade
TRAYSWID.PS Disable TraySwitching
TRAYSWIE.PS Enable TraySwitching

PLW_NTR Directory
README.TXT Personal LaserWriter NTR specific readme file

PLW_NTR\\UTILITY Directory Personal LaserWriter NTR PostScript files to
configure printer options
CLEANPG.PS Print the Cleaning Page
CONFIGPG.PS Print the Configuration Page

WIN30DRV Directory Windows 3.0 printer drivers
PRINTERS.INI PostScript Printer Driver required file
LW_NTR.WPD Personal LaserWriter NTR
LWPRDM3.WPD LaserWriter Pro 600 with 8 MB at 300 dpi, PhotoGrade Off
LWPRDM3P.WPD LaserWriter Pro 600 with 8 MB at 300 dpi, PhotoGrade On
LWPRDM6.WPD LaserWriter Pro 600 with 8 MB at 600 dpi
LWPRD_3.WPD LaserWriter Pro 600 with 4 MB at 300 dpi
LWPRW_3.WPD LaserWriter Pro 630 at 300 dpi, PhotoGrade Off
LWPRW_3P.WPD LaserWriter Pro 630 at 300 dpi, PhotoGrade On
LWPRW_6.WPD LaserWriter Pro 630 at 600 dpi

WIN31DRV Directory Windows 3.1 printer drivers
OEMSETUP.INF PostScript Printer Driver required file

TA37823_Personal_LaserWriter_NTR_For_Windows_Read_Me.pdf

LW_NTR.WPD Personal LaserWriter NTR
LWPRODM3.WPD LaserWriter Pro 600 with 8 MB at 300 dpi
LWPRODM6.WPD LaserWriter Pro 600 with 8 MB at 600 dpi
LWPRODR.WPD LaserWriter Pro 600 with 4 MB at 300 dpi
LWPROWT3.WPD LaserWriter Pro 630 at 300 dpi
LWPROWT6.WPD LaserWriter Pro 630 at 600 dpi
Published Date: Feb 18, 2012

Apple IIe Emulation on an Apple III

This article has been archived and is no longer updated by Apple.

Titan Technologies, Inc. (makers of the "Accelerator" board) have a new product called the "III PLUS II". This board allows an Apple III to emulate an Apple IIe, features standard Apple II game ports, supports Pilot, Logo, and ProDOS, and comes in 3 flavors: 16K, 64K & 128K. Scheduled release: August 15, 1984.

Titan Technologies, Inc.
P.O. Box 8050
310 W. Ann
Ann Arbor, MI 48107
(313) 662-8542

Published Date: Feb 18, 2012

WiggleWorks 1.0.2 Patch

Name: WiggleWorks 1.0.2 Patch was released on November 22, 1997 and posted to the Apple Software Updates Online.
It requires: WiggleWorks and a StyleWriter 1200 or StyleWriter 2400 printer.

This software consists of a Disk Copy NDIF (New Disk Image Format) compressed image, which requires Disk Copy 6.1 or later to use. Download this software to your hard drive and then double-click it to use it. Disk Copy is available in the Utilities folder.

Disk Copy 6.1 (or later) or Disk Image Mounter 2.1 (or later) from Apple are the recommended applications to access all disk images released by Apple and are the only supported applications to access NDIF disk images.
This article has been archived and is no longer updated by Apple.
Description:

This software will convert your copy of WiggleWorks into a test version which has been modified for compatibility with StyleWriter 1200 and StyleWriter 2400 printers.

Published Date: Feb 18, 2012

Open Transport 1.1 Manual

This article is comprised of the Read Me for Open Transport 1.1 Manual. This software was released by Apple on March 11, 1996 and is available for download from the Apple Software Updates Web site at http://www.apple.com/swupdates.
This article has been archived and is no longer updated by Apple.
From the Open Transport 1.1 Read Me included in this archive:

Introduction

This Read Me document contains late-breaking information about Open Transport compatibility, add-on software, and solutions to known problems with third-party software. For instructions about how to use the Open Transport control panels (AppleTalk and TCP/IP), use Macintosh Guide, available from the Guide (question mark) menu. For technical information about Open Transport, see ñOpen Transport Technical Info.î

Network Interface Options

Open Transport 1.1 supports PCI bus, NuBus, communications slot, and PC-card network interface cards as well as built-in LocalTalk and ethernet network adapters. For Macintosh models without expansion options, Open Transport supports SCSI-attached network adapters.

Third party network interface options available for Open Transport include fast ethernet, ATM, and FDDI.

Compatibility

Open Transport is compatible with:
´ existing applications that use AppleTalk as specified by Apple Computer, Inc.
´ existing applications that use MacTCP as specified by Apple Computer, Inc.
´ existing devices (such as printers) that you select in the Chooser
´ existing NuBus network interface cards

Open Transport is compatible with existing AppleTalk, TCP/IP LocalTalk and ethernet networks. Macintosh computers running Open Transport can be added to an existing network without upgrading other computers on the network.

Dial-up Network Connectivity

For connectivity to AppleTalk networks, Open Transport supports Apple Remote Access version 2.0.1 or later.

For dial-up connectivity to TCP/IP networks, including the Internet, Open Transport supports third party MacTCP software extensions known as Link Access Modules, or ñmdevs.î Serial Line Interface Protocol (SLIP) and Point to Point Protocol (PPP) connectivity are provided through mdevs.

With the appropriate mdev installed, you use either SLIP (Serial Line Interface Protocol) or PPP (Point to Point Protocol) to connect to Internet Service Providers and other dial-up IP-access points. However, not all versions of all mdevs are supported by Open Transport 1.1. For best results, be sure to use the versions of software recommended below.

Open Transport 1.1 recognizes the following MacTCP mdevs. When installed on your system, they are available in the ñConnect Via:î pop-up menu in the TCP/IP control panel:
´ FreePPP - version 1.0.4 or later
´ MacPPP - version 2.1.4 SD or later (version 2.2.0 is not recommended).
´ InterPPP - version 1.2.9 or later
´ InterPPP II - version 1.1 or later
´ InterSLIP - version 1.0.1 or later
´ MacSLIP - version 3.0.2 or later
´ VersaTerm SLIP - version 1.1.4 or later
´ Sonic PPP - version 1.0.2 or later
´ AOL Link - the most current version is recommended

In addition, there are a number of third party PPP mdevs (including Pacer PPP, FCR PPP and Tribe PPP) which have a common technology base and as a result are indistinguishable from one another to Open Transport. When installed, these appear in the ñConnect Via:î pop-up menu in the TCP/IP control panel as "TCP/IP PPP."

NFS/Share 1.3.x and 1.4 are not compatible with Open Transport. To use NFS/Share with Open Transport, you must contact Intercon to obtain a version of NFS/Share that is compatible with Open Transport.

For more information on Open Transport compatibility, contact the developer of the software you want to use.

Obtaining Connectivity Software

FreePPP is shareware and can be found on a variety of Internet sites; typically at "info-mac" mirror sites in the comm/tcp/conn directory. A list of info-mac mirror sites can currently be found at http://www.info-mac.com/

Some sites where FreePPP can be found currently include:
ftp://mirrors.aol.com/pub/info-mac/comm/tcp/conn/
ftp://mirror.apple.com/mirrors/Info-Mac.Archive/comm/tcp/conn/

MacPPP version 2.1.4 is available as a part of the Apple Internet Connection Kit. For fax information in the US, contact Apple Computer Inc., at 800-462-4396. To locate an Apple reseller near you in the US, call 800-538-9696.

InterPPP, InterPPP II, and NFS/Share are commercial software products. For availability and ordering information in the US, contact InterCon Systems at 800-468-7266 or 703-709-5500.

MacSLIP is commercial software developed by Hyde Park Software. For availability and ordering information in the US, contact TriSoft at 800-531-5170 or 512-472-0744.

VersaTerm SLIP is commercial software developed by Synergy Software. For availability and ordering information in the US, contact Synergy at 610-779-0522.

SonicPPP is commercial software developed by Sonic Systems, Inc. For availability and ordering information in the US, contact Sonic Systems at 408-736-1900 (voice) 408-736-7228 (fax).

MacPPP and FreePPP

If you experience problems using MacPPP or FreePPP when Virtual Memory is turned on, try turning off Virtual Memory. To find out how to turn off Virtual Memory, see the topic "How do I use hard disk space as memory" in Macintosh Guide, available from the Guide (question mark) menu.

Published Date: Feb 18, 2012

Apple Internet Router 3.0.1 Patch

Apple Internet Router 3.0.1 Patch

This file is a posted online in the Apple Support, Apple Software Updates collections. It is a self-extracting archive of a Disk Copy 800K disk image. To use, download, double-click the downloaded file (this decompresses it), and use Disk Copy to create a disk.

Disk Copy can be found in the Utilities folder posted online.

Software found on the enclosed disk will upgrade Apple Internet Router 3.0 and Apple Internet Router 3.0 rev B to Apple Internet Router 3.0.1.
This article has been archived and is no longer updated by Apple.
There were no significant changes to AIR 3.0.1. The only changes to the Apple Internet Router were to provide Shared Library Manager 1.1 and Apple Remote Access Multiport Server (version 2.0) compatibility.

Changes:

´ Updated router file, v.3.0.1 and Updated DialUp file, v. 1.0.1 -- this rolled
in the change made in v. 3.0 RevB which shipped with the X.25 package which fixed a problem with slow WAN links.

´ Now compatible with SLM 1.1.

´ Fixed some error handling problems that were exposed when running with the Apple Remote Access Multiport Server version 2.0.

Files found on Router 3.0.1 Patch disk:

File Name Version #

Router 3.0 - 3.0.1 Patch 4.0.4
Router 3.0 Patch Read Me
Router 3.0 Rev B Patch Read Me
Router 3.0 Rev. B - 3.0.1 Patch 4.0.4

From the Router 3.0 Patch Read Me:

Apple Internet Router 3.0.1 Patch

Apple Internet Router 3.0.1 is the latest maintenance release of the Apple Internet Router Basic Connectivity Package.

On this disk you will find an application that will upgrade your Apple Internet Router 3.0 to Apple Internet Router 3.0.1. It will upgrade the Router and DialUp files only.

To perform the upgrade, follow these steps:

1. Quit all applications that are currently running on your Macintosh.

2. Turn off any virus detection software.

3. Open the patch application. A dialog box with important information will
appear.

4. Click Patch after reading the information in the dialog box.

5. Restart your system.

From the Router 3.0 Rev B Patch Read Me:

Apple Internet Router 3.0.1 Patch

TA37827_Apple_Internet_Router_Patch.pdf

Apple Internet Router 3.0.1 is the latest maintenance release of the Apple Internet Router Basic Connectivity Package.

On this disk you will find an application that will upgrade your Apple Internet Router 3.0 rev B to Apple Internet Router 3.0.1. It will upgrade the Router and DialUp files only.

To perform the upgrade, follow these steps:

1. Quit all applications that are currently running on your Macintosh.

2. Turn off any virus detection software.

3. Open the patch application. A dialog box with important information will appear.

4. Click Patch after reading the information in the dialog box.

Published Date: Feb 18, 2012

PC Card Software 2.0 Read Me

Name: PC Card Software
Version: 2.0
Released: April, 1996
Description: This software is for the PowerBook 500 series Rev C PCMCIA expansion module only and is required in order to use that module. This software will not update a Rev A or Rev B module to a Rev C - this can be done via a module replacement only. If you are using System 7.5.2 or System 7.5.3, this software can also be attained by using the Custom Install feature of the system Installer.

This software is available on the Apple Support website, Apple Software Updates. To use, download, double-click the downloaded file (this decompresses it), and use Disk Copy to create the disk or use a disk mounting utility to mount it on your desktop. Disk Copy can be found in the Utilities folder posted here.
This article has been archived and is no longer updated by Apple.
PowerBook PC Card Software 2.0:

File Name	Version #
Apple Modem Tool	1.5.4
Generic PC Card modem	2.0.1
Motorola CELLect (Cellular)	
Motorola CELLect (Land)	
PC Card Extension	2.0
PC Card Modem (USA)	
PC Card Modem Extension	2.0.3
PC Exchange	2.0.5
Serial Tool	1.0.2
Text Tool	1.0.1
TTY Tool	1.0.1
VT102 Tool	1.0.2
XMODEM Tool	1.1

From the PC Card Software 2.0 ReadMe:

Important Information About Your Macintosh PowerBook PCMCIA Expansion Module

Congratulations on purchasing your PowerBook PCMCIA Expansion Module. This document adds to and updates the information in the manuals that came with your module. It is a good idea to read this document now, and keep a copy handy for future reference.

If your PowerBook is connected to a printer, choose Print from the File menu to print a copy of this document. When you are finished reading and printing, choose Quit from the File menu to quit the SimpleText application program.

Contents

Tips
- Using PC Cards
- Using a DOS-formatted PC Card

Troubleshooting
- Selecting a PC Card as a startup disk
- Starting machine with PC Card(s) inserted

Tips:

Using PC Cards

' For best results, purchase only cards that have been qualified for use on a Macintosh computer. If you are in the United States, you can receive a faxed list of currently available PC Cards by calling 1-800-462-4396 and requesting document 10307. You can call this number anytime. In Canada, call 1-800-263-3394 and request document 10307. Outside the United States and Canada, please consult your Apple-authorized dealer.

' Don't use an SRAM storage card as a startup disk on your PowerBook. Use SRAM cards for extra storage only.

' Never eject a PC Card manually (with a paper clip) while the PowerBook is in sleep. You may damage the card or lose data.

Using a DOS-formatted PC Card

' If your PowerBook has the Macintosh PC Exchange control panel installed and PC Exchange is turned on, you can use a PC Card that has been preformatted in a DOS format in your PowerBook. However, you cannot start up your computer using the DOS-formatted PC Card; you can only start up your computer using a Mac OSÜformatted PC Card. If you want to reformat your DOS-formatted PC Card as a Mac OSÜformatted PC Card, you need to turn PC Exchange off, and then format the card as you would any non-Mac OSÜformatted disk. Follow these steps:

1. Choose Control Panels from the Apple menu.
2. Open the PC Exchange control panel.
3. Click the Off button and close the PC Exchange control panel.
4. Insert your PC Card.
A window appears asking if you want to initialize (format) the disk.
5. Click Initialize to format the PC Card.

' Once the PC Card is reformatted, you can turn Macintosh PC Exchange back on in the PC Exchange control panel.

' You cannot reformat a Mac OS-formatted PC Card as a DOS-formatted PC Card with PC Exchange. To do so, you need to use a DOS/Windows computer with PC Card capabilities.

Troubleshooting:

Selecting a PC Card as a startup disk:

' The user may experience some difficulty in selecting a PC Card as a startup disk. If a system alert "beep" is heard when attempting to select a PC Card as a startup disk, simply restart the machine, then reselect the startup disk.

Starting the computer with PC Card(s) inserted:

' Under some configurations, the user may experience problems when starting up with a PC Card inserted. If this occurs, remove the the PC Card before starting the computer.

(revised 02/19/96)
Published Date: Feb 18, 2012

Video Software Installer 1.5.1

Name: Video Software Installer
Version: 1.5.1 (US Only)
Released: January 20, 1997
Description:
This software includes Apple Video Player 1.4.2. For complete information, please see below.

This software is available on the Apple Support Website, Apple Software Updates. It consists of two self-extracting archives of Disk Copy 1440K disk images. To use, download, double-click the downloaded file (this decompresses it), and use Disk Copy to create the disks.
This article has been archived and is no longer updated by Apple.
Apple Video Player 1.4.2 features the following:

- Improved memory management
- Improved error handling when TV/FM Tuner Card is not installed
- Improved support for Teletext
- Improved support for remote control
- Improved balloon help
- Improved support for Apple Video Player and WindowShade
- Improved preview window display
- Improved support for localization

In addition, Apple Video Player 1.4.2 fixes the following problems:

- TV window aspect ratio incorrect when monitor size changes
- Controls Window not refreshing correctly
- Apple Adjustable keyboard volume controls not working correctly
- Returning audio CD sound when muted simulataneously with TV.
- Screen redrawing incorrectly after window size is changed
- Video not displaying after MPEGæmovie is stopped
- Apple Video Player sound controls and balance controls affect FM Tuner
- Mute being canceled while an MPEGæmovie is playing
- 580-series Macintosh does not recognize TV/FM Tuner Card
- Teletext font does not get installed on European systems
- Stereo/SAP indicator displaying incorrectly
- Crashing on startup if Closed Captioning was previously on

For more information on AppleTV/Video System, please read **TIL article 30342**
Published Date: Feb 18, 2012

About PowerTalk Gateways

Name: PowerTalk Gateways
Version: n/a
Released: March 14, 1995
Description: Please refer to the information below.

The enclosed file is available on the Apple Support Website, Apple Software Updates. It is a self-extracting archive. To use, download, double-click the downloaded file (this decompresses it).
This article has been archived and is no longer updated by Apple.
Once expanded, a "PowerTalk Gateways" folder will be created with the following folders within:

CompuServe Gateway
ExMachina Notify! Pager Gateway
StarNine Internet Gateway
StarNine Microsoft Mail Gateway
STF PowerFax» PE Gateway
StarNine QuickMail Gateway

PLEASE NOTE: All references below to "Look in the...folder" refer only to these expanded folders on your hard drive, not separate postings here.

About PowerTalk Gateways

What are PowerTalk Gateways?

PowerTalk gateways from third-party vendors let you take advantage of PowerTalk►?s Mailbox for sending to and receiving from a variety of sources, including CompuServe mail, FAX, the Internet, pagers, Microsoft Mail and QuickMail. When installed on your Macintosh or Powerbook computer, a personal gateway provides direct access to any or all your specific communication services.

Before you install or use the gateways, read the important information below.

Also described below, but not included on this release, is a publically available X.500 PowerTalk Catalog gateway. This gateway is available via the Internet as described below.

Included in this posting:

ExMachina Notify! Pager gateway v1.0 - Allows pages to be sent from PowerTalk.

STF PowerFax»PE gateway v1.0.5 - Allows FAXes to be sent and received from PowerTalk. This new version supports additional modems.

CompuServe Mail gateway v1.0.2 - This gateway connects PowerTalk to CompuServe mail.

StarNine QuickMail gateway v1.0.4 - StarNine►?s QuickMail gateway allows PowerTalk users to exchange mail directly with QuickMail users via a QuickMail server. The QuickMail gateway is a 60 day trial version. Look in the StarNine QuickMail folder for a ReadMe that describes how to obtain the key to convert your trial gateway license into a full use license.

StarNine Internet/SMTP gateway v1.5.1 - StarNine►?s PT/INET gateway provides PowerTalk users direct access to UNIX based mail systems and to the Internet. This new version of the gateway supports dialup connections (via SLIP or PPP) to the Internet. The Internet gateway is a 60 day trial version. Look in the StarNine PT/INET folder for a ReadMe that describes how to obtain the key to convert your trial gateway license into a full use license.

StarNine Microsoft Mail gateway v1.0.0 - StarNine►?s new Microsoft Mail gateway allows PowerTalk users to send and receive mail from any other Microsoft Mail for the Macintosh user. The Microsoft Mail gateway is a 60 day trial version. Look in the StarNine Microsoft Mail folder for a ReadMe that describes how to obtain the key to convert your trial gateway license into a full use license.

Known Limitations

The following describes the known limitations of the selected gateways.

CompuServe Mail Gateway

Selecting the option to connect "when waiting message count is 1" may, under rare conditions, result in the phone dialing every five minutes. An update is

available for download from CompuServe. See the Readme in the CompuServe Gateway folder for instructions on how to download the latest version.

ExMachina Notify! Pager Gateway

When running the pager gateway on a PowerPC based Apple Macintosh, sending to a page server will fail. See the Readme in the Notify! gateway folder for additional information on this gateway.

Modem-Based Software

Some gateways put your modem into auto-answer mode. When your modem is in auto-answer mode, you can still use any gateway to send calls. However, only one gateway at a time should set the modem to auto-answer.

Two gateways will attempt to put your modem into auto-answer mode: STF PowerFax PE and Apple Direct Dialup Mail. You may have either of these gateways set to auto-answer, but not both. (Direct Dialup is posted here separately.)

To avoid conflict between STF PowerFax PE and Apple Direct Dialup Mail, you can open the Special menu and use the "I'm at" menu item to turn one or the other package off.

You can also disable auto-answer for STF PowerFax PE. To disable auto-answer, do these steps:

1. Open the STF PowerFax key in the Key Chain and click the Other Settings button.
2. In the Other Setting dialog, choose Fax Modem.
3. Open the Answer On (number of rings) pop-up menu and choose Never.

With PowerFax configured this way, the gateway will not attempt to set your modem to auto-answer. However, you may still send a fax at any time.

X.500 Catalog Gateway for PowerTalk (University of Michigan)

X.500 is an international standard suite of protocols defined to provide directory and other services. Most X.500 directory services provide information about people"names, addresses, phone numbers and e-mail addresses. However, some help to locate documents, servers and so on.

How does it work?

With the X.500 Catalog Gateway installed, a PowerTalk user with TCP/IP access to the Internet can browse and search X.500 catalogs. The user can use e-mail addresses stored in X.500 to address messages via SMTP e-mail gateways (such as those available from StarNine).

IMPORTANT This X.500 gateway provides no access to, or any provision for, X.400 e-mail systems.

The X.500 Catalog Gateway uses the Lightweight Directory Access Protocol (LDAP) protocol, which is specifically targeted at simple management applications and browser applications that provide read/write interactive access to a directory.

LDAP is a widely used Draft Internet Standard for access to X.500 Directory Services. It provides almost all the functionality of X.500 without the overhead of the OSI protocol stack. LDAP operates over TCP/IP networks to query X.500 servers. LDAP is described in Internet Request for Comments: RFC-1487 [July 1993]: W. Yeong, T. Howes, S. Hardcastle-Kille, ñX.500 Lightweight Directory Access Protocolî (available at all the usual ftp sites for IETF Internet Drafts).

How do I get it?

The latest version is available for anonymous ftp from terminator.rs.itd.umich.edu in the directory /x500/aoce. An e-mail mailing list is used to inform users of new versions and news about the X.500 Catalog Gateway. To get on the mailing list, send your request to CSAM-LIST-Request@UMich.EDU.

Other University of Michigan LDAP implementations (server and client) are also available from the same host. Unix, Macintosh, and MS Windows platforms are supported. For more information about the non-PowerTalk aspects of the Michigan LDAP work, send a message via Internet e-mail to x500@umich.edu.

You can contact the author by by e-mail at Gavin.Eadie@UMich.EDU on the Internet or at A67 on AppleLink. You can also call (313) 936-0816 during USA Eastern Time working hours or fax at (313) 763-0523.

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Redistribution and use of the X.500 Catalog Gateway for PowerTalk is permitted provided that this notice is preserved and that due credit is given to the University of Michigan at Ann Arbor. The name of the University may not be used to endorse or promote products derived from this

software without specific prior written permission. This software is provided ñas isî without express or implied warranty.
Published Date: Feb 18, 2012

About PowerTalk

This document provides an overview of PowerTalk, a high-level description of many of the contents of the PowerTalk folder posted on the Apple Support Website: Software Updates, and a list of resources which can provide additional PowerTalk related information.
This article has been archived and is no longer updated by Apple.
PowerTalk software, available as part of MacOS System Software 7.5.1, provides a set of common collaboration services that allows users to send electronic mail and faxes, share files, and even digitally sign and verify documents. Because PowerTalk functions are implemented in the operating system, these collaboration services can be accessed not only from the desktop, but also directly from all your applications.

When combined with third-party gateways, PowerTalk makes sending information and documents as easy as drag and drop. Group information cards can be used to streamline the communcation of information to any number of people, regardless of their method of communicating.

PowerTalk Universal Mailbox provides a one-step repository on the desktop that allows you to manage all your correspondence. Electronic mail, internet mail, fax and even voice messages are automatically gathered and stored in the Universal Mailbox.

For workgroup or enterprise networks, Apple's PowerShare Collaboration Server software provides PowerTalk users with server based electronic mail and messaging, shared catalogs and additional network security services. PowerShare can be obtained from any Apple authorized dealer.

For more details on PowerTalk, PowerShare and third-party applications that work with PowerTalk, please see the PowerTalk Solutions Guide posted here.

About The PowerTalk Folder

Contained in the PowerTalk folder on the Apple Support Website, are a number of Apple and third-party developed software extras for PowerTalk.

PowerTalk Tour - The PowerTalk Tour provides a step by step overview of PowerTalk and how to use it.

PowerTalk Direct Dialup - This program allows you to exchange electronic mail, over a modem, with any other Macintosh user. See the Read Me as part of the PowerTalk Direct Dialup posting for more information.

PowerTalk Gateways - The following PowerTalk gateways are included:

CompuServe - Gateway for sending and receiving CompuServe mail
STF PowerFAX» PE - Gateway for sending and receiving faxes
ExMachina Notify! - Gateway for sending electronic pages
StarNine Internet/SMTP - Gateway for exchanging mail over the Internet
StarNine Microsoft Mail - Gateway for exchanging mail with Microsoft mail users
StarNine QuickMail - Gateway for exchanging mail with QuickMail users

For more information on any of these gateways please see the Read Me as part of the PowerTalk Gateways posting.

Additional PowerTalk Resources

Here is a list of places to go for more information on PowerTalk and PowerShare.

The PowerTalk mail list (aoce-list) is the best place to go for detailed information on PowerTalk. The mail list is basically a bulletin board for users of PowerTalk and PowerShare. You can post questions, that will be answered by a slew of experienced users or simply listen and learn as others share information.

To become part of the list send a message with the word ñsubscribeî as the subject to: Aoce-List-Request@umich.edu

If you simply want to post a question the address is: aoce-list@umich.edu

Users Group

The new International PowerTalk and PowerShare Users Group provides a valuable source of information to users. They have just recently announced a new CD which includes all publically available PowerTalk/PowerShare software, third-party applications, archives of Apple►?s PowerTalk and PowerShare documentation, an archive of the internet mail list and much more.

The users group can be contacted at:

http://www.iptpsug.org/iptpsug/

Also on the internet there is a PowerTalk home page maintained by Seam McMains at the Univ. of Texas. He has some software (e.g. X.500 gateway, and PT internet template software) that you can download at:

http://seansmac.nms.unt.edu

And General Business Interfaces offers a new software tool for extending PowerTalk catalogs. You can download a demonstration from:

http://www.gbi.com/cataloger.html

or via FTP at gbi.com (user: anonymous).
Published Date: Feb 18, 2012

HyperCard Color Stack Repair 2.0 Read Me

Name: HyperCard Color Stack Repair Version: 2.0 (US Only)
Released: January 15, 1997
Description: This stack corrects a portability problem across Power Macintosh computers with stacks created using Color Tools from HyperCard 2.3. This problem does not occur with HyperCard 2.3.5.

This software is available from the Apple Support Website, Apple Software Updates, it consists of a self-extracting archive. To use, download, double-click the downloaded file (this decompresses it).
This article has been archived and is no longer updated by Apple.
From the Read Me included with this software:

This repair stack corrects a crash that occurs as the result of the following condition:

Launching a stack on a Power Macintosh computer, previously created on a different Power Macintosh, having been colored using the reources in the Color Tools stack that shipped with HyperCard 2.3.

To repair a stack meeting the above condition:

* Click on the "Repair a 2.3 color stack" button * In the resulting dialog, locate and open the stack to be repaired

The specified stack will be opened and repaired automatically.

Note: You need only use this update to repair those stacks you have authored or received which are known to meet the above condition. The Color Tools stack included with HyperCard 2.3.5 has been updated so that stacks colored with that version work correctly and do not require repair by this stack.
Published Date: Feb 18, 2012

AppleVision Fix 1.1

If you have an AppleVision Display and you have problems after installing System 7.5 Update 2.0 or System 7.5.3 Revision 2, you should install the AppleVision Fix 1.1.
This article has been archived and is no longer updated by Apple.
This software fixes such problems as:

- When you press the buttons on the front of the display, you see a message that says "No AppleVision Display is connected."
- You have a Power Macintosh 7200 and can?t find the Monitors & Sound control panel in the Control Panels folder.
- The Monitors & Sound control panel does not have Geometry, Color, and Monitor Sound buttons. (Note: The Monitor Sound button appears only if you have an AV monitor.)
- You can't change the resolution of the AppleVision Display or you can't open the AppleVision Setup control panel.

Macintosh Guide does not contain information on the AppleVision Software or Display.

This article can help you locate the software update mentioned here:

- Article 14724: "**Where To Find Apple Software Updates**" - Lists online services for free Apple software updates.

Published Date: Feb 18, 2012

Remote Control & Server Controller 1.0

The two applications, Remote Control and Server Controller, allow the owner of a Macintosh to start or stop the file server running on that Macintosh using another Macintosh at another location on the network. These two applications were made available on the Apple Software Updates Online December 12, 1994.
This article has been archived and is no longer updated by Apple.
Remote Control and Server Controller are free software and can be distributed freely by individuals. For commercial distribution or bulletin board distribution please contact Apple Software Licensing.

Remote Control and Server Controller are distributed "as is" and unsupported by Apple or the author. Please don't call Apple or the author for technical support on this program.

********** Setup **********

To setup the server Macintosh:
* Drop the Server Controller application in the System Folder's Startup Items folder.
* Make sure the Macintosh Owner Name, Owner Password, and Macintosh Name of are set with the Sharing Setup control panel or AppleShare Admin application.
* Make sure Program Linking is "on" with the Sharing Setup control panel.
* Make sure Program Linking is enabled for the owner of the system with the Users & Groups control panel or AppleShare Admin application. * Make sure AppleTalk is "on" with the Chooser.
* Reboot the system; Server Controller will be launched and if everything is setup correctly, you won't see any error notification dialogs.

To setup and use the remote Macintosh to control the server remotely:
* Make sure Program Linking is "on" with the Sharing Setup control panel.
* Make sure AppleTalk is "on" with the Chooser.
* Run the Remote Control application.
* Select "Connect to Remote Macintosh..." from the Remote menu.
* Use the program linking and the user identity dialogs to connect to the server Macintosh as the server's owner (other users cannot connect).
* Using Remote Control from here on is pretty obvious; just quit, or disconnect and quit when you're done.

********** About Server Controller **********

Server Controller is a faceless background application; it has no user interface and won't show up in the Application menu. When it's launched, it first performs a few checks to make sure it can do its job; if it can't, then it puts up an error notification dialog describing the problem and then quits. If everything is set up correctly, then it opens a PPC port and goes to sleep until the server's owner, using the Remote Control application, connects with it. While the owner is connected, Server Controller sends status information to the Remote Control application and makes server control calls passed to it by Remote Control.

If you need to quit Server Controller, you can use ProcDoggie or Task-It (two other DTS sample applications), or you can drag Server Controller out of the Startup Items folder and reboot.

********** About Remote Control **********

Remote Control displays status information it gets from Server Controller and send server control commands to Server Controller to start the server, stop the server, or cancel the start or stop operation. The only menu items of real interest are File, which lets you quit Remote Control, and Remote, which lets you connect to or disconnect from the Server Controller application.

Once a connection is made with the Server Controller application, a small window will appear with a single button and some status information. The button will either be Start, Stop, or Cancel depending on current status of the remote file server. The status information returned is:
* Macintosh Name, the name of the Macintosh running Server Controller you've connected to.
* Zone, the zone the Macintosh running Server Controller you've connected to is in. (If there are no zones, this field will be "*")
* Status, the status of the remote file server.

To disconnect from the Server Controller application, you can use either the Remote menu or you can Quit the Remote Control application.

********** Release Notes **********

1.0d2 - Although this is only version 1.0d2, it is completely usable and has no crashing bugs that I know of. I'll be making several major internal changes to both applications before releasing another version, but since this version works and is useful, I thought I'd pass it around and get a little feedback on the user interface, etc.

Remote Control 1.0d2++ - I've fixed a few minor bugs and rebuilt the program
with the final ServerControlIntf file.

TA37834_Remote_Control_Server_Controller_.pdf

Server Controller 1.0d2++ - I fixed a problem with case-insensitivity in the user name and rebuilt the program with the final ServerControlIntf file.

Remote Control 1.0 - If the PPC connection is broken, the application window is now closed.

Server Controller 1.0 - Server
Published Date: Feb 18, 2012

Support for Performa Computers

This article provides links to technical support for Performa computers.
This article has been archived and is no longer updated by Apple.
Please be aware that issues and solutions for older system software have often been solved in more recent releases of system software. Therefore, it is recommended that you run the most recent system software that works with your Macintosh Performa. For support and information on older Mac OS versions please refer to article 26181: "Support for Older Macintosh Operating Systems"

To find out if your Performa computer is in the Legacy Product Support category, please visit the Legacy Support webpage where there is a list of qualifying products. If you looked at product support information in the resources listed below and did not find a resolution to your Mac OS related issue, you may wish to proceed directly to Apple Discussions - Older Apple Products - Desktop Computers

Jump to Discusions

Technical Information can be found in the Knowledge Base and Knowledge Archives:

The Knowledge Base has thousands of technical articles and is updated daily.

The Knowledge Archive contains articles covering products eight years or older. Archived articles are not updated.

Find Technical Information and Software Updates for the Macintosh Performa:

Technical articles that containg support information on the following Macintosh Performa computers can be found in the Knowledge Archive:

Macintosh Performa 200 through 640 Series

Macintosh Performa 5200 Series

Macintosh Performa 5300 Series

Macintosh Performa 5400 Series

Macintosh Performa 6100 Series

Macintosh Performa 6200 Series

Macintosh Performa 6300 Series

Macintosh Performa 6400 Series

There is a list of Software Downloads for English North-American versions of Software for Macintosh, Apple II and Newton released prior to Mac OS 8.1 in January 1998. All software listed there is considered obsolete and may do harm if improperly installed. Please use extreme caution. All software released since January 1998 is available in the AppleCare Knowledge Base (needs Apple ID), although there may be some duplicates listed here.

Use this URL to go to the Older Software Downloads list: http://www.info.apple.com/support/oldersoftwarelist.html

Several articles have been created from frequently asked questions:

Article 50000: "Performa Discussion Forum: Frequently Asked Questions (FAQ)"

Article 18291: "Performa 630 Series: Frequently Asked Questions"

Article 18928: "Macintosh Performa 5xxx/6xxx: Frequently Asked Questions"

Article 18224: "Macintosh Performa 6100: Frequently Asked Questions"

Article 20213: "Macintosh Performa 6400, 6500: Sound FAQ"

Other articles describe specific issues identified in Performa Model Computers:

Article 22078: "Flashing "?": Solution on Performa/Power Mac 54xx, 55xx, 6400, and 6500"

Article 19999: "Macintosh Performa 5xxx/6xxx Tester: Read Me"

This article contains the ReadMe file for the 5xxx/6xxx Tester application, which should be used with all Power Macintosh and Performa 5200, 5300, 6200, and 6300 series computers to test for known component issues that may cause system freezing.

Article 18616: "Macintosh Performa 5xxx/6xxx: Microprocessor Issue"

TA37835_Support_for_Performa_Computers.pdf

This article describes an issue with some PowerPC 603 microprocessors installed on a limited number of Macintosh and Performa 5200 and 6200 series computers.

Article 22193: "Power Macintosh/Performa 52xx/62xx: Continuous Beep on Startup"

Discusses an issue after installation of Mac OS 8.1. During startup, the computer will emit a "squealing" sound, similar to a car horn sounding continuously. The sound will continue until a new sound is played or the volume is changed.

Apple Discussions

Use this link to go to Apple Discussions:

http://discussions.info.apple.com/

Apple agrees to maintain the discussions and read all posts from customers. Apple personnel will focus on gathering feedback and bug reports which will be forwarded to the appropriate Apple group and correcting erroneous information in the discussions. Due to load, Apple will not be able to respond directly to every question posted. Many Apple customers are experts when it comes to Apple products and are therefore encouraged to share their valued technical expertise in these discussions, and help others achieve success with their Apple products.

If you're new to Apple Discussions, there is Apple Discussions Help available.

For other techncial support please see the Support Options Web site at: http://www.apple.com/support/products/overview.html

Published Date: Feb 18, 2012

Support for Apple Scanners

This article has been created to direct customers to technical support for Apple Scanners.
This article has been archived and is no longer updated by Apple.
Please be aware that issues and solutions for older system software have often been solved in more recent releases of system software. Therefore, you should run the most recent system software that works with your Macintosh computer.

For support and information on older Macintosh operating systems please see article 26181. Please be aware that if you upgrade to Mac OS 8.0 or later you must install the Scanner Driver 4.2 or later. See below for information on this driver and where to find it.

If you have looked at product support information in the resources listed below and have not found a resolution to your Mac OS related issue, you may wish to proceed directly to Apple Discussions.

Apple Scanners:
Apple Computer offered three scanners. They were:

- Apple Scanner
- Apple OneScanner
- Apple Color OneScanner (1200/30 and 600/27)

There were a variety of software packages and options used with these scanners; see Article 16500 for a description of available software.

Knowledge Base and Knowledge Archives:

You can find technical information on all Scanner models in the Knowledge Base and Knowledge Archive by searching. The Knowledge Base contains over 14,000 frequently updated technical articles. The Knowledge Archive contains articles covering products eight years or older. Archived articles are not updated.

Where to Find Drivers for Apple Scanners
Older Software Downloads
Drivers for Apple scanners can be found on the Apple Software Update Web page at http://www.info.apple.com/support/oldersoftwarelist.html. Use the find option of your browser to locate scanner software. The last version of the driver to be posted was 4.3, use scanner as the search word to locate the 4.3 version for download.

Note: The current version of the Apple Scanner driver (v4.3) is not compatible with the original black and white Apple Scanner. Apple Scanner 4.3 requires Ofoto v2.0.1 or later, and Apple Color OneScanner software v2.0 or later. The original Apple Scanner uses Applescan 1.0.2 or Hyperscan 2.0.1.

Customers who attempt to use Scanner 4.3 with the original Apple Scanner may have the scanner extension X'ed out at startup and be unable to communicate with the scanner.

Customers who wish to use the original Apple Scanner with a Power Macintosh G3 (Blue and White) and the Apple SCSI card should use Scanner v4.2.

Note: Older versions of scanner drivers can be found at: http://www.info.apple.com/support/oldersoftwarelist.html

Apple Discussions
If you have searched the Knowledge Base, Knowledge Archive, and Software Updates and you are still unable to find an answer to your Apple Scanner related question please visit Apple Discussions. There you can use the search option to search for discussions relating to your question, or you can browse through the existing posts. Finally, if you have exhausted all other options you can post your question. If you are new to Apple Discussions there is Discussions Help available.

Use this link to go to Apple Discussions: http://discussions.info.apple.com/

Apple agrees to maintain the discussions and read all posts from customers. Apple personnel will focus on gathering feedback and bug reports which will be forwarded to the appropriate Apple group and correcting erroneous information in the discussions. Due to load, Apple will not be able to respond directly to every question posted. Many Apple customers are experts when it comes to Apple products and are therefore encouraged to share their valued technical expertise in these discussions, and help others achieve success with their Apple products.

If you're new to Apple Discussions, there is Apple Discussions Help available.

For other techncial support please see the Support Options Web site at: http://www.apple.com/support/products/

TA37836_Support_for_Apple_Scanners.pdf

Key issues and support information regarding Scanner Products:
The following articles have been identified as providing relevant support information for Apple Scanners:

Article 17997: "Apple Scanner: Frequently Asked Questions"
Article 22143: "Printers & Imaging: Frequently Asked Questions"
Archive Article 11094: "Apple Software: System 7.5.3 rev 2 Compatibility"
Article 16486: "Apple OneScanner: Connecting to PC w/o Accessory Kit"
Article 9961: "Ofoto for Windows: Description"

If you have tried all of the above Online options for solving your Apple Scanner related question and you still need help, please review the Support Options Web site.

Published Date: Feb 18, 2012

Support for QuickTake Digital Cameras

This article provides direction to technical support for Apple QuickTake digital cameras.
This article has been archived and is no longer updated by Apple.
Issues and solutions for older system software are resolved in later releases of system software; Apple recommends that your Macintosh computer run the most recent operating system. Please see article 26181 for support information on older versions of the Macintosh operating system and Apple Discussions for Older System Software.

If you have exhausted the product support resources listed below you may wish to proceed directly to Displays\\Imaging Discussions.

Apple QuickTake Digital Cameras

There were three models of QuickTake Digital Camera and the Technical Specifications and Descriptions of each can be found in the Knowledge Archive.

Related Documents

14659 QuickTake 100 for Macintosh: Description
14660 QuickTake 100 for Macintosh: Technical Specifications
15604 QuickTake 100 for Windows: Description
17410 QuickTake 150: Specifications
17814 QuickTake 150 For Windows: Read Me
20985 Apple QuickTake 200: Product Description
20986 Apple QuickTake 200: Technical Specifications

Knowledge Base and Knowledge Archives:

You can find technical information on all Scanner models in the Knowledge Base and Knowledge Archive by searching. The Knowledge Base contains over 14,000 frequently updated technical articles. The Knowledge Archive contains articles covering products eight years or older. Archived articles are not updated.

Where to Find Original Software
One of the most frequently asked "QuickTake" questions relates to finding replacement disks for the original software. Original software is no longer available through Software Fulfillment and cannot be downloaded from the Apple Support website.

Where to Find Software Updates:
If you have the original software and would like to download updates you can browse the updates at
http://download.info.apple.com/Apple_Support_Area/Apple_Software_Updates/

Software updates available for QuickTake Cameras:
PhotoFlash 2.0->2.0.1: PhotoFlash 2.0->2.0.1 was released on August 29, 1995. This update converts PhotoFlash from version 2.0 to version 2.0.1 and resolves an issue with PhotoFlash 2.0. Customers can download the English-North American version or the **International English** version from Apple Software Downloads.

The following article in the Tech Info Library article may help customers understand the difference between QuickTake 1.0 and PhotoFlash 2.0: article 17422: "QuickTake 2.0 Software: List of Files Installed." (This list includes PhotoFlash 2.0 application software as well as other files).

Key issues and support information regarding QuickTake Digital Cameras:

The following articles have been identified as providing relevant support information for QuickTake Digital Cameras:

Related Documents

20491 Apple QuickTake Cameras: External Power Q&A
18343 Transfer QuickTake Files From Macintosh to Windows
20172 QuickTake Cameras: Not Supported Using Windows 95

Apple Discussions
If you have searched the Tech Info Library and Software downloads and you are still unable to find an answer to your Apple QuickTake Digital Camera related question please visit Apple Discussions Displays\\Imaging. You can search for discussions relating to your question, or you can

read through the existing discussions. Finally, if you have exhausted all other options please post your question. f you are new to Apple Discussions there is Apple Discussions Help available.

Apple agrees to maintain the discussions and read all posts from customers. Apple personnel will focus on gathering feedback and bug reports which will be forwarded to the appropriate Apple group and correcting erroneous information in the discussions. Due to load, Apple will not be able to respond directly to every question posted. Many Apple customers are experts when it comes to Apple products and are therefore encouraged to share their valued technical expertise in these discussions, and help others achieve success with their Apple products.

For other techncial support please see the Support Options Web site at: http://www.apple.com/support/products/

Published Date: Feb 18, 2012

PowerBook: Support for Earlier Models

This document has been created to assist owners of earlier model Macintosh PowerBook computers locate support information.
This article has been archived and is no longer updated by Apple.
The following are considered earlier model Apple PowerBook computers

- PowerBook 100 Series
- PowerBook Duo (200 and 2300) and DuoDock series
- PowerBook 500 Series
- PowerBook 5300
- PowerBook computers upgraded to PowerPC

Please be aware that issues and solutions for earlier system software found in the Knowledge Base have often been solved in more recent releases of system software. Therefore, you should use the latest system software that works with your Macintosh computer. For support and information on earlier Mac OS versions please see technical document 26181: "Macintosh: Support for Earlier Operating Systems".

To find out if your PowerBook computer is in the Legacy Product Support category, please visit the Legacy Support Web page. If you have exhausted the resources listed below and have not resolved your PowerBook issue, you may wish to proceed directly to:

- Apple Discussions - Older Apple Products- PowerBooks.

Technical Information can be found in the Knowledge Base and Knowledge Archive:

The Knowledge Base has over 5000 technical documents and is updated daily.
The Knowledge Archive contains articles covering products from 1997 and earlier. Archived articles are not updated.

Find Technical Information and Software Updates for earlier Macintosh PowerBook computers

- Macintosh PowerBook General Topics see the article: PowerBook: Miscellaneous Frequently Asked Questions (FAQ)
- Macintosh PowerBook Duo 200 Series see the article: Duo & Duo Dock: Frequently Asked Questions (FAQ)
- Macintosh PowerBook Duo 100 Series see the article: PowerBook Models 14x, 16x, 170, 18x: Common Q & A (FAQ)
- Macintosh PowerBook 500 Series see the article: PowerBook 500 Series: Frequently Asked Questions (FAQ)
- Macintosh PowerBook 2300 and 5300 Series search the Knowledge Base Archives

Key issues and support information regarding PowerBook products:

Several articles, in addition to the ones featured above, have been created from frequently asked questions. They can be found in the Knowledge Base:

Technical document 16167 - PCMCIA for PowerBook: Frequently Asked Questions
This document answers some frequently asked questions (FAQ) about the PowerBook PCMCIA Expansion Module for the PowerBook 500 series and the built-in PCMCIA (PC Card) bay for the PowerBook 190, 5300 and 1400 series computers.

Technical document 11751 - Macintosh Family: Batteries and Part Numbers
This document contains frequently asked questions (FAQ) about Macintosh family batteries and part numbers, and answers to those questions.

Technical document 18230 -PowerBook Modem & Telecom: Frequently Asked Questions
This document contains the answers to frequently asked questions (FAQ) about common PowerBook computer's modem and telecommunication issues.

Technical document 19091 - PowerPC PowerBook Computers: Frequently Asked Questions
This document contains the answers to frequently asked questions (FAQ) about the PowerPC PowerBooks. This discussion includes the PowerBook 5300 series, 2300 series, 500 series upgraded to PowerPC, and 200 series upgraded to PowerPC.

Technical document 17055 - Macintosh Family: Upgrade History
Contains a chart showing all past and present logic board upgrade kits.

Apple Spec Database has Technical Specifications and Descriptions

You can find technical specifications for the following products in Apple Spec Database

- Classic Macintosh Systems
- Macintosh II Systems
- Macintosh LC Systems

- Macintosh Performa Systems
- Macintosh Centris & Quadra Systems
- Macintosh PowerBook Systems
- Power Macintosh Systems
- Systems Upgraded to PowerPC

Product Documentation Archive
At the Apple Manuals Archive Web page you can download Apple manuals and other instructional materials. Adobe Acrobat Reader version 3.0 or later is required to view the manuals.

Apple Discussions
If you have searched the Knowledge Base and Software Updates and you are still unable to find an answer to your earlier Macintosh PowerBook related question please visit the Apple Discussions for **Older Apple Products (PowerBook)**. Finally, if you have exhausted all other options please post your question. If you are new to Apple Discussions there is Apple Discussions Help available.

If you have tried all of the above online options for solving your older Macintosh computer related question and you still need help, please review the Support Options Web site.
Published Date: Feb 18, 2012

Support for Apple Software

This document provides technical support links for Apple software products.
This article has been archived and is no longer updated by Apple.
Please select your product area of interest:

- QuickTime <http://www.info.apple.com/usen/quicktime/>
- AppleWorks <http://www.info.apple.com/usen/appleworks/>
- Final Cut Pro <http://www.info.apple.com/usen/finalcutpro/>
- iDVD <http://www.info.apple.com/usen/idvd/>
- iMovie <http://www.info.apple.com/usen/imovie/>
- iPhoto <http://www.info.apple.com/usen/iphoto/>
- iTunes <http://www.info.apple.com/usen/itunes/>
- DVD Studio Pro <http://www.info.apple.com/usen/dvdstudiopro/>
- AppleShare IP (server software) <http://www.info.Apple.com/usen/asip/>
- Former Claris Products <http://docs.info.apple.com/article.html?artnum=26176>
- Other: Apple Media Tool, Apple Remote Access, At Ease, Apple Language Kits <http://www.info.apple.com/usen/othersoftware/>
- Apple Software Updates see the "Apple Software Updates" section of document 14724: "**Where to Find Apple Support**".

Technical information about all Apple software applications may also be found by searching Apple's Knowledge Base or Knowledge Archive databases. If you cannot locate a solution within these resources, you may wish to visit the Apple Discussions <http://discussions.info.apple.com/> help community.

Mac OS software

- For Mac OS X support: Mac OS X Support page (USA) <http://www.info.apple.com/usen/macosx/>
- For Mac OS 9 support: Mac OS 9 Support page (USA) <http://www.info.apple.com/usen/macos9/>
- For Mac OS 8.1 - 8.6 support:
  Mac OS 8.1 Support page (USA) <http://www.info.apple.com/usen/macos8.1/>
  Mac OS 8.5 Support page (USA) <http://www.info.apple.com/usen/macos8.5/>
  Mac OS 8.6 Support page (USA) <http://www.info.apple.com/usen/macos8.6/>
- For Mac OS 8.0 or earlier support, please see document 26181 "**Support for Older Macintosh Operating Systems**."

Software Updates for Apple Software Applications.

See the "Apple Software Updates" section of document 14724: "**Where to Find Apple Support**".
Published Date: Feb 18, 2012

AppleColor Monitor 100: Making it compatible with the Apple IIGS

This article has been archived and is no longer updated by Apple.

According to the Apple II Compatibility Guide (P/N A2F2204), the AppleColor Monitor 100 is not compatible with the Apple IIGS. For the many owners of the AppleColor Monitor 100 who are upgrading their IIe's to the Apple IIGS, but who want to avoid having to purchase a new monitor, there is a workaround.

Inside the AppleColor Monitor 100 on the main PC board, almost directly under the neck of the CRT, there is a slide switch labeled "16 color/8 color". To make the AppleColor Monitor 100 work with the Apple IIGS, set the switch to the 8 color position, and use the cable provided with the Color Monitor 100 (svc part # 590-0194-A) to connect it to the the Apple IIGS. This configuration makes all colors available.

Apple Computer, Inc. takes no responsibility for any damages incurred, real or implied, that may result from this change.

Published Date: Feb 18, 2012

Using Catalyst 2.0 with the Apple III and hard disk drives

This article has been archived and is no longer updated by Apple.

```
To use Catalyst 2.0 with the Apple III and hard disk drives other than the
ProFile, you need to change the driver configuration block of the .CATALYST
driver as follows:

 00  01  02  03  04  05  06  07  08  09  0A  0B  0C  0D  0E  0F  10  11
 --  --  --  --  --  --  --  --  --  --  --  --  --  --  --  --  --  --
 (See notes just below)  00  8F  97  8A  91  93  23  17  17  F6  00  B8

 Notes:

 00 - Slot number
 01-  Unit number
 02 - Type
 03 - Sub Type
 04 - Low Byte, Manufacturer's ID
 05 - High Byte, Manufacturer's ID

For a 10 megabyte ProFile, copy the information in bytes 00 through 05 from the
existing Catalyst hard disk driver configuration block (DCB) of the Catalyst
driver that you are using.  For a 10 MB Profile, the DCB should look like this:

 00  01  02  03  04  05  06  07  08  09  0A  0B  0C  0D  0E  0F  10  11
 --  --  --  --  --  --  --  --  --  --  --  --  --  --  --  --  --  --
slot  00  01  01  23  00  00  8F  97  8A  91  93  23  17  17  F6  00  B8

For a 5 MB Profile, the DCB should look like this:

 00  01  02  03  04  05  06  07  08  09  0A  0B  0C  0D  0E  0F  10  11
 --  --  --  --  --  --  --  --  --  --  --  --  --  --  --  --  --  --
slot  00  D1  01  23  00  00  8F  97  8A  DD  93  23  E8  17  F6  3B  C3
```

Published Date: Feb 18, 2012

LaserWriter: Possible Causes of Curved/Skewed "Straight" Lines

This article has been archived and is no longer updated by Apple.

If a line drawn as a straight vertical lines on the Macintosh's screen is not a perfectly vertical line when printed on a LaserWriter, it may be due to:
- the type of paper stock being used
- a problem with the paper feed assembly
- a faulty laser scanner unit

If the line is straight but not perfectly vertical when printed, it may be due to the skew adjustment.

Published Date: Feb 18, 2012

Printing DOS Text Files

This article has been archived and is no longer updated by Apple.

DOS text files do not transfer directly to a printer. Use this program to print text files to any slot desired by the user. The program does not strip leading spaces or limit strings to 239 characters.

```
100 TEXT: NORMAL: HOME
110 D$ = CHR$(4)
120 KB = -16384: KS = -16368
130 INPUT "TEXT FILE NAME? ";FILE$
140 PRINT
150 INPUT "DESTINATION SLOT? ";S : REM PRINTER SLOT NUMBER
160 ON ERR GOTO 500
170 PRINT D$;"OPEN ";FILE$
180 PRINT D$;"READ ";FILE$
190 GET A$
200 PRINT D$;"PR#";S
210 PRINT A$
220 IF (PEEK (KB) <> 155) GOTO 190
230 POKE KS,0
500 PRINT D$;"PR#0"
510 PRINT
520 PRINT D$;"CLOSE ";FILE$
540 END
```

Keying ESCAPE stops the program before it reaches the end of the file.

Published Date: Feb 18, 2012

HyperCard: How To Install Desk Accessories In Stacks

This article has been archived and is no longer updated by Apple.

Note: The following information applies only to system software versions earlier than 7.0. Under System 7, the Font/DA Mover is no longer used, and desk accessories are opened just like regular applications.

TOPIC ----------

I received a desk accessory (DA) that needs to be installed directly into a HyperCard stack. How can I do this?

DISCUSSION ----------

Developers sometimes ship a desk accessory for use specifically with their software products, so that the DA is available in the Apple menu only while running their products. It's possible, for example, to install desk accessories into HyperCard. While in Font/DA Mover, hold down the Option key while clicking the Open button. This will allow you to select and open HyperCard. Copy the DA normally once the program is open in one of Font/DA Mover's windows. The DA is now installed in HyperCard's resource fork, and it will show up in the Apple menu whenever HyperCard is running.

Published Date: Feb 18, 2012

HyperCard:How It Launches & Quits Applications Under MultiFinder

The following discusses the method in which HyperCard 1.2 launches and quits applications when running under MultiFinder.
This article has been archived and is no longer updated by Apple.
Under the Finder, when you launch an application from HyperCard then quit that application, the "resume" system message is sent and you return to HyperCard instead of to the Finder.

MultiFinder, on the other hand, patches the "launch" ROM call and handles it before HyperCard is passed the launch information. And HyperCard is not informed when you quit from the application. Consequently, you don't always return to HyperCard when you quit from the application that was launched from HyperCard.
Published Date: Feb 18, 2012

MS BASIC Interpreter 2.1: Problem With Macintosh Plus Sound

This article has been archived and is no longer updated by Apple.

The Microsoft BASIC Interpreter version 2.1 has problems with the Macintosh Plus sound routines. The solution is to upgrade to the Microsoft BASIC Interpreter version 3.0.

Published Date: Feb 18, 2012

MultiFinder: How To Set The Launch Order Of Applications

This article has been archived and is no longer updated by Apple.

TOPIC ----------

I don't understand how MultiFinder determines the order for launching applications. I open them in the order I prefer and use Set Startup. However, they still open in random order.

DISCUSSION ----------

When using 6.0.x, the order in which you open applications before using Set Startup doesn't determine launch order at startup. Study these three steps:

1) Open three applications in the order A-B-C.

2) Choose Set Startup and select Opened Applications and DAs.

3) Restart the system.

If you were to do this, MultiFinder may open the applications in B-C-A order, or in any other sequence.

The order the applications launch is by most-recently-modified application first, next-most-recently-modified application second, and so on. There's a way to ensure that applications open in a particular order.

1) Open all applications you want launched at startup.

2) From the Apple Menu, choose the application you want to open last.

3) Make some kind of change within the application: type some text or draw some graphics.

4) From the Apple Menu, select the application you want to open next to last.

5) Make some kind of change within this application.

6) Repeat steps 3 through 5 for each application.

7) Choose Set Startup and select Opened Applications and DAs.

As an example, open MacWrite, MacPaint, and Excel. Excel works best when launched first; MacWrite and MacPaint don't care. So, to make Excel launch first, MacPaint second, and MacWrite third.

1) From the Apple menu, choose MacWrite; type some text and press Return a few times.

2) From the Apple Menu, choose MacPaint; draw a circle or a box.

3) From the Apple menu, choose Excel; type some numbers and press Return a few times.

4) From the Apple menu, choose the Finder.

5) Choose Set Startup and select Open Applications and DAs.

6) Restart your system. Excel should open first, MacPaint second, and MacWrite third.

TA37847_MultiFinder_How_To_Set_The_Launch_Order_Of_Applications_(TIL02659).pdf

Published Date: Feb 18, 2012

Parity Checking: Overview

This article discusses parity checking.
This article has been archived and is no longer updated by Apple.

Why Parity Checking Came About

Parity checking first became an issue when computer manufacturers started using early DRAM (Dynamic Random Access Memory) technologies. These chips were quite unreliable, and since they were relatively small (1KB - 4KB), vendors had to use a large number of them (increasing the odds of failure) to produce a system with a useful amount of memory. In that environment, parity checking ensured that if a soft error (one that can't be reproduced) occurred, a user would not be able to save potentially corrupted data back to disk.

Apple's Approach: Increased DRAM Reliability

Apple took a different approach and worked with its chip vendors to increase DRAM reliability. The result has been that each new generation of DRAMs seems to be twice as reliable as the previous generation. The mean time between soft errors doubles, even though the chip capacity quadruples. Thus, for a given amount of memory, each new generation of DRAMs has eight times the reliability of its predecessor.

As a practical matter, the reliability of current computer technology is not gated by the reliability of the hardware: system and application software fail (and corrupt data) several orders of magnitude more often than the hardware on which they run. There are also several good engineering reasons why Apple doesn't use parity checking:

- Cost. In addition to requiring more RAM, additional circuitry must be added to the logic board to detect parity errors.

- No Significant Reliability Improvement. The 256K DRAMs we currently use typically experience soft errors every 1,000,000 hours per device, or once every 3.5 years for a 1MB Macintosh system.

- No Real Protection. How a system reacts to a parity error is at least as important as checking for one in the first place. Most MS-DOS PCs react poorly and crash the system when they detect a parity error, threatening both the user's files and file system.

Apple is not alone in these conclusions. While early versions of IBM's 360 series of mainframes used parity checking, more recent versions have moved towards "error correcting code" to maintain system integrity.

System Reliability and System Performance

The Macintosh already checks its memory for hard failures as a part of the startup sequence. Apple could also adopt an error correction scheme similar to that used in most of today's mainframes, and totally protect the user against single bit soft errors. Essentially, this approach adds three bits to each byte so that the system can detect an error and correct it. This approach is expensive, and would require substantial changes to both our operating system and hardware.

More important, both parity checking and error correction code would impact the overall performance of future Macintosh systems. In essence, both these schemes require that the hardware detect a soft error in less time than it takes the microprocessor to execute an instruction. As Apple moves to faster microprocessors, less time is available for the hardware to test all of the memory during each instruction cycle. Given the choice between investing in faster, more reliable DRAM technology (and hence, faster systems) or investing in a parity checking algorithm that constrains system performance, most users would prefer the former. For customers who require parity checking, Apple does offer a model of the Macintosh IIci with parity checking.

Published Date: Feb 18, 2012

Macintosh II: How to Sample Stereo Sound

How do I sample stereo sound with my Macintosh II?

This article has been archived and is no longer updated by Apple.
The Farallon MacRecorder sound sampler allows you to sample stereo sounds on the Macintosh II.

Use the MacRecorder to record the left channel, then separately record the right channel. To record both channels simultaneously, connect two MacRecorders.

MacRecorder comes with a program called SoundEdit that allows for sound mixing, special effects (echo, flanger, noise, etc.), editing sampled sounds, and more.

Note: the Macintosh II internal speaker plays only the left channel -- to hear stereo sound, you must add external speakers.

To locate a vendor's address and phone numbers, use the vendor name as a search string.

Published Date: Feb 18, 2012

Macintosh: How NFNT Format Differs From FONT Format

How NFNT Format Differs From FONT Format?
This article has been archived and is no longer updated by Apple.
Macintosh fonts are stored as resources, either as type FONT or type NFNT. The two font types have the same format. NFNT (New FoNT) is new to the 128K ROM version of the Font Manager (64K ROMs ignore resources of type NFNT).

NFNT allows for many more fonts.

An NFNT resource type can also be used to mask all but plain fonts from appearing in a font menu. In this way, the system resource file can contain Times, Times Italic, Times Bold, and Times Bold Italic, yet only Times appears in the Font menu. (The user would need to choose Italic from the Style menu.)

For more information, see the Font Manager chapter of Inside Macintosh, Volume V.
Published Date: Feb 18, 2012

Apple IIGS Memory Expansion Cards: RAM Chip Specs & Vendors

Article Change History

02/09/93 - UPDATED
* Micron Technology acquired by Xceeed Technologies.
04/20/88 - REVIEWED
* Reviewed for accuracy.

This article has been archived and is no longer updated by Apple.
The RAM chips on the memory expansion card for the Apple IIGS must be 150ns chips of 256K bits organized in 256K by 1 bit; they also must have CAS (Column Address Strobe) before RAS (Row Address Strobe) refresh.

Unless the RAM chips on the expansion board conform to these specifications, the Apple IIGS will have intermittent errors. These errors can take the form of system crashes, lock ups, memory errors, etc.

The only memory chips RECOMMENDED for use on memory expansion cards for the Apple IIGS are Apple part #334-0021. The following are among the vendors that manufacture RAM that is COMPATIBLE with the Apple IIGSS.

- Fujitsu America, Inc. MB81256-15P
- NEC Microcomputers, Inc. UPD41256C-15
- Texas Instruments TMS4256-15NL
- Mitsubishi Electronics M5M4256AP-15
- Hitachi HM50256P-15
- OKI Semiconductor M41256-15
- Xceed Technologies MT1259-15
- Samsung KM41256AP-15
- Motorola MCM6256BP-15
- Toshiba America TMM41256P-15

NOTE: This list is not complete and is intended for reference only.

To locate a vendor's address and phone numbers, use the vendor name as a search string.

Published Date: Feb 18, 2012

Apple Computers: Electrical Specifications

This article provides the electrical specifications for Apple computers. For information about other Apple hardware, see the Tech Info Library article, **"Electrical Specifications: Apple Peripherals"**.

For the most current information on electrical specifications for Apple products, see the AppleSpec database on the Web at **http://www.info.apple.com/applespec/**. Information formerly added to this article will now appear in the AppleSpec database.

Note: This article has been revised and combines two previous articles titled, "Electrical Specifications of Most Apple Hardware" and "BTU Ratings for Most Apple Hardware".
This article has been archived and is no longer updated by Apple.
The following Apple products are manufactured for use in the USA. In determining whether a particular product can be used internationally, there are three classes, depending on whether a product accepts a range in voltage, frequency or both:

Universal

These products can be used internationally out of the box. Some of Apple's products are self-configuring devices or universal within a certain range. They can accept a range in both voltage and frequency, and only require a plug adapter for the specific locale.

Example: The Quadra 800 accepts between 100-125 and 200-240 volts, 47-63 Hz.

Frequency Independent

These products can be used internationally with a voltage transformer. Generally they are geared for U.S. 120 volt power, but are flexible as to the frequency they accept (for example, 47-63 Hz), and are known as frequency independent. These products need a stepdown isolation transformer to adapt the voltage, and will handle the different frequency on their own.

Example: The U.S. Performa 200 accepts 120 volts, 47-63 Hz.

Frequency Dependent

These products generally cannot be used internationally. These are products that can work only within a narrow range in frequency; they are frequency dependent. Transformers only transform voltage, so if the product requires a certain frequency, there's no practical way to convert both voltage and frequency.

These products can ONLY be used internationally in countries with the same frequency as the country for which the product was manufactured. Further, a voltage transformer will be required if the destination country has a voltage different from the home country.

Example: The U.S. Apple Color OneScanner accepts 108-132 volts, 58-62 Hz.

Note: Computers with power outlets for peripherals do not condition the current as it passes through. So, for example, a monitor requiring 120v-60Hz current could not be used in a 220v-50Hz environment even if the computer from which it gets its power is able to accept the local current.

The AC output of a Macintosh II is as follows: the monitor receptacle is rated for 3 amps steady state, 40 amps peak power. The power supply is fused for 6 amps to include the Macintosh II and monitor.

The amperage on the back of the computer is what should be used to calculate load on a circuit. Typical circuits in businesses and houses are 15 Amps (some are 20, but rarer, and an electric dryer is usually 30, an electric range may have DUAL 30 Amp circuits wired together). With that capacity, you could have the following configuration (from the back of the CPU):

- CPU 5 Amps
- Monitor 3 Amps
- LaserWriter 7 Amps
- Total: 15 Amps

Most of the time, the CPU will draw only 1-1.5 Amps, the Monitor about .5-1 Amp, and the LaserWriter about 2 Amps. The difference is sometimes referred to as Nominal (high) versus Actual (draw).

These following values are accurate regardless of peripherals used with each device. For example, a Macintosh II with an EtherTalk NB Card, an 8-bit video card, and HD40 SC draws a maximum of 230 watts and 6 amps from the power outlet it is plugged into.

COMPUTERS

```
============================+=======+========+========+=========+=====
Apple II and Apple III      | Watts*| Amps** |BTU/hr**| Volts   |Hertz
============================+=======+========+========+=========+=====
```

Apple II	60	.5	205.2	107-132	50-60
Apple II Plus	60	.5	205.2	107-132	50-60
Apple III	100	.83	342	107-132	60
Apple III Plus	100	.83	342	107-132	60
Apple IIe	60	.5	205.2	95-127	60
Apple IIc	25	.2	85.5	105-129	60
Apple IIc Plus	60	.5	205.2	90-130	50-60
Apple IIGS	60	.5	205.2	107-132	50-60

Compact Macintosh & XL	Watts*	Amps**	BTU/hr**	Volts	Hertz
Lisa (Macintosh XL)	150	1.25	513	120	50-60
Macintosh 128K	60	.5	205.2	105-125	50-60
Macintosh 512K, 512Ke	60	.5	205.2	105-125	50-60
Macintosh Plus	60	.5	205.2	105-125	50-60
Macintosh SE	100	.83	342	90-125/ 200-240	47-63
Macintosh SE/30	75	.63	256.5	120-125/ 200-240	48-62
Macintosh Classic	76	.63	260	120	47-63
Macintosh Classic II	76	.63	260	120	47-63
Macintosh Color Classic	100	.83	342	90-125/ 200-240	47-63

Macintosh II Computers	Watts*	Amps**	BTU/hr**	Volts	Hertz
Macintosh II	230	1.9	786.6	90-125/ 200-240	48-62
Macintosh IIx	230	1.9	786.6	90-125/ 200-240	48-62
Macintosh IIcx	159	1.3	543.8	100-125/ 200-240	50-60
Macintosh IIci	159	1.3	543.8	100-125/ 200-240	50-60
Macintosh IIfx	230	1.9	786.6	100-125/ 200-240	48-62
Macintosh IIsi	160	1.33	547.2	100-125/ 200-240	50-60
Macintosh IIvx	230	1.9	786.6	100-125/ 200-240	50-60

TA37853_Apple_Computers_Electrical_Specifications.pdf

Macintosh LC Computers	Watts*	Amps**	BTU/hr**	Volts	Hertz
Macintosh LC	50	.42	171	90-125/ 200-240	50-60
Macintosh LC II	50	.42	171	90-125/ 200-240	50-60
Macintosh LC III	50	.42	171	100-125/ 200-240	47-63
Macintosh LC 475	30	.25	102.6	100-125/ 200-240	47-63
Macintosh LC 520	40	.5	136.80	90-125/ 200-240	47-63
Macintosh LC 550	40	.5	136.80	90-125/ 200-240	47-63
Macintosh LC 575	40	.5	136.80	90-125/ 200-240	47-63
Macintosh LC 580	40	.5	136.80	90-125/ 200-240	47-63
Macintosh LC 630 family	45	1.25	153.9	100-125/ 200-240	50-60
Macintosh TV	60	.5	205.2	90-125/ 200-240	47-63

Macintosh Performa	Watts*	Amps**	BTU/hr**	Volts	Hertz
Performa 200	76	.63	260	120	47-63
Performa 400,405,430,450	50	.42	171	90-125/ 200-240	50-60
Performa 460, 466, 467	50	.42	171	90-125/ 200-240	50-60
Performa 475 & 476	50	.25	171	100-125/ 200-240	47-63
Performa 550 & 560	40	.5	136.8	90-125/ 200-240	47-63
Performa 575,577,578,580	40	.5	136.8	90-125/ 200-240	47-63
Performa 600	230	1.9	786.6	100-125/ 200-240	50-60
Performa 630 Series	45	1.25	153.9	100-125/ 200-240	50-60
Performa 6100 Series	210	1.7	718.2	100-125/ 200-240	50-60
Performa 5200 Series	125	4.0	427.5	100-125/ 200-240	50-60

Performa 5300 Series	125	4.0	427.5	100-125/ 200-240	50-60
Performa 6200 Series	55	1.25	188.1	100-125/ 200-240	50-60
Performa 6300 Series	55	1.25	188.1	100-125/ 200-240	50-60
Performa 6400 Series	220	3.00	752.40	100-125/ 200-240	47-63
Performa 6360 Series	150	5.00	513.00	100-125/ 200-240	47-63

Macintosh Quadra	Watts*	Amps**	BTU/hr**	Volts	Hertz
Quadra 605	30	.44	102.6	100-125/ 200-240	47-63
Centris 610	86	1.70	294.12	100-125/ 200-240	47-63
Quadra 610	210	1.70	718.20	100-125/ 200-240	47-63
Quadra 630 family	45	1.25	153.9	100-125/ 200-240	50-60
Quadra/Centris 650	230	1.9	787	100-125/ 200-240	50-60
Quadra/Centris 660AV	86	1.70	294.12	100-125/ 200-240	50-60
Quadra 700	50	1.9	171	100-125/ 200-240	50-60
Quadra 800	200	9	684	100-125/ 200-240	47-63
Quadra 840AV	200	9	684	100-125/ 200-240	50-60
Quadra 900	303	10	1036.26	100-125/ 200-240	50-60
Quadra 950	303	10	1036.26	100-125/ 200-240	50-60

Power Macintosh	Watts*	Amps**	BTU/hr**	Volts	Hertz
Power Macintosh 4400/200	150	3.0	513	110/220	47-63
Power Macintosh 5200/75	125	4.0	427.50	100-125 200-240	50-60
Power Macintosh 5260/100	125	4.0	427.50	100-125 200-240	50-60
Power Macintosh 5300/100	125	4.0	427.50	100-125 200-240	50-60

Power Macintosh 5400 Series	220	4.0	752.40	100-125 200-240	50-60
Power Macintosh 5500 Series	220	4.0	752.40	100-125 200-240	50-60
Power Macintosh 6400 Series	220	3.00	752.40	100-125/ 200-240	47-63
Power Macintosh 6500 Series	220	3.0	752.40	100-125/ 200-240	47-63
Power Macintosh 6100 Series	210	1.7	718.20	100-125/ 200-240	50-60
Power Macintosh 7100 Series	230	1.9	786.60	100-125/ 200-240	50-60
Power Macintosh 8100 Series	200	9.0	684	100-125/ 200-240	50-60
Power Macintosh 7200 Series	150	3.0	513	100-125/ 200-240	50-60
Power Macintosh 7300 Series	150	3.0	513	100-130/ 200-270	50-60
Power Macintosh 7500 Series	150	3.0	513	100-125/ 200-240	50-60
Power Macintosh 7600 Series	150	3.0	513	100-125/ 200-240	50-60
Power Macintosh 8500 Series	225	9.0	769.50	100-125/ 200-240	50-60
Power Macintosh 8600 Series	560	n/a	1915.2	100-125/ 200-240	50-60
Power Macintosh 9500 Series	225	9.0	769.50	100-125/ 200-240	50-60
Power Macintosh 9600 Series	560	n/a	1915.2	100-125/ 200-240	50-60

Apple Workgroup Servers	Watts*	Amps**	BTU/hr**	Volts	Hertz
Workgroup Server 60	86	1.70	294.12	100-125/ 200-240	50-60
Workgroup Server 80	200	9.00	684	100-125/ 200-240	50-60
Workgroup Server 95	303	10.00	1036.26	100-125/ 200-240	50-60
Workgroup Server 6150	210	1.7	718.20	100-125/ 200-240	50-60
Workgroup Server 8150	200	9.0	684	100-125/ 200-240	50-60
Workgroup Server 9150	303	10	1036.26	100-125/ 200-240	50-60

Workgroup Server 7250	150	3.0	513	100-125/ 200-240	50-60
Workgroup Server 8550	225	9.0	769.50	100-125/ 200-240	50-60
Network Server 500	325	7.0	1111.50	100-125/ 200-240	50-60
Network Server 700	425	7.0	1453.50	100-125/ 200-240	50-60

Portable Macintosh	Watts*	Amps**	BTU/hr**	Volts	Hertz
Macintosh Portable	5	.125	.3	70-125/ 200-240	48-62
PowerBook 100	17	2	58.14	100-125/ 200-240	50-60
PowerBook 140	17	2	58.14	100-125/ 200-240	50-60
PowerBook 145,145B	17	2	58.14	100-125/ 200-240	50-60
PowerBook 150	17	2	58.14	100-125/ 200-240	50-60
PowerBook 160	17	2	58.14	100-125/ 200-240	50-60
PowerBook 165c	24	3.2	82.1	100-125/ 200-240	50-60
PowerBook 170	17	2	58.14	100-125/ 200-240	50-60
PowerBook 180	17	2	58.14	100-125/ 200-240	50-60
PowerBook 180c	24	3.2	82.1	100-125/ 200-240	50-60
PowerBook 190 Series	45	1.88	153.9	100-125/ 200-240	50-60
PowerBook Duo 210	25	1.04	85.5	100-125/ 200-240	50-60
PowerBook Duo 230	25	1.04	85.5	100-125/ 200-240	50-60
PowerBook Duo 250	25	1.04	85.5	100-125/ 200-240	50-60
PowerBook Duo 270c	25	1.04	85.5	100-125/ 200-240	50-60
PowerBook Duo 280	25	1.04	85.5	100-125/ 200-240	50-60
PowerBook Duo 280c	36	1.5	123.1	100-125/ 200-240	50-60

				200-240	
PowerBook Duo 2300	36	1.5	123.1	100-125/ 200-240	50-60
PowerBook 520/520c	40	VBatt 1.0á	137	100-125/ 200-240	50-60
PowerBook 540/540c	40	VBatt 1.0á	137	100-125/ 200-240	50-60
PowerBook 5300	45	1.88	153.9	100-125/ 200-240	50-60
Duo Dock	87	4.2	297	100-125/ 200-240	50-60
Duo Dock II	87	4.2	297	100-125/ 200-240	50-60
Duo Dock Plus	87	4.2	297	100-125/ 200-240	50-60

Additional Information

Current leakage is the amount of current that is passed to earth ground. The current leakage of all Apple equipment meets the following specifications:

- As specified by the UL standard for Apple equipment distributed in the United States, the current leakage will be less than 5.0 milliamperes.

- As specified by the IEC 380 & 950 standards for Apple equipment distributed in France and most of Europe, the current leakage will be less than 3.5 milliamperes.

The PowerBook 500 series AC adapter has two separate outputs, VBatt and Vmain. The VBatt supply is used for charging the batteries while the VMain supply provides power for the PowerBook. Power from VBatt is automatically diverted to power the PowerBook if additional power is needed.

* Amps are calculated based on the efficiency of power supply, except for Macintosh PowerBooks (amps calculated at 7.5 volts) and Macintosh Duos (amps calculated at 24 volts).

** The BTU calculation is Watts X 3.42 = BTU/hour. The BTU ratings for the Macintosh systems take into account any hard disk or expansion card(s) that may be installed internally.

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IBM PC/AT Serial Connector: DB-25 Equivalent Pinouts

Can you give me the RS-232 (DB-25) equivalent pinouts for the IBM PC/AT (DB-9) serial connector?

This article has been archived and is no longer updated by Apple.

Here are the RS-232 (DB-25) equivalent pinouts for the IBM PC/AT (DB-9) serial connector:

IBM PC/AT DB-9	DB-25 (DTE) equivalent	
1	8	(CD)
2	3	(RXD)
3	2	(TXD)
4	20	(DTR)
5	7	(SG)
6	6	(DSR)
7	4	(RTS)
8	5	(CTS)
9	22	(RI)

Reference

RS-232 Signal (DB-25)

1 - Sig Gnd: Normally Shield or Chassis Ground
2 - TXD: Transmit Data
3 - RXD: Receive Data
4 - RTS: Request to Send
5 - CTS: Clear to Send
6 - DSR: Data Set Ready
7 - GND: SIGNAL Ground
8 - DCD: Data Carrier Detect
20 - DTR: Data Terminal Ready
22 - RI: Ring Indicate

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Null Modem and Modem Eliminator: Pinouts

Below are pinouts for Null Modem, Null Modem with Handshake and Modem Eliminator using DB-25 signal pinouts.
This article has been archived and is no longer updated by Apple.

Null Modem	
From	To
1	1
2	3
3	2
4,5	8
6	20
7	7
20	6
8	4,5

Null Modem w/handshake	
From	To
1	1
2	3
3	2
4	5
5	4
6	8,20
7	7
8,20	6

Modem Eliminator	
From	To
1	1
2	3
3	2
7	7
4,5	NC
6,8,20	NC

Reference:

RS232 Signal
1 - Sig Gnd . . . . . Normally Shield or Chassis Ground
2 - TXD . . . . . Transmit Data
3 - RXD . . . . . Receive Data
4 - RTS . . . . . Request to Send
5 - CTS . . . . . Clear to Send
6 - DSR . . . . . Data Set Ready
7 - GND . . . . . SIGNAL Ground
8 - DCD . . . . . Data Carrier Detect
20 - DTR . . . . . Data Terminal Ready

Note: Ring Indicate (RI) is not used or needed in computer-to-computer (DTE to DTE) direct connect configurations.
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HyperCard Handles: Q and A

This article has been archived and is no longer updated by Apple.

Q. When in my XFCN, I'm given a handle to the parameter string. Is the handle locked? Should I lock it if I de-reference it? Is it OK to unlock it? Can I operate on the string in memory and just pass back the handle that was given to me?

A. Never assume a handle to be in a certain state -- locked, unlocked, purgable, unpurgable, etc. If you wish to ensure the handle is in a known state, call HGetState to retrieve the current state of the handle. The HLock and HUnlock procedures allow you to set the flag as you like.

At the end of your routine, reset the flag as it was, by passing back the original flag.

This technique should be used if you wish to modify the state bits of any handle not created by your program.

Q. How do I treat a handle that really belongs to another process?

A. If a handle belongs to another process, don't call HUnlock if locked, or HPurge if unpurgable flag is set -- HyperCard has set those flags that way for a reason, and they shouldn't be tampered with.

Q. When I set the return handle, does HyperCard dispose of it for me?

A. HyperCard disposes of the handle when you're through with it.

Published Date: Feb 18, 2012

ImageWriter II & LQ: How To Get Them Into Hex Mode

How can your put the ImageWriter II into hex mode?
This article has been archived and is no longer updated by Apple.

Putting the ImageWriter II Into Hex Mode

The only way to put the ImageWriter II into hex mode is to hold down the select button while powering it on. Sending an escape-c afterwards should restore (software reset) the printer to its standard instruction set. (Alternatively, you write a program to convert the ASCII to hex, then print.)

If the ImageWriter II Drops into Hex Mode

After a logic error in the printer, the ImageWriter II sometimes prints in hex -- usually random garbage. If a printer consistently "drops" into hex mode, consider exchanging its logic board.

Putting the ImageWriter LQ Into Hex Mode

The ImageWriter LQ can be placed in hex mode via the software command:

esc,6

Your data will then print in hex until the printer is powered off, or until you send a software reset, esc-c.
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LaserWriter IISC: It Requires System 4.3

This article has been archived and is no longer updated by Apple.

The LaserWriter IISC is being shipped with the four new System Software 5.1 disks. These disks include System file version 4.3, which is required for the LaserWriter IISC to function properly.

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Apple II Family: Using With LaserWriter (2/97)

This article discusses using a LaserWriter printer with the Apple II family of computers.

This article has been archived and is no longer updated by Apple.

A LaserWriter can be connected to any Apple II containing a Super Serial Card, or the serial ports (modem port and printer port) in an Apple IIc or Apple IIGS.

This is made possible by setting the serial interface to use XON/XOFF protocol using one of the following two methods.

1st Method

Send the following code exactly as shown. The Super Serial Card must be in communications mode (jumper block set to "modem"), because print mode (jumper block set to "terminal") doesn't support XON/XOFF.

Apple IIc/IIGS printer port: Control-I X E
Apple IIc/IIGS modem port: Control-A X E
Super Serial Card: Control-I X

- Control-I (or Control-A) tells the firmware that you are sending a character to act on.

- The X tells the firmware to use XON/XOFF protocol.

- The E says 'Enable the function designated by the next printable character.'

2nd Method

Set up the LaserWriter for DTR handshake (requires version 2 or greater of the LaserWriter ROMs). This can be done by sending the following code segment to the LaserWriter with the switch set to 9600:

```
serverdict begin 0 exitserver
statusdict begin
25 9600 7 setsccbatch
end
```

This sets the 25-pin connector to 9600 baud, DTR flow control, no parity. Substituting 9 for 25 sets the 9-pin connector to the same parameters. This change is written into EEROM, and remains as what is called a persistent parameter until changed back. To change the printer back to XON/XOFF, send this code segment:

```
serverdict begin 0 exitserver
statusdict begin
25 9600 3 setsccbatch
end
```

Article Change History:
17 Feb 1997 - Reviewed for technical accuracy, revised formatting.
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Apple IIe Keyboard: Defeating The Keyboard Auto Repeat

This article has been archived and is no longer updated by Apple.

```
Disabled persons want to know how to defeat the repeat function of the
Apple IIe keyboard so that it's easier to use. The following procedure
defeats the repeat function without changing the keyboard in any other way.

Exercise caution.  The following procedure may void the warranty on the
Apple IIe.

  1) Remove the main logic board from the case.

  2) Locate the large IC just below the keyboard connector,
  location D14.

  3) Carefully remove the IC.

  4) Locate the small dot or indentation on the corner of the IC and from
  there count up to pin 5.

  5) Carefully bend pin 5 out from the IC.

  6) Carefully reinsert the IC into the logic board.  Make sure that
  pin 5 is the only pin not inserted and that no other pins are bent.

  7) Reinstall the logic board into the case.

Try the repeat function.  It should not operate.
```

Published Date: Feb 18, 2012

Macintosh: How To Bypass Internal Hard Disk At Startup

How can I bypass the internal hard disk at startup? I know the Macintosh will boot from a floppy disk if I insert one. But what if I want to boot from an external hard disk or CD-ROM?
This article has been archived and is no longer updated by Apple.
To start your computer from an alternate startup device outside of the one selected in the Startup Disk control panel, you may hold down a combination of keys during the startup process. This will bypass the selected device in the control panel and go to the next bootable device, be it a hard drive, CD-ROM, or floppy if the computer is so equipped.

Note: Any Macintosh computer (Macintosh IIci or newer) equipped with an Apple compatible CD-ROM drive can boot from the Install Me First CD-ROM or Mac OS disc by holding down the letter C key during startup. For detailed instructions reference Tech Info Library article 18059: "**Macintosh: Starting From Floppy or CD-ROM Disc**".

When You Need to Bypass the Hard Disk

You might want to bypass the hard disk when booting from a CD-ROM to install new system software or application software. Also when troubleshooting, or using a different system software version you may not want a hard drive volume visible on the desktop.

How To Do It

During the start up process, hold down the following four keys, Command-Shift-Option-Delete, until the Welcome To Macintosh screen appears signifying the computer is booting from the alternate source.

The system starts up from the floppy disk or the next bootable device.

Published Date: Feb 18, 2012

HyperCard: Setting Default Of Auto Hilite To True

This article has been archived and is no longer updated by Apple.

To set the default of autohilite to true, simply add the following script to your stack script. Then, any new buttons you add to that stack will automatically have autohilite set to true.

```
on newButton
set autohilite of button "New Button" to true
end newButton
```

Published Date: Feb 18, 2012

Macintosh: List of Disk Recovery Tools

This article describes available disk recovery utilities for the Mac OS.
This article has been archived and is no longer updated by Apple.

Disk First Aid
Level: Novice to Expert

Disk First Aid is a utility that verifies the directory structure of any Mac OS formatted disk. Hard disk, floppy disk, and compact disc (CD) drives are examples of disks that can use this format.

If errors are found on a disk, Disk First Aid can be used as a first step to repair them. If a volume has suffered severe corruption, other utility programs or repair methods may need to be used. Disk First Aid looks for errors in these places:

- Disk volume
- Extent B-tree
- Extent File
- Catalog B-tree
- Catalog File
- Catalog Hierarchy
- Volume Info
- Search for locked volume name

You can save the results of a verification or repair scan as a SimpleText (text) document.

Disk First Aid cannot scan for deleted files or folders on a disk. Third party products can perform these tasks.

Drive Setup
Level: Novice to Expert

This hard drive utility is used for initializing, updating, partitioning, and testing Apple SCSI and IDE hard disks. You should only used Drive Setup with these computers:

- Macintosh computers with a PowerPC microprocessor, including PowerPC-based Performa and PowerBook computers
- Macintosh computers with a 68040 or 68LC040 processor

Notes:

- You should not use Drive Setup to update a computer that has the Macintosh Processor Upgrade card installed. If the card is installed in a Macintosh 580 or 630 series computer, use the 601 Processor Upgrade control panel to turn off the card before you use Drive Setup. After you update your hard disk, you can turn the card back on.
- You cannot use Drive Setup to update a PowerBook 150.
- Consult the materials that came with your computer if you are unsure whether your Macintosh falls into one of these categories.

Non-Apple Utilities

Disk Warrior, by Alsoft
Level: Novice to Expert

- Protects against software crashes, hard disk issues, lost files
- Helps you recover from disaster
- Finds and repairs disk problems
- Defragments hard drives using PlusOptimizer, a separate application.

System requirements

- System 7.1 or higher
- 16 MB RAM
- Power Macintosh or Macintosh (68020 or better)
- CD-ROM drive

Norton Utilities, by Symantec
Audience Level: Novice to Expert

- Protects against software crashes, hard disk problems, lost files
- Helps you recover from disaster
- Finds and repairs disk problems
- Defragments hard drives

System requirements

- System 7.1 or higher
- 4 MB RAM required (8 MB recommended)
- Power Macintosh or Macintosh (68020 or better)
- Power Macintosh required for CrashGuard
- CD-ROM drive

TechTool Pro, by MicroMat
Audience Level: Novice to Expert

- Protects against software crashes, hard disk problems, lost files.
- Finds and repairs disk problems.
- Tests performance.

System Requirements

- System Software: n/a
- RAM: n/a
- CPU: n/a
- CD-ROM drive

MacMedic, by Total Recall
Audience Level: Novice to Expert

- Finds and repairs disk problems.

System Requirements

- System Software: n/a
- RAM: n/a
- CPU: n/a
- CD-ROM drive

Published Date: Feb 18, 2012

A/UX: Program Portability (Machine Independence)

Article Change History

08/27/92 - REVIEWED
o For technical accuracy.

Any A/UX application is potentially portable (machine independent) to other System V.2 platforms.

This article has been archived and is no longer updated by Apple.
In other words, you should be able to compile and run any A/UX application under System V.2, as long as the A/UX application does NOT either interact with hardware or make library calls to the Apple enhancements to System V -- such as Toolbox, rpc services, BNet (sockets), etc.

The reverse is also true: because A/UX has passed SVVS (System V Validation Suite), any System V program that follows the SVID (System V Interface Definition) will run under A/UX.

Published Date: Feb 18, 2012

A/UX: How to Improve File Access Speed (6/93)

How can I improve file access speed under A/UX?

This article has been archived and is no longer updated by Apple.
There is no way to increase the physical access speed of a SCSI drive while running under A/UX. However, there are several things you can do with software and hardware additions to increase file-access performance:

* Increasing RAM to more than 8MB is a good beginning. The more the system can store in memory, the less frequently it needs to access the disk for the next call of the same blocks.

* For systems with 8MB, bring A/UX up single-user, then run these commands:

```
# kconfig -n /unix
NBUF=2500
NINODE=600
NFILE=400
<control-d>
# sync
# sync
# sync
# reboot
```

* Add a second hard disk and place the swap there, along with any directories that don't see high activity. That way, the CPU can search for files on the primarily disk, while searching the swap for others.

* Add as much free space as possible by deleting all files not really necessary for your system -- man pages, source, networking, games, and so on.

For more information, search under: "A/UX" and "space", "free", or "minimum".

Article Change History:
18 Aug 1993 - Updated for A/UX 3.x.
25 Mar 1993 - Reviewed for technical accuracy.

Published Date: Feb 18, 2012

Apple IIc Serial Port: 8-bit vs. 7-bit Data Format

Below is a brief overview of the default data format for the Apple IIc Serial port.
This article has been archived and is no longer updated by Apple.
The setting of the data format for the Serial Port defaults to an 8-bit rather than a 7-bit data format. While many telecommunications systems use 8-bit, most of the popular information systems such as Dow Jones and the Source use 7-bit. Attempts to communicate with 7-bit systems lead to garbled information when the default goes unchanged. A command to the software changes the data format on some terminal packages, but others may not allow this command, rendering them useless.

Of all the modems tested, only the Apple modems don't care about 8- or 7-bit data format settings.
Published Date: Feb 18, 2012

CS/2200 Terminal Emulator: Macintosh to Wang Connectivity

This article has been archived and is no longer updated by Apple.

If you need a Wang CS/2200 terminal emulator package, Mac2200 from Vermont Software supports:

- cutting and pasting

- Desk Accessories

- access to all features provided by the 32 function keys on the CS/2200 keyboard.

This package also supports Switcher and Hayes compatible modems.

Mac2200 is compatible with the Macintosh 512KE, Macintosh Plus, Macintosh SE, and Macintosh II. It requires a Wang 2200/MVP, LVP, SVP, MicroVP, or CS system with a 2236 MXD or MXE terminal controller.

For more information, search under: "Vermont Software".

Published Date: Feb 18, 2012

LaserWriter IINTX: Downloading Windows fonts to Hard Drive

Can I download my Windows fonts to the hard disk attached to my LaserWriter IINTX?
This article has been archived and is no longer updated by Apple.
You can't download Windows fonts to a LaserWriter IINTX hard disk using any Apple Computer, Inc. utilities designed for Windows/Windows 95. There are other Windows and Windows 95 utilities that may provide this functionality.

However, screen fonts common to both Macintosh and Windows can be downloaded from a Macintosh and then accessed through Windows.

An example: if you download the "Garamond" font from a Macintosh to the LaserWriter IINTX hard disk, you can then access that font from Windows, if Garamond is an installed Windows/Windows 95 font.
Published Date: Feb 18, 2012

LaserWriter IINTX LaserJet Plus Emulation: LaserJet Plus Comparison

This article compares LaserWriter IINTX and the LaserJet Plus.
This article has been archived and is no longer updated by Apple.
Adobe Systems has performed tests comparing LaserWriter IINTX and LaserJet Plus. Their finding is that a LaserWriter IINTX in LaserJet Plus emulation mode is generally faster than a LaserJet Plus.

Although you can't download bitmapped LaserJet Plus Fonts to the LaserWriter IINTX, you CAN use any of the PostScript Fonts, including downloaded fonts. Unlike the LaserJet fonts, PostScript Fonts can be scaled, resulting in much more precise output.
Published Date: Feb 18, 2012

Apple IIGS: Using LaserWriters via AppleTalk

This article has been archived and is no longer updated by Apple.

The Apple IIGS can print to the PostScript devices LaserWriter, LaserWriter Plus, LaserWriter IINT, and LaserWriter IINTX. Because the Apple IIGS ImageWriter Emulator isn't compatible with the System Tools 5.0 Laser Prep files for the Macintosh, the IIGS must download its Prep file and reinitialize the printer if you're using the newer Prep files on the Macintosh.

Because the Apple IIGS' QuickDraw II differs from Macintosh QuickDraw, there is currently no driver for the Apple IIGS that would let it print to the LaserWriter IISC, as SCSI/QuickDraw device; and Apple has no plans for one.

The IIGS Chooser is being modified for use with the ImageWriter LQ over AppleTalk.

Published Date: Feb 18, 2012

Apple Access III: Dow Jones News and Quotes Access

This article has been archived and is no longer updated by Apple.

```
The Dow Jones News and Quotes service, when accessed through Tymnet, will not
respond to your password or prompt you further if Access III has it's X-ON
handshaking protocol enabled.  The X-ON protocol can be controlled in the
open-apple-S menu.  See page 28 of the Access III manual for details.
```

Published Date: Feb 18, 2012

Editing the ImageWriter File for Custom Paper Sizes

This article describes how the page size can be changed for the ImageWriter and ImageWriter II if the page sizes in the Page Setup box do not meet you needs.

This article has been archived and is no longer updated by Apple.
If the five paper sizes offered in the ImageWriter's Page Setup dialog don't meet your needs, you can use ResEdit to change ImageWriter resources. This is NOT a solution that Apple can support, so you make these changes at your own risk. Detailed instructions are provided in MacWorld magazine, January 1986, pages 58-63.

ResEdit is available through the Apple Programmers and Developers Association.

Published Date: Feb 18, 2012

Macintosh II Hi-Res RGB: Contrast & Brightness Reversed (9/95)

Why do the contrast and brightness adjustments on my Macintosh II Hi-Res RGB Monitor not work correctly?

This article has been archived and is no longer updated by Apple.
The contrast and brightness knobs on some early Macintosh II Hi-Res RGB Monitors were reversed: The control labeled with the brightness icon is actually the contrast control, and the control labeled with the contrast icon is actually the brightness control.

Article Change History:
19 Sep 1995 - Reformatted to meet current standards.
10 Mar 1988 - Reviewed for technical accuracy

Support Information Services
Published Date: Feb 18, 2012

Apple IIGS Finder: Two Desktop Update Problems

This article has been archived and is no longer updated by Apple.

These problems have been reported and may be fixed in the next revision of the Apple IIGS Finder:

- The Clipboard window is not updated when it is open and changes occur. If you select a desk accessory that permits copy and/or cut when the Clipboard window is open, nothing changes until you force an update by moving something over the Clipboard window.

- The Finder window or an open Desk Accessory window does not become inactive when a diskette icon is clicked. Double-clicking on the diskette name starts the process of a rename (the name is surrounded by a rectangle), but typing is not possible or directed to an open desk accessory.

Published Date: Feb 18, 2012

AppleWorks Spreadsheet: Displayed Numbers Are Sometimes Rounded

The AppleWorks spreadsheet displays numbers as close to the calculated value as it can, given the display format chosen by the user.
This article has been archived and is no longer updated by Apple.
If the user specifies that only two places are displayed, AppleWorks still calculates it up to nine digits, and can display up to nine digits (seven digits past the decimal point).

For example, the calculation .07 * 2.5 results in .175, but if the display is set to just two decimal places, the number displayed is .18. Any subsequent calculations will be based on the actual value .175, not on the displayed value of .18. AppleWorks calculates to all significant digits and displays according to display values set by the user.
Published Date: Feb 18, 2012

HyperCard: Specifying the Answer Command‘s Default Button

This article has been archived and is no longer updated by Apple.

HyperCard's Answer command produces a dialog box with up to three buttons, where the rightmost button is the default.

To specify which of the buttons is to be the default button, make it the last definition in the list. (There is no way to avoid having a default button.)

At this point, we know of no XCMDs or XFCNs that customize the dialog box to include more text or buttons. It would be much easier to trap the "answer" message and have it execute an XFCN instead.

Published Date: Feb 18, 2012

AppleShare PC: Can‘t Be Put Entirely In Extended Memory

This article has been archived and is no longer updated by Apple.

Some AppleShare PC users have asked if there is a way to put all of AppleShare PC in extended memory. It seems that many new applications for the PC (particularly those with Microsoft Windows) don't have enough memory when AppleShare PC is installed. We know of no present way to put all of Appleshare PC into extended memory.

Published Date: Feb 18, 2012

A/UX Includes Two Text Formatters

Article Change History

08/31/92 - REVIEWED
* For technical accuracy.

What text formatters are available under A/UX?

This article has been archived and is no longer updated by Apple.
The text formatters that are available under A/UX are the UNIX standards nroff and troff. There are also some Macintosh applications, such as MORE (tm) that may also run on the ToolBox.

Published Date: Feb 18, 2012

A/UX: All Versions Support IPC (6/93)

What versions of A/UX support IPC (inter-process communications) mechanisms?

This article has been archived and is no longer updated by Apple.
All versions of A/UX support IPC mechanisms, like semaphores, shared memory, and message queues. This includes A/UX 3.0.1.

Article Change History:
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25 Jun 1993 - Updated to include A/UX 3.x.
16 Mar 1993 - Reviewed for technical accuracy.

Published Date: Feb 18, 2012

ImageWriter II: A Gentle Way to Make Ditto Masters

Is there a better method for making Ditto masters with an ImageWriter?
This article has been archived and is no longer updated by Apple.
Schools have asked if it is possible to make ditto masters with the ImageWriter II. Apple has suggested removing the ribbon from the printer and moving the forms thickness lever back to the third or fourth position. This is supposed to help keep the print head from damaging the fragile master. The problem is that this method keeps the printer in single color-mode which, in most cases, doesn't transfer enough ink to the master - not from the non-existent ribbon, but by the impact of the wires - to produce a good image. This is due, in part, to the density of the actual top page of the ditto master itself and the size of the wires in the head of the ImageWriter II.

Here is another method - one that will improve the quality of the ditto master:

1. Remove the ribbon from an ImageWriter II color ribbon cartridge.
2. Insert this empty cartridge in the printer. This will close the color micro-switch on the carrier assembly, and fool the printer into believing it has a color ribbon installed.
3. Through your software, tell the printer, via control codes, to print in either Orange, Green, or Purple. Because these three colors are normally created by making two passes with two different colors, and the printer believes it has a color ribbon installed, the print density will be doubled, improving the quality of the ditto master.

Without the color ribbon installed, and with a color selected that requires two passes to create, the printer will effectively be in double strike mode, which is not a selectable mode otherwise. With double strike, the dots are almost completely re-struck, which produces a better image while not abusing the ditto master itself. (Boldface could be used but that mode does not overstrike dots completely, rather it strikes a dot that partially overlays the previous dot, which produces a broader image that may not be acceptable on ditto masters.)

Published Date: Feb 18, 2012

MacTerminal: How to Send VT100 PF Key Sequences

This article has been archived and is no longer updated by Apple.

To send PF(n), type:

esc [(n) p

For example, to send PF16:

1. Press esc (the esc key on new keyboards, or reverse accent/tilde key on older ones).

2. Press the [key.

3. Press the 1 key, then the 6 key.

4. Press the p key (note lower case).

For the HELP key, send PF0 (esc [0 p).

Published Date: Feb 18, 2012

LaserWriter IISC: Can Print Any Screen Font

This article has been archived and is no longer updated by Apple.

The LaserWriter IISC can print any bit-mapped screen font -- including those you create yourself using programs such as Fontastic Plus -- not just the ones supplied with the system.

For optimum printing resolution, it's best to have the 4x font available, but not essential. If the 4x font isn't available, the Font Manager will look for the next best font to scale:

- a font twice the size of the desired four times font
- a font half the size of the desired four times font
- the next larger font
- the next smaller font or the display font.

If the 4x font isn't available, it is advisable to choose Text Smoothing in Page Setup.

Using the Altsys program Fontographer, you can convert any Altsys PostScript font into a rough bit-map screen font. We'd recommend then using the Altsys program Fontastic Plus to edit the rough screen font into something more suited for printing.

For more information on Fontographer or Fontastic, search the Tech Info Library for Altsys.

Published Date: Feb 18, 2012

System Software 5.0 Installer Works Only On Its Own System File

This article has been archived and is no longer updated by Apple.

The System Software 5.0 Installer works only with System files that are exact copies of the System file included on the Installer disk.

When you use the Installer to install the System folder onto a disk, only the files and resources necessary for the Macintosh system you are installing for are copied to that disk. There are more resources in the System file on the Installer disk than the System file it installs on another disk. The error

error -192, Can't find Scrapbook file for Macintosh xx Installer

is generated when the Installer tries to find a particular resource (the Scrapbook in this example) that is not present in the "installed" System file.

The only workaround is to "drag copy" the System file from the Installer disk to your hard disk. The Installer should then function correctly.

Published Date: Feb 18, 2012

Japanese ImageWriter II is Universal Model

The ImageWriter II sold in Japan is the universal model.
This article has been archived and is no longer updated by Apple.
It supports:

100 VAC +/- 10%, and 50/60Hz
120 VAC +/- 10%, and 50/60Hz
140 VAC +/- 10%, and 50/60Hz
200 VAC +/- 10%, and 50/60Hz
220 VAC +/- 10%, and 50/60Hz
240 VAC +/- 10%, and 50/60Hz

If the line voltage drops below these levels, the printer will not function properly. A step-up transformer or a voltage stabilizer should be used under other conditions.
The ImageWriter II sold in the U.S. requires 120 volts (+/- 10%), and 60Hz.

This information is also found on page 85 of the ImageWriter II Owner's Manual, and in the Tech Info Library article titled "ImageWriter II: Spec Sheet."
Published Date: Feb 18, 2012

Apple II: Disabling Keyboard During Serial I/O (2/97)

This article disucsses how to disable the keyboard during serial I/O on the Apple IIc, Apple IIGS and Apple IIe Super Serial card.

This article has been archived and is no longer updated by Apple.

The Apple II serial interface (Apple IIc serial port, Apple IIGS serial port, and Apple IIe Super Serial Card) has a built-in command that disables the keyboard during serial I/O. The command is FD. Here's how to send it from BASIC:

```
10 print chr$(4);"pr#2"
20 print chr$(1);"FD": REM Disable the keyboard...
```

Article Change History:
17 Feb 1997 - Reviewed for technical accuracy, revised formatting.
Published Date: Feb 18, 2012

Apple MIDI: How To Make It SMPTE Compatible

This article has been archived and is no longer updated by Apple.
The Apple MIDI Interface does not transmit or receive the SMPTE (Society of Motion Picture and Television Engineers) Time Code data stream. SMPTE Time Code is transmitted over separate cabling, most often by way of 1/4-inch (sometimes RCA) plugs.

This type of connection is not supported on the Apple MIDI Interface. Also, the Apple MIDI Interface would need a microprocessor to accommodate SMPTE Time Code. The Apple MIDI Interface does not contain a microprocessor.

Certain pieces of hardware can accept SMPTE Time Code and, in turn, generate MIDI Time Code (MTC). MTC is imbedded into the standard MIDI data stream, and thus, can be transmitted via MIDI cables. Should MTC be in the data stream when arriving at the Apple MIDI Interface, MTC will be passed with no changes. Programs that understand MTC may then perform their operations according to MTC timing data.
Published Date: Feb 18, 2012

AppleLine Not Responding May Be Cable Problem

This article has been archived and is no longer updated by Apple.

If AppleLine is not responding, you may be using the wrong cable.

IF you have set up your Macintosh with a terminal program
(such as MacTerminal) and an AppleLine in the following manner:

- AppleLine is connected to the Macintosh by an Apple IIe to ImageWriter II cable and gender changer. Both are connected to a 3174 cluster controller.

- After the AppleLine warms up, the yellow and green lights alternately flash, whether the AppleLine is connected or not.

- MacTerminal has been configured as specified in the manual.

AND, when the AppleLine Supervisor document is opened and you press Shift-Enter and Return, NOTHING HAPPENS -- whether the AppleLine is connected to the cluster controller or not

THEN, your problem is probably a wrong cable.

To connect an AppleLine to a Macintosh Plus, Macintosh SE, or Macintosh II, you must use one of these:

- the A2C0311 590-0331-B Tan

- the A2C0312 590-0555-A Platinum cable

These cables have a DIN 8 at one end and a 25 pin on the other.

Published Date: Feb 18, 2012

Cleaning Equipment That May Have Asbestos Contamination

Some Apple computer users, due to asbestos contamination at their building sites, have asked about cleaning potentially contaminated hardware. This article has been archived and is no longer updated by Apple.
Depending upon the extent of the asbestos contamination, each internal assembly or part of the equipment may need to be disassembled and cleaned. A QUALIFIED ASBESTOS SCREENING CONTRACTOR OR AGENCY MUST MAKE THIS DETERMINATION.

Each piece of equipment must be opened to obtain dust samples for the tests. After the testing, if the equipment needs to be decontaminated, you MUST work with a qualified Apple dealer service tech for the cleaning.

The cleaning of the equipment may be as simple as using a vacuum to remove the asbestos dust, or as difficult as washing down each assembly with de-ionized water and then drying each assembly. In either case, care must be taken to follow ESD (Electrostatic Discharge) procedures.
Published Date: Feb 18, 2012

MPW 2.0.x and Long LaserWriter Printouts: Font Problem

This article has been archived and is no longer updated by Apple.

If you are printing from MPW v2.0.1 or v2.0.2 on your Macintosh to a LaserWriter Plus, and using something previous to System Software version 7.0, you may experience the following problem on long printouts: the listing will spontaneously switch to a bitmapped version of the font. Here are some possible solutions.

You may be experiencing a collision in memory between the System file (and its fonts) and the document being printed. This problem depends on several variables -- the amount of memory installed in the system, the number of applications loaded into memory, how large a RAM cache has been set, whether background printing turned on, etc.

To isolate the problem, remove as many variables as possible. For example:

- use the Finder rather than MultiFinder for pre-System 7.0 software.

- turn off the RAM Cache from the Control Panel.

- do not use Background printing.

Other possible problem areas include: bad parameter RAM, a corrupted font resource, a corrupted System file, or a corrupted printer driver.

Reinstall the system software and drivers and then try running under the finder, NOT under MultiFinder, when printing from MPW.

Another solution would be to upgrade to MPW 3.0 or higher.

Published Date: Feb 18, 2012

LocalTalk PC Card Can‘t Be Used by OS/2, MicroChannel

This article has been archived and is no longer updated by Apple.

Apple's LocalTalk PC Card is not currently hardware-compatible with the MicroChannel bus architecture, nor is it software-compatible with OS/2.

The LocalTalk PC Card WILL work with the new PS/2 Model 25 and 30, just as it works with existing PC XTs, ATs, and most clones.

Published Date: Feb 18, 2012

HyperCard & Macintosh II: Visual Effects Require 2-Color Mode

This article has been archived and is no longer updated by Apple.

HyperCard 1.1 visual effects do not work on a Macintosh II unless the video card is set to two-color mode. Color QuickDraw is not fast enough to do the visual effects correctly.

Published Date: Feb 18, 2012

Macintosh: Honeywell Bull DPS6 Terminal Emulator

There is a product, called the PC7800, that enables a Macintosh to emulate a Honeywell VIP7801/7814 so it can interface with a Honeywell Bull DPS6 computer.

This article has been archived and is no longer updated by Apple.

PC7800 may be ordered in the U.S.A. from Bull HN Information Systems (formerly Bull HN), (800) 343-6665. To order the product for delivery in Europe, contact either Rob Anderson in the U.K. at 44 81 894 5577 or Daniel Pepin in Paris, France at 33 13 902 4211. To locate a vendor's address and phone numbers, use vendor name as a search string.

Article Change History:
26 July 1993 - Company title updated from Bull HN to Bull HN Information Systems.
1 April 1991 - Updated for technical accuracy.

Published Date: Feb 18, 2012

Identifying Apple IIGS Keyboards

This article has been archived and is no longer updated by Apple.

If you are developing applications with the Apple IIGS, you may need to be able to identify which keyboard is being used: the ADB or the Apple IIe (that is, the logic board connector for the keyboard located at site J13).

Since the Apple IIGS was primarily designed to use an ADB keyboard, the only way to determine if a keyboard is connected to J13 and not the ADB bus is to make an assumption. The assumption will be made by a response -- or lack of response -- from the AsyncADBReceive ($0D09) Toolbox routine.

The AsyncADBReceive routine will NOT receive a keyboard response if there is no ADB keyboard present.

(NOTE: A wrong assumption could be made at this point -- for instance, with an Apple IIGS with its ADB keyboard disconnected. The application being constructed should ask if the user is ACTUALLY using an Apple IIe which has been upgraded to an Apple IIGS.)

Complete information about the AsyncADBReceive routine can be found in the Apple IIGS Toolbox Reference (ISBN #0-201-17746-3): Volume 1, Section 3, page 14.

Published Date: Feb 18, 2012

Macintosh: Works With International ImageWriter

Can I use an ImageWriter made outside of the United States with my Macintosh computer?
This article has been archived and is no longer updated by Apple.
A domestic Macintosh may be used with an international version of the ImageWriter (such as the Japanese or European version).

Even though the power specifications change from country to country, or region to region, the RS232 and AppleTalk standards are universal throughout the world.
Published Date: Feb 18, 2012

Domestic Apple Equipment‘s: No Guarantee On Foreign Operation

What are the extreme limits that Apple equipment can be used at?
This article has been archived and is no longer updated by Apple.
Apple makes no guarantee of successful operation of Apple equipment when it is used outside of the equipment specifications -- including its operation in a foreign country with different voltage levels, etc.

Even though a piece of equipment may APPEAR to function correctly when operating outside of the specifications, unexpected results may be encountered due to additional variables. These variables include the number of peripheral cards installed in the system, and fluctuations in line voltage.

Such variables make it impossible for us to guarantee that, for instance, a domestic Macintosh II will correctly function at 85-90 volts in Japan.

Other Helpful Resources
Apple Spec Database: http://www.info.apple.com/applespec/.
Published Date: Feb 18, 2012

UNIX: Sources of Training

Some users have asked about UNIX training courses.

There is no one course that will teach UNIX, and learning UNIX takes years of concentrated work on a UNIX system. However, there are different types of courses that suit different areas or levels where assistance is needed.

Here are some recommendations from Apple engineers on a few of the UNIX courses with which they are familiar. This is a VERY LIMITED sample, and does not reflect Apple Computer's official position on ANY courses, listed or unlisted.
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Here are some recommendations from Apple engineers on a few of the UNIX courses with which they are familiar. This is a VERY LIMITED sample, and does not reflect Apple Computer's official position on ANY courses, listed or unlisted.

AT&T Computer Systems Training

Reservations and information: (800) 247-1212

Classes are currently held in New Jersey, Illinois, Georgia, Ohio, and Northern and Southern California. Shorter tutorials are also offered in Massachusetts, Virginia, New Jersey, Colorado, and Northern and Southern California.

These offer a wide curriculum for different levels of expertise.

NOTE: The more technical classes require proof of a source license.

Some Apple engineers have recommended the Internals, System Administration, and/or Shell programming classes for field engineers who are required to support A/UX and have some basic user knowledge of UNIX. Introductory-level classes are also available, as well as training tapes.

User Training Services Group

Jim Corcoran (415) 322-0460

This is an interactive audio digital cassete tape training that offers a low - medium level of expertise in UNIX basics. They also have a smaller curriculum aimed at beginning UNIX users. Monthly rentals of the tape courses are also available.

Computer Technology Group

Reservations and information: (800) 323-UNIX

Classes are currently held in Massachusetts, Chicago, Texas, Canada, England, Washington D.C, and Northern and Southern California.

These classes, and the tape-trainings, are a more accessible but less rigorous course than, for instance, the AT&T offering.

Gawain Group and Jim Joyce's UNIX BookStore

Registration and information: (415) 626-7581

This organization offers courses customized for your location and semi-regular classes held in Toronto and Northern California. The trainers are experienced in the industry and often are the authors of the code.

The Bookstore also offers a most extensive collection of UNIX and C programming books, with bulk discounts available. They also offer short evaluations that might assist you in selecting reading material to augment or substitute for your training.

Three UNIX resources Apple engineers have recommended are:

- "The Design of the UNIX Operating System" by Maurice Bach (A "Bible" offering a comprehensive overview and a detailed study of internals)

- "UNIX in a Nutshell" from O'Reilly and Associates (An easy to read reference to augment the bulky UNIX manuals)

- "UNIX Communications" by the Waite Group (An easy-to-follow guide the communications utilities built into UNIX)
Published Date: Feb 18, 2012

Apple II: Digitizers

Article Change History

02/09/93 - UPDATED
Micron Technology acquired by Xceed Technologies.
09/21/84 - REVIEWED
* For accuracy.

Here are a few digitizers for the Apple II:
This article has been archived and is no longer updated by Apple.

```
Computereyes        by   Digital Vision, Inc.
                         14 Oak St. #2
                         Needham, MA 02192
                         (617) 444-9040

Dithertizer II      by   Computer Station
                         11610 Page Service Drive
                         Saint Louis, Mo 63146
                         (314) 432-7019

Digisector          by   Micro-Works
                         P.O. Box 1110
                         Del Mar, CA 92014
                         (619) 942-2400

Micro D-Cam         by   Micro Mint
                         561 Willow Ave.
                         Cedarhurst, NY 11516
                         (516) 374-6793

Micron-Eye          by   Micron Technology (acquired by Xceed Technologies)
                         Xceed Technologies
                         37560 31 Mile Rd.
                         Richmond, MI 48062
                         313-727-4085
                         800-642-7661
```

The Dithertizer and the Digisector accept input from a standard video camera. The Micro D-Cam and Micron-Eye use a solid state camera made from a special purpose imaging chip. All have software to map the output from the camera to the High-Res Screen of the Apple II.

The Dithertizer uses a feature called contouring. This makes the processor display only those portions of an image which fall in a certain brightness (or darkness) range. With this method you could set the digitizer to display only the darkest spots on the screen. Then you could write software to scan the digitized image for spots, count them and note their position.

Micron-Technology (acquired by Xceed Technologies) makes an RS-232 version of the Micron-Eye. With the proper software, this could be your digitizer for Macintosh, Lisa or Apple III.

To locate a vendor's address and phone numbers, use the vendor name as a search string.

Published Date: Feb 18, 2012

AppleWorks: Modifying For Single Keystroke Operation

If you wish to modify AppleWorks by combining multiple-keystroke operations into one keystroke (an important modification for disabled users), you may be interested in the following two products from WordPerfect Corporation (formerly Beagle Brothers, Inc.).
This article has been archived and is no longer updated by Apple.
The two products are:

- Macroworks, for AppleWorks 1.3 or earlier
- SuperMacroWorks, for AppleWorks 2.0

If you need to modify something other than AppleWorks, check the AppleLink database under the Technical Support icon. Preface your query string with 'sped' -- this will access the information on third party materials posted by Apple's Office of Special Education.

- Article#17159: "**Locating Vendor Information**", can help you search for a particular vendor's address and phone number.

Published Date: Feb 18, 2012

ImageWriter LQ: Odd Test Print May Be Bad Ribbon Installation

This article has been archived and is no longer updated by Apple.

If you have an ImageWriter LQ, you may get a strange test print of varying print density which is caused by an incorrectly installed black print ribbon.

If you get a test print with a black ribbon that shows four lines of light print followed by three lines of dark print, the pattern continuing as long as the test print is generated (the ribbon may also move vertically), here is the reason for the problem -- and the solution.

The black ribbon has a small tab on the left-hand end which actuates a micro-switch located in the left-front of the printer near the control panel. This indicates to the printer that it does not have a color ribbon installed (the color ribbon does not have this tab.)

When a COLOR ribbon is installed the micro-switch is not depressed, which sets in motion the various color functions of the printer, such as ribbon vertical motion, overstrike for certain colors, etc.

When the BLACK ribbon is installed, the micro-switch should be depressed, setting the printer into single-color mode.

The characteristics of a color test print are such that four lines are printed in single colors and three lines are generated with overlaid colors. With a color ribbon installed this will result in a color sequence as follows:

- Black, Yellow, Red, Blue, Orange, Green, Purple (the last three are the overlaid colors.)

However, if the black ribbon is installed but the micro-switch is NOT depressed, the printer believes it is in color mode and will generate a test print accordingly. This will result in four lines of light print (printer thinks it is printing single colors and does a single pass with the print head) and three lines of dark print (printer thinks it is printing overlaid colors and does a double pass with the print head, moving the ribbon vertically as needed to access the second color.)

If you have this problem, make sure the black ribbon is correctly installed in the printer. Correct installation will depress the micro-switch and set the printer in single color mode, which will generate a test print of uniform density.

Published Date: Feb 18, 2012

Part Available For Using ImageWriter II And LQ Overseas

This article has been archived and is no longer updated by Apple.

Domestic 110V ImageWriter II and ImageWriter LQ printers can be used on voltages greater than 110V.

One solution is to use a step-down transformer. Unfortunately, with this method you sacrifice some horizontal and vertical print registration, and force the internal DC stepper motors to run hotter, thus becoming unreliable in a shorter period of time than normal. Apple does NOT recommend or support this method.

A better solution is to use a transformer/voltage switch assembly (Apple Service Part #915-0029). With the installation of this part, an ImageWriter II can be converted from 110V to a universal printer (which be altered to suit power supplies of different voltages.) This switch assembly contains a built-in selector switch, and is designed for an operating range of 100V to 240V, and a frequency range of 48 to 62 Hertz.

The catch is that this particular part is currently not sold domestically (US and Canada,) but only abroad. The #915-0029 transformer/voltage switch assembly is only installed in printers expected to be sold in areas of the world where the operating frequency is in the 48 to 62 Hertz range. However, a consumer CAN request that an international service provider sell them this part.

The transformer/voltage switch assembly is the ONLY part that differs from a 110V printer. It is included in all International-manufactured printers. The transformer assembly used in 110V printers works properly in the operating range of 58 to 62 Hertz only.

(NOTE: Part #915-0029 is for ImageWriter II ONLY. The universal transformer/voltage switch assembly for the ImageWriter LQ is Apple Part #915-0031.)

Most printers sold outside of the United States and Canada are equipped with the universal, or selectable, power supply, therefore no change -- other than switch position -- is required. Once the printer is converted, no other hardware (such as a step-down transformer) is required.

Here are the frequency operating ranges of ImageWriter II and ImageWriter LQ printers:

- Domestic Units 110V units @ 58 - 62 Hertz
- International Units 110V to 240V units @ 48 - 62 Hertz

Published Date: Feb 18, 2012

Don‘t Rely On "Network Events" To Signify Completed Operations

This article has been archived and is no longer updated by Apple.

You should not rely on "network events" to signify when an operation is completed. Network events may be purged from the event queue if it overflows, thus preventing the application from ever receiving them.

In general, you should avoid using anything other than disk-inserted or device driver events: although disk-inserted and device driver events don't have any higher priority than network events, they are much less likely to get removed from the queue because of a queue overflow. (Network events have this purging problem because multiple ATP requests may complete simultaneously, generating lots of events.)

NOTE: Another major reason not to use network events is because Apple can't guarantee to support them in the future.

It is not necessary to find alternatives to disk or driver events.

Most applications do not need to respond to disk-inserted events. By the time a disk-inserted event reaches the application, the system has already attempted to mount the volume. Most applications use Standard File, which does the response to disk-inserted events for you.

NOTE: If your application DOES need to react to disk-inserted events, it should receive this event in the regular fashion, as described in the "Event Manager" chapter of "Inside Macintosh" (page I-241, Apple Part #030-1277-A).

Also, applications usually don't have to respond to device driver events, either; in most cases, you will use higher level managers. For example, most applications depend on the File Manager, rather than the Disk Driver. Another example: the Sound Driver allows you to make a call to SoundDone to find out if an asynchronous sound is finished.

In the case of device drivers, when an asynchronous call is made you can poll the ioResult field of the parameter block to see if the call has completed. (This field is set to 1 when the call is made.) Control is returned to the application immediately, even though the call hasn't necessarily completed. The ioResult field receives the actual result code on completion of the call, so you can determine if the call has completed by periodically checking to see if ioResult is still 1.

NOTE: See the Device Manager chapter of the above-mentioned "Inside Macintosh" (page II-173) for more details.

Published Date: Feb 18, 2012

A/UX Meets SVVS/SVID Standards

Article Change History

08/31/92 - REVIEWED
* For technical accuracy

A/UX and SVVS/SVID Standards

This article has been archived and is no longer updated by Apple.
A/UX is SVID-compatible and SVVS Issue 1 & 2 certified.

SVID (System V Interface Definition) is a set of specifications (somewhat like manual pages), of how internal components -- such as system calls, parameters, etc. -- should look. This specification standard allows a higher degree of code portability to other machines.

SVVS (System V Validation Suite) Issue 2 is a series of programs for System V.2 that test the System V.2 porting for about 4-5 hours. If the tests are passed with no modification, the porting (in this case, A/UX) is said to be SVID-compatible.

A/UX Version 1.0 is SVID-compatible. It passes the SVVS Issue 2 certification tests. (Issue 2 is in fact the latest and only appropriate release for our system.)

(NOTE: There is a paragraph stating SVVS-conformance on the back of the cover page of the A/UX Release Notes.)

Not only does A/UX pass the standard test with no modifications required, but it also passes the optional Kernel Extensions test, which is not required for SVID-compatibility.

Published Date: Feb 18, 2012

Using Brother IF-50 And IF-60 Interface Boxes With Apple IIGS

This article has been archived and is no longer updated by Apple.

You can interface your Apple IIGS with a Brother typewriter, using either the Brother IF-50 or IF-60 interface box.

These are the pin-outs for the cable:

Apple IIGS Brother
--- ---
1 6
2 20
3 3
5 2
4,7,8 (tied together) 7
4,5,8 (tied together)

Published Date: Feb 18, 2012

HyperCard "Write to File" Command: How To Replace Old Text

This article has been archived and is no longer updated by Apple.

You may have experienced a problem with the write command in HyperCard: when you write text to an existing file, HyperCard merely appends the new text to the old, rather than replacing the existing text.

The write command causes HyperCard to copy the specified text into the specified disk file.

Here is a script that should DUPLICATE your problem. First, create a file called "test 1" with the text "ABCD" in it:

```
on mouseUp
open file "test 1"
write "ABCD" to file "test 1"
close file "test 1"
end mouseUp
```

The following scripts reads the text "ABCD" from the file "test 1" and then appends "EFGH" to the file demonstrating your problem:

```
on mouseUp
open file "test 1"
read from file "test 1" for 4
write "EFGH" to file "test 1"
close file "test 1"
end mouseUp
```

Here is a script that should SOLVE your problem. This script reads the text "ABCD" from the file "test 1" and then REPLACES the text in "test 1" with the text "EFGH":

```
on mouseUp
open file "test 1"
read from file "test 1" for 4
close file "test 1"
open file "test 1"
write "EFGH" to file "test 1"
close file "test 1"
end mouseUp
```

The key to replacing text instead of appending text is closing the file "test 1" and then reopening the file "test 1". If you open "test 1" and read for 2 characters, then write "EFGH" to "test 1" you will get "ABEFGH" in your file. In other words, you will append text starting where the read or write statement stopped.

Published Date: Feb 18, 2012

LaserWriter II: Fuser Temperature for Transparencies

I want to use transparencies in my LaserWriter II printer. Can I do this?
This article has been archived and is no longer updated by Apple.
When choosing an acetate transparency for use in a LaserWriter II, it is important to consider the temperature of the printer's fuser roller and the amount of time the acetate sheet is in contract with the roller.

The temperature of the LaserWriter II fuser roller varies from:

- 329 to 356 degrees Fahrenheit
- 165 to 180 degrees centigrade

An 8.5 x 11 sheet of paper or acetate takes approximately 5.8 seconds to travel over the fuser roll. This works out to be about 1.5 inches per second.

The LaserWriter II accepts medium weight photocopier transparencies. You can use any transparency acetate that meets these specifications.

Published Date: Feb 18, 2012

LaserWriter II: Troubleshooting & Environmental Factors (9/95)

This article describes how to troubleshoot a LaserWriter II for possible environmental conditions which could contribute to malfunctions.

This article has been archived and is no longer updated by Apple.

Environmental Considerations

During the winter, if the LaserWriter II is moved from a cold area to a warm one or vice versa, condensation can occur inside the printer. This temperature change will result in image defects.

The printer should be allowed to come to room temperature before being used. This will take approximately 1 to 2 hours.

- Condensation on optical surfaces, such as the scanning mirror, lenses, or mirror assembly will result in a light print image.

- If the photosensitive drum in the toner cartridge is cold, the electrical resistance of the photosensitive layer will be high, causing image contrast problems.

- Condensation on the corona assemblies will cause corona charge leakage, resulting in poor print quality.

- Condensation on the pickup guide and feed guide plate will result in paper transport problems.

If condensation does occur, wipe the appropriate assembly or part with a dry cloth or leave the printer turned off for 10 to 20 minutes.

- Toner: During the winter, if the toner cartridge is unsealed soon after being moved from a cold area to a warm one, condensation can occur inside the toner cartridge. This will also result in image defects. The toner cartridge should be allowed to come to room temperature before being unsealed. This will take approximately 1 to 2 hours, depending upon the temperature of the room.

Preliminary Checks

The following chart lists common problems that have simple solutions. Checking for these problems when you begin troubleshooting can save you time and effort.

Check Here First - Verify that:

- The line voltage does not vary more than 10% from the voltage shown on the serial number plate.

- The LaserWriter II is installed on a solid and level surface.

- The room temperature is kept between 10 degrees C and 32.5 degrees C.

- The relative humidity is kept between 20 and 80 percent.

- The LaserWriter II is not exposed to ammonia or other harmful gases.

- The LaserWriter II is not exposed to direct sunlight.

- The room is well ventilated.

- The LaserWriter II is not located near an open flame.

- The LaserWriter II is not located in a dusty or dirty environment.

Article Change History:
20 Sep 1995 - Reformatted to meet current standards.
03 Mar 1988 - Reviewed for technical accuracy.

Support Information Services
Published Date: Feb 18, 2012

Macintosh II or Macintosh SE: MacDraw 1.9 Grey Page

Issue: When opening MacDraw 1.9 on a Macintosh II or Macintosh SE using System 4.2, and Finder 6.0, the page comes out grey and the application does not allow any further use of the program.

CAUSE: Either there are no print drivers or the print drivers are damaged.

This article has been archived and is no longer updated by Apple.

CURE: If there are no print drivers, install the desired print drivers on the system. If the print drivers exist but are possibly damaged, discard the current drivers and reinstall the new ones. The old print drivers MUST be thrown in the TRASH.

Published Date: Feb 18, 2012

Apple IIGS and Third Party Joysticks

PROBLEM: When using the IIGS with a joystick and the appropriate software, the "fire" button appears to be stuck on or inoperative. Replacing the logic board takes care of the problem temporarily, but within one to two weeks the system comes back in with the same symptoms. Again, replacing the logic board takes care of the problem. The option or the open-Apple key may appear to be depressed continuosly.

This article has been archived and is no longer updated by Apple.

CURE: Check the customer's joystick carefully. There are several vendors shipping joysticks which can be made compatible with other manufacturers' systems by flipping a switch on the joystick. Permanent damage to the logic board can occur if the joystick configuration switch is set to the wrong position for any length of time. Replacing the logic board will cure the problem, but be sure to instruct the customer about the cause of the damage and the importance of leaving the switch in the correct position.

This type of damage is not covered by Apple's customer or service warranty.

Published Date: Feb 18, 2012

Business BASIC III Reference Manual Errata: VAL function

This article has been archived and is no longer updated by Apple.

```
Volume 1, page 58 in Chapter 2, Tools of Your Trade:

String Functions: The VAL Function

The ?TYPE MISMATCH ERROR listed for the VAL function does not occur; instead:

1. If the string begins with a non-numeric (except leading spaces) the value
  returned is 0.
2. If the string begins with a number but contains non-numeric characters then
  the value returned is the value of the beginning number.

The VAL of a null string is UNDEFINED!  Because of the hard coding, Applesoft
returns 0.  But the RAM-based Business Basic returns whatever value happens to
be in RAM memory at the time.
```

Published Date: Feb 18, 2012

A/UX: Streams Defines Standard Interfaces For I/O (9/94)

What are UNIX STREAMS?

This article has been archived and is no longer updated by Apple.
STREAMS defines standard interfaces for character I/O within the UNIX kernel and between the kernel and the user level. It consists of a set of structures, kernel facilities, system calls, and kernel utility routines. This collection can create, use, and dismantle a "Stream".

By connecting a selection of STREAMS components, a Stream is created -- a full-duplex processing and data transfer path between a driver in kernel space and a process in user space. The primary components of a Stream are a Stream head, a driver, and 0 or more added modules between the Stream head and driver. It is similar in concept to a Shell pipeline, except that data flow and processing are bidirectional.

STREAMS can best be described as a kernel mechanism that provides a uniform method of implementing network protocols and supporting different network media. It enables the development of application software that is independent of the underlying network services and data communication drivers. A change in medium or protocol can be accommodated through the substitution of STREAMS modules, without need for modification of the application software. It also enables the modular development of protocol software. Portability of software that performs network services is facilitated through the isolation of hardware dependencies in particular modules.

The development process is simplified by the ability to combine STREAMS modules to perform more sophisticated network services and to use the same modules over different media and in different network architectures. The STREAMS feature within A/UX is provided in addition to the existing device driver mechanisms.

In A/UX, the ADB (Apple DeskTop Bus) connection to the keyboard and mouse are supported by STREAMS I/O device drivers.

STREAMS is normally not available with UNIX System V.2. Through special licensing arrangements, a proper subset of the feature is available in A/UX.

For more information on STREAMS, see:

- AT&T's "UNIX System V STREAMS Primer"

- AT&T's "The STREAMS Programmer's Guide"

- AT&T's "System V Interface Definition"

- "Design of the UNIX Operating System" by Maurice Bach.

Article Change History:
19 Sep 1994 - Reviewed.
31 Aug 1992 - Reviewed.

Support Information Services
Published Date: Feb 18, 2012

HD Setup: Use V1.3 Only To Restore Disk Formatted With V1.3

This article has been archived and is no longer updated by Apple.

Full-volume backups taken from a hard drive formatted with HD Setup 1.3 are incompatible for restoring to drives formatted with HD Setup version 1.5. Also, depending on the manufacture of the hard drive, the formatted disk space for the same size drive will very by as much as 1MB to 2MB, depending on which version of HD Setup is used.

Use HD Setup 1.3 only when it's necessary to restore a backup that was taken from a drive that was FORMATTED with HD Setup 1.3.

Published Date: Feb 18, 2012

LaserWriter: Changing Baud Rate From Software

This article has been archived and is no longer updated by Apple.

To reset a LaserWriter's baud rate, even to a rate not available though the hardware DIP switches, send the following PostScript code to the LaserWriter:

```
statusdict begin 25 sccbatch exch pop
68 eq {stop} if
serverdict begin 0 exitserver
statusdict begin 25 19200 68 setsccbatch
```

This example sets the LaserWriter to 19,200 baud (using 8 data bits and DTR flow control). The change does not take effect until the end of the current job. The current job, in this case, is the PostScript code you are sending. These settings are then in effect for the duration of the next print job, and in any case will be reset within 30 seconds by the switch polling function described below. This means you must start your print job within 30 seconds in order to retain the new parameters.

If the hardware switches are used to reset the bud rate, the switches override the rate set via software.

(The test sheet will not show 19,200 because the LaserWriter defaults back to switch settings when powered up.)

Published Date: Feb 18, 2012

Apple IIe: CP/M with ProFile

MicroSoft CP/M versions 2.26B or 2.28B recognize only the 5-megabyte ProFile, and even then only if the ProFile interface card has the 5-megabyte ROM chip part number 3410271A.

This article has been archived and is no longer updated by Apple.

Advanced Logic Systems (ALS) has a version of CP/M that works with the Apple IIe and ProFile: it's called ALS CP/M version 3.01C (ProDOS version). Not only can it access the Profile, it can even be installed under Catalyst. Contact ALS (408/730-0306) for more information.

Published Date: Feb 18, 2012

Apple III QuickFile: Converting Data to Macintosh

This article has been archived and is no longer updated by Apple.

One method of moving Apple III QuickFile data to a Macintosh involves AppleWorks running on an Apple II with both a 5.25" disk drive and a 3.5" disk drive.

1. Because Apple III SOS and Apple II ProDOS are file-compatible, AppleWorks running on an Apple II can read QuickFile files from an Apple III's 5.25" disk.

2. The AppleWorks files can then be saved to a 3.5 disk.

3. A Macintosh running AFE (Apple File Exchange) can then read, via AFE's Works-to-Works transporter, the files into Microsoft Works.

Published Date: Feb 18, 2012

LocalTalk PC Card: Version 2.0 Changes

This article has been archived and is no longer updated by Apple.

Version 2.0 of the LocalTalk PC Card driver (ATALK.EXE) does not use the card's hardware interrupt feature. This means that the default card settings do not conflict with a COM2 serial port, and the LocalTalk PC Card can coexist with other devices using hardware interrupts.

Conflicts with other cards are unlikely because the LocalTalk PC Card driver uses relatively little used address spaces and M60 software interrupts.

No changes were made to the LocalTalk PC Card driver with respect to the DMA channels or card address range. The driver was rewritten and code optimized to take up less space, and a numeration problem was fixed.

Published Date: Feb 18, 2012

Floppy Disks: How They Are Affected By Magnetic Fields

Can a magnetic field destroy data on a floppy disk?
This article has been archived and is no longer updated by Apple.
Yes. There are many sources of magnetic fields that are common with electronic and electrical equipment. Apple Technical Support is sometimes asked how to measure the strength of these fields to determine if they can damage the data on diskettes. This is often very difficult to do because there are too many variables, such as:

- the strength and proximity of the magnet
- the flux field of the magnet, which may be highly influenced by the ferrite material to which it is attached
- the age of the disk and the age of the data on the disk
- the age of the disk drive
- the condition, alignment, and cleanliness of the disk drive
- the orientation of the disk in relationship to the field

You should always isolate diskettes from magnetic sources, includeing telephones, monitors, and printers.
Published Date: Feb 18, 2012

Macintosh SCSI Hard Disk Drives: How Capacities Are Calculated

This article has been archived and is no longer updated by Apple.

After a hard disk is formatted, the Finder shows the "available" storage in kilobytes. With a given drive, this number varies with the version of HD Setup software used. For example:

Drive	HD Setup 1.3	HD Setup 1.5
HD 40SC	41,439K	39,333K
HD 80SC	76,911K	76,869K

To calculate the drive's capacity in bytes, multiply the number of kilobytes (K) by 1,024. To calculate the drive's capacity in megabytes, divide the number of kilobytes by 1,024. The capacity of the drives after being formatted with HD Setup 1.5 is:

HD 40SC 39,333K = 40,276,992 bytes = 38.4MB
HD 80SC 76,869K = 78,713,856 bytes = 75.1MB

The sizes of formatted drives varies between manufacturers, depending on the intelligence of the drive controller. Some drive controllers spare bad blocks automatically or allocate a range of blocks that can be swapped with bad blocks. It is the industry practice to quote the size of a formatted drive even though the size of the drive will vary depending on the operating system with which the drive is formatted.

Published Date: Feb 18, 2012

AppleShare 2.0: Can‘t Administrate With Print Server Running

This article has been archived and is no longer updated by Apple.

The AppleShare Administrator and the AppleShare Print Server are both concurrent applications, meaning they run at the same time. Since the AppleShare File Server supports only one concurrent application at a time, you won't be able to administer the AppleShare File Server with the AppleShare Print Server running concurrently.

To perform administrative functions, quit the AppleShare Print Server and start up the AppleShare Administrator program from the "Server" menu.

Published Date: Feb 18, 2012

Apple Writer II: DOS Version--Printing With Parallel Printers

Apple Writer may not work properly with some parallel interface cards. Often the interface requires a CTRL-I sequence if it is to print wider than 40 columns.
This article has been archived and is no longer updated by Apple.
This is easy in Apple Writer II.

All you need to do isinsert: <CTRL-V><CTRL-I><CTRL-V> 132N at the start of each file.

You will have to use the CTRL-V before and after the CTRL-I to enter it into the file. Please refer to page 51 of the Apple Writer manual for more details.
Published Date: Feb 18, 2012

Apple High-Res RGB Monitor Convergence Adjustment

This article has been archived and is no longer updated by Apple.

Because the adjustment potentiometers on the main logic board of the Apple High-Res RGB monitor can accidentally be bumped during installation, the monitor screen's vertical convergence can sometimes be off by as much as 1/8".

Adjusting the V-twist control will allow only a small section of the screen to show the correct vertical adjustment, while the top and bottom borders remain ill-adjusted. While the center of the screen may appear to be adjusted correctly, there will be distinct red-, green- and blue-shadowed images at the top and bottom of the screen. These shadowed images will appear in different sizes (i.e. the green image is larger than the red image, and the red image is larger than the blue image.)

The top and bottom sections of the screen can be adjusted correctly by adjusting the V-TOP and V-BOTTOM controls on the main logic board.

Published Date: Feb 18, 2012

Mac OS 8: About Mac OS 8 Read Me

This article contains the About Mac OS 8 Read Me file.

This article has been archived and is no longer updated by Apple.
This document provides information about Mac OS 8 that supplements the information in your installation manual. Read this document for information about known issuess with this release and possible solutions.

Known problems and compatibility issues

Apple Language Kits & Mac OS 8

Apple's Language Kits require an updater for full functionality with this version of the Mac OS. The Language Kit Updater for Mac OS 8 can be downloaded from the software updates area of Apple's Web site, America Online, and other sites where Apple updates are available.

If you cannot obtain the Language Kit Updater right away, do the following as an interim method of improving compatibility: After installing Mac OS 8, open the Installer again and add the International components of the basic system software. (See Adding and Removing Software in Chapter 3 of the installation manual.) Then reinstall your Apple Language Kit software. If the Language Kit installer asks about older files, always choose Newer.

At Ease and Mac OS 8

Some of the Mac OS 8 control panels can't be enabled for At Ease users and won't appear in At Ease Setup. You should use these control panels in the Finder before running At Ease. Also, note that At Ease does not support file sharing. Do not turn on file sharing when using At Ease or your computer may freeze.

Apple Location Manager and Mac OS 8

To use the Apple Location Manager with your PowerBook computer, you must install Apple Location Manager 1.0.1, which is included with Mac OS 8. Due to changes in Mac OS 8, previous versions of Apple Location Manager will not function correctly and should not be used.

Programs refuse to open

Some programs refuse to run if the system font is set to anything but Chicago. To change the system font, use the Appearance control panel and change the font from Charcoal (the default) to Chicago then restart your computer and try to open the program again. Contact the manufacturer of the program to see if an updated version is available.

Additionally, some programs might require a small amount of additional memory when used with Mac OS 8. If a program refuses to open, increase its minimum memory allocation by 200K or 300K. To do this, select the program's icon, then open the File menu and choose Get Info. See the Memory topic in Mac OS Help for more information.

Printing with a LaserWriter Select 300 or 360 printer

If you experience system freezes or other issues when printing on a LaserWriter Select 300 or 360 printer, make sure the printer is connected to the computer. Trying to cancel printing does not solve the issues and may cause a flashing error message or cause your computer's performance to slow down.

Using Mac OS 8 with HP Printers

If your computer freezes or crashes when you use the Page Setup dialog box, contact Hewlett-Packard to obtain updated drivers for your printer.

Enhanced CDs stop playing

Audio tracks on Enhanced Compact Discs may stop playing if you open a program, access a file, or use the Finder. Enhanced CDs contain both audio and data information, such as text, movies, or multimedia software. On occasion, the Finder needs to access information about the data portion of the CD, which causes the audio to stop playing. This issues does not occur with standard audio CDs.

Apple Telecom software

The Apple Telecom software provided in the CD Extras folder on the Mac OS 8 CD is for PowerPC computers only. Also, the Apple Fax Gateway is no longer provided and will be removed when you install the new version of Apple Telecom.

If you already have an earlier version of Apple Telecom installed on your computer, a regular installation of Mac OS 8 does not remove or alter it. However, if you perform a clean installation of Mac OS 8, you will need to reinstall Apple Telecom software. If you have a PowerPC computer, use the installer on the Mac OS 8 CD. If you have a 68040-based Macintosh, reinstall your previous version.

Note: If you have a 68040 (or earlier) Macintosh, do not install the Apple Telecom software included with Mac OS 8.

Express Modems and GeoPort Adapter

If you have an Express Modem or GeoPort Adapter, and a 68040-based Macintosh, you may experience unexpected disconnections when accessing the Internet, the Internet Registration Server, and online services. External modems that do not use the Apple Telecom software will not experience this issues.

Internet Setup Assistant and static IP addresses

If you perform a clean installation of Mac OS 8, and you are connected to the Internet via a LAN (instead of a modem connection) and you have a static IP address, you should set the AppleTalk control panel to use Ethernet before using the Internet Setup Assistant. This is necessary so the assistant can update your configuration settings with the information you enter. After you use the assistant, open the TCP/IP control panel to activate TCP/IP for your computer.

Desktop Printing Extension and Mac OS 8

The Desktop Printing Extension is unnecessary with Mac OS 8. If it is present in the Extensions folder it may cause a system crash when you startup your computer.

ATI Xclaim GA and 3DMF files

If you have an ATI Xclaim GA card and your computer freezes when the monitor is set to Thousands of Colors and you try to load a QuickDraw 3D (3DMF) file, remove the Graphics Accelerator 1.0.7x extension from the Extensions folder. This extension is installed by the ATI Installer but is no longer needed with Mac OS 8.

ProDOS disks and File Sharing

Turn off File Sharing before accessing a ProDOS (Apple II) disk or hard drive. Or, if you are using a ProDOS disk, eject it before turning File Sharing on. The Finder will be less responsive when you access ProDOS disks, and may freeze when ProDOS disks and File Sharing are used together.

Macintosh Tutorial

If you have the Macintosh Tutorial, parts of it may not work correctly on computers with 68040 processors and Mac OS 8. Additionally, due to changes in the Finder and other parts of Mac OS 8, the information in the tutorial may not be correct. You can use the Mac OS Info Center to learn about the capabilities of your computer.

IR File Exchange Guide

The Apple Guide for the IR File Exchange control panel does not recognize when the File Sharing control panel is open. You can avoid this issues by setting your owner name in the File Sharing control panel, or by using the Mac OS Setup Assistant.

Using old versions of Cyberdog with international text

Using Cyberdog 1.2.1 or earlier to send or receive non-Roman text in e-mail messages may result in information being lost from the end of the message. Cyberdog 2.0, included with Mac OS 8, solves this issues.

AppleScript and the Finder

Many of the new features of the Mac OS 8 Finder are scriptable, and some of the properties in previous versions of the Finder have changed. Additionally, some scripting capabilities have been removed from the Finder and placed into scriptable control panels. For example, you can now script file sharing by addressing the File Sharing control panel directly. These changes might require some scripts to be updated for use with Mac OS 8.

Recording scripts and Mac OS 8

When you record an AppleScript using the Script Editor, Mac OS 8 does not properly record name changes. For example, when you turn on recording in the Script editor and then change the name of an icon in the Finder, the script will incorrectly record as: set «class» of item "folder name" to "folder name."

The correct recording should be:

1. select item "folder name"

2. set name of selection to "new folder name"

To work around this issues, edit the script after you record it. Change the wording as shown above, substituting the correct names.

AppleShare IP 5.0 servers and Mac OS 8

Apple recommends that you use Mac OS 7.6 with AppleShare IP 5.0 servers. If you use Mac OS 8, you may encounter issuess with FTP access. When several FTP clients try to access the same file simultaneously, the clients may receive one of several error messages and the server may stop serving files properly, or may crash when you shut it down. To avoid this issues until a fix is available, you can turn off FTP access using the

AppleShare IP Web & File Admin application. For the latest information on AppleShare IP 5.0 support for Mac OS 8, see the AppleShare IP web site at **http://www.apple.com/appleshareip/**.

Miscellaneous notes

Internet access in Canada

If you don't already have an account with an Internet service provider, you can obtain one using the Internet Setup Assistant, or you can choose one from the list in the International Internet Access file in the Internet Extras folder on the Mac OS 8 CD. Read this information before using the Internet Setup Assistant.

Internet access in Latin America, Australia, New Zealand, and Asia

If you don't already have an account with an Internet service provider, see the file International Internet Access in the Internet Extras folder on the Mac OS 8 CD for important information. Read this information before using the Internet Setup Assistant.

Installing the Internet Utilities

If you use your computer for sending e-mail, you should install the program DropStuff. DropStuff will install the StuffIt Engine that allows Claris Emailer to compress and send files via e-mail. The DropStuff installer is located in the Aladdin folder of the Internet Utilities folder, in the Internet folder on your hard disk.

General Controls, Empty Trash Warning, and Views settings

These settings are restored to their default values after installing Mac OS 8. Additionally, in previous versions of Mac OS, view settings such as snap to grid and calculate folder size applied to all folders. When you install Mac OS 8 your previous setting is used as the default, but you can now select different settings for each of your folders and the desktop.

If you use a disk with Mac OS 8, and then use it on a computer with a previous version of the Mac OS, you'll notice that some of your views may change. For example, if you set a folder to view by button, then access that folder with System 7.6, the files will be displayed in large icon view because button view is not available under the older system software. Additionally, if you ejected the disk with open windows on a Mac OS 8 computer, the windows will not automatically reopen on older versions of Mac OS.

Unusual or inconsistent appearance

Some applications will exhibit unusual or inconsistent cosmetic anomalies when used with Mac OS 8. These are harmless, but if they bother you turn off the system-wide setting in the Appearance control panel. Contact the manufacturer of the program to see if an updated version of the program is available.

Entering comments for floppy disks

With Mac OS 8 you can no longer enter comments in the Get Info window for floppy disks. The space formerly used for storing comments is now used by Mac OS 8 to store the view settings (button view, etc.) for the disk and its folders.

Stationery pads and Mac OS 8

If you use a stationery pad with an application that does not directly support stationery, Mac OS 8 will automatically make a new copy of the stationery and open it using the application. In previous versions of Mac OS, you were asked to enter a name for the new copy; now it is opened as an untitled document automatically.

Disk cache setting and better performance

If opening windows, emptying trash, and other activities in the Finder seem very slow, increase the size of the disk cache. Click the Use Defaults button in the Memory control panel to set the cache to the minimum recommended size for your system. With Mac OS 8, you can perform many file-related activities at the same time, and increasing the size of the disk cache will help performance.

Using Desktop Pictures

If you select a desktop picture that is on a CD or external disk, the picture might not be available the next time you start up your computer and will not be displayed. You can prevent this by copying the picture you want to display to your hard disk.

Slow screen redrawing

If the desktop is redrawn slowly after closing a window, your computer might be running low on memory. Set Desktop Pictures to display a pattern, instead of a picture, to speed up the redrawing process.

PowerBook 2400 computers and OT/PPP

After installing Mac OS 8, the printer/modem port may be in use by AppleTalk. If you also install OT/PPP, you must turn off AppleTalk then restart your computer in order to release the port for use by OT/PPP. Turn off AppleTalk using the AppleTalk control panel. Then restart the

PowerBook and select the modem/printer port in the OT/PPP control panel.

Using Acrobat PDF documents

Some of the manuals included with Mac OS 8 are in Adobe Acrobat format. These files have pdf at the end of their names. To view or print these documents you must install Adobe Acrobat Reader, located in the CD Extras folder on the Mac OS 8 CD.

QuickTake Image Access

When you are copying pictures from a QuickTake 100 or QuickTake 150 camera to your computer, make sure all the pictures you want have finished copying before you erase the contents of the camera. Previously, you couldn't erase the camera until copying was completed. With Mac OS 8, you can copy and delete files at the same time so it's possible to accidentally erase the pictures before they have been copied. You cannot recover a picture once it is erased from the camera.

QuickTake 150 software installs old version of QuickTime PowerPlug

Mac OS 8 includes a new version of the QuickTime PowerPlug for computers with PowerPC microprocessors. The QuickTake 150 installer replaces this with version 2.0. Remove the QuickTime PowerPlug file from your Extensions folder (inside the System Folder) before installing QuickTake 150 software. After the QuickTake software is installed, drag the PowerPlug file back to the Extensions folder.

Using a RAM disk

On some models of Mac OS-based computers, RAM disk contents are saved by writing to the hard disk when the computer shuts down. Then the contents are reloaded at startup. If the RAM disk is large, this may result in a delay when you shut down or start up your computer.

Apple HD SC Setup program

After you install Mac OS 8, you cannot use the obsolete Apple HD SC Setup program to initialize your hard drive. Use the Drive Setup program supplied with Mac OS 8 instead.

Apple CD-ROM and non-Apple CD-ROM incompatibilities

If your computer or CD-ROM drive is not manufactured by Apple, or you have an Apple CD-ROM drive which has been updated with a non-Apple driver, incompatibilities may result. To permit your CD-ROM drive to function correctly, remove Apple CD-ROM from the Extensions folder, and reinstall the software to support your CD-ROM device.

Network Software Installer version 1.5.1 installs older version of AppleTalk

The Network Software Installer installs an earlier version of AppleTalk than the one included with Mac OS 8. If an earlier AppleTalk version is installed, Open Transport networking software will not work. Do not use the Network Software Installer after installing Mac OS 8.

Password Security protects one partition only

The PowerBook Password Security control panel asks for a password in order to start up the computer. If you have formatted your internal hard disk so it has more than one partition, only the start up partition will be password protected. Additionally, if more than one partition has a System Folder, the PowerBook may start up from a non-protected partition.

Password Security on PowerBook 2400 and 3400 computers

The Password Security control panel is incompatible with Mac OS 8 on PowerBook 2400 and PowerBook 3400 computers. The security protection that the control panel provides works correctly on these PowerBook computers, but you cannot use the current version of the control panel to set up password protection. As an alternative, you can boot your PowerBook using a Disk Tools diskette, then open the Password Security control panel on your hard drive and turn password protection on, off, or set your password.

AutoRemounter control panel is for PowerBooks only

The AutoRemounter control panel automatically remounts network devices after a PowerBook computer awakes from sleep. On desktop computers, network devices are not unmounted when the computer sleeps, so AutoRemounter is not needed.

Serial Port In Use error message on PowerBook computers with IrDA

If you receive an error message about the modem port being in use when you try to establish a PPP connection using OT/PPP, open the Infrared control panel and change the setting to IRTalk.

Switching between a LocalTalk network and a serial printer

If you use the same port to alternately connect to a LocalTalk network and a serial printer, the port is not always correctly released after you turn off AppleTalk to use the printer. If you have trouble printing after turning AppleTalk off, restart the computer.

3D images cannot be viewed with OpenDoc 3DMF Viewer 1.0.1 with QuickDraw 3D 1.5 or 1.5.1 installed

If QuickDraw 3D 1.5 or 1.5.1 is installed, a message about insufficient memory appears when attempting to place a 3D image in an OpenDoc document. Increasing the viewer's memory size with the Get Info command in the File menu does not solve the issues. To use the 3DMF Viewer, install an earlier version of QuickDraw 3D.

Internal speaker on Power Macintosh 5500 and 6500 computers remains muted after disconnecting external speakers

If the external speakers are connected when the computer starts up and then are disconnected, the internal speakers remain muted. To work around this issues, restart the computer after disconnecting the external speakers. The internal speaker should work normally.

Using Monitors & Sound with add-on devices

If you have a video or sound device that cannot be accessed using the Monitors & Sound control panel, use the Monitors control panel, or the Sound control panel, instead. Copies of these older control panels are installed in the Apple Extras folder on your hard disk. Unless you need to use these older control panels, use the unified Monitors & Sound control panel instead.

File Sharing and Users & Groups

If you want to be able to use the File Sharing and Users & Groups control panels from a remote computer, you must remove the FileSharing Commands scripting addition from the Scripting Additions folder and turn on the Program Linking setting for both control panels.

File Sharing control panel and AppleShare

If you have AppleShare installed, some of the instructions about file sharing in the on-screen help will be incorrect. For instructions on network identity, file sharing, and activity monitoring, refer to the AppleShare documentation.

ARA 2.1 Personal Server and Users & Groups control panel

AppleTalk Remote Access Personal Server 2.1 cannot automatically open the Users & Groups control panel when you choose Users & Groups in the ARA setup menu. Instead, open the control panel by choosing it from the Control Panels submenu, in the Apple menu.

PowerBook 190, 190cs ,and 5300cs computers

The PowerBook 190cs and 5300cs display may appear blank when you first restart after installing Mac OS 8, as well as every time after resetting PRAM. This is because the power manager is being updated on the PowerBook. Restarting the PowerBook once more will result in a normal screen. To shut down the PowerBook safely, press the Power button one time (which brings up the shutdown dialog box) and then press the Return key.

Reinstalling printer drivers

If you perform a clean installation of Mac OS 8, and an icon for your printer is not available in the Chooser, you may need to reinstall the software that came with your printer. If you have a StyleWriter, StyleWriter II, or StyleWriter 1200, you can use the StyleWriter 1500 driver that comes with Mac OS 8 instead of installing your original printer software. If you have a Color StyleWriter 2200 or Color StyleWriter 2400, you can use the Color StyleWriter 2500 driver instead.

Drive Setup and Energy Saver

Use the Energy Saver control panel to set the hard drive sleep setting to Never when you use Drive Setup to perform an extended operation, such as testing the disk or initializing the disk with a low level format or zeroing all the data. This will prevent errors caused by the hard drive spinning down before Drive Setup completes its operation.

Mac OS 8 hard disks and older Macintosh computers

The hard disk driver software that the Installer places on Apple hard disks is not compatible with computers that have a 68000 microprocessor. If you have an external drive with Apple driver software connected to your computer when you install Mac OS 8, the updated driver software will cause an error if you connect that drive to a Macintosh Plus, Macintosh Classic, Macintosh SE, Macintosh Portable, or PowerBook 100 computer.

Using MacsBug and Mac OS 8

Mac OS 8 requires a new version of MacsBug. (MacsBug is a tool for software developers.) For information, check the Apple developer Web site at http://devworld.apple.com.

Advanced users can find additional technical information in the Mac OS 8 Tech Notes document. This document is located on the World Wide Web at http://devworld.apple.com/dev/technotes.shtml.

Published Date: Feb 18, 2012

Mac OS 8: About the English Text-to-Speech Software

This article is the Mac OS 8 English Text-to-Speech Software Read Me.
This article has been archived and is no longer updated by Apple.

About the English text-to-speech software

With the English text-to-speech software installed, many Macintosh programs can read English text out loud. One of the programs that can read to you is the SimpleText program, which comes with this computer and is already installed on your hard disk. (You are probably reading this document using the SimpleText program.)

Technical details

The software that enables your computer to speak has these components:

- Speech Manager, a system extension
- one or more of these English speech synthesizers, depending on your hardware and software:

  - MacinTalk 2 for standard-quality speech
  - MacinTalk 3 for high-quality speech
  - MacinTalk Pro for highest-quality speech

- several voice files, each identified with one particular synthesizer
- the Speech control panel

Software installation for different software releases

The Installer installs the files that are appropriate for your system.

Version 6.0.7 or 6.0.8

If you have version 6.0.7 or 6.0.8 of system software on any Macintosh, these files are installed:

- Speech Manager, in the System Folder
- MacinTalk 2, in the System Folder
- 9 voices, in the Voices folder, which is in the System Folder

Version 7.0 or later on 68040

If you have version 7.0 or later of system software on a Power Macintosh or on a Macintosh with a 68040 processor, the following files are installed:

- Speech Manager, in the Extensions folder
- the Speech control panel, in the Control Panels folder
- MacinTalk 3 and MacinTalk Pro, in the Extensions folder
- 19 MacinTalk 3 voices, in the Voices folder, which is in the Extensions folder
- 3 MacinTalk Pro voices (Agnes, Bruce, and Victoria), also in the Voices folder

Version 7.0 or later on 68030

If you have version 7.0 or later of system software on a Macintosh with a 33 MHz or faster 68030 processor, the following files are installed:

- Speech Manager, in the Extensions folder
- the Speech control panel, in the Control Panels folder
- MacinTalk 3, in the Extensions folder
- 19 voices, in the Voices folder, which is in the Extensions folder

Version 7.0 or later on other computers

If you have version 7.0 or later of system software on any other computer, the following files are installed:

- Speech Manager, in the Extensions folder
- the Speech control panel, in the Control Panels folder

Note: On Macintosh SE computers, the Speech control panel requires version 7.1 or later of the system software.

- MacinTalk 2, in the Extensions folder
- 9 voices, in the Voices folder, which is in the Extensions folder

Troubleshooting (problems and solutions)

My Macintosh won't speak.

- Turn up the speaker volume in the Sound control panel.
- Choose a voice that requires less random-access memory. The voices Agnes, Bruce, and Victoria take the most memory.

The Installer program says there's a problem with the hard disk.

Re-install your system software, then try installing the English text-to-speech software again.

The Installer program displays other error messages.

Make sure you restart the computer with extensions off, as described in "Installing the Software," above.

I had an older version of text-to-speech software, then did a custom installation of the new software, but some of my older voices disappeared.

The custom installation you chose erased the older version of the software that can use those voices. You can install newer versions of the voices by doing another custom installation of the new software to install MacinTalk 2 or MacinTalk 3, whichever you used to have. (If you are not sure which you had, you can install both.)

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Mac OS 8: Multiprocessing Software Read Me

Learn about the Mac OS 8 Multiprocessing Software Read Me file.
This article has been archived and is no longer updated by Apple.
This document provides information about the multiprocessing software included with Mac OS 8 and how to configure your computer properly to take advantage of multiprocessor performance. Multiprocessing software allows the use of two processors at the same time, which increases your computer's speed.

Turn off virtual memory and do not install RAM Doubler

Turn off virtual memory in the Memory control panel, and do not install Connectix RAM Doubler software. If virtual memory is turned on or RAM Doubler is installed, then your multiprocessor-compatible software applications will not be able to take advantage of the second PowerPC processor.

To turn off virtual memory, open the Memory control panel. In the Virtual Memory section, click the Off button. Then restart your computer. For more detailed information about virtual memory, open the Help menu, then choose Help.

Turn off hard disk sleep

Make sure that the hard disk sleep interval is set to Never in the Energy Saver control panel. Otherwise, software applications designed to work with your multiprocessor computer may not work properly.

To set your hard disk sleep interval, do the following:

1. Open the Energy Saver control panel.

2. If necessary, click Show Details to make the additional options available.

3. Drag the top and bottom sliders all the way to the right as shown below.

Figure 1 Energy Saver Window

If you wish, you can set a display sleep interval by dragging the middle slider. Display sleep works properly with multiprocessor-compatible software applications.

Important information about Document Auto-Save

The Energy Saver control panel contains a feature named Document Auto-Save. The purpose of this feature is to automatically quit all open applications during an idle or scheduled shutdown, while saving changes to any open documents in each application. Since there are literally thousands of applications available for the Mac OS (with new ones always arriving), Document Auto-Save may not work with every application. This is especially true for any application that does not use standard routines to implement the alerts or dialog boxes used to save changes to new or modified documents. When Document Auto-Save will not work with an application, it will either not automatically quit, or it will display alerts or dialog boxes that Document Auto-Save does not recognize and therefore does not dismiss.

If you turn Document Auto-Save on, you should monitor its operation during the first attempted idle or scheduled shutdown and note if any of your applications are not compatible. You can avoid issues with applications simply by making sure you leave open no documents that are new or modified before an idle or scheduled shutdown is to occur. Alternatively, you can modify the Document Auto-Save preferences in the Energy Saver control panel so the computer will sleep rather than shut down when unsaved documents are open.

For instructions for using Energy Saver & Document Auto-Save, choose Help from the Help menu when the Finder is active.

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Mac OS 8: Open Transport 1.2 Read Me

This article is the Open Transport 1.2 Read Me article that is installed when you install Mac OS 8.

This article has been archived and is no longer updated by Apple.

Introduction

This Read Me document contains late-breaking information about Open Transport compatibility, add-on software, and solutions to known issues with third-party software. For instructions about how to use the Open Transport control panels (AppleTalk and TCP/IP), see the Open Transport User's Guide. For additional technical information about Open Transport, see the Open Transport Technical Info file that came with Open Transport.

Contents

- What's new in Open Transport 1.2 - general
- Network interface options
- General compatibility
- Apple product compatibility update
- Dialup network connectivity - AppleTalk
- Dialup network connectivity - TCP/IP
- Native dialup network connectivity - TCP/IP
- Tips for SLIP and PPP configurations
- Known limitations and other issues

What's new in Open Transport 1.2 - General

- Fixes a TCP/IP crash often referred to as the Ping of Death.
- Provides improved TCP protection against denial-of-service attacks, otherwise referred to as SYN-attacks
- Improves overall performance of TCP when operating in a slow-link environment. This provides significant improvements for Web Servers where clients are using a modem to connect to an Internet Service Provider. This obsoletes the OTSlowLinkTuneUp Patch.
- Fixes a problem which could occur when AckSends were used without using OTData structures. While the data would be sent accurately, the buffer could be modified during the operation, making the buffer unavailable for reuse. This problem was documented and worked around in the OTVirtualServer sample code.
- Fixes crashes which could occur with TCP applications, such as Netscape, when AppleTalk was turned off. This problem was first noticed by America Online (AOL). This fix obsoletes AOL's extension OpenOT.
- Fixes a problem between native PAP and some HP LaserJet postscript printers.
- Fixes a problem on some hardware platforms that would not permit multiple MDEVs located in the Extensions folder to be initialized.
- Fixes a problem where ADSP used via the native OT API could truncate outbound data if some data was unsent when OTSndOrderlyRelease was called.
- Fixes a rare crash in AppleTalk which could occur when a STREAMS buffer was freed twice.
- Added support for the CompuServe PPP MDEV.
- Multiple fixes to increase stability of AppleShare and AppleShare IP servers with more than 80 concurrently connected users.

Network Interface Options

Open Transport 1.2 supports PCI bus, NuBus, communications slot, and PC Card network interface cards, as well as built-in LocalTalk, Ethernet, and Token Ring network adapters. For supported computers without expansion options, Open Transport 1.2 also supports a SCSI-attached network adapter. Third party network interface options available for Open Transport include Fast Ethernet, ATM, and FDDI.

General compatibility

Open Transport is compatible with:

- existing applications that use AppleTalk as specified by Apple Computer, Inc.
- existing applications that use MacTCP as specified by Apple Computer, Inc.
- existing devices (such as printers) that you select in the Chooser
- existing NuBus network interface cards for the Mac OS

Computers running Open Transport can be added to an existing AppleTalk or TCP/IP network without upgrading other computers on the network.

Apple product compatibility update

- At Ease version 2.x or 3.x may encounter problems when starting up with Open Transport. At Ease Update 1.0 will update non-Workgroup versions of At Ease 2.x or 3.x to include Open Transport compatibility. If you are using At Ease for Workgroups, you should upgrade to version 3.0.2 or later. Both can be found on Apple Software Update sites on the Internet and selected online services.
- Assistant Toolbox version 1.2 is not compatible with Open Transport, and will result in AppleTalk being turned off each time you restart your system. System 7.5 update 2.0 and 7.5.5 include Assistant Toolbox version 1.3 or later that is compatible with Open Transport.
- The Apple PCI Token Ring Card (M3904Z/A) works with Open Transport 1.1.1 and later. The Apple PCI Token Ring card is compatible

with Power Macintosh 7200/120, 7300, 7500, 7600, 8500, 8600, 9500 and 9600 computers; it is not compatible with 7200/75 and 7200/90 computers.

- Apple LaserWriter Bridge and LocalTalk Bridge 2.1 or later are compatible with Open Transport.
- Apple Internet Mail Server 1.1 or later software is compatible with Open Transport 1.1 and later.
- Apple Remote Access (ARA) Multiport Server 2.1, ARA Client 2.0.1, and ARA Personal Server 2.0.1 are compatible with Open Transport 1.1 and later.
- Apple PCI-based Workgroup servers (Application, AppleShare, and Internet) are compatible with Open Transport 1.1 or later.
- Computers running the current versions of Apple IP Gateway and AppleTalk Internet Router must not be updated to Open Transport; these products are based on classic networking. These products do, however, interoperate with computers using either classic or Open Transport networking. Apple has not yet announced plans regarding future versions of these products.
- Apple's MacTCP Ping is not compatible with Open Transport; no update is planned. MacPing from Dartmouth, available at **ftp://www.dartmouth.edu/pages/softdev/**, OTTool from Neon Software, available at **ftp://ftp.neon.com** and Mac TCP Watcher v2.0 from Peter N. Lewis & Stairways Software available at **ftp://ftp.share.com** are Open Transport-compatible alternatives.
- ZapTCP is a classic networking tool and is neither compatible nor needed with Open Transport. Functionality similar to ZapTCP is built into Open Transport.

Dialup network connectivity - AppleTalk
For dialup connectivity to AppleTalk networks, Open Transport supports Apple Remote Access version 2.0.1 or later.

Dialup network connectivity: TCP/IP
For dialup connectivity to TCP/IP networks (including the Internet) Open Transport supports third-party extensions known as MDEVs. Serial Line Interface Protocol (SLIP) and Point to Point Protocol (PPP) connectivity are provided in this manner. Not all versions of all MDEVs are compatible with Open Transport 1.1 and later.

Open Transport 1.2 recognizes and is compatible with the following MDEVs. When properly installed they appear in the Connect via pop-up menu in the TCP/IP control panel.

FreePPP version 1.0.5 or later
FreePPP is shareware and can be found on the Internet, typically at info-mac mirror sites in the comm/tcp/conn directory. A list of info-mac mirror sites can currently be found at: **http://www.pht.com/info-mac/mirror-list.html**.

Some sites where FreePPP can be found currently include: **ftp://mirrors.aol.com/pub/info-mac/comm/tcp/conn/**, and **ftp://mirror.apple.com/mirrors/Info-Mac.Archive/comm/tcp/conn/**.

FreePPP versions prior to 2.5 may experience problems when running with virtual memory turned on (including RAM Doubler). If you have problems using FreePPP with VM, either update to FreePPP 2.5, or temporarily turn VM off. The current version of FreePPP is 2.5v3.

MacPPP version 2.1.4 or later (MacPPP 2.5 is recommended)
MacPPP versions prior to 2.5 may experience problems when running with virtual memory turned on (including RAM Doubler). If you have problems using MacPPP with VM, either update to MacPPP 2.5, or temporarily turn VM off.

An Open Transport-compatible version of MacPPP (MacPPP 2.5) is included in the Open Transport Extras folder. For more information, please refer to the MacPPP Read Me document.

InterPPP version 1.2.9 or later; InterPPP II version 1.1 or later
InterPPP and InterPPP II are commercial software products. For availability and ordering information in the U.S., contact InterCon Systems at 800-468-7266 or 703-709-5500.

MacSLIP version 3.0.3 or later
MacSLIP is commercial software developed by Hyde Park Software. It supports both SLIP and PPP. For availability and ordering information in the U.S., contact TriSoft at 800-531-5170 or 512-472-0744. For more details see the MacSLIP Web page at **http://www.zilker.net/~hydepark/**.

Sonic PPP version 1.0.2 or later
SonicPPP is commercial software developed by Sonic Systems, Inc. For availability and ordering information in the U.S., contact Sonic Systems at 408-736-1900 (voice) 408-736-7228 (fax). For more details see the Sonic Systems Web page at **http://www.sonicsys.com/**.

NTS PPP version 2.0 or later
NTS PPP is commercial software developed by Network Telesystems, Inc. For availability and ordering information in the U.S., contact Network Telesystems at 408-523-8100 (voice) 408-523-8818 (fax). For more details see the Network Telesystems Web page at **http://www.ntsi.com/**.

SAT/SAGEM PPP version1.02b1 or later
SAT/SAGEM PPP is commercial software developed by SAT/SAGEM. For availability and ordering information in the US, contact SAT/SAGEM at 408-446-8690 (voice) 408-446-9766 (fax). For more details see the SAGEM Web page at **http://www.satusa.com/**.

CompuServe PPP
CompuServe PPP is commercial software developed by CompuServe. For availability and ordering information in the U.S., contact CompuServe

Customer Service at 1-800-848-8990. For more details see the CompuServe Web page at **http://www.compuserve.com/**.

LeoTCP version 2.0.1 or later
LeoTCP is commercial software developed by Hermstedt GmbH. For availability and ordering information in the U.S., contact Hermstedt USA at 1-800-828-5522 (voice). In Europe contact Hermstedt GmbH at +49 621-76500 (voice) +49 621-7650100 (fax).

T-Online CSLIP version 1.0.3 or later
T-Online CSLIP is commercial software developed by Computer Consulting GbR. For availability and ordering information in Europe, contact format network & communication at +49 2206-95840. For more details, contact format network & communication at info@format.de.

University of Michigan ISDN version 2.0.6 or later
In addition to these, there are a number of other MDEVs (examples include those from Pacer, FCR, and Tribe) which are indistinguishable from one another to Open Transport. When installed, these appear in the Connect via pop-up menu as TCP/IP PPP.

Native dialup network connectivity: TCP/IP
Open Transport supports extensions that use the STREAMS architecture. OT/PPP version 1.0 or later is available on the Apple Software Update sites on the Internet and requires Open Transport 1.1.1 or later.

Tips for SLIP and PPP configurations
Some MDEVs are known to be incompatible with other MDEVs. If you experience problems, remove unused MDEVs so that only one MDEV is installed on your computer at a time.

Users who dial into a TCP/IP network or Internet Service Provider (ISP) may have been assigned a router (gateway) address that is not a part of their local subnet. This was an accepted but technically invalid configuration for MacTCP. Open Transport users should not enter a value for the router address or subnet mask; Open Transport/TCP generates correct values for these fields automatically. In unusual circumstances, these supplied values can be overridden using the Administration mode of the TCP/IP control panel.

If BootP is used over SLIP or PPP for interface configuration, and if BootP returns additional default router addresses, Open Transport will automatically add those addresses to the list of default routers.

When Open Transport is installed on a computer that previously had MacTCP configured for a server configuration, the initial configuration method (the selection in the Configure pop-up menu in the TCP/IP control panel)is set for the use of a BootP server. This default may not be the appropriate choice for you; please verify.

If your computer was previously configured for MacTCP server addressing and you experience connection difficulties using PPP or SLIP after installing Open Transport, follow these steps:

1. Open the TCP/IP control panel.

2. Choose Using PPP Server or Using SLIP from the Configure pop-up menu.

3. Close the TCP/IP control panel, and save changes when prompted.

4. Try connecting again.

If your computer was previously configured for MacTCP manual addressing and you experience connection difficulties using PPP or SLIP after installing Open Transport, follow these steps:

1. Open the TCP/IP control panel.

2. Choose Manual from the Configure pop-up menu.

3. Verify that the correct IP address is entered in the Address field.

4. Close the TCP/IP control panel, and save changes when prompted.

5. Open the configuration utility supplied with your SLIP or PPP software, and verify that it also reflects the correct IP address in the appropriate location. Refer to the documentation supplied with your SLIP or PPP software for further information on how to enter an IP address, and how to save an updated configuration.

6. Try connecting again.

Note: In MacPPP's Config PPP control panel, this setting is entered in the IPCP dialog box. Refer to the documentation that came with MacPPP or FreePPP for additional information.

Known limitations and other issues

PowerBooks
The AppleTalk control panel displays separate printer and modem ports on the PowerBook 190. LocalTalk will only work correctly when the modem port is selected in the AppleTalk control panel.

The software that dims the screen of PowerBook Duo computers when the PowerBook is docked and idle is not compatible with Open Transport. Use a third-party screen saver in place of the Apple-provided module.

In some cases, on a PowerBook 190 configured to use the Infrared Port in the AppleTalk Connect via pop-up menu, networking services may become disabled following a sleep/wake or restart. If this happens, try putting the computer to sleep and waking it up again, or use the AppleTalk control panel to temporarily select the modem/printer port before switching back to the infrared port.

Desktop Computers
On a IIfx or a Quadra 950, Open Transport can only use the compatible mode setting in the Serial Switch control panel. Do not use the faster mode setting with LocalTalk.

On 68030 and 68040 computers, changes in AppleTalk configurations can cause systems running Meeting Maker 3.5 or 3.5.1 to crash. This can occur when changing AppleTalk links, turning AppleTalk off, or bringing ARA connections up or down. This problem will occur on classic networking as well. Apple is working with ON Technology to resolve this problem.

Open Transport
Open Transport generally requires more memory (RAM) than MacTCP. To conserve memory, you might try some of the following:

- Rename or re-order one or more third-party extensions (INITs), to change the order in which memory is allocated when your computer starts up. If you use extensions from Global Village, try renaming those extensions so that they load last.
- Especially on PowerPC-based computers, turn on virtual memory. This may affect performance.

TCP/IP
When TCP/IP is set to Load only when needed (in the control panel's Options window), pinging an Open Transport workstation will fail if TCP/IP is not currently being used. To make sure your computer is pingable at all times, turn off the Load only when needed option (open the TCP/IP control panel and click the Options button, then click the Load only when needed checkbox to remove the X) and restart your computer.

When TCP/IP is set to Load only when needed (in the control panel's Options window), the first TCP/IP application opened will cause Open Transport to load into memory. Some older applications do not cause Open Transport to load, and then report errors similar to those encountered when MacTCP is not installed. If this is a problem, turn off the Load only when needed option (open the TCP/IP control panel and click the Options button, then click the Load only when needed checkbox to remove the X) and restart your computer.

The TCP/IP control panel is able to obtain and utilize multiple gateway and name server addresses from DHCP and BootP servers. However, it will currently display only the first one in the list. This should be addressed in a future release.

Generally, you should turn on the Load only when needed option in the TCP/IP control panel when using a modem. If TCP/IP is always loaded (Load only when needed is not checked), your modem may attempt to initiate a dialup connection at startup. Some MDEVs require more system heap memory than is available at startup, which may cause the computer to hang. Also, some Internet service providers charge by connect time, so you may be charged for the connection, even if you were not using it.

You should only specify use of 802.3 framing in the TCP/IP control panel if you have been directed to do so by your network manager, or if you are sure that all other stations on your network segment, including your IP router(s), are also configured to use 802.3 and not Ethernet version 2.0 framing.

MacSLIP
If you use MacSLIP, you should likewise not configure the MacSLIP control panel to initialize MacSLIP at system startup time. As stated above, this may require more system heap memory than is available at startup, which may cause the computer to hang.

If you are experiencing problems when using MacSLIP with virtual memory on, increasing your virtual memory size may give you better results. (Use the Memory control panel to increase virtual memory.)

Netscape
If you are using Netscape, 16MB or more of built-in memory (RAM) is recommended.

MacTCP
Some MacTCP-based applications will not function correctly unless the MacTCP DNR file is in its original location at the root level of the System Folder.

Claris Emailer
Claris Emailer version 1.1 v3 or later and Claris Emailer Lite version 1.1 v4 or later is compatible with Open Transport 1.2. Earlier versions of Claris Emailer may not be compatible with Open Transport's Load only when needed configuration option. If you experience a system crash 2-3 minutes after quitting Emailer, turn off the Load only when needed option. (Open the TCP/IP control panel and click the Options button, then click the Load only when needed checkbox to remove the X.)

MacTraceRoute Ethernet LAP
The current version of the MacTraceRoute Ethernet LAP does not work on computers running Open Transport. This utility only works with Classic networking. Open Transport compatible alternatives include Mac TCP Watcher v2.0 from Peter N. Lewis & Stairways Software, available at **ftp://ftp.share.com**, and IP NetLink from Sustainable Softworks, available at **http://www.sustworks.com/~psichel/**.

NFS/Share
NFS/Share versions 1.4.4 or later are compatible with Open Transport.

Netware Client
When using Netware Client version 5.11 configured for NetwareIP service, the first login may yield a Netware Configuration error message. To avoid this error, open the NetwareIP control panel and change the value under Domain SAP Server (DSS) Retry Attempts from 1 to 2. You can also change OpenTransport TCP/IP control panel to always load TCP/IP into memory (open the TCP/IP control panel, click the Options button, and click the Load only when needed boxto remove the X).

eXodus
eXodus 5.2.2 and later are compatible with Open Transport.

Anarchie
Versions of Anarchie prior to 1.6 have a data corruption problem when used with Open Transport. Make sure you are using Anarchie 1.6 or later.

Apple Remote Access
If an Apple Remote Access (ARA) user is on a non-routed, extended (Ethernet) network, and there are devices on the local network with the same network number as devices on the remote network, the user will not be able to see the local devices. This problem can be fixed by installing a router. Another workaround is to clear the PRAM on the ARA computer. (Hold down the Command, Option, and PR keys simultaneously while starting up the computer). Clearing PRAM causes the computer to start up with a new network number, which should not conflict with the remote network number.

Daemon
Daemon 1.0.0 & Daemon Killer 1.0 are not compatible with Open Transport.

MudDweller
MudDweller 1.2 is not completely compatible with Open Transport. You can open new connections, but the reconnect choice does not work correctly.

NetPresenz
The system will crash during launch of NetPresenz if Open Transport TCP/IP is configured to use MacIP and the selected zone has no MacIP server.

VersaTerm SLIP
Current versions of VersaTerm SLIP are not compatible with Open Transport.

KeyServer
Problems can occur with old versions of the KeyServer package from Sassafras Software when TCP/IP is configured to Load only when needed (in the control panel's Options window). Contact Sassafras for the latest revisions at **http://www.sassafras.com**.

Open Transport/LocalTalk Bridge/Global Village Toolbox/GlobalFax
The combination of Open Transport 1.2, LocalTalk Bridge 2.1f2, Global Village Toolbox and GlobalFax extensions causes a crash. This also happens when using classic networking. The workaround is to move the LocalTalk Bridge file to the Extension folder, renaming it to aLocalTalk Bridge. You can make an alias and rename the alias as desired. Put the alias wherever you want, including the Control Panels folder. This will allow the LocalTalk Bridge to load before Global Village and avoid the cause of the crash.

CSI Hurdler
To use the CSI Hurdler serial card with Open Transport, contact CSI to get a copy of their preference file patch. This will enable the card to be compatible with Open Transport 1.2.

MPW
The current official release of the MPW shell will hang the system when used with virtual memory and Open Transport. When using the MPW shell and Open Transport, turn off virtual memory. The ETO #21 pre-release MPW shell, version 3.4.2b2, fixes this problem.

Published Date: Feb 18, 2012

Mac OS 8: Open Transport 1.2 Technical Information Read Me

This article is the Open Transport 1.2 Technical Information Read Me file that comes with Mac OS 8.0.
This article has been archived and is no longer updated by Apple.
This document contains technical information about Open Transport that may be useful to network managers and administrators. You do not need to read this document in order to use Open Transport.

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Introduction

Open Transport is modern networking and communications system software for the Mac OS. It is based on industry standards and brings a new level of networking connectivity, control, and compatibility to Mac OS computers, while preserving built-in support for easy-to-use networking. Open Transport is supported on system software versions 7.1, 7.1.1, 7.1.2, 7.5.3, 7.5.5 or later. System software version 7.5.3 or later is recommended. No other system software versions are supported.

For more important information about system requirements, compatibility, and known incompatibilities and limitations, read the About Open Transport 1.2 document.

Files added by the Open Transport installer

Open Transport installs the AppleTalk and TCP/IP control panels into the Control Panels folder inside the System Folder of your startup disk. The Open Transport Installer also adds the following files to the Extensions folder inside the System Folder:

- Shared Library Manager, Shared Library Manager PPC

These extensions implement a shared library mechanism on 68K and PowerPC Mac OS computers, respectively. Both extensions are required on PowerPC-based computers in order to support both emulated and native shared libraries.

- OpenTransportLib, Open Transport Library

These shared libraries implement core Open Transport services on PowerPC-based computers. The first library contains the PowerPC implementation and an interface for native PPC applications. The second library contains the built-in Open Transport modules and an interface for emulated 68K applications.

- OpenTptAppleTalkLib, Open Tpt AppleTalk Library

These shared libraries implement Open Transport AppleTalk services on PowerPC-based computers. The first library contains the PowerPC implementation and an interface for native PPC applications. The second library contains the built-in Open Transport modules and an interface for emulated 68K applications.

- OpenTptInternetLib, Open Tpt Internet Library

These shared libraries implement Open Transport TCP/IP services on PowerPC-based computers. The first library contains the PowerPC

implementation and an interface for native PPC applications. The second library contains the built-in Open Transport modules and an interface for emulated 68K applications.

- Open Transport 68K Library

This shared library implements core Open Transport services on 68030- and 68040-based computers.

- Open Tpt ATalk 68K Library

This shared library implements Open Transport AppleTalk services on 68030- and 68040-based computers.

- Open Tpt Inet 68K Library

This shared library implements Open Transport TCP/IP services on 68030- and 68040-based computers.

Open Transport AppleTalk Features

Static and dynamic AppleTalk address allocation
Open Transport AppleTalk supports static assigned (manually administered) protocol addresses as well as the dynamic addressing provided by AppleTalk Address Resolution Protocol (AARP). Static addressing allows AppleTalk nodes to be managed using the protocol address as a unique and stable identifier.

It is important that all nodes on each individual AppleTalk subnet (a given cable segment assigned a unique network number or network number range) be administered consistently--either all with dynamic addressing or all with pre-assigned static addresses. This avoids a potential conflict when a new dynamic node acquires an address assigned to manually-addressed node that is not connected or is off line. Administrators can enforce the addressing policy for a subnet by locking the addressing mode. As a precaution, Open Transport AppleTalk checks for duplicate protocol addresses on the LAN even when static addressing is configured.

Use of parameter RAM
Under classic AppleTalk, AppleTalk's on/off state, the selected network interface, the previous network (protocol) address, and the previous AppleTalk zone name are saved in persistent memory (parameter RAM) for reuse at startup. To ensure backward compatibility, this information is still stored and retrieved on systems using Open Transport AppleTalk. However, the following differences are found with Open Transport:

- At startup, Open Transport reads the current AppleTalk configuration file to determine if AppleTalk should be turned on or off. This value overrides the value saved in parameter RAM. The user is not explicitly notified when this occurs.
- If the network interface specified in the current AppleTalk configuration file is locked and the specified port is not available or cannot be initialized, Open Transport will not automatically switch the port back to LocalTalk. Instead, AppleTalk will remain off. The user sees a dialog box with this information.

Open Transport TCP/IP features
Open Transport brings a workstation-class implementation of TCP/IP protocols to Mac OS. As with MacTCP, Open Transport TCP/IP is a full 32-bit stack. Open Transport TCP/IP adds support for:

- dynamic path MTU discovery, for more efficient network use in heterogeneous network topologies.
- Dynamic Host Configuration Protocol (DHCP), for centralized IP address configuration management. DHCP is an Internet Engineering Task Force (IETF) standards-track protocol.
- IP multicast, for participation as an MBone client for applications written to the native Open Transport API.
- simultaneous TCP connections for applications written to the native Open Transport API are limited only by installed memory and processor power, for increased functionality as an Internet or other TCP/IP network server.
- a new, more robust and standards-compliant domain name resolver (a caching stub DNR).
- support for developer access to raw IP services, as well as TCP and UDP.
- Ethernet Version 2.0 and IEEE 802.3 framing, for better interoperability with a wider range of TCP/IP hosts.
- implicit and explicit domain name search paths, for increased control of domain name resolution.
- use of multiple IP routers with fail-over, for increased robustness in mission-critical applications.
- TCP wildcard source port assignments start at 2048, increasing from that point.

DHCP server support
Apple's implementation conforms to the current versions of the applicable specification documents (RFCs). To date, Open Transport TCP/IP has been tested with the following DHCP server implementations:

- Competitive Automation **http://www.join.com**
- FTP Software **http://www.ftp.com**
- Hewlett Packard HP-UX **http://www.hp.com**
- Microsoft Windows NT Advanced Server **http://www.microsoft.com**
- Silicon Graphics **http://www.sgi.com**
- Sun Solaris and SunOS **http://www.sun.com**

- TGV **http://www.tgv.com**

DHCP address lease support
Open Transport TCP/IP supports DHCP address leases. Open Transport TCP/IP automatically attempts to renew any address lease that reaches its renewal interval (by default, the renewal interval is reached when the lease is halfway completed). The renewal interval may be configured to a different value by making changes to the configuring DHCP server. Renewal is attempted regardless of how many times the lease has already been renewed. Lease rebinding is also supported. Should an interface's IP address lease expire, the interface is closed down. Open Transport TCP/IP does not currently support the DHCP Client ID option or the DHCPINFORM message, nor will it currently try to use the remainder of a previous but unexpired lease upon rebooting.

Windows NT advanced server support
With Open Transport 1.1 and later, Mac OS clients are interoperable with the Windows NTAS DHCP server on LAN links. However, Mac OS clients cannot acquire configuration information from an NT DHCP server across a dialup (PPP) link because there is not yet an accepted industry standard for DHCP over dialup. The NT implementation is based on proprietary Microsoft extensions. Mac OS clients cannot acquire configuration information nor register with a Microsoft WINS server. WINS is also dependent on Microsoft extensions to TCP/IP (requiring NetBIOS support).

The Internet Engineering Task Force (IETF) is developing a cross-platform industry standard technology for dynamic registration and look-up of IP names through the Dynamic Service Location working group. Apple has no current plans to implement the WINS extensions. Instead, we are fully committed to implementation of the applicable IETF standards as they emerge.

Macintosh clients running versions of Open Transport prior to 1.1 could experience some interoperability problems due to other significant differences between the Microsoft implementation and that of a typical UNIX-based server.

BootP support
Open Transport 1.1 and later fully supports Bootstrap Protocol (BootP). Versions of Open Transport prior to 1.1 failed to accept a BootP Reply sent to the unicast (subnet broadcast) address, (for example, xxx.xxx.xxx.255. Replies sent to the all-nets broadcast address (for example, 255.255.255.255) were handled properly. Also, earlier versions of Open Transport required that the BootP gateway be zero hops away.

Local Hosts file support
Open Transport TCP/IP supports a Hosts file that may be used to supplement and/or customize the Domain Name Resolver's initial cache of information. The Hosts file is normally stored in the Preferences folder in the active System Folder. When Open Transport TCP/IP is initialized, it reads the Hosts file (if any). As in MacTCP, the supported Hosts file features follow a subset of the Domain Name System Master File Format (RFC 1035).

Open Transport TCP/IP is more stringent regarding the content and format of the Hosts file than was MacTCP, which permitted violation of the FQDN requirement for <domain-name>. For instance, the format:

```
charlie    A      128.1.1.1
```

which was acceptable to the MacTCP DNR, is no longer permitted because of the use of domain search lists in Open Transport/TCP (charlie could potentially exist in any or all of the configured domains). To accomplish the same effect, use this format instead:

```
charlie    CNAME  myhost.mydomain.edu

myhost.mydomain.edu  A   128.1.1.1
```

This associates the local alias charlie with the fully qualified domain name myhost.mydomain.edu, and resolves it to the address 128.1.1.1. Use of local aliases is limited to CNAME entries; NS and A entries must use fully qualified domain names.

You can create a Hosts file with any text editor or word processor (the Hosts file must be stored in text format). If you use a Hosts file, keep it as short as possible, and include only entries that will be accessed frequently. This reduces the memory required to cache the DNS information and minimizes the need to maintain and update Hosts files as system information changes.

Open Transport TCP/IP automatically uses a Hosts file stored in the Preferences folder of the active System Folder. If no Hosts file is found in the Preferences folder, Open Transport TCP/IP searches the active System Folder for a Hosts file. You can specify a particular Hosts file to use with a specific configuration. For example, one Hosts file might be set up for a user connecting via Ethernet, and another set up for when that user connects via modem.

For additional information about the Hosts file design of the Open Transport Domain Name Resolver, see the document Apple Open Transport Reference Q&A. The latest version of the Q&A is in the Open Transport Extras folder.

MacTCP server addressing support
Open Transport TCP/IP supports both Bootstrap Protocol (BootP) and Reverse Address Resolution Protocol (RARP) configuration methods. MacTCP Server mode addressing was a combination of BootP and RARP. When Server mode was selected, MacTCP used BootP to attempt to acquire an IP address. If that failed, MacTCP tried RARP. Whichever protocol was successful was stored as a preference, and was used first the next time the computer started up. In Open Transport, you must choose BootP or RARP explicitly.

MacTCP dynamic addressing
Open Transport does not support MacTCP dynamic addressing. MacTCP dynamic mode addressing was based on an Apple-proprietary extension to TCP/IP protocols. It applied the address negotiation and assignment rules used by the AppleTalk protocols to TCP/IP networks, making it very easy to set up a Macintosh-only standalone TCP/IP network. Use of this dynamic addressing method in other scenarios, however, could create additional work for a network administrator.

The Internet community (IETF) has since developed a multivendor standard for the dynamic assignment of IP addresses, known as Dynamic Host Configuration Protocol (DHCP). Open Transport TCP/IP supports the industry standard DHCP.

MacIP support
MacIP is a protocol specification developed for carrying TCP/IP traffic on AppleTalk-only networks, originally LocalTalk networks. MacIP is today frequently used with AppleTalk Remote Access Protocol (ARAP) to provide mobile users access to TCP/IP network services.

Use of MacIP typically requires a gateway, which strips off the AppleTalk encapsulation and places the IP packet on the TCP/IP LAN. When packets are sent back to the MacIP end-node, the gateway replaces the AppleTalk encapsulation. MacIP gateway support is most frequently offered as an integrated service within a multiprotocol router. The gateway (router) attaches to both an AppleTalk and a TCP/IP network.

Open Transport supports MacIP in the TCP/IP control panel. Once selected, TCP/IP data is encapsulated in AppleTalk packets, and is sent through the selected network interface.

PPP connectivity
PPP (Point to Point Protocol) connectivity for Open Transport is currently based on the use of third-party software extensions known as MDEVs. Early versions of these extensions may not be compatible with Open Transport. For information about MDEV compatibility, see the About Open Transport 1.2 document.

Memory requirements
Open Transport provides many new features and capabilities to Mac OS customers and, in general, will require more system memory (RAM) than does classic networking. However, the actual memory requirements of Open Transport vary depending upon the networking services in use at a given time. This is different from classic networking, which allocates memory to networking services and keeps it allocated even after networking services are no longer in use.

Factors contributing to differences in memory requirements include:

- Open Transport provides implementations of networking as both 680x0 and native PowerPC code. PowerPC code is typically larger (but also faster).
- Open Transport provides mixed-mode applications support, making it possible for both PowerPC native and 680x0 applications to use native networking on PowerPC-based computers.
- Open Transport includes both the new implementations of networking and the libraries required to provide backward compatibility support for the older AppleTalk and MacTCP programming interfaces.
- Open Transport requires less memory on systems with virtual memory enabled. Classic networking has about the same memory requirements regardless of the VM setting.
- Open Transport is based on the cross-platform standard STREAMs environment, which requires more memory than classic networking.

The difference in memory requirements depends upon the configuration of your computer. Some examples of base memory requirements are shown in the table below.

Computer System	Virtual Memory	Classic AppleTalk & MacTCP	Open Transport
PowerPC-based	On	350K to 450KB	200KB
PowerPC-based	Off	350K to 450KB	up to 1.2 MB
680x0-based	Off	350K to 450KB	700KB to 800KB

Application compatibility guidelines
Apple has defined three levels of interoperability with Open Transport. The first, Open Transport Compatible, is used to describe network applications originally developed for classic AppleTalk or MacTCP programming interfaces that now take advantage of Open Transport Compatibility Services. These applications automatically gain the benefits associated with the Open Transport control panels. However, they will not realize a significant performance increase on Power Macintosh systems, nor can they take advantage of Open Transport's transport-independence capabilities.

Open Transport Ready applications have adopted the new Open Transport APIs. They are PowerPC native, in addition to running on 680x0-based Macintosh systems. Open Transport-ready applications benefit from the new control panels and may also realize a significant performance boost when running on PowerPC-based computers.

The highest category of interoperability is Open Transport Enhanced. In addition to adopting the new Open Transport APIs and being Power PC native, these applications can be dynamically configured to support AppleTalk, TCP/IP, or serial communication.

Applications that rely on undocumented APIs or examine private data structures in AppleTalk or MacTCP may not be fully compatible with Open

Transport. Updated versions of these software products will be required for full compatibility.

Performance

Open Transport is designed to take advantage of the PowerPC processor. For maximum performance, however, networking applications must also take advantage of the PowerPC processor, and should adopt the new Open Transport programming interfaces.

In general, current Mac OS networking applications are written for the 680x0 processor and use the classic (680x0-based) networking programming interfaces. These applications can still be used with Open Transport, and may perform somewhat better. Networking applications that are PowerPC-native but not Open Transport-ready may yield better performance, but still fall short of the maximum potential performance because they make use of Open Transport backward compatibility rather than its full capabilities.

Performance improvements will be greater with protocols that use larger datagram sizes. For example, TCP/IP users will see greater improvements than AppleTalk users, because AppleTalk has a fixed and limited datagram size. On high-speed datalinks such as fast Ethernet, FDDI, and ATM, the performance of the network interface card (NIC) driver code is also a significant factor.

Overall performance also depends on the amount of RAM available. Larger packet sizes and higher throughput place increased demand on the buffering system of Open Transport. If Open Transport becomes low on memory, throughput decreases to accommodate the limitation.

Published Date: Feb 18, 2012

Mac OS 8: Open Transport/PPP 1.0.1 Read Me

This article is the About Open Transport/PPP 1.0.1 Read Me file that comes with Mac OS 8.0.
This article has been archived and is no longer updated by Apple.

Introduction

This document contains late-breaking information about Open Transport/PPP. For instructions about how to use Open Transport/PPP--including the modem and PPP control panels--see the Open Transport/PPP user's manual. Onscreen help is also available in Mac OS Guide. Choose Help from the Help menu. Information about Open Transport/PPP appears in the Telecommunications topic area. Or you can click the question mark icon that appears in the modem and PPP control panels.

Additional information about Open Transport/PPP is also available on the Open Transport home page: **http://developer.apple.com/dev/opentransport/**. Included on this home page is a log of the release notes that describes the changes in each beta release of the Open Transport/PPP software.

License Agreement

This release of Open Transport/PPP is subject to the terms and conditions of the license agreement that accompanies the software in the file named License. By using the software you agree to abide by the terms and conditions of the license agreement.

System Requirements

Open Transport/PPP 1.0.1 is designed to work on Mac OS-compatible computers with a Motorola 68030- or 68040-family microprocessor, or a PowerPC 601, 603, 603e, 604, or 604e microprocessor. You also need Mac OS System 8.0 or later and Open Transport 1.1.2 or later.

Note: You must install Open Transport 1.1.2 or later before installing Open Transport/PPP.

Open Transport/PPP 1.0.1 requires a minimum of 500K of RAM (for 68030- or 68040-based computers) or 600K of RAM (for PowerPC-based computers). Open Transport/PPP memory requirements are based on the size of total system memory, including virtual memory, minus the size of any RAM disk or disk cache you're using.

Apple Software Update Sites

Updates to most Apple software is available online from the Apple Software Updates Web site at http://www.apple.com/swupdates.

You can find all updates relating to Open Transport in the Software Updates Library by typing [open transport] in the search field.

Knowledge Base article 14724: "**Where to Find Apple Software Updates**", will point you to Apple Software Updates locations for Internet, FTP sites, and America Online.

Before You Install Open Transport/PPP 1.0.1

Make backup copies of the software and documents on your hard disk (especially your System Folder) before installing this software.

If you already use SLIP or PPP software to access the Internet, make a note of the configuration information that you entered into your previous SLIP or PPP control panels. Configurations are not automatically converted from third-party SLIP or PPP software.

What's New In Open Transport/PPP 1.0.1?

The OpenTpt Serial Arbitrator no longer crashes with extensions that open a serial driver during system startup (such as the Wacom Tablet driver).

Open Transport/PPP does not display dialog boxes for background-only applications (such as Personal Web Sharing).

Note: When opening a PPP connection from a background-only application, the machine will appear frozen until the connection is established.

Known Incompatibilities and Limitations

- Open Transport 1.1.2 or later is required for use with Open Transport/PPP 1.0.1. You should not attempt to use Open Transport/PPP with a previous version of Open Transport.
- ARA 2.x modem CCL scripts can be used with Open Transport/PPP. However, some ARA 2.x scripts do not support modem-based error correction and data compression, so performance may not be optimal. You should try to use one of the modem scripts provided with Open Transport/PPP. If you can't find one that matches your modem, you can modify an existing script to suit your needs.
- If you are using both ARA 2.1 and Open Transport/PPP, be sure to install Open Transport/PPP after ARA 2.1 to get the correct set of modem scripts for both products.
- If you are running Open Transport/PPP on a desktop Macintosh that has sleep capability, your Open Transport/PPP connection will not be automatically terminated when you choose Sleep from the Special menu, because sleeping desktop computers can continue network activity (unlike PowerBook models). If you do not want to remain connected to your PPP server when you put your desktop system to sleep, disconnect manually using the PPP control panel.

- If you have a copy of Open Transport/PPP older than 1.0f1c2 installed, you must discard your old Open Transport/PPP preferences files. To do so, remove the Remote Access folder from the active Preferences folder. Restart your computer and then use the modem and PPP control panels to customize your configuration.

- Open Transport/PPP 1.0.1 has some incompatibilities with the Apple Express Modem. If the internal modem choice does not appear in the modem control panel's Port pop-up menu, uncheck the "Use internal modem instead of Modem/Printer port" checkbox in the Express Modem control panel and restart, then open the modem control panel again.

- You may experience some difficulty with older application programs that do not use Open Transport and try to use the serial port while PPP is active. The workaround is to disconnect PPP using the PPP control panel before starting up the older application.

- Claris Emailer version 1.1v3 or later is compatible with Open Transport 1.1.1 or later. A problem in the Quit command of earlier versions of Claris Emailer sometimes causes a crash with Open Transport 1.1.x (with or without Open Transport/PPP). For your convenience, the Claris Emailer version 1.1v3 patcher and Claris Emailer Lite version 1.1v3 patcher have been provided in the Open Transport Extras folder.

- You may experience CD and TV sound problems when you are dialing your Internet service provider from a Performa 6300CD computer. The workaround is to launch Megaphone before trying to connect.

- When entering phone numbers for the Motorola BitSURFR Pro 56K and 64K ISDN terminal adapters, do not use dashes or spaces between the numbers. For example, 555-9999 should be entered as "5559999". Entering spaces or dashes may prevent successful connections with the BitSURFR Pro, particularly when two ISDN channels are used.

- If you use PortShare Pro from Stalker GmbH to set up a virtual modem or virtual printer port, the ports appear as modem or printer, respectively, in the modem control panel. They do not appear as virtual modem or virtual printer. PortShare Pro replaces the serial drivers for the on-board modem/printer ports with its own, so selecting modem or printer causes Open Transport/PPP (and any other native Open Transport serial application) to use the replacement drivers.

- Open Transport/PPP will report the single channel speed of 56 Kbps or 64 Kbps. The 112 Kbps or 128 Kbps speeds are used but not displayed when using a second ISDN channel with multilink PPP. Use the terminal adapter to find out the speed of the second channel.

Compatibility with the Apple Internet Connection Kit
You can install both Open Transport/PPP and the Apple Internet Connection Kit (AICK) on your computer at the same time. Both products enable you to dial with your modem and connect to the Internet.

At the time of this release, AICK does not use the Open Transport/PPP software to dial and connect to the Internet. AICK has its own Dialer, which uses MacPPP software to establish the remote connection. MacPPP is a third-party implementation of the Point-to-Point Protocol.

All of the AICK applications, however, are compatible with Open Transport/PPP 1.0.1. To use Open Transport/PPP with AICK applications, you must configure Open Transport/PPP as described in the Open Transport/PPP User's Manual and in the Connecting to the Internet topic area of Mac OS Guide.

The currently active PPP software is selected using the Connect via pop-up menu in the TCP/IP control panel. MacPPP is listed as MacPPP. OT/PPP is listed as PPP. MacPPP is controlled by using the Config PPP control panel, the Apple Internet Dialer application, or the Apple Internet Status application. Open Transport/PPP is controlled by using the modem and PPP control panels, which do not modify or change MacPPP configuration information.

If you use both PPP software packages (one at a time), note that launching either the Apple Internet Dialer or Apple Internet Status will make MacPPP active. Furthermore, you will need to switch TCP/IP configurations each time you switch from one PPP software package to the other. (Information about changing TCP/IP configurations appears in the Network topic area of Mac OS Guide.)

Modem support
Scripts that support many popular modems are provided on the Open Transport/PPP installation disks. The scripts include:

- 3Com Impact Analog 14.4
- 3Com Impact ISDN 56K
- 3Com Impact ISDN 56K MLPPP
- 3Com Impact ISDN 64K
- 3Com Impact ISDN 64K MLPPP
- Apple Personal Modem
- AT&T Dataport 288
- AT&T KeepInTouch
- Best Data Smart One 28.8/33.6
- Dayna CommuniCard 28800
- Farallon Netopia 56K
- Farallon Netopia 56K MLPPP
- Farallon Netopia 64K
- Farallon Netopia 64K MLPPP

- GeoPort/Express Modem
- GeoPort/Express Modem CNG
- Global Village Gold/Silver/Merc
- Global Village Platinum/Gold II
- Hayes Accura 288
- Hayes Optima 288
- Megahertz CruiseCard 14.4
- Megahertz CruiseCard 28.8
- Metricom Ricochet Wireless
- Microcom DeskPorte Fast/288
- Microcom QX/4232bis
- Motorola BitSURFR 56K
- Motorola BitSURFR 56K MLPPP
- Motorola BitSURFR 64K
- Motorola BitSURFR 64K MLPPP
- Motorola ModemSURFR 28.8
- Motorola Power/Lifestyle 28.8
- Null Modem 9600
- Null Modem 19200
- Null Modem 57600
- Null Modem 115200
- Practical Peripherals V.34
- Smart One 28.8
- Supra 14.4
- Supra 28.8/33.6
- TDK DF2814
- Telebit QBlazer
- US Robotics Universal
- Zoom V-Series

Apple now installs all modem scripts in the Modem Scripts folder (in the Extensions folder) instead of directly in the Extensions folder. Open Transport/PPP does not recognize modem scripts stored outside the Modem Scripts folder.

Auto-routing of modem scripts has been disabled by the Installer. Once Open Transport/PPP is installed, a modem script will not be routed to the Extensions folder if it is dragged into an active System Folder.

The Easy Install mode of the Installer copies all of the Open Transport/PPP modem scripts on your disk. You can choose Custom Install to limit the installation to only the scripts you choose.

Note: You can delete any unneeded scripts from the Modem Scripts folder, which is located inside the Extensions Folder. To recognize scripts, look for files of the kind "Modem Link Tool Personal document."

Additional (Unsupported) Modem Scripts
User-contributed scripts are available online. New modems are regularly introduced and Apple is willing to help publish scripts donated by users to aid in making Apple Remote Access and Open Transport/PPP work easily with as many modems as possible.

Note: User-contributed scripts are not tested or supported by Apple Computer, Inc., so you should contact the script's author rather than Apple if you run into difficulty using a script downloaded from the unsupported folder. User-contributed modem scripts are provided on an as-is basis as a convenience to Apple customers. They are not warranted to be complete or free from errors, although Apple may choose to review and fully test some user-contributed scripts and include them in future versions of Apple software. If you want to provide Apple with feedback about particular user-contributed scripts, send electronic mail to the following address: msg@apple.com.

If you want to contribute a modem script, please use the following procedure:

1. Download the sample Read Me file from the User-contributed scripts folder. The file is named CCL_README_TEMPLATE.

2. Customize the sample Read Me as appropriate for the script you want to submit.

3. Send e-mail to msg@apple.com and enclose the script in BinHex format.

Scripts will only be posted if they are accompanied by a Read Me explaining the script's purpose and how to contact the author.

(See Apple Software Updates Sites near the beginning of this Read Me for information on how to find Apple Software Updates locations.)

Modem Cable Requirements
Most modems require a cable that supports the data terminal ready (DTR) signal. In addition, certain modems require a cable that supports CTS/RTS hardware flow control. To support DTR, the cable must connect pin 20 on the DB-25 connector to pin 1 on the Mini DIN-8. To support CTS/RTS, the cable must connect pin 5 on the DB-25 connector to pin 2 on the Mini DIN-8 and pin 4 on the DB-25 connector to pin 1

on the Mini DIN-8. Contact your modem vendor or Apple-authorized dealer to obtain the necessary cable.

Open Transport/PPP and Apple Remote Access Compatibility
Open Transport/PPP and ARA versions 1.0, 2.0, 2.0.1, and 2.1 are fully compatible and can be used on the same system. Only one can be used at a time.

Versions of ARA before 2.1 install modem scripts directly in the Extensions folder. To make sure that these scripts appear as choices in the modem control panel, move them to the Modem Scripts folder in the Extensions folder.

ARA 2.1 installs its scripts in the Modem Scripts folder in the Extensions folder. If you are using ARA 2.1, you must install Open Transport/PPP 1.0.1 after ARA 2.1 to get a set of scripts in the Modem Scripts folder that works optimally with both products. The Open Transport/PPP scripts support certain modem-based features, such as error correction and data compression, that improve PPP performance. The ARA 2.x scripts may not support these features.

Also, some scripts included with ARA 2.1 are no longer installed with Open Transport/PPP. These scripts are left on your disk by the Open Transport/PPP installer. They may be usable with Open Transport/PPP, but have not been tested for compatibility by Apple.

Registered User or Guest?
If your PPP server does not require a user name and password, or if the server requires only that you enter a name and password in a terminal window, you can select the Guest mode button in the PPP control panel. This will hide the Name and Password fields and will cause the Connect button to be enabled as soon as you enter a phone number.

If your server requires a PPP user name and password instead of, or in addition to, a terminal server login, you must use the Registered User mode of the PPP control panel. In this mode, you must enter something in the Name and Number fields to enable the Connect button. If you leave the Password field blank, and Save password is not checked, you will be prompted to confirm that you want to connect without a password.

Connect Scripts
The following varStrings have been added to the CCL scripting language for the user name and password:

- Name: ^11 or ^U
- Password: ^12 or ^P

When the connect script is executed, these varStrings are replaced by the strings stored in the Name and Password fields of the PPP control panel.

When you record a connect script, and you have entered your name and password in the PPP control panel, the connect script that is recorded by the terminal window will replace those strings with the appropriate varStrings.

The ^U and ^P varStrings are provided as mnemonics for the user name and password, but they cannot be used as parameters of some CCL commands like IFSTR. With those commands, use the ^11 and ^12 varStrings instead.

Connection CCL scripts that use the password varString (^12) in WRITE commands do not log the password in clear text. The password is logged as bullets. This is true whether the user records the script or types it in.

More detailed information about the syntax of the CCL language used for both modem scripts and connect scripts is in the ARA Modem Scripting Guide.PDF file in the OT/PPP Extras folder. This file is in Adobe Acrobat format.

Manual Dialing
Procedures for establishing an Open Transport/PPP connection with manual dialing vary according to the type of modem you are using. To ensure that you can make a connection while using manual dialing, you may need to experiment with pressing the Connect button slightly before or after you hear the remote modem answer the phone.

Using an Express Modem or GeoPort Telecom Adapter
If you are using Express Modem software with either an Express Modem or a GeoPort Telecom Adapter, you must turn on 32-bit addressing in the Memory control panel. Using 24-bit addressing may result in incorrect behavior.

Using Global Village PC Card Products
The Global Village software included with your modem adds an entry to the Connect via pop-up menu of the modem control panel called PowerPort PC Card. Under some circumstances, an entry for the actual slot your PC Card is plugged into will show up as well (Upper-slot, Lower-slot). These slot-specific items should not be used and the PowerPort PC Card item should be used instead or the port will be erroneously reported as busy.

Using an ISDN Terminal Adapter
Both Open Transport/PPP 1.0.1 and ARA 2.1 support serial connection speeds of 115,200 and 230,400 bps. By doing so, Apple enables Macintosh users to make ARA and PPP connections over ISDN lines at 64 Kbps or even 112 Kbps if the ISDN terminal adapters at both ends support channel bonding and proper modem scripts are used.

Note: The Connected at line of the PPP control panel status box may not accurately reflect the connection speed of ISDN connections. A slower speed may be indicated because ISDN terminal adapter hardware does not report the establishment of second channel connections to the CCL

script engine. This will usually happen if you use the Multilink PPP (MLPPP) version of an ISDN script.

Connection speeds of 115,200 and 230,400 bps are not supported by the serial ports on most older Macintosh computers. Here is a partial list of Macintosh models that have fast serial port support:

- Macintosh Centris 660AV, Macintosh Quadra 660AV, and Macintosh Quadra 840AV models
- Macintosh Performa 6100CD series
- Power Macintosh 6100, 7100, 7200, 7500, 7600, 8100, 8500, and 9500 models
- Workgroup Server 6150, 7250, 8150, 8550, and 9150 models

To set the built-in serial ports at 115,200 or 230,400 bps, a new serial driver called SerialDMA must be installed to replace the standard Macintosh serial device driver. SerialDMA 2.0.2 is provided by Apple. It is highly recommended that the file Serial (Built-in) be installed in the Extensions folder as well on Macintosh models with PCI slots to support these high speeds (38,400 bps and above). System 7.5.3 or later includes the latest version of SerialDMA and the file Serial (Built-in).

Note: In general, ISDN terminal adapters have more configuration options than conventional modems. At this time it is not possible for Apple to support all combinations of these options for all the ISDN terminal adapters that are supported. We have attempted to write scripts that work with the most common ISDN configurations. You may have to get a revised script from your Internet service provider or network administrator if your server uses different options. You can also modify a script yourself using the Modem Script Generator or by editing the script text directly.

How to Turn Off or Remove Open Transport/PPP
To disable and remove Open Transport/PPP software by using the Custom Remove option in the Installer, follow these steps:

1. Open the Installer application included with Open Transport/PPP 1.0.1. The Welcome to the Apple Installer screen appears.

2. Click the Continue button. The Open Transport PPP Installation screen appears

3. Choose Custom Remove from the pop-up menu in the upper-left corner.

4. In the list that appears, select the files you would like to remove by clicking the box next to each file so that an "X" appears in it. To completely remove Open Transport/PPP, you should select all the files listed.

5. Click the Remove button. If a window appears asking you whether to quit any open applications, click Continue. A window will appear telling you to restart your computer.

6. Click the Restart button.

7. Reinstall and configure your previous SLIP/PPP software as required.

To disable Open Transport/PPP without using the Installer, follow these steps:

Note: Although the PPP and modem control panels appear in the Extensions Manager, there is no component in the Extensions Manager that lets you disable Open Transport/PPP. To disable Open Transport/PPP without using the Installer, you must follow the instructions given here.

1. Move the OpenTpt Remote Access, OpenTpt Modem, and OpenTpt Serial Arbitrator shared libraries from the Extensions folder in the active System Folder.

2. Move the PPP Commands file from the Scripting Additions folder in the Extensions folder.

3. Move the PPP and modem control panels from the Control Panels folder in the active System Folder.

4. Restart your computer.

It is not necessary to move the Modem Scripts folder from the Extensions folder.

Note: The Original Read Me has been modified to provide up to date and accurate information on accessing Apple Software Updates online.
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Mac OS 8: About AppleShare 3.6.5 Read Me

This article is the About AppleShare 3.6.5 Read Me file that comes with Mac OS 8.0.
This article has been archived and is no longer updated by Apple.
If you have AppleShare versions 3.6, 3.6.1, 3.6.2, or 3.6.4 you should update to AppleShare 3.6.5 before installing Mac OS 8 over a network.

If you have an earlier version of AppleShare, you do not need to install AppleShare 3.6.5.

Installing AppleShare 3.6.5

1. Drag the AppleShare 3.6.5 icon to your closed System Folder icon.

2. In the dialog box that appears, click OK to place AppleShare in your Extensions folder.

3. In the next dialog box that appears, click OK to replace your older version of AppleShare with the newer one.

4. Restart your computer.

5. Connect to the server you are using to install Mac OS 8.

6. Double-click the Install Mac OS icon to install the software.

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Mac OS 8: About Internet Access

This contains the About Internet Access Read Me file that comes with Mac OS 8.0.
This article has been archived and is no longer updated by Apple.
This file contains late-breaking news about Internet Access for Mac OS 8.0. You will find instructions on how to set up Internet Access and solutions for common issues in the manual that came with your software or computer. Additional information about the Internet and Internet Access for Mac OS 8 can be found in the Info Center.

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What to do first
If you have not previously connected to the Internet with this computer, you need to configure the Internet settings. Double-click the Internet Setup Assistant icon located in your Internet folder to begin. If you already have an account with an Internet service provider, you should have that information handy before you begin.

Customers in Canada
The Internet Setup Assistant can help you create automatically a new Internet account online, or set up an existing dial-up or LAN Internet account. Double-click the Internet Setup Assistant icon located in your Internet folder to begin. For more information on how to set up an Internet account in Canada, refer to the Internet Extras folder on your Mac OS CD.

Customers in Asia, Australia, Latin America, and New Zealand
The Internet Setup Assistant can help you set up an existing dial-up or LAN Internet account. If you do not yet have an Internet account, you need to set up an account with an Internet service provider first. For more information on how to set up an Internet account in your country, refer to the Internet Extras folder on your Mac OS CD. Then double-click the Internet Setup Assistant icon located in your Internet folder to begin.

Additional Software
If your Mac OS software came with a CD, refer to the CD and the Internet Extras folder for late-breaking software to help you access and use the Internet more effectively.

Auto-dial and auto-disconnect settings
Your computer is set to dial your Internet service provider automatically when an application that requires an Internet connection is used. In addition, it has been set to disconnect automatically after 10 minutes of network inactivity. Use the PPP control panel to change or verify these settings.

TCP/IP connection options and Internet Access in Mac OS 8

Apple Internet Connection Kit preferences
If you used the Apple Internet Connection Kit (AICK) before you upgraded to Mac OS 8, then your Internet configurations are transferred automatically. Before you use Internet Access in Mac OS 8 it is a good idea to verify your Internet configurations. To do this, launch the Internet Setup Assistant and select Update. Then select Modify and complete the interview process.

During the interview process notice that your login and e-mail passwords are blank. This is for security reasons. You must enter the same passwords you used in AICK. If you have forgotten your passwords, contact your Internet Service Provider.

Ethernet
Internet Access for Mac OS 8 supports the Ethernet option in the TCP/IP control panel for Ethernet built into your computer. If you have added an Ethernet card to your computer, you must open the TCP/IP control panel to verify the settings are correct, and make changes if necessary.

MacIP
Internet Access for Mac OS supports MacIP configurations that use dynamic (or server-based) addressing, such as the MacIP configuration used for Apple Remote Access. It does not support MacIP configurations that use static IP addresses.

Load only when needed
The Load only when needed feature is turned on by default. We recommend that you do not change this setting. When Load only when needed is turned on, TCP/IP is not loaded until you open a network connection. If you turn this feature off, and auto-dial is turned on, then your modem will dial every time you start up your machine. To turn this feature on or off, do the following:

1. Open the TCP/IP control panel.

2. Choose User Mode from the Edit menu.

3. Click Advanced; then click OK.

4. Click Options; then click the checkbox next to Load only when needed.

5. Click OK.

6. Close the TCP/IP control panel.

TCP/IP, PPP and modem configurations from previous versions of Mac OS
TCP/IP, PPP, and modem configurations from prior versions of Mac OS must have the same name for them to work with Internet Access in Mac OS 8. Otherwise changes you make to the TCP/IP, PPP, or modem control panels will not be reflected in Internet Access for Mac OS 8.

Follow these steps to rename PPP and modem configurations so they match your TCP/IP configurations:

1. Open the TCP/IP control panel.

2. Choose Configurations from the File menu to view your TCP/IP configurations.

3. Make a note of each configuration's name. Your list of TCP/IP configurations should be equal to the number of Internet configurations you have.

4. Click Done and then close the TCP/IP control panel.

5. Open the modem control panel.

6. Choose Configurations from the File menu to view your modem configurations.

7. Select a configuration and click Rename. Type the name that matches the corresponding TCP/IP configuration, and then click OK.

8. Repeat step 7 until all your modem configurations have been renamed.

9. Click Done and then close the modem control panel.

10. Open the PPP control panel.

11. Choose Configurations from the File menu to view your PPP configurations.

12. Select a configuration and click Rename. Type the name that matches the corresponding TCP/IP configuration, and then click OK.

13. Repeat step 11 until all your PPP configurations have been renamed

14. Click Done and close the PPP control panel.

Length of configuration names
When you use Internet Access for Mac OS you must limit the length of a configuration name to 32 characters. If you used TCP/IP or other control panels to create a configuration with a longer name, you must rename the configuration in order to use it with Internet Access for Mac OS.

To rename your configurations, follow the steps for renaming PPP and modem configurations outlined in the previous section: TCP/IP, PPP, and modem configurations from previous versions of Mac OS. Be sure to shorten the name of the TCP/IP configuration when you open the TCP/IP panel.

Modem scripts
Additional modem scripts can be found in the CD Extras folder located on the CD that came with your Mac OS software.

Password length
For security reasons, the Internet Setup Assistant displays 16 bullets in the Password boxes for e-mail and login passwords, regardless of the length of your password.

Proxies and other Internet Config settings
Internet Access for Mac OS 8 only manipulates your e-mail and news settings in Internet Config. You need to make sure other Internet Config settings, such as proxies, for each of your Internet configurations are set properly. To adjust other Internet configuration settings, double-click the Internet Config icon located in the Internet Utilities folder in your Internet folder. Then click the appropriate button, such as Firewalls, to change proxies.

Web browser issues

Using Netscape Navigator 2.0 after you've used 3.01
Mac OS 8 installs Netscape Navigator 3.01. If you use Netscape Navigator 3.01 and then want to go back to using Netscape Navigator 2.0, follow these steps to restore your preferences and bookmarks:

1. Quit Netscape Navigator if it is open.

2. Open the Backup folder in the Internet folder.

3. Drag the Netscape Preferences icon into your Netscape 2.0 folder.

4. Drag the Netscape Bookmarks.html icon into your Netscape 2.0 folder.

5. Open Netscape Navigator 2.0.

Using Netscape Navigator 3.01 with 2.0 plug-ins
When Mac OS 8 was installed, a new Netscape Navigator folder was created in the Internet Applications folder located in the Internet folder on your startup disk. You must move your Netscape Navigator 2.0 plug-ins to the Plug-ins folder located in this Netscape Navigator folder.

Web browser memory needs for QuickTime and Shockwave plug-ins
For optimum performance when viewing QuickTime or Shockwave media over the Internet, you should increase the amount of memory allocated to Netscape Navigator. To do this:

1. Open the Internet folder.

2. Click the Netscape alias.

3. Choose Get Info from the File menu.

4. Click Find Original. The folder containing the Netscape icon opens, and Netscape is selected.

5. Choose Get Info from the File menu.

6. If you are using QuickTime only, increase the minimum size in the Memory Requirements box by 1000.

7. If you are using Shockwave only, increase the minimum size in the Memory Requirements box by 3000.

8. If you are using both QuickTime and Shockwave, increase the minimum size in the Memory Requirements box by 4000.

Obtaining a Web browser that uses highly secure (128-bit) encryption
Mac OS 8 installs Netscape Navigator 3.01 with International (40-bit) encryption. This supports a standard level of security suitable for worldwide export and use. In the United States and Canada, some electronic commerce web sites, such as banking and shopping sites, recommend using non-International (128-bit) encryption for a greater level of security. Contact Netscape(http://www.netscape.com) or Microsoft (http://www.micorsoft.com) for more information.

Troubleshooting
You can find additional information on the issues described below in the onscreen help on your computer or in the documentation provided with your Mac OS software and computer.

Netscape is unable to locate the registration server
You see this message when you try to register with an Internet service provider: "Netscape is unable to locate the server: reggie.netscape.com The server does not have a DNS entry. Check the server name in the Location (URL) and try again."

Solution: You cannot check the server name in the Location box because Netscape runs in kiosk mode when it connects to the registration server. Instead, you must quit Netscape and try connecting again. If reconnecting does not work, you may need to try registering at a different time.

Reinstalling Internet Access components
If your Internet Access files become corrupted and you want to do a clean installation, you must remove all Internet Access files before you use the Installer. If you do not, files with current version numbers will not be replaced whether or not they are corrupted. The Internet Access files that must be removed are the Internet folder, the Internet Access extension, and the following items which are located in the Preferences folder in your System Folder: Netscape f, Internet Preferences, Internet Setup Preferences, and Internet Dialer Preferences.

Switching from Internet Access in Mac OS 8 to Apple Internet Connection Kit
If you modify your old Apple Internet Connection Kit (AICK) configuration with the Internet Setup Assistant, the Assistant switches TCP/IP from MacPPP to PPP. If you open AICK dialer, you see a dialog box that asks you to go to the TCP/IP control panel. Open the TCP/IP control panel and choose MacPPP in the Connect Via pop-up menu.

If you decide to use AICK after Internet Access for Mac OS 8 is installed, you can't register with a new Internet service provider online. You must use the Internet Setup Assistant to register with a new ISP.

If you switch back and forth between Internet Access for Mac OS 8 and AICK, and you have multiple ISP settings with AICK, you will find duplicate configurations when you use Internet Access. Although this does not create an issue, you may want to remove the duplicate configurations. You can use the Internet Setup Utility to remove duplicate configurations. The Internet Setup Utility is located in the Internet Utilities folder located in the Internet folder on your hard disk.

Changing your configuration type from LAN to modem, or from modem to LAN
You can't use the Modify feature of the Internet Setup Assistant to change an Internet configuration type. To change an Internet configuration from LAN to modem, or from modem to LAN you must first use the Internet Setup Assistant to remove the configuration. Then you use the Internet Setup Assistant to add the configuration with the new type.

Before you remove the configuration you should write down any information that you may need, such as your login name and password.

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Mac OS 8: About MRJ Read Me

This article is the About Mac OS Runtime for Java 1.0.2 Read Me file that comes with Mac OS 8.0.
This article has been archived and is no longer updated by Apple.

Introduction

Mac OS Runtime for Java (MRJ) is Apple's implementation of the Java runtime environment based on software from Sun Microsystems, Inc. With MRJ, Mac OS applications can run Java applets and applications.

MRJ 1.0.2 implements version 1.0.2 of Sun's Java. MRJ 1.0.2 includes Apple Applet Runner, a standalone application that runs Java applets, and Apple Applet Viewer, an OpenDoc viewer you use to put Java applets into OpenDoc documents.

MRJ 1.0.2 is a minor upgrade to MRJ 1.0.1 that fixes a bug where some Java applications were not able to save files.

Important: The Applets menu in Apple Applet Runner includes a set of applets provided by Sun Microsystems, Inc. These applets were not created by Apple Computer, Inc. and may not follow Apple guidelines for user interaction. For example, buttons in an applet may have different behavior from buttons in applications developed specifically for the Mac OS.

System requirements

MRJ 1.0.2 works on computers with 68030 or 68040 microprocessors or PowerPC microprocessors. You also need System 7.5 or later, a minimum of 8 MB of RAM (16 MB is strongly recommended) and at least 7 MB of free disk space. Computers with 68030 or 68040 microprocessors must have 32-bit addressing turned on. This can be done by using the Memory control panel.

The Apple Applet Viewer requires OpenDoc 1.0.4 or later. MRJ 1.0.2 and the Apple Applet Runner do not require OpenDoc.

Using Java applets over the Internet requires MacTCP 2.0.4 or later, or OpenTransport 1.1 or later with TCP/IP, and an active Internet connection.

MRJ 1.0.2 works with Cyberdog 1.2.1 or later.

What Is Installed with MRJ?

The MRJ 1.0.2 installer places the required software components in your System Folder. If necessary, the installer will force you to restart your computer before using MRJ.

Warning: If you have been using a pre-release version of MRJ, you need to remove files installed with the pre-release version before installing version 1.0.2. Use the list below to check the files you need to remove. However, do not remove the file named Text Encoding Converter or the folder named Text Encodings.

On all computers, MRJ 1.0.2 installs:

- Mac OS Runtime for Java folder in the Apple Extras folder at the root of the startup disk
- MRJ Libraries folder in the Extensions folder of the active System Folder
- Text Encoding Converter in the Extensions folder of the active System Folder
- Text Encodings folder in the active System Folder

If you have a 68030 or 68040 computer, MRJ 1.0.2 also installs CFM-68K Runtime Enabler in the Extensions folder of the active System Folder

If you have OpenDoc installed, MRJ 1.0.2 also installs:

- Apple Applet Viewer Libraries in the Editors folder of the active System Folder
- Apple Applet Viewer Stationery in the Stationery folder at the root of the startup disk

Using the Apple Applet Runner produces a preferences file named Apple Applet Runner Prefs in the Preferences folder of the active System Folder.

Description of MRJ Components

MRJ 1.0.2 contains the system components necessary to use Java. It also includes two demonstration tools that use these components to run Java applets.

System Components

The MRJ 1.0.2 installer puts a folder named MRJ Libraries in the Extensions folder of the active System Folder. This folder contains two items necessary for Java support: MRJLib and the MRJClasses folder.

Apple Applet Runner

You use Apple Applet Runner to run Java applets from your local disk. If you have MacTCP or Open Transport installed and an active Internet connection, you can also run Java applets over the Internet.

You can open URLs or local HTML files containing <applet> tags from the Applet Runner's File menu. In addition, you can drop HTML files containing <applet> tags onto the Apple Applet Runner application icon from the Finder. You will only see the applet itself inside Apple Applet

Runner; if you use a Web browser to open the HTML file, you may see additional information.

Apple Applet Runner remembers URLs of remote (http://) or local (file:///) applets. This information is stored in the Apple Applet Runner Prefs file in the Preferences folder of the active System Folder. A few sample URLs are available by choosing Open URL from the File menu; you may add more URLs if you desire. You must have an active Internet connection to use these remote URLs.

Demonstration applets are available under the Applets menu in Applet Runner. You may run these demonstration applets even if you do not have an active Internet connection. These applets are stored locally in the Applets folder.

Apple Applet Viewer (for OpenDoc)
You use Apple Applet Viewer to place Java applets into your OpenDoc documents.

A folder called Apple Applet Viewer is installed in your Editors folder and the Apple Applet Viewer Stationery file is installed in your Stationery folder. Refer to your OpenDoc documentation for instructions on using stationery.

You use Java applets by dragging one of the following to the Apple Applet Viewer frame:

- An HTML file that contains an <applet> tag,
- A text file that contains a URL for an HTML document containing an <applet> tag, or
- A Scrapbook clipping that contains either a URL for an HTML document containing an <applet> tag or an <applet> tag.

Note: You must have an active Internet connection to use applets at remote URLs.

Tips for Using MRJ

OpenDoc
If you do not have OpenDoc installed when you install MRJ 1.0.2, the Apple Applet Viewer will not be installed. If you install OpenDoc later, you must reinstall MRJ to use the Applet Viewer.

Memory Usage
MRJ uses system memory to run Java applets and applications. Applications allocate their own application memory, leaving less memory available to the system. If an application that uses MRJ (such as the Applet Runner or Cyberdog) is using an especially large amount of memory, you may have trouble running large Java applets or applications. If you encounter problems, try quitting applications you are not using. If you still cannot run the applet or application, try reducing the amount of memory used by the application that is using MRJ.

To reduce an application's memory size, first quit the application, then select the application's icon and choose Get Info from the File menu. Type a smaller number in the Preferred Size field. (However, do not set the preferred size smaller than the indicated minimum size.)

Known Problems
You must restart your computer after installing MRJ. If you attempt to run MRJ without restarting, MRJ may behave in unexpected ways.

Do not remove the Text Encodings folder from the System Folder or the Text Encoder Converter file from the Extensions folder. Removing these items may cause problems while using MRJ or using other applications requiring these files.

In pre-release versions of MRJ, the preferences file was named Applet Runner Prefs. If you had a pre-release version of MRJ installed, make sure you throw the Applet Runner Prefs file away. (The old file may conflict with preference files created by applet runner applications from other companies.)

There is a known problem with the PPCExceptionEnabler extension. This extension is installed by Macintosh Common Lisp (MCL) 3.9. If you have this extension, you must remove it before running MRJ. Future versions of MCL will not require this extension.

There are known problems with some applets when using MRJ 1.0.2 with Microsoft Internet Explorer, including display problems, sound problems and possible crashes. We are working with Microsoft to resolve these problems in a future release of Internet Explorer.

If you are running applications or applets compiled with the JavaSoft 1.0.2 JDK release for Macintosh, you may encounter numerics-related problems. Specifically, floating-point constants (and in some cases computed integer constants) may not be accurate. If possible, use another Java compiler to recompile any applications or applets displaying this problem.

If all the images and sounds an applet uses do not appear, there may not be enough memory available for all the images and sounds. You may be able to free up memory by quitting all applications (such as the Apple Applet Runner and Apple Applet Viewer) that use MRJ. If necessary, try quitting other applications as well. After quitting the applications, try reopening Apple Applet Runner or Apple Applet Viewer. See Memory Usage above for additional information.

Some Java applets (such as Clock) or applications that are processor intensive may cause other applets to open or run slowly, or may cause them not to open at all. To improve performance, try closing applets or applications that you are not using.

The Apple Applet Viewer does not report some errors. If an applet does not open in Apple Applet Viewer, try opening it with Apple Applet Runner to see if an error message appears.

Further Information and Reporting Problems

See our Web site at http://applejava.apple.com to find out about future releases of Mac OS Runtime for Java or get information on how to report issues with the software.

Other Applets on the Internet

There are thousands of applets available on the Internet. Two good starting points for finding applets are http://www.javasoft.com/ and http://www.gamelan.com/ .

Software Development Kit Available

A software development kit (SDK) is available for MRJ 1.0.2. The MRJ SDK includes interfaces to the runtime environment that allow software developers to:

- run Java applets and applications within a Macintosh application
- access the Java runtime from a Macintosh application
- call Java methods from C and C++
- call native methods from Java
- build standalone Java applications

The SDK also includes a utility to run Java applications.

See our Web site at http://applejava.apple.com to get the MRJ SDK.

Java not fault-tolerant

The Java technology is not fault-tolerant and is not designed, manufactured or intended for use or resale as on-line control equipment in the operation of nuclear facilities, aircraft navigation or communication systems, or air traffic control machines in which the failure of the Java technology or Mac OS Runtime for Java could lead directly to death, personal injury, or severe physical or environmental damage.

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For the most current information on what SDKs Apple offers, visit: http://developer.apple.com/sdk/

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Mac OS 8: About QuickDraw GX Read Me

This article contains the About QuickDraw GX Read Me file that comes with Mac OS 8.0.
This article has been archived and is no longer updated by Apple.
Prompted by our new dual OS strategy, Apple has reevaluated the graphics and printing architectures of Mac OS. This Read Me outlines the decisions that have been made to provide a better printing migration path for our customers to future OS releases. The new implementation of QuickDraw GX will continue to offer our customers the advantages of the superior graphic and typography features of the Mac OS, while still providing an attractive printing environment.

Mac OS Unified Printing Architecture; GX Printer Drivers and GX Printing Extensions No Longer Supported
Beginning with Mac OS 8 and QuickDraw GX 1.1.6, Apple will provide a unified operating system printing architecture, standardizing on classic (non-GX) QuickDraw printing and printer drivers. With the unified printing architecture, QuickDraw GX printer drivers and QuickDraw GX printing extensions will not be supported in Mac OS 8 and future Mac OS releases.

Other than simplifying the printing procedure, the impact of Apple's new unified printing architecture will be fairly minimal. For applications that work in both QuickDraw GX and classic QuickDraw printing environments, no changes in operation will be necessary.

Customers wanting to print from their QuickDraw GX-only application will have to obtain a version of the application upgraded to be able to print via non-QuickDraw GX printing. Please contact your application's vendor for information on availability.

Using Fonts with QuickDraw GX 1.1.6

QuickDraw GX no longer enables Type 1 Fonts Automatically
If you would like to use Type 1 fonts with QuickDraw GX installed, you can use the Type 1 Enabler (one of the QuickDraw GX Utilities available via Custom Install). The Type 1 Enabler allows you to create copies of your Type 1 fonts that are compatible with QuickDraw GX. Your original Type 1 fonts are not modified and are placed in a folder called Archived Type 1 Fonts.

Using the Type 1 Enabler
To install the QuickDraw GX Utilities and enable Type 1 fonts, perform a custom install of QuickDraw GX 1.1.6; see the instructions in Chapter 3 (Adding and Removing Software) of the Mac OS 8 Installation Guide.

When using the Type 1 Enabler, make sure that each Type 1 font family is in its own suitcase. The Type 1 Enabler will not enable your Type 1 fonts if multiple font families are contained in one suitcase.

The Type 1 Enabler supports only Type 1 fonts. If the Type 1 Enabler program encounters a suitcase containing Type 3 fonts, it displays the message "Contains a Type 3 font program" and does not enable the suitcase.

The Type 1 Enabler does not enable hybrid fonts. If you see the message "Contains a hybrid font program (see README file for details)" when the Type 1 Enabler attempts to enable Optima or ITC Eras, it may be because you have an old version of these fonts. These fonts cannot be enabled because they are hybrid fonts. If you are a registered owner of Optima or ITC Eras, call Adobe Systems Technical Support to obtain an upgrade to the non-hybrid versions of these families.

The Type 1 Enabler may not succeed in restarting your system after it is finished. If this happens, you should restart your system manually from the Finder.

Removing Duplicate Fonts
To make sure that QuickDraw GX properly manages currently installed fonts, you should make sure you have no duplicate fonts installed in the System Folder. Remove any duplicates that you find.

Restoring Type 1 Fonts to Their Original State
If you remove QuickDraw GX from your system, you need to restore your Type 1 fonts. To restore Type 1 fonts, follow these steps:

1. Open the System Folder.

2. Open the Fonts folder.

3. Drag any suitcases that have been enabled to the Trash.

4. Open the Archived Type 1 Fonts folder.

5. Move the contents of the Archived Type 1 Fonts folder to the Fonts folder.

6. Drag the Archived Type 1 Fonts folder to the Trash.

Adobe Type Manager version 4.0.2
ATM version 4.0.2 can be custom installed with this version of QuickDraw GX.

Caution: installing ATM 4.0.2 will replace any other installed version of ATM, including ATM Deluxe.

Type 1 fonts will display and print properly only if ATM is installed and turned on. As with previous versions, ATM 4.0.2 rasterizes Type 1 font data from the POST resource in conventional outline font files (file type LWFN). In addition, ATM 4.0.2 rasterizes Type 1 font data from the sfnt resource in suitcase files (file type FFIL). ATM 4.0.2 does not include font substitution capability.

Previous versions of ATM and ATM Deluxe 4.0 are not compatible with this version of QuickDraw GX. Type 1 fonts will display on the screen but will not print. Check with Adobe for a newer version of ATM Deluxe.

Portable Digital Documents
You will no longer be able to create GX PDDs with QuickDraw GX 1.1.6. Also, SimpleText will not display PDDs under QuickDraw GX 1.1.6. You should convert PDD files to a different format, such as Adobe Acrobat PDF files, before attempting to use them with Mac OS 8 or QuickDraw GX 1.1.6.

Adobe Acrobat
If you install Adobe Acrobat prior to installing QuickDraw GX, you will need to reinstall Acrobat afterwards. Acrobat needs to recognize that QuickDraw GX is present when it is installed in order to function properly.

QuickDraw GX and WorldScript II
Make sure that you upgrade to the newest version of WorldScript II, included with Mac OS 8. You will need to do a custom install from the Mac OS Installer.

QuickDraw GX and At Ease
Make sure that you are using At Ease version 2.0.3 or later.

Printer Driver Versions
Apple recommends that you use the latest versions of drivers for Apple printers, installed as part of Mac OS 8, when printing from QuickDraw GX applications. The printer drivers included with Mac OS 8 are all compatible with QuickDraw GX.

Application Compatibility
Apple has conducted some limited compatibility testing with QuickDraw GX 1.1.6 and GX-aware applications. If you do not see your application listed here, contact the application vendor for compatibility information.

The following GX-aware applications are fully functional with QuickDraw GX 1.1.6 installed:

- BareBones BBEdit 4.0.4
- Cherwell pro fit 5.00
- ClaireWare Personal Log 2.10
- Microsoft Word 6.01
- Microsoft Excel 5.00
- NisusWriter 5.00
- PierceSoft ShareDraw 2.01
- Symantec Act! 2.50
- WorldSoft WorldWrite 3.0.1

The following applications will not start up if QuickDraw GX 1.1.6 is installed:

- Lightning Draw GX
- MovieClips
- TexGX 1.1b3

The following applications will not print correctly if QuickDraw GX 1.1.6 is installed:

- Nisus Qued/M 3.00
- PaceWorks ObjectDancer 1.00
- Pixar Typestry 2.1.1
- UniQorn
- Corel WordPerfect 3.5.2 (68k only)

Note: Contact the application vendor for information on obtaining updated versions of these applications.

Known Issues
Current versions of printer drivers may generate large spool files and take a long time to print when printing documents containing QuickDraw GX data. In addition, QuickDraw GX data printed to the Apple Color LaserWriter may be printed at less than full printer resolution. These issues will be addressed in future versions of printer drivers from Apple and other vendors.

With ATM 4.0.2, some PDF documents that use ATM substitution fonts may not print correctly using the LaserWriter 8 driver. This issue will be fixed in a future version of LaserWriter 8 and/or ATM.

Some older QuickDraw pictures with embedded QuickDraw GX data may print with random noise in the background of the picture. This is due

to an issue in QuickTime, and will be fixed in a future version of QuickTime.

Some QuickDraw GX data may print incorrectly in low memory conditions. You may notice that parts of the image repeat rather than the entire image printing correctly. This issue is in the QuickDraw GX QuickTime Codec and will be fixed in a future version of QuickTime.

The article 17159: "**Locating Vendor Information**" can help you search for a particular vendor's address and phone number.

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Mac OS 8: About 5XXX/6XXX Tester Read Me

This article contains the About the 5XXX/6XXX Tester Read Me file that comes with Mac OS 8.0.
This article has been archived and is no longer updated by Apple.
This document describes the 5XXX/6XXX Tester application. This application checks Power Macintosh and Performa 5200, 5300, 6200, and 6300 series computers for hardware issues that may cause the computer to "freeze." The tester only works on Power Macintosh and Performa 5200, 5300, 6200, and 6300 series computers.

Important: The Power Macintosh or Performa 6360 does not have this hardware issue. If you have a Power Macintosh or Performa 6360, you do not need to use the tester program.

If you are experiencing issues with your computer other than system "freezing," you should contact an Apple Authorized Service Provider to obtain a full diagnostic test.

How to use the tester application

To use the tester application, double-click its icon.

After the tester has checked your computer, you will see a message. If the message indicates that an issue has been found, contact an Apple Authorized Service Provider or Apple CustomerSupport to have your computer repaired. The necessary repairs are covered under a repair extension program.

Other References:

The following information was not in the original Mac OS 8 About 5xxx/6xxx Tester Read Me file.

The following Tech Info Library articles provide additional information on the 5xxx/6xxx Tester application.

- Article 19999: **Macintosh 5xxx/6xxx Tester: Read Me**
- Article 20061: **52xx/62xx Diagnostic Utility & 5xxx/6xxx Tester:Difference**
- Article 18928: **Macintosh Performa 5xxx/6xxx: Frequently Asked Questions**

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Mac OS 8: Apple Location Manager Read Me

This article is the Apple Location Manager Read Me file that comes with Mac OS 8.0.
This article has been archived and is no longer updated by Apple.
This document provides late-breaking news about the Apple Location Manager control panel. You may want to print this document to keep with the user's manual for your computer.

Quick start for Apple Location Manager

To assure that Apple Location Manager recognizes all the modules you can add to locations, follow these steps the first time you use the Location Manager control panel.

1. Before you open the Location Manager control panel, open and close the Extensions Manager control panel.

2. Open both AppleTalk and TCP/IP control panels and create a new configuration in each control panel. (Save the configuration with a name other than Default.) For instructions, see "How do I change AppleTalk settings all at once?" in the Networks section of Mac OS Guide.

3. Open the Location Manager control panel and create the locations you want to use.

Name to avoid when naming a location

To avoid confusion, do not use the name "None (off)" for a location you create with Apple Location Manager. This is the phrase you use to turn off Location Manager or to select none of the existing locations in the control panel's pop-up menu.

Setting a startup location

Apple Location Manager only changes system settings when you tell it to; it does not automatically change settings at startup (although you can use Preferences in the Edit menu to have the program prompt you to change settings). If you want Apple Location Manager to switch to a specific location each time the computer starts up, you can create an AppleScript script that performs that task. Put the script in the Startup Items folder and the location you want will be set at startup. Open the location you want to use at startup, then create the script below. Using the Script Editor application, type the following lines:

```
tell application "Finder"

open file ((control panels folder as string) & "Location Manager")

tell application "Location Manager"

set current location to location "snd"

end tell

end tell
```

Copy the script above exactly and substitute the name of your location for "snd;" for instance, type `Sample` if you want the Sample location to be used each time you start up. When finished typing the script, launch Location Manager and then compile the script.

Using Auto-Open Item to open folders or mount servers

You can set Apple Location Manager to open one or more items automatically when a location becomes active. These items can be documents or programs. To open a folder or mount a server, you must first create an alias to the item, then choose that alias when adding Auto-Open Item to a location. (You create an alias by selecting the item and choosing Make Alias from the File menu.)

Deferred switches when switching at startup

If you switch locations as the computer is starting up, Apple Location Manager may defer changing some settings such as sound level or auto-opening a document, until the computer's startup procedure is complete. Usually you will see a message reporting that the switch to the new settings is being deferred.

If you switch locations during startup and then switch again before continuing with the startup process, the deferred settings will only occur for the last location chosen. If there were deferred settings in the first location, they will be skipped.

Installing Apple Location Manager

Always use the installer program to install Apple Location Manager. The software may not work correctly if you try to copy or drag it to the System Folder. (You install Apple Location Manager by locating its folder in the Install Applications folder on the CD that came with your computer and double-clicking the install document.)

Using existing locations on a different computer

You can export and import locations you create with Apple Location Manager. To use a location on a different computer, follow these steps:

1. Export the location you want to use on the other computer. (To export a location, select it in the Location Manager control panel, choose Export Location... in the File menu, and specify where to save the exported location.)

2. Install Apple Location Manager on the other computer, using the installer program.

3. Open Apple Location Manager and import the location you exported previously. (You import a location by choosing Import Location... from the File menu and selecting the location file you want to use.)

Importing may not install all software

Importing a location from another computer does not guarantee that all the software required to use the location is installed. (Apple Location Manager does not install software.) For example, you may import a location that specifies LaserWriter 300 as the default printer, but the location cannot switch to that printer unless you have the printer's driver software installed. Therefore, it is a good idea to check all the settings in a location you import to verify that they are available on the new computer.

Selecting and setting up a LaserWriter

If you import any location that includes settings for a LaserWriter as the default printer, you must reselect and set up the printer in the Chooser. (Otherwise the location you imported will use the generic printer information for your LaserWriter instead of the specific information for the model identified in the original location.) You select and set up a LaserWriter by:

1. opening the Chooser

2. selecting the LaserWriter icon

3. selecting the printer's name

4. clicking the Setup button

5. clicking Auto Setup. When the printer's model name appears, click OK.

Note: your computer must be connected to the network the printer is on to update the LaserWriter correctly.

Incompatibility with At Ease's Protect System Folder option

If you are using At Ease on your computer and you establish locations for Apple Location Manager, you may see an error message when a module for Location Manager interacts with part of the system software to which access has been restricted by At Ease. You may need to turn off the Protect System Folder option so that Location Manager operates correctly.

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Mac OS 8: Mac OS 8 Installation

This article contains the Mac OS 8 Installation Read Me file.

This article has been archived and is no longer updated by Apple.
This document describes how to install Mac OS 8. It includes compatibility information, instructions for the Install Mac OS application program, and basic installation troubleshooting. For more detailed information, see the Mac OS 8 installation manual.

Warning: PowerTalk is not compatible with Mac OS 8. After you install Mac OS 8, you will not be able to access your PowerTalk mail or catalogs, nor will you be able to use your keychain or other PowerTalk services. See the Mac OS 8 installation manual for more information.

Warning: Application programs that use QuickDraw GX may not be able to print due to changes in the version of QuickDraw GX included with Mac OS 8. See the file About QuickDraw GX for more information.

Before you install

1. Turn off any security software that you may have installed on your computer.

2. If you have a PowerBook, make sure that it is plugged into AC power and set not to go to sleep.

3. If you have AppleShare software earlier than version 3.6.4, you should upgrade to version 3.6.4 before installing Mac OS 8 over a network. See the document in the AppleShare folder in the Utilities folder for instructions.

4. Write down your current Internet settings, such as the IP address, subnet mask, name server, and so on. After installation, the Internet Setup Assistant will ask you to enter this information.

5. Start up your computer using the Mac OS CD-ROM disc or the Mac OS 8 Install Me First floppy disk. See your installation manual for instructions.

If you can't start up with the Mac OS 8 disks, be sure to do the following additional steps:

1. Turn off any virus-protection software that you may have installed on your computer.

2. Disable all non-Apple extensions and control panels. If you have System 7.5 or later, use the Extensions Manager control panel to select the System 7.x base set of extensions and control panels. See the installation manual for more details.

3. Restart your computer before installing Mac OS 8.

Compatibility information

Although compatibility issues are not expected, you can ensure a smooth upgrade by checking with the manufacturers of any non-Apple software you use to make sure it works with Mac OS 8. If you do experience an issue, see the troubleshooting chapter in your installation manual for more information on isolating compatibility issues.

Computers with 68040 processor upgrade cards

Computers upgraded to 68040 with a processor upgrade card do not work by Mac OS 8.

Performa or Power Macintosh 5000 and 6000 series computers

Some Performa or Power Macintosh 5200 series, 5300 series, 6200 series, and 6300 series models cannot use Mac OS 8 until a hardware issue is fixed. The repairs are covered under the Apple repair extension program. To see if your computer has this hardware issue, use the 5xxx/6xxx Tester utility in the Utilities folder on the CD before installing Mac OS 8.

Note: The Power Macintosh or Performa 6320, 6360, and 5260 do not have this hardware issue. If you have a Power Macintosh or Performa 6320, 6360, or 5260, you do not need to use the tester program.

Installing Mac OS 8

Accelerated NuBus PowerPC computers

If you have a Power Macintosh 6100, 7100, 8100, or 9150 with a third-party accelerator that increases the clock speed of your computer, the Installer might refuse to install Mac OS 8 because it doesn't recognize your system. You can install Mac OS 8 on these computers by using the individual installers located in the Software Installers folder on the Mac OS 8 CD instead.

MacODBC and Mac OS 8

If you use MacODBC, you should either install it before installing Mac OS 8, or perform a custom install of MacODBC and make sure the ASLM extensions are not selected. The MacODBC installer installs older versions of ASLM extensions that are incompatible with Mac OS 8.

Third-party Finder and utility software

Some third-party programs that extend or add features to Mac OS may not work with Mac OS 8. Examples include programs that change the way menus work, change how files are stored, or alter the way you work with files in the Finder. Contact the software's manufacturer for information about using such programs with Mac OS 8. This is especially important if you're using a program that automatically alters the way files are stored (such as compressing them) because you might not be able to access those files until you obtain updated software for use with Mac OS 8.

400K diskettes and Mac OS 8

The 400K MFS diskette format is not supported by Mac OS 8. If you have information or programs on obsolete 400K diskettes that you want to access, copy the files to your hard disk, an 800K diskette, or a 1.44 MB diskette before installing Mac OS 8.

Using the Install Mac OS program

To ensure a successful upgrade, use the Install Mac OS program to install the software. This program unifies the tasks recommended for a successful installation and simplifies the installation process. Refer to the Mac OS 8 installation manual and the onscreen help in the Install Mac OS program for more information.

Troubleshooting suggestions

Disk cannot be updated with the Apple utilities

Some Apple-branded disks manufactured by third parties, including the Apple 365 MB external hard disk, are not supported by the Apple disk utilities. If your disk cannot be updated with the Apple utilities, you will need to use a third-party disk utility to update the driver.

Disk has issues and cannot be repaired message

If you see a message that your disk has issues and cannot be repaired, turn off file sharing if it is on, then try installing again. If that does not work, try using another disk-repair utility. If you do not have another utility, or if that utility also does not work, you may need to reinitialize the disk. Copy all your files to another disk first, as reinitializing erases the disk. For more information about reinitializing, see the manual that came with your computer.

Issues during installation

If you experience issues during installation, be sure to start up with the Mac OS 8 CD-ROM disc or the Mac OS 8 Install Me First floppy disk. See your installation manual for instructions.

Cannot start up with CD-ROM

If you are installing over a network, or if you have a non-Apple CD-ROM drive and cannot start up with the CD or disk, turn off all extensions that were not provided with your system software. Then restart the computer.

See the troubleshooting chapter in your installation manual for additional suggestions.

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Mac OS 8: Internet Explorer Read Me

This article contains the Internet Explorer Read Me file that comes with Mac OS 8.0.

This article has been archived and is no longer updated by Apple.

Microsoft Internet Explorer 3.01 for Macintosh

Thank you for choosing Microsoft Internet Explorer for Macintosh. Although Internet Explorer 3.01 has dozens of new features, by the time you read this, there may already be a new version of Internet Explorer, so please check out http://www.microsoft.com/mac/ie/ periodically for updates.

Microsoft Internet Explorer is a World Wide Web (WWW) browser for the Macintosh. The WWW is the fastest growing component of the Internet today. In order to use a WWW browser, you will need a modem or network access, access to the Internet, and software that enables your computer to communicate with the Internet.

Microsoft Internet Mail and News, our small and fast e-mail client, and Microsoft Personal Web Server, which turns any Mac into a Web serving solution are not included in this installer. You can visit http://www.microsoft.com/mac/ie/ to download these products.

Registering Internet Explorer

We've made it even easier for you to register Internet Explorer 3.01. The first time you open Internet Explorer, you will automatically visit our online registration site. Remember that this only occurs the first time you open Internet Explorer after installation. The next time you open Internet Explorer, you will visit your default home page. For more information, see the License Agreement.

Requirements

System Requirements

- Macintosh with 68030 or higher processor
- System 7.1 and higher
- 8 MB of RAM
- 7 MB of hard disk space when Internet Explorer is installed

Access to the Internet

You must have access to the Internet through an Internet Service Provider or the network to which your computer is connected.

Internet software

- Open Transport 1.0.8 or greater (Extension) or Mac TCP
- If you are a dial-up user, Config PPP or similar PPP connection software (Control Panel) with PPP (Extension)

New Features

Version 3.01 of Internet Explorer represents a surprisingly large number of new features, so be sure to take a look at the following:

JavaScript

JavaScript is the easiest and fastest way for Web authors to add interactivity to a Web site. Unlike Java, which is based on separate software components, JavaScript is a scripting language whose programs are embedded right in the HTML. You can use the Preferences dialog box to turn scripting on and off.

Choose your Java virtual machine

Settings in the Preferences dialog box give you greater control over the use of Java:

- You can choose which Java virtual machine you would like to use: Microsoft VM or Microsoft JIT. If Apple MRJ is already installed on your machine, you can choose it.
- You can specify whether a warning should be displayed if there are errors in the Java applet or whether the browser should save the output text from the Java applet.

Downloading files

The Download File command in the File menu lets you download files from the Internet while you continue to browse other Web pages. Once you have typed the URL of the file you want to download, the Download Manager will open and give you information on the status, size, and download time of the file. The Download Manager is also available from the File menu and it keeps a history of the files you have downloaded.

You can double-click the downloaded item in the Download Manager for more information.

Internet Explorer now supports folder downloads from FTP and Gopher sites. Drag and drop the folder to the Finder to download the contents of the folder. You can also press and hold down the mouse button over an item on the Web page, and then choose Download Link to Disk from the context menu.

Enhanced download options include automatically decoding BinHex and MacBinary files while the file is being downloaded.

Note: For information on configuring your browser to process MacBinary files, see Knowledge Base article 24629: "**Microsoft Internet Explorer: Configuring For MacBinary**"

Manage site passwords and user names

The Site Passwords page in the Preferences dialog box maintains a list of the user names and passwords you have used to access a site. Now, you can change access information without going to the site.

Receive updates to your favorite pages

When you mark favorite pages as subscribed pages, Internet Explorer will monitor those sites and notify you, when and if a subscribed page changes. To select how often you want Internet Explorer to look for changes, and how you want to be notified of changes, choose Subscription Options from the Favorites menu.

Note: This is a subset of the Subscription functionality that will be included in the Internet Explorer 4.0 platform preview.

Improved favorites

You can sort favorite items, rename the path, and resize the columns in the favorites list. In addition, you can turn a subscription to a favorite page on and off by clicking in the Subscriptions column (the left most column in the Favorites window). To change subscription information for a particular item, double-click the subscriptions icon located beside the favorite item.

Manage cookies

A cookie is a small piece of information that a Web site downloads on your hard disk for future reference. For example, a cookie might be used to store a customized view of a Web site or ensure that you never see the same advertisement twice. Settings in the Internet Explorer Preferences dialog box let you control the download of cookies. For example, you can choose to always accept cookies or you can choose to always display an alert when a Web site wants to download cookies.

Autosearch

Internet Explorer has made searching the Internet even easier with the Autosearch feature. Simply type `go` or `?` and the topic you'd like to search for in the Address Bar, and Yahoo! (www.yahoo.com) will search its databases for matching topics and display them for you. For example, type `? cooking` to find all references to cooking in the Yahoo! database.

Fetch bookmarks

Do you have Fetch bookmarks? Now, you can import them into Internet Explorer. Drag and drop your Fetch bookmarks into the Favorites window of Internet Explorer.

Type ahead in the Address bar

Type an address into the Address bar and Internet Explorer can attempt to complete the address using the contents of your favorites and history lists. First, Internet Explorer will review the names and addresses in your favorites list, and then, if it doesn't find a match, it will review the names and addresses in your history list. For example, if you recently visited the Microsoft site at http://www.microsoft.com, you might need to type only the letters `Mic` or

```
http://www.mic
```

before Internet Explorer displays the complete address for you.

You can turn off this option by choosing Preferences from the Edit menu, clicking the Browser Display under Web Browser, and then clearing the Auto-Complete Addresses check box.

Refreshing a Web page from the context menu

You can reload a Web page quickly by using the Refresh command from the context menu. This feature is especially useful when you want to refresh the contents of a file contained in a frame. Simplyclick inside the frame, hold down the mouse button, and choose Refresh from the context menu.

Preferences and Internet Config

Internet Explorer is now more closely integrated with Internet Config and works with the preferences file for Internet Config directly. You no longer have to select whether or not you want to use Internet Config. Any settings you change in the Internet Explorer Preferences dialog box automatically go to the Internet Config Preferences file. If you currently use the Internet Config application, you can continue to do so and the changes you make will automatically appear in Internet Explorer.

More preferences are now available from the Preferences dialog box to better customize your browsing experience. You can control animated GIFs, file downloads, Java VMs, proxies and other features.

ActiveX update

We now have a new version of the ActiveX SDK that supports ActiveX scripting. For more information on this feature, please go to the ActiveX SDK site at http://www.microsoft.com/intdev/sdk/mac .

Known Issues

Installing from the CD

Internet Explorer Installer requires that the startup disk of your computer is a hard disk. You will get an error during installation if your startup disk is a CD ROM drive. If this occurs, restart your computer and then run the Internet Explorer installer.

Java

You may not be able to view large Java applets on 8 MB machines when there is not enough system memory free. This occurs because the Java virtual machine is loaded and unloaded dynamically in the system memory. Memory is used only when you view pages with Java applications.

A 68K JIT is not available at this time. If you are a 68K user make sure that you choose the MSIE/MW VM or the Apple VM (if installed). Please visit http://www.microsoft.com/mac/ie/ for updates.

ActiveX

Microsoft Internet Explorer 3.01 for Macintosh has native ActiveX support, and does not require the use of a plug-in. The Microsoft ActiveX Plug-in included with this installer is for use with older versions of Internet Explorer or other browsers that use plug-ins and do not have native support for ActiveX.

Some Web pages may have ActiveX controls that do not support Mac OS. If this happens and you are unable to view the page, you can turn off viewing of ActiveX content. To do so, choose Preferences from the Edit menu, click Web Content under Web Browser, and then clear the Enable ActiveX check box.

Note: Please be aware that in this release, Internet Explorer cannot verify the integrity of ActiveX controls. Download and use ActiveX controls from trusted servers only.

Protocol helpers

You can use the Preferences dialog box to assign protocol helpers. When you do so, please note that the Use Current Application If Possible check box is turned on by default so that if Internet Explorer can handle the protocol, it will be used instead of the assigned helper. For example, if you have assigned Fetch as your current FTP (File Transfer Protocol) helper and have not cleared the Use Current Application If Possible check box, when you click an FTP link in Internet Explorer, Internet Explorer will be used to download the file, not Fetch.

If you do not want Internet Explorer to handle a protocol, be sure to clear the Use Current Application If Possible check box.

Real Player 4.0b1

The current beta version of the Real Player 4.0b1 installer may corrupt the Internet Preferences file, in which Internet Explorer stores its preferences. If this occurs, delete the Internet Preferences file (located in your Preferences folder inside your System folder). The next time you open Internet Explorer, a new Internet Preferences file will be created.

QuickTime and PowerPlug

If you have QuickTime installed, Internet Explorer requires that the QuickTime PowerPlug be installed in the Extensions folder in your System folder. QuickTime extensions are available for download from http://quicktime.apple.com .

QuickTime and QuickDraw 3D

If you use the Extensions Manager to disable QuickTime and QuickDraw 3D, you need to remove the appropriate QuickTime and QuickDraw 3D libraries.

VRML

If you are using Internet Explorer to view VRML pages, you must have QuickDraw 3D version 1.5 or later installed. QuickDraw 3D is available for download from http://quickdraw3d.apple.com/ .

Internet Config File Mappings table

Internet Explorer maintains an internal list of viewers that tells it how to handle different types of documents. In this release, this list is exported and merged with the Internet Config File Mappings table. As a result, please consider the following:

- Internet Explorer's list of viewers is indexed by the MIME types (Multimedia Internet Mail Extensions) of incoming documents. Since Internet Explorer cannot use a viewer without a MIME type, it will ignore them, but not delete or alter file mappings in Internet Config that do not contain a MIME type.
- Internet Explorer maintains only one table entry per MIME type. If you have multiple file mappings in Internet Config with the same MIME type, Internet Explorer will use only the last setting in the table.
- Internet Explorer adds a small amount of information to each file mapping in Internet Config to store its How to Handle setting. When you choose Use Explorer as a Viewer, Internet Explorer always attempts to handle the document type, regardless of the settings in Internet Config. Most file formats use the viewer specified in Internet Config, however, certain file formats like GIF and JPEG are handled by Internet Explorer regardless of your Internet Config setting.

Using Help

Internet Explorer Help is available from the Help (?) menu and will give you the information you need to use the powerful features of Internet Explorer.

1. Click a topic area on the left to see a list of related procedures. To open the procedures in a separate window, press and hold on the topic area link and then choose Open Link from the context sensitive menu.

2. Click Index to see the Index. Use the Index just as you would an index in a book.

3. Click Tips & Tricks for information about a particular menu item and its keyboard shortcut.

4. Internet Explorer Help is best viewed in Internet Explorer.

5. Click the Internet Explorer logo at the bottom of the topics list to visit the Internet Products home page at www.microsoft.com/ie/mac .

6. For best viewing, choose Preferences from the Edit menu, click the Web Content tab, and make sure Allow Page To Specify Colors is selected.

7. To print, click in the frame that contains the information you want, and then choose Print from the File menu.

Reporting problems and making suggestions

Send mail to giraffe@microsoft.com with your suggestions. Include:

- System configuration information (on the Apple menu, choose About Internet Explorer, and then click Support).
- Version of operating system
- Type of Macintosh
- Type of connection to the Internet
- Steps that lead to the problem. For example:

1. Start Microsoft Internet Explorer.

2. From the File menu, choose Open.

3. Click the Cancel button.

4. Result: Nothing happens.

Any other information that will help us reproduce the bug successfully.

Although you will not receive a response via e-mail, all your messages will be read and evaluated by the engineering team. We appreciate your feedback.

Technical support

Microsoft offers 90 days of product support at (206) 635-7123 in the U.S. and (905) 568-4494 in Canada. This support is free of charge, except for the cost of the telephone call.

Visit the Internet Explorer for Macintosh home page

Learn more about the many features and updates of Internet Explorer by visiting our home page at http://www.microsoft.com/mac/ie/ .

Redistribute Microsoft Internet Explorer--royalty free!

With the Internet Explorer Administration Kit 3.0 for the Macintosh, users can deploy Internet Explorer across an organization, or distribute it with their applications. You do not have to pay royalties when redistributing Internet Explorer, just a small fee for shipping and handling of the CD. To receive the Internet Explorer Administration Kit, check out http://www.microsoft.com/ie/ieak .

Java Virtual Machine components for Internet Explorer 3.01

Microsoft Internet Explorer 3.01 Java support is based on the JManager interface as defined by Apple Computer, Inc. Internet Explorer has an open architecture that supports multiple Java Virtual Machines such as the Apple Java Virtual Machine, MSIE/MW VM, and MSIE/MW PPC_JIT VM.

To enable Java in Internet Explorer:

1. Choose Preferences from the Edit menu.

2. Click Java under Web Browser, and make sure the Enable Java check box is selected.

3. To change your VM, choose it from the Java Virtual Machine menu.

Java VM pop-up menu will be grayed out, if a Java VM is not installed on your machine. To install Java VM see the instructions in The Apple VM below.

The Apple VM

Internet Explorer uses the Apple Java Virtual Machine that comes with your system software. If not installed please install it from the Mac OS System Software CD or download and install it from http://applejava.apple.com/ .

The Microsoft Java VM

The Microsoft Java VM was jointly developed by Microsoft and Metrowerks and is available in two flavors: MSIE/MW VM and MSIE/MW PPC_JIT VM. You may use either the MSIE/MW VM or MSIE/MW PPC_JIT VM with Internet Explorer, but one may be better suited to your needs.

The Microsoft Java VM in not included in this version of the Internet Explorer Installer. The MSIE/MW VM can be downloaded from http://www.microsoft.com/ie/download .Follow the instructions to install, and change Internet Explorer Preferences as noted above to choose from the different Java Virtual Machines.

The MSIE/MW VM is installed with Internet Explorer requires less memory and lets you debug Java applets. The MSIE/MW PPC_JIT VM includes technology known as a Just In Time (JIT) compiler. The JIT takes standard Java byte codes and compiles them into native PowerPC instructions. For computational applets, you will see a dramatic increase in speed. Graphics speed, however, will remain largely unaffected. The JIT VM does not support debugging and it requires more RAM because PowerPC code is larger than Java byte-code.

Note: A 68K JIT is not available at this time. If you are a 68K user make sure that you choose the MSIE/MW VM or the Apple VM (if installed).

Published Date: Feb 18, 2012

EtherTalk Card Software: v.1.1 Improves DECnet Compatibility

This article has been archived and is no longer updated by Apple.

Version 1.1 of the EtherTalk software supports multicast message selection and can set the Ethernet address of the EtherTalk card. This enhancement makes the EtherTalk Card more compatible with DECnet.

Version 1.1 of the EtherTalk software is currently shipping with the EtherTalk cards.

Published Date: Feb 18, 2012

Power Macintosh 6500 Series: Included Software

This article lists all the software included with the Power Macintosh 6500 series Home Edition and Small Business Edition computers.
This article has been archived and is no longer updated by Apple.
Listed below are the approved software titles that are included in the Home Edition bundles of the Power Macintosh 6500 series computers.

Home Edition

- ClarisWorks
- CoolClipArt
- ClickArt Collection
- KidPix Studio
- MacLink Plus/Easy Open Translators (part of the OS)
- Groliers Multimedia Encyclopedia
- American Heritage Dictionary
- Adobe Photo Deluxe
- AOL
- Mech Warrior 2 - 3D Rave
- Ringmaster with STFfax
- Mac OS 8

Included with Mac OS 8

- Netscape Navigator
- Microsoft Internet Explorer
- Excite
- Claris Emailer lite

Internet Software

- Netscape Navigator
- Microsoft Internet Explorer
- Claris Emailer lite
- Excite
- AOL

Small Business Edition

- Microsoft Office 4.2.1 with Essentials for Small Biz
- Norton Utilities for Mac 3.5.1
- Dantz Disk Fit Direct
- Claris Home Page
- Small Business Legal Pro Deluxe
- Ringmaster with STFfax
- Financial Solutions CD by Apple
- Phone Disc
- Now Up to Date and Contact
- Jian BizPlan Builder
- AOL
- Dataviz' Web Buddy
- Mac Link Plus/Easy Open Translators
- Mac OS 8

Published Date: Feb 18, 2012

Apple Tape Backup 40SC: How 1.1 Differs From 1.0

This article has been archived and is no longer updated by Apple.

Backups taken with version 1.1 of Apple Tape Backup 40SC Software often take less time than those taken with version 1.0, even with exactly the same amount of data to back up. And a backup that requires a second tape cartridge with version 1.0 may need only one cartridge with version 1.1. Here's why:

- Version 1.0 backs up all sectors from the hard disk, both used and unused sectors. This is why version 1.0 always needs a second tape cartridge to back up a 40MB disk, even if the disk held less data than the tape theoretically holds, 38.5MB.

- Version 1.1 backs up only through the last used sector. Unused sectors may still get backed up, but none that are beyond the last used sector. Version 1.1 needs a second tape cartridge only when the last used sector is beyond the 38.5MB point on the disk. If, for example, you have 30MB of data to back up, only one tape is required.

Published Date: Feb 18, 2012

Apple Personal Modem: Correction to User‘s Manual

This article has been archived and is no longer updated by Apple.

In the Apple Personal Modem User's Manual (P/N 030-2001-C), page 84, Figure F-1, the picture and pin numbering of the 8-pin connector are incorrect. The APM port should be numbered from right to left, starting with the two-pin row at the bottom. The APM connector should (generally) look like this:

"Female" mini din-8 8 7 6
connector 5 4 3
2 1

Here's the diagram for the cable plugs:

"Male" mini din-8 6 7 8
connector 3 4 5
1 2

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ImageWriter LQ: Correction to Owner‘s Guide

This article has been archived and is no longer updated by Apple.

In the ImageWriter LQ Owner's Guide (P/N 030-3068-A), page 190, Figure C-1
should have pin 4 closer to pin 3:

"Female" mini din-8 8 7 6
connector 5 4 3
2 1

The numbering is correct for the port on the ImageWriter LQ.

Published Date: Feb 18, 2012

Macintosh Monitors: Eliminating Scan Lines From Video Recordings

Article Change History

9/15/92 - REVIEWED
* For technical accuracy.

A scan line sometimes rolls down the screen on video recordings of a Macintosh screen.

This article has been archived and is no longer updated by Apple.

The best way to get rid of the scan line is to use a modification that lets the Macintosh accept an external composite sync. This genlocks the Macintosh screen to the camera.

One GenLock interface, for Macintosh through SE, is supplied by Digital Design Labs.

To locate a vendor's address and phone numbers, use the vendor name as a search string.

Published Date: Feb 18, 2012

DOS 3.3 6502 Editor Assembler: PR slot command

There is a .PR# slot# command in the DOS 3.3 6502 editor assembler of the DOS tool kit. If you use this command you get not a file listing, but a dump of the buffer that starts with data entered by the user or LOADed from a text file.

After this part of the buffer has been printed, the dump continues with the garbage in the buffer beyond the last intelligible character to the end of the allowable buffer. This produces numerous @ signs or other characters depending on the contents of buffer memory after power-up and is a normal part of a Print or List of the assembly program to a printer using .PR# slot# from the editor.
This article has been archived and is no longer updated by Apple.
Try it yourself.

1. Boot the DOS 3.3 6502 editor/assembler
2. LOAD a large source code file
3. List it to see what it looks like
4. Type NEW to clear the buffer
5. LOAD a smaller source code file
6. Type .PR#1 to send the DOS command to activate the printer
7. Type L to list the buffer to the printer

Notice that the last part of the first file follows the last line of the second file. Also notice that such a listing does not match the screen output when using the List or Print commands but instead follows the input format.

To obtain a listing with the same format as displayed on the screen using Print or List commands you must append ',@' to the ASM command. This assembles the file without generating an OBJect code file (see page 56 of the editor/assembler manual). To speed this process when using an Imagewriter and Super Serial Card on an Apple II+ or Apple IIe, do the following.

1. Set the Imagewriter print style to ultracondensed (17cpi)
2. Set the baud rate of printer and card to 9600
3. Send the output of the assembly to the printer using PR#

Notice that there is no period (.) preceeding the PR# command in this case. This is because you are not using the DOS command version but rather the editor/assembler PR# command. See the editor/assembler manual for the format of the PR# command on page 60 and a discussion on pages 60 and 61.

With an Imagewriter at 9600 baud, the above three steps reduce the listing time by 41% when comparing the default type style to the ultracondensed style.
Published Date: Feb 18, 2012

LaserWriter IINTX: Switching Modes Using Software, 1 of 2 (2/95)

It is possible to connect a LaserWriter IINTX to two devices (for example, to a Macintosh via the AppleTalk port and to another device via the serial port) and to switch between them via softswitches.

This article has been archived and is no longer updated by Apple.
It is not necessary to use the DIP switches, which are not rated for large numbers of cycles. The LaserWriter IINTX checks the position of the DIP switches at regular intervals (<30 Sec) and if the switch position does not agree with the software-set parameters, the printer updates the parameters to the switch settings. Since there is no switch setting for 8-bit data, it will default back to the 7-bit default setting of the switches. This was intended to be a feature.

All changes to the persistent parameters must take place outside the server loop. This is done by exiting the server loop, then sending the necessary changes. The PostScript syntax is listed below.

Caution:

If you choose to use the PostScript code provided in this article, you assume all risks involved in making these changes. PostScript code, if not entered correctly, can place the LaserWriter into a condition requiring service.

```
%═══════════════════════════════════════════
% Begin PostScript Code
%
serverdict begin 0 exitserver
statusdict begin
25 9600 3 setsccbatch
end
%
% End PostScript Code
%═══════════════════════════════════════════
```

This sets the 25-pin serial interface to 9600 baud with mark parity.

It is possible to have both RS-232 and AppleTalk connected at the same time, but it's necessary to turn off the AppleTalk RS-422 channel before turning on the RS-232 channel. This is done by sending this PostScript code:

```
%═══════════════════════════════════════════
% Begin PostScript Code
%
serverdict begin 0 exitserver
statusdict begin
9 0 3 setsccinteractive <-- new line
25 9600 3 setsccbatch
end
%
% End PostScript Code
%═══════════════════════════════════════════
```

This turns off the DB-9 (and Mini-8) channel and turns on the DB-25 serial channel for use at 9600 baud. The reverse is possible by changing the appropriate codes.

There are softswitch modes within the LaserWriter IINTX. By using the setsoftwareiomode command, you can specify which software interface will be used to communicate. The options are:

0 PostScript Batch
1 PostScript interactive
2 Diablo 630
3,4 Not Used
5 H-P LaserJet Plus emulation

In addition to setting setsoftwareiomode, it is necessary to use sethardwareiomode to set the hardware method of communication. The setsoftwareiomode must be done outside the server loop, but the sethardwareiomode can be done within the server loop, which indicates it will not be persistent -- by the old definition of persistent -- but will be in effect only for the duration of the print job.

A complete listing of what we currently believe would perform all the functions with only one code segment might look like this:

```
%═══════════════════════════════════════════
% Begin PostScript Code
%
serverdict begin 0 exitserver % leave server loop
statusdict begin % push statusdictionary on the stack
9 0 3 setsccinteractive % turn off RS-422 channel (AppleTalk)
25 9600 3 setsccbatch % turn on DB-25 serial channel
setting setsoftwareiomode 5 % Use H-P LaserJet + mode
setting sethardwareiomode 0 % use serial communications
e3, % end changes to statusdict
%
% End PostScript Code
%═══════════════════════════════════════════
```

If every print job is preceding by this code, or something similar, the parameters should be available when they're needed.

LaserWriter IINT note: The LaserWriter IINT still uses EEROM to store persistent parameters: write life per address of 10,000. The LaserWriter IINTX has a Zero Power RAM with unlimited write cycles to any given address.

Article Change History:
21 Feb 1995 - Reformatted and added PostScript caution.

Support Information Services

Published Date: Feb 18, 2012

LaserWriter IINTX: Switching Modes Using Software, 2 of 2 (2/95)

Continuation of how to switch modes using the LaserWriter IINTX.

This article has been archived and is no longer updated by Apple.
You cannot switch FROM an emulation mode on the LaserWriter IINTX using software. It is possible to change TO emulation modes from PostScript mode through software, but you must cycle the DIP switches to get back into PostScript.

If two Macintosh systems, one on AppleTalk and one on a serial connection, are connected to a LaserWriter IINTX, and if the switches are set for LocalTalk (all switches down), you can print from AppleTalk. The following PostScript program changes the printer mode to Diablo 630 and serial communications at 9600 baud:

```
%═══════════════════════════════════════════════════════
% Begin PostScript Code
%
serverdict begin 0 exitserver % exit server loop
statusdict begin % push statusdict on the stack
9 0 3 setsccbatch % turn off RS-422 channel
25 9600 3 setsccbatch % turn on serial channel
2 setsoftwareiomode % set software mode to Diablo 630
0 sethardwareiomode % set hardware to serial communications
end % end changes to status dictionary
%
% end PostScript Code
%═══════════════════════════════════════════════════════
```

This code is similar to that in part 1 of this article, except:

- the syntax on the setsoftwareiomode and sethardwareiomode commands are corrected
- the sethardwareiomode command is outside the server loop
- secsccinteractive is changed to setsccbatch

This code, if downloaded from an AppleTalked Macintosh, changes the LaserWriter IINTX into Diablo emulation mode and set the serial channel on the DB-25 to 9600 baud. This was verified by sending more PostScript code from the AppleTalked Macintosh, which was ignored. If the printer is power cycled now, the test print will show Diablo mode at 9600, which verifies not only that the printer is in a different mode, but that the persistent parameters do remain after a power off, as they did on a LaserWriter Plus.

Now, a problem: there is a known, but undocumented, problem in the ROMs that does not allow switching the LaserWriter IINTX out of LaserJet mode via software. There is also a problem that does not allow switching out of Diablo emulation mode via software either.

The command sequence is Escape-Delete-0 followed by a Control (Command)-D. This is supposed to interrupt execution of an emulation mode and allow mode changing. When the first part of this code is sent to the printer in an emulation mode, the green light flashes, because the printer sees the code coming in, but the printer will do nothing without the Control (Command)-D. If you then send the Control (Command)-D, the green light stops flashing but the printer is still in emulation mode. This can be verified by sending another file over the serial connection. This problem is being addressed.

In order to get out of any emulation mode with the current version of the ROMs, it is necessary to cycle the DIP switches, to get the printer back into PostScript mode. Power cycling will not accomplish this, but changing the switches will.

To switch modes:

Step 1:

Connect serial device to LaserWriter IINTX via DB-25.

Step 2:

Connect Macintosh via Mini-8 LocalTalk connector.

Step 3:

Set all switches to DOWN position (reversed from manual).

Step 4:

On power-up, test print should show PostScript and AppleTalk on. The printer will now print from the Macintosh.

Step 5:

From Macintosh via a PostScript downloader, send code to switch to serial. The printer is now accessible from the RS-232 device.

Step 6:

Cycle DIP switches 1 & 2 up, wait 30 seconds, then down again. The printer is now back in PostScript Appletalk mode. If the power is now cycled off and on, the test print will show PostScript and AppleTalk once again.

Here is a code segment that may be of some value when attempting to software switch between modes. Adobe provided this short program that allows going into Diablo emulation mode without actually changing switch settings. This is an internal call to the emulation mode and the mode change persists only for the duration of the print job. Send the following code from PostScript serial mode or PostScript batch mode. Terminate the print job with a Control-D.

CAUTION:

This code could hang the AppleTalk network if both LocalTalk and serial cables/devices are connected at the same time, and this mode is selected via software from the serial (RS-232) connector, and if the AppleTalk channel is not set to the 0-baud rate. This is an undocumented and unsupported feature and neither Adobe nor Apple will be responsible for any problems arising from the use of this code.

```
%═══════════════════════════════════════════════════
% Begin PostScript Code
%
%%Title: Invoke Diablo Emulation
%%For: Apple Computer Inc.
%%End Comments
%%BeginProcSet: doDiablo
40 0 translate
\\doDiablo { printpageflag false def
{statusdict begin (Courier) (Courier-Bold) 10 0 \\diablo load end exec }
stopped pop printpageflag { showpage } if } def
%%EndProcSet
%% EndProlog
%% BeginSetup
%%EndSetup
doDiablo
%
% end PostScript Code
%═══════════════════════════════════════════════════
```

Article Change History:
23 Feb 1995 - Added PostScript Caution and reformatted.

Support Information Services

Published Date: Feb 18, 2012

System Software: Why All Apple Products Don‘t Use Same Version

This article has been archived and is no longer updated by Apple.

Various Apple products, even though they leave the factory at the same time, may contain different versions of system software. Here are some reasons why:

- The product may be shipped with the version of system software under which the product was tested. With many Apple products, there is a long test cycle, and it is difficult to re-test the product and change the system software version just before the product's release.

- When new system software is released, it takes time, due to build schedules, for the new software version to be incorporated into the product's packaging.

- Sometimes, a specific modification to the system software is required for a new product. For example, the LaserWriter IISC, which required modifications to the System file and was shipped with System 4.3, which was not a general release.

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DiskExpress: It Can Erase Hard Disks to Military Specifications

This article has been archived and is no longer updated by Apple.

If you need software that can erase Macintosh hard disks to military specifications (that is, writes zeros to every location, then ones to every location), a product called DiskExpress may meet your need.

DiskExpress is a disk optimizer for fragmented files and can erase unused blocks. It offers two options to erase unused blocks or the entire volume:

- erase once, writing binary zeros

- erase three times, first writing binary zeros, then binary ones, and finally binary zeros again.

DiskExpress is AppleShare compatible.

For more information, search the Tech Info Library on ALSoft, the publisher of DiskExpress.

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A/UX: Changing Kernel Parameters (6/93)

Where can I find information on kernel parameters? How can I change kernel parameters?

This article has been archived and is no longer updated by Apple.

```
Beyond minor references in the A/UX documentation suite, there are two
places to find information on kernel parameters:

* See the man page for kconfig(1M).

* See kconfig(1M) in the "A/UX System Administration's Reference"

Type this command to get a list of current Kernel parameters:

kconfig -av /unix

The MSGxxx parameters (the ones that deal with messages) and SHMxxx
parameters (the ones that deal with shared memory) cannot be viewed or
modified via the "kconfig" command, because they are defined and
initialized separately inside the kernel. But, by using "adb" (a kernel
debugger), you may be able to change these parameters.  The last part of
this article describes how to change the kernel parameters for the Shared
Memory, Messaging Operations, and Semaphores within A/UX 1.0.

The Shared Memory, Semaphore, and Message Operation structures are defined
in:

/usr/include/sys/shm.h    Shared Memory
/usr/include/sys/sem.h    Semaphore
/usr/include/sys/msg.h    Message Operations

The structure members are initialized in /usr/include/sys/space.h.
The values used for initialization are defined in two locations:

/usr/include/sys/config.h
../psn/cf/bnetconfig.h

The bnetconfig.h file is found only in the source code and is the last file
to be read in the build process, so it "overrides" the values in the
config.h file.  The values listed within this article are those found in
bnetconfig.h.  In the original version of this article, we verified them by
looking at the virgin A/UX 1.0 binary (/newunix).

If you have a version of A/UX prior to Release 3.0.1, you can change
parameters with ADB.  In A/UX 3.0.1, you can use kconig to set share memory
parameters.

Using adb to Change Parameters
------------------------------
Here is how to change the shmseg value from 6 to 12:

$ adb -w /unix                      # you type the adb command
cannot open core                    # system displays
ready                               # system displays
shminfo+c?D                         # you type to display the value
                                   # in Decimal
shminfo+0xC:             6          # system displays
.?W 0d12                            # you type to change the value
                                   # in decimal
shminfo+0xC:           0x6  =  0xC # system displays
$q                                  # to quit adb, you type
```

```
To determine the offset and value, look at the tables below, i.e. shmseg is
at shminfo+C.

Shared Memory
-------------
shminfo+0:   262144
 int      shmmax     /* max shared memory segment size */
 #define  SHMMAX      262144
shminfo+4:   1
 int      shmmin     /* min shared memory segment size */
 #define  SHMMIN      1
shminfo+8:   100
 int      shmmni     /* # of shared memory identifiers */
 #define  SHMNMI      100
shminfo+C:   6
 int         shmseg  /* max attached shared memory segments per process */
 #define  SHMSEG      6
shminfo+10:    0
 int      shmbrk     /* gap (in clicks) used between data and shared
                        memory */
              0
shminfo+14:   512
 int      shmall     /* max total shared memory system wide (in clicks) */
 #define  SHMALL      512

Semaphores
----------
seminfo+0:   50
 int      semmap     /* # of entries in semaphore map */
 #define  SEMMAP     50
seminfo+4:   50
 int      semmni     /* # of semaphore identifiers */
 #define  SEMMNI     50
seminfo+8:   300
 int      semmns     /* # of semaphores in system */
 #define  SEMMNS     300
seminfo+C:   30
 int      semmnu     /* # of undo structures in system */
 #define  SEMMNU     30
seminfo+10:  25
 int      semmsl     /* max # of semaphores per id */
 #define  SEMMSL     25
seminfo+14:  10
 int      semopm     /* max # of operations per semop call */
 #define  SEMOPM     10
seminfo+18:  10
 int      semume     /* max # of undo entries per process */
 #define  SEMUME     10
seminfo+1C:  94
 int      semusz     /* size in bytes of undo structure */
 #define   SEMUSZ    (sizeof(struct sem_undo)+sizeof(struct undo)*SEMUME)
seminfo+20:  32767
 int      semvmx     /* semaphore maximum value */
 #define  SEMVMX     32767
seminfo+24:  16384
 int      semaem     /* adjust on exit max value */
 #define  SEMAEM     16384

Message Operations
------------------
msginfo+0:    100
 int       msgmap    /* # of entries in msg map */
 #define   MSGMAP    100
msginfo+4:    8192
```

```
 int       msgmax    /* max message size */
 #define   MSGMAX    8192
msginfo+8:    16384
 int       msgmnb    /* max # bytes on queue */
 #define   MSGMNB    16384
msginfo+C:    50
 int       msgmni    /* # of message queue identifiers */
 #define   MSGMNI    50
msginfo+10:   8
 int       msgssz    /* msg segment size (should be word size multiple) */
 #define   MSGSSZ    8
msginfo+14:   200
 int       msgtql    /* # of system message headers */
 #define   MSGTQL    200
msginfo+18:   8192
 ushort    msgseg    /* # of msg segments (MUST BE < 32768) */
 #define   MSGSEG    8192
```

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Macintosh II: Thermal Switch Prevents Overheating

What prevents my Macintosh II from overheating if fan fails?

This article has been archived and is no longer updated by Apple.
The Macintosh II power circuit has a safety feature that prevents the system from overheating in the case of a fan failure or blocked ventilation. If the temperature exceeds 65 degrees C (149 degrees F), a thermal switch on the +5V Power Fail Warning current path, through a 220-ohm resistor, opens. The opening of this switch turns off the power supply within 2 ms.

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Pascal: STRING characters

This article has been archived and is no longer updated by Apple.

Use the routine below to create a STRING containing the CHARacters you wish to add to the STRING, then use the Pascal CONCAT to put them together.

```
PROGRAM CONCAT_CHAR;

CONST LEN = 4;                { or whatever you want }

VAR TEST_STRING : STRING;
CH : CHAR;
I : INTEGER;

(*$R-*)       { turn Range Checking off so you can   }
              { alter individual cells of the string }
BEGIN
  TEST_STRING[0] := CHR(LEN); { set length of string }
  FOR I := 1 TO LEN DO
    BEGIN
      READ (CH);
      TEST_STRING[I] := CH;
    END;
  WRITELN;
  WRITELN (TEST_STRING);
END.
```

Make sure that if this is done within a PROCEDURE or FUNCTION, and the STRING is passed as a parameter, that the (*$V-*) option is used as well as declaring a TYPE to pass rather than STRING:

```
TYPE STR_TO_PASS = STRING;

PROCEDURE WHATEVER (ST : STR_TO_PASS);
BEGIN
END;
```

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Computer "Viruses" (1 of 2)

This article discusses viruses along with how to detect and remove them.
This article has been archived and is no longer updated by Apple.
GENERAL ISSUES

What is a virus?

A virus is a program with two distinct functions:

- It spreads itself from machine to machine (self-reproducing code). This includes the actual infection of other systems as well as the stashing away of code into as many "carriers" as possible.

- It implements the "symptoms" planned by the perpetrator of the virus. This could be any number of things, up to and including erasing a disk on a specific date.

A Bit of History
Computer viruses have been around for almost as long as computers. John Van Neumann, the father of the modern computer, toyed with the idea of self-reproducing computer code as early as 1948. In the late 1970s, there was even a training ground for the writing of viruses. It was a program called Core Wars that implemented an artificial environment pitting two virus programs against each other.

Viruses Are Not Unique to the Macintosh

The Macintosh is not the only system to be plagued by viruses. Mainframe and minicomputers are also targets for virus programmers. One of the more recent mainframe incidents was the virus that invaded IBM's mail system and brought it to its knees for a couple of days. IBM PC users have been experiencing viruses for several years now. The most common method of attack is through the COMMAND.COM file. The Macintosh community has been lucky to have gone so long without virus programming becoming the thing to do.

Not All Viruses Are Meant To Be Damaging, But...

Viruses are not all meant to be damaging. The programmer may just want to prove he can do it and have the satisfaction of reading about it in magazines and on the BBS network. Sometimes, these viruses can cause difficulties anyway. For example, the virus that has prompted this series of articles was meant to be benign except in specific cases. However, it takes up memory and processing time and has caused random side effects such as printing issues and system crashes.

Don't Panic; Don't Overreact

If you think that you have a virus, it's important to not overreact. It is important to take a step back and evaluate the situation calmly. Once you know that you have a virus and what it has infected, it is a relatively easy thing to combat. This document contains enough information for you to deal with most viruses.

Unix Viruses

In all of this, there has not been much discussion of Unix viruses, but they do exist, and the spread of public domain software is almost as great in the Unix world as it is in the microcomputer world.

THE GREAT VIRUS HUNT

When Do You Suspect You Might Have a Virus?

When your computer begins to do things out of the ordinary, or when it stops being able to do things it has always done in the past. The hard part of this is that corrupted system files can lead to similar symptoms even though a virus isn't involved. When difficulties occur, they are much more likely to be the result of non-virus difficulties. When you have ruled out the standard fault areas, you should look into the possibility that your system has been infected by a virus.

What to Look For If You Think You Have a Virus

Look for invisible files in your System folder that don't belong there. Unless you specifically have an application that creates invisible files in the System folder, every invisible file in the System folder should be suspect. Also, a general check of all the files in your System folder for resources that don't belong in those files is well worth the effort.

Files and Resources a Virus Might Infect

- Any and all applications

- HyperCard Stacks (the MacMag virus was spread via a HyperCard stack)

- Files in the System folder, including:
System
Finder
Note Pad file
Scrapbook file
Clipboard file
Easy Access
Sound
Mouse
Startup Device
Monitors
Color
General
Keyboard
LaserWriter
ImageWriter
AppleTalk ImageWriter
ImageWriter LQ

In other words, all system files.

Files a Virus Might Damage Inadvertently

- Any file on an infected volume or system, including system files, documents, applications, etc.

Public Domain Issues

Most viruses spread via public bulletin board systems and are hidden in public domain programs. "Sexy Ladies," a program distributed at a MacWorld Expo in San Francisco, erased whatever hard disk or floppy disk it was on when it was launched.

Network Issues

The use of networks can easily enhance the spread of a virus. Different scenarios are possible, with the simplest being a public domain folder on a server that everyone gets the latest neat stuff from. Also, shared applications residing on a server could become infected, which would then infect every machine that those applications were run on.

TECHNICAL ISSUES

How Viruses Propagate

Viruses can propagate by a variety of methods. The most common way for a Macintosh virus to replicate itself is to have an INIT that installs a background (VBL) task that checks for specific occurrences, such as a disk insertion, and then copies itself somewhere to that disk.

VBL Tasks

The Macintosh has always had a limited form of background processing available to it through the use of the Vertical BLanking queue. Every time the screen on a Macintosh (except for a Macintosh II) is refreshed, any routines installed in the queue are executed. The Macintosh II has a dummy VBL queue for compatibility reasons since the advent of a variety of screens has led to different vertical retrace periods.

VBL tasks can be installed in the queue by any program. The program has to load a routine into a section of memory and install the routine into the VBL queue by calling the Vinstall ROM routine. It is the responsibility of the installing program to make sure the segment of memory containing the routine remains available even after the program has exited. Each VBL task has a specified time period it should be left "asleep" before it is called. Every time the routine is executed, a counter is decremented for that routine. When that counter reaches zero, the routine is deleted from the queue unless the routine itself resets the counter.

Lengthy VBL tasks such as the one that might be used to replicate a virus can interfere with the normal operation of the Macintosh by interrupting processes that shouldn't be interrupted. A perfect example of this is printing to a LaserWriter over an AppleTalk network. If a VBL task takes too long in its execution, the printing process could terminate abnormally and leave the machine's connection to the network in an unstable state.

For the purposes of a virus, an INIT is most likely to be the culprit responsible for installing a VBL task.

INITs

INITs are routines that are run when the Macintosh is booted. For the most part, they have full access to all of the commands normally available to a standard Macintosh program. The major difference is that the low memory globals have not been set up yet, so any INIT needing access to structures normally stored in low memory must create its own.

INITs in the System file:

When a Macintosh boots, the INITs in the System file in the "blessed" folder are the first code to be executed. These INITs should generally be Apple INITs only -- any non-Apple INITs should be considered suspect.

The INIT 31 mechanism:

A special INIT in the System file, INIT 31, was created to allow for the execution of non-Apple INITs without having them installed in the System file itself. When all of the other INITs in the System file have been executed, INIT 31 walks through the System folder looking for files of types INIT, RDEV, cdev, and executes any INIT resources it finds in these files. The order in which the files get loaded is alphabetical. Needless to say, a simple way for hiding parts of a virus is to drop INITs into legitimate files already existing in the System folder with these file types.

CDEVs

The file type cdev indicates a file containing a Control Panel device. When the Control Panel is loaded, it walks through the directory of the System folder looking for any files of type 'cdev'. When it finds a file of this type, it loads the ICN# of that file (assuming it has one) into the list of icons shown on the left side of the Control Panel. When you click on the icon of the cdev in the Control Panel, the code in the cdev resource in the file of type 'cdev' is executed. A virus could easily use this mechanism as a way to infect a system, install a VBL task, etc.

Many cdev files have INITs in them with the cdev controlling the settings that the INIT will use when it is installed. A good example of this is the settings for a screen blanker. The INIT actually installs the VBL task, but the cdev controls when dimming occurs. None of the standard Apple system cdev files have INITs in them, but there is nothing to prevent a virus installing an INIT in these files as a way of hiding its code.

DRVRs

DRVR resources typically can have one of two functions: they can be the code for a desk accessory, or the code for drivers necessary for the system to perform some function such as printing. Once again, the key word here is 'code'. Whenever code is involved, the potential arises for the perpetrator of a virus to take advantage of it.

Just as with cdevs, when a DRVR gets opened, either by the choosing of a desk accessory or by the system, code is executed at that point. This is the stage at which a virus might fulfill its purpose.

CODE Resources

Each application has at least two CODE resources. The first of these CODE resources has an id of 0 and contains what is known as the jump table. This table provides the basic information necessary for various parts of a program to call routines in other CODE segments. The current rage in viruses is to modify the CODE ID = 0 resource of an application so that a CODE segment it installs in the application gets called before the application is actually run. This CODE segment could go out and check if the virus has infected the current system, and if it hasn't, install itself. All the perpetrator of a virus has to do at this point is upload a copy of an infected application to a BBS, and it spreads across the world.

Applications that allow external procedures:

Viruses could take advantage of the external procedures that are allowed by some applications. The perfect example of this is HyperCard, with its XCMDs and XFCNs. This is how the MacMag virus was transmitted.

This article is continued in Tech Info Library article:

Article 2822: "**Computer "Viruses" (2 of 2)**"
Published Date: Feb 18, 2012

Computer "Viruses" (2 of 2)

This article, part 2 of 2, discusses viruses along with how to detect and remove them.
This article has been archived and is no longer updated by Apple.
Continued from Computer "Viruses" (1 of 2)

KNOWN VIRUSES

Hong Kong Virus (also known as Autostart Virus or Autostart Worm)
This virus may affect the computer in a way that would look like a hard disk or logic board failure. Test the computer after starting up from a startup CD-ROM disc (since the virus cannot affect a CD-ROM). If the computer is functioning normally, run an anti-virus application that has been updated to detect and destroy this virus. Many public domain utilities are now available to detect this new virus.

When I play audio tracks on enhanced CD (CD Plus or CD+) format CD-ROM discs, the music will stop playing when I access other applications from the Finder, or won't play at all. This does not happen with audio-only CDs.
These symptoms can also occur with standard audio CD-ROM discs that are not multisession enhanced CDs if the Hong Kong Virus, aka Autostart Worm, has infected the computer's drives.

Symptoms may include:

- Intermittent crashing
- Data on the disk being constantly corrupted
- Large files becoming corrupted
- System restarts when a floppy disk is inserted.
- Audio tracks on enhanced CD (CD Plus or CD+) format CD-ROM discs stop playing when you access other applications from the Finder, or won't play at all. This does not happen with audio-only CDs.

A quick way to look for this virus, if you have System 7.5 or later, is to choose Find from the File menu while the Finder is active and follow these steps:

1. Press and hold the option key.
2. Click name and choose visibility from the pop-up menu.
3. Click More Choices.
4. Click contains and choose doesn't contain from the pop-up menu.
5. Type "icon" in the text field.
6. Click More Choices.
7. Click size and choose file type from the pop-up menu.
8. In the text field enter the file types listed below, for example, (APPL or appe).
9. Click Find.

Look for invisible files with these names:

- DB (file type APPL) [do not confuse with Desktop db]
- Desktop Print Spooler (file type appe) [do not confuse with Desktop Printer Spooler]
- BD (file type APPL) [present in a mutated form of the virus]

Please be aware that as this virus spreads it can be "mutated" to change the file names of the hidden files.

This virus attaches itself to any write enabled disk inserted in an affected computer and is activated by the Enable CD-ROM AutoPlay feature built into QuickTime. Deselecting the Enable CD-ROM AutoPlay checkbox in the QuickTime Settings control panel should stop the virus from spreading to other write enabled disks, however, this action does not remove the virus. When activated it creates an invisible extension that allows the virus to spread to other disks. The virus works slowly to corrupt data in the files on the hard disk, eventually destroying the files. It does not affect 680x0 computers since this virus is PowerPC processor code.

The Scores Virus
You can be almost positive your system has been infected by the Scores virus if the icons of your Note Pad file and Scrapbook file look like document icons instead of system icons. Launch ResEdit and look in your System folder. If you see files called "Desktop" and "Scores" you can be 99% sure that you have the Scores virus.

How Scores Spreads and What It Does

The Scores virus is relatively harmless. The initial infection is caused by an application with a modified CODE ID = 0 resource, and an additional CODE resource (first unused ID number plus 1). When the 'carrier' application is launched, the CODE ID = 0 resource runs the virus installer code. This code checks for previous installation of the Scores virus. If the virus is not there, the virus files are installed. The virus consists of three INITs, one atpl, and one DATA resource found in the files listed below:

FILE	TYPE	CREATOR	RESOURCES	SIZE
Desktop (invisible)	INIT	FNDR	atpl: ID = 128 DATA: ID = -4001 INIT: ID = 10	2410 bytes 7026 bytes 1020 bytes
Note Pad File	INIT	ZSYS	INIT: ID = 6	772 bytes
Scores (invisible)	RDEV	ZSYS	atpl: ID = 128 DATA: ID = -4001 INIT: ID = 10	2410 bytes 7026 bytes 1020 bytes
Scrapbook File	RDEV	ZSYS	INIT: ID = 6 INIT: ID = 17	772 bytes 480 bytes
System File	ZSYS	MACS	atpl: ID = 128 DATA: ID = -4001 INIT: ID = 6 INIT: ID = 10 INIT: ID = 17	2410 bytes 7026 bytes 772 bytes 1020 bytes 480 bytes

If the Note Pad and Scrapbook files do not exist, they are created. If they exist, the type and creator of the files are altered to those listed above, and the corresponding resources are added to the files. The files still appear to function normally with the Note Pad and Scrapbook DAs, but their icons change to document icons. The Desktop and Scores files are invisible, and are created during the infection process.

The next time the infected system is rebooted, the INITs are loaded into memory and are ready to infect other applications. The INITs install a VBL task that actually modifies and installs resources into an application. After an application has been launched, an internal timer is started. Somewhere between two and three minutes later, the open application is infected and becomes a carrier. A new CODE resource is added to the infected application, and the application's CODE ID = 0 resource is modified to execute the new CODE resource first, then continues with the application.

To determine if an application is infected, examine the CODE ID = 0 resource. If the eleventh word of the resource (third word on the third line in the ResEdit listing) is NOT "0001", the application is suspect. If the third word is something other than "0001", convert the value to its decimal equivalent (the numbers are in hexadecimal). Then determine the resource number of the CODE resource at the top of the ResEdit resource list. If these numbers are the same, the application is probably infected, and should be replaced. Some applications will appear to be infected even though they are not. If the eleventh word of CODE ID = 0 is not 1, check the tenth word; if it is '4EED' the application is most likely not infected.

How to Get Rid of the Scores Virus

It is not hard to remove this virus from a system, but it may take some time. Follow the stetps below:

1. Use Font/DA Mover to copy all fonts and DAs that you do not have backups of to font and DA suitcase files (this virus does not attach itself to DAs).
2. Start the system from a locked, not infected, floppy disk.
3. Throw away the System folder on the infected disk.
4. Use ResEdit to identify all suspect applications on the infected disk.
5. Make a list of all suspect applications.
6. Throw all suspect applications in the trash, and empty the trash.
7. Reinstall the system software from a known good System Tools installer disk.
8. Using locked masters, recopy any applications that were deleted from the infected disk (it is important to verify that the master disks have not been infected).
9. You're all done.

The nVIR Virus

How the nVIR Virus Spreads and What It Does

The nVIR virus is similar to the Scores virus in many ways. It does not appear to have malicious intent and is relatively harmless. Initial infection of a system is also caused by an application with a modified CODE ID = 0 resource. When a nVir carrier application is launched, the virus' code segment is executed first. This code checks for its INIT in the System File, and if it doesn't find it, the code copies the INIT there. Along with the INIT resource, eight 'nVIR' resources (0-7) are added to the System file.

The next time the system is restarted, the INIT ID = 32 is loaded into memory and tries to infect every application that is launched. The nVir virus adds a CODE ID = 256 resource and modifies the CODE ID = 0 so that the nVir code is executed first.

Again, infection of an application is determined by examination of the CODE ID = 0 resource. If the eleventh word of the resource (third word on the third line in the ResEdit listing) is NOT "0001", the application is suspect. If the third word is something other than "0001", convert the value to its decimal equivalent (the numbers are in hexadecimal). Then determine the resource number of the CODE resource at the top of the ResEdit resource list. If these numbers are the same, the application is probably infected, and should be replaced. Some applications will appear to be infected even though they are not. If the eleventh word of CODE ID = 0 is not 1, check the tenth word; if it is '4EED' the application is most likely not infected. The tenth word normally contains '3F3C'.

When launching an infected application, there is a one in sixteen chance that you will hear a short system beep. We have been told that if MacinTalk is installed you will hear the words "don't panic".

How to Get Rid of the nVIR Virus

Remove the nVIR virus the same way you remove the Scores virus except you do not need to throw away all of the files in the System Folder; just throw away the System file.

The MacMag Virus

We don't have much information regarding the MacMag virus. It was apparently uploaded to CompuServe, inside a HyperCard stack, in the form of an XCMD, and it installed an INIT ID = 6 with a name of 'RR'. Its sole purpose in life was to display a "universal message of peace" on your computer on March 2, 1988. The virus removed itself after displaying this message and should be of little concern now.

SAFEGUARDING YOUR SYSTEMS

What Makes Our System Susceptible to Viruses

The various mechanisms described in part 2 of this article make our system easy to infiltrate by a virus. Remember that it is those same mechanisms that add to the flexibility and "look and feel" of the Macintosh. For instance, the INIT mechanism is used by mail systems to load their code in. AppleShare uses the INIT mechanism to mount network volumes at boot time.

Why Vaccine Works in This Case, But Is Easy to Bypass

Vaccine, a public domain INIT written to block viruses, does a good job of alerting you when the three known viruses are trying to infect your system. The problem with Vaccine: once a cure is found for one set of viruses, a new strain may appear that knows how to bypass the existing defenses.

Some Suggestions

- Lock your master floppy disks: Always keep original "Master" disks locked. This prevents a virus from spreading to your original disks. Our disk locking mechanism is hardware based -- viruses can't infect locked disks!
- Protect your networks: Network administrators should not allow just anyone to put software on the server. Applications on a network server should come only from known good masters.
- Be wary of public domain software: Public domain software should be checked quite thoroughly on a floppy-based system for any infections before being copied to a hard disk base system. This will also protect you from any "Trojan Horse" programs such as "Sexy Ladies."
- Quarantine infected systems: If you identify a system as being infected with a virus, immediately isolate (quarantine) it from other systems. This means disconnecting it from any network and not allowing anyone to take any files from the exposed system to another system. Once the system has been 'disinfected', you can allow the files to be copied or moved.
- Use ResEdit: ResEdit is a good tool to look for viruses on your disks. There is very little that can be hidden from ResEdit, so you can use it to remove troublemaking files and resources.

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HyperCard 2.x, HyperCard Player: Error Code List (12/93)

What error information does HyperCard 2.x and the HyperCard Player report?

This article has been archived and is no longer updated by Apple.
Both HyperCard 2.x and the HyperCard Player use a similar format for reporting errors. While HyperCard 2.x delivers an error number and explanation, the HyperCard Player simply reports the error number.

HyperCard Player Error Message Details

HyperCard Player Error Messages are reported in the following format:

"Error number <errorNumber> occurred"

In this format, errorNumber is a string consisting of two parts:
(1) The letter code indicating which error string list to refer to.
(2) The string number within that resource to refer to. The letter codes for the string resources are:

Letter -- String Resource
e -- Error Strings
t -- Talk Errors
s -- Script Strings
d -- Dialog Strings

For example, an error message might state:

"Error number t100 occurred"

In this example, the "t" refers to the string resource "Talk Errors" and "100 is string number 100 within that resource" ("Handler Too Long").
Another example might state:

"Failed to Compact Stack. Error number e55 occurred."

In this example, HyperCard couldn't compact a stack, because some resources were still in use. The "e" refers to string resource "Error Strings" and "55 refers to string number 55" ("Resources are in use").

For a complete listing of Error Strings, Script Strings, HyperTalk Errors and Dialog Strings, see the appropriate portion of this article.

(Errors marked with asterisks (*) are not included in the HyperCard Player)

Error Strings - string #140

1--This version of HyperCard requires System 6.0.5 or later.
2--HyperCard does not have enough memory to continue.
3--That tool is not available at the current user level.
4*--Couldn't edit script of that object.
5*--Can't open script editor.
6*--Can't open Message Watcher window.
7*--Can't open Variable Watcher window.
8*--Failed to open icon editor. Couldn't read resource file.
9*--Can't use that ID. The ID must be a number in the range 128 to 32767.
10--Passwords don't match.
11--Can't save changes to text.
12--Can't save changes to picture.
13--Nothing to copy. Try background.
14--Can't modify this stack.
15--This stack is read only.

16--This stack has not been converted. It must be converted before it can be modified.
17--Failed to copy picture.
18--Failed to create new card.
19--Failed to copy card.
20--Failed to paste card.
21--The clipboard is too big to paste.
22--Picture too big to cut or copy. Try copying in sections.
23--Can't delete last card. Use delete stack instead.
24--Can't delete protected card.
25--Can't delete last card of protected background.
26*--Can't find the Home stack.
27--Can't open stack "^0".
28--Not enough memory to ^0.
29--import paint
30--export paint
31--delete stack
32--rename stack
33--copy stack
34--create stack
35--compact stack
36*--edit icon
37*--continue debugging
38--complete that command
39--use the painting tools
40--show the recent cards
41--display the card picture
42--display the background picture
43--copy the selection to the Clipboard
44--Failed to ^0. ^1
45--Can't open stack "^0". ^1
46--File system error ^2.
47--Disk is full.
48--Too many files open.
49--File is busy.
50--File is locked.
51--File access denied.
52--Existing file is not a HyperCard stack.
53--Existing file is not a MacPaint document.
54--Can't replace an existing file.
55*--Resources are in use.
56--Stack may be corrupted.
57--Stack is protected.
58*--It is the current Home stack.
59--Colon not allowed in name.
60--Return not allowed in name.
61--Bad data in MacPaint file.
62--File system error ^0 while ^1 the disk.
63--reading from
64--writing to
65--New file format requires new version of HyperCard.
66--Old file format.
67--The file is not a HyperCard stack.
68--Can't type more than 30,000 characters into a field.
69--Not enough memory to display the text for this field. Try compacting the stack.
70--HyperCard needs more memory to run at this color setting. Please set the monitor back to Black & White.
71--HyperCard needs more memory to run at this color setting.
72--No more windows can be opened.
73--The first character of a stack name can't be a period.
74--Can't edit scripts while debugging.
75*--Can't choose from HyperCard's menus here.
76*--You can choose only from the Debugger menu while debugging.
77

78--Can't replace an existing file that's of a different type.
79--replace

Script Strings - string #135

1*--on mouseUp
end mouseUp
2*--Not enough memory to print.
3*--Selection too large.
4*--Not enough memory to open script editor.
5*--Can't modify this script.
6*--Not enough memory to format script.
7*--Failed to save script.
8*--Got error ^0 when trying to open script editor.
9*--Can't set more than 16 checkpoints in a script.
10*--Set Checkpoint
11*--Clear Checkpoint
12*--Clear All Checkpoints
13*--Print Script
14*--Print Selection
15*--Close Script
16*--Close All Scripts
17*--
18*--Not enough memory to use the Message Watcher.
19*--Not enough memory to use the Variable Watcher.
20*--Not enough memory to use Script Editor.
21--Oh yeah?
22*--The changes to your script will not be saved because the stack can't be modified (unlock the stack if you want to save the changes).
23*--Not enough memory to edit that variable.
24*--Save changes to ^0?
25*--Failed to revert changes.
26*--Do you really want to discard changes to ^0?
27*--Hide unused messages
28*--Hide idle
29*--This script has been changed since it was last saved. Do you wish to continue?
30--button
31--Display what picture?
32--

Talk Errors - string #132

1*--No such stack.
2*--No such card.
3*--Can't access fields or buttons in other stacks. Use "go".
4*--Can't DIV by zero.
5*--Can't MOD by zero.
6*--Destination does not contain a number.
7*--No open file named "^0".
8*--Can't find menu item "^0".
9*--Translator failed to translate the message box into English.
10*--Can't find "^0".
11*--Can't open any more files.
12*--Can't close that window.
13*--Got error ^0 while trying to open file "^1".
14*--There is no ^0 ^1 number ^2.
15*--Not enough memory to read from file.
16*--Got file system error ^0.
17*--No such button or field.
18*--Can't set that ^0 property.
19*--There is no ^0 ^1 id ^2.
20--button
21--field
22--card

23--bkgnd
24--stack
25--HyperCard
26--window
27*--Not a scrolling field.
28*--Can't set properties of that object.
29*--Sort by what?
30*--Not enough memory to sort this stack.
31*--Error writing to file "^0".
32*--Translator failed to indent.
33*--Fields can't hold more than 30000 characters.
34*--Couldn't set that field.
35*--Couldn't load external command.
36*--Too much recursion.
37--Out of memory.
38--HyperCard Help
39*--Can't find icon named "^0".
40*--Script of
41*--Expected ")" but found "^0".
42*--Expected ")".
43*--Too many nested repeats.
44*--Can't understand that message.
45*--Only fields, buttons, cards, and backgrounds have numbers.
46*--Can't take the value of that expression.
47*--Can't get that property.
48--Can't understand arguments of "^0".
49*--Found "exit repeat" outside a repeat loop.
50*--Already have a local variable named ^0.
51*--Too many pending messages.
52*--"^0" is not an application.
53*--There is no ^0 ^1 named "^2".
54*--There isn't any selection.
55*--Too many nested blocks.
56*--end of line
57*--Found "next repeat" outside a repeat loop.
58*--Translator failed to translate indent strings.
59*--Translator failed to initialize itself.
60*--Can't load that translator.
61*--Can't find a translator for that language.
62*--Old translator failed on quit.
63*--Can't understand "^0".
64--Script too silly to execute.
65*--Failed to sort this stack.
66*--User level is too low to edit scripts.
67*--Can't edit script of HyperCard.
68*--Couldn't edit script of that object.
69*--Only cards and backgrounds have pictures.
70*--^0 was not a valid expression for any card.
71*--Can't have more than 16 parameters for an external command.
72*--Only start and stop using can change the stacksInUse.
73*--Can't modify that menu.
74*--That ^0 name is too long.
75*--File "^0" is already open.
76*--Too many types.
77*--Too many responses.
78*--No such bkgnd.
79*--Can't create that file.
80*--The sort key
81*--Stack not in use.
82*--Expected "of" after this function.
83*--Can't understand arguments to this function.
84*--Can't understand arguments to this keyword.
85*--Can have "else" only after "then".
86*--Can't have "end" here.
87*--Too many "exit repeats".

88*--Expected "end if" after "then".
89*--Expected end of line after "end if".
90*--Can't duplicate stack.
91*--Expected "end if" after "if".
92*--Expected "end if" after "else".
93*--"On" can appear only once per handler.
94*--Expected "end" after "on".
95*--Expected "end ^0"
96*--Extra statements after end of handler.
97*-- Expected "end repeat" after "repeat".
98* --Expected end of line after "end repeat".
99*-- Can have "then" only after "if".
100*--Handler too long.
101*--Can't get scroll of that window.
102*--Expected a variable name but found ^0
103*--Can't set scroll of that window.
104*--Can't set rectangle of that window.
105*--Can't set that property.
106*--String too long.
107*--No such menu item.
108*--Menus don't have that property.
109*--menu
110*--No such menu.
111*--Too many menus with messages.
112*--That button or field has been deleted.
113*--Expected ^0 here.
114*--Expected stack here.
115*--Already have a menu named ^0.
116*--Expected a field here but found a button.
117*--Expected a button or field here.
118*--Expected a point but found ^0.
119*--Expected a rectangle but found ^0.
120*--No such card or bkgnd.
121*--Can't start using that stack.
122*--Can't start using home.
123*--Too many stacks in use.
124*--The translator failed to translate that script into English.
125*--Not handled by target program.
126*--Expected "true" or "false" here but found ^0.
127*--Number of menu messages must be equal to number of menu items.
128*--Couldn't send to that window.
129*--Don't know how to tell if something is a ^0.
130*--Can't open the Message Watcher named ^0.
131*--Can't open the Variable Watcher named ^0.
132*--Can't load that external.
133*--Expression too complicated.
134*--Can't open stack
135*--Can't open stack's resource fork.
136*--Couldn't open that application.
137*--Couldn't import paint.
138*--Couldn't export paint.
139*--Invalid date.
140*--Invalid expression.
141*--Couldn't create stack.
142*--Can't find that icon.
143*--No such window.
144*--number
145*--integer
146*--true or false
147*--Can't understand this.
148*--No current Apple¿ event.
149*--Too many windows open.
150*--Can't modify this stack.
151*--Not supported by this version of the system.
152*--No such program.

153*--Expected a number between 1 and 255 here.
154*--Expected a single character here.
155
156--An error occurred (^0).
157--Script error (^0).

Dialog Strings - string #129

1*--^0 out of ^1
2*--Card
3*--Bkgnd
4--Where is ^0?
5--What's the password?
6--New stack name:
7--Save a copy of stack as:
8--Copy of ^0
9--Save Paint document as:
10--Import Paint from...
11--Display what picture?
12--Button Text Style
13--Paint Text Style
14--Selected Text Style
15--Sample
16--button
17--buttons
18--field
19--fields
20--card
21--cards
22--background
23--backgrounds
24*--Icon ID: ^0^1 ^2
25*--(none)
26*--"^0"
27*--from "^0"
28--Small
29--Standard 9"
30--Mac II 12"
31--MacPaint
32--Window
33--Screen
34--Custom
35*--Effect for ^0 button id ^1:
36*--Script of ^0^1
37*--card
38*--bkgnd
39*--^1 button id ^0
40*--^1 field id ^0
41*--card id ^0
42*--background id ^0
43*--stack ^0
44*--= "^0"
45*--Global Variables
46*--^0 of ^1

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LaserWriter IINT/NTX: Two Corrections to Owner‘s Guide

This article has been archived and is no longer updated by Apple.

The "LaserWriter IINT/NTX Owner's Guide" (030-315-A), in the section titled "Using the 25-pin connector," fails to mention that a modem eliminator is needed. The complete connection is:

25-pin serial cable
to
25-pin Apple Modem Eliminator (590-0166-A)
to
serial port on LaserWriter II

In the subsection "Making the connection," step 6, the MS-DOS commands should be:

MODE COM1:96,N,8,1,P
MODE LPT1:=COM1:

With the commands in the manual, Shift-* doesn't print the screen as it's supposed to.

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Lisa Workshop: Increasing available memory

This article has been archived and is no longer updated by Apple.

```
Approximately 550K bytes remain when Lisa runs the Workshop with all processes
killed.  To increase available memory over this limit, run an application as a
shell by renaming PROGRAM.OBJ to SHELL.PROGRAM.
```

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LaserWriter IINTX: Printing in H-P LaserJet+ Mode

This article has been archived and is no longer updated by Apple.

H-P LaserJet+ Emulation mode is a command emulation mode: most of the H-P LaserJet+ commands are accepted by the LaserWriter IINTX. This does NOT mean that the output will always duplicate exactly the output from an H-P LaserJet+.

While a command may be accepted, the output will be calculated and performed by the same line-drawing routines and functions used when PostScript commands are printed. The LaserWriter IINTX is not optimized for the H-P LaserJet graphics commands.

This difference may cause problems with MS-DOS programs that require H-P LaserJet+ graphics precision. For example, with a bar-code printing program, the lines may not meet the exact tolerances (width or size) of the H-P LaserJet+.

In H-P LaserJet+ emulation mode, the LaserWriter IINTX is not as fast as in PostScript mode, because graphics must interpreted by PostScript. In addition, In H-P LaserJet+ emulation mode, the LaserWriter IINTX is not as fast as the H-P LaserJet+ itself.

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PostScript LaserWriter and Font RAM Availability (3/94)

This article describes PostScript LaserWriter font RAM availability.

This article has been archived and is no longer updated by Apple.
The available RAM for downloadable fonts on PostScript LaserWriters is dynamic, and is affected by several factors. Two of these are paper size and downloaded PostScript programs (for example, the ImageWriter Emulator used by Apple II users). Note that downloadable fonts use RAM that may be needed by a complex print job. Loading up the RAM with too many may result in limitcheck or other memory errors when printing.

The following PostScript program will print a page with the available Virtual Memory (VM):

```
/Helvetica findfont 12 scalefont setfont
72 720 moveto
(Available VM: ) show
vmstatus exch sub 10 string cvs show
showpage
```

If the number returned is greater than the number of bytes in the font file, there should be enough room to download the font.

The available RAM for fonts also changes depending on paper size. The larger the paper, the less RAM available for downloadable fonts.

If you have built-in typefaces, there is no limit to the number of different fonts used on a single page. The available RAM in the LaserWriter will limit the variety of downloadable typefaces.

On the LaserWriter IISC, Personal LaserWriter SC, Personal LaserWriter LS, Personal LaserWriter 300 and LaserWriter Select 300, the only limit on the number of different fonts on a single sheet will be the number of fonts available via the font selection process of a particular application.

Article Change History
31 March 1994 - Updated formatting.
2 September 1993 - changed the method for finding Virtual Memory

Support Information Services
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Enhanced Apple IIe: MouseText Problem Solved By AppleWorks V2.0

Some users have asked about a version of AppleWriter for the enhanced Apple IIe, since there are conflicts with the enhanced Apple IIe's MouseText function (you can tell if the computer is enhanced if it displays "Apple //e" rather than "Apple][" on the screen at startup).
This article has been archived and is no longer updated by Apple.
AppleWriter 2.0, ProDOS version, resolved this problem for the enhanced Apple IIe, but is no longer on the price list.

If you don't have this version, you may use an alternate word processing program. One such program that does not conflict with MouseText is AppleWorks 2.0.
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AppleShare 2.0: Questions About New Features

This article has been archived and is no longer updated by Apple.

Here are three questions (and answers) about AppleShare 2.0:

Q. Is AppleShare File Server 2.0 only a server software upgrade, or is the workstation software upgraded as well?

A. AppleShare File Server 2.0 comes with updated workstation software (version 2.0).

Q. Does version 1.1 workstation software work properly with 2.0 server software?

A. Version 1.1 workstation software can access the Appleshare File Server 2.0, but does NOT access the new features that version 2.0 workstation software provides.

Q. Are you still limited to one group at a time while accessing privileges?

A. Only one group at a time can be accessed while accessing privileges.

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Parallel Interface Card: Jumper Block Modification (11/96)

This article details how to modify the Parallel Printer Interface card to work with different parallel printers. Refer to the card manual for more information on these modification.

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```
There are two features that can be modified on the Parallel Card, the wiring of the jumper block and the PROM
at location "Prom P1"


Jumper Block
------------
The wiring of the jumper block controls the correct polarity of the strobe and acknowledge signals. Here is an
example of the wiring for a "Centronics-type" printer.

   Block
4 -------16            negative strobe, negative acknowledge
6--------14 AND 15
7--------10
11--------12 AND 13

Notch on jumper block denotes pin 1, the count CCW


PROM 1
------
The location marked "Prom P1" on the card will work with two different PROMs which produce different results
when installed. To change the results, just remove one PROM and install the other.

NAME        APPLE PART #     RESULTS

P1 PROM     341-0005         Automatically initializes printer
                            to 80 column.
                            No carriage return generated after
                            every linefeed.

P9 PROM     341-0019         No auto initialization to 80 column
                            mode.
                            Generates a carriage return after
                            every linefeed.


Article Change History:
19 Nov 1996 - Reviewed for technical accuracy, revised formatting.
```

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Mac OS: How to Prevent Changes to Application Names

You can prevent someone from changing a file name (such as the name of an application), without having to lock it. You can use the same method that makes the System file's name unchangeable.
This article has been archived and is no longer updated by Apple.
The System file's name cannot be changed because the "System" bit in its Finder information section has been set.

You can set the "System" bit of ANY application using ResEdit (for this example ResEdit 2.1.1 was used):

1. Run ResEdit.

2. Select "File/Folder Info..." from the File menu.

3. Find the application and open it.

4. Find the checkbox to the right of the application name on the top line.

5. Click once in the box.

6. Click in the Close box of the window.

7. Click on the "Yes" button to save the settings.

8. Repeat steps 2 through 8 until all the applications are changed.

Note: If a file with the "System" bit set is duplicated using the Duplicate command in the Finder's File menu, the new file will not have the "System" bit set.
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Apple Discussions (Software Applications): Frequently Asked Questions

This article contains a number of questions that have come up frequently on the Apple Discussions (Software Applications) area at the Apple Support site.
This article has been archived and is no longer updated by Apple.
Each question is followed by one or more pointers to articles that provide answers, suggestions, or troubleshooting advice to help you deal with the issue that creates the question.

Some of the articles have pointers to useful suggestions posted to Apple Discussions by other users. These may or may not also have an official Apple answer, but this will be noted where applicable.

If the questions below do not contain an answer to something you are looking for, you can continue to search for an answer by using the Search function here within the Knowledge Base or you can go directly to Apple Discussions at:

http://discussions.info.apple.com/

Take some time to look through Apple Discussions, or use its search function. It is quite likely your question has come up before, even if it does not have the frequency of the ones listed below. If you find a previously posted question that matches yours, read the posted answers. If you still did not find an answer, please feel free to either post a new topic describing your issue, or add a reply to an existing topic that closely matches your issue.

Sometimes I get an out of memory error and then the computer stops responding ("crashes") when using the File Synchronization control panel on my PowerBook computer.

- article 24711: "**Mac OS: Out Of Memory Errors With File Synchronization**"

Will my language kit work with Mac OS 8.5?

- article 58129: "**Mac OS 8.5: About Mac OS 8.5 Read Me**"

Can I run At Ease for Workgroups version 5.0 or 5.1 with Mac OS 8.5?

- article 32034: "**At Ease 5.0x: Mac OS 8.5 & At Ease Not Recommended**"

I have HyperCard 2.3.5, how can I get the new update?

- The HyperCard 2.4 updater is now available for download at **www.apple.com/hypercard**, or from the Apple software updates page, path: US/Macintosh/Utilities/HyperCard.

I am having difficulties setting up the Apple Internet Dialer.

- article 20129: "**AICK 1.1: Apple Internet Dialer Configuration Q&A**"

I need assistance setting up Apple Remote Access.

- article 18217: "**Apple Remote Access: Frequently Asked Questions**"

I'm using At Ease and forgot the password.

- article 13348: "**At Ease 2.0: If You Forget the Administrator Password**"
- article 13361: "**At Ease 2.0 for Workgroups: If a User Forgets a Password**"
- article 12679: "**Performa: Forgot At Ease Password**"

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A/UX: Printing And Shared Spooling Without AppleTalk (8/95)

You can serially connect any of the following printers to any Macintosh on the network and set up an A/UX spooler on that system even without AppleTalk and LaserShare:

- LaserWriter
- LaserWriter Plus
- LaserWriter IINT
- LaserWriter IINTX
- ImageWriter
- ImageWriter II
- ImageWriter LQ

Other A/UX Macintosh computers will then have access to the printer via remote commands.

This article has been archived and is no longer updated by Apple.

Making the Connection
---

1. Connect an Apple IIe Modem-8 cable to the DB-25 port on the printer. The ImageWriter II and ImageWriter LQ require an Apple System/Peripheral 8 Cable. (Search the Technical Info DataBase on "A/UX and printer and cable" for more information on the various cables you can use.)

2. Connect the mini-circular 8 end to the printer port on the Macintosh (tty1) only.

3. Adjust LaserWriters to Serial Settings (ImageWriter LQ may also need to be reset from default):

a. LaserWriter and LaserWriter Plus:
When hooking up serially, the switch in the back of the LaserWriter or
LaserWriter Plus MUST be turned to 9600 baud (as opposed to AppleBus).
Without special serial drivers that can communicate PostScript, files
cannot be printed from within the Macintosh Operating System without
switching the Baud to AppleBus and the cable to AppleTalk.

(For additional information, see the A/UX Local System Administration manual chapter on "Managing Printers, Terminals and Modems".)

b. LaserWriter IINTX:
Set the dip switches on the back to:
1, 2 down (1:up and 2:down will also work)
4-6 up
On powerup, the test page should indicate Postscript at 9600 Baud

NOTE: On some NTX prototypes, the settings should be reversed: down
instead of up. Reverse the switch directions if the test page
reflects a difference. (For additional information, consult the
LaserWriter II Owner's Guide.)

c. LaserWriter IINT:
Set the dip switches on the back to:
1 up
2 down

On powerup, the test page should indicate Postscript at RS-232 9600 Baud.

NOTE: On some NT prototypes, the settings are reversed; that is, down
instead of up. Reverse the switch directions if the test page
reflects a difference (for additional information, consult the
LaserWriter II Owner's Guide).

d. ImageWriter LQ:
A/UX software additions must be made if you wish to use the 19200 Baud
instead of 9600 Baud. (See Spooling below for 19.2K setup

instructions) For 9600 Baud the dip switches are: set 2: 1,2 closed
for 9600.

Spooling

The complicated and time-consuming chore of setting up a spooler is reduced to an invaluable shell script that will automatically set up the entire spooling system by simply naming the printer and the port to which it is attached.

"ADD_IW ImageWriter tty1" will set up an ImageWriter I or II (or 9600 Baud ImageWriter LQ, see *** below) spooler with the name "ImageWriter"

"ADD_LW LaserWriter tty1"will set up any LaserWriter spooler with the name "LaserWriter"

"RM_PR printername" will remove that spooler.

NOTE: If you have jobs in the queue destined for that printer, you will not be able to remove it until you remove the jobs ("cancel request_id(s)"). This will happen if you disconnect the printer while it still has jobs it hasn't printed yet, or is unable to print.

NOTE: A/UX Release 1.0 does not contain lp interface software for 19200 Baud printers. If you want to use the LQ at 19200 Baud follow the directions below:

1. Copy the ImageWriter model (located in "/usr/spool/lp/model") to iw19.2

2. Edit by adding 19200 to the "stty" command.

3. Save it.

4. Copy the file "/usr/spool/lp/ADD_IW19.2" to "/usr/spool/lp/ADD_IW19.2"

5. Substitute ImageWriter for iw19.2 in the /usr/spool/lp/ADD_IW19.2 by
":1,$s/ImageWriter/iw19.2/".

You will now have a 19.2 interface. When you wish to use the LQ at 19200 Baud issue the command, "lp -diw19.2 filename"

If the dip switches are set to 9600 Baud issue the command, "lp -diw filename" (If ImageWriter is your default, the -d option is unnecessary)

Remote Printing

If you are on an Ethernet system, issue the command:

"cat myfile | remsh PrinterNodeName lp printername"

where:

- "myfile" is the file you wish to print.

- "PrinterNodeName" is the hostname of the A/UX system that has the
printer attached.

- "printername" is the name you have assigned to the printer (such as
LaserWriter with the ADD_LaserWriter command).

Article Change History:
23 Aug 1995 - Made minor corrections.
23 Aug 1994 - Reviewed and updated.
31 Aug 1992 - Reviewed for technical accuracy.

Support Information Services
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PowerBook G3 Series: Energy Saver Control Panel

How does the Energy Saver control panel work on the PowerBook G3 Series computer?
This article has been archived and is no longer updated by Apple.
PowerBook G3 Series (M4753) computer has the Energy Saver control panel, which is a replacement for the PowerBook Settings control panel from older PowerBook products. It now has a similar look-and-feel to the Energy Saver control panel used in desktop Power Macintosh computers. Here are some of the changes that have been made.

Idle and Sleep Settings

- As the arrow shows, when the Show Details or Hide Details button is clicked, the separate timing windows for the hard disk and displays will be hidden.
- The sliders allow the user to change the amount of time before the PowerBook goes to sleep, when the display dims, or when the hard disk is spun down.
- If the checkbox is deselected in the bottom two options, the main slider will determine the settings for all of the options.
- Scheduled Wakeup and Sleep Settings

This screen allows you to set a preconfigured time and date when the PowerBook should either wake up or sleep.

- If you notice the computer is waking from sleep or sleeping without these seeming to be set, or not responding as expected, check the

setting for both battery and power adapter. There are two selections in the wakeup and sleep settings screen. This is to make different settings for when the PowerBook is using its battery or connected to a power adapter.

Advanced Settings

The advanced settings contain many of the new features of the new Energy Saver control panel.

Under the Network Connections settings, there are the same features that were available under AutoRemounter. That is, the ability to reestablish network connections with mounted servers after coming out of sleep mode.

- There is the feature of Wake up when the modem detects a ring. This is not a supported features of the PowerBook G3 Series (M4753) and will remain disabled.

In the Additional Power Savings section, there are options to allow processor cycling which will slow down the processor Megahertz when its not being used or when the PowerBook detects there has not been any mouse or keyboard activity for a period of time. This feature works in the same manner as previous PowerBooks.

Turning off the display instead of dimming it allows for greater power savings when using a battery.

Turning off power to inactive PC cards will cut the power completely to PC cards that are installed. Many PC cards will draw power even when they are not being used. Just having some of these cards inserted into the PowerBook will cause them to be powered. By checking this feature, the power can be cut off to those cards that are inserted. This may save battery power with some PC cards but not not all cards may be able to use this feature.

Reduce processor speed

This selection is new to the PowerPC G3 processors. When this option is selected, the processor drops down from its original speed to approximately 25 MHz. This allows for some battery savings as the processor is not constantly using a higher speed.

The PowerBook does not need to be restarted for this feature to take effect. The setting will become active when the Energy Saver control panel is closed.

- If you are having an issue where the PowerBook is running significantly slower than it seems it should, you should check this option. If its selected, and you do not need the battery savings, then deselect the option. Make sure you check both the battery and power adapter settings.

Note: Macintosh PowerBook G3 Series computers should not be confused with Macintosh PowerBook G3 computers. Though the names are similar, there are significant differences. For more information differentiating between the computers, read Tech Info Library article 24604: "**PowerBook G3, G3 Series: Identifying Different Versions**"
Published Date: Feb 18, 2012

Avid Cinema 1.2: Read Me

This article is the Avid Cinema 1.2 for Macintosh Read Me.
This article has been archived and is no longer updated by Apple.
Avid Cinema 1.2 for Macintosh Read Me

Welcome to Avid Cinema! This document contains installation information, tips and late-breaking information that you should read before installing and using Avid Cinema.

Avid Cinema 1.2 Installation Notes for Macintosh

- Installing Avid Cinema 1.2 requires:
  Power Macintosh G3 All-in-one with Apple's Audio/Video In/Out card
  Mac OS 8.1
  QuickTime 3.0 (included)
- Installing Avid Cinema requires several steps:
  Step 1. Installing QuickTime version 3.0
  Step 2. Installing Adobe Acrobat Reader
  Step 3. Installing Avid Cinema
  Step 4. Copying Example media to your hard drive

Reminder: If you reinstall your system software, you will need to reinstall Avid Cinema, Acrobat Reader and QuickTime.

Tips for Using Avid Cinema 1.2 for Macintosh

- Avid Cinema 1.2 runs on the Power Macintosh G3 All-in-one only. No other machines are supported.
- The documentation and online help refer to editing in the PAL video format. The 1.2 version of Avid Cinema does not support PAL. It supports the NTSC video format only.
- When bringing video in with the mute box selected, audio will not be recorded onto your hard drive. However, the audio will still play through your speakers, if you have RCA In selected as your audio source.
- To change your audio source, choose an option from Audio Source in the Movie menu. Do not use the control strip to change your audio source while in Avid Cinema.
- If you need to change your monitor resolution or color depth, quit Avid Cinema, change your monitor settings, and then restart Avid Cinema. Do not use the control strip to change your monitor resolution or color depth while within Avid Cinema.
- To play a movie saved in Avid Cinema format you need the movie's Media folder. A movie saved in Avid Cinema format is not a self-contained movie, and requires that you keep the movie's Media folder.
- Titles and shot names cannot start with the "." (period character).
- You can use Zip or Syjet drives to store movies after you create them, but these drives are not fast enough to capture video directly.
- Before running Avid Cinema, turn File Sharing off in the File Sharing control panel. Video does not capture or play smoothly in Avid Cinema with File Sharing turned on.

If you need help

- Look in the online help for answers to your "how to" and troubleshooting questions. Click the help button (the question mark) on the tab you are in.
- Refer to the Troubleshooting section of the online Avid Cinema Making Movies guide by double-clicking the file: Making Movies.pdf.
- Go to the Support section of our web site (www.avidcinema.com) and browse the Troubleshooting Zone, Tips and Tricks, and Hot Topics sections.
- Send email to our Technical Support team at support@avidcinema.com.
- If you still need help, call Avid Cinema Technical Support at 1-800-800-AVID.

Published Date: Feb 18, 2012

ClarisWorks: Text Preview 1.0

What is Text Preview 1.0?
This article has been archived and is no longer updated by Apple.

Description:
ClarisWorks (version 3.0 and higher) has the ability to show previews of documents in the Open dialog box, allowing you to get a glimpse of what is in the file without having to open it. This ability requires the use of system extensions. With the Text Preview extension installed, you can see a preview of certain text files, including ClarisWorks word processing documents.

Instructions:
To use the Text Preview extension, place it in the Extensions folder within your System folder and restart your computer.

Additional Information:
QuickTime 2.1 or later is needed to see the Show Preview checkbox under the scrolling list in the Open dialog box. When this checkbox is selected, the dialog box expands so you can see a preview image of files you select in the scrolling list. Not all documents have previews. With the QuickTime extension, you can see previews of certain graphics files, including ClarisWorks paint and draw documents; and when the Create button is active (not dimmed), you can click it to create a preview of the selected file.

With the addition of the Text Preview extension, you can also see a preview of certain text files and any ClarisWorks word processing document that was saved with a preview. (You can set general preferences to save documents with a preview.)

This extension is placed in the Extensions folder within your System folder with the full installation of ClarisWorks 3.0 and 4.0. It was inadvertently omitted from the ClarisWorks 5.0 installer.

Software Posted Online
Text Preview 1.0 has been posted to the **Claris Folder** on the Apple Support Web site.

This article can help you locate the software mentioned here:

- Article 14724: "**Where To Find Apple Software Updates**" - Lists online services for free Apple software updates.

Published Date: Feb 18, 2012

PowerBook G3 Series: Instructions for Re-Using Vistaflex Cushion Packing Material

This article provides PowerBook G3 Series computer (M4753) packing instructions.
This article has been archived and is no longer updated by Apple.
These are the directions for using the recyclable Vistaflex Cushion packing material that comes with your PowerBook G3 Series computer.

1. Place the Vistaflex cushion on a flat surface in front of you. Make sure the "Key" is positioned to your left and the "Lock" to your right.

2. Place the PowerBook G3 Series Computer on the cushion with the front of the computer facing you.

3. Lift the cushion slightly by the Key and Lock to nestle the PowerBook in the Corner Cradles. (You may need to reposition the PowerBook manually to fit in each corner of the cradle.

4. With the fingers of your right hand, reach through the Lock and Grab the Key. Pull the Key through the Lock, as shown.

5. Locate the corner flaps on the Vistaflex cushion. Position them, as shown above, to protect the corners of the PowerBook G3 Series Computer.

6. When you're done, the PowerBook G3 Series computer and cushion should look like this.

Published Date: Feb 18, 2012

At Ease: Changing Preferences From Print Dialog Box

I have a network of several computers with At Ease installed, and several LaserWriters (using LaserWriter 8.4 or later) and Stylewriter 6500's.

Is there any way to prevent the users from changing and saving settings in the print dialog box (such as Colorsync and background printing settings)?

This article has been archived and is no longer updated by Apple.
A workaround for the Stylewriter 6500 is to:

1. Log in to a workstation as an administrator.
2. Go to the Finder.
3. Get Info on the StyleWriter 6500 extension, check the 'Locked' checkbox.
4. Log out.

Locking the LaserWriter driver or the LaserWriter 8 Prefs will not work, the users will get an error when trying to print. Another workaround is to downgrade the LaserWriter software to 8.3.4, which is available on Apple Software Updates.

This article can help you locate the software update mentioned here:

- Article 14724: "**Where To Find Apple Software Updates**" - Lists online services for free Apple software updates.

Published Date: Feb 18, 2012

Power Macintosh G3: PC Compatibility Card and 100-base-T PCI card compatibility.

I ordered a Power Macintosh G3, which came with the 100-base-T Ethernet card, and had the unit connected to my network via the 100-base-T connection. I then installed a PC Compatibility card, installed Windows 95, and am attempting to set up networking in the PC environment. Although I am able to see the remote systems, and in some cases transfer very small files, I can't get the networking to function consistently.
This article has been archived and is no longer updated by Apple.
The PC compatibility card networking software will attempt to use the 100-base-T card for networking, whenever that card is active in the MacOS environment.

Although you will have some limited functionality, you usually won't be able to do more than see the remote systems, or at best, transfer a few small files.

Although the PC environment seems to "see" the network, this configuration is not considered a tested or supported configuration by Apple. Apple recommends either disabling the driver for the 100-base-T card whenever networking is to be used in the PC environment, or removing the card altogether. There are no plans to add support for this card in the PC environment.
Published Date: Feb 18, 2012

Macintosh II: MacFortran Error When Making "New Palette" Calls

This article has been archived and is no longer updated by Apple.

Some users have experienced a problem using Absoft's MacFortran on the Macintosh II:

The software includes a sample Fortran routine for addressing the palette manager (Call to New Palette). When running the routine on a Macintosh II WITHOUT expanded video memory, the routine will return a proper handle.

However, when run on a Macintosh II with expanded video memory, a null handle may be returned (even when set for 16 colors). Addressing the resource file with Get New Palette has the same results.

One possible solution is increasing the application stack size. If you have a default of 24K, it may be too small for creating your own palette to handle the additional colors. An example program demonstrating how to increase the application stack size is shipped with MacFortran.

Also, if you are running your program under MultiFinder, try increasing the program size (Select Program, then choose Get Info from File menu). The default setting is approximately 385K; you might increase this to 512K or more (depending on your program requirements, and how much RAM you have in your system).

Published Date: Feb 18, 2012

Macintosh II Video Cable: Length Affects Performance

What is the maximum length of Video Cable that can be used with the Apple High Resolution Monitors?

This article has been archived and is no longer updated by Apple. Apple formally supports only the monitor cables and cable lengths available through Apple--but theoretically, using 75 ohm impedance value cable (usually RG59U standard coaxial video cable), the signal will be very reliable up to 50 feet.

The distance is limited by the loss of signal strength through cable resistance:

- Specifications: 75 ohm impedance cable
- Signal strength: 13.33 amps; 1 volt
- Signal in MHz: 30.24

The DB loss per foot (or attenuation) using an RG59U standard cable is approximately .0015--resulting in a power loss of 4% of the original 1 volt signal at 100 feet.

The signal will drop to 50% at 2000 feet, with a 3 DB drop in power. Apple recommends staying within 95% percent of the signal, which would be under 150 feet. Increasing the monitor brightness control can correct for some of the signal loss.

(NOTE: Because of the TTL sync signal for the Apple High Resolution Monitors, it is unlikely the monitor will work correctly with sync signals under 4 volts, which would be a cable about 650 feet in length.)

Published Date: Feb 18, 2012

Apple IIGS: International Model Outputs PAL-Compatible Video

This article has been archived and is no longer updated by Apple.

Users have asked whether an Apple IIGS can output a PAL-compatible video signals.

The International Apple IIGS unit outputs PAL (Phase Alternation Line system) compatible video -- for use with PAL televisions in Europe, South America, parts of Africa, etc. -- from the composite video-out connector.

Published Date: Feb 18, 2012

LocalTalk PC Card: Works With IBM 3270 PC

This article has been archived and is no longer updated by Apple.

The LocalTalk PC Card can work with an IBM 3270 PC.

The IBM 3270 PC is an IBM XT or AT personal computer (depending on model) that has a System/370 processor card, memory card, and a 3277 emulation card installed.

The LocalTalk PC card will work as long as the 3270 is operating in the DOS environment. You must also ensure that you have IRQ 2,3, or 4 available for use.

(NOTE: The IRQ addresses that are available will vary depending on what cards are already installed.)

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LocalTalk PC Card Must Use 8-Bit Slots In AT&T 6300

This article has been archived and is no longer updated by Apple.

Some users have experienced difficulty using the AppleTalk PC Card with AT&T 6300 computers. The AppleTalk PC Card design group tested the card extensively with the AT&T 6300, so the products do work together.

The AT&T 6300 has seven built-in expansion slots; two of these slots are programmed to accept cards that take advantage of the 8086's 16-bit addressing capabilities.

Make sure that the AppleTalk PC card is being used in one of the 8-bit slots. You must also ensure that you have either IRQ 2,3, or 4 available for use. (The IRQ addresses that are available will vary, depending on what cards are already installed.)

Published Date: Feb 18, 2012

AppleShare and AppleShare PC: How Much RAM Does It Use?

This article has been archived and is no longer updated by Apple.

Some users have asked how much RAM is used when AppleShare is loaded into a Macintosh (used as a workstation) to connect to an AppleShare server, and how much RAM is used when AppleShare PC is loaded into an IBM PC (used as a workstation) to connect to a AppleShare server.

The System Heap RAM on a Macintosh used for AppleShare is 10K. Most of the code required is within the Chooser driver and DA or already available in AppleTalk resources.

The amount of memory used for AppleShare PC is 127,344 bytes without a resident DA or other options.

- For AppleShare PC with the DA resident and the expanded memory option, the amount of memory used is 190,176 bytes.

- For AppleShare PC with the DA resident and no graphics or memory options, the amount of memory used is 200,416 bytes.

- For AppleShare PC with the DA resident and high-resolution graphics support, the amount of memory used is 215,776 bytes.

NOTE: The totals for the PC files loaded into memory include AppleTalk.EXE, A ASHARE.COM, MINSES.EXE, REDIR.EXE, DA.EXE, DA.DTA, DA.HLP, and ANET.EXE.

AppleShare PC 1.1 will use about the same amount of RAM as AppleShare PC 1.0. If there is a difference, it will be plus or minus 1K or so.

Not all of these programs are loaded at once. Those that are not loaded have code segments or overlays sharing allocated space.

For this reason, the file size is not the same as the allocated memory size. These numbers represent the allocated total space within memory for the mentioned files.

Published Date: Feb 18, 2012

HyperCard: Damage To Large Stack May Be "Command-Period" Problem

This article has been archived and is no longer updated by Apple.

NOTE: The inability to compress large stacks was discovered and corrected in versions of HyperCard after release 1.0.1. The problem caused by pressing command-period when creating a new card was discovered and corrected in versions of HyperCard after release 1.1. The following information is for those using previous versions.

Some users have experienced damage to large HyperCard stacks, resulting in inaccessible stacks, and - in cases where the stacks were not backed up - potential loss of valuable data and time.

Damage to a stack may be the result of using the command-period keystroke to stop the creation of a new card. Stacks most susceptible to this problem are those containing "create a card" scripts, some of them written to test HyperCard's card limits. Stopping the creation of a card using command-period prevents HyperCard from completely creating the data structures needed to support the card. This is compounded when you attempt to compact the stack.

After backing up the file, try these methods:

* Launch HyperCard with any stack other than the damaged stack, such as the Home stack. Then, open the damaged stack with the Open Stack option (File menu).

* From the Message box or script, type: "go card 3 of stack 'your stack'".

* From a script, set lockScreen and lockMessages to true; then attempt to go to a specific card.

If any of these suggestions work, you might be able to write a retrieval script that will go from card-to-card within your stack and copy the contents elsewhere.

If you are not able to display any portion of your stack following the suggestions above, the stack's data structure is damaged to the point of requiring more powerful data recovery tools. FEdit or a similar disk editor may allow you to open your file, then copy and paste that information into another file.

Meanwhile:

1. ALWAYS back up your files regardless of the size or the applications used to create them. Tools, such as Apple's Tape Backup 40SC, make this relatively painless, particularly when you compare that to the time and expense of having to recreate the data when a problem of this nature occurs.

2. DON'T type command-period when creating a new card.

3. Compact your stacks regularly, as often as after every 10 cards when creating or deleting.

Published Date: Feb 18, 2012

Apple Tape Backup 40SC: Won‘t Back Up Busy Files (9/95)

Can files that are in use still be backed up by my 40SC Tape Back-up?

This article has been archived and is no longer updated by Apple.
A file that is in use, whether it is an application you are using, or an open file you are editing/viewing, is marked by the system software as being "busy" and therefore can NOT be backed up by the 40SC Tape Back-up.

To back up these files or applications, close the file and quit the application before running the back-up program.

In addition, the System file, Finder, and other like files in the System Folder on your start-up volume are marked as "busy". To back up system software, you need to start up from a different volume before running the 40SC Tape Back-up application.

Article Change History:
20 Sep 1995 - Reformatted to meet current standards.
07 Apr 1988 - Reviewed for technical accuracy.

Support Information Services
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Apple IIGS: You Must Optimize Applications for RGB Video Display

This article has been archived and is no longer updated by Apple.

Some users have reported display problems with the Apple IIGS and the RGB monitor. Some packages mentioned included Wizardry, Chuck Yeager's Flight Simulator, Reader Rabbit, and Bismark.

The problems sometimes occur only with text, and sometimes show up as "bleeding" on the video display.

Programs that are written to run on non-RGB systems do not concern themselves with where, or how, the display is generated -- in other words, "video is video" for non-RGB systems.

With RGB video, there are other constraints, and many programs do not adhere to them, even if they are modified to run on the Apple IIGS. Many times the package reads "Runs on the GS in IIe emulation mode", which indicates the video will be normal for composite monitors and NOT optimized for RGB.

This usually indicates that it should be run with the system speed at Normal--not at Fast.

(Wizardry was written for the Apple IIe a number of years ago; Chuck Yeager's Flight Simulator is recent but still written for the Apple IIe -- and is not optimized for RGB.)

When a program is written for use on the Apple IIGS, it is usually optimized for RGB, which looks fine when displayed on composite monitors.

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ImageWriter II, LQ Interleaving Problem: An AppleShare Solution

This article has been archived and is no longer updated by Apple.

The ImageWriter II and ImageWriter LQ interleaving problem (where two or more different printing jobs are interleaved together) is a carry-over from the days of the 128K/512K systems. Because of the limited memory of those systems, it was necessary to spool the file being printed to one page at a time. This meant a multi-page document would be sent as a series of print jobs -- not as one complete job. Software manufacturers knew of this limitation and wrote their applications accordingly.

Many of these manufacturers continue to use the same print routines, with additions for new features, rather than rewrite them to more fully use the features of the drivers.

Print drivers maintain connections with any networked printer for the duration of the current print job. As long as applications still use the older style of one-page-per-job, the interleave problem will continue. Many newer manufacturers are now writing the applications as recommended by Apple in "Inside Macintosh", so the problem is slowly diminishing.

AppleShare Print Server will resolve this problem. It contains a process whereby the user can specify the time-out interval between pages of a print job.

If the time-out is set to 1 minute (for example), any jobs sent by a user, with less than a minute between them, will be printed as one job. However, if a short interval (perhaps 10 seconds) is set, and it takes 15 seconds to send the next page, another user's job could be queued in between the two pages, and the interleave problem would still exist. There is no set value for the time-out feature that will work with every application. The default value is 5 seconds. Some applications may need a higher value if they require more time to set up the print job.

Published Date: Feb 18, 2012

ImageWriter LQ: Why Top Half of Ribbon Wears Faster

This article has been archived and is no longer updated by Apple.

Some users have asked why their ImageWriter LQ printer seems to print only on the top third of the ribbon.

The ImageWriter LQ adjusts the ribbon height with every page it prints, in a four-page cycle. If you print predominantly single- or double-page documents, you will see wear only on the upper half of the ribbon.

You use the ribbon fully only when you print documents of at least four pages. After that, the fifth page uses the same ribbon section as page one, page six the same as two, etc.

Published Date: Feb 18, 2012

Apple Personal Modem: Can‘t Be Used In All Countries

This article has been archived and is no longer updated by Apple.

The Apple Personal Modem can't be used in Australia (or in many other countries).

The modem may tolerate lower foreign voltages (as low as 50 Hz), but this is not the primary problem.

Factors affecting modem operation vary from country to country. Some countries confiscate computer equipment if you are found using a modem within their borders. Other countries allow unrestricted use of modems, but most have their own frequency standards.

The Apple Personal Modem adheres to Bell 103 and Bell 212 standards, but these are U.S. standards -- most other countries do not meet these specifications. There are also different standards for the grade (quality) of phone lines. Modems must be able to use the physical media available in the country of use.

Published Date: Feb 18, 2012

HyperCard: How to Find Programmers/Consultants

This article has been archived and is no longer updated by Apple.

There are several avenues for a business or other user to make contact with HyperCard programmers and consultants.

A request posted on AppleLink, in the Developer Services or User Groups bulletin board, will reach a wide number of Apple-oriented developers. Also, the readers of these bulletin boards network in turn with an even greater number of potential candidates.

Don't overlook the many electronic services, which include: GEnie, Source, America Online, and CompuServe. Many of the most highly skilled and up-to-date programmers regularly access these services.

Published Date: Feb 18, 2012

A/UX: Non-SCSI HD20 Not Supported

Article Change History

08/31/92 - REVIEWED
* For technical accuracy.
This article has been archived and is no longer updated by Apple.

A/UX Engineering does not now -- and does not plan to -- support the original HD20 disk drive for use with A/UX. Its size, cost, and performance make it unsuitable for the majority of UNIX work.

Apple will continue supporting the HD20 SC SCSI disk, as well as HD40 SC, HD80 SC, and any future drives designed to be used with A/UX.

Published Date: Feb 18, 2012

RFT: DisplayWrite Compatibility

Can the RFT (Revisable Form Text) converters be used to interchange files with DisplayWrite 370 running on an IBM mainframe running VM/CMS?

This article has been archived and is no longer updated by Apple.
Apple's compatibility guarantee only applies to characters and codes present in DisplayWrite 3/4 and DisplayWrite 370. These three IBM programs are not totally compatible with one another. This is particularly true in their use of formatting control codes and ASCII-Extended Character Set.

Published Date: Feb 18, 2012

Macintosh and IBM PC: Obtaining TCP/IP and PC/IP Protocols

This article discusses obtaining TCP/IP and PC/IP protocols.
This article has been archived and is no longer updated by Apple.
Some users utilizing NCSA Telnet are interested in running TCP/IP protocols across all their PCs, and have asked if there is a compatible IP version for the IBM PC side.

NCSA Telnet was developed by the National Center for Supercomputer Applications; they have created software for both the Macintosh and the IBM PC.

The IBM software is known as PC/IP. You may contact the Center for more information concerning this package.

For more information, search under: "NCSA".

Note: This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.
Published Date: Feb 18, 2012

Moving Apple II DOS 3.3 Data to Macintosh

This article has been archived and is no longer updated by Apple.

If you wish to run Apple II DOS 3.3 files on a Macintosh (512Ke or newer), you must do the following:

1. If the Apple II Plus is the only Apple II available (NOTE: if an Apple IIe is available, see below), then you need:

- a minimum of 64K in the Apple II Plus
- one 5.25" drive
- one 3.5" drive
- the program "Convert" from a ProDOS System Disk, V1.0, on a bootable 3.5" disk
- the collected data on a 5.25" disk

and

- one Macintosh (512Ke, Plus, SE, or II)
- two disk drives (two 800K floppies or one 800K floppy and a hard drive)
- Apple File Exchange (on one of the floppies or on the the hard drive).

Once these items are together, follow these steps:

a. Insert the ProDOS disk in the 3.5" drive and the data disk in the 5.25" drive.

b. Run "Convert".

c. Transfer the data ("Convert" defaults to 5.25" --> 3.5").

d. Eject the 3.5" disk, which now has the data converted to ProDOS format.

e. Launch Apple File Exchange on the Macintosh.

f. Insert the ProDOS 3.5" disk in the Macintosh drive. (AFE displays its disk in one window and the ProDOS disk in another.)

g. Select the data file from the ProDOS disk, and click the transfer button.

2. If there is an Apple IIe available, you need:

- a minimum of 128K in the Apple IIe
- one 5.25" drive
- one 3.5" drive
- System Utilities 3.0 on a bootable 3.5" disk
- the collected data on a 5.25" disk

and

- one Macintosh (512Ke, Plus, SE, or II)
- two disk drives (two 800K floppies or one 800K floppy and a hard drive)
- Apple File Exchange (on one of the floppies or on the the hard drive).

Once these items are together, follow these steps:

a. Insert the ProDOS disk in the 3.5" drive and the data disk in the

5.25" drive.

b. Run System Utilities (labeled SYSUTIL.SYSTEM).

c. Copy the data file from the 5.25" disk to the 3.5" disk using "Copy Files".

d. Eject the 3.5" disk, which now has the data converted to ProDOS format.

e. Launch Apple File Exchange on the Macintosh.

f. Insert the ProDOS 3.5" disk in the Macintosh drive. (AFE displays its disk in one window and the ProDOS disk in another.)

g. Select the data file from the ProDOS disk, and click the transfer button.

Using either method, the data from the test instrument is now a Macintosh text file. Once in the Macintosh text file format, it can be loaded into a variety of Macintosh applications.

Published Date: Feb 18, 2012

Hard Disk File Recovery Suggestions

This article has been archived and is no longer updated by Apple.

Some people have asked about how to salvage files when a backup that uses the HDBackup program to back up a large file (more than 800K) does not restore properly.

One problem specifically mentioned occurred when the backup itself had been completed without any problems, but when an attempt was made to restore the file, a "Disk Full" message appeared after the last disk was inserted.

Unfortunately, recovering the data in such a situation can be difficult and time-consuming; the recovery effort is compounded by the file being split between two or more diskettes.

Usually, if the "restore from backup" fails, each diskette containing the backed up information can be inserted, and each file copied with the Finder. When the back-up data is split among many diskettes, recovering the data depends on the type of file, the file format, and your persistence.

Here are some suggestions to aid recovery:

1. Make a copy of the files.

2. Recovering a file may be as easy as launching an application, then choosing to display the file. Since the file is divided between two diskettes, it needs to be rejoined using Copy and Paste.

3. If you're unable to open the file, consider changing the file type with ResEdit to an appropriate file type, such as text if it is a word processing file. This may enable you to open the files separately and rejoin them using a text editor or word processor.

4. If the file is a spreadsheet or any "text-based" type of file, you should still consider changing the file type to text. This may allow you to open the file -- but would require more work to re-establish the delimiters before exporting it back into the original file type.

If you are not able to recover any portion of the files by following the suggestions above, then important file structures are either incomplete or missing -- which means that more powerful data recovery tools are required. FEdit or a similar disk editor may allow the files to be opened, then copied and pasted into another file.

(NOTE: Running under MultiFinder will speed up the copying and pasting process.)

More difficult recovery procedures involve using file format information and a disk editor to perform specific repairs to the files -- namely, to decipher and extract recoverable data. If the file is compressed or encrypted, file recovery is likely to be very difficult. You must first decipher the scheme used, then decipher or translate the data, byte by byte. Getting access to the file format is essential -- and you will need lots of time and patience as well.

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Scrapbook: Transferring Pictures on Floppy-based System

It's not hard to transfer pictures one at a time from one Scrapbook to another if you're careful: the secret is to know when the system is focussing its attention on a particular disk.
This article has been archived and is no longer updated by Apple.
The system gets its fonts and desk accessories from the default drive. The default drive is (a) the drive you booted from, or (b) the last drive you ran an applicaiton from.

To transfer a picture from one Scrapbook to another, then, simply do the following:

1. Boot up with the disk you want to get the picture from.

2. Open the Scrapbook, copy the picture, and close the Scrapbook.

3. Eject the disk and insert the disk you want to copy to.

4. Run an application on the newly inserted disk.

5. Open the Scrapbook and paste in the new picture.

Step 4 is the one many forget to perform. Even though the Finder is sometimes a little clumsy--asking for the old disk back at surprising times--it's not so bad once you understand that you must run an application to make the system "switch horses."
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SL/IP and CSL/IP Releases

Article Change History

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o For technical accuracy.
08/31/92 - UPDATED
o To include A/UX 3.0 Information.
This article has been archived and is no longer updated by Apple.

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SL/IP -- Serial Line Internet Protocol -- provides a line discipline for
the transmission/reception of IP (Internet Protocol) packets over a
point-to-point serial data line, such as RS232 or RS422 interface lines.

SL/IP is included and supported in A/UX 2.0 and CSL/IP is supported in
A/UX 3.0.
```

Keywords: slip, SLIP, cslip, CSLIP

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ResCopy XCMD Is Copyrighted by Apple

This article has been archived and is no longer updated by Apple.

```
Some users have asked about posting the HyperCard stack ResCopy 4.0b17 on a
bulletin board.

The ResCopy XCMD 4.0b17 is under an Apple copyright 1987-1988 and is NOT in
the public domain. The distribution of ResCopy XCMD 4.0b17 is limited and
controlled via license agreements through Apple Software Licensing.

For complete details about the distribution limitations of ResCopy XCMD 4.0b17
(and other Apple software), contact Apple Software Licensing.

For address information search on Software Licensing.
```

Published Date: Feb 18, 2012

LaserWriter IINT/NTX: Default Values For Font Cache

This article has been archived and is no longer updated by Apple.

Default values are set for the font cache in the LaserWriter IINT and LaserWriter IINTX, as well as for the display list and communications buffer. Font cache and display list sizes are persistent parameters and can be reset.

The default values are (in hex):

2MB or less 3MB or less 3MB or more

Font Cache size $286000 $330000 10% RAM size

Display List size $10000 $150000 10% RAM size

These parameters permit setting the RAM allocation in the LaserWriter IINTX.

(IMPORTANT NOTE: If the RAM allocations are set incorrectly, it could have a VERY BAD effect on the operation of the printer. Do not adjust these unless you know what you are doing, or have consulted with someone who does!)

Normally, these values are set to 0 in the EEROM (ZPRAM), which tells the printer to calculate the necessary sizes based on RAM size.

Also, a change has been made to the operation of the font cache in more recent LaserWriters. Formerly, there was a single limit on the number of bytes occupied by a character in the cache; a character larger than the limit would not be cached. Now there are two cache thresholds, an upper one and a lower one.

If a character is larger than the upper threshold (as determined by the bounding box specified to setcachedevice), the character is still not cached; if smaller, it is.

Once the character is cached, if it's larger than the lower threshold it is compressed; if not, it is stored as a full-pixel array.

Published Date: Feb 18, 2012

Foreign File Formats: AppleSingle and AppleDouble

Apple provides two standards for representing files on foreign file systems. The goal is to preserve all attributes of the file's home file system on file systems that don't otherwise support the same attributes.
This article has been archived and is no longer updated by Apple.
Experience indicates that one format is inadequate to cover all cases. Two closely related formats, however, can serve most needs. The primary reason for developing these formats is to allow storage of Macintosh files on file systems that don't support the notion of two forks. However, the proposed formats are general enough for use in representing a file from any file system on any other file system.

AppleSingle

AppleSingle format keeps all contents and attributes of a file in a single file on the foreign file system. For example, both forks of a Macintosh file, the Finder information and associated icons, and so on, are arranged in a single file with a simple structure. The intention is to use this format primarily as a storage format; that is, for Macintosh files that must be stored on a foreign file system and later reconstructed into true Macintosh files.

An AppleSingle file contains a header followed by data. The header consists of several fixed fields and a list of "entry descriptors," each pointing to an "entry." Apple defines these standard entries as Data Fork, Resource Fork, Real Name (name in the home file system), Comment, Icon, and File Info. Each entry is optional and may or may not appear in the file.

AppleDouble

AppleDouble format is more appropriate for applications in which the users of the foreign file system want to modify the contents of the file. Since most Macintosh applications keep the file data in the data fork, AppleDouble format saves the contents of the data fork in one file, and all other file attributes are kept in a separate file.

AppleDouble format is the same as AppleSingle format, except that the data is kept in a separate foreign file. The file containing the data fork is called the "AppleDouble Data File," and the other file is called "AppleDouble Header File."

The AppleDouble Data file contains only the standard Macintosh data fork, with no extra header. The AppleDouble Header File has exactly the same format as the AppleSingle file, except that it DOESN'T contain a data fork entry.

Applications
---
* Standard for Transferring Files Between Host Computers (Interhost)
For example, Macintosh files could be shipped easily and completely among different systems if they all understood one of these common formats. Any existing e-mail system or file transfer utility could be used without modification.

* Standard for Operating on Foreign Files within a Single Host (Intrahost)
A possible example would be UNIX applications that can build and manipulate Macintosh resource forks (perhaps a cross-development system). If host computer users want to write Macintosh-aware applications, they can use a common storage format, such as AppleSingle and AppleDouble.

AppleSingle and AppleDouble Specifications

There is a document titled "AppleSingle/AppleDouble Formats for Foreign Files Developer's Notes." It describes version 2 of the AppleSingle/AppleDouble file formats. These formats were originally developed for storing Macintosh files on an A/UX file system, but have since been adapted for storing files from various operating systems (not just Macintosh) on foreign file systems.

You can obtain a printed version of this document from APDA. You can also find this document in the Technical Information Library under the title "AppleSingle/AppleDouble Formats: Developer's Note".
Published Date: Feb 18, 2012

How To Prevent Switch-Launching Between Floppy Disks

This article has been archived and is no longer updated by Apple.

Some users have asked if there is a way to prevent switch-launching between floppies on a floppy-based system.

The "Technical Introduction to the Macintosh Family" states: "You can prevent this switch-launching by holding down the Option key when you start the application."

Actually, switch-launching is either prevented OR allowed by this procedure, depending on the kind of disks in the system.

Hard Disk Systems

Switch-launching is generally PREVENTED in a hard disk system. To force a switch-launch:

1. Hold down the Option and Command keys while opening an application.

2. Set the Finder Flags for the application to "Always switch-launch" (Get Info on the file using ResEdit).

Floppy Disk Systems

In floppy-based systems, the system generally switches to the System files on the diskette that contains the application being opened.

Holding down the Option key while opening an application on a floppy-based system will NOT prevent switch-launching (as is incorrectly stated in the "Technical Introduction to the Macintosh Family".) Therefore, to prevent switch-launching to a diskette on a floppy-based system:

1. Remove the System Folder.

2. Place either the System file or Finder -- but not both -- into another folder, or at root.

3. Use MultiFinder, which prevents switch-launching (if there is sufficient RAM to support both MultiFinder and the applications).

Published Date: Feb 18, 2012

Macintosh Plus Doesn‘t Provide Termination Power

Some users have experienced problems with SCSI hard drives that don't start up on a Macintosh Plus if they are the only SCSI device, but the same drive may work correctly when hooked up to a Macintosh SE or Macintosh II.

This article has been archived and is no longer updated by Apple.
This is is usually a termination problem. That is, if you have correctly configured your SCSI bus with the proper number of terminators (you can refer to the SCSI Cable System manual, Apple Part #030-2042-B), the problem probably lies with your hard disk's inability to provide termination power to the terminator(s).

The drive doesn't work when connected to a Macintosh Plus because the Macintosh Plus does NOT provide termination power. The same drive works when connected to a Macintosh II or Macintosh SE -- or when another SCSI device is connected to the bus -- because these devices supply termination power.

Sometimes SCSI peripherals will work without proper termination -- usually only when the data lines are "clean" enough to support communication. This cannot be relied on to continue; therefore, you should:

- Repair the drive so that it provides termination (as it should if it were working correctly.)

OR

- Connect another SCSI device providing termination power.

OR

- Use this hard disk on another system that provides termination power, such as a Macintosh II or Macintosh SE.

Published Date: Feb 18, 2012

PMMU‘s Advantages in a Multitasking Operating System

Some users have asked whether the Macintosh II computer's PMMU (Paged Memory Management Unit) -- which handles the translation from 24 bits to 32 bits, and supports the 32-bit operating system -- provides any special advantages, such as speed.

This article has been archived and is no longer updated by Apple.

The 68851 PMMU does not provide any advantage over the standard HMMU when used with System 6. The HMMU and PMMU BOTH handle the 24-bit-to-32-bit translation, which allows the existing Macintosh software to run on a Macintosh II. There is also no increase in speed when using the PMMU instead of the HMMU.

However, the advantages of PMMU become apparent when used with multitasking operating systems, such as UNIX and System 7. Such systems use virtual memory and require a logical-to-physical translation of an address from the processor; this is where the 68851 PMMU becomes an absolute necessity.

For more information on the advantages of the 68851 PMMU in a multi-tasking, 32-bit operating system, see: "Technical Introduction to the Macintosh Family" (ISBN#: 0-201-17765-X) page 206.

Published Date: Feb 18, 2012

Apple Writer IIe under ProDOS: Printer codes from all Apples

Many printers have special features that the computer signals by sending command codes. To send codes to a printer from Apple Writer IIe (version 2.1) under ProDOS, you must insert the codes into the Apple Writer file you want printed. The manual of the printer may list the codes by several names: decimal, hexadecimal, teletype abbreviations (SOH, ETX, DC1, DC3, etc.), standard keys, and combinations of the above.
This article has been archived and is no longer updated by Apple.
Using the chart "ASCII characters, values, and keystrokes", you have to translate from the name of the code in the printer manual into the name of the corresponding keystroke or keystrokes on the keyboards of the Apple IIe, Enhanced Apple IIe, or Apple IIc.

Some keystrokes put so-called control characters into the Apple Writer file. These control characters are not part of the conventional English character set; while screen shows them, the printer intercepts and does not print them, instead recognizing them as signals to turn special functions on and off or to change printer settings.

NOTE: In the descriptions of the keystrokes, the characters greater than and less than, < and >, are used to contain one keystroke, which can mean that:

- You must simultaneously hold down the control key, the shift key, or both as you press the other key, or
- You must press a special key, such as ESC or RETURN.

With these considerations in mind, here is a list of codes and methods for inserting them in an Apple Writer file.

Null (ASCII value 0):
Because Apple Writer IIe (version 2.1) under ProDOS uses the null character to mark the end of a file, Apple Writer does not allow a null to be inserted into the file. The inserted null would effectively delete any text after it.

- Apple Writer does send a null in the place of a Control-Underline character: <CTRL-V><CTRL-UNDERLINE><CTRL-V>
- Control-A through Control-Z (ASCII decimal values 01 through 26):
- Example: Control-Z (ASCII decimal value 26): <CTRL-V><CTRL-Z><CTRL-V>
- Exception: Control-V (ASCII decimal value 22) can't be entered. See "Missing Characters" below.
- Escape (ASCII value 27): <CTRL-V><ESC><CTRL-V>
- Other Control characters: These can be entered in the manner of Control-A through Control-Z.

Missing Characters:
In typing a file, there is no way to put a Control-V into the text. During printing, Apple Writer doesn't send a Control-Underline as such.

1. Applesoft BASIC can be used to send a Control-V or Control-Underline to your printer.
2. Create your Apple Writer document as usual, but substitute unique characters in each place that you want a Control-V or Control-Underline character.
3. Type <CTRL-P> to display the Print/Programs Command menu.
4. Type PD8, Apple Writer's code for Print to Disk on an Apple II.
5. Type NP to begin printing.
6. To the Apple Writer prompt for a file name, do not enter the same name with which the file is already saved. Enter a unique name, and note it down.
7. After the printing to disk is finished, exit Apple Writer and boot up a ProDOS diskette.

Run the following program, using the following forms of line 330:

Control-V
```
330 IF C$=X$ THEN C$=CHR$(22)
```

Control-Underline
```
330 IF C$=X$ THEN C$=CHR$(31)
```

```
100 HOME
110 PRINT TAB(10);APPLE WRITER TO PRINTER"
120 VTAB 5
130 INPUT "NAME OF APPLE WRITER FILE PRINTED TO DISK: ";F$
140 IF F$="" THEN 900
145 VTAB 12
146 INPUT "CHARACTER TO REPLACE: ";X$
147 IF X$="" THEN 145
150 VTAB 10
160 INPUT "PRINTER SLOT #: ";S$
170 IF S$="" THEN 900
180 S=VAL$(S$); IF S < 1 OR S > 7 OR INT(S) <> S THEN 150
```

```
190 D$=CHR$(4)
200 ONERR GOTO 800
210 PRINT D$;"UNLOCK";F$
220 POKE 216,0
230 VTAB 12: PRINT SPC(75)
240 PRINT
250 PRINT D$;"PR#";S
260 PRINT CHR$(9);"132N"
270 PRINT D$;"OPEN";F$280 ONERR GOTO 400
290 PRINT D$;"READ";F$
300 A$='"'
310 GET C$
315 IF C$=CHR$(12) THEN 310
320 IF C$=CHR$(13) THEN 350
330 IF C$=X$ THEN C$=CHR$( ): REM Substitute ASCII value for unique character
340 A$=A$+C$:GOTO 310
350 PRINT A$
390 GOTO 300
400 POKE 216,0
410 PRINT D$;"CLOSE"
420 PRINT D$;"PR#0"
430 VTAB 15
440 PRINT TAB(5);"FILE ";F$;" HAS BEEN PRINTED."
450 GOTO 900
800 POKE 216,0
810 VTAB 12
820 PRINT CHR$(7);"I CAN'T FIND THE FILE ";F$;"."
830 INPUT '"';Z$
840 GOTO 100
900 END
```

Published Date: Feb 18, 2012

MacTerminal 2.0, 2.1: Problems with System 4.1 and Finder 5.5

This article has been archived and is no longer updated by Apple.

There have been compatibility problems with MacTerminal 2.0 and 2.1 using System File version 4.1 and Finder 5.5. Typical problems include system crashing while trying to print in MacTerminal or crashing when quitting the MacTerminal application. The problem is specific not to hardware but to the combination of MacTerminal version 2.1 and System 4.1. Because of this, problems may occur on any Macintosh running the new system software.

To assure full compatibility with system software and MacTerminal 2.1, MacTerminal 2.1 or earlier versions should use System 4.0 or prior system versions. You may want to continue using System 3.2 included on the Master disk of MacTerminal 2.1. Users of Macintosh 512Ke and Macintosh 512K should continue to use System 3.2 and Finder 5.3.

MacTerminal 2.2 is compatible with the new system software.

Apple guidelines prohibit use of certain low memory locations, and the new system software enforces those guidelines. A system error occurs because MacTerminal, for historical reasons, uses a memory location locked by System 4.1 to prevent the use of reserved memory.

EXTENDED TIL INFO - * This information is for Apple Internal & Support Providers Only*

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Apple IIGS: How To Correct Point Size Printing Problems

This article has been archived and is no longer updated by Apple.

Currently, there is a font size printing problem with the Apple IIGS with an ImageWriter II when using various programs, including Activision's Writer's Choice Elite. The problem is that the fonts that come with the program do not print the proper point sizes. The 8-point size measures nearer to 12 points, and so on. (These are apparently Apple fonts, licensed by Activision.) Until Apple releases new system fonts, you can choose either of two solutions:

- The better solution is to make sure you get the Apple IIGS System Disk, Version 3.1 or later. It contains the Page Setup Dialog version 1.3 or later. Starting with version 1.3, the Page Setup Dialog contains an area for vertical sizing offering either normal or condensed print. Select Normal for an exact duplicate of the font's screen size. Select Condensed for the selected point size.

- The other solution is to print in Draft and and use the built-in NLQ mode of the ImageWriter II. Unfortunately, this method creates a problem with the spacing between words -- just like on the Macintosh.

Published Date: Feb 18, 2012

A/UX 3.0: Reading DOS floppy disks (8/94)

Some A/UX users need to read data from standard 360K DOS-formatted floppies.

This article has been archived and is no longer updated by Apple.
You can read 3 1/2" disks with Apple's PC Exchange, Dayna's DOS mounter, or Insignia's SoftPC will use the floppy drives to read DOS formatted floppies.

Article Change History:
19 Aug 94 - Reviewed. Changed title to show A/UX 3.0 information
31 Aug 92 - REVIEWED For technical accuracy.

Published Date: Feb 18, 2012

Macintosh II: Cure For Vertical Green Lines at Bottom of Screen

I have a problem that occurs on a Macintosh II with a color monitor and a video expansion card: Vertical green lines appear on the lower third of the screen when you select the 256-bit mode from the control panel. However, when in the 16-bit mode, the monitor behaves normally.

This article has been archived and is no longer updated by Apple.
The problem may be a video RAM problem. Try replacing the eight extended video RAM chips with known, good video RAM. If the problem persists, you may need to replace a defective video card.

Published Date: Feb 18, 2012

A/UX: Source of Keyboard Delay During Log-In

Article Change History

08/31/92 - REVIEWED
o For technical accuracy.

When A/UX starts up, there's a delay in the keyboard response: it takes a couple of keystrokes before anything appears in response to the "login:" prompt. Here's why: during the log-in sequence ("getty" to "login"), /etc/getty waits one second after issuing the following log-in prompt message:

Apple Computer, Inc. A/UX

login:

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This one-second delay keeps noise from being passed to the "login" process, ensuring that phone lines are clean before dialing.

To avoid the keyboard delay, just wait one second before responding to the log-in prompt. It isn't necessary to wait one second after the other "login" or "Password" prompts, because they're generated by the "login" process not the "getty" process.

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X Window System: Its Official Names

Article Change History

08/31/92 - REVIEWED
* For technical accuracy.

What is the official name of the X Window System?

This article has been archived and is no longer updated by Apple.
According to its developers, the official names are:

* X
* X Window System
* X Version 11
* X Window System Version 11
* X11

Note that the phrases "X.11", "X-11", and "X-Windows" are not included;
they SHOULD NOT be used to describe the X Window System.

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X Window System: Some Compatibility Questions

Compatibility with X means that the client-side application and the X display server communicate according to the X Version 11 protocol, and that the server correctly implements the drawing (output) semantics and delivers events (input) as specified in that protocol. The X protocol is the communication language used between the X client and the X server. The X server listens to display instructions sent by the client according to the protocol and responds by drawing on the screen and returning events (like keystrokes and mouse movements).

Following are some questions and answers about X Window System compatibility.
This article has been archived and is no longer updated by Apple.

Is X Window System Available on any Machine NOT Running UNIX?

The majority of X implementations are for UNIX systems. However, there are other (compatible) implementations that run on VMS, Apollo DOMAIN, and others. When using a true multitasking operating system, an X client (like an engineering design application) can be run on the same CPU as the X display server. In fact, this is the usual pattern for using X: display server and multiple clients running on the same (multitasking) CPU.

Does Compatibility Mean the Macintosh OS Being Able Run to Window X?

You can also run an X display server on a single-user operating system, such as the Macintosh OS or MS-DOS. These implementations require all the X client applications to be run remotely. Some terminal manufacturers (Wyse is one example) have produced intelligent terminals that operate as X display servers. (These terminals must have a powerful, dedicated CPU, buffering capabilities, and some form of networking built in.)

Can a MacWorkStation-to-X Window System Interface Be Written?

An X server and a remote X client application communicate over a network using a "reliable byte-stream" built on top of a network protocol, such as TCP-IP or DECNet. The same kind of mechanism is used by MacWorkStation to communicate with an IBM mainframe (but the protocol used and many other details differ from X).

The X protocol provides for vendor-specific extensions (a trap door), which allows clients to access special functions in the server. It might be possible for a Macintosh-based X server to offer an extension that offers clients use of Macintosh Toolbox components (like MacWorkStation), but we don't know of any plans to implement such an extension.

Is X Window System like PostScript?

X and PostScript are similar, because they both are used to generate graphic images on bit-map devices (in this sense, QuickDraw is also similar). However, X and PostScript have very different "imaging models." X regards the screen as a rectangular collection of pixels--each may be individually addressed by giving its horizontal and vertical coordinates (like QuickDraw). Lines, curves, and shapes are specified in terms of these device-dependent coordinates.

PostScript, on the other hand, hides many of the device-dependent details (like discreteness of pixels) and gives the programmer the illusion of painting on a canvas in any convenient coordinate system. The PostScript model is, in many ways, richer and easier to use. In addition, PostScript is a true programming language and allows for concise and compact expression of complicated graphic images.

The Sun NeWS window system is based on PostScript. A NeWS application is a collection of PostScript procedures that are sent to a NeWS server (perhaps remotely via a network connection). The server interprets the PostScript procedures and renders graphics in a window on the display's bit-map screen. NeWS extends PostScript by allowing interactive input: the PostScript procedures can respond to user input--keystrokes, mouse motion, and mouse clicks. Some of NeWS is written in PostScript (after all, PostScript is a programming language). In particular, the NeWS window manager is a PostScript procedure.

How Is X Window System Comparable to Display PostScript?

Display PostScript (licensed by Adobe) lets a PostScript procedure render graphics on a bit-map screen (in the same manner as a LaserWriter with its built-in PostScript lets a PostScript procedure render graphics on a sheet of paper). Display PostScript differs from NeWS in that it does not take into account interactive input. X and Display PostScript can be used together: Display PostScript is a front end that accepts a client's PostScript procedure and then issues commands to X causing the appropriate graphics to be drawn in an X window.

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Macintosh: APL terminal emulator

This article has been archived and is no longer updated by Apple.

STSC's APL*PLUS for the Macintosh (formerly sold as PortAPL) has a built-in APL terminal emulator for an APL workstation. In addition to having an APL terminal emulator built-in, APL*PLUS, a comprehensive APL system in its own right, also includes a LaserWriter APL font which can be used for printing documents with APL characters in them.

There is also a version that runs on the Macintosh SE.

For more information, search on "STSC".

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TA38006_Apple_IIc_Tecnical_Reference_Manual_MouseText_Errata.pdf

Apple IIc: Tecnical Reference Manual MouseText Errata

The Apple IIc Technical Reference Manual (ISBN#: 0-201-17752-8) shows, on pages 90 and 91, a chart of Apple IIc MouseText Characters. The MouseText equivalents for F and G are shown as four horizontal lines, whose purpose is to make window title bars. This is not correct.
This article has been archived and is no longer updated by Apple.
On an Apple IIc or Apple IIe (either enhanced beige or platinum), the MouseText characters for F and G are the two halves of the "running man" character.

The horizontal line characters are available only in the Apple IIGS MouseText character set. There is no ROM upgrade to add these new characters to an Apple IIe or Apple IIc.
Published Date: Feb 18, 2012

A/UX: Problem With atan2 Function (9/94)

The math library function atan2 gives an incorrect answer for the arguments (-1,0). A/UX returns 0; it should return 3.141593 (pi).

This problem has been fixed in A/UX 2.0.1 and 3.0.

This article has been archived and is no longer updated by Apple.
Here's a sample program:

```
#include<math.h>
main() {
printf("atan2( 0, 1) = %9.6f\\n", atan2( 0., 1.));
printf("atan2( 1, 0) = %9.6f\\n", atan2( 1., 0.));
printf("atan2( 0,-1) = %9.6f\\n", atan2( 0.,-1.));
printf("atan2(-1, 0) = %9.6f\\n", atan2(-1., 0.));
}
```

This program returns:

```
atan2( 0, 1) = 0.000000
atan2( 1, 0) = 1.570796
atan2( 0,-1) = 0.000000
atan2(-1, 0) = -1.570796
```

The result SHOULD be:

```
atan2( 0, 1) = 0.000000
atan2( 1, 0) = 1.570796
atan2( 0,-1) = 3.141593
atan2(-1, 0) = -1.570796
```

This anomaly affects the conversion of rectangular-to-polar coordinates, a common use of the atan2 function.

Article Change History:
20 Sep 1994 - Reviewed.
27 Aug 1992 - UPDATED to include A/UX 3.0 Information.

Support Information Services
Published Date: Feb 18, 2012

A/UX: Problem With NaN, printf

Article Change History

08/27/92 - REVIEWED
o For technical accuracy.

The IEEE floating point format used by the Macintosh II allows these special floating values:
- NaN (Not-a-Number)
- +infinity
- -infinity

This article has been archived and is no longer updated by Apple.
These are created by certain math library functions. For example, log(0) is -infinity. The printf(3s) C library functions should give these values special treatment; that is, print them as special strings. Instead, passing the value as a double prints the numerical value of -HUGE; passing the value as a float gives segmentation violations.

Here's a sample program:

```
#include<math.h>
main()
{
double d;
float f;
d = log(0.);
printf("double: %g\\n", d);
f = d;
printf("float: %g\\n", f);
}
```

On A/UX, this program returns:

```
double: -1.79769e+308
Floating exception (core dumped)
```

For comparison, on SunOS, it gives the right answer except for the sign:

```
double: Infinity
float: Infinity
```

On IBM AIX, it returns:

```
double: -INF
float: -INF
```

The results with NaN are similar.

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A/UX: Expanding the Macintosh OS Partition (5/97)

This article has been archived and is no longer updated by Apple.

```
If you decide to reduce the swap partition of A/UX and use that freed disk
space for a Macintosh OS HFS file system, there are a number of things to
consider:

- You can reduce the size of the swap area with HD Setup (2.0).  Select the
 swap area, delete it, and create a new one of a smaller size.  It contains
 no useful data when A/UX is not running so you can safely ignore the
 warning.  As soon as you boot up A/UX, you also have to adjust the size
 stored in the kernel, by entering in single user mode:

     kconfig -n /unix
     SWAPCNT=<New-swap-space-size-in-512-byte-units>
     <Control-d>

 Then reboot to make it effective.  To permanently change this value--even
 when reconfiguring the kernel, you also should change the "/newunix" file.

- There is no need to use either "dp" or "adb" for this if you use "Apple
 HD SC Setup v2.0b12" or later, which includes partitioning.

- There can be only one HFS partition per disk under Macintosh OS.

- Once you have freed some of the disk space, you can increase the size of
 the Macintosh OS partition as follows:  back it up on floppies, delete it,
 move partitions on the disk to make a large contiguous gap, create a new
 HFS partition, and restore the floppies on the newly created partition.
 Be prepared--moving partitions takes a lot of time since HD Setup copies
 all its data.
```

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Insignia Solutions, Inc.

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Company Profile:
Software, specializing in Windows and DOS emulation software, including AccessPC, SoftWindows (for Power Macintosh) and SoftPC for Macintosh 680x0 models.
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Macintosh II Video Card Pinouts

This article has been archived and is no longer updated by Apple.

Here are the pinouts for the Apple Macintosh II Video Card:

Pin Signal

1 GND
2 Analog Red Channel
3 TTL Composite Sync
4 GND
5 Analog Green Channel with composite sync- used as Monochrome Signal
6 GND
7 NC
8 NC
9 Analog Blue Channel
10 NC
11 GND
12 Analog Green Channel with composite sync(not used)
13 GND
14 GND
15 NC

Published Date: Feb 18, 2012

Apple III: Cables for Various Printers (1 of 4)

This article has been archived and is no longer updated by Apple.

Version 1.0

Special Cables:

APPLE III DRIVERS AID CABLE "A"
(This is the diagram for the "standard" Apple Distributed Modem Eliminator cable; Apple Part Number A3M0019).

Device Manufacturer and Models:

Apple	Daisy Wheel Printer (Apple P/N A3M0025)
Apple	Sprint 5/45 (Apple P/N D2M0060)
C. Itoh	F-10
MPI	88G
MPI	99G
Comrex	CR-1
Brother	HR-1
Hewlett Packard	7725
Hewlett Packard	7470A
Anderson Jacobson	832
Anderson Jacobson	833
Anderson Jacobson	841
Qume	Sprint 11

Pin-to-Pin Connections:

```
Apple II (Male)         Serial Device (usually Female)

1 o----------------------------o 1
7 o----------------------------o 7
2 o----------------------------o 3
3 o----------------------------o 2
4 o---+------------------------o 8
5 o---+                    +---o 4
8 o------------------------+---o 5
6 o----------------------------o 20
20 o---------------------------o 6
```

Wiring Comments:

Tie Apple III pins	Tie device pins
4 + 5 together	4 + 5 together
Apple III pins 4 + 5	Device pins 4 + 5
tie to device pin 8	tie to Apple III pin 8

NOTE: For proper operation when using the Apple III Super Serial Card (Apple P/N A2B0044) in an Apple III make sure that switch SW 2-6 (on the card) is in the "ON" position and that the jumper block (also on the card) is in the "TERMINAL" Position.

Apple III Drivers Aid Cable "B"

Device Manufacturer and Models:

NEC 3500R
NEC 3510
NEC 3515
NEC 3520
NEC 3525
NEC 7710
NEC 7715
NEC 7720

NEC 7725

Pin-to-Pin Connections:

```
Apple III (Male)           N.E.C. Spinwriter (usually Female)

1 o----------------------------o 1
2 o----------------------------o 3
3 o----------------------------o 2
4 o---+                    +---o 4
5 o---+                    +---o 5
7 o----------------------------o 7
8 o----------------------------o 19
                           +---o 6
                           |---o 8
                           +---o 20
```

Wiring Comments:

```
Tie Apple III pins          Tie device pins
4 + 5 together; they do     4 + 5 together; they do
not connect to the device   not connect to the Apple III

                           Tie device pins
                           6 + 8 + 20 together; they do
                           not connect to the Apple III

                           Do NOT tie all five:
                           4, 5, 6, 8 + 20 together!
```

Note: For proper operation when using the Apple III Super Serial Card (Apple P/N A2B0044) in an Apple III make sure that switch SW 2-6 (on the card) is in the "ON" position and that the jumper block (also on the card) is in the "TERMINAL" Position. Apple III Drivers Aid Cable "C" description on next record.

Published Date: Feb 18, 2012

MS-DOS Filename Conventions: AppleShare V2.0 Same As V1.1

This article has been archived and is no longer updated by Apple.

Under AppleShare 1.1, an MS-DOS user sees a modified version of any name over eight characters; for example:

Macintosh volume name: Oxford Blues
AppleShare PC name: !Oxford .Blu

Some users have asked if AppleShare 2.0 lets the administrator determine the volume names that the PC sees -- that is, make it possible to assign names that are different from the Macintosh names, but readable by MS-DOS -- or if not, whether there is any way to make the names easier to read and type WITHOUT constraining original volume names to eight characters or less?

This problem occurs because of file-naming constraints in MS-DOS, which allow only a maximum of eight characters with a three-character extension (such as 12345678.123) for file names. The Macintosh and AppleShare (1.1 or 2.0) both allow filenames up to 31 characters in length.

Although AppleShare allows filenames to be 31 characters long, it also stores the filenames as "short names", which adhere to the MS-DOS file-naming conventions. These "short names" are used when an MS-DOS machine accesses files from an AppleShare server that have names longer than eight characters. These "short names" are generated by a predefined algorithm of the characters in the actual name, and CANNOT be controlled by the system administrator.

This is true for both AppleShare versions 1.1 and 2.0. If file names must be easy to read and type, assign names of eight characters or less.

Published Date: Feb 18, 2012

AppleColor Hi-Res Monitor Needs Composite TTL Sync

This article has been archived and is no longer updated by Apple.

A user asks whether the Macintosh II High-Resolution Color Monitor requires the external sync (TTL sync) signal that comes off the Macintosh II Video Card on pin 3, or does the monitor derive the sync from the green video -- that is, does the monitor work with just red, green, and blue signals?

The AppleColor High-Resolution RGB Monitor requires the composite TTL sync from pin 3 -- the AppleColor Monitor CANNOT use the composite sync from the analog green channel with composite sync (pin 5).

The necessary connections are shown below:

AppleColor Monitor Apple Video Card
---
1 Red video return ----> 1 Ground
2 Red video ----> 2 Analog red channel
3 Composite TTL sync ----> 3 Composite TTL sync
4 Composite sync return ----> 4 Ground
5 Green video ----> 5 Analog green channel with sync
6 Green video return ----> 6 Ground
7 (not used) 7 (not used)
8 (not used) 8 (not used)
9 Blue Video ----> 9 Analog blue channel
10 (not used) 10 (not used)
11 (not used) 11 Ground
12 (not used) 12 Analog green channel with sync (not used)
13 Blue video return ----> 13 Ground
14 (not used) 14 Ground
15 (not used) 15 (not used)
Shell (Shield Ground)

Published Date: Feb 18, 2012

LaserWriter Initialization Limits

This article has been archived and is no longer updated by Apple.

There is no limit to the number of times a LaserWriter can be initialized (or restarted). The EEROM in the LaserWriter printers may be written to 10,000 times.

NOTE: If you are downloading programs to the LaserWriter and writing to the EEROM, this 10,000 limit could eventually become a problem.

Published Date: Feb 18, 2012

HyperCard 1.1: Workaround For "Delete Card" Issue

Users of HyperCard 1.1 stacks find that an attempt to do a "delete card" sometimes calls up an error message -- "Unexpected error 54321" -- and a "sorry" button, which quits HyperCard. (This problem does not occur with HyperCard 1.0.1.)
This article has been archived and is no longer updated by Apple.
This is an issue with HyperCard 1.1: if there is an "onOpen Card" handler on the card after the one you are attempting to delete, or an "onDelete Card" handler in the script of the card you are trying to delete, when you try to delete that card, you receive the error. If there is an "onDelete Card" or "onOpen Card" handler in the background -- or stack -- script, you also get the error when you try to delete the card.

An example of this can be seen in any HyperCard 1.1 Home stack. When trying to delete the card titled, "Look for Documents In:", you get the error. In the script for the last card in the Home stack, there is an "onOpen Card" section of code.

The Workaround
Insert two hyphens and a space before each line of the above-mentioned code. You can then delete that card.
Published Date: Feb 18, 2012

ImageWriter LQ Doesn‘t Have 50% Reduction Capability

This article has been archived and is no longer updated by Apple.

Some users have asked why the ImageWriter LQ options for reduction are 33% and 66% only, instead of a 50% reduction as with the ImageWriter II.

The reason is this: the Macintosh screen is 72 dpi, and the ImageWriter LQ in Best mode prints at 216 dpi. If you take the image on the screen, and do not scale it in any way before sending it to the ImageWriter LQ (printing at 216 dpi), the output reduction is 33% -- that is, 72/216.

If you scale this screen image by a factor of two and print it on the same printer at 216 dpi, the result is a 66% reduction -- or, 144/216.

This is the difference from the ImageWriter II, which prints at 144 dpi. The unscaled screen image, when sent to the printer, automatically prints at 50% reduction -- at 72/144.

The reduction modes chosen for the ImageWriter II and ImageWriter LQ printers represent the "natural" reduction modes for each, depending on the printer resolution, and the way the ImageWriter printer drivers handle bit-map printing.

Published Date: Feb 18, 2012

Apple III: Cables for Various Printers (2 of 4)

This article has been archived and is no longer updated by Apple.

```
Apple III Drivers Aid Cable "C"

Device Manufacturer and Models:
Diablo           620
Diablo           630 (Use as shown; DO NOT change pin 20!)
Diablo          1630
Diablo          1640
Diablo          1650
Xerox            630 (See change; this model ONLY; re: pin 20)
Xerox           1710
Xerox           1720
Xerox           1730
Xerox           1741
Xerox           1750

Pin-to-Pin Connections:

Apple III (Male)         Diablo or Xerox (usually Female)

1 o----------------------------o 1
2 o----------------------------o 3
4 o------------------------+---o 6
                           +---o 8
6 o----------------------------o 20 (on Xerox 630 ONLY
                                     go to pin 11
                                     instead of pin 20)
7 o----------------------------o 7
                           +---o 4
                           +---o 5

Wiring Comments:

Apple III pin 4          Tie device pins
tie to device pins       6 + 8 together
6 + 8
                        Tie device pins
                        4 + 5 together; they do
                        not connect to the Apple III

                        Change pin 20 to pin 11
                        ONLY for the Xerox 630!

Note:  For proper operation when using the Apple III Super Serial Card (Apple
P/N A2B0044) in an Apple III make sure that switch SW 2-6 (on the card) is in
the "ON" position and that the jumper block (also on the card) is in the
"TERMINAL" Position.

Apple III Drivers Aid Cable "D"

Device Manufacturer and Model:
Texas Instruments 810
Centronics        737

Pin-to-Pin Connections:


Apple III (Male)         Texas Instruments (usually Female)

1 o----------------------------o 1
2 o----------------------------o 3
4 o------------------------+---o 6
```

```
                           +---o 8
6 o----------------------------o 11
7 o----------------------------o 7
```

Wiring Comments:

```
Apple III pin 4          Tie device pins
tie to device pins       6 + 8 together
6 + 8
```

Note: For proper operation when using the Apple III Super Serial Card (Apple P/N A2B0044) in an Apple III make sure that switch SW 2-6 (on the card) is in the "ON" position and that the jumper block (also on the card) is in the "TERMINAL" Position.

Apple III Drivers Aid Cable "E"

Device Manufacturer and Models:
Okidata 82A
Okidata 83A

Pin-to-Pin Connections:

```
Apple III (Male)         Okidata (usually Female)

1 o----------------------------o 1
2 o----------------------------o 3
7 o----------------------------o 7
20 o----------------------------o 11
                           +---o 6
                           +---o 20
```

Wiring Comments:

```
                        Tie device pins
                        6 + 20 together; they do
                        not connect to the Apple III
```

Note: For proper operation when using the Apple III Super Serial Card (Apple P/N A2B0044) in an Apple III make sure that switch SW 2-6 (on the card) is in the "ON" position and that the jumper block (also on the card) is in the "TERMINAL" Position. Apple III Drivers Aid Cable "F" description on next record.

Published Date: Feb 18, 2012

LaserWriter: Laser Power Adjustment

This article has been archived and is no longer updated by Apple.

When the laser is replaced in a first-generation LaserWriter (LaserWriter and LaserWriter Plus), the laser power must be adjusted by a pot on the DC controller board.

In the LaserWriter II, there is no pot on the DC controller board. Power adjustment is not needed during laser replacement.

Published Date: Feb 18, 2012

LaserWriter IISC: How To Print In Background Under MultiFinder

This article has been archived and is no longer updated by Apple.

The LaserWriter IISC does print in the background under MultiFinder, but only under these conditions:

- You must use System 4.3. (This is documented in the Owners Manual.)

- You must INSTALL (not drag) the LaserWriter IISC driver into the System folder. If you drag the driver into the System folder, it will not work correctly when printing in the background. (This is not documented.)

Published Date: Feb 18, 2012

ImageWriter Custom Characters: How To Get Rid Of Underlines

This article has been archived and is no longer updated by Apple.

Some users have discovered that when they try to create custom characters with the ImageWriter I and II printers, the resulting character is always underlined -- whether they want it that way or not.

The Apple ImageWriter I and ImageWriter II printers -- as well as the Apple Dot Matrix Printer -- have special modes that allow them to generate custom-design characters. For the most definition on each character, it is useful to control all eight data bits sent to the printer.

This Applesoft BASIC program has been tested for the underlining problem, and will work correctly (that is, the character will appear as desired):

```
10 D$ = CHR$(4)
20 FOR I = 768 TO 773: READ J: POKE I,J: NEXT I
30 PRINT D$;"PR#1"
40 FOR I = 1 TO 14: READ J: POKE 769,J: CALL 768: NEXT I
50 PRINT CHR$(27)"*&&&" CHR$(27)"$"
60 PRINT D$; "PR#0"
70 DATA 169,4,76,237,253,96
80 DATA 27,45,27,73,166,71,0,72,72,126,72,72,0,4
```

Line 20 reads the data from line 70, and POKEs a machine language routine into the computer. Line 30 activates the printer. Line 40 reads the data from line 80, which is a string of data defining a custom character (in this case, the plus/minus character shown in the ImageWriter manual). It is defined using eight bit data where all eight bits are required. Line 50 uses the custom character, and line 60 returns the output to the screen.

For more information on these procedures, see pages 69 and 70 of the ImageWriter User's Manual, Part 1 (Apple Part #030-0730).

Published Date: Feb 18, 2012

Command-Period Doesn‘t Cancel Print to LaserWriter IISC

This article has been archived and is no longer updated by Apple.
This article last reviwed: 10 May 1988

When using the LaserWriter IISC, printing within an application (such as MacPaint) that contains a dialog box requiring the "command-period" to stop printing, you may experience this problem: the "command-period" does NOT stop or interrupt the printing.

However, if you are printing within an application that uses a dialog box with a "cancel" button, the cancel button DOES stop the printing.

This is a problem characteristic of the LaserWriter IISC driver, not the PostScript printer drivers. Currently, you CANNOT cancel most print jobs when programs display a printing message stating "To cancel, hold down the command key and type a period (.)"

Published Date: Feb 18, 2012

LocalTalk PC Card: Compatibility With MS-DOS Systems

This article has been archived and is no longer updated by Apple.

Apple's LocalTalk PC card is compatible with:

- IBM PS/2, models 25 and 30

- PC XT

- PC AT

and most clones, all of which use the PC bus.

Apple's LocalTalk PC card is NOT compatible with:

- IBM 3270 Communication card

- PCs using MicroChannel bus architecture

- PCs using OS/2

TOPS "FlashCard" works with the 3270 Communication card and may be a viable workaround.

Tangent Technologies has announced a card that works with PCs having the MicroChannel bus architecture.

For more information, search under: "Tangent Technologies" and "TOPS"

Published Date: Feb 18, 2012

AppleShare PC: Memory Use

This article has been archived and is no longer updated by Apple.

Some users have asked about the amount of RAM that AppleShare PC occupies in a PC.

The amount of memory used is:

- No resident DA or other options: 127,344 bytes

- DA resident with expanded memory option: 90,176 bytes

- DA resident (no graphics or memory options): 200,416 bytes

- DA resident and high-resolution graphics support: 215,776 bytes

The totals for the PC files loaded into memory include ATALK.EXE, ASHARE.COM, MINSES.EXE, REDIR.EXE, DA.EXE, DA.DTA, DA.HLP, and ANET.EXE.

Not all of the programs are loaded at once. Those that are not loaded have code segments or overlays sharing allocated space. For this reason, the file size is not the same as the allocated memory size. These numbers represent the allocated total space within memory for the mentioned files.

Published Date: Feb 18, 2012

HyperCard: Using It To Control A Multimedia Presentation

This article has been archived and is no longer updated by Apple.

An interactive multimedia presentation (such as one using 35mm slide projectors, cassette recorders, and lights) can be controlled using the Apple MIDI device, the J.L. Cooper Electronics MIDI Mute, and the XCMD from the HyperMIDI stack.

The J.L. Cooper MIDI Mute contains eight reed relays in one unit that can be controlled with the MIDI XCMD found in the HyperMIDI stack. Apple's MIDI device is the interface between the Macintosh and the J.L. Cooper MIDI Mute.

The control of a particular audio/visual device depends on that device's control interface. For example, the wired remote control found with slide projectors can be easily replaced with the MIDI Mute. The AC power to that same slide projector, however, will require a custom-built power switch that connects to the MIDI Mute. An infrared remote is not a trivial project.

(NOTE: Some knowledge of MIDI codes is also required to complete this system.)

Published Date: Feb 18, 2012

List Of Font ID Numbers (Apple No Longer Assigns Them)

This article has been archived and is no longer updated by Apple.

Some users have asked about importing fonts under ID numbers already reserved to Apple fonts (although not necessarily filled by existing fonts).

The Font Manager chapter of Inside Macintosh, Volume IV (Apple Part #030-1389-A), states that font family numbers 0 through 127 are reserved for Apple's use, and numbers 128 through 255 are assigned by Apple for fonts created by software developers.

This is no longer true: Developer Technical Support does NOT assign font family numbers.

When you copy a font into the System file (using the Font/DA Mover), and there is an ID number conflict, the ID number of the font being copied is changed.

Here is a list of fonts and their ID numbers:

New York ID = 2 Geneva ID = 3
Monaco ID = 4 Venice ID = 5
London ID = 6 Athens ID = 7
San Francisco ID = 8 Toronto ID = 9
Cairo ID = 11 Los Angeles ID = 12
Times ID = 20 Helvetica ID = 21
Courier ID = 22 Symbol ID = 23
Taliesin/Mobile ID = 24

These are the ID numbers for the LaserWriter Plus fonts:

Zapf Dingbats ID = 13 Bookman ID = 14
Helvetica Narrow ID = 15 Palatino ID = 16
Zapf Chancery ID = 18 Avant Garde ID = 33
New Century School Book ID = 34

Published Date: Feb 18, 2012

Apple III: Cables for Various Printers (3 of 4)

This article has been archived and is no longer updated by Apple.

```
Apple III Drivers Aid Cable "F"

Device Manufacturer and Model:
Okidata 84

Pin-to-Pin Connections:

Apple III (Male)         Okidata (usually Female)

1 o----------------------------o 1
2 o----------------------------o 3
7 o----------------------------o 7
6 o----------------------------o 11
                          +---o 4
                          +---o 5
                         _________

                          +---o 6
                          +---o 20

Wiring Comments:

                        Tie device pins
                        4 + 5 together; they do
                        not connect to the Apple III

                        Tie device pins
                        6 + 20 together; they do
                        not connect to the Apple III

                        Do NOT tie all four:
                        4, 5, 6 + 20 together!

Note:  For proper operation when using the Apple III Super Serial Card (Apple
P/N A2B0044) in an Apple III make sure that switch SW 2-6 (on the card) is in
the "ON" position and that the jumper block (also on the card) is in the
"TERMINAL" Position.

Apple III Drivers Aid Cable "G"

Device Manufacturer and Model:
Heathkit H-14

Pin-to-Pin Connections:

Apple III (Male)        Heatkit (usually Female)

1 o--------------------------o 1
2 o--------------------------o 3
6 o--------------------------o 4
7 o--------------------------o 7

Note:  For proper operation when using the Apple III Super Serial Card (Apple
P/N A2B0044) in an Apple III make sure that switch SW 2-6 (on the card) is in
the "ON" position and that the jumper block (also on the card) is in the
"TERMINAL" Position.

Apple III Drivers Aid Cable "H"

Device Manufacturer and Model:
Epson  MX-70
```

Epson MX-80

Pin-to-Pin Connections:

```
Apple III (Male)                Epson (usually Female)

1 o---------------------------o 1
2 o---------------------------o 3
6 o---------------------------o 11
7 o---------------------------o 7
```

Notes:

Set at 9600 Baud

Note: For proper operation when using the Apple III Super Serial Card (Apple P/N A2B0044) in an Apple III make sure that switch SW 2-6 (on the card) is in the "ON' position and that the jumper block (also on the card) is in the "TERMINAL" Position.

Apple III Drivers Aid Cable "I"

Device Manufacturer and Model:
Anadex DP-9500
Anadex DP-9501

Pin-to-Pin Connections:

```
Apple III (Male)                Anadex (usually Female)

1 o-----------------------------o 1
2 o-----------------------------o 3
6 o-----------------------------o 19
7 o-----------------------------o 7
```

Notes:

Check parity, baud, stop bits, etc.

Note: For proper operation when using the Apple III Super Serial Card (Apple P/N A2B0044) in an Apple III make sure that switch SW 2-6 (on the card) is in the "ON' position and that the jumper block (also on the card) is in the "TERMINAL" Position.

Apple III Drivers Aid Cable "J"

Device Manufacturer and Model:
NEC 5510
NEC 5515
NEC 5520
NEC 5525

Pin-to-Pin Connections

```
Apple III (Male)                NEC (usually Female)

1 o----------------------------o 1
2 o----------------------------o 3
4 o----------------------------o 5
6 o----------------------------o 19
7 o----------------------------o 7
20 o-----------------------+----o 6
                           +----o 8
```

Wiring Comments:

Tie device pins
6 + 8 together

Note: For proper operation when using the Apple III Super Serial Card (Apple P/N A2B0044) in an Apple III make sure that switch SW 2-6 (on the card) is in the "ON' position and that the jumper block (also on the card) is in the "TERMINAL" Position. Apple III Drivers Aid Cable "K" description on next record.

Published Date: Feb 18, 2012

HyperCard: Variable Space

This article has been archived and is no longer updated by Apple.

HyperCard 1.1 limits the programmer to 255 global variables. When writing complex stacks, you can run out of variable space. This does not mean you've used your allotted 255 variables. It can mean that the amount of data you've put into the variables exceeds available memory. If you run into this problem, you three things you can do:

First, rethink your use of variables. Can you redesign so that you don't need so many?

Second, you can put empty into a global variable and increase space for other global variables.

Third, if you really need more than 255 global variables, there is a workaround. The following script demonstrates how you can reduce the number of global variables by treat a variable as two-dimensional array:

```
on mouseUp
global globalVar
put "Test" into item 32 of line 1000 of globalVar
put " it worked!!" into item 1 of line 1 of globalVar
put item 32 of line 1000 of globalVar into item 1 of localVar
put item 1 of line 1 of globalVar into item 2 of localVar
put line 1 of localVar into msg
end mouseUp
```

This example, which creates a global variable, "globalVar," having 32,000 elements, shows a more economical handling of variables. Note: A variable can contain only 32,767 characters.

Published Date: Feb 18, 2012

HyperCard Sorts According to ASCII Values

In what order does HyperCard sort text?

This article has been archived and is no longer updated by Apple.
HyperCard sorts text based on the assigned ASCII value for each character.
This means that ascending sorts will place text beginning with symbols
first, then numbers, and finally alphabetic characters.

Published Date: Feb 18, 2012

Apple Tape Backup 40SC: Don‘t Try To Backup Over A Network

This article has been archived and is no longer updated by Apple.

You will probably have a problem if you try to back up data over a TOPS network to an Apple Tape Backup 40SC. The reason is that Apple Tape Backup software is designed for local backup only. In fact, if you try to back up files from a computer other than the one you've connected the backup unit to, the backup software returns an error message that it cannot back up server files.

Other products let you back up over a network. SuperMac Software's Network DiskFit is one product that is designed specifically for backing up AppleShare or TOPS servers and workstations.

For more information, search the Tech Info Library for "SuperMac".

Published Date: Feb 18, 2012

LaserWriter: Data Can‘t Be Stolen From Print Buffers

This article has been archived and is no longer updated by Apple.

Some LaserWriter users -- particularly those with defense work -- have asked if it is possible to extract the contents of the LaserWriter or LaserWriter II print buffer after the page has been printed. The answer is no. Once the information has been downloaded into the printer, there is no way (that we know of) to retrieve it. There is the possibility that by adding hardware to the LaserWriter, data could be captured. But creating and connecting such a piece of equipment would be a very difficult job in itself.

Published Date: Feb 18, 2012

Apple III: Cables for Various Printers (4 of 4)

This article has been archived and is no longer updated by Apple.

```
Apple III Drivers Aid Cable "K"

Device Manufacturer and Model:
IDS 125
IDS 225
IDS 440
IDS 445
IDS 460
IDS 560

Pin-to-Pin Connections
Apple III (Male)                IDS (usually Female)

2 o---------------------------o 3
6 o---------------------------o 20
7 o---------------------------o 7

Note:  For proper operation when using the Apple III Super Serial Card (Apple
P/N A2B0044) in an Apple III make sure that switch SW 2-6 (on the card) is in
the "ON' position and that the jumper block (also on the card) is in the
"TERMINAL" Position.

Apple III Drivers Aid Cable "L"

Device Manufacturer and Model:
Axiom    EX-801
Axiom    EX-820
Comprint 912
DEC      LA34
Teletype 43

Pin-to-Pin Connections:

Apple III (Male)                Printer (usually Female)

1 o----------------------------o 1
2 o----------------------------o 3
6 o----------------------------o 20
7 o----------------------------o 7

Note:  For proper operation when using the Apple III Super Serial Card (Apple
P/N A2B0044) in an Apple III make sure that switch SW 2-6 (on the card) is in
the "ON' position and that the jumper block (also on the card) is in the
"TERMINAL" Position.
```

Published Date: Feb 18, 2012

Macintosh-To-Novell NetWare With AppleTalk (Part 1 Of 3)

This article has been archived and is no longer updated by Apple.

This is the first of three parts.

Many users have asked about connecting Macintosh to a Novell network, and for up-to-date information on the status of Macintosh NetWare.

The ability of AppleTalk to communicate over broadband networks is done by using:

1. A FastPath (AppleTalk-to-Ethernet converter).

2. A broadband multiplexer (like those sold by Allen-Bradley: VistaMap 10MBps).

3. Another broadband multiplexer to convert the signal back on to Ethernet.

4. A receiving FastPath to convert back onto AppleTalk.

Complete information about NetWare can be obtained by connecting to the Novell demo BBS. The number is (800) 444-4472

Compatibility settings are: 8 bits, parity=none, stops=1, 1200-baud; the access code is NVSOF4.

Here is a brief overview of the Novell information:

With 32 Original Equipment Manufacturers (OEMs) reselling NetWare and with an installed base of over 145,000 file server-based networks, NetWare has become an unofficial standard in the LAN industry.

Netware-Supported Configurations

The following is a list of NetWare-supported networks.

BASEBAND NETWORKS

Linear Bus Networks

Asher-G AST PCnet II AST-RSN
AST Starport AST Turbostar AT&T StarLAN
Codenoll Ethernet Cordata InterNet Link Cordata InterNet Link 286
Corvus Omninet Gateway G-Net IBM PC Cluster
IBM PC Network Baseband MICOM-Interlan Ethernet NEC Omninet
Networth vLAN Networth Elan North Star Dimension
Novell NetWare Ethernet Novell NetWare G-Net Orchid PCnet
Racal-Milgo PLANET Racore LAN Pac Santa Clara PCnet/Ethernet
Texas Instruments Ethernet Torus Ethernet 3Com EtherLink
3Com EtherLink Plus Ungermann-Bass Net/ Unisys Usernet-86
Univation StarLAN One Ethernet Western Digital StarLAN

TOKEN-PASSING NETWORKS

Asher-P Star Networks:
Comterm ARCNET
Davong Multilink TeleVideo Personal Mini
IBM Token-Ring Novell S-Net
Kaypro ARCNET
Nestar PLAN 2000
Novell NetWare RX-Net
Proteon ProNET-4

Proteon ProNET-10
Pure Data ARCNET
Standard Microsystems ARCnet
Torus Token-Ring

BROADBAND NETWORKS

Linear Bus Networks

IBM PC Network
Sytek System 6000
Allen-Bradley Vista

IBM Personal System/2

Advanced NetWare and System Fault Tolerant NetWare provide workstation and file server support for IBM's Personal System/2 series of microcomputer products. Novell also offers a software bridge to link the IBM PC network, the new Token-Ring Network, and other NetWare-supported networks.

Netware Operating System Software

Just as DOS was designed specifically for standalone workstations, NetWare was designed specifically for networking. The NetWare operating system runs in the file server, which manages shared resources. DOS runs in the workstations, allowing for local processing.

A software component called the NetWare "shell" lets the file server communicate with DOS and application software in the workstations. The shell sends DOS functions to the workstation, but sends NetWare functions to the file server to be handled by the LAN operating system. NetWare remains unchanged, regardless of what software is running in the workstations, which is why NetWare can support many hardware types, and can support multiple versions of DOS on the network simultaneously.

NetWare operating system software offers several powerful features, including DOS 3.x compatibility. DOS compatibility allows multiuser software applications that are developed for DOS to run unmodified on NetWare. Another feature, internal bridging, permits as many as four networks to bridge through the file server.

NetWare is fully compatible with NetBIOS, an industry standard that controls the way software interfaces with IBM and IBM-compatible networks. NetWare's NetBIOS compatibility means that NetWare supports all software and hardware designed around NetBIOS, including software and hardware developed for the IBM PC and Token-Ring networks.

This article is continued in "Macintosh-To-Novell Netware With AppleTalk, Part 2 of 3."

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Macintosh-To-Novell NetWare With AppleTalk (Part 2 Of 3)

Article Change History

02/01/93 - REVISED
* To add information about volume limits of 1MB less than 2GB under EXPANDABILITY.

This is the second of three parts.
This article has been archived and is no longer updated by Apple.
About The NetWare Operating System

NetWare is the foundation of Novell's product line. It was introduced in 1983, and is now in its seventh generation of development. NetWare offers tremendous connectivity, expandability, and communications capabilities.

NetWare Operating System Software supports 45 popular LAN hardware configurations.

Compatibility

NetWare is compatible with virtually all PC networking software and hardware.

NETWORK HARDWARE

NetWare supports every major network topology and every major manufacturer's hardware (including IBM's PC and Token-Ring networks, AT&T StarLAN, ARCNET, and many Ethernet-type networks). NetWare preserves current hardware investments and lets clients choose the hardware that best suits their price/performance needs. Best of all, the NetWare user interface remains the same regardless of the hardware it is running on.

COEXISTENCE WITH NON-NETWARE PRODUCTS

NetWare can coexist with many non-NetWare products, such as packages developed by IBM for PC-to-mainframe communications. Since both NetWare and non-NetWare products can run on the same network simultaneously, clients are not limited to using only NetWare on a NetWare network. For example, using the TCP/IP Gateway Option, a file server can use both NetWare and TCP environments simultaneously. NetWare also supports important new products being developed by IBM (APPC/LU 6.2 protocols) and other vendors.

CONNECTIVITY

NetWare lets clients interconnect networks through either gateways or bridges. Bridged networks communicate and share information in a way that is transparent to the user. This lets clients purchase networks or add networks, as necessary, without making the original hardware obsolete. Connectivity protects investments in training, software, and hardware.

EXPANDABILITY

NetWare networks can grow easily when the single network limit is reached, clients can simply bridge the network to another network and continue adding workstations and file servers.

It is easy to increase the disk storage and memory capacity of a NetWare network. Disk subsystems may be added to increase hard disk storage capacity to as much as to 2GB. Currently, we have found that a partition

size at least 1MB smaller than 2GB seems to work acceptably. Larger volume sizes might cause negative file sizes, inability to copy files because "More space is needed" even though plenty of space is available. You might encounter these symptoms when Novell servers publish volumes larger than 2GB over the network.

Because NetWare can run in protected mode on 286-type file servers, NetWare supports up to 8MB of Random Access Memory (RAM). Additional RAM improves hard disk performance.

DISTRIBUTED PROCESSING

Under NetWare, each workstation is an independent computer performing its own processing. The file server manages the shared resources and coordinates network activity but does not actually process data. This method of managing data is called "distributed processing".

Because each workstation has its own processing power, adding PCs to the network does not decrease the file server's performance. In contrast, terminals connected to mini and mainframe systems share the processing power, which decreases the power available to each user.

OPERATING SYSTEM TECHNIQUES

Reading from and writing to the file server hard disk occurs more frequently than any other network task. NetWare is specifically designed to perform fast file reads and writes. Other performance enhancements include:

SINGLE-TASKING VERSUS MULTITASKING

NetWare is a multitasking operating system. Performance degradation in the single-tasking environment is magnified with every workstation on the network. Unlike single-tasking operating systems such as DOS, NetWare can service many workstation requests and many hard disks simultaneously.

DIRECTORY HASHING

NetWare minimizes file searching time by efficiently organizing information. Specifically, NetWare indexes directory entries so it can quickly find a file (similar to the way that dictionary entries are alphabetized to enable the user to locate the entry at once).

DIRECTORY CACHING

NetWare saves time by putting a copy of each directory in the file server's RAM. RAM access is much faster than hard disk access, so directory caching significantly increases network performance. Since the disk is accessed less frequently, directory caching also helps eliminate disk-related bottlenecks.

FILE CACHING

NetWare continually tracks parts of files used most often and stores them in RAM. NetWare increases performance by anticipating subsequent requests and reading large blocks of information into RAM. This increases performance by saving "seeks" to the disk, which reduces access time and helps eliminate bottlenecks.

ELEVATOR SEEKING

The disk read-write head travels across the disk and picks up files in its direction of travel, much like an elevator taking floor requests. When a head reaches the end of the disk, it goes in the other direction, picking up new requests. This significantly decreases disk wear and tear and increases disk throughput by up to 50%.

Security

A network supervisor controls network security, which may be implemented on the file server, directory, and file levels. Access to network resources is based on user profiles that the supervisor assigns. Individuals can also protect their personal data without the assistance of a network supervisor.

Value-Added Processes

NetWare offers an elegant solution for developers who would like to place value-added servers and services on the internet. A common File Service Interface provides for the implementation of value-added processes (VAP) in NetWare servers and bridges. Value-added processes bring new services to Advanced NetWare--namely, specialized servers, the incorporation of third-party devices and specialized technologies. Examples of VAPs are data base servers, communications servers, and print servers.

MHS

Message Handling Service (MHS) is a value-added service that provides message transfer and routing services for LAN-based applications. NetWare MHS moves messages between PC LAN, minicomputer, and mainframe environments throughout a dispersed wide-area network. In the future, MHS will support protocols such as X.25, HDLC, SNA, SDLC, and more.

Continued in "Macintosh-To-Novell Netware With AppleTalk, Part 3 of 3."

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Macintosh-To-Novell NetWare With AppleTalk (Part 3 of 3)

Article Change History

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* To add note about volume size limitation.

This is the third of three parts.
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Connectivity

The purpose of a LAN is to connect users to equipment and information that isn't directly connected to their personal computers. To fulfill this mission, LAN users must be able to talk to more than just devices on their LAN--they must also be able to communicate with other LANs and with other data processing equipment.

Note that a Macintosh accessing a volume larger than 2GB can run into problems. A volume size at least 1MB smaller than 2GB seems to work acceptably. Larger volume sizes might cause negative file sizes, and inability to copy files because "More space is needed" even though plenty of space is available. You might encounter these symptoms when accessing volumes larger than 2GB published on Novell servers over the network.

LAN-TO-NEARBY LAN

Novell offers internetwork bridging to allow multiple nearby LANs to communicate with each other. On a NetWare LAN, the bridge connection in a LAN is transparent--the connected LANs appear like a single network with multiple file servers.

Bridging is accomplished by putting boards from as many as four different LANs in a file server (this is called an internal bridge), or by having up to four LANs share a workstation (external bridging). Either way, the results are transparent to the user.

LAN-TO-REMOTE LAN

When LANs are too far apart to be bridged locally, other less comprehensive and less convenient connection methods become necessary. There are two basic choices: terminal emulation or remote bridging.

There are many terminal emulation packages available for personal computers that work on LANs. They vary in connection strategies and features offered.

The simplest packages presume you have a local modem board and ask your workstation on the LAN to appear like a VT-100 terminal. The most sophisticated emulators can take advantage of communal modem gateway boards located on the LAN that can serve many users.

High performance, transparent connections are just becoming available for LAN-to-remote LAN bridges. Two of these are Novell's Asynchronous Remote Bridge and Novell's X.25 Remote Bridge.

The asynch version makes a simple point-to-point connection between two LANs. The X.25 link is useful for multipoint connections--where more than two remote LANs are tied together--and for attaching to public data communications networks. X.25 is also useful for attaching to various commercial electronic mail and document-processing systems.

UNA: THE BRIDGE OF THE FUTURE

Novell's Universal NetWare Architecture (UNA) allows a LAN workstation user to access files on many different kinds of computer systems, such as IBM PCs, IBM mainframes, Apples, or DECs. When the files appear on the screen or are used by an application program, they will always show up in the format of the workstation. A Macintosh user in New York on a UNA LAN, for instance, could look at files on a DEC VAX located in Los Angeles, also on a UNA LAN. The user would see the files displayed as icons just like those used to indicate the Macintosh's own local files. Another UNA user on a PC in Dallas could see the same VAX files by typing DIR on the drive mapped to the VAX.

Conversely, the VAX user in Los Angeles could use the same UNA abilities to explore Macintosh- or PC-originated files, and view them as if they were VMS or UNIX files.

The alternative to UNA is terminal emulation, in which the local workstation acts as a remote terminal on some other computer system. With terminal emulation as the method of connecting, the user must learn and use a new set of commands for each system.

The advantage of UNA is that users and application programs don't have to learn how to use different kinds of machines. The LAN and all the resources on it act like local drives and other local peripherals.

Novell Hardware Solutions

Novell has developed four file servers and two disk drive subsystems for NetWare-supported LANs.

NETWARE FILE SERVERS

NetWare Server 68B

The NetWare Server 68B is specifically designed to be a NetWare file server.

The 68B combines the Motorola MC68000 processor with an S-Net LAN board or an RX-Net LAN board to produce a powerful network "engine."

The 68B supports a combination of four S-Net LAN or RX-Net LAN boards. The NetWare RX-Net LAN board enables the network to support as many as 25 active physical nodes.

Performance is further enhanced by the Parallel/Serial Printer Board (PSPB) which allows parallel and serial ports to be added to the 68B file server. The 68B simultaneously supports as many as five network printers.

NetWare Server 286A

NetWare Servers 286A and T286A are high-performance file servers based on the Intel 80286 16-bit processor.

The 286A offers 1MB of memory on the motherboard, expandable to 8MB with additional boards. The 286A has eight expansion slots, three printer ports, zero-wait-state memory and 6 MHz or 8 MHz clock speed. It supports network LAN boards and other peripherals designed for use with the IBM AT.

NetWare Server 286B

NetWare Servers 286B and T286B are file servers based on the Intel 80286 16-bit processor. The 286B comes with zero-wait-state memory and an 8 MHz clock speed. This file server supports network LAN boards and other peripherals designed for use with the IBM AT.

The 286B offers 2MB of memory on the motherboard, nine expansion slots, and three printer ports. With nine slots, the expansion capabilities of the 286B surpass those of a standard IBM AT and other AT compatibles.

NetWare Server 386A

The NetWare Server 386A comes with 1MB of memory, expandable to 4MB of memory on the motherboard and can support up to 2GB of disk storage with external disk drives. Two 32-bit expansion slots, five 16-bit expansion slots and one 8-bit slot are included in the server.

NETWARE NDS2 AND NDS4

The NetWare Drive Subsystems NDS2 and NDS4 provide additional drive storage capacity for NetWare Servers 68B, 286A, and 286B. The NDS2 and NDS4 provide the following:

- More Network Storage:

 The NetWare Server 286A is equipped with a 42MB drive, and the NetWare Server 286B is equipped with a 109MB or 183MB drive. As LAN requirements expand to accommodate more users and more complex application programs, original drives may not provide adequate data storage.

- Disk Mirroring for SFT Level II:

 With the SFT NetWare operating system on a NetWare Server 286A or 286B, an NDS2 or NDS4 can provide duplicate network drives.

- Network Drives for 68B-based LANs:

 Because the NetWare Server 68B cannot support internal drives, network data storage must be external.

 An NDS2 or an NDS4 accommodates a maximum of two or four drives, respectively. Several drive configurations are available.

NETWARE DISK COPROCESSOR BOARD

The NetWare Disk Coprocessor Board (DCB) streamlines the performance of disk reads and writes (disk I/O) for NetWare Servers 286A and 286B, as well as IBM AT file servers.

The DCB controls the drive buffer and provides complete read-after-write verification. The addition of a DCB to a file server improves performance by approximately one-third.

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NuBus: Transfer Rate

Some users have asked about the speed of the NuBus data exchange.

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NuBus transfer rate is approximately 2.5MB/sec at 10 MHz.

An average time is 700ns per transaction--"average" because the time is influenced by the type of data being transferred, and by other processes being transmitted across NuBus.

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PostScript Language Tutorial and Cookbook: Correction To Manual

This article has been archived and is no longer updated by Apple.

If you are trying to program in PostScript, you may find that THIS program runs perfectly well:

```
/Helvetica findfont
27 scalefont setfont
/rays
{0 1.5 179
{gsave rotate 0 0 moveto 108 0 lineto stroke grestore } for
} def
300 400 translate
.25 setlinewidth
newpath
0 0 moveto
(Pharmaceutical Research) true charpath
stroke
54 -15 translate
rays
showpage
```

Whereas this second program -- which is designed according to the Adobe PostScript programming manual -- does NOT. (The only difference: the word "stroke" was replaced with "clip".)

```
/Helvetica findfont
27 scalefont setfont
/rays
{0 1.5 179
{gsave rotate 0 0 moveto 108 0 lineto stroke grestore } for
} def
300 400 translate
.25 setlinewidth
newpath
0 0 moveto
(Pharmaceutical Research) true charpath
clip
54 -15 translate
rays
showpage
```

There are two reasons why this second program does not work:

1. The program shown is copied directly from page 103 of the PostScript Language Tutorial and Cookbook (ISBN #0-201-10179-3), except the name "StarLines" is replaced by "Pharmaceutical Research". The output should be the name "Pharmaceutical Research" in outlined letters with the ray pattern inside the letters.

Close examination of the program on page 103 shows that the user left out one critical line. The last five lines in the user's program read:

```
(Pharmaceutical Research) true charpath
clip
54 -15 translate
rays
showpage
```

These lines should read:

```
(Pharmaceutical Research) true charpath
clip
newpath %------new line added-------
54 -15 translate
rays
showpage
```

On page 128 of the PostScript Language Reference Manual (ISBN #0-201-10174-2) is a description of the -clip- operator, and the last paragraph states:

"Unlike FILL and STROKE, CLIP does not implicitly perform a NEWPATH after it has finished using the current path. Any subsequent path construction operators will append to the current path unless NEWPATH is executed explicitly. This can be a source of unexpected behavior."

2. On pages 260 and 261 of the PostScript Language Reference Manual, Appendix B (Implementation Limits), there is a list of limits that cannot be exceeded. The PATH limit (page 261) indicates the maximum number of points specified in all active path descriptions, including the current path, clip path, and paths saved by SAVE and GSAVE, cannot exceed 1500.

In this particular case, using the name "Pharmaceutical Research" exceeds the 1500-point limit; thus, the error "limitcheck Offending Command -clip-" when using the clip operator. If the name is reduced to "Pharmaceutical Rese", the program will execute properly. Adding even one letter to the name will generate the limitcheck error again.

There is a possible workaround for the output wanted. By doing a "gsave" and "grestore" to reset the clip region to its original size, it is possible to make the number of points on the clipping path small enough to avoid the error.

Here is a program that demonstrates one possible solution:

```
/Helvetica findfont
27 scalefont setfont
/rays
{0 1.5 179
{gsave rotate 0 0 moveto 108 0 lineto stroke grestore } for
} def
100 300 translate
.25 setlinewidth
gsave
newpath
0 0 moveto
(Pharmaceutical)true
charpath clip
newpath
100 -15 translate
rays
newpath
grestore
200 0 translate
0 0 moveto
(Research)true
charpath clip
newpath
60 -15 translate
rays
showpage
```

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ImageWriter II: Connecting to a VT320 Terminal

This article tells how to connect an ImageWriter II as a slave printer to a DEC VT320 terminal.

This article has been archived and is no longer updated by Apple.

```
Acquire these parts:

   DEC cable #BCE16E-xx    (MMJ to MMJ) (xx = number of feet)

   DEC adapter #H8751-F    (MMJ to DB25 plug)

   Apple Cable M0333       (DIN-8 to DB25 socket)

Set up the terminal-to-slave port as a printer port, and set the speed to 9600 baud. You can also select just
the scrolling area as the print area, or the whole screen.

Remember to change DIP switch #3 on bank 2 to "off" on the ImageWriter. The printscreen key on the keyboard is
the second from the left on the top row (it is usually labelled) and is functional.
```

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Mac286 vs. SoftPC Performance Update: July 1988

This article has been archived and is no longer updated by Apple.

Here's an update on MS-DOS emulation on the Mac II -- a rerunning of May's benchmark tests. The latest results for the Norton System Information Indexes, DBASE III Plus, and Lotus 1-2-3 version 2.01. are listed below. (All results are in seconds except for the Norton indexes and the accuracy test in 1-2-3.) The old figures for version 1.0 of Mac286 are for comparison purposes.

Monitor setting	Mono	Color	Mono
AST's Mac286	V1.0	V1.01	Insignia's SoftPC
Norton SI Indexes:			
Computing Index:	8.2	8.2	1.2
Disk Index:	3.7	3.7	3.4
Performance Index:	6.7	6.7	1.9
DBase III Plus:			
Launch Program:	7.7	5.8	10.4
Search*:	7.2	4.6	6.7

*: Search 100 record (12 fields) database.

1-2-3 Version 2.01:			
Launch Program:	5.6	4.8	10.5
Add Integers:	1.1	1.5	4.0
Add Floating Pt.:	1.1	1.9	5.3
Multiply Integer:	1.3	2.0	4.6
Multiply Floating Pt.:	1.4	2.0	6.2
Integer/SIN:	3.8	4.8	29.0
Load Multiply FP File:	4.0	3.8	10.5
Save Multiply FP File:	3.5	3.2	5.1
Accuracy (SQRT)**:	99.99999936	99.99999936	99.99999936

*: Result of taking the square root of 100 twenty-five times, then squaring that result 25 times. The final result should be 100.

The add, multiply, and integer/SIN tests were done in a 25X25 matrix where the result in each cell was dependent on another cell above or to the left of it.

General Comments:

The hardware setup was as follows: Macintosh II w/2mb RAM, 2-800k floppy drives, 40Mg internal hard disk, 80Mg external hard disk, and a color monitor. All tests with the software were run from the 80Mg external hard disk. The monitor was set to color mode with 256 grey levels for V1.01 tests. This was the only change made from the previous comparison. For version 1.0 of Mac 286 and SoftPC, the monitor was set to mono and 2 grey levels.

A problem in version Mac286 1.01 is that resizing the screen in graphics mode and then returning to text mode causes a 1" margin on the left side of the screen. This is only an annoyance, because you can avoid this problem by moving the horizontal scroll bar to the left and then back to the right edge before returning to text mode. Also, Mac286 sometimes "loses" the cursor when running certain programs (Dollars and Sense, for example).

For more information, search the Tech Info Library for Insignia Solutions and AST Research.

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Utilities for Automatic Periodic Saves

A user needs a way to save his files automatically and at certain intervals as he works on them. Is there any product which will do this?

This article has been archived and is no longer updated by Apple.
The AutoSave desk accessory from Magic Software automatically saves data from any Macintosh application to the currently logged disk by periodically invoking the Save command from the File menu. The user can set the frequency of saves from 1 minute to 1 hour, as well as stop the automatic save at any time.

NowSave, a module of the Now Utilities package, also works with any application and saves at preset, user defined intervals (either based on time or the number of keystrokes or mouse clicks).

For vendor information, search under: Magic Software and Now Software.

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InterPoll 1.0: Can Be Either Installed or Drag Copied

This article discusses installing InterPoll 1.0.

This article has been archived and is no longer updated by Apple.
The Inter*Poll 1.0 Installer script installs nothing into the System File; it only installs the Responder INIT in the System Folder. There is no difference between using the Installer script to install Responder or drag-copying Responder into the System Folder.

The Installer script uses the reference to the System File to locate the folder, not to copy an INIT into the System File.
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HPGL-To-Macintosh Conversion: A Utility Is Available

This article has been archived and is no longer updated by Apple.

HPGL is Hewlett-Packard's Graphics Language. Hewlett-Packard uses the HPGL commands in their plotters for consistency and ease of interface. The Macintosh can plot to a Hewlett-Packard plotter (HP plotter-driver for the Macintosh) using the HPGL commands. (NOTE: This is strictly for Macintosh applications and Macintosh files for plotting, and has nothing to do with using HPGL files on a Macintosh.)

Stevens Creek Software, Inc. makes a software package -- called MacHP -- that emulates Hewlett-Packard Co. plotters, allowing scientists, engineers, and others to produce plots of scientific data directly on a Macintosh screen.

MacHP allows the Macintosh to emulate the HP7475 and HP7550 plotters. The plotter emulation program converts the Hewlett-Packard Graphics Language (HPGL) commands into screen images on the Macintosh.

Because MacHP plots are object-oriented and use the standard Macintosh PICT format, they can be moved to the Clipboard or saved to a file.

MacHP site licenses are also available. For more information, search under: Stevens Creek Software.

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Interfacing Macintosh and Cullinet

This article has been archived and is no longer updated by Apple.

This article describes how to interface Macintosh to Cullinet using InTalk CCL scripts. Note: Palantir Software no longer publishes InTalk. A similar package is FutureSoft's DynamComm. Search the Tech Info Library for "FutureSoft".

It developed from an actual case in which an all-IBM customer was running a package from Cullinet on a 370-type host. The package consists of IDMS-R (database), IDMS-DC (communications monitor), and ICMS. Their PCs communicate with Cullinet using a package called Golden Gate.

Golden Gate is an MS-DOS-based, multi-module application designed to work with IDMS applications. It contains a relational database, spreadsheet, a document processor, and business graphics.

There is no equivalent package to Golden Gate for the Macintosh. However, you can achieve similar results running InTalk with Microsoft Excel or Microsoft Works. Here's how:

Using the CCL script of InTalk, a Macintosh can log on as a TSO user, and issue TSO commands. These commands can extract data from a mainframe file, format the data into a tab-delimited text file, and transfer the formatted file to the Macintosh via the mainframe's PCTrans (or similar Yterm transfer). A script these actions could make the whole process transparent to the user of the Macintosh/InTalk workstation.

Once the tab-delimited text file has been transferred to the Macintosh, a variety of Macintosh applications can open the file. Microsoft Works has most of the functionality of Golden Gate. Omnis 3, Double Helix, 4th Dimension, or other stand-alone database management systems could handle more sophisticated database activities, if needed.

Besides emulating Golden Gate, InTalk CCL scripts can navigate other Cullinet applications via point and click buttons.

MultiFinder allows the InTalk connection to be maintained while working with a Macintosh application.

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AutoCad-to-VersaCad Translators Update

This article has been archived and is no longer updated by Apple.

People looking for ways to read AutoCAD and/or ComputerVision files into the Macintosh can use VersaCAD and VersaLINK, a file translation program that ships with VersaCAD.

VersaLINK translates at least two types of AutoCAD files into a format VersaCAD can use: Initial Graphics Exchange Specifications (IGES) and Document X-fer File (DXF).

ComputerVision supports the IGES rev 3.0 file format. Therefore, you should be able to translate the files using VersaLINK or other tools, like translators and CAD applications. These are well documented on AppleLink in the Tech Info Library. Search on a combination of IGES, CAD, and AutoCAD.

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AFE: Works-to-Works Date Problem Corrected

This article has been archived and is no longer updated by Apple.

The "Works-to-Works" translator converts an AppleWorks database to a Microsoft Works database. However, early versions of the "Works-to-Works" translator, working with Apple File Exchange, did not convert dates properly. January dates and partial dates (such as Jan 3 88 or Apr 88) are scrambled, while other dates lose a month in the process.

The newest version of the Works-to-Works translator converts dates correctly. To verify that you are using the latest version, check the Get Info of the translator while in the Finder. The dates should be:

Created: Jun 24, 1987 11:01AM
Modified: Jan 29, 1988 6:35PM

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HyperCard: Problem Printing to ImageWriter II

This article has been archived and is no longer updated by Apple.

The ImageWriter II has shown a tendency to drop one or two rows of pins (about 1.5" from the top of the page) only when printing from HyperCard. This starts on the second page and continues randomly on other pages. People who experience this also note that other applications print fine.

HyperCard sends a reverse line feed, advances the paper, and tries to resume printing where it stopped. In doing this, it misses two to three pixels consistently, about 1.5" from the top of the page. This anomaly has been reported to the HyperCard Testing group.

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Apple IIe: Component Diagnostics

Apple IIe computers have built-in diagnostics used during manufacturing. You may invoke the diagnostics by holding down the solid-Apple key while powering the system on, or by unplugging the keyboard and turning the Apple IIe on.
This article has been archived and is no longer updated by Apple.
If you depress both the solid and open-Apple keys while powering the system on, the same diagnostics will be run along with a high-pitched tone.

The tone or beep, included in a machine language loop that tests the computers IOU and MMU, merely indicates that the speaker I/O location does indeed work. Because the Apple II performs the IOU/MMU test a random number of times, the beep sounds a random number of times. In addition, the diagnostic routine varies between the Apple IIe, Apple IIe enhanced, and Apple IIc.

The diagnostics test the motherboard's RAM as well as a number of unique LSI components (MMU, IOU, and other ROMs) on the board. If the keyboard is connected, the diagnostic will run through the series of individual tests once. If the keyboard is not connected, the test runs continuously until the system is powered off.

The ICs are tested in the following order: MMU, IOU, E8 ROM, E10 ROM, the eight RAM chips. "Kernel OK" appears on the screen if everthing passes the diagnostic.

Note: The diagnostic stops and hangs the processor with the first error detected. There may be subsequent problems in the system; they will go undetected until the first problem is fixed.

Here are some error messages and what they mean:

MMU FLAG E4:
0 The Read Lang Card Bank0 switch didn't initialize properly during reset.
1 The Read Lang Card RAM switch didn't initialize properly during reset.
2 The RAMRD switch didn't initialize properly during reset.
3 The RAMWRT switch didn't initialize properly during reset.
4 The ALTZP switch didn't initialize properly during reset.
5 The C3ROM switch didn't initialize properly during reset.
6 The 80STORE switch didn't initialize properly during reset.
7 The Read Lang Card Bank0 switch won't change.
8 The Read Lang Card RAM switch won't change.
9 The RAMRD switch won't change.
A The RAMWRT switch won't change.
B The ALTZP switch won't change.
C The C3ROM switch won't change.
D The 80STORE switch won't change.

If you receive an MMU FLAG E4 error number, suspect the MMU at location E4.

IOU FLAG E5:
0 The 80VID switch didn't initialize properly during reset.
1 The ALTCHAR switch didn't initialize properly during reset.
2 The TEXT switch didn't initialize properly during reset.
3 The PAGE2 switch didn't initialize properly during reset.
4 The MIXMODE switch didn't initialize properly during reset.
5 The HIRES switch didn't initialize properly during reset.
6 The 80VID switch won't change.
7 The ALTCHAR switch won't change.
8 The TEXT switch won't change.
9 The PAGE2 switch won't change.
A The MIXMODE switch won't change.
B The HIRES switch won't change.

If you receive an IOU FLAG E5 error, suspect the IOU at location E5.

ROMs E8 and E10 are tested individually. Since the processor will hang as soon as a failure is detected, and if the failure is in ROM 8, the subsequent test of E10 won't be made. Its possible that if E8 is bad, the diagnostics won't run at all, since they're located in the E8 ROM.

ROM:E8 The ROM at location E8 failed the checksum test.

ROM:E10 The ROM at location E10 failed the checksum test.

The RAM test is a two pass, up and down, write then read test. Any failure is logged and then decoded to provide you with the location of the failed chip.

RAM:
F6 A failure detected in the RAM at location F6.
F7 A failure detected in the RAM at location F7.
F8 A failure detected in the RAM at location F8.
F9 A failure detected in the RAM at location F9.
F10 A failure detected in the RAM at location F10.
F11 A failure detected in the RAM at location F11.
F12 A failure detected in the RAM at location F12.
F13 A failure detected in the RAM at location F13.

"KERNEL OK" will appear on the screen when the Apple IIe passes.
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HyperCard: The Degree of Compacting Depends on Several Factors

How far can HyperCard compress a stack and how do different elements affect stack and card size (in bytes)?

This article has been archived and is no longer updated by Apple.
Compacting a stack with only one blank card results in no change (5K on disk, regardless of the card size). The amount of compression for a single card (a single blank card requires 64 bytes) depends on the complexity of the graphics, number of fields, and number of buttons. Adding a simple drawing to the card can bring compression to 45% to 50% (depending on the graphics used). However, the addition of a simple button or field can lower that to 40%.

The location of buttons and fields also has an effect. A button or field located on the background creates a smaller size stack. Therefore, the stack shows a smaller percentage of change after compacting because there are fewer objects and less data to be compacted.

HyperCard compression also depends on these factors:

- Graphics -- are they on the card or background?
- Buttons -- are they on the card or background?
- Fields -- are they on the card or background?
- The size of card, button, and field scripts.
- The size of the stack script.

Published Date: Feb 18, 2012

LaserWriter IINT: Printing Speed from IBM PC

This article has been archived and is no longer updated by Apple.

When printing to a LaserWriter IINT from an IBM PC or XT using the Epson LQ2500 emulation, a reasonable speed is 30 to 60 seconds per page. The printing probably would be faster using an AT, 80286, or 80386 system. Some PC-style computers perform better than others.

The LQ2500 emulation mode, under AppleShare PC, translates all Epson commands and text into PostScript commands before sending the job to the LaserWriter. Aside from normal network traffic delays, the speed of the computer doing the translation greatly increases or decreases performance.

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AppleShare: Limited Launch of Applications

This article has been archived and is no longer updated by Apple.

If you need to limit an application, running under AppleShare, to launching a specified number of copies, your best bet is the application's developer. The developer can implement limited multiple launch within a program using AppleTalk/AppleShare tools. This approach also makes sense in terms of licensing and associated pricing structure issues.

Published Date: Feb 18, 2012

A/UX sendmail: How to Resolve Address Path and Rebuild (9/94)

A/UX sendmail: How to Resolve Address Path and Rebuild

This article has been archived and is no longer updated by Apple.
The "/usr/lib/sendmail.cf" file in A/UX is configured with four rules for resolving the address path:

1. For the root@host type of mail syntax, is host in the
/usr/lib/uucp/L.sys file?

- If yes, then path is via "uucp".
- If no, then path is via "tcp".

2. For the root@host.uucp type of mail syntax, is host in the
/usr/lib/uucp/L.sys file?

- If yes, then path is via "uucp".
- If no, then path is via "uumail".

(Note that "uumail" is a foreign mailer not yet included in A/UX.)

3. For the root@host.<any domain except uucp> type of mail syntax:

path is via "tcp" (it doesn't matter whether the host is in the
/usr/lib/uucp/L.sys or /etc/hosts file).

4. For the host!root type of mail syntax:

path is via "uucp" (it doesn't matter whether the host is in the
/usr/lib/uucp/L.sys or /etc/hosts file).

To rebuild a "sendmail.fc" (sendmail frozen configuration file) that might
be corrupted or out of date, run the following command:

/usr/lib/sendmail -bz

Whenever modifying the "sendmail.cf", you should run this command to update
the "sendmail.fc" file, because the sendmail daemon reads it to resolve the
destination address.

Article Change History:
13 Sep 1994 - Reviewed.
31 Aug 1992 - Reviewed.

Support Information Services
Published Date: Feb 18, 2012

A/UX 1.0: The "m_expand returning to 0" Kernel Message (8/93)

This article describes a solution to the "m_expand returning to 0" Kernel message.

This article has been archived and is no longer updated by Apple.

```
When you encounter the "m_expand returning to 0" kernel message, perform
the following command:

  netstat -m

An example of output from this command:

  56/500 mbufs in use:
           21 mbufs allocated to socket structures
           29 mbufs allocated to protocol control blocks
           4  mbufs allocated to routing table entries
           2  mbufs allocated to interface addresses
  0/32 mapped pages in use
  157 Kbytes allocated to network (8% in use)
  0 requests for memory denied

This lets you see how many "mbufs" (memory space) are allocated in your
networked system versus the total mbufs allocated. In the example, 500
mbufs are allocated in the system, 56 mbufs are currently used, and 157
Kbytes (256 bytes/mbuf x 500) are allocated to the network.  Note  the last
line: "n requests for memory denied".

If the currently used mbufs are almost equal to or greater than the total
allocated mbufs, and/or there are any memory requests denied, you should
adjust your kernel parameter on NMBUFS (number of buffers for networking).

Use "kconfig -av" to display the current kernel parameters before modifying
them.

Depending on the amount of RAM in your system and network activities, the
NMBUFS can be adjusted with the "kconfig" command.  For example:

  # kconfig -n /unix
  NMBUFS=1024
  <Control-d>
  # sync
  # sync
  # sync
  # reboot

You also should check these kernel parameters (which may or may not affect
your network:

* NBUF (number of system block I/O buffers),
* NINODE (size of system inode table), and
* NFILE (size of system file table pool)

The distributed A/UX 1.0 is configured for a system with 2MB of memory. If you
have 5MB RAM installed, you should change the values of NBUF, NINODE, and NFILE
to 1000, 200, and 200, respectively.  This is mentioned in the A/UX Release
Notes 1.0.

Article Change History:
20 Aug 1993 - Cleaned up to format.
```

TA38052_AUX_The_mexpand_returning_to_Kernel_Message__(TIL02976).pdf

31 Aug 1992 - Reviewed for technical accuracy.

Published Date: Feb 18, 2012

A/UX: How to Recover From a Corrupted Toolbox

What does the following error message indicate?
/etc/toolboxdaemon: error opening user interface device: No such device

This article has been archived and is no longer updated by Apple.
The error message:

/etc/toolboxdaemon: error opening user interface device: No such device

may mean that your toolbox user interface device may be corrupted or may have disappeared.

Check to see if the toolbox-specific device "/dev/uinter0" exists. The mode of toolbox-specific device should be:

crw-rw-rw- 1 root sys 4, 0 May 3 16:30 /dev/uinter0

If this device file is corrupted or has disappeared, here is how to recover:

1. Bring the system to the single-user mode.

2. In single-user mode, type the command
/etc/newunix toolbox

3. Type the command
/etc/autoconfig -u -v -o /unix -S /etc/startup

4. Type the commands:
sync
sync
sync

7. Reboot with the command
reboot

This should not happen in A/UX 2.0 and beyond.

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TI 2108 Printer Can Be Used With Macintosh

This article has been archived and is no longer updated by Apple.

The Texas Instruments Model 2108 printer can be used with the Macintosh.
Here are some of its features:

- LocalTalk connection
- based on the Ricoh laser engine
- contains 2M of RAM for imaging
- prints at 8 pages-per-minute (8ppm)
- 13 resident fonts
- slots for font cartridges (also accepts downloadable fonts)
- Centronics/IBM parallel connector
- RS-232 serial connector
- RS-422 connector
- resolution: 300 dots-per-inch
- page description language is PostScript
- emulates:
- Diablo 630
- Epson dot matrix family
- HP LaserJet/LaserJet+
- Qume Sprint
- TI 855

Published Date: Feb 18, 2012

LaserWriter IINT and IINTX: How Its 2MB RAM Is Allocated

How is the RAM allocated on the LaserWriter II series of printers?

This article has been archived and is no longer updated by Apple.
The 2MB of installed RAM is allocated approximately like this:

- 1MB is reserved for the frame buffer. This is where the page is assembled from the PostScript descriptions sent by the computer.

- 200K is reserved for font caching, display list, and the AppleTalk communications buffer. This is where font bitmaps are stored to speed the font access when used again. It is also where the display list is generated by the downloaded PostScript before it is sent to the frame buffer for actual page description.

- 300K is reserved for the PostScript interpreter as well as the server and user dictionaries.

- This leaves about 500K of virtual memory (VM) for fonts, prep files, and program memory. Tech Comm checked the VM with the "vmstatus" operator within PostScript and found that 511,316 bytes were available on a freshly-reset LaserWriter IINT with 2MB of memory. Of that amount, 81,850 bytes were used (possibly for the PostScript interpreter), which leaves about 429K.

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LaserWriter II: Why Its Image Area Is Limited

This article has been archived and is no longer updated by Apple.

Users have asked whether the LaserWriter II, with its support for large RAM, can print a complete legal size page instead of the 6.72-inch by 12.84-inch area formerly available per page?

The LaserWriter drivers and most current applications were written before Apple introduced the LaserWriter II with increased memory. When this software was written, there were memory constraints in the LaserWriter that had to be worked around.

Although these memory constraints are going away, the application still assumes the same printer memory limitations. Other limitations were/are added by the driver.

Many applications have large margins, differing in size but larger than the LaserWriter requires.

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Macintosh: Connecting to an IBM 3151 Terminal

This article gives the basics for connecing a Macintosh to an IBM 3151 terminal.
This article has been archived and is no longer updated by Apple.
The IBM 3151 is IBM's configurable ASCII terminal -- in its "vanilla" mode, it's just an ASCII "dumb" terminal. It can accept "personality" modules that allow it to appear as a DEC VT100 or IBM 3101-compatible terminal.

To connect: Connect the Macintosh, then use a communications application such as MacTerminal to capture the text to a disk file for later manipulation.
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AppleLine: Version 3.35 ROMs Correct Missing 25th Line

This article has been archived and is no longer updated by Apple.

Some AppleLine users have reported that, in MacTerminal, they can't access the 25th line on the mainframe screen.

The recent ROM revision (version 3.35), which added 3174 support to the AppleLine, is supposed to automatically bring the AppleLine up in the mode that displays the 25th line. The old ROMs did not do this: before this upgrade, the terminal type had to be set to MacTerminal in the AppleLine Supervisor to display the 25th line.

When AppleLines display the 25th line, either:
- they have the newer ROMs, or
- the AppleLine Supervisor has been set up to display it.

In either case, all AppleLines should have the newest ROMs installed to ensure compatibility with other possible configurations.

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Macintosh Internal Hard Drives: Vibration Testing

This article has been archived and is no longer updated by Apple.

The shock limit for the Macintosh SE's internal hard disk drive is defined as 40G -- for an inactive drive.

Apple tests the drive (only) to these limits:

Macintosh SE

.25G, 3 to 300 Hz in the vertical direction (Z-Axis) only. Testing frequency is held for 15 minutes at drive resonance as determined by attached accelerometers.

Macintosh II

.25G, 3 to 300 Hz in all three directions (X-axis, Y-axis, Z-Axis).

Airplane frequencies are at the higher end of the tested frequency spectrum and could easily exceed those frequencies at higher amplitudes.

Published Date: Feb 18, 2012

AppleShare: Date Problems May Be due to Mixed Versions

This article has been archived and is no longer updated by Apple.

If you encounter problems with dates on an AppleShare server -- for example, one user reported seeing, from a workstation, file modification dates that were 40 years off -- be sure your workstations are all running the same version of AppleShare software that the server is running.

The way AppleShare 1.1 sends dates over the network is different from the way version 1.0 did it. Mixing the two versions on one network can result in erroneous dates.

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LocalTalk Over IBM Cabling

This article describes using LocalTalk over IBM cabling.

This article has been archived and is no longer updated by Apple.
You can run LocalTalk over the IBM Cabling System. If your customer has installed the IBM Cabling System, there are several cabling types and all of them can be used to construct an LocalTalk network using PhoneNET Connectors and the PhoneNET StarController.

- Type 1 Data Cable has two individually shielded twisted pairs of 22 gauge solid copper wire.
- Type 1 Outdoor Data Cable is Type 1 Data Cable with a corrugated metallic shield.
- Type 1 Plenum Data Cable is Type 1 Data Cable with plenum rated plastic (most plenum cable uses teflon).
- Type 2 Data & Telephone Cable has Type 1 Data Cable and four pairs of unshielded solid copper 22 gauge wire.
- Type 2 Data & Telephone Plenum Cable is Type 2 Data & Telephone with plenum rated plastic.
- Type 5 Fiber Optics Cable has two optical fibers.
- Type 6 Data Cable is the same as Type 1 Data Cable, except that the wire size is 26 gauge.

The IBM Cabling System uses three types of cable ends. All the cable ends are color-coded, making it easy to put the right wires to the right posts.

- The Data Connector is a unisex connector system with four conductors. It does everything. Two of them will mate together, so there is no plug or socket version.
- The Three-Pair Modular Telephone Jack Connector is a RJ12 (six pins) with barrel connection posts on the back.
- The Four-Pair Telephone Jack Connector is a RJ45 (eight pins) with barrel connection posts on the back.

All wires go from a face plate back to a distribution panel in the wiring room. The face plate can either have just a data connector or it can have a data connector and a three-pair telephone Jack. The distribution panel mounts in a standard 19-inch rack. The maximum wire length from an office to the distribution panel is always much less than the distance limitations of a PhoneNET wiring scheme.

The preferred method of attaching to the IBM Cabling System is to use the fourth telephone wire pair in the Type 2 Data Cable. Wire a normal RJ11 wall jack next to the fancy IBM data connector face plate and attach the spare pair to pins 2 and 5 (yellow and black) on the RJ11. (This is the preferred wiring method, but in some places that have the IBM Cabling System the telephone people typically won't let the data communication people touch anything that looks like telephone cabling and most certainly not their new IBM Cabling. Of course, if you have only Type 1 Cabling, then you have no telephone cabling and you have to go to plan B.

The alternate plan is to use a special expensive adapter so that the data cables can be used. Farallon sells a special Data Connector that has an RJ11 socket on it. Farallon Part Number: TE300, IBM Cabling System Line Tap. Two are required for each office to go onto the network, one in the office to provide a place for the modular cable from the PhoneNET to attach into and one at the Distribution Panel. If the network is just four offices on the same floor, you can rig a Passive Star PhoneNET network.

More common is to install a PhoneNET StarController on each floor and to buy the special 19-inch rack-mount StarController Wiring Kit TE347. Normal telephone modular cable can be connected from the TE300 into the RJ11s on the StarController Patch Panel.

This information provided by Farallon Computing.

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MacSchool Now Incorporates NCS 3000 Grade Scanner

This article has been archived and is no longer updated by Apple.

Some of our education-industry users have asked if there is a driver for the NCS 3000 test grade scanner.

For those users in search of a complete educational-administration solution, Chancery Software has just incorporated the NCS 3000 into MacSchool. MacSchool can now read cards for daily attendance confirmation, do grade reporting for grade card preparation, and handle student course request and registration.

Cabling

If the MacSchool system is installed, the cable between the NCS 3000 and the Macintosh is already in place. If the school only wants to grade tests (without installing MacSchool), they need to make the cable. Since the NCS 3000 uses a serial interface to communicate with a computer, a hardware technician should have no trouble making the cable.

Software

4th Dimension is designed to collect data from the serial port and store the collected data for further processing. Its scripting language contains functions for reading the serial port. If HyperCard will be used, there are XCMDs in the public domain for reading serial ports. In both cases, software must be written to address the specifics of scoring tests.

For more information, search under: "National Computer Systems" and "Chancery Software"

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LaserWriter IISC: Compared to H-P DeskJet

This article has been archived and is no longer updated by Apple.

Here are the functional differences between the Hewlett-Packard DeskJet and the Apple LaserWriter SC.

The HP DeskJet has two draft modes: 300x150 dpi and letter quality (300x300 dpi).

It is rated at two pages-per-minute (2ppm), compared to the LaserWriter SC at eight pages-per-minute (8ppm). The DeskJet pauses between pages to allow the ink to dry.

The DeskJet is designed for lower volumes (40 to 50 pages-per-day), while the LaserWriter SC can work at 150+ pages per day.

The DeskJet comes with one typeface family of nine fonts (Courier, Courier Bold, and Courier Compressed at 10, 16.67, and 20 characters-per-inch -- all at the same point size).

The LaserWriter SC comes with four typeface families (Courier, Times, Helvetica, and Symbol) each with bold, italic, underline, outline, subscript/superscript, and (with some applications) small caps each in 9-, 10-, 12-, 14-, 18-, and 24-point sizes -- approximately 1,000 fonts altogether.

The DeskJet fonts must be selected from the front panel, so font mixing is limited. The LaserWriter SC is able to deal with a wide variety of fonts, and the changes are made on the screen in the traditional Macintosh method.

The DeskJet ink cartridges must be changed every 500 to 800 sheets and cost approximately $20 each. DeskJet cartridges cost about $20 per 3000 sheets more than LaserWriter toner cartridges.

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Apple II & IIe: Power Supply Input Frequency Limitations

The Apple II and IIe power supply is a switching power supply. It is designed to accept 107 to 135 volts from DC to 60 Hz.
This article has been archived and is no longer updated by Apple.
It will also work at up to 400 Hz but this endangers a circuit which protects the supply from shorting to the point that the protecting circuit will not work.
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Apple Writer II: DOS Version--Sup-R-Term and Super Serial Card

Apple Writer may not print unless you set the Super Serial card switches to the settings listed below.
This article has been archived and is no longer updated by Apple.
Super Serial Card switch settings:

SW2-3 off
SW2-4 off

This sets the line width to 132 columns and disables the echo to the 40 column Apple video output.
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Apple Menu Options: Not Creating Recent Document Aliases

This article explalins why Apple Menu Options does not always add a document alias in the "Recent Documents" menu for some documents.
This article has been archived and is no longer updated by Apple.
Apple Menu Options does not always add a document alias in the "Recent Documents" menu for some documents.

This behavior occurs with various versions of the Apple Menu Options control panel including versions 1.1.2, 1.1.3, 1.1.4, 1.1.5 and 1.1.6 (included in System Software 7.5.3 through Mac OS 9).

The affected applications use a custom window definition (WDEF) to draw their document windows. Apple Menu Options makes "Recent Documents" aliases only for documents that are opened using the standard WDEFs.

If an application is using a custom WDEF, there is no way for Apple Menu Options to know whether the window is associated with a newly-opened file or with some other type of application window. This is a case of Apple Menu Options defaulting to a safe behavior. Apple Menu Options will sometimes fail to recognize real documents because of this behavior, but it prevents the user from getting "phantom" documents that do not really exist.

In Appleworks 6, you can always find recently-used documents in the Recent Items tab of Starting Points or by choosing "Open Recent" from the File menu.

Published Date: Feb 18, 2012

Newton OS 2.1: Dates Overview Printing Issue

This article describes issues when printing from the Dates application after using Find.

This issue affects:
MessagePad 2000
eMate 300
This article has been archived and is no longer updated by Apple.
In Dates, you cannot print items selected from the results of a find. If you selected items and tap "Preview" you will receive a -48404 error. If you print, you will receive a "Newton is unable to print" error.

At this time, the only workaround is to open each individual item and print each item separately.
Published Date: Feb 18, 2012

Color OneScanner 1200/30, 600/27: Vertical Line in Scan

My Color OneScanner 1200/30 has a vertical stripe that appears in all of the scans. The problem appears after the scanner has been on for several hours. Can you help?

This article has been archived and is no longer updated by Apple.

Vertical stripes that appear in images scanned after the Color OneScanner 1200/30 or Color OneScanner 600/27 has warmed up may indicate a problem with the scanner optical assembly. Customers usually report that the stripe is approximately 1/4 inch wide appearing on scans. The location of the stripe can vary and may appear intermittently. The stripe typically is a faded purplish color and the edges are not sharply defined. Contact your service provider for assistance to get this corrected.

Published Date: Feb 18, 2012

Apple Printer Utility: Returns Negative RAM Value for Printer

After installing 40MB of RAM on my Color LaserWriter 12/6xx, the Apple Printer Utility shows that it has -24MB of RAM. The startup page of the printer shows correctly that it has 40MB RAM, and I can print fairly complex documents without a problem. What's wrong?
This article has been archived and is no longer updated by Apple.
A purely cosmetic problem has been identified with Apple Printer Utility 2.1.1 where it will incorrectly show a negative number for a Color LaserWriter 12/6xx with a large amount of RAM. This problem does not affect the printer's memory usage or performance whatsoever, and the printer will correctly utilize all RAM installed in supported memory configurations.

This behavior has been corrected in version 2.2 of the Apple Printer Utility.

This article was published in the 22 May 1997 "Information Alley".
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Logic Pro 7: Logic Node Performance Patch

This article has been archived and is no longer updated by Apple.
When running many tracks simultaneously on Logic Node computers, you may notice that Logic Node performance is low.

The following update increases the Logic Node performance. Download the update installer and run it on the Node computer after installing Logic Node. You will need an Administrator password to complete the installation.

The download is available here.

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Apple Network Server 500/700: Determining Installed RAM

How can I determine how much memory is installed in an Apple Network Server 500 or 700?
This article has been archived and is no longer updated by Apple.
The amount of memory detected during system boot is displayed in the LCD panel while being tested during the boot sequence.

The following AIX command can also be used to determine the amount of installed RAM present in the system:
bootinfo -r

This article was published in the 28 May 1997 "Information Alley".
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GeoPort Internal Modem: Missing Telephone Setup Control Panel

I have Performa 6400 with a GeoPort internal modem. My Megaphone documentation refers to the Telephone Setup control panel, yet I do not appear to have one. What's going on?
This article has been archived and is no longer updated by Apple.
The GeoPort internal modem does not have a Telephone Setup control panel. All of the functionality of the Telephone Setup control panel is incorporated in the Express Modem control panel. Many of the settings which one must enter manually are automatically calculated by the sophisticated algorithms that are part of the GeoPort software.

You should disregard references to the Telephone Setup control panel within the Megaphone documentation.

Even if you are able to find and use a Telephone Setup control panel, you will see absolutely no benefit; it will be ignored by the Megaphone software.
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PowerBook 3400: Internal Modem/Ethernet Card

This document provides late-breaking news about the PowerBook 3400 Internal Modem/Ethernet card. The information in this Read Me file supplements the contents of the users manual (an electronic manual on your computer's hard disk).
This article has been archived and is no longer updated by Apple.

Essential Information for Setting Up Your Modem

In most instances, you must provide some information about your modem before you can use a communications program or connect to an online service. When providing setup information, you may be asked for the details listed below.

The modem port: Internal Modem.

The modem name: PowerBook 3400 Internal 33.6 - in the list of modems for a communications program (for example, Remote Access Setup or in the Modem control panel if you use OT/PPP).

The modem initialization string: AT&F (You may be able to use the initialization string as the necessary setup information in a communications program that does not have PowerBook 3400 Internal 33.6 in its list of modems.)

If your communications program has an option for hardware handshaking, turn it on. In some communications programs, this capability is called "flow control"; the option to select is CTS & RTS (DTR).

If you have difficulty using a communications program, be sure to check that the setup information includes the correct port and modem name.

Computer Sleep During Modem Transmission

IMPORTANT To avoid losing a modem connection, do not put the computer in sleep (by choosing Sleep from the Special menu or the Control Strip or by pressing the Power key and clicking Sleep) when the modem is sending or receiving data. Putting the computer in sleep will end transmission and break the modem's connection, and you will have to reconnect after you wake the computer.

Computer Sleep When Using a Communications Program

Many communications programs monitor the computer's modem port to check for incoming transmissions. This may mean that the PowerBook will not sleep automatically (after the interval set in the PowerBook control panel). When your computer is using the battery, you may want to quit a communications program whenever you are not using it to conserve the battery's charge. (See the manual that came with your communications program for more information.)

Apple Internet Dialer and Your Modem

The Apple Internet Dialer, which is part of the Apple Internet Connection Kit on your hard disk, requires a special file, the modem profile, to work with the PowerBook 3400 Internal Modem. You can create the modem profile so that the dialer program recognizes your modem.

To create a modem profile for Apple Internet Dialer to use with your modem, follow these steps.

1. Double-click the Apple Internet Dialer to open it. (Or double-click The Internet on your hard disk, which also opens the dialer program.)
2. In the dialer window, choose Add/Modify Modem from the Modem pop-up menu (at the top of the list).
3. In the Modem Options window, type: "PowerBook 3400 Internal 33.6", in the Modem Name box
4. "AT&F" in the Init String box
5. Choose CTS & RTS (DTR) from the Flow Control pop-up menu.
6. Choose 57600 from the Modem Speed pop-up menu.
7. Click Save.
8. In the dialer window, choose Internal Modem from the Port pop-up menu.
9. Complete the information for your Internet service provider (or use the toll-free number already entered if you do not have a service provider).

Now you are ready to use the Apple Internet Dialer with your modem.

Modem Connect Speed for Communications Software

Communications programs usually ask you to set a maximum port speed as part of their setup procedure. Use the following speeds for the programs listed below.

Program Speed

- ZTerm 1.0.1 - 115200 baud
- Config PPP, FreePPP, or MacPPP - 57600 baud

- SmartCom II 4.0 - 57600 baud

AT Commands, Special Commands, and S-Register Settings

You can send commands to the PowerBook 3400 Internal Modem using a standard set of codes known as the AT Command Set.

The PowerBook 3400 Internal Modem requires a variation of some standard AT commands. These exceptions to the standard commands can downloaded from Apple's Software Update web page. Use the following path once you are on-line: PowerBooks: Other PB software, PB 3400 AT Commands.sea.

Note: See URL links to Apple Software Updates at bottom of article.

Using FaxSTF with Your Modem

The FaxSTF software for sending and receiving faxes is on your computer's hard disk. The programs you use for faxes are located in the FaxSTF folder inside the Applications folder. You need to install FaxSTF before you can use it with the modem.

Installing FaxSTF: To install the fax software provided on your hard disk, follow these steps.

1. Locate and open the Applications folder.
2. Double-click the Install FaxSTF icon to open it.
3. Click the Install button and follow the instructions on the screen.
4. Restart the computer to use the fax software.

Getting instructions for FaxSTF: An electronic manual for FaxSTF is located in the FaxSTF folder, inside the Applications folder on the hard disk. The manual contains detailed instructions for all operations with FaxSTF. (You use Adobe Acrobat Reader to view or print the manual; if necessary, you can install the reader software from the PowerBook 3400 CD.)

Default setting for FaxSTF: The FaxSTF software has its auto-answer option turned off by default. To set the fax software to answer automatically, follow these steps.

1. Double-click the STF Manager icon to open it.
2. Choose Settings from the Edit menu.
3. In the scrolling column of icons on the left, click Fax Modem to select it.
4. Under Fax Modem Settings, choose the number of rings you want before the modem answers.
5. Click Done. (If you see a message, click OK.)
6. Quit STF Manager (by choosing Quit from the File menu).

For more information about using fax auto-answer, see the FaxSTF electronic manual in the FaxSTF folder. FaxSTF is a product of STF Technologies, Inc. For more information about FaxSTF, contact STF Technologies at http://www.stfinc.com.

Also, the Fax STF installer which ships with the PB 3400, installs the FaxSTF Manual.pd, which is incomplete. Numerous blank pages are evident; pages14-15,36,39,43, and 47 are blank.

At the current Time, FaxSTF has a full pdf posted to (www.faxstf.com) in their updates section. This has all the missing information, as well as a section on STF Comms managers which is not included by Apple.

Notes: The computer will not sleep automatically when the Fax Status window (part of the FaxSTF software) is open. To allow the system to sleep automatically, close the Fax Status window.

Using Other Programs with the Modem When FaxSTF Is Installed

When FaxSTF is installed and fax auto-answer is on, it monitors the computerıs serial port for incoming faxes. Each time you open another program that uses the modem, such as Netscape Navigator or America Online, you may see a message noting that the serial port is in use and asking if you want the current program to reset the port. Click OK (or Yes) in the dialog box and the new program will be able to use the serial port. This is standard procedure for programs that use the serial port and modem.

This article can help you locate the software update mentioned here:

- Article 14724: "**Where To Find Apple Software Updates**" - Lists online services for free Apple software updates.

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AirPort Express Assistant: Re-installation may be necessary after migration to new computer

This article has been archived and is no longer updated by Apple.
Computers that ship with Mac OS X 10.3.5 may include a Migration Assistant that allows you to copy over the settings and data from your previous computer. If you selected the option to move applications to the new computer, the AirPort Express Assistant may not migrate properly.

The result is that AirPort Express Assistant won't launch.

To resolve the issue, simply reinstall the software from the AirPort Express CD-ROM. Then re-apply the AirPort 4.0.1 Update if needed.

This document will be updated as more information becomes available.

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LaserWriter Pro 810: Solaris printing text/PCL

This solution is specific to Solaris systems printing text/PCL to the Laserwriter 810 with 1.0 ROMs.
This article has been archived and is no longer updated by Apple.
Assumptions:

- Customer has a Laserwriter 810 w/ 1.0 ROMs.
- Customer has configured TCP/IP on printer (test by pinging printer and telneting to port 515)
- Customer hs configured virtual printer "lpd" to accept PCL4 or text (see "virtual Printers" page)

On Solaris system:

1. Become root

2. Type: admintool&

3. Select "Printer Manager"

4. Select "Edit" -> "Add Printer" -> "Add Access to Remote Printerâ"

5. Complete the dialog box. "Printer Name" should be the name users will reference. For example, if you use "lw810text", users would print with a line command of "lp -d lw810text <filename>". Users would select "lw810text" in the Printer field of the Print Tool. "Printer Server" is the hostname or IP address of your printer. Because of special conditions, add "!TEXT" to the end (note that this is caps sensitive).

For example: if the printer is listed in /etc/hosts as "lw810" the entry would be "lwpro810!TEXT". Confirm that "Print Server OS" is "BSD".

6. Click "Add". Your new printer will appear in the "Print Manager" window.

7. Open a "Print Manager: Modify Printer" window by double clicking on the new printer in the "Print Manger" window.

8. Set "File Contents" to "ASCII".

9. Click "Apply"

10. Quit Printer Manager and Admin Tool

You can print any text file with the "lp" command.

For example: lp -d lw810 /etc/hosts

This configuration does not work from Print Tool at this time. There are problems with Print Tool sending ASCII that are not answered in Sun's Solaris documentation.
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PowerBook: 8-bit Video-Out Upgrade Kit Contents

What is included with the Macintosh PowerBook 8-bit Color Video-out Upgrade Kit M4509LL/A?
This article has been archived and is no longer updated by Apple.
The kit includes:

1 Video Card
1 Screw Kit
1 Dealer Upgrade Instruction Referral Document
1 922-0831 Cable Adapter/PowerBook Display (External)
1 030-8924-A Insert/Lit Support information Card
1 030-8962-A Insert/Lit One-Year Limited Warranty

Note: This kit includes the external video adapter cable so there is no need to purchase an M3927 separately.
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Apple II Plus: Initializing a Diskette

How can you initialize a diskette on the Apple II Plus?
This article has been archived and is no longer updated by Apple.
Formatting Steps

1) Insert the Master diskette into the disk drive and then turn the computer on. The disk operating system (DOS) will now be loaded in to memory.

2) If the computer is already on, insert the Master Diskette and type PR#6, followed by push/release of the RETURN key. The system's DOS will now be loaded.

3) Remove the Master Diskette and insert a blank disk into the disk drive.

4) Type NEW, push/release RETURN key and write a small program known as a greeting program. A greeting program can be almost anything, as long as it is fully functioning, For example:

```
10 Home
20 REM /// Greeting Program for Apple II ///
30 PRINT "Initialized diskette, created on... by...."
40 END
```

5) Now type INIT HELLO, then push/release the RETURN key.

6) The diskette will spin for almost two minutes. When the initialization is complete, the disk drive light will go off, and the CRT should show the prompt character "]".

7) If you now use the initialized diskette to start up (BOOT) the system, you should see the following message on the CRT:

Initialized diskette, created on ... by ...

8) The system can be booted by turning the computer on (with the disk in the disk drive) or by typing PR#6, followed by a push/release of the RETURN key.

9) You are now ready to write programs and/or save files onto the initialized diskette, or to call a program on the diskette.
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iPod photo requires iTunes 4.7 or later

This article has been archived and is no longer updated by Apple.
Make sure you install iTunes 4.7 (included on the iPod photo CD) before you use your iPod Photo. If you don't update:

- iPod photo will skip songs purchased from the iTunes Music Store (going to the next song in the playlist).
- No album art will appear on the iPod photo.
- No photo options will appear in iTunes preferences.

You can also download and use the latest version of iTunes here.

Make sure you also have the latest updates for iLife '04 to use with iTunes 4.7.

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Ringer Equivalency Number: What is it?

What is a Ringer Equivalency Number? And what does the "A" or "B" after the number mean?
This article has been archived and is no longer updated by Apple.
A Ringer Equivalency number is a value which indicates the amount of current a telecommunications device (modem, fax machine, telephone) uses. It is nominally set to a value of 1.0 for a conventional telephone. ndividual devices may have values greater than or less than 1.0, depending on their design and function.

Ringer Equivalency Numbers may have a letter after the numeric rating, either A or B. These numbers are documented in FCC Part 68 and EIA Document RS-470.

An "A" ringer usually indicates an old-fashioned telephone with an electromechanical bell. These ringers activate on an input frequency of between approximately 20 and 30 Hz (this frequency is based on an elevated, alternating-current voltage sent by the phone company).

A "B" is usually associated with more modern ringers, such as you might find on an electronic telephone. The frequencies for these phones are generally between 15.3 and 68.0 Hz.

An REN value of 1.0 is defined for an "A" class ringer.

The total REN value for your facility should not normally exceed 5.0. The exact maximum limit can be obtained from your phone company. If you have too many devices attached to your phone number, you may start to find that your fax machine or modem may not pick up, or that your phones won't ring at all. Reducing the load on the circuit by disconnecting extra devices is one quick way to test this.

(adapted from TELECOM Digests 10.011, 12.552, 12.524, and 12.536, and various Global Village manuals).
Published Date: Feb 18, 2012

MacODBC: Using With System 7.5.5 and Mac OS 7.6.x

I am having problems using MacODBC 2.1 or later with System 7.5.5 or later.
This article has been archived and is no longer updated by Apple.
The MacODBC installer will install older versions of the Apple Shared Library Manager resources, which can cause a problem. To avoid this, click on "Custom" in the MacODBC Installer and only install ODBC. Do not install the ASLM resources.
Published Date: Feb 18, 2012

Apple MPEG Card: Working with Mac OS 7.6.1

Information in the "Mac OS 7.6.1 Update Q&A" document and in the "Mac OS 7.6.1 Important New Info" document incorrectly stated that the Mac OS 7.6.1 Update does not work with the Apple MPEG card. This was a error, Mac OS 7.6.1 does support the Apple MPEG Media System.
This article has been archived and is no longer updated by Apple.
To use the Apple MPEG Media System with Mac OS 7.6.1, do one of the following:

- Install the Apple MPEG Media System on a computer running Mac OS 7.6, and then install Mac OS 7.6.1 Update
or
- Install Mac OS 7.6.1, and then install the Apple MPEG Media System.

The hardware will work with Mac OS 7.6 and Mac OS 7.6.1. The only piece of software that needs to be installed is the "AMMS MPEG Decoder" extension.

This article was published in the 9 June 1997 "Information Alley".
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iPod: Artwork missing from songs

This article has been archived and is no longer updated by Apple.

Symptom

If none of your artwork appears on your iPod, make sure you are using iTunes 4.7 or later and make sure you have selected the Display album artwork on your iPod checkbox in the Music section of the iPod pane in iTunes Preferences.

If you manually add some songs to an iPod but then change iPod update preferences to automatic in iTunes, the artwork for the manually added songs will not show up on the iPod.

Solution

First, switch back to manual updating of the iPod:

1. Connect the iPod to the computer.
2. Click on the iPod in the Source list of iTunes.

3. Click the iPod button in the lower right of the iTunes window.

4. Click the Music button.
5. Choose "Manually manage songs and playlists."
6. Click OK.

Then delete the songs that you first added to the iPod manually:

1. Click on the iPod in the Source list.
2. Select the songs you added manually in the main part of the iTunes Window. You can select multiple items by holding down shift or option before clicking them.
3. Press Delete on the keyboard.
4. Click OK in the window that appears.

Then Switch back to automatic updating of the iPod:

1. Click on the iPod in the Source list of iTunes.
2. Click the iPod button in the lower right of the iTunes window.
3. Click the Music button.
4. Choose either "Automatically update all songs and playlists" or "Automatically update selected playlists only."
5. Click OK.

For information on adding artwork to songs in iTunes see iTunes Help or click here.

This document will be updated as more information becomes available.

Published Date: Feb 18, 2012

eMate 300: Connectivity CD Inbox Materials

This article list the materials included in the Emate Connectivity CD package (T2047LL/A).
This article has been archived and is no longer updated by Apple.

Packing List

- eMate Connectivity CD 691-1374-A
- Using the eMate Connectivity CD (booklet) 034-0063-A
- Apple Computer, Inc. Software License ZM030-5959-A
- Newton Software License ZM033-0407-A
- How to Update Classroom Exchange and Newton Connection Utilities 1.0 (sheet) 033-0409-A
- eMate 300 Teacher's Guide 034-0030-A

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iPod photo: Windows pauses after formatting during installation

This article has been archived and is no longer updated by Apple.
It is important to install the software on the iPod CD included with iPod photo. When installing the software on a Windows-compatible computer, you will be prompted to format the iPod.

This will change the format of the iPod from Mac OS Extended to FAT32.

Warning: The format process cannot be undone. All of your songs and files will be deleted. Always make a backup of your important data.

After iPod is formatted and you select the Next button in the Installer, it is normal for it to take some time before the Serial Number window appears.

If at any time during the install the "iPod Not Readable" dialog appears, click cancel.

Published Date: Feb 18, 2012

DeskTop Printing: Corrupted Desktop Printer

When I choose print nothing happens. An error message never appears, the document just vanishes from my desktop printer window. The Chooser is configured correctly, AppleTalk settings are appropriate, all cabling is secure, the printer is on and ready, and I have even clean installed the system software. What else is there?
This article has been archived and is no longer updated by Apple.
The scenario you described can be caused by a corrupted desktop printer, which will remain even following a clean install.

Solutions:

Try one or both of the following solutions to remedy this problem.

1) Simply trash the desktop printer icon so that a new one is generated.

2) Complete the following steps.

1. Start up with extensions off
2. Locate the desktop printmonitor in the extensions folder
3. Get info on desktop printmonitor (command-I, or get info from the file menu)
4. Add 100k to minimum and preferred sizes.

Depending on what is loaded into memory (applications, extensions), how many desktop printers there are, etc., you may have to add more memory to the desktop printmonitor in order for it to have enough room to do its work. The more desktop printers you have the more memory you need. Adding 100k usually does the trick.

This article was published in the 16 June 1997 "Information Alley".
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PowerBook 3400: Mac OS 7.6.1 and Apple Video Player

The Mac OS 7.6.1 Update Read Me for the PowerBook 3400 states that Apple Video Player 1.6 is not Installed on PowerBook 3400, and if you need to use this application program, it can be downloaded from <http://www.info.apple.com>. However, I could not find version 1.6 of Apple Video Player.
This article has been archived and is no longer updated by Apple.
This part of the Read Me was in error, and should have been omitted. Apple Video Player 1.6 is not needed on a PowerBook 3400, except for video capture using a PC Card, such as Zoomed Video.
Published Date: Feb 18, 2012

AppleShare Print Server 4.2.x: Open Transport Issue

We are having difficulty seeing/capturing LaserWriter Pro 630s with our AppleShare Print Server 4.2.x. This problem started occurring after we upgraded to later versions of Open Transport, v1.1.1 and v1.1.2. We are using System Software 7.5.x, 7.6.x. When we change our connection from Ethernet to LocalTalk on the PrintServer, the problems go away.

Additionally, we have noticed that LaserWriter 16/600s are also not showing up when we display the PrintServer capture window. However, both LaserWriter 16/600s and Pro 630s always show up in the Chooser.
This article has been archived and is no longer updated by Apple.
We have been able to reproduce these problems using AppleShare Print Server 4.2.x. These problems are not reproducible using the new Print Server in AppleShare IP 5.0. As there will be no further work on the v4.2.x AppleShare Servers (file and print), we suggest upgrading to AppleShare IP 5.0 to resolve these issues.

This article was published in the 12 June 1997 "Information Alley".
Published Date: Feb 18, 2012

Fax Cover Page: Phone Number Field Spaces

When we send a Fax Cover Page using our LaserWriter 16/600f, the last 2 digits of the "Sender" phone number field are not sent correctly. Instead, high level ascii characters (an angstroem character and an "@" symbol) are sent. The phone number we are sending is +41-1-446 3 XY, where X is sent as an angstroem character and Y as an @.

This article has been archived and is no longer updated by Apple.

This problem is occurring because of spaces. If you delete the spaces between the numbers in the phone number field, the problem will not occur.

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Mac OS 7.6/7.6.1: HP 560c Issue

I have a Macintosh LC 475 and am having problems with my HP Deskwriter 560C after upgrading to Mac OS 7.6.x. The printer was working under Mac OS 7.5.5, but after upgrading to 7.6/7.6.1, it gives me the following error message:

"The printer is not responding. Make sure its properly connected and turned on. Click OK to continue or Cancel to terminate printing."

I have tried using the latest HP drivers, DeskWriter 6.0.3 and DeskWriter GX 1.0.1, to no avail.
This article has been archived and is no longer updated by Apple.
HP Technical Support offered some advice on how to resolve this issue:

Things to check

1. You should be using the latest DeskWriter printer driver (currently v6.0.3), both drivers are installable from the 6.0.3 disk image.
2. Try a good known set of serial or LocalTalk cabling.

Driver Installation Procedure

Starting with System 7.5.3, the Installers for HP DeskWriter printers require the Extensions Manager be set to "All Extensions OFF" prior to the installation of the new printer driver. Having the shift key down when booting will NOT work.

Specifically with System 7.6, the Extensions Manager should be set to "Mac OS 7.6 Base", prior to running the DeskWriter Installer. After the install has taken place, the Extensions Manager can be placed to any desired settings.

If the printer still does not work, then HP Technical Support suggests checking the printer and cabling. Specifically, you should first ensure that the printer is functional by seeing if it will print a test page. To get a test page, hold down the Select button and then power ON the printer. After the print engine starts moving, release the Select button and a test page should appear.

The test page will print either "RS-422" or "AppleTalk" at the bottom of the page, depending on the configuration. If the test page prints, cabling should be checked next.

This article was published in the 17 June 1997 "Information Alley".
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Mac OS 7.6: Clean Install Instructions

Is there any shortcut for doing a clean system folder install under System 7.6? I would like to do this without having to remove the Finder or System file and renaming the system folder.
This article has been archived and is no longer updated by Apple.

Purpose of a Clean Installation

A normal system software installation modifies and updates the existing System Folder. A clean installation disables the existing System Folder, leaving all files in place, and forcing the Installer to create a new System Folder.

A clean system installation brings the system software back to the standard configuration. This is necessary when system software has been damaged ormodified, preventing a normal installation. It is also useful in troubleshooting.

Clean Install Instructions

Follow these instructions in the order presented.

If you have a Disk Tools Disk:

1. Shut down your Macintosh computer.
2. Insert Disk Tools in the floppy drive, and turn on the computer. At the desktop, the Disk Tools floppy disk's icon should be in the upper-right corner of your screen with your hard drive's icon below it.
3. If the computer ejects the Disk Tools disk, make sure you have an Apple SuperDrive (formerly FDHD) that will read high-density disks and that you are using the appropriate Disk Tools that came with System 7.6.
4. Disk Tools Disk 1 is designed for use with all non-PowerPC machines except those with IDE drives.
5. Disk Tools Disk 2 is designed for use with all machines with IDE drives (LC 630, PowerBook 190, LC 580, Performa 640, etc.), and all PowerPC computers.

If you have an Mac OS 7.6 CD

1. Insert the Apple Macintosh CD in the CD-ROM drive.
2. Restart your Macintosh.
3. Hold down the letter 'C' on the keyboard and turn the computer on. Hold down the key until you see the "Welcome to Macintosh" message.
4. If teh computer does not start from the CD, shut down the computer, turn on the computer and immediately hold down the Command-Option-Shift and the large Delete key simultaneously. Hold down these keys until you see the "Welcome to Macintosh" message.
5. At the desktop, the Apple Macintosh CD's icon should be in the upper-right corner of your screen with your hard drive's icon below it. If any other hard drive appear above the Apple Macintosh CD, go to the Control Panels under the Apple Menu, open the Startup Disk item, select the Apple Macintosh CD, close all open windows and restart. The Apple Macintosh CD should then appear above the hard drive.

Run Disk First Aid

1. Disk First Aid can detect and repair problems with a hard disk.
2. Open the Disk Tools disk or the Apple Macintosh CD. Apple Macintosh CD users should open the Utilities or Disk Tools Folder.
3. Double-click on the Disk First Aid icon. Select the main hard drive's icon at the top of the Disk First Aid window.
4. Click on Verify. Disk First Aid will check your hard disk for any potential problems. If it finds a problem, click Repair. It will attempt to fix the problem.
5. Repeat this procedure for each hard disk attached to the system.
6. When you are finished verifying the hard disks, choose Quit from the File menu to return to the desktop.

If Disk First Aid cannot repair a hard disk, you should back up the hard disk and reinitialize it using the appropriate formatting utility for that drive. For Apple drives, use Apple HD SC Setup or Drive Setup.

Install System 7.6:

From Floppy Disk
This assumes you have started the computer using the Disk Tools diskette.

1. You have finished using the Disk Tools disk so, choose Shut Down from the Special menu. The Disk Tools will automatically eject.
2. Insert the "Install Disk 1" disk into the Macintosh and turn the computer on. The computer will start up using the system file on the Install disk.
3. The "Mac OS 7.6" welcome screen will come up.
4. Follow Step 1 in the Mac OS installer by reading the Read Me file. Click on the document icon, read the file if you have not already, then quit SimpleText and return to the Installer.
5. Follow Step 2 in the Mac OS installer by updating the hard disk driver. Click on the button with 3 stacked drives. This launches Drive

Setup or HDSC Setup, depending on which computer you are using. Select your hard drive, then click on the Update Driver button. You will be prompted to quit the application and return to the Installer. (See note)
6. Follow Step 3 in the Mac OS installer by choosing the drive you are installing onto. Click on the drive button. This will prompt you to choose a drive to install onto. Select the appropriate hard drive that has enough room, then click OK.
7. To install the software, click on the Installer button in Step 4 of the Mac OS installer.
8. When the installer window appears, first select the features of 7.6 you wish to install. For further information about these features, refer back to the Read Me file. Then click on the Options button. Select the box next to "Create New System Folder (Clean Installation)" and then click "OK." This will install a new system folder and rename you current folder "Previous System Folder."
9. Insert the other disks when instructed by the Installer.

Note: You cannot update the driver if you are using a non-Apple drive, or if you have used a third-party utility to reformat your drive.

From Mac OS 7.6 CD-ROM
This assumes you have started the computer using the Mac OS 7.6 CD-ROM.

1. Open the Mac OS 7.6 CD icon.
2. Double-click the "Install Mac OS" icon
3. The "Mac OS 7.6" welcome screen will come up.
4. Follow Step 1 in the installer by reading the Read Me file. Click on the document icon, read the file if you have not already, then quit SimpleText and return to the Installer
5. Follow Step 2 in the installer by updating the hard disk driver. Click on the button with 3 stacked drives. This launches Drive Setup or HDSC Setup, depending on which computer you are using. Select your hard drive, then click on the Update Driver button. You will be prompted to quit the application and return to the Installer. (See note)
6. Follow Step 3 in the installer by choosing the drive you are installing onto. Click on the drive button. This will prompt you to choose a drive to install onto. Select the appropriate hard drive that has enough room, then hit OK.
7. To install the software, click on the Installer button in Step 4 of the installer.
8. When the installer window appears, first select the features of Mac OS 7.6 you wish to install. For further information about these features, refer back to the Read Me file. Then click on the Options button. Select the box next to "Create New System Folder (Clean Installation)" and then click "OK." This will install a new system folder and rename you current folder "Previous System Folder."

Note: You cannot update the driver if you are using a non-Apple drive, or if you have used a third-party utility to reformat your drive.

When you are finished with the installation, restart the computer. If you started from the diskette, it will be ejected, however if you started from the CD-ROM you will need to eject the Mac OS 7.6 CD.

After performing a Mac OS 7.6 Clean Install and restarting the computer, "About This Computer" under the Apple Menu will no longer display the specific Macintosh name. Instead, it will display only "Macintosh", "Macintosh Powerbook", or "Power Macintosh" depending on the type of computer it is running on.

Troubleshooting
These steps assume you are using the Clean Install of system software for troubleshooting purposes.

Verify Problem Resolution

After performing a clean installation, verify that you resolved the problem before adding anything to the new System Folder. Adding items to the System Folder before resolving your problem defeats the purpose of performing a clean installation.

Install Non-Standard Items

You can now reinstall the non-standard items from the old System Folder (now named "Previous System Folder") such as fonts, screen savers and device drivers. If possible, you should reinstall these items from their original disks.

If the original disks are not available, you may move the nonstandard items from the Previous System Folder to the new System Folder. Be careful not to replace anything that is already in the new System Folder. Only move items that are not already in the new System Folder.

1. Open each corresponding folder within the System Folder and the Previous System Folder and then compare the contents.
2. Move up to 5 items that are not already in the new System Folder and its sub folders from the Previous System Folder and its sub folders.
3. Restart your Macintosh.
4. Verify that the Macintosh is still starting up properly and that basic functions are working properly.
5. Repeat Steps 2-4 until all non-standard items have been moved from the Previous System Folder to the new System Folder.

Final Steps

- Verify your applications are performing normally. If not, refer to the application manual or contact the vendor.
- When the Macintosh behaves as expected and you are sure that all needed items from the Previous System Folder are transferred or

reinstalled, move the Previous System Folder to the Trash, and choose Empty Trash from the Special menu.

Mac OS 7.6.1 System Update

If you have the Mac OS 7.6.1 Software update now would be an excellent time to complete the update.

The Mac OS 7.6.1 System Update is available through online services such as America OnLine and Compuserve, and at Apple's Web site at http://www.apple.com/swupdates .

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MacPPP 2.5.3

This article contains the MacPPP 2.5.3 Read Me and a link to the software.
This article has been archived and is no longer updated by Apple.

Language	Release Date	Software Update	Read Me	OS Required
North American English	1997-04-24			System 7.5.1 or later
International English	---			---
français	---			---
Deutsche	---			---
Español	---			---
Italiano	---			---
Nederlands	---			---
Japanese	---			---

Downloading Help: Article 75098 "Help: Downloading Software" All software available from this site is covered by a software license agreement included with this software.

North American English

Using a connection script with MacPPP versions 2.5.1 or 2.5.2 a failure would occur as follows:

1. The MacPPP Connection Status window opens.
2. The modem dials and establishes a connection with your ISP
3. The progress bar proceeds to about 50%.
4. A dialog appears containing the following text: "A connection was established but it is not a reliable connection and was terminated."

Purpose:

MacPPP 2.5.3 has been released to address a single problem found in MacPPP versions 2.5.1 and 2.5.2. MacPPP version 2.5.1, which shipped with the Apple Internet Connection Kit version 1.2, and MacPPP version 2.5.2 (available as an update) fail to establish a PPP connection when using a connection script.

Background:

MacPPP supports login and authentication via a connection script as well as via the PPP PAP (PPP Authentication Protocol) and CHAP (Challenge Authentication Protocol) built-in to the PPP protocol. Connection script based login and authentication is utilized if you have configured the expect/send sequences in the provider configuration information. If no expect/send sequences are defined PAP or CHAP authentication is used. Customers utilizing PAP or CHAP authentication would not experience the problem addressed with this release. MacPPP version 2.5.3 is required only if it is necessary to use a connection script to access your Internet Service Provider.

To determine if a connection script is being utilized launch the Apple Internet Dialer application and page through the current provider information until you get to the window with expect/send sequences (the last configuration window). If the expect/send text fields are empty then you are not using a connection script. Your Internet Service Provider (ISP) would have instructed you as to what should be in the boxes if a connection script was required.

Installation:

Your PPP configuration information is stored in a separate file and will not be affected if you follow the steps below.

1. Copy the existing PPP extension (located in the "System Folder:Extensions" folder) to a safe place. Just in case you need it later.
2. Drag the new PPP extension on to the System Folder. The new PPP extension will automatically be placed into the Extensions folder.
3. Reboot.

Note: The "Config PPP" application is included for those customers not using the Apple Internet Dialer. If you are using the Apple Internet Dialer there is no need to install the "Config PPP" application.
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iTunes for Windows installation quits with 1607 error, while publishing product information, or is interrupted

This article has been archived and is no longer updated by Apple.

When you try to install iTunes for Windows 6 on a computer with Microsoft Windows XP Service Pack 2 installed, you may see one of the following:

- 1607: Unable to install InstallShield Scripting Runtime.
- No error message displays, however the iTunes installation disappears from screen and does not finish and iTunes is not installed. This happens right after "Publishing product information" appears on the screen.
- A message may appear reading:

  > "The iTunes for Windows installer has completed.
  >
  > The installation was interrupted before iTunes could be completely installed.
  >
  > The System has not been modified. To install this program at a later time, run the installation again.
  >
  > Click Finish to exit the wizard. "

The issue may be caused by improper user privilege settings in Windows that prevent iTunes from installing. The steps to resolve this issue vary depending on the version of Windows. Follow the steps listed below for the version of Windows installed on your PC. You can determine which version of Windows you are using by right-clicking on My Computer and from the shortcut menu, click **Properties**.

Windows XP Home Edition/Windows 2000

Windows XP Home Edition/Windows 2000 do not feature the same Administrator Tools as Windows XP Professional and the same method cannot be use to address this issue. An installation repair of Windows XP Home Edition/Windows 2000 must be done to restore the correct privileges. While an installation repair should not remove data from your PC, it is recommended that any important files are backed up prior to the repair. The basic procedure is discussed below, however, if you feel you need assistance, please contact the manufacturer of your PC or Microsoft since steps may vary from those listed below. Alternately, following the workaround steps detailed in this InstallShield article may resolve the issue.

1. Locate the original Windows XP Home Edition CD or Windows 2000 CD that came with your PC or the upgrade disc used to install Windows XP Home Edition or Windows 2000.
2. Insert the disc into your PC and use it to begin reinstalling Windows
3. During installation, your computer will restart or you will be prompted to do so in order to continue.
4. After the computer restarts you'll see a dialog asking if you want to install Windows. Select the option to install Windows. A repair option will be presented.
5. Choose the option to repair an installation of Windows
6. After the repair is completed, your PC should restart.
7. Attempt to reinstall iTunes.

Windows XP Professional

1. On the **Start** menu, click **Control Panel**.
2. Open Administrative Tools.
3. Open Local Security Policy.
4. Open Security Settings.
5. Open Local Policies.
6. Open User Rights Assignment.

7. In the list of policies that appears on the right, open "Impersonate a client after authentication"
8. Verify that both "Administrators" and "SERVICE" are listed.

9. If either is not listed click the "Add User or Group" button.
10. Click the "Object Types" button.
11. Verify that both "Users" and "Groups" are checked off and click OK.
12. In the field labeled "Enter the object names to select" enter the following:
    `SERVICE;Administrators`
13. Click the Check Names button. If entered correctly, the text should appear underlined. Note that the name of the group "Administrators" may be preceded by your PC name
14. Click OK.
15. Click OK.
16. Restart your PC.
17. Reinstall iTunes.

Published Date: Feb 18, 2012

Express Modem: FreePPP Issue

When I try to connect with FreePPP the modem only dials 2 charectors or says the serial port is in use, or I get disconnected after 2 minutes.
This article has been archived and is no longer updated by Apple.
Make sure the customer is using the following: Express Modem Software 2.3.3 & FreePPP 2.5 v2.

Also, make sure the express modem is set to internal modem instead of the serial/modem port.

FreePPP Setup

1. Open FreePPP setup, and select modem setup
2. In modem setup make sure "connected to" is on internal modem
3. below that is an option for modem init string settings, make sure this is on "Use" and type in ATZ&Q0

At this point the customer should be able to dial-in. If the customer has AOL 3.0 installed they will also need to turn off the AOL link extension.
Published Date: Feb 18, 2012

Mac OS 7.6: 7.6 Base & 7.6 All Differences

What are the differences in the control panels and extensions between Mac OS 7.6 base and Mac OS 7.6 all configurations?
This article has been archived and is no longer updated by Apple.
The following control panels and extensions are disabled in the base configuration versus the all configuration.

Control Panels:

- MacLinkPlus Setup
- Modem
- PPP

Extensions:

- Open Transport Modem 68K
- Open Transport Remote Access 68K
- Open Transport Serial Arbitrator

Published Date: Feb 18, 2012

A/UX: Making an A/UX System Run as a Sun/NFS Client (8/94)

Making an A/UX System run as a Sun/NFS Client.

This article has been archived and is no longer updated by Apple.
To get your A/UX system running as an NFS client, follow these steps:

1. You must have already set up bnet (basic network). bnet is a prerequisite for running NFS. The command is: newconfig bnet nfs. For details, see "Configuring and Managing a TCP/IP Network" in the A/UX Network System Administration manual.

2. Make sure a set of network daemons -- "/etc/inetd" -- is installed and running from the /etc/inittab file. The daemon in the /etc/inittab entry should state:

net9:2:respawn:/etc/inetd # set to "respawn" for networking

The nfs kernel module is also required and is included if you run the newconfig bnet nfs command described above.

3. The "/etc/biod 4" and "/etc/mount -at nfs >/dev/syscon 2>&1" daemons must be installed and running from the /etc/inittab file. Here are the two daemons in the /etc/inittab entries:

nfs4:2:wait:/etc/biod 4 # set to "wait" for NFS client
nfs8:2:once:/etc/mount -at nfs > /dev/syscon 2>&1 # set to "once" for NFS

For more detail, see "Configuring and Managing the Network File System" in the A/UX Network System Administration manual.

4. After you have completed these steps, use "ps -ef" to verify that the above processes are running.

5. Use "showmount -e remote_nfs_server" to see which filesystems of remote_nfs_server machine have been exported to you.

6. Issue the "mount" command for the exported filesystem(s). If either the "showmount" or "mount" command fails, chances are that the remote NFS server might not be up or the permissions are not granted for you to mount the remote server.

Article Change History:
23 Aug 1994 - Reviewed and updated.
31 Aug 1992 - REVIEWED for technical accuracy

Support Information Services

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Burning disc in iTunes for Windows using a Sony CD-RW/DVD CRX830E model drive fails with 4280 error

This article has been archived and is no longer updated by Apple.
If you attempt to burn a disc in iTunes for Windows using a Sony CD-RW/DVD CRX830E model drive, you may get the following alert:

> The attempt to burn a disc failed. An unknown error occurred (4280)

If you get this error in iTunes and you are using a Sony CD-RW/DVD CRX830E drive, you can make a small change to one configuration file to resolve the issue.

To find out if you have a Sony CD-RW/DVD CRX830E model drive:

1. Open iTunes.
2. On the **Help** menu, click **Run CD Diagnostics**.
3. Put an audio CD in your optical drive.
4. Click OK. The results appear in a new window.
5. Look for this text in the results:
   `IDE\CdRomSONY_CDRW/DVD_CRX830E`

If you see this in your results, you have a Sony CD-RW/DVD CRX830E model drive. Follow the steps below to resolve your burning issue.

1. Quit iTunes.
2. Locate the gcdrtype.cfg file in \Program Files\iTunes\CD Configuration
3. Right-click the gcdrtype.cfg file and from the shortcut menu, choose **Open**.
4. If you see a "Select the program from a list" option:
   1. Click "Select the program from a list."
   2. Click OK.
   3. In the list that appears, click **Notepad**.
   4. Click OK.

   The gcdrtype.cfg file opens.
5. Scroll down to the bottom of the document. The last or the next to last section of text should look like this:

```
[AUTODETECT CD DEVICE]{RecorderType:IDE/ATAPI}<gcdrmmc.dll>
GENERALFLAGS = READCD
MEDIACAPFLAGS = 0
READFLAGS = READCDDATA | READCDMODE2FORM2 | READCDAUDIO | READPOSTGAP
WRITETAOFLAGS = 0
WRITEDAOFLAGS = 0
DRVGENERALFLAGS = MODESEL_NOPAGE01 | MODESEL_NOPAGE05
DRVDISCINFOFLAGS + NO_READDISCINFOCMD | NO_READTRKINFOCMD | DVDINFO
DRVWRITETAOFLAGS = 0
DRVWRITEDAOFLAGS = LOPOLL_RDDISCINFO
CDWRITESPEEDS = 0
CDWRITERWSPEEDS = 0
CDREADSPEEDS = 0
CDREADRWSPEEDS = 0
DVDWRITESPEEDS = 0
DVDREADSPEEDS = 0
```

   Add this text
   `| NOSENDOPC`
   to the end of the line that starts with
   `DRVGENERALFLAGS`

   Note that the text you need to add starts with a space, then a vertical bar "|" (Shift-\\), and another space. The edited line should look like this:
   `DRVGENERALFLAGS = MODESEL_NOPAGE01 | MODESEL_NOPAGE05 | NOSENDOPC`

6. On the **File** menu, click **Save**.

You can now burn discs in iTunes without getting that error message.

This document will be updated as more information becomes available.

Important: Information about products not manufactured by Apple is provided for information purposes only and does not constitute Apple's recommendation or endorsement. Please contact the vendor for additional information.

TA38101_Burning_disc_in_iTunes_for_Windows_using_a_Sony_CDRWDVD_CRXE_model_c

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Color StyleWriter 4000: Icon not in Chooser

I installed the Color StyleWriter 4000 Series printer software (used with the Color StyleWriter 4100 and Color StyleWriter 4500 printers) on my Power Macintosh 4400 and 6500 computers and everything was working correctly. Now all of a sudden when I go to the Chooser, my CSW 4000 Series and CSW 4000 Series (AT) printer icons are not there any more. Additionally, background printing also worked but now I see the following message,"CSW 4000 Series Background could not locate the CSW 4000 Series PrintMonitor so your print job is postponed."
This article has been archived and is no longer updated by Apple.
If at some point the Extensions Manager was opened and then closed, the CSW 4000 Series driver, CSW 4000 Series (AT) driver, and CSW 4000 Series PrintMonitor files were moved from the active Extensions folder to the disabled Extensions folder. To resolve this problem, perform the following:

1. Open the Extensions Manager Control Panel and place a checkmark next to the CSW 4000 Series and 4000 Series (AT) files, as well as the CSW 4000 Series PrintMonitor file.
2. Restart your computer. You will now see the CSW 4000 Series and CSW 4000 Series (AT) icons in your Chooser and be able to select them. You will also be able to print in the background.

EXPLANATION

The Power Macintosh 4400 SOHO bundle and 6500 SOHO and Consumer bundles are shipped with a default Extensions Manager set called "Original Set". If you install the CSW 4000 Series software while this setting is in effect, CSW 4000 Series and CSW 4000 Series (AT) will show up unchecked in the Extensions Manager, but will still be selectable in the Chooser and usable. The CSW 4000 Series PrintMonitor file will also show up as unchecked but will also be usable when you print in the background. When the Extensions Manager is opened and then closed, any unchecked files are automatically moved to the disabled folder.

In the case of the CSW 4000 Series and CSW 4000 Series (AT) drivers, this means that the icons are no longer selectable in the Chooser. Also, background printing will no longer be available because CSW 4000 Series PrintMonitor is now in the disabled folder.

Note: Later shipments of these CPU bundles will no longer have the Extensions Manager problem where the default set is called Original Set.
Published Date: Feb 18, 2012

Color StyleWriter 6500: Icon Not In Chooser

I installed the Color StyleWriter 6000 Series printer software (for my Color StyleWriter 6500 printer) on my Power Macintosh 4400 and 6500 computers and now when I go to the Chooser my Color SW 6000 Series printer icon is not there any more.

Also, I never saw a Color SW 6000 Series desktop printer icon on my desktop after I installed and selected Color SW 6000 Series in the Chooser.

What is happening?
This article has been archived and is no longer updated by Apple.
Missing Color SW 6000 Series printer icon in the Chooser:

If at some point, the Extensions Manager was opened and then closed, the Color SW 6000 Series file was moved from the active Extensions folder to the disabled Extensions folder. To resolve this problem, perform the following:

1. Open the Extensions Manager Control Panel and place a checkmark next to Color SW 6000 Series.
2. Restart your computer. You will now see the Color SW 6000 Series in your Chooser and be able to select it.

Missing Color SW 6000 Series desktop printer icon:

1. Open the Extensions Manager Control Panel and place a checkmark next to Desktop Printer Extension, Desktop Printer Spooler, and Desktop Printer Menu (if Desktop Printer Menu is installed). Also check and make sure there is a checkmark next to Desktop PrintMonitor.
2. Restart your computer. After selecting the Color SW 6000 Series in your Chooser you will now see a Color SW 6000 Series desktop printer icon on your desktop and be able to use the Desktop Printing feature.

EXPLANATIONS:

Missing Color SW 6000 Series printer icon in the Chooser:

The Power Macintosh 4400 SOHO bundle and 6500 SOHO and Consumer bundles are shipped with a default Extensions Manager set called "Original Set". If you install the Color SW 6000 Series software while this setting is in effect, the Color SW 6000 Series will show up unchecked in the Extensions Manager, but will still be selectable in the Chooser and usable. When the Extensions Manager is opened and then closed, any unchecked files will automatically be moved to the disabled folder. In the case of the Color SW 6000 Series driver this means that the icon is no longer selectable in the Chooser.

Missing Color SW 6000 Series desktop printer icon:

Many Performa models ship with Desktop Printing disabled. This means that the files needed for the Desktop Printing feature are not loaded when you start up your computer. In the Extensions Manager these files will appear unchecked.

Note: Later shipments of these CPU bundles will no longer have the Extensions Manager problem where the default set is called Original Set.

This article was published in the 25 June 1997 "Information Alley".
Published Date: Feb 18, 2012

iDVD 4: Assets re-encode when burning a Best Quality project that you have already burned

This article has been archived and is no longer updated by Apple.
If you want to burn multiple copies of a project at Best Quality, do this before you quit iDVD. If you quit iDVD and then open the project again to burn another copy, the video will need to be re-encoded in Stage 3 again. This happens because all MPEG files that are created in Stage 3 are deleted from the project's MPEG folder when you quit iDVD.

Alternatively, if you quit iDVD but have the project already burned to a disc, you can make a copy of the DVD-R by following the steps here.

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.Mac: Virex 7.5.1 eUpdate says, ".Mac access denied"

This article has been archived and is no longer updated by Apple.
If you are a .Mac member running Virex 7.5.1, and you try to use eUpdate, you might get an error that says, ".Mac access denied. Your anti-virus protection is only effective if it is kept up-to-date. Please make sure your .Mac membership is active and configured."

If you see this message, don't worry; you can still update your copy of Virex. Just follow these steps:

1. If the alert message is still on your screen, click Quit.
2. Open the Virex application.
3. From the **Virex** menu, choose **Preferences**.
4. Click the More Options button.
5. Click the Customize button in the Customize eUpdate server settings section.
6. Enter your .Mac username and password in the appropriate fields and click OK. (Remember that your username is the section before the "@" in your email address. So if your .Mac email address were "steve@mac.com" your username would be "steve".)
7. Close the Preferences window.
8. Now that you've told Virex who you are, run eUpdate again and you should be able to update the software.

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Virex 7.5.1 can‘t install or update if BSD Subsystem isn‘t installed

This article has been archived and is no longer updated by Apple.
If you see one of the following alerts, you may not have the BSD Subsystem of Mac OS X installed:

- If you're running Mac OS X 10.2.6 through Mac OS X 10.2.8, you may see this message when you try to install Virex 7.5.1:

  Virex 7.5 requires Mac OS X v10.2.6 or later.

- If you're running Mac OS X 10.3 or later, you may see this alert when you try to run eUpdate:

  An error occurred while installing the update. The eUpdate was not completed.

If you see either of these alerts, check to see which version of Mac OS X you are running. To do this, from the **Apple** menu, choose **About This Mac**. To install the BSD Subsystem, find instructions for your Mac OS X version below:

If you're running Mac OS X 10.2 through Mac OS X 10.2.5:

- From the **Apple** menu, choose **Software Update**, and update your operating system to Mac OS X 10.2.6 or later. Then install the BSD Subsystem by following these instructions.

If you're running Mac OS X 10.2.6 through Mac OS X 10.2.8:

- Install the BSD subsystem. Find instructions on how to do this here.

If you're running Mac OS X 10.3 or later:

- Reinstall Mac OS X 10.3, and make sure that you select BSD Subsystem when you perform the installation. For more information about the BSD Subsystem, click here.

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Virex 7.5.1 may not install if Norton AntiVirus is installed

This article has been archived and is no longer updated by Apple.
When you install Virex 7.5.1, you may receive a message saying, "Virex 7.5 cannot be installed on this computer. There is anti-virus software running that is not compatible with Virex. Please remove any other anti-virus programs previously installed."

If you see this alert, follow these steps to remove Norton AntiVirus completely:

1. Download the most recent version of the Symantec Uninstaller from Symantec's website.
2. Open and run the Symantec Uninstaller to remove Norton AntiVirus and its associated files. When the Uninstaller is finished, restart your computer. After the restart, you should be able to install Virex 7.5.1.

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Network Server 700: Adding Third-Party Drive to Rear Bay

The hardware needed to mount a drive in the rear bay of an Apple Network Server 700 is not available as a finished goods part. How can I purchase the necessary hardware?
This article has been archived and is no longer updated by Apple.
Though you can order drives for the rear bay that include all the necessary hardware, you can purchase the bracket and cables only through an authorized Apple Service Provider. Service Providers can order these parts from Service Price Pages:

- 922-2137 - Bracket, Rear Hard Drive
- 922-2105 - Cable, Rear Drives, Power
- 922-2106 - Cable, Rear Drives, SCSI
- 922-2107 - Cable, Rear Drives, SCSI ID

Other issues to keep in mind when adding third-party drives to the rear bay:

1. Drives placed in the rear bracket of the Apple Network Server 700 must be configured so that the one at the **end** of the bus is properly terminated. Note that some drives require **two** jumpers before termination is actually accomplished: one for Termination Enable and one for Termination Power Source. Among these are some Seagate 2, 4, and 9 gigabyte drives (refer to the manual for the drive). Many drive vendors have jumper settings documented on their websites.
2. Drives in the rear bracket of the Apple Network Server 700 must be configured with unique SCSI ID numbers in the range of 0-3. Typically, the first drive would be given SCSI ID 1 and the second, SCSI ID 0. SCSI ID numbers can be set using jumpers, or in the case of some drives, using the SCSI ID Cable (see Appendix C, Setting Up the Network Server).

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iTunes for Windows: Audio CDs not recognized on some Packard Bell computers

This article has been archived and is no longer updated by Apple.

Some Packard Bell computers come preconfigured with virtual drives that conflict with iTunes for Windows. If this is the case, iTunes won't recognize audio CDs. Before starting, always make sure you have the latest version of iTunes.

To see if you have these virtual drives, follow these steps:

1. Open iTunes.
2. On the **Help** menu, click **Run CD Diagnostics**.
3. Insert an audio CD into each optical drive that you want to test.
4. Click OK to run the test.

Once it's finished, the bottom section of the CD Diagnostics should look like this (note the "Unsupported CD or DVD drive" listings toward the bottom):

```
IDE\, Bus Type ATA, Bus Address [1,0]
IDE\, Bus Type ATA, Bus Address [0,0]
SCSI\+_H___DVD-ROM_DVD-41SD4.10, Bus Type SCSI, Bus Address [0,0]
SCSI\+_H___DVD-ROM_DVD-41SD4.10, Bus Type SCSI, Bus Address [1,0]
SCSI\+_H___DVD-ROM_DVD-41SD4.10, Bus Type SCSI, Bus Address [2,0]
If you have multiple drives on the same IDE or SCSI bus, these drives may interfere with each other. Some Dell
computers need an update to the ATA bus driver before iTunes recognizes CDs. If you have a Dell computer,
check the Dell support website for details.

D: Unsupported CD or DVD drive. Virtual drives can sometimes interfere with reading and writing CDs in iTunes.
If this is a virtual drive and you are having problems with other drives, try uninstalling the virtual CD
application.

E: Unsupported CD or DVD drive. Virtual drives can sometimes interfere with reading and writing CDs in iTunes.
If this is a virtual drive and you are having problems with other drives, try uninstalling the virtual CD
application.
```

To disable these virtual drives:

1. On the **Start** menu, point to **My Computer**, then right-click **My Computer** and click **Properties**. Alternatively, you can open System in the Control Panels.
2. Click the Hardware tab in the System Properties window that appears.
3. Click Device Manager.
4. Locate DVD/CD-ROM drives in the Device Manager list.
5. Click the plus sign next to it. This lists all the real and virtual drives on the system. The real drives are listed with names that start with "HL-DT_ST". The virtual drives are listed with names that start with something else, such as "H_+_".

   Device Manager window with virtual drives

6. Right-click one of the virtual drives.
7. On the shortcut menu, click **Disable**.
8. Repeat steps 6 and 7 with each of the virtual drives.
9. When finished, on the **Start** menu, point to **Turn Off Computer**.
10. Click Restart.

You should now be able to play audio CDs in iTunes.

This document will be updated as more information becomes available.

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Preferences: Open The Wrong Application

When I double-click on a preference file in my Preferences folder, it opens up an application that is not in any way related to it. I have rebuilt the desktop, but that does not seem to have resolved this issue.
This article has been archived and is no longer updated by Apple.
This behavior has to do with the way the file is marked as to what type of file it is and how Macintosh or Mac OS Easy Open handles generic file types.

For example: Apple Menu Options Preferences; this preference file is marked as being a generic "prefs" file. Double-clicking on the file will not open the Apple Menu Options control panel because Apple Menu Options does not contain information that it needs to open a generic "prefs" file.

Instead, Mac OS Easy Open will try to locate a suitable application to open the file by looking at which applications can open a generic "prefs" file. One of the options is the application "Megaphone", even though the application has nothing to do with the preference file. Although you can select Megaphone, Megaphone will be unable to open the file (there's nothing in the file that Megaphone can use). However, the default state of Mac OS Easy Open is from that point forward. If a file with the same type (in this case "prefs") is double-clicked, Megaphone (or the selected application) will open.

To clear this preference:

1. Go to the Mac OS Easy Open control panel and click on "delete preferences".
2. In the control panel window, under "Translation Choices Dialog Box", select the option "Always show dialog box."

Choosing this action will always bring up a choice, even though the file may already be mapped to an application. This will let you select a different application or click "cancel" if no appropriate application is found.

This article was published in the 27 June 1997 "Information Alley".
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iDVD 5: Using the Audio Browser

This article has been archived and is no longer updated by Apple.
If you want to add audio to a slideshow or a customized menu, a handy way to pick a complementary tune is to use the Audio section of iDVD's Media browser. To access audio section of the Media browser:

1. Click the Customize button.
2. Click Media.
3. From the pop-up menu, choose **Audio**.

Your iTunes music library will appear in the browser. You can now try out different songs (or even whole playlists) to see how they work with your visuals. Or if you prefer, you can drag individual audio files or folders full of audio files from the Finder into the browser and have easy access to them when you are working on iDVD projects. Once you've selected a good choice for your slideshow or menu, just click the Apply button or drag the tune/playlist directly from the Media browser to the audio well in the slideshow editor to add your audio.

Additional Information

- While the Audio browser iTunes library will display Artist and Time information for all songs, you won't see either if you drag audio files into the browser.
- For audio files to appear in iDVD's Media browser, you need to have launched iTunes at least once and have audio files in the iTunes Library.
- If you're interested in finding more audio-related information, choose **iDVD Help** from the **Help** menu.

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Mac OS X 10.3: After installing Virex 7.5.1, the computer stalls during startup

This article has been archived and is no longer updated by Apple.

After installing Virex 7.5.1, some computers with Mac OS X 10.3.x may stall or stop responding at the "Starting Internet services" portion of the startup screen. If this happens with your computer, follow the steps below to resolve the issue:

1. Start up the computer in Safe Mode. Click here for instructions.
2. Open System Preferences and click Print & Fax.
3. Click the Faxing tab.
4. Deselect the "Receive faxes on this computer" checkbox.
5. Quit System Preferences.
6. Restart the computer.

If you want to receive faxes on your computer, you can uninstall Virex 7.5.1. To uninstall Virex 7.5.1, use the uninstaller that comes with the Virex 7.5.1 Installer.

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A/UX: Developer Services Offers Developer Support (9/94)

Article Last Reviewed: 6 September 1994

A/UX: Developer Services

This article has been archived and is no longer updated by Apple.
Some A/UX users have asked about customizing A/UX code, such as writing a diskless boot routine. Such a task would most likely require A/UX or NFS source code and licensing.

Anyone wishing to write code for A/UX should contact Developer Services to see about becoming a Certified Developer. Commercial Certified developers have access to Developer Technical Support.

Article Change History:
6 Sept 1994 - Reviewed.

Support Information Services

Published Date: Feb 18, 2012

Mac OS 7.6.1: Streaming Audio Update Extension

I noticed that Apple has posted the 7.6.1 Streaming Audio Update extension. What is this software for?
This article has been archived and is no longer updated by Apple.
The 7.6.1 Streaming Audio Update extension alleviates one cause of poor performance when using internet streaming media applications on certain Macintosh computers. Internet streaming media can also be adversely affected by poor connections or poor latency to a server.

The 7.6.1 Streaming Audio Update extension can be installed on Mac OS 7.6.1, Mac OS 7.6, or System 7.5.5. The extension will not load on earlier system releases. The streaming audio improvement delivered in this extension will be included in future releases of Mac OS, and the extension will not load on releases after 7.6.1.

This extension addresses one problem specific to the following Apple products:

Power Macintosh 5200
Power Macintosh 5260
Power Macintosh 5300
Macintosh Performa 5200CD
Macintosh Performa 5210CD
Macintosh Performa 5215CD
Macintosh Performa 5220CD
Macintosh Performa 5260CD
Macintosh Performa 5260/120
Macintosh Performa 5270CD
Macintosh Performa 5280
Macintosh Performa 5300CD
Macintosh Performa 5320CD

Power Macintosh 6200
Power Macintosh 6300
Macintosh Performa 6200CD
Macintosh Performa 6205CD
Macintosh Performa 6210CD
Macintosh Performa 6214CD
Macintosh Performa 6216CD
Macintosh Performa 6218CD
Macintosh Performa 6220CD
Macintosh Performa 6230CD
Macintosh Performa 6260CD
Macintosh Performa 6290CD
Macintosh Performa 6300CD
Macintosh Performa 6310CD
Macintosh Performa 6320CD

Installation
To install the 7.6.1 Streaming Audio Update extension follow these steps:

1. Locate the System Folder on the computer's hard disk. Do not open the System Folder.
2. Drag the file named ³7.6.1 Streaming Audio Update to the System Folder.
3. A message appears asking if you want to put the "7.6.1 Streaming Audio Update" into the Extensions folder. Click OK. If a second message appears stating that "7.6.1 Streaming Audio Update" already exists and asks you if you would like to replace it, click OK.
4. Open the Special menu and choose Restart.

Technical Details
Poor streaming audio performance can occur from slow internet connections, slow servers, or while the computer is engaged in other work concurrently. On some specific revisions of the listed computer models, an additional cause of poor streaming audio performance was an interaction with the serial driver software, sound driver software, and serial hardware.

The 7.6.1 Streaming Audio Update extension changes the behavior of the serial and sound driver software to better support the demanding, real time nature of streaming audio. At times when the sound driver is busy servicing the sound hardware, extra checks are made to ensure that the serial driver can properly service the serial hardware. For some computers this results in a significant improvement in streaming audio performance.
Published Date: Feb 18, 2012

Color LW 12/600 PS: Printing Transparencies

When I try to print on transparencies I get a paper jam error. Some transparencies work fine and others don't. How can I tell if a transparency will work in the Color LaserWriter?
This article has been archived and is no longer updated by Apple.
The Color LaserWriter uses a photosensor to detect the presence of the special transparencies by looking for a reflection from the white tape strip at the leading edge of the transparency. When the white tape strip is detected the printer enters into the transparency mode and continues the printing process. If standard transparencies which do not contain the white tape strip are used then the printer cancels the printing process and a paper jam error is displayed on the status panel. The printer must be able to detect when the correct transparencies are used so that it can ensure proper toner adhesion and adjust the line screen for optimal transparency print quality. An extra transfer drum rotation is added to the end of the printing process during which the transfer drum and fuser rotational speed is cut in half.

If a customer is using the correct Apple branded transparencies but they still experience paper jams then have them measure the width of the white tape strip. If the white tape strip is less than 10mm (3/8") wide then it may be too short for the printer to properly detect it. Replace the transparencies and try again. The latest transparencies shipping from Apple contain the Apple name printed on the top side to aid in their identification. Other brands of transparencies may have similar tape strips, but their coating may not be suitable for use in the Color LaserWriter.

When printing Transparencies, you should also select "Transparency" in the Print Options dialog box. This changes the halftoning structure to allow for a lighter image, and allows for a better "transparency" when viewed through an overhead projector. Once the printing process is complete the white tape strip can be removed.
Published Date: Feb 18, 2012

Mac OS 7.6.1: AppleShare 4.2.1 Support

On which Workgroup Servers is AppleShare 4.2.1 supported under Mac OS 7.6.1?
This article has been archived and is no longer updated by Apple.
AppleShare 4.2.1 under Mac OS 7.6.1 is supported ONLY on the Workgroup Server 7350 and Workgroup Server 9650.
Published Date: Feb 18, 2012

Apple Starting Line: International Ordering

How do I order Apple Starting Line products internationally?
This article has been archived and is no longer updated by Apple.
Customers outside of the US can order Apple Starting Line products one of two ways:

By phone: Apple Starting Line (303) 297-8070.
By email: s.line.order@apple.com

For the products that are free, please note that there is a charge added for shipping.

If ordering by email, please include your name, address, phone, Apple Starting Line part number, and credit card number.
Published Date: Feb 18, 2012

PCI Token Ring Card: LED Indicators

This article describes the LED lights on the PCI Token Ring Card.
This article has been archived and is no longer updated by Apple.
PCI Token Ring Card LED's description:

Lights:

Amber	Green	Explanation
Startup sequence		
Blinking	Blinking	Awaiting initialization
Off	Off	Card being initialized or computer powered off
Off	Blinking	Passed diagnostics; card waiting to open
Off	On	Card open and operating correctly
Operating conditions		
Off	On	erating correctly
Blinking	On	Possible problem
Problem indicators		
Blinking	Off	Card is not open (indicates wire fault or self-test failure)
Blinking	On	Detected "beaconing" or hard error
On	On	Card has failed

Notes:

- Beaconing is the card's signal to other devices on the network that a hard error has occurred. Beaconing can in the card removing itself from the network and conducting self-tests to determine if it is causing the problem.
- A hard error is a problem that requires removal of the source of the error or reconfiguration of the network before the network can resume reliable operation.
- The card is open when it has established communications with other devices on the network.
- A wire fault is an error caused by a break or a short circuit in the cable that connects the card to its access unit.

Published Date: Feb 18, 2012

Unable to install iLife ‘04 over iTunes 4.7.1

This article has been archived and is no longer updated by Apple.
If you installed iTunes 4.7.1 and try to then install or reinstall iLife '04, you'll get analert indicating that an iLife application is still running even if you have already quit iTunes, GarageBand, iPhoto, iMovie, and iDVD.

This happens because the iLife Installer is seeing a background program called "iTuneshelper," and is mistaking it for iTunes. To workaround the issue, bypass the login items by following these steps:

1. From the **Apple** menu, choose **Log Out**.
2. Log back in and immediately hold the Shift key down. Release the Shift key when you get to the Finder. This will keep iTuneshelper from loading.
3. Install iLife '04.
4. Restart the computer to allow the login items to load again.

This does not occur with later versions of iLife or iTunes.

Published Date: Feb 18, 2012

Charging iPod shuffle on an iMac G3 and eMac

This article has been archived and is no longer updated by Apple.
Because of its design, iPod shuffle cannot be connected to the USB ports on the side of iMac G3 and eMac computers—it will not fit. You can connect iPod shuffle to your keyboard's USB ports if your computer has Mac OS X 10.3.6 or later, however, iPod shuffle will not charge due to the keyboard's low-power USB ports.

To charge iPod shuffle on an iMac G3 or eMac computer, you need an optional accessory to reach the port, such as the iPod shuffle Dock or a third-party USB extension cable, both of which must connect to a high-power USB port to charge (**Note**: the USB Keyboard Extender cable that came with some Macs will not work as the cable connector will not fit the iPod shuffle). You can also use a USB power adapter or a high-power USB hub to charge iPod shuffle. These are all available from the iPod Accessories area in the Apple Store.

Be aware that if you connect iPod shuffle to your keyboard and it has no charge or a low charge, your computer may not recognize it. Because it isn't charging, the orange charging light also will never display when connected to the keyboard. If your computer doesn't recognize iPod shuffle through the keyboard, then charge it first using one of the above methods or by connecting to a high-power port on another computer.

Published Date: Feb 18, 2012

iPod shuffle may not play AAC files that weren‘t encoded with iTunes

This article has been archived and is no longer updated by Apple.
If you try to play a song on iPod shuffle that was encoded in AAC format (.M4A) by a third-party application, iPod shuffle may not play it and skip to the next song. To prevent this from happening, always use iTunes to encode songs to AAC for iPod shuffle play.

Songs purchased from the iTunes Store (.M4P and .M4B files) are not affected by this.

Important: Information about products not manufactured by Apple is provided for information purposes only and does not constitute Apple's recommendation or endorsement. Please contact the vendor for additional information.

Published Date: Feb 18, 2012

A/UX: How to Check for Files without Changing Them (8/94)

In attempting to check for the presence of a file without correcting any errors, an A/UX user tried the following command from the SASH (Stand Alone Shell) application's command line:

esch -v -b -f

This command automatically corrected a permissions error on a file.

(Editor's Note: SASH is equivalent to the A/UX 3.0 Startup shell.)

This article has been archived and is no longer updated by Apple.
The reason is that "escher" begins the autorecovery process. It does generate a report when it discovers a file that does not match the rules in the CML (Configuration Master List). It also updates the CML but it will not tell you what was updated.

For instance, "escher" does not distinguish between changed permissions and changed contents. It only asks if you want to update the autorecovery file system with each changed file. It also does not create checksums for files.
For this reason, use of escher is discouraged.

The "-m" option would probably be better if you do not wish to answer all the questions. This option merely mails a list of updated and missing files.

Refer to the A/UX Local System Administration manual section on "Managing Disks" for details about the use of autorecovery.

Article Change History:
24 Aug 1994 - Reviewed and updated.

Support Information Services

Published Date: Feb 18, 2012

Macintosh: External display exhibit rolling lines

I have connected several external display devices to my Macintosh computer and they all exhibit rolling lines. I have tried a third party monitor, a projector, and also a box which supports connectivity to a TV. Why is this happening?
This article has been archived and is no longer updated by Apple.
The issue you describe is most likely caused by non-synchronized video signals between the Macintosh and the external display device.

If your external display device is not configured to receive VSYNC at the rate at which the Macintosh is transmitting then rolling lines will result. *You might notice that the "roll" is proportional to the degree at which the monitor's sync and the computer's sync are disharmonized.

It is also possible that the pins of the Macintosh video output and the display device's connector do not correspond, causing the display to not receive the signal (sync) pulses altogether.

In either case it is necessary to attach an adapter between the Macintosh video port and the display cable to adjust the frequency and/or align the pins. There are several companies who offer adapter solutions, including Black Box Corp., Enhance Cable Technology, Griffin Technology and MacAdapt.

- For more information about a specific third party search the TIL for the vendor's name.
- For a detailed explanation of audio and video technology see Murray Wheeler's "Multimedia Glossary", TIL article #16536, 16357, and 16538.

Below is a brief description of a few terms commonly used when discussing video sync issues.

Horizontal Sync
A signal created and used to synchronize the horizontal scan of a video signal, often combined with vertical sync into a composite sync. This signal is derived by dividing sub-carrier by 227.5 and then doing some pulse shaping. The signal is used by monitors and cameras to determine the start of each horizontal line.

Refresh Rate
A term used to describe the number of times the screen is completely scanned every second. For example, if a monitor has refresh rate of 60 hertz, then the entire monitor screen is scanned 60 times per second.

Sync
Short for synchronous. Refers to signals used to synchronize the horizontal and vertical scans of a video signal. This signal is derived from a composite or combination of horizontal and vertical drives, with some slightly narrowed and delayed pulses as well as the addition of equalizing pulses. When used, is usually accompanied by subcarrier.

Synchronous
Able to perform two or more processes at the same time, such as sending and receiving data, by means of a mutual timing signal or clock.

TTL
Abbreviation for "transistor-transistor-logic", a bipolar integrated-circuit logic that uses transistors with multiple emitters. TTL is a saturated form of logic; during turn-on both the emitter base and collector-base junctions are forward biased, causing an accumulation of charged carriers in the base region. As the device is turned off it is discharged through the collector. The time required for this discharge results in a delay in turning the transistor off. This is referred to as storage-time delay. *Usually the term "TTL" is used in the context of "TTL signal", which basically means a type of waveform.

Signal-to-noise Ratio (S/N)
An S/N ratio can be given for the luminance signal, chrominance signal, and audio signal. The S/N ratio is the ratio of noise to actual total signal, and it shows how much higher the signal level is than the level of noise. It is expressed in decibels (dB), and the bigger the value is, the more crisp and clear the picture and sound will be during playback.

Vertical Sync
A pulse used to trigger the vertical retrace of a scanning electron gun from the bottom of a frame back to the top.

Vertical Sync Pulse
A portion of the vertical blanking interval which is made up of blanking level and six pulses (92% duty cycle at -40 IRE units) at twice the horizontal sync pulse repetition rate. Synchronizes vertical scan of television receiver to composite video signal. Starts each frame at same vertical position (sequential fields are offset 1/2 line to achieve interlaced scan.
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Internet Dialer: PPP not Installed Message

When I launch the Internet Dialer I get a message that PPP is not installed or is not active. I have reinstalled Apple Internet Connection Kit and the problem persists. All PPP components appear to be installed correctly. What is causing this?
This article has been archived and is no longer updated by Apple.
This issue is caused by the an extension named AOL Link. To remedy this issue:

1) Launch the America Online application. Choose Preferences from the Members menu, and scroll down through the list and click once on AOL Link. Deselect the Auto Configuration checkbox. Quit America Online. (This is important to let the AOL application work properly.)

2) Disable AOL Link in the Extensions Manager.
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Burning DVD±R and DVD±RW media with iLife ‘05 - compatible computers

This article has been archived and is no longer updated by Apple.
iLife '05 applications support burning to DVD±R and ±RW discs when used with recent-model SuperDrives. This list will help you determine if your computer supports writing to these two media types.

All Macintosh computer models currently shipping with a SuperDrive support DVD±R/RW media with iLife '05. Additionally, the following systems will support burning to DVD±R/RW media with iLife '05 and Mac OS X 10.3 Panther:

- All iMac G5 computers with a SuperDrive
- Mac mini (configured with optional SuperDrive)
- iMac (17-inch 1.25GHz Flat Panel)
- iMac (20-inch 1.25GHz Flat Panel)
- eMac 1.0GHz with a 4x SuperDrive
- eMac 1.25GHz with a SuperDrive
- All Power Mac G5 computers with a SuperDrive
- All iBook G4 computers with a SuperDrive
- PowerBook G4 (12-inch 1.33GHz) with a SuperDrive
- PowerBook G4 (15-inch 1.33GHz) with a SuperDrive
- PowerBook G4 (15-inch 1.5GHz) with a SuperDrive
- PowerBook G4 (17-inch 1.5GHz)

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MAE 3.0: Update 4 Available

Update 4 for MAE 3.0 is now available.
This article has been archived and is no longer updated by Apple.
Availability:

MA3 3.0 Update 4 can be obtained at the following web site: http://www.mae.apple.com/info/update34.html

Bugs Fixes included in Update 4:

Issue #	fixed in...	Description
1603102	Update 1	MAE crashes during large copies to an AppleShare volume.
1604934	Update 1	Segmentation fault at start up if appledir has length > 31 bytes.
1606298	Update 1	Sound Control Panel quits with unexpected error.
1609431	Update 1	Segmentation fault at start up if appledir path begins with "d" (e.g., /disk/apple).
1400674	Update 2	.mac file must be at root level of an MIV (e.g., /lukas/.mac).
1610673	Update 3	(Solaris only) Improve handling of remote filesystems.
1631448	Update 3	update.sh does not set permissions properly when running as root.
1155912	Update 4	Problems with Sun Type 4 keyboards.
1219416	Update 4	(Solaris) MAE does not allow other apps to access floppy.
1291293	Update 4	Changing Unix file permissions fails in MAE if Unix group name not defined in /etc/group.
1304733	Update 4	AppleTalk installation package does not calculate free space correctly.
1317337	Update 4	Need enhancements for HP JIS keyboards.
1325923	Update 4	Displaying MAE remotely to SGI machines has keyboard problems.
1325958	Update 4	Some files within System Folder and .mac directory are world-writeable.
1356544	Update 4	Problems using disk image applications (e.g., DiskCopy) with MAE.
1380957	Update 4	Floppies on Solaris: extraneous directory created.
1383880	Update 4	Error message: Assertion failed: !p->is_locked, file btreecache.c, line 349.
1389060	Update 4	Invalid .MIV_file lines are ignored; the user should be notified of any errors instead.
1400837	Update 4	Non-US keyboard scripts are dimmed after installing a Language Kit.
1600643	Update 4	Mounted NFS volumes should disappear when contact is lost with remote system.
1600811	Update 4	Problems mounting shared volumes with AppleShare.
1600896	Update 4	Problems with numeric keypad when using generic Sun keyboard.
1601021	Update 4	Apple Extras should be created in the same directory as the System Folder.
1602337	Update 4	Spurious error message when installing VUE/CDE support for MAE, The directory specified is invalid.
1604243	Update 4	Memory Control Panel has spurious balloon for Balloon Help (cosmetic only).
1604967	Update 4	Error message, "To temporarily turn off extensions, restart and hold down the shift key" is not valid for MAE.
1605337	Update 4	Support for large path lengths in MAE resources.
1605343	Update 4	Problems with Stickies (-50 error).
1607663	Update 4	MAE can create runaway vi processes when double-clicking on Unix text files.
1608817	Update 4	Failure to create Launcher items for MAE documentation.
1608818	Update 4	MoviePlayer forces user registration each time it is invoked.
1611831	Update 4	Files/folders disappear when viewing directories in MAE.
1616024	Update 4	Create environment variables for .mac and System Folder locations.
1618427	Update 4	Clean up command line option for appletalk command.
1619636	Update 4	update.sh makes incorrect assumptions about directory locations.
1620297	Update 4	MAE hangs when FileSharing is enabled and the .mac directory is new.
1620910	Update 4	File permissions not correctly set during update of MAE resources.
1624549	Update 4	Unexpected termination of MAE installer on HP-UX 9.0.x systems.
1628051	Update 4	Errors when calculating available RAM on host workstations.
1628148	Update 4	Clean up internal error handling of return codes from host OS filesystem calls.
1629922	Update 4	Dropping an MAE folder on COFF file (e.g.,ls) does not list contents.
1629948	Update 4	Occasional loss of keyboard events (e.g., mouse clicks).
1634053	Update 4	Close box behaves incorrectly for AppleDouble Control Panel.
1636114	Update 4	Various bugs in update.sh need to be resolved.
1638480	Update 4	Increase the number of reserved AppleTalk file descriptors.
1643995	Update 4	X resources are not being used correctly when being read from the X server.

Several other fixes/enhancements have also been included, as have all fixes included in Updates 1, 2 and 3. Therefore, you do not need to install any previous updates prior to installing Update 4.

Notes:

TA38136_MAE_Update_Available.pdf

1. The `tar' files for Update 4 are located in the same directory as the MAE 3.0 Free Demo, which now includes the changes included in Update 4. Unlike the previous updates for MAE 3.0 (including Updates 1, 2, and 3), Update 4 is a complete installation of MAE.

2. If you are installing MAE for the first time, you do not need to install any previous versions of MAE (including the 3.0 CD-ROM, as well as Updates 1, 2, or 3). Since MAE 3.0 Update 4 is a full installation of MAE, much of the information present in the README.TXT file included in your tar distribution applies as well.

3. In particular, each MAE user's System Folder will be upgraded the first time MAE 3.0 Update 4 is executed for that particular user. Please refer to the README.TXT file for complete information.

4. The official version number of MAE 3.0 with this update applied is "MAE 3.0 Update 4".
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MacDNS: Mapping Multiple Domains

How do I serve multiple domains with MacDNS? I want to map "www.sample.com" and "www.sample.org" to my Web server.
This article has been archived and is no longer updated by Apple.
For each unique top-level domain name you want to serve, choose "New Zone File..." from the File menu and enter the domain name in the Zone Information dialog box. You can have multiple zone files open at once. Even if www.sample.org is just intended to be an alias to your Web server at www.sample.com, you still need to create a zone file for sample.org, because you are serving a host within that namespace.

In the Zone Information dialog for sample.org, enter the same information that you specified for the sample.com zone (with the exception of the Domain Name field, of course.) Add a permanent host entry for www.sample.org. You can then assign the IP address of the "real" host machine (www.sample.com) to this host.

When you map entries across multiple domains to a single IP address in this way, it's important to be aware of how reverse (PTR) queries for the IP address are handled. Only the canonical, CNAME or "real" domain name for a given IP address is returned.

MacDNS defines the canonical name for an IP address as the first permanent host entry it finds which matches that address. To ensure that MacDNS returns a particular name for a reverse lookup when cross-domain host names are mapped to an IP address, simply create or open the zone file containing that entry first.
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MacDNS: Wildcard PTR Entry

How do I set up a wildcard PTR entry for a block of addresses?
This article has been archived and is no longer updated by Apple.
MacDNS does not currently support wildcard entries. Generally, this would be useful if you are running software (such as the Apple IP Gateway) which assigns IP addresses from a pool.

To provide reverse name mapping for these IP addresses, you need to create a permanent host entry with a name for each (for example: "IP-pool-1.mydomain.com", "IP-pool-2.mydomain.com", and so on.)
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A/UX 3.0: Memory Requirements (8/94)

This article has been archived and is no longer updated by Apple.
The RAM memory requirements for A/UX 3.0 are 8 MB minimum.

The hard disk memory requirements are 80 MB minimum (160 MB recommended).

You will also need a SCSI CD-ROM drive to install the software.

Article Change History:
22 Aug 1994 - Updated for A/UX 3.0
01 Jun 1988 - Reviewed.

Support Information Services

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MacDNS: Domain Name Serial Number Format

My secondary DNS provider wants the serial numbers for my domain data to be in "YYMMDDnn" format. Does MacDNS support this?
This article has been archived and is no longer updated by Apple.
MacDNS starts the serial number at 1 and increments it by 1 each time the zone file is saved. ("DNS and BIND," published by O'Reilly and Associates, describes this method as one of the good ways to manage serial numbers.) The YYMMDDnn format is not part of the DNS specification.

However, you can satisfy your provider's requirements simply by using a text editor to open and edit your zone file. The serial number is stored as part of the SOA (start of authority) record at the beginning of the file; it's the first number following the administrator's e-mail address.

Example: If today is February 5, 1997, and it's the first change to this file today, you would change the number to 97020501. After you make this change, just re-open the zone file in MacDNS and you're set.
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Final Cut Express displays error when importing iMovie HD projects

This article has been archived and is no longer updated by Apple.
If you try to open an iMovie HD 5.0 project into Final Cut Express 1.x or Final Cut Express 2.x, you will see the following error:

"File Error: Wrong Type"

This occurs because earlier versions of Final Cut Express do not support iMovie HD projects.

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MacDNS: Multiple Secondary Name Servers

Is it possible to specify more than one secondary name server for a given domain with MacDNS?
This article has been archived and is no longer updated by Apple.
Only one secondary name server can be entered in the Zone Information dialog, but MacDNS does support multiple secondary NS records. To specify more than one secondary name server, you'll need to edit the zone file manually with a text editor.

Look for the line that says:

; Nameserver entries

After this line, you'll notice the secondary name server (NS) entry. If you need more secondary servers, just add additional lines.

For example:
mydomain.com. NS secondary.provider.net.
mydomain.com. NS another.provider.net.
mydomain.com. NS third.provider.net.
mydomain.com. NS fourth.provider.net.
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Workgroup Server 7350/9650 Read Me File

This document provides information about your Workgroup Server that could not be included in the manuals or in online help about the following:

- The Workgroup Server 9650, Apple RAID1.5, and Fast and Wide Ultra SCSI?Drives
- Important Information About Virtual Memory
- Drive Setup Utility
- Troubleshooting
  - StreamLogic JackHammer Control Panel
  - Network and File Sharing problems
  - Apple RAID and Drive Initialization
- Tips
  - System Software Exceptions for Workgroup Servers
  - Using the Recent Documents Command in the Apple Menu
  - Installing Acrobat Reader Software from the System Software CD
- Disk Drives Compatible with Apple RAID Software

This article has been archived and is no longer updated by Apple.
The Workgroup Server 9650 comes with a built in Fast and Wide Ultra SCSI PCI card, cable, and drive. For best performance on this drive, or to use this device in a RAID array, you should first update the disk driver using the Apple RAID 1.5 application.

Note: Updating the driver on your boot volume will NOT jeopardize the data on that volume.

To update the driver, follow these steps:

1. Open the Apple RAID folder on your hard drive.
2. Double-click the Apple RAID icon.
3. Select your hard drive from the Disk SCSI Device list.
4. Select Install Driver from the Disk menu, A dialog box appears.
5. Click OK to update the Apple RAID driver.
6. Once the driver has been installed, you can quit Apple RAID.

For further information regarding how to use your boot volume in an Apple RAID array, see the online Apple RAID Guide in the Apple RAID folder on your hard drive.

Virtual Memory

Your server comes with virtual memory turned OFF because virtual memory reduces server performance. To increase your server's memory without decreasing performance, add memory (RAM) to your server.

Some server applications cannot work if virtual memory is turned ON. Before turning ON virtual memory, refer to the documentation that came with your applications to verify that they work with virtual memory.

Drive Setup Utility

The Drive Setup utility which ships with Workgroup Server 7350 and 9650 is optimized to take advantage of server-specific hardware that ships only on this server. It is not compatible with other Macintosh models. Use it only on your Workgroup Server 7350 and 9650.

Troubleshooting

You can find additional information on the problems described below in the onscreen Mac OS Guide and the Workgroup Server Administrator's Manual.

StreamLogic

You see duplicate files appearing and then disappearing when double clicked, or icons that appear to be duplicates.

If the server crashes or you shut it down improperly, the StreamLogic control panel Termination gets set to Custom and the Identifier ID gets set to ID0. Should this happen, open the JackHammer control panel and select Automatic from the Termination menu. Then select ID7-Std or any other unique SCSI ID from the Initiator ID menu. Once you have reset the JackHammer control panel properly, you must restart your computer. You may want to run Disk First Aid after you restart your computer to ensure your file system and catalog operate properly. Disk First Aid is located on your Workgroup Server CD, in the Utilities folder.

Networking and File Sharing Problems

A client is unexpectedly disconnected from a server and can't reconnect.

When a client uses items on a server and is disconnected unexpectedly from that server, the client may see error messages when the client tries to reconnect. These error messages either state that the client does not have enough access privileges or that the server can?t be found on the network. Before the client reconnects, the client should first save open documents on the hard disk by using the Save As command. Then the client must close any open files that were modified and try to reconnect again.

Apple RAID and Drive Initialization

You cannot initialize a drive with a block size greater than 512 bytes.

Apple RAID does not support initialization of drives with block sizes greater than 512 bytes. To format drives which already have block sizes greater than 512 bytes, you must reinitialize the disk. Use Drive Setup (or a another disk-formatting utility of your choice) to initialize the disk so block sizes are 512 bytes, which is the most commonly used block size.

Tips

System Software Exceptions for Workgroup Servers

Some applications included on your Workgroup Server Software CD ROM disc were not designed for server use and may reduce your server's performance. These are:

- Apple Remote Access Client
- Cyberdog
- English Text-to-Speech software
- Open Transport PPP
- QuickDraw 3D
- QuickDraw GX

Using the Recent Documents Command in the Apple Menu

Using the Recent Documents command in the Apple menu may increase the time it takes to open some applications. You can turn off recent documents tracking by deselecting Remember recently used items in the Apple Menu Options control panel.

Installing Acrobat Reader Software from the System Software CD

To install Acrobat Reader software on your server, be sure your server is the startup disk. Then insert the Mac OS CD into your CD-ROM? drive. Open the Acrobat Reader folder on the CD and follow the installation instructions. If your server is not the startup disk, see the onscreen Mac OS Guide for instructions on how to make your server the startup disk. For more information about using Acrobat Reader see the WS Electronic Library Read Me file in the WS Electronic Library folder on your hard disk.

Disk Drives Compatible with Apple RAID Software

These are disk drives known to be compatible with Apple RAID software at the time this Read Me file was created. More current information about compatible disk drives is available on the Internet in Apple's Tech Info Library.

Conpatible Drives

```
Conner CFA540S
IBM DFSS4W ---          4GB
IBM DFHCC1C (SSA) ---   1GB
IBM DCHC09C (SSA) ---   9GB
IBM DFHC09C (SSA) ---   9GB
IBM DFHSS2W ---         UltrastarXP, 2GB, 7200 RPM
IBM DFHSS4W ---         UltrastarXP, 4GB, 7200 RPM
IBM DCAS-34330 (        Capricorn)
Micropolis 4221-09      1128RAAV
Quantum                 Fireball_1080S
Quantum                 Fireball_TMS100S
Quantum                 170S
Quantum                 LP240S
Quantum                 LPS270S
Quantum                 LPS340S
Quantum                 365S
Quantum                 TRB730S
```

```
Quantum            Fireball_TM1280S
Quantum            Fireball_TM2100S
Quantum            Fireball_ST3400S
Quantum                 Viking_4.5WSE *  (Viking)
Seagate                 ST1480
Seagate                 ST12550N --- 2 GB
Seagate                 ST19171FC (Fibre-channel) --- 9GB
Seagate                 ST19171W
Seagate                 ST31200N
Seagate                 ST32550W
Seagate                 ST32371W  --- Barracuda 4LP, 2 GB, 7200 RPM
Seagate                 ST34371W  --- Barracuda 4LP, 4 GB, 7200 RPM
Seagate                 ST3600N
Seagate                 ST32155N
Seagate                 ST11200N
```

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Newton Connection Utility: How to Obtain

Question 1: I received the Newton Backup Utility with my MessagePad 120. Since I need more functionality, I have been using the Newton Connection Utility v1.0b5 that I found on Apple's FTP site. How can I obtain a final version of the Newton Connection Utility?
This article has been archived and is no longer updated by Apple.
The following describes how you can obtain the Newton Connection Utility (NCU) 1.0.

For MessagePad 120 and 130 using Newton OS 2.0, you will need to purchase NCU. To order in the US, call Apple Computer at 1-888-273-3594. The price is $29.99 plus $5.50 for Fed Ex, or no additional charge when shipped US Mail. You have a choice of CD or floppies, and you get both Windows and Mac versions of the software.

There are two additional ways to receive the final version of NCU 1.0; via the internet or on disk:

From the internet, go to the Apple Software Updates web site at **http://www.apple.com/swupdates**.

For diskettes, call the Apple's fulfillment center at 1-888-273-3594. You have a choice of CD or floppies, and you get both Windows and Mac versions of the software. Providing you can supply the serial number, NCU is $8.99 for eMate 300 owners and free for MessagePad 2000 owners.

Outside the US, call your local Apple dealer.

Note: NCU is not compatible with Newton 1.x OS based devices.

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iLife ‘05 cannot be installed on original iBooks

This article has been archived and is no longer updated by Apple.
iLife '05 requires a computer with a display resolution of at least 1024 x 768 pixels. This means that iLife '05 cannot be installed on the original iBooks. The original iBooks are Blueberry, Tangerine, or Graphite in color. The iBook (FireWire) computers, which are Indigo, Key Lime, and Graphite in color, are also affected.

If you attempt to install iLife '05 on one of these iBooks, you'll see an alert message:

> iLife '05 cannot be installed on this computer. This software requires a computer with a higher-resolution screen.

You can find more ways to identify which iBook you have here.

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PowerBook: Installing System Software Through SCSI Disk Mode

This article describes the recommended method of installing system software onto a PowerBook when the PowerBook is connected to another Macintosh via SCSI disk mode. This method is useful when the system software is only available on a CD and the PowerBook doesn't have a built-in CD ROM drive and no external CD ROM drive is available.
This article has been archived and is no longer updated by Apple.
In most cases you should not try to install system software directly onto a PowerBook in SCSI disk mode. The system software installer checks the type of computer that it is run on and installs the appropriate software for that computer. So, for example, if you connect a PowerBook 1400 to a PowerMac 7500 using SCSI disk mode and then install system software directly onto the PowerBook, you will not get any PowerBook specific software such as the PowerBook control panel. The installer may install incompatible software even when going from PowerBook to PowerBook if the two PowerBooks are different models or speeds.

The recommended way to install system software via SCSI disk mode is to drag the entire system software install folder onto the hard drive of the PowerBook. Then, disconnect the PowerBook from SCSI disk mode, start it up from a Disk Tools disk, and run the installer from the hard drive. If there is currently a bootable System Folder on the hard drive of the PowerBook, you can start up from the hard drive instead of a Disk Tools disk.
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iDVD 5: Meet the new menu elements - intros and dynamic drop zones

This article has been archived and is no longer updated by Apple.
iDVD 5 has some new menu themes that feature brand new elements—intros and dynamic drop zones—to enhance your DVD menu presentations. Here's a closer look at these components, as well as a new button enhancement, and how to use them.

Intros
Some motion menu themes feature an intro, which plays before the menu's looping portion begins. For example, the intro of the Travel Cards theme shows the cards as they swing up onto the screen and then the loop begins when they move to the left. When the menu finishes playing, it loops back to the point right after the intro (you see the intro only once at the very beginning).

To help you distinguish the intro from the looping part of a motion menu, iDVD 5 features a scrubber bar (with playhead) that appears at the bottom of the menu to serve as a visual indicator and navigational control (from the **Advanced** menu, choose **Show Motion Playhead** if you do not see the scrubber bar). The intro part appears as a shaded segment to the left of the looping part.

You can quickly move to any part of your motion menu by dragging the playhead back and forth in the scrubber bar. If you prefer not to have an intro play in a menu theme that includes one, deselect the checkbox that appears to the left of the scrubber bar.

Dynamic Drop Zones
Drop zones are menu design elements that allow you to customize the look of a theme. You can display movies, still images, or slideshows that are related to your specific project within them. Some themes contain new dynamic drop zones, which move around the menu or change in size through time. Keep in mind that drop zones are not interactive like buttons (see below). In other words, a viewer cannot select a drop zone to play a movie or go to another menu.

To add an image, movie, or slideshow to a dynamic drop zone, do one of the following:

- From the **Project** menu, choose **Edit Drop Zones**
- Double-click any drop zone

A window opens, showing a numbered list of all drop zones in the menu. You can drag items from the Finder or iDVD's Media browser to the drop zones to add content. You can also delete and change the content of any drop zone, but you can't reorder them. For more information on drop zones, see iDVD Help (from the **Help** menu, choose **iDVD Help**).

Buttons
Buttons are the items that a viewer selects to play a movie, display a slideshow, or navigate to another menu. They can display text, still images, or a movie. To create a button that links to a movie, drag a movie into the menu in an area that is not labeled a drop zone. To create a button for a slideshow or submenu, click the Slideshow or Folder button in the iDVD window, or from the **Project** menu, choose **Add Folder** or **Add Slideshow**.

A new enhancement to buttons is the ability to add customized transitions to any button before the movie, slideshow, or next menu appears.

Tip: If you want all buttons in a particular menu to have the same transition, you can either select all the buttons in the menu at once and select a transition, or in map view, select the menu and then select a transition.

Please note that you cannot add buttons to the intro section of the menu.

Published Date: Feb 18, 2012

Power Macintosh 9600: Graphics Accelerator Extension X-ed Out

I have a Power Macintosh 9600. After installing Mac OS 7.6.1, I see a large red X through the icon of one of the extensions. This icon is the same as the icon for the 9600 Graphics Accelerator extension. Is there something wrong? Why does this icon have a red X through it on startup?
This article has been archived and is no longer updated by Apple.
When you install Mac OS 7.6.1 on a Power Macintosh 9600, it puts an updated version of the 9600 Graphics Accelerator extension into the extensions folder. However, the installer is also adding the ATI Graphics Accelerator extension into the extensions folder. The icon you are seeing on startup is actually the ATI Graphics Accelerator extension, not the 9600 Graphics Accelerator extension. On startup, you are seeing the red X on the ATI Graphics Accelerator because it is not needed on Power Macintosh 9600 series computers. On systems that don't need this extension, a red X will be displayed across the extension's icon when the system starts up.

You may safely remove the ATI Graphics Accelerator from your Power Macintosh 9600 if you wish. However, you should leave the 9600 Graphics Accelerator in the extensions folder.
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Laserwriter 16/600 PS: Changing Telnet Listening Port

How can I change the telnet listening port on the Laserwriter 16/600 from 23 to another port number.
This article has been archived and is no longer updated by Apple.
This information is in the printer's ROM's and cannot be changed.
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A/UX: troff(1) Information

Article Change History

08/31/92 - REVIEWED
* For technical accuracy.

This article has been archived and is no longer updated by Apple.
The /usr/lib/font/devpsc directory describes the available set of PostScript-device fonts supported in the A/UX version of troff(1). The *.map files in that directory describe the fonts. You may also see font(5) for the explanation. troff(1), however, does not support a complete set of resident PostScript fonts in the LaserWriter Plus or the LaserWriter II.

troff does have a screen previewer. You must have a 4014/4015 terminal emulation program such as Versaterm's or X Windows'. Issue the tc(1) command this way:

troff filename | tc

Published Date: Feb 18, 2012

AIX 4.1.5: Using a One-button Mouse

When using a single-button mouse in AIX 4.1.5 how do you simulate the 2nd and the 3rd mouse buttons as it is different from AIX 4.1.4 or 4.1.4.1.

This article has been archived and is no longer updated by Apple.

AIX 4.1.5

- Left mouse button = Mouse click
- Middle mouse button = Caps Lock + Left Arrow key + Mouse click
- Right mouse button = Caps Lock + Right Arrow key + Mouse click

AIX 4.1.4 & 4.1.4.1

- Left mouse button = Mouse click
- Middle mouse button = Left Arrow key + Mouse click
- Right mouse button = Right Arrow key + Mouse click

Published Date: Feb 18, 2012

MacDNS: Resource Record Types Supported

What Resource Record Types Does MacDNS Support?
This article has been archived and is no longer updated by Apple.
MacDNS supports both standard and reverse queries (name-to-IP-address, IP-address-to-name). The following resource record types are supported:

- A (address)
- CNAME (canonical name)
- HINFO (machine info)
- MX (mail exchanger)
- NS (name server)
- PTR (pointer)
- SOA (start of authority)

Published Date: Feb 18, 2012

MAE 3.0: Users‘ Manual on CD Not Printing All Pages

The Users' Manual supplied in Acrobat format on the MAE 3.0 distribution CD has a problem printing from some versions of Acrobat, although it will print fine with the version of Acrobat supplied on the CD.

With Acrobat 3.0, the first 22 pages of the Users' Manual print fine, and then the print job stops. Attempting to print pp. 23 and up, 24 and up, or 23 by itself will fail. The problem appears to be in the manual file itself.
This article has been archived and is no longer updated by Apple.
There are two solutions to this problem:

A 'fixed' copy of the manual in .pdf format is available from www.mae.apple.com, which will print correctly with newer versions of Acrobat such as 3.0.

Alternatively, customers can install the earlier release of Acrobat from their MAE CD (manuals and Acrobat installers are in the /dox directory). This version reads and prints the Users' Manual file just fine.
Published Date: Feb 18, 2012

MacDNS: Recursive Lookups Not Supported

Does MacDNS Perform Recursive Lookups?
This article has been archived and is no longer updated by Apple.
MacDNS 1.04 does not perform recursive lookups. However, to the end user and client applications it appears that it does. MacDNS acts as a forwarding nameserver. When MacDNS is required to resolve a Domain Name (Apple.Com) outside its domain(s) (yourcompany.com) it forwards the request to a parent DNS Server (such as an ISP's DNS server) which then performs a recursive lookup and returns the answer to MacDNS.

Definition of recursive lookup:

In a recursive lookup for a host name the DNS server contacts a parent server to find the answer. If the parent server does not have the host name adress in its cache the original DNS server follows a pointer to the next DNS server until it finds the host name.
Published Date: Feb 18, 2012

Color StyleWriter 6500: Minimal Install Colorsync Error

I've installed the minimal install driver for the Color StyleWriter 6000 series and am trying to print, but it keeps giving me a ColorSync error.
This article has been archived and is no longer updated by Apple.
In the print dialog box, click and hold on "general" and pull down to the section marked "color". Make sure there is no check next to "use ColorSync". After this you should be able to print.

The reason you are experiencing this error is because ColorSync defaults to on. When you switch to the color options, the driver will look for a profile, find that it wasn't installed, and will remove the check from ColorSync automatically.

You will only have to do this once unless you throw away the desktop printer you have created for the Color StyleWriter.

In order to use ColorSync with the Color StyleWriter 6000 series you should do a full installation from either the CD that came with the printer, or a complete set of diskettes.
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Color StyleWriter 2400/2500: Printhead Cleaning

My Color StyleWriter 2500 is rarely used yet my ink tanks need to be replaced every few months. Is my printer consuming ink even when it is plugged in and left in the 'sleep' mode?
This article has been archived and is no longer updated by Apple.
In order to ensure that it is always in a condition to print good quality documents, the Color StyleWriter 2400 and Color StyleWriter 2500 perform periodic maintence on the print nozzles to keep them free of clogs and primed for printing. Automatic printhead cartridge cleaning occurs when:

1. The printer is turned on for the first time after the printhead has been connected or reconnected.
2. The printhead cartridge is replaced or removed and reinstalled.
3. An ink cartridge in replaced.
4. The printer is on for 72 hours following the last cartridge cleaning with a high-capacity black in cartridge. When the color cartridge is installed an initial cleaning procedure will occur after 24 hours, and all subsequent automatic cleanings will take place at 72 hours intervals.
5. A predetermined number of 'dots' have been printed.

For short term storage it may be advisable to turn off the printer using the power switch and wait for the carriage assembly to move to the home position so that the print nozzles are capped. Once the printer is off, unplug the power cord.

When the printer is plugged back in it will automatically perform a printhead cleaning procedure. Depending on the length of time that the printer was stored it may be necessary to use the cleaning feature available from within the print driver to clear any clogged nozzles. In worst case situations where the printer has been stored for several months it may be necessary to replace the print cartridge.
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Keynote 2: Exported Flash files do not display as expected in QuickTime Player

This article has been archived and is no longer updated by Apple.
When viewing a Keynote 2 exported Flash file in QuickTime Player, it may not display as expected. You may see some anomalies, such as spaces in text being replaced by other characters.

Even though QuickTime is set as the default application for Flash files, it does not support the version of Flash (Flash 6) that Keynote exports. To view your Flash files properly, use Safari instead.

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Published Date: Feb 18, 2012

Apple PCI Ethernet Card: Network Server Only Support

I am installing an Apple PCI Ethernet Card in my Power Macintosh 9500 and I don't see it listed in either the AppleTalk nor TCP/IP control panel. Is there a driver I have to install?

This article has been archived and is no longer updated by Apple.

This card is currently supported only on the Apple Network Server product line. There is no support provided for the card to be used in a MacOS machine.

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Final Cut Pro HD: Importing Motion project files requires Motion

This article has been archived and is no longer updated by Apple.
If you downloaded the "Using Pro Apps Together" PDF guide, which contains useful information about integrating Apple's professional audio and video applications together, and can aid in developing creative workflows, please note that there is an error on page 8. The following statement on that page is incorrect:

> Whether or not you have Motion installed, you can import Motion projects into Final Cut Pro in the same way you would import other media.

In reality, you must have Motion installed on the same computer as Final Cut Pro in order to have this functionality. As a workaround, you can install the Motion Trial.

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A/UX: sigwinch and /usr/ucb/vi.43

Article Change History

08/31/92 - REVIEWED
* For technical accuracy.

All versions of A/UX: sigwinch and /usr/ucb/vi.43

This article has been archived and is no longer updated by Apple.
/usr/ucb/vi.43 is Berkeley-specific version of vi. /usr/bin/vi (A/UX default vi) is driven from AT&T SysV. /usr/ucb/vi.43 DOES support sigwinch (signal window change) and /usr/bin/vi DOES NOT.

If you wish to implement sigwinch, use vi.43 instead of vi.

Published Date: Feb 18, 2012

iPod shuffle Battery Pack requires iPod shuffle Software 1.1 or later

This article has been archived and is no longer updated by Apple.

The iPod shuffle Battery Pack requires iPod shuffle Software 1.1 or later. The battery pack may not operate as expected with iPod shuffle Software 1.0. To update your iPod shuffle software, use the latest iPod Updater and follow the steps here.

Published Date: Feb 18, 2012

CSW 4100, 4500, 6500: Minimum Install Issue

I am running into various problems printing to my Color StyleWriter 4100, 4500, and 6500 printers. I used the minimum install disk that came with my printer, and I am having the following problems:

CSW 4100/4500
- When selecting page setup I get a system beep.
- I get out of memory errors when printing from the Finder.

CSW 6500
- An error message stating that I need a newer version of the Chooser is displayed when I click on the driver.

This article has been archived and is no longer updated by Apple.
Apple HIGHLY recommends running the full install for the Color StyleWriter 4100, 4500, and 6500 printers. The full install of printer software can be found on the CD that came with your printer, or via a set of floppies that Apple will send out to you if you do not have a CD ROM drive. The minimal install disk that came with the printer is only meant as an interim solution for customers who do not have a CD ROM drive.

Problem Pesolutions:

CSW 4100/4500
- When selecting page setup I get a system beep.
RESOLUTION: Run the full installation of printer software.

- I get out of memory errors when printing from the Finder.
RESOLUTION: Run the full installation of printer software.

CSW 6500
- An error message stating that I need a newer version of the Chooser is displayed when I click on the driver.
RESOLUTION: Run the full installation of printer software, and/or ensure you have Chooser version 7.3 or greater.
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iPhoto 5 unexpectedly quits with older versions of Keyword Assistant

This article has been archived and is no longer updated by Apple.
If you're using an older version of Ken Ferry's Keyword Assistant, a third-party iPhoto plug-in, it may cause iPhoto 5 to unexpectedly quit when you try to open iPhoto. (If you look at the iPhoto crash log, it may mention "com.kenferry.keywordAssistant.")

To avoid this issue, update to the latest version of Keyword Assistant. For any additional information, please see the developer's website:

http://homepage.mac.com/kenferry/software.html

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iPhoto 5 unexpectedly quits when you try to order books or prints

This article has been archived and is no longer updated by Apple.
If you are using the third-party utility iGetter by Presenta Ltd., iPhoto 5 may unexpectedly quit when you try to order books or prints.

To resolve the issue, try disabling iGetter. You may also want to visit the Presenta website for possible updates and additional information:

http://www.igetter.net/iGetter.html

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ARA: Error -43

Installing ARA 2.0.1 on a system that has ARA 2.1 installed.
This article has been archived and is no longer updated by Apple.
If you need to install ARA 2.0.1 on a system that currently has ARA 2.1 installed, it is necessary to use the ARA 2.0.1 Installer to do a custom remove of the software prior to installing ARA 2.0.1. Failure to do so may result in the message "no description" when attempting to open the ARA control panel or error -43 when trying to connect.
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HyperCard: Types of Visual Effects

Here's a list of HyperCard's varied visual effects which may be used in HyperTalk scripts:
This article has been archived and is no longer updated by Apple.
-- barn doors open/close
-- checkerboard
-- iris open/close
-- dissolve
-- scroll right/left/up/down
-- shrink to top/center/bottom
-- stretch from top/center/bottom
-- venetian blinds
-- wipe right/left/up/down
-- zoom open/close/in/out

For example, the following script zooms opens the Help stack when you click the Help icon in the Home stack.

```
on mouseUp
visual effect zoom open
go to stack "Help"
end mouseUp
```

You can also control a visual's speed: very fast, fast, slow, or very slow.

For example:

```
on mouseUp
visual effect zoom open very fast
go to stack "Help"
end mouseUp
```

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A/UX: Entering Control Sequences Using vi (6/93)

How do I enter character sequences like Control-V, Control-Q, and Control-S into a file?

This article has been archived and is no longer updated by Apple.
vi(1) doesn't disable xon/xoff mode when it sees a Control-V, nor does it let you type Control-S or Control-Q into a file. The reason is that Control-S and Control-Q are special characters for controlling output flow.

If you precede your "vi" with "stty -ixon", flow control will be disabled, allowing generation of these characters within your file.

"stty ixon" is the default on login.

Article Change History:
06 Jun 1993 - Revised for clarity.
31 Aug 1992 - Reviewed for technical accuracy.

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Power Macintosh: Mac OS 7.6 Installer Error Message

I have a newer Power Macintosh (4400, 5500, 6500, 7300, 8600, 9600). I reformatted my HD and reinstalled 7.6 from the CD, but I am getting a message that says "This software does not work on this Macintosh model. Use the latest installer to update this disk for this model." It worked before, what is wrong?

This article has been archived and is no longer updated by Apple.

To reinstall from the CD, you must run the Installer on the main level of the CD. If you go into the "Software Installers" folder, and install the the contents of the Mac OS 7.6 folder, but do not install the contents of the 7.6.1 folder, you will get this message. This is because system 7.6 was not qualified on any of these computers.

Published Date: Feb 18, 2012

CSW 4000 Series: Print Menu Item Grayed Out

I'm using System Software Mac OS 8 with a Color StyleWriter 4xxx. Sometimes when I go to print a window, the "Print Window" menu item is greyed out. What's wrong?

This article has been archived and is no longer updated by Apple.
The simple workaround to this problem is to select Page Setup from the File menu first, and the "Print" menu item will show up. This bug will be resolved in future versions of the printer driver for the CSW 4000 series printers.
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Personal Laserwriter LS: False Paper Out Messages

I am printing to a Personal LaserWriter LS and I keep getting out of paper messages. But there is paper in the printer. Does the printer need service?

This article has been archived and is no longer updated by Apple.
The printer may need servicing but try the following steps first:

First, make sure there is a toner cartridge installed in the printer. If not, this can result in a false out of paper error condition. You should also try another toner cartridge in case the plastic tab on the cartridge (which tells the printer the cartridge is installed) is broken.

Next, if you are trying to print from the cassette, try printing from the multipurpose tray instead. If the printer pulls from the multipurpose tray without a problem, make sure you have the cassette properly configured and installed.

Take the cassette out, reseat the paper and make sure there are no obstructions inside the printer where the paper rests.
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iPod for Windows installer stuck at Waiting for iPod message

This article has been archived and is no longer updated by Apple.
If the iPod for Windows Installer gets stuck at the "Waiting for iPod" message, you will have to close that window and use the iPod Updater to restore your iPod.

1. Click the X button in the upper right corner of the window to close it.
2. Proceed with the rest of the installation.
3. You will see an error message with the number 1628, which indicates that the installation did not complete. Click OK.
4. Unless you have an iPod shuffle, you will need to restore your iPod using the iPod Updater before you can use it with Windows. The iPod shuffle does not need to be restored to work with Windows.

Published Date: Feb 18, 2012

LW 8.4.1 Install: Removes Thread Manager

I have a Power Macintosh computer and I just installed LaserWriter 8.4.1 and now I cannot play MPEG movies. What should I do?
This article has been archived and is no longer updated by Apple.
LaserWriter 8.4.1 checks for, and removes, the Thread Manager. It does not check to see what version of the Thread Manager is currently installed. Thread Manager 2.1.5 is required for the QuickTime MPEG Extension to work properly.

To be able to view MPEG movies again, reinstall the QuickTime MPEG Extension and this will reinstall the correct version of Thread Manager 2.1.5.
Published Date: Feb 18, 2012

Avid Cinema: No Edit Decision Lists Support

Does Avid Cinema support Edit Decision Lists (EDL)s? Also, is the "stroyboard" from Avid Cinema the equivalent of an EDL?
This article has been archived and is no longer updated by Apple.
Edit Decision Lists (EDL)s are pretty complicated. They reference time code on the source tapes so that you can recut your tape accurately using controlled machines, usually in an on-line session.

Avid Cinema doesn't read time code or durations. However, Avid's sister products Media Composer and MCX work with EDL's and timecode.

The Avid Cinema storyboard is just a reference to the amount of time each shot should be edited in your timeline. It doesn't reference which parts of the shot you should use as EDLs do..
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iPod Camera Connector: Using the USB port

This article has been archived and is no longer updated by Apple.
The iPod Camera Connector's USB port can only be used to connect supported cameras and media readers. You cannot use it to connect other USB devices such as a mouse, keyboard, hub, or printer. iPod Camera Connector is a low power port and it cannot charge another iPod, iPod mini, or iPod shuffle. While an iPod photo with an attached iPod Camera Connector may recognize another iPod if you connect it, transferring photos from one iPod to another is not supported.

Published Date: Feb 18, 2012

How to use the iPod Camera Connector

This article has been archived and is no longer updated by Apple.

The iPod Camera Connector allows you to import photos directly from a compatible USB digital camera or media reader[1] to your iPod photo, iPod with color display, or Fifth Generation iPod (it won't work with other iPod models including iPod nano). After you've imported your pictures, you can view them on iPod or transfer them to your computer later for editing, printing, sharing, or storing. If you want to display the photos on a TV, then you'll have to transfer them to your computer, and then back to your iPod.

To find out how to determine which cameras are supported, click here. You can also check your camera documentation to see if it supports either PTP, Type 4 (also known as "Normal"), or Mass Storage protocols. Some cameras store movies and sound recordings. Depending on the camera protocol being used, these items can also be transferred to iPod with the iPod Camera Connector. For more information on selecting a camera protocol click here.

Here's how to use the iPod Camera Connector with your iPod.

Importing photos

1. To use the iPod Camera Connector, your iPod must be running iPod Software 1.1 or later. See "iPod: How to find software version" to determine which version of iPod Software you are running.
2. Make sure that both your iPod and camera have a charge.
3. Turn on your iPod and attach the iPod Camera Connector to your iPod's dock connector.
4. Turn on your camera, and set it to the correct mode for photo importing (if needed).
5. Connect the camera to the iPod Camera Connector using the USB cable that came with your camera.
6. On your iPod, select Import to start the process. When it finishes, your photos will be listed on the iPod by roll number.

Note: Do not disconnect the iPod Camera Connector or camera during the importing process.

Viewing imported photos on iPod

1. From the main menu on your iPod, choose Photos > Photo Import, and then choose the roll you want to view.
2. Choose Browse to display your photos. Click here for an explanation of the icons that may appear in place of a thumbnail.

Note: To view a slideshow of your imported photos on iPod or on a television connected to iPod, you must transfer them to your computer first, and then reimport them to your iPod using iTunes.

Transferring photos to your computer

1. Connect your iPod to your computer.
2. Open the application you normally use to transfer photos from your digital camera (see the documentation that came with your camera for more information). If you are using a Mac, you can use iPhoto or Image Capture to transfer photos.
3. Import your photos as usual.

Tip: Photos are stored in a DCIM (digital camera images) folder on iPod. You can also transfer images to your computer by opening this folder and dragging the image files to the desktop. To do this, your iPod must be enabled for use as a hard disk.

Tips and Troubleshooting

- If your camera didn't come with a USB cable, you'll need to purchase one. See the camera manufacturer's website to find compatible cables.
- If photos aren't transferring, make sure your camera is turned on and set to the correct mode for importing photos (see the instructions provided with your camera). Also be sure that all cables are connected firmly to your camera, to the iPod Camera Connector, and to your iPod.
- For more information about importing and viewing photos on iPod and viewing slideshows, see the iPod User's Guide. For the latest version of the iPod User's Guide, visit the iPod Service & Support site.
- You may notice that your iPod's remaining charge icon may turn from green to red during the iPod Camera Connector photo import, but when the import is complete, the battery indicator returns to green. This is expected behavior as iPod's battery indicator is approximate.
- The iPod's About menu (Settings > About) shows the total number of photos that have been synced from iTunes to iPod. This does not include newly imported photos from the iPod Camera Connector. Choose Photos > Photo Import to see how many photos you've imported with iPod Camera Connector. Each roll will have a number in parentheses next to it. This indicates the total number of imported items for that roll.
- If you see 0 Photos, 0 KB when attempting to import but you know there are pictures to import, try disconnecting the iPod Camera Connector from both the iPod and your camera. Then reconnect the camera and iPod and try again.
- Try changing the camera's transfer mode from Normal (Type 4) to PTP if you are still unable to copy photos to iPod (check you camera's documentation to see how to change the transfer mode).

Notes

1. **To see if your third-party media reader is supported, check with the manufacturer. For best results, Apple recommends using a media reader that uses its own power supply.**
2. **The iPod Camera Connector is only for use with the iPod photo, iPod with color display, and Fifth Generation iPod (iPod with video). It doesn't work with iPod nano, iPod mini, iPod shuffle, or other models of iPod.**

Related documents

303474: "Troubleshooting photo transfers with iPod Camera Connector and Canon EOS 20D"

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External Video Connector Kit: Installation Issue

This article is about an installation issue with the Plastic Access Cover of an External Video Connector Kit.
This article has been archived and is no longer updated by Apple.
The current revision of the External Video Connector Kit (M4099LL/B) includes a larger Plastic Access Cover that does not properly install into the External Video Connector port of most 580, 52xx, 53xx, 62xx, 6300, and some 5260 units.

The Plastic Access Cover is the part that replaces the existing closed port cover and provides a hole for the DB-15 segment of the External Video Connector (EVC). The Plastic Access Cover mates to the Metal Bracket, which itself attaches to the DB-15 segment of the EVC.

Because it is slightly larger than the original Plastic Access Cover, it obstructs the wire handle on the logic board fence (used to pull the logic board out) and is too large to fit through the opening in the rear I/O door (the large plastic panel removed to gain access to the logic board).

IMPORTANT: There is no way to make use of either the revised Plastic Access Cover or the Metal Bracket in the systems listed above without actually filing down the Plastic Access Cover itself. These two parts were included in error in the revised External Video Connector Kit.

Instead of using the Plastic Access Cover and its Metal Bracket, use the two Small Metal Brackets included in the revised EVC Kit. These brackets allow the EVC to be installed into the PDS card port of 580, 52xx, 53xx, 62xx, 6300, and 5260 units, or into the video-out card port of 5400 and 5500 units (the ports have different names, but they are situated in the same place on the logic board fence). The following illustrates the old and new install locations.

Instructions for making use of these two Small Metal Brackets can be found on page 5 of the External Video Connector User's Guide. The process is simple:

- The Small Metal Bracket without ribs is placed over the DB-15 section of the EVC, then positioned into the port in the back of the logic board fence, on the inside.
- The Small Metal Bracket WITH ribs is placed outside the logic board fence, ribs facing inward, such that the inside and outside small metal brackets are mated and can be secured together with the two screws provided in the kit.

IMPORTANT: If a PDS card is present, the EVC will not have sufficient room for installation. There is no workaround for this short of actually filing down the revised Plastic Access Cover to fit into the old install location.

Again, the options are either to file down the original Plastic Access Cover or install it, using the two Small Metal Brackets, into the new install location as pictured.

Published Date: Feb 18, 2012

Performa 62xx/63xx Series: 800 x 600 Resolution Support

I have a Performa 62xx/63xx series computer with an Apple Multiple Scan 15AV/15" Display. I do not get the option for 800 x 600 in the Monitors control panel. The technical information says this resolution is supported on a Macintosh computer. How can I get this resolution?
This article has been archived and is no longer updated by Apple.
Use the steps below to obtain 800 x 600 support:

1. Open the Monitors control panel.
2. Hold down the Option key while selecting the 'Options' button.
3. Select 800 x 600 from the list of resolutions and click the OK button.
4. You will get message asking if you want to confirm the settings. Click OK.

Published Date: Feb 18, 2012

Color LaserWriter: Inkjet Paper and Transparencies

Is it possible to use ink jet printer paper and transparencies in the Color LaserWriter 12/600 and 12/660?
This article has been archived and is no longer updated by Apple.
Ink jet paper and transparencies have a special coating that absorbs ink and other moisture on contact to avoid bleeding of print when used in an ink jet device.

AVOID using ink jet paper in the Color LaserWriter 12/600 and 12/660. These coatings can come off under the extreme heat of the fuser, damaging the fuser rollers and causing poor print quality on subsequent printouts. It can also cause the fuser rollers to dry out upon repeated use with large print jobs. Subsequently, pages will begin to stick and wrap around the fuser rollers, permanently damaging the fuser.

Ink jet and non-Apple transparencies may also melt in the fuser area since they are not made to withstand the higher temperatures of the Color LaserWriter. Use only Apple-brand transparencies specifically designed for the Color Laserwriter.
Published Date: Feb 18, 2012

Mac OS 8.0: No GX Printing Support

Is GX printing supported under Mac OS 8?
This article has been archived and is no longer updated by Apple.
GX Printer Drivers are not supported in Mac OS 8. The last version of Mac OS that supports GX Printer Drivers is Mac OS 7.6.1.

Details from the Mac OS 8 Read Me "About QuickDraw GX":

Mac OS Unified Printing Architecture; GX Printer Drivers and GX Printing Extensions No Longer Supported.

Beginning with Mac OS 8 and QuickDraw GX 1.1.6, Apple will provide a unified operating system printing architecture, standardizing on classic (non-GX) QuickDraw printing and printer drivers. With the unified printing architecture, QuickDraw GX printer drivers and QuickDraw GX printing extensions will not be supported in Mac OS 8 and future Mac OS releases.

Other than simplifying the printing procedure, the impact of Apple's new unified printing architecture will be fairly minimal. For applications that work in both QuickDraw GX and classic QuickDraw printing environments, no changes in operation will be necessary.

Customers wanting to print from their QuickDraw GX-only application will have to obtain a version of the application upgraded to be able to print via non-QuickDraw GX printing.
Published Date: Feb 18, 2012

Keyboard Control Panel: Foreign Keyboard Layout

When I type the letter "z" I get a "y", when I type the letter "y" I get a "z", this happens in all programs and the Finder.
This article has been archived and is no longer updated by Apple.
You have selected a foreign keyboard layout in the Keyboard control panel. The keyboard layout tells the computer which characters are assigned to which keys on the keyboard. Macintosh users running English versions of system software should select the U.S. keyboard layout.
Published Date: Feb 18, 2012

LaserWriter: Light Printing After Upgrade

After upgrading from a 300 dpi LaserWriter to a 600 dpi LaserWriter, suddenly my photographs are printing much lighter and the characters in my text are not drawn with as thick or bold strokes as compared to the older printer. Also, The kerning (space, between letters) isn't consistent and I cannot customize the kerning between letters.
This article has been archived and is no longer updated by Apple.
When you upgrade from and older 300dpi LaserWriter to a 600dpi LaserWriter you may see a couple of issues. One is light printing and the other is kerning.

What you are seeing is the difference between the accuracy of the 300dpi and 600dpi printers.

The 600dpi printer will print a more true representation of a grey value such as 20% because the halftone uses a much finer screen. Compare a 20% grey printed in a newspaper to that of the 300 dpi printer and you will see that the newspaper is much darker. Compare the 600 dpi grey with the same grey as that printed in a book using a printing press and you will notice that the 600 dpi grey will look darker than the more accurate 1200 dpi representation that the final press will give.

Text printed out on a newer 600 dpi printer using built-in fonts (such as Courier) will also appear lighter because the font used in the printer is set to draw at 600dpi. To workaround this, download the truetype version of the same font included with the printer software to the printer. The substituted font should give "darker" results.

The kerning difference is caused by a difference between the versions of the Courier font in the computer and the LaserWriter ROM. Downloading the font to the printer will also help solve this issue.
Published Date: Feb 18, 2012

Final Cut Express HD: How to Uninstall

This article has been archived and is no longer updated by Apple.

The Final Cut Express HD installer does not include an uninstall option. When you install the application, the Final Cut Express HD installer installs all the folders and files listed below. If you want to uninstall the application, delete these items from the following locations on your computer (some items may not be present, depending on what you installed).

Note: You can easily access these locations using the "Go to Folder" feature in the Finder (from the **Go** menu, choose **Go to Folder**, then enter the directory name in the resulting dialog).

Location	File or Folder to Delete
/Applications	Final Cut Express HD LiveType.app SoundTrack.app (1)
/Applications/Utilities	Soundtrack Loop Utility (1)
/Documents	Soundtrack Loops (1)
/Library/Application Support	BorisFX Boris FX Final Cut Express Support LiveType
/Library/Application Support/ProApps	Final Cut Express System ID
/Library/Preferences/	com.apple.RegFinalCutExpress.plist
/Library/QuickTime/	AppleIntermediateCodec.component DesktopVideoOut.component FCP Uncompressed 422.component LiveType.component
/Library/Receipts/	AppleIntermediateCodec.pkg FinalCutExpress.pkg FinalCutPro.pkg LiveType.pkg LiveTypeData1.pkg LiveTypeData2.pkg LiveTypeSupport.pkg ProRuntime.pkg Soundtrack.pkg (1)
/System/Library/PrivateFrameworks/	LiveType.framework
~/Documents/ (2)	Final Cut Express Documents
~/Library/Preferences/ (2)	com.apple.FinalCutExpress.plist com.apple.LiveType.plist com.apple.Soundtrack.plist (1) Final Cut Express User Data

Notes

1. Only if Soundtrack wasn't installed separately.
2. The tilde (~) refers to your Home directory. For more information, see "Mac OS X: Using Your Home Directory."

Related documents

107005 "Mac OS X 10.2: How to Find Items on the Hard Disk"
106237 "Mac OS X: Unable to Delete, Unlock, Modify, or Copy an Item"

Published Date: Feb 18, 2012

CloseView: Tips & Hints

This article gives an description of CloseView and some tips on it use.
This article has been archived and is no longer updated by Apple.

Description

CloseView is a control panel that magnifies the image on the Macintosh computer's screen. Though it is primarily for users who have difficulty seeing what is on the screen, it can also be used for magnification of images in a graphics or even a spreadsheet.

Tips For Use

CloseView is included in the Disability Access or Universal Access folder that comes with system software. To use it, drag the icon into the Control Panels folder in the System Folder and restart.

In systems using System 7.5 or later, you can drag it on top of the System Folder's icon and you will get a dialog box saying the computer will put it into Control Panels. Once it is installed you can go into the Control Panels folder and open CloseView to see the various controls and keyboard shortcuts for functions including on/off and magification on/off and magnification level.

Keyboard Shortcuts

- Command+Option K---Turns CloseView on or off.
- Command+Option X---Turns Magnification on or off. (Note: When CloseView is on but magnification is off, you will see a box on the section of the screen being magnified, where the cursor is positioned). Command+Option + or - Increases or decreases magnification.

Other Tips

When using CloseView with some applications, the mouse will automatically move accross the screen. In other applications, you have to move the mouse as you type.

Compatibility

When running Claris Emailer, Comman-Option-K tells Emailer to connect again. The workaround is to connect using the menu selection.

Note: CloseView is written as a single word, not as Close View.
Published Date: Feb 18, 2012

A/UX: Booting from the "A/UX Standalone Shell" Floppy

Article Change History

08/31/92 - REVIEWED
* For technical accuracy.

In theory, A/UX can run from a hard disk having only two partitions, root/usr and a swap. (Tech Comm does not recommend this, as repartitioning is not an easy task.) Because A/UX boots from the SASH program within the Macintosh Operating System, use the boot floppy labeled "A/UX Standalone Shell". It contains the SASH application and utilities and the System file (but not the Finder).

This article has been archived and is no longer updated by Apple.
Here is how to boot A/UX from the floppy:

1. To open the SASH application, insert the floppy "A/UX Standalone Shell" and click Cancel.

2. Within the General Preferences menu item, set the root directory to the hard disk address of the kernel you want to launch.

3. Type "launch" on the SASH command line and press [Return].

Published Date: Feb 18, 2012

LaserWriter for Windows 95: Location of PPDs

I am installing the LaserWriter printer software for Windows 95 on my Wintel CPU. I have followed all the prompts and the screen is asking me to select a ppd, yet nothing is listed for me to select.
This article has been archived and is no longer updated by Apple.
You currently have disk 2 in the drive. Eject disk 2 and insert disk 3. Double click on the floppy drive icon to update the Postscript Printer Description file list. Select the ppd you are looking for.
Published Date: Feb 18, 2012

Color LaserWriter: Transparencies Project B/W

I am printing color transparencies using the 12/600 or 12/660 printer. The printout looks color, but when placed on an overhead projector the output looks black and white.
This article has been archived and is no longer updated by Apple.
You are not using an Apple-branded transparency. As such, the output is too thick for the light to shine through and create a color cast. Instead, a complete shadow is projected creating a black and white image.

AVOID using anything but Apple branded transparencies in the Color Laserwriter. The use of other transparencies can cause damage to the printer which is not covered by warranty.
Published Date: Feb 18, 2012

Color Stylewriter 2500: Color PhotoGrade Print Kit

While intalling the CSW 2500 photograde updater I received the following error: "Software necessary for color printing is missing from your hard disk".
This article has been archived and is no longer updated by Apple.
The Color PhotoGrade Print Kit installer upgrades the Color Stylewriter 2500 driver from version 2.2.x to 2.3. If you do not have a complete installation fo CSW 2500 2.2, the installer may fail. Customers that installed with a custom install or removed printing files may receive this error.

If you receive this error, re-install the Color Stylewriter 2500 software using easy install.
Published Date: Feb 18, 2012

Color StyleWriter 6500: Using DOS PrintScreen

I am trying to use the printscreen function printing from a DOS based computer to my StyleWriter 6500. However, when I press the printscreen button on my keyboard, the printer just blinks.
This article has been archived and is no longer updated by Apple.
After pressing the printscreen button, you should see a flashing green light on the Stylewriter 6500. After the job is processed, the orange resume light will blink. After you see the orange light, press the resume button right next to it. The printer will pull in a sheet of paper and the printscreen job will print.

If this does not work, or the lights blink back and forth on the printer, be certain that you only have a PC connected to the parallel port of the StyleWriter 6500 and do not have a Macintosh simultaneously connected to the RS-422 port of the printer.
Published Date: Feb 18, 2012

LaserWriters: No Font Download Support in Windows 95/NT

In Windows 3.1x, I was able to download fonts using the LaserWriter printer driver. Is there a way to do download fonts in Windows 95 or Windows NT?
This article has been archived and is no longer updated by Apple.
Apple does not provide a solution for downloading PostScript fonts in Windows 95 and Windows NT. In addition, Windows 95 and Windows NT are not aware of PostScript fonts downloaded to a printer by another computer. Any fonts downloaded from a Mac OS or Windows 3.1x computer will not be seen by Windows 95/NT clients.

Workaround
The following workaround for Windows 95 is only recommended when downloading PostScript fonts to a hard drive. This workaround is not available in Windows NT because NT's PostScript driver does not support the "don't send Postscript fonts" option.

1) Download all your PostScript fonts to the printer's hard drive from a Mac OS or Windows 3.1x computer
2) On the Windows 95 machine, get Properties on your printer icon
3) Click the Fonts tab
4) Select "Send Fonts As..."
5) For "Send PostScript Fonts As" select "Don't Send".

The printer will assume all PostScript fonts in a job are already resident on the printer. If all the fonts in the job are resident on the printer, the job will print correctly. However, if one or more fonts in the document are not resident on the printer, then the job will not print correctly because the printer will not have all of the fonts it needs.
Published Date: Feb 18, 2012

StyleWriter 2500: Apple EtherTalk Adapter

The StyleWriter 2500 does not appear in the Chooser after connecting it to the Apple Ethernet Adapter.
This article has been archived and is no longer updated by Apple.
The printer must be restarted after the EtherTalk adapter has been connected to the printer and power supply.
Published Date: Feb 18, 2012

How to troubleshoot "Cannot lock iPod" error message

This article has been archived and is no longer updated by Apple.

When you update or restore your iPod, you may see an alert that says:

> "Can't lock iPod. Please check if any other applications are using iPod and try again."

If you see this message, try any of the following troubleshooting steps to resolve the issue.

- Verify that no other application is using iPod. This includes iTunes or other applications.
- Quit the update or restore, and restart your computer as follows:
  1. Quit the iPod Updater application.
  2. Safely disconnect your iPod.
  3. Restart your computer.
  4. After the computer restarts, open iPod Updater again.
  5. Connect your iPod to the computer.
  6. Try to update or restore your iPod again.
- Verify that the latest version of iPod Software is installed on your computer. You can download the latest iPod Update from here. This update contains the latest software for all iPod models.
- Reinstall iPod Updater and iTunes.
- Windows users, follow these steps.

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StyleWriter: Power Supply Plastic Tab

I have just unpacked my Stylewriter 4100, 4500 or 6500 and there seems to be a plastic tab (similar to those used to attach price tags to clothing and other itmes) inserted in the holes of the AC power plug. This tab seems to prevent me from plugging the cord into the AC outlet. Should I remove it?

This article has been archived and is no longer updated by Apple.

Yes, remove the plastic tab. Simply cut the tab in half (between the two prongs), or bend the short end so you can slide it through the holes in the prongs. Be careful not to damage the power cord.

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AppleTalk: Cannot Be Opened Error Message

When I select the LaserWriter 8 driver, after restarting the computer with Shift key depressed in order to turn off extensions, a message box appears stating that AppleTalk cannot be opened.
This article has been archived and is no longer updated by Apple.
This will happen anytime you boot with extensions off, via the Shift key option, on any computer running Open Transport. Open Transport is turned off, and therefore, the AppleTalk Control Panel becomes inactive and so it cannot be opened (or activated). When running systems in the Open Transport mode, the Extensions Manager should be used to turn off extensions instead of the Shift key option.

NOTE: This does not occur if you select "All OFF" in the Extensions Manager. If you do select "ALL OFF," then all printer drivers will be de-activated.
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System 7.5.x: Desktop Printer Extensions

What are the 7.5.x Desktop extensions ?
This article has been archived and is no longer updated by Apple.

System 7.5 thru 7.5.3
There are four desktop extensions:

- Desktop Printer Extension
- DeskTop Spooler
- Desktop Printer Menu
- DeskTop PrintMonitor

System 7.5.5
There are three desktop extensions: (DeskTop Printer Menu was dropped)

- Desktop Printer Extension
- DeskTop Spooler
- DeskTop PrintMonitor

Mac OS 8.0
There are two desktop extensions:

- DeskTop PrintMonitor
- Desktop Spooler

NOTE: If a customer has installed Mac OS 8 over System 7.5.x, then the customer will still have the file "DeskTop Printer Extension" and it will need to be removed. The "DeskTop Printer Extension" file was integrated into the printer software.

The MAC OS 8 Read Me explains that the "Desktop Printer Extension" must be removed.

This article was posted to Information Alley on 06 Aug 97.
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Power Mac 8600/200: CSW 4500 Serial Printing Issue

I have a Power Macintosh 8600/200 and I am printing to a Color StyleWriter 4500 via a serial cable. Sometimes when I print a multi-page document I receive an error stating "The printer is not responding...", or only the first few pages of my document will print and then blank pages will print thereafter.

I am using System 7.5.5 which came with the computer.
This article has been archived and is no longer updated by Apple.
This problem is specific to the configuration of a PM 8600/200, System 7.5.5, and a Color StyleWriter 4500. The resolution is to upgrade to System 7.6.1 which is available on the CD that shipped with the 8600.

Other less convenient workarounds which also resolve this issue are:

- Specify Draft mode in the Print dialog.
- Print via AppleTalk instead of serial (using LocalTalk cabling and the AppleTalk version of the CSW 4500 printer driver).

Note: Neither Mac OS 7.6.1 nor Mac OS 8 installs the Color StyleWriter 4000 Series software.

Version 1.0.3 of the Color StyleWriter 4000 Series printer software is available for download from Apple Software Update sites. These articles can help you locate the software update mentioned here:

"**Where To Find Apple Software Updates**" - Lists online services for free Apple software updates.

"**Obtaining Apple Product Support in the USA**" - Lists 800 numbers and online services for software updates, Apple support information, and a subset of the Apple Tech Info Library.
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Mac OS 8.0: RAM Doubler & DOS Compatiblity Issue

RAM doubler 2.0 does not allow starting the PC side on the Power Macintosh7200/120 DOS Compatible under Mac OS 8. After installing Mac OS 8, I was unable to start the PC side until I disabled RAM doubler.
This article has been archived and is no longer updated by Apple.
There is a new version of RAM Doubler (2.0.2) coming shortly from Connectix. The customer can check with Connectix for more information.

The Tech Info Library article titled "Locating Vendor Information" (article # 17159) can help you search for a particular vendor's address and phone number.
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A/UX: How to View the Release Date and Version Number (8/93)

How to View the Release Date and Version Number.

This article has been archived and is no longer updated by Apple.
To find out your release date and version number, type:

cat /etc/RELEASE_ID

Article Change History:
20 Aug 1993 - Reviewed for technical accuracy.
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PowerBook 2400 Series: Frequently Asked Questions

This article contains frequently asked questions (FAQ) regarding the PowerBook 2400 series, with answers to those questions.
This article has been archived and is no longer updated by Apple.
Questions answered in this article:

1. The bottom of the PowerBook becomes very warm. Is there a problem with the PowerBook?
2. Is the processor upgradable?
3. What is the battery Life?
4. What screen resolution does the PowerBook 2400c active matrix display support?
5. How much video RAM is included in the PowerBook 2400c?
6. How many memory slots does the PowerBook 2400c have?
7. How do you add memory to the PowerBook 2400c?
8. Is the hard drive user removeable on the PowerBook 2400c?
9. Is it true that you can use the power adapter from a PowerBook 1400 and 3400?
10. Does the PowerBook 2400c series have the CardBus feature?
11. The latch is different, will there be a better latch?
12. What about Simulscan (also known as video mirroring)?

Question 1: The bottom of the PowerBook becomes very warm. Is there an issue with the PowerBook?

Answer: There is no issue with the PowerBook. However, you should avoid prolonged physical contact with the bottom of the computer. If the computer is used for long periods, the bottom surface can become very warm. While the temperature may not feel hot to the touch, if you maintain physical contact with the bottom of the computer for a long time, (for example, if you rest the computer on your lap), your skin may be irritated.

If your computer has been used for a long time, avoid direct contact with the metal plate supporting the I/O ports as it can also become hot.

Question 2: Is the processor upgradable?

Answer: No, the processor on the PowerBook 2400c is not upgradable.

Question 3: What is the battery Life?

Answer: Average battery life ranging from 2 - 4 hours depending upon work environment.

Question 4: What screen resolution does the PowerBook 2400c active matrix display support?

Answer: The PowerBook 2400c offers 800x600 resolution.

Question 5: How much video RAM is included in the PowerBook 2400c?

Answer: The PowerBook 2400c ships with 1MB of VRAM.

Question 6: How many memory slots does the PowerBook 2400c have?

Answer: The PowerBook 2400c comes standard with 16MB of memory and one expansion slot. The maximum with a standard SO DIMM is 48MB, and the Maximum with a custom SO DIMM is 80MB.

Question 7: How do you add memory to the PowerBook 2400c?

Answer: The PowerBook 2400c is meant to be upgraded only by trained Apple or other authorized professionals. Please refer to your Owners Guide for further information.

Question 8: Is the hard drive user removeable on the PowerBook 2400c?

Answer: No, the hard drive is not user removeable.

Question 9: Is it true that you can use the power adapter from a PowerBook 1400 and 3400?

Answer: Yes, the 36 watt power adapter connector, which is similar to the one previously used on the Duo product line, allows users to utilize a 45 watt power adapter for the PowerBook 2400.

Question 10: Does the PowerBook 2400c series have the CardBus feature?

Answer: The PowerBook 2400c does not support CardBus. Although Apple had originally considered including this technology, the final design did not include it. There are no plans to make the PowerBook 2400c CardBus-compliant now or in the future.

Question 11: The latch is different, will there be a better latch?

Answer: Apple feels this latch design, while different than previous designs, will be the best functional alternative, and has no plans to change it at this time.

Question 12: What about Simulscan (also known as video mirroring)?

Answer: Simulscan (formerly termed Video Mirroring) is possible if the presentation display is capable of a resolution of 800x600 at 60hz. No other Simulscan combinations are possible without purchase of extra external additional hardware, purchased from a third party.

Published Date: Feb 18, 2012

PowerBook 3400c, G3: Apple Serial Modem Software

The Mac OS 8 Apple Serial Modem Read Me states that it works with the PowerBook 3400 internal modem. However, I cannot select the internal modem in the Preference File.
This article has been archived and is no longer updated by Apple.
The following steps will allow you to select the internal modem:

- Install the Apple Telecom 3.2.2 software from the Mac OS 8 CD. The installer software is located in the CD Extras Folder: Apple Telecom: Serial Modems: Installer.
- Go to the Apple Serial Modem Control Panel and select Internal Modem from the Port popup menu. Under the popup menu it will say "Modem: Not identified". This is normal at this time.
- Follow the directions in the "Get Started With Apple Telecom" from the Mac OS 8 CD on how to send a FAX.

Note: This information also applies to the PowerBook G3.

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LaserWriter 12/640 or 12/600: LaserWriter and -2804 Errors

After installing the LaserWriter 8 driver that comes on the CD included with the 12/640 or 12/600 a user may experience -2804 errors. This sometimes happens on a Power Macintosh 7300 with the preinstalled system software, but could possibly affect other CPUs.
This article has been archived and is no longer updated by Apple.
Have the user drag "printing lib" (located in the extensions folder) to the trash and re-install the printing software from the 12/640 or 12/600 CD.

If this does not work, have the user install LaserWriter 8 from their System Software CD, or download LaserWriter 8.4.3 from Apple's Software Update web site.
Published Date: Feb 18, 2012

Soundtrack Pro: Exported file may not open with QuickTime

This article has been archived and is no longer updated by Apple.

When you export a multitrack project, or a selected track, bus, or output to an audio file in Soundtrack Pro, if you delete the first two outputs (Output 1 and Output 2) and then export a file, the exported file may not open in QuickTime. This happens if some of the tracks in the file were assigned to the outputs you deleted.

As a workaround, you can reassign the track outputs to an existing output.

Published Date: Feb 18, 2012

Color StyleWriter 2400/2500: System 7.5.5 & Mac OS 7.6 Printer Share Issue

I have a lab with StyleWriter 2400's and StyleWriter 2500's and several different CPU's. Some are running Mac OS 7.6 or later and some are running System 7.5.5 or earlier. I am trying to share the StyleWriters so that all of the computers can print to them. Whenever I try to print from one of the computers running System 7.5.5 or earlier, I get an error message that the printer drivers are not the same version and the job does not print.

This article has been archived and is no longer updated by Apple.

To use printer sharing, the printer driver on the host machine and the client machine must be the exact same version. In Mac OS 7.6 and later, the Color StyleWriter 2500 driver version was changed to 2.2.1. On System 7.5.5 and earlier, the version number is 2.2. This is what causes the error message.

Workarounds

1. Copy the 2.2.1 version of the driver onto a floppy disk and replace the older driver on all the System 7.5.5 and earlier systems.
2. Custom install the StyleWriter Family software from the latest version of system software in the lab.

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Support Professional: Description

Below is a brief description of Support Professional, Apple's premier technical support program.
This article has been archived and is no longer updated by Apple.
Support Professional is Apple's premier technical support program specifically designed for support managers and IS staff. A private website, tech resources, disk images of all Apple software, timely email support notices and priority phone response from senior Apple support staff are just some of the program offerings.

For more information on Apple's Support Professional program, please refer to our website at:

http://support.info.apple.com/sp/supportpro.html
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Connectix Desktop Utilities: Mac OS Incompatibility

Is the Connectix Desktop Utilities (CDU) application that shipped with some speed-bumped Power Macintosh CPU's, such as the 8100/110, compatible with Mac OS 7.6 or later?
This article has been archived and is no longer updated by Apple.
From the Connectix web site at www.connectix.com:

"All versions of CDU and CPU [Connectix PowerBook Utilities] are incompatible with Mac OS 7.6. The symptoms of the incompatibility are cosmetic: garbled video in the menu bar, windows, and dialog boxes. Because there are no workarounds for this incompatibility, users of Mac OS 7.6 need to remove or otherwise disable CDU/CPU.

To remove CDU or CPU, run the CDU/CPU installer and click the REMOVE button. Alternatively, the CDU control panel can be disabled with a startup manager like Conflict Catcher or Apple's Extensions Manager.

At this time Connectix does not have any updates planned for CDU or CPU. New information will be posted, to our web site, when available and we will continue to offer technical and customer support for CDU and CPU users. If you have questions about this issue, please contact Connectix Technical Support."
Published Date: Feb 18, 2012

PowerBook 2400c: Omni-directional Microphone

The Technical Information booklet for the PowerBook 2400c reports that the Apple Omni-directional Microphone can be used. How does this work, as we have been unsuccessful in our repeated attempts.

Additionally, attaching something with a higher line voltage, like an audio CD-Rom player, results in the sound coming out of the speaker if the input is too loud.
This article has been archived and is no longer updated by Apple.
The Technical Specification sheet that is included with the PowerBook 2400c incorrectly states the PowerBook can use an Apple Omni-directional microphone.

The Technical Specification sheet should state; "the sound-in port requires a line level input". The PowerBook 2400c is not compatible with either the Apple Omni-directional Microphone or the Apple Plaintalk Microphone. Apple does not produce a microphone that can be used with the PowerBook 2400c.
Published Date: Feb 18, 2012

PowerBook 2400c: Incorrect Power Adapter Cord Color

Customers who purchase a PowerBook 2400c may call asking why the DC power cord is a lighter color than the rest of the Power Adapter.
This article has been archived and is no longer updated by Apple.
A small number of PowerBook 2400c computers were produced with a Power Adapter that has a lighter color DC power cord instead of the correct graphite color. Since the cord is electrically identical there is no need to have the adaptor exchanged.
Published Date: Feb 18, 2012

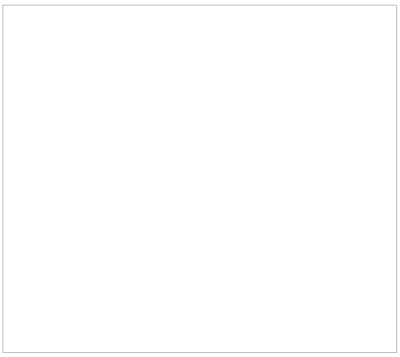
PowerBook 3400: Battery Gasket Installation

A small number of PowerBook 3400 computers running on battery power have unexpectedly shut down when jostled or when pressure was applied to the battery area. The problem is intermittent battery contact.
This article has been archived and is no longer updated by Apple.
If a PowerBook 3400 exhibits the above problem, Apple recommends adding a foam gasket to the inside of the battery bay to improve battery contact. The gasket is available free of charge in a user-installable kit. To order the kit, customers may call 1-888-273-3594. Alternatively, service providers can install the gasket for the customer and can order the kit as service part number 076-0706. The installation is a warranty repair.

Installation
The gasket kit comes with several foam gaskets and a wood applicator. Following the steps below, use the applicator to apply a gasket on the inside of the battery bay.

1. Remove the battery from the PowerBook 3400.

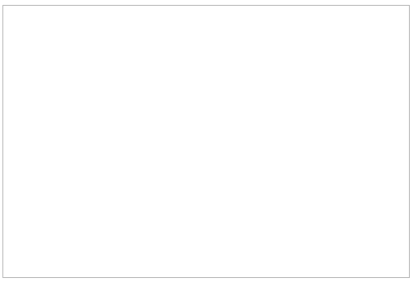
2. Remove the paper backing from the wood applicator and place the gasket, adhesive side up, on the applicator's tacky surface.

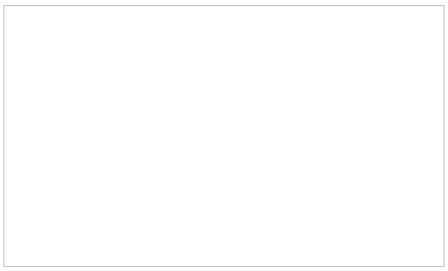


3. Remove the paper backing from the adhesive side of the gasket.

4. Turn the applicator over so the gasket is on the bottom. Now using the applicator, place the gasket on the notched side of the battery bay. Make sure the angled edge of the gasket aligns with the angled side of the notch and the gasket flap extends into the notched opening.

Note: Apply the gasket to the dull gray surface of the battery bay not the shiny metal surface above it.





5. Press the gasket onto the battery bay.

6. Remove the applicator from the bay and turn the applicator over so the non-sticky side faces the gasket.

7. Reinsert the applicator into the battery bay, and burnish the gasket to the bay.

8. Remove the applicator and replace the battery.

Published Date: Feb 18, 2012

Desktop Printer Menu: CoStar LabelWriter Extension

I recently installed a new CoStar printing extension that allows background printing for the CoStar LabelWriter family of printers. After installing the extension, the Desktop Printer Menu is now missing from the menubar when the Finder is in the foreground. In applications other than the Finder, the Desktop Printer Menu and the Application Menu are reversed. The DTP menu icon is at the far right, and the application icon to its left.
This article has been archived and is no longer updated by Apple.
There is an extension conflict between the CoStar printing extension and Desktop Printing.

Workaround

Change the load order of extensions making the Desktop Printer Menu load AFTER the CoStar printing extension. Since the CoStar printing extension comes with a "¥" before it, you can also put the "¥" before the Desktop Printer Menu extension so that it will load after the CoStar extension (since it is alphabetically after "CoStar").
Published Date: Feb 18, 2012

Apple Color PhotoGrade Kit: Color StyleWriter 2500 Support Only

After successfully installing the the Color PhotoGrade Print Kit software for use with my Color StyleWriter 2400 printer, I am not able to select the PhotoGrade option in the print dialog box.

This article has been archived and is no longer updated by Apple.

The Apple Color PhotoGrade Print Kit is for use with the Color StyleWriter 2500 printer only. Although the Color StyleWriter 2500 printer driver will support earlier StyleWriters such as the 2200 and 2400 printers, the PhotoGrade option will not be an available selection.

Published Date: Feb 18, 2012

Mac OS: Upgrading from Older OS Versions

The article below lists different options for obtaining various versions of System software, System Upgrades and Mac OS software.
This article has been archived and is no longer updated by Apple.
To determine if your computer is supported by a certain OS version, then check one of the following articles from the Tech Info Library:

- Article 8970: **System 7.1 to Mac OS 7.6 & Computers Supported**
- Article 21176: **System 7: 7.5.3 and Later Enabler Matrix**

Note**:** Also lists the enabler needed for appropriate computers. These enablers can be downloaded from the Apple Software Archive).

System 7 & 7.0.1
Are freely available for download from the Apple Software Archive.

System 7.1 and Mac OS 7.6
These are both commercial releases, Apple still has those releases on a single-computer license agreement, and you must purchase one copy per computer that will use it. You cannot download something to upgrade you to these levels.

You can go directly to System 7.1 or to Mac OS 7.6 by purchasing the respective packages.

- System 7.1 is a full installation on the computers that do not require an enabler, you would have to add the enabler to the System Folder for the computers that require them. Enablers can be downloaded from the Apple Software Archive.
- Mac OS 7.6 is a full installation (on the supported computers) that does not require any particular system software version on your drive.

You can purchase Mac OS 7.6 from your local Apple-authorized reseller, authorized mail-order resellers, or direct from Apple.

Note: Certain computers cannot use Mac OS 7.6, so you must purchase the Mac OS 7.6.1 full version from Apple Software Order Center. Please see TIL article number 26170: **Where to get Mac OS 7.6 and 7.6.1 for more information.**

System 7.5.3
System 7.5.3 is available for download from Apple Software Updates sites.

System 7.1 is no longer on the finished goods price list, however you may still be able to purchase it through computer retailers specializing in refurbished equipment.

Software Updates

Software updates for earlier versions of Mac OS and Apple hardware are available from the Old Software Downloads area at http://www.info.apple.com/support/oldersoftwarelist.html

Any version of System 7.1.x can be updated to System 7.1.2 by downloading the System Update 3.0. It is one 1.4 MB disk image, or two 800k images.

Any earlier version of System 7.5 can be updated to System 7.5.3 by downloading the System 7.5 Update 2.0, and if desired, continue on to System 7.5.5 (the System 7.5.5 Update only works to update System 7.5.3).

If you do not chose to go to System 7.5.5, you should download the System 7.5.3 Revision 2 update. These are all multiple disk image updates, with a single net install download option available as well. You do not need to apply the Rev 2 update if you are going to move up to System 7.5.5.

Mac OS 7.6 can be updated with the Mac OS 7.6.1 Update.

This article can help you locate the software updates mentioned here:

- Article 14724: "**Where To Find Apple Software Updates**" - Lists online services for free Apple software updates.

Published Date: Feb 18, 2012

PowerBook 1400: CD Expansion Bay Troubleshooting

The following symptoms are discussed in this article.

1. CD expansion bay door will not stay latched when closed
2. The expansion bay latch is difficult to move or sticks and requires force to move.

This article has been archived and is no longer updated by Apple.
1) CD expansion bay door will not stay latched when closed.

Resolution:
Push in the middle of the door to close, near the eject button. Because the door is flexible, it is possible to not fully close the CD tray by pushing at the edges.

Additionally, there have been instances where the whole expansion bay device needs to be reseated. If pushing on the door's center does not help, reseat the expansion bay.

2) The expansion bay latch is difficult to move or sticks and requires force to move.

Resolution:
With use, the expansion bay latch should loosen some, which will allow it to be moved easier.
Published Date: Feb 18, 2012

Apple Remote Access 3.0: What Files are Installed

This article describes the items installed by the Apple Remote Access (ARA) 3.0 installer. When troubleshooting ARA 3.0 problems, be advised that both the client and personal server installers modify resources in the System suitcase. (Previous versions of ARA did this as well).
This article has been archived and is no longer updated by Apple.

System Folder:Apple Menu Items:
Disconnect Remote Access

System Folder:Control Panels:
Dial Assist
Modem
Remote Access

System Folder:Control Strip Modules:
Remote Access Control Strip

System Folder:Extensions Folder:Modem Scripts:
All the modem scripts bundled with ARA. See the ARA 3.0 Read Me for a complete list of modem scripts installed.

System Folder:Extensions Folder:
OpenTpt Modem
OptnTpt Remote Access
OpenTpt Serial Arbitrator
Remote Access PS Guide
Remote Only

ARA also installs resources directly into the system file. Here are the changes on a Mac OS 8.0 system:

New resource:
TYPE: AINI ID: 2017 NAME: SPAAINI

Modified resources:
TYPE: audt ID: 1
TYPE: FONT ID: 393
TYPE: itlb ID: 0 NAME: Roman
TYPE: vm ID: 0
Published Date: Feb 18, 2012

Mac OS: No Sleep Choice in Special Menu

This article explains how to change your computer from Simple Finder mode, which is part of the Mac OS, so that more features (such as Sleep) are available.

This article has been archived and is no longer updated by Apple.
When in Simple Finder mode you have access to only the essential features and commands.

To change from Simple Finder mode, follow these steps:

- Open the Edit Menu and choose Preferences.
- Deselect Simple Finder in the Prefences dialog box.
- Close the Preferences window; Sleep should now be an available selection under the Special Menu.

Simple Finder mode simplifies your menu selections down to the following choices:

The Apple Menu will stay the same.

The File Menu will have:
New Folder
Open
Close Window
Duplicate
Find

Edit Menu:
Cut
Copy
Paste
Preferences

View Menu:
as Icons
as Buttons
as List

Special Menu:
Empty Trash
Eject
Shut Down

Help Menu:
About Help
Show Ballons
Help

Published Date: Feb 18, 2012

HyperCard 2.3.5: Using Older Stacks

I just installed Hypercard 2.3.5. Will I still be able to use the old card stacks which were created years ago with v.1.x? Can I read them with the new version (I noticed the new stacks look quite different)?
This article has been archived and is no longer updated by Apple.
You can open stacks made with earlier versions, however, a padlock appears in the menu bar indicating the stack is locked. You will be able to read it.

To be able to make changes in the stack it must be converted to the newer HyperCard format. You should always make a copy of the stack before you convert, because you can't convert it back and you won't be able to use it with an earlier version of HyperCard.

Once you have made a copy of the stack, use the Convert Stack command from the File menu. Convert Stack takes the place of the Compact Stack command when you are working with an unconverted stack.

Click OK at the conformation dialog to convert the stack. The padlock will disapper from the menu bar when the stack has been converted.
Published Date: Feb 18, 2012

Performa 62xx/63xx: Speech Recognition and Internet Access

I'm using the internal Global Village modem bundled with my Performa 6300 and speech recognition included with PlainTalk 1.5. Both the modem and Speech Recognition work fine separately.

When I am connected to my Internet Service Provider with my modem and I turn on Speakable Items in the Speech control panel, I receive timeout or No DNS Entry errors when using an internet application like Netscape, Claris Emailer or Anarchie.

For example, I receive a No DNS Entry error when using any web browser. If Speakable Items is Off, all works well.
This article has been archived and is no longer updated by Apple.
Both TCP/IP and Speech Recognition compete for the attention of the computer's sound and I/O circuitry (PrimeTime3).

The Power Macintosh/Performa 5200/6200/5300/6300 computers rely on sound chip called PrimeTime3 for sound and I/O processing. When Speech Recognition is turned on, this requires much of PrimeTime3's bandwidth. When the modem is being used to connect to the internet, PrimeTime3 cannot process both Speech Recognition and TCP/IP at the same time.

All TCP/IP requests are preempted while Speech Recognition is active. While these IP requests are preempted they time out and return a No DNS Entry error to the application requesting the IP services (ie. Netscape-HTTP, Claris Emailer-SMTP, Anarchie-FTP, etc.). By turning off Speech Recognition, PrimeTime3 is freed up to handle the TCP/IP services before they time out. Users should turn off Speakable Items in the Speech control panel before trying to access internet services.

Note: PlainTalk and Speech to Text updates can be downloaded from Apple Software Updates at:
http://www.info.apple.com/swupdates.
Published Date: Feb 18, 2012

EtherTalk: How It Handles Multiple Protocols (6/93)

This article describes how EtherTalk handles multiple protocols.

This article has been archived and is no longer updated by Apple.
The EtherTalk card is a low-level transport mechanism which can move a variety of protocols over an Ethernet network. "Low-level" means that the EtherTalk card only addresses itself to the lower two layers of the ISO reference model -- the physical layer and the data-link layer. The upper layers of the session are controlled by whatever protocol you implement over these two lower layers. Two examples of upper layer implementations are AppleTalk and TCP/IP.

The card, using the software driver, places these upper-layer protocol packets (either AppleTalk packets or TCP/IP packets) in the data field of the Ethernet transport frame. The Ethernet frame properly addresses these packets to their "target" devices. The target device strips off the frame and then processes the packet contained inside. On the Ethernet wire, a device doesn't care about what a frame contains, unless that frame is directed at that device.

Therefore, you can use different, upper-layer protocols -- like TCP/IP, XNS, or AppleTalk (among others) -- on the same physical wire. These encapsulated packets can co-exist on a single Ethernet without interference, because a device does not look at what's inside the packet, unless it's addressed to that device.

The software shipped with EtherTalk is a driver for the Macintosh II that redirects AppleTalk packets to the EtherTalk card rather than to the printer port. The EtherTalk card then encapsulates the AppleTalk packet in an Ethernet frame for delivery to a device on Ethernet that understands AppleTalk packets.

For example, picture two Macintosh II computers connected directly to Ethernet. One runs AppleShare and acts as an EtherTalk server. The second acts as an EtherTalk workstation. Both of these devices use Ethernet only as a physical connection with delivery assurance and error correction capabilities.

An example of what the EtherTalk card can do is encapsulate TCP/IP under A/UX. Here, an Ethernet frame is again used, but the packet contained inside the frame is TCP/IP, rather than AppleTalk. You can also use other protocols, like XNS, with the same card, using the same Ethernet frame. The only thing that changes is the frame contents.

With Ethernet, you can also have one device "push" more than one protocol over the same physical connection. An example is a VAX running VMS with AlisaTalk and DECnet installed. AlisaTalk delivers AppleTalk packets to the VAX that encapsulates them in an Ethernet frame and sends them out onto the Ethernet network. The VAX can also "push" DECnet packets encapsulated in the Ethernet frame over the same card and physical connection.

All this happens serially (rather than in parallel), because Ethernet is a baseband network. In our example, the AppleTalk packet goes out first, followed by the DECnet packet over the same wire, obeying the rules of Carrier Sense Multiple Access/Collision Detect (CSMA/CD). Again, Ethernet provides the delivery assurance and error correction.

The table below shows the software deliverables associated with the EtherTalk card available from Apple:

Operating System Upper Layer Protocol How Delivered
--- --- ---

TA38237_EtherTalk_How_It_Handles_Multiple_Protocols__(TIL03016).pdf

Macintosh OS AppleTalk EtherTalk
A/UX TCP/IP A/UX

Article Change History:
25 Jun 1993 - Revised for clarity.
06 Jun 1993 - Reviewed for technical accuracy.

Published Date: Feb 18, 2012

LaserWriter 8.4.3: Pro 810 Defaults Not Saving

Customer using LW 8.4.3 with OS 8 and a Pro 810, wants to have US Letter (not US Letter Small) be the default paper size. He can go to Page Setup, select "US Letter" as the page size, hold down Option and click OK and then click Save to make those settings the default. However, when Page Setup is reopened, it is set to US Letter Small again.
This article has been archived and is no longer updated by Apple.
There is a known problem specifically with the LW Pro 810 PPD that causes it to always default to "US Letter Small". This has been reported to engineering and they have resolved it in the LW Pro 810 PPD that will be shipping with the next revision of LaserWriter 8, beyond 8.4.3.

Note: The Option-Save trick with Page Setup works for the most part, however, there are some applications that do not take advantage of it.
Published Date: Feb 18, 2012

QuickTime: No OS/2 Support

In February 1996, Apple announced that it was going to develop QuickTime for OS/2. What ever happened to that product?
This article has been archived and is no longer updated by Apple.
Apple and IBM have jointly agreed to discontinue their efforts on porting QuickTime to OS/2.
Published Date: Feb 18, 2012

iTunes 4.8: Error 400 in the iTunes Store

This article has been archived and is no longer updated by Apple.

If you encounter an Error 400 message while visiting the iTunes Store on a Mac with iTunes 4.8, update to iTunes 4.9 or later to resolve the issue.

If for some reason you are unable to upgrade immediately, you can use these steps to resolve the issue:

1. Quit iTunes.
2. Open Safari.
3. From the **Safari** menu, choose **Preferences**.
4. Click the Security icon in the top row.
5. Click the Show Cookies button.

6. In the resulting dialog, scroll down the list of cookies until you see the ".apple.com" cookies.
7. In the Name column, select all the apple.com cookies that start with "s_vi_" and then click Remove.

8. Click Done.
9. Open iTunes and connect to the iTunes Store.

Published Date: Feb 18, 2012

PowerBook: Internal CD-ROM Reading Slower

I have an 8x CD-ROM drive which gets 1195kB/sec (using ASTARTE CD-Copy Disc:Check_Tracks) but my PowerBook 3400c 12x barely makes 750kB/sec (on the same CD).

The 12x CD-ROM drive should run at 1800 kb/sec Mode 1 and 2053 kb/sec mode 2 and 6360-2760 RPM (varies with radius), so this CD-ROM drive seems to be running slower than it should.
This article has been archived and is no longer updated by Apple.
It is possible for an external CD-ROM drive or desktop CD-ROM drive to transfer data at a faster rate than a PowerBook internal CD-ROM for several reasons.

The PowerBook internal CD-ROMs are designed to work on 5 volts instead of 12 volts like the desktop drives. This means the motors take longer to spin up to speed and do not run quite as fast.

The PowerBook drives are more suseptible to vibration or uneven CD-ROMs. When the drive checks the vibration level and it is too much, the drive slows to around 5.5X speed which would be equal to around 700-800k a second. Desktop CD-ROMs do not have the vibration issues because they have room for dampers and the larger mechanism which handles unbalanced media much better.

Also, when the CD is reading the inner tracks (directory) it will slow down to (5.5X) since this was the only way to help reduce vibration with the 17mm CD mechanism. So this is a possible reason you may see only 700-800k/sec. When the drive is reading the outer edges it will speed up to 12X speed or around 1.8MB/sec.

If the CD is not uneven the 12X CD-ROM should get around 1.8 MB/sec with burst modes of up to 10 MB/sec.

Note: The PowerBook G3, which has a 20x CD-ROM drive, is affected by the same issues.
Published Date: Feb 18, 2012

A/UX and the Macintosh Operating System: Each Stands Alone

Article Change History

08/31/92 - RREVIEWED
*For technical accuracy

What is the relationship between A/UX and the Macintosh operating system?

This article has been archived and is no longer updated by Apple.
A/UX and the Macintosh operating system are two distinct entities. The user boots the Macintosh II either into the Macintosh OS or into A/UX. One operating system is not a window or shell in another. Each stands alone.

A/UX includes Macintosh ToolBox support. Thus, an A/UX application might LOOK like a Macintosh application, with windows, menus, and so on. In fact, a "well-behaved" Macintosh application can be ported to A/UX and run under UNIX using the same toolbox calls it did under the Macintosh operating system.

Published Date: Feb 18, 2012

WGS 9650/350: Set Up Addendum Errors

This article discusses Set Up Addendum errors for the WSG 9650/350.
This article has been archived and is no longer updated by Apple.
The WGS 9650/350 Setting Up Addendum contains the following text:

"IMPORTANT Although you can simultaneously connect cables to the built-in AAUI and 10BaseT ports as well as the 10/100BaseT Ethernet port, you can use only one of these Ethernet connections at a time."

This is not entirely correct. A user can set up only one AppleTalk connection and only one TCP/IP connection. A user cannot set up AppleTalk or TCP/IP to use both the 10BaseT and the 100BaseT connections at the same time. However, TCP/IP can be enabled on one port while AppleTalk is enabled on the other.

Also, AppleShare IP 5.0 (included in some 9650/350 configurations) allows AppleTalk mutlihoming for the File Server (other components do not have multi-homing). AppleShare IP 5.0 does not do TCP/IP multihoming.

There is the potential for an administrator to configure AppleShare IP 5.0 and the 9650/350 in a way such that some clients experience a delay when logging in to the server.

If and only if:

- AppleShare IP is configured to provide AFP over TCP.
- AppleTalk multihoming is enabled.
- There is no TCP/IP route between the client, and the server's TCP/IP port.

In this situation, clients who have TCP/IP enabled, and are using AppleShare Workstation 3.7 to connect to the server's non-TCP/IP port, will attempt to ping the server prior to logging in. Because IP isn't routed between the client and server's TCP/IP port, the attempt will time out. The client software will then fall back to an AppleTalk connection. The user may notice a delay while waiting for the ping attempt to time out.
Published Date: Feb 18, 2012

PowerBook 3400 and Modem Issues

I have a PowerBook 3400 with a modem which sometimes does not reset, gives errors during file transfers, and intermittantly disconnects during large downloads.
This article has been archived and is no longer updated by Apple.
These issues have been resolved with a modem driver update called PB 3400 Modem Driver Update. This driver should resolve these issues and prevent unnecessary hardware replacements. The PB 3400 Modem Driver Update is available on Apple's Software Updates sites.

Important Notes:

- The PowerBook G3 does not need this modem driver update because the software that ships with this computer already has the update installed.
- These drivers are also included with Mac OS 8.1 update so customers that upgrade to 8.1 will not need the unsupported drivers.

This article can help you locate the PB 3400 software update mentioned here:

- Article 14724: "**Where To Find Apple Software Updates**" - Lists online services for free Apple software updates.

Published Date: Feb 18, 2012

PowerPC 6116CD: Finder Window Updates Slowly

After installing Mac OS 8 on my PowerPC 6116CD, I noticed the Finder window takes longer to update. Is this a normal reaction?
This article has been archived and is no longer updated by Apple.
If the System and Application protection features are turned on in the Control Panels, the Finder window will update slower. Turning off this protection features will allow the machine to run as expected.
Published Date: Feb 18, 2012

SOHO 4400/6500: MacPublisher 9pt Font Selection Issue

I am using MacPublisher, an application that shipped with the 4400 small office/home office bundle. When I select the 9 point font size from the pull-down menu, the resultant size is 6 point. This happens when selecting text and changing the size or just selecting the size for text that will be input.

I have tried to reduce the extensions down to just QuickTime (which is required) but cannot get around the problem.

This article has been archived and is no longer updated by Apple.
The manufacturer, WizardWorks Group, has acknowledged the bug in the application.

Customer should contact them at 612-559-5140.

Although there is no current fix, as a workaround, customers may use the size selection from the pop-up menu on the ribbon bar to select 9 point size.

Note: MacPublisher ships on the Small Business Macintosh 6500 and on the Small Business Macintosh 4400. Both models will be affected.
Published Date: Feb 18, 2012

PowerBook 1400: CD ROM Drive

When ejecting a CD, the CD drawer does not eject all the way.
This article has been archived and is no longer updated by Apple.
To resolve this problem, remove CD-ROM drive and open the drawer (insert a paper clip in the manual eject hole if closed), then lightly bend up the top metal bracket.

Sticking like this is normally caused by pressure on the top of the bracket either when removing the expansion bay device or during storage.

Published Date: Feb 18, 2012

PowerBook 2400: No Contrast Control

I just purchased a PowerBook 2400 and can't find the Contrast control button. How do I adjust the contrast on this machine?

This article has been archived and is no longer updated by Apple.
The PowerBook 2400 has a fixed-contrast liquid crystal display like the PowerBook 2300c. You cannot change the contrast on these displays.
Published Date: Feb 18, 2012

LaserWriter 8: Calibrated Color/Grayscale

I just upgraded to LaserWriter 8.4.x and am looking for the Calibrated Color/Grayscale option in the print options dialog box previously available in LaserWriter 8.2.2.

I am printing to a LaserWriter Select 360 and when I select just the regular Color/Grayscale (Calibrated Color/Grayscale is not an option), printouts of my images look too dark. With Calibrated Color/Grayscale in LW 8.2.2, my images printed fine.
This article has been archived and is no longer updated by Apple.
The following information should help resolve this issue:

- Starting with LaserWriter 8.3, the Calibrated Color/Grayscale option was replaced by support for ColorSync 2.0.
- You can get equivalent results to the previous Calibrated Color/Grayscale setting by selecting "PostScript Color Matching"and selecting a destination profile of Printer's Default.

Published Date: Feb 18, 2012

A/UX: Bad PMMU May Prevent Boot

Article Change History

08/31/92 - REVIEWED
* For technical accuracy.

This article has been archived and is no longer updated by Apple.
If your A/UX system appears to lock up when booting A/UX from SASH, it may be a bad PMMU chip. The hang occurs during the "Sysinitre" phase, right after displaying the amount of RAM installed. If this happens, have the PMMU replaced.

Keywords: locking up, hanging

Published Date: Feb 18, 2012

Power Macintosh 6500: Freeze at Startup

I have a Power Macintosh 5500/6500 or 20th Anniversary Macintosh running either Mac OS 7.6.1 or Mac OS 8. Recently, I was troubleshooting some of my Extensions using the Extensions Manager. Now when I startup my computer, the mouse freezes at the "Mac OS Starting Up..." screen.

This happens before any of my Extensions start to load along the bottom of the screen. What is causing this problem?
This article has been archived and is no longer updated by Apple.
Power Macintosh 5500 and 6500 computers can have an internal GeoPort modem card installed in the communications slot. The 20th Anniversary Macintosh ships with an External GeoPort modem, however, this computer can accept a CS II comm slot card in the on board communication slot for Ethernet or modem connectivity.

The Geoport modem card depends on a Shared Library in the Extensions folder called "Serial (Built-in)". If this Shared Library is disabled using the Extensions Manager or removed from the Extensions folder, users may experience a system freeze at startup before any extensions appear to load.

To avoid this problem, users restart with Extensions OFF (by holding down the shift key at startup) and make sure this Shared Library is present in the Extensions folder. If the library cannot be found or has been deleted, users can reinstall this software from the system software CD by custom installing Open Transport from the Networking & Connectivity section.
Published Date: Feb 18, 2012

Newton Dates: Ordering To Do‘s

On my daily To Do List, I often want to rearrange the order or sequence of tasks that have the same priority. However, I am not able to consistently do this. Sometimes the task moves, sometimes it does not. What's wrong?
This article has been archived and is no longer updated by Apple.
If an event is saved on an external memory card (external store), it will appear in sequence after events saved in the internal memory. This results in events saved on the internal memory being listed higher than events saved on external memory. The ordering does not cause the tasks to inherit a different priority.

When an external memory card is absent or removed, the reference to tasks stored on the external store is not kept in the To Do list. Therefore, it is best to keep important events on the internal store so that the information is always present.

Note: Any information saved on external memory will not be available in the MessagePad unless the memory is present.
Published Date: Feb 18, 2012

iPod: Doesn‘t display a Podcasts menu or has two Podcasts menus

This article has been archived and is no longer updated by Apple.

The latest versions of iPod software and iTunes add Podcast features to iPod. iPod Updater 2005-6-26 and later adds a Podcast menu to any iPod with a Click Wheel. For iPods without a Click Wheel, iTunes 4.9 and later creates a Podcasts playlist on the iPod (it will do the same on Click Wheel models that haven't been updated with iPod Updater 2005-6-26 or later).

Depending on what software you install and how you install it, your iPod may experience one of the following issues:

- iPod does not display the Podcasts menu
- iPod displays Podcasts menus in two places—a Podcasts menu and a Podcasts playlist

iPod does not display the Podcasts menu

If you install iPod Updater 2005-6-26 or later on an iPod without a Click Wheel, it won't add a Podcasts menu. Instead, install iTunes 4.9 or later, which will create a Podcasts playlist on the iPod.

iPod has a Podcasts menu and a Podcasts playlist

If you install iTunes 4.9 or later, manually sync an iPod with a Click Wheel with it, and then update your iPod with iPod Updater 2005-6-26 or later, you will have a Podcasts playlist and a Podcasts menu. To remove the Podcasts playlist, temporarily set your iPod to sync Podcasts automatically in iTunes Preferences. To do this:

1. Connect your iPod (if it's not already connected).
2. Windows users: On the **Edit** menu, click **Preferences**.
   Mac users: From the **iTunes** menu, choose **Preferences**.
3. In the preferences dialog, click the iPod button.
4. Click the Podcasts tab.
5. Select the "Automatically update all Podcasts radio button."
6. Click OK. You should be left with only the Podcast menu.

You can change it back to a manual sync if you prefer. Because the Podcast playlist was there from an earlier firmware version, it will not return.

If you're not sure what iPod you have or if it has a Click Wheel, see this document.

Published Date: Feb 18, 2012

Newton Connection Utilities: v1.0 System Requirements

What are the system requirements of Newton Connection Utilities 1.0?
This article has been archived and is no longer updated by Apple.
The following system configurations are supported with NCU 1.0.

Newton Configuration:

- Newton OS 2.0 or 2.1 System Patch
  - MessagePad 120 - US 516263 - German 536205
  - MessagePad 130 - US 526205 - German 536205
- The MessagePad 2000 requires a Newton Serial Adapter

Macintosh Configuration:

- A 68030, 68040, or PowerPC microprocessor
- Mac OS version 7.1 or higher
- 8 megabytes (MB) of total RAM with 4 MB available (12 MB recommended for PowerPC based systems)
- A hard disk drive with 10 MB or more of available disk space
- An available printer port, modem port or printer-modem port
- A special serial cable or AppleTalk cable

Windows Configuration:

- An IBM PC or compatible computer with an Intel 80486 DX266 or later version microprocessor
- A VGA display or better
- Windows 3.1.x, Windows NT 3.5.x or Windows 95
- 8 megabytes (MB) or more of total RAM
- A hard disk drive with at least 12 MB available disk space
- An available serial (COM) port
- A serial cable (9-pin or 25-pin corresponding to the available serial port)

Note: Windows NT 4.0 has not been tested and therefore is not supported for use with Newton Connection Utitilities 1.0.

Supported File Types:
Newton Conection Utilities 1.0 supports the following application file formats:

Macintosh File Types:

- Dates & To Do:
- Delimited ASCII
- Claris Organizer 2.0
- Now Up-To-Date 3.5

Names

- Delimited ASCII
- Claris Organizer 2.0
- Now Contact 3.5

Notepad (Notes)

- Rich Text Format (RTF)
- Plain Text, ASCII (text import only)
- Delimited ASCII (text only)
- Claris Organizer 2.0 (text only)

Newton Works

- Rich Text Format (RTF)
- PICT
- ASCII

Windows File Types:

- Dates, Names, and To Do
- Delimited ASCII
- Lotus Organizer 2.1
- Microsoft Schedule+ 7.0/7.0a
- Sidekick for Windows 2.0

Notepad (Notes)

- Rich Text Format (RTF)
- Microsoft Word 7.0
- Delimited ASCII (text only)
- Lotus Organizer 2.1 (text only)
- Sidekick for Windows 2.0 (text only)

Newton Works

- Rich Text Format (RTF)
- Windows Metafile (WMF)
- ASCII

Published Date: Feb 18, 2012

AppleVision Recovery: Current Version

There are three type of floppy disks (AppleVision Recovery PCI, AppleVision Recovery 7.5 and AppleVision Recovery PPC SB.
However there is no disk can work on Performa 6410/6420, because each of these disk are base on MacOS 7.5. Is there a newer version that works with MacOS 8?
This article has been archived and is no longer updated by Apple.
There is no need to use the AppleVision Recovery software as this functionality is built into the current version of the Apple Display Software. (Apple Display Software supercedes and replaces AppleVision software as of version 1.5.3.) The Apple Display software automatically looks for a no video condition at which point it will perform the same function as the AppleVision Recovery software and implement new monitor values for the CRT Video Board.

There is a keyboard combination which will also allow you to run the AppleVision Recovery sequence if you encounter a no video condition after a color recalibration of the display. In order to perform this function you will need to restart the computer and after the first extension loads hold down the Command, Option, A, and V keys until you here a beep tone or when the video is restored to your display.
Published Date: Feb 18, 2012

iPod Updater for Windows: "Internal manager error" occurs when restoring or updating iPod

This article has been archived and is no longer updated by Apple.

You may see an "Internal manager error" when trying to restore or update your iPod using iPod Updater for Windows. If you do, try restarting your computer first and then try restoring or updating again.

If the issue persists after restarting, download and install the latest versions of iTunes for Windows and iPod Updater.

This issue most often occurs when there is a mismatch between the version of iPod Updater being used to update or restore the iPod and the underlying iPod Service installed by a newer version of iTunes or iPod Updater. If you need to use an older iPod Updater, you must first fully remove iTunes for Windows and iPod Service by following the steps in this document. Then reinstall the preferred version of iPod Updater.

Published Date: Feb 18, 2012

iTunes for Mac: Create your own CDs and DVDs

You can create these types of discs in iTunes:

- *Audio CDs*, which you can play on any standard CD player.
- *MP3 CDs*, which you can play on MP3-capable CD players or your computer. To burn an MP3 CD, all the songs on it must be in MP3 format. If your playlist includes songs in other formats, such as songs purchased from the iTunes Store, you need to convert them to MP3 format before you can burn them on a CD.
- *Data CDs and DVDs*, which you can use to store and transfer files.

Tip: iTunes can print a playlist formatted for use as a jewel case insert; choose Command-P, then select "CD jewel case insert."

Create a CD or DVD

1. Create a playlist that contains the songs or files you want to burn to the CD; make sure the items you want to include have a checkmark beside them.
2. Insert a blank disc.
3. Select the playlist, then choose File > Burn Playlist to Disc.

   If Burn Playlist to Disc doesn't appear in the menu, the playlist you selected can't be burned to a CD because it contains items with usage restrictions (for example, a song your computer isn't authorized to play).
4. Select a disc format.
5. If you're creating an audio CD, choose your options:
   - *Change the recording speed:* Choose an option from the Preferred Speed pop-up menu.
   - *Change the amount of silence between songs:* Choose an option from the Gap Between Songs pop-up menu.
   - *Have all the songs on the disc play at the same volume:* Select Use Sound Check.
   - *Include information that disc players in some vehicles can display:* Select Include CD Text.
6. Click Burn.

It might take several minutes to burn a disc. You can cancel the burn by clicking the Cancel button next to the progress bar, but if you're using a CD-R or DVD-R disc, you won't be able to use it again.

Note: If the playlist contains more items than will fit on the disc, iTunes burns only the number of items that fit on one disc, and then asks you to insert another disc to continue burning the remaining items. If you're creating audio CDs, only the last disc burned includes track information (song title, artist, and album). Songs on the other CDs are identified only by track number (for example, "Track 01," "Track 02").

See also
Usage rights for iTunes Store purchases
Disc burning overview
If you have trouble burning a disc
Published Date: Jan 12, 2018

Helpful?
Yes No
60% of people found this helpful.

Newton OS: Grayscale Printing Support

I have noticed that when I print to my HP 5MP printer via IrDA, grayscale graphics are printed nearly all black. I thought the MessagePad supported grayscale. Is this correct?
This article has been archived and is no longer updated by Apple.
Grayscale printing was introduced as a feature of the MessagePad 2000 and eMate 300 series computers under Newton Operating System (NOS) 2.1.

Previous versions of NOS did not support grayscale printing. However, some applications approximated grayscale output by using a dithered bitmap approach.

The NOS uses bitmap information to display picture and graphics on the screen. Bitmaps are converted into two types of print data: raster and PostScript.

All IrDA and serial printing is done in raster mode; PostScript is used for all network LaserWriters.

For example, when printing to a Hewlett Packard 5MP printer over IrDA, bitmap data is rasterized. However, when connected via LocalTalk, bitmap data is translated to Postscript.

Under NOS 2.1, bitmaps can contain grayscale information. However, there are two levels of grayscale printing.

Grayscale pattern fills, like those created by applications such as Newton Works Drawpaper, are supported on both raster and Postscript printers.

Grayscale bitmaps, however, will print in grayscale only to Postscript printers. Printing a grayscale bitmap to a raster printer will result in all non-white pixels being interpreted as black.
Published Date: Feb 18, 2012

Disk Images: - 50 Error Message

When I double-click on a disk image file I downloaded, I get a message that the disk could not be mounted because for a -50 error.
This article has been archived and is no longer updated by Apple.
You have a version of Disk Image Mounter previous to 2.1 on your hard disk, which cannot read disk image files created by Disk Copy 6.1 or later. You can drag the disk image file directly on top of Disk Copy and it will mount. Removing all versions of Disk Image Mounter, installing Disk Copy 6.1 or later, and rebuilding the Desktop will resolve the issue.
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iTunes for Windows: CD burn stops at the "finishing" stage

This article has been archived and is no longer updated by Apple.

If you're using iTunes 4.8 or 4.9 for Windows, you may come across a situation in which iTunes won't finish burning an audio CD. When this happens, you'll see the message "finishing" indefinitely.

To resolve this issue, download and install iTunes 5:http://www.apple.com/itunes/download

If this doesn't resolve the issue, go here for further troubleshooting and assistance.

This document will be updated as more information becomes available.

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Published Date: Feb 18, 2012

NewtonWorks: Not Importing Text

I have a Newton MP 2000 and when using NewtonWorks, I am not able to import any kind of text documents, regardless of the format.

I can export just fine, and all other features seem to work fine as well.
This article has been archived and is no longer updated by Apple.
Make sure the NewtonWorks program has not been moved from the internal storage onto a storage card. The import feature will not work correctly unless NewtonWorks is not using internal storage.
Published Date: Feb 18, 2012

Color StyleWriter 4500: PrintShop & Banners

This article discusses the steps you need to follow so the Color StyleWriter 4500 will correctly work with PrintShop banners.
This article has been archived and is no longer updated by Apple.
Use PrintShop version 1.1 or later for best results. When printing a banner on continuous feed paper, you will need to install the updated preferences inside the PrintShop Deluxe Prefs folder located in the Software Collection folder on the CD shipped with your printer software.

The updated preferences are also located in the PrintShop Deluxe Prefs folder on Disk 4 of the Color StyleWriter 4000 Series Disk Set. The PrintShop Deluxe Prefs folder also contains a Read Me with installation instructions for the updated preferences. If you do not install the updated preferences, margin gaps may be the result when you print banners.

How to Install

1. On the 4500 CD, locate the folder Software Collection
2. In this folder, locate the folder PrintShop Deluxe Prefs
3. In this folder are 4 different prefs files:
-- PrintShopDeluxe.Prefs1.0
-- PrintShopDeluxe.Prefs1.1
-- PrintShopDeluxe.Prefs1.1.1
-- PrintShopDeluxe.Prefs1.1.2
4. Remove the old prefs file from the preferences folder on your hard drive
5. Choose the pref for the version of PrintShop being used and copy it from the CD to the preferences folder on your hard drive
6. Backspace over the version number (such as 1.1) in the filename sothat the filename simply reads "PrintShopDeluxe.Prefs"

Before printing banners on the 4500, be certain that the banner lever on the printer (located on the lower left corner of the paper tray) is in the banner position.

For more information see your Color StyleWriter 4500 user's manual, TIL article 26031, or the Read Me that comes with your printer.

You can also contact Brøderbund Software.

The Tech Info Library article titled "Locating Vendor Information", TIL article 17159, can help you search for a particular vendor's address and phone number.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.
Published Date: Feb 18, 2012

HyperCard: Protect Stack Option

HyperCard's Protect Stack feature protects stacks from modification or access.
This article has been archived and is no longer updated by Apple.
Protect Stack appears in the File menu when your User Preference is set to Painting or higher, and gives a number of options for what level of protection you want.

Beware: if you select Private Access in the dialog box, embed a password in the stack, and then forget the password, you won't be able to decipher the password from HyperCard.
Published Date: Feb 18, 2012

A/UX, Macintosh OS, and Desk Accessories

Article Change History

08/31/92 - REVIEWED
*For technical accuracy

A/UX supports most of the Macintosh Toolbox routines, but does not support Desk Accessories

This article has been archived and is no longer updated by Apple.
As an example, we will discuss the Scrapbook. Under A/UX, you can cut and paste while in a Macintosh Toolbox application. However, you cannot cut from one application and paste to another. When you quit the application and return to the A/UX shell, all Clipboard information is lost.

Published Date: Feb 18, 2012

Mac OS 8: Turning Off Sticky Menus

This article describes alternatives for users who wish not to use the sticky menus capability built into Mac OS 8 and later.

This article has been archived and is no longer updated by Apple.
Apple added the feature of sticky menus because many of our customers requested it. It improves the human factors of using the Mac OS because you do not have to hold the mouse button down so much. We have performed extensive useability testing and carefully tried to get the timing right.

You can modify the sticky menus feature by doing one of the following:

1. Click again to make the sticky menu go away.

2. If you press the mouse button down, hold it on a menu, and then release the mouse button, the menu is no longer sticky. The time for a sticky menu to appear is based on the double-click speed of the mouse.

If the double-click speed is slow, then Mac OS waits longer to determine if the menu remains active. Changing the double-click speed in the Mouse control panel to a faster setting will shorten that delay. Thus, you can effectively "turn off" sticky menus by making the double-click speed the fastest setting and waiting approximately a half a second or longer before releasing the mouse button.

Published Date: Feb 18, 2012

Mac OS 8: Conflict Catcher Compatibility

I have a customer who was running Conflict Catcher under System 7 my customer is upgrading to Mac OS 8 and has a couple of questions.

1. Is Mac OS 8 and Conflict Catcher compatible?

2. Does Conflict Catcher take advantage of any features of Mac OS 8?
This article has been archived and is no longer updated by Apple.
1) Mac OS 8 Compatibility:
According to the publisher, Conflict Catcher v4.0.3 is the first version to be fully compatible with Mac OS 8. It will not allow the Appearance Extension to be disabled and contains Mac OS 8 Sets and Links.

Users of previous versions of Conflict Catcher 4 should download the latest Conflict Catcher 4 updater from Casady & Greene's Web site: "**www.casadyg.com/C&G/updaters.html**"

2) Conflict Catcher Mac OS 8 Features:
Includes built-in Mac OS only sets. "Mac OS Base" includes all files which are installed with the Basic Installation. "Mac OS All" includes all files which can be installed as part of the system installation.

Disable Startup Features Option:

This allows the user to disable all of Conflict Catcher's features which change the system environment at startup time. To disable these features:

- Choose Preferences from Conflict Catcher's Edit menu
- Select "Disable Startup Features"
- Restart the computer

At this point, Conflict Catcher is effectively removed from the system environment, and all of Conflict Catcher's features which involve changing the system environment are disabled.

The disabled features include:

- Showing icon names at startup,
- Auto conflict test for crashes at startup time,
- Conflict Catcher's Finder menu
- Disclosure of startup file memory use and load time

With "Startup Features Disabled," users are still able to manage extensions and run conflict tests. They can enable and disable extensions, run sets (including Mac OS only sets), use links, generate system reports, and run Conflict Tests.

Additional Information:
The contents of this article refer to Conflict Catcher, a third party application published by Casady & Greene Inc. (408-484-9228).

Apple Computer Inc.'s User Assistance Center does not provide technical support for Conflict Catcher. It is supported by Casady & Greene, Inc.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

The Tech Info Library Article 17159: "**Locating Vendor Information**" can help you search for a particular vendor's address and phone number.

Published Date: Feb 18, 2012

LaserWriter 8500: Printing From Multipurpose Tray

I am trying to print via the multipurpose tray on my LaserWriter 8500 but I keep getting out of paper and paper jam errors.
This article has been archived and is no longer updated by Apple.
Be certain that the door to the multipurpose tray is open. Although it may appear that you can shut the door when paper is installed in the tray it is not recommended. The door actually acts as an extension to the tray, and if shut the paper may bow or bind causing misfeeds and out of paper indications.
Published Date: Feb 18, 2012

How to restore iPod for Windows in Windows ME

This article has been archived and is no longer updated by Apple.

This document applies to the original iPod for Windows that used the MUSICMATCH Jukebox software and was compatible with Windows ME. If you have Windows XP or Windows 2000 or a Mac, click here.

Background

First, it is important to understand the difference between "update" and "restore."

"Update" simply updates the software that controls iPod and may also update the firmware for the hard drive. Update does not affect the songs and files stored on iPod's hard disk.

"Restore" erases the hard disk and restores iPod to its original factory condition. Because Restore erases all of the songs and files on the hard disk, make sure to back up your songs and files first.

For instructions on how to update iPod, see "How to update iPod with Windows ME".

About the iPod Software Updater application

You use the iPod Software Updater application to update or restore your iPod. You can download it from the iPod Download page. From time to time Apple expects to release versions of this application that have newer versions of iPod software. These later versions may include new functions or improvements to existing features.

You can easily find out which software version your iPod has.

How to restore iPod for Windows ME

This procedure assumes that the iPod preferences are in their default condition, which means MUSICMATCH Jukebox automatically opens whenever you connect iPod to your computer.

Warning: The restore process cannot be undone. All of your songs and files will be deleted. Always make a backup of your important data.

1. Connect iPod to your computer using the cable that came with iPod. MUSICMATCH Jukebox opens, and if necessary updates iPod with your music library and playlists. The MUSICMATCH Jukebox display tells you when the music update is complete.
2. Quit MUSICMATCH Jukebox.
3. Open the Updater application. Click the **Start** button, point to **All Programs**, then point to **iPod**, and click **Updater**.
4. Click Restore. A progress bar appears.
5. If you have iPod 2.0 software or later and iPod is connected to AC power, skip to Step 9.
6. When the factory settings have been restored, a message appears on the Updater asking you to unplug the cable from iPod.
7. When prompted by iPod, reconnect the cable. iPod will load the iPod software. This will take about a minute. When iPod has finished loading, the iPod Software Updater's progress bar will be completely filled.
8. Click the close box in the iPod Software Updater to quit the Updater application. MUSICMATCH Jukebox automatically opens.
9. In the MUSICMATCH Jukebox Device Setup window, type a name for iPod in the space provided. The "Complete library synchronization" and "Automatically Synchronize on Device Connection" options are selected by default.
10. Click OK. A dialog box appears asking if you want to synchronize iPod with the library from this computer.
11. Click Yes. The download status appears in the MUSICMATCH Jukebox display.
12. Wait until the MUSICMATCH Jukebox display says it is safe to disconnect iPod.
13. Quit MUSICMATCH Jukebox.
14. iPod should display the "OK to disconnect message". If not, click the iPod Watcher icon in the system tray and choose Unmount.
15. Disconnect the cable from iPod. After a few moments, the Language display appears on iPod's screen.
16. Select a language.

iPod has been restored to factory settings and updated with the music and playlists in your MUSICMATCH Jukebox music library.

Published Date: Feb 18, 2012

How to update iPod with Windows ME

This article has been archived and is no longer updated by Apple.

This document is for original iPod (scroll wheel) being used with MUSICMATCH under Windows ME. If you need to update an iPod using Windows XP, Windows 2000, or a Mac, then click here.

Background

First, it is important to understand the difference between "update" and "restore."

"Update" simply updates the software that controls iPod and may also update the firmware for the hard drive. Update does not affect the songs and files stored on iPod's hard disk.

"Restore" erases the hard disk and restores iPod to its original factory condition. Because restoring iPod erases all of the songs and files on its hard disk, make sure to back up your songs and files first.

For instructions on how to restore iPod under Windows ME, see "Restoring iPod to factory settings".

About the iPod Software Updater application

You use the iPod Software Updater application to update or restore your iPod. You can download it from the iPod Download page. From time to time Apple expects to release versions of this application that have newer versions of iPod software. These later versions may include new functions or improvements to existing features.

You can easily find out which software version your iPod has. If you are using Mac OS 9, the download can be found here.

How to update iPod for Windows

This procedure assumes that the iPod preferences are in their default condition, which means MUSICMATCH Jukebox automatically opens whenever you connect iPod to your computer.

1. Connect iPod to your computer using the cable that came with iPod. MUSICMATCH Jukebox opens and updates iPod with your music library and playlists. The display tells you when the music update is complete. Don't confuse the music library update with the software update procedure in the iPod Software Updater application. The iPod Software Updater application does not update iPod with music files.
2. Quit MUSICMATCH Jukebox.
3. Open the Updater application. Click the **Start** button, point to **All Programs**, then point to **iPod**, and click **Updater**.
4. Click Update. If the update button is dimmed, the software on your iPod is either already up to date or is newer than the version in the iPod Software Updater application. A progress bar appears. If you have iPod 2.0 software or later, you can stop here unless your iPod is not connected to AC power.
5. When the software has been updated, a message appears in the Updater window asking you to unplug the cable from iPod. Unplug the cable.
6. When prompted by iPod, reconnect the cable to the power adapter and to iPod so it's getting power.

   iPod loads the new software. This takes about a minute.
7. When iPod has finished loading the new software Updater's progress bar is completely filled.
8. Click the close box in the iPod Software Updater to quit the Updater application.

Troubleshooting an update that won't work

If you can't install an update, reset iPod.

If after resetting iPod you still can't install an update, the software on iPod may be damaged. You may need to restore iPod.

The Mac version of the iPod Updater can only update Mac-formatted iPods, and the Windows version of the Updater can only update Windows-formatted iPods. To find out what format your iPod is, see "How to determine iPod's hard disk format."

Related document

61594: iPod: About Software Update
Published Date: Feb 18, 2012

TA38280_How_to_update_iPod_with_Windows_ME.pdf

Newton Internet Enabler 2.0: Installer Message

When installing NIE 2.0, during the installation, a message appears in a windoid just above the installer window. The installation happens so quickly, you don't get a chance to read the contents before it disappears.

This article has been archived and is no longer updated by Apple.
Contents of Message:

NIE Installer Message:

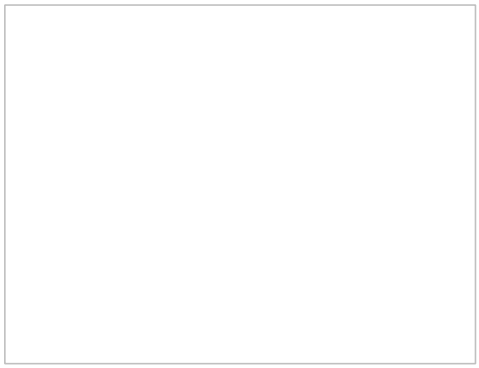
Before installing this latest version of the Newton Internet Enabler (NIE), you need to remove several package from any earlier versions of NIE that are installed on your Newton device.

Please remove the following packages:

- Internet Enabler
- Internet Setup
- ISP Templates

For more information, see the Newton Internet Enabler User's Manual.

NIE Installer Message Window:



Published Date: Feb 18, 2012

Mac OS 8: No Support For LaserWriter 8 Fax

This article describes compatibility between Mac OS 8 (and later) and the PostScript Fax option.

This article has been archived and is no longer updated by Apple.
Apple discontinued PostScript Fax development and does not plan to incorporate Fax capabilities in future versions of Macintosh or PC LaserWriter drivers.

The LaserWriter driver that ships with Mac OS 8 does not support faxing documents through PostScript Fax equipped printers, including the LaserWriter 16/600 PS Fax, the LaserWriter Select 360f and LaserWriter Pro 810f. Customers who wish to fax through these PostScript Fax capable LaserWriters from their Macintosh computers running Mac OS 8 may wish to use LaserWriter 8.2.3f. LaserWriter 8.2.3f, the most recent full featured PostScript Fax LaserWriter driver, is many years old. Though this driver has not been tested with Mac OS 8, if properly installed and configured as described below, it may work in your environment.

However, you should use the latest versions of LaserWriter software available for your normal printing. The latest version contains all the latest bug fixes, was thoroughly tested with the current Mac OS, with many popular applications, and with different Macintosh computers. However, when you wish to transmit the occasional fax, then you may wish to attempt to use LaserWriter 8.2.3f.

Two possible, albeit untested and unsupported, options may be to use either LaserWriter 8.2.3f or LaserWriter 8.3.4. Use them with the newer PPDs that ships with Mac OS 8.

Using LaserWriter 8.2.3f under Mac OS 8:

Again, LaserWriter 8.2.3f was only superficially tested with Mac OS 8 so proceed at your own risk.

- Remember to not use the LaserWriter 8.2.3f Installer but instead copy the LaserWriter 8.2.3f driver itself to your Mac OS 8 System Folder where it will be placed in the Extensions folder. The currently shipping printers' PPD files may be used with these old drivers.
- To print using LaserWriter 8.2.3f, open the Chooser, select Chooser Setup and set Background Printing to Off.
- Close the Chooser.

Note: No Desktop Printer Icon will appear on your desktop; nevertheless, print jobs will be processed by the LaserWriter driver selected via the Chooser.

When you have completed faxing with LW 8.2.3f, select your printer through the Chooser or highlight the printer's Desktop Printer icon and choose "Set default printer" from the Printing menu.

To once again select then Fax with LW 8.2.3f, reselect it through the Chooser.

Using LaserWriter 8.3.4 under Mac OS 8:

You may be able to use LaserWriter 8.3.4 (again not tested) installed and configured as described above for LW 8.2.3f. LaserWriter 8.3.4 requires you to enter your fax destination: LW 8.3.4 will remember the last phone number you faxed to, but if you wish to fax to a different destination you'll need to enter the new number.

Whereas LaserWriter 8.2.3f provides access to the Fax Phone Book to store your fax destination phone numbers. The LaserWriter Fax Log too may be used in conjuction with LW 8.2.3f. However, the Fax Printer Utility is not compatible.

These articles can help you locate the software update mentioned here:

- Article 14724: "Where To Find Apple Software Updates" - Lists online services for free Apple software updates.

Published Date: Feb 18, 2012

LaserWriter 8.5.1: Novell Network Printing

I am setting up a Novell network with the LW 8.5.1 driver and I cannot get the printer to print.
This article has been archived and is no longer updated by Apple.
Be sure to have Banner printing turned OFF, as the printer willl not print with it ON.
Published Date: Feb 18, 2012

System 7.5.5: ImageWriter LQ Compatibility

I have recently upgraded to a new Macintosh CPU running System 7.5.5. Now my Imagewriter LQ refuses to print a complete page without some sort of error code printing across it. I have tried using the original driver as well as downloading the latest which being American only lacks an A3 paper option.

Is there a driver which will work properly, and is it Mac OS 8.0 compatible as I will be upgrading to it soon?

This article has been archived and is no longer updated by Apple.
We successfully printed multipage documents from a Macintosh 950 running System 7.5.5 to a serially connected ImageWriter LQ.

Mac OS 8 Compatibility
We do not have knowledge of the degree of compatibility between the ImageWriter LQ driver and Mac OS 8 as this 10 year old printer was not tested, but anecdotal reports indicate some degree of compatibility. However, should you wish to use this combination, please proceed at your own risk.

Notes:

- The ImageWriter LQ and ImageWriter and ImageWriter II printer command sets are very similar, so you might test printing using the ImageWriter driver, that can be installed with the Mac OS 8 installer.
- Please check the documented known problems and troubleshooting tips offered on the TIL, such as how to perform a printer self-test.

Published Date: Feb 18, 2012

Network Assistant Startup: PC Setup Issue

PC Setup 1.6 and later does not load when the Apple Network Assistant Startup extension is installed.
This article has been archived and is no longer updated by Apple.
The Network Assistant Startup extension needs to be moved to the System Folder thus causing it to load after PC Setup. Once the extension load order is reversed everything will work properly.

Workaround:

1. Move Network Assistant Startup from the Extensions Folder to the base level of the System Folder.
2. Reboot workstations.

PC Setup and Network Assistant extensions will load in reverse order on the init parade. PC Setup and Network Assistant will function properly in this configuration.
Published Date: Feb 18, 2012

LaserWriters 12/640 and 16/600: Ports Listen To and Used.

Customer wants to know the ports other than 515 that the LW 12/640 and 16/600 listen to and use.

Customer has an application (Easy Spooler) running on AIX 4.1.4 that requires two ports. She is sending page formatting commands via PCL to control the printer but it times out and resets after each page rather than at the end of the job.

LPR works great, Appletalk printing works great, printer ROM level is 1.0.

She says the Easy Spooler requires a port above 1023.
This article has been archived and is no longer updated by Apple.
Apple LaserWriters use port (socket) 515, which is the default number specified by RFC 1179. Port 515 should be used for all printing jobs. If Easy spooler requires a port above 1023 there will be an ongoing conflict.

This feature is not part of RFC 1179 and is not part of the LPR printing standard, the standard we implemented and support.

Alternative:
Use LPR and port 515, or use a device that accepts LPR jobs using TCP/IP and forward them as PAP jobs using AppleTalk.
Published Date: Feb 18, 2012

A/UX: The "rwhod" Daemon Increases Network Traffic (9/94)

The "rwhod" daemon ("in.rwhod" in A/UX) maintains the database used by the "rwho" and "ruptime" programs.

This article has been archived and is no longer updated by Apple.
Doing this causes a lot of network traffic. Approximately every 60 seconds the daemon broadcasts and queries the state of each system (host) on the network. This action is network intensive (meaning the network response time becomes slower) on an already user-loaded network.

Suggestion: If you have a heavily loaded network and system performance is a concern, turn off the "in.rwhod" daemon. Note: The output of "rwho" and "ruptime" commands is meaningless if "in.rwhod" is not running.

Article Change History:
19 Sep 1994 - Reviewed.

Support Information Services
Published Date: Feb 18, 2012

FinePrint: Description

Below is a limited description of FinePrint available on some Apple LaserWriters.
This article has been archived and is no longer updated by Apple.
FinePrint smoothes out lines and curves and enhances text and line graphics that would normally appear jagged. For documents that require the finest quality text the printer can produce, turn FinePrint on.

FinePrint uses high-definition, print-quality enhancements provided by two ASICs (application-specific integrated circuits) that pulse the printer's laser more rapidly than previously possible. The high-definition ASICs improve text and line-art prints by:

- Maps the black/white transitions (or edge) formed on the page by the text or line-art.
- Calculates the ideal edge of the text or line-art.
- Pulses the laser to simulate the ideal edge of the text or line-art.

Figure 1 shows the three-step FinePrint calculation and print process. The LaserWriter ASICs pulse the laser up to 4800 dpi (dots per inch) in the horizontal direction, so images are extremely crisp and smooth.

Figure 1 FinePrint calculation and print process

The pulse technique allows greater control over the amount of toner the printer places within a 300 dpi pixel. The technique produces thinner pixels, and the more defined pixels make the printed edges look smoother.

NOTE: Check the user manual your LaserWriter printer to see if it supports FinePrint and how to turn in on. . Also, your printer may need additional RAM to support FinePrint. Again, refer to your user manual for this information.

Published Date: Feb 18, 2012

Some iPod accessories won‘t work with iPod nano

This article has been archived and is no longer updated by Apple.

Some accessories that work with other iPod models won't work with iPod nano. Here are some items to note and the affected accessories:

Photo Import

iPod nano cannot import photos from an accessory (use iTunes to copy photos to iPod nano). It will not work with third-party card readers or with the Apple Camera Connector. If you connect such a device, you'll see an error message that displays for about a minute and reads, “The currently attached accessory is not supported by this iPod.”

Voice Recorders (Microphones)

Like iPod mini, iPod nano does not work with third-party voice recorders.

iPod nano (Second Generation):
You can record voice memos using an optional iPod nano (Second Generation)-compatible microphone.

Apple iPod Remote

Because iPod nano does not have a remote port, it won't work with any accessory that requires it, such as Apple iPod Remote.

Headphones Port Location

The headphones port on iPod nano is located on the bottom, therefore, it won't work with any third-party accessory that requires that this port be located on the top.

No Video Out

iPod nano does not support video out through the dock connector or the headphone port. iPod nano is not compatible with the Apple iPod AV Cable designed for iPod with color display (and iPod photo).

If you need to use any of the above devices, you'll need to use an iPod model that supports the accessory.

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Published Date: Feb 18, 2012

iPod: Using the Stopwatch

This article has been archived and is no longer updated by Apple.

iPod Software 1.0 for iPod nano and Fifth Generation iPod introduced a Stopwatch feature. You can use the Stopwatch as you exercise to track your overall time and, if you're running on a track, your lap times too.

The Stopwatch menu is located in the Extras menu. To access the Stopwatch from the main menu, select Extras, then Stopwatch, and then Timer (Extras > Stopwatch > Timer) to see its display. Here's an overview of the Stopwatch interface:

1. Total time of session
2. Current lap time
3. Left button (Start function shown)[1]
4. Battery indicator
5. Right button (Clear function shown)[1]

1. The left and right buttons' names and functions will change, depending on the current state of the Stopwatch.

Using the Stopwatch

When you first enter the Stopwatch screen, the left button is labeled Start and the right button is labeled Clear. To use the Stopwatch, select the Start button (use the Click Wheel to highlight the Start button, then press the Center button). The Stopwatch creates a new session, and both the total time of the session and the current lap time begin counting:

When these counters begin, the left button changes to Pause and the right button changes to Lap:

If you select the Lap button, the current lap time will be recorded in the session's log, then the Stopwatch resets the lap time to zero and begins counting the new lap's time. The total time of the session will freeze for 5 seconds after you select the Lap button so you can quickly view your total time at the end of that lap. After 5 seconds, the total time of the session displays the correct total time and resumes counting.

If you select the Pause button, both timers will stop counting and the left and right buttons will change to Resume and Done, respectively. If you select Resume, both timers will begin counting again. If you select Done, the Stopwatch records all the final times and creates statistics for your session in a log.

Please note that selecting the Done button does not reset the display. You will see the final times for your total time and lap time displayed:

To reset the display, select the Clear button (appears after you click Done and then select Timer again).

Stopwatch Behaviors

You can play music and use the Stopwatch at the same time. When iPod displays the Stopwatch screen, the Play/Pause, Next/Fast-forward, and Previous/Rewind buttons control music playback as usual. If you're playing music, you'll see an icon in the upper-left corner of the Stopwatch

screen that indicates the current playback state:

A play icon indicates that music is currently playing.

A pause icon indicates that a song is currently paused.

You can use the Menu button and the Click Wheel to navigate to other menus without interrupting the Stopwatch.

Note: The Stopwatch will prevent your iPod nano from sleeping if it's counting when running iPod Software 1.0. Both iPod nano and Fifth Generation iPod running iPod Software 1.1 or later can sleep if the stopwatch is running, provided you are not in the Stopwatch screen.

The Stopwatch will automatically stop if any of these three conditions are met:

- The total time counter reaches 24 hours
- iPod goes into hibernation (you can start it again when you wake iPod)
- You connect your iPod to a computer

The Stopwatch feature does not stop if placed into sleep by holding down the Play/Pause button.

Sessions and Session Logs

Each time you select the Done button, the Stopwatch saves and closes the current session and logs it. iPod can store up to five session logs; it'll delete the oldest session log when it records a sixth session.

Each session log includes the following information:

- Date and time of the session
- Total session time
- Shortest lap time
- Longest lap time
- Average lap time
- A list of each individual lap time

Each session log can contain up to 21 laps in iPod nano Software 1.0, and 200 laps for other iPod Software 1.1 and later. iPod won't log laps over the limit, but the lap counter and the total time counter will continue to work.

Viewing a Session Log

To view a session log, select the session from the Stopwatch menu:

Scroll down to see the rest of the session.

Deleting a Session

To delete a session log that you're currently viewing, press the Center button; iPod displays the Delete Session menu:

Select Delete to delete the session and its log. Afterwards, you'll see the Stopwatch menu, which no longer lists the deleted session.

Published Date: Feb 18, 2012

Syncing calendars to iPod with iTunes for Windows

This article has been archived and is no longer updated by Apple.

Starting with iTunes 5 for Windows, iTunes adds the ability to sync your Microsoft Outlook calendars to your iPod (**Note**: Outlook 2003 or later is required for calendar syncing). To configure iTunes to sync calendars to your iPod:

1. Open iTunes.
2. Connect your iPod and wait for it to appear in the iTunes Source list.
3. On the **Edit** menu, click **Preferences**.
4. Click the iPod tab.
5. Click the Calendars tab under the iPod tab.
6. Select the "Synchronize calendars from Microsoft Outlook" checkbox.

7. Click OK.
8. A dialog appears, telling you that a program is trying to access data from Outlook.
9. Select the "Allow access for" checkbox.
10. Choose a time limit from the menu:

11. Click Yes to close the dialog.
12. Click OK to close iTunes preferences.

Note: You will need to give iTunes access to your Outlook calendar through the dialog every time you sync your Outlook calendar with your iPod.

If you have any trouble syncing your calendar with your iPod, click here.

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Published Date: Feb 18, 2012

Newton Works: File Size Limits

I am trying to import a 6 page Microsoft Word document into Newton Works, but for some reason the file does not get there. I have also had problems printing an 8 page document from Newton Works. Does Newton Works have a file size limit?
This article has been archived and is no longer updated by Apple.
While it is possible to import large files into Newton Works, large files may impact system performance or result in system errors. As a workaround, large files may be broken up into several documents or reduced in overall complexity and file size by using fewer fonts or font styles.

The following suggested file sizes are a result of informal testing. However, large files may be created without any perceptible problems depending on complexity and available memory.

Newton Works:

- Paper - 60k
- Drawing - 32k
- Graphing Calculator - 32k
- Spreadsheet - 32k

Published Date: Feb 18, 2012

Avid Cinema: "Invalid JPEG data. Your movie clip may be corrupted"

When using a 6500 and a 16" Apple Color Display with the AvidCinema Software, I get an error message of "Invalid JPEG data. Your movie clip may be corrupted." when opening the application.
This article has been archived and is no longer updated by Apple.
The problem is the fixed resolution of the 16" Apple Color Display and the number of colors available is only 256 on the 65/6400 series CPUs that only have 2 or 1 MB of VRAM on the logic board, respectively. This results in the error message "Invalid JPEG data. Your movie clip may be corrupted.". It can happen on any monitor/CPU combination when the number of colors is 256 or less in 640 x 480 resolution. For Avid Cinema to open and function correctly, you need to have a monitor/CPU configuration that supports 16 bit color depth in at least 640 x 480 resolution.

On the 6400/6500 the only way to resolve this issue is to use a monitor that will be able to display the 640 x 480 resolution in 16 bit color (14" display, 15" Multiscan display, etc.) and to refrain from using the 16" Apple Color Display.
Published Date: Feb 18, 2012

iTunes 5 and QuickTime 7: Can‘t install on a computer with Windows XP Service Pack 2 (Japanese)

This article has been archived and is no longer updated by Apple.

If you are having difficulty installing QuickTime 7 or iTunes 5 (which installs QuickTime) on a computer with Microsoft Windows XP Service Pack 2 configured for Japanese, download and install the Update for Windows XP (KB894391) update. Once you do, you should be able to install QuickTime 7 normally.

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Published Date: Feb 18, 2012

OneScanner Dispatcher: Software Issue

Customer reported that Apple Color Scanner 2.1 Dispatcher hangs or infrequently crashes with a Type 2 error, or garbage pixels at the edge of the selection marquee becomes distorted.
This article has been archived and is no longer updated by Apple.
The following steps are known to cause the above symptoms:

1. Launch Dispatcher.
2. Click the "Scan" button.
3. Select parameters of Color, 600 dpi, and perhaps 3.38" x 2.61" or other dimensions.
4. Scan
5. When the scan was completed, select the "lasso" tool.
6. Using the lasso tool, select a circular region that takes up about half of the area of the window. 7. Using the mouse, "drag" the selection so that the majority of the selection is outside of the window area.
7. Drag the selection back into the visible window area.
8. Repeat steps 6 through 8 several times.

RESULTS:
After repeating steps 6 through 8, anywhere from 2 to 20 times, you are almost guaranteed to experience the problem. Two failure modes are:

Symptom 1:
Dispatcher hangs or infrequently crashes unexpectedly with a Type 2 error. Force-quit Dispatcher to exit though your system may remain unstable until you reboot.

Symptom 2: When manipulating the image, garbage pixels or the edge of the selection marquee becomes distorted. Clicking at the top of the active, Dispatcher's menu bar may return you to the Finder. When moving your scan window around picture or window 'remnants" may appear on the screen.

Possible workarounds:
Saving your scanned file prior to manipulating the image may reduce the frequency of the failures. Minimize using the lasso tool may too help. If the problem persists, consider opening and manipulating the image with a program such as Adobe Photoshop.
Published Date: Feb 18, 2012

Message Pad 2000: Newton Works Error When Ejecting a Flash Card

When saving (moving) the Newton Works application to an external Flash card from the Extras Drawer, you get an error message when ejecting the card that "the card contains items that are in use by Newton Works. Ejecting the card could cause damage to your data". This occurs whether or not the Newton Works application is active or not.

If the card is then reinserted and ejected the message "you can now safely remove the card" appears. Removing the card, reinserting and ejecting it again will continue to reproduce the error with the same results. The data on the card is never damaged, nor is the data on the MessagePad ever damaged.
This article has been archived and is no longer updated by Apple.
This is documented in the Developer's Notes from September 1993.

Newton realizes this is not the ideal behavior of Works, but it is currently supported only on ROM on the eMate and internal store on the Message Pad 2000.
Published Date: Feb 18, 2012

Newton Internet Enabler 2.0: Ethernet, Memory and OS Requirements

I would like to use my MessagePad to access our company intranet over ethernet. Will this require more memory?
This article has been archived and is no longer updated by Apple.

NIE 2.0 And Flash Storage

NIE 2.0 is a significant enhancement to the networking functionality for MessagePad 2000 and eMate devices. This functionality requires additional flash storage space (either internal or on a PC card).

We recommend that NIE 2.0 users install only the NIE components they need. The necessary components will depend on the required connection methods (ethernet, LocalTalk, modem/serial). Please refer to the manual for additional installation

Due to these increased storage requirements, Apple recommends that eMate 300 customers using ethernet or modem connectivity, upgrade the internal storage (flash) when using NIE 2.0. eMate customers using LocalTalk connectivity may be able to use flash PC cards in lieu of an internal memory upgrade.

NIE 2.0 And Ethernet Support

At the present time, the only PC Card ethernet adapter that works with either the eMate 300 or MessagePad 2000/2100 is the Farallon ethernet card.

Note: Dual function PC cards (e.g. modem & ethernet) do not work.

The specific models are:

Part #	Description
PN895*	EtherWave PC Card
PN595-TP	EtherMac PC Card (10Base-T)
PN595-C*	EtherMac PC Card Combo (10Base-T and thinnet)
* Apple is working with interested third party vendors to bring additional PC card support to the Newton platform.	

NIE 2.0 And System Memory

NIE 2.0 does not require a system memory expansion. Users who upgrade their eMate or MessagePad 2000 devices to 4MB of system memory will notice improved performance.

Newton OS Requirements

Newton OS 2.1
- MessagePad Newton OS 717041 or later
- eMate Newton OS 737041 or later

Note: NIE 2.0 was specifically developed for use with the English version of the Newton OS. Although NIE 2.0 is not officially supported for use with Newton OS - D (German), customer feedback appears to indicate the software does function as expected. The latest version of NIE supported by Apple with Newton OS - D is version 1.1.1.

Published Date: Feb 18, 2012

iTunes 5: Shared Music libraries do not appear when Radio is disabled

This article has been archived and is no longer updated by Apple.

In iTunes 5.0.0, if you deselect the Radio option in iTunes preferences on a Mac or Windows computer, you will no longer see Shared Music libraries (from other computers on your local network) that are normally visible in the iTunes Source list. The Shared Music icon will remain in the Source list, but you won't see any shared libraries listed.

If you've opted to share your music library on your local network, it will still be visible to others, as it's not affected by whether you've selected the Radio option or not.

To resolve this, download and install iTunes 5.0.1 or later.

Published Date: Feb 18, 2012

Performa 6xxx Computers: 5xxx/6xxx Floppy Fix 1.0

I have a Performa 6200 and a 6300 in my office. After upgrading the Mac OS 7.6, I notice that floppy disks take a little bit longer to mount in the Finder when compared to system software 7.5.3 or 7.5.5. Upgrading to Mac OS 7.6.1 or Mac OS 8 does not help. I found the "5xxx/6xxx Floppy Fix 1.0 " on Apple's Software Updates site. According to the 5xxx/6xxx Floppy Fix Read Me, this issue should be corrected after installing the fix. After installing the fix, I notice that there is no improvement in the amount of time it takes to mount a floppy.

What can I do to correct this issue?
This article has been archived and is no longer updated by Apple.
By default under the Mac OS, a floppy disk is checked for problems before being mounted in the Finder. With the introduction of Mac OS 7.6.1 and in Mac OS 8, this checking is more strict to help users avoid using damaged floppies. The 5xxx/6xxx Floppy Fix 1.0 slightly improves the speed of this checking process.

The 5xxx/6xxx Floppy Fix 1.0 extension was designed to work with both Power Macintosh and Performa 5xxx/6xxx (but not the 6360) computers under both Mac OS 7.6.1 and 8. After the software was released, it was found that the 5xxx/6xxx Floppy Fix 1.0 only loads on the Power Macintosh/Performa 52xx/53xx computers. Contrary to the 5xxx/6xxx Floppy Fix Read Me, this fix does not load on the Performa 62xx/63xx computers. This has been reported to Engineering and will be corrected in the next release of the Mac OS following Mac OS 8.

In the meantime, Power Macintosh and Performa 62xx/63xx users can avoid this issue by rebuilding the desktop on the floppy disk by pressing the command and option keys when inserting the floppy. This will rebuild the desktop and decrease the amount of time it takes to mount the floppy. After inserting the floppy with the command-option keys held down, you will be asked if you want to rebuild the desktop. Click OK to start the rebuild.
Published Date: Feb 18, 2012

Performa Desktop: Patterns Are B&W

I have a Performa series computer with System 7.1P. The General Controls control panel is no longer offering Desktop patterns in color. The Desktop patterns are in black and white, while everything else is in color. What could be causing the problem?
This article has been archived and is no longer updated by Apple.
The symptom you described can occur if the Performa General Controls control panel is replaced by the generic System 7.1 General Controls control panel. The General Controls control panel is not the same for the Performa system software (System 7.1P) and the generic System 7.1. The two control panels are not interchangeable. The System 7.1P General Controls control panel has 16 pre-defined desktop patterns which are not editable. The System 7.1 desktop patterns can be edited, however, the patterns are at a much lower resolution than the Performa desktop patterns.

If you wish to use the generic System 7.1 General Controls control panel, you will have to install the complete version of System 7.1.
Published Date: Feb 18, 2012

eMate Storage Cart: Description

This article describes the eMate Storage cart manufactured by Bretford Manufacturing, Inc.
This article has been archived and is no longer updated by Apple.
The eMate Storage Cart can be ordered by calling 1-800-800-APPL. All Service and Support for the eMate Storage Cart is handled by Bretford Manufacturing, Inc.

Bretford Manufacturing, Inc.
11000 Seymour Avenue
Franklin Park, Illinois 60131 USA

Phone: 847-678-2545
Toll-Free Phone: 800-521-9614
Fax: 847-678-0852
Toll-Free Fax: 800-343-1779

Features & Benefits

- Includes 15-outlet electrical unit, which meets UL requirements, to charge units
- Cart feature two shelved with eight compartments per shelf, which allows space for 16 units
- Top shelf can be used as a space for computer and printer or as a general working surface
- Shelf dividers may be removed for flexibility
- Cord holders for each unit provide convenient cord management
- Locking doors ensure security of equipment
- Single grommet hole in back of unit enables electrical unit to be plugged into wall for easy charging of units
- Sturdy metal construction is light enough to push with handles on each side
- Four-inch casters (2 locking) allow table to be rolled easily from room to room
- features holes on back of cart for ventilating charging units
- Removeable back panel allows for easy access to electrical unit

DIMENSIONS

Overall: 35 1/2"W x 21 1/2"D x 38 1/8"H
Compartments: 4 3/16"W x 13 1/2"H
List Price: $598.00

eMate Storage Cart
Order No. T2058LL/A
Published Date: Feb 18, 2012

PlainTalk Audio Port: Adapter

I have a standard 3.5 mm connector PC microphone connected to my Power Macintosh computer. It will not work. I noticed that the recommended Apple PlainTalk Microphone has a longer connector. Is there an adapter I can use to make my microphone work?
This article has been archived and is no longer updated by Apple.
The PlainTalk microphone requires +5 V DC power to function, thus the extra length on the connector. If you use a non-Apple microphone, it must supply the line level signal in order to work properly when connected to the PlainTalk audio port on most Macintosh computers.

Griffin Technology makes a microphone adapter which allows you to use most standard unpowered PC microphones with any desktop Macintosh computer which use a standard PlainTalk audio port.

Please check with Griffin Technology for more information on this product.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

The following Tech Info Library article can help you search for a particular vendor's address and phone number:

Article 17159: "**Locating Vendor Information.**"
Published Date: Feb 18, 2012

Apple RAID: Supported Systems

Apple RAID is only available bundled with Apple Workgroup Servers. It is not available separately and is not supported when installed on a system other than the server it was bundled with.
This article has been archived and is no longer updated by Apple.
Here is a list of Apple supported configurations:

Supported Hardware	Version of RAID	Supported Mac OS	Changes from Prior Version
WS 6150, 8150, 9150	1.0.1	7.1.2 to 7.6	--
WS 6150, 8150, 9150	1.0.2	7.5.1 to 7.6	4 GB volume support
WS 7250, 8550	1.1	7.5.3 to 7.6	Weighted striping, Install driver without initializing, PCI server compatibility.
WS 7250, 8550	1.1.1	7.5.3 to 7.6	--
WS 7350, 9650	1.5(1)	7.6.1 only	Quick initialization added, VM supported
WS 7350, 9650	1.5.3(1)	7.6.1, 8.0	Mac OS 8 support
WS G3	2.0.2(1)	8.1	Mac OS 8.1, HFS+ support, Stripe-in-place

Table Notes:
1. denotes SoftRAID software from Conley. There are other articles on the SoftRAID software setup and configuration.
For further information, see TIL Articles:
Article 36427: "**SoftRAID: Overview**"
Article 36429: "**SoftRAID: Minimum Requirements**"
Article 36343: "**Conley SW: RAID Firmware and Software Updated**"
Article 36428: "**SoftRAID: Setting up HFS, Mirror, and Stripe Volumes**"
Article 22018: "**Workgroup Server 7350 and 9650: Software Bundles**"
Article 58258: "**Power Macintosh G3 (Blue and White): Cannot Boot from a RAID Striped Volume**"
Article 12445: "**Conley Corporation**"

Published Date: Feb 18, 2012

MessagePad 2x00: Contrast Adjustment

This article discusses the behavior of the contrast adjustment slider in the Newton OS found on the MessagePad 2100, or on a MessagePad 2000 with Newton OS Update 717260 installed.
This article has been archived and is no longer updated by Apple.
When adjusting the contrast on a Newton MessagePad 2100, or on a MessagePad 2000 computer with Newton OS Update 717260 installed, the display may respond with a faded appearance.

To correctly adjust the contrast, use the following steps.

1. Tap and Hold the contrast adjustment diamond-shaped slider "handle".
2. Drag the diamond to the setting most comfortable for your environment and release.
3. Tap the word "Contrast" positioned under the contrast adjustment slider.
4. Your display should adjust itself to the contrast point you selected.

To save this setting as the contrast slider middle point, quickly double-tap the word "Contrast" below the slider. When the message appears asking if you want to center the slider, tap "Yes". The diamond on the slider returns to the middle. The middle point of the contrast slider is now at the desired contrast setting.

Note: Do not set the middle point so that the contrast is too light or too dark. If you do so, you may not be able to read anything on the screen. To return to the factory setting, you must do a hard reset. (This will erase all of your data.) For detailed information about resetting, see the MessagePad 2000 User's Manual or MessagePad 2100 PDF document.

For more information regarding the use of the contrast adjustment feature, please review your product documentation, or the Read Me included with the Newton OS Update patch.
Published Date: Feb 18, 2012

Ofoto: Compatibility Issues

Ofoto software that shipped with Apple OneScanners and Apple Color OneScanners was not tested with PowerMacintosh, System Software 7.5, Apple's 600/27 or 1200/30 scanners, or newer versions of the Mac OS, and is known to not work reliably with these configurations.
This article has been archived and is no longer updated by Apple.
Note: LightSource (the developer of Ofoto) no longer offers phone support or software upgrades, and has no plans to revise Ofoto to be compatible with current versions of the Mac OS.

Customers who wish to use their Apple OneScanner or Apple Color OneScanner on Macintosh computers running System 7.5 or newer may want to consider the following:

1) Use the software included with the scanners instead of Ofoto.

2) Some third-party software options are listed below. We encourage you to contact the vendor to ensure the product has the features and offers the compatibility to fit your needs.

Note: Apple does not recommend or endorse any of these solutions; they are provided purely for informational purposes. Support for these products is provided solely by the software vendor, not by Apple.

The following software packages may serve as alternatives to Ofoto software:

ScanTastic ps
Photoshop plug-in for Apple, Epson, and Hewlett-Packard scanners
Second Glance Software - 360-692-3694

ScanPrepPro 2.01
ScanPrepPro is a Photoshop acquire module designed to automate scanning
and image manipulation processes.

ImageXpress
1121 Casa Nova Ct.
Lawrenceville, GA 30244

404-564-9924
404-564-1632 (fax)

DPI Art-Scan Professional
Scanning software for line art, gray-scale, and color originals

DPI Electronic Imaging Systems
629 Old State Route 74, Ste. 1
Cincinnati, OH 45244

513-528-8668
800-374-7401
513-528-8670 (fax)

QuickScan
PixelCraft, A Xerox Co.
130 Doolittle Dr., #19
San Leandro, CA 94577

510-562-2480
800-933-0330
510-562-6451 (fax)

FotoLook
Scanner interface
FotoLook is a professional plug-in that allows scanners to be driven from PCs, Macs, or Power Macs.

Agfa Division, Bayer Corporation
100 Challenger Rd.
Ridgefield Park, NJ 07660

OneScan 1.1.1
An Adobe Photoshop plug-in that can be downloaded from the InfoMac Archive software site at:
ftp://mirror.apple.com/mirrors/Info-Mac.Archive/gst/grf/pshp/one-scan-111.hqx
This plug-in was written by Richard Parr.

Notes:

1) Should a third-party application require a driver from the scanner manufacturer, you might try using the latest Apple OneScanner and Apple Color OneScanner driver developed and tested for use with Dispatcher 2.0 or Ofoto 2.0.1 or later. This driver is posted on Apple Software Updates and is named: **Dispatcher-Ofoto Drvr 4.2.sea.**

2) Those using Ofoto with Mac OS 8 may benefit from a freeware extension called OS8foto developed by Jon Hueras. This extension provides a workaround for a pop-up window problem. OS8foto **only** addresses a software conflict between Ofoto and Mac OS 8 and has no effect whatsoever unless Ofoto is the foreground application. The extension **does not** address any hardware problems.

This extension is available on the Web at **http://www.macfixit.com/**. Use the Search facility to find OS8foto.

This article provides information about non-Apple products. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information. Support for these products is provided solely by the software vendor, not by Apple.

The Tech Info Library article, #17159: "**Locating Vendor Information**", can help you search for a particular vendor's address and phone number.
Published Date: Feb 18, 2012

GeoPort Modem: AOL v3.0D Issue

Version 3.0D of AOL that was initially bundled with the Power Macintosh 6500 (and System 7.5.5) contained an incorrect initialization string for the GeoPort modem.

Instead of disabling some of the result codes using ATW0, the string enables all results codes, ATW2. The additional result codes disrupt the process of getting the local number list for AOL and it drops the connection.

Unfortunately, the user only sees a dialog that informs them that the modem has lost the carrier. These result codes do not affect normal AOL connections.
This article has been archived and is no longer updated by Apple.
There are several workarounds to this problem:

- Install a later version of AOL, the versions on the System 7.6.1 and MacOS 8 CDs are both OK.
- Edit the modem profile in the Setup area of AOL. Change the W2 to W0.
- Call AOL for a local number and manually enter it in the Setup area.

Published Date: Feb 18, 2012

AppleShare IP Mail 5.0.3: Read Me

This article contains the AppleShare IP 5.0.3 Read Me file.

CONTENTS:

- What's New
- Requirements for Running AppleShare IP 5.0.3 Mail Server
- Support
- Installing AppleShare IP 5.0.3
- Known Problems, Incompatibilities and Limitations

This article has been archived and is no longer updated by Apple.

What's New

AppleShare IP 5.0.3 Mail Server provides a fix for a specific bug present in the AppleShare IP 5.0.2 Mail Server. This bug could cause the AppleShare IP Mail Server to delay the delivery of remote mail under some circumstances. The bug in 5.0.2 does not result in loss of mail, it can simply delay the delivery of mail. The length and duration of the delay depends on the complexity of your TCP/IP network and the load on the AppleShare IP Mail Server. Busy mail servers are less likely to see the problem than are idle/medium traffic mail servers.

No new features are present in this version of the AppleShare IP Mail Server. The AppleShare IP 5.0.3 Mail server is fully compatible with mail databases created by 5.0.1 & 5.0.2.

Requirements for Running AppleShare IP 5.0.3 Mail Server

- CPU: Any Apple Power Macintosh computer or Workgroup Server with a PowerPCTM 601, 604, or 604e microprocessor.
- RAM: 32 MB of memory with virtual memory turned on; 48 MB with virtual memory turned off. More memory may be needed if you are using one or more web server plug-ins.
- System Software: MacOS 8.0, which includes Open Transport 1.2 and OpenDoc 1.2.1, is strongly recommended. The minimum requirement is MacOS 7.6 or later with OpenDoc 1.1.2 or later and Open Transport 1.1.2 or later, except for the Workgroup Server 7350 and the Workgroup Server 9650, which require MacOS 7.6.1 or later.

Support

Telephone Support

In the United States, if you have questions about AppleShare IP 5.0.3 that are not answered by the AppleShare IP Administrator's Manual or Apple Guide, call the Apple Assistance Center at 1-800-APL-CARE (1-800-275-2273) during telephone support hours (Monday through Friday, 6 am to 6 pm Pacific time). When prompted, enter the support access number provided on the back of your Apple Support Card and follow the instructions.

If you are located outside of the United States, refer to the support information that came with your AppleShare IP 5.0.2 software for instructions.

Web Site

If you have an Internet connection, check the Apple Support Information Web site at http://www.info.apple.com and the AppleShare IP Web site at **http://www.apple.com/appleshareip/** for tips, solutions to problems, or any patches that may become available after the release of the software.

AppleShare IP Mailing List

To receive information about future software updates, you are cordially invited to join the AppleShare IP mailing list. By joining the mailing list, you will also have the opportunity to share your experiences, questions, and comments with others using the software. Apple employees monitor the list, but Apple does not guarantee that all questions directed to this list will be answered. For more information about the mailing list, see the AppleShare IP Web site at **http://www.apple.com/appleshareip/**.

Installing AppleShare IP 5.0.3 Mail Server

In order to install AppleShare IP Mail 5.0.3, you must have previously installed AppleShare IP Mail 5.0.2. The AppleShare IP Mail 5.0.3 Updater can only upgrade AppleShare IP 5.0.2 systems. For further information about obtaining AppleShare IP 5.0.2 please see the AppleShare IP web site at: **http://www.apple.com/appleshareip/**.

1. Quit the AppleShare IP Mail Server.

2. Download and extract the AppleShare IP 5.0.3 GM Package. Run the ASIP Mail 5.0.3 Updater. The ASIP Mail 5.0.3 Updater is an application that you open in the finder (by double clicking on the file). When this application is run it will find the AppleShare IP Mail 5.0.2 Application file on your locally mounted hard drives.

3. Choose the AppleShare IP Mail Server present in the Extentions folder of your active System Folder. Click the "Update" button.

4. After running the Updater restart your Macintosh and re-launch the AppleShare IP Mail Server.

5. The installation process is now complete. You are now running the AppleShare IP Mail 5.0.3 server. This can be verified by viewing the Server Log in the AppleShare IP Mail Admin program. The server's startup message printed in the log should read:

"AppleShare IP Mail Server 5.0.3 was started at: <date & time>"

Known Problems, Incompatibilities and Limitations

Mail Databases created with version 5.0 of the Mail Server are not compatible with those used by versions 5.0.1, 5.0.2, and 5.0.3. There are two methods available for preserving email that is contained in a 5.0 Mail Database.

1. Before upgrading to 5.0.3, have all clients download their messages from the Mail Server. When that is complete, shut down the Mail Server so that you can simply throw away the AppleShare IP Mail 5.0 Database. The 5.0.3 server will create a New Database upon startup.

2. There is a tool available on the AppleShare IP Web site. (http://www.apple.com/applesharеip//) which can convert ASIP Mail 5.0 databases to the file format compatible with 5.0.1, 5.0.2, and 5.0.3. This tool is called the AppleShare IP Mail Tool. The tool also allows scavenging of corrupted AppleShare IP Mail Databases, compression of AppleShare IP Mail Databases, and reassignment of disabled mail account/mailboxes (see section in this Read Me about disabled accounts).

Mail Server

- If you need to modify your TCP/IP configuration, stop the Mail Server, make changes to the TCP/IP control panel, and restart the Mail Server.
- The Mail Admin folder inside the AppleShare IP 5.0 folder on your startup disk contains an application called the PowerShare Exporter. You can use PowerShare Exporter to export users from PowerShare and import them into an AppleShare IP Users & Groups Data File.
- The Mail Server should not be running when you back up the Mail Server's mail database. AppleShare IP 5.0 comes with a Retrospect script for stopping the Mail Server, backing up the mail database, and restarting the Mail Server automatically. For information on this script, see the ReadMe file for the Retrospect Event Handler script in the Mail Backup Samples folder at the root level of the AppleShare IP 5.0 CD-ROM disc.
- The AppleShare IP Mail Server uses a special "fingerprint" to ensure that a user's account in the mail database matches the correct user in the Users & Groups Data File. The fingerprint is a unique number that is stored in the user's record in the Users & Groups Data File and in the user's account/mailbox in the mail database.

The Mail Server checks for fingerprint mismatches each time it starts up. When it finds a user in the mail database whose fingerprint does not match the fingerprint of any user in the Users & Groups Data File, the Mail Server enters a summary message in the Mail Server log and a detailed message in the Mail Server error log, and disables the user's mail account/mailbox. To retrieve mail from a disabled mail account, use the AppleShare IP Mail Tool (available from the AppleShare IP Web site at http://www.apple.com/applesharеip/) to assign the mail account to a valid user in the Users & Groups Data File.

You can prevent mismatch problems by taking these precautions:

- Treat the Users & Groups Data File and the mail database as a set. Always back up and restore them together. If you were to restore the Users & Groups Data File without also restoring the mail database, Mail Server would disable the mail accounts of users who are in the mail database but who are not in the restored Users & Groups Data File. If you must restore the Users & Groups Data File, make sure that all current users have retrieved their mail first (if possible). Then restore the Users & Groups Data File and the mail database from the same backup. Alternatively, you can restore the Users & Groups Data File, start the Mail Server, note the mail accounts that are disabled, and use the AppleShare IP Mail Tool to assign the disabled accounts to valid users.
- If you move the mail database to another computer, move the Users & Groups Data File, too. If you were to move the mail database to another computer without moving the Users & Groups Data File, the Mail Server would disable most (if not all) mail accounts and create new, empty mail accounts for the users in the Users & Groups Data File for whom mail is enabled. (Note, however, that if you move the Users & Groups Data File to another computer that is running the Web & File Server, any access privileges that have been assigned on that computer will be lost because the access privileges no longer match the Users & Group Data File.)
- When you delete users for whom mail is enabled, make sure the AppleShare IP Mail Server is running. If the Mail Server is not running when you delete users for whom mail is enabled, the next time the Mail Server starts up, it will report that the deleted users' mail accounts do not have a matching entry and it will disable their mail accounts.

Note: It is always safe to throw away a mail database that is empty (as indicated by a zero in the "Number of Messages" field in the Mail Server Activity window). When you restart the Mail Server, it will create a mail account for each user in the Users & Groups Data File for which the Enable Mail radio button is selected.

Published Date: Feb 18, 2012

AppleShare IP Print Server 5.0.3: Read Me

This article contains the AppleShare IP Print Server 5.0.3 Read Me file.

Contents:

- What's New
- Requirements for Running AppleShare IP 5.0.3
- Installing AppleShare IP Print Server 5.0.3
- Support Information

This article has been archived and is no longer updated by Apple.

What's New

AppleShare IP Print Server 5.0.3 provides three bug fixes for AppleShare IP 5.0.2 Print Server.

1. A fix for the "network time out" problem. This bug was causing random print jobs to be not printed, mostly on non-Apple printers.
2. A fix for a bug where print jobs were sometimes "dropped" on busy servers.
3. Better compatibility with PostScript files generated by applications other than Apple laser printers. This fixes problems with printing from many graphics applications.

Requirements for Running AppleShare IP Print Server 5.0.3

- CPU: Any Apple Power Macintosh computer or Workgroup Server with a PowerPCTM 601, 604, or 604e microprocessor.
- RAM: 32 MB of memory with virtual memory turned on; 48 MB with virtual memory turned off. More memory may be needed if you are using one or more web server plug-ins.
- System Software: MacOS 8.0, which includes Open Transport 1.2 and OpenDoc 1.2.1, is strongly recommended. The minimum requirement is MacOS 7.6 or later with OpenDoc 1.1.2 or later and Open Transport 1.1.2 or later, except for the Workgroup Server 7350 and the Workgroup Server 9650, which require MacOS 7.6.1 or later.

Installing AppleShare IP Print Server 5.0.3

You must have the final version of AppleShare IP 5.0.2 installed before you can install 5.0.3 version of the Print Server. You cannot install over AppleShare IP 5.0, 5.0.1, or any of the previous seed releases. For further information about obtaining AppleShare IP 5.0.2, visit the AppleShare IP web site at: **http://www.apple.com/applesharеip/**. To install AppleShare IP Print Server 5.0.3:

1. Quit the AppleShare IP Print Server.

2. Run the "Print 5.0.3 Updater" application.

3. The updater will find and list all copies of AppleShare IP Print Server file on your locally mounted hard drives. Choose the AppleShare IP Print Server file located in the Extensions folder of your active System Folder. Click the "Update" button.

4. Restart your computer.

Support Information

Telephone Support

In the United States, if you have questions about AppleShare IP 5.0.3 that are not answered by the AppleShare IP Administrator's Manual or Apple Guide, call the Apple Assistance Center at 1-800-APL-CARE (1-800-275-2273) during telephone support hours (Monday through Friday, 6 am to 6 pm Pacific time). When prompted, enter the support access number provided on the back of your Apple Support Card and follow the instructions.

If you are located outside of the United States, refer to the support information that came with your AppleShare IP 5.0.2 software for instructions.

Web Site

If you have an Internet connection, check the Apple Support Information Web site at **http://www.apple.com/support** and the AppleShare IP Web site at **http://www.apple.com/applesharеip/** for tips, solutions to problems, or any patches that may become available after the release of

the software.

AppleShare IP Mailing List

To receive information about software updates, you are cordially invited to join the AppleShare IP mailing list. By joining the mailing list, you will also have the opportunity to share your experiences, questions, and comments with others using the software. Apple employees monitor the list, but Apple does not guarantee that all questions directed to this list will be answered. For more information about the mailing list, see the AppleShare IP Web site at http://www.apple.com/appleshareip/.
Published Date: Feb 18, 2012

Network Assistant: Using With PC Compatibility Card

I have a PC Compatibility Card using PC Setup 1.6.4 and Network Assistant installed. PC Setup will not load if the Network Assistant extension is loaded. Is there any way I can use both at the same time?

This article has been archived and is no longer updated by Apple.

The workaround is to move the Network Assistant extension to the root of the system folder. This is where the System and Finder reside. This will cause Network Assistant to load after PC Setup and everything will work.

Published Date: Feb 18, 2012

iTunes: No Photos or Videos tab in the iPod preferences pane in Mac OS X

This article has been archived and is no longer updated by Apple.

If you come across a situation in which iTunes doesn't display the Photos or Videos tab but does display the Music tab for an iPod that supports Photos or Videos, this may be due to the iPodDriver.kext file not loading correctly.

To resolve this issue, follow the steps in this article.

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YARC Systems Corporation

YARC Systems Corporation
This article has been archived and is no longer updated by Apple.
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Company Profile:
Hardware, specializing in coprocessors and PCI cards including the PostScript RIP.
Published Date: Feb 18, 2012

Aperture: How to delete an image

This article has been archived and is no longer updated by Apple.

When it comes to deleting images, the required action will depend on whether you want to remove the master, one of its versions, or an alias. Because Aperture is a non-destructive editor with an emphasis on preserving untouched originals, it uses warning dialogs and more complex keyboard shortcuts to protect you from accidentally deleting valuable masters and versions. On the other hand, a single keystroke can delete alias files that lack unique information.

Here's a look at each type of image file, where you'll find them, and how to delete them by choosing a menu command or keyboard shortcut.

	Master	Version	Alias
What is it?	A master is the original image imported from your camera or other device. Deleting a master will also delete all of its versions.	A version is a record of your adjustments to a master, plus a thumbnail. It does not contain a copy of the original image, so it takes up very little disk space. The image you see in the Viewer is actually the result of adjustments contained within a version being applied to the master in real time. Deleting a version from one location will also remove it from other locations in which it appears.	An alias is a pointer or reference to a version. It contains no unique information, so it's a breeze to delete.
Where it's seen	Only when you choose **View > Show Master Image** in the Viewer. The thumbnails you see are always versions or aliases—never masters.	In the browser for projects and the Library, and in the Viewer.	In the browser for light tables, books, albums, web galleries, and web journals
How to delete	1. Select a thumbnail. 2. Choose **File > Delete Master Image and All Versions.** 3. Click the "Move to Trash" button.	1. Select a thumbnail. 2. Choose **File > Delete Version**. 3. Click the Remove button. **Note:** If you have only one version of an image, you can't delete it without also deleting the master.	1. Select a thumbnail. 2. Choose **Images > Remove From Album**.
Shortcut	Command-Delete	Command-Delete	Delete

In addition to menus and keyboard shortcuts, you can also access the image removal commands in the shortcut menu by Control-clicking any image.

Published Date: Feb 18, 2012

At Ease: Apple System Profiler 1.3.1 Issue

When trying to open Apple System Profiler 1.3.1 while in At Ease (v2, v3), the following message appears "The document 'Apple System Profiler' could not be opened, because the application 'Apple System Profiler' could not be found. Could not find a translation extension with appropriate translators."

Apple System Profiler works fine under the full Finder.
This article has been archived and is no longer updated by Apple.
A subtle change to Apple System Profiler 1.3.1 version, was the change in file type from APPL to APPD. This was done to facilitate auto routing to the Apple Menu Items folder when the application is dropped onto the System Folder.

This different file type causes some confusion under At Ease when launching the application. Mac Easy Open gets involved thinking this is a document instead of an application and produces the problem error message.

If an older version of Apple System Profiler (of file type APPL) is also present on the disk, then Mac Easy Open launches this application and tells it to open the APPD version of Apple System Profiler, producing a blank window, whose name is the same as the Apple System Profiler (APPD) application.

For now, a work around is to use any file type changing utility, (ResEdit, DiskTop, Drop?Info, FileBuddy, FileTyper) to change the file type of Apple System Profiler to APPL.

This problem is fixed in ANAT 2.0 (At Ease 5.0).
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LaserWriter 8500: Fonts and the Apple Printer Utility

When I view the fonts via the Apple Printer Utility I only see two fonts listed. Also, when I select Print Font Samples from the Utilities menu, only six font samples print. What is causing this?
This article has been archived and is no longer updated by Apple.
If you are using an Apple Printer Utility prior to version 2.2, that installs with the LaserWriter 8500, you will experience the issue you are describing.

Apple Printer Utility 2.2 is available only as a custom install from the LaserWriter 8.5.1 installer on the LaserWriter 8500 CD, or can be downloaded from Apple Software Updates.

The Apple LaserWriter Software folder is installed at the root level on your hard drive.

This article can help you locate the software update mentioned here:

- Article 14724: "**Where To Find Apple Software Updates**" - Lists online services for free Apple software updates.

Published Date: Feb 18, 2012

Aperture: How to filter by keyword

This article has been archived and is no longer updated by Apple.

Aperture includes a set of keyboard shortcuts that filter images by keyword so you can quickly see only those images that are tagged as, say, a "portrait." These shortcuts work the same way as those for sorting images by rating, and they have the same effect you'd get by using the Filter HUD.

The keyboard shortcut to filter by keyword is Command-*number*, where *number* is the number assigned to the desired keyword. For example, you could press Command-1 to display all images tagged with the keyword *Action*. If you don't have any images tagged as Action, Aperture won't display any images.

Tip: Filters treat stacks based on the pick only. If your pick is keyworded Action, but you also have a Portait in the stack, the entire stack will be missing when filtering for Portait.

The keyword numbers, which are configurable, appear on the buttons in the keyword control bar. To learn more about assigning and using keywords, see "Applying Keywords to Images" on page 117 of the Aperture Getting Started guide.

To remove the keyword filter, you can just click the "x" in the search field to clear it. This will return you to the default view of "unrated or better" images. To see all images, including rejects: Press Control-` (accent grave, same key as tilde); or click the magnifying glass icon to access the Filter HUD, then deselect the keyword criterion.

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iTunes 6: -208 Error message when playing iTunes Store content

This article has been archived and is no longer updated by Apple.

In some cases, you may get the following error message when you try to play purchased music or video or access the iTunes Store using iTunes 6:

> "We could not complete your iTunes Store request. An unknown error occurred (-208)."

To resolve this issue, update to iTunes 6.0.1 or later.

Published Date: Feb 18, 2012

MessagePad 2000 Update 2.1 Read Me

This document describes the product enhancements included in the system update file named "MessagePad 2000 2.1 (717260)". "System Update 2.1 (717260)" is for Apple MessagePad 2000 customers.
This article has been archived and is no longer updated by Apple.
This version will install over the following system software version for the MessagPad 2000:

- version 2.1 (717145)
- version 2.1 (717006)
- version 2.1 (717041)
- version 2.1 (717132)

Note: This version of the Newton operating system is on the MessagePad 2100.

Important: Before you install any system update, you should back up your MessagePad 2000 using the Newton Connection Utilities application or a PC storage card (also known as a PCMCIA card). For more information, see the documentation that came with the software or your MessagePad 2000. Apple is not responsible for any lost data.

Adjusting the contrast

You can now recenter the constrast slider by setting a different middle point. This allows you to refine the standard contrast range. For example, the factory preset contrast slider range goes from light gray to dark gray. You might want the contrast range to go from light gray to medium gray; to do this, you'd set the middle point slightly towards the lighter end of the slider.

To recenter the contrast slider, follow these steps:

1. Tap Extras to open the Extras Drawer.
2. Tap the contrast slider to move the diamond to the desired middle point.
3. Double tap the word "Contrast" below the slider.
4. When the message appears asking if you want to center the slider, tap Yes. The diamond on the slider returns to the middle. The middle point of the contrast slider is now at the desired contrast setting.

Note: After recentering, you may notice a lightening of the screen after lifting the stylus off the contrast slider. Tap the screen again or wait 30 seconds and the screen will adjust back to the desired setting.

Memory
In earlier system software versions, the MessagePad may seem to not have enough memory when in fact it does. This problem is fixed.

Printing
In earlier system software versions, a printing problem may occur when scrolling through a Newton Book during print preview. This problem is fixed.

Faxing
You can drop or add fax numbers before faxing a document without getting an error message.

Using PC cards
In earlier system software versions, you might get the message "Battery on card needs to be replaced..." when certain PC cards are inserted. This problem is fixed.
Published Date: Feb 18, 2012

Newton Press 1.1: Update Information

What are the features and installation requirements of Newton Press 1.1.
This article has been archived and is no longer updated by Apple.
Newton Press 1.1 Added Features

Newton Press allows you to create documents on your desktop computer, then publish them as Newton books. Anyone with a Newton device can view, annotate, fax or print the books you create.

Newton Press 1.1 for MacOS adds these features:

- Support for eMate 300, MessagePad 2000 and MessagePad 2100
- Greyscale support
- Portrait, 2-Up and Landscape boor formats
- Faster text import with ASCII mode option
- Faster package creation

For use with a MacOS system, Newton Press 1.1 requires:

- An Apple Macintosh computer witha 68020 or later processor
- At least 4MB of RAM
- At least 3MB of available disk space
- A standard LocalTalk or serial connection

More information on Newton Press and an update from Newton Press 1.0 to 1.1 may be found at <**http://www.newton.apple.com/product_info/sw/newtonpress.html**>.
Published Date: Feb 18, 2012

Mac OS 8: Sort Preference Reverting

I am trying to keep a list view in the Finder of Mac OS 8 sorted by creation date but it keeps reverting back to sorted by name.
This article has been archived and is no longer updated by Apple.
This issue is resolved in Mac OS 8.1.
Published Date: Feb 18, 2012

AppleLine and Hayes Cable: Requires a Null Modem

This article has been archived and is no longer updated by Apple.

The AppleLine is a DTE (Data Terminal Equipment) device. If it is used with the Hayes cable, which is configured for DCE (Data Communications Equipment) devices, a null modem cable is required.

The gender changer in the AppleLine package does not serve as a null modem.

Published Date: Feb 18, 2012

233MHz Processor Card Upgrade Kit: Label Issue

I am installing the 233MHz Processor Card Upgrade into my PCI Power Macintosh and I noticed that there is a label on the processor card that says "9600 Only". I am not installing the processor card into a Power Mac 9600 so I am concerned that it will not work.

This article has been archived and is no longer updated by Apple.

The label on the processor card that states that it is for the "9600 Only" is incorrect and was placed there in error. The 233MHz Processor Card Upgrade Kit is designed to be used in the Power Mac 7300,7500,7600,8500,8600,9600 and Workgroup Server 7350 and 8550. Please ignore the label.

Published Date: Feb 18, 2012

Newton Press 1.1: Grayscale Graphics

I am trying to create a Newton Book with Newton Press 1.1 and am having a problem with grayscale graphics appearing in black and white.
This article has been archived and is no longer updated by Apple.
Newton Press 1.1 includes support for 4 bit grayscale graphics while maintaining backward compatibility for older products. Therefore, neither the default format, Classic, nor the Universal format support grayscale graphics. To use grayscale graphics, open the Newton Press Preferences dialog box and select one of the eMate or MessagePad 2000 series formats under the Platform selection menu.

If you are using Newton Press 1.1 with a Windows OS based computer, change your video configuration to an industry standard setting, such as 640 x 480 @ 256 colors or VGA/SVGA modes. Although Newton Press was tested with a variety of systems, it is possible that some unique configurations will be supported differently.

Note: When testing graphics compatibility use your OS clipboard to copy and paste graphics into Newton Press. Also, because Newton Press supports 16 shades of gray, some graphics may not appear properly unless optimized or posterized. Consult the Newton Press documentation and Read Me for more information.
Published Date: Feb 18, 2012

Aperture: Autoflow option creates books larger than 99 page limit

This article has been archived and is no longer updated by Apple.

If you add images to a Book using the Autoflow Unplaced Images option, Aperture may create books that exceed the 99 page limit for book orders. When you try to order the book, a dialog warns you that there are too many pages and advises deleting some images.

Aperture allows this so that you can create books of whatever size you like for self printing. If you intend to order a Book, be sure to keep the number of pages at or below the 99 page limit.

Published Date: Feb 18, 2012

Mac OS 8: Contextual Menu Items Folder

This article discusses how to store Contextual Menu plug-ins under Mac OS 8.

This article has been archived and is no longer updated by Apple.
Just drop the plug-ins on top of the closed System Folder. You will get a dialog message similar to the ones below.

Click OK and the Finder will create a new Contextual Menu Items Folder and drop the appropriate items into it. Some plug-in components are library files and will be placed into the Extensions folder. The dialog box will vary depending on the plug-in components.

For any subsequent plug-ins, follow the same procedure and the Finder will place the items where they belong.

Published Date: Feb 18, 2012

Newton Press 1.1 Update: Old File Does Not Exist

I am having difficulty upgrading Newton Press 1.0 to version 1.1. During the upgrade process, I receive the error "Old File does not exist" and the upgrade program quits.
This article has been archived and is no longer updated by Apple.
The program, Press11.exe, is an application called a "patcher" used to upgrade Newton Press 1.0 to version 1.1. Patchers use file resource comparisons to modify only the parts of a program that have changed. Patchers require that all parts of a program be present and in the form they expect, to be updated. To upgrade Newton Press you must have Newton Press 1.0 installed completely. If you feel Newton Press 1.0 may not be installed properly or suspect some files may be missing, you should reinstall the application from the original program installation disks.

If you are encountering the "Old File does not exist" error during the upgrade, on launching the application Press11.exe select "Change Options." In the list of options, ˆ check "Ignore Missing" and click "ok." This will allow you to proceed with the upgrade, even though some files may not be found or are not recognized by the patcher. Note that if your path name has changed from "C:\\PRESS" you may need to enter the drive letter where the directory is located.

Other issues involving resource de-archiving or system errors encountered when launching the Press11.exe application may be resolved following standard Windows OS troubleshooting. Please consult your Microsoft Windows OS user's manual or Microsoft troubleshooting resources where applicable.

For additional information see TIL article: **Newton Press 1.1: Read Me** #24243
For additional information see TIL artilce: **Newton Press 1.1: Update Information** #30268
Published Date: Feb 18, 2012

Alkaline Battery: Frequently Asked Questions

What is the estimated life expectancy of the Alkaline battery in my Apple computer? Other than regular use, what else can cause my battery to drain? How can I prolong the life of the Alkaline battery that is in my Apple Computer?
This article has been archived and is no longer updated by Apple.
Estimated life expectancy for the Alkaline battery in an Apple computer

Note: The following battery life estimates are for the Rayovac 4.5 V, 600mAh, Alkaline battery, Apple p/n 922-0750.)

AC power on hrs/wk	Est. Lifetime Yrs. (+/- 0.5Yr.)*
0 -40	2.0
40-80	2.5
80 +	3.5
* This table refers to the worst case situation, i.e. AC is not present when the computer is not being used - regardless of the type of computer, therefore, if AC is present and the appropriate tips below are followed, the battery life will exceed the estimations above.	

Other causes of battery drain:

Shutting off the AC power switch or removing the AC power causes a small, but continuous drain of the computer battery to occur. This is because the battery backs up certain system information and takes a small but measurable amount of power to accomplish this.

Tips on prolonging the life of your Alkaline battery:

- When shutting down the computer, make sure to use the shutdown option under the special menu or power-key invoked shutdown command.
- Keeping the power switch, if your computer has one, in the on position will prolong the battery life, however, keeping it in the on position leaves the system vulnerable to power surges, so if you are concerned about power surges, switch the power switch to the off position.
- If the computer is to be put into storage or if the power cord is to be removed for a long period of time, disconnect the battery from the logic board.

Published Date: Feb 18, 2012

At Ease: Loses Internet Preferences

This article documents an issue where At Ease may lose the Internet preferences for a user.

This article has been archived and is no longer updated by Apple.
The situation is as follows:
At Ease Administration is set to save the Netscape preferences folder.

- User logs in to At Ease Panels, saves some bookmarks.
- User switches to a Restricted or Full Finder workgroup, Netscape preferences are saved.
- If user switches back to panels, launches Netscape, preferences are gone. They see the License Agreement, and Bookmarks are erased.
- If user logs out before switching to more secure workgroup, preferences are saved as expected.

Preferences are lost if a user switches from a workgroup with a less secure interface to one with a more secure interface. Netscape preferences get saved to the server but do not get restored back to the workstation.

Resolution:
In At Ease Admin 5.0, when you specify the "Netscape f" you can select Edit Item, and change the attributes from "Copy and Delete" to "Copy and Save". This copies the files to the server, but saves a copy on the workstation while user switches workgroups.

There is no way to configure these attributes with At Ease Admin 4.0.
Published Date: Feb 18, 2012

Macintosh PowerBook: Mouse Keys Extension

This article discusses the Mouse Keys Extension for Macintosh PowerBooks.
This article has been archived and is no longer updated by Apple.

Introduction

Easy Access is a control panel extension containing a set of keyboard utilities. These utilities assist people who might otherwise have difficulties using the keyboard or the mouse. Included as part of Easy Access are three main features-Sticky Keys, Mouse Keys, and Slow Keys. This document concerns only the Mouse Keys feature.

Mouse Keys lets a user manipulate the screen cursor with the numeric keypad part of the keyboard instead of using the regular mouse. One can click, drag, and perform all the usual mouse activities. Mouse Keys also makes it easier to make fine adjustments of the cursor position, a feat that is often difficult using a regular mouse. Because the PowerBook does not have a built-in numeric keypad, the file "Mouse Keys" is used to emulate the numeric keyboard on the standard PowerBook keyboard.

Installation

To add Mouse Keys functionality to your Macintosh PowerBook place the "Mouse Keys" extension file in the Extensions folder of the System Folder and then restart the computer.

Mouse Keys Description

The Mouse Keys interface uses keys from the PowerBook's keyboard to control the mouse. This interface emulates a keypad in the area surrounding the K key (the K key is used as a central reference point). Surrounding keys are pressed to establish the direction of travel for the cursor. The sequence Command-Shift-Escape enables Mouse Keys; pressing Escape turns it off. The Space Bar is used to latch the button and the Enter key is used to release it.

- Turning-on Mouse Keys: Press Command-Shift-Escape simultaneously
- Turning-off Mouse Keys: Press Escape
- Cursor Movement: The keys (U, I, O, ...) surrounding the K keys let you move the cursor in the corresponding direction. When you hold down these keys, the cursor moves slowly and then accelerates until it reaches its maximum speed.
- Trackball Button: The K key itself operates as the trackball button (the equivalent of clicking on it)-press it once to click the trackball button, press it twice to double-click the button. Pressing the Space Bar key locks down the trackball button (for dragging, etc.) and the Enter key unlocks the trackball button.

NOTE: Be careful not to press Command-Option-Escape when you intend to press Command-Shift-ESC to activate Mouse Keys. Doing so will activate a "Force Quit" Alert in System 7. A careless user could very easily invoke the alert by accidentally.

For more information on the MouseKeys extension, contact Apple Computer's Worldwide Disability Solutions Group at the following address:

Apple Computer, Inc.
Worldwide Disability Solutions Group
One Infinite Loop, MS 38-DS
Cupertino, CA 95014
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Aperture: Optimizing for your printer

This article has been archived and is no longer updated by Apple.

Configuring a system for the best color prints requires several simple but crucial steps, and you can do most of them before you even open Aperture. After the correct setup, Aperture can do an outstanding job of translating the colors you see on screen to print. The steps include:

- Calibrating your display
- Setting up your printer
- Choosing the correct ICC profiles for it
- Paper selection
- Adjusting presets in Aperture

Calibrating your display

Without calibration, you can't trust the accuracy of color on your display, and thus can't trust your own color adjustments. Though it's possible to calibrate a display using software only, it's much simpler and more accurate to use a hardware device such as the the MonacoOPTIXxr, Pantone ColorVision Spyder, or the Gretag Macbeth Eye-One Display 2.

These mouse-looking devices plug in via USB and hang in front of your display, measuring its output with a sensor. Using the sensor data, software included with the calibration device creates a profile that tells your system how to offset any discrepancies between reference values and your display.

Tip: Recalibrate your display periodically to compensate for changing performance as it ages. Your calibration software will probably let you set a reminder.

Related documents:

Aperture: Color and gamma settings for print and web
Building Your Color Managed Workflow

Setting up the printer

Start by going to your printer manufacturer's website. Look to see if you have the latest driver for your printer, and be sure it's compatible with Mac OS X 10.4.3 or later. If necessary, download a new driver, and follow the manufacturer's installation instructions.

RGB versus CMYK
Aperture supports only RGB printers, not CMYK printers. Now wait a second... Before you run out to buy a new printer, let's consider what that really means. This refers to the mode of the printer, not to the inks in the printer. Many printers that operate in RGB mode have inks that mimic the colors of the CMYK process. Aperture works fine with those printers.

Generally speaking, ink jets and dye-sub printers are RGB; and color laser and imagesetters are CMYK. However, printer manufacturers leave you to assume that your printer is RGB mode rather than stating it in their spec sheets; yet the same spec sheet may list "CMYK" in reference to the ink set, so the result may be confusing. A true CMYK printer will usually have that called out as the mode, in addition to the ink specification (if in doubt, contact your printer manufacturer).

While Aperture can't print your CMYK separations directly, you can still use the CMYK profiles in Aperture's Onscreen Proofing feature to prepare for exporting images that will be printed to CMYK from another application.

Once you have installed the driver, it's time to add the printer.

1. From the **Apple** menu, choose **System Preferences**.

2. Click the Print & Fax icon. The image above is from a computer that doesn't have a printer set up yet.
3. To add a printer, click on the "+" button at the left edge of the window. A printer browser will open.

This window lists all the printers connected to your computer, as well as any shared printers on your network.

4. Scroll down the list, and select the printer you wish to add. If you do not see your printer listed:
    a. Click the More Printers button.
    b. Set the top pop-up menu to the needed category (Epson USB, HP IP Printing, and so forth).
    c. Select your printer from the list.
5. Click the Add button in Printer Browser. This will dismiss the Printer Browser.
6. In the Print & Fax preference pane, set the pop-up menu for "Selected Printer in Print Dialog" to your printer.
7. Quit System Preferences.

Selecting ICC (ColorSync) profiles for the printer

ICC profiles are reference files used to calibrate your printer to the type of paper that you will be printing on. Printer manufacturers often offer these for downloaded, or you can make your own custom profiles if you have the right tools. Some of the products available for calibrating displays also can create ICC profiles.

When downloading profiles, you will typically see a separate profile for each type of paper that the printer supports, so you should download a profile for each type of paper you plan to use, such as glossy, semi-matte, and so forth. If you make your own profiles, then you will need to create one for each type of paper to be used with your printer. Different weights of the same type paper also require different profiles.

Once you have a set of profiles, they should be placed in one of these locations:

- `/Library/ColorSync/Profiles`
- `~/Library/ColorSync/Profiles`

The tilde (~) represents the current user's home folder. If you choose the root-level Library, all the profiles will be available to all users on the computer. If you choose the user-level Library, they will only be available to the user whose folder they reside in.

You may find that there is not yet a ColorSync folder in ~/Library—and in that case you should create one, noting that the name "ColorSync" is case sensitive. Create a Profiles folder inside the ColorSync folder, and place your profiles there.

Paper selection

Obviously you'll want photo-grade paper to get good results when printing images. However, it's also vital to select paper designed to for use with your brand and model of printer. That's because different brands of paper absorb ink differently, and may be different thicknesses. Paper that works beautifully on one printer may become a smeary mess when used with another.

Configuring presets in Aperture

So, you've made it this far. You're finally ready to open Aperture and set it up to print your pictures. Aperture allows you to create individual presets that save all the settings needed for different situations. You can have a preset to handle printing 4x6 prints on a small format photo printer, another to handle 8x10 prints on another printer, and so on. Once you have created your presets, you can quickly print at various stages in your workflow.

Aperture comes with two presets already in the list, but they're only meant as examples. You should not attempt to make prints from them. Here's how to make a preset of your own:

1. Select an image in the Browser and choose **File > Print...** (or press Command-P). The Aperture Print dialog will open.

2. Click the gear icon at the bottom left corner and choose **New Single Image** preset.

    Note: There are actually two different types of preset, **Single Image** and **Contact Sheet**. For the most part they work the same. These example steps will assume Single Image, but in cases where there are differences, they will be explained.

3. A new preset will appear in the Preset Name list with its name highlighted so that you can type the new name you'd like to use. In the example shown, a preset for printing images on Semi Matte paper to an Epson 7600 is being created. The name of the preset reflects this:

4. In the Print dialog, configure the paper size. If you're using a roll printer, always enter the width of the paper as the first dimension, and the desired length as the second.

5. There are three choices available in the Orientation pop-up. The familiar Portrait and Landscape setting are there, as well as Best Fit, which automatically orients your image on the page. Best Fit is usually a good choice for Single Image but may produce unpredictable results for Contact Sheet, so it may be advantageous to specify Portrait or Landscape as needed.

6. The ColorSync Profile pop-up menu is where you can select the an appropriate ICC profile for your printer and paper. It's very important that you select a profile that is made for your printer and the type of paper you will be using. This controls the way color is handled by the printer, as well as ink dispersion. Any mismatch between the ICC profile selected and the actual printer and paper will almost certainly lead to poor print quality.

7. Black Point Compensation is an adjustment the compensates for the difference between the way black images saturate on a computer display as opposed to the way black ink saturates on a print. It is almost always a good idea to turn this option on, as it will give better results in shadowed areas on your prints.

8. The "Gamma" setting can be used to compensate for another area in which computer displays and prints differ. Because computer displays are illuminated, images displayed on computers will tend to look more luminous than when printed. Increasing the Gamma from the default of 1.0 can compensate for this. Usually, a setting 1.1 to 1.2 is adequate.

9. Under Layout Options, the Scale To pop-up menu offers several choices. **Fit Entire Image** will scale the image to be as large as possible for the paper size without cropping. **Fill Page** will fill the entire page, cropping the image if necessary to do so. There are also choices for standard print sizes like 4x6, 5x7, and so on. Finally, you can select **Custom** and enter the size you'd like in the dimension fields just below. For Contact Sheet presets, the Layout options allow you to select the number of pages the images will be distributed among and the number of rows and columns per page. Aperture will calculate the size of each image using these settings.

10. You can define a border size with the Width slider under Border Options. At this point, the print dialog may look something like this:

11. Now you need to set the system-wide print settings appropriately, and Aperture offers a unique shortcut for that.
    a. Click the **Printer Settings** button in the Print dialog, which instantly exposes system-wide printer settings. **Note:** What you see here will vary according to the particular printer.

    b. Make sure that the Printer pop-up menu is set to the printer you wish to work with.
    c. From the unlabeled, third pop-up menu, choose **Color Management** (or the equivalent for your printer).
    d. Select the radio button for **No Color Adjustment**. This will disable the system level color management, so that Aperture can control it using an ICC Profile for the printer and paper you will be using for this preset. **Note:** If you do not have an ICC profile for your printer, you can leave it with the default choice or try ColorSync (when present) instead.

    Tip: Best of all, each of your presets saves individual system settings, so that once you have saved a preset, Aperture will take care of the system settings for you. This unique and powerful feature sets aperture apart from other applictions where you might have to change the settings over and over again.

12. From the unlabeled third pop-up menu, choose **Print Settings** (again, note that you may see different names for the setting for your printer).

13. This is where you tell the system what type of paper you will be using, and configure the print quality.
    a. From the **Media Type** pop-up menu, choose the paper you will be using. The options you see here will depend on what model of printer you are working with.
    b. Select the print quality. The higher the DPI setting, the finer the ink spray the printer will use. Higher values will print more slowly. Generally, 720 DPI gives excellent results and prints reasonably quickly.
    c. Click the Done button to dismiss the system printer settings dialog.

14. Once you have made all the needed settings, click the Save button at the bottom of the Print Dialog. A preset will remain in the list until you delete it. Create as many presets as you need to cover different print sizes, printers, and paper types.

Tip: When creating presets, remember to use a paper that is expressly compatible with your printer (as supported by either the printer or paper manufacturer, or both). Be sure that your choice in the **Media Type** pop-up menu matches the actual paper loaded into the printer as closely as possible.

For example, if you choose semi-matte paper in the Media Type menu and try to print to glossy paper, the printer will likely use too much ink, and your prints will look terrible. If you sometimes use one type of paper and sometimes another, create a separate preset for each.

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iPhoto 5: Can‘t burn Book or Slideshow to disc

This article has been archived and is no longer updated by Apple.

An iPhoto 5 Help article, shown here, incorrectly states in Step 1 that you can burn a book or slideshow to disc. This is actually not true. To burn a slideshow to disc, you must use iDVD, and you can't burn a book to disc at all.

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Apple One-Year Limited Warranty: U.S., Canada, Latin American and the Caribbean.

This article describes where to find the Apple One-Year Limited Warranty for the U.S., Canada, Latin America and the Caribbean.
This article has been archived and is no longer updated by Apple.
To see the Apple One-Year Limited Warranty for the U.S., Canada, Latin America and the Caribbean, visit the Apple Store Sales and Refunds Policy page at:

http://store.apple.com/Catalog/US/Images/salespolicies.html#Product%20Warranty
Published Date: Feb 18, 2012

PCI Timing Update 1.0: Read Me

PCI Timing Update Version 1.0 was released by Apple Computer, Inc. on December 4, 1997 (Previously released by Power Computing). This software requires Power Computing 7200-based systems including the PowerTower, PowerCenter, PowerCenter Pro, and PowerCurve family computers.
This article has been archived and is no longer updated by Apple.
Description:
Power Computing's PCI Timing Update extension is designed to correct a timing behavior which may cause intermittent issues on some PCI cards when used with Mac OS computers based on the original 7200 logic board design. This update is only intended for Power Computing 7200-based systems including the PowerTower, PowerCenter, PowerCenter Pro, and PowerCurve family computers and will not function on non-Power Computing machines. Known occurrences of irregular behavior due to the PCI timing issue are: Users with ATI XClaim GA and XClaim VR video accelerator cards experience intermittent choppy sound.

About the PCI Timing Update

Power Computing's PCI Timing Update extension is designed to correct a timing behavior which may cause intermittent issues on some PCI cards when used with MacOS computers based on the original 7200 logic board design. This update is only intended for Power Computing 7200-based systems including the PowerTower, PowerCenter, PowerCenter Pro, and PowerCurve family computers and will not function on non-Power Computing machines.

Known occurrences of irregular behavior due to the PCI timing issue are:

Users with ATI XClaim GA and XClaim VR video accelerator cards experience intermittent choppy sound.

To install the PCI Timing Update:

1. LOCATE the PCI Timing Update extension.
2. DRAG the PCI Timing Update extension on top of the System Folder icon.
3. A dialog box will appear stating, "Extensions need to be stored in the Extensions folder in order to be available to the Macintosh. Put 'PCI Timing Update' into the Extensions folder." PRESS "OK".

This article can help you locate the software update mentioned here:

- Article 14724: "**Where To Find Apple Software Updates**" - Lists online services for free Apple software updates.

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SCSI Manager Update 1.2: Read Me

This article contains the read me document for the SCSI Manager Update version 1.2 released on December 4, 1997 (Previously released by Power Computing).

Requires:
A Power Computing PowerBase computer and one or more external SCSI Hard Drives formatted with FWB Hard Disk Toolkit PE versions 1.7.7 or earlier. If you are using version 2.05 or later, the SCSI Manager Update is not necessary.

This update is available from the Apple Software Updates Web site at http://www.apple.com/swupdates.
This article has been archived and is no longer updated by Apple.

About the SCSI Manager Update

The SCSI Manager Update corrects a timing issue that may occur on some PowerBase computers when external SCSI devices are connected. PowerBase computers experiencing this issue will hang at the gray screen presented during the startup process and progress no further. Although the update only affects these computers, it will run on any Power Computing computer enabling customers to install the update on drives that may be used on multiple computers.

While Apple resolved this issue in Drive Setup 1.2.2, included with MacOS 7.6, a limitation of Drive Setup prevents the update from installing on non-Drive Setup supported devices. For PowerBase computers with SCSI hard drives formatted with FWB Hard Disk Toolkit, Power Computing has developed the SCSI Manager Update for use with these drives.

The SCSI Manager Update has only been developed for use with Power Computing computers. and the update application will gracefully quit if run on non-Power Computing computers.

Who should use the SCSI Manager Update?

The SCSI Manager Update is being provided by Power Computing for users with SCSI Hard Drives formatted with FWB Hard Disk Toolkit PE versions 1.7.7 or earlier. The update is also included as part of FWB's Hard Disk Toolkit disk driver version 2.05 or later. If you are using version 2.05 or later, the SCSI Manager Update is not necessary.

Power Computing at this time does not use FWB version 2.05 so if you have not upgraded to FWB version 2.05 or later, you may need the SCSI Manager Update.

Upgrades to the latest version of FWB's Hard Disk Toolkit PE are available from FWB by purchasing a "Registration Upgrade " for $29.95 from FWB. The upgrade includes new disks with the latest version of the software, a new serial number, and a registration card. Included in the upgrade is technical support from FWB. The upgrade includes the SCSI Manager Update patch.

If you have a PowerBase computer with an internal IDE hard disk drive, you do not need to use the SCSI Manager Update. Apple Computer addressed the problem with the 6360/64xx/54xx Update (included on your Power System Software CD) and also in Drive Setup 1.2.2 included with MacOS 7.6.

Installing the SCSI Manager Update

CAUTION: Before installing the SCSI Manager Update, back-up all important data on the drive being updated.

To install the SCSI Manager Update, do the following:

1. COPY the SCSI Manager Update application to a floppy disk. The Update cannot install on to the active startup disk or the volume containing the SCSI Manager Update application.

2. RESTART the computer from the Power Computing Software CD. This can be achieved either by selecting the Power CD as the designated startup device in the Startup Disk control panel, or by restarting the computer hold down the Command, Option, Shift, and Delete keys as the computer restarts.

3. INSERT the floppy diskette containing the SCSI Manager Update into the floppy drive.

4. After the floppy disk icon appears on the desktop, LOCATE the SCSI Manager Update icon and double-click to launch the application.

5. The application will scan for all connected hard drives, inspecting them to see if they require the update. The "Select Drive" window will appear. Click on the "Next drive" button to browse through selection of all detected drives. If a drive needs to be updated and can, the "Patch" button will be enabled. You should update any drives that are used as startup disks.

Known Issues

- FWB Hard Disk Toolkit PE will issue a message that hard disks using the SCSI Manager Update have a non-HDT driver installed.

This message should simply be ignored. Changes are made to the hard disk driver partitions that are necessary to load the Update patch. These changes prevent the FWB Toolkit Application 1.7.7 or earlier from detecting the presence of the FWB driver even though the driver is still installed.

Updating the driver with HDT version 1.7.7 or earlier after the SCSI Manager Update has been installed is not necessary and should not be attempted. Press 'Cancel' when prompted to update the driver.

Updating the driver with HDT version 1.7.7 or earlier is also not necessary during the installation process for MacOS 7.6 and should not be attempted. Ignore instructions in the MacOS 7.6 to update your disk driver as it has already been updated by the SCSI Manager Update application.

IMPORTANT: If you update the disk driver with HDT 1.7.7 or earlier, the SCSI Manager Update patch will no longer be effective and you could again experience the hang at startup. There are two remedies to this problem:

1) Backup, reformat, and reapply the SCSI Manager Update.
2) Update the disk driver with FWB Hard Disk Toolkit version 2.05 or newer which has the update built into the driver.

- After installing the update, the computer still hangs at startup.

At system startup, some hard drives do not 'spin up' in time for the MacOS to load the SCSI Manager Update and disk driver. The device is not ready for access and the MacOS begins to scan the SCSI bus. Since the SCSI Manager Update is not loaded yet, the computer will hang when checking the scanner.

To resolve this problem, make sure you have selected a startup disk in the Startup Disk Control panel. The MacOS will wait longer for a device selected as the startup disk allowing the SCSI Manager Update and disk driver to load before checking other devices on the SCSI bus.

- Why will the application not update my drive?

The SCSI Manager Update is only for Power Computing systems formatted with FWB's Hard Disk Toolkit, versions 1.7.7 or earlier. The update will not work with IDE hard drives that ship in some PowerBase systems.

The SCSI Manager Update is intended for use on SCSI hard drives connected to Power Computing computers using versions of the FWB Hard Disk Toolkit driver prior to version 2.0.5. FWB drivers version v1.7.5, v1.7.6, and v1.7.7 can be updated.

FWB drivers, version 2.0.5 and newer, do not need updating as the updated is included in the driver. No other version of the driver can be updated.

The update will not install on hard drives formatted by a utility other than FWB Hard Disk Toolkit. In order to install the update on a non-HDT formatted drive you will need to initialize the drive and install the FWB Hard Disk Toolkit driver.

Do the following:

1. BACKUP the data on your hard disk by copying the data to another drive or other suitable backup media before proceeding.

2. RESTART the computer from the Power Computing Software CD. This can be achieved either by selecting the Power CD as the designated startup device in the Startup Disk control panel, or by restarting the computer hold down the Command, Option, Shift, and Delete keys as the computer restarts.

3. LAUNCH FWB Hard Disk Toolkit. HDT is located in the Utilities folder on the Power CD.

4. SELECT the drive to up updated.

5. CHOOSE the 'Initialize' command from the "File" menu.

6. You will be presented with a warning message which states, "The disk at ID x already has data on it. Initializing it will wipe out all existing data with no possibility of recovery." PRESS the "Continue" button.

7. A dialog box will appear which asks you to "Choose a partitioning method". Select "Maximum Macintosh" and press the "OK" button.

- Drive is Full Error Message

In order for the update application to work there must be room on the drive to add the update. If your drive is full, nearly full, or fragmented then there may not be enough contiguous free space left on the drive to add the update. To make room for the update do the following:

1. BACKUP the data on your hard disk by copying the data to another drive or other suitable backup media before proceeding.

2. REMOVE any unneeded data from the drive.

3. DEFRAGMENT your drive.

- Drive has multiple partitions

The update will not be installed on any drive which has had additional partitions installed onto it after it left the factory. (Examples of extra partitions are DOS partitions, extra Macintosh HFS partitions, and backup partitions.) This can be resolved by doing the following:

1. BACKUP the data on all of the partitions by copying the data to another drive or other suitable backup media before proceeding.

2. REINITIALIZE the drive (see instructions above) for one MacOS HFS partition.

3. INSTALL the SCSI Manager Update (see instructions above).

4. REPARTITION the drive for multiple partitions as desired

- Some older drives not supported

The application will not install the update onto some drives which shipped with the Power Computing's NuBus based computers, the Power 100 and Power 120. However, these computers do not need the update unless you plan to move the drive to a PowerBase computer. If you do intend to move a drive from a Power 100 or Power 120 to a PowerBase, you will need to reformat the drive with a later version of HDT (1.77 or newer) or use HDT 2.0.5 where the update is not required.

What is installed by the SCSI Manager Update?

The SCSI Manager Update installs a patch to the selected hard disk and installs FWB HDT driver version 1.7.7. Modifications are made to the hard disk driver partitions to allow for the SCSI Manager Update patch to be loaded at system startup and then for the FWB hard disk driver to be loaded.

None of the SCSI Manager Update changes are visible after installation as the Update will not install any system software. To confirm whether or not the update is installed, run the update application again. You can confirm which devices have been updated by selecting the drive after the scanning process. The 'Select Drive' window will display the status of the patch for the selected device.

Changes from SCSI Manager Update 1.0

The SCSI Manager Update 1.2 resolves issues which caused errors in drive diagnostic utilities including Disk First Aid and Norton Disk Doctor. Power advises that all customers who installed the SCSI Manager Update 1.0 also install the SCSI Manager Update 1.2 to resolve these issues.

SCSI Manager Update 1.2 now works in some cases where the patch did not address the issue it was intended to fix.
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LaserWriter 8500: Full Bleed Printing

What is full-bleed and how can I use this feature on the LaserWriter 8500?
This article has been archived and is no longer updated by Apple.
Full bleed printing refers to the ability to print a document with ink/toner extending all of the way to the edges when a document is trimmed to its finished size. A bleed normally extends ~1/8 inch beyond the edge of the finished document size to allow for registration errors that occur on a printing press and when the document is trimmed to its final size. To reduce toner contamination problems that occur within laser printer engines, and to accommodate crop marks, registration marks, and printers marks which are used in the printing industry, most laser printed full bleeds are printed on oversized paper and then trimmed to size. This is how full bleed printing is accommodated on the LaserWriter 8500.

Page layout applications such as PageMaker, Framemaker, Illustrator, and Quark Xpress assume that the finished document size may differ from the capabilities of the output device. As a result, the page size setup for the output device and the document size are independent within these applications. To accommodate an 8-1/2 X 11 inches full size proof with full bleeds (1/8 inch per side) and printer's marks, the printing device paper size would need to be approximately 1/2 inch larger per side. By allowing the user to independently set the document size and printing device paper size the user is not limited by the capabilities of the output device nor are they forced to print at a reduced size to fit the document with bleed, and the printers marks all on one page. Full bleed capabilities are usually not needed by non-prepress users so the majority of consumer/business applications do not differentiate between the document size and the printer page size.

Although users might like to have edge to edge printing capabilities on their low cost laser printers there are technical limitations that make this feature difficult to implement. In order to print all of the way to the edge the paper handling section of the print engine must register perfectly. Tiny paper registration errors (skew for example) would cause toner to be transferred to the internal workings of the printer wherever the image on the photoconductor didn't match properly with the paper. Unfortunately, the costs for a printer with these capabilities would be extremely high. As a trade off most laser print engine manufacturers hard code a 'protected area' into the print engine controller that prevents imaging within 'X' distance from the edges of the paper. The defined area usually corresponds closely to the paper handling/registration capabilities of the engine. The protected area may differ slightly from the imaginable areas defined by the PPD.
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At Ease: How to Rebuild the At Ease Items WG Folder

This article explains how to rebuild the At Ease Items WG folder on the server.
This article has been archived and is no longer updated by Apple.
Important: Before following the steps below, perform the steps found in article 34504: "**At Ease for Workgroups 5.0: Finder Access**."

Steps to rebuild the At Ease Items WG folder:

1. Make sure no one is logged in to At Ease or At Ease Administration. The workstations can be at the At Ease log in screen.

2. On the At Ease server, move the At Ease Items WG (At Ease Items WG 5.0 if using At ease 5) folder to the desktop.

3. On an At Ease Administration workstation, launch At Ease Administration. It will open up with a guest user and no workgroups. Make sure At Ease is set to OFF and then quit At Ease Administration.

4. On the server, there will now be two At Ease Items WG folders, a new one in the original location and the old one on the desktop.

5. Open the At Ease Items WG folder on the desktop.

6. Locate the At Ease Users folder and drag it on top of the new At Ease Items WG folder. Answer "Yes" to the prompt asking if you want to replace the item of the same name. If you get a message that the item could not be replaced because it is in use, check to see if anyone is logged in to At Ease or At Ease Admin. If not, move the folder you are replacing to the trash but don't empty it yet.

7. On the At Ease Administration workstation, launch At Ease Administration. It should open with a completelist of the users. If an error message comes up and At Ease Administration will not launch, there is a problem with the user list and it will have to be recreated. If At Ease Administration launches and the user list is ok, quit At Ease Administration.

8. On the server, locate the At Ease Setups folder in the At Ease Items WG folder on the desktop. Drag it on top of the new At Ease Items WG folder. Answer "Yes" to the prompt asking if you want to replace the item of the same name.

9. On the At Ease Administration workstation, launch At Ease Administration. It should open with a completelist of the workgroups. If an error message comes up and At Ease Administration will not launch, there is a problem with the workgroups and they will have to be recreated. If At Ease Administration launches and the user list is ok, turn At Ease on. In addition, you will need to check the following settings, which will now be a factory default:

   - Log settings used in printing log out in At Ease Administration
   - All password settings (ie, min length of pwd)
   - If the user should logout if idle for n minutes
   - For panels, names of the app and document panels (of if user name should be used)
   - User greetings (login, server)
   - The mounting information for the At Ease server (volume settings for At Ease volume)
   - If sublaunching is allowed
   - If all local CDROMs are allowed
   - If disk security should be turned on
   - Internet preferences
   - Login dialog preferred (list or type in the name)
   - If shift key can disable the extensions
   - Name of CDROMs users have access to
   - Volume modification date of CDROM (to uniquely identify this CDROM)
   - List of items on CDROM that are visible - stored as a resource for each CD-ROM
   - Application Preferences
   - Any server or desktop printer in the Access to Volumes/Printers list will be stored here. Each item also may contain setting information in it (like whether or not print quotas are active, or the login information used on a certain server volume)

10. In addition to these, if you are using At Ease 5, you will need to check these settings as well:
    - At Ease Web preferences
    - eMate preference

After checking and resetting these settings, you can quit At Ease Administration.

This completes the rebuild process. Your At Ease workstations are now ready to use.
Published Date: Feb 18, 2012

HyperCard: Disk Full Error

I am trying to save a stack on a server from within HyperCard. However, I get a message "Failed to create stack. Disk is full." I am trying to save to a Workgroup Server 9650/233 on one of the internal 4 GB hard disks. If I try saving to our Workgroup Server 7250 with a 2 GB hard disk, it works fine. Saving a stack on the local hard disk and then copying it to the server works fine. I am running Mac OS 8 on the workstations.

This article has been archived and is no longer updated by Apple.

This issue occurs in HyperCard when using the AppleShare Client 3.7 or 3.7.1 and saving to a volume on a server that is greater than 4 GB. Saves to volumes less than 4 GB will work fine. This issue is corrected with AppleShare Client 3.7.2.

Published Date: Feb 18, 2012

Newton: Ethernet is not necessarily EtherTalk

I would like to use Newton Connection Utilities to connect via Ethernet to my Windows PC. Is this possible?
This article has been archived and is no longer updated by Apple.
Discussion: Native network connectivity as delivered on the Mac OS is called AppleTalk. AppleTalk over Ethernet is called EtherTalk. Although the Windows OS does not natively support AppleTalk, products such as CopsTalk from Cops. Inc., provide AppleTalk stack compatibility for Windows 95 and NT.

Unlike Newton Internet Enabler 2.0 which supports IP protocols, connectivity products such as Newton Connection Utilities or Newton Press only support direct serial or AppleTalk protocols, and do not offer IP services unless otherwise noted.

For additional information read the following TIL articles:

Newton Internet Enabler 2.0: Ethernet & Memory Requirements #30232
Newton Internet Enabler 2.0: Read Me #24192
Published Date: Feb 18, 2012

Apple Remote Access 3.0: Global Village Fax

Since installing ARA 3.0, my Global Village Fax software will no longer receive faxes. When I had ARA 2.1 installed, the Global Village software would answer the phone and determine the type of call between ARA and fax, routing fax calls to the Global Village Fax application. Now only ARA will answer the calls. Is there a workaround?
This article has been archived and is no longer updated by Apple.
Global Village's implementation of arbitration depends on a component of ARA 2.x called the "Link Tool Manager" which is not present or used in OT/PPP or ARA 3.x. Notice was given to all developers that this component would not exist in ARA 3.0, which is a complete rewrite and uses Open Transport for access to serial ports, rather than accessing them directly. ARA 3.0 was seeded very early to developers to identify issues and work on solutions.

Apple and Global Village are working on a technical solution to allow ARA 3.x and and updated Fax software to co-exist on the same system. We do not yet have an estimated date when this will be resolved. In the interim you can revert to an earlier version of ARA, or put ARA servers and FAX servers on different machines.
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HyperCard 1.2 and Mediagenic Reports: Problem and Workaround

When you upgrade from HyperCard 1.1 to HyperCard 1.2, Reports by Mediagenic (formerly Activision) may not work correctly.
This article has been archived and is no longer updated by Apple.
Here's the problem. In the background script of the report card are these lines in the InvokeReports handler:

```
- on InvokeReports docName:

if the version is "1.0", then
if MultiFinder(), then
...
else if the version is "1.1", then
```

Workaround
change the last line to read:

```
else if the version >= "1.1", then
```

Published Date: Feb 18, 2012

Audio CDs: FAQ

The following questions are discussed in this article.

1. Audio CDs show up on the Desktop, and seem to be playing in the AppleCD Audio Player, but I do not get any sound.
2. I insert an audio CD, and the computer will not recognize it (typically asking to initialize it).
3. I have an external CD-ROM drive, and cannot get audio CDs to play from there.

This article has been archived and is no longer updated by Apple.
Question 1: Audio CDs show up on the Desktop, and seem to be playing in the AppleCD Audio Player, but I do not get any sound.

Answer: For non-PCI based Macintosh computers, you have to select your source for sound input. Go to the Sound control panel, choose Sound In from the pop-up, hit Options, and chose Internal CD as your choice - then click the box labeled Playthrough. If you have the Monitors & Sound control panel, it's easier: under Sound, chose Internal CD under Input, and make sure Listen is checked.

You can use Apple Guide to help you with this - for System 7.5.x, it is called Macintosh Guide and appears under the menu marked with a question mark in the upper right corner. or Mac OS 7.6.x, it is called Mac OS Guide, and appears in the same location. For Mac OS 8, it appears in the Help menu, and is simply called Help.Locate it and open it, the choice in the list of topics called CD-ROM Discs is the one you want. You can choose "How do I play an audio CD", and proceed from there. PCI-based computers should handle this for you, but check the settings described above if you have difficulty.

NOTE: When using Mac OS 8, there is a specific issue with Power Macintosh 6100, 7100, and 8100 models where the Monitors & Sound control panel does not retain this setting through a restart. This will be corrected in an upcoming system software update, but in the meantime, here is the work around.

Install the Sound control panel and use it to select your desired setting. You can install it by using the separate OS 8 installer in the System Software folder of the Software Installers folder on the CD, and choosing Custom Install instead of Easy Install. You can safely keep both control panels in your System Folder.

Question 2: I insert an audio CD, and the computer will not recognize it (typically asking to initialize it).

Answer: You need two supplemental files to play audio CDs (beyond your CD driver software). These files are Foreign File Access and Audio CD Access, and normally reside in your Extensions folder. Check your Extension Manager control panel to make sure they are active. If they are missing, you can use the Custom Install option of the system software installer to add them back in (choose CD-ROM software in the list of custom install choices).

Question 3: I have an external CD-ROM drive, and cannot get audio CDs to play from there.

Answer: External CD-ROM drives cannot play audio tracks back through the SCSI chain. You have to attach speakers to the sound output of the external drive to listen to audio tracks playing there. You can also plug a sound cable from the output of the CD drive to the sound in jack of your computer. Many models support using the microphone jack as the sound input source, however, the sound quality will not be as high as using external speakers directly connected to the CD drive.
Published Date: Feb 18, 2012

PowerBook G3 and 3400: Video Pinouts

This article describes the pinouts of the VGA connector on the PowerBook 3400 and PowerBook G3.
This article has been archived and is no longer updated by Apple.
Pin Signal name Description

1 - RED Red video signal
2 - GREEN Green video signal
3 - BLUE Blue video signal
4 - MONID(0) Monitor ID signal 0
5 - GND DDC return
6, 7, 8 - AGND_VID Analog video ground
9 - +5V_IO 5 V power for I/O device
10 - GND HSYNC and VSYNC ground
11 - VGA_ID VGA ID signal
12 - MONID(2) Monitor ID signal 2
13 - HSYNC Horizontal synchronization signal
14 - VSYNC Vertical synchronization signal
15 - MONID(1) Monitor ID signal 1
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IP Gateway: Third-party Ethernet Drivers

The IP Gateway may hang with some third-party ethernet drivers.
This article has been archived and is no longer updated by Apple.
In at least one instance with a third-party ethernet card, the IP Gateway has been demonstrated to hang at Gateway startup if the card vendor's driver is used. Even custom removal of the third-party driver, followed by an installation of Network Software Installer 1.4.5 (the last version from Apple that officially supports third-party cards), failed to resolve reproducible hangs when the Gateway actually starts.

The solution was to clean-install the operating system (in this case, System 7.1 with Update 3.0) and install NSI 1.4.5, not the card manufacturer's driver. Apparently, this and perhaps other third-party ethernet driver installers put code resources in the System file that are not removed by custom de-installation, and these resources appear to interfere with the Gateway.

It follows that in cases where unexplained hangs of the IP Gateway occur, driver code especially should be considered if third-party ethernet hardware is involved and any kind of 'hang' symptoms are observed.

Note: The highest level Apple-supplied ethernet driver which supports many third-party ethernet cards is that found in Network Software Installer 1.4.5, which may be installed on systems up to and including System 7.5.1.
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LaserWriter 8500: Postscript Level 3 Features

This article describes the Postscript Level 3 features of the LaserWriier 8500.
This article has been archived and is no longer updated by Apple.
Adobe defines Postscript Level 3 as having three enhancements: Enhanced Image Technology, Advanced Page Processing and Planet Ready Printing. The LaserWriter 8500 supports the core features of Postscript Level 3. The printer does not support what are defined as optional Postscript Level 3 features, nor does Apple have any current plans to support them in the future.

Supported by LW 8500:

Enhanced Image Technology

- Smooth Shading: renders gradient fills at resolution of the printer - improved half toning reduces banding and improves image output quality

Advanced Page Processing

- Faster imaging performance. This of course is just one part of the printing process, so total printing times may vary.

Planet Ready Printing

- Standard set of fonts for all PS3 printers

Unsupported by the LW 8500:

- Direct PDF Printing
- Direct HTML Printing
- Web-based management

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Color StyleWriter 4500: Photograde Paper not Available

Apple is no longer shipping Photograde paper, part number M5961G/A, for the Color StyleWriter 4500.
This article has been archived and is no longer updated by Apple.
Customers wishing to print photo grade on the CSW 4500 may use the Hewlett Packard equivalent to Apple's Photograde paper. Their product is called HP Photo Paper:

HP part numbers:

- C1846A for letter size paper
- C1847A for A4 size paper

Any other printing supplies for the HP DeskJet 692C may also be substituted for the equivalent CSW 4500 product.
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Macintosh: "Out of Memory" Error When Connecting a QuickTake Camera

This article discusses an "out of memory" error when connecting a QuickTake camera to the serial port of some computers.

This article has been archived and is no longer updated by Apple.

Symptom

When connecting a QuickTake camera to the serial port of my computer, a dialog box with an "out of memory" error message appears.

Note: For more information differentiating between PowerBook G3 computers, please see article 24604: "**PowerBook G3 Computers: How to Identify Different Models**."

Solution

Update to QuickTake software 2.0.2 to resolve this condition.
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Mac OS 8: Installing WiggleWorks 1.0.x

When we tried to install Wiggleworks 1.0.x on the Power Macintosh running Mac OS 8, WiggleWorks would not install. The installer runs, but there is nothing showing on the easy or custom install screens. Running the installer in either mode (easy or custom) only installs the fonts. We have tried installing the software on other machines with the same results. All of the machines tested were running Mac OS 8.
This article has been archived and is no longer updated by Apple.
The installer script included with WiggleWorks 1.0.1 CD does not know how to install under Mac OS 8. Additionally, this software has not been tested and is not supported under Mac OS 8. The installer should install fine under Mac OS 7.6.1 or earlier. Since there are no plans to update WiggleWorks by Apple, users will only be able to install the software manually from the "Installer Files" folder on the WiggleWorks CD. Users can install WiggleWorks manually from the CD, by doing the following:

- If you did not already install English Text-to-Speech software with Mac OS 8, do so now. The installer is included with Mac OS 8 in the Software Installers folder on the Mac OS 8 CD. This will make sure you have the latest Speech Manager extension and necessary voices.
- Run the WiggleWorks installer from the WiggleWorks CD which will install everything you need except (including fonts) for the WiggleWorks application.
- On the WiggleWorks 1.0.x CD, there should be a folder called "Installer Files". Open this folder - Drag the folder called, "WiggleWorks Application" to your hard drive.
- Open the WiggleWorks Application folder and locate the file called "WiggleWorks"
- Change this file's file type to "APPL" from "XXXX". This can be done with any utility that will let you change file type. This can be done with FileTyper, File Buddy or ResEdit. If you do not have any of these applications, users familiar with AppleScript can use the Script Editor to create a droplet application that will automatically change the file's type. The following AppleScript appears to work correctly under Mac OS 8:

```
-- ************************************************
-- This script takes the WiggleWorks application file that has file
-- type of "XXXX" and changes it to "APPL"

on open x
if (count of x) is greater than 1 then

     display dialog ¬
     "You can only drag one file on this script. Please drag WiggleWorks only" with icon stop¬
     buttons "OK" default button 1

return
end if
tell application "Finder"

     set droppedItem to item 1 of x
     if creator type of droppedItem is "FmrD" and file type of droppedItem is "XXXX" then
     set file type of droppedItem to "APPL"
     else
     display dialog ¬
     "This script only works with the WiggleWorks application file" with icon stop ¬
     buttons "OK" default button 1

end if
end tell
end open
-- ************************************************
```

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PC Setup 1.6.4: PC Compatible Error

I recently upgraded to PC Setup 1.6.4. Now, when I try to activate the PC side, the PC side does not start up, and I get the following message:

"A PC compatible error has occurred. A drive file cannot be opened".
This article has been archived and is no longer updated by Apple.
There are two main reasons this error message can occur in PC Setup 1.6.4:

1. A drive file is not selected in the PC Setup control panel. Go to the PC Setup control panel and reselect your PC drive file.

2. A PC-formatted SCSI hard drive (aka: drive partition) is selected as drive C: in the PC Setup control panel. PC Setup 1.6.4 will not allow you to boot off of a PC-formatted SCSI hard drive. Instead, create a drive file (aka drive container) as drive C:, and select the PC-formatted SCSI hard drive as drive D:.?

Published Date: Feb 18, 2012

Mac OS: Runtime for Java (MRJ) v 1.5.1

Mac OS Runtime for Java (MRJ) Version:1.5.1 was released December 15, 1997 MRJ 1.5 works on computers with 68030, 68040 or PowerPC microprocessors. You also need System 7.5 or later, a minimum of 8 MB of RAM (16 MB is strongly recommended) and at least 7 MB of free disk space. Computers with 68030 or 68040 microprocessors must have 32-bit addressing turned on.

Important note: (If you are running Mac OS 8 please see TIL article 22133 this article describes the more recent update - MRJ 2.0).

The Apple Applet Viewer requires OpenDoc 1.0.4 or later. To get OpenDoc, see the OpenDoc Web page at <http://www.opendoc.apple.com/>. MRJ 1.5 and the Apple Applet Runner do not require OpenDoc. Using Java applets over the Internet requires MacTCP 2.0.4 or later, or OpenTransport 1.1 or later with TCP/IP, and an active Internet connection. MRJ 1.5 works with Cyberdog 1.2.1 or later.

About Mac OS Runtime for Java Version 1.5.1 (Update to MRJ 1.5)
Mac OS Runtime for Java (MRJ) is Apple's implementation of the Java runtime environment based on software from Sun Microsystems, Inc. Mac OS applications adapted to use MRJ can run Java applets and applications.

MRJ 1.5.1 is a bug-fix update to MRJ 1.5. MRJ 1.5.1 fixes a security hole that could have been exploited by applets running in web browsers or the Apple Applet Runner. If you are running MRJ version 1.5 or earlier, you need to upgrade to MRJ 1.5.1.

MRJ 1.5.1 implements version 1.0.2 of Sun's Java. MRJ 1.5.1 includes Apple Applet Runner, a standalone application that runs Java applets, and Apple Applet Viewer, an OpenDoc viewer you use to put Java applets into OpenDoc documents.

This software can be installed on many international versions of Mac OS as well as US Mac OS. Please refer to the Read Me file included with with this software for complete details.

This software consists of a Disk Copy NDIF (New Disk Image Format) compressed image, which requires Disk Copy 6.1 or later to use. Download this software to your hard drive and then double-click it to use it. Disk Copy is available in the Utilities folder in the Software Updates Library.

Disk Copy 6.1 (or later) or Disk Image Mounter 2.1 (or later) from Apple are the recommended applications to access all disk images released by Apple and are the only supported applications to access NDIF disk images.
This article has been archived and is no longer updated by Apple.
Introduction

Mac OS Runtime for Java (MRJ) is Apple's implementation of the Java runtime environment based on software from Sun Microsystems, Inc. Mac OS applications adapted to use MRJ can run Java applets and applications.

MRJ 1.5 implements version 1.0.2 of Sun's Java. MRJ 1.5 includes Apple Applet Runner, a standalone application that runs Java applets, and Apple Applet Viewer, an OpenDoc viewer you use to put Java applets into OpenDoc documents.

MRJ 1.5 is a major upgrade to MRJ 1.0.2 that significantly improves Java's graphic performance on the Mac OS. It also includes Apple's Just-In-Time compiler (JITC) that provides further, dramatic speed improvement on PowerPC microprocessors. A JITC for 68030 and 68040 machines is being developed, but is not yet available.

IMPORTANT: The Applets menu in Apple Applet Runner includes a set of applets provided by Sun Microsystems, Inc. These applets were not created by Apple Computer, Inc. and may not follow Apple guidelines for user interaction. For example, buttons in an applet may have different behavior from buttons in applications developed specifically for the Mac OS.

System requirements
MRJ 1.5 works on computers with 68030, 68040 or PowerPC microprocessors. You also need System 7.5 or later, a minimum of 8 MB of RAM (16 MB is strongly recommended) and at least 7 MB of free disk space. Computers with 68030 or 68040 microprocessors must have 32-bit addressing turned on. This can be done by using the Memory control panel.

Using Java applets over the Internet requires MacTCP 2.0.4 or later, or OpenTransport 1.1 or later with TCP/IP, and an active Internet connection.

MRJ 1.5 works with Cyberdog 1.2.1 or later.

What's Installed with MRJ?
The MRJ 1.5 installer places the required software components in your System Folder. If necessary, the installer will force you to restart your computer before using MRJ.

WARNING: If you have been using a pre-release version of MRJ, you need to remove files installed with the pre-release version before installing

version 1.5. Use the list below to check the files you need to remove. However, do not remove the file named "Text Encoding Converter" or the folder named "Text Encodings."

On all computers, MRJ 1.5 installs:

- Mac OS Runtime for Java folder in the Apple Extras folder at the root of the startup disk
- MRJ Libraries folder in the Extensions folder of the active System Folder
- Text Encoding Converter in the Extensions folder of the active System Folder
- Text Encodings folder in the active System Folder

If you have a 68030 or 68040 computer, MRJ 1.5 also installs:

- CFM-68K Runtime Enabler in the Extensions folder of the active System Folder

If you have OpenDoc installed, MRJ 1.5 also installs:

- Apple Applet Viewer Libraries folder in the Editors folder of the active System Folder
  - this folder contains the Apple Applet Viewer
- Apple Applet Viewer Stationery in the Stationery folder at the root of the startup disk

Using the Apple Applet Runner produces a preferences file named "Apple Applet Runner Prefs" in the Preferences folder of the active System Folder.

Description of MRJ Components
MRJ 1.5 contains the system components necessary to use Java. It also includes two demonstration tools that use these components to run Java applets.

System Components
The MRJ 1.5 installer puts a folder named "MRJ Libraries" in the Extensions folder of the active System Folder. The MRJ Libraries folder contains the MRJLib file, the MRJClasses folder and, on PowerPC computers, the MRJ JITC files.

Apple Applet Runner
The MRJ 1.5 installer installs a folder called "Apple Applet Runner" which contains the Apple Applet Runner application. You can find the Apple Applet Runner folder inside the Mac OS Runtime for Java folder in the Apple Extras folder at the root of your startup disk.

You use Apple Applet Runner to run Java applets from your local disk. If you have MacTCP or Open Transport installed and an active Internet connection, you can also run Java applets over the Internet.

You can run Java applets from your local disk by opening URLs or local HTML files containing <applet> tags from the Applet Runner's File menu. In addition, you can run Java applets by dropping HTML files containing <applet> tags onto the Apple Applet Runner application icon from the Finder. You will only see the applet itself inside Apple Applet Runner; if you use a Web browser to open the HTML file, you may see additional information.

Apple Applet Runner remembers URLs of remote ("http://...") or local ("file:///...") applets. This information is stored in the Apple Applet Runner Prefs file in the Preferences folder of the active System Folder. A few sample URLs are are available by choosing Open URL from the File menu; you may add more URLs if you desire. You must have an active Internet connection to use these remote URLs.

Demonstration applets are available under the "Applets" menu in Applet Runner. You may run these demonstration applets even if you do not have an active Internet connection. These applets are stored locally in the Applets folder.

Apple Applet Runner's Properties Dialog
The Properties dialog specifies network and filesystem access and also provides a shortcut to setting some properties that specify network resources. The Properties dialog can also specify if package access and definition should be restricted. To access the Properties dialog, choose "Properties" from the File menu in Apple Applet Runner.

Most users will not need to change the settings. However, if you have special networking or security needs such as a firewall inside your company, you may need to change these settings.

Here is a summary of the items in the Properties dialog:

- Network Access: No Network - This setting does not allow applets to create sockets. The applet cannot be a server or a client.
- Network Access: Applet Host - This setting restricts applets to only creating sockets on the host machine.
- Network Access: Unrestricted - This setting allows applets to create sockets with no network restrictions.
- Filesystem Access: No Filesystem - This setting does not allow any applets access to the local filesystem.
- Filesystem Access: Local Applets - This setting allows only local applets to have access to the local filesystem.
- Filesystem Access: Unrestricted - This setting allows any applet access to the local filesystem.

- Restrict Package Access - When checked, this setting prevents applets from accessing native method interfaces. For example, it would not be able to access sun.*, com.apple.*, etc.
- Restrict Package Definition - When checked, it prevents applets from making classes or loading classes that might have access to the filesystem.
- HTTP Proxy - When checked, the HTTP proxy specified in the corresponding fields (server name/number, port number) will be used when making requests to an HTTP server.
- FTP Proxy - When checked, the FTP proxy specified in the corresponding fields (server name/number, port number) will be used when using an FTP server.
- Firewall - When checked, the firewall specified in the corresponding fields (server name/number, port number) will be used in some security checks. If the the HTTP proxy was unable to resolve a request then it will use the Firewall proxy.
- Factory Defaults - Clicking on the Factory Defaults button will reset to the default settings.
- Cancel - Clicking on the Cancel button will ignore any of the changes made and close the Applet Properties dialog.
- Save - Clicking on the Save button will save the current settings and close the Applet Properties dialog.

Apple Applet Viewer (for OpenDoc)
You use Apple Applet Viewer to place Java applets into your OpenDoc documents.

A folder called "Apple Applet Viewer" is installed in your Editors folder and the Apple Applet Viewer Stationery file is installed in your Stationery folder. Refer to your OpenDoc documentation for instructions on using stationery.

You use Java applets by dragging one of the following to the Apple Applet Viewer frame:
1. An HTML file that contains an <applet> tag,
2. A text file that contains a URL for an HTML document containing an <applet> tag, or
3. A Scrapbook clipping that contains either a URL for an HTML document containing an <applet> tag or an <applet> tag.

Note: You must have an active Internet connection to use applets at remote URLs.

Tips for Using MRJ

Mac OS 8
Mac OS 8 includes MRJ 1.0.2 which is pre-set to install as a standard component of Mac OS 8. If you have already installed MRJ 1.5 and you are installing Mac OS 8, you should de-select MRJ in the installer list of components being installed. If you don't de-select the MRJ install you will get an error message when MRJ 1.0.2 tries to install over MRJ 1.5. If you get to this point you should press the Skip button which will allow you to skip, or bypass, the MRJ 1.0.2 installation and continue with the rest of the Mac OS 8 installation.

- OpenDoc
  If you do not have OpenDoc installed when you install MRJ 1.5, the Apple Applet Viewer will not be installed. If you install OpenDoc later, you must reinstall MRJ to use the Applet Viewer.

  Memory Usage
  MRJ uses system memory to run Java applets and applications. Applications allocate their own application memory, leaving less memory available to the system. If an application that uses MRJ (such as the Applet Runner or Cyberdog) is using an especially large amount of memory, you may have trouble running large Java applets or applications. If you encounter problems, try quitting applications you aren't using. If you still cannot run the applet or application, try reducing the amount of memory used by the application that is using MRJ. To reduce an application's memory size, first quit the application, then select the application's icon and choose Get Info from the File menu. Type a smaller number in the Preferred Size field. (However, do not set the preferred size smaller than the indicated minimum size).

  Adding to the Classpath
  For some applets, you may need access to classes that are not in the same directory as the applet tag. To allow additional Java classes or zip files to be referenced by MRJ when running an applet, do one of the following:
- In the html document, add a codebase parameter to the applet tag. This technique can be used when the classes are either on your disk or on the Internet. Add a parameter of the form "codebase=file:///mydisk/myfolder/myzip.zip" (for classes on your disk) or "codebase=http://hostname/dirname/theirzip.zip" (for classes on the Internet) to the applet tag that is in the .html file you open with Apple Applet Runner or Apple Applet Viewer. See general Java and html references for more details on the applet tag format and the codebase parameter.
- Add an alias to the MRJClasses folder. This technique is useful when you have a local copy of a .zip file, or a folder with a collection of Java classes, on your disk. If the item you wish to add is a .zip file or a folder containing .class files, you can add the aliases directly. Put an alias to the item (.zip file or folder) into the MRJ Classes folder in the Extensions folder in the active System Folder. To add a single class file to the classpath, make an alias to the folder containing the class file and put that alias into the MRJ Classes folder.

Note: Currently, any MRJ runners or viewers that are open will have to be quit and relaunched for the new classes to be recognized.

Known Problems

- You must restart your computer after installing MRJ. If you attempt to run MRJ without restarting, MRJ may behave in unexpected ways.
- Do not remove the Text Encodings folder from the System Folder or the Text Encoder Converter file from the Extensions folder. Removing these items may cause problems while using MRJ or using other applications requiring these files.
- In pre-release versions of MRJ, the preferences file was named "Applet Runner Prefs." If you had a pre-release version of MRJ installed, make sure you throw the "Applet Runner Prefs" file away. (The old file may conflict with preference files created by applet runner applications from other companies.)
- There is a known problem with the PPCExceptionEnabler extension. This extension is installed by Macintosh Common Lisp (MCL) 3.9. If you have this extension, you must remove it before running MRJ. Future versions of MCL will not require this extension.
- If you're using Microsoft Internet Explorer, you should use version 3.01 or later.
- If you are running applications or applets compiled with the JavaSoft 1.0.2 JDK release for Macintosh, you may encounter numerics-related problems. Specifically, floating-point constants (and in some cases computed integer constants) may not be accurate. If possible, use another Java compiler to recompile any applications or applets displaying this problem.
- If all the images and sounds an applet uses don't appear, there may not be enough memory available for all the images and sounds. You may be able to free up memory by quitting all applications (such as the Apple Applet Runner and Apple Applet Viewer) that use MRJ. If necessary, try quitting other applications as well. After quitting the applications, try reopening Apple Applet Runner or Apple Applet Viewer. See Memory Usage above for additional information.
- Some Java applets (such as Clock) or applications that are processor intensive may cause other applets to open or run slowly, or may cause them not to open at all. To improve performance, try closing applets or applications that you are not using.
- The Apple Applet Viewer does not report some errors. If an applet does not open in Apple Applet Viewer, try opening it with Apple Applet Runner to see if an error message appears.

Further Information and Reporting Problems
See our Web site at **http://www.apple.com/macos/java/** to find out about future releases of Mac OS Runtime for Java or get information on how to report problems with the software.

Other Applets on the Internet
There are thousands of applets available on the Internet. Two good starting points for finding applets are:

<**http://www.javasoft.com/**>

- <**http://www.gamelan.com/**>

  Software Development Kit Available
  A software development kit (SDK) is available for MRJ 1.5. The MRJ SDK includes interfaces to the runtime environment that allow software developers to:
- run Java applets and applications within a Macintosh application
- access the Java runtime from a Macintosh application
- call Java methods from C and C++
- call native methods from Java
- build standalone Java applications

The SDK also includes a utility to run Java applications.

See our Web site at **http://www.apple.com/macos/java/** to get the MRJ SDK.

Java not Fault-tolerant
The Java technology is not fault-tolerant and is not designed, manufactured or intended for use or resale as on-line control equipment in the operation of nuclear facilities, aircraft navigation or communication systems, or air traffic control machines in which the failure of the Java technology or Mac OS Runtime for Java could lead directly to death, personal injury, or severe physical or environmental damage.
Published Date: Feb 18, 2012

PhotoFlash: 2.0->2.0.1 Updater

This article comprises information on the PhotoFlash 2.0->2.0.1 software update which is available for download from the Apple Software Updates Web site at http://www.apple.com/swupdates.

Description:
This update converts PhotoFlash from version 2.0 to version 2.0.1. If you select the Enchace menu in PhotoFlash version 2.0 on Power Macintosh 7200, 7500, 8500, and 9500 computers, a Type 11 error will occur. Version 2.0.1 of PhotoFlash resolves this problem.
This article has been archived and is no longer updated by Apple.
Updating PhotoFlash for QuickTake:

ReadMe File for the PhotoFlash 2.0->2.0.1 Updater

If you are experiencing problems when you use the Enhance menu in PhotoFlash for QuickTake on your Power Macintosh 7200, 7500, 8500, or 9500 computer, you need to update your PhotoFlash for QuickTake application program.

To update PhotoFlash for QuickTake, follow these steps:

1. Make sure the PhotoFlash for QuickTake application is already installed on your computer.

2. Double-click the PhotoFlash 2.0->2.0.1 updater icon.

(Note that the PhotoFlash updater file name is different for different countries. In Italy for example, the file is named "T-PhotoFlash 2.0->2.0.1")

The updater looks for your current copy of PhotoFlash for QuickTake. A dialog box appears.

3. If you want to update a different copy of PhotoFlash for QuickTake than the one shown in the dialog box, press the pop-up menu (with the downward-pointing arrow) to open it, then locate and select the copy of PhotoFlash that you want to update.

4. Click the Update button.

The PhotoFlash for QuickTake application is updated and a dialog box appears.

5. To save the updated copy of your PhotoFlash for QuickTake application under the name "New PhotoFlash," click Save. (To save it under a different name, click inside the text field and type a new name before you click Save.)

The new application is saved and a dialog box appears.

6. Click OK.

Your PhotoFlash for QuickTake application has been updated.

Important: Remember to use the updated application named "New PhotoFlash" (or whatever name you entered in step 5) instead of the original version of PhotoFlash for QuickTake, which is still preserved on your computer. If you accidentally use the original version of PhotoFlash for QuickTake, you will still have problems using the Enhance menu. After you start up the updated copy of PhotoFlash for QuickTake once to verify that the update was successful, you may want to drag the original version of PhotoFlash to the Trash or rename it "Old PhotoFlash" to avoid using it by accident.
Published Date: Feb 18, 2012

QuickTime VR 2.0: Using with Windows 95 or NT

I purchased the QuickTime VR Authoring Studio to use on my Power Macintosh computer. I plan to author QuickTime VR 2.0 movies on my computer for distribution to both Macintosh and PC users. I was told PC users will not be able to use my QuickTime VR 2.0 movies unless the movies are converted to QuickTime VR 1.0 format using a third-party utility.

How can PC users use my QuickTime VR 2.0 movies without having to convert them to 1.0 format?
This article has been archived and is no longer updated by Apple.
With the release of QuickTime 3, PC users can play QuickTime VR 2.0 movies directly under Windows '95 or NT or later as long as their computer meets the below System requirements.

The computer must have a 486 or Pentium processor. In addition, the computer should have the following software installed:

- QuickTime for Windows version 3 or later
- QuickTime VR components version 2.1 or later
- MoviePlayer version 3.0 or later

If you're playing the QTVR media over the Internet, you also need a World Wide Web browser with the QuickTime plug-in version 2.0 installed.

QuickTime software can be found at:

http://www.apple.com/quicktime/
Published Date: Feb 18, 2012

LaserWriter 8500: User Manual Error, Connecting PC Section

I have purchased the correct cable to connect my PC to the LaserWriter 8500, but the cable will not fit on the port specified in the user manual.
This article has been archived and is no longer updated by Apple.
The diagram on page 25 incorrectly illustrates the connection of a PC to the LaserWriter 8500. The diagram shows the 1284C parallel cable connected to the bottom port, which is the SCSI port. This cable should be connected to the 1284C parallel port just above the SCSI port. The diagram on page 18 correctly identifies these ports and their locations.
Published Date: Feb 18, 2012

LaserWriter 8500: Paper Out and Paper Jam Error Lights Flashing

I have my LaserWriter 8500 connected to my PC via 25-pin to 25-pin parallel cable. The paper out and paper jam error lights flash when the printer is turned on. There are no paper jams and there is plenty of paper loaded in the cassette.

When the parallel cable is removed from the printer, it powers up fine and the ready light is solid.
This article has been archived and is no longer updated by Apple.
The LaserWriter 8500 requires a parallel cable with a 1284C connector on the end that attaches to the printer. A 25-pin parallel connector would only fit on the SCSI port of the printer, which will force the printer to enter the paper out - paper jam error state when started with this cable attached.

The parallel cable used to connect a PC to the LaserWriter 8500 must be IEEE 1284 compliant. Since IEEE 1284 has become a standard interface for parallel PC connectivity, many third-party vendors offer cables with this specification.

This cable should also be available from your Apple Dealer as part number M4235ZM/A.
Published Date: Feb 18, 2012

Mac OS 8: Megaphone Compatibility

Bing Software is taking over the support, sales and development of Megaphone from Cypress Research Corp.
This article has been archived and is no longer updated by Apple.
They have made available a Mac OS 8.1-compatible version of MegaPhone with basic features. Version 2.1. Customers who wish to purchase the full version of MegaPhone can contact Bing Software.

Bing Software does not recommend using Megaphone with Mac OS 8.1. Contact Bing Software for additional information.

Apple Phone (\part of Apple Telecom Software3.x) and MegaPhone may not be used concurrently.

This article contains information about a third-party product. This information is for informational purposes only and does not constitute a recommendation. This information has been provided by the software developer. Apple is not responsible for the accuracy of this information.

The Tech Info Library Article 17159: "**Locating Vendor Information**" can help you search for a particular vendor's address and phone number.
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Bing Software, Inc.

Bing Software, Inc.
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Company Profile:
Provides Macintosh users with innovative telephony software products.
Published Date: Feb 18, 2012

Apple IIGS: Some Memory Upgrades Have Faulty RAM

This article has been archived and is no longer updated by Apple.

There has been a problem with certain RAM chips used in the Apple IIGS RAM expansion card. It is a refresh problem, not a loading problem. One symptom: AppleWorks crashes after being in use for a while.

Service stock has been purged of RAM upgrade kits with suspected bad RAM chips, so any new upgrades should have no problem.

If you suspect bad RAM, check the date codes on the chip. The suspected bad numbers are 8752 and 8801.

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WGS 9650/350: RunShare Issue

A small number of WGS 9650/350's shipped with an updater version of RunShare in the package instead of a full install. The read me states incorrectly that we will post a solution to info.apple.com.
This article has been archived and is no longer updated by Apple.
The software may be manually installed.

1) Open the installer files folder on the RunShare CD. This folder contains one extension, one control panel, and six application files. Select the files named:

RunShare Extension
RunShare GSA (control panel)

- drag onto closed system folder. Click OK to have them placed in their respective folders.

2) Open the Extensions folder inside the System Folder. Create a folder named RunShare. Drag these six applications from the installer files folder into the RunShare folder. Restart. RunShare should now be installed.

- RunAccess
- RunAFP
- RunATP
- RunListner
- RunManage
- RunNet

Refer customer to Documentation in the Runshare packaging for information on using the software or Run LTD's Website at <**http://www.runusa.com**>.
Published Date: Feb 18, 2012

LaserWriter 8500: Incorrect PC Requirements in User Guide

I am trying to print to the LaserWriter 8500 via a 386 running Windows 3.1, but I cannot get the software that came with the printer to install. The user guide states that "to use the printer . . ." you need "an 80386 or higher CPU" for use with Windows 3.1 or Windows NT.
This article has been archived and is no longer updated by Apple.
While it is correct that the user's guide states the requirement of a 386 or higher CPU, this is a misprint. It is important to note that the driver will not install on anything less than a 486, and that all pre-sales and specification materials other than this one page indicate that a 486 or higher CPU is required for use with the LaserWriter 8500.

You can still use the printer by using the built-in driver that comes with the version of Windows installed. Simply choose an alternate printer description file such as the LaserWriter 12/640 or simply "LaserWriter" to print to the 8500. You will not get the full benefit of using the Apple-supplied driver but you will most likely be able to print to the LaserWriter 8500.
Published Date: Feb 18, 2012

PowerBook 1400: Mac OS 8 Installation Crashes

I've upgraded to OS 8 on my PowerBook 1400 and have identified 2 recurring problems when installing OS 8 from the CD-ROM:

1. During the installation process the installer quits with the error message "installer has unexpectedly quit". or

2. If I do manage to complete the OS 8 installation and then restart from the hard disk the startup is interrupted with error messages "illegal instruction" or "finder error" telling me to restart with extensions off.

These symptoms don't appear when I'm installing OS 7.5.3.

How can I resolve this?
This article has been archived and is no longer updated by Apple.
There have been a few instances of this happening. It may be related to custom installing the IrDA software. The Infrared option in the Custom Install is only for IrDA PowerBooks. PowerBook 11400's will crash during startup with an 'Illegal Instruction' error.

PowerBook 190's, 5300's and 1400's do not support IrDA, so the only IR-related system software they should have installed is the IRTalk extension and the IRTalk option in the AppleTalk control panel. Files they shouldn't have installed include: IrDALib, IrLanScannerPPC, and Infrared control panel.

Note: PowerBook 190's are not affected by this crash, because the IrLanScannerPPC doesn't load, and a Universal System Install only installs the IRTalk extension, not the IrDA components. So there are a few variables concerning the OS 8 installation that can alter the components that get installed on the PowerBook.
Published Date: Feb 18, 2012

PowerBook and Duo: AC Adapter Compatibility

I've noticed that the connectors are the same on several different PowerBook and Duo AC Adapters. Can I use these AC adapters that came with other PowerBooks and Duos with my PowerBook 1400 or 3400?
This article has been archived and is no longer updated by Apple.
The connectors used to connect the AC Adapter to the PowerBook are the same on several different models of PowerBooks. Although the connectors are similar there are electrical differences that prohibit you from swapping AC Adapters between the different PowerBook models.

It is a good practice to only use the AC Adapter recommended for use with that specific PowerBook. The PowerBook 1400 and PowerBook 3400 models can both use the same model AC Adapter. The AC adapters that they use are rated at 45 Watts.

AC Adapters that are supplied for the Duo models and the new PowerBook 2400 also use the same connectors. These adapters are rated at a lower wattage, 36 Watts and lower for some models.

Using these lower wattage AC Adapters with PowerBook models that require AC Adapters that supply 45 Watts is not supported by Apple Computer Inc.

PowerBook 1400 Series
M4895 or M4896* - 45 Watt AC adapter for Macintosh PowerBook 1400 series computers.

PowerBook 3400 Series
M4895 or M4896 - 45 watt AC adapter for Macintosh PowerBook 3400 series computers.

Note: Model M4896 has replaced model M4895. However, the two are interchangeable.

PowerBook 2400
M5937 - 36 watt AC adapter for the Macintosh PowerBook 2400c computer.

PowerBook Duo 210, 230, 250, 270c, and 280 computers
M7783 - 25 W power adapter.

PowerBook Duo 280c
M2693- 36 W power adapter which is fully backward compatible with all Duo computers only.

PowerBook Duo 2300c
M4174 - 36 W power adapter which is fully backward compatible with all Duo computers only.
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Newton OS 1.x: Handwriting Recognition Setup and Tips

I would like to improve handwriting recognition on my Newton MessagePad. What steps do I follow to setup recognition? What steps should I follow to improve recognition reliability?
This article has been archived and is no longer updated by Apple.
The Newton OS will learn to recognize your handwriting gradually, but you likely will have to teach it your handwriting style both letter by letter and word by word.

These steps will help your Newton recognize your handwriting:

- Teach the Newton OS to better understand your handwriting style.
- Teach the Newton OS how you write individual letters.
- Teach the Newton OS how you write entire words.
- Review the words in your vocabulary list.
- Review the Recognizers Preference list.

Be sure that the text recognizer button is turned on. The text recognizer button is at the bottom-left side of the screen, marked with an A. When it is on, it appears as a white A on a black background.

Handwriting Style

To teach the Newton OS to better understand your handwriting style, follow these steps:

1) Tap the Extras drawer icon at the bottom of the screen, then tap Prefs.
2) Tap Handwriting Style in the Preferences Menu.
3) Tap the button that best describes your handwriting under "My handwriting style is". You may find that "Mixed Cursive & Printed works best, unless you exclusively use all-printed or all cursive writing.
4) Adjust the other preferences so they reflect your writing style. Drag the diamonds with the stylus to move them.
5) Make sure that the box at the bottom marked "Configure for guest user" is unselected.

Individual Letters

To teach the Newton OS how you write individual letters, follow these steps:

1) Tap the Extras drawer at the bottom of the screen, then tap Prefs.
2) Tap Letter Styles in the Preferences Menu. You will see a dialog box which displays a particular letter, number or symbol written in several different styles. You can select which character to view at the bottom of the dialog box.
3) Select each character, then tap each of the samples and carefully watch how the Newton OS draws the letter. Indicate which style or styles you use most often, and which you use rarely. When you finish, tap the next letter, number or symbol you wish to train the Newton OS to learn to recognize, and continue.

Entire Words

To teach the Newton OS how you write entire words, follow these steps:

1) Tap the Extras drawer at the bottom of the screen, then tap Prefs.
2) Tap Handwriting Practice in the Preferences Menu. In this dialog box, a prompt will ask you to write a particular word and try to recognize it. The more words you practice, the more the Newton OS learns.

Reviewing your Personal Word List

To review the words in your personal word list, follow these steps:

1) Tap the Extras drawer at the bottom of the screen, then tap Prefs.
2) Tap Recognizers in the Preferences Menu, then click on "Review my word list". You may choose to delete words you rarely or never use, so Newton has fewer words to compare your writing to before it interprets. Add often-used words which don't appear in a dictionary, such as proper names, abbreviations and slang terms.

Recognizers

There are other choices in the Recognizers Menu that will aid handwriting recognition.

For the best speed and accuracy, select the box next to "words in word lists" and deselect "words not in word lists." This limits the number of words Newton considers when recognizing text.

Also, deselect as many of the other options such as "names," "telephone numbers," "dates," and "times of day" as possible. This will improve word recognition, particularly when writing in the Notepad and not using numbers.

If you need to write a number in the Notepad and these options are deactivated, tap the screen where you want the number to appear, then tap the keyboard icon at the bottom of the screen, and type the number in.

The following handwriting tips will help the Newton OS recognize your handwriting:

- Write capital letters and tall letters (such as t and l) so they are about as tall as the width between solid lines on Newton's screen. Lowercase letters should be about half as tall.
- Put a full character's width of space between words, but not too much; the Newton OS may assume you want it to insert a tab.
- Write in straight lines. Use the lines on the screen as a guide.
- When dotting your i's, keep the dot close to the i.
- When crossing letters, make sure the cross is straight, not slanted, and that it does not cross any other tall letters that should not be crossed (such as h).
- Make parentheses taller than your tallest letters.
- Do not go back to a letter after you've written it to try to improve its legibility. Newton only understands a letter as it's written originally.
- Do not write too near the edge of the screen. Newton cannot sense the stylus on the screen's edges.
- Do nott pause in the middle of a word.
- Write from left to right.
- Use thicker ink. Newton recognizes bold lines better. To change the thickness of the lines your stylus produces, go to the Extras drawer and tap Styles. Tap one of the bottom two squares on the far-right side.
- Keep punctuation close to the word it follows.
- Write colons and semicolons as tall as capital letters. Draw them from top to bottom.

Note: After restoring your data from your Newton Messagepad to your MessagePad 100 or MessagePad 110, go to the preferences section and reset your letter styles training.

You can do this by choosing Preferences in the Extras drawer, choosing Letter Styles, and tapping on "Return to original settings." Your recognition should be better than it was on the old unit even with the 'old' training data.
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Newton OS 1.x: Recognition FAQ

This document contains the answers to frequently asked questions (FAQ) about Newton OS 1.x Text Recognizer.
This article has been archived and is no longer updated by Apple.
(Q) Where is the text recognizer button and how do you tell if it is on?

(A) The text recognizer button is the one at the bottom-left side of Newton's screen, marked with an A. When it is on, it appears as a white A on a black background. The shapes recognizer button is beside it, marked with a curlicue and a triangle. Generally, you should only have one recognizer on at a time. If you need to use both text and graphics at the same time, turn on the text recognizer when you are writing, and turn it off when you are drawing. Keeping both recognizers on will slow Newton, and make it interpret more items incorrectly. If either or both recognizers are turned off, you will still be able to see any text or graphics on the screen.

(Q) When I write a sentence with a period at the end or a comma in the middle, Newton interprets the punctuation mark as the letter "l" or as an accent mark or hyphen. How can I make it differentiate between these marks?

(A) To help Newton understand your punctuation marks better, particularly commas and periods, make certain you have placed them close to the word they follows. If Newton interprets them incorrectly, you are probably leaving too much space between punctuation and the words associated with it.

(Q) When I write numbers, Newton converts them into words. How can I change this?

(A) Make sure you have the "numbers," "telephone numbers," "dates," and "times of day" options checked in the Recognizers Preferences area. To get there, tap the Extras button, tap Preferences, then tap Recognizers.

(Q) Can Newton change recognized text back to handwriting?

(A) Yes. Make sure the text recognizer button on the bottom left of the screen is darkened. Then, double-tap the word you want changed, and tap the handwritten version in the menu. Once you change text back into handwriting, it cannot be changed back into text again.

Note: With the original Newton MessagePad, you can only convert your handwriting to text if the text recognizer button is darkened while you write. Whatever you write while the button is turned off cannot be converted into text later.

The Newton MessagePad 100 and 110 can convert handwriting to text at any time with a feature called Deferred Recognition. To utilize this feature, simply tap twice on each word you wish to convert. You may also convert several words at once by first highlighting them and then tapping twice on the words.

(Q) My Newton begins interpreting what I have written while I'm still writing. Is there a way to slow this feature down so I can finish a thought before Newton starts converting it to text?

(A) If Newton is interpreting your handwriting too quickly, here's how to slow it down:

1) Tap the Extras button, then tap Prefs.
2) Tap Handwriting Styles in the Preferences Menu.
3) Select one of two ways to slow down handwriting interpretation.

Either:
* Slide the diamond on the second gauge to the left toward "slowly, more accurately."
or
* Slide the diamond on the third gauge to the right toward "after a delay."

The longer you give Newton to think about what you write, the more accurate its interpretation will be.
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Apple Network Server: Using PCI Ethernet Card

The following guidelines will help eliminate or avoid Ethernet problems when using the PCI Ethernet Card.
This article has been archived and is no longer updated by Apple.

1. Connect an Apple PCI Ethernet card to only one network at a time. Although the card has three connectors, it should not be connected to more than one network.

2. Do not install an Apple PCI Ethernet card without connecting a network cable.

3. If you configure an Apple PCI Ethernet Card by assigning it an IP address or by enabling the AppleTalk stack on it, the card attempts to determine which of the three possible media types is connected to it. If you have not connected a network cable, you will hear clicking sounds every few seconds. These clicking sounds will continue until the cable is connected. Although this should cause no serious problems, the lack of a cable may cause long pauses during system booting, as the system attempts to contact other servers on the network.

4. For maximum performance, always install Ethernet cards from the bottom slot up; slot 6 before slot 5, and so on.

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Macintosh II, IIx & IIfx: Power Up Questions And Answers

This article covers several questions about powering up a Macintosh II, Macintosh IIx, and Macintosh IIfx.

This article has been archived and is no longer updated by Apple.
Question: Is there a way to power up the Macintosh when AC power is supplied, instead of toggling the keyboard button or the power button on the back of the Macintosh II?

Answer: There is a way to power up the Macintosh without pressing a button. However, this requires modifying the power supply or using a power supply other than the one supplied.

Circuitry in the Macintosh II, IIx and IIfx power supply senses a level transition from the logic board, which is initiated by pressing either the button on the back of the machine or the Power On key on the ADB keyboard. The power supply must sense the transition to being the power-up cycle. If this transition does not occur, the power-up sequence does not start. Therefore, if the power supply is modified to provide (or another power supply is used that provides) a steady voltage to the power fail signal line of the power supply, the power-up sequence does not start.

Question: How does the power button on the back of the Macintosh work? Does it short pins 2 and 4 on the ADB port, or does it do something else?

Answer: Pin 2 of the ADB port is the power on (PwrOn) signal line; pin 4 is ground (Gnd). When the reset key is pressed, pin 4 (Gnd) is connected to pin 2 (PwrOn) through a 1N914 diode. This supplies Gnd to the input of a CMOS chip on the logic board, which turns on a transistor and applies approximately +6VDC to the power fail warning (PFW) signal line. This level shift on the PFW signal line initiates the power-up sequence in the power supply. Once the power supply is powered up, +5VDC is applied through a diode to the same line, which keeps the power supply powered up.

Question: Can the power button on the back of the Macintosh be replaced with a power-sensing switch?

Answer: When replacing the switch on the back of the Macintosh:

- Ensure that all connections are correct (the switch is a double-pole, double-throw type).

- Ensure that the new switch performs the same functions as the original switch (that is, it switches ground in to the shut-down circuit to shut off the system, and it switches power in to the circuit to turn on the system).

Question: Can the logic in the power supply be bypassed so that it does not sense anything from the motherboard?

Answer: It may be possible to bypass the power fail logic in the power supply; however, it is probably easier to replace the power supply with one having the same functions, but that handles power fail differently. A power fail-type circuit is necessary because there is a thermal sensor on the Macintosh II logic board that shuts down the system if high temperature is detected. This same circuit also shuts off the power supply in response to the Shut Down menu command.

Another possible solution is to create a circuit that plugs into the ADB port, which generates pulses between 3.0VDC and 6.8VDC for >1.5 seconds on pins 2 and 4. This would trigger the power fail circuit in the present power supply to power it up.

The logic in the power supply also generates a PFW signal to the system when there is an AC input voltage failure. If AC power is removed, the power fail circuit pulls PFW low at least 2 ms before the DC power fails.

For further information on operational restrictions, see the "Designing Cards and Drivers for the Macintosh II and Macintosh SE" manual (Addison-Wesley, ISBN 0-201-19256-X), chapter 6, page 4.

All of these factors should be taken into consideration beforeremoving the existing power supply.

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Support Information Services

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Apple PC Compatibility Card: Installing in the G3 Chassis

Can the Apple PC Compatibility Card be installed into the G3 chassis?
This article has been archived and is no longer updated by Apple.
The first G3 series introduced in late 1997 is able to support all the PCI based PC Compatibility Cards except the 12-inch PCI Pentium (100Mhz card). Thus, the 7-inch PCI 586 (100Mhz card) and the 12-inch PCI Pentium (166Mhz) should function in the G3 chassis if properly installed.

Since the Power Macintosh G3 All-in-one can only accept 7-inch PCI cards, the 7-inch PCI 586 (100Mhz card) is the only PC Compatibility card that can be used in this computer. The Power Macintosh G3 All-in-one **cannot** accept 12-inch cards, including the 12-inch PCI Pentium (166Mhz) card.

The 7-inch PCI 586 100Mhz kit does not come with an ATAPI CD audio cable for G3's ATAPI CD-ROM drive, this cable would need to be acquired for this card type to work.

The steps below will give a general outline of how to install the 12-inch PCI Pentium 166Mhz PC Compatibility card into the G3 chassis. The 12-inch PC Pentium 166Mhz PC Compatibility Card kit does come with an ATAPI CD audio cable along with two regular audio cables for SCSI CD-ROM drives.

Opening the Computer

1. Shut down the computer and disconnect all cables from the computer, except the power cord.
2. Open the side casing for the G3 chassis.
3. Touch the metal part of the power supply case inside the computer. This is for discharging possibly damaging static buildup. If a static mat and cuff is used then this step will not be necessary.
4. Now disconnect the power cord.
5. Flip the two plastic (green retaining clips and swing the drive bays up and away from the logic board.

Inserting the PC Compatibility Card

1. Unscrew and remove the metal port access covers for the PCI slot you need.
2. Insert the PC Compatibility Card into the open PCI slot, taking care to fully seat the card into the slot.
3. Reinsert the screw you removed earlier to secure the card.

Connecting the CD IN Cable
The G3's ATAPI CDROM drive will only accept the ATAPI audio CD cable.

1. Disconnect the audio cable from the back of the built-in CD-ROM drive. Disconnect the other end of the audio cable from the Macintosh logic board, and remove it from the computer.
2. Plug the PC Compatibility card bundled ATAPI audio cable (black plastic plug) into the back of the CD-ROM drive.
3. Plug the other end (white plug) of the ATAPI audio cable into the CD In connector in the far upper-left corner of the PC Compatibility card (this connector is labeled "CD IN" on the PC Compatibility Card).

Connecting the Sound Out Cable

1. Plug one of the other SCSI audio cables remaining (either one will work) into the connector marked CD IN, near the PRAM battery on the G3 logic board.
2. Plug the other end of that audio cable into the connector next to the CD In connector on the PC Compatibility Card (this connector is labeled "STD_SND_OUT" and is the middle socket out of the three on the PC Compatibility Card).
3. Arrange the audio cables so that it avoids laying over any heat sinks or where they might be physically damaged.

Replacing the Computer Cover

1. Make sure all cables and cards are firmly connected.
2. Replace the side casing of the G3 chassis.
3. Reconnect all equipment.

Power Macintosh G3 All-in-one: Using the 7-inch PC Compatibility Card

One additional issue for the Power Macintosh G3 All-in-one is the lack of an external/internal video out connector to the display. To overcome this, you must use a second display, attached directly to the PC Compatibility card, to view the PC environment. The cable that is provided with the PC Compatibility card has connectors available for a Macintosh-specific or an SVGA-type display.

This is also the case with the Orange Micro OrangePC cards, T2106LL/A, that Apple sells via K-12 Inside Sales.
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iTunes 6.0.2 quits unexpectedly when you connect iPod

This article has been archived and is no longer updated by Apple.

Under some circumstances, iTunes 6.0.2 may unexpectedly quit when you connect your iPod or when iTunes Store content syncs to iPod.

This error appears when syncing iTunes Store content:

> "iTunes has encountered an error and needs to close"

To resolve this, update to iTunes 6.0.3 or later.

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Cross Platform Acronyms

What do the cross-platform acronyms ODI, LSL, MLID stand for?
This article has been archived and is no longer updated by Apple.

- ODI - Open DataLink Interface (a Novell specification)
- LSL - Link Support Layer
- MLID - Multiple Link Interface Driver (a layer of the Novell ODI specifications which controls a specific network interface and works below the Link Support Layer)

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iPod shuffle (First Generation) stuck on solid green light

This article has been archived and is no longer updated by Apple.

Symptom

You may experience an issue where the original iPod shuffle shows a solid green light when turned on that **does not turn off**. The iPod shuffle remains unresponsive (frozen) when this occurs. This symptom occurs after the unit has been switched from off to the shuffle or play in order position and is seen **before** the user attempts to play music

Solution

1. Begin troubleshooting by disconnecting the unit from the computer and move the iPod shuffle switch to the "OFF" position."
2. Press the battery indicator button on the back of iPod shuffle and observe the LED color shown. If the indicator shows a green LED, restore the iPod shuffle as explained in article 300701. If the indicator is red, orange, or had no indicator light at all, charge the iPod for an hour and then attempt to restore the unit to resolve the issue.
3. If the unit cannot be restored in iTunes, then use the iPod Reset Utility to restore the iPod.

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Desktop Printing: Error "-192 at 18" at Startup

When the computer is started, a dialog box comes up saying: "Desktop printer unknown error -192 at 18".

It has an "OK" button to dismiss it, and comes up at every startup, but everything seems normal, and printing from all applications works just fine.
This article has been archived and is no longer updated by Apple.
The message is caused by a corrupted print job. The following steps should correct it.

Using the Extension Manager control panel or a corresponding third-party utility, turn off Desktop Printing by unchecking the Desktop Printer Spooler and the Desktop PrintMonitor in the list of extensions.

Restart your computer. You should get a different error message from Print Monitor telling you about a damaged print job. Choose to delete the damaged print job.

Turn Desktop Printing back on by rechecking the components, and restart.

If you have other Desktop Printing issues, check out TIL article# 24306: **Mac OS 8: Desktop Printing Troubleshooting**, which provides a complete list of troubleshooting steps for Desktop Printing issues.
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Power Macintosh G3: No Custom System Software CD Install or Remove Selections

This article describes how to custom install/remove portions of system software using the Power Macintosh G3 System Software CD.

This article has been archived and is no longer updated by Apple.
The Power Macintosh G3 CD does not provide the same pathway to custom remove or install portions of system software as the standard Mac OS 8 CD. You can, however, custom remove or install system software in the following manner.

1. Start up from the Power Macintosh G3 CD (by pressing the letter "c" during startup).

2. Double-click the "Power Macintosh G3 Install" icon, or if your computer shipped with OS 8.1, on the "Install Mac OS 8.1" icon.

3. Click Continue.

4. Select the hard drive you want to custom remove from or custom install onto.

5. A window appears with the following:

> "The selected destination disk already has Mac OS 8 (or 8.1) installed.
>
> Do you want to: Reinstall Mac OS 8 (or 8.1)?
>
> Add or remove selected features?"

There are 3 buttons: Cancel; Reinstall; and Add/Remove. If you choose add/remove, you are presented with another window asking what elements of software should be installed.

6. You can select any of the software installers. Click continue and an installation window appears with "Easy Install" preselected in a pull-down menu in the upper left hand corner of the window. Pull down that menu and select custom install or custom remove, depending on your needs. Then click the install (or remove) button.

If your Power Macintosh G3 shipped with Mac OS 8.1, and you have not updated your system software

1. Start up from the Power Macintosh G3 CD (by pressing the letter "c" during startup).

2. Open your System folder (on your hard drive), locate the Finder and drag it to the Trash.

3. Double-click the "Install Mac OS 8.1" icon. Click Continue.

4. Select the hard disk you want to custom remove from or custom install onto.

5. You now see a window with the following:

> "The selected destination disk already has Mac OS 8.1 installed.
>
> Do you want to: Reinstall Mac OS 8.1?
>
> Add or remove selected features?"

There are 3 buttons: Cancel; Reinstall; and Add/Remove. If you choose add/remove, you are presented with another window asking what elements of software should be installed.

6. You can select any of the software installers, but for now, select only Mac OS 8.1 The installer automatically inspects the volume selected for installation or removal.

7. Click Continue, and an installation window appears with "Easy Install preselected in a pull-down menu in the upper left hand corner of the window. Pull down that menu and select custom install, then in the next window, select only "Core System Software." Then click the install button.

8. After the installation is complete, restart your computer normally.

9. Empty the Trash.

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Open Transport 1.3: Single Link Multi-homing Setup

Open Transport 1.3 introduces Single Link Multi-homing, a mechanism by which Open Transport can support multiple IP addresses on the same hardware interface, at the same time.
This article has been archived and is no longer updated by Apple.
Synonyms for this feature include IP Aliasing, Secondary IP address Support, IP Masquerading, "Multihoming", IP Multinode support.

This is useful for sites like Internet Service Providers (ISPs), that want to give each of their clients a distinct IP address, without requiring separate computers for each address. Web server software packages, or server plug-ins that utilize this feature can offer virtual domain support that supports all web browsers.

You will need to contact your application developer to see if they are supporting this new feature of Open Transport. This feature is only available with Open Transport 1.3 and later.

You configure a system to use multiple IP addresses as follows:

1. The TCP/IP Control Panel must be set for manual addressing.

2. You create a text file with the required name "IP Secondary Addresses" and put it into the Preferences folder in the System Folder.

Each line of the IP Secondary Addresses file contains a secondary IP address to be used by the system, and an optional subnet mask and router address for the secondary IP address. If there is no subnet mask entry, then a default subnet mask for the IP address class will be used. If there is no router address entry, then the default router associated with the primary address will be used.

Each secondary address entry must be prefixed by "ip=". Each subnet mask entry must be prefixed by "sm=". Each router address entry must be prefixed by "rt=". Lines proceeded by a ; are ignored. An example of the contents of the IP Secondary Addresses file follows.

'ip=' for ip address, 'sm=' subnet mask, 'rt=' router address. There should be no commas in this line as shown between entries.

Note: No space in 'ip=192.168.22.200'

IP address	Subnet Mask	Router addresses
ip=192.168.22.200	sm=255.255.255.0	rt=192.168.20.1
ip=192.168.22.201	-	rt=192.168.20.1
ip=192.168.22.202	-	-

The order of the entries is important. The "rt=" entry must follow the "sm=" entry if used.

When Open Transport activates TCP/IP, the primary address will be obtained from the TCP/IP Control Panel setting. Open Transport then looks for the IP Secondary Addresses file in the Preferences folder to determine if additional addresses should also be configured. If there are duplicate IP address entries in the IP Secondary Addresses file, the duplicate addresses will be ignored.

When Open Transport binds a TCP/IP connection, if there is an address conflict with either the primary or any secondary addresses with another host, Open Transport will present an error message using a dialog box and unload Open Transport/TCP from memory. The error dialog will display the conflicting IP address, the hardware address of the conflicting computer and note that your TCP/IP network interface has been shut down.

To resolve the conflict, quit all of the TCP/IP applications on both conflicting computers, reconfigure TCP/IP on one of the computers so there is no longer an address conflict, then relaunch your TCP/IP applications.
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Newton OS: Year 2000 (Y2K) Compliance

Is the Newton OS Year 2000 (Y2K) Compliant?
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Although there currently is no official certification or industry-standard documentation process associated with Year 2000 (Y2K) Compliance, the Newton OS presents no difficulty in handling information spanning the millennium.

The Newton OS, since its introduction, has been designed to use a calculation of "minutes past midnight, January 1, 1904" or "seconds past midnight, January 1, 1993." This calculation is used for dates prior to and after the year 2000. Therefore, dates at or beyond the 2000 mark, are simply larger numbers as a result of this calculation - and do not have the difficulty other operating systems may have when calculating dates before and after the year 2000.

The Newton OS also addresses additional concerns associated with the year 2000.

- The Newton OS supports the input and display of 2 and 4 digit years.
- Two-digit dates "00" and up are recognized as 2000 and up.
- The Newton OS recognizes February 29, 2000 as a valid date.
- The Newton OS does not reset the date/time when performing a soft reset.
- During a soft reset, all dates stored in date fields are persistent.

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Mac OS 8.1: Creating a Mac OS Extended Format Startup Disk

This article discusses creating a Mac OS Extended volume for use as a startup volume using the Mac OS 8.1 Reference CD.
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In order to use a hard disk as an Mac OS Extended formatted volume, it must be erased. In addition, if you wish to start up from a disk formatted as Mac OS Extended, you must have a PowerPC-based Mac OS computer. You can use a Mac OS Extended formatted disk with a non-PowerPC-based Mac OS computer, but you cannot use it as a startup disk or use it as a hard disk for virtual memory.

Note: You should not use a Mac OS Extended formatted volume as your startup disk unless you have the Mac OS 8.1 CD.

Below are the steps required to use an Mac OS Extended volume as your startup volume on PowerPC Mac OS compatible computers. There are two ways to get Mac OS 8.1 on to an Mac OS Extended Hard Drive.

Updating Mac OS 8.0 to Mac OS 8.1 and installing it onto an Mac OS Extended volume

1. Update to Mac OS 8.1 or Install Mac OS 8.1.

   - Follow the instructions in the "Installing Mac OS 8.1" Read Me

2. Start up from the Mac OS 8.1 Reference CD.

   - Place the Mac OS 8.1 Reference CD in the CD drive.
   - Choose Restart from the Special menu.
   - Hold the "C" key down on the keyboard until you see the "Mac OS" screen
   - Verify that you have started up from the CD by looking at the desktop. If the pattern looks similar to the image of CDs, you successfully started up from the CD.

3. Make a backup all of the files on your startup disk.

   - Copy your files to another hard disk.
   - Copy them to a server on the network.
   - If you want to use some other method to backup you hard disk please refer to the section in this document entitled "Other backup methods".

4. Reformat your volume to be Mac OS Extended.
If you want to change the partitions on a hard drive refer to the Drive Setup Read Me. Otherwise, choose Erase Disk in the Finder to create a Mac OS Extended volume.

   - In the Finder, select the volume you want to reformat.
   - Choose Erase Disk... from the Special Menu.
   - Type in the name you want the reformatted volume to be called.
   - Using the Pop-up menu below the file name, select "Mac OS Extended xxx". The xxx is the size of the formatted volume.
   - Click the Erase button.

WARNING: All of the data on the volume is erased. There is not a warning telling you that you are about to lose all of the data on the volume. Make sure that you have the correct volume selected. If you erase the wrong volume there is no way to recover your data.

5. Restore the files that you backed up in step two.

6. Choose Restart from the Special menu.

Installing Mac OS 8.1 on an empty hard disk
Follow these steps only if you have the Mac OS 8.1 CD. Otherwise, follow the instructions in "Updating Mac OS 8.0 to Mac OS 8.1 and installing it onto an Mac OS Extended volume.

1. Start up from the Mac OS 8.1 Reference CD.

   - Place the Mac OS 8.1 Reference CD in the CD drive.
   - Choose Restart from the Special menu.
   - Hold the "C" key down on the keyboard until you see the "Mac OS" screen.
   - Verify that you have started up from the CD by looking at the desktop. If the pattern looks similar to the image of CDs, you successfully started up from the CD.

2. Reformat your volume to be Mac OS Extended.
If you want to change the partitions on a hard disk, refer to the Drive Setup Read Me, otherwise you can use the Finder's Erase Disk function to create a Mac OS Extended volume.

- In the Finder, select the volume you want to reformat.
- Choose Erase Disk... from the Special menu.
- Type in the name you want the reformatted volume to be called.
- Using the Pop-up menu below the file name, select "Mac OS Extended xxx". The xxx is the size of the formatted volume.
- Click the Erase button.

WARNING: There is no warning telling you that you are about to lose all of the data on the volume. All of the data on the volume will be lost. Make sure that you have the correct volume selected. If you erase the wrong volume there is no way to recover your data.

3. Install Mac OS 8.1.

- Follow the instructions in the "Installing Mac OS 8.1" Read me.

4. Restart your computer.

- Choose Restart from the Special menu.

Other backup methods
It is possible to perform other types of backups. However you may have to perform extra steps.

Using removable hard drives
In step 2 above, when you start up your computer, the removable drive must be inserted in the drive.

Using a recordable CD.
Add the driver for your CD ROM drive to the Disk Tool PPC floppy disk as described in "Creating a custom startup Floppy" and use the floppy disk to start up your computer.

Using a tape drive
Add the driver for your tape drive to the Disk Tool PPC floppy disk as described in "Creating a custom startup Floppy" and use the floppy disk to start up your computer.

Using a backup program to backup the files
Put the backup program on a floppy disk.

Creating a custom startup Floppy Disk
If you have special hardware that you need to use during the install process you may need to create a custom startup floppy disk. This special hardware could include a non-Apple CD-ROM Drive, Zip Drive, Jaz Drive, Bernoulli removable drive, SyQuest removable drive, tape drive, DAT drive, or CD discs other than the Mac OS system discs.

1. Create a startup floppy disk.

To make a Disk Tools floppy disk for all Mac OS compatible computers with a 68040 processor, use the Disk Tools 1 disk. If you have a Mac OS 8.1 CD-ROM disc, you will find this disk image in the Disk Tools Images folder.

1. Open the Disk Copy program.
2. From the Utilities menu choose Make a Floppy ...
3. Find the disk image named Disk Tools for PPC and select it.
4. Click the Open button.
5. When requested insert a 1.4 MB high density floppy disk.
6. When asked if you are sure that you want to erase the floppy, click Yes.
7. After the floppy disk is finished copying, remove it from the drive.
8. Choose Quit from the File menu.
9. Copy any specific drivers to the system folder on the floppy.

2. Remove the programs Drive Setup and Disk First Aid

- Select each file and drag them to the Trash.
- Choose Empty Trash from the Special menu.

3. Copy the driver for your hardware from the System Folder on your hard disk to the System Folder on the floppy disk. The drivers are located in the Extensions folder in the System Folder. If you are going to be using CD-ROMs other than the Mac OS CD-ROM, you must copy the "Apple CD-ROM" file to the System Folder on the floppy disk.

4. Make sure the custom floppy works.

- Restart the computer.
- Put the custom floppy disk in the floppy disk drive.
- After the computer has finished starting up, verify that your special hardware functions.

Notes:

1. The Mac OS screen is in black and white.
2. If you have two special pieces of hardware you may have to create two custom startup floppy disks because of the limited space on the floppy disk. Each startup disk would have one of the drivers.

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Macintosh System Software 6.0 Changes (part 1 of 4)

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Introduction

This article is an overview of the most notable changes made to the Macintosh System Software since the 5.0 release. For more detailed information, see parts 2 through 4.

QuickerGraf

Color QuickDraw now incorporates Andy Hertzfeld's QuickerGraf. Previous public domain versions of QuickerGraf were made available in the form of INIT and CDEV files, but in System Software 6.0, it's in the System file. Users should throw away QuickerGraf INIT or CDEV files when upgrading to System Software 6.0.

Pop-Up Menus

Pop-Up menus work on multiple Macintosh II monitors when running under MultiFinder.

Version Information

The Get Info window now has a field for reporting the file's version. For files, such as documents, that have no version information, the value "Not Available" appears.

Disk Copies

When copying an entire floppy disk to another, the Finder now uses an image copy to create an exact duplicate of the original disk.

MultiFinder

Double-clicking on a document, when the application is already open, now activates the application and then opens the document.

Printer Tools

Five printer drivers are included with System Software 6.0:
- ImageWriter
- AppleTalk ImageWriter
- LaserWriter IISC
- LaserWriter IINT
- LaserWriter IINTX

The LaserWriter Drivers now support 11" x 17" paper. A new radio button in the Page Setup dialog box makes this new size available.

There is a new check box in the Page Setup dialog, and another has been modified. The Text Smoothing option smooths bit-map fonts that are downloaded, and the Graphics Smoothing option smooths bit maps other than text. Because of this new feature, this version is incompatible with all previous versions of LaserWriter Prep.

HD SC Setup

HD SC Setup now lets users divide a Hard Disk into multiple partitions. This is particularly useful to A/UX users.

Installer Scripts

Mini-Scripts for the Installer are included. They create a system that is configured only for the type of Macintosh that it was created for. Patches for the other Macintosh types are not installed with Mini-Scripts. Starting up a system configured for one Macintosh type on a different Macintosh type will cause an alert box indicating that the system was intended for a different Macintosh configuration.

CloseView

The new CloseView utility lets users magnify the screen image. This is particularly useful to visually impaired users. Because CloseView is a CDEV, it's accessed via the Control Panel.

Map

The new Map CDEV records and displays the longitude, latitude, and time of locations anywhere in the world.

Macro Maker

The new Macro Maker utility lets users to create macros that automate repetitive tasks. Macro Maker is an INIT that's made available through an icon that appears in the menu bar.

Continued

This article continued in "Macintosh System Software 6.0 Changes (part 2 of 4)".

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Mac OS 8.1: Late Breaking Tips

This article includes information that was not part of the documentation for Mac OS 8.1.
This article has been archived and is no longer updated by Apple.

Sharing CD-ROM Discs on PCI-based Computers Using the Apple CD-ROM Driver

Sharing a CD-ROM disc from a PCI-based computer with Mac OS 8.1 may result in files being copied incompletely onto another disk.

Refer to Knowledge Base article article 22158: "**Mac OS 8.1: Sharing CDs on PCI-based Mac Using the Apple CD-ROM Driver**."

Certain Mac OS 8.1 Extensions Appear Damaged

Some utility application programs may say that system extensions installed by Mac OS 8.1 are damaged. They are not damaged, and function normally. If you downloaded the Mac OS 8.1 Update before 1998-02-27, it is not necessary to download Mac OS 8.1 Update a second time to replace these system extensions.

Refer to Knowledge Base article article 22142: "**Flash: Certain Mac OS 8.1 Extensions Appear Corrupted or Damaged**."

PC Exchange 2.2 and 1 GB or Large Volume Support

The Read Me file from Mac OS 8.1 says that PC Exchange 2.2 works with disks larger than 1 GB. PC Exchange 2.2 can work with disks larger than 1 GB, however they must be formatted with the FAT32 format.

Refer to Knowledge Base article article 30423: "**PC Exchange 2.2: 1 GB or Large Volume Support**."

Password Security

Mac OS 8.1 does not install the Password Security control panel on PowerBook 2400 or 3400 computers unless an earlier version is installed in the Control Panels folder. Install an earlier version from the Mac OS 7.6.1 CD, and then install Mac OS 8.1. You can download the North American English version of Password Security control panel 1.0.6 from the Apple Software Updates Web site at http://www.apple.com/swupdates.

Note: When using a Mac OS Extended format disk as your startup disk, the Password Security control panel will not function properly. Do not use the Password Security control panel if you plan to start up from a Mac OS Extended format disk.

Refer to Knowledge Base article articles:

26056: "**Password Security 1.0.6 for PB 2400 or 3400.**"
30371: "**Mac OS 8.1: Extended Volume Format and Password Security.**"

If You Need To Make AppleTalk Inactive

The printer port is the default AppleTalk connection on a Macintosh computer. To use the printer port for a serial device instead of for networking, you must make AppleTalk inactive. There are two ways to accomplish this.

The first is to move AppleTalk to another port such as Ethernet (if you are connected to an Ethernet network). The second method is to turn AppleTalk off.

During the migration from Classic Networking to Open Transport, older components of the networking software were not upgraded to fully support Open Transport, including the Chooser and the AppleTalk Switch portion of the control strip. If AppleTalk is made inactive using either the Chooser, or the control strip, then only classic AppleTalk components are made inactive. Open Transport AppleTalk components remain active. When you attempt to use the printer port for a serial device the following error messages (or similar messages) may result:

- "Printer port is in use by another application"
- "Cannot find printer"
- "[XXX printer driver] requires that AppleTalk is inactive. Please make AppleTalk inactive."

Follow these steps to make AppleTalk inactive with Open Transport:

1. Open the AppleTalk control panel.

2. Choose User Mode from the Edit menu (or press the Command and U keys).
3. Click Advanced then click OK.
4. Click the Options button.
5. Click Inactive then OK.
6. Close the AppleTalk control panel.
7. Save the changes.

Location Manager 2.0.1 can also conveniently turn AppleTalk on and off. For more information, please refer to the Read Me included with Location Manager 2.0.1.

Refer to Knowledge Base article article 24346: "**Mac OS: "Port In Use" Error**"

Desktop Rebuilding When Installing on Another Volume

If you install Mac OS 8.1 Update on a disk that does not contain system software, MacLinkPlus forces the Finder to rebuild the Desktop file immediately after the installation.

Hard Disk Utilities and Mac OS Extended Format

Some third party utilities may not be compatible with hard disks that use the Mac OS Extended format, sometimes called HFS Plus. Consult the utility's documentation or contact its publisher for compatibility information with Mac OS Extended format disks.

Use Disk First Aid 8.1, which is included with Mac OS 8.1, to verify or repair Mac OS Extended format disks.

Disk First Aid 8.2 can also repair Mac OS Extended format disks that have been damaged by utilities that are not compatible with Mac OS Extended format.

Refer to Knowledge Base article article 30567: "**Disk First Aid 8.2: Read Me**"

Using PlainTalk With a Macintosh That Has a GeoPort

Using PlainTalk with a Macintosh computer that has a GeoPort may cause the computer to stop responding. This issue was addressed in a later version of the Mac OS.

Making a Mac OS Extended Format Disk a Startup Disk

To learn how to do this, refer to Knowledge Base article article 30339: "**Mac OS 8.1: Creating a Mac OS Extended Format Startup Disk**".

Important: Do not use a Mac OS Extended format disk as your startup disk unless you have Mac OS 8.1 or later on CD-ROM
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MessagePad 2100: Memory Discussion

My MessagePad 2100 was sold to me as having 8 megabytes of DRAM memory. However, when I open the Memory Slip in Extras, it shows as only having 4 megabytes of internal memory installed. Where did my other 4 megabytes of memory go?
This article has been archived and is no longer updated by Apple.
The Memory Info slip may be viewed by tapping the "i" while the Extras drawer is open. This slip may be used by the user to determine the memory installed on the Newton MessagePad 2000 and 2100 Series computers. The information presented below is an example of a Memory Info slip displayed on a MessagePad 2100 computer.

Memory Info:

Name Used Free

Internal 2382k 1141k <- Internal memory available for storage

ROM Version 2.1 (717260)-1
System RAM Installed 3984k <- Internal memory used by the Newton OS

The Newton OS partitions memory in 3 distinct areas or domains: operating system domain, storage domain and application domain. Therefore using the Memory Slip illustrated above, the sum total of "Internal" memory and "System RAM Installed," plus application memory (application heap and other special functions necessary to run the programs such as recognizers), equals approximately 8 megabytes of memory.

More information may be found in the article: **Newton: Types of Memory & Memory Errors (11/94)**, Article ID: 16645

The following information applies to both the Newton MessagePad 2000 and 2100 Series computers.

(Q) Why can't I use the total amount of memory installed, rather than having some of the memory used by the Newton OS?
(A) As on a Mac OS or Windows OS desktop computer, a portion of the DRAM installed will be used by the computer after the operating system finishes the process of making the computer ready for use. The process of moving operating system resources into DRAM ensures that resources are available to applications when requested, and allows the highest performance possible by having information ready and available for use.

(Q) Can I increase the internal memory on the MessagePad?
(A) While there are no internal memory expansion opportunities, the Newton MessagePad 2000 and 2100 Series computers offer two PC Card bays, allowing two PC Flash Memory Cards to be mounted at the same time, allowing for significant expansion opportunities.

(Q) If I purchase a PC Flash Memory Card, will some of the memory be used by the Newton OS there too?
(A) PC Flash Memory Cards are used as storage domains. Even though a portion may be set aside for administrative functions, the majority of the card's recordable area is used to store information.

(Q) What is the largest size PC Flash Memory Card I can use on a MessagePad?
(A) Apple officially supports PC Flash Memory Cards of sizes up to 4 megabytes. While there is theoretically no limit to the size of flash cards usable by the Newton OS, as storage cards become larger, they become more demanding of the "host" computer. The Newton OS compresses memory to improve efficiency of resources. Storage memory is compressed and decompressed as data is needed. This compression and decompression takes more time to perform in larger memory areas. One of the most obvious characteristics of larger memory cards is the time it takes to search the contents of the card. The use of large cards therefore may result in diminished performance of the computer during use.

Note: The Newton OS allows dynamic loading and unloading of data residenton PC Flash Memory Cards. This plugging and unplugging of the PC Card is a technique commonly known as hot-swapping. This practice may be used with the MessagePad to ensure the highest system performance possible by inserting and mounting memory cards only when needed.
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Setting the maximum volume limit on iPod

This article has been archived and is no longer updated by Apple.

The 1.1.1 software update for iPod nano and Fifth Generation iPod provides an easy way for you to set a maximum volume limit to prevent the volume from exceeding a certain level. This feature works with any headphones attached to the headphone jack and with the iPod Radio Remote; other Apple and third-party accessories are not supported with this feature. You can also assign a combination to prevent the setting from being changed which is ideal for parental control.

With iTunes 6.0.5 or later and iPod shuffle Software 1.1.4 or later, you can now set a maximum volume limit for your iPod shuffle.

For further information on listening to iPod responsibly, please visit apple.com/sound.

If you're not sure what iPod model you have, click here to help identify your iPod model.

See "Updating iPod software" to obtain the latest version of the iPod Software and learn how to update your iPod.

Note: Disconnect any accessories from iPod (except headphones) before setting the volume limit.

- How to set maximum volume limit for iPod
- How to set maximum volume limit for iPod shuffle

To set the maximum volume limit for your iPod:

1. Select **Settings** > **Volume Limit**.
   The volume control shows the current volume.
2. Use the Click Wheel to select the maximum volume.
   You can press Play to hear the currently selected song play while you select the maximum volume limit.
3. Press the Center button to set the maximum volume limit.
   A triangle on the volume bar indicates the maximum volume limit.

4. On the Volume Limit screen, click Set Combination to require a combination to be entered to change the maximum volume. Click Done to accept the maximum volume without requiring a password to change it.

5. If you choose Set Combination, enter a combination:
   1. Use the Click Wheel to select a number for the first position.
   2. Press the Center button to confirm your choice and move to the next position.
   3. Use the same method to set the remaining numbers of the combination. You can use the Next/Fast-forward button to move to the next position and the Previous/Rewind button to move to the previous position.
   4. Press the Center button in the final position to confirm the entire combination and return to the previous screen.

If you turn the volume all the way up after you set a limit, you see a lock icon on the right end of the volume bar in the Now Playing screen that indicates a maximum volume limit has been set.

Note: The volume of songs and other audio may vary depending on how the audio was recorded or encoded. Volume level may also vary if you use different earbuds or headphones. With the exception of the iPod Radio Remote, accessories that connect through the iPod dock connector do not support volume limits.

If you set a combination, you must enter it before you can change or remove the maximum volume limit.

To change the maximum volume limit for iPod:

1. Select **Settings** > **Volume Limit**.
2. If you set a combination, enter it by using the Click Wheel to select the numbers and pressing the Center button to confirm them.
3. Use the Click Wheel to change the maximum volume limit.
4. Press the Center button to accept the change.

To remove the maximum volume limit:

1. If you are currently listening to your iPod, press Pause.
2. Select **Settings** > **Volume Limit**.
3. If you set a combination, enter it by using the Click Wheel to select the numbers and pressing the Center button to confirm them.
4. Use the Click Wheel to move to the maximum level on the volume bar to remove any restriction on volume.
5. Press the Center button to accept the change.

Note: If you forget the combination, you can restore iPod.

To set the maximum volume limit for your iPod shuffle:

1. (Optional) Set your iPod shuffle to the desired maximum volume.
2. Connect the iPod shuffle to your computer.
3. Select the iPod in the Source pane.
4. Select the Settings tab in the main window.
5. Under the options section, select "Limit maximum volume." **Note**: If you don't see this option, your iPod shuffle doesn't have the necessary software. You can download the latest iPod Updater for free at the iPod website.
6. Drag the slider to the desired maximum volume. The initial slider setting corresponds to the volume the iPod shuffle was set to when you selected the "Limit maximum volume" checkbox.
7. To require a password to change this setting, click the lock and enter a password.
8. Click Apply to save the changes.

Once the limit is set on your iPod shuffle, the status light will flash orange quickly three times to indicate you have reached the set maximum volume limit.

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Apple TV/Video System: Not Recognizing The TV Tuner

This article describes a condition under which Apple Video Player may incorrectly report that the TV tuner hardware is not available.
This article has been archived and is no longer updated by Apple.
If the Apple Video Player application and the Video Startup extension (located in the Extensions folder of the System Folder) are of mismatched versions, or more important of versions too old for proper compatibility with the Mac OS in use, the Apple Video Player may not function correctly, reporting that the TV Tuner module is not available despite the correct installation of the hardware (namely, both the Apple Video-In Card and the TV Tuner module). Other problems with the video software may also occur.

To correct, ensure that both files are of identical, up-to-date versions, They most commonly become mismatched or out-of-date when older versions are not properly removed or replaced subsequently to system software upgrades, or when the original video software (commonly version 1.3.2) included on diskettes that come with the Apple TV/Video System is installed into computers that already have newer versions present as part of the Mac OS.

The following shows which versions of the Apple Video Player and Video Startup extension are appropriate for the Mac OS version indicated. This software can be custom-installed as either "Apple Video Software" or "Apple Video Player" (the latter found under the custom-install heading "Multimedia") depending on the version of the Mac OS being installed.

System 7.5.3 . . . Apple Video Software 1.4
System 7.6 . . . Apple Video Software 1.4.2
Mac OS 8 . . . Apple Video Software 1.6.3 (v1.7 shipped with the Mac OS 8 preinstalled on the Power Macintosh G3)
Mac OS 8.1 . . . Apple Video Software 1.7.1
Mac OS 8.6 . . . Apple Video Software 1.7.3

At the date of this writing, version 1.4.2 is available online at Apple SW Updates as "Video SW Install 1.5.1" (this version represents the installer version, not the version of the software installed).
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iTunes: MIDI files cannot be converted in iTunes 6.0.3 - 6.0.5

This article has been archived and is no longer updated by Apple.

Attempting to convert a MIDI file to another format in iTunes results in an alert message:

> Error occurred while converting the file "filename". An unknown error occurred. (-50).

Solution

If you have QuickTime Pro, you can export the MIDI files in QuickTime Pro to another audio format (such as WAV or AIFF) using QuickTime Player, and then convert those files in iTunes.

This document will be updated as more information becomes available.

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Mac OS 8.1: How to Install

This document describes how to install Mac OS 8.1. It includes compatibility information, instructions for installing Mac OS 8.1, and basic installation troubleshooting.

Note: Mac OS 8.1 Update is a system update for customers who are using Mac OS 8.0. Mac OS 8.0, released 1997-01-18 is no longer available from the Apple Store. For information on contacting the Apple Order Center to obtain Mac OS 8.0, please see Knowledge Base article 58244: "**Apple Software Order Center: How To Contact**"

For more information on Mac OS, including the latest version, go to http://www.apple.com/macos.
This article has been archived and is no longer updated by Apple.
Updating your system using the downloaded Mac OS 8.1 Update image requires that you already have Mac OS 8.0 installed. If you are using the Mac OS 8.1 Reference CD, you may install onto Mac OS system versions 7.5 through 8.1.

For more detailed information, see the Mac OS 8 installation manual.

WARNING: PowerTalk is not compatible with Mac OS 8.1. After you install any version of Mac OS 8, you cannot access your PowerTalk mail or catalogs, nor can you use your keychain or other PowerTalk services. See the Mac OS 8 installation manual for more information.

WARNING: Application programs that use QuickDraw GX may not be able to print due to changes in the version of QuickDraw GX included with Mac OS 8. See the file About QuickDraw GX for more information.

Before you install:

IMPORTANT: In order to install Mac OS 8.1 on PowerPC computers with less than 16 MB of RAM, you must restart the computer with extensions off (by holding the Shift key until you see the Welcome to Mac OS message).

IMPORTANT: If Apple Remote Access 3.0 (ARA 3.0) Personal Server is installed, make sure answering is off before upgrading to System 8.1. To ensure answering is off in ARA 3.0, make sure the answering option is deselected in the ARA Answering dialog. To get to the dialog box, open the Remote Access control panel and choose Answering... from the Remote Access menu. After the 8.1 update installation has successfully completed, turn answering back on from the same dialog box.

Note: If you want to create and use a Mac OS Extended format volume, make sure that you read the file titled About Mac OS Extended format.

- Turn off any security software that you may have installed on your computer.
- Turn off any virus-protection software that you may have installed on your computer.
- If you have a PowerBook, make sure that it is plugged into AC power and set not to go to sleep.
- If you have AppleShare software earlier than version 3.6.4, upgrade to version 3.6.4 or later before installing Mac OS 8.1 over a network. See the document in the AppleShare folder in the Utilities folder for instructions.
- When performing a clean installation, write down your current Internet settings, such as the IP address, subnet mask, name server, and so on from the TCP/IP, PPP and Modem control panels. After installation, the Internet Setup Assistant asks you to enter this information.

IMPORTANT: Apple recommends that you make a Disk Tools floppy disk. If you have downloaded the Mac OS 8.1 Update from the Apple Internet website, make sure that you also download the Disk Tools for PPC disk image. For all Mac OS compatible computers with a 68040 processor, except the PowerBook 190, use the "Disk Tools 1" disk. If you have a Mac OS 8.1 CD-ROM disc, this disk image is in the Disk Tools Images folder.

To make a Disk Tools floppy disk :

- Open the Disk Copy program.
- Choose Make a Floppy... from the Utilities menu.
- Find the disk image named Disk Tools for PPC and select it.
- Click the Open button.
- When requested insert a 1.4 MB high density floppy disk.
- When asked if you are sure that you want to erase the floppy, click the Yes button.
- After the floppy disk is finished copying, remove it from the disk drive.
- Quit the Disk Copy program.

NOTICE: The amount of disk space required to perform a full installation of Mac OS 8.1 varies greatly depending on several factors including:

- The size of the hard disk volume being used. For Mac OS Standard format volumes, the larger the volume the more space required. This is because the minimum file size supported on a Mac OS Standard format volume increases as the size of the volume increases. For Mac OS Extended format volumes, the amount of space needed is the same regardless of volume size because the minimum file size is a constant.
- The number of optional software packages that you choose to install. Apple has preselected some optional software packages, but you

have the option of selecting others or deselecting the preselected packages.

- The method that was used to start the computer. If the computer was started up from the volume that is being updated or from the Mac OS 8.1 CD, Disk Tools Floppy or another volume, such as an external Hard Disk more space will be required. When the computer is started up from the volume that is being updated, the installer must create temporary files that are used until the computer is restarted.
- The type of computer that you have. Each model has a slightly different set of Mac OS system components required to be installed to function correctly.
- The volume onto which you are performing the install: whether or not the volume already has Mac OS system files and if the "clean install" option was selected.

Below are tables which suggest requirements for easier installation, as well as space used after installation process is complete.

An Install of just the base Mac OS system software with all of the optional items deselected:

Volume Size	Format	Needed for Installation	Used after restart
2 GB	Standard	135 MB	68 MB
1 GB	Standard	120 MB	58 MB
500 MB	Standard	115 MB	50 MB
Any size	Extended	118 MB	56 MB

An Install of the base Mac OS system software and the Apple preselected optional software using the Mac OS 8.1 CD to start up the computer:

Volume Size	Format	Needed for Installation	Used after restart
2 GB	Standard	152 MB	140 MB
1 GB	Standard	139 MB	129 MB
500 MB	Standard	127 MB	117 MB
Any size	Extended	132 MB	122 MB

An installation of the base Mac OS system software and the Apple preselected optional software onto the volume that was used to start up the computer: (**Note:** This is not a recommended method.)

Volume Size	Format	Needed for Installatioin	Used after restart
2 GB	Standard	190 MB	140 MB
1 GB	Standard	176 MB	129 MB
500 MB	Standard	162 MB	117 MB
Any size	Extended	172 MB	122 MB

When performing a clean installation, the space required is in addition to the amount used by the current System Folder.

1) Start up your computer using the Mac OS CD-ROM disc or an appropriate Disk Tools floppy disk. See your installation manual for instructions.

If you cannot start up with the Mac OS 8.1 CD or Disk Tools floppy disk, be sure to perform these additional steps:

2) Disable all non-Apple extensions and control panels. If you have System 7.5 or later, use the Extensions Manager control panel to select the System 7.x or Mac OS 8 base set of extensions and control panels. See the installation manual for more details.

3) Restart your computer before installing Mac OS 8.1.

Although compatibility issues are not expected, you can ensure a smooth upgrade by checking with the manufacturers of any non-Apple software you use to make sure it is compatible with Mac OS 8.1. If you do encounter a compatibility issue, see the troubleshooting chapter in your installation manual for more information on isolating compatibility problems.

4) When reinstalling Mac OS 8.1 onto a volume that already contains a Mac OS 8.1 system file, a dialog box will appear after selecting the volume. The dialog asks whether you want to reinstall or whether you want to perform a custom installation/removal. If you select the reinstall option, the Mac OS 8.0 installation program displays a series of dialog boxes stating that newer versions of some components are already present. In order to perform a reinstall, you must press Continue for each of these dialogs. After the Mac OS 8.1 installation program finishes, the Mac OS 8.1 updater reinstalls the previously mentioned components.

Compatibility information

Computers with 68040 processor upgrade cards
Computers upgraded to 68040 with a processor upgrade card are not supported by Mac OS 8.

Performa or Power Macintosh 5000 and 6000 series computers
Some Performa or Power Macintosh 5200 series, 5300 series, 6200 series, and 6300 series computers cannot use Mac OS 8.1 until a hardware issue is fixed. The repairs are covered under the Apple repair extension program. To see if your computer is affected, use the 5xxx/6xxx Tester utility in the Utilities folder on the CD before installing Mac OS 8.1.

IMPORTANT: The Power Macintosh or Performa 6320, 6360, and 5260 do not have this hardware issue. If you have a Power Macintosh or Performa 6320, 6360, or 5260, you do not need to use the tester program.

Installing Mac OS 8.1 on accelerated NuBus PowerPC computers
If you have a Power Macintosh 6100, 7100, 8100, or 9150 with a third-party accelerator that increases the clock speed of your computer, the Installer might refuse to install Mac OS 8.1 because it doesn't recognize your system. You may need to remove the third-party accelerator before installing Mac OS 8.1.

MacODBC and Mac OS 8.1
If you use MacODBC, you should either install it before installing Mac OS 8.1, or perform a custom installation of MacODBC and make sure the ASLM extensions are not selected. The MacODBC installer installs older versions of ASLM extensions that are incompatible with Mac OS 8.

Third-party Finder and utility software
Some third-party programs that extend or add features to Mac OS 8 may be incompatible. Examples include programs that change the way menus work, change how files are stored, or alter the way you work with files in the Finder. Contact the software's manufacturer for information about using such programs with Mac OS 8.1. This is especially important if you are using a program that automatically alters the way files are stored (such as compressing them), because you might not be able to access those files until you obtain updated software for use with Mac OS 8.1.

400K floppy disks and Mac OS 8.1
The 400K MFS floppy disk format is not supported by Mac OS 8.1. If you have information or programs on obsolete 400K floppy disks that you want to access, copy the files to your hard disk, an 800K floppy disk, or a 1.44 MB floppy disk before installing Mac OS 8.1.

Using the Install Mac OS 8.1 program

To ensure a successful upgrade, use the Install Mac OS 8.1 or the Update to Mac OS 8.1 program to install the software. This program performs all the tasks recommended for a successful installation and simplifies the installation process. Refer to the Mac OS 8 installation manual and the onscreen help in the program for more information.

If you select the information button for a component in the installer, while doing a custom install, the installer may report an earlier version number than the component that is actually installed. For example, the information button for Apple Video Player will report the version to be installed as 1.6.2. This is incorrect. Version 1.7.1 of Apple Video Player will actually be installed.

Troubleshooting suggestions

Some Apple-branded disks manufactured by third parties, including the Apple 365 MB external hard disk, are not supported by the Apple disk utilities. If your disk cannot be updated with the Apple utilities, you must use a third-party disk utility to update the driver.

If you see a message that your disk has problems and cannot be repaired, turn off file sharing if it is on, then try installing again. If that does not work, try using another disk-repair utility. If you do not have another utility, or if that utility also does not work, you may need to reinitialize the disk. Copy all your files to another disk first because reinitializing erases the disk. For more information about reinitializing, see the manual that came with your computer.

If you experience difficulties during installation, be sure to start up with the Mac OS 8.1 CD-ROM disc or the Mac OS 8.1 Disk Tools floppy disk. See your installation manual for instructions.

If you are installing over a network, or if you have a non-Apple CD-ROM drive and cannot start up with the CD or disk, turn off all extensions that were not provided with your system software. Then restart the computer.

See the troubleshooting chapter in your installation manual for additional suggestions.
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Mac OS 8.1: Using Non-Apple CD-ROM Drives

Users of Mac OS-compatible computers may need to create a customized Disk Tool disk for use with Mac OS 8.1. The process is the same with Mac OS 8.0.
This article has been archived and is no longer updated by Apple.
IMPORTANT NOTES

A customized Disk Tools disk is needed only if your Mac OS-compatible computer is using a non-Apple CD-ROM drive. You can check this by looking in the System Folder on your hard disk to see whether your computer is using the Apple CD-ROM extension or a third party CD-ROM extension.

If your Mac OS-compatible computer is using a non-Apple CD-ROM drive, you may not be able to start up your computer using the Mac OS 8.1 CD (or the Mac OS 8.0 CD). You must start up your computer using a customized Disk Tools floppy disk which is capable of reading CD-ROM discs.

Creating The Disk Tools Diskette

Here are the steps for creating a new Disk Tools startup floppy disk for use with your non-Apple CD-ROM drive:

1. Create a Disk Tools floppy disk from the disk image on the Mac OS 8.1 CD. There are two disk images on the CD--Disk Tools PPC and Disk Tools 1. To start up a PowerPC-based Macintosh from a floppy disk, use the Disk Tools PPC disk image. Otherwise, use the Disk Tools 1 disk image.
2. Open the System Folder on your newly-created Disk Tools floppy disk and open the Extensions Folder.
3. **If you created a Disk Tools PPC floppy disk:** To make room for your third-party CD-ROM driver, you must create room on your floppy disk. Throw away one of the utilities on the floppy disk (Disk First Aid or Drive Setup) and empty the Trash. Proceed to Step 4. **If you created a Disk Tools 1 floppy disk:** Locate the Apple CD-ROM extension and remove it from the System Folder of your floppy disk. Drag it to the desktop. This will leave the Apple CD-ROM driver available for later use, if needed. You also have the option of deleting the Apple CD-ROM drive.
4. Locate the existing third party CD-ROM extension(s) (such as FWB Toolkit) in the Extensions folder of your hard drive. This is the CD-ROM driver already in use to allow your computer to read CDs in your non-Apple CD-ROM drive. Copy the extension(s) to the Extensions folder in your Disk Tools floppy disk (the disk you made in step 1).
5. Restart your computer using the Disk Tools floppy disk with the new CD-ROM driver. Verify that your computer is now properly reading the Mac OS 8.1 CD, or other CDs.
6. Proceed with your installation of Mac OS 8.1.

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Power Macintosh 5500/6500: NTSC Video-Out Q&A

This article provides a list of frequently asked questions about the NTSC video-out module that ships standard in a variety of Power Macintosh 5500 and 6500 configurations.
This article has been archived and is no longer updated by Apple.
1) Q: What is the NTSC video-out module, and what video-out functionality does it provide?
A: The NTSC video-out module provides standard S-video and RCA jacks for NTSC video mirroring only. These ports represent the external portions of a printed circuit board assembly that is itself connected by ribbon cable to a smaller PCBA installed into a single dedicated, proprietary slot on the logic board. This module is not to be confused with the Avid Cinema card (a PCI card) and is not available in, or compatible with, configurations of these computers that include the Avid Cinema card except where the Avid Cinema card is first removed.

2) Q: Is there any software required to enable NTSC video-out with this module?
A: No. It is designed to be entirely plug-and-play; that is, it is sufficient to simply interface the appropriate video cable between the computer and the NTSC device (VCR or television, for example).

3) Q: The video-out to my attached television appears black, snowy, or distorted. What things should I check for?
A: Try any of the following:

- Ensure that the resolution and scan rate of the computer monitor are set correctly in the Monitors & Sound control panel or the Monitor Resolution module of the Control Strip. Monitor resolutions equal to or less than 640 x 480 are required, at scan rates of 60Hz to match the video scan rate of most NTSC devices. This scan rate is more typical of televisions and VCR's than computer monitors, so enabling it may result in a slight flickering effect on the computer monitor. This is normal.
- Ensure that the television or VCR is set up correctly for video-in. Televisions and VCR's may need to be set to channel 3 or 4, for example, or may require a "line-in" or "video-in" switch or equivalent (even an on-screen display option) to be enabled before they will look to their video-in ports for incoming video. Try confirming a television's setup by testing it, using the same video cables, with a VCR or camcorder instead of the computer.
- Reset the Parameter RAM and retry.
- Ensure that the video-out module is securely inserted into its slot on the logic board.
- If a PCI card has been added to the computer, remove it and retry.
- If contact is made between the PCI card and the video-out module's PCBA, electrical grounding may occur that can affect its functionality. Thin strips of mylar tape or the like may be affixed between the two as a preventive measure.

4) Q: How is this module different from the External Video Connector?
A: The External Video Connector, designed primarily for use in the 580, 630, 5200, 5300, 6200, 6300, and 6400 models, provides a standard DB-15 port for computer video-out, not NTSC video out. In order to obtain NTSC video-out with the External Video Connector, an external NTSC converter box is required.

5) Q: Can I use this module in earlier computers that have the necessary video-out card slot, such as the 580, 630, 5200, 5300, 6200, 6300, and 6400 models? Conversely, can the External Video Connector be used in the 5500 and 6500 models?
A: Though the NTSC video-out module has not officially been qualified for use in the earlier computers, limited testing and customer reports indicate that it functions well and Apple has no reason to believe that using it in these models poses any risk to the hardware.

Similarly, the External Video Connector appears to function well in the newer units specified, but because the video circuitry unique to the 5500 and 6500 models was not optimized for use with the External Video Connector, some limited reduction in compatibility has been observed to occur when video mirroring to some computer displays. For example, video cropping along the right and bottom margins may occur at some resolutions, requiring compensation by selecting a lower resolution.

6) Q: My Power Macintosh 5500 or 6500 does not include the NTSC video-out assembly. Is it available for sale separately?
A: No, it is only available as a service part. The External Video Connector, however, is available as a retail item and may be used instead, but will require the addition of an external converter if NTSC video-out is required, models of which are commonly available from a variety of Macintosh storefront and catalog resellers (AverMedia and Focus Enhancements are two vendors of such converters, for example). Alternatively, there are a variety of PCI video cards available from 3rd parties that offer NTSC video out.
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iPhoto: Unexpected quit when exporting to Kodak EasyShare

This article has been archived and is no longer updated by Apple.

When exporting photos from iPhoto to Kodak EasyShare using the plug-in included with the Kodak EasyShare software, iPhoto unexpectedly quits.

Update to the latest version of Kodak EasyShare to prevent this issue from occurring.

Important: Information about products not manufactured by Apple is provided for information purposes only and does not constitute Apple's recommendation or endorsement. Please contact the vendor for additional information.

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Macintosh System Software 6.0 Changes (part 2 of 4)

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Macintosh System Software 6.0 includes four disks:
- System Tools
- Printer Tools
- Macintosh Utilities 1
- Macintosh Utilities 2

The contents of these four disks are described in the three articles "Macintosh System Software 6.0 Changes" (parts 2 through 4).

SYSTEM TOOLS DISK

System File

Color Picker Package

When using 8-bit mode on a device with a CLUT, Color Picker now displays 36 slices in the color wheel rather than six.

Known Color Picker Bugs
- Gray scale fonts can look blotchy with ColorPicker in 16-color mode, because the grays used in the font can be changed while the package is running.

- The ColorPicker uses a fair amount of memory, and its error checking for out of memory conditions is lax. If you call GetColor in low memory situations, you are likely to run into a system error.

- GetColor assumes that the color environment is stable when it is installed. If you have used Palette Manager or Color Manager to change the color environment, GetColor often initially selects the wrong color. Almost any user action will cause ColorPicker to refresh the colors, and therefore correct this situation.

Color QuickDraw

Color QuickDraw now incorporates Andy Hertzfeld's QuickerGraf. Previously, the color used as the transparent color (for arithmetic transfer mode #36) was the port's RGBBkColor. Now, in CGrafPorts only, the transparent color is specified by the port's rgbOpColor -- transparent mode drawing in old GrafPorts will continue to use bkColor to determine the index of the transparent color.

Menu Manager

Pop-Up menus work on multiple Macintosh II monitors when running MultiFinder.

Notification Manager

The Notification Manager allows a process, such as an application, desk accessory, or device driver to asynchronously alert the user that it wants or needs attention.

Operating System Utilities

A fix has been made to the System file to correct a long-standing problem in UpString, which selectively uppercases and de-diactriticalizes strings for operating system use. Strings that included the accent grave ($60), when passed to UpString, returned a lower case 'a' instead of leaving the accent unchanged.

Palette Manager

A bug has been fixed that caused a crash if more than 16 palettes were used.

The problem that resulted when calling PmBackColor with a palette entry whose usage was pmExplicit has been fixed.

When a palette is activated, all gDevice CLUT entries are unprotected on all devices affected by the palette.

pmTolerant entries, other than black and white, can now occupy position zero in a palette.

A bug relating to color table animation and changing depths has been fixed.

Palates can be used with more than one window.

QuickDraw

An old QuickDraw region bug has been fixed. Performing a region operation (UnionRgn) on two regions that total more than 16K in size used to produce garbage. This is no longer the case.

Painting polygons is now faster and more stable.

Script Manager

The tools and capabilities provided for developers by the Script Manager have been extended in three areas: text, date, and numbers. In addition, some minor bugs were fixed and performance enhancements incorporated.

The new text language routine capabilities include:
- lexically interpreting different scripts (in macro languages, for example)
- allocating justification to different format runs within a line
- ordering format runs properly with bi-directional (Hebrew, Arabic) text
- quickly separating Roman from non-Roman text, and determining word-wrap in text processing.

The international utilities text comparison routines are significantly improved in performance, by 25% to 94%.

The Macintosh date routines are extended to provide a larger range (roughly 35,000 years), and more information. This allows programs that need larger range of dates to use system routines rather than produce their own, which may not be internationally compatible.

The new number routines supplement SANE, allowing applications to display formatted numbers in the manner of Microsoft Excel or 4th Dimension, and to read both formatted and simple numbers. The formatting strings allow natural display and entry of numbers and editing of format strings even though the original numbers and the format strings were entered in a language other than the final user's.

Sound Manager

SndPlay is fixed to work with Format 2 snd resources.

A new resource ID mapping scheme was added for snth resources.

Working MIDI synthesizers are added.

A RAM-based version of Sound Manager to run on the Macintosh Plus and SE is added.

SampledSynth and NoteSynth for the Macintosh Plus and SE are added.

A new version of SystemBeep, for the Macintosh Plus and SE, is added -- with the ability to set a sound to be used with SysBeep.

Sampled Sound Synth can now play at 44.1 kHz sounds without a crash.

The problem of Synth hanging when there is lots of AppleTalk traffic is fixed.

The "Sound" Control Panel device, and its sound list, now appear on the Macintosh Plus and Macintosh SE only if the new sound manager is installed (if the _SndPlay trap exists).

Standard File Package

If CurDirStore or SFSaveDisk is changed when the ReBuildList result is returned from the dialog filter, the current directory is changed to the directory specified by CurDirStore and SFSaveDisk.

System Error Handler

New system errors were assigned for WDEFnFnd (87) and CDEFnFnd (88).

TextEdit

Changes are made to some TextEdit routines, and new routines are added.

The bug in TEStylInsert when inserting 0 length text has been fixed.

ReCalLines has been patched to properly shrink the lineStarts array.

GetStyleScrap was changed to return a proper scrap record, even it there is no selection range (prevents applications from having to special-case insertion points).

References to faces are now byte- instead of word-length.

A bug in TEGetHeight, when there were no characters in the buffer, is fixed. It returned 0 height, but now returns height of the next character to be typed.

Toolbox Event Manager

_WaitNextEvent is now implemented in the System as well as MultiFinder.

Window Manager

A bug was fixed in GrowWindow on the Macintosh II, where it used to return an incorrect result when the window size didn't change.

A bug in WDEF, which caused screen garbage on Macintosh II under rare circumstances, is fixed.

Continued

This article continued in "Macintosh System Software 6.0 Changes (part 3 of 4)".

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Mac OS 8.1: Aliases Cannot Find Originals

This article explains why aliases may become broken after updating Mac OS from 8.0 to 8.1 and reformatting a volume from standard format to Extended format (HFS+), and provides a solution.
This article has been archived and is no longer updated by Apple.
If you updated a Mac OS 8.0 System Folder which had the Text Encoding Converter disabled, the 8.1 update will install a new version of that extension, but it will still be disabled. Text Encoding Converter is required on HFS+ formatted startup disks.

Drag the Text Encoding Converter extension from the Extensions (disabled) folder to the Extensions folder and restart. Your existing aliases should now work, and you can create new aliases.

Text Encoding Converter is not visible in the Extensions Manager under Mac OS 8.1, presumably to discourage users from disabling it. It is visible (and can be disabled) in the Extensions Manager under Mac OS 8.0.

If a startup disk is formatted as Mac OS Extended format, you should install a new System Folder on that partition, rather than drag-copying an existing System Folder.

For additional information on the Mac OS 8.1 Update see article 30345: "**About Mac OS 8.1 Update**".
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Multiple Scan 720: Power Cable

The Multiple Scan 720 User Guide, page 3, illustrates and describes a shrouded pass-thru power cable for use with the monitor. However this monitor arrived with a standard cpu-wall power cable. Which one is correct?
This article has been archived and is no longer updated by Apple.
The Multiple Scan 720 ships with a cpu-wall power cable, part number 590-0380. This is the cable that should be illustrated and described in the user guide, but is not.

Shrouded pass-thru power cables, used to connect the monitor power to the cpu power pass-thru port are available from most Apple Authorized resellers and service providers, part number 590-0370. This cable does not come with the monitor.
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QuickDraw GX 1.1.5: No LaserWriter 12/640 Support

I am unable to use some of the unique LaserWriter 12/640 features using QuickDraw GX 1.1.5.
This article has been archived and is no longer updated by Apple.
Quick Draw GX 1.1.5 was not tested with nor provides support for printers Apple introduced after the LaserWriter 16/600. Therefore, many of the LaserWriter 12/640's specific printing features are not supported. There are no plans at this time to provide support for the LaserWriter 12/640.
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MacBook Pro: For maximum performance, upgrade memory in matched pairs

This article has been archived and is no longer updated by Apple.

The MacBook Pro will run fine with either a single memory slot filled or with both memory slots filled with two unmatched memory sizes (such as a 512MB DIMM in one slot and a 1GB DIMM in the other).

However, if both slots are loaded with an equal amount of RAM (such as two 512MB DIMMs of the same type), you can take advantage of the system's dual-channel memory architecture for an additional performance boost. With a dual-channel memory interface, both banks of SDRAM can be addressed at the same time, enabling MacBook Pro to reach a memory throughput of up to 10.7 GBps.

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Avid Cinema: Mac OS 8.1 Compatibility

Are there any compatibility problems between Avid Cinema and Mac OS 8.1?
This article has been archived and is no longer updated by Apple.
At this time Avid Cinema has not been fully tested with Mac OS 8.1. For this reason, Apple Computer and Avid Technology are not yet supporting the use of Avid Cinema with Mac OS 8.1.

Preliminary testing shows that there are two minor compatibility problems between Avid Cinema and Mac OS 8.1:

1) Avid Cinema will not record any sound and the Audio Source option from the Movie menu is grayed out. Mac OS 8.1 installs a new Control Strip module that allows you to select the audio input source. To work around this problem, use this Control Strip module to select the appropriate source while Avid Cinema is the active application. For example if you are bringing in audio with your video, you would click the audio input source (microphone icon) in the Control Strip and select "CD-TV-Video" to bring in your audio.

2) When selecting the Bring Video In tab for the first time, you might receive the error "There is no device connected to that input source, the previous source will be restored." This only occurs when selecting the Bring Video In tab for the first time after Avid Cinema is launched. If you click the "OK" button, Avid Cinema will select the correct video source.
Published Date: Feb 18, 2012

At Ease 5.0: Large Number of Users and Offline Access Issue.

I have created a large number of At Ease users and I have enabled Offline Access. Now, some At Ease client workstations experience a crash. How can I avoid this?
This article has been archived and is no longer updated by Apple.
If you are experiencing crashes on your At Ease 5.0 workstations and you have created a large number of At Ease users, try disabling Offline Access.

Launch the At Ease Administrator and uncheck the box labled "If the At Ease server cannot be found, allow users to work offline". This option is located under the System Preferences menu.

This issue will be addressed in a future version of At Ease.
Published Date: Feb 18, 2012

Macintosh System Software 6.0 Changes (part 3 of 4)

This article has been archived and is no longer updated by Apple.

System File, Continued

New and Changed Resources

ptch id = 0 TextEdit, no longer in all three PTCH files.
ptch id = 1 Menu Manager, no longer in Plus & SE PTCH files.
ptch id = 2 Notification Manager, new (see separate note).
ptch id = 3 Sound Manager, new and improved.
PTCH id = -1 Checks for missing patch resources at startup.
MBDF id = 0 The id has been changed (was MBDF id=8).
vers id = -2 New 'version' resource for files; see explanation below.
vers id = -102 New 'version' resource for products; see explanation.

Removed Resources

PACK id = 4 SANE, floating point package (now in all ROMs).
PACK id = 5 SANE, elementary math functions (now in all ROMs).
PACK id = 7 SANE, various conversion routines (now in all ROMs).
WDEF id = 0 Window definition procedure (now in all ROMs).
DRVR id = 9 AppleTalk, protocol package handler (now in all ROMs).
DRVR id = 10 AppleTalk, transaction protocol handler (now in all ROMs).
NBPC 1 & 2 Now obsolete.

Version Resource

To avoid confusion, all system files are now version 6.0, with the exception of the Finder, which is 6.1. With System Software 7.0, ALL files wil have the same version number. Other files in the System Software Update now contain "System Software Update 6.0" in the "Get Info" window as well as their logical version number.

The Finder now displays version information according to a file's 'vers' resources.

Fonts

New York 20, 24 and Geneva 20, 24 have been removed from the System on the Utility 1 disk to resolve space problems.

The Chooser

- The bug of not closing device files (except, of course, the current printer) has been fixed.

- Chooser now remembers the window position.

- Chooser now uses the Palette Manager.

- Chooser can now list sounds in the Suitcase files (below the System file).

- The scramble bug, if a cdev (Color) called _DrawDialog, was fixed.

Other Desk Accessories

- The Alarm Clock now remembers the window position. You can now set hours greater than 12 by typing if Alarm Clock was opened in 12-hour mode and then 24-hour mode was set (using the Control panel).

- The Calculator now remembers the window position.

- Find File now remembers the window position.

- Scrapbook now remembers the window position.

Installer Scripts and Resources

PTCH id = -1 is a new patch resource that checks if the machine you are starting up on has the proper PTCH resource(s) in the system file. If the proper patch code is not present, the user can't boot (a message will appear). This was a designed specifically for use with MiniScripts (see below), so this patch is installed during MiniScript installation.

The bug of not deleting owned resources unless the owner was in the src file has been fixed.

Empty System files are now created on MFS disks too for installing on blank MFS disks.

The Installer now looks for a AppleShare server before blessed folder.

Font/DA Mover

Support for NFNTs and styled fonts has been added.

A confirmation alert was added for the Remove process.

Finder File

Disk Copy: when copying an entire 800K disk to another, the Finder now uses an "image" copy to create an exact duplicate of the original.

The name of the Print Catalog command has been changed to Print Directory.

The maximum number of windows can be set by changing the last word in the LAYO resource.

MultiFinder File

New Features

MultiFinder now copies the WDs of an application that calls _Launch and includes them in the AppParmHandle.

PrintMonitor is broken down into 5 segments, to allow it to perform in 72K instead of 78K.

Print Monitor now gives visual notification when printing has been stopped via the PrintMonitor window.

MultiFinder Fixes

Double-clicking on a document, when the application is already open, now opens the document. The user no longer sees "The application is already

open." Including the resources 'mstr' #102 and 'mstr' #103 in an application allows you to override the default "File" and "Open..." strings respectively when MultiFinder searches for the open menu item. Resources 'mst#' #102 and #103 can be used instead, if necessary (for multiple languages). The Standard File package was patched to implement this.

Background notification support is added. See the section on Notification Manager.

There is a new bit (bit 9) in the SIZE resource, to allow an application to get mouse clicks in its front window during layer switches.

MultiFinder 6.0 does not work with pre System 4.2 files (notified through an alert box). This was done to save 3K on the System Disk.

Developers should be even more careful about fooling around with the enable flag for the Apple menu. In particular, applications are making assumptions that the second item is a dashed line, and then disabling it (often directly and not by calling _DisableItem) on the fly. The suggested way to do this is to set the flags correctly in the "Menu" resource for the Apple menu at compile time.

The menu bar Icon no longer inverts during shutdown.

The bug where an application in the foreground should not call WaitNextEvent with a sleep value > 50 is fixed.

The bug that would cause an application to crash when selecting a menu key for a pop-up menu has been fixed.

Mouse clicks no longer get lost.

Files opened by an application will be closed, even if the application crashes (MultiFinder monitors the files opened by each application and closes remaining files itself).

MultiFinder no longer crashes with applications that have no Apple menu, but do use hierarchical menus.

String list resources ('mst#',100) and ('mst#', 101) can be used instead of the old 'mstr' strings to override the names used when MultiFinder looks for the "Quit" menu item.

The old _Launch call, which applications still use (for example, in Transfer... menu items), now just switch to an application that is already running. As a consequence, trying to close the working directory of the launched application's resource file returns an error.

Applications no longer have to pass fake (de)activate events to DAs in their layers when they receive suspend/resume events.

Applications that have the MultiLaunch bit set will no longer lose their SIZE resource attributes if switch-launched from an application other than the Finder.

The "Out of Memory" alert no longer appears if a DA could not be found; a more appropriate message appears.

The clipboard is no longer lost when the user chooses Cut in the Edit menu. It turns out that this never worked!

Before, running two applications with the same name trashed the icon, in the Apple menu, of the launched application when quitting the other. This problem has been fixed.

Resource manager code that was causing crashes because of a bug in the MPW grow zone procedure has been fixed. The problem was that MPW was calling _CloseResFile inside the grow zone Proc, which was getting called from _GetResource. This caused a reentrancy problem for the MultiFinder resource Manager patches.

Synthesized fonts are no longer being put in the application heap.

MultiFinder's temporary memory requests should be located higher in memory, and are thus less likely to pin down the system heap.

The icon in the menu bar is now exactly the same color as the text in the menu bar.

Background applications that crash before the first call to _GetNextEvent no longer crash the system.

DrawMenuBar will not do anything when called from an application that is in the process of being switched out. This significantly cuts down on menu bar flicker.

Drivers that are part of an application now get SystemTask time if the application gets background time.

MacroMaker no longer crashes with Print Monitor.

Applications that call _Launch on themselves no longer crash.

Mouse-moved events now show up more often. Is is still arguable as to whether they work correctly.

MultiFinder now handles the case where a background application has called _InitWindows, but has not yet called _GetNextEvent. In the past, it would quit or crash. Previously, _ExitToShell would return to the caller.

MultiFinder now calls _Sound Dead when an application quits. This fixes the bug where system beep stopped working.

The bug where despooling would never occur when background printing from a HyperCard script has been fixed.

The bug where booting on a Macintosh II with >1 bit depth and a large number of INITs would crash MultiFinder on startup has been fixed.

Continued

This article continued in "Macintosh System Software 6.0 Changes (part 4 of 4)".

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At Ease 5.0: Disk Security Does Not Work With HFS+ Formatted Drives

At Ease 5.0 disk security does not work with HFS+ formatted hard drives (also known as Mac OS Extended format).
This article has been archived and is no longer updated by Apple.
The disk security feature of At Ease, "prevent users from starting up with a floppy" does not work on HFS+ formatted hard drives. The option to select this feature in the At Ease admin program can still be checked, but a user can use an Mac OS 8.1 CD/floppy to start up an HFS+ formatted drive thus bypassing security.

Only a Mac OS 8.1 bootable CD/floppy could be used to start up the workstation with the HFS+ drive since earlier versions of the Mac OS do not recognize HFS+ drives.
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Mac OS 8.1: Sort Order Icon in List View

This article describes the sort order icon that appears in Finder windows.
This article has been archived and is no longer updated by Apple.
The sort order icon resembles a triangle or pyramid. When a Finder window is in list view, this feature toggles the list view between ascending and descending order.

For Example: If the window is sorted by name, clicking the sort order button toggles the contents of the list between alphabetical or reverse alphabetical order. If the window is sorted by size, then clicking the sort order icon toggles the contents of the list between largest-to-smallest, and smallest-to-largest.
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Newton OS 2.0: Upgrade Program Ended

I own a MessagePad 120 with Newton Operating System (NOS) version 1.3. How can I upgrade the MessagePad to NOS 2.0?
This article has been archived and is no longer updated by Apple.
Beginning on December 1, 1995, customers with a 1 or 2MB version of the MessagePad 120, with the Newton 1.x OS, were given an option to pay $109 to upgrade their MessagePads to the Newton OS 2.0. The upgrade program was only available through Apple Computer, and officially ended on October 28, 1997.
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Macintosh System Software 6.0 Changes (part 4 of 4)

This article has been archived and is no longer updated by Apple.

PRINTER TOOLS DISK

This disk contains printer drivers for:
- ImageWriter
- AppleTalk ImageWriter
- LaserWriter IISC
- LaserWriter IINT
- LaserWriter IINTX

LaserWriter Driver

Support for 11" x 17" paper is now available via a radio button in the Page Setup dialog box.

The "Page Setup" dialog contains two new check boxes that replace one earlier one:
- The "Text Smoothing" option smooths bitmap fonts that are downloaded.
- The "Graphics Smoothing" option smooths bitmaps other than text.

With the addition of this feature, all previous versions of LaserWriter Prep are incompatible.

LaserWriter 5.2 fixes a problem inherent with printing large bit maps (fonts over 100 points).

Extended rotation picture comments were added, to allow for fractional rotation angles.

A problem with the dashed line comment (the dashed line interval was getting scaled with the pen size) has been fixed.

The srcBic mode (white on black) text problem is fixed (if you drew 2 lines of text in scrBic mode, the second line would not print).

LaserWriter IISC Driver

A problem in the LaserWriter IISC driver that caused icons to disappear when doing the Finder's "Print Catalog" command has been fixed. This problem was introduced in version 1.1B1.

A problem in the LaserWriter IISC driver that caused gaps in straight lines drawn with non-square pen has also been fixed.

A problem in the LaserWriter IISC driver that caused gaps in the outline of a roundRect drawn with a non-square pen has been fixed.

The LaserWriter driver will not print a bitmap if the width or height is zero.

There was a problem in the LaserWriter driver with dashed line intervals. Dashed lines with more than two elements in their patterns did not print correctly. This has been fixed.

A problem with downloading large bitmap fonts (96 points) has been fixed.

MACINTOSH UTILITIES 1

HD SC Setup

HD SC Setup was rewritten, for A/UX, to support multiple partitions.

When quitting from HD SC Setup, a call to SCSIDispatch is made with the opcode "QuantumFix".

Mini Installer Scripts

Mini-Scripts creates a system that is appropriate only for the particular Macintosh it was created for. All patches for the other systems are not available when a system is created with mini-scripts. Booting a system configured for one machine on a different flavor Macintosh causes an alert box.

Mini-Scripts are designed to be used on floppy-based systems and to be installed on disks that do NOT currently contain a System. If you install a mini-script over an existing System, you will not get a fully updated System file.

MACINTOSH UTILITIES 2

CloseView

The CloseView utility lets users magnify the Macintosh screen, making it easier for visually impaired users to use the computer. It also makes it possible to invert the screen (white on black instead of the usual black on white).

CloseView restores color window manager ports as well as regular window manager ports on screen base address changes.

Map

Map is a Macintosh utility that records and displays the time, longitude, and latitude of locations anywhere in the world.

Problem fixes from older versions: Chicago's time zone has been fixed, and partial names can be used with Find.

MacroMaker

MacroMaker is an Init allowing users to create macros.

Miscellaneous Changes and Problem Fixes

Disk First Aid has been adjusted to support disks larger than 800K.

All Macintosh II patches were changed to support A/UX.

The problem that caused the PRAM on the Macintosh II to sometimes get trashed has been fixed.

If you switch temporarily to one monitor, then back to two, icons on the desktop return to their original positions (unless you move them).

If you try to switch-launch but can't, you are asked to confirm that you want to continue launching the application.

Two problems that caused disk-swapping when switch-launching on a single-

drive system have been fixed.

A problem where the 'type' and 'creator' would be written by the application then overwritten by the Finder has been fixed.

The problem that caused a Macintosh to hang if the LAYO spacing was wide and the windows were narrow has been fixed.

A problem with the 'Protect Bit" (AppleShare-related) has been fixed.

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Mac OS 8.1: Extended Volume Format and Password Security

This article discusses incompatibility between PowerBook Password Security 1.0.6 software and Mac OS Extended Format volumes.
This article has been archived and is no longer updated by Apple.
Password Security v1.0.6, installed by Mac OS 8.1, does not work properly if installed on a Mac OS Extended (HFS Plus) volume. If you format a Mac OS Extended Volume with Drive Setup, Password Security will be removed automatically. However, if you create a Mac OS Extended Volume by choosing Erase Disk... from the Special menu while the Finder is active, the drive still contains the Password Security protection but it does not function.

This could present an issue in the future when updating the hard disk driver with Drive Setup. Drive Setup sees the drive as locked resulting in the Update Driver option being dimmed. The workaround below should permanently remove Password Security and let Drive Setup update the driver:

1. Install Password Security.
2. Turn it on, and then turn it off.

To ensure that none of these issues arise, you should turn Password Security off using the control panel before converting a volume to the Mac OS Extended Volume Format.

Note: Password Security v1.0.7 included with the PowerBook G3 Series and v 1.0.8 included with Mac OS 8.5 are completely compatible with the Mac OS Extended Volume format.
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Apple Language Kits: Converting Text to Outlines/Paths

I installed an Apple Language Kit and am trying to use the fonts installed by the kit in a graphics/layout application. However, when I try to convert the font to an outline or path, I am getting squares where the fonts should be rather than the outline of the character. Is there a problem with the fonts installed by the language kit? What am I missing?
This article has been archived and is no longer updated by Apple.
Apple Language Kits ship with TrueType fonts, which contain outline information for converting text to PostScript paths in applications like Adobe Illustrator and Macromedia Freehand. The fonts that ship with Chinese and Japanese Language Kits contain huge character sets and function differently than typical TrueType fonts. These Kits use a complex "mapping table" to display one symbol using a combination of two ascii characters.

This can pose difficulty to applications which are not WorldScript savvy, or are not localized for the particular language being used. Applications that do not recognize this mapping function will display either two "garbage" characters, or if the character is unknown, boxes or squares.

Applications that are not WorldScript-compliant may be able to convert less complex fonts like Hebrew and Arabic, but may have trouble with the right-to-left structure of these languages.

Consult the documentation of your graphics/layout application if you are uncertain whether it supports WorldScript, or can convert TrueType fonts to paths.

One work around available to many illustration applications is the "trace" function. Using the trace function, a character can be traced resulting in a path around the character. While this does not technically "convert" the displayed character to an outline, it does
yield an image representing that character which can then be modified.

More information about Apple Language Kits is located at: <**http://www.apple.com/macos/multilingual/**>.

Additional information can be found in the following TIL articles:

- Article 26026: "**Language Kit Updater for Mac OS 8 Version 1.0 Read Me**"
- Article 30222: "**Language Kit Updater from Mac OS 8 (LKU8): Known Issues**"

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G3, etc: ATI Graphics Accelerator Extension X-ed Out

This article describes a condition in which the startup icon for the ATI 3D Accelerator extension (pictured below) may appear crossed out during system startup on computers that have built-in ATI graphics hardware acceleration.
This article has been archived and is no longer updated by Apple.

The ATI graphics and multimedia drivers that are installed upon computers with built-in ATI graphics hardware acceleration (such as the Power Macintosh G3, the Power Macintosh 5500 and 6500, and the 20th Anniversary Macintosh) are designed to enable acceleration to the video available at the computer's built-in video port on the logic board, not to the video available via a separate video card, which would offer its own computer video port and require its own software drivers.

Thus, if the computer detects that there is no monitor attached to the built-in video port, the ATI drivers will not function and in fact are not needed. The only ATI driver extension that has an icon to represent it at system startup is the ATI Graphics Accelerator extension, which will be crossed out accordingly. The remaining ATI extensions are: ATI 3D Accelerator, ATI Graphic Driver, ATI MPEG Accelerator, ATI Video Memory Manager, ATI YUV Accelerator, and ATI Graphics Accelerator. These may be safely removed if a monitor is not attached to the built-in video port.

This symptom is commonly observed on Power Macintosh G3 computers that have been built-to-order with an added video card, such as the ix3D Ultimate Rez card. The following extensions are used by that card and should not be removed if a monitor is attached to it: Apple IX3D Graphics Accelerator, Apple IX3D RAVE Engine, Apple IX3D Video Memory Manager.

If monitors are attached to both the built-in video port and the video card, all related extensions may be left on and none should normally become crossed out during system startup.

The IX3D Graphics Accelerator icon and the ATI Graphics Accelerator have the same icon. This can be confusing to customers who see the IX3D Graphics Accelerator icon when they install the software, but do not see the ATI Graphics Accelerator icon, because it is already installed on the system. They assume that the icon they are seeing is the IX3D Graphics Accelerator icon with the red X, but they are most likely seeing the ATI Graphics Accelerator with the Red X through it.

This issue is not to be confused with a similar condition that occurs on computers that do not have built-in ATI graphics hardware, such as is described in Article ID 30077: "Power Macintosh 9600: Graphics Accelerator Extension X-ed Out"
Published Date: Feb 18, 2012

PowerBook: Audio Play Through Support

I am trying to connect a Walkman to the Sound In port and have the sound play through the PowerBook 5300 speaker but it is not working. What PowerBook models support audio play through via the Sound In port?
This article has been archived and is no longer updated by Apple.
Because of hardware architecture, routing external audio through the line in (Sound In port) option is only supported on PCI PowerBook computers such as the PowerBook 2400, 3400, and PowerBook G3 and later.

PowerBook computers released before the 3400 do not have the hardware to support this functionality.
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MultipleScan 15AV: Pincushion and Trapezoid Adjustments

I have a Multiple Scan 15AV display and with some resolutions there is slight pincushioning which I would like to be able to adjust out. Is there a user control for me to adjust this?
This article has been archived and is no longer updated by Apple.
There are two adjustments (pincushion and Trapezoid) provided by holding down buttons on the front of your Multiple Scan 15AV Display. Follow the steps below to adjust for pincushion and trapezoid.

Pincushion - Hold down the "Select" and "Recall" buttons together. The first two LEDs in the panel will light up and you can adjust pincushion at this point by using the up and down arrows on the front of the display.

Trapezoid - While in the mode for pincushion, push the "Select" button once and you should see the last two LEDs in the panel light up. At this point you can adjust for trapezoid by selecting the up and down arrows on the front of the display.

Once these adjustments are made in any resolution, those adjustments are saved unless you select the recall button which will then set the resolution used to the factory default setting that was set prior to making those adjustments.
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Iomega ZIP Drive: Delays When Drive is in Sleep Mode

I have a Power Macintosh 8600/200. I have noticed that when the ZIP drive has a disk installed but the drive is in sleep mode there is a delay when opening documents or applications.

This delay seems to be caused by the sleeping drive which is spinning up again. This effect occurs whether the document or application I am launch is located on the ZIP disk or not. Why does this occur?
This article has been archived and is no longer updated by Apple.
If the information you are trying to access is located on the ZIP disk then the drive will need to spin up to access the information. This behavior is completely normal, regardless of the Power Macintosh you are using.

If the Drive seems to be sleeping too quickly then it might be best to modify the sleep setting to wait a little longer before placing the drive into a sleep state. This adjustment can be made via the Iomega Tools application. If you launch this application and select the third icon from the left which is titled "Change Drive Options" you can change the sleep delay from 1 to 30 minutes. The factory setting places the sleep time to 15 minutes.

Another possible problem could be caused the by the Disk Cache settings. If the Disk Cache is set to low we have seen this cause delays in launching application and documents as well.

The Disk Cache setting is located in the Memory control panel. If this setting has not been changed then it is likely set to 96K. Try increasing the Disk Cache to 256 or 512K to see if has any effect on the delays.

For Technical Specifications see TIL Article number 20766: **Iomega Zip Drive (SCSI): Specifications**
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LaserWriter IISC: Command-Period Doesn‘t Cancel Print

This article has been archived and is no longer updated by Apple.

When using the LaserWriter IISC, printing within an application (such as MacPaint) that contains a dialog box requiring the "command-period" to stop printing, you may experience this problem: the "command-period" does NOT stop or interrupt the printing.

However, if you are printing within an application that uses a dialog box with a "cancel" button, the cancel button DOES stop the printing.

This is a problem in the LaserWriter IISC driver, not the PostScript printer drivers. Currently, you CANNOT cancel most print jobs when programs display a printing message stating "To cancel, hold down the command key and type a period (.)"

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Power Macintosh: Troubleshooting Iomega Zip Drives

This article discusses several common issues reported with Iomega Zip drives and troubleshooting steps to help correct them. Issues covered in this article are:

1. Zip disk does not appear on the desktop.
2. You hear a clicking sound when a disk is inserted and the disk does not appear on the desktop.
3. Zip disk is not ejected far enough to remove it from the drive.

This article has been archived and is no longer updated by Apple.

1. Question: Why doesn't my Zip disk icon appear on the desktop?

Answer: Many different issues can cause this condition. One of these suggestions should resolve the situation:

- Shut down the entire system. Restart the system, making sure the computer is the last device turned on.
- Make sure the Iomega driver is not covered with a red "X" at system startup time. Restart the computer, watch for the Iomega driver icon, and verify that is not covered with a red "X". If a red "X" covers the icon, use the Extensions Manager to turn off all extensions except the Iomega driver, then restart the computer. If this issue persists, you should replace the Iomega driver extension by either dragging it from the Restore CD-ROM disc that came with your computer, or by reinstalling the Mac OS.
- There may be a SCSI ID conflict preventing the Zip drive from working properly. Verify that you have removed all external SCSI devices to eliminate this possible issue. If the Zip disk appears on the desktop after you have disconnected all other SCSI devices, you should change the ZIP drive's SCSI ID setting so it is not the same as any of the other SCSI devices.
- The Zip disk may not be fully inserted into the drive and therefore may not be seated correctly. You should insert the disk firmly into the drive until you hear a "click" sound. This indicates that the disk is fully inserted.
- The Zip drive may need to be reset to properly read inserted cartridges. There are two reset options you can try:
  - Use the manual eject hole to reset the mechanism. Insert a small straightened paper clip into the hole that is located slightly above and to the right of the center of the Zip disk slot. This can be a little tricky since the manual eject lever is quite small. To verify that the lever is being actuated correctly, insert a Zip disk into the drive; the disk should eject when you press the lever with the paper clip.
  - Use the eject button on the front of the Zip drive. You must remove the plastic bezel around the drive to access this button. Once you have removed the cover, press and hold the black button while restarting the computer. Once the computer begins to start up, let go of the button. After the computer has restarted, test by inserting a disk to see if this procedure resolved the issue.

2. Question: I hear a clicking sound when a Zip disk is inserted and the disk icon does not appear on the desktop.

Answer: This is normal behavior when inserting a Zip disk containing an earlier version of the Iomega driver software. This condition can be resolved by one of the following suggestions:

Keep the disk in the drive and let it continue to click. Within two to five minutes a dialog appears asking if you would like to initialize the disk. If you click Yes, a new driver is installed and the issue should no longer occur. Once the driver is installed the disk works with both current and previous versions of the Iomega drivers.

> **Warning:** If you choose to initialize the Zip disk all data stored on it is lost. If the data is important and not backed up, you should take the Zip disk to a computer running an older version of the Iomega software and back up the data to the hard disk before proceeding. After the disk is backed up you can initialize it without worry of losing data.

Another option is to download the latest Iomega Tools software, which lets you update the driver software on a Zip disk without having to initialize it.

This software can be downloaded from Iomega's Web site on the World Wide Web.

After following the software installation instructions from the Iomega Web site, follow the steps below to set up this software to address the clicking issue with your Zip drive:

1. Open the Iomega Drive Options control panel.
2. Choose Advanced Options from the Special menu.
3. Make sure the default setting is set to "Always update the driver on the disk".
4. Click Save.
5. Click Save again.
6. Close the control panel.
7. Restart the computer.
8. After the computer restarts, insert the Zip disk.

3. Question: My Zip disk is not ejected far enough to remove it from the drive.

Answer: This seems to occur mainly with Power Macintosh G3 Desktop computers. The cartridge is not ejected far enough from the front of the

Zip drive's plastic bezel, and users tend to push the cartridge back into the drive slightly making it almost impossible to remove. This is most likely to occur if you try to remove the cartridge by grasping the top and bottom edges at the same time.

Testing has shown that if you attempt to remove the disk by placing your finger on its bottom edge and pushing up slightly while pulling out, the disk can be removed almost every time.

If the troubleshooting steps above do not resolve the issue, check Iomega's Web site, which contains additional troubleshooting steps and procedures. It is also possible the drive may need to be repaired.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

The following article can help you search for a particular vendor's address and phone number:

Article 17159: "**Locating Vendor Information**"
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Mac OS 7.6.1 CD: Installer says update not install

The system software installer on the 7.6.1 CD I have says the installer is 7.6.1 update. I thought my MacOS CD would install the entire version of MacOS 7.6.1.

This article has been archived and is no longer updated by Apple.

The Mac OS 7.6.1 CD (part number 691-1613-A) will install a full version of MacOS 7.6.1.

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ColorSync Display: Dark Patches on Screen

I have a ColorSync display that has dark patches in the corner of the screen. I have recalibrated the display and have tried turning the display on and off in order to activate the degauss circuitry but the problem remains. Is this a problem with my display.
This article has been archived and is no longer updated by Apple.
The dark patches that you see are caused when the electron beam hits part of the aperture grill instead of the phosphor stripe/dot on the display.

A way to correct this is to rotate the screen, through the monitors and sounds control panel, via the geometry settings. Rotating the display slightly to the right of the left will allow you to adjust this anomaly out.
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Newton OS: Determining Which OS Version & System Update Is Installed

This article explains how to determine which Newton OS version, and system update is installed on the MessagePad.
This article has been archived and is no longer updated by Apple.
To determine which version of the Newton OS is installed in the MessagePad:

1) Tap Extras to open the Extras Drawer.
2) The MessagePad has version 2.x Newton OS installed if:
- you see an Information button and Rotate button in the lower left corner of the Extras Drawer
- you see a folder tab at the top of the Extras Drawer
- you see a Folder button, Routing button, and Close box below the battery gauge, in the lower right corner of the Extras Drawer.
3) The MessagePad has version 1.x Newton OS installed if
- you see only a Close box next to the battery gauge in the lower right corner of the Extras Drawer

Note: The eMate 300 ships with Newton OS version 2.1.

To determine which system update is installed in the MessagePad:

Newton OS 1.x
1) Tap Extras to open the Extras Drawer.
2) Tap Preferences. A screen appears with several Topics.

The ROM version and update are listed at the bottom of the screen. The update is located between the parentheses.

Newton OS 2.x
1) Tap Extras to open the Extras Drawer.
2) Tap the information button and , in the list that appears, tap Memory Info.

A slip appears which displays the ROM version, and update. The update is located between the parentheses.
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Appletalk: How To Turn On/Off Using the Control Panel

I was told that I can turn Appletalk on/off using the Appletalk control panel under OS 7.5.2 and above. How do I do this?
This article has been archived and is no longer updated by Apple.
To turn Appletalk on or off using the Appletalk control panel use the following steps:

1. Open the Appletalk control panel
2. Go to the edit menu
3. Select user mode
4. Select either advanced or administration
5. Select OK
6. Click the option button in the lower right hand corner of the Appletalk control panel
7. Turn appletalk on or off
8. Click OK
9. Close the Appletalk control panel
10. Save the changes

Published Date: Feb 18, 2012

Mac OS 8: AppleVision Software Installed

I have an AppleVision Display and just installed Mac OS 8. I had AppleVision Software version 1.5.3 installed before installing Mac OS 8, now I have version 1.5.2. What version should I be using?
This article has been archived and is no longer updated by Apple.
Mac OS 8.0 installs AppleVision software version 1.5.2.

If you are using a ColorSync 17 (16.1 VIS) or ColorSync 20 (19.02 VIS) Display you will need to install AppleVision Software version 1.5.5 which shipped with the ColorSync Displays on an AppleVision Software CD.

When installing Mac OS 8.1 with your ColorSync display, you should also install the AppleVision Software CD (version 1.5.5) which shipped with the display. If installing an older version, other than 1.5.5, of the AppleVision software you will see AppleVision 750/750AV or AppleVision 850/850AV in the control strip and ColorSync Display in the Monitors and Sounds control panel. This is normal behavior, due to a software change, and will not affect the function of the display.

If you are using an AppleVision 750,850,750AV,or 850AV you will need to install or reinstall the AppleVision Software Version 1.5.3. You can do that by using the CD that shipped with you're display or you can down load it from Apple's Software Update Web Site at http://www.apple.com/swupdates/ .
Published Date: Feb 18, 2012

Macintosh II Label "M5400/A" Means HyperCard Included

This article has been archived and is no longer updated by Apple.

Macintosh II systems that are labeled M5400 do NOT have HyperCard bundled with them. Systems labeled M5400/A contain HyperCard.

The letter "A" following the part number denotes a change in the contents of the box.

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Workgroup Server 9650/350: 10/100 Fast Ethernet PCI Card

All Workgroup Server 9650/350 configurations include a 10/100 Fast Ethernet PCI Card. The card requires a special extension in order to function.
This article has been archived and is no longer updated by Apple.
The extension is called Apple 10/100 Fast Ethernet. It can be found on the Workgroup Server CD in a folder called Server Additions.

Place the file in your Extensions folder and restart. You will then see an additional choice in the AppleTalk and TCP/IP control panels, "Ethernet Slot D2".
Published Date: Feb 18, 2012

Newton Connection Utilities: Newton Works Import Message

When I try to import information from my computer into Newton Works, I get a message that says "Please make sure Newton Works is installed on your Newton device, and you have run it at least once." I have run Newton Works before.
This article has been archived and is no longer updated by Apple.
In order to import information from your desktop computer into Newton Works, a Newton Works data structure, technically referred to as a "soup," must exist in the desired storage area.

Newton Works does not create a soup on a PC card if there is already one on the internal store, unless a Newton Works document has been filed or created on the card.

If you intend to save Newton Works files to a PC card, you must create or file at least one Newton Works document to the card, prior to importing.

Similarly, if you intend to save Newton Works files to the internal store, you must create or file at least one Newton Works document to the internal store, prior to importing.
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PowerBook 3400 & G3 Modems: Are They Flash Upgradeable?

Are the PowerBook 3400 series and the PowerBook G3 (M3553) internal modems flash ROM upgradeable?
This article has been archived and is no longer updated by Apple.
The PowerBook 3400 series and the PowerBook G3 both have 33.6 internal modems. These modems are not upgradeable to a faster speed.
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QuickTime 3: Windows NT 4.0 Installation Summary

This article list the components installed during the Windows NT 4.0 Installation.
This article has been archived and is no longer updated by Apple.

Software Component	Where Installed	Notes
qtml.dll	\\windows\\system32	Contains the core QuickTime software. Including a new Roland Sound Canvas Sound Set for reliable compatibility to General MIDI and GS
movieplayer.exe	\\QuickTime	MoviePlayer is the essential QuickTime play back and editing application. MoviePlayer is installed in the QuickTime Folder that is created at the top level of your hard drive.
npqtplugin.dll	\\QuickTime	The Plug-In lets you view movies and other media files within your Internet browser. The plug-in needs to be moved into the plug-in folder for the specific browser being used and then configured.
quicktime.cpl	windows\\system32	The QuickTime Control Panel is accessible from the Control Panel folder. It lets you to customize various settings for QuickTime.
qtinfo.exe	\\QuickTime	This diagnostic application creates a file with your system configuration as the output. When reporting difficulties with QuickTime you must run this application and include the log file.
readme.wri	\\QuickTime	This document summarizes what is installed, system requirements, installation procedures and how to send feedback.
sample.mov	\\QuickTime	A sample movie to verify that installation was successful.
delsl1.isv	\\QuickTime	This document contains the information necessary for uninstalling QuickTime from your system.
qtvr.qtx	\\windows\\system32	Contains QuickTime VR which enables you to work with interactive photographs of objects and panoramas.
qd3d.dll	\\windows\\system32	Contains QuickDraw 3D which enables QuickTime to work with 3D animations and graphics.
qd3d_ir2.q3x	\\windows\\system32	This is the Interactive Renderer for QuickDraw 3D.
rave.dll	\\windows\\system32	The 3D hardware abstraction layer (HAL) between applications or renderers and 3D hardware accelerator cards.

Published Date: Feb 18, 2012

QuickTime 3: PNG Format Support

This article discusses the built-in support of the PNG graphics format by QuickTime 3.

This article has been archived and is no longer updated by Apple.
QuickTime 3 now has support for the PNG format built in. If you are using the PNG extension by Sam Bushell, you should remove it from your Extensions folder.
Published Date: Feb 18, 2012

QuickTime 3: ActiveMovie Playback of QuickTime

What does it mean when ActiveMovie claims playback of QuickTime?
This article has been archived and is no longer updated by Apple.
It means ActiveMovie can play back the QuickTime Movie format; however, ActiveMovie is limited to resident compressors such as Cinepak and uncompressed audio. ActiveMovie does not currently support any features beyond what is found in QuickTime for Windows version 2.1.2.

The ActiveMovie support for QuickTime is a very limited subset of what QuickTime 3 for Windows provides. ActiveMovie does not have the feature set found in the QuickTime Plug-in 2.0, which has support for 20 MIME types.
Published Date: Feb 18, 2012

LaserWriter IINT, IINTX: Icons Disappear from Chooser

Article Change History

06/09/92 - REVIEWED
* For technical accuracy.

When I open the Chooser of my Macintosh, the icon for LaserWriter IINTX is gone. It was there the last time I opened the Chooser, and I have not changed any connections. I am on a network with MS-DOS computers.

This article has been archived and is no longer updated by Apple.
If you have attached your LaserWriter to an MS-DOS computer which has an AppleTalk PC card, and you are running your Macintosh in serial port configuration, and printing to a LaserWriter IINT or LaserWriter IINTX, you may find that the LaserWriter icon appears and disappears at random.

This will probably be true for all other Macintosh computers on the network. As you watch the Choosers, the LaserWriter icons may appear and disappear with no obvious pattern.

This is a normal response to an unworkable configuration. Because of this problem (and possibly others), the "LaserWriter IINT-NTX Owner's Guide" warns that you should disconnect any serial cable attached to the printer before using LocalTalk, and conversely that you disconnect the LocalTalk cable from the printer before connecting a cable to the RS-232 serial port. See the appendix on Connecting to and Printing With an MS-DOS Computer in the "LaserWriter IINT-NTX Owner's Guide" for more information.

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QuickTime 3: Install Happens Too Quick

This article explains why the QuickTime 3 installer for Windows 95/NT may zip through the installation quickly and not work, and offers the solution.
This article has been archived and is no longer updated by Apple.
This behavior is usually caused by the temp folder being locked.

The simplest way to correct this is:

1. Rename the temp folder found in the C:\WINDOWS\TEMP directory.
2. Create a new temp folder in the C:\WINDOWS directory.
3. Run the QuickTime 3 Installer.
4. Verify it is installed by playing the sample movie that is included.
5. Delete the the temp folder you created.
6. Rename the original temp folder back to temp folder.

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QuickTime 3: No Support for Certain Effects On Non-PowerPC Computers

This article details support for certain QuickTime effects on Macintosh computers not containing PowerPC microprocessor.

This article has been archived and is no longer updated by Apple.
Macintosh computers that do not contain PowerPC microprocessors do not support the ripple, magnify, or cloud effects.
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QuickTime 3: Macintosh Install Summary

This article list the components installed during the Macintosh PowerPC installation.

This article has been archived and is no longer updated by Apple.

Software Component	Where Installed	Notes
QuickTime	Extensions Folder	Contains the core QuickTime software.
QuickTime PowerPlug	Extensions Folder	Contains accelerated PowerPC native QuickTime components.
QuickTime Musical Instruments	Extensions Folder	Includes a new Roland Sound Canvas Sound Set for reliable S format. Used by QuickTime's software synthesizer.
QuickTime Setting Control	Control Panels Folder	Allows you to customize various settings for QuickTime.
QuickTime MPEG	Extensions Folder	In conjunction with QuickTime, allows you to play MPEG-1 files.
MoviePlayer	QuickTime Folder	MoviePlayer is the essential QuickTime play back and editing application. MoviePlayer is installed in the QuickTime Folder that is created at the top level of your hard drive.
QuickTime PlugIn	QuickTime Folder	The Plug-In lets you view movies and other media files within your Internet browser.The plug-in needs to be moved into the plug-in folder for the specific browser being used and then configured.
Sound Manager	Extensions Folder	Sound Manager provides low level services which allow QuickTime to play and mix digital audio.
Sound Control Panel	Control Panels Folder	This Sound Control Panel allows you to control various system-wide sound settings.
QuickTime VR	Extensions Folder	Contains QuickTime VR which enables you to work with interactive photographs of objects and panoramas.
QuickDraw 3D	Extensions Folder	Contains the core QuickDraw 3D software.

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Mac OS 8.1: Speech Recognition 1.5.1

1) The new Sound & Monitors control panel (v1.3.2), provided with Mac OS 8.1, does not offer an option for "Microphone" as the Sound Input source. If "Sound In" is selected as the input source, you will get the following message when activating Speakable Items;

"Warning. The sound input source is "Sound In," not the standard microphone, so speech recognition might not work or might not work well.

You will also get this error on startup if Speakable Items is active on startup.

2) Selecting "Sound In" allows you to input commands into Speakable Items but you will hear yourself through the speakers. This makes it difficult to input commands into Speakable Items because of all the background noise. The only workaround is to mute the computer speakers. However, if you mute the speakers, you cannot hear the computer when you have the "Speak text feedback" option selected in the Speech control panel.
This article has been archived and is no longer updated by Apple.
Workarounds:

1) Make sure the sound input source is set to something other than "Sound In" before activating Speakable Items or just click the OK button on the error message.

2) Do not use the "Speak text feedback" option selected in the Speech control panel, or use a pair of headphones.
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Apple eMate 300: Memory Upgrade Discussion

I would like to upgrade the memory in my eMate 300. What choices do I have and how do these options affect the System Memory or Storage Memory.
This article has been archived and is no longer updated by Apple.
The eMate 300 includes 3MB of RAM (1MB of DRAM and 2MB of Flash Memory). The eMate uses Flash Memory as Storage Memory and DRAM Memory as System Memory. This memory may be expanded either internally and externally.

When internal DRAM memory is installed, the total amount of DRAM available will equal that on the expansion card. However, when internal flash memory is installed, the storage memory area equals the amount of original internal flash memory plus that on the internal expansion card.

For example, an expansion card with 4 MB of DRAM and 2 MB of flash memory would result in a configuration of 4 MB of DRAM and 4 MB of flash memory. Internal memory cards, such as those available from Newer Technology <**http://www.newerram.com/**>, come in several configurations.

External memory in the form of PC Flash Memory Cards may be used to extend storage memory, providing a larger "area" to save programs and documents. The extending of storage memory occurs in a transparent manner and does not require additional configuration. When a PC Card is used as storage memory, information stored on that card is no longer available to the Newton device if the card is ejected. However, the information will be available to the Newton device when the PC Card is reinserted.

Read Only Memory, or ROM Memory, is an area of internal memory which cannot be changed or expanded. The ROM is used to hold the Newton OS and built-in applications.

Memory configuration information may be viewed by first opening the Extras drawer, then tapping the "i" icon and choosing "Memory Info." The amount of DRAM installed is described as "System RAM Installed." The total amount of Flash Memory installed is the sum of Internal or External: Used + Free.

For additional information check out the following TIL articles:

TIL Article 45031: "**Apple eMate 300: Technical Specifications**"
TIL Article 45020: "**eMate 300: Types of Compatible Storage Cards**"
Published Date: Feb 18, 2012

LaserWriter: PageMaker 6.5 Setup for Duplexer & Optional Feeder

I have a LaserWriter 8500 (or other LaserWriter) with a duplexer and an optional feeder attached, but I cannot figure out how to utilize either from PageMaker 6.5.
This article has been archived and is no longer updated by Apple.
In the print dialog box, be certain you have selected the PPD (such as LaserWriter 8500 in this instance) in the ppd pull down menu. Once selected you will be able to access these options via the button marked Features.

Clicking on the Features button you will see the option to duplex, but you will need to tell Pagemaker that the duplexer is installed first. Scroll down to the bottom of the list and change duplexer: not installed to installed. Do the same for any optional feeders you have attached. You should now be able to scroll to the top of the features list and choose the various methods of duplexing from within Pagemaker.

If this still does not produce the desired result, hold down the option key when selecting print to access the traditional page setup and print dialog boxes from within Pagemaker. A button marked "options" will appear within the print dialog box to allow you to access the traditional print features.

For additional information see:
TIL Article 24333: "**LaserWriter 8500: PageMaker 6.5 Duplexing Issue**"
Published Date: Feb 18, 2012

LaserWriter and LaserWriter II: Serial Configurations Differ

This article has been archived and is no longer updated by Apple.

The default serial port configuration of the LaserWriter and LaserWriter Plus is: no parity, 8 data bits, 1 stop bit.

The default serial port configuration of the LaserWriter IINT and LaserWriter IINTX is: no parity, 7 data bits, 1 stop bit.

The difference in the default data bits may cause a problem for a PC communicating with

- a LaserWriter IINT in Diablo emulation

- a LaserWriter IINTX in HP LaserJet+ emulation or Diablo emulation (if the PC is configured for communication with a LaserWriter or LaserWriter Plus.

The PC and the LaserWriter must be configured with the same data bit settings. Search on "LaserWriter" and "serial connection" for specific instructions for configuring the LaserWriter and a PC for serial communications.

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Open Transport 1.3 to 1.3.1: Update Information

Open Transport 1.3 to 1.3.1 Update Version: 1.0 was released on February 13, 1998. This update requires the US English Mac OS 8.1 Update and version 1.3 of Open Transport. It can be downloaded from the Apple Software Updates Web site at http://www.apple.com/swupdates.

Note: Open Transport 1.3 is installed with the Mac OS 8.1 Update. For more information refer to article 30345: "**Mac OS 8.1: About Mac OS 8.1 Update**".
This article has been archived and is no longer updated by Apple.
The Open Transport 1.3 to 1.3.1 Update application may be used with any Mac OS compatible computer and Mac OS 8.1. Some utility software will report files in Mac OS 8.1 as damaged or corrupted. Although these files are not actually damaged, using this application will upgrade these files so they are no longer reported as damaged or corrupted.

Use of this Open Transport 1.3 to 1.3.1 Update application is optional and is not required. Use of this application will only correct how these files are viewed by certain utility software. Use of this application will not correct any other issues. There is no functional difference between Open Transport version 1.3 and version 1.3.1. Open Transport files with the version number 1.3.1 have simply been resized to remove the extra bytes of unused data. International releases of Mac OS 8.1 do not contain the extra bytes.

For complete information, refer to the Open Transport Read Me articles:

- Article 30411: "**Open Transport 1.3: Read Me - Part 1**"
- Article 30412: "**Open Transport 1.3: Read Me - Part 2**"

Instructions:

This software consists of a Disk Copy NDIF (New Disk Image Format) compressed image, which requires Disk Copy 6.1 or later to use. Download this software to your hard drive and then double-click it to use it. Disk Copy is available in the Utilities folder.

Disk Copy 6.1 (or later) or Disk Image Mounter 2.1 (or later) from Apple are the recommended applications to access all disk images released by Apple and are the only supported applications to access NDIF disk images.

This article can help you locate the software update mentioned here:

- Article 14724: "**Where To Find Apple Software Updates**" - Lists online services for free Apple software updates.

This article can help you with downloading software:

- Article 75098: "**Help: Downloading Software**"

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Open Transport 1.3: Read Me - Part 2

This Read Me document contains late-breaking information about Open Transport compatibility, add-on software, and solutions to known problems with third-party software. For instructions about how to use the Open Transport control panels (AppleTalk and TCP/IP), see the Open Transport User's Guide. For additional technical information about Open Transport, see the "Open Transport Technical Info" file that came with Open Transport.

Contents:

- Tips for SLIP and PPP Configurations
- Known Limitations and Other Issues

For part two of this read me, refer to article 30411: "**Open Transport 1.3: Read Me - Part 1**".

This article has been archived and is no longer updated by Apple.

Tips for SLIP and PPP Configurations

Some MDEVs are known to be incompatible with other MDEVs. If you experience problems, remove unused MDEVs so that only the MDEVs you need are installed on your computer at a given time. If you still encounter problems, you may have to reduce the number of MDEVs installed to one to prevent conflicts.

Users who dial into a TCP/IP network or Internet Service Provider (ISP) may have been assigned a router (gateway) address that is not a part of their local subnet. This was an accepted but technically invalid configuration for MacTCP. Open Transport users should not enter a value for the router address or subnet mask; Open Transport/TCP generates correct values for these fields automatically. In unusual circumstances, these supplied values can be overridden using the Administration mode of the TCP/IP control panel.

If BootP is used over SLIP or PPP for interface configuration, and if BootP returns additional default router addresses, Open Transport will automatically add those addresses to the list of default routers.

When Open Transport is installed on a computer that previously had MacTCP configured for a server configuration, the initial configuration method‹the selection in the "Configure" pop-up menu in the TCP/IP control panel‹is set for the use of a BootP server. This default may not be the appropriate choice for you; please verify.

If your computer was previously configured for MacTCP "server" addressing and you experience connection difficulties using PPP or SLIP after installing Open Transport, follow these steps:

1. Open the TCP/IP control panel.
2. Choose Using PPP Server or Using SLIP from the Configure pop-up menu.
3. Close the TCP/IP control panel, and save changes when prompted.
4. Try connecting again.

If your computer was previously configured for MacTCP "manual" addressing and you experience connection difficulties using PPP or SLIP after installing Open Transport, follow these steps:

1. Open the TCP/IP control panel.
2. Choose Manual from the Configure pop-up menu.
3. Verify that the correct IP address is entered in the Address field.
4. Close the TCP/IP control panel, and save changes when prompted.
5. Open the configuration utility supplied with your SLIP or PPP software, and verify that it also reflects the correct IP address in the appropriate location. Refer to the documentation supplied with your SLIP or PPP software for further information on how to enter an IP address, and how to save an updated configuration.
6. Try connecting again.

Note: In MacPPP's ConfigPPP control panel, this setting is entered in the IPCP dialog box. Refer to the documentation that came with MacPPP or FreePPP for additional information.

Known Limitations and other issues

The AppleTalk control panel displays separate printer and modem ports on the PowerBook 190. LocalTalk will only work correctly when the modem port is selected in the AppleTalk control panel.

The software that dims the screen of PowerBook Duo computers when the PowerBook is docked and idle is not compatible with Open Transport. Use a third-party screen saver in place of the Apple-provided module.

In some cases, on a PowerBook 190 configured to use the Infrared Port in the AppleTalk "Connect via" pop-up menu, networking services may

become disabled following a sleep/wake or restart. If this happens, try putting the computer to sleep and waking it up again, or use the AppleTalk control panel to temporarily select the modem/printer port before switching back to the infrared port.

On a IIfx or a Quadra 950, Open Transport can only use the "compatible mode" setting in the Serial Switch control panel. Do not use the "faster mode" setting with LocalTalk.

On 68030 and 68040 computers, changes in AppleTalk configurations can cause systems running Meeting Maker 3.5 or 3.5.1 to crash. This can occur when changing AppleTalk links, turning AppleTalk off, or bringing ARA connections up or down. This problem will occur on classic networking as well. Apple is working with ON Technology to resolve this problem.

Open Transport generally requires more memory (RAM) than MacTCP. To conserve memory, you might try some of the following:

- Rename or re-order one or more third-party system extensions (INITs), to change the order in which memory is allocated when your computer starts up. If you use extensions from Global Village, try renaming those extensions so that they load last.
- Especially on PowerPC-based computers, turn on virtual memory. This may affect performance.

When TCP/IP is set to "Load only when needed" (in the control panel's Options window), "pinging" an Open Transport workstation will fail if TCP/IP is not currently being used. To make sure your computer is "pingable" at all times, turn off the "Load only when needed" option (open the TCP/IP control panel and click the Options button, then click the "Load only when needed" checkbox to remove the X) and restart your computer.

When TCP/IP is set to "Load only when needed" (in the control panel's Options window), the first TCP/IP application opened will cause Open Transport to load into memory. Some older applications do not cause Open Transport to load, and then report errors similar to those encountered when MacTCP is not installed. If this is a problem, turn off the "Load only when needed" option (open the TCP/IP control panel and click the Options button, then click the "Load only when needed" checkbox to remove the X) and restart your computer.

The TCP/IP control panel is able to obtain and utilize multiple gateway and name server addresses from DHCP and BootP servers. However, it will currently display only the first one. This should be addressed in a future release.

Generally, you should turn on the "Load only when needed" option in the TCP/IP control panel when using a modem. If TCP/IP is always loaded ("Load only when needed" is not checked), your modem may attempt to initiate a dialup connection at startup. Some MDEVs require more system heap memory than is available at startup, which may cause the computer to hang. Also, some Internet service providers charge by connect time, so you may be charged for the connection, even if you were not using it.

If you use MacSLIP, you should likewise not configure the MacSLIP control panel to initialize MacSLIP at system startup time. As stated above, this may require more system heap memory than is available at startup, which may cause the computer to hang.

If you are experiencing problems when using MacSLIP with virtual memory on, increasing your virtual memory size may give you better results. (Use the Memory control panel to increase virtual memory.)

Some MacTCP-based applications will not function correctly unless the MacTCP DNR file is in its original location at the root level of the System Folder.

You should only specify use of 802.3 framing in the TCP/IP control panel if you have been directed to do so by your network manager, or if you are sure that all other stations on your network segment, including your IP router(s), are also configured to use 802.3 and not Ethernet version 2.0 framing.

Claris Emailer version 1.1 v3 or later and Claris Emailer Lite version 1.1 v4 or later is compatible with Open Transport 1.1.2 and later. Earlier versions of Claris Emailer may not be compatible with Open Transport's "Load only when needed" configuration option. If you experience a system crash 2-3 minutes after quitting Emailer, turn off the "Load only when needed" option. (Open the TCP/IP control panel and click the Options button, then click the "Load only when needed" checkbox to remove the X.)

The current version of the MacTraceRoute Ethernet LAP does not work on computers running Open Transport.

NFS/Share versions 1.4.4 or later are compatible with Open Transport.

When using Netware Client version 5.11 configured for NetwareIP service, the first login may yield a Netware Configuration error message. To avoid this error, open the NetwareIP control panel and change the value under Domain SAP Server (DSS) Retry Attempts from 1 to 2. You can also change Open Transport TCP/IP control panel to always load TCP/IP into memory (open the TCP/IP control panel, click the Options button, and click the "Load only when needed" box to remove the X).

eXodus 5.2.2 and later are compatible with Open Transport.

Versions of Anarchie prior to 1.6 have a data corruption problem when used with Open Transport. Make sure you are using Anarchie 1.6 or later.

If an Apple Remote Access (ARA) user is on a non-routed, extended (Ethernet) network, and there are devices on the local network with the same network number as devices on the remote network, the user will not be able to see the local devices. This problem can be fixed by installing a router. Another workaround is to clear the PRAM on the ARA computer. (Hold down the Command, Option, and PR keys simultaneously while starting up the computer). Clearing PRAM causes the computer to start up with a new network number, which should not conflict with the remote network number.

Daemon 1.0.0 & Daemon Killer 1.0 are not compatible with Open Transport.

MudDweller 1.2 is not completely compatible with Open Transport. You can open new connections, but the ³reconnect² choice does not work correctly.

The system will crash during launch of NetPresenz if Open Transport TCP/IP is configured to use MacIP and the selected zone has no MacIP server.

Current versions of VersaTerm SLIP are not compatible with Open Transport.

Problems can occur with old versions of the KeyServer package from Sassafras Software when TCP/IP is configured to "Load only when needed" (in the control panel's Options window). Contact Sassafras for the latest revisions at <**http://www.sassafras.com**>.

To use the CSI Hurdler serial card with Open Transport, contact CSI to get a copy of their preference file patch. This will enable the card to be compatible with Open Transport 1.1.2.
Published Date: Feb 18, 2012

Macintosh Desktop Printing: "Endless Loop" Issue

As the desktop appears on my Macintosh at startup, I get an error message that says "The file 'xxx' in the desktop printer (desktop folder) is not a valid print file. Moving to the desktop folder." When I click "OK," it duplicates the file in question then gives me the same message again as it comes upon the next file. My Mac seems to be stuck in a loop; what can I do?
This article has been archived and is no longer updated by Apple.
In this situation the Macintosh has mistaken the "desktop folder" for a "desktop printer." At startup, the system attempts to print the files in the "desktop printer."

Note: There may not be a desktop printer icon visible if the hidden desktop folder is being used instead.

When it tries to print the first file, your Macintosh realizes it is not a valid "print file," so it tries to move it to the desktop and gives you the error message. Macintosh then moves the file to the desktop folder (duplicating the file that is already on the desktop) and gets caught in this loop.

BACKGROUND:
For all practical purposes, a desktop printer is simply a special folder that the Macintosh is constantly watching. When you issue a print command, Mac creates a "print file" that contains the instructions that are sent to the printer, and then places that file in the desktop printer folder. Once the Macintosh realizes there is something in the desktop printer folder, it checks it to make sure it's a valid print file, then sends it to the printer. If it is not a valid print file, Mac moves it to the desktop.

SOLUTION:
Neither a clean install nor resetting the PRAM typically resolves this issue.

Solving this issue requires removing all files from the desktop so the Macintosh does not try to print anything at startup. Starting up from the CD does not allow you to do this since the desktop folder is locked when you have started up from a CD.

Steps to resolve this issue:
Note: If you have a Disk Tools or another start-up floppy disk from which to start up the computer, skip to step 4.

1. Start up from the System CD.
2. Find the Disk Tools or Disk Images folder.
3. Use Disk Copy to make a Disk Tools floppy disk.

(Be sure to use the correct disk image:
-Disk Tools 1 is for computers that do not have a PowerPC processor, but do have a SCSI hard drive.
-Disk Tools 2 is for computers with IDE hard drives, regardless of processor)

4. Restart the computer using Disk Tools.
5. Make a new folder in the hard disk window.
6. Drag all the icons that are on the desktop (except for the hard drive, floppy disk, and trash can icons) into this new folder. A quick way to accomplish this is to select a single icon on the desktop, choose "Select All" from the Edit menu, then hold down the Shift key while deselecting the hard drive, floppy disk, and trash can icons. Release the shift key, then click-and-drag the highlighted icons into the new folder.
7. Restart the Macintosh from the hard disk.
8. Open the Chooser and select another printer. It does not matter which printer you choose, because you are simply choosing another printer to force the Macintosh to create another desktop printer.

The Macintosh should now see the new desktop printer and be out of the print loop.

NOTE: This issue should not occur under OS 8.1.
Published Date: Feb 18, 2012

At Ease 5.0.1: Updater Application Read Me

This document describes the At Ease 5.0.1 Updater application, which updates At Ease for Workgroups version 5.0 software to version 5.0.1.

At Ease 5.0.1 Updater was released on February 18, 1998. This update requires At Ease for Workgroups version 5.0 software, which is part of the Apple Network Administrator Toolkit, version 2.0.
This article has been archived and is no longer updated by Apple.
Description:
This software updates At Ease for Workgroups version 5.0 software to version 5.0.1.

At Ease for Workgroups 5.0.1 provides these improvements:

- The At Ease server now better handles multiple simultaneous connections.
- At Ease prevents the system file on a workstation from being corrupted.
- You can now use an AppleShare IP 5.0.2 Web server to allow users to access the At Ease server from the Internet. Compatibility issues have also been addressed with WebSTAR 2.1.
- You can now run the At Ease Web services on the same computer as the At Ease server.
- At Ease clients with AppleShare Client version 3.7 or greater installed now connect properly to AppleShare IP server volumes using TCP/IP.

Using MacOS 8.1 and Extended Disk Volumes
At Ease for Workgroups version 5.0.1 is compatible with Mac OS version 8.1 with the exception that the disk security feature, when used with extended disk volumes (also known as HFS+), will do nothing.

Running the At Ease Server and Web Server on the same computer:
At Ease 5.0.1 now allows you the option of running the web server on the same computer as your At Ease server.

You do this by installing the web server (or use the existing AppleShare IP 5.0.2 or later web service) on your At Ease server computer. You should also install the At Ease Web Agent extension on your server. Note that you must use version 5.0.1 of the At Ease Server extension, otherwise the At Ease web plug-in will not be able to locate the At Ease server. You will need to restart your server after installing this extension.

Next, run the At Ease Administration program and use the Configure Web Server menu command to locate your web server. You can also set other options at this time.

Finally, restart your server computer once more and run the web service.

Requirements for Updating
At Ease 5.0.1 Updater application only updates At Ease for Workgroups version 5.0 software, which is part of the Apple Network Administrator Toolkit, version 2.0.

IMPORTANT You cannot use the At Ease 5.0.1 Updater to update versions of At Ease for Workgroups older than version 5.0. If you have an older version of At Ease for Workgroups, you must obtain At Ease for Workgroups 5.0 and install it before you can use this Updater.

Updating At Ease for Workgroups
To use At Ease for Workgroups version 5.0.1, you need to update the At Ease software on the following computers:

- any At Ease servers
- your Web server, if you allow users to access the At Ease server from the Internet using a Web browser
- all administrator and user workstations

The following sections describe how to update each of these computers

Updating Your At Ease Server

To update your At Ease server, you must replace the At Ease Server 5.0 extension on your server with this new version.. The Updater can not do this.

To update the At Ease Server extension, follow these steps:

1. On your server, open the Extensions Manager.

2. In the list of Extensions, locate the At Ease Server 5.0 extension and click to turn off the extension.

Note: Doing this moves the At Ease Server 5.0 extension to the Extensions (Disabled) folder in the System Folder. You can drag the extension to the Trash later.

3. Locate your copy of the At Ease Server 5.0.1 extension (still called At Ease Server 5.0) and drag it to the System Folder on your server.

4. A dialog box appears telling you that the file needs to be placed in the Extensions folder. Click OK.

5. Restart your server.

Updating Your Web Server
If you allow users to access the At Ease server from the Internet using a Web browser, you need to replace two files on your Web server to work with At Ease version 5.0.1:

- At Ease Web Helper
- Web_At_Ease_PlugIn

The Updater can not update these files.

To update these files on your Web server, follow these steps:

1. On your Web server, locate the new files and drag them to the Web server plug-ins folder. In many cases the location of these files will be inside a folder called AtEaseWebPlugIn.

2. A dialog box appears asking if you want to replace the older files. Click OK.

In addition, users who access the server from the Internet using Mac OS computers, must use the new version of At Ease Web Helper. Make copies of At Ease Web Helper so that they can copy them to their computers. They also need to drag the old version of At Ease Web Helper to the Trash. (A copy of the At Ease Web Helper is also placed in the AtEaseWebPlugIn folder on the web server to allow users to download the file remotely.)

Updating Administrator and User Workstations
You can use the Updater program to update administrator and user workstations. When you use the Updater to update a workstation, it attempts to locate three files:

- At Ease
- At Ease Startup
- At Ease

In most cases the Updater can find all of these files and updates them automatically. However, if it cannot find a file, a dialog box appears for you to locate the file. If you cannot locate the file, or if you know the file does not exist on the workstation, click Skip to bypass that file. For example, you may need to do this if you want to update just the At Ease Administration program on your workstation because it does not also have the workstation software installed on it.

If the Updater finds more than one copy of a file, a dialog box appears asking if you want to remove the extra copies. You must remove these extra copies before you can update the file. You can have the Updater remove the extra copies automatically, or you can cancel the update and remove the extra files yourself by dragging them from the Extensions folder in the System Folder. If you cancel the update, the Updater does not change any files.

There are three ways you can update At Ease for Workgroups 5.0 using the Updater:
· use Network Assistant (version 3.0 or later)
· from a floppy disk
· over the network

The following sections explain how to update the software using each method.

Using Network Assistant to Update At Ease for Workgroups
You can use Network Assistant (version 3.0 or later) to update the At Ease software on all the workstations on your network. If you use Network Assistant, you don't have to visit each workstation because you can be done everything from your administrator's workstation using the Network Assistant application.

TA38464_At_Ease_Updater_Application_Read_Me.pdf

Here are some important things to know before you start:

- To use Network Assistant to update the software, the administrator and user workstations on your network must have the Network Assistant workstation software installed on them.
- To update workstations using Network Assistant, these access privileges for the workstation must be selected in the Network Assistant Security window: "Allow administrators to," "Restart and shut down this workstation," "Copy items to this workstation," and "Delete and Replace items on this workstation."
- To use Network Assistant to update the software, you must first update one workstation either from a floppy disk or over the network as described in the following sections. You'll probably find it most convenient to update your administrator workstation first, then update the other workstations from it.
- On your administrator workstation, you must have installed both the At Ease administrator and user workstation software so that the Updater updates all the At Ease software.

To use Network Assistant to update At Ease for Workgroups, follow these steps:

1. Open the At Ease Administration application and turn off At Ease. Quit when you're finished.

Note: Make sure that you are administering the At Ease server you want to do update. If it isn't, connect to the correct server as described in your At Ease for Workgroups documentation.

2. Update the At Ease software on your administrator workstation using the Updater program.

Note: You can do this from a floppy disk or over the network as described in the next sections.

3. Open Network Assistant, enter your password, and click OK.

4. In the Workstation Status window hold down the shift key and and click to select each workstation which you want to update to At Ease 5.0.1.

Note: If workstations that you need to update do not appear in the Workstation Status window, you need to add them to the list. (See your Network Assistant documentation.)

4. Choose Restart from the Manage menu.

5. In the dialog box that appears, click "Let users save their work" and then click Restart.

6. When the workstations have restarted, select them again in the Workstation Status window

7. Choose Copy Items from the Manage menu.

8. In the Copy Items dialog box, leave "name" selected in the first pop-up menu, choose "is" in the second pop-up menu, and type "At Ease" in the text box.

9. Click Find.

10. In the "Items found on" list, select "At Ease."

IMPORTANT: If more than one "At Ease" item appears in the list, be sure that the one you select shows the following information at the bottom of the dialog box:

- Kind is "system extension"
- Location ends with ":System Folder:"

11. Be sure that "same relative location" is selected in the "Place items in" pop-up menu.

12. Click Copy.

13. A dialog box appears to warn you that the item already exists. Click Replace.

Network Assistant copies the "At Ease" file to the workstations you selected. Continue when Network Assistant finishes copying the file.

14. Change the text box in the Copy Items dialog box to "At Ease Startup."

15. Click Find.

16. In the "Items found on" list, select "At Ease Startup."

IMPORTANT If more than one "At Ease Startup" item appears in the list, be sure that the one you select shows the following information at the bottom of the dialog box:
Kind is "system extension"
Location ends with ":System Folder:Extensions:"

17. Be sure that "same relative location" is selected in the "Place items in" pop-up menu.

18. Click Copy.

19. A dialog box appears to warn you that the item already exists. Click Replace.

Note: Network Assistant copies the "At Ease Startup" file to the workstations you selected. Continue when Network Assistant finishes copying the file.

20. Click Close Window to close the Copy Items dialog box.

21. Open At Ease Administration and turn on At Ease.

Note: Make sure that you are administering the At Ease server you want to do update. If it isn't, connect to the correct server as described in your At Ease for Workgroups documentation.

22. In Network Assistant, choose Restart from the Manage window.

23. Quit the Network Assistant application program.

Updating At Ease for Workgroups From a Floppy Disk
This section describes how to update workstations using the Updater application on a floppy disk.

Note: To create a floppy disk of the At Ease 5.0.1 Updater application, locate the online image of the Updater and use the Disk Copy application to copy it to the floppy disk.

IMPORTANT Before you start, open At Ease Administration and turn off At Ease.

To update At Ease from a floppy disk, follow these steps on each At Ease administrator and user workstation:

1. Restart the workstation. The Finder will appear instead of At Ease.

2. Insert the floppy disk containing the Updater application.

3. Double-click the At Ease 5.0.1 Updater application to open it.

4. Click Begin.

The Updater performs the update unless it cannot locate a file or it locates extra copies of a file.

If the Updater cannot find a file to update, a message appears asking you to locate the file. Do one of the following:

- Locate the missing files and start the update again.
- If you cannot find the At Ease or At Ease Startup files and you want to continue the update, click Skip.
- If you want to stop the update, click Cancel.

If the Updater application locates extra copies of a file, a message appears asking you to remove the files. Do one of the following:

- Click to have the Updater remove the files.
- Cancel the update so that you can remove them.

IMPORTANT: You must remove the files to use the Updater.

5. When you have updated all the administrator and user workstations on your network, open At Ease Administration and turn on At Ease.

6. Restart each workstation. At Ease will appear.

Updating At Ease for Workgroups Over the Network

This section describes how to update At Ease for Workgroups over a network.

First, perform the following steps on an administrator workstation:

1. Copy the Updater application to an AppleShare server volume to which your At Ease workstations have access.

2. Make sure the Updater application is locked.

To do this, select the Updater's icon in the Finder, choose Get Info from the File menu, then click to put an X in the checkbox labeled "Locked."

3. Open At Ease Administration and turn off At Ease.

To update a workstation, follow these steps:

1. Restart the workstation.

The Finder will appear instead of At Ease.

2. Mount the server volume that contains the Updater application and locate it.

3. Double-click the Updater application to open it.

4. Click Begin.

The Updater performs the update unless it cannot locate a file or it locates extra copies of a file.

If the Updater cannot find a file to update, a message appears asking you to locate the file. Do one of the following:

- Locate the missing files and start the update again.
- If you cannot find the At Ease or At Ease Startup files and you want to continue the update, click Skip.
- If you want to stop the update, click Cancel.

If the Updater application locates extra copies of a file, a message appears asking you to remove the files. Do one of the following:

- Click to have the Updater remove the files.
- Cancel the update so that you can remove them.

IMPORTANT: You must remove the files to use the Updater.

5. When you have updated all the administrator and user workstations on your network, open At Ease Administration and turn on At Ease.

6. Restart each workstation. At Ease will appear.
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At Ease 5.0.1: Web Extras Read Me

This document describes the At Ease 5.0.1 Web Extras update. The web extras require that you install and upgrade your existing At Ease to version 5.0.1. Please read the Read Me that came with the At Ease 5.0.1 Updater disk for more information.

At Ease 5.0.1 Web Extras was released on February 18, 1998. This update requires At Ease for Workgroups version 5.0.1
This article has been archived and is no longer updated by Apple.
Description:
At Ease 5.0.1 Web Extras update includes two updated files: Web_At_Ease_PlugIn and At Ease Web Helper. At Ease 5.0.1 allows you the option of running the web server on the same computer as your At Ease server. Web_At_Ease_PlugIn now provides support for AppleShare IP 5.0.2revB server and WebSTAR 2.1 server. At Ease Web Helper is updated to support the AppleShare IP and WebSTAR server. Please see the Read Me included with this software for complete information.

Using AppleShare IP Web Service with At Ease

- With this version, you can now use the AppleShare IP 5.0 web service with At Ease's web plug-in.
- Fixed problems with newer WebSTAR versions
- WebSTAR version 2.1 is now compatible with At Ease 5.0.1.

Running the At Ease Server and Web Server on the Same Computer
At Ease 5.0.1 now allows you the option of running the web server on the same computer as your At Ease server.

You do this by installing the web server (or use the existing AppleShare IP web service, if you have it) on your At Ease server computer. You should also install the At Ease Web Agent extension on your server. Note that you must use version 5.0.1 of the At Ease Server 5.0 extension, otherwise the At Ease web plug-in will not be able to locate the At Ease server. You will need to restart your server after installing this extension.

Next, run the At Ease Administration program and use the Configure Web Server menu command to locate your web server. You can also set other options at this time.

Finally, restart your server computer once more and start up the web service.

Fixed &quot Information on Main Welcome HTML Page

On some newer browsers, when you view the initial welcome page, you may see the characters "&quot" near the top of the screen. This problem has been fixed in the updated Welcome1.html file.

Updating Your Web Server
If you allow users to access the At Ease server from the Internet using a Web browser, you need to replace three files on your Web server to work with At Ease version 5.0.1:

· At Ease Web Helper
· Web_At_Ease_PlugIn
· Welcome1.html

To update these files on your Web server, follow these steps:

1. On your Web server, locate the new files and drag them to the Web server plug-ins folder. In many cases the location of these files will be inside a folder called AtEaseWebPlugIn.

2. A dialog box appears asking if you want to replace the older files. Click OK.

In addition, users who access the server from the Internet using Mac OS computers, must use the new version of At Ease Web Helper. Make copies of At Ease Web Helper so that they can copy them to their computers. They also need to drag the old version of At Ease Web Helper to the Trash. (A copy of the At Ease Web Helper is also placed in the AtEaseWebPlugIn folder on the web server to allow users to download the file remotely.)
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LaserWriter 8500: Fuser Cover Open Error

I have just installed a LaserWriter 8500 duplex unit and now when I try to print I get an error that the fuser cover door is open.
This article has been archived and is no longer updated by Apple.
You have most likely removed the entire fuser cover door instead of just the plastic trim "fuser cap" as described in the user guide.

Look carefully at the illustration of the fuser cap in Chapter 5 of the user guide and ensure that your printer looks the same. Remove only the fuser cap, and not the entire fuser door which should remain attached to the printer. The fuser cap has a rough exterior finish and contains no cutouts while the fuser cover door has a smooth finish and has a cutout big enough for the paper to travel through when entering the duplex unit.
Published Date: Feb 18, 2012

LaserWriter 8500: Accidentaly Removing Roms

Although clearly marked on the I/O board as ROM, some users are mistaking the socketed ROM simms in the LaserWriter 8500 for RAM and are subsequently removing them when attempting a RAM upgrade.
This article has been archived and is no longer updated by Apple.
In replacing the simm, users need to take note of the sticker on the ROM simm that says "even" or "odd". The two sockets on the board are also marked and distinguished as "even" or "odd". ROMs should be inserted accordingly.

The LaserWriter 8500 has only one socket for a 72 pin simm. For more information on installation of RAM, consult the user guide or see an Apple Authorized Service Provider.
Published Date: Feb 18, 2012

Locate your iPod serial number in iTunes 6

This article has been archived and is no longer updated by Apple.

If you have iTunes 6 installed on your computer, you can use it to display the serial number of a connected iPod. To do this:

1. Connect your iPod to your computer and wait for it to show in iTunes.
2. Open iTunes preferences.
   Mac users: From the **iTunes** menu, choose **Preferences**.
   Windows users: On the **Edit** menu, click **Preferences**.
3. In the resulting dialog, click the iPod tab; iPod preferences displays your iPod Software version number in the upper-right corner of the pane.

4. Click on the version number to reveal your iPod serial number. **Note**: You can then choose **Copy** from the **Edit** menu to copy the visible serial number to the clipboard which can then be pasted into any any text editor, e-mail, or web page form such as Apple - Support - iPod Service (requires iTunes 6.0.2 or later).

If your iPod isn't currently connected to your computer but was connected previously, follow these steps to display the serial number of the last used iPod:

1. Open iTunes preferences.
   Mac users: From the **iTunes** menu, choose **Preferences**.
   Windows users: On the **Edit** menu, click **Preferences**.
2. Click the iPod tab; the pane displays a "No iPod connected" message.

3. Click on the message to reveal the serial number of the last iPod connected to the computer. **Note**: You can then choose **Copy** from the **Edit** menu to copy the visible serial number to the clipboard which can then be pasted into any text editor (requires iTunes 6.0.2 or later).

If you have a later version of iTunes or for other ways to find your iPod serial number, see this document.

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AppleShare PC and MS-DOS: Memory Problem Workaround

This article has been archived and is no longer updated by Apple.

Some users have experienced a memory problem when trying to load the AppleShare PC software and an MS-DOS application at the same time.

In the MS-DOS world, there are a number of programs that manage DOS TSR (Terminate and Stay Resident) programs. One such program that Apple engineers have used is a public domain package called "TSR 1.7". There are other programs that work in the same manner which may also serve the purpose.

By combining one of these TSR managers and the AppleShare PC software, we were able to load and unload AppleShare PC at will. The basic flow of the MS-DOS .BAT files:

```
.BAT file to load AppleShare PC
ECHO OFF
CD C:\\UTILITY
MARK
AppleTalk
CD \\ASHAREPC
... rest of AppleShare PC batch file commands
CD \\

.BAT file to unload AppleShare PC
ECHO OFF
CD \\ASHAREPC
ANET LOGOFF /ALL -- Disconnect all connections from
AppleShare PC. This is imperative for
MS-DOS ReDirector to function properly and
AppleShare to know who's logged on at the
current time.
CD \\UTILITY
RELEASE
CD \\
COMMAND C:\\ /P -- Load a new copy of the DOS Command Processor.
We had some problems with either
AppleShare PC or the TSR Manager and
discovered that reloading COMMAND.COM fixed
the memory problems. After this command,
DOS is at the root directory.
```

Published Date: Feb 18, 2012

Using iTunes 6 to determine iPod‘s software version

This article has been archived and is no longer updated by Apple.

If you have iTunes 7 or later, click here for other methods to find your iPod serial number.

Using iTunes 6 to determine iPod's software version

1. Download and install iTunes 6.0.1 or later
2. Launch iTunes, connect your iPod, and wait until it appears in the Source pane.
3. Open Preferences.
   - In Windows: On the **Edit** menu, click **Preferences**.
   - On a Mac: From the **iTunes** menu, choose **Preferences**.
4. Click the iPod button in the Preferences window and note the iPod software version.

Using iPod Updater to determine iPod's software version

1. Download and install the latest iPod Updater
2. Launch the latest iPod Updater by navigating to to following location:
   - Windows XP: `C:\\Program Files\\iPod` or on the **Start** menu, point to **All Programs** and then point to **iPod**.
   - Mac OS X: `/Applications/Utilities/iPod Software Updater`
3. Connect your iPod, and wait until it appears in iPod Updater.

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Using iPod Updater to update iPod

This article has been archived and is no longer updated by Apple.

If you need to update or restore an iPod shuffle, then click here. If you have iTunes 7 or later, click here. Note that iPod Updater cannot update iPod models released on or after 2006-09-12.

Background

First, it is important to understand the difference between "update" and "restore."

"Update" simply updates the software that controls iPod and may also update the firmware for the hard drive. Update does not affect the songs and files stored on iPod.

"Restore" erases the iPod and restores it to its original factory condition. Because restoring iPod erases all of the songs, videos, photos, and files on iPod, make sure to back up your files first.

For instructions on how to restore iPod, see "Restoring iPod to factory settings".

How to update iPod for Windows using Windows XP or Windows 2000

If you are using Windows ME and the original iPod, click here.

1. Download and install the iPod Updater from http://www.apple.com/support/downloads/ipodupdater20060628.html.

   From time to time Apple expects to release versions of this application that have newer versions of iPod software. These later versions may include new functions or improvements to existing features. You can check to see if the latest iPod Updater contains new software for your iPod by comparing the software version listed on the iPod Updater download page for your model iPod to the version currently installed on your iPod. To learn how to check your current version, click here. If you're not sure what iPod model you have, click here.
2. Connect your iPod to your computer using the USB or FireWire cable that came with your iPod.
3. If the iPod Updater you just installed contains newer software for your iPod, you will be prompted to update your iPod after you connect it to your PC as shown below. Simply select Run Updater and the iPod Updater will open. Click Update to start the process.

   If you want to manually launch the iPod Updater, follow these steps:
   1. On the **Start** menu, point to **All Programs**.
   2. Point to **iPod** under **All Programs**.
   3. Point to the most recent iPod Updater listed and then click the **iPod Updater YYYY-MM-DD**.

   Alternatively, in My Computer, try entering the following address:
   `C:\\Program Files\\iPod\\`
   Then, open the latest "iPod Updater YYYY-MM-DD" folder and then launch the iPod Updater application.

4. If your iPod is formatted for a Mac, you will not be able to update your iPod using a PC unless you restore it. You will see a message on your PC saying that your iPod is not readable and that it needs to be formatted. If this applies to your iPod please read the this procedure.
5. Depending on the model iPod you have and whether you are using a USB or FireWire connection to connect your iPod, you may be asked to leave you iPod attached to the computer for the update to complete **or** you may be asked to connect the iPod to the iPod Power Adapter that came with your iPod (not all iPod models ship with a power adapter). Be sure to follow the onscreen instructions to complete the update. After reading the instructions you can close the iPod Updater.
6. During the update process, you will notice an Apple logo and progress bar appear on the iPod display. Once this is completed, you can resume normal use of your iPod. If you notice a different icon on the iPod screen read this article and the follow the related instructions.

How to update iPod for Macintosh

This procedure assumes that the default iPod preference prompting iTunes to automatically open whenever you connect iPod to your Mac has not been changed.

1. Download and install the iPod Updater from http://www.apple.com/support/downloads/ipodupdater20060628.html.

   From time to time Apple expects to release versions of this application that have newer versions of iPod software. These later versions may include new functions or improvements to existing features. You can check to see if the latest iPod Updater contains new software for your iPod by comparing the software version listed on the iPod Updater download page for your model iPod to the version currently installed on

your iPod. To learn how to check your current version, click here. If you're not sure what iPod model you have, click here.

2. Connect your iPod to your Mac using the USB or FireWire cable that came with your iPod.
3. If the iPod Updater you just installed contains newer software for your iPod, iTunes will prompt you to update your iPod after you connect it to your Mac as shown below. Simply click OK and iTunes will open the iPod Updater and install the newer software onto your iPod. If you previously opted to not receive notifications about iPod Updates, simply open the latest iPod Updater in the iPod Software Updater folder. This folder is located inside the Utilities folder inside of the Applications folder (`/Applications/Utilities/iPod Software Updater`).

4. Depending on the model iPod you have and whether you are using a USB or FireWire port to connect your iPod, you may be asked to leave you iPod attached to the computer for the update to complete **or** you may be asked to connect the iPod to the iPod Power Adapter that came with your iPod. Be sure to follow the onscreen instructions to complete the update (not all iPod models come with an iPod Power Adapter).
5. If your iPod is formatted for Windows, the iPod Updater will be unable to simply update your iPod and a restore will be necessary to complete the update on your Mac. If this applies to your iPod please read the this procedure.
6. During the update process, you will notice an Apple logo and progress bar appear on the iPod display. Once this is completed, you can resume normal use of your iPod. If you notice a different icon on the iPod screen read this article and the follow the related instructions.

Related documents

93936: "iPod iconology or what does this picture on my iPod mean?"
60983 "Restoring iPod to factory settings"
60984 "iPod: How to find software version"
61594: iPod: About Software Update
Published Date: Feb 18, 2012

Syncing videos to your iPod with iTunes 6

This article has been archived and is no longer updated by Apple.

If you have iTunes 7 or later, click here for steps to sync video.

If you have a Fifth Generation iPod, you can use iTunes to add or sync videos to your iPod just like you do with your music. If you've set iTunes to manually manage your music, you can add videos to your iPod in the same manner—just drag and drop videos or a playlist of videos onto your iPod icon in the iTunes Source pane.

If you've set iTunes to automatically sync music to your iPod (or you've set it to sync music in selected playlists only), you've already done half of what's needed to sync video to the Fifth Generation iPod. Here's how to complete the process.

1. Connect your Fifth Generation iPod to your computer, then open iTunes.
2. Open iTunes Preferences.
   Mac users: From the **iTunes** menu, choose **Preferences**.
   Windows users: On the **Edit** menu, click **Preferences**.
3. Click the iPod tab, then click the Videos tab below it.
4. Select one of the following options to set video syncing:

   - If you'd like to have iTunes sync all of the videos in your iTunes library to your iPod, select "Automatically update all videos."
   - If you'd rather have iTunes sync only videos in selected playlists, select "Automatically update selected playlists only," then select the checkbox next to any playlist you want to sync.
   - If you don't want to add any videos to your iPod, select "Do not update videos." Please note that if you currently have videos synced to your iPod and then select this option, it will remove the videos from your iPod.
5. Click OK.

Once you close iTunes Preferences, iTunes will begin updating your iPod based on the preferences you've selected.

Note: If you manually manage your audio files, you must manually manage your videos. If your iPod automatically updates your audio files, you must choose one of the two automatic update options for video or choose not to update videos. If the iPod is linked to another iTunes library for automatic music syncing, you must change the link to the current iTunes library or change the music sync setting to manual in order to sync videos to the iPod.

For additional information about using your Fifth Generation iPod, see the iPod Tutorial.

Published Date: Feb 18, 2012

PC Exchange 2.2: 1GB or Large Volume Support

The Read Me file from Mac OS 8.1 states that PC Exchange 2.2 can support volumes larger than 1 GB. I am trying to mount a 1.5 GB removable cartridge and get an error message.

The error message received is "PC Exchange cannot mount this volume because it's allocation block size is greater than or equal to 32k." Further testing by both users confirms that it still mounts fine if formatted to a 1 GB volume.

What is wrong?
This article has been archived and is no longer updated by Apple.
PC Exchange 2.2 does support volumes larger than 1 GB but they must be formatted as FAT32 volumes. FAT32 is a new volume format available with Windows 95 OSR2. This format allows for smaller allocation blocks on larger volumes sort of the same way HFS Extended does for the Macintosh.

The previous volume format is FAT16 and volumes up to 1 GB are supported by PC Exchange.
Published Date: Feb 18, 2012

PowerBook 190/5300: Repair Extension Program Letter

This is the letter that was sent out to PowerBook 5300 and 190 owners on July 13, 1996.
This article has been archived and is no longer updated by Apple.
Repair Extension Program Letter

Tag: An Important Apple Service Notification

John A. Sample
xyz Company
123 Anystreet
Anytown, USA 12345

Dear Mr. Sample,

Apple is committed to providing very high-quality products to our customers. Our commitment to quality is essential for maintaining the loyalty of valued customers like you. That is why we are asking you to carefully review this notice concerning quality issues with some PowerBook 5300 and PowerBook 190 models.

The Apple PowerBook Repair Extension Program (Models 5300, 5300c, 5300ce, and 5300cs; 190 and 190cs)

Apple has identified certain quality issues with PowerBook 5300 and PowerBook 190 computers about which we wish to inform you. To address these issues so your PowerBook computer operates correctly, Apple has instituted a Repair Extension Program. Under the Repair Extension Program, Apple or an Apple Authorized Service Provider will inspect and, if appropriate, repair any of the specific issues Apple has identified. This will be done at no expense to you for as long as Apple services these products, which in the United States is seven years after we stop manufacturing the product.

Repair Extension Program Quality Issues:
To determine whether your PowerBook computer may be affected, please review these questions:

PowerBook 5300 and PowerBook 190 computers:

- Is the plastic housing that holds your video display starting to separate at the seams, most likely in the lower left or lower right corners?
- Is the AC power connector on your PowerBook computer loose or inoperative?
- While using PC cards that may draw higher levels of power, does your system seem to "hang" so that the cursor moves but the mouse button has no effect?

PowerBook 5300 computers only:

- Does your PowerBook computer take almost twice as long to boot when plugged into AC power than when running off the battery alone?
- When connected to large LocalTalk networks does your PowerBook drop off the network?

If any of these conditions apply to your system, Apple encourages you to participate in the Repair Extension Program. Even if you are not currently experiencing any of these particular quality issues, we encourage you let Apple inspect your system and make any appropriate updates. Again, this will be done at no cost to you. All you need to do is call 1-800-801-6024 [[updated to 1-800-SOS-APPL]] and we will be happy to assist you. If the third, fourth, and fifth characters of the serial number of your system are above xx622xxxxxx, you should not be experiencing the issues described in this specific Repair Extension Program.

Repair Process
All you need to do is call 1-800-801-6024 [[updated to 1-800-SOS-APPL]]. An Apple customer service representative will work with you to schedule an inspection and, if needed, repair for your system. Apple will send you a freight-paid shipping box for your PowerBook computer and inform you of the pick-up time and expected return date. (We will be shipping your PowerBook computer via next-day air to minimize the amount of time you will be without your computer.) Before shipping your PowerBook computer to the Repair Extension Program center, please remember to back up all data on your hard disk drive. Because of constrained parts inventory and repair center capacity, Apple may be required to schedule repairs several weeks in advance. If your system is functioning adequately, you may wish to wait a few weeks before calling to schedule a repair. The 1-800-801-6024[[updated to 1-800-SOS-APPL]] number provides information on how far in advance we are currently scheduling repairs. If you believe you are experiencing problems with your PowerBook computer that are unrelated to this special program, please call 1-800-SOS-APPL for assistance.

NOTE: MAC OS UPDATE
If your PowerBook computer is running an earlier version of Mac OS, Apple will automatically update your system software to Mac OS 7.5.2 with Enabler 1.2.1. We believe this update will enhance the performance and reliability of your PowerBook computer.

We regret any inconvenience these quality issues may have caused you and we are dedicated to getting your PowerBook computer repaired and

returned to you as quickly as possible. Thank you for your patience.

Sincerely, Jackie Whiting
Vice President, Apple Customer Service
Apple Computer, Inc.
Published Date: Feb 18, 2012

Using iPod with multiple computers with iTunes 6

This article has been archived and is no longer updated by Apple.

You can manage your iPod with different computers as long as the computers are running the same operating system (Mac OS X or Windows) and you have set the iPod to "manually manage songs and playlists." If you have iTunes 7 or later, click here.

Using an iPod formatted for Macintosh on a Windows computer is not supported. Using an iPod formatted for Windows on a Macintosh computer is not supported. To determine your iPod's hard disk format see "iPod: How to determine iPod's hard disk format." To change the iPod format you will need to restore iPod using the Macintosh version or the Windows version of the iPod Updater. For more information on the how to restore iPod with the iPod Updater application see "Restoring iPod to factory settings."

Modes

By default iPod is set to "Automatically update all songs and playlists" sometimes called automatic mode. In order to transfer music from multiple computers iPod must be set to "Manually manage songs and playlists" sometimes referred to as manual mode.

Automatic Mode

When iPod is set to either "Automatically update all songs and playlists" or "Automatically update selected playlists only," iTunes automatically updates iPod's music library whenever you connect iPod to your computer. iTunes transfers new songs you've added, and erases songs you've removed. However, the first computer you connect iPod to is its "home" computer, and the music library from that computer is copied to iPod. When you connect iPod to another computer, an alert box appears with this message:

> "The iPod "iPod" is linked to another iTunes music library. Do you want to change the link to this iTunes music library and replace all existing songs and playlists on this iPod with those from this library?"

If you want to delete the music library on iPod and make the second computer iPod's "home" computer. Click Yes. iTunes will delete all songs and playlists on the iPod, and then will copy the music library and playlists from the new home computer to iPod.

Manual Mode

If you want to keep the music library on iPod, but copy songs or playlists from the music library on the second computer, click No to this dialog box, and then set iPod to manual mode.

You change the iPod synchronization mode to manual mode in iTunes in the iPod Preferences:

1. Open iTunes, if necessary.
2. Select iPod in the Source listing.

3. Click the iPod Options button (located in the bottom right hand corner of the iTunes window). You can also access iPod Preferences under the Edit menu in Windows or the iTunes menu in Mac OS X.

iPod Options button

4. Click "Manually manage songs and playlists" to enable that option.

5. Click OK.

It is normal for iPod to take a few seconds to change from automatic mode to manual mode.

When in manual mode, to add songs or playlists drag them from iTunes to the iPod icon in the Source listing. To remove songs or playlists select them on the iPod in iTunes and hit the delete key. You can also create playlist directly on the iPod.

Important: Synchronization occurs only in one direction, from your computer to your iPod. This means you cannot transfer music, automatically or manually, from your iPod to a computer. However, if you are legally allowed to transfer song files, you can use your iPod as a hard disk.

Related documents
93856: Both of your computers think they "own" your iPod

A note about copyright

iTunes software and iPod may be used to reproduce materials. It is licensed to you only for reproduction of non-copyrighted materials, materials in which you own the copyright, or materials you are authorized or legally permitted to reproduce. If you are uncertain about your right to copy any material, you should contact your legal advisor. See the iTunes Store Terms of Service for additional information.

Published Date: Feb 18, 2012

Newton Print Pack 2.0: Compatible Printers (A - B)

The following table is a list of printers compatible with Newton Print Pack 2.0.
This article has been archived and is no longer updated by Apple.

Company	Printer	Driver
Acer	AcerLaser IIIG	LaserJet II
Acer	LP-75	LaserJet II
Acer	LP-76	LaserJet II
ACOM Computer, Inc.	LX-4808	LaserJet II
ACOM Computer, Inc.	LX-5824	LaserJet II
ACOM Computer, Inc.	MC-5812	LaserJet II
ACOM Computer, Inc.	MC-5815	LaserJet II
Advanced Matrix Technology	Accel-212	Epson FX
Advanced Matrix Technology	Accel-213	Epson FX
Advanced Matrix Technology	Accel-214	Epson FX
Advanced Matrix Technology	Accel-241	Epson LQ
Advanced Matrix Technology	Accel-242	Epson LQ
Advanced Matrix Technology	Accel-242d	Epson LQ
Advanced Matrix Technology	Accel-243	Epson LQ
Advanced Matrix Technology	Accel-244	Epson LQ
Advanced Matrix Technology	Accel-244 Personal Plotter	Epson LQ
Advanced Matrix Technology	Accel-244d	Epson LQ
Advanced Matrix Technology	Accel-292	Epson FX
Advanced Matrix Technology	Accel-294	Epson FX
Advanced Matrix Technology	Accel-342	Epson LQ
Advanced Matrix Technology	Accel-342d	Epson LQ
Advanced Matrix Technology	Accel-344	Epson LQ
Advanced Matrix Technology	Accel-344d	Epson LQ
Advanced Matrix Technology	Accel-500	Epson LQ
Advanced Matrix Technology	Accel-525	Epson LQ
Advanced Matrix Technology	Accel-535	Epson LQ
Advanced Matrix Technology	Accel-535 Full-Deck	Epson LQ
Advanced Matrix Technology	Accel-535 Intelli-Plot Turbo	Epson LQ
Advanced Matrix Technology	Accel-535d	Epson LQ
Advanced Matrix Technology	Accel-535dsi	Epson LQ
Advanced Matrix Technology	Accel-535si	Epson LQ
Advanced Matrix Technology	Accel-635	Epson LQ
Advanced Matrix Technology	Accel-635d	Epson LQ
Advanced Matrix Technology	MacDot	Epson LQ
Advanced Matrix Technology	Office Printer Plus	Epson LQ
Advanced Matrix Technology	TracJet	LaserJet II
Advanced Matrix Technology	TracJet 4	LaserJet II
Advanced Matrix Technology	TracJet II	LaserJet II
Advanced Matrix Technology	TracJet III	LaserJet II
Advanced Technologies International	AT-7030	LaserJet II
Advanced Technologies International	LC-6815	LaserJet II
Advanced Technologies International	LC-6822	LaserJet II
Advanced Technologies International	LC-6822-G02	LaserJet II
Advanced Technologies International	LC-6822-G03	LaserJet II
Advanced Technologies International	LC-6822-S02	LaserJet II

Advanced Technologies International	LC-6822-S03	LaserJet II
Advanced Technologies International	LC-6838	LaserJet II
Advanced Technologies International	LC-9125	LaserJet II
AEG Olympia	Laserstar 6e	LaserJet II
AEG Olympia	NP 136 SE	Epson FX
AEG Olympia	NP 136-24	Epson LQ
AEG Olympia	NP 30	Epson FX
AEG Olympia	NP 60	Epson FX
AEG Olympia	NP 80 SE	Epson FX
AEG Olympia	NP 80-24	Epson LQ
AEG Olympia	NP 80-24E	Epson LQ
AEG Olympia	NPC 136-24	Epson LQ
AI/GBT	6824 XP	LaserJet II
AI/GBT	6840 XP	LaserJet II
AI/GBT	6845 XP	LaserJet II
ALPS	Allegro 24	Epson LQ
ALPS	Allegro 500	Epson LQ
ALPS	Allegro 500XT	Epson LQ
ALPS	ALQ 218	Epson FX
ALPS	ALQ 224	Epson LQ
ALPS	ALQ 224E	Epson LQ
ALPS	ALQ 224GX	Epson LQ
ALPS	ALQ 3001	Epson FX
ALPS	ALQ 318	Epson FX
ALPS	ALQ 324	Epson LQ
ALPS	ALQ 324E	Epson LQ
ALPS	ALQ 324GX	Epson LQ
ALPS	ASP 1000	Epson FX
ALPS	ASP 1600	Epson FX
ALPS	DMX 180	Epson LQ
ALPS	DMX 800	Epson FX
ALPS	LPX 2020	LaserJet II
ALPS	LSX 1000	LaserJet II
ALPS	LSX 1600	LaserJet II
ALPS	LSX 1600E	LaserJet II
ALPS	P2000+	Epson FX
ALPS	P2100	Epson FX
ALPS	P2400 C	Epson LQ
ALPS	P2418	Epson FX
ALPS	P2424 C	Epson LQ
Anzac Computer Equipment	2600	Epson FX
Apple Computer, Inc.	Portable StyleWriter	Canon BJ -10ex
AT&T Global Information Solutions	477	Epson FX
AT&T Global Information Solutions	570	Epson FX
AT&T Global Information Solutions	571	Epson FX
AT&T Global Information Solutions	577	Epson FX
AT&T Global Information Solutions	580	Epson LQ
AT&T Global Information Solutions	581	Epson LQ
AT&T Global Information Solutions	583	Epson LQ
AT&T Global Information Solutions	593	LaserJet II

AT&T Global Information Solutions	595	LaserJet II
Axonix	LiteWrite	Epson FX
Axonix	MilWrite	Epson FX
Axonix	ThinWrite 100	Epson FX
BDT Products	ErgoPrint 310	DeskJet
BDT Products	ErgoPrint 510	LaserJet II
BDT Products	ErgoPrint 610 II	LaserJet II
BGL Technology Corporation	Mark 9115-3	LaserJet II
BGL Technology Corporation	Mark 9115-4	LaserJet II
BGL Technology Corporation	Mark 9120-3D	LaserJet II
BGL Technology Corporation	Mark 9120-3S	LaserJet II
BGL Technology Corporation	Mark 9120-4D	LaserJet II
BGL Technology Corporation	Mark 9120-4S	LaserJet II
BGL Technology Corporation	Mark 9120-8D	LaserJet II
BGL Technology Corporation	Mark 9120-8S	LaserJet II
BGL Technology Corporation	Mark I	LaserJet II
BGL Technology Corporation	Mark I Plus	LaserJet II
BGL Technology Corporation	Mark I T	LaserJet II
BGL Technology Corporation	Mark II	LaserJet II
BGL Technology Corporation	Mark III	LaserJet II
BGL Technology Corporation	Mark IV	LaserJet II
Blaser Industries	Blaserstar 2	LaserJet II
BottomLine Technologies	BT 5015	LaserJet II
BottomLine Technologies	BT 5106	LaserJet II
Brother International Corporation	HJ-100i	Canon BJ -10ex
Brother International Corporation	HL-1060	LaserJet II
Brother International Corporation	HL-10H	LaserJet II
Brother International Corporation	HL-10V	LaserJet II
Brother International Corporation	HL-1260	LaserJet II
Brother International Corporation	HL-4	LaserJet II
Brother International Corporation	HL-4V	LaserJet II
Brother International Corporation	HL-4Ve	LaserJet II
Brother International Corporation	HL-6	LaserJet II
Brother International Corporation	HL-630	LaserJet II
Brother International Corporation	HL-630M	LaserJet II
Brother International Corporation	HL-631	LaserJet II
Brother International Corporation	HL-641	LaserJet II
Brother International Corporation	HL-645	LaserJet II
Brother International Corporation	HL-645M	LaserJet II
Brother International Corporation	HL-650	LaserJet II
Brother International Corporation	HL-655M	LaserJet II
Brother International Corporation	HL-660	LaserJet II
Brother International Corporation	HL-660	LaserJet II
Brother International Corporation	HL-6V	LaserJet II
Brother International Corporation	HL-730	LaserJet II
Brother International Corporation	HL-730DX	LaserJet II
Brother International Corporation	HL-760	LaserJet II
Brother International Corporation	HL-8e	LaserJet II
Brother International Corporation	HL-8V	LaserJet II
Brother International Corporation	HL-960	LaserJet II

Brother International Corporation	M-1109	Epson FX
Brother International Corporation	M-1209	Epson FX
Brother International Corporation	M-1309	Epson FX
Brother International Corporation	M-1324	Epson LQ
Brother International Corporation	M-1709	Epson FX
Brother International Corporation	M-1724L	Epson LQ
Brother International Corporation	M-1809	Epson FX
Brother International Corporation	M-1824L	Epson LQ
Brother International Corporation	M-1909	Epson FX
Brother International Corporation	M-1924L	Epson LQ
Brother International Corporation	M-2518	Epson FX
Brother International Corporation	M-2524L	Epson LQ
Brother International Corporation	M-4018	Epson FX
Brother International Corporation	M-4309	Epson FX
Brother International Corporation	MFC-3900	LaserJet II
Brother International Corporation	MFC-4500	LaserJet II
Brother International Corporation	MFC-5550	LaserJet II
Brother International Corporation	MFC-6550MC	LaserJet II
Brother International Corporation	MFC-7000	Epson LQ
Brother International Corporation	MFC-7550MC	LaserJet II
Brother International Corporation	Twinriter 5	Epson FX
Brother International Corporation	Twinriter 6	Epson FX
Brother International Corporation	XL-1500	Epson LQ
Brother International Corporation	XL-500	Epson FX
Bull	462	Epson FX
Bull	466	Epson FX
Bull	BPX-508	LaserJet II
Bull	CompuPrint 4/20	Epson FX
Bull	CompuPrint 4/21	Epson FX
Bull	CompuPrint 4/22	Epson FX
Bull	CompuPrint 4/23	Epson FX
Bull	CompuPrint 4/24	Epson LQ
Bull	CompuPrint 4/24N	Epson LQ
Bull	CompuPrint 4/40	Epson FX
Bull	CompuPrint 4/41	Epson FX
Bull	CompuPrint 4/43	Epson FX
Bull	CompuPrint 4/51	Epson FX
Bull	CompuPrint 4/54	Epson LQ
Bull	CompuPrint 4/66	Epson FX
Bull	CompuPrint 4/68	Epson FX
Bull	CompuPrint 922N Plus	Epson FX
Bull	CompuPrint 923 Plus	Epson FX
Bull	CompuPrint 924 Plus	Epson LQ
Bull	CompuPrint 924N Plus	Epson LQ
Bull	CompuPrint 956	Epson LQ
Bull	CompuPrint 970	Epson FX
Bull	LP-230	LaserJet II
Bull	PageMaster 1021	LaserJet II
Bull	PageMaster 1025	LaserJet II
Bull	PageMaster 1725	LaserJet II

TA38476_Newton_Print_Pack_Compatible_Printers_A_B.pdf

Bull	PageMaster 201	DeskJet

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Restoring iPod shuffle to factory settings with iPod updater

This article has been archived and is no longer updated by Apple.

Many iPod shuffle issues you may encounter can be easily resolved by performing a software restore of the iPod. Examples of some of these symptoms can be found in this document.

If you are using iTunes 7 or later, click here.

There are two ways you can do a restore: Download and install the latest iPod Updater software, or restore your software using the iPod Updater application that came on your iPod CD. The benefit to have the most recent version of the iPod Updater is that some issues may be resolved with a more recent updater

Warning: The restore process cannot be undone. All of your songs and files on the iPod will be deleted. Always make a backup of your important data.

To update or restore iPod shuffle with the latest software:

1. Download the iPod Updater for Windows or for Mac . The update contains the latest software for all models of iPod.
2. Double-click the software install file and follow the onscreen instructions to install the iPod shuffle Update.
3. Open the iPod Updater.
   Mac OS X: The updater is located in the /Applications/Utilities/iPod Software Updater/ folder.

   Windows: Click the **Start** button, point to **All Programs**, and then point to **iPod**. Click the name of the most recent iPod Updater.

4. Move the switch on the iPod to the Off position and wait 5 seconds.
5. After the iPod Software Updater has opened, connect iPod shuffle to your computer.
6. Follow the onscreen instructions to update or restore iPod shuffle software.

If you're using iPod Updater and it doesn't see that iPod shuffle is connected to your computer, turn iPod shuffle on (by moving the switch to either the play in order or shuffle settings) and then off again.

If you want to restore iPod shuffle software but you don't have an Internet connection, use the iPod Updater application that was installed on your computer when you installed the software from the iPod CD.

To restore iPod shuffle software using iPod Updater that came from your iPod CD:

- Mac users: Find the iPod Updater application in Applications/Utilities/iPod Software.
- Windows users: Find the iPod Updater application here:
  Click the **Start** button, point to **All Programs**, and then point to **iPod**. Click the name of the most recent iPod Updater.

For steps to restore other iPod models, click here.

Related documents

- 301267: "Disk cannot be read from or written to" when syncing iPod or "Firmware update failure" error when updating or restoring iPod"
- 61711: "Your Windows PC doesn't recognize iPod"
- 61937: "iPod does not appear in iPod Updater or iTunes in Mac OS X"
- 60950: "iPod doesn't appear in iTunes or on the Mac desktop"
- 61771: "iPod does not appear in iTunes or on the desktop, an exclamation point or sad iPod icon appears onscreen"

Published Date: Feb 18, 2012

Restoring iPod to factory settings with iPod updater

This article has been archived and is no longer updated by Apple.

Learn how to restore iPod to factory settings.

If you need to restore or update an iPod shuffle, click here. If you have iTunes 7 or later, click here

Tip: Check out this helpful movie too.

Background

First, it is important to understand the difference between "update" and "restore."

"Update" simply updates the software that controls iPod and may also update the firmware for the hard drive. Update does not affect the songs and files stored on iPod's hard disk.

"Restore" erases the hard disk and restores iPod to its original factory condition. Because Restore erases all of the songs and files on the hard disk, make sure to back up your songs and files first. If you use the Nike + iPod Sport Kit, see this document for more information.

For instructions on how to update iPod, see "How to update iPod".

About the iPod Software Updater application

You use the iPod Software Updater application to update or restore your iPod.

- Download the iPod Updater for Windows or for Mac . From time to time Apple expects to release versions of this application that have newer versions of iPod software. These later versions may include new functions or improvements to existing features.

You can easily find out which software version your iPod has. The steps are different depending on what operating system your computer has:

Watch a QuickTime video of the restore process from the iPod tutorial.

- Mac OS X
- Windows XP and Windows 2000

How to restore iPod for Macintosh

This procedure assumes that the iPod preferences are in their default condition, which means iTunes automatically opens whenever you connect iPod to your Mac with a cable. You can restore a Mac with USB if it is running 10.3.4 and your iPod has a dock connector. When restoring some iPod models with USB you will have to disconnect the iPod from the computer and attach it to the iPod AC Adapter to finish the restore (a graphic of a plug on the iPod will indicate if you have to do this). Some iPod models connecting via USB, including iPod mini (Second Generation) and iPod nano, do not need to be connected to the AC power adapter.

Warning: The restore process cannot be undone. All of your songs and files will be deleted. Always make a backup of your important data.

1. Open the iPod Software Updater application. It's in the Utilities folder, which is in your Applications folder. Open the iPod Updater showing the most recent date in the filename.
2. Connect your iPod to your Mac.
3. When it becomes available, click Restore. An alert box appears to confirm you want to restore iPod.
4. A dialogue box will appear prompting you to enter an adminstrator's name and password.
5. A progress bar appears on the computer screen.
6. When the restore process on the computer has finished, close the iPod Updater and look at the screen on the iPod.
    - If you see an image of a wall power plug, connect your iPod to the AC adapter that came with it and plug it into a wall outlet and wait for the restore to complete.
    - If you see a progress bar underneath the Apple logo, leave the iPod connected to the computer.
    - If you had to put iPod into Disk Mode before restoring, the iPod screen may display "OK to Disconnect" and you may need to reset iPod.
7. After the restore is complete and the iPod is connected to the computer, the iTunes Setup Assistant window will appear asking you to name your iPod and choose your syncing preferences similar to when you connected your iPod for the first time.

iPod has been restored to factory settings and updated with the music and playlists in your iTunes music library.

How to restore iPod for Windows XP and 2000

TA38478_Restoring_iPod_to_factory_settings_with_iPod_updater.pdf

This procedure assumes that the iPod preferences are in their default condition, which means iTunes automatically opens whenever you connect iPod to your computer.

Warning: The restore process cannot be undone. All of your songs and files will be deleted. Always make a backup of your important data.

When restoring some iPod models with USB you will have to disconnect the iPod from the computer and attach it to the iPod AC Adapter to finish the restore (a graphic of a plug on the iPod will indicate if you have to do this. Some iPod models connecting via USB, including iPod mini (Second Generation) and iPod nano, do not need to be connected to the AC power adapter.

1. Open the iPod Software Updater application. It can be found by clicking on the **Start** menu, pointing to **All Programs** (Windows XP) or **Programs** (Windows 2000), and then point to iPod.
2. Select the iPod Updater showing the most recent date in the filename.
3. Connect your iPod to your Windows PC.
4. When it becomes available, click Restore. An alert box appears to confirm you want to restore iPod.
5. A progress bar appears on the computer screen.
6. When the restore process on the computer has finished, close the iPod Updater and look at the screen on the iPod.
    - If you see an image of a wall power plug, connect your iPod to the AC adapter that came with it and plug it into a wall outlet and wait for the restore to complete.
    - If you see a progress bar underneath the Apple logo, leave the iPod connected to the computer.
    - If you had to put iPod into Disk Mode before restoring, the iPod screen may display "OK to Disconnect" and you may need to reset iPod.
7. After the restore is complete and the iPod is connected to the computer, the iTunes Setup Assistant window will appear asking you to name your iPod and choose your syncing preferences similar to when you connected your iPod for the first time.

iPod has been restored to factory settings and updated with the music and playlists in your iTunes music library.

Related documents
60952: How to rename your iPod
61771: iPod does not appear in iTunes or on the desktop, an exclamation point or sad iPod icon appears onscreen
61584: iPod only shows an Apple logo and doesn't start up
61711: Your Windows PC doesn't recognize iPod
60950: iPod doesn't appear in iTunes or on my Mac desktop
Published Date: Feb 18, 2012

Newton Print Pack 2.0: Compatible Printers (C - D)

The following table is a list of printers compatible with Newton Print Pack 2.0.
This article has been archived and is no longer updated by Apple.

Company	Printer	Driver
C. Itoh/C-Tech Electronics, Inc.	9500	Epson FX
C. Itoh/C-Tech Electronics, Inc.	9515	Epson FX
C. Itoh/C-Tech Electronics, Inc.	9715	Epson LQ
C. Itoh/C-Tech Electronics, Inc.	C-240	Epson FX
C. Itoh/C-Tech Electronics, Inc.	C-245	Epson FX
C. Itoh/C-Tech Electronics, Inc.	C-310	Epson FX
C. Itoh/C-Tech Electronics, Inc.	C-315	Epson FX
C. Itoh/C-Tech Electronics, Inc.	C-410	Epson FX
C. Itoh/C-Tech Electronics, Inc.	C-415	Epson FX
C. Itoh/C-Tech Electronics, Inc.	C-420	Epson FX
C. Itoh/C-Tech Electronics, Inc.	C-425	Epson LQ
C. Itoh/C-Tech Electronics, Inc.	C-510	Epson LQ
C. Itoh/C-Tech Electronics, Inc.	C-515	Epson LQ
C. Itoh/C-Tech Electronics, Inc.	C-610	Epson LQ
C. Itoh/C-Tech Electronics, Inc.	C-610 +	Epson LQ
C. Itoh/C-Tech Electronics, Inc.	C-610C +	Epson LQ
C. Itoh/C-Tech Electronics, Inc.	C-610II	Epson LQ
C. Itoh/C-Tech Electronics, Inc.	C-610III	Epson LQ
C. Itoh/C-Tech Electronics, Inc.	C-645	Epson FX
C. Itoh/C-Tech Electronics, Inc.	C-715 A	Epson LQ
C. Itoh/C-Tech Electronics, Inc.	CI-8	LaserJet II
C. Itoh/C-Tech Electronics, Inc.	CI-8E	LaserJet II
C. Itoh/C-Tech Electronics, Inc.	CI-8XTRA	LaserJet II
C. Itoh/C-Tech Electronics, Inc.	ProWriter C-240	Epson FX
C. Itoh/C-Tech Electronics, Inc.	ProWriter C-245	Epson FX
C. Itoh/C-Tech Electronics, Inc.	ProWriter C-310 CXP	Epson FX
C. Itoh/C-Tech Electronics, Inc.	ProWriter C-610II	Epson LQ
C. Itoh/C-Tech Electronics, Inc.	ProWriter C-610III	Epson LQ
C. Itoh/C-Tech Electronics, Inc.	ProWriter C-612	Epson LQ
C. Itoh/C-Tech Electronics, Inc.	ProWriter C-615II	Epson LQ
C. Itoh/C-Tech Electronics, Inc.	SpeedJet CJ-300	LaserJet II
CAF Computer Corp	CAF Laser	LaserJet II
CAF Computer Corp	Syslaser	LaserJet II
Calcomp Inc.	5902	Epson FX
Calcomp Inc.	TechJET Personal	Canon BJ -10ex
Calcomp Inc.	TechJET Personal	Epson LQ
Canon Computer Systems, Inc.	BJ-100	Canon BJ -10ex
Canon Computer Systems, Inc.	BJ-10e	Canon BJ -10ex
Canon Computer Systems, Inc.	BJ-10ex	Canon BJ -10ex
Canon Computer Systems, Inc.	BJ-10sx	Canon BJ -10ex
Canon Computer Systems, Inc.	BJ-20	Canon BJ -10ex
Canon Computer Systems, Inc.	BJ-200	Canon BJ -10ex
Canon Computer Systems, Inc.	BJ-200e	Canon BJ -10ex
Canon Computer Systems, Inc.	BJ-200ex	Canon BJ -10ex
Canon Computer Systems, Inc.	BJ-230	Canon BJC

Canon Computer Systems, Inc.	BJ-30	Canon BJC
Canon Computer Systems, Inc.	BJ-300	Canon BJC
Canon Computer Systems, Inc.	BJ-330	Canon BJC
Canon Computer Systems, Inc.	BJ-5	Canon BJ -10ex
Canon Computer Systems, Inc.	BJC-210	Canon BJC
Canon Computer Systems, Inc.	BJC-240	Canon BJC
Canon Computer Systems, Inc.	BJC-250	Canon BJC
Canon Computer Systems, Inc.	BJC-4000	Canon BJC
Canon Computer Systems, Inc.	BJC-4100	Canon BJC
Canon Computer Systems, Inc.	BJC-4200	Canon BJC
Canon Computer Systems, Inc.	BJC-4300	Canon BJC
Canon Computer Systems, Inc.	BJC-4300	Canon BJC
Canon Computer Systems, Inc.	BJC-4550	Canon BJC
Canon Computer Systems, Inc.	BJC-5500	Canon BJC
Canon Computer Systems, Inc.	BJC-600	Canon BJC
Canon Computer Systems, Inc.	BJC-600e	Canon BJC
Canon Computer Systems, Inc.	BJC-610	Canon BJC
Canon Computer Systems, Inc.	BJC-620	Canon BJC
Canon Computer Systems, Inc.	BJC-70	Canon BJC
Canon Computer Systems, Inc.	BJC-80	Canon BJC
Canon Computer Systems, Inc.	BJC-820	Epson LQ
Canon Computer Systems, Inc.	CFX-B380IF	Canon BJC
Canon Computer Systems, Inc.	LBP-1260	LaserJet II
Canon Computer Systems, Inc.	LBP-4 sx	LaserJet II
Canon Computer Systems, Inc.	LBP-430	LaserJet II
Canon Computer Systems, Inc.	LBP-8 sx	LaserJet II
Canon Computer Systems, Inc.	MultiPASS 1000	Canon BJ -10ex
Canon Computer Systems, Inc.	Multipass C2500	Canon BJC
Canon Computer Systems, Inc.	Multipass C3000	Canon BJC
Casio	LCS 240	Epson FX
Casio	LCS 300	Epson FX
CIE	CI-250 GXP	Epson FX
CIE	CI-250 LXP	Epson FX
CIE	CI-4000	Epson FX
CIE	CI-5000	Epson FX
CIE	CI-5000CX	Epson FX
CIE	CI-5000TX	Epson FX
Citizen Corporation	120D	Epson FX
Citizen Corporation	120D+	Epson FX
Citizen Corporation	180D	Epson FX
Citizen Corporation	200GX	Epson FX
Citizen Corporation	200GX Fifteen	Epson FX
Citizen Corporation	224	Epson LQ
Citizen Corporation	5200	Epson FX
Citizen Corporation	5800	Epson FX
Citizen Corporation	GSX-130	Epson LQ
Citizen Corporation	GSX-140	Epson LQ
Citizen Corporation	GSX-140 Plus	Epson LQ
Citizen Corporation	GSX-145	Epson LQ
Citizen Corporation	GSX-190	Epson FX

Citizen Corporation	GSX-240	Epson LQ
Citizen Corporation	GSX-245	Epson LQ
Citizen Corporation	HSP-500	Epson FX
Citizen Corporation	HSP-550	Epson FX
Citizen Corporation	MSP-20	Epson FX
Citizen Corporation	MSP-40	Epson FX
Citizen Corporation	MSP-55	Epson FX
Citizen Corporation	Overture 110	Epson FX
Citizen Corporation	PN-48	Epson LQ
Citizen Corporation	PN-60	Epson LQ
Citizen Corporation	PN50	Epson LQ
Citizen Corporation	Printiva 600C	Epson LQ
Citizen Corporation	ProDot 24	Epson LQ
Citizen Corporation	ProDot 9	Epson FX
Citizen Corporation	ProDot 9X	Epson FX
Citizen Corporation	ProJet	DeskJet
Citizen Corporation	ProJet 3	Epson LQ
Citizen Corporation	ProLaser 12	LaserJet II
Citizen Corporation	ProLaser 6000	LaserJet II
Citizen Corporation	ProScript 12	LaserJet II
Citizen Corporation	Swift 24E	Epson LQ
Citizen Corporation	Swift 24X	Epson LQ
Citizen Corporation	Swift 9	Epson FX
Citizen Corporation	Swift 9X	Epson FX
Commodore	MPS-1000	Epson FX
Compaq	PageMarq 15	LaserJet II
Compaq	PageMarq 20	LaserJet II
Continental Systems	L-2060	LaserJet II
Copal	SC-1250	Epson FX
Copal	SC-5930	Epson FX
Copal	SC-6730	Epson LQ
Copal	Writehand 5900	Epson FX
Copal	Writehand 5930	Epson FX
Copal	Writehand 6700	Epson LQ
Copal	Writehand 6730	Epson LQ
CSS Laboratories	OAW153	LaserJet II
CSS Laboratories	OAW223	LaserJet II
CTSI International	Infoscribe 1000	Epson FX
CTSI International	Infoscribe 1100	Epson FX
Daisy Systems	M7001	Epson FX
Daisy Systems	M8001	Epson LQ
Data General Corporation	6514	Epson LQ
Data General Corporation	6515	Epson LQ
Data General Corporation	6594	Epson FX
Data General Corporation	6617	Epson FX
Data General Corporation	6618	Epson FX
Data General Corporation	6640	LaserJet II
Data General Corporation	6640T	LaserJet II
Data General Corporation	6771	LaserJet II
Data General Corporation	6772	LaserJet II

Data General Corporation	6773	LaserJet II
Data General Corporation	6789	Epson FX
Dataco Derex, Inc.	S 3000II	LaserJet II
Dataproducts Corporation	6298	Epson FX
Dataproducts Corporation	8500	Epson FX
Dataproducts Corporation	9030	Epson FX
Dataproducts Corporation	9034	Epson LQ
Dataproducts Corporation	9034E	Epson LQ
Dataproducts Corporation	9040	Epson FX
Dataproducts Corporation	9044	Epson LQ
Dataproducts Corporation	9044E	Epson LQ
Dataproducts Corporation	Jolt	LaserJet II
Dataproducts Corporation	LX-455	Epson FX
Dataproducts Corporation	LZR-1555	LaserJet II
Dataproducts Corporation	LZR-1650	LaserJet II
Dataproducts Corporation	LZR-2450	LaserJet II
Dataproducts Corporation	LZR-2450D	LaserJet II
Dataproducts Corporation	LZR-2455	LaserJet II
Dataproducts Corporation	LZR-2455D	LaserJet II
Dataproducts Corporation	LZR-650	LaserJet II
Dataproducts Corporation	Typhoon 30	LaserJet II
Dataproducts Corporation	Typhoon 40	LaserJet II
Dataproducts Corporation	Typhoon 60	LaserJet II
Datasouth	8/3080	Epson FX
Datasouth	8/5080	Epson FX
Datasouth	Documax A-3300	Epson FX
Datasouth	Documax C-3300	Epson FX
Datasouth	DS 400	Epson FX
Datasouth	Performax A600	Epson FX
Datasouth	XL 300	Epson FX
Datasouth	XL 300 DD	Epson FX
Desktop Systems	Laser Printer	LaserJet II
Digital Design, Inc.	616-MLP	LaserJet II
Digital Design, Inc.	656 Laser Check	LaserJet II
Digital Design, Inc.	656 Plus-MICR	LaserJet II
Digital Equipment Corporation	6010 SI	LaserJet II
Digital Equipment Corporation	6016	LaserJet II
Digital Equipment Corporation	6110-50	LaserJet II
Digital Equipment Corporation	6415	Epson FX
Digital Equipment Corporation	ColorWriter 120ic	DeskJet
Digital Equipment Corporation	ColorWriter 550IC	DeskJet
Digital Equipment Corporation	DecJet 1000	DeskJet
Digital Equipment Corporation	DecJet 2000	DeskJet
Digital Equipment Corporation	DecLaser 1800	LaserJet II
Digital Equipment Corporation	DecLaser 3200	LaserJet II
Digital Equipment Corporation	DecLaser 3250	LaserJet II
Digital Equipment Corporation	DecWriter 100i	DeskJet
Digital Equipment Corporation	DecWriter 500i	Epson LQ
Digital Equipment Corporation	DecWriter 55	Epson LQ
Digital Equipment Corporation	DecWriter 65	Epson LQ

Digital Equipment Corporation	DecWriter 90i	DeskJet
Digital Equipment Corporation	DecWriter 95	Epson LQ
Digital Equipment Corporation	LA600 MultiPrinter	Epson LQ
Digital Equipment Corporation	LG04 Plus	Epson FX

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How to use your iPod to move your music to a new computer using iTunes 6

This article has been archived and is no longer updated by Apple.

Got a new computer? Because your iPod contains a high-capacity hard drive, you can use it to move all your music from your old computer to the new one. Note that you can't transfer songs from the iPod library to iTunes, so you'll need to follow the steps below to use iPod as a hard disk to transfer music files from one computer to another. Once you have the files transferred, you'll need to authorize any iTunes Music Store content. If you won't be using your old computer, you'll want to deauthorize it. If you have iTunes 7 or later, click here.

Important: Windows operating systems don't recognize Mac OS-formatted disks (HFS or HFS Plus formats), so you can't use a Mac-formatted iPod to move your music to a Windows PC. See "iPod: How to determine iPod's hard disk format" if you're not sure what format your iPod is.

Switch the iPod to manual update and enable disk use
The first thing you need to do to use your iPod as a disk is to turn on manual update and enable disk use. To do this:

1. Open iTunes on your old computer.
2. Connect your iPod to your old computer and wait for it to appear in iTunes.
3. Select your iPod in the Source list and click the iPod button that appears in the lower right corner of the iTunes window.

4. Click the Manually manage songs and playlists button. Changing from automatic updating to manual puts a check mark by Enable disk use. A message says "Disabling automatic update requires manually unmounting the iPod before each disconnect."

5. Click OK in the message window.
6. Click OK in the iPod Preferences window.

Is all the music together?
To make the move as easy as possible, be sure your music is all in one place.

1. From the **iTunes** menu, choose **Preferences**.
2. Click Advanced.
3. Look to see if the checkbox for "Copy files to iTunes Music folder when adding to library" is selected. If it is, skip ahead to Is there enough room on the iPod. If it not, continue to step 4.

4. Select the "Copy files to iTunes Music folder when adding to library" checkbox.
5. Click OK.
6. From the **Advanced** menu, choose **Consolidate Library**. A window appears reading: "Consolidating your library will copy all of your music into the iTunes music folder. This cannot be undone."
7. Click Consolidate.

Is there enough room on the iPod?
iPod shares its hard disk space between the songs that iTunes puts on it and any files you've added when using its disk mode. To transfer music with your iPod, you need enough free space to hold a copy of all your music files in addition to any copies that may already have been placed by iTunes (this is because songs placed on the iPod by iTunes cannot be copied off the iPod while in disk mode). To figure out how much space you have on your iPod:

1. Open iTunes on your old computer.
2. Click on Library in the Source list. The size of your library appears at the bottom of the iTunes window:

3. Connect your iPod to your old computer and wait for it to appear in iTunes.
4. Click the iPod in the Source list.
5. The amount of free space on the iPod appears near the bottom right of the iTunes window.

If the amount of free space left on your iPod is larger than your library, skip to Copy iTunes folder to iPod.

Free up space on the iPod
If your library is larger than the amount of free space on your iPod, you'll need to free up some space on it. Here's how:

1. Click your iPod in the source list.
2. Click any song that appears in the main part of the iTunes window (to the right).
3. From the **Edit** menu, choose **Select All**.
   Important: The next step will delete all music from your iPod. If you have been using automatic update you don't need to worry, because all your music is also on your computer. If you have not been using automatic update, and your iPod has music on it from another source (other than your iTunes library), following the next step will delete that music.
4. Press delete on the keyboard. If you see a message that says "Are you sure you want to remove the selected items from the list?", click Yes.

Copy iTunes folder to iPod
To copy all your music files (including the library file that holds all your playlists and other settings) to your iPod:

1. Quit iTunes.
2. Locate your iPod:
   Mac OS X: On the desktop.
   Windows: In My Computer
3. Locate your iTunes folder:
   Mac OS X: /Users/username/Music
   Windows: \Documents and Settings\username\My Documents\My Music\
4. Drag the iTunes folder to the iPod. This can take a while if you have a lot of songs.

From your old Mac to the iPod

From your old Windows PC to the iPod

5. When the copy completes open iTunes.
6. Click on the iPod in the Source list
7. Click the Eject button in the lower right corner of the iTunes window.

8. Disconnect the iPod from the computer when the "Do not disconnect" message no longer appears on the iPod screen.

Get iTunes ready on your new computer
To get iTunes ready to accept all your music on your new computer:

1. Download and install the latest version of iTunes.
2. Open iTunes on your new computer. If this is your first time to open iTunes on your new computer you will need to choose your options in the iTunes Setup Assistant.
3. Connect the iPod to your new computer.

Backup any music that's already on your new computer
Do you already have some music showing up in your Library in iTunes on the new computer? If so follow these steps to make sure this music gets saved (You can see how to add it back into iTunes in the Adding music on new computer back in section below). If not you can skip down to the Copy music to new computer section.

1. From the **iTunes** menu, choose **Preferences** (Windows: from the **Edit** menu, choose **Preferences**).
2. Click the Advanced tab.
3. Click the Reset button next to iTunes Music folder location.
4. Make sure the checkbox next to Copy files to Music folder when adding to library is checked.

5. Click OK.
6. From the **Advanced** menu, choose **Consolidate Library**.

A window appears reading:

> "Consolidating your library will copy all of your music into the iTunes music folder. This cannot be undone."

7. Click Consolidate.
8. Quit iTunes.

Copy music to new computer
To copy all your music files (including the library file that holds all your playlists and other settings) to your new computer:

1. Locate your Music folder (Mac OS X) or your My Music folder (Windows) on your new computer:
   Mac OS X: /Users/username/Music
   Windows: \Documents and Settings\username\My Documents\My Music\
2. Drag the iTunes folder in this location out to the desktop.

From the Music folder to the Desktop on your new Mac

From the My Music folder to the Desktop on your new PC

3. Locate the iPod on the new computer:
   Mac OS X: On the desktop.
   Windows: In My Computer.
4. Double-click on the iPod to open it.
5. Drag the iTunes folder from the iPod to the Music folder (Mac OS X) or My Music Folder (Windows) on your new computer. This can take a while if you have a lot of songs.

From the iPod to the Music folder on your new Mac

From the iPod to the My Music folder on your new PC

6. Open iTunes.

There you go. All your music, playlists, and other information like play counts and ratings have all been moved from your old computer to your new one.

Add existing music on new computer back in
If you already had some music on your new computer, and you want to incorporate it into the music you just moved from your old computer:

1. From the **File** menu in iTunes, choose Add to Library (Mac OS X) or **Add Folder to Library** (Windows).
2. Navigate to the iTunes folder on your Desktop.
3. Click Choose (Mac OS X) or OK (Windows).

Note: Information like ratings and play count are not preserved for these songs.

Free up room on the iPod
To free up room on your iPod so iTunes can put all your music back on it:

1. Quit iTunes.
2. Drag the iTunes folder out of the iPod to the Trash (Mac OS X) or Recycle Bin (Windows).

Mac OS X: From the **File** menu, choose **Empty Trash**.
Windows: A Confirm Folder Delete window appears. Click Yes.

Switch the iPod back to automatic update
To set up your iPod to be updated with all your music from iTunes on your new computer:

1. Open iTunes.
2. Select your iPod in the Source list and click the iPod button that appears in the lower right corner of the iTunes window.

3. Click the Automatically manage songs and playlists button.

   A message appears reading: "Are you sure you want to enable automatic updating? All existing songs and playlist on the iPod "ipod name" will be replaced with songs and playlists from the iTunes music library."

   Optional: Uncheck the Enable disk use button if you don't want to use the iPod as a disk. If you leave this option checked you need to eject your iPod from iTunes before you disconnect the iPod from your computer.

4. Click OK

The iPod Update begins. All your music is now on your new computer, and after the update completes it will be on your iPod again too.

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Newton Print Pack 2.0: Compatible Printers (E - G)

The following table is a list of printers compatible with Newton Print Pack 2.0.
This article has been archived and is no longer updated by Apple.

Company	Printer	Driver
Eastman Kodak Company	Diconix 180si	Epson FX
Eastman Kodak Company	Diconix 300	Epson FX
Eastman Kodak Company	Diconix 300W	Epson FX
Eastman Kodak Company	Diconix 701	DeskJet
Electronic Form	Formwriter 10	LaserJet II
Electronic Form	Formwriter 10X	LaserJet II
Electronic Form	Formwriter 10XD	LaserJet II
Electronic Form	Formwriter 2	LaserJet II
Electronic Form	Formwriter 2E	LaserJet II
Electronic Form	Formwriter 2EX	LaserJet II
Electronic Form	Formwriter 2EXD/MX	LaserJet II
Electronic Form	Formwriter 2X	LaserJet II
Electronic Form	Formwriter 4	LaserJet II
Electronic Form	Formwriter 8	LaserJet II
Epson America, Inc.	ActionLaser	LaserJet II
Epson America, Inc.	ActionLaser 1000	LaserJet II
Epson America, Inc.	ActionLaser 1100	LaserJet II
Epson America, Inc.	ActionLaser 1400	LaserJet II
Epson America, Inc.	ActionLaser 1500	LaserJet II
Epson America, Inc.	ActionLaser 1600	LaserJet II
Epson America, Inc.	ActionLaser 4000	LaserJet II
Epson America, Inc.	ActionLaser II	LaserJet II
Epson America, Inc.	ActionLaser Plus	LaserJet II
Epson America, Inc.	ActionPrinter AP-2000	Epson FX
Epson America, Inc.	ActionPrinter AP-2250	Epson Stylus
Epson America, Inc.	ActionPrinter AP-2500	Epson FX
Epson America, Inc.	ActionPrinter AP-3000	Epson LQ
Epson America, Inc.	ActionPrinter AP-3250	Epson Stylus
Epson America, Inc.	ActionPrinter AP-3260	Epson Stylus
Epson America, Inc.	ActionPrinter AP-4000	Epson LQ
Epson America, Inc.	ActionPrinter AP-4500	Epson LQ
Epson America, Inc.	ActionPrinter AP-5000	Epson LQ
Epson America, Inc.	ActionPrinter AP-5000+	Epson Stylus
Epson America, Inc.	ActionPrinter AP-5500	Epson LQ
Epson America, Inc.	ActionPrinter T-1000	Epson FX
Epson America, Inc.	Apex 80	Epson FX
Epson America, Inc.	DFX-5000	Epson FX
Epson America, Inc.	DFX-5000+	Epson FX
Epson America, Inc.	DFX-8000	Epson LQ
Epson America, Inc.	EP-4000	LaserJet II
Epson America, Inc.	EPL-3000	LaserJet II
Epson America, Inc.	EPL-5000	LaserJet II
Epson America, Inc.	EPL-5200	LaserJet II
Epson America, Inc.	EPL-5500	LaserJet II
Epson America, Inc.	EPL-6000	LaserJet II

Epson America, Inc.	EPL-7000	LaserJet II
Epson America, Inc.	EPL-8000	LaserJet II
Epson America, Inc.	EX-1000	Epson FX
Epson America, Inc.	EX-800	Epson FX
Epson America, Inc.	FX-100	Epson FX
Epson America, Inc.	FX-100 +	Epson FX
Epson America, Inc.	FX-1050	Epson FX
Epson America, Inc.	FX-1170	Epson FX
Epson America, Inc.	FX-185	Epson FX
Epson America, Inc.	FX-2070	Epson Stylus
Epson America, Inc.	FX-2170	Epson FX
Epson America, Inc.	FX-286	Epson FX
Epson America, Inc.	FX-286e	Epson FX
Epson America, Inc.	FX-80	Epson FX
Epson America, Inc.	FX-80 +	Epson FX
Epson America, Inc.	FX-85	Epson FX
Epson America, Inc.	FX-850	Epson FX
Epson America, Inc.	FX-86e	Epson FX
Epson America, Inc.	FX-870	Epson FX
Epson America, Inc.	HS-80	Epson FX
Epson America, Inc.	JX-80	Epson FX
Epson America, Inc.	L-1000	Epson LQ
Epson America, Inc.	L-750	Epson LQ
Epson America, Inc.	LQ 2070	Epson LQ
Epson America, Inc.	LQ-1000	Epson LQ
Epson America, Inc.	LQ-1010	Epson LQ
Epson America, Inc.	LQ-1050	Epson LQ
Epson America, Inc.	LQ-1060	Epson LQ
Epson America, Inc.	LQ-1070	Epson LQ
Epson America, Inc.	LQ-1070+	Epson Stylus
Epson America, Inc.	LQ-1170	Epson Stylus
Epson America, Inc.	LQ-1500	Epson LQ
Epson America, Inc.	LQ-200	Epson LQ
Epson America, Inc.	LQ-2170	Epson Stylus
Epson America, Inc.	LQ-2500	Epson LQ
Epson America, Inc.	LQ-2550	Epson LQ
Epson America, Inc.	LQ-300	Epson LQ
Epson America, Inc.	LQ-500	Epson LQ
Epson America, Inc.	LQ-510	Epson LQ
Epson America, Inc.	LQ-570	Epson LQ
Epson America, Inc.	LQ-570+	Epson Stylus
Epson America, Inc.	LQ-670	Epson Stylus
Epson America, Inc.	LQ-800	Epson LQ
Epson America, Inc.	LQ-850	Epson LQ
Epson America, Inc.	LQ-860	Epson LQ
Epson America, Inc.	LQ-870	Epson Stylus
Epson America, Inc.	LQ-950	Epson LQ
Epson America, Inc.	LX-300	Epson FX
Epson America, Inc.	LX-80	Epson FX
Epson America, Inc.	LX-800	Epson FX

Epson America, Inc.	LX-810	Epson FX
Epson America, Inc.	LX-86	Epson FX
Epson America, Inc.	LX-90	Epson FX
Epson America, Inc.	SQ-2000	Epson LQ
Epson America, Inc.	SQ-2500	Epson LQ
Epson America, Inc.	SQ-2550	Epson LQ
Epson America, Inc.	SQ-850	Epson LQ
Epson America, Inc.	Stylus 1000	Epson Stylus
Epson America, Inc.	Stylus 1500	Epson Stylus
Epson America, Inc.	Stylus 300	Epson Stylus
Epson America, Inc.	Stylus 400	Epson Stylus
Epson America, Inc.	Stylus 800	Epson Stylus
Epson America, Inc.	Stylus 800 Plus	Epson Stylus
Epson America, Inc.	Stylus 820	Epson Stylus
Epson America, Inc.	Stylus Color	Epson Stylus
Epson America, Inc.	Stylus Color 200	Epson Stylus
Epson America, Inc.	Stylus Color 400	Epson Stylus
Epson America, Inc.	Stylus Color 500	Epson Stylus
Epson America, Inc.	Stylus Color II	Epson Stylus
Epson America, Inc.	Stylus Color IIs	Epson Stylus
Epson America, Inc.	Stylus Pro	Epson Stylus
Epson America, Inc.	Stylus Pro XL	Epson Stylus
Epson America, Inc.	T-1000	Epson FX
Epson America, Inc.	T-750	Epson FX
Esselte Meto	LIS-1120	LaserJet II
Esselte Meto	LIS-1520	LaserJet II
Esselte Meto	LIS-1520a	LaserJet II
Facit	B1200	Epson FX
Facit	B2100	Epson FX
Facit	B2150	Epson FX
Facit	B2400	Epson LQ
Facit	B2450	Epson LQ
Facit	B3100	Epson FX
Facit	B3150	Epson FX
Facit	B3150C	Epson FX
Facit	B3350C	Epson FX
Facit	B3450C	Epson LQ
Facit	B3550C	Epson FX
Facit	C7400	Epson FX
Facit	C7500	Epson FX
Facit	D2600	Epson LQ
Facit	D4000	Epson FX
Facit	E420	Epson FX
Facit	E520	Epson FX
Facit	E530	Epson FX
Facit	E580	Epson LQ
Facit	E590	Epson LQ
Facit	E620	Epson FX
Facit	E630	Epson FX

Facit	E670	Epson LQ
Facit	E690	Epson LQ
Facit	E750	Epson FX
Facit	E7650	Epson FX
Facit	E950	Epson FX
Facit	P5160	LaserJet II
Facit	P6060	LaserJet II
Facit	P8100	LaserJet II
Facit	PowerPlus-408	Epson LQ
Fontex Technology	Syslaser	LaserJet II
Fortis	DM1310	Epson FX
Fortis	DM2210	Epson FX
Fortis	DM2215	Epson FX
Fortis	DM3215	Epson FX
Fortis	DP600S	LaserJet II
Fortis	DQ4110	Epson LQ
Fortis	DQ4210	Epson LQ
Fortis	DQ4215	Epson LQ
Fujitsu America, Inc.	Breeze 100	DeskJet
Fujitsu America, Inc.	Breeze 200	DeskJet
Fujitsu America, Inc.	DL 1100	Epson LQ
Fujitsu America, Inc.	DL 1100C	Epson LQ
Fujitsu America, Inc.	DL 1150	Epson LQ
Fujitsu America, Inc.	DL 1200	Epson LQ
Fujitsu America, Inc.	DL 1200C	Epson LQ
Fujitsu America, Inc.	DL 1250	Epson LQ
Fujitsu America, Inc.	DL 2400	Epson FX
Fujitsu America, Inc.	DL 2400C	Epson FX
Fujitsu America, Inc.	DL 2600	Epson FX
Fujitsu America, Inc.	DL 2600C	Epson FX
Fujitsu America, Inc.	DL 3300	Epson FX
Fujitsu America, Inc.	DL 3400	Epson FX
Fujitsu America, Inc.	DL 3400C	Epson FX
Fujitsu America, Inc.	DL 3450	Epson FX
Fujitsu America, Inc.	DL 3600	Epson LQ
Fujitsu America, Inc.	DL 3600C	Epson LQ
Fujitsu America, Inc.	DL 3700	Epson LQ
Fujitsu America, Inc.	DL 3800	Epson Stylus
Fujitsu America, Inc.	DL 4400	Epson LQ
Fujitsu America, Inc.	DL 4400C	Epson LQ
Fujitsu America, Inc.	DL 4600	Epson LQ
Fujitsu America, Inc.	DL 4600C	Epson LQ
Fujitsu America, Inc.	DL 5600	Epson FX
Fujitsu America, Inc.	DL 5600C	Epson FX
Fujitsu America, Inc.	DL 5800	Epson LQ
Fujitsu America, Inc.	DL 5800C	Epson LQ
Fujitsu America, Inc.	DL 6400	Epson Stylus
Fujitsu America, Inc.	DL 700	Epson Stylus
Fujitsu America, Inc.	DX 2300	Epson FX
Fujitsu America, Inc.	DX 2400	Epson FX

Fujitsu America, Inc.	Print Partner 10	LaserJet II
Fujitsu America, Inc.	Print Partner 10I	LaserJet II
Fujitsu America, Inc.	Print Partner 4000	LaserJet II
Fujitsu America, Inc.	Print Partner 8000	LaserJet II
Fujitsu America, Inc.	VM 2200	LaserJet II
General Business	GBT 6624 XP	LaserJet II
General Business	GBT 6824 XP	LaserJet II
General Business	GBT 6840 XP	LaserJet II
Genicom Corporation	1020	Epson FX
Genicom Corporation	1025	Epson FX
Genicom Corporation	1030	Epson LQ
Genicom Corporation	1040	Epson LQ
Genicom Corporation	1220	Epson LQ
Genicom Corporation	220	Epson FX
Genicom Corporation	240	Epson FX
Genicom Corporation	3810S	Epson FX
Genicom Corporation	3820	Epson FX
Genicom Corporation	3840	Epson FX
Genicom Corporation	3840 E	Epson FX
Genicom Corporation	3840 EM	Epson FX
Genicom Corporation	4810	Epson FX
Genicom Corporation	4840	Epson FX
Genicom Corporation	6100	LaserJet II
Genicom Corporation	6145	LaserJet II
Genicom Corporation	7040EC	LaserJet II
Genicom Corporation	7080EC	LaserJet II
Genicom Corporation	7080RP	LaserJet II
Genicom Corporation	7170	LaserJet II
Genicom Corporation	7610	LaserJet II
Genicom Corporation	7610i	LaserJet II
Genicom Corporation	7612+	LaserJet II
Genicom Corporation	7930	LaserJet II
Genicom Corporation	7930D	LaserJet II
Goldstar	PT-160M	Epson FX

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iTunes 7 for Windows: iTunes fails to launch with an unknown error

This article has been archived and is no longer updated by Apple.

Symptom

After installing iTunes 7.0 for Windows, some users may be unable to open iTunes and may see the error message shown here:

> The iTunes application could not be opened. An unknown error occurred (0x666D743F).

Solution

This issue may be resolved by following one or both of the options below:

Option 1

1. Click the **Start** button and choose **Control Panel**.
2. Open the **QuickTime** control panel and select the **Audio** tab.
3. In the **Devices** section de-select the **Safe mode (waveOut only)** option and click **Apply**.

Option 2

1. Click the **Start** button and choose **Control Panel**.
2. Open the **Sounds and Audio Devices** control panel.
3. Select the **Volume** tab.
4. Click the Advanced button under Speaker Settings.
5. On the **Speaker Setup** pop-up menu, click **Stereo Headphones**.
6. Click OK and then Click OK again.
7. Open iTunes.

Additional Information

If the Safe mode option is needed for another application, you may be able to re-enable this option once you have successfully opened iTunes 7.

This document will be updated as more information becomes available.

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Newton Print Pack 2.0: Compatible Printers (H - L)

The following table is a list of printers compatible with Newton Print Pack 2.0.
This article has been archived and is no longer updated by Apple.

Company	Printer	Driver
Harris Adacom	H286-01	Epson FX
Harris Adacom	H286-03	Epson FX
Hasi	P-250A	Epson FX
Hasi	P-250P	Epson FX
Hasi	P-255A	Epson FX
Hasi	P-255P	Epson FX
Hasi	P-524C	Epson FX
Hasi	P-555A	Epson FX
Hasi	P-555P	Epson FX
Hasi	P-810C	LaserJet II
Hermes	2001	Epson FX
Hermes	4003	Epson FX
Hermes	PC Printer 3	Epson FX
Hermes	PC Printer 4	Epson FX
Hewlett Packard Company (HP)	5000 C30	LaserJet II
Hewlett Packard Company (HP)	5000 C30D	LaserJet II
Hewlett Packard Company (HP)	5000-C40D	LaserJet II
Hewlett Packard Company (HP)	Color LaserJet 5	LaserJet II
Hewlett Packard Company (HP)	CopyJet M	DeskJet
Hewlett Packard Company (HP)	DeskJet	DeskJet
Hewlett Packard Company (HP)	Deskjet	DeskJet
Hewlett Packard Company (HP)	DeskJet 1200C	DeskJet
Hewlett Packard Company (HP)	DeskJet 1200C/PS	DeskJet Hewlett
Packard Company (HP)	DeskJet 1600C	DeskJet
Hewlett Packard Company (HP)	DeskJet 1600CM	DeskJet Hewlett
Packard Company (HP)	DeskJet 1600CN	DeskJet Hewlett
Packard Company (HP)	DeskJet 310	DeskJet
Hewlett Packard Company (HP)	DeskJet 320	DeskJet
Hewlett Packard Company (HP)	DeskJet 340	DeskJet
Hewlett Packard Company (HP)	DeskJet 400	DeskJet
Hewlett Packard Company (HP)	DeskJet 500	DeskJet
Hewlett Packard Company (HP)	DeskJet 500C	DeskJet
Hewlett Packard Company (HP)	DeskJet 520	DeskJet
Hewlett Packard Company (HP)	DeskJet 540	DeskJet
Hewlett Packard Company (HP)	DeskJet 550C	DeskJet
Hewlett Packard Company (HP)	DeskJet 560C	DeskJet
Hewlett Packard Company (HP)	DeskJet 600	DeskJet
Hewlett Packard Company (HP)	DeskJet 600C	DeskJet
Hewlett Packard Company (HP)	DeskJet 660C	DeskJet
Hewlett Packard Company (HP)	Deskjet 670C	DeskJet
Hewlett Packard Company (HP)	DeskJet 672C	DeskJet
Hewlett Packard Company (HP)	DeskJet 680C	DeskJet
Hewlett Packard Company (HP)	DeskJet 682C	DeskJet
Hewlett Packard Company (HP)	DeskJet 690C	DeskJet
Hewlett Packard Company (HP)	Deskjet 692C	DeskJet

Hewlett Packard Company (HP)	DeskJet 693C	DeskJet
Hewlett Packard Company (HP)	DeskJet 694C	DeskJet
Hewlett Packard Company (HP)	DeskJet 870csi	DeskJet
Hewlett Packard Company (HP)	Deskjet 890C	DeskJet
Hewlett Packard Company (HP)	Deskjet 890Cxi	DeskJet
Hewlett Packard Company (HP)	DeskJet Plus	DeskJet
Hewlett Packard Company (HP)	DeskJet Portable	DeskJet
Hewlett Packard Company (HP)	LaserJet 4	LaserJet II
Hewlett Packard Company (HP)	LaserJet 4+	LaserJet II
Hewlett Packard Company (HP)	LaserJet 4000	LaserJet II
Hewlett Packard Company (HP)	LaserJet 4L	LaserJet II
Hewlett Packard Company (HP)	LaserJet 4M	LaserJet II
Hewlett Packard Company (HP)	LaserJet 4M+	LaserJet II
Hewlett Packard Company (HP)	LaserJet 4MP	LaserJet II
Hewlett Packard Company (HP)	LaserJet 4MV	LaserJet II
Hewlett Packard Company (HP)	LaserJet 4P	LaserJet II
Hewlett Packard Company (HP)	LaserJet 4SI	LaserJet II
Hewlett Packard Company (HP)	LaserJet 4SI MX	LaserJet II
Hewlett Packard Company (HP)	LaserJet 4V	LaserJet II
Hewlett Packard Company (HP)	LaserJet 5	LaserJet II
Hewlett Packard Company (HP)	LaserJet 5L	LaserJet II
Hewlett Packard Company (HP)	LaserJet 5M	LaserJet II
Hewlett Packard Company (HP)	LaserJet 5MP	LaserJet II
Hewlett Packard Company (HP)	LaserJet 5N	LaserJet II
Hewlett Packard Company (HP)	LaserJet 5P	LaserJet II
Hewlett Packard Company (HP)	LaserJet 5SI	LaserJet II
Hewlett Packard Company (HP)	Laserjet 6L	LaserJet II
Hewlett Packard Company (HP)	LaserJet 6Lse	LaserJet II
Hewlett Packard Company (HP)	LaserJet 6Lxi	LaserJet II
Hewlett Packard Company (HP)	LaserJet 6MP	LaserJet II
Hewlett Packard Company (HP)	LaserJet 6P	LaserJet II
Hewlett Packard Company (HP)	LaserJet 6Pxi	LaserJet II
Hewlett Packard Company (HP)	LaserJet II	LaserJet II
Hewlett Packard Company (HP)	LaserJet II D	LaserJet II
Hewlett Packard Company (HP)	LaserJet II P	LaserJet II
Hewlett Packard Company (HP)	LaserJet II P Plus	LaserJet II
Hewlett Packard Company (HP)	LaserJet III	LaserJet II
Hewlett Packard Company (HP)	LaserJet III D	LaserJet II
Hewlett Packard Company (HP)	LaserJet III P	LaserJet II
Hewlett Packard Company (HP)	LaserJet III Si	LaserJet II
Hewlett Packard Company (HP)	OfficeJet 300	DeskJet
Hewlett Packard Company (HP)	OfficeJet 330	DeskJet
Hewlett Packard Company (HP)	OfficeJet 350	DeskJet
Hewlett Packard Company (HP)	OfficeJet 500	DeskJet
Hewlett Packard Company (HP)	OfficeJet 570	DeskJet
Hewlett Packard Company (HP)	OfficeJet 600	DeskJet
Hewlett Packard Company (HP)	OfficeJet 610	DeskJet
Hewlett Packard Company (HP)	OfficeJet 630	DeskJet
Hewlett Packard Company (HP)	OfficeJet LX	DeskJet

Hewlett Packard Company (HP)	Officejet Pro 1150C	DeskJet
Hewlett Packard Company (HP)	PaintJet XL300	LaserJet II
Hewlett Packard Company (HP)	RuggedWriter	Epson LQ
Hewlett Packard Company (HP)	RuggedWriter 480	Epson LQ
Hewlett Packard Company (HP)	scanjet 5P	DeskJet
Hyundai	HDP-1810	Epson FX
Hyundai	HDP-1820	Epson FX
Hyundai	HDP-910	Epson FX
Hyundai	HDP-920	Epson FX
Hyundai	HLP-6000	LaserJet II
Hyundai	Pinovia 2430	Epson LQ
Hyundai	Pinovia 2440	Epson LQ
IBM/Lexmark	3912-AS0	LaserJet II
IBM/Lexmark	3912-AS1	LaserJet II
IBM/Lexmark	3912-NS0	LaserJet II
IBM/Lexmark	3916 PagePrinter AS0	LaserJet II
IBM/Lexmark	3916 PagePrinter AS1	LaserJet II
IBM/Lexmark	3916 PagePrinter NS0	LaserJet II
IBM/Lexmark	3916 PagePrinter NS1	LaserJet II
IBM/Lexmark	3930 PagePrinter 03D	LaserJet II
IBM/Lexmark	3930 PagePrinter 03S	LaserJet II
IBM/Lexmark	4019 LaserPrinter	LaserJet II
IBM/Lexmark	4019 LaserPrinter E	LaserJet II
IBM/Lexmark	4029-10 LaserPrinter 5E	LaserJet II
IBM/Lexmark	4029-20 LaserPrinter 6	LaserJet II
IBM/Lexmark	4029-22 LaserPrinter 6P	LaserJet II
IBM/Lexmark	4029-30 LaserPrinter 10	LaserJet II
IBM/Lexmark	4029-40 LaserPrinter 10L	LaserJet II
IBM/Lexmark	4029-42 LaserPrinter 10P	LaserJet II
IBM/Lexmark	4037-5E	LaserJet II
IBM/Lexmark	4039-10Plus	LaserJet II
IBM/Lexmark	4039-12L Plus	LaserJet II
IBM/Lexmark	4070	Canon BJ -10ex
IBM/Lexmark	4079	Epson LQ
IBM/Lexmark	4230-XI3	Epson FX
IBM/Lexmark	4230-XS3	Epson FX
IBM/Lexmark	6408-A00	Epson FX
IBM/Lexmark	6408-CTA	Epson FX
IBM/Lexmark	6412-A00	Epson FX
IBM/Lexmark	Color JetPrinter 3000	DeskJet
IBM/Lexmark	ExecJet 4072	Epson LQ
IBM/Lexmark	ExecJet II 4076	DeskJet
IBM/Lexmark	Forms Printer 2380 Plus	Epson FX
IBM/Lexmark	Forms Printer 2381 Plus	Epson FX
IBM/Lexmark	Forms Printer 2390 Plus	Epson LQ
IBM/Lexmark	Forms Printer 2391 Plus	Epson LQ
IBM/Lexmark	Forms Printer 4226	Epson FX
IBM/Lexmark	Medley 4c	DeskJet
IBM/Lexmark	Medley 4sx	DeskJet
IBM/Lexmark	Medley 4x	DeskJet

IBM/Lexmark	Optra E	LaserJet II
IBM/Lexmark	Optra EP	LaserJet II
IBM/Lexmark	Optra L	LaserJet II
IBM/Lexmark	Optra Lx	LaserJet II
IBM/Lexmark	Optra Lx+	LaserJet II
IBM/Lexmark	Optra Lxi	LaserJet II
IBM/Lexmark	Optra Lxn+	LaserJet II
IBM/Lexmark	Optra N Model 240	LaserJet II
IBM/Lexmark	Optra N Model 245	LaserJet II
IBM/Lexmark	Optra R	LaserJet II
IBM/Lexmark	Optra R+	LaserJet II
IBM/Lexmark	Optra Rn+	LaserJet II
IBM/Lexmark	Optra Rt+	LaserJet II
IBM/Lexmark	Optra Rx	LaserJet II
IBM/Lexmark	WinWriter 600	LaserJet II
Idea Courier	13087	Epson FX
Idea Courier	13412-06	LaserJet II
Idea Courier	13X34	Epson FX
Idea Courier	13X54	Epson FX
Idea Courier	13X80	Epson FX
Ideal	850 DL	LaserJet II
Ideal	850 XL	LaserJet II
Ideal	Demon 480	LaserJet II
Impression Technology	500 Twin-Ax	Epson LQ
Impression Technology	ZL1 Coax	LaserJet II
Impression Technology	ZL1 Twin-Ax	LaserJet II
Interface Systems, Inc.	9624	LaserJet II
Interface Systems, Inc.	ISI-7028	LaserJet II
Interface Systems, Inc.	ISI-7028	LaserJet II
Interface Systems, Inc.	ISI-7028D	LaserJet II
Interface Systems, Inc.	ISI-7812	LaserJet II
JDL	AutoPlotter	Epson LQ
JDL	AutoPlotter XP	Epson LQ
JDL	OmniPlotter	Epson LQ
JPS MicroSystems	MAXX/8	LaserJet II
JRL Systems, Inc.	JR670-1	Epson LQ
Kentek Information Systems, Inc.	K-2 +	LaserJet II
Kentek Information Systems, Inc.	K-3	LaserJet II
Kentek Information Systems, Inc.	K-30	LaserJet II
Kentek Information Systems, Inc.	K-30D	LaserJet II
Kentek Information Systems, Inc.	K-4	LaserJet II
Kentek Information Systems, Inc.	K-40D	LaserJet II
Kentek Information Systems, Inc.	K-60	LaserJet II
Konica Business Machines USA, Inc.	7310	LaserJet II
Konica Business Machines USA, Inc.	7410	LaserJet II
Konica Business Machines USA, Inc.	7410	LaserJet II
Konica Business Machines USA, Inc.	LP-3015	LaserJet II
Konica Business Machines USA, Inc.	LP-3110	LaserJet II
Konica Business Machines USA, Inc.	LP-3210	LaserJet II

Kyocera Electronics, Inc.	F-1500A	LaserJet II
Kyocera Electronics, Inc.	F-1800A	LaserJet II
Kyocera Electronics, Inc.	F-2000A	LaserJet II
Kyocera Electronics, Inc.	F-2010	LaserJet II
Kyocera Electronics, Inc.	F-3000A	LaserJet II
Kyocera Electronics, Inc.	F-3010	LaserJet II
Kyocera Electronics, Inc.	F-3500A	LaserJet II
Kyocera Electronics, Inc.	F-5000A	LaserJet II
Kyocera Electronics, Inc.	F-5500A	LaserJet II
Kyocera Electronics, Inc.	F-800	LaserJet II
Kyocera Electronics, Inc.	F-800A	LaserJet II
Kyocera Electronics, Inc.	F-820	LaserJet II
Kyocera Electronics, Inc.	F-850	LaserJet II
Kyocera Electronics, Inc.	FS-1500A	LaserJet II
Kyocera Electronics, Inc.	FS-1500A aSi	LaserJet II
Kyocera Electronics, Inc.	FS-1550	LaserJet II
Kyocera Electronics, Inc.	FS-1550+	LaserJet II
Kyocera Electronics, Inc.	FS-1550A	LaserJet II
Kyocera Electronics, Inc.	FS-1600	LaserJet II
Kyocera Electronics, Inc.	FS-1600+	LaserJet II
Kyocera Electronics, Inc.	FS-1600A	LaserJet II
Kyocera Electronics, Inc.	FS-3400	LaserJet II
Kyocera Electronics, Inc.	FS-3500	LaserJet II
Kyocera Electronics, Inc.	FS-3500A	LaserJet II
Kyocera Electronics, Inc.	FS-3600	LaserJet II
Kyocera Electronics, Inc.	FS-3600+	LaserJet II
Kyocera Electronics, Inc.	FS-400	LaserJet II
Kyocera Electronics, Inc.	FS-400A	LaserJet II
Kyocera Electronics, Inc.	FS-6500	LaserJet II
Kyocera Electronics, Inc.	IPH	LaserJet II
Kyocera Electronics, Inc.	IPH-3500	LaserJet II
Kyocera Electronics, Inc.	IPH-3503	LaserJet II
Kyocera Electronics, Inc.	IPH-3503C	LaserJet II
Kyocera Electronics, Inc.	IPH-3504	LaserJet II
Lanier	1160 MFD	LaserJet II
Lasermaster Corporation	Unity Turbo XL	LaserJet II
Lee Data	1314	Epson FX
Lee Data	1314W	Epson FX
Lee Data	1315	Epson FX
Lexi Corporation	1012	LaserJet II
Lexi Corporation	1019 II	LaserJet II
Lexi Corporation	2012	LaserJet II

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Newton Print Pack 2.0: Compatible Printers (M - O)

The following table is a list of printers compatible with Newton Print Pack 2.0.
This article has been archived and is no longer updated by Apple.

Company	Printer	Driver
Mannesmann Tally Corporation	MT 130/ 9	Epson FX
Mannesmann Tally Corporation	MT 130/24	Epson LQ
Mannesmann Tally Corporation	MT 131/ 9	Epson FX
Mannesmann Tally Corporation	MT 131/24	Epson LQ
Mannesmann Tally Corporation	MT 150/24	Epson LQ
Mannesmann Tally Corporation	MT 150/9	Epson FX
Mannesmann Tally Corporation	MT 151/24	Epson LQ
Mannesmann Tally Corporation	MT 151/9	Epson FX
Mannesmann Tally Corporation	MT 222	Epson LQ
Mannesmann Tally Corporation	MT 230/ 9	Epson FX
Mannesmann Tally Corporation	MT 230/24	Epson LQ
Mannesmann Tally Corporation	MT 290	Epson FX
Mannesmann Tally Corporation	MT 330	Epson LQ
Mannesmann Tally Corporation	MT 340	Epson FX
Mannesmann Tally Corporation	MT 350	Epson LQ
Mannesmann Tally Corporation	MT 360	Epson LQ
Mannesmann Tally Corporation	MT 490	Epson FX
Mannesmann Tally Corporation	MT 645	Epson FX
Mannesmann Tally Corporation	MT 661	Epson FX
Mannesmann Tally Corporation	MT 691	Epson FX
Mannesmann Tally Corporation	MT 735	LaserJet II
Mannesmann Tally Corporation	MT 7400C	DeskJet
Mannesmann Tally Corporation	MT 81	Epson FX
Mannesmann Tally Corporation	MT 82	Epson LQ
Mannesmann Tally Corporation	MT 85	Epson FX
Mannesmann Tally Corporation	MT 86	Epson FX
Mannesmann Tally Corporation	MT 87	Epson FX
Mannesmann Tally Corporation	MT 88	Epson FX
Mannesmann Tally Corporation	MT 904	LaserJet II
Mannesmann Tally Corporation	MT 905	LaserJet II
Mannesmann Tally Corporation	MT 906	LaserJet II
Mannesmann Tally Corporation	MT 906WP	LaserJet II
Mannesmann Tally Corporation	MT 908	LaserJet II
Mannesmann Tally Corporation	MT 911	LaserJet II
Mannesmann Tally Corporation	MT 911PS	LaserJet II
Mannesmann Tally Corporation	MT 92C	DeskJet
Mannesmann Tally Corporation	T6082	Epson FX
Mannesmann Tally Corporation	T6092	Epson FX
Mannesmann Tally Corporation	T7070	Epson LQ
Mannesmann Tally Corporation	T9005	LaserJet II
Mannesmann Tally Corporation	T9008	LaserJet II
Memorex Telex	1208	Epson FX
Meto	LIS-1630	LaserJet II
Miltope Business	Series 30L	LaserJet II
Miltope Business	Series 30M	LaserJet II

Minolta Corporation	SP-6CL	LaserJet II
Minolta Corporation	SP-6DL	LaserJet II
Minolta Corporation	SP101	LaserJet II
Minolta Corporation	SP10CL	LaserJet II
Mita Copystar	LP-2080	LaserJet II
Mita Copystar	LP-2085	LaserJet II
Mita Copystar	LP-3155	LaserJet II
Mita Copystar	LP-3160	LaserJet II
NCR	577	Epson FX
NCR	6417	Epson FX
NCR	6421	Epson FX
NCR	6424	Epson FX
NCR	6435	LaserJet II
NCR	6436-0301	LaserJet II
NCR	6436-0501	LaserJet II
NEC Technologies, Inc.	Intellitech Intellibar 412	LaserJet II
NEC Technologies, Inc.	JetMate	DeskJet
NEC Technologies, Inc.	Silentwriter LC 260	LaserJet II
NEC Technologies, Inc.	Silentwriter LC 860	LaserJet II
NEC Technologies, Inc.	SuperScript 100C	LaserJet II
NEC Technologies, Inc.	SuperScript 860	LaserJet II
Newbury Data	OSP 3	Epson FX
Nissho	NP 2405	Epson LQ
Nissho	NP 2410	Epson LQ
Octus	LaserPro 90/22 Plus	LaserJet II
Octus	LaserPro 90/24E	LaserJet II
Office Automation	LaserPro 90/22	LaserJet II
Office Automation	LaserPro 90/8	LaserJet II
Office Automation	LaserPro Exec	LaserJet II
Okidata	DOC*IT 4000	LaserJet II
Okidata	LaserLine 6	LaserJet II
Okidata	Microline 280	Epson FX
Okidata	MicroLine 320	Epson FX
Okidata	MicroLine 320 Elite	Epson FX
Okidata	MicroLine 320 Turbo	Epson LQ
Okidata	MicroLine 321	Epson FX
Okidata	MicroLine 321 Elite	Epson FX
Okidata	MicroLine 321 Turbo	Epson LQ
Okidata	MicroLine 3410	Epson FX
Okidata	MicroLine 380	Epson LQ
Okidata	MicroLine 390	Epson LQ
Okidata	MicroLine 390 Elite	Epson LQ
Okidata	MicroLine 390 FB	Epson LQ
Okidata	MicroLine 390 Plus	Epson LQ
Okidata	MicroLine 391	Epson LQ
Okidata	MicroLine 391 Elite	Epson LQ
Okidata	MicroLine 391 Plus	Epson LQ
Okidata	MicroLine 393	Epson LQ
Okidata	MicroLine 393 B Plus	Epson LQ

Okidata	MicroLine 393 C	Epson LQ
Okidata	MicroLine 393 C Elite	Epson LQ
Okidata	MicroLine 393 C Plus	Epson LQ
Okidata	MicroLine 393 Elite	Epson LQ
Okidata	MicroLine 393 Plus	Epson LQ
Okidata	MicroLine 395	Epson LQ
Okidata	MicroLine 395C	Epson LQ
Okidata	MicroLine 520	Epson FX
Okidata	MicroLine 521	Epson FX
Okidata	MicroLine 590	Epson Stylus
Okidata	MicroLine 591	Epson Stylus
Okidata	OkiLaser 1200	LaserJet II
Okidata	OkiLaser 1200/PS	LaserJet II
Okidata	OkiLaser 400	LaserJet II
Okidata	OkiLaser 400e	LaserJet II
Okidata	OkiLaser 410e	LaserJet II
Okidata	OkiLaser 410e/PS	LaserJet II
Okidata	OkiLaser 600e	LaserJet II
Okidata	OkiLaser 610e	LaserJet II
Okidata	OkiLaser 610e/PS	LaserJet II
Okidata	OkiLaser 800	LaserJet II
Okidata	OkiLaser 810	LaserJet II
Okidata	OkiLaser 810e	LaserJet II
Okidata	OkiLaser 810e/PS	LaserJet II
Okidata	OkiLaser 820	LaserJet II
Okidata	OkiLaser 830	LaserJet II
Okidata	OkiMate 240	Epson LQ
Okidata	Okipage 16n	LaserJet II
Okidata	OkiPage 4w	LaserJet II
Okidata	Okipage 6e	LaserJet II
Okidata	Okipage 6ex	LaserJet II
Okidata	PaceMark 3410	Epson FX
Olivetti	DM 100S	Epson FX
Olivetti	DM 105S	Epson FX
Olivetti	DM 124	Epson LQ
Olivetti	DM 309E	Epson FX
Olivetti	DM 600S	Epson LQ
Olivetti	DOC*IT 3000	LaserJet II
Olivetti	JP 150	DeskJet
Olivetti	JP 350	DeskJet
Olivetti	JP 450	DeskJet
Olivetti	PG 306	LaserJet II
Olympus Image Systems, Inc.	Deltis PagePlex 18	LaserJet II
Olympus Image Systems, Inc.	MegaServe/45	LaserJet II
OTC	2132	Epson FX
OTC	2142	Epson FX
OTC	2162	Epson FX
OTC	4130	Epson FX
OTC	4140	Epson FX
OTC	560 DL	Epson FX

OTC	850 Printnet	Epson FX
OTC	850 XL	Epson FX
OTC	888 XL	Epson FX
OTC	888 XL/Model 2	Epson FX
OTC	889 XL	Epson FX
OTC	889 XL/Model 2	Epson FX
OTC	Duraline	Epson FX
OTC	Euroline 400	Epson FX
OTC	Euroline 600	Epson FX
OTC	Euroline 800	Epson FX
OTC	LaserMatrix 1000 Model 1	LaserJet II
OTC	LaserMatrix 1000 Model 2	LaserJet II
OTC	LaserMatrix 1000 Model 3	LaserJet II
OTC	LaserMatrix 1000 Model 5	LaserJet II
OTC	LaserMatrix 1000 Model 6	LaserJet II
OTC	OT-700N	Epson FX
Output Technology Corporation	LaserMatrix 1000 M 5	LaserJet II
Output Technology Corporation	Lasermatrix 2405	LaserJet II
Output Technology Corporation	Lasermatrix 2406	LaserJet II

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iPod: How to use the search feature

This article has been archived and is no longer updated by Apple.

iPod nano (Second Generation) and Fifth Generation iPod (Late 2006), both announced 2006-09-12, allow you to search iPod for songs, album titles, artist names, podcasts, and audio books. The search feature does not search videos, notes, calendars, contacts, or lyrics. **Note**: The search feature only supports Roman characters.

To search iPod:

1. Select **Music > Search**.
2. Enter a search string by using the Click Wheel to navigate the alphabet and pressing the Center button to enter each character. iPod starts searching as soon as you enter the first character, displaying the results on the search screen. For example, if you enter "b," then iPod displays all music items containing the letter "b." If you enter "ab," iPod displays all items containing that sequence of letters.
    - To enter a space, press the Next/Fast-forward button.
    - To delete the previous character, click the back arrow or press the Previous/Rewind button.
3. Click DONE to display the found list, which you can now navigate.

Songs in the found list appear without an icon. Other items are preceded by an icon to show the type of item:

- Album

- Artist

- Audiobook

- Podcast

Search found list screen

To return to Search, press the Menu button.

Published Date: Feb 18, 2012

Newton Print Pack 2.0: Compatible Printers (P - R)

The following table is a list of printers compatible with Newton Print Pack 2.0.
This article has been archived and is no longer updated by Apple.

Company	Printer	Driver
PCPI	1030	LaserJet II
PCPI	1030-ID	LaserJet II
PCPI	1030-IS	LaserJet II
PCPI	1030-LN03+	LaserJet II
PCPI	1030-PP	LaserJet II
PCPI	1032	LaserJet II
PCPI	1034	LaserJet II
PCPI	1035	LaserJet II
PCPI	1100-PS	LaserJet II
PCPI	2020	LaserJet II
PCPI	2020-ID	LaserJet II
PCPI	2020-IS	LaserJet II
PCPI	2024	LaserJet II
PCPI	2025	LaserJet II
PCPI	2500-ID	LaserJet II
PCPI	2500-IS	LaserJet II
PCPI	2500-OA	LaserJet II
PCPI	2500-PP	LaserJet II
PCPI	3020	LaserJet II
PCPI	3020-ID	LaserJet II
PCPI	3020-IS	LaserJet II
PCPI	3020-LN03+	LaserJet II
PCPI	3020-PP	LaserJet II
PCPI	3022	LaserJet II
PCPI	3024	LaserJet II
PCPI	3025	LaserJet II
Pentax Technologies	Laserfold 240	Epson FX
Pentax Technologies	PocketJet	LaserJet II
Prime Computer	3451	LaserJet II
Printek	930 DLX	Epson FX
Printek	FormsPro 2000	Epson FX
Printek	FormsPro 4000	Epson FX
Printek	FormsPro 4300	Epson FX
Printer Systems Corp. (PSC)	IntelliPrint 106	LaserJet II
Printer Systems Corp. (PSC)	IntelliPrint 218	LaserJet II
Printronix	2324 Net LANPrinter	LaserJet II
Printronix	L1024 Page Printer	LaserJet II
Printronix	L2324-D Net LANPrinter	LaserJet II
Printronix	L2324-D PagePrinter	LaserJet II
Printronix	L2324-S Net LANPrinter	LaserJet II
Printronix	L2324-S PagePrinter	LaserJet II
Printronix	L2416-D (IPDS)	LaserJet II
Printronix	L2624	LaserJet II
Printronix	L3824-D PagePrinter	LaserJet II
Printronix	P1013	Epson LQ

Printronix	P3240	Epson LQ
QMS, Inc.	ImageStation/S	Epson FX
QMS, Inc.	Magicolor CX/20	LaserJet II
QMS, Inc.	Magicolor CX/32	LaserJet II
QMS, Inc.	Magicolor CX/8	LaserJet II
QMS, Inc.	QMS 2425 Print System	LaserJet II
Qume	CrystalPrint Series II	LaserJet II
Qume	CrystalPrint Super Series II	LaserJet II
Relisys	RP 1814	Epson FX
Relisys	RP 2410	Epson FX
Ricoh Corporation	3100L	LaserJet II
Ricoh Corporation	MFC 880 MP	Canon BJC
Ricoh Corporation	MV 714	Epson LQ
Ricoh Corporation	MV-74	Epson LQ
Roland	LP-800	LaserJet II
Roland	PR-1212A	Epson FX
Roland	PR-1515	Epson LQ
Roland	PR-2416	Epson LQ
Roland	PR-2417	Epson LQ
Roland	PR-2418	Epson LQ
Roland	PR-2465	Epson LQ
Roland	PR-9101	Epson FX
Roland	PR-9104	Epson FX
Roland	PR-9606	Epson FX
Rosetta Technologies Corp.	RT3216 Continuous Laser	LaserJet II
Rosetta Technologies Corp.	RT3316M Contin. MICR Laser	LaserJet II
Rosetta Technologies Corp.	RT4115	LaserJet II
Rosetta Technologies Corp.	RT4224	LaserJet II
Rosetta Technologies Corp.	RT4224M MICR	LaserJet II
Rosetta Technologies Corp.	RT4230	LaserJet II
Rosetta Technologies Corp.	RT4324 Duplex	LaserJet II
Rosetta Technologies Corp.	RT4330 Duplex	LaserJet II
Rosetta Technologies Corp.	RT4430	LaserJet II
Rosetta Technologies Corp.	RT4530 Duplex	LaserJet II
Royal Consumer Business Products	CJP 450	DeskJet

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QuickTime 7.1.3 and Adobe Flash

This article has been archived and is no longer updated by Apple.

The version of Flash that ships in QuickTime is older than the version available from Adobe and used in Safari, therefore, while we still ship Flash with QuickTime, it is turned off by default.

Important: Information about products not manufactured by Apple is provided for information purposes only and does not constitute Apple's recommendation or endorsement. Please contact the vendor for additional information.

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Newton Print Pack 2.0: Compatible Printers (S - Z)

The following table is a list of printers compatible with Newton Print Pack 2.0.
This article has been archived and is no longer updated by Apple.

Company	Printer	Driver
Samsung	Finale 8000	LaserJet II
Samsung	ML-85	LaserJet II
Samsung	QwikLaser QL85	LaserJet II
Samsung	SP-0912	Epson FX
Samsung	SP-0930N	Epson FX
Samsung	SP-2412	Epson FX
Samsung	SP-2417	Epson LQ
Samsung	SP-2420	Epson LQ
Samsung	SP-2431	Epson LQ
Sanyo	MFP-510	LaserJet II
Sanyo	PR-241	Epson LQ
Sanyo	SFX-P55	Canon BJ -10ex
Sanyo	SPX-508	LaserJet II
Sanyo	SPX-508D	LaserJet II
Sanyo	SPX-508V	LaserJet II
Sanyo	SPX-608	LaserJet II
Seikosha	BP-5420 FA	Epson FX
Seikosha	BP-5460	Epson FX
Seikosha	BP-5780	Epson FX
Seikosha	BP-7800	Epson FX
Seikosha	LT-20	Epson LQ
Seikosha	MP-1200 AI	Epson FX
Seikosha	MP-1350 AI	Epson FX
Seikosha	MP-3000 AI	Epson FX
Seikosha	MP-3005 AI	Epson FX
Seikosha	MP-5300 AI	Epson FX
Seikosha	MP-5305 AI	Epson FX
Seikosha	MP-5350 AI	Epson FX
Seikosha	OP-104	LaserJet II
Seikosha	OP-108	LaserJet II
Seikosha	OP-115	LaserJet II
Seikosha	OP-215	LaserJet II
Seikosha	Priente 2400	Epson LQ
Seikosha	Priente 900	Epson FX
Seikosha	SBP-10 AI	Epson FX
Seikosha	SBP-10 CX	Epson FX
Seikosha	SBP-10 Plus	Epson FX
Seikosha	SBP-10 TX	Epson FX
Seikosha	SK-3000 AI	Epson FX
Seikosha	SK-3005 AI	Epson FX
Seikosha	SK-3005 Plus	Epson FX
Seikosha	SL-130 AI	Epson LQ
Seikosha	SL-210	Epson LQ
Seikosha	SL-230 AI	Epson LQ
Seikosha	SL-270	Epson LQ

Seikosha	SL-532	Epson LQ
Seikosha	SL-70	Epson LQ
Seikosha	SL-80 AI	Epson LQ
Seikosha	SL-90	Epson LQ
Seikosha	SL-90 AI	Epson LQ
Seikosha	SL-90 Plus	Epson LQ
Seikosha	SL-92 Plus	Epson LQ
Seikosha	SP-10 Plus	Epson FX
Seikosha	SP-1600 AI	Epson FX
Seikosha	SP-185 AI	Epson FX
Seikosha	SP-1900 Plus	Epson FX
Seikosha	SP-2000 AI	Epson FX
Seikosha	SP-2000 Plus	Epson FX
Seikosha	SP-2000 S	Epson FX
Seikosha	SP-2400	Epson FX
Seikosha	SP-2415	Epson FX
Seikosha	SP-2450	Epson FX
Sharp Electronics Corporation	JX-9460PS	LaserJet II
Sharp Electronics Corporation	JX-9500	LaserJet II
Sharp Electronics Corporation	JX-9500H	LaserJet II
Sharp Electronics Corporation	JX-9500PS	LaserJet II
Sharp Electronics Corporation	JX-9550	LaserJet II
Sharp Electronics Corporation	JX-9600	LaserJet II
Sharp Electronics Corporation	JX-9700	LaserJet II
Siemens Nixdorf Printing Systems LP	HighPrint 730	DeskJet
Siemens Nixdorf Printing Systems LP	HighPrint 735	DeskJet
Siemens Nixdorf Printing Systems LP	LP 2030-1	LaserJet II
Siemens Nixdorf Printing Systems LP	LP PT 88 S	Epson FX
Siemens Nixdorf Printing Systems LP	LP PT 89 S	Epson FX
Star Micronics America, Inc.	LaserPrinter 4	LaserJet II
Star Micronics America, Inc.	LaserPrinter 8III	LaserJet II
Star Micronics America, Inc.	LC 10	Epson FX
Star Micronics America, Inc.	LC 20	Epson FX
Star Micronics America, Inc.	LC 200	Epson FX
Star Micronics America, Inc.	LC 24-15	Epson LQ
Star Micronics America, Inc.	LC 24-20	Epson LQ
Star Micronics America, Inc.	LC 24-200	Epson LQ
Star Micronics America, Inc.	LC 24-200 Colour	Epson LQ
Star Micronics America, Inc.	LS 5	LaserJet II
Star Micronics America, Inc.	LS 5-EX	LaserJet II
Star Micronics America, Inc.	NB 15	Epson LQ
Star Micronics America, Inc.	NB 24-10	Epson LQ
Star Micronics America, Inc.	NB 24-15	Epson LQ
Star Micronics America, Inc.	NX 1000	Epson LQ
Star Micronics America, Inc.	NX 1000 II	Epson FX
Star Micronics America, Inc.	NX 1000 Rainbow	Epson FX
Star Micronics America, Inc.	NX 1001	Epson FX
Star Micronics America, Inc.	NX 1020 Rainbow	Epson FX
Star Micronics America, Inc.	NX 1040 Rainbow	Epson LQ
Star Micronics America, Inc.	NX 15	Epson FX

Star Micronics America, Inc.	NX 1500	Epson FX
Star Micronics America, Inc.	NX 2400	Epson LQ
Star Micronics America, Inc.	NX 2410	Epson LQ
Star Micronics America, Inc.	NX 2415	Epson LQ
Star Micronics America, Inc.	NX 2420 Rainbow	Epson LQ
Star Micronics America, Inc.	NX 2430	Epson LQ
Star Micronics America, Inc.	NX 2450 Rainbow	Epson LQ
Star Micronics America, Inc.	NX 2480 Rainbow	Epson LQ
Star Micronics America, Inc.	StarJet SJ-144	Epson LQ
Star Micronics America, Inc.	StarJet SJ-144 MC	Epson LQ
Star Micronics America, Inc.	StarJet SJ-48	Epson LQ
Star Micronics America, Inc.	StarJet SJ-48 Plus	Epson LQ
Star Micronics America, Inc.	XB 2410	Epson LQ
Star Micronics America, Inc.	XB 2415	Epson LQ
Star Micronics America, Inc.	XB 2420	Epson LQ
Star Micronics America, Inc.	XB 2425	Epson LQ
Star Micronics America, Inc.	XR 1000	Epson FX
Star Micronics America, Inc.	XR 1020	Epson FX
Star Micronics America, Inc.	XR 1500	Epson FX
Star Micronics America, Inc.	XR 1520	Epson FX
Storage Technology	6024T	LaserJet II
Sun	Sparcprinter EC	LaserJet II
Swintec	SP 3624 DX	Epson FX
Swintec	SP 824 DX	Epson FX
Synergystex	CF1000	LaserJet II
Talaris Systems Inc.	1590	LaserJet II
Talaris Systems Inc.	1794 Printstation	LaserJet II
Talaris Systems Inc.	1794FT Imagestation	LaserJet II
Talaris Systems Inc.	2090	LaserJet II
Talaris Systems Inc.	2090 Printstation	LaserJet II
Talaris Systems Inc.	2090-FT	LaserJet II
Talaris Systems Inc.	2090-FT Imagestation	LaserJet II
Talaris Systems Inc.	2090-S	LaserJet II
Talaris Systems Inc.	2090-S Printstation	LaserJet II
Talaris Systems Inc.	3290-FT	LaserJet II
Tandem Computers Inc.	5573D Laser	LaserJet II
Tandy/Radio Shack	DMP 103	Epson FX
Tandy/Radio Shack	DMP 135	Epson FX
Tandy/Radio Shack	DMP 136	Epson FX
Tandy/Radio Shack	DMP 137	Epson FX
Tandy/Radio Shack	DMP 2103	Epson LQ
Tandy/Radio Shack	DMP 2104	Epson LQ
Tandy/Radio Shack	DMP 2130	Epson FX
Tandy/Radio Shack	DMP 240	Epson LQ
Tandy/Radio Shack	DMP 302	Epson LQ
Tandy/Radio Shack	LP 1000	LaserJet II
Tandy/Radio Shack	LP 950	LaserJet II
Tandy/Radio Shack	LP 990	LaserJet II
Taneum	TCP 340	Epson FX

TEC America Electronics, Inc.	GB-8960	Epson FX
TEC America Electronics, Inc.	GP-3430	Epson LQ
TEC America Electronics, Inc.	GP-3960	Epson FX
TEC America Electronics, Inc.	GP-8430	Epson LQ
TEC America Electronics, Inc.	GP-8450	Epson LQ
TEC America Electronics, Inc.	Laserprinter 8II	LaserJet II
TEC America Electronics, Inc.	LB-1000	LaserJet II
TEC America Electronics, Inc.	LB-1305B	LaserJet II
TEC America Electronics, Inc.	LB-1306C	LaserJet II
TEC America Electronics, Inc.	LB-1321C	LaserJet II
TEC America Electronics, Inc.	LB-1321CE	LaserJet II
TEC America Electronics, Inc.	LB-1323CE	LaserJet II
TEC America Electronics, Inc.	LB-1323D	LaserJet II
TEC America Electronics, Inc.	LB-3500D3	LaserJet II
Tektronix, Inc.	MicroLaser Turbo	LaserJet II
Texas Instruments Incorporated	875	Epson LQ
Texas Instruments Incorporated	877	Epson LQ
Texas Instruments Incorporated	8920	Epson FX
Texas Instruments Incorporated	8930	Epson FX
Texas Instruments Incorporated	Micro Laser Pro/8	LaserJet II
Texas Instruments Incorporated	microLaser	LaserJet II
Texas Instruments Incorporated	microLaser Plus	LaserJet II
Texas Instruments Incorporated	microLaser Plus PS17	LaserJet II
Texas Instruments Incorporated	microLaser Plus PS35	LaserJet II
Texas Instruments Incorporated	microLaser PS	LaserJet II
Texas Instruments Incorporated	microLaser PS17	LaserJet II
Texas Instruments Incorporated	microLaser Turbo	LaserJet II
Texas Instruments Incorporated	microLaser XL	LaserJet II
Texas Instruments Incorporated	microLaser XL PS17	LaserJet II
Texas Instruments Incorporated	microLaser XL PS35	LaserJet II
Texas Instruments Incorporated	microLaser XL Turbo	LaserJet II
Texas Instruments Incorporated	microWriter	LaserJet II
Toshiba	Expresswriter 201	Epson LQ
Toshiba	Expresswriter 420	Epson LQ
Toshiba	Expresswriter 440	Epson LQ
Toshiba	GX200	LaserJet II
Toshiba	GX400	LaserJet II
Toshiba	Linear MFD 5010	LaserJet II
Toshiba	PageLaser 12	LaserJet II
Toshiba	PageLaser 6	LaserJet II
Troy	410	LaserJet II
Troy	508 MICR	LaserJet II
Unisys	AP 1324	Epson LQ
Unisys	AP 1327	Epson FX
Unisys	AP 1329	Epson FX
Unisys	AP 1337	Epson LQ
Unisys	AP 1339	Epson LQ
Unisys	AP 1357	Epson LQ
Unisys	AP 1359	Epson LQ
Unisys	AP 1371	Epson FX

Unisys	AP 9205	LaserJet II
Unisys	AP 9210	LaserJet II
Unisys	AP 9310	LaserJet II
Unisys	AP 9312	LaserJet II
Wang	DM50/300	Epson FX
Wang	DM66/200	Epson LQ
Wang	HQ300	Epson LQ
Wang	LDP-8	LaserJet II
Wang	PM060	Epson LQ
Xerox Corporation	3006	DeskJet
Xerox Corporation	4011	LaserJet II
Xerox Corporation	4030 II	LaserJet II
Xerox Corporation	4045 Model 160	LaserJet II
Xerox Corporation	4197 MICR	LaserJet II
Xerox Corporation	4213	LaserJet II
Xerox Corporation	4213 II	LaserJet II
Xerox Corporation	4220	LaserJet II
Xerox Corporation	4220/MRP-IPDS	LaserJet II
Xerox Corporation	4235	LaserJet II
Xerox Corporation	4508	LaserJet II
Xerox Corporation	4517	LaserJet II
Xerox Corporation	Document Workcenter 250	DeskJet
Xerox Corporation	Document Workcenter Pro 610	LaserJet II
XPoint	XP1500	LaserJet II
XPoint	XP2400	LaserJet II

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Newton Print Pack 2.0: Read Me

Name: Newton Print Pack Update

Version: 2.0

Released: March 12, 1998

Requires: Any Newton MessagePad and Newton Print Pack

Description:
Newton Print Pack is software that allows you to print from your Newton MessagePad to different kinds of printers. Newton Print Pack Version 2.0 includes two new printer drivers: Canon BJC and Epson Stylus. The Canon BJC printer driver is compatible with Canon BJC series inkjet printers. The Epson Stylus printer driver is compatible with Epson Stylus series inkjet printers. The Canon BJ driver has been renamed in version 2.0, to Canon BJ-10ex. The drivers which are included in the Newton Print Pack 2.0 package are: Epson LQ, Epson FX, HP DeskJet, HP LaserJet, Canon BJ-10ex, Canon BJC, Epson Stylus.

Please refer to the Newton Print Pack Compatibility List, for information on which driver to use with your printer.
This article has been archived and is no longer updated by Apple.
Instructions:
This software consists of a self-extracting archive. To use, download it to your hard drive and then double-click it to decompress the software.

Known Issues:
Printing graphic images from NetHopper results in the images being printed as black squares. This is a known limitation of the Newton OS.
Printing from the Names or Notes app with a small font size may cause portions of the text not to print. This is a known limitation of the Newton OS.

For additional information, please see the documentation included with this software.

What's New in Version 2.0?

New Printer Drivers:
Newton Print Pack Version 2.0 includes two new printer drivers: Canon BJC and Epson Stylus. The Canon BJC printer driver is compatible with Canon BJC series inkjet printers. The Epson Stylus printer driver is compatible with Epson Stylus series inkjet printers. The Canon BJ driver has been renamed in version 2.0, to Canon BJ-10ex.

The drivers which are included in the Newton Print Pack 2.0 package are:

- Epson LQ
- Epson FX
- HP DeskJet
- HP LaserJet
- Canon BJ-10ex
- Canon BJC
- Epson Stylus

Please refer to the Newton Print Pack Compatibility List, for information on which driver to use with your printer.

New Cable and Software Delivery Method:
Newton Print Pack version 1.0 used a special serial to parallel converter cable -- with embedded software -- to automatically install the Newton Print Pack software on to a Newton MessagePad or eMate. Newton Print Pack version 2.0 uses a modified serial to parallel converter cable -- which does not have any embedded software. Installation of Newton Print Pack 2.0 software is performed via a Macintosh or Windows serial connection, using either the Newton Connection Utilities or Newton Backup Utility applications.

Users who are obtaining Newton Print Pack 2.0 as a software-only upgrade to Newton Print Pack 1.0 can use the same serial to parallel converter cable that was originally packaged with Newton Print Pack 1.0. The version 1.0 cable will not overwrite your installed version 2.0 software, when you connect it to your Newton serial port.

Customers who are obtaining Newton Print Pack 2.0 as a full software and hardware package will possess the modified serial to parallel converter cable -- which does not contain embedded software.

Installation Instructions

1. Insert the Macintosh or Windows Newton Print Pack 2.0 diskette into your Macintosh or Windows computer.
2. Use the Newton Connection Utilities or Newton Backup Utility applications (not included) to install the Newton Print Pack 2.0

installation package.
3. If you are upgrading from Newton Print Pack 1.0, you will be prompted with the warning: "GDTPrintDriver" has already been installed on this Newton PDA. Do you wish to overwrite it?
4. Tap the Proceed button to continue.

For more information on compatible printers checkout the following TIL articles:

- TIL Article 30429: "**Newton Print Pack 2.0: Compatible Printers (A - B)**"
- TIL Article 30430: "**Newton Print Pack 2.0: Compatible Printers (C - D)**"
- TIL Article 30431: "**Newton Print Pack 2.0: Compatible Printers (E - G)**"
- TIL Article 30432: "**Newton Print Pack 2.0: Compatible Printers (H - L)**"
- TIL Article 30433: "**Newton Print Pack 2.0: Compatible Printers (M - O)**"
- TIL Article 30434: "**Newton Print Pack 2.0: Compatible Printers (P - R)**"
- TIL Article 30435: "**Newton Print Pack 2.0: Compatible Printers (S - Z)**"

This article can help you locate the software update mentioned here:

- Article 14724: "**Where To Find Apple Software Updates**" - Lists online services for free Apple software updates.

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040 Computers: Desktop IP Printing Issue

The finder restarts when I Get Info on a Desktop Printer I configured for LPR (IP printing).
This article has been archived and is no longer updated by Apple.
Apple has determined that this will occur on 68040-based Macintosh computers running Mac OS 8.1. This does not occur on 68040-based Macintosh computers running Mac OS 7.6.1 or earlier, and does not occur on PowerPC-based Macintosh computers.

There is no resolution or known workaround at this time.
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LaserWriter IINTX LaserJet Emulation: Characters Are Limited

This article has been archived and is no longer updated by Apple.

The LaserWriter IINTX's HP LaserJet+ emulation mode is limited to the Roman-8 symbol set, which prints Courier, Times, and Helvetica typefaces (all the styles of the Roman-8 symbol set).

Math characters are not available in this "standard" character set provided with the HP LaserJet+ printers.

Other characters missing from the LaserJet emulation set:

The gray patch for "rubout" (decimal 127)
Overline (decimal 176)
Degree sign (decimal 179)
Uppercase D with stroke (Eth) (decimal 227)
Lowercase d with stroke (eth) (decimal 228)
Uppercase Thorn (decimal 240)
Lowercase Thorn (decimal 241)
The "one-fourth" symbol (decimal 247)
The "one-half" symbol (decimal 248)
Solid black square (decimal 252)

The one-fourth and one-half symbols are present but appear in a 1/4 and 1/2 configuration instead of the proper:

1 1
- -
4 and 2 characters.

If these missing characters create a problem, a possible solution is to use a downloadable, bit-mapped font, available from third-party font packages for the HP LaserJet Plus.

Published Date: Feb 18, 2012

UMAX: 6360/64xx/54xx Update

UMAX says to hook up hardware first, then install software, including the 6360/64xx/54xx Update. This did not work for me.
This article has been archived and is no longer updated by Apple.
What worked was:

- Install the UMAX software (from CD-ROM)
- Install the 6360/64xx/54xx Update
- Restart
- Shutdown
- Then hook up hardware and start up

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iTunes for Windows: iTunes 7 doesn‘t recognize iPod

This article has been archived and is no longer updated by Apple.

iPod will appear on desktop, but will not show up in iTunes

Many Windows XP users customize the Local Services that run on their system to improve performance. Having the Local Service called "Terminal Services" disabled in Windows XP will prevent iTunes from recognizing your iPod.

Solution

1. From the the **Start** menu, choose **Run**.
2. In the **Open** field, type `services.msc`.
3. Click **OK**.
   The Services browser will open and display a list of all of the background services installed on your computer.

4. Scroll down to **Terminal Services**.
5. Double-click **Terminal Services** to view its properties.
6. From the **Startup type** pop-up menu, choose **Manual**.

7. Click **Apply** and then click **OK**.
8. **Restart** your computer.

After your computer has restarted, the service "Terminal Services" will be running. When you reconnect your iPod and open iTunes, your iPod should be recognized.

Note: Mac users click here if you're experiencing a similar issue on Mac OS X.

Important: Information about products not manufactured by Apple is provided for information purposes only and does not constitute Apple's recommendation or endorsement. Please contact the vendor for additional information.

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PowerBook Duo 2300: Using PowerBook Duo 280 SCSI HDA

I want to know if I can have the SCSI hard drive from my PowerBook Duo 280 into my PowerBook Duo 2300?
This article has been archived and is no longer updated by Apple.
Yes, you can use a SCSI drive from a PowerBook 200 series Duo into a PowerBook Duo 2300, because the 2300 logic board has connections for both IDE and SCSI drives.
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LaserWriter 12/640: Error -2804

I have a Power Mac 7300 and a LaserWriter 12/640. I have installed the LaserWriter driver that came on the CD included with the 12/640 and now I get -2804 errors.
This article has been archived and is no longer updated by Apple.
Drag the "Printing lib" file (located in the extensions folder) to the trash and re-install the driver from the 12/640 CD.
Alternatively, download the latest LaserWriter driver from the internet.

This article can help you locate the software update mentioned here:

- Article 14724: "**Where To Find Apple Software Updates**" - Lists online services for free Apple software updates.

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Color StyleWriter 6500: Connecting Macintosh & PC Simultaneously

Can I connect both a PC and a Macintosh to the Color StyleWriter 6500 at the same time?
This article has been archived and is no longer updated by Apple.
Apple's new Color StyleWriter 6500 comes with two connection ports:

- one high-speed serial port for connecting Macintosh computers
- one IEEE 1284B Centronics Parallel port for connecting Windows-based computers

Although both ports are fully functional, and customers can EITHER connect a Macintosh (or Mac OS-based) computer to the serial port OR a Windows-based computer to the Centronics Parallel port, Apple does not support the simultaneous use of both ports.

The Color StyleWriter 6500 does not offer autoswitching, a feature available on some higher-end printers that allows them to automatically toggle between ports. Hence, should a customer connect computers to both ports, only the first port to which a print job was sent would be activated. If the first print job were sent from the Macintosh computer, the high-speed serial port would be active--but not the parallel port. Conversely, if the first print job were sent from a Windows-based computer, the parallel port would be active and the serial port would not.

Should customers want to send a job to the printer from the computer connected to the currently inactive port, they simply have to turn the printer off and then back on. But, once again, after doing so, only the port to which the first print job is sent will be active (until the printer is turned off and on again).

Note: Connecting computers to both ports simultaneously will not damage the printer (or the computers attached to it). Apple does not support the simultaneous use of both ports simply because it does not provide the most elegant solution for sharing the printer among two (or more) computers. But customers can use the printer in a cross-platform environment by toggling the printer on and off when they want to change the active port.
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iPhoto unexpectedly quits when viewing or editing certain photos

This article has been archived and is no longer updated by Apple.

Issue or symptom

After updating to QuickTime 7.1.3 or later, iPhoto may unexpectedly quit while attempting to import or edit certain photos which contain unusual EXIF data.

Solution

Update to iPhoto 6.0.6 or later to resolve this issue.

Important: Information about products not manufactured by Apple is provided for information purposes only and does not constitute Apple's recommendation or endorsement. Please contact the vendor for additional information.

Published Date: Feb 18, 2012

AppleVision 1710 & 1710AV: No Screen Image Troubleshooting

This article provides troubleshooting for an AppleVision 1710 or 1710AV monitor that has no screen image.
This article has been archived and is no longer updated by Apple.
Warning: Never remove the cover from the monitor as you may come in contact with hazardous voltage levels capable of causing serious injury or death.

Symptom:
If there is no image on the screen, but the monitor's power indicator light DOES come on, follow the steps listed below in order. You may not need to perform all steps listed.

Procedure:
1. Make sure any energy saver program on the computer is disabled if possible.

2. Make sure the ADB and monitor video cables are connected securely to the computer and the thumbscrews on the video cable are tight, also ensure the keyboard cable is connected through the base of the AppleVision display.

3. Make sure the contrast and brightness user controls are set correctly. The contrast and brightness user controls are on the front of your monitor, just to the left of the power button.

Note: If the display is connected to a Macintosh, before performing the next step you must first shut down the computer and monitor. Disconnect the monitor's ADB cable from the computer then plug the keyboard directly into the computer.

4. After the computer is finished powering up, press the user control button second from the left (it has an arrow pointing to the right above it) and second from the right (it has a '-' sign above it) alternately 5-7 times. This will alleviate the possibility that the microprocessor inside the monitor has a corrupt color mode causing the image to appear black.

5. If you are using a Macintosh, make sure your computer is using AppleVision Software version 1.7.1 or later. To find the most recent version of this software, please consult the Apple Software Updates Library available at **http://www.apple.com/swupdates**.

6. With the most recent version of AppleVision software installed, restart the Macintosh and hold down the Command-Option-A-V keys simultaneously while the computer is booting up. Continue holding these keys down until you hear an alert sound or the image is restored on the display. This will reset the microprocessor inside the display and should restore the image.

7. If the display still does not present you with an image, it may need hardware service by an Apple Authorized Service Provider.

Symptom:
There is no image on the screen and the monitor's power indicator light DOES NOT come on, follow these steps in order. You may not need to perform all the steps.

Procedure:
1. Make sure any energy saver program on the computer is disabled if possible.

2. Verify that the most current AppleVision software is installed as above.
Published Date: Feb 18, 2012

MessagePad 2000: POP Time Out

My MessagePad 2000 times out when trying to get my email. However, my MessagePad 130 works fine with the same software.
This article has been archived and is no longer updated by Apple.
The Newton MessagePad 2000 and 2100 require Newton Internet Enabler version 2.0. The latest version of NIE is available from the Apple website via <**http://www.apple.com/messagepad**>.

You should additionally check that your login and password are correct, and that pauses are added to the logon script after both the login and password to allow time for the PPP server to authenticate the connection.
Published Date: Feb 18, 2012

MessagePad 2000: Powers Off Instead of Turning On Backlighting

When I try to turn on the backlighting on my MessagePad 2000, it powers off unexpectadly.
This article has been archived and is no longer updated by Apple.
The amount of time used to sense the switch position has been changed so that this issue now occurs less frequently. The current Newton System Update 717260 is available online via the Apple website <**http://www.apple.com/messagepad**>.
Published Date: Feb 18, 2012

PC Card Modems: Some require an AC Adapter

I'm trying to use a cellular Modem in the field, but when connecting to my Internet Service Provider my MessagePad resets.
This article has been archived and is no longer updated by Apple.
Due to the power characteristics of some PC Card modems, it may be necessary to have fully charged batteries or have an AC Power Adapter connected when using a PC Card modem to fax or connect to an ISP. The modem may use so much of the available power when running from batteries, it may cause your Newton device to reset. This in no way harms the eMate or MessagePad, however it will not allow a consistent connection using the modem.

It is also for this reason that PC Card Modems should be removed, if the Newton device is being stored for long periods of time. In this situation, if the eMate or MessagePad wakes from sleep to rollover a "To Do" or for an alarm, the modem will also power on and draw additional power from the batteries.

Although this does not harm the Newton device, this may cause the unit not to respond upon the next use due to discharged batteries.
Published Date: Feb 18, 2012

Apple/IMS & IMS/IX Micro Video Cards: Mixing gives scrambled video.

I have a PCI Power Macintosh system that came with the Apple version of the IMS (now known as IX Micro) video card. After installing my non-Apple IMS video card, and installing the software, I have portions of my video scrambled - fonts don't look right, and some are illegible.
This article has been archived and is no longer updated by Apple.
Versions of the IMS/IX Micro software prior to 4.0.1 will have this affect whenever the acceleration extensions load. Update to a more current version of the software to resolve this issue.
Published Date: Feb 18, 2012

Apple/DEC Alliance: "AppleTalk for VMS"

In January 1988, Apple Computer and Digital Equipment announced a joint development agreement under which the two companies would work together to integrate Macintosh and the AppleTalk network system with the VAX and DECnet.
This article has been archived and is no longer updated by Apple.
Apple and DEC are focusing on nine areas of development. Some of these areas (such as mail, distributed applications, and terminal emulation) will result in specifications and tools that allow third parties to build even greater functionality into their future products. In other areas, the two companies will work together at the fundamental architectural level to create new products (for example, tools that allow network managers, using DECnet network management, to view and manage a combined AppleTalk/DECnet network as a single entity).

The good news for customers is that many of the capabilities discussed by Apple and DEC are available today from third parties, and these products have been built on the architecture that Apple and DEC have endorsed. Since Apple and DEC will be making development specifications available to these third parties, they will be able to engineer their products to take full advantage of the Apple/DEC development efforts.

In summary, Apple and DEC have agreed to lay the foundation for compatibility and cooperation between Macintosh/AppleTalk and VAX/DECnet. This foundation includes specifications and tools that allow developers to build products with greater functionality.

However, it is not necessary to wait for the Apple/Digital agreement. Alisa Systems, Odesta, Pacer Software, and Telos have products based on "AppleTalk for VMS", which is one of the first tools available.

- Thursby Software's NSSnet, distributed by Alisa, fully supports DECnet protocols.

- All-in-1 support is available from Telos Software with their MacNOW product.

- Color terminal emulation is available using VersaTerm or VersaTerm-PRO.

For more information, search under: Alisa Systems, Odesta Corporation, Pacer Software, Telos Software, VersaTerm.
Published Date: Feb 18, 2012

Newton Print Pack: Update for Windows

Name: Newton Print Pack Update for Windows

Version: 2.0

Released: March 12, 1998

Requires: Any Newton MessagePad and Newton Print Pack

Description: Newton Print Pack is software that allows you to print from your Newton MessagePad to different kinds of printers. Newton Print Pack Version 2.0 includes two new printer drivers: Canon BJC and Epson Stylus. The Canon BJC printer driver is compatible with Canon BJC series inkjet printers. The Epson Stylus printer driver is compatible with Epson Stylus series inkjet printers. The Canon BJ driver has been renamed in version 2.0, to Canon BJ-10ex. The drivers which are included in the Newton Print Pack 2.0 package are: Epson LQ, Epson FX, HP DeskJet, HP LaserJet, Canon BJ-10ex, Canon BJC, Epson Stylus.

Please refer to the Newton Print Pack Compatibility List, for information on which driver to use with your printer.
This article has been archived and is no longer updated by Apple.
Instructions:
A DOS self-extracting archive of DOS files. To use, download it to your hard drive and then run it to decompress the software.

Known Issues:
Printing graphic images from NetHopper results in the images being printed as black squares. This is a known limitation of the Newton OS.

Printing from the Names or Notes app with a small font size may cause portions of the text not to print. This is a known limitation of the Newton OS.

For additional information, please see the documentation included with this software.

Description:
Newton Print Pack is software that allows you to print from your Newton MessagePad to different kinds of printers. Newton Print Pack Version 2.0 includes two new printer drivers: Canon BJC and Epson Stylus. The Canon BJC printer driver is compatible with Canon BJC series inkjet printers. The Epson Stylus printer driver is compatible with Epson Stylus series inkjet printers. The Canon BJ driver has been renamed in version 2.0, to Canon BJ-10ex. The drivers which are included in the Newton Print Pack 2.0 package are: Epson LQ, Epson FX, HP DeskJet, HP LaserJet, Canon BJ-10ex, Canon BJC, Epson Stylus.

Please refer to the Newton Print Pack Compatibility List, for information on which driver to use with your printer.

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For additional information, please see the documentation included with this software.

This article can help you locate the software update mentioned here:

- Article 14724: "**Where To Find Apple Software Updates**" - Lists online services for free Apple software updates.

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Newton Print Pack 2.0: How to Use

The following information appears in documentation accompanying Newton Print Pack 2.0.
This article has been archived and is no longer updated by Apple.

Using the Newton Print Pack

The Newton Print Pack allows you to connect your Newton device to a variety of printers that are configured to work with MS-DOS and Windows-based computers. These printers include ink jet, laser, dot-matrix, and thermal printers.

Installing the Software on Your Newton Device

You need to install the software from the Macintosh or PC floppy disk on your Newton device before you can print from your Newton device on a parallel printer. To install the software, you need to use connectivity software, such as the Newton Connection Utilities, that came with your Newton device. For more information, see the documentation that came with your connectivity software.

Note: If you have a PC-compatible computer, you also need a 9- or 25-pin to DIN-8 serial cable.

Connecting Your Newton Device to a Parallel Printer

You use the cable that came with the Newton Print Pack to connect your Newton device to a parallel printer. To determine which printer driver to use with your printer, see the section, "Print Pack Compatibility List." If your printer is not listed, you will not be able to print from your Newton device to the printer.

1) Make sure you have installed the Newton Print Pack software on your Newton device.
See the earlier section, "Installing the Software on Your Newton Device."

2) Turn off the printer.

3) Connect the parallel end of the cable to the appropriate port on your printer.
For more information, see the documentation that came with your printer.

4) Connect the other end of the cable to the serial port on your Newton device.
If you have a Newton Interconnect port, attach the Newton Serial Adapter to the serial end of the cable, then plug the adapter with the cable attached into the Newton Interconnect port on your Newton device.

5) Turn on the printer.

Printing

When you are ready to print, follow these steps:

1) Make sure you have properly connected your Newton device to the printer and turned both on.
See the earlier section, "Connecting Your Newton Device to a Parallel Printer."

2) On your Newton device, go to the item you want to print. If you want to print multiple items in an application, press or tap Overview, then tap the checkbox next to each item you want to print.

3) Tap the Routing button and in the list that appears, tap Print. A print routing slip appears.

4)Tap Printer and in the pop-up list that appears, tap the desired printer.

For information on which printer driver to select, look for your printer in the next section, "Print Pack Compatibility List." If your printer is not listed, you will not be able to print from your Newton device to the printer.

NOTE: The HP LaserJet and HP LaserJet II printer drivers are functionally identical. If your printer is listed as being used with the "HP LaserJet II," select the printer driver "HP LaserJet" in the printing options slip on your Newton device.

5) Tap Print and in the pop-up list, tap Now.

For more information on compatible printers checkout the following TIL articles:

- TIL Article 30429: "**Newton Print Pack 2.0: Compatible Printers (A - B)**"
- TIL Article 30430: "**Newton Print Pack 2.0: Compatible Printers (C - D)**"
- TIL Article 30431: "**Newton Print Pack 2.0: Compatible Printers (E - G)**"
- TIL Article 30432: "**Newton Print Pack 2.0: Compatible Printers (H - L)**"
- TIL Article 30433: "**Newton Print Pack 2.0: Compatible Printers (M - O)**"
- TIL Article 30434: "**Newton Print Pack 2.0: Compatible Printers (P - R)**"
- TIL Article 30435: "**Newton Print Pack 2.0: Compatible Printers (S - Z)**"

TA38506_Newton_Print_Pack_How_to_Use.pdf

Published Date: Feb 18, 2012

Newton Print Pack 2.0: Installation and Use

What steps are necessary for installing the Newton Print Pack version 2.0? How can I tell if the software is installed properly and is ready for use?
This article has been archived and is no longer updated by Apple.
This article covers the installation of hardware and software, and setup of the Newton Print Pack 2.0. For more information on installation and use, consult the guide TIL Article: "**Newton Print Pack 2.0: How to Use**" and the article "Newton Print Pack 2.0: Read Me" installed with the Print Pack software.

Software Installation Overview
Newton Print Pack 2.0 includes two floppy disks (1) Mac OS and (1) Windows for installation of the software. Once the Newton Print Pack software is installed on your desktop computer, the software will require a connection utility to download the printer drivers to your Newton OS device.

Newton Print Pack 2.0 does not include a connection utility to install the software on the Newton device.

The installation steps in this article apply to using Newton Connection Utilities bundled with the eMate 300 and the MessagePad 2000 and 2100 computers. Alternative applications, such as such as Newton Package Installer and others, may be used in place of NCU. Please keep in mind the following steps may vary somewhat depending on the connectivity solution being used.

General Software Installation

1. Launch the Newton Connection Utilities 1.0 application.
2. Establish a connection from your Newton device. Tap the "Dock" application and choose either a serial or AppleTalk connection. Consult your Newton Connection Utility documentation for more information on establishing an AppleTalk connection.
3. In the NCU connection window, click on the "Install Package" option and browse to the location of the Newton Print Pack 2.0 folder. Select the file "Newton Print Pack.pkg."
4. A status bar should indicate the software is being installed.

For detailed information on the use of Newton Connection Utilities with the MessagePad 2000, consult your user documentation. MessagePad 2100 and eMate 300 computers include Newton Connection Utilities documentation in PDF format on the bundled CD-ROM.

For late-breaking information regarding the use of Newton Connection Utilities for the Mac OS, please see the articles:
TIL article 24298: "**Newton Connection Utilities 1.0: Mac OS Troubleshooting**"
TIL article 24299: "**Newton Connection Utilities 1.0: Read Me for Mac OS**" available in the Technical Information Library.

For the Windows OS documentation, please see: TIL article 38006: "**Newton Connection Utilities 1.0: Windows ReadMe**" available in the Technical Information Library.

Newton OS Installation Verification
After installing the Newton Print Pack software, the file "GDTPrintDriver" should be present in the Extras: Extensions drawer (tapping this package does nothing). The following printer choices appear in the Printing Slip, upon selecting "Choose Other Printer."

Epson LQ
Epson FX
HP DeskJet
HP LaserJet
Canon BJ-10ex
Canon BJC
Epson Stylus

Note: The selection "HP LaserJet" includes support for both HP LaserJet and HP LaserJet II printers.

Differences between Newton Print Pack 1.0 and 2.0

- The Newton Print Pack 1.0 printer driver "Canon BubbleJet" has been replaced by "Canon BJ-10ex" and "Canon BJC."
- The Newton Print Pack 2.0 extension includes support for Epson Stylus printing devices.
- The Newton Print Pack 2.0 extension "GDTPrintDriver" uses approximately 2K more memory.

Newton OS Troubleshooting
When connecting the Newton Print Pack 1.0 cable, the older software will not be reinstalled as the newer printing extension has the same name. However, the Newton Print Pack 2.0 software can be installed over the previous Newton Print Pack 1.0 installation, as the installer will see an older version of the software and confirm whether you want to overwrite the extension.

If after installing the software on your Newton device, the new drivers are not available, view your Extensions Drawer in overview mode, locate and select the package "GDTPrinterDriver" in your Extensions drawer and delete the package. Reinstall the Newton Print Pack 2.0 software

following the steps above.

Newton Print Pack drivers are for use with the Newton Print Pack serial/parallel cable only. Selecting these drivers and attempting to print via any other means will not work (although no error messages will indicate an error).

Hardware Installation Overview
After installing the Newton Print Pack software on the Newton OS device and verifying that it has been installed properly, "power off" the unit and connect the Newton Print Pack cable. If the Newton Print Pack cable was connected to the Newton OS device while powered on, it may not be recognized properly. The Newton OS will only recognize a serial connection if it is attached prior to the unit powering on.

Be sure to attach the Print Pack cable to the printer with the printer powered off. After connecting the cable, power on the printer and configure the printer as necessary.

Hardware Notes
The Newton Print Pack 2.0 includes a serial-to-parallel cable designed specifically for use with Newton Print Pack printer drivers. Newton Print Pack 1.0 included a "smart" cable that installed printer drivers via ROM. Either of these two cables may be used with the Newton Print Pack 2.0. Generic serial-to-parallel cables have not been tested and are not supported for use with the Newton Print Pack printer drivers.

The Newton Print Pack 2.0 does not include a "Newton Serial Interconnect Adapter" which is necessary to connect a serial cable to the Newton MessagePad 2000 or 2100 computer. Customers may purchase the serial adapter through an authorized Apple reseller. Customers may refer to the page <**http://www.apple.com/messagepad/accessories.html**> for more information on Newton MessagePad accessories.

Parallel printing devices that draw power through the parallel cable interface may reduce MessagePad battery life and therefore may affect printing performance. For consistent printing performance, Apple recommends using an AC power adapter with your MessagePad when printing to these particular devices.
Published Date: Feb 18, 2012

QuickTake 200: Keeping Power On

I am trying to use my QuickTake 200 for video conferencing or video capture, but it keeps shutting off to reserve battery power. I have tried using the AC adapter, but it still automatically shuts down after a few minutes.

This article has been archived and is no longer updated by Apple.

In order to force the camera to stay on, you will need to use the AC adapter. When powering on the camera, hold down the action button (marked with a caret symbol) and turn the camera on. This is the button you ordinarily use to make on-screen selections in the LCD window. The camera should stay on until you manually turn it off.

Published Date: Feb 18, 2012

At Ease: Special Folders not Available

I have recently set up zones on my network and now when logging into At Ease my workstations reports special folders may not be available. Once logged in my users have their applications panel but other panels are missing?
This article has been archived and is no longer updated by Apple.
Launch At Ease Admin. Choose Access to Volumes from the Security menu in At Ease 4 or the Configuration menu for At Ease 5. Here any volumes being used as Workgroup Data volumes will need to be removed and added again. Once this is accomplished you will also need to reset any workgroups to use these data volumes again.

If the At Ease Server volume is the only volume removal will result in a message stating "The selected volume cannot be removed because it is the At Ease Server volume but information has changed. Would you like to update it?" Select yes and documents/special folders should be available to users on their next login.
Published Date: Feb 18, 2012

MessagePad 2100: Where is the User‘s Guide?

In the box that my MessagePad 2100 came in, I find a manual titled "MessagePad 2100 Getting Started." It makes a reference to the "MessagePad 2100 User's Manual." I can't find it in the box. Where is it?
This article has been archived and is no longer updated by Apple.
Along with the Getting Started manual, you will also find a hybrid CD, "MessagePad 2100 Software, for Windows and Mac OS - based computers." You will find the "MessagePad 2100 User's Guide" in a pdf-format on this CD.

Macintosh users will find it in a folder called "MessagePad Documentation."

Figure 1 MessagePad Documentation

Windows users will find it in a folder called "Mp_docs."

Acrobat Reader version 3.x is included for Macintosh and Windows platforms.
Published Date: Feb 18, 2012

iPod 101: Eyeball my Artwork

This article has been archived and is no longer updated by Apple.

Want to see all of your pretty pictures? You can check them out in the Photo Library.

Once you've put your pictures on your iPod, you can view them just as easily as you browse your music. If you haven't done so already, click the eject button next to your iPod in the iTunes Source list and once it disappears from the Source list, disconnect your iPod from your computer.

If you want to view all of the photos on your iPod, just choose **Photos** in the iPod main menu, then choose **Photo Library** (in iPod menu speak, that would be **Photos > Photo Library**). If you want to see a specific folder or album of images, choose **Photos > name of folder or album**.

Once you make a selection, your iPod displays a screen full of image thumbnails, which are tiny graphical representations of your photos. Do note that your iPod may need a few seconds to display all of your thumbnails, depending on the number of images in your collection.

You can view your images as thumbnails, or choose any thumbnail to get the bigger picture.

To navigate through your photos, you can use the Click Wheel to quickly scroll through your thumbnails, press the Next/Fast-forward icon to go to the next screen of thumbnails, or press the Previous/Rewind icon to go back to a previous screen. If you want to jump to the beginning of your photo library (or folder or album collection) at any time, press and hold the Previous/Rewind icon. To jump to the end of your library, press and hold the Next/Fast-forward icon.

To view any thumbnail image in full screen, scroll the Click Wheel to highlight the thumbnail, then press the Center button. In full screen mode, you can use the Click Wheel to scroll through your images in full screen one at a time, or press the Next/Fast-forward or Previous/Rewind icon to move forward or backward, respectively, through your photos.

Take me to the Show Me My Videos and Photos index Take me to Lesson 3: Set Up a Slideshow

Published Date: Feb 18, 2012

iPod 101: Set Up a Slideshow

This article has been archived and is no longer updated by Apple.

If you're tired of scrolling and clicking through pictures, let your iPod put your photos on parade in the form of a slideshow.

You can use an iPod with a color display to not only play a personal slideshow of your pictures onscreen, but also showcase slideshows to your friends and family on a connected TV on supported iPod models. We'll cover both methods in this lesson.

To play a slideshow on your iPod, simply press the Play/Pause icon when viewing thumbnail images or a full screen image; your iPod will play a slideshow—complete with transitions—using the default slideshow settings (if you haven't changed anything). Press the Play/Pause icon again to pause a slideshow, or press the Menu icon to stop it and return to your image view.

Tweaking Slideshow Settings

In the Photos menu, you'll see a listing for Slideshow Settings. This is where you can set options for your slideshow playback, such as deciding whether or not to have your slideshow play music, how long each image stays onscreen, what kind of transition to use between pictures, and more.

If you'd like to customize how your iPod plays slideshows, highlight Slideshow Settings and press the Center button. The Slideshow Settings menu is filled with some submenus and items that you can customize as follows:

You can tweak several options in the Slideshow Settings menu to make your iPod show off your photos the way you want.

- **Time Per Slide**—Allows you to set how long each photo appears. Select this menu and then choose one of the following durations: **Manual**, **2 Seconds**, **3 Seconds**, **5 Seconds**, **10 Seconds**, **20 Seconds**.
- **Music**—Lets you choose a slideshow's existing music, the current song, or a playlist to play along with your slideshow. Select this menu and then choose one of the following: **From iPhoto** (Mac-compatible iPods only, lets you copy and play the iPhoto music setting), **Now Playing** (plays current song), **Off** (no music), ***playlist*** (choose one of your listed playlists), **On-The-Go** (your iPod playlist).
- **Repeat**—Select this menu to toggle the repeat feature On or Off. Selecting **Repeat > On** will play the slideshow repeatedly until you manually stop it. Selecting **Repeat > Off** will play the slideshow once.
- **Shuffle Photos**—Select this menu to toggle the shuffle photos feature On or Off. Selecting **Shuffle Photos > On** will play your photos in random order. Selecting **Shuffle Photos > Off** will play your photos in the order in which they appear in your library or album.
- **Transitions**—Lets you add a visual effect that plays between two photos for a smoother, cooler, or more interesting image transition. Select this menu and then choose one of the following transition effects: **Off**, **Random**, Cube across, Cube down, Disolve, Page flip, **Push across**, **Push down**, Radical, Swirl, **Wipe across**, **Wipe down**, **Wipe from center**.
- **TV Out**—If you want to view your photos on a television, this option lets you set your iPod to display photos to it (not available on iPod nano). Select this menu and then choose one of the following options: **Ask** (iPod gives you the option of showing slideshows on a TV or on iPod every time you start a slideshow), **On** (iPod will only display photos on a connected TV), **Off** (iPod will only display photos on itself).
- **TV Signal**—This menu item lets you toggle the output of your iPod for an NTSC or PAL TV (not available on iPod nano). Select **TV Signal > NTSC** if you have an NTSC TV or video system (this format is standard in the U.S., Canada, and Japan). **Select TV Signal > PAL** if you have a PAL TV or video system (this format is standard in the U.K., Australia, Germany, Italy, and China). If you're not sure what format your TV or video system is, check your product documentation.

Showcasing Slideshows on the Small Screen

Break out the popcorn—with the help of an optional cable, your iPod can give your photos some screen time on a TV.

If you want to show off your fancy photos to friends, family, coworkers, or anyone you can wrangle up, you can connect any iPod with a color display (except for iPod nano) to a television set and view slideshows on its screen.

To do this, your TV must have either composite audio and video inputs—three RCA ports that are typically color-coded red and white (stereo audio), and yellow (video)—or S-Video and audio inputs. You also need a compatible AV cable, such as an Apple iPod AV Cable or Monster

iTV Link (which requires an optional iPod Dock), to make the connection.

To view slideshows on a TV:

1. Make sure that your iPod is set to deliver images to a TV by choosing either **Photos > Slideshow Settings > TV Out - On** or **Photos > Slideshow Settings > TV Out - Ask**.
2. Depending on the cable you bought, connect it to either your iPod headphone jack (Apple iPod AV Cable), the Line Out connector of an iPod Dock (Apple iPod AV Cable), or S-Video output and Line Out connector of an iPod Dock (Monster iTV Link).
3. Connect the cable's audio and video connectors to your TV's AV input ports (red is for right audio, white is for left audio, and yellow is for video) or its S-Video input and stereo audio inputs.
4. Turn on your iPod. If you're using a Dock, put your iPod in the Dock.
5. Turn on your TV and set it to display from the inputs to which your iPod is connected (hunt down your TV manual if you need help doing this).
6. On your iPod, choose any photo or album and press the Play/Pause button to start the slideshow.

Important: Information about products not manufactured by Apple is provided for information purposes only, and does not constitute Apple's recommendation or endorsement. Please contact the vendor for additional information.

Take me to the Show Me My Photos and Videos index Take me to Lesson 4: View Videos

Published Date: Feb 18, 2012

iPod 101: Beef Up My Battery

This article has been archived and is no longer updated by Apple.

Every iPod is equipped with a lithium-ion, rechargeable battery, whose life—the amount of time your iPod will play before it needs to be recharged—varies by iPod model (see the documentation included with your iPod for specifics). While each iPod battery has a playback time expectancy, it will be affected by your iPod use and its settings.

To ensure that you get the most out of your iPod battery, be sure to incorporate these tips in your day-to-day play to optimize your battery life. (For more information about iPod batteries, be sure to check out the "iPod battery FAQ," "Caring for iPod's battery," and "Accurately determine your iPod battery life" pages.)

Use the Latest Software

Make it a point to use Software Update if you're using a Mac—this ensures updates to both your Mac and your iPod. You can also use the new "Check for Updates" menu option—under iTunes on a Mac and Help on Windows—to update both iTunes and iPod. Or, on either Mac or PCs, check the iPod Settings Summary tab in iTunes 7 when you sync your iPod. If new iPod software is available, the Update button will be available—black.

If the Update button is black, just click it, and iTunes will take care of updating your iPod for you. As Apple engineers find new ways of optimizing battery performance, they will include this in new updates.

Put It on Hold

When you're not using your iPod, move the switch to the Hold position so that you don't inadvertently power on your player or wake it from sleep when it's in transit (this doesn't affect iPod shuffle owners).

When you see color next to the Hold switch, you know your iPod is on Hold.

Let the Music Play

Because iPod batteries are lithium-based, try to use your iPod regularly to keep the electrons moving. Try to go through at least one charge cycle a month.

Beat the Heat

To avoid battery degradation, keep your iPod away from extreme heat (such as leaving it locked in a hot car) and prolonged exposure to direct sunlight. You wouldn't do this to your pets or kids—apply the same care to your iPod. Ideally, try to use your iPod in places that are around room temperature.

Prepare to Pause

Avoid abandoning your iPod, leaving it to play alone all by itself. If you're stepping out without it—even for a moment—press the Play/Pause button to pause playback. Otherwise your iPod will continue to happily play songs until the battery drains.

Lessen the Light

Backlighting (on iPods with a display) will eat away at your battery life—especially if you use it excessively. If you don't need to have the backlighting turned on for as long as it's currently set, or you want to turn it off completely, choose **Settings > Backlight Timer**, then either choose a shorter time interval that allows you enough time to read the screen, or choose **Off** to disable the feature.

Shorten the amount of time that the Backlight shines to preserve your battery life.

Lower the Brightness

On Fifth Generation iPods the settings menu contains a Brightness option. Turning down the brightness will also increase battery life. You can check out "Adjusting brightness on the fifth generation iPod" for more help with the brightness control.

Terminate the Equalizer

On iPods with a display, using Equalizer settings with your music makes your iPod processor work harder because the effect isn't encoded in the song. This, in turn, will impact your battery life. If your battery power is dwindling down, you can eke more life out of it by turning off the EQ; just choose **Settings > EQ > Off**.

Don't Skip Around

Avoid using the Next/Fast-forward and Previous/Rewind buttons to hear what you want to hear. This causes your iPod to access the hard drive more frequently, which uses more battery power. Instead, create playlists of the songs you want to hear and in the order you want to hear them to keep you from pressing those buttons.

Make an Impression with Compression

Your iPod cache works most efficiently with songs that have been compressed to under 9 MB (megabytes). Large files or uncompressed files (such as AIFF or WAV) will cause your iPod to fill its cache more frequently, which will have an impact on your battery life. Use the AAC or MP3 encoder in iTunes to compress your music files before transferring them to your iPod. If you have songs that are long in length, consider breaking them up into multiple shorter tracks with shorter files sizes for optimum efficiency.

Take me to the Maximize My Experience index Take me to Lesson 2: Get Productive

Published Date: Feb 18, 2012

iPod 101: Give Me Games

This article has been archived and is no longer updated by Apple.

Got an iPod with a display? Then you've got game—four of them, to be exact.

Whether you need a little brain stimulation or want to test your hand-eye coordination, all iPods with a display feature four games—Brick, Music Quiz, Parachute, and Solitaire. To access the games, just choose **Extras > Games**. Here's a quick guide to each of the games to help you get started—winning, of course, is up to you!

- Brick
- Music Quiz
- Parachute
- Solitare
- Buying Games with iTunes 7
- Adding Games to iPod
- Playing Games on iPod

Brick

Brick is a simple game with a simple objective: clear all the bricks from the playing field and rack up the highest score that you can. To do this, you'll need to wield your trusty paddle to bounce the ball into the bricks. If you miss the ball, you'll get three more chances to reign supreme.

To start a game, choose **Brick**, then press the Center button to drop the first ball. Scroll the Click Wheel clockwise to move the paddle to the right, and scroll counterclockwise to move it to the left. Beware: The more bricks you bash, the faster the ball will go.

Music Quiz

Just how well do you know your music? Find out in this game. Music Quiz tests your song naming ability by playing a song that's on your iPod while presenting you with five possible song titles. Select the correct song name and you're awarded points; the faster you can guess the right name, the more points you'll rack up. To start, just choose **Music Quiz** and perk up your ears. To pause at any time, press the Play/Pause button.

As you stall for time trying to guess the song, Music Quiz will take away one song name to narrow down your choices and continue to do so until you either choose the right name, the wrong name, or never make a selection. If you guess wrong, you don't get any points. If you don't guess at all, you don't get points either. If you're stumped, press the Center button to forfeit the round. You can check out your total points and score at the bottom of the screen.

Parachute

Another classic video game, Parachute operates on the shoot-anything-that-moves strategy; in this case, your targets are flying helicopters and the paratroopers that jump from them. To begin a game, choose **Parachute**, then press the Center button to start the action.

Scroll the Click Wheel to control your gun turret; scroll clockwise to pivot the gun to the right or scroll counterclockwise to pivot the gun to the left. Then aim and press the Center button to fire. Don't get too trigger happy, though—wasted ammo will cost you points.

Solitare

Solitaire on iPod is based on Klondike, one of the most popular solitaire card games. The object of the game is to line up all cards in ascending rank by suit (Ace is low, King is high). To start a game, just choose **Solitaire**.

The screen shows a row of seven progressive card stacks; each has one card facing up with the rest face down. The goal here is to build a card sequence from each face up card in descending rank and alternating color (black and red suits). The four empty spaces at the top are where you ultimately want to stack your cards (from Ace to King) by suit (Hearts, Diamonds, Clubs, and Spades). The stack in the upper-left corner is where you can pull cards (three at a time) to put into play.

To play the game, scope out the seven stacks to see if you can move any face up card below another; for example, if you see a Jack of Diamonds and a 10 of Clubs, you can move the 10 below the Jack to reveal the card that was directly beneath the 10. To move a card, scroll the Click Wheel until the hand icon is over the card and press the Center button; if there's a valid play to be had, the hand icon will automatically move over the play card's position. Press the Center button to place the active card in that location, then turn over the next card in the vacated place. If you deplete a stack, leaving an empty space, you can move any King card (along with its descending card stack) to that space.

When you can't make a move, move the hand to the stack in the upper-left corner and press the Center button to turn over a stack of three cards; the top card is the active one, which you can move to any of the seven stacks if it fits a sequence. If you see an Ace card anywhere, move it to one of the four spaces at the top of the screen to begin building the ascending sequence by suit.

Continue turning cards and moving what you can to build sequences. When you've exhausted your stack in the corner, click the waste pile to start the stack again. To win, you must completely build four ascending card stacks by suit in the top of the screen. When you can no longer make any moves but you haven't yet completed the four ascending stacks by suit, sorry, you lose—now go try again.

Even More Games!

If you've completely conquered Brick, Music Quiz, Parachute, and Solitaire, how about pitting yourself against a 21st century game? If you've got an iPod with video (aka Fifth Generation iPod), and iTunes 7 you can purchase a growing variety of visually stunning games.

Buying Games with iTunes 7

Before you can add games to your iPod, you need to purchase them from the iTunes Store. Choose **Games** from the list of iTunes store genres to open the games catalog page. You'll find both some old favorites, and some new mindbenders including Bejeweled, PAC-MAN, Tetris, Cubis 2, Vortex, Zuma, MahJong, Mini Golf, and Texas Hold'em.

Once you've found a game you like, click **Buy Game** and follow the store instructions to complete your purchase and download the game to iTunes 7 on your computer.

Adding Games to iPod

You must sync your games to your iPod before you can play them. Adding new games to your iPod is just as easy as syncing music—click a few buttons and you're a player!

1. Connect your iPod to your computer and open iTunes.
2. Select your iPod in the Source pane, and choose the **Games** tab from your iPod's Settings.
3. Select "Sync Games".
4. Select "All Games" or "Selected Games". If you click "Selected Games" also choose the games you want to sync.
5. Click **Apply**.

iTunes will start updating your iPod based on the option you've chosen. Please note that this can take a while, depending on how many games you have and their size.

Now, put on your game face, do some finger stretching exercises to limber up, and get ready to rumble!

Playing Games on iPod

Playing games on your iPod couldn't be simpler. Game rules are found in iTunes. Click **iPod Games** in your iTunes Source pane, then click any Game shown to the right of the Source pane and the instructions for that game are displayed.

To fire up the game on your iPod, Choose **Extras > Games** and choose a game.

TA38514_iPod_Give_Me_Games.pdf

Use your iPod controls to control the game. Use the game help for hints on how best to play the game.

If you run into more problems buying, syncing, or opening a game, go here for help.

Take me to the Maximize My Experience index

Take me to Lesson 4: Keep Time

Published Date: Feb 18, 2012

iPod 101: Keep Time

This article has been archived and is no longer updated by Apple.

If you want time to be on your side, look no further than your trusty iPod.

All iPods with a display feature a clock to help you keep track of the time, an alarm to remind you of important events or prevent you from oversleeping, and a sleep timer that will automatically turn off your iPod after a set interval so you can listen to tunes as you drift off to slumberland.

If you have a Fifth Generation iPod (iPod with video) or iPod nano, your *clock* is actually a World Clock; you can create multiple clocks set for different cities around the world, each with its own alarm. Plus, both of these iPods feature a stopwatch for you workoutaholics—or efficiency sticklers. Here's how to use the time features in your iPod.

- Setting the Time and Date
- Setting an Alarm
- Setting the Sleep Timer
- Adding World Clocks[1]
- Using the Stopwatch[1]

1. Fifth Generation iPod and iPod nano only

Setting the Time and Date

To set the time and date on your iPod, follow these instructions. If you have a Fifth Generation iPod or iPod nano, follow the instructions for Adding World Clocks first, then come back here if you need help with setting the time.

1. Select **Extras > Clock > Date & Time**. Fifth Generation iPod and iPod nano users, choose **Settings**, then choose **Date & Time**.
2. In the **Date & Time** menu, choose **Set Time Zone**, then choose the appropriate region for your location.
3. To set the date and time, choose **Set Date & Time** and in the resulting screen, scroll the Click Wheel to choose the current hour and then press the Next/Fast-forward button to move to the minutes increment. Continue in this manner to set AM or PM, and then the day, the month, and the year.
4. Select **Time** in the **Date & Time** menu to toggle the selection to a **12-hour** or **24-hour** clock.
5. If you'd like the time to appear in the title bar (when enabled, the time appears in place of a menu name), choose **Time In Title** to toggle the display to On.

Setting an Alarm

All iPods with a display allow you to set an alarm that will play a beeping sound through the internal speaker, or music from a playlist (you'll need to have your earphones on or have external speakers hooked up to your iPod to hear music). If you have a Fifth Generation iPod or iPod nano, you can set multiple alarms since each clock gets its own alarm.

1. Select **Extras > Clock > Alarm Clock**. Fifth Generation iPod and iPod nano users, choose **Extras**, choose any clock, then choose **Alarm Clock**.
2. To enable the alarm clock, choose **Alarm** to toggle the selection to **On**.
3. To set the alarm time, choose **Time**, then scroll the Click Wheel to set the time that you want the alarm to sound.
4. To choose a sound source, choose **Sound**, then choose **Beep** to play the alarm through the internal speaker, or choose a playlist to play music from it.

Once you set an alarm, you'll see a bell icon appear on the right side of the screen in the Clock menu, or next to that clocks time display with a Fifth Generation iPod. If you set a Beep alarm, the alarm sounds briefly and will turn itself off after it sounds. If you set a playlist alarm, the music will start playing when the alarm goes off and continue until you press the Play/Pause button to pause it.

Setting the Sleep Timer

If you enjoy falling asleep to music, you can set a sleep timer that automatically turns off your iPod after a specified time interval is reached. Here's how.

1. Select **Extras > Clock > Sleep Timer**. Fifth Generation iPod and iPod nano users, choose **Extras**, choose any clock, then choose **Sleep Timer**.
2. Scroll the Click Wheel to a preferred time interval—you can choose **Off**, **15 Minutes**, **30 Minutes**, **60 Minutes**, **90 Minutes**, or **120 Minutes**—then press the Center button to choose it.

Your iPod will begin counting down the time. You can now tuck yourself in bed and play whatever you want. Once your chosen interval has been reached, your iPod will turn itself off. Fifth Generation iPod and iPod nano users, although you can set multiple alarms, please note that you can have only one active sleep timer at a time no matter which clock you choose to set it.

Adding World Clocks

Fifth Generation iPod and iPod nano allow you to keep track of the time in multiple cities around the world.

Fifth Generation iPod and iPod nano allow you to keep time on one or more clocks. You can monitor time in different cities around the world, or keep multiple clocks set for your current location, which will allow you to set multiple alarms (see "Setting an Alarm " for instructions). Here's how to add a clock.

1. Select **Extras > Clock > New Clock**.
2. In the **Region** menu, choose a region from the list.
3. In the resulting **City** menu, choose a city that represents the clock you wish to add.

The Clock menu now displays your new clock. If you decide to add more, repeat the above instructions; all subsequent clocks will appear in the Clock menu in the order in which you create them.

Using the Stopwatch

The stopwatch features a counter that displays your total time, a lap timer, and a log of your performance when you're done.

The stopwatch on Fifth Generation iPods and iPod nano comes in mighty handy whether you're lap training or simply want to find out how much time it takes to do something. Here's a quick start guide to using it (for more detailed information, see our support article "iPod: Using the Stopwatch").

1. Select **Extras > Stopwatch > Timer** to display the Stopwatch screen.
2. To start timing, scroll the Click Wheel to highlight the Start (left) button and press the Center button to "click" it.
3. Both the total time counter (the top time display) and the lap timer begin. During this time, the Start button changes to a Pause button, while the Clear (right) button changes to a Lap button.
4. If you want to keep track of your lap times, choose the Lap button (using the Click Wheel and Center button) when you complete a lap; the stopwatch records the lap time in its log, resets the lap timer, and starts counting again.
5. To stop the timers at any time, choose the Pause button. The left button now changes to a Resume button, while the right button changes to a Done button.
6. If you're taking a breather, choose the Resume button to continue counting. If you've had enough, choose the Done button to record all your final times to the log.
7. To view a log of your performance (total time, shortest lap time, average lap time, individual lap times, and more), choose **Extras > Stopwatch**, then choose the log from the menu (the Stopwatch menu lists logs by date and time).

Take me to the Maximize My Experience index Take me to Lesson 5: Secure My iPod

Published Date: Feb 18, 2012

iPod 101: Secure My iPod

This article has been archived and is no longer updated by Apple.

The handy Screen Lock feature on Fifth Generation iPod and iPod nano helps prevent others from snooping through your iPod and screwing around with it without your permission.

If you've got a Fifth Generation iPod (iPod with video) or iPod nano, you can lock your iPod screen using a 4-digit combination to keep prying eyes from digging through your iPod contents—including your music, photos, and notes—and using your player without your permission.

Note: Screen Lock only prevents snoops from viewing contents or using your iPod when locked and away from all computers. If you connect a locked iPod to a computer, you'll be able to see all songs on it in iTunes (as you normally would), and access any content on its disk (if you set it up for hard disk use) while it's still locked.

1. Select **Extras > Screen Lock > Set Combination** to display a Set Code screen that features four number boxes. The first one will be highlighted.
2. To set your combination, scroll the Click Wheel to choose the first number, from 0 (zero) to 9, then press the Center button to set it and go to the next digit.
3. Repeat this method to set the remaining three digits (making sure to burn this 4-digit code into your memory). Once you set the fourth, you'll be taken back to the Screen Lock menu.
4. To turn on Screen Lock, choose **Turn Screen Lock On** in the **Screen Lock** menu.
5. The resulting screen displays your 4-digit code again as a reminder; when you're absolutely sure that you can remember this code, choose **Lock** (or choose **Cancel** if you change your mind).

Once your iPod is locked, it won't display its contents onscreen, nor will it be usable until you enter the 4-digit code to unlock it—just enter the code in the same manner as you did when you set the combination. If you enter the wrong code, the numbers will flash red. When you enter the correct combination, you'll have full access to your iPod again. Alternatively, you can connect your iPod to the primary computer you use it with (the one to which you first connected your iPod), and your iPod will unlock automatically.

Take me to the iPod 101 index

Take me to My iPod is Sad (or Alarmed) index

Published Date: Feb 18, 2012

AppleShare PC: Mapping Lotus Files for Excel

This article has been archived and is no longer updated by Apple.

If you are using AppleShare to store Lotus files for access from Excel, you may have had a problem like this:

When a Lotus worksheet is copied to AppleShare, it gets TYPE-set to "J123" and CREATOR-set to "MJAZ" (Modern Jazz settings). This file, however, is not recognized by Excel. If you use Apple File Exchange to copy the SAME file from a 5.25" drive, it gets TYPE-set to "BINA" and CREATOR-set to "mdos", which Excel accepts, and the file opens.

You have encountered the default Extension Mapping of AppleShare PC. Control of Extension Mapping is under the "Special" menu of DA (our AppleShare PC program) using the "Change Extension Mappings" item.

AppleShare PC automatically sets a Macintosh file icon-type for files created on file server volumes. These type assignments are based on the three-character DOS filename extension.

"Change Extension Mapping" lets you select an icon-type for a file extension. This icon-type is assigned to all appropriate new files created on server volumes; existing files are not affected.

In the example problem given above, the WKS and WK1 extensions from Lotus 1,2,3 default to an extension map called "JAZZ-Lotus" instead of mapping to "Excel".

To change this mapping for all new files created, select the "Change Extension Mapping" item from the DA "Special" menu. A dialog (or pane) displays something similar to "Extension: XXX = Binary", followed by a scroll box "Select Type:". Use the cursor keys to scroll to and highlight item number 4, which is the map called "Excel". Press F2 to reset the map from "JAZZ-Lotus" to "Excel".

Until this process is reversed, all new files are saved with the Excel map. All existing files need to be reopened and saved under a new name for this mapping to affect them. Once saved with the Excel mapping, double clicking the documents launches Excel. The documents have a "plain" document icon.

Any DOS document can be forced to have the

TYPE-set = BINA and CREATOR-set = mdos

by adding an unmapped extension to the end of the of the document name. For example, when saving the document "Anything.ABC", AppleShare PC provides the BINA/mdos labels. To view the mapping of any given PC, type:

anet map

This lists currently assigned extensions and their mapping.

Published Date: Feb 18, 2012

Power Macintosh 4400: Which System Software is Supported?

This article discusses the supported version of Mac OS for the Power Macintosh 4400.
This article has been archived and is no longer updated by Apple.
The only qualified operating systems for the Power Macintosh 4400/200 are 7.5.3, and Mac OS 7.6.1 or greater.

The Power Macintosh 4400/160, which shipped in Europe minus the L2 cache and built-in Ethernet supports Mac OS 7.6 or later.

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Set Your iPod Preferences

This article has been archived and is no longer updated by Apple.

If you enjoy doing things your own way, you're in luck. iTunes allows you to change some of its settings to your own liking. If you followed our instructions to make iTunes automatically fill up your iPod, you're already a little familiar with iTunes preferences. If you'd like to have your way with some other options, here's an overview of the preferences you can set.

- Mac users—From the **iTunes** menu, choose **Preferences**.
- Windows users—On the **Edit** menu, click **Preferences**.

The iTunes preferences dialog features a bunch of tabs up top (on a Mac, they look more like icon buttons)—General, Podcasts, Playback, Sharing, Store, Advanced, and Parental Control. Some of these tabs even feature their own set of subtabs. Here's a look at what you can set in each of these preference panes.

- Show Me the General Pane
- Show Me the Podcasts Pane
- Show Me the Playback Pane
- Show Me the Sharing Pane
- Show Me the Store Pane
- Show Me the Advanced Pane
- Show Me the Parental Control Pane

General

The General pane in iTunes preferences lets you choose various iTunes display options, as shown on a Mac (left) and in Windows (right).

This pane allows you to set how and what iTunes displays, and enable or disable some of its functionality. In the upper part of the pane, you can change the size of the display text by choosing either **Small** or **Large** from the **Source Text** and **Song Text** pop-up (drop-down in Windows) menus. By default, iTunes displays "Party Shuffle," "Radio," and "Videos" in the Source pane. If you don't want to see one or more of these items, deselect the respective Show checkbox.

The middle part of the pane lets you decide whether iTunes shows genres and compilations columns in the browser (click the Browse button in the upper-right corner of the iTunes window to display the browser). You can also choose whether or not to have iTunes display the arrow links in the song list pane that link to the iTunes Store. You can also choose whether to show content ratings in the library, whether to automatically download missing album artwork—you must have an iTunes account for this—and whether or not to remember the view setting for each source.

For video playback, choose the "Play videos" checkbox to allow iTunes to play videos (by default, videos play in the artwork and video viewer pane in the main window). If you want to choose another default view for video playback, choose **in a separate window** or **full screen** from the pop-up menu.

In the bottom part of the pane, choose the "Check for iTunes update automatically" checkbox (this makes iTunes connect to the Internet) if you want to stay up to date.

Click OK to save your changes or click another tab to set other preferences.

Podcasts

If you've got a passion for podcasts, use the Podcasts pane to set how often iTunes checks for episodes and what to do with them.

If you subscribe to podcasts, click the Podcasts tab to tell iTunes how often to check for episodes and what to do when it finds them. To set how often to check, choose an interval from the **Check for new episodes** pop-up menu (drop-down in Windows). You can choose **Every hour**, **Every day**, **Every week**, or **Manually**.

To set what iTunes does when it finds episodes, choose an action from the **When new episodes are available** pop-up menu. You can choose **Download all**, **Download the most recent one**, or **Do nothing** (you can manually download episodes by clicking the Get button next to an episode when you choose Podcasts in the iTunes Source pane).

You can make iTunes do a little housekeeping—or not—by choosing how many episodes you want iTunes to keep from the **Keep** pop-up menu. You can choose **All episodes**, **All unplayed episodes**, **Most recent episode**, **Last 2 episodes**, **Last 3 episodes**, **Last 4 episodes**, **Last 5 episodes**, or **Last 10 episodes**. If you need to reconfigure which podcasts get copied to your iPod, click OK to close preferences, click your iPod under DEVICES in the Source pane, and then use the Podcasts tab to change sync options.

Click OK to save your changes or click another tab to set other preferences.

Playback

Use the Playback pane to set sound preferences in iTunes on a Mac (left) or in Windows (right).

iTunes has a few audio features that you can set to your liking; just click the Playback tab. Choose the "Crossfade playback" checkbox, which fades out the ending of a song while fading in the beginning of another—kind of like what you'd hear on the radio or at a dance club. Use the slider to set how many seconds of overlap you want. You may want to test out your timing with a few songs—too much overlap between two distinctly different songs can sound odd.

If you choose the "Sound Enhancer" checkbox, iTunes "enhances" the sound of your audio files by increasing the treble and bass response, depending on how you set the slider. Think of it kind of like the "Loudness" button found on an old home stereo system, but adjustable. If you move the slider toward the "high" end, iTunes boosts more of the equalization, meaning things will generally sound punchier and crisper. If you move it towards the "low" end, iTunes will decrease the same frequencies.

If the volume in your songs, audiobooks, and podcasts are all over the map, choose the Sound Check checkbox, which adjusts all audio files so that they have the same playback volume. If you want songs on your iPod to also play at the same volume level as each other, be sure to choose this option and let iTunes adjust your music library before you copy the songs to your iPod.

For those times when you shuffle your music (as opposed to choosing songs or playing a playlist), you can give iTunes a few pointers on how to handle the mix by using the Smart Shuffle setting to dictate how likely you are to hear songs by the same artist or album in a row. You can also tell iTunes what type of items to shuffle. Choose Songs to have iTunes play random songs. Choose Albums to have iTunes play all songs on an album in order and then choose the next album randomly. Or choose Groupings to have iTunes play all songs of a grouping in order and then choose another grouping randomly.

Click OK to save your changes or click another tab to set other preferences.

Sharing

Want to share your tunes with friends, family, or coworkers connected to your network? Just enable sharing in the Sharing pane.

If your computer is connected to a local network—either wired or wireless—you can not only share your music with others (up to five computers at a time), you can play music found in your fellow iTunes sharers' libraries too. (Make sure that you're using iTunes 4.5 or later.)

If you want to be able to look through other people's iTunes music and play their tunes (they must be using iTunes 4.5 or later, have sharing turned on, and be on the same local network as you), choose the "Look for shared music" checkbox. You can then access all shared libraries or playlists by choosing the name of a sharer's collection in the iTunes Source pane.

If you want to share your stuff, choose the "Share my music" checkbox, then choose either the "Share entire library" radio button to share everything, or choose the "Share selected playlists" radio button to share only the playlists you choose below that option (if you've got a few "guilty pleasures" in your library, you can avoid embarrassment by sharing only selected playlists). Type a name for your shared collection in the "Shared name" field. If you want to control who has access to your tunes, choose the "Require password" checkbox, then type a password in the field (give this password to your chosen ones for access).

Click OK to save your changes or click another tab to set other preferences.

Store

Planning a music shopping spree? Set your iTunes Store purchasing preferences in the Store pane.

Whether you want to shop for tunes or simply preview albums for sale, you'll find various iTunes Store options in the Store pane. If you have an iTunes Store account (we show you how to set one up in "How To Set Up an iTunes Store Account" if you don't), you can make the purchasing process easier by choosing the "Buy and download using 1-Click" radio button, which lets you buy tunes and download them to your iTunes library with a single click of a button. Or you may prefer to avoid "accidental" purchases by choosing the "Buy using a Shopping Cart" radio button, which lets you buy music in a more traditional online purchase environment.

If you just have to be the first on your block with new music and videos, and have pre-orders set-up, or subscriptions to seasons passes, you can see iTunes to automatically download these purchases as soon as they are available, just check “Automatically download pre-purchased content”.

To have iTunes automatically create playlists when buying song collections, choose the aptly named checkbox. If you want to hear your song once it's done downloading, choose the "Play songs after downloading" checkbox. If you're browsing the iTunes Store over a slower Internet connection such as a dial-up modem (a broadband connection is highly recommended), choosing the "Load complete preview before playing" checkbox can improve playback when you preview songs in the store.

Click OK to save your changes or click another tab to set other preferences.

Advanced

The Advanced pane contains an assortment of user-adjustable settings for managing, importing, and burning your music.

The Advanced pane features a number of settings that let you control how iTunes manages (or doesn't manage) your music, imports your audio files, and burns stuff to disc. It's divided into three sections—General, Importing, and Burning.

General

Click the Advanced tab and then click the General tab below it to view the management and playback settings. In the top boxed-out part of the pane, iTunes displays the path to the location where your iTunes Music folder lives. If you want to change the location, click the Change button. In the resulting window, navigate to and choose a location, then click Choose. To return the iTunes Music folder back to the original location, click the Reset button.

If you want iTunes to automatically manage your music whenever you import tracks from CDs or add files to your iTunes library, choose the "Keep iTunes Music folder organized" checkbox. iTunes will create a folder hierarchy of artist and album names that contains all relevant audio files with the correct track names and order. To keep all your music in one place instead of having iTunes point to various files all over your hard drive, choose the "Copy files to iTunes Music folder when adding to library" checkbox.

On a Mac, if you want to use iTunes for all Internet music playback, click the Set button. On Windows, choose the "Use iTunes as the default player for audio files" checkbox if that's what you desire.

Depending on your Internet connection speed, you may want to choose a different buffer size from the **Streaming Buffer Size** pop-up (drop-down in Windows) menu; you can choose **Small**, **Medium** (the default), or **Large**. If you have a slower connection (such as with a dial-up modem), choose **Large** to improve playback; the audio stream will take longer to start playing, but the playback should be smoother. If you have a fast Internet connection (such as with a DSL or cable modem), choose **Small** to start streaming content playback more quickly.

If you have an AirPort Express, choose the "Look for remote speakers connected with AirTunes" checkbox to display a speakers pop-up menu at the bottom of the iTunes window. You can then choose any stereo system you've connected to AirPort Express from this menu to stream your iTunes music. You can also choose the checkbox below this option if you want to control volume from the remote speaker source instead of from iTunes.

Windows users can also choose the "Show iTunes icon in system tray" checkbox and "Minimize iTunes window to system tray" checkbox if you'd prefer to stash iTunes there whenever you minimize the window.

If you use the visualizer regularly, you can set how much eye-candy it provides by controlling the visualizer screen size. Set Visualizer Size to **Small**, **Medium**, or **Large**, or check “Display Visualizer full screen”.

Click OK to save your changes or click another tab to set other preferences.

Importing

The Importing pane in Advanced preferences lets you control the format and quality of your imported or converted audio.

We showed you how to use the Importing pane in "Syncing Music to iPod," but we'll give you a little overview of it again here if you don't want to jump back. Just click the Importing tab in the Advanced pane.

If you want to copy songs from an audio CD (aka rip tunes), the Importing pane lets you set what file format to convert the songs to and the quality. The b pop-up menu (drop-down in Windows) allows you to choose what iTunes should do when you insert an audio CD into your computer. Choose **Show Songs** to have iTunes simply display the songs on the CD in its interface, choose **Begin Playing** to also make iTunes start playing the CD, choose **Import Songs** to have iTunes import all songs from the CD into your iTunes library, or choose **Import Songs and Eject** to have iTunes import all songs from the CD into your iTunes library and then eject the CD from your computer when it's done.

To set an importing file format, choose a format from the **Import Using** pop-up menu; you can choose **AAC Encoder** (the default), **AIFF Encoder**, **Apple Lossless Encoder**, **MP3 Encoder**, or **WAV Encoder**. Each of these encoders offers differences in sound quality and file size (AIFF and WAV offer the best sound quality, but the files are substantially larger than the other formats). For more information about these encoders, see "About import settings and hard disk space" in the iTunes Help guide (choose **iTunes and iTunes Store Help** from the **Help** menu in iTunes).

The **Setting** pop-up menu allows you to set a quality for the encoding, depending on the file format you chose (the current settings are displayed in the Details pane). You can leave it at the default setting if you wish, choose a higher or lower quality (if applicable), or choose Custom to make your own settings. Keep in mind that the higher you set the Stereo Bit Rate and Sample Rate, the better quality sound you'll get—at the expense of a larger file size.

If you want to set your own sample and bit rates, choose **Custom** from the **Setting** menu, then choose your preferences

If you want to hear the songs as iTunes imports them, choose the "Play songs while importing" checkbox. If you want to make sure you get the correct track names for your tunes, choose the "Automatically retrieve CD Track names from Internet". If you want your song files to appear in the correct order when viewing them in a window, choose the "Create file names with track number" checkbox (otherwise, they may be listed alphabetically or in some other set order). If your newly ripped songs don't sound right, choose the "Use error correction when reading Audio CDs" checkbox and then re-rip the CD.

Click OK to save your changes or click another tab to set other preferences.

Burning

To create an audio CD, MP3 CD, or burn files to a CD or DVD, use the Burning pane to choose your options.

iTunes allows you to burn audio CDs that can be played in any CD player, MP3 CDs that can be played in any system that can read MP3 discs, and data CDs and DVDs (great for backing up your music) that you can access on a computer. If you're creating an audio CD, you'll need to create a playlist of the songs you wish to burn to actually burn the disc.

Click the Burning tab in the Advanced pane to view your options. The pane displays your computer's CD or DVD drive next to "CD Burner." You can choose how fast you want your drive to write a disc from the **Preferred Speed** pop-up menu (drop-down in Windows); for example, choose **Maximum Possible** to have your drive write content at its top speed for the disc. Select the type of disc you want from the "Disc Format" options —"Audio CD," "MP3 CD," or "Data CD or DVD."

If you choose the Audio CD radio button, you can set how much of a gap to place between songs. Just choose an interval from the **Gap Between Songs** pop-up menu (the default is **2 seconds**); for live albums or audio that plays continuously through multiple tracks, choose **none** to nix all gaps. If you want to have all songs play back at the same volume, choose the "Use Sound Check" checkbox.

Click OK to save your changes or click another tab to set other preferences.

Parental Control

If you're a parent, you can enforce your parental control over what your kids can access in iTunes. You must be an administrator of the computer on which you're laying down the law.

iTunes 6 and later features Parental Control, which allows you to set some restrictions on accessible content in iTunes. Just click the Parental tab on a Mac or the Parental Control tab in Windows to view your options.

If you'd like to disable podcasts, radio, the iTunes Store, or shared music (or any combination of the four), choose the appropriate checkbox to disable the selection. If you allow trips to the iTunes Store but want to bar explicit content from enticing young minds, choose the "Restrict explicit content" checkbox next to iTunes Store. (These albums will still appear in the store, but you won't be able to preview or purchase items that are marked as being explicit.) Likewise, if you'd like to restrict the movies or TV Shows[1] that can be downloaded to certain ratings, check the "Restrict movies to" or "Restrict TV Shows to" checkboxes and choose a rating from the drop-down menus.

To lock your changes in place, click the lock icon. In the resulting dialog, type in your administrator password, then click OK. If you ever need to update your controls, click the locked icon and then type your administrator password when prompted to access the controls again.

Click OK to save your changes or click another tab to set other preferences.

1. Some features for the iTunes Store mentioned in these lessons are not available in all stores, including AOL login, TV shows, and movies.

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Mac OS 8.1: Negative Numbers in Copy Progress Window

When coping a CD to my hard disk by dragging the CD icon to a hard disk icon, the copy went normally except that the number of items left to copy eventually went into negative numbers. For example, the progress went 1 --> 0 --> -1.
This article has been archived and is no longer updated by Apple.

Symptom

I copied a CD to my hard disk by dragging the CD icon to a hard disk icon when using Mac OS 8.1. The copy went normally except that the number of items left to copy eventually went into negative numbers. For example, the progress went 1 --> 0 --> -1.

Solution

This is addressed in a newer version of Mac OS.

Note: This is a cosmetic issue with Mac OS 8.1 and appears to occur only when copying one volume to another. If the source is a folder or a group of files and/or folders, the negative numbers do not appear. There is no data lost.

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LaserWriter 8.5.1: -192 or -8993 Errors Through Print Server

After installing Mac OS 8.1 (including LaserWriter 8.5.1), I get -8993 or -192 errors when I print through my AppleShare Print Server 4.2.x print queues.

Can you help with this?
This article has been archived and is no longer updated by Apple.
Apple discovered an issue with LaserWriter 8.5.1 when printing to some versions of some print servers, including AppleShare Print Server 4.2.x.

This issue was resolved in LaserWriter 8.6, so clients running Mac OS 8.5 and later are not affected.

Here are some known workarounds for customers not running Mac OS 8.5 or later:

- Use Apple LaserWriter Driver v8.4.3.
- Use the Adobe PostScript driver v.8.5.1 or other third party driver (such as Hewlett Packard's LaserJet driver v8.5.1).
- Do not print directly to a NetWare print queue.

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Power Macintosh M9600/350: 768MB RAM Limit Clarification

Clarify the 768MB limit. Is it just a qualification issue? Or a real physical limit.
This article has been archived and is no longer updated by Apple.
The Maximum DIMM sizes tested were 64MB DIMMs which limits the total supported memory configuration to 768MB. 128MB DIMMs are untested so are not supported even if the total is less than 768MB.

Not only is the hardware untested with 128MB DIMMs, the OS has not been tested with memory configurations larger than 768MB. Larger memory configurations may yield unpredictable results.
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iPod 101: Lay of the Land

This article has been archived and is no longer updated by Apple.

If you want to use your new iPod to its fullest, you should get familiar with its physical features first. We will explain the two iPod model types, ones with color screens and ones without, and what functions each has. If you have an older iPod, its physical attributes are similar to an iPod with a color display.

Ready for the grand tour? Just select your iPod...

- iPod with color display (including iPod nano)
- iPod shuffle

iPod with color display (including iPod nano)

If you've got an iPod with a color display (we're showing the latest iPod with video model, though iPod nano controls are similar), here's a map of its main controls and features.

LCD screen
Fifth Generation iPod models feature a color 2.5-inch (diagonal) LCD screen to help you navigate and control everything on your iPod. iPod nano features a 1.5-inch (diagonal) color LCD screen. Older iPod with color display models feature a 2-inch (diagonal) color LCD, while classic iPod models feature a 2-inch (diagonal) monochrome LCD. All iPods with a display feature a handy backlight to prevent you from fumbling around menus when the lights go out.

Any iPod with a color display can show off navigation menus, audio file attributes (file name, artist, genre, and more), photos, album art, playlists, volume, audio file progress, games, the time, personal contacts and calendars, notes, and more. iPod nano, in addition, displays a stopwatch, screen lock control, lyrics, and multiple world clocks, while iPod with video (aka Fifth Generation iPod) does what iPod nano does, plus puts video capabilities and improved games in your hands.

Click Wheel
This donut-shaped dial (on all current iPods with a display) doesn't physically spin; it's a touch-sensitive pad (much like a trackpad on a portable computer) that senses movement as you glide your finger across its surface. Just whirl your finger around the wheel to scroll through menus, crank up the volume, scrub through an audio track, eyeball your photo collection, and more, depending on where you're at in your iPod.

Although the Click Wheel doesn't actually rotate, it'll play an audible clicking sound through an internal speaker on your iPod while you scroll to let you know it's working (you can turn this sound off if you can't bear the clicking—we'll show you how in "Customize My Menu").

The wheel also serves as a 4-way controller; just press any control's label toward the edge of the wheel to activate it. Unlike the wheel, these buttons aren't touch-sensitive—pressing a label on the Click Wheel actually pushes a corresponding button underneath the wheel. You can play, pause, rewind, fast-forward, and skip songs, or go to other menus using the buttons on the Click Wheel.

Where's the On and Off switch?

You won't find a dedicated switch to turn your iPod on and off. To turn it on, just press any button. Make sure that the Hold switch isn't engaged either. To turn off iPod, press and hold the Play/Pause button until iPod turns off.

Tip: To keep from accidentally turning on your iPod in transit, slide the Hold switch to the Hold position to lock the controls.

Center button
This button (formerly known as the Select button) in the middle of the Click Wheel (but separate from it) lets you choose the currently highlighted menu item shown on the LCD. For example, if you're in the Music menu, you can whirl your finger around the Click Wheel until Songs is highlighted, then press the Center button to go to the Songs menu and see all the songs on your iPod (in iPod menu speak, you just chosen Music > Songs). You can then highlight a song and press the Play/Pause button to hear it.

You can easily get to anything on your iPod by simply using the Click Wheel and Menu and Center buttons.

Menu button

This button takes you back to the previous menu. For example, if you're now playing a song (after following our example for the Center button, above), pressing the Menu button will return you to the Songs menu. Press the Menu button again to go back to the Music menu, and one more time to return to the main (iPod) menu.

Previous/Rewind button
When a song (or audiobook or podcast) is playing (the Now Playing screen appears on the LCD), you can start the song over by pressing this button once, go to the previous song in the list by pressing the button twice, or rewind through the current song by holding down the button as long as you want.

When you're browsing photos, pressing this button lets you go back to the previous screen of photos. If you're viewing a slideshow, press this button to go back to the previous photo in the slideshow.

Next/Fast-forward button
When a song (or audiobook or podcast) is playing (the Now Playing screen appears on the LCD), you can skip to the next song in the list by pressing this button once, or fast-forward through the current song by holding down the button as long as you want.

When you're browsing your photos, pressing this button lets you skip to the next screen of photos. If you're viewing a slideshow, press this button to skip to the next photo in the slideshow.

Play/Pause button
When you choose a song, video, audiobook, or podcast, pressing this button will either play the selection or pause it if it's already playing. When you're viewing photos, you can choose any photo or album and press this button to play a slideshow. Press it again to pause the slideshow. Pressing and holding the Play/Pause button also turns off iPod.

Apple Earphones

If you want to hear your music, you've got to plug some headphones into your iPod. The included Apple earbud-style headphones provide awesome sound with full frequency response (20 Hz to 20,000 Hz), and connect to iPod with a 3.5-mm stereo miniplug. If you have a hard time keeping these types of 'phones in your ears, feel free to plug in a different set of headphones.

Here's the bird's eye (left)—and bug's eye (right)—view of an iPod with color display. iPod nano features its headphone port on its bottom (next to the Dock Connector).

Headphone/AV port
This is the place to plug in your headphones—either the included Apple Earphones or your own (as long as it has a stereo 3.5-mm miniplug). iPod features the headphone jack/AV port up top, while iPod nano sports a headphone port on its bottom (it doesn't have AV capabilities).

If you want to share sound, you can alternatively use a 3.5-mm stereo miniplug to dual RCA jack cable (not included) to connect your iPod or iPod nano to your home stereo and share your tunes with friends. Or hook up a pair of powered speakers to the port.

If you've got photos or video on your iPod, you can also use this port to connect your iPod to a TV (this feature isn't available on iPod nano), then gather up family and friends to watch slideshows, music videos, movies—including your own home movies (see "Creating video for iPod" for

instructions), and TV shows on the bigger screen. You'll need an Apple iPod AV Cable (optional) to make this connection.

Hold switch
Sliding this little switch to the Hold position allows you to lock all of the button and Click Wheel functions. This comes in handy when you want to avoid accidental button presses when you're, say, running around with your iPod in hand, or have it turned off and are transporting it in your pocket, bag, or purse (pressing any button turns on iPod). Slide the switch back to reclaim full control.

iPod Remote port
This port allows you to connect an optional remote control accessory to iPod to control playback. iPod nano and iPod with video do not feature this port.

Dock Connector
Flip your iPod upside-down and you'll see the Dock Connector. When you connect the included iPod Dock Connector to USB 2.0 cable to this port, you can feed your iPod battery a healthy dose of electrical current when you attach the USB side of the cable to an AC adapter that's plugged into an electrical socket. Or connect it to a high-powered USB port on your computer to charge the battery and sync music and more.

iPod shuffle

Here's everything you'll find on an iPod shuffle exterior, and what each thing does.

Status light
Although iPod shuffle doesn't have an LCD screen, it does have status lights to communicate things to you. The status lights—one next to the Off Switch on the bottom, and opposite the headphone jack on the top—can be green, orange, or red and lets you know the following:

When iPod shuffle is connected to your computer...

- Solid orange—iPod shuffle is charging but not in use; it's OK to disconnect it from your computer.
- Blinking orange—iPod shuffle is in use; do not disconnect it from your computer in this state.
- Solid green—iPod shuffle is fully charged and not in use; it's OK to disconnect it from your computer.
- No light—iPod shuffle is not charging, nor in use; it's OK to disconnect it from your computer.

When iPod shuffle is not connected to your computer...

- When you turn iPod shuffle on, the status light will be green for up to 3 seconds and then turn off.
- Solid green—iPod Shuffle is fully charged.
- Solid orange—iPod Shuffle charge is low, and should be recharged soon.
- No light—iPod Shuffle has no charge.
- If the status light blinks orange and green when you press any button, iPod shuffle is letting you know that there's either an issue, or it could be that you have no songs on the player. We'll tell you how to resolve this issue in our iPod troubleshooting section.

You can easily check your iPod Shuffle battery charge by quickly turning it off, and on again, even while it’s playing. The status light will light briefly with one of the colors described above.

Put It on Hold

iPod shuffle features a Hold mode that allows you to temporarily disable the front buttons to avoid accidental presses while you're listening to your tunes. To turn on Hold, press and hold the Play/Pause button for 3 seconds; the status light will blink orange three times to let you know that iPod shuffle is on Hold. If you press a button when Hold is on, the status light will display orange, but the press will have no affect.

To turn off Hold, press the Play/Pause button for 3 seconds; the status light will blink green three times to let you know that the iPod shuffle buttons are free to be pressed at will. Alternatively, you can also turn off Hold by moving the switch on the back of iPod shuffle to the Off position.

Play/Pause button
This center button allows you to play or pause a song, audiobook, or podcast. Pressing this button will either start play or pause it if something is already playing.

Volume Up button
Press this button to crank up your tunes, audiobook, or podcast. Press this button multiple times to turn up the volume incrementally. Hold the button down to turn up the volume gradually.

Volume Down button

Press this button to turn down your tunes, audiobook, or podcast. Press this button multiple times to turn down the volume incrementally. Hold the button down to turn down the volume gradually.

Previous/Rewind button
When a song (or audiobook or podcast) is playing, you can start the song over by pressing this button once, go to the previous song by pressing the button twice, or rewind through the current song by holding down the button as long as you want.

Previous/Rewind button
When a song (or audiobook or podcast) is playing, you can start the song over by pressing this button once, go to the previous song by pressing the button twice, or rewind through the current song by holding down the button as long as you want.

Next/Fast-forward button
When a song (or audiobook or podcast) is playing, you can skip to the next song in the list by pressing this button once, or fast-forward through the song by holding down the button as long as you want.

Apple Earphones
If you want to hear your music, you've got to plug some headphones into your iPod shuffle. The included Apple earbud-style headphones provide awesome sound with full frequency response (20 Hz to 20,000 Hz), and connect to iPod shuffle with a 3.5-mm stereo miniplug. If you have a hard time keeping these types of ’phones in your ears, feel free to plug in a different set of headphones.

Headphone port
This is the place to plug in your headphones—either the included Apple Earphones or your own (as long as it has a stereo 3.5-mm miniplug). When you're not feeling selfish and hogging your tunes to yourself, you can alternatively use a 3.5-mm stereo miniplug to dual RCA jack cable (not included) to connect iPod shuffle to your home stereo and share your tunes with the neighbors. Or hook up a pair of powered speakers to the port.

Power Switch
This switch on the bottom of iPod shuffle lets you turn the player on and off.

To turn on iPod shuffle, slide the switch away from Off to reveal a green strip beneath the switch. To turn off iPod shuffle, slide the switch to the Off position (you won't see any green when iPod shuffle is turned off).

Shuffle Switch
This switch on the bottom of iPod shuffle sets whether iPod shuffle plays songs, audiobooks, and podcasts in order or in shuffle mode (total, random, free-for-all). When positioned next to the crossed arrows, you’re in shuffle mode, when positioned next to the circular arrows, songs repeat in the order you set in iTunes.

Take me to the iPod Anatomy index Take me to Lesson 2: What's On the Menu

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iPod 101: What‘s On the Menu?

This article has been archived and is no longer updated by Apple.

Before you can dish it up, you've got to know what's on each menu first.

If you've got an iPod with a display, that LCD screen isn't just for looks—it serves as mission control into the inner workings of your iPod. (iPod shuffle customers can skip to the next lesson since you don't have a display screen.)

Menus allow you to navigate through your iPod content by simply scrolling the Click Wheel to highlight menu items, and pressing the Center button (the button formerly known as Select) to choose that item.

The very first time you turn on your iPod (press any front button), you'll be greeted with a Language menu that lets you choose the language in which your iPod menus are displayed. Scroll the Click Wheel to highlight your preference, then press the Center button. You should now see the main menu.

- The Main Menu
- The Music Menu
- The Photos[1] Menu
- The Videos[2] Menu
- The Extras Menu
- The Settings Menu
- Customize My Menu

1. On iPod with color display models only.
2. On Fifth Generation iPod models only.

The Main Menu

The main menu screen content for an iPod with color display (Fifth Generation iPod shown here) and other iPods are almost identical.

The main menu is the first menu you see when you turn on your iPod, and serves as the starting point to get to what you want. The items in the screens above are the default menu items for that particular iPod model—the ones you'll see if you have not setup any menu customization yet.

If you ever find your iPod’s main menu doesn’t respond to your touch, check out the upper-left corner. If the lock icon is showing, your iPod is on hold, just slide the hold switch over to the other side, and your iPod will stop ignoring you.

Music, Photos (on iPod with color display models only), Videos (on Fifth Generation iPods only), Extras, and Settings are all menus in their own right, meaning they feature their own submenu items when you choose them. If you see a right arrow (>) icon next to a menu item, that item has its own submenu.

Shuffle Songs and Backlight aren't menus (notice that they don't have the arrow icon?)—they're player features. If you scroll the Click Wheel to Shuffle Songs and then press the Center button to choose it, one of the songs in your iPod will begin playing (if you have songs on your iPod), and all subsequent songs will be played in random order.

If you scroll to Backlight (this appears in all iPod main menus by default except the Fifth Generation iPod—you can turn on the Backlight menu display in Settings) and choose it, you'll turn on the LCD's backlight, which allows you to see your screen in the dark. iPods with a color display turn on the backlight whenever you scroll the Click Wheel or press a button. Choose Backlight again to turn it off, or do nothing for a set amount of time and the backlight will turn itself off automatically (see the Backlight Timer section in "The Settings Menu").

The Now Playing menu only appears if your iPod has a song playing or paused. When you choose it, you'll see the Now Playing screen, which details your song's name, artist, album, and how far along it is in its progress. Of course, if you're listening to an audiobook or podcast, you'll see the details for those items (book author, podcast episode, or what have you).

The Music Menu

Whether you're looking at an iPod with a color display or an older iPod you'll find identical items in the Music menu.

To view the Music menu, highlight Music in the main menu and press the Center button. This menu allows you to find all the songs, audiobooks, and podcasts on your iPod in a number of ways. From top to bottom, here are the submenu items in the Music menu along with the content that each submenu ultimately leads you to as you choose items (we'll show you how to browse your audio content in "Play That Funky Music").

- Playlists (Music > Playlists > *your playlists* > *songs in the playlist*)
- Artists (Music > Artists > *artist's albums* > *songs on album*)
- Albums (Music > Albums > *songs on album*)
- Songs (Music > Songs > *all song titles*)
- Podcasts (Music > Podcasts > *all podcast episodes*)
- Genres (Music > Genres > *corresponding artists* > *artist's albums* > *songs on album*)
- Composers (Music > Composers > *corresponding albums* > *corresponding songs on album*)
- Audiobooks (Music > Audiobooks > *all audiobook titles*)

The Photos Menu

If you have an iPod with a color display, you'll see a Photos menu on your iPod that'll allow you to proudly show off your pictures to anyone who passes by.

If your iPod has a color display, your music player can do double-duty as a photo viewer from the Photos menu. To view the Photos menu, choose Photos from the main menu. Depending on how you set your iPod photo-syncing settings in iTunes, your Photos menu content may vary from our screen above.

If you have photos on your iPod, you'll see Slideshow Settings and Photo Library displayed as the top two menu items. Any iPhoto (Mac), Adobe Photoshop Album (Windows), or Adobe Elements (Windows) photo albums and grouped content you've set to sync will appear below these two items. Here's where you'll wind up when you choose items in each of these submenus (we'll cover all the photo features in detail in "Show Me My Photos and Videos").

- o Slideshow Settings (Photos > Slideshow Settings > *customizable settings*)
- o Photo Library (Photos > Photo Library > *thumbnails* > *full screen view*)
- o Synced Photo Album or Folder (Photos > *synced photo album or folder* > *thumbnails* > *full screen view*)

When you highlight an image and press the Center button when viewing photos as thumbnails, small graphical representations of your photos, you'll see the chosen thumbnail in full screen mode. If you press the Play/Pause button, your iPod will parade your photos as a slideshow.

The Videos Menu

If you have the latest iPod, you can watch videos right on your player—just access the Videos menu.

If you have a Fifth Generation iPod, you can watch music videos, TV shows, movies, and even video podcasts right on your iPod. To view the Videos menu, choose Videos from the main menu. Depending on what kind of videos you have on your iPod, your Videos menu content may vary from ours. Here's what you'll find in each of the Videos menu's submenus.

- Video Playlists (Videos > Video Playlists > *all video playlists*)
- Movies (Videos > Movies > *all movies*)
- Music Videos (Videos > Music Videos > Artists > *artist's videos*)
- TV Shows (Videos > TV Shows > *all TV shows*)
- Video Podcasts (Videos > Video Podcasts > *all video podcasts*)
- Video Settings (Videos > Video Settings > *customizable settings*)

To watch a video on your iPod, just choose the type of video you want to watch in the Videos menu, choose a video in the resulting screen and press the Play/Pause button (we'll cover the video features more in-depth in "Show Me My Photos and Videos").

The Extras Menu

Older iPods offer some cool Extras items, but Fifth Generation iPods and iPod nano feature some extra Extras.

The Extras menu contains a whole host of features to take your iPod beyond just being your favorite music player. To view the menu, choose Extras from the main menu (we'll go into more detail about some of the submenus in "Maximize My Experience"). Here's what you'll find in the Extras menu and where each will lead you to:

- Clock[1] (Extras > Clock > *the time and date*, Alarm Clock, Sleep Timer, and Date & Time *submenus*)
- Clock[2] (Extras > Clock > *world clocks* > Alarm Clock, Change City, Daylight Saving Time, Delete This Clock, and Sleep Timer *submenus*)
- Games (Extras > Games > Brick, Music Quiz, Parachute, Solitaire > *selected game screen*)
- Contacts (Extras > Contacts > *contact names* > *contact information*)
- Calendars (Extras > Calendars > *calendar list, plus a* To Do *submenu and Alarms option*)
- Notes (Extras > Notes > *text files in the Notes folder*)
- Stopwatch2 (Extras > Stopwatch > Timer, *session logs*)
- Screen Lock2 (Extras > Screen Lock > Set Combination, Turn Screen Lock On *submenus*)

1. Older iPods with a color display and all monochrome iPods
2. Fifth Generation iPod and iPod nano only.

The Settings Menu

Though it's not apparent in this image, the Settings menu items in an iPod with color display differ slightly from older iPods due to some feature differences.

The Settings menu allows you to customize what your iPod displays and how. Just choose Settings in the main menu to view a slew of items that you can tweak to your liking. Here's what you'll find in the Settings menus for iPod with color display models and iPod mini, what you'll get when you choose an item, and what you can change.

- **About (Settings > About > *iPod information*)**—This screen displays information about your iPod, including the number of songs and photos1 it contains, its capacity, how much space is left, software version number, the serial number, and the model type.
- **Main Menu (Settings > Main Menu > *list of all items in each menu*)**—This screen lets you determine which menu items to display in the main menu screen. For example, you can put Contacts in the main menu if you don't want to keep navigating to the Extras menu to get to it. We'll show you how to customize your main menu shortly.
- **Shuffle (Settings > Shuffle)**—Lets you toggle the shuffle feature to shuffle Songs or Albums, or turn the feature Off.
- **Repeat (Settings > Repeat)**—Lets you toggle the repeat feature to repeat a song over and over (choose One), repeat all songs in the list (choose All), or turn the feature Off.
- **Volume Limit**—Fifth Generation iPods provide an easy way to set a maximum volume limit to prevent the volume from exceeding a certain level. This works with any headphones or speakers attached to the headphone jack. For parental control, you can even assign a combination to prevent the setting from being changed.
- **Backlight Timer (Settings > Backlight Timer > *duration*)**—This screen lets you set how long the backlight displays before turning itself off. You can choose Off, 2 Seconds, 5 Seconds, 10 Seconds, 15 Seconds, 20 Seconds, or Always On.
- **Brightness**—Fifth Generation iPods let you control the screens brightness with an easily set slider. Brightness affects battery life, so you can affect playback time by lowering screen brightness.

Alone in the Dark?

You can easily turn on the LCD's backlight by pressing and holding the Menu button until the light turns on, rather than sticking the screen up to your eyeball as you hunt for the Backlight control. iPod with color display models always turn on the backlight when you press a button or scroll the Click Wheel. Of course, if you set the backlight to Off, you can turn it on with the same Menu button press.

- **Audiobooks (Settings > Audiobooks > *reading speed*)**—This screen allows you to vary the reading speed when you're listening to an audiobook file—this is especially helpful if your book narrator is amped up on coffee or has the delivery of a turtle. You can choose Slower, Normal, or Faster to suit your listening comprehension.
- **EQ (Settings > EQ > *preset equalizer settings*)**—This screen allows you to choose an EQ preset to make your music sound even

better. The presets cover a wide spectrum of music genres, including Acoustic, Bass Booster, Classical, Dance, Electronic, Flat, Hip Hop, Jazz, Latin, Lounge, Pop, R&B, Rock, Spoken Word, Treble Booster, Vocal Booster, and, of course, Off.

Whether you want to hear your music booming on the bottom or hear the singer's words loud and clear, you'll find plenty of presets in the EQ menu.

- **Compilations**[1] **(Settings > Compilations**)—Lets you enable the Compilations menu in the Music menu (choose On) to browse songs that are grouped in compilations (if you have compilation albums). Choose Off to disable this menu.
- **Sound Check (Settings > Sound Check**)—If you use the Sound Check feature in iTunes (it makes all songs play at the same volume) this lets you toggle the same feature On or Off for iPod play (Sound Check must have been activated in iTunes when you copied songs to your iPod for this iPod feature to have any effect).
- **Contrast**[2] **(Settings > Contrast >** ***contrast slider control***)—This screen lets you adjust the contrast of your iPod mini (or older iPod with monochrome display) screen. Scroll the Click Wheel right to make the screen darker, or left to make the screen lighter.
- **Clicker (Settings > Clicker**)—The clicker is the sound you hear when you scroll the Click Wheel. By default, the Clicker is set to Speaker to make the sound emanate from the internal speaker on your iPod (and no, you can't play music through this speaker). You can also set this to Headphones (plays the sound only through connected headphones), Both (plays the sound through the speaker and headphones), or Off (gets rid of the sound altogether).
- **Date & Time (Settings > Date & Time > Set Time Zone, Set Date & Time, Time, Time in Title**)—This screen allows you to set the time and date on your iPod, as well as how this information should be displayed. Choose the Set Time Zone submenu to choose your time zone. Choose the Set Date & Time submenu to set the date and time (of course!). The Time menu item lets you set the clock for 12-hour or 24-hour time. The Time in Title item lets you choose to have the time displayed in the menu title after briefly displaying a menu's title (choose On) or not (choose Off).

Your iPod also functions as a fine timepiece so you can keep track of the hours and days you spend in la la la land.

- **Contacts (Settings > Contacts >** ***sorting and display preferences***)—This screen includes two menu items. Sort lets you set the criteria for the order in which your contacts appear in your iPod—either by first name (choose "First Last") or last name (choose "Last, First"). Display lets you set how your contacts' names are displayed in the Contacts menu (choose "First Last" or "Last, First").
- **Language (Settings > Language >** ***languages***)—All iPods with a display are multilingual, meaning you can change the default language that appears in your iPod menus and screens. You can choose English, German, French, Italian, Japanese, Spanish, or other language. Don't worry; your iPod will still display song titles in their native language no matter what default language you set (for example, English song titles, artists, and albums will still appear in English even if you switch the language to Japanese or Spanish).
- **Legal (Settings > Legal >** ***copyright, trademark, and other licensing information***)—Here's where we give credit where credit is due. This screen displays all the copyright, trademark, and licensing information for the companies who've helped make iPod what it is. And it's a nifty place to go if you enjoy staring at the Apple logo.
- **Reset All Settings (Settings > Reset All Settings >** ***do it or abort***)—If you get a little too carried away with all your menu customizing, settings tweaking, and whatnot, this screen is your ticket to putting everything back to where it was when you first got your iPod. Choose Reset to reset all menus and settings back to the defaults (this doesn't affect any of your audio files, photos1, contacts, and other data), or Cancel (or press the Menu button) if you want to abort your mission.

1. iPod with color display models only
2. iPod with monochrome display models only

Customize My Menu

If you prefer to order stuff that's not on the main menu, choose **Settings > Main Menu** (right) and create your own custom main menu (left).

We just gave you the grand tour through each of the menus on your iPod, but just because we lined up all the menus in this manner, it doesn't mean that you have to stick with our program. In fact, you can customize the content that appears in the main menu to get to the stuff you care about even faster. Here's how.

1. 1. Choose **Settings > Main Menu**. All main menu items (the stuff that appears in the main menu screen by default) appear near the left

edge of the screen. Their submenu items appear as indented text below the corresponding menu (see the right screen in the image above).

2. 2. Use the Click Wheel to scroll to any submenu item that you'd like to be able to access from the main menu.
3. 3. Press the Center button to change its Off status to On. This submenu will now appear as a main menu item.
4. 4. If you want to turn off a main menu item, scroll to an item whose status is On and choose it to turn it to Off. For example, you might want to turn off the Extras menu and turn on Contacts and Calendars if those are the only Extras items you use.

Don't worry about turning off stuff and not being able to access that menu again. None of the Settings menu items appear in **Settings > Main Menu**, so you can't paint yourself into a corner. If you decide to, say, bring back the Extras menu because you miss Solitaire, just turn on Extras again in **Settings > Main Menu** (or turn on the Games submenu).

Take me to the iPod Anatomy index

Take me to Lesson 3: Charging the Battery

Published Date: Feb 18, 2012

Installing and Updating iPod Software

This article has been archived and is no longer updated by Apple.

All iPods have their own internal software that allows them to sync with your computer and deliver the great features and performance that iPod engineers so lovingly create.

When you first get a new iPod, you'll need to install iTunes to get started. iTunes allows you to import, play, and buy music, and sync your tunes, audiobooks, and podcasts with your iPod (and it burns CDs too!) You'll want to make sure to keep your iTunes up to date to ensure that you're getting all the latest features.

Previous iPods came with a CD that contained the iPod Software—which bestowed all the powerful features to iPod—and iTunes. If you can't use or install iTunes 7 and need to install software on an older iPod that came with a CD install disc, go to Installing on an Older iPod.

If you have an iPod with a color display, the iPod Software allows your iPod to display images. And if you have a Fifth Generation iPod or iPod nano, you get a few bonus features, including a stopwatch and world clocks.

- Installing Software for the First Time
- Installing Software on an Older iPod
- Updating on an Older iPod

Do I need to install iTunes?

Be sure to install the latest version of iTunes if you want to take advantage of its latest features.

You will need iTunes 7 to set-up your iPod, so your first order of business is to get up-to-date with iTunes 7 on your computer. All Macs come with iTunes already installed. However, if you have a PC that hasn't had iTunes installed, or if your Mac no longer has iTunes, or if your version of iTunes is not up-to-date, you will need to install iTunes. To make sure that you install the latest version of iTunes, use Software Update or visit the page.

If you have a Fifth Generation iPod, make sure that you also install QuickTime 7.0.3 or later to view and purchase videos from the iTunes Store (both iTunes and QuickTime are free downloads).

Installing Software for the First Time

If you just got your iPod and have yet to install the software onto your computer and iPod, follow the instructions for your platform below. If you've already installed the software, jump ahead to "Updating Your Software" if you need help updating your iPod or iTunes software. (To make sure your Mac or Windows PC meets iPod system requirements, check the requirements for the current iPod models on the iPod Technical Specifications page.

Mac users

1. Visit the Download iTunes page, download iTunes, install it and start it up.
2. Connect your iPod to your computer as follows:
   - **To connect iPod, iPod nano, or iPod mini**: Connect the Dock Connector side of the cable that came with your iPod to the Dock Connector on the bottom of your iPod (the rectangle with horizontal line icon should be face up). Connect the USB side of the cable to a high-powered USB port on your computer.
   - **To connect iPod shuffle**: Plug the USB connector side of the Shuffle Dock into a high-powered USB port on your computer. Plug the iPod shuffle into the dock.

     Note: High-powered USB ports are generally the ones that reside on your computer or on a powered USB hub. If you want your iPod battery to charge while connected, avoid using the USB port on your keyboard or non-powered USB hub.
3. While iTunes recognizes your iPod, you may see messages that your iPod is being updated or restored, simply wait for the iPod Assistant to help you set up your iPod. When the iPod Setup Assistant appears, type a name for your iPod in the top field.
4. Choose the "Automatically update songs on my iPod" checkbox if you want to sync your entire iTunes music library and playlists to your iPod each time you plug it in. If you want control of what goes onto your iPod, deselect this checkbox.
5. If you have an iPod with a color display, you can have iTunes automatically copy your photos to your iPod (using your settings in iTunes preferences) to fill any remaining space by choosing the "Automatically copy photos to my iPod" checkbox. If you prefer to copy photos

manually, deselect this checkbox.
6. Click Next to go to the next screen. If you'd like to register your iPod at this time, click Register My iPod. Click Done to end the setup process and open iTunes (you should see your iPod hanging out in the iTunes Source pane).

Windows users

1. Visit the Download iTunes page, download iTunes, install it and start it up.
2. Connect your iPod to your computer as follows:
   - **To connect iPod, iPod nano, or iPod mini**: Connect the Dock Connector side of the cable that came with your iPod to the Dock Connector on the bottom of your iPod (the rectangle with horizontal line icon should be face up). Connect the USB side of the cable to a high-powered USB port on your computer.
   - **To connect iPod shuffle**: Plug the USB connector side of the Shuffle Dock into a high-powered USB port on your computer. Plug the iPod shuffle into the dock.

     Note: High-powered USB ports are generally the ones that reside on your computer or on a powered USB hub. If you want your iPod battery to charge while connected, avoid using the USB port on your keyboard or non-powered USB hub.
3. When iTunes recognizes your iPod, the iPod Setup Assistant appears to help you set up your iPod. Type a name for your iPod in the top field
4. Choose the "Automatically update songs on my iPod" checkbox if you want to sync your entire iTunes music library and playlists to your iPod each time you plug it in. If you want control of what goes onto your iPod, deselect this checkbox.
5. If you have an iPod with a color display, you can have iTunes automatically copy your photos to your iPod (using your settings in iTunes preferences) to fill any remaining space by choosing the "Automatically copy photos to my iPod" checkbox. Then choose a folder from the **Synchronize photos from** menu. If you prefer to copy photos manually, deselect this checkbox.
6. Click Next to go to the next screen. If you'd like to register your iPod at this time, click Register My iPod. Click Finish to end the setup process and open iTunes (you should see your iPod hanging out in the iTunes Source pane.

Syncing your iPod

When the iPod Setup Assistant finishes, if you elected to "Automatically update songs on my iPod", iTunes immediately begins transferring your songs to your iPod—assuming you have songs in your iTunes library. If you did not choose to automatically update, you need to set up manual options for syncing your iPod.

Updating your Software

Now that you've got iPod software and iTunes installed on your computer, you should make it a point to periodically check for the latest software updates from Apple. Oftentimes, these updates bring new features to iPod and iTunes that you certainly won't want to miss out on now, would you?

And it couldn't be easier to update iTunes, just choose "Check for Updates" under the iTunes menu on a Mac, or from the iTunes Help menu on a PC. This checks both your iTunes software and your iPod software for updates. If both are up to date, you'll be told that iTunes is up to date, if updates for either are available you'll be offered the appropriate update.

On a Mac you can even use "Software Update…" under the Apple Menu from your desktop.

To check just for iPod software updates, connect your iPod to your computer, launch iTunes, and choose the iPod in the Source pane. From the iPod Settings Summary tab that appears, if the Update button is available—black, not grey—then new iPod software is available. Just click the Update button and follow the directions.

Installing Software on Older iPods

If you can't use iTunes 7 to install your iPod software and have an older iPod that came with a CD install disc, follow the instructions for your platform below.

Mac users

1. Insert the CD that came with your iPod into your computer.
2. Double-click the iPod CD icon on your desktop to view its contents.
3. Open the iPod Installer folder, then double-click the package (.pkg) file within it.
4. Follow the instructions in the iPod Installer to install the iPod software onto your computer (by default, it installs at /Applications/Utilities/iPod Software Updater).
5. When the installer finishes the installation, it displays a dialog, asking you to plug your iPod in to your computer.
6. Connect your iPod to your computer as follows:
   - **To connect iPod, iPod nano, or iPod mini**: Connect the Dock Connector side of the cable that came with your iPod to the Dock Connector on the bottom of your iPod (the rectangle with horizontal line icon should be face up). Connect the USB side of the cable

to a high-powered USB port on your computer.
- **To connect iPod shuffle**: Remove the USB cap and plug the USB connector into a high-powered USB port on your computer.

  Note: High-powered USB ports are generally the ones that reside on your computer or on a powered USB hub. If you want your iPod battery to charge while connected, avoid using the USB port on your keyboard or non-powered USB hub.

7. When your Mac recognizes your iPod, the iPod Setup Assistant appears to help you set up your iPod. Type a name for your iPod in the top field.
8. Choose the "Automatically update songs on my iPod" checkbox if you want to sync your entire iTunes music library and playlists to your iPod each time you plug it in. If you want control of what goes onto your iPod, deselect this checkbox.
9. If you have an iPod with a color display, you can have iTunes automatically copy your photos to your iPod (using your settings in iTunes preferences) to fill any remaining space by choosing the "Automatically copy photos to my iPod" checkbox. If you prefer to copy photos manually, deselect this checkbox.
10. Click Next to go to the next screen. If you'd like to register your iPod at this time, click Register My iPod. Click Done to end the setup process and open iTunes (you should see your iPod hanging out in the iTunes Source pane.

Windows users

1. Insert the CD that came with your iPod into your computer.
2. Open My Computer, then double-click the iPod CD to start the installation.
3. In the resulting dialog, choose your preferred language from the menu choices, then click OK.
4. The iPod for Windows Install Wizard starts up. Follow the instructions to install iPod software onto your computer, connecting your iPod to your computer (if asked) as follows:
   - **To connect iPod, iPod nano, or iPod mini**: Connect the Dock Connector side of the cable that came with your iPod to the Dock Connector on the bottom of your iPod (the rectangle with horizontal line icon should be face up). Connect the USB side of the cable to a high-powered USB port on your computer.
   - **To connect iPod shuffle**: Remove the USB cap and plug the USB connector into a high-powered USB port on your computer.

     Note: High-powered USB ports are generally the ones that reside on your computer or on a powered USB hub. If you want your iPod battery to charge while connected, avoid using the USB port on your keyboard or non-powered USB hub.

5. When your computer recognizes iPod, it may update software on your iPod if needed (click Update if you get a dialog that says your iPod needs to be reformatted or restored). When finished, your iPod software will be installed at the default location, C:\\Program Files\\iPod\\ (unless you choose another folder).
6. The installer will then install iTunes if it isn't already installed on your computer, or if you have an older version installed than the one that came on your iPod CD.
7. When the installation is complete, follow the instructions to restart your computer.
8. Once your computer is back up, you should be greeted by the iPod Setup Assistant (if your iPod is still connected). Type a name for your iPod in the top field.
9. Choose the "Automatically update songs on my iPod" checkbox if you want to sync your entire iTunes music library and playlists to your iPod each time you plug it in. If you want control of what goes onto your iPod, deselect this checkbox.
10. If you have an iPod with a color display, you can have iTunes automatically copy your photos to your iPod (using your settings in iTunes preferences) to fill any remaining space by choosing the "Automatically copy photos to my iPod" checkbox. Then choose a folder from the **Synchronize photos from** menu. If you prefer to copy photos manually, deselect this checkbox.
11. Click Next to go to the next screen. If you'd like to register your iPod at this time, click Register My iPod. Click Finish to end the setup process and open iTunes (you should see your iPod hanging out in the iTunes Source pane.

Updating an Older iPod

Make it a point to check for and install the latest iPod software updates, which may include new features and enhancements.

If you've got an older iPod, or must use an older version of iTunes on your computer, you should still make it a point to periodically check for the latest iPod software Updaters from Apple.

Published Date: Oct 4, 2008

iPod 101: Which Files Work With iPod and iTunes

This article has been archived and is no longer updated by Apple.

Want to know which files play nicely with which iPods? Read on for the list of all compatible file types for iPods and iTunes.

You know that iPods play music, but that doesn't mean that every type of music file will play on your iPod or in iTunes. Same goes for iPods that can display images or play videos. To find out which file formats will work on your iPod or in iTunes, choose your product below*.

Note: If needed, you can download the latest version of iTunes here.

- Fifth Generation iPod (iPod with video)
- iPod nano
- iPod with color display
- iPod mini
- iPod shuffle
- iPod with monochrome display
- iTunes

* Don't know which iPod model you have? See this article.

Fifth Generation iPod

If you're using iTunes 6 or later for Mac or Windows and have a Fifth Generation iPod (aka iPod with video), you already know that your iPod is capable of playing video. But which file formats work with it? In general, your iPod can play H.264 and MPEG-4 video in .mov, .m4v, and .mp4 file formats. All videos purchased from the iTunes Store play nicely on a Fifth Generation iPod. You can also use iTunes to convert some unsupported video formats to a format that will play on your iPod. For more information about viewing and syncing video with your iPod and compatible movie specifications, see our video FAQ for iTunes and iPod.

As with video, any audio file that you can play in iTunes will play on your iPod, including MP3, AIFF, WAV (uncompressed), AAC, and Audible (.aa) files. All music and audiobooks purchased from the iTunes Store will play on your iPod. For audio file compatibility specifics, see this article.

And, of course, you can view photos and image files (such as album artwork) on your iPod too. Both your iPod and iTunes can display most popular image file formats, including JPEG, TIFF, GIF, BMP, and PSD (Photoshop). For more information, see our "Compatible photo formats" article.

iPod nano

If you're using iTunes 4.9 or later for Mac or Windows and have an iPod nano, your iPod can play any audio file that you can play in iTunes, including MP3, AIFF, WAV (uncompressed), AAC, and Audible (.aa) files. All music and audiobooks purchased from the iTunes Store will play on your iPod. For audio file compatibility specifics, see this article.

You can also view photos and image files (such as album artwork) on your iPod nano too. Both your iPod and iTunes can display most popular image file formats, including JPEG, TIFF, GIF, BMP, and PSD (Photoshop). For more information, see our "Compatible photo formats" article.

iPod with color display

If you're using iTunes 4.7 or later for Mac or Windows and have an iPod with a color display and the latest iPod software, your iPod can play any audio file that you can play in iTunes, including MP3, AIFF, WAV (uncompressed), AAC, and Audible (.aa) files. All music and audiobooks purchased from the iTunes Store will play on your iPod. For audio file compatibility specifics, see this article.

You can also view photos and image files (such as album artwork) on your iPod too. Both your iPod and iTunes can display most popular image file formats, including JPEG, TIFF, GIF, BMP, and PSD (Photoshop). For more information, see our "Compatible photo formats" article.

iPod mini

If you're using iTunes 4.7 or later for Mac or Windows and have an iPod mini with the latest iPod software, your iPod can play any audio file that you can play in iTunes, including MP3, AIFF, WAV (uncompressed), AAC, and Audible (.aa) files. All music and audiobooks purchased from the iTunes Store will play on your iPod. For audio file compatibility specifics, see this article.

iPod shuffle

If you're using iTunes 7.0.x or later for Mac or Windows and have an iPod shuffle, your iPod can play almost every audio file that you can play in iTunes, including MP3, WAV (uncompressed), AAC, and Audible (.aa) files. If you want to play higher bitrate songs on your iPod shuffle, be sure to choose the "Convert higher bitrate songs to 128 kbps AAC for this iPod" option in the iPod preferences pane in iTunes preferences.

All music and audiobooks purchased from the iTunes Store will play on your iPod shuffle. For audio file compatibility specifics, see this article.

iPod with monochrome display

If you're using iTunes 4 or later for Mac or Windows and have an iPod with a monochrome display and the latest iPod software, your iPod can play just about any audio file that you can play in iTunes, including MP3, AIFF, WAV (uncompressed), AAC, and Audible (.aa) files. (Please note that Apple Lossless files are only compatible with iPods with Dock Connectors.) All music and audiobooks purchased from the iTunes Store will play on your iPod. For audio file compatibility specifics, see this article.

iTunes

Get the latest version of iTunes for Mac or Windows and you'll be able to enjoy a motley of music and multimedia on your desktop. iTunes 7 and later allows you to watch videos, listen to music, subscribe to audio and video podcasts, curl up with a good audiobook, view album artwork, and more.

iTunes can handle just about any file format that works with QuickTime and will play any file purchased or downloaded from the iTunes Store. If you've got video files that end with a .mov, .m4v, or .mp4 file extension, you can watch them in iTunes. If you've got music and audio files such as MP3s, AACs, AIFF or WAV files, or Audible (.aa) files, you can play them in iTunes. Got JPEG, TIFF, GIF, BMP, or PSD (Photoshop) image files? You can append graphics to your music in iTunes preferences to display as album artwork or just pretty pictures in iTunes.

For more information about playing video files in iTunes, see the video FAQ for iTunes and iPod. To learn more about audio file compatibility specifics, see "About compatible song formats." To see a complete list of compatible image file formats, see "Compatible photo formats."

Take me to the iPod Anatomy index

Take me to the Crank Up the Tunes index

Published Date: Feb 18, 2012

Mac OS 8: Dancing Icons in View as List

The Microsoft Macintosh NT client software, which ships with the current Microsoft Windows NT Server 4.0, exhibits an issue described as "dancing icons" on the desktop of the Macintosh client. This issue does not occur on Windows clients.

Several unix-based AFP servers have also exhibited this behavior.
This article has been archived and is no longer updated by Apple.
Microsoft has released a software update to resolve this issue. Contact Microsoft to get the software update. There are two HOTFIXES with these file names:

- Jump_A.zip
- Jump_86.zip

As of March, 1998 these fixes are not available on the Microsoft Website. You must call Microsoft to request these updates.

Customers with unix-based AFP servers should contact the vendors of their AFP servers about patches or updates.

The Tech Info Library Article 17159: "**Locating Vendor Information**" can help you search for a particular vendor's address and phone number.
Published Date: Feb 18, 2012

European Apple II: No Color With U.S. Monitor (2/97)

This article discusses the problem of the European Apple II not producing color when used with a U.S. Apple Color Monitor.

This article has been archived and is no longer updated by Apple.

A European Apple II produces either PAL or SECAM video output, both of which are compatible with European television standards. However, these signals are incompatible with the NTSC signal required for U.S. monitors. The signal is close enough in video content to be resolved in black and white, but the frequency of the color burst is incorrect for an NTSC monitor.

Using a European Apple II system in North America, you can get an acceptable color display from your European monitor, although there may be some problems due to the different line frequency in North America.

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Apple Internet Dialer: Window Does Not Appear

When I double-click the Internet Dialer icon, the window doesn't appear any more. I can connect directly from the applications like Claris Emailer Lite, Netscape and Cyberdog, but I can't disconnect unless I use the PPP control panel.

The Internet Dialer activates when I double-click the icon, i.e. the little icon appears at the top right-hand corner of the screen. But I cannot use the pull down menu or command-Q to quit.
This article has been archived and is no longer updated by Apple.
When this happens, quit the Internet Dialer, Locate and Trash the Internet Dialer Preferences file (in the Preferences Folder in the System Folder). Then restart the Internet Dialer. The window will reappear in the 'default' location.
Published Date: Feb 18, 2012

iPod 101: Backing Up Your Library

This article has been archived and is no longer updated by Apple.

Now that you've mastered moving all your favorite flicks, tunes, and games into the iTunes Library, and syncing them to your iPod, thoughtful users may wonder if you can safeguard all that effort with a backup. Of course! iTunes 7 makes it a breeze to backup all your media, including music, movies, videos, and even your playlists to disc! iTunes 7 even does incremental backups to minimize disc usage. All you need is iTunes 7 and a SuperDrive or a compatible DVD burner. iTunes 7 will even make the inserts for your backup disc's jewel cases.

You can also use your iPod to move your iTunes purchases, or even your entire library, from one computer to another and enjoy your media at home, at work, or wherever!

Here's how to move forward on backing up:

- Backing Up Your iTunes Library
- Restoring your Library from a Backup
- Using an iPod to Transfer Purchases Between iTunes Libraries
- Using Your iPod to Move your iTunes Library

Backing Up Your iTunes Library

First make sure you have some blank CDs or DVDs ready to go, then do the following:

1. From the iTunes **File** menu, choose **Backup to Disc.**
2. From the **iTunes Backup** dialog box, choose one of the following:

   - **Back up entire iTunes library and playlists** (to backup everything)
   - **Back up only iTunes Store purchases** (to backup only your purchases)

3. If you have previously backed up your library, and only want to backup the changes, check **Only back up items added or changed since last backup**.
4. Click **Back Up** and wait for the DVD drawer to open.
5. Add a disc each time iTunes asks for one. If your library won't fit on a single disc, iTunes will ask—one at a time—for as many discs as needed, and write your library to them.

Printing Labels for your Backup Discs

Like to stay organized? Once your library is backed up you can print inserts for the jewel cases, just use the following instructions.

1. Insert a finished backup disc in your disc drive.

2. When the restore dialog appears, click **Cancel**.
3. When the disc appears in the Source pane, select it under DEVICES.
4. From the iTunes **File** menu, select **Print**.
5. In the resulting dialog box, select one of the **Print** radio buttons.
6. Select a **Theme** for the chosen print setting. The text box under the **Theme** menu explains what each theme option offers.
7. Click **Print** and the printer fires up.

Restoring your iTunes Library from a Backup Disc

If disaster strikes and you lose your library, or you just want to restore media you've deleted, getting your tunes or videos back couldn't be easier. Just grab your backup discs and do this:

1. Insert the first backup disc into your disc drive.

2. In the dialog that appears, click **Restore** and iTunes copies all content from your backup disc to your iTunes library. If you want to replace duplicate files already in your library with content from the backup disc, select **Overwrite existing files** before clicking **Restore**, otherwise you'll end up with two copies.
3. Sit back and relax while iTunes restores your media.

Moving On

So what happens if you get a new computer—maybe a new Mac, lucky you—and you decide to move your iTunes library to the new computer? No problem, if you've created backup discs, just insert them into the new computer and follow the restore instructions above. Optionally, you can use your iPod to transfer just your iTunes Store purchases to the new computer, or even use your iPod as a hard drive to move your entire iTunes library to the new computer.

Using an iPod to Transfer Purchases Between iTunes Libraries

If you just want to move your iTunes Store purchases to a new computer, do the following:

1. Authorize your new computer to play your purchases by choosing **Authorize computer**… from the iTunes **Store** menu.
2. Plug your iPod into the new computer.
3. When your iPod appears in the iTunes Source pane under DEVICES, select it.
4. From the iTunes **File** menu select **Transfer purchases from iPod**.

Make sure your new computer is authorized to play the newly transferred purchases by using **Authorize computer**… from the iTunes **Store** menu.

Using your iPod to Move your iTunes Library

While **Transfer purchases from iPod** lets you use your iPod to move your purchases from one computer to another, you can't transfer songs from other sources that way. You can however use your iPod to transfer those songs by using your iPod as a hard drive. If your iPod is nearly full of tunes, you may need to remove some—or all—to temporarily make room for your iTunes library.

For the complete low-down on using your iPod as a hard drive to move your iTunes library, go here.

For other options to transfer your iTunes library between Macs go here, or go here for Windows.

And, if you've just run out of space on your iTunes library hard drive and want to move the library to another drive on the same computer with more space, go here.

Take me to the Maximize My Experience index Take me to the My iPod is Sad (or Alarmed) index

Published Date: Feb 18, 2012

iTunes displays (-50) error when using iPod shuffle (Second Generation) with Windows 2000

This article has been archived and is no longer updated by Apple.

Symptom

Some customers using the iPod shuffle (Second Generation) on a Windows 2000 PC may see an error (-50) alert when trying to add or remove music from the iPod followed by an alert message stating that the iPod needs to be restored:

Solution

This symptom may be cause by an older version of iPod software installed on the iPod shuffle. To resolve this issue, restore and update the iPod shuffle to iPod shuffle software 1.0.1 or later as described in the following article:
300701: "Restoring iPod shuffle to factory settings"

Published Date: Feb 18, 2012

Cyberdog: "Connection Terminated" Message

When I am running Cyberdog I will sometimes get a dialog box that says "Your connection has been terminated..." but I am still connected to my service provider. The box may appear every few minutes. How can I stop this?

This article has been archived and is no longer updated by Apple.

This seems to be caused by a corruption of the "Internet Preferences" file found in the Preferences folder. Drag this file to the trash and restart Cyberdog; a new Internet Preferences file will be created. This should prevent the error message.

Published Date: Feb 18, 2012

At Ease 5.0.1 Update: Enable File Sharing Extension First

I have been experiencing problems updating my workstations to At Ease 5.0.1.
This article has been archived and is no longer updated by Apple.
The At Ease updater tries to disable File Sharing before performing the update. You do not need to have File Sharing turned on. However, the File Sharing extension does need to be installed in the System folder and not be disabled (either by Shift booting or by Extensions Manager). If the machine has been booted with the Shift key down (Extensions disabled), File Sharing will not be present. The remedy is to perform the update from Finder with Extensions enabled.

This is a live update to At Ease 5.0. If Extensions are disabled, certain pieces required for the Updater will not be available.

If you have removed File Sharing completely from your machine, you will need to reinstall your System Software. In the future, if there are components that you wish to have removed from the System Folder, use the Extensions Manager Control Panel. This will disable the extension without actually removing it from your machine. You would still need to re-enable the extension in order for the updater to work properly.
Published Date: Feb 18, 2012

Disinfectant: Macintosh Anti-Viral Utility

Disinfectant, Northwestern University's free Macintosh anti-viral utility can be used to protect your Macintosh computer against viruses.

Note: Disinfectant reached end of development on 6 May 1998 and there will be no further updates for Disinfectant.
This article has been archived and is no longer updated by Apple.
Disinfectant 3.7.1 and can be freely copied and distributed. Copy the software and documentation to your hard drive.

Disinfectant can be downloaded from the following web sites:

Northwestern University: **http://ftp.nwu.edu/ftp-archive/pub/**

Ohio University, Customer Support Services: **http://cscwww.cats.ohiou.edu/~cussup/disinn.html**

University of Michigan: **http://www.umich.edu/~wwwitd/virus-busters/s4200-special.html**
Published Date: Feb 18, 2012

LaserWriter 12/640: Installer "Can‘t Find Finder Help"

This article explains an error message that may appear when installing LaserWriter software, and provides a solution to the issue.
This article has been archived and is no longer updated by Apple.

Symptom

I'm trying to install my LaserWriter 12/640 software after installing OS 8.x, but the installer says it cannot find "Finder help" and will not let me proceed.

Solution

The version of LaserWriter 8 that is included with Mac OS 8.x or higher is newer than the one that comes on the 12/640 CD. If you need to install the fonts that came with the 12/640, choose custom install in the 12/640 installer and select only the fonts for installation.

Published Date: Feb 18, 2012

Color StyleWriter 6500: Printing Some Pages Too Light

Apple has discovered an issue where the first pages of a print job may print normally, but latter pages in the same print job will print very light.
This article has been archived and is no longer updated by Apple.
Apple has been able to reproduce this issue under the following circumstances:

- printing from an 68040-based system
- printing to the CSW 6500 (v.3.1.1) over AppleTalk
- printing documents larger than two pages
- printing text-only pages
- printing in 'Normal' mode

If you print from a PowerPC-based machine or if you print from an 040-based machine via serial, the problem does not occur. Also, pages with graphics don't seem to be affected - just text-only pages.

Here are some workarounds:
1) print via serial cable
2) print in best mode
3) print in draft mode
4) print from a PowerPC-based machine (AppleTalk or serial)
Published Date: Feb 18, 2012

LaserWriter and System Software for Mixed Installations

This article has been archived and is no longer updated by Apple.

Anyone dealing with a variety of Macintosh models (including Macintosh 512Ke systems) in work group networks with a recent LaserWriter model (such as the LaserWriter IINT) needs to be aware of the different combinations of System/Finder versions and LaserWriter software. The Tech Info Library article "Macintosh: Recommended System Software Configurations" contains most of the information needed to determine which System/Finder versions to use on each system.

LaserWriter versions later than 4.0 offer the advantages of faster and larger bitmap printing and overall faster operation. However, Apple does not recommend the use of LaserWriter drivers later than 4.0 when using Macintosh 512K or 512Ke systems.

Published Date: Feb 18, 2012

QuickTime 3: Read Me

The following article is the QuickTime 3 Read Me file.
This article has been archived and is no longer updated by Apple.
QuickTime 3 - The Standard in Digital Video

About QuickTime 3
QuickTime is Apple's award-winning, industry-standard, software architecture for creating and viewing digital media for Mac OS and Windows. With QuickTime, it is easy to work with video, animation, sound, music, text, pictures, and 3D graphics.

QuickTime 3 is an exciting new release that provides all the necessary software to use multimedia files on the Internet, to play CD-ROMs, and to use industry-leading multimedia software applications based on QuickTime.

What's New in QuickTime 3
Version 3 provides literally dozens of enhancements to QuickTime for content creators and viewers. Here are just a few of the new capabilities of QuickTime 3:

- Powerful new visual effects and transitions features
- Supports new video and sound formats optimized for Internet streaming applications
- Includes Roland's Sound Canvas instrument set for improved playback of MIDI music files
- Enhances ability to open common multimedia file types
- Built-in support for DV/FireWire digital video streams

For complete information about all that QuickTime 3 can do for you, please visit our website at: **http://www.apple.com/quicktime**.

Macintosh System Requirements
QuickTime 3 requires Mac OS version 7.0 or later, and either a Power Macintosh with 16MB or more of RAM, or a 68020-, 68030-, or 68040-based Macintosh with 8 MB or more of RAM.

Learning More About QuickTime
The QuickTime 3 software package includes two simple but powerful applications you can use to begin working with QuickTime. MoviePlayer enables you to view and edit movies and pictures. PictureViewer enables you to work with still images in a wide range of common formats. QuickTime 3 also includes software that will enable your Internet browser to view QuickTime and other file types in your web pages. This software will automatically be installed into your Internet browser.

To learn more about these applications and other QuickTime features, visit our website at:
http://www.apple.com/quicktime.

About Roland's Sound Set for General MIDI and GS Format
This release of QuickTime includes an instrument sound set licensed from Roland Corporation that makes a complete General MIDI compatible sound set. It also includes additional sounds necessary to make a complete GS Format compatible sound set.

What is the GS Format?
The GS Format is a standardized set of specifications for sound sources that defines the manner in which multitimbral sound generating devices will respond to the MIDI messages. The GS Format also complies with the General MIDI System Level - 1. The GS Format also defines a number of other details over and above the features of General MIDI. These include unique specifications for sound and functions available for tone editing, effects, and other specifications concerning the manner in which sound sources will respond to MIDI messages. Any device that is equipped with GS Format sound sources can faithfully reproduce both General MIDI sound recordings and GS Format MIDI sound recordings.

How to contact Roland:

Roland Corporation
4-16, Dojimahama 1-chome,
Kita-ku, Osaka 530-0004, Japan

For more information about Roland and its line of products, visit the website at: **www.rolandcorp.com**.

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This article can help you locate the software update mentioned here:

- Article 14724: "**Where To Find Apple Software Updates**" - Lists online services for free Apple software updates.

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QuickTime 3: Windows 95/NT Rundll Installation Error

I am installing QuickTime 3 for Windows. QuickTime 3 downloaded and de-archived properly, however during installation I receive the error: "Rundll. Errors loading C:\Windows:\System:\Quicktime.cpl." The installation will continue, but upon trying to use QuickTime, I receive the error: "QuickTime cannot find the file QuickTime.CPL. This file is required to run QuickTime."
This article has been archived and is no longer updated by Apple.
If the installation of QuickTime 3 progresses as far as encountering an error during installation, it is safe to assume that the QuickTime 3 Installer is not corrupt. An error received during installation usually indicates a software issue. The following steps may be applied to general QuickTime 3 installation issues, as well as for the error noted above.

The QuickTime 3 installer uses a Temp folder in your boot drive for storing files needed during installation. Under Windows 95, this temp directory is located in the path "C::\Windows:\Temp." Under Windows NT 4, this temp directory is located in the path "C::\Temp." This Temp directory may contain files from previous installations, that may interfere with the installation of QuickTime 3 (or other applications).

1) Locate the Temp folder using the paths defined for your operating system and rename the folder to "OldTemp" or similar name.

2) Create a new folder in its place with the name "Temp" (carefully using the same case and leaving out spaces or other characters).

Note: The next troubleshooting step involves restarting the computer in Windows "Safe Mode." This is similar to starting up the Mac OS with "Extensions Off."

3) To startup the computer in safe mode, hold down the Shift key before and during the Windows 95 splash screen. Safe Mode can be recognized by the words "Safe Mode" appearing in all four corners of the screen. You may notice a different resolution, or loss of colors. This is normal.

NOTE: If you are using Windows NT 4, select the "Windows NT 4 VGA Mode" option at the boot manager.

4) Launch the QuickTime 3 .EXE installer.

5) Advance the installer until you get to the "Full Install" window. This window includes "Minimum" and "Custom" options.

6) Press CTRL+ESC to display the "Start" menu.

7) Use the "Start" menu to navigate to Programs: Windows Explorer (or Win NT Explorer).

8) Using the Windows Explorer, verify that the following files are located in C::\Windows:\Temp
(or C::\Temp under Windows NT 4):

NOTE: The file names shown below include extensions, viewed by unchecking the option for "hide file extensions for known file types" option. This can be found in the Windows Explorer: View: Options dialog box.

- "_istmp0.dir" = installer shield folder
- "_ins0432._mp"
- "_inst32i.ex_"
- "_inz0432._mp"
- "_isdel.exe"
- "_setup.dll" = optional for Win NT 4 installation
- "_setup.lib"
- "_wutl95.dll" = optional for Win NT 4 installation
- "data.z" = main QuickTime 3 data file
- "QTtext.dll" = optional for Win NT 4 installation
- "readme.wri"
- "setup.bmp"
- "setup.exe"
- "setup.ini"
- "setup.ins" = optional for Windows 95 installation
- "welcome.bmp"

9) Locate and move any missing files into C::\Windows:\Temp or (C::\Temp for Windows NT 4) directory using the Windows Explorer.

10) Close the Windows Explorer and continue with the installation.

If the installation continues to fail, it is possible that there is a software issue preventing QuickTime 3 from being installed, such as a software conflict or file association issue within the Windows Registry.

TA38544_QuickTime_Windows_NT_Rundll_Installation_Error.pdf

For more information on troubleshooting software, please refer to your operating system documentation.

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AppleShare Client 3.7.4: Read Me

Name: AppleShare Client

Version: 3.7.4

Released: April 9, 1998

Requires:
System Software versions 7.5.3 to 8.0, and Open Transport 1.1.2 or later. AppleShare Client 3.7.4 can be installed on the following international versions of Mac OS as well as US Mac OS: British, Bulgarian, Catalan, Czech, Danish, Dutch, Finnish, French, German, Italian, Japanese, Korean, Norwegian, Polish, Portuguese, Simplified Chinese, Spanish, Swedish, Traditional Chinese, and Turkish. In order for AutoRemounter functionality to work properly, AppleShare Client 3.7.4 requires AutoRemounter Control Panel version 1.3, which is included with Mac OS 8.1. This article has been archived and is no longer updated by Apple.

Description:
AppleShare Client 3.7.4 is included with Mac OS 8.1. (Previous versions of the AppleShare Client software were known as the AppleShare Workstation Software.) Computers that are running system software earlier than system software 7.5.1 should run AppleShare Workstation 3.5. Computers that are running system software 7.5.1 or later (up to but not including 7.5.3) should run AppleShare Workstation 3.6.5. Please refer to the Read Me file included with this software for complete details.

Instructions:
This software consists of a Disk Copy NDIF (New Disk Image Format) compressed image, which requires Disk Copy 6.1 or later to use. Download this software to your hard drive and then double-click it to use it. Disk Copy is available in the Utilities folder.

Key Changes from AppleShare Client 3.7.2

- Works correctly with the AutoRemounter 1.3 control panel.
- Dialogs center correctly when the user has more than one monitor.

Using the New Features of the AppleShare Client 3.7 Software
The AppleShare Client 3.7 software automatically uses TCP to make connections when users choose an AppleShare IP file server that is set up for TCP connections. If you want to use AppleTalk to make the connection, press the Option key when you double-click the name of an AppleShare IP file server in the "Select a file server" list in the Chooser window or when you click the OK button in the Chooser window.

When you want to use TCP to connect to an AppleShare IP file server that does not appear in the "Select a file server" list in the Chooser window, click the Server IP Address button. When you click the Server IP Address button, a dialog box appears in which you can type the DNS name (such as shasta.acme.com) or the IP address of the AppleShare IP file server (such as 172.16.156.52).

If the AppleShare IP file server is running on a computer behind a firewall, you can reach it by appending a colon (:) and the TCP port number (by default, 548) to the IP address or DNS name.

Known Incompatibilities and Limitations
* If you have problems using the AppleShare Client 3.7 software to connect to an AppleShare IP file server, use MacTCP Ping (available from Apple Computer) to make sure that you can ping the computer that is running the AppleShare IP file server software. If you can't ping successfully, there is a connectivity problem. Check cabling and the configuration of the TCP/IP control panel.

* The AppleShare Client 3.7 software is not compatible with versions of RunShare prior to version 3.0. Computers on which they are both installed will crash. Be sure to upgrade to RunShare version 3.0 or later before you install the AppleShare Client 3.7 software.

* If a user makes an alias to an AppleShare IP volume and uses TCP to connect to that volume, AppleTalk must be active on the user's computer. AppleTalk must be active due to a bug in the Alias manager. This bug should be fixed in System 8.1.

* The AppleShare IP 5.0 Web & File Server uses a new set of access privileges based on combinations of the original access privileges (See Files, See Folders, and Make Changes). The new privileges are Read Only, Read & Write, Write Only, and None. When you connect to an AppleShare IP file server volume and choose Sharing from the Finder's File menu, the dialog box that appears displays the original AppleShare access privileges. If you use the dialog box to change a folder's privileges to a combination of privileges that is invalid on the AppleShare IP file server, the file server automatically applies the most secure access privilege that approximates the change. If you close the dialog box and choose Sharing again, the checkboxes that are checked may be different than the checkboxes that you checked earlier. Mac OS 8 Finder Sharing dialog box uses the AppleShare IP access privilege model.

* When you install Open Transport 1.1.2 on a PowerBook 3400, immediately install the Mac OS 7.6.1 Update for PowerBook 3400. The update fixes a problem that could cause crashes when you switch between Infrared and LocalTalk.

* Some old HyperCard XCMDs that mount AppleShare volumes are incompatible with the AppleShare Client 3.7 software.

* Microsoft Office Manager (Office 4.2.1) causes the AppleShare Client 3.7 software to crash when you try to connect to an AppleShare file server. To correct this problem, install Office Manager Updater, available from Microsoft.

* The NetWare User Authentication Module (UAM) is incompatible with AppleShare Client 3.7. Contact Novell for an update.

* Utilities that mount disk images from AppleShare File Servers may have problems with the AppleShare Client 3.7 software. If you have problems, contact the vendor for a new version.

* Versions of Santorini Server Manager earlier than 4.0 are not fully functional when used with the AppleShare Client 3.7 software. Santorini Server Manager 4.0 is available on the AppleShare IP 5.0 Companion CD-ROM disc. Otherwise, contact Santorini for an update.

* Server management applications that mount AppleShare volumes may have problems with the AppleShare Client 3.7 software. Contact the vendor for an update.

* If there are volumes set to mount at startup and the server administrator disables the "Enable users to save password for automatic log on" checkbox in Web & File Admin, you will be unable to change the startup mounting settings for those volumes.

* In order to allow startup mounting via TCP be sure to delete the AppleShare prep file in the preferences folder, and reselect the volumes you wish to have mount at startup. This ensures that the TCP address of the server will be saved in the AppleShare prep file.

* If you have a pre ASIP 5.0 server set to mount at startup and the server is upgraded to ASIP 5.0 (or later), You should throw away the AppleShare Prep file and reselect the server volumes you wish to mount at startup. This will prevent problems with server volumes mounting twice.

* If you are receiving "Server not responding" errors when connecting via TCP over PPP, use the AppleShare Client Setup utility (available on the AppleShare IP website URL: **http://www.apple.com/appleshareip** to increase the TCP Lookup timeout from 20 seconds to the time it takes your PPP link to come up plus 20 seconds.

* If the Chooser freezes for 2 minutes when trying to connect to a TCP server, use the AppleShare Client Setup utility (available on the AppleShare IP website URL: **http://www.apple.com/appleshareip** to reduce the TCP Connect Timeout from 120 seconds to 20 seconds. Reducing the TCP Connect Timeout may make connecting to AFP servers over the Internet impossible.

* If you have TCP/IP set to use PPP to connect, and open an alias to an ASIP server (or any other that supports AFP over TCP/IP), the Client will try to connect using TCP/IP first before using AppleTalk. If you do not want this, you may use the AppleShare Client Setup utility (available on the AppleShare IP website URL: **http://www.apple.com/appleshareip** to disable TCP/IP support in the Client.

* If you have an alias to a server that supports AFP over TCP/IP, and the server is behind a firewall that does not allow pings through, you will not be able to connect via the alias unless you use the AppleShare Client Setup utility (available on the AppleShare IP website URL: **http://www.apple.com/appleshareip** to disable address verification via pings.

These articles can help you locate the software update mentioned here:

- Article 14724: "**Where To Find Apple Software Updates**" - Lists online services for free Apple software updates.
- Article 19470: "**System 7.5.x: Software Components Versions**."

Note: AppleShare Workstation 3.5 was bundled with System Software 7.5,7.5.1 and 7.5.2.
Published Date: Feb 18, 2012

Claris Impact 2.0v3: Updater Information

WELCOME TO CLARIS IMPACT 2.0v3!

Thank you for choosing the Claris Impact 2.0 application. We're pleased to provide the Claris Impact 2.0v3 Update, which addresses known issues since its initial release.

This document provides information about:

I. Installing the Claris Impact 2.0v3 update
II. Problems and issues addressed in v3
This article has been archived and is no longer updated by Apple.
I. INSTALLING THE CLARIS IMPACT 2.0v3 UPDATE

Before running the updater make sure all of your computer's System software extensions are turned off.

To do this:

1. Save all open files and quit all of the programs running on your computer.
2. Hold down the Shift key on your keyboard.
3. Choose Restart from the Special menu.
4. Do not release the Shift key until the words "Welcome to Macintosh. Extensions off." appear on your screen.

To update the Claris Impact 2.0v3 product currently installed on your computer:

1. Double-click the Claris Impact 2.0v3 Updater" installer icon.
2. Read the Claris splash screen and click OK.
3. The Claris Impact 2.0v3 updater will automatically search your hard disk (and any mounted volumes) and display a list of eligible files for updating.
4. Click Update.

The updater will begin updating the selected application. Once the updater is finished, you have the option of deleting the original 2.0v1 or v2 file. Then click OK to quit and you can begin using the updated version of Claris Impact

II. PROBLEMS AND ISSUES ADDRESSED IN 2.0v3
This 2.0v3 Updater addresses the following issue from previous versions:

- When attempting to save a file or library to a server volume with 2Gb or more free space, a "Disk is full." error would result.

This article can help you locate the software update mentioned here:

- Article 14724: "**Where To Find Apple Software Updates**" - Lists online services for free Apple software updates.

Published Date: Feb 18, 2012

DVD-ROM Drive: Distinguishing from CD-ROM Drive

How can you tell which Macintosh ship with a DVD-ROM drive?
This article has been archived and is no longer updated by Apple.
The DVD-ROM drive that Apple ships with some units will have a DVD logo on the tray door. If the logo is not present, then the drive is a standard CD-ROM drive.
Published Date: Feb 18, 2012

Macintosh II: NuBus Problems and ROM Upgrade (9/95)

The original release of the Macintosh II ROM had a problem in the Slot Manager. Units shipped after February 1, 1988, contain an upgraded ROM. If your Macintosh was built after that date, or if you do not use a NuBus card that addresses over 1MB, the Slot Manager problem does not affect you.

This article has been archived and is no longer updated by Apple.
The Slot Manager is a section of the Macintosh II ROM that contains a set of routines that makes it possible to identify and communicate with cards plugged into NuBus slots in the Macintosh II.

The problem is that the Slot Manager does not recognize cards that need more than 1MB of address space to function. This is because the Slot Manager runs in the 24-bit addressing mode and should be running in the 32-bit addressing mode.

The 68020 uses these two modes for interpreting memory addresses. In the 24-bit mode, the Macintosh can access only 1MB of memory for each card. If the card exceeds this limit, the Macintosh won't recognize that the card is in the slot. This is because of the way Apple recommends that developers format their cards. If the card can fit all of its code into 1MB, there is no problem.

For details on Macintosh operation in either 32-bit or 24-bit mode, see the Operating System Utilities chapter of "Inside Macintosh, Volume V" (ISBN 0-201-17719-6). For details on the use of address space by NuBus cards, see Chapter 4 of "Designing Cards and Drivers for Macintosh II and Macintosh SE" (ISBN 0-201-19256-X).

Identifying Your ROM Version

The problem was fixed via a patch to the Macintosh II ROMs and was rolled into production around February, 1988. All Macintosh IIs manufactured since then have the fix installed.

You can identify the upgraded ROM by "Revision B" on the chip. In addition, manufacturers of NuBus cards requiring the fix usually included a small software application that can be run to determine if you have the new ROM. Apple-authorized service providers may also have this application.

Please note that the change to the Macintosh ROM was done as an object overlay only. This means that the object code was patched, and the ROM was not rebuilt. Only minor changes were made to allow the Slot Manager to work in 32-bit mode instead of 24-bit mode, thus ensuring that it recognizes cards requiring more than 1MB of address space.

The Upgrade Program

Because of the Slot Manager problem, Apple patched the ROM and offered a free upgrade program to customers who bought NuBus cards requiring this fix.

The service program to replace the logic board has expired. Logic boards experiencing this issue can be replaced, but it will not be a free replacement.

Article Change History:
01 Sep 1995 - Combined information from several articles for consistency.
23 Dec 1994 - Noted that SuperDrive upgrade requires Rev. B logic board.

Support Information Services
Published Date: Feb 18, 2012

QuickTime 3: Late Breaking Tips

This document contains information about QuickTime 3 that was not included in the documentation with the software.
This article has been archived and is no longer updated by Apple.
Question On the QuickTime 3 Pro registration page, I get an error telling me that my address didn't match what was on my credit card statement.

Answer The address you enter on the web page must match the billing address for the credit card you are using. Try copying your address from a credit card billing statement. If that doesn't work, contact the credit card company and double-check the address.

Question I found out that my credit card was charged multiple times for the upgrade to QuickTime 3 Pro. Why is this and how to I resolve it?

Answer For every order made on the QuickTime 3 Pro registration page, the associated credit card is authorized for the amount of the registration whether the order is accepted or not. If you enter in an incorrect billing address, your order will be rejected although the credit card will still be authorized for the amount. It's important to note that a credit card authorization is not the same as an actual charge. Your credit card will not be charged for authorizations where you did not actually receive a QuickTime 3 Pro registration key.

Question The control panel won't accept my QuickTime 3 Pro registration code. What's wrong?

Answer Make sure your name is entered exactly as it was spelled in the confirmation email. **Tip:** Copy and paste the name from the email into the dialog box. Also, make sure you are using zero and not the letter 'o' in the registration number field.

Question Can I install QuickTime 3 on a non-US operating system?

Answer The US English release of QuickTime 3 is supported only on US English versions of Mac OS. If you are using a non-US English version of Mac OS, please install the localized version of this software, which is expected to be available within 90 days of the release of the US English QuickTime 3.
Published Date: Feb 18, 2012

Twentieth Anniversary Macintosh: Welcome Tour

In order to provide the best possible performance for the QuickTime movies, animation, music and other media in the Welcome Tour, the Welcome Tour was designed to run only from your computer's hard disk. The Welcome Tour will not run from the Welcome Tour CD-ROM disc.

Follow the steps listed below to correctly install the Welcome Tour.
This article has been archived and is no longer updated by Apple.

Running the Welcome Tour

The Welcome Tour will run automatically the first time you start your Twentieth Anniversary Macintosh. If you want to run the Welcome Tour again, simply double-click the Welcome Tour folder on your hard disk.

Reinstalling the Welcome Tour

The Welcome Tour is preinstalled on your Twentieth Anniversary Macintosh. If you delete the Welcome Tour from your hard disk, you will need to reinstall the Welcome Tour on your hard disk to run it again. The Welcome Tour requires 410 MB of free space on the hard disk.

Installing the Welcome Tour

Drag the entire Welcome Tour folder from the Welcome Tour CD-ROM disc to the root level of your hard disk. Name your hard disk "Macintosh HD".

Make sure that the QuickTime VR extension is in the Extensions folder, which is located in the System Folder. If not, drag the QuickTime VR file from the "for Extensions folder" folder (located in the Welcome Tour folder) into the Extensions folder.

Running the Welcome Tour on another computer

Although the Welcome Tour was designed specifically for the Twentieth Anniversary Macintosh, it may be possible to run the Welcome Tour on another Macintosh, provided it meets the following requirements:

- 120Mhz (or faster) PowerPC processor
- Video display that supports and is set to 800 x 600 pixel resolution or greater
- 24 MB of RAM available and assigned to the Welcome Tour

Published Date: Feb 18, 2012

QuickTime: "Required Compressor Could Not Be Found" Message

This article has been archived and is no longer updated by Apple.

When playing certain AVI movie files with the QuickTime Player, the video frames are white and the following dialog box appears: "You may experience problems playing a video track in 'filename.avi' because the required compressor could not be found."

Symptom

When playing certain AVI movie files with the QuickTime Player, the video frames are white and an alert box with this message appears:

> "You may experience problems playing a video track in 'filename.avi' because the required compressor could not be found."

Important: The Indeo Video codecs described in this document are not available for Mac OS X. If you have AVI movies that use Indeo Video codecs, you may watch them using QuickTime Player after starting up your computer in Mac OS 9 and following the instructions in this document. For instructions on how to start up your computer in Mac OS 9, see "How to Switch Between Mac OS 9 and Mac OS X".

Solution

Download and install the missing codec (COmpressor/DECompressor). In most cases, it will be one of the Indeo Video codecs. The table lists the combinations of QuickTime and Indeo available for Mac OS 9 and Microsoft Windows. Although not mentioned by version number in the chart below, QuickTime 4, QuickTime 5, and QuickTime 6 can be used with Indeo video codecs.

Compatible QuickTime Version	Codec Filename	Indeo Video Version	Download Document
QuickTime 2.0 or later for Macintosh	Indeo Video	Indeo Video R3.2	30903
QuickTime 3.0 or later for Macintosh	Indeo Video 4	Indeo Video 4.4	30904
QuickTime 3.0 or later for Macintosh	Indeo Video 4	Indeo Video 4.4	60366
QuickTime 2.0 or later for Windows (16-bit)	Iv32qt16.qtc	Indeo Video R3.2	
QuickTime 2.0 or later for Windows (32-bit)	Iv32qt32.qtc	Indeo Video R3.2	
QuickTime 3 for Windows	Indeo4.qtx	Indeo Video 4.4	
QuickTime 4 for Windows	ir50_32.qtx	Indeo Video 5.0	60369

Note: Later versions of Indeo Video cannot handle tracks compressed with earlier versions. For this reason, more than one version of the codec can be installed at the same time. Using the QuickTime MoviePlayer or QuickTime Player, you may be able to determine which codec was used to compress an audio or video track:

1. Open the file in QuickTime Player.
2. Choose **Get Movie Properties** from the **Movie** menu.
3. Choose **Sound Track** or **Video Track** from the left pop-up menu in the Properties window.
4. Choose **Format** from the right pop-up menu. The Data Format section shows the codec. In the example shown, the Intel Indeo® Video R3.2 codec was used to compress the movie "MyVideo.avi".

Figure 1 The QuickTime Player Properties window.

Additional information

When this symptom occurs QuickTime encountered a track compressed using an incompatible codec (COmpressor/DECompressor), or one for which the supporting QuickTime-compatible software is not installed. The message also appears with QuickTime for Windows when the codec required is not active in the Windows Registry for use with QuickTime.

The situation is not unique to AVI files. QuickTime provides built-in support for AVI, but AVI is not a codec itself. It is a file format central to Microsoft Video for Windows (VfW), and one for which a variety of codecs may be used, such as Cinepak or Indeo Video.

Though QuickTime has long supported Cinepak, QuickTime for Macintosh does not include any version of the Indeo Video codec. In order for QuickTime to play back a media track compressed with Indeo Video (or any other codec not included with QuickTime), it must be installed separately.

TA38552_QuickTime_Required_Compressor_Could_Not_Be_Found_Message.pdf

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LaserWriter 8500: Duplexing from the Multipurpose Tray

The LaserWriter 8500 user guide says: "Note: You cannot use duplex printing from the multipurpose tray".

Yet I have been able to duplex on my LaserWriter 8500 from this tray without a problem. What gives?
This article has been archived and is no longer updated by Apple.
The user guide is in error. You can duplex paper fed from the multipurpose tray.
Published Date: Feb 18, 2012

Personal LW NTR: Not Printing from Multipurpose Tray

When selecting the multipurpose tray to print to a Personal LaserWriter NTR, pages may come out of the optional cassette tray instead of the multipurpose tray.
This article has been archived and is no longer updated by Apple.
Apple has investigated this issue and discovered that it will occur in LaserWriter 8.5.1 and possibly some versions of LaserWriter 8.4.x.

Workarounds:
1) Select the multipurpose tray for both 'First page from' and 'Remaining from'
2) Select manual feed instead of multipurpose tray.
3) Use LaserWriter 8.3.4.
Published Date: Feb 18, 2012

Multiple Scan 720 Display: Displaying Only One Resolution

I'm using a Multiple Scan 720 Display with a Power Macintosh 9500 which only provides a 640 x 480 resolution with this display. I've reinstalled the software that came with my display and the problem remains. Is this a problem with the display or my Power Macintosh 9500.
This article has been archived and is no longer updated by Apple.
There is a known problem with the ATI video cards which are bundled with the Power Macintosh 9500 CPUs which causes only one resolution to appear with the Multiple Scan 720 display. There is a fix in the works from ATI.

A current work around would be to use the ATI software (ATI Displays 1.2 Control Panel, ATI extension 1.1.1, and ATI Graphics Driver 1.0) which can be obtained from their technical website at "**http://www.atitech.ca/**". You will need to disable the Display Enabler after installing the ATI software in order to obtain all resolutions.

Another work around would be to use an Enhance Cable Technologies Sense adapter. You can reach Enhance Cable Technologies at 800-717-8757. You can order individual cable adapters through MacMall at 800-222-2808.
Published Date: Feb 18, 2012

Apple TV: Initial Configuration (software version 1.x)

This article has been archived and is no longer updated by Apple.

Apple TV helps you select and configure your wireless network connection, choose a language, and connect to iTunes on your computer. You'll also update the iTunes software on your computer to the latest version.

This article assumes Apple TV has already been connected to your TV. If you need help in connecting Apple TV to your TV or home theatre, please see Apple TV: Connecting the Cables

Apple Remote is required to control Apple TV.
The Apple Remote is used to control Apple TV settings and navigate through your content. You will need to have your Apple Remote handy to configure your Apple TV. Make sure there are no obstructions between the remote and Apple TV. Read more about using and troubleshooting the Apple Remote.

Click on a step to learn more

1. Connecting to Your Wireless Network

Apple TV will help you connect to your wireless network. If you use a password to access your network, have it ready.

Use the Apple Remote to enter:

- Your network from the list, or enter your network name if the network is hidden
- Your password (if you have one)
- Your IP address, subnet mask, router, and DNS address (if you're manually configuring your network)

After you set up your network connection, your TV screen displays a five-digit passcode, which you'll need to enter in iTunes to sync or stream content to Apple TV.

Note: If you connect to a wired Ethernet network using DHCP, Apple TV automatically detects your network. If you don't connect using DHCP, you may have to enter your IP address, subnet mask, router, and DNS addresses.

2. Updating Your iTunes Software

To use Apple TV, you need iTunes 7.1 or later installed on your computer. You can download the latest version of iTunes at www.apple.com/itunes/download.

On a Mac, you can also use Software Update to update to the latest version of iTunes. To use Software Update, choose **Apple > Software Update**.

To use iTunes 7.1 on a Mac, you need to update your system software to Mac OS v10.3.9, or 10.4.8 or later and update to QuickTime 7.1.5.

On a Windows-based computer, you can also go to iTunes Help to update to the latest version of iTunes. Open iTunes, and then choose **Help > iTunes Help > Check for Updates**

Note: To use iTunes 7.1 on a Windows-based computer, you need to be running Windows XP.

3. Connecting to iTunes

When you set up your network connection in Step 1, your TV screen displayed a five-digit passcode for iTunes.

You will now enter that in iTunes to sync or stream content to Apple TV.

To set up Apple TV with your iTunes library:

1. Open iTunes on your computer.
2. Select the Apple TV icon with "Click to set up" next to it in the Devices list.
3. Enter the 5-digit passcode from your TV screen.

After you enter your passcode, you can name your Apple TV and set up iTunes to manage your content.

← Take me to **3: Connecting the Cables**

Important: Information about products not manufactured by Apple is provided for information purposes only and does not constitute Apple's recommendation or endorsement. Please contact the vendor for additional information.

Published Date: Feb 18, 2012

Macintosh System 6.0 Installation Recommendations

This article has been archived and is no longer updated by Apple.

When updating Macintosh system software to version 6.0, be sure to start up from the System Tools disk. Do not just switch-launch to it. Without a clean restart, programs and INITs can interfere with proper installation.

After performing what seemed to be proper installations on a variety of Macintoshes, engineers were getting consistent (though sometimes intermittent) error messages when restarting the systems. The errors included:

- "Unable to load needed resources" on startup.
- ID errors 02, 07, 10, 11, etc. when running applications or performing simple events.
- RAM Cache could be changed only to 1596.

These errors varied, depending on the type of Macintosh on which the installation was performed and the types of CDevs and INITs contained in the System files when upgraded. For example, it mattered if either Menu Clock or Vaccine (even though turned off) were present.

The above errors disappeared after deleting the recently updated System Folder, restarting the Macintosh with the System Tools disk, and reinstalling the software. Therefore, always start up from the Installer disk when installing or upgrading software to ensure a complete installation takes place.

Published Date: Feb 18, 2012

Internet Curriculum Connections v1.0: Known Issues

This article discusses several know issues with Internet Curriculum Connections v1.0.
This article has been archived and is no longer updated by Apple.
1) The Telephone number for one of the products, Hotline is incorrectly stated in the teacher's guide. Their correct Customer Support number is: 416-531-7804

2) When the customer launches the ClearPhone software and it connects to their web site (it is web-based product) the ClearPhone web site gives them a message saying that the customer does not have the most recent version and that they need to download the most current by going to the developer's web site at "**www.clearphone.com**".

Note: The copy of the software Apple ships does work and they do not have to do the upgrade, but the upgrade is recommended. Explain that the developer came out with a new version too late for us to take into the bundle.

3) The electronic Teacher's Guide for ICC, which is installed from the Master CD needs to have Netscape set to 13000K in order to run smoothly.
Published Date: Feb 18, 2012

Apple Printer Utility: Where to Find?

How can I install the Apple Printer Utility from the Mac OS 8.1 CD?
This article has been archived and is no longer updated by Apple.
The Apple Printer Utility cannot be installed from the Mac OS 8.1 CD. However, it is available with the printing software that accompanied your Apple AppleTalk LaserWriter printer, and the latest version, Apple Printer Utility v2.2, may be downloaded from the web at http://www.info.apple.com/support/oldersoftwarelist.html. It is posted on the web on Apple Software Updates: Macintosh: Printing: LaserWriter:
"Apple Printer Utility 2.2"
or as part of "LW 8.5.1"

It is also available in the CD Extras folder on the Mac OS 8.5 through Mac OS 9.2.2 CDs.

This article can help you locate the software update mentioned here:

- Article 14724: "**Where To Find Apple Software Updates**" - Lists online services for free Apple software updates.

Published Date: Feb 18, 2012

Mac OS 8.x: No LaserWriter SC Support

I understand that QuickDraw GX printing support has been eliminated under Mac OS 8.x. What happens to LaserWriter IISC and Personal LaserWriter SC support under Mac OS 8.x?
This article has been archived and is no longer updated by Apple.
QuickDraw GX printer drivers are not supported in Mac OS 8 and later. Therefore, customers who use the LaserWriter II SC GX driver will wish to continue to use Mac OS 7.6.1 or earlier. LaserWriter SC printer customers wishing to use the classic "Non-GX" QuickDraw driver will want to use System 7.5.1 or earlier. Using the classic driver with system software later than System 7.5.1 may produce unacceptable results: characters and words may not have the proper spacing and lines may get clipped.

Because of the printing issues with the non-GX driver and the elimination of QuickDraw GX in Mac OS 8.0, customers with computers that require Mac OS 8.0 or later should look into other printing solutions.
Published Date: Feb 18, 2012

Power Macintosh 8600: Hard Disk Spins Up During Sleep

I have a Power Macintosh 8600 running Mac OS 8.0 or Mac OS 8.1 and when I choose sleep from the Special menu, the machine spins down the hard disk waits a second or two, turns off the display, and spins the hard disk up again.

I would expect the hard disk to not spin up until I press a key on the keyboard. Why is this happening?
This article has been archived and is no longer updated by Apple.
This issue is specific to the 8600 series and only occurs with Mac OS 8.0 and Mac OS 8.1. Apple is investigating a solution. If you remove the Energy Saver extension, when sleep is chosen the disk will spin down, and only when a key is pressed will it spin up again.

However, you will not be able to use the scheduled Sleep/Startup/Shut Down features without the extension. Basically, you will need to decide if immediate sleep with hard drive spin down is more important than the scheduled options.
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AudioTuneUp 2.0 Update: Read Me

This article contains the AppleTuneUp 2.0 Update Read Me document and a link to the AppleTuneUp 2.0 Update software.
This article has been archived and is no longer updated by Apple.

Language	Release Date	Software Update	Read Me	OS Required
North American English	1998-04-23			North American Mac OS 7.6.1
International English	---			---
français	---			---
Deutsche	---			---
Español	---			---
Italiano	---			---
Nederlands	---			---

Downloading Help: Article 75098 "**Help: Downloading Software**"

All software available from this site is covered by a software license agreement included with this software.

The Read Me for AudioTuneUp 2.0 Update appears below:

Important Information About AudioTuneUp 2.0
The AudioTuneUp 2.0 set of extensions fixes certain audio problems encountered on PCI-based Macintosh computers.

What are the AudioTuneUp 2.0 extensions?
These extensions fix the following audio problems:

- On PowerMac G3 and PowerMac 4400 models attempting to record from the external microphone using QuickTime does not work.
- On the PowerBook 3400c, PowerBook 2400c, and PowerBook G3 models sound sometimes does not play when running off of battery.
- On the Power Macintosh 5400, Power Macintosh 5500, Twentieth Anniversary Macintosh, PowerBook 2400c, PowerBook 3400c, and PowerBook G3 feedback occurs when attempting to use some applications to record audio from the internal microphone.

Who Needs to Install the AudioTuneUp 2.0 extensions?
These extensions are only necessary if you are encountering one of the problems described above. In general, these problems will only be present when running Mac OS 8.1. If you are using an earlier version of the operating system, these extensions should not be required. The exception is that a PowerMac G3 will need the extensions installed to make recordings with QuickTime even under Mac OS 8.0.

System Requirements:
Any computer listed above and U.S.-English Mac OS 8.1 (see exception above)

Installing the AudioTuneUp 2.0 extensions:

1. Double-click the AudioTuneUp disk image so that it mounts on your desktop. You will need Disk Copy 6.1 (or later) to do this.
2. Double-click the Installer and follow the instructions.

Where to go for more information?
For more information, point your web browser to: "**http://www.apple.com/support**".

TA38563_AudioTuneUp_Update_Read_Me.pdf

Published Date: Feb 18, 2012

Apple TV Fast Start: The New User‘s Guide for Apple TV (software version 1.x)

This article has been archived and is no longer updated by Apple.

Got a new Apple TV? This handy Fast Start guide will help you install, set up, and teach you how to enjoy your iTunes Store content on your widescreen TV.

Be sure to download the Apple TV Manual.

1) Install the iTunes software first

Before you configure your Apple TV to use with your Mac or PC computer, you must install or upgrade your computer to the latest iTunes software.

Download the latest version of iTunes iTunes Fast Start: The New User's Guide to iTunes I'm having trouble installing iTunes in Windows I'm having trouble installing iTunes in Mac OS X

2) Connect and Configure Your Apple TV

Understand what's needed in order to get started and how to connect Apple TV to your widescreen TV. Learn how to configure Apple TV and enjoy your iTunes Store content in your living room.

Show me what I need to get started Show me a guide to Apple TV ports and connectors Show me how to connect the cables Show me how to configure my Apple TV

3) Getting iTunes Content to Your Apple TV

Now that your set up is complete, open iTunes and either automatically sync content from your iTunes library or choose what TV shows, movies, photos, or other content you want to watch. You can stream or manually add content from your iTunes library or playlist to your Apple TV.

Show me how to browse and buy videos, movies, and TV shows How do I add my photos to Apple TV? How do I add my podcasts to Apple TV? Does my Apple TV count as one of my five authorized iTunes computers?

4) Managing Your Apple TV and Apple Remote

Once you've got your TV shows, movies, music, photos, and what have you on your Apple TV, you're good to go. Learn how to enjoy your iTunes Store content and how to ensure that your Apple TV works smoothly with your Apple Remote.

Tell me how to change picture settings for best color display Tell me about the Apple Remote Control Tell me how to pair and unpair the Apple Remote with Apple TV Tell me how to troubleshooting the Apple Remote Tell me how to replace the Apple Remote battery I'm having trouble with my Apple TV and Apple remote

5) Learn More

Whether you're a Mac or Windows user, the following contains lots of information that will help you enjoy your Apple TV to its fullest.

Tell me what the USB port do on the Apple TV Tell me about IP ports and protocols used by Apple TV Tell me about the status light Tell me how to find my Apple TV serial number Get the latest Apple TV Manual

Need Help?

Be sure to visit our Apple TV Support pages to learn more about using Apple TV, troubleshooting issues, and getting service and support.

Tell me about tips and basic troubleshooting for my Apple TV Take me to the Apple TV Support pages Take me to the iTunes Support pages Take me to the Apple TV Service FAQ Take me to the Contacting Apple Service and Support page

Fast Facts

- If you need help from someone—anyone—consult with hundreds of other Apple TV users and experts in our Apple TV Discussions forums. You can ask a question, answer a question, or simply read what others have to say.

TA38565_Apple_TV_Fast_Start_The_New_Users_Guide_for_Apple_TV_software_version_x.p

Take me to **1: What You Need** →

Published Date: Feb 18, 2012

Apple/GV 56K Flex Modem: America Online Setup

I am trying to log in to America Online (AOL) and am unable to locate a modem description for the Apple/GV 56K Flex modem that was bundled with my computer. How do I modify an existing modem description to work with the Apple/GV 56K Flex modem?
This article has been archived and is no longer updated by Apple.
America Online is bundled with several Power Macintosh products that also include the Apple/GV 56K Flex modem. When the customer tries to configure AOL for use with this modem they will notice that the Apple/GV 56K Flex modem does not appear in the list of available modems.

Use the following steps to add the Apple/GV 56K Flex modem for use in AOL:

Step 1:
At the initial "Welcome" screen, pictured below, click the setup button.

Step 2:
To add the Apple/GV 56K Flex modem to the modem "Type" list, you will have to edit an existing modem profile. This is done by clicking the "Edit Modem Profile" button in the Setup screen of AOL, as pictured below.

Step 3:
Once you have selected "Edit Modem Profile" the screen below will appear. You will first need to select the "Create Copy As" button and name your new modem profile to "Apple/GV 56K Flex." Once the copy is created, use the values listed in the picture below to complete the new modem profile.

Step 4:
Once all of the values are in the correct areas, click the "OK" button to save the changes.

Step 5:
Now that the modem profile is complete, continue configuring AOL as outlined in the instructions.
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Color LaserWriter 12/600 & 12/660: Consumables & Options

My Color LaserWriter 12/660 user's manual indicates that there are some preventive maintenance procedures that need to be followed when indicated by the maintenance lights on the printer's status panel. What steps need to be taken, and can they be performed by the customer?
This article has been archived and is no longer updated by Apple.
The Color LaserWriter contains many different consumable items that periodically need replacing. The most frequently replaced items include the cyan, magenta, yellow, and black toner cartridges, photoconductor, and fuser oil.

Approximately every 60,000 pages additional items need replacing to ensure good print quality. When the fuser and alert LED's light up on the printer's status panel the Fuser Replacement Kit must be installed. The fuser replacement kit consists of a new fuser assembly, transfer drum cleaning kit, separation discharger, ozone filter, and air filter.

The fuser replacement kit can be installed by the customer using the instructions contained in Appendix F of the Color LaserWriter user's guide. Customer's who no longer have their user's manuals can view a copy using the following URL: "**http://support.info.apple.com/manuals/manuals.qry**".

The following table contains a listing of the major Color LaserWriter consumables that are available from Apple.

Options and Accessories	Order Number
Color LaserWriter Cyan Toner Cartridge	M3757G/A
Color LaserWriter Magenta Toner Cartridge	M3760G/A
Color LaserWriter Yellow Toner Cartridge	M3758G/A
Color LaserWriter Black Toner Cartridge	M3756G/A
Color LaserWriter Photoconductor Replacement Kit	M3761G/A
Color LaserWriter Fuser Oil	M3755G/A
Color LaserWriter Transparencies-Letter	M3876G/A
Color LaserWriter Transparencies-A4	M3877G/A
Color LaserWriter 250-Sheet Feeder	M3762G/A
Color LaserWriter Universal Cassette	M3874G/A
Color LaserWriter Internal Hard Disk Drive	M3875G/A
110 volt Fuser Replacement Kit	M3867G/A
220 volt Fuser Replacement Kit	M4235ZM/A
Apple IEE-1284 Parallel Cable	M3874G/A

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Mac OS: Open Transport Compatibility Matrix

Below is the compatatibility matrix for Mac OS and Open Transport.
This article has been archived and is no longer updated by Apple.
Compatibility Matrix

System Software	7.1.x	7.5.x	7.5.2	7.5.3	7.5.5	7.6	7.6.1	8.0	8.1
Open Transport									
OT 1.0.5	-	-	Yes	No	No	No	No	No	No
OT 1.0.6	-	-	Yes	No	No	No	No	No	No
OT 1.0.8	-	Yes	Yes	Yes	Yes	No	No	No	No
OT 1.1	Yes	No	No	Yes	Yes	Yes	Yes	Yes	Yes
OT 1.1.1	Yes	No	No	Yes	Yes	Yes	Yes	Yes	Yes
OT 1.1.2	Yes	No	No	Yes	Yes	Yes	Yes	Yes	Yes
OT 1.2	No	No	No	No	No	No	No	Yes	No
OT 1.3	No	No	No	No	No	No	No	No	Yes
OT 1.3.1	No	No	No	No	No	No	No	No	Yes

Notes:

1) Open Transport is supported on system software versions 7.1, 7.1.1, 7.1.2, 7.5.3, 7.5.5 or later. System software version 7.5.3 or later is recommended. No other system software versions are supported.

2) Open Transport 1.1 is not compatible with Power Macintosh or Performa 5200/5300/6200/6300 desktop computers.

3) Mac OS 7.6 installs Open Transport 1.1.1.

4) OT 1.3 Read Me incorrectly refers to the Read Me "About OT 1.2".
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Apple TV: Sync or stream differences and set up (software version 1.x)

This article has been archived and is no longer updated by Apple.

There are two ways to get iTunes content from your computer to Apple TV—syncing and streaming. This document explains the differences between syncing and streaming on Apple TV with software version 1.x.

	Syncing	Streaming
What happens	Copies content from your iTunes library and stores it on Apple TV for you to enjoy following the syncing process.	Sends content from your iTunes library to Apple TV to enjoy during the streaming process. Content is not stored on Apple TV.
Available in iTunes Source list	Apple TV will be available as a device in your iTunes Source list.	After the "Connect to New iTunes" step, Apple TV will **not** be seen as a device in your iTunes Source list.
Computer status	After content is synced to Apple TV your computer can be powered off.	Your computer must remain on and awake(1) during the entire streaming(2) process and iTunes must be running.
Photos	Photos can be synced and be used as Apple TV screen savers.	Stream your favorite photos from iPhoto or Aperture.
Access to iTunes libraries	Apple TV can sync with one iTunes library. (3)	Apple TV can stream up to five iTunes libraries via streaming in addition to the one it syncs with.
Networks	Can sync over 802.11b/g/n and Ethernet	Wireless video streaming requires 802.11g/n

(1) Apple TV will stop streaming if the computer or portable computer it's linked to enters standby, hibernation, or sleep modes.
(2) You may experience some intermittent delays from potential sources of interference.
(3) A library configured for syncing content can also be a source for streaming content. Whereas a library configured for streaming can only stream content and not sync content.

Apple TV is syncing with Bob's Mac and can also stream from Bob's Mac or Joe's PC or Jane's Mac

Sync or Stream to Apple TV

The setup for syncing or streaming always starts with Apple TV and finishes with iTunes.

1. On Apple TV's main menu select **Sources**.

- to Stream: select **Connect to New iTunes**
  or
- to Sync: select **Syncing**

2. Apple TV will generate a unique passcode for either function. Make a note of the passcode.

Be sure to write down the passcodes from your TV screen.

3. Go to iTunes, select Apple TV from the Devices list.

4. Enter the passcode.

5. iTunes will confirm if the passcode was accepted. From this screen, you are given the option to rename your Apple TV (the name will appear under Devices in iTunes). Click OK.

Turning off Syncing

At any time you can turn off syncing and switch to streaming only:

1. From Apple TV's main menu, select **Sources**.
2. Select **Syncing** > **Turn Off Syncing**.
3. Press **Menu** to go back to the **Sources** menu.
4. Select **Connect to New iTunes**, and a new passcode will be generated. Make a note of the passcode.
5. Go back to iTunes select Apple TV from the devices list.
6. Enter the new passcode. iTunes will confirm the passcode is accepted.
7. Click OK.
8. Go back to Apple TV and select **Sources** from the main menu.
9. Select your iTunes Library to browse the content.

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MacTerminal 2.3 Does Not Use F Keys

This article has been archived and is no longer updated by Apple.

MacTerminal 2.3 does not use the function keys on the extended keyboard. However, it still contains the PF key menu for VT100 and IBM 3278 as in previous versions. You can use MacroMaker to select the keys, and then assign a recording of the PF key menu selection to each function key. You can also type and record keyboard sequence with MacroMaker.

The key sequences for the VT100 PF keys are: (ESC OP)=PF1, (ESC OQ)=PF2, (ESC OR)=PF3, (ESC OS)=PF4.

The IBM 3278 PF keys are:

Key Sequence Menu option

[ESC 1, ESC 2,... ESC 9, ESC 0, ESC -, ESC =] = PF1, PF2, ... PF12
[ESC !, ESC @,... ESC (, ESC), ESC _, ESC +] = PF13, PF14, ... PF 24
[ESC [, ESC], = PA 1 and PA 2

ASCII Key Sequence Menu option

<SOH> = CONTROL A = Attn
<DLE> = CONTROL P = Home
<FS> = CONTROL \\ = Print
<ACK> = CONTROL F = Erase EOF
<DEL> = CONTROL (Backspace or Delete) = Delete
<FF> = CONTROL L = Erase Input
<GS> = CONTROL] = Insert
<DC2> = CONTROL R = Reset
<STX> = CONTROL B = Sys Req
<ENQ> = CONTROL E = Clear

Published Date: Feb 18, 2012

At Ease 3.0: Students Accessing the Finder

At our school At Ease 3.0 is set up so there are Administrator, Teacher and Student passwords. The Administrator and teacher have full access to the Finder and the students only have access to programs that are specifically selected for them with no access to finder.

At Ease Setup is not in the student folder, but on some of the computers it appears that students can access "At Ease Setup" in the Special menu and then click on "New" allowing them to create new users with full access to the finder.

How can I prevent the students from getting access this way?
This article has been archived and is no longer updated by Apple.
You need to add a password for At Ease Setup so the students can't access it.

To do this:

1. Open At Ease Setup.
2. From the Security menu, choose Change Password.
3. Leave the "Old Password" blank and enter a new password in the "New Password" field.

This will set password protection for At Ease Setup.
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Chinese Language Kit 2.0: Frequently Asked Questions

This article contains frequently asked questions (FAQ) regarding Chinese Language Kit version 2.0, with answers to those questions.
This article has been archived and is no longer updated by Apple.
Questions answered in this article:

1. Do I need to use the Language Kit Updater 8.0 after installing Chinese Language Kit 2.0?
2. The Chinese Language Kit 2.0 CD includes the wording "Version 1.0" between "Printed in the U.S.A." and the part number "Z691-1973-A" at the bottom of the CD silkscreen. Is this the correct CD?
3. Is TrueType Font Editor supported?
4. When I set my Views font to Beijing or Taipei, the fonts on screen look very jagged.
5. When I print documents with Beijing or Taipei fonts on my 600 dpi printer, why do they appear really jagged and low-res?
6. I have 7.6 and CLK 2.0. When I set the menubar clock to display in Beijing or Taipei, with the "Show day of week" option checked, I see the English day of the week. On an 8.0 system, the day of the week shows correctly in Chinese. What's wrong with my system?
7. I sometimes see this weird behavior in my input mode window if Balloon Help is on. When this happens, I can't change the input methods either.
8. When I use a localized application and quit it, why do I still see the pencil menu? It's not usable and it disappears if I click on the menubar clock.
9. The Language Register doesn't change its name anymore, so how do I know to which language the drag-and-dropped files are going to be registered?
10. When I've never installed CLK, and I still custom remove everything, why does the installer say removal was successful and make me restart?
11. I sent a document in Traditional Chinese SimpleText to print. The document name is "Chinese Poem". In the desktop printer window, I only see a document called "untitled" waiting to print. Where's my "Chinese Poem"?
12. I typed something in Traditional Chinese SimpleText using Traditional Chinese, and now all I see is gibberish in Simplified Chinese. Also, when I double-clicked the document, it opened with Simplified Chinese SimpleText. What happened?
13. I tried to print some Chinese documents on my Japanese Mac OS, and it stop responding. Now, every time I restart and the system has been up for a few seconds, it stop responding. How do I fix this?
14. I have Mac OS 7.6 running on a Quadra. I can't print. How can I fix this?

Question 1: Do I need to use the Language Kit Updater 8.0 after installing Chinese Language Kit 2.0?

Answer: No, the Chinese Language Kit 2.0 already includes all the updates from the Language Kit Updater 8.0.

Note: Language Kit Updater 8.0 is required for systems running Mac OS 8.0 or 8.1 after installing or re-installing any of Apple's Language Kits, except for Chinese Language Kit 2.0.

Question 2: The Chinese Language Kit 2.0 CD includes the wording "Version 1.0" between "Printed in the U.S.A." and the part number "Z691-1973-A" at the bottom of the CD silkscreen. Is this the correct CD?

Answer: Yes, it is the correct CD, with the correct part number "Z691-1973-A". The root level of the CD contains 6 items:

- Chinese LK Read Me
- Installer
- Updaters for 7.6 (folder)
- Language Kit Installer (folder)
- For Japanese Localized Systems (folder)
- Install Language Kit (installer script)

"Version 1.0" refers to the CD itself, not the software. Apple is considering removing the "Version 1.0" for future pressing of the CD to help avoid any confusion.

Question 3: Is TrueType Font Editor supported?

Answer: The TrueType Font Editor is not supported. Please see the TrueType Font Editor Read Me for details.

Question 4: When I set my Views font to Beijing or Taipei, the fonts on screen look very jagged.

Answer: Beijing and Taipei are bitmap fonts that were optimized for display in 9 and 12 point sizes. The 10 point size is an approximation and appears somewhat ragged. The solution is to set the point size in the Preferences dialog to either 9 point or 12 point.

The reason this occurs is that Geneva has a default at 10 point setting. When you change the font to Beijing or Taipei, the font size remains set at the 10 point setting. Customers setting their Geneva (or other Views font) to 9 or 12 points should not see this issue.

Question 5: When I print documents with Beijing or Taipei fonts on my 600 dpi printer, why do they appear really jagged and low-res?

Answer: Beijing and Taipei are bitmapped fonts, which print at the same resolution as the screen: 72 dpi. For printing, use the other fonts that are

installed with CLK.

Question 6: I have 7.6 and CLK 2.0. When I set the menubar clock to display in Beijing or Taipei, with the "Show day of week" option checked, I see the English day of the week. On an 8.0 system, the day of the week shows correctly in Chinese. What's wrong with my system?

Answer: Prior to Mac OS 8, it was not possible to have the Menubar's clock show the day of the week in the same language script as the font. Therefore, it will be necessary to update your system to Mac OS 8.0 or later for this.

Question 7: I sometimes see this weird behavior in my input mode window if Balloon Help is on. When this happens, I can't change the input methods either.

Answer: This is a known issue with Balloon Help. Turn Balloon Help off when using input methods to avoid this.

Question 8: When I use a localized application and quit it, why do I still see the pencil menu? It's not usable and it disappears if I click on the menubar clock.

Answer: This is a known issue. Apple testing has found this is merely cosmetic. It will not affect functionality.

Question 9: The Language Register doesn't change its name anymore, so how do I know to which language the drag-and-dropped files are going to be registered?

Answer: The Language Kit Register will ask if it's OK to register files to the language for which it is currently set. The automatic name-changing aspect was changed based on customer input, to provide a more consistent user experience. The language popup menu is available to make any needed changes on multi-lingual systems.

Question 10: When I've never installed CLK, and I still custom remove everything, why does the installer say removal was successful and make me restart?

Answer: Nothing is actually removed from a system that does not have a CLK installed. This unusual message is a function of the way the installer actually works. If the installer had to check for particular files only, it would report that there was nothing to remove. Since it has to check the system file for some CLK-related resources, it has to execute a different procedure that does the search and remove. Once this procedure executes, the installer can't tell whether something was removed or not as a result of the search. It reports the removal successful and proceeds to ask you to restart.

Question 11: I sent a document in Traditional Chinese SimpleText to print. The document name is "Chinese Poem". In the desktop printer window, I only see a document called "untitled" waiting to print. Where's my "Chinese Poem"?

Answer: The untitled document is the one you sent to print. The LaserWriter does not see the name sent by a localized version of SimpleText. If you need to see the document names, when printing many documents, for example, it is better to open them using the SimpleText that was installed by your Mac OS installer, and print from there.

Question 12: I typed something in Traditional Chinese SimpleText using Traditional Chinese, and now all I see is gibberish in Simplified Chinese. Also, when I double-clicked the document, it opened with Simplified Chinese SimpleText. What happened?

Answer: When a document is doubled clicked in the Finder, the Mac OS will open it with the most recent version of the appropriate application. In the case of SimpleText, it is possible to have multiple versions available. The most recent SimpleText in this case was Simplified Chinese SimpleText and it opened your document using its default font Beijing.

Language Kit customers usually find it more useful to drag and drop their SimpleText files on top of the appropriate version of SimpleText, in this case Traditional Chinese SimpleText. It is also a good idea to select the text in your document and specify your preferred font.

Question 13: I tried to print some Chinese documents on my Japanese Mac OS, and it stop responding. Now, every time I restart and the system has been up for a few seconds, it stops responding. How do I fix this?

Answer: If you are running the localized Japanese Mac OS 8.0 or 8.1, it includes the LaserWriter TrueType Booster, which is an extension that improves the printing speed of documents containing double byte fonts. This extension may cause hangs when printing Chinese characters. To stop crashing, as soon as you have your desktop after a restart, open the desktop printer that is trying to print the Chinese document, and delete the document before it gets sent to the printer.

Your Chinese Language Kit Read Me explains how to fix this issue. The information there will guide you through installing an updated version of LaserWriter TrueType Booster.

Question 14: I have Mac OS 7.6 running on a Quadra. I can't print. How can I fix this?

Answer: Mac OS 7.6 installs LaserWriter 8.3.4 on non-PowerPC systems. LaserWriter 8.4 or above are recommended for the Chinese Language Kit 2.0. The installers for both Mac OS 7.6.1 Update and LaserWriter 8.4.1 are included on your Chinese Language Kit CD. You will need to install both the Mac OS 7.6.1 Update and LaserWriter 8.4.1 to resolve this printing issue.

Note: Chinese Language Kit 2.0 requires Mac OS 7.6 or later.

TA38575_Chinese_Language_Kit_Frequently_Asked_Questions.pdf

Published Date: Feb 18, 2012

PICT 2 Files Supported by Third-Party Applications

This article has been archived and is no longer updated by Apple.

Some applications require PICT 2 files. This has created interest in how a user can "create" or convert PICT 2 files.

"PICT 2" refers to the PICT version 2 format documented in "Inside Macintosh Volume V" under Color QuickDraw. The file format defines color PICT support - something previously not implemented.

A number of third-party applications support the color PICT format. Most scanners and digitizers support the color PICT format, as do many color or grayscale paint applications. Pixel Paint, for example, reads and writes a number of different formats, including color PICT and MacPaint. Also, the shareware application Giffer reads PICT 1 files (MacDraw PICT) and saves them as PICT 2. It opens both PICT formats but writes only the PICT 2 format. Giffer also converts other file types commonly found on bulletin board systems.

Published Date: Feb 18, 2012

QuickTime 3 for Windows: Web Browser Configuration Tips

This article tells how to arrange web browser plug-ins so that certain file types are opened by specific applications, with particular attention given to the QuickTime 3 for Windows plug-in.
This article has been archived and is no longer updated by Apple.
The QuickTime 3 plug-in has no influence over the order in which Internet web browser plug-ins are loaded, nor does it affect the way Internet browsers assign MIME types. Additionally, the QuickTime 3 plug-in does not take priority over other plug-ins. When several plug-ins handle the same MIME type, only one of them will get priority over that mime type.

The Windows-based versions of Netscape Navigator and Netscape Communicator will load plug-ins based on the order they occur in the \\Plugins directory. The first item to occur in the directory will load first, making it the lowest priority, the second item will be the second lowest priority, and so on. If the QuickTime plug-in occurs last, it will get priority over all of the MIME types it can open. You can use the "DIR" command from a DOS command prompt to determine the current directory order of the \\Plugins directory. Do not use the order shown in Windows 95.

If you wish for another plug-in to open a given MIME type, it must occur in the \\Plugins directory after the QuickTime plug-in. Begin by moving the entire contents of the \\Plugins directory to another directory. Moving only a portion of the plug-ins out and back into the \\Plugins directory, or reinstalling plug-ins using an installer is not a reliable method for changing the loading order.

Using Netscape Communicator 4.05, this example shows how you might configure LiveUpdate's Crescendo to open .MID files, Netscape's plug-ins to open .AU, .AIF, .AVI, and .WAV files, and QuickTime to open .MOV files along with any other remaining MIME types. Since QuickTime can open the same MIME types as Netscape's plug-ins, and Crescendo, it must be loaded first (lower priority). Netscape's LiveAudio and Crescendo can both open MIDI MIME types. Therefore, Crescendo (higher priority) must be moved after LiveAudio (middle priority).

This procedure requires three basic basic steps.

1. Quit Netscape.
2. Move the entire contents of the Netscape\\Communicator\\Program\\Plugins directory to a different directory.
3. Move each of the plug-ins and its components back to the Netscape\\Communicator\\Program\\Plugins directory, starting with the lowest priority, and ending with the highest.

It may be easier to print out a list of the installed plug-ins, and note which plug-ins can open the same MIME types, then prioritize the noted plug-ins.

Here is the order for this Example:

Plug-in	File Name	
Netscape Default	npnul32.dll	<- lowest priority (first moved)
QuickTime	npqtplugin.dll	
Netscape Audio Streaming	nplau32.dll	
Netscape Sound Player	npaudio.dll	
Netscape AVI	npavi.zip	
Netscape AVI	npavi32.dll	
LiveUpdate Crescendo	MPlayer (sub-directory)	
LiveUpdate Crescendo	crestest.mid	
LiveUpdate Crescendo	CresPlayer.class	
LiveUpdate Crescendo	crestest.htm	
LiveUpdate Crescendo	CresObserver.class	
LiveUpdate Crescendo	DelsL1.isu	
LiveUpdate Crescendo	Npmidi32.dll	
LiveUpdate Crescendo	Sequence.dll	
Cosmo Player	Cosmo (sub-directory)	
Cosmo Player	npcosmop.dll	
Cosmo Player	npcosmop.jar	<- highest priority (last moved)

Note: You can verify which plug-in is enabled for each MIME type by choosing About Plug-ins from the Help menu.

If you would like more refined control over MIME types and plug-ins, consider using one of the third party applications specifically designed to assign a MIME type to a particular plug-in.

For additional information on Netscape Navigator, or Netscape Communicator contact Netscape Communications Corporation.

For additional information on LiveUpdate's Crescendo contact LiveUpdate.
Published Date: Feb 18, 2012

TA38577_QuickTime_for_Windows_Web_Browser_Configuration_Tips.pdf

MessagePad 2000: Update 2.1 (717260) US

This article contains the Read Me for MessagePad 2000 Update 2.1 For DOS-Windows (717260), with a link to the software download. This article has been archived and is no longer updated by Apple.

Language	Release Date	Software Update	Read Me	OS Required
North American English	1998-03-13			---
International English	---			---
français	---			---
Deutsche	---			---
Español	---			---
Italiano	---			---
Nederlands	---			---
Japanese	---			---

For help with downloading, see article 75098 "Help: Downloading Software" All software available from this site is covered by a software license agreement included with this software.

North American English

MessagePadTM 2000 Update 2.1 (717260) US

This document describes the product enhancements included in the system update file named "MessagePad 2000 2.1 (717260). " System Update 2.1 (717260) is for Apple MessagePad 2000 customers.

This version will install over the following system software version for the MessagPad 2000:

- version 2.1 (717145)
- version 2.1 (717006)
- version 2.1 (717041)
- version 2.1 (717132)

Note: This version of the Newton operating system is on the MessagePad 2100.

Important Before you install any system update, you should back up your MessagePad 2000 using the Newton Connection Utilities application or a PC storage card (also known as a PCMCIA card). For more information, see the documentation that came with the software or your MessagePad 2000. Apple is not responsible for any lost data.

Adjusting the contrast
You can now recenter the contrast slider by setting a different middle point. This allows you to refine the standard contrast range. For example, the factory preset contrast slider range goes from light gray to dark gray. You might want the contrast range to go from light gray to medium gray; to do this, you'd set the middle point slightly towards the lighter end of the slider.

To recenter the contrast slider, follow these steps:
1. Tap Extras to open the Extras Drawer.
2. Tap the contrast slider to move the diamond to the desired middle point.
3. Double tap the word "Contrast" below the slider.
4. When the message appears asking if you want to center the slider, tap Yes.

The diamond on the slider returns to the middle. The middle point of the contrast slider is now at the desired contrast setting.

Note: After recentering, you may notice a lightening of the screen after lifting the stylus off the contrast slider. Tap the screen again or wait 30 seconds and the screen will adjust back to the desired setting.

Memory
In earlier system software versions, the MessagePad may seem to not have enough memory when in fact it does. This problem is fixed.

Printing
In earlier system software versions, a printing problem may occur when scrolling through a Newton Book during print preview. This problem is fixed.

Faxing
You can drop or add fax numbers before faxing a document without getting an error message.

Using PC cards
In earlier system software versions, you might get the message "Battery on card needs to be replaced..." when certain PC cards are inserted. This problem is fixed.
Published Date: Feb 18, 2012

Trash Can: Always Reverts to Original Position

I have tried to reposition the Trash Can on my desktop but after I restart, the Trash always reverts to its original position. Am I supposed to be able to move the Trash or not?
This article has been archived and is no longer updated by Apple.
You can place the Trash wherever you want it and it should stay there after a restart. If it does not stay where you place it, the Finder Preferences file is probably is corrupted. This file stores the location for the Trash if you move it out of the default position.

To resolve this issue, simply drag the Finder Preferences file, (found in the Preferences folder in the System folder) to the Trash. Do not empty the Trash, the system will not let go of this file yet, it will give you a message that the file is in use.

Restart the system and then empty the trash. The system will create a new Finder Preferences file. Now you can move the Trash where you want it and it should stay there.
Published Date: Feb 18, 2012

Acrobat Reader 3.01: PostScript Error "typecheck" When Printing

When you print from Adobe Acrobat Reader 3.01 or Acrobat Exchange 3.01 to a PostScript LanguageLevel 1 printer (e.g., NEC Silentwriter 2 model 90, Apple LaserWriter II NT), the PostScript error "typecheck; OffendingCommand: status" occurs.
This article has been archived and is no longer updated by Apple.
To resolve this issue, print from Acrobat Reader 3.0 or Acrobat Exchange 3.0.

You can download Acrobat Reader 3.0 from:
- **http://www.adobe.com/prodindex/acrobat/alternate.html**
- **http://www.adobe.com/prodindex/acrobat/alternate2.html**

or:

Print to a PostScript LanguageLevel 2 printer (e.g., LaserWriter Pro 630).

Additional Information
Acrobat Reader 3.01 and Acrobat Exchange 3.01 use LanguageLevel 2 printing commands. Some of these commands are incompatible with LanguageLevel 1 printers, however, so a PostScript error occurs when printing. Acrobat Reader 3.0 and Acrobat Exchange 3.0 do not use LanguageLevel 2 commands.
Published Date: Feb 18, 2012

LaserWriter 12/640: Duplex Unit PostScript Commands

This article provides PostScript commands to print using the duplex unit for the Apple LaserWriter 12/640 PS printer.
This article has been archived and is no longer updated by Apple.
The PostScript information below may be useful for customers who are using Apple LaserWriter 12/640 PS printers with systems (typically unix-based) that do not provide PostScript driver support for duplex printing.

NOTE: This information only applies to the Apple LaserWriter 12/640 PS printer; commands may vary from printer model to printer model.

NOTE: The information below does not apply to customers with Mac OS and Windows-based computers, since this functionality is built into the printer driver and the Apple Printer Utility/Apple LaserWriter Utility for these operating systems.

If your printing system allows you to add PostScript to your jobs, the following PostScript code fragments will allow you to use the optional duplex unit on a per-job basis. PostScript code for changing the default duplex settings is also provided. However, you should change these settings with the Apple Printer Utility for Mac OS or Apple LaserWriter Utility for Windows wherever possible.

The details of how to automate this process on a per-job basis vary from system to system (if it can be automated at all). Please consult your system's documentation for specifics.

Note: Jobs must be in PostScript format already; you can not add PostScript to an ASCII text or PCL job.

CAUTION: If you choose to use the PostScript code provided in this article, you assume all risks involved in making these changes. PostScript code, if not entered correctly, can place the LaserWriter into a condition requiring service.

```
--------------------
Duplex without tumble
--------------------
%!
%% Print two-sided no tumble
2 dict dup /Duplex true put dup /Tumble false put setpagedevice
%% End PostScript

-----------------
Duplex with tumble
-----------------
%!
%% Print two-sided with tumble
2 dict dup /Duplex true put dup /Tumble true put setpagedevice
%% End PostScript

---------
No Duplex
---------
%!
%% Print one-sided
1 dict dup /Duplex false put setpagedevice
%% End PostScript
```

Changing the Default Setting
Use the following PostScript code to change the default settings for the duplex unit for the Apple LaserWriter 12/640 PS printer. These settings will remain until the defaults are changed again. The PostScript code fragments below should be downloaded by themselves; they should not be added to any other PostScript jobs like the per-job fragments discussed above.

```
--------------------
Duplex without tumble
--------------------
%!
true 0 startjob pop
2 dict dup /Duplex true put dup /Tumble false put
setpagedevice
%% End PostScript

--------------------
```

TA38582_LaserWriter_Duplex_Unit_PostScript_Commands.pdf

Duplex with tumble

```
%!
true 0 startjob pop
2 dict dup /Duplex true put dup /Tumble true put
setpagedevice
%% End PostScript
```

No Duplex

```
%!
true 0 startjob pop
1 dict dup /Duplex false put
setpagedevice
%% End PostScript
```
Published Date: Feb 18, 2012

LaserWriter 8500: Duplex Unit PostScript Commands

This article provides PostScript commands to print using the duplex unit for the Apple LaserWriter 8500 printer.
This article has been archived and is no longer updated by Apple.
The PostScript information below may be useful for customers who are using Apple LaserWriter 8500 printers with systems (typically unix-based) that do not provide PostScript driver support for duplex printing.

NOTE: This information only applies to the Apple LaserWriter 8500 printer; commands may vary from printer model to printer model.

NOTE: The information below does not apply to customers with Mac OS and Windows-based computers, since this functionality is built into the printer driver and the Apple Printer Utility/Apple LaserWriter Utility for these operating systems.

If your printing system allows you to add PostScript to your jobs, the following PostScript code fragments will allow you to use the optional duplex unit on a per-job basis. PostScript code for changing the default duplex settings is also provided. However, you should change these settings with the Apple Printer Utility for Mac OS or Apple LaserWriter Utility for Windows wherever possible.

The details of how to automate this process on a per-job basis vary from system to system (if it can be automated at all). Please consult your system's documentation for specifics.

CAUTION:
If you choose to use the PostScript code provided in this article, you assume all risks involved in making these changes. PostScript code, if not entered correctly, can place the LaserWriter into a condition requiring service.

```
--------------------
Duplex without tumble
--------------------
%!
%% Print two-sided no tumble
2 dict dup /Duplex true put dup /Tumble false put setpagedevice
%% End PostScript

-----------------
Duplex with tumble
-----------------
%!
%% Print two-sided with tumble
2 dict dup /Duplex true put dup /Tumble true put setpagedevice
%% End PostScript

---------
No Duplex
---------
%!
%% Print one-sided
1 dict dup /Duplex false put setpagedevice
%% End PostScript
```

Changing the Default Setting
Use the following PostScript code fragments to change the default settings for the duplex unit for the Apple LaserWriter 8500 printer. These settings will remain until the defaults are changed again. The PostScript code fragments below should be downloaded by themselves; they should not be prepended to any other PostScript jobs like the per-job fragments discussed above.

```
--------------------
Duplex without tumble
--------------------
%!
true 0 startjob pop
2 dict dup /Duplex true put dup /Tumble false put
setpagedevice
%% End PostScript

--------------------
```

TA38583_LaserWriter_Duplex_Unit_PostScript_Commands.pdf

Duplex with tumble

```
%!
true 0 startjob pop
2 dict dup /Duplex true put dup /Tumble true put
setpagedevice
%% End PostScript
```

No Duplex

```
%!
true 0 startjob pop
1 dict dup /Duplex false put
setpagedevice
%% End PostScript
```
Published Date: Feb 18, 2012

LaserWriter 12/640: Changing Paper Tray PostScript Commands

This article provides PostScript commands that allow you to change the paper tray selection for the Apple LaserWriter 12/640 PS printer.
This article has been archived and is no longer updated by Apple.
The PostScript information below may be useful for customers who are using Apple LaserWriter 12/640 PS printers with systems (typically unix-based) that do not provide PostScript driver support for selecting paper trays.

NOTE: This information only applies to the Apple LaserWriter 12/640 PS printer; commands may vary from printer model to printer model.

NOTE: The information below does not apply to customers with Mac OS and Windows-based computers, since this functionality is built into the PostScript printer drivers for these operating systems.

If your printing system allows you to add PostScript to your jobs, the following PostScript code fragments will allow you to change the paper tray selection on a per-job basis. Information on how to change the printer's default tray selection is also provided.

The details of how to automate this process on a per-job basis vary from system to system (if it can be automated at all). Please consult your system's documentation for specifics. Note that jobs must be in PostScript format already; you can not add PostScript to an ASCII text or PCL job.

CAUTION:
If you choose to use the PostScript code provided in this article, you assume all risks involved in making these changes. PostScript code, if not entered correctly, can place the LaserWriter into a condition requiring service.

---
250 Page Tray (Standard Tray)

```
%!
currentpagedevice /InputAttributes get 0 get
dup null eq
{ pop }
{ dup length 1 add dict copy
dup /InputAttributes
1 dict dup /Priority [0 1 2 3] put
put setpagedevice
} ifelse
%% End PostScript
```

Multipurpose Tray

```
%!
currentpagedevice /InputAttributes get 1 get
dup null eq
{ pop }
{ dup length 1 add dict copy
dup /InputAttributes
1 dict dup /Priority [1 0 2 3] put
put setpagedevice
} ifelse
%% End PostScript
```

Optional Tray

```
%!
currentpagedevice /InputAttributes get 2 get
dup null eq
{ pop }
{ dup length 1 add dict copy
dup /InputAttributes
1 dict dup /Priority [2 0 1] put
put setpagedevice
```

```
} ifelse
%% End PostScript
```

Changing the Default Tray

Use the following information to change the default paper tray selection for the Apple LaserWriter 12/640 PS printer. These settings will remain until the defaults are changed again. The PostScript code fragments below should be downloaded by themselves; they should not be prepended to any other PostScript jobs like the per-job fragments discussed above.

This is PostScript Level 1 code to change the default tray:

```
%!
serverdict begin 0 exitserver
statusdict begin n setdefaultpapertray end
%% End PostScript
```

Replace the "n" before "setdefaultpapertray" based on the following table:
0 (StandardCassette)
1 (Multipurpose)
2 (OptionalCassette)
3 (Envelope)

This changes the default paper tray permanently, or until you use this PostScript code to change the default tray again.

This is the equivalent PostScript Level 2 code:

```
%!
serverdict begin 0 exitserver
1 dict dup /InputAttributes 1 dict dup /Priority [2 1 0 3] put put
setpagedevice
%% End PostScript
```

This sets the paper tray priority to:

1st Priority: Optional Cassette (500 Sheets) - designated by the "2" in the array above. 2nd Priority: Multipurpose Tray - designated by the "1" in the array above. 3rd Priority: Standard Cassette (250 Sheets) - designated by the "0" in the array above. 4th Priority: Envelope Tray - designated by the "3" in the array above.

You can change the paper tray priority order by changing the order of the values in the "/Priority" section, above. For example, /Priority [0 1 2 3] makes the 250 sheet cassette first priority, then the Multipurpose tray next, then the 500 sheet cassette, and finally the envelope tray.
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PM 6500: Video-Out Connector Interferes with PCI Card

The Power Macintosh 6500 & 5500 series sold in the education channel comes with an NTSC Video-Out Connector installed. This connector connects the computer to a television and displays the video image from the computer directly onto the television screen.

On Power Macintosh 6500 computers, the NTSC Video-Out Connector card, which plugs into the monitor-out slot, is too tall and interferes when installing a PCI Card in the lower PCI slot.
This article has been archived and is no longer updated by Apple.
Apple is aware of this issue and has redesigned the NTSC card that plugs into the monitor-out slot so that it no longer interferes with installing a PCI Card in the lower PCI slot.
Published Date: Feb 18, 2012

Mac OS 8.x: Corrupted PC Card Names

Sometimes when I insert a PC card into my PowerBook the icon shows up on the desktop but the name looks like garbage. What's wrong?
This article has been archived and is no longer updated by Apple.
This issue can occur on a PowerBook 5300 or PowerBook 1400, if the Apple Telecom 3.2.2 Serial Modem Software and Mac OS 8.0 or 8.1 are installed.

The issue is purely cosmetic; the PC card will continue to function normally even though the name that appears on the desktop is unreadable.

Ejecting and re-inserting the PC card should alleviate the issue temporarily.
Published Date: Feb 18, 2012

Resource Editor: Where to Get It

This article has been archived and is no longer updated by Apple.

```
The Resource Editor is a development tool and is distributed under an
Apple license agreement. Therefore, the Resource Editor is not in the
public domain and is not for general posting or distribution.  The
Resource Editor can be purchased from the Apple Programmer's &
Developer's Association (APDA).
```

Published Date: Feb 18, 2012

iPhone: Using Visual Voicemail

This article has been archived and is no longer updated by Apple.

If iPhone calls your voicemail service when you tap Voicemail in Phone

If the voice instructions prompt you, enter your voicemail password. Otherwise, wait until you hear any voice instruction, then end the call. After a time, Visual Voicemail should become available again.

This may occur if you removed the SIM Card from iPhone and then put in a different SIM Card.

Published Date: Feb 18, 2012

Drive Setup: Non-Apple Hard Drive Support

Recently, I have upgraded to a larger non-Apple hard drive replacing the original Apple hard drive that shipped with my Macintosh/Power Macintosh computer. I have been using Drive Setup to initialize, partition and test my original hard drive.

Can I used Drive Setup to initialize, partition and test my new non-Apple hard drive?
This article has been archived and is no longer updated by Apple.
The Drive Setup application is qualified for those hard drives which were shipped by Apple in Apple Macintosh/Power Macintosh computers. While Drive Setup may initialize non-Apple hard drives, Apple is unable to fully test or support issues that may arise from these hard drives. For non-Apple hard drives, Apple recommends that customers use third-party formatting utilities.
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Power Macintosh 5400/6400: International Mac OS 8.1 Issue

We have several Power Macintosh 6500/225 computers with the Apple Video-in card in our lab that we are trying to install non-US or localized versions of Mac OS 8.1. We do the following steps for each computer:

1. Boot from the Mac OS 8.1 CD
2. Launch Drive Setup 1.4
3. Select Macintosh HD
4. Click Initialize
5. Click Custom Setup
6. Partition Drive (to 1 or more partitions)
7. Select Extended Format
8. Click OK
9. Click Initialize

We expected to see a dialog box saying, "The selected disk can be used as the startup disk only for PowerPC computers." Instead, we get a dialog box with no text accompanied by a continuous beep and the computer freezes.

- Is this a known problem?
- How can we workaround this problem?

This article has been archived and is no longer updated by Apple.
Yes. Apple is aware of this issue and is working to correct this issue in a future release of the Mac OS. This issue can occur when installing localized (non-US) versions of Mac OS 8.1 on any Power Macintosh 5400/6400/5500/6500/20th Anniversary Macintosh with the Apple Video-in card installed from any locked media (ie. CD-ROM disks).

For non-US versions of Mac OS 8.1, the "Simple Beep" sound that is included in ROM is overridden with a localized name depending on which localized version of Mac OS 8.1 the user is installing. This is done for compatibility reasons for other system software items that look for a localized name for "Simple Beep". An example is the Monitors & Sound control panel. The routine to override this sound is not working properly on the computers mentioned above.

This issue has been confirmed on the following localized versions of Mac OS 8.1:

C- Canadian
D- German
N- Dutch
DK- Danish
H- Norwegian
T- Italian
F- French

To work around this issue, international customers who need to reinitialize their hard drive with Mac OS Extended format using Drive Setup should do the following:

- Create a Disk Tools floppy disk using the Disk Tools image included on the Mac OS 8.1 CD.
- Make sure the Disk Tools floppy disk is unlocked, startup the computer from this disk.
- Use the Drive Setup on the floppy to format the hard drive as a Mac OS Extended volume.
- Restart the computer from the Mac OS 8.1 CD and install system software as normal.

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TA38592_Official_Apple_Support.pdf

Welcome to Apple Support

We're here to help

Search Support Search Support Clear Search

Apple Watch Support

iPhone Support

iPad Support

Mac Support

Apple ID Support

Music Support
More products

Apple TV Support

iCloud Support

Apple Pay Support

Apps Support

Pro Apps Support

HomePod Support

Update to iOS 12

Enjoy a faster and more responsive experience as well as fun new features, like Memoji and Camera Effects.

Get iOS 12

Find out about your coverage

AppleCare products give you additional repair coverage and technical support. If you already bought an AppleCare product, you can manage it online.

Check coverage for your product

Let's get that fixed

If your Apple device needs repairs, you can go to an Apple Store, visit an Authorized Service Provider, or mail in your device. Whatever you choose, we'll make sure your device works the way it should.

Choose a repair option

Beware of counterfeit parts

Some counterfeit and third party power adapters and batteries may not be designed properly and could result in safety issues. To ensure you receive a genuine Apple battery during a battery replacement, we recommend visiting an Apple Store or Apple Authorized Service Provider. If you need a replacement adapter to charge your Apple device, we recommend getting an Apple power adapter.

Also non-genuine replacement displays may have compromised visual quality and may fail to work correctly. Apple-certified screen repairs are performed by trusted experts who use genuine Apple parts.

Watch. And Learn.

Videos designed to make your experience shine. Our YouTube channel is live, and we're adding new How-to and tips & tricks content weekly to answer your most asked questions.

Explore Apple Support on YouTube

Have a question? Ask everyone.

The members of our Apple Support Community can help answer your question. Or, if someone's already asked, you can search for the best answer.

Ask now

Want to talk with someone?

Get help by phone, chat, or email, set up a repair, or make a Genius Bar reservation.

Contact Apple Support

Join us for Today at Apple sessions

Explore how to capture photos with iPhone. Learn to sketch on iPad. And do more of what you love every day at Apple.

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- iPhone 8 Logic Board Replacement Program
- Keyboard Service Program for MacBook and MacBook Pro
- 13-inch MacBook Pro (non Touch Bar) Battery Replacement Program
- iPhone 7 Repair Program for "No Service" Issues
- iPhone 6s Program for Unexpected Shutdown Issues
- Multi-Touch Repair Program for iPhone 6 Plus
- Apple AC Wall Plug Adapter Recall Program
- Beats Pill XL Speaker Recall Program
- All Programs

iMac: Resetting PRAM Same as Previous Macs

Since the iMac now has a USB keyboard, is there a difference in how I reset the Parameter RAM (PRAM) on my iMac?
This article has been archived and is no longer updated by Apple.
Resetting PRAM for iMac has not changed from the previous way ADB based Macintosh and Power Macintosh computers reset PRAM under Mac OS 8.x. Users can reset the PRAM by restarting the computer and holding down the Command-Option-P-R keys on the keyboard until the iMac restarts. After the computer restarts, the PRAM will be reset.

For more information about Parameter RAM (PRAM) review TIL article 2238: "**Macintosh: How to Reset PRAM and NVRAM**"
Published Date: Feb 18, 2012

PowerBook G3 Series: FaxSTF 5.0 Printer Issue

I have a PowerBook G3 Series and with FaxSTF 5.0 software installed, when I open the Chooser and click on the LaserWriter 8 icon, my printer no longer appears. If I change the settings in the Extensions Manager to "PB G3 Series ALL" and then Restart, my printer will then appear when I click on the LaserWriter 8 icon.
This article has been archived and is no longer updated by Apple.
The FaxSTF software automatically defaults to selecting the Printer/Modem port for the Modem, which in turn occupies that port causing the error, and may disrupt the operation of any AppleTalk device connected to the printer/modem port.

To resolve the issue, perform the following steps:

1. Open the Fax Browser within the FaxSTF folder.
2. Select Settings from the Edit menu.
3. Choose Port from the icons on the left-side of the Settings window.
4. Choose Internal Modem, instead of Printer-Modem Port.
5. Restart the computer.

Note: Macintosh PowerBook G3 Series computers should not be confused with Macintosh PowerBook G3 computers. Though the names are similar, there are significant differences. To visually identify which type of computer you have, close the display and inspect the display case. A Macintosh PowerBook G3 has a small, six-color Apple logo on the display case. A Macintosh PowerBook G3 Series computer has a large Apple logo on the display case that is not six-colored.
Published Date: Feb 18, 2012

Drive Setup 1.5: Hard Drive Won‘t Spin Down

After updating my hard drive with Drive Setup 1.5, I notice that sometimes my hard drive does not spin down when it's supposed to. Why is this?
This article has been archived and is no longer updated by Apple.
The hard drive will spin down (either manually or automatically) once, but then will not spin down again until the computer is restarted, or in the case of a PowerBook, until it is put to sleep.

This issue affects all Macintosh computers with an ATA hard drive, including all Power Macintosh G3 and PowerBook G3 computers.

This issue does not affect the major functionality of the computer or any data on the hard drive. On a PowerBook, the battery life may be affected when the hard drive does not spin down as often.

Note: This issue has been fixed in Drive Setup 1.6.1, which has been posted to Apple Software Updates.

This article can help you locate the software update mentioned here:

- Article 14724: "**Where To Find Apple Software Updates**" - Lists online services for free Apple software updates.

Published Date: Feb 18, 2012

PostScript: Displaying PostScript on the Mac OS Screen

I have a PostScript file that I want to view on my Mac OS screen. Can I do this?
This article has been archived and is no longer updated by Apple.
The Mac OS itself does not have Display PostScript capabilities. However Adobe Inc. sells a product that allows you to view PostScript on your screen. Adobe's Acrobat product contains an application called Adobe Distiller, which turns the PostScript file into a Adobe Acrobat document. Once the file is distilled, it is placed into Adobe's Portable Document Format (PDF). With either Adobe's Exchange product, included in the Adobe Acrobat software, or the free Adobe Acrobat Reader, you can view the Acrobat file.

For more information on Adobe Acrobat, you should visit **Adobe's** Internet Web Site.

The Tech Info Library article titled "**Locating Vendor Information**" can help you search for a particular vendor's address and phone number.
Published Date: Feb 18, 2012

SerialDMA: Do I Need It?

I have heard that the SerialDMA extension is required for faster and more reliable serial port communication. Can it be used on all Macintosh computers? Is it included with any of the system software updates?
This article has been archived and is no longer updated by Apple.
SerialDMA includes certain serial communication enhancements and fixes for specific Macintosh computer models. It offers improves serial communication performance and utilizes DMA for serial communication at higher transfer rates.

The SerialDMA 2.0.2 extension requires System 7.5 or later. You do not need SerialDMA 2.0.2 if you are using System 7.5.3 or greater since the extension is incorporated into the system software.

SerialDMA 2.0.2 is recommended for use on the Centris 660AV, Quadra 660AV, Quadra 840AV, Performa 6100 series, Power Macintosh 6100/60, Power Macintosh 6100/66, Power Macintosh 7100/66, Power Macintosh 7100/80, Power Macintosh 8100/80, Power Macintosh 8100/100, and Power Macintosh 8100/110 running System 7.5.2 or earlier.

SerialDMA 2.1 extension works with U.S. English Mac OS 7.6.1, 8.0, and 8.1 and any of the following computers including Power Macintosh 4400, Power Macintosh 5500, Power Macintosh 6500, Twentieth Anniversary Macintosh, Power Macintosh 7220, Power Macintosh G3, PowerBook 2400, PowerBook 3400, PowerBook G3, or PowerBook G3 Series.

Related Articles:
Article 18943: "**SerialDMA 2.0.2: Read Me**"
Article 30581: "**SerialDMA 2.1 Update: Read Me**"
Article 19026: "**SerialDMA & Serial Port Arbitrator Compatibility Issue**"

This article can help you locate the software update mentioned here:

- Article 14724: "**Where To Find Apple Software Updates**" - Lists online services for free Apple software updates.

Published Date: Feb 18, 2012

iPhone: Error "0xE8000025" when syncing in iTunes for Windows

This article has been archived and is no longer updated by Apple.

Symptom

The alert "iTunes could not connect to iPhone because an unknown error occurred (0xE8000025)" may appear when trying to sync your iPhone in iTunes.

Solution

Update to iTunes 7.5 or later. You can download the latest iTunes from here or you can open iTunes and choose **Help > Check for Updates**.

If the issue continues after updating, try the troubleshooting steps in this document.

If you're not able to update, make sure your user account contains only standard ASCII characters.* Characters other than those noted below are not supported.

* Make sure your user account name only contains these characters:
a b c d e f g h i j k l m n o p q r s t u v w x y z
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
0 1 2 3 4 5 6 7 8 9

Note: For best results use a U.S. English version of Windows.

This document will be updated as more information becomes available.

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Published Date: Feb 18, 2012

iPhone: Exception error when syncing with Yahoo! Address Book

This article has been archived and is no longer updated by Apple.

If syncing your iPhone with Yahoo! Address Book doesn't work, make sure you are using iTunes 7.5 or later if you use Windows or Mac OS X 10.4.11 or later if you use a Mac. Using the latest version of iTunes for Windows or the latest version of Mac OS X should resolve this.

Note that this could also be caused by an invalid email address present in your contact list. Valid email addresses are of the form username@domainname, e.g. steve@mac.com or user@example.org.

If you use Windows, check your iPhone for invalid or improperly formatted email addresses. If you use a Mac, check your iPhone, Address Book (or any other contacts syncing application, such as Entourage) for invalid or improperly formatted email addresses.

If you find any, either correct them, or remove them.

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Error 1603 When Restoring iPhone in iTunes

This article has been archived and is no longer updated by Apple.

Issue

When trying to restore your iPhone in iTunes, you may see the following error message:

> The iPhone could not be restored. An unknown error occurred. Error 1603

Solution

Here are several troubleshooting steps that may resolve this issue.

Update iTunes and iPhone

To update iTunes:

- Windows: Choose **Help > Check for Updates**.
- Mac: Choose **iTunes > Check for Updates**.

See this document for steps to update iPhone.

Restart Your Computer

Simply restarting your Mac or Windows PC may allow you to successfully restore your iPhone.

Try a Different USB Port

Connect iPhone to a different USB port on your Mac or Windows PC. USB 2.0 ports that are built-in to the computer are preferred. After doing this, attempt to restore your iPhone in iTunes.

Restart Apple Mobile Device Service (Windows only)

Restarting the Apple Mobile Device service on Windows XP or Windows Vista may allow you to successfully restore iPhone. Refer to the steps below for your version of Windows. **Note**: You'll need to sign in with an administrator account for these steps.

- Windows XP
  1. Close iTunes and disconnect iPhone.
  2. Choose **Start** > **Control Panel**.
  3. Inside the Control Panel, open **Administrative Tools**.
  4. Open **Services**.
  5. Select **Apple Mobile Device** and click **Stop the service** as shown below:

  6. After the service is stopped, click **Start the service**.
  7. After the Apple Mobile Device service has started again, open iTunes and connect iPhone.
  8. Select iPhone in the Source list, click the Summary tab, and then click Restore.
- Windows Vista
  1. Close iTunes and disconnect iPhone.
  2. Click the Windows Start button
  3. In the **Start Search** field type "Services."
  4. In the **Programs** section of the search results, Click "Services".
  5. Select **Apple Mobile Device** and click **Stop the service** as shown below:

6. After the service is stopped, click **Start the service**.
7. After the Apple Mobile Device service has started again, open iTunes and connect iPhone.
8. Select iPhone in the Source list, click the Summary tab, and then click Restore.

Reset the iPhone sync history and restore

To reset your Sync History:

Windows

1. Open iTunes
2. On the **Edit** menu, click **Preferences**.
3. Click the **iPhone** tab.
4. Click the **Reset Sync History** button.

Mac

1. Open iSync.
2. Choose **iSync > Preferences**.
3. Click the Reset Sync History button.

After resetting sync history, restore iPhone.

Create a new user account and restore

Create a new user account and then restore iPhone.

Use the steps below if you're not sure how to create a new user. After creating the new user, log in to that account, open iTunes, and determine whether the issue you were experiencing persists in this new user.

Windows Vista and Windows XP

1. From the **Start** menu, choose **Control Panel**.
2. Open User Accounts.
3. Select Create a new account and follow the instructions to complete the account setup process.
4. Once the new account is created, choose **Log Off** from the **Start** menu.
5. Log in to the newly created user account.

Mac OS X

1. Choose **Apple** menu > **System Preferences**.
2. Choose **View** > **Accounts**.
3. Click the "+" (you may need to authenticate to be able to click this).
4. Give the new user a name and short name and enter a password.
5. Select the checkbox for "Allow user to administer this computer". This makes the user an administrator user.
6. Click Create Account.

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Japanese Language Kit 1.2: CD‘s Extras Folder Empty

I have just received my Japanese Language Kit version 1.2. The card in the CD slip refers me to the CD extras folder for a listing of compatible programs; an update for WordPerfect 3.1 and the System update 1.0 (for English versions of System 7.5). The CD extras folder on my CD is empty. Do I need a replacement CD? Where can I get the missing files?
This article has been archived and is no longer updated by Apple.
The contents of the CD you have are correct. When Japanese Language Kit 1.2 CD was repressed some of the sample applications and update files (some of which had been superseded by newer updates) were removed from the CD. The card in the CD slip was not reprinted and therefore makes reference to files that are no longer on the CD.

There were no changes to the actual Language Kit software. Apple apologizes for any inconvenience you may have experienced. To obtain the latest Apple Software updates check the Apple Web Site at:
"**http://www.apple.com/swupdates**".

For updates to other applications check with the application's vendor.

The Tech Info Library Article 17159: "**Locating Vendor Information**" can help you search for a particular vendor's address and phone number.
Published Date: Feb 18, 2012

iPhone: Silencing or Declining a Call

This article has been archived and is no longer updated by Apple.

When a call comes in, you may not want to answer it, or you may need to stop iPhone from ringing or vibrating. You can silence or decline an incoming call.

When you silence a call, you still have a chance to answer it, until the call goes to voicemail. When you decline a call, the call is silenced and sent directly to voicemail.

Silence a call

Press the Sleep/Wake button once, or either of the volume buttons.

Decline a call

Do one of the following:

- Press the Sleep/Wake button twice quickly.
- Press and hold the mic button on the headset for about two seconds, then let go. When you let go, two low beeps confirm that the call was declined.
- Tap **Decline**. Decline appears only when you're using iPhone.

Published Date: Feb 18, 2012

iPhone: Making and Receiving a Call

This article has been archived and is no longer updated by Apple.

Making a call on iPhone is as simple as tapping a name or number in your contacts list or tapping someone in your favorites list. Or tap the name of a recent caller to return the call. Your contacts are automatically synced with the address book on your computer each time you connect iPhone.

The cell signal indicator, , at the top of the screen shows whether you're in range of the cell network and can make and receive calls.

The more bars, the stronger the signal.

Making a Call

Making a call is easy — simply tap an entry in your list of contacts, favorites, or recent calls on iPhone. Or you can make a call the "old-fashioned" way, by entering a number on the keypad.

Call someone in your contacts list

Tap **Contacts** and choose a contact, then tap the phone number you want to call.

Call someone in your favorites list

Tap **Favorites** and choose a contact.

Tip: To add someone to your favorites list, tap **Contacts** and choose a contact. Then tap "Add to Favorites" and choose the number you want to add.

To add a recent caller's number to your favorites list, tap **Recents** and tap next to a caller, then tap "Add to Favorites."

Call someone you've recently called or who has recently called you

Tap **Recents** and choose a person or number. Calls you've missed are shown in red. Tap **Missed** to see only missed calls.

You can also tap **Keypad** and then tap **Call**, to bring up the number of the last person you called.

Dial a call

Tap **Keypad** and enter the number, then tap **Call**. Tap if you make a mistake.

Answering a Call

When someone calls you, iPhone rings and displays the caller's information.

When you receive a call, do one of the following:

- Tap **Answer**. Or, if iPhone is locked, drag the slider.
- If you're listening through the stereo headset, you can click the mic button to answer.

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iPhone: Using Conference

This article has been archived and is no longer updated by Apple.

Conference calling lets you talk to more than one person at a time. You can merge up to five calls for a phone conference.

Start a conference call

1. Make a call.
2. Tap **Add Call** and make another call. The first call is put on hold. If you want, you can talk on the second line privately before merging the calls.

3. Tap **Merge Calls**. The calls are merged onto one line and everyone can hear each other.
4. Repeat steps two and three to add more calls to the conference.

To	Do this
Drop one call from a conference	Tap **Conference** and tap next to a call. Then tap **End Call**.
Talk privately with a call in a conference	Tap **Conference** and tap **Private** next to a call. Tap **Merge Calls** to return the call to the conference.
Add an incoming call to a conference	Tap **Hold Call** + **Answer**, then tap **Merge Calls**.

iPhone always has two lines available, one of which can be a conference call.

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iPhone: Using Hold

This article has been archived and is no longer updated by Apple.

When you’re on a call, the screen shows call options.

Put a call on hold

Tap **Hold**. The caller can’t hear you and you can’t hear the caller. Tap **Hold** again to talk again.

Use iPhone applications while you’re on a call

While on a call, press the **Home** button to go to the Home screen and use other applications. Or tap **Contacts** to browse contacts.

So for example, you can check your calendar or takes notes while on a call. If you’re connected to Wi-Fi , you can also browse the web and use other Internet applications such as Maps — to find the location of a restaurant, perhaps.

To return to the call screen from another application, tap the green bar at the top of the screen.

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iPhone: Ringtones

This article has been archived and is no longer updated by Apple.

iPhone comes with a number of ringtones that you can use for incoming calls, Clock alarms, and the Clock timer. You can also create ringtones in iTunes using songs purchased from the iTunes Store. Use the Ringtones pane in iTunes to select the ringtones you want to sync to iPhone.

Note: Charges may apply. Not all songs in the iTunes Store can be used to create ringtones.

A dedicated switch on the side of iPhone lets you quickly turn ringing on or off. You can also set iPhone to vibrate or not.

Setting Ringtones

In addition to the default ringtone, you can assign individual ringtones to people in your contacts so that you can tell when a particular person calls.

Set the default ringtone

From the Home screen choose **Settings** > **Sounds** > **Ringtone**, then choose a ringtone.

Assign a ringtone to a contact

From Phone, tap **Contacts** and choose a contact. Tap **Ringtone** and choose a ringtone. When that person calls, you hear that ringtone.

Setting the Ring Mode

You can switch between ring and silent mode. You can set iPhone to vibrate in either mode or both.

Note: Alarms that you've set using the Clock application still sound even when you set the Ring/Silent switch to silent.

Switch between ring mode and silent mode

Flip the Ring/Silent switch on the side of iPhone.

You can tell by feel if iPhone is set to ring or be silent. The Ring/Silent switch is aligned with the volume buttons when it is set to ring. In silent mode, the button is offset.

Setting iPhone to Vibrate

You can have iPhone vibrate when you receive a call. Separate controls let you sent iPhone to vibrate in ring mode, silent mode, or both.

Set whether iPhone vibrates

From the Home screen choose **Settings** > **Sounds**. To set whether iPhone vibrates in silent mode, turn **Vibrate** under **Silent** on or off. To set whether iPhone vibrates in ring mode, turn **Vibrate** under **Ring** on or off.

Published Date: Feb 18, 2012

iPhone: Sending and Receiving Emails

This article has been archived and is no longer updated by Apple.

This article explains how to compose, forward, and reply-to emails using your iPhone. It also covers how to check and read your emails. To learn more about Mail and Account settings, instead, go here.

Sending Email

You can send an email message to anyone who has an email address. You can send it to one person or a group of people.

Compose and send a message

1. Tap .
2. Type one or more names or email addresses in the To or CC (carbon copy) fields, or tap and choose a contact to add the contact's email address.

   As you type an email address, comparable email addresses from your contacts list appear below. Tap one to add it.
3. Type a subject if you like, then type a message.
4. Tap **Send**.

Send a photo in a message

From the **Home** screen choose **Photos**, then choose a picture. Then tap and tap **Email Photo**.

If you have more than one email account on iPhone, the photo is sent using the default account.

Note: Photos taken with iPhone will be resized to 640x480 resolution when attached to an email.

Save a message as a draft so you can work on it later

Start composing the message and tap **Cancel**. Then tap **Save**. You can find the message in the Drafts mailbox, add to it or change it, and then send it.

Reply to a message

Open a message and tap . Tap **Reply** to reply to just the person who sent the message. **Tap Reply All** to reply to the sender and the other recipients. Then add a message of your own if you like, and tap **Send**.

When you reply to a message, files or images attached to the initial message are not sent back.

Forward a message

Open a message and tap , then tap **Forward**. Add one or more email addresses and a message of your own if you like, then tap **Send**.

When you forward a message, you can include the files or images attached to the original message.

Send a message to a recipient of a message you received

Open the message and tap the recipient's name or email address, then tap **Email**.

Checking and Reading Email

The **Mail** button shows the total number of unread messages in all of your inboxes. You may have other unread messages in other mailboxes.

On each account screen, you can see the number of unread messages next to each mailbox. Tap to see all your email accounts

Read a message

Tap a mailbox to see the messages inside. Unread messages have a blue dot next to them.

Tap a mailbox, then tap a message. Within a message, tap or to see the next or previous message.

Delete a message

Open the message and tap . You can also delete a message directly from the mailbox message list by swiping left or right over the message title and then tapping **Delete**.

Or you can tap Edit and tap next to a message.

Check for new messages

Choose a mailbox, or tap at any time.

Open an attached file

You can view or read some types of files and images attached to messages you receive. For example, if someone sends you a PDF, Microsoft Word, or Microsoft Excel document, you'll be able to read it on iPhone. Tap the attachment. It downloads to iPhone and then opens.

You can view attachments in both portrait and landscape orientation. If the format of an attached file isn't supported by iPhone, you can see the name of the file but you can't open it.

iPhone supports the following email attachment file formats: `.doc, .docx, .htm, .html, .pdf, .txt, .xls, .xlsx`

See all the recipients of a message

Open the message and tap **Details**. Tap a name or email address to see the recipient's contact information. Then tap a phone number, email address, or **Text Message** to contact the person. Tap **Hide** to hide the recipients.

Add an email recipient to your contacts list

Tap the message and, if necessary, tap **Details** to see the recipients. Then tap a name or email address and tap **Create New Contact** or "**Add to Existing Contact**."

Mark a message as unread

Open the message and tap "**Mark as Unread**." A blue dot appears next to the message in the mailbox list until you open it again.

Move a message to another mailbox

Open the message and tap , then choose a mailbox.

Zoom in to a part of a message

Double-tap the part you want to zoom in on. Double-tap again to zoom out.

Resize any column of text to fit the screen

Double-tap the text.

Resize a message manually

Pinch to zoom in or out.

Follow a link

Tap the link. Text links are typically underlined in blue. Many images also have links. A link can take you to a webpage, open a map, dial a phone number, or open a new preaddressed email message. Web, phone, and map links open Safari, Phone, or Maps on iPhone. To return to your email, press the **Home** button and tap **Mail**.

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Published Date: Feb 18, 2012

iPhone: Managing Pop-Ups in Safari

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Many websites have pop-ups — new pages that appear when you didn't intend for them to. Often, pop-ups are advertisements.

To Block or Allow Pop-Ups

From the Home screen choose **Settings** > **Safari**, then turn **Block Pop-ups** on or off.

Blocking pop-ups stops only pop-ups that appear when you close a page or open a page by typing its address. It doesn't block pop-ups that open when you click a link.

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iPhone: Safari Web Settings

This article has been archived and is no longer updated by Apple.

By default, Safari is set to show some of the features of the web, like some movies, animation, and web applications. You may wish to turn off some of these features to help protect your privacy and iPhone from possible security risks on the Internet.

To change security settings

From the Home screen choose **Settings** > **Safari**, then do one of the following:

- To enable or disable JavaScript, turn JavaScript on or off.

  JavaScript lets web programmers control elements of the page—for example, a page that uses JavaScript might display the current date and time or cause a linked page to appear in a new pop-up page.

- To enable or disable plug-ins, turn Plug-ins on or off.

  Plug-ins allow Safari to display certain videos.

- To set whether Safari accepts cookies, tap Accept Cookies and choose "Never", "From visited", or "Always".

  A cookie is a piece of data that a website puts on iPhone so the website can remember you when you visit again. That way, webpages can be customized for you based on information you may have provided.

  Some pages won’t work correctly unless iPhone is set to accept cookies.

- To clear all cookies from Safari, tap Clear Cookies.

- To clear the browser cache, tap Clear Cache.

  The browser cache stores the content of pages so the pages open faster the next time you visit them. If a page you open isn’t showing new content, clearing the cache may help.

Published Date: Feb 18, 2012

iPhone: Using Bookmarks

This article has been archived and is no longer updated by Apple.

You can bookmark webpages, so you can quickly return to them at any time without having to type the address.

To Bookmark a webpage

Open the page and tap . Then tap **Add Bookmark**.

Before you save a bookmark you can edit its title or choose where to save it. By default, the bookmark is saved in the top-level Bookmarks folder. Tap **Bookmarks** to choose another folder.

To open a bookmarked webpage

Tap , then choose a bookmark or tap a folder to see the bookmarks inside.

To edit a bookmark or bookmark folder

Tap , choose the folder that has the bookmark or folder you want to edit, and tap **Edit**. Then do one of the following:

- To make a new folder, tap **New Folder**.
- To delete a bookmark or folder, tap next to the bookmark or folder.
- To reposition a bookmark or folder, drag next to the item you want to move.
- To edit a bookmark's or folder's name or address, or to put it in a different folder, tap the bookmark or folder.

When you finish, tap **Done**.

To sync Bookmarks

If you use Safari on the Mac, Safari for Windows, or Internet Explorer on the PC you can sync bookmarks on iPhone with bookmarks on your computer.

Sync bookmarks between iPhone and your computer

Connect iPhone to your computer. If bookmarks are set to be synced, the sync begins. Refer to the article Syncing iPhone and iPod touch with your computer for more information about setting up your computer to sync with your iPhone.

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iPhone: Clearing Browser Cache

This article has been archived and is no longer updated by Apple.

The browser cache stores the content of pages so the pages open faster the next time you visit them. If a page you open isn't showing new content, clearing the cache may help.

To clear the browser cache

From the Home screen, choose **Settings** > **Safari**. Tap **Clear Cache.**
Published Date: Feb 18, 2012

iPhone: Safari Basic Features

This article has been archived and is no longer updated by Apple.

Safari lets you see web pages just as they were designed to be seen in computer-based browsers. A simple double-tap lets you zoom in or rotate iPhone sideways for a wider view, go here to learn more. Search using Google or Yahoo! — both are built-in.

Navigating Webpages

Tap the address field at the top of the screen, type the web address — apple.com or www.google.com, for example — and tap **Go**. If you don't see the address field, tap the status bar at the top of the screen.

As you type, any web address in your bookmarks or history list that contains those letters appears below. Tap a web address to go to its webpage.

To erase all the text in the address field

Tap the address field, then tap .

To follow a link on a webpage

Tap the link.

Text links are typically underlined in blue. Many images also have links. A link can take you to another place on the web, open a map, call a phone number, or open a new preaddressed email.

Email, phone number, and address links open Mail, Phone, or Maps on iPhone. To return to Safari, press the Home button and tap Safari.

If a link leads to a sound or movie file supported by iPhone, Safari plays the sound or movie.

To	Do this
See the link's destination address	Touch and hold the link. The address pops up next to your finger. You can touch and hold an image to check whether it has a link.
Stop a page from loading if you change your mind	Tap .
Reload a webpage	Tap .
Return to the previous or next webpage	Tap or in the navigation bar at the bottom of the screen.
Return to any of the last several webpages you've visited	Tap and tap **History**. To clear the history list, tap **Clear**.
Send a webpage address over email	Tap and tap "Mail Link to this Page." You must have an email account set up on iPhone.

Opening Multiple Pages at Once

You can have more than one webpage open at a time. Some links automatically open a new page instead of replacing the current one.

The number inside the pages icon at the bottom of the screen shows how many pages are open. If there's no number inside, just one page is open.

For example:

means one page is open.

means three pages are open.

To open a new page

Tap and tap **New Page**.

See all open pages and go to another page that's open

Tap and flick left or right. When you get to the page you want, tap it.

To close a page

Tap and tap . You can't close a page if it's the only one that's open.

Typing in Text Fields

Some webpages have forms or text fields you can enter information in.

Bring up the keyboard

Tap inside a text field.

Move to other text fields on the page

Tap another text field. Or tap the Next or Previous button.

Submit the form

Once you finish filling out the text fields on the page, tap **Go** or **Search**. Most pages also have a link you can tap to submit the form.

Dismiss the keyboard without submitting the form

Tap **Done**.

Adding Safari Web Clips to the Home Screen

You can add Web Clips for your favorite websites to the Home screen for fast access. Web Clips appear as icons, which you can arrange however you want on the Home screen.

Add a Web Clip to the Home screen

Open the page and tap . Then tap "Add to Home Screen."

Web Clips remember the displayed portion—the zoom level and location—of webpages. When you open a Web Clip, Safari automatically zooms and scrolls to that portion of the webpage again. The displayed portion is also used to create the icon for the Web Clip on the Home screen.

Before you add a Web Clip, you can edit its name. If the name is too long (more than about 10 characters), it may appear abbreviated on the Home screen.

Delete a Web Clip from the Home screen

1. Touch and hold any Home screen icon until the icons begin to wiggle.
2. Tap the "x" in the corner of the Web Clip you want to delete.
3. Tap Delete, then press the Home button to save your arrangement.

Searching the Web

By default, Safari searches using Google. You can set it to search using Yahoo!, instead.

Search for anything on the web

1. Tap to go to the Google search field.
2. Type a word or phrase that describes what you're looking for, then tap **Google**.
3. Tap a link in the list of search results to open a webpage.

Set Safari to search using Yahoo!

- From the Home screen choose **Settings** > **Safari** > **Search Engine**, then choose Yahoo!.

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iPhone: Zooming In to Enlarge Part of a Webpage

This article has been archived and is no longer updated by Apple.

Safari lets you see web pages just as they were designed to be seen in computer-based browsers. A simple double tap lets you zoom in and rotate iPhone sideways for a wider view. Go here to learn more about Safari Basic features.

View a webpage in widescreen orientation

Rotate iPhone sideways. Safari automatically reorients and expands the page.

Resize any column to fit the screen

Double-tap the column. The column expands, so you can read it more easily.

Double-tap again to zoom back out.

Zoom in on part of a webpage

Double-tap the part of the page you want to zoom in on. Double-tap again to zoom out.

Zoom in or out manually

Pinch to zoom in or out.

Scroll around the page

Drag up, down, or sideways. When scrolling, you can touch and drag anywhere on the page without activating any links. If you tap a link, you follow the link, but if you drag a link, the page scrolls.

Scroll within a frame on a webpage

Use two fingers to scroll within a frame on a webpage. Use one finger to scroll the entire webpage.

Jump to the top of a webpage

Tap the status bar at the top of the iPhone screen.

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AppleLine and IBM 3174 Controller Upgrade

This article has been archived and is no longer updated by Apple.

IBM has recently upgraded the microcode for IBM 3174 controllers. Versions 3.0 and 3.1 allow command chaining, an enhancement for the 3174's that increases throughput.

The increase in speed has caused a problem with the timing within AppleLine. This problem appears as half displayed screens. The effect is not dramatic, but it is a nuisance. To refresh the screen, type Control-C.

Apple is studying compatibility between AppleLine and the new 3174 controller code.

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iPhone: Managing Cookies in Safari

This article has been archived and is no longer updated by Apple.

A cookie is a piece of data that a website puts on iPhone so the website can remember you when you visit again. That way, webpages can be customized for you based on information you may have provided.

Tip: Some pages won't work correctly unless iPhone is set to accept cookies.

To set whether Safari accepts cookies

1. From the Home screen, choose **Settings** > **Safari**.
2. Tap **Accept Cookies** and choose "Never," "From visited," or "Always."

To clear all cookies from Safari

1. From the Home screen, choose **Settings** > **Safari**.
2. Tap **Clear Cookies**.

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LaserWriter 8500: Paper jams using larger paper

When I try to print on larger paper sizes such as 13" X 18.5" 28lb paper my LaserWriter 8500 sometimes doesn't pick up the paper out of the cassette tray. What steps can I take to ensure that the paper is picked up reliably?

This article has been archived and is no longer updated by Apple.

When printing on larger paper sizes such as 13" X 18.5" 28lb paper from the cassette tray, it is recommended that the cassette tray only be filled half way with paper. This will improve cassette tray paper feeding reliability.

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iPhone: Using Text Messages (SMS)

This article has been archived and is no longer updated by Apple.

You can send and receive text messages anytime you're in range of the cell network. If you can make a call, you can send a text message. All iPhone plans include a certain number of free text messages. Depending on your phone plan, you may be charged for additional message you send or receive.

You can send text messages to anyone with an SMS-capable phone. The recipient is notified of the message and can read it and reply at any time.You can also send text messages to multiple people at the same time.

Send a new text message

Tap , then enter a phone number or name, or tap and choose a contact from your contacts list. Type a message and tap **Send**.

The Text button on the Home screen shows the total number of unread text messages you have.

As you text back and forth with a person over time, your conversation is saved in the Text Messages list. Conversations that contain unread messages have a blue dot next to them. Tap a name in the list to see or add to that conversation.

Send a text message to multiple people

Tap , then add people one at a time. If you enter a phone number manually (instead of selecting it from Contacts), you must tap Return before entering another entry.

Note: Replies from any of the recipients are sent only to you; the other people you texted won't see anyone else's reply.

Reply to a text message or send one to someone you've texted before

Tap a name or phone number in the Text Messages list, then type a message and tap **Send**.

Delete a conversation from the Text Messages list

Tap **Edit**, then tap next to a conversation and tap **Delete**.

You can also delete a conversation by swiping left or right over a conversation and tapping **Delete**.

Send a text message to someone in your favorites list or to a recent caller

From the Home screen tap **Phone**, then tap **Favorites** or **Recents**. Tap next to a name or number and tap **Text Message**.

Call or email someone you've texted

Tap a message in the Text Messages list. Scroll to the top of the conversation and tap **Call** to call the person. Tap **Contact Info**, then tap an email address to send an email. The person's email address must already be in your contacts list.

Follow a link in a message

Tap the link. Tap a web address to open a webpage in Safari, a phone number to make a call, an email address to open a preaddressed email in Mail, or a street address to see a map in Maps. To return to your text messages, press the **Home** button and tap **Text**.

Add information in a link to a contact, or see the contact information of the person associated with the link

Tap next to the message.

Add someone you've texted to your contacts list

Tap a name or phone number in the Text Messages list, then tap "Add to Contacts."

Set whether iPhone makes an alert sound when you get a text message

From the Home screen choose **Settings** > **Sounds**, then turn **New Text Message** on or off.

If the Ring/Silent switch is off, iPhone won't make alert sounds even if they're turned on in Settings.

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iPhone: About Gmail and Recent Mode

This article has been archived and is no longer updated by Apple.

This article applies to iPhone Software 1.1.2 or earlier, which used POP as the default Gmail setting. With iPhone Software 1.1.3 or later, Gmail uses IMAP and there is no Recent Mode feature and there isn't a 30 day limit of Gmail viewable on iPhone.

Gmail is one of the email services that work with iPhone.

When sending Gmail from iPhone, the sent message will show up as a new message in your iPhone Inbox as if you have cc'ed yourself. If you don't want this behavior, try turning "Use Recent Mode" off.

Also note that only the last 30 days worth of Gmail will be viewable on iPhone. If you have an unread message older than 30 days that you want to read, try turning "Use Recent Mode" off.

To turn Recent Mode off, tap **Settings > Mail > Your Gmail account name > Advanced**, and turn off "Use Recent Mode."

For more information on Recent Mode, see this Gmail Help Center article:
Configuring your email client: iPhone

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Mac OS X Server 1.x: Adjusting Memory Allocated in MacOS.app

How can I adjust the amount of virtual memory Finder uses?
This article has been archived and is no longer updated by Apple.
You do not need to adjust the memory. Unlike its spiritual antecedent, the Macintosh Application Environment for UNIX, the Finder in MacOS.app is allocated memory by Mac OS X Server's virtual memory; RAM is handed out on demand, so there are no defaults to be changed.
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Mac OS X Server: Are Serial Ports or LocalTalk Supported?

Does Mac OS X Server support serial ports or LocalTalk?
This article has been archived and is no longer updated by Apple.
The initial version of Mac OS X Server does not support serial ports or modems.

There are no plans to provide LocalTalk functionality in Mac OS X Server.
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iPhone: What‘s Inside the Box

This article has been archived and is no longer updated by Apple.

This article explains what's inside the iPhone retail box. Go here for an overview of iPhone.

Item	What you can do with it
Stereo headset	Listen to the music, videos, and phone calls. Use the built-in microphone to talk. Click the mic button to answer or end a call. When listening to iPod, click the button once to play or pause a song, or click twice quickly to skip to the next track.
Dock	Connect the dock to your computer or to the power adapter using the included cable, then set iPhone in the dock so it stands upright as it charges or syncs. Connect external speakers to the line out port on the back of the dock using an audio cable that has a standard 3.5 millimeter stereo miniplug.
Dock connector to USB cable	Use the cable to connect iPhone to your computer to sync and charge, or to the power adapter to charge. The cable can be used with the dock or plugged directly into iPhone.
USB power adapter	Connect the power adapter to iPhone using the included cable, then plug it into a standard power outlet to charge iPhone.
Polishing cloth	Wipe the iPhone screen.
SMS eject tool	Eject the SIM card (tool not included with iPhone in all countries).

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Mac OS X Server 1.x: What is MacOS.app?

What is MacOS.app, or "the Blue Box?"
This article has been archived and is no longer updated by Apple.
MacOS.app is a high-performance, very high compatibility environment for running Mac OS software with the Mac OS X Server operating system. Very high compatibility is achieved by running Mac OS essentially unchanged in a virtual environment which appears to be a new Macintosh hardware model. Because of this, the vast majority of Mac OS applications, utilities, extensions and software drivers just work. The only software not expected to work is that which directly accesses hardware, uses undocumented internal APIs of Mac OS (such as the internals of Virtual Memory), or relies on Mac OS managers not yet supported by this release.

This release of MacOS.app comes with Mac OS 8.5.1 and is also expected to support future versions of the Mac OS. Previous versions of Mac OS are not supported.

The first time you launch MacOS.app, a private Mac OS 8.5.1 startup disk image (called StartupDisk.img) will be created. The language of the image will be selected based on the Localization settings from the Preferences application and the MacOS.app languages that have been installed. The selected image will be copied and uncompressed into /Local/Library/MacOS/Users/. This process will take a little time and is accompanied by a dialog box with a progress bar. At the end of creating the startup disk image, a virtual PRAM file called "PRAM" will also be created in the same directory.

Release notes for MacOS.app are in /System/Documentation/Readme/MacOS.html and contain excellent information on features, compatibility and known issues.

MacOS.app is designed to be very responsive. The tradeoff to this is that it may cause the performance of other services to degrade. MacOS.app is not meant to run Mac OS server programs at the same time.

Choosing Shut Down from Mac OS 8.5 Finder's Special menu will quit MacOS.app. Similarly, choosing Restart will quit and re-launch MacOS.app. You may also use the Power key, which will bring up the standard Mac OS "Shut Down / Restart" dialog box.

To switch between the Mac OS and Mac OS X Server environments, use the Application menu at the far right of the menu bar. In both MacOS.app and Mac OS X Server, this menu has been extended to list all applications running in both environments, grouped by environment. If you choose an application that is running in the other environment, you will be switched to that environment and the selected application will be activated.

There is a special item in the application menu of each environment that will switch you to the other environment and bring you back to the last application you were using in that environment. That item is called "Mac OS X Server" in the Mac OS environment and "MacOS" in the Mac OS X Server environment.

The following special keys combinations are available when you are in the Mac OS environment, and supersede any Mac OS use of these key combinations:

- Command-Return is a shortcut for choosing "Mac OS X Server" from the application menu. Since this may interfere with some applications that use this combination of keys, you may disable it, as discussed under "User Input" in the "Bugs and Compatibility Issues" section.
- Command-Shift-Q will force-quit MacOS.app. This would be equivalent to pulling the power plug out of the wall on native Mac OS and should only be used when Mac OS is hung.
- All other Mac OS special keys (e.g., Command-Power for NMI - to enter MacsBug) function as expected.

System Requirements

The minimum recommended RAM for running Mac OS X Server with MacOS.app is 48 MB.

Each user running MacOS.app on the computer will require a minimum of 175 MB of disk space for the Mac OS 8.5.1 startup disk image.

To manipulate disk images in Mac OS X Server, you must use a command line utility called createimage, located in /usr/bin/createimage. For more information, see the topic "Working with Disk Image Files" in the Mac OS Release Notes (/System/Documentation/ReadMe/MacOS.html)

Networking

MacOS.app supports Open Transport AppleTalk and TCP/IP networking using built-in Ethernet and any PCI Ethernet devices supported by Mac OS X Server. LocalTalk (AppleTalk over serial ports) is not supported. As with native Mac OS, AppleTalk networking is active by default if connected to a network.

AppleShare Client as well as Personal File Sharing, AppleShare Server and AppleShare IP Server are fully supported by MacOS.app. Personal Web Sharing is also supported.

TA38629_Mac_OS_X_Server_x_What_is_MacOSapp.pdf

Since Mac OS 8 uses a different networking model than Mac OS X Server (Open Transport vs. Sockets), you must use a separate IP address for MacOS.app TCP/IP from that used by Mac OS X Server. This is best accomplished by using a static IP address in the TCP/IP control panel (or by using MacIP - IP over AppleTalk).

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iPhone: Advanced Mail Settings revert to previous values

This article has been archived and is no longer updated by Apple.

Issue

After changing the "Authentication" or "Delete from server" settings in **Settings > Mail > [email account] > Advanced** and then pressing the Home button, these settings may revert to their previous values.

Solution

Use iTunes to update iPhone software to version 1.1.1 or later.

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iPhone email settings for common Internet Service Providers (ISPs)

This article has been archived and is no longer updated by Apple.

This document has been replaced by the iPhone Mail Setup Assistant located here:
http://www.apple.com/support/iphone/mailhelper/

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iPhone can‘t access Yahoo! Mail when non-alphanumeric characters are used in the account password

This article has been archived and is no longer updated by Apple.

Symptom

Some customers may see the following error message when setting up or checking Yahoo! Mail on iPhone:

"Cannot Get Mail. The user name or password for "imap.apple.mail.yahoo.com" is incorrect"

In some cases this maybe be caused by the use of non-alphanumeric characters in the password for the Yahoo! account.

Solution

Follow these steps to resolve this issue:

1. Log into Yahoo! Mail on the web by visiting mail.yahoo.com.
2. If you were able to sign into web mail, verify that the same username and password are being used on the iPhone.
3. If iPhone is still unable to access Yahoo! Mail, change your Yahoo! password on the web (when logged into Yahoo! Mail, click Options and then click Account information). Be sure to use only letters and numbers in your new password.
4. After this is complete, setup Yahoo! Mail on iPhone using the new password.

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Macintosh II Screen And NTSC Video Camera Synchronization

This article discusses methods of synchronizing video camera output with the Macintosh II screen. Read the entire article, including warnings, before attempting any of the procedures described.

There is another article that desbribes VideoSync, a software product from Apple which may be a solution as well. Search under "VideoSync" for more info.

This article has been archived and is no longer updated by Apple.
Some video boards currently provide NTSC output. However, these conversions do not solve the problem of screen flicker that a camera records. The problem is inherent in NTSC and PAL standards, because they impose limitations based on screen resolutions and display rates.

Screen flicker, as recorded by video cameras, occurs because the scan rates of NTSC and PAL video cameras are slower than the scan rates of high resolution RGB monitors like the Macintosh II monitor. PAL rates of 50 Hz make the flickering image worse.

RESETTING TO RS-170 MODE

Parameters on the Macintosh II video card can be set for an RS-170 mode. RS-170 is an interlaced 59.97 Hz signal. While the board is capable of a 60 Hz RS-170 Mode (nearer to the NTSC rate), the problem of screen refresh remains. At the 60 Hz setting, the card operates an interlace scan that causes fields to be updated at 30 Hz (because of the odd and even retrace of lines that occurs in 60 Hz interlace mode). This produces an NTSC signal on the green pin without the color burst (black and white video). This signal is not compatible with Apple High Resolution Monitors, but can be viewed in color from a MultiSync monitor or an Apple Color RGB monitor when the red, green, and blue video lines are connected.

ANOTHER SOLUTION

Because of the extended retrace time of 60Hz interlace, the phosphor decay rate of most monitors causes the phosphors to "turn off" long before the phosphor is rescanned. This causes flickering. To correct this, do either of two things:

- Use high persistence phosphors (Princeton Graphics and Commodore carry long persistence phosphor displays).

- Set the video card to display 60 Hz non-interlace (progressive scan). This cannot be done through software. It is possible only by a hardware modification to the card.

THE MODIFICATION

NOTE: For those lacking the technical resources for this modification, TVA Production Services provides a computer synchronization service. TVA has been synching computers since 1983 and has the experience necessary to successfully synchronize your computer.

You will need a new pixel clock (to replace the 30.24 Mhz clock on the video card) or an external pixel clock generator. If you have a variable clock generator, you can probably do the necessary slowing of the video signal. Simply remove the oscillator from the card and substitute your pixel clock signal.

However, this will not synchronize the camera to the screen. As a

result, a visible horizontal retrace line might appear from the offset of the two timings. The best method is to use an external adjustable clock and "tune" it to move the retrace line off the screen. Finally, reset to the proper clock timing.

You may have noticed that a clock is not the same as the sync. The clock is the master timing device that controls each pixel period and all timing parameters--including vertical and horizontal scans. The vertical sync is normally 66.67 Hz and the horizontal sync is 35Khz on a Macintosh II video card. A 59.94 Hz non-interlaced screen for the Macintosh II video needs an oscillator (pixel clock) of 27.188807 Mhz.

If you do not want to remove the clock, do two things. First, ground pin 14 of the J3 connector on the card (pins 1,2,3,5,7,9, and 11 of J3 are grounds). Second, connect the external clock to pin 4 of the J3 connector. This will cause the external clock to be selected over the Macintosh II video card's 30.24 Mhz oscillator. Most signal synthesizers provide a BNC signal function-out connector.

Note: The J3 connector is not the external port but a connector on the video card. Usually, it is located under the serial number sticker.

The generator must be on for the video card to function. Set the waveform for a 5-volt square wave at 27.188807 MHz. This method also voids your warranty. The pinouts and signal descriptions of the Macintosh II Video Card are in the article, "Macintosh II Video Signals."

On an Apple High Resolution RGB Monitor, using a 27.188807 MHz clock, the video locks at 59.94 Hz, but still needs to be adjusted for horizontal sync.

WARNING: This technique voids any warranty on the monitor and may result in damage to the monitor and even physical injury to an untrained technician.

To make this adjustment, tune the H-Hold pot on the main logic board of the monitor. If the display fails to black, it is probably because the H-Hold pot is out of adjustment.

Note: RasterOps makes a video board which can accomplish this as well.

To locate a vendor's address and phone numbers, use the vendor name as a search string.

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AppleScript 1.3.1: Common Support Questions

This article provides answers to some of the most common AppleScript questions listed below.

What is AppleScript?
What are the new features in AppleScript 1.3?
How can I tell if an application is scriptable?
How can I tell if an application is recordable?
Certain Finder operations aren't scriptable; what options do I have?
How can I tell if AppleScript is properly installed?
I can't get my script to work. How can I troubleshoot it?
What's the best way to learn AppleScript?
Where can I get more help with AppleScript in general?
Where can I get help with one specific scripting problem I'm having in AppleScript?
This article has been archived and is no longer updated by Apple.

Question: What is AppleScript?

Answer: AppleScript is an object-oriented script language built into the Macintosh Operating System, which lets you send commands or messages, called Apple Events, to applications. Using a natural, English-like syntax, users can create scripts to automate complex and/or repetitive tasks, or simplify desktop and network administration.

Applications that support AppleScript are said to be scriptable. Some applications, such as the Finder, are also recordable, which means you can create a script by manually performing and recording actions within that application. Still other applications are said to be attachable, which means that you can attach scripts to application components, such as menus.

The Script Editor, which is installed with the Mac OS, is a utility that enables users to create and compile scripts, or save them as applications (called applets). The Script Editor also lets you record actions performed in recordable applications; the resulting script can then be edited, and saved as either a compiled script or an application.

Question: What are the new features in AppleScript 1.3?

Answer: AppleScript 1.3, included with Mac OS 8.5, has been completely rewritten in native Power PC code. As a result, scripts may run up to 5 times faster than before.

Other important improvements include:

- More Finder components are scriptable (ColorSync, Application Switching, Network Setup, Apple System Profiler, Appearance control panel, Apple Menu Options, File Exchange, Location Manager, Help Viewer, Desktop Printing, Disk First Aid)
- Many commands have been enhanced and features added, such as unit conversions (feet to meters), a delay command, a "give up after x seconds" parameter for display dialog.
- More Scripting Additions included, and some that previously shipped as separate components have been combined into one, now called "Standard Scripting Addition"
- A new scripts folder is created within the System Folder as a stable location for scripts
- ability to attach scripts to folders ("Folder Actions")
- a Help Guide that provides descriptions of command syntax and examples of their use.
- See the Help Guide section entitled "What's New in AppleScript" to get more details on all the new features of 1.3.

Question: How can I tell if an application is scriptable?

Answer: Any scriptable application or software components (such as control panels or scripting additions) will have a dictionary which contains a list of commands and objects that the application understands, along with a brief description of syntax and parameters. To see if an application has a dictionary, you can try either of the following steps:

- drag and drop the application over the Script Editor utility; if it contains a dictionary, the Script Editor will open and display it.
- Open the Script Editor and use the Open Dictionary command (under File) to navigate to the folder which contains your application. Applications and software components that have a dictionary will be visible in the Open dialog box. If you do not see your application in this dialog box, it is not scriptable.

Question: How can I tell if an application is recordable?

Answer: To tell if an application is recordable, open the Script Editor, and hit the record button. Then switch to your application and perform some actions. For example, in the Finder (which is recordable), you might create a new folder, give it a name, move it to another location. After performing your actions, return to the Script Editor and select stop [recording] button. If the application is scriptable, you will see the commands you performed entered in the Script Editor window.

Question: Certain Finder operations aren't scriptable; what options do I have?

Answer: First, when scripting the Finder, its a good idea to open the Finder dictionary (choose Open Dictionary in Script Editor, then navigate to the Finder) to view what types of commands and objects it understands. Many control panels will have their own dictionary as well, but not all are scriptable. Here are some workarounds that may help you if you need to perform an action on a software component that is not scriptable:

- Look for a Scripting Addition (aka OSAX). Scripting Additions are like system extensions, in that they add functionality. Some scripting additions are included with AppleScript to provide functionality not in the OS, such as the display dialog function, which allows you to create a dialog box to be presented to the user. Another allows you to set monitor depth (the Monitor & Sounds Control Panel is not scriptable). Explore the scripting additions that are installed as part of AppleScript by reviewing their dictionaries and experimenting with them.

Other Scripting Additions can be found on the Internet; most are freeware and include a read me file of some sort that describes their use. Also, you can open their dictionaries to learn how to use them. See the question below about getting more help with AppleScript for web sites where you can browse for scripting additions.

- Certain macro-making utilities, such as QuicKeys, are also scriptable. You may be able to record the actions you want to occur in QuicKeys, and then call that QuicKeys script from your AppleScript.

Question: How can I tell if AppleScript is properly installed?

Answer: Try using one of the Automated Tasks from under the Apple Menu. Automated tasks are applescripts provided by Apple and installed with the Mac OS. To see if Applescript is working on your machine, you can select a file or folder on your hard disk, and then select the Automated Task "Add an alias to Apple Menu". If this task is successfully completed, then you know AppleScript is working on your machine.

Question: I can't get my script to work. How can I troubleshoot it?

Answer: Here are some tips to help you troubleshoot problems you may have when creating your own scripts:

- If using AppleScript 1.3 which ships as part of Mac OS 8.5, consult the Help Guide for examples of command syntax.
- Spelling and punctuation are very important; check your script carefully. Be sure that open quotation marks are closed where they should be. A typographical error may cause a command to be considered a variable, resulting in unexpected results.
- AppleScript considers every new line in your script to be the beginning of a command or statement. If you need to break a long line, using the option-Return key to create a continuation character.
- Be sure your commands directed to a particular application are in an appropriate "tell" statement. For example, if you want to create a new folder, you have to: tell application "Finder" to make new folder.
- Test your scripts in the Script Editor with the Event Log and Result windows open. Set the Event log to both Show Events and Show Event Results. Here you will see the result of the script when it is run, which can help you identify problems.
- If you have problems accessing files or folders, verify the path to that file or folder carefully. If the path is not correct or the folder/file does not exist, you may receive an Access Not Allowed error when trying to access it. Read the section on file references in the Help Guide for assistance.
- Use parentheses in your commands to indicate the order in which actions should take place. In the example "copy (date string of (current date)) to todaysDate":

  - The current date function will be executed first, returning a string of date items.

  - Next, AppleScript will get the date string of that result, and -Finally, the variable todaysDate will be set to that date string.

  Without the parentheses, you'd get an error when you tried this command.
- Substitute real values for variables in your script. Problems can sometimes occur when variables contain data of the wrong type (an integer instead of a string) or are not what you think (full file reference instead of file name). To test for this, substitute the actual value for the variable, as you think it should be, and see if the script works then. If so, then investigate how to get the correct data into your variable.
- Try to isolate the problem code as much as possible. You can either create a new script to perfect the one command you're having problems with, or "comment out" other commands in the script to temporarily keep them out of the picture. You can comment out a line in a script by either placing two dashes (--) at the beginning of the line, or by enclosing the lines within "(*" and "*)". Examples:

  -- this line in a script would be a comment.

(*this paragraph within a script would also be considered a comment.*)

- Use the display dialog command to help you debug your script. This is especially useful if you are trying to debug an applet, and it is impractical to attempt to run the script from the Script Editor. You can use this commands to help you track the execution of script (i.e., display dialog "Now in the repeat loop"), or to display the value of a variable (display dialog "X is now equal to " & x).
- Use "try" statements for error handling. By placing a command within a "try" statement, AppleScript will attempt to execute the command and if it fails, it will continue through the script. See the Help Guide for examples and syntax for the try statement, and to learn how it can help you see errors being generated.

Question: What's the best way to learn AppleScript?

Answer: Regardless of the application you'll be scripting in, most people find that creating your own scripts is easiest when you have some examples to follow. Use the Apple Help Guide to see examples of scripting the Finder. Sometimes it helps to copy the examples EXACTLY, and verify that they work. Then edit them gradually to your own specifications.

When working with third-party applications, check documentation or files installed for examples of scripting that application. You can also check out the company's web site, and search their support databases for guidance.

For a ground-up approach, there are several excellent books on the market that will teach you AppleScript. Look for recently updated editions, as early books did not cover scripting the Finder (because the Finder was not scriptable when AppleScript was first introduced). There are also some excellent resources on the Web, as listed below.

Question: Where can I get more help with AppleScript in general?

Answer: For general help with AppleScript, try these resources:

(http://applescript.apple.com) - Apple's Web Pages for AppleScript:

(http://www.applescriptsourcebook.com) - "The AppleScript Sourcebook" from Bill Cheeseman; includes downloadable scripts, libraries and applets.

(http://lists.apple.com/) - Subscribe to AppleScript Mailing List (or search archives):

(http://developer.apple.com/techpubs/mac/AppleScriptFind/AppleScriptFind-2.html) - AppleScript Finder Guide, online.

Question: Where can I get help with one specific scripting problem I'm having in AppleScript?

Answer: Apple Technical Support only offers "up-and-running" support with scripting; they can assist you if AppleScript doesn't seem to be working at all, either because it is not installed properly, or some other condition is causing it to fail. But Apple, and most other software companies, do not offer free assistance to users attempting to write their own scripts. There are other resources for this type of assistance, however:

- the AppleScript mailing list (http://lists.apple.com/) a discussion group which communicates via email to exchange help and ideas with other scripters

- Apple Discussion about AppleScript, a Web-based discussion area for users to help users, is available at (http://discussions.info.apple.com/webx?.ee6ba86).

Both of these resources involve users helping users. For best results, when composing your question, be sure to include:

- Specifically what you're trying to do.
- What application you're scripting (include version).
- If possible, the script itself or a portion of the script that shows the commands and syntax you're using.
- What happens when you run the script/how does it fail?

  Does it fail to compile?

  Does it get to a certain point and fail?

  Do you see errors in a dialog box or in the Event log?)

The more detailed you are, the easier it will be for others to offer suggestions that may help solve the problem.

TA38637_AppleScript_Common_Support_Questions.pdf

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Mac OS Extended (HFS Plus): Erase Disk Compared With Initialize

This article compares the Erase Disk... command with initialization of a disk as they relate to the Mac OS Extended format.
This article has been archived and is no longer updated by Apple.
Drive Setup performs other routines that Erase disk does not. Erase disk will only initialize the Partition selected. Drive Setup Initialize will reset the Boot Block and Partition Map as well as the Partition(s) selected. **Note:** Drive Setup Initialize will erase the entire hard disk. A single partition can not be selected for initialization.

If you are using third party hard disk software, and you wish to use Mac OS Extended format, please consult the utility's documentation, or contact the vendor for compatibility information regarding Mac OS Extended format.

The Knowledge Base article 17159: "**Locating Vendor Information**" can help you search for a particular vendor's address and phone number.
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iPhone: About General Settings

This article has been archived and is no longer updated by Apple.

Brightness

Screen brightness affects battery life. Dim the screen to extend the time before you need to recharge iPhone. Or use Auto-Brightness, which is designed to conserve battery life.

Adjust the screen brightness

Choose **Brightness** and drag the slider.

Set whether iPhone adjusts screen brightness automatically

Choose **Brightness** and turn **Auto-Brightness** on or off. If **Auto-Brightness** is on, iPhone adjusts the screen brightness for current light conditions.

Wallpaper

You see a wallpaper background picture when you unlock iPhone or when you've on a call with someone you don't have a photo for.

Choose **Wallpaper** and choose a picture.

Date and Time

These settings apply to the time shown in the status bar at the top of the screen, world clocks, and calendar.

Set whether iPhone shows 24-hour time or 12-hour time

Choose **General** > **Date & Time** and turn **24-Hour Time** on or off.

Set whether iPhone sets the date and time automatically

Choose **General** > **Date & Time** and turn **Set Automatically** on or off.

If iPhone is set to update the time automatically, it gets the correct time over the cell network, and updates it for the time zone you're in.

Set the time manually

Choose **General** > **Date & Time** and turn **Set Automatically** off. Then enter a time zone, date, and time.

Turn on Calendar time zone support

Choose **General** > **Date & Time** and turn **Time Zone Support** on. When **Time Zone Support** is on, Calendar displays event dates and times in the time zone set for your calendars. When **Time Zone Support** is off, Calendar displays events in the time zone of your current location.

Auto-Lock

Locking iPhone turns off the display. Nothing happens if you touch the screen. You can still receive calls and text messages, an you can adjust the volume and use the mic button on the iPhone Stereo headset when listening to music or on a call.

Set the amount of time before iPhone locks

Choose **General** > **Auto-Lock** and choose a time.

Passcode Lock

By default, iPhone doesn't require you to enter a passcode to unlock it.

Set a passcode

Choose **General** > **Passcode Lock** and enter a 4-digit passcode. iPhone then requires you to enter the passcode to unlock it.

Turn passcode lock off or change the passcode

Choose **General** > **Passcode Lock** and tap **Turn Passcode Off** or **Change Passcode**, then enter the current passcode.

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Power Macintosh 4400: Mac OS 8.1 Installation Issue

After installing Mac OS 8.1 on my Power Macintosh 4400, the system hangs at the happy Mac. However, the system will boot if I have a bootable CD-ROM in the drive. What is wrong?
This article has been archived and is no longer updated by Apple.
This behavior also occurs on the Power Macintosh 7220 and some third party Mac OS-compatible computers. It can be resolved on any of these computers by installing the Power Macintosh 4400 Update.

This update is available online at Apple's software updates sites. For more information about the update, please see the following Tech Info Library article:

Article 30720: "**Power Macintosh 4400 Update: Read Me**"

This article can help you locate the software update mentioned here:

- Article 14724: "**Where To Find Apple Software Updates**" - Lists online services for free Apple software updates.

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iPhone Bluetooth Headset

This article has been archived and is no longer updated by Apple.

You can talk on iPhone hands-free using the optional iPhone Bluetooth Headset.

Using the iPhone Bluetooth Headset

The iPhone Bluetooth Headset, available separately, is unlike any other Bluetooth headset you've used before. It features autopairing and simple operation. You can pair iPhone with the headset simply by placing iPhone and the headset in the iPhone Dual Dock, which comes with the headset. Pairing sets iPhone to work with only one headset, preventing connections with other headsets.

Pair iPhone with the iPhone Bluetooth Headset

Connect the iPhone Dual Dock to your computer, then place iPhone and the headset in the dock.

The first time you connect the headset, let it charge for about an hour until the status light on the headset turns from amber to green. When iPhone and the headset are both in the dock, iPhone displays the battery level for the headset.

Connect the iPhone Bluetooth Headset with iPhone

Before you can answer or make calls with the headset, the headset must be wirelessly connected to iPhone.

Press the button on the headset.

When the headset is connected, the blue ([icon]) or white ([icon]) Bluetooth icon appears in the iPhone status bar at the top of the screen. (The color of the icon depends on the color of the current status bar.)

Make or answer a call

1. Place the headset in either ear with the microphone pointed towards your mouth.

2. Make a call on iPhone, or press the button on top of the headset to answer an incoming call.

3. When you finish, press the button to end the call.

Adjust the volume

Use the volume buttons on the side of iPhone.

Stop Using a Headset

There are a few ways to stop using a headset and go back to hearing calls through iPhone.

Route calls through iPhone

- Answer a call by tapping the iPhone touchscreen
- During a call, tap **Audio** on iPhone. Choose **iPhone** to hear calls through iPhone, choose **Speaker Phone** to hear calls through the speakerphone, or choose a connected Bluetooth device.
- Turn off Bluetooth.
- Turn off the headset or move out of range. You must be within 30 feet of a Bluetooth device for it to be connected to iPhone.

  To turn off the iPhone Bluetooth Headset, press and hold the button until you hear the falling tones.

Unpairing a Device from iPhone

If you've paired iPhone with a device and want to use another device instead, you must unpair the first device.

Unpair a device from iPhone

1. From the Home screen choose **Settings** > **General** > **Bluetooth**. If Bluetooth isn't on, turn it on.
2. Choose a device and tap **Unpair**.

   Until you pair the device with iPhone again, iPhone doesn't route calls through it.

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PlainTalk Speech Recognition 1.5.x: Which Computers Use It

This article provides compatibility information for PlainTalk Speech Recognition sofware versions 1.5, 1.5.3, and 1.5.4.
This article has been archived and is no longer updated by Apple.

PlainTalk 1.5.4

PlainTalk version 1.5.4, combined with Mac OS 8.6, provides compatibility with the Power Macintosh G3 (Blue and White), iMac, and Power Macintosh G3 with the DVD drive. Refer to the following article for additional information:

Article 60339: "**PlainTalk: Using Speech Recognition 1.5.4**"

PlainTalk 1.5.3

PlainTalk 1.5.3 is included with Mac OS 8.5. It does not include any updates to the limitations defined for PlainTalk 1.5 Speech Recognition.

PlainTalk 1.5

In addition to 16-bit sound quality, PlainTalk Speech Recognition 1.5 requires Power Macintosh computers capable of sound input at 22.050 kHz. The following computers work with only higher quality 44.100 kHz sound input:

- iMac
- Power Macintosh G3 computers with the DVD personality card
- Power Macintosh G3 (Blue and White)

Therefore, PlainTalk 1.5 does not work on the computers listed above. As stated above, newer versions of PlainTalk **do** support these computers.

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Apple Color PhotoGrade Kit: Installation Issues

When I try to install the Apple Color PhotoGrade Kit for my Color StyleWriter 2500, I get the following message:

"The software necessary for color printing is missing from your hard disk. Reinstall the Color StyleWriter 2500 software; then install the PhotoGrade Updated software."

This article has been archived and is no longer updated by Apple.
This may occur under two circumstances:
1) ColorSync is not installed.
2) ColorSync 2.5 or later is installed.

In either case, you need to follow these steps:
1) Install ColorSync 2.1.x, which was included with your Color StyleWriter 2500.
2) Install the Apple Color PhotoGrade Kit.
3) If previously using a later version of ColorSync, reinstall the newer version.

NOTE: Mac OS 8.5 ships with ColorSync 2.5.1. If you are installing the Color PhotoGrade Kit after installing Mac OS 8.5, you need to follow these steps.
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"Mingling data" error message syncing calendar events with iPod touch or iPhone

This article has been archived and is no longer updated by Apple.

Issue or symptom

When syncing calendar data from computer that has empty title field(s) or has non-ASCII characters in the title field to iPod touch or iPhone, the following error message may occur:

> "iTunes could not sync calendars to the iPod because an error occurred while mingling data"

Solution

Use the steps below to help you locate calendar events with blank or empty titles and add a title or delete the calendar event and then resync them back to iPod touch or iPhone. Use the same steps to find titles with non-ASCII characters. If the issue continues after correcting the titles, see the "Replace calendar data" section below.

Use iTunes to update to iPod touch Software 1.1.3 or later or iPhone Software 1.1.3 or later and update to the latest iTunes to prevent this issue from occurring.

Mac OS X

1. Open iCal.
2. Click the list button in the lower right corner of the iCal window.
3. Click the Title field in the results list that appears to sort by title.

Windows Outlook 2007

1. Choose **View > Current View > By Category**.
2. Click the Subject header to sort by subject

Windows Outlook 2003

1. Choose **View > Arrange By > Current View > By Category**.
2. Click the Subject header to sort by subject.

Resync to iPod touch or iPhone

Once the calendar (iCal, Microsoft Outlook Calendar, or other calendar app supported by the iPod touch or iPhone) has been cleaned up, reset the Calendar sync so that calendar data on the computer replaces what's on the device.

1. Connect iPod touch or iPhone and open iTunes.
2. Select the iPod touch or iPhone in the source list.
3. Click the Info tab and scroll down to the Advanced section.
4. Under "Replace information on this iPod," select Calendars.
5. Click Apply.

Replace calendar data

If no calendar event(s) are found to have blank titles/subjects or contain non-ASCII text/characters, the calendar data on the iPhone / iPod touch may need to be replaced. To replace the calendar data on the device with the data from the computer, perform the following steps:
Note: These steps will overwrite the data on the device with the data on the computer—any changes made on the device that had not been successfully synced will be lost.

iTunes for Windows

1. Choose **Edit > Preferences** .
2. Click the iPhone tab.
3. Click "Reset Sync History." A dialog appears to confirm you want to reset the sync history. Click Reset Sync History.
4. If it's selected, deselect the "Disable automatic syncing for all iPhones" checkbox. **Note**: Do this even if you have an iPod touch.
5. Connect the iPhone or iPod touch.
6. Select the device in the iTunes source list.
7. Click the Info tab, and in the Advanced section under "Replace information on this iPhone," select Contacts and Calendars.
8. Click Apply to resync the data, overwriting the data on the iPhone or iPod touch with the data on the computer

If the above steps do not resolve the issue, iTunes may need to be removed and reinstalled.

1. Uninstall iTunes and Apple Mobile Device Support. See this document for assistance.
2. Download and install the most current version of iTunes from www.apple.com/itunes.

iTunes for Macintosh

1. Open iSync from the Applications folder.
2. Choose **iSync > Preferences**.
3. Click "Reset Sync History." A dialog appears to confirm you want to reset the sync history. Click Reset Sync History and then quit iSync.
4. Open iTunes.
5. Choose **iTunes > Preferences**.
6. Click the iPhone tab. If it's selected, deselect the "Disable automatic syncing for all iPhones" option. **Note**: Do this even if you have an iPod touch.
7. Connect the iPhone or iPod touch.
8. Select the device in the iTunes source list.
9. Click the Info tab, and in the Advanced section under "Replace information on this iPhone," select Contacts and Calendars.
10. Click Apply to resync the data, overwriting the data on the iPhone or iPod touch with the data on the computer.

If the above steps do not resolve the issue, please contact AppleCare for additional support.

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Apple FAX Modem: No Background File Transfers Under MultiFinder

Does the AppleFax Modem support background file transfers under MultiFinder?

This article has been archived and is no longer updated by Apple.
The Apple FAX Modem does not support background file transfers when launched under MultiFinder. The FAX software needs to be the foreground application under MultiFinder before files can be sent or received.

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iTunes for Windows Vista: Distorted photos on device after syncing or blue screen error message on computer

This article has been archived and is no longer updated by Apple.

Issue

Windows Vista computers using Serial ATA (SATA) HD controllers may experience unexpected behavior when copying images to iPhone, iPod, or Apple TV. Some images synced from Windows Vista may have color banding or appear visually distorted. You may also see one of the following messages when syncing the image:

- "iTunes cannot copy the photo [photo name] because it cannot be displayed on the iPod."
- "The photos you are syncing cannot be encrypted."
- "Photos are not in an iPhone compatible format."

Additionally, iTunes may unexpectedly quit or become unresponsive or the computer may unexpectedly restart or show a blue screen error.

Solution

Update to iTunes 7.6 or later (which will include the latest version of QuickTime).

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Directory of USB Products Available on the Web

Where can I find information about the USB products available for USB enabled Macintosh computers such as iMac, iBook, and the Power Mac G4?
This article has been archived and is no longer updated by Apple.
Apple has several locations for USB-related information:

- The Macintosh Products Guide has a special USB Products area at http://guide.apple.com/uscategories/usb.html where you can obtain current listings of many USB related products.
- http://www.apple.com/usb explains the advantages of Universal Serial Bus and provides links to a number of other helpful USB-related sites, as well as a search engine for USB products.
- Developers interested in information about USB can visit http://developer.apple.com/dev/usb for more specific information about USB and its incorporation into the Macintosh architecture.

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PowerBook 3400: SerialDMA 2.1 Update Not Supported

I downloaded the SerialDMA 2.1 Update from Apple's web site but when I try to install it on my PowerBook 3400, I get a message saying I don't need it. Yet the instructions that come with it say that PowerBook 3400 owners should install the update. What's the story?
This article has been archived and is no longer updated by Apple.
The SerialDMA 2.1 Update fixes a specific problem with a specific I/O chip. The PowerBook 3400 has a different I/O chip and therefore will not benefit from the fixes that SerialDMA 2.1 Update provides. The instructions accompanying the update are in error in stating that PowerBook 3400 owners should install the update. The installer is correct in telling you that the update isn't required on the PowerBook 3400.

If you are having issues with serial devices connected to your PowerBook 3400 and the symptoms sound similar to those described by the SerialDMA 2.1 Update instructions, please contact the manufacturer of the serial device for information on how to correct the problem. Installing the SerialDMA 2.1 Update will not solve these issues.

The Tech Info Library Article 17159: "**Locating Vendor Information**" can help you search for a particular vendor's address and phone number.
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Macintosh II: Most Paint Programs Need Colors Set To "2 Grays"

On my Macintosh II, I can't get MacPaint, FullPaint, SuperPaint, or other painting programs to work correctly. The menubar disappears, and sometimes the programs don't function at all.

This article has been archived and is no longer updated by Apple.
Try resetting the color or gray scale setting. Go to the Control Panel and select the "Monitors" icon, then set the color to "gray" and the number of gray scales to "2".

If you are still having problems, call the developers of your specific software packages and check on compatibility with your Macintosh and the version of system software you are running. You may need to upgrade your software.

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LocalTalk PC Card: IRQ Issues

The LocalTalk (formerly known as "AppleTalk") PC Card can function only with IRQ (interrupt request priorities) 2, IRQ 3, or IRQ 4.

This article has been archived and is no longer updated by Apple.
Many users of the LocalTalk PC Card have found that if the IBM PC has two serial ports, each serial port uses an IRQ, and that the PC itself uses the third one - leaving none available for the LocalTalk PC Card.

The best solution is to move one of the IRQ lines coming from one of the serial ports (examine the manufacturer's instructions before doing this) to an IRQ number that can't be used by the LocalTalk PC Card - like IRQ 5. Then, the LocalTalk PC Card can use the newly-available IRQ line 2, 3, or 4.

Users who have installed LocalTalk PC cards in IBM PC-ATs find that nearly all of the IBM PC-ATs use both COM1 and COM2. So, using IRQ priority level 4 or 3 is not possible, and they are forced to consider using IRQ2 -- but the LocalTalk PC card manual states: "Do NOT use switch 3 (IRQ2) if you have an IBM PC-AT computer."

Fortunately, if you have AppleShare PC 2.0, this configuration (using IRQ priority level 2) should work fine.

Quoting the README.DOC file on the AppleShare PC disk:

"The 2.0 version of the LocalTalk PC Card driver (AppleTalk.EXE, included on this disk) does not use the card's hardware interrupt feature. This means that the default card settings will not conflict with a COM2 serial port, as your card manual indicates. The 2.0 driver ignores the /cardint command line parameter."

Some users of the LocalTalk PC card have reported problems after installing the card and changing the IRQ (Interrupt Request line). Symptoms have included:

- When printing to "*", the LaserWriter just hangs.

- Selecting a printer causes the "Looking for AppleTalk Zones" to blink forever.

- AppleShare hangs also.

- Inter-Poll can't see anything from the outside.

- Reloading software doesn't help.

- Reducing the number of machines on the network doesn't help.

- Changing LocalTalk PC cards doesn't help.

The key is that you must tell DOS when you change IRQs. To do this, put the command "/cardint=x" in the AUTOEXEC.BAT file of your boot disk, where x is the new IRQ level (either 2 or 4). Check the LocalTalk PC card manual under the subtitle "Driver configuration options" for more information.

Note: The LocalTalk PC Card is now owned, sold, distributed and supported by Farallon Computing. Search under "Farallon" for contact information.

Published Date: Feb 18, 2012

TA38658_LocalTalk_PC_Card_IRQ_Issues_(TIL03067).pdf

At Ease for Workgroups: What‘s in the At Ease Items WG folder

This article covers the main points of interest for the preferences located in the At Ease Items WG folder for At Ease 4.x and 5.x. The list is not meant to be complete or exhaustive, but is merely meant as a guide for troubleshooting.
This article has been archived and is no longer updated by Apple.
The best method for troubleshooting the At Ease Items WG folder is to treat the entire folder as one item and restore from backup when you encounter problems that the consistency check cannot fix. However, if you don't have a reliable backup, or if you need an interim fix, this information will help you troubleshoot the items kept on the server.

At Ease Preferences
Contains general preference information used by the At Ease server. This includes:

- Log settings used when printing log out in Admin app
- All the password settings (e.g., minimum length of password)
- If the user should logout if idle for n minutes
- For panels, names of the applications and document panels (or if user name should be used)
- For older versions (before 4.0), the administrator password and clue was in here
- Welcome Message, Login Message, and Workgroup Message
- The information for mounting the At Ease server (for 4.0 and later)
- If sublaunching is allowed
- If all local CD-ROMs are allowed
- If disk security should be turned on
- If At Ease is saving internet preferences (for 4.0 or later)
- Saved userID of the last administrator that logged in
- Various database flags for how often database is checked, etc
- Login dialog preferred (i.e., does At Ease list all users or prompt users to type in their name)
- If shift key can disable the extensions
- For older versions (before 4.0), the name of the administrator
- For older versions (before 4.0), if At Ease is actually on ; after 4.0 it's always on

In version 4.0, this file also contained the server and printer settings (as described below). In 5.0, this information was moved into its own file.

Users.data
A database of all the users. Each user is assigned an userID. Any workgroups that a user belongs to is stored here, saved by their workgroupID.

Users.idx
An index file to the user database. This file, if trashed, will recreate itself. Note that when a consistency check is run, it deletes this file and recreates it. It does not contain any "data". This file should only be trashed if At Ease can't seem to find users.

Setups.data
A database of all the workgroups. Each workgroup is assigned a unique workgroup ID. If a workgroup contains users, their userIDs will be stored here. Notice that there is a redundant mapping here of workgroups to users, and users to workgroups. This was done for speed.

Setups.idx
The index file for the setups database. The same rules apply here as they did with the Users.idx file.

At Ease Cache
A localized cache of administrators, workgroup administrators, and users. By having this cache, it's faster to get a list (for example) of all the administrators. The administrators cache is stored in memory when At Ease runs.

CDROM Preferences
If the admin is limiting local CD-ROMs, then this file contains:

- Name of the CD-ROM
- Volume modification date of CD-ROM (to uniquely identify this CD-ROM)
- List of items on CD-ROM that are visible - stored as a resource for each CD-ROM

Application Preferences
Contains information only if the Application Preferences dialog has been used to change preference information for a particular application.

At Ease Log
Contains the log entries for At Ease. Each workstation keeps its own log, so the file on the server is a compilation of all the logs, updated when a

workstation is in the login dialog.

New in 5.0

Setup Preferences
New in 5.0, this information was (for 4.0) stored in the At Ease Preferences file.

It contains information for:
- Any server or desktop printer in the Access to Volumes/Printers list will be stored here. Each item also may contain setting information in it (like whether or not print quotas are active, or the login information used on a certain server volume)

-Special Folder information is also kept here.

At Ease Web Preferences
Contains the options you see in the Web Preferences dialog

At Ease eMate Preferences
Contains the preferences you see in the eMate Preferences dialog

Troubleshooting Notes:

- Removing the .idx files shouldn't cause any problems, but running the consistency check will perform the same function.

- The two .data files are the At Ease databases. If you remove the .data files, you've effectively trashed that particular database. If one database becomes corrupt, you can remove just that one .data file, since each database is for the most part standalone. If you do this, be sure to run a consistency check. There would be no links between the databases left, of course.

- Many of the other preferences files are standalone as well, so you could remove one of them, and only affect the particular function that that pref file handles. The main exception is the Setup Preferences, which has a link of the Access to Volumes/Printers and Special Folders information to any workgroup that is using the information.

Note: Pre-5.0, removing the At Ease Preferences file will cause volume/printer information to be lost as well since it was stored here.
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Some items in Outlook may cause calendars to not sync

This article has been archived and is no longer updated by Apple.

Issue or symptom

Calendar event(s) either may not sync to iPhone/iPod touch or OutlookSyncClient.exe may unexpectedly quit when attempting to sync Outlook calendar event(s).

Solution

Update to iTunes 7.5 or later. In Windows, choose **Help > Check for Updates**. In Mac OS X, choose **iTunes > Check for Updates.**

Important: Information about products not manufactured by Apple is provided for information purposes only and does not constitute Apple's recommendation or endorsement. Please contact the vendor for additional information.

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iMac: Memory Control Panel Discrepancy

The Memory control panel reports that Virtual Memory is set to 33M. But if I choose About this Computer from the Apple menu, the dialog box indicates that iMac is using 36.7 MB of virtual memory.

This article has been archived and is no longer updated by Apple.
Both dialog boxes are correct in their own way.

In the Memory control panel, you have the opportunity to set the amount of virtual memory you would like iMac to use. Out of the box, virtual memory is set to 33MB. That is, iMac is set to treat 33MB of existing storage space on the internal 4GB hard drive as random access memory, giving you more memory in which to run applications.

The 33MB reported in the Memory control panel does not, however, account for the 4MB of memory (approximately) required for the Mac OS ROM file. That 3.7 MB of memory is reported in the dialog box that appears when you select About this Computer under the Apple menu. That is, 33MB of virtual memory plus 3.7MB for Mac OS ROM equals 36.7MB.

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Error -48 when restoring iPhone in iTunes

This article has been archived and is no longer updated by Apple.

Issue or symptom

When trying to restore your iPhone in iTunes, you may see the following error message:

> Error -48 itunes unable to download your update at this time check network connection or settings.

Solution

Update to iTunes 7.5 or later. You can also update within iTunes:
Mac: Choose **iTunes > Check for Updates**.
Windows: Choose **Help > Check for Updates**.

If the issue continues or if you are unable to update, continue with the rest of this document.

If you are experiencing this issue when updating an iPhone on a Mac follow the steps below:

1. Go to `~/Library/iTunes/iPhone Software Updates`. In the Finder you can choose **Go > Go to Folder**, type or paste the above pathname, and click Go.
2. Remove all files in the iPhone Software Updates directory.
3. Attempt to restore the iPhone again.

In Windows these will be within a hidden folder. To see these files in Windows Explorer you will need to choose **Tools > Folder Options**, click View, and then select the "View and select Show Hidden Files and Folders" option.

If you are experiencing this issue when updating an iPhone on Windows Vista follow the steps below:

1. Choose **Start > Computer > Local disk** and enter the following:
2. `C:/users/[yourusername]/AppData/Roaming/Apple Computer/iTunes/iPhone Software Updates`
3. Remove all files in the iPhone Software Updates directory.
4. Attempt to restore the iPhone again.

If you are experiencing this issue when updating an iPhone on Windows XP follow the steps below:

1. Choose **Start > Run**, then type `C:/documents and settings/[yourusername]/Application Data/Apple Computer/iTunes/iPhone Software Updates`
2. Remove all files in the iPhone Software Updates directory.
3. Attempt to restore the iPhone again.

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Published Date: Feb 18, 2012

iPhone: Understanding the symbols for Internet connectivity

This article has been archived and is no longer updated by Apple.

Your Internet connectivity can be determined by observing the symbol in the status bar at the top of the screen.

iPhone uses four icons to indicate the type of Internet connectivity:

Icon	Internet connectivity
	The Wi-Fi "broadcast" icon indicates you are currently connected to a Wi-Fi network. The more bars, the stronger the connection. With a Wi-Fi connection, you can take advantage of all of iPhone's Internet dependent features, including the iTunes Wi-Fi Music Store.
	A solid rectangle with an E inside it indicates the iPhone has a high-speed data connection over a GSM network using the EDGE technology. This connection gives you access to most of iPhone's Internet dependent features including Safari, Mail, YouTube and more. The iTunes Wi-Fi Music Store requires a Wi-Fi connection.
	A solid rectangle indicates the iPhone has access to a data connection over a GSM network using GPRS technology. While GPRS connections do not offer the same throughput offered by an EDGE connection, you can still use many of iPhone's Internet dependent features including Safari and Mail. However, YouTube and the iTunes Wi-Fi Music Store are unavailable.
	No symbol at all indicates iPhone does not currently have access to the Internet.

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iPhone: About Billing Address Verification for O2 customers in the UK

This article has been archived and is no longer updated by Apple.

When selecting a tariff and activating iPhone in the United Kingdom, iTunes will need to validate your billing address.

If iTunes is unable to find a match for your address, please check that your address is registered with Royal Mail. If your address isn't registered, perhaps because you live in a new property, you'll need to email your correct name and address to addressmaintenance@royalmail.com requesting it be added to their database (unfortunately, O2 can't do this on your behalf).

Once your address is added to Royal Mail's database, please let O2 know by sending an email to o2address@o2.com. As soon as O2 have updated their systems (usually within 48 hours), you'll be able to restart the activation process.

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Published Date: Feb 18, 2012

ARA 3.0: Maximum Supported Number of Configurations

What is the maximum supported number of configurations in Apple Remote Access 3.0? My computer stops responding after importing around 120 configurations.
This article has been archived and is no longer updated by Apple.
The number of configurations depends on the length of the resource names.

A resource map can only be 32K, and it contains all of the resource names. Resource names are used to store the user visible configuration names. Each entry has a little overhead so the average name length, plus a little overhead, times the number of configurations, must be less than 32K.

If we assume 30 character names, and 10 bytes of overhead, then the limit is 32K / (30 + 10) = 819.2 configurations. Resource names can be as long as 255 characters, so worst case is 32K / (256 + 10) = 123.2 configurations.

Note: Apple recommends not saving more than 120 configurations with ARA 3.0.

Published Date: Feb 18, 2012

LaserWriter: LocalTalk cables vs. Serial cables

I recently upgraded from a Macintosh II to a Power Macintosh G3 computer. I used to print to my Personal LaserWriter NTR with a serial cable just fine, but I cannot do this with my new G3. What can I do?
This article has been archived and is no longer updated by Apple.
You need to use LocalTalk cabling with most AppleTalk compatible Apple printers.

There are a small number of LocalTalk printers that can be connected to a computer via a serial cable. The Personal LaserWriter NTR is not supported with this type of cable.

The following TIL article lists the printers that are supported through a peripheral-8 serial cable:
Tech Info Library Article 7617: "**LaserWriter: Connecting to a Macintosh via Serial Cable**"

The main issue with using a serial cable is the peripheral-8 cable has no mechanism to deal with changes in the signal or to reduce excess noise on the line. Different computers have slight variances in the LocalTalk signal and with improper cabling, the signal can either degrade or reflective noise can cause a loss of signal.

LocalTalk cabling provides the proper impedance level for the LocalTalk signal as well as termination to prevent the signal from reflecting excess noise.

Apple has several LocalTalk cabling kits that can be ordered from an Apple Authorized Reseller.
M1657Z/A is a LocalTalk adapter with RJ-11 type connectors. It comes with a 2-meter cable and a terminator.
M2068LL/B is a LocalTalk adapter with mini-3 connectors and a 2-meter cable.
M2066LL/B is the same as M2068LL/B but with a 10-meter cable.

Other companies offer connectors similar to ours with the RJ-11 type connectors. You can try searching the Mac OS Software & Hardware Guide for these at: "**http://www.macsoftware.apple.com**"

Also see the following article for a separate issue with the LocalTalk PCI extension on some Power Macintosh computers that can keep the printer from being selected in the Chooser.

Tech Info Library Article 7617: "**LocalTalk PCI Extension: LocalTalk Printing Issues**"
Published Date: Feb 18, 2012

AppleShare IP Web & File Admin: Error Opening

AppleShare IP Web & File Admin gives the following error when launching: The document "AppleShare IP Web & File Admin" could not be opened. The editor "AppleShare IP:OpenAdminRoot" is not installed, and no installed editor can edit this part's content. No translations are available for this data."
This article has been archived and is no longer updated by Apple.
This error is often due to some OpenDoc parts being missing or damaged.

Open the System Folder, then open the Editors folder, then open the "AppleShare IP Admin Libraries" folder. Inside that folder should be two items, "AppleShare IP Admin Editors" and "AppleShare IP Admin Lib". If one or both of these files are missing, then run the AppleShare IP Installer and then verify that they are there.

Figure 1, Contents of "AppleShare IP Admin Libraries" folder.

If it persists, stop the AppleShare IP Servers, pull the OpenDoc prefs from the Preferences folder, restart and try the Web & File Admin again. If it still will not open, remove and reinstall OpenDoc.

Published Date: Feb 18, 2012

iMac: Graphics Acceleration Limited By VRAM Configuration

I purchased some games that can use the iMac's hardware graphics acceleration, but they behave as if 3D acceleration is not available. Can you explain?
This article has been archived and is no longer updated by Apple.
The original Bondi Blue iMac ships with 2 megabytes of VRAM, a configuration that allows 3D acceleration only at the lowest resolution, 640 x 480. Either reduce the resolution or install more VRAM (SGRAM).

Beginning with the 266 MHz iMac, VRAM was increased to 6 MB. Check the technical specifications, or use Apple System Profiler to determine what quantity of VRAM is installed.

To determine whether the iMac has more than 2 MB of VRAM installed, open the Monitors & Sound control panel and select the 1024 x 768 resolution shown. If "Millions" is an option provided in the "Color Depth" section of the control panel, the VRAM has been upgraded.

Other reasons why 3D acceleration may not be available:

- The program may have installed extensions or other software of its own that did not load prior to running the program. Check with the program's documentation or manufacturer to confirm what software is required and where it should be installed.
- When the program was installed, it may have replaced the iMac's existing ATI extensions with older versions. The following extensions enable video, graphics, and 3D acceleration on the iMac:
  - ATI Video Memory Manager
  - ATI Video Accelerator
  - ATI Graphics Accelerator
  - ATI 3D Accelerator

  Without them, or with older versions of them, acceleration may not become enabled.

Published Date: Feb 18, 2012

iPhone and iPod touch email settings for common Internet Service Providers (ISPs) in the United Kingdom

This article has been archived and is no longer updated by Apple.

This page offers information on how to set up your iPhone or iPod touch to access email from common Internet Service Providers (ISPs) in the United Kingdom. As ISPs provide Apple links to these settings, the table below will be updated. If your ISP is not listed, please refer to their website or contact them directly for information regarding your email settings.

Important:Please locate POP and SMTP server information from the links in the table below to enter into your iPhone or iPod touch. Please note, some links may not contain steps specific to iPhone or iPod touch. For iPhone customers only: To ensure your settings can be used on any network, you will want to first turn Wi-Fi off, if on, by choosing Settings > Wi-Fi and sliding it to Off, after the account has been set up you should turn Wi-Fi back on.

Internet Service Provider (ISP)	Other information
O2 Contact Number: 0800 230 0202	Incoming Mail Server: mail.o2.co.uk Outgoing Mail Server: smtp.o2.co.uk
BT	Incoming Mail Server: mail.btinternet.com Outgoing Mail Server: smtp.o2.co.uk
Tiscali Contact Number: 0871 222 3311	Incoming Mail Server: pop.tiscali.co.uk Outgoing Mail Server: smtp.o2.co.uk
Talk Talk Contact Number: 0870 087 8777	Incoming Mail Server: mail.talktalk.net Outgoing Mail Server: smtp.o2.co.uk
Virgin Contact Number: 0845 454 1111	Incoming Mail Server: mail.virgin.net Outgoing Mail Server: smtp.o2.co.uk
Orange Contact Number: 090 5050 0300	Incoming Mail Server: pop.orangehome.co.uk Outgoing Mail Server: smtp.o2.co.uk
Freeserve	Incoming Mail Server: pop.freeserve.net Outgoing Mail Server: smtp.o2.co.uk

For iPhone customers only: Every ISP email account has to go through O2's Outgoing Mail Server "smtp.o2.co.uk" for sending mail. This will work for both Wi-Fi and EDGE connections. The Outgoing Mail Server needs to be configured with your O2 username and password. If you are a new customer, you received your O2 username and password for your account when you setup your O2 portal ID during the activation process. If you are an existing O2 customer, you should already have your O2 username and password information.

Example

Email address: [emailusername]@ispname.net
Password: [ISP-password]
Incoming Server: pop.ispname.net

Outgoing Server: smtp.o2.co.uk
Username: [o2username]@o2.co.uk
Password: [o2-password]

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iPhone and iPod touch email settings for common Internet Service Providers (ISPs) in Germany

This article has been archived and is no longer updated by Apple.

This page offers information on how to set up your iPhone and iPod touch to access email from common Internet Service Providers (ISPs) in Germany. As ISPs provide Apple links to these settings, the table below will be updated. If your ISP is not listed, please refer to their website or contact them directly for information regarding your email settings.

Important: Please locate POP and SMTP server information from the links in the table below to enter into your iPhone or iPod touch. Please note, some links may not contain steps specific to iPhone or iPod touch. For iPhone customers only: To ensure your settings can be used on any mobile phone network, you will want to first turn Wi-Fi "OFF", by choosing **Settings > Wi-Fi** and sliding it to "OFF", after the account has been set up you should turn Wi-Fi back "ON."

Internet Service Provider (ISP)	Other information
T-ONLINE	There are various ways to send and receive mails. This depends on your location and your preferred setup option. Click here for information.
GMX	• "Password" needs to be selected for Authentication[1, 2] • Click here for setup details.
WEB.DE	• "Password" needs to be selected for Authentication[1, 3] • Incoming uses SSL needs to be "ON" • Outgoing uses SSL needs to be "ON" • Some web.de accounts might have a restriction for checking mails to a minimum of 15 minutes. • Click here for setup details.
FREENET	• "Password" needs to be selected for Authentication[1, 2] • Note: SMTP server port should be set to: 587)) • Click here for setup details.
ARCOR	• "Password" needs to be selected for Authentication[1, 3] • Click here for setup details.

Notes

1. In the Mail account settings screen, choose **Advanced > Authentication** and then select the appropriate setting.
2. Username is your email address.
3. Username is your email account name that appears before the @ (accountname@example.de).

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iPhone: How to find your own mobile phone number

This article has been archived and is no longer updated by Apple.

If your mobile network provider supports writing your mobile phone number on the SIM, you can find your mobile phone number in these places:

- Choose **Settings > Phone**. (Your number appears at the top of the screen.)
- Choose **Phone > Contacts**. (Your number appears at the top of the screen.)
- Connect iPhone to your computer's USB port. When your iPhone appears in iTunes (under Devices), click it and then click the Summary tab.

If your mobile network provider does not support writing your mobile phone number on the SIM, you can use one of these alternate ways to determine your phone number:

- Refer to the email from Apple you received when you activated iPhone.
- Refer to the welcome kit your received from your mobile network provider.
- Call someone else who has caller ID and ask them to tell you the number that is displayed.
- Call your mobile network provider.

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HyperCard: How to Modify Built-In Sound Effects

The two sounds built into HyperCard, boing and harpsichord, can be easily implemented in your HyperTalk scripts.
This article has been archived and is no longer updated by Apple.
For example, here's a button script that plays boing when clicked on:

```
on mouseUp
play "boing"
end mouseUp
```

By default, sounds are played as a quarter note at middle C, but they can be followed by notes (c, d, e, f, g, a, b) and times for each note (w=whole, h=half, q=quarter, e=eighth, s=sixteenth, t=thirty-second; period=dotted). Notes are separated by spaces.

For example: play boing gs gs de ge cw.

This line plays boing in two sixteenth-note Gs, an eighth-note D, an eighth G, and a dotted whole C.
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Apple FAX Modem Work With Any Standard FAX

This article has been archived and is no longer updated by Apple.

Apple's FAX modem, operating over normal telephone lines, will transmit or receive documents with any FAX device that supports the CCITT Group 3 FAX standard.

All modems take digital information and modulate it into analog form when sending a file. The information is then demodulated into digital form when the file is received.

The CCITT Group 3 standard is in use by the majority of installed FAX devices.

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iMac: ClarisWorks Registration Information

This article tells how to register your ClarisWorks software if it asks for a registration number, which was not included with your system.
This article has been archived and is no longer updated by Apple.
Actually, there is nothing missing from your iMac box. The registration notice that comes up when you run ClarisWorks is one of the items left behind from its previous development at Claris Corporation and will be removed from Apple's rebranded version, AppleWorks.

The one registration card that came with your iMac is sufficient to register all Apple products included with your computer, including ClarisWorks. Please take a moment to fill it out and mail it in, or follow the instructions on the card to register over the World Wide Web.

To avoid any further inconvenience, it is recommended that you click the Never button in the ClarisWorks registration notice. The registration card produced by this notice has outdated return address information and should not be used as a substitute for the card that came in your iMac box.
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Apple Remote Access: Not Seeing Some AppleTalk Devices

I have an ethernet-based AppleTalk network with a few computers and printers, and I use Apple Remote Access (ARA) to dial into a remote ethernet-based AppleTalk network. When I connect, I can see only some of the remote network's servers and printers, or I can no longer see some local servers and printers in the Chooser. If I connect via ARA from other computers on the local network, some devices show up while different ones disappear.

Is this a known issue, and is there a way to keep this problem from occurring?
This article has been archived and is no longer updated by Apple.
Yes, this is known issue that occurs when a client on an extended network (ex: ethernet, Token Ring) w/o AppleTalk routing connects via ARA to another extended network w/o AppleTalk routing.

Here are the boundaries for connecting via ARA in these circumstances:

LOCAL NETWORK - All AppleTalk devices' network numbers must either be in the startup range (65280-65534) or the network numbers must be the same as the network number of the ARA client Mac.

REMOTE NETWORK - All AppleTalk devices' network numbers CANNOT be in the startup range. They can be anything but within the startup range. They do not need to agree with the ARA server's network number.

Any devices that do not meet these boundaries will not be visible from the ARA client while connected.

WORKAROUNDS

- Set the AppleTalk control panel to "Remote Only" or to a serial port when connecting via ARA. However, this will prevent access to the local network while using ARA.

- Use an AppleTalk router to change the network numbers for all the devices on the local and/or remote network. You would only have to install and run the router temporarily (a few minutes). Each device would need to be restarted to ensure they all acquire a new network hint. Once this is done, you could then remove the router.

PARTIAL WORKAROUNDS

For missing local computers:
Reset the PRAM of each Macintosh computer on the local network that cannot be seen while connecting via ARA. You do not need to reset the PRAM of the ARA client Macintosh. Resetting the Macintosh computer's PRAM will set the network number to a random number within the startup range.

For missing remote computers:
Manually change the network number of any missing devices as follows:

- Open the AppleTalk control panel and switch to 'advanced mode'.
- Check the 'User Defined' box and enter any network number below 65280. Make sure you use a unique node number.
- Save changes and restart the computer.
- Reopen the AppleTalk control panel and uncheck 'User Defined'.

This will change the network number and ensure it acquires a new network hint while still allowing it to auto-negotiate its network node address in case of conflicts.

For missing local LaserWriters:
Unfortunately, there is no easy way to reset the network number of a LaserWriter. In order for a LaserWriter to acquire a new network number, it must communicate with an AppleTalk router. If this is not possible, you can manually change the network number of all other local devices to match the network number of the printer as follows:
- Use a network utility such as MacPing or GetTheirAddress to determine the network number of the printer. - Open the AppleTalk control panel and switch to 'advanced mode'.
- Check the 'User Defined' box and enter the network number of the printer. Make sure you use a unique node number. - Save changes and restart the computer.
- Reopen the AppleTalk control panel and uncheck 'User Defined'.

This will change the network number and ensure it acquires a new network hint while still allowing it to auto-negotiate its network node address in case of conflicts.

For missing remote LaserWriters:

TA38680_Apple_Remote_Access_Not_Seeing_Some_AppleTalk_Devices.pdf

The network number for the LaserWriter needs to be set outside of the startup range. In order to do so, the printer must communicate with an AppleTalk router. The router could be removed once the LaserWriter has taken the new network number from the router.

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Macintosh: Printing to a PostScript Printer Through IrDA

With the release of LaserWriter printer driver version 8.6, printing over the IrDA communication channel is possible.
This article has been archived and is no longer updated by Apple.
First verify your computer supports IrDA by reviewing Article 20928: **"Macintosh Infrared: Is It IrDA Compatible?".**

If your computer is equipped with infrared technology that uses the IrDA protocol, you can establish a wireless TCP/IP or AppleTalk connection to a network using an IrDA network access device, or exchange files with another IrDA equipped computer.

Depending on the type of network protocol that you are going to use, choose Infrared Port (IrDA) from the Connect via pop-up menu in either the AppleTalk control panel or TCP/IP control panel.

LaserWriter driver, version 8.6,provides IrDA printing capabilities to Macintosh computers having IrDA ports, such as the PowerBook G3 and PowerBook G3 Series, PowerBooks 2400 and 3400, iMac, and so on, for printing to PostScript printers having IrDA ports.

This includes the HP LaserJet 5MP and HP LaserJet 6MP, as well other 100% compatible IrDA printers.

LaserWriter 8.6 is included with Mac OS 8.5.
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Drive Setup: No ATA driver v3.x for 68K Macs

I have a Macintosh LC 630 with an internal IDE (ATA) 350 MB hard disk. When I installed Mac OS 8.0, I updated my hard disk drivers. After choosing Get Info in the Finder on the hard drive, I noticed the ATA driver was version 1.12 as the Get Info window shows as (ATA 0, v1.12).

Recently, I downloaded Drive Setup 1.5 to update to the latest ATA hard disk drivers. After updating my hard disk drivers, I notice I still had ATA driver version 1.12. On my friend's Power Macintosh G3 desktop computer, Drive Setup 1.5 updates his hard disk driver to version as the Get Info window shows as (ATA Bus 0 Dev 0, v3.1.0).
This article has been archived and is no longer updated by Apple.
Drive Setup 1.0.5 and later will install ATA driver version 1.12 as this was the last driver qualified and tested for non-Power Macintosh computers with ATA hard disks. Users with non-Power Macintosh computers do not need to update beyond ATA driver version 1.12.
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EtherTalk: The Number of Possible Nodes in a System

This article has been archived and is no longer updated by Apple.

Here is a brief description of a corporation's EtherNet installation. They have used Ethernet as the primary communications medium for achieving transparent connectivity throughout the system.

Number of segments > 50
Number of nodes >500
Span of network > 20 KM (using Ethernet bridges)
Number of campuses 4
Number of Kinetics FastPath Gateways = 9

The current Node ID field allows only 127 individual stations. Does that mean only 128 Macintosh computers can be connected directly to the Ethernet? What about software bridges like Liaison? What about GatorBox, which promises to become the InterBridge of EtherTalk?

EtherTalk makes no distinction (through node IDs) between users and servers. Rather, it reserves two nodes for "send to self" and "send to all" addresses. This leaves 254 of 256 possible nodes available for users and servers.

Customers use Zone and Net IDs to divide users into zones. Gatorbox's Ethernet-to-Ethernet bridging capabilities allow EtherTalk networks to extend well beyond the 254 nodes available. Under Gaterbox, you can directly connect Ethernet Macintoshes by routing Zone and Net IDs similar to the zoning done with InterBridges.

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Power Macintosh 4400 Update: Read Me

Power Macintosh 4400 Update Version: 1.0 was released on August 20, 1998. It can be downloaded from the Apple Software Updates Web site at http://www.apple.com/swupdates.

This update requires Mac OS 8.1 and any of the following computers: Power Macintosh 4400, Power Macintosh 7220, Motorola StarMax series, and the UMAX Aegis computer (sold only in Asia). This will not install on any other machines or any other version of Mac OS.
This article has been archived and is no longer updated by Apple.
Power Macintosh 4400 Update

The Power Macintosh 4400 Update contains two patches for Mac OS 8.1 when used on the Power Macintosh 4400, Power Macintosh 7220, Motorola StarMax series, and the UMAX Aegis computer (sold only in Asia). This will not install on any other machines or any other version of Mac OS.

The first patch corrects a memory corruption problem caused by Mac OS Extended (HFS+) that results in systems that will not boot after being upgraded to Mac OS 8.1. The symptom is a hang during startup (for example, when the Happy Mac icon appears, or when the "Welcome to Mac OS" screen appears, or while the extensions are loading). This problem can occur even if there are no Mac OS Extended volumes in use.

The second patch corrects an obscure problem with the ATA Manager. The symptom is what appears to be a hung system -- the mouse pointer will move but the system does not respond (it is in an infinite loop). If you are using a PC Compatibility Card, you will not be able to switch back to the Mac OS environment. This update also corrects this problem.

This update modifies the system file to correct the Mac OS Extended problem and installs the "4400 ATA INIT" extension to correct the ATA Manager problem. When the update is installed, the system version in the "About This Computer" window will be listed as "Mac OS 8.1" and "System Enabler 4400 Update".

Note: An enabler is not installed. This information is listed so that users can determine if the update has been installed.

For more information refer to **http://www.apple.com/support**.
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Power Macintosh 4400: "System Enabler 4400" in About This Computer

I have a Power Macintosh 4400/200 that is running Mac OS 8.1. When I look at "About this Computer" in the finder is states "Mac OS 8.1 System Enabler 4400 Update." What does that mean?
This article has been archived and is no longer updated by Apple.
Apple has identified an issue affecting Power Macintosh 4400/200 units using Mac OS 8.1. This is fully detailed in TIL Article 30627 referenced below. To correct these issues Apple has released the "Power Macintosh 4400 Update."

After this patch is installed, you will see "Mac OS 8.1 System Enabler 4400 Update" in the About this Computer window. If Mac OS 8.1 is ever reinstalled, the update would need to be reinstalled as well.

For additional information see the following TIL articles:

Tech Info Library Article 30627: "**Power Macintosh 4400: Mac OS 8.1 Installation Issue**"
Tech Info Library Article 30720: "**Power Macintosh 4400 Update: Read Me**"

This article can help you locate the software update mentioned here:

- Article 14724: "**Where To Find Apple Software Updates**" - Lists online services for free Apple software updates.

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ClarisWorks: Using AppleScript to Create a New Document

I want to write an AppleScript to launch ClarisWorks and automatically create a new word processing (or spreadsheet, etc.) document, what commands and syntax should I use?
This article has been archived and is no longer updated by Apple.
It is a two-part process:

1) Create a ClarisWorks macro that creates a new word processing document. Name it something intuitive, such as "Create New WP Doc," and make sure it is set to play in all environments. If you are unfamiliar with the process of creating macros, see the "Record a macro" topic in ClarisWorks' on-screen help.

When creating macros, it's always best to use as many keyboard commands, and as few mouse clicks, as possible. This ensures that your macros will continue to function properly, even if your window or dialog box positions change.

To create this macro, record the following steps:

1. Press Command N (Ctrl. N on Windows)
2. Press Return (Enter on Windows)
3. Stop recording (go ahead and close the resulting blank file)

Command N brings up the New Document dialog box. Pressing Return chooses the first option, which is Word Processing.

To create a macro which makes a different type of new document, record the following steps:

1. Press Command N (Ctrl. N on Windows)
2. Press the down arrow on your keyboard until the desired document type is highlighted in the New Document dialog box
3. Press Return (Enter on Windows)
4. Stop recording (go ahead and close the resulting blank file)

Run the macro to confirm that it actually creates a new file.

2) Use Script Editor (or some other AppleScript editor) to create the following AppleScript. This script will run the macro that creates the new file:

```
tell application "ClarisWorks"
do script "Create New WP Doc"
end tell
```

NOTE: The name in quotes after the "do script" command must match the name of your macro.

If ClarisWorks is not already running, the script will launch it, then create the new file.
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Sherlock, Sherlock 2: Deleting Invisible Files and Folders

Sherlock and Sherlock 2 do not allow invisible files to be dragged to the Trash or moved. With Mac OS 8.1, this behavior differs slightly.

This article has been archived and is no longer updated by Apple.

Symptom

After using Sherlock or Sherlock 2 to find invisible files, you are unable to move the files or drag them to the Trash.

Products Affected

- Sherlock
- Sherlock 2

Solution

A file or folder is typically invisible for a reason. Deleting or modifying one of these files may cause unpredictable results. Unless you know the outcome of your modification, you should not make changes to an invisible file.

With Mac OS 8.1, when an invisible item is dragged to the Trash, a dialog box appears with the message: "You must restart your Macintosh and immediately empty the Trash." If you try to drag any other invisible file somewhere else an alert box appears with the message: "Invisible Files cannot be moved."

In Mac OS 8.5 or later, Sherlock prevents you from dragging invisible items because they cannot be moved.

For related information on invisible files, please see the following articles:

Article 16989: "**System 7.5 - Mac OS 8.1: Additional Find File Search Options**"

Article 24986: "**Sherlock, Sherlock 2: Finding Invisible Files or Folders**"

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Web Sharing MIME Types: More examples

I upgraded to Personal Web Sharing 1.5 but I cannot get the MIME Type file to recognize certain files. Do you have a list of other MIME types I can add to the list?
This article has been archived and is no longer updated by Apple.
Follow these steps to add additional MIME types:

1. Open the Web Sharing Folder (this is in the Preferences folder, which is in the System Folder).
2. Open the file named Web Sharing MIME Types.
3. In the file, select from the table below the MIME Type entries the server needs and add them to the file utilizing the format used in the file.
4. Save the changes to the file and close the file.
5. Stop and restart the web server.

MIME Types:

File Type	Action	Suffix	Type	Creator	MIME
.eps files	eps	-	-	application	postscript
.epsf files (variation)	epsf	-	-	application	postscript
ClarisDraw files	-	'CDrw'	'dDrw'	application	x-ClarisDraw
IgorPro experiments	-	'IGRO'	'IGSU'	application	x-Igor-Pro
Text (ASCII)	TEXT TEXT BINARY	.TEXT .TXT .HTML	TEXT TEXT TEXT	- - -	text/plain text/plain text/html
Graphics	BINARY BINARY BINARY	.GIF .JPG .JPEG	GIFf JPEG JPEG	- - -	image/gif image/jpeg image/jpeg
CGI Applications	ACGI CGI	.ACGI .CGI	APPL APPL	- -	text/html text/html
Binhex	BINARY	.HQX	TEXT	-	application/mac-binhex40
StuffIt	BINARY	.SIT	-	-	application/x-stuffit
MacBinary	BINARY	.BIN	-	-	application/x-macbinary
Postscript:	BINARY	.PS	-	-	application/postscript
UNIX TAR Files	BINARY	.TAR	-	-	application/x-tar
ZIP Files	BINARY	.ZIP	-	-	application/zip
G-ZIP Files	BINARY	.GZ	-	-	application/x-gzip
DOS EXE Files	BINARY	.EXE	-	-	application/octet-stream
Real Audio	BINARY	.RA	-	-	audio/x-pn-realaudio
MIDI	BINARY	.MIDI	-	-	audio/x-midi
QuickTime Video	BINARY BINARY BINARY	.MOV .QT .QTVR	MOOV MOOV MOOV	- - -	video/quicktime video/quicktime video/quicktime
Java Applets	BINARY	.CLASS	-	-	application/octet-stream
AIFF Files	BINARY	.AIFF	-	-	audio/x-aiff
File Type	Action	Suffix	Type	Creator	MIME
Sun UNIX Audio	BINARY	.AU	-	-	audio/basic
AVI Video	BINARY	AVI	-	-	application/x-msvideo
Intermind Communicator	BINARY	.CON	-	-	application/x-connector
MacroMedia Shockwave	BINARY BINARY BINARY	.DCR .DIR .DXR	- - -	- - -	application/x-director application/x-director application/x-director
CoolTalk	BINARY	.ICE	-	-	x-conference/x-cooltalk
Java Script	BINARY	.JS	-	-	application/x-javascript
MPEG Video	BINARY	.MPEG	MPEG	-	video/mpeg
Adobe Acrobat PDF	BINARY	.PDF	-	-	application/pdf

PICT Images	BINARY	.PICT	PICT	-	image/pict
Microsoft PowerPoint	BINARY	.PPT	-	-	application/mspowerpoint
Apple Media Conference (aka QuickTime Conferencing)	BINARY	.QTC	-	-	video/x-qtc
Rich Text Format (RTF)	BINARY	.RTF	-	-	application/rtf
acroMedia Shockwave Audio	BINARY	.SWA	-	-	application/x-director
MacroMedia Shockwave Flash	BINARY	.SWF	SWFL	-	application/x-shockwave-flash
WebAnimator	BINARY BINARY	.WAN .WAF	- -	- -	plugin/wanimate plugin/wanimate
WAV Files	BINARY	BINARY	-	-	audio/x-wav
Microsoft Word	BINARY	.WORD	WDBN	MSWD	application/msword
XBM Bitmap Images	BINARY	.XBM	-	-	image/x-xbm
Microsoft Excel (versions 3, 4, and 5)	BINARY BINARY BINARY	.XL .XL .XL	XLS3 XLS4 XLS5	- - -	application/excel application/excel application/excel
VRML Files	BINARY	.WRL	-	-	x-world/x-vrml

Related MIME type informational sites:
<http://www.starnine.com/support/technotes/servingmacfiles.html>
<http://www.starnine.com/support/technotes/suffixmapping.html>
<ftp://ftp.isi.edu/in-notes/iana/assignments/media-types/media-types>
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Apple IIGS to Apple Modem 300/1200 Cabling

This article has been archived and is no longer updated by Apple.

The Peripheral Interface Guide (page 5.8) states that the Apple Modem 300/1200 590-0197 cable works with the 590-0341 (M01089 Beige) or 590-0553 (M0199 Platinum) on an Apple IIGS, Macintosh Plus, Macintosh SE, or a Macintosh II. You can also build a cable using the pinouts listed below.

Apple IIGS (Mini-8) 30/1200 Modem (DB-9)

HSKO 2 2 DSR
TD- 3 9 TD
Gnd 4 8 GND
RD- 5 5 RD
TD+ 6 3 SGND
RD+ 8 8 SGND

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Apple Modem Script Generator: What is it?

The Apple Modem Script Generator is an unsupported tool that provides a relatively easy way to enter the specific information about a modem and then generate a modem script that can be used by both Apple Remote Access (ARA) and Open Transport/PPP (OT/PPP). Apple does not guarantee that the scripts generated will work in all situations, or that the application will be updated in the future.
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What is it?

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When should I use it?

Only use the Apple Modem Script Generator (Generator) if you need it. Apple already provides many modem scripts that are installed with ARA and Open Transport/PPP. If you cannot find your modem on the list of scripts in the Remote Access Setup panel (for ARA) or the Modem control panel (for OT/PPP) , then you may need to use the Generator. First, try some other script by the same manufacturer, if possible. Second, check on the Internet if possible because someone may have already created the script you need and posted it there. (See "How can I post my script for others?" below)

Why use scripts with modems?

Modems share an "AT" command set for many commands. The Generator takes care of these common commands without help from you. However, manufacturers tend to use different characters for several settings like speed, result codes, and so forth. There are even examples where one manufacturer will use different characters in different models! Modem scripts are used by the Apple products ARA and OT/PPP to unify the behavior of modems, at least from the perspective of those applications. If one of these applications requests "turn off data compression", the modem script is used to translate that general request into a specific command for the chosen modem.

How do I install a script that I generate?

Put it in the folder described by the path "System Folder:Extensions:Modem Scripts:". This is the default folder selected by the Generator when you click the Create button. You do not need to restart the computer after adding a modem script. ARA 2.1 and OT/PPP both will recognize a new script placed in this folder (in older ARA versions, you must quit the application and restart). After you have placed the script in the folder, it should show up on the appropriate popup menu in ARA or OT/PPP. Remember to choose it there!

What is a modem script? How can I edit a script?

A modem script is a text file, but one which does not have the "file type" of a text file. A modem script can be viewed and edited with any word processor which has an option to open "any file", regardless of file type. (Alternatively, you can change the file type to TEXT with ResEdit, and open with any text editor.) The purpose of the Generator, however, is to spare you from having to edit the nuts-and-bolts text. The text in scripts is written in the "CCL" language that is described in Apple developer documents. Another application by Apple, the Apple Remote Access Modem Toolkit, has more editing features and is available from Apple (call 800 282 2732 or 716 871 6555). Note that the Toolkit v.2.0 is geared for ARA scripts, not for OT/PPP. A revision is planned for the Toolkit.

How can I post my script for others?

If your script works well, consider posting it on the Internet for the benefit of other users. At the time of this writing, it is not clear where on the Apple web site (www.apple.com) the modem scripts contributed by users will be stored, but the collection will probably be labeled "Unsupported Modem Scripts". Try the web location on the Apple web site that is used for OT/PPP beta seeding, or search on the web for "modem script". Apple will provide a central location for these "unsupported modem scripts" at the Apple web site, and scripts will probably be posted elsewhere by users.

Can I hurt anything by trying a new script?

Generally speaking, modem scripts are safe because they cannot physically harm any hardware. At worst, a script could configure a modem incorrectly, but turning the modem off and then back on will generally reset the modem to its factory settings. Apple applications cannot be harmed by a script mistake; they are programmed to issue error messages to help identify mistakes within scripts.

How can I give feedback about the Apple Modem Script Generator?

Please send e-mail about the Generator to the same place as feedback about the ARA & OT/PPP applications. At the time of this writing, it is unclear what e-mail address should be used. A place to start would be the web site (www.apple.com) where ARA & PPP products are discussed.

What values should I enter into the Generator?

You'll need to find about several pieces of information from your modem manual. Modems are always accompanied by a manual describing their commands, in our experience. See the descriptions below for details about each piece of information that you need. Note: You can click on the label of a field in the Generator, like "Base Speed", to make the help text scroll immediately to information on that item. Finally, click on the Create button to save your newly generated script in the Modem Scripts folder. Then try it out!

Script Type:

Serial Modem is the only script type currently supported.

Modem Name:
Enter the model name of the modem. This information is used to identify the file, but not used in commands.
Example: Durendal Screamer 288

Manufacturer:
Enter the manufacturer's name, the name of the company which made the modem. This information is used to identify the file, but not used in commands. The field may be left blank.

Example: Durendal Communications, Inc.

Modem Initialization String:
Enter the combination of commands which will make the settings in your modem as listed below. The individual commands are combined on one line to create a "string" of characters to be issued when the modem is used by ARA or OT/PPP. In the descriptions that follow, the examples are taken from a manual for a US Robotics Courier modem. The example commands are enclosed within quote signs which are not included in the final initialization string.

1. Reset the modem to factory default settings, usually "&F". This should be the first command in the string. If any of the following settings are already part of the factory settings, they can be omitted from the initialization string. However, since manuals can be wrong, it may be safer to be redundant.

2. Disable command echo, usually "E0"

3. Enable data compression and error correction if your modem has these capabilities, in this case by factory default. These settings are usually turned on by factory default. (Note: be sure to supply the disable commands for data compression and error correction as described in separate sections below. Data compression and error correction are under the control of a checkbox in OT/PPP, but are always turned off in ARA, under the scheme "on at initialization, off by disable command.") If there are problems with the script, experiment with this part of the initialization string since this is a problematic area.

4. Lock the serial port speed (IMPORTANT!), in this case "&B1". This is the default case for many modems. This issue is described in some manuals as "Negotiation of modem-to-modem (DCE) speeds" or "BPS rate adjust", etc. During a connection between two modems, the modems may renegotiate their communication speed. Whatever happens between the modems, we want the modem-to-computer (DTE) speed to remain constant.

5. Enable hardware flow control ("handshaking" CTS/RTS), in this case "&H1&R1". This is the default case for many modems.

6. Disable software flow control (handshaking XOFF/XOFF), in this case by factory default. This is the default case for many modems.

7. Enable "verbose result codes", in this case by factory default (usually "Q0").

8. Enable result codes for compression and protocol changes, in this case "&A3".

9. Set so that CONNECT returns DCE speed (IMPORTANT!), usually "X4".

10. Disable auto-answer, usually "S0=0"

11. Enable return-to-command-mode on DTR toggle (optional), in this case "&D2".

12. Set register S7 to allow enough wait time for international calls, usually "S7=60". An international call can require 60 to 120 seconds of waiting for the remote server to answer. Most modems default between 30 and 60 seconds.

The summation of these commands for our example modem is
Example: &FE0&B1&H1&R1X4&A3S0=0&D2S7=60

Base Speed:
Select the speed for the computer's serial port that is closest to, but greater than, your modem's maximum, uncompressed speed . You are setting the speed for communication between the computer and the modem. We call this setting "base speed" to contrast with "compressed speed" described in the next paragraph. Determine your modem's maximum, uncompressed speed from its manual or its model name. Most modems are clearly marked or named with their maximum, uncompressed speed, like 9600, 14.4K, or 28.8K. For example, a modem like an Express Modem 14400 has a maximum, uncompressed speed of 14.4K (14400) and should use a base speed in the computer's serial port of 19200. A modem with a 28.8K (28800) base rate should use a 38400 rate, etc.

Example: 19200

Compressed Speed:
Select the speed for the computer's serial port that is approximately double the modem's maximum, uncompressed speed (in most cases). This setting is used by OT/PPP, not ARA. Some modems can do data compression within the modem itself. In those cases, the computers must communicate faster with the modems, usually at double the base speed. Some modem manuals say to use quadruple the base speed, but we have

rarely seen the actual compression ratio get above two. If your modem does not offer data compression, just use the times-two formula for the setting. Note: the computer's serial port has a maximum speed of 115200 on newer models, and below that on some older models, so there is a physical limitation on the speed that the computer can communicate with the modem. A modem with a 14.4K (14400) maximum, uncompressed speed and the ability to compress data in the modem should use a setting of 2 x 14400= 28800, so choose the next greater setting, 38400, for the Compressed speed setting of the serial port.

Example: 38400

Disable Error Correction:
Enter the command which will turn off error correction in the modem. Only modems which have the ability to do error correction will have enable/disable commands.

Disable Data Compression:
Enter the command which will turn off data compression in the modem. Only modems which have the ability to do data compression will have enable/disable commands.

Command Buffer Size:
Use the default of 40 characters unless you have a relatively old modem, perhaps an older 9600-baud model or older. If so, enter the size of the modem's command buffer from the manual. This buffer size is the number of characters that can be sent to the modem in one command line. For example, our example initialization string above is 27 characters. The command buffer must be at least 27 characters long for this string to fit. If the command buffer is small, the applications will split up longer command strings to send in pieces, if possible. Any spaces within a string are usually discarded and do not occupy space in the buffer.

Use Data Tone:
The use of a data tone is a feature of modern modems. You may need to turn off the use of data tones if the usual command for using a data tone, the carat symbol "^", is not understood by your modem. Data tones are useful in one situation: a modem answering at the other end of a connection may be capable of detecting a human voice (and switching to voice mail instead of data). So the calling modem must indicate, for those modems, that the call is a data call. The calling modem emits a "data tone" for this purpose.

Special Characters:
Commands required by a modem may include non-printing or special characters which may be interpreted incorrectly unless these characters are "escaped". The Generator handles three special characters automatically for you: the backslash ("\\"), the caret symbol ("^"), and the double quote (""). These are "escaped" for you when you click the Create button. You just enter them like other characters. In the unlikely case that a modem needs a character which must be escaped, you must use a text editor to do so (see section on "What is a modem script? How do I edit it?"). The escape character for the CCL language is the backslash, so entering a character with an ASCII decimal code of 14 would be "\\14".

Troubleshooting:
1. Check both the modem and its connections by using any of "terminal window" communication program like ClarisWorks® or MicrophoneTM. (There are many freeware and shareware communications programs also. Many modem ship with such software.) Programs like these do not use any modem script files. Follow the instructions for setting up one of these programs, and then type in "AT" (no quotes) and hit the return key. Check that the modem is communicating properly with the computer: it should respond "Ok" to the command "AT". Remember to quit the program when you're finished or it will continue to occupy the serial port, prohibiting other tests.

2. Check that expected factory default settings are actually in place. Sometimes the factory defaults are documented to configure the modem in a given way, but in fact the documentation is obsolete. Try issuing these commands explicitly in the initialization string. This is especially possible for error correction (reliability) and data compression commands.

3. Check error correction & data compression, which are optional in OT/PPP, but should be turned off in ARA:
Connect to a PPP server which has a modem capable of error correction/data compression using OT/PPP with error correction turned on via the checkbox in the Options dialog. Watch for the error correction and data compression negotiation report as in the status box (the text which confirms this fact flashes by pretty fast during connection; that text is recorded in the log only in Administration mode.) Connect to an ARA server using ARA and watch the serial data or the modem's error correction light, if available. The modem should always connect without error correction and data compression.

4. Check that your modem handles the "Data Tone" command by unchecking this option in the Generator. (See the description of Data Tone above.) A symptom for problems with the Data Tone command would be a 'No Carrier' response when dialing.

5. Compare the script you generated with the script installed by OT/PPP, using a text editor. Note: ARA 2.1 installs some older scripts which turn off error correction/data compression in the initialization string. OT/PPP updates these scripts.

Disclaimer:
This is an unsupported tool. Apple makes no warranty or representation, express or implied, with respect to this program, its quality, performance, or fitness for a particular purpose.
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Internet Connection: Why does it stay connected?

When I quit Netscape or Microsoft Internet Explorer, I stay connected to the Internet. Why?
This article has been archived and is no longer updated by Apple.
Netscape and/or Microsoft Internet Explorer are just one of a variety of programs that can deal with the Internet. It would make no sense to disconnect Internet connections just because they are not in use.

To disconnect from the Internet, you should be sure to terminate the connection from your PPP or SLIP control panel or from Remote Access.
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At Ease: No Multihoming Support

I have set up an AppleShare IP/At Ease server for multihoming with two network segments, one using built-in Ethernet and the other using an additional Ethernet PCI Card. At Ease clients on one segment can see the server and use At Ease with no problems, but At Ease clients on the other segment get an error at startup stating the At Ease server can not be found, even though we can see the server in the Chooser.
This article has been archived and is no longer updated by Apple.
At Ease does NOT currently support multihoming, regardless of how the AppleShare IP server is configured. At Ease will only serve information from the zone selected in the ASIP server's AppleTalk control panel. To make the At Ease server accessible to other networks, you must connect the network segments using a router.

Something to consider about using multihoming with At Ease is that even with a router installed, the At Ease Server only knows the location of the file server on the primary segment. It does not know the file server is available on other network segments.

When At Ease connects a client to the server, it will use the connection information provided by the At Ease Server extension (machine name and zone the server resides in). This mean all connections to the At Ease server will go through the router connecting the network segments. This usually means a degradation in network performance if you are using a software router or one of your segments uses LocalTalk cabling.

More information about multihoming is available in Article 20378: "**Apple Products: Multihoming and Multinode Support**".
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Mac OS 8.5: New Scripts Folder

This article discusses the new Scripts folder.
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This folder is used to contain compiled scripts.

The default installation of Mac OS 8.5 will create one folder within Scripts called "Folder Action Scripts", which contains some useful scripts to be used by the new Folder Actions facility. For much more information on using and writing Folder Action Scripts, see Folder Actions under AppleScript Help in the Mac OS Help facility .

On the Mac OS 8 Install CD-ROM, there is a CD Extras folder. Within this folder is an AppleScript Extras folder, containing some additional AppleScript material. More Folder Action Scripts can be found here.

In addition, Apple has provided a copy of a freeware extension called OSA Menu, by Leonard Rosenthal. OSA stands for Open Scripting Architecture. When installed, OSA Menu provides an iconic script menu on the right hand side of the menu bar that is always present in every application. This menu can be used to invoke AppleScripts appropriate for the currently running application.

Two groupings of AppleScripts are shown in the OSA Menu, a set of Universal Scripts which are always displayed for every running application, and a second set of AppleScripts, which are applicable to the context of the current application. Menu items in the second grouping change as different applications become the front most or foreground application.

OSA Menu creates its menu by looking for subfolders within the Scripts folder. These folders are named "Universal Scripts", "Finder Scripts", "Script Editor Scripts", etc. Any application can have its own set of associated scripts grouped in a subfolder of the Scripts folder, where the subfolder is named "<name of Application> Scripts". If no folder exists for the active application, OSA Menu displays a dimmed menu item that says "No Scripts", indicating that it found no folder with which to build menu items. OSA Menu will create a folder for an application by selecting the menu item: Open "<name of Application> Scripts" Folder.

Some example scripts that can be used with OSA Menu are also provided in the AppleScript Extras folder. Users can write scripts or place acquired scripts into the subfolders of the Scripts folder to extend the menu environment with their own custom AppleScript command functions. Extending the Finder in this way is very easy to do.

For example, perhaps you would like to be able to Empty Trash from any application, i.e. without switching to the Finder to empty the Trash and then back to the current application. Using the Script Editor, save the following one line AppleScript as a compiled script named "Empty Trash" and place it in the Universal Scripts subfolder.

```
tell application "Finder" to empty trash
```

From any application, one can then select the "Empty Trash" menu item from the OSA Menu.

Scripting the Finder is one of the most powerful ways to enhance your environment and speed up your productivity. To do more than just record scripts, one needs to examine the dictionary of terms that the Finder understands and responds to. Again, using the Script Editor, save the following two line AppleScript as a compiled script named "Open Finder Dictionary" and place it in the Script Editor Scripts subfolder.

```
set Path_To_Finder to (path to system folder as text) & "Finder"
open alias Path_To_Finder
```

From the Script Editor application, one can then readily select this menu item to view the Finder's dictionary of AppleScript terminology.
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Mac OS 8.5: Setting Desktop Pictures Can Degrade Performance

After I selected and set a Desktop Picture, my computer, which has 16MB RAM, seemed to run slower. Is there a reason for this?
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Setting a Desktop picture can have severe RAM ramifications.

Because of the always-present nature of a Desktop Picture, it is permanently fixed in memory so that it may to be accessed quickly for any screen redraw. Pictures that are very large in size could consume a megabyte of RAM (or more), thus eliminating that RAM for use by other system tasks or user applications. In a multiple monitor situation, RAM will be dedicated to the picture for each monitor, worsening the situation.

In a small RAM configuration, say under 24Mb, where virtual memory is already providing much of the memory needed for basic operation, the constraints placed on the environment by Desktop Pictures consuming available memory can cause a noticeable slowdown in operations. This may also be accompanied by the sound of much disk activity, which is probably the effects of virtual memory being paged to and from the hard disk.

There are two things that can be done to alleviate the slowdown.

1.) Remove the Desktop Picture and select a Desktop Pattern of your liking. Desktop Patterns consume a much smaller amount of RAM, by several orders of magnitude, since the pattern is replicated across the screen. In low memory configurations, this helps dramatically.

2.) If you just have to have that 32-bit color picture of 1024x768 pixels, then upgrade the RAM memory of your computer to 32MB or more.
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Mac OS 8.5: Control Strip - Under the Hood

What's different about the new Control Strip in Mac OS 8.5?
This article has been archived and is no longer updated by Apple.
Functionally, Control Strip appears to be the same in appearance and action as previous versions. However, the underpinnings of its design have changed to improve it's stability and integration with the Mac OS.

In previous releases of Mac OS, Control Strip was a true Control Panel (of type "cdev") which made patches to the OS to get its floating palette into the environment.

In Mac OS 8.5, Control Strip is now an application, of type "APPC", that resides in the Control Panels folder. In addition, there is an new file called Control Strip Extension, in the Extensions folder, which is launched as a faceless background application (file type "appe"). This process conforms more to Mac OS guidelines of providing function without making dynamic patches to the OS. This process runs silently in the background, handling such things as recognizing the hot keys to toggle visibility and providing a foundation environment for execution of strip module functions.

This new faceless background application can be noticed if you are running an application, such as DragThing, which displays all running processes. You could also detect its presence by running the following AppleScript from the Script Editor:

Tell application "Finder" to get the name of every process

The result window will normally show "Control Strip Extension" in the list of active processes. It will not show in the application menu, because background tasks are defined to have no user interface. The Control Strip application in Control Panels, when launched, communicates with the background process, providing the necessary user interface for making setting changes for Control Strip.

If the faceless background application terminates, then the Control Strip will not be visible nor will it respond to the hide/show hot keys. If this is the case, when the Control Strip application is launched from Control Panels, it will notice that its "partner" process is not active and offer to restart the background process. This will usually restore normal functionality.
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Mac OS 8.5: Adding New Desktop Patterns

This article tells how to add new Desktop Patterns.
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The Appearance Manager supports Drag and Drop, much in the same manner as Desktop Pictures of Mac OS 8 and Desktop Patterns of Mac OS 7.6. Picture clipping files can be dragged into or out of the new Appearance control panel.

Open the Appearance control panel of Mac OS 8.5 and select the Desktop tab of the Appearance window. If a Desktop Picture has been established, click on the reduced desktop image, then click "Remove Picture" to reveal the pattern underneath. By clicking on the desktop image to start a drag action, you can "drop" the pattern onto your Mac's desktop or a folder window to create a picture clipping file, titled the same as the pattern name.

Click on the name of the new clipping file and append a " 2" to the name. Drag this picture clipping file back onto the reduced desktop image and a new pattern name appears in the scrolling list, same as the name before with the " 2" appended. Picture Clipping files acquired from other sources can be added this way too.

Note: The Mac OS Help with Mac OS 8.5, has incorrect instructions for adding Desktop Patterns. Mac OS Help says to "drag a picture onto the scrolling list". It should say "drag a picture onto the reduced desktop image".
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Mac OS 8.5: Creating a Desktop Printer using AppleScript

This article discusses using AppleScript to create a desktop printer.
This article has been archived and is no longer updated by Apple.
The syntax details for the Desktop Printer Manager can be shown from the Script Editor. Select Open Dictionary from the File Menu, click the go to "Scripting Additions" folder button and then open the item from the list called Desktop Printer Manager.

Interpreting this information can take a bit of thought. A record of properties for the printer must be specified. The difficult item to construct is the address specification for address. Either of two syntax flavors can be used to specify the location of the Desktop Printer file:

Make new desktop printer at alias "Macintosh HD:" ...
- or -
Make new desktop printer with properties {container: "Macintosh HD:"... }

Other property items such as name (name given to DTP icon), and driver name (Chooser device name), should be supplied, while other items, such as PPD File (LaserWriter Printer description), can be specified if appropriate.

The address property is a record of properties within the first property list and is needed to clarify how the printer is connected or accessed. Here are several examples showing how to define printers with different connection methods.

Example 1 - a locally attached Color StyleWriter

```
tell application "Desktop Printer Manager"
make new desktop printer at alias "Macintosh HD:" with properties
{name: "CSW 2500", driver name: "Color SW 2500",
address:{protocol:serial, conduit: printer port}}
end tell
```

Example 2 - a network accessed Color StyleWriter

```
tell application "Desktop Printer Manager"
make new desktop printer at alias "Macintosh HD:" with properties
{name: "CSW 2500 Net", driver name: "Color SW 2500", address:{protocol:AppleTalk, AppleTalk machine: "CSW Host",
AppleTalk zone: "*",
AppleTalk type: " Color SW 2500"}} end tell
```

Example 3 - an AppleTalk LaserWriter

```
tell application "Desktop Printer Manager"
make new desktop printer at alias "Macintosh HD:" with properties
{ name: "LW", driver name: "LaserWriter 8",
address:{protocol:AppleTalk, AppleTalk machine: "My LW",
AppleTalk zone: "*",
AppleTalk type: "LaserWriter"}}
end tell
```

Example 4 - an LPR LaserWriter

```
tell application "Desktop Printer Manager"
make new desktop printer at alias "Macintosh HD:" with properties
{ name: "LPR", driver name: "LaserWriter 8", PPD file: generic,
address:{protocol:IP, ID:"17.100.100.100"}}
end tell
```

Example 5 - a SCSI LaserWriter
(**Note:** Apple's SCSI LaserWriters are unsupported under Mac OS 8)

```
tell application "Desktop Printer Manager"
make new desktop printer at alias "Macintosh HD:" with properties
{name: "SCSI LW", driver name: "Some SCSI LW Driver",
```

```
address:{protocol:SCSI, ID: 2}}
end tell
```

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Mac OS 8.5: AppleScript 1.3 Compatibility With Older Scripts

This article why some AppleScript scripts written before the release of Mac OS 8.5 do not work with newer versions of Mac OS and AppleScript.
This article has been archived and is no longer updated by Apple.
AppleScript 1.3 in Mac OS 8.5 was planned with the intention of upward compatibility for all existing scripts. There could be some cases where previously working scripts are broken.

The most likely way a script might break is if the dictionary for application being scripted was changed and has new terminology for properties and actions.

With Mac OS 8.5, the Finder dictionary was reorganized to group properties and actions in a way designed to make things easier to find, read and understand. This change should not break existing scripts by itself.

The Finder did revise some properties. Older scripts may have to be reworked to use the new terminology. The main area that has a change in properties from previous versions of the Finder is properties describing container window views.

Finder 8.5 defines properties of "has custom view settings", "spatial view arrangement", and "button view arrangement" for window views.

Finder 8.0/8.1 defines properties of "keep arranged" and "keep arranged by" for window views.

If you are a script author and you would like to maintain one AppleScript that works across any Mac OS version, here is a coding technique that will enable this. As the script author, you must identify those terminology differences between
new and old Finder, then code verbs for each set of terminology, under the control of an "if ... then ... else ... " statement so that the right action verbs and properties get used in the right Finder context.

```
-- Begin AppleScript
tell application "Finder" to get the version
set FinderVersion to the result as text
if FinderVersion is less than "8.5" then
 -- terminology for older Finder
else
 -- terminology for Finder 8.5
end if
-- End AppleScript
```

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iPhone and iPod touch: Not able to check Gmail after updating to iTunes 7.6

This article has been archived and is no longer updated by Apple.

Issue or symptom

If you have iTunes 7.5 and sync your Gmail POP settings to your iPhone or iPod touch with software version 1.1.3, updating to iTunes 7.6 may result in not being able to check mail on your Gmail account because the POP account settings were not changed to IMAP. You may see the following error message:

> "Cannot Get Mail
> The connection to the server "imap.gmail.com" failed"

Solution

To prevent this, update to the latest version of iTunes such as iTunes 7.6 or later, prior to updating your iPhone or iPod touch to software version 1.1.3 or higher and then sync your Gmail account settings to the iPhone.

Use these steps if you have already updated your iPhone or iPod touch to software version 1.1.3 and are experiencing issues with your Gmail account after updating from iTunes 7.5 to iTunes 7.6:

1. Delete the Gmail account on the iPhone. Choose **Settings > Mail > your Gmail account** and tap Delete Account.
2. Connect the device to the computer and select it in iTunes.
3. Click the "Info" tab and scroll down to the Advanced section.
4. Select the checkbox for Mail Accounts under "Replace Information on this iPhone" or "Replace Information on this iPod touch" depending on your device and then sync your device using iTunes 7.6 or higher to re-create your Gmail account settings. You will need to re-enter your Gmail account password on the device.

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Mac Server G3: AppleShare IP 6.0 and Raid Performance

My Macintosh Server G3 with AppleShare IP 6.0 and/or SoftRaid 2.x formatted drives sometimes does not perform to the best of its abilities. Should I split the AppleShare IP 6.0 services onto separate computers? Should I use SoftRaid to create a RAID system?
This article has been archived and is no longer updated by Apple.
You should not have to split the AppleShare IP 6.0 services onto separate computers. However, for increased stability under heavy loads, it is recommended that the AppleShare IP Mail and Web services run on separate systems. SoftRaid is a good solution for server administrator's who wish to create a RAID system for redundancy and backup of critical data.

A few suggestions to optimize your server's performance include:
- install additional physical ram to a total of 48MB of ram or greater,
- turn Virtual Memory OFF

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Mac OS X Server 1.x: Restoring a Lost Root Password

This article lists the steps necessary to restore a lost root password.

This article has been archived and is no longer updated by Apple.
Note: This article pertains to Mac OS X Server versions 1.x, which were released prior to May 2001.

The root password is essential to system security and should always be safeguarded. Unfortunately, anything can be lost, and a password is no exception.

The first step to changing a lost password is to boot into single-user mode. For more information on booting into single user mode, please see the following :

Article 30837: "**Mac OS X Server: Booting Into Single-user Mode**"

The system starts up, displaying a series of messages. When startup is complete, you see the single-user prompt "#." Type the following command at the prompt:

```
sh /etc/rc
```

You see a series of messages appear on the screen as the rc shell script executes. During this process, NetInfo is started. You won't see a shell prompt after these messages unless you press the Return key.

Set the root password. Enter the following command at the prompt:

```
passwd root
```

You're prompted twice for the new password.

Restarting

Once the password has been changed the system must be rebooted. To restart the computer, type the following command at the prompt:

```
shutdown -r now
```

The argument "now" in the commands above can be replaced with "+n", where "n" is the number of minutes to give other users time to log out.

Warning: You must restart the system as mentioned above. Do not boot into multiuser mode. If you do, you will start duplicate system services, which will cause a number of issues.

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Mac OS X Server 1.x: What Is Needed Before NetInfo Starts

A Mac OS X Server computer needs four critical pieces of network-related information when it starts up: its IP address, network mask, broadcast address, and host name. Each piece of information can be hard-coded, so that a change requires changing information stored on the computer's hard disk, or can be obtained dynamically when the computer starts up.

This article describes how a booting computer gets these important pieces of information, and gives you some tips for making sure that configuration works properly. For information on startup steps omitted here, see the Mac OS X Server files /etc/rc.boot, /etc/rc, and /etc/rc.net. This article has been archived and is no longer updated by Apple.
Note: This article pertains to Mac OS X Server versions 1.x, which were released prior to May 2001.

Manual Or Automatic

You can set up a Mac OS X Server computer so that its network configuration information--host name, Internet address, network mask (or netmask), and broadcast address--are determined from information on the computer itself. Specifically, you can use the HostManager application to set this information, which is then stored in the file /etc/hostconfig. Once you have done this, though, changing this information is cumbersome, and replacing hardware becomes awkward too.

Alternatively, a Mac OS X Server computer can get this network configuration information automatically from the network. This is usually easier and more efficient than configuring manually. Automatic configuration often allows you to maintain this information in one central "location"--NetInfo.

Internet Address Configuration

A computer that is booting can determine its Internet address using the BOOTP protocol, which is built on top of UDP. Using this protocol, the booting computer (which we call the client computer) broadcasts its hardware network address, such as its Ethernet or token ring address. A configuration server somewhere on the local network--a BOOTP daemon called bootpd--receives the message and sends a reply. The information in the reply it sends depends on whether the configuration server's BOOTP database contains information about the client computer.

Usually the configuration server's database contains information about the client computer. The database is made up of information from the /machines directories in its immediate domain hierarchy--local domain, second-level domain, and so on through the root domain. The configuration server's /machines directories contain a directory for each client computer in the domain. In each such directory, the en_address property contains the hardware network address of the client computer. For example, at Rhino, in the /machines/pfm directory in the /info domain there is an en_address property containing the address 0:0:f:1:48:91, which is pfm's Ethernet address. If the configuration server has an appropriate /machines NetInfo subdirectory with an en_address that matches the client computer's hardware network address, then the configuration server returns the client computer's Internet address in the BOOTP reply.

If the client computer has just been added to the network, though, the configuration server will not recognize the new computer's hardware address. If the NetInfo domain is configured to add computers automatically, then the configuration server invokes automatic host addition. It sends a reply to the client computer, containing a temporary Internet address and information indicating that it is invoking automatic host addition. The temporary address is based on the configuration_ipaddr property in /machines of the NetInfo domain. Other information in the reply includes a prompt that the client computer then poses to the user, such as "Network does not recognize computer. Enter host name:".

On the other hand, if the client computer is new and the domain is not configured to add computers automatically, the configuration server sends no reply. If the client computer gets no replies, it can not boot. You have to add the computer manually using a computer that's already on the network, then reboot the new computer.

To find out more about adding computers to a network, both with and without automatic host addition, see the Mac OS X Server Network and System Administration references located in the system/ documentation directory on your server.

Multiple domains on one subnet

What if a single network or subnet has two domains on it, one of which (domain A) has automatic host addition enabled but does not have the client computer's host information, and the other of which (domain B) does have the client computer's host information? It's possible that a configuration server in domain A might respond before one in domain B!

When a client computer receives a BOOTP reply indicating that the configuration server doesn't recognize the client, it waits and retries the BOOTP request before acting on that reply. Even this isn't foolproof: if domain B's configuration server is slow and does not get a reply back to the client computer in time, the client computer might receive only the automatic host addition replies, despite delays and retries. If this occurs, reboot the client computer; if it occurs frequently, examine the communication between the client computers and the configuration servers, and the load on the configuration servers.

If both domain A and domain B have automatic host addition enabled and the client computer really is new to the network, there is no way to

specify which domain should automatically add the new computer. In a case like this, enable automatic host addition for only one of the two domains, and add new computers to the other domain manually.

Reverse ARP (RARP)

Mac OS X Server doesn't provide support for the Reverse Address Resolution Protocol (RevARP or RARP). BOOTP is a newer protocol with greater flexibility. If a device on your network requires RARP support, you will have to provide it either through third-party software or through a different piece of hardware.

Netmask and Broadcast Address Configuration

Like the Internet address, the netmask for a computer can be hard-coded or obtained from the network. Similarly, the broadcast address can be hard-coded or computed based on the netmask.

Netmask configuration

There are three classes of netmask values you can set using HostManager, which writes the information to /etc/hostconfig:

- A specific netmask, such as 255.255.255.0, 255.255.240.0, or 0xffffff80.
- The default netmask, according to the Class (A, B, or C) of the network number portion of the Internet address. For a Class A network, this is 0XFF000000 (255.0.0.0); for Class B, 0XFFFF0000 (255.255.0.0); and for Class C, 0XFFFFFF00 (255.255.255.0); see Marcum 1991. The netmask corresponds to an empty value in /etc/hostconfig. A new Mac OS X Server system has this setting.
- A directive to acquire the netmask from the network, as described below. This is specified in /etc/hostconfig by the value -AUTOMATIC-.

The ICMP protocols include provisions for getting the network mask from "the network." The booting computer sends a broadcast message, this time requesting the netmask, using an ICMP Netmask Request packet. Computers that receive the broadcast reply with their netmasks, using an ICMP Netmask Reply packet. The booting computer uses the mask in the first ICMP Netmask Reply packet that it receives.

The hazards of a bad netmask

There's an interesting caveat to automatic netmask configuration. If a computer on the network has an incorrect netmask, that wrong netmask can be propagated around the network. This can lead to apparently intermittent boot-up problems. If you suspect this as the cause of some of your troubles, you can diagnose it with the following steps:

1. Run the command ifconfigen0 on the computer where you're having troubles.

The output will be similar to:

en0: flags=63<UP,BROADCAST,NOTRAILERS,RUNNING>
inet 129.18.1.2 netmask ffffff00 broadcast 129.18.1.255

2. Examine the netmask field. The value displayed is in hexadecimal. If it's incorrect for your network, then either the value set using HostManager is incorrect or some device on your network--on that local subnet, if you're using subnets--is propagating an incorrect netmask.

Once a computer is up and running, it is usually impossible to determine which computer provided the incorrect netmask. Sometimes, you might be able to see the message sent to the console by ifconfig if you exit loginwindow to the console. During a verbose boot, though, a message like the following is sent to the console:

en0: setting netmask to 0xffffff00 received from 192.42.172.1

In this case, the node at address 192.42.172.1 provided the netmask 0xffffff00, which is equivalent to 255.255.255.0.

Other nodes might also have incorrect netmasks. If you have a network analyzer, check the replies to an ICMP Netmask Request to locate the node or nodes replying with an incorrect netmask. If you have no network analyzer, you will have to examine the source of the netmask on each computer on that network or subnet to find which are incorrect.

Broadcast address configuration

Using HostManager, you can use two sorts of broadcast address specifications--an explicit broadcast address, and an automatically computed broadcast address. Usually, you will use the automatically computed broadcast address, which is based on the computer's Internet address and netmask.

Automatic computation generates a broadcast address with the computer's network number in the network number portion of the address, and all 1 bits in the host number portion. The following table shows some examples.

Internet Address	Netmask Default	Broadcast Address
129.18.1.2	255.255.0.0	129.18.255.255
129.18.1.2	255.255.255.0	129.18.1.255
129.18.1.2	255.255.255.240	129.18.1.15

It's sometimes easier to understand unusual netmasks like the last two in the table if you see them in hexadecimal format, so here are the same addresses in hexadecimal:

Internet Address	Netmask Default	Broadcast Address
0X81120102	0XFFFF0000	0X8112FFFF
0X81120102	0XFFFFFF00	0X811201FF
0X81120102	0XFFFFFFF0	0X8112010F

For these example addresses, the Internet address remains the same and the netmask changes, masking different bits. The default broadcast address changes accordingly.

The formula for computing a broadcast address is:

broadcast_address = Internet_address | (~netmask)

The broadcast address is the Internet address logically ORed with the logical NOT of the netmask.

The alternative to automatically computing the broadcast address is to hard-code it. If you do this, you specify an Internet address using either hexadecimal or dotted-decimal notation.

Unless you have very specific reasons for changing the broadcast address, and you understand what you're doing and why, Apple Computer strongly recommends against hard-coding a broadcast address. An incorrect broadcast address can cause big problems.

Host Name Configuration

As with the Internet address, you configure the host name using HostManager; the information is stored in /etc/hostconfig. You can either hard-code the host name by specifying it explicitly, or you can have the computer get it from the network during startup. And also as with the Internet address, Apple Computer recommends that you have the computer obtain its name from the network.

Automatic host name configuration uses a SunRPC-based protocol, BOOTPARAM. This protocol is similar to the BOOTP protocol, although it is built using SunRPC on top of UDP rather than using ICMP. A booting computer broadcasts a BOOTPARAM WHOAMI request, noting its Internet address and asking for the host name corresponding to that address. If multiple servers reply to the request, the computer uses the information from the first response it receives.

When Not To Use Automatic Configuration

If a computer provides networkwide NetInfo services, hard-code that computer's Internet address and host name, and consider hard-coding its netmask as well. If a computer provides configuration services, hard-code its Internet address and host name also. Normally, a computer providing networkwide NetInfo services also provides configuration services to the network.

Hard-coding the information on these particular computers ensures that the computers providing NetInfo and configuration services do not themselves need a configuration server to boot. This is important, because if no configuration server is running and all configuration servers need to ask for their names, there's no way for any of them to start, and then no computers in the domain can start.

The Environment Before NetInfo Starts

There is one very important thing to remember when working in single-user mode or when configuring services such as syslog, local file systems, and routing that are invoked during the boot process before NetInfo is started--NetInfo is not running.

Since NetInfo isn't running, the services provided by NetInfo and the information stored in its databases are not available. The system reverts to using the Unix-style flat file databases, such as /etc/hosts.

For example, when you configure routing using SimpleNetworkStarter or HostManager, you can specify "None" for no routing, "Dynamic" to run routed, or a specific Internet address that indicates a default route. If you choose the last option, you must use the address of the router, not the host name--routing starts before NetInfo, so normal name translation services aren't available.

If you sometimes need to perform administrative tasks in single-user mode when NetInfo isn't running, you will need to set up the Unix-style flat file databases. For example, put host names in /etc/hosts and list network services you need in /etc/services. (See "The NetInfo Lookup Server--lookupd" to find out how these files are used by NIS once NetInfo is running.)

What if you are in single-user mode and you want to start NetInfo? See "The Tough Stuff."

Note: The document references in this and other articles in this issue refer to the books and articles listed in "Mac OS X Server Networking References."

Networking Terms and Protocols

ARP (Address Resolution Protocol): The part of IP that translates a high-level Internet address to a low-level physical hardware address (such as an Ethernet address).

BOOTP (Bootstrap Protocol): An IP protocol that allows a computer to acquire start-up information from the network, including its Internet address.

broadcast address: A special reserved address that broadcasts messages to all computers in a network. All hosts with the same network address receive information sent to that network's broadcast address. The special address 255.255.255.255 is the broadcast address of the current network.

host number: A computer's identification number within a network.

ICMP (Internet Control Message Protocol): An integral part of IP that handles error and control messages.

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Mac OS X Server 1.x: Review Of Network Startup (1 of 2)

This article will give a brief review of the basic network startup procedures, including network interfaces, rpc, netinfo, and lookupd. More startup scripts are reviewed in the following article:

Article 24720: "**Mac OS X Server: Review Of Network Startup (2 of 2)**"
This article has been archived and is no longer updated by Apple.
Note: This article pertains to Mac OS X Server versions 1.x, which were released prior to May 2001.

Configuring the Network Interfaces

When your computer is bootup, it runs several scripts that configure a wide variety of services that enables the computer to use the network, and its local filesystem. Theses scripts are located in the `/etc` directory and are called rc scripts. If the computer is booting into single-user mode the `rc.boot` script is executed. When a multi-user boot is taking place the rc script is executed.

The rc script does not do much itself, instead it executes the scripts in the `/etc/startup` directory. The scripts in this directory are responsible for proper configuration of the system. If you want to customize your scripts, it is best to customize the scripts in the startup directory, after backing them up.

The `/etc/startup/0800_Network` script configures the network interface and sets a hostname. It does this by processing `/etc/iftab` and `/etc/hostconfig`, with the various settings there affecting whether, for example, things such as the IP address or hostname are hard-coded or are obtained from the network. These settings are changed with the Setup Assistant, the Preferences.app, or by manually editing the `/etc/hostconfig` file.

This script also configures IP routing so IP packets can be sent to computers on other networks. Two types of routing are supported through the default mechanisms: "dynamic" routing, using the routed program and the RIP protocol, and ``static'' routing, where an explicit default route is specified. In the former case, routed builds a routing table based on the RIP packets obtained from network broadcasts. In the latter case, all remote networks are reached by forwarding the packet to the specified router.

Note: When dynamic routing is specified, the `-q` flag is used when invoking routed. This informs routed that it should not supply routing information to the network.

If static routing is requested, a command similar to the following is invoked (this command assumes that 192.42.172.1 is the address of the router for this network):

```
/usr/etc/route add default 192.42.172.1 1 >/dev/console 2>&1
```

What does this call to `/usr/etc/route` mean? It directs route to add a route to the kernel's routing table (the add keyword). This route should be used if no explicit routes are available (default). The router's address is specified next (192.42.172.1 in this example), and the router is one "hop" away (1 in this example). For details, see the system manual pages for route (8). For more information on routing in general see the networking references in last issue's column.

Routing is configured before NetInfo is started. This allows netinfod to bind and lookupd to connect across networks (subnets), although it forces you to use explicit IP addresses, rather than hostnames, for static routing configuration. (If you insist on using a symbolic hostname for routing, just ensure that it's in `/etc/hosts`, along with its IP address, and that you keep `/etc/hosts` current.)

Starting RPC

What are ``RPC'' services? RPC stands for Remote Procedure Call. With RPC, a host can make a procedure call that appears to be part of the local processes, but it is actually executed on another machine. They are those services that use the SunRPC protocol for providing a mechanism for remote procedure invocation. RPC is complex topic and will not be fully discussed here. When a program using RPC server is launched, it tells the portmapper daemon which port it is going to listen on. When an RPC client makes a request it asks portmapper which port the program is listening on. The client can then make the request on that port. You can think of the portmapper daemon as directory assistance. The portmapper is a SunRPC-based program. It happens to have a well-known port number, just as the telephone system's directory assistance service has a well-known number (411 in the United States, for example). The portmapper is used extensively by NetInfo, NFS, and NIS, among other services. RPC is started when the `/etc/startup/1000_RPC` script is executed.

Starting NetInfo

Once the portmapper and routing are configured, it's time to start NetInfo. This is done by the very simple script `/etc/startup/1100_DirectoryServices`. It has one command, `nibindd`. Nibindd is the daemon that responds to requests from clients to become part of the network. After binding has taken place the client will have access to the information stored in NetInfo.

When nibindd starts, it does the following:

- Creates a ``pid file'' (a file containing its process ID number)
- Locks the `/etc/netinfo` directory, so that no other nibindds will run
- Registers the RPC service with the RPC protocol-dispatching mechanism
- Registers its UDP and its TCP services with the portmapper
- Runs a netinfod for each NetInfo database in `/etc/netinfo`

Once started, nibindd awaits requests from clients.

How does nibindd determine which NetInfo databases exist in `/etc/netinfo`? It looks for entries in `/etc/netinfo` that have a suffix of .nidb, .move, or .temp. These entries represent NetInfo databases; those with a .move or a .temp suffix are temporary databases.

For each netinfod started by nibindd, the following steps are accomplished:

1. Check the database for consistency, if needed, calculating its checksum while so doing. Consistency checking will be needed if the checksum file is missing from the database, indicating that the previous netinfod running on that database did not terminate normally. This consistency checking verifies the internal structure of the NetInfo database.
2. Register the RPC service with the RPC protocol-dispatching mechanism.
3. Bind to a parent server if netinfod's tag is local (if its tag isn't local, parent binding is done lazily, only when necessary).
4. Register its UDP and TCP ports with nibindd.
5. If running as a clone, send a read-all request to the master, to ensure its database is synchronized with the master's. If running as a master, send a crashed request to each clone, informing the clones that the master has restarted (if the clone's database is out of date, the clone will request a new database from the master, using the readall operation).

If there's a problem in step 3 (netinfod local binding to its parent), you'll see the following message on your console:

Still searching for parent network administration (NetInfo) server. Please wait or press 'c' to continue without network user accounts.

See your system administrator if you need help.

This is the standard message; it's configurable, so yours might even be completely different from this. (The message resides in the file NetInfo.strings in the various `language.lproj` directories within `/System/Library/CoreServices/Resources/English.lproj/NetInfoStrings`; edit the portion of the message to the right of the equals sign if you want to see what's displayed.) If you see this message, it's because netinfod local is looking for a parent and not getting an answer. It'll keep looking--forever, or until it finds a parent, or until you tell it to continue without a parent. If your network just crashed (maybe there was a power failure, for example), it might take 10 or 20 minutes after all the disks are checked for NetInfo to recover completely from the failure.

Starting Lookupd

NetInfo's lookupd is also started by the `/etc/startup/1100_DirectoryServices` script. This daemon contains information about users, computer names, and group IDs. Lookupd will iterate over users in its cache by looking through the NetInfo hierarchy. It will start at the local domain and move upward through the root domain to gather this information.

Lookupd is covered in more detail in the following article:

Article 30770: "**Mac OS Server: What is Lookupd?**"

To iterate over the users in a domain, lookupd must connect to the domain. To start, lookupd connects to the local domain--the domain tagged local on the current machine--using the loopback interface (127.0.0.1).

Note: The start of the domain hierarchy--the ``address'' of netinfod local on the local host--is always known: 127.0.0.1/local in NetInfo parlance.

After connecting to the local domain and exhausting its user information, lookupd sends netinfod local a rparent message, requesting the address and tag of netinfod local's parent domain, if it has one. If there's no parent--because this machine's NetInfo is standalone and has no parent domain, even if it's on a network--the search through NetInfo ends. If there's a parent, lookupd gets the users from that parent domain--the ``second-level domain.'' Because netinfod local always binds to its parent, if it has one, before completing its startup sequence, local's parent is always available at this point, if there is one.

When lookupd exhausts the information in the second-level domain, it asks the server providing that information for its parent--for the address of a server for the third-level domain. If the domain hierarchy is two deep, the second-level server replies that it's running the root domain; if the hierarchy is deeper than two, and if the second-level server has bound to its parent already, then the address of a server for the third-level domain will be returned.

The review of network startup is continued in the following Knowledge Base article:

TA38710_Mac_OS_X_Server_x_Review_Of_Network_Startup_of_.pdf

Article 24720: "**Mac OS X Server: Review Of Network Startup (2 of 2)**"
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Mac OS X Server 1.x: Advanced Networking Tools

In managing a large Ethernet network, you need to assess your network's performance and understand how it affects servers and clients. Several programs based on Mac OS X Server's system administration tools can help you collect diagnostic data. You can also use third-party tools to design and manage networks effectively.
This article has been archived and is no longer updated by Apple.
Note: This article pertains to Mac OS X Server versions 1.x, which were released prior to May 2001.

Dealing with unplanned growth

A network can grow in many ways. For instance, if a department in your organization expands into several departments, you might use routers, concentrators, and more servers to add computers. If your network has grown without much planning, how well is it running? What are the major sources of network traffic, and are they impeding performance? How does the network's structure affect both users and hardware?

Fortunately, several network administration tools are at your disposal to help you answer these questions and plan future network expansion. Mac OS X Server provides a set of software tools to help you diagnose networking pitfalls. Many third-party products on the market can provide more detail.

Map out what's where

A great way to start understanding your network is to map it out accurately. When you have a graphical view of the physical topology of your network and a history of the changes you've made, you'll find it easier to track and plan network expansion.

Some network management systems can automatically diagram the network for you. However, you can make a map of your network with anything from pencil and paper to a complicated illustration application--the most effective tool is the one you find easiest to use.

If your network is very complex, use several diagrams. In your diagram, include all the meaningful, accurate reference information about the network that you can think of. The more complete the diagram, the easier it is to trace and correct problems.

For example, label routers and important cable segments and indicate their types, such as fiber or twisted pair. Use line style or color to indicate cable type. If a cable splits, show what device splits it--include its name, so you can query it remotely. You might even highlight hardware that's not connected to an uninterruptable power source (UPS) to note problem areas in the event of power failure. Most important, include a key that says what the symbols and colors mean, so that later you or someone else can easily understand the diagram.

If you're not sure whether to include a piece of information, throw it in just in case. You can decide over time which information is unnecessary. Better to have too much information than too little, especially when you have to fix the network fast!

Detect congestion

Packet collisions can be a major cause of network inefficiency. A collision occurs when two or more computers on the network try to transmit data at the same time. The packets collide and become deformed, losing headers, destination addresses, and the data they were meant to carry.

Because collisions are a normal part of Ethernet operations, controllers are designed to handle them properly. When a network interface detects a collision, it waits for activity on the network to stop and then tries to retransmit its data. It uses a "binary exponential back-off" policy, which works something like this: If a network interface detects a collision, it waits a random amount of time and tries to retransmit. If collisions continue, it repeats waiting a random amount of time and retrying the transmission. The algorithm it uses to choose the wait time ensures that on average, the delay time doubles with each retry attempt. This is a very effective method of handling collisions.

A correctly engineered network shouldn't have enough collisions to degrade network performance. However, when a network is overloaded with traffic or when it contains improperly configured systems, lots of collisions can result, causing a network "traffic jam."

Measuring collisions with netstat

One way to monitor collisions is to use the netstat command. netstat has several parameters to isolate different types of network traffic.

See the netstat UNIX manual page for a list of all the parameters you can use.

Below, Example 1 shows a sample of netstat output for all interfaces on the computer grunge. The -i option shows statistics on all interfaces that were automatically configured at boot time.

Example 1: Sample output from netstat -i

```
grunge> netstat -i
```

Name Mtu Network Address Ipkts Ierrs Opkts Oerrs Coll
en0 1500 mynet grunge 6976827 0 8133029 0 0
lo0 1536 loopback localhost 318631 0 318631 0 0
en0 1500 none none 7023624 217 8133029 0 74821

The statistics displayed by netstat -i are these:

- Name The name of the Ethernet interface. For example, en0 is the physical Ethernet adapter in your computer. lo0 is the loopback interface--the reserved loopback address is 127.0.0.1.
- MTU The maximum transmission unit, which is the fixed upper limit on the amount of data that can be transferred in one physical frame. The MTU for Ethernet is 1500.
- Network The logical name of the network the interface connects to. The name comes from the /networks NetInfo property.
- Ipkts The number of packets received on this interface.
- Ierrs The number of errors that occurred as packets entered this interface.
- Opkts The number of packets sent out from this interface.
- Oerrs The number of errors that occurred as packets left this interface.
- Coll The number of collisions that have occurred on this interface.

A simple test is to check the Coll value of the last Ethernet interface. It should be less than about ten percent of the total number of packets--in the example, the collision rate is well within tolerance. While this is a good quick-and-dirty test for problems, it's just a statistic--you'll need to collect more data to pinpoint exact problems. For instance, if Opkts is very small, you can't rely on the collision count to give an accurate picture of performance. Use other tools to collect data to support the values you find with netstat.

To gather more information, run netstat -i at various times of day to see if your network has higher collision rates at specific times. Focus on the peak times and match them to specific occurrences, like everyone logging in first thing in the morning or many people running some application right after lunch. Also collect more information from other computers, both clients and servers, for comparison and greater depth of data.

Study the average of the numbers--if the average number of collisions is high, some reorganization via routers and subnets may help, or perhaps further investigation is needed.

Keep in mind too that using long cables can increase the likelihood of collisions. Use shorter Ethernet segments so that the network can handle increased traffic before collisions become a problem.

Counting connections

Another way to check network load and performance is to run netstat without options and count the number of protocol connections. Table 1 shows an example.

Table 1: Sample output from netstat

grunge> netstat
Active Internet connections

Proto	Recv-Q	Send-Q	Local Address	Foreign Address	State
tcp	0	0	grunge.2866	server.2453	ESTABLISHED
tcp	0	0	grunge.688	grunge.736	ESTABLISHED
tcp	0	0	grunge.736	grunge.688	ESTABLISHED
tcp	0	0	grunge.688	grunge.719	ESTABLISHED
tcp	0	0	grunge.719	grunge.688	ESTABLISHED
tcp	0	0	grunge.716	server.714	ESTABLISHED
tcp	0	0	grunge.709	server.715	ESTABLISHED
tcp	0	0	grunge.688	grunge.707	ESTABLISHED
tcp	0	0	grunge.707	grunge.688	ESTABLISHED
tcp	0	0	grunge.704	server.714	ESTABLISHED
tcp	0	32	grunge.688	grunge.702	ESTABLISHED
tcp	0	0	grunge.702	grunge.688	ESTABLISHED
udp	0	0	localhost.ntp *.*		
udp	0	0	grunge.ntp *.*		

The Send-Q column shows the number of entries waiting to be sent out. By checking the numbers in the Send-Q column, you can see whether the network is too congested. This number should be 0 for most of the connections when things are running smoothly. If it's higher than 0 for several

connections, you might have too much traffic on the network.

Monitoring remotely

There's another special tool--snmpnetstat--for monitoring and diagnosing congestion and performance remotely, to make network administration easier. snmpnetstat is designed to run with Simple Network Management Protocol (SNMP) which is included with Mac OS X Server since Release 3.0. SNMP is a combination of host daemons and programs that can remotely and continuously monitor many network and system functions.

To find out how to install SNMP, see the Mac OS X Server Network and System Administration book.

For a Mac OS X Server interface to many SNMP queries, check out NetWatch(TM), a set of applications based on SNMP from RidgeBack Solutions, Inc.

To monitor performance on a remote computer without snmpnetstat, you log in with telnet or rsh and then run netstat. With snmpnetstat you can query the host remotely. snmpnetstat continues collecting statistics until you stop it. For instance, you can remotely invoke the SNMP daemon on grunge and then monitor grunge for collisions and bad packets.

Table 2 shows statistics on interface en0 on host grunge, collected at two-second intervals. You can use snmpnetstat to constantly monitor a host's performance, particularly to diagnose problems that are intermittent and therefore hard to catch. You can also use SNMP to make protocol-specific inquiries on a specified computer, as in Example 2.

Table 2: Sample output from snmpnetstat

```
client> snmpnetstat -I en0 grunge 2
input (en0) output input (Total) output
packets errs packets errs colls packets errs packets errs colls
206083 0 137452 2 0 618097 0 498223 2 0
0 0 0 0 36 36 0 0
11 0 9 0 0 57 0 53 0 0
0 0 0 0 0 51 0 52 0 0
2 0 1 0 0 40 0 38 0 0
11 0 8 0 0 72 0 67 0 0
0 0 1 0 0 38 0 39 0 0
10 0 8 0 0 71 0 68 0 0
2 0 1 0 0 41 0 39 0 0
5 0 1 0 0 46 0 38 0 0
11 0 10 0 0 73 0 71 0 0
1 0 1 0 0 38 0 38 0 0
0 0 0 0 0 36 0 36 0 0
...
client1> snmp grunge
snmp> ip-status
The SNMP entity is acting as a host.
The default time-to-live for IP packets is 60 msec.
Datagrams received: 407020, forwarded: 0, consumed: 407024
format errors: 0, misdeliveries: 0, resource limitations: 0
destined for unknown protocols: 0
Datagrams req'd for transmission: 0, discarded due to no route: 0
Timeout value for reassembly queue: 60
Fragments created: 0, Fragments received needing reassembly: 12344 Datagrams successfully reassembled: 12344, successfully fragmented: 0
Datagrams needing fragmentation (but the IP flags field said not to): 0

snmp> tcp-status
The retransmission algorithm is vanj.
Min/max retransmission times are: 1000/64000 (msecs)
Max # of simultaneous TCP connections allowed: -1
Number of active opens: 358, passive opens: 266, current open connections:
21
Failed connection attempts: 0, connection resets: 0
Number of segents received: 144189, sent: 143194, retransmitted: 14
```

Example 2: Making an SMNP protocol query

The first query in the example in Figure 5 asks grunge for its IP statistics. These statistics include important information on network fragmentation

and general protocol errors. The second query requests TCP statistics, such as the number of failed connection attempts.

UDP statistics aren't currently enabled in Mac OS X Server, so the SNMP command udp-status doesn't work.

Check out file system performance

The Network File System (NFS) protocol suite can account for a major part of network traffic. Computers use NFS to mount file systems from one computer to another. Copying and moving files, for example, are handled by NFS. Because NFS is usually very heavily used, its performance has a big effect on overall network performance.

One way to find NFS performance problems is to look at individual clients that import directories, and isolate any that are dropping packets or are being overloaded. In Figure 6, nfsstat shows the NFS statistics for client1. nfsstat -c reports statistics about NFS requests that this system created.

```
client1> nfsstat -c

Client rpc:
calls badcalls retrans badxid timeout wait newcred
4267683 54 529 2 582 0 0
```

Figure 6: Sample output from nfsstat -c

The statistics displayed are:

- calls Number of RPC calls initiated
- badcalls Number of calls rejected
- retrans Number of times a call was resent
- badxid Number of packets that lost data
- timeout Number of times a call timed out
- wait Number of times a call had to wait on a busy client handle
- newcred Number of times authentication information had to be refreshed

The most important values are those for retrans, badxid, and calls. The retrans field (here a client RPC value) indicates the number of RPC requests the client had to retransmit while reading or writing files using NFS. If the number of retransmissions is larger than five percent, then the interface has needed to repeat RPC requests from a server a relatively high percentage of the time, and may be in trouble. If retrans is large and badxid and time-out are roughly equal, then one or more of your computers is dropping packets. This means it's too bogged down to handle all incoming requests and is refusing client RPC requests.

Because this data comes from the client RPC, it represents the NFS server's load more than the network hardware's load. To measure possible network problems with netstat -c, see if retrans is high and badxid is relatively close to zero. If so, retransmissions might be caused not by server slowness but by network data corruption. You'll need to use a network analyzer (see the next section) to look at the original network packets and check for data corruption.

To learn more about NFS, see the Mac OS X Server Network and System Administration book.

To find out how to tune NFS, see "NFS Performance Tuning" in this issue.

Go looking for trouble

An effective all-purpose networking tool is a network analyzer, usually a portable computer equipped with a special Ethernet adapter and software for network monitoring. You can connect it to the network at critical locations to test everything from the packets traversing two computers to the total statistics of an entire network. Figure 7 shows statistics from a Network General Sniffer.

With a network analyzer you can collect data to find peak network load and possible weaknesses in design. In addition to a complete suite of scripts and statistics, network analyzers can generate heavy network traffic on demand for testing, and also isolate and study the form and function of any message that traverses the net! While a network analyzer is a large investment, it's invaluable in solving problems and understanding the true nature of networking.

Network History

This report provides the error history for a specified length of time.
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Mac OS X Server 1.x: Recovering From NetInfo Disasters

This article gives a brief overview of how to recover from the following disasters

1. A NetInfo database is destroyed.

2. The only clone of a domain on a given subnet becomes unavailable for a long time, perhaps because its host computer's power supply fails.

3. The master NetInfo server's computer fails.

This article has been archived and is no longer updated by Apple.
Note: This article pertains to Mac OS X Server versions 1.x, which were released prior to May 2001.

1. A NetInfo database is destroyed:

The easiest thing to do is to restore the database from your backups. Be sure to do this in single-user mode with NetInfo shut down.

A backup of your NetInfo database is made every night (assuming you computer is on overnight) into /var/backups. In the event that you just did something nasty to your NetInfo configuration, you can restore yesterday's version by entering the following commands:

```
mv /etc/netinfo /etc/netinfo.old
cd /var/backup
pax -rw netinfo /etc
```

Then restart the computer.

If restoring in single-user mode is impossible, remove any vestiges of the .nidb directory you are going to restore, start up the computer, restore the database, and reboot the computer. This procedure ensures there is no netinfod trying to work with a corrupted or partial database.

2. The only clone of a domain on a given subnet becomes unavailable for a long time, perhaps because its host computer's power supply fails.

If a clone fails, the easiest thing to do is to build a new clone. See the Mac OS X Server Networking and System Administration manual for details.

3. The master NetInfo server's computer fails catastrophically.
Read "The Crash of the Master NetInfo Server"; Cottle,1993.

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Mac OS X Server 1.x: Restoring NetInfo Configuration

This document explains how to restore Mac OS X Server 1.2 NetInfo Configurations.

Important: This document does not apply to Mac OS X Server 10.x.

This article has been archived and is no longer updated by Apple.
Note: This article pertains to Mac OS X Server versions 1.x, which were released prior to May 2001.

In certain circumstances you may want to restore your NetInfo database from a backup copy or from the default templates that are installed with the server software. For instance, you might want to replace a corrupted NetInfo database or undo unwanted changes.

Warning: Creating a new NetInfo database from the default templates will erase all changes that you have made to NetInfo since installation. If you have invested a lot of time configuring a NetInfo database, you probably want to rebuild it from scratch only as a last resort. If possible, it is generally easier to restore the `/etc/hostconfig` file and the contents of `/etc/netinfo` from backups made when the network was functioning properly.

In either case, you should start up the server computer into single-user mode before replacing the NetInfo database. For information on how to start up into single-user mode see:
Article 30837: "**Mac OS Server: Starting Up Into Single-User Mode.**"

When Mac OS X Server is starts up into Single-User Mode, the file system is mounted as read only. To carry out either of the procedures outlined below, you must mount it as read-write.

First, for safety, run fsck:

```
#fsck -f -y
```

fsck will then run. At the next command prompt (#), mount the file system:

```
#/sbin/mount -uw /
```

Restoring from backup

A backup of your NetInfo database is made every night (assuming your server computer is on overnight) into the `/var/backups` directory. In the event that you just did something catastrophic to your NetInfo configuration, you can restore yesterday's version.

1. Start up the server computer into single-user mode
2. At the # prompt, enter the following commands to rename the current NetInfo database and replace it with the archived copy:

```
mv /etc/netinfo /etc/netinfo.old
cd /var/backups
pax -rw netinfo /etc
```

3. Restart the server computer.

Restoring from defaults

You need to do three things: obtain a default NetInfo database, an original hostconfig file, and an original hosts file.

1. Start up the server computer into single-user mode
2. At the # prompt, enter the following commands to rename the current files:

```
cd /etc
mv netinfo netinfo.old
mv hostconfig hostconfig.old
mv hosts hosts.old
```

3. Enter the following commands to copy the default files back to the `/etc` directory:

```
cp -rp /usr/template/client/etc/netinfo /etc
cp -p /usr/template/client/etc/hostconfig /etc
cp -p /usr/template/client/etc/hosts /etc
```

```
reboot
```

This sets your server computer back to a default NetInfo configuration, as it was when you first installed Mac OS X Server. When the computer is finished starting up the Setup Assistant will run.

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Mac OS X Server 1.x: "Cannot Connect to Network" Error

When I start up Mac OS X Server, I get a message indicating "cannot connect to network, press Control-C to continue." I believe this is because NetInfo is improperly configured or corrupted. What can I do to start up the server?
This article has been archived and is no longer updated by Apple.
Note: This article pertains to Mac OS X Server versions 1.x, which were released prior to May 2001.

This problem can have a variety of causes. Two possibilities are that the NetInfo database has been corrupted or the network interface card has been removed.

One solution is to rebuild the NetInfo database to a default configuration.

First, start up the computer in single-user mode.

The computer starts up to the single-user command line. Next, at the command line type these commands to copy a new NetInfo database and new hostconfig file:

```
# cp -rp /usr/template/client/etc/netinfo /etc

# cp -p /usr/template/client/etc/hostconfig /etc
```

This sets your computer back to a default NetInfo configuration as it was when you first installed Mac OS X Server. You can then use NetworkManager in /System/Administration to reconfigure the computer.

Warning: Creating a new NetInfo database may be a drastic measure under certain circumstances. If you've invested a lot of time configuring a NetInfo database, you probably want to rebuild it from scratch only as a last resort. If you feel this is your situation, ask an experienced Mac OS X Server system administration expert for help before replacing the database. A better choice might be to restore the /etc/hostconfig file and the contents of /etc/netinfo from backups made when the network was functioning properly.
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Mac OS X Server 1.x: Starting NetInfo Manually

Sometimes when you encounter problems during system startup, you can fix them by booting in single-user mode and starting NetInfo manually.
This article has been archived and is no longer updated by Apple.
Note: This article pertains to Mac OS X Server versions 1.x, which were released prior to May 2001.

The simplest way to do this is to run this command:

```
sh /etc/rc
```

In case this hangs, though, and you must execute each step yourself after running "fsck -y" and "mount -uw /" as instructed by the first single user prompt:

Option 1: Run needed startup files up to and including 1100_DirectoryServices by hand:

```
cd /etc/startup
./0100_LocalMounts
./0300_VirtualMemory
./0500_MachMessaging
./0600_Disks
./0900_SystemLog
./1000_RPC
./1100_DirectoryServices
```

You can cheat and do the above like so:

```
for i in 0[123456789]* 1[01]*; do $i; done
```

Option 2: Run exactly the needed commands:

```
mount -vat ufs
mach_swapon -av
nmserver -nonet
autodiskmount
syslogd
portmap
nibindd
lookupd
```

If any of the above hangs, see the startup file that runs the busted program to see how it is normally launched. For example, 0300_VirtualMemory ensures that a swapfile exists before running mach_swapon. This is usually already the case.
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A/UX: Setting "sash" Variable From the Menu

Article Change History

08/31/92 - REVIEWED
* For technical accuracy.

Setting "sash" Variable From the Menu

This article has been archived and is no longer updated by Apple.
If the root directory controller number is changed in the Preferences menu, the "sash" variable is not adjusted to the new value. To pick up the change, you have quit from the "sash" and rerun it.

Normally, when "sash" is first invoked, it performs a "chroot" command to whatever "sash" variable "ROOT" was set to in a previous session. If the root directory controller number in the menu is changed, the "sash" variable "ROOT" changes to that number -- but it is not "export"ed.

To launch A/UX from a different drive, choose either of the following methods:

- Issue the "launch (x, y, z)/unix" command.

- or -

1) Issue the "chroot (x, y, z)" command (where x is the SCSI ID, y is SCSI subdrive ID, and z is the slice number in the drive).

2) Then issue the "launch" command. (Selecting a different controller number from the menu or setting the variable "ROOT" immediately does not affect the change on the root directory.)

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Mac OS 8.5: LocalTalk Bridge 2.1 Compatibility

This article discusses LocalTalk Bridge 2.1 and Mac OS 8.5.
This article has been archived and is no longer updated by Apple.
The Open Transport 2.0 Read Me -- Part 1 states the following:

"Apple LocalTalk Bridge 2.1 is compatible with Open Transport. (See Known Incompatibilities for more information.)"
However, there is no additional information under Known Incompatibilities.

Apple has done only limited testing with Apple LocalTalk Bridge 2.1 under Mac OS 8.5.

LocalTalk Bridge 2.1 is not completely compatible with Mac OS 8.5, and no update to this product is expected.

Customers should be aware of the following issue:

When LocalTalk Bridge 2.1 is installed, switching AppleTalk from Ethernet to another port may cause difficulties. Customers should disable LocalTalk before switching ports.

Alternatives to LocalTalk Bridge:

For information on other LocalTalk-to-Ethernet solutions, visit the Macintosh Products Guide at http://guide.apple.com/

For more information on Apple LocalTalk Bridge visit the following articles:
Article 17366: "**Apple LocalTalk Bridge: Description**"
Article 17367: "**Apple LocalTalk Bridge: Specifications**"
Article 60290: "**Apple LocalTalk Bridge 2.1: Read Me**"
Published Date: Feb 18, 2012

Mac OS 8.5: Difference between Network Browser and Chooser

This article describes the difference between the Network Browser (introduced with Mac OS 8.5) and the Chooser.
This article has been archived and is no longer updated by Apple.
The Network Browser connects to AppleShare and AppleShare-IP-type services. The Chooser connects to those and everything else that it always has (Apple printers, third-party printers and network services (mail and so on)).
Published Date: Feb 18, 2012

LaserWriter 8500: Disabling the Startup Page

I cannot disable the Startup page on my Apple LaserWriter 8500 with the Apple Printer Utility. Each time I reboot the printer a Startup page prints.

Also when I relaunch the Apple Printer Utility the print startup page option is checked again.
This article has been archived and is no longer updated by Apple.
The Apple LaserWriter 8500 will print a Startup page when powered on whenever the Communication Switch is in the "reset" or "factory default" position, that is the switch is in the "out" position.

If you do not want a Startup page to print when the printer is powered on, place the Communication Switch in the "normal" or "customize" location, in the "in" position, then via the Apple Printer Utility uncheck the checkbox for "Print a startup page each time the printer is turned on."

Note: When you try, with the Apple Printer Utility, to disable the Startup page when the switch is in the reset position, this dialog is displayed:

Warning:
Some settings will not be saved on the next power cycle. (See switch position)

If you receive this message, place the Communication Switch in the normal position sometime before restarting the printer so as to not print the startup page.
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InterPoll: Why It Doesn‘t Detect Bridges or Gateways

Some users have noticed that Inter*Poll only displays local bridges when encountering bridges or gateways, like a FastPath. For example, in an office with an Ethernet backbone and three Kinetics FastPaths, Inter*Poll finds all devices on AppleTalk and Ethernet. However, it ignores two FastPaths that reside outside the Inter*Poll workstation zone.

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The reason for this is that unnamed network devices, like bridges or gateways, do not respond to echo packets outside their assigned networks. Therefore, Inter*Poll fails to detect bridges and gateways located beyond the local network.

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Mac OS 8.5: Monitor Resolution Changes After Installing

After performing a clean installation of Mac OS 8.5, your monitor resolution may change from its previous settings.
This article has been archived and is no longer updated by Apple.
You can change your monitor resolution back by using the Monitors & Sound control panel.

If you have experienced other issues since installing Mac OS 8.5 please read the About Mac OS 8.5 Read Me and Installing Mac OS 8.5 Read Me that come with Mac OS 8.5.

This information is from Article 58129: "**Mac OS 8.5: About Mac 0S 8.5 Read Me**"
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Mac OS 8.5: Unusual or Inconsistent Appearance in Applications

Some applications may exhibit unusual or inconsistent cosmetic anomalies when used with Mac OS 8.5. These should not impact the performance of the application.
This article has been archived and is no longer updated by Apple.
Contact the manufacturer of the application to see if an updated version is available.

If you have experienced other issues since installing Mac OS 8.5 please read the About Mac OS 8.5 Read Me and Installing Mac OS 8.5 Read Me that come with Mac OS 8.5.

This information is from the Tech Info Library Article 58129: "**Mac OS 8.5: About Mac 0S 8.5 Read Me**"

Tech Info Library Article 17159: "**Locating Vendor Information**" can help you search for a particular vendor's address and phone number.
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Mac OS 8.5: Applications that install QuickTime

Some applications replace the version of QuickTime installed by Mac OS 8.5 with an earlier version of QuickTime. This can cause incompatibilities with other parts of the system that require features of the newer version of QuickTime.
This article has been archived and is no longer updated by Apple.
If this occurs, you must re-install QuickTime from the Mac OS 8.5 CD by selecting "Add/Replace" in the installer, and then performing a custom installation.

If you have experienced other issues since installing Mac OS 8.5 please read the About Mac OS 8.5 Read Me and Installing Mac OS 8.5 Read Me that come with Mac OS 8.5.

This information is from Article 58129: "**Mac OS 8.5: About Mac 0S 8.5 Read Me**".
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Mac OS 8.5: Using At Ease

Some of the Mac OS 8.5 control panels cannot be enabled for At Ease users and will not appear in At Ease Setup.
This article has been archived and is no longer updated by Apple.
You should use these control panels in the Finder before running At Ease.

Note: At Ease does not support file sharing. Do not turn on file sharing when using At Ease or your computer may "freeze."

If you have experienced other issues since installing Mac OS 8.5 please read the About Mac OS 8.5 Read Me and Installing Mac OS 8.5 Read Me that come with Mac OS 8.5.

This information is from Article 58129: "**Mac OS 8.5: About Mac 0S 8.5 Read Me**".
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Mac OS 8.5: Command-Tab Shortcut & Third Party Applications

The keyboard shortcuts to switch back and forth between applications are Command-Tab and Command-Shift-Tab. These shortcuts may conflict with some third party applications.
This article has been archived and is no longer updated by Apple.
An assistant for changing this keyboard shortcut can be found in the on-line Mac OS Help within the "Files and Programs" chapter, under "Switching between open programs."

If you have experienced other issues since installing Mac OS 8.5 please read the About Mac OS 8.5 Read Me and Installing Mac OS 8.5 Read Me that come with Mac OS 8.5.

This information is from the Tech Info Library Article 58129: "**Mac OS 8.5: About Mac 0S 8.5 Read Me**".

Tech Info Library Article 17159: "**Locating Vendor Information**" can help you search for a particular vendor's address and phone number.

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NuBus Card: Parts for Custom-Building

This article contains questions and answers about sources and specifications, for anyone interested in building a NuBus video card to drive multiple displays from one board.

This article has been archived and is no longer updated by Apple.
- Where do you purchase male DIN 8 connectors?

Male DIN 8 connectors are available from Advanced Electronic Support Products, Inc. (AESP).

- What is the Belden part number for the video cable used by Apple? If this is not available, what is the cable configuration, and can it be expanded to 50 feet?

The Macintosh II video cable is custom built for Apple. However, companies (like Advanced Electronic Support Products) manufacture cables to client specifications.

Here is the cable configuration. There are four video signals and four ground pins on the Macintosh II video card DB-15 female connector:

1 RED VIDEO GROUND
2 RED (analog)
3 CSYNC* (TTL) used by Apple Displays
4 CSYNC GROUND
5 GREEN + CSYNC (analog) used for monochrome; CSYNC not used by Apple displays
6 GREEN CSYNC GROUND
9 BLUE (analog)
12 GREEN + CSYNC (analog) not used
13 BLUE VIDEO GROUND

*Composite sync (vertical and horizontal).

A custom video extension cable for a Macintosh II requires a cable with a 75-ohm impedance value (usually RG59U standard coaxial video cable). Each line ties to the appropriate pin at the connector, and the shield is connected to the signal ground pin.

Impedance: 75 ohm
Signal Strength: 13.33 amps, 1 volt

The video signal can be extended 1,000 feet (although there is some color loss at this distance). The signal should be reliable up to 50 feet. The distance is limited by the loss of signal strength through cable resistance.

For more information on pin-outs, cable wiring, and technical specifications, search on "Macintosh II Video Signals".

- Who manufactures the edge connectors--the connector that goes out the back of the Macintosh II, not the motherboard connector--for the NuBus cards?

A source for the video connectors (Part Number:745782-6) is AMP, Inc., of Southeastern, PA.

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Mac OS 8.5: Connectix Virtual PC Compatibility

Connectix Virtual PC 2.0 and 2.0.1 are not compatible with Mac OS 8.5 and users should update to version 2.1 or later.
This article has been archived and is no longer updated by Apple.
Connectix Virtual PC 1.x users should upgrade to version 2.1 or later for Mac OS 8.5 compatibility.

The Connectix Virtual PC 2.1.1 updater is available as a free download for all Connectix Virtual PC 2.0 owners from the Connectix Web site at http://www.connectix.com. This updater will update Virtual PC 2.0, 2.0.1 or 2.1. It will not update version 1.0 or 1.0.1.

If you have experienced other issues since installing Mac OS 8.5 please read the About Mac OS 8.5 Read Me and Installing Mac OS 8.5 Read Me that come with Mac OS 8.5.

This information is from the Knowledge Base article 58129: "**Mac OS 8.5: About Mac 0S 8.5 Read Me**".

Knowledge Base article 17159: "**Locating Vendor Information**" can help you search for a particular vendor's address and phone number.
Published Date: Feb 18, 2012

Mac OS 8.5: Desktop Printer Extension File Is Incompatible

The Desktop Printer Extension file is incompatible with Mac OS 8.5. It may cause your computer to "freeze" when starting up.
This article has been archived and is no longer updated by Apple.
Restart with the Shift key held down and remove the file from the Extensions folder, then restart. See Figure 1.

Figure 1: Desktop Printer Extension file.

If you have experienced other issues since installing Mac OS 8.5 please read the About Mac OS 8.5 Read Me and Installing Mac OS 8.5 Read Me that come with Mac OS 8.5.

This information is from article 58129: "**Mac OS 8.5: About Mac 0S 8.5 Read Me**".

Note: Desktop printing still works under Mac OS 8.5; just the Desktop Printing Extension is incompatible.
Published Date: Feb 18, 2012

Mac OS 8.5: Iomega 6.0.1 Driver and Virtual Memory

Mac OS 8.5 includes support for the use of removable media (like the Iomega Jaz drive) for Virtual Memory. However, the currently shipping version of the Iomega driver included with this release does not support the use of an Iomega drive for Virtual Memory.
This article has been archived and is no longer updated by Apple.
A new driver, Iomega driver version 6.0.2, is under development and will support this new feature. The 6.0.2 driver should be available for free download at '**http://www.iomega.com**' in September 1998.

If you wish to install Mac OS 8.5 onto a Zip or Jaz disk, you should change the backing volume used by Virtual Memory to a non-removeable volume. To do this, disable extensions while restarting the first time by holding down the shift key. Open the Memory control panel and turn on Virtual Memory. The Memory control panel will let you set the VM backing volume to a volume that is compatible with VM.

If you have experienced other issues since installing Mac OS 8.5 please read the About Mac OS 8.5 Read Me and Installing Mac OS 8.5 Read Me that come with Mac OS 8.5.

This information is from the Tech Info Library Article 58129: "**Mac OS 8.5: About Mac 0S 8.5 Read Me**".
Published Date: Feb 18, 2012

Mac OS 8.5: FM Radio Application and Appearance sounds

You may find that launching the FM Radio application after turning on Appearance Sounds disables sound.
This article has been archived and is no longer updated by Apple.
This can be remedied by turning off Appearance Sounds before launching the FM Radio application and turning them back on after the application is running.

If you have experienced other issues since installing Mac OS 8.5 please read the About Mac OS 8.5 Read Me and Installing Mac OS 8.5 Read Me that come with Mac OS 8.5.

This information is from the Tech Info Library Article 58129: "**Mac OS 8.5: About Mac 0S 8.5 Read Me**".
Published Date: Feb 18, 2012

Mac OS 8.5: Some Application will not Open

Some application programs may require additional memory when used with Mac OS 8.5. Also, a small number of application programs will not open if the system font is not set to Chicago.
This article has been archived and is no longer updated by Apple.
1) Some programs may require additional memory when used with Mac OS 8.5.

If a program will not open, select the program's icon, choose Get Info from the File menu and increase its minimum memory allocation by 300K. See the Memory topic in Mac OS Help for more information.

2) A small number of application programs will not open if the system font is not set to Chicago.

Use the Appearance control panel and change the large system font to Chicago, then open the program again. Contact the manufacturer of the program to see if an updated version is available.

If you have experienced other issues since installing Mac OS 8.5 please read the About Mac OS 8.5 Read Me and Installing Mac OS 8.5 Read Me that come with Mac OS 8.5.

This information is from Knowledge Base article 58129: "**Mac OS 8.5: About Mac 0S 8.5 Read Me**".
Published Date: Feb 18, 2012

Mac OS 8.5: Password Security protects one partition only

This article discusses the Password Security control panel.
This article has been archived and is no longer updated by Apple.
The Password Security control panel asks for a password in order to start up the computer. If you have formatted your internal hard disk so it has more than one partition, only the startup partition will be password-protected. Additionally, if more than one partition has a System Folder, the PowerBook may start up from a non-protected partition.

If you have encountered other issues since installing Mac OS 8.5 please read the About Mac OS 8.5 Read Me and Installing Mac OS 8.5 Read Me that come with Mac OS 8.5.

This information is from Article 58129: "**Mac OS 8.5: About Mac 0S 8.5 Read Me**".
Published Date: Feb 18, 2012

Mac OS 8.5: PowerBook 3400/G3 Modem

To function properly, Ethernet on the PowerBook 3400 and PowerBook G3 (but not the G3 Series) computers requires the PowerBook 3400/G3 Modem extension.
This article has been archived and is no longer updated by Apple.
This extension is installed by the Mac OS 8.5 installer and should not be removed, even if other modem software is installed. Removing this extension prevents you from making Ethernet connections.

If you have experienced other difficulties since installing Mac OS 8.5 please read the About Mac OS 8.5 Read Me and Installing Mac OS 8.5 Read Me that come with Mac OS 8.5.

This information is from Article 58129: "**Mac OS 8.5: About Mac 0S 8.5 Read Me**".
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Mac OS 8.5: Reinstalling Printer Drivers

If you perform a clean installation of Mac OS 8.5, and an icon for your printer is not available in the Chooser, you may need to reinstall the software that came with your printer.
This article has been archived and is no longer updated by Apple.
If you have a StyleWriter, StyleWriter II, or StyleWriter 1200, you can use the StyleWriter 1500 driver that comes with Mac OS 8.5 instead of installing your original printer software.

If you have a Color StyleWriter 2200 or Color StyleWriter 2400, you can use the Color StyleWriter 2500 driver instead.

After performing a clean installation of Mac OS 8.5, you must re-install fonts and ink jet watermarks.

If you have encountered other issues since installing Mac OS 8.5 please read the About Mac OS 8.5 Read Me and Installing Mac OS 8.5 Read Me that come with Mac OS 8.5.

This information is from Article 58129: "**Mac OS 8.5: About Mac 0S 8.5 Read Me**".
Published Date: Feb 18, 2012

Mac OS 8.5: Switching between LocalTalk Network & Serial Printer

This article discusses switching between a LocalTalk network and a serial printer.
This article has been archived and is no longer updated by Apple.
If you use the same port to alternately connect to a LocalTalk network and a serial printer, the port is not always correctly released after you turn off AppleTalk to use the printer. If you have trouble printing after turning AppleTalk off, restart the computer.

If you have experienced other issues since installing Mac OS 8.5 please read the About Mac OS 8.5 Read Me and Installing Mac OS 8.5 Read Me that come with Mac OS 8.5.

This information is from the Tech Info Library Article 58129: "**Mac OS 8.5: About Mac 0S 8.5 Read Me**".
Published Date: Feb 18, 2012

Mac OS 8.5: Drive Setup and Energy Saver

This article discusses using Drive Setup and Energy Saver.
This article has been archived and is no longer updated by Apple.
When using Drive Setup to perform an extended operation, such as testing the disk, initializing the disk with a low level format, or zeroing all data, use the Energy Saver control panel to set the hard drive sleep setting to "Never".

This prevents errors caused by the hard disk spinning down before Drive Setup completes the operation.

If you have experienced other difficulties since installing Mac OS 8.5 please read the About Mac OS 8.5 Read Me and Installing Mac OS 8.5 Read Me that come with Mac OS 8.5.

This information is from Knowledge Base article 58129: "**Mac OS 8.5: About Mac 0S 8.5 Read Me**".
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HyperCard: Various Search Scripts

You'll often use HyperCard to search for specific information. The usual way to do this is with the Find command in the message box, but sometimes a button that searches only specific fields is more appropriate.
This article has been archived and is no longer updated by Apple.
The standard Find command searches all text fields on all backgrounds of the current stack. If you want searches to include more than one stack, you need to include a stack script in each stack to extend the Find command to search all relevant stacks.

The following button script searches for the selection in stacks "A" and "B":

```
on mouseUp
set lockScreen to true - so you don't see the stacks change
get selection
go to stack A
find it
if the result is empty then
go to stack B
find it
if the result is empty then
go back
answer "Sorry, no more information on that topic."
end if
end if
set lockScreen to false
end mouseUp
```

Sometimes, however, you may not want a search to occur because of an explicit Find Command: you'll want a script to search for text in your stacks as a result of an action.

For example, in a phone message stack, when you enter the name of the caller, you want to look up the caller's phone number in the Address stack. Include the following in the background script:

```
on closeField - on Tab or Return key or mouse click
set lockScreen to true
get field "Name" - from this stack
go to stack "address"
find it
get field "Phone" - from Address stack
go back - to first card of Address stack
go back - to original card
put it into field "Phone" - on the stack
set lockScreen to false
end closeField
```

If you know what you are searching for, such as a name, you can limit the search to certain fields, using the form:

```
find it in field "Name"
```

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Mac OS 8.5: QuickTime PowerPlug Version

This article discusses the installing the latest version of QuickTime PowerPlug.
This article has been archived and is no longer updated by Apple.
Mac OS 8.5 includes a new version of the QuickTime PowerPlug for computers with PowerPC microprocessors. The QuickTake 150 Installer replaces it with an older version (version 2.0).

To install the QuickTake 150 software, first remove the newer version of the QuickTime PowerPlug extension from the Extensions folder (within the System Folder) then install the QuickTake 150 software. After installation is finished, drag the PowerPlug file back to the Extensions folder, replacing the older one.

If you have experienced other problems since installing Mac OS 8.5 please read the About Mac OS 8.5 Read Me and Installing Mac OS 8.5 Read Me that come with Mac OS 8.5.

This information is from the Tech Info Library Article 58129: "**Mac OS 8.5: About Mac 0S 8.5 Read Me**".
Published Date: Feb 18, 2012

Mac OS 8.5: QuickTake Image Access

When you are copying pictures from a QuickTake 100 or QuickTake 150 camera to your computer, make sure all the pictures you want have finished copying before you erase the contents of the camera.
This article has been archived and is no longer updated by Apple.
Previously, you could not erase the camera until copying was completed. Mac OS 8.5 can perform other tasks while copying files so it is possible to accidentally erase the pictures before they have been copied from the camera. You cannot recover a picture once it is erased from the camera.

If you have encountered other issues since installing Mac OS 8.5 please read the About Mac OS 8.5 Read Me and Installing Mac OS 8.5 Read Me that come with Mac OS 8.5.

This information is from Knowledge Base article 58129: "**Mac OS 8.5: About Mac 0S 8.5 Read Me**".
Published Date: Feb 18, 2012

CLW 12/600 - 12/660: Disabling the Startup Page

I cannot disable the Startup page on my Apple Color LaserWriter with the Apple Printer Utility. Each time I reboot the printer a Startup page prints.

Also when I relaunch the Apple Printer Utility the print startup page option is checked again.
This article has been archived and is no longer updated by Apple.
The Apple Color LaserWriter 12/600 or 12/660 will print a Startup page when powered on whenever the Configuration Switch is in the "factory default" or "standard settings" position, that is, the switch is positioned to the left.

If you do not want a Startup page to print when the printer is powered on, place the Configuration Switch in the customize location, to the right, then via the Apple Printer Utility uncheck the checkbox for "Print a startup page each time the printer is turned on."

Note: When you try with the Apple Printer Utility to disable the Startup page, when the switch is in the factory default position, this dialog is displayed:

Warning:
Some settings will not be saved on the next power cycle. (See switch position)

If you receive this message, place the Configuration Switch in the customize position, sometime before restarting the printer, to not print the startup page.
Published Date: Feb 18, 2012

PowerBook 100 Series: I/O Ports

This article provides I/O panel information for the following PowerBooks: 100, 140, 145, 150, 160, 170, 180 and 190.

For additional PowerBook I/O Panel information please visit the following TIL articles:
Tech Info Library Article 30804: "**PowerBook 500,5300,14/2400 & 3400/G3: I/O Ports**"
Tech Info Library Article 30805: "**PowerBook Duo & Portable: I/O Ports**"
This article has been archived and is no longer updated by Apple.

PowerBook 100 I/O Panel

PowerBook 140/145/170 I/O Panel

PowerBook 150 I/O Panel

PowerBook 160/180 I/O Panel

PowerBook 190 I/O Panel

Published Date: Feb 18, 2012

PowerBook Duo & Portable: I/O Ports

This article provides I/O panel information for the following PowerBooks: Duo Series, Duo Floppy Disk Adaptor, Duo Mini Dock, Duo Dock and Macintosh Portable.

For additional PowerBook I/O Panel information please visit the following TIL articles:
Tech Info Library Article 30803: "**PowerBook 100 Series: I/O Ports**"
Tech Info Library Article 30804: "**PowerBook: I/O Ports**"
This article has been archived and is no longer updated by Apple.

PowerBook Duo I/O Panel

PowerBook Duo Floppy Disk Adaptor

PowerBook Duo Mini Dock I/O Panel

PowerBook Duo Dock I/O Panel

Macintosh Portable I/O Panel

Published Date: Feb 18, 2012

Mac OS 8.5: Using Acrobat PDF Documents

This article contains instructions on how to view the Acrobat files on the Mac OS 8.5 CD.
This article has been archived and is no longer updated by Apple.
Some of the manuals included with Mac OS 8.5 are in Adobe Acrobat format. These files have "pdf" at the end of their names. To view or print these documents you must install Adobe Acrobat Reader, located in the Adobe software folder on the Mac OS 8.5 CD.

If you have encountered other issues since installing Mac OS 8.5 please read the About Mac OS 8.5 Read Me and Installing Mac OS 8.5 Read Me that come with Mac OS 8.5.

This information is from the Knowledge Base article 58129: "**Mac OS 8.5: About Mac 0S 8.5 Read Me**".
Published Date: Feb 18, 2012

Mac OS 8.5: Using Monitors & Sound With Add-on Devices

This article discusses how to set up add-on devices using the Monitor & Sound control panel.
This article has been archived and is no longer updated by Apple.
If you have a video or sound device that cannot be accessed using the Monitors & Sound control panel, use the Monitors control panel, or the Sound control panel, located in the Apple Extras folder. Unless you specifically need to use the Monitors control panel or the Sound control panel, the unified Monitors & Sound control panel should be used instead.

If you have experienced other difficulties since installing Mac OS 8.5 please read the About Mac OS 8.5 Read Me and Installing Mac OS 8.5 Read Me that come with Mac OS 8.5.

This information is from Knowledge Base article 58129: "**Mac OS 8.5: About Mac 0S 8.5 Read Me**".
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MacTerminal: MacroMaker for Sending Escape Sequences

This article has been archived and is no longer updated by Apple.

Some users want to send application commands with the keypad in VT100 mode. However, when using MTMOD, the keypad sends only the character code for the number, while showing the correct setting on the screen. For example, when you press the "9" on the keypad, MacTerminal sends "9" instead of Esc,"O","y".

To send an escape sequence instead of a number use MacroMaker, part of the recently released System Software 6.0. MacroMaker can send the escape sequence correctly. You can redefine the "9" on the keypad, because MacroMaker understands the keypad as a separate set of keys.

Note: MTMOD does not work with later versions of MacTerminal.

Published Date: Feb 18, 2012

Mac OS 8.5: Late Breaking Tips

This document contains information about Mac OS 8.5 that was not included in the documentation with the software.
This article has been archived and is no longer updated by Apple.

Acrobat Exchange 3.01 Issue

Apple and Adobe Systems are aware of a potential issue where Acrobat Exchange 3.01 will not run under Mac OS 8.5. Adobe Systems plans to fix this in the next major release of Adobe Acrobat(TM).

For complete information, please see the following article:

- Article 24674: "**Mac OS 8.5: Running Adobe Acrobat Exchange 3.01**"

IXMicro ix3D UltimateRez Video Card Incompatibility

There is an incompatibility between the drivers that shipped with the IXMicro ix3D UltimateRez video card and Mac OS 8.5 that cause the computer to not respond when performing certain types of operations in video applications.

XMicro has updated their video drivers to fix this.

For complete information, please see the following article:

- Article 24677: "**Mac OS 8.5: Crashing With IXMicro Card**"

LaserWriter Select 310 Compatibility

There is an incompatibility between the printer driver for the LaserWriter Select 310 and Mac OS 8.5. For more information, please see the following article:

- Article 24686: "**Mac OS 8.5: Compatibility With LaserWriter Select 310**"

Please see the following article for additional information:

- Article 26165: "**About Mac OS 8.5.1 Update**"

Published Date: Feb 18, 2012

SimpleText 1.4: Stationery Pad Changes

When I use SimpleText 1.4 to create a stationery pad, then open it and save changes, the original pad changes to a regular document. Why is this?
This article has been archived and is no longer updated by Apple.
When you open a stationery pad and save changes, you should get a new document including the changes and the stationery pad should remain unchanged. When you open a SimpleText stationery pad and save changes,
the original pad becomes a regular document, even though no other changes are saved to it.

Apple is aware of this behavior and intends to address it in a future version of SimpleText.
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Drive Setup: PowerBook 5300/2300 In SCSI Disk Mode Issue

Files copied to a PowerBook 5300 or 2300 in SCSI disk mode may be corrupted.
This article has been archived and is no longer updated by Apple.
The issue only occurs with the PowerBook 5300 and 2300, and only when the PowerBook is in SCSI disk mode.

If the PowerBook has a disk driver installed by Drive Setup 1.5 or 1.6, files copied to (not from) the PowerBook may become corrupted if the files are larger than 128k. The original files on the host computer will not be damaged.

Note: This issue has been fixed in Drive Setup 1.6.1, which has been posted to Apple Software Updates.

This article can help you locate the software update mentioned here:

- Article 14724: "**Where To Find Apple Software Updates**" - Lists online services for free Apple software updates.

Published Date: Feb 18, 2012

Mac OS 8.5: PowerBook 500 PPC Not Supported

There has been some confusion about whether or not a PowerBook 500 Series computer with a PowerPC upgrade will work with Mac OS 8.5. This article has been archived and is no longer updated by Apple.
Mac OS 8.5 supports only Apple branded computers with a PowerPC processor that have not been upgraded from 68k with a PowerPC daughtercard. Apple computers that have been upgraded to PowerPC with a full logic board, such as a PowerBook Duo 280c to a 2300c, are supported.

PowerBook 500 Series computers with a PowerPC upgrade are therefore not qualified or supported with Mac OS 8.5. The Mac OS 8.5 installer refuses to install on this type of computer and a Universal Install of Mac OS 8.5 does not start up the computer.
Published Date: Feb 18, 2012

Mac OS 8.5: Is Apple Telecom Supported?

This article discusses whether Apple Telecom software works with Mac OS 8.5?
This article has been archived and is no longer updated by Apple.
Apple Telecom is the software needed to use an Apple Express Modem, GeoPort Telecom Adapter Pod, or the GeoPort Internal Comm Slot modem. Apple Telecom 3.1.3 has not been modified since the release of Mac OS 7.5, and at this time, there are no plans for future revisions to the Apple Telecom software.

Apple Telecom was tested for compatibility with Mac OS 8.5, and other than the issues discussed below, Apple Telecom software continues to provide basic modem functionality for GeoPort modems.

Known issues:

1. The computer may not respond when playing a MIDI file while there is an active GeoPort modem connection. Installing QuickTime 3.0 and turning off virtual memory may improve stability when playing a MIDI file.

2. Pulse dialing may not dial the correct number. As a possible workaround, use touch tone dialing or manual dialing.

3. Although it may work, Apple Phone is not supported. Only the data and fax capabilities are supported. Apple recommends using the Custom Install feature in order to omit the installation of the Apple Phone software.

4. The hot keys to switch from the desktop printer to Fax Sender, Control and Shift, no longer function. Instead, open the Chooser and select Fax Sender. When finished faxing, open the Chooser again and re-select your printer.

5. QuickFax and Standard Mailer will not fax enclosures. To fax a document first select Fax Sender in the Chooser and then choose "Print" from the File menu.

For additional information see the following article:

- Article 24726: "**Mac OS 8.5: Sending Quick Fax With AppleFax**"

Published Date: Feb 18, 2012

Macintosh Boot Block: General Information

Below are three questions about boot blocks and how they are copied to System disks. The appropriate answer follows each question.
This article has been archived and is no longer updated by Apple.
1. When are the boot blocks copied to a new hard disk or floppy?

The boot blocks are copied to a new hard disk or floppy disk when you copy a System file to the disk.

2. Are the boot blocks taken from the "boot" resource in the System file being copied or from the boot blocks on the source disk?

The boot blocks are taken from the source disk unless that disk does not have a valid copy of the boot blocks or the disk is a file server. In these cases, the boot blocks are taken from the "boot" resource in the System file being copied.

3. Are the boot blocks rewritten when copying a new System and Finder to a System disk?

Yes, the boot blocks are rewritten when copying a new System file to a disk.
Published Date: Feb 18, 2012

Mac OS 8.5: Application Switcher & Wrong Application Highlighted

I am using AppleScript to set the window property of the Application Switcher to reverse launch order under Mac OS 8.5. After doing this, I notice an odd behavior with the Application Switcher palette when it is set to show icons vertically in reverse launch order. The Application Switcher palette does not correctly display the active application, or switch to the active application under certain circumstances.

- Is Apple aware of this issue?
- How can I workaround this issue?

This article has been archived and is no longer updated by Apple.
One of the extensions that is scriptable via AppleScript under Mac OS 8.5 is the Application Switcher extension. One of the window properties that can be set via AppleScript is the button ordering in the Application Switcher window. Button ordering can be set to:

- alphabetical
-launch order
- reverse alphabetical
- reverse launch order

When button ordering is set to reverse launch order and the user quits an application, occasionally, the highlighted application in the Application Switcher palette does not match the frontmost application. Apple is aware of and is investigating this issue with the Application Switcher extension. Until this can be corrected, users may select one of the other 3 choices for button ordering as this issue does not occur when sorted alphabetical, launch order or reverse alphabetical.

An example AppleScript to set the button ordering to alphabetical is as follows:

```
tell application "Application Switcher"
set the button ordering of the palette to alphabetical
end tell
```

AppleScripts can be created using the Script Editor which is installed in the Apple Extras folder with Mac OS 8.5.
Published Date: Feb 18, 2012

AppleShare IP 6: Get Info Window Issue

When using the 'Get Info' command on some files stored on my AppleShare IP 6 server, I do not see the entire contents of the Comments box. When at the server, I use Get Info on the files and see all the Comments just fine.
This article has been archived and is no longer updated by Apple.
This issue can be resolved by updating the server to AppleShare IP 6.2 and the client to Mac OS 8.6. AppleShare IP 6.0 and 6.1 users may download install the ASIP 6.2 update from the Apple Software Updates Web site at http://www.apple.com/swupdates.

Mac OS 8.5 and 8.5.1 users may download and install the Mac OS 8.6 update from the Apple Software Updates Web site at http://www.apple.com/swupdates.
Published Date: Feb 18, 2012

AppleScript: Using Network Setup Scripting in Mac OS 8.5

How do I use AppleScript to switch between named configurations of AppleTalk or TCP/IP.
This article has been archived and is no longer updated by Apple.
What follows is a series of AppleScript samples that should answer the above question as well as explain how to use some of the facilities of Network Setup Scripting.

There are five control panels, relating to networking, that are capable of creating named configurations - AppleTalk, TCP/IP, Modem, Remote Access, and InfraRed (if applicable to your computer). All of these named configurations are maintained in a database. Each of these control panels can be defined to have multiple configurations, by selecting Configurations from the File menu (or typing Command-K) and creating a new configuration using the duplicate button.

There are three basic entities in Network Setup Scripting: transport options, configurations, and configuration sets. Here's an AppleScript that will acquire the settings for any computer:

```
--Begin AppleScript
tell application "Network Setup Scripting"
--basic acquisition of information
open database
get every transport options

--These are the named config items for AppleTalk, TCP/IP, Modem and Remote Access Control Panels
get configurations
--> The response here will depend on the configurations defined for the computer

get configuration sets
close database
end tell
--End AppleScript
```

To see the results of these database queries, open the Event log window of the Script Editor, check "Show Event Results" and watch the execution results of the script in this window.

To make changes to the database, you must perform the operations within the scope of a transaction. These transactions are defined by AppleScript verbs of Network Setup Scripting. To protect the integrity of the database, it is suggested that an AppleScript try block be used to recover from any errors encountered. A model error wrapper could be written as follows:

```
--Begin AppleScript
tell application "Network Setup Scripting"
try
open database
begin transaction
(*
Include commands here to make changes to the database via AppleScript
*)
end transaction
close database
log ("Normal completion")
on error ErrMsg number ErrNmbr
log ("Error " & ErrNmbr & ": " & ErrMsg)
abort transaction
close database
log ("Error encountered")
end try
end tell
--End AppleScript
```

Now with the basic groundwork for syntax shown, AppleScripts can be developed to switch between configuration sets that you have created in each of the Control Panels. In the scripts that follow, the configuration names in double quotes are example names and must be changed to match the named configurations used on the computer where the scripts are run.

Here's is a simplified example to switch between AppleTalk configurations.

```
--Changing a named AppleTalk configuration
--Begin AppleScript
tell application "Network Setup Scripting"
try
open database
begin transaction
set active of AppleTalk configuration "EtherTalk" to true
--set active of AppleTalk configuration "LocalTalk" to true
end transaction
close database
on error
abort transaction
close database
end try
end tell
--End AppleScript
```

Here's is a simplified example to switch between TCP/IP configurations.

```
--Changing a named TCP/IP configuration
--Begin AppleScript
tell application "Network Setup Scripting"
try
open database
begin transaction
set active of TCPIP v4 configuration "Fixed IP Address" to true
--set active of TCPIP v4 configuration "MacIP" to true
end transaction
close database
on error
abort transaction
close database
end try
end tell
--End AppleScript
```

Here's is a simplified example to switch between Modem configurations.

```
--Changing a named Modem configuration
--Begin AppleScript
tell application "Network Setup Scripting"
try
open database
begin transaction
set active of modem configuration "GeoPort" to true
--set active of modem configuration "ISDN" to true
end transaction
close database
on error
abort transaction
close database
end try
end tell
--End AppleScript
```

Here's is a simplified example to switch between Remote Access configurations.

```
--Changing a named Remote Access configuration
--Begin AppleScript
tell application "Network Setup Scripting"
try
open database
```

```
begin transaction
set active of Remote Access configuration "Dial Apple ARA" to true
--set active of Remote Access configuration "Dial Home ARA" to true
end transaction
close database
on error
abort transaction
close database
end try
end tell
--End AppleScript
```

Here's is a simplified example to switch between InfraRed configurations.

```
--Changing a named Infrared configuration
--Begin AppleScript
tell application "Network Setup Scripting"
try
open database
begin transaction
set active of Infrared configuration "IRTalk" to true
--set active of Infrared configuration "IrDA" to true
end transaction
close database
on error
abort transaction
close database
end try
end tell
--End AppleScript
```

As an alternative, consider using the Location Manager to group several configuration changes. Sets can be defined within the Location Manager which involve changing several of the items mentioned above. By 'Scripting the Location Manager', you can have several network items changed as a group with a new location setting.

For information about Scripting the Location Manager see article 24586: "**AppleScript: Location Manager 2.0 Scripting**"
Published Date: Feb 18, 2012

Mac OS 8.5: Utilities Report Errors on Mac OS 8.5 CD

I checked my Mac OS 8.5 CD with several 3rd Party diagnostic utiliites. After checking the CD, some utilities report that there were errors found on the CD. Some examples of the errors include errors found in the drive descriptor map and partition map. Since the CD is locked there is no way for these utilities to correct these reported errors.

- Is something wrong with my CD?
- Why are these errors being reported?

This article has been archived and is no longer updated by Apple.
Fortunately, there is nothing wrong with the Mac OS 8.5 CD or any other bootable system software or restoration CD distributed by Apple. All system software and restoration CD's produced by Apple pass basic integrity checks. These checks include verification of media integrity, "bootability" (if the CD is bootable) and all files are verified for accuracy.

Typically when CD's are mastered, they are produced from a master hard drive volume. In order to make a system software or restoration CD bootable, Apple uses a proprietary utility that prepares the Master volume with all of the necessary driver partitions. Many 3rd Party hard drive diagnostic utilities do not recognize these types of driver partitions and report that errors were found with the CD.
Published Date: Feb 18, 2012

Mac OS 8.5: Difficulty Reading Installation Tome From CD

When performing a clean installation of Mac OS 8.5, this error message may appear:

> "Problems were encountered reading the source file "Installation Tome". Installation cannot continue."

This article describes the options available for resolving the situation.

This article has been archived and is no longer updated by Apple.
A tome error is usually related to difficulties reading the installation disc.

> 1. If you encounter this error while installing software from a disk image, unmount the disk image from the desktop and try remounting the image using Disk Copy. If the image successfully mounts, try running the installer application from the mounted image once again.
>
> 2. Next, make sure the disc is clean. Clean the data side of the disc by using a dry, lint-free cloth to gently wipe the CD from the spindle hole to the outer edge. Do not wipe in a circular fashion. If you have a CD-ROM lens cleaner disc, use that to clean the drive.

If the issue persists, it may be due to an incompatible hardware. Try one or more of the following:

- Disconnect any external devices from the computer other than the display, and the Apple mouse and keyboard.
- Check to ensure that the proper RAM has been installed in the computer. Some computers require certain RAM speeds, or that RAM be installed in matching pairs. For more information, see article 20025: "**Apple Memory Guide**."
- Check the internal cabling connecting SCSI or ATA devices to see if the cable has become crimped or wadded causing internal damage, or physically pierced by an internal protrusion.
- Remove any internal hardware added post-factory drives or accelerators.

Often the suspect software components can be bypassed by using alternative methods to install the software. Two alternative methods of installing the software that usually work are:

- Connect an external CD-ROM drive to the computer and use it to install the software.
- Put the disc into the CD-ROM drive of another computer that can be accessed over a network. Share the disc using File Sharing and then install the software over the network.

If difficulties persist, and you suspect the cache DIMM as a possible cause, see article 22186: "**5500/6500 L2 Cache Disable Extension: What is it?**" Then contact your local Apple Authorized Service Provider for further troubleshooting.

Note: If you are attempting to install Mac OS 8.5 or later on a computer with a PowerPC upgrade card installed, you may also get this error. Mac OS version 8.5 and higher do not support PowerPC upgrade cards.

Published Date: Feb 18, 2012

Sherlock: Summarize is not always available in Contextual Menu

In Sherlock's contextual menus, why is the "Summarize to Clipboard" menu item not available for all found documents?
This article has been archived and is no longer updated by Apple.
The "Summarize to Clipboard" facility of Sherlock is based on the new AppleScript verb in Standard Additions. This scripting addition can receive text in either of two methods, a text string passed it or a text file that it can read directly. Only files of type "TEXT" can be easily read, in general, without having further understanding of the file structure.

Sherlock filters requests to summarize based on whether the file type is one that can be easily read and processed by the summarize facility. Thus, Sherlock's indexed searching ability may find files that it is not capable of summarizing.
Published Date: Feb 18, 2012

Mac OS X Server 1.x: How to Enter and Exit Single-User Mode

This article describes how to enter and exit single-user mode when using Mac OS X Server 1.x.

This article has been archived and is no longer updated by Apple.
Note: This document is for Mac OS X Server 1.x only. For Mac OS X 10.0 or later, see technical document 106388, "**Mac OS X 10.0: How to Start up in Single-User or Verbose Mode**".

Follow these steps to enter single-user mode:

1. Turn on the computer.
2. Immediately after the startup chime, press the "s" key until the system reaches the single-user prompt (#).

Follow this step to exit single-user mode and start up into the standard graphical environment:

1. While at the single-user prompt, type `exit`

You can also type `reboot` to exit single-user mode. This causes the computer to restart.

Note: If the computer is in single-user mode, and then switched to the standard graphical environment, a black screen with the word "continuing" appears briefly. Additionally, a black screen with the word "done" appears briefly during shutdown.

Published Date: Feb 18, 2012

Mac OS 8.5: How To Select The Desktop In Navigation Services

This article tells how to select the Desktop folder as the default download location.
This article has been archived and is no longer updated by Apple.
There are two ways to do this that are not documented in Mac OS Help at this time.

1) In the Navigation Services selection dialog, holding down the Option key while selecting Desktop from the Shortcuts button selects the Desktop folder.

2) In the Navigation Services selection dialog, after selecting Desktop from the menu or by typing Command-D, the startup disk is usually selected in the list of Desktop items, though some other item can be selected based on recent actions. Shift-clicking on the selected item in the list deselects; clicking the Select button will choose the Desktop folder.
Published Date: Feb 18, 2012

At Ease: At Ease Server Prefs Common Issues

There are several common issues resulting from corruption of At Ease Server Prefs in At Ease 4.0 and 5.0. Because throwing out these preferences does not cause a substantial inconvenience, these problems are all easily remedied by deleting the Server Prefs and rebuilding them from scratch.
This article has been archived and is no longer updated by Apple.
The "At Ease Server Prefs" are in the Preferences folder in the System Folder on the server. (In the case of At Ease 5.0, they are named "At Ease Server Prefs 5.0".) It is the one and only preference file for the "At Ease Server (5.0)" extension. This is the server, which the At Ease workstations communicate with, before bringing up the At Ease log-in screen. Therefore, the At Ease Server Prefs contain all of the information that is needed by the At Ease Server Extension:

- The list of workstations served by that particular At Ease Server
- Whether At Ease is on or off
- The AppleShare Volume name, user, and password for the volume containing the At Ease Items WG (5.0) folder.

Deleting the At Ease Server Prefs requires that you drag the Server Prefs to the Trash and then immediately restart the server. Once the server is restarted, you can empty the Trash at a convenient time. Deleting the preferences will set all of the above settings back to their defaults, that is, there will be no workstations on the list, At Ease will be off, and there will be no path to the At Ease volume.

NOTE: Because of this, it is important that you know how your At Ease Setup logs in to the AppleShare server.) You will need to launch the At Ease Administration program to reconfigure these data.

When you launch the At Ease Administration for the first time after throwing out the server prefs, it is normal to see an error message, usually something along the lines of "The server has not been configured properly," though this may vary somewhat. You will then be prompted to re-enter the information At Ease needs to log into AppleShare (AppleShare volume, username, password) to access the At Ease databases. If you get in and your users and groups are not there, you entered AppleShare log-in information different from what was being used by At Ease previously.

NOTE: When this happens, the databases with your user and workgroup information have not been deleted, however it is beyond the scope of this article to help you locate them.

In most cases, however, you will be asked for your administrator password your users, groups and all of their settings will be there when you log in. At this point, you will need to tell the server which workstations it serves; to do this, go to the Configuration menu and select WorkstationsŠ. Add the workstations back in, turn At Ease on if it is off and then quit At Ease Administration; the workstations will have to be on to be added.

The list of common symptoms that this will probably fix is:

- "Could not write workstation list to server" message from the At Ease Administration program.
- Other strange behaviour of the Workstation List, like workstations you've added not appearing the next time you launch Admin, workstations spontaneously disappearing from the list, etc.
- Workstations that have just been added to the list being told that the server doesn't serve them.
- In addition, any symptom happening to many or all of the At Ease workstations on a network before the user list comes up has a good chance of being a corrupt Server Prefs. However, wait at least three minutes before assuming that a Macintosh has frozen if there is no response; it might be waiting for a network timeout.

Published Date: Feb 18, 2012

Sherlock: Issue Finding Files Some Server Volumes or CD-ROMs

When using Sherlock in Mac OS 8.5 to find files on mounted server volumes, I get the list of items found as expected. However, when I select a file in the Items Found list, I get the following message:

"The selected item cannot be found. The item may have been deleted. The item will be dimmed in the list."
This article has been archived and is no longer updated by Apple.
Apple is aware of this issue when finding files on some server volumes. It can also occur when searching ISO-9660 CD-ROM discs which is a common format for Windows based software.

The issue does not occur on AppleShare IP and Windows NT 4.0 servers, but it has been reported when finding files on Novell NetWare AFP, Novell NetWare IPX, and Netatalk servers. Other server implementations may also be affected.

This issue has been resolved in Mac OS 8.6 which can be downloaded from the Apple Software Updates web site at **http://www.apple.com/swupdates**.

Published Date: Feb 18, 2012

Mac OS 8.5: Printing to ImageWriter

Since updating to Mac OS 8.5, printing to an ImageWriter using the ImageWriter v7.0.1 driver that comes with Mac OS 8.5 does not always work.

You can print in "Draft" Quality, or from the Finder or SimpleText. However, when printing from AppleWorks, ClarisWorks, and some other applications, in "Faster" or "Best" Quality, the printer ejects the paper without printing or sometimes the computer stops responding and displays a Type 2 error.
This article has been archived and is no longer updated by Apple.
This behavior was eliminated in Mac OS 8.6.

Temporary workarounds may include printing in "Draft" Quality, or possibly copying your information to another application such as SimpleText and then printing from that application. However, the preferred workaround at this time is to update your Mac OS system software.
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Mac OS 8.5: Adobe PSPrinter 8.5.1 Driver Conflict

Various printing related difficulties occur when printing from LaserWriter 8 version 8.6 after installing Adobe's PostScript printer driver, AdobePS version 8.5.1.
This article has been archived and is no longer updated by Apple.
The AdobePS installer places a PrintingLib extension in the Extensions folder that is not compatible with Apple's LaserWriter 8 software, version 8.6. Therefore, Apple recommends you do not install and use Adobe's older PrintingLib with LaserWriter 8.

Note: Hewlett Packard (HP) and other printer and application developers may ship AdobePS version 8.5.1 or a renamed version of the 8.5.1 printing software with their products; therefore, should you encounter printing difficulties with LaserWriter 8 after installing third party printing software, please examine whether an incompatible version of the PrintingLib was installed.

Apple's PrintingLib version 8.6 may be reinstalled from the Mac OS Install program on the Mac OS 8.5 CD.

Note: LaserWriter 8 is a custom installation option, enabling you to reinstall just that printing software.
Published Date: Feb 18, 2012

HyperCard: Excessive Disk Access

Some users have reported seemingly continuous disk activity when running large HyperCard stacks (in one case, 13000 cards amounting to 3.8M of disk space). Disconnecting from a network made no difference.
This article has been archived and is no longer updated by Apple.
The probable reason for continuous access is a HyperTalk statement that adds or changes information in a field on a card. Any of three commands (particularly when paired with a large number of cards) can contribute to excessive disk access:

- the time
- the long time
- on idle

Putting "the time" into a field changes the field and thereby initiates drive access -- once every minute.

Putting "the long time" into a field causes access once every second! HyperCard performance may suffer from such continual disk I/O process.

Also, an "on idle" routine in a stack script or a card script of the current card initiates disk I/O, because it adds or updates information within the stack.

Slow down with large stacks also occurs when HyperCard preloads card index pages during idle time. With many cards, there are many card index pages. The first pages are unloaded when the latter ones are loaded. Therefore, HyperCard keeps loading them, which results in the disk activity. HyperCard 1.2 seems to correct the issue.

To summarize: where appropriate, change from "the long time" to "the time" and review the use of "on idle" routines. Also check for any XCMDs and XFCNs that may be initiating disk activity.
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Apple System Profiler: Reports no L2 Cache for PowerBook 1400

I have a PowerBook 1400 that has 128K of built in L2 Cache (all 133 MHz and 166 MHz PowerBook 1400 computers do -- 117 MHz PowerBook 1400 computers do not have built in L2 Cache). Regardless of which version of the System Software and/or Apple System Profiler is installed, Apple System Profiler indicates that no L2 Cache is installed.

This article has been archived and is no longer updated by Apple.

This is normal and does not indicate a hardware issue. This condition may or may not be addressed in a future version of the Mac OS and/or Apple System Profiler. Rest assured that your PowerBook 1400, if applicable, does have the L2 Cache.

Published Date: Feb 18, 2012

At Ease: Files Busy During Server Backup

When I do an automatic backup of our AppleShare/At Ease server using Retrospect I get the message:

File "setups.data" can't read (files busy/locked)
File "setups.idx" can't read (files busy/locked)
File "Users.data" can't read (files busy/locked)
File "Users.idx" can't read (files busy/locked)

Is it important that I back these files up? Why am I getting these messages?
This article has been archived and is no longer updated by Apple.
These files contain the At Ease Users and Groups databases. It is essential that you back them up regularly. You receive these messages because these files are open if even one At Ease User is connected to the AppleShare/At Ease server.

In order to avoid these messages and successfully back up these files, make sure that all users are logged out of At Ease and set up At Ease so that clients will disconnect from the server when sitting idle at the login screen.

This setting is found under the Maintenance menu in the System Preferences dialog. Also, you can automatically disconnect clients by choosing the "Lock out volumes during backup" option within the Retrospect application.

For more information about this setting, refer to your Retrospect documentation.
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ASIP 6.0: At Ease Web Plug-in Issues

This article discusses known issues with At Ease Web Plug-in 5.0.1 on AppleShare IP (ASIP) 6.0 servers.
This article has been archived and is no longer updated by Apple.
Apple is aware of the following issues with At Ease Web Plug-in 5.0.1 on AppleShare IP (ASIP) 6.0 servers:

- The At Ease Web Plug-in will not run with the default memory size for plug-ins. Go to the AppleShare Admin program and increase the amount of memory allocated to plug-ins.
- The At Ease Web Plug-in does not start up. The following message appears in the Plug-in Messages log file:
  At Ease WWW Server PlugIn is disabled because errors occurred at startup.
- The web server responds with the following message when clicking on the Documents button:
  "Unable to process your request because an internal error occurred"

Notes:

- Not all customers are affected by these issues.
- There is no time frame for a resolution to these issues.
- For additional information please refer to article 30863: "**ASIP 6.x: At Ease Web Plug-in 5.0.1 not Supported**"

Published Date: Feb 18, 2012

ASIP 6.x: At Ease Web Plug-in 5.0.1 not Supported

Is the At Ease Web Plug-in 5.0.1 supported on AppleShare IP (ASIP) 6.x?
This article has been archived and is no longer updated by Apple.
The At Ease Web Plug-in 5.0.1 is not supported on AppleShare IP 6.x Servers. The At Ease 5.0.2 Updater does not update this file, and is still incompatible with AppleShare IP 6.x.

Apple found that under certain circumstances, the following may occur:

- The At Ease Plug-in does not start up.
- When accessing web server, the ASIP server may hang if the At Ease Plug-in is installed.

There is no date for a resolution to these issues.

Although AppleShare IP 6.x Servers do not support this feature, AppleShare IP 5.0.3 is the only supported version of the AppleShare Web Server that will serve the At Ease Web Plugin.

WebSTAR Servers can also serve this At Ease Web Plugin. (WebSTAR is a product of StarNine.)
Note: Current versions of WebSTAR may not work with the At Ease Web Plugin. Please visit StarNine's web site for more information.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.

The following article can help you search for a particular vendor's address and phone number: Article 17159: "**Locating Vendor Information**"
Published Date: Feb 18, 2012

Drive Setup 1.6.2: Mac OS 8.5 Downgrades Hard Disk Driver

This article tells how your computer's hard disk drivers may be downgraded to an earlier version during a custom installation of a Mac OS 8.5 component, and how to work around the issue.
This article has been archived and is no longer updated by Apple.
By default, the Mac OS 8.5 installer will "Update Apple Hard Disk Drivers". Since Mac OS 8.5 was released before the Mac OS 8.5.1 Update and Drive Setup 1.6.2, the Mac OS 8.5 installer may downgrade the hard disk drivers to older versions. To avoid this issue, you should do either of the following:

1) If updated drivers have already been installed using Drive Setup 1.6.2 or newer, deselecct the "Update Apple Hard Disk Drivers" option in the Mac OS 8.5 installer before reinstalling or custom installing software. This option is accessed by clicking the "Options..." button in the installer window.

2) If the drivers are accidentally downgraded by the Mac OS 8.5 installer, run the Drive Setup 1.6.2 (or newer) application again to update the hard disk drivers to the latest version.

NOTE: You can tell which version of the hard disk driver you have by selecting your hard disk volume in the Finder and choosing "Get Info" from the File menu to bring up the Get Info window. The information next to "Where" usually gives you the driver version you are using. For example,

Where: My Hard Disk, (ATA Bus 0 Dev 0, v3.14)
or
Where: My Hard Disk, Bus 1, SCSI ID 0 (v8.1.0)
Published Date: Feb 18, 2012

Mac OS 8.5.1 Update: Drive Setup 1.6.2

Mac OS 8.5.1 Update includes an updated version of Drive Setup. The new version is version 1.6.2.

The "About Mac OS 8.5.1 Update" Read Me states:

"Previous versions of Drive Setup can overwrite small portions of the Mac OS Standard format partition if the partitions on the target drive are not as expected. This is an extremely rare occurrence, but could cause drive repair utilities to report that block 0 of that volume is bad or cause the drive not to show up on the desktop.

Volumes initialized or updated with previous versions of Drive Setup also may not always have the needed patches installed on the hard drive. These patches are now installed on all drives."
This article has been archived and is no longer updated by Apple.
Note: For information on a newer version of Drive Setup, see the following article:
Article 58303: "**Drive Setup 1.7.3: Read Me**"

If you are using Mac OS 8.5, you no longer need versions of Drive Setup older than version 1.6.2. Drive Setup 1.6.2 includes the same hard disk drivers that were included with Drive Setup 1.6.1. Only the Drive Setup application itself was changed for version 1.6.2.

Drive Setup installs software (called a disk driver) that allows your computer to communicate with the hard disk. Use Drive Setup to update your disk driver or to reinitialize a disk. When you initialize a disk, all of its contents are erased. A version history of Drive Setup is below.

Important: Earlier versions of Drive Setup can reintroduce issues resolved with Drive Setup 1.6.2.

When to use Drive Setup 1.6.2
Immediately after you install Mac OS 8.5 on your computer for the first time, you should use Drive Setup 1.6.2 to update the driver on your hard disk.

Using Drive Setup 1.6.2 to Update a Hard Disk
This section describes how to use Drive Setup 1.6.2 to update your hard disk. You may have Drive Setup 1.6.2 on a CD or you may have downloaded Drive Setup 1.6.2 from an Apple Web site.

To use Drive Setup 1.6.2 to update your hard disk driver, follow these steps:

1. Back up your hard disk and turn off any hard disk security software. Using Drive Setup to update a hard disk driver with security software turned on may cause issues.

Important: You should make a copy of the information on your hard disk before you update the disk using Drive Setup.

2. Insert your system software CD in the CD-ROM drive and restart your computer using the CD.

To learn how to start up your computer using a system CD, see the user's manual that came with your computer.

3. Locate Disk First Aid on the CD and open the program.

4. Select your hard disk and click Repair.

Disk First Aid checks your hard disk and repairs issues it finds. For more information about Disk First Aid, see the user's manual that came with your computer.

5. When you are finished, quit Disk First Aid and restart your computer.

6. When your computer restarts, eject the system CD and use Drive Setup 1.6.2 as follows.

7. Open Drive Setup 1.6.2.

Warning: When Drive Setup opens, DO NOT click Initialize. Doing so erases all the information on your hard disk.

8. Select your hard disk in the List of Drives list.

9. Choose Update Driver from the Functions menu.

Important: If Update Driver is not available, your hard disk may be protected by security software or may have previously been updated with a

non-Apple utility. See the manual that came with the software to learn how to turn off security while you update the disk.

10. Click OK when the message "The new driver will not be available until you restart the computer." appears.

11. Quit Drive Setup when you see the message, 'Driver update was successful.'

12. In the Finder, choose Restart from the Special menu.

If you have issues or Drive Setup fails to update the disk, see the troubleshooting chapter in the user's manual that came with your computer.

Important: If your computer has one or more previous versions of Drive Setup on the hard disk, you should replace these older version(s) of Drive Setup with version 1.6.2 of Drive Setup.

Recovering From Disk Issues
If, when you start up your computer using a system software CD, you see a message asking you to initialize your hard disk, do not click Initialize. It may be possible to recover the hard disk using Disk First Aid or another disk utility. To learn how to use Disk First Aid, see the troubleshooting chapter in the user's manual that came with your computer. If you are using another disk utility, see the manual that came with the software.

Initializing Your Hard Disk
If you need to initialize your hard disk, see the user's manual that came with your computer or the system software CD you are using to learn how to do so. When you are finished initializing and installing system software on your hard disk, use Drive Setup 1.6.2 to update your hard disk. See 'Using Drive Setup 1.6.2 to Update a Hard Disk' earlier in this document.

Tips and Troubleshooting

Update Driver command is dimmed
If the Update Driver command is dimmed, the desired disk is either not supported, or it's previously been updated with a non-Apple utility. If the disk isn't supported, check the instructions that came with your computer or disk to see if the manufacturer includes or recommends a disk utility, and use that utility to update the driver. If you have updated or formatted the disk with a non-Apple utility, you will need to use that utility again to perform the update. To ensure a successful update, obtain the latest version of the utility.

Using Drive Setup with Energy Saver
Before you use Drive Setup to perform an extended operation, such as testing the disk, open the Energy Saver control panel and select Never for the Hard Disk Sleep option to prevent the hard disk from spinning down before Drive Setup is finished.

Manually mounting volumes
Drive Setup allows you to partition a hard disk into several volumes when you initialize the disk. You can also select whether or not to mount a volume automatically when you start up your computer by using the 'Automount on startup' option. Beginning with Drive Setup 1.3, a more reliable method of mounting volumes automatically is being used, to ensure correct operation with virtual memory. You cannot use a disk utility program (for example, SCSI Probe version 4.3) to mount volumes manually if the program does not support the new way volumes are mounted. However, you can use Drive Setup to mount volumes manually.

Reinstalling Additional Software
Some computers come with additional software installed. If you want to reinstall this additional software using the 'restore' CD that came with your computer, quit Drive Setup before you reinstall the software. Icons will not appear on the desktop if Drive Setup is open when you reinstall the software.

Waiting for initialization to complete
Sometimes Drive Setup indicates that it has finished initializing a disk when it has not completely finished. Wait for your new volumes to appear in the Finder before continuing.

For Drive Setup Version History see the following article:
Article 30020: "**Drive Setup: Version History**"
Published Date: Feb 18, 2012

About ATI Driver Update 1.4.7 Document and Software

This article contains the Read Me for hte ATI Driver Update 1.4.7 and software links.

Description:

The ATI Driver Update 1.4.7 allows PowerBook G3 Series computers with screen resolution switching capabilities to use additional screen resolutions in Simulscan mode. Simulscan is a mode on PowerBook computers where the same image is displayed on the built-in display as is displayed on an external monitor. Previously, PowerBook G3 Series computers have been able to access only one screen resolution in Simulscan mode.

Instructions:

This software consists of a self-mounting Disk Copy compressed image (.smi) file. Download this software to your hard drive and then double-click it to use it.

This article has been archived and is no longer updated by Apple.

Language	Release Date	Software Update	Read Me	OS Required
North American English	1998-12-08			North American English Mac OS 8.1, 8.5.x, and 8.6
International English	1999-02-12			International English Mac OS 8.1, 8.5, or 8.5.1
français	1999-02-12			French Mac OS 8.1, 8.5, or 8.5.1
Deutsche	1999-02-12			German Mac OS 8.1, 8.5, or 8.5.1
Español	1999-02-12			Spanish Mac OS 8.1, 8.5, or 8.5.1
Italiano	1999-02-12			Italian Mac OS 8.1, 8.5, or 8.5.1
Nederlands	1999-02-15			Dutch Mac OS 8.1, 8.5, or 8.5.1
Japanese	1999-02-15			Japanese Mac OS 8.1, 8.5, or 8.5.1
Norsk	1999-02-15			Norwegian Mac OS 8.1, 8.5, or 8.5.1
Svensk	1999-02-12			Swedish Mac OS 8.1, 8.5, or 8.5.1
Suomi	1999-02-15			Finnish Mac OS 8.1, 8.5, or 8.5.1

Dansk	1999-02-15			Danish Mac OS 8.1, 8.5, or 8.5.1

Earlier versions of this software may be available at http://download.info.apple.com .

Downloading Help: Article 75098 "**Help: Downloading Software**"

All software available from this site is covered by a software license agreement included with this software.

North American English

Important Information About the ATI Driver Update 1.4.7

What Is the ATI Driver Update 1.4.7?

Simulscan is a mode on PowerBook computers where the same image is displayed on the built-in display as is displayed on an external monitor. Previously, PowerBook G3 Series computers have been able to access only one screen resolution in Simulscan mode. The ATI Driver Update 1.4.7 allows PowerBook G3 Series computers with screen resolution switching capabilities to use additional screen resolutions in Simulscan mode. With the ATI Driver Update 1.4.7 installed, PowerBook computers with a 14" screen can access screen resolutions of 640x480 and 800x600 in addition to the 1024x768 resolution already available. PowerBook computers with a 12" screen can now use the 640x480 resolution in addition to the 800x600 resolution already available.

Installation Requirements
PowerBook G3 Series with North American English Mac OS 8.1 or Mac OS 8.5.

IMPORTANT: You can only take advantage of this update if you have a PowerBook G3 Series computer which has the ability to switch resolutions on the built-in display. To determine if your PowerBook has this ability, click on the Monitor Resolution module in your Control Strip. If you see more than one option labeled "(built-in)", then you can take advantage of this update.

Note: Macintosh PowerBook G3 Series computers should not be confused with Macintosh PowerBook G3 computers. Though the names are similar, there are significant differences. To visually identify which type of computer you have, close the display and inspect the display case. A Macintosh PowerBook G3 has a small, six-color Apple logo on the display case. A Macintosh PowerBook G3 Series computer has a large Apple logo on the display case that is not six-colored.

Installing the ATI Driver Update 1.4.7
To install the ATI Driver Update 1.4.7, follow these steps.

1. Drag the ATI Driver Update on top of your closed System Folder. The system will automatically put it in the Extensions folder, where it needs to go.

2. Restart the computer.

For additional information, please point your web browser to: http://www.apple.com/support

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français

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Note: Macintosh PowerBook G3 Series computers should not be confused with Macintosh PowerBook G3 computers. Though the names are similar, there are significant differences. To visually identify which type of computer you have, close the display and inspect the display case. A Macintosh PowerBook G3 has a small, six-color Apple logo on the display case. A Macintosh PowerBook G3 Series computer has a large Apple logo on the display case that is not six-colored.

Installing the ATI Driver Update 1.4.7
To install the ATI Driver Update 1.4.7, follow these steps.

1. Drag the ATI Driver Update on top of your closed System Folder. The system will automatically put it in the Extensions folder, where it needs to go.

2. Restart the computer.

For additional information, please point your web browser to: http://www.apple.com/support

Important: Ne réinitialisez, n'arrêtez, ni ne mettez en aucun cas votre ordinateur hors tension lorsque l'application Mise à jour CD iMac s'exécute. Cela risquerait d'endommager votre lecteur de CD-ROM.

Deutsche

Wichtige Informationen
über das ATI Driver Update 1.4.7

Was ist das ATI Driver Update 1.4.7?

"Bildschirme synchronisieren" ist ein Modus von PowerBook Computern, der es ermöglicht, auf einem externen Monitor dasselbe Bild wie auf dem integrierten Bildschirm anzuzeigen. Bisher konnten Computer der PowerBook G3 Serie im Modus "Bildschirme synchronisieren" nur eine Bildschirmauflösung anzeigen. Mit dem ATI Driver Update 1.4.7 können PowerBook G3 Computer, die unterschiedliche Bildschirmauflösungen unterstützen, im Modus "Bildschirme synchronisieren" zusätzliche Bildschirmauflösungen verwenden. Nach der Installation des ATI Driver Update 1.4.7 können PowerBook Computer mit einem 14"-Bildschirm neben der bereits verfügbaren Auflösung von 1024 x 768 Pixeln auch Bildschirmauflösungen von 640 x 480 und 800 x 600 Pixeln verwenden. PowerBook Computer mit einem 12"-Bildschirm können jetzt neben der bereits verfügbaren Auflösung von 800 x 600 auch die Auflösung von 640 x 480 Pixeln verwenden.

Installationsvoraussetzungen
Computer der PowerBook G3 Serie mit Mac OS 8.1 oder Mac OS 8.5.

WICHTIG: Sie können die Vorzüge dieses Updates nur dann nutzen, wenn Ihr Computer der PowerBook G3 Serie in der Lage ist, auf dem eingebauten Bildschirm verschiedene Auflösungen anzuzeigen. Klicken Sie in der Kontrolleiste in das Modul für die Monitorauflösung, um festzustellen, ob Ihr PowerBook diese Fähigkeit besitzt. Wenn mehrere Optionen mit dem Eintrag "(eingebaut)" gekennzeichnet sind, können Sie das Update auf Ihrem PowerBook installieren.

Hinweis: Bitte verwechseln Sie nicht Computer der Macintosh PowerBook G3 Serie mit Macintosh PowerBook G3 Computern. Die Namen sind zwar ähnlich, die Produkte weisen jedoch einige Unterschiede auf. Sie können direkt an Ihrem PowerBook nachsehen, um welchen Typ es sich handelt. Schließen Sie dazu den Bildschirm Ihres PowerBook und sehen Sie sich die Abdeckung genau an. Ein Macintosh PowerBook G3 ist an dem kleinen, sechsfarbigen Apple Logo erkennbar. Computer der Macintosh PowerBook G3 Serie sind dagegen durch ein großes, einfarbiges Apple Logo gekennzeichnet.

Installieren des ATI Driver Update 1.4.7
Gehen Sie wie folgt vor, um das ATI Driver Update 1.4.7 zu installieren:

1. Bewegen Sie das ATI Driver Update auf den geschlossenen Systemordner. Hierbei wird das Update automatisch im Ordner "Systemerweiterungen" abgelegt.

2. Starten Sie Ihren Computer neu.

Wenn Sie zusätzliche Informationen wünschen, besuchen Sie folgende Web-Site: http://www.apple.com/support

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Español

Información importante acerca de la
Actualización del Driver ATI 1.4.7

Qué es la Actualización del Driver ATI 1.4.7

La resolución simultánea es una modalidad de los ordenadores PowerBook en la que la misma imagen aparece en la pantalla incorporada y en un monitor externo. Hasta ahora, los ordenadores PowerBook Serie G3 sólo podían utilizar esta modalidad en una única resolución. La Actualización del Driver ATI 1.4.7 permite a los PowerBooks Serie G3 con posibilidad de cambiar de resolución utilizar otros ajustes en la modalidad simultánea. Con la Actualización del Driver ATI 1.4.7 instalada, los ordenadores PowerBook con una pantalla de 14" pueden visualizar las resoluciones de 640x480 y 800x600, además de la de 1024x768 ya disponible. Los ordenadores PowerBook con una pantalla de 12" pueden mostrar ahora la resolución de 640x480, además de la de 800x600 ya disponible.

Requisitos para la instalación

PowerBook Serie G3 con Mac OS 8.1 o Mac OS 8.5.

IMPORTANTE: Sólo puede beneficiarse de esta actualización si dispone de un ordenador PowerBook Serie G3 que permita cambiar la resolución de la pantalla incorporada. Para determinar si su PowerBook ofrece esta opción, haga clic en el módulo correspondiente a la resolución del monitor en la barra de controles. Si aparece más de una resolución con la etiqueta "(incorporada)", puede instalar esta actualización.

Nota: Los ordenadores Macintosh PowerBook Serie G3 no deben confundirse con los Macintosh PowerBook G3. Aunque los nombres se parecen, hay diferencias significativas. Para identificar visualmente el tipo de ordenador, cierre la pantalla y observe la cubierta. El Macintosh PowerBook G3 muestra un logotipo pequeño de Apple en seis colores, mientras que en el PowerBook Serie G3 se reproduce un logotipo más grande y sin los seis colores.

Instalación de la Actualización del Driver ATI 1.4.7
Para instalar la Actualización del Driver ATI 1.4.7, siga estos pasos.

1. Arrastre la Actualización del Driver ATI encima de la Carpeta del Sistema cerrada. Se colocará automáticamente en la carpeta Extensiones, que es donde debe ir.

2. Reinicie el ordenador.

Para más información, puede consultar las siguientes webs de soporte:
http://www.media.euro.apple.com/es/apple_support
http://www.apple.com/support (en inglés)

Italian

Important Information About the ATI Driver Update 1.4.7

Che cos'è ATI Driver Update 1.4.7?

"Simulscan" è la modalità che consente ai computer PowerBook di visualizzare la stessa immagine contemporaneamente sia sul monitor incorporato che su di un monitor esterno collegato al computer. Fino ad oggi, quando un computer PowerBook Serie G3 era in modalità Simulscan, era possibile accedere a un'unica risoluzione. Attualmente, grazie ad ATI Driver Update 1.4.7, i computer PowerBook Serie G3 dotati della capacità di cambiare risoluzione, potranno usufruire di questa capacità anche in modalità Simulscan. Dopo aver installato ATI Driver Update 1.4.7, sui computer PowerBook con schermo a 14 pollici sarà possibile utilizzare le risoluzioni 640x480 e 800x600 oltre alla risoluzione 1024x768, già disponibile; sui computer PowerBook con schermo a 12 pollici sarà utilizzabile la risoluzione 640x480, oltre a quella di 800x600 già disponibile.

Requisiti di installazione

PowerBook Serie G3 con software di sistema Mac OS 8.1 o Mac OS 8.5 (Italiano).

IMPORTANTE: questo aggiornamento è utilizzabile solo su computer PowerBook Serie G3 dotati della capacità di cambiare risoluzione sul monitor incorporato. Per verificare se il computer PowerBook utilizzato dispone di questa capacità, fare clic sul modulo "Risoluzione Monitor" nella Striscia di Controllo e verificare se la parola "(incorporato)" è indicata per più di una risoluzione.

Nota: è importante non confondere i computer Macintosh PowerBook Serie G3 con i computer Macintosh PowerBook G3. Sebbene abbiano nomi simili, sono molto differenti. Per individuare il tipo di computer utilizzato, chiudere lo schermo e verificare il colore e le dimensioni del logo Apple presente sullo chassis: colorato e di piccole dimensioni nei computer Macintosh PowerBook G3; non colorato e di grandi dimensioni nei computer Macintosh PowerBook Serie G3.

Installazione dell'aggiornamento del driver ATI 1.4.7
TPer installare ATI Driver Update 1.4.7, seguire questa procedura.

1. Trascinare il documento "ATI Driver Update" sull'icona chiusa della Cartella Sistema. Il documento verrà posizionato automaticamente nella

cartella Estensioni.

2. Riavviare il computer.

Per ulteriori informazioni, visitare il sito web all'indirizzo: http://www.apple.com/support

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Nederlands

Wat is ATI Driver Update 1.4.7?

Simulscan is een modus op PowerBook-computers waarbij dezelfde afbeelding zowel op het ingebouwde beeldscherm als op een extern beeldscherm wordt weergegeven. Voorheen hadden computers uit de PowerBook G3 Series in de Simulscan-modus slechts toegang tot één schermresolutie. Met ATI Driver Update 1.4.7 krijgen computers uit de PowerBook G3 Series die verschillende schermresoluties kunnen gebruiken in de Simulscan-modus de mogelijkheid extra schermresoluties te gebruiken. Wanneer versie 1.4.7 van het bestand 'ATI Driver Update' is geïnstalleerd, hebben PowerBook-computers met een 14-inch beeldscherm toegang tot schermresoluties van 640x480 en 800x600 naast de resolutie van 1024x768 die al beschikbaar was. PowerBook-computers met een 12-inch beeldscherm kunnen nu gebruikmaken van de resolutie van 640x480 naast de reeds beschikbare resolutie van 800x600.

Vereisten

PowerBook G3 Series met een Nederlandstalige versie van Mac OS 8.1 of Mac OS 8.5.

BELANGRIJK U kunt alleen profiteren van de voordelen van deze update indien uw computer uit de PowerBook G3 Series de mogelijkheid heeft op het ingebouwde beeldscherm verschillende resoluties te gebruiken. U kunt dit nagaan door in de Regelbalk de module 'Beeldschermresolutie' te openen. Als u daar meerdere opties met '(ingebouwd)' ziet, kunt u profiteren van de voordelen van deze update.

OPMERKING Verwar computers uit de de Macintosh PowerBook G3 Series niet met Macintosh PowerBook G3-computers. Hoewel de namen erg op elkaar lijken, zijn er toch belangrijke verschillen. U kunt zien welk type u hebt door het beeldscherm te sluiten en de buitenkant te bekijken. Op een Macintosh PowerBook G3 ziet u een klein Apple logo met zes kleuren. Een computer uit de Macintosh PowerBook G3 Series heeft een groter Apple logo zonder de zes verschillende kleuren.

ATI Driver Update 1.4.7 installeren

Om ATI Driver Update 1.4.7 te installeren, voert u de volgende stappen uit:

1. Sleep het bestand 'ATI Driver Update' naar het symbool van de gesloten Systeemmap. Het bestand wordt nu automatisch in de map 'Extensies' geplaatst.

2. Start de computer opnieuw op.

Meer informatie kunt u vinden op de onderstaande website:
http://www.apple.com/support

Published Date: Feb 18, 2012

Macintosh System Software 6.0 Compatibility Report (Part 1 of 3)

This article has been archived and is no longer updated by Apple.

This is the first part of a three part article:

System Software 6.0 Compatibility Report

This is a list of third-party software applications that have been tested by Apple with System Software 6.0.

(NOTE: This report does not cover all Macintosh application software, only those applications that have been reviewed by Apple. For more detailed information on the compatibility of any application with System Software 6.0, please contact the developer or publisher of the software in question.)

This examination did not test every feature of the application. Instead, each application was run through a series of "quick looks" -- launch, open a simple document, open DAs, Cut/Paste, and print.

This report reflects compatibility information on the version number of the application listed, and does not necessarily reflect the most current version of a particular application.

Testing was done on Macintosh(R) Plus, Macintosh SE and Macintosh II personal computers using System Software 6.0. Single Finder was not used unless a memory constraint existed. Ratings for all applications indicate performance of the application running on release CPUs and released System Software.

Where possible, Apple will update this list with new information. Please check HotLinks on AppleLink for updated versions of this report.

The following applications have been rated with an 'A' status.
A = The application runs under System Software 6.0.

Product CPU Company

Intermail 1.42 ALL Interactive

LightSpeed C 2.15 ALL Think Technologies

Mac3D 2.0 Mac +, SE Challenger SW

SmartCom II 2.0 ALL Hayes

ComServe 1.0 ALL Info Sphere Inc.

DeskTop Express 1.0 ALL Dow Jones

Dow Jones MMGR+ 1.01 ALL Dow Jones

FileMaker Plus 2.1 ALL Forethought

Graphidex 1.01 ALL BrainPower

MacPaint 2.0 ALL Claris

MacProject II 1. ALL Claris

MacSpin 1.5 ALL D2 SW

Math View 1.00 ALL BrainPower

MicroPhone 1.0 ALL Software Ventures

Picture Base 1.2.3 ALL Symmetry

ReadySetGo 4.0 ALL LetraSet

Smart Scrap & Clipper ALL Solutions, Int.

SpellsWell 1.3J ALL Greene, Johnson

StatView 512+ 1.1 ALL Abacus

Turbo Pascal 1.1 ALL Borland

Versa Term Pro 1.20 ALL Peripherals Computers

MacTerminal 2.3 ALL Apple Computer, Inc.

This article continued in: "Macintosh System Software 6.0 Compatibility Report (Part 2 of 3)".

Published Date: Feb 18, 2012

Drive Setup 1.6.2: Hard Disk Drivers Not Updated from 1.6.1

I have noticed that after updating my hard disk drivers with Drive Setup 1.6.2, the version numbers do not change from Drive Setup 1.6.1 in the Get Info window of my hard disk.

- Why does this happen?

This article has been archived and is no longer updated by Apple.

The changes in Drive Setup 1.6.2 were only to the Drive Setup application. The hard disk drivers installed by Drive Setup 1.6.2 are identical to the drivers installed by Drive Setup 1.6.1.

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Mac OS 8.5: Disk Positioning on Desktop after Startup

This article tells how the Mac OS 8.5 and later, the Finder determines the position of disk volumes on the desktop.
This article has been archived and is no longer updated by Apple.
In Mac OS 8.5 and later, the Finder orders partitions on the desktop in the following manner:

1. Startup partition.
2. Non removable partitions.
3. Removable partitions (like Zip, CD-ROM, and so forth).
4. Mounted servers.

Within groups 2, 3 and 4, the items are ordered by the amount of space used on the partition (as opposed to the size of the partition). Therefore, as one partition fills up, it's place in the ordering can change.

If you want disks placed in a specific order, it could be performed by an AppleScript. Paste the following AppleScript into a Script Editor window:

```
--Begin AppleScript
property DiskNames : {}
property DiskLocations : {}

if DiskNames is {} then -- first time, initialize
--capture current values to persistent property variables
tell application "Finder"
set DiskNames to the name of every disk of the desktop
set DiskLocations to the position of every disk of the desktop
end tell
else
--set positions from retained values
repeat with i from 1 to number of DiskNames
set DiskName to item i of DiskNames
tell application "Finder"
if disk DiskName of desktop exists then --present now?
set the position of disk DiskName of desktop to item i of DiskLocations
end if
end tell
end repeat
end if
--End AppleScript
```

Save the AppleScript as an application with the "Never Show Startup Screen" option selected.

Arrange the disks on your desktop as you want them to reappear after startup. Run this AppleScript application once to capture the current disk positions. Place this AppleScript application in your Startup Items folder and when it runs on each startup, it moves disks to the saved locations.

If you wish to change the saved ordering of this applet, open it in the Script Editor, recompile and save it again. The first time it is run again, it recaptures the current disk positions.

Note: This AppleScript as been compiled and is available at:

http://downloads.info.apple.com/Apple_Support_Area/Apple_Software_Updates/English-North_American/Macintosh/Misc/AppleScript/Drive_Locations.hqx

If you plan to change the disk order frequently and want more flexibility to interact with the AppleScript, here is another alternative. Replace the third line of the script (with the comment about first time, initialize) with the following:

```
--Interactive AppleScript
set DialogMsg to
"Save current disk locations or restore locations from previously saved?" set DialogButtons to {"Cancel",
"Save", "Restore"}

display dialog DialogMsg with icon note buttons DialogButtons default button 3 set ButtonClicked to button
returned of the result
-- Cancel never even gets here
```

```
-- if ButtonClicked is "Save" then
```

With the addition of these statements, the AppleScript application asks you every time it is run whether you wish to save or restore the disk locations. This interaction may become annoying every time you start up your computer. The first AppleScript form quietly restores the disk positions without your interaction.

Note: This AppleScript as been compiled and is available at:

http://downloads.info.apple.com//Apple_Support_Area/Apple_Software_Updates/English-North_American/Macintosh/Misc/AppleScript/Drive_Locations.hqx

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At Ease 5.0.2: Use version 5.0.2 of At Ease Server Extension

The At Ease 5.0.2 Updater Read Me states:

"The At Ease Server and At Ease Web Server Plug-in components are not updated for At Ease 5.0.2. You should continue to use the 5.0.1 version of these pieces. Version 5.0.1 of the At Ease Server is included in this package."
This article has been archived and is no longer updated by Apple.
The extension, "At Ease Server 5.0", was updated to version 5.0.2, and is included as part of the update. Apple recommends that you use version 5.0.2 of the At Ease Server component when updating the rest of your network to At Ease 5.0.2. The At Ease Web Server Plug-in was not updated, and is still version 5.0.1.

To update your At Ease server, you must replace the At Ease Server 5.0 extension on your server with this new version.. The Updater can not do this.

To update the At Ease Server extension, follow these steps:

1. On your server, open the Extensions Manager.

2. In the list of Extensions, locate the At Ease Server 5.0 extension and click to turn off the extension.

Note: Doing this moves the At Ease Server 5.0 extension to the Extensions (Disabled) folder in the System Folder. You can drag the extension to the Trash later.

3. Locate your copy of the At Ease Server 5.0.2 extension (still called At Ease Server 5.0) and drag it to the System Folder on your server.

4. A dialog box appears telling you that the file needs to be placed in the Extensions folder. Click OK.

5. Restart your server.
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LaserWriter 8.6: HP LaserJet Reporting 40 MIO ERROR

This article describes an issue when printing from LaserWriter 8, version 8.6, to an HP LaserJet 4M Plus. The print job is transmitted and printed, then an error appears on the printer's LCD panel that reads "40 MIO ERROR". After this, the printer will not print another job until the printer is reset or powered off and back on.
This article has been archived and is no longer updated by Apple.
The networking code that LaserWriter 8, version 8.6 uses is not fully compatible with the HP LaserJet 4M Plus printer. This issue does not occur when using LaserWriter 8.6.5, part of Mac OS 8.6.

When printing to the HP LaserJet 4M Plus, using LaserWriter 8.6, the HP LaserJet 4M Plus will display a "40 MIO ERROR" indicating a "modular I/O card" error (a protocol error or an abnormal connection break occurred).

This communication problem can effect other functions besides printing documents, such as using the Chooser to Create, Setup, or Auto Setup the HP LaserJet 4M Plus.

It is possible to configure the printer so it will recover automatically when it encounters this connection problem. Then you will not have to manually reset or power off/on the printer between each job.

This is done via the printer's control panel buttons: set AUTO CONT=ON* (an option in the printer's CONFIG MENU). Thereafter, when a communication error occurs, the printer will print and timeout the job as before. It will then display the 40 MIO ERROR, but after 5 to 10 seconds the printer will reset the connection automatically. The error message will go away, and the printer will process the next job transmitted to it.

Note: After setting AUTO CONT=ON*, and the job is transmitted to the printer, the printer will take two minutes before timing out. To avoid this delay entirely, install, then use LaserWriter 8.5.1 instead of LaserWriter 8.6, when printing to the HP LaserJet 4M Plus, or update to Mac OS 8.6.

To install LaserWriter 8.5.1 follow the steps listed below:

1. Download the six LaserWriter 8.5.1 disk images from the Apple Software Updates Web site at http://www.apple.com/swupdates.

2. Mount the six LW_8.5.1 images, review the Before You Install Read Me on disk 1, then launch the Installer on disk 1.

3. A splash screen is displayed that reads Apple LaserWriter 8.5.1 Installer. Click Continue.

4. When the Software License Agreement is displayed, click Agree, if you agree with the terms of the license agreement.

5. The window titled Installer Script provides you the option to select a destination disk to install this software. Verify which disk you wish to install LaserWriter 8.5.1 onto.

6. In the Installer Script window are the options; Easy Install, Custom Install or Custom Remove; select Custom Install.

6. Check the radio button next to "Printer Software for all Mac OS Computers."

7. The installer will compare the printing software already present on your hard drive (presumably LW 8.6) with the version you are about to install (LW 8.5.1) and will display many alerts that read: "The file 'XXX XXX' already on 'your HD' is newer than what you are about to install. Click Newer to keep the newer file, Older to replace that file, or Cancel to stop the installation."

- When the alert references the file 'LaserWriter 8': click Older.

- When the alert references the file 'PrintingLib', click Older.

- Click Newer when the alert references: Printer Selector, Desktop Printer Spooler, or Desktop PrintMonitor.

8. Once the Installation of LaserWriter 8.5.1 is complete, you'll be asked to restart your Macintosh.

9. The LaserWriter 8 driver uses PostScript Printer Description (PPD) files to determine your PostScript printers' characteristics such as paper-handling capabilities, the number of paper trays and capacity, the paper sizes they handle, and so on.

Therefore, you may wish to copy the specific PPD of your HP LaserJet 4M Plus to the Printer Description folder (located in the Extensions folder inside the System Folder), prior to choosing and setting up your printer with the Chooser.

The PPD for your HP printer may be obtained from the software that accompanied your printer or the newest version may be obtain from HP. Should you not have the specific PPD for your HP LaserJet 4M Plus, you may use the generic PPD.

TA38785_LaserWriter_HP_LaserJet_Reporting_MIO_ERROR.pdf

After installing LaserWriter 8.5.1 then selecting your printer via the Chooser, you should be able to print to your HP LaserJet 4M Plus and avoid encountering the MIO 40 Error.

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DVD Discs: Cannot See on Mac OS 9 Desktop and/or No Sound

Learn possible answers and solutions to the following issues:

1. When inserting a DVD disc, it does not appear on the desktop and an alert asks if I want to initialize the disc.
2. I cannot select items in the DVD Menu with the cursor.
3. I get no sound when playing a movie.
4. Movies are pausing and missing frames.
5. I played a disc and it states, "If I play this region 4 more times the drive will be set to this region and I will no longer be able to play region one discs."

This article has been archived and is no longer updated by Apple.

1. Verify the appropriate extensions are installed and duplicate extensions are not installed. There should only be one CD/DVD driver installed in the Extensions folder. If multiple drivers are installed, the drive may read CD discs correctly but not DVD discs. The UDF Volume Access extension must also be installed.

   If the DVD disc does not appear on the desktop when the correct extensions are installed, but a CD-ROM discs appears properly, or if the DVD-Video disc appears but contains zero items, try inserting the DVD disc while pressing the Command, Option and I keys until the DVD disc appears. The computer will try to make the disc available on the desktop as an ISO formatted disc instead of a UDF formatted disc.

   Also, try other DVD discs and clean the disc with a DVD approved cleaner such as Klear Screen from Merirrew Enterprises: http://www.KlearScreen.com.

2. Update to a later version of the Apple DVD Player application available at Apple Software Updates.

3. If you have a PowerBook computer, make sure the sound source is set for Zoomed Video. If you have a desktop computer select DVD from the Sound Source portion in the Control Strip.

4. Disable any application programs that use background processes like background printing, receiving faxes, Virtual Memory/Ram Doubler, and File Sharing.

5. DVD intellectual property restrictions require that Apple DVD Player work with only one region of DVD discs. When the first disc is played, the software is set to that region. After this it can only be changed four more times, and then it is permanently set to that region.

Published Date: Feb 18, 2012

Newton Press for Windows 1.1: Read Me

This Read Me file contains important late-breaking information for Newton Press for Windows 1.1. The information covers the following areas:

* Introduction
* Communications
* Compatibility
* Translators
* Things to watch out for and known problems

This update can be found on the Apple Software Updates Web site at http://www.apple.com/swupdates.
This article has been archived and is no longer updated by Apple.

Introduction

Welcome to Newton Press. Until recently, only programmers could make Newton Books. Now with Newton Press, you can publish Newton Books as well. Newton Press provides you with a quick and easy method for moving information from your desktop computer to your Newton handheld computer. Whether you want to create electronic documents to distribute to a wide audience or whether you simply want to carry a set of personal files with you on a trip, Newton Press makes the transferring of documents to your Newton handheld computer a snap.

Communications

In the manual and application, we refer to the application on the Newton device which you must activate to start package downloading. On the MessagePad 130 and previous Newton devices, it was called 'Connection'. On newer Newton devices, it is called 'Dock'. In either case, the application has a similar interface and is used in the same manner.

Compatibility

Newton Books created with Newton Press 1.1 are compatible with all Newton devices using the 1.0, 2.0 and 2.1 versions of the Newton OS.

Translators

Newton Press for Windows uses translators to read various file formats. If you drop a file on Newton Press and you receive an error message, you may not have a translator for that type of file. Most word processors and graphics programs allow you to save files in more than one format. Try saving your files in a format that can be read by your existing translators. You'll find translators, including those for the most common file format, in the Newton Press folder. Press provides the following translators:

* Ami Professional (versions 1.x, 2.0 and 3.0)
* Microsoft RTF
* Microsoft Word for Windows (versions 1.x, 2.0, 6.0 and 7.0)
* WordPerfect for Windows (versions 5.1, 5.2, 6.0 and 6.1)
* FrameMaker (versions 3.0-4.0) (MIF)
* PC Paintbrush (PCX)
* Windows Bitmap (BMP)
* Microsoft Windows Write (version 3.x)
* Ami Pro Draw SWD
* WPGI (WordPerfect Vector)
* WPG2
* ASCII

Warning! Some programs have their own graphics and text formats. If you import a file into Newton Press and your graphics do not appear, it is most likely because the program is using a custom format for which Newton Press does not have a corresponding translator. Most programs allow you to specify the format for graphics as well as text. We recommend to only use a graphic format that appears in the list.

Note: After importing a word processing document that contains graphics, you may notice that there is an extra line in Newton Press. This is because word processors allow you to mix text and graphics on the same line. Newton Press will move any text, including carriage returns, down to the next line in this instance.

Things to watch out for and known problems

If you have an IBM ThinkPad computer, be aware of the following when downloading files. IBM ThinkPad computers have two COM1 ports. The physical serial port and the IR port. Both of these can be COM1. If you are unable to download books, check that the correct port is selected. You can check your port connection using the Control Panel.

TA38788_Newton_Press_for_Windows_Read_Me.pdf

If you are using multiple-line paragraphs of large italic text, download the book to the Newton and check the layout of the text, if the layout of the paragraph is critical to your book.

When you delete links or Table of Contents entries, the indicators may not be updated until you switch pages. Newton Press works best if you make editing changes before you create links and add Table of Content topics.

Once Newton Press is running, you will not be able to drag and drop files onto the application icon. You can drop files onto the icon before Newton Press is launched as well as drop files onto the application window at any time.

You may have problems dropping a file onto the Newton Press icon or double-clicking on a file if the file name contains a space. Newton Press will try to interpret the file name as two separate files and will fail twice when trying to open them. This will not be a problem if you drop the file onto the application window or use the File menu commands.

Newton Press keeps all the information for your book in memory at all times. Your book may use up a good deal of memory when you are creating large books.

When using a computer that lacks adequate memory, you may see performance degradation as you use large files. For instance, dropping several large files onto the application may be slow.

When setting a date for the year 2000, don't enter 00 in the Title dialog box. Use the number 2000. If you enter 00 and open the Title dialog box again, you will see Newton Press has interpreted the date as 101. Enter the year in four-digit format (2000) and click OK and the proper year will be set in the Newton Book.

If you paste in enough text to make the insertion point appear on a later page, the insertion point may not be located at the end of the pasted text. You may have to page up or down to locate the page that you are working on.

Note: Users of 1.x Newton handheld computers will see an option in their Connection slip titled "DOS or Windows PC". Do not choose this type of connection to download your package. Newton 1.x OS users should instead use the "Macintosh Serial" option in the Connection slip.

Newton Press is not designed to display font sizes smaller than 9 point. On the Newton Press screen, smaller fonts appear in 9 point size, but on a Newton handheld computer, the smaller font appears in its original size. This size difference may cause differences in book layout between Newton Press and the Newton handheld computer.

For convenience, you'll find a Return to Link command that you can select to return to a link's source as you work on your book. However, this feature only remembers the information for the last link you made, and once you change the book, the command becomes unavailable. For more information, see the manual, which describes "Content Linking".

Text may sometimes disappear or is cut off when mixing text with very large and very small font sizes. This will occur in the Newton Press preview but usually clears up on the Newton Device.

After choosing "Select All" you will not be able to Copy, Paste, or Delete. In order to edit large portions of a document you will need to use the mouse to first highlight these sections and then make your edits. You will be limited to one page at a time.

The same text appears at the bottom of the page and at the top of the next page. This problem will occur if there are 4 or more borders on the same page. This problem occurs only in the Press Preview window and not on the Newton device.

After choosing "Cancel" during an import, the import does not stop for several minutes. It will take several minutes to cancel an import of a large file and it will appear that the importing was not canceled.

You will frequently be unable to choose "New Topic" when trying to place a "New Topic" within a paragraph or section. The "New Topic" feature is meant to be used at a new paragraph or section.

Newton Press does not support a Microsoft Office 97 Word document import. In order to Add the document you must first save it as a Word 6 document.

Large font sizes will frequently look different on the Newton device than they do in the Newton Press preview.

Spaces added after a Right Align may not show up in the Newton Press preview, but will appear correctly on the Newton device.

When you use 3rd party applications that modify the size or location of the Button Bar on your MessagePad and you open a Book in a different mode (landscape, portrait etc.) than the Book was created in, you may receive an error message indicating that your Newton is in the wrong orientation and to rotate your screen.

Published Date: Feb 18, 2012

LaserWriter IINTX: PostScript Batch Mode For Serial PCs (8/95)

This article describes printing from a PC using a serial connection.

This article has been archived and is no longer updated by Apple.
If you need to print with LaserWriter IINTX in PostScript batch mode, here is the method for serial connection from a PC:

Step 1: Connection

Connect a serial cable from the PC serial port to the printer serial port.

Step 2: Switch Settings

While the LaserWriter IINTX is off, set the printers DIP switch settings to:

1 UP
2 DOWN
3 UP
4 UP
5 UP
6 DOWN

These switch settings place the LaserWriter IINTX in:

PostScript Batch Mode,
RS-232 9600 Baud,
RS-422 9600 Baud,
7 data bits, No parity, 1 stop bit, with DTR/DSR handshake.

Step 3: Power On

Turn on the LaserWriter IINTX and the PC. After a few seconds, the LaserWriter IINTX will print a test page containing its current settings.

Step 4: PostScript Code

The PostScript code that follows is used to switch the LaserWriter IINTX into 8 data bit PostScript batch mode.

NOTE:
The "%" characters and following comments are not necessary, and can be omitted when typing in the program. Also, instances of control-z in parentheses mean hold down the control key and press z. The word "Return" in parentheses means to press your carriage return or enter key.

CAUTION:
If you choose to use the PostScript code provided in this article, you assume all risks involved in making these changes. PostScript code, if not entered correctly, can place the LaserWriter IINTX into a condition requiring service.

- For DTR/DSR, from the DOS prompt, type:

```
COPY CON POST.TXT
serverdict begin 0 exitserver %This exits the PostScript server loop
statusdict begin %We're using an operator from statusdict
25 9600 68 setsccbatch %set 25 pin port for 9600 Baud, 8, 1, DTR
end %Pop statusdict from the dictionary stack
(control-z) (Return)
```

- For XON/XOFF, from the DOS prompt, type:

```
COPY CON POST.TXT
```

```
serverdict begin 0 exitserver %This exits the PostScript server loop
statusdict begin %Start modifying settings
25 9600 64 setsccbatch %set 25 pin port for 9600 Baud, 8, 1, Xon/Xoff
end %Pop statusdict from the dictionary stack
(control-z) (Return)
```

Step 5: Batch File

A batch file needs to be created to set up the PCs communications port and to send the PostScript code to the printer. From the DOS prompt, type:

```
COPY CON POST.BAT
MODE COM1:96,N,8,1,P
MODE LPT1:=COM1
copy POST.TXT LPT1
(control-z) (Return)
```

Step 6: Change LaserWriter IINTX to 8 data bit PostScript batch mode
---
Type POST from the DOS prompt to set the NTX to 8 data bit PostScript batch mode. The printer will internally switch from the 7 data bit PostScript batch mode to 8 data bit PostScript batch mode.

Step 7: PostScript Code for testing the mode change

CAUTION:
If you choose to use the PostScript code provided in this article, you assume all risks involved in making these changes. PostScript code, if not entered correctly, can place the LaserWriter IINTX into a condition requiring service.

The PostScript code that follows tests the mode change. From the DOS prompt, type:

```
COPY CON TEST.TXT
/Helvetica findfont 14 scalefont setfont
72 720 moveto
(The Options number for the 25-pin port is:) show
statusdict begin 25 sccbatch 10 string cvs show
pop showpage
(control-z) (Return)
```

Step 8: Test mode change

To test the mode change, type the following from the DOS prompt:
COPY TEST.TXT LPT1

After a few seconds, the LaserWriter IINTX should print a page containing the following text:

'The Options number for the 25-pin port is xx'

Where 'xx' equals the third number in the third line of the PostScipt code created in step 4 (either 68 or 64).

Problem Solving
==========

LaserWriter IINTX does not print after test PostScript code is sent:

Check cable connections and paper supply to the LaserWriter IINTX. Turn off any spooler commands that may be implemented on the PC. Check the PostScript files (POST.TXT) and (TEST.TXT) along with the (POST.BAT) batch file for any typing errors. If none are apparent, we suggest re-typing the code of both PostScript files from scratch.

If the LaserWriter IINTX does not receive the PostScript code character for character, the mode change or test will not work. Once the code has

been re-typed, send it to the LaserWriter IINTX. If the LaserWriter IINTX prints the page, then all is well. If the LaserWriter IINTX does nothing, then start over from step 1.

LaserWriter IINTX will not print from within an application:

Check the applications print settings to ensure that it is sending output to LPT1 or COM1. The application must support PostScript, and must be set to output to a PostScript device.

Article Change History:
22 Aug 1995 - Made minor corrections.
09 Feb 1995 - Added PostScript caution and reformatted article.

Support Information Services
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iMac: Using the Apple Stylewriter Ethernet Adapter

This article describes the use of the Apple StyleWriter Ethernet adapter with an iMac.
This article has been archived and is no longer updated by Apple.
The Apple Ethernet adapter for the Stylewriter is compatible with the iMac. However, it is only intended to be used in a 10 megabit Ethernet network with a 10 BASE-T hub (it is not compatible with 10/100 switchable hub). The use of a crossover cable is not supported.
Published Date: Feb 18, 2012

Mac OS 8.5: Watermarks Containing Diagonal Text Prints Incorrectly

This article discusses an issue where watermarks containing diagonal, vector-based text do not print correctly to QuickDraw-based printers under Mac OS 8.5.
This article has been archived and is no longer updated by Apple.
Current workarounds include:
- choosing a watermark that does not use diagonal text (such as Proposal).
- creating a new watermark that does not use diagonal text.
- converting the diagonal text from a vector to a bitmap.

QuickDraw printers include the StyleWriter series and printers that use the LaserWriter 300/LS driver.

To create your own watermark, use an application program that can save a file in PICT format. Place the PICT file in the Printing Prefs folder of your System Folder. AppleWorks is one example of this type of application.

A bitmap graphic is drawn at a specific resolution. When scaled to another resolution, the lines in the picture can look jagged. A vector-based graphic is one that is not drawn at a specific resolution.

Rescaling a vector graphic results in smooth lines (and a smooth picture) at the new size. In AppleWorks for example, bitmaps are created in the "paint" mode of the program, while vectors are created in the "draw" mode.

When creating a bitmap-based watermark, set the resolution to 150-300 dpi, and draw the watermark to size for best results.
Published Date: Feb 18, 2012

Mac OS 8.5: Internal Global Village Modem Fax Transmission Fails

When faxing from a Performa 6400/180 with an internal Global Village modem and Mac OS 8.5 installed, an alert box appears with this error message: "Transmission failed because the modem did not respond."

This article has been archived and is no longer updated by Apple.

Symptom

When faxing from a Performa 6400/180 with an internal Global Village modem and Mac OS 8.5 installed, an alert box appears with this error message: "Transmission failed because the modem did not respond." (See Figure 1.)

Figure 1 Telecom Status window

Solution

Workaround

Note: This workaround is not supported by Apple.

1. Install the Serial Modem software. The Serial Modem installer may be found on a Mac OS 8 or Mac OS 8.1 CD, in the Apple Telecom folder, which is in the CD Extras folder.

2. After installation, open the AppleFax application, select preferences, select modem, and choose Apple Serial Modem instead of Geoport (see figure 2). AppleFax should now work correctly.

Figure 2 AppleFax preference window

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LW IINTX In HP LaserJet+ Emulation Mode: Serial Connect From PC

This article has been archived and is no longer updated by Apple.

Here are a few suggestions about printing to LaserWriter IINTX in LaserJet Plus emulation mode:

(NOTE: You may experience a communications problem printing in this configuration when the emulation mode is set by the DIP switches. The problem appears when printing the upper 127 ASCII characters and graphics, and is due to the serial port DIP setting of 7 data bits.)

Currently, there is no available method of software switching back to PostScript or any other emulation mode once leaving the PostScript mode. The correct method is to change the DIP switch settings and wait 30 seconds. If PostScript is desired, switch one should be set to DOWN. Wait 30 seconds and place switch back to the UP position.

To attain full emulation, the serial port can be configured as follows:

1) Connection:

Connect an Apple 25 pin Serial cable (590-0037) to an Apple Modem Eliminator (590-0166). Take one end and connect it to the 25 pin serial port on the LaserWriter IINTX. Connect the other end to a serial port on the PC.

(NOTE: Most serial ports for PCs use a male DB 25 connector. Since both ends of the Apple 25 pin serial cable are male, a female-to-female gender changer is required for connection to a PC serial port. An alternative is to use a straight pin-to-pin female-to-male DB 25 cable.)

2) Switch Settings:

While the LaserWriter IINTX is off, set the printers DIP switch settings to:

1 UP
2 DOWN
3 UP
4 UP
5 UP
6 DOWN

These switch settings place the LaserWriter IINTX in:

PostScript Batch Mode,
RS-232 9600 Baud,
RS-422 9600 Baud,
7 data bits, No parity check, 1 stop bit, with DTR/DSR handshake.

3) Power On:

Turn on the LaserWriter IINTX and the PC. After a few seconds the LaserWriter II will print a test page containing its current settings (listed above).

4) PostScript Code:

The PostScript code that follows is used to switch the LaserWriter II into LaserJet+ emulation mode.

(NOTE: The "%" characters and following comments are not necessary. Remove them when typing in the program.)

- For DTR/DSR, from the DOS prompt type:

```
COPY CON POST.TXT
serverdict begin 0 exitserver %This exits the printer server loop.
statusdict begin %Start modifying settings.
9 0 3 setsccbatch %Turns off the RS-422 9600 Baud port.
25 9600 68 setsccbatch %set the 25 pin RS-232 9600 Baud port-8 data
bits.
5 setsoftwareiomode %Set printer to HP LaserJet+ mode.
0 sethardwareiomode %Set communications mode to serial.
end %This is the end of the mode switch routine.
systemdict/quit get exec %Force an error to cause a system start test
page.
(control z) %The keyboard control key and the z key together.
This ends text editing and saves the file.
```

- For XON/XOFF, from the DOS prompt type:

```
COPY CON POST.TXT
serverdict begin 0 exitserver %This exits the printer server loop.
statusdict begin %Start modifying settings.
9 0 3 setsccbatch %Turns off the RS-422 9600 Baud port.
25 9600 64 setsccbatch %set the 25 pin RS-232 9600 Baud port-8 data
bits.
5 setsoftwareiomode %Set printer to HP LaserJet+ mode.
0 sethardwareiomode %Set communications mode to serial.
end %This is the end of the mode switch routine.
systemdict/quit get exec %Force an error to cause a system start test
page.
(control z) %The keyboard control key and the z key together.
This ends text editing and saves the file.
```

5) Batch File:

A batch file must be created to set up the PC's communications port, and to send the PostScript code to the printer.

From the DOS prompt type:

```
COPY CON HPMODE.BAT
MODE COM1:96,N,8,1,P
MODE LPT1:=COM1
TYPE POST.TXT > LPT1
(control z)
```

6) Change LaserWriter II to LaserJet+ emulation mode:

Type HPMODE from the DOS prompt to set the NTX to LaserJet+ emulation. The printer will internally switch from the PostScript Batch mode to LaserJet+ emulation, and after a few seconds it will print a test page displaying the new settings.

Your printer will now print graphics and text properly with the emulation provided by the Adobe PostScript ROMS. This fixes the problem of losing the 8th data bit for special text and graphics. This also fixes the problem of the "print screen" keyboard command not functioning.

Problem Solving:

LaserWriter II will not print test page to indicate HP emulation mode:

Check cable connections and paper supply to the LaserWriter II. Turn off any spooler commands that may be implemented on the PC.

Check the PostScript file (POST.TXT) and the batch file (HPMODE.BAT) for any typing errors. If none are apparent, try re-typing the PostScript code from scratch. If the LaserWriter II does not receive the PostScript code character for character, the mode change will not work.

Once the code has been re-typed, send it to the LaserWriter II. If the LaserWriter II prints a test page, then all is well. If the LaserWriter II prints out a page containing the PostScript code, it is in LaserJet+ emulation mode, but a test page will not be printed (there is an error in the PostScript code that instructs the LaserWriter II to print a test page, but the mode switch was successful). If the LaserWriter II does nothing, then start over from step 1.

LaserWriter II will not print from within an application:

Check the applications print settings to ensure that it is sending output to LPT1 or COM1. The application also must be set up to print to a LaserJet+ using Times, Helvetica, or Courier.

NOTE: When printing from DOS, always follow the print command with a 'Control D'. A 'Control D' tells the LaserWriter II that the data transmission is completed and printing can now begin. The best method is to create another text file with a 'Control D' inside.
Enter the following from the DOS prompt-
COPY CON D.TXT
(Control D)
(Control Z) or (F6)

Now, you make a batch file to send the end of page marker to the printer.
From the DOS prompt enter-
COPY CON END.BAT
TYPE D.TXT > LPT1
(Control Z) or (F6)

After doing a TYPE or Print Screen or DIR to the printer, just type END, and the printer will print any remaining data in the buffer.

If your print job does not have a Control-D (end of page) character, you will have to wait for your print job until a time-out, or until another job is printed that is larger than a page.

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Apple Studio Display 15-Inch LCD: AppleVision Error Under Mac OS 8.5.1

I have an Apple Studio Display (the 15-inch LCD version) and since I upgraded to Mac OS 8.5.1, I have been getting the following error: "AppleVision failed to load completely." This happens about one every three times I start the machine.
This article has been archived and is no longer updated by Apple.
You need Apple Displays 1.7.x. which corrects this issue. This version of Apple Displays Software is available from Apple Software Updates sites.

This article can help you locate the software update mentioned here:

- Article 14724: "**Where To Find Apple Software Updates**" - Lists online services for free Apple software updates.

Published Date: Feb 18, 2012

Claris Emailer 1.1: Year 1999 Issue

Claris Emailer Lite 1.1 is having trouble now that 1999 has arrived. Emailer now reports some messages where sent in 1919. What is going on?
This article has been archived and is no longer updated by Apple.
Emailer 1.1 incorrectly reports messages sent in 1999 using a four digit year in the header as being sent in 1919. Messages with a two digit year do not have this problem.

You can change the sort order by unchecking the option to "use sender's date/time for received mail." This will sort the messages by the received date instead of the what Emailer thinks is the sent date.

The issue does not effect Emailer 2.0.x.
Published Date: Feb 18, 2012

Mac OS 8.5: Sound Manager Out Of Memory Crash

This article tells what to do when the error message "Not enough Memory is available while using Sound Manager" appears.
This article has been archived and is no longer updated by Apple.
This is usually caused by a damaged Sound Preferences file. To resolve the situation, follow these steps:

1. Restart with the Shift key held down to turn the extensions off.
2. Open the Preferences folder (which is in the System Folder) and drag the Sound Preferences file to the Trash.
3. Restart normally.

Mac OS 8.6 can help alleviate this error condition at startup. Mac OS 8.6 is available for download from Apple Software Updates sites.

This article can help you locate the software update mentioned here:

- Article 14724: "**Where To Find Apple Software Updates**" - Lists online services for free Apple software updates.

Note: If the removal of the Sound Preferences file does not provide resolution, please troubleshoot for the presence of corrupted fonts.
Published Date: Feb 18, 2012

AppleWorks/ClarisWorks: Entering Year 2000 & Beyond Dates

This article discusses the steps to enter Year 2000 and beyond dates in ClarisWorks 4.0 (and newer versions) and AppleWorks.

Note: AppleWorks is the new name for ClarisWorks.
This article has been archived and is no longer updated by Apple.
Dates through the year 9999 can be entered into spreadsheet cells and database date fields, and used in calculations.

All previously created documents will maintain the dates that were entered, as they were entered.

When creating new documents using the Mac OS version of ClarisWorks:

Prior to the year 2000
The Mac OS version of ClarisWorks will recognize two-digit years as follows:

- Years 11-99 will be recognized as being 1911-1999, respectively
- Years 00-10 will be recognized as being in the 21st century (2000-2010)
- For dates in the 21st century after 2010, it will be necessary to use four-digit dates throughout a file (as described further below).

Beginning in the year 2000
Two-digit years (mm/dd/yy) can be used as follows:

- Years 91-99 will be recognized as being 1991-1999, respectively
- Years 00-90 will be recognized as being in the 21st century
- For dates in the 20th century prior to 1991, it will be necessary to use four-digit dates throughout a file (as described further below).

Beginning in the year 2011
All two-digit years will be recognized as being in the 21st century. For dates in the 20th century, it will be necessary to use four-digit dates (as described further below).

To have the Mac OS version of ClarisWorks recognize dates other than those described above, it is necessary to use the "Date & Time" Control Panel to set the date format to "Show Century" and to enter ALL dates in the file using a four-digit year (mm/dd/yyyy).

Note: If you make any changes to the Date & Time Control Panel you must relaunch ClarisWorks for those changes to take effect.

When creating new documents using the Windows version of ClarisWorks:

ClarisWorks 4.0 for Windows and ClarisWorks 5.0 for Windows recognize two-digit dates from 00 through 10 as occurring in the 21st century (i.e., 20xx), and two-digit dates from 11 through 99 as occurring in the 20th century (i.e., 19xx).

For example: Entering 2/1/07 in a spreadsheet or database will store February 1, 2007, and entering 2/1/12 will store February 1, 1912.

To have ClarisWorks properly recognize other dates in the 20th or 21st century, it is necessary to change the Regional Settings (Windows 95 or NT) Control Panel to a date style that includes all four digits of the year such as "M/d/yyyy", and to enter all dates in the file using the a four-digit year (2/1/2007).

Note: If you make any changes to the Regional Settings Control Panel you must relaunch ClarisWorks for those changes to take effect.

Published Date: Feb 18, 2012

HyperCard: Displaying on a large screen

How do I make my HyperCard window fill my large screen? The window stays at the 9-inch size, the size of the displays on compact Macintoshes. I have tried this using both version 1.X and 2.X of HyperCard.
This article has been archived and is no longer updated by Apple.
Versions of HyperCard previous to 2.0 do not support cards of different sizes, only the size of a compact Macintosh display, 9 inches.

Version 2.X and later does allow custom sizing of HyperCard windows however. But you can't resize a window "on the fly" to fit a large monitor. A card shows up as a window with no grow box or scroll bars and remains the same size as originally defined when the stack was created unless you specifically select "Stack Info..." and resize the window.

You can, however, put the card anywhere on a large screen. You can also make it easier to get to the tear-off tools menu or the message box by putting them outside the window.
Published Date: Feb 18, 2012

LaserWriter IINT: Serial PostScript Batch Mode From DOS (8/95)

If you need to print with LaserWriter IINT in PostScript batch mode, here is the method for serial connection from a PC.

This article has been archived and is no longer updated by Apple.
Step 1

Connection:

Connect a 25-pin Serial cable from the LaserWriter IINT to the serial port on the MS-DOS PC.

Step 2

Switch Settings:

While the LaserWriter IINT is off, set the printers DIP switch settings to:

1 UP
2 DOWN

These switch settings place the LaserWriter IINT in:

PostScript Batch Mode,
RS-232 9600 Baud,
RS-422 9600 Baud,
7 data bits, No parity check, 1 stop bit, with XON/XOFF handshake.

Step 3

Power On:

Turn on the LaserWriter IINTX and the PC. After a few seconds the LaserWriter IINT will print a test page containing its current settings (listed above).

Step 4

PostScript Code:

The PostScript code that follows is used to switch the LaserWriter IINT into 8 data bit PostScript batch mode.

Caution:

If you choose to use the PostScript code provided in this article, you assume all risks involved in making these changes. PostScript code, if not entered correctly, can place the LaserWriter IINT into a condition requiring service.

NOTE:
The "%" characters and following comments are not necessary. Remove them when typing in the program.

- For DTR/DSR, from the DOS prompt type:

```
COPY CON POST.TXT
%═══════════════════════════════════════════════════════════
% Begin PostScript Code
%
serverdict begin 0 exitserver %This exits the printer server loop.
statusdict begin %Start modifying settings.
25 9600 68 setsccbatch %set the 25 pin RS-232 9600 Baud port-8 data
% bits.
end %This is the end of the mode switch routine.
(control z) %The keyboard control key and the z key
% together. This ends text editing and saves
```

```
% the file.
% End PostScript Code
%═══════════════════════════════════════════════════════════════════════
```

- For XON/XOFF, from the DOS prompt type:

```
COPY CON POST.TXT
%═══════════════════════════════════════════════════════════════════════
% Begin PostScript Code
%
serverdict begin 0 exitserver %This exits the printer server loop
statusdict begin %Start modifying settings
25 9600 64 setsccbatch %set the 25 pin RS-232 9600 Baud port-8 data
% bits
end %This is the end of the mode switch routine
(control z) %The keyboard control key and the z key
% together. This ends text editing and saves
% the file.
%
% End PostScript Code
%═══════════════════════════════════════════════════════════════════════
```

Step 5

Batch File:

A batch file must be created to set up the PC's communications port, and to send the PostScript code to the printer. From the DOS prompt type:

```
COPY CON POST.BAT
MODE COM1:96,N,8,1,P
MODE LPT1:=COM1
TYPE POST.TXT > LPT1
(control z)
```

Step 6

Change LaserWriter IINT to 8 data bit PostScript batch mode:

Type POST from the DOS prompt to set the NT to 8 data bit PostScript batch mode. The printer will switch internally from the 7 data bit PostScript batch mode to 8 data bit PostScript batch mode.

Step 7

PostScript Code for testing the mode change:

The PostScript code that follows tests the mode change. From the DOS prompt type:

```
COPY CON TEST.TXT
%═══════════════════════════════════════════════════════════════════════
% Begin PostScript Code
%
/Helvetica findfont 14 scalefont setfont
30 500 moveto
(The Options number for the 25-pin port is:)
show statusdict begin 25 sccbatch 10 string cvs show
pop showpage
(control z)
%
% End PostScript Code
%═══════════════════════════════════════════════════════════════════════
```

Step 8

Test mode change:

To test the mode change, type the following from the DOS prompt:
TYPE TEST.TXT > LPT1

After a few seconds, the LaserWriter IINT should print a page containing the following text:

'The Options number for the 25-pin port is xx'

Where 'xx' equals the third number in the third line of the PostScript code created in step 4 (either 68 or 64).

NOTE:
The LaserWriter IINT does not support software switching between configurations. For example, PostScript and Diablo or LocalTalk and serial.

Problem Solving:
==========

LaserWriter IINT does not print after test PostScript code is sent:

Check cable connections and paper supply to the LaserWriter IINT. Turn off any spooler commands that may be implemented on the PC.

Check the PostScript files (POST.TXT) and (TEST.TXT) along with the (POST.BAT) batch file for any typing errors. If none are apparent, we suggest re-typing the code of both PostScript files from scratch. If the LaserWriter IINT does not receive the PostScript code character for character, the mode change or test will not work. If you have the ability to copy and paste the PostScript Code into a text file, you should do this instead.

Once the code has been re-typed, send it to the LaserWriter IINT. If the LaserWriter IINT prints the page, then all is well. If the LaserWriter IINT does nothing, then start over from step 1.

LaserWriter IINT will not print from within an application:

Check the applications print settings to ensure that it is sending output to LPT1 or COM1. The application must support PostScript, and must be set to output to a PostScript device.

Article Change History:
22 Aug 1995 - Made minor corrections.
21 Feb 1995 - Reformatted and added PostScript caution.

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TA38801_Studio_Display_Packing_List.pdf

Studio Display 17: Packing List

This article contains the packing list, with part numbers, for the Studio Display 17 (CRT).
This article has been archived and is no longer updated by Apple.

Packing List

Item	Media	Part No.
Studio Displays Software	CD	691-1989-A
Setting Up Your Studio Display	Manual	034-0624-A
VGA to Mac adaptor	-	513-0091-A
Apple Registration card	Card	033-1014-A
Apple One Year Limited Warranty	Sheet	033-0802-A
Important Information	Sheet	034-0773-A
US and Canada Service and Support card	Card	033-1070-B

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LaserWriter 8500: Cannot Change EtherTalk Zone

I was unable to use the Apple Printer Utility to change the zone my LaserWriter 8500 appears in. Can you help?
This article has been archived and is no longer updated by Apple.
When you set a different EtherTalk zone for the LaserWriter 8500 to appear in the printer will likely respond in one of these two ways:

1. If printer has no IP Gateway address set, after you select a different EtherTalk zone for the printer to appear in, after sending those printer settings the printer will then register and become available in new zone in approximately 15 seconds.

2. If printer has an IP Gateway address set, whether it was a static or dynamically assigned address, after you send the printer the new zone setting, you'll need to restart your printer before it will register and become visible in that new zone.

Tips on configuring the LaserWriter 8500 via the Apple Printer Utility may be found in the LaserWriter 8500 User's Manual.
Published Date: Feb 18, 2012

William-Sonoma Guide to Good Cooking: Installs QuickTime 2.1 Extension

This article tells how (and whether) the William-Sonoma Guide to Good Cooking software installs QuickTime software.
This article has been archived and is no longer updated by Apple.
William-Sonoma Guide to Good Cooking installer 4.6.1 (bundled with all iMac computers) installs QuickTime extensions only if there are older versions or no QuickTime extensions active at the time of installation.

The installer checks to see if QuickTime extensions are installed in your extensions folder, and if present, what version you have. It also checks to see if the extensions are active.

If QuickTime is not active or its version is prior to 2.1, version 2.1 is installed. If you leave the QuickTime versions that come with Mac OS 8.1 or 8.5 active at the time of installation, it does not install any QuickTime extensions.
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Workgroup Server 9650: Jackhammer Control Panel

The Jackhammer control panel v 1.2.2 comes with the Workgroup Server 9650 and 7.6.1. Hammer's web site has version 1.3 posted. Should I update to 1.3?

This article has been archived and is no longer updated by Apple.

The Jackhammer 1.3 control panel is untested and therefore unsupported. You should continue to use version 1.2.2 with a 9650 and MacOS 8.x

Published Date: Feb 18, 2012

AppleShare IP Mail: Disconnects after ETRN

I have set up my AppleShare IP 6.x mail server for ETRN so that mail is delivered on demand. I can see from the Mail Server Log that the AppleShare Mail Server is issuing the ETRN command, but it immediately disconnects from my ISP's mail server. Why?
This article has been archived and is no longer updated by Apple.
According to RFC 1985, ETRN works the following way: The host requesting mail delivery (the AppleShare IP Mail server in this case) connects to a mail server via SMTP and issues an ETRN command. The mail server receiving the ETRN command then initiates a new connection back to the requesting mail host. Therefore, once the AppleShare IP Mail Server issues the ETRN command to the ISP's mail server, the connection will terminate and it is up to the ISP's mail server to initiate a new connection to the AppleShare server and transfer mail.

If you are having difficulty getting ETRN to work properly, the AppleShare Mail Log should tell you that (1) the ETRN command was sent, and (2) whether there was mail queued on the other mail server. If the log indicates that there is mail queued on the other mail server and you still don't receive any mail, verify that the external mail server can make an inbound SMTP connection to your AppleShare IP Mail Server.
Published Date: Feb 18, 2012

ClarisWorks for Windows 5.0v1: Changes Windows File Mapping

Running ClarisWorks 5.0v1 under a Windows NT user account, without administrator privileges, causes file types associated with certain programs to be associated with ClarisWorks instead. When you double-click the icon for one of these files, ClarisWorks will be launched.
This article has been archived and is no longer updated by Apple.
Any current associations which do not match the appropriate applications must be manually reset to the desired associations.

To change which application opens which file type:

- Open "My Computer"
- Go to the View menu
- Click Options
- Go to the "File Type" tab
- Choose the File Type you want to reassociate to another application
- Choose Edit

From here you can choose what action to take with each file type

Note that ClarisWorks 5.0v2 and AppleWorks 5.0v3 and later do not change any file associations.
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ASIP 6.0 Mail Server: IMAP Administrator Access Port Access

The ASIP 6.0 Mail Server's Advanced Settings lets you turn on access to the IMAP Administrator Access port (port 626).

Mail administrators can remotely access the mail server at this port, view mail waiting for hosts and mail in user's mailboxes. Waiting mail can be read, forwarded, and deleted.

This is a very powerful feature that will be useful in troubleshooting and mail server management; care should be taken to restrict this access to only trusted administrators.
This article has been archived and is no longer updated by Apple.
To use the IMAP Administrator's Access Port, you'll need to do the following:

- Turn on access to the port in the Advanced Settings of the Mail Server administrator's program.
- Use an IMAP client that supports nested folders and allows you to change the default port for IMAP connections. The port should be changed to 626.
- Log in from the IMAP client as an administrator of the Mail Server. You might set up user "Mail Administrator" as the account which will e used to access this port. Make sure user "Mail Administrator"--internet alias for this user is "Postmaster", has log in enabled, is set to administer the server, and has IMAP enabled.

The examples below illustrate setting up such a connection using Microsoft's Outlook Express.

In your IMAP client software, configure an account as Postmaster:

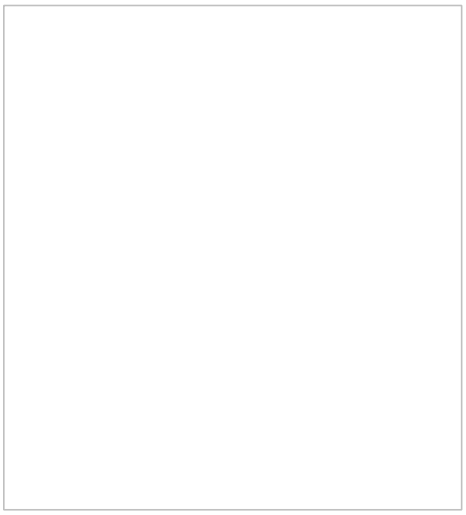

Figure 1: Postmaster Image

Configure the client to connect at the IMAP Admin. Access port.
In MS Outlook Express, this is done by selecting the "Advanced" button when setting up the account. Other IMAP clients may have this option elsewhere (or not at all):

Figure 2: Advanced Image

By selecting the "Override default IMAP Port" option, you can set the client to connect to the IMAP Admin. Access port.

When logged on, here's what you'll see:
Folders for all hosts and users., containing any mail on the server. Mail can be opened, forwarded, deleted, etc.

Figure 3: Preferences Image
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Mac OS X Server 1.x: Release Notes

The following documents are installed as part of Mac OS X Server in the /System/Documentation/ReadMe/ directory.
This article has been archived and is no longer updated by Apple.
Note: This article and linked articles pertain to Mac OS X Server versions 1.x, which were released prior to May 2001.

Release Notes (/System/Documentation/ReadMe/)

- Article 60101: "**Mac OS X Server: About Mac OS X Server**"

Networking & Services folder:
———————

- Article 60102: "**Mac OS X Server: About the Apache Web Server**"
- Article 60103: "**Mac OS X Server: About Apple File Services**"
- Article 60104: "**Mac OS X Server: AppleShare Client 3.8.2 Read Me**"
- Article 60105: "**Mac OS X Server: About the Dec21x4Ethernet Driver**"
- Article 60106: "**Mac OS X Server: About Kerberos on Mac OS X Server**"
- Article 60107: "**Mac OS X Server: About Linux NFS Volumes**"
- Article 60108: "**Mac OS X Server: About NetInfoManager**"
- Article 60109: "**Mac OS X Server: About Networking**"
- Article 60110: "**Mac OS X Server: About NetworkManager**"
- Article 60111: "**Mac OS X Server: About QuickTime Streaming Server**"
- Article 60112: "**Mac OS X Server: About Security With Mac OS X Server**"
- Article 60113: "**Mac OS X Server: About The Group Wheel**"

Programs & Applications folder:

- Article 60122: "**Mac OS X Server: About Disk First Aid**"
- Article 60123: "**Mac OS X Server: About the Find Application**"
- Article 60124: "**Mac OS X Server: Mac OS Compatibility (MacOS.app) v2.2 Release Notes**"
- Article 60125: "**Mac OS X Server: About MailViewer**"
- Article 60126: "**Mac OS X Server: About Setting Preferences**"
- Article 60127: "**Mac OS X Server: About QuickTime on Mac OS X Server**"
- Article 60128: "**Mac OS X Server: About Terminal**"
- Article 60129: "**Mac OS X Server: About TextEdit**"
- Article 60130: "**Mac OS X Server: About the Workspace Manager**"

Others folder:

- Article 60114: "**Mac OS X Server: Apple Menu Release Notes**"
- Article 60115: "**Mac OS X Server: About Exception Handling on Mac OS X Server**"
- Article 60116: "**Mac OS X Server: Floppy Disk Driver Release Notes**"
- Article 60117: "**Mac OS X Server: About Mac OS Format Volumes**"
- Article 60118: "**Mac OS X Server: About Installation Applications**"
- Article 60119: "**Mac OS X Server: About Japanese on Mac OS X Server**"
- Article 60120: "**Mac OS X Server: About Apple Multiscan 720 Display**"
- Article 60121: "**Mac OS X Server: About Printing**"

Published Date: Feb 18, 2012

EtherTalk Speeds Up MultiUser AppleShare Application

This article has been archived and is no longer updated by Apple.

Here are the results of some tests performed on the EtherTalk card and the AppleTalk card. They suggest some speed advantages using the EtherTalk card in a multiuser AppleShare application.

Some Hints:

The EtherTalk boards come preset for thick-wire EtherNet. To change them to thin-wire it is necessary to move a jumper on the board. This procedure is well documented in the EtherTalk Interface Card manual.

It is also mandatory that the cable itself be terminated on both ends. Terminators must fit on the open end of the T-connection on each card. (The testing group took one from their FastPath for these explorations.)

Also, the EtherTalk software must be installed into the system via Installer, so that it shows up in the Control Panel as a Network icon on the left, which -- when selected -- allows you to choose the built-in port or the EtherTalk card. If you are connected to two networks, one AppleTalk and one EtherTalk, you can toggle back and forth with the Network icon in the Control Panel. This is not a gateway from one to the other, just a means of switching back and forth.

The Benchmarks:

As part of the test, some benchmarks were performed which are documented below. The numbers are representative of the differences, but will change according to configurations, number of users, and the application being run.

- For one benchmark, Excel was opened on the server from the workstation in both modes: EtherTalk and AppleTalk. The AppleTalk time was roughly 30 seconds; the EtherTalk time roughly 19 seconds -- approximately 37% faster.

- Another test was running HyperCard from the server itself. EtherTalk seemed to be at least 95% as fast at showing all cards in the address stack as HyperCard would be from a local hard disk.

Finally, the most comprehensive benchmarks. Two sets of tests were run, called Configuration A and Configuration B.

Configuration A:

- These were done on a Macintosh Plus-based system with a 4MB Macintosh Plus as the AppleShare server, and a 2MB Macintosh Plus as the workstation. RAM cache on the server was automatically set by AppleShare v1.1 at 32k.

(NOTE: Larger RAM cache settings actually slowed down the response times!)

The workstation was operating from a single floppy containing Finder 6.0b2 and System 4.1. The application 4th Dimension (runtime version) was running off the file server, since there wasn't room for the application on the floppy containing System and Finder. 4th Dimension was running in multi-user mode with one user. The network was AppleTalk, both cable and protocol. The server used an Apple 40SC drive.

Configuration B:

- Tests were done on a Macintosh II based system with a 5mb Macintosh II as the workstation and a 1mb Macintosh II as the server. Both Macintoshes were connected using EtherTalk. The server disk was the same Apple 40SC as in Configuration A. Again, the tests were done with the workstation using a

floppy-based System v4.1 and Finder v6.0b2. RAM cache settings were not recorded. 4th Dimension was running in multi-user mode with one user off the server volume.

The time tests involved two parts: timing the launch of the data base, then timing a series of typical operations. These operations typically involved reading and/or writing data, and the reading of screen layouts (mostly dialogs).

The Results:

TEST	CONF. A (seconds)	CONF. B (seconds)	% DIFFERENCE
Launch	359	124	35%
Oper.1	12	5	42%
Oper.2	26	10	38%
Oper.3	15	6	40%
Oper.4	28	11	39%
Oper.5	18	6	33%
Oper.6	35	12	34%

It appears from these tests that the Macintosh II in combination with EtherTalk is two or three times faster than the Macintosh Plus with LocalTalk cabling.

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Mac OS 8.5.x: "Network time server did not respond"

Whenever I try to synchronize the time with a Network Time Server in Mac OS 8.5.x, I get the following message:

"The network time server did not respond. "
- or -
"The server selected is not a network time server."

The issue happens on our LAN but does not occur when I dial into my Internet service provider from home. I've confirmed that the settings are the same at work and at home, and I can even ping the network time server from work.
This article has been archived and is no longer updated by Apple.
These errors may occur if you have a proxy server or firewall on your network that is set to prevent incoming and/or outgoing traffic for the network time protocol (NTP) on UDP port 123. Network time synchronization in Mac OS 8.5.x uses NTP symmetric mode, which sends the request out on UDP port 123 and also receives the response on UDP port 123.

If there is a proxy server or firewall on your network, outgoing and/or incoming traffic on port 123 may be blocked.

You will need to contact your network administrator to determine if this is what is happening on your network. There are two solutions to this issue, both of which need to be done by the network administrator:

1) Reconfigure the firewall to allow incoming and outgoing traffic on UDP port 123.
2) Set up a network time server inside the firewall.

For additional information see the following article:
Tech Info Library Article 24753: "**LMac OS 8.5: More Time Servers for Date & Time Control Panel**"
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At Ease: Unlocking iMac Hard Disk

This article tells how to use the Unlock utility to unlock a hard disk that has been locked by At Ease.
This article has been archived and is no longer updated by Apple.
Note: An iMac computer's hard disk can be locked by At Ease only if it has been reinitialized to Mac OS Standdard format (HFS). At Ease is unable to lock a Mac OS Extended format (HFS+) formatted disk. For further information on At Ease and Mac OS Extended format, please see:

Article 30360: "**At Ease 5.0: Disk Security Does Not Work With HFS+ Formatted Drives**"

Since the iMac has no floppy drive, an alternative means of running the Unlock Utility is required. Fortunately, the iMac Install CD allows the computer to access a network while started up from the CD. Follow these steps:

1. Make sure that the At Ease Unlock Utility is installed in a shared folder on the Admin station or on the At Ease server. If you are not able to locate the application on a computer, it can be installed from the Apple Network Administrator Toolkit CD.
2. Start up the iMac from its Install CD.
3. Mount the shared folder on the iMac desktop through the Chooser.
4. Run the utility. In order to run the Utility you must have the Unlock password, which you can get by calling Apple Technical Support.

After you have unlocked the disk, you must perform standard troubleshooting for the flashing question mark symptom. For assistance, refer to document 58042, "**Macintosh: Flashing Question Mark at Startup**".

For related information see the following article:
Article 24622: "**At Ease: Flashing "?" and Drive Not Mounting on Workstation**"
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LaserWriter Documents Sent To Off-Line Printer Won‘t Re-direct

This article has been archived and is no longer updated by Apple.

LaserWriters using Print Monitor have a problem when they spool to a printer that is no longer connected to the network, but is still named in the Chooser.

Spooled files may only be printed by Print Monitor, and only to a LaserWriter with the same name as selected in Chooser at the time the document was spooled. If a file is spooled to a printer that is no longer attached to the network, it can't be re-directed. You must instead tell the Print Monitor to "wait until later", or cancel the job outright.

The only current workaround is to use the Namer to re-name a printer attached to the network, then change its name back after the job has been printed.

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iMac: Is Apple Modem Updater 1.3.5 Necessary?

This article tells how to determine whether the Apple Modem Updater 1.3.5 has been preinstalled on your computer.
This article has been archived and is no longer updated by Apple.
The iMac 266 MHz and 333 MHz computers' internal modem already includes version 2.2 of the Rockwell firmware which contains the latest versions of both the V.90 and K56flex protocols. They also include the same revised modem scripts (CCLs) which are part of the Apple Modem Updater 1.3.5 software bundle.
Published Date: Feb 18, 2012

AppleShare IP 6.1: Error -29626 in Web & File Admin

In AppleShare IP (ASIP) 6.1, I get the following error when I select "Show Disks & Share Points" in AppleShare IP Web & FIle Admin.

"A program error occurred -29626"
This article has been archived and is no longer updated by Apple.
Although AppleShare IP Web & File Admin does not require Quicktime, this error may occur if QuickTime extensions are disabled on the server. Use Extensions Manager to make sure the QuickTime extensions are loaded.

Apple has addressed this issue in AppleShare IP 6.2, which can be downloaded from the Apple Software Updates web site.

This article can help you locate the software update mentioned here:

- Article 14724: "**Where To Find Apple Software Updates**" - Lists online services for free Apple software updates.

Published Date: Feb 18, 2012

Ultra2 SCSI Card Firmware Update 1.1: Adaptec‘s 2940U2W PCI Card

Is Apple's Ultra2 SCSI Card Firmware Update 1.1 compatible with the Adaptec's PowerDomain 2940U2W PCI Card?
This article has been archived and is no longer updated by Apple.
The Ultra2 SCSI Card Firmware Update 1.1 is not compatible with the PowerDomain 2940U2W PCI Card. It is intended for use strictly with the Apple-supplied Ultra2 2940U2B SCSI card available with the Power Macintosh G3.

The commercially available PowerDomain 2940U2W PCI Card is supported by Adaptec, who has provided a similar firmware update for their product. Their update is available at:

http://www.adaptec.com/support/overview/pd2940uw.html
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Power Macintosh G3 (Blue and White): FAXstf 5.0.5, Connection and Web Browser Issue

I have a Power Macintosh G3 (Blue and White) computer with an Apple V.90 internal modem. After installing FAXstf 5.0.5, I seem to be experiencing intermittent crashes after browsing the Web for a few minutes. I tried both Netscape Navigator and Microsoft Internet Explorer.

Also, I notice a delay of several seconds before my modem attempts to dial my Internet service provider.
This article has been archived and is no longer updated by Apple.
Apple has received reports of this issue from some customers with Power Macintosh G3 (Blue and White) computers and is currently investigating the issue.

Smith Micro has released an update to FAXstf available at http://www.smithmicro.com/support/files.tpl .

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Mac OS 8.5: Daylight Saving Time Changes but Clock Time Does Not

For most Mac OS 8.5 users, the Daylight Saving Time (DST) adjustment works correctly. However, some Mac OS 8.5 users have reported that the state of DST was adjusted correctly, but the menu bar clock did not change.
This article has been archived and is no longer updated by Apple.
This issue has been reported by a few users, who have set up Date & Time control panel to automatically adjust for DST. This issue occurs when a computer goes to sleep.

When DST changes, users occasionally notice the dimmed DST check box changes, but the clock does not roll back (or forward) an hour.

The solution is to set the time manually, or force a network time synchronization.

This issue is fixed in the next update of the Mac OS.

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Appearance Sounds: Do not Always Play with VM On

Sometimes I have interface sounds enabled in the Appearance Control Panel. Sometimes when I am moving the mouse fast in the menu bar or down a menu, sounds stop playing. Why is this?
This article has been archived and is no longer updated by Apple.
You will notice, in these cases, that the sounds do indeed play if the mouse is moved slowly, but begin to drop out when the mouse moves quickly. The sound manager does not get enough interrupts when Virtual memory (VM) is turned on and this causes some sounds to get dropped out of the sound queue.

Users can get improved sound performance when VM is disabled. If you must have user interface sounds and are experiencing problems with lose of sounds, try disabling VM in the Memory Control Panel for an improvement.
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Macintosh Floppy Drives: Creating Apple IIGS Start Up Floppy Disks Issue

I am trying to make a set of system disks for an Apple IIGS computer. I have downloaded the seven disk images from the Apple Software Updates several times. I had no problem decompressing the images and using Disk Copy. The floppy disks mount on a Macintosh computer.

The Apple IIGS will not start up with any of the seven disks. I tried different versions of Disk Copy and a new set of floppy disks. I tried removing all hardware upgrades from my Apple IIGS. Nothing seems to work.
This article has been archived and is no longer updated by Apple.
Apple has confirmed this issue may occur if a manual insert floppy drive is used to create the disks. Many recently-produced Macintosh computers ship with manual insert floppy drives.

Apple recommends using an older Macintosh computer with an auto insert drive to create the disks.

Workaround:

If a Macintosh computer with an auto insert floppy drive is not available, contact a local Apple-authorized service provider. Local libraries or Macintosh user groups may also have access to older Macintosh computers.

How to distinguish manual insert floppy drives from auto insert floppy drives:

- Auto insert drives will "grab" a floppy disk when partially inserted; a manual insert drive requires one to push a floppy disk fully in to the drive.
- Manual insert drives will have an egg-shaped indentation in the bezel in front of the drive to allow the disk to be fully inserted
- Manual insert drives may have a small "door" covering the opening of the drive when not in use.

Published Date: Feb 18, 2012

Apple products: Where to report bugs/request features

I believe that I have found a bug in an Apple product or I would like to request a feature in a future Apple product. How can I get this information to Apple?
This article has been archived and is no longer updated by Apple.
If you are a member of the Apple Developer Connection, go to: http://developer.apple.com/bugreporter/

If you are not a member of the Apple Developer Connection, you have two other options:

Customer Quality Feedback (CQF)
CQF is an Apple program that provides end-users with an opportunity to influence the development of Apple hardware and software products worldwide. This includes comments about the human interface, desired features, performance, and compatibility with Apple and third-party products in time to help improve the shipping product. CQF project managers represent these customers via their feedback throughout the development cycle, prior to the release of new products.

Visit our Customer Quality Feedback (CQF) site at: **http://www.cqf.apple.com/**

Apple Discussions
If you have a question about an issue you experience with an Apple product, or feedback you would like to offer to Apple, this is the place to post it. For more information, see: http://discussions.info.apple.com/.
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Macintosh System Software 6.0 Compatibility Report (Part 2 of 3)

This article has been archived and is no longer updated by Apple.

This article continued from: "Macintosh System Software 6.0 Compatibility Report (Part 1 of 3)".

System Software 6.0 Compatibility Report as of 6/20/88

The following applications have been rated with a 'B' status. B = The following applications have cosmetic (display only) problems running under System Software 6.0.

Product CPU Company

Mac3D 2.0 Mac II Challenger SW

MacDraw 1.9.5 ALL Claris

Excel 1.06 ALL Microsoft

Adobe Illustrator 1.1 ALL Adobe

Color More 1.1c Mac+, SE Living VideoText

CricketDraw 1.1 ALL Cricket SW

CricketGraph 1.2 ALL Cricket SW

FullPaint 1.1 ALL Ann Arbor

MacWrite 5.0 ALL Claris

MGMStation 2.09 Mac+, SE Micro CAD/CAM

Pixel Paint Mac II SuperMac

PowerPoint 1.0 ALL Forethought

Red Ryder 10.3 ALL Freesoft Computer

Graphic Works 1.1 ALL MindScape

Suitcase 1.2.1 ALL Software Supply

CAT 1.00 ALL Chang Labs

Microsoft Word 3.02 ALL Microsoft

Plain & Simple 1.02 ALL Great Plains

Frame Mac 1.10 ALL Compuneering

This article continued in: "Macintosh System Software 6.0 Compatibility Report, (Part 3 of 3)".

Published Date: Feb 18, 2012

QuickTime: QuickTime 3 Pro Codes Same As QuickTime 4

QuickTime 3 Pro and QuickTime 4 Pro use the same access keys.
This article has been archived and is no longer updated by Apple.
When you download and install QuickTime 4, your QuickTime 3 Pro key will automatically transfer to QuickTime 4.
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PowerBook: Using USB Devices

This article provides information about attaching a USB device to a PowerBook without built-in USB.
This article has been archived and is no longer updated by Apple.
There are a number of USB adapters which plug into the PC card slot on some PowerBook computers. The CardBus to USB Adapter from macally is one product.. Refer to the macally Web site at http://www.macally.com for more information on this product. You can search for others at the Macintosh Products Guide Web site at http://guide.apple.com/.

This information provided in this article is for informational use only and does not constitue an endorsement or recommendation on the part of Apple Computer, Inc. Please contact the vendor for additional information.

The Tech Info Library article#17159: "**Locating Vendor Information**", can help you search for a particular vendor's address and phone number.
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ClarisWorks 2.0: Macintosh Translator List

ClarisWorks 2.0 for Macintosh Translator List.
This article has been archived and is no longer updated by Apple.
ClarisWorks 2.0 for Macintosh contains several translators that allow you to open documents that were created by other applications. The following is a list of translators included with ClarisWorks 2.0 for Macintosh, and the corresponding types of files they translate:

Word Processing Translators:
Acta 3.0 (import only)
AppleWorks 2.0
AppleWorks GS (import only)
MacWrite 5.0 (import only)
MacWrite II
Microsoft WinWord
Microsoft Word 3.0
Microsoft Word 4 (export only)
Microsoft Word 4-5 (import only)
Microsoft Word PC
Microsoft Works 1.1
Microsoft Works 2.0
Microsoft Write 1.0
RTF
Text
WordPerfect 1.0x (import only)
WordPerfect 1.0.2 (export only)
WordPerfect 2.x
WordPerfect PC 4.2
WordPerfect PC 5.0 (import only)
WriteNow
WriteNow NeXT

Drawing Translators:
EPSF (import only)
GIF (import only)
MacPaint (import only)
PICT (Available for export and import)
QuickTime Movie (import only)
TIFF (import only)

Painting Translators:
EPSF (import only)
GIF (import only)
MacPaint (import only)
PICT
QuickTime Movie (import only)
TIFF (import only)

Spreadsheet Translators:
AppleWorks SS (import only)
Microsoft Excel 3.0
MS Works 2.0 SS (import only)
ASCII Text (tab delimited)
DBF (dBase IV file format)
DIF (Data Interchange Format)
SYLK (Symbolic Link Format)

Database Translators:
AppleWorks DB (import only)
MS Works 2.0 DB (import only)
ASCII Text (tab delimited)
DBF (dBase IV file format)
DIF (Data Interchange Format)
SYLK (Symbolic Link Format)
Published Date: Feb 18, 2012

ClarisWorks 1.0: Windows Translator List

ClarisWorks 1.0 for Windows Translator List.
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ClarisWorks 1.0 for Windows contains several translators that allow you to open documents that were created by other applications. The following is a list of translators included with ClarisWorks 1.0 for Windows, and the corresponding types of files they translate:

Word Processing Translators:
Microsoft Word for Windows 2.0
Microsoft Word for DOS 5.5
WordPerfect 5.1
RTF (Rich Text Format)
DOS Text
Text

Spreadsheet Translators:
Lotus 123 for DOS
Microsoft Excel 3.0
ASCII Text (tab delimited)
DBF (dBase IV file format)
DIF (Data Interchange Format)
SYLK (Symbolic Link Format)

Database Translators:
DBF (dBase IV file format)
ASCII Text (tab delimited)
DIF (Data Interchange Format)
SYLK (Symbolic Link Format)

Graphics Translators:
EPS (Encapsulated PostScript) (import only)
CGM (Computer Graphics Metafile) (import only)
BMP (Windows Bitmap) (import only)
WMF (Windows Metafile)
TIFF (Tagged Image File Format) (import only)
PCX (PC Paintbrush bitmap) (import only)
PICT (Macintosh Picture)
Published Date: Feb 18, 2012

ClarisWorks 3.0: Windows Translator List

ClarisWorks 3.0 for Windows Translator List.
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Word Processing Translators:
RTF (Rich Text Format, *.rtf)
Text (.txt)
Text File, DOS (*.txt)
Word for DOS 5.x (*.doc)
Word for Windows 2.x, 6.x (*.doc)
WordPerfect 5.1 (*.doc)
WordPerfect 6.x (*.wpd, *.doc)

Spreadsheet Translators:
ASCII Text Files (*.txt)
DIF (Database Interchange Format,*.dif)
Excel 3.0 (*.xls)
Excel 5.0 (*.xls)
Lotus 123 for DOS (*.wks, *.wk1, *.wk)
SYLK Files (Symbolic Link Format, *.slk)

Database Translators:
ASCII Text (tab delimited, *.txt)
DBF (dBase IV file format, *.dbf)
DIF (Data Interchange Format, *.dif)
SYLK (Symbolic Link Format, *.slk)

Paint Document Translators:
Computer Graphics Metafile (*.cgm) (import only)
DIB-bitmap file (*.dib, *.bmp, *.rle) (import only)
EPS files TIFF preview (*.eps, *.ai) (import only)
Macintosh Picture File (*.pct)
Microsoft Video (*.avi) (import only)
Microsoft Windows MetaFile (*.wmf) (import only)
Tagged Image File Format (*.tif) (import only)
ZSoft® Paintbrush files (*.pcx, *.pcc) (import only)

Drawing Document Translators:
Computer Graphics Metafile (*.cgm) (import only)
DIB-bitmap files (.dib, *.bmp, *.rle) (import only)
EPS files TIFF preview (*.eps, *.ai) (import only)
Macintosh Picture File (*.pct)
Microsoft Video (*.avi) (import only)
Microsoft Windows Metafile (*.wmf)
Tagged Image File Format (*.tif) (import only)
ZSoft© Paintbrush files (*.pcx, *.pcc) (import only)
Published Date: Feb 18, 2012

ClarisWorks 3.0: Macintosh Translator List

ClarisWorks 3.0 for Macintosh Translator List.
This article has been archived and is no longer updated by Apple.
ClarisWorks 3.0 for Macintosh contains several translators that allow you to open documents which were created by other applications. The following is a list of translators included with ClarisWorks 3.0 for Macintosh, and the corresponding types of files they translate:

Word Processing Translators:
Acta 3.0 (import only)
AppleWorks 2.0
AppleWorks GS (import only)
ClarisWorks 1.0 Text
MacWrite 5.0
MacWrite II
MacWrite Pro 1.x
Microsoft WinWord
Microsoft Word 3.0
Microsoft Word 4.0
Microsoft Word 5.0 (import only)
Microsoft Word PC
Microsoft Works 1.1
Microsoft Works 2.0
Microsoft Write 1.0
RTF (Rich Text Format)
Text (ASCII Text)
WordPerfect 1.0.2
WordPerfect 2.x
WordPerfect PC 4.2
WordPerfect PC 5.0 (import only)
WriteNow 2.0-2.2
WriteNow NeXT

Drawing Translators:
EPSF (import only)
GIF (import only)
MacPaint 2.0 (import only)
PICT
QuickTime Movie (import only)
TIFF (import only)

Spreadsheet Translators:
AppleWorks SS (import only)
ASCII (tab delimited)
DBF (dBase IV file format)
DIF (Data Interchange Format)
Microsoft Excel 3.0
Microsoft Excel 4.0
Microsoft Works SS (import only)
SYLK (Symbolic Link Format)

Database Translators:
AppleWorks DB (import only)
ASCII (tab delimited)
DBF (dBase IV file format)
DIF (Data Interchange Format)
Microsoft Works 2.0 DB (import only)
SYLK (Symbolic Link Format)

Painting Translators:
EPSF (import only)
GIF (import only)
MacPaint 2.0 (import only)
PICT
QuickTime Movie (import only)

TA38839_ClarisWorks_Macintosh_Translator_List.pdf

TIFF (import only)
Published Date: Feb 18, 2012

Macintosh System Software 6.0 Compatibility Report (3 of 3) 3/93

Article Change History

03/15/93 - UPDATED
* Acius now ACI US, Inc.

This article continued from: "Macintosh System Software 6.0 Compatibility Report (Part 2 of 3)".
This article has been archived and is no longer updated by Apple.

System Software 6.0 Compatibility Report as of 6/20/88

The following applications have been rated with a 'C' status. C = The application is now having minor loss of functionality running under System Software 6.0.

Product CPU Company

Color More 1.1c Mac II Living VideoText

Invisible files created by Color More 1.1c are visible and openable from the desktop. Color More 1.1c also rated a "C" with System 5.0.

Frame Mac 1.10 Mac II Compuneering

Documents must be opened from within the application. Frame Mac 1.10 also rated a "C" with System 5.0.

Guide 1.0 ALL Owl, Int.

Unable to print to LaserWriter and/or ImageWriter. No work-around known. Guide 1.0 also rated a "C" with System 5.0

Mac Cogo 1.01 ALL Compuneering

Problem with the circle tool at 200% page resolution. Mac Cogo 1.01 is not compatible with MacroMaker. Mac Cogo 1.01 also rated a "C" with System 5.0.

Works 1.1 ALL Microsoft

Works 1.1 is not compatible with MultiFinder, use single Finder until you receive Microsoft's planned patch.

McNet 2.12 ALL Argus Software

Screen refresh problems with 2.12. You are only able to switch layers under MultiFinder while in Drawing mode. McNet 2.12 also rated a "C" with System 5.0.

MGMStation 2.09 Mac II Micro CAD/CAM

Numerous screen refresh problems. Small problems with application errors. Overall rating of MGMStation 2.09 has not changed from 5.0 to 6.0.

Omnis 3+ 3.24 ALL Blyth

You should increase default memory size in "Get Info" Box on Mac IIs.

Avoid using "Go To Utilities" in the "Options" menu. Omnis 3+ 3.24
also rated a "C" with System 5.0.

PageMaker 2.0a ALL Aldus

Avoid using MacroMaker with PageMaker 2.0a. PageMaker 2.0a also rated a "C"
with System 5.0.

Trapeze 2.0 Mac+,SE Data Tailor

No new problems introduced with 6.0 on the Plus or SE. Trapeze 2.0 also
rated a "C" with System 5.0 on the Plus and SE.

VideoWorks II 2.0 ALL Broderbund

VideoWorks II 2.0 draws over active windows under MultiFinder. VideoWorks
II 2.0 also rated a "C" with System 5.0.

Microsoft File 1.05 ALL Microsoft

"Page Setup" is not displayed after selecting another printer with Chooser.
File also has some screen refresh problems after using DAs.

WriteNow 1.07 ALL Ann Arbor

Cut & Paste is not fully reliable. Margin problems when printing in 2
column.

The following applications have been rated with a 'D' status. D = The
application is experiencing major loss of functionality and is not compatible
with System Software 6.0.

Product CPU Company

DBase Mac 1.0 ALL Borland International

With the exception of an incompatibility with MacroMaker, no other
problems were introduced with 6.0

MacDraft 1.2a ALL

Due to numerous compatibility problems, do not use MacDraft 1.2a with 6.0.

MacTex 2.0 ALL STL Systems

System hangs as you attempt to launch on Mac SE or II. Numerous crashes on
the Plus. MacTex also rated a "D" with System 5.0.

ResEdit 1.1b3 ALL

Due to numerous compatibility problems, do not use ResEdit 1.1b3 with 6.0.
ResEdit 1.1b3 also rated a "D" with System 5.0.

Trapeze 2.0 Mac II Data Tailor

Due to numerous compatibility problems, do not use ResEdit Trapeze 2.0 with
6.0 on a Mac II. Trapeze 2.0 also rated a "D" with System 5.0 on the Mac
II.

4th Dimension 1.0.4 ALL ACI US, Inc.

4D crashes as you enter the 4D Layout Editor.4D rated a "C" with System

5.0.

Insight General Ledger 2.0 ALL Layered

Insight General Ledger 2.0 is not able to print. Avoid using the "Change Company" option under "File". Insight General Ledger 2.0 had been rated as a "C" with System 5.0

Excel 1.04 ALL Microsoft

System crash as you open an Excel document if MacroMaker was launched at start-up. Excel users should be using Excel 1.06 or 1.5 with System 6.0.

This concludes "Macintosh System Software 6.0 Compatibility Report"

Published Date: Feb 18, 2012

LaserWriter IIg: Hiding It With Print Servers

I am unable to use AppleShare IP to hide a LaserWriter IIg on my network. Can you help?
This article has been archived and is no longer updated by Apple.
The first shipping Apple LaserWriter IIg printers had v1.0 ROMs and cannot be "hidden" or "captured" by print servers.

Later LaserWriter IIg printers shipped with v2.0 ROMs and supported being hidden. You can confirm which ROMs are in the printer by examining the startup page.
Published Date: Feb 18, 2012

ClarisWorks 4.0: Windows Translator List

ClarisWorks 4.0 for Windows contains several translators that allow you to open documents which were created by other applications. The following is a list of translators included with ClarisWorks 4.0 for Windows, and the corresponding types of files they translate.
This article has been archived and is no longer updated by Apple.
ClarisWorks 4.0 for Windows includes translators (filters) for the following types of files:

Word Processing Translators:
HTML File (*.htm)
Rich Text Format (*.rtf)
Text File (*.txt)
Text File, DOS (*.txt)
Word for DOS 5.x (*.doc)
Word for Windows 2.x (*.doc)
Word for Windows 6.0 (*.doc)
WordPerfect 5.1 (*.doc)
WordPerfect 6.x (.doc)

Drawing Translators:
Computer Graphics Metafile (*.cgm) (import only)
DIB-bitmap files (*.dib, *.bmp, *.rle) (import only)
EPS files TIFF preview (*.eps, *.ai) (import only)
Macintosh Picture File (*.pct)
Microsoft Video (*.avi)
Microsoft Windows MetaFile (*.wmf)
Tagged Image File Format (*.tif) (import only)
ZSoft® Paintbrush files (*.pcx, *.pcc) (import only)

Painting Translators:
Computer Graphics Metafile (*.cgm) (import only)
DIB-bitmap files (*.dib, *.bmp, *.rle) (import only)
EPS files TIFF preview (*.eps, *.ai) (import only)
Macintosh Picture File (*.pct)
Microsoft Video (*.avi) (import only)
Microsoft Windows MetaFile (*.wmf)
Tagged Image File Format (*.tif) (import only)
ZSoft® Paintbrush files (*.pcx, *.pcc) (import only)

Spreadsheet Translators:
ASCII Text Files (tab delimited, *.txt)
DBF Files (dBase IV file format, *.dbf)
DIF Files (Data Interchange Format, *.dif)
Excel 3.0 Files (*.xls)
Excel 5.0 Files (*.xls)
Lotus 123-1A Files (*.wks)
Lotus 123-2 Files (*.wk1)
Lotus 123-3 Files (*.wk3)
SYLK Files (Symbolic Link Format, *.slk)

Database Translators:
ASCII Text (tab delimited, *.txt)
DBF (dBase IV file format, *.dbf)
DIF (Data Interchange Format, *.dif)
SYLK (Symbolic Link Format, *.slk)
Published Date: Feb 18, 2012

ClarisWorks 4.0: Macintosh Translator List

"ClarisWorks 4.0 for Macintosh contains several translators that allow you to open documents which were created by other applications. The following is a list of translators included with ClarisWorks 4.0 for Macintosh, and the corresponding types of files they translate.
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AppleWorks 2.0
AppleWorks GS (import only)
ClarisWorks 1.0 Text
MacWrite 5.0
MacWrite II
MacWrite Pro 1.x
Microsoft WinWord
Microsoft Word 3.0
Microsoft Word 4.0
Microsoft Word 5.0 (import only)
Microsoft Word PC
Microsoft Works 1.1
Microsoft Works 2.0
Microsoft Write 1.0
RTF (Rich Text Format)
Text (ASCII Text)
WordPerfect 1.0.2
WordPerfect 2.0
WordPerfect PC 4.2
WordPerfect PC 5.0 (import only)
WriteNow 1.0
WriteNow 2.0-2.2 (export only)
WriteNow NeXT
WWW [HTML]

Drawing Translators:
EPSF (import only)
GIF (import only)
MacPaint (import only)
PICT
QuickTime Movie (import only)
TIFF (import only)

Spreadsheet Translators:
AppleWorks SS (import only)
ASCII (tab delimited)
DBF (dBase IV file format)
DIF (Data Interchange Format)
Microsoft Excel 3.0
Microsoft Excel 4.0
MS Works 2.0 SS (import only)
SYLK (Symbolic Link Format)

Database Translators:
AppleWorks DB (import only)
ASCII (tab delimited)
DBF (dBase IV file format)
DIF (Data Interchange Format)
Microsoft Works DB (import only)
SYLK (Symbolic Link Format)

Painting Translators:
EPSF (import only)
GIF (import only)
MacPaint (import only)

TA38843_ClarisWorks_Macintosh_Translator_List.pdf

PICT
QuickTime Movie (import only)
TIFF (import only)
Published Date: Feb 18, 2012

Chinese PageMaker: Characters Sometimes Do Not Print

Sometimes when printing from the Chinese version of PageMaker using Adobe's printer driver, AdobePS, some 2-byte characters do not print. Can you help?
This article has been archived and is no longer updated by Apple.
Apple does not know why characters sometimes do not print from PageMaker (v6.0c and v6.5c) when using Adobe's AdobePS printer driver; however, here are some possible workarounds.

Workarounds
1. As this is an intermittent problem, printing a second or third time may be successful.

2. Print instead using the Apple LaserWriter Driver, LaserWriter 8. To print using the Apple LaserWriter driver when printing from PageMaker, hold down the option key when you select Print.

3. Use bitmap fonts instead of 2-byte TrueType or PostScript outline fonts in your PageMaker document.

4. This issue is not known to occur with Mac OS 8.1 or earlier versions of the Mac OS. Therefore, if your Macintosh supports using Mac OS 8.1, you may wish to install it instead. However, merely printing using Apple's LaserWriter driver is the more convenient and the preferred workaround.
Published Date: Feb 18, 2012

APPLE III: Keyboard Replacement

This article has been archived and is no longer updated by Apple.
The Apple III keyboard (P/N 661-91022) is no longer available as a replacement module. If you order an Apple III keyboard, you will receive an Apple III Plus keyboard, keyboard cover, and keyboard encoder ROM. To replace a defective Apple III keyboard, exchange the old Apple III keyboard, keyboard cover, and keyboard encoder ROM with the new Apple III Plus keyboard, keyboard cover, and keyboard encoder ROM.

BEFORE YOU START: Familiarize yourself with the Apple III Technical Procedures. Be sure to follow proper ESD procedures.

Materials Required:
Grounded workbench and wriststrap
Medium flatblade screwdriver
Small phillips screwdriver
Medium phillips screwdriver
IC extractor
Keyboard encoder ROM P/N 342-0136 (included with new keyboard)
Apple III Plus keyboard (included with new keyboard)
Apple III Plus keyboard cover (included with new keyboard)

Replacement Procedure: To replace the Apple III keyboard:

1. Power off the Apple III and disconnect the AC power cord.

2. Disconnect all other external cables from the back of the Apple III.

3. Remove the main logic assembly (refer to Section 2, Take-Apart, of the Apple III and Apple III Plus Technical Procedures).

4. Place the main logic board on a grounded workbench pad and put on your grounding wriststrap.

5. Locate the keyboard encoder ROM at coordinate J13 on the main logic board and verify that it is the old ROM (P/N 341-0035).

6. Using an IC extractor, remove the old ROM at location J13.

7. Install the new keyboard encoder ROM (P/N 342-0136) at the same location, J13 on the main logic board. There is a small notch on the ROM. This notch should face away from the output connectors.

8. Replace the main logic assembly (refer to Section 2, Take-Apart, of the Apple III and Apple III Plus Technical Procedures).

9. Remove the keyboard and keyboard cover (refer to Section 2, Take-Apart, of the Apple III and Apple III Plus Technical Procedures).

10. Install the Apple III Plus keyboard and keyboard cover (refer to Section 2, Take-Apart, of the Apple III and Apple III Plus Technical Procedures).

Published Date: Feb 18, 2012

Personal LaserWriter NT: Connecting to a Windows Based PC

I have a Personal LaserWriter NT and would like to connect it to my Windows based PC. What do I need to do to print from my PC to the Personal LaserWriter NT?
This article has been archived and is no longer updated by Apple.
There are three items that need t be addressed to correctly connect a Windows based PC to an Apple Personal LaserWriter NT:
- Obtaining the correct cable
- Configuring the printer for the desired printer description language
- Configuring the driver in Windows.

The Personal LaserWriter NT has two I/O connection options:
- A DB-25, RS-232 serial port
- A Mini-DIN 8 RS-422 LocalTalk port.

For port identification, review:
Tech Info Library article 24473: "**Personal LaserWriter Series: Port Illustrations**"

The only option for connecting to a PC is the RS-232 port. The most common mistake is not using the proper cable. The proper cable is a Null modem cable. For those who prefer to make their own cable, the cable pinouts are listed below.

Null-Modem Pinouts DB-25 to DB-25		
Pin		Pin
2	to	3
3	to	2
4	to	5
5	to	4
6 & 8	to	20
7	to	7
20	to	6 & 8

Null-Modem Pinouts DB-9 to DB-9		
Pin		Pin
1 & 6	to	4
2	to	3
3	to	2
4	to	1 & 6
5	to	4
7	to	8
8	to	7

Null-Modem Pinouts DB-25 to DB-9		
Pin		Pin
2	to	2
3	to	3
4	to	8
5	to	7
6 & 8	to	4
7	to	5
20	to	1 & 6

On DB-25:
- Pin 7 is Signal Ground. Signal Ground is not optional.
- Pin 1 is Chassis Ground. This is optional.

The next step is configuring the communications settings of the printer using the configuration switch, to the left of the I/O ports, on the back of the

printer. The Personal LaserWriter NT supports three printer description languages.
- PostScript Level 1
- HP PCl Emulation
- Diablo 630 Emulation

The configuration switch controls both the selection of the printer description language and the serial port settings.

Tech Info Library Article 7439: "**Personal LaserWriter NT: Switch Settings**" explains all of the options settings.

Finally, Windows needs to be configured to know the printer it is printing to, the printer description languages to use, and what port to send the data via. Most versions of Windows come standard with the printer driver for the Personal LaserWriter NT, using Postscript.

For specific details on configuring Windows printer drivers, contact Microsoft.
Published Date: Feb 18, 2012

CSW 2400/2500: Cartridge Not Installed Properly or Missing Error

When I try to print to my Color StyleWriter 2400/2500 I receive the error message, "The ink cartridge is not installed properly or missing." I have a cartridge installed and checked to see that it is installed properly. What causes this error message?
This article has been archived and is no longer updated by Apple.
There are generally three causes for this symptom:

1. Use of LocalTalk cabling without a LocalTalk module.
2. A bad connection of the print cartridge to the contacts on the carriage assembly.
3. A bad print cartridge.

1. First, if you have not purchased and installed an optional localtalk module on your Color StyleWriter, check to make sure you are using a peripheral 8 (serial) cable to connect the printer to the computer. A peripheral 8 cable is a single-piece, round cable with 8 pins at each end.

2. Check the connections between the print cartridge and the carriage assembly. Remove the print cartridge and check the electrical contacts on the printhead and carriage assembly for signs of contamination. If needed, carefully clean the contacts with a non-residue cleaner such as alcohol and a Q-tip. Let the contacts dry completely before reinstalling the print cartridge.

Important: Clean only the electrical contacts with the cleaning solution. Cleaning the other areas with the wrong type of cleaning solution may cause damage (may break down rubber rollers, contaminate printhead nozzles, and so forth).

3. If cleaning does not resolve the symptom, it may be necessary to replace the print cartridge. There are three types of print cartridges that can be used on the StyleWriter 2400/2500 printers.

The PhotoGrade (Color StyleWriter 2500 only) and High-Capacity Black Cartridge consist of an integrated print cartridge and ink tank assembly that is replaced as a whole unit. The color cartridge consists of the print cartridge and separate replaceable color and black ink tanks. As long as ink remains in the original ink tanks they can be transferred to the replacement color cartridge.

If the problems continue consult your local service provider for assistance.
Published Date: Feb 18, 2012

Mac OS X Server 1.x: Documentation Sources

A plethora of online resources exist for Mac OS X Server. In particular, a number of files exist on the Mac OS X Server CD and on the hard drive of a machine on which Mac OS X Server has been installed. This article documents some areas where information on configuring and running Mac OS X Server can be found.
This article has been archived and is no longer updated by Apple.
Note: This article pertains to Mac OS X Server versions 1.x, which were released prior to May 2001.

The installation documentation comes with retail versions of Mac OS X Server. There is also electronic documentation in Adobe PDF and SimpleText format on the CD. This consists of an installation manual and several Read Me files detailing various aspects of installation and packaged tools, such as the System Disk control panel.

Context-sensitive help is available during the Setup Assistant process, which is part of the install process. The Setup Assistant can be invoked at any time (much like the Mac OS Setup Assistant) by selecting it from the Assistants folder. A link to this is provided within the Apple Menu in Workspace Manager (Server Administration -> Assistant). Context-sensitive help is also available through the Help button or Help menu for applications and tools within the Mac OS X Server environment.

Once Mac OS X Server has been installed and you have logged in for the first time, you may notice a multitude of documents in the /System/Documentation folder.

Some of the help files for GUI tools are stored in /System/Documentation/Help and can be invoked by double-clicking their names within the Workspace Manager. These help files also appear when you choose Help from the Menu bar or press Command(Apple)-? when using the referenced tool or application.

Information on services available within Mac OS X Server is contained in /System/Documentation/Administration/Services, in several formats.

Information on the Kerberos authentication system is contained within /System/Documentation/Administration/Services/Kerberos in HTML format. There are several HTML files containing the letters „toc¾, which stands for Table of Contents; these are the starting points for various manuals on the subject.

Information on the QuickTime Streaming Server is included within the /System/Documentation/Administration/Services/QuickTimeStreaming in Rich Text Format. This can be read using the Text Editor. In order to produce "hinted" (streamable) movies, you need QuickTime 4 Pro. Instructions on using QuickTime are on the QuickTime Web site at http://www.apple.com/quicktime in the authoring section. There are tutorials available at this location. There have been posts on the subject of using the QuickTime Streaming Server on third party as well as Apple mailing lists and discussion forums.

The entire manual for the Apache Web Server is contained within the /System/Documentation/Administration/Services/apache folder. Start by double-clicking /System/Documentation/Administration/Services/apache/index.html. If you leave the Web folder location at default when setting the server up, you will find a link to this manual on the default Web page for Mac OS X Server. Further information on Apache is available through the Apache Group site at http://www.apache.org.

Information on the Network Time Protocol and associated servers is contained within /System/Documentation/Administration/Services/ntp in HTML format. Again, start with the index.html file.

The sendmail server documentation is located in /System/Documentation/Administration/Services/sendmail. Sendmail is a mail server used in a variety of environments; documentation can be found at the Sendmail, Inc.'s site http://www.sendmail.com, and also through the man (manual) pages.

The man (manual) pages may be found in a series of directories within /System/Documentation/ManPages. The ManPages directory is a Link (similar to an alias, see article #**60029**) to the actual location of the manual page documents in /usr/share/man. You can click on each document in turn to view them in TextEdit. However, the more traditional way to view them is through the man command in a terminal window (type man man in a terminal to find out more). Man is a command-line utility that has been the traditional method for documenting commands in Unix-style operating systems. Pages are displayed for most commands which detail their use and all applicable arguments.

There are many more interesting documents contained within the documentation folder. In particular, there are release notes and other Read Me documents available for various aspects of OS X Server in the /System/Documentation/ReadMe folder.

These are mirrored in the Knowledge Base. See article #30925: "**Mac OS X Server: Release Notes**"

At the Mac OS X Server support site, http://www.info.apple.com/support/macosxserver/, one may find links to articles explaining several aspects of Mac OS X Server. In addition, the Knowledge Base at, http://kbase.info.apple.com/, contains hundreds of articles on Mac OS X Server, with more being created on a continuous basis.

TA38849_Mac_OS_X_Server_x_Documentation_Sources.pdf

Apple maintains a listserver to which you can subscribe at the main mailing lists page at http://lists.apple.com . A listserver is a special e-mail list service, which allows users to form an online community, in which the posts of everyone on the list can be viewed and responded to by everyone else on the list. Mac OS X users and experts post questions and suggestions to the e-mail list, as well as answers. There is a direct link to the subscription page for the Mac OS X on the aforementioned support page.

Past posts to the Apple mailing lists can be searched from http://webx.lists.apple.com , and will be useful for finding answers to common questions.

There is also a forum for discussion of Mac OS X Server on the Tech Exchange. The Tech Exchange is a Web-based online forum, similar to Usenet news, which allows users to post questions and answers. The additional strength of this format lies in the fact that past posts can be browsed as well as searched.

The Discussion forum can be reached at: http://discussions.info.apple.com/

In addition, third parties have provided areas for discussion, posting of instructions, and software downloads for Mac OS X Server. Some examples are http://www.stepwise.com and http://www.omnigroup.com , but there are many more linked to the support site for Mac OS X Server under the "Connect to:" pull-down menu.

Because of the BSD 4.4 environment contained within Mac OS X Server, and the fact that most of the command line utilities within Mac OS X Server are shared by all UNIX-style operating systems, there are a variety of books which can be of help. Books on UNIX commands and OS structure as well as administration can be of great help to the Mac OS X Server administrator.

As with any server or networking product, a variety of standard protocols (such as TCP/IP) are utilized in Mac OS X Server. Knowledge of these protocols is helpful to the administrator, as is any good book on networking in general or the associated protocols such as TCP/IP and AppleTalk. Consult Web search sites, the Knowledge Base, and local or online bookstores for details and sources of information.
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Apple Writer III: Footnotes

This article has been archived and is no longer updated by Apple.

```
Footnotes longer than 132 characters will stop Apple Writer III (versions 1.0
and 1.1) while printing with a WPL "FOOTNOTE OVERFLOW" error.  There is no fix
available at this time.

When a footnote is inserted in the text, the character immediately following
the note is omitted.  Example:

  The text:

     ....Apple User's Groups (<For more info, see page 16>)are a good....

  How it prints:

     ....Apple User's Groups re a good....

This problem can be worked around by adding an extra space after the footnote.
Example:

     ....Apple User's Groups (<For more info, see page 16>) are a good....

Footnotes don't obey the Right margin.  There is no fix available at this
time.

Footnotes won't be printed if there isn't enough text on the page.
```

Published Date: Feb 18, 2012

Apple IIc: Serial port interfacing

The Apple IIc serial ports are 5-pin DIN connectors. Both Port 1 (Printer) and Port 2 (Modem) have the same pin-out and signal description. Below are the cable descriptions for connecting them to the Imagewriter and the Apple Modem.
This article has been archived and is no longer updated by Apple.

Apple IIc Serial Port	Imagewriter	Apple Modem
DTR (1)	6 - DSR	6 - DTR
TXD (2)	3 - RCD	9 - TXD
GND (3	7 - GND	3 - GND
RCD (4)	2 - TXD	5 - RCD
DSR (5)	20 - DTR	2 - DSR

```
  _ ___ 1]
1_1\\1]
(5) (1) \\ _________ / ]
)_________) ]
(4) (2) / \\ ]
(3)___/ 1]
1_]
DIN type connector DB type connector
```

Setting up the printer port from within a program on the IIc is essentially the same as changing the settings on previous interface cards: after first directing output to the serial port (using PR#1 and PR#2 for Ports 1 and 2, respectively), the commands can then be sent to the serial port. Each command for Port 1 must be preceded by CTRL-I. The commands for Port 1 are:

Cmd -- Description

nnn -- Set line width(from 001 through 255): This command must be followed by an 'N' or a <CR>.
nnB -- Set baud rate to value corresponding to nn.

nn -- Rate
01 -- 50
02 -- 75
03 -- 110
04 -- 135
05 -- 150
06 -- 300
07 -- 600
08 -- 1200
09 -- 1800
10 -- 2400
11 -- 3600
12 -- 4800
13 -- 7200
14 -- 9600
15 -- 19200

nB -- Set Data Format to values corresponding to n.

n -- Format
0 -- 8 data 1 stop
1 -- 7 data 1 stop
2 -- 6 data 1 stop
3 -- 5 data 1 stop
4 -- 8 data 2 stop
5 -- 7 data 2 stop
6 -- 6 data 2 stop
7 -- 5 data 2 stop

I -- Echo output to screen.
K -- Disable <LF> after <CR>.
L -- Generate <LF> after <CR>.

nP -- Set Parity corresponding to n.

n -- Parity
0 -- none
1 -- odd
2 -- none
3 -- even
4 -- none
5 -- mark (1)
6 -- none
7 -- space (0)

R -- Reset Port 1 and exit from serial port 1 firmware.
S -- Send a 233 millisecond Break character
Z -- Zap (ignore) further command characters (until CTRL-Reset or PR#1). Do not format output or insert carriage returns into output stream.

Differences between ports:
Listed below are the differences between commands for Port 1 and Port 2 of the Apple IIc.

Port 2 uses the same commands, with the differences and additions listed below. Each command for Port 2 must be preceded by a CTRL-A.

nnn -- same

nnB -- same

nD -- same

I -- same

K -- same

L -- same

nP -- same

Q -- Quit Terminal Mode

R -- same

S -- same

T -- Enter Terminal Mode. Use this command after IN#2 only. If you follow this command by PR#2, the IIc will echo input to output. (NOTE: If the other device is also echoing input to output, entering the first character will cause an infinite loop. Use CTRL-RESET to get out.

Z -- same

CTRL-T -- When issued from a remote device, this command puts the IIc in terminal mode if IN#2 is already in effect. The command is the same as CTRL-T typed locally.

CTRL-R -- When issued from a remote device, this command undoes the terminal mode command. If IN#2 and PR#2 are in effect, the remote keyboard and display become the input and output devices of the local IIc. The command is the same as CTRL-A Q typed locally.
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Hard Disk 20: Hard Drive Diagnostic 4.0 Problem/Cure

This article has been archived and is no longer updated by Apple.

PROBLEM: When testing a Hard Disk 20 (i.e. non SCSI hard disk) on a Macintosh SE, the test will always fail a Hard Disk 20, even if the Hard Disk 20 is a known good unit.

CURE: This problem with Hard Disk Drive Diagnostic 4.0 is caused by a bug in the software which will cause it to falsely fail a non-SCSI Hard Disk 20 when tested on a Macintosh SE. The solution is to test the Hard Disk 20 ONLY on a Macintosh Plus.

PROBLEM: If the Hard Disk 20 was formatted on a Macintosh SE, the HD20 still fails MacTest Drive Diagnostics 4.0 on the Macintosh Plus.

CURE: Format the Hard Disk 20 on the Macintosh Plus and test the drive again.

Published Date: Feb 18, 2012

Power Macintosh G3: No DVD-Decoder Card Support

My Power Macintosh G3 (Platinum) came with a DVD-ROM drive, but I cannot play DVD movies. Can you help?
This article has been archived and is no longer updated by Apple.
Some original Power Macintosh G3 (Platinum) configurations could be ordered with a DVD-ROM drive prior to the availability of a DVD-Decoder card. These computers lack support for Apple's DVD-Decoder Personality card and cannot play DVD movies.

To add the ability to play DVD movies to such a configuration, a third party solution, such as a PCI MPEG2 decoder card would have to be used.
Published Date: Feb 18, 2012

At Ease: File Copy Performance

I have installed At Ease on all the workstations on my network. Now it appears that file copies over the network take longer. Does At Ease affect file copy performance?
This article has been archived and is no longer updated by Apple.
Because of At Ease file system security, when At Ease is installed, the Finder changes to use synchronous (instead of asynchronous) file system calls. This adversely affects copy performance. There is currently no workaround for this.

This should not affect your network's performance, but individual machines will not be able to copy files as quickly. It should not affect other network traffic.
Published Date: Feb 18, 2012

LaserWriter 8.6.x: Unpredictable Results With LPR Print Queue

I just installed Mac OS 8.5 and created an LPR Desktop Printer for a Unix print server. When printing using LaserWriter 8.6 the jobs don't print or the server resets and the job prints repeatedly until I delete the job from the queue.

When printing to this server over LPR using LaserWriter 8.5.1 it worked fine. What is the cause?

This article has been archived and is no longer updated by Apple.
Since LaserWriter 8.5.1 previously printed successfully to this Unix print server, what you have encountered may be due to the Owner and Computer Name entered in the File Sharing control panel.

Some Unix print servers are unable to process an LPR print job properly if the Owner and Computer Name have spaces or unsupported characters such as the apostrophe, quotes, or other marks of punctuation in them. LaserWriter 8.5.1 strips out any spaces whereas LaserWriter 8.6 and newer versions of the printer driver do not. Newer versions transmit the Owner and Computer Name just as they are entered.

To determine if this is the cause, go to the File Sharing control panel and check whether there are spaces in the names. If so, consider deleting any the spaces or replace the spaces with another character, such as an underscore. For example, change the name from Bob's G3 to Bobs_G3 or BobsG3.

If your Unix print server is old you might consider updating it with one that better conforms to the LPR/LPD RFC, the standard the industry uses for printing over LPR.

Beginning with LaserWriter 8.6, the driver transmits any spaces as they appear in the File Sharing setup to maintain compatibility with the RFC on LPR/LPD printing, and for security authentication requirements of AppleShareIP and Windows based print servers.
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ImageWriter & Dot Matrix Printer: Stops Printing Problem/Cure

This article has been archived and is no longer updated by Apple.

Problem:

Symptom #1: During printing the Dot Matrix Printer or Imagewriter may halt printing for no apparent reason and the select light will go out. Restarting the printer or pressing the select button seems to correct the problem temporarily.

Symptom #2: During power up the carriage assembly moves to the far left position as in the normal power on sequence, but the carriage assembly then fails to make its characteristic 3/4" movement to the right and then back to the left position. In addition, the 'select' light fails to appear. Powering off and on the printer repeatedly fails to produce the results above unless the carriage assembly is moved to somewhere other than the far left position. Instead, the platen will advance and retract approximately 1/4", and the carriage assembly will move approx. 1/16" and halt.

Cure:

Replace the right margin disable switch which is available for the Imagewriter as part # 970-0715 (Power Switch/Control Panel Cable Assembly). For the DMP the switch itself needs to be removed and a replacement keyswitch (705-0079) needs to be used since the complete assembly is no longer available for the DMP.

Published Date: Feb 18, 2012

Mac OS 8.6 Update: Internet Access Extension Version

The Mac OS 8.6 Update installer improperly fails to update the Internet Access extension.
This article has been archived and is no longer updated by Apple.
The changes from version 1.2 to 1.3 are minor and should not affect normal function or use. This will be corrected in future versions of the Mac OS Installer/Updater.

The full Install CD of Mac OS 8.6 installs Internet Access 1.3
Published Date: Feb 18, 2012

AppleShare IP Remote Administration: Using Foreign Characters

I am remotely administering my AppleShare IP server, but I cannot enter foreign characters, such as accented vowels, correctly. How can I enter these characters?
This article has been archived and is no longer updated by Apple.
You must be sure to use the correct language and encoding settings in your Web browser. Your browser's default settings may not work with AppleShare IP remote Admin.

In the Netscape browser, choose Japanese Language with Shift-JIS encoding for the Japanese system. For French or German, choose the appropriate language, and use the Western (MacRoman) encoding. In Microsoft Internet Explorer with MRJ 2.1.1 or later, choose Japanese Language with Shift-JIS character set for Japanese systems. For French or German, choose the appropriate language, and use the Western (Mac) character set.
Published Date: Feb 18, 2012

AppleShare IP: Some Characters Not Allowed in Default Document Name

I want to change the my Default Document Name in the Web and File Server Settings options on AppleShare IP 6.1, but when I try to change the document name it will not let me completely type the name of the new document. It will not type some characters. Why is this?
This article has been archived and is no longer updated by Apple.
AppleShare IP is not able to use some characters for file names in web server. The server has this restriction for compatibility with other computer operating systems These are protected characters under some OS's and can't be used for file names.

The characters that you can not use for a default file name include: / | \\ '] > ; [< : { } _ = + ! ~ @ # $ % ^ & * ( ) `

You can name a default document using many of these characters in the Finder, but once you try to change the name in AppleShare IP you will not be allowed to do so.

Note: The space can be used in the default document name but it is not recommend.
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Network Assistant and Launcher: Observe/Control Issues

When I use Network Assistant to control a remote machine that has the Launcher open, the cursor does not track smoothly. It is almost frozen and it won't move across the screen unless I move the controlling mouse violently. Why is this?
This article has been archived and is no longer updated by Apple.
This a known issue that occurs when the Launcher is open on the remote machine. The only workaround is to close the Launcher using the Command-W key combination. You should avoid having the Launcher open on remote workstations.

If the workstation is running Mac OS 8.5 or later, you can use the following steps to mimic the Launcher's functionality:

1. Create a new folder and open it.
2. Go to the View menu and choose "as Buttons".
3. Place aliases to the desired items in this folder. To duplicate your current Launcher setup, drag in the contents of the Launcher Items folder which resides in the System Folder.
4. If desired, drag the folder to the bottom of the screen so that it becomes a pop-up window.

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WebObjects: Differences between Bundle & Mac OS X Server Version

What is the difference between the shrink wrapped WebObjects bundle and WebObjects that ships with Mac OS X Server?
This article has been archived and is no longer updated by Apple.
The shrink wrapped copy of WebObjects is for Windows NT, Solaris, and HP platforms. WebObjects that comes with Mac OS X Server is only for Mac OS X Server. These two versions of WebObjects are functionally equivalent, but have been compiled for use on different platforms. However, it is possible to develop a WebObjects application on one platform and then deploy it on another.

Both WebObjects packages come with serial numbers, but the serial number from the Windows NT/Solaris/HP package will not work with the Mac OS X Server WebObjects package, nor will the serial number for the Mac OS X Server WebObjects package work with the Windows NT/Solaris/HP package.

To upgrade either WebObjects package to a higher number of transactions and multithreading, a new license will need to be purchased. The upgraded serial number can be obtained by calling 1-800-879-6398 and pressing Option 2. International customers should check http://www.apple.com/webobjects/buy.html to find their local sales representative.
Published Date: Feb 18, 2012

Mac OS 8.6: Jigsaw Puzzle not Installed

After installing or updating to Mac OS 8.6, Jigsaw Puzzle is no longer listed in the Apple Menu and I cannot find it anywhere on my hard drive.
This article has been archived and is no longer updated by Apple.
The Jigsaw Puzzle application which was included with some versions of the Mac OS is not installed as part of Mac OS 8.6. However, upgrading to Mac OS 8.6 will also remove Jigsaw Puzzle on some configurations if it is already installed.

If Jigsaw Puzzle is already located in the Apple Menu Items folder of a pre-existing System Folder and you do not wish to delete it when installing Mac OS 8.6, move the application into another folder such as Apple Extras before running the Mac OS 8.6 installer.
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At Ease: The Scrapbook and "file doesn‘t exist" error

Our school is running an At Ease network, and we been experiencing some difficulty with PowerPoint in the Panels and Restricted Finder environments.

Whenever a user attempts to insert a bit of clip art into a PowerPoint document, they get an error message indicating that the file doesn't exist or that it may have been moved or deleted. This issuedisappears when the same user is logged into the full Finder. Is there any way to get around this issue?
This article has been archived and is no longer updated by Apple.
Many multimedia and presentation applications (such as Microsoft PowerPoint), draw upon the functionality of the Scrapbook as a means of importing data, especially images, into a document. The file is placed into the Scrapbook, which serves as a sort of holding tank for the data until it can be inserted into the document. However, the Scrapbook is not automatically made available to At Ease users, with the result that the application will look to the Scrapbook without success.

There are several approaches to resolving this issue. Your choice of solution will depend on the your network security need:

More compatibility, less security:
Enable global sub-launching via the System Security panel in At Ease Administration:

Figure 1: Global Sub-launching

The primary drawback of enabling global sub-launching is that, depending on how knowledgeable they are, your users will be able to access just about any application available on the network.

More security, less compatibility:
Instead of allowing any application to sub-launch another application, make the Scrapbook available to your users. You may make the Scrapbook available to all users, or you may restrict access to specific workgroups.

To make the Scrapbook available globally:
Select the Scrapbook in Application Preferences, which can be found under the Options menu of At Ease Admin. Check the box which permits other applications to launch the Scrapbook. If the Scrapbook does not appear in your list of applications, click on the Add Application button and navigate to the Scrapbook, which is typically found in the Apple Menu Items folder in the System Folder.

Figure 2: Scrapbook sub-launching

To make the Scrapbook available to a specific workgroup:
Open up the Edit Workgroup panel within At Ease Admin. Click on the Items button, and select Add Application, and navigate to the Scrapbook, which is typically found in the Apple Menu Items folder in the System Folder.

Image 3: Add Scrapbook to Workgroup

At this point, the application should function as expected.

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LaserWriter: LaserJet Plus Emulation Over AppleTalk

Article Change History

08/20/92 - UPDATED
* To include Personal LaserWriter NT and NTR.

How can I print from a PC with the LaserWriter IINTX or Personal LaserWriter NT or NTR in HP LaserJet Plus emulation mode over AppleTalk (that is, with an AppleTalk card in the PC)?

This article has been archived and is no longer updated by Apple.
Here are the steps you need to follow. The article concludes with two troubleshooting sections:

Step One: Connection
---
1) Connect a LocalTalk connector box to the appropriate port on the PC. (An AppleTalk interface card must be installed inside the PC.)

2) Connect another LocalTalk connector box to the LaserWriter.

3) Using a LocalTalk cable, connect the two connector boxes together.

(Note: If more devices are to be added to the AppleTalk network, consult the manual that came with your LocalTalk cables and connectors.)

Step Two: Switch Settings

While the LaserWriter is off, set the printer switches according to the following list.

These switch settings place the LaserWriter IINTX in PostScript Batch Mode, AppleTalk:

* 1 UP
* 2 UP
* 3 UP
* 4 UP
* 5 UP (any position)
* 6 UP (any position)

To place the Personal LaserWriter NT in PostScript Batch Mode, AppleTalk, set the single pushwheel switch to either position "0" or "7."

Step Three: Power On

Turn on the LaserWriter and the PC. After a few seconds, the LaserWriter prints a test page containing its current settings.

Step Four: Change LaserWriter to LaserJet Plus Emulation Mode
---
The following PostScript code switches the LaserWriter into LaserJet Plus emulation mode. Note: The "%" characters and following comments are not necessary. You can omit them when typing in the program. From the DOS prompt, type the following:

```
COPY CON POST.TXT
serverdict begin 0 exitserver %This exits the printer server loop.
statusdict begin %Start modifying settings.
```

```
5 setsoftwareiomode %Set printer to HP LaserJet+ mode.
end %This is the end of the mode switch routine.
systemdict/quit get exec %Force an error to cause a system start test
%page.
(control z) %Press the keyboard control key and the z key
%together. This ends text editing and saves
%the file.
```

Step Five: PostScript Code

Send the PostScript file through a PostScript download utility (included with most AppleTalk interface cards for the PC) or an application like Microsoft Word (which contains PostScript code printing). Once the file has been sent, the printer switches internally from the PostScript batch mode to LaserJet Plus emulation. After a few seconds, it prints a test page displaying the new settings.

Note: Currently, there is no method of software switching back to PostScript or to any other emulation mode once you have left PostScript mode on the LaserWriter. The correct method is to change the DIP switch settings and wait 30 seconds. If you want to use PostScript, switch one should be set to DOWN. Wait 30 seconds and move the switch back to the UP position.

Troubleshooting: No test page

If the LaserWriter will not print a test page to indicate HP emulation mode, follow these steps:

1) Check cable, connector box connections, and paper supply to the LaserWriter.

2) Turn off any spooler commands that may be implemented on the PC.

3) Check the PostScript file (POST.TXT) for any typing errors. If none are apparent, we suggest re-typing the PostScript code from scratch. If the LaserWriter II does not get the PostScript code character for character, the mode change will not work.

4) Once the code has been retyped, send it to the LaserWriter. If the LaserWriter prints a test page, then all is well. If the LaserWriter prints out a page containing the PostScript code, it is in LaserJet+ emulation mode, but a test page will not be printed. (There is an error in the PostScript code that instructs the LaserWriter IINTX to print a test page, but the mode switch was successful.)

5) If the LaserWriter does nothing, then start over from step 1.

Troubleshooting: No printing from within an application

If the LaserWriter won't print from within an application, check these things:

* The application must also be set up to print to a LaserJet+ using Times, Helvetica, or Courier.

* The application must be capable of sending output over an AppleTalk network.

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Mac OS 8.6: Apple Help Viewer 1.2.1 Fails To Open

This article explains how the name of the startup hard disk can prevent Help Viewer 1.2.1 from opening.
This article has been archived and is no longer updated by Apple.
Help Viewer 1.2.1, part of Mac OS 8.6, fails to locate the appropriate HTML-based help documents if the volume name of the startup disk or active System Folder contains the "&" (Shift+7) character. Removing the ampersand from the volume name resolves the issue.

This issue is resolved in Mac OS 9.
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Mac OS 8.5/8.6: Custom Icons on Remote Volumes

On a computer running Mac OS 8.5, with File Sharing enabled, custom icons may not appear properly on client computers running older versions of Mac OS. Instead, generic icons appear.
This article has been archived and is no longer updated by Apple.
With Mac OS 8.5 and higher, you have the option to create custom icons that are of a higher bit depth than 8-bit (256 colors). These icons are stored in a new resource (icns). However, when the cut and paste method is used in Mac OS 8.5 and above the additional icon resources for 1-bit, 4-bit and 8-bit icons are not automatically created.

Older versions of the Mac OS do not know how to interpret the new 32-bit icon. Since the other resources are unavailable, Mac OS does the best it can to display the item, giving it a generic document icon as a placeholder.

To work around this issue:

- Use an icon editing utility to create a full icon suite of bit depths for the item instead of using cut & paste from the Finder.
- Mount the item from a client running an OS older than 8.5 and cut and paste an 8-bit custom icon from the client.

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Mac OS X Server: Creating a Recycler on HFS+ and Other Volumes.

When I drag an item on my HFS Plus volume to the Trash, I get the message "Workspace Manager: Folder /[HFS Plus volume name] is located on a disk without recycler. Continuing will delete the files permanently." Is this incorrect?
This article has been archived and is no longer updated by Apple.
By default, HFS Plus partitions do not have a recycler, so items located on an HFS Plus volume can not remain in the Trash. The steps below will create a recycler on any volume where one does not currently exist.

Issue the following commands as root in a Terminal window:

```
localhost# cd /[HFS Plus volume name]
localhost# df .
Filesystem 512-blocks Used Avail Capacity Mounted on
/dev/sd0_hfs_a 11490160 3107464 8382696 27% /[HFS Plus volume name]
localhost# mkdir .NextTrash
localhost# chown root:wheel .NextTrash
localhost# chmod 1777 .NextTrash
localhost# ls -ldg .NextTrash
drwxrwxrwt 1 root wheel 528 Jul 6 15:11 .NextTrash/
```

After completing these steps, you'll need to reboot the system for the new recycler to be properly recognized.

Note: The error message will still appear the first time a user drags and item to the trash from an HFS Plus volume, but after that the message will no longer appear.
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Macintosh Manager: Error "Macintosh Manager works best in thousands of colors"

I am getting an error on one of my Macintosh Manager workstations that says "Macintosh Manager works best in thousands of colors. Do you want to switch your monitor settings?" When I click Yes, it asks me to select a Macintosh Manager server. When I click No, it asks for an Admin password to go to the Finder. Changing the settings of the monitor seems to have no effect. How to I get past this error?
This article has been archived and is no longer updated by Apple.
In this case, the error message is incorrect. The message should be "This Macintosh Manager server does not serve this workstation. Do you want to pick another server?" Selecting Yes will allow you to pick another server, and selecting No will prompt you to go to the Finder or shut down.

Check the Computer List in Macintosh Manager and make sure that the list containing the affected workstation has log-in enabled.
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At Ease 4 or 5: AppleShare IP Initial Setup

I am setting up At Ease for Workgroups for the first time, and I would like to know the best way to configure the AppleShare IP server for At Ease.
This article has been archived and is no longer updated by Apple.

Part 1: On the AppleShare IP Server

1. Create a new folder on the hard drive and name it something like "At Ease Volume." (The actual name is not important, but if you change it, make sure it is consistent everywhere. This article refers to it as the "At Ease Volume")

2. In the AppleShare IP Web & File Administration application, open the Users & Groups list from the Users menu and create a new user. Name the user something like "At Ease User" and give this user a password that you will remember. Then click "Save."

Important: Do not select the option to enable this user to administer to the server. Doing so will give the user full access to the server hard drives and will override any sharing settings. See Figure 1.

Figure 1: User & Group List Window

3. In the AppleShare IP Web & File Administration application, in the Server menu, select Show Disks and Share Points. Click the triangle to the left of the hard drive name to display its contents. Find the At Ease Volume in the list of hard drive contents and double-click it to open its privileges window. Clicking the triangle to the left of the hard drive name will display its contents. See Figure 2.

Figure 2: Disks & Share Points Window

4. In the Privileges: At Ease Volume window, select the option "Make this a share point and set privileges." Then, from the Users & Groups list, drag the new At Ease User into the Owner field in the Privileges: At Ease Volume window. Next, give the At Ease User read and write access to the At Ease Volume by choosing the icon with the glasses and the pencil to the right of the name field for the At Ease User. Click Save to save the privileges. See Figure 3.

Figure 3: Privileges: At Ease Volume Window

5. Now, when you select the Share Points button in the "Disks and Share Points" window, the At Ease Volume will show up as a shared folder. See Figure 4.

Figure 4: Disks & Share Points Window

Part 2: On the At Ease Administration Station

1. Launch the At Ease Administration application. You will then see the At Ease Setup Helper window. Click the button to select an AppleShare server and At Ease Volume. See Figure 5.

Figure 5: At Ease Setup Helper Window

2. Then select the AppleShare IP server that will be used as the At Ease server. See Figure 6.

Figure 6: Select At Ease Server Window

3. You will then receive a message asking you if you wish to configure the server; choose Yes. In the window that appears next, the default name in the volume field will be the name of the hard drive of the AppleShare server. See Figure 7.

Figure 7: At Ease Server Window

4. Open the pull-down menu by volume name and choose the At Ease Volume. If it does not appear in the list, choose Other Location..., then enter the name of the At Ease Volume and click OK. See Figure 8.

Figure 8: At Ease Server Selection Window

5. Click the Registered User button next to "Log in as:". Now enter the name and password of the At Ease User just created in step 2.

Note: Do not enter the AppleShare Administrator name and password. See Figure 9.

Figure 9: At Ease Server Window

6. After clicking OK, the At Ease Administration application will configure the server to store At Ease information and then return to the At Ease Setup Helper screen.

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LW IINTX: Diablo 630 Emulation Mode

This article has been archived and is no longer updated by Apple.

TOPIC ----------

If you want to print from a PC to a LaserWriter IINTX set in Diablo 630 emulation mode, this article contains some suggestions.

DISCUSSION ----------

Preliminary Note: You may experience a problem printing to the LaserWriter IINTX in Diablo mode when the emulation mode is set by the DIP switches. A communication problem appears when printing the upper 127 ASCII characters. The problem is related to the serial port DIP setting of 7 data bits. To attain full emulation, the serial port can be configured detailed in this article.

Currently, there is no method of software switching back to PostScript or to any other emulation mode once you have left the PostScript mode. The correct method is to change the DIP switch settings and wait 30 seconds. If you want to use PostScript, switch one should be set to DOWN. Wait 30 seconds and move the switch back to the UP position.

Step One: Connection

Connect an Apple 25-pin Serial cable (590-0037) to an Apple Modem Eliminator (590-0166). Take one end and connect it to the 25-pin serial port on the LaserWriter IINTX. Connect the other end to a serial port on the PC.

Note: Most serial ports for PCs use a male DB-25 connector. Because both ends of the Apple 25-pin serial cable are male, you need a female-to-female "gender mender" to connect to a PC serial port. Alternatively, you can use a straight, pin-to-pin, female-to-male, DB-25 cable.

Step Two: Switch Settings

While the LaserWriter IINTX is off, set these printer DIP switch settings:

* 1 UP
* 2 DOWN
* 3 UP
* 4 UP
* 5 UP
* 6 DOWN

These switch settings place the LaserWriter IINTX in:

* PostScript Batch Mode,
* RS-232 9600 Baud
* RS-422 9600 Baud
* 7 data bits, No parity check, 1 stop bit, with DTR/DSR handshake

Step Three: Power On

Turn on the LaserWriter IINTX and the PC. After a few seconds, the LaserWriter IINTX prints a test page containing its current settings (listed above).

Step Four: PostScript Code

The following PostScript code switches the LaserWriter II into LaserJet+ emulation mode. Note: The "%" characters and following comments are not necessary. You can omit them when typing in the program. For DTR/DSR, from the

DOS prompt type:

```
COPY CON POST.TXT
serverdict begin 0 exitserver %This exits the printer server loop.
statusdict begin %Start modifying stuff.
9 0 3 setsccbatch %Turns off the RS-422 9600 Baud port.
25 9600 68 setsccbatch %set the 25 pin RS-232 9600 Baud port-8 data
bits.
2 setsoftwareiomode %Set printer to Diablo 630 emulation mode.
0 sethardwareiomode %Set communications mode to serial.
end %This is the end of the mode switch routine.
systemdict/quit get exec %Set the printer up for a fall.
30 400 moveto %Force an error to cause a system start test
%page.
(control z) %The keyboard control key and the z key
%together. This ends text editing and saves
%the file.
```

For XON/XOFF, from the DOS prompt type:

```
COPY CON POST.TXT
serverdict begin 0 exitserver %This exits the printer server loop.
statusdict begin %Start modifying stuff.
9 0 3 setsccbatch %Turns off the RS-422 9600 Baud port.
25 9600 64 setsccbatch %set the 25 pin RS-232 9600 Baud port-8 data
%bits.
2 setsoftwareiomode %Set printer to Diablo 630 emulation mode.
0 sethardwareiomode %Set communications mode to serial.
end %This is the end of the mode switch routine.
systemdict/quit get exec %Set the printer up for a fall.
30 400 moveto %Force an error to cause a system start test
%page.
(control z) %The keyboard control key and the z key
%together. This ends text editing and saves
%the file.
```

Step Five: Batch File

You need to create a batch file to set up the PC's communications port and to send the PostScript code to the printer.

1) From the DOS prompt, type:

```
COPY CON DIABLO.BAT
MODE COM1:96,N,8,1,P
MODE LPT1:=COM1
TYPE POST.TXT > LPT1
```

2) Press Control-Z to conclude.

Step Six: Change LaserWriter IINTX to Diablo 630 Emulation Mode
---
Type DIABLO from the DOS prompt to set the NTX to Diablo emulation. The printer switches internally from the PostScript Batch mode to Diablo 630 emulation. After a few seconds, it prints a test page displaying the new settings.

Your printer will now print graphics and text properly with the emulation provided by the Adobe PostScript ROMS. This solves the problem of losing the 8th data bit for special text and graphics, as well as the problem with the "print screen" keyboard command not functioning.

Troubleshooting: No test page

The LaserWriter IINTX will not print a test page to indicate Diablo emulation

mode, follow these steps:

1) Check cable, connector box connections, and paper supply to the LaserWriter II.

2) Turn off any spooler commands that may be implemented on the PC.

3) Check the PostScript file (POST.TXT) and the batch file (DIABLO.BAT) for any typing errors. If none is apparent, we suggest re-typing the PostScript code from scratch. If the LaserWriter II does not get the PostScript code character-for-character, the mode change will not work.

4) Once the code has been retyped, send it to the LaserWriter IINTX. If the LaserWriter IINTX prints a test page, then all is well. If the LaserWriter IINTX prints out a page containing the PostScript code, it is in Diablo emulation mode, but a test page will not be printed. (There is an error in the PostScript code that instructs the LaserWriter IINTX to print a test page, but the mode switch was successful.)

5) If the LaserWriter II does nothing, then start over from step 1.

Troubleshooting: Not printing from an application

If the LaserWriter IINTX will not print from within an application, do these steps:

1) Check the applications print settings to ensure that it is sending output to LPT1 or COM1.

(Note: When printing from DOS, always follow the print command with a "Control D." A "Control D" tells the LaserWriter IINTX that the data transmission is completed and printing can now begin. The best method is to create another text file with a "Control D" inside.

Enter the following from the DOS prompt:

COPY CON D.TXT
(Control D)
(Control Z) or (F6)

Now, make a batch file to send the end-of-page marker to the printer.

From the DOS prompt, enter:

COPY CON END.BAT
TYPE D.TXT > LPT1
(Control Z) or (F6)

After doing a TYPE or Print Screen or DIR to the printer, just type END, and the printer will print any remaining data in the buffer.

If your print job does not have a Control-D (end of page) character, you will have to wait for a job time-out for your print job or until another job (that is longer than a page) is printed.

Published Date: Feb 18, 2012

Mac OS X Server: What Networking Protocol Does It Use?

What networking protocol does Mac OS X Server use?
This article has been archived and is no longer updated by Apple.
The native networking protocol for Mac OS X Server is TCP/IP, based on the robust BSD TCP/IP stack used in much of the industry. All services in Mac OS X Server are tuned to deliver optimum performance over TCP/IP.

AppleTalk is supported for some services for use with legacy clients, and to allow Macintosh systems to easily find the server. However, the server is not intended for use in AppleTalk-only networks, or to support large numbers of AppleTalk clients using Apple file services.

Published Date: Feb 18, 2012

DVDs: Soft Audio Sometimes Difficult to Hear

I like to watch DVD movies on my PowerBook when traveling, but depending on which airplane seat I get, sometimes I have trouble hearing the audio over the engine noise. I use headphones, and I have the volume settings turned all of the way up, but some spots of low audio such as quiet dialogue are still difficult to discern.
This article has been archived and is no longer updated by Apple.
The system volume and DVD volumes are set concurrently to avoid audio distortion. The maximum setting of either volume control is the same and is the highest setting that the computer will allow. However, Mac OS 8.6 installs an updated DVD player, which includes an audio preference for line-out audio mode. DVD users should update to Mac OS 8.6 for more control over audio volume.

The line mode audio setting should be enabled when the DVD audio output is being fed to an amplifier or external powered speakers. If you are listening to the DVD audio-using headphones directly connected to the computer, disable line mode for increased volume. To access this setting choose Preferences from the Edit menu, then the Audio Controls tab in the DVD player application.

Here are some additional suggestions:

- Use headphones that completely cover the ears. This will make a pronounceable difference, as it will help to shield out surrounding noise.
- Use noise-canceling headphones. Noise-canceling headphones contain circuitry designed to block out sound external to the headphones by measuring surrounding noise and creating opposing or canceling sound waves.
- Use an in-line amplifier. A pocket-sized, battery-operated equalizer or assisted-hearing device connected between the headphones and the sound output jack on the PowerBook will allow you to turn up the volume further. Some distortion may occur if the volume is amplified past the default levels set by the PowerBook.

Published Date: Feb 18, 2012

ImageWriter LQ & A4: Workaround To Paper Length Problem

This article has been archived and is no longer updated by Apple.

An ImageWriter LQ has a DIP switch that configures the form length of continuous paper at 11 or 12 inches. A4 is 11.69 inches. When printing from the driver with A4 and continuous paper selected, the perforation position changes -- for obvious reasons.

Changing the position of switch 1-4 (Page Length) makes no difference in the page length when printing from a Macintosh. The page length remains 11 inches whether switch 1-4 is in the ON or OFF position.

To correct this problem, change the position of switch 1-5 (Perforation Skip), then select A4 page length and continuous paper, and print.

Published Date: Feb 18, 2012

AppleWorks 5: "How Do I Set Up a Default Template" Guide Causes Crash

Apple is aware of an issue with the AppleWorks FAQ Guide, which is included with AppleWorks 5 for Mac OS. Following the AppleWorks FAQ Guide directions for creating a default template for a spreadsheet may cause the computer to become unresponsive.
This article has been archived and is no longer updated by Apple.
This happens only when a spreadsheet is the active document, and occurs only when you are saving a default template.

In other types of AppleWorks documents, when the AppleWorks FAQ Guide comes to the end of its instructions, the right arrow in the Apple Guide window is dimmed, and the following message appears:

"That's all. Close this window when you are done."

When saving the spreadsheet as a default template, the message at the bottom of the final page of the Guide reads: "n/a."

The right arrow is not dimmed, and clicking the arrow causes the computer to become unresponsive, requiring a restart.

You can work around the issue by following the steps listed below.

1. Create or open an AppleWorks spreadsheet document that is set up the way you want. You can include options like:

- paragraph and text formatting, margins, and styles.
- content such as text, graphics, headers, and footers.
- whether to show the rulers or the toolbar.

2. Choose Save As... from the File menu.

3. Click Stationery. AppleWorks changes the folder that you save into the AppleWorks Stationery folder. Your default stationery must be in this folder to work correctly.

4. Name your document exactly as follows: AppleWorks SS Options

5. Click Save.

6. If you have already saved a default spreadsheet template, you may be asked whether you want to replace the older document.

7. You may see a Document Summary window after you click Save. Type information to help you track details about the document. Click OK when you are done.

Once you have set up your default stationery, you can choose either your stationery or a blank, uncustomized document when you create a new document. AppleWorks opens the default stationery you have set up when you select the first choice for that document type (here, a spreadsheet) in the New Document dialog box.

If you set up default stationery for spreadsheet documents, you can either select Spreadsheet, which opens a copy of your customized default stationery or scroll down to Standard Spreadsheet, which opens a blank, uncustomized document.
Published Date: Feb 18, 2012

Language Kits: Setting Network Browser to Show Foreign File Names

I am using the Japanese Language Kit with Mac OS 8.5. I am using the Network Browser to view servers on my AppleTalk network. There are some AppleTalk zones and servers with Japanese file names, but instead of Japanese characters, I only see unreadable garbage text. I registered Network Browser as Japanese using the Language Register application, but that did not change the way names are displayed in the zone/server list. How do I resolve this?
This article has been archived and is no longer updated by Apple.
The Language Kit installs the Language Register application in the Apple Extras folder. If you have installed the required Language Kit Updater for Mac OS 8.5, a newer version of the Language Register may be installed in the Utilities folder.

To set up the Network Browser to properly display foreign file names properly:

- Register the Network Browser as a foreign application using the Language Register.
- In the Appearance control panel under the Fonts tab, change the Views Font to a font installed by your Language Kit. For the Japanese Language Kit, change the font to Osaka.

Note: Changing the Views Font setting also changes the font that the Finder uses to display file and folder names.

The manual that came with your Language Kit contains a section describing how to view foreign file names correctly in the Finder. Consult this section for information on which Views font is correct for your particular Language Kit.

For more information on Language Kit compatibility with Mac OS 8.5, see:

TIL article 24799: "**Language Kit Updater For Mac OS 8.5: Read Me**"

Published Date: Feb 18, 2012

Apple Studio Display (15" LCD): Tracking Warm Up Time

When I turn on my Apple Studio Display (15" LCD), and adjust the tracking, I have to adjust the tracking again after about 20 to 30 minutes to get the best results.
This article has been archived and is no longer updated by Apple.
The monitor takes approximately 20-30 minutes to reach it's normal operating temperature. For best results, allow the display to reach it's normal operating temperature before adjusting tracking, using the Monitors and Sound Control Panel.

Note: This is for the Apple Studio Display (15" LCD), rev. A or B.
Published Date: Feb 18, 2012

At Ease 5.x: Sherlock Find by Content Is Disabled

I have At Ease 5.x installed, and sometimes I get the error message "Find by Content is not available" when I launch Sherlock. This happens although I am in the full Finder, and should have full access.
This article has been archived and is no longer updated by Apple.
For increased security, At Ease will move the "Find By Content" extension from the Extensions folder to the Secured Items folder when a user with less than full Finder access logs on. If an administrator bypasses At Ease, using Command-Shift-Escape while at the log in screen, immediately after a Panels' user has logged out, the "Find by Content" extension is not moved back into the Extensions folder. This will cause the error mentioned above after launching Sherlock.

Note: If the Administrator logs into At Ease, and selects a Finder workgroup, the extension is moved back to its proper place. If you see this error message frequently, make a Finder workgroup that you, as the Administrator has access to. You should only need to bypass At Ease for occasional maintenance and configuration changes, such as changing printer settings or installing new software.
Published Date: Feb 18, 2012

Printing Envelopes With the LaserWriter II

This article has been archived and is no longer updated by Apple.

Here are the answers to some commonly asked questions about printing envelopes on the LaserWriter II, including:

- Which printer driver supports the envelope sheet feeder for the LaserWriter II family?

- What paper size must be chosen in the Page Setup menu?

- Can a custom paper size be used?

There is no need to specify paper sizes when printing envelopes on the LaserWriter II.

Tests done with Microsoft Works (v1.1), Microsoft Word (v3.01), and MacWrite (v4.6) showed differences in the address block locations when printed from these applications. However, most were correctable within a couple of tries.

Printing parameters used for all three applications:

Left Margin 3.5"
Carriage Returns from Top 12
Courier Font 14-point

The results:

Distance from Left Edge of Envelope Distance from Top of Envelope

Microsoft Works 4-5/16" 1-9/16"

Microsoft Word 4-5/16" 1-3/8"

MacWrite 4.6 3-7/8" 1"

As a workaround, save the print parameters for envelopes in a file, and use this file only to print to envelopes.

The LaserWriter IINT/NTX manual specifications state: "Type the address block with an upper margin of approximately 1.5 inches and a left margin that centers it on the screen." Use this as a starting point for final placement.

Published Date: Feb 18, 2012

Mac OS 8.6: Out of Memory Running An AppleScript

Running Mac OS 8.6, the following AppleScript that addresses the Desktop Printer Manager results in the error "Desktop Printer Manager got an error: Out of memory":

```
set the DTP_name to "your printer's name"
tell application "Desktop Printer Manager"
set the default printer to desktop printer the DTP_name
end tell
```

This same script works fine on other versions of the OS, such as Mac OS 8.5.
This article has been archived and is no longer updated by Apple.
Note: Desktop Printer Manager is the scripting extension that allows control of Desktop Printers from AppleScript.

Workaround:
Increasing the memory set aside for the Desktop Printer Manager should resolve this issue. To increase memory allocation follow the steps listed below.

WARNING:
The instructions in this article refer to using ResEdit to alter system software. Apple Computer, Inc., is not liable for any damage done to software through the use of ResEdit to alter the software. ResEdit is supported by APDA. For contact information on APDA, search the Tech Info Library under "APDA".

Steps to increase memory allocation:

1. Open ResEdit.

2. Open the file Desktop Printer Manager (located in System Folder: Scripting Additions: Desktop Printer Manager).

3. Double-click on the SIZE resource.

4. Double-click on ID -1.

5. Scroll to the bottom of the window, to the "Size" and "Min size" boxes.

6. Increase the memory allocated for each, from 131072 to 200000.

7. Quit ResEdit; save changes.

8. Run your script and it no should longer display the out of memory error.

Published Date: Feb 18, 2012

AppleShare IP 6.x: Web Plug-Ins Memory Message

After upgrading from a previous version of AppleShare IP, I get one of the following messages when I start the AppleShare IP Web and File Server:

"One or more Web plug-ins is using more memory than expected. Restart the server to avoid problems."

- or -

"There isn't enough memory for Web plug-ins. Plug-ins will be disabled until restart."
This article has been archived and is no longer updated by Apple.
Under some circumstances, one of these messages may occur after upgrading from a previous version of AppleShare IP. Apple has identified the following solution.

Please follow these steps:

1. Disable "Remember recently used items" in the Apple Menu Options control panel.
2. Rerun AppleShare IP Easy Setup.
3. In AppleShare IP Web & File Admin, open "Web & File Server Settings".
4. Change the "Maximum Plug-in Memory Usage" setting, and save changes.

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LaserWriter IINTX: Calculating Font Caching RAM

This article has been archived and is no longer updated by Apple.

Some users who want to use multiple font families have asked if there is a way to estimate or calculate the increase in font cache size to allow more font families in the cache.

This is to enable the user to find the minimum amount of RAM to add to the LaserWriter IINTX that will allow the use of several font families without having to download the font per print request.

Font cache and display list sizes are persistent parameters and can be reset.

The default values (in hex) are:

2MB or less 3MB or less 3MB or more

Font Cache size $28600 $33000 10% RAM size

Display List size $10000 $15000 10% RAM size

These parameters allow setting the RAM allocation in the LaserWriter IINTX. HOWEVER, if used incorrectly, they could have DISASTROUS effects on the operation of the printer. (Normally these values are set to 0 in the EEROM (ZPRAM), which tells the printer to calculate the necessary sizes based on RAM size.)

As determined from the above information, if the LaserWriter has 3MB or more RAM installed, the printer allocates 10% to font cache. If you know the amount of space each font family occupies, you can determine the amount of memory available for font caching.

Or, a hard disk can be attached to the LaserWriter IINTX, which would have more than enough space for a group of font families.

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At Ease 3.0.3 Basic: Unresolved Issues

Since At Ease 3.0.3 is a discontinued product, and will receive no further updates, what major issues remain with the product?
This article has been archived and is no longer updated by Apple.
The following issues remain unresolved in At Ease 3.0.3.

- Holding down the Shift key at startup on a PCI Power Macintosh bypasses At Ease 3.0. Although there is an administrator password for At Ease Setup, the user is never asked for it and the computer starts up directly to the Finder.
- Occasionally, the Control Panels alias is missing from the Apple menu. It seems to happen only after going to the Finder from the At Ease Panels, or when going to the Finder after using a Restricted Finder setup.
- If you open the At Ease Guide, then Quit At Ease to return to the login screen, the Guide Panel stays on screen. However, if you go to the Finder and open Macintosh Guide, then select Go To At Ease from the File menu, it closes the Guide before returning to the login screen. This is a minor cosmetic issue; the At Ease Guide window can simply be closed.
- Under Mac OS 8.5, if modern applications are run that use the new Navigation Services facility, users can navigate to any area of the hard drive to open or save files.

Published Date: Feb 18, 2012

QuickTime 4: Sample Movie Has No Sound

This article explains why the QuickTime 4 sample movie may not play with sound.
This article has been archived and is no longer updated by Apple.
The sample movie in QuickTime 4 uses the QDesign sound codec which works only with Macintosh computers with a PowerPC processor.
Playing the movie on a 68K Macintosh results in no audio.
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LaserWriter Pro 810: UNIX Installer Software

I have the LaserWriter Pro 810 UNIX disk, only my UNIX workstations do not have floppy disk drives. Is there a site where the LaserWriter Pro 810 UNIX software can be found?
This article has been archived and is no longer updated by Apple.
Apple no longer distributes the LaserWriter Pro 810 UNIX Installer software. However, the LaserWriter Pro 810 has many features in common with the Dataproducts LZR 2080 printer, and their VpManage configuration software is available online.

Unsupported workaround:
When configuring an UNIX system using VpManage, enter LZR15/2080 when asked for the model of printer, this enables you to print to a LaserWriter Pro 810. No other functional testing was performed other than verifying the ability to print. However, using VpManage is another option you may wish to explore.

UNIX TCP/IP VpManage
http://www.dpcsupport.com/support/drivers/drvr_dir.html

Note: This article provides information about an unsupported solution. Apple Computer, Inc. is not responsible for its content.
Published Date: Feb 18, 2012

AppleShare IP 6.2: Mail Tool Will Not Run With Extensions Off

When I launch the AppleShare IP 6.2 Mail tool while booted with extensions off, it quits immediately after I launch it. It does not give an error message.

This article has been archived and is no longer updated by Apple.

The Mail Tool must be run with extensions on, but the Mail Server and the Mail Admin must not be running while running the Mail tool. However, other AppleShare IP services may be running.

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Mac OS: Apple Menu Has No Submenus

Normally, some items in my Apple menu have hierarchical submenus, small arrows pointing to the right at the end of "Control Panels", and other items. They have disappeared. What happened?
This article has been archived and is no longer updated by Apple.
This feature is provided by the Apple Menu Options control panel. It can be turned on and off using that control panel. Also, if the control panel is disabled or damaged, the submenus may not appear.

If the control panel is missing, you may reinstall it with a custom installation in your System Software installer (Control Panels -> Apple Menu Options). If your computer came with a Restore CD, then you must restore to get this item.
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Network Assistant (2.0 and 3.0): VST Firewire Hardrive Issue

After installing Apple Network Assistant 2.0 or 3.0, on my Power Macintosh G3 (Blue and White) running Mac OS 8.6, my VST Firewire Hardrive will not mount.
This article has been archived and is no longer updated by Apple.
There seems to be a conflict with the Network Assistant (2.0 and 3.0) extension and the VST Firewire Hardrive drivers. The drive will not mount on boot up nor will it mount using the utility. The drive mounts normally after removing the Network Assistant extension.

Workaround:
Update to Apple Network Assistant 3.5. There is a trial version on the Apple Software Updates Web site at http://www.apple.com/swupdates.

If this resolves the issue, the product can be ordered through the Apple Software Order Center at 800-293-6617. For more information visit: **http://www.apple.com**.
Published Date: Feb 18, 2012

Mac OS 8.6: Custom Installing WorldScript II Version 7.5.6

After installing Multilingual Internet Access 1.0 from the Mac OS 8.6 Installer, the WorldScript II extension in the Extension folder is version 7.5.5.
This article has been archived and is no longer updated by Apple.
The latest version of WorldScript II included with Mac OS 8.6 is 7.5.6. Multilingual Internet Access 1.0 installs WorldScript II v7.5.5. If you installed Multilingual Internet Access, but do not have a Language Kit installed, you do not need to update to WorldScript II v7.5.6.

For users who have installed a Language Kit, WorldScript II v7.5.6 addresses some minor formatting/printing issues in some third-party applications. If you install a Language Kit on a computer running Mac OS 8.6, be sure to install the Language Kit Updater. The Language Kit Updater is located in the CD Extras folder on your Mac OS 8.5 or 8.6 CD-ROM. For more information, see article 24799: **Language Kit Updater For Mac OS 8.5: Read Me**.

To update WorldScript II to version 7.5.6, install the Mac OS 8.6 Update, or run the Mac OS 8.6 installer. Then perform a custom installation of WorldScript II by selecting the Add/Remove option in the Mac OS 8.6 Installer, under the International component.

Note: For iMac or Power Macintosh G3 (Blue and White) computers that shipped with Mac OS 8.5 or 8.5.1: If you have downloaded and installed the Mac OS 8.6 Update, and you perform a custom installation of Multilingual Internet Access from the Mac OS 8.5.x Installer, you must reinstall the Mac OS 8.6 update.

For more information, see article 60382: **Mac OS: Installing Older Mac OS Component After Updating System Software or Firmware**.
Published Date: Feb 18, 2012

Mac OS X Server: What NetBoot Processes Should Be Running?

In order for clients to NetBoot, what NetBoot processes must be running on the server?
This article has been archived and is no longer updated by Apple.
The following processes must be running in order for NetBoot to function properly:

- MacintoshManagementServer
- AppleFileServer - this process should be listed twice
- Appletalk
- Inetd
- Bootpd - under more info and the Path & Argument tab the "-m" option will be listed.

To get the window shown below, which lists the active processes, open the ProcessViewer by selecting Show All Processes from the Applications menu on the far right side of the menu bar in Mac OS X Server.

In the ProcessViewer, select "NetBoot Processes" from the pop-up menu in the upper right-hand corner of the window. The following window will be displayed:

Figure 1: Process Listing

If any of these processes are not running, then the NetBoot server may not function correctly.

If no problems are reported during install, but any process is missing, go through the Setup Assistant and verify all the settings are correct.

Article 31061: "**Inside Netbooting**" has more information on the Netboot server and troubleshooting.

Published Date: Feb 18, 2012

ATI Video Update 1.0: Localized Version of ATI Video Update?

I am using a localized version, non-North American English of Mac OS, and I want to install ATI Video Update 1.0. Is Update 1.0 compatible?
This article has been archived and is no longer updated by Apple.
ATI Video Update 1.0 is a North American English Update. However, it was tested and is supported on International English, British, Spanish, Italian, German, French and Japanese languages of Mac OS, with the following exception: If you are not using North American English Mac OS (U.S./Canada), Apple recommends you remove your current ATI software before installing this update on non-North American English systems.
Published Date: Feb 18, 2012

Desktop Printer Utility: Printing PICT Files to PostScript Translator DTPs

I receive a warning when printing PICT files to a PostScript Translator Desktop Printer after printing to a different printer. Why is this?
This article has been archived and is no longer updated by Apple.
When printing PICT files to a PostScript Translator Desktop Printer, we recommend you wait until the file has completed translation prior to printing to other types of printers, AppleTalk or LPR Desktop Printers for instance. If you print a PICT file to a PostScript Translator then immediately attempt to print to other Desktop Printers, your Macintosh may hang or freeze and display system errors of type 8 or -49. Your Macintosh may hang again upon restart unless you immediately remove the print jobs from the Desktop Printers. Restarting with Extensions off, so that Desktop Printers is disabled, will give you more time to remove the files.

PostScript Translator Desktop Printers may be created with the Desktop Printer Utility on Macintosh computers running System 7.6.1 and Mac OS 8.1 or later. Files you print are converted to PostScript file format and placed in a folder that you specify.
Published Date: Feb 18, 2012

LaserWriter 8500: All Indicator Lights on at Startup

The I/O controller board has just been replaced in my LaserWriter 8500. Now all four indicator lights on the printer's status panel turn on at startup, and the printer never appears in the Chooser.

This article has been archived and is no longer updated by Apple.

This problem indicates the printer cannot initialize Postscript. A printer with this symptom should be brought into an Apple-authorized service provider for a diagnosis.

Published Date: Feb 18, 2012

PowerBook G3 Series (Bronze Keyboard): "About Your PowerBook" Help Files Missing

After performing a clean installation of Mac OS 8.6, I am no longer able to select/see the About Your PowerBook option in the Mac OS Help Center. Why?
This article has been archived and is no longer updated by Apple.
When a clean installation of Mac OS 8.6 is performed using the Install Mac OS icon from the installation CD that shipped with the unit, the PowerBook specific About Your PowerBook help files are not installed. These files contain important information about the customer's PowerBook and offer assistance performing PowerBook specific hardware tasks, such as installing additional memory, or using the unit's security features.

Note: This does not occur if the Mac OS Software Restore option is used. However, it is sometimes desirable to customize your installation of the Mac OS, and customized installation of the Mac OS is not possible using the Restore feature.

To reinstall the About Your PowerBook specific help files:

1. Insert the PowerBook Software Restore CD into the Powerbook's CD-ROM drive, and double-click on the CD's icon after it appears on the desktop.

2. In the CD's root directory, find and open the Configurations folder.

3. Open the Configurations folder, and double-click on the file "PowerBook G3 Series HD.img". This will launch Disk Copy, which will perform a checksum on the "PowerBook G3 Series HD.img" before mounting the image.

Note: Checksum verification may take several minutes with large images.

4. When Disk Copy has finished mounting the image, there will be a new Hard Drive icon on the desktop named "Macintosh HD", and it will automatically open to the root directory.

5. Open the System Folder of the new Macintosh HD, then find and open the Help folder.

6. Drag the About Your PowerBook folder from the Help folder into your computer's Help folder, located in the System Folder.

When the files are copied to your System Folder, select Restart in the Finder's Special menu. After restarting, the Help files will be available in the Help Center's main menu.
Published Date: Feb 18, 2012

QuickTime 4.0.3: What Is New

This article gives an overview of what is new in QuickTime 4.0.3.
This article has been archived and is no longer updated by Apple.
QuickTime 4.0.3 is a maintenance release that includes the following changes:

- New content providers in favorites drawer.
- Changes to improve QuickTime Updater functionality.
- Improved synchronization of audio and video in live streaming events.
- Fixes a rare crashing problem while watching streamed content.
- Fixes an issue between Groliers Encyclopedia and some QuickTime VR movies.
- Includes QuickTime for Java 3.0.1.

QuickTime software can be found at:

http://www.apple.com/quicktime/
Published Date: Feb 18, 2012

System 5.0 PrintMonitor & LW Drivers: Use "Install" Method

This article has been archived and is no longer updated by Apple.

TOPIC ----------

This articles describes using PrintMonitor with System Software 5.0

DISCUSSION ----------

Some Macintosh users, running System 5.0, have discovered that background printing can't be selected in the Chooser.

This situation is probably due to the PrintMonitor and LaserWriter drivers having been installed using the "drag" method.

With System Software 5.0, it is necessary to use the "Background LaserWriter (5.0)" installer script on System Tools Disk #2 to use background printing. After installation is complete you must select a LaserWriter as the print device; then the Background Printing option becomes available in the Chooser window.

(NOTE: This procedure is NOT necessary with System Software 6.0.)

Published Date: Feb 18, 2012

AppleShare IP: Reestablishing Secondary Connections

I have an AppleShare IP 6.2 setup, with a Primary and multiple Secondary servers attached to it. If the Secondary server loses its connection to a Primary server, how do I reestablish that connection?

This article has been archived and is no longer updated by Apple.

The Primary AppleShare IP 6.2 Web & File server must be restarted to reestablish the connection to a Secondary server. You can have up to 10 Secondary servers connected to your Primary server.

Published Date: Feb 18, 2012

At Ease: How to Flag User Accounts After Importing From Text File

I imported all my users into At Ease from a text file. How do I flag my all accounts to allow login, and require a new password on the next login.
This article has been archived and is no longer updated by Apple.
To setup At Ease accounts follow the steps listed below.

1. Run the admin installer from the Apple Network Administrator Toolkit (ANAT) CD.

2. Start a custom install to install the Users and Groups manager.

3. After installing, launch the Users and Groups manager; the Network Browser window should open. If this window does not open, simply click the Windows menu from the menu bar, and choose Network Browser from the list.

4. In the Network Browser window, you should see a list of all servers on the network. Find the At Ease server; you will probably see the server list twice. If you look under Kind, one will be AppleShare IP and the other will be At Ease.

5. Double click the At Ease server. You will be prompted for your administrator user and password. Enter this info into the proper fields, and then click OK. You should now have a new window, titled with the name of your server. Inside this window, you should see all of your AT Ease users and workgroups.

6. While holding down the Command key, proceed down the list selecting the user accounts to be flagged. Be sure you select only users.

7. Once all the user accounts to be flagged are selected, proceed to the Users Menu in the Menu bar. You should have the options to Delete Users, Allow Logins, Allow Password Change, Require New Password, Change User Type, and Change the Password.

Select all flags you wish to place; you should be prompted to confirm the operations selected.

8. Confirm by verifying the flag is selected in the window, and click Change.

You can repeat this for as many flags as you wish to set.

Published Date: Feb 18, 2012

AppleWorks 5: Spray Can Flow Rate on Faster Computers

Faster computers have a narrower range of control over the Spray Can tool's flow rate in AppleWorks 5.
This article has been archived and is no longer updated by Apple.
On certain computers running AppleWorks 5, there appears to be very little difference between Flow rate settings of 1 to 100 using the Spray Can tool. Additionally, the difference between using the Spray Can tool to paint on the Sample area, and using it to paint in the actual document is quite different. This is noticeable on newer Power Macintosh and Windows-based computers running AppleWorks 5. AppleWorks 6 improves the way this works.
Published Date: Feb 18, 2012

LaserWriter IINTX: Does Not Support 6MB Configuration

Can you upgrade the LaserWriter IINTX memory to 6MB of RAM?

This article has been archived and is no longer updated by Apple.
Specified memory configurations for the LaserWriter IINTX include 2, 3, 4, 5, 8, 9, and 12MB RAM.

The 6MB configuration is not supported by the LaserWriter IINTX hardware and firmware. It is physically possible to plug 6MB into the printer, but the printer will not recognize the extra memory.

Published Date: Feb 18, 2012

Mac OS X Server 1.x: Resetting AFP, and QTSS Defaults Stored in NetInfo

This article explains how to reset AFP and QTSS defaults in NetInfo.

This article has been archived and is no longer updated by Apple.
Note: This article pertains to Mac OS X Server versions 1.x, which were released prior to May 2001.

Should configuration information stored in NetInfo become unusable, causing the Apple File Server and the QuickTime Streaming Server to work incorrectly it may be necessary to remove those items from the NetInfo database. Deleting this information and restarting the computer will set this information back to defaults and allow the server to function properly. If a backup of the NetInfo database is available, it may be more desirable to restore from the backup.

1. Login to Mac OS X Server as the administrator and open NetInfoManager by going to the Apple Menu and then Server Administration.
2. In the Directory Browser click the config directory in the middle window, and then the AFPserver directory in the third window shown below. Once this is correctly highlighted click the Trash Can button to delete the directory and confirm the deletion.

Figure 1: Directory Browser

Note: The AFPServer directory does not appear in the NetInfo database until the default server settings have been changed using the Remote Administration program.

To reset the QTSS defaults the procedure is very similar to that explained above.

1. In the middle window of the Directory Browser, click the services directory and highlight QuickTimeStreamingServer in the third window as show in the graphic below.

Figure 2: Directory Browser
2. Click the Trash Can button and confirm the deletion. When the computer is restarted this directory will be automatically recreated, and it will contain the default settings.

For information on backing up and restoring a NetInfo database please see Article 60038: "**What is NetInfo?**"
Published Date: Feb 18, 2012

Mac OS 8.6: What to Do When an Item Is Not Updated

The Mac OS 8.6 updater does not update some items if an older version of the component is not already installed, or the original component has been moved from its original location.
This article has been archived and is no longer updated by Apple.

Explanation

The Mac OS 8.6 updater checks whether an item is already installed before attempting to update it. If the item is not already there, then it assumes the user does not need or use the item, and the updated version is not installed. Also, the installer sometimes checks in specific locations for an item. If the item has been moved, the updated version will not be installed.

Example

Shameka Green opens the Desktop Printer Utility but gets an error stating that the application does not work with the current version of PrintingLib installed. This is because Shameka moved the previous version of the utility from the Apple LaserWriter Software folder of the Apple Extras folder before running the Mac OS 8.6 updater. So, the newer version of Desktop Printer Utility, which matches the updated PrintingLib, has not been installed. (Note that not all configurations yield this error, this is just an example.)

Resolution

Reinstall the component from the Mac OS 8.5 Installer, using the Custom Install feature. Then, run the Mac OS 8.6 updater again.
Published Date: Feb 18, 2012

Mac OS X Server: Groups Cannot Be The Owner of Share Points

In AppleShare IP groups can be the owner of a folder or share point. However, when I try to make a group the owner of a share point in Mac OS X Server's Remote Administration program I get the message, "Your request could not be completed. The owner name is not a valid user name. Please try again."

This article has been archived and is no longer updated by Apple.

It is not possible to configure a share point so that its owner is a group in the Remote Administration program of Mac OS X Server. This is an inherent limitation of the underlying BSD heritage of Mac OS X Server. Mac OS X Server does, however, allow assigning privileges down to the file level, which AppleShare IP does not.

Published Date: Feb 18, 2012

Mac OS X Server: Macintosh Manager 1.0.x Protect System Folder

In the Finder workgroup, I can check the box for Protect System Folder under the Privileges tab but it doesn't have any effect. I can still remove the Finder from the System Folder. Can I protect the System Folder?

This article has been archived and is no longer updated by Apple.

In version 1.0 and 1.0.1 of Macintosh Manager, the Protect System Folder option for a Finder workgroup does not work. This will be addressed in a future release of Macintosh Manager.

Published Date: Feb 18, 2012

IrDA Printing: Dragging File To IrDA Desktop Printer Issue

Printing over IrDA works fine unless dragging a PostScript file to the Desktop Printer Icon. This causes my PowerBook G3 Series Powerbook to hang.

This article has been archived and is no longer updated by Apple.

Your Macintosh may hang, if you attempt to drag and drop a PostScript document to an IrDA desktop printer. We recommend printing directly to the printer or updating to Mac OS 8.5 or later software.

Published Date: Feb 18, 2012

QuickTime for Windows: Error -2093

This article has been archived and is no longer updated by Apple.

Symptom

When using QuickTime the following message may appear:

> "QuickTime failed to initialize. Error # -2093. Please make sure QuickTime is properly installed on this computer."

Solution

The -2093 error may indicate the file 'QuickTime.qts' is missing, moved, or unusable. The QuickTime.qts file is usually located in the \WINDOWS\SYSTEM directory. To resolve this symptom, completely remove and reinstall QuickTime.

1. Download the latest version of the QuickTime installer.
2. Uninstall QuickTime using the "Add or Remove Programs" control panel. Make certain to click Uninstall Everything. See document 60342 "**How to Uninstall QuickTime on a Windows PC**" for more information.
3. Delete the contents of the Temp folder, C:\WINDOWS\TEMP (if it exists).
4. Install QuickTime using the version of the QuickTime you just downloaded.
5. Restart Windows.

If the issue continues, see "Trouble installing iPod, iTunes, or QuickTime software in Windows" for additional troubleshooting steps.

Published Date: Feb 18, 2012

AppleWorks 5: Spreadsheet Selected Cells Turn Black

With AppleWorks 5 on a Power Macintosh G3 (Blue and White) computer, sometimes when you select a cell in a spreadsheet the cell turns black.
This article has been archived and is no longer updated by Apple.

Symptom:

After selecingt a cell in a spreadsheet the cell turns black.

Products affected:

- Power Macintosh G3 (Blue and White) computers, running Mac OS 8.5.1 or 8.6
- AppleWorks 5

Solution:

This redraw behavior can occur when a graphic has been placed in an AppleWorks spreadsheet or if the text color of a cell is set to something other than black. The behavior is most noticeable when the display is set to Thousands of Colors.

This behavior can also be reproduced by selecting a cell, setting the text color to something other than black, then selecting an adjacent cell.

As a workaround, change the display bit depth to 256 or Millions of Colors while working in your spreadsheet document.

This behavior is eliminated in Mac OS 9.

Published Date: Feb 18, 2012

AppleShare 1.1 & Srvr 2.0 Limit: Maximum Of 16 Volumes (11/94)

Some users are operating large databanks as an AppleShare server. When you create more than 16 partitions on their databank, you will find that only 16 of those partitions appear upon accessing AppleShare (V1.1, File Server v2.0).

This article has been archived and is no longer updated by Apple.
The reason for this has remained undocumented so far, and there has been some confusion as to whether this is a Finder problem or an AppleShare problem.

AppleShare v1.1 and AppleShare File Server v2.0 provide access to a MAXIMUM of 16 server volumes. It is NOT a Finder limitation; there is no way around this limit.

Article Change History:
21 Nov 1994 - Reviewed for technical accuracy.

Support Information Services
Published Date: Feb 18, 2012

TA38919_Vicom.pdf

Vicom

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This article has been archived and is no longer updated by Apple.
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Company profile:
A specialist developer of Windows and Mac OS software connectivity solutions.
Published Date: Feb 18, 2012

ClarisWorks 3.0, 4.0: Making a Calendar Past 1999

This article describes how to create calendars starting after December 1999 using the Calendar Assistant in ClarisWorks 3.0 or 4.0.
This article has been archived and is no longer updated by Apple.

Symptom

Calendar Assistant in ClarisWorks 3.0 or 4.0 does not allow for the starting date of a calendar to be later than December 1999.

Solution

With the Calendar Assistant feature of ClarisWorks, you can create calendar documents, which are essentially Spreadsheet documents, formatted to look like each month of the year that you specify. Creating a 12-month calendar using the Assistant creates 12 Spreadsheet documents.

The Calendar Assistant included with ClarisWorks 3.0 and 4.0 do not allow the starting date for calendars to be later than December 1999. However, there are a few workarounds.

1. Create calendar documents from scratch.
2. Use the Calendar Assistant to make a calendar for 1999, then set the beginning month to December. Unfortunately, the Assistant will not allow you to use a value greater than 12 months, so you will be unable to generate a calendar for December 2000 using this method.
3. Use the Calendar Assistant to make a calendar from another year which has the came calendar form (you can use a universal calendar to determine this). Some examples of years with the same calendar form are:

January through December 2000 - use 1972
January through December 2001 - use 1979
January through December 2002 - use 1991

Note: Apple has provided templates for the years 2000-2005. These templates can be downloaded from the following Web site: http://www.apple.com/about/year2000/y2kswtests.html .

These are standalone documents, simply double-click the document to open the calendar.
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TA38922_Imation_Corporation.pdf

Imation Corporation

Imation Corporation
This article has been archived and is no longer updated by Apple.
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Company profile:
Imation creates Macintosh and PC hardware and software products, including the external USB SuperDisk drive.
Published Date: Feb 18, 2012

ImageWriter LQ: Matching ImageWriter II Font Sizes

This article has been archived and is no longer updated by Apple.

Some customers using ImageWriter II to fill in forms from a database application find that when they switch to ImageWriter LQ -- using the same fonts and sizes as with ImageWriter II -- the printouts no longer fit the forms.

Such a problem may be due the print quality -- "Draft", "Faster", or "Best" -- used with the application.

When the application in use makes a Font Manager call to print text, the Font Manager asks the printer driver for a scaling call to relate the printer font to the screen font.

When "Faster" quality printing is requested, the ImageWriter LQ printer driver returns a scaling factor of 1:1 (both horizontal and vertical). The Font Manager then selects the exact same font as on the screen and sends it for printing.

The ImageWriter LQ printer driver sets the ImageWriter LQ to standard resolution graphics mode, turns on boldface printing, and sends the text to the printer as graphics data. (Boldface printing is used to print in "Faster" mode because the print density would be too light at the standard-resolution vertical dot spacing of 72 dpi.)

If "Best" quality printing is used, the Font Manager finds a font to use. If there is no 3X font installed in the system, the Font Manager uses:

1. A font twice the size desired, or:
2. A font half the size desired, or:
3. The next larger font it can find, or:
4. The next smaller font it can find.

If there is no screen font for the selected font family, the Font Manager uses a default application font. If there is no default application font, the Font Manager uses a default system font.

Also, the ImageWriter LQ, even in draft mode, has a minimum character width of 12 dots with a normal size of 16 dots, while the ImageWriter II has a MAXIMUM character width of 7 dots with a normal size of 5 dots. This is why the fonts are closer in size to the LaserWriter than the ImageWriter.

A possible workaround is to remove any font size larger than the size being printed, which forces the Font Manager to use the next smaller size it finds. The Font Manager may scale the smaller font to an appropriate size for printing from 4th Dimension.

Further information on Macintosh fonts for the ImageWriter LQ begins on page 215 of Appendix D in the ImageWriter LQ Reference manual from Addison-Wesley (ISBN 0-201-17751-X).

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Iomega Corporation

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This article has been archived and is no longer updated by Apple.
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URL: **http://www.iomega.com**

Company profile:
Iomega makes removable media storage products for Macintosh and PC, including the Zip, Jaz, and Clik drives.
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VST Technologies, Inc.

VST Technologies, Inc.
This article has been archived and is no longer updated by Apple.
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Company profile:
VST makes portable peripherals including PowerBook expansion bay modules, adapters, chargers, and external USB and FireWire devices.
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ImageWriter II: Makes Buzzing Noise And Left Margin Changes

During printing, the ImageWriter II carriage assembly may intermittently halt its movement and the carriage motor momentarily makes a high pitched buzzing noise. If the printer does resume its printing then the left margin will have changed and the carriage assembly will probably have moved to the right, forcing the carriage to slam into the right side of the frame.

To identify the problem, turn the power off on the printer and remove the top cover. Slowly move the carriage assembly back and forth across the full length of the carriage and watch the metal paper deflector for any slight movement of 1/16th of an inch or less. If movement is present, it indicates that the paper guide is rubbing on the paper deflector.
This article has been archived and is no longer updated by Apple.
This problem occurs when the paper guide has been improperly adjusted, and the paper thickness lever is in its full forward position. It can also occur if the paper deflector (076-0008) is defective.

In order to correct this problem try reinstalling the paper guide according to the procedures in the ImageWriter II Technical Procedures. If the problem still occurs then it may be necessary to replace the paper deflector. After performing the adjustment verify that the paper deflector no longer moves when sliding the carriage back and forth.
Published Date: Feb 18, 2012

MacX: Crash Type Error 2

When using Mac OS 8.5 and the MacX Color Namer feature, I get a Type 2 error.
This article has been archived and is no longer updated by Apple.
MacX Color Namer feature does not work with Mac OS 8.5 and above. All other features of MacX work properly.
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Mac OS 9: Computer Does Not Go to Sleep After Playing Audio CD

After playing an audio CD, the computer does not go to sleep automatically.
This article has been archived and is no longer updated by Apple.

Symptom

After playing an audio CD, the computer does not go to sleep automatically, but you are able to put the computer to sleep manually.

Products affected

This issue affects these products with Mac OS 9.0, 9.0.2, or 9.0.3:

- iBook
- iMac (Slot loading)
- PowerBook G3 Series (Bronze keyboard)
- PowerBook (FireWire)
- Power Mac G4

Solution

Use the Software Update control panel to download and install Mac OS 9 Update (9.0.4). You can also download this software from Apple Software Updates at http://www.apple.com/swupdates/ .

Published Date: Feb 18, 2012

Mac OS 9: Will At Ease Basic v3 Function?

Will At Ease Basic v3 work with Mac OS 9?
This article has been archived and is no longer updated by Apple.
Mac OS 9 comes with a new facility, called Multiple Users, which is designed to replace At Ease. So, no testing or validation of At Ease under Mac OS 9 was done. The functionality of Multiple Users is much the same as At Ease, with improvements and better integration.

At Ease and Multiple Users cannot be used or installed together. If Multiple Users is installed at startup, even if not activated, it removes any older At Ease pieces and places them in the Trash.

Apple still offers five Education Series bundles, which are not being revised and still install At Ease Basic by default.

- T2199LL/A - Preschool & Kindergarten Adventures
- T2200LL/A - Elementary Curriculum Connections
- T2210LL/A - Writing & Publishing Tools
- T2031LL/A - Primary Curriculum Connections
- T2093LL/B - Primary Language Connections

If these bundles are to be used with Mac OS 9, the Multiple Users facility should be used in place of At Ease. When installing from one of these bundles, note from the install instructions which CD-ROM is installing At Ease.

When installing from this CD-ROM, choose Custom install from the pop-up menu that normally defaults to Easy Install. In the list of items displayed after choosing Custom Install, choose all items except At Ease by clicking all checkboxes for items in the list. Then, complete the install. Instead of configuring At Ease to access the bundle material, configure the corresponding Multiple Users facilities, to acquire the same functionality.

If At Ease is installed from the CD-ROM, upon restart the user there are two At Ease files from the System Folder placed in the Trash and not loaded at startup. This action is taken by the Multiple Users facility. The At Ease Setup program is present in a folder at the root level of the volume.

If the user tries to run At Ease Setup, a message appears stating that At Ease is not installed properly, please reinstall.
Reinstalling results in the same error.
Published Date: Feb 18, 2012

Macintosh Manager: Slow When Switching Between Workgroups

I am an administrator for a Macintosh Manager server. I notice that when I switch from a Finder access workgroup to a Restricted Finder access workgroup, it takes significantly longer to log in than normal. I did not experience this delay when switching workgroups in the other direction (Restricted Finder to Finder) or between other workgroups with restricted access.

This article has been archived and is no longer updated by Apple.

Apple is aware of this behavior and is investigating. Apple suggests that you log out of the Finder accessed workgroup, and then log back into the Restricted Finder accessed workgroup, instead of switching between workgroups.

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LaserWriter Plus: Additional Error Codes

This article has been archived and is no longer updated by Apple.

BEFORE YOU START: Familiarize yourself with the LaserWriter Plus Technical Procedures, especially the section on the built-in diagnostics. Be sure to follow proper ESD procedures when replacing ROMs.

When using the built-in diagnostics of a LaserWriter Plus to test the ROMs on the I/O board sometimes an error code will occur that the instructions on error codes in the LaserWriter Technical Procedures do not help with. In all cases, only the last 2 digits of the error code are of concern.

If the error code was 024B 1E08, the H3 ROM and/or L3 ROM would be bad, or if the error code was 024B 1E80 the H7 ROM and/or L7 ROM would be bad, as indicated by the LaserWriter Plus Technical Procedures.

Now, suppose that the error code received is 024B 1E0A, since only the last 2 numbers have any meaning, we are only concerned with the "0A" at the end of the number. Decoding this error code becomes more difficult because error codes are added together if more than 1 ROM set is detected by the built-in diagnostics as bad. The addition is of 2 hexidecimal numbers so adding 08 and 02 in hexidecimal gives 0A and the corresponding error code 024B 1E0A. This indicates that there are possibly 4 bad ROMs instead of 2. In this example, the possible bad ROMs are either H3 or L3 and H1 or L1. This was determined by checking which of the error codes would add up to "0A" in hexidecimal.

Below is a list of other possible error codes that might occur. This list only gives those that would indicate 2 or more sets of bad ROMS. Be sure to refer to the LaserWriter Technical Procedures for more information on running and diagnosing the failures. If the error codes indicate several bad ROMs, the failure may be in the I/O board itself. In this event, exchange the I/O board.

ERROR CODE POSSIBLE BAD ROMs

Lower Bank

XXXX XX03 H1, L1, H0, L0
XXXX XX05 H2, L2, H0, L0
XXXX XX06 H2, L2, H1, L1
XXXX XX07 H2, L2, H1, L1, H0, L0
XXXX XX09 H3, L3, H0, L0
XXXX XX0A H3, L3, H1, L1
XXXX XX0B H3, L3, H2, L2, H0, L0
XXXX XX0C H3, L3, H2, L2
XXXX XX0D H3, L3, H2, L2, H0, L0
XXXX XX0E H3, L3, H2, L2, H1, L1
XXXX XX0F All 8 LOWER ROMs

Upper Bank

XXXX XX03 H5, L5, H4, L4
XXXX XX50 H6, L6, H4, L4
XXXX XX60 H6, L6, H5, L5
XXXX XX70 H6, L6, H5, L5, H4, L4
XXXX XX90 H7, L7, H4, L4
XXXX XXA0 H7, L7, H5, L5
XXXX XXB0 H7, L7, H6, L6, H4, L4
XXXX XXC0 H7, L7, H6, L6
XXXX XXD0 H7, L7, H6, L6, H4, L4
XXXX XXE0 H7, L7, H6, L6, H5, L5
XXXX XXF0 All 8 UPPER ROMs

TA38932_LaserWriter_Plus_Additional_Error_Codes_(TIL03115).pdf

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Mac OS 9: Enhanced CDs - Multiple Volume Icons Appear on Desktop

Multiple volume icons appear on the computer's desktop when an enhanced CD-ROM disc is inserted into a Macintosh.
This article has been archived and is no longer updated by Apple.

Symptom

Multiple volume icons appear on the computer's desktop when an enhanced CD-ROM disc is inserted into a Macintosh. Because there are multiple icons on the desktop, it may seem that there is more than one disc in the computer's drive when, in fact, there is only one.

Products affected

- Mac OS 9.0 with Macintosh computers that have ATAPI disc drives
- Mac OS 9.0.4 (and later) with Macintosh computers that have ATAPI and SCSI disc drives

Solution

Nothing is wrong with your computer. The Apple CD/DVD driver is designed to function this way. To eject the CD, drag all CD volumes to the Trash, or use the eject command in the CD control strip portion.

The Apple CD/DVD driver included with Mac OS 9 makes the audio and data volumes of an enhanced CD-ROM disc appear simultaneously on the desktop. This allows access to both partitions of the disc from applications like iMovie. With previous versions of the CD/DVD driver, the audio volume would not have been available.

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Mac OS: Diagonal Lines Appear Wider

This article explains why diagonal lines look wider than vertical or horizontal lines when displayed on the screen or when printed to raster or PostScript printers, although the lines are given the same point thickness.
This article has been archived and is no longer updated by Apple.
QuickDraw is the part of the Macintosh Toolbox that performs graphics operations on your screen. QuickDraw provides applications developers with routines for rapidly creating, manipulating, and drawing graphic objects, such as lines, arcs, rectangles, ovals, regions, bitmaps, and so on.

QuickDraw provides a graphics pen to perform some drawing operations. This graphics pen is rectangular in shape, and its size, height, and width is measured in pixels. The default size is 1 x 1 pixel square. Therefore, when you draw a 45 degree diagonal line with a square pen (for example, penSize.h == penSize.v), the apparent thickness is roughly 1.4 times the penSize, less thick at lesser angles to the horizontal or vertical axis. See Figure 1.

Figure 1 Horizontal and diagonal lines

If your graphics program does not adjust for off-axis drawing of lines, you may be able to approximate the difference in size of the line width and adjust the pen manually.

Additional information may be found in Inside Macintosh Imaging with QuickDraw, Chapter 3 on QuickDraw Drawing.

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Sherlock 2 and Multiple Users: Missing Channels

I have set up a number of user accounts under Multiple Users. When any of the users, besides the owner, launch Sherlock 2, there are only three channels listed: Files, Internet, and My Channel. Where are the other channels that are usually there, such as Shopping and Apple?
This article has been archived and is no longer updated by Apple.
To get the other channels to show up, click the My Internet channel. You should receive a message that there are no search sites available but that Sherlock will connect to the Internet and update the channels.

Click OK and wait a few moments while Sherlock makes an Internet connection. You should then see the other channels populate the Sherlock window.
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Mac OS 9: Control Strip Time Does Not Update With Two Batteries

A PowerBook G3 Series (Bronze keyboard) computer that has two batteries installed does not correctly report its battery level in the Control Strip.
This article has been archived and is no longer updated by Apple.

Symptom

When two batteries are installed in a PowerBook G3 Series (Bronze keyboard) computer with Mac OS 9.0, the Battery Monitor portion of the Control Strip only shows the time remaining for a single battery.

Solution

Install Mac OS 9 Update (9.0.4) from the Software Update control panel, or download it from http://www.apple.com/swupdates/ .

If you do not install the Mac OS 9 Update, you can double the time remaining to get an approximate estimate of the available battery life. Although the time remaining indicated is incorrect, the PowerBook still uses and benefits from the second battery.

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Mac OS 8.6: Print Jobs Inadvertently Merged

This article describes how to prevent a small portion of the print job from one page from printing at the top of the next page, when printing to an Epson Stylus Color 600 printer.

This article has been archived and is no longer updated by Apple.
This behavior may occur if the printer runs out of paper before a print job has completed. To avoid the issue, follow these steps:

1. Add paper to the printer.
2. Press the printer's Load/Eject button.
3. Click OK in the dialog box on your computer's screen to continue the print job.

For additional information on paper management, please refer to the documentation that accompanied your Epson printer.

This behavior may also occur when printing to an Epson Stylus Color 600 from a USB-equipped Macintosh running Mac OS 8.6 using the Color Stylus v5.5AE driver.

Published Date: Feb 18, 2012

Mac OS 8.6: ARA Personal Server 3.0 Will Not Install

This article explains the compatibility of ARA Personal Server with Mac OS 8.6.
This article has been archived and is no longer updated by Apple.
If you attempt to install Apple Remote Access Personal Server version 3.0 onto a computer running Mac OS 8.6, a dialog box with the following message appears:

"the disk does not have Open Transport 1.1.1 or higher, which Apple Remote Access 3.0 Personal Server requires."

This will occur on computers running Mac OS 8.6 and Open Transport 2.5 or later. This combination was preinstalled on iMac (Slot Loading), iBook, and Power Macintosh G4 computers. ARA Personal Server version 3.0 is not supported on these computers.

To use Apple Remote Access Personal Server, you must upgrade to Mac OS 9, which includes Apple Remote Access Personal Server 3.5.
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High-Res RGB Monitor Cure for Jitters

This article has been archived and is no longer updated by Apple.

Recently, dealers have reported a two phase problem with the High-Res RGB Monitor. To cure the jitter problem, they replace main logic board. Once the board is replaced, they find themselves with a strange convergence problem.

None of the adjustments listed in Tech Procedures (including V-Twist, H-Stat) cure the problem. Convergence can be as bad as 1/8" vertically. Adjusting the V-twist control only brings in a small section of the screen leaving the top and bottom borders way off. If the center section is adjusted correctly then the picture gradually get worse towards the top and bottom borders where distinct red, green (yellow), and blue shadowed images can be seen on the screen.

The part that made this different than a normal convergence problem was the fact that the shadowed images were all of different sizes. That is, green was larger than the red, and blue was smaller than the red).

The solution is amazingly simple: Adjust the V-Top and V-Bottom controls on the main logic board. This immediately brings the monitor into adjustment. No parts replacements were necessary.

Interestingly enough, this board was supposedly received DOA from the Campbell Support Center. It is possible that the apparent DOA condition was caused by a dealer technician bumping these potentiometers when installing the replacement board. It is also possible that these boards were not properly adjusted from the factory.

Published Date: Feb 18, 2012

Mac OS X Server: NetBoot Installer Can‘t Open Package Message

When I try to install NetBoot with Mac OS X Server, I get the message, "Installer Can't Open Package."
This article has been archived and is no longer updated by Apple.
This has been known to happen if a folder on the HFS volume has been named "NetBoot", or the HFS volume itself has been named "NetBoot".

If this applies to you, pick a different file/volume name, eject the Installation CD, and try the installation process again. This should eliminate the problem.
Published Date: Feb 18, 2012

Mac OS 9: Reading the Automatic Software Update Install Log

You may read the log to see what software has been updated on your computer by the Software Update control panel.
This article has been archived and is no longer updated by Apple.
The first time you use the Software Update control panel, it creates an installation log file named "Software Update Logs." This log resides in the Preferences folder. Use Sherlock 2 to find the log file. The name of each software update installed, as well as the date and time of its installation, is recorded in the log file.

To read the log file, download Automatic Update Software 1.2 from Apple Software Updates (http://www.apple.com/swupdates/). Automatic Update Software is an alternate name for the Software Update control panel and its associated files.

Once your software has been updated, you may read the log by following these steps:

1. Open the Software Update control panel.
2. Choose Display Log from the Update menu.

Note: Some installers also place an Installation Log or Read Me file on the computer's hard disk.
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ImageWriter II: Keeps Printing Without Paper: Problem/Cure

How do I stop my ImageWriter II from printing after the paper has run out?
This article has been archived and is no longer updated by Apple.
A common problem for older the ImageWriter II is that it continues to print after the paper has run out. The fix is easy: Replace the platen or use a solvent such as Fedron to clean the platen surface.

This works because the optical sensor assembly relies on the reflectiveness of white paper and the light absorbing characteristics of the black platen to determine when paper is installed in the printer. As the printer becomes older, the platen tends to take on a shiny (reflective) appearance from the build up of ink and paper deposits. Over time, this can reflect enough light to tell the the paper-out sensor that paper is in place when in fact there is no paper in the printer.
Published Date: Feb 18, 2012

Mac OS 9: Printing From Mac Help to Epson Printer

When printing to some Epson printers from Help Viewer, an alert box appears or Help Viewer quits. Mac OS 9.1 resolves the issue.
This article has been archived and is no longer updated by Apple.

Symptom

When printing to some Epson printers from Help Viewer, an alert box appears with a Type 1, 2, or 11 error message, or Help Viewer unexpectedly quits. After clicking OK (if an alert box appears with that option) or after restarting the computer, the print job usually prints.

Solution

Download and install the Mac OS 9.1 update available from http://www.apple.com/swupdates/

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PC Compatibility Cards: Support For Mac OS and DOS Software Versions

Does Apple support the use of its PC Compatibility cards with newer versions of the Mac OS, newer versions of DOS or Windows, or alternate PC operating systems like Linux?
This article has been archived and is no longer updated by Apple.
Apple has only qualified the PC Compatibility cards with Mac OS versions up to System Software 8.1, assuming you are using PC Setup 1.6.4.

Note: Both the Quadra 610 DOS Compatible and Centris 610 DOS Compatible computers are not supported by PC Setup 1.6.4 and required PC Setup 1.0.2. Using these systems with later Mac OS versions may work, but is untested, and not supported by Apple.

All cards support DOS 6.22, Windows 3.11, and Windows 95, except for the Quadra 610/Centris 610 DOS Compatible units. The Quadra 610/Centris 610 DOS Compatible unit support DOS 6.22 and Windows 3.11.

Windows NT, Windows for Workgroup, OS/2, OPENSTEP, and other operating systems are not tested, and therefore, not supported. See TIL article 17897: "**DOS Compatible Products: Frequently Asked Questions**" for additional details.

Windows 98 may work on systems that support Windows 95, but no official testing has been performed, and therefore, it is not supported.

Note: A third-party company is developing "PC Setup 2.x" for use with Apple and third-party PC Compatibility cards (see http://www.pcsetup2x.com). This software is not developed or supported by Apple, and Apple makes no guarantees regarding its compatibility or use with Apple's PC Compatibility products.

Note: This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.
Published Date: Feb 18, 2012

Mac OS Runtime for Java 2.2: Running A Secure Applet

When I run a secure applet and respond "no" to "Do you accept this signature," the applet still runs. Is this a bug?
This article has been archived and is no longer updated by Apple.
This is not a bug. The applet should run just fine, unless it attempts to do a restricted action. At that point, it will present a security exception with denied permission. What happens after the security exception depends on how the applet is written, but many will continue doing the things they are allowed to do.

Restricted actions include: reading or writing to the local hard drive, printing, contacting a remote server other than the applet host, and accessing shared libraries.
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LaserWriter: Adjustments for Darkening Output

This article has been archived and is no longer updated by Apple.

Dealers and customers report problems with the LaserWriter and LaserWriter Plus when printing dark areas. Dark areas of print are consistently lighter than on other Laserwriters printing the same document. Changing the toner cartridge has little effect. Further, the laser power adjustment shows that everything is within recommended specifications.

A Level 1 technician can solve the problem using Technical Procedures. First, remove the transfer corona assembly and look at the underside. You will notice that there are two clear plastic screws, one at each end of the assembly.

These screws raise or lower the corona wire 0.5 mm per revolution. Raising the wire increases the charge that attracts the toner to the paper from the drum thereby increasing the amount of toner pulled from the drum onto the toner.

Important: If problems earlier in the printing process restrict the amount of toner deposited on the photosensitive drum, then this adjustment will have no effect on the print quality. Therefore, be sure to troubleshoot the printer thoroughly and rule out other possible causes before performing this adjustment.

Published Date: Feb 18, 2012

ClarisWorks for Kids: Using With Multiple Users

When I use ClarisWorks for Kids in a Panels or Limited environment, I cannot access clip art. How can I solve this?
This article has been archived and is no longer updated by Apple.
To access clip art in ClarisWorks for Kids under Multiple Users, you must move the entire ClarisWorks for kids folder into the Shared Documents folder inside the Users folder on the hard drive. Access to this folder is set in the Privileges tab of the Setup Details for each user. It is enabled by default.

Note: Users will have read and write access to all items in this folder. Care must be taken to insure users do not move or delete program files.
Published Date: Feb 18, 2012

Mac OS 9: Energy Saver Settings Not Saved

With Multiple Users turned on, I logged in as owner and scheduled specific start up and shut down times using the Energy Saver control panel. After restarting, I opened the control panel and found the Energy Saver settings are not being saved.
This article has been archived and is no longer updated by Apple.
This issue has been resolved in Multiple Users/Macintosh Manager 1.2 and later. Simply download and install the latest version of Macintosh Manager 1.2.x. This update applies to stand-alone Multiple Users as well as networked Macintosh Manager.

To find the most recent version of this software, refer to the Apple Software Updates Web site at http://www.apple.com/swupdates.
Published Date: Feb 18, 2012

System Software 6.0: Known Problems

This article has been archived and is no longer updated by Apple.

This article documents known bugs in System 6.0 software.

Sound Manager bugs
---
1. SoundAndMod purge bug:
"In low memory situations, SndAddModifier can purge the 'snth' resource before it is locked." This is the same problem as with SndPlay.

2. MIDI-In debug problem:
"When initializing a channel with the MIDI In synth. (7) the code drops into the debugger." A call to the debugger was inadvertently left in the code for 6.0.

3. MIDI amplitude scaling:
"Velocity values received from and sent to MIDI are scaled wrong." A scaling factor of two is missing in the code. The code runs fine, but can send some funny values for velocity.

4. MIDI timing to SCC on a Macintosh Plus:
"The timing to the SCC on the Mac Plus is wrong." The Macintosh Plus and SE need extra time after accessing the SCC. This is accomplished with extra instructions in the code. The macro we use in the MIDI driver code doesn't include enough of them (it has one but needs two).

5. SoundPlay purge bug:
"When memory is tight, SndPlay will purge the 'snd' resources as soon as it gets it."

6. Simple Beep is garbled
"On some Macintosh Plus and SE systems the simple beep is distorted."

Copybits bug in VideoWorks

"Copybits from a bitmap to a pixmap while in 8 bit mode." VideoWorks HyperCard driver is effected. The bug lies in QuickerGraf, and a 2 line fix was made.

Script Manager bug
---
1. "The Script Manager allocates too much space above the bufptr for some games."

2. "6.0 does not properly support IUDatePString and IUTimePString".

3. "KanjiTalk, which has not yet been built with 6.0, would not work with 6.0 because of a confusion in the definition of the area set aside for private and public verbs."

Palette Manager Bugs
---
1. "Provide support for devices that have no Color Look-Up Tables, that is, for boards like the E-Machine's board which only supports a fixed set of colors." This bug causes crashes in Adobe Illustrator and Color MORE when they de-reference NIL handles that would not be NIL in if a CLUT device was being used.

2. "The Palette Manager was calling Front Window at inappropriate times when the Window list should not be referenced." This bug causes the system to crash between applications that exercise the Palette Manager. Again, bad addresses are being de-referenced.

3. "When a window is hidden and DisposePalette is called, the palette in the hidden window was not disposed."

4. "The file system was being called during Disk Swap (SysErr)." This is a situation when things can be moved in memory. The file system will randomly crash when called."

5. "A colored menu bar was getting confused (and ugly)." This bug was caused by the fact that only the Apple in the menu bar was being redrawn with the Palette Manager. Now the whole menubar is redrawn. This is only a cosmetic bug, but it is a very safe and minimal change.

6. "When applications used the Palette Manager under both Single and MultiFinder, the Color Desktops would change to random colors. This looks extremely ugly." Again, this is only a cosmetic bug, but a fix was made to both the Palette Manager and MultiFinder to fix it.

MultiFinder Bugs
---
1. "If a volume is unmounted by an application other than the Finder (Disk First Aid, for example) the desktop database could be lost. This would cause the user to loose their Finder comments for that disk."

2. "The check for drivers in Background Apps is incorrect. This can cause slow response time on occasion, and conceivably cause crashes (though we have no specific cases reported)."

TextEdit Bug

"A de-referenced handle was maintained across a call that moved things in the heap. This could cause crashes."

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Software Updates Control Panel: Just Beeps and No Updates

When trying to use the Software Update control Panel, I get an alert sound with no message when I click Update Now, and the computer will not update.

This article has been archived and is no longer updated by Apple.

Verify that the Software Update Scheduler extension has not been disabled. Although you may not be scheduling automatic updates, the extension is required to manually or automatically update.

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Mac OS X Server 1.x: Deletes Files With "#" as the First Character

Mac OS X Server 1.x appears to remove any file that has a hash (#) as the first character.
This article has been archived and is no longer updated by Apple.
This is correct. There is a daily cron script (/etc/daily) that will delete any file with the following names that have not been accessed in the last three days.

- the name starts with hash (#)
- the name starts with a comma (,)
- the name starts with dot-hash (.#)
- the name is "a.out"
- the name ends in ".core"
- the name ends in ".CKP"
- the name ends in ".emacs_<number>"

The daily script is part of the BSD distribution and has not been modified by Apple. The search occurs across all local disks so files on HFS Plus volumes that meet the above criteria will also be deleted.

With Mac OS X 10.x and Mac OS X Server 10.x, the daily script **has** been updated so that this does not occur.
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AppleWorks 6: Envelope Assistant Tips

After completing AppleWorks 6 Envelope Assistant, envelopes do not print correctly.
This article has been archived and is no longer updated by Apple.
To help workaround this issue, use the following steps.

1. Complete Envelope Assistant.
2. Choose Page Setup from the File menu.
3. Choose the proper envelope size and orientation.
4. Adjust the left margin by selecting the return address and moving the left margin (or indent) marker as necessary.

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MWS/MacAPPC Won‘t Work With IBM Application System

This article has been archived and is no longer updated by Apple.

MacAPPC and/or MacWorkStation will not currently work with IBM's Application System.

The IBM Application System is a 3270-based decision support tool, which runs under the MVS and VM operating systems, and is IBM's high-level decision support software product for business planning, statistical analysis, and project management.

The IBM Application Sustem has extensions that allow direct access via DB2 and SQL databases and other IBM products, such as Query Management Facility (QMF) and Data Extract (DXT). However, it does NOT currently take advantage of intelligent desktop devices.

IBM says that "the direction of future development of the Application System product line is to provide support consistent with the need to use workstations that may have local intelligence" (or, simply, "it doesn't do it now, but it will someday.")

So, at present IBM's Application System supports neither LU6.2, IBM's flagship peer-to-peer protocol, or 3270 API implementations.

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iDisk: Connection Difficulties When Using Mac OS 9

If you cannot connect to your iDisk in OS 9 through the Chooser or Network Browser (or cannot connect to it at all), there are several things to check.

This article has been archived and is no longer updated by Apple.

Symptom

You are using OS 9 and cannot connect to your iDisk through the Chooser or Network Browser. You may or may not be able to connect to it through your web browser.

Solution

Your Macintosh must be correctly set up. Additionally, the Internet connection you are using must not block iDisk access. All three of the following areas must be addressed for iDisk to function properly:

Mac OS 9

Your computer must have Mac OS 9 installed.

Extensions Enabled

Use the Extensions Manager control panel to verify that the following required extensions are enabled on your Macintosh:

- AppleShare
- Shared Library Manager
- Shared Library Manager PPC

Firewall and Proxy Server Setup

In OS 9, iDisk uses the AppleTalk Filing Protocol (AFP). If your computer is behind a network firewall or proxy server, they must be set up to allow outbound connections on TCP port 548. Additionally, ICMP echo must be enabled on the firewall or proxy server.

iDisk does not work through an HTTP or SOCKS proxy.

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Mac OS X Server: Macintosh Management Server - What Version Is Installed?

When running Mac OS X Server and Macintosh Management Server, you can tell which version of the MacintoshManagementServer process is installed by following the steps in this article.
This article has been archived and is no longer updated by Apple.
To find the version of MacintoshManagementServer process installed:

1. Open the Terminal application
2. Type this command at the prompt and press Return

```
# grep -A 1 -e "build %s" /usr/sbin/MacintoshManagementServer
```

This command returns two lines of text. The version information is at the beginning of the second line as illustrated below:

Version 1.0

```
- build %s
123...
```

Version 1.2

```
- build %s
1.2 (203)...
```

For more information about Macintosh Manager client and administration compatibility with Macintosh Management Server, refer to article 25104: "**Macintosh Manager: Compatible Versions and Configurations."**
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Mac OS X Server 1.x: "reserveDebuggerLock: already locked" Error

This article describes an error with Mac OS X Server 1.x where `reserveDebuggerLock: already locked` appears in the system.log file numerous times.
This article has been archived and is no longer updated by Apple.

Symptom

This message appears many times in /var/log/system.log:

```
<date, time> <host name> mach_kernel: reserveDebuggerLock: already locked
```

Products affected

- Mac OS X Server 1.x

Solution

This is an Ethernet driver error in Mac OS X Server. Other than filling the system.log file with the error message, this error does not affect the performance of Mac OS X Server. You can safely ignore it.

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Mac OS 9: MacIP Does Not Work Through LocalTalk

Can I connect to a MacIP gateway through LocalTalk and configure TCP/IP to use MacIP on a computer with Mac OS 9?
This article has been archived and is no longer updated by Apple.
No, MacIP does not work through LocalTalk in Mac OS 9. You can use MacIP if you connect to the Mac IP gateway through Ethernet.
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Network Assistant 4.0.x: Clients Do Not Start Up at Scheduled Time

After configuring Network Assistant clients to start up at a certain time, not all of them start up.
This article has been archived and is no longer updated by Apple.

Symptom

After configuring Network Assistant clients to start up at a certain time, not all of them start up.

Solution

Click the checkbox in the Schedule Options portion of the Energy Saver control panel. See Figure 1.

Figure 1: Schedule Options

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Chinese Language Kit: Frequently Asked Questions (2 of 2)

This article contains frequently asked questions (FAQ) regarding the Chinese Language Kit (CLK), with answers to those questions.
This article has been archived and is no longer updated by Apple.
Questions answered in this article:

1. What does the "Install Simplified Chinese" script install on my Macintosh?
2. What does the "Install Traditional Chinese" script install?
3. I typed some Traditional characters, and now I want to display them as Simplified. Is there a way to convert them?
4. I typed some Traditional Chinese characters, then I tried to change the font to Song, and the text turned to garbage characters.
5. Some keystroke sequences I use in QuicKeys do not work since I installed CLK.
6. I have a Performa computer and CLK windows such as help and the input window disappear. What is wrong?
7. Is there a site license available?
8. I use the CLK on my Macintosh with Apple Express Modem software. There are two issues when I try to FAX.
9. I use the Chinese Language Kit on my Quadra 840AV with PC Exchange 1.0.3. When I try to format a floppy disk, the machine hangs or does not complete the formatting process.
10. Is the Chinese Language Kit compatible with Power Macintosh Computers?
11. I use the Chinese Language Kit and when I rename a folder in the Finder, the keyboard menu changes from U.S. System 7 (a blue diamond) to something in Chinese automatically. If I select U.S. System 7 in the keyboard menu, I can enter the name in English. Why does the keyboard layout switch occur?
12. The "Phonetic Transcription Systems for Chinese" appendix in the Traditional Chinese Input Method Guide lists the Pinyin phoneme "ü" (u with an umlaut) among valid entries, but there is no way to enter it with the Pinyin input method. Depressing option-u and the letter u sounds an error beep.
13. I have a Performa computer and the Chinese Language Kit. Windows such as help and the input window do not show up when I try to enter Chinese text. What's wrong?
14. How do customers get technical support for their Language Kits?

Question 1: What does the "Install Simplified Chinese" script install on my Macintosh?

Answer: The script will place Simplified Chinese language support and its input methods on your Macintosh. Input methods are included in a single file, and are installed together automatically.

Question 2: What does the "Install Traditional Chinese" script install?

Answer: The script will place Traditional Chinese language support one input method (Pin yin). Input methods are contained in individual files, and can be installed one at a time. If you have run "Easy Install, but still don't have the Traditional input method you want, run "Custom Install" (Traditional) and select the desired input methods, or select all of the Traditional input methods.

Question 3: I typed some Traditional characters, and now I want to display them as Simplified. Is there a way to convert them?

Answer: No, since Traditional and Simplified characters use different encoding standards, conversion between them is not easy. You must use a third party conversion solution.

Question 4: I typed some Traditional Chinese characters, then I tried to change the font to Song, and the text turned to garbage characters.

Answer: Song is a Simplified Chinese font, and will not display Traditional characters.

Question 5: Some keystroke sequences I use in QuicKeys do not work since I installed CLK.

Answer: The Chinese Language Kit uses the sequence Command-Spacebar to switch keyboard layouts. Other applications or utilities like QuicKeys may also attempt to use this key combination. The Language Kit will take precedence in all cases so the user will have to find an alternative keystroke sequence for the conflicting program.

Question 6: I have a Performa computer and CLK windows such as help and the input window disappear. What is wrong?

Answer: There is a conflict between CLK and the Launcher: If you have System 7.1P4 or later, open the Performa control panel and turn off Finder Hiding.

If you have System 7.1P3 or earlier, remove the Launcher from the Control Panels folder, and place it in the Startup Items folder. Finder-hiding will be deactivated this way.

Question 7: Is there a site license available?

Answer: Since the introduction of the JLK, an number of customers have requested this. Apple will make an announcement about this soon. This policy will vary by region.

Question 8: I use the CLK on my Macintosh with Apple Express Modem software. There are two issues when I try to FAX:

a) The Fax Phone Book window refuses to scroll in the 'Fax Send' dialog box even though there are more addresses than can be displayed. I have to click on an addressee, then use the up and down arrow keys to navigate.

b) The Cover Page is lost when I transmit a document (even though one is selected).

Answer:

a) This occurs with the scroll bars for the "Fax Phone Book" and "Send To" lists. This is a known issue between Express Modem and Apple Language Kit software. Apple is working on a solution.

b) Make page 1 of your document the cover page.

Question 9: I use the Chinese Language Kit on my Quadra 840AV with PC Exchange 1.0.3. When I try to format a floppy disk, the machine hangs or does not complete the formatting process.

Answer: There is a known conflict between PC Exchange 1.0.3 and the Chinese Language Kit. PC Exchange 1.0.5 corrects the issue.

Question 10: Is the Chinese Language Kit compatible with Power Macintosh Computers?

Answer: Yes, though version 1.1.1 of the Chinese Language Kit is required for Power Macintosh computers running System 7.5.

Question 11: I use the Chinese Language Kit and when I rename a folder in the Finder, the keyboard menu changes from U.S. System 7 (a blue diamond) to something in Chinese automatically. If I select U.S. System 7 in the keyboard menu, I can enter the name in English. Why does the keyboard layout switch occur?

Answer: Apple Language Kits provide Finder support for English and the language each kit installs. When you modify a file or folder name, the language kit defaults to its primary keyboard layout. Traditional Chinese defaults to Pinyin. Simplified Chinese defaults to Shuru Fangfa: Here is how that default is selected:

When 'Beijing' is selected as the Font for Views in the Views control panel, the keyboard menu displays 'Shuru Fangfa' and 'U.S. System 7', because 'Beijing' supports both Simplified Chinese and Roman character sets.

Similarly, selecting 'Taipei' displays Pinyin and 'U.S. System 7' layouts in the keyboard menu, because 'Taipei' supports both Traditional Chinese and Roman character sets.

Question 12: The "Phonetic Transcription Systems for Chinese" appendix in the Traditional Chinese Input Method Guide lists the Pinyin phoneme "" (u with an umlaut) among valid entries, but there is no way to enter it with the Pinyin input method. Depressing option-u and the letter u sounds an error beep.

Simplified Chinese will allow you to enter "" in Pinyin by depressing the letter "v". This is an undocumented shortcut in the "Simplified Chinese Input Method Guide" manual.

Note: This shortcut does not work with the Traditional Chinese Pinyin input method.

Answer: This is a limitation of the input method itself.

- use Traditional Chinese pinyin and search for the correct Chinese character (Hanzi) in the selection window for words containing ""
- use Zhuyin input method (also known as Bo Po Mo Fo)
- use Simplified Chinese Pinyin input method with the letter "v" to denote the letter ""
- use a third party input method product, like Sindex 2.0 for complete Chinese phrase input (available through Pacific Rim Connections, Inc. (415) 697-0911). This is compatible with Apple's Chinese Language Kit.

Question 13: I have a Performa computer and the Chinese Language Kit. Windows such as help and the input window do not show up when I try to enter Chinese text. What's wrong?

Answer: If you have System 7.1P4 or later, open the Performa control panel and turn off Finder Hiding. Then restart your computer to enter Chinese through the input window.

If you have System 7.1P3 or earlier, remove the Launcher from the Control Panels folder, and place it in the Startup Items folder. Restart your computer and 'Finder-hiding' will be deactivated in this way.

Question 14: How do customers get technical support for their Language Kits?

Answer: Apple provides Chinese Language Kit technical support through 1-800-SOS-APPL Monday - Friday, 6 am. to 6 pm. Pacific time.

For additional information see article 15486: **Chinese Language Kit: Frequently Asked Questions (1 of 2)**

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EtherTalk Card: Packet Buffering Space Is Both 16K and 32K

The Technical Specifications on the EtherTalk card data sheet contains the following information:

"Packet buffering
- Multipacket, using 16-kilobyte dual-ported local memory ROM space
- 32 kilobytes"

How can the packet buffering space be both 16K and 32K?
This article has been archived and is no longer updated by Apple.
The EtherTalk card has 16K of dual-ported RAM used for packet buffering. The card also has 32K of ROM for storing the Ethernet address and NuBus slot information.
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Mac OS 9: World Book "No article updates are available" Error

This article discusses a possible issue and solution when using the World Book encyclopedia CD-ROM with Multiple Users in the Limited and Panels environment.
This article has been archived and is no longer updated by Apple.

Issue

When providing access to Limited or Panel users for the World Book application, included with some iMac configurations, some users may erroneously encounter the error: "No article updates are available" upon launch.

Solution

To prevent this error, place a valid copy of the "WB preferences" file in the Preferences Folder of each of the Limited or Panels users.

Follow these steps to create and copy a valid WB Preferences file to each user:

1. Log in as the owner
2. Launch and then quit the World Book application to create a valid preferences file
3. Open the System Folder on the hard drive and locate the Preferences folder
4. Open the Preferences folder and locate the file "WB Preferences"
5. While holding down the Option key, drag copy this file to the desktop
6. Open the Users Folder located on the hard drive
7. Open the folder of a user having access to the World Book application
8. Locate the Preferences Folder inside the user's folder
9. While holding down the Option key, drag copy the WB Preferences file from the desktop into this user's Preferences folder
10. You may see the error message stating "this file already exists...do you want to replace it?" Click OK.

Repeat this procedure for each user you have given access to the World Book application. You should now be able to log in as another user and launch the application without the "update" error message.

For more information on configuring multiple users, consult Mac Help under the Help Menu.

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AppleWorks: "Be sure to select "No gaps between pages" in Page Setup"

This article discusses the AppleWorks "Be sure to select "No gaps between pages" in Page Setup - Options."
This article has been archived and is no longer updated by Apple.

Symptom

After completing the Labels Assistant the following dialog box appears: "Be sure to select "No gaps between pages" in Page Setup - Options (in the File menu)." However, this option does not appear in Page Setup.

Solution

This message applies to form feed printers, such as the ImageWriter. If you are not using a form feed printer, you may safely ignore this message. If you are using a form feed printer, follow the instructions in the dialog box to ensure that labels print correctly.

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Mac OS X Server 1.x: Volume and File Size Limits

This article list the maximum volume and file sizes for Mac OS X Server.
This article has been archived and is no longer updated by Apple.
Note: This article pertains to Mac OS X Server versions 1.x, which were released prior to May 2001.

Mac OS X Server maximum volume and files sizes

Volume size

- UFS and Macintosh Extended Format (sometimes called HFS Plus) volumes have a maximum size of 2 terabytes.

File size

- UFS volume maximum file size is 4 gigabytes.
- HFS Plus volume maximum file size is 2 gigabytes.

Note: All versions of Mac OS X Server have these volume and file size limits.

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ImageWriter LQ: Bin Selection And Envelope Feeder Problems

This article has been archived and is no longer updated by Apple.

If you have installed additional feeder bins and envelope attachments to your ImageWriter LQ, you may experience one of both of the following problems:

Bin Selection: The application used with your ImageWriter LQ will not switch bins successfully. Even though you may want to print from first one bin, then another, the ImageWriter will only print the complete job from the first bin selected.

Envelope Feeder: With the envelope feeder fitted, the first envelope is fed through without being printed; then, several envelopes try to make their way around the platen at the same time.

The Solutions:

Bin Selection

This is an application problem -- not a print driver problem. If the application in use treats every page of a document as a separate print job, bin selection is negated.

For the bin selection to be effective, an application must know that a job consists of more than one page and that these pages are to be treated as extensions of the first page.

Envelope Feeder

For the envelope problem, try fanning and flexing the envelopes before inserting them into the feeder.

Another thing that might help is to load fewer envelopes in the feeder. Excessive tension caused by the weight of the envelopes or by having too many envelopes in the feeder may be creating sufficient friction between the envelopes to cause the multifeed situation.

Published Date: Feb 18, 2012

LaserWriter & LaserWriter Plus: Change Cleaning Felt Regularly

This article has been archived and is no longer updated by Apple.

Some users have noted a problem with the Canon engine in both the LaserWriter and LaserWriter Plus that could lead to trouble without proper maintenance.

Under the green cover, which hides the fuser roller, are four orange rubber "fingers" that touch the roller. As toner builds up on these fingers, it crystallizes and becomes abrasive. This residue then scrapes off the teflon coating on the roller.

When the teflon coating wears through, toner no longer fuses to the paper at that position. (The finger on the far right as you face the roller seems to be affected the most.) The only fix at this point is to completely replace the fuser assembly, which is a very expensive solution.

You can prevent this from happening by ALWAYS replacing the cleaning felt (the green plastic strip that comes packed with the toner cartridge) every time the toner cartridge is replaced.

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HyperCard: Text In Buttons Treated As Bit-Map Graphics

Why does the text inside my HyperCard buttons (the button name, for instance) look different from text in the same font and size used in a field?

This article has been archived and is no longer updated by Apple.
The reason for this is that the button, including the text in it, is treated as a bitmap graphic and is printed as such. Text in a field works off the font, whether it is Postscript, TrueType, or bitmap.

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iMovie 2.0.1: Only iMovie Web Read Me and Late Breaking News Files Are Installed

The installer for iMovie 2.0.1 that you downloaded from The Apple Store reports that the installation was successful, but only two files are available in the iMovie folder: "iMovie Web Read Me" and "Late Breaking News."
This article has been archived and is no longer updated by Apple.

Symptom

The installer for iMovie 2.0.1 that you downloaded from The Apple Store reports that the installation was successful, but only two files are available in the iMovie folder: "iMovie Web Read Me" and "Late Breaking News." The iMovie application and its files are not installed.

Solution

iMovie 2.0.1 requires Mac OS 9.0.4 and will not install or work with computers that have Mac OS 8.6 installed.

1. Make sure your computer has Mac OS 9.0.4 installed. If your computer has an earlier version of Mac OS 9 installed, you should download and install Mac OS 9.0.4. It is available from Apple Software Updates at http://www.apple.com/swupdates/ .

2. Install iMovie 2.0.1 from the disk image that you downloaded from The Apple Store.

Note: The complete system requirements for iMovie 2 are available in article 60754: "**iMovie 2: System Requirements.**"
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WebObjects 4.x: "_NSAutoreleaseNoPool ... just leaking" Messages

This article discusses an issue with multithreaded Java apps and NSAutoreleasePools.

This article has been archived and is no longer updated by Apple.

Symptom

When you spawn new Java worker threads in your WebObjects application, your console starts listing hundreds or thousands of messages like the following:

```
"Sep 18 08:08:16 MYWOApp[22010] *** _NSAutoreleaseNoPool(): Object 0x2a1e68
of class NSUnicodeString autoreleased with no pool in place - just leaking"
```

Solution

These messages are innocuous and should not affect your application, but they can be annoying because they can clutter a log file.

These messages appear because your Java code, in combination with the Java Bridge, is creating Objective-C objects. Objective-C uses "autorelease pools" for memory management. An autorelease pool gets created at the beginning of a request-response cycle for the main thread of a WebObjects application. If you spawn an additional thread in Java, you need to create an autorelease pool to manage the memory for the Objective-C objects that get created.

Insert the NSAutoreleasePool at the beginning of your Java thread's run() method:

```
int pool = NSAutoreleasePool.push();
```

- and release it at the end of the thread -

```
NSAutoreleasePool.pop(pool);
```

You'll need to do this for each thread you spawn because threads cannot share an NSAutoreleasePool.

Objective-C syntax

Note: This is the Objective-C equivalent of the Java push() and pop() methods above

```
myThreadFunc()
{
  NSAutoreleasePool *pool = [[NSAutoreleasePool alloc] init];
  ... // do your stuff

  [pool release];
}
```

Published Date: Feb 18, 2012

Macintosh: Avoiding Font ID Conflicts

Some of the fonts in my System are not showing up. After investigating, I found that some of the fonts have the same ID numbers. How do I prevent this?
This article has been archived and is no longer updated by Apple.
If you find that two fonts with the same ID have been installed in the same system software, it is most likely the method of installation that is at fault.

System 6 and Before

When running System 6.0.x or earlier, always use the Font/DA Mover to copy fonts into the System file. This method will automatically resolve any font ID conflicts that exist. The Font/DA Mover is the only program that should be used to copy a font to or from any file under System 6.0.x or earlier. This ensures that all the necessary resources are copied with the font. The same applies for desk accessories.

System 7

This problem is rare in System 7. The proper way to install fonts in the System file is to drag them directly to the System Folder:

* With System 7.0.x, the fonts will be moved into the System file itself.

* With System 7.1 or later, when you drag fonts to the System Folder icon, they will be moved into a Fonts folder within the System Folder.
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Mac OS X Server 1.x: New Button Dimmed in File Sharing Section of Network Manager

This article discusses an issue where the New button in the File Sharing section of Network Manager is dimmed.
This article has been archived and is no longer updated by Apple.

Symptom

When Network Manager starts up, it looks to see whether there are any "children" for the domain and dims the New button if there are. This prevents you from creating exports in a parent NetInfo domain.

This issue is caused by computer entries that have a 'serves' property. Creating computer entries, in Network Manager, automatically adds this property to the entry. There is no way not to add this property. Computers with the 'serves' property are called "children" of the NetInfo domain.

Solution

1. Open NetInfo Manager.
2. Select 'machines' in the second column.
3. Select each machine entry and look for a 'serves' property.
4. Select the 'serves' property.
5. Choose Delete from the Edit menu.
6. Save the changes.

Notes:

1. Do not click Trash as this will delete the machine's entire entry and cannot be undone.
2. Do not remove the serves property for the 'broadcasthost' or 'localhost' entries.

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HyperCard: Cannot Write Null Characters Without X-Command

This article has been archived and is no longer updated by Apple.

There is, at present, no easy way for HyperCard to write a Null character -- hex 00 -- into a text file using "write <source> to file <file name>".

A Null character like hex 00 is often used as a formatting flag in text documents.

Here is a HyperCard script a user has written to demonstrate the problem:

```
on mouseUp
open file "i/o test"
write "+++" to file "i/o test" -- so we can see where the information starts
write empty to file "i/o test" -- try to put the null constant into file
write "*" to file "i/o test" -- a marker after the null char.
repeat with x = 0 to 10
write the numToChar of x to file "i/o test" -- try to generate it this way
end repeat
write "+++" & empty & "*" to file "i/o test" -- try to put a null in a string
write "eof" to file "i/o test" -- write out an end of file marker for us
beep 2
close file "i/o test"
end mouseUp
```

Hypercard uses the C string format in which the Null is identified as the "end of string" marker. When HyperCard converts the variable in numToChar, the result of numToChar is placed into a container as a string, which in this case is a Null, interpreted as the "end of string", and thus ignored.

The only way HyperCard can currently place a Null character into a text file would be through an XCMD or XFCN.

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Mac OS 9: "Software Update Is Not Able to Run" Message

This article discusses an issue with the Software Update control panel when certain extensions are disabled.

This article has been archived and is no longer updated by Apple.

Symptom

Software Update control panel reports "Software Update is not able to run" if certain extensions have been disabled.

Solution

1. Open the Extensions Manager control panel.
2. Choose As Items from the View menu. The Extensions Manager control panel now lists extensions alphabetically.
3. Make sure that the following extensions appear in the list, and are enabled (the checkbox has an X in it).
    - Security Cert Module
    - Security Library
    - Security Manager
    - Security Policy Module
    - Security Storage Module
4. Restart the computer.
5. (Only if the issue persists) open the Extensions Manager control panel, select "Mac OS 9.x All" from the Selected Set pop-up menu, and restart the computer.

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Mac OS: Adobe PageMaker Does Not Use Apple Printer Driver by Default

This article provides information on the default printer driver used by Adobe PageMaker.

This article has been archived and is no longer updated by Apple.
Adobe PageMaker defaults to a special built-in Adobe printer driver when a print command is issued. The Apple printer driver selected in the Chooser is not used.

To use the Apple printer driver (such as LaserWriter 8), hold down the Option key then choose Print from the File menu.

Note: If you encounter difficulties printing using Adobe PageMaker's print command, contact Adobe technical support for assistance.

Article 17159: "**Locating Vendor Information**" can help you search for a particular vendor's address and phone number.
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Macintosh: 3COM OfficeConnect Dual Speed Switch Interoperability Condition

This article discusses a possible interoperability condition with some Macintosh computers and older 3Com Office Connect Dual Speed Switches.

This article has been archived and is no longer updated by Apple.

Symptom

Under some circumstances, the following computers may not be able to establish a link with the following switches.

Solution

Should you encounter this issue, contact 3COM technical support at + 1 408 326 5000 or 800-876-3266 (in the United States). For International support options check http://www.3com.com/international/index.html .

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AppleWorks: Superscript Codes For ImageWriter

What are the codes for using Superscript on an ImageWriter printer?
This article has been archived and is no longer updated by Apple.
Here are the codes to begin Superscript on an ImageWriter:

Superscript Begin: ESCAPE l1 ESCAPE r ESCAPE T20 CONTROL J
Superscript End: ESCAPE f CONTROL J ESCAPE T24 (66 lines per page)
Superscript End: ESCAPE f CONTROL J ESCAPE T18 (72 lines per page)

An ESCAPE c should not be used in the Superscript End code string. The ESCAPE c generates a carriage return which will, depending upon the setting for carriage return line feed, force all text following the Superscript end to be printed over the first part of the same line or on a new line.

Also, when giving the codes for Superscripting, the ESCAPE T20 may be adjusted to a greater or lesser value depending on the height of the desired Superscript. For 66 lines per page, an ESCAPE T value of 20 is almost a full character above the current text line, where as, an ESCAPE T value of 12 is about 1/2 character above the current text line.
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Mac OS X Server 1.2v3: Read Me

This document provides late-breaking information about Mac OS X Server 1.2 v3.

This article has been archived and is no longer updated by Apple.

Mac OS X Server 1.2 v3 Overview

Hardware requirements

The following computers work with Mac OS X Server 1.2v3

- Power Mac G4 (AGP Graphics)
- Power Mac G4 (PCI Graphics)
- Power Mac G4 (Gigabit Ethernet)
- Macintosh G4 Server
- Macintosh G4 Server (Gigabit Ethernet)
- Power Macintosh G3
- Macintosh G3 Server
- Power Macintosh G3 All-In-One

The following do not work with Mac OS X Server 1.2v3

- Power Mac G4 Cube
- Power Mac G4 (Digital Audio)
- iMac
- PowerBook G3
- ATTO UL3D SCSI card (Card is not supported in Mac OS X Server 1.2v3)

Mac OS X Server and USB devices

Mac OS X Server can detect USB devices on only one of your computer's USB ports at a time. To use a USB mouse, connect it to your keyboard. When using a display that has an Apple Display Connector, connect your keyboard to USB Port One. Mac OS X Server does not work with the two USB ports on the display.

Mac OS X Server and Third-Party PCI Cards

Some third-party PCI cards that lack updated drivers may not work in your server or may prevent the server from starting up. You can sometimes fix the issue by installing a firmware upgrade for the PCI card. If you have an issue with a PCI card, shut down your server, remove the card, and restart. Contact the card's manufacturer for information about a firmware upgrade.

Media Converter Compatibility

Some network media converters may not be compatible with the four-port Ethernet card that comes with your Mac OS X Server. For example, the Digi-International 180-CRM Fiber-to-UTP converter will not work if your network includes devices that convert fiber media to unshielded twisted pair (UTP) media. Be sure to check with your networking hardware providers for other known issues.

Using Mac OS X Server

Updating the NetBoot image

Your Macintosh Server G4 comes with a Mac OS 9.0 NetBoot image. Some newer computers are incompatible with Mac OS 9.0. For these computers, you need to update the NetBoot image to a later version. For information on how to update your NetBoot image, visit the Apple support site at:

http://docs.info.apple.com/article.html?artnum=25090

Switching Between Mac OS 9 and Mac OS X Server

You can start up your server in Mac OS 9 or Mac OS X Server. Choose from available bootable volumes by holding down the Option key as the server starts up. An icon for each available volume appears. Click the icon you want, then click the right arrow to proceed.

Restoring the Mac OS X Server Software

Your server comes with Mac OS X Server, NetBoot server, and WebObjects software installed on the Mac OS X Server partition.

If you need to restore the server to its factory settings, use the Apple Software Restore application on the Software Restore CD to erase the hard disk and reinstall the software.

The accessory kit includes CDs that contain the software installed on your computer. For installation and setup instructions for using these CDs, see the Mac OS X Server installation manual.

After you restore the Mac OS X Server software, open the System Disk application on the Software Restore CD, select "Mac OS X Server 1.2" as the startup device, and restart your server.

About Your Bootable Mac OS Extended Partition
Your server comes with a preinstalled bootable Mac OS Extended partition. This partition provides important compatibility for future BootROM updates.

Mac OS System Software Versions

In addition to Mac OS X Server, Mac OS 8.6 and Mac OS 9 are installed on your Macintosh Server G4.

- NetBoot services require Mac OS 9 or later.
- The Mac OS Compatibility Environment can be used for tasks such as checking your server memory or other specifications using the Apple System Profiler. The Mac OS Compatibility Environment uses Mac OS 8.6. Do not upgrade to a later version of the Mac OS.

Using the Correct Startup Disk

If you selected a CD as the startup disk and you start up your computer without the CD (or with a CD other than the software install or software restore CD) inserted, an icon with a blinking question mark appears. The computer then searches for an available System Folder and starts up when it finds one. If no System Folder is available and the server doesn't start up, insert the Software Install or Software Restore CD in your drive and restart your server. If you don't want to start up from a CD, select your hard disk as the startup disk in the Startup Disk control panel, or use the System Disk application to specify your startup disk.

Restarting Your Server

If you have a recurring issue with your server, you can often eliminate the issue by restarting it. To restart your Mac OS X server safely, first log out, which allows you to save changes to open documents and closes open applications. To log out, open the File menu in the Workspace Manager and choose Log Out. Click Log Out in the dialog box that appears, then click Restart in the login window.

Notes:

1. This release of Mac OS X Server includes the Apache version 1.3.9 software, a later version than stated in the About Mac OS X Server Release 1.2 printed booklet.

2. The Mac OS application (MacOS.app), which provides the Mac OS Compatibility Environment, has Mac OS 8.6 installed. Do not upgrade to a later version of the Mac OS.

3. This release includes the NetProbe.app application. It's located in the Demos folder in the System folder on your computer.

4. The installer.sh command line utility program has been removed from this release.

Information about installing WebObjects software

The WebObjects disc installs earlier versions of the WebObjects adaptors than the adaptors available on the Mac OS X Server CD. If you install the WebObjects software, you will need to install the newer WebObjects adaptors using the Installer on the Mac OS X Server CD.

To do so, follow these steps:

1. After you install the WebObjects software, restart your computer and log in as Administrator.

2. Insert the Mac OS X Server CD.

3. Open the Packages folder (in the /System/Installation folder) and double-click the WOAdaptor.pkg file.

4. Follow the on screen instructions to install the software.

Install the WebObjects adaptors in the default location shown in the Installer.

OmniBackup Personal Edition issue

If the resolution of your monitor is set to 640 by 480, you will not be able to see parts of some windows and dialog boxes in OmniBackup Personal Edition. To solve this issue, set the resolution of your monitor to at least 800 by 600.

About Apple file services

This section contains important information about Apple file services and Remote Server Administration.

Remote Server Administration browser issues

- Before logging in to Remote Server Administration from your browser, open Preferences and set the Advanced cache settings to Every time (for Netscape Navigator) or Always (for Internet Explorer).
- To use Microsoft Internet Explorer 4.x to access Remote Server Administration from a Macintosh computer, you need to select Mac OS Runtime for Java as the Java virtual machine. To do so, open the Edit menu in Internet Explorer and choose Preferences, then open the Web Browser category and select JavaTM. Open the "Java virtual machine" pop-up menu and choose Apple MRJ.

You should also make sure your computer has Mac OS Runtime for Java version 2.0 or later installed. To do so, check the version of the MRJLib file, which is in the MRJ Libraries folder (in the Extensions folder in the System Folder).

To log in to Remote Server Administration using an administrator user name that contains two-byte characters, such as Japanese, you must have Mac OS Runtime for Java version 2.1.1 or later installed.

- To access Remote Server Administration from a Web browser on a computer with a European or Japanese system installed, make sure you have selected the correct language and default character set encoding in the Web browser. On Mac OS computers, you must also have Mac OS Runtime for Java version 2.1.1 or later installed to log in with an administrator user name that contains special characters.

If you are using Netscape Navigator or Communicator, open the Edit menu and choose Preferences, then open the Navigator category and select Languages. If necessary, click Add to add French, German, or Japanese to the list. Remove other languages from the list. Finally, open the View menu, choose Character Set, then choose Western (ISO-8559-1) as the character set for European languages or Japanese (Shift_JIS) for Japanese.

If you are using Microsoft Internet Explorer, open the Edit menu and choose Preferences, then open the Web Browser category and select Language/Fonts. Open the Language pop-up menu and choose French, German, or Japanese. Then open the "Character set" pop-up menu and choose Western (Latin1) for European languages or Japanese (Shift-JIS) for Japanese.

- If you connect to your server through a proxy using Netscape Communicator, you may experience timeout issues and data may not be updated on the server. If you experience this issue, use a direct connection to the server. If you must use a proxy, talk to your proxy server administrator about enabling HTTP write access to the Mac OS X Server.
- If you are using Microsoft Internet Explorer with Remote Administration, you should set the preferred memory size to at least 12 MB.

Remote Server Administration issues

- To log in to Remote Server Administration, your user account must exist in the NetInfo database on the same server as the Apple file services. All accounts created using Setup Assistant, NetworkManager, and Remote Server Administration are stored in the local NetInfo database.
- You can only use 7-bit characters for administrator and user passwords. These are the standard ASCII characters which include control characters, alphabetic and numeric characters, and standard keyboard characters.
- Due to a limitation in Netscape Java, the Caps Lock key is not recognized to enter uppercase letters in a password. To use uppercase letters in a password, press the Shift key.
- If you are using Netscape Navigator or Netscape Communicator with Remote Administration, do not click Reload. If you do, you will need to log in to Remote Administration again. You may also need to log in again if you resize the browser's window.
- Do not use the browser's Back button to return to a page in Remote Server Administration. If you do, settings you have made in the page may appear to be different.
- The server access log (AppleFileAccess) is not turned on automatically. To turn on access logging in Remote Administration, click File, then click Server Settings, select the Log Server Access checkbox, and click Save.
- For Internet aliases and group names, you can use only lowercase letters, numbers, and the underscore character.
- The Server Administration Help on your Mac OS X Server states that to troubleshoot issues logging into Remote Administration you should open the Process Viewer to confirm that the AdminWebServer and RemoteAdminServer processes are running. Instead of "AdminWebServer," you should see "apache."
- When you create or edit a user account, the user name and Internet alias can be the same.
- The Remote Admin documentation states that the maximum number of groups you can assign to a user account is 42. There is no longer a limit on the number of groups you can assign to a user account.
- In the Users section, you will see the Administrator (root), Unprivileged user (nobody), and macos group. Do not change the names of these

items.

Apple File Services issues

- Do not name the server the same name as any other AppleShare File Sharing or Apple file services server on the same zone of the network. Remote Administration does not warn you if you do. However, users trying to log in to the servers may be unable to log in to the server they want to use. Check the server error log (AppleFileError) for information about this issue.
- You cannot change access privileges for read-only volumes, such as CD-ROM discs. You can share folders on these volumes, but files are read-only for everyone.
- If you define more than a few hundred sharepoints on the server, some sharepoint names will not appear in the client's Chooser.
- Folders created by guest users are owned by "Unprivileged user" (nobody). To reassign privileges for these folders, log in to the server as the Administrator (root).
- If you use Setup Assistant to choose a connection to a NetInfo parent server and then turn off the connection using the Network settings panel, for example, and you have configured DNS manually without specifying any DNS server addresses and TCP/IP to get the host name and default router automatically using Bootp, local host information for your server computer may not be saved in the local NetInfo domain. If NetInfo domain does not contain the local host name, Apple file services will not start and any applications that use the local host name will fail. If this happens, open Setup Assistant and make sure you do not have your network services configured this way.
- If Apple file services does not start when you start up your server computer or when you turn on the service using Remote Administration, check the server error log (AppleFileError) for information about startup errors.
- If your network does not have a router, you need to enter the server's IP address in the Router Address field in the TCP/IP control panel on each AppleShare client computer.

AppleTalk Configuration issues

If AppleTalk isn't configured correctly, it will fail when you start your Mac OS X Server but you will not receive a message about this. If this occurs, AppleShare clients will not be able to locate the server in the Chooser and Macintosh Manager clients will not be able to log in to the server.

Note: Because Apple file services can use TCP, Remote Administration will show that the server is running and NetBoot client computers will be able to start up.

If you experience these issues, be sure AppleTalk is configured correctly using the Setup Assistant and Network Settings control panel.

If you configure more than one port on your server computer to use AppleTalk, each port must be connected to a network with an AppleTalk router. If your server computer is acting as the router, make sure it is configured correctly and does not conflict with other AppleTalk routers on the network.

AppleShare Client software issues

You should always install the latest version of the AppleShare Client software on the computers in your network. The latest version of the AppleShare Client software is version 3.8.6. To get the latest version of the AppleShare Client software, see www.apple.com/support.

There are two issues you should be aware of if your client computers have earlier versions of AppleShare Client software installed:

1. If your client computers have Mac OS 8.5 or later installed and AppleShare Client version 3.8.1 installed, files that users copy to server volumes may be corrupted in some cases.

2. When a user logs in to Apple file services from a computer with AppleShare Client version 3.8.2 installed, the user's password is sent over the network in clear text form. Someone monitoring your network traffic could get a password, such as the Administrator password, thus compromising your network's security.

To prevent both of these issues, install the latest version of the AppleShare Client on all client computers.

- If you want to change the access privileges of an Apple file services volume from a client computer, only enter a user name in the Owner box and a group name in the User/Group box in the Sharing window.

About NetBoot server

The NetBoot server now needs only one disk image. The earlier version of NetBoot server included a System disk image and an Application disk image. NetBoot server now only requires the System disk image. You can install applications in the System disk image or you can continue to use the Application disk image. You can also continue to use NetBoot Desktop Admin to change the size and add items to the Application disk image.

The NetBoot disk image has Mac OS 9 installed. Some newer computers are incompatible with 9.0 and require the NetBoot image to be updated to a later version of the Mac OS.

Important: You may operate any NetBoot-compatible version of the Mac OS software on a NetBoot-capable computer, as long as that computer is licensed to operate that particular version of the Mac OS. This means the version of the Mac OS that was included with your Macintosh or any other version for which you've purchased a license. Mac OS X Server and the NetBoot Server license agreement do not include any Mac OS licenses.

A NetBoot client computer using Mac OS 9 requires 64 MB of memory. If a NetBoot client computer does not have this much memory, increase Virtual Memory to equal or exceed this amount. To increase Virtual Memory, use the Memory control panel.

For more information about the NetBoot server, see the About NetBoot Server Read Me. The Read Me is located on the Mac OS partition of your Mac OS X Server.

About Macintosh Manager 1.2

This release of Mac OS X Server includes Macintosh Manager version 1.2. This version of Macintosh Manager lets you manage client computers installed with Mac OS 8.1 through Mac OS 9, including NetBoot client computers using this release of the software. You must use this version of Macintosh Manager to manage client computers with Mac OS 9 installed. The Macintosh Manager 1.2 client software only works with this version of the server.

Warning: If you upgrade the Macintosh Manager server to the new version, you will not be able to revert the server to an older version.

For more information about this version, see the Macintosh Manager Read Me included with this release.

Support

Apple offers several resources to help you with your Macintosh Server G4 with Mac OS X Server.

Documentation

When you need information or help, first see the manuals and electronic documents that came with your server. You can also view online help by opening the Help menu in the Workspace Manager and choosing Help.

Web Site

AppleCare's online support provides comprehensive support information available from Apple via the Internet. Apple software updates and utilities, technical support, and product information are available on the World Wide Web at http://www.apple.com/support/

Telephone Support

Customers who purchased Macintosh Server G4 with Mac OS X Server are provided free telephone installation support for 90 days from the date of the server's purchase. When calling, be prepared to give the server's serial number, found on the back of the server, to the support representative who will verify your support eligibility. When calling the AppleCare technical support telephone system and hearing phone options, select option 5 for "Any other Apple product" and tell the Call Director that you are calling for technical support for your Macintosh Server G4.

- United States: 800-APL-CARE
- Canada: 800-263-3394 (phone) or + 1 905 513 5803 (phone)

If you are located outside the North America, refer to the support information that came with your Macintosh Server G4 with Mac OS X Server for instructions.
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iMovie 1.0.x: Incorrectly Reports Trash not Empty

This article discusses an issue where iMovie 1.0.x may report the Trash has not been emptied.

This article has been archived and is no longer updated by Apple.

Symptom

The Trash in iMovie shows that it is not empty after deleting some clips and emptying iMovie's Trash.

Solution

On some newer computers, iMovie 1.0.x may report that there are clips in iMovie's Trash, although the clips have actually been deleted. This issue is cosmetic, and does not affect your ability to use the application. iMovie 2.0 and later addresses this issue.

For information about the latest version of iMovie, visit: http://www.apple.com/imovie/ .

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AppleShare IP 6.2/6.3: How to Prevent Saving to the Home Directory Share Point

This article discusses how to configure AppleShare IP 6.2/6.3 to prevent users from saving to the root level of the Home Directory share point.
This article has been archived and is no longer updated by Apple.
AppleShare IP Help says to set the User/Group section to Read/Write access to set up the Home Directories feature. This will work, but users will be able to save in the root Home Directories share point.

To prevent users from being able to save in the root level of this share point, set the User/Group section to Read only access for this folder only. This will allow proper login to the Home Directory without allowing users to be able to write data to the root folder.

Note: You should not copy all enclosing privileges from this share point, as this will reassign permissions to your users' home folders.

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LaserWriter IINTX: Available Fonts In HP LaserJet Emulation Mode

This article has been archived and is no longer updated by Apple.

LaserWriter IINTX's HP LaserJet Plus emulation provides access to the Roman, Bold, Italic, and Bold Italic faces for Courier, Times-Roman, and Helvetica fonts.

These are the only PostScript fonts accessible by the emulation. If other symbols or typefaces are desired, they must be purchased as downloadable fonts for the HP LaserJet Plus.

Font styles and typefaces on the LaserWriter IINTX in HP emulation are controlled with HP LaserJet Printer commands. If you need more direct information on font subsitution, you can obtain an HP LaserJet manual. You can also purchase a utility like Hewlett-Packard's PCLPak Printer Software Utility (which does printer parameter modification). Such a utility will also download fonts to the HP LaserJet, but will not allow the definition of fonts.

Hewlett-Packard does provide many downloadable fonts for the PC. These fonts are provided in 3.5 and 5.25 inch MS-DOS disks, and cover most of the HP cartridge font units available for the HP LaserJet printers.

For more information, search under: Hewlett-Packard, Inc.

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iTunes 1.0.x: Extension Has a Red "X" Through It at System Startup Time

If the SoundJam Extension system extension is enabled, the iTunes Extension may not load at system startup time.
This article has been archived and is no longer updated by Apple.

Symptom

When the computer starts up you see an iTunes Extension icon that has a red "X" through it.

Figure 1 iTunes Extension icon with red "X"

Solution

Use the Extensions Manager control panel to disable the SoundJam Jam Extension (see Figure 2), or remove the SoundJam Extension from the Extensions Folder located within the System Folder.

Figure 2 Extension Manager

Notes

1. iTunes and SoundJam will both function with the SoundJam Extension disabled. Disabling the SoundJam Extension will disable SoundJam's ability to look up CD track information in the Finder, but other features will still function.
2. This issue has been resolved in iTunes 1.1, which is available for download from Apple's Web site at: http://www.apple.com/itunes/

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AppleWorks 6: Saving Web-based Clippings to a Hard Disk

This article discusses an issue with AppleWorks Help and saving Web-based clippings.
This article has been archived and is no longer updated by Apple.

Symptom

AppleWorks Help incorrectly documents how to save Web-based clippings.

Solution

To correctly save Web-based clippings follow these steps:

1. Drag the image into a document.
2. Drag the downloaded image from the document to the desired Clippings panel.

Note: This information was taken from article 25144: "**AppleWorks: Late Breaking News**"

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AppleShare PC: What All The Beeps Signify

This article has been archived and is no longer updated by Apple.

Users of AppleShare PC have asked about the alarm beeps that sound at various times during the printing process.

The beeps that a customer may hear most frequently are those found within the AppleShare DA program environment. These usually signify that the application doesn't understand something -- often an illegal key stroke.

The alarms that sound during a DOS application are a single beep and two trills:

- The single beep represents end of print job, and will occur regardless of whether the print job printed correctly or not.

- The first of the trills is an alert from AppleShare to check the DA for messages that have been received from the server or some AppleTalk application; this trill will repeat until the user executes the DA.

- Another type of trill will occur when the DA application is Hot Keyed, but cannot "pop up". This is because the application is not friendly to resident applications, and a DOS busy flag is set. The flag is then tested by the DA, and a trill is sounded when the flag is set. This tells the user that the DA has acknowledged the hot key, but could not "pop up" at that time.

The executing application keeps the stack and registers in such a way that a "pop up" application could erase necessary information.

Many PC applications trap the keyboard input, which input is also passed to other keyboard handlers as well, such as the Hot Key. If an application does not pass off the keyboard data, no alert will sound, and the DA will just not be available. The AppleShare application will still sound within these applications when an AppleTalk alert is received by the workstation.

AppleShare will also beep and display network timeout or errors when connecting. These most often occur when connecting to a net with many zones. Upgrading ROMS and software and reinstalling software seems to be the answer in most of these cases.

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At Ease: Compatible Mac OS and AppleShare Versions

This article list versions of At Ease that are compatible with various versions of the Mac OS and AppleShare.
This article has been archived and is no longer updated by Apple.
Note: At Ease is no longer under development and is not available for purchase.

Multiple Users and Macintosh Manager have replaced much of the functionality of At Ease (basic) and At Ease for Workgroups respectively. Multiple Users is part of Mac OS 9, and Macintosh Manager is available for AppleShare IP 6.x Servers and Mac OS X Server. Macintosh Manager 1.3 works with Mac OS 7.6.1 through Mac OS 9.x client computers.

For more information on Macintosh Manager, please refer to the following articles:

Article 75333: **Macintosh Manager 1.3: Read Me**

Article 60089: **Mac OS X Server: Macintosh Manager Theory of Operation**

At Ease Compatible Mac OS Releases

At Ease Version	Compatible System Software Versions	Notes	
1.0	-	-	Upgrade to At Ease 1.0.1
1.0.1	System 7.0, 7.0.1, 7.0.1 Pro (with System 7 Tune-Up 1.1.1)	-	At Ease (basic) only
2.0	-	-	Upgrade to At Ease 2.0.3
2.0.1	-	-	Upgrade to At Ease 2.0.3
2.0.3	System 7.0 (with System 7 Tune-Up 1.1.1) through System 7.5	-	At Ease (basic)
2.0.3	System 7.0 (with System 7 Tune-Up 1.1.1) through System 7.5	-	At Ease for Workgroups
2.0.4	-	Japan only	-
3.0	-	-	Upgrade to At Ease 3.0.3
3.0.1	-	-	Upgrade to At Ease 3.0.3
3.0.2	-	-	Upgrade to At Ease 3.0.3
3.0.3	System 7.0 (with System 7 Tune-Up 1.1.1) through Mac OS 8.6	(1)	At Ease (basic)
3.0.3	System 7.0 (with System 7 Tune-Up 1.1.1) through Mac OS 8.1	(2) (3)	At Ease for Workgroups
4.0	-	-	Upgrade to At Ease 4.0.1
4.0.1	System 7.1 through Mac OS 8.1	(2) (3) (4)	At Ease for Workgroups only
5.0	-	-	Upgrade to At Ease 5.0.2
5.0.1	-	-	Upgrade to At Ease 5.0.2
5.0.2	System 7.1 through Mac OS 8.6	(1) (3) (4)	At Ease for Workgroups only

At Ease for Workgroups Compatible AppleShare Server Releases

At Ease for Workgroups Version	AppleShare Server Version (Document Server)	AppleShare Server Version (Authentication Server)	Notes
2.0.3	AppleShare 3.0.1 through AppleShare 4.2.1	-	Document storage only (3)
3.0.3	AppleShare 3.0.1 through AppleShare IP 5.0.3	-	Document storage only (3)
4.0.x	AppleShare 3.0.1 through AppleShare IP 5.0.3	AppleShare 4.0.1 through AppleShare IP 5.0.3	(3) (5) (6)
5.0.x	AppleShare 3.0.1 through AppleShare IP 6.3.x	AppleShare IP 5.0.3 through AppleShare IP 6.2	(3) (6) (7)

Definition of Terms

- An At Ease (basic) workstation is where the user access and privilege information is stored and verified on the local workstation.

- An At Ease for Workgroups User Authentication server is an AppleShare Server that acts as the centralized location where user access and privilege information are stored and verified.
- An At Ease Documents Server is a file sharing server which supports Apple Filing Protocol (AFP). AppleShare Servers are examples of AFP servers. Other server platforms are available that can support AFP file sharing. Please contact your server vender for AFP compatibility information concerning their products.

Table Notes

1. At Ease is not qualified for all computers that came with Mac OS 8.6. Refer to article 60649: "**At Ease 5.0.x: Is Not Qualified With iMac, iBook, Power Mac G4 Models**" for details.

2. At Ease 3.0.3 and 4.0.x do not work with startup disks formatted as Mac OS Extended Volumes (HFS Plus).

3. At Ease for Workgroups clients require an Apple Filing Protocol (AFP) server to store user documents. AppleShare Servers are AFP servers; other server platforms can support AFP file sharing. Please contact your server vender for AFP compatibility information concerning their products.

4. At Ease for Workgroups 4.0.x and 5.0.x require an AppleShare Server to act as a User Authentication server.

5. At Ease for Workgroups 4.0.x clients cannot utilize the AppleShare IP 5.0.x support for AFP 2.2 (AFP over TCP/IP for improved file transfer speeds). Refer to article 45010: "**At Ease 4.0.x: Uses AppleTalk Instead of TCP/IP Connecting to AppleShare IP 5.0**" for details.

6. At Ease for Workgroups 4.0.x and 5.0.x require an At Ease Authentication server. A supported AppleShare At Ease Authentication server is required for these products to function.

7. The At Ease for Workgroups Authentication server software is not supported on AppleShare IP 6.3.x Server. However, an AppleShare IP 6.3.x Server can be used as an At Ease for Workgroups Documents Volume.

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iTunes 1.0.x: Will Not Open When Speakable Items Is On

iTunes 1.0 will not open if Speakable Items is turned on in the Speech control panel.

This article has been archived and is no longer updated by Apple.

Symptom

iTunes 1.0 will not open if Speakable Items is turned on.

Solution

Download and install iTunes 1.1. For more information about iTunes 1.1 and a link to the software, see article 60807 "**About iTunes 1.1 Document and Software**."

You could also turn off Speakable Items before using iTunes 1.0.x by following these steps:

1. Open the Speech control panel.
2. Disable Speakable Items.
3. Open iTunes.

Note: If Speakable Items is turned on when you open iTunes, you should be able to recover by force quitting iTunes, closing any open applications and restarting the computer. To force quit an application, press and hold the Command-Option-Esc keys simultaneously.

Published Date: Feb 18, 2012

ImageWriter LQ: Sheet Feeder Must Be Removed To Use Pin Feeder

This article has been archived and is no longer updated by Apple.

Some users have asked if pin feed paper (computer paper with holes on the edge) can be used in the Imagewriter LQ while the cut sheet feeder is installed.

In fact, you must REMOVE the cut sheet feeder from the ImageWriter LQ before using computer paper.

If you have the cut sheet feeder installed, a sensor in the printer will register this fact. There is another sensor which indicates which type of paper feed is selected.

When the cut sheet feeder is installed, and the paper feed lever is set to tractor feed, conflicting signals will then be sent to the CPU in the printer. One says "don't use the sheet feeder", the other says "use the sheet feeder". The result is an error light.

Also, since the paper guide must move the paper from the sheet feeder into the proper position for the platen rollers to pull it into the platen paper path. Thus, if you use the cut sheet feeder, the paper guide must be in place to allow the printer to place the paper correctly for printing.

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Apple IIGS: Printing To A LaserWriter With ImageWriter Emulation

This article has been archived and is no longer updated by Apple.

Apple IIGS users who want to print to any type of LaserWriter using an application that does not support PostScript (such as AppleWorks) need to follow the following instructions:

Run Chooser II BEFORE using the LaserWriter from your application on an Apple IIGS. Chooser II works much like the Macintosh Chooser desk accessory, except that it is a stand-alone application. When the LaserWriter is selected, Chooser II will check the LaserWriter to verify the presence of the ImageWriter Emulator.

The ImageWriter Emulator (IWEM) is a PostScript file that is downloaded into the LaserWriter. If the IWEM is not present, Chooser II will download the file. If IWEM is present in the LaserWriter, Chooser II will acknowledge and not download.

The ImageWriter Emulator understands all of the standard features of the ImageWriters I and II, including boldface, underline, superscript and subscript in the default font, Proportional-1 font and Proportional-2 font.

The ImageWriter Emulator defaults to Courier at 12 characters-per-inch, unless you have specified Proportional-1 or Proportional-2 in the Open-Apple-O printing options.

With ImageWriter Emulator version 1.1.2, Times Roman will be selected for Proprotional-1 and Times Bold will be selected for Proportional-2. If you use the characters-per-inch option, this will cause Courier to be selected and printed at the CPI you specify.

Published Date: Feb 18, 2012

Apollo To Macintosh II Connectivity

This article has been archived and is no longer updated by Apple.

Some users have asked about exchanging Interleaf documents between a Macintosh II running Interleaf, and an Apollo DN3000 workstation (also running Interleaf).

There are two methods of connecting the Macintosh II to the Apollo:

- A serial connection (either direct or via modem) using Kermit to move the file in either direction.

- Apollo has two network environments, Apollo's Domain and Ethernet. In the Domain environment, Macintosh and Apollo have no way to connect over the network. However, if the Apollo system has the Ethernet option installed, Macintosh and Apollo can move files via NCSA (National Center for Supercomputer Applications) Telnet & FTP.

For more information, search under: "Kermit File Transfer Protocol", and "National Center for Supercomputer Applications"

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Macintosh Manager 1.4: What Is File Level Protection?

Macintosh Manager 1.4 includes a feature called "file level protection" that incorporates the Security Bypass function. This article explains this function, and also explains the "Enable file level security on Mac OS 9 workstations" option in Macintosh Manager Admin.
This article has been archived and is no longer updated by Apple.
To understand the functionality of the "file level security" feature in Macintosh Manager 1.4, an understanding of what the Security Bypass extension is and how it interacts with Macintosh Manager clients is needed.

Please refer to article 75333: **Macintosh Manager 1.3: Read Me** for more information on the Security Bypass extension and its function with Macintosh Manager clients.

Please refer to article 90006: **Macintosh Manager: Third-Party Application Allows Access to Restricted Area** for more information on how Macintosh Manager handles security for Mac OS 7.6.1 through Mac OS 8.6 clients compared to Mac OS 9.x clients.

Mac OS 9 workstations "File Level Security"

Mac OS 9 includes a feature called "File Level Security," which prevents applications from writing to unauthorized locations on accessible volumes. This feature is further described in article 75333: **Macintosh Manager 1.3: Read Me**. This functionality is reduced when the Security Bypass extension is installed on a client, bringing the security more in line with the level of security that Mac OS 7.6.1 through Mac OS 8.6 clients are offered in Macintosh Manager, as described in article 90006: **Macintosh Manager: Third-Party Application Allows Access to Restricted Area**.

Selecting the option to "Enable file level security on Mac OS 9 workstations" has the same effect as running a computer without the Security Bypass extension, resulting in the added security for applications that Mac OS 9.x offers. Deselecting this option is the same as installing the Security Bypass extension on your Mac OS 9 Macintosh Manager workstations except that it is a workgroup specific setting, not computer specific.

The Security Bypass extension may be used in conjunction with the "File Level Security" option of Macintosh Manager Admin. This allows Administrators to disable this added security per computer rather than per workgroup. If the Security Bypass extension is installed, the "Enable file level security" option is ignored on that workstation and file level security is always disabled.

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DVD Studio Pro: UOPs (User Operation Controls) Described

This article describes UOPs (User Operation Controls), and how they relate to DVD Studio Pro.
This article has been archived and is no longer updated by Apple.
User Operation Controls (UOPs) are markers on a disc that DVD authors can insert anywhere to restrict a user's navigation options. Most discs follow standard UOP restrictions. For example, most DVDs do not allow the viewer to fast forward or show a menu while in First Play domain (during the FBI copyright warning on Region 1 discs, for example).

In principle, a DVD author can insert any UOP command at any point on the disc. Then a disc may be authored to disallow fast forwarding in a certain title or to prevent a particular menu from being shown after the user enters the title domain.

In DVD Studio Pro, when you have a track or marker selected (use the Tutorial to see this), the Property Inspector contains a User Operations provision under the General section. Using this provision allows you to set the User Operations value to "Allowed" or "Denied".

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DVD Studio Pro 1.0.1: "DDVID.DAT not found" Error

When exporting your project to DLT in DDP format, the resulting project contains a file called DDVID.DAT. Some replication systems may display an error that says "DDPID.DAT not found."
This article has been archived and is no longer updated by Apple.

Symptom

When reading the DLT tape, some replication systems may display an error that says: "DDPID.DAT not found."

Note: DDP is an earlier standard that some replication facilities may use to replicate DVD-Video discs.

Solution

This behavior is addressed in DVD Studio Pro 1.1. To get more information about DVD Studio Pro and to download the latest update, visit the DVD Studio Pro product page at:

http://www.apple.com/dvdstudiopro/

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Network Assistant 4.0.x: Workstations Stop Responding ("Freeze") While Restarting

Deselecting Voice Verification resolves an issue in which Network Assistant 4 workstations may stop responding ("freeze") when restarted.
This article has been archived and is no longer updated by Apple.

Symptom

A Network Assistant 4 client or clients stops responding when restarted. The monitor's screen image goes blank (dark, or black) as if restarting, but the power light indicates the computer is still on.

Solution

Deselect the Voice Verification option in the Multiple Users control panel of the client computer(s).

Macintosh Manager clients must log out, or a nonmodal dialog box appears, preventing the computer from restarting.
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Disc Burner: Tab and Space Characters Not Valid Filenames

Disc Burner cannot burn discs if files or folders have filenames composed entirely of space or tab characters.
This article has been archived and is no longer updated by Apple.

Symptom

An alert box appears with this message:

> "The burn cannot proceed because the disc contains filenames that could not be converted."

You then have the option to save or discard the image file.

Solution

This issue may occur if there are files or folders with nothing but spaces or tab characters in their filenames. You should remove or rename these files or folders in order to burn the disc.

The most common source of file or folder names consisting only of tabs or spaces are folder picts. Folder picts are a series of folders with custom icons arranged in a way to create a picture in a Finder window. See Figure 1 below for examples of folder picts.

Figure 1 Folder picts

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QuickTime 5: Read Me

This article contains the QuickTime 5 Read Me and software download link.

This article has been archived and is no longer updated by Apple.
QuickTime 5 is Apple's award-winning, industry-standard software architecture for creating, playing and streaming digital media for Mac OS and Windows. QuickTime 5 adds several exciting new capabilities to the QuickTime feature set.

QuickTime 5 can be downloaded from the following Apple Web site: http://www.apple.com/quicktime/

Macintosh System Requirements:

- PowerPC
- Power Macintosh G3
- Power Mac G4
- Mac OS version 7.5.5 or later
- Open Transport version 1.2 or later
- 32 MB of RAM

Windows System Requirements:

- Windows 95
- Windows 98
- Windows Millennium Edition (aka Windows Me)
- Windows NT
- Windows 2000
- Intel Pentium or compatible processor
- 32 MB of RAM
- SoundBlaster or compatible sound card and speakers
- DirectX version 3.0 or later is recommended

QuickTime Pro Users

QuickTime Pro keys purchased prior to October 12, 2000 will not work in QuickTime 5. Visit the Apple Store <www.store.apple.com> to purchase a QuickTime 5 key.

Sorenson Broadcast Users

Sorenson Broadcaster versions 1.1 and earlier will not work with QuickTime 5. Computers running Sorenson Broadcaster should not be upgraded to QuickTime 5. Check the Sorenson website <www.sorenson.com> for up-to-date information regarding this issue.

New in QuickTime 5

A true all-in-one cross-platform media tool, QuickTime 5 delivers a host of new features that include:

- An enhanced QuickTime Player interface
- Media Skins, customized interfaces for media
- Macromedia Flash 4
- DLS-compatible Music Synthesizer
- MPEG-1 Streaming
- Hot Picks, bringing you the best in QuickTime content
- 360-degree immersive environments with Cubic VR
- Seamless updates to QuickTime with automatic software updates
- Enhanced AppleScript support (Macintosh Only)

This is just a brief sampling of the new capabilities of QuickTime 5. For more details on these and the rest of the QuickTime 5 capabilities, please visit the QuickTime web site at http://www.apple.com/quicktime/. The QuickTime web site also provides many links to cool QuickTime content and to other Internet sites that showcase QuickTime.

About Roland's Sound Set for General MIDI and GS Format

This release of QuickTime includes an instrument sound set licensed from Roland Corporation that makes a complete General MIDI compatible

sound set. It also includes additional sounds necessary to make a complete GS Format compatible sound set.

What is the GS Format?

The GS Format is a standardized set of specifications for sound sources that defines the manner in which multitimbral sound generating devices will respond to the MIDI messages. The GS Format complies with the General MIDI System Level - 1. The GS Format also defines a number of other details over and above the features of General MIDI. These include unique specifications for sound and functions available for tone editing, effects, and other specifications concerning the manner in which sound sources will respond to MIDI messages. Any device that is equipped with GS Format sound sources can faithfully reproduce both General MIDI sound recordings and GS Format MIDI sound recordings.

How to contact Roland:
Roland Corporation
4-16, Dojimahama 1-chome,
Kita-ku, Osaka 530-0004, Japan

For more information about Roland and its line of products, visit their Web site at http://www.rolandcorp.com/.

Limitations

Roland reserves all rights to the Sound Set not expressly granted by Roland Corporation U.S. or by Apple under the terms of Apple's Software Distribution Agreement.

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Final Cut Pro 2: Capture Now With Aurora Igniter

This article discusses behavior of the "Limit Capture Now" feature in Final Cut Pro when used with the Aurora Igniter card.
This article has been archived and is no longer updated by Apple.

Symptom

When performing a "Capture Now" capture with the Aurora Igniter card using the compressed codec, the actual capture time may exceed the limit specified in the Preferences->Scratch Disks panel.

Note: Even in optimal conditions the Capture Now limit is approximated and may vary from actual capture time.

Solution

For best results, set the desired data rate in the Audio Video Settings->Sequence Presets panel.

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Final Cut Pro 2: Nested Graphic With Reverse Alpha Channel

This article discusses an anomaly that can occur when updating a Final Cut Pro 1.2.5 project to Final Cut Pro 2.0 if the project includes a nested graphic that uses a reverse alpha channel and a drop shadow.
This article has been archived and is no longer updated by Apple.

Symptom

Updated sequences with graphics that use a reverse alpha channel and a drop shadow may look different in Final Cut Pro 2.0 than they looked in Final Cut Pro 1.2.5 before updating.

Solution

Deselect the Reverse Alpha column in the Browser window or recreate the sequence in Final Cut Pro 2.0.

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DVD Studio Pro 1.0.1: Previewing Slide Shows With Infinite Pauses

If you have a slide show that jumps to another track when finished, and there is an infinite pause on the last slide, you must use Apple DVD Player to preview the activity after the last slide.
This article has been archived and is no longer updated by Apple.

Symptom

If you have a slide show that jumps to another track when finished, and there is an infinite pause on the last slide, users would normally press the play button on a DVD remote control to jump to the next track. There is no equivalent play button in the Preview Mode of DVD Studio Pro 1.0.1.

Solution

1. Build your project.
2. Preview the VIDEO_TS folder using Apple DVD Player.
3. Click Play to continue through the slide show and jump to the linked track.

Published Date: Feb 18, 2012

Apple Scanner: How Its Internal Circuitry Works

This article discusses the operation of the Apple Scanner.
This article has been archived and is no longer updated by Apple.

Scanner circuitry

A scan is initiated when the microprocessor, inside the Apple Scanner, signals the carrier arm assembly electronics. At this point, the carrier arm, containing both the fluorescent lamp and CCD sensors, begins the scan. The scan proceeds line-by-line until the entire document is scanned. The reflected light from the scan is detected by the CCD sensors which are arranged in three rows of 2592 individual sensors. Each sensor in the first row holds one picture element (PEL), or pixel, of a scan line. The elements in rows 2 and 3 are used as data buffers prior to being sent to the image processing logic.

As the carrier arm assembly passes under the original document, the first row of CCD sensors capture the image reflection from the fluorescent light. The sensors produce analog signals that represent the original as tiny dots, or pixels, that make up a bit image. To manipulate and correct the various image distortions that can result form interference, the analog signal outputs from the CCD sensors are sent to the image-processing logic for conversion to digital signals.

The converted digital signals are sent either directly from the image-processing logic to the scanner main memory for transmission to the host computer; or, if the resolution is less the 300 dpi, the signals are sent through the line memory, PEL correction memory for transmission to the host. Data transfer from main memory to the host computer is done under control of the DMAC through the SCSI cable.

Image-sensing circuitry

The components of the image-sensing logic include the CCD sensors and the analog circuitry which together are responsible for sensing, filtering, and amplifying the bit image of the scanned original. As the original is scanned, the CCD circuitry senses the image reflected by the fluorescent light. The three CCD sensors are used to support one line of pixels. The second and third rows of sensors are primarily used to buffer the image data. The reflected light from each pixel charges the front-row of CCD sensors. The charged front row of sensors then shifts their contents to the second row of sensors which in turn shifts their contents to the third row of sensors. The third row of sensors are then serially shifts out, one element at a time, for clean-up and amplification. The signals from the amplifier, are then sent through a low pass filter and attenuator to the image processor where the signals are distortion corrected and converted from analog-to-digital.

Flow of the CCD-sensing process

Also included in the image-sensing logic is the black-level reference voltage and auto background-adjustment circuitry. The black-level reference voltage determines the threshold value for the black level of the pixels; that is, will be represented as a black dot or white dot in the overall image. This part of the circuitry is driven by the seven signals (VBLO-6), from the microprocessor. The auto background-adjustment circuitry receives digitized signals from the image-processing logic to integrate the amplified CCD outputs as the background level. The integrated signals serve as the background level of the original and change dynamically during the scan.

Image-processing logic

After the image has been scanned, the analog signals from the CCD elements are sent through the image-processing logic. The image-processing logic is responsible for processing the scanned image and contains the major portion of the scanner logic. The major components of the image processing logic are:

- DIPP (document-image pre-processor)
- Gate array 1
- Line memory and PEL correction memory
- Gate array 2

Most of the actual processing is done by the DIPP. The gate arrays, line memory, and PEL correction memory are support logic for the DIPP functions.

The DIPP is an image-signal processor which takes the analog image data from the CCD elements and corrects any distortion of the data, digitizes the corrected data, and transfers the digital data to main memory. These steps are accomplished with the support of the gate arrays.

In Line Art and Halftone composition scans, the DIPP passes the digitized signals to line memory for horizontal-resolution conversion for the selected resolution level.

The output from the DIPP differs depending upon the composition of the scan. When the scanner uses Line Art or Halftone composition, the output from the DIPP is 1 bit for every pixel. However, when the scanner uses Grayscale composition, the output is 4 bits per pixel. The additional bits enable the scanner software to create a more accurate representation of the individual dots within the image. On the Macintosh II, the 4 bits drive the grayscale monitor or the color monitor.

The DIPP uses gate array 1 to support reduction options by controlling the line memory. When an image requires reduction, it is sent to the line memory for buffering prior to being sent to main memory. Gate array 1 also provides these additional functions:

- Address generation

- Memory control
- Bus interface
- Grayscale horizontal-resolution conversion
- CCD control

The PEL correction memory and line memory (2-Kbytes RAM) are used to buffer data from the DIPP before transfer to main memory.

Gate array 2 is used to support these functions of the DIPP:

- DMAC (two channel)
- Bus arbitration
- interrupt control
- Carrier arm-motor control
- Address latch
- Chip-select control

The microprocessor logic controls the functions of the gate arrays, DMAC, and carrier arm-motor control. The scanner uses an 8-bit NEC (7809) microprocessor. This processor runs at a 12-MHz clock rate and is supported by 256 bytes of RAM, an input/output port, a timer, and interrupt circuitry.

The clock-generation circuitry provides all the necessary timing pulses for the circuits in the scanner. The scanner has 2 separate clocks, a 12-MHz which is used by the microprocessor, and an 8-MHz clock used by gate array 2. Also, the 8-MHz clock is divided by 2 to provide a 4-MHz clocking for the DIPP, gate array 1, and the DMAC.

Main memory of the scanner contains two 16-Kbyte banks of RAM and 32-Kbytes of ROM. The ROM firmware is used to control the scanner, while the two banks of RAM are used to buffer the image data and provide the microprocessor with working space for parameter information.

The DMAC IC is used to improve the scanners performance by off-loading the burden of data transfer from the microprocessor. This process results in faster data transfer between the scanner and the host system.
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Mac OS X Server 10.0.3: Installing on Mac OS Extended and UFS Format Volumes

This article discusses installing Mac OS X Server 10.0.3 on Mac OS Extended (HFS Plus) and UFS (UNIX File System) format hard disk volumes.

This article has been archived and is no longer updated by Apple.

When installing Mac OS X Server 10.0.3, it must be installed on a Mac OS Extended (HFS Plus) formatted volume and not a UFS formatted volume. If you install on an UFS formatted volume, you will not be able to use the Server Admin, and other services may behave unexpectedly.

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Power Macintosh G3 and G4: Maximum Power Interruption Time

This article lists the maximum power interruption time for the Power Macintosh Desktop line. This information is helpful when selecting an uninteruptable power supply (UPS).
This article has been archived and is no longer updated by Apple.
The maximum allowable power interruption time (Line Dropout Immunity) for the products listed below is 20 milliseconds.

- Power Macintosh G3 (Blue and White)
- Power Mac G4 (PCI Graphics)
- Power Mac G4 (AGP Graphics)
- Power Mac G4 (Gigabit Ethernet)
- Power Mac G4 (Digital Audio)
- Power Mac G4 Cube

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Scanner Glossary: A Definition Of Terms And Graphic Formats

This article contains a list of scanner terms and graphics formats.
This article has been archived and is no longer updated by Apple.

Brightness:
Refers to the overall whiteness of the scanned image.

Charge-Coupled Device (CCD):
Is used to sense the reflected light as an image is scanned. It consists of three layers of elements, collecting each line of image data as an array. The first layer converts the reflected light into an analog signal while the second and third layers act as buffers.

Compositions:
Is the methods of recording or interpreting scanned data. There are three common compositions: Line Art, Halftone, Gray-scale.

Contrast:

Refers to the range between black and white; a low contrast would emphasize shades of grays where as high contrast would emphasize blacks and whites.

EPSF, Encapsulated PostScript File Format:
EPSF is the format used for importing PostScript files between many environments. This format was designed and implemented by Adobe. Basically an EPSF file follows the same standards as a PostScript file. Following is a brief summary of the exceptions: The EPSF file begins with a header of structuring comments which include: required comments (version, bounding box), general information comments (creator, title, date, end), font management comments (list of fonts in document, needed fonts) file inclusion comments (for including a separate file). A QuickDraw representation of the PostScript file may be saved in the resource fork in PICT format for screen display on a Macintosh. Or use MetaFile or TIFF for screen display in an MS-DOS environment. If a screen representation is not included, a gray box will be displayed matching the size defined by the bounding box in the header. These screen images can be manipulated within the application into which they have been imported. The application will be responsible for tracking the changes to the image and relaying this information in Postscript prior to the EPSF file.

Flatbed scanner:
Is an imaging device where the document to be scanned remains stationary while the optical sensing assembly moves down the document one scan-line at a time much like a photocopier. This method allows for a more accurate scan and permits scanning of books or other thick materials.

Graymap:
Is the relationship between the number of gray levels used in scanning and the densities detected in the original. The number of gray levels can be linear so that there is an equal number of light shades and dark shades or curved so that more variations would be detected within the darker tones.

Grayscale:
Composition which records 4 to 8 bits of information for each dot, permitting 16 to 256 shades of gray. Grayscale requires large amounts of memory for data storage. Primarily used for scanning pictures which will be displayed on equipment that supports gray scales. Images created in gray scales are best stored either on large hard disks or CD/ROM.

Halftone Pattern/Dither:
Is a matrix of threshold values that determine the patterns of black and white dots used to represent different shades of gray. The threshold levels contained in the matrix are applied to corresponding groups of scanned data. Primarily used for scanning pictures which will be displayed on equipment that does not support gray scales.

Halftone:
Is the composition method of using combinations of black and white dots which form patterns to represent gray shades. Primarily used for scanning pictures which will be reprinted.

Image processing algorithms:
Are used to manipulate the scanned data. An example would be inversing the scanned image.

Line Art:
Is bi-level scanning which records only black and white data. This composition is used primarily for scanning text or line drawings containing no gray shades. Primarily used for scanning text.

Optical Character Recognition (OCR):
Is software that enables a digitizing device or bit mapped image to be translate into editable text.

PICT:
Apple's QuickDraw Picture definition. The PICT file is a data fork file with a header, followed by a picture data structure. This data fork file

contains a QuickDraw data structure within which a graphic application places drawing primitives, data structures that specify the geometry of basic graphical shapes, to represent an object or image graphic data. The pictures consist of opcodes followed by picture data. (Opcodes are predefined numbers which the QuickDraw function DrawPicture uses to determine what object to draw or what mode to change.) PICT2 opcodes are 2 bytes in length. PICT2 opcodes support color QuickDraw. A picComment opcode provides a means for passing data and commands, that are not supported by QuickDraw, directly to an output device.

PTNG:
MacPaint Document Format. MacPaint documents use only the data fork. It contains a 512 byte header consisting of the version number and patterns, followed by the compressed data representing a single bit map of 576 x 720 pixels. The PackBits procedure in the Macintosh ROM is used to compress the data into 720 scanlines. This condenses a typical MacPaint document to 10K bytes that would occupy 52K of disk.

Reflective Density:
Is the measure of reflected light of each element. Black reflects less light than white, gray shades reflect varying measures between those of black and white.

Resolution:
Is expressed in dots per inch. Most scanning devices available for the Macintosh are capable of reading images at resolutions of 75 dpi to 300 dpi. The selected scan resolution value should match the capability of the output device. For example, if the image will only be displayed on a Macintosh screen 75 dpi would be an acceptable resolution but if the output will be to a LaserWriter you would want to select 300 dpi as the resolution of the scanned image.

Scanning Digitizer:
Consists of precision optical devices sensing light and dark areas of printed material by measuring reflected light.

Sheet-feed Scanner:
Is an imaging device where the optical sensing assembly remains stationary as the document is mechanically fed through the device.

Threshold:
Setting which determines the level or scanned density at which a gray shade is recorded as black or white.

TIFF:
Tag Image File Format. TIFF was designed through the combined efforts of Aldus and Microsoft for the interchange of digital image data independent of specific operating systems, file systems or processors. It has been designed for flexibility and ease of expanding to incorporate future advances in image processing (for example, color lookup tables). The TIFF file consists of a short header (specifying byte order, version number, offset to the Image File Directory), the Image File Directory (number of fields, field entries, next IFD offset), and the data. The field entry bytes contain the Tag, field type, length, offset to field value. A collection of fields describe the image.

Video Digitizer:
Converts video signals into digital data. Because it is accepting video input you are able to digitize three dimensional and two dimensional objects.
Published Date: Feb 18, 2012

Final Cut Pro 2.0-FU: Incorrect Frames Per Second (fps) Presets Specified for DV PAL

The Audio/Video settings display 29.97 fps (frames per second) instead of 25 fps when you select DV/PAL as the setting in Final Cut Pro 2.0-FU (French).
This article has been archived and is no longer updated by Apple.

Symptom

The Audio/Video settings display 29.97 fps (frames per second) instead of 25 fps when you select DV/PAL.

Solution

1. Create a new custom preset.
2. Set the fps to 25 instead of 29.97.

Published Date: Feb 18, 2012

Final Cut Pro 2.0: Incorrect Presets for Matrox RT 2000 Mac Card in French, German and Japanese

Some capture presets are incorrectly set when the Matrox RT 2000 card is used with the French, German, and Japanese versions of Final Cut Pro 2.0.
This article has been archived and is no longer updated by Apple.

Symptom

The following capture presets are incorrectly set in these versions of Final Cut Pro 2.0:

French

- NTSC Composite is set to 25 fps instead of 29.97 fps
- NTSC Composite is set to 44 KHz Audio instead of 48 KHz
- NTSC S-video is set to 25 fps instead of 29.97 fps
- PAL Composite is set to S-video instead of Composite

German

- PAL Composite is set to 29.97 fps instead of 25 fps
- PAL S-video is set to 29.97 fps instead of 25 fps

Japanese

- PAL Composite is set to 29.97 fps instead of 25 fps
- PAL S-video is set to 29.97 fps instead of 25 fps

Solution

1. Open Final Cut 2.0.
2. Choose Audio/Video Settings from the Edit menu.
3. Click the Capture Presets tab.
4. Edit the appropriate settings.

Published Date: Feb 18, 2012

Macintosh Manager 2.0: Mac OS 8 Clients Do Not Copy Administrator-Defined Preferences

Mac OS 8 computers with Macintosh Manager 2.0 client software do not download administrator-defined preferences. Log-on and log-off times may increase because of this.
This article has been archived and is no longer updated by Apple.

Symptom

Client computers download all the preference files in a user's home. When the user logs off, the computer uploads all the user's preferences to his home on the server. Because the user's preferences are copied back and forth, log-on and log-off times increase as the number and size of preference files increase.

Solution

Delete any unnecessary preferences, like browser cache files. This reduces the time needed to copy the preferences.

For more information on how preference files are handled with Mac OS 8 and Mac OS 9 Macintosh Manager clients, see the "Additional Information" section of document 31257: "**Macintosh Manager: How to Set up Netscape Preferences**."

A future update of Macintosh Manager may resolve this issue.
Published Date: Feb 18, 2012

Mac OS X Server 10.0: NetBoot 2 Installer Should Be Run by root

When installing NetBoot 2, with Mac OS X Server 10.0, the NetBoot 2 installer will not run successfully unless the user is logged in as root.
This article has been archived and is no longer updated by Apple.

Symptom

If the NetBoot 2 installer is run by a user other than root, an alert box appears with a message that indicates the installation was not successful.

Solution

Mac OS X Server 10.0: To install NetBoot 2.0, log in as root and then run the Installer.

Mac OS X Server 10.1 and NetBoot 2.0.2 resolve this issue.
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A/UX: How To Get An AT&T Right to Copy Licenses and Updates

Article Change History

08/31/92 - REVIEWED
* For technical accuracy

How To Get An AT&T Right to Copy (RTC) Licenses and Updates

This article has been archived and is no longer updated by Apple.
Apple sells a subscription with an RTC for a given number of users and an update subscription for the same number. You receive only one software package, regardless of the number of copies you are licensed to create. You mount this copy on your server, so workstations can use it. Similarly, you receive one update software package and mount it for your users.

For example, if you buy an RTC for 10 users, you also need to buy a software update for 10 users. It doesn't matter if fewer than 10 users are active. You can take advantage of your remaining count when you add new users.

This structure is necessary, because Apple must track A/UX copies for AT&T's royalty reports.

Published Date: Feb 18, 2012

Apple Color Plotter: Business BASIC Chart Maker III (1 of 5)

This article has been archived and is no longer updated by Apple.

Following is the Business BASIC source code for an Apple Color Plotter demonstration program named "Chart Maker III". Chart Maker III allows you to creates charts and signs that may be plotted. To get started: just startup your system off your Business BASIC diskette, EXEC this file, then save this program to disk. The sample file created by Chart Maker named "C.DESCRIPTION" should be saved as a text file.

```
10 ON ERR GOTO 91
20 DIM txt$(10),center$(10),dent(10),size(10),bold$(10):
  DIM color(10),sl$(10)
30 GOSUB 7300
35 plr$=".RS232"
40 UCA=128:LCA=UCA+32:APPLE$=CHR$(127)
50 GOTO 1000
51 P1=E1*PI/180:P2=E2*PI/180:FOR phi=(p1-dphi) TO p2 STEP
dphi:GOSUB 55:xp=x:yp=y:GOSUB 51111:NEXT
52 IF i<>gr2 THEN PERFORM moveto(%x0,%y0):
  PERFORM lineto(%x,%y)
53 RETURN
55 xp=INT(x0)+((rad*COS(phi))):
  yp=INT(y0)+((rad*SIN(phi))):RETURN
56 XP=INT((XLEFT+(XINCREMENT/2))):
  PERFORM dotat(%xp,%yp):
  KOL=1:FOR K=GC1+1 TO GC2:KOL=KOL+1:
  XP=INT((KOL*XINCREMENT)+(XLEFT-(XINCREMENT/2))):
  PERFORM dotat(%xp,%yp):NEXT:RETURN
58 PERFORM moveto(%xp,%yp):RETURN
59 PERFORM lineto(%xp,%yp):RETURN
65 COLOR15,0:IF CMO%=0 THEN COLOR4,0
66 RETURN
69 GOSUB 65:M$=BOT$:PV=23:GOSUB 350:RETURN
70 WINDOW 2,2 TO 79,13:GOSUB 90:RETURN
71 WINDOW 2,15 TO 79,15:GOSUB 90:pv=15:RETURN
72 WINDOW 2,17 TO 79,23:GOSUB 90:M$=BOT$:pv=23:GOSUB 350:RETURN
73 WINDOW 2,17 TO 79,23:GOSUB 90:RETURN
75 PV=18:GOSUB 80:GOSUB 350:RETURN
76 PV=21:GOSUB 80:GOSUB 350:RETURN
77 WINDOW 2,18 TO 79,23:GOSUB 90:RETURN
80 WINDOW 2,PV TO 79,PV:GOSUB 90:RETURN
81 WINDOW PH,PV TO 79,PV:GOSUB 90:RETURN
82 WINDOW PH,PV TO 79,PV:GOSUB 90:RETURN
83 WINDOW 2,22 TO 79,22:GOSUB 90:RETURN
84 WINDOW 2,21 TO 79,23:GOSUB 90:RETURN
85 WINDOW 2,23 TO 79,23:GOSUB 90:RETURN
86 WINDOW 2,19 TO 79,23:GOSUB 90:RETURN
87 WINDOW 2,23 TO 79,2:GOSUB 90:RETURN
88 GOSUB 85:RETURN
89 Z=1:GOSUB 86:GOSUB 84:RETURN
90 HOME:WINDOW 1,1 TO 80,24:RETURN
91 REM
97 TEXT:HOME:
  PRINT"Apple Business BASIC -- Type 'RUN HELLO' to Restart":
  PRINT"or, 'GOTO 50' to Restart with Last Chart.":END
98 PRINT ERR, ERRLIN:END
99 VPOS=PV:HPOS=PH:RETURN
101 b$=""
102 phh=ph:i=1:a$="":GOSUB 190
103 HPOS=phh+i-1:PRINT CHR$(5);:GET a$:PRINT CHR$(6);:
   chra=ASC(a$)
104 IF chra=8 AND i>1 THEN i=i-1:GOTO 103
105 IF chra=21 AND i<=LEN(b$) THEN i=i+1:GOTO 103
```

```
106 IF chra=127 OR chra=136 OR chra=92
   THEN IF i>1 THEN b$=MID$(b$,1,i-2)+MID$(b$,i):
   GOSUB 190:i=i-1:GOTO 103:ELSE GOTO 103
107 IF(chra=201 OR chra=233) AND LEN(b$)<=sl
   THEN b$=MID$(b$,1,i-1)+" "+MID$(b$,i):
   GOSUB 190:GOTO 103
108 IF chra=13 THEN RETURN
109 IF chra=27 THEN RETURN
110 IF chra<32 OR chra>127 THEN PRINT CHR$(7);:GOTO 103
112 b$=MID$(b$,1,i-1)+a$+MID$(b$,i+1):IF i<sl THEN i=i+1
113 PRINT a$;
115 GOTO 103
190 ph=phh:GOSUB 99:
191 PRINT b$;
195 FOR j=LEN(b$)+1 TO sl:PRINT".";:NEXT
199 RETURN
201 X9=0:X8=0:H9=0:GOSUB 101:IF A$=CHR$(27) THEN RETURN:
   ELSE:IF B$="" THEN B$=CONV$(ll):PRINT b$;
202 N$=Z$+B$:FOR H=1 TO LEN(N$)
203 IF LEN(N$)=0 THEN X9=1:RETURN
204 IF ASC(MID$(N$,H,1))=46 THEN H9=H9+1:GOTO 212
205 IF ASC(MID$(N$,H,1))=45 THEN H8=H:GOTO 209
206 IF ASC(MID$(N$,H,1))<48 THEN X9=1:RETURN
207 IF ASC(MID$(N$,H,1))>57 THEN X9=1:RETURN
208 GOTO 212
209 IF H8=1 THEN 212
210 X9=1:RETURN
212 NEXT
213 X8=VAL(N$)
214 IF X8>UL THEN X9=1:RETURN
215 IF X8<LL THEN X9=1:RETURN
216 X9=2:RETURN
345 GOSUB 99:PRINT"";:RETURN
350 PH=INT(40-(LEN(M$)/2)):GOSUB 99:PRINT M$;:RETURN:
   REM print centered line
351 GOSUB 82:RETURN:REM clear a line
352 GOSUB 99:PRINT M$;:RETURN
353 PH=INT(40-(LEN(M$)/2)):GOSUB 99:PRINT M$;:RETURN:
   REM print centered linehigh
354 PV=15:PH=3:GOSUB 345:PH=5:GOSUB 99:PRINT M$;:RETURN:REM cmd
355 HOLD=PH:PH=2:GOSUB 345:PH=HOLD:RETURN
356 PH=HOLD:PV=16:GOSUB 99:PRINT"?";:RETURN
357 PV=15:PH=INT(40-(LEN(M$)/2)):GOSUB 99:
   PRINT M$;:NORMAL:RETURN:REM print centered line
358 PV=15:PH=2:GOSUB 99:PRINT" ";:RETURN
359 PV=15:PH=3:GOSUB 345:RETURN
```

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UNIX: KIP and CAP Information

This article discusses KIP and CAP software.
This article has been archived and is no longer updated by Apple.
KIP is the IP-ETHER/APPLETALK gateway software used with the Kinetics KFPS. Developed by Bill Croft at SUMEX, Stanford University, KIP is public domain.

The Columbia AppleTalk Package (CAP) for UNIX was written by Bill Schilit and Charlie C. Kim of Columbia University. A library of routines enables a UNIX host to communicate using the AppleTalk Transaction Protocol (ATP), AppleTalk Session Protocol (ASP), Printer Access Protocol (PAP), Name Binding Protocol (NBP), and the AppleTalk Filing Protocol (AFP--client side). It, too, is public-domain software

The first major applications written using these libraries is the AppleTalk Filing Protocol UNIX File Server (AUFS), which is the server part of AFP. AUFS requires that AppleShare workstation software be installed on the client Macintosh. CAP includes applications that can be used to print to a LaserWriter, spool for a LaserWriter, and act as UNIX-based, AppleShare-compatible file server.

The CAP libraries currently require use of the UDP protocol from the DARPA TCP/IP suite of protocols and other features generally provided only in Unix systems based on 4.2 BSD Unix.

If you have Internet access, you can "ftp" the following KIP files from the <info-mac> directory on sumex-aim.stanford.edu machine. Use login name "anonymous" with FTP.

- at-kip.shar gateway and daemon source
- at-gw.srec latest gateway 'binary' in S-record hex format
- at-ddt.shar source for the network debugger.

The following information is from CAP distribution:

The CAP distribution is via anonymous FTP from cunixc.columbia.edu [128.59.32.130]. The directory is cap and the files in that directory are:

- INFO is an information file
- README contains release notes
- MODIFICATIONS is a list of modifications from distribution 4 to 5
- cap.tar.Z is the distribution in tar format "compress"ed using "compress"
- shar/cap50.1shar is the first half of cap dist - shell archive
- shar/cap50.2shar is the second half of cap dist - shell archive

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A/UX: Imported AT&T 3B1 Code Won‘t Work Unless It‘s Re-Compiled

Article Change History

08/31/92 - REVIEWED
* For technical accuracy

This article discusses issues that have arisen when customers try to port code from an AT&T 3B1 to A/UX.

This article has been archived and is no longer updated by Apple.
The customers have a large application already running under many UNIX platforms. The source to be ported is System V running on an AT&T 3B1. They have compiled very large object libraries which they would also like to port as object code rather than re-compile. The processor in the 3B1 is a 68010 and the customers were under the impression that object code for the 68010 would run under the 68020.

They tried compiling some of their own code and linking to an object library transferred from the 3B1, but the attempt failed. The attempt to transfer some standard C object code without non-standard library calls also failed. When they compiled the same C source code under A/UX, they noticed that the size of the object code was much larger under A/UX.

The following discusses the issues involved:

In theory, one could have 68010 object codes run under 68020, because 68020 machine instructions set is a super set of 68010. But with different architectures and/or operating systems (like the AT&T 3B1 and Macintosh II A/UX), you can't move object code to another CPU even though both are running System V (The current release A/UX is based on System V Release 2). Some factors that might affect the upward compatibility between 3B1's Sys V and A/UX are:

- The data structure of systems calls might be different.
- The method of subroutine parameters parsing might be different.
- The stack addressing manipulation might be different.
- The internal registers usage might be different.
- The specific hard memory management unit (PMMU in Macintosh II A/UX might have a different approach to memory management.

The reason that the same C source code compiled under A/UX resulted in larger object code (assuming it is absolute executable code) than that which the 3B1 produced is that the 3B1 System V might run with shared library and A/UX does not have shared library. (A/UX 3.0 has shared libraries)

A/UX supports 4.2BSD-style signals and 4.2BSD-style networking system calls. It also supports the STREAMS feature which is normally available only with System V.3. Therefore, the library routines will not be identical with other System V software.

These are the reasons why directly porting 3B1 68010 object code to A/UX does not work without under A/UX without re-compiling.

Published Date: Feb 18, 2012

Macintosh: How To Change Font Names

I've had problems changing the names of fonts. For example, the system shows both font names. This brings up questions concerning where font names are saved and what steps I should follow to change font names.
This article has been archived and is no longer updated by Apple.
To rename a font properly, you must change the font's name in three places: the FOND, FONT, and sfnt resources. To change a font name, follow these steps:

WARNING:
The instructions in this article refer to using ResEdit to alter your system software. Apple Computer, Inc., is not liable for any damage done to your software through the use of ResEdit to alter the software. The User Assistance Center phone representatives (at 800-SOS-APPL) do not provide technical support for ResEdit. It is supported by APDA. For contact information on APDA, search the Tech Info Library under "APDA".

1. Use ResEdit to open the System file or file that contains the font to be renamed.
2. Find and open the FOND resource.
3. Find the font name to be changed, and click it once.
4. Go to the Resource menu, and select Get Info.
5. Type the new font name in the Name field.
6. Close the Get Info and FOND windows.
7. Hold down the Option key and open the FONT resource.
8. Click the font name to be changed.
9. Go to the Resource menu and select Get Info.
10. Type the new font name in the Name field.
11. Close the Get Info and FONT windows.
12. Quit ResEdit and ensure that the changes are saved when prompted.

NOTE: If you change the name of a font on one Macintosh and then move a document containing the font to another Macintosh that does not have the font name changed, you may have to reset the font manually.

FONT and NFNT resources are essentially the same, the main difference being that the FONT resource only allows 256 IDs while the NFNT resource allows 32768 font IDs. The sfnt resource is used for TrueType fonts and is documented in The TrueType Font Format Specification, APDA catalog number M0825LL/A. Also see the Macintosh Technical Note, "Font Family Numbers" and "Inside Macintosh."

A clean install of 7.0.1* gives no FONT resources. Apple recommends that developers use the NFNT resource, but the Font Manager uses either FONT or NFNT resources. A 7.0 system could still have FONT resources if the install was done over an existing system, or if older fonts are installed using the Font/DA Mover. Dragging a font suitcase onto the System Folder doesn't appear to create a FONT resource. There are no names in the NFNT resource, therefore those resources do not have to be modified to change a font name.

Notes:

* Apple officially recommends that applications make all references to font families by name rather than ID number, however some applications may still refer to fonts by ID number. The difference between reference by name and ID may be a problem in Windows also.

* The sfnt resource contains a table with additional font name information that isn't in wide use currently, but may become used in the future. This could create problems when trying to rename fonts. This leads to this final disclaimer: Apple does not recommend that you rename fonts; you do so at your own risk.
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MacWorkStation/MacAPPC Won‘t Work with an IBM Application System

This article has been archived and is no longer updated by Apple.

A customer is running IBM's Application System on an IBM 9370 and wants to redistribute some of the processing to the Macintosh. Can MacAPPC and/or MacWorkStation work with IBM's Application System?

Not yet.

Currently, the IBM Application System is a 3270-based, decision-support tool, running under the MVS and VM operating systems. It is IBM's high-level decision-support software product for business planning, statistical analysis, and project management. It has extensions that allow direct access via DB2 and SQL databases and other IBM products, like Query Management Facility (QMF) and Data Extract (DXT). It currently does not take advantage of intelligent desktop devices.

IBM says that, "The direction of future development of the Application System product line is to provide support consistent with the need to use workstations that may have local intelligence." This translates to, "It doesn't do it now, but it will someday."

As IBM's stated communications direction is SAA, many believe this product will eventually support LU6.2, IBM's flagship peer-to-peer protocol. Likewise, there is a strong possibility that it will support 3270 API implementations. Our information is that Application System supports neither of these implementations at the present time.

The Apple LU6.2 product has proven its interoperability with IBM LU6.2 via IBM's interoperability testing facility in Raleigh, N.C. Therefore, MacAPPC should work with this product when it supports LU6.2 protocol suites.

Presently, MacWorkStation, too, would be difficult to implement in this environment.

Published Date: Feb 18, 2012

A/UX: How To Mount a Remote Toolbox Over NFS (9/94)

Some users have reported an NFS/ToolBox Problem.

In one instance, the systems have 40MB hard drives with only 20MB used by A/UX. To achieve this, users divided the total space required by A/UX between local disk storage and remotely mounted NFS disk storage across NFS on a VAX and a Sequent.

With this kind of mounting, however, Toolbox applications would no longer run. Most just crashed; however, "rez" produced the following error message while making %sample in "/usr/lib/mac/examples":

SysError(23)
pc = 0x1002653a (ROM = 0x10000000 -> 0x10040000)
Fatal error in Toolbox

This article has been archived and is no longer updated by Apple.
Error 23 is an international utilities package load error documented as "package 6 not present". The A/UX System file, "/usr/lib/mac/System", may have been the problem. It was remote-mounted, and once it was copied back to the local machine, the problem disappeared.

You can get around the problem by keeping a local copy of the System file on each machine and using a symbolic link on the NFS-mounted file system to refer to the local copy.

A testing group reproduced the problem. After remote-mounting "/usr/lib/mac", they always got "Memory fault". However, removing "/usr/lib/mac" gave the same message with the text "core dumped" tagged on.

Note: Making "/dev/console" readable for all was not enough to run "/etc/toolboxdaemon" as normal user.

The solution to this begins with the realization that "/usr/lib/mac/System" is a system-dependent file that must be found by the local "/etc/toolboxdaemon." To run Toolbox applications over the NFS:

1. Assume "/usr/toolboxbin" and "/usr/lib/mac" are not available in the local A/UX system but do exist in the remote NFS machine.

2. Launch "/etc/toolboxdaemon" from the local A/UX. (You don't need to be "root" to launch "toolboxdaemon". Any normal user can run "toolboxdaemon" if "/dev/systty", "/dev/console", and "/dev/syscon" are set mode to 0666.)

3. Mount a remote NFS machine; for example:

mount remote-machine-name:/ /mnt

4. Symbolically link a remote Toolbox Library to local machine; for example:

ln -s /mnt/usr/lib/mac /usr/lib/mac

5. Try to launch any Toolbox Application program; for example:

term

Article Change History:
1 Sept 1994 - Reviewed

Support Information Services

Published Date: Feb 18, 2012

A/UX: "biff" Requires "localhost" in "/etc/hosts" File (8/94)

Some users have tried to set up their systems for automatic notification of mail upon log in, but have failed. They report that although "biff y" in the ".profile" file works fine when in the Bourne shell, it fails in the Korn or C shell. Including "biff y" in both the ".login" and ".cshrc" files doesn't seem to help.

This article has been archived and is no longer updated by Apple.
To solve this problem, first ensure that the "localhost" entry is present in the "/etc/hosts" file.

The "biff" notification is invoked by the sender's mailer (in this case, "/bin/mail"), which calls the "gethostbyname()" system call with "localhost" as its argument. This connects to the receiver's comsat server, which in turn alerts the receiver.

If your "/etc/hosts" file does not have the "localhost" entry, the "bin/mail" program will not try to call the receiver's comsat program.

Unfortunately, the "localhost" entry is not included in the distributed "/etc/hosts" file.

To make it possible for "/bin/mail" to connect to comsat, add the "localhost" name in the local loop back entry line in the "/etc/hosts" file:

127.0.0.1 localhost loop lo loo

This doesn't work under any shell without the "localhost" name in the "/etc/hosts" file.

Article Change History:
23 Aug 1994 - Reviewed and updated.

Support Information Services

Published Date: Feb 18, 2012

Apple Color Plotter: Business BASIC Chart Maker III (2 of 5)

This article has been archived and is no longer updated by Apple.

```
369 PRINT CHR$(7);:RETURN
370 PRINT CHR$(7);:
   IF LEN(Z1$)<>0 AND Z$<>"" THEN Z$="":
   SL=SL+1:PHH=PHH-1
374 PH=PHH:GOSUB 99:FOR i%=1 TO sl+1:PRINT" ";:NEXT
379 RETURN
400 OA%=0:CMD=0
410 GET a$:cmd=ASC(a$)
420 IF CMD>96 AND CMD<123 THEN CMD=CMD-32:RETURN
425 IF CMD>64 AND CMD<91 THEN RETURN
435 IF CMD=27 THEN RETURN
440 IF CMD=32 THEN RETURN
450 IF cmd=13 THEN RETURN
460 IF cmd>47 AND cmd<58 THEN RETURN
470 IF CMD=(81+UCA) OR CMD=(81+LCA) THEN OA%=1:CMD=16:RETURN:
   REM Quit
475 PRINT CHR$(7);:GOTO 400
480 IF cmd>48 OR cmd<58 THEN RETURN
1000 TEXT:INVERSE:HOME:NORMAL
1010 GOSUB 70:GOSUB 71:GOSUB 72
1020 INVERSE:M$="Chart Maker III":pv=1:GOSUB 350:NORMAL
1030 INVERSE:
    M$="Press ESCAPE to 'Back Out' of Any Function":
    pv=14:GOSUB 350:NORMAL
1040 INVERSE:
    m$="Public Domain Software courtesy Apple Computer, Inc.":
    pv=24:GOSUB 350:NORMAL
1090 GOSUB 7000
1200 Z=0:Z$="":GOSUB 71:a= FRE
1201 pv=24:ph=70:INVERSE:NORMAL
1205 M$="FUNCTIONS-New Enter Move Clear Save Load Draw OA-Quit":
    GOSUB 354
1210 ON ERROR GOTO 91
1220 GOSUB 400
1230 IF OA%=1 AND CMD=16 THEN 91
1235 IF OA%=1 THEN 1299
1240 IF CMD=78 THEN GOSUB 8000:GOTO 1200:REM Start New Chart
1250 IF CMD=69 THEN x9=0:x8=0:GOSUB 6000:GOTO 1200:
    REM Enter a Line
1260 IF CMD=68 THEN GOSUB 9000:GOTO 1200:REM Draw the Chart
1270 IF cmd=67 THEN GOSUB 8500:GOTO 1200:REM Clear Line
1272 IF cmd=77 THEN GOSUB 10000:GOTO 1200:REM Move a line
1274 IF cmd=83 THEN GOSUB 2000:GOTO 1200:REM Save a Chart
1275 IF cmd=76 THEN GOSUB 3000:GOTO 1200:REM Load a Chart
1276 IF cmd>47 AND cmd<58 THEN x9=2:
    x8=VAL(CHR$(cmd)):cmd=69:GOSUB 6000:GOTO 1200
1299 PRINT CHR$(7);:GOTO 1220
2000 GOSUB 71:m$="Save a Chart Specification":GOSUB 357
2100 pv=20:m$="Name to Save Chart :  ":GOSUB 353
2110 pv=20:ph=54:sl=13:GOSUB 101:
    IF a$=CHR$(27) THEN GOSUB 72:RETURN
2120 name$="C."+b$
2130 ON ERR GOTO 2200
2140 DELETE name$
2200 ON ERR GOTO 2300
2205 OPEN#1 AS OUTPUT,name$
2210 FOR i=1 TO 10
2220 PRINT#1;txt$(i):PRINT#1;center$(i):PRINT#1;dent(i):
    PRINT#1;size(i):PRINT#1;bold$(i):PRINT#1;color(i):
    PRINT#1;sl$(i)
2230 NEXT
```

```
2240 CLOSE
2250 GOSUB 72:RETURN
2300 GOSUB 72:PRINT CHR$(7);:CLOSE
2320 m$="There is no room on the disk":pv=18:GOSUB 353
2330 m$="You'll have to delete files or use a different disk":
    pv=20:GOSUB 353
2340 m$="Press Any Key to Continue":pv=22:GOSUB 353
2350 GOSUB 400
2360 ON ERR GOTO 2380
2370 DELETE name$
2380 GOTO 2250
2400 PRINT ERR, ERRLIN:END
3000 GOSUB 71:m$="Load a Chart Specification":GOSUB 357
3100 pv=20:m$="Name of Chart to Load :  ":GOSUB 353
3110 pv=20:ph=54:sl=13:GOSUB 101:
    IF a$=CHR$(27) THEN GOSUB 72:RETURN
3120 name$="C."+b$
3130 ON ERR GOTO 3300
3200 OPEN#1 AS INPUT,name$
3210 FOR i=1 TO 10
3220 INPUT#1;txt$(i):INPUT#1;center$(i):INPUT#1;dent(i):
    INPUT#1;size(i):INPUT#1;bold$(i):INPUT#1;color(i):
    INPUT#1;sl$(i)
3230 NEXT:CLOSE
3240 GOSUB 7005
3250 GOSUB 72:RETURN
3300 GOSUB 72:m$="Could NOT find Chart named "+name$:
    pv=20:GOSUB 353
3310 m$="Press Any Key to Continue":
    pv=22:GOSUB 353:PRINT CHR$(7);
3320 GOSUB 400:GOSUB 72:GOTO 3250
4000 m$="This Function Not Implemented, Yet":pv=20:GOSUB 353
4010 m$="Press Any Key to Continue":pv=22:GOSUB 353
4015 PRINT CHR$(7);
4020 GOSUB 400
4030 RETURN
6000 GOSUB 71:m$="Enter/Change a Line":GOSUB 357
6010 m$="Line (1-10) :  Size (1-3) :  Color (1-4):":
    pv=18:ph=5:GOSUB 352
6020 m$="Center (y/n): Bold (y/n): Slant (y/n): Indent Spaces:":
    pv=20:ph=5:GOSUB 352
6030 m$="Text :  ":pv=22:ph=5:GOSUB 352
6100 pv=18:ph=18:sl=2:ll=1:ul=10
6102 IF x8=0 AND x9=2 THEN x8=10
6103 IF x8<>0 THEN GOSUB 99:PRINT x8;:GOTO 6130
6105 GOSUB 201:IF a$=CHR$(27) THEN GOTO 6990
6110 ON x9 GOTO 6120,6130
6120 GOSUB 369:x8=0:GOTO 6100
6130 n=x8
6200 pv=18:ph=39:sl=1:ll=1:ul=3:GOSUB 201:IF a$=CHR$(27) THEN
GOTO 6990
6210 ON x9 GOTO 6220,6230
6220 GOSUB 369:GOTO 6200
6230 size=x8
```

Published Date: Feb 18, 2012

Apple IIGS: Printing To Networked LaserWriter (9/95)

I have an Apple IIGS on their network which has mostly Macintosh computers on it. Can you tell me what will happen if the Apple IIGS sends something to be printed, but the LaserWriter is already in use?

This article has been archived and is no longer updated by Apple.
The Apple IIGS will respond in the same way as a Macintosh computer without background printing or spooling. The Apple IIGS will take its place in line and wait until the LaserWriter is available. Then the IIGS will print its documents.

Article Change History:
20 Sep 1995 - Reformatted to meet current standards.
10 Aug 1988 - Reviewed for technical accuracy.

Support Information Services
Published Date: Feb 18, 2012

Macintosh II To Convergent Technologies Connectivity

Article Change History

1/20/93 - UPDATED
* Vendor information.
8/04/88 - REVIEWED
* For accuracy.

Users who want to connect a Macintosh to Convergent Technologies equipment running their proprietary operating environment, CT*OS, take note:
This article has been archived and is no longer updated by Apple.
Midwest Data Source makes a software package called Contact which will allow connection into BTOS (you can connect as a Burroghs MT-983, TD-730, or an ET-2000 terminal).

BTOS is an extension of CT*OS, and Contact supports the Burroghs B2X family running BTOS. The package supports also supports file transfer.

To locate a vendor's address and phone numbers, use the vendor name as a search string.

Published Date: Feb 18, 2012

Macintosh II: Multiple Monitors With Independent Displays (5/97)

This article has been archived and is no longer updated by Apple.

A Macintosh II with multiple video cards can have multiple monitors displaying different data, arranged in such a way that each display could be updated independently.

Since each card is mapped into memory independently of any other video card, this would not be true multiprocessing, simply an extended video screen dispersed over several monitors.

A Macintosh program can update any window on a screen it chooses (in this case, it would be a very large screen).

Writing directly to a video card in a slot is not suggested; however, any window that is moved from the "system screen" will continue to be active upon monitors connected to additional video cards.

Multiple screens can be located in adjacent positions, including corner to corner. The logical positioning of the screen can be adjusted through the control panel monitor icon. Operations performed on a window will be appropriately displayed in the screen containing that window.

For example, If 6 documents were opened, and each document dragged to a separate screen (all screens being adjacent or corner to corner), text could then be typed into any document on any of the screens merely by moving the cursor to the desired screen and window.

Each portion of this large screen composed of the multiple video cards is stored separately; any operations on windows by the Macintosh II or user can occur, regardless of the cursor location.

(NOTE: The screen updates will be somewhat slowed by the increased traffic on NuBus.)

Published Date: Feb 18, 2012

Macintosh: How To Disable Disk Eject

This article has been archived and is no longer updated by Apple.

TOPIC ----------

How can I prevent someone from ejecting a floppy disk out of a Macintosh?

DISCUSSION ----------

Some educational users have asked about disabling disk-ejecting procedures to prevent students from taking startup disks from their lab computers. Here are two methods:

1. Replace the Eject trap through an INIT so that the internal drive does not eject disks.

(NOTE: This is not completely effective, since the user only needs to restart the Macintosh while holding down the mouse button and the disk will eject. The student could also use a paper clip to eject the disk manually.)

2. Physically cover the drive opening. This would be the preferred method, since the student would not have access to the startup disk at all. When the Macintosh was restarted the disk would reinsert itself and the system would start up again.

Ergotron, Inc. makes a product, called "The Muzzle", that protects a Macintosh SE startup disk, as do other third-party companies.

To locate a vendor's address and phone numbers, use the vendor name as a search string.

Published Date: Feb 18, 2012

Apple Color Plotter: Business BASIC Chart Maker III (3 of 5)

This article has been archived and is no longer updated by Apple.

```
6300 ph=58:sl=1:ll=1:ul=4:GOSUB 201:
    IF a$=CHR$(27) THEN GOTO 6990
6310 ON x9 GOTO 6320,6330
6320 GOSUB 369:GOTO 6300
6330 color=x8
6400 pv=20:ph=18:sl=1:GOSUB 101:IF a$=CHR$(27) THEN GOTO 6990
6405 IF a$=CHR$(13) AND LEN(b$)=0 THEN center$="N":
    m$=center$:GOSUB 352:GOTO 6500
6410 IF b$="Y" OR b$="y" THEN center$="Y":GOTO 6500
6420 IF b$="N" OR b$="n" THEN center$="N":GOTO 6500
6430 GOTO 6400
6500 pv=20:ph=39:sl=1:GOSUB 101:IF a$=CHR$(27) THEN GOTO 6990
6505 IF a$=CHR$(13) AND LEN(b$)=0 THEN bold$="N":m$=bold$:
    GOSUB 352:GOTO 6550
6510 IF b$="Y" OR b$="y" THEN bold$="Y":GOTO 6550
6520 IF b$="N" OR b$="n" THEN bold$="N":GOTO 6550
6530 GOTO 6500
6550 pv=20:ph=58:sl=1:GOSUB 101:IF a$=CHR$(27) THEN GOTO 6990
6555 IF a$=CHR$(13) AND LEN(b$)=0 THEN sl$="N":
    m$=sl$:GOSUB 352:GOTO 6600
6560 IF b$="Y" OR b$="y" THEN sl$="Y":GOTO 6600
6570 IF b$="N" OR b$="n" THEN sl$="N":GOTO 6600
6580 GOTO 6550
6600 IF center$="Y" THEN dent=0:GOTO 6640
6605 pv=20:ph=77:sl=2:ll=0:ul=15:GOSUB 201:
    IF a$=CHR$(27) THEN GOTO 6990
6610 ON x9 GOTO 6620,6630
6620 GOSUB 369:GOTO 6600
6630 dent=x8
6640 IF SIZE=1 THEN SL=40:GOTO 6650
6641 IF SIZE=2 THEN SL=30:GOTO 6650
6642 IF SIZE=3 THEN SL=20:GOTO 6650
6650 SL=SL-DENT
6700 pv=22:ph=12:b$=txt$(n):GOSUB 102:
    IF a$=CHR$(27) THEN GOTO 6990
6710 txt$=b$
6750 txt$(n)=txt$
6751 color(n)=color
6752 size(n)=size
6753 dent(n)=dent
6754 center$(n)=center$
6755 bold$(n)=bold$
6760 sl$(n)=sl$
6800 WINDOW 5,N+3 TO 79,N+3:GOSUB 90
6810 i=n:GOSUB 7010
6990 REM *** GOSUB 7000
6995 GOSUB 72
6999 RETURN
7000 GOSUB 70:GOSUB 7200
7005 FOR i=1 TO 10:GOSUB 7010:NEXT:RETURN
7010 PV=I+3
7020 PH=3:GOSUB 99:PRINT I;
7030 PH=7:m$=".....":
    GOSUB 352:M$=TXT$(I)
7045 IF center$(i)="Y" THEN ph=27-(LEN(m$)/2)
7046 IF dent(i)>0 THEN ph=ph+dent(i)
7050 GOSUB 352
7055 IF size(i)>0 THEN m$=STR$(size(i)):ph=49:GOSUB 352
7058 IF txt$(i)="" THEN RETURN
7060 IF color(i)>0 THEN m$=STR$(color(i)):ph=54:GOSUB 352
7070 m$=center$(i):ph=60:GOSUB 7150
```

```
7080 IF dent(i)>0 THEN m$=STR$(dent(i)):ph=77:GOSUB 352
7100 m$=bold$(i):ph=65:GOSUB 7150
7105 m$=sl$(i):ph=71:GOSUB 7150
7110 RETURN
7150 IF m$="Y" THEN m$="*":GOSUB 352
7156 RETURN
7200 pv=2:ph=3:m$="Line":GOSUB 352
7205 ph=20:M$="Text to be Drawn":GOSUB 352
7210 ph=52:m$="Color":GOSUB 352
7220 ph=58:m$="Cntr":GOSUB 352
7230 ph=75:m$="Indnt":GOSUB 352
7240 ph=47:m$="Size":GOSUB 352
7250 ph=63:m$="Bold":GOSUB 352
7260 ph=69:m$="Slnt":GOSUB 352
7299 RETURN
7300 FOR i=1 TO 10
7310 txt$(i)="":center$(i)="":dent(i)=0:size(i)=0:
    bold$(i)="":color(i)=0:sl$(i)=""
7320 NEXT:RETURN
8000 GOSUB 71:
    M$="Clear out the 'Old Chart' and Start a New One":
    GOSUB 357
8010 pv=23:GOSUB 80:m$="Are You Sure, (Y or N)":pv=20:ph=5:
    GOSUB 353
8020 GOSUB 400:IF cmd=27 THEN GOTO 8999
8030 IF cmd=89 THEN GOSUB 7300:GOSUB 7000:GOTO 8999
8031 IF cmd=78 THEN GOTO 8999
8035 PRINT CHR$(7);:GOTO 8020
8099 GOSUB 72:RETURN
8500 GOSUB 71:M$="Clear Out A Line":GOSUB 357
8501 m$="Line to Clear (1-10) :  ":pv=18:ph=5:GOSUB 353
8502 pv=18:ph=50:sl=2:ll=1:ul=10:GOSUB 201:
    IF a$=CHR$(27) THEN GOTO 8599
8503 ON x9 GOTO 8504,8505
8504 GOSUB 369:GOTO 8502
8505 i=x8
8510 pv=23:GOSUB 80:m$="Are You Sure, (Y or N)":
    pv=20:ph=5:GOSUB 353
8520 GOSUB 400:IF cmd=27 THEN GOTO 8599
8530 IF cmd=89 THEN GOTO 8540
8531 IF cmd=78 THEN GOTO 8599
8535 PRINT CHR$(7);:GOTO 8520
8540 txt$(i)="":center$(i)="":dent(i)=0:size(i)=0:
    bold$(i)="":color(i)=0:sl$(i)=""
8550 WINDOW 5,i+3 TO 79,i+3:GOSUB 90:GOSUB 7010
8599 GOSUB 72:RETURN
8999 GOSUB 72:RETURN
9000 GOSUB 9001:GOTO 9002
9001 m$="Draw The Chart on Device Named '"+plr$+"'":
    pv=15:GOSUB 71:GOSUB 353:RETURN
9002 pv=19:m$="Name of Chart":GOSUB 353:pv=21:
    m$="Do You Want a Border on the Chart ?  (Y or N) :":
    GOSUB 353
9003 pv=19:ph=50:sl=8:GOSUB 101:
    IF a$=CHR$(27) THEN GOSUB 72:RETURN
9004 chart$=b$
```

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ImageWriter LQ: How To Make The Ribbon Advance Correctly

This article has been archived and is no longer updated by Apple.

ImageWriter LQ Ribbon Usage

The ImageWriter LQ is designed to do a ribbon shift per page on a multipage document, but every time you turn off the printer, the ribbon is reset back to band #1.

If your ImageWriter LQ doesn't step the ribbon down a track every page, it may be due to one of the following reasons:

- A tab on the left side of the black ribbon cassette (not present on the color ribbon) engages a switch that enables ribbon shift. It's possible that even if the tab is present and the ribbon is securely seated, the tab on the ribbon box might not press down the switch enough preventing the ribbon shift.

To work around this problem:

- Tape the switch down

OR

- Wrap tape around the cartridge tab, making it thicker so it will apply more pressure on the switch.

If you tape the switch down and the ribbon still doesn't shift, this indicates a non-functional sensor. The printer hardware requires service.

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Macintosh System Size Varies With Amount of RAM Available

This article has been archived and is no longer updated by Apple.

Some users have noticed that the amount of memory taken up by the Macintosh system seems to depend on the amount of RAM available.

For instance, in a Macintosh II with 1MB RAM, the system often occupies only 300-400K of memory, but in one user's Macintosh II with 8MB ram, the system took up 2.6 MB of memory!

The answer is to be found in the Start Manager, which on system startup assesses a number of variables, including:

- which microprocessor is present

- amount of RAM installed

- whether the RAM Cache is set and for what amount (although this has a greater impact on the application heap than on the system heap).

The Start Manager dynamically installs what it considers the optimum number of System resources, Fonts, Inits, DAs, drivers, to give the Macintosh the best performance. You do NOT have control over what system resources and code are installed at this point.

You can, however, control the amount of RAM consumed by extraneous Inits and RDevs, as well as the memory set aside for RAM Cache. Eliminate any extraneous CDevs containing Inits and RDevs, and choose a smaller RAM Cache setting -- or turn it off entirely.

As an example, eliminating a couple of CDevs such as Sound Master and ColorDesk could free up 650K of system heap space, memory that you may need for your applications.

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HD Backup: Rejoining Backed-Up Files

This article has been archived and is no longer updated by Apple.

Some users have asked about recovering and rejoining data backed up on HD Backup:

- If one 3.5 disk is re-written, missing, or otherwise unrecoverable, HD Backup can not recover any of the other disks. Also, if a file is larger than 800K, it is split up and placed on separate floppies.

The best solution, of course, is to avoid the situation in the first place. WRITE PROTECT your backup diskettes, then use them only to restore files.

Once the problem has occurred, there are a few options for recovering the information:

- Insert the diskettes. From the Finder, copy files back to the hard disk.

- Rejoin split files using FEdit or some other utility

The second option might be a little challenging for some users:

DATA FORK

- If the data fork of the file is split over two disks, patch the files back together using Fedit's Multiple Sector Write, or a utility of your own.

RESOURCE FORK

- Rejoining a resource fork split over two diskettes is a little more complicated. The portion of the resource fork located on the first diskette should be normal. The portion on the second diskette contains a 512 byte header that should be disregarded. Again, rejoin the two halves with Fedit, or other utility.

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Appleshare PC 1.1: Doesn‘t Support 3rd Party PC LocalTalk Cards

This article has been archived and is no longer updated by Apple.
AppleShare PC 1.1 is not designed to work with third-party PC LocalTalk cards such as the Hercules Video/Appletalk card, TOPS or Flash LocalTalk cards. This is because the current protocol stack writes directly to Apple's LocalTalk PC Card.

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LaserWriter IINT: Setting up PostScript Connection To PC

This article describes how to use a LaserWriter IINT in the PostScript mode with a MS-DOS/Windows computer.

This article has been archived and is no longer updated by Apple.

Step 1 - Connection

Connect a 25-pin Serial cable to the 25-pin serial port on the LaserWriter IINT. Connect the other end to a serial port on the PC.

Note: Most serial ports for PCs use a male DB-25 connector. The LaserWriter IINT 25-pin serial port uses a female DB-25 connector. You need to use a null modem (transmit pin goes to receive pin) female-to-male DB-25 cable.

Step 2 - Switch Settings

While the LaserWriter IINT is off, set the printers DIP switch settings to:

1 UP
2 DOWN

These switch settings place the LaserWriter IINT in:

PostScript Batch Mode,
RS-232 9600 Baud,
RS-422 9600 Baud,
8 data bits , No parity check, 1 stop bit, with XON/XOFF handshake.

Step 3 - Power On

Turn on the LaserWriter IINTX and the PC. After a few seconds, the LaserWriter II will print a test page containing its current settings (as listed above).

Step 4 - PostScript Code

The PostScript code that follows is used to switch the LaserWriter II into 8 data bit PostScript batch mode.

Caution: If you choose to use the PostScript code provided in this article, you assume all risks involved in making these changes. PostScript code, if not entered correctly, can place the LaserWriter into a condition requiring service.

Note: The "%" characters and following comments are not necessary. You can remove them when typing in the program.

For DTR/DSR, from the DOS prompt type:

```
COPY CON POST.TXT
%=========================================================
% Begin PostScript Code
%
serverdict begin 0 exitserver  %This exits the printer server loop
statusdict begin               %Start modifying settings
25 9600 68 setsccbatch         %set the 25 pin RS-232 9600 Baud port-8 data bits
end                            %This is the end of the mode switch routine
(control z)                    %The keyboard control key and the z key together
%                               This ends text editing and saves the file.
%
% End PostScript Code
%=========================================================
```

For XON/XOFF, from the DOS prompt type:

```
COPY CON POST.TXT
%=========================================================
% Begin PostScript Code
%
serverdict begin 0 exitserver  %This exits the printer server loop
```

```
statusdict begin                %Start modifying settings
25 9600 64 setsccbatch          %set the 25 pin RS-232 9600 Baud port-8 data bits
end                             %This is the end of the mode switch routine
(control z)                     %The keyboard control key and the z key together
%                                This ends text editing and saves the file.
%
% End PostScript Code
%=========================================================
```

Step 5 - Batch File
A batch file needs to be created to set up the PCs communications port and to send the PostScript code to the printer. From the DOS prompt, type:

```
COPY CON POST.BAT
MODE COM1:96,N,8,1,P
MODE LPT1:=COM1
TYPE POST.TXT > LPT1
(control z)
```

Step 6 - Change to 8 data bit PostScript batch mode
Type POST from the DOS prompt to set the NT to 8 data bit PostScript batch mode. The printer will switch from the 7 data bit PostScript batch mode to 8 data bit PostScript batch mode.

Step 7 - PostScript Code for testing the mode change
The PostScript code that follows tests the mode change. From the DOS prompt, type:

```
COPY CON TEST.TXT
%=========================================================
% Begin PostScript Code
%
/Helvetica findfont 14 scalefont setfont
30 500 moveto
(The Options number for the 25-pin port is ) show
statusdict begin 25 sccbatch 10 string cvs show
pop showpage
(control z)
%
% End PostScript Code
%=========================================================
```

Step 8 - Test mode change
To test the mode change, type the following from the DOS prompt:

```
TYPE TEST.TXT > LPT1
```

After a few seconds, the LaserWriter II should print a page containing the following text:

'The Options number for the 25-pin port is xx'

('xx' equals the third number in the third line of the PostScipt code created in step 4 (either 68 or 64).

Problem Solving

LaserWriter IINT does not print after test PostScript code is sent:

- Check cable connections and paper supply to the LaserWriter IINT. Turn off any spooler commands that may be implemented on the PC.
- Check the PostScript files (POST.TXT) and (TEST.TXT) along with the (POST.BAT) batch file for any typing errors. If none are apparent, try re-typing the code of both PostScript files from scratch. If you have the ability to copy and paste the PostScript directly from this article, you should do this.

If the LaserWriter IINT does not receive the PostScript code character for character, the mode change or test will not work. Once the code has been re-typed, send it to the LaserWriter II. If the LaserWriter II prints the page, then all is well. If the LaserWriter II does nothing, then start over

from step #1.

LaserWriter IINT will not print from within an application:

- Check the applications print settings to ensure that it is sending output to LPT1 or COM1. The application must support PostScript, and must be set to output to a PostScript device.

Note: The LaserWriter IINT does not support software switching between configurations, such as PostScript and Diablo, or LocalTalk and serial.
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LaserWriter IINT: Diablo 630 Emulation Mode (8/95)

I need to print from my LaserWriter IINT in Diablo 630 emulation mode. How do I accomplish this?

This article has been archived and is no longer updated by Apple.
Here is the method for serial connection from a PC to the LaserWriter IINT in Diablo 630 emulation mode:

1) Connection:

Connect an Apple 25 pin Serial cable (590-0037) to an Apple Modem Eliminator (590-0166). Connect one end to the 25 pin serial port on the LaserWriter IINT. Connect the other end to a serial port on the PC.

NOTE: Most serial ports for PCs use a male DB 25 connector. Since both ends of the Apple 25 pin serial cable are male, a female-to-female gender changer is required for connection to a PC serial port. An alternative is to use a straight pin-to-pin female-to-male DB 25 cable.

2) Switch Settings:

While the LaserWriter IINT is off, set the printers DIP switch settings to:

1 DOWN
2 UP

These switch settings place the LaserWriter IINT in:

Diablo 630 emulation,
RS-232 9600 Baud,
7 data bits, No parity check, 1 stop bit, with XON/XOFF handshake.

3) Power On:

Turn on the LaserWriter IINT and the PC. After a few seconds the LaserWriter IINT will print a test page containing its current settings (as listed above).

4) Set PC Communications port:

From the DOS prompt type:

```
MODE COM1:96,N,7,1,P
MODE LPT1:=COM1
```

NOTE: The LaserWriter IINT does not support 8 data bit Diablo emulation mode, meaning that ASCII characters 128-255 -- special graphic characters -- cannot be printed.

5) When printing from DOS, always follow the print command with a 'Control D'. A 'Control D' tells the LaserWriter IINT that the data transmission is completed, and printing can now begin. The best method is to create another text file with a 'Control D' inside. Enter the following from the DOS prompt:

```
COPY CON D.TXT
(Control D)
(Control Z) or (F6)
```

Now, make a batch file to send the end-of-page marker to the printer. From the DOS prompt enter:

```
COPY CON END.BAT
TYPE D.TXT > LPT1
(Control Z) or (F6)
```

After doing a TYPE or DIR to the printer, just type END, and the printer will print any remaining data in the buffer.

If your print job does not have a Control-D (end of page) character, you will have to wait for a job time-out for your print job or until another job is printed that is larger than a page.

NOTES:

The LaserWriter IINT does not support Diablo 630 mode over an AppleTalk network.

The LaserWriter IINT does not support software switching between configurations, for example, PostScript and Diablo or LocalTalk and serial.

There is also no available software for switching back to PostScript or any other emulation mode once leaving the PostScript mode. The correct method is to change the DIP switch settings and wait 30 seconds. If PostScript is desired, switch one should be set to DOWN. Wait 30 seconds and place switch back to the UP position.

Article Change History:
21 Aug 1995 - Corrected minor errors.
23 Sep 1992 - Rewritten to combine with similar articles.

Support Information Services

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Apple Color Plotter: Business BASIC Chart Maker III (4 of 5)

This article has been archived and is no longer updated by Apple.

```
9007 pv=21:ph=64:sl=1:GOSUB 101:
    IF a$=CHR$(27) THEN GOSUB 72:RETURN
9008 IF b$="Y" OR b$="y" THEN border$="Y":GOTO 9017
9009 IF b$="N" OR b$="n" THEN border$="N":GOTO 9017
9010 GOTO 9007
9017 GOSUB 50000:IF cmd=27 THEN GOSUB 72:RETURN
9018 ON KBD GOTO 9900
9019 pv=20:m$="Press ESCAPE to Terminate Plotting":GOSUB 353
9020 IF border$="Y" THEN xp=0:
    yp=0:GOSUB 51110:yp=1759:GOSUB 51111:xp=2394:GOSUB 51111:
    yp=0:GOSUB 51111:xp=0:GOSUB 51111
9030 FOR i=1 TO 10
9040 IF LEN(txt$(i))=0 THEN 9400
9050 IF size(i)=1 THEN si=54:si1=54:GOTO 9060
9051 IF size(i)=2 THEN si=72:si1=36:GOTO 9060
9052 IF size(i)=3 THEN si=108:si1=27
9060 GOSUB 51150
9070 pn=color(i):GOSUB 51100
9072 hpgl$="SL0":IF sl$(i)="Y" THEN hpgl$="SL20"
9076 GOSUB 51000
9080 REM *** xp=100:yp=1759-(i*175.9):yp=yp+(si/2):GOSUB 51110
9085 xp=100:yp=1659-(i*155.9):yp=yp+si1:GOSUB 51110
9090 IF center$(i)="Y" THEN xp=1197:GOSUB 51110:GOSUB 9500:
    GOTO 9110
9100 IF dent(i)>0 THEN GOSUB 9600
9110 ms$=txt$(i):GOSUB 51140
9120 IF bold$(i)<>"Y" THEN GOTO 9400
9130 IF center$(i)="Y" THEN xp=1197:GOSUB 51110:GOSUB 9500:
    GOTO 9300
9200 xp=100:GOSUB 51110
9210 IF dent(i)>0 THEN GOSUB 9600
9300 hpgl$="MR4,4":GOSUB 51000
9310 ms$=txt$(i):GOSUB 51140
9400 NEXT
9410 pn=1:GOSUB 51100
9415 IF LEN(chart$)>0 THEN si=40:GOSUB 51150:xp=2050:yp=10:
    GOSUB 51110:ms$=chart$:GOSUB 51140
9420 si=30:GOSUB 51150
9430 hpgl$="CH":GOSUB 51000:pn=1:GOSUB 51100
9440 CLOSE:GOSUB 72
9450 IF exit=1 THEN exit=0:GOTO 1200
9499 RETURN
9500 BACKUP=((INT(LEN(txt$(i))/2)))
9510 IF backup<.5 THEN GOTO 9550
9515 hpgl$="PL ":GOSUB 51000:hpgl$="PL"+CHR$(8):GOSUB 51000
9520 FOR j9=1 TO backup
9530 hpgl$="PL"+CHR$(8):GOSUB 51000
9540 NEXT
9550 RETURN
9600 FOR j9=1 TO dent(i)
9610 hpgl$="PL ":GOSUB 51000
9620 NEXT:RETURN
9900 OFF KBD
9910 IF KBD=27 THEN 9940
9920 ON KBD GOTO 9900
9930 RETURN
9940 ON ERR GOTO 9960
9950 POP:POP:POP:POP:POP:POP:POP:POP:POP:POP:POP:POP:POP:POP:
    POP:POP:POP:POP:POP:POP:POP:POP:POP:POP:POP:POP:POP:POP:
    POP:POP:POP:POP
9960 exit=1
```

```
9999 GOTO 9410
10000 GOSUB 71:m$="Move a Line":GOSUB 357
10010 pv=20:ph=5:m$="Move from line # :  Move to line :":
     GOSUB 353
10020 ph=39:sl=2:ll=1:ul=10:GOSUB 201:IF a$=CHR$(27) THEN 10199
10030 ON x9 GOTO 10040,10050
10040 GOSUB 369:GOTO 10020
10050 n2=x8
10060 ph=59:sl=2:ll=1:ul=10:GOSUB 201:IF a$=CHR$(27) THEN 10199
10070 ON x9 GOTO 10080,10090
10080 GOSUB 369:GOTO 10060
10090 n3=x8
10100 Txt$(n3)=Txt$(n2):center$(n3)=center$(n2):
     dent(n3)=dent(n2):size(n3)=size(n2):bold$(n3)=bold$(n2):
     color(n3)=color(n2):sl$(n3)=sl$(n2):i=n3:GOSUB 10800
10110 i=n2:GOSUB 10900:GOSUB 10800
10199 GOSUB 72:RETURN
10800 WINDOW 5,i+3 TO 79,i+3:GOSUB 90:GOSUB 7010:RETURN
10900 txt$(i)="":center$(i)="":dent(i)=0:size(i)=0:
     bold$(i)="":color(i)=0:sl$(i)="":RETURN
50000 PRINT CHR$(7);
50010 PV=17:PH=2:GOSUB 99:M$="Prepare the Plotter":GOSUB 350
50015 m$="(Insert Paper, turn it on, and press 'LOCAL' button)":
     pv=18:GOSUB 350
50020 PV=19:GOSUB 99:
     M$="Keyboard 'RETURN' When Ready to Start Plotting":
     GOSUB 350
50025 pv=21:
     m$="ESCAPE cancels Plot; 'C' Changes Driver Device Name":
     GOSUB 350
50030 GOSUB 400:IF cmd=27 THEN GOSUB 72:RETURN
50032 IF cmd=67 THEN GOSUB 57000:GOTO 50000
50033 IF a$<>CHR$(13) THEN 50030
50035 ON ERR GOTO 50050
50040 OPEN#1,plr$:hpgl$="SP0":GOSUB 51000:PN=1:GOSUB 51100
50041 GOSUB 73:pv=20:m$="Drawing Graph":GOSUB 350:GOSUB 72
50045 ON ERR GOTO 97
50047 RETURN
50049 PRINT ERR, ERRLIN:END
50050 PRINT CHR$(7);:GOSUB 73:GOSUB 71
50060 m$="Graph'n'Calc tried to Open '"+plr$+"' which is not":
     pv=17:GOSUB 350
50070 m$="configured into SOS.DRIVER on the 'Boot' Diskette.":
     pv=19:ph=5:GOSUB 352
50080 m$="If this driver is configured for the Plotter, give":
     pv=20:GOSUB 352
50090 m$="its Device Name in the 'C' option in the Draw":
     pv=21:GOSUB 352
```

Published Date: Feb 18, 2012

Using Non-Apple SIMMs In Macintosh

Many users have asked about the differences between Apple SIMMs and those in other vendors' products -- particularly physical size differences, speed differences, and parity checking.

This article has been archived and is no longer updated by Apple.
Numerous third party vendors offer SIMMs that seem to work fine in the Macintosh. Although we don't specify the technical requirements of third-party SIMMs, many of those suppliers have either obtained Apple's specification or determined our system requirements, designing their chips accordingly.

Many of these vendors may be located by searching in Macintosh periodicals.

IBM is another computer manufacturer that is using SIMMs in their PS2s. Some differences are:

Parity Checking Basic Configuration Speed
_____ _____ _____

IBM yes 256Kb x 9 variable
1Mb x 9
Apple no 256Kb x 8 120,150ns
1Mb x 8 120ns

A SIMM that provides for parity checking doesn't EXCLUDE that RAM from being used in a Macintosh. Such SIMMs could be used if all other timing and pinouts were compatible, since the Macintosh will merely ignore that extra line.

Apple engineers have experimented with 2 IBM Model 30 256Kb x 9 SIMMs in a Macintosh Plus, and although the testing has not been extensive, these SIMMs have functioned using routine applications -- Excel, HyperCard, Microsoft Word, etc. -- and have passed a short and extended memory test.

However, just because these SIMMs appear to work doesn't mean that Apple can endorse the use of "IBM" SIMMs in our systems. IBM suppliers and PS2 third party vendors use differing RAM and designs to meet PS2's requirements, not ours.

Also, "IBM" SIMMs are available in a variety of speeds, including: 80, 100, 120 and 150ns. The 150ns chips should definitely NOT be used in a Macintosh II which requires at least 120ns SIMMs.

SIMM size:

- Apple currently uses surface mount technology (SMT) RAM, but there shouldn't be a problem using DIP through-hole chips. DIP chips tend to stand a little taller than SMT chips; but as long as they aren't so tall that they interfere with other SIMMs, they should work fine.

Another consideration is the height of the board itself: it must not be so tall as to interfere with expansion cards in a Macintosh SE (if any), or the chassis in a Macintosh Plus. However, there ought to be plenty of vertical room in a Macintosh II.

(NOTE: Apple LaserWriter SIMMs are physically and electronically incompatible with Macintosh SIMMs.)

TA39028_Using_NonApple_SIMMs_In_Macintosh_(TIL03170).pdf

For more information, search under: "SIMMs"

Published Date: Feb 18, 2012

Products That Enable Shared Serial Devices on AppleTalk

This article has been archived and is no longer updated by Apple.

If you need to share serially-attached products on an AppleTalk-based LAN -- such as Hewlett-Packard plotters, or HP LaserJets -- Mesa Graphics' Plot-It driver will drive a variety of plotters, including Hewlett-Packard models.

When used with Shiva's NetSerial product, Plot-It can drive a plotter over an AppleTalk network.

Both NetSerial AND Plot-It may be obtained through Mesa Graphics.

For more information, search under: "Mesa Graphics" or "Shiva Corporation"

Published Date: Feb 18, 2012

A/UX: Non-Apple Systems Can Used As Archives

Article Change History

08/31/92 - REVIEWED
* For technical accuracy.

This article has been archived and is no longer updated by Apple.
Non-Apple systems incapable of booting A/UX software can be used to create A/UX archival copies or can have Right to Copy (RTC) masters put on them.

Published Date: Feb 18, 2012

A/UX: Serial Buffer Size And Storage Issues

Article Change History

08/31/92 - REVIEWED
* For technical accuracy.

This article discusses the input serial buffer, including questions concerning the default size of this buffer, whether it can be changed, and where the size of this buffer is stored. Answers involve the SCC (Serial Communication Controller) chip and the A/UX TTY device driver.

This article has been archived and is no longer updated by Apple.
On the hardware side, the SCC chip has a three-character buffer. It is doubtful that the built-in buffer size can be changed.

The A/UX TTY device driver uses the "clist" style of character buffering. The "cblocks" in A/UX are only 26 bytes. This is a defined constant value in the kernel (#define CLSIZE 26 in /usr/include/sys/tty.h). To change it, you must re-compile the kernel.

In general, a hardware overrun error occurs, if the SCC buffer overflows because the input device driver doesn't read it often enough.
A software overrun error occurs if an input device driver's buffer overflows because the application (like a communication program) doesn't issue read calls to the driver often enough, .

Published Date: Feb 18, 2012

Macintosh To CDC Cyber Connectivity

This article has been archived and is no longer updated by Apple.

The only package currently known to Apple that provides connectivity from Macintoshes to CDC's (Control Data Corporation's) Cyber mainframe computers is called "CONNECT", and is available from CDC.

CONNECT provides terminal emulation and file transfers under protocol protection for the Macintosh. Terminal emulation supports both line mode and screen mode processing, and is augmented with features such as customized key definitions, use of color, national character set support, menus, configuration control, etc.

For more information, search under: Control Data Corporation

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CADAM Software on Macintosh

This article has been archived and is no longer updated by Apple.

For those of you running CADAM software on a Spectrographics workstation and storing files on an Amdahl Mainframe, here is some information to keep in mind:

While CADAM does output files in an IGES format when using the Mainframe version of the software, it does NOT output IGES format when running the mini or micro version of the software. To transfer a drawing into the Macintosh environment you need a utility like CadMover. CadMover converts IGES file format to other formats including those used by the Macintosh. Its capabilities include:

IGES -> MiniCad
IGES -> DXF
IGES -> MacDraw
IGES -> PICT
IGES -> MSC/pal

For more information, contact Kandu Software Corporation.

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Apple Color Plotter: Business BASIC Chart Maker III (5 of 5)

This article has been archived and is no longer updated by Apple.

```
50091 m$="command to use it as the Plotter.":pv=22:GOSUB 352
50092 m$="(Press Any Key to Continue)":pv=23:GOSUB 350
50098 GET a$
50099 GOSUB 72:GOTO 50000
50100 XP=XLEFT:YP=YBOT:GOSUB 51110:YP=YTOP-50:GOSUB 51111:
     XP=XLEFT+XLEN+1:GOSUB 51111:YP=YBOT:GOSUB 51111:XP=XLEFT:
     GOSUB 51111:RETURN:REM The Box
50200 REM Graph Title
50201 IF LEN(GRTIT$)=0 THEN RETURN
50202 ms$=grtit$
50205 si=30:IF LEN(ms$)<29 THEN si=50:GOTO 50209
50206 IF LEN(ms$)<36 THEN si=45:GOTO 50209
50207 IF LEN(ms$)<41 THEN si=37:GOTO 50209
50209 GOSUB 51150
50210 XP=XLEFT+(INT(XLEN/2)):YP=YTOP-25
50215 hpgl$="PL ":GOSUB 51000:hpgl$="PL"+CHR$(8):GOSUB 51000
50220 GOSUB 51110:GOSUB 53420:GOSUB 51140:RETURN
51000 PRINT#1;HPGL$+CHR$(3):RETURN
51001 PRINT#1;HPGL$:RETURN
51100 HPGL$="PS"+STR$(PN)+";":GOSUB 51000:RETURN:REM Get pen
51110 HPGL$="MA"+STR$(XP)+","+STR$(YP):GOSUB 51000:RETURN:
     REM Move X-Y
51111 HPGL$="DA"+STR$(XP)+","+STR$(YP):GOSUB 51000:RETURN:
     REM Draw to XY
51112 hpgl$="PM"+STR$(X):GOSUB 51000:RETURN:REM Plot symbol
51120 HPGL$="PU;":GOSUB 51000:RETURN:REM Pen Up
51130 HPGL$="PD;":GOSUB 51000:RETURN:REM Pen Down
51140 HPGL$="PL"+MS$:GOSUB 51000:RETURN
51150 HPGL$="LS"+STR$(SI):GOSUB 51000:RETURN
51160 GOSUB 51110:HPGL$="PL":GOSUB 51001
51161 IF N=INT(N) THEN PRINT#1; USING"######";N;:GOTO 51169
51165 PRINT#1; USING"####.#";n;
51169 hpgl$=CHR$(3):GOSUB 51001:RETURN
51170 GOSUB 51110:HPGL$="XT;":GOSUB 51000:HPGL$="YT;":
     GOSUB 51000:RETURN
51175 HPGL$="XT;":GOSUB 51000:RETURN
51176 HPGL$="YT;":GOSUB 51000:RETURN
51180 HPGL$="TL.15,.15;":GOSUB 51000:RETURN
51190 PRINT#1,CHR$(27)+".M:";:RETURN
51195 HPGL$="SM"+RIGHT$(STR$(SYMBOL),1)+";":GOSUB 51000:
     GOSUB 51130:RETURN
51200 HPGL$="sp0;":GOSUB 51000:FOR I=1 TO 5000:NEXT:RETURN:
     REM Put pen in stall
51210 HPGL$="DI1;":GOSUB 51000:RETURN
51300 PRINT#1, USING"####.#";N:RETURN
53000 YBOTT=YBOT-125:si=25:GOSUB 51150
53001 XP=INT((XLEFT+(XINCREMENT/2))):YP=YBOT-1:GOSUB 51110:
     YP=YP-40:GOSUB 51111
53002 YP=YBOTT:J=GC1:GOSUB 53340
53005 J=XRANGE:GOSUB 53390
53010 YP=YBOTT:J=GC2:GOSUB 53340
53020 IF NOKOLS=2 THEN RETURN
53025 OFFSET=0:IF GC1>1 THEN OFFSET=GC1-1:ELSE OFFSET=0
53030 NOKOLS&=CONV&(NOKOLS):IF(NOKOLS& MOD 2)=0 THEN DXR=4:
     ELSE DXR=3
53040 INCR=INT(NOKOLS/DXR)
53041 IF NOKOLS=4 THEN GOTO 53330
53042 IF NOKOLS=5 THEN GOTO 53060
53043 IF NOKOLS=3 THEN GOTO 53060
53050 IF DXR=3 THEN 53330
53060 IF NOKOL<>3 THEN J=(GC1+INCR)-OFFSET:GOSUB 53390:
```

```
     YP=YBOTT:J=J+OFFSET:GOSUB 53340
53070 IF NOKOL<>3 THEN J=(GC2-INCR)-OFFSET:GOSUB 53390:
     YP=YBOTT:J=J+OFFSET:GOSUB 53340
53080 J=GC1+(INT(NOKOLS/2)+0):J=J-OFFSET:GOSUB 53390:
     YP=YBOTT:J=J+OFFSET:GOSUB 53340
53085 IF NOKOLS=6 THEN J=3:GOSUB 53390:YP=YBOTT:J=J+OFFSET:
     GOSUB 53340
53090 RETURN
53330 J=(GC1+INCR)-OFFSET:GOSUB 53390:YP=YBOTT:J=J+OFFSET:
     GOSUB 53340
53335 J=(GC2-INCR)-OFFSET:GOSUB 53390:YP=YBOTT:J=J+OFFSET:
     GOSUB 53340
53339 RETURN
53340 GOSUB 51110:IF LEN(C$(J))=0 THEN GOSUB 53380:GOTO 53360
53341 MS$=C$(J)
53360 GOSUB 53400
53370 GOSUB 51140:RETURN
53380 MS$=+STR$(J):RETURN
53390 J=INT(J):
     XP=INT((J*XINCREMENT)+(XLEFT-(INT(XINCREMENT/2)))):
     YP=YBOT-1:GOSUB 51110:YP=YP-40:GOSUB 51111
53399 RETURN
53400 IF J=GC1 THEN RETURN
53420 BACKUP=((INT(LEN(MS$)/2)))
53425 IF backup<.5 THEN GOTO 53460
53430 FOR j9=1 TO backup
53440 hpgl$="PL"+CHR$(8):GOSUB 51000
53450 NEXT
53460 RETURN
57000 pv=23:ph=20:m$="Enter New 'Device Name' :  ":GOSUB 352
57010 ph=46:sl=15:GOSUB 101:IF a$=CHR$(27) THEN GOTO 57099
57020 IF LEN(b$)=0 THEN PRINT CHR$(7);:GOTO 57010
57030 IF LEFT$(b$,1)<>"."  THEN b$="."+b$
57040 plr$=b$
57050 GOSUB 9001
57099 GOSUB 73:RETURN
```

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35mm Color Slide Makers: DICOMED DDC Format Conversion Utilities

This article has been archived and is no longer updated by Apple.

There have been requests for a product that takes presentation graphics (35mm color slides) prepared on a DICOMED system and converts them for use, editing, or display, on a color Macintosh II. DICOMED has two file formats. The "DDC" file format works with DICOMED's film recorder. The "DICOMEDia" file format works with other DICOMED equipment.

The 'DDC' file format is included in the film recorder's documentation. Currently there is no product that can translate DDC to/from Macintosh. However, with documentation available for both 'DDC' and Macintosh, a translator could be written.

The 'DICOMEDia' file format is propriety. An application exists that converts Macintosh images to the 'DICOMEDia' format. However, it does not convert 'DICOMEDia' to Macintosh. This program is available from Stradeware of Denver, Colorado.

For more information, search on "Stradeware".

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Seagate Technology

Seagate Technology
This article has been archived and is no longer updated by Apple.
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Company Profile:
Formerly Control Data Corp. Data Storage Division, hardware, specializing in high-capacity disk drives.
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Pascal: Dollar amount formatter (1 of 2)

This article has been archived and is no longer updated by Apple.

The following Pascal function allows you to format printed values as dollar amounts. The function uses the APPLESTUFF unit. GET_DOLLARS takes three integer parameters and returns a real value for possible future calculations:

```
GET_DOLLARS (HPOS, VPOS, LIMIT)
```

The whole dollar amount is restricted to "LIMIT" number of characters (4 whole numbers). Three additional characters are allowed for the decimal and cents. Character space not used by LIMIT may be used by cents; however, all entries are rounded to the closest whole cent. The resulting number is printed, right justified, on the screen on top of the input characters.

```
writeln ('Enter value:');
Value:= GET_DOLLARS (20, 10, 4)
```

"Enter value:" is printed on the screen as normal, while the input cursor is positioned at screen location 20,10. Some possible input and corresponding outputs are:

```
Inputs                      Outputs
9999                        9999.00
9.99999                       10.00
.999                           1.00
.99                             .99
1234.56                     1234.56
123.456                      123.46
```

```
 function GET_DOLLARS (HPos, VPos, Limit: integer): real;
   var RealStr, Space: string;
       Count         : integer;
       Value         : real;

   procedure GET_REAL_STR (Limit: integer; var InStr: string);
     var   Entry                          : string;
           Decimal, Back_Space, Return, ch: char;
           Count                          : integer;
           Real_Keys, GoodOnes            : set of char;
           GotIt                          : boolean;

     function KEY_IN: char;
       var ch: char;
       begin
         ch:= ' '; {Initialize variable}
         repeat until KEYPRESS;
         UNITREAD (2, ch, 1,, 12);
         KEY_IN:= ch
       end; {Key_In}

     begin
       InStr:= ''; {Beginning default}
       Count:= 0; {Beginning default}
       Entry:= ' '; {Initialize as one character}
       Decimal:= '.';
       Back_Space:= chr(8);
       Return:= chr(13);
       Real_Keys:= [Decimal, '0'..'9']; {Valid characters}
                                        {in real numbers}
       GoodOnes:= Real_Keys + [Back_Space, Return]; {Valid}
                                                    {inputs}
       GotIt:= false; {Beginning default};
       repeat
```

```
      repeat ch:= KEY_IN until (ch in GoodOnes);
      if (ch = Decimal) then begin
        GoodOnes:= GoodOnes - [Decimal]; {Can't use but one}
        Limit:= Limit + 3 {OK to get cents now}
      end;
      if (ch in Real_Keys) and (Count < Limit) then begin
        Entry [1]:= ch; {Convert char to string}
        InStr:= concat (InStr, Entry);
        Count:= Count + 1;
        write (ch)
      end;
      if (ch = Back_Space) and (Count > 0) then begin
        write (Back_Space, ' ', Back_Space);
        ch:= InStr [Count]; {See what last character is}
        if (ch = Decimal) then begin
          GoodOnes:= GoodOnes + [Decimal]; {Can use decimal}
                                            {again}
          Limit:= Limit - 3
        end;
        if (Count = 1) then InStr:= '';
        if (Count > 1) then delete (InStr, Count, 1);
        Count:= Count - 1
      end;
      if (ch = Return) then GotIt:= true
    until GotIt
  end; {Get_Real_Str}

procedure DOLLAR_FORMAT (var Sample: string);
```

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System 6.0: Old Smart Alarms and Macromaker Incompatibility

This article has been archived and is no longer updated by Apple.

Some users may have had problems copying of files while running Macromaker under System v6.0.

One common problem occurs when the file name starting with a "." is reached. At this point, the Finder disappears and then restarts. The file with the "." is partially copied, and cannot be deleted until the system is rebooted.

This problem may be due to vestigial resources from Smart Alarms residing within the system. Many people used Smart Alarms until compatibility problems began to appear with System v5.0, and the remaining resources can cause even greater incompatibility difficulties with System v6.0.

One solution is for anyone who has previously used Smart Alarms to completely replace their system file.

However, Imagine Software has also made an inexpensive update for Smart Alarms which allows System v6.0 to function smoothly.

For more information, search under: "Imagine Software"

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MacTerminal and VT100

It is possible for MacTerminal to change into application keypad mode without using MacroMaker. Since MacTerminal acts as a VT100 terminal, it will respond to VT100 escape sequences sent to it from a host computer.

This article has been archived and is no longer updated by Apple.

To get MacTerminal to send application commands with the keypad, all you need to do is have the host system send <escape>=, where <escape> is the escape character. Likewise, to get MacTerminal to return to normal mode, send <escape>> (escape greater than) from the host to MacTerminal.

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LaserWriters: How To Print Mathematical Symbols Under MS-DOS

This article has been archived and is no longer updated by Apple.

This article describes how to generate mathematical symbols on various models of the LaserWriter, from an MS-DOS application, like PC/Write.

LaserWriter IINTX

If you're using a LaserWriter IINTX in HP LaserJet mode, you can purchase from Hewlett-Packard the "Letter Gothic Base Set" (HP 33412A), 5.25-inch MS-DOS. The Math 7 and Math 8 fonts are included in this set, and these fonts can be downloaded into the LaserWriter for use in HP LaserJet mode. These are extended characters, meaning 8 bit mode must be in effect, both computer and printer. (The 8-bit mode lets the extended characters pass from the computer to the printer.)

Other LaserWriters

If you are using PostScript with a LaserWriter model other than the LaserWriter IINTX, your application should provide some method for dealing with different typefaces. Choose the Symbol font and type the key equivalent for the math symbols.

(NOTE: Printing the Macintosh screen while in Key Caps will provide a map to the Symbol key equivalents.)

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AppleColor RGB Monitors: No Anti-Glare Facing For U.S. Models

This article has been archived and is no longer updated by Apple.

The U.S. versions of the color monitor for the Macintosh II and the Hi-Res color monitor for the Apple IIGS do NOT have an anti-glare facing. UL, FCC, and CSA standards do not require such facing.

However, these monitors ARE anti-glare faced for some European countries. For example, Germany operates on the VDE standard which does specify an anti-glare facing.

Apple decided that the anti-glare facing detracted from the sharpness of the image on color monitors, and so specified that the anti-glare not be place on the color monitors except in those countries where required.

Apple does not know of any U.S. agencies currently working on an ergonomic specification of this type. Inside the US, the purchase of monitors with an anti-glare facing, or the addition of an anti-glare filter, is currently left to the discretion of the buyer.

Apple only performs reflectivity tests on those monitors which require certification of the anti-glare face to meet a specific country's requirements.

Current testing of the European monitors is done to meet the DIN 67530 standard:

15% - 75% reflectivity required @ 60% light incidence
20% - 50% reflectivity recommended @ 60% light incidence

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Apple IIGS 3.2 System: ATLOAD.0 Conflict

This article has been archived and is no longer updated by Apple.

When installing the new System 3.2 on an existing ProDOS disk (such as a hard disk), make sure to remove the ATLOAD.0 file from the /SYSTEM/SYSTEM.SETUP folder.

There appears to be a conflict with this file and the new AppleTalk setup files. If this file is not removed, the system will drop into Monitor mode during the boot process.

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3Com 3+: Some Incompatibilities With The Macintosh

Some users have asked about the AppleTalk Filing Protocol (AFP) compatibility of 3Com's 3+ with the Macintosh family. This article discusses the issue.
This article has been archived and is no longer updated by Apple.
The 3+ network operating system for Macintosh computers and MS-DOS compatible computers provides transparent file sharing between Macintosh and IBM PC-compatible computers. The 3+ software is only AFP-compatible in that you can use the software at the same time that you have an AppleShare volume mounted. The 3+ software was written before AFP specifications were made public, and does not implement any AFP calls. It has not been updated to use AFP.

3+Share software also looks quite different than AppleShare software. You cannot mount a 3+Share volume using the standard AppleShare chooser method. The interface for such tasks as network administration, setting passwords, and setting access privileges is not the same as the AppleShare interface, either.

The 3+ network operating system is an **alternative** to the AppleShare File Server and Print Server. It provides file service, print service, naming service, and internetwork routing service, and should be considered compatible with AppleShare only in that it doesn't actively interfere.
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Japanese Language Kit: Definition of Kanji, Kana, and Romaji

Descriptions of the terms Kanji, Kana, and Romaji.
This article has been archived and is no longer updated by Apple.
Japanese writing is a blend of four written character sets: Kanji, Hiragana, Katakana and Romaji. Characters from all four sets can occur in a single sentence. Hiragana and Katakana are two elements of what is known as Kana.

Kanji
Written communication in Japan began with the direct importation of the Chinese picture characters the Japanese call Kanji. First, each Kanji symbol was used in Japanese to represent a single word.

Kana (Hiragana & Katakana)
Eventually, the Japanese devised two separate phonetic syllabaries called Hiragana and Katakana, or simply Kana. Hiragana and Katakana are two different styles of writing the same sounds. Unlike the Kanji, each Kana character represents a syllable instead of a word or concept. Both are used with Kanji to form the Japanese written system of today.

Romaji
Romaji are Roman alphabetic characters, typically used to phonetically represent the pronunciation of Japanese characters. The Japanese Input method used in the Japanese Mac OS and the Japanese Language Kit uses Romaji as the primary means of entering Japanese text. The Romaji (Roman characters) are converted to Kana as the user types. The resulting Kana can then be converted to Kanji, where applicable, by pressing the space bar.

For information about the Japanese Language Kit, see:
Tech Info Library article 17923: "**Japanese Language Kit 1.2: Description and Specifications**"
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Apple Writer III: Available Space

This article has been archived and is no longer updated by Apple.

Apple Writer III (versions 1.0, 1.1 and 2.0) can edit files up to 65021 characters long at a time. This figure applies to both 128K and 256K Apple IIIs. Please note that as the file gets larger, the computer takes longer to process the typed characters. It isn't unusual for good typists to lose characters as the file grows.

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Pascal: Dollar amount formatter (2 of 2)

This article has been archived and is no longer updated by Apple.

```
procedure DOLLAR_FORMAT (var Sample: string);
  var DollarStr, CentStr       : string;
      Where, Dollars, Cents    : integer;

  procedure ROUND_CENTS (var Dollars, Cents: string);
    var HowLong, Count: integer;
        Sample        : string;
    begin
      Sample:= concat ('0', Dollars, Cents); {Leading zero}
                                             {for carry}
      HowLong:= length (Sample);
      if (Sample [HowLong] > '4') then
        Sample [HowLong - 1]:=
          chr(ord (Sample [HowLong - 1]) + 1);
      for Count:= HowLong downto 1 do begin
        if (Sample [Count] > '9') then begin
          Sample [Count]:= '0';
          Sample [Count - 1]:=
            chr(ord (Sample [Count - 1]) + 1)
        end;
      end;
      while (Sample [1] = '0') do begin
        delete (Sample, 1, 1); {Delete leading zeroes}
        HowLong:= HowLong - 1
      end;
      Sample:= copy (Sample, 1, (HowLong - 1));
      HowLong:= HowLong - 1; {Drop 3rd of 3 place cents}
      Dollars:= copy (Sample, 1, (HowLong - 2));
      Cents:= copy (Sample, (HowLong - 1), 2)
    end; {Round_Cents}

  begin
    Where:= pos ('.', Sample); {Find decimal}
    if (Where = 0) then begin
      Sample:= concat (Sample, '.');
      Where:= length (Sample)
    end;
    DollarStr:= copy (Sample, 1, (Where - 1));
    CentStr:=
      copy (Sample, (Where + 1), (length (Sample) - Where));
    while (length (CentStr) > 3) do
      delete (CentStr, (length (CentStr)), 1);
      case (length (CentStr)) of
        0: CentStr:= concat (CentStr, '000');
        1: CentStr:= concat (CentStr, '00');
        2: CentStr:= concat (CentStr, '0')
      end; {Round_Cents needs 3 places}
      ROUND_CENTS (DollarStr, CentStr);
      Sample:= concat (DollarStr, '.', CentStr)
    end; {Dollar_Format}

procedure VAL (RealStr: string; var RealNum: real);
  var HowLong, NumDigits,
      Count, Digit, Power: integer;
      Dollars, Cents     : string;
      Number             : real;
  begin
    RealNum:= 0; {Beginning default}
    HowLong:= length (RealStr);
    Dollars:= copy (RealStr, 1, (HowLong - 3));
    Cents:= copy (RealStr, (HowLong - 1), 2);
```

```
      NumDigits:= length (Dollars);
      Power:= 0; {Beginning default}
      if (NumDigits > 0) then
        for Count:= NumDigits downto 1 do begin
        Digit:= ord (Dollars [Count]) - 48; {Convert Ascii}
                                            {to Decimal}
        Number:= Digit * PwrOfTen (Power);
        RealNum:= RealNum + Number;
        Power:= Power + 1
      end;
      Number:=
        (((ord(Cents [1])-48)*10)+(ord(Cents [2])-48))/100;
      RealNum:= RealNum + Number
    end; {Val}

  begin
    gotoxy (HPos, VPos);
    GET_REAL_STR (Limit, RealStr);
    DOLLAR_FORMAT (RealStr);
    Space:= ''; {Beginning default}
    Limit:= Limit + 2; {Number has cents now}
    for Count:= length (RealStr) to Limit do
      Space:= concat (Space, ' ');
    gotoxy (HPos, VPos);
    write (Space, RealStr); {Writes over input data}
    VAL (RealStr, Value);
    GET_DOLLARS:= Value
  end; {Get_Dollars}
```

Published Date: Feb 18, 2012

Hebrew Language Kit: Key Caps Will Not Print

When using the Hebrew Language Kit with a U.S. keyboard is there a method for printing out a Hebrew screen shot of the Key Caps?
This article has been archived and is no longer updated by Apple.
The Key Caps function under the Apple Logo menu synchs up with the specific langage keyboard connected to the computer. There is a picture of the Hebrew Keyboard in the Hebrew Language Kit User Manual, try copying the picture and display it next to our monitor or copy the reference cards.
Published Date: Feb 18, 2012

Networking: Reserved IP Address Ranges

When creating IP addresses, can I simply make up the IP address, or is there more to the process?
This article has been archived and is no longer updated by Apple.
If external IP access is required then a unique IP address space must be assigned by an Internet Registry agency, such as InterNIC.

According to RFC 1597 the following addresses are reserved for private networks and for security or other reasons they do not enable access to the internet .

10.0.0.0 - 10.255.255.255
172.16.0.0 - 172.31.255.255
192.168.0.0 - 192.168.255.255

These addresses are unique only within the intranet of the organization. Computers using IP addresses within these ranges are considered private hosts and cannot have IP connectivity to a computer that has external IP access.
Published Date: Feb 18, 2012

InterPoll‘s Responder Broadcasts Only On Request

Does Inter*Poll's Responder INIT increases the number of packets on the network when an inquiry is not currently outstanding? In other words, if Inter*Poll is not polling, is Responder broadcasting any packets?

This article has been archived and is no longer updated by Apple.

The Responder INIT that comes with Inter*Poll does not broadcast any packets over a network unless Inter*Poll sends a request for Responder to do so.

Published Date: Feb 18, 2012

Chinese Language Kit 1.1.1 and Mac OS 7.6

What are the installation steps that need to be completed for compatibility with Mac OS 7.6 or 7.6.1?
This article has been archived and is no longer updated by Apple.
Installation steps:

1. Do a complete install of Mac OS 7.6 or 7.6.1.
2. Under Custom Install, check International and Worldscript II
3. Install Chinese Language Kit 1.1
4. Install Chinese Language Kit 1.1.1 updater

Published Date: Feb 18, 2012

Mac OS 8: Claris Emailer Lite 1.1v4 and Sending Compressed Files

I received Emailer Lite 1.1v4 as part of Mac OS 8 internet access. I am unable to send compressed enclosures (the default setting).
This article has been archived and is no longer updated by Apple.
Unlike the stand alone Claris Emailer-Lite Installer 1.1v3, the Installer inside IAFT in Mac OS 8 omits the "File Transfer Tools" file.

You will need to manually install Aladdin's DropStuff w/EE 4.0. The Installer for this software can be found following this path on your Mac OS 8 System:
Internet folder
Internet Utilities folder
Aladdin folder
DropStuff w/EE 4.0 Installer
Published Date: Feb 18, 2012

Apple Software Downloads Converted to MacBinary

Binhex-formatted files will no longer be available from Apple Software Downloads after 2001-02-25; only MacBinary-formatted files will be posted.
This article has been archived and is no longer updated by Apple.
As of 2001-02-05 no new BinHex-formatted files will be added to the Apple Software Downloads area.

BinHex-formatted files were made available to deliver software for older Macintosh products. This same software continues to be available for download in MacBinary format only. MacBinary formatted files are 30 percent smaller than BinHex and work with any Macintosh using currently available Internet client software. The smaller size makes download quicker and uses less storage space.

BinHex versions of software remain available from ftp://ftp.info.apple.com until 2001-02-25. After that time, no BinHex software will be available from the Apple from the ftp download site.

Published Date: Feb 18, 2012

Macintosh: Serial Ports Do Not Provide Power For Peripherals

Is there any way to get power through the serial port to a peripheral?

This article has been archived and is no longer updated by Apple.
Devices (such as modems) may NOT draw power from the Macintosh serial ports. On the Macintosh 128K, 512K and 512K enhanced (which use DB-9 connectors for the modem and printer ports), Pin 6, the +12V pin, is strictly a power-on indicator and may not be used as a power source of any kind.

Macintosh Plus and later computers (which switched to Mini DIN-8 connectors for the serial ports) lack the +5 and +12 Volt signals from the earlier models.

Despite warnings from Apple that the +5 and +12 Volt signals found on the DB-9 serial ports on the 128K and 512K Macintoshes could be removed in the future, some manufacturers designed peripherals that relied on one or both of those signals. These peripherals (e.g. Thunderscan) may not work properly on a Macintosh Plus or later Macintosh due to the removal of the above-mentioned signals. If this is the case, contact the manufacturer of the peripheral for a suggested solution. Some manufacturers offer external power supplies to take the place of the absent signals.

This change also means that a Macintosh application may have to control a peripheral's DTR line.

The serial ports from the Macintosh Plus and later models do not provide power for any peripheral devices. The DTR line (Pin 1) is intended to provide an output handshake signal only, NOT to power external devices.

Any devices connected to the serial ports of the Macintosh Plus or newer models must get their power from an external source, separate from the Macintosh system. Apple does not support devices that receive their power from serial ports.

The solution is to use a separate power source to supply the voltage needed for these modems or peripherals.

Published Date: Feb 18, 2012

At Ease 5.0.1: AppleShare IP version supported

I need to know the correct version of AppleShare IP server software to run on the same server as At Ease for Workgroups 5.0.1.
This article has been archived and is no longer updated by Apple.
AppleShare IP 5.0.2 revB or higher is recommended for use on the same server as At Ease for Workgroups 5.0.1.
Published Date: Feb 18, 2012

Apple Telecom - Telecom Applications folder reappears

After deleting the "Telecom Applications" folder on the root level of the hard drive and restarting, the Telecom Applications folder returns with zero items in the folder. Why does this occur?
This article has been archived and is no longer updated by Apple.
This is normal behavior for Apple Telecom software. When the Fax Sender extension loads, and the Telecom Apps folder is missing, it creates one so that it will have a place to drop "Faxes Waiting to be Sent" and "Sent Faxes".

There is no way to disable this feature without disabling faxing functionality altogether.
Published Date: Feb 18, 2012

Apple MIDI Manager: No Longer Supported

On a Performa 6x00 series with internal modem, Apple MIDI Manager does not seem to want to make the Printer port available. However, it does allow the Modem port to be selected in the QuickTime Settings control panel.
This article has been archived and is no longer updated by Apple.
The MIDI Manager has been discontinued and is unsupported. The official MIDI interface is now Opcode's OMS (Open Music System). The latest version is 2.3.8 for Mac OS 7.5.5 through Mac OS 7.6.1 users. It is available for downloading from several sites. You may want to try the following site: http://www.opcode.com/downloads/OMS_2.3.8.hqx .
Published Date: Feb 18, 2012

AI: Some Working Definitions Of The Terminology (Part 2 of 2)

This article has been archived and is no longer updated by Apple.

This article continued from "Working Definitions Of Some "AI" Terminology (Part 1 of 2)"

Expert Systems:

Computer systems that address subjects previously requiring a human expert on hand. An excellent example of this is AppleCat diagnostics from Apple. This software can be used to isolate a Macintosh hardware problem that previously required a service person (expert).

Flavors:

The Object Orientated Programming implementation used by the Explorer.

Garbage Collection:

LISP programs inherently involve frequent memory allocation and deallocation. Garbage collection is the process of reclaiming memory that was allocated, but is no longer required by the application. While LISP machines address garbage collection through hardware, any conventional machine must duplicate this effort in software, typically forcing frequent delays while waiting for the machine to return to the user (think of printing with and without a spooler). This is one of the reasons for the claim that LISP is a slow language or could never be used for real-time processing.

LISP Language vs. LISP environment vs. LISP machine:

The LISP language is the implementation of LISP, the syntax of the language.

Most of the industry recognizes that Common LISP is becoming the standard language for LISP. When we talk of a LISP environment, we are referring to the programming features offered to assist one in programming in LISP, such as the LISP listener (interpreter), debugger, inspector, object-oriented programming implementation, compiler, tag implementation, and garbage collection utilities to name a few. These are available (in a varying degree) for whatever LISP you are using. When we mention a LISP machine, we are referring to a processor/computer built specifically for running the LISP language, with hardware features optimized to run LISP.

Knowledge Engineering:

Using AI programming techniques (methodologies) -- such as knowledge representation, search, or reasoning strategies -- to solve applications requiring symbolic processing.

Knowledge Engineer :

This title gets a lot of attention these days, and often a considerably higher salary for the software developer/ programmer/ analyst familiar with AI programming techniques, languages and shells and their proper implementation.

LISP Machine:

A computer specifically designed to run the LISP language. Includes hardware support for critical "LISP" functions, such as garbage collection and data type processing.

Object Orientated Programming:

A method of programming with abstraction that allows a more natural representation of real world items (or objects). An object can be defined as a "class" that can have associated or inherited procedures, arguments, or component-objects.

An example of this is to define a new "class" of object called "COMPUTER". Each COMPUTER can be defined to have associated with it such items as a keyboard, monitor and CPU. New classes can then be defined based on this class -- a "MACINTOSH" can be a type of "COMPUTER", and as such we can assume that it has a keyboard and monitor.

When we create this new class MACINTOSH, we can also define a default CPU type of 68000. We could go on and define a procedure for the MACINTOSH called HOW-TO-RUN-APPLICATION which has a value of CLICK-ICON, (whereas the procedure for the original COMPUTER class may have an associated HOW-TO-RUN-APPLICATION value of ENTER-ARCHAIC-COMMAND). The idea is that with Object Orientated Programming, we are able to define objects in a way that more closely associates how we naturally think of the objects. Also, once we know an object is defined, and what values it has, we don't have to worry about HOW it was defined -- as long as it works. This leads to a "Black Box" approach, where we do not concern ourselves with what is in the Black Box as long as we know it is available and works.

Rapid Prototyping:

The process of using a short "develop-test-modify" cycle, with frequent feedback, as a way to help define the final system solution. The idea is to work on the conceptual level to define a proper solution and worry about the final implementation details later, as opposed to a programmer spending significant time in development, only to arrive at a working solution that does not address the original problem correctly.

Tagged Architecture:

Hardware support for implementing Data Type Processing on LISP Machines. This allows processing "tags" in parallel with other instructions. Any conventional hardware running LISP must duplicate this effort in software.

Published Date: Feb 18, 2012

iMac or USB Capable Macintosh: Printing to a StyleWriter

Is it possible to print to a StyleWriter printer from an iMac or other USB-capable Macintosh?
This article has been archived and is no longer updated by Apple.
You have a few options for using your existing StyleWriter with iMac or other USB capable Macintosh such as iBook or the Power Mac G4.

Options:

- If you are on a network, and you have a StyleWriter printer directly connected to a Macintosh computer on that network, you can enable ColorShare or GrayShare on that Macintosh. ColorShare or GreyShare allows the StyleWriter to become a shared printer; one you can print to from other computers on the network. The drivers you need come pre-installed on iMac and are available in the Chooser. (Please note: this option can be used with some, but not all StyleWriter printers.)
- Farallon makes the EtherMac iPrint SL adapter, for use with the StyleWriter I, II, 1200, 1500, 2200, 2400, and 2500. Connect the cable that shipped with the printer to the adapter and the adapter to iMac's Ethernet port using the cable provided. For more information visit Farallon's site at **http://www.farallon.com**.
- InfoWave has several products for printing to PC and Macintosh printers through hardware adapter cables and specific print drivers. Refer to their Web page at **http://www.infowave.com/** for more information on their imaging solutions.

For further information on connecting your iMac computer to older Macintosh computers or printers:
visit the following:

- **iMac Connectivity Guide**
- Article 43027: **"USB Capable Macintosh: Connecting a Serial Printer"**

Published Date: Feb 18, 2012

ARA 2.x: Mac OS 8.5.x Compatibility

ARA 2.x/OS 8.5.x Compatibility
This article has been archived and is no longer updated by Apple.
According to Article 58135: "**Open Transport 2.0 Read Me**", Apple Remote Access (ARA) Multiport Server 2.1, ARA Client 2.0.1 and later, and ARA Personal Server 2.0.1 and later are compatible with Open Transport 1.1 and later.

Note: Mac OS 8.5 installs Open Transport 2.0.1 by default and Mac OS 8.5.1 updates Open Transport to 2.0.2.

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Basic Macintosh Reference Books

Article Change History

9/15/92 - UPDATED
* To include Inside Macintosh Volume VI.

Where can I get information on things like INITs, DRVRs, cdevs, etc.?

This article has been archived and is no longer updated by Apple.
Here are some excellent Macintosh books that should help the basic user
and beginning specialist understand all those annoying references to
things like resources, forks, INITs, DRVRs, cdevs, etc.:

- Programmer's Introduction to the Macintosh Family (ISBN# 0-201-19254-3)

- Technical Introduction to the Macintosh Family (ISBN# 0-201-17765-X)

- Inside Macintosh, Volume I-III (ISBN# 0-201-17737-4)
" Volume IV (ISBN# 0-201-05409-4)
" Volume V (ISBN# 0-201-17719-6)
" Volume VI (ISBN# 0-201-57755-0)

Published Date: Feb 18, 2012

Mac OS X Server 1.x: Mixing Languages Not Supported

Installing different languages on the Mac OS X Server 1.x can produce unpredictable results and is not officially supported by Apple.

This article has been archived and is no longer updated by Apple.
Installing different languages on the Mac OS X Server 1.x can produce unpredictable results and is not officially supported by Apple. Difficulties can range from the inability to use some foreign language characters to the lack of double byte character support in some portions of the International English operating system. It is recommended that each Mac OS X Server 1.x system support only one language at a time.

Mac OS X Server 10.x is not affected by this issue.

Published Date: Feb 18, 2012

Mac OS X Server 1.x: Disk Copy Image Creation and the Blue Box

Using the Disk Copy Utility to create disk images is not supported using the Blue Box in Mac OS X Server 1.x.

This article has been archived and is no longer updated by Apple.
Using the Disk Copy Utility to create disk images is not currently supported using the Blue Box in Mac OS X Server 1.x. If attempted, the server stops responding approximately halfway through the disk image creation process.

Mac OS X Server 10.x has a native version of Disk Copy, and therefore is not affected by this issue.

Published Date: Feb 18, 2012

Mac OS X Server: Apple File Services and Case Sensitivity

Does Apple File Services distinguish upper from lower case characters in user names?
This article has been archived and is no longer updated by Apple.
Apple File Services user names are not case sensitive.
Published Date: Feb 18, 2012

Mac OS X Server: Guest Access Unavailable Via the Chooser

I enabled guest access to my Mac OS X Server machine via Apple File Services, yet when I try to log in from the Chooser, the radio button for Guest is still grayed out.

This article has been archived and is no longer updated by Apple.

Changes to guest access are available immediately to clients logging in via TCP/IP. For clients that connect via AppleTalk, a server restart is necessary for guest logins to become enabled.

Published Date: Feb 18, 2012

Apple IIGS: The Differences Between Spanish And USA Characters

This article has been archived and is no longer updated by Apple.

The differences between the Apple IIGS's USA character set and its Spanish character set are listed below. The USA characters are found on the key caps. The Spanish character is displayed when Spanish is selected from the Control Panel. All other keys generate the characters displayed on the key caps.

USA Spanish
--- -------
[upside down exclamation mark
] upside down question mark
\\ lower-case "n" with tilde above
| upper-case "N" with tilde above
{ degree symbol
} lower-case "c" with cedilla
British pound (currency) symbol
@ section symbol

The standard "?" was generated using the shifted backslash in both USA and Spanish character sets. We were unable to locate the right accent mark in either character set.

(Unfortunately, the current version of AppleLink is unable to reproduce these special characters graphically, which is why we can't just show you the characters in this article.)

Published Date: Feb 20, 2012

Mac OS X Server 1.x: Hard Disks Display in Workspace Manager

With Mac OS X Server 1.x, occasionally newly-added and initialized hard disks display as folders in the Workspace Manager.

This article has been archived and is no longer updated by Apple.
With Mac OS X Server 1.x, occasionally newly-added and initialized hard disks display as folders in the Workspace Manager.

This behavior is associated with Mac OS X Server 1.x, not Mac OS X Server 10.x.

Published Date: Feb 18, 2012

Mac OS X Server: NetBoot Desktop Admin Error Message -43

Why does NetBoot Desktop Admin application produce the following error message? "Unable to save changes. File system error, sorry a system error occurred. -43"
This article has been archived and is no longer updated by Apple.
The error message is usually caused by a server crash while using the NetBoot Desktop Admin application from a client. This error message occurs after the system is restarted and NetBoot Desktop Admin is restarted from a NetBoot client.

There is no workaround for this condition. Your only option is to reinstall Mac OS X Server and the NetBoot software.

Published Date: Feb 18, 2012

LaserWriter IINTX/IIf/IIg: Third-Party Hard Drive Compatibility

This article has been archived and is no longer updated by Apple.

TOPIC ----------

What third-party SCSI hard drives are compatible with the LaserWriter IINTX and LaserWriter IIf/IIg?

DISCUSSION ----------

Apple doesn't maintain a formal list of compatible third-party hard drives. The following information explains the conditions for compatibility.

To use a third-party drive with the LaserWriter IINTX, two conditions must be met:

- It must report SCSI termination power to the printer.

- It must report the volume size to the printer.

To use a third-party drive with the LaserWriter IIf/IIg, an additional condition must be met:

- It must report the SCSI unit attention command to the printer.

If these conditions are not met, the formatting fails and the hard drive will not work with the printer.

Note

Even when all conditions are met, some drives still may not be compatible with the printer. If you experience this problem, contact the hard drive manufacturer for compatibility information and possible workarounds.

Published Date: Feb 18, 2012

AppleShare IP 6.3: Web-Based Remote Admin Will Not Launch if AppleTalk is Inactive.

If AppleTalk is disabled in AppleShare IP 6.3, Web-Based Remote Admin will not launch and a 504 time-out connection error will occur when attempting to use a Web browser to access Web-Based Remote Admin.
This article has been archived and is no longer updated by Apple.
Although the connections are made via IP, AppleTalk must be enabled in order to use Web-Based Remote Administration in AppleShare IP 6.3.

WORDAROUND:

Enable AppleTalk or use Mac OS Server Admin instead of the Web-Based Remote Administration. AppleTalk must be active, but it does not have to be active on the same network port as TCP/IP. If you wish to use Web-Based Remote Admin but do not wish to enable AppleTalk on the same port as TCP/IP, you may set it to "Remote Only" or any other available connection type.

Published Date: Feb 20, 2012

Final Cut Pro: Copy and Paste Audio Levels From A1 to A2 in the Same Clip

I dragged a clip to the Timeline. I have set some audio level keyframes in Audio Channel 1 (A1) of the clip. If I Copy Attributes from A1 and Paste Attributes into A2 in the same clip, nothing happens.
This article has been archived and is no longer updated by Apple.
This situation can occur if you are pasting audio levels from one channel of audio in one clip to another channel of audio in the same slip, if you have not opened the clip in the Viewer at some point.

If you have dragged a clip that has Channel 1 plus Channel 2 audio directly from the Finder to the Timeline, or from the Browser to the Timeline, open the clip in the viewer at least once to enable Paste Attributes.

Published Date: Feb 20, 2012

Final Cut Pro: Marking Ins and Outs Using JKL Keys at Less Than 1x

This article discusses an issue, and provides a solution, with Final Cut Pro while using the JKL feature at less than 1x speed.
This article has been archived and is no longer updated by Apple.

Symptom

While using the JKL feature in Final Cut Pro 1.2.1 or 1.2.5, and holding down the K and L keys on the keyboard, I tried to mark an IN point with the I key. Nothing happens.

Solution

With Final Cut Pro 1.2.1 and 1.2.5, you can navigate a clip or sequence at less than 1x speed by holding down the K key, and holding down the J key for reverse or the L key for forward. While using this function, you may be unable to mark an IN or OUT point using the I and O keys on the keyboard. Instead, use the / and * keys on the numeric keypad to set an IN or OUT point.

Published Date: Feb 20, 2012

ImageWriter LQ: List Of Escape Codes Used For Switching Bins

This article has been archived and is no longer updated by Apple.

Here are the escape codes needed to switch between bins on an ImageWriter LQ:

(NOTE: The 'Select Bin X' codes select bins only; they do not cause paper feeding.)

Function	Keystrokes	ASCII Code
Select Bin 1	Esc @ 0	27 64 48
Select Bin 2	Esc @ 1	27 64 49
Select Bin 3	Esc @ 2	27 64 50
Feed to Top of Form	Control-L	12
Set Top of Form	Esc v	27 118

Published Date: Feb 20, 2012

HyperCard: HyperMIDI And MIDI XCMD

This article has been archived and is no longer updated by Apple.

Here are two XCMD sets for interfacing HyperCard to MIDI devices:

HyperMIDI 1.1a is a set of XCMDs for sending and receiving MIDI data from within HyperCard. It comes with several cards demonstrating different methods of managing MIDI data. One of the features of the XCMDs is the ability to place graphic sliders on cards. These sliders can be assigned to control any MIDI parameter.

HyperMIDI is available on many electronic bulletin boards and commercial software distributors.

A second set of XCMDs for HyperCard and MIDI is MIDI XCMD. This stack is not as fully featured as HyperMIDI, but will allow the recording and playback of your MIDI performance.

MIDI XCMD is available on many electronic bulletin boards and commercial software distributors.

Published Date: Feb 18, 2012

AppleShare PC: Why It Can‘t Delete Extension Mapping Icons

This article has been archived and is no longer updated by Apple.

AppleShare PC users have asked how to eliminate an unwanted Macintosh icon mapping -- for instance, an inadvertently-created "extra" DOS filename extension.

Actually, the number of extension mapping icons are static: they cannot be deleted. However, a file extension can be changed back to default, or to some other extension.

GENERAL INFORMATION:

AppleShare PC automatically sets a Macintosh file icon type for files created on file server volumes. These type assignments are based on the three-character DOS filename extension. DA also uses the file type and file extension information to recognize DOS text files and Macintosh file text files for potential conversion while copying.

Change Extension Mapping lets you select an icon type for a given file extension. This icon type will be assigned to all appropriate new files created on server volumes; existing files are not affected. For example, you can set all files that you created with the extension WXT to be file type Binary; whenever you create a file whose extension is WXT on the file server, it will automatically be assigned the Binary icon.

To see a list of already-mapped extensions (other than Binary), at the DOS prompt enter the command: ANET MAP

You type the extension of interest at the Extension prompt. (You don't type the initial period, and wildcards aren't allowed.) You press the Enter or Tab key to move the Type pane; then press the number of the type you want to associate with the extension you type. (You can also use the Up and Down Arrows keys to move through the list in Type pane.)

Icons for files on the server at the time you set the mapping remain unchanged.

You can change the icon type of an existing individual DOS file. Pressing F2 brings up an information window on the icon highlighted. You can change the file's type to any listed by pressing the number of the type you want to use. (Use the Up or Down Arrow key to scroll through all options.)

Published Date: Feb 18, 2012

iBook (16 VRAM): Does Not Wake From Sleep When Connected to a Monitor Using RGB Video Cable

Your iBook computer may not wake from sleep if the RGB video cable is connected to the computer, and Mac OS X 10.2 is installed.
This article has been archived and is no longer updated by Apple.

Symptom

The iBook computer does not wake from sleep, and the screen stays black. You have connected a monitor to the computer with the RGB video cable. See Figure 1.

Note: This does not happen when you connect a television or VCR to the computer using the S-video/composite video adapter.

Figure 1 RGB cable

Solution

Disconnect the RGB video cable, then wake the computer.

Important: In the future, you should disconnect the RGB video cable before putting the computer to sleep.

Related Documents

25263	iBook (FireWire): How To Display Video on Screen, Audio Externally With A/V Cable
88396	iBook: Adapters and Resolutions
88395	iBook: About the Video Adapter
88040	iBook (FireWire) and iBook (Dual USB): Composite Video Cable Not Interchangeable With Similar Cables

Published Date: Feb 20, 2012

Apple IIe: Only Enhanced ROMs Support The Mini Assembler

This article has been archived and is no longer updated by Apple.

Not all Apple IIe systems support the mini assembler; only Apple IIe systems with the enhanced ROMs contain the mini assembler routines. (To reach this routine, type an "!" and return from the monitor.)

The enhanced ROMs starting shipping in Apple IIe systems in mid-1985.

The only supported list of monitor entry points for the Apple IIe may be found in the "Apple IIe Technical Reference Manual".

Published Date: Feb 20, 2012

Apple Remote Desktop 1.1: Restart Computer After 1.1 Update

Mac OS X users who use Software Update to download and install Apple Remote Desktop 1.1 should restart their computers.
This article has been archived and is no longer updated by Apple.

Symptom

Other Apple Remote Desktop 1.1 systems will not be able to access the updated computer.

Solution

Restart the Mac OS X computer after installing the 1.1 update.

Published Date: Feb 18, 2012

AppleFax Modem: Wrong-Tone Problem May Be Misplugged Cable

This article has been archived and is no longer updated by Apple.

Here is a problem some users have experienced:

When the AppleFax Modem software is loaded, and another fax machine tries to dial in, the software on the AppleFax Modem station asks the user if it should answer the phone.

When the end-user selects "Answer Phone", the person at the AppleFax Modem hears the series of tones used to establish the connection between the 2 fax machines. However, the originator of the phone call still hears that the phone is dialing, and that the destination AppleFax Modem HAS NOT answered the phone call.

This is probably because the phone cable between the AppleFax Modem and the wall is plugged into the wrong RJ-11 jack (the one with the telephone icon below it) on the back of the AppleFax Modem.

The phone cable between the AppleFax Modem and the wall should be plugged into the RJ-11 jack with the RJ-11 icon below it.

Published Date: Feb 18, 2012

HyperCard Polygon Tool Not Supported For HyperTalk Drawing

This article has been archived and is no longer updated by Apple.

Some of you have asked why selecting the polygon tool through a script does not allow you to draw, even though drawing coordinate points are given in the script.

The polygon tool is not supported for drawing through HyperTalk, despite the fact that you can select it with the "Choose Tool" command. (This was documented in earlier version of the HyperTalk Release Notes, but has since been removed from consequent drafts of the notes.)

Published Date: Feb 18, 2012

AppleTalk: Where to Get Licensing Information

Can I license the source code for both standard AppleTalk and AppleTalk for VMS?

This article has been archived and is no longer updated by Apple.
To do this, you must submit a written proposal to Apple Software Licensing for approval. For information on how to proceed in this matter, please contact Apple Software Licensing. Use the 408-996-1010 general Apple number to connect to the Software Licensing group.

Published Date: Feb 20, 2012

LaserWriter Plus: Understanding How Font Downloading Is Handled

This article has been archived and is no longer updated by Apple.

Users who have created a bitmapped font (with Fontographer) and installed it in their system, then designed a spline (printer) font and written it in PostScript have asked:

What can be done so the Macintosh application will automatically download the font to LaserWriter Plus when using the screen font.

When both the bitmapped (screen) font and the spline (printer) font have been designed in Fontographer, there are two methods of downloading available:

1. Many Macintosh applications will automatically download fonts to the printer as they are needed. Whenever such a program needs a font that is not already in the printer, it searches the Macintosh disk drives for a file containing that font and downloads it. The font files must be in the current folder, the root directory, or the system folder of the startup disk. They may also be on an on-line server, if one is available. When automatically downloaded, a font is deleted at the finish of the document for which it was chosen (or, for PageMaker, at the finish of the text block.)

2. You can also download fonts to the printer manually, using the font downloading program supplied with Fontographer. When manually downloaded, a font remains in the printer, ready to be used, until you turn the printer off.

CAUTION: For most applications, four to six fonts can be downloaded to the printer before it runs out of memory. The actual number depends on the particular printer, applications and fonts you are using. (The LaserWriter IINTX with expanded memory provides more than described) If the fonts sent to the printer, both manually and automatically, exceed the printer's capacity, the printer will restart itself, ejecting a startup page and erasing all the downloaded fonts.

If some method other than Fontographer is used to generate the PostScript spline (printer) font, it is likely that the screen font and the printer font will not properly bond to one another.

Fontographer provides the proper bonding that is required for screen and printer fonts. If it is possible to open the PostScript printer file with Fontographer, Fontographer should then be able to generate the properly bonded screen and printer font files.

Published Date: Feb 20, 2012

MacPascal: Problem with Text Window Output option

This article has been archived and is no longer updated by Apple.

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With MacPascal's "TEXT WINDOW OUTPUT" option, programs outputting to a text
file may put garbage in the text file when writeln's are used for output.

Here's a workaround: open text output files under program control.

The program may be printing an undefined variable, probably a string variable.
Double check your program for improper variable use. If you determine that
this is not the problem, it is possible that you have run across a bug
reported in versions of MacPascal.
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Published Date: Feb 20, 2012

LaserWriter: Bold Symbol Font Can‘t Be Printed

This article has been archived and is no longer updated by Apple.

There is no way to print the Symbol font in bold when using a standard text editor.

It is possible to do this by manipulating the Symbol font information through PostScript, but this is not simple or practical.

Adobe Illustrator allows manipulation of the Symbol font in a variety of ways, but Adobe says that no bold version of Symbol is currently available.

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InterPoll: List Of Name Binding Protocol (NBP) Types & Comments

Here is a current collection of AppleTalk NBP (Name Binding Protocol) types as shown by Inter-Poll:

This article has been archived and is no longer updated by Apple.

NBP type Comment

AFPServer AppleShare or AFP compatible server
Apple IIe Boot AppleShare, w/Apple IIe boot support
Apple IIgs AppleShare, w/Apple IIGS boot support
Apple IIe Apple AppleTalk Card
Apple IIgs Apple AppleTalk GS
ASManager VAX, AlisaShare AFP Manager
ATK/VMS Bridge VAX, Alisa, Virtual AppleTalk bridge
C-Server Solana C-Server
ChooserName Farallon RegisterName node
DNGate Alisa, DECNet gateway
I-Server Solana, AppleTalk-AppleTalk bridge
ImageWriter II AppleTalk ImageWriter II
InBox Mailserver InBox Mail server node
Interbridge Hayes, AppleTalk-AppleTalk bridge
LaserShared Spooled LaserWriter
LaserWriter LaserWriter or LaserShare
LQ AppleTalk ImageWriter LQ
Macintosh II Macintosh II Apple Responder node
Macintosh Plus Macintosh Plus Apple Responder node
Macintosh SE Macintosh SE Apple Responder node
MS-DOS 3.3 MS-DOS PC Apple LocalTalk Card
MultiTalk Abaton MultiTalk (Discontinued Product)
NetBridge Shiva, AppleTalk-Async bridge
NetModem Shiva NetModem
NetSerial Shiva NetSerial
NMClient Shiva NetModem client
Node SilverServer node
NSClient Shiva NetSerial client
Odesta MultiUser Helix Helix Data Base Server
pcLINK VAX, Pacer, Virtual AppleTalk bridge
ProDOS 16 Image AppleShare, w/Apple IIgs boot support
QMServer CE Software QuickMail server
QMSNtest Quick Mail beta 5 node
QuickMai Quick Mail beta 5 client node
R-Server Solana, AppleTalk-Async bridge
ResourceServer Microsoft Mail server node
SerialX SilverServer node
Spooler AppleShare Print Services Spooler
TFTPServer Cayman GatorBox download server
Timbuktu Host WOS Timbuktu host node
Timbuktu Serial WOS Timbuktu node
Top2Serial TOPS node
Top2Server TOPS server node
Top2Station TOPS client node

Published Date: Feb 20, 2012

Iomega Bernoulli SCSI Drive Can Be Used As AppleShare Server

This article has been archived and is no longer updated by Apple.

An Iomega Bernoulli SCSI drive can be used as an AppleShare server. The two 20mb drives must be separate volumes.

You will notice little or no difference in performance versus other drives with similar performance specifications.

Published Date: Feb 20, 2012

Tandy TRS-80 to Macintosh Connectivity

This article has been archived and is no longer updated by Apple.

To transfer text files from a Tandy TRS-80 Model 4 to a Macintosh, you can attach the Macintosh via RS-232 cable and make the TRS-80 think the Macintosh is a printer. This is a simple inexpensive solution, necessary because the TRS-80 uses TRSDOS, a disk operating system that is not compatible with other systems' 5 1/4 inch floppy diskette formats. Here's how to do it:

1) From an appropriate application, save the files you want to transfer as text only.

2) Convert these files from TRS DOS 1.3 to TRS DOS 6.0, if necessary. This is required because the commands in steps 3 and 4 are not supported in 1.3. This is done using the TRSDOS 6.0 command CONV, which can be applied to a whole disk (for example, CONV :1 :2) or to a given file (for example, CONV filename:1 :2).

3) To set *CL (the RS-232 communication line device) to the appropriate driver, issue the command SET *CL TO COM/DVR

4) To direct print output to the RS-232 port instead of the parallel port (the default), issue the command ROUTE *PR TO *CL

5) For each file, issue the command LIST <filename> (PRT). This will "print" the file to the serial port.

Microsoft Works is a good program to have on the receiving end of this process, because it doesn't add the unwanted carriage returns that plague other communications program. Use the "Capture Text" choice under the Communications menu to specify where to save incoming data.

Published Date: Feb 18, 2012

A/UX 3.0.x: Compliance With POSIX Standard (9/94)

This article describes A/UX compliance with the POSIX Standard.

This article has been archived and is no longer updated by Apple.
On August 1, 1988 at Uniforum, Apple announced a release of A/UX that meets current draft 12 compliance. As with other vendors, we are waiting for a formal Portable Operating System Interface for Computer Environments (POSIX) standard to be validated.

A/UX version 3.0.x is POSIX compliant as follows:

* POSIX 1003.1b - yes
* POSIX 1003.12 - no
* POSIX 1003.2 - no

Below is a brief description of POSIX 1003.1b, POSIX 1003.12, and POSIX 1003.2.

POSIX 1003.1b: Is part of POSIX 1003.1, and POSIX 1003.1 specifies interfaces to basic system services such as processes, the file system, I/O, devices, and related identifiers and environment variables. POSIX 1003.1b is for things that did not get into POSIX 1003.1a in time for various deadlines.

POSIX 1003.12: Addresses "Protocol Independent Interface" on top of the transport layer, which include both BSD sockets and AT&T TLI (or XTI which is X/Open's version of AT&T TLI), plus DNI and SNI. DNI stands for Detailed Network Interface, it is a general interface to the transport layer, and can be used for most network programming. SNI stands for Simple Network Interface, designed for applications that do not need the flexibility of DNI. Applications can talk to either DNI or SNI or both, both DNI and SNI can talk to either sockets and/or TLI(XTI).

POSIX 1003.2: Specifies programming interface to the shell and related utilities, it has two parts. The first part (largest) describes the facilities required for the portability of shell scripts. The second part is called "User Portability Extension" (UPE), which includes interactive commands required for user portability, such as: vi.

Article Change History:
19 Sep 1994 - Added brief description of POSIX Standards, and A/UX compliance.

Support Information Services
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Fonts: How Screen Fonts And PostScript Fonts Are Associated

If I'm not using Fontographer, and the bitmapped font is defined (using ResEdit, for example), and the spline font has been defined in raw PostScript, how are the two fonts "bonded" together?

That is, how are the two fonts connected so that the Macintosh knows when the bitmapped font is referenced it should look for and download the "bonded" PostScript font?
This article has been archived and is no longer updated by Apple.
The necessary resources for font reproduction on a LaserWriter, when using a printer font, are:

* The screen FONT
* The printer FONT
* FOND

The screen FONT is used to select the desired font from within an application. The printer FONT is a defined font, either a bit-map or B-spline for a PostScript printer.

The FOND resource is needed to list the associated FONTs for the Font and Printing Managers to select an appropriate font. Because the user does not have a FOND to list the association of the spline font with the screen font, the Print Manager cannot select the printer font to be downloaded.

When you give the LaserWriter driver a screen font to print, the driver queries LaserWriter for a list of available fonts. If a downloadable font is not available but is listed in the screen font's FOND resource, that font is downloaded and used for printing.

The method of designating the downloadable font is to provide the downloadable font within the FOND resource, a font class, and a font name.

A font, previously downloaded, can be "uncoordinated." That is, it does not need to be referenced in the FOND listing, because when querying the LaserWriter, the LaserWriter driver selects the name of the pre-downloaded font. In the case of a font that is temporarily downloaded, the font must be "coordinated" with the screen font in the FOND.

The style-mapping table of the FOND resource contains the font class as the first two bytes. The font class designators of the LaserWriter driver v3.0 contain 16 (0 to 15) values (10 through 15 are reserved).

Font class designators describe the font and allow or disallow encoding functions, like condensing or outlining.

The style-mapping table contains indexes of all downloadable font names for the font's available styles. If the font name is found in the table, the Font Manager searches for the font in root directories of all available volumes. The name is determined by the first five letters of the font name in the style-mapping table and the first three letters of the font style. The first letter of the base name and the first letter of the style suffix are capitalized.

The resource type of the downloadable font must be an unbundled "LWFN" whose creator is "LWRT". It is suggested that the font information be kept in several "POST"-type resources, rather than one with IDs beginning with 501 decimal. This avoids memory conflict during loading of the font resource. Each resource must begin with a two-byte data field containing the data type in the first byte and binary zero in the second. The balance of the resource is the data to be downloaded. The data type consists of
values 0 to 5 and describes the resource data as text, binary, comment, eof, and so on.
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LaserWriter: How To Get Hardcopy Error Printouts

This article has been archived and is no longer updated by Apple.

Some users want to set the LaserWriter to print errors on a page rather than sending the message back to the host. Many of these users have heard that a variable in "errordict" needs to be changed, and have asked about the name of the variable.

Getting the LaserWriter to print errors is certainly possible, but it is not as simple as changing the value of a variable. Adobe Systems provides a PostScript program, "The Error Handler", that will do the job.

For more information, search under: Adobe Systems

Published Date: Feb 20, 2012

LaserWriter II: Turns On Automatically To Redistribute Toner

This article has been archived and is no longer updated by Apple.

Every so often, the LaserWriter II sounds like it is starting to print, and then just stops. Needless to say, many users have inquired about this strange process.

In fact, it's only the LaserWriter II's way of redistributing the toner in the toner cartridge to ensure consistent, high-quality printouts.

Published Date: Feb 20, 2012

LaserWriter: How To Reset It Via PostScript

This article has been archived and is no longer updated by Apple.

The PostScript command:

systemdict begin quit end

resets the LaserWriter when connected to the LaserWriter in PostScript batch mode via AppleTalk.

This command removes the Laser Prep file, as well as any Postscript program that has been entered into the LaserWriter. A test page prints after the command has been executed -- if that option is turned on.

NOTE: To send the previous command, you MUST be in the PostScript batch mode of the PostScript interactive mode.

The following command can be used in ANY PostScript mode:

serverdict begin 0 exitserver
systemdict begin quit end

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LaserWriter IINT/NTX: Manual Correction For Clearing Paper Jam

This article has been archived and is no longer updated by Apple.

On pages 91 and 92 of the LaserWriter IINT/IINTX User Manual (Apple part #030-3215-A) the user is instructed to open the printer to check for jammed paper. The user is then instructed to remove the cassette and pull out the paper.

The illustration shows the printer closed as the user is pulling out the paper. Although the instructions do not state to close the printer, the customer did and broke the toner cartridge.

The illustration is misleading. The printer should remain open until the cassette has been replaced.

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LaserWriter IINTX SIMM: Specifications (8/95)

This article describes the specifications for SIMMs used in the LaserWriter IINTX.

NOTE: This product has been discontinued and is no longer available.

This article has been archived and is no longer updated by Apple.
Some of the vendors and vendors part numbers for the 64 pin SIMMs used on LaserWriter IINTX I/O boards are listed below. The SIMMs are 120 nanosecond RAM with CAS before RAS refresh.

256K SIMMs (64 pin)

Manufacturer Vendor Part Number
TOSHIBA TC511000-10
NEC MC141

1 Megabyte SIMMs (64 pin)

Manufacturer Vendor Part Number
HITACHI HB56A000108AP1

Note that the SIMMs for the LaserWriter IINTX are different from the SIMMs used in CPUs.

Article Change History:
22 Aug 1995 - Made minor corrections.
31 Aug 1994 - Removed "Discontinued" from title. Reviewed and updated.

Support Information Services
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SCSI Hard Disk Problem/Cure

This article has been archived and is no longer updated by Apple.

PROBLEM:
When an external SCSI hard disk is connected to either a Macintosh SE or Macintosh II with an internal SCSI hard disk, neither hard disk is recognized by the system. When the external drive is disconnected, the internal hard disk works correctly.

Terms used in this article:
UUT = unit under test

CURE:
1) Does the system with the internal drive come up ok by itself and do diagnostics pass ok?

Yes -- Go on to Step 2
No -- Repair machine with normal diagnostic techniques and then retest configuration

2) Does the external SCSI device operate correctly on a Macintosh Plus, Macintosh SE with two 800Kb drives, or on the UUT when the internal SCSI cable is disconnected from the motherboard?

Yes -- Go on to step 3
No -- Repair external device using normal diagnostic techniques then re-test the configuration.

3) a) Fix or replace the SCSI address select switch on the external SCSI device
b) Fix or replace the SCSI Device select cable on the external SCSI device
c) Check or replace the external device's SCSI terminator.

Explanation: If the drives (internal and external) work independently of each other, chances are they conflict in one of two possible areas: Either there is a SCSI address conflict or the SCSI buss is not terminated properly.

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AppleFax Modem Problem/Cure

This article has been archived and is no longer updated by Apple.

PROBLEM:
A Macintosh with the AppleFax Modem connected, the software loaded and another fax machine tries to dial in. On the AppleFax Modem station, the software asks the user if it should answer the phone. When the user selects "Answer Phone", the person at the AppleFax Modem hears the series of tones used to establish the connection between the two fax machines. The originator of the phone call still hears that the phone is dialing and that the destination AppleFax Modem HAS NOT answered the phone call.

CURE:
The problem above is caused when the telephone cable between the AppleFax Modem and the wall is plugged into the wrong RJ-11 jack, the one with the telephone icon below it, on the back of the AppleFax Modem. Plug the cable from the wall jack into the jack with the RJ-11 icon below it.

EXPLANATION:
There are 2 RJ-11 phone jacks on the AppleFax modem, one has an icon of a telephone and the other has an icon of an RJ-11 jack. Unlike other Apple modems the RJ-11 jacks on the AppleFax modem require that the telephone be plugged into the jack with the telephone icon and the line from the wall be plugged into the jack with the RJ-11 icon on it. The RJ-11 jacks are not interchangable.

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GS/OS: Needs Latest ROM Revision To Work With ProFile

When using GS/OS under Apple IIGS System Disk 4.0 with a 5MB ProFile, be sure you are using the latest ProFile ROM revision.
This article has been archived and is no longer updated by Apple.
A 5MB ProFile needs the 341-0299 ROM revision to work correctly with GS/OS.

If you have problems formatting, or receive a message stating that your drive appears to be damaged, you need the new ROM.

NOTE: This ROM is a service part, and is located on the Apple II price pages.
Published Date: Feb 20, 2012

Final Cut Express 2.0: Late-Breaking News

This document contains late-breaking information about Final Cut Express 2.0.
This article has been archived and is no longer updated by Apple.
For the latest information about product updates, tips and techniques, and qualified third-party devices, visit the Final Cut Express website at: http://www.apple.com/finalcutexpress.

Ability to Record From Print to Video Window

You can now record directly for the Print to Video window when the Automatically Start Recording checkbox is selected. When this checkbox is selected, you do not have to press the Record button on your camcorder or deck after you click OK in the Print to Video window.

Before you click OK in the Print to Video window:

- Cue the tape to the appropriate spot where you want to start recording.
- Check the tape label to ensure you're not recording over video you want to keep.
- Verify that the writer protection tab on the tape is not pulled over.

Batch Capture Renamed to Capture Project

The Batch Capture dialog is now call the Capture Project dialog.

Set Logging Bin Renamed to Set Capture Bin

The menu command called Set Logging Bin is now called Set Capture Bin.

To set a capture bin from the Browser:

1. In the Browser, select the bin you want to use as your capture bin.
2. Control-click the bin, and choose Set Capture Bin from the shortcut menu.

Scoring Music With Soundtrack for Final Cut Express 2

Soundtrack is a music scoring application that lets you create original scores for Final Cut Express 2 video programs, as well as create standalone musical arrangements. You can import markers from Final Cut Express 2 QuickTime movie files into Soundtrack. This allow you to compose the music to match the action in the video.

To export a QuickTime movie for use in Soundtrack:

1. In Final Cut Express 2, choose Export from the File menu. Now select, For Soundtrack.
2. In the Export dialog, make sure Audio Scoring Markers is chosen in the Markers pop-up menu, then click Save. Final Cut Express 2 creates a QuickTime movie file that includes the audio track of your program and any scoring markers you add to the program.
3. In Soundtrack, use the Media Manager to locate the QuickTime movie file with the markers.
4. Drag the QuickTime movie file to the Video pane of the Viewer. The QuickTime movie appears in the Viewer and also as a clip in the video track of the Timeline. Any markers in the video are displayed in the Timeline. If the QuickTime movie has an audio track, it appears as its own audio track in the Timeline.

To import a Soundtrack project into Final Cut Express 2:

1. When your composition is complete, in Soundtrack, choose Export Mix from the File menu.
2. In the Export dialog, make sure Mute Audio Track From Video is selected to exclude the audio from Final Cut Express 2.
3. Soundtrack exports your project mix to a stereo AIFF file.
4. In Final Cut Express 2, choose Import from the File menu. Now select, Files.
5. In the dialog that appears, locate and select the AIFF file that corresponds to your Soundtrack project, then click Open.
6. Your Soundtrack project opens in the Browser as an AIFF audio file. This file consists of two audio tracks representing the stereo pair.

To make subsequent roundtrips:

1. In Final Cut Express 2, choose Export from the File menu. Now select, For Soundtrack. Final Cut Express recognizes any audio tracks

imported from Soundtrack, and displays a dialog letting you select which Soundtrack audio files you want to export as part of the video. In most cases, you'll leave these unselected, so the audio from Soundtrack is not added to the video.

2. In the Export dialog, select Export Using Previous Settings. The updated video will be exported with exactly the same name.
3. In Soundtrack, use the Media Manager to locate the updated QuickTime movie file with the new markers.
4. Drag the QuickTime movie file to the Video pane of the Viewer. The updated video appears in the Viewer, the updated video clip appears in the video track in the Timeline, and any added scoring markers appear in the Timeline.
5. In Soundtrack, when you are ready to export the updated score, hold down the Option key as you choose Export Mix from the File menu. The project is re-exported with the same name, bypassing the Export dialog. As long as your Soundtrack project file has the same name, your AIFF stereo mix automatically updates in the Final Cut Express Timeline.

Note: See the Sountrack User's Manual for complete instructions about using this application.
Published Date: Feb 20, 2012

Apple SuperDrive: Using And Formatting Disks

This article has been archived and is no longer updated by Apple.

TOPIC ----------

This article tells the proper way to format Apple SuperDrive disks, and the precautions to take in using them.

DISCUSSION ----------

Although the Apple SuperDrive (formerly Apple FDHD) supports both the Group Code Recording (GCR) and Modified Frequency Modulation (MFM) formats, the 1.4MB format requires that you use only Apple SuperDrive disks.

These disks have a special thin recording surface that allows the higher data rates. You CAN still use 800K disks, but they will only format as 400/800K disks. Apple SuperDrive media are identifiable by the 2 holes on the disk -- one on the upper left, the other on the upper right. The bonus hole in the upper left looks like an extra write-protect notch.

The SuperDrive disks will only format to 1.4MB. The drive will sense if a high-density disk is inserted.

Don't use these disks in older 800K disk drives: if you format the disk in an 800K drive, it will not work in the SuperDrive. The drive will try to read in MFM mode when it notices the bonus hole in the media, and then ask if you want the disk formatted. There is no option in the dialog box to format to any other size.

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GS/OS: Correction To Formatting Options Error In The Manual

The Apple IIGS System Disk Users Guide,(Apple Part #030-1495-B) has an error on page 47.
This article has been archived and is no longer updated by Apple.
The first paragraph on page 47 SHOULD read:

"The format options for 3.5-inch disks are 800K 2:1, 800K 4:1, and 400K 2:1. 800K and 400K refer to the capacity. 2:1 and 4:1 refer to different layouts of tracks and sectors on a disk. Choose 800K 2:1 for ProDOS 16 or GS/OS files and 800K 4:1 for ProDOS 8 files (or for a combination of ProDOS 8 and Macintosh files). The only time you should choose 400K is if you're using a single-sided 3.5" disk. The format option for 5.25-inch disk is 140K."

The essential (and correct) information in the new paragraph is:

When using ProDOS 8, select a 4:1 layout and ProDOS 16 and GS/OS should use a 2:1 layout.
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Apple IIGS System Software 4.0: GS/OS General Information

This article has been archived and is no longer updated by Apple.

The heart of Apple IIGS System Software 4.0 is GS/OS, the first 16-bit, native-mode operating system written in 65816 code.

GS/OS significantly speeds up boot time, disk access time, and program launch time, and increases the performance of disk-intensive applications. GS/OS is file system independent. Applications that make GS/OS calls will be able to read and write many different and seemingly incompatible file systems.

An added benefit is the ability to access file systems that support very large files and storage media (up to 4 gigabytes). GS/OS is compatible with Apple IIGS ProDOS 16, and will run applications that follow ProDOS 16 design guidelines.

Apple IIGS System Software 4.0 contains two disks:

SYSTEM.DISK
SYSTEM.TOOLS

There are also two new manuals:

Apple IIGS System Disk User's Guide
Apple IIGS System Tools

The user's guide explains the Finder. The System Tools manual explains the programs on the SYSTEM.TOOLS disk.

System Requirements:

A 512K Apple IIGS System with ROM revision #01 is required to run System Software 4.0. On system-boot, the first revision of the Apple IIGS ROM displayed "Apple IIGS" at the top of the screen with nothing at the bottom. The rev 01 ROM displays "Apple IIGS" at the top with copyright and "ROM rev" at the bottom.

The INSTALLER

The Installer is a new program for installing files on your startup (boot) disk. The Installer is located on the SYSTEM.TOOLS disk along with the other utility programs.

The Installer allows users to update System Files without having to drag files to the correct location in the System Folder. The SYSTEM.DISK contains a minimum set of files the "standard user" will need to be able to operate. If you want support for the following products and programs, you MUST run the Installer:

- Apple 5.25" Disk Drives

- UniDisk 3.5" Disk Drives

- SCSI Hard Drives

- AppleCD SC (High Sierra)

- ImageWriter LQ

- LaserWriter

- AppleTalk ImageWriter or AppleTalk ImageWriter LQ

- Apple MIDI Interface

- Epson Printer

- Chooser II

- Namer II

- Advanced Disk Utility

The Installer program runs like the Font/DA mover on the Macintosh. If you do not run the Installer to add support for connected device, it will not be accessed while running GS/OS -- for example, if an Apple 5.25" disk drive is connected, it will not show up in the finder or while running applications until the Driver file is installed.

NOTE: When using the Installer, make sure you do not remove any files from the Apple IIgs SYSTEM.DISK or SYSTEM.TOOLS disks. Both disks are needed to update other disks. The tool files are located only on the SYSTEM.DISK and AppleTalk Utilities are located only on the SYSTEM.TOOLS disk.

File System Translators

GS/OS uses a generic file interface that communicates with applications. This operating system uses a File System Translator (FST) that acts as an intermediary between GS/OS and the specific file system and device. ProDOS and ISO/High Sierra FSTs are included with GS/OS.

This organization will allow GS/OS to read many different kinds of disks (only two are supported at this time). Some file systems may have calls that are not supported by GS/OS; for example a hard drive with tape backup may have a command to backup the volume to tape. Moreover, some FSTs can not support all of the GS/OS calls. The High Sierra FSTs do not permit write calls because CD-ROM is a read-only medium.

Advanced Disk Utility

The Advanced Disk Utility lets you divide hard disks into multiple volumes, called partitions. You can use the Advanced Disk Utility to initialize, erase, and zero hard disks, partitions of hard disks, 3.5" disks, 5.25" disks, and RAM disks. All of the functions, except partitioning and zeroing a disk, can be done at the Finder level.

Partitioning

The Advanced Disk Utility partition option has more options than the partition program supplied with the SCSI card. To support SCSI devices you must have the SCSI ROM revision installed, ROM part # 341-0437-A.

The new features are:

- Initialize partitions on the same hard drive with different file systems

- Up to 7 partitions per hard drive, but total of 7 partitions can be accessed for each SCSI card, regardless of the slot the SCSI card is in.

- Uses the full 80MB on an 80MB hard drive (3 partitions).

Zeroing

Zeroing a volume wipes out everything on the volume. Unlike erasing, zeroing removes not only the volume directory, but also all the files, the file system, and even tracks and sectors. After zeroing, a volume must be initialized again before it can receive data. Zeroing writes over all the data, so no one can

reconstruct the information that was contained on the drive.

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GS/OS: UniDisk 3.5" Drive Motor Noise

When using a UniDisk 3.5" with GS/OS you will notice something different: the drive light will flash about 2 times per second, and the motor will seem to be starting up. (With the more familiar ProDOS 16, the light flashed but the motor did not behave in this fashion.) This seemingly odd behavior is caused by a new feature of GS/OS.
This article has been archived and is no longer updated by Apple.
GS/OS lets the application know when a disk is ejected or switched from the drive. In order for GS/OS to check for disk switch events it sends a small program to the controller located in the UniDisk 3.5". When this program executes, the UniDisk 3.5" get ready for a disk access, causing the drive light to turn on and start up the motor.

The disk switch event allows the application to check the drive before it writes out information and changes the directory. This change also allows the DISK CACHE desk accessory to function correctly with the UniDisk 3.5.
Published Date: Feb 20, 2012

Macintosh II: How To Simultaneously Access AppleShare And UNIX

This article has been archived and is no longer updated by Apple.

It is possible for a Macintosh II to have simultaneous access of an AppleShare file server and a UNIX machine. There are two ways to go about this.

The first way is to use K-Term and K-TALK/Host software. K-Term provides a multi-window terminal emulator for the Macintosh. With it, a single Macintosh can emulate as many as four terminals for any UNIX host computer running K-TALK/Host via the same LocalTalk cable. By making AppleTalk protocols available to the UNIX system, this software makes it possible for the UNIX system to communicate with AppleTalk devices.

Important: To run K-Term and K-TALK/Host softwares, the Kinetics FastPath gateway box is required between the UNIX machine and AppleTalk.

The second way is to combine UNIX and LocalTalk with NCSA Telnet 2.2 software. This package provides interactive access from a Macintosh II to Telnet hosts on TCP/IP networks. The hardware configuration requires a Macintosh connected to AppleTalk and a Kinetics FastPath that connects AppleTalk to Ethernet.

Note: Telnet is public domain software from The National Center for Supercomputing Applications at The University of Illinois at Urbana-Champaign.

Published Date: Feb 18, 2012

A/UX: How To Recover "dev/syscon"

Article Change History

08/31/92 - REVIEWED
* For technical accuracy.
08/31/92 - Updated
* Removed obsolete information.

This article discusses what happens when the "dev/syscon" file is corrupted and two ways to recover.

--- problem description ------
On system startup, the system went to the point where it checks the total amount of memory and hung. It didn't get to the point where it asks if a check of the file system should be made.

Running "esch -v" returned the system messages:

Running autorecovery esch -v
fscheck - dev/dsk/c5d0s0

The system completed phases 1, 2, and 3 of the file system check with no problems. Then, in phase 4, it found problems:

free inode count wrong and superblk -- fixed
file system modified

It went through a few other file systems. Then, in the section where A/UX starts validating the files, it showed a permissions error on major/minor device number. Then, it showed replacing "/dev/syscon".

It started validating other files. Then, it bombed leaving these messages:

/dev/syscon was not replaceable
exiting file check.

After this, you cannot get his kernel up and running nor can you launch on "/newunix".

This article has been archived and is no longer updated by Apple.
Most likely, the "/dev/syscon" file was corrupted. There are two ways you might be able to recover it from SASH:

Here are the two ways:

a. Directly copy /dev/syscon from one of the Eschatology partitions.

For example:

```
pname -s 3 "Eschatology 1"
rm -f /dev/syscon /dev/console /dev/systty
cp (0,0,3)/dev/syscon /dev/syscon
ln /dev/syscon /dev/console
ln /dev/syscon /dev/systty
```

b. Create /dev/syscon from scratch.

```
rm -f /dev/syscon /dev/console /dev/systty
mknod /dev/syscon c 7 0
chmod 722 /dev/syscon
ln /dev/syscon /dev/console
ln /dev/syscon /dev/systty
```

Note that "/dev/console", "/dev/syscon", and "/dev/systty" are all hard-linked.

Published Date: Feb 18, 2012

Getting Permission To Reprint Technical Library Information

This article has been archived and is no longer updated by Apple.

Here's how to obtain permission to reprint information (articles, specifications, etc.) posted in the Apple Technical Information Library.

Send in a written request that:

1. identifies the material to be reprinted

2. explains the intended use of the reprint

3. acknowledges that the reprinted material will give Apple Computer, Inc. original credit for the information.

Send your request to:

Technical Library Reprint Request
Apple Legal Department, mailstop: 38-I
Apple Computer, Inc.
10431 N. De Anza Blvd.
Cupertino, CA 95014

Published Date: Feb 18, 2012

AppleFax Modem: It Waits 2 Minutes After A Call To Disconnect

This article has been archived and is no longer updated by Apple.

Some people have asked why the AppleFax modem seems not to disconnect automatically if the modem was dialed accidentally from an outside line (for example, a wrong number).

Although the caller has hung up, the modem does not immediately disconnect.

The AppleFax modem eventually DOES time out and disconnect. However, the timeout does not occur until 2 minutes into the "no modem found" condition.

Published Date: Feb 18, 2012

Apple Scanner: Fixing Save As Untitled Settings 2 Issue

Whenever I scan and save a new image and then I try to save the resulting new settings I get a System Error ID 12. What is wrong?
This article has been archived and is no longer updated by Apple.
In the AppleScanner software, the brightness and contrast settings can be saved. Each setting that is saved has to be named; the default name is "Untitled Settings".

If the settings are saved as "Untitled Settings", the next default name is "Untitled Settings 2". The problem occurs when saving these new settings as "Untitled Settings 2": when an image is scanned and saved, a System Error ID 12 occurs.

The reason for the error is that maximum length for a setting name is 16 characters, and "Untitled Settings 2" violates this rule.

To work around this problem, each time a new setting is saved, use the "Save as..." option, and give the file a name of 16 or fewer characters.
Published Date: Feb 20, 2012

Apple IIGS: How To Change The Control Panel Key Repeat Function

This article has been archived and is no longer updated by Apple.

Here's how to reset or disable the key repeat function of the Apple IIGS Control Panel:

1. Select the Options menu on the Control Panel.

2. Move the asterisk on "REPEAT DELAY" all the way to the right of the sliding scale, and the "REPEAT SPEED" all the way to the left.

3. To save these changes, press the Return key.

Published Date: Feb 18, 2012

AppleFax Modem: It Can Only Answer After Four Rings

This article has been archived and is no longer updated by Apple.

Some users have discovered that they cannot get the AppleFax Modem to answer on the first ring instead of the fourth ring from within the AppleFax application software.

When the AppleFax application is launched, it forces the AppleFax modem into its default (answer on fourth ring) setting.

Apple currently has no solution to this problem.

Published Date: Feb 18, 2012

PC Transporter: IIGS Driver Not Available For AppleShare

Can I use PC Transporter with an AppleShare File Server?
This article has been archived and is no longer updated by Apple.
Applied Engineering's PC Transporter, the MS-DOS card for the Apple II family, can theoretically work with the AppleShare File Server. Specifically, you can use the server as drive "D" when using the MS-DOS software, as well as Apple IIGS mode.

However, such a driver that can access the AppleTalk resources of the Apple IIGS doesn't currently exist. Development of the driver is typically the responsibility of the card's manufacturer.

The Tech Info Library article#17159: "**Locating Vendor Information**", can help you search for a particular vendor's address and phone number.
Published Date: Feb 20, 2012

ProDOS: Applications Need "Chooser II" To Select A Printer

Some users running AppleShare networks have had problems getting the ProDOS applications to print.
This article has been archived and is no longer updated by Apple.
To get a ProDOS application to print correctly, you need to run the "Chooser II" program, which is in the AppleTalk folder on Apple II Workstation disk. This program allows you to select a printer.

NOTE: If the printer selected is a LaserWriter, the ImageWriter emulator is downloaded immediately. "Chooser II" can run from either the server or the work-station. Ensure that the application is printing to slot 7. If printing to a LaserWriter, set up the program for printing to an ImageWriter.
Published Date: Feb 20, 2012

LaserWriter II: Front Panel Light Explanation

This article has been archived and is no longer updated by Apple.

The front panel lights will act diffrently depending on the type of the controller board installed in the LaserWriter II. Each of the 3 controller boards, the IISC, NT, and NTX, will produce different displays.

With the printer operating correctly, turn the printer ON. After the user print comes out, open the cover wait 10 seconds, and close the cover. Each of the LaserWriter II controller boards will act differently. The following chart show how each of the boards react.

LaserWriter IISC - ALL THE LIGHTS GO OFF. After closing the cover the READY light comes ON.

LaserWriter IINT - ALL THE LIGHTS GO OFF and TONER light comes ON solid. After closing the cover the READY light comes ON, and the TONER light stays ON. But after printing a document the TONER light goes OFF.

LaserWriter IINTX - ALL THE LIGHTS GO OFF and TONER light comes ON blinking. After closing the cover READY light comes ON, and the TONER light goes OFF.

Published Date: Feb 18, 2012

LaserWriter II: Multiple Paper Feed Problem/Cure

This article has been archived and is no longer updated by Apple.

SYMPTOM: Multiple pieces of paper are being fed into the printer, eventually causing a paper jam to occur.

CURE: The paper feed roller assembly and/or the transfer guide assembly may be defective.

Replace the paper feed roller assembly (971-0017) first, if this does not solve the problem replace the transfer guide assembly (971-0019). Replacing the parts rather than fixing them is the best way to do it. Remember that a defective motor (971-0014) or gears could also exaggerate the problem.

ADDITIONAL INFORMATION:
The paper feed roller assembly (971-0017) is feeding the page to the transfer guide assembly (971-0019) and then paper feed roller should stop. The transfer guide assejmbly should align the page and then feed trough. At the time when the transfer guide assembly is feeding the page the paper feed roller should return to home position. If the paper feed roller is defective (roller itself or clutch are bad) the timing will be off and the paper feed roller will attempt feeding second page. When the transfer guide assembly is slippery or defective it will cause a slight delay in the paper transfer causing paper jam.

Published Date: Feb 18, 2012

LaserWriter II: Excess Toner Spilling Inside

Symptom: After repair the LaserWriter II will spill excess toner during printing into the body of the LaserWriter II.

This article has been archived and is no longer updated by Apple.
Cause: This is caused by a loose or missing screw that attaches the high voltage power supply to the chassis in the area where the capacitor is mounted to the chassis through the chassis lug. The missing screw prevented proper grounding of the high voltage power supply to the LaserWriter II chassis.

Additional Information:
The printer was initially repaired for a lack of printout. The high voltage power supply was found to be defective. When the high voltage power supply was replaced the LaserWriter II started spilling toner badly during printing.
While the printer was properly diagnosed, during re-assembly a screw in the high voltage power supply mounting was not re-installed. This caused a bad ground connection for the high voltage power supply which caused excess toner to be dumped from the cartridge.

Published Date: Feb 18, 2012

AppleShare: Third-Party Compatibility (AppleShare-Aware) 3/93

Article Change History

03/15/93 - UPDATED
* Acius now ACI US, Inc.

The following applications have successfully passed Apple testing for compatibility with AppleShare 1.1. They are both multiuser and multilaunch, and work correctly and safely in a shared environment. These applications and their files can be launched, opened and saved from AppleShare the same as they would be from a local disk.

*** DISCLAIMER
This list is not an endorsement or advertisement for products. It is meant to provide you with the best inforamtion that we can give regarding AppleShare-Aware applications. Questions on specific products are best answered by the manufacturers themselves. Remember, there is no substitute for hands-on use on the appropriate hardware and software configuration you intend to sell or buy.

The products listed here reflect ONLY those products tested by Apple. There are hundreds of Macintosh applications that were not tested. If you have a question about a product that is not listed, please contact the product's manufacturer directly.
This article has been archived and is no longer updated by Apple.
Product Name Manufacturer

PictureBase Symmetry
PageMaker, 2.0 Aldus
Fourth Dimension ACI US, Inc.
MacWrite Claris
MS Word, 3.01 Microsoft
MS Works, 1.1 Microsoft
PowerPoint, 1.0 Microsoft
Insight, 2.0 Layered
Intermail, 1.41 & 42 Microsoft
Inbox Think
MORE 1.1 LVT
MS Excel, 1.04 Microsoft
RSG4! LetraSet
FileMaker Plus Nashoba Systems West
Omnis III Plus Blythe
MacProject Claris
Great Plains MU Acct. Great Plains
MacinUse 2.04 SoftView
Eureka Borland
SuperPaint Silicon Beach (now Aldus Consumer Div.)

For those of you interested in how to create an AppleShare-Aware application, you may refer to the following resources:

1) Inside Macintosh Volume 5
Available through the Apple Programmers and Developers Association (AppleLink: APDA) or in technical bookstores. This book is published by Addison Wesley.

2) Applications Development in a Shared Environment
Available through APDA

Published Date: Feb 20, 2012

LaserWriter IINTX: Emulating The HP LaserJet‘s Printer Language

Some users of LaserWriter IINTX have asked: what is "PCL", and how is it different from PostScript and LaserJet?

This article has been archived and is no longer updated by Apple.
PCL is an acronym for Printer Control Language, and is the language on which the HP LaserJet Plus is based. PCL lacks the overall power of PostScript, but is adequate for standard printing needs.

Apple's emulation of the HP LaserJet Plus is not perfect. Pages 118 and 119 of the LaserWriter IINT/NTX Owner's Guide (Apple Part #030-3215-A) explain the differences.

Because we do not emulate PCL perfectly, you may encounter some problems with certain applications -- for instance, if you send the Hewlett Packard PCL command to reset LaserJet Plus to LaserWriter IINTX while in LaserJet emulation mode, the system may crash.

We strongly suggest that you test a LaserWriter IINTX in a PCL environment before making a decision to go with this type of setup.

Published Date: Feb 18, 2012

LaserPrep And PostScript: Solution To Interpreter Problem

This article has been archived and is no longer updated by Apple.

There is a problem with Apple LaserPrep that surfaces on later versions of PostScript interpreters (version 5.0 and newer). The symptoms are generally that no error messages are generated and that no output is produced.

The newer versions of the LaserPrep implements a number of smoothing functions that are present in some versions of Postscript interpreters. The LaserPrep header checks for the existence of these functions in the interpreter. If it finds that such funtions exist, it disposes of the code for these functions (the code is the hexidecimal at the end of the file).

Unfortunately, when hooked up serially, the LaserPrep disposes of code until it reaches a Control-D, which ends up being the end-of-job marker at the end of the users PostScript file. Hence, the body of the job gets thrown away along with the rest of the header.

On a laser printer where these functions don't exist, the code is used, and the LaserPrep should function correctly.

A quick way of determining whether the Macintosh PS file needs this version of the LaserPrep file is to check the first line, which should read:

!PS-Adobe-2.0

Other versions have different headers and use different LaserPrep file version numbers.

The solution to this LaserPrep problem is two-fold.

(1) If you are not using the code (that is, if you have something like a QMS printer), then you can delete the code entirely. This has the advantage of making the LaserPrep file smaller and thus quicker. The disadvantage is that if you add devices that don't have the built-in functions, you will have to either use two different version of the LaserPrep file, or revert to the second method.

(2) The second method consists of a very small change in the LaserPrep code so that the laser printer will always use the smoothing code. This may not be very efficient, but it guarantees that the code should work for most Postscript devices.

The solutions that follow concern Apple LaserPrep file version 68, generated by LaserWriter driver version 5.2. Which modification you use depends on which solution you prefer.

Solution #1:

Delete everything from the line shown below, to the end of the header file. This line is the last line of text immediately preceding the first section of hexidecimal code (if you are using MacWrite to view the PostScript file, it's about 12 pages in). The end of the header file can be located by finding the line that says "%%EndProcSet". Do not delete the "%%EndProcSet" line. It must remain to indicate the end of the header.

currentfile ok userdict/stretch known not and{eexec} {flushfile}ifelse

Solution #2:

Change the line located just above the first set of hexidecimal codes from:

currentfile ok userdict/stretch known not and{eexec} {flushfile}ifelse

to
currentfile ok userdict/stretch known not and pop
true{eexec} {flushfile} ifelse

Locate a second line of text after the long series of zeros, which follows the first section of hexidecimal codes, and immediately before another section of hexidecimal code.

Change the line located just above the second set of hexidecimal codes from:

currentfile ok userdict/smooth4 known not and{eexec} {flushfile} ifelse
to
currentfile ok userdict/smooth4 known not and pop
true{eexec} {flushfile} ifelse

LaserWriter Driver 5.1 will generate header files with a version number of 65. Earlier driver versions will have smaller numbers. This information should remain good as long as the second line of the actual PostScript file reads %! PS-Adobe-2.0., as described above. If this version number changes, the location of the lines to be changed may also differ, and there may be other lines that need to be changed as well.

If UNIX, or A/UX, is used to look at these Command-K generated PostScript files, the facility exists to number the lines of the file. The two lines that need to be changed are 487 and 534.

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MacTerminal 2.3: Is Not Compatible With Macintosh 128K

This article has been archived and is no longer updated by Apple.

MacTerminal 2.3 does not support the Macintosh 128K. This version of MacTerminal requires 512K or more of memory and System 3.2 and Finder 5.3, but the Macintosh 128K needs System 2.0 and Finder 4.1.

However, MacTerminal 2.2 DOES work properly on the Macintosh 128K.

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Macintosh II: System Error 25 When Using Three Or More Monitors

If you are using three monitors with your Macintosh II (for instance, a LaserView, an Apple RGB, and a SuperMac monitor), you may receive a System Error 25.

This article has been archived and is no longer updated by Apple.
This is an out-of-memory error. When using three or more monitors, you need to ensure that the applications have enough memory to support three screens worth of data and word processing cut, copy, and paste functions.

If you use MultiFinder or System 7, you need to increase the amount of memory for each application. If you run on a 1MB system, you need to remove anything that uses extra memory. You should also switch to the lowest bits/pixel possible (two).

(NOTE: The LaserView in particular uses a lot of system memory when it is running in "high" mode. This, coupled with using two additional monitors, may be the root of the problem.)

Published Date: Feb 18, 2012

Suggestions On Connecting More Than 254 Macintoshes to Ethernet

This article has been archived and is no longer updated by Apple.

If you want to connect Macintoshes together in a large network -- BEYOND the AppleTalk 254 node limit on Ethernet, for instance -- here a couple of suggestions:

1. Do not connect all of the Macintoshes directly. Use a LocalTalk network and FastPaths to bridge the LocalTalk Macintoshes onto the Ethernet. (This is a low-end solution.)

2. Use two FastPaths linked together with LocalTalk cabling to slow the packets to LocalTalk speed, 234K baud. This method creates two separately addressable zones with 254 AppleTalk nodes per zone.

Published Date: Feb 18, 2012

Macintosh: Xerox 6085 Connectivity

This article discusses Macintosh to Xerox 6085 connectivity.
This article has been archived and is no longer updated by Apple.
Theoretically, there are several ways for Macintoshes to communicate with a Xerox 6085, including over AppleTalk. This article examines three communications methods:

- Xerox 6085 Ethernet connection
- "Kid" from Interpreter, Inc.
- The Xerox 6085 serial-port direct connection

Xerox 6085 Ethernet Connection
The best solutions take advantage of the Xerox 6085 Ethernet communications ability. The Xerox 6085 with Ethernet installed can use ViewPoint NetCom Xerox software to provide Ethernet access. This package contains user authentication, and access to functions such as electronic printing, filing, and mailing. The communication protocol may be either TCP/IP or XNS.

With TCP/IP, files are transferred using a FastPath from Kinetics, which connects the Macintosh and LocalTalk to Ethernet. FastPath, in conjunction with NCSA (National Center for Supercomputer Applications) Telnet software, provides direct log on, directory listing, and file downloading capabilities within the FTP support. NCSA Telnet is available on Internet through subscription to Bitnet, ARPANET, CSNET, and also directly from the University of Illinois.

If TCP/IP is not available, XNS support is available through a 3COM3 server. This requires that the Macintosh can talk to the server over AppleTalk and that the Xerox 6085 can talk to the server over XNS. Each, then, may be able to access one another's files once they have been uploaded to the server. Although often asked for, XNS is not directly supported by the Macintosh.

"Kid" from Interpreter, Inc.
Kid uses a conversion utility that writes Xerox 6085 files to 5.25-inch DOS disks. The files can be written to and read from PC software packages, like Microsoft Word, WordStar, and MultiMate. These PC disks are placed in an Apple 5.25-inch drive. Using AFE (Apple File Exchange) software, you can mount PC disks. Once mounted, you can read and convert PC-formulated files to Macintosh formats.

The Xerox 6085 Serial-port Direct Connection
The Xerox 6085 system can communicate through its serial port. One option is to send serial information from the Xerox 6085 through this port to the Macintosh, or vice versa. This method represents a low-end connectivity.

For more information, search under: "National Center for Supercomputer Applications" and "Interpreter, Inc."

Note: This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.
Published Date: Feb 20, 2012

AppleFax: How to Save Microsoft Word 3.O (.01,.02) Files to Disk

This article has been archived and is no longer updated by Apple.

If you get the proper AppleFax modem print dialog box from within Microsoft Word 3.0 (by holding down the shift key), but cannot save the Microsoft Word file to send with the AppleFax application, you may need to select "Print" a second time.

Microsoft Word 3.0 may require selecting the "Print" menu item a second time to have the AppleFax file written to disk.

When "Print" is shift-selected the first time, a dialog box labeled "AppleFax Resource" appears, with "Save As" as an option in the dialog box. However, pressing the "Save As" button does NOT save the AppleFax file.

When "Print" is shift-selected a second time, a dialog box labeled "Printer: AppleFax Modem" appears. Clicking "OK" in this dialog box DOES write the file to disk.

(NOTE: Normally, after changing printing resources the "Page Setup" menu item should be selected and clicked "OK". With Microsoft Word 3.0, shift-select the "Page Setup" item.)

Published Date: Feb 18, 2012

HyperCard: How To Restrict User To Browse While Modifying Stack

This article has been archived and is no longer updated by Apple.

If you want to restrict the user of your HyperCard stack to the browse level while the script is allowed to modify the stack, take note of the following scripts:

1. This script stores the Home card userLevel in the global variable "Store_userLevel" and sets the userLevel to 1 (Browsing). When quitting the stack, you may restore the userLevel to the value in "Store_userLevel".

```
on openStack
global Store_userLevel
put the userLevel into Store_userLevel
set the userLevel to 1
end openStack
```

2. This script shows how to change the userLevel, so modifications can be made to the stack via HyperTalk commands.

```
on mouseDown
set the userLevel to 5
-- (Do stack modifying commands here)
set the userLevel to 1
end mouseDown
```

3. This script shows how to use the "cantmodify" property to prevent a user from modifying a stack while still allowing the script to do so.

```
on openStack -- (Put this in the stack script)
set cantModify to true
end openStack

on mouseDown
set cantModify to false
-- (Do stack modifying commands here)
set cantModify to true
end mouseDown
```

Published Date: Feb 18, 2012

HyperCard: Workaround For "cantModify" Stack To Free Disk Space

This article has been archived and is no longer updated by Apple.

If you have a HyperCard stack that is over 700K, you may have experienced this problem: when the stack is opened, it creates 100K or more of free space, thus exceeding the disk memory capacity.

Normally, a HyperCard stack does not take additional disk space on opening. You may find, however, that there is an "on openXXXXX" (XXXXX = Card, Field, etc.) script in the stack that causes additional disk space to be used when the stack is opened. Also, any change to the stack causes it to take up more room unless it is locked via the Finder.

Published Date: Feb 18, 2012

AppleColor Monitor 100: Fuzzy Display

This article has been archived and is no longer updated by Apple.

Here are some things to check when the AppleColor Monitor 100 displays a badly-focused image after components have been replaced:

1. Determine which revision of the main PCB you have, and make sure you're replacing it with the same revision. There are two revisions. On a REV 0 logic board, CN17 (blue/white wire) plugs into the small board on the CRT. If CN17 plugs into the main PCB in the upper left hand corner, you have a REV A board. If you need to replace a REV 0 with a REV A, you must also change:

A. Contrast/brightness control panel for one with the 1.8K resistor between the pots. Make sure that the value of the resistor on the Contrast Assembly is 1.8K NOT 18K Ohms. The color code for correct resistor is Brown/Gray/Red.

B. The short interconnect cable must be changed. Following are the pinouts for both the REV 0 and REV A cables for the AppleColor Monitor 100:

```
REV 0 (P/N 970-0999)      REV A (P/N 076-0196)
   DB15---Molex-8            DB15---Molex-8
     1---4                     1---1
     2---1                     2---2
     3---5                     3---3
     4---2                     4---4
     5---3                     5---5
     6---7                     6---6
     7---6                     7---7
```

2. Swap the power supply. A bad power supply can also cause a fuzzy display.

Published Date: Feb 18, 2012

ImageWriter LQ: Use Geneva or Helvetica for Faster Quality Print

This article has been archived and is no longer updated by Apple.

A problem has appeared with the ImageWriter LQ when set for Faster Quality. For example, when printing a half-page document from WriteNow in Best Quality, either bidirectionally or unidirectionally, the print looks good. However, when printing in Faster Quality, either bidirectionally or unidirectionally, the print quality is poor, jagged, and hard to read. Except for the spacing, Draft Quality is more readable than Faster Quality. These results are quite different than when using the ImageWriter II driver.

The problem arises from the fact that Faster Quality was designed to be the quickest way to print both graphics and text in the WYSIWYG format. In the Faster Quality mode of the ImageWriter LQ, the typeface used is essentially the screen font in bold face. Test results show that 12-point Times in Faster Quality is not the most readable font. Using other fonts in 12-point and Faster Quality, like Geneva or Helvetica, improves readability.

Published Date: Feb 18, 2012

Apple Writer III (versions 1.0 and 1.1): Top Line

This article has been archived and is no longer updated by Apple.

The TopLine command changes the default top line, but page 1 may still have a top line. The reason for this is that the default top line gets printed before Apple Writer starts reading text and has a chance to see any .TL commands.

You must insure that the TL parameter in the print options menu is a blank line and that there isn't a .TL command in your file to supress printing of a top line on page 1.

You can also use the default top line to print on page 1 and insert a .TL<CR> in the text to supress printing of the top line on subsequent pages.

The TL command is described on page 66 of the Apple Writer III manual.

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BASIC: APPEND fix

Yes! There is an APPEND fix! The following four short test programs illustrate the problem. The run command and a short explanation precededs each code.

This article has been archived and is no longer updated by Apple.

1. RUN TEST1,D1

This puts a file called 'JUNK' onto the disk in drive 1 with exactly 255 bytes.

```
10 REM  TEST1
20 D$ = CHR$(4)
30 PRINT D$;"OPEN JUNK"
40 PRINT D$;"WRITE JUNK"
50 FOR L = 1 TO 8
60 FOR M = 1 TO 29
70 PRINT "A";
80 NEXT M
90 PRINT "A"
100 NEXT L
110 FOR L = 1 TO 5
120 PRINT "A";
130 NEXT L
140 PRINT "A"
150 PRINT D$;"CLOSE"
160 END
```

2. RUN TEST2

This reads the file 'JUNK' and prints it onto your CRT.

```
10 REM  TEST2
20 D$ = CHR$(4)
30 PRINT D$;"OPEN JUNK"
40 PRINT D$;"READ JUNK"
50 FOR L = 1 TO 9
60 INPUT ST$
70 PRINT ST$
80 NEXT L
90 PRINT D$;"CLOSE"
100 END
```

3. RUN TEST3

This attempts to APPEND to the file 'JUNK' the message "THIS IS A TEST".

```
10 REM  TEST3
20 D$ = CHR$(4)
30 PRINT D$;"APPEND JUNK"
40 PRINT D$;"WRITE JUNK"
50 PRINT "THIS IS A TEST"
60 PRINT D$;"CLOSE"
70 END
```

4. RUN TEST4

This reads and displays the file 'JUNK' which should now have a last line reading "THIS IS A TEST".

```
10 REM TEST4
20 D$ = CHR$(4)
30 PRINT D$;"OPEN JUNK"
40 PRINT D$;"READ JUNK"
50 FOR L = 1 TO 10
60 INPUT ST$
70 PRINT ST$
80 NEXT L
90 PRINT D$;"CLOSE"
100 END
```

If the APPEND does not take, the display reads an END OF DATA.

Apple supplied the following fix answer to software developers in August, and they have been using it since November, 1983.

```
"early 1983"                after November, 1983
-----------------------     -----------------------
B683:4C 84 BA JMP $BA84     B683:4C B3 B6 JMP $B6B3

$B6B3-B6CE:ALL ZEROS        B6B3:AD BD B5 LDA $B5BD
                           B6B6:8D E6 B5 STA $B5E6
                           B6B9:8D EA B5 STA $B5EA
                           B6BC:AD BE B5 LDA $B5BE
                           B6BF:8D E7 B5 STA $B5E7
                           B6C2:8D EB B5 STA $B5EB
                           B6C5:8D E4 B5 STA $B5E4
                           B6C8:BA       TSX
                           B6C9:8E 9B B3 STX $B39B
                           B6CC:4C 7F B3 JMP $B37F

$BA84-BA93:PATCH            BA84-BA93:ALL ZEROS
```

The patch put at $BA84 has been moved down to $B6B3, and four extra lines have been added to that patch. Initialize a new diskette after making the above patch and reboot the system. You can then sucessfully run the test programs above.

For those who do not feel comfortable with the above machine language, use the following procedure to make new slave diskettes with the corrected DOS:

1. Boot the system with an initialized diskette. This loads the old DOS into your Apple.
2. Type in the BASIC program below and RUN it. This will change the old DOS in memory to the corrected DOS.
3. SAVE this program just in case you made a typo.
4. Without rebooting the system, run the 4 test programs above to see if APPEND works correctly.
5. Type NEW; insert a blank diskette, and type INIT HELLO. This creates a diskette with the corrected DOS.
6. Use this new diskette whenever initializing other diskettes; the corrected DOS will be carried over.

Use this BASIC program in step 2 above:

```
10 POKE -18813,76 : POKE -18812,179 : POKE -18811,182
20 FOR I = -18765 TO -18738
30 READ A: POKE I,A: NEXT
40 FOR I = -17788 TO -17773
50 POKE I,0: NEXT
60 PRINT "DONE..."
75 END
80 DATA
173,189,181,141,230,181,141,234,181,173,190,181,141,231,181,141,235,181,141,228,181,186,142,155,179,76,127,179
```

Published Date: Feb 20, 2012

A/UX: Compatible Third-Party Office Productivity Tools (9/94)

This article describes several third-party office productivity tools that are compatible with A/UX.

This article has been archived and is no longer updated by Apple.

SoftQuad

SoftQuad Publishing Software is an automated, batch text and graphics formatter. it includes tools for the creation of complex tabular material, mathematics, graphs, and charts. Its major strength is the creation of long documents on laser printers and typesetting machines. SoftQuad Publishing Software provides all the capabilities required for high-end production publishing: automatic kerning, hyphenation using a special dictionary, capacity for multiple columns, English-language names for macros and commands, simple tools to create new macro-formatting packages and support for spot color separation.

Arrc (formerly STARx)

STARx Pharmacy package assists pharmacists faced with expanding administrative, legal, and patient care demands. STARx automatically maintains patient records as required by state and federal governments. STARx also handles automatic generation of prescription labels, maintains drug inventories, and performs all accounting functions necessary for billing insurance companies and state welfare systems. A customized STARx network, layered on top of A/UX, creates a specialized communications group consisting of STARx, its retail pharmacies, drug wholesalers, insurance companies, and state agencies, and in-house departments.

Abacus Concepts

Statview II, now running under A/UX, features interactive data analysis and presentation quality graphics. Statview II brings the graphics Macintosh interface to the UNIX users, providing them with Macintosh ease of use. Statview II includes a complete statistical analysis package and a comprehensive drawing environment. With these, users can build high-quality charts and graphics directly from their data and analyses.

Uniplex Integration Systems Inc. (formerly Uniplex Distribution Inc.)

Uniplex offers two packages: Uniplex II Plus and the Uniplex Advanced Office System. Uniplex II Plus is the center of Uniplex Business software for Macintosh II and A/UX. It includes a fully-integrated word processor, spreadsheet, and relational database manager plus screen- and menu-building features.

The Uniplex Advanced Office System handles inter- and intra-office data communications. It includes a time manager, personal organizer, card index, report writer, and electronic mail.

Other products known to exist at one time or another are: Goldmedal by Decathlon; MacNix/A by LIST/spA; R Systems suite of software; WingZ by Innovative Software.

To locate a vendor's address and phone numbers, use vendor name as a search string.

Article Change History
12 Sept 1994 - Reviewed and updated.
23 July 1993 - Company title changed from Starx to Arrc and Uniplex Integration Systems Inc. to Uniplex Distribution Inc.
31 August 1992 - Reviewed for technical accuracy

Support Information Services
Published Date: Feb 20, 2012

A/UX: Compatible Third-Party Tools/Languages

Article Change History

08/27/92 - REVIEWED
o For technical accuracy.

Compatible Third-Party Tools/Languages

This article has been archived and is no longer updated by Apple.
Alsys

The Alsys ADA Compiler for A/UX is a complete production-quality implementation of ADA, suitable for demanding ADA developments. Features of the Alsys ADA compiler include: suitability for large applications, accuracy and reliability, multi-library environment, tool support, and much more.

Franz Inc.

Franz Incorporated's Allegro CL, an extended, common LISP, broadens the scope of problems that minicomputers can address. Allegro CL and A/UX transform the Macintosh II into an ideal delivery vehicle for artificial intelligence applications and standard applications with embedded AI technology. For example, using Allegro CL, A/UX programmers can add sophisticated advisory and analysis components to applications already running under A/UX.

Unisoft

Unisoft offers three compilers: Optimizing C, Optimizing FORTRAN, and Optimizing Pascal. Unisoft has implemented these compilers specifically for A/UX and the Motorola 68000 series architecture. The compilers can maximize the power offered by the Macintosh II computer by increasing the program execution speed by as much as four times, performing global optimizations previously available only on super-minicomputers or mainframe computers. The Unisoft compilers have been optimized for the Motorola 68020 and 68881 floating point chips and feature one-pass compilation for maximum extensions.

Absoft

RAT FORTRAN is a mainframe-caliber compiler for program development on the Macintosh II. It conforms completely to ANSI X3.9-1978, IEEE P754, and MIL-STD 1753 specifications. It also includes several extensions from the proposed FORTRAN 8X standard and several features to facilitate porting programs from the VAX environment. The A/UX version provides full support for the Macintosh Toolbox and is completely compatibile with the A/UX environment and all of its support tools. RAT FORTRAN also handles inter-language calling with C.

For more information, search on the above company names.

Published Date: Feb 18, 2012

Macintosh: Drawing Power Directly From The Power Supply

Can I draw power directly from the Macintosh power supply?
This article has been archived and is no longer updated by Apple.
Due to design constraints, you should not draw power directly from the Macintosh power supply.

Use an additional power supply to generate the necessary DC voltages for any peripherals or accessories, such as non-standard hard drives or fans. Thermal considerations are important as well.

Note: As with all non-Apple hardware modifications or upgrades, such adjustments will void the computer system's warranty.
Published Date: Feb 20, 2012

Weather Forecast Display System: BBC Uses Macintosh & PaintBox

This article has been archived and is no longer updated by Apple.

In Britain, the BBC (British Broadcasting Corporation) uses a Macintosh II to control a Quantel PaintBox for national weather forecasts. (The development started on the Lisa and was converted to the Macintosh.) They also use Macintoshes to gather weather data from various places around the country.

The software shows a detailed map of the UK and Europe. They drag standard icons onto the maps, including storm clouds, snow clouds, and (on some rare days) the sun. They also can enter temperatures on the map.

The PaintBox is used to add color, and the forecaster pushes a button to advance from one frame to the next.

For more information, contact the BBC directly in London at Broadcasting House.

Jolly good show, BBC!

Published Date: Feb 18, 2012

LaserWriter: Clear Manually-Downloaded Fonts At End Of Print Job

This article has been archived and is no longer updated by Apple.

Under normal operation, the LaserWriter automatically purges downloaded fonts at the end of each print job. Fonts are retained in memory only when they have been manually downloaded.

(The number of downloadable fonts varies with the size of the font files, type of laser printer, and amount of available memory. When using the LaserWriter, four to six fonts may be downloaded per print job.)

If the fonts are not automatically purged at the end of the print job, they must be cleared from memory manually -- either by turning the printer off and on, or by resetting the printer, which forces a test page to be printed.

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LaserWriter: How To Calculate The Cost Per Printed Page

This article has been archived and is no longer updated by Apple.

If you want to calculate the true cost-per-page for your LaserPrinter, or other printer, you should consider the following factors: cost of paper, cost of toner cartridges, electrical power consumption, depreciation, and labor costs.

However, for the simplest cost-per-page analysis, divide toner cartridge cost by the number of copies.

Example

$100.00 (toner cartridge) / 4,000 (copies) = $.025 per copy

If the cost of paper is included in the calculation, the equation is: Cost of toner cartridge plus the cost of paper divided by the number of copies.

Example

$100.00 (toner cartridge) + $20.00 (paper) / 4,000 (copies) = $.03 per copy

(NOTE: The number of copies printed per toner cartridge listed here (4,000) is an estimate and varies depending on the print density of the documents.)

Published Date: Feb 18, 2012

Apple Color Plotter: AppleSoft BASIC Chart Maker II (1 of 3)

This is the Applesoft BASIC source for "Chart Maker II", a demonstration program for the Apple Color Plotter. It provides an easy way to create charts and signs with the plotter. Just startup Applesoft, EXEC this file, and save the program to disk.

Note: This is Part 1 of 3 Parts, all 3 parts must be combined together to complete the program.
This article has been archived and is no longer updated by Apple.
The file named "C.DESCRIPTION" should be saved as a text file. It is a sample file created by Chart Maker and is ready to plot.

```
10 D$ = CHR$(4): PRINT D$;"NOMON C,I,O"
12 FOR I = 0 TO 9: READ ZZ: POKE 768 + I,ZZ: NEXT
14 PRINT D$;"PR #3"
20 DIM TXT$(10),CENTER$(10),DENT(10),SIZE(10),BOLD$(10)
21 DIM COL(10),SL$(10)
25 GOSUB 7300
30 D$ = CHR$(4)
40 UC = 128:LC = UC + 32:APPLE$ = CHR$(127)
50 D$ = CHR$(4): GOTO 1000
60 GOSUB 99: PRINT " ";: PRINT "--------";: RETURN
61 GOSUB 99: PRINT " ";: PRINT "═══════";: RETURN
71 POKE 32,2: POKE 33,77: POKE 34,1: POKE 35,13:HOME : TEXT : RETURN
72 POKE 32,2: POKE 33,77: POKE 34,14: POKE 35,14:HOME : TEXT : RETURN
73 POKE 32,2: POKE 33,77: POKE 34,16: POKE 35,23:HOME : TEXT : RETURN
75 GOSUB 73:M$ = BT$:PV = 23: GOSUB 350: RETURN
82 PV = 1:FOR PH = 23 TO 79 STEP 10:INVERSE:GOSUB 99:PRINT " ":NEXT:NORMAL
83 POKE 32,19: POKE 33,60: POKE 34,1: POKE 35,1:HOME : TEXT : RETURN
85 POKE 32,2: POKE 33,77: POKE 34,14: POKE 35,14:HOME : TEXT : RETURN
86 POKE 32,19: POKE 33,60: POKE 34,3: POKE 35,13:HOME : TEXT : RETURN
87 POKE 32,2: POKE 33,77: POKE 34,19: POKE 35,22:HOME : TEXT : RETURN
90 REM*** ONERR GOTO 900
91 CM = PEEK (49152): IF CM < 128 THEN GOTO 90
92 CM = CM - 128: A = PEEK (49168)
93 IF PEEK ( - 16287) > 127 THEN CM = CM + 128
94 RETURN
97 NORMAL : HOME :PRINT "Applesoft BASIC -- Type 'RUN HELLO' to Restart":PRINT "or, 'GOTO 50' to Restart with last chart": END
99 POKE 1403,PH: VTAB PV: RETURN
101 P2 = PH: GOSUB 99:A$ = "":B$ = "":IF LEN (Z$) < > 0 THEN Z1$ = "9"
102 FOR I = 1 TO SL: PRINT ".";: NEXT :PH = P2: GOSUB 99: FOR I = 1 TO SL + 1
105 INVERSE : PRINT " ";: NORMAL :PH = P2 + I - 1: GOSUB 99
106 GOSUB 90:A$ = CHR$(CM): IF A$ = CHR$(27) THEN RETURN
107 IF A$ = CHR$(13) THEN 120
108 IF NB=1 AND ASC(A$)=>8 AND ASC (A$) < = 21 THEN GOTO 182
113 IF A$=CHR$(127) OR A$= CHR$(8) THEN GOSUB 140: GOTO 105
114 FG = 0: GOSUB 130: IF FG=1 THEN PRINT CHR$(7);: GOTO 105
116 IF A$ = CHR$(13) GOTO 120
117 PRINT A$;:B$ = B$ + A$:A$ = "": NEXT
119 IF RIGHT$ (B$,1) < > CHR$(13) THEN GOSUB 370:PH = P2: GOTO 101
120 PH = P2 + I - 1: GOSUB 99: PRINT ".";Z1$ = "": RETURN
130 IF ASC (A$) = 13 THEN 139
131 IF NB=0 AND ASC(A$)=> 8 AND ASC(A$) <= 21 THEN FG=1: RETURN
132 IF ASC(A$)=>123 OR ASC(A$)>90 AND ASC(A$)<97 THEN FG = 1:RETURN
139 FG = 0: RETURN
140 IF I = SL + 1 THEN PRINT " ";:I=I - 1:PH=(P2 + I - 1):GOSUB 99:GOTO 155
142 IF LEN (Z$) > 0 AND I=1 THEN SL=SL + 1:PH=PH - 0:GOSUB 99: PRINT ".";:PH = PH - 1:Z$ = "":P2 = P2 - 1:B$ = "":
GOSUB 99: GOTO 180
145 PRINT ".";:PH = P2 - 1:I = I - 1:PH = P2 + I - 2: GOSUB 99
155 IF I = < 0 THEN I = 1:PH = P2: GOSUB 99:B$ = "": RETURN
160 IF I = 1 THEN B$ = "": GOTO 170
165 B$ = LEFT$ (B$,I - 1)
170 PH = P2 + (I - 1): GOSUB 99: RETURN
180 RETURN
182 IF A$ = CHR$(11) THEN DI = 72:A$ = CHR$(13): GOTO 120:REM U
185 IF A$ = CHR$(10) THEN DI = 80:A$ = CHR$(13): GOTO 120:REM D
188 IF A$ = CHR$(8) THEN DI = 75:A$ = CHR$(13): GOTO 120:REM L
```

```
191 IF A$ = CHR$(21) THEN DI = 77:A$ = CHR$(13): GOTO 120:REM R
194 PRINT CHR$(7);: GOTO 106
201 X9 = 0:X8 = 0:H9 = 0: GOSUB 101: IF A$=CHR$(27) THEN RETURN
202 N$ = Z$ + B$: FOR H = 1 TO LEN (N$)
203 IF LEN (N$) = 0 THEN X9 = 1: RETURN
204 IF ASC ( MID$ (N$,H,1)) = 46 THEN H9 = H9 + 1: GOTO 212
205 IF ASC ( MID$ (N$,H,1)) = 45 THEN H8 = H: GOTO 209
206 IF ASC ( MID$ (N$,H,1)) < 48 THEN X9 = 1: RETURN
207 IF ASC ( MID$ (N$,H,1)) > 57 THEN X9 = 1: RETURN
208 GOTO 212
209 IF H8 = 1 THEN 212
210 X9 = 1: RETURN
212 NEXT
213 X8 = VAL (N$)
214 IF X8 > UL THEN X9 = 1: RETURN
215 IF X8 < LL THEN X9 = 1: RETURN
216 X9 = 2: RETURN
250 IF LEN (B$) = 0 THEN B$ = "Y": GOSUB 99: PRINT B$;:
251 RETURN
260 IF A$ > CHR$(64) AND A$ < CHR$(91) THEN RETURN :REM Uppercase
261 IF A$ > CHR$(96) AND A$ < CHR$(123) THEN RETURN :REM Lowercase
262 IF A$ > CHR$(47) AND A$ < CHR$(58) THEN RETURN :REM Numbers
263 IF A$ = CHR$(45) THEN RETURN : REM - SIGN
264 IF A$ = CHR$(46) THEN RETURN : REM PERIOD
265 IF A$ = CHR$(32) THEN RETURN : REM space
269 OK = 0: RETURN
300 INVERSE :PV = 14:PH = 30:M$ = " ":GOSUB 352:PH=20:M$="Default Names: " +DV$+MT$:
GOSUB 352:NORMAL:RETURN
340 IF LEN (B$) = 0 THEN B$ = MT$: GOSUB 99: PRINT B$;: RETURN
345 GOSUB 99: INVERSE : PRINT ">";: NORMAL : RETURN
349 GOSUB 72:PV = 15:PH = 3: GOSUB 99: PRINT MA$;:PH=46-INT ((LEN(MS$)/2)):
GOSUB 99: PRINT MS$;:RETURN
350 PH = 40 - INT (( LEN (M$) / 2)): GOSUB 99: PRINT M$;:RETURN
351 GOSUB 75:GOSUB 72:PV=15:PH=3:GOSUB 99:PRINT MA$;:
PH=46-INT ((LEN(MS$)/2)): GOSUB 99: PRINT MS$;:RETURN
352 GOSUB 99: PRINT M$;: RETURN
353 PH = 40 - INT (( LEN (M$) / 2)): GOSUB 99: PRINT M$;: RETURN
357 PV = 15:PH = INT (40 - ( LEN (M$) / 2)): GOSUB 99: PRINT M$;: RETURN :REM Print centered line
360 GOSUB 250: IF B$ = "Y" OR B$ = "y" THEN Q = 1: GOTO 365
362 IF B$ = "N" OR B$ = "n" THEN Q = 2: GOTO 365
363 GOSUB 369: GOTO 360
365 RETURN
369 PRINT CHR$(7);: RETURN
370 PRINT CHR$(7);:IF LEN (Z1$)<> 0 AND Z$ <> "" THEN Z$="": SL = SL + 1:P2 = P2 - 1
374 PH = P2: GOSUB 99: FOR I = 1 TO SL + 1: PRINT " ";: NEXT :RETURN
400 OA%=0:CM=0:GOSUB 90:A$=CHR$(CM):IF CM>96 AND CM<123 THEN CM=CM - 32:RETURN
420 IF CM = 13 THEN RETURN
425 IF CM > 64 AND CM < 91 THEN RETURN
426 IF CM = 44 THEN GOTO 475
427 IF CM = 46 THEN GOTO 475
430 IF CM > 41 AND CM < 58 THEN RETURN
435 IF CM = 27 THEN RETURN
440 IF CM = 32 THEN RETURN
470 IF CM = (81 + UC) OR CM = (81 + LC) THEN OA% = 1: CM = 16: RETURN : REMQ
475 PRINT CHR$(7);: GOTO 400
700 IF V(K4,L1) > 999999999 THEN V(K4,L1) = 0
701 IF V(K4,L1) < - 99999999 THEN V(K4,L1) = 0
705 RETURN
710 IF V(K4,L1) > 9999999.9 THEN V(K4,L1) = 0
711 IF V(K4,L1) < - 999999.9 THEN V(K4,L1) = 0
715 RETURN
720 IF V(K4,L1) > 999999.99 THEN V(K4,L1) = 0
721 IF V(K4,L1) < - 99999.99 THEN V(K4,L1) = 0
725 RETURN
730 IF V(K4,L1) > 99999.999 THEN V(K4,L1) = 0
```

```
731 IF V(K4,L1) < - 9999.999 THEN V(K4,L1) = 0
735 RETURN
740 IF V(K4,L1) > 9999.9999 THEN V(K4,L1) = 0
741 IF V(K4,L1) < - 999.9999 THEN V(K4,L1) = 0
745 RETURN
900 EC = PEEK (222): IF EC = 255 GOTO 97
901 GOTO 90
1000 GOSUB 1001: GOTO 1200
1001 INVERSE : HOME : NORMAL
1002 REM*** GOSUB 71:GOSUB 72:GOSUB 73
1005 M$ = " ":PV = 1: INVERSE : GOSUB 350
1010 M$ = "Chart Maker IIe":PV = 1: INVERSE : GOSUB 350
1020 M$ = "Press 'ESC' to 'Back Out' of Any Function":PV = 14: GOSUB 350
1025 M$="Public Domain Software courtesy of Apple Computer Inc": PV = 24:GOSUB 350: NORMAL
1030 PLR$ = "2"
1090 GOSUB 7000
1099 RETURN
1200 Z = 0:Z$ = "": GOSUB 73
1205 MS$="New Enter Move Clear Save Load Draw OA-Quit":MA$="FUNCTIONS:": GOSUB 351
1210 ONERR GOTO 97
1220 GOSUB 400
1230 IF OA% = 1 AND CM = 16 THEN 97
1235 IF OA% = 1 THEN 1299
1240 IF CM = 78 THEN GOSUB 8000: GOTO 1200: REM Start New Chart
1250 IF CM = 69 THEN X9 = 0:X8 = 0: GOSUB 6000: GOTO 1200: REM Enter a Line
1260 IF CM = 68 THEN GOSUB 9000: GOTO 1200: REM Draw the Chart
1270 IF CM = 67 THEN GOSUB 8500: GOTO 1200: REM Clear Line
1272 IF CM = 77 THEN GOSUB 10000: GOTO 1200: REM Move a line
1274 IF CM = 83 THEN GOSUB 2000: GOTO 1200: REM Save a Chart
1275 IF CM = 76 THEN GOSUB 3000: GOTO 1200: REM Load a Chart
```

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System Software File Versions

This article has been archived and is no longer updated by Apple.

Here is a list of the file versions for System, Finder, and Print Drivers for System Software v5.0 and v6.0

Version 5.0 Version 6.0

System 4.2 6.0

Finder 6.0 6.1

ImageWriter 2.6 2.7

ImageWriter LQ 1.0 1.0

LaserWriter 5.0 5.2

Published Date: Feb 18, 2012

AppleShare: Devices Not "Users", Only 25 "Users" Can Log On

This article has been archived and is no longer updated by Apple.
This article last reviewed:28 September 1988

AppleShare does not consider a device as a "user", because devices do not log on, and are transparent to the server. AppleShare also allows only 25 true users to log on to a 1 megabyte file server.

If a 26th user logs on to an AppleShare file server, the user receives this message:

"This File server will not allow any additional users to log on. Try again later."

Published Date: Feb 18, 2012

Apple IIGS: Version 1.0 Is The 2nd ROM Version

This article has been archived and is no longer updated by Apple.

There have been TWO sets of ROM for the Apple IIGS.

The first Apple IIGS ROM was not given a revision number. The current upgrade, or second set of ROM for the Apple IIGS is ROM version 1.0.

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Macintosh-to-PICK OS: Connectivity Solutions

Article Change History

11/03/92 - CORRECTED
* The vendor search string information
07/20/92 - REVIEWED
* For technical accuracy

Do you know of any Macintosh-to-PICK OS connectivity solutions?

This article has been archived and is no longer updated by Apple.
* OPAL (runtime) by OPAL Software Ventures Pty. Ltd. of Australia

* MacFor information about which PICK platforms are supported, contact the vendor directly.

To locate a vendor's address and phone numbers, use the vendor name as a search string.

Published Date: Feb 18, 2012

HyperCard: Error "-199" May Be Map Resource Problem

This article has been archived and is no longer updated by Apple.

If you are receiving a "-199" error, when using HyperCard "snd" sound resources, it is probably not due to an excess of resources. A file can contain a maximum number of 2727 resources.

The "-199" error is probably caused by a problem with the file resource map. Try removing and then replacing the "snd" resources.

Published Date: Feb 18, 2012

HyperCard 1.2.1: Multilaunch Limitations Under AppleShare

HyperCard 1.2.1 on an AppleShare File server is a multilaunch application only if HyperCard and its Home stack are in a folder with read-only access.

If HyperCard is launched by a user with read/write access, HyperCard cannot be run by another user.
This article has been archived and is no longer updated by Apple.
This has not changed with the new versions of AppleShare.

As long as a stack is locked, the stack can be accessed from a file server by more than one user. Neither HyperCard or the stacks are multiuser, and stacks cannot be written to by more than one user at a time.
Published Date: Feb 20, 2012

Apple Color Plotter: AppleSoft BASIC Chart Maker II (2 of 3)

This is the Applesoft BASIC source for "Chart Maker II", a demonstration program for the Apple Color Plotter. It provides an easy way to create charts and signs with the plotter. Just startup Applesoft, EXEC this file, and save the program to disk.

Note: This is Part 2 of 3 Parts, all 3 parts must be combined together to complete the program.
This article has been archived and is no longer updated by Apple.

```
1276 IF CM > 47 AND CM < 58 THEN X9 = 2:X8 = VAL ( CHR$(CM)):CM = 69:GOSUB 6000: GOTO 1200
1299 PRINT CHR$(7);: GOTO 1220
2000 GOSUB 72:M$ = "Save a Chart Specification": GOSUB 357
2100 PV = 20:M$ = "Name to Save Chart : ": GOSUB 350
2110 PV = 20:PH = 54:SL = 13: GOSUB 101:IF A$ = CHR$(27) THEN GOSUB 73:RETURN
2120 NAME$ = "C." + B$
2130 ONERR GOTO 2400
2135 PRINT
2140 PRINT D$;"DELETE";NAME$
2200 ONERR GOTO 2300
2205 PRINT D$;"OPEN ";NAME$
2206 PRINT D$;"WRITE ";NAME$
2210 FOR I = 1 TO 10
2220 PRINT TXT$(I): PRINT CENTER$(I): PRINT DENT(I): PRINT SIZE(I):
PRINT BOLD$(I): PRINT COL(I): PRINT SL$(I)
2230 NEXT
2240 PRINT D$;"CLOSE"
2250 GOSUB 73: RETURN
2300 CALL 768: POKE 216,0: ONERR GOTO 97
2310 GOSUB 73: PRINT CHR$(7);
2315 PRINT D$;"CLOSE"
2320 M$="There is no room on the disk, so you'll have to ":PV=18:GOSUB 350
2330 M$ = "delete some files or use a different disk":PV = 20: GOSUB 350
2340 M$ = "Press Any Key to Continue":PV = 22: GOSUB 350
2350 GOSUB 400
2360 ONERR GOTO 2380
2370 PRINT D$;"DELETE ";NAME$
2375 CALL - 3288
2380 GOTO 2250
2400 CALL 768: POKE 216,0
2410 CALL - 3288: GOTO 2200
3000 GOSUB 72:M$ = "Load a Chart Specification": GOSUB 357
3100 PV = 20:M$ = "Name of Chart to Load : ":PH = 10: GOSUB 352
3110 PV=20:PH=40:SL=13: GOSUB 101:IF A$ = CHR$(27) THEN GOSUB 73: RETURN
3120 NAME$ = "C." + B$
3125 PV = 21:PH = 20: GOSUB 99
3126 PV = 21:PH = 20: GOSUB 99: PRINT " "
3130 ONERR GOTO 3300
3200 PRINT D$;"OPEN ";NAME$
3201 PRINT D$;"READ ";NAME$
3202 PV = 24:PH = 80: GOSUB 99
3210 FOR I = 1 TO 10
6560 IF B$ = "Y" OR B$ = "y" THEN SL$ = "Y": GOTO 6600
6570 IF B$ = "N" OR B$ = "n" THEN SL$ = "N": GOTO 6600
6580 GOTO 6550
6600 IF CENTER$ = "Y" THEN DENT = 0: GOTO 6640
6605 PV=20:PH=75:SL=2:LL=0:UL=15:GOSUB 201:IF A$=CHR$(27) THEN GOTO 6990
6610 ON X9 GOTO 6620,6630
6620 GOSUB 369: GOTO 6600
6630 DENT = X8
6640 IF SIZE = 1 THEN SL = 40: GOTO 6650
6641 IF SIZE = 2 THEN SL = 30: GOTO 6650
6642 IF SIZE = 3 THEN SL = 20: GOTO 6650
6650 SL = SL - DENT
6700 PV=22:PH=12:B$=TXT$(N):GOSUB 101: IF A$ = CHR$(27) THEN GOTO 6990
6710 TXT$ = B$
6750 TXT$(N) = TXT$
```

```
6751 COL(N) = COL
6752 SIZE(N) = SIZE
6753 DENT(N) = DENT
6754 CENTER$(N) = CENTER$
6755 BOLD$(N) = BOLD$
6760 SL$(N) = SL$
6800 POKE 32,5: POKE 33,40: POKE 34,N + 2: POKE 35,N + 2: HOME : TEXT
6810 I = N: GOSUB 7010
6990 GOSUB 73: RETURN
6995 GOSUB 73: RETURN
7000 GOSUB 71: GOSUB 7200
7005 FOR I = 1 TO 10: GOSUB 7010: NEXT : RETURN
7010 PV = I + 3
7020 PH = 3: GOSUB 99: PRINT I;
7030 PH = 7:M$ = ".....":GOSUB 352:M$ = TXT$(I)
7045 IF CENTER$(I) = "Y" THEN PH = 27 - ( LEN (M$) / 2)
7046 IF DENT(I) > 0 THEN PH = PH + DENT(I)
7050 GOSUB 352
7055 IF SIZE(I) > 0 THEN M$ = STR$ (SIZE(I)):PH = 49: GOSUB 352
7058 REM*** IF TXT$(I) = "" THEN RETURN
7060 IF COL(I) > 0 THEN M$ = STR$ (COL(I)):PH = 54: GOSUB 352
7070 M$ = CENTER$(I):PH = 60: GOSUB 7150
7080 IF DENT(I) > 0 THEN M$ = STR$ (DENT(I)):PH = 77: GOSUB 352
7090 IF DENT(I) = 0 THEN M$ = " ":PH = 77: GOSUB 352
7100 M$ = BOLD$(I):PH = 65: GOSUB 7150
7105 M$ = SL$(I):PH = 71: GOSUB 7150
7110 RETURN
7150 IF M$ = "Y" THEN M$ = "*": GOSUB 352: NORMAL
7155 IF M$ = "N" THEN M$ = " ": GOSUB 352: NORMAL
7156 RETURN
7200 PV = 2:PH = 3:M$ = "Line": GOSUB 352
7205 PH = 20:M$ = "Text to be Drawn": GOSUB 352
7210 PH = 52:M$ = "Color": GOSUB 352
7220 PH = 58:M$ = "Cntr": GOSUB 352
7230 PH = 74:M$ = "Indnt": GOSUB 352
7240 PH = 47:M$ = "Size": GOSUB 352
7250 PH = 63:M$ = "Bold": GOSUB 352
7260 PH = 69:M$ = "Slnt": GOSUB 352
7299 RETURN
7300 FOR I = 1 TO 10
7310 TXT$(I) = "":CENTER$(I) = "N":DENT(I) = 0:SIZE(I) = 0:BOLD$(I) = "N":COL(I) = 0:SL$(I) = "N"
7320 NEXT : RETURN
8000 GOSUB 72:M$ = "Clear out the 'Old Chart' and Start a New One":GOSUB 357
8010 PV=23:GOSUB 73:M$="Are You Sure, (Y or N)":PV = 20:PH = 28: GOSUB 352
8020 GOSUB 400: IF CM = 27 THEN GOTO 8599
8030 IF CM = 89 THEN GOSUB 7300: GOSUB 7000: RETURN
8031 IF CM = 78 THEN GOTO 8599
8035 PRINT CHR$(7);: GOTO 8020
8099 GOSUB 73: RETURN
8500 GOSUB 72:M$ = "Clear A Line": GOSUB 357
8501 M$ = "Line to Clear (1-10) : ":PV = 18:PH = 29: GOSUB 352
8502 PV=18:PH=50:SL=2:LL=1:UL=10:GOSUB 201:IF A$=CHR$(27) THEN GOTO 8599
8503 ON X9 GOTO 8504,8505
8504 GOSUB 369: GOTO 8502
8505 I = X8
8510 M$ = "Are You Sure, (Y or N)":PV = 20:PH = 28: GOSUB 352
8520 GOSUB 400: IF CM = 27 THEN GOTO 8599
8530 IF CM = 89 THEN GOTO 8540
8531 IF CM = 78 THEN GOTO 8599
8535 PRINT CHR$(7);: GOTO 8520
8540 TXT$(I)="":CENTER$(I) ="":DENT(I)=0:SIZE(I)=0:BOLD$(I)="":COL(I)=0:SL$(I) = ""
8550 POKE 32,6: POKE 33,73: POKE 34,I + 2: POKE 35,I + 2:HOME : TEXT
8555 GOSUB 7010
8599 GOSUB 73: RETURN
9000 GOSUB 9001: GOTO 9002
```

```
9001 M$="Draw Chart on Device on Card in Slot '" + PLR$ + "":PV = 15: GOSUB 72: GOSUB 350: RETURN
9002 PV=19:M$="Name of Chart":GOSUB 350:PV=21:M$="Do You Want a Border on the Chart ? (Y or N) :":GOSUB 350
9003 PV=19:PH=50:SL=8:GOSUB 101:IF A$=CHR$(27) THEN GOSUB 73: RETURN
9004 CHART$ = B$
9007 PV=21:PH=64:SL=1:GOSUB 101:IF A$=CHR$(27) THEN GOSUB 73: RETURN
9008 IF B$ = "Y" OR B$ = "y" THEN BDR$ = "Y": GOTO 9012
9009 IF B$ = "N" OR B$ = "n" THEN BDR$ = "N": GOTO 9012
9010 GOTO 9007
9012 GOSUB 50000: IF CM = 27 THEN GOSUB 73: RETURN
9014 PRINT CHR$(21): HOME
```

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A/UX: Software "Feature" With "/usr/ucb/style" Shell

The A/UX "/usr/ucb/style" shell script does not run properly when invoked from "ksh" because "ksh" does not use the "^" symbol as a pipe symbol as "sh" does.

This article has been archived and is no longer updated by Apple.

Changing the "^" characters in "|" corrects the problem. This needs to be done to A/UX 1.0 through A/UX 3.0.

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Apple Scanner: Workarounds For Common Issues

Below are four useful workarounds for common Apple Scanner issues.
This article has been archived and is no longer updated by Apple.

17-Character File Name Limitation

This file name limitation applies to half-tone pattern names, as well as setting names (for example, Untitled Pattern 2). To work around, delete any setting names or half-tone pattern names that exceed the limit. Also, the system error occurs only when saving the file in PICT format.

Background Printing

Background printing of scanned images under MultiFinder may produce "streaks". This applies not only to AppleScan, but also to other applications that print scanned images. It is recommended that background printing be turned off whenever printing a document that contains scanned images.

Printing Scanned Half-Tones

In general, printed output of scanned half-tones looks best when the Graphics Smoothing, Faster Bitmap, and Precision Bitmap print options are turned off. Again, this applies to most applications. Use LaserWriter Driver 5.2, which is included on the AppleScan disk and the System 6.0 Printing Tools disk.

HyperScan

When starting HyperScan, a "Can't load Global variables" dialog may appear, preventing use of the stack. This occurs in extremely low memory situations on 1MB machines. Try turning off the RAM cache. If the problem persists, it may be caused by an INIT (or several INITs) using memory.

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Using Apple Scanner With AppleFax Modem

This article has been archived and is no longer updated by Apple.

There are two ways to use the Apple Scanner and AppleFax Modem.

The first method scans into memory and sends the AppleFax from memory:

1. Place the document in the Apple Scanner.

2. Launch the AppleScan application.

3. In the AppleScan Resolution pop-up menu, select 200 dpi (Fax).

4. Press the Scan button.

5. Select the Chooser.

6. Select the AppleFax Resource icon from the Chooser.

7. Choose the AppleScan Page Setup command to set the page specifications. Click OK to confirm the command.

8. Choose the AppleScan Print command to set the Quality and Page Range options.

9. (optional) To change the station's phone number (the message that prints on the top of each page), the type of dialing, or the number of times the station redials a busy number, click the Setup button. When the changes are made, click OK to return to the Print dialog box.

10. Enter a phone number.

11. Click Send to send the file.

The second method scans an image, saves it to disk, and sends the AppleFax from the disk:

1. Follow steps 1 through 8 of the first method.

2. Click the Save File button.

3. When the Save File dialog appears, click the Save button to save the file.

4. Quit the AppleScan application.

5. Launch the AppleFax application.

6. Drag an envelope from the New Envelope Stack to the Envelope View.

7. Drag an address-book entry to the envelope.

8. Double-click the envelope.

9. (optional) To look at an AppleFax file before adding it to the Envelope Contents directory, select the AppleFax file, and click Open.

10. Select the files that you want to add to the Envelope Contents directory.

11. Click the Add button to add the selected files.

12. Tell the station when to send the envelope.

13. Click OK to save changes.

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AppleTalk: Network Number 65535 Is Reserved

This article discusses the use of network number 65535.
This article has been archived and is no longer updated by Apple.
The AppleTalk network number 65535 (all bits set to 1) is reserved for future use.

Although this number is not currently being used, Apple recommends that you select another AppleTalk network number for reasons of future compatibility issues.
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LaserWriter IINTX: HD Fonts Are Accessible To IBM AT Compatibles

This article has been archived and is no longer updated by Apple.

If you have been using a LaserWriter Plus, your IBM PC/AT or clone can also access the fonts resident in the LaserWriter IINTX hard drive through the RS-232 interface.

The fonts installed on the LaserWriter IINTX hard disk will appear as if they were in the LaserWriter IINTX ROM. All fonts, whether in ROM or installed on the hard disk, should be fully accessible to any PC/AT or AT clone that can already access the fonts in a LaserWriter Plus.

Adobe and Apple designed the hard disk option so that LaserWriter IINTX operates transparently, and the user can thus access additional fonts without having to download them with utilities.

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Apple IIc Plus: Don‘t Use Apple IIc Memory Expansion Card

The Apple Memory Expansion Card is NOT designed to be used with the Apple IIc Plus. That card can ONLY be used in the Apple IIc computer.
This article has been archived and is no longer updated by Apple.
Cards can be obtained from third-party vendors that will work in the Apple IIc Plus.
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Apple Color Plotter: AppleSoft BASIC Chart Maker II (3 of 6)

This article has been archived and is no longer updated by Apple.

```
1276 IF CM > 47 AND CM < 58 THEN X9 = 2:X8 =  VAL ( CHR$(CM)):CM = 69:
     GOSUB 6000: GOTO 1200
1299 PRINT  CHR$(7);: GOTO 1220
2000 GOSUB 72:M$ = "Save a Chart Specification": GOSUB 357
2100 PV = 20:M$ = "Name to Save Chart : ": GOSUB 350
2110 PV = 20:PH = 54:SL = 13: GOSUB 101:IF A$ =  CHR$(27) THEN GOSUB 73:
    RETURN
2120 NAME$ = "C." + B$
2130 ONERR  GOTO 2400
2135 PRINT
2140 PRINT D$;"DELETE";NAME$
2200 ONERR  GOTO 2300
2205 PRINT D$;"OPEN ";NAME$
2206 PRINT D$;"WRITE ";NAME$
2210 FOR I = 1 TO 10
2220 PRINT TXT$(I): PRINT CENTER$(I): PRINT DENT(I): PRINT SIZE(I):
    PRINT BOLD$(I): PRINT COL(I): PRINT SL$(I)
2230 NEXT
2240 PRINT D$;"CLOSE"
2250 GOSUB 73: RETURN
2300 CALL 768: POKE 216,0: ONERR  GOTO 97
2310 GOSUB 73: PRINT  CHR$(7);
2315 PRINT D$;"CLOSE"
2320 M$="There is no room on the disk, so you'll have to ":PV=18:GOSUB 350
2330 M$ = "delete some files or use a different disk":PV = 20: GOSUB 350
2340 M$ = "Press Any Key to Continue":PV = 22: GOSUB 350
2350 GOSUB 400
2360 ONERR  GOTO 2380
2370 PRINT D$;"DELETE ";NAME$
2375 CALL  - 3288
2380 GOTO 2250
2400 CALL 768: POKE 216,0
2410 CALL  - 3288: GOTO 2200
3000 GOSUB 72:M$ = "Load a Chart Specification": GOSUB 357
3100 PV = 20:M$ = "Name of Chart to Load : ":PH = 10: GOSUB 352
3110 PV=20:PH=40:SL=13: GOSUB 101:IF A$ = CHR$(27) THEN GOSUB 73: RETURN
3120 NAME$ = "C." + B$
3125 PV = 21:PH = 20: GOSUB 99
3126 PV = 21:PH = 20: GOSUB 99: PRINT " "
3130 ONERR  GOTO 3300
3200 PRINT D$;"OPEN ";NAME$
3201 PRINT D$;"READ ";NAME$
3202 PV = 24:PH = 80: GOSUB 99
3210 FOR I = 1 TO 10
3220 INPUT TXT$(I): INPUT CENTER$(I): INPUT DENT(I):
    INPUT SIZE(I): INPUT BOLD$(I): INPUT COL(I): INPUT SL$(I)
3230 NEXT
3236 PRINT D$;"CLOSE"
3240 GOSUB 7005
3250 RETURN
3300 CALL 768: POKE 216,0: ONERR  GOTO 97
3305 GOSUB 73:M$ = "Could NOT find Chart named " + NAME$:PV = 20: GOSUB 350
3310 M$ = "Press Any Key to Continue":PV = 22: GOSUB 350:PRINT  CHR$(7);
3315 CALL  - 3288
3320 GOSUB 400: GOSUB 72: GOTO 3250
4000 m$ = "This Function Not Implemented, Yet":pv = 20: GOSUB 353
4010 m$ = "Press Any Key to Continue":pv = 22: GOSUB 353
4015 PRINT  CHR$(7);
4020 GOSUB 400
4030 RETURN
6000 GOSUB 72:M$ = "Enter/Change a Line": GOSUB 357
```

```
6010 M$="Line (1-10) :        Size (1-3) :     Color (1-4) :":PV=18:PH=5:
    GOSUB 352
6020 M$="Center(y/n):  Bold(y/n):  Slant(y/n): Indent Spaces:":
    PV = 20:PH = 5: GOSUB 352
6030 M$ = "Text : ":PV = 22:PH = 5: GOSUB 352
6100 PV = 18:PH = 18:SL = 2:LL = 1:UL = 10
6102 IF X8 = 0 AND X9 = 2 THEN X8 = 10
6103 IF X8 <  > 0 THEN  GOSUB 99: PRINT X8;: GOTO 6130
6105 GOSUB 201: IF A$ =  CHR$(27) THEN  GOTO 6995
6110 ON X9 GOTO 6120,6130
6120 GOSUB 369:X8 = 0: GOTO 6100
6130 N = X8
6200 PV=18:PH=39:SL=1:LL=1:UL=3:GOSUB 201:IF A$=CHR$(27) THEN GOTO 6995
6210 ON X9 GOTO 6220,6230
6220 GOSUB 369: GOTO 6200
6230 SIZE = X8
6300 PH = 58:SL = 1:LL = 1:UL = 4: GOSUB 201:IF A$ = CHR$(27) THEN GOTO 6990
6310 ON X9 GOTO 6320,6330
6320 GOSUB 369: GOTO 6300
6330 COL = X8
6400 PV = 20:PH = 18:SL = 1: GOSUB 101: IF A$ =  CHR$(27) THEN  GOTO 6990
6405 IF A$ =  CHR$(13) AND  LEN (B$) = 0 THEN CENTER$ = "N":
    M$ = CENTER$: GOSUB 352: GOTO 6500
6410 IF B$ = "Y" OR B$ = "y" THEN CENTER$ = "Y": GOTO 6500
6420 IF B$ = "N" OR B$ = "n" THEN CENTER$ = "N": GOTO 6500
6430 GOTO 6400
6500 PV = 20:PH = 39:SL = 1: GOSUB 101:IF A$ =  CHR$(27) THEN  GOTO 6990
6505 IF A$ =  CHR$(13) AND  LEN (B$) = 0 THEN BOLD$ = "N":
    M$ = BOLD$: GOSUB 352: GOTO 6550
6510 IF B$ = "Y" OR B$ = "y" THEN BOLD$ = "Y": GOTO 6550
6520 IF B$ = "N" OR B$ = "n" THEN BOLD$ = "N": GOTO 6550
6530 GOTO 6500
6550 PV = 20:PH = 58:SL = 1: GOSUB 101: IF A$ =  CHR$(27) THEN  GOTO 6990
6555 IF A$=CHR$(13) AND LEN (B$) = 0 THEN SL$="N":M$=SL$:GOSUB 352:GOTO 6600
```

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Interferon 1.0, 2.0: Problem Mistaking The LaserWriter For Virus

This article has been archived and is no longer updated by Apple.

Interferon 1.0 and 2.0, virus detection programs, report both LaserPrep 5.2 and LaserWriter 5.2 (from the 6.0 distribution) as "type 004 infections" -- that is:

"(004) 04/07/88 "SNEAK" Virus: Common System Folder files turned into INITs"

Interferon 1.0 and Interferon 2.0, like any other virus-detection tools, are not foolproof. They may suggest a virus where one does not exist, or not detect a virus that is present.

Interferon 3.0 does NOT report LaserWriter files as possible virus spreaders.

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LaserWriter: How To Eliminate Image "Ghosts" (7/95)

When printing an image followed by a large black area on a LaserWriter, a "ghost" of the image sometime appears in the black area. This article describes a way to correct this ghosting effect on the Apple LaserWriter, LaserWriter Plus, or Laserwriter II printers.

This article has been archived and is no longer updated by Apple.
The ghosting image anomaly is not unique to the Apple LaserWriter, LaserWriter Plus, or LaserWriter II printers; it is common to most laser printers and represents a problem with current laser-imaging technology. The ghosting may appear more pronounced with Apple equipment because many Apple applications use graphics AND text, rather than text only.

To work around the problem, print two or three copies of the document. When multiple copies of a page are printed, the organic coating on the imaging drum becomes more sensitive and is not as susceptible to the residual charges that cause ghosting.

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LaserWriter IINTX: Cached Fonts Are Available To Host Computer

This article has been archived and is no longer updated by Apple.

Fonts cached on a hard disk connected to a LaserWriter IINTX are a local resource to the printer, and not the system creating the document.

When a specific font is requested, the LaserWriter checks its local resources for the desired font and loads the font information.

This process is contained within the architecture of the LaserWriter interrupter, and is transparent to the user. No additional software or commands from the sending system are required.

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Apple IIc Plus: Brief Description Of The Self-Test

The Apple IIc Plus self-test turns on the low-resolution color screen.
This article has been archived and is no longer updated by Apple.
During the self-test, the colors change, indicating the progress of the test. At the end of the testing cycle, the color screen clears, and a "SYSTEM OK" message displays in the midst of random text. This is the normal end-of-test display to indicate that there is nothing wrong with the system. No other prompt appears.

To return the Apple IIc Plus to Applesoft BASIC, press CONTROL-RESET.
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AppleWorks 2.1: Apple IIc Plus Disk Drive Labelling Correction

The Apple IIc Plus has an internal 3.5" disk drive, which the older Apple IIc system didn't have. AppleWorks has a menu item under "Add Files" for changing current disk. When chosen, this menu item displays a list of available disks.
This article has been archived and is no longer updated by Apple.
On an Apple IIc Plus with the internal 3.5" drive, AppleWorks 2.0 displays the following list of drives:

1. Built-in disk
2. Ext. disk IIc
3. Disk 3.5 #1
4. ProDOS directory

NOTE: AppleWorks 2.0 uses the following associations between slot/drive and the labels as displayed above:

1. Built-in disk Slot 6, Drive 1
2. Ext. disk IIc Slot 6, Drive 2
3. Disk 3.5 #1 Slot 5, Drive 1
4. ProDOS directory (the pathname typed in response to this selection)

When running on a Apple IIc Plus:

1. The built-in disk is actually the first external 5.25" drive.
2. The "Ext. disk IIc" is the second external 5.25" drive.
3. The "Disk 3.5 #1" label is the internal 3.5" drive mounted in the Apple IIc Plus.

These labels are correct for the older Apple IIc systems, but the labels do not correctly identify the internal disk drive for the Apple IIc Plus. Claris has revised AppleWorks 2.0 to correct the associations. Contact Claris for information about the AppleWorks 2.1 update.

- Article#17159: "**Locating Vendor Information**", can help you search for a particular vendor's address and phone number.

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LaserWriter II P/C: Image Shifted On Page

This article has been archived and is no longer updated by Apple.

BEFORE YOU START: Familiarize yourself with the LaserWriter II Technical Procedures. Be sure to follow proper ESD procedures.

Problem Description:

The image printed on the Laserwriter II is shifted or not placed properly on the page.

Background Information:

There are three switches (SW201, SW202, SW203) which detect which size paper cassette has been installed in the printer. If these switches become bent, or are triggered incorrectly the image will shift on the page depending on the cassette size the printer thinks is inserted. The image will be shifted down and to the right on the paper. The amount of shift depends upon which cassette the printer detects. For example, if the printer thinks it detects an A5 cassette then the image will be shifted down about 1/2" and to the right about 1/4". The built in print engine test is aligned perfectly on the page.

Cure:

#1: Straighten the microswitch arms or replace the entire microswitch assembly.
#2: Check the paper cassette for damage.

If this does not solve the problem refer to the LaserWriter II Technical Procedures for further information.

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Apple Color Plotter: AppleSoft BASIC Chart Maker II (3 of 3)

This is the Applesoft BASIC source for "Chart Maker II", a demonstration program for the Apple Color Plotter. It provides an easy way to create charts and signs with the plotter. Just startup Applesoft, EXEC this file, and save the program to disk.

Note: This is Part 3 of 3 Parts, all 3 parts must be combined together to complete the program.
This article has been archived and is no longer updated by Apple.

```
9015 VTAB 12: HTAB 12: PRINT "Drawing Chart";:VTAB 13: HTAB 5: PRINT "Turn Off Plotter to Terminate"
9016 ONERR GOTO 9430
9017 PRINT CHR$(4);"PR# 2": REM*** PRINT CHR$(9);"2C"
9018 REM*** GL$ = "SP0": GOSUB 51000
9019 PN = 1: GOSUB 51100
9020 IF BDR$="Y" THEN XP=0:YP=0:GOSUB 51110:YP=1759:GOSUB 51111:XP=2394:
GOSUB 51111:YP = 0: GOSUB 51111:XP = 0: GOSUB 51111
9030 FOR I = 1 TO 10
9040 IF LEN (TXT$(I)) = 0 THEN 9400
9050 IF SIZE(I) = 1 THEN SI = 54:S1 = 54: GOTO 9060
9051 IF SIZE(I) = 2 THEN SI = 72:S1 = 36: GOTO 9060
9052 IF SIZE(I) = 3 THEN SI = 108:S1 = 27
9060 GOSUB 51150
9070 PN = COL(I): GOSUB 51100
9072 GL$ = "SL0": IF SL$(I) = "Y" THEN GL$ = "SL20"
9076 GOSUB 51000
9085 XP = 100:YP = 1659 - (I * 155.9):YP = YP + S1: GOSUB 51110
9090 IF CENTER$(I) = "Y" THEN XP = 1197: GOSUB 51110: GOSUB 9500: GOTO 9110
9100 IF DENT(I) > 0 THEN GOSUB 9600
9110 MS$ = TXT$(I): GOSUB 51140
9120 IF BOLD$(I) < > "Y" THEN GOTO 9400
9130 IF CENTER$(I) = "Y" THEN XP = 1197: GOSUB 51110:GOSUB 9500: GOTO 9300
9200 XP = 100: GOSUB 51110
9210 IF DENT(I) > 0 THEN GOSUB 9600
9300 GL$ = "MR4,4": GOSUB 51000
9310 MS$ = TXT$(I): GOSUB 51140
9400 NEXT
9410 PN = 1: GOSUB 51100
9415 IF LEN (CHART$) > 0 THEN SI = 40: GOSUB 51150:XP = 2050:YP = 10: GOSUB 51110:MS$ = CHART$: GOSUB 51140
9420 SI = 30: GOSUB 51150
9430 GL$ = "CH": GOSUB 51000:PN = 1: GOSUB 51100
9439 PRINT CHR$(9);"R"
9440 PRINT CHR$(4);"PR#3"
9450 GOTO 50
9499 RETURN
9500 BACKUP = (( INT ( LEN (TXT$(I)) / 2)))
9510 IF BACKUP < .5 THEN GOTO 9550
9515 GL$="PL ": GOSUB 51001:GL$ = "PL" + CHR$(8): GOSUB 51001
9520 FOR J9 = 1 TO BACKUP
9530 GL$ = "PL" + CHR$(8): GOSUB 51001
9540 NEXT
9550 RETURN
9600 FOR J9 = 1 TO DENT(I)
9610 GL$ = "PL ": GOSUB 51001
9620 NEXT : RETURN
10000 GOSUB 72:M$ = "Move a Line": GOSUB 357
10010 PV = 20:PH = 5:M$ = "Move from line # : Move to line :": GOSUB 350
10020 PH = 39:SL = 2:LL = 1:UL = 10: GOSUB 201:IF A$ = CHR$(27) THEN 10199
10030 ON X9 GOTO 10040,10050
10040 GOSUB 369: GOTO 10020
10050 N2 = X8
10060 PH = 59:SL = 2:LL = 1:UL = 10: GOSUB 201: IF A$ = CHR$(27) THEN 10199
10070 ON X9 GOTO 10080,10090
10080 GOSUB 369: GOTO 10060
10090 N3 = X8
10100 TXT$(N3)=TXT$(N2):CENTER$(N3)=CENTER$(N2):DENT(N3)=DENT(N2):
SIZE(N3)=SIZE(N2):BOLD$(N3)=BOLD$(N2):COL(N3)=COL(N2):SL$(N3)=SL$(N2):
```

```
I = N3: GOSUB 10800
10110 I = N2: GOSUB 10900: GOSUB 10800
10199 GOSUB 72: RETURN
10800 POKE 32,5: POKE 33,74: POKE 34,I + 2: POKE 35,I + 2:HOME : TEXT : GOSUB 7010: RETURN
10900 TXT$(I)="":CENTER$(I)="N":DENT(I)=0:SIZE(I)=0:
BOLD$(I) = "N ":COL(I) = 0:SL$(I) = "N": RETURN
12033 NED
17210 PH = 52:M$ = "Color": GOSUB 352
50000 PRINT CHR$(7);: GOSUB 73
50010 PV = 17:PH = 2: GOSUB 99:M$ = "Prepare the Plotter": GOSUB 350
50015 M$="(Insert Paper, Turn On, and Press 'LOCAL' Button)":PV=18:GOSUB 350
50020 PV=19:GOSUB 99:M$="Key 'RETURN' When Ready to Start Plot": GOSUB 350
50025 PV=21:M$="(ESCAPE stops Plot; 'C' Changes Plotter Slot)": GOSUB 350
50030 GOSUB 400: IF CM = 27 THEN GOSUB 73: RETURN
50032 IF CM = 67 THEN GOSUB 57000: GOTO 50000
50033 IF A$ < > CHR$(13) THEN 50030
50035 ONERR GOTO 50050
50041 GOSUB 72:PV = 15:M$ = "Drawing Graph": GOSUB 350
50042 GOSUB 73:PV=20:M$="Turn Plotter Off to Terminate Plotting": GOSUB 350
50045 ONERR GOTO 97
50049 RETURN
50050 PRINT CHR$(7);: GOSUB 73: GOSUB 71
50060 m$="Graph'n'Calc tried to open '"+plr$+", but it's":pv = 17: GOSUB 350
50070 m$="not in SOS.DRIVER on the 'Boot' Diskette":pv=19:ph=5:GOSUB 352
50080 m$="If '"+plr$+" is configured for the Plotter, give": pv=20:GOSUB 352
50090 m$="its Device Name in the 'C' option in the Draw": pv = 21: GOSUB 352
50091 m$="command to use it as the Plotter.": pv = 22: GOSUB 352
50092 m$ = "(Press Any Key to Continue)":pv = 23: GOSUB 350
50098 GET a$
50099 GOSUB 72: GOTO 50000
50100 XP=XLEFT:YP=YBOT:GOSUB 51110:YP=Y TO P-50:GOSUB 51111:XP=XLEFT+X LEN+1:
GOSUB 51111:YP=YBOT:GOSUB 51111:XP=XLEFT:GOSUB 51111:RETURN:REM The Box
50200 REM Graph Title
50201 IF LEN (GR TIT$)=0 THEN RETURN
50202 ms$=grtit$
50205 si=30: IF LEN (ms$) < 29 THEN si=50: GOTO 50209
50206 IF LEN (ms$) < 36 THEN si=45: GOTO 50209
50207 IF LEN (ms$) < 41 THEN si=37: GOTO 50209
50209 GOSUB 51150
50210 XP=XLEFT + ( INT (X LEN / 2)):YP=Y TO P - 25
50215 hpgl$="PL ": GOSUB 51000:hpgl$="PL" + CHR$(8): GOSUB 51000
50220 GOSUB 51110: GOSUB 53420: GOSUB 51140: RETURN
51000 PRINT GL$ + CHR$(13): RETURN
51001 PRINT GL$ + CHR$(3): RETURN
51100 GL$="PS" + STR$ (PN): GOSUB 51000: RETURN : REMGet pen
51110 GL$="MA"+STR$ (XP)+","+STR$ (YP):GOSUB 51000:RETURN:REM Move X-Y
51111 GL$="DA"+STR$ (XP)+","+STR$ (YP):GOSUB 51000:RETURN:REM Draw to XY
51140 GL$="PL" + MS$: GOSUB 51001: RETURN
51150 GL$="LS" + STR$ (SI): GOSUB 51000: RETURN
51160 GOSUB 51110:GL$="PL": GOSUB 51000
57000 GOSUB 73
57010 PV=21:M$="Enter new slot #": GOSUB 350
57015 GOSUB 400
57020 IF CM=27 THEN GOSUB 73: RETURN
57030 IF CM < 49 OR CM > 55 THEN PRINT CHR$(7);: GOSUB 73: RETURN
57040 PLR$= CHR$(CM): GOSUB 73
57050 GOSUB 9001
57060 RETURN
63999 DATA104,168,104,166,223,154,72,152,72,96
```

Published Date: Feb 20, 2012

A/UX: An Example Setup Of UNIX Mail For The Macintosh (9/94)

This article describes a shareware electronic mail development project for UNIX at the University of Minnesota. The idea was to create a simple system that would insulate users from having to learn UNIX or VMS. (Most campus administrators and secretaries at the university fall into this category.)

This article has been archived and is no longer updated by Apple.
Because they were already running the CAP AppleShare file server software on a Sun workstation, they decided to take mail from the UNIX mailer and deposit it in an AppleShare volume. This means the user's mail is put onto an AppleShare disk and is readable by their favorite word processing application. Electronic mail appears as a normal Macintosh document. One configuration has the system set up so that incoming mail appears as Microsoft Word documents.

Conversely, they set up a folder on the AppleShare volume where any file dragged into the folder is submitted to the UNIX mailer. To be treated as mail, the file needs to obey two conventions:

- The first line of the file is the name and address of the receiver.
- The second line of the file is the subject.

A 20-line, C-shell program puts incoming mail into the appropriate AppleShare volume and mails outgoing mail from the outgoing mail folder. This process gave them two-thirds of a standard electronic mail system: sending and receiving mail.

The other third of the system is notification when mail arrives. To cover this requirement, they wrote a tiny (40K) application called "Nag." Nag runs under MultiFinder and periodically looks into a folder to see if any new files arrived. If new files appear in the folder, Nag uses the Macintosh notification manager to alert the user. If you want to know when mail arrives you can run Nag. (Nag is small enough to run it and a word processing application under MultiFinder -- even on a 1MB Macintosh.)

The whole project is called "piece mail," because it is a mail system built
from small pieces:

- AppleShare Server software

- A UNIX machine

- A shell script to move mail into the AppleShare Server volume

- The Nag program to notify users when new mail has arrived

- A word processing application to read and edit mail messages.

Although the school is using CAP AppleShare software on a Sun workstation, running UNIX, this same technique also should work for VMS VAXes with Alisa or Pacer AppleShare Server software. All this substitutes for SMTP mail services on the Macintosh.

Article Change History:
13 Sep 1994 - Reviewed.
31 Aug 1992 - Reviewed.

Support Information Services

Published Date: Feb 20, 2012

GS/OS: Polling Drives Disk Drives

Some users have expressed concern that the Apple IIGS GS/OS polls disk drives for the presence of a disk.
This article has been archived and is no longer updated by Apple.
The polling of drives under GS/OS is normal. Unlike the Macintosh, which has built-in hardware and firmware to detect a disk, the Apple IIGS does not. The Apple IIGS, via GS/OS, needs to poll the drives to determine whether a disk has been inserted. There is no way to disable the drive polling.
Published Date: Feb 20, 2012

Macintosh II: Where To Find Info On The Monitor Shimmer Problem

This article has been archived and is no longer updated by Apple.

Information regarding the Macintosh II monitor shimmer problem is in the "Apple Service Programs" binder in the "Product Notices: Monitors" section on pages 8.5.2 and 8.5.3. The actual adjustment procedure is in the "Apple Technical Procedures" binder (currently volume IV) in the "AppleColor RGB Monitor" section on page 3.7.

Published Date: Feb 18, 2012

EtherTalk: Thin-Wire Cabling Strategy

This article has been archived and is no longer updated by Apple.

This article discusses a wiring strategy for thin-wire Ethernet cabling (RG58U cable) and the Macintosh II EtherTalk card.

Basically, RG58U cable must always loop through the wall plate (via a BNC connector). If no computer is present, pass the cable out through one hole in the plate and then back in through the other hole (the pass-through loop strategy).

If a computer is present, run the cable out to a T-connector mounted directly on the back of the computer and connect it to the T-connector. (Important: Xerox says that the T-connector MUST be within 1/2 inch of the card.) Run the continuing cable from the other side of the T-connector back through the second hole in the wall plate.

Published Date: Feb 18, 2012

Macintosh: Third-Party Serial-to-Parallel Solution

This article has been archived and is no longer updated by Apple.

TOPIC ----------

Is there any way to connect a parallel printer to the serial port of my Macintosh?

DISCUSSION ----------

There are two solutions, both from Orange Micro:

The Grappler 9-pin (formerly called Grappler C/Macintosh/IIGS) provides a parallel interface system. The Grappler device plugs into the serial port on the Macintosh. It does a serial-to-parallel conversion using the ImageWriter II driver. It works with Epson, Okidata, Panasonic, and other Epson-compatible printers. (A special adapter cable from Orange Micro is required for both versions of the Macintosh 512K.)

The Grappler LX (formerly called Grappler LQ) is similar and does the serial-to-parallel conversation for third-party printers with 24-pin printheads. The device lets Hewlett-Packard-compatible laser printers, the HP DeskJet, and Epson or Toshiba 24-pin dot matrix printers, to work like the ImageWriter LQ printer. It does not work with the Macintosh 512K and Macintosh 512Ke.

To locate a vendor's address and phone numbers, use the vendor name as a search string.

Published Date: Feb 18, 2012

Macintosh: How To Use AFE To Import ProDOS PFS File Data

What is the best way to move ProDOS PFS Files to a Macintosh?
This article has been archived and is no longer updated by Apple.
A good way to move data from the ProDOS version of PFS File to a Macintosh is to follow three steps:

1) Issue the PFS File "Copy Forms" command (explained in Chapter 9 of the PFS File manual) to print the file to disk as a ProDOS "delimited text" file.

2) Read this ProDOS text file into AppleWorks.

3) Print the file to disk to create a text file that he can import into the Macintosh. The resulting file is a true "TXT"-type file.

Some people want to use the PFS File "Copy Forms" command (explained in Chapter 9 of the PFS File manual) in a one-step operation. The problem with this is that Copy Forms does not create TXT-type file, but rather a "delimited text" file.

Apple File Exchange does not see such a file as a text file and translates it as "default" mode. The additional step (moving the file into and out of AppleWorks) changes the file to a true TXT-type file that AFE can accomodate.

Apple File Exchange accomplishes file translation using scripts. You can write a script that accommodates the file type that has been assigned to the PFS File.

To implement the translator, programming in the AFE environment is required (see "Apple File Exchange Technical Reference Package v1.1", available from APDA).

Software Publishing Corporation, publishers of the PFS series, recommends that the customer print the document to a disk. This assigns a TXT type to the printed document. However, this method writes the file in the screen layout format or a mailing label layout format. It does not automatically separate the fields or the records as the method described here does. For more information, search on "Software Publishing Corporation".

You can also change the file type with a file editor. However, this method is more technical and riskier than using the AppleWorks method.

This article provides information about a non-Apple product. Apple Computer, Inc. is not responsible for its content. Please contact the vendor for additional information.
Published Date: Feb 20, 2012

ImageWriter LQ: Available OCR Fonts

This article has been archived and is no longer updated by Apple.

As of this article writing, no OCR-A or OCR-B fonts designed as 3x fonts for the ImageWriter LQ are available. However, you can generate 3x fonts from an existing screen font using a font editor like Altsys FONTastic Plus.

For example, a 12-point font printed on the ImageWriter LQ needs a 36-point font installed in the System. OCR-A is available in 12-point, but not in 36-point. To create a 36-point font, open the 12-point font in FONTastic Plus and have FONTastic Plus generate it. Save that 36-point font, and install the generated font into the System file. Some cleanup of the generated font may be required within FONTastic Plus on a Fat Bits style screen.

Also, NeoScribe International creates custom fonts. They also sell a PostScript OCR-A font with the screen font.

For more information, search on the above company names.

Published Date: Feb 18, 2012

A/UX: Bourne Shell Metacharacters (6/93)

This article discusses Bourne shell metacharacters.

This article has been archived and is no longer updated by Apple.
A metacharacter is a character that performs a special function in the shell, like expanding a file name or redirecting output. In fact, the metacharacters in this article fall into two categories: wildcard characters for file name expansion and redirection of input/output and process.

File name expansion characters include

* Asterisk *
* Brackets [ ]
* Brackets-Hyphen [-]
* Question mark ?

Input/output and process redirection characters include

* Ampersand &
* Back quote `
* Backslash \\
* Braces { }
* Double greater than > >
* Greater than >
* Less than <
* Parentheses ( )
* Semicolon ;
* Slash /
* Vertical bar |

The article is divided into two sections (one for each type of character).
All metacharacters are listed alphabetically within their sections.

FILE NAME EXPANSION METACHARACTERS

The Asterisk

The asterisk (*) substitutes in a file or directory name for zero or more characters, except a leading period (like ".ash").

Example: The command

ls *ash

returns file names ending with the letters "ash" like "ash", "bash", "cash", "mash", and "splash". However, it won't return strings that have characters after the "ash" like "bash.tmp" or "bashful.

Brackets

Brackets ([ ]) cause the shell to look for a match for each character between the brackets, one at a time. It does not match the period character.

Example: ls [bm]ash returns file names "bash" and "mash", but not "cash" or "bash.tmp".

A variation is brackets with a hyphen separating two characters. It causes the shell to match any character within the range of these characters in a file or directory name.

Example: ls [a-c]ash returns file names that have letters in the range from "a" through "c" as the first character of their name and that are followed by the letters "ash". Thus, "ash", "bash", and "cash" match, but not "dash" or "mash".

You can place a bracket metasequence anywhere in a string.

Question Mark

The question mark (?) substitutes for any ONE character in the same position in a file or directory name. The question mark does not expand file names, nor does not match a leading period.

Example: "ls ?ash" returns only file names that have one character followed by the characters "ash". Thus, "bash", and "cash" match, but not "ash" or "splash".

REDIRECTION METACHARACTERS

Ampersand

The ampersand (&), placed at the end of a line, causes the task it follows to run in the background. When using the ampersand, the shell returns the task's PID (Process ID Number). Note: In the Bourne shell, you cannot retrieve a task from the background.

Example: cat /etc/passwd &

Back Quotes

The back quotes (` `) contain any UNIX command. When the shell executes the line containing the back-quoted command, it replaces the command and with the command's output in the string. Without the back quotes, the shell would treat a command like an ordinary string.

For example,

echo today is date

returns "echo today is date", whereas

echo today is `date`

returns "today is " followed by the system date.

Backslash

The backslash (\\), preceding a metacharacter, causes the shell to interpret the character as a regular character rather than as a metacharacter. Typically, this can stop a variable from returning its value.

For example, type in the following three lines of code. And notice that the third line does not return the variable's value.

```
x=hi
echo $x
echo \\$x
```

Dollar Sign

The dollar sign ($) causes the shell to evaluate or display the value of the variable the dollar sign precedes. The following to lines output "hi", the contents of variable x.

```
x=hi
echo $x
```

Double Quotes

The double quotes (" ") serve three purposes. First, it lets you put tabs and spaces in a string as you assign the string to a variable. Second, when you display the contents of a variable, surrounding the variable name in double quotes preserves tabs and multiple contiguous spaces and tabs. Try this example:

```
y=me and you
```

The shell refuses the command when it hits the first space. Try this (including multiple spaces after "and"):

```
y="me and you"
echo $y
echo "$y"
```

The third purpose for double quotes is that they can "seal in" command characters, so that these characters appear as literals. For example, typing

```
echo today's
```

causes the system to display a greater than sign. It's waiting for further input, input that must conclude with a single quote. The command

```
echo "today's"
```

just prints the word.

Greater Than and Double-Greater-Than

Both these commands take data from a source command and send that data to the target file as if it were standard output. If the file doesn't exist the command creates one. The difference is that greater-than always *writes* to the target file, thus erasing any data already in the file. The double-greater-than character always *appends* the data to the file.

To see these characters at work, try this command-line sequence:

First, check to see if you have a file named "doc." If you do, use a different file name.

```
ls doc
date > doc
cat doc
who am i >> doc
cat doc
cal 11 1993 > doc
cat doc
```

Less Than

The less than (<) causes a file to be treated as a standard input for the command. The example writes the file names in the current directory into doc, It then hands the contents of doc to the sort command for a reverse sort to the screen

```
ls > doc
sort -r < doc
```

Parentheses

The parentheses -- ( ) -- group several commands for execution in a subshell with command output passed as standard input to the next command on a pipeline. Notice the difference when you use parentheses and when you don't in this example:

```
date; who am i > doc
cat doc
(date; who am i) > doc
cat doc
```

Without parentheses, the shell executes the date command without sending its output to doc. The shell pipes the who am i output, because it is immediately adjacent to the greater than.

Semicolon

The semicolon (;) causes commands on the current line to be executed sequentially. Note the example for parentheses and the example below:

```
date ; ls
```

Single Quotes

Put single quotes (') around special characters when you do not want the shell to interpret them.

Note: if a back quote occurs within the command, it must be escaped with a "\\" (backslash). Otherwise, the usual quoting conventions apply within the command.

Vertical Bar

The vertical bar (|) causes the standard output for the first command and to be treated as the standard input for the second command. That is, the vertical bar combines commands into a pipeline, passing data from one command to another without an intervening file. The example passes the listing for the current directory directly to the sort command for a reverse sort printed to the screen:

```
ls | sort -r
```

Article Change History:
24 Jun 1993 - Revised for technical accuracy.

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Macintosh: Tektronix Terminal Emulation

This article has been archived and is no longer updated by Apple.

For a Macintosh package that supports Tektronix Graphic terminal emulation, check VersaTerm-PRO from Peripherals, Computers and Supplies. It emulates a Tektronix 4105 terminal. Also note that many of the applications that provide a Tektronix 4107 terminal driver also provide Tektronix 4105 terminal driver.

For more information, search on "Tektronix" and "Peripherals, Computers, and Supplies."

Published Date: Feb 18, 2012

Apple III Pascal: Reading special keyboard characters (1 of 2)

This article has been archived and is no longer updated by Apple.

Apple III Pascal programs can distinguish:

1. the Open and Closed Apple keys in conjunction with other keys,
2. SHIFT key uppercase characters from ALPHA-LOCK key uppercase characters,
3. keypad numbers from top row numbers, and
4. RETURN, ENTER and CTRL-M from each other, even though they all have the same ASCII value.

The Apple III's console driver two-byte mode makes this all possible. When a program requests this mode, the console driver sends the program two bytes. The first byte returns the expected ASCII character while the second returns information about how the character was entered. The diagrams on pages 135 and 165 of the Standard Device Drivers manual show the format of the information that is returned.

Two sucessive READs will not receive both bytes because the data is actually presented as a 16-bit word rather than two 8-bit bytes. (BASIC has no provision to accept this type of input.) The following is a Pascal program to demonstrate the Apple III's ability to communicate 16-bit keyboard coding.

```
program TWO_BYTES; {Demo Apple III two-byte keyboard read}
 {By Grover F. Nunnery - Apple Computer Inc. - Charlotte, NC}
 var A, B        : integer;
     Key, Mod_Key: string;

 procedure KBD_MODE (OneTwo: integer); {Console driver request}
   {OneTwo:= 0 requests 1-byte data; OneTwo:= 128 requests two}
   var requestcode: packed record
                      channel: 0..1;
                      stat_or_ctrl: 0..1;
                      request_num: 0..255;
                      reserved: 0..63
                    end;
   begin
     requestcode.channel:= 0;
     requestcode.stat_or_ctrl:= 1; {Control request}
     requestcode.request_num:= 3; {Keyboard Mode}
     requestcode.reserved:= 0;
     UNITSTATUS (1, OneTwo, requestcode);
   end; {Kbd_Mode}

 procedure READ_TWO; {Reads 2 bytes}
   var Two_Bytes: packed record
                    A: 0..255;
                    B: 0..255
                  end;

   function KEYPRESS: boolean; {Console Status Call -
                                  True upon Keypress}
     var charcount  : integer;
         requestcode: packed record
           channel: 0..1;
           stat_or_ctrl: 0..1;
           request_num: 0..255;
           reserved: 0..63
         end;
     begin
       charcount:= 0;
       requestcode.channel:= 1;
       requestcode.stat_or_ctrl:= 0;
       requestcode.request_num:= 5;
```

```
      requestcode.reserved:= 0;
      UNITSTATUS (1, charcount, requestcode);
      KEYPRESS:= (charcount <> 0)
    end; {Keypress}

  begin
    repeat until KEYPRESS;
    UNITREAD (2, Two_Bytes, 2,, 12);
    A:= Two_Bytes.A;
    B:= Two_Bytes.B
  end; {Read_Two}

procedure MODIFIER;
  begin
    Mod_Key:= ''; {Null}
    B:= B - 65; {Bits 0 and 6 always set}
    if (B > 127) then begin
      if (A in [45..46, 48..57]) then Mod_Key:= 'Keypad-'
      else Mod_Key:= 'Special';
      B:= B - 128
    end;
    if (B > 31) then begin
      Mod_Key:= concat (Mod_Key, 'ClosedApple-');
      B:= B - 32
    end;
    if (B > 15) then begin
      Mod_Key:= concat (Mod_Key, 'OpenApple-');
      B:= B - 16
    end;
    if (B > 7) then begin
      Mod_Key:= concat (Mod_Key, 'AlphaLock-');
      B:= B - 8
    end;
    if (B > 3) then begin
      Mod_Key:= concat (Mod_Key, 'CTRL-');
      B:= B - 4
    end;
    if (B > 1) then Mod_Key:= concat (Mod_Key, 'Shift-')
  end; {Modifier}
```

Published Date: Feb 20, 2012

Apple III Pascal: Reading special keyboard characters (2 of 2)

This article has been archived and is no longer updated by Apple.

```
procedure KEY_NAME;
  var Its_There: integer;
  begin
    Key:= ' '; {Initialize as one character}
    if (A > 127) then A:= A - 128; {Open-Apple
                                    flagged elsewhere}
    if (A < 33) then begin
      Its_There:= pos ('Special', Mod_Key);
      if (Its_There > 0) then begin
        case (A) of
           8: Key:= 'LeftArrow';
           9: Key:= 'Tab';
          10: Key:= 'DownArrow';
          11: Key:= 'UpArrow';
          13: Key:= 'Enter';
          21: Key:= 'RightArrow';
          27: Key:= 'Escape';
          32: Key:= 'Space'
        end;
        delete (Mod_Key, 1, 7); {Delete 'Special'}
      end
      else begin
        Key [1]:= chr (A + 64); {Convert to regular character}
        if (A = 13) then begin
          Its_There:= pos ('Control', Mod_Key);
          if (Its_There = 0) then Key:= 'Return'
        end
      end
    end
    else begin {Printing characters}
      Key [1]:= chr (A);
      if (A = 127) then Key:= 'Delete'
    end
  end; {Key_Name}

begin
  write (chr (28)); {Clear viewport}
  KBD_MODE (128); {Request 2-byte keyboard operation}
  repeat
    write ('Enter key combination: ');
    READ_TWO;
    MODIFIER; {Interpret Byte_B}
    KEY_NAME; {Interpret Byte_A}
    writeln (Mod_Key, Key);
  until (Key = 'Escape');
  KBD_MODE (0) {Restore 1-byte keyboard operation}
end. {Two_Bytes}
```

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GS/OS: How To Install Drivers And Other Devices

The SYSTEM.DISK (included with Apple IIGS System Disk 4.0 -- GS/OS), does not contain the drivers for a 5.25-inch or SCSI drive. Without these drivers installed, the system cannot access the 5.25-inch or SCSI drive.
This article has been archived and is no longer updated by Apple.
IMPORTANT: Do not run the Installer program on your original start-up disk. Also, do not install GS/OS on a third-party application disk. The application may work only with the original System files.

To install these (and other) drivers:

1. Create a start-up disk and make a back-up copy.
2. Run the Installer program (on the SYSTEM.TOOLS disk) so that it installs drivers on the back-up copy of the start-up disk.
3. Select "Apple Disk 5.25" for the 5.25-inch drive.
4. Select "SCSI Hard Disk" for the SCSI drive.

Contact the developer before upgrading to GS/OS, if you have any compatibility questions.

The following can be added with the Installer program:

- Additional Fonts
- Advanced Disk Utility
- Apple Disk 5.25
- Apple MIDI
- AppleTalk ImageWriter
- AppleTalk ImageWriter LQ
- Card 6850 MIDI
- CD-ROM
- Direct Connect ImageWriter
- Direct Connect ImageWriter II
- Epson Printer
- System Files
- LaserWriter
- Network Printer Chooser
- Network Printer Namer
- SCSI Hard Disk
- UniDisk 3.5

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Apple IIGS: GS/OS Support For Epson Printers

This article has been archived and is no longer updated by Apple.

Apple IIGS System Disk 4.0 and GS/OS support printing to these Epson printers through the Practical Peripherals Graphic Card:

FX-100
FX-850
FX-1050
LQ-850
LQ-1050
LX-800
RX-80

To use these Epson printers, you must have installed the Practical Peripherals Graphic Card; it is the only interface card supported. Also, all eight switches on the printer must be in the UP position. Use either the printer default setting or see the Practical Peripherals Graphic Card manual for individual printer settings.

For more information, search in the Tech Info Library under "Practical Peripherals" and "Epson."

Published Date: Feb 18, 2012

Macintosh II: Automatix Offers Industrial-Grade Model

I need to use a Macintosh II in a very harsh environment, ie. factory.
How can I protect my Macintosh?

This article has been archived and is no longer updated by Apple.
If you need an industrial-grade Macintosh II, look into Automatix's modified Macintosh II. The AI-90 computer integrates Macintosh II innards with a steel case (rated NEMA 2), a shock-mounted hard disk, and temperature- and power-monitoring circuits.

A second computer, the AV-90, extends the AI-90 for video digitization. It includes a frame-grabber card and an interpreted language for imaging and I/O work -- MacRail.

To locate a vendor's address and phone numbers, use the vendor name as a search string.

Published Date: Feb 18, 2012

Apple II Plus: How To Generate Lowercase & Uppercase Characters

This article has been archived and is no longer updated by Apple.

To make an Apple II Plus generate both lowercase and uppercase characters for word processing applications you need a Videx (or other manufacturer) 80-column card for the Apple II Plus. The Videx VideoTerm card handles both the reading of keystrokes and their proper display.

Note: You must make the Apple II Plus shift key modification for this to work. Search on "shift key mod" in the Tech Info Library for the modification requirements.

Published Date: Feb 18, 2012

Apple IIe: Input Devices For Disabled Individuals

This article has been archived and is no longer updated by Apple.

This article lists companies who make software and hardware that enable the disabled to use Apple computers.

Contact the Trace Research & Development Center at the University of Wisconsin concerning their software registry and listing of literature and programs.

Both Zygo Industries and Prentke Romich, have switches and devices to aid input to the computer. Zygo also makes various software packages that can do abbreviation expansion, and math figures. A demo disk product shows input and output techniques for the disabled.

Using one of these products with the Adaptive Firmware Card from Don Johnston Development Company allows users to enter information into most computer programs. The card allows 16 different input methods, including single-switch scan, Morse Code for two switch users, expanded keyboard, and so on. This card can be installed by a nontechnical person and does not disrupt use of the computer by able-bodied individuals.

For more information, search in the Tech Info Library on the above company names.

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LisaTerminal: Important Things to Know

This article has been archived and is no longer updated by Apple.

```
1. You can't abort the pasting into LisaTerminal of a file to be transmitted.

2. You can't set LisaTerminal to respond automatically to a prompt from a host
  computer, such as an editor prompt for next line.
```

Published Date: Feb 20, 2012

ResEdit: Ordering Latest Version

Where can I obtain the latest version of ResEdit?
This article has been archived and is no longer updated by Apple.
The latest version of ResEdit (v2.1.3), can be ordered from: http://www.devcatalog.app.com/
Published Date: Feb 20, 2012

LaserWriter 16/600 PS: Line on Lower Right Side of Page (5/97)

We have an external 80MB HD connected to our LW 16/600 PS. We installed 100 fonts on the drive, and now, whenever we print, a thin line is printed on the lower-right side of each page. It seems that the length of this line depends on the number of fonts installed. The line is NOT printed when only 20 or 40 fonts are installed. The hard drive was formatted with the Apple Printer Utility.
This article has been archived and is no longer updated by Apple.
Apple has seen reports of this problem on the LaserWriter 16/600 PS, but only when using third-party hard drives.

There are two workarounds for this problem:

- Enable FinePrint
- Add more printer RAM

This problem does not occur if you use the Apple-supported hard drive included in the LaserWriter 16/600 PS Internal Hard Disk Drive Kit, M3297G/A. This drive, an IBM Shima drive, is the only drive that has been qualified to work with the LaserWriter 16/600 PS.

This article was published in the 27 June 1997 "Information Alley".

Published Date: Feb 20, 2012

Color StyleWriter 4500: Description

This article contains a description of the Apple Color StyleWriter 4500 printer.
This article has been archived and is no longer updated by Apple.
The Apple Color StyleWriter 4500 is a high-quality, photorealistic color printer with the versatility to let you tackle everything from standard business documents to creative multimedia printing projects. It's ideal for home, education, and even small-business users who want a convenient, extraordinarily flexible printer that expands their choices for communicating ideas effectively.

Apple Color StyleWriter printers are designed to work seamlessly with Mac OS-based computers, and provide excellent print quality and speed. The Apple Color StyleWriter 4500 produces crisp, laser-quality black text at speeds of up to five pages per minute, and can print on virtually any type of media --from index cards and envelopes to plain paper and transparencies to banner paper.

But color capabilities are where this printer truly shines. In addition to supporting Apple's ColorSync color-matching technology, the Color StyleWriter 4500 comes with everything required to let you get started printing true photorealistic images within minutes, using a combination of six color inks to print up to millions of colors. So you can take your favorite digital image--whether it was captured using a digital camera or a scanner, imported from a CD-ROM of stock images, or downloaded from the Internet--and print it out in vivid color.

If the ability to print photo-realistic images sparks your creativity, you'll be glad to know that the Color StyleWriter 4500 also comes with a number of features designed to support your creative impulses. You get software that can help you with multimedia printing projects ranging from tiny postcards to immense banners--including a vast library of images. There's even an application that can help you create geneologies or company organizational charts and get them ready to post to the Internet World Wide Web.

So if you want a high-quality color printer that can improve your productivity and enhance your creativity, the Apple Color StyleWriter 4500 is the one for you.

Features:

Amazing photorealistic color images-- right out of the box

- Comes with everything you need--including ink cartridges, a serial cable, and even paper samples--to print photorealistic color images and color and black-and-white documents

A multimedia printing solution

- Features bundled photo-editing software that lets you create and print everything from family photos to personalized T-shirt transfers
- Includes additional bundled applications that let you customize banners, greeting cards, and calendars, and design web pages

Outstanding print quality and speed

- Prints high-resolution documents: up to 600 by 600 dots per inch for black and white and up to 600 by 300 dots per inch for color
- Prints at speeds of up to 5 pages per minute in black and white and 1.7 pages per minute in color--so you can enjoy quality results fast
- Takes advantage of ColorSync color-matching technology, for the best possible match between the colors you see on your screen and the colors you see on the printed page
- Uses pigment-based black ink, which provides crisp, dark black printing that's also water-resistant
- Lets you work with scalable fonts--so you can customize your documents

Convenient setup and use

- Supports quick connection to--and easy software installation on--virtually any Mac OS-based computer
- Can be economically shared using the built-in LocalTalk support.
- Includes built-in paper trays that let you work with a variety of media, including plain, coated, and glossy paper; envelopes; index cards; labels; transparencies; and continuous-feed banner pages
- Offers software features designed to streamline the printing process, such as print preview, manual two-sided printing, and back-to-front printing

Ordering Information:

Apple Color StyleWriter 4500, Order No. M5663LL/A. Includes:

- Apple Color StyleWriter 4500 printer
- Color PhotoGrade Ink Cartridge
- Color Ink Cartridge
- Black Ink Cartridge
- Ink Cartridge storage case
- Two Color PhotoGrade paper samples
- Peripheral-8 serial cable
- AC power adapter

- User's manual
- CD-ROM containing the following:

  - Apple Color StyleWriter 4500 printer software
  - PictureWorks' PhotoEnhancer Plus
  - Mindscape's PrintMaster Gold
  - Nova's Art Explosion Sampler
  - Kaetron's Stencil It! and Web It!
  - Bitstream TrueType Fonts

Color PhotoGrade Ink Cartridge, Order No. M5692G/A

Color Ink Cartridge, Order No. M5694G/A

Black Ink Cartridge, Order No. M5693G/A

Apple High-Quality Papers:

Print Medium	**Letter size**	**A4 size**
Premium Plus Coated Paper	M4792G/A	M4791G/A
Glossy Paper	M3655G/A	M3656G/A
Color PhotoGrade Paper	M5961G/A	M5962G/A
Transparency	M2658G/A	M1959G/A
Banner Paper	M5963G/A	M5964G/A
Greeting Card Kit	M5965G/A	M5966G/A

Product specifications are subject to change. Check with your Apple reseller for the most current information about product specifications and configurations.
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Power Macintosh 9600: IMS Twin Turbo 128 M4A Video Card

Power Macintosh 9600 computers are sold with the IMS Twin Turbo 128 M4A accelerated video card. There has been some confusion between the Apple version of this card and the IMS Twin Turbo 128 M4 video card, which includes some features not supported on the Apple version of the card. This article summarizes the differences between the two cards.
This article has been archived and is no longer updated by Apple.
The IMS Twin Turbo 128 M4A video card is made exclusively for Apple's Power Macintosh 9600. The "A" designation differentiates this card from the "Twin Turbo 128 M4" card sold by IMS. Although the names of the cards are similar, the Apple card has been optimized for the Macintosh environment. As a result it does not support certain resolutions, video timing options, and a few other features available on the IMS version of the card. These features are meant for the Wintel platform and do not apply to the Macintosh platform.

This article deals with the differences between the Apple and IMS versions of the card.

Apple IMS Twin Turbo 128 M4A	**IMS Twin Turbo 128 M4**
Optimized for Macintosh environment	Cross-platform card, Mac and Wintel
4 MB VRAM, not upgradable	4 MB VRAM, upgradable
Video Connector: DB-15	Video Connectors: DB-15, Mini DB-15
Adjust using Macintosh Monitors and Sound control panel	Adjust using IMS control panel software
Supported by Apple	Supported by IMS

The following features of the IMS Twin Turbo 128 M4 were not included in the Apple IMS Twin Turbo 128 M4A for the reasons listed below:

*Resolutions 1920 x 1080, 1360 x 1024: These resolutions are not compatible with any Apple product.

*85 Hz vertical refresh: Not compatible with Apple products.

*Control panel: IMS control panel software does not apply to (and should not be used with) the Apple version of the card. Customers attempting to install and use the IMS control panel software with the Apple version of the Twin Turbo card may encounter difficulties for which Apple is not responsible.

Customers should use the standard Macintosh Monitors and Sound control panel to control video displays connected to this card.

*Text acceleration: The IMS control panel includes a "text acceleration switch" that users may ask about. Text acceleration is always "on" in the Apple card, so no such switch is needed.

*Sync on green: No longer supported in Macintosh video hardware.

*Pan and Zoom: A feature that Apple chose not to incorporate.

Apple is not responsible for inaccurate statements about these cards that may appear in the trade publications.

Please note: Integrated Micro Solutions has recently changed its name to ixMicro.

This article was published in the 6 June 1997 "Information Alley".

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Color StyleWriter 6500: Description

This article contains a description of the Apple Color StyleWriter 6500 printer.
This article has been archived and is no longer updated by Apple.
The Apple Color StyleWriter 6500 is a high-performance four-color printer that combines a durable product design with additional attributes that make you more productive, including exceptional ease of use and compatibility with computers running the Mac OS, Windows 95, Windows 3.1, and DOS. This multi-platform, professional-quality printer will help make you -- and your documents -- look good.

The Apple Color StyleWriter 6500 prints at resolutions of up to 600 by 600 dots per inch for black-and-white documents and up to 600 by 300 dots per inch for vivid color output. With its impressive speed -- up to 8 pages per minute for black and white and 4 pages per minute for color -- and large-capacity ink tanks, the Color StyleWriter 6500 is the clear choice for anyone who needs superior-quality printed output produced quickly and economically.

High performance and affordable operation are only two aspects of this printer's all-around value. For example, because many organizations today use a variety of computers, the Color StyleWriter 6500 supports not only Mac OS-based systems, but also PCs running Windows 95, Windows 3.1, and DOS. In fact, everything from its quick, easy setup to its multipurpose paper-handling capabilities to its bundled software for the Macintosh (which includes popular productivity tools) makes the Color StyleWriter 6500 ideal for anyone who wants exceptional-quality printing right from their desktop.

If you're seeking a powerful, versatile color printer that can meet the needs of businesses and educational institutions for great-looking printed pages, stop looking -- and start using the Color StyleWriter 6500 to present your ideas in the best possible light.

Features

Professional print quality -- fast

- Prints high-resolution documents: up to 600 by 600 dots per inch for black and white and up to 600 by 300 dots per inch for color
- Prints at speeds of up to 8 pages per minute in black and white and 4 pages per minute in color -- so you get high-quality output quickly
- Provides excellent color accuracy and quality, with ColorSync color matching
- Uses pigment-based black ink, which provides crisp, clear black printing that's also water-resistant
- Lets you work with a variety of media sizes and types, including plain and coated paper, envelopes, transparencies, cards, and labels
- Provides the versatility of a wide variety of scalable TrueType fonts

Outstanding compatibility and flexible connectivity

- Comes with built-in support for computers running the Mac OS, Windows 95, or Windows 3.1
- Provides flexible connectivity through its RS-422 port for LocalTalk or high-speed serial connections to a Macintosh, and through its IEEE 1284B port for parallel connections to a PC

Convenient setup and use

- Includes unique, intuitive Apple printer software, as well as PC software, both color and black ink cartridges, and a Macintosh peripheral-8 serial cable that makes it easy to set up and use your printer, so you can get started printing right away
- Features a versatile 150-sheet paper tray that supports printing on a wide variety of paper and media
- Comes with exceptional third-party software that allows Macintosh users to improve their productivity, as well as printer driver software that includes special features such as the ability to create your own paper sizes, add watermarks to the background of documents, print two or four reduced-size pages on one sheet, and print right from your desktop

Dependability and efficiency

- Features a robust product design constructed to stand up to the rigorous demands created by the modern-day workload
- Uses large-capacity ink tanks, for an economical cost per page
- Is U.S. Energy Star compliant -- reducing power consumption and saving energy costs

Ordering Information

Apple Color StyleWriter 6500, Order No. M5656LL/A. Includes:

- Apple Color StyleWriter 6500 printer
- Color Ink Cartridge
- Black Ink Cartridge
- Macintosh peripheral-8 serial cable
- Power cord
- User's manual
- CD-ROM containing the following:

  - Apple Color StyleWriter 6500 printer driver

- Mindscape's PrintMaster Gold
- Now Up-to-Date and Contact
- Nolo Press Personal Record Keeper
- Kaetron's Stencil It! Special Edition and Web It!
- Nova's Art Explosion Sampler
- Bitstream TrueType Fonts

Color Ink Cartridge, Order No. M5659G/A

Black Ink Cartridge, Order No. M5658G/A

Apple High-Quality Paper

Print Medium	**Letter size**	**A4 size**
Premium Plus Coated Paper	M4792G/A	M4791G/A
Glossy Paper	M3655G/A	M3656G/A
Transparency	M2658G/A	M1959G/A
Greeting Card Kit	M5965G/A	M5966G/A

Product specifications are subject to change. Check with your Apple reseller for the most current information about product specifications and configurations.
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Color StyleWriter 4100: Description

This article contains a description of the Apple Color StyleWriter 4100 printer.
This article has been archived and is no longer updated by Apple.
The Apple Color StyleWriter 4100 is a high-quality, four-color ink-jet printer that will meet the needs -- and exceed the expectations -- of many home, education, and home office users who work with Mac OS-based computers. Affordable yet advanced, the Color StyleWriter 4100 is much more than simply a convenient, complete color printing solution: It's also optimized for productivity, learning, and family fun.

Specifically designed to complement the capabilities of Mac OS-based computers, the Apple Color StyleWriter 4100 offers outstanding print performance for both black-and-white and color. For text, it prints crisp, laser-quality output at speeds of up to four pages per minute. For color, it can use Apple's ColorSync technology to provide the best possible match between what you see on the screen and your printed output. And the Color StyleWriter 4100 features a dual-cartridge ink system that makes four-color printing more convenient and economical than ever.

You'll also be happy to discover that the Color StyleWriter 4100 is exceptionally easy to use. It comes complete with both the color and the black ink cartridges, software, and a serial cable for simple connection to virtually any Mac OS-based computer. It's even easy to share the Color StyleWriter 4100 over a network, which makes this printer an even more economical choice.

But the real excitement of the Color StyleWriter 4100 isn't about all the things that it can do -- it's about all the things that you can do with it. This flexible color printer gives you a range of options for self-expression including software designed to help you print everything from greeting cards to T-shirt transfers, a library of images, and a variety of fonts that make it easy to customize your creations.

So if you want an easy, affordable, and complete color printing solution that provides outstanding flexibility, the Color StyleWriter 4100 is ideal.

Features

Easy, affordable four-color printing

- Features a convenient dual-cartridge ink system, making it easy and inexpensive to give your documents the impact of true four-color printing without switching ink cartridges

Outstanding print quality and speed

- Prints high-resolution documents: up to 600 by 600 dots per inch for black and white and up to 600 by 300 dots per inch for color
- Prints quickly -- up to 4 pages per minute -- so you can enjoy quality results fast
- Provides excellent color choice and quality, with its true four-color printing and software support for millions of colors
- Takes advantage of ColorSync color-matching technology, for the best possible match between the colors you see on your screen and the colors you see on the printed page
- Uses pigment-based black ink, which provides crisp, dark black printing that's also water-resistant
- Lets you work with scalable TrueType fonts--so you can customize any document

A complete solution--with extras

- Includes everything you need to get started printing quickly and easily: printer software, both color and black ink cartridges, and a serial cable
- Features bundled software that lets you create everything from greeting cards and calendars to iron-on T-shirt transfers
- Increases your options for self-expression through additional clip-art graphics and photographic images

Convenient setup and use

- Supports quick connection to--and easy software installation on--virtually any Mac OS-based computer
- Includes a built-in 100-sheet paper tray that lets you work with everything from plain and glossy paper to envelopes, labels, and transparencies
- Offers features designed to streamline the printing process, such as print preview, manual two-sided printing, and back-to-front printing

Ordering Information

Apple Color StyleWriter 4100, Order No. M5793LL/A. Includes:

- Apple Color StyleWriter 4100 printer
- Color Ink Cartridge
- Black Ink Cartridge
- Peripheral-8 serial cable
- AC power adapter
- User's manual
- CD-ROM containing the following:

  - Apple Color StyleWriter 4100 printer software

- Mindscape's PrintMaster Gold
- Nova's Art Explosion Sampler
- Bitstream TrueType Fonts

Color Ink Cartridge, Order No. M5694G/A

Black Ink Cartridge, Order No. M5693G/A

Apple High-Quality Papers

Print Medium	Letter size	A4 size
Premium Plus Coated Paper	M4792G/A	M4791G/A
Glossy Paper	M3655G/A	M3656G/A
Transparency	M2658G/A	M1959G/A
Greeting Card Kit	M5965G/A	M5966G/A

Product specifications are subject to change. Check with your Apple reseller for the most current information about product specifications and configurations.
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AppleVision Software: Compatibility (6/97)

What computers can use AppleVision software?
This article has been archived and is no longer updated by Apple.
AppleVision software is compatible with Macintosh computers that ship with a 68040 or PowerPC microprocessor.

AppleVision software is not compatible with any Macintosh computer that originally shipped with a 68030 or earlier microprocessor, even if that computer contains a 68040 upgrade card.

This article was published in the 11 June 1997 "Information Alley".

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Color StyleWriter 4100, 4500, 6500: Reducing Paper Skew (6/97)

This article discusses how to prevent skewed ("tilted") printing on the Color StyleWriter 4100, 4500, and 6500 printers.
This article has been archived and is no longer updated by Apple.
There are a number of steps you can take to reduce paper skew on the Color StyleWriter 4100, 4500, and 6500 printers.

- Use only one type of paper at a time. (Do not put different types of paper into the input tray at the same time.)
- Keep a 1/4- to3/4-inch stack of paper in the input tray.
- Make sure the width adjuster (on the left side of the input tray) is touching the paper stack.
- When printing envelopes, print one at a time: Do not attempt to stack multiple envelopes in the input tray.
- When buying envelopes for printing, choose envelopes with a rectangular (rather than triangular) flap.
- If the paper skew is such that the left margin is wider on the bottom of the page than on the top, the input tray may be incorrectly positioned. Reseat the input tray if necessary.

This article was published in the 19 June 1997 "Information Alley".
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Color StyleWriter 6500: Noise, Flashing LEDs (6/97)

I have a StyleWriter 6500. When I turned it on, I heard a loud noise, and the LEDs started flashing alternately. When I opened the front cover of the printer, the carriage (the part that holds the ink cartridges) was on the left side. What happened, and can I fix it myself?
This article has been archived and is no longer updated by Apple.
You may be able to fix this yourself. First examine the printer, as follows:

1- Make sure the printer is turned OFF.

2- Open the front cover of the printer.

3- Move the carriage (ink cartridges) to the right.

4- Look inside the printer, on the left side of the carriage shaft. You should see a large white gear. Directly above the gear is a black plastic piece called the clutch actuator.

5- Place your finger on the clutch actuator and see if you can moves (has some free play). If it does not move freely, that is the problem: the clutch actuator is probably caught on the white plastic wheel to the right of the gear.

To free the clutch actuator, perform the following steps:

1- Reach into the printer and put your finger on the left side of the black plastic clutch actuator.

2- Push the clutch actuator gently to the right until it moves freely.

If there is no visible damage to the clutch actuator or gears, and if no problems occur for the next ten pages you print, then the printer is OK and you have fixed the problem.

If there is visible damage to the clutch actuator or gears, or if the problem continues to occur, contact your local Apple Authorized Service Provider for assistance.

This article was published in the 24 June 1997 "Information Alley".

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Color StyleWriter 6500: Installing Windows Driver

This article contains instructions for installing Color StyleWriter 6500 printer software on a PC running Windows 95 or Windows 3.1.
This article has been archived and is no longer updated by Apple.
To install Color StyleWriter 6500 printer software and fonts on a Windows-based computer, follow the procedures below. (These instructions are also found in the Color StyleWriter 6500 User's Manual.) The *Apple Printer Software Collection* CD-ROM disc that comes with the Color StyleWriter 6500 contains this printer software.

For a computer using Windows 95

1. Turn on the printer first; then turn on the computer. (If you do not turn on the printer before you turn on the computer, you will not see onscreen installation instructions.)

2. Turn off (disable) any screen savers or automatic virus-detection applications and close any software applications that are running on your computer.

3. Insert the *Apple Printer Software Collection* CD-ROM disc into your CD-ROM drive.

4. Click Start and then click Settings.

5. Choose Printers from the Settings menu.

6. Double-click Add Printer.

7. Click Next until you see a list of manufacturers and printer models.

8. Click the Have Disk button.

9. Click the Browse button.

10. At the bottom of the Open window, select the CD-ROM drive from the Drives menu.

11. Double-click the folders named "printers," "windows," and "disk1" in the Folders list.

IMPORTANT Be sure to make a note of the path to the correct folder on your computer. You must type the exact path later in the installation process.

12. Make sure that the file whose name ends with ".inf" is selected (in the list on the left) and click OK.

13. Click OK in the Install From Disk window.

The pathname for the software to be installed is displayed in the Install From Disk window. For example, if your CD-ROM drive's letter is E, the pathname is

E:\\PRINTERS\\WINDOWS\\DISK1

(Most computers use D or E for the CD-ROM drive. Use the letter for your drive if you need to type the pathname.)

14. Click Next when the driver's name, "Color StyleWriter 6000 Series," is selected in the Printers list.

15. Follow the instructions on the screen to complete the installation of driver software.

Onscreen messages report the progress of installation and alert you to select the folders for Disk2 and Disk3 on the CD. The pathnames for these folders are

E:\\PRINTERS\\WINDOWS\\DISK2

E:\\PRINTERS\\WINDOWS\\DISK3

Note: To switch folders, click to the right of the pathname, delete the numeral at the end of the pathname, and type the numeral of the disk requested on the screen; then click OK.

16. When the software license appears on screen, read it, and click Continue Installation.

If the printer is not turned on, you'll see a message that the computer can't communicate with the printer. Click Skip to finish the software installation.

17. Click Install Fonts.

18. Type the exact pathname for your CD-ROM drive and the nested folders on the CD, ending with Disk3, and click OK. If your CD-ROM drive's letter is E, the pathname is

E:\\PRINTERS\\WINDOWS\\DISK3

19. When a message asks for the next disk, change the disk numeral from 3 to 4 and click OK. If your CD-ROM drive's letter is E, the pathname is

E:\\PRINTERS\\WINDOWS\\DISK4

20. Click OK when a message reports that installation is complete.

Selecting your printer as the default printer--Windows 95

1. Click Start, and then select Printers from the Settings menu.

2. Click the icon for your Color StyleWriter 6500 to select it.

3. From the File menu, select Set As Default; then close the window.

For a computer using Windows 3.1

1. Turn on the printer first; then turn on the computer. (If you do not turn on the printer before you turn on the computer, you will not see onscreen installation instructions.)

2. Turn off (disable) any screen savers or automatic virus-detection applications and close any software applications that are running on your computer.

3. Insert the *Apple Printer Software Collection* CD-ROM disc into your CD-ROM drive.

4. Double-click the Program Manager (if it is not already open).

5. Choose Run from the File menu.

6. Click the Browse button.

7. At the bottom of the Open window, select the CD-ROM drive from the Drives menu.

8. Double-click the folders named "printers," "windows," and "disk1" in the Folders list.

9. Click OK when the Run window appears with the command line

E:\\PRINTERS\\WINDOWS\\DISK1\\SETUP.EXE

In this example, E is the letter of the CD-ROM drive. Use the letter for your drive if you type a pathname.

10. Click the file named Setup.EXE, and click OK.

11. When the software license appears, read it and click Continue Installation.

12. Follow the instructions on the screen to complete the driver software installation.

Onscreen messages report the progress of installation and alert you to select folders for additional disks on the CD. The pathnames for these folders are

E:\\PRINTERS\\WINDOWS\\DISK2

E:\\PRINTERS\\WINDOWS\\DISK3

Note: To switch folders, click to the right of the pathname, delete the numeral at the end of the pathname, and type the numeral of the disk requested on the screen; then click OK.

13. In the fonts window that appears, select the set of fonts you want and click Install Fonts.

You may need to change the disk numeral at the end of the pathname if a message asks you to switch disks. The pathnames for the two folders that represent disks containing fonts are

E:\\PRINTERS\\WINDOWS\\DISK3

E:\\PRINTERS\\WINDOWS\\DISK4

where E is the letter of the CD-ROM drive.

14. When installation of fonts is complete, restart Windows.

Selecting your printer as the default printer--Windows 3.1

1. In the Program Manager, double-click Main.

2. Double-click Control Panel to open it, then double-click Printer.

3. Select your Color StyleWriter 6500 from the Installed Printers list, and then click Set As Default Printer.

4. Click Close and exit the Control Panel.

The software for the StyleWriter 6500 for Windows 95 or Windows 3.1 is not available on Apple Software Updates online. You can get this software from your original Apple Printer Sofware Collection CD ROM.

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LaserWriter: Metering Device Available From XCP Corporation

This article has been archived and is no longer updated by Apple.

XCP Corporation makes a device -- "Vend-a-Card" -- that meters LaserWriter use. It is a card-reading device that attaches to the LaserWriter. Several universities, including Cornell University, use it.

For more information, search on "XCP".

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Color StyleWriter 4100, 4500: Incompatible with PC

I tried using my Color StyleWriter4100 printer with a Windows PC, using an HP printer driver, but it didn't work. Is there a Color StyleWriter 4100 printer driver for PC?

This article has been archived and is no longer updated by Apple.
No. Apple Color StyleWriter 4100 and 4500 printers are only supported for use with Mac OS-based computers. Windows-compatible HP printer drivers for similar HP printers will NOT work with the Color StyleWriter 4100 and 4500.

If you want a Color StyleWriter that can be used with PCs as well as Mac OS-based computers, try the Color StyleWriter 6500. It ships with drivers for both Mac OS- and Windows-based computers.

This article was published in the 20 June 1997 "Information Alley".

Published Date: Feb 20, 2012

Color StyleWriter 4100, 4500, 6500: Tips for Best Results

This article gives tips for obtaining optimal printing results with Apple Color StyleWriter 4100, 4500, and 6500 printers. The following topics are covered:
1- Use Recommended Papers and Inks
2- Use ColorSync When Printing On Apple Premium Coated Paper
3- Duplex Printing (Color StyleWriter 4100, 4500)
4- Inserting Photograde Paper or Transparencies
5- Printing envelopes
This article has been archived and is no longer updated by Apple.

1. Use Recommended Papers and Inks

For best results with these printers, use the papers and inks recommended in the following articles:

- **Color StyleWriter 4100 Description**
- **Color StyleWriter 4500 Description**
- **Color StyleWriter 6500 Description**

2. Use ColorSync When Printing On Apple Premium Coated Paper

Apple Premium Coated Paper is NOT recommended for use with the Color StyleWriter 4100, 4500, or 6500 printer; the recommended paper is Apple Premium PLUS. If you are using Apple Premium Coated Paper, make sure that ColorSync is ON, even if you are printing only black text. Turning ColorSync ON will improve text quality on Premium Coated Paper.

To turn ColorSync ON when printing with a CSW 4100 or 4500,

a) Pull down the File menu and choose Print.

b) In the Print dialog box, click Options.

c) In the Options window, use the Color Matching pop-up menu to select ColorSync.

To turn ColorSync ON when printing with a CSW 6500:

a) Pull down the File menu and choose Print.

b) Click on the pop-up menu and choose Color.

c) Click the checkbox next to the words "Use ColorSync...".

d) Click "Save Settings".

3. Duplex Printing (Color StyleWriter 4100, 4500)

On the Color StyleWriter 4100 and 4500, it's easy to print on both sides of the page ("duplex printing"). Here's how:

1. With your document open, pull down the File menu and choose Print.

2. In the Print dialog box, click the Odd Pages Only radio button.

NOTE: Be aware that some applications disable the Odd-only/Even-only feature of the Print dialog box. This method will not work for those applications.

3. Click Print. Only the odd-numbered pages will be printed.

4. Insert the printed odd-numbered pages into the paper tray, so that

- The printed surface (side one) is face up and the blank side (side 2) is face down.
- The top of the printed page is closest to the printer.
- Page 1 is on top, followed by 3, 5, etc.

5. Choose Print again. This time, click the Even Pages Only radio button and then click Print. The even numbered pages will be printed on the backs of the odd-numbered pages.

Be aware that printing on both sides of a page increases the water content of the printout. Some papers do not hold up well to double-sided ink-based printing. Thicker, higher-quality paper will give better results when printing two-sided copies.

4. Inserting Photograde Paper or Transparencies

When printing using photograde quality paper or inkjet transparencies on a Stylewriter 4100, 4500, or 6500, insert the paper with the coated side down.

NOTE: Inkjet transparencies and photograde paper are coated only on one side and are not made for duplex printing.

5. Printing Envelopes

For best results,

- Place only one envelope at a time in the paper tray.
- Use envelopes with rectangular flaps (rather than triangular flaps).

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Color StyleWriter 6500: How to clear paper jams

This article describes how to clear a paper jam on a Color StyleWriter 6500 printer.
This article has been archived and is no longer updated by Apple.
On a Color StyleWriter 6500, the paper jam error state occurs if the printer detects paper at the platen after attempting to eject paper to the OUT tray. The Power and Resume lights alternately blink to indicate this condition.

NOTE: The Power and Resume lights alternately blink to indicate several other conditions as well, such as a carriage stall. Make sure this condition is caused by a paper jam before using the method below.

CAUTION: Do NOT pull paper out by force. Doing so could damage the printer. Clear paper jams by feeding paper through the paper path, as follows:

1. With the printer on, open the printer's access door and press and hold the Resume button. This causes the drive rollers to move.

2. Release the Resume button and press it again to move the rollers in the opposite direction.

3. When you have removed the paper, close the access door to print.

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Color StyleWriter 4100, 4500, 6500: SW Unstuffs as Generic Icon

I have just "unstuffed" the minimal printer software for my StyleWriter printer, but I am having problems using it. The file has a generic document icon instead of a printer icon, and although I dragged the file to the System folder, it did not show up in the Chooser.
This article has been archived and is no longer updated by Apple.
The Minimal Software for the Color StyleWriter 4100/4400/6500 printers is shipped as a self-expanding archive file (.sea). In some cases, after you double-click the .sea file, unstuffing is not completely successful: The unstuffed file ("CSW 6000 Series" or "CSW 4000 series") appears with a generic document icon (a rectangle with a folded corner) instead of a printer icon, and the Macintosh may not recognize the file as a printer driver.

To correct the icon, simply drag the file to or from the Desktop. The icon should change to an icon of a StyleWriter printer. (In rare instances you may have to rebuild the desktop to correct the icon. To rebuild the desktop, restart the computer while holding down the command and option keys. When the desktop appears, you will be asked if you want to rebuild the desktop. Click OK.)

Once the icon has been corrected (looks like a printer), you can drag it to the System Folder. You should be prompted that the file is an extension and needs to be moved to the extensions folder. Click OK. The file should show up in the Chooser.

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LaserWriter 8500: Description

This article contains a discussion of the LaserWriter 8500 printer.
This article has been archived and is no longer updated by Apple.
The LaserWriter 8500 is Apple's premier, professional-quality work-group printing solution. It's the ideal choice for anyone who wants to print high volumes or complex documents quickly and with superior quality.

Breaking new ground in advanced printing capabilities, the LaserWriter 8500 takes advantage of Adobe's new PostScript 3 language to provide higher performance, enhanced image quality, and advanced page processing. It also offers another Apple first that print professionals will find especially exciting: support for full-bleed printing on various paper sizes, up to ledger/A3. And its blazingly fast, 20-page-per-minute print speed and RISC processor set a new record for LaserWriter performance.

In fact, the LaserWriter 8500 offers a host of features designed to speed -- and enhance -- the efforts of today's busy workgroups. For high-volume printing, it can be configured to handle up to 1,650 sheets. For easy integration into mixed computing environments, it's compatible with Mac OS, Windows 3.1, Windows 95, Windows NT, and UNIX systems, and supports most popular networking protocols. And its unique LaserWriter 8.5 IP printing software allows you to print to the LaserWriter 8500 via the Internet. But whether you're printing from right down the hall or all the way around the globe, you'll enjoy the same superior results: impressive photorealistic images and precise, sharp text, using Apple's PhotoGrade and FinePrint technologies.

Finally, the LaserWriter 8500 offers a range of easy-to-install options to meet even the most demanding printing needs. For the ultimate in convenience, you can opt for the LaserWriter 8500 Plus Upgrade Kit, which includes the 500-Sheet Ledger/ A3 Cassette and Feeder, the Duplex Printing Unit, plus an additional 8 megabytes of RAM. Or you can purchase options separately, as needed.

Featuring speed and versatility on a grand scale, the LaserWriter 8500 is -- quite simply --the ultimate choice for users who want nothing less than the state of the art in laser printing features and functionality.

Features

Ground-breaking new capabilities

- Is one of the first printers based on Adobe PostScript 3
- Offers full-bleed printing on various paper sizes including ledger/A3
- Easily print to the LaserWriter 8500 from remote locations using the LaserWriter 8.5 IP printing software feature

High-speed, high-volume printing

- Takes advantage of a fast RISC processor and a powerful 20-page-per-minute engine making it the fastest LaserWriter ever
- Optional LaserWriter 8500 Plus Upgrade Kit offers the ultimate in high-volume printing convenience
- Supports an optional Duplex Printing Unit with a job sorting/jogger function
- Uses a high-capacity, long-life toner cartridge (up to 14,000 pages)

Outstanding compatibility and connectivity

- Works with Mac OS, Windows 3.1, Windows 95, Windows NT, and UNIX systems
- Supports AppleTalk, EtherTalk, Novell NetWare, and TCP/IP networking protocols
- Supports Microsoft Windows Plug and Play for easy PC connection

Superior print quality

- Offers improved PhotoGrade and FinePrint technologies for impressive photorealistic images and precise, sharp text
- Offers settings of up to 150 lines per inch for unsurpassed image quality

Flexible paper handling

- Includes built-in support for 650 sheets (150 sheets can be up to 13 by 20 inches); and up to 1,650 sheets using additional paper feeders
- Features a range of easy-to-install options such as duplexing and extra paper trays, designed to save you time and money
- Prints on a wide variety of media (from postcards to 13- by 20-inch paper)

Ordering Information

Apple LaserWriter 8500
Order No. M5571LL/A

- Apple LaserWriter 8500 printer
- CD-ROM containing the Apple LaserWriter 8500 printer driver software for the Mac OS and Windows and the following software titles:

  - Nova's Art Explosion Sampler

- Now UptoDate & Contact
- Adobe Acrobat Reader

- High-Capacity Toner Cartridge
- User's Guide (printed and online)

Apple LaserWriter 8500 Plus Upgrade Kit
Order No. M6102G/A

- Includes LaserWriter 8500 500-Sheet Ledger/A3 Cassette and Feeder, Duplex Printing Unit, and additional 8MB of RAM

LaserWriter 8500 Duplex Printing Unit
Order No. M5896G/A
LaserWriter 8500 500-Sheet Ledger/A3 Cassette and Feeder
Order No. M5894G/A
LaserWriter 8500 500-Sheet Letter/A4 Cassette and Feeder
Order No. M5895G/A
LaserWriter 8500 75-Envelope Cassette
Order No. M5897G/A
High-Capacity Toner Cartridge
Order No. M5893G/A
Published Date: Feb 20, 2012

Color StyleWriter 4100, 4500: How to clear paper jams

This article describes how to clear paper jams on a Color StyleWriter 4100 or 4500 printer.
This article has been archived and is no longer updated by Apple.
On a Color StyleWriter 4100 or 4500, the paper jam error state occurs if the printer detects paper at the platen after attempting to eject paper to the OUT tray. The Power and Resume lights alternately blink to indicate this condition.

NOTE: The Power and Resume lights alternately blink to indicate several other conditions as well, such as a carriage stall. Make sure this condition is caused by a paper jam before using the method below.

CAUTION: Do NOT pull paper out by force. Doing so could damage the printer. Clear paper jams by feeding paper through the paper path, as follows:

1. With the printer on, open the printer's access door and press the Resume button repeatedly. This causes the drive rollers to move the paper forward, one line at a time.

2. When you have removed the paper, close the access door to print.

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Workgroup Server 9650/350: Product Description

This article describes the Workgroup Server 9650/350.
This article has been archived and is no longer updated by Apple.
The Workgroup Server 9650/350 is the most powerful member of the Workgroup Server family from Apple. Based on the PowerPC processor, it delivers the file, print, Internet/ intranet, and applications server capabilities that meet the needs of growing workgroups in education, business, and publishing. It is ideal for workgroups that use both Mac OS and Windows, especially those interested in setting up an intranet that is exceptionally easy to use, support, and maintain.

Apple Workgroup Servers are highly reliable systems with large storage capacity that provide organizations with faster, more efficient network services and secure centralized storage. The Workgroup Server 9650/350 not only meets these criteria, but also runs the familiar Mac OS, making all of its capabilities incredibly easy to use.

The Workgroup Server 9650/350 offers outstanding performance through its 350-megahertz PowerPC 604e processor, located on a CPU card with 1MB Apple Inline Cache (level 2); 64MB of RAM (supports up to 768MB); three SCSI channels, including one Ultra/Wide channel (40MB/s); dual 4GB (7200 rpm) Ultra/Wide hard disk drives; and 24x-speed CD-ROM drive. It also provides powerful built-in networking capabilities, with 100BASE-TX, 10BASE-T, and AAUI Ethernet connections.

The Workgroup Server 9650/350 features a product design that provides easy access for servicing. And for flexible expansion, it offers six PCI slots that let you add capabilities by installing a wide variety of cards, as well as six internal drive bays (three open) to maximize storage capacity.

The Workgroup Server 9650/350 offers a choice of three software bundle solutions:

- **The Application Server Solution** provides a variety of useful software for reliability, productivity, and performance.
- **The AppleShare Server Solution** includes all of the Application Server Solution software, plus AppleShare IP 5.0 and the RunShare GSA network accelerator. This new server software from Apple builds on the AppleShare tradition of ease of use to add integrated support for TCP/IP as well as AppleTalk--so you can incorporate a Workgroup Server into your intranet easily and seamlessly. It even includes several third-party Internet-related tools that allow you to integrate the network services into your environment.
- **The Apple Internet Server Solution** includes all of the software necessary to create, manage, and publish media-rich World Wide Web content--quickly and easily.

So if you need a high-performance server for a demanding workgroup, we have the solution: the powerful and expandable Workgroup Server 9650/350.

Features

Expansion and storage

- Six PCI (Peripheral Component Interconnect) slots for expansion cards
- Dual internal 4GB Ultra/Wide hard disk drives
- Internal 24x-speed CD-ROM drive
- Three SCSI channels: one internal Ultra/Wide SCSI-3 (40 MB/s); one internal Fast SCSI-2 (10 MB/s); one external SCSI-1 (5 MB/s)

Networking

- 10/100/MB/s Ethernet card
- Built-in Ethernet and LocalTalk capabilities
- Support for AppleTalk and TCP/IP networking protocols
- Support for other networking topologies such as Fast Ethernet, ATM, and Token Ring (with PCI card)

Processor and memory

- 350-MHz PowerPC 604e RISC processor with floating-point processor and 64K on-chip cache
- 1MB Apple Inline Cache (level 2)
- 64MB of RAM, supports up to 768MB

Features Built into Every Workgroup Server

Fast, easy setup

- Comes with Mac OS 7.6.1 software installed
- Is extraordinarily easy to configure: features the true plug-and-play capabilities that characterize Apple systems

Bundled software

- Apple RAID software for disk striping (RAID 0) or mirroring (RAID 1)
- Choice of three software bundle solutions, so you get the functionality you want--right out of the box

- Application Server Solution
- AppleShare Server Solution
- Apple Internet Server Solution

Service and support

- Includes hardware troubleshooting and telephone assistance for Apple-branded software for one year (7 days per week, 24 hours per day)
- Provides two-business-day response through its one-year, on-site hardware warranty
- Offers additional service and support options

Ordering Information

Workgroup Server 9650/350

Application Server Solution

Order No. M6167LL/A

- Workgroup Server 9650/350 with 64MB of RAM, 1MB Apple Inline Cache (level 2), dual 4GB (7200 rpm) Ultra/Wide hard disk drives, 100BASE-T Ethernet card, internal 24x-speed CD-ROM drive, 1.4MB Apple SuperDrive floppy disk drive, keyboard, and mouse
- Apple RAID 1.5
- Workgroup Server Solution CD
- Mac OS 7.6.1

AppleShare Server Solution

Order No. M6165LL/A

Includes all of the hardware and software that comes with the Application Server, plus;

- AppleShare IP 5.0, AppleShare Client for Windows, COPSTalk, Server Manager, Vicom Gateway with DHCP, LogDoor, Claris Home Page, and Claris Emailer
- RunShare GSA network accelerator from Run

Apple Internet Server Solution

Order No. M6166LL/A

- Workgroup Server 9650/350 with 64MB of RAM, 1MB Apple Inline Cache (level 2), dual 4GB (7200 rpm) Ultra/Wide hard drives, 100BASE-T Ethernet card, internal 24x-speed CD-ROM drive, 1.4MB Apple SuperDrive floppy disk drive, keyboard, and mouse
- Apple RAID 1.5
- Mac OS 7.6.1 and Mac OS 8 on CD
- WebSTAR/SSL, MacDNS, NetCloak, Rumpus, FireSite Speed Booster, Virtual Domain Manager, LogDoor, MacTCP Watcher, PageSentry, Adobe Acrobat Reader, Netscape Navigator, Butler SQL, Tango Enterprise, BBEdit, Claris Home Page, and GoLive CyberStudio

For the most current information about Apple servers, visit our web site at:

http://www.servers.apple.com

Product specifications are subject to change. Check with your Apple reseller for the most current information about product specifications and configurations.

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Multiple Scan 720: Changing the DDC Setting

I have a Multiple Scan 720 monitor and have been told that I may need to change the DDC setting. What is the DDC setting and when would I need to change it.
This article has been archived and is no longer updated by Apple.
DDC stands for "Data Display Channel," a communication protocol used by many displays for display/CPU connections. If the DDC setting is not correct, you will not be able to access all the resolution settings that your monitor and system will support.

You can change the Multiple Scan 720 Display's DDC setting by using the On-Screen Display controls (described at the end of this article).

Most Macintosh computer models do not support DDC, so the default DDC setting on the display is OFF. However, you may want to change the DDC setting if you are using the Multiple Scan 720 display with the following computers and video cards:

- Power Macintosh 9600 -- set DDC to 1/2B.
- Power Macintosh G3 Tower, Desktop, All-In-One -- set DDC to 1/2B.
- IMS (or IX) Twin Turbo video card -- set DDC to 1/2B.
- ATI XCLAIM graphics card -- set DDC to 1/2B.
- Other video card -- See the manual that came with the video card to learn which DDC setting is supported.
- IBM PC-compatible computer -- See the manual that came with the video card to learn which DDC setting is supported.

To change to monitor's DDC setting, use the following procedure:

1. Press the button at the left bottom of the monitor's front panel ("Enter" button). The On-Screen Display window will appear.

Note: The On-Screen Display disappears after a number of seconds if you haven't turned the Select/Adjust knob or pressed the Enter button. If that happens, just press the Enter button again.

2. Rotate the Select/Adjust knob (located under the <> icon, slightly to the right of the Enter button). As you rotate the knob, the highlight on the Onscreen Display window moves around the edge of the window, from icon to icon, and the screen display changes. When the "i" icon is highlighted and the screen says "Information," stop rotating the knob.

3. Press the Enter button to select Information. The words "Mode," "Absence," and "DDC" will appear. Rotate the Select/Adjust knob until DDC is highlighted, then press the Enter button. The DDC Option window appears.

4. With the DDC Option window displayed, rotate the Select/Adjust knob until the correct DDC option is highlighted. Then press the Enter button to accept the selection.

IMPORTANT: After you have reset the DDC control, turn the monitor off and then on again by pressing the power button at the lower right corner of the monitor's front panel, then restart your computer. Doing this ensures that the new DDC setting is enabled.

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AppleCD SC: How To Use The High Sierra Format With AppleShare

This article has been archived and is no longer updated by Apple.

You can install software on an AppleCD SC drive, so that High Sierra CDs can be shared from an AppleShare file server. To do this, you need a CD Setup disk (with version v2.0.1 or greater of AppleCD SC). This disk contains drivers that support the High Sierra CD-ROM format. To install, follow these steps:

1. Run the Installer program on the CD Setup v2.0.1 disk.
2. Choose the "AppleCD SC (v2.0.1)" script.
3. Select the AppleShare server start-up volume.
4. Click "Install."

After the High Sierra drivers have been installed, follow the directions in the AppleShare File Server Administrator's Guide (Copyright 1987,1988 by Apple Computer, Inc; part number 030-1343 or 030-1023 with Tell Apple card) for using CD-ROM drives.

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Multiple Scan 720 Display: Description

This article contains a description of the Apple Multiple Scan 720 Display.
This article has been archived and is no longer updated by Apple.
The Apple Multiple Scan 720 is a 17-inch (16-inch diagonal viewable image size), full-page display designed for the demanding user who wants large-screen performance -- at a competitive price.

Its flat, square shadow-mask picture tube delivers clear text and sharp pictures, making it a perfect choice for word processing, spreadsheets, and browsing the Internet.

The Apple Multiple Scan 720 works with all Power Macintosh and Macintosh computers -- from the most affordable to the top of the line.

The Multiple Scan 720 Display includes Control Strip software that appears on the screen automatically, allowing for precise, easy adjustment of controls such as display format and color depth. And its anti-static, antireflective screen coating provides excellent viewing performance for long-term comfort.

Whether you're upgrading from a smaller display or building an entirely new home or office system, the Apple Multiple Scan 720 Display is the wise choice -- for the flexibility of a large screen at an affordable price.

Features

Exceptional image quality

- Features a high-quality flat, square shadow-mask screen for sharp images
- Comes with on-screen display manager for precise adjustment of screen parameters
- Includes Apple's ColorSync display profile for effective color matching between display and printer images

Advanced technologies

- Uses multiple-scan electronics for multiple viewing environments
- Supports a range of resolutions -- up to 1,280 by 1,024 pixels
- Comes equipped with mode-switching software for changing resolution settings easily
- Includes cross-platform capability (VGA adapter required)

Ergonomic design

- Includes antistatic, antireflective screen coating for better visibility
- Features a tilt-and-swivel display for comfort and easy adjustment
- Complies with TCO 95 environmental certification
- Complies with EPA Energy Star conservation guidelines
- Conforms to MPR II standards for low electrical and magnetic emissions

Compatibility

- Power Macintosh, Macintosh Performa, or Macintosh Quadra computers with 68040 or later microprocessor running Macintosh System 7.5 or later
- Windows and MS-DOS software-based computers using VGA (adapter required)

Ordering Information

Apple Multiple Scan 720 Display

Order No. M6151LL/A

- Apple Multiple Scan 720 Display
- Apple Display software on CD-ROM
- Integrated, attached video cable
- Power cable
- User's guide on CD-ROM
- Limited warranty

Product specifications are subject to change.

Check with your Apple reseller for the most current information about product specifications and configurations.

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LANStar/EtherTalk: Macintosh II Bridge Not Available

This article has been archived and is no longer updated by Apple.

A LANStar card and an EtherTalk card can be placed into a Macintosh II However, this does not bridge the two networks through the Macintosh II. It merely lets the two networks have branches to the same machine, but there is no communication between the networks or between machines on the different networks.

Software written specifically to recognize both cards (and networks) also is required. This software needs to implement functions similar to those provided by a Kinetics FastPath for LocalTalk and Ethernet. Currently, there is no software that we know of that can do this. Northern Telecomm software provides bridging functions between LocalTalk and LANStar, but it does not do the same with the EtherTalk card.

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Macintosh-to-Wang Connectivity

This article has been archived and is no longer updated by Apple.

This article describes two Macintosh-to-Wang connectivity solutions.

Data Viz has three versions of MacLink Plus: VS, OIS, and WP. The VS and OIS are operating systems for midrange systems, and the WP is for a Wang PC. To use MacLink Plus VS, AllegroServer must be used on the host.

The M/H Group product, VSCOM, is essentially the same as MacLink Plus VS.

For more information, search on the above company names.

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System 6.0.2: Incompatible With SoftPC v1.2

This article has been archived and is no longer updated by Apple.

SoftPC v1.2 is incompatible with System 6.0.2. When launching SoftPC under MultiFinder, the application unexpectedly quits. When the application is relaunched, an "illegal instruction encountered" error message is received. If you click the Reset button at this point, SoftPC starts up and runs without any problems.

The current version of SoftPC, v1.2.1, corrects the problem. To upgrade your copy of SoftPC, provide Insignia Solutions with the serial number of your SoftPC software, your name, and mailing address.

For more information, search on "Insignia Solutions".

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LisaTerminal: VT100 Mode

This article has been archived and is no longer updated by Apple.
When you want to emulate VT100 operation with LisaTerminal, set Lisa to "forget" lines that scroll off the screen. This mode appears to emulate VT100 functions more accurately. You can then set the Lisa to "remember" and download data or text, then set Lisa back for VT100 terminal operation. During this setting and resetting, Lisa does not clear that text which has been "remembered".
Published Date: Feb 20, 2012

Applesoft BASIC: "#" Character in When Printing a Listings

If, when you print out a program listing, you find unwanted "#" characters in front of the line numbers, see if you have issued the command "PR#1" in the program. You need to preface all ProDOS commands with a CHR$(4), the Control-D character.
This article has been archived and is no longer updated by Apple.
The correct Syntax for this command is: PRINT CHR$(4); "PR#1"
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Access II: Does Not Support VT100 Line Graphics

Apple's Access II does NOT support the VT100 line graphics character set.
This article has been archived and is no longer updated by Apple.
If you need this character set, there may be third-party terminal emulators for the Apple II family that provide VT100 character graphics.

Apple is not currently aware of manufacturers of such emulators.
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High-Density Disks: Don‘t Format them in 400K/800K Drives

This article has been archived and is no longer updated by Apple.

TOPIC ----------

This article explains why a high-density disk should not be formatted in 400K or 800K drives.

DISCUSSION ----------

If a high-density disk is formatted in a normal 800K or 400K drive, it functions as an 800K or 400K disk; however, when such a disk is used in the Apple SuperDrive (formerly Apple FDHD), a dialog box appears stating that the disk was improperly formatted.

SuperDrive disks have a special notch which allows the SuperDrive to recognize the media as high density (1.4MB). Standard 800K and 400K drives CANNOT detect the notch, and will format a high-density disk as a regular 800K or 400K disk.

High-density media should NOT be formatted in a 800K or 400K drive.

High-density disks are physically different from double-density disks and are tested to a different specification. The coating on high-density disks is thinner and has finer particles. These disks require a less intense magnetic field from the read/write head to properly align the magnetic particles within the data cell during a write cycle.

The magnetic field generated by Apple 800K and 400K drives is too strong and may cause data loss.

Thus, the SuperDrive, in conjunction with the system software, recognizes that the high-density disk was formatted improperly and gives the user the option to re-format it or eject it.

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AppleTalk: Updated Name-Binding Protocol (NBP) List

How do I find out what AppleTalk NBP types I can assign to network devices?
This article has been archived and is no longer updated by Apple.

Here is a list AppleTalk NBP ypes. (NBP means "name-binding protocol" -- an AppleTalk protocol that allows users to assign familiar character string names to network devices.)

NBP Type	Description
AFPServer	Apple Filing Protocol compliant file server
Apple IIe Boot	AppleShare, with Apple IIe boot support
Apple IIGS	AppleShare, with Apple IIGS boot support
Apple IIe	Apple AppleTalk Card
Apple IIGS	Apple AppleTalk GS
APS Spooler	Alisa Systems VAX-spooled LaserWriter
ASManager	AlisaShare Network Manager
ATK/VMS Bridge	AppleTalk for VMS bridge
C-Server	Solana, 3 serial ports
ChooserName	Farallon RegisterName node
DECNet Gateway	Alisa Systems DECNet gateway
GatorBox	Cayman GatorBox, AppleTalk-Ethernet
I-Server	Solana, AppleTalk-AppleTalk
ImageWriter II	AppleTalk ImageWriter II
InBox Mailserver	InBox Mail server node
InterBridge	Hayes, AppleTalk-AppleTalk (NOTE: Space is last character of the NBP type.)
IPADDRESS	NCSA Telnet (MacIP) terminal
LaserShared	Apple LaserShare-spooled LaserWriter
LaserWriter	LaserWriter or Spooler process
Liaison	Infosphere Liaison Software Bridge
LQ	AppleTalk ImageWriter LQ
Macintosh II	Apple Responder node
Macintosh Plus	Apple Responder node
Macintosh SE	Apple Responder node
MS-DOS 3.3	Apple LocalTalk Card
Multitalk	Abaton, 3 serial ports(Discontinued Product)
MWSHost	MacWorkStation Host
NetBridge	Shiva, AppleTalk-Async
NetModem	Shiva, AppleTalk modem
NetSerial	Shiva, 1 serial port
NMClient	Shiva NetModem client
no NBP	Northern Telecom, LANSTAR-AppleTalk
no NBP	Northern Telecom, PrintWay
no NBP	Northern Telecom virtual LANSTAR bridge
no NBP	Kinetics FastPath, AppleTalk-Ethernet
Node	La Cie SilverServer node
NSClient	Shiva NetSerial client
Odesta Double Helix	Helix Data Base Server
Odesta MultiUser Helix	Helix Data Base Server
OmnisAT	Omnis Multiuser database user
pcLINK	Pacer, virtual AppleTalk bridge
ProDOS 16 Image	AppleShare, with Apple IIGS boot support
QMServer	CE Software QuickMail server
QMSNtest	CE Quick Mail B5 node
QuickMail	CE Quick Mail B5 client node
R-Server	Solana, AppleTalk-Async
ResourceServer	Microsoft Mail server
ResourceTester	Pacer Microsoft Mail server

S-Server	Solana, 1 serial port
SerialX	La Cie SilverServer node
Spooler	AppleShare Print Services Spooler
TFTPServer	Cayman TFTP Server
Timbuktu Host	WOS Timbuktu host node
Timbuktu Serial	WOS Timbuktu node
Top2Serial	TOPS node
Top2Server	TOPS server node
Top2Station	TOPS client node
UnixMailListener	Star Nine UNIX Mail server

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Macintosh: SCSI Bus Does Not Use True DMA Mode

This article has been archived and is no longer updated by Apple.

The Macintosh family of computers does not support true DMA transfers via the SCSI chip.

The SCSI chip can operate in two modes: normal mode and pseudo-DMA mode.

- In normal mode, the SCSI driver software manages the handshaking to communicate with a peripheral SCSI device.

- In pseudo-DMA mode, the SCSI chip's internal logic handles all the SCSI bus handshake signals automatically.

(NOTE: For more information on the SCSI chip and DMA, see pages 5-24, 12-25, and 20-21 of the "Macintosh Family Hardware Reference" manual from Addison Wesley, (ISBN# 0-201-19255-1).

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LisaTerminal: Dialing up another Lisa

This article has been archived and is no longer updated by Apple.

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To dial up another Lisa, or any other computer, you need to have a modem that
has an auto answer capability, such as Hayes Smartmodem or an Apple Modem.

1. Make sure that the compatibility settings are the same for both computers.
2. To see what you're typing, set the compatibilities at half duplex.
3. Dial the other modem's phone number. This modem will answer and send back
  the carrier.  When your modem receives the carrier it will tell you that
  you're connected.  Anything that you type or paste will be sent.
4. To terminate the connection, just hang up from the phone menu.
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Published Date: Feb 20, 2012

Macintosh: No COBOL Compiler Currently Available

This article has been archived and is no longer updated by Apple.

Apple currently does not know of any way to port COBOL programs to the Macintosh without COBOL running on the system.

Apple would welcome any information about such a COBOL compiler. Please AppleLink such information to TECH.DB.

Published Date: Feb 18, 2012

LaserWriter: Maximum Paper Length Is 14 Inches

This article has been archived and is no longer updated by Apple.

The LaserWriter is limited to a maximum paper length of 14 inches, due to timing requirements for proper paper feed and document imaging. Using longer paper causes jams.

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Ethernet, LocalTalk: Number Assignments Don‘t Affect Performance

Can network range numbers effect the network performance?
This article has been archived and is no longer updated by Apple.
When creating an Ethernet and LocalTalk network, performance is not effected if the assigned network numbers are both high and low (for instance: 1,2 or 820,821)

It makes no difference what number is assigned since the field size remains constant. If a small number is used and the field is not "filled", zeros are transmitted as place holders.
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Apple IIe: How To Connect To An AppleShare Network

Is there a way to connect an Apple IIe to an AppleShare network?
This article has been archived and is no longer updated by Apple.
An unenhanced Apple IIe requires the Apple IIe Enhancement kit (consisting of new ROMs and CPU), the Apple Workstation card, and 128K RAM to be connected to an AppleShare network.

An enhanced Apple IIe requires only the Apple Workstation card and 128K RAM.
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Apple IIc Plus: External Drive Configurations

The following table shows all possible drive configurations for the Apple IIc Plus computer.
This article has been archived and is no longer updated by Apple.
Drive Configurations:

Drive 1	Drive 2	Drive 3	Count (internal included)
Apple 3.5"	Apple 3.5"	UniDisk 3.5"	(4-3.5")
Apple 3.5"	UniDisk 3.5"	UniDisk 3.5"	(4-3.5")
UniDisk 3.5"	UniDisk 3.5"	UniDisk 3.5"	(4-3.5")
Apple 3.5"	Apple 3.5"	Apple 5.25"	(3-3.5" 1-5.25")
Apple 3.5"	UniDisk 3.5"	Apple 5.25"	(3-3.5" 1-5.25")
UniDisk 3.5"	UniDisk 3.5"	Apple 5.25"	(3-3.5" 1-5.25")
Apple 3.5"	Apple 5.25"	Apple 5.25"	(2-3.5" 2-5.25")
UniDisk 3.5"	Apple 5.25"	Apple 5.25"	(2-3.5" 2-5.25")
Apple 3.5"	Apple 3.5"	none	(3-3.5")
Apple 3.5"	UniDisk 3.5"	none	(3-3.5")
UniDisk 3.5"	UniDisk 3.5"	none	(3-3.5")
Apple 3.5"	Apple 5.25"	none	(2-3.5" 1-5.25")
UniDisk 3.5"	Apple 5.25"	none	(2-3.5" 1-5.25")
Apple 5.25"	Apple 5.25"	none	(1-3.5" 2-5.25")
Apple 3.5"	none	none	(2-3.5")
UniDisk 3.5"	none	none	(2-3.5")
Apple 5.25"	none	none	(1-3.5" 1-5.25")

Slot and Drive Configurations

Internal 3.5"	slot 5 drive 1 (PR#5 boots this drive)
First external 3.5"	slot 5 drive 2 *
Second external 3.5"	slot 2 drive 1
Third external 3.5"	slot 2 drive 2
First external 5.25"	slot 6 drive 1 (PR#6 boots this drive)
Second external 5.25"	slot 6 drive 2
* The first external 3.5" boots at power on or reset if no disk is inserted in the internal drive. This disk does not boot when a PR#5 is entered.	

Notes:
- The Apple 3.5" is an 800K platinum drive.
- The UniDisk 3.5" is an 800K white drive.
- The Apple 5.25" is a 140K platinum drive (formerly called UniDisk in the beige color).

Published Date: Feb 20, 2012

Macintosh: Logic Boards And VDE Approval

This article has been archived and is no longer updated by Apple.

There are no differences between the domestic and international Macintosh logic boards that would limit VDE approval (VDE, or VDE 0871, is a German code governing electronic components and performance.

However, the logic boards produced for domestic Macintosh systems are tested to meet DOMESTIC certification requirements only. Even though the logic boards are the same, the components used will be sourced from different vendors, depending on where the boards are produced.

This picture may be further complicated because some countries require vendor source information for certification. If the vendor source is changed, a new certification is required.

Published Date: Feb 18, 2012

Macintosh: Capture 1.3 Allows Screen Shots With Menu Pulled Down

This article has been archived and is no longer updated by Apple.

You can produce a screen shot that includes a pulled-down menu.

Capture 1.3, from Mainstay, replaces the Command-Shift-3 FKey and allows simultaneous saving of the selected area to the clipboard and to a PICT file. It is compatible with Macintosh II, MultiFinder, and color and big screens.

For more information, search under: "Mainstay"

Published Date: Feb 18, 2012

Apple IIGS: GS/OS 4.0 Incompatible With AppleShare (3/93)

Article Change History

03/25/93 - REVISED
* To add version number 4.0 because later versions of GS/OS are compatible with AppleShare.

Apple IIGS system software, GS/OS 4.0, part of Apple IIGS System Software 4.0, is designed for the stand-alone user.

This article has been archived and is no longer updated by Apple.
GS/OS 4.0 DOESN'T support the AppleShare File Server; however, GS/OS 4.0 CAN use an AppleTalk printer.

The AppleShare IIGS Workstation Software provides ProDOS 16 from System Disk 3.2, which allows Apple IIGS access to the AppleShare File Server.

Later versions of GS/OS ARE compatible with AppleShare. Apple highly recommends upgrading to GS/OS 5.0.4 or later.

Published Date: Feb 20, 2012

LisaTerminal: Copy and Paste from LisaWrite

This article has been archived and is no longer updated by Apple.
When you paste from LisaWrite to LisaTerminal, Terminal expects a carriage return after every line and truncates the line if it is too long. There is a way of getting around this:

1. Copy the LisaWrite document and paste into an off-line LisaTerminal document (one that isn't dialed into anything). The Lisa will put in put in carriage returns for you.
2. Copy it again, dial up, then paste.

There are two problems with this method.

1. The text breaks in the middle of words if you don't have word wrap set. To avoid this, you can set it to 132 characters. There will be less of a chance of breaking in the middle of a word. Alternatively, turn on word wrap.
2. A telecommuncations service, such as The Source, may specifically require that the carriage return be within 80 characters. The problem is that LisaTerminal puts that return in the 81st position. Having LisaTerminal set for word wrap will alleviate the problem somewhat.

This information applies to versions 1.0 and 2.0 only. The problem is solved in version 3.0.
Published Date: Feb 20, 2012

Apple IIGS: How To Print Low-Res/High-Res Graphics Files

Article Change History

1/19/93 - UPDATED
* Beagle Brothers now WordPerfect Corporation.
11/9/88 - REVIEWED
* For accuracy.

This article has been archived and is no longer updated by Apple.

A low-resolution graphics file on the Apple IIGS can be printed from BASIC without using any special interface cards (for instance, an Apple IIGS with an ImageWriter II connected to the serial port) using Triple-Dump from Beagle Brothers (now WordPerfect Corporation).

This application lets any Apple II prints not only low-resolution, but high-resolution, double-high-resolution, and double-low-resolution files, as well as 40-column and 80-column text. Triple-Dump routines can also be used as part of BASIC programs.

To locate a vendor's address and phone numbers, use the vendor name as a search string.

Published Date: Feb 20, 2012

AppleShare PC 1.1: Problems With 3rd-Party PC LocalTalk Cards

This article has been archived and is no longer updated by Apple.

AppleShare PC 1.1, released in May 1988, is not designed to work with third-party PC LocalTalk cards (such as the Daystar Digital's MicroChannel LocalTalk card, Hercules Video/AppleTalk card, TOPs, Flash LocalTalk) because the current protocol stack writes directly to Apple's LocalTalk PC Card.

Published Date: Feb 18, 2012

Macintosh: Interferon and "Sneak" Virus

This article has been archived and is no longer updated by Apple.

Some users have asked about a "Sneak" virus, which supposedly turns commonly used System Folder files into "INIT" files and places an "INIT" resource into these files.

There is also some confusion about the misidentifications frequently made by the anti-virus program "Interferon".

Interferon 2.0 is likely to report that the files "LaserWriter" and "Laser Prep" are infected. Interferon 3.0 frequently reports that the "Finder" and "DAHandler" files are infected -- even when they are not.

Apple is not aware of a particular virus called "Sneak". (The word "Sneak" is generally used to describe a TYPE of virus, not a specific virus.)

Published Date: Feb 18, 2012

Macintosh IIx: System 6.0.2 And Excel 1.5 Bug Fix

This article has been archived and is no longer updated by Apple.

Excel 1.5 on a Macintosh IIx running System v6.0.2 currently does not recognize the 68882 coprocessor.

The information returned by the SysEnvirons call has been changed slightly in System 6.0.2, and that is what is causing the problem. (This situation does not occur when using System Software 6.0.)

Microsoft is aware of the problem. Contact them for further information.

(NOTE: The 68882 FPU is a superset of the 68881 FPU, and code written for the 68881 works properly with 68882.)

Published Date: Feb 18, 2012

Apple Products: Use in Low-Level Acid Fumes Environment

This article discusses the use of Apple computers in an environment with small amounts of low-level acid fumes?
This article has been archived and is no longer updated by Apple.
Apple does not recommend the use of our computers in ANY environment with potential to put the computers in contact with corrosive chemical fumes, such as hydrochloric acid.

Even small amounts of hydrochloric acid can cause major problems with electronic equipment.
Published Date: Feb 20, 2012

Macintosh PrintMonitor: Error -1096

This article describes the -1096 error that may come up when using PrintMonitor.

This article has been archived and is no longer updated by Apple.
If you have been getting the -1096 error when printing under the PrintMonitor, it probably has something to do with your AppleTalk network setup.

Error -1096 is an AppleTalk ATP error that indicates the ATP sendRequest has failed because the retry count has been exceeded. This means that the workstation doing the printing is having a difficult time communicating with the LaserWriter or Print Server.

This suggests some type of AppleTalk network problem, which may be either physical or logical. Check the network for loose connections and proper topology. Also, AppleTalk traffic may be preventing the proper communication between the two devices.
Published Date: Feb 20, 2012

AppleShare: Use Same Version On Server And Workstations

This article has been archived and is no longer updated by Apple.

If you are running AppleShare 1.1 under System 4.2 and Finder 6.0 on Macintosh Pluses and Macintosh SEs, and experiencing a problem with file creation dates, it is probably a versions-compatibility problem.

One example would be: looking at a directory on the server from any node, all the file creation dates show the year as 2028. The same files, when viewed from the server, are marked 1988. When a file is modified from a node and viewed on the server, the date modified is 1948.

Such an anomaly is usually noticed when the server is using a different version of AppleShare software than the workstations.

If the server is using v1.1, make sure that the workstations are using v1.1, or both the server and workstations can be upgraded to v2.0.

Published Date: Feb 18, 2012

ImageWriter LQ: How Rated Speed Is Determined

This article has been archived and is no longer updated by Apple.

Here are the exact conditions under which the printer speed specifications of the ImageWriter LQ were measured, including hardware, software, and fonts used.

Hardware: Macintosh
Software: BASIC
Font: 10 cpi, in Draft fixed-pitch mode for the "draft" rating
Text: Shannon text consisting of characters and spaces

The "rated speed" refers to the printer speed at full carriage speed, excluding ramp time to accelerate and decelerate the carriage.

A program was written in BASIC and run on the Macintosh to print standard Shannon text (a combination of letters and spaces that approximates English), which all printer companies use to measure speed. This was done to minimize the Macintosh's processing time and the data transmission time.

The data sheet has additional speed ratings for the NLQ and LQ modes.

NOTE: Throughput ratings for the ImageWriter LQ are lower than speed ratings. Throughput ratings include ramp time, line feed time, etc. (For example, the throughput rating for the ImageWriter LQ in Draft mode is 155 cpi.)

Published Date: Feb 18, 2012

Macintosh II: DIP- And Surface-Mounted SIMMs Are Equivalent

Can both DIP-mounted and surface-mounted SIMMs be used together in a Macintosh II with HD40 SC and 4MB RAM? Are all Macintosh II computers with HD40 SC and 4MB RAM supplied with DIP-mounted SIMMs?

This article has been archived and is no longer updated by Apple.
There is no problem mixing DIP-mounted and regular surface-mounted SIMMs in the same computer. To the computer, they are the same. Macintosh II computers with HD40 SC and 4MB RAM may be supplied with either DIP-mounted SIMMs or surface-mount SIMMs.

Published Date: Feb 18, 2012

Apple HD-20: How To Convert It Into A SCSI Device

This article has been archived and is no longer updated by Apple.

There is a product that converts an Apple HD-20 into an SCSI device. Available from Personal Computer Peripherals Corporation, it is called HD-20 WSI.

The HD-20 WSI is an upgrade for the original Macintosh HD-20 that allows it to interface with the Macintosh Plus, Macintosh SE, and Macintosh II via the SCSI port. The HD-20 WSI modification provides users with significantly faster access to the data stored on the hard disk.

The modification consists of a plug-in circuit board, interface cable, and utility software. The circuit board uses the existing HD-20 connectors and requires no soldering. The utility software includes HFS Backup, Eureka (a file finding application), a floppy disk copy program, and ImageWriter/LaserWriter spoolers.

For more information, search under: "Personal Computer Peripherals"

Published Date: Feb 18, 2012

LisaTerminal: Copy and Paste from LisaCalc

This article has been archived and is no longer updated by Apple.
Before LisaTerminal can recieve LisaCalc Copy or Paste information in the appropriate format (in columns), you need to set LisaTerminal's tabs to reflect the width of each column you want LisaTerminal to send. When you don't set the tabs, all of the information appears in one column with spaces between each entry. To set tabs in LisaTerminal, follow the procedure on pages 46-48 in the LisaTerminal manual.
Published Date: Feb 20, 2012

At Ease for Workgroups 5.0: Finder Access

On some At Ease/Macintosh Manager workstations, the Finder is accessible without entering an Admin password or entering the current Admin password will not allow access to the Finder, but an old Admin password will work. Sometimes, when a change is made to a global setting from the At Ease/Macintosh Manager Administration program, it will not take effect on all the workstations.
This article has been archived and is no longer updated by Apple.

Symptom

- The Finder is accessible on At Ease/Macintosh Manager workstations without a password.
- When a global setting is changed from the At Ease/Macintosh Manager Administration Program, the change does not affect all workstations.

Solution

Rebuild the database file by following these steps:

1. Quit At Ease/Macintosh Manager. You cannot use At Ease or Macintosh Manager when rebuilding the database file.
2. At Ease: delete the following files from the At Ease Server:
    - At Ease Items WG 5.0 (located within the At Ease Items WG 5.0 folder) **Important:** Do not delete the WG 5.0 folder itself
    - At Ease Cache (located within the At Ease Items WG 5.0 folder)

   Macintosh Manager: delete the following files from the Macintosh Manager Server:
    - Multi-User Items (located within the Multi-User Items folder) **Important:** Do not delete the Multi-User Items folder
    - Users Cache (located within the Multi-User Items folder)

3. Start At Ease/Macintosh Manager Administration.
4. Enter the Administrator password.
5. Quit At Ease/Macintosh Manager Administration. The deleted files are rebuilt.

If the issue persists, perform a consistency check by following the steps for the appropriate product:

At Ease

1. Quit the At Ease Administrator application.
2. From the Finder, open At Ease Administrator again, this time holding down the Command key. Continue pressing the Command key until you are asked for the Administrator's password.
3. Release the Command key to type in the password, and then press the Command key again before clicking OK.
4. When you see the next dialog box about validating the users and workgroups databases, release the Command key and click Yes to let the Consistency Check run. This will check for any loss in the databases and At Ease will fix the issues if it can.

Macintosh Manager

1. Open Macintosh Manager Admin.
2. Choose Verify Users & Workgroups from the File menu.

Note: Try these steps before attempting the steps in these articles:
Article 30293: "**At Ease: How to Rebuild the At Ease Items WG Folder**"
Article 88023: "**Macintosh Manager: How to rebuild your Multi-User Items folder for Macintosh Manager**".
Published Date: Feb 20, 2012

Mac OS 8.1: Energy Saver & Shut Down Time Discrepancy

This article explains why a computer's shutdown time may differ from the time set with the Energy Saver control panel.
This article has been archived and is no longer updated by Apple.
Energy Saver requires the scheduled shutdown time to be at least 15 minutes away from the current time setting of the computer. This 15 minute minimum cool down time is by design. Although this information in not documented in the current Energy Saver Guide Additions help, it is included in subsequent versions.

Note: This discrepancy is not apparent if the scheduled shutdown time is greater than 15 minutes from the time the setting is made.

PowerBook
If you have a PowerBook and you want to set a time for it to sleep and then wake, the computer may not go into sleep mode. As described above, the time set for sleep was not set far enough ahead. On a PowerBook, the sleep time must be set a full minute from the time the setting is made.
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Apple IIGS: How To Avoid Lock-up When Using Mixed Drives

This article has been archived and is no longer updated by Apple.

If you have an Apple IIGS systems with mixed-drive configurations (3.5" and 5.25"), you may find that when saving data under AppleWorks on the 3.5" drive, both drive lights come on and the system locks up.

The Daisy Chain controller board in your 3.5" drive probably needs to be replaced by an Apple dealer.

(NOTE: The 3.5" drive must be connected to the SmartPort, and the 5.25" drive must be plugged into the 3.5" drive.)

Published Date: Feb 18, 2012

Macintosh II: Using Full SuperMac Screen With AppleScan Software

I have a Macintosh II with two monitors, the AppleColor High Resolution RGB Monitor (13") and a SuperMac 19" monitor with a SuperMac video card. I notice that when I use the Apple Scanner, the AppleScan software seems to limit the size of the window to the size of the Apple 13" monitor. In other words, the document window cannot be resized to the full size of the SuperMac display.

This article has been archived and is no longer updated by Apple.
When the AppleScan software is launched, it calculates the dimensions of the main screen (the screen with the menu bar) in pixels. The AppleScan software assumes that no screen is larger than the main screen, and so does not allow a window to be resized larger than the main screen as would be normal.

However, by holding down the COMMAND key while resizing the window, the window can be resized to fill the SuperMac display.

(NOTE: This technique may work with other applications; however, it may cause problems if the window is resized larger than the software can support.)

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LaserWriter IINTX: Pinouts For SIMM Connectors

This article has been archived and is no longer updated by Apple.

Here are the pin-out signals for the SIMM connectors in a LaserWriter IINTX:

1 - GND 17 - A3 33 - Q4 49 - S6
2 - NC 18 - GND 34 - W4 50 - D7
3 - VDD 19 - GND 35 - A8 51 - Q7
4 - VDD 20 - D2 36 - S4 52 - W7
5 - CASN 21 - Q2 37 - A9 53 - S7
6 - D0 22 - W2 38 - A10 54 - Q8
7 - Q0 23 - A4 39 - A11 55 - RASN
8 - W0 24 - S2 40 - D5 56 - NC

9 - A0 25 - A5 41 - Q5 57 - CAS8
10 - S0 26 - D3 42 - W5 58 - NC
11 - A1 27 - Q3 43 - WRN 59 - D8
12 - D1 28 - W3 44 - S5 60 - NC
13 - Q1 29 - A6 45 - GND 61 - VDD
14 - W1 30 - S3 46 - D6 62 - VDD
15 - A2 31 - A7 47 - Q6 63 - NC
16 - S1 32 - D4 48 - W6 64 - GND

Published Date: Feb 18, 2012

Macintosh IIx: ROM SIMM Size And Position

Where is the ROM SIMM in the Macintosh IIx located? And how large is it?

This article has been archived and is no longer updated by Apple.
The new ROM SIMM in the Macintosh IIx is located 1/2 inch to the left of the RAM SIMMs when looking at the machine from the front. The ROM SIMM is about 3/8" taller than DIP-mounted SIMMs.

Because of its height, the new ROM SIMM may cause problems with the installation of third-party, large capacity, full-height disk drives.

If DIP-mounted SIMMs currently cause installation problems with the drives in question, then the ROM SIMM will make this problem more pronounced.

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System 6.0: Duplicating "Easy Access" Causes Mac II, SE To Hang

This article has been archived and is no longer updated by Apple.

Duplicating the "Easy Access" file in the System folder on a Macintosh SE or Macintosh II causes it to hang when the first keystroke is entered after a restart.

With System Software 6.0 or later, the INITs in invisible files are not loaded or run by the System.

There is currently no solution for this problem.

Published Date: Feb 18, 2012

LaserWriter II: Scanner Cable Problem/Cure

This article has been archived and is no longer updated by Apple.

Symptom:
When the I/O PCB is connected, the Scanner spins extremely fast when power is turned on.

Background Information:
Occasionally the Scanner will spin very fast, even if the I/O board is not connected. Usually when this happens the DC Controller board or the Scanner assembly is defective. In this particular case, when the I/O board is installed and the shield connects to ground, the Scanner spins very fast.

Cure:
To confirm this problem, pull out the I/O PCB and Power On. If it runs normally, turn the printer off, install a plug on J209 of the DC Controller board or use a clip and connect the 2 pins of J209 together (J209 connects signal ground to frame ground); then turn the printer on. If the Scanner spins very fast then replace Scanner harness cable.

Published Date: Feb 18, 2012

Macintosh SE and Radius Full Page Display

Problem:
A Macintosh SE with a Radius FPD Monitor and Radius FPD Board installed with display problems. The Macintosh SE screen has thick vertical black and white lines on boot up. The Radius FPD Monitor has small vertical dashed lines on screen.

This article has been archived and is no longer updated by Apple.

Cure:
This caused by a faulty expansion slot on Macintosh SE Motherboard. The Macintosh SE Motherboard should be replaced.

Published Date: Feb 18, 2012

LisaTerminal: Hang when line is busy

This article has been archived and is no longer updated by Apple.
When LisaTerminal dials the number automatically and the line is busy or there is no answer, the system appears to hang. In fact, LisaTerminal runs a timeout loop in these situations and nothing stops that loop except cutting off the power. You must wait a minute; once the timeout loop ends, the apparent system hang is over and the Lisa behaves normally.
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LaserWriter II: Black Printout Problem Cure

This article has been archived and is no longer updated by Apple.

Problem: The printout from the LaserWriter II is black except for the top which may consist of 5 thin white lines 1 to 1.5 inches apart. There is also excess toner spilled around the corona wire assembly. This may occur after the corona assembly or the transfer guide assembly has been removed and replaced.

Cure: There is a brass colored grounding tab on one side of the transfer guide assembly, (if you are facing the printer from the paper tray end it's on the left side of the corona assembly) that should be in contact with the grounding spring on that side of the corona assembly. The tab pivots and can be in the wrong position when the corona assembly or transfer guide is removed and reinstalled.

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Macintosh II and Control Panel Documents

Problem: At the top of the Macintosh II screen there are 4 distorted squares or a row of horizontal dots in the menu bar. These squares show up in any video mode, but are easier to see on a color monitor if the system is set to show 16 or 256 colors.

This article has been archived and is no longer updated by Apple.

Cause: JClock in the system folder.

Cure: Either remove JClock or replace it with a newer version. The system files will have to be replaced after JClock is removed or replaced. Use the Installer program and scripts so the system fonts, Desk Accesories, CDevs and system inits are not lost.

Problem: Using System software 6.0.2 the Macintosh II freezes when starting system up.

Cause: Control Panel document - Soundmaster verison 1.0

Cure: Remove the Soundmaster file from System folder or replace it with a newer version of Soundmaster.

NOTE: Soundmaster and JClock are NOT products of Apple Computer.

Published Date: Feb 18, 2012

AT&T Mail: Compatible Macintosh Software

This article has been archived and is no longer updated by Apple.

AT&T publishes a Macintosh program named "Access Plus III" for use with their electronic mail system. The program uses the standard Macintosh human interface for connection to AT&T's mail service.

To obtain an account and/or software, call AT&T at (800) 367-7225.

Published Date: Feb 18, 2012

Networked AppleFax Modem Feasible, But Not Available

This article has been archived and is no longer updated by Apple.

Although making the AppleFax Modem a networked device is feasible, none of the current serial servers has worked in tests. In the future, we may see a third-party solution.

Published Date: Feb 18, 2012

Authorized Apple Dealers: How To Locate

This article has been archived and is no longer updated by Apple.

To locate an authorized Apple dealer, customers in the United States can call Apple at (800) 538-9696 and give the operator the ZIP code for the area in question. In turn, the operator will give the caller the name, address, and phone number of the nearest Authorized Apple dealer.

Customers outside the United States who want this information before coming to the United States should call Apple at (408) 996-1010 and ask for Customer Relations.

Published Date: Feb 18, 2012

GS/OS: How To Use It With A ProFile

This article instructs you how to use GS/OS with a ProFile hard disk drive.
This article has been archived and is no longer updated by Apple.
Before beginning, make sure that:

- The ProFile Interface Card has the 341-0299 ROM. (See Tech Info Library article "GS/OS: Needs Latest ROM Revision To Work With ProFile" for further information.)
- The ProFile Interface Card has been modified for use with the Apple IIGS. (See Tech Info Library article "Apple II ProFile Interface Card Modification for the Apple IIGS" for further information.)

NOTE: The Partition and Zero option of the Advance Disk Utility does not work with the ProFile; it works with SCSI drives only.

Procedure for Using GS/OS With a ProFile

Follow these steps:

1. Select a slot for the ProFile Interface Card (this procedure uses slot 7).
2. Install the ProFile Interface Card and turn on the Apple IIGS.
3. Press Apple-Control-Esc to enter the Control Panel. In the Control Panel, under the SLOTS item:

    a. Set SLOT 7 to "Your Card".
    b. Set STARTUP SLOT to "5".
    c. Press Return, Esc, Return to exit from the Control Panel.

4. Turn the computer off.
5. Insert the Apple IIGS System Disk in the first 3.5-inch drive and the System Tools disk in the second 3.5-inch drive (if available).
6. Turn the computer on.
7. After the system starts up, the SYSTEM.DISK, SYSTEM.TOOLS, and ProFile appear on the desktop.

NOTE: If the ProFile was not formatted for ProDOS, GS/OS asks if the volume should be initialized.

To initialize:

    a. Select "Initialize".
    b. Name the volume.

Note: This should take only a few seconds.

8. Open the System Tools disk and run the Installer program.

NOTE: For single-drive systems: Eject the System Disk and insert the System Tools disk. The Installer program prompts you with Eject/Insert dialog boxes.

    a. A list of items to install appears.
    b. Select "Install System Files".
    c. Use the "Volume" button to bring the ProFile disk name to the top right of the screen.
    d. Select "Install".

The Installer program copies the System files from SYSTEM.DISK and SYSTEM.TOOLS disks to the ProFile. Old System files are replaced, but Desk Accessories, Fonts, and other files in "SYSTEM FOLDER" are not deleted.

9. To add other items, such as the SCSI card or 5.25-inch drive:

    a. Select the item.
    b. Click Install.

10. Install a printer driver:

    a. Select the item.
    b. Click Install.

11. Set the Control Panel to start up from slot 7.

12. Restart the system using the ProFile.

The ProFile is now set up for use with GS/OS.

NOTE: If you copy applications to the ProFile, copy only the program and data files. Do NOT copy the System Folder from the application disks.

Published Date: Feb 20, 2012

Apple SuperDrive and CD Support: Mac286 and SoftPC

Neither the Mac286 nor SoftPC supports the Apple SuperDrive (formerly Apple FDHD).

This article has been archived and is no longer updated by Apple.
Although AST and Insignia Solutions plan to support the SuperDrive in the future, neither has set any dates.

The Mac286 and SoftPC have access to a High Sierra CD-ROM disk once you install High Sierra drivers. The High Sierra disk appears as a standard Macintosh volume on the desktop.

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Compugraphic-to-Macintosh Solutions

This article has been archived and is no longer updated by Apple.

There is a relatively easy way to put Macintosh documents through a Compugraphic typesetting machine. TeleTypesetting Company has a product called "MicroSetter II" that works with the Compugraphic MCS 8000, 8400, and 8600 typesetters. Basically, it is a Chooser-selectable printer driver. The Compugraphic typesetter and the Macintosh connect via serial ports.

Most Macintosh applications (including PageMaker, XPress, MacDraw, MacWrite, Microsoft Word, and many more) work with MicroSetter II.

Another solution is a Compugraphic product -- "CG Script" -- a hardware/software package that accepts PostScript files from any Macintosh for direct output on a Compugraphic MCS 8000, 8400, CG 9600 or 9700 typesetting unit.

For more details, search the Tech Info Library for "TeleTypesetting Company" and/or "Compugraphic".

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Aristotle: Cannot Create Apple IIGS Start-Up Screen

This article has been archived and is no longer updated by Apple.

Tech Comm has received inquiries about creating start-up screens for the Apple IIGS when using the Aristotle Menu Display program (similar to those that can be created on the Macintosh). Unfortunately, no methods are currently available for doing this. Keep in mind that Aristotle does not display graphics. When running under Apple II network software, the Apple IIGS remains in text-only mode.

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Tektronix Graphics Terminal Emulation for Macintosh II

This article has been archived and is no longer updated by Apple.

Grafpoint markets TGRAF-07 and TGRAF-15LR graphics terminal emulation software for the Macintosh II. These two emulators provide the graphics features available on a Tektronix 4107 or 4115 Graphics Terminal.

Grafpoint TGRAF provides the ability to run hundreds of mainframe applications that previously required a dedicated graphics terminal. For example: CAD/CAM, data analysis and representation, mapping, and molecular design.

TGRAF for the Macintosh II has minimum requirements of one disk drive, Macintosh II Video Card with Video Card Expansion Kit (256 colors required), monitor, communications port, and minimum memory of 2Mb (additional memory increases the amount of segment storage available).

Terminals emulated by TGRAF-07 and TGRAF-15LR include:

- DEC VT52
- DEC VT100
- DEC VT102
- Tektronix 4010
- Tektronix 4014
- Tektronix 4106
- Tektronix 4107
- Tektronix 4109

In addition, TGRAF-15LR emulates:

- Tektronix 4115

For more information, search the Tech Info Library using "Grafpoint".

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LisaTerminal: Apple Modem cables

This article has been archived and is no longer updated by Apple.
There is a deceptive similarity of the Apple modem cable (part number 540-0197) and the Macintosh printer cable (part number 590-0146). You will have problems when you use LisaTerminal and the Apple modem with the Macintosh printer cable.
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Static Column DRAM: CAS and RAS

This article discusses CAS (Column Address Strobe) and RAS (Row Address Strobe).
This article has been archived and is no longer updated by Apple.
CAS (Column Address Strobe) before RAS (Row Address Strobe) or vice versa determines whether the column or the row gets referenced first, when the computer is addressing a location in memory.

Static column DRAMs have faster memory access (if the architecture supports it). They let the CPU specify only the row address of multiple memory locations in the same column. The first address is addressed by specifying both the row and the column. After this, the column location can be omitted because it is retained. This is why it is called static column DRAM.
Published Date: Feb 20, 2012

AppleShare 2.0.1 and System Software 6.0.2

This article has been archived and is no longer updated by Apple.

Those wishing to update their AppleShare networks with the latest system software (version 6.0.2) may already have updated to the latest AppleShare (version 2.0.1), or may be using a previous version of AppleShare. The following instructions will help with both situations.

To update a server already running AppleShare 2.0.1:

1. Shut down the server.
2. Restart with the System Tools 6.0.2 disk.
3. Launch the Installer.
4. Select the type of computer.
5. Click the Install button.
6. Once installation is complete, click the Quit button.
7. In the Finder, select Restart.

To update the server with both AppleShare Server 2.0.1 AND System Software 6.0.2:

1. Shut down the server.
2. Restart with the AppleShare File Server Installer disk.
3. Launch the Installer.
4. Select AppleShare Server (2.0.1).
5. Click the Install button.
6. Once installation is complete, click the Quit button.
7. In the Finder, select Shutdown.
8. Restart with the System Tools 6.0.2 disk.
9. Launch the Installer.
10. Select the type of computer.
11. Click the install button.
12. Once installation is complete, click the Quit button.
13. In the Finder, select Restart.

Published Date: Feb 18, 2012

GS/OS: SCSI and ProFile Card Compatibility

This article discusses using GS/OS v4.0 with the SCSI and ProFile interface cards.

This article has been archived and is no longer updated by Apple.
If you are using GS/OS version 4.0, you must have the latest versions of the ProFile and SCSI Interface Cards as well. Recent testing results show that GS/OS version 4.0 is compatible with revision C of the SCSI and ProFile cards.

You can determine if you have the required version of these cards by the ROM part number that is installed in the card.

SCSI Interface Card

ROM part number 341-0437 rev. A is the latest ROM for the SCSI Interface Card. When this ROM is installed, it brings the revision of the card up to rev. C. This configuration is compatible with version 4.0 of GS/OS.

ProFile Interface Card

ROM part number 341-0299 rev. B is the latest ROM for the ProFile Interface Card. When this ROM is installed, it brings the revision of the card up to rev. C. This configuration is compatible with version 4.0 of GS/OS.

As of the date of this article, all service ROM inventory is the latest version, and all ProFile and SCSI Interface Cards shipped by service are the rev. C configuration, which is compatible with all Apple II computers.

Apple IIGS

The Apple IIGS requires ROM version 01 to run GS/OS 4.0. To determine if you have the correct version boot the Apple IIGS, at the bottom of the screen should be displayed a copyright line and "ROM Version 01". Contact your dealer for the free upgrade.
Published Date: Feb 20, 2012

LaserWriter 8500: Important Safety Instructions

This document discusses important safety instructions.
This article has been archived and is no longer updated by Apple.
For your own safety and that of your equipment, always take the following precautions.

Disconnect the power plug (by pulling the plug, not the cord) if any of the following conditions exists:

- the power cord or plug becomes frayed or otherwise damaged
- you spill something into the case
- your printer is exposed to rain or any other excess moisture
- your printer has been dropped or the case has been otherwise damaged
- you suspect that your printer needs service or repair
- you want to clean the case

Be sure that you always do the following:

- Keep the printer's vents free from obstruction.
- Keep your printer away from sources of liquids, such as washbasins, bathtubs, shower stalls, and so on.
- Protect your printer from dampness or wet weather, such as rain, snow, and so on.
- Read all the installation instructions carefully before you plug your printer into a wall socket.
- Keep these instructions handy for reference by you and others.
- Follow all instructions and warnings dealing with your system.

WARNING: This equipment is intended to be electrically grounded. Your printer is equipped with a three-wire grounding plug-a plug that has a third (grounding) pin. This plug will fit only a grounded AC outlet. This is a safety feature. If you are unable to insert the plug into the outlet, contact a licensed electrician to replace the outlet with a properly grounded outlet. Do not defeat the purpose of the grounding plug!
Published Date: Feb 20, 2012

LaserWriter 8500: How to Check for and Clear Paper Jams

This document discusses checking for and clearing paper jams.
This article has been archived and is no longer updated by Apple.
Occasionally a piece of paper may get stuck inside the printer during the printing process. Follow these steps to find and clear a paper jam.

IMPORTANT: If you experience paper jams after you first set up the printer, check all areas of the printer to make sure that the packing materials have been removed.

1. Open the back door of the printer to see whether paper is jammed there. If so, gently pull out the jammed paper.

2. Open the top cover of the printer and remove the toner cartridge. If the jam is around the pressure roller area, remove the paper as shown here:

3. Once you have removed the jammed paper, reinsert the toner cartridge and close the top cover.
Note: You must open and close the top cover to reset the printer.
4. Remove the paper cassette to see whether the jam is in the paper cassette area. If so, gently release or pull out the jammed paper.

Check that all paper edges are under the bracket at the front of the cassette.
Paper edges over the bracket are also considered paper jams.
5. Check the paper exit area on top of the printer to see whether the paper is jammed there. If so, gently pull the paper out.

Published Date: Feb 20, 2012

LaserWriter 8500: How to Check Optional 500-Sheet Feeder and Cassette for Paper Jam

This document discusses checking the optional 500-sheet feeder and cassette for paper jams.
This article has been archived and is no longer updated by Apple.
1. Open the back door of the paper feeder to see whether paper has jammed there. If so, gently pull out the jammed paper.

2. Remove the paper cassette to see whether the jam is in the paper cassette area. If so, gently release or pull out the jammed paper.

Check that all paper edges are under the bracket at the front of the cassette. Papers edges over the bracket are also considered paper jams.

If you have removed the jammed paper, open and close the top cover to reset the printer.
Published Date: Feb 18, 2012

LaserWriter 8500: How to Avoid paper and envelope jams and wrinkling

This document discusses avoiding paper and envelope jams and wrinkling.
This article has been archived and is no longer updated by Apple.
Some papers or envelopes may jam or wrinkle as they pass through the printer.

If you experience paper jams, loosen up the stack of paper by fanning it before you load it into the paper cassette. Be sure not to overload the cassette. With stiffer paper stock, try printing the paper from the multipurpose tray, which provides a straighter feed into the printer than the cassettes.
Published Date: Feb 20, 2012

LaserWriter 8500: How to Improve the Quality of Grayscale Art

This document discusses how the quality of grayscale art could be better.
This article has been archived and is no longer updated by Apple.
Turn on the PhotoGrade feature. Also try turning off the FinePrint feature.

Related Documents

34759	LaserWriter 8500: Memory Requirements, Supported Paper Sizes for Duplex Printing and PhotoGrade
34760	LaserWriter 8500: FinePrint or PhotoGrade how to Turn on/off in Mac OS
34761	LaserWriter 8500: FinePrint or PhotoGrade how to Turn on/off in Windows

Published Date: Feb 20, 2012

Macintosh Plus and SE Require Dynamic RAM

I upgraded the RAM (Random Access Memory) in my Macintosh SE and now I'm having all sorts of video problems.

This article has been archived and is no longer updated by Apple.
Some users have had problems with the Macintosh SE and Macintosh Plus when they install static column RAM rather than dynamic RAM. These two computers can only use dynamic RAM. This explains why:

- The video display is affected, and the operation of the machine is not.

- The SIMMs passed QA at the manufacturer and the SIMM tester at Xerox.

- The same modules worked in the Macintosh II and did not in the Macintosh SE; the Macintosh II can use static column RAM.

Note: the CAT and MacTest SE diagnostic tests on memory do not detect a problem.

Published Date: Feb 18, 2012

LaserWriter 8500: FinePrint or PhotoGrade how to Turn on/off in Mac OS

This document discusses printing with FinePrint or PhotoGrade and how to turn them on or off.
This article has been archived and is no longer updated by Apple.
FinePrint smoothes out lines and curves and enhances text and line graphics that would normally appear jagged. For documents that require the finest quality text that the printer can produce, turn FinePrint on. PhotoGrade enhances the printed look of images, such as scanned or digital photographs, to produce added clarity, finer shading, and better contrast. For documents that require images to be printed with the best quality that the printer can produce, turn PhotoGrade on. For documents that contain both text and high-quality images, turn PhotoGrade on and FinePrint off.

Having both FinePrint and PhotoGrade on can affect how images print. For documents that have many images and require high-quality reproduction, you may want to turn FinePrint off. To determine the effect of printing using FinePrint and PhotoGrade, you can print portions of a document with FinePrint and PhotoGrade turned on or off to see the differences in printed output.

To turn FinePrint and PhotoGrade turned on or off follow these steps in the print dialog window:

1. Choose Imaging Options from the Settings pop-up menu.

2. Make the selection you want.

Published Date: Feb 18, 2012

LaserWriter 8500: FinePrint or PhotoGrade how to Turn on/off in Windows

This document discusses where to turn on and off FinePrint or PhotoGrade in Windows.
This article has been archived and is no longer updated by Apple.
For Windows 3.1, Click the Features tab to display the Features tab dialog box, which lets you configure the printer software to use optional printing features that you install on the printer.

For Windows 95 and NT, Click the Device Options tab to display the Device Options dialog box, which lets you configure the printer software to use optional printing features that you install on your printer.
Published Date: Feb 20, 2012

LaserWriter 8500: How to Decrease Paper Curl

This document explains what do check when paper curls when you print on it.
This article has been archived and is no longer updated by Apple.
Use only 16- to 24-pound laser-quality or photocopy bond paper for automatic feed and 16- to 32-pound paper for manual-feed printing. If you are using the correct weight and the paper still curls, try using a different brand of paper. Use paper that has been in a sealed wrapper; paper that has been out for a long time may have too much moisture in it.
Published Date: Feb 20, 2012

LaserWriter 8500: Toner does not Stay Fixed on the Paper

This document discusses what to check if Toner does not stay fixed on the paper.
This article has been archived and is no longer updated by Apple.
If the toner does not stick to the paper, try using different paper. Best results are obtained with laser-quality or photocopy bond paper.
Published Date: Feb 20, 2012

LaserWriter 8500: Prints on Part of the Page, Off-Center, or Images are Out of Place

This document discusses when the printer prints on only part of the paper, printing is off-center, or images are out of place.
This article has been archived and is no longer updated by Apple.
Make sure that you have selected the appropriate paper source, paper size, and orientation in your printing software. (On a Mac OS-based computer, click the Page Image icon in the Page Setup dialog box; if you want to narrow the margins to print on more of the page, you can select Larger Print Area in the Options portion of the Page Setup dialog box.)

Check the paper width guide in the cassette. If the width guide is set too wide, the paper may be fed into the printer at an angle.

Also check that the margins set in your document are correct, that you are not using a type of paper that is causing a feeding problem, and that the paper cassette isn't too full.
Published Date: Feb 20, 2012

AppleShare Print Server Allows Multiuser Access

This article has been archived and is no longer updated by Apple.

The main reason for using the AppleShare Print Server is to allow many users to print documents at the same time. A print server reduces the waiting time by allowing several users to send documents simultaneously to be printed. When used with a LaserWriter printer, PostScript code is sent to the print server and then to the printer. The printer then processes this PostScript code to produce the bit-map graphics at 300 dpi.

When printing to an AppleTalk ImageWriter printer, the computer creates and sends the bit-map image to the printer. Creating this bitmap takes processing time from the computer. Because the computer is having to spend time creating the bitmap, you will not see a major difference in the amount of time it takes to send the data to the printer or the spooler.

When printing directly to a printer, the print driver runs at an even speed with the printer due to data transmission speeds. When connected over AppleTalk, the network runs faster than 19,000 or 9600 baud, but the driver has not been optimized for speed. It keeps up with the speed of the printer. At times, the computer is waiting for the printer to finish printing the line; other times, the printer is waiting for the computer to send and process the line. This is why the 32K option card is not recommended for Macintosh users.

The following table shows the amount of data that is being sent to the ImageWriter LQ printer in all three modes. The following started as a 5.5-page AppleLink document (file size 12,648 or 13K).

Amount of data transferred to the print server or the printer:

Best Mode	Faster	Draft
578K	127K	43K

The increased size of the Draft is due to AppleTalk overhead (establish session, packet overhead). The Faster file sends out a 72-dpi bitmap in GRAPHICS mode of the ImageWriter LQ. The Best mode sends out a 216-dpi bitmap. This takes up more space and requires more time to send the data to the printer or spooler. If the driver could create the 578K faster, the print server would be able to store the data faster. However, most of the time, the print server is waiting for the computer to send out the data.

Published Date: Feb 18, 2012

Macintosh System 6.0: How Desk Accessories Function

The following information is relevant only for system software version 6.0.X.

I heard that many existing desk accessories (DAs) from previous versions of the system software will not function correctly under System 6.0.X, especially when running MultiFinder.

This article has been archived and is no longer updated by Apple.
Desk accessories function as they always have under previous system versions. A correctly-written DA will function normally under system software 6.0.X. The one exception is when desk accessories are called under MultiFinder.

Desk accessories are DRVR resources and do not have, nor are they, CODE resources. They can exist in open files in the System Folder and be picked up when the drivers are called by an application or the Finder for display in an Apple menu. The Apple menu resides in the System ROMs, and the DA list is created by an application or by the Finder.

A change that may affect a DA is the loading of desk accessories into the System heap. Desk accessories expecting to load into a specific application heap will not function under the new system software. In the cases of these application-specific and application-dependent desk accessories, the DA will not know which application heap called it (since there could be multiple application heaps).

The System has been patched to allow desk accessories to function within an application-like environment belonging to the System. The environment is called DA Handler. The DA Handler is a level of the System that executes desk accessories when called. This is to allow all desk accessories to come to the foreground when a DA is selected, rather than having to select the application the DA belongs to. This also allows the System to control the Apple menu, allowing selection of applications as well as desk accessories.

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Macintosh SE 2/40: How To Configure for 2.5MB RAM

Article Change History

9/15/92 - REVIEWED
* For technical accuracy.

How do I configure a Macintosh SE for 2.5MB of RAM? I've heard there's a jumper on the logic board that needs to be removed.

This article has been archived and is no longer updated by Apple.
To properly configure the Macintosh SE 2/40 (or any Macintosh SE with a RAM configuration jumper labeled "2/4MB to 1MB") for 2.5MB, the jumper must be completely removed.

Apple suggests leaving the jumper connected to one pin so that it is available for future upgrades.

NOTE: The RAM configuration for the Macintosh SE 2/40 is the OPPOSITE of previous Macintosh SE and Macintosh Plus systems. The highest capacity SIMMs occupy sockets 3 and 4 on the newer boards with the jumper RAM configuration. Older boards with the solder configuration require the highest capacity SIMMs to occupy sockets 1 and 2.

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LaserWriter 8500: Nothing is Printed on the Paper

This document discusses when nothing is printed on the paper.
This article has been archived and is no longer updated by Apple.
If you get a blank document, try the following steps.

- If the cartridge is new, be sure to remove the plastic tape.
- Redistribute the toner powder by gently rocking the toner cartridge.

If you still get a blank document, the cartridge may have run out of toner and needs replacing.
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LaserWriter 8500: Grayscale Prints Black and White

This document discusses when the image prints in black and white although the original document is in color or grayscale.
This article has been archived and is no longer updated by Apple.
If the printed image contains only black and white areas instead of grays, try the following step.

- Check to make sure that grayscale printing is turned on (on a Mac OS-based computer, select the Color/Grayscale option in the Print Options dialog box).

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LaserWriter 8500: Image is Too Light or Dark

This document discusses when the image is too light or too dark.
This article has been archived and is no longer updated by Apple.
If the printed images are too light, try the following steps.

- Change the print density to a darker level.
- Replace the toner cartridge (if needed).

If the image is too dark, try the following steps.

- Change the print density to a lighter level.
- Replace the toner cartridge; it may need to be changed.

If you are using a Mac OS-based computer, you can change print density with the Apple Printer Utility. If you are using an IBM PC or compatible computer, you can change print density with the Apple LaserWriter Utility for Windows.

Both Utilities can be downloaded from Apple Downloads at <http://www.info.apple.com/support/downloads.html>
Published Date: Feb 20, 2012

LisaTerminal: Setting the baud rate for an Apple Modem

This article has been archived and is no longer updated by Apple.
The baud rate on the Apple 1200 modem is not unalterable, although how to alter the rate is not very obvious: you alter the rate by passing data to the modem at the rate you want the modem to transmit data. From whichever program you use to send data to the modem, it determines the baud rate of the data it recieves and sets itself at that rate. For example, when you set the baud rate of the LisaTerminal program to 300 and instruct the program to auto-dial, LisaTerminal sends the auto-dial message to the modem at 300 baud; from the speed of this message, the modem assumes that you want to be communicate at 300 baud; the modem then alters its rate to 300 baud. Subtle, no? But here's the catch: if you change the baud rate in the program without turning off the modem first, the modem ignores the messages sent to it at the new baud rate. You must turn off the modem if you are going to change the baud rate.
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Apple IIe: AppleTalk Workstation Card and Printing

This article has been archived and is no longer updated by Apple.

To print to a serially-connected ImageWriter through the AppleTalk Workstation Card on an Apple IIe:

1. Place the AppleTalk Workstation Card in any Apple IIe slot.

2. Start up the system with the Workstation disk. (If there are no disks in the drives, the system starts up over the network with a slight delay.)

3. Select Chooser.

4. Using the Chooser, select the locally-connected serial printer. (Local printers and AppleTalk printers are shown on separate lists.)

5. Ensure that the printer is connected to the printer port on the AppleTalk Workstation Card.

6. Set the application to print to the slot that the Workstation Card is in.

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LaserWriter 8500: Printed Page is Solid Black

This document discusses when the page prints solid black.
This article has been archived and is no longer updated by Apple.
If your document prints black, turn your printer off and on again. If your document still prints black, your printer may require service.
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LaserWriter 8500: Prints on one Side with Duplex Printing

This document discusses when the printer prints on one side even though duplex printing is specified.
This article has been archived and is no longer updated by Apple.
If your document prints in simplex mode (only on one side) instead of duplex mode, check the following:

- Is the optional duplex printing unit installed?
- Is duplex printing selected in the Print dialog box?

Published Date: Feb 20, 2012

LaserWriter 8500: Unwanted Lines or Stripes Appear

This document discusses when unwanted lines or stripes appear.
This article has been archived and is no longer updated by Apple.
If white or dark vertical or horizontal lines or stripes appear on the page, try the following remedies.

- Gently rock the cartridge to redistribute the toner.
- Replace the toner cartridge.

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LaserWriter 8500: Image is Wavy or Distorted

This document discusses when the image is wavy or distorted.
This article has been archived and is no longer updated by Apple.
If a gray shaded area appears wavy or distorted, the toner cartridge may be low, or the toner may need to be redistributed. Gently rocking the toner will redistributed the toner.
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LaserWriter 8500: Toner Smudges Appear on the Front or Back of the Paper

This document discusses when toner smudges appear on the front or back of the paper.
This article has been archived and is no longer updated by Apple.
If stains appear on the paper, try the following steps.

- Toner smudges may occur after a paper jam. In most cases, the printer cleans itself after printing several letter-size pages.
- You may have previously printed using paper that was too small for the printed document, which may have caused some toner to be deposited inside the printer instead of on the paper. This can cause smudges on the paper that goes through later. In most cases, the printer cleans itself after printing several letter-size pages.

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LaserWriter 8500: Faded Areas or White Voids Appear on the Page

This document discusses faded areas or white voids appear on the page.
This article has been archived and is no longer updated by Apple.
If portions of the page are faded or are missing, try the following steps:

- Use different paper or transparency material.
- Use paper that has been in a sealed wrapper; paper that has been out for a long time may have too much moisture in it.
- Redistribute the toner in the cartridge.
- Use the Apple Printer Utility for the Mac OS or the Apple LaserWriter Utility for Windows to change the print density to a darker level.
- Replace the toner cartridge.

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LaserWriter 8500: Blotch Areas or Ghost Image Appear on the Page

This document discusses when blotchy areas or ghost images appear on the page.
This article has been archived and is no longer updated by Apple.
If there are blotchy areas within a gray area, or if you see ghost images within printed areas (particularly on the top few inches of the page), try the following step.

- Print two or three more copies of your page; these problems often occur only on the first rotation of the photosensitive drum inside the printer.

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LaserWriter 8500: Not Printing from the Correct Paper Tray

This document discusses when the printer isn't printing from the correct paper tray.
This article has been archived and is no longer updated by Apple.
Check that the correct page size and paper source are selected in the Mac OS or Windows Page Setup dialog box.
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Apple II Workstation Card: Printing Via a Serial Port

This article has been archived and is no longer updated by Apple.

If you want to run Apple II Workstation Cards on a network, and also want to have some workstations' printers directly connected to the serial port on the Workstation card, try the following solution:

Install the card in slot 7 on the Apple II.

Run the new Chooser II (ver. 1.2.1) software. When the Apple II WorkStation Card is installed, a new option window appears in the lower righthand corner that allows the output to be directed to either the serial port or the AppleTalk port on the card. Once the serial port is selected, everything should work perfectly.

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DVD Studio Pro 1.5: How to Set a Startup Action

This document discusses setting a startup action.
This article has been archived and is no longer updated by Apple.
The first thing that happens when you insert a DVD into a DVD player is called the startup action. For example, a video might play or a menu might appear. The startup action can be any item in your project (a track, marker, menu, script, or slideshow).

1. Select the disc by clicking an empty area of any of the DVD Studio Pro windows.
2. In the General area of the Property Inspector, choose an item from the Startup Action pop-up menu.

If you do not choose a startup action, nothing happens when the disc is inserted, and the Preview Mode of DVD Studio Pro does not work.

(This document contains information from Help Center, the help system included with your computer.)
Published Date: Feb 18, 2012

DVD Studio Pro 1.5: How to Create a Still Menu

This document discusses creating a still menu.
This article has been archived and is no longer updated by Apple.
Menus are graphic or video backdrops for buttons. A menu that uses a Photoshop or PICT file for the background is called a still menu.

Before you can create a menu, you need to add assets to the Assets container in the Project View.

1 Drag a Photoshop file or a PICT file from the Assets container to the Graphical View.
2 If you're using a Photoshop file, you need to select the layers you want to use. Open the menu in the menu editor by double-clicking the menu's thumbnail area.
3 Click "Layers (always visible)" in the Picture area of the Property Inspector and choose the layers you want.

(This document contains information from Help Center, the help system included with your computer.)
Published Date: Feb 18, 2012

Apple Scanner: EPS Files

Can AppleScan images be used outside of TIFF and PICT file formats?
This article has been archived and is no longer updated by Apple.
To use AppleScan images outside the TIFF and PICT file formats, copy the AppleScan image and paste it into the application you are using.

To save AppleScan images in EPS (Encapsulated PostScript) requires an additional program that supports either the TIFF or PICT file format and the EPS file format. Open the AppleScan file (TIFF or PICT) and save it as EPS.

TIFF and PICT are recognized as the standard for scanned images. Currently, Freehand 1.0 from Aldus Corporation is the only major program using scanned images that does not accept TIFF or PICT. (Freehand 2.0, which was recently announced, does support both PICT and TIFF.)

Note: A disadvantage of scanned images in EPS file format is that they tend to be larger than the same scanned images in TIFF or PICT.)

For more information, search under: "Aldus".
Published Date: Feb 20, 2012

DVD Studio Pro 1.5: How to Link Buttons

This document discusses linking buttons.
This article has been archived and is no longer updated by Apple.
By linking buttons, you specify what happens when a button is selected and the viewer clicks an arrow key on the remote control. DVD Studio Pro automatically links buttons according to their order in the menu editor (each button is linked to the next, and the last is linked back to the first). If you prefer a different order, you can change these links.

1. Select the button you want to link.
2. Press the Control key and click one side of the button. Click the right side to link the Right Arrow key, click the top to link the Up Arrow key, and so on.
3. Keep the Control key pressed and drag to the button you want to link to.
4. Repeat for each side of the button.

You can also link buttons using the Property Inspector or the Jump Matrix.

(This document contains information from Help Center, the help system included with your computer.)
Published Date: Feb 18, 2012

DVD Studio Pro 1.5: How to Create a Track

This document discusses creating a track.
This article has been archived and is no longer updated by Apple.
Tracks are sets of video, audio, and subtitle files along with markers, angles, and stories. Tracks can be linked to buttons, scripts, menus, slideshows, and other tracks.

Click the Assets tab in the Project View to access the Assets container.
Drag one or more video assets from the Assets container to the Graphical View.

A green track tile for each asset you dragged appears in the Graphical View. If you created multiple tracks and only see one, drag that track tile. The others may be underneath it.

To create an empty track, click the Add Track button in the Graphical View. Use the Property Inspector to assign video assets, "Jump when finished" actions, and other properties.

(This document contains information from Help Center, the help system included with your computer.)
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DVD Studio Pro 1.5: How to Assign a Video Stream to a Track

This document discusses assigning a video stream to a track.
This article has been archived and is no longer updated by Apple.
Tracks are sets of video, audio, and subtitle files along with markers, angles, and stories. Tracks can be linked to buttons, scripts, menus, slideshows, and other tracks.

Select the track, then choose an item from the Asset pop-up menu (in the Video area of the Property Inspector). You can also drag a video asset from the Assets container to the Tracks container in the Project View.

(This document contains information from Help Center, the help system included with your computer.)
Published Date: Feb 18, 2012

DVD Studio Pro 1.5: How to Specify a Track Thumbnail

This document discusses specifying a track thumbnail.
This article has been archived and is no longer updated by Apple.
A track's thumbnail area is the box on the track tile that sometimes contains a picture. Depending on the kind of asset assigned to the track, you can change the thumbnail image.

1 Select the track.
2 Choose Change Thumbnail from the Item menu.
3 Use the slider to navigate to the image you want, then click OK.

Only specific images (technically speaking, only the first I-frame in a Group of Pictures) can be selected.

(This document contains information from Help Center, the help system included with your computer.)
Published Date: Feb 18, 2012

GS/OS: High ASCII Character Codes

This article discusses using GS/OS v4.0 and ASCII characters codes.

This article has been archived and is no longer updated by Apple.
The GS/OS (version 4.0) operating system does not interpret keystrokes; the extended character sets are handled by the firmware of the Apple IIGS itself. The firmware directly understands only the lower 128 ASCII codes. To access symbols assigned above the lower 128 codes requires examination of the ADB information. No extended characters are recognized automatically.

The Command key (Open-Apple) or Option key (Closed-Apple) can be detected via PEEKs of the game port buttons or via the keyboard modifier returned by GetNextEvent. By checking for these keys, then checking the character key, the programmer is able to assign one of the extended characters to the Command-X or Option-X keystroke.
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DVD Studio Pro 1.5: How to Create a Script

This document discusses creating a script.
This article has been archived and is no longer updated by Apple.
Scripts in DVD Studio Pro are created as separate items within a project. You use the script editor to enter the text of your script.

1. Click the Add Script button in the Graphical View.
2. Double-click the script tile to open the script editor.
3. To enter a script, either type in the window, or choose from menus to enter commands and names of items in your project.
4. Click OK or close the script editor to format the script.

(This document contains information from Help Center, the help system included with your computer.)
Published Date: Feb 18, 2012

DVD Studio Pro 1.5: How to Set Variables for Scripting

This document discusses setting variables for scripting.
This article has been archived and is no longer updated by Apple.
You can create and name up to eight global variables (also called GPRMs), which store data used by scripts. The variables are stored as properties of the disc.

1. Select the disc to see its properties in the Property Inspector.
2. Name the variable in the Variable Names area.

DVD players reset the content of all variables whenever the viewer uses the Time Search or Time Play function of the remote control. If your project depends on maintaining variable values, you should prohibit use of these functions. To do so, view the disc in the Property Inspector, open the Remote-Control area, and choose Prohibited from the Time Search/Time Play pop-up menu.

(This document contains information from Help Center, the help system included with your computer.)
Published Date: Feb 18, 2012

DVD Studio Pro 1.5: How to Assign a Script

This document discusses assigning a script.
This article has been archived and is no longer updated by Apple.
Once you create a script, you can assign it as the action for a button, track, menu, marker, story, slideshow, or remote control key.

You can assign scripts to control various types of actions. A pre-script runs before its assigned item is displayed. A timeout action runs if the viewer does not choose an option within a preset period of time. A script assigned to a remote control key runs if the viewer clicks that key. An action runs when an item (such as a button or menu) is displayed or activated.

1. Select the item to which you want to assign the script.
2. In the Property Inspector, choose the script from the appropriate pop-up menu.

(This document contains information from Help Center, the help system included with your computer.)
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DVD Studio Pro 1.5: How to Add Assets to Your Project

This document discusses adding assets to your project.
This article has been archived and is no longer updated by Apple.
Assets are the source video, audio, graphics, and subtitle files for your DVD. To become part of your DVD, source files must be added to the Assets container in the Project View and assigned to a track or menu.

1. Click the Assets tab to access the Assets container.
2. Drag asset files from the Finder to the Assets container.

Putting an item in the Assets container does not mean it will be included on your DVD. You must assign the asset to a track, slideshow, menu, or other item before it will be included.

Items in the Assets container are not actual files, but links to files (like Finder aliases). As a result, you need to keep the original files on your hard disk.

(This document contains information from Help Center, the help system included with your computer.)
Published Date: Feb 18, 2012

DVD Studio Pro 1.5: How to Merge Assets from one Project to Another

This document discusses merging assets from one project to another.
This article has been archived and is no longer updated by Apple.
You can merge the assets and structure of an existing project into another project.

1. Open the project you want to merge into.
2. Choose Merge from the File menu.
3. Select the project whose contents and structure you want to add.

Assets, menus, tracks, and links are among the items merged into the new project. The disc properties of the existing project, such as remote-control button assignments, region code information, the startup action, and so on are not imported.

If the two projects have different numbers of languages assigned, the new project has the larger number of languages. You may need to delete languages or assign additional assets.

(This document contains information from Help Center, the help system included with your computer.)
Published Date: Feb 18, 2012

DVD Studio Pro 1.5: How to Create a Marker

This document discusses creating a marker.
This article has been archived and is no longer updated by Apple.
Markers are used to jump quickly to a particular point in the track or to specify a point at which an action is performed.

1. Double-click the track's thumbnail area to open the marker editor.
2. Click the New Marker button and name the marker in the Property Inspector.
3. Move to the point in the track where you want to place the marker, either by using the slider at the bottom of the marker editor or by clicking the time code button and entering a new time code.

Markers must be at the beginning of a Group of Pictures (GOP) with a sequence header. If you type a time code, the marker will begin at the nearest valid frame.

The new marker appears in the Markers container for that track, and becomes available in the Property Inspector's action menus.

(This document contains information from Help Center, the help system included with your computer.)
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DVD Studio Pro 1.5: How to Create a Story

This document discusses creating a story.
This article has been archived and is no longer updated by Apple.
A story is a collection of markers that play in a particular order. Unlike a standalone marker, a marker in a story plays only until the next marker in that track is reached (even if the next marker is not used in the story).

Before you can create a story, you need to create the markers you want to use in it. Then click the track's story icon to open the Stories Folder and follow the steps below.

Choose New Story from the Item menu and name the story in the Property Inspector.
In the Project View, click the Tracks tab.
Click the triangle next to the track you are working with to expand it. Then double-click the Markers folder to open the Markers container.
Drag the markers you want to use to the story in the Stories Folder. You can change the order of the markers and use a marker more than once in a story.

Only drag the markers that mark the beginning of the clip you want. Your story will include video that starts at the beginning of each of those markers. Where the clips end depends on the other markers you have set in the track.

Stories appear in action menus along with tracks, markers, menus, buttons, and slideshows.

(This document contains information from Help Center, the help system included with your computer.)
Published Date: Feb 18, 2012

DVD Studio Pro 1.5: How to Move Between Markers

This document discusses moving between markers.
This article has been archived and is no longer updated by Apple.
You can use the marker pop-up menu in the marker editor to move between markers.

1. Open the marker editor by double-clicking a track's thumbnail area.
2. Choose a marker from the marker pop-up menu.

(This document contains information from Help Center, the help system included with your computer.)
Published Date: Feb 18, 2012

Apple IIGS: Remote Access To AppleShare via InterBridge

If you have more than one Apple IIGS on a Macintosh server using AppleShare, and you want dial-in service from a remote Apple IIGS, one solution is to use an InterBridge, manufactured by Hayes Microcomputer.
This article has been archived and is no longer updated by Apple.
The InterBridge allows two networks, each equipped with an InterBridge and a Hayes Smartmodem, to access each other through either dial-up or leased telephone lines.

Initially, a Macintosh needs to be connected to the remote network to configure the remote InterBridge with the Hayes set-up/admin software, but the Macintosh can be removed when the configuration is complete.

The Tech Info Library article#17159: "**Locating Vendor Information**", can help you search for a particular vendor's address and phone number.
Published Date: Feb 18, 2012

DVD Studio Pro 1.5: How to Open the Menu Editor

This document discusses opening the menu editor.
This article has been archived and is no longer updated by Apple.
You use the menu editor to assign assets to a menu, to add buttons to a menu, and to edit and assign actions to those buttons.

Double-click the menu's thumbnail area in the Graphical View. (The thumbnail area may be empty.)

(This document contains information from Help Center, the help system included with your computer.)
Published Date: Feb 18, 2012

DVD Studio Pro 1.5: How to Assign an Audio Steam to a Track

This document discusses assigning an audio stream to a track.
This article has been archived and is no longer updated by Apple.
Tracks are sets of video, audio, and subtitle files along with markers, angles, and stories. Tracks can be linked to buttons, scripts, menus, slideshows, and other tracks.

1. Click the Assets tab to access the Assets container in the Project View.
2. Drag one or more audio streams from the Assets container to the track tile.

(This document contains information from Help Center, the help system included with your computer.)
Published Date: Feb 18, 2012

DVD Studio Pro 1.5: How to Sort Assets

This document discusses sorting assets.
This article has been archived and is no longer updated by Apple.
You can specify the order in which your assets appear in the Assets container in the Project View.

1. Click the Assets tab.
2. Open the Item menu and choose a criterion from the Sort Assets submenu.

If you choose By Usage, any assets that are not currently used in your project appear at the top of the Assets list.

(This document contains information from Help Center, the help system included with your computer.)
Published Date: Feb 18, 2012

LaserWriter 8500: How to Troubleshoot AutoSelect Issues

This document explains what to look for if paper is not taken from the correct tray when AutoSelect is turned on.
This article has been archived and is no longer updated by Apple.
If paper is not taken from the correct tray when AutoSelect is turned on, check the following:

- Check the paper orientation in the cassette trays. Some trays may have been loaded LEF (long-edge feed) while others may have been loaded SEF (short-edge feed).
- To select paper from the multipurpose tray, make sure that the multipurpose tray paper size is set correctly (use the Apple Printer Utility to set the multipurpose tray paper size).
- If you have both A4 and letter paper sizes loaded in separate trays, specify the tray that you want to use. Do not use AutoSelect.

Published Date: Feb 20, 2012

LaserWriter 8500: How to troubleshoot "Out of Memory" Messages

This document discusses an "out of memory" message appears on your screen when you try to print.
This article has been archived and is no longer updated by Apple.
The printer may have insufficient memory to print if

the document contains too many fonts that need to be downloaded from your computer to the printer
the document contains complex images
you use a lot of fonts in your document but have not selected Unlimited Downloadable Fonts in the Page Setup Printer Options dialog box

If a page contains very complex images, try to remove some of the complex detail from that page (or spread the information over two pages) and try again to print it. Also, find Desktop PrintMonitor in the Extensions folder in the System Folder and use the Get Info command to increase its memory size. If you encounter the "out of memory" message frequently, you can remedy
this by increasing the amount of memory in the printer.
Published Date: Feb 20, 2012

LaserWriter 8500: Printer-Specific Options don‘t Appear in the Print Dialog Box

This document discusses printer-specific options don't appear in the Print dialog box.
This article has been archived and is no longer updated by Apple.
Make sure the hardware options are properly installed in the printer, as described in the instructions that came with the options.

If the Desktop Printer extension is turned on, select a desktop printer icon. Choose Change Setup from the Printing menu, then click Auto Setup in the
dialog box that appears.

If the Desktop Printer extension is turned off, open the Chooser and click the LaserWriter 8 icon. Click the Setup button, then click Auto Setup in the dialog box that appears.
Published Date: Feb 20, 2012

LaserWriter 8500: Nothing is Printed; No Paper Comes out of the Printer

This document discusses troubleshooting steps when nothing is printed; no paper comes out of the printer.
This article has been archived and is no longer updated by Apple.
If you don't get any response from the printer when you try to print a document, try the following steps:

- Make sure you printed on the printer you intended to use.
- Check your desktop printer for error messages. Double-click the desktop printer icon to open the Desktop PrintMonitor.
- Try printing again, but select the Print Detailed Report option. (Choose the Print command. Choose PostScript Error Handling, then select Print Detailed Report.)
- Check the Chooser to be sure the printer is selected. Be sure to select the printer's name, as well as the LaserWriter 8 icon and, if necessary, the AppleTalk network zone.
- Check the Paper Out light. If it is on, add paper and replace the paper cassette.
- Check for a paper jam.
- Check the network cables.
- Turn the printer off and back on. Check the startup page.
- Reset the communication settings to their factory default values by setting the communication switch to the Reset (out) position. Turn the printer off and back on again. Set the communication switch to the Normal (in) position.
- Reinstall the printer software on your computer's startup disk.

Published Date: Feb 20, 2012

LaserWriter 8500: Message on the Screen Says the Printer can‘t Print

This document discusses if you see a message on the screen says the printer can't print.
This article has been archived and is no longer updated by Apple.
If you get such a message, try these steps:

- Make sure that the printer is turned on.
- Check the network cables.
- Make sure your startup disk has the LaserWriter 8 driver in the Extensions folder, which is inside the System Folder.
- Make sure the printer is selected in the Chooser. Be sure to select the printer's name as well as the LaserWriter 8 icon and, if your network has zones, the correct AppleTalk network zone.
- Make sure that the printer has paper correctly installed.

Published Date: Feb 20, 2012

LaserWriter 8500: Printing the First Page Takes Longer than Expected

This document discusses when, sometimes, printing the first page takes longer than I expect.
This article has been archived and is no longer updated by Apple.
The printer automatically goes into an energy-saving mode after it's been idle for a while. When you print while it's in this mode, the printer takes up to three minutes to warm up before it can print the first page.
Published Date: Feb 20, 2012

LaserWriter 8500: Desktop Printer Icon Appears as a Folder

This document discusses what to check when the desktop printer icons appear as a folder.
This article has been archived and is no longer updated by Apple.
If you restart the computer using a startup disk that doesn't contain up-to-date LaserWriter printing software, your desktop printer icons will appear as folders. Though they won't work as usual, they will return to normal when you restart from a disk with the latest printing software.
Published Date: Feb 20, 2012

LaserWriter 8500: How to Turn off the Manual Feed Alert

This document discusses turning the manual feed message on or off.
This article has been archived and is no longer updated by Apple.
When you install the printer software, the Desktop PrintMonitor is set up to notify you about manually feeding paper the same way your PrintMonitorwas set. For example, if you turned off notification for manual feeding in your PrintMonitor, the Desktop PrintMonitor will also have manual feed notification turned off.
If you want to change how the Desktop PrintMonitor notifies you about manual feeding, follow this procedure:

1. Select the desktop printer icon.
2. Choose Show Manual Feed Alert from the Printing menu.

Note: A checkmark by this command means that the manual feed message is on.
Published Date: Feb 20, 2012

AppleShare Error: System Error ID=29

This article has been archived and is no longer updated by Apple.

The ID=29 error is a system error under AppleShare. AppleShare traps ALL system errors and returns them as ID=29.

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System Software 6.0 and 6.0.2 Version Lists

This article has been archived and is no longer updated by Apple.

Here is a list of the System Tools programs for System Software 6.0 and 6.0.2, including version numbers and creation dates:

System Software 6.0

File Name Version Size Created

System 6.0 361K April '88
Finder 6.1 103K April '88
ImageWriter 2.7 39K April '88
Clipboard 4.2 0K April '88
Scrapbook 2.3 1K April '88
LaserWriter 5.2 61K April '88
Laser Prep 5.2 26K April '88
AppleTalk ImageWriter 2.7 44K April '88
General 3.3 14K April '88
Key Layout 2.2 4K Sept. '87
Keyboard 3.3 4K April '88
Mouse 3.3 3K April '88
Monitors 3.3 16K April '88
Sound 3.3 4K April '88
Startup Device 3.3 2K April '88
Easy Access 1.0 3.5K April '87
Color 3.3 2K April '88
DA Handler 1.1 6K April '88
MultiFinder 6.0 16K April '88
Backgrounder 1.1 5K April '88
PrintMonitor 1.2 34K April '88
LQ ImageWriter 1.0 46K April '88
LQ AppleTalk ImageWriter 1.0 55K April '88
LaserWriter IISC 1.0 74K April '88

System Software 6.0.2

File Name Version Size Created

System 6.0.2 358K Sept. '88
Finder 6.1 105K April '88
ImageWriter 2.7 38K April '88
Clipboard 6.0.1 1K Aug. '88
Scrapbook 6.0.1 12K Aug. '88
LaserWriter 5.2 64K April '88
Laser Prep 5.2 28K April '88
AppleTalk ImageWriter 2.7 43K April '88
General 3.3.1 14K Aug. '88
Key Layout 2.3 5K April '88
Keyboard 3.3.1 5K Aug. '88
Mouse 3.3.1 4K Aug. '88
Monitors 3.3.1 17K Aug. '88
Sound 3.3.1 4K Aug. '88
Startup Device 3.3.1 3K Aug. '88
Easy Access 1.0 4K April '87
Color 3.3.1 2K Aug. '88
DA Handler 6.0.1 6K Aug. '88
MultiFinder 6.0.1 49K Aug. '88
Backgrounder 1.2 5K April '88
PrintMonitor 1.2 37K April '88

LQ ImageWriter 2.0 54K July '88
LQ AppleTalk ImageWriter 2.0 62K July '88
LaserWriter IISC 1.1 59K April '88

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Macintosh: How To Unlock Locked Volumes

My hard drive says that it is locked (and I haven't locked it myself). It won't allow me to make any changes to the disk.
This article has been archived and is no longer updated by Apple.
There is a specific bit in the volume information header that causes a volume to be locked (a result similar to what happens to a floppy with the locking tab open). You can change this bit's value by using a low-level disk editor, such as FEdit Plus, Norton Utilities, or Symantec Utilities from Symantec Corp.

IMPORTANT: Don't do this on a disk that isn't backed up. Also, if you don't find the 8000 located at the tenth byte in that specific sector, get higher-level help.

Once you have started up your disk editor:

1. Open the hex representation of the volume that has the problem.

2. Go to sector number 2. (This should be the third sector on the disk with each sector having a length of 512 bytes.)

3. The sector should look something like this:

4244 9fAE F13C 9FAF 228B 8000 0010 0003
0000 063A 0000 0200 0000 0800 0004 0000
0020 0488 0855 6E74 6974 6C65 6400 0000
...and so on, where the 4244 begins at the zero byte of the sector.

4. The key location is where you see the word containing 8000. It should be located at the tenth byte.

5. If the 8000 is at the tenth byte, change it to 0000 and write the sector to disk.

6. You will have to restart the system to have the change take effect, since this information is usually stored in memory and won't be updated until you restart.

On a related note, if you are running System 7 and you are simply not able to rename your hard disk (though writing to it does work fine), check to make sure file sharing is turned off. Even if you do not set the sharing permissions for a particular volume, file sharing still makes all volumes available to the owner for remote access. To change the name of a mounted volume, turn file sharing off with the Sharing Setup control panel, rename the disk, then turning file sharing back on again.

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LocalTalk PC Can Print Directly To LaserWriter IINT

This article has been archived and is no longer updated by Apple.

If you wish to print from IBM PC applications such as Windows, it is best to have AppleShare PC installed on your system.

If AppleShare PC is not installed, the LocalTalk Card prints only with the LaserWriter Print program. If you use AppleShare PC, then the connected LaserWriter outputs whatever is printed to the selected printer port.

The printer port is attached to the LaserWriter in the DA application. Almost any application that prints with an Apple LaserWriter PostScript driver can print to the LaserWriter connected with a LocalTalk PC card and AppleShare PC.

An application, DOS, or Windows has to be set for the same printer port as the DA application in its printer configuration parameters. If an application does not have an Apple LaserWriter PostScript driver, the DA can convert Epson printer driver output to PostScript and send that out to the LaserWriter.

Apple has tested Microsoft Word and Windows, and has found them to work when configured properly with the AppleShare PC software and LocalTalk PC card on an IBM AT.

Printing is dependent on the driver used and the port being printed to. This is usually handled by an application.

Printing can be facilitated by Windows. Windows-compatible applications can use the Windows printer drivers. This requires the printer setup for printer port and driver to be designated in Windows instead of the application or from DOS.

Most IBM PC applications should work with the LocalTalk PC Card and AppleShare PC, assuming Epson or Apple LaserWriter PostScript printing is available to the application.

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LaserWriter IINTX: Serial to LocalTalk Using PostScript (2/95)

This article describes how to switch from LocalTalk to serial using PostScript.

This article has been archived and is no longer updated by Apple.
After you have switched the LaserWriter IINTX from LocalTalk to serial connection with a PostScript program, you can switch back to LocalTalk again with the following procedure.

Caution:

If you choose to use the PostScript code provided in this article, you assume all risks involved in making these changes. PostScript code, if not entered correctly, can place the LaserWriter into a condition requiring service.

To select AppleTalk PostScript:

```
%==========================================================================
% Begin PostScript Code
%
serverdict begin 0 exitserver %Exits the printer server loop.
statusdict begin %Starts modifying settings.
2 sethardwareiomode %Sets communications mode to AppleTalk.
end %End of the mode switch routine.
systemdict/quit get exec %System start test page.
(Control-Z) %(Keyboard Control key and Z key together)
% Ends text editing and saves the file.
%
% End PostScript Code
%==========================================================================
```

To select RS-232 PostScript:

```
%==========================================================================
% Begin PostScript Code
%
serverdict begin 0 exitserver %Exits the printer server loop.
statusdict begin %Starts modifying settings.
0 sethardwareiomode %Sets communications mode to serial.
9 0 3 setsccbatch %Turns off the RS-422, 9600-baud port.
25 9600 68 setsccbatch %Sets the 25-pin, RS-232, 9600-baud port
%to 8 data bits.
end %End of the mode switch routine.
systemdict/quit get exec %System start test page.
(Control-Z) %(Keyboard Control key and Z key together)
% Ends text editing and saves the file.
%
% End PostScript Code
%==========================================================================
```

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Support Information Services

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Macintosh: Internal HD Does Periodic Thermal Recalibration

My hard drive makes a whirring noise every now and then, even when I'm not doing anything.
This article has been archived and is no longer updated by Apple.
Your computer is operating normally.

Macintosh internal hard drives perform a thermal recalibration approximately every few minutes whether the computer is being used or not.
Thermal recalibration is a process that all hard drives use to properly position the read/write heads with the tracks of data on the disk.
Published Date: Feb 20, 2012

Apple IIGS: Making Disk II Work in Slot 1, 2, or 3

This article has been archived and is no longer updated by Apple.

Some Apple IIGS users have discovered that Disk II drives do not work properly when the controller card is installed in slot 1, 2, or 3. On startup in this configuration you will get an "UNABLE TO LOAD ProDOS" error message.

The reason is that there is some special hardware that was designed into the Apple IIGS just to take care of handling Disk II access. The hardware recognizes Disk IIs, and when an access is attempted, the system switches into slow mode on recognition of the Motor Start signal.

This causes the "UNABLE TO LOAD ProDOS" error, since the system cannot switch speeds quickly enough to begin reading the beginning of the boot blocks on the disk. This is one of the time-critical functions of ProDOS, and it does not function correctly. The problem occurs only when using Disk IIs and only when in the lower numbered slot 1, 2, or 3. This follows the Pascal convention of no bootable devices lower than slot 4.

Here is a workaround:

If the system is running in Slow mode when the access to the Disk II is performed, the boot blocks are read correctly, and the system starts up. The same is true for cataloging the disks.

If you can run your program in slow mode, then you can use the Disk IIs in slot 1, 2, or 3. If not, then you must install the Disk II in slot 4, 5, 6, or 7.

Published Date: Feb 18, 2012

LaserWriter IINT & IINTX Store HandShake Options Differently

This article has been archived and is no longer updated by Apple.

The LaserWriter IINT component that registers the handshake options can wear out with excessive use. This is not true with the LaserWriter IINTX, since the two printers store handshake options differently.

The component in the LaserWriter IINT that can wear out is an EEROM. This EEROM may be written approximately 10,000 times before breakdown.

The LaserWriter IINTX employs a 2K battery-backed-up ZPRAM (Zero Power RAM) equivalent to the EEROM of the LaserWriter IINT. This ZPRAM may be written to an indefinite number of times.

Published Date: Feb 18, 2012

AppleShare Print Server (v2.0): Purpose Is Not Faster Printing

This article has been archived and is no longer updated by Apple.

Here are some questions about AppleShare Print Server (v2.0):

1. The spooler is only slightly faster than printing directly. Isn't spooling supposed to release the workstation sooner than printing directly would?

2. If multiple users are spooling to the ImageWriter LQ at the same time, will performance decrease significantly?

3. Should we expect performance to decrease if the LaserWriter spoolers are used concurrently?

Specific answers to these questions are at the end of the article.

The main reason for using the AppleShare Print Server is to allow many users to print documents at the same time. A print server reduces the waiting time by allowing several users to simultaneously send documents to be printed. When used with a LaserWriter, PostScript code is sent to the print server and then to the printer. The printer then processes this PostScript code to produce the bit-map graphics at 300 dpi.

When printing to an AppleTalk ImageWriter, the computer creates and sends the bit-map image to the printer. Creating this bitmap takes processing time from the computer. Because the computer is having to spend time creating the bitmap, you do not see a major difference in the amount of time it takes to send the data to the printer or the spooler.

When printing directly to a printer, the print driver runs at an even speed with the printer due to data transmission speeds. When connected over AppleTalk, the network runs faster than 19,000 or 9600 baud, but the driver has not been optimized for speed: instead, it keeps up with the speed of the printer. Some times, the computer is waiting for the printer to finish printing the line; other times, the printer is waiting for the computer to send and process the line. This is why the 32K option card is not recommended for Macintosh users.

The following table shows the amount of data that is being sent to the ImageWriter LQ in all three modes. The following started out as a 5.5-page AppleLink document (file size 12,648 or 13K):

Amount of data transferred to the Print Server or the printer:

Best Mode	Faster	Draft
578K	127K	43K

The increased size of Draft is due to AppleTalk overhead (establish session, packet overhead). The Faster file sends out a 72-dpi bitmap in GRAPHICS mode of the ImageWriter LQ. The Best mode sends out a 216-dpi bitmap. This takes up more space and requires more time to send the data to the printer or spooler. If the driver could create the 578K faster, the print server would be able to store the data faster; but, most of the time, the print server is waiting for the computer to send out the data.

Answers to questions:

1. The spooler is not slow; it is the Macintosh that cannot send the bitmap to the printer fast enough. The AppleShare Print Server allows multiple users to print at the same time without waiting for the printing resource to become available. The print server does not release the workstation

faster when the computer has to process the bitmap.

2. If multiple users are sending documents to the spooler, you do not see any significant decrease, depending on the LocalTalk traffic.

3. Performance does not decrease significantly when you add additional devices to be spooled.

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Macintosh OS: A/UX Virtual Memory

Macintosh OS and A/UX Virtual Memory.
This article has been archived and is no longer updated by Apple.
A Macintosh application that requires a large amount of memory under the Macintosh OS can, in some circumstances, run in a smaller memory size under A/UX by taking advantage of virtual memory.

A/UX is a multitasking, 32-bit, virtual memory operating system. Theoretically, you can have applications make memory allocation requests greater than the existing physical memory size as long as the disk space reserved for paged-out memory (the swap space) is not full.

In the Macintosh OS environment, the Macintosh memory management tools are designed for control of a known amount of physical memory; some of the Macintosh memory manager functions don't make sense under virtual memory.

In a virtual memory environment, such as A/UX, it's not clear what value the call to determine the amount of free memory available should return. In the current implementation of A/UX Toolbox in A/UX 1.0, memory query routines such as FreeMem respond as if the application had a 1MB chunk of free memory.

If the Macintosh OS application program in question was rewritten so that memory allocation routines, like NewPtr and NewHandle, did not request more than 1MB at a time, then it should run OK under A/UX.

An application can continue to allocate 1MB chunks as needed, and A/UX will respond by using virtual memory. For example, the Macintosh OS application could allocate 1MB chunks of memory 10 times (10MB in total exceeds Macintosh II's 8MB maximum memory size), which should run without any problem under A/UX.

In A/UX 3.0, virtual memory is configurable in the memory control panel.
Published Date: Feb 20, 2012

AppleShare 2.01: Maximum Number Of Files

This article has been archived and is no longer updated by Apple.

With AppleShare 1.1, volumes should contain no more than 8,000 files due to the PDS problems.

The PDS problem was fixed in version 2.01 of AppleShare and, thereby, removed the recommended 8,000-file limitation. AppleShare 2.01 is now limited by the number of files allowed under HFS.

It is sometimes noted that HFS is limited to 64,000 files per volume. This is not strictly correct, though it may be true in practice.

A count of the total number of files and directories on the volume is maintained, as a LongInt, in the MDB (block 2). Directory IDs are also LongInts. This limits the number of files and folders on the volume to 2^32-1 (roughly 4.3 billion). That many folders could be created as long as there's room on the volume to hold the expanding catalog B*-Tree.

Because each file occupies at least one allocation block, all of the--at most--65,536 allocation blocks (also numbered by Integers) will be allocated just before that many files are written on the volume, so the limit of 64,000 files is close to the practical limit.

There is another limitation imposed: a directory's valence is an Integer and, furthermore, on GetCatInfo requests, any negative number in the ioFlIndex field is interpreted as a request for information on the directory itself. So, while HFS allows the creation of up to 65,536 files in each directory, all of which can be accessed by name, only 32,767 can be enumerated -- a real limitation on folder contents. In practice, the user's patience will run out well before this many items can be enumerated.

Finally, all computations on file sizes are performed using LongInts, so there's no practical limit on the size of an individual file -- though the actual limit is about two gigabytes.

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Apple Scanner: Tips and Hints

What follows are hints and tips which can be used while working with the Apple Scanner.
This article has been archived and is no longer updated by Apple.

General Information

- The most common problem users may have is a system error when saving a file that has been scanned. This occurs when the current brightness and contrast settings or half-tone pattern name exceeds 17 characters, usually because the default setting name "Untitled Settings" is saved. The next time changes are made to the brightness or contrast, the settings' name changes to "Untitled Settings 2", which violates the rule. Delete all setting names that are too long fixes the problem.
- AppleScan can save data in the PICT, TIFF, and Paint file formats. However, if a document is saved in the TIFF format and changes are made to the file, a "Do you want to save changes?" prompt appears when the document is closed. If changes are saved, the file type changes to PICT format. This is a known problem.
- If the user quits AppleScan with the Remote Scan option selected and then goes to HyperScan and clicks on the Preview or Scan button, the scanning will not start until the Remote button on the Apple Scanner is pressed. Remote scanning is not reset when quitting AppleScan but is reset when AppleScan is started. This, too, is a known problem.

Cutting and Pasting

- AppleScan fully supports cut-and-paste to the Clipboard and other AppleScan documents. Grayscale data, however, cannot be intermixed with line art or halftones in the same document. It is okay, however, to have line art and halftones in the same document.
- A neat feature is to copy a region of a document, then use the selector tool to select a differently sized region, and paste into the region. This works best with Grayscale data.
- Pasting with the Tab key held down invokes a transparent paste.
- AppleScan is not intended to be an "integrator" of data from other sources. Data from other programs (text, Paint, or PICT), when pasted into AppleScan, does not behave like it would in a MacDraw-type environment, and using AppleScan in this way is not recommended. Instead, AppleScan should be used as a source of scanned data, which is then moved to other applications that are better suited for those tasks. It should be noted that pasting data from MacDraw II creates a strange effect on the Macintosh screen, but does not appear to cause a fatal error.

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Apple Access III: Addendum (1 of 7)

This article has been archived and is no longer updated by Apple.

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INTRODUCTION

ACCESS III Version 1.1 includes numerous new features. This addendum describes these features. It also outlines differences between versions 1.0 and 1.1 and lists problems with version 1.0 and how these problems have been resolved.

This document will be part of the Access III package. The Apple part number for the addendum will be 031-0243-B.

NEW FEATURES SUMMARY

Two new selections have been added to the Set-Up Menu, "Set the answerback" and "Change the recording file name." When you save the Set-Up settings, both the answerback text and the recording file name are saved and restored the next time you run ACCESS III.

You can now prepare a file for transmission and have transmission begin

unattended after ACCESS III receives a password that you specify.

And, several new escape sequences have been added that permit a remote computer to completely control the recording capability.

ANSWERBACK

The answerback is a series of up to sixteen characters that is automatically transmitted when ACCESS III receives a CTRL-E (ASCII 5). The answerback can be transmitted by operator command by holding down the open-apple key and pressing E. Selecting "Set the answerback" on the Set-Up menu lets you enter the text that will be transmitted. The answerback is saved along with the other Set-Up characteristics.

REMOTE CONTROL OF THE RECORDING FILE

ACCESS III Version 1.1 has a series of unique escape sequences that allow a remote computer to control the recording file. Sequences are provided to turn the filter on and off, turn recording on and off, and change the name of the recording file. These sequences are available ONLY when ACCESS III is in ANSI mode.

QUEUING FILE TRANSMISSION

You can now prepare a file for transmission and when ACCESS III asks "Are you ready to start transmitting?" you can instruct ACCESS III to queue the file. ACCESS III then asks for a password of up to sixteen characters and displays a "Waiting..." message. ACCESS III waits for the password to be received over the RS232 line. When the complete password has been received, file transmission begins.

ACCESS III cannot be used while it is waiting for the password, but the wait can be aborted by pressing the ESCAPE key. Pressing ESCAPE also completely aborts file transmission.

When ACCESS III has finished transmitting the file, it automatically returns to terminal mode.

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LisaTerminal: Cluster Controller

This article has been archived and is no longer updated by Apple.
The Apple Cluster Controller maintains an interface between an IBM host and the Apple Computer by emulating IBM 3278-2 terminal functions and 3287-1 printer functions. The Controller comes in two flavors:

1. SNA/SDLC, which emulates an IBM 3274 or IBM 3276 Control Unit/Display Station, and
2. BSC (bisynchronous), which emulates an IBM 3271 Control Unit.

The cluster controller does not support low and high intensity displays; otherwise, the terminal and printer functions are completely emulated.
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AppleShare File Server 2.0.1 and Macintosh SE/30

This article has been archived and is no longer updated by Apple.

When using the Macintosh SE/30 as an AppleShare 2.0.1 File Server be aware of the following:

1) Do not use the System Files on the AppleShare Server Installer Disk. First install 6.0.3 and then install the AppleShare File Server from the Server Installer Disk. Don't select both System Files and AppleShare File Server from the Server Installer Disk. This is contrary to the AppleShare manual (page 35).

2) After you quit from the Server Installer Disk and select RESET or RESTART from the Finder, the system hangs. This is a problem in the Installer and 030 machines that appears when you are not using System 6.0.3. The Server Installer Disk does not use System 6.0.3 and should not be updated.

3) If running a Macintosh IIx or Macintosh SE/30 as a server, you should use 6.0.3 to avoid file server crashes.

4) If your server is crashing, make sure you are running System 6.0.3 or later.

5) Do not use Appleshare 1.0 or 1.1 on a Macintosh SE/30 or Macintosh IIx.

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Macintosh SE/30: Doesn‘t Work With An Apple Hard Disk 20

Article Change History

9/15/92 - REVIEWED
* For technical accuracy.

Can I use the Hard Disk 20, which is a non-SCSI hard drive, with the Macintosh SE/30?

This article has been archived and is no longer updated by Apple.
The Hard Disk 20 (Non-SCSI) does NOT work with the Macintosh SE/30. The code to support the drive is not included in the ROM of the Macintosh SE/30. To transfer data from a Hard Disk 20 to the Internal drive you need the following items:

- Macintosh Plus or Macintosh SE
- Formatted, blank Hard Disk 20,40,80 SC and cables
- System 6.0.3 Tools Disk (included with the Macintosh SE/30)

1) Hook up the Hard Disk 20 and the Hard Disk 20, 40, 80 SC to the Macintosh Plus or SE.

2) Insert the System Tools disk in the internal drive.

3) Turn on both drives, wait 10 seconds, and then turn on the computer.

4) Use the Find File DA and look for a file called SYSTEM on the Hard Disk 20.

5) There should be one file called SYSTEM, and it should be located in the SYSTEM FOLDER. If you have more then one SYSTEM file, return to the desktop and trash the other system files from the Hard Disk 20.

6) Select all the files and folders on the Hard Disk 20 and any files that may be on the desktop and drag then to the Hard Disk 20, 40, 80 SC.

7) After the copy is finished you can hook up the Hard Disk 20, 40, 80 SC to the Macintosh SE/30.

8) Select the files from the Hard Disk 20, 40, 80 SC and drag them to the internal hard drive. If there is no internal hard drive, drag them to the drive you will be using.

9) Update the System Files to System 6.0.3 using the Installer Script (located on the System Tools Disk) for the Macintosh SE/30.

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Macintosh SE/30: Using DIP (tall) SIMMs

Article Change History

9/15/92 - RETITLED
* To reflect emphasis on compatibility with DIP SIMMs.
9/15/92 - REVIEWED
* For technical accuracy.

Can I use DIP (tall) SIMM strips inside the Macintosh SE/30?

This article has been archived and is no longer updated by Apple.
Like the Macintosh IIx, the Macintosh SE/30 contains two banks of SIMM sockets, Bank A and Bank B. Each bank holds four SIMM strips. Due to space restrictions inside the case, Bank B can only use the PLCC/SOJ (low-profile) SIMM strips.

WARNING

If you use DIP (tall) SIMM strips you will have problems with the logic board touching the lower case. This may cause the logic board to short out. DO NOT USE TALL SIMM STRIPS IN BANK B.

The following are valid memory configurations:

1MB - Bank A 4 256K SIMMs
Bank B Empty

2MB - Bank A 4 256K SIMMs
Bank B 4 256K SIMMs low-profile

4MB - Bank A 4 1MB SIMMs
Bank B Empty

5MB - Bank A 4 1MB SIMMs
Bank B 4 256K SIMMs low-profile

8MB - Bank A 4 1MB SIMMs
Bank B 4 1MB SIMMs low-profile

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Macintosh System Software Version 6.0.3: Who Needs It

This article has been archived and is no longer updated by Apple.

TOPIC ----------

This article explains the changes made in system software version 6.0.3, and how it improves support for certain software and hardware.

DISCUSSION ----------

Macintosh SE/30 requires System 6.0.3. The following are the only changes in 6.0.3:

1) Patched the .SONY driver to fix a tolerance problem when initializing MS-DOS disks. This problem would show up when you formatted a MS-DOS disk on an Apple SuperDrive (formerly Apple FDHD) and then used the disk on a PC. If you formatted this disk on the PC you did not see any problem.

2) Placed a hook in the System File that lets a file called "32-Bit QuickDraw" attach itself to the System file. We are not supplying the "32-Bit QuickDraw" file, only the ability to add the file at a later date.

3) Time Manager upgraded to work with the Macintosh SE/30.

4) Removed the NewYork 18 and 24 from the disk for space reasons.

5) Changed the Responder INIT to return the names "Macintosh SE/30" and "Macintosh IIx" when used with Inter-Poll.

6) Apple File Exchange had some bugs fixed.

Network users do NOT need to upgrade any other machines on the network. You can use System 6.0.3 on other machines but you do not HAVE to upgrade other network users unless you want to. There were NO changes to the AppleTalk protocols or Printer Drivers. Had they changed, other network users would need to be upgraded.

The following are the only users who should upgrade to System 6.0.3:

- Owners of Macintosh SE/30 computers

- People who use Apple File Exchange (on any Macintosh CPU)

- Users of 24-bit color boards, when the 32-bit QuickDraw file becomes available

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MacWorkStation 3.1: Introductory Information

This article has been archived and is no longer updated by Apple.

MacWorkStation 3.1 is an upgrade to version MacWorkStation 3.0. The goal of the new version is to increase ease of use, make the software more powerful and robust, and add support for new hardware capabilities of the Macintosh, such as color and multiple monitors. MacWorkStation 3.1 also supports system software such as MultiFinder, hierarchical and pop-up menus, mixed font sizes and styles in text, and AppleShare permission values.

Apple has two utilities that can be used with MacWorkStation: Event Handler and Dialog Builder. These are described in the last section of this document.

MacWorkStation 3.1 is compatible with MacWorkStation 3.0. Developers will not need to change their programs, unless they want to take advantage of the new features of the 3.1 version. Current licensees of MacWorkStation 3.0 will receive free upgrades to 3.1.

Positioning

Apple is positioning MacWorkStation as an "application server," which provides Macintosh application services to client software running on a remote computer. When discussing MacWorkStation, Apple will now use the terms server and client in the same way that X Windows developers use these terms. The application server software is the MacWorkStation software that runs locally on the Macintosh, providing services to remote client software that will be written by customers and third party developers on a variety of host computers. Services offered by MacWorkStation include local printing, filing, and editing, and access to Macintosh user interface objects such as windows, pull-down menus, and dialog boxes.

Apple is re-positioning MacWorkStation as a developer tool, rather than a communications tool. MacWorkStation supports a variety of communications protocols, including RS-232, AppleTalk, Ethernet, 3270, etc. However, the communications abilities of MacWorkStation are not what make MacWorkStation such an important product. More significant is the fact that it provides a standard Macintosh user interface to client applications running on remote host computers. MacWorkStation is appropriate for customers who wish to develop Macintosh user interfaces to host programs, without doing any Macintosh programming. To use MacWorkStation, a host programmer must add software to the host program to send commands to the MacWorkStation software running on a Macintosh. The MacWorkStation server software running on the local Macintosh presents menus, windows, lists, and other objects to the user based on the content of the commands sent by the client host software. The MacWorkStation software running on the Macintosh will also handle all local editing, printing, and filing.

MacWorkStation can run transparently over a variety of communication protocols because the low-level communications services are provided by Macintosh code segments (called communications modules) that are added to MacWorkStation at run time. Communications modules already exist for RS-232 and AppleTalk. Apple is working on additional modules for the AppleLine and 7171 protocol converters, LU 6.2, and TCP/IP. Third party developers are also working on communications modules. For example, both Avatar and DCA are working on 3270 communications modules.

Availability

MacWorkStation 3.1, Event Handler, and Dialog Builder are available from APDA. The communications modules is packaged as a separate APDA product.

Enhancements included in MacWorkStation 3.1

- Graphics support - RGB Color is supported in alerts, cursors, dialog boxes, dialog items, patterns, pictures, text, and windows. The MacWorkStation 3.1 graphics director provides faster redrawing and scrolling of complex pictures.

- HFS and AppleShare support - MacWorkStation 3.1 fully supports the hierarchical file system calls. In order to support AppleShare directories and files, permission values can be set and retrieved, and byte ranges in a file can be locked.

- Improved list management - The list director has been extended to provide field level editing in addition to the record level editing provided in older versions of MacWorkStation. A new command has been included to allow the remote application to read only those records that have been modified. The host can now specify that records be sorted in either ascending or descending order based on any field or combination of fields. The sort can also be done by a local menu command.

- Improved error detection at the presentation level - Earlier versions of MacWorkStation ignored invalid commands or parameters, making it difficult for developers to debug problems. MacWorkStation 3.1 provides optional command and parameter syntax checking. The host program can specify what action should be taken if any errors are encountered in the command data stream.

- Event locking and unlocking - Because MacWorkStation applications communicate with a remote host, sometimes the user will think that a mouse selection didn't work, when really the reaction from the host is just taking a long time to get to the Macintosh. In this case, users will often re-select or re-type a field, causing the host to have to do even more work. With MacWorkStation 3.1, the host can specify that MacWorkStation should make the cursor a watch to indicate that the data is being processed. MacWorkStation will go into an "event lock" state until the host sends more data. This new feature of MacWorkStation 3.1 was added in response to problems reported by early users of MacWorkStation 3.0.

New Utilities

Event Handler is a new MacWorkStation Exec module which provides local nonprocedural scripting for responding to MacWorkStation events. Event Handler is an excellent utility for prototyping MacWorkStation programs. During the prototyping phase, a developer can use Event Handler to emulate what a host will do in the final version, without really having a host connected. It will also be very useful for final programs because it can respond to events generated by the user without sending a transaction to the remote host computer. This would be appropriate for standard and consistent events such as cancel buttons or help buttons, where host interaction isn't required. (Event Handler is an enhanced version of the beta Script Writer software that some early users of MacWorkStation may have already used. Event Handler may not be the final name that is chosen for this Exec module.)

Dialog Builder is a utility program that provides a powerful and easy method for quickly building dialog boxes for MacWorkStation 3.1. Users familiar with MacPaint or MacDraw will appreciate the object palette, which can be used to draw dialog boxes. The dialog box that is drawn can be stored in a MacWorkStation document for later recall by the remote client application. MacWorkStation dialog director commands can also be created and transferred to the remote host to be used when a MacWorkStation application is running. Dialog Builder is an enhanced version of the beta RezPaint software that some early users of MacWorkStation may already have used.

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LisaTerminal: VT52 Errata

This article has been archived and is no longer updated by Apple.
In the LisaTerminal manual (versions 1.2 and 2.0), page 81 gives the chart for cursor control characters in the VT52 mode. The command for direct cursor address is incorrect. It should read:

Direct cursor address ESC Ylc(asterisk)
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5.25-Inch 160MB SCSI Hard Disk Drive

This article has been archived and is no longer updated by Apple.
Apple has announced a 5.25-inch 160MB SCSI hard disk drive. The internal configuration is optional in the Macintosh II and Macintosh IIx. In addition, upgrade kits will be available for these systems.

This 160MB SCSI hard disk drive has been tested to support the Macintosh OS and A/UX. However, this drive can not be used with the Apple II family.

Like other 5.25-inch drives, this drive does not fit in the Macintosh IIcx or the compact Macintosh systems. However, as an external drive, it works with any Macintosh that has a SCSI port.

Technical specifications:

Capacity

Formatted data capacity: 160MB
Data surfaces: 5
Heads per surface: 1
Block size: 512 bytes
Total disk blocks: 327,780

Characteristics

Average seek time: 18 milliseconds
Transfer rate: up to 1.25MB/sec
Rotation speed: 3,600 RPM
Startup: 20 seconds
Spindown: 20 seconds

Physical

Form Factor: 5.25-inch, half height
Weight: 2.09 kg (4.6 lbs) - internal configuration

Copyright 1989, Apple Computer, Inc.

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Macintosh II: Monochrome Video Card

This article has been archived and is no longer updated by Apple.
Apple has announced the Macintosh II Monochrome Video card. It is a one bit per pixel (two gray levels) NuBus video card. It is positioned as a low-cost monochrome video card.

This card was designed to be used with the High-Resolution Monochrome Monitor. It also works with the AppleColor High-Resolution RGB Monitor, but this use is not being promoted. This card is not compatible with the Macintosh II Two-Page Monochrome or Portrait Display monitor.

The pixel display RAM capacity cannot be upgraded on this card.

Technical specifications:

Display Resolution: 640 pixel horizontally by 480 pixel vertically
Connector: 15 pin D-style
Display Mode: 1 bit per pixel only
Output Signal: RS-343 standard with composite synchronization on the negative going TTL
Raster Rates: Vertical - 66.7 hertz
Horizontal - 35.0 kilohertz
Dot Clock - 30.24 megahertz
Power Consumption: 5 watts

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LaserWriter: 1000-Sheet Paper Bin

This article has been archived and is no longer updated by Apple.

Laser Connection offers a motorized paper tray that can hold up to 1000 sheets of paper stock. This product, named the Big Bin, eliminates the need to continually reload the standard LaserWriter paper cassette, which holds only about 100 sheets of paper. For more details, search the Tech Info Library under "Laser Connection".

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Macintosh II: Portrait Display Monitor: Its ADB Ports

This article has been archived and is no longer updated by Apple.

The Macintosh II Portrait Display Monitor has three Apple Desktop Bus (ADB) ports built into the monitor.

The Macintosh II Portrait Display Monitor has three ADB ports built into the back panel of the monitor. This makes it easier for the user to configure the Macintosh in a way that fits a user's workspace.

Why three ports when the Macintosh II has only two? Only two of the ports are usable, because the third must be used to connect the monitor to an ADB port on the Macintosh. Thus, one ADB cable runs from the Macintosh to the monitor, activating the other two monitor ADB ports.

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Multiple Monitor Incompatibilities With Software

This article has been archived and is no longer updated by Apple.

This article describes applications that exhibit poor behavior on multiple monitors.

4th Dimension 1.0.6

Windows does not move to other monitors, when the in user or custom mode.

Illustrator 88 v1.6

Illustrator crashes on launch with any video card. This has been corrected in v1.7.

Cricket Draw 1.1.1

If a document is opened, moved onto another monitor, saved, and then the Monitor's CDEV is reconfigured, the document may become inaccessible. Original configuration must be restored to access document.

Cricket Presents 1.0

The program mistakenly identifies the Macintosh IIcx and Macintosh IIx as Macintosh Plus, and thus limits the user to only the eight, basic QuickDraw colors.

FullWrite 1.0

If more than one video card is installed, FullWrite places the spell check dialog on the second monitor. If no monitor is attached to the card, this prevents the dialog from appearing at ll.

Graphist Paint II 1.0

This application does not open on 030 Macs. Unlikely to be updated, as Aba Software has filed for bankruptcy.

Pixel Paint 1.1

Pixel Paint only works with a color monitor, and does not work on multiple monitors. Tools do not work anywhere, but on the primary monitor.

SuperPaint 1.1

SuperPaint does not support more than 1-bit (black and white) or multiple monitors.

Swivel 3D 1.0

Swivel effect will not occur on secondary monitors. The change will not occur until after the mouse button is released.

Conclusion

It should also be noted that Apple, by providing a multi-monitor environment, has expanded the types of configurations applications must recognize.

Also, some applications exhibit different "Zoom Box" behaviors than is usual in a multi-monitor set up. This does not cause any functionality problems, but some behaviors appropriate on a single monitor may not be appropriate on multiple monitors (for example, which monitor the zoom out

window appears on).

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Apple Two-page Monochrome Monitor: Images Vibrate

This article has been archived and is no longer updated by Apple.

Interference between two monitors placed side-by-side can cause images on the monitors to vibrate. The reason is that, when placed side-by-side, monitors can magnetically interfere with each other, causing the image on one or both monitors to appear to vibrate slightly. This interference problem is most often seen when an RGB color monitor is placed next to a large-screen monochrome monitor. The amount of interference can also vary depending on the user's environment.

Moving the monitors further apart, especially the rear ends, usually reduces the vibration effect.

Technical Reason For Picture Vibratrating

The cause of this shimmering effect lies in the vertical refresh rate, the number of times a monitor repaints the screen each second. When this rate differs significantly between monitors, the interference described above can occur. There is often a large difference between RGB and monochrome monitors. Thus, the vibration effect most often occurs with this combination. Because other factors are involved, it is possible for two monitors with the same refresh rate to exhibit this effect, although this is less frequent.

Shielding monitors so as to prevent this type of interference would add a great deal to the cost of each monitor. Further, by shielding a monitor you can prevent the monitor from interfering with other monitors, but other monitors could still interfere with it. Apple is investigating a number of technologies to prevent this interference in the future and plans to incorporate them as they become feasible.

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Apple Two-Page Monochrome Monitor: Image "Tilt"

This article has been archived and is no longer updated by Apple.

Magnetic fields can cause the image to "tilt" on the Apple Two-Page Monochrome Monitor.

Occasionally, the monitors exhibit a tilt in the screen image, either to the right or left. The tilt is only noticeable, if you look at the edges of the screen and notice the amount of black space around the image. Sometimes the amount of black space is greater or less than the amount on the opposite end of the screen. Image quality is not affected. Larger monitors, like the Apple Two-Page Monochrome Monitor, are more likely to show the effect than small monitors.

If a monitor exhibits this effect, say a tilt down to the right, rotating the monitor around on its swivel base by 180 degrees will cause the image to tilt up to the right. What this means is that by rotating the monitor about 90 degrees in either direction, causes the effect to disappear with no tilt present. It also occurs in varying degrees, depending on location. This does not occur with every monitor.

Technical Reason For The Tilt

This effect is caused by differences in the magnetic fields in different places, usually where there is a strong magnetic field being caused by power generators or wiring. A monitor, when set up in one place, may exhibit no tilt, but, when placed somewhere else, may show the above effect. To remove all possible outside influence, Apple tests for true image distortion within large magnetic coils that are designed to simulate normal magnetic fields (when such fields are present). Thus, when shipped, monitors are perfectly aligned, and any distortion is related to the environment into which the monitor is placed.

Why does this occur on the Two-Page display and not on other monitors or on televisions? There are two reasons for this. First, to improve image quality and lessen eye strain, Apple attempts to make its displays as flat as possible. Thus the picture tube is physically flatter than most every tube on the market today. This presents less image distortion (like bowing of straight lines) and makes the screen image look more like a single sheet of paper. However, the tilt effect tends to be more noticeable on large flat tubes. Competitive, large-screen monitors also show this effect.

The reason televisions do not exhibit this characteristic is that they "overscan" the screen, using all of the picture tube, thus no black space is visible on the edges of the screen. Thus, any tilt to the image is hidden from view. The tilt is there, it just cannot be seen. Macintosh computer displays cannot use this technique, because all information on the screen is critical and cannot flow off the screen (like the menu bar).

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AppleShare: Launching Applications Issue

Using AppleShare, if you double click on the local documents of applications that are known to be on a mounted AppleShare volume, you may get a message that the application is missing or busy. How do I fix it so that double clicking will open the document?
This article has been archived and is no longer updated by Apple.

Under AppleShare 3.0.x

Most likely, the desktop files on the file server need to be rebuilt. The most effective way of rebuilding the server desktop is to restart the server with the shift key depressed until the "Extensions Disabled" message appears in the Welcome to Macintosh window. Then depress the COMMAND and OPTION simultaneously until the "Are you sure you want to rebuild the desktop..." message appears. (This message will appear for each volume.) Click OK to start the rebuild. This process will ensure a complete desktop rebuild.

Under AppleShare 2.0.x

Most likely, the problem is not with the Desktop file for the hard drive but with the Server Desktop files (Desktop DB and Desktop DF), which are invisible and located in the Server Folder.

Rebuilding the desktop files of an AppleShare Server volume is a little tricky. You need to restart the AppleShare Server from a floppy (or a non AppleShare Server volume). If you restart the AppleShare Server from a floppy and rebuild the desktop as described above, you are only rebuilding the standard desktop file on that volume, not the AppleShare Server "desktop files" (Desktop DB and Desktop DF). If, however, you restart the server with the Server Administration disk or any other floppy disk with the Desktop Manager in its System Folder, the Desktop Manager becomes active, and the AppleShare "desktop file" can be rebuilt.

The standard desktop file is different from the AppleShare "desktop file". The AppleShare "desktop file" consists of two files, Desktop DB and Desktop DF, that serve the same purpose for multiple users under AppleShare as the standard desktop file does for a single-user Macintosh. The Desktop DB and Desktop DF files are used only if the Desktop Manager is active, as in the case of an AppleShare server. Then the standard desktop file is not used.

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Apple HD SC Setup 2.0 Update Not Backward Compatible

This article has been archived and is no longer updated by Apple.

Apple HD SC Setup 2.0 is able to update the drivers only on hard drives formatted with HD SC Setup 2.0.

For example, if a hard disk was formatted with HD SC Setup 1.5 or earlier, HD SC Setup 2.0 will NOT be able to update the drivers on that drive. Apple HD SC Setup 2.0 is completely compatible with System Software 6.0.2.

It's okay to use versions of HD SC Setup older than version 2.0 with System Software 6.0.2, but we recommend using the latest version of HD SC Setup whenever possible.

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LisaTerminal:Receiving carriage return-linefeed

This article has been archived and is no longer updated by Apple.
If you aren't receiving a line feed character from the computer that you're trying to communicate with, then you need to instruct the other computer to send them. The lack of line feeds is a problem with the other computer and not the with LisaTerminal. In the LisaTerminal manual it suggests that setting Auto New-line to On will resolve this problem. It doesn't.
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InterPoll: Requires System 6.0.2 For The Macintosh IIx

When using Inter*Poll with the Macintosh IIx, you may find the system displaying this dialog error condition: "Inter*Poll requires 128K ROMs".

This article has been archived and is no longer updated by Apple.

This error message is displayed only when using System Software 6.0 on a Macintosh IIx. The problem does not appear when using System Software 6.0.2, which is the recommended System Software version for the Macintosh IIx.

Published Date: Feb 20, 2012

InterPoll: Type "ApTk" Explained

Inter*Poll type "ApTk" is an AppleTalk Name Binding Protocol device type, the types listed by Inter*Poll.
This article has been archived and is no longer updated by Apple.
The AppleTalk name/type "ApTk" is generated by Font/DA Juggler Plus as part of its copy protection scheme. It looks on the network for other "ApTk"s and checks to see if they have the same serial number. If one of them does, it won't run.
Published Date: Feb 20, 2012

Macintosh SE Memory Upgrade: Questions And Answers (11/95)

Some questions and answers about Macintosh SE memory upgrades. Note that some of these memory kits are no longer available.

This article has been archived and is no longer updated by Apple.
Question: Will the M0707 memory kit work in a Macintosh SE?

Answer: No. There is not enough room in the Macintosh SE's chassis to accommodate the larger chips.

Question: What kit does Apple reccommend for upgrading those machines?

Answer: The standard 2MB memory upgrade was the only Apple solution available for the Macintosh SE. Third-party memory solutions are also available.

Question: Has the Macintosh SE frame been changed to support the larger DIP SIMMs (M0707)?

Answer: No, the Macintosh SE frame has not been changed to accommodate the larger DIP SIMMs.

Question: Is Apple still using the 150ns 256K SIMM chips in the M0218?

Answer: The 1MB upgrade with the 256 kilobit chips used 120ns chips. This was necessary for the chips to be able to work in the Macintosh II. This upgrade was also used to expand a 1MB Macintosh II to 2MB, and the Macintosh II requires 120ns chips.

NOTE:
The 150ns 256 kilobit chips were only an issue when they were removed from a Macintosh SE that is upgraded using the 2MB upgrade. If these chips were then used in a Macintosh II, memory errors occurred.

Article Change History:
29 Nov 1995 - Updated format.
16 Sep 1992 - Reviewed for technical accuracy.

Support Information Services

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AppleShare Memory Problem: Solved For System 4.2 And MultiFinder

This article has been archived and is no longer updated by Apple.

Using System 4.2 and Finder 6.0, you may find that when using the AppleShare workstation software you get the error message "There isn't enough memory to work with CS Server 20" at startup.

You probably need to increase the MultiFinder partition for the Finder.

To do this, select the Finder icon and choose "Get Info" from the File menu in the Finder. Set the Finder's partition to something other than the default value of 160K (somewhere around 320K should do it).

The partition generally needs to be increased to deal with many open windows, large DeskTop files, and large directories.

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Star Micronics Delta 15 Printer: Printing From Apple IIe

This article has been archived and is no longer updated by Apple.

To print from an Apple IIe to a Star Micronics Delta 15 printer at 2400 baud, XON-XOFF handshake, 8-bit data, and 1 stop bit, the switches should be set as follows:

Super Serial Card
(configuration block set to printer)
Sw-1 Sw-2
1 OPEN CLOSED
2 CLOSED CLOSED
3 OPEN CLOSED for 80 col., OPEN for 132 col.
4 CLOSED OPEN
5 OPEN CLOSED for auto LF, OPEN for no LF
6 CLOSED OPEN
7 CLOSED OPEN

Delta 15 Printer
Sw-2 Sw-3
1 na OPEN
2 CLOSED OPEN
3 na CLOSED
4 na CLOSED
5 na na
6 na CLOSED
7 na OPEN
8 na CLOSED

The cable connecting the SSC and printer should be wired as follows:

SSC Printer
1 1
2 3
3 2
4 -| tie directly to pin 5
5 -| no connection on printer end
7 7
8 not used
19 not used
6 -| tie directly to pin 20
20 -| no connection on printer end

For more information, search under: "Star Micronics"

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Macintosh System Software: Configuring For Different Models

This article has been archived and is no longer updated by Apple.

When supporting very large numbers of Macintosh users using different Macintosh models, it may be important to keep the number of variations in system loads to a minimum. Therefore, it may be advantageous to use common system software for all the different Macintoshes.

If you are going to choose common system software for Macintosh Plus, Macintosh SE, and Macintosh II/Macintosh IIx systems, it is best to install the current system for Macintosh II/Macintosh IIx. This ensures that all CDEVs usable by the Macintosh Plus, Macintosh SE, and Macintosh II/Macintosh IIx systems are available.

The patches for the Macintosh Plus, Macintosh SE, and Macintosh II/Macintosh IIx systems are present regardless of the Macintosh model in which the system software was installed, and are loaded only as needed.

For example, the Macintosh SE patches are loaded by the system when a Macintosh SE is used; the Macintosh Plus and Macintosh II/Macintosh IIx patches are not loaded.

The only penalty for use of the Macintosh II/IIx system will be a slight increase in the amount of disk space used. Performance will not be affected.

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ImageWriter II: Line Feed Peculiarity

The ImageWriter II appears to treat a single line-feed character ($0A) in the middle of a character string as a line feed/carriage return combination.
This article has been archived and is no longer updated by Apple.
A line feed at the beginning of a line (that is, immediately following a carriage return) seems to behave normally, but if the line feed is in the middle of a line, the printer starts any text that occurs after that character on the next printed line at column 1.

The ImageWriter II Technical Reference Manual (ISBN #0-201-17739-0), Chapter 5: Page Formatting, page 75, says:

"When you turn on the ImageWriter II, it's set to print out the data in the print buffer and to insert a carriage return (CR) before every line feed (LF) or form feed (FF) character it receives."

The user can control whether a CR is inserted before each LF or FF by sending specific codes to disable this function. To disable the CR insertion, send an Esc l (lower case L) 1 (one). To enable CR insertion before LF and FF, send Esc l (lower case L) 0 (zero).

Sending the Escl1 will suppress the CR after LF and permit the type of printing you wish. (See the example of on page 76 in the same manual.)
Published Date: Feb 20, 2012

SIMMs: Some Are For 68030-Based Systems Only

This article has been archived and is no longer updated by Apple.

Some of the SIMMs that are used in the Macintosh IIx will not work in other systems (Macintosh II, Macintosh SE, etc). They have "030 ONLY" stamped on the back.

They don't work in other Macintosh systems because the CAS/RAS signals are reversed (timing-related) from previous SIMMs.

This difference is handled in the Macintosh IIx with additional ROM code.
Those SIMMs that are marked for "030 ONLY" will work only in the Macintosh IIx (and any future machines that use the 68030 processor).

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LaserWriter IINTX: Can‘t Prevent Change Of Settings On Network

This article has been archived and is no longer updated by Apple.

If you are using a LaserWriter IINTX on a local area network, there is currently no way to protect the hardware settings from being overridden by a PostScript program downloaded from one of the workstations.

Anyone who has access to the LaserWriter IINTX over the network can change the settings via a PostScript program.

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LisaTerminal: Clearing the Screen

This article has been archived and is no longer updated by Apple.
If you are having problems with clearing the screen, try setting the Columns Per Line from 80 to 132, then back to 80.
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Macintosh: Sharing A LaserWriter II With A VAX

This article has been archived and is no longer updated by Apple.

If you need printer-sharing between VAX terminals (MicroVAX, for instance) and one Macintosh Plus using a LaserWriter IINT or IINTX, the simplest solution would be to use the one Macintosh Plus system as a terminal.

This can be accomplished through the use of one of the many terminal emulators available. This also prevents you from having to install a network for just one machine's needs.

Another possibility is to upload PostScript output files from the Macintosh to the MicroVAX and have the VAX print them. These files can be generated by holding down the Command and 'k' keys when printing using the LaserWriter drivers. A disk file is then generated instead of actually printing to a LaserWriter.

A third possibility is installing an Ethernet between the MicroVAX and a FastPath and connecting the FastPath and the Macintosh Plus together through an AppleTalk network. The MicroVAX would need to be running LaserWriter spooling software that would allow it to accept files over the network from the Macintosh Plus.

The drawback with such a setup is that users of WordPerfect on the MicroVAX might not be able to use the printer if the software on the MicroVAX is unable to accept print jobs from multiple (different) sources.

Published Date: Feb 18, 2012

NuBus, MicroChannel, And EISA: Questions And Answers

Here are some questions and answers about Apple's NuBus versus IBM's MicroChannel Architecture and the proposed Extended Industry Standard Architecture (EISA):

This article has been archived and is no longer updated by Apple.
MULTIMASTERING

Q) How many coprocessor cards can NuBus support?

A) Any single NuBus card can be the Master (a card that initiates the addressing of another card) at any time. This action can be passed from card to card. Because of Apple's implementation of six slots, only six NuBus master cards can be supported in the Macintosh II.

NuBus itself can utilize an arbitrary number of slots, based on the designated size of each slot. The upper one-sixteenth of the total address space is available for slot space. This provides 256MB of addressing. Apple provides six slots of 1MB each in 24-bit mode. In the 32-bit mode, there are 16 possible slots on the Macintosh II, with an address space of 16MB each.

PERFORMANCE

Q) Can NuBus support processor speeds up to 25 MHz? 33 MHz? 45 MHz?

A) Cards can maintain their internal clock up to any possible speed. There are no set limitations for a card's internal clocks. Limitation are imposed by NuBus transactions. NuBus is clocked at 10 MHz.

ADDRESS SPACE

Q) Is NuBus hardwired at 24 address lines?

A) NuBus is not hardwired at 24 address lines. It is a full 32-bit bus. The 24-bit addressing mode is a software-controlled mode imposed for compatibility with the 24-bit addressing System 6.

MEMORY

Q) What's the maximum amount of memory addressable through today's NuBus?

A) The maximum amount of memory addressable on the NuBus is 4 gigabytes. This is the total addressable range at 32 bits. On the Macintosh II, ROM space is reserved for 1MB of space. RAM is reserved for 1 gigabyte. Additionally, the NuBus slot address space includes a super slot space of 1.536 gigabytes allocated to the six slots for 256MB per slot and a slot space of 256MB allocated for 16 slots at 16MB each.

The breakdown is:

Memory: ROM, RAM, and slot space

ROM: 1MB
RAM: 1000MB
Super Slot: 1536MB
Slot: 256MB

Total: 2793MB

Q) How much memory can be added on a card or the motherboard?

A) The NuBus will access up to 16MB of RAM on a card in slot space and 256MB of RAM in Super Slot space. The maximum direct addressable range through the Macintosh OS is currently 1MB per card.

The full address range (up to 256MB) can be addressed by NuBus or by page flipping the memory on the card. The Macintosh II motherboard physically can connect 8MB. The maximum possible when looking at the NuBus and reserved memory addresses is 1 gigabyte.

DMA

Q) What are the DMA capabilities of NuBus?

A) DMA is not supported across NuBus.

NuBus-to-Macintosh II Address Mapping

24-bit Addresses 32-bit Addresses Used To Access
from MC68020 from MC68020 NuBus Addresses Macintosh II Sys

$xx00 0000 to $0000 0000 to $0000 0000 to Present RAM
$xx7F FFFF $007F FFFF $007F FFFF

$0080 0000 to $0080 0000 to Future RAM
$3FFF FFFF $3FFF FFFF

$xx80 0000 to $4000 0000 to $F080 0000 to ROM (aliased)
$xx8F FFFF $4FFF FFFF $F0FF FFFF

$xxF0 0000 to $5000 0000 to $F000 0000 to I/O (aliased); do
$xxFF FFFF to $5FFF FFFF $F070 FFFF not access from a
slot card

$6000 0000 to $60000 0000 to Presently unused
$8FFF FFFF $8FFF FFFF

$9000 0000 to $9000 0000 to Super slot space,
$EFFF FFFF $EFFF FFFF slots $9 to $E

$xxF0 0000 to $F000 0000 to $F000 0000 to Slot $0 (Macintosh
$xxFF FFFF $F0FF FFFF $F0FF FFFF system)

$F100 0000 to $F100 0000 to Presently unused
$F8FF FFFF $F8FF FFFF

$xxs0 0000 to $Fs00 0000 to $Fs00 0000 to Slot space, slot s
$xxsF FFFF $FsFF FFFF $FsFF FFFF (s in range $9-$E)
or or
$Fs10 0000 to $Fs10 0000 to
$FsFF FFFF $FsFF FFFF

$FF00 0000 to $FF00 0000 to Presently unused
$FFFF FFFF to $FFFF FFFF

FOR MORE INFORMATION

Check "Designing Cards and Drivers for Macintosh II and Macintosh SE" (ISBN

#0-201-19256-X) from Addison-Wesley; mechanical drawing of cards and connectors available from APDA; and NuBus patent licenses from Texas Instruments, Inc.

To locate a vendor's address and phone numbers, use the vendor name as a search string.

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Apple II System Disk 3.0: Requires MouseText, 128K Memory

This article has been archived and is no longer updated by Apple.

Here are some questions and answers about Apple II System Disk 3.0 for the Apple IIe and Apple IIc:

Q) Will this disk operate on an unenhanced Apple IIe?

A) System Disk v3.0 uses an AppleWorks-style interface, and this requires the availability of MouseText characters, which do NOT exist in an unenhanced Apple IIe. The program may also use some of the additional 27 instructions available only in the 65C02 CPU.

Q) What is the latest version of System software that will operate with an unenhanced Apple IIe?

A) System Utilities Version v2.1.1 will work on an unenhanced Apple IIe, but even that requires some MouseText characters, and will show an abnormal display -- for example, Upper Case Inverse Capital S characters instead of straight horizontal lines.

However, the program runs properly in spite of this display anomaly. System Utilities v2.1 does not use MouseText characters and should function normally on an unenhanced Apple IIe.

Q) How much memory does the System Disk v3.0 require to operate?

A) When booted on a 64K enhanced Apple IIe, the program gives an error message stating it requires 80-column text, and this indicates it requires 128K of memory.

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Fax Machines: CCITT Group 2 and Group 3 Explained (9/94)

This article describes CCITT Group 2 and Group 3.

This article has been archived and is no longer updated by Apple.
International Telephone and Telegraph Consultative Committee (CCITT) uses "Group" to designate the protocols used for facsimile transmission and reception. The "Group" protocol involves speed of transmission, height of a scan line, modulation/demodulation technique, encoding/decoding technique (if any), and various other parameters concerning communication between two Fax machines.

The primary difference between Group 2 and Group 3 concerns encoding/decoding.

Group 2 machines exploit bandwidth compression techniques to achieve reduced transmission times, when compared to Group 1 machines (Group 1 machines have long since disappeared). Bandwidth compression in this context includes encoding and/or vestigial sideband working but excludes processing of the document signal to reduce redundancy.

The encoding/decoding involved in transmission uses the positive/negative cycles of the square wave carrier to denote white/black pixels.

Group 3 machines incorporate a means for reducing the redundant information in the document signal prior to the modulation process. This allows for reduced transmission times compared to Group 2 machines. The Fax machine may incorporate bandwidth compression of the line signal.

The encoding/decoding technique used with Group 3 machines sends an encoded message when encountering lengths of white/black pixels (redundant information). This encoded message indicates the number of white or black pixels.

Article Change History:
07 Sep 1994 - Reviewed for technical accuracy.

Support Information Services

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Apple II Language Card Changes

This article has been archived and is no longer updated by Apple.

Effective immediately, Apple is substituting a different Apple II Language Card for the original one. The new card is smaller and no longer includes the connector that plugs into the RAM socket. It also does not contain the Autostart ROM. Now, when Apple II Language Cards are exchanged, Apple will include a 16K RAM chip with the replacement module.

- When you install a new Language Card into an Apple II or Apple II+ system, you need to install the 16K RAM chip into the vacant RAM socket on the main logic board.

- In the unlikely event that customers do not already have the Autostart ROM in their Apple II systems, they will need to purchase one for you to install in location F8 on the main logic board. The Autostart ROM (p/n 342-0020) can be ordered from the price pages.

- Refer to the Apple II Family Technical Procedures for instructions on installing Autostart ROMs and the 16K RAM.

The new Apple II Language Card is available from the price pages under the same part number as the old card. The new card is available as an Exchange Module only. When you return a language card to Apple for exchange, a new language card will be returned to you.

INSTALLATION

WARNING: Be sure the power is off before installing or removing any modules or components, or before connecting or disconnecting any peripheral devices. Failure to do so may result in damage to the computer, module, components, and/or peripheral.

Remember to follow basic ESD precautions when installing, removing, or troubleshooting modules.

1) Insert the Language Card into slot 0, component side facing away from power supply.

2) Insert a 16K RAM chip (p/n 334-0002) at location E3 on the motherboard. (Location E3 is in the left rear corner of the outlined memory area and was used for the cable header on the old Language Card.

Apple II Standard Computers without Autostart ROM on Motherboard:

1) Replace the Monitor ROM (p/n 342-0004) with an Autostart ROM (p/n 342-0020) at location F8-ROM on the motherboard.

TESTING

The new language card can be tested with your existing Apple II Product Diagnostics Disk.

1) Install the new Language Card in slot 0. Ensure that you've inserted a RAM at location E3 and that the motherboard F8 ROM is p/n 342-0020.

2) Start up the Apple II Product Diagnostics Disk.

3) Press the <ESC> key to move the cursor to the CARD TESTS line on the main menu, then press <RETURN>.

4) Press the <ESC> key to move the cursor to the LANGUAGE CARD line on the CARD test menu, then press <RETURN>.

If any RAM is highlighted in inverse video, replace the Language Card. If any of the status states are bad, then replace the Language Card. If the message "NO ERRORS ENCOUNTERED" appears, then the ROM at Location F8 is good. If the message "CAN NOT MATCH CODE" appears, then the ROM at F8 is bad and must be replaced.

Motherboard RAM Test

Perform the Motherboard RAM test to ensure that the RAM at location E3 is good.

5) Use the <ESC> key to move the cursor to the MOTHERBOARD RAM TEST line on the main test menu, then press <RETURN>.

6) Press <RETURN> to start the test.

7) The test will end and the display will show any bad RAM in inverse video. If the display shows that the LANG CARD RAM is bad then replace the RAM at E3.

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Apple 40SC Backs Up Files To 38.5MB

This article has been archived and is no longer updated by Apple.

When doing a file backup, 38.5MB is the largest file that can be backed up using the Apple 40SC tape backup unit and Apple software.

An oversize (larger than 38.5 megabytes) file may not be backed up across multiple tapes. It is possible to back up an oversize file using a third-party utility, such as DiskFit from SuperMac Technologies.

For more information, search under: "SuperMac"

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HyperCard 2.3: Data Handling Limits (1/96)

What are some of the limits of HyperCard and its various components?

This article has been archived and is no longer updated by Apple.

HyperCard's maximum limits are theoretical. In a practical situation, the actual limits may be less than, or sometimes greater than, the limits stated here and in the HyperCard documentation. This is due to the different levels of complexity possible in a stack. For example, HyperCard currently brings an entire card into memory at once, so the maximum size of a card is limited by available memory. It's possible that a card with a lot of extra text and long scripts, created while running HyperCard on a Macintosh with 2 megabytes of RAM, could not be opened on a Macintosh with 1 megabyte. The current useful size of a card (or background) is therefore between 50 and 100 kilobytes. The value represented by LONGINT is 2,147,483,647; the value represented by INTEGER is 32,767.

STACK LIMITS

Stack size: 512 megabytes

Minimum stack size: 4896 bytes

Maximum total number of bitmaps, cards, and backgrounds per stack: 16,777,216

Maximum stack name size: 31 characters

Maximum stack script size: 30,000 characters

BACKGROUND LIMITS

Background Size (bytes): LONGINT (limited by HC stack size; less than 100 kilobytes for practical use)

Minimum background size: 64 bytes

Maximum parts per background: Integer

Maximum total part size per background (bytes): LongInt

Maximum background name size: 31 characters

Maximum background script size: 30,000 characters

CARD LIMITS

Card size (bytes): LONGINT (limited by HC stack size; less than 100 kilobytes

for practical use)

Maximum card size: 64 bytes

Maximum parts per card: INTEGER

Maximum total part size per card (bytes): LONGINT

Maximum total text size per card (bytes): LONGINT

Maximum card name size: 31 characters

Maximum card script size: 30,000 characters

PART (BUTTON OR FIELD) LIMITS

Part size (bytes): INTEGER (The sum of the other elements in the button or field must be less than the part size.)

Minimum overhead per part: 30 bytes

Maximum part name size: 31 characters

Maximum part text size: 30,000 characters

Maximum part script size: 30,000 characters

HYPERTALK LIMITS

Maximum nested REPEAT structures: 30

Maximum nested REPEAT structures: 32

Maximum active variables (all pending handlers): 512

Maximum size card name with GO command: 31 characters

Maximum variable name size: 31 characters

Maximum number format size: 31 characters

Maximum size of command with arguments: 254 characters

Maximum handler name size: 254 characters

Maximum script size: 30,000 characters

Maximum variable value size: Limited by available memory

Article Change History:

04 Jan 1996 - Added new limit information.

Support Information Services

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Apple IIGS: Headphone Impedance

This article has been archived and is no longer updated by Apple.

The impedance of the headphone jack on the Apple IIGS is approximately 43 ohms.

This figure was arrived at because the port was designed to work with portable, Walkman-type headphones and their impedance is also 43 ohms.

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LisaTerminal: Capacity

This article has been archived and is no longer updated by Apple.
The capacity of a LisaTerminal document is 1,500 lines. When you reach that limit, LisaTerminal gives you a message telling you to save the document and start on another. If you don't another document and simply continue to receive information, Lisa begins to have memory problems and you run the risk of losing your document.
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Apple Monitors: Meet MPR II (SWEDAC 2) and TCO Emissions Standards

Apple's current monitors meet the MPR II (also known as SWEDAC 2) requirements for emissions, as well as the more stringent TCO emission limits.
This article has been archived and is no longer updated by Apple.
The TCO emission limits are:

Alternating electric fields, mandated levels

Band I: 5 Hz to 2 kHz, less than 10 V/m, measured 30 cm in front of the visual display unit (monitor).

Band II: 2 kHz to 400 kHz, less than 1 V/m, measured at 50 cm around the visual display unit and at 30 cm in front of it.

Alternating magnetic fields, mandated levels

Band I: 5 Hz to 2 kHz, less than 200 nT, measured at 50 cm around the visual display unit, and at 30 cm in front of it.
Band I: 2 kHz to 400 kHz, less than 25 nT measured at 50 cm around the visual display unit.

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AppleShare Support: AppleCD SC And WORM Drives

This article has been archived and is no longer updated by Apple.

Currently, an AppleShare File Server requires that all drives (volumes) attached to the server support read AND write access. The one exception to this rule is the AppleCD SC, which is supported.

Since a WORM (Write Once, Read Many) drive does not allow true read and write access, it is not supported by AppleShare.

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MPW Version 3.0: General Information

This article has been archived and is no longer updated by Apple.

Macintosh Programmer's Workshop (MPW) 3.0 is available through the Apple Programmer's and Developer's Association (APDA).

MPW 3.0 features a new debugging tool, Symbolic Application Debugging Environment (SADE), and a project management system called "Projector".

SADE is an interactive debugger that works either at the processor or symbolic program source level. Projector is a collection of built-in MPW commands and windows that manages changes to all files (source, documentation, etc.) associated with a software project.

An Installer disk is included for installing MPW 3.0 from a set of diskettes.

(NOTE: The file configuration on these diskettes is different from previous releases. There are now duplicate folder names across the set of diskettes. Thus, dragging folders on to the hard disk from the diskettes may result in name conflicts.)

MPW 3.0 requires, at minimum, a Macintosh Plus, hard disk, and 2MB of RAM. The minimum System files required are found on System file version 6.0.2 or later. SADE requires MultiFinder and at least 2.5MB of RAM. (The recommended system configuration is a Macintosh II with 4MB or more of memory and an 80MB SCSI hard disk drive.)

MPW v3.0 contains current releases of the language products (MPW Assembler 3.0, MPW C 3.0, and MPW Pascal 3.0) have also been introduced. MPW C 3.0 is a completely new C compiler. It is largely compatible with MPW version 2.0, but there are some changes to the language, compiler options, new files, and Standard C Library and Macintosh Interface, which require modification of MPW 2.0 source code.

A script utility called CCvt is also provided to help convert MPW 2.0 source code headers and standards for functions using strings or points to the MPW 3.0 convention.

For more information, search under: "APDA"

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Macintosh SE, II, IIx: Launching Guided Tours from Hard Disk

How does one use the Guided Tour from a hard disk?

This article has been archived and is no longer updated by Apple.
You can use the Guided Tour from a hard disk on the Macintosh II, IIx or Macintosh SE as long as there is a minimum of 2MB of memory in the computer.

The Guided Tour disk has a modified System/Finder because the tour requires a minimum of 960K of memory to run. With a standard System/Finder installed on a 1MB system, there is not enough memory available. The modified system files -- which are smaller than the standard files -- allow a 1MB system to have the required 960K of memory available for the Guided Tour.

With a standard System and Finder installation and 2MB of memory, just copy the Tour Engine and all the tour files to a folder on the hard disk. If you want the Guided Tour to come up automatically on startup, then set the Set Startup option under the Special menu to the Tour Engine (if running System 6) or place an alias of the Tour Engine in the Startup Items folder inside the System Folder (if running System 7). Upon finishing the Guided Tour, the user is returned to the standard Finder Desktop.

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Macintosh II: Using It As A Server Without A Monitor

Can I use a Macintosh II without a monitor if I'm using it as an AppleShare file server?

This article has been archived and is no longer updated by Apple.
You can use a Macintosh II without a monitor as an AppleShare file server only under AppleShare v2.0 or later. Earlier versions of AppleShare do not support such a configuration.

You could also install Farallon's Timbuktu on the file server and operate it remotely from another Macintosh.

To locate a vendor's address and phone numbers, use the vendor name as a search string.

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Print Servers Provide Multiple Users, Not Necessarily Speed

This article has been archived and is no longer updated by Apple.

The main reason for using the AppleShare Print Server is to allow many users to print documents at the same time. A print server reduces the waiting time by allowing several users to send documents to be printed simultaneously. When used with a LaserWriter, Postscript code is sent to the print server and then to the printer. The printer than processes this Postscript code to produce bit-map graphics at 300 dpi.

When printing to an AppleTalk ImageWriter, the computer creates and sends the bit-map image to the printer. Creating this bit map takes processing time from the computer. Because the computer must spend time creating the bit map, you will not see a major difference in the amount of time it takes to send the data to the printer or the spooler. When printing directly to a printer, the print driver runs at an even speed with the printer, due to data transmission speeds.

When connected over AppleTalk, the network runs faster than 19,000 or 9600 baud, but the driver has not been optimized for speed. It keeps up with the speed of the printer. Some times, the computer is waiting for the printer to finish printing a line; other times, the printer is waiting for the computer to send and process the line. This is why the 32K option card is not recommended for Macintosh users.

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Macintosh Scrapbook And 24-Bit Images

This article has been archived and is no longer updated by Apple.

TOPIC ----------

Can I paste a 24-bit graphic into the Scrapbook from an application without losing any of the detail or color depth?

DISCUSSION ----------

The Macintosh Scrapbook can handle 24-bit images. The application from which the image is being copied must support copy and paste commands for the scrapbook. The application must place the image in a PICT2 file format, which includes parameters for describing the image (8-bit, 24-bit, chunky, planar, and so on).

A problem occurs, however, when displaying a 24-bit image on an 8-bit video card and/or in an 8-bit graphics program. The image colors will be incorrect, because they are set for 24 bits, but the image will continue to be stored as a 24-bit image. For example, one possible outcome of a 24-bit RasterOps image paste to 8-bit Pixel Paint is a blue image. This is because three 8-bit red, green, and blue transfers are sent to the video card. The last image transfer is blue, so a Macintosh II video card will only show the blue portion of the image.

The image also may not display correctly when pasting to different 24-bit displays, because the implementation of 24-bit color differs from video card to video card.

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LisaWrite: Page marks

This article has been archived and is no longer updated by Apple.
You can get rid of a page mark if it's alone on a line by pointing to the mark with the mouse and clicking the mouse 3 times; clicking 3 times on the page mark selects it for cutting it out or backspacing over it. If the mark is not alone on a line, then click on the line below and backspace over the mark. LisaWrite treats page marks just like carriage returns.
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Q And A: File Server Applications And Local Applications

This article has been archived and is no longer updated by Apple.

Here are some questions and answers about using applications (MacWrite is the example here) over a LocalTalk network with an AppleShare file server, versus having individual copies of the application on the users' hard disks.

Q) If a user double-clicks on one of the MacWrite documents on the server, which application will be opened: the MacWrite on the server or the MacWrite on the user's hard disk?

A) The Macintosh OS always chooses an application residing on a local disk over a server-based application. Given the choice between an application on a local hard disk and one on a floppy drive, it will choose the hard disk.

Q) What happens if more than one user double clicks on the same MacWrite document at the same time?

A) Only one user will be able to access the file. The first one to try to open the file -- even if that primacy is only a matter of nanoseconds -- will be victorious. All successive attempts will result in a "file locked or in use" error message.

Q) Should you launch the application on your hard disk, then open the document on the server, or should you use the program on the server when you work with a document on the server?

A) Apple recommends that unless the application is designed for multilaunch use, have local copies of the application for each user and keep documents on the server.

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Apple IIGS: Use FakeMouse To Move Cursor

This article has been archived and is no longer updated by Apple.

If you are programming for the Apple IIGS, and want to write a demo program that moves the mouse automatically across the screen, you have probably discovered that when you can use the POSMOUSE command to move the cursor position, but that when it moves to the new position it disappears. The only way to get the cursor to reappear is to move the mouse.

Rather than using PosMouse, you should use FakeMouse as described on pages 7-34 of the Apple IIGS ToolBox Reference Manual, Volume 1 (ISBN #0-201-17746-3).

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AppleShare PC: PostScript Print Speed

This article has been archived and is no longer updated by Apple.

If you are using AppleShare PC and find that your LaserWriter takes about three to four minutes to print a single page from WordPerfect, your problem may be that WordPerfect and the DOS "Copy" command are not immediately sending an "end-of-document" code to the LaserWriter.

Without this "end-of-document" code, the LaserWriter has no way of knowing it has received all of the output from the computer. This causes the LaserWriter to wait until it times out. When it times out, it assumes the file has been completely received and prints it. This timeout is generally two to three minutes, but can be changed with a PostScript program.

AppleShare PC has an option in the Chooser that allows you to set the number of seconds the LPT port must be inactive after a print job before an "end-of-document" code is automatically sent.

You also can send an "end-of-document" code to the LaserWriter immediately after printing by typing Ctrl-Alt-F10.

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Ported MS-DOS Files: How To Set TYPE And CREATOR

This article has been archived and is no longer updated by Apple.

Some users have had trouble with Apple File Exchange when using AppleShare PC and a PC drive to translate a file. During an ordinary text translation from the PC drive, they can translate a file across and generate a Macintosh file with a type of TEXT and a creator of MDOS, which can be seen by an ordinary (non-shift-Option) open file dialog by Microsoft Word (or a similar application).

However, if a PC on an AppleShare network puts the file on a server, and they pull it down with a Macintosh and try the translation, they get a file of type crlf and a creator of MDOS, which remains unseen to an ordinary open file dialog in Microsoft Word. This makes it impossible to translate it to type TEXT.

In the Special menu of the AppleShare PC DA, there is an option called Extension Mapping. (Early documentation of AppleShare PC had this option incorrectly listed in the Assignments menu.) This option automatically sets the Macintosh desktop attributes, TYPE and CREATOR of an MS-DOS file, based on its three-letter name suffix. For example, files created with a .DOC suffix from Microsoft Word on a DOS system can automatically appear as a Macintosh Microsoft Word icon on AppleShare; or .WKS files from Lotus 1-2-3 can appear as Excel icons. These files, though created directly from an MS-DOS application, can be opened directly from Macintosh applications.

If you are porting ASCII text between the two environments, be sure that DOS-Text is not selected in the Extension Mapping for .TXT files. This appends a Carriage Return and Line Feed (crlf) on the end of each line and gives it a type of crlf and a creator of MDOS (sound familiar?). Macintosh word processing applications expect to see a type of TEXT for ASCII files.

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AppleShare PC DA Cannot Be Loaded Into Expanded Memory

This article has been archived and is no longer updated by Apple.

The AppleShare PC Desk Accessory cannot be installed into expanded memory. However, if you have expanded memory, and if the Desk Accessory is memory-resident, the window buffers make use of expanded memory.

If you are operating in text mode, then the approximately 2K large window buffer might be placed into that expanded memory space. If you are in graphics mode, it might be as large as 16K.

If memory is at a premium, you may not want to make the program memory-resident. You can then use the Desk Accessory by running the program at the DOS prompt.

NOTE: AppleShare PC 1.2 will not run under DOS 4.0 or 4.0.1; however, the driver WILL work, enabling you to continue to use the printer services.)

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LaserWriter: How To Check For Laser Prep Dictionary

This article has been archived and is no longer updated by Apple.

If you want to query the LaserWriter to see if the "Laser Prep" information exists (if, for instance, you are using the LaserPrep dictionary) before sending a PostScript file, use the following procedure.

The Laser Prep dictionary, when in the LaserWriter, is called "md". The following PostScript command pushes the Boolean "false" onto the stack if the dictionary is not found. If the dictionary is found, the dictionary object and the Boolean "true" is pushed onto the stack:

```
/md where
```

The following command immediately returns a "1" if the Laser Prep dictionary is present and a "0" if it is not:

```
/md where{/md get /av get cvi 68 eq{(1)} {(2)}ifelse} {(0)}ifelse = flush
```

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LisaWrite: Letterhead

This article has been archived and is no longer updated by Apple.
If on the first page you want a larger top margin for a letterhead:

1. set your margins for the second page,
2. click at the beginning of the document,
3. use the RETURN key to space down the required amount.

If you don't want to do this with every document:

1. create a document
2. tear off a new document,
3. put in the required number of RETURNs at the top,
4. save and Put Away the document,
5. make a stationery pad out of the document.

From then on, when you tear off a piece of this stationery, click down near the bottom of the document; this skips the carriage returns for the letterhead and puts the cursor where you want to start typing.
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LisaWrite: How To Double Underline

This article has been archived and is no longer updated by Apple.
To double underline:

1. Set the format to single-spaced paragraph.
2. Go down to the next line and type equal signs (=).
3. Select the equal signs.
4. Set the selected equal signs to both superscript and bold.
5 Change the type style to either 15 pitch, 12 pitch Elite or PS Executive.

In these type styles, the equal signs blend together, giving the appearance
of double underlining of the text in the line above.
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HyperCard: Laser Disk XCMD Drivers Available From APDA

This article has been archived and is no longer updated by Apple.

The Video disk drivers found on the "Goodies #3" disk are part of the "HyperCard Developer's Toolkit v.1.0", available through APDA, and are not in the public domain.

The HyperCard VideoDisc Toolkit from APDA contains XCMDs that support the following laser disc players and players compatible with them:

Pioneer 4200 Sony 1500 Hitachi 9550
Pioneer 6000A Sony 2000
Pioneer 6010A

Further, the Voyager Company has a product called Voyager VideoStack that may be helpful. For more details, search the Tech Info Library for "Voyager".

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Apple IIc Plus: Changing Clock Speed

Early versions of Apple IIc Plus Owner's Guide (page 19) explain the sequence for changing the Apple IIc Plus from 4 MHz to 1 MHz. In the following examples, the COMMAND key is the same as the OPEN-APPLE key.
This article has been archived and is no longer updated by Apple.
The keystroke sequence is:

(press and hold) ESCAPE-COMMAND-CONTROL
(press and release) RESET
(when 'Normal' appears, release) ESCAPE
(release) COMMAND-CONTROL

However, the early manuals do not document the method of returning to 4 MHz.

The keystroke sequence is:

(press and hold) COMMAND-CONTROL
(press and release) RESET
(release) COMMAND-CONTROL

Both of the above sequences do a warm boot of the computer. The difference is that the ESCAPE key in the first sequence tells the Apple IIc Plus to use the 1 MHz (Normal) speed.

Here are additional techniques for changing the speed when you start the computer:

Entering the 1 MHz mode at Startup

Powering on with the Escape key held down places the Apple IIc Plus in Normal mode (1 MHz). The word "Normal" appears in the middle of the second line of a screen full of reverse "@" and checkerboard cursors. Pay close attention to the screen: it clears quickly and the "Apple IIc +" screen appears.

To enter the 4 MHz mode at Startup

Powering on with no keys pressed places the Apple IIc Plus in the faster mode.

One anomaly can occur during the keystroke process. In Applesoft, the Escape key toggles between cursor movement mode and text entry mode. The use of the Escape key in the above key sequences can have the side effect of toggling the cursor movement/text entry modes. If the cursor has the "+" sign in the center, you are in cursor movement mode. To return to text entry mode, press the Escape key (actually, any key) once.
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LisaWrite: Tabs

This article has been archived and is no longer updated by Apple.
Setting tabs is described in the Getting Started or Tutorial section of the LisaWrite manual. The method described in the book is the most trouble-free, as long as you remember two things:

1. Press the TAB key as you're entering data.

2. When you're moving a tab on the tab ruler, all the tabs to the right will move with it.

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Apple II Video Overlay Card: Connectors (11/96)

The Apple II Video Overlay card can receive video signals from any number of sources: VCR, Video camera, Video disc player, even cable television. Because there are numerous connectors associated with these video sources, it is necessary to clarify the connection schemes as they relate to the Apple II Video Overlay Card.

This article has been archived and is no longer updated by Apple.

Connection Schemes

RGB Connections

Any RGB monitor must connected to the DB-15 connector on the card. The AppleColor RGB Monitor connects directly with the DB-15 cable that ships with the monitor.

If you are using another RGB monitor, you must build the correct cable. The Apple II Video Overlay Card DB-15 connector has the same pinout as the AppleColor RGB Monitor. For more information on this reference Tech Info Library article "AppleColor RGB Monitor input connector: Pinouts". It is a simple matter to construct the rest of the cable, using the pinout supplied with the third-party monitor.

External Video Source Connections

To connect external video sources to the Apple II Video Overlay Card, at least one end of the cable must have an RCA phono plug. This end will connect to the overlay card. Normally, consumer electronics video sources will have an RCA connector for direct video output. To ensure top quality video reproduction, use gold-plated RCA connectors.

BNC-Style Connections

It is normal for some high-end professional video equipment to have BNC-style connectors for the video output. If this is the case, an adapter must be used to convert the BNC connector to RCA phono type for connection to the card. These are readily available at most electronics stores.

RF Connections (also known as an "F" connector)

If your video equipment uses an RF cable (also known as an "F" connector), it cannot be directly connected to the Apple II Video Overlay Card. You must connect this cable to a VCR first, then connect the VCR to the overlay card, using an RCA phono type cable.

S-VHS Information

It is not possible to feed an S-VHS (Super VHS) signal into the overlay card. If your S-VHS equipment has RCA phono jacks, cables can be connected from these jacks to the card, but the overlays resulting from this connection will have the resolution of standard VHS, not S-VHS.

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Apple II Video Overlay Card: Using Key Colors (11/96)

This article discusses how to use the Key Color selection of the Video Overlay Card.

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Creating an overlay with the Apple II Video Overlay Card requires selection of a control color, called Key Color.

The VideoMix software treats the Key Color differently from the other colors.
All colors not designated as the Key Color are treated as a group and are
called non-Key colors.

For example, if the Key Color is Black, the video input signal will show through only where black is displayed on the screen. Where any other color is shown, the video will not show through and those areas will be showing the computer generated graphic. This would be the display, assuming VideoMix is set for 100% Key and 0% non-Key. By moving the sliders within VideoMix, these proportions can be changed to suit the user.

There are two methods for selecting the Key Color, select from Screen, and select from the color palette.

Selecting from the color palette allows selection of the Key Color from a palette of sixteen different colors. Use the mouse (Apple IIGS), or the arrow keys (Apple IIe), to select a color rectangle from the palette.

The other method is to use the option Select From Screen. An "X" appears in the box, and a hand with a pointing finger replaces the arrow cursor on the screen. With the hand cursor in the computer graphics area of the screen, click on the color of your choice. This becomes the Key Color.

Apple IIGS Note

The Apple IIGS can display graphics in one of two modes: 320 mode or 640 mode. In 320 mode, the computer can display sixteen pure colors. In 640 mode, it can display only two true colors: black and white. All other colors are blended colors formed by a process known as dithering. Dithered colors are formed by displaying two colors in\\adjacent pixels. Because the pixels are so small and close together, your eye perceives them as a single color. Light blue, for example, is formed by adjacent blue and white pixels.

When a dithered color is picked, the Key Color is the color of the pixel you happened to click on. If you picked the light blue color, the key color could be either blue or white.

Using dithered colors for your Key Color can produce some interesting, and sometimes unexpected, translucence effects in your overlay. These effects, while attractive, may not be completely reproducible. To avoid this, it would better to have your computer in 320 mode when making overlays. If you wish to use 640 mode, it is best to use black or white as your Key Color.

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Apple II Video Overlay Card: Configurations (11/96)

Listed below are several possible configurations using the Video Overlay Card.

This article has been archived and is no longer updated by Apple.

Depending on how sophisticated a user wishes to be, and what the user wishes to accomplish, there are numerous possibilities for connecting monitors and other video equipment, to the Apple II Video Overlay Card. A setup could be as simple as a VCR, an Apple IIGS, and a single monitor; or as complicated as a videodisc player with a composite monitor, an Apple IIGS with RGB and a composite monitor, and a VCR with a composite monitor.

Typical Configuration

A typical configuration might be a VCR or video camera, for a video source, an Apple IIe (or Apple IIGS) with the Overlay card and VideoMix software installed, and a RGB monitor. This configuration would allow creation of overlays for direct viewing only. The addition of a second VCR would permit recording of the overlays created. If a composite monitor were connected to the output of the Overlay Card, the picture displayed there would be representative of what is being recorded on the VCR.

High-end Configuration

A high-end configuration might include the connection of an interactive video source, which would then display selected video sequences, as directed by the computer, while the program would automatically provide the proper window for the resulting video input. This setup would require the connection of the device control cable from the external device to the serial port on the computer.

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Apple Access III: Addendum (2 of 7)

This article has been archived and is no longer updated by Apple.

SUMMARY OF CHANGES FROM VERSION 1.0

Changing the name of the recording file is now done from the Set-Up menu rather than from the main menu. The name of the recording file is saved whenever Set-Up characteristics are saved. This makes it possible to name the default recording file anything you want.

The recording filter now defaults to ON. Use the STATUS display to make sure that it is set the way you want.

ACCESS III version 1.1 lets you transmit Pascal text files. The header block is not transmitted, and all DLE sequences are correctly expanded to the corresponding number of blanks. This means that a Pascal text file will appear to the receiving computer exactly the same as keys pressed on the keyboard. Or, to put it another way, characters transmitted will be exactly the same as if you had converted the Pascal text file to an ASCII file using the Pascal Editor, and then transmitted the ASCII file.

WHAT'S ON THE MASTER DISKETTE

If you catalog (or list the directory) of the ACCESS III master diskette you will find the following files:

/APPLCOM	Size	File type
*ACCESS3.CODE	61	Codefile
*ACCESS3.INV	62	Codefile
*RS232.DRIVER	7	Codefile
*ACS3FONT	2	Datafile
*ACCESS3	1	Basicprog
*SPSUB.CODE	3	Codefile
*SOS.DRIVER	27	Sosfile
*SETPREFIX.TEXT	4	Textfile
*SETPREFIX.CODE	2	Codefile
*ACCESS3.PROFILE	1	Basicprog

This is a brief explanation of what each of those files is and why it is on the ACCESS III master diskette.

ACCESS3.CODE is the Pascal executable version of ACCESS III. ACCESS III is written entirely in assembly language. The assembly module is linked to a small Pascal host program to form this code file.

ACCESS3.INV is a Business BASIC invokable module. This is the codefile that runs when you use Business BASIC.

RS232.DRIVER is the device driver that manages the Apple III built-in RS232 interface. This driver must be part of the SOS.DRIVER file on your boot diskette in order for ACCESS III to function correctly. This driver is exactly the same as the RS232 driver included on the Utilities Data diskette that accompanied your SOS system software.

ACS3FONT is a character set font file in which line graphics characters replace the control character designations in the standard Apple III character set. If your application requires the line graphic characters, then ACS3FONT must be configured into the SOS.DRIVER file on your boot diskette. If you do not use the graphics mode of ACCESS III, then the standard Apple III font may be used.

ACCESS3 is a very short Business BASIC program that invokes the ACCESS III invokable module. When you type "run access3" in Business BASIC, this is the program that is loaded and executed. It also temporarily sets a null prefix so

that SOS will look for a diskette named /APPLCOM for ACCESS III files like the recording file and the configuration file. If you want to run ACCESS III from a ProFile, you should not use this program. Instead, see the section, "Using ACCESS III With a ProFile."

SPSUB.CODE is a short assembly language subroutine that sets the SOS prefix in the Pascal environment. It is supplied as a separate subroutine so that together with SETPREFIX.TEXT, you can customize your own prefix setting program if you have special requirements. Only users familiar with Pascal and linking assembly language modules should use this file.

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LisaWrite: Formatting

This article has been archived and is no longer updated by Apple.
Are you having problems with formats disappearing? Keep this in mind: all formatting is retained by the carriage return. Your constant loss of formats tells you that the carriage return isn't being carried to the next paragraph, and you must have clicked in the wrong place before starting to type. Make this easy fix:

1. Select a paragraph that is formatted correctly.
2. Copy that paragraph.
3. Select the paragraph to be fixed.
4. Select "Same as on Clipboard" from the Format menu.

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Apple II Video Overlay Card: Features (11/96)

This article discusses the features of the Apple II Video Overlay Card.

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Genlock circuitry

- Synchronizes the Apple II timing to external video timing.
- Allows a user to superimpose Apple II graphics on top of an external video signal for titling or annotating video material.

RGB and Composite Outputs

Allows a user to simultaneously view overlays on an AppleColor Composite or RGB monitor while recording the overlay to a VCR.

Apple IIGS Graphics Chip Set

- Allows the video overlay card to display standard graphics when not producing overlays.
- Improves composite video output by re-generating the video output signal from the computer.
- Broadcast-quality video output.
- Allows a user to use the overlay card in a professional broadcast environment (no degradation of video quality when passed through the overlay card).

VideoMix Software

Allows
- software control of the overlay card's functions.
- choice of key color (color which is transparent to the video signal), set the video/graphic mix, and adjust the color/tint of the RGB video.
- Apple IIe and Apple IIGS compatibility
- use of the overlay card with existing hardware and the extensive library of Apple II software.

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Adobe PhotoDeluxe 1.1 Installer Not Functioning Properly

When I double click on the installer for Adobe PhotoDeluxe 1.1, the installer launches and then quits without any error messages or indications that the program has completed the installation procedure. Is the installer functioning properly?
This article has been archived and is no longer updated by Apple.
To install the Adobe PhotoDeluxe 1.1 application, you will need to do the following:

Double-click to open the folder called "Install Adobe PhotoDeluxe"
Double-click to open the "Install-Disk 1" folder
Double click on the "Adobe PhotoDeluxe Install" icon to install the application.

DO NOT USE the installer that is at the root level of the Adobe PhotoDeluxe folder of the CD.
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FileMaker Pro Server: Cannot Control Using Remote Program Linking

Can I control my Filemaker Pro server on a remote machine using Remote Program Linking?
This article has been archived and is no longer updated by Apple.
A Filemaker Pro Server cannot be controlled via a remote machine with an applescript using Remote Program Linking.
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FileMaker Pro Server: Uses TCP/IP Port Number 5003

We have just set up a firewall on our network. Now I can't access our Filemaker Pro Server over TCP/IP. In order to gain access to the server over TCP/IP, our network administrator needs to know what "port" the Filemaker Pro Server uses. Can you tell me what TCP/IP port number is used by the FileMaker Pro Server?

This article has been archived and is no longer updated by Apple.

The Filemaker Pro Server, uses the TCP/IP port number of 5003.

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Apple II Video Overlay Card: Tips (11/96)

Here are some helpful tips and hints for using the Apple II Video Overlay card.

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As you plan your video presentation, think about how the overlay will enhance your presentation. Do you want to include:

- Opening title and closing credits?
- Highlight information presented in the video?
- Dazzle the audience with special effects?

Planning For Computer Graphics

Try to determine where the computer graphics would be useful only where appropriate. You may find yourself overusing computer graphics. Consider whether you should highlight your video with computer graphics, narration, or a combination. Your overlays will be more effective if you use them judiciously.

Decide on a workable design for your graphics, and use it consistently throughout your presentation. For example, always use the same font for the text, the same colors for the graphic elements, such as line and boxes, and the same kind of special effects. Consistent use of computer graphics will make your presentation seem more unified and easier to follow.

Use high-quality video equipment and software that allows high resolution graphics. Clean the heads on your VCR if you haven't cleaned them lately. The better the video equipment and computer images, the better your overlays will look.

When shooting a video for an overlay, try to anticipate where your graphics will fit into the shot and leave enough space for them. For example, if you plan to superimpose someone's name below a close-up of their face, leave enough room in the lower third of the screen. Treat the graphics as an integral part of the composition, not as an afterthought.

Designing For The Screen

Keep it simple, don't try to cram too much into a single overlay. If your video has lots of motion, use simple graphics. If your graphics are complex, consider using a still scene for the video portion.

Limit the information in each overlay to one or two points. Presenting too many facts in one overlay will not help the viewers remember them. Television viewers may not be able to flip back to review something they missed.

Use readable fonts for text. Bold, simple fonts seem crisp and are easily read on the screen. The color of your text should contrast with the video colors. If you plan to record the overlay, make the text at least 16 point.

Special Considerations for Composite Video

Avoid using computer graphics that are extremely bright. If the colors in your graphics are too intense, especially if they are hot colors such as bright red, the graphics may appear to vibrate along the edges. You can correct the problem by using a less intense color, like off-white instead of white. You can also reduce the intensity of a color by allowing some of the video image to blend in, using VideoMix.

If you are recording your overlays, view them on a composite monitor or a television.

Colors displayed on an RGB monitor are more stable than colors displayed on a composite monitor as they are less likely to shimmer or bleed into another color. If you are recording your overlays on tape, a composite monitor or a television will show you a better representation of the overlay's appearance during playback. By viewing your overlays this way, without an RGB monitor, you will be better able to see, and correct, problems before they are recorded on the videotape.

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TA39393_Apple_II_Video_Overlay_Card_Tips__(TIL03601).pdf

32-Bit QuickDraw: General Information

This article defines 32-Bit QuickDraw, its components, and hardware requirements.
This article has been archived and is no longer updated by Apple.
32-Bit QuickDraw is a collection of extensions to Color QuickDraw. It is also called "Full Color QuickDraw (FCQD)," but not "24-Bit QuickDraw." 32-Bit QuickDraw supports three modes.

* The first is the standard Color LookUp Table (CLUT) mode -- the method used by standard Color QuickDraw. This mode supports 1, 2, 4 and 8 bit colors.

The second and third modes use direct RGB values instead of CLUTs.

* The first of these two modes supports 16-bit direct color values (only the first 15 bits are significant).

* The second supports 32-bit direct color values (only the first 24 bits are significant).

The key features of 32-Bit QuickDraw include:

* Support for very large frame buffers 32-bit addressing of graphics devices

* Support for "Direct" Devices Pixel values directly specify a color for "Direct" devices, so CLUTs are not used.

* Up to 16 million colors per pixel. Color values contain up to 8 bits for each of the three RGB direct components, with 8 bits of padding, resulting in a maximum of 24 significant bits out of 32. The two direct RGB value frames supported by 32-Bit QuickDraw are these:

32-BIT DIRECT RGB VALUE FRAME: 00000000 RRRRRRRR GGGGGGGG BBBBBBBB

16-BIT DIRECT RGB VALUE FRAME: 0 RRRRR GGGGG BBBBB

* Extensions to the PICT file format:
Support for up to 32 bits per pixel (up to 24 of which are significant)

Components for System 7 or later

32-Bit QuickDraw is integrated in System 7, and the 32-Bit QuickDraw INIT is no longer needed to get the benefits of 32-Bit QuickDraw. The System 7 Installer will delete the old 32-Bit QuickDraw INIT from your System Folder during installation.

Components for System 6.0.x

32-Bit QuickDraw files consist of the following and are found in the System Folder:

* General control panel, a version that fixes a desktop pattern editor bug.

* Monitors control panel, a version that recognizes direct devices and lets the user control them.

*╝32-Bit QuickDraw INIT, a file containing the patches to Color QuickDraw and a version of the Slot and Palette Manager. This file is not an INIT. However, this file uses a startup-file mechanism included in Macintosh System Software, starting with version 6.0.3. This mechanism was created specifically for 32-Bit QuickDraw.

*╝LaserWriter 6.0 includes three files: LaserWriter, LaserPrep, and PrintMonitor. They support color PostScript, printing in gray scale, full 32-bit addressing, and double-byte PostScript (such as Kanji).

* LaserWriter 7.0 only has 2 files: LaserWriter and PrintMonitor.

Once you have put all these files into the System Folder, the computer must be restarted. Once 32-Bit QuickDraw is installed, the Finder presents a multi-colored icon for the 32-Bit QuickDraw file. The presence of this icon shows that 32-Bit QuickDraw is running.

NOTE: Those who want to print to a LaserWriter initialized with the LaserPrep file must update their systems to at least System Software v 6.0.3 and to the LaserWriter 6.0 resources. If your hardware does not support 32-Bit QuickDraw, you need not install the new Monitors, General, or 32-Bit QuickDraw files.

Hardware Requirements

To get the full benefits of 32-Bit QuickDraw, you must have a direct device video card. In other words, the video card must be able to accept

direct color values, instead of receiving a color value that is an index number into a CLUT. Monitors that support 32-Bit QuickDraw are dictated by the available 32-Bit video cards.

However, for those who are not using a direct-device display, 32-bit QuickDraw lets software create 32-bit images off screen. This means that programs using 32-Bit QuickDraw to its full potential can actually save 32-bit images, regardless of what the actual hardware can display.

Software Compatibility

32-Bit QuickDraw does not add or eliminate any QuickDraw procedure or function calls. Applications that make standard Color QuickDraw calls should have no problems. However, applications that do any of the following things may have problems with 32-Bit QuickDraw:

* Draw directly to the screen

* Fail to put values in all of the necessary fields in the pixmap and newGDevice records

* Manually clone gDevice pixmaps

* Assume that a pixmap has a CLUT

Published Date: Feb 20, 2012

AppleFAX Modem ROM Upgrade

This article has been archived and is no longer updated by Apple.

Apple has revised the ROM on the AppleFAX Modem main logic board to correct two problems. First, the AppleFAX modem timeout (error -401) when sending a FAX to Pitney Bowes facsimile machine models 8210 and 9200. Second, the AppleFAX modem, when connected to certain phone environments, does not answer a ringing line. Effective immediately, Finished Goods and Service is shipping AppleFAX Modem main logic boards with the upgraded Revision 1.1 ROM. You can identify a card with the new ROM by looking at the revision letter (B) following the part number on the board.

UPGRADE PROGRAM

An upgrade program is available for one year to customers whose AppleFax Modems have serial numbers with the first four characters below F833. The serial number is located on the bottom of the AppleFax Modem.

Upgrade Reimbursement

To obtain Labor, Parts Credit, and Parts Margin reimbursement for the ROM upgrade, return the old ROM to Apple and record the ROM part number on the SRO form. In addition, record the repair extension authorization code 8G0001 in the Warranty Information section of the SRO.

All main logic boards returned to Apple for repair are automatically being upgraded with the new-revision ROM. When you receive a repaired AppleFAX Modem main logic board from Apple, you can be assured it has the latest revision ROM.

To upgrade your existing AppleFax Modem main logic board Service Stock inventory, order the replacement ROM through the Advanced Exchange Program and return the old ROM to Apple.

Published Date: Feb 18, 2012

LisaWrite: Information Outside the Printable Area

This article has been archived and is no longer updated by Apple.
When you print a LisaWrite document on 8.5 x 11 inch paper, avoid setting the right margin past 8 inches (or past 10 inches if you're printing in landscape mode). If you set the right margin beyond these limits, when you attempt to print the document you'll get a dialog box stating that "There is information outside the printable area".

If this message appears when the right margin is set to 8" or less, ignore it: simply click OK to proceed with the printing. If the problem persists, select "All of Document" from the Edit menu. Text located past the right margin will then become visible. After you cut that text, the document will print.
Published Date: Feb 20, 2012

Macintosh II Internal Disk Drive Appears Write Protected

Problem: The Macintosh II internal floppy drive appears to be write protected. If the drive is replaced and the top cover reinstalled, the same symptom reappears.

This article has been archived and is no longer updated by Apple.

Cure: Test the system without the top cover installed. If the drive tests properly, check the the grounding tabs on the RFI shield near the drive. One of them may be bent inward, which pushes the write-protect switch on the mechanical assembly downward, causing the failure. Bend the tab back to its proper position and reinstall the top cover. Test the system to make sure the drive is functional.

Published Date: Feb 18, 2012

Sound Manager 3.1 Does Not Work on the Power 120

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

Sound Manager 3.1 does not work properly on the Power 120 machines. Symptoms include lockups when opening the Sound Control Panel.
This article has been archived and is no longer updated by Apple.
This is related to the problems with System 7.5.1, which will not run on a 120 MHz computer. If you remove the Sound Manager 3.1 extension, you will automatically be using version 3.0, which should work fine.

7.5.3 uses the newest version of Sound Manager 3.1b, and this will work fine on the Power 120's.

Machines Affected: Power 120
Published Date: Feb 20, 2012

FWB HDT and CD-ROM Toolkit Common Issues

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

This article will discuss the most common issues encountered while using FWB's hard disk and CD-ROM utilities. It will also address concerns associated with FWB when used in conjunction with Power Computing computers.
This article has been archived and is no longer updated by Apple.

CD-ROM TOOLKIT

1. THE CD-ROM TOOLKIT CONTROL PANEL DOES NOT INSTALL WITH THE SYSTEM SOFTWARE INSTALLERS ON THE POWER COMPUTING CD. If a clean install of system software is performed, users will then have to install the CD-ROM Toolkit if they want to be able to mount CDs. Of course, since they can't mount CDs, booting from the CD is necessary. To do this, command-option-shift-delete must be held down at startup with the Power Computing CD inserted.

To install the CD-ROM Toolkit from the RED CD
[Part #57247]
Open the "Bundled Software" folder on the Power CD. Inside of it you will see another folder titled "CD-ROM Toolkit". Open it and drag the item labeled "InstallerÓ to your hard drive. Restart your computer while holding the Shift key to boot with extensions off. Locate the "Installer" that you just copied to the hard drive and double-click on it. The next time you restart the computer, your CDs should mount.

To install CD-ROM Toolkit from any other Power CD
[Part #s 72763, 72795, 72803, 75609, 6010-1009-00]
Open the "CD-ROM Software" folder on the Power CD and double click on the item named CD Software Installer. When the installer window opens, click on the button labeled Install. Once the installer is finished, restart your computer. CDs should now mount with no problem.

2. THE CD-ROM TOOLKIT CONTROL PANEL gives the user several options to customize. The control panel will give a display of all the devices on the SCSI chain, along with their SCSI ID numbers. All CD-ROM drives that ship with the Power Computing machine are sent from the factory with SCSI ID #3.

The first of the two check boxes to the left of the CD-ROM drive name will enable the loading of the toolkit at startup and the other turns on the Fast SCSI Acceleration option. IF THE FAST SCSI ACCELERATION BOXED IS CHECKED AND THE "AUTOMATICALLY BUILD CD-ROM CACHE FILES" BOX IS NOT CHECKED BELOW, you will get a dialog box displayed every time you attempt to mount a CD asking you if you want to accelerate the CD. By checking the box to automatically prescan CDs, you won't get that message.

3. THE RAM CACHE. This option takes the most frequently used instructions and saves them temporarily in RAM, which increases performance. However it should not be set exceedingly high, as this directly takes away from the ram your system uses, and your system heap might not be able to expand that high.

4. IF THE CD-ROM TOOLKIT DETECTS A PROBLEM with a CD, a dialog box will appear telling you that it will attempt to mount the CD anyway, or that it's too damaged to mount.

5. IF YOU HAVE THE CD-ROM TOOLKIT INSTALLED BUT NO CDs WILL MOUNT, then it's possible you're experiencing an extension conflict. Use the Extensions Manager, which is in the control panels folder, to turn off all of the extensions except for the CD-ROM Toolkit. If the problem goes away after restarting, you definitely have an extension conflict and you must then use the Extensions Manager again to troubleshoot the extensions, using the process of elimination. By turning off a number of extensions or control panels at a time, restarting, and then trying to recreate the problem, you will inevitably come across the one causing a problem.

HARD DISK TOOLKIT

1. IF YOUR INTERNAL OR EXTERNAL HARD DISK, REMOVABLE MEDIA DRIVE, OR OTHER SCSI DEVICE WILL NOT MOUNT, use the HDT Primer PE, which is in the Power CD in the Utilities Folder. (If the internal hard disk will not mount, you will probably need to boot from the Power CD, which you can do by inserting the CD and then pressing command-option-shift-delete and keeping them pressed during the startup sequence).

Launch the HDT Primer and you will see the list of SCSI devices connected to the machine, their SCSI ID numbers, volume name, and size. At that point, if you see the device listed that is not mounting, you may select it and attempt to mount it using the "Mount" button. If it is a read/write storage device (like a hard disk or removable media drive) and it will not mount, it may be necessary for you to format the drive, as the formatting software currently on the device is probably corrupt or incompatible with this version of FWB. If reformatting becomes necessary, you will lose all of the information currently on the drive, so consult a data recovery service or use a data recovery software.

Another thing to try is selecting the device and clicking the "Test" button to see if it can find any problems. Also, read the Read Me file in the Hard Disk Toolkit folder in the Power CD entitled "List of Supported Devices" to see if the device you have will in fact work with HDT.

2. IF HDT PRIMER DOESN'T SEE THE DESIRED DEVICE AT ALL, then go up to the "SCSI BUS" menu at the top of the screen while in HDT Primer and select "SCSI Bus 1: Apple {Internal/External}" so that the external SCSI bus will be scanned. (Only Power Computing machines with two SCSI busses will show more than one choice in this menu.) If it still doesn't see the device, then it's possible that the device or its cabling is damaged. If that is the case, consult a data recovery service to see if you can retrieve the lost data

3. IF YOU WISH TO PARTITION AN EMPTY HARD DISK ALREADY FORMATTED WITH FWB, follow the above instructions to launch the HDT Primer, select the desired drive, then click the "Partition" button. Then click on the "Modify" button on the bottom of the partition window.

Now, before we get started, let's look at an example: If you had a one gigabyte hard drive that you wanted to partition into two 500 megabyte parts, you would click the "Partition" button, set the current partition to 500 megabytes and then click the "Modify" button. Then click the "New" button and set the new partition to 500 megabytes as well. When you're done, you will have two partitions around 500 megabytes. Remember that although certain drives are "730 MB" or "1 Gig", etc., some of that space is being taken up by formatting software, etc., so don't expect the numbers to always add up perfectly. It should be close, though. For example, the 730 MB hard disks are seen as 699 MB with HDT Primer.

4. IF YOU WISH TO UPDATE THE DRIVER SOFTWARE, then follow the above directions
to launch the HDT Primer, select the desired drive, select the "File" menu, and choose "Update."

Machines Affected: All

Published Date: Feb 20, 2012

Ikegami CF-17A Color Monitor: Specifications

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

This article contains the specifications for the Ikegami CF-17A Color Monitor.
This article has been archived and is no longer updated by Apple.

Specifications

CRT: 17" 0.28mm Dot Pitch

Weight: 40 Lbs

Max Resolution: 1280 x 1024

Horizontal Sync Range: 24KHz to 64KHz

Vertical Sync Range: 55Hz to 90Hz

Image Area: 300mm x 225mm

Input Signal: Analog 0.7Vp-p/75à positive

Sync:

- Separate Horiz & Vert, TTL Level
- Composite H+V
- Sync-on-Green

Signal Cable: Captive D-Sub 15

Power Management: VESA DPMS

Power Input:

- 90-132 VAC 50/60Hz
- 180-264 VAC 50/60Hz

Color Temperature: 9300¡K/6500¡K/User adjustable

Brightness: 20FL Min

Convergence: Zone A 0.35mm/B 0.5mm

MTBF: 25,000 Hours

Temperature:

- Operating 10¡C to 35¡C
- Non-Operating -40¡C to +65¡C

Humidity:

- Operating 20% to 80% relative @ 35¡C
- Non-Operating 0% to 90%

Altitude:

- Operating 10,000 Ft. max
- Non-Operating 40,000 Ft. max

Agency Approvals:

- Safety:
  UL, CSA, EN, CE Mark
- X-Radiation:

DHHS 21CFR, Sub-Chapter J, PTB

- Ergonomics:
  TUV-GS, ZH1
- EMI:
  FCC B, BZT B, EN 55022

User Controls:

Power Lamp:

- Power On: Green
- Suspend/Standby: Yellow
- Off: Amber

Operator Controls:

- Power On/Off
- Contrast/Brightness
- Function One/Two
- Increase +/-
- Recall
- Manual Degauss

Machines Affected: N/A
Published Date: Feb 20, 2012

3rd Party Specifications: Sony 15sf Color Display

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Sony 15sf Color Display Specifications

GENERAL INFORMATION
Raster scan full color system
Sync on green (internal sync) or separated/composite sync input (automatically selected).

CRT
Super Fine Pitch™ Trinitron tube;
15-inch measured diagonally;
90 deg. deflection

MAXIMUM DIAGONAL VIEWABLE AREA
14.0-inch

APERTURE GRILLE PITCH
0.25 mm

HORIZONTAL SCAN RANGE
31 to 64 kHz

VERTICAL SCAN RANGE
50 to 120 Hz

PRESET RESOLUTIONS
VGA graphics 640 x 480 at 60 Hz
VESA 800 x 600 at 72 Hz
Mac 16" 832 x 624 at 75 Hz
VESA 1024 x 768 at 60 Hz
VESA 1024 x 768 at 70 Hz
CAD/CAM 1280 x 1024 at 60 Hz

MAXIMUM RESOLUTIONS
1024 x 768 at 76 Hz
1280 x 1024 at 60 Hz

SIGNAL INPUTS
Analog RGB: 0.714Vp-p, 75-ohm termination
External Sync Signals: Composite 1-5Vp-p, polarity-free TTL
Sync on green: 0.286Vp-p, negative

COLOR TEMPERATURE PRESETS
Low approx. 5000 Kelvin
High approx. 9300 Kelvin
User adjustable (5000-9300K)

POWER REQUIREMENTS
100-120/200-240V AC; 50/60 Hz

POWER MANAGEMENT
Energy Star and VESA DPMS compliant
Operation: 110 watts (max.)
Suspend: 15 watts (max.)
Active off: 8 watts (max.)

DIMENSIONS (W X H X D)
14.5-inch x 14.7-inch x 15.1-inch
(368 x 373 384.5 mm)

WEIGHT

30.2 lb (13.7 kg)

OPERATING TEMPERATURE
41¡ F to 104¡ F (5¡ C to 40¡ C)

REGULATION COMPLIANCE
Safety:
UL 1950
CSA 950
IEC-950 (TUV, GS mark)
SEMKO, NEMKO,
FEMKO, DEMKO

Radiation EMI:
FCC Class B
DOC B
MPR II TUV (full compliance)
VDE 0871 Level B
X-Ray:
DHHS
DNHW
PTB

FRONT PANEL CONTROLS
Power On/Off
Brightness
Contrast
Horizontal Size and Centering
Vertical Size and Centering
Pincushion Distortion Correction
Raster Rotation
Color Temperature

SUPPLIED ACCESSORIES
Attached VGA cable with 3-row 15-pin D-sub plug
MacView[a] universal adapter for connection to a Macintosh computer
Tilt/swivel stand
AC power cord
Berkeley Systems After Dark Starter Edition with Ecologic Power Management SW

Computer Interface: The computer industry lacks standards, and therefore, there are a multitude of varying software packages and add-on hardware options. These monitors are not manufactured to any specific software, and Sony does not and cannot make any warranty or representation with respect to the performance of this product with any particular software packages and/or non-Sony add-on hardware options except those mentioned in this brochure. Sony hereby disclaims any representations or warranty that this product is compatible with any combination of non-Sony products you may choose to connect. While Sony representatives or Sony dealers may be able to assist you and may make recommendations, they are NOT authorized to vary or waive this disclaimer. Purchaser must determine for himself the suitability and compatibility of the hardware and software in each and every particular instance.

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Features and specifications are subject to change without notice. Nonmetric weights and measurements are approximate.
Published Date: Feb 20, 2012

3rd Party Specifications: Sony 17sf Color Display

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This article has been archived and is no longer updated by Apple.

Sony 17sf Color Display Specifications

GENERAL INFORMATION
Raster scan full color system
Sync on green (internal sync) or separate/composite sync input (automatically selected)

CRT
Super Fine Pitch® Trinitron tube;
17-inch measured diagonally;
90 deg. deflection

VIEWABLE IMAGE SIZE
16.1-inch maximum, measured diagonally

APERATURE GRILLE
0.25 mm

HORIZONTAL SCAN RANGE
31 to 64 kHz

VERTICAL SCAN RANGE
50 to 120 Hz

PRESET RESOLUTIONS
VGA graphics 640 x 480 at 60 Hz
VESA 800 x600 at 75 Hz
Mac 16" 832 x 624 at 75 Hz
VESA 1024 x 768 at 60 Hz
VESA 1024 x 768 at 75 Hz
CAD/CAM 1280 x 1024 at 60 Hz

MAXIMUM RESOLUTIONS
Mac: 1024 x 768 at 75 Hz
PC: 1280 x 1024 at 60 Hz

COLOR TEMPERATURE PRESETS
Low approx. 5000 Kelvin
High approx. 9300 Kelvin
User adjustable (5000-9300 Kelvin)

SIGNAL INPUTS
Analog RGB: 0.714Vp-p, 75-ohm termination
External Sync Signals:
Composite polarity free TTL
Sync on green: 0.286Vp-p, negative

POWER REQUIREMENTS
100-120V/200-240V AC; 50/60 Hz

POWER MANAGEMENT
Energy Star compliant
VESA - DPMS compliant
Operation: 130 watts (max.)
Stand by: 15 watts (max.)
Active off: 8 watts (max.)

DIMENSIONS (W X H X D)
16-inch x 16.8-inch x 17.8-inch
(406 x 427 x 451 mm)

WEIGHT
41.9 lb (19 kg)

OPERATING TEMPERATURE
50¡ F to 95¡ F (10¡ C to 35¡ C)

OPERATING HUMIDITY
10% to 80%, non-condensing

REGULATION COMPLIANCE
Safety:
UL 1950
CSA 950
IEC-950 (TUV, GS mark)
SEMKO, NEMKO,
DEMKO, EI
Radiation EMI:
FCC Class B
DOC Class B
MPR II (full compliance)
X-Ray:
DHHS
DNHW
PTB

FRONT PANEL CONTROLS
Power On/Off
Contrast
Brightness
Horizontal Size and Centering
Vertical Size and Centering
Pincushion Distortion Direction
Raster Rotation
Color Temperature

SUPPLIED ACCESSORIES
Attached VGA cable with 3-row 15-pin D-sub plug
MacView[a] universal adapter for connection to a Macintosh computer
Tilt/swivel stand
AC power cord
Berkeley Systems After Dark Starter Edition with Ecologic Power Management SW

Computer Interface: The computer industry lacks standards, and therefore, there are a multitude of varying software packages and add-on hardware options. These monitors are not manufactured to any specific software, and Sony does not and cannot make any warranty or representation with respect to the performance of this product with any particular software packages and/or non-Sony add-on hardware options except those mentioned in this brochure. Sony hereby disclaims any representations or warranty that this product is compatible with any combination of non-Sony products you may choose to connect. While Sony representatives or Sony dealers may be able to assist you and may make recommendations, they are NOT authorized to vary or waive this disclaimer. Purchaser must determine for himself the suitability and compatibility of the hardware and software in each and every particular instance.

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Features and specifications are subject to change without notice. Nonmetric weights and measurements are approximate.

Machines Affected: N/A
Published Date: Feb 20, 2012

3rd Party Specifications: Sony 300sft Graphic Display Specifications

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This article has been archived and is no longer updated by Apple.

Sony 300sft Graphic Display Specifications

GENERAL INFORMATION
Raster scan full color system
Sync on green (internal sync) or separate/composite sync input (automatically selected)

CRT
Super Fine Pitch[a] Trinitron tube;
20-inch measured diagonally;
90 deg. deflection

VIEWABLE IMAGE SIZE
19.1-inch maximum, measured diagonally

APERATURE GRILLE
0.30 mm

HORIZONTAL SCAN RANGE
30 to 85 kHz

VERTICAL SCAN RANGE
40 to 150 Hz

PRESET RESOLUTIONS
640 x 480 at 60 Hz
640 x 480 at 85 Hz
720 x 400 at 70 Hz
800 x 600 at 85 Hz
832 x 624 at 75 Hz
1024 x 768 at 75 Hz
1024 x 768 at 85 Hz
1152 x 870 at 75 Hz
1280 x 1024 at 60 Hz
1280 x 1024 at 80 Hz

COLOR TEMPERATURE PRESETS
Low approx. 5000 Kelvin
Medium approx. 6500 Kelvin
High approx. 9300 Kelvin

SIGNAL INPUTS
Analog RGB: 0.714Vp-p, 75-ohm termination
External Sync Signals: Composite 1-5Vp-p, polarity free TTL
Sync on green: 0.286Vp-p, negative

POWER REQUIREMENTS
100-120V/200-240V AC; 50/60 Hz

POWER MANAGEMENT
International Energy Star compliant
NUTEK compliant
VESA - DPMS compliant
Operation: 150 watts (max.)
Suspend: 15 watts (max.)
Active off: 5 watts (max.)

DIMENSIONS (W X H X D)

18.6-inch x 19.4-inch x 19.7-inch
(472 x 493.5 x 501 mm)

WEIGHT
65 lb (29.5 kg)

OPERATING TEMPERATURE
50¡ F to 104¡ F (10¡ C to 40¡ C)

OPERATING HUMIDITY
10% to 80%, non-condensing

REGULATION COMPLIANCE
Safety:
UL 1950
CSA C22.2 No. 950
IEC-950 (TUV, GS mark)
Radiation EMI:
FCC Class B
DOC B
MPR II (full compliance)
VDE 0871 Level B (BZT)
VCCI Class II
X-Ray:
DHHS
DNHW
PTB
Ergnomics:
ZH1/618
ISO 9241-3

FRONT PANEL CONTROLS
On Screen Display
Power On/Off
Contrast
Brightness
Horizontal Size and Centering
Vertical Size and Centering
Pincushion Distortion Direction
Raster Rotation
Color Temperature Selection
Input Switch

SUPPLIED ACCESSORIES
Tilt/swivel stand
AC power cord
Attached VGA cable with 3-row 15-pin D-sub plug
MacView[a] universal adapter for connection to a Macintosh computer
Windows[a] 95 inf.file

Computer Interface: The computer industry lacks standards, and therefore, there are a multitude of varying software packages and add-on hardware options. These monitors are not manufactured to any specific software, and Sony does not and cannot make any warranty or representation with respect to the performance of this product with any particular software packages and/or non-Sony add-on hardware options except those mentioned in this brochure. Sony hereby disclaims any representations or warranty that this product is compatible with any combination of non-Sony products you may choose to connect. While Sony representatives or Sony dealers may be able to assist you and may make recommendations, they are NOT authorized to vary or waive this disclaimer. Purchaser must determine for himself the suitability and compatibility of the hardware and software in each and every particular instance.

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TA39404_rd_Party_Specifications_Sony_sft_Graphic_Display_Specifications.pdf

Machines Affected: N/A
Published Date: Feb 20, 2012

3rd Party Specifications: Sony Speakers

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This article has been archived and is no longer updated by Apple.

Sony Speakers Specifications

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SRS-PC20
      2 watt amplified speaker system
      High sensitivity speaker unit
      Magnetically shielded design
      Amp/direct power switch and volume control
      DC power operation, batteries or AC adapter (not supplied)
      Frequency response 150 Hz-20 kHz
      Front headphone jack
      3 1/2 x 5 3/8 x 4" (WHD)
      13 oz. (left speaker)
      11 oz. (right speaker)

SRS-PC40
      Specifically designed for PC use
      Magnetic shielding for use next to monitor
      3 + 3 watt built-in amplifier
      Two audio inputs (mixing)
      Supplied AC adaptor
      Frequency response 80 Hz-25 kHz
      3 1/5 x 7 1/2 x 4 9/10" (WHD)
      1 lb. 4 oz. (left speaker)
      1 lb. 4 oz. (right speaker)

SRS-D2KPC
      3-piece active speaker system
      Full-range speakers and subwoofer deliver wide range sound reproduction
      Magnetically shielded to protect monitor
      Full-range: 3 9/10 x 5 7/10 x 4 9/10";
      subwoofer: 5 7/10 x 14 x 9 1/10" (WHD)
      Full range: 1 lb. 2 oz.; woofer: 8 lb. 2 oz.

Machines Affected: N/A
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Published Date: Feb 20, 2012

Stargate White Paper: Overview

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

Is there a technical document describing the Stargate riser card?
This article has been archived and is no longer updated by Apple.
Yes, one of our engineers has written the following white paper.

By Paul Wolf
Power Computing Corporation

Introduction
In the ever-changing world of the personal computer industry, Apple's adoption and introduction of the PCI standard into the Macintosh OS marketplace marked a very important evolution in their long term product development and strategy. Until Apple's introduction of the PowerMacintosh 9500 and subsequent introduction of the remaining PowerSurge Macintoshes in August, 1995, MacOS users had been strictly using systems that solely contained either NuBus or PDS (processor direct slot) expansion slots.

Today, with the introduction of the PCI standard, users will be able to get even more performance from their MacOS system. However, many users have invested a significant amount of money, time and energy into NuBus technology and will find it difficult to make the transition to PCI. And like all substantial product transitions, the move to PCI has not been seamless - marked by transitional software issues, installed base questions and a lagging third-party hardware development sector.

Adoption of the PCI standard can be a daunting proposition both for end-users and developers alike, who necessarily view the transition as an expensive proposition either in terms of NRE's, existing investments in NuBus hardware and finally, by the lack of availability of PCI-solutions in specifically targeted, vertical markets including digital/audio, digital prepress, digital video and the engineering/scientific market.

Expecting these issues and wishing to help ease this monumental transition, Power Computing with Apple's assistance, set out in late 1994 to begin development of what has become Stargate - the code name for a proprietary ASIC developed by Power Computing. The Stargate ASIC has been designed on a riser card that plugs into a connector on the new Power Computing PowerWave 604/150, PowerWave 604/132 and PowerWave 604/120 computer motherboard, that allows users to have both PCI and NuBus slots in their systems.

This White Paper will examine the following areas:

- What is PCI and why is it beneficial?
- What is Stargate and how will it benefit you?
- How does it work and what's its performance?

About PCI
PCI is an acronym which stands for Peripheral Component Interconnect. Originally designed by Intel in the early 1990's, PCI is now governed by a consortium of industry partners including Apple Computer. This group, which includes software companies, component suppliers, and peripheral vendors, has a goal of ensuring the compatibility and interoperability across the PCI standard and to continue to increase the throughput of PCI even further.

There are several key reasons that PCI in the MacOS market is preferable over NuBus technology. First, PCI is a widely adopted industry standard in the personal computer market. This allows for a commonality to be promoted with other platforms. Second, since it is industry standard, MacOS computer makers can attract a more widely varied pool of expansion cards for different solutions. Third, the addition of PCI to the MacOS market gives the platform a potentially tremendous boost in performance over the NuBus standard.

Power Computing's PowerWave 604/150, PowerWave 604/132, and PowerWave 604/120 products include the PCI standard. However, because there is a significant market of those users who still need and want NuBus, the company has developed Stargate in order to allow users a combination of PCI and NuBus slots in their MacOS systems. Essentially offering the best of both worlds, Stargate allows users more control and flexibility in managing their own transition to PCI.

What is Stargate?
Stargate is a proprietary ASIC (Application Specific Integrated Circuit) developed by Power Computing to allow both PCI and NuBus expansion slots to coexist in the same computer. To explain more about how Stargate works, looking at the architecture of the PCI Power Macintoshes versus the NuBus Macintoshes will be helpful.

A simplified way of thinking about the architecture of the PCI Power Macintoshes is that they have a processor bus (where communication between the processor, memory and level 2 cache occurs) and a PCI bus (which is used for communication with the on-board I/O as well as with expansion cards). The PCI Power Macintoshes use a processor-bus-to-PCI-bus bridge to allow the processor access to devices on the PCI bus. The NuBus Power Macintoshes are similar, except that they instead have a processor-bus-to-NuBus bridge.

One possible architecture for our PowerWave 604/150, PowerWave 604/132 and PowerWave 601/120 systems with both PCI and NuBus slots would be to have one of each of these bridges (processor to PCI and processor to NuBus). This theoretically gives the processor the best performance when accessing either PCI or NuBus devices. However, because it is best to absolutely minimize the number of devices present on the processor bus in order to keep the processor's access to RAM and level 2 cache very fast, having both bridges on the processor bus is not recommended.

Another way to implement a PCI plus NuBus computer would be to start with a NuBus system and add a NuBus-to-PCI bridge, requiring that all processor to PCI communication proceed across NuBus first. There are many problems, however, with this implementation. Because PCI has a bandwidth nearly three times that of NuBus, trying to squeeze PCI traffic onto NuBus would lead to a reduction in PCI performance down to, or probably even lower than NuBus performance. From a software standpoint this is a difficult option as well since the version of Mac OS System Software that was designed for the NuBus Power Macintoshes was not designed with PCI in mind. Adding a new expansion mechanism to an older architecture is nearly an impossibility.

There is a third option, which is to start with a PCI system and add a PCI-to-NuBus bridge. This works well for a variety of reasons. From a performance standpoint, because PCI is more than three times faster than NuBus, there is no performance hit for either the NuBus cards nor for the PCI cards when the NuBus traffic is routed across the PCI bus. From a software standpoint, the newer PCI Power Macintosh ROMs and System Software are not only aware of how to deal with the new PCI cards but still retain the NuBus support as well, making it easy to incorporate the older architecture into the new. And, Power Computing's systems use PCI Power Macintosh ROMs.

How We Did It
It is for these reasons that Power Computing chose the latter option. Our PCI-to-NuBus bridge chip, Stargate, is found on our PCI-plus-NuBus expansion riser cards, along with one or two PCI and one or two NuBus connectors. Stargate itself is a single Application Specific Integrated Circuit (ASIC) that contains all of the logic required to implement a PCI-to-NuBus bridge.

In addition to the Stargate ASIC, there are several pieces of software that are necessary to reconfigure various aspects of the operating system to allow it to recognize the presence of the NuBus slots, and to make the differences between the PCI-based NuBus and the standard Macintosh NuBus transparent to the system as well as to the NuBus cards themselves. This software is stored on a ROM on the same riser card that contains the Stargate ASIC and expansion connectors so the user never needs to worry about loading special control panels or extensions. Using a NuBus card on these machines is exactly like using one on a Apple Power Macintosh - plug it in, boot up
and it's there.

Performance
The Power Computing ASIC designers responsible for Stargate were able to create a very high performance architecture, in many cases significantly exceeding the NuBus performance of the Power Macintosh 8100. In this way, a potential customer debating whether to upgrade from an 8100 to the new Power Computing machines, not only can be assured that their NuBus cards will work, but can also be confident the performance will be there as well, and likely even improved. Similarly, the performance of the PCI expansion slots on the riser card are comparable to Apple's new PCI Power Macintosh systems.

Machines Affected: PowerWave
Published Date: Feb 20, 2012

Stargate White Paper II: Technical Overview

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

I read the other Stargate White Paper, but I would like to see a little more technical information. Does Power Computing have such a document?
This article has been archived and is no longer updated by Apple.

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Yes.  This white paper was written by Steve Winegarden.

Stargate: PCI to NuBus Bridge ASIC
By Steve Winegarden
Power Computing Corporation

I. Introduction
The PCI to NuBus Bridge provides the data path and control functions to form a bridge from the PCI Local Bus
to the NuBus. It will facilitate use of existing Power Macintosh compatible NuBus interface cards in
conjunction with the new PCI Local Bus compatible Power Macintosh computers. It is implemented as a single
chip and appears as a PCI-to-Foreign-Bus bridge device on PCI open firmware software provided on an EPROM
which enables Stargate to operate in the MacOS environment using the standard slot manager interface.

 A. Features
      PCI 2.0 compliant 32-bit bus interface.
      Direct PCI connection.
      PCI bus master/slave timing referenced to PCI signal PCLK (33.3
      Mhz max).
      NuBus ANSI/IEEE Std 1196-1987 compliant 32-bit bus interface.
      NuBus connection via buffers for full bus drive compliance.
      Clock generation for NuBus and NuBus90 clocks based on 40 Mhz
      reference.
      5 Volt only operation.
      PCI expansion ROM.

 B. Outline
 The NuBus handles only memory space references and interrupts.
      1. From the PCI bus:
      This bridge passes only memory references through to the NuBus.
      Memory  references will be passedthrough according to which
      NuBus slot spaces are enabled. No other memory references will
      be sent through. No references  to either I/O space or PCI
      configuration space will be passed through.  References to the
      configuration space of this bridge chip will be handled here. No
      address translation or byte swapping will take place in
      references from the PCI bus to the NuBus.

      2. From the NuBus:
      This bridge only generates memory references on the PCI bus.
      References corresponding to slot space or super slot space will
      not be sent through if the corresponding space is enabled on the
      NuBus. No address  translation or byte swapping will take place
      in references from the NuBus  to the PCI bus.

      Interrupts when enabled are passed from the NuBus to the INTA#
      line on the PCI bus.

 The 20 Mhz clock for use in 2X block transfers as defined by the
 Draft Standard  for NuBus 90 is generated and an enable control
 provided (/CLK2X, /CLK2XEN).

 The following NuBus or NuBus 90 features are not implemented:
      Parity (/SP, /SPV).
      Cache coherency (/CBUSY, /CM2, /CM1, /CM0).
      2X block transfer (/TM2).
      Serial bus (/SB1, /SB0).
```

No previous Macintosh implemented any of these features.

The power fail warning signal from the NuBus is not handled by this chip in any way (/PFW).

Reset on the PCI bus will cause the generation of a corresponding reset on the NuBus and will clear all configuration control and status bits.

The following block diagram shows the major functional blocks which comprise this chip.

II. Architecture

A. Bridge Characteristics

+PCI Bus Commands are translated into NuBus Commands and visa versa.
+Individual transactions are not merged into larger blocks.
+The cache line size can be set to 4, 8 or 16 words of 32 bits each.
+The first series of machines will use 8 word cache lines.
+No read ahead is done from either bus.
+NuBus operations are always accepted and completed.
+PCI writes are posted.
+PCI reads are retried if the previous command has not yet completed or if the bridge does not own the NuBus.

B. Data Flow

+All memory related commands that can be generated on the PCI bus are accepted.
+The PCI slave accepts bursts up to two words unless a cache line related command is indicated in which case it will handle the entire cache line at once.
+The NuBus slave accepts all possible 1X block transfer sizes (up to 16 words).

C. Clocks

+The PCI interface operates from the clock delivered on the PCI Local Bus whose frequency is 33.3 Mhz.
+The NuBus interface generates the NuBus clocks from a 40Mhz reference, four times the NuBus clock frequency.
+Other than the NuBus specification itself, therre are no further specifications on this clock.

D. Services Expected Outside This Chip

1. PCI

The PCI Local Bus pullups, PCI Host, and PCI Arbitration functions are provided by the host system.

2. NuBus

The NuBus pullups, termination, and high current buffering functions are provided external to this chip. A reference clock and EEROM if applicable are also provided external to this chip.

E. Data Buffers

1K bits: PCI Target and NuBus Master.
512 bits: NuBus Slave and PCI Master.
Dual Port Static RAM: 1-read and 1-write.
Address, data and controls multiplexed.
Buffers are re-used for both data transfer directions.

III. Functional Operation

A. Interfaces

This chip will only respond to Type 0 configuration cycles.

IV. Signal Descriptions

A. Interfaces

1. PCI Bus

There are 49 signals on the PCI interface. This includes the minimum 45 for a slave, as well as two (2) for arbitration by a master (req_, gnt_), and two (2) for error reporting (perr_, serr_).

The optional lock (lock_) signal is not supported. Apple discourages its use. The PowerPC does not generate locked accesses to PCI busses.

One interrupt output signal is supported, nominally as INTA#, however it may be wired to any of the four lines.

PERR# and SERR# are fully implemented; however, the host system chip sets presently in use do not use them.

Power Macintoshes maintain cache coherency only within main system memory and do not generate SDONE or SBO# cache support signals, which remain permanenetly pulled up by resistors.

V. Testability

A pad ring NAND logic chain is incorporated into the device. This supports two functions. First, it provides a simple way to generate the input threshold tests for chip test. Second, it facilitates a form of in circuit testing where connection of the net to the pin can be verified by observing a single output pin.

VI. Verification

A. Design

1. Simulation

The simulation environment was created to look like the system block diagram above (section I.C. System).

2. Environment

Verilog HDL was used for design and simulation. Signalscan was used for simulation analysis. Synopsys was used for conversion of the high level design to gate level.

B. Component Testing

The test pattern for component test was extracted from the simulation environment by adding a block to capture all of the data and direction control information at the chip pins drivers. This included the direction control information as well as when the output data was sampled after turnaround. This collected information was then transformed into appropriate test pattern files and test control files for the semiconductor manufacturer to test the fabricated chips. Additional patterns for use only at chip test for NAND ring parametric tests were also written.

C. Coverage Analysis

The test patterns attempt to provide full fault detection coverage. Full march patterns are run through each of the buffers and through the entire configuration register set. All address or count comparison circuits are tested for all combinations at each bit position with that position critical.

Our silicon vendor provided a check of toggle coverage at 99.5%. Our own anaysis of the nodes not toggled showed that no more could be toggled.

VII. Purchased Technology

CMOS 0.7u 5V

Gate Array 26,000 usable gates

VIII. References

Documents

+PCI Local Bus Specification, Revision 2.0, April 30, 1993, (c) 1992, 1993 PCI SIG
+PCI System Design Guide, Revision 1.0, September 8, 1993, (c) 1993 PCI SIG
+PCI BIOS ROM Specification, Revision 2.0, July 20, 1993, (c) PCI SIG
+PCI to PCI Bridge Architecture Specification, Revision 1.0, April 5, 1994, PCI SIG
+Designing PCI Cards and Drivers for Power Macintosh Computers, Draft August 3, 1994, (c) 1994 Apple, Addison Wesley
+Designing Cards and Drivers for the Macintosh Family, Third Edition, (c) 1992 Apple, Addison Wesley
+Guide to Macintosh Family Hardware, Second Edition, (c)1990 Apple, Addison Wesley
+Macintosh Developer Note Number 8, APDA
+Standard for a Simple 32-Bit Backplane bus: NuBus, ANSI/IEEE Std 1196-1987
+Standard for a Simple 32-Bit Backplane bus: NuBus, ANSI/IEEE Std 1196-1990
+1275-1994 Standard for Boot (Initialization, Configuration) Firmware, IEEE part number DS02683

Machines Affected: PowerWave

Published Date: Feb 20, 2012

Sound Input and Output Specifications: PCC Machines

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

What are the specifications for sound input and output for Power Computing machines?
This article has been archived and is no longer updated by Apple.
Here are the sound input and output specs for the PowerCurve, PowerCenter, PowerWave, PowerTower, and PowerTower(e).

16-bit stereo input and output Sample rates of 44.1 and 22.05 kilohertz (kHz)

Custom sound circuitry, including stereo generator (digital-to-analog converter, or DAC) capable of driving stereo miniplug headphones or audio equipment and stereo sampling hardware (analog-to-digital converter, or ADC) for recording stereo sound.

Input line level: 2 volts peak-to-peak nominal, into 6.5-kilohm

Impedance Output line level: 2.2 volts peak-to-peak nominal, into 1 kilohm impedance Input through output

SNR*: >74 decibels (dB)

Typical Bandwidth: 10 HzÜ19 kHz (+/< 2 dB) at 44.100 kHz sample rate

THD+N*: Less than 0.06; measured 30 Hz<16 kHz with a 2-Vpp sine wave input

*SNR is signal-to-noise ratio, THD+N is total harmonic distortion plus noise.

Machines Affected: PowerCurve, PowerCenter, PowerWave, PowerTower, and PowerTower(e)
Published Date: Feb 20, 2012

Some VGA Monitors need VGA Enable Pins Jumpered

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This article has been archived and is no longer updated by Apple.
The PowerCurve, PowerCenter, and PowerTower machines share the same logic board design. These logic boards are autosensing and determine if the monitor is connected to the Mac or VGA port. Video is then automatically sent to the correct port.

There are a few older VGA monitors that are not compatible with this autosensing technology. For this situation we have built onto these logic boards a set of pins labeled VGA Enable. Jumping these pins allows us to designate that video signals be sent to the VGA port only. Power Computing sells only one monitor which needs the jumper in place: the Princeton Mag 14".

See below for illustrations of where the VGA Enable pins are located. There are two possible locations. (All references to locations assume we are viewing the logic board from the front of the computer.)
1) Location 1: Behind the fan cable connection and in front of the external SCSI port.
2) Location 2: To the right of the fan cable connection and in front of the video connectors.

If the VGA Enable is at Location 1, it should ship with three pins and the jumper across the left two pins. To switch to VGA mode, move the jumper to the right two pins.

If the VGA Enable is at Location 2, it should ship with only two pins and the jumper connected to just one of them. Place the jumper across both pins.

Some systems shipped with no VGA Enable pins. In this case, or in the case that the customer is unable or unwilling to open the case and go inside the machine, Power Computing can send a VGA-to-Mac adapter. However, any VGA-to-Mac adapter will allow non-autosensing VGA monitors to display video on the Mac port.

TA39410_Some_VGA_Monitors_need_VGA_Enable_Pins_Jumpered.pdf

Machines Affected: PowerCurve, PowerCenter, and PowerTower
Published Date: Feb 20, 2012

EMI Choke: Description

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

What is an EMI choke?
This article has been archived and is no longer updated by Apple.
The EMI choke can be installed on the video cable of any computer monitor to reduce line noise and radiation emmissions from the cable. This allows for better and more stable video.

Machines Affected: All
Published Date: Feb 20, 2012

Is the Convenience Port on my PCC computer switched or unswitched?

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

The power supply on my Power Computing computer has an extra three prong A/C outlet that I connect my monitor to. When I shutdown my computer, the monitor still receives power. Why is that?
This article has been archived and is no longer updated by Apple.
Some of the power supplies shipped with the PowerCurve, PowerWave, PowerCenter, PowerTower, and PowerBase lines of computers have the extra convenience port. However none of the ports on these power supplies are switched. This means that as long as the power supply is plugged into an external A/C power source (i.e. a wall outlet or surge protector), power will *always* be supplied to the convenience port.

Power Computing suggests manually powering off your monitor when you power off your computer in order to save energy and preserve component life in your monitor.

Machines Affected: PowerCurve, PowerWave, PowerCenter, PowerTower, and PowerBase
Published Date: Feb 20, 2012

General CD-ROM Troubleshooting

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

I am having problems with my CD-ROM drive. How should I begin troubleshooting?
This article has been archived and is no longer updated by Apple.
Since your CD-ROM drive is a SCSI device, it is possible that you are having a problem with an external SCSI device that you may have connected. As a preliminary step, shutdown your computer, disconnect all external SCSI devices and restart. If your problems persist, continue troubleshooting.

Q: When I put a CD into my Power Computing machine, the CD icon does not show up on the desktop like it should. Why not?

A: Your CD-ROM Toolkit Control Panel is probably not installed. Follow these steps to install it.

1. Open your Extensions Manager Control Panel. You will see a list of items in the main window. Scroll down on that list and locate the item called CD-ROM Toolkit. If it is on the list, put a check mark next to it by clicking on it one time. Close the window and restart. Your CDs should now mount.

2. If the CD-ROM Toolkit does not appear in the Extensions Manager, then it must be installed from the Power Computing CD supplied with your computer. To do this, you will need to boot the computer from the CD-ROM drive.

Place the Power Computing CD in the CD-ROM drawer and close it.

Restart the computer while holding the "Command" (the "cloverleaf" key next to the space bar), "Option," "Shift" and "Delete" (the big delete key next to the + and = sign) keys. This forces the computer to bypass the internal hard drive and use the CD-ROM as the startup disk. Continue to hold these four keys until the "Welcome To Macintosh" screen appears. You will know you are booted from the Power CD when the Power Computing logo is the desktop pattern in the background.

Note: If the Power CD icon appears on the desktop and the hard drive icon does not, you must mount the hard drive. To do this, open the CD, go into the "Utilities" folder, then open the "Hard Disk Toolkit PE" folder. Now double click on HDT Primer PE icon. In the window that appears, highlight the internal hard drive, usually the topmost item at ID 0. Then click on the button labeled Mount, located on the right-hand side of the window. Once the drive mounts, its icon will appear on the desktop directly beneath the Power CD icon. Now you are ready to install the CD-ROM Toolkit.

To install CD-ROM Toolkit from the RED CD
[Part #57247]
Open the "Bundled Software" folder on the Power CD. Inside of it you will see another folder titled "CD-ROM Toolkit". Open it and drag the item labeled "Installer" to your hard drive. Restart your computer while holding the Shift key to boot with extensions off. Locate the "Installer" that you just copied to the hard drive and double-click on it. Follow the on-screen prompts to install the CD-ROM Toolkit. The next time you restart the computer, your CDs should mount.

To install CD-ROM Toolkit from any other Power CD
[Part #s 72763, 72795, 72803, 75609, 6010-1009-00]
Open the "CD-ROM Software" folder on the Power CD and double click on the item named CD Software Installer. When the installer window opens, click on the button labeled Install. Once the installer is finished, restart your computer. CDs should now mount with no problem.

Q: I followed the above instructions and still can't get CDs to mount. Now what do I do?

A: It is likely that you are experiencing an extension or control panel conflict. Open your Extensions Manager Control Panel. At the top of this window there is a menu called Sets. Change the chosen set to 7.5, 7.5.1, 7.5.2, 7.5.3, or 7.5.5 depending on the system version you are using. Next, scroll down on the main list and put a check mark next to the CD-ROM Toolkit. Close the window, restart the computer and your CDs should mount.

Q: When I put in a CD, I get a message that asks, "Do you want to accelerate this CD?" Why do I get this message?

A: This is due to a setting in the CD-ROM Toolkit control panel. Open the CD-ROM Toolkit control panel. At the bottom of this window is an option to "Automatically build CD-ROM cache files". Put an "X" in the box next to this option and all CDs will be accelerated automatically.

Machines Affected: All

TA39413_General_CDROM_Troubleshooting.pdf

Published Date: Feb 20, 2012

RAM Types and Specifications for Power Computing Computers

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

What are the RAM types and specifications for all Power Computing computers?
This article has been archived and is no longer updated by Apple.
The chart below shows the RAM types and specifications for all Power Computing models.

SERIES	CHIP TYPE	SIZE	MIN SPEED	# OF SLOTS	MAX MEMORY
POWER 100	SIMM	72 pin	70 ns	6	200 MB
POWER 120	SIMM	72 pin	70 ns	6	200 MB
POWER WAVE 120	DIMM	168 pin, 64 bit	70 ns	8	1024 MB
POWER WAVE 132	DIMM	168 pin, 64 bit	70 ns	8	1024 MB
POWER WAVE 150	DIMM	168 pin, 64 bit	70 ns	8	1024 MB
POWER CURVE 120	DIMM	168 pin, 64 bit	70 ns	4	512 MB
POWER CENTER 120	DIMM	168 pin, 64 bit	70 ns	4	512 MB
POWER CENTER 132	DIMM	168 pin, 64 bit	70 ns	4	512 MB
POWER CENTER 150	DIMM	168 pin, 64 bit	70 ns	4	512 MB
POWER CENTER 166	DIMM	168 pin, 64 bit	60 ns	4	512 MB
POWER CENTER 180	DIMM	168 pin, 64 bit	60 ns	4	512 MB
POWER TOWER 166	DIMM	168 pin, 64 bit	60 ns	4	512 MB
POWER TOWER 180	DIMM	168 pin, 64 bit	60 ns	4	512 MB
POWER TOWER 180e	DIMM	168 pin, 64 bit	60 ns	4	512 MB
POWER TOWER 200e	DIMM	168 pin, 64 bit	60 ns	4	512 MB
POWER TOWER PRO 180	DIMM	168 pin, 64 bit	60 ns	8	1024 MB
POWER TOWER PRO 200	DIMM	168 pin, 64 bit	60 ns	8	1024 MB
POWER TOWER PRO 225	DIMM	168 pin, 64 bit	60 ns	8	1024 MB
POWER TOWER PRO 250	DIMM	168 pin, 64 bit	60 ns	8	1024 MB
POWER BASE 180	EDO*		60 ns	3	160 MB
POWER BASE 200	EDO*		60 ns	3	160 MB
POWER BASE 240	EDO*		60 ns	3	160 MB
POWER CENTER PRO 180	DIMM	168 pin, 64 bit	60 ns	4	512 MB
POWER CENTER PRO 210	DIMM	168 pin, 64 bit	60 ns	4	512 MB

```
* POWER BASE RAM SPECIFICATIONS
 Parity Setting        Non-Parity
 Refresh Rate          1k or 2k  (DOES NOT SUPPORT 4k)
 Voltage               5V
 BANK 0  MUST USE A SINGLE BANKED DIMM, 32 MB or LESS
```

Machines Affected: All
Published Date: Feb 20, 2012

FWB Hard Disk Toolkit 2.0 fixes Fireball issue

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

Will the new FWB Hard Disk Toolkit 2.0 provide proper support for write-caching on Quantum Fireball drives? What other features does it have?
This article has been archived and is no longer updated by Apple.
FWB Hard Disk Toolkit 2.0 works properly on Quantum Fireball drives with write-caching enabled. Customers using HDT 2.0 will not experience the Fireball write-cache corruption issue.

Other features of HDT 2.0 include:
1. Optimized for System 7.5.3 and PCI PowerPC-based MacOS systems
2. Formats, partitions, and tests SCSI and IDE drives
3. Auto-setup mode automates disk preparation in one step
4. Supports background formatting
5. Allows format of multiple drives at once
6. Ability to tune partitions for maximum flexibility
7. Includes PowerPC native drivers for better performance on MacOS based systems

Note: At this time Power Computing has not licensed this version for release to customers.

Machines Affected: PowerWave, PowerCurve, 100, and 120 systems using Fireball drives
Published Date: Feb 20, 2012

Multi-Session Support on Power Computing‘s CD-ROM Drives

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

Do the CD-ROM drives bundled with Power Computing machines provide multi-session support?

This article has been archived and is no longer updated by Apple.

Multi-session support is a function of both the drive and the driver which runs it. FWB's CD-ROM Toolkit v1.6.3p is the latest version of the driver that Power Computing uses on all of its machines and it provides multi-session support. Furthermore, all of the CD-ROM drives that Power Computing currently bundles have multi-session support.

These drives are: Toshiba XM-5301B (4X)
Toshiba XM-5401B (4X)
Sony CDU76S (4X)
TEAC 56S (6X)
NEC CDR-1410 (8X)

Multi-Session support, also known as second write, is necessary to read CD-ROMs which have had information saved to it more than once. This can take place when, for example, a photo CD is returned to a photo lab to have pictures added.

Note: More information about the functionality of CD-ROM Toolkit can be found in the "Supported Devices" document found in the "Bundled Software" folder on the Power CD.

Machines Affected: All PCC systems with CD-ROM drives

Published Date: Feb 20, 2012

Can‘t Get Millions of Colors at 1152x870

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

I have 4 MB of on-board VRAM, but I can't get millions of colors at any resolution higher than 1024x768. The manual says I should get millions of colors at 1152x870. What is wrong?
This article has been archived and is no longer updated by Apple.
The built-in (on-board) video on "Catalyst"-based machines only supports 24-bit color at resolutions up to 1024x768. The manuals are wrong when they indicate higher resolutions support millions of colors. Sales literature for Catalyst-based machines correctly indicates the limitations of on-board video. Apple's 7200 machine, which shares the Catalyst architecture, also has this limitation.

Machines Affected: PowerCurve, PowerCenter, PowerTower
Published Date: Feb 20, 2012

Apple IIGS: Resetting The Control Panel And Logic Board Problems

Article Change History

10/27/92 - REVISED
* To clarify the differences between the ROM 01 and ROM 03 CPUs.

Some Apple IIGS problems can appear to be caused by a faulty, main logic board. For example, if a user was to set both the foreground and text colours to black, no video would be apparant. Here's how to reset the video standards to verify the problem lies in software:

This article has been archived and is no longer updated by Apple.
For a ROM 01 GS:

Power down for 10 seconds. Power up and hold control-open apple-esc for a few seconds and a menu with three choices will appear on the screen. Press the down arrow key once, then return (accesses the control panel). Next, press the down arrow key again and hit return (selects the "Display" control panel). Finally, hit the up arrow key and press the right arrow. This will reset the display standards.

For a ROM 03 GS:

Power down for 10 seconds. Power up and hold control-open apple-esc for a few seconds, and a menu with three choices will appear on the screen. Press the Return key (accesses the control panel). Next, press the down arrow key and hit return (selects the "Display" control panel). Finally, hit the up arrow key and press the right arrow. This resets a ROM 03 GS' display standards.

If, after resetting the Control Panel as indicated, the symptoms still occur, contact your Apple reseller who can refer to the Apple IIGS Technical Procedures for further troubleshooting information.

Published Date: Feb 18, 2012

Unable to Mount Iomega Zip/Jaz Cartridge

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

I insert a cartridge into my Iomega Zip/Jaz drive and it does not mount. The drive clicks a few times and the access light blinks, but nothing else happens.
This article has been archived and is no longer updated by Apple.
On the following lists, if one step does not work, go to the next.

Quick Hardware Checklist:
1. Try another cartridge. If another cartridge mounts with no problem, then the original cartridge is probably defective.

2. Make sure that another SCSI device on the same bus is not trying to use the same SCSI ID. All SCSI IDs on the same bus must be unique.

3. Disconnect any external SCSI devices that you may have. If cartridges mount without the externals connected and each device has a unique SCSI ID, make sure that the external SCSI cables are double-shielded twisted pair and that the cables are less than six feet between devices.

Software Issues:
1. Check your Extensions Manager to see if the "HDT Extension" is set to load. If so try disabling it and restart. The HDT Extension sometimes tries to take control of Iomega drives, preventing cartridges from mounting.

2. Open your Extensions Manager and locate an item on the list called "Iomega Driver". If it is present put a check mark next to it by clicking on it one time. Restart your computer.

3. If the Iomega Driver is not in the Extensions Manager, then it needs to be installed. On the Power CD that came with your computer go to the Utilities folder, then Extensions, and you will see an Iomega Driver inside. Copy that to your hard drive and place it in the Extensions folder inside the System Folder. Restart your computer.

4. Open your Extensions Manager, open the "Set" menu, and select 7.5, 7.5.1, 7.5.2, 7.5.3, or 7.5.5 depending on the version of system software you are running. Locate the "Iomega Driver" and the "CD-ROM Toolkit" and put check marks next to these two items only. Restart your computer.

Machines Affected: All
Published Date: Feb 20, 2012

Conner 1 GB and 2 GB Hard Drive SCSI and Termination Settings

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

What are the SCSI ID and termination jumper settings for the Conner 1 GB and 2 GB hard drives included with some Power Computing computers?
This article has been archived and is no longer updated by Apple.
See the schematic drawings below for the SCSI ID and termination jumper settings.

Machines Affected: All
Published Date: Feb 20, 2012

IBM 1 GB Hard Drive SCSI and Termination Settings

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

What are the SCSI ID and termination jumper settings for the IBM 1 GB hard drive included with some Power Computing computers?
This article has been archived and is no longer updated by Apple.
See the schematic drawings below for the SCSI ID and termination jumper settings.

Figure 1 SCSI ID and Termination Jumper Settings

Machines Affected: All
Published Date: Feb 20, 2012

Power Computing: SCSI ID and Termination Settings, Micropolis Hard Drives

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

This article contains diagrams of IBM hard drives used in computers manufactured by Power Computing Inc., including SCSI termination and ID settings.

This article has been archived and is no longer updated by Apple.

Published Date: Feb 20, 2012

MiroMotion DC20 1.1 Software Update

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

What changes have been made in the MiroMotion DC20 software version 1.1?
This article has been archived and is no longer updated by Apple.
: 1. The MiroMotion control strip module will always be accessible.

2. Fixed a problem where after quitting Premiere the memory it used would not be reallocated to the system.

3. When the output standard does not match the clip standard and "Play movies on video" is selected, the clip will now play on the Mac monitor.

4. Corrected a problem where interlaced artifacts would sometimes appear when playing a clip on a Mac monitor.

5. Optimized routines for playback on a Mac screen allowing 30 frames per second. The suggested settings are: thousands of colors, full window visible, small window.

6. Fixed a bug where the MiroMotion control strip module would cause Adobe Photoshop to crash when quitting.

7. Eliminated incorrect "Parameter Errors" during compression.

8. Fixed an issue with the MiroMotion installer copying the wrong files into Premiere's Plug-Ins folder

This software update is available directly from Miro at 800-249 6476 or from their website at http://www.miro.com/e/e3-drivers/driver.html.

Machines Affected: All machines with the MiroMotion DC20 card installed
Published Date: Feb 20, 2012

Mac Pivot Display and TwinTurbo Card

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

My Mac Portrait Pivot display does not seem to work correctly when connected to my new IMS Twin Turbo card. What's going on?
This article has been archived and is no longer updated by Apple.
As reported by Integrated Micro Solutions, the Twin Turbo 128M card is not compatible with the Mac Portrait 1700 Pivot Display.

The workaround is to pull the "Twin Turbo Accelerator 2.0" file from the Extensions folder. This will allow the monitor to work in landscape (horizontal) mode only. All pivot functions will be disabled.

The Twin Turbo 128M Card ships standard on PowerTower Pros, and can be purchased separately for any PCI-based system.

For more information, contact IMS Technical Support at (408) 369-8282.

Machines Affected: PowerBase, PowerCenter, PowerCurve, PowerTower, PowerTower Pro, PowerWave
Published Date: Feb 18, 2012

Poor Video Performance with ATI Card

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

My PowerWave using the ATI video card has very poor video performance when tested with MacBench. What is wrong?
This article has been archived and is no longer updated by Apple.
Customers who have poor video performance using an ATI card should make sure that the Graphics Acceleration extension (different from 7200 Graphics Acceleration) is installed in the Extensions folder. The Graphics Acceleration extension provides graphics acceleration for the ATI card and is required for optimal performance.

The ATI card shipped standard on PowerWaves, but may have been installed in any PCI-based system.

Machines Affected: PowerBase, PowerCurve, PowerCenter, PowerTower, PowerTower Pro, PowerWave
Published Date: Feb 20, 2012

8x CD-ROM and FWB‘s CD-ROM Toolkit

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

When I insert a CD into my 8x CD-ROM, nothing happens and the CD never mounts. What is wrong?
This article has been archived and is no longer updated by Apple.
Versions of the CD-ROM Toolkit prior to 1.6.3P do not provide proper support for 8x CD-ROM drives. If a customer reports problems mounting CDs with an 8x CD-ROM, verify the version of CD-ROM Toolkit. If it is prior to 1.6.3P, the customer must be fulfilled version 1.6.3P or later.

Machines Affected: Systems using 8x CD-ROMs
Published Date: Feb 20, 2012

NUBUS Machines Require PDS card or Termination card

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

I have a Power 100 / Power 120 and I am getting strange video effects. Sometimes I get vertical lines, partial screen redraws, and other related problems.
This article has been archived and is no longer updated by Apple.
This problem is not always associated with a heat sink problem. A PDS card or terminator card must be installed in the PDS slot at all times. If this convention is not followed, various video errors can occur.

Please also note that if the PDS card or term card is not installed the customer may experience other issues. (Such as crashing, unable to boot, or freezing). If a customer has a NUBUS based machine and it is giving odd errors please check to make sure that there is a card in the PDS slot.

Machines Affected: Power 100 and Power 120
Published Date: Feb 20, 2012

Now Contact/Up-to-Date 3.6 Serial Number Location

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

How do I find the serial number for my Now Contact/Now Up-to-Date bundle?
This article has been archived and is no longer updated by Apple.
On your hard drive, there should be a preinstalled "Now Software" folder that contains a folder titled "Now Up-to-Date & Contact 3.6". In that folder there is a Bundle installer. The installer will offer to install Now Up-to-Date and/or Now Contact.

1.Run the installer. At completion, it will ask you to restart.

2.After the restart, a registration window will pop up. The three options are: Already registered, Register Later, or Register Now.Select "Register Later" or "Already Registered".

3.Find either the Now Contact or Now Up-to-Date application on your Hard Drive. Open the application.

4.Go to the Apple Menu and select About Now (Contact or Up-to-Date).

5.The Serial Number is in the About window.

Machines Affected: All
Published Date: Feb 20, 2012

AppleCAT: Macintosh IIx, Macintosh IIcx, and Macintosh SE/30

This article has been archived and is no longer updated by Apple.

NOTE: This article applies to SOME of but not ALL Macintosh 68030 systems.

On some 68030 systems, AppleCAT II/IIx version 2.3, AppleCAT IIcx version 1.0, and AppleCAT SE/30 version 1.0 are indicating failure of all four DRAM SIMMs in bank B despite there being NO DRAM installed in bank B. This problem can occur on all Macintosh IIcx units, and on Macintosh IIx or Macintosh SE/30 units that contain certain ROM (not DRAM) SIMMs. The ROM SIMM in question has the part number 630-4339 printed on the board itself.

If the AppleCAT diagnostic is used to test units with these ROM SIMMs, it will first indicate that all bank B DRAM should be replaced. If the diagnostic is continued, it will indicate that the logic board should be replaced. However, the logic board should NOT be replaced; the diagnostic has incorrectly assumed that bank B contains DRAM.

Proper operation of the Macintosh IIx, IIcx and SE/30 can still be tested by using the appropriate MacTest diagnostic. It can also be tested by installing DRAM in bank B before using AppleCAT.

For complete information please contact your regional Technical Support center.

Published Date: Feb 18, 2012

Extra SVGA Pins on MiroMotion DC20

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

I have a Power Computing AV system using the MiroMotion DC20 video capture card. I see that there are holes for seven pins in the S-Video in port. S-Video typically uses only four pins. In fact, there are only four pins on the S-Video out port. What are these extra pins for?
This article has been archived and is no longer updated by Apple.
According to Miro, the three extra pins are for "testing" and add no end user functionality.

Machines Affected: All systems with the MiroMotion DC20 card
Published Date: Feb 20, 2012

Power Computing Systems and UPS Backups

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

I want to get a UPS backup for my computer, but I need to know how much power it draws so I can get the right one.
This article has been archived and is no longer updated by Apple.
Backup supplies are typically only 65% efficient. To correct for this, a backup needs to be able to supply 35% more power than the maximum capacity of a given computer.

For example, the Power 100 and 120 units use 250W power supplies. Assuming that any backup will only be 65% efficient, a backup system capable of supplying 337.5 watts or more would be needed. [250W x 135% (1.35) = 337.5W]

Power Computer	Power supply used	Backup system needed
Power 100	250W	337.5W
Power 120	250W	337.5W
PowerCurve 120	200W	270W
PowerWave 120	200W	270W
PowerWave 132	200W	270W
PowerWave 150	200W	270W
PowerCenter 120	200W	270W
PowerCenter 132	200W	270W
PowerCenter 150	200W	270W
PowerCenter Pro 180	200W	270W
PowerCenter Pro 210	200W	270W
PowerCenter Pro 240	200W	270W
PowerTower 166	200W	270W
PowerTower 180	200W	270W
PowerTower 180e	200W	270W
PowerTower 200e	200W	270W
PowerBase 180	200W	270W
PowerBase 200	200W	270W
PowerBase 240	200W	270W
PowerTower Pro 180	300W	405W
PowerTower Pro 200	300W	405W
PowerTower Pro 225	300W	405W

Machines Affected: All
Published Date: Feb 20, 2012

PowerBase and Level 2 Cache Compatibility

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

Can I use a 512K cache DIMM on my PowerBase?
This article has been archived and is no longer updated by Apple.
Standard cache DIMMs do not work on the PowerBase. The PowerBase design is based on the Alchemy logic board which uses a special cache with the cache controller on the module itself. Standard L2 cache DIMMs do not have a controller built-in and instead expect the controller to be part of the logic board. The only cache currently supported on these systems is the Apple 256K cache.

Machines Affected: PowerBase systems
Published Date: Feb 20, 2012

IBM 2GB and 4GB hard drives - AV capability

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

Are the IBM 2GB and 4GB drives you ship with some of your systems "AV" drives?
This article has been archived and is no longer updated by Apple.
The basic reason is that we aren't claiming the IBM drives are "AV" drives is because IBM doesn't claim it. When you get right down to it, there is no spec for what makes a drive AV but it is generally assumed that it means that the drive has a certain guaranteed minimum sustained transfer rate.

All hard drives have periodic actions which kick in at various times to do certain maintenance-like things, like compensating for temperature changes. These periodic activities are typically scheduled for idle periods where the drive hasn't received a request for a certain amount of time (usually a second or longer). This will keep them from interrupting a video capture or playback. There are some periodic activities however that may interrupt a read or write request. It is these activities that keep a drive from maintaining a minimum transfer rate.

The Micropolis AV drives were the first drives to prevent any periodic activity from interrupting the handling of a read or write and also to reduce the duration of any of the periodic activities. This second change was done so that, even if a drive hasn't received a request for 5 seconds, if the first request happens just after a periodic function has started, the command would still be completed within a certain reasonable time.

The IBM drives have a lot of different periodic activities but only one of them will interrupt a stream of commands - the Predictive Failure Analysis (PFA) function. PFA is a very obscure attempt at giving a possible early warning that the drive is failing. Because it is the only periodic activity that keeps the drive from maintaining a minimum transfer rate, we disable PFA during production. We have verified with the IBM engineers that this is the only drive function that keeps us from claiming AV-capability and that this doesn't add any risk or reliability issues. Even with PFA on, the drive will detect and correct any errors as readily as any drive.

We don't feel comfortable calling this an "AV" drive because IBM doesn't call it an "AV" drive. However, if you look at what AV means and if you realize that most of the true AV (video) work out there is not done on Micropolis AV drives, it is safe to say that, with PFA disabled, the IBM drives are "AV-capable."

Machines Affected: All systems using IBM 2GB or 4GB hard drives
Published Date: Feb 20, 2012

Sony 17sfII Maximum Resolution

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

The specifications for the Sony 17sfII Trinitron Display say the maximum resolution is 1280x1024. I am only able to get up to 1024x768 resolution on my Power Computing computer.
This article has been archived and is no longer updated by Apple.
Nothing is wrong. You are probably connected to the Macintosh video port via an adapter. The Sony 17sfII monitor's maximum PC resolution is 1280x1024; the maximum Macintosh resolution is 1024x768. If you would like to show 1280x1024, you must connect to the VGA port. Following is a list of Power Computing machines and their available VGA ports.

Machine	VGA port
Power 100/120	HPV card (optional)
PowerWave	ATI card
PowerCurve	Built-in
PowerCenter	Built-in
PowerTower	Built-in
PowerTowerPro	IMS Twin Turbo card
PowerBase	Built-in
PowerCenter Pro	Built-in

Machines Affected: All
Published Date: Feb 20, 2012

"ZIP Tools 4.2 Already Installed" Message at Startup

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

When a Zip disk is in the Zip drive at startup I get a message that says "Cannot load the Zip Tools because 4.2 is already installed". Why do I get this message, and how do I eliminate it?
This article has been archived and is no longer updated by Apple.
You will get this message if you have a Zip disk in the drive at startup which was formatted with version 4.2 of the Iomega Driver. To eliminate this message:

1) Eject the Zip disk.
2) Restart your computer.
3) Insert the Zip Disk, and wait for its icon to appear on the desktop.
4) Reformat the Zip Disk using Zip Tools 4.3 (found on the Power CD).

If you now restart with the Zip disk in the drive, you will not receive the error message.

Machines Affected: All
Published Date: Feb 20, 2012

Interex Adapter Settings for Princeton Monitors

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

What are the correct dip switch settings for the Interex Monitor Adapter that came with my Princeton 15Ó monitor?
This article has been archived and is no longer updated by Apple.
Here is the setting you should use on the Interex Monitor Adapters that we are now sending. This setting is multimode for 640x480 and 832x624, and will work with the Princeton monitors on the Catalyst logic board (used in PowerCurves, PowerCenters, and PowerTowers).

Switch:	1	2	3	4	5	6	7	8	9	10
Setting:	ON	OFF	OFF	ON	ON	ON	ON	ON	ON	OFF

Switches 1, 4, 5, 6, 7, 8, and 9 should be ON (towards the Mac connector).
Switches 2, 3, and 10 should be OFF.

Machines Affected: All
Published Date: Feb 20, 2012

Power Computing: SCSI ID and Termination Settings, NEC CD-ROM Drives

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

This article contains diagrams of NEC CD-ROM drives used in computers manufactured by Power Computing Inc., including SCSI termination and ID settings.
This article has been archived and is no longer updated by Apple.

Published Date: Feb 20, 2012

Need Auto-Startup Jumper on IBM DFHS Drives

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.
This article has been archived and is no longer updated by Apple.
In a limited number of cases, we have sent out 2GB IBM DFHS AV-Capable drives that do not have the jumpers properly set. If the auto-startup jumper is not in place, HDT Primer will return an error that the drive is not ready when trying to access it. The resolution is as follows:

1. LOCATE the jumper pins on the front of the drive.

2. LOCATE the reference pin. This single pin is the only pin that is not in a pair and is located fourth from the left.

3. INSTALL a jumper vertically on the pair of pins to the immediate right of the reference pin.

Machines Affected: All
Published Date: Feb 20, 2012

LaserWriter: Printer Ready But No Paper Pickup

This article has been archived and is no longer updated by Apple.

Problem: A LaserWriter powers on normally, the fuser comes on, main motor rotation occurs, and the green LED begins blinking. As soon as the printer is ready to generate a test print, the main motor turns on for approximately two seconds, all of the LEDs turn off, and no paper is picked up from the tray.

Cure: Replace the main motor and/or inspect the two pink wires going from the main motor to the DC Controller. These wires can be easily damaged or pinched against the chassis when the DC Power Supply and Main Motor Drive PCB is mounted. If no damage is found, then disconnect connector J503 and check for a resistance of approximately 265. If the resistance varies a great deal, then motor replacement will be necessary.

Published Date: Feb 18, 2012

Disk Fit and Iomega Tools

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

The "Iomega Software Manual" (Located on the Power CD at "Utilities/Zip Tools/Iomega Zip Tools 4.3") indicates that an application called 'Disk Fit' should be included with the Zip Tools software. Upon inspection of the CD, Disk Fit is nowhere to be found.
This article has been archived and is no longer updated by Apple.
Disk Fit is an application that works in conjunction with the Iomega Tools to automatically backup a hard drive to one or more Zip or Jaz cartridges. It is an application developed by the Dantz Development Corporation and included in retail versions of Iomega's drives.

Power Computing has licensed the Iomega Tools, but the license does not include an agreement to also bundle Disk Fit. Therefore, we have no resources to distribute this application.

Machines Affected: All machines with Zip or Jaz drives installed
Published Date: Feb 20, 2012

Jaz Tools vs. Zip Tools

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

I just received my computer with an internal Jaz drive installed and I did not receive my Jaz Tools software. I see the Zip Tools application. Am I missing something?
This article has been archived and is no longer updated by Apple.
We include on the Power Computing CD all the software that is necessary to support your Jaz and Zip drives. On the Power CD, go to the 'Utilities' folder, then the 'Zip Tools' folder, then the 'Iomega Zip Tools 4.3' folder and locate the item called 'Tools'.

This application program is the tools program for both the Jaz and the Zip drive, as version 4.3 provides support for both devices.

Also, the Iomega Driver (located on the Power CD at "Utilities/Zip Tools/Extensions") is the driver that is compatible with both the Jaz and the Zip drives.

Note: Version 4.3 or later of this software is necessary to provide this dual support, and this version is located on both Release 2.1 and Release 2.2 of Power Computing's 7.5.3 CDs. These CDs are informally referred to as the 'Orange CD' and the 'White CD', respectively.

Machines Affected: All machines with Zip and/or Jaz drives installed
Published Date: Feb 20, 2012

Adobe Premiere LE CD-ROM Contents

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

What comes on the Adobe Premiere LE CD-ROM that came with my Power Computing AV system.
This article has been archived and is no longer updated by Apple.
The Adobe Premiere LE CD-ROM comes with a number of import files that are important for both normal operation of the Adobe software and for troubleshooting.

The contents of the CD-ROM are:

* Adobe Premiere LE application
* Adobe Photoshop LE application
* Online Documentation for both Premiere LE and Photoshop LE
* Adobe Acrobat Reader Software
* Adobe Type Manager (ATM)
* Demonstration versions of various Adobe applications

1) All above files are provided in English, German, and French.

2) The online documentation takes the form of PDF files that can be viewed on any Macintosh with Adobe Acrobat Reader, which can be installed from the same CD.

3) Pay special attention to the Read Me files that get installed with the Premiere LE and Photoshop LE applications- especially if you are having technical problems with either of these programs. These files contain updated compatibility information that was not included in the User's Guide documentation.

Machines Affected: Power Computing machines with the MiroMotion DC 20 bundle
Published Date: Feb 20, 2012

Adobe Premiere LE Documentation

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

I just received the Adobe Premiere LE software package with my MiroMotion DC 20 card and there does not seem to be any documentation or a user's guide with it. Can Power Computing send it to me?
This article has been archived and is no longer updated by Apple.
Electronic documentation is provided with the bundle and can be accessed from the CD in the "Documentation" folder. It is a PDF file that can be read with Adobe Acrobat Reader, which can also be installed from the Premiere LE CD. This electronic documentation can be printed and used as a hard copy of the User's Guide.

Full, printed documentation for the Premiere LE application can also be purchased directly from Adobe. You must be a registered user of the software in order to do so. The registration card is in the back of Adobe Premiere LE pamphlet that comes with the Miro bundle; or you can register by phone.

The cost of the documentation is set by Adobe and listed on the back of the registration card.

North America: 1-800-642-ADOBE (1-800-642-3623)
Outside North America: 1-206-628-2749
Europe: Contact manufacturer of video board. (Miro for Power Computing bundles)
Japan: (03) 5423-1861

Note: Adobe Photoshop LE is also included in the bundle. The above information concerning electronic and printed documentation also applies to this version of the bundled Photoshop LE application.

Machines Affected: PowerCurve, PowerCenter, PowerTower, PowerTower Pro, PowerBase
Published Date: Feb 20, 2012

Cannot Format Floppies on 604e Based Machine

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

Ever since I did a clean install, I've been getting errors when formatting and erasing floppies. I can format these same floppy disks with no problem on other MacOS machines. What is causing this problem ?
This article has been archived and is no longer updated by Apple.
Customers using 604e systems running at speeds exceeding 180Mhz may see problems erasing or formatting floppies. Systems affected include the PowerTower and PowerTower Pro systems. Symptoms include error messages that an initialization failed or that a disk could not be erased because of disk errors. Customers may also notice that 1.44 MB disks that were formatted after the clean install show up as having only 1 MB of space.

These issues have been resolved with the PowerMac Format Patch, an extension that ships standard with all Power Computing systems. Even though this extension was written by Apple, it does not get installed with the standard system software installer. Therefore, if a customer does a clean install, the PowerMac Format Patch will have to be manually reinstalled to ensure compatibility with floppy disks. There is a copy of the PowerMac Format Patch on the PowerCD (Part #6010-1009-00) located in the Extensions folder in the Draggable System Folder.

In earlier systems, the Floppy Tuner (which was written by Power Computing) was installed as a temporary workaround until the Apple extension was made available. For customers with the older CD (part #75609), the extension is also located in the Draggable System folder.

Machines Affected: PowerTower 604e, PowerTower Pro systems
Article Change History:
* Written by Chris Heatherly (9/4/96)
* Modified by Nigel Prentice to update info about PowerMac Format Patch (11/26/96)
Published Date: Feb 20, 2012

Unable to Format Floppy Disks on Catalyst based Machines

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

I have a PowerCenter computer with an ATI video card and I am unable to format floppy disks. Is this a known issue?
This article has been archived and is no longer updated by Apple.
The PowerCurve, PowerCenter, PowerTower, and PowerTower(e) machines are all based on the Catalyst logic board design by Apple. We have seen that an ATI video card installed in one of these machines can cause floppy disks not to format.

Not all of the ATI cards shipped with Power Computing machines will experience this behavior. Only cards with ROM numbers 113-33200-111, 113-33200-112, and 113-33200-113 have exhibited this behavior.

If you are unable to format floppies and suspect you are experiencing this issue, remove the card and try to format a floppy disk. If it works, you may want to try installing the Spinnaker II Driver, written by ATI. This extension was developed to address this issue on MacOS systems based on the Catalyst logic board design.

You can receive a copy of the driver from Power Computing technical support.

Machines Affected: PowerCurve, PowerCenter, PowerTower, and PowerTower(e)
Published Date: Feb 20, 2012

No Serial Number for Now Contact/Now Up-to-Date 3.5.1

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

I need the serial number for Now (Contact/Up-to-Date) version 3.5.1. The serial number given to me for 3.5 or 3.6 doesn't work nor does anything show up in the "About ..." box. What's wrong?
This article has been archived and is no longer updated by Apple.
On the older Power Computing CD's there is an installer for Now Contact/Up-to- Date 3.5. In addition, there is a folder called Now Updates with a Now Contact/
Up-to-Date 3.5.1 updater.

If you install Now Contact or Up-to-Date, and then immediately run the 3.5.1 updater before entering the serial number, you will encounter this issue. The solution is to remove Now Contact/Up-to-Date, reinstall version 3.5, enter the correct serial number, then run the update.

Machines Affected: All
Published Date: Feb 20, 2012

Specifications: PowerBase 180, 200, 240

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

This article contains the technical specifications for the PowerBase 180, 200, and 240
This article has been archived and is no longer updated by Apple.
This machine is Power Computing first machine to be aimed specifically towards the home user and educational markets. It has received both five mice and five diamonds for MacUser and MacWorld. This machine is based on the Alchemy logic board design from Apple.

System Software
- Mac OS 7.5.3 rev 2.2 or newer supported

Microprocessor
- 603e/180, 603e/200, 603e/240
- 40MHz bus speed
- Upgradable via daughter card
- Integrated floating point unit and 32K cache

Memory
- Minimum 16M EDO, expandable to 160M
- 3 DIMM slots supporting 168 pin, 60ns or faster, EDO DIMMs; non-interleaved
- Level 2 cache 256k standard (some systems shipped without an L2 cache)
- 8k of non-volatile parameter memory
- 4M read only ROM

SCSI
- Single internal/external SCSI bus at 5M/sec
- SCSI bus supports up to 7 devices
- Connections are available to the SCSI buses via an internal 50 pin or external 25 pin connector.

IDE
- Single internal IDE controller
- IDE bus runs only one device
- Connection available to the IDE bus via an internal 50 pin connector.

Disk Drives
- 1.4 MB high-density MFM/GCR floppy disk drive supporting Mac OS, DOS, and ProDOS diskettes
- Internal hard disk drive, 1.2G 5400 rpm IDE minimum. Other capacities and speeds available. SCSI drives also available.
- Internal 4x CD-ROM drive (other speeds up to 16x available)

Serial Ports
- Two RS-232/RS422 serial ports, Geoport compatible, 230.4 Kbits/s maximum (up to 2.048 Mbits/s clocked externally)

Keyboard and Mouse
- Supports ADB keyboards with numeric keypads
- Comes with keyboard and mouse

Other I/0
- PS/2 Mouse Port
- PS/2 Keyboard Port

Network
- Built in AAUI port
- LocalTalk available through serial port

Bus Expansion
- Three internal PCI slots

Video Support
- Built-in high performance video with 2M or 4M of EDO DRAM.
- Horizontal refresh rate up to 85 Hz
- Available resoltuions from 512x384 to 1280x1024
- Mac 15-pin and SVGA connectors available

Audio
- Stereo output port, mini-style jack
- Stereo input port, mini-style jack (requires line-level input, such as a PlainTalk Mic)
- Built-in speaker
- Stereo sound generator capable of driving stereo mini-plug headphones or audio equipment
- CD Quality 16-bit stereo, 44.1 kHz sample rate, input and output
- Sample rates of 44.1 kHz, 22.05 kHz, and 11.025 kHz
- Input line level: 2 volts peak to peak nominal into 6.5 kOhms
- Input through output signal-to-noise ratio: >86 decibels (dB) with no audible discrete tones
- Bandwidth: 10Hz-19 kHz (+/- 2 dB) at 44.1 kHz sample rate
- Total harmonic distortion plus noise: Less than 0.06% measured 30Hz-60kHz with a 2V p-p sine wave input

Enclosures
- Low Profile: One front accessible, full-height 5 1/4" drive bay One internal, full-height 3 1/2" drive bay
- Minitower: Three front accessible, full-height 5 1/4" bays One internal, full-height 3 1/2" bay
- All full-height bays can hold two half-height drives or one full-height drive.

Dimensions
Low Profile: 16.8"(W) X 4.4"(H) X 16"(D); 21 lb (9.5 kg)
Minitower: 7"(W) X 15"(H) X 16"(D); 22 lb (10.5 kg)

Electrical Requirements and compliance
- Line voltage: 100-240 V AC, RMS single phase (not auto-ranging)
- Frequency: 50 to 60 Hz
- Power: Minitower 200w, not including display
- Power: Low Profile 145w, not including display

ADB power requirements
- Maximum power draw for all devices: 500mA
- Mouse power: up to 10mA
- Keyboard power: 25-80mA (varies with keyboard

Environmental Requirements
- Operating temperature: 10 - 40 degrees C (50 - 104 degrees F)
- Storage Temperature: -40 - 50 degrees C (-40 - 122 degrees F)
- Relative Humidity: 5% - 95% noncondensing
- Altitude: 0 - 3048m (0 - 10000 ft)

TA39448_Specifications_PowerBase_.pdf

Machines Affected: PowerBase series
Published Date: Feb 20, 2012

PowerBase: Frequently Asked Questions

This article contains frequently asked questions (FAQ) regarding Power Computing, with answers to those questions.

This article was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

This article has been archived and is no longer updated by Apple.

Questions answered in this article:

1. What processor type and speeds are available with the new PowerBase product family?
2. What is the main logic board bus speed?
3. Is PowerBase CPU upgradeable?
4. What are the expansion capabilities of PowerBase?
5. Does PowerBase include a Level-2 cache card?
6. Can you give me detailed information about the system RAM in PowerBase?
7. What about SCSI support?
8. What are the video capabilities of PowerBase?
9. What are the networking features for PowerBase systems?
10. How many drive bays does PowerBase have?
11. What is the base configuration for each system?
12. What software comes bundled with PowerBase?
13. Do PowerBase systems ship with a keyboard and mouse?
14. What is the warranty on PowerBase?
15. Do you offer a DOS Card for PowerBase?
16. Does PowerBase have any AV capabilities?
17. What type of audio connections does PowerBase include?
18. Will there be AV and Office configurations of PowerBase?
19. How does the PowerPC 603ev compare to the PowerPC 604?

Question 1: What processor type and speeds are available with the new PowerBase product family?

Answer: The PowerBase product family is designed with the PowerPC 603ev microprocessor running at 180MHz, 200MHz and 240MHz.

Question 2: What is the main logic board bus speed?

Answer: All PowerBase systems have a main logic board bus speed of 40MHz.

Question 3: Is PowerBase CPU upgradeable?

Answer: Yes. PowerBase has a socketed CPU expansion card which can be upgraded.

In order for the Alchemy architecture (upon which PowerBase is built) to be upgradeable to a PowerPC 604, a ROM change would be required from Apple. As a result, it is highly unlikely that PowerBase will be upgradeable to a PowerPC 604 processor. However, there will be faster PowerPC 603 processors available in the future.

Question 4: What are the expansion capabilities of PowerBase?

Answer: All PowerBase systems have three fast PCI expansion slots and three DIMM slots.

Question 5: Does PowerBase include a Level-2 cache card?

Answer: Yes. All PowerBase systems include a 256K Level-2 cache.

Question 6: Can you give me detailed information about the system RAM in PowerBase?

Answer: PowerBase has three DIMM slots. The first slot must be populated at all times and cannot handle more than a 32MB DIMM. The second and third slots can take up to 64MB DIMMs.

EDO DIMMs are required with PowerBase.

PowerBase does not support interleaved memory.

Question 7: What about SCSI support?

Answer: PowerBase includes a single-channel SCSI interface for both internal and external drives. It operates at up to 5MB/sec.

Question 8: What are the video capabilities of PowerBase?

Answer: PowerBase systems will come in 2MB or 4MB of VRAM configurations. The video circuitry is built into the upgradeable PCI riser card, which allows for future expansion.

Question 9: What are the networking features for PowerBase systems?

Answer: PowerBase includes two high-speed serial ports for LocalTalk, modem, printers or other devices.

There is no built-in ethernet on the PowerBase However, Power Computing does offer the 10BT and 10B100 ethernet PCI cards from Asante.

Question 10: How many drive bays does PowerBase have?

Answer: Low Profile: One front accessible 5 1/4" bay for 8x CD-ROM; one front accessible 3 1/2" bay for floppy drive; one internal 3 1/2" bay for one full-size or two half-size drives.

Mini-Tower: Three front accessible 5 1/4" bays, one for 8x CD-ROM; one front accessible 3 1/2" bay for internal floppy drive; one internal 3 1/2" bay for one full-size or two half-size drives.

Question 11: What is the base configuration for each system?

Answer: Each PowerBase system comes with 16MB RAM, a 1.2GB IDE hard drive, 8x CD-ROM, and a 256K Level-2 Cache.

Question 12: What software comes bundled with PowerBase?

Answer: ClarisWorks, Quicken SE, Nisus Writer (trial), Now Contact, Now Up-to-Date, 250 Bitstream Fonts, FWB Hard Disk ToolKit, FWB CD-ROM ToolKit, America Online (trial), Compuserve (trial), Grollier's Multimedia Encyclopedia.

Question 13: Do PowerBase systems ship with a keyboard and mouse?

Answer: Yes. PowerBase ships with an extended keyboard and mouse.

Question 14: What is the warranty on PowerBase?

Answer: As with all Power Computing products, users receive a 30-day money back guarantee, one year limited warranty, and lifetime toll-free technical support. Extended on-site service plans are available for an additional charge.

Question 15: Do you offer a DOS Card for PowerBase?

Answer: No.

Question 16: Does PowerBase have any AV capabilities?

Answer: PowerBase does not include on-board AV as our research showed that many people do not care about such functionality and do not want to pay for it. However, many solutions are available from third-party vendors.

Question 17: What type of audio connections does PowerBase include?

Answer: PowerBase has mini-jack connections. They support CD quality, 16-bit stereo 44.1 KHz sample rate, in and out.

Question 18: Will there be AV and Office configurations of PowerBase?

Answer: Yes, but no details are available at this time.

Question 19: How does the PowerPC 603ev compare to the PowerPC 604?

Answer: A PowerPC 603ev running at 180MHz is about the same speed as a PowerPC 604 running at 120MHz. Likewise, a PowerPC 603ev running at 240MHz is about the same speed as a PowerPC 604 running at 160MHz.

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Unimplemented Trap: NOW Toolbox

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I just pushed the CUDA Reset button inside my machine, and when I tried to startup, I got an "Unimplemented Trap: Now Toolbox" error message.
This article has been archived and is no longer updated by Apple.
When you reset the CUDA on the logic board, among other things you reset the date and the time. In order to get around the Now Toolbox Unimplemented Trap, you must boot with extensions off and set the proper date and time in the Date & Time control panel. When you restart, it should work fine. You should only get this message if you have Now Utilities installed and you reset the CUDA on your machine.

Machines Affected: All
Article Change History:
* Written by Eric Stine (10/6/96)
* Modified by Eric Stine to update format (11/1/96)
Published Date: Feb 20, 2012

HDT Primer: Hints & Tips

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.
This article has been archived and is no longer updated by Apple.

Problems with older SCSI devices

If you have any older SCSI devices (e.g. SCSI-1 & early SCSI-2 mechanisms) connected to your SCSI Manager 4.3-compliant Macintosh (Power Macintoshes, Quadra 840AV, Quadra/Centris 660AV) or if you are running System Software 7.5 with the SCSI Manager 4.3 Extension installed, you may be experiencing system hangs/freezes or problems with initializing drives with the HDT Primer^{a} PE application.

These older SCSI devices have problems with supporting the newer SCSI Manager 4.3 disconnect feature. Disabling the "allow disconnect" option in the driver configuration parameters window in the device's driver resolves these support problems. You may want to disable the "allow disconnect" option for all devices on the SCSI chain. This problem does not occur on non- SCSI Manager 4.3 systems or with non-SCSI Manager 4.3 drivers (such as in HDT PE 1.5 and earlier versions).

How to Access the Driver Configuration Parameters Window

Launch the HDT Primer^{a} PE application. In the drive selection window, select the drive in question by clicking on it once. Hold down the Command, Shift, and Option keys while selecting "Update Driver" from the File Menu in HDT Primer^{a} PE. In the Driver Configuration Parameters window, disable the "allow disconnect" option by unchecking the box next to it. There should be no "x" in the box now, indicating that you disabled the "allow disconnect" feature. Click on the Change button to save your change. Quit from the HDT Primer^{a} PE application and restart your computer.

Machines Affected: All
Published Date: Feb 20, 2012

Seagate SCSI ID and Termination Jumper Settings

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What are the SCSI ID and termination jumper settings for the Seagate Medalist ST51080N 1 GB hard drive included with some Power Computing computers?
This article has been archived and is no longer updated by Apple.
See the schematic drawings below for the SCSI ID and termination jumper settings.

Machines Affected: All
Published Date: Feb 20, 2012

No Global Village Modem Upgrade

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I downloaded Global Village's flash ROM upgrade to change the modem you bundled with my computer from 28.8 to 33.6 and it isn't working. Why?
This article has been archived and is no longer updated by Apple.
The modems that are bundled with Power Computing systems use a design that is slightly different from other Teleport Platinum 28.8 modems. Unlike the Platinum modems sold through retail channels, Power's version does not support flash ROM upgrades.

However, Global Village is currently offering an update program that allows you to exchange your modem for an upgradeable model. For more information, contact Global Village at 800-736-4821.

Machines Affected: All
Published Date: Feb 20, 2012

Zip and Jaz Cartridges Don‘t Eject at Shut Down

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Sometimes my machine ejects the Zip cartridge from the internal drive when I restart and sometimes it doesn't. Why?
This article has been archived and is no longer updated by Apple.
When you shut down your computer, the power supply shuts down faster than the Zip or Jaz drive can eject the cartridge. This behavior is normal, and occurs with other removable media (such as CDs and Syquest cartridges). Since external Zip and Jaz drives have their own power supplies, they will always eject their media when you shut down or restart.

When you restart your computer, power continues to be provided, so the internal drives will be able to eject their cartridges as a part of the rebooting process.

To summarize:
* If the computer is RESTARTED, a Jaz/Zip cartridge WILL eject.
* If the computer is SHUT DOWN, a Jaz/Zip cartridge WILL NOT eject.

If you want your cartridges to eject at shut down, you will need to drag the volume icons to the trash before selecting "Shut Down" from the Special menu.

Machines Affected: All Power systems with Zip and Jaz drives
Published Date: Feb 20, 2012

Hard Drive Requirements for Video Capture

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

I want to purchase one of your PowerBase A/V systems to capture full-motion, full-frame video at millions of colors. What type of hard disk do I need: IDE or SCSI?
This article has been archived and is no longer updated by Apple.
The miroMotion DC20 video capture card used in our A/V configurations requires a sustained transfer rate of 3.5 MB/sec to capture 640x480, 60 field/sec, 29.97 frames/sec at millions of colors.

Most Enhanced IDE hard drives (such as those used in the PowerBase) perform at an average of 1.5-3 MB/sec, and thus are not recommended for this application.

The built-in SCSI on the PowerBase can, however, handle the required throughput as it can maintain a sustained transfer rate of 4-5 MB/sec with most SCSI devices.

Machines Affected: PowerBase
Published Date: Feb 20, 2012

Shifted Video Using a Video Card

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

I have a computer with a Catalyst logic board (PowerCurve, PowerCenter, or PowerTower) and a video card. If my monitor is plugged into the onboard video, everything works fine. However, if it is plugged into the video card, the video is shifted far to one side. Alternately, the screen may appear grey or with the desktop pattern with no mouse cursor, but moving the mouse around far enough will get it to appear on the screen. I have tried resetting PRAM, resetting CUDA, and even booting from the Power CD, but nothing has helped. What should I do?
This article has been archived and is no longer updated by Apple.
Near the back of the Catalyst logic board between the SCSI and monitor connections there is a VGA Enable jumper. If this jumper is closed, the onboard video is treated as the primary monitor even if there is no monitor attached to it. Consequently, any monitor attached to a video card will be either shifted severely to one side or will appear grey or will have the desktop pattern. Removing the VGA Enable jumper fixes the Issue.

Machines Affected: PowerCurve, PowerCenter, PowerTower
Published Date: Feb 20, 2012

Specifications: Power 100/120

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

This article contains the technical specifications for the Power 100 and 120.
This article has been archived and is no longer updated by Apple.
These are the first two machines that Power Computing released. The Power 100 was released in early May of 95 and the Power 120 was released in August of the same year. Both of these machines are similar to the Apple 8100 series of computers. These Computers are commonly referred to as ÒYetti.Ó

System Software
- Mac OS 7.5, 7.5.3 or newer supported
- For the Power 120, Mac OS 7.5.1 is not supported. Mac OS 7.5.1 does not contain code to recognize the 120MHz processor.
- For the Power 120, Mac OS 8 will require the Maintenance release from Apple to correct a problem with virtual memory.

Microprocessor
- 601/100 or 601/120
- 40MHz bus speed
- Non-upgradable
- Integrated floating point unit and 32K cache

Memory
- Minimum 8M, expandable to 200M
- 8 SIMM slots supporting 72 pin, 80ns or faster SIMMs; non-interleaved
- Level 2 cache 256k standard (512k available)
- 256k of non-volatile parameter memory
- 4M read only ROM

SCSI
- Dual SCSI Support:
Internal Bus: Fast SCSI 10MB/sec data transfer rate
External Bus: SCSI 5MB/sec data transfer rate
- Each SCSI bus supports up to 7 devices
- Connections are available to the SCSI buses via an internal 50 pin or external 25 pin connector.

Disk Drives
- 1.4 MB high-density MFM/GCR floppy disk drive supporting Mac OS, DOS, and ProDOS diskettes
- Internal hard disk drive, 540M standard. Other capacities and speeds available.
- Internal 4x CD-ROM drive

Serial Ports
- Two RS-232/RS422 serial ports, Geoport compatible, 230.4 Kbits/s maximum (up to 2.048 Mbits/s clocked externally)

Keyboard and Mouse
- Supports ADB keyboards with numeric keypads
- Comes with keyboard and mouse

Network
- Built in AAUI port
- LocalTalk available through serial port

Bus Expansion
- Three internal NuBus expansion card slots
- One internal Processor Direct Slot (PDS)

Video Support
- Video support built into logic board with 2M DRAM
- Mac 15-pin connector
- Resolutions from 512x384 to 832x624 (1000s of colors at 512x384 and 640x480 only)
- Optional High-Performance Video PDS card with 2M or 4M of VRAM (millions of colors w/ 4M at 1024x768 and above).
- Optional HPV card has Mac 15-pin and SVGA connectors
- Optional PDS Apple 2MB AV card with video in/out

Audio
- Stereo output prt, mini-style jack
- Stereo input port, mini-style jack (requires line-level input, such as a PlainTalk Mic)
- Built-in speaker
- Stereo sound generator capable of driving stereo mini-plug headphones or audio equipment
- CD Quality 16-bit stereo, 44.1 kHz sample rate, input and output
- Sample rates of 44.1 kHz and 22.05 kHz
- Input line level: 2 volts peak to peak nominal into 6.5 kOhms
- Input through output signal-to-noise ratio: >86 decibels (dB) with no audible discrete tones
- Bandwidth: 10Hz-19 kHz (+/- 2 dB) at 44.1 kHz sample rate
- Total harmonic distortion plus noise: Less than 0.06% measured 30Hz-60kHz with a 2V p-p sine wave input

Enclosures
- Desktop: Two front accessible, full-height 5 1/4" bays One internal, full-height 3 1/2" bay
- Minitower: Three front accessible, full-height 5 1/4" bays One internal, full-height 3 1/2" bay
- All full-height bays can hold two half-height drives or one full-height drive.

Dimensions
Desktop: 16"(W) X 6"(H) X 16"(D); 22 lb (10.5 kg)
Minitower: 7"(W) X 15"(H) X 16"(D); 22 lb (10.5 kg)

Electrical Requirements and compliance
- Line voltage: 100-240 V AC, RMS single phase (not auto-ranging)
- Frequency: 50 to 60 Hz
- Power: 200w, not including display

ADB power requirements
- Maximum power draw for all devices: 500mA
- Mouse power: up to 10mA
- Keyboard power: 25-80mA (varies with keyboard

Environmental Requirements
- Operating temperature: 10 - 40 degrees C (50 - 104 degrees F)
- Storage Temperature: -40 - 50 degrees C (-40 - 122 degrees F)
- Relative Humidity: 5% - 95% noncondensing
- Altitude: 0 - 3048m (0 - 10000 ft)

TA39459_Specifications_Power_.pdf

Machines Affected: Power 100/120
Published Date: Feb 20, 2012

Specifications: PowerCurve 120

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

This article contains the technical specifications for the PowerCurve 120.
This article has been archived and is no longer updated by Apple.
This was Power Computing's second PCI machine. The PowerCurve was released first in January 1996 at MacWorld. This machine uses the "Catalyst" style logic board, developed by Apple.

System Software
- Mac OS 7.5.2 or newer supported

Microprocessor
- 601/120
- 40MHz bus speed
- Upgradable via daughter card
- Integrated floating point unit and 32K cache

Memory
- Minimum 8M, expandable to 256M
- 4 DIMM slots supporting 168 pin, 70ns or faster, Fast Page Mode DIMMs; non-interleaved
- Level 2 cache 256k standard (512k available, 1M supported)
- 256k of non-volatile parameter memory
- 4M read only ROM

SCSI
- Single internal/external SCSI bus at 5M/sec
- SCSI bus supports up to 7 devices
- Connections are available to the SCSI buses via an internal 50 pin or external 25 pin connector.

Disk Drives
- 1.4 MB high-density MFM/GCR floppy disk drive supporting Mac OS, DOS, and ProDOS diskettes
- Internal hard disk drive, 850M minimum. Other capacities and speeds available.
- Internal 4x CD-ROM drive

Serial Ports
- Two RS-232/RS422 serial ports, Geoport compatible, 230.4 Kbits/s maximum (up to 2.048 Mbits/s clocked externally)

Keyboard and Mouse
- Supports ADB keyboards with numeric keypads
- Comes with keyboard and mouse

Network
- Built in AAUI port
- Built in 10baseT
- LocalTalk available through serial port

Bus Expansion
- Three internal PCI slots

Video Support
- Built-in high performance video with 1M, 2M, or 4M of VRAM. With 4M VRAM, millions of colors supported through 1152x870.
- Available resoltuions from 512x384 to 1280x1024
- Mac 15-pin and SVGA connectors available
- Refresh rates up to 120 Hz supported

Audio
- Stereo output port, mini-style jack
- Stereo input port, mini-style jack (requires line-level input, such as a PlainTalk Mic)
- Built-in speaker
- Stereo sound generator capable of driving stereo mini-plug headphones or audio equipment
- CD Quality 16-bit stereo, 44.1 kHz sample rate, input and output

- Sample rates of 44.1 kHz, 22.05 kHz, and 11.025 kHz
- Input line level: 2 volts peak to peak nominal into 6.5 kOhms
- Input through output signal-to-noise ratio: >86 decibels (dB) with no audible discrete tones
- Bandwidth: 10Hz-19 kHz (+/- 2 dB) at 44.1 kHz sample rate
- Total harmonic distortion plus noise: Less than 0.06% measured 30Hz-60kHz with a 2V p-p sine wave input

Enclosures
- One front accessible, full-height 5 1/4" drive bay One internal, full-height 3 1/2" drive bay
- All full-height bays can hold two half-height drives or one full-height drive.

Dimensions
Low Profile: 16.8"(W) X 4.4"(H) X 16"(D); 21 lb (9.5 kg)

Electrical Requirements and compliance
- Line voltage: 100-240 V AC, RMS single phase (not auto-ranging)
- Frequency: 50 to 60 Hz
- Power: 145w, not including display

ADB power requirements
- Maximum power draw for all devices: 500mA
- Mouse power: up to 10mA
- Keyboard power: 25-80mA (varies with keyboard

Environmental Requirements
- Operating temperature: 10 - 40 degrees C (50 - 104 degrees F)
- Storage Temperature: -40 - 50 degrees C (-40 - 122 degrees F)
- Relative Humidity: 5% - 95% noncondensing
- Altitude: 0 - 3048m (0 - 10000 ft)

Machines Affected: PowerCurve 120

TA39460_Specifications_PowerCurve_.pdf

Published Date: Feb 20, 2012

Specifications: PowerWave 120/132/150

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

This article contains the technical specifications for the PowerWave 120, 132, and 150.
This article has been archived and is no longer updated by Apple.
This is Power Computing first PCI based machine. The PowerWave was also the first machine to run at 150MHz. The design is based on the "Tsunami" logic board design by Apple.

System Software
- Mac OS 7.5.2 or newer supported

Microprocessor
- 604/120, 604/132 or 604/150
- 40MHz bus speed for 604/120
- 44MHz bus speed for 604/132
- 50MHz bus speed for 604/150
- Upgradable via daughter card
- Integrated floating point unit and 32K cache

Memory
- Minimum 16M, expandable to 512M
- 8 DIMM slots supporting 168 pin, 70ns or faster, Fast Page Mode DIMMs; interleaved
- Level 2 cache 256k standard (512k available, 1M supported)
- 256k of non-volatile parameter memory
- 4M read only ROM

SCSI
- Dual SCSI Support:
Internal Bus: Fast SCSI 10MB/sec data transfer rate
External Bus: SCSI 5MB/sec data transfer rate
- Each SCSI bus supports up to 7 devices
- Connections are available to the SCSI buses via an internal 50 pin or external 25 pin connector.

Disk Drives
- 1.4 MB high-density MFM/GCR floppy disk drive supporting Mac OS, DOS, and ProDOS diskettes
- Internal hard disk drive, 540M minimum. Other capacities and speeds available.
- Internal 4x CD-ROM drive

Serial Ports
- Two RS-232/RS422 serial ports, Geoport compatible, 230.4 Kbits/s maximum (up to 2.048 Mbits/s clocked externally)

Keyboard and Mouse
- Supports ADB keyboards with numeric keypads
- Comes with keyboard and mouse

Network
- Built in AAUI port
- Built in 10baseT
- LocalTalk available through serial port

Bus Expansion
- Three internal PCI slots
- One slot occupied by ATI Xclaim GA video card.

Video Support
- ATI 2M or 4M Xclaim GA video card supporting 512x384 to 1280x1024 (with 4M VRAM, millions of colors up to 1152x870)
-Mac 15-pin and SVGA connections on the PCI card

Audio
- Stereo output port, mini-style jack
- Stereo input port, mini-style jack (requires line-level input, such as a PlainTalk Mic)
- Built-in speaker

- Stereo sound generator capable of driving stereo mini-plug headphones or audio equipment
- CD Quality 16-bit stereo, 44.1 kHz sample rate, input and output
- Sample rates of 44.1 kHz, 22.05 kHz, and 11.025 kHz
- Input line level: 2 volts peak to peak nominal into 6.5 kOhms
- Input through output signal-to-noise ratio: >86 decibels (dB) with no audible discrete tones
- Bandwidth: 10Hz-19 kHz (+/- 2 dB) at 44.1 kHz sample rate
- Total harmonic distortion plus noise: Less than 0.06% measured 30Hz-60kHz with a 2V p-p sine wave input

Enclosures
- Desktop: Two front accessible, full-height 5 1/4" bays One internal, full-height 3 1/2" bay
- Minitower: Three front accessible, full-height 5 1/4" bays One internal, full-height 3 1/2" bay
- All full-height bays can hold two half-height drives or one full-height drive.

Dimensions
Desktop: 16"(W) X 6"(H) X 16"(D); 22 lb (10.5 kg)
Minitower: 7"(W) X 15"(H) X 16"(D); 22 lb (10.5 kg)

Electrical Requirements and compliance
- Line voltage: 100-240 V AC, RMS single phase (not auto-ranging)
- Frequency: 50 to 60 Hz
- Power: 200w, not including display

ADB power requirements
- Maximum power draw for all devices: 500mA
- Mouse power: up to 10mA
- Keyboard power: 25-80mA (varies with keyboard

Environmental Requirements
- Operating temperature: 10 - 40 degrees C (50 - 104 degrees F)
- Storage Temperature: -40 - 50 degrees C (-40 - 122 degrees F)
- Relative Humidity: 5% - 95% noncondensing
- Altitude: 0 - 3048m (0 - 10000 ft)

TA39461_Specifications_PowerWave_.pdf

Machines Affected: PowerWave series
Published Date: Feb 20, 2012

pecifications: PowerCenter 120/132/150/166/180

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

This article contains the technical specifications for the PowerCenter 120, 132, 150, 166, and 180.
This article has been archived and is no longer updated by Apple.
This was Power Computing's third PCI based series of machines. The PowerCenter was released in late April of 1996. This machine uses the "Catalyst" style logic board, developed by Apple.

System Software
- Mac OS 7.5.2 or newer supported

Microprocessor
- 604/120, 604/132, 604/150, 604/166, 604/180
- 40MHz bus speed for 604/120
- 44MHz bus speed for 604/132
- 50MHz bus speed for 604/150
- 55.3MHz bus speed for 604/166
- 60MHz bus speed for 604/180
- Upgradable via daughter card
- Integrated floating point unit and 32K cache

Memory
- Minimum 8M, expandable to 256M
- 4 DIMM slots supporting 168 pin, 70ns or faster, Fast Page Mode DIMMs; non-interleaved (604/166 and 604/180 require 60ns or faster. 604/180 requires gold connector)
- Level 2 cache 512k standard
- 8k of non-volatile parameter memory
- 4M read only ROM

SCSI
- Single internal/external SCSI bus at 5M/sec
- SCSI bus supports up to 7 devices
- Connections are available to the SCSI buses via an internal 50 pin or external 25 pin connector.

Disk Drives
- 1.4 MB high-density MFM/GCR floppy disk drive supporting Mac OS, DOS, and ProDOS diskettes
- Internal hard disk drive, 1G 5400 rpm minimum. Other capacities and speeds available.
- Internal 4x CD-ROM drive (other speeds up to 16x available)

Serial Ports
- Two RS-232/RS422 serial ports, Geoport compatible, 230.4 Kbits/s maximum (up to 2.048 Mbits/s clocked externally)

Keyboard and Mouse
- Supports ADB keyboards with numeric keypads
- Comes with keyboard and mouse

Network
- Built in AAUI port
- Built in 10baseT
- LocalTalk available through serial port

Bus Expansion
- Three internal PCI slots

Video Support
- Built-in high performance video with 1M, 2M, or 4M of VRAM. With 4M VRAM, millions of colors supported through 1152x870.
- Available resoltuions from 512x384 to 1280x1024
- Mac 15-pin and SVGA connectors available

Audio
- Stereo output port, mini-style jack
- Stereo input port, mini-style jack (requires line-level input, such as a PlainTalk Mic)

- Built-in speaker
- Stereo sound generator capable of driving stereo mini-plug headphones or audio equipment
- CD Quality 16-bit stereo, 44.1 kHz sample rate, input and output
- Sample rates of 44.1 kHz, 22.05 kHz, and 11.025 kHz
- Input line level: 2 volts peak to peak nominal into 6.5 kOhms
- Input through output signal-to-noise ratio: >86 decibels (dB) with no audible discrete tones
- Bandwidth: 10Hz-19 kHz (+/- 2 dB) at 44.1 kHz sample rate
- Total harmonic distortion plus noise: Less than 0.06% measured 30Hz-60kHz with a 2V p-p sine wave input

Enclosures
- Low Profile: One front accessible, full-height 5 1/4" drive bay One internal, full-height 3 1/2" drive bay
- Desktop: Two front accessible, full-height 5 1/4" bays One internal, full-height 3 1/2" bay
- Minitower: Three front accessible, full-height 5 1/4" bays One internal, full-height 3 1/2" bay
- All full-height bays can hold two half-height drives or one full-height drive.

Dimensions
Low Profile: 16.8"(W) X 4.4"(H) X 16"(D); 21 lb (9.5 kg)
Desktop: 16"(W) X 6"(H) X 16"(D); 22 lb (10.5 kg)
Minitower: 7"(W) X 15"(H) X 16"(D); 22 lb (10.5 kg)

Electrical Requirements and compliance
- Line voltage: 100-240 V AC, RMS single phase (not auto-ranging)
- Frequency: 50 to 60 Hz
- Power: Desktop/Minitower 200w, not including display
- Power: Low Profile 145w, not including display

ADB power requirements
- Maximum power draw for all devices: 500mA
- Mouse power: up to 10mA
- Keyboard power: 25-80mA (varies with keyboard

Environmental Requirements
- Operating temperature: 10 - 40 degrees C (50 - 104 degrees F)
- Storage Temperature: -40 - 50 degrees C (-40 - 122 degrees F)
- Relative Humidity: 5% - 95% noncondensing
- Altitude: 0 - 3048m (0 - 10000 ft)

TA39462_pecifications_PowerCenter_.pdf

Machines Affected: PowerCenter series
Published Date: Feb 20, 2012

Specifications: PowerTower 166/180

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

This article contains the technical specifications for the PowerTower 166 and 180.
This article has been archived and is no longer updated by Apple.
This machine uses the "Catalyst" style logic board, developed by Apple.

System Software
- Mac OS 7.5.3 or newer supported

Microprocessor
- 604/166, 604/180
- 55.3MHz bus speed for 604/166
- 60MHz bus speed for 604/180
- Upgradable via daughter card
- Integrated floating point unit and 32K cache

Memory
- Minimum 8M, expandable to 256M
- 4 DIMM slots supporting 168 pin, 60ns or faster, Fast Page Mode DIMMs; non-interleaved (604/180 requires gold connector)
- Level 2 cache 512k standard
- 8k of non-volatile parameter memory
- 4M read only ROM

SCSI
- Single internal/external SCSI bus at 5M/sec
- SCSI bus supports up to 7 devices
- Connections are available to the SCSI buses via an internal 50 pin or external 25 pin connector.

Disk Drives
- 1.4 MB high-density MFM/GCR floppy disk drive supporting Mac OS, DOS, and ProDOS diskettes
- Internal hard disk drive, 1G 5400 rpm minimum. Other capacities and speeds available.
- Internal 4x CD-ROM drive (other speeds up to 16x available)

Serial Ports
- Two RS-232/RS422 serial ports, Geoport compatible, 230.4 Kbits/s maximum (up to 2.048 Mbits/s clocked externally)

Keyboard and Mouse
- Supports ADB keyboards with numeric keypads
- Comes with keyboard and mouse

Network
- Built in AAUI port
- Built in 10baseT
- LocalTalk available through serial port

Bus Expansion
- Three internal PCI slots

Video Support
- Built-in high performance video with 1M, 2M, or 4M of VRAM. With 4M VRAM, millions of colors supported through 1152x870.
- Available resoltuions from 512x384 to 1280x1024
- Mac 15-pin and SVGA connectors available

Audio
- Stereo output port, mini-style jack
- Stereo input port, mini-style jack (requires line-level input, such as a PlainTalk Mic)
- Built-in speaker
- Stereo sound generator capable of driving stereo mini-plug headphones or audio equipment
- CD Quality 16-bit stereo, 44.1 kHz sample rate, input and output
- Sample rates of 44.1 kHz, 22.05 kHz, and 11.025 kHz
- Input line level: 2 volts peak to peak nominal into 6.5 kOhms

- Input through output signal-to-noise ratio: >86 decibels (dB) with no audible discrete tones
- Bandwidth: 10Hz-19 kHz (+/- 2 dB) at 44.1 kHz sample rate
- Total harmonic distortion plus noise: Less than 0.06% measured 30Hz-60kHz with a 2V p-p sine wave input

Enclosures
- Minitower: Three front accessible, full-height 5 1/4" bays One internal, full-height 3 1/2" bay
- All full-height bays can hold two half-height drives or one full-height drive.

Dimensions
Minitower: 7"(W) X 15"(H) X 16"(D); 22 lb (10.5 kg)

Electrical Requirements and compliance
- Line voltage: 100-240 V AC, RMS single phase (not auto-ranging)
- Frequency: 50 to 60 Hz
- Power: 200w, not including display

ADB power requirements
- Maximum power draw for all devices: 500mA
- Mouse power: up to 10mA
- Keyboard power: 25-80mA (varies with keyboard

Environmental Requirements
- Operating temperature: 10 - 40 degrees C (50 - 104 degrees F)
- Storage Temperature: -40 - 50 degrees C (-40 - 122 degrees F)
- Relative Humidity: 5% - 95% noncondensing
- Altitude: 0 - 3048m (0 - 10000 ft)

Machines Affected: PowerTower series
Published Date: Feb 20, 2012

TA39463_Specifications_PowerTower_.pdf

Specifications: PowerTower Pro 180, 200, 225, 250

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

This article contains the technical specifications for the PowerTower Pro 180, 200, 225, and 250.
This article has been archived and is no longer updated by Apple.
The is the first super high end machine that Power Computing has released. This is the first PC on any platform to ship at 225Mhz and its technology is dual processor capable. The PowerTower Pro is the most upgradeable machine yet as it offers six PCI bus expansion bays, eight RAM memory slots, and seven internal drive bays.

It is based on Apple's Tsunami main logic board design and the Power Macintosh 9500 is its equivalent. Even though the underlying technology is the Tsunami architecture, Power has made a few modifications to augment its functionality.

System Software
- Mac OS 7.5.3 or newer supported

Microprocessor
- 604e/180, 604e/200, 604e/225, 604e/250
- 51.43 MHz bus speed for 604e/180
- 50 MHz bus speed for 604e/200
- 45 MHz bus speed for 604e/225
- 50 MHz bus speed for 604e/250
- Upgradable via daughter card
- Integrated floating point unit and 32K cache

Memory
- Minimum 16M for core system; 32M for other, expandable to 1G
- 8 DIMM slots supporting 168 pin, 70ns or faster, Fast Page Mode DIMMs; interleaved
- Level 2 cache 1M standard
- 4k of non-volatile parameter memory
- 4M read only ROM

SCSI
- Dual SCSI Support:
Internal Bus: Fast SCSI 10MB/sec data transfer rate
External Bus: SCSI 5MB/sec data transfer rate
- Each SCSI bus supports up to 7 devices
- Connections are available to the SCSI buses via an internal 50 pin or external 25 pin connector.

Disk Drives
- 1.4 MB high-density MFM/GCR floppy disk drive supporting Mac OS, DOS, and ProDOS diskettes
- Internal hard disk drive, 2G 7200 rpm minimum. Other capacities and speeds available.
- Internal 4x CD-ROM drive (other speeds up to 24x available)

Serial Ports
- Two RS-232/RS422 serial ports, Geoport compatible, 230.4 Kbits/s maximum (up to 2.048 Mbits/s clocked externally)

Keyboard and Mouse
- Supports ADB keyboards with numeric keypads
- Comes with keyboard and mouse

Network
- Built in AAUI port
- Built in 10baseT
- LocalTalk available through serial port

Bus Expansion
- Six internal PCI slots

Video Support
- IXMicro TwinTurbo 4M or 8M card
- Horizontal Refresh rate up to 75Hz
- Supports 640x480 to 1920x1080 resolution

Audio
- Stereo output port, mini-style jack
- Stereo input port, mini-style jack (requires line-level input, such as a PlainTalk Mic)
- Built-in speaker
- Stereo sound generator capable of driving stereo mini-plug headphones or audio equipment
- CD Quality 16-bit stereo, 44.1 kHz sample rate, input and output
- Sample rates of 44.1 kHz, 22.05 kHz, and 11.025 kHz
- Input line level: 2 volts peak to peak nominal into 6.5 kOhms
- Input through output signal-to-noise ratio: >86 decibels (dB) with no audible discrete tones
- Bandwidth: 10Hz-19 kHz (+/- 2 dB) at 44.1 kHz sample rate
- Total harmonic distortion plus noise: Less than 0.06% measured 30Hz-60kHz with a 2V p-p sine wave input

Enclosures
- ATX: Four front accessible, full-height 5 1/4" drive bays; Two front accessible, full-height 3 1/2" drive bays; One internal, full-height 3 1/2" drive bay
- All full-height bays can hold two half-height drives or one full-height drive.

Dimensions
Case Dimensions: 7.7"(W) X 16.9"(H) X 17.3"(D); 27 lb (12.2 kg)

Electrical Requirements and compliance
- Line voltage: 100-240 V AC, RMS single phase (not auto-ranging)
- Frequency: 50 to 60 Hz
- Power: 300w

ADB power requirements
- Maximum power draw for all devices: 500mA
- Mouse power: up to 10mA
- Keyboard power: 25-80mA (varies with keyboard

Environmental Requirements
- Operating temperature: 10 - 40 degrees C (50 - 104 degrees F)
- Operating temperature: 10 - 35 degrees C (50F to 95F) (225MP/250)
- Storage Temperature: -40 - 50 degrees C (-40 - 122 degrees F) for 72 hours max
- Storage Temperature: -40 - 65 degrees C (-40F to 149F) for 72 hours max. (225MP/250)
- Relative Humidity: 5% - 95% noncondensing
- Altitude: 0 - 3048m (0 - 10000 ft)

TA39464_Specifications_PowerTower_Pro_.pdf

Machines Affected: PowerTower Pro series
Published Date: Feb 20, 2012

Specifications: PowerTower 180e/200e

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

This article contains the technical specifications for the PowerTower 180e and 200e.
This article has been archived and is no longer updated by Apple.
This machine uses the "Catalyst" style logic board, developed by Apple.

System Software
- Mac OS 7.5.3 or newer supported

Microprocessor
- 604e/180, 604e/200
- 60MHz bus speed for 604e/180
- 50MHz bus speed for 604e/200
- Upgradable via daughter card
- Integrated floating point unit and 32K cache

Memory
- Minimum 8M, expandable to 256M
- 4 DIMM slots supporting 168 pin, 60ns or faster, Fast Page Mode DIMMs; non-interleaved
- Level 2 cache 1M standard
- 8k of non-volatile parameter memory
- 4M read only ROM

SCSI
- Single internal/external SCSI bus at 5M/sec
- SCSI bus supports up to 7 devices
- Connections are available to the SCSI buses via an internal 50 pin or external 25 pin connector.

Disk Drives
- 1.4 MB high-density MFM/GCR floppy disk drive supporting Mac OS, DOS, and ProDOS diskettes
- Internal hard disk drive, 1G 5400 rpm minimum. Other capacities and speeds available.
- Internal 4x CD-ROM drive (other speeds up to 16x available)

Serial Ports
- Two RS-232/RS422 serial ports, Geoport compatible, 230.4 Kbits/s maximum (up to 2.048 Mbits/s clocked externally)

Keyboard and Mouse
- Supports ADB keyboards with numeric keypads
- Comes with keyboard and mouse

Network
- Built in AAUI port
- Built in 10baseT
- LocalTalk available through serial port

Bus Expansion
- Three internal PCI slots

Video Support
- Built-in high performance video with 1M, 2M, or 4M of VRAM. With 4M VRAM, millions of colors supported through 1152x870.
- Available resoltuions from 512x384 to 1280x1024
- Mac 15-pin and SVGA connectors available

Audio
- Stereo output port, mini-style jack
- Stereo input port, mini-style jack (requires line-level input, such as a PlainTalk Mic)
- Built-in speaker
- Stereo sound generator capable of driving stereo mini-plug headphones or audio equipment
- CD Quality 16-bit stereo, 44.1 kHz sample rate, input and output
- Sample rates of 44.1 kHz, 22.05 kHz, and 11.025 kHz
- Input line level: 2 volts peak to peak nominal into 6.5 kOhms

- Input through output signal-to-noise ratio: >86 decibels (dB) with no audible discrete tones
- Bandwidth: 10Hz-19 kHz (+/- 2 dB) at 44.1 kHz sample rate
- Total harmonic distortion plus noise: Less than 0.06% measured 30Hz-60kHz with a 2V p-p sine wave input

Enclosures
- Minitower: Three front accessible, full-height 5 1/4" bays One internal, full-height 3 1/2" bay
- All full-height bays can hold two half-height drives or one full-height drive.

Dimensions
Minitower: 7"(W) X 15"(H) X 16"(D); 22 lb (10.5 kg)

Electrical Requirements and compliance
- Line voltage: 100-240 V AC, RMS single phase (not auto-ranging)
- Frequency: 50 to 60 Hz
- Power: 200w, not including display

ADB power requirements
- Maximum power draw for all devices: 500mA
- Mouse power: up to 10mA
- Keyboard power: 25-80mA (varies with keyboard

Environmental Requirements
- Operating temperature: 10 - 40 degrees C (50 - 104 degrees F)
- Storage Temperature: -40 - 50 degrees C (-40 - 122 degrees F)
- Relative Humidity: 5% - 95% noncondensing
- Altitude: 0 - 3048m (0 - 10000 ft)

Machines Affected: PowerTower(e) series
Published Date: Feb 20, 2012

HDT Prober No Longer Included

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

What is the HDT Prober and should I have it installed?
This article has been archived and is no longer updated by Apple.
FWB's HDT Prober is a control panel that allows users to query the SCSI bus to determine which SCSI devices are attached and at what SCSI ID each is located.

It is a product that came preinstalled on only a few of Power Computing's early systems and is no longer included with any current bundle. Power Computing is not able to send this software to users as we no longer license its use from FWB. Furthermore, it is not archived on any of our Power CDs.

Its functionality is not lost, however. FWB's HDT Primer provides all the functionality of the Prober and more. If you don't want to use HDT Primer to view SCSI bus information, open the CD-ROM Toolkit control panel instead- which also queries the SCSI bus and gives similar functionality.

Machines Affected: All
Published Date: Feb 20, 2012

HDT Primer: Updating Hard Drive Drivers

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

How do I update the hard drive drivers on my Power Computing machine.
This article has been archived and is no longer updated by Apple.
The term "driver" is a generic term that refers to any piece of software that, in some way, controls a piece of hardware. For example, there are drivers for monitors, PCI cards, scanners, digital cameras, CD-ROM drives, as well as hard drives.

It is important to always use the most recent drivers to ensure compatibility and proper operation. For hard drives, these drivers are embedded in the drive itself and are not directly accessible files like most MacOS users are accustomed to. For this reason, most drive utility software packages allow users to update the hard drive drivers that control the hard drive.

Updating hard drive drivers ensures that the most recent versions of the drivers are being used and also fixes any problems that could be encountered with corrupt drivers. Power Computing bundles FWB's HDT Primer with all of its machines and this is the utility that allows users to update their hard drive drivers.

1. Boot from the Power CD by inserting it and selecting it in the Startup Disk control panel.

2. Restart. If the CD tray opens during restart, immediately push it back in.

3. When the machine has completed the boot up process, verify that the CD was the startup disk by making sure that the CD icon is above your hard drive icon.

4. Open the "Utilities" folder on the Power CD and double click on the "HDT Primer" icon.

5. HDT Primer will now display a listing of all connected SCSI devices.

6. Highlight the drive whose drivers you want to update.

7. Select the "File" menu and choose "Update Driver."

8. When the process is complete, go back to File menu and select "Quit."

9. Open the Startup Disk control panel and select your hard drive as the startup disk. Restart.

Machines Affected: All
Published Date: Feb 20, 2012

PowerBase RAM Specs

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

I am interested in upgrading the RAM on my PowerBase. Could you give me the specifications for the RAM and what upgrade options are available to me.

This article has been archived and is no longer updated by Apple.

The PowerBase and all Alchemy based machines require EDO DIMMs. Fast paged mode DIMMs, which are commonly used on previous machines, will not work. Below are the slot and RAM specifications for PowerBase.

DIMM

Type	EDO
Speed	60ns
Parity Setting	Non-Parity
Refresh Rate	2k DOES NOT SUPPORT 4k
Buffered?	Yes
Voltage	5V

DIMM Slots

Back Slot 1 (Bank 0)	Must use a single banked DIMM, 32MB or less
Slot 2 (Bank 3,4)	Can use either double or single banked DIMMs up to 64MB
Front Slot 3 (Bank 1,2)	Can use either double or single banked DIMMs up to 64MB

*Power Computing uses:
Single banked: 8MB, 16MB and 32MB DIMMs
Double banked: 64MB DIMMs

*Maximum amount of RAM = 160MB.

****SPECIAL NOTE FOR 16MB DIMMS**

Customers must specify "2 X 8 Density, 2K refresh" rate for 16 MB DIMMS. DIMMS with 4K refresh rate explicitly will not work. Power Computing knows that both Tech Works and the Chip Merchant have these DIMMS in stock.

Tech Works Part Info

Memory Type: DIMM EDO NP 5V B
Memory Speed: 60ns or faster

8mb	Part # 11628-0001
16mb	Part # 11756-0001
32mb	Part # 11745-0001

Machines Affected: PowerBase

Published Date: Feb 20, 2012

Floppy Disks Won‘t Format: General Troubleshooting

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

When ever I try to format a floppy I get a message that says "Floppy format has failed." Is there a problem with my machine?
This article has been archived and is no longer updated by Apple.
There are a few different issues that can affect the function of a floppy drive.

If you have a machine based on the 604e processor running at 180MHz or faster, you need to have either the "PowerMac Format Patch" or the "Floppy Tuner" installed in your Extensions folder. This extension allows the 604e based machines to format floppies.

If you are using an ATI video card verify that you are using the Spinnaker II driver, version 1.1f2. This version of the driver will allow the machine to format floppies while the ATI card is installed. This issue is associated with the ATI cards and all MacOS based machines.

If neither of the above two solutions fixes your floppy drive issue, try booting off of the Power CD. Once you have booted from this CD see if you can format the floppy. If you can then there is a system software problem. Try a clean install of the system software. If you still can not format floppies then give technical support a call for further assistance.

Machines Affected: PowerCurve PowerCenter, PowerTower, PowerTower(e), PowerTower Pro
Published Date: Feb 20, 2012

PowerBase Freezes on Boot with Scanner Connected- Internal IDE HD

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

When I try to start-up my PowerBase with my scanner connected, the computer freezes. With the scanner disconnected, the computer boots fine. I have an IDE internal hard drive. What is wrong?
This article has been archived and is no longer updated by Apple.
Apple has identified this as a SCSI Manager issue in the Alchemy ROM. Apple has released the 6360/64xx/54xx Update 1.0 to resolve this issue.

This update, among other things, installs a SCSI Manager fix on the Patch Partition of Drive Setup formatted (IDE)hard drives. As FWB's Hard Disk Toolkit does not support the Patch Partition, the SCSI Manager update cannot be installed on FWB formatted drives including Power Computing SCSI drives. As Power Computing uses Drive Setup to format its IDE drives, the fix should correctly install on computers with IDE drives installed. Customers with SCSI drives will not be able to install the 6360/64xx/54xx Update.

Engineering has created the SCSI Manager Update application to resolve this issue on PowerBase computers with only SCSI hard drives installed. Customers can obtain the upgrade by downloading it from:

ftp://support.powercc.com/pub/SCSI_Manager_Update.sea.hqx.

This will work with one known caveat. If there is no IDE hard drive installed, the update must be installed on the SCSI boot device (the volume selected in the Startup Disk control panel) to prevent the freeze. If the update is not installed on the SCSI boot device, and no IDE drives are connected, the computer will hang on boot. To prevent this, customers will need to update all possible SCSI boot devices with the new HDT driver.

Machines Affected: PowerBase
Published Date: Feb 20, 2012

Headphone Port on CD-ROM Drives

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

I have headphones plugged into my CD-ROM drive in my Power Computing computer and I cannot hear system sounds. Is this normal?
This article has been archived and is no longer updated by Apple.
The headphone port on the front of your CD-ROM drive is designed to only play music from audio CDs. Neither system sounds nor multimedia CDs will play through this port. This is true for all models of CD-ROM drives that Power Computing bundles with its machines.

If you wish to hear system sounds through your headphones, or anything besides the internal speaker, the sound output device must be plugged into the sound out port on the back of your machine.

Machines Affected: All
Published Date: Feb 20, 2012

Apple AudioCD repeat option inoperable using CDT

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

When I have an audio CD set to repeat in the Apple AudioCD player, it doesn't repeat. It just gets to the end of the CD and then stops. CDs repeat on my Apple Power Macintosh with no problems. What is wrong?
This article has been archived and is no longer updated by Apple.
This behavior has been reproduced and appears to be an issue with CD-ROM Toolkit. Engineering is aware of the issue and is working with FWB toward a resolution.

Machines Affected: All Power Computing computers
Published Date: Feb 20, 2012

Specifications: Power 17" Display

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

Power 17" Display Specifications.
This article has been archived and is no longer updated by Apple.

CRT
17" Flat Square Tube, Non-glare, 90 degree deflection, Darkface
15.7" Viewable Image Size
*Note - The specs on the web page list a viewable image size of two dimensions, 15.7" is the diagonal measurement of the actual viewing area.

Display Area
11.8 x 8.9 inches (HxV)

Dot Pitch
0.26 mm

Horizontal Scan Range
30-85 kHz

Vertical Scan Range
50-120 Hz

Maximum Resolution
1600x1280 at 60Hz

Preset Resolutions
640 x 400 at 70Hz
640 x 480 at 60/75Hz
800 x 600 at 75Hz
1024 x 768 at 75Hz
1152 x 870 at 75Hz
1280 x 1024 at 60/75Hz

Preset Temperature Ratings
White Point= 281 to 311
Phosfur= P22
Gamma = 2.3

Input Signal
Separate, RGB Analog, 0.7 Vp-p, 75 ohm termination, Positive

Sync Signal
Separate, TTL, Positive/Negative
Composite, TTL, Positive/Negative

Power Input
100-240v AC 50/60Hz 2.0A

Power Consumption
120 watts max
15 watts suspend mode, standby mode
5 watts DPMS-Off mode

Power Management
EPA Energy Star and VESA Compliant

Dimensions
16.2 x 16.9 x 17.0 inches (W x H x D)

Weight
41.2 lbs (net)

Operating Temperature
50-95 degrees F (10-25 C)

Operating Humidity
10% - 80%, non-condensing

Regulation Compliance
Safety Regulatory: UL, CSA, DHHS, TUV-GS, SEMKO, NEMKO, ROV, CE-MARKS, ISO9241-3, FCC-B, FTZ-B, MPR-II
DOC: DDC1, DDC2B, DDC2AB

On Screen Controls
Horizontal and Vertical size and position
Side Pincushion
Trapezoid
Parallelogram
Video Input Level Select
Color Temperature
RGB Control
Image tilt
Image zoom
Help
Mode recall
Manual degaussing

Supplied Accessories
Tilt/Swivel Stand
AC Power Cord
15-pin D-sub with 5 feet cable attached

Machines Affected: All
Published Date: Feb 20, 2012

Specifications: Power 15" Multimedia Display

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

Power 15" Multimedia Display Specifications.
This article has been archived and is no longer updated by Apple.

CRT
15" Flat Square Tube, Non-glare, 90 degree deflection, Darkface
13.6" Viewable Image Size
*Note - The specs on the web page list a viewable image size of two dimensions, 13.6" is the diagonal measurement of the actual viewing area.

Display Area
10.2 x 7.5 inches (HxV)

Dot Pitch
0.28 mm

Horizontal Scan Range
30-65 kHz

Vertical Scan Range
50-110 Hz

Maximum Resolution
1024x768 at 75Hz

Preset Resolutions
40 x 400 at 70Hzm
640 x 480 at 60/75Hz
800 x 600 at 75Hz
1024 x 768 at 70/75Hz

Input Signal
Separate, RGB Analog, 0.7 Vp-p, 75 ohm termination, Positive

Sync Signal
Separate, TTL, Positive/Negative

RMS Audio Output
2W (R + L)

Speaker Impedance
8ohms

Power Input
100-240v AC 50/60Hz 1.5A

Power Consumption
90 watts max
15 watts suspend mode, standby mode
8 watts DPMS-Off mode

Power Management
EPA Energy Star and VESA Compliant

Dimensions
14.6 x 15.1 x 15.6 inches (W x H x D)

Weight
30.2 lbs (net)

Operating Temperature
50-95 degrees F (10-25 C)

Operating Humidity
10% - 80%, non-condensing

Regulation Compliance
Safety Regulatory: UL, CSA, DHHS, TUV-GS, SEMKO, NEMKO, ROV, CE-MARKS, ISO9241-3, FCC-B, FTZ-B, MPR-II
DOC: DDC1, DDC2B, DDC2AB

On Screen Controls
Brightness
Contrast
Horizontal and Vertical size and position
Side Pincushion
Trapezoid
Color Temperature
RGB Levels
Image Tilt
Image Zoon
Help
Sound Mute on/off

Supplied Accessories
Tilt/Swivel Stand
AC Power Cord
15-pin D-sub with 4 feet cable attached

Machines Affected: All
Published Date: Feb 20, 2012

Modifying Apple File Exchange

This article has been archived and is no longer updated by Apple.

Occasionally, Apple receives requests from developers who want to modify Apple File Exchange code. Usually, these people want to support serial connections to non-standard devices. Unfortunately, it would not be practical to try modifying AFE.

However, if you're interested in writing translators for AFE, see APDA's "Apple File Exchange Technical Reference Package v.1.1". This package includes one 800K Macintosh disk and 184 pages of documentation. For details, search the Tech Info Library under "APDA".

Published Date: Feb 18, 2012

Multi-Platform CD-ROMs Not Mounting

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

Customers using the FWB CD-ROM Toolkit may have problems mounting PC/DOS Formatted or multi-platform CD-ROM's.
This article has been archived and is no longer updated by Apple.
There have been issues with multi-platform or PC/DOS formatted CD-ROMs not appearing on the desktop. Typically, this is identified with an error message stating that the disk cannot be read or contains invalid media, and asks you if you wish to initialize.

SOLUTION:
The solution to this problem is rather simple. Fist, open the CD-ROM Toolkit control panel, click the "OPTIONS" button, and allow the secondary window to open. Once it is open, the customer needs to verify that both the "Any IS09960 volumes on 'dual format' Apple HFS CD-ROMs" and the "Upon CD inserts, search every track for possible data to mount" buttons are both checked.

Machines Affected: All
Published Date: Feb 20, 2012

PowerBase - No millions at 1024x768

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

I recently purchased a PowerBase upgraded to 4 MB of video DRAM in expectation of getting millions of colors at 1024x768 resolution. However, this option does not appear in my Monitors and Sound control panel.
This article has been archived and is no longer updated by Apple.
The PowerBase family's built-in video does not support millions of colors at 1024x768 regardless of refresh rate or amount of video memory installed on the video riser card. Even with 4 MB of video memory installed, the maximum number of colors supported at 1024x768 is thousands. The first edition of the PowerBase User's Guide contained a misprint which indicated that this resolution was possible. This misprint has since been corrected.

Higher resolutions and color depths can still be achieved on a PowerBase with a PCI video card such as the IMS Twin Turbo card.

Machines Affected: PowerBase
Published Date: Feb 20, 2012

XClaim VR driver issues

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

I have an ATI XClaim VR and I am experiencing screen flickers, sound problems, and random crashes. Are you aware of these issues?
This article has been archived and is no longer updated by Apple.
Power and ATI are aware of similar issues as a result of the ATI driver software. Power and ATI are currently working to resolve these issues in a new version of the driver software.

Machines Affected: All Power Computing computers
Published Date: Feb 20, 2012

My Power Computing Computer Seems Loud

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

The fans seem very loud in my Power Computing computer. Is this normal? If not, what can I do to fix it?
This article has been archived and is no longer updated by Apple.
It is normal for some of our machines to be a bit louder than customers are used to.
There are two factors that affect the sound generated by a Power Computing machine.

The first is the presence of cooling fans. Because of the high clock speed of most of our machines, we are forced to install fairly high powered fans to keep the circuitry from reaching an unacceptably high temperature. These fans have the potential to generate noise.

The second factor stems from your installed hard drive(s). Many of today's high capacity hard drives are larger than older drives and/or spin up to 50% faster. This increase in size and rotational speed contribute to the sound emitted during operation of the drive.

Both factors contribute to the overall sound level generated by the machine, but both are necessary for us to deliver a reliable, high performance machine. Power is aware of customer sensitivity to sound levels and we are committed to exploring other options that may allow for a quieter environment without compromising system performance.

Even though the overall sound level of our machines may be higher than older machines, it should not prevent you from being able to work comfortably. It is possible for bad hard drives, fans, and chassis out of alignment to cause unacceptable levels of noise. If you feel you may have a hardware issue, please call Power Computing technical support.

Machines Affected: All
Published Date: Feb 20, 2012

PowerBase Only Supports one IDE Device

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

I want to put additional IDE devices in my PowerBase. Can I do that?

This article has been archived and is no longer updated by Apple.
The Alchemy logic board in the PowerBase will only recognize 1 IDE device at a time. Therefore, even with multiple head IDE cables and other extenders, it is not possible to have more than 1 IDE device at a time.

Machines Affected: PowerBase
Published Date: Feb 20, 2012

Fireball 1080 Issue

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

I am starting to notice consistent problems with data corruption on my hard drive (HD). When I look in HDT Primer I see that I have a Quantum Fireball 1080. Even after formatting the HD, reinstalling system software, and installing limited third party software the corruption returns. Disk First Aid (DFA) will report an "Invalid Sibling Link -127" or "Keys out of Order." Disk First Aid says that it can not repair the hard drive and I am forced to format again. This problem has happened more than once with this hard drive.

This article has been archived and is no longer updated by Apple.
This is an issue that has been confirmed with Quantum. According to Quantum, the write back cache does not always function properly. At shutdown, the drive does not flush its cache and write the data to the hard drive like it is supposed to, thus leading to data corruption. The data corruption that is associated with this problem has appeared on all Fireball series through Q109. Power Computing only ships one drive that exhibits this issue: the Fireball 1080. The "1080" refers to the storage capacity of the hard drive.

Power Computing wrote the Fireball Fix, a temporary workaround to resolve this issue with corruption on Quantum Fireball 1080 drives by disabling the write back cache. The Fireball Fix is no longer available, as the problem was addressed in version 1.7.7 of FWB's HDT Primer PE, and in version 2.0 and later of FWB's Hard Disk Toolkit. Releases of the PowerCD earlier than 2.2 do not have version 1.7.7 of HDT Primer. If a PowerComputing customer has an older version of FWB Software and would like to purchase an upgrade they can contact Ph# 510-252-2090. The upgrade prices range from $29.00 - $49.00. Version 1.7.7 of HDT Primer PE is also on the Universal 7.5.5 CD (Part Number 6010-1029-00).

Machines Affected: All
Published Date: Feb 20, 2012

Connecting More Than One Monitor

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

I know my computer has two video-out ports but I can only run one monitor at a time from either port. What do I need to do to get my computer to run two monitors at the same time?
This article has been archived and is no longer updated by Apple.
The built-in video that runs the two ports (one Apple DB-15 and one VGA) is the same video RAM on the Logic Board so it cannot be divided to run one monitor per port. To run a second monitor requires a PCI-based video-out card which comes complete with its own Video RAM and video-out ports. As long as the card is PCI 2.0 compliant (the standard it must meet), the card should work. Old NuBus video-out cards WILL NOT WORK.

Machines Affected: All PCI-based models
Published Date: Feb 20, 2012

"CD-ROM Toolkit Failed to Load" Message at Startup

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

On startup I get the "This CD-ROM is being driven by another driver and CD-ROM Toolkit failed to load" message.
This article has been archived and is no longer updated by Apple.
If you have the CD in the drawer at startup, you will get this message and a question mark will appear on the extension for CD-ROM Toolkit that loads at the bottom of the screen. The Power Computing CDs have a bootable system on them that will load the CD-ROM Toolkit. However, you already have the CD-ROM Toolkit loaded from the System Folder on your hard drive, hence the message.

The test for this is the eject the CD and then reboot the machine. The message should be gone.

Machines Affected: All
Published Date: Feb 20, 2012

CPU Card: MLB Compatibility

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

I am thinking of upgrading my Power Computing system with a faster CPU card. What are the compatibility factors involved?
This article has been archived and is no longer updated by Apple.
All PCI-based Power Computing systems use Apple's removable processor card technology. This technology places the CPU on a daughter card that can be removed and replaced. This allows users to install new CPU cards that run at faster speeds (604/132Mhz to 604/150Mhz) or have a different series processor (604 to 604e). The slot is the same as the one used by Apple and other MacOS compatible computer manufacturers. Replacement CPU cards do not have to be manufactured by Power to work reliably. However, not all CPU cards are compatible with all Power Computing systems.

Power Computing is not responsible for supporting third-party CPU cards. Power technical support may ask customers with third-party CPU cards to remove the card and replace it with the original Power card in order to isolate a hardware problem to Power manufactured hardware. Power Computing is not responsible for service on third-party CPU cards or damage caused by third-party CPU cards or their installation.

LOGIC BOARD CLOCK SPEED
Although many other factors may come into play, the main factor that determines the compatibility of a given CPU card with a given computer is the maximum supported logic board clock speed (bus speed) for the computer in question. If a computer has a maximum bus speed of 50Mhz (like the PowerWave and PowerTower Pro) this means that the logic board will be reliable at any clock speed up to 50Mhz and can run at any clock speed below 50Mhz (49Mhz, 48Mhz, 47Mhz, etc...). Different computers have different maximum bus speeds (see Figure 1 below for individual system specifications).

Maximum MLB Clock Speed by Computer

Computer	Maximum MLB clock speed	Logic board design
PowerCurve	50Mhz	Catalyst*
PowerCenter**	50Mhz	Catalyst*
PowerTower**	60Mhz	Catalyst Plus**
PowerWave	50Mhz	Tsunami
PowerTower Pro	50Mhz	Tsunami
PowerBase	40Mhz	Alchemy

* Though the standard Catalyst logic board is specified at a maximum of 50Mhz, tests indicate that it may be reliable up to 60Mhz. Cards running above 50Mhz, however, remain unsupported at this time.

** The PowerTower logic board has been specially enhanced by Power Computing to run at a maximum of 60MHz. This is the same MLB used by the PowerCenter 166/180 systems.

The speed at which the bus is actually run is determined by an oscillator on the CPU card. As long as the oscillator is set to run the bus below the maximum logic board clock speed, the CPU card should run fine. This is why the same 604/132 CPU card running the bus at 44Mhz, for example, can be run on both a PowerTower and a PowerCenter. Since the maximum bus speed on the PowerTower is 60Mhz and on the PowerCenter is 50Mhz, a card running the bus at 44Mhz, everything else being equal, should be fine.

PROCESSOR CLOCK SPEED RATIOS
Given the clock speed, the overall speed of the computer is then determined by the clock ratio set by the CPU card for the PowerPC. Every PowerPC processor can run at any of a series of given multipliers known as the clock speed ratio to achieve various clock speeds. This ratio is expressed as x:1. For example, the PowerPC 604 can support clock speed ratios of 1:1, 1.5:1, 2:1, and 3:1. Therefore, if a PowerPC 604 were to be used at its maximum multiplier at the maximum MLB clock speed of a PowerTower, the computer would run at 180Mhz [3 (the multiplier) x 60Mhz (the maximum MLB clock speed) = 180Mhz). Using this formula, it should be easy to determine if a given CPU card is too fast for a given logic board.

Supported PowerPC Clock Speed Ratios

PowerPC Chip	1:1	1.5:1	2:1	2.5:1	3:1	3.5:1	4:1	4.5:1	5:1	5.5:1	6:1
601	*		*		*		*		*		*
604	*	*	*		*						
604e	*	*	*	*	*	*	*		*		*
603e			*	*	*	*	*	*	*	*	*
* - Supported clock speed ratio											

VARYING OSCILLATOR/MULTIPLIER COMBINATIONS
The overall speed of the system, therefore, is the speed of the oscillator multiplied by the CPU clock ratio. (Example: a system clocked at 40Mhz using a 604 with the multiplier of 3 would render an overall speed of 120Mhz.) Because different multiplier/oscillator combinations can be used to achieve the same speed, users may have difficulty determining the compatibility of some CPU cards. Users with questions about a particular CPU card's compatibility should contact the card's manufacturer for the specific bus speed set by the CPU card and other relevant compatibility factors.

Cards achieving the same overall speed, but using different oscillator/ multiplier combinations, will perform at slightly different rates. This is because cards clocked at higher speeds will have faster access to Level 2 cache. For example, the 604e High Clock cards used in the PowerTower 604e machines are slightly faster than the 604e cards Low Clock used in the PowerTower Pro running at the same overall speed because they are clocked higher to take advantage of the Catalyst Plus's higher maximum bus speed. To correct for this in the PowerTower Pro, a larger L2 cache (1MB) and interleaved memory have been added. Using Ziff-Davis' MacBench, one can see that both the PowerTower Pro 200 and the PowerTower 200e score a 47 on the CPU benchmark. Though the performance difference absent extra caching and memory acceleration schemes is measurable, it is unobservable to most users.

OTHER COMPATIBILITY FACTORS
Most Power Computing CPU cards use an advancement on Apple's processor card technology allowing them to run on a wider variety of machines at faster speeds than Apple's own cards. Apple's implementation of the Catalyst and Alchemy architectures does not include the removable processor card technology as Apple simply solders their CPUs to the main logic board on these systems. CPU cards built for these systems must meet special compatibility requirements not necessary for the Tsunami, Nitro, or TNT architectures. Power has taken precautions to ensure that Power CPU cards improperly installed in an incompatable configuration will not cause damage to the machine. However, neither will these cards function. (Power Internal audiences see the POWER INTERNAL ONLY paragraph at the end of this article.)

There are additional considerations when upgrading a Catalyst system like the PowerCurve or PowerCenter. As stated before, these systems are specified and designed to be reliable up to 50Mhz, though some tests indicate that CPU cards may be reliable above that. It is definitely recommended that no CPU card exceeding 55.33Mhz be used in a Catalyst machine. The Catalyst Plus enhancements include ASICS and Level 2 cache certified to run above 55.33Mhz, ensuring reliability with faster cards. However, the original Catalyst systems do not include these advancements and so may be extremely unstable and prone to crashing if used with cards running the bus above 55.33Mhz. Regardless, cards running above 50Mhz remain unsupported. Sticking with the rule of not exceeding 50Mhz CPU cards on Catalyst systems should ensure maximum reliability (see Figure 3 for a listing of required bus speeds for Power's CPU cards).

Power Computing CPU Card Specifications

CPU Card	Bus speed	Multiplier
601/120	40 MHz	3
601/120	40 MHz	3
604/132	44 MHz	3
604/150	50 MHz	3
604/166	55.3 MHz	3
604/180	60 MHz	3
604e/180 Low Clock*	51.43 MHz	3.5
604e/200 Low Clock*	50 MHz	4
604e/225 Low Clock*	45 MHz	5
604e/180 High Clock*	60 MHz	3
604e/180 High Clock*	57.14 MHz	3.5
603e/180	40 MHz	4.5
603e/200	40 MHz	5
603e/240	40 MHz	6

* Power uses two types of 604e CPU cards: High Clock, for systems capable of running up to 60Mhz, and Low Clock, for systems with a 50Mhz maximum bus speed.

Though not a true "compatibility" issue, most Power CPU cards use a short form factor. These cards can be used with a plastic retainer in systems designed to use tall cards like the desktop and original minitower enclosures. Without this retainer, the CPU card may come loose during shipment. The plastic retainer is recommended for all such cases.

Supported configurations are those tested and recommended by Power Computing. Unsupported configurations are those that theoretically may work, but have not been tested and for that reason can not be recommended by Power. Power Computing is not responsible for damage, either to software or hardware, caused by an unsupported configuration and will not expend resources to make such a configuration work. Configurations may later become supported if future testing reveals that they meet Power's performance and stability requirements. Configurations listed as not compatible will not work due to technical limitations.

TA39492_CPU_Card_MLB_Compatibility.pdf

Power Computing CPU card and Logic Board compatibility

CPU Card	Crv	Ctr*	Twr*	Wave	PTP	Base
601/120	S	U	U	U	U	NC
604/120	S	S	S	S	U	NC
604/132	S	S	S	S	U	NC
604/150	S	S	S	S	U	NC
604/166	NC	NC	S	NC	NC	NC
604/180	NC	NC	S	NC	NC	NC
604e/180 Low Clock	U**	U**	U	U	S***	NC
604e/200 Low Clock	U**	U**	U	U	S	NC
604e/225 Low Clock	U**	U**	U	U	S	NC
604e/180 High Clock	NC	NC	S	NC	NC	NC
604e/180 High Clock	U	U	S	NC	NC	NC
603e/180	U	U	NC	NC	NC	S
603e/200	U	U	NC	NC	NC	S
603e/240	U	U	NC	NC	NC	S
NC - Not Compatible S - Supported U - Unsupported						

* The PowerCenter 166/180 systems use the same Catalyst Plus MLB used in PowerTowers.

** Initial tests of the 604e High Clock CPU cards indicate reliability in Catalyst systems. Though these cards have not yet been given full qualification by engineering, it is expected that these configurations will be supported in the near future.

*** The PowerTower Pro 180 uses a CPU card which runs at a slightly higher clock speed than the maximum recommended clock speed for the Tsunami board. Though this is higher than Apple's recommended maximum, it has passed all Apple's tests for reliability and stability.

POWER INTERNAL ONLY:
The Catalyst architecture requires the DTRTY line from the CPU. As none of Apple's upgradable systems require this line, it was left unimplemented in Apple's CPU card designs. To provide support for the Catalyst design, Power has implemented the DTRTY line on unutilized and compatible pins on Apple's original CPU card design. However, because Apple's cards do not enable DTRTY, they are not compatible with Power's Catalyst machines. Furthermore, any other third-party CPU cards that do not provide for DTRTY are not compatible on Power's Catalyst systems. In fact, the first generation of PowerWave CPU cards (those with the PCB revision number 5000-604-01 on the back side) do not provide for DTRTY and therefore are not interoperable with Power Catalyst systems.

Similarly, Alchemy systems require other CPU handshake lines not needed on either Catalyst or Tsunami. Like DTRTY on Catalyst, these lines were added on secondary processor lines. CPU cards without support for these lines will not function on Power Alchemy systems. Additional CPU handshake support has been engineered to avoid damage when plugged into a Tsunami system, but due to technological limitations, Alchemy cards will not function in these systems. Initial tests on Alchemy cards in Catalyst systems indicates that they may function, but this configuration remains unsupported.

Machines Affected: PowerCurve, PowerCenter, PowerTower, PowerWave, PowerTower Pro, PowerBase
Published Date: Feb 20, 2012

Gestalt IDs for Power computers

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What are the Gestalt IDs for Power Computing machines?
This article has been archived and is no longer updated by Apple.
As Power Computing bases its machines on Apple's Licensee Designs, it uses the same Gestalt IDs as Apple machines based on the same design.

	Dec	Hex	ALD
PowerWave	67	43	Tsunami
PowerCurve	108	6C	Catalyst
PowerCenter	108	6C	Catalyst
PowerTower	108	6C	Catalyst
PowerTower Pro	67	43	Tsunami
PowerBase	58	3A	Alchemy
PowerCenter Pro	108	6C	Catalyst

Machines Affected: All
Published Date: Feb 20, 2012

7.6, 7.6.1 Apple CD-ROM and Generic Support

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Apple CD-ROM 5.3.1 is included with Mac OS 7.6 and is supposed to offer support for any CD-ROM drive. Is this true and what happened with the 7.6.1 update?
This article has been archived and is no longer updated by Apple.
Before the release of 7.6, the Apple CD-ROM extension has not offered support for the vast majority of CD-ROM drives. Most non-Apple CD-ROM drives, including drives used in Power Computing computers,were not supported by the Apple CD-ROM extension and so could not be mounted by that extension.

Apple CD-ROM 5.3.1, which ships as part of MacOS 7.6, offers generic support for 6x or faster SCSI CD-ROM drives. This enables non-Apple CD-ROMs to mount CDs without the presence of an additional third-party driver such as the FWB CD-ROM Toolkit used by Power Computing.

However, with the release of MacOS 7.6.1, Apple shipped the older driver which does not support the CD-ROM drives that ship with Power Computing's machines. In order for Power Computing customers to be able to use their CD-ROM drive FWB's CD-ROM toolkit must be installed. An alternative is to do a clean install of 7.6 and use the driver that comes with it.

Machines Affected: All
Published Date: Feb 20, 2012

CD error after installing MacOS 7.6

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I just upgraded to MacOS 7.6. Upon the next restart, a got a message that "CDT could not load because the drive is supported by another CD-ROM driver".
This article has been archived and is no longer updated by Apple.
In the past, the Apple CD-ROM extension has not offered support for the vast majority of CD-ROM drives. Most non-Apple CD-ROM drives, including drives used in Power Computing computers,were not supported by the Apple CD-ROM extension and so could not be mounted by that extension.

Apple CD-ROM 5.3.1, which ships as part of MacOS 7.6, offers generic support for 6x or faster SCSI CD-ROM drives. This enables non-Apple CD-ROMs to mount CDs without the presence of an additional third-party driver such as the FWB CD-ROM Toolkit used by Power Computing.

When a customer upgrades an existing System Folder to MacOS 7.6, the CD-ROM Toolkit is not removed (as it is a third-party extension). As the Apple CD-ROM extension loads before CD-ROM Toolkit, it provides support for the CD-ROM. This causes CD-ROM Toolkit to alert the user to the fact that the drive is supported by another driver.

Though the Apple CD-ROM extension will provide limited functionality, Power Computing recommends that Power customers use CD-ROM Toolkit as their preferred CD-ROM driver as it is more robust and offers higher performance.

In order to eliminate the CDT error message, add a space before the CD-ROM Toolkit extension's name. This will cause CDT to load before Apple CD-ROM, preventing the error message.

Machines Affected: All
Published Date: Feb 20, 2012

Drive Setup 1.2.2: IDE drive won‘t mount on restart

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After clean installing my PowerBase with MacOS 7.6, my IDE hard disk drive will not mount after restarting, but will mount after shutting the computer down completely and then turning it back on. It didn't do this before I clean installed.
This article has been archived and is no longer updated by Apple.
Version 1.2.2 of Apple's Drive Setup utility, which is distributed with Power Computing's 7.6 Power CDs and Apple's MacOS 7.6, puts an IDE driver in the "Layout" partition of the IDE drive. This creates a spin-down issue with the IDE hard disk. Although the hard disk will mount correctly when the computer is first powered on, it will not be accessible after a restart. This will cause the computer to boot from another volume, or, if no other volume is present, produce a flashing question mark. This issue does not affect SCSI hard drives as they use the FWB Hard Disk Toolkit as their formatting utility.

FOR CUSTOMERS WHO UPDATED TO 7.6 THROUGH APPLE:

Power Computing shipped version 1.1 of Drive Setup on the 7.5.3 and the 7.5.5 Power CDs for the PowerBase and it does not experience this issue. However, customers who have updated their driver using Drive Setup 1.2.2 will not be able to resolve the issue merely by updating the driver with version 1.1. Instead, customers must reinitialize the drive with Drive Setup 1.1 in order to resolve the issue. This is a limitation of Drive Setup.

FOR CUSTOMERS WHO CLEAN INSTALLED WITH THE 7.6 CD FROM POWER COMPUTING:

Power Computing shipped version 1.2.2 of Drive Setup on the 7.6 PowerCD. However, FWB's Hard Disk Toolkit 2.0.5 is also on the PowerCD and it supports the current IDE hard disks used in the PowerBase. Customers can update the hard disk with this software without reformatting to resolve the issue.

This issue will be resolved in a future version of Drive Setup.

Machines Affected: PowerBase Units with IDE Drives
Published Date: Feb 20, 2012

Mac OS 7.6: What version of CDT do I need?

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

What version of CD-ROM Toolkit do I need for full Mac OS 7.6 compatibility?
This article has been archived and is no longer updated by Apple.
Any version of CD-ROM Toolkit later than version 1.6.3P should be compatible with Mac OS 7.6. FWB has released an updater for their commercial version of CD-ROM Toolkit offering Mac OS 7.6 optimization. However, this update is not necessary for the OEM version shipped by Power Computing.

Related Power Computing articles: CD error after installing Mac OS 7.6

Machines Affected: All
Published Date: Feb 18, 2012

MacTerminal: Problems using Xmodem

This article has been archived and is no longer updated by Apple.
Xmodem protocol in MacTerminal supports checksum error checking, and so you should set Xon/Xoff to OFF if you're using Xmodem. If an Xon/Xoff handshake occurs while if Xon/Xoff is on, the checksum received at the end of the block will not match the calculated one; this situation generates a request to resend the block, which causes the receiver to receive duplicate text.
Published Date: Feb 18, 2012

PowerBase: SCSI Manager Update v1.0 ReadMe

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This article has been archived and is no longer updated by Apple.

About the SCSI Manager Update

The SCSI Manager Update v1.0 application is PCC part number 1610-6000-00.

The SCSI Manager Update corrects a timing issue that may occur on some PowerBase computers when external SCSI devices are connected. PowerBase computers experiencing this issue will hang at the gray screen presented during the startup process and progress no further. Although the update only affects these computers, it will run on any Power Computing machine enabling customers to install the update on drives that may be used on multiple computers.

While Apple resolved this issue in Drive Setup 1.2.2, included with MacOS 7.6, a limitation of Drive Setup prevents the update from installing on non-Drive Setup formatted devices. As PowerBase systems can ship with only SCSI hard drives formatted with FWB Hard Disk Toolkit, Power Computing has developed the SCSI Manager Update for use with these drives.

The SCSI Manager Update has only been developed for use with Power Computing computers. This update will gracefully quit if run on non-Power Computing computers. Users with non-Power Computing computers based on the Alchemy architecture with no IDE hard drive installed should contact the computer''s manufacturer for assistance.

Installing the SCSI Manager Update

To install the SCSI Manager Update, do the following:
1. COPY the SCSI Manager Update application to a floppy disk. The Update cannot install on to the active startup disk or the volume containing the SCSI Manager Update application.

2. RESTART the computer from the Power Computing Software CD. This can be achieved either by selecting the PowerCD as the designated startup device in the Startup Disk control panel, or by restarting the computer hold down the Command, Option, Shift, and Delete keys as the computer restarts.

3. INSERT the floppy diskette containing the SCSI Manager Update into the floppy drive.

4. After the floppy mounts, LOCATE the SCSI Manager Update icon on the floppy disk and double-click to launch the application.

5. The application will scan for all connected hard drives, inspecting them to see if they require the update. The "Select Drive" window will appear. Click on the "Next Drive" button to browse through selection of all detected drives. If a drive needs to be updated and can, the "Update" button will be enabled. You should update all drives that can be updated.

Why will the application not update my drive?

Update only for Power Computers using FWBÕs HDT
The SCSI Manager Update is intended for use on SCSI hard drives connected to Power Computing computers using versions of the FWB Hard Disk Toolkit driver prior to version 2.0.5. FWB drivers version v1.7.5, v1.7.6, and v1.7.7 can be updated. FWB drivers version 2.0.5 and newer do not need updating. No other version of the driver can be updated.

The update will not install on hard drives formatted by a utility other than FWB Hard Disk Toolkit. In order to install the update on a non-HDT formatted drive you will need to initialize the drive and install the FWB Hard Disk Toolkit driver. Do the following:

1. BACKUP the data on your hard disk by copying the data to another drive or other suitable backup media before proceeding.

2. RESTART the computer from the Power Computing Software CD. This can be achieved either by selecting the PowerCD as the designated startup device in the Startup Disk control panel, or by restarting the computer hold down the Command, Option, Shift, and Delete keys as the computer restarts.

3. LAUNCH the FWB Hard Disk Toolkit. HDT is located in the Utilities folder on the PowerCD.

4. SELECT the drive to up updated.

5. CHOOSE the "Initialize" command from the ÒFileÓ menu.

6. You will be presented with a warning message which states, "The disk at ID x already has data on it. Initializing it will wipe out all existing data

with no possibility of recovery. PRESS the "continue" button.

7. A dialog box will appear which asks you to "Choose a partitioning method". Unless you wish to partition the drive into multiple volumes, select "Maximum Macintosh" and press the "OK" button.

Drive is Full

In order for the updater to work there must be room on the drive to add the update. If your drive is full, near full or fragmented then there may not be enough contiguous room left on the drive to add the update. To make room for the update do the following:

1. BACKUP the data on your hard disk by copying the data to another drive or other suitable backup media before proceeding.

2. REMOVE any unneeded data from the drive.

2. DEFRAGMENT your drive.

Drive has multiple partitions

The update will not be installed on any drive which has had additional partitions installed onto it after it left our factory. (Examples of extra partitions are DOS partitions and backup partitions.) This can be resolved by doing the following:

1. BACKUP the data on all of the partitions by copying the data to another drive or other suitable backup media before proceeding.

2. REINITIALIZING the drive (see instructions above) then repartitioning the drive.

3. INSTALL the SCSI Manager Update (see instructions above).

4. REPARTITION the drive.

Some older drives not supported
The application will not install the update onto some drives which shipped with the Power ComputingÕs NuBus based machines, the Power 100 and Power 120. However, these machines do not need the update unless you plan to move the drive to a PowerBase computer. If you do intend to move a drive from a Power 100 or Power 120 to a PowerBase, you will need to reformat the drive with a later version of HDT (1.77 or newer) or use HDT 2.0.5 and the update is not required.

What is installed by the SCSI Manager Update?

The SCSI Manager Update updates a partition on all hard drives attached to the computer, internal and external. None of the SCSI Manager Update changes are visible after installation as the Update will not install any system software. To confirm whether or not the update is installed, run the update application again. You can confirm which devices have been updated by selecting the drive after the scanning process. The "Select Drive" window will display the status of the patch for the selected device.

The SCSI Manager Update v1.0 application is PCC part number 1610-6000-00.

(2/14/97)

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Machines Affected: PowerBase
Published Date: Feb 20, 2012

FWB Software: Upgrade and Suppport Information

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

What type of support does FWB and/or Power Computing provide for the FWB software included with my Power Computing machine?
This article has been archived and is no longer updated by Apple.
If a Power Computing customer has an older version of FWB Software and would like to upgrade to a newer version, they must purchase the upgrade from FWB at Ph# 510-252-2090. They will need to have a valid FWB Serial number and a credit card to place their order. The upgrade prices range from $29.00 - $49.00.

FWB does not provide technical support for Power Computing users. They will provide support for Power Computing Technical Support Reps.

FWB has a new phone, fax and address:
FWB Software, LLC
185 Constitution Drive, Suite A
Menlo Park, CA 94025
PH# 415-463-3500
FX# 415-463-3558
www.fwb.com

Machines Affected: All
Published Date: Feb 20, 2012

Specifications: Power Computing 17-inch Monitor

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

PowerComputing 17" Monitor Specs
This article has been archived and is no longer updated by Apple.

```
PowerComputing 17" Monitor Specs

1. PICTURE TUBE
Size: 17 inch
Gun: In-line
Deflection Angle: 90 degrees
Neck Diameter: 29.1 mm
Phosphor: P22
Transmission: 51%
Dot Pitch: 0.26 mm
Face Treatment: ARASC(Anti-Reflection & Anti-Static Coating)
Low Radiation : MPR-II (StudioWorks 78i) TCO-92 (StudioWorks 78T)

2. SIGNAL
HORIZONTAL & VERTICAL SYNC
1) input Voltage Level : Low=0~0.0V, High=2.1~5.5V
2) Sync Polarity : Positive or Negitive
3) Composite Sync Signal
  Vertical Sync Width : 1H~10H
     Serration Pulse : NON, 0.5H, 1H, EX-OR
     Equalize Pulse : MAX 5H
     (H=Horizontal Period)

VIDEO INPUT SIGNAL
1) Voltage Level : 0~0.7 V
  a) Color 0,0 : 0 Vp-p
  b) Color 7,0 : 0.467 Vp-p
  c) Color 15,0 : 0.7 Vp-p
2) Input Impedance : 75 ohm
3) Video Color  : R, G, B Analog
4) Signal Format : (see timing chart)

SIGNAL CONNECTOR
 15 Pin D-Sub Connector / 5 BNC Connector

SCANNING FREQUENCY
 Horizontal: 30 ~ 85 kHz
 Vertical: 50 ~ 120 kHz

3. POWER SUPPLY
POWER RATING:  AC 90~264 V (Free Voltage), 50/60 Hz, 2.0 A Max.
POWER CONSUMPTION
mode         h/v sync  power consumption  led color
normal (on)  on/on     less than 120 W    green
stand-by     off/on    less than 15 W     amber
suspend      on/off    less than 15 W     amber
off         off/off    less than 5 W      amber

4. DISPLAY AREA
Active Video Area : 300 mm X 225 mm (Availible for full screen)
Display Color  : Full Colors
Display Resolution : 1600 X 1280 Lines
Video Bandwith  : 135 Mhz

5. ENVIROMENT
Operating Temperature : 10 degress C to 35 degrees C (Ambient)
Relative Humidity  : 8% to 8% (Noncondensing)
```

Altitude : 10,000 ft

6. DIMENSIONS (W/TILT SWIVEL)
Width : 412.0 mm
Depth : 431.0 mm
Height : 428.5 mm

7. WEIGHT (W/TILT SWIVEL)
Net Weight : 18.7 kg
Gross Weight : 23.2 kg

Machines Affected: All
Published Date: Feb 20, 2012

Font Weirdness with IMS Twin Turbo Card Installed

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

My fonts do not work correctly with the Twin Turbo Acceleration extension turned on. This even happens in SimpleText. Specifically With Arial, Courier, Courier New, and Old English fonts, the "underscore" key does not work properly-it puts in a "space" instead. Why is this happening?
This article has been archived and is no longer updated by Apple.
In general, there have been reports of video artifacting and inexplicable text behavior when the IMS Twin turbo Acceleration is active.

There is not a confirmed known issue at this point. However, the problem is reproducible, and has been forwarded by Anthony Snyder to IMS for resolution.

The only workaround, at this time, is to turn off the Twin Turbo Acceleration.

Machines Affected: PowerCenter, PowerTower, PowerTower Pro, PowerWave
Published Date: Feb 20, 2012

FWB Software: Supported under System 7.6

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Power Computing bundles CD-ROM Toolkit and HDT Primer, mad by FWB Software, with all of its computers. Are these software products supported for use with Mac OS System 7.6?
This article has been archived and is no longer updated by Apple.
Yes, FWB Software is supported under System 7.6.

FWB Products Approved for use with Apple's System 7.6 (See Note)
==========

**Not all of the following products are bundled with Power Computing machines.

Hard Disk ToolKit 2.0.5
RAID ToolKit 2.0.5
Hard Disk ToolKit¥PE 2.0.5
Hard Disk ToolKit¥PE 1.77 - Power Computing version
CD-ROM ToolKit 2.0.5T
CD-ROM ToolKit 2.2 - Power Computing version
CD-ROM ToolKit 1.6.5 - Power Computing version
Turbo ToolKit 1.0
HSM 1.0

Note: Earlier releases of the FWB products have been minimally tested with no obvious compatibility issues. However we do recommend upgrading to our current releases before installing Mac OS 7.6.

Important News about Mac OS 7.6
==========

Apple's System 7.6 now installs a patch partition on Apple branded boot drives as part of its standard installation. This patch partition will accommodate bug fixes to the Mac OS - now, and in the future. (In System 7.6, a patch is installed that fixes problems using scanners on the Power Mac 6360/54XX/64XX.) Version 2.0.5 of FWB's Hard Disk and RAID ToolKits now install the same patch partition and fix as Apple's installer. This ensures that all your non-Apple formatted disks enjoy seamless compatibility with future Mac OS releases.

Apple recommends testing and verifying the integrity of your start-up disk before installing System 7.6. This will ensure a more reliable installation and will increase the system's overall stability. Hard Disk ToolKit remains the #1 disk management package for testing and formatting non-Apple drives. Install Hard Disk ToolKit 2.0.5 and run Device Test before installing System 7.6.

Apple's System 7.6 now installs a new version of the Apple CD-ROM software that can conflict with CD-ROM ToolKit. Simply disable the Apple CD-ROM software or rename the "CD-ROM ToolKit" Extension to load before the "Apple CD-ROM" Extension. The updated version 2.0.5T of CD-ROM ToolKit automatically loads the CDT Extension first (2.0.5T updater).

NOTE: version 2.0.5 is available as a free downloadable updater for all 2.0.X owners.

Machines Affected: All
Published Date: Feb 20, 2012

Sync on green returns on restart

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

I have a IMS Twin Turbo 128 PCI video card and when I boot up my machine, the monitor has a green cast to it. When I go into the Twin Turbo control panel and turn sync on green off, the cast goes away. However, when I restart, it comes back. What can I do?
This article has been archived and is no longer updated by Apple.
Versions of the Twin Turbo software prior to version 3.1 may have difficulty preserving the sync on green setting. Users experiencing this problem who do not have version 3.1 or later should install version 3.1 as it provides a fix for this issue.

There are three parts to the Twin Turbo 3.1 software: the Twin Turbo extension, the Twin Turbo control panel, and a startup item called Gamma Loader. If the Gamma Loader application is not present in the Startup Items folder at boot time. Customers may still see Sync on Green come back, even with the other two parts installed.

IMS further suggests that customers disable both listed in General Controls in the Twin Turbo control panel.

Customers with 4MB cards can disable sync on green via hardware by:

1. REMOVE the IMS card from the computer.

2. LOCATE jumper JP4 at the rear of the card, right behind the Macintosh video port.

3. REMOVE the jumper from the top and middle pins.

4. PLACE the jumper on the middle and bottom pins.

The software fix is the preferred and should be recommended before the hardware fix. 8MB Twin Turbo cards do not have a removable JP4 jumper and thus no hardware fix for this problem. There is no hardware workaround available for 8MB users.

Machines Affected: All Power systems
Published Date: Feb 20, 2012

Asante Ethernet Card: S/W Drivers Needed

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

I have the Asante ethernet card but it won't show up when I go into the AppleTalk control panel.
This article has been archived and is no longer updated by Apple.
Included with the card is a floppy disk with the drivers for both cards as well as some other software. Even though we are not currently shipping the 100baseT card, the driver is included. The 2 drivers are: Asant□NIC^{a} OT and Asant□FAST^{a} OT. Asant□NIC^{a} OT is for the 10baseT card and Asant□FAST^{a} OT is for the 100baseT card. There is no installation icon, you just simply drop the appropriate driver onto the Extensions folder located in your HD and restart the computer. There is a readme included on the disk as well.

Machines Affected: All
Published Date: Feb 20, 2012

GDM1952 Rasterops Monitor & Twin Turbo Card

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

The GDM1952 Rasterops Trinitron Monitor will not work with my PowerTowerPro.
This article has been archived and is no longer updated by Apple.
There is a known incompatibility w/ this monitor and the TwinTurbo II video card. This has been confirmed by both Rasterops and Griffin Technologies. There is NO adapter for this card and monitor. However, this monitor is compatible with all other known video cards, according to Griffin Technologies, as well as with built in video.

Machines Affected: All PCI based machines
Published Date: Feb 20, 2012

Changes to the PowerCenter Accessory Kit

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

Here are the changes as of 1/28/97 for the PowerCenter Software bundle.
This article has been archived and is no longer updated by Apple.

```
PARENT PART NUMBER: 6010-1021-00
DESCRIPTION: S/W,STANDARD BNDLE,POWERCENTER,U.S.

Effective 1/27/97 the PowerCenter Standard bundle was modified as indicated below.

Please be aware of the following ADDITIONS:
6010-1014-00    CD,FRACTAL DABBLER,2.0,PCTR
6010-1015-00    CD,COREL GALLERY I,CLIP ART,PCTR
6010-1016-00    CD,BLOCKBUSTER GUIDE MOVIES/VIDEOS
6010-1017-00    CD,GROLIER'S MULTIMEDIA ENCYCL'97

Please be aware of the REMOVAL of the following items:
72756 OBSOLETE,S/W,GROLIER'S'95
72757 S/W:US ATLAS CDROM
72758 S/W: WORLD ATLAS CDROM
72759 S/W:ANIMALS 2.0 CDROM

SUPPORT ISSUE #1:  Fulfillment of older CD titles
Customers may contact Power Computing to complain they did not receive one of the older CDs.

POSITIONING:  All phone representatives are advised to improvise using the following positioning:

"Power Computing reserves the right to change its bundle contents without prior notice subject to availability
of parts.  Power Computing is proud to offer these new titles in place of the older ones."

RESTRICTION:
Service has made arrangements to retain 1000 copies of each of the CDs (72756, 72757, 72758, 72759) for cases
of extreme customer dissatisfaction and for use in refurb.

ISSUE #2: Fulfillment of newer CD titles
Older customers may contact Power Computing to demand they receive the newer CD titles.

POSITIONING:  All phone representatives are advised to improvise using the following positioning:

"At the time you made your purchase Power Computing offered and provided the CD titles advertised.  Subject to
parts availability, Power Computing reserves the right to change its bundle contents at any time without prior
notice "

"The newer CDs are available only to customers who purchase a new CPU.  They are not available for separate
purchase, in compliance with the terms of supplier licensing arrangements."

Machines Affected: PowerCenter
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Published Date: Feb 20, 2012

CD-ROM Light Stays on When CD is Inserted

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

When I insert a CD into the CD-ROM drive, the CD-ROM drive light turns on and stays on. The CD never mounts and the machine sometimes freezes.
This article has been archived and is no longer updated by Apple.
First, you must determine whether you can boot from PowerCD to determine if the CD-ROM drive is experiencing a hardware problem. If you cannot get the machine to boot from the CD, the CD-ROM drive may be bad.

If the CD-ROM will boot the machine, the issue may stem from software. Simply trash the FWB CD-ROM ToolKit CACHE file AND the FWB CD-ROM ToolKit prefs file from the Preferences folder within the System Folder. Restart the machine and the CD-ROM drive should work better.

NOTE: CD-ROM ToolKit CACHE file seems to be very susceptible to corruption. Trashing this file will save you a lot of time in troubleshooting this common CD-ROM problem.

NOTE: This method can also work when the CD drive light is slowly blinking, with the same CD problems as stated above.

Machines Affected: All
Published Date: Feb 20, 2012

33.6 Modems Need GlobalFax 2.6

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

I keep getting an "unknown modem" error message when I try to use my Global Village Fax/Modem. What is happening?
This article has been archived and is no longer updated by Apple.
In addition to normal modem software and hardware troubleshooting, it is important to verify that the proper version of the modem software is installed. The 33.6 Global Village modem requires v2.6 software. In order to determine what software is required for a given Global Village Platinum modem, perform the following steps:

1. Launch the ZTerm application (the file name is ZTerm 0.9).
2. Type in "ATI3" and hit return. Note that the third character in this command is the letter I, not the numeral 1.
3. Examine the string that appears in the window. It will look something like the following: ÒA822-V.34_DS V1.511_TPÓ

If the sequence contains the "A822" then verify that installed version of the TelePort software is 2.6. This can be achieved by locating the Teleport Control Panel, highlighting it and choosing Get Info from the file menu (any of the other installed GlobalVillage Software components will work for this test).

Versions of the Power CD v2.4 and earlier do not have the necessary GlobalFax v2.6. If a customer needs the updated software we can send the software on floopy disks (p/n 6040-1006-00).

Machines Affected: All
Published Date: Feb 20, 2012

SupraSonic 33.6 Modem Conflict with Now S/W

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

I have a SupraSonic 336V Modem, Now Software 3.6 and I am not able to get the dialer part of Now Software's Now Contact program to work with my modem. When I choose speaker, I can hear the numbers dial but when I switch to the correct port, it says it can't get it to work. I have no other problem dialing with other programs.
This article has been archived and is no longer updated by Apple.
Unfortunately, the issue that exists is a known conflict within the Now Software, which apparently sends AT commands too quickly to the modem to get what it deems as a valid response. Thus, the software does not believe that the modem is responding. The Now Software Manual suggests trying to change the initialization strings to the following settings if users are experiencing problems:

Supra Modems.
Replace all strings with the following:
Initialization: AT&F1
Prefix: ATS7=30DT
Suffix: ;
Hangup: ATS7=50H

Currently, however, there is no known fix or patch released by Now for this problem.

Machines Affected: All
Published Date: Feb 20, 2012

LaserWriter Plus: No Print or Print Takes Long Period of Time

This article has been archived and is no longer updated by Apple.

Problem: LaserWriter Plus takes a long time to print out or does not print at all.

BEFORE YOU START: Familiarize yourself with the LaserWriter Technical Procedures. Be sure to follow proper ESD procedures.

Cure: Check to see if the upper half rear latch is broken. If it is, replace the upper half rear latch.

Discussion: If the upper unit rear latch is broken off, the gears do not mesh correctly, causing the LaserWriter Plus not to print.

If the problem still occurs, refer to the LaserWriter Technical Procedures troubleshooting section for more information.

Published Date: Feb 18, 2012

HDT 2.0.5 Issue with System 7.6

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

I am using FWB's Hard Drive Toolkit v2.0.5 while running MacOS System 7.6 and whenever I use the FWB software to password protect my hard drive, the Mac OS startup screen appears to be cut in half.
This article has been archived and is no longer updated by Apple.
This is a known issue confirmed by FWB. It is not dependent on which device is the boot volume nor how many partitions are present. There is currently no workaround.

Power Computing does not provide this version of HDT to customers and it has not been tested by engineering to address any support issues.

Machines Affected: All
Published Date: Feb 20, 2012

PowerBase Graphics Accelerator

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

This article has been archived and is no longer updated by Apple.
Every PowerBase ships with a disk call "Graphics Accelerator 1.1". This is the video acceleration driver for the PBase video riser card. This Graphics Accelerator can take the place of all previous Graphics Accelerator extensions released by ATI including the 1.0 release for the Catalyst MLB video. Below is the ReadMe. The software will be placed on the Updates server.

PowerBase Graohic Accelerator ReadMe
==========

An extension entitled Graphics Accelerator has been pre-installed in the System Folder of your PowerBase. This extension will provide video acceleration for PowerBase built-in video as well as other ATI video cards installed in your machine. This software is not a part of a standard system software install. Therefore, if you should choose to perform a clean re-install of your system software, you will need to re-install this software as well.

Installing the Graphics Accelerator

Double click on the hard drive icon on your PowerBase and locate the System Folder.

Drag the Graphics Accelerator extension located on this floppy disk onto the System Folder.

A message will appear asking if Graphics Accelerator should be placed in the Extensions Folder. Click OK.

Restart your PowerBase.

(10/96)

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Machines Affected: All
Published Date: Feb 20, 2012

Partitioning Your Hard drive for MKlinux

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I'd like to install MkLinux from Apple, but it seems that the partitioning utility that came with my PowerCenter 150 doesn't support the newest version of AUX partitions, and thus I can't create the partitions I need to install the MkLinux system. Any thoughts?
This article has been archived and is no longer updated by Apple.
FWB's HDT primer PE version 1.7.7 will not partition for AUX partitions. However, FWB does offer an upgrade path to upgrade your Personal Edition to the full version of FWB's Hard Disk Toolkit. It is inexpensive, retailing for about $30.00. Once you get the full version, you can effect AUX partitions thusly:

Hard Disk ToolKit 2.0 can create custom partitions for use with MkLinux*.

Step 1: Format the drive.
Step 2: When the first Create Volumes window appears choose "Apple_HFS" from the VOLUME TYPE list. Type the following information in the available boxes.
NAME: MacOS HFS Boot partition
(this volume must be AT LEAST 50 MB)

Step 3: Choose CREATE NEW VOLUME under the DEVICE menu.
When the Create Volumes window appears choose "Scratch" from the VOLUME TYPE list. Type the following information in the available boxes.
NAME: root
TYPE: Apple_UNIX_SVR2
(this volume must be AT LEAST 100 MB)

Step 4: Choose CREATE NEW VOLUME under the DEVICE menu.
When the Create Volumes window appears choose "Scratch" from the VOLUME TYPE list. Type the following information in the available boxes.
NAME: usr
TYPE: Apple_UNIX_SVR2
(this volume must be AT LEAST 200 MB)

Step 5: Choose CREATE NEW VOLUME under the DEVICE menu.
When the Create Volumes window appears choose "Scratch" from the VOLUME TYPE list. Type the following information in the available boxes.
NAME: swap
TYPE: Apple_UNIX_SVR2
(this volume must be AT LEAST 64 MB)

Machines Affected: All
Published Date: Feb 20, 2012

Refurb Machines: No Bundled Software

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

Do the refurb machines that Power Computing offers contain the same bundled software as other machines?
This article has been archived and is no longer updated by Apple.
The Refurb systems only come with the System CD (Standard bundled software and System Software installers). There are no additional Software titles that are sent in the accessory kits. The PowerTowers and PowerTower Pros do come with Speed Double installed but nothing else.

Machines Affected: All
Published Date: Feb 20, 2012

‘_‘ character will not appear on the screen

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

Power Computing users with the IMS TwinTurbo Video card have reported problems with seeing the '_' character on their screen when 'text acceleration' is turned on.
This article has been archived and is no longer updated by Apple.
In certain fonts such as Courier, the '_' character would not appear on the screen while typing unless the text acceleration was turned off.

This issue has been addressed in the IMS TwinTurbo Video driver software, version 3.8. This software is currently available at the IMS Web site and will be included with future Power Computing systems.

As a workaround, you can set up the IMS driver to disable text acceleration via the CAPS LOCK key in the IMS TwinTurbo Control Panel. The key will act as a toggle. Whenever you need to type an '_' character, turn off the acceleration by depressing CAPS LOCK.

Machines Affected: Computers using the IMS TwinTurbo PCI card
Published Date: Feb 20, 2012

Power Requirements for Japan

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

The user's guide recommends that European customers use a HAR approved power cord, what do I need to use in Japan? Does this mean I don't need to use an adapter? Just adjust that little red thing on the back of my computer?
This article has been archived and is no longer updated by Apple.
Japan's power output is 100 volts across the country. The hertz rating depends on where you are: East Japan is 50Hz; West Japan is 60Hz. All of Power Computing's machines are auto-configuring. Just plug it in and it should work. The Japanese use the same type of plugs so you won't need to get a special adaptor.

Machines Affected: All
Published Date: Feb 20, 2012

HD Mounting Brackets for a PowerTowerPro

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

How do I add another device to the 5 1/4" bay in my PowerTowerPro?
This article has been archived and is no longer updated by Apple.
There are two sizes of devices: 3 1/2", & 5 1/4".

For a 3 1/2" device you will need the following parts
---
*pt.# 81546 (FAB: 5.25 MOUNTING BRACKET)
This is the "U" shaped metal brackets that attaches to either side of a drive.

*pt.# 6300-1000-02 (Drive Rail, PowerTower Pro ATX)
This is the rail that attaches to the bracket on the right, if facing the front of the device.

For a 5 1/4" device you will need the
---
*pt.# 6300-1000-02 (Drive Rail, PowerTower Pro ATX)
This is the rail that attaches to the right of the device, if facing the front of the device.

Machines Affected: All
Published Date: Feb 20, 2012

PowerBase Issue: External Serial Device Detection

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

PowerBase customers with external serial devices, such as external modems, have reported problems working with the devices after system startup. This only happens prior to system 7.6.1.
This article has been archived and is no longer updated by Apple.
PowerBase customers have reported problems where the computer is unable to detect an external serial device.

The majority of reported cases have been with external modems.

Symptoms:

With external modems or other serial devices, the communications software can not detect the device. For instance, a modem will not respond with 'OK' to a simple 'AT' command. This problem occurs only if the device is powered off during system startup and then powered on after the desktop appears.

Workaround:
---
* If you can, update to System 7.6.1 which resolved this issue.
* If you cannot upgrade to 7.6.1, simply power the device on before starting up the computer; which will allow the two to communicate.

Devices Affected:

Customers have reported the issue usually affects external modems which are powered off of an external AC outlet. Modems which receive power either from the serial port or ADB port of the computer do not appear to be affected.

Issue Status:

Power Computing has reproduced the problem on other MacOS computers from other manufactuers. All computers affected by the issue are based upon the 'Alchemy' architecture which is a logic board design licensed from Apple Computer.

Power Computing has escalated the issue to Apple Computer.

Machines Affected: Powerbase
Published Date: Feb 20, 2012

Asante NIC Ethernet Card: Specification

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

Does Power Computing maintain any specifications on the Asante NIC Ethernet card that it bundles with some of its computers?
This article has been archived and is no longer updated by Apple.
Yes, the following specs where compiled from Asante's web site.

Systems Supported:

PCI-based PCs and Power Macintosh computers

Interface Connections:

Auto-senses RJ-45 (10BASE-T) or AUI (10BASE-5)

Bus Supported:

PCI, 32-bit bus mastering

LAN Drivers Available:

PC: ODI and NDIS drivers
Power Macintosh: Open Transport

Network Operating:

PC: Novell NetWare, Novell Personal NetWare, Microsoft Systems Supported: Windows for Workgroups, Microsoft Windows NT, Microsoft LAN Manager, Banyan VINES, Artisoft LANtastic, IBM LAN Server, DEC Pathworks, NDIS- and ODI- compliant operating systems

Power Macintosh: Apple System7.5, AppleShare, Novell NetWare for Macintosh, AppleTalk, DEC Pathworks and TCP/IP

Diagnostic LEDs:

Link integrity, Data traffic

Dimensions:

5.312" x 3.312" (conforms to PCI Short Card specifications)

Power Requirements:

+5 volts @ 0.8 Amp. max.

Environmental Operating Range:

Temperature: 0C to 50C Relative Humidity: 5% to 85% non-condensing

Standards Compliance:

IEEE 802.3 10BASE-T and 10BASE-5 IEEE 1275 Open Firmware specifications FCC Class A CE Class A PCI 2.0 specifications

Support:

Lifetime warranty * Free technical support * Commercial On-line BBS

Machines Affected: All
Published Date: Feb 20, 2012

PowerBase: IDE Hard Disk mounting issue with SCSI HD Installed

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

Power Computing is investigating reports from PowerBase customers where the internal IDE hard disk does not automount on startup if the computer is booted from a SCSI hard disk.

Most PowerBase computers are configured with an internal IDE hard disk and SCSI CD-ROM drive. These configurations are not affected by this issue.
This article has been archived and is no longer updated by Apple.
Customers have reported that after updating the hard disk driver on their internal IDE hard disk with Drive Setup version 1.2.2, the internal IDE hard disk does not mount if they use another SCSI hard disk as the startup disk.

Drive Setup 1.2.2 is included as part of MacOS 7.6. There have been reports that the problem has also occured with an earlier version of Drive Setup, version 1.1.

The problem is not unique to MacOS 7.6 and can occur under earlier versions of the MacOS with Drive Setup 1.2.2.

The problem only occurs when restarting the computer (for instance, choosing restart from the 'Special' menu in the Finder). The problem does not occur if the computer is started by a 'cold boot' - either choosing 'Shut down' from the Finder's Special menu or turning on power to the machine.

The problem does not under occur the following circumstances:

- starting up from the Power CD (the system software CD provided with the computer).
- when the IDE hard disk has a system folder and the IDE disk is selected as the startup device in the Startup Disk Control Panel.
- when the PowerBase computer is configured with only an internal IDE hard disk drive.

Power Computing engineering is investigating the cause of the issue and will work with Apple Computer as necessary to find a resolution.

Workarounds:

Please try the following workarounds:

- Choose 'Shut down' from the Special Menu in the Finder, wait 30 seconds, and power on the computer instead of using 'Restart'.

- Use the IDE hard drive as the startup volume by installing a system folder on the IDE hard drive. Specify the IDE hard drive as the startup device using the Startup Disk Control Panel.

- Backup and Reformat the drive with Drive Setup 1.2. In initial testing the problem does not appear to occur with this version of drive setup. It is available in the utilities folder at most Apple SW Update FTP sites.

Machines Affected: PowerBase
Published Date: Feb 20, 2012

PowerBase: Freezing at Startup with Scanner Connected

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

When I try to start-up my PowerBase with my scanner connected, the computer freezes. With the scanner disconnected, the computer boots fine. I have a SCSI internal hard drive. What is wrong?
This article has been archived and is no longer updated by Apple.
This is a known issue with the Alchemy logic board design. Apple created the fix for internal IDE drives, and Power Computing created the fix for internal SCSI devices. The following chart should help elucidate.

Internal Startup Device	Use This Now	Source	Future Fix	PowerSource Article
IDE HD	6360-64xx-54xx Update 1.0	Apple	?	1287
SCSI HD	SCSI Manager 1.2	PCC	FWB V2.05	1437

Machines Affected: PowerBase
Published Date: Feb 20, 2012

Macintosh SE: Miscellaneous Problem/Cures

This article has been archived and is no longer updated by Apple.

BEFORE YOU START: Familiarize yourself with the Macintosh SE Technical Procedures. Be sure to follow proper ESD procedures.

Problem #1: Macintosh SE resets itself and gives ID=10 error. Also video and sound are distorted.

Cure #1: The Macintosh SE contained a 3rd party add-on card in the expansion slot. The card was removed and the Macintosh SE passed Macintosh SE diagnostics. The expansion slot on the Macintosh SE logic board was not working properly. Replace Macintosh SE main logic board and retest the system.

Problem #2: The Macintosh SE reboots by itself, this happens even when no applications are running and only the Finder is active. The rebooting occurs intermittently.

Cure #2: The Hard Disk may contain an old version of system software (4.0 or older). There may also be soft errors found when the hard drive is tested using HD Diagnostics. Remove system and finder from the drive. Back up the data of the hard drive. Then use HD diagnostics destructive test to destroy the formatting of the HDA and remove all of the soft errors. Reinitialize the HDA using the HD Setup program, install system software, and restore the data.

If the problems still occur, refer to the Macintosh SE Technical Procedures for more troubleshooting information.

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PowerBase: SCSI Manager Update 1.2- Internal SCSI HD

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.
This article has been archived and is no longer updated by Apple.
This version should address the following problem:
==========

"The SCSI Manager Update corrects a timing issue that may occur on some PowerBase computers when external SCSI devices are connected. PowerBase computers experiencing this issue will hang at the gray screen presented during the startup process and progress no further."

It is VERY important that you become familiar with the read me file, especially the known issues. Customers should be ENCOURAGED to study the read me.

Who needs the update:

- PowerBase customers using ONLY SCSI Hard disk devices who are freezing at startup due to a scanner or other SCSI device being attached.

The problem has most often been reported with UMAX scanners. Customers who are not experiencing the issue should not use the update. Based on some reports that Chris Heatherly has run, only between 2,000-3,000 PowerBase machines shipped with an internal SCSI hard drive. We estimate maybe 200-300 of these customers have scanners or other devices that may cause the issue.

Who does NOT need the update:

- customers using FWB 2.05 (it already applies the patch code)
- customers with an internal IDE drive, whether they have external SCSI devices or not. They can apply the 6360/54xx/64xx update to their internal IDE drive.

Issues to remember (also covered in the read me file):
==========

1) Customers should backup their drive/data before applying the patch and fix and current disk damage with Disk First Aid or Norton Utilities.

The patch works at the disk driver/partition level. If there is any weird corruption on the drive, the patch may cause damage. Backing up and making sure the drive is in good shape assures a successful application of the patch.

2) Drives should only have ONE HFS partition.

Due to the way the patch has to be applied, it will only work if there is one partition. The application will warn if there are too many partitions. Only solution is to backup and reformat to one partition, and then apply the patch.

3) Do not use FWB 1.7.7 or earlier to update the driver after applying the patch.

This will be the MOST IMPORTANT issue. Because FWB 1.x does not recognize patch partitions and the way they are implemented, after applying the patch, FWB 1.7.7 or earlier will say the driver on the disk is no longer an FWB driver. This message is wrong. What is happening is that FWB only looks at the active driver which is code Power put on the drive to load the patch. Then, the patch loads the real driver. Sort of a chain.... FWB can not walk the chain and find the real driver.

The SCSI Manager Update does install FWB's 1.7.7 driver. The user is up to date. Customers should ignore the message and hit cancel.

If they update the driver, the patch chain is broken. The update application can not fix the chain of drivers and patches. Only solution is to back up and reformat and apply the patch or to use FWB 2.05 to update the drive.

IMPORTANT FOR TECH SUPPORT: If you have a PowerBase customer with a SCSI disk drive and they get the message about a non-FWB driver controlling the disk, ASK IF THEY HAVE APPLIED THE SCSI MANAGER UPDATE. If so, ignore the message by hitting cancel.

4) Sometimes the machine will still freeze after applying the update

Hard drives have to spin up to speed at startup. We found in testing that some drives do not spin-up fast enough (IBM DORS). When this happens, the MacOS will start to scan the rest of the SCSI bus. It will hit the scanner and freeze if the drive has not spun up in time to load the patch.

The solution: Select the disk in the startup disk control panel. This will cause the MacOS to wait longer for the drive to spin up. This allows the patch to load before the OS scans the SCSI bus.

Final Comments

The best long term solution for customers is to upgrade to FWB 2.05 or later. However, some customers want a cheaper, short term solution. The SCSI Manager Update allows customers to stay with the 1.77 version of the FWB driver. That driver was not engineered for these types of OS fixes and hence there are a few issues as documented above.

In the future Apple will probably deliver other patches via this mechanism. Only FWB 2.05 or later will support that patch mechanism. Apple has documented this patch feature for 3rd party driver vendors. Future OS patches will only be supported via an upgrade to 2.05.

There was much discussion about whether to proceed with release of the patch or to upgrade everyone to FWB 2.05. This was due to some of the issues with the update application as mentioned above. The decision made was to release the patch because it would fix customer problems now. Customers have been waiting and waiting. Moving to 2.05 would have involved even more time and customers have been waiting too long.

Machines Affected: PowerBase
Published Date: Feb 20, 2012

How do I format my SCSI Hard Drive

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How do I format my SCSI Hard Drive?
This article has been archived and is no longer updated by Apple.
First it is important that you have all your data backed up before formatting the Hard Drive, as this will erase everything on the Hard Drive.

1) Boot the machine from the CD-ROM.

This can be done either with the command + option + shift + delete keys, orby selecting it in the Startup Disk Control Panel.

*If booted with the 4-key command
Mount the Hard Drive, by Open the Utilities folder, then the Hard Disk Toolkit P.E., and opening the HDT Primer P.E., click the mount button. and the volume name will switch from N/A, to the name of the Hard Drive.

*If booted by changing the Startup Disk Control Panel Open the Utilities folder, then the Hard Disk Toolkit P.E., and opening the HDT Primer P.E.

2) Next click the Format button. You will get three warnings which will tell you that this will erase all data on disk. Select "OK", (or continue) until it begins the formatting procedure.

3) When formatting is complete, you will have the option to select a partitioning method. It is suggested that you select Maximum Macintosh. Although, if you have experience with hard drive partitions, you can custom configure your partitions here.

4) You will now notice that your Hard Drive is listed as "Hard Disk ****", this is because there is no name pre-specified by the program. Simply click on the text bar, (under the hard drive's Icon), and rename the hard drive.

5) To reinstall the software. Quit the HDT Primer P.E., by pressing the command+"Q", and close the all windows, until you are looking at the "PowerCD" window.

6) Double click on the System Software Installers folder, and when it opens Double-click on the Install System Software folder.

7) Go back to the Power CD and open the System Software Installers Folder.
Scroll down to the bottom of the window and open the Draggable System folder.

8) Inside there is a folder called "System Folder"

9) Drag this "System Folder" to the HD

10) Click and hold on the Apple Menu in the top left corner
Go to Control Panels
Go to Startup Disk

11) Click one time on the HD.

12) Close the window and select Special, then Restart. This will start you back up from your HD.

13) Install one of your programs. Then run that program for a while to be sure that it runs OK.

14) When you are ready to add another program, Restart your machine and hold down the Space Bar. This will boot your machine to the Extensions Manager. Select System 7.x and click beside the Control Panel CD-ROM Toolkit to put a checkmark beside it. Close the window and your desktop will soon appear. You have rebooted with system software only, plus your CD software to run your CD (turning on the CD-ROM toolkit is not necessary to install from floppies).

15) Run this program for a while to be sure that it does not cause any anomalous behavior such as conflicts or system errors.

16) Once you are satisfied that your latest installed program has not created any new problems on your machine, repeat steps 10-12 as often as necessary. This is a tedious procedure but it is the best preventative maintenance available for keeping your computer running smoothly.

17) Please call Power Computing Tech Support if you feel you have isolated a problem, especially before Reformatting or reinstalling your Operating System.

****Note this install will install 7.5.3, since 7.5.5 was only released as an update, at this point you should go to your System Software Installers folder, from there open the System Software Updates folder. Inside you will see System 7.5.5 Update. Open this folder and run the installer.

18) To get the "PCC" logo back on the Hard Drive, click once on the PowerCD and press command+"I", this will bring up an info box. Click on the Icon in this window, which will put a square around the Icon. Select the Edit menu and choose "copy", to copy the Icon, and close that window. Click once on your Hard Drive and again press command+"I". This time when you click on the Icon go up to the Edit menu and select "Paste," which will Paste the copied Icon onto the Hard Drive, then close that window.

The machine is now operational.

Machines Affected: All
Published Date: Feb 20, 2012

Gamma setting for the 17" Power monitor

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I need to specifically calibrate the monitor to my programs, printer, or scanner. To do this, I need the Gamma setting. What's the Gamma setting for a 17" Power Computing monitor.
This article has been archived and is no longer updated by Apple.
The Power 17" monitor has a gamma value of 2.3.

Gamma settings refer to brightness levels and slight tints. This is useful if you need to calibrate your colors between multiple devices. Monitors have a natural gamma setting, which is why some monitors look a little "greener", "redder", "brighter" or "darker" than others. For most practical purposes, a value between 1.4 and 1.6 will be adequate.

Machines Affected: All Power Computing machines
Published Date: Feb 20, 2012

7.5.5: Where did Floppy Tuner go?

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

I'm trying to locate Floppy Tuner or PowerMac Format Patch on the new 7.5.5 silver CD (Part numbers: 6010-1029-00, 6010-1030-00, 6010-1031-00). I can't seem to find it.
This article has been archived and is no longer updated by Apple.
The system software on the new silver CD has the functionality of the Floppy Tuner (aka PowerMac Format Patch) built into the 7.5.5 system software. You won't need that extension any more. Remember that after a clean install from one of these CDs you will have installed system 7.5.3. You will still need to do the upgrade to 7.5.5.

Machines Affected: All Power Computing machines
Published Date: Feb 20, 2012

NetDoubler Serial Number

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I have a Power Computing PowerBase with an Asante ethernet card installed. When I install the NetDoubler[a] software and look at the control panel, it asks for a serial number. Where can I find the serial number?
This article has been archived and is no longer updated by Apple.
Once a valid ethernet connection has been established and the AppleTalk control panel is set to ethernet, NetDoubler[a] will not need a serial number.

In order for you to take advantage of the NetDoubler software, there are a few things you need to do on your computer. First, you need to make sure you have an Asante Ethernet card installed and that you are connected to an Ethernet network. The next step is to install the correct Asante driver for your Ethernet card. After you have installed the correct driver, you need to set up your AppleTalk control panel. In the AppleTalk control panel, set the "Connect via" menu to "Ethernet". If the computer does not see an Ethernet network connected, it will not switch to Ethernet; if it does see an Ethernet network, it will stay on the Ethernet selection. Close the AppleTalk control panel and save your changes. At this point, you need to restart your computer.

If the AppleTalk control panel is not set to Ethernet, NetDoubler will require a serial number (i.e. if you reset the PRAM, it sets the AppleTalk connection back to the Printer port).

Machines Affected: PowerBase
Published Date: Feb 20, 2012

CUDA Button Location and How to Get to It

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

Where is the CUDA button on all of the PCC main logic boards? Which case screws do I remove to get to it?
This article has been archived and is no longer updated by Apple.
The PowerGuide MLB 1.0.1 application is a great resource for finding the Cuda button. However, the models below have the case thumbscrews on the back of the case as indicated. Once the thumbscrews have been removed slide either the entire case or the side panel on the PTP toward the back to remove. The Cuda button, MLB and Apple-based design are also as indicated in the table:

Case Design	Case Screw Location On Back of Computer
Low Profile	3 screws: two outside edges, top center edge
Desktop	1 screw: top center
Mini Tower (MT)	1 screw: top center; 2 pressure clips along bottom outside edges
Mini Tower (NT)	4 screws: on outside edges
Power Tower Pro	2 screws on side with handle

Model	CUDA Location
Power 100/120	Back Center
PowerWave	Front left corner by cache
PowerCurve	Front left corner by cache
PowerCenter	Front left corner by cache
PowerTower	Front left corner by cache
PowerTower(e)	Front left corner by cache
PowerBase	Mid-right *
PowerCenter Pro	Middle Bottom

*The PowerBase Cuda button is located on the Right side of the MLB near the floppy drive cable connections on the MLB.

Machines Affected: All
Published Date: Feb 20, 2012

Iomega Drive Options: Description

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What is the new Iomega drive options control panel included with Iomega Driver 5.0.?
This article has been archived and is no longer updated by Apple.
The Iomega Drive Options control panel is new to version 5.0 of the Iomega software. It is used to control some of the new capabilities of the new driver. It is used with both Zip and Jaz cartridges and drives.

The options are:

1) Turn on or off the ability to verify disk writes.

2) Have the ability to have your disk ejected or not ejected at shutdown.

3) Have the ability to have your disk ejected or not ejected on restart.

4) Have the drive go to sleep after a certain amount of time (between 1 and 30 minutes).

Advanced Options:

There are advanced options available by selecting the Special menu and choosing "Advanced Options...". The advanced options involve choosing what the driver will do if a disk is inserted that is not the same version as the installed version (Every Jaz and Zip disk has a driver partition installed on it though it is not visible in the finder). The choices are:

Update the driver on the disk only when it is older.

Always update the drover on the disk.

Do NOT update the drive on the disk.

What are the defaults?

The defaults are:
Verify disk writes is OFF.
Eject disk at Shutdown is ON.
Eject disk on Restart is OFF.
Drive sleeps in 15 minutes.
Update the driver on the disk only when it is older.

Where is this information stored?

It is stored in a preference file in the system folder's preferences folder. It is called "Iomega Driver Preferences."

Machines Affected: All
Published Date: Feb 20, 2012

CUDA Reset: Definition and How To

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

What is the CUDA Reset button, and why would I want to use it?
This article has been archived and is no longer updated by Apple.
The CUDA Reset button is a small red button located on the Main Logic Board. For more information on the button's location on the various Power Computing models, please see the following Tech Info Library article:

Article 36253: **CUDA Button Location and How to Get to It**

Definition:
==========

Depressing this button resets the CUDA Microcontroller Chip. This chip is responsible for the following functions:

```
* turn system power on and off
* manage system resets from various commands
* maintain parameter RAM
* manage the Apple Desktop Bus (ADB)
* manage the real-time clock
* let an external signal from either Apple GeoPort serial port control
  system power
```

CUDA is powered by the Motorola power manager chip which draws power from
1) the 5V rail if power supply is turned on,
2) the 5V standby supply if the power supply is plugged in but not turned on,
3) the battery otherwise.
When you push the red button, it makes no difference whether you are plugged in or not. If you are turned on when you push the button, the CUDA is reset which will turn the machine off.

Though it seems incomprehensible from an engineering standpoint, there are reputed to be problems with CUDA that require the battery be removed to completely kill it. In this case, you must unplug the line cord or CUDA will continue to be powered by the 5V standby supply. It is a good idea to leave the battery out for 10 minutes or so, since it may take that long for all of the stray capacitance to discharge, etc., and put it in a truly uninitialized state.

There is a difference when the line cord is plugged in (5V standby active) in that CUDA runs in so called "high power mode" which involves faster clock rate, more of chip powered up, etc. Though the spec. doesn't say so, this may account for some peculiarities.

When to Reset:
==========

It is rarely necessary to reset the CUDA, but many problems that appear to be hardware related can be fixed by doing so. Some of the most common reasons to reset the CUDA:

```
*After adding RAM, the machine will not boot.
*The machine will not power up.
*The machine powers up, but does not chime or boot.
*A serial port remains inaccessible even after booting without extensions,
  resetting PRAM, etc.
*The machine will power down for no apparent reason.
*Before adding any hardware to the inside of the machine.
```

Of course, normal troubleshooting steps should be taken to resolve a problem before resetting the CUDA. Although resetting the CUDA will not harm the machine in any way, it is important to remember that most problems can be resolved without opening a machine.

```
How to Reset:
=============
    *Power down the machine, but leave the power cable plugged in.
    *Remove the cover.
    *Locate the CUDA Reset button.
    *Touch the metal chassis of the machine.  This will dissipate static electricity
      into ground.
    *Press the CUDA button for a few seconds.
    *Reboot, and verify resolution of the problem you wanted to solve
```

Although it is rarely necessary to do so, the CUDA microcontroller can also be reset by removing the lithium battery and unplugging the machine. If you choose to do this, the machine should be left unplugged with the battery removed for 15 minutes to allow all stray charge to dissipate.

Information on the functions of the CUDA Microcontroller was taken from the following Tech Info Library article:

Article 14841: **Power Macintosh: Description of Integrated Circuits**

Machines Affected: All
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Upgrading to Speed Doubler 2.x

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

I purchased a PowerTower Pro that came with Speed Doubler 1.X. Can I get an upgrade to version 2 of Speed Doubler? If so, how do I upgrade?
This article has been archived and is no longer updated by Apple.
Connectix offers a free upgrade to PowerTower Pro owners who purchased their machines after November 1st of 1996. For the upgrade, contact Connectix update department at 1-800-950-5880 ext 7904. The customer will be sent an upgrade form to fill out and asked for proof of purchase for the PowerTower Pro.

Machines Affected: PowerTower Pro
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BTU Generated by PCC Computers and Monitors

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I need to know how much heat in BTUs (British Thermal Units) this computer generates because we're going to keep it in an environment thatÕs temperature sensitive.
This article has been archived and is no longer updated by Apple.
Some places like the government and universities have environmental requirements that have to be adjusted because of the heat output of electronics.

The answer is quite simple. According to **Tech Info Library article 267**, multiply the wattage of the Power Supply by 3.42 and that generates the rate in BTUs per hour.

For example, the PowerTower Pro runs on a 300 watt power supply.

300 watts x 3.42 = 1026 BTU/hour

Computer/Body Style	Power Supply	BTUs/Hour
Power DT/MT	200 Watts	684.0
PowerWave DT/MT	200 Watts	684.0
PowerCurve LP	145 Watts	495.9
PowerCenter LP	145 Watts	495.9
PowerCenter DT/MT	200 Watts	684.0
PowerTower	200 Watts	684.0
PowerTower Pro	300 Watts	1026.0
PowerBase LP	145 Watts	495.9
PowerBase MT	200 Watts	684.0
PowerCenter Pro LP	145 Watts	495.9
PowerCenter Pro MT	200 Watts	684.0

Monitor	Power Supply	BTUs/Hour
Power 15"	90 Watts	307.8
Power 17"	120 Watts	410.4
Sony 15sf	110 Watts	376.2
Sony 17sf	130 Watts	444.6
Sony 20se	150 Watts	513.0
Sony 20sx	150 Watts	513.0
Sony 300sft	150 Watts	513.0

Machines Affected: All
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CD-ROM Toolkit Support of Various CD Formats

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What CD ROM Toolkit settings are recommended to allow mounting of the widest variety of CD formats, and for optimum playback of CD's.
This article has been archived and is no longer updated by Apple.
Here are the CD ROM Toolkit settings recommended by FWB:

(these settings are accessible from the "options" button in CDT v 1.6.x, and from the "setup" button in version 2.x)

To enable mounting of CD formats in CD ROM Toolkit other than Apple HFS format, you should make sure that you are set to allow mounting of dual format CD's, and to scan each track for data.

To configure your CD ROM Toolkit for optimum playback, make sure that "Read Ahead" is set to "small" or "disabled." Also make sure that "Continue Caching into the acceleration file..." is unchecked. For QuickTime, multimedia playback and audio synchronization problems try turning off caching activities, which speeds up the drive in most cases, but may interfere with the synchronization of these types of applications.

NOTE 1: MPEG files
==========

According to FWB, there is a bug with current versions of the Mac OS (up through 7.6) which hinders non Apple drivers (i.e. CD-ROM Toolkit) from working with the MPEG extension reliably with non Apple CD ROM drives. Both Apple and FWB are working to correct this problem. FWB has developed a fix and included it with v.2.3 of CD-ROM Toolkit, which is included on Power's 7.6 CD. Retail version 2.5 has the fix and FWB has developed an updater for version 2.0. FWB updates can be downloaded from <http://www.fwb.com/dc/cdt/main.html>.

Here are a few other known issue's related to the MPEG extension that may apply:
-The MPEG extension will not work without the new Thread Manager file (2.1.5) included with the QuickTime 2.5 software.
-LaserWriter 8.4.1 Net Install (which includes desktop printing software) does delete/move the Threads Manager.
-Color StyleWriter 2500 v2.2.1 software (and presumably the new 1500 software) removes this Thread Manager file and installs an older version (2.1)

NOTE 2: VCD (Video CD)
==========

Your model CD ROM drive may not support the VCD format with CD ROM Toolkit. You can consult the "Supported Devices" read me in the CD ROM Toolkit folder to see which data formats are specifically supported on your make and model CD ROM drive. FWB reports that they can successfully play VCDs with the vast majority of our supported devices, but not with all of them. For the moment, it is not recommended that VCDs be played using CD ROM Toolkit until we work the support issues out fully.

Machines Affected: All
Published Date: Feb 20, 2012

PowerBase IDE Drive Specs: Medalist 1276 AT

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ST-31276A, Medalist 1276 AT (Lapaz CFS1276A)
This article has been archived and is no longer updated by Apple.

```
ST-31276A, Medalist 1276 AT (Lapaz CFS1276A)

      +-----------+
      | REAR VIEW |
      +-----------+

                 J2  40 pin I/O Cable Connection
                 |
       +---------  ---------+-----1-/---------\\    TOP (HDA)
      -+::::::::::oe::::::::1| : : : | 0 0 0 0 |--
       +----------|---------+-|-|-|-+-5-G-G-12+    BOTTOM
                 |           | | |
 pin-20 removed -+           | | +-- Reserved
                             | +---- Slave Present (when Master ON)
                             | +---- Cable Select (when Slave OFF)
                             +------ Master ON, Slave OFF

                           ST-31276A
                 Medalist 1276 AT (Lapaz CFS1276A)

     FORMATTED CAPACITY _________________________1280.95
     ACTUATOR TYPE ______________________________VOICE COIL
     CYLINDERS __PHYSICAL_______________________4893
     HEADS ______PHYSICAL_______________________4
     DISCS (3.5 in) _____________________________2
     MEDIA TYPE _________________________________THIN FILM
     HEAD TYPE __________________________________THIN FILM
     RECORDING METHOD ___________________________ZBR RLL (1,7)
     INTERNAL TRANSFER RATE (Mbits/sec) _______33.6 to 67.2
     EXTERNAL TRANSFER RATE (Mbytes/sec) ______up to 16.6
     PIO MODE ___________________________________4
     DMA SUPPORT _________________________________EISA Type B
     SPINDLE SPEED (RPM) ________________________4500
     AVERAGE LATENCY (mSEC) _____________________6.67
     BUFFER ______________________________________64K
      Read/Write Multiple, Read Look-Ahead,
      Multi-Segmented
     INTERFACE ___________________________________ATA
     SECTORS PER DRIVE (LBA mode) _______________2,501,856
     TPI (TRACKS PER INCH) ______________________4973
     BPI (KBITS PER INCH) _______________________88.4
     AVERAGE ACCESS (ms) ________________________12.5
     SINGLE TRACK SEEK (ms) _____________________3
     MAX FULL SEEK (ms) _________________________24
     MTBF (power-on hours) Office _______________300,000
     SHOCK (G's):
              operating (Read/Write) __________5
              abnormal ________________________
              nonoperating ____________________75
     ACOUSTICS (bels) (typ/max) _________________38/
     POWER DISSIPATION (watts) __________________
     POWER REQUIREMENTS: +12V START-UP (amps) _1.2
     POWER MANAGEMENT (Watts):
                         ACTIVE ________________4.6
                         IDLE __________________3.5
                         STANDBY ________________1.0
     WRITE PRECOMP (cyl) ________________________N/A
```

```
REDUCED WRITE CURRENT (cyl) _______________N/A
LANDING ZONE (cyl) ___________________________AUTO
IBM AT DRIVE TYPE ___________________________*

Physical:
                 Height (inches/mm):  1.00/25.4
                 Width  (inches/mm):  4.00/101.6
                 Depth  (inches/mm):  5.75/146.1
                 Weight    (lbs/kg):   1.3/0.59
```

* MAY REQUIRE FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE. (see below)

Possible translations:

This translation is generally acceptable, as is, for non-DOS operating systems:

2482 cyl, 16 heads, 63 sectors = 1,280,950,272

DOS operating systems may require a translation that uses larger values for the CMOS head parameter which lowers cylinders below 1024:

620 cyl, 64 heads, 63 sectors = 1,279,918,080

Other FULL-CAPACITY solutions for DOS operating systems include third-party drive preparation software, system BIOS which supports LBA mode or bios driven host adapters. Otherwise, capacity may be limited to:

1024 cyl, 16 heads, 63 sectors = 528,482,304

Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

Already low-level formatted at the factory.

Since a User-definable or Custom translation geometry may be used, it is imperative that the values be written down and kept with your permanent records for retrieval in the event of CMOS battery failure.

Seagate reserves the right to change, without notice, product offerings or specifications. (09/09/96)

Machines Affected: All

Published Date: Feb 20, 2012

IMS Serial Number Registration

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I just got my PowerTower Pro, and it came with a card asking me for a serial number to register my IMS Twin Turbo card. What serial number should I use?
This article has been archived and is no longer updated by Apple.
Because Power Computing handles the service and support for the IMS card, the customer can fill out the registration card and state that it is part of a bundled purchase from Power Computing. It is not necessary to enter a serial number.

Machines Affected: All
Published Date: Feb 20, 2012

Global Village Teleport 2.5.6 Installed Files

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

What is installed when I run the installer for the Teleport Modem Software from release 2.2 or 2.3 of the PowerCD?
This article has been archived and is no longer updated by Apple.

```
The following items are installed with the Teleport 28.8 Modem Software, version 2.5.6.

1.  At the Root Level of the Hard Drive
   1.1.  Global Village ZTerm f
       1.1.1.  CompuServe Phone Numbers.zts
       1.1.2.  CompuServe.zts
       1.1.3.  DELPHI.zts
       1.1.4.  Global BBS.zts
       1.1.5.  Sounds
           1.1.5.1.  connect
           1.1.5.2.  filedone
           1.1.5.3.  termbell
           1.1.5.4.  ZTerm Sound Info
       1.1.6.  ZGEnie.zts
       1.1.7.  ZPhoneList
       1.1.8.  ZTerm 0.9
       1.1.9.  ZTerm Manual
   1.2.  TelePort Accessories
       1.2.1.  Scripts
           1.2.1.1.  America Online
               1.2.1.1.1.  Global Village Mercury
               1.2.1.1.2.  Global Village Platinum
               1.2.1.1.3.  GV TelePort Gold/Silver
           1.2.1.2.  AppleLink
               1.2.1.2.1.  Global Village High Speed
           1.2.1.3.  eWorld
               1.2.1.3.1.  Global Village Mercury
               1.2.1.3.2.  Global Village Platinum
               1.2.1.3.3.  GV TelePort Gold/Silver
           1.2.1.4.  First Class
               1.2.1.4.1.  Global Village Mercury.mdm
               1.2.1.4.2.  GV Platinum.mdm
               1.2.1.4.3.  GV TelePort Gold-Silver.mdm
           1.2.1.5.  GV Modem Defs. 1.2 for AMT 1.5
               1.2.1.5.1.  GV Modem Defs 1.2 for AMT 1.5
           1.2.1.6.  Lotus Notes
               1.2.1.6.1.  GVMercury.mdm
               1.2.1.6.2.  GVPlatinum.mdm
               1.2.1.6.3.  GVTPGold/Silver.mdm
           1.2.1.7.  Remote Access Scripts
               1.2.1.7.1.  GV High Speed CCD for ARA 1.0
               1.2.1.7.2.  GV High Speed for ARA 1.0
               1.2.1.7.3.  GV High Speed for ARA 2.0
               1.2.1.7.4.  GV High Speed IDT for ARA 1.0
               1.2.1.7.5.  GV High Speed MD for ARA 1.0
               1.2.1.7.6.  GV High Speed Pulse for ARA 1.0
               1.2.1.7.7.  GV Platinum CCD for ARA 1.0
               1.2.1.7.8.  GV Platinum for ARA 1.0
               1.2.1.7.9.  GV Platinum for ARA 2.0
               1.2.1.7.10.  GV Platinum IDT for ARA 1.0
               1.2.1.7.11.  GV Platinum MD for ARA 1.0
               1.2.1.7.12.  GV Platinum Pulse for ARA 1.0
           1.2.1.8.  Scripts - Read Me
       1.2.2.  TelePort Read Me
       1.2.3.  TP Gold II Performa - Read Me

2.  In the System Folder
```

2.1. In the Apple Menu Items Folder
2.1.1. Global Village Fax Center
2.2. In the Control Panels Folder
2.2.1. TelePort
2.3. In the Extensions Folder
2.3.1. Global Village Toolbox
2.3.2. GlobalFax
2.3.3. GlobalFax GX
2.3.4. GV High Speed for ARA 1.0
2.3.5. GV Platinum for ARA 1.0
2.4. GlobalFax Files
2.4.1. Background Modules
2.4.1.1. Global Village Registration
2.4.1.2. Registration Modules
2.4.2. Cover Sheets
2.4.2.1. Memo
2.4.2.2. Note
2.4.2.3. Urgent
2.4.2.4. World
2.4.3. Received Faxes
2.4.4. Spooled Faxes
2.4.4.1. Temporary Files
2.5. GlobalFax Personal
2.5.1. GlobalFax Preferences
2.5.2. Queue Temp

Machines Affected: All

Published Date: Feb 20, 2012

Global Village Teleport 2.6 Installed Files

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What is installed with the Teleport 33.6 Installer?
This article has been archived and is no longer updated by Apple.

```
The following items are installed with the Teleport 33.6 Modem Software (version 2.6).

1.  On the Desktop
   1.1.  GlobalFax Sender

2.  Root Level of Hard Drive
   2.1.  Teleport 33.6 Folder
       2.1.1.  Global Village Applications Folder
           2.1.1.1.  AT Command Reference
           2.1.1.2.  Global Village Fax Center
           2.1.1.3.  GlobalFax Sender
           2.1.1.4.  Setup Helper
       2.1.2.  GlobalTransfer Lite Installer
       2.1.3.  TelePort Accessories
           2.1.3.1.  Global Village ZTerm f
               2.1.3.1.1.  CompuServe Phone Numbers.zts
               2.1.3.1.2.  Compuserve.zts
               2.1.3.1.3.  DELPHI.zts
               2.1.3.1.4.  Global BBS.zts
               2.1.3.1.5.  Sounds
                   2.1.3.1.5.1.  connect
                   2.1.3.1.5.2.  filedone
                   2.1.3.1.5.3.  termbell
                   2.1.3.1.5.4.  ZTerm Sound Info
               2.1.3.1.6.  ZGEnie.zts
               2.1.3.1.7.  ZPhoneList
               2.1.3.1.8.  ZTerm 0.9
               2.1.3.1.9.  ZTerm Manual
           2.1.3.2.  Scripts
               2.1.3.2.1.  America Online
                   2.1.3.2.1.1.  Global Village TP 33.6
               2.1.3.2.2.  FirstClass
                   2.1.3.2.2.1.  GV TelePort 33.6.mdm
               2.1.3.2.3.  GV Modem Defs. 1.2 for AMT 1.5
                   2.1.3.2.3.1.  GV Modem Defs 1.2 for AMT 1.5
               2.1.3.2.4.  Lotus Notes
                   2.1.3.2.4.1.  GVTelePort.mdm
               2.1.3.2.5.  Scripts - Read Me
       2.1.4.  TelePort Read Me

3.  In The Apple Menu
   3.1.  Global Village Fax Center

4.  In The System Folder
   4.1.  In The Extensions Folder
       4.1.1.  Global Village Toolbox
       4.1.2.  GlobalFax
       4.1.3.  GlobalFax GX
       4.1.4.  GV Address Book Engine
   4.2.  In The Control Panels Folder
       4.2.1.  TelePort
   4.3.  In The Preferences Folder
       4.3.1.  Global Village
           4.3.1.1.  Dialing Preferences
           4.3.1.2.  GlobalFax Files
               4.3.1.2.1.  Background Modules
                   4.3.1.2.1.1.  Global Village Registration
```

```
                4.3.1.2.1.2.  Registration Modules
            4.3.1.2.2.  Cover Sheets
                4.3.1.2.2.1.  Memo
                4.3.1.2.2.2.  Note
                4.3.1.2.2.3.  Urgent
                4.3.1.2.2.4.  World
            4.3.1.2.3.  Help Files
                4.3.1.2.3.1.  AT Command Ref-TelePort 33.6
            4.3.1.2.4.  Received Faxes
            4.3.1.2.5.  Spooled Faxes
                4.3.1.2.5.1.  Temporary Files
        4.3.1.3.  GlobalFax Personal
            4.3.1.3.1.  GlobalFax Preferences
            4.3.1.3.2.  Queue Temp
```

Machines Affected: All

Published Date: Feb 20, 2012

Adaptec Slow Performance and the Power Domain Firmware Update

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I just purchased a PowerTower Pro with a RAID setup, and it is much faster than my other PowerTower Pros that I got a few months ago. When I go to the PowerDomain Control Panel and highlight the PowerDomain 2940W card, I see version 1.0 on the slower machines, but 2.0 on the fast one. When I highlight the board in the PowerDomain control panel and choose Set Target Options in the Board Menu, I cannot check the UltraSCSI box in the lower left on the slow machines, but on the fast one, it is already checked. What is happening?
This article has been archived and is no longer updated by Apple.
If you are experiencing this issue you should download the PowerDomain firmware update from Adaptec's website, familiarize yourself thoroughly with the Read Me, and install the firmware update accordingly. The most recent version is 2.5, and can be obtained at ftp.adaptec.com/pub/BBS/PowerMac/.

Machines Affected: All
Published Date: Feb 20, 2012

ARA Script for Teleport 33.6

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I just installed ARA, and there is no modem script installed for my Teleport 33.6. When I look in the Scripts folder in my Teleport Accessories folder, there are scripts for other online applications, but not ARA. Why?
This article has been archived and is no longer updated by Apple.
When the GlobalFax 2.6 software is installed, it automatically places the appropriate ARA script in the Extensions folder if ARA is already installed. If ARA is not installed, no script is installed. To install the script, perform a Custom Install of the Modem Configuration Scripts for TelePort. ARA Scripts are also available from Global Village's website at http://www.globalvillage.com/support/swlocator/scriptlocator.html.

Machines Affected: All
Published Date: Feb 20, 2012

My Fan Doesn‘t Fit (Wave, Center, Thin vs. Thick fans)

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Recently there have been problems concerning the replacement of rear fans on the PowerWave and the PowerCenter. Customer have called in reporting that the fan that was sent to them as a replacement will not fit in the area available or to be more precise "the fan is too thick"
This article has been archived and is no longer updated by Apple.
In the past, PowerWave and PowerCenter were shipped with a minitower(MT) and desktop(DT) case. These cases can be identified quickly by the flip-out HD bracket that is in the rear of the machine. These cases/chassis came with a rear fan that was 8x1.5x8 cm and we had a significant amount in stock with a part # of 81564. When Power switched to the NT case, the fan size changed to 8x2.5x8 but the part number remained the same (81564). This was not a problem at first because the Seagate Medalist was still be installed in the PowerCenter. The Medalist was a 1/3 height drive and short enough in length to allow the change in fan size. However, when we switched to the Seagate Hawk (larger drive) the large fan would no longer fit. Therefore whenever the customers would call in for a rear fan replacement, they were sent the wrong size fan because there were two types of fans with the same part number.

SOLUTION:
The solution to this problem has been two-fold. First, the thin version of 81564 has been assigned a different part number(1150-0007-00) and can be accessed correctly through the parts list in Maximizer. For PowerCenter and PowerWave send only the 1150-0007-00 fan (PREPPED FAN SUB-ASSY, THIN CPU/REAR) as a replacement. The second part of the solution is to purge RMA of all 81564 so that only the 1150-0007-00 will be sent.

Machines Affected: All
Published Date: Feb 20, 2012

IMS Driver 4.0 and Screen Capture w/7.6

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As reported on PowerWatch, and verified with a quick test, it appears screen capture under 7.6 and the IMS Twin Turbo 4.0 video driver are incompatible.
This article has been archived and is no longer updated by Apple.
With both installed, performing a standard screen capture, (command shift 3) or any of the window captures (command shift capslock 4) will create a screen capture picture that is empty. Disabling acceleration via the caps lock key will disable acceleration will re-enable the feature and allow screen captures. Of course, if you use the caps lock key option to use one of the new capture modes, you may or may not get a picture depending on the state of capslock/acceleration before you try the capture.

IMS is aware of the issue and is working on an update.

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Published Date: Feb 20, 2012

"Unknown Modem" Message in Teleport Control Panel

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Sometimes I get an "Unknown Modem" Message in Teleport Control Panel
This article has been archived and is no longer updated by Apple.
The following are common troubleshooting steps for this issue

1) Check to make sure your modem is on.

2) If there is a status bar at the top of your screen, (showing connection speed/status of modem or communication connection) possibly there is an application running which is blocking the serial port which your modem is connected to. Quit any open applications to determine which one may be blocking your modem's port. Example: PPP connections and Remote Access applications sometimes utilize such status bars; usually located near the center of your normal menu bar, they are used to indicate the transfer rate or access status for communications, more specifically with modems.

3) Click on the Modem Reset button in your TelePort control panel.

4) If your modem has a power switch, turn off your modem, wait 10 seconds and turn it on again. Modems shipped from Power Computing do not have a power switch.

5) Shut down your computer and turn off your modem. Unplug your modem from your computer
and carefully plug it back in to your computer's serial port. This will be either the modem port or the printer port. Turn back on your computer and modem, open your TelePort control panel and click the Modem Reset button

6) Repeat #5 above, but plug your modem into your computer's other serial port, temporarily removing any other devices, like a printer. If you are plugging your modem into the printer port, be sure to make AppleTalk in active in the chooser (under the Apple menu). Open the Teleport control panel. Click on the select port icon, and select the port which your modem is connected to. Click OK. If the TelePort control panel no longer displays " Unknown Modem", the problem was related to your computer's serial port; service as required.

7) Verify that the proper version of the modem software is installed. In order to determine what software is required for a given Global Village Platinum modem, perform the following steps:

1. Launch the ZTerm application (the file name is ZTerm 0.9).
2. Type in ATI3 and hit return. Note that the third character in this command is the letter I, not the numeral 1.
3. Examine the string that appears in the window. It will look something like the following: A822-V.34_DS V1.511_TPÓ

If the sequence contains the A822 then verify that installed version of the TelePort software is 2.6. This can be achieved by locating the Teleport Control Panel, highlighting it and choosing Get Info from the file menu (any of the other installed GlobalVillage Software components will work for this test).

Versions of the Power CD v2.4 and earlier do not have the necessary GlobalFax v2.6. If a customer needs the updated software we can send the software on floppy disks (p/n 6040-1006-00).

Machines Affected: All
Published Date: Feb 20, 2012

Teleport Modem & Software: How to verify proper Installation

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Can I tell if the Global Village TelePort Modem is connected and the Global Village fax software is installed properly without sending a fax?
This article has been archived and is no longer updated by Apple.
Yes. From the TelePort Modem Control Panel, you can confirm proper installation of both the modem and the software.

1) Open the TelePort control panel

2) Click the **Select port** icon

3) Change the port by selecting the modem or printer icon that is not highlighted

If the incorrect port is selected, the volume slider bar dims. If the incorrect port is selected, switch it back by following steps 2 and 3. When the proper port is selected, you can move the volume slider bar. This indicates that the Global Village TelePort software is installed properly, and the modem is properly connected to your Power Computer.

Machines Affected: All
Published Date: Feb 20, 2012

Lost PCC Hard Drive Icon

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I Just reformatted my hard drive and I lost the PCC icon on my hard drive. How do I get it back?
This article has been archived and is no longer updated by Apple.
1) Insert the Power Computing CD that came with your computer. Click once on the Power CD icon so that it is highlighted (darkened). From the file menu select "Get Info." This will open a window in the upper left hand corner of your screen titled "Power CD Info." In this window, click once on the Power Computing icon in the upper left hand corner. If this is done correctly, the Power Computing Icon will have a black square around it. Now Choose "Copy" from the Edit menu.

2) Close the "Power CD Info" window.

3) Click once on your hard drive icon so that it is highlighted (darkened). From the File menu select "Get Info." This will open an info window similar to the previous info window for the Power CD. Click once on the hard drive icon in this window, it should now have a black square around it. From the Edit menu, select "Paste." Now close the info window. Your hard drive should now have the Power Computing logo on it.

Any icon can be cut and pasted to any item in this way.

How do I delete a custom icon and revert it to it's normal icon?

1) Highlight the icon in the finder.

2) Select "Get Info" from the File menu.

3) Select the icon in the Get Info window and push the Delete key on your keyboard. It should now revert to it's original icon (unless it is a locked folder or disk).

Note: There are circumstances in which this cannot be done. The main one being if the disk or folder is locked (like a CD or a locked floppy disk). If the disk or folder is locked, an icon cannot be pasted onto it. The other reason is very rare. If the custom icon currently pasted is corrupted, then another icon cannot be pasted over it. To fix this, use ResEdit to make the file "Icon" at the root level of the disk or folder (this isn't true for files with pasted icons, these icons are written to the file's resource fork) visible and trash it. Then restart and the icon will revert to it's generic form.

Machines Affected: All
Published Date: Feb 20, 2012

Lost PCC Desktop Pattern

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I Just did a clean installation of my system software and I have lost the PCC desktop pattern. How do I get it back?
This article has been archived and is no longer updated by Apple.
1) Insert the Power Computing CD that came with your computer. Open the folder on the CD called "CD Extras." In that folder open the folder titled "PCC Desktop Patterns." In this folder you will find an item called "PCC Logo." Double click this item. After it opens, select "Copy" from the Edit menu.

2) With the "PCC Desktop Patterns" folder window open on your screen, open the control panel called "Desktop Patterns." This will open a window in the upper left hand corner of your screen. Select "Paste" from the Edit menu. Now click the "Set Desktop Pattern" Button in the Desktop Patterns control panel. Your should now have the PCC desktop pattern on your screen.

Note:
====
It is also possible to drag and drop picture clippings into the Desktop Patterns control panel window. All of the desktop patterns included on the Power CD are in the picture clippings format.

Tip:
====
A little known feature of the Desktop Patterns control panel is the ability to set the background pattern of Certain Apple Desk Accessories, such as the Calculator, the Jigsaw Puzzle, KeyCaps, Find File and Scrapbook. To do this, hold down the option key while in the Desktop Patterns control panel. This will change the button to "Set Utilities Pattern." Select the pattern you want to use, then with the option key held down click the "Set Utilities Pattern" button. Now when you open one of the previously mentioned Desk Accessories, it will have that background. Try it!

Machines Affected: All
Published Date: Feb 20, 2012

3D Rage II: Release Notes (PBase 3D Software)

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

Do you have any documentation about the PowerBase 3D software?
This article has been archived and is no longer updated by Apple.
The following is the release notes documentation prepared by ATI and distributed with the 3D software.

1) QuickDraw 3D 1.5 will attempt to maintain hardware rendering in low video memory
conditions by showing surfaces and 3D objects without textures. This would manifest as blank looking 3D objects and surfaces in the applications window. As you increase the size of a 3D accelerated window, additional memory is required. Once no more memory is available, QuickDraw 3D will allow an application to drop textures and continue to run. If you continue to increase the window size, beyond this point, the 3D Rage II drivers must pass rendering control back to software. When this occurs, the textures will reappear and hardware acceleration will be disabled. The application Gerbils 1.0.3 can be used to demonstrate this behavior.

2) The ATI driver reports to QuickDraw 3D that it does not support a deep-z (^{3} 24 bits) buffer. If an application tries to use a deep-z buffer , our driver will not reject the request. However, these applications, such as the Mutatron and Calc^3, may then display incorrectly rendered 3D objects.

3) Please note that the 3D hardware acceleration will be disabled and QuickDraw 3D will revert to software rendering if there is insufficient memory or if the user selects 256 colors.

Machines Affected: All
Published Date: Feb 20, 2012

Asant: FAST Ethernet PCI Card- 10/100: FAQ

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

Do you have any information on Asante's Fast Ethernet PCI card and related technologies?
This article has been archived and is no longer updated by Apple.
The following is a FAQ prepared by Asante technical support.

How do I migrate to 100 Mbps with the Asant□FAST 10/100 adapter?

You can use the Asant□FAST 10/100 adapter torun at 10BASE-T speed. Later, when you are ready to upgrade to 100 Mbps (100BASE-T), you will not need to change your network adapter or any driver or software configuration. The driver will run at 10 or 100 Mbps. You will only need to swap out the 10BASE-T hub to a 100BASE-TX hub (such as the Asant□FAST 100 hub).

What type of wiring plant must I have when connecting my Asant□FAST10/100 adapter?

For 100BASE-TX operation you must have Category 5 UTP which is a two pair "unshielded twisted pair" cable for data grade (EIA 568 Category 5) transmissions. For 10BASE-T operation, two pair Category 3 UTP is suitable.

Can I use Category 5 STP (shielded twisted pair) for my 100 Mbps transmissions?

Yes, this type of cable is acceptable.

What will happen if I plug a 100BASE-T4 cable into my Asant□FAST 10/100 adapter?

The adapter will not get link integrity and will not connect to the hub because the AsanteFAST 10/100 adapter uses 100BASE-TX technology. The adapter will detect a technology mis-match using NWay auto-negotiation and cease communication until it is connected to a 10BASE-T or 100BASE-TX hub.

What is the major difference between 10BASE-T and 100BASE-T technology?

Mainly speed. 100BASE-T is running 10 times faster than 10BASE-T. Otherwise, 100BASE-T uses the exact same Ethernet MAC (Media Access Control) mechanism, packet format, packet length, error control, and management information as 10BASE-T.

Why should I buy a 100BASE-T hub or adapter when ATM technology is available now?

The standards for ATM technology to the desktop still have not solidified, plus the price per port is substantially higher than Asant□ Fast Ethernet products.

What is 100BASE-T4?

It is an IEEE 802.3u physical layer specification for 100 Mbps Ethernet over four pairs of Category 3, 4, and 5 UTP wire.

Does 100BASE-T follow the same CSMA/CD protocol as standard Ethernet?

Yes, 100BASE-T networks follow the same CSMA/CD (Carrier Sense Multiple Access/Collision Detection) protocol as that of standard Ethernet. This means a network that contains both 10BASE-T and 100BASE-TX nodes can transfer data between them without any protocol translation.

What types of connectors are used with the Asant□FAST 10/100 adapter?

The only type of connector used to connect to a Fast Ethernet hub is a RJ45 jack which supports the 100BASE-TX connection.

What is Auto-negotiation?
---
*To allow the two ends of a network connection to signal their capabilities and agree on a method of communication. Using this technique, a 10/100 card can decide what kind of hub it is attached to.

*To help a network card identify a connection it does not recognize. The network card will then avoid crashing the service using the connection.

When will the IEEE 802.3u standard be completed?

The draft standard has received approval by the IEEE Committee and is now an official standard.

Can I use coax cable with 100BASE-T?

No, 100BASE-T has three physical layers, none of which support coaxial media.

Why is full duplex Ethernet important?

Full duplex will allow 100BASE-T to be built in larger topologies avoiding the need for mixed technology such as ATM or FDDI.

Is 100VG-AnyLAN a standard Fast Ethernet technology?

In the past, 100VG-AnyLAN was advertised as Fast Ethernet but it does not implement true Ethernet CSMA/CD but another type of MAC (media access control) method called Demand Priority Access Method (DPAM). The 100VG-AnyLAN technology is similar to Token Ring or FDDI than Ethernet.

How many different types of Physical connections are supported by the IEEE 802.3u specifications?

There are three:
*100BASE-TX for a two pair system that requires data grade (EIA 568 Category 5) UTP or STP cabling

*100BASE-T4 for a four pair system that can use both voice and data grade UTP cabling (Category 3, 4 or 5)

*100BASE-FX for a two strand fiber system

What are the different ways to connect Fast Ethernet to Ethernet?

Fast Ethernet can be connected to Ethernet through the use of a bridge, router or switch. Most major switch and router vendors will offer support for Fast Ethernet in the very near future. Another quick-and-dirty way to connect Fast Ethernet is to use the router software included with most network file servers, such as Novell NetWare and SUN Sparc stations. Just install a Fast Ethernet card in the server and configure the router software.

Machines Affected: All
Published Date: Feb 20, 2012

NetDoubler: Description

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

Do you have any information on the NetDoubler software shipped with some PCC machines?
This article has been archived and is no longer updated by Apple.
The following documentation was prepared by Asante technical support.

What is NetDoubler?

NetDoubler is simply software installed on Macintoshes to boost performance of large file transfers by up to a factor of five. It also accelerates 10Mbps networks. We will bundle NetDoubler for free with all Asant□ Fast 10/100 Fast Ethernet cards. NetDoubler will also be sold for $99 per client or server to owners of other networking cards or built-in Ethernet.

How many copies of NetDoubler do I need?

One copy has to be purchased for each client Macintosh, as well as one copy for the AppleShare server. If you don't have a copy on one of your clients, that client will run only at normal speed on file transfers.

Those with NetDoubler on both ends of their file transfer will see dramatic acceleration. Bottom line, both your Macintosh and the Macintosh you are sharing files with must be running NetDoubler to see the acceleration.

Does this work with AppleShare servers or Personal File Sharing?

Both. Personal File Sharing is the ability, with System 7 and later, to share your Mac's volume with any other client Mac on the network. NetDoubler works extremely well in this environment. AppleShare Server Software, on the other hand, typically runs on a dedicated Macintosh WorkGroup Server.

This WorkGroup Server will also see accelerated networking by NetDoubler.

Unfortunately, current WorkGroup Servers do not run Open Transport. This temporary problem will be cured when Apple updates its operating system (see below for explanation). We are already testing beta versions of Apple's new Operating System software with AppleShare servers and NetDoubler.

What features make NetDoubler more attractive than similar software solutions?

NetDoubler, unlike RunShare, supports both AppleTalk (ADSP) and TCP/IP. Furthermore, NetDoubler has no minimum file size requirements for acceleration to take place. NetDoubler costs half as much per user, operates at a higher efficiency (5x vs. 4x) and is easier to install than RunShare.

What about piracy?

NetDoubler will automatically recognize, and operate with, Asant□ Fast 10/100 PCI and Asant□ Fast 10/100 NuBus cards. You may use one diskette to cover all your Macs with these cards. If you attempt to use it with another vendor's card, NetDoubler will ask you for a serial number during installation.

Each purchase copy of NetDoubler will include a one-user serial number.

NetDoubler is also available in 5-and 20-pack quantities. If you use the same serial number on more than one Macintosh, NetDoubler will not operate.

Can I install NetDoubler on any Macintosh?

Not yet. NetDoubler requires Open Transport (OT) version 1.0.8. Currently, OT only runs on Power Macintoshes with PCI buses,i.e. the 7200, 7500, 8500 and 9500. Apple is expected to release OT 1.1 and a Mac Operating System update that will work with all 68030 and 68040-based Macintoshes, as well as all other Power Macintoshes.

What version of Open Transport will I need?

Use version 1.0.8 minimum, or the latest version of Open Transport supported by Apple.

Machines Affected: All

TA39588_NetDoubler_Description.pdf

Published Date: Feb 20, 2012

AppleShare and "Bad Master Directory Block" Message

This article has been archived and is no longer updated by Apple.

If you are working on a server, and find that when you "trash" (dismount) the INTERNAL volume, you get a message that says "Volume is trashed Master Directory Block Bad". Although there may be no other immediate ill effect, ignoring a message of this nature is not a good idea. BACK UP the volume in question before proceeding.

After you have made a backup, shut the server down and run AppleShare Admin. The purpose here is to use AppleShare Admin to verify the volume. It is likely that it will also report some form of error. Also, try testing the drive at a lower level using HD SC Setup. If the drive passes the test, and you have run AppleShare Admin, try bringing the server back up.

If the message continues to appear, try some disk utilities on the drive -- beginning with Disk First Aid as another test, and then on to a package such as Symantec Utilities. If none of this works, we would suggest reformatting the drive and restoring it from the backup.

Although this is potentially a lot of work, the integrity of master directory blocks is critical and well worth the effort -- if only for peace of mind.

Published Date: Feb 18, 2012

TwinTurbo-128M Troubleshooting FAQ

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

I have a few technical questions about the IMS Twin Turbo 128M video card. Do you have a FAQ?
This article has been archived and is no longer updated by Apple.
Yes, the following document is written and copyright by IMS and includes useful information about the Twin Turbo 128M card.

Why upon initialization is there an icon with a red X across it?

This simply means that the TwinTurbo accelerator is loaded in System Folder Extensions and an accelerator that was previously loaded is no longer being used. To prevent this from happening go into System Folder Extensions and put the icon (the one that comes up with the red x on initialization) into a separate folder.

In which Power Macintosh systems and compatibles does the TwinTurbo-128M work?

The TwinTurbo-128M works in all the PCI based Power Macintosh systems, such as the 9500, 8500, 7500, 7600 and 7200. The TwinTurbo-128M also works in the Macintosh Compatible systems such as Supermac S900, Power Computing PCI based Power Wave, Power Center and Power Tower systems, and the Daystar Genesis MP.

Will the TwinTurbo-128M work in a system with Nubus slots?

No, the TwinTurbo-128M will only work in PCI based Macintosh and Power Computing systems.

Does the TwinTurbo-128M have to go into a particular PCI slot before it will operate?

No, the TwinTurbo-128M will work in any PCI slot in any of the above mentioned systems. NOTE: In the 9500/132 it is recommended that the TwinTurbo card be placed into one of the bottom three slots.

What software comes with the TwinTurbo-128M?

TwinTurbo Accelerator and TwinTurbo Control Panel. The latest driver can be obtained from our Web Page (at http://www.integratedmicro.com/download.htm) or you may call IMS technical support and they will be glad to mail the accelerator disk to you.

What special features does the TwinTurbo Control panel have?

Capability to Pan/Zoom, change resolution on-the-fly, disable accelerator by typing in a simple key stroke command and support for Synch on Green monitors.

What resolutions will the monitor support?

The TwinTurbo will support up to 1920x1080 in thousands of Colors and 1152x870 in millions of colors.

Do I have to do anything special to see 1920x1080 or 100hz?

Simply go into the TwinTurbo Control Panel, hold down the Option key on the keyboard and click the Resolution button.

What would prevent me from not seeing all of the resolutions?

There are two things that can cause this. One is if your monitor is a non-multisync monitor. If this is the case you will need a sense-code adapter to see all the resolutions. The second reason is if your monitor is a fixed-frequency monitor. There is no solution for this type of monitor.

Why are there two different types of inputs on the back of the TwinTurbo?

The TwinTurbo can support both VGA type and Macintosh monitors.

Can one TwinTurbo-128M operate two monitors?

No. But you can put two TwinTurbo's in one system and run one monitor off of each card.

What if I want to operate two monitors but do not want the second monitor to run off of the Twin Turbo-128M?

The TwinTurbo-128M will work in the same system with another graphics accelerator card.

Upon initialization the screen 'flashes', what causes this?

When our accelerator is loaded it attempts to re-synch the monitor for the best resolution and frequency.

Whose video accelerator chip is being used in the TwinTurbo-128M?

The video accelerator chip on the TwinTurbo 128M was designed by our own engineers.

When I shut down my Macintosh and power on the system again the 640x480 resolution comes up even though I selected the 1024x768 resolution previous to shutting down. How do I make the system come up in the resolution I last left it?

Anytime you install a new graphics accelerator card or install your graphics accelerator card into another PCI slot in your Macintosh system you must first open up the systems monitor or sound and display control panel to allow the Macintosh system to properly recognize the new addition to your computer. This only has to be done for new installations or if you've moved the card to another slot.

When the TwinTurbo-128M card is plugged my Apple 1710AV monitor the screen comes up with a greenish cast. Why?

The TwinTurbo card is set to have a feature called Synch on Green enabled, since the Apple 1710AV monitor does not require this feature you must disable the Synch on Green jumper on the TwinTurbo card. To do this change jumper JP4 from position 2-3 to position 1-2. (Editor's Note: The 4MB IMS card (tt128m) has the jumper. The 8MB card (tt128m8) does not.)

What type of support does Integrated Micro Solutions provide to its customers?

Free technical support can be reached Monday - Friday 8:00AM to 5:00PM PST. The phone number is (408)369-8282. You can also leave a message for Technical Support at support@imscyber.com. If you would like to fax a question to us please do so at (408) 369-0128.

For current data sheets,installation guides and Application Notes please contact our automated fax response system at (408)369-8395.

Machines Affected: All PCI Machines
Published Date: Feb 20, 2012

PageMaker and Twin Turbo Incompatibility

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

I seem to have some screen redraw issues when using PageMaker on my PowerTower Pro. I am able to resolve these issues by removing the Twin Turbo software. I have tried various versions of the Twin Turbo software all the way up to version 3.8, but I still have the issue. Is there a compatibility problem between PageMaker and my Twin Turbo card?
This article has been archived and is no longer updated by Apple.
IMS has confirmed a compatibility issue between PageMaker and their Twin Turbo software. Most issues have been addressed with version 4.0 of the software (available from IMS's website at www.integratedmicro.com. All compatibility issues will be addressed in an update to version 4.0.

Machines Affected: All
Published Date: Feb 20, 2012

IMS Twin Turbo 4.0: Read Me

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

IMS Twin Turbo software version 4.0 Read Me.
This article has been archived and is no longer updated by Apple.
Notes on Twin Turboª Control Panel:
This Control Panel requires the new Display Library which is part of System 7.5.3 and is a separate file on older system. If you encounter the problem of the board not preserving the resolution after reboot you may want to upgrade your system to 7.5.3. This can be done by installing the new system or by upgrading 7.5 with System
Enabler 2.0.

Notes on Twin Turboª Software 4.0:
This version significantly improves the acceleration over 3.8. It also fixes the QuickTime acceleration problem thatÊshows up on recording.

Notes on Twin Turboª Software 3.8:
This version fixes the Umlaut-A problem. The character was not showing up in previous version. It also fixes the background repaint problem that sometimes appears in M2 boards.

Notes on Twin Turboª Software 3.6:
This version fixes the text hilite problem and resolves the conflict with some applications such as Photoshop that sometimes leads to type 11 error.

Notes on Twin Turboª Software 3.5:
This version adds support for the new MP2 and MV2 boards. It also adds an MPEG hardware scaler.

Notes on Twin Turboª Upgrade version 3.1:
1. This upgrade applies to Twin Turboª 128M and Twin Turboª 128M2 boards only.
2. This version fixes the bug that causes LocalTalk to freeze when copying large files.
3. If you have version 2.1 ROM or less with this upgrade, you would be able to access all the resolutions the board supports, up to 1920x1080. Just plug the monitor into the VGA connector and leave the Mac connector open. It should come up with default
resolution or the resolution from last boot. The default resolution is 640x480x60Hz for version 2.1 or 2.0 ROM and 832x624x75Hz for version 1.x ROM plus the upgrade.

To force the system to the default resolution, follow the following procedure:
- Reboot and hold down command-option-p-r.
- Wait till the system restarts. Release the keys and hold down shift key.
- Release the key after the "Welcome to Macintosh. Extensions Off." message shows up.
- The system should be in default mode.

Notes on Twin Turboª 128M8:
- The resolution 1920x1080 Millions mode is not supported at 72Hz.
- It is recommended that the system has at least 32M of memory installed for maximum performance.

Machines Affected: All
Published Date: Feb 20, 2012

Audio CDs Skipping Issues when Searching

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

When I try to fast forward search and rewind search on an audio CD, the search is choppy and seems to freeze up momentarily. Track advance works fine, however search is not smooth at all.
This article has been archived and is no longer updated by Apple.
This behavior has been reproduced and appears to be an issue with CD-ROM Toolkit. Engineering is aware of the issue and is working with FWB toward a resolution.

Machines Affected: All
Published Date: Feb 20, 2012

Specification: PowerCenter Pro 180(core)/180/210/240

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

This article contains the technical specifications for the PowerCenter Pro 180,210, and 240 computers. This computer comes in two distinct configurations: a standard configuration which includes the Adaptec UltraSCSI PCI card, and a core configuration without the Adaptec UltraSCSI card installed.

This article has been archived and is no longer updated by Apple.

The PowerCenter Pro was released in late April of 1997. This machine uses the "Catalyst" style logic board, developed by Apple and enhanced for performance by Power Computing. The PowerCenter Pro 240 and PowerCenter 180 Core configurations were introduced in August of 1997. The PowerCenter Pro 240 added a 240mhz PowerPC 604e to the product line. The PowerCenter 180 Core added a low-cost version of the PowerCenter Pro to the product line by moving the hard drive to the internal 5 MB/Sec SCSI bus and removing the UltraSCSI card.

System Software
==========
- Mac OS 7.6 (or newer) supported.

Microprocessor
==========
- 604e/180, 604e/210, or 604e/240
- 60MHz system bus speed
- Upgradeable via daughtercard
- Integrated floating-point unit and 32K cache

Memory
======
- Minimum 16 MB RAM, expandable to a maximum of 512 MB RAM
- 4 DIMM slots supporting 168 pin, 64 bit, 60ns DIMMS; non-interleaved
- 4 MB read only (ROM)
- 8 K of non-volatile parameter memory
- Level 2 Cache standard, 1 MB of synchronous burst static RAM , 3.3v or 5v (selectable via logic board jumper)

SCSI
====
- Dual SCSI support. Internal fast SCSI bus (20mb/sec) and conventional SCSI bus (5 MB/sec)
- UltraSCSI bus implemented via Adaptec Ultra SCSI card, except PowerCenter Pro 180 core).
- Low-Profile supports one device and Mini-Tower supports up to two devices on the UltraSCSI bus.
- Conventional SCSI bus supports a total of 7 devices.
- Connections are available to the conventional SCSI bus via an internal 50 pin or external 25 pin connector.

Disk Drives
==========
- 1.4 MB high-density MFM/GCR floppy disk drive supporting Mac OS, DOS, and ProDOS diskettes
- Internal UltraSCSI hard disk drive, 2 GB 5400 RPM standard, attached to the UltraSCSI bus. Other capacities and speeds available.
- Internal 16x CD-ROM Drive, 1800KBps to 2400KBps sustained transfer rate, attached to the conventional SCSI bus.
- Zip/Jaz configurations available, connected to conventional SCSI bus.

Serial Ports
==========
- Two RS-232/RS-422 serial ports, Geoport compatible, 230.4 Kbits per second maximum (up to 2.048 MBits per second when externally clocked)

Keyboard and Mouse
==========
- Supports ADB keyboards with numeric keypads
- Comes with a keyboard and mouse, standard.

Network
=======

- Built in AAUI port
- Built-in Ethernet 10 Base T connection
- LocalTalk via either serial port

Bus Expansion
==========
- Three PCI expansion slots on riser card, compatible with PCI 2.0-compliant cards
- One slot occupied by the Adaptec Ultra SCSI card.

Video Support
==========
- Hardware accelerated 2D and 3D video built-in (ATI Rage II chipset)
- 2MB EDO DRAM-based graphics riser card
- Optional 4MB card available as an upgrade
- SVGA connector and Mac 15-pin for maximum flexibility
- Resolutions from 640 x 480 to 1280 x 1024 (millions of color w/4MB at 1024x768 and above)

Audio
=====
- Stereo output port, mini-style jack
- Stereo input port, mini-style jack (requires line-level input, such as Apple's Plaintalk Mic)
- Built-in speaker
- Stereo sound generator capable of driving stereo mini-plug headphones or audio equipment
- CD Quality 16-bit stereo, 44.1 kHz sample rate, input and output
- Sample rates of 44.1 kHz, 22.05 kHz, and 11.025 kHz
- Input Line Level: 2 volts peak-to-peak nominal into 6.5 kOhms
- Input through output signal to noise ratio: >86 decibels (db) with no audible discrete tones
- Bandwidth: 10 Hz-19kHz (+/- 2 dB) at 44.1 kHz sample rate
- Total harmonic distortion plus noise: Less than 0.06%, measured 30 Hz-60 kHz with 2 V p-p sine wave input

Enclosures
==========
- Low Profile: One front accessible, full-height 5 1/4" drive Expansion bay, One internal, full-height 3 1/2" drive bay
- MiniTower: Three front accessible, full-height 5 1/4" bays, One internal, full-height 3 1/2" bay
- All full-height bays can hold two half-height drives or one full-height drive.

Dimensions
==========
- Low Profile: 16.8"(W) X 4.4"(H) X 16"(D); 21 lb (9.5 kg)
- MiniTower: 7"(W) X 15"(H) X 16"(D); 22 lb (10.5 kg)

Electrical requirements and compliance
==========
- Line voltage: 90to 240 V AC, RMS single phase
- Domestic/International manual switching
- Frequency: 50 to 60 Hz,
- Power: 145w (Low Profile) and 200w (Mini Tower), not including display

ADB power requirements
==========
- Maximum current draw for all devices: 500 mA
(a maximum of three ADB devices is recommended)
- Mouse draws 10 mA
- Keyboard draws 25 to 80 mA (varies with keyboard used)

Environmental requirements
==========
- Operating temperature: 50 to 104 degrees F (10 to 40 degrees C)
- Storage temperature: -40 to 116 degrees F (-40 to 47 degrees C)
- Relative humidity: 5% to 95% noncondensing
- Maximum altitude: 10,000 ft. (3,048 m)

*** Specifications subject to change without notice ****

TA39601_Specification_PowerCenter_Pro_core.pdf

Machines Affected: PowerCenter Pro

Published Date: Feb 20, 2012

Targa 2000 in a PCC Machine w/ RAID

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

Can I use a Truevision Targa 2000 card if I have a RAID in my machine?
This article has been archived and is no longer updated by Apple.
True Vision has certified the card with Power Computing's entire line of products, HOWEVER, it is currently incompatible with the Conley Soft RAID software that we currently ship with our RAID solution. To use the RAID configuration, we recommended that customers purchase a third party software product such as Trillium Remus 1.4 (or greater) software. This should allow the use of the RAID technology with the Adaptec card. Power Computing is currently investigating the incompatibility with the RAID technology and the Conley software.

Machines Affected: All
Published Date: Feb 20, 2012

IMS Twin Turbo 4.0 with Two Monitors

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

IMS Twin Turbo 4.0 causes conflict when two monitors are running off one machine.
This article has been archived and is no longer updated by Apple.
There is a problem with the latest version of the Twin Turbo software which may raise some questions in the future. Conflicts arise when two monitors are connected to the same CPU running version 4.0 of the IMS software. The problems may range from corrupted text to memory errors.

Not only is this mentioned on information sources such as http://www.macintouch.com/ , but IMS acknowledges the bug as well. They are currently working on a fix, but for now the IMS updates pages (http://www.integratedmicro.com/download.htm) recommend version 3.8 if the user is running two monitors.

Machines Affected: All PCI Based Machines
Published Date: Feb 20, 2012

LisaWrite: Blank Pages

This article has been archived and is no longer updated by Apple.
Sometimes there are blank pages at the end of a document. To eliminate them, first click three times at the beginning of the blank page to see if anything is selected. Sometimes there are carriage returns that are carried at the end of the document. If nothing is selected, then all you need to do is save and put away the document. This will get rid of any truly unused pages.
Published Date: Feb 20, 2012

AppleTalk Bridges: RTMP Broadcasts

This article contains information about AppleTalk's Routing Table Maintenance Protocol (RTMP).
This article has been archived and is no longer updated by Apple.
AppleTalk protocol, under certain conditions, sends packets out onto the Ethernet network in which the Ethernet source address contains all 1s (Fs).

The packets with the "all Fs" as addresses are broadcast packets that are sent out periodically by AppleTalk bridges. The Routing Table Maintenance Protocol (RTMP) is used by AppleTalk bridges to maintain their routing information to enable them to send packets to the appropriate bridges and networks connected to those bridges.

It is part of the RTMP specification that, every 10 seconds, each AppleTalk bridge sends a broadcast RTMP packet in order to keep the routing information for the network current.

Published Date: Feb 20, 2012

Miro DC20 FAQ (Video Capture)

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

I have a few questions about the Miro PCI video capture card.
This article has been archived and is no longer updated by Apple.
1. Question►? I just reinstalled Adobe Premiere and the Miromotion DC 20 drivers and now I can't capture video. What could be wrong?

Answer►? After reinstalling both software packages it is necessary to copy the Adobe Premiere Presets File and the MiroMotion DC20 PtV from the Miro folder at the root level of your hard drive to the Adobe Premiere Plug-Ins folder which is located inside the Adobe Premiere 4.2.1 LE folder. These files set up default video capture settings and are essential for the Miro card to capture video.

2. Question►? The movie playback on my computer monitor is choppy with dropped frames yet the output to my vcr/post view monitor is fine. WhatÕs up?

Answer►? This is normal. When playing a movie on the computer monitor the Miromotion DC 20 Codec is not being used. The maximum frame rate you can expect from the computer is about 15 frames per second.

3. Question►? When I try to capture video all I get is a black screen in the capture window.

Answer►? In Premiere go to the movie capture menu and uncheck the video off menu command. Another possibility is you have the wrong input source selected. Go to the Movie Capture menu ; select video input and assign the source to be S-VHS or composite video which must be the same as the format you are using.

4. Question►? When I launch Adobe Premiere there are no Miro options in the project presets window.

Answer►?Boot the computer with the system software only plus the Miro drivers to eliminate third party extension conflicts. If this does not resolve the issue reinstall the Miro drivers. If necessary reinstall Adobe Premiere and the Miro drivers.

5. Question►? When I capture video the image is distorted with many dropped frames. WhatÕs wrong?

Answer►? the Miro DC20 MJPG driver is selected by mistake in the video input window. In Premiere go to the movie capture menu, select video input and select compression in the pop-up window and select MiroDC20Rec as the compressor.

6.Question►? In Premiere the Òvideo inÓ menu command in the movie capture menu are grayed out. Also the Miro control strip plug-ins do not show up in the control strip on the desktop.

Answer►? Boot the computer with the system software only plus the Miro drivers to eliminate third party extension conflicts. Reinstall the Miro drivers. If this does not resolve the issue the Miro card is not seated correctly in it's PCI slot. Refer to the owners manual for your computer for instructions on how to install PCI cards taking care to adhere to static►? sensitive electronics safe handling procedures.

7. Question►? can the Miro DC20 handle audio signals? How do I get audio into the computer?

Answer►? The Miro DC20 is capable of handling video signals only. To capture audio it is necessary to use the microphone input jack on the back of the computer. This will require a dual RCA to stereo miniplug cable to get the signal from your camera/ vcr into the computer.

8. Question►? I have the video output of the Miro DC20 connected to the video input of my VCR. From the VCR have an RF coax cable connected to the RF input of my television. I tune the TV to channel 3 or 4 to view the output of the Miro DC20. The issue is a grainy picture; color fringing; dropouts and overall loss of detail. However the VCR records the signal fine when I check it by running a video output from the VCR direct into the video input of the television. WhatÕs wrong?

Answer►? This method of video signal routing is to be discouraged if at all possible. The loss of signal quality is due to the VCR modulating the composite video/S►?VHS video into an RF signal; sending it out the RF jack of the VCR into the tuner on the television where it is demodulated back into a baseband video signal. This modulation/demodulation process results in high-frequency video signal roll off (loss of detail) , color phase shifting (fringing) and various other artifacts which are all easily avoided by keeping the signal path in the baseband video domain only.

Simply use composite video/ S►?VHS cables throughout the whole signal path all the way to the video input of the television.

9. Question►? How to I defragment my hard drive? Is a defrag utility bundled with the Miro DC20?

Answer►? Bundled with the Miro DC20 is a defragment utility called Disk Express. To install it boot the machine with extensions off; insert the Disk Express floppy and run the installer. Before actually defragmenting the drive check it with Disk First Aid. Restart the machine; open the Disk Express control panel and select Optimize to defragment the drive.software is to be . When finished turn off Optimize Automatically, Monitor All

Volumes and Monitor in the Disk Express control panel as these are background processes that will result in dropped frames!

10. Question►? I am dropping frames when capturing video. Where do I start?

Answer►? First of all if you have report dropped frames checked on in the recording settings window in Premiere you will always get a dropped frames message as the first and last frames in a video clip are always dropped.

If frames are dropped throughout the whole video clip proceed as follows.

** Boot the machine with the system software only plus the Miro drivers.
** Turn off AppleTalk and Virtual Memory.
** It is necessary to play with the limit data rate value in the video input window accessible from the movie capture menu. The default rate is 1500K/Second. The optimal value (depending on the hard drive in the machine) is around 2500K/Second to 3500K/ Second although your mileage may vary. If set too low you will experience dropped frames; too high will result in uneven video playback.
** Defragment the hard drive using either Disk Express (bundled with the Miro card) or another drive utility such as Norton Utilities.
** Allocate at least 16MB of ram to Premiere.
** All internal/external removable media SCSI devices should have a disk inserted as the system periodically polls these devices to see if there is media to mount. This is a background process that uses some system overhead which can lead to dropped frames. The same holds true for floppy's- insert a disk in the floppy drive.

11. Question- The Miro DC20 is not in my list of capture devices or is grayed out.

Answer- Go into the System Folder/Extensions directory and make sure that only the following 2 Miro extensions exist: MiroMotion DC20 and MiroMotion DC20 QT.

In Premiere, select File/Capture/Movie Capture and select Video Input. Make sure the following are chosen:
Compression: Miro DC20 REC
Source/Digitizer: DC20

If Miro DC20 REC is grayed out, check the following:
Make sure the MiroMotion DC20 is plugged into the PCI slot properly
Try a different PCI slot
Troubleshoot Extensions.

12. Question- Computer does not boot up any more after installing miroMotion DC20 driver.

Answer- Boot with the Shift key pressed. This will disable all extensions and allow you to remove faulty extensions. Remove MiroMotion DC20 and MiroMotion DC20 QT

13. Question- Video is not full motion on the monitor.

Answer- On the Mac's monitor, the video will not be full motion. However, if you have a video monitor or TV connected to the output of the Miro DC20, you will be able to see full motion video.

14. Question- After I capture my movie and play it back, all I see is a grey screen with "MiroMotion DC20 Capturing!" in the center.

Answer- Go to the record setting under video capture and uncheck POST-COMPRESS VIDEO.

15. Question- When the DC20 outputs video, the clip window should appear grey. The video is appearing on the monitor.

Answer- "Play video on movie" is not activated in the control strip. Select the Miro logo from the control strip and select "Play video on movie".

or

The Quicktime-FILE, to be output, was not compressed with MiroMotion JPEG. Open the Quicktime-FILE in Adobe Premiere and put the clip in the construction window. Now do a make on this clip and set the compression to Miro DC20 MJPG.

16. Question- When the DC20 outputs video the clip window turns grey, but nothing appears on the VCR or an external TV.

Answer- The cables are bad or not connected correctly. Check to make sure you have good cables and check to make sure they are all plugged in properly.

or

The VCR is not set to record from the video line input. Check the VCR settings. All VCRs have a way to set the VCR to record from either the

video line in or the Coax cable connector. This setting is usually called "Audio/Video" or "Line". You have to set this correctly on the VCR before you be able to record anything on the VCR from the composite or s-video input.

Machines Affected: All PCI Based Machines
Published Date: Feb 20, 2012

Barracuda Drive Part # and Descriptions

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

Seagate ships a number of hard drives with the "Barracuda" model name. Which ones does Power Computing include with its machines?
This article has been archived and is no longer updated by Apple.

```
This is what we use according to the engineering spec in Doc Control:

St34371N -> 4GB Narrow, 6000-1019-00
St34371W -> 4GB Wide,  6000-1023-00
St32171N -> 2GB Narrow, 6000-1014-00
ST32171W -> 2GB Wide, 6000-1026-00

This somewhat matches what is in Maxcim.  For some reason the Filemaker DB doesn't have these descriptions

6000-1014-00             HD,2G,SCSI,7200,SEAGATE ST32171N
6000-1019-00             HD,4G,SCSI,7200,SEAGATE ST34371N
6000-1023-00             HD,4G,SCSI WD,7200,SEAGATE ST34371W
6000-1026-00             HD,2G,SCSI WD,7200,SEAGATE ST32171W

Machines Affected:  All
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Published Date: Feb 20, 2012

YARC and Catalyst MLB Compatibility

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

I am having slow networking on my Catalyst based machine (Center, Tower, Curve). I am using on board ethernet. I was reading on the internet, at the YARC site, and they reported problems with slow networking due to problems with the Boot Rom rev 2.8F2. Does this apply to me?
This article has been archived and is no longer updated by Apple.
Based on an escalation response from Apple on the issue, the ROM version is only being used by YARC to identify the problematic Apple logic board. According to Apple, the issue was unique to the 7500. Also, the YARC problem only occurs when a PCI card is installed.

The catalyst is not the same board as the 7500. Some components are the same but the design is different. The 7500 had a few problematic issues that did not show up on the other designs, like L2 cache.

If the customer does not have a PCI card installed and is just using built in ethernet, it probably is not the YARC problem. You need a card, usually the YARC card, to make it happen.

There can be a variety of reasons for slow ethernet, including cables. We can narrow this down further by testing with a PCI ethernet card. If it is still slow, then it isn't the logic board ethernet. The YARC workaround was to get off of built in ethernet and use a card.

Machines Affected: All
Published Date: Feb 20, 2012

IMS Twin Turbo No Image: May Need VGA Adaptor

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When I startup my machine, I get no video. It sounds like the hard drive is spinning up, I get a chime, and a known working monitor does not work when plugged into my IMS Twin Turbo 8MB card. This is my second Twin turbo card with the same symptoms.
This article has been archived and is no longer updated by Apple.
Viewsonic, who makes video and display products, suggested that the customer connect a Mac/VGA adaptor to the Mac port even if that port is not being used. This has been known to work on more than one customers' machines.

Machines Affected: All PCI Based Machines
Published Date: Feb 20, 2012

GlobalFax Serial Conflict

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

The GlobalFax Chooser extension can cause a serial port conflict.
This article has been archived and is no longer updated by Apple.
The GlobalFax Chooser extension will automatically default to the printer port if it is not selected in the Chooser and set to the Teleport 33.6 modem. If the modem is in the modem port, the GlobalFax extension will 'release' the printer port when chosen. This can then allow the user to print normally, provided that they are using the correct printer drivers and that there is no other extension or application reserving the printer port.

This pertains to version 2.6 of the Global Village Fax software and may or may not be applicable to earlier or later versions.

ACTION:
Open the Chooser.
Select The GlobalFax icon.
Make sure the line in the right hand box reads 'Teleport 33.6'.
Close the Chooser.
Reselect and set up the printer.

Machine Affected: All
Published Date: Feb 20, 2012

Global Village PPP Initialization String

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What initialization string should I use for my 33.6 Global Village modem to make a PPP connection?
This article has been archived and is no longer updated by Apple.
Though some PPP connection software "auto-detects" the modem string (FreePPP functions this way), there are also PPP connection packages that require an initialization string. This alphanumeric string of characters prepares the modem for its connection. The PPP initialization string for the Global Village Platinum modems (28.8 and 33.6) is below:

AT&F1W1S95=44

Machines Affected: All
Published Date: Feb 20, 2012

Unresponsive PCC Mouse: Dirt vs. Light Sensitivity

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

I have vertical movement and no horizontal movement on my mouse. It seems to be dirty, how do I open it to clean it?
This article has been archived and is no longer updated by Apple.
Power Computing uses an optical mouse which occasionally may move vertically but not horizontally due to interference from a strong light source shining on the mouse and disturbing the optical sensors inside. Frequently, this symptom may be noticed as happening in the morning or evening when the rising or setting sun may be shining through a nearby window onto the mousepad area. A strong light source such as a desktop light can also produce this symptom but will usually occur with great frequency at all hours of the day. If your mouse can be operated in the dark, or operated when it is shielded from all possible direct lighting, then this is most likely your problem.

The most effective way to clean the mouse is to remove the mouseball coverplate and clean the rollers inside with a swab and Isopropyl alcohol. The mouse can also be disassembled by removing the two screws underneath near the mouse cable and by removing the bottom plastic circle to expose the third screw and removing that one as well. This however is unsupported and it is not advised that you disassemble your mouse in this manner.

Machines Affected: All
Published Date: Feb 20, 2012

AppleShare PC 1.1: New Features

This article has been archived and is no longer updated by Apple.

The primary fix delivered in version 1.1 of AppleShare PC concerns interrupt handling:

- In version 1.0, network devices had a tendency to randomly "disappear" from the network. The resolution of this issue was the main reason for creating version 1.1.

The other change to version 1.1 concerns international character sets:

- This change provides a method of mapping the MS-DOS international characters to the Macintosh OS international characters.

(NOTE: The current software, AppleShare PC 1.2, includes these improvements.)

Published Date: Feb 18, 2012

Twin Turbo: No Video Caused by StartupScreen in System Folder

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

I am using an IMS Twin Turbo graphics card in my computer and I only get 640X480 as a resolution in the Monitors and Sound control panel. The Twin Turbo control panel gives me no resolutions. I am using version 3.8 of the Twin Turbo Control Panel and have tried version 4.0 with no change. How can I fix this?
This article has been archived and is no longer updated by Apple.
While there are various reasons that this could happen, we have confirmed one cause. This is having a "StartupScreen" in your system folder. With the MacOS, it is possible to have a file that is saved as a Pict Resource and named "StartupScreen" (no quotes) that when it is placed loose in the system folder it will show the picture during startup. If this file exists on a computer with an IMS card and the twin turbo software, you will only get 640X480 as a resolution. Removing this file will fix this issue.

Machines Affected: All
Published Date: Feb 20, 2012

PCC MLB Design and Apple Equivalent

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

What types of MLBs are in each of Power Computing's computers and what Apple models are they based on?
This article has been archived and is no longer updated by Apple.
The following Power Computing models were based on the Apple logic boards and Power Macintosh models as indicated:

Model	Apple MLB	Apple PowerMac Model
Power 100/120	Cold Fusion	8100
PowerWave	Tsunami	9500
PowerCurve	Catalyst	7200
PowerCenter	Catalyst	7200
PowerTower and Tower(e)	Catalyst	7200
PowerTower Pro	Tsunami	9500
PowerBase	Alchemy	6400
PowerCenter Pro	Catalyst	7200

Machines Affected: All
Published Date: Feb 20, 2012

AppleShare PC: "Intermittent Connection Anomaly" Eliminated

This article has been archived and is no longer updated by Apple.

AppleShare PC version 1.0 displayed an "intermittent connection anomaly". That is,it occasionally dropped connection to the printer, was randomly unable to see the printer or the servers, and so on.

The primary change in later versions concerned this intermittent network connection. The first step in resolving the connection issue is to update all AppleShare PC workstations to the current software (currently, v1.2 is the latest). There is no point considering other possible causes of disappearing network resources until the PC workstations are updated.

Published Date: Feb 18, 2012

PowerCenter Pro: Blinking "?" after Zapping PRAM

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

An issue has been discovered with the Mini-Tower configurations of PowerCenter Pro when the PRAM is reset. The result is a disk icon with a blinking question mark on the screen.
This article has been archived and is no longer updated by Apple.
Power Computing has reproduced the issue on Mini-Tower configurations of PowerCenter Pro and is actively investigating a solution. The issue is related to how the PCI slots are activated at system startup after a PRAM reset and is not caused by any kind of hardware failure.

If you reset the PRAM on either a cold or warm boot, the machine will display a disk with a blinking question mark. If you insert the PowerCD, the machine will boot from the CD, but the HD will not be accessible.

Once you boot from the CD, the HD will be accessible upon the next startup and the machine will again be completely operational.

Current Workarounds:

The preferred workaround is to boot from the PowerCD. When you see the flashing "?", insert your PowerCD that came with the PowerCenter Pro. The computer will start up from the CD. Choose "Restart" from the Special Menu in the Finder. The computer will restart from the hard drive and will continue to do so until the next time PRAM is reset.

A second workaround is to move the Adaptec Ultra SCSI card to another PCI slot. On the Mini-Tower computers, the card is installed in the slot closest to the logic board (bottom slot). Moving the card to another slot will allow you to reset PRAM and restart without using the Power CD as a workaround. However, the card is placed in the bottom slot on Mini-Tower computers to facilitate routing of the SCSI cable. Moving the card to another slot can interfere with the installation of other PCI cards because the cable will block access to the other slots. If you move the card, the next best slot is the middle slot. With the card in the middle slot, an additional PCI card can be added to the top slot avoiding interference with the SCSI cable. Take extra care when installing extra PCI cards when the Ultra SCSI card is in either the middle or top slot.

Machines Affected: PowerCenter Pro
Published Date: Feb 20, 2012

3rd Party Specifications: Sony 20se 20-Inch Multiscan Trinitron Graphic Display

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Sony 20se Graphic Display Specifications
This article has been archived and is no longer updated by Apple.
GENERAL INFORMATION
Raster scan full color system
Sync on green (internal sync) or separate/composite sync input (automatically selected)

CRT
Super Fine Pitch[a] Trinitron tube;
20" measured diagonally;
90 deg. deflection

VIEWABLE IMAGE SIZE
19.1" maximum, measured diagonally

APERATURE GRILLE
0.30 mm

HORIZONTAL SCAN RANGE
31.5 to 85 kHz

VERTICAL SCAN RANGE
50 to 150 Hz

PRESET RESOLUTIONS
VGA graphics 640 x 480 at 60 Hz
VGA text 720 x 400 at 70 Hz
VESA 800 x600 at 75 Hz
Mac 16" 832 x 624 at 75 Hz
VESA 1024 x 768 at 75 Hz
Mac 19" 1024 x 768 at 75 Hz
Mac 21" 1152 x 870 at 75 Hz
CAD/CAM 1280 x 1024 at 60 Hz
VESA 1280 x 1024 at 75 Hz

MAXIMUM RESOLUTIONS
Mac: 1152 x 870 at 75 Hz
PC: 1600 x 1200 at 60 Hz*

COLOR TEMPERATURE PRESETS
Low approx. 5000 Kelvin
Medium approx. 6500 Kelvin
High approx. 9300 Kelvin
Hue/Saturation/Intensity Control

SIGNAL INPUTS
Analog RGB: 0.714Vp-p, 75-ohm termination
External Sync Signals:
Composite polarity free TTL
Sync on green: 0.286Vp-p, negative

POWER REQUIREMENTS
100-120V/200-240V AC; 50/60 Hz

POWER MANAGEMENT
Energy Star compliant
VESA - DPMS compliant
Operation: 150 watts (max.)

Stand by: 15 watts (max.)
Active off: 13 watts (max.)

DIMENSIONS (W X H X D)
18.7" x 18.7" x 19.7"
(474 x 474 x 501.5 mm)

WEIGHT
66.1 lb (30 kg)

OPERATING TEMPERATURE
50¡ F to 104¡ F (10¡ C to 40¡ C)

OPERATING HUMIDITY
10% to 80%, non-condensing

REGULATION COMPLIANCE
Safety:
UL 1950
CSA C22.2 No. 950
IEC-950 (TUV, GS mark)
Radiation EMI:
FCC Class B
DOC B
MPR II (full compliance)
VDE 0871 Level B (BZT)
VCCI Class II
X-Ray:
DHHS
DNHW
PTB
Ergnomics:
ZH1/618
ISO 9241-3

FRONT PANEL CONTROLS
Power On/Off
Contrast
Brightness
Horizontal Size and Centering
Vertical Size and Centering
Horizontal and Vertical Static Convergence
Pincushion Distortion Direction
Raster Rotation
Color Temperature Selection
Hue/Saturation/Intensity Control

SUPPLIED ACCESSORIES
Attached VGA cable with 3-row 15-pin D-sub plug
MacView[a] universal adapter for connection to a Macintosh computer
Tilt/swivel stand
AC power cord
Berkeley Systems After Dark Starter Edition with Ecologic Power Management
Software

Computer Interface: The computer industry lacks standards, and therefore, there are a multitude of varying software packages and add-on hardware options. These monitors are not manufactured to any specific software, and Sony does not and cannot make any warranty or representation with respect to the performance of this product with any particular software packages and/or non-Sony add-on hardware options except those mentioned in this brochure. Sony hereby disclaims any representations or warranty that this product is compatible with any combination of non-Sony products you may choose to connect. While Sony representatives or Sony dealers may be able to assist you and may make recommendations, they are NOT authorized to vary or waive this disclaimer. Purchaser must determine for himself the suitability and compatibility of the hardware and software in each and every particular instance.

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Computer, Inc. After Dark and Ecologic are trademarks of Berkeley Systems. Microsoft is a registered trademark and Windows is a trademark of Microsoft Corporation.

*Approved for FCC Class A use only at this resolution.

Features and specifications are subject to change without notice. Nonmetric weights and measurements are approximate.

Machines Affected: N/A
Published Date: Feb 20, 2012

TA39634_Specification_IMS_Twin_Turbo_M_MB_Card.pdf

Specification: IMS Twin Turbo M2 2MB Card

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

Does Power Computing maintain any specifications on the IMS Twin Turbo 128 M2 2MB card that it bundles with some of its machines?
This article has been archived and is no longer updated by Apple.

Yes, the following specs where compiled from Integrated Micro Solutions' web site at <http://www.integratedmicro.com/Turbo128M2.htm>.

Resolution / Color Matrix

Resolution	# of colors	Horiz.Freq.	Vert.Freq.
640x480	256,thousands, millions	31, 35 KHz	60, 67 Hz
800x600	256,thousands, millions	38, 48 KHz	60, 67 Hz
832x624	256,thousands, millions	49 KHz	75 Hz
1024x768	256,thousands	58, 60, 81 KHz	72, 75, 100 Hz
1152x870	256,thousands	68, 93 KHz	75, 100 Hz
1280x1024	256	80 KHz	75 Hz
1360x1024	256	81 KHz	75 Hz
1600x1200	256	74, 83, 93 KHz	60, 65, 75 Hz
1920x1080	256	70, 84 KHz	60, 72 Hz

Systems Supported:

Power Macintoshes and compatible PCI-bus computers

Bus Supported:

PCI, quick 32-bit bus interface

Controller:

Integrated Micro Solutions' Twin Turbo 128 Graphics/Video Accelerator Chip

Software Drivers:

Control Panel, Easy Installer, Accelerator Extensions, Video Playback Extensions

Display Compatibility:

100% Quickdraw Compatible

Horizontal Sync:

31.3 Khz - 96 Khz

Vertical Refresh:

60 Hz - 100Hz (Non-interlaced)

Video Connectors:

DB-15 (Mac with monitor sense), Mini DB-15 (VGA)

Resolutions:

From 640 x 480 to 1920 x 1080

Other Specifications:

TA39634_Specification_IMS_Twin_Turbo_M_MB_Card.pdf

80 MB /sec sustained image update rate, 180 MB /sec sustained image scroll rate, 3 Gbyte/sec color fill rate, 35 million pixel/sec line draw rate, Up to 16.7 million colors

Machines Affected: All

Published Date: Feb 20, 2012

IMS Changes Name to IXMicro

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I heard IMS no longer exists, or it changed names. Is this true?
This article has been archived and is no longer updated by Apple.
IMS has changed its name to IXMicro. The company continues to offer the same products to Power Computing and this change should not affect our customers. Customers can still contact Power Computing technical support for information concerning any IMS product purchased from Power Computing.

IXMicro can be reached at <http://www.ixmicro.com/>.

Machines Affected: All
Published Date: Feb 20, 2012

Environmental Specification changes for PowerTower Pro 250

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Effective with the upcoming release of the PowerTower Pro, the environmental specifications will change. The changes are specific to ONLY the PowerTower Pro 250.
This article has been archived and is no longer updated by Apple.
A flyer will be included with the PowerTower Pro 250 that states:

"Operating Environment

* Operating Temperature : 10 degrees C to 35 degrees C (50F to 95F)

* Storage Temperature: -40 degrees C to 65 degrees C (-40F to 149F) for 72 hours max."

These values have been modified for compatibility with the 604e 250mhz processor. Compared to the recommendations for the PowerTower Pro 225, 200, and 180, the maximum Operating temperature is 5 degrees C less and the maximum storage temperature is 15 degrees greater.

The flyer will be included with the manual until early June when an updated manual will be available which will included these specifications.

Machines Affected: PowerTower Pro
Published Date: Feb 20, 2012

Adaptec-PowerCenter Pro: Grey Screen at Startup

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

I was using the PowerDomain control panel on my PowerCenter Pro. And while I was adjusting the settings, I disabled the termination on my card because I thought it would improve the computer's performance. Now my computer won't boot. At start-up, I get the chime but then there's just a gray screen with the cursor stuck in the upper left corner. It responds to resetting the PRAM, but still doesn't boot. I can't force boot from the CD. Resetting the CUDA yields no result. I've even moved the Adaptec card to other slots. The only thing that does work is removing the Adaptec card from the computer.
This article has been archived and is no longer updated by Apple.
The gray screen at start-up and the inability to boot is the result of the card being unterminated by PowerDomain updating its ROM. However, what PowerDomain did can be undone through these steps:

1. Disconnect the SCSI cable from the card.

2. Remove the card from the computer.

3. Place a jumper on the two pins labeled J4.

4. Put the card back into the computer.

5. Boot from the PowerCD.

6. Insert the PowerDomain floppy that came with the system.

7. Double click on the PowerDomain Control program on the floppy.

8. Select the card under the header that says "Select a SCSI bus:"

9. Under the "Termination options" header, select the "Automatic" button.

10. In the middle of the PowerDomain Control, press the "Set" button and Quit the program.

11. Shut down the computer.

12. Remove the card.

13. Remove the jumper from J4.

14. Reinsert the card and reconnect its SCSI cable.

15. Power on and the computer will boot properly.

Currently, alternatives are being investigated by engineering to prevent this from happening. In the meantime this is the solution until further notice.

If there is no jumper on J4, contact Power ComputingÕs Technical Support and one can be mailed out.

Machines Affected: PowerCenter Pro
Published Date: Feb 20, 2012

LocalTalk PC Troubleshooting

This article describes troubleshooting for the Apple LocalTalk PC card and AppleShare PC software.

This article has been archived and is no longer updated by Apple.
The LocalTalk PC Card and the AppleShare PC software were sold to Farallon and are marketed under the name PhoneNet PC. Please refer to Farallon for support on the PhoneNet PC product line.

In its most basic configuration, the PC LocalTalk Card can only print to a LaserWriter over an AppleTalk network with the software included with the card.

To make the PC become a client on AppleShare, print to a LaserWriter as a native MS-DOS-type printer (directly address LPT1: / LPT2: and so on), and have access to other AppleTalk services, you must have AppleShare PC software on the PC, too.

When printing to the LaserWriter just from the utility software that comes with the card, and not from AppleShare PC, the file to be printed must be stored to a disk first (either floppy or hard disk). Most of the more powerful MS-DOS word processors provide PostScript output, but -- because of the limitations of the software provided with the LocalTalk PC Card -- not directly to the LaserWriter.

Again, the PostScript information generated by the word-processing program must be stored on disk as an intermediate step. Before the PostScript file can be sent to the printer, a PostScript initialization file must be sent to the printer first. It is possible that each PC application that outputs PostScript may need a different initialization file.

The PostScript initialization file that comes with Microsoft Word 4.0 is called POSTSCRP.INI. The tool that you send the file to the printer with is called LWPRINT.EXE and comes with the basic PC LocalTalk option card. As per the instructions in the LocalTalk PC card manual (pages 74, 75), to send the PostScript initialization file to the LaserWriter, type in the following at the DOS prompt: LWPRINT -A POSTSCRP.INI and press <Enter>.

At this time, if all is well, you will be returned to the DOS prompt with no error messages. You can then call up the LaserWriter.EXE program and follow the instructions in the PC LocalTalk manual to print out your PostScript output. The initialization file needs to be sent to the printer only when the printer is first being used by the PC, if the printer has been reinitialized by another machine (like a Macintosh), or if the power to the printer has been interrupted.

However, due to operational environments of MS-DOS, you may run into problems. For example, if all PC LocalTalk utilities are in one subdirectory on the user's hard disk and that subdirectory is in the PATH command's search path, you can access LWPRINT and LaserWriter from anywhere in the DOS directory structure.

If the <file name> specified as an argument for the LocalTalk Utilities -- that is, - LWPRINT -A <filename> -- is not in the current directory, you will get a message saying "CAN'T OPEN PRINT FILE <filename>". If this happens, no printer initialization will take place and any subsequent tries to send PostScript files to the printer via the LaserWriter.EXE program will result in printer error messages. Just make sure that the files concerned (utility programs, printer initialization files, and data files) are really where you specify them to be.

Article Change History:
16 Nov 1993 - Included information on Farallon and PhoneNet PC.

TA39638_LocalTalk_PC_Troubleshooting_(TIL03633).pdf

Published Date: Feb 20, 2012

ClarisWorks Serial Number

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

I want to obtain technical support from Claris for my ClarisWorks Suite. When I called Claris they asked me for a serial number. Where do I find this?
This article has been archived and is no longer updated by Apple.
The location of serial number varies depending on when it was shipped. If you received a hard copy of the ClarisWorks User's Guide then you will find the serial number on the registration card enclosed within the manual. If your copy of the User's Guide is a software version included in the Claris Works folder, you will find the serial number in the envelope labeled "Bundled Software" included with your computer. You will need to locate the Claris Software License. On the back of the agreement you will find a guide on obtaining support from Claris. Your ACCESS CODE will serve as your serial number. You are entitled to one free technical support call within one year from date of purchase. When they request your serial number, this is the number you will need to give them.

Machines Affected:
Published Date: Feb 20, 2012

ClarisWorks: Missing Folders on 7.6 CD

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

ClarisWorks files are missing in 7.6 HD image blast and 7.6.1 draggable system folder.
This article has been archived and is no longer updated by Apple.
We did not install the dictionary file or guides on the hard drive on the 7.6 HD image. The workaround is to use the ClarisWorks 4.0 installer on the CD to install the items (either a custom install selecting the missing items or an easy install to reload everything).

The HD image for 7.6.1 has been modified to include these files, but the draggable system folder on the 7.6.1 CD will still have the issue (the items go in the Claris folder in the system folder) since it is too late to modify the CD. It will be corrected in the next revision of the CD.

Machines Affected: All
Published Date: Feb 20, 2012

My GV 33.6 Modem isn‘t Showing The Correct Speed

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

This is a 33.6 modem. Why does the connect speed show only 26.4?
This article has been archived and is no longer updated by Apple.
The modem is capable of 33.6 connections. However, line noise and other interference will cause the modem to negotiate a lower speed to maintain a clear signal and allow for error correction. As the signal clears up, the modem will renegotiate a better speed. If the connection degrades sufficiently, the modem will terminate the connection altogether.

Machines Affected: All
Published Date: Feb 20, 2012

GV 33.6 Supports Renegotiated Speeds?

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

When I connect with my modem, the modem view shows me a speed and that never changes up or down. I thought these modems were supposed to renegotiate speeds.
This article has been archived and is no longer updated by Apple.
Global Village modems do indeed renegotiate speed during a connection. As the connection clears up or becomes fouled, the speed will be increased or decreased to take advantage of or compensate for the signal.

These changes are not updated in the Modem View window. It will show you only the initial connect speed.

Machines Affected: All
Published Date: Feb 20, 2012

LocalTalk PC Card: Compatibility of Third-party Devices

This article has been archived and is no longer updated by Apple.

There is no firm rule as to which third-party devices will work with the LocalTalk PC card.

Apple tests the LocalTalk PC card in a variety of MS-DOS machines, from the original IBM PC through the newest compatibles based on the 286 or 386, clocked at 16 MHz, 20 MHz and 25 MHz.

One element that is known to cause incompatibility is a card bus running at 8 MHz. Machines with bus speeds of 8 MHz have caused difficulties for many cards, Apple's LocalTalk PC card among them.

If a problem occurs for a different reason -- that is, the machine has a standard bus speed -- it involves other areas of the network, and becomes a more complicated problem to solve, requiring a detailed examination of the equipment used and the anomalies being experienced.

Published Date: Feb 18, 2012

Customizing the Draggable System Folder

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

I just installed a Draggable System Folder and I am not on a network, what can I throw out of my Extensions Folder to shrink my System Folder and prevent icons from showing with an "x" at startup?
This article has been archived and is no longer updated by Apple.
On occasion it may be necessary to install a new System Folder on your HD using the Draggable System Folder from your Power CD. The Draggable System Folder has been created by Power Computing to save you from performing multiple installs and to provide you with a convenient means to get your system up and running. However, this also means that some of the items in the Draggable System Folder may not be necessary for your Power Computing model. Therefore, generally speaking, if you are not on a PowerTower Pro, not on a network, do not have a Zip or a Jaz drive installed, do not have an IMS Twin Turbo Card installed, and have installed a Draggable System Folder, there are several items which you may be able to remove from the Extensions and the Control Panels folders.

Control Panels

Net Doubler
Twin Turbo
Iomega Drive Options

Extensions

Assant Fast OT
Assant NIC OT
Ethernet (Built-In): If on a PowerBase
Iomega Driver
miroMOTION DC20
miroMOTION DC20 QT
Multiprocessing Folder
Twin Turboª Acceleration
Twin Turboª M8 Upgrade
Twin Turboª Upgrade

miroMOTION DC20 Init

While "Cleaning up" your System Folder, there are a few other things you might also want to remove if you do not have the corresponding component installed. For example, if you do not have a printer connected, you can go into the extensions folder and remove all of the printer drivers. If you do have a printer, you can remove the printer drivers that do not relate to your printer.

You may also empty the Printer Descriptions folder which contains Apple LaserWriter drivers, if you don't have any of those Apple printers.

These items are always available from the CD if you have a need for them in the future. As always, if you have any questions, feel free to call Power Computing Technical Support.

Machines Affected: All
Published Date: Feb 20, 2012

Power hardware support for multi-processing solutions

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

I am really interested in multi-processor cards. Can I use one in my computer?
This article has been archived and is no longer updated by Apple.
When Apple designed its first generation of PCI Power Macintosh computers, which became the standard on which all Mac OS systems are built, the upcoming desire for multiple processors was known. To prepare for this need, Apple designed the Tsunami architecture to specifically support asymmetric multiple processor solutions via the CPU card slot. The Tsunami architecture was used as the basis for the Power Macintosh 9500, the PowerWave, and the PowerTower Pro. Other Mac OS hardware architectures, including those used in all other Power Computing products, do not offer hardware support for multiple processors.

However, support for asymmetric multi-processing requires software publishers to add this functionality to their titles. As Apple's next-generation operating system, Rhapsody, will automatically enable all Yellow Box applications to run utilize multiple processors, many software developers have chosen to forego asymmetric multi-processing support under the Mac OS and have chosen instead to focus on Rhapsody. As a result, few Mac OS applications offer multi-processing support under the Mac OS.

Machines Affected: All
Published Date: Feb 20, 2012

Specifications: 2 GB IDE Western Digital Caviar AC22000

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

The following infomration was pulled directl from Western Digital's website at <http://www.wdc.com/products/drives/drive-specs/>.
This article has been archived and is no longer updated by Apple.

Western Digital is an innovative leader in the hard drive field that provides exceptional performance, quality, and unsurpassed reliability in its WD Caviar hard drives. The WD Caviar 3.5-inch hard drives provide the performance, quality, and reliability required by today's storage-intensive desktop, workstation, multimedia, and internet applications.

S.M.A.R.T. (Self Monitoring, Analysis, and Reporting Technology), CacheFlow5, Reed Solomon 17-bit on-the-fly ECC, advanced defect management, guaranteed compatibility, universal translation, increased reliability, and advanced power management are but a few of the features that underscore the exceptional design of WD Caviar hard drives.

MODEL	AC22000
Formatted Capacity (MB)	2000.3
Interface	IDE/EIDE
Average Seek Time (ms)	11
Rotational Speed (rpm)	5200
Buffer Size (KB)	256
Host (MB/s)	
- Transfer Rate	16.6 (Mode 4 PIO)
	16.6 (Mode 2 DMA)
Shock (non-operating)	150G
Setup Parameters	
Cylinders	3876
Heads	16
Sectors	63
Typical Power	
- Dissipation (read/write)	5.1W
MTBF (hours)	350,000
Dimensions	
- Height	1.0 inch (25.4 mm)
- Length	5.75 Inches (146.05 mm)
- Width	4.0 inches (101.6 mm)
- Weight	1.1 pound (.5 kg)

Machines Affected: PowerBase

Published Date: Feb 20, 2012

2 GB IDE Western Digital Caviar AC22000: Capacity Issues

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

The 2 GB IDE Western Digital Drive is not reported by the MacOS or formatting utilities as a 2 Gigabyte disk drive. The discrepancy between the MacOS and the advertised capacity of 2 GB is result of the differences between how the hard drive industry calculates and advertises GIGABYTE designations and the way the Mac OS and other utilities calculates hard drive sizes. The MacOS reports the capacity after formatting. The configuration log included with PowerBase machines lists the drive as 1.9 GB, as the Mac OS Finder does. Until the configuration sheet is modified by manufacturing to explain that the value is a formatted capacity, a special addendum will be attached to the configuration log explaining the discrepancy.
This article has been archived and is no longer updated by Apple.
When using the Mac OS or formatting utilities to calculate the available space on the 2 GB Western Digital IDE drive, the utilities will show the size to be approximately 1.9 GB (Gigabytes).

RESOLUTION

After formatting, disk driver and other formatting information is written to the drive. This data reduces the available free space on the drive. Before formatting, the drive capacity is 2 Gigabytes.

The 2 GB IDE drive has a capacity of 2,000,388,096 bytes after formatting. The Mac OS and other utilities use a 'base 2' calculation when determining available space using the formula:

Total Bytes / 2^n where n = 30.

The Mac OS and other utilities round the calculated result to 1.9 GB for the 2 GB IDE drive. This is a formatted capacity value.

Western Digital advertises the Caviar AC22000 as a 2 Gigabyte drive. The drive capacity AFTER formatting is 2 trillion bytes (exactly 2,000,388,096 bytes), which is less than 2 gigabytes. This is equivalent to the 1.9 GB as calculated by the formula above. The advertised capacity is based on the total data storage space available on the drive, including formatting information.

Both numbers are equivalent. Before formatting the drive has the capacity to hold 2 Gigabytes worth of information. After formatting, this capacity is reduced and is calculated by the Mac OS as 1.9 GB.

Machines Affected: PowerBase
Published Date: Feb 20, 2012

Kaleidoscope 1.6 Conflict with GV Fax Software

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

I just installed Kaleidoscope 1.6 and I am now having problems with my Global Village fax software.
This article has been archived and is no longer updated by Apple.
(The following was written by Greg Landweber, the creator of Kaleidoscope.)

There is a bug in Kaleidoscope 1.6 that causes a crash whenever you click on a scroll bar in any of the Global Village FAX windows. This problem happens with all color schemes, and only when you click on a scroll bar. You should be able to FAX without problems if you avoid clicking any scroll bars. I have just fixed this conflict, and I hope to release a new version of Kaleidoscope in a week or two with the fix. That new version will also fix problems with Alpha, WindowShade, Church Windows, and several other scrollbar-related problems similar to the one described above.

Machines Affected: All
Published Date: Feb 20, 2012

Media 100 Certification

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

I'd like to purchase a PowerTower Pro for use with a Media 100 Professional Video Editing System. Is the PowerTower Pro certified for use with the Media 100?
This article has been archived and is no longer updated by Apple.
Yes, the PowerTower Pro 225 is currently certified for use with the Media 100 version 3.1 and the Media 100qx. According to Media 100:

"The Power Computing Power Tower Pro 225 is now certified for use with Media 100. Media 100, Inc. has tested and is now recommending Power Computing's Power Tower Pro 225 model CPU for use with Media 100 version 3.1 and Media 100 qx.... Media 100, Inc. has now incorporated the Power Tower Pro 225 into our development and testing process to ensure future release compatibility. Technical Support also has Power Computing CPUs so they can support it and escalate issues."

In addition, Media 100 will include the announcement in their June Compatible Peripherals Guide which will be mailed to all of their resellers on June 13th 1997.

Machines Affected: All
Published Date: Feb 20, 2012

ATI XClaim Video Player: "Out of Offscreen Memory" Message

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I have a Power Computing computer with the ATI XClaim Video Player installed. When I set my monitor resolution to 832 x 624 at millions of colors, I get the following message: "Out of Offscreen Memory." What's going on?
This article has been archived and is no longer updated by Apple.
This is expected behavior that has a fairly simple workaround. The is a VRAM issue, which means if your machine does not have enough VRAM, you must lower the resolution and color levels. A resolution of 640 x 480 at 256 colors should prevent the out of memory message from appearing.

Machines Affected: All PCI based machines
Published Date: Feb 20, 2012

Not Enough Power Connectors in Minitowers

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

According to page 91 of the PowerCenter Pro User's Guide, regarding minitowers, it says that I can add a non-accessible hard drive in the 3.5" bay above the floppy disk drive. However, I only have two extra power connectors from the power supply so I can't use both of the 5.25" bays if do this.
This article has been archived and is no longer updated by Apple.
The User's Guide is correct. What is needed is a splitter or" Y-connector" (part number 6400-1012-00) on one of the power connectors and that will allow two devices to be powered from one power connector.

Make sure the splitter is seated on completely in order for it to work properly.

The minitower's 200-watt power supply will adequately power the additional device without deterioration of the computer's performance.

If there is no "Y-connector" inside the computer, contact Power Computing's Technical Support and one can be mailed out.

Machines Affected: NT (Minitowers) enclosures.
Published Date: Feb 20, 2012

Western Digital 2GB/4GB 7200 RPM Enterprise Drive Specifications

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.
This article has been archived and is no longer updated by Apple.

From: <http://www.wdc.com/products/>

WD Enterprise, 2.1 and 4.3 Gigabyte SCSI Hard Drives

WD Enterprise drives -- the first in a family of 7200 RPM drives -- deliver outstanding performance, capacity, and reliability, and are an excellent choice for audio-video, workstation, server, multi-user, and array applications.

These drives feature formatted capacities of 2.1 GB and 4.3 GB with host data transfer rates of up to 40 MB/s. They are compliant with SCSI-3 SPI, support Ultra Fast and Ultra Fast Wide host data transfers, and offer a SCA-2 interface. Advanced caching, command queuing, S.M.A.R.T. (Self Monitoring and Reporting Technology), and S.C.A.M. (SCSI Configure AutoMagically) are standard features of WD Enterprise drives.

WD Enterprise drives incorporate the mechanical platform design and proven recording technologies of Western Digital's award-winning WD Caviar drives. This quality design means WD Enterprise drives have fewer heads and disks in comparison to competitive drives, significantly reducing the drives' components. Fewer components results in higher reliability -- placing WD Enterprise drives a step ahead of our competition.

Fewer disks and heads also means less head switches, which combined with an 8 ms seek time, up to 140 Mb/s media data rate, and a low 4.17 ms rotational latency (7200 RPM) gives WD Enterprise drives unique performance advantages over our competition.

WD Enterprise drives deliver the performance, capacity, and reliability demanded by all high-performance enterprise systems.

Features

High Performance -- WD Enterprise drives have a 7200 RPM spindle speed, 8 ms average seek time, 512 KB or 1 MB cache option (Power Computing uses drives with a 512KB Cache), are compliant with SCSI-3 SPI, and support for Ultra Fast and Ultra Fast Wide host transfers. The advanced caching, command queuing (with seek and latency optimization) for multi-threaded workloads, embedded servo (uninterrupted data stream), and 140 Mb/s maximum media data rate yield superior performance.

Highest Disk Capacity -- Capacities over 1 GB per disk are made possible by using the proven technology of advanced thin-film heads and a PRML read channel. These drives are available in 2-disk (2.1 GB) and 4-disk (4.3 GB) versions.

Superior Quality and Reliability -- Fewer disks and heads translate into many performance and reliability advantages compared to our competition. These high performance drives are based on a Western Digital design platform and process that has already achieved world-class quality. 1 million hours MTBF means years of maintenance-free operation.

Low Power -- An efficient electrical design decreases power requirements to as low as 5 watts at idle.

MODEL	WDE2170	WDE4360
Form Factor	3.5-inch	3.5-inch
Formatted Capacity	2170 MB(1)	4360 MB(1)
Interface	Ultra Fast (50-pin)	Same as WDE2170
	Ultra Fast Wide (68-pin)(2)	Same as WDE2170
Average Seek Time	8 ms(3)	8 ms(3)
Data Transfer Rate:		

Media to Buffer	81 - 140 Mb/s max	81 - 140 Mb/s max
Buffer to Host	40 MB/s max	40 MB/s max
Spindle Speed	7,200 RPM	7,200 RPM
Buffer	512 KB Standard	512 KB Standard
MTBF	1,000,000 POH	1,000,000 POH

Notes:
(1) Western Digital defines a megabyte (MB) as 1,000,000 bytes, and a gigabyte (GB) as 1,000,000,000 bytes.
(2) Differential interface options available on 68-pin models.
(3) Average Read Seek Time is determined by dividing the total number of these ordered pairs at nominal environmental conditions.

Termination Jumpers

To ensure reliable communication, the SCSI bus must be properly termi-nated. Devices located at the physical ends of the SCSI bus should have their terminators enabled. All other devices must have their terminators disabled. Option block pins 23 and 24 are dedicated to the SCSI Termination option. To enable SCSI termination, install a jumper across paired pins 23 and 24. To disable SCSI termination, no jumper is required.

SCSI ID Jumpers

Each device on the SCSI bus requires a unique SCSI ID number (0 to 7 for 8-bit devices, 0 to 15 for 16-bit devices). Option block pins 1 through 8 are used to set the SCSI IDs. Refer to Table 1 for a complete matrix of jumper settings. The host computer's SCSI controller typically uses ID number 7, and the other numbers are used for devices such as hard drives. The WD Enterprise drive has a default SCSI ID of 0.

SCSI ID	Pins 7 & 8	Pins 5 & 6	Pins 3 & 4	Pins 1 & 2
0	@	@	@	@
1	@	@	@	l
2	@	@	l	@
3	@	@	l	l
4	@	l	@	@
5	@	l	@	l
6	@	l	l	@
7	@	l	l	l
8	l	@	@	@
9	l	@	@	l
10	l	@	l	@
11	l	@	l	l
12	l	l	@	@
13	l	l	@	l
14	l	l	l	@
15	l	l	l	l

l jumper installed
@ jumper removed = legal 8-bit bus IDs*

* If any device on your computer's SCSI bus supports only 8-bit SCSI IDs, the WD Enterprise drive must be set to one of these values. When setting IDs on 50-pin drives, pins 7 and 8 are not used.

Machines Affected: ALL
Published Date: Feb 20, 2012

FWB: Contacting FWB

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How can I contact FWB?
This article has been archived and is no longer updated by Apple.
FWB Software LLC
2750 El Camino Real
Redwood City, California 94061-3911

General Information and Sales
Phone: 415-482-4800
Fax: 415-482-4858

Machines Affected: All
Published Date: Feb 20, 2012

FWB: CDT Installer Issue with 7.6.1

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When running the installer on the new PowerCDs (PowerTower Pro 250 CD and PowerBase 7.6.1 CD verified), the installer reports that it cannot find the CDT extensions and asks if you want it to find it. Even if you find the extension in the right folder, the installer reports that it cannot create the preferences.
This article has been archived and is no longer updated by Apple.
The extension and control panel are not in the same folder as the installer.

WORKAROUND:
Install the extension and control panel manually into the System Folder or run the System Software install and select the CDT as an option.

Machines Affected: All
Published Date: Feb 20, 2012

Do not eject CD at Shutdown

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I need for the CD-ROM drive to not eject on shutdown.
This article has been archived and is no longer updated by Apple.
You need a version of CD-ROM Toolkit later than 2.0. Then go to Setup/Special and click the box that says "Don't eject on shutdown". Power Computing cannot ship out versions of the software that didn't come with the computer. The license agreement with FWB prevents this. New version of the FWB software are available from FWB for approximately $30.

It is ill-advised to leave disks, cartridges, and other ejectable things in your computer when shutting down. Having ejectable media in the drives can cause conflicts and bombs on start up.

You can always push the tray in when the CD ejects. Not as good as taking the disk out first, but it works.

If the option in the driver isn't working, there may be an extension conflict.

If that doesn't do it, try a clean install and install only CD-ROM Toolkit.

Machines Affected: All
Published Date: Feb 20, 2012

Upgrading the Processor on a Power 100/120

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

I have a Power 100/120. What are my processor upgrade options?
This article has been archived and is no longer updated by Apple.
Sorry, the Power 100/120 has the processor built into the board. It is not upgradable.

Upgrade paths are in the works, but because of the architecture of the Power 100 and Power 120, I doubt they'll be included. There's no way to remove one processor and put another one in.

Speed boosts can come in the form of more RAM and a bigger cache.

More RAM will mean you don't have to use virtual memory, a big slowdown.

The cache can also be upgraded to 512k.

Machines Affected: Power100/120
Published Date: Feb 20, 2012

Copying large files to a Jaz or Zip fails

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

I can't copy large files to my Jaz or Zip drive.
This article has been archived and is no longer updated by Apple.
Iomega, as well as Power Computing, recommends that you use only Iomega driver for the Jaz or Zip drive and that you use the Zip tools to do such things as format the disks. Do not run both HDT extension and Iomega driver at the same time. They'll conflict with each other.

Try a different cartridge.

If you have any external SCSI devices, remove them from the system (make sure the computer and the SCSI devices are all turned off). If it works with the SCSI devices removed, there's a problem with the external SCSI chain. See PowerSource 1515 for details on setting up a SCSI chain properly.

Boot from the PowerCD (set it as the boot disk in the Start Up Disk control panel) and see if you can copy to the Jaz or Zip without crashing disks. You can mount the Jaz or Zip cartridge by using HDT Primer (don't allow HDT to update the driver if it asks). If this works, you have a problem with extensions or with the system folder. You can do a clean install to fix the system folder.

To look into extensions troubleshooting, use the Extensions Manager and change SET to System 7.5.x or 7.6.x base. Add in the Iomega driver (for 7.6.x, you'll need to first duplicate the set). Close the Extensions Manager and restart. If the Jaz or Zip drive works, then there's an extension conflict. Track it down by turning extensions on 2-3 at a time until it doesn't work again. Delete and reinstall the affected software or contact their manufacturers.

Machines Affected: All
Published Date: Feb 20, 2012

AppleTalk and EtherTalk Packets: How They Work Together

This article has been archived and is no longer updated by Apple.

The AppleTalk packet is encapsulated within an Ethernet packet. The Ethernet packet contains the Ethernet address of the receiving device, so only that device will accept and inspect the packet. Any AppleTalk device connected directly to an Ethernet uses Address Resolution Protocol (ARP) to determine the Ethernet address of the AppleTalk device it wants to send a packet to.

This means that all address resolution and Ethernet packet addressing occur within the sending AppleTalk node. For example, a Macintosh II, using an EtherTalk card and the EtherTalk drivers and sending to another Macintosh II on the same Ethernet, inspects its ARP address tables and sends an AppleTalk packet encapsulated within an Ethernet packet addressed specifically for the receiving Macintosh II. The receiving Macintosh II strips the Ethernet information from the packet and processes the AppleTalk packet. No other Ethernet device does anything with that packet, unless it is a device like a protocol analyzer peeking at packets.

In the case of an AppleTalk device on a LocalTalk on the other side of a bridge (like a Kinetics FastPath), the Ethernet packet is addressed to the FastPath. The FastPath takes the packet, strips off the Ethernet information, and sends the packet out onto the LocalTalk network.

Published Date: Feb 18, 2012

MkLinux doesn‘t see the hard drive on Center Pro

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

I have a Center Pro with an Adaptec card and I'm trying to run MkLinux. I can't get MkLinux to recognize the drive on the Adaptec card. If I move the hard drive to the main logic board SCSI bus it works fine.
This article has been archived and is no longer updated by Apple.
There are 3 possible solutions for this problem. The first two should work fine, but have some drawbacks. The third may or may not help.

1. Move the existing hard drive to the internal, non-Adaptec bus. Termination will need to be changed to off and the drive will need to be installed between the logic board and CD drive. That should make MkLinux happy, but you lose the speed benefit of the Adaptec.

2. Get a secondary hard drive, set it to ID0 or ID1, termination off, and put it in place between the CD-ROM drive and the logic board on the SCSI chain. Run MkLinux from the secondary hard drive. Again, you lose the benefit of the Adaptec's speed, but MkLinux is happy and your main hard drive still benefits from the Adaptec.

3. The third thing that may help is moving the Adaptec to a different part of the riser. Normally, PCI slots come in 3s, but PCC tweaked the Center Pro riser and logic board to accept a 4th slot. The extra slot is the ATI RAGE circuitry built into the riser which is why it still looks like there are just 3 slots. We did the same thing to the PowerBase. The RAGE circuitry controls your video. Logically, it's the first slot in the system. In some of the Center Pro configurations, the Adaptec card is in "slot 4", nearest the logic board, which may be throwing MkLinux for a loop. You can try moving the Adaptec to one of the other 2 slots to get it into the normal 3-slot configuration. MkLinux may then be able to recognize that there's a controller there and a drive. This really is a major longshot, and there are no guarantees that this'll help

Machines Affected: PowerCenter Pro
Published Date: Feb 20, 2012

Can‘t get past Password protection on hard drive

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After we password protected our hard drive, we're having problems accessing it.
This article has been archived and is no longer updated by Apple.
We really don't recommend driver level passwords. If that sector of the hard drive is damaged, the password will be damaged and access to that data is lost unless a data recovery service is used.

If using FWB HDT Primer to password protect the drives, there may be some corruption keeping you from accessing the data. Check for damage and test the drive. The drive will need to be reformatted, because there's no way to get around the password if the volume is inaccessible.

If using a 3rd party application to password protect the drives, give them a call and see if they have compatibility issues with PowerMacs or with FWB software. There may be another way to get past the password.

Machines Affected: All
Published Date: Feb 20, 2012

Be won‘t recognize the HD on a PowerCenter Pro

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I've installed Be OS. It doesn't recognize my Center Pro's hard drive.
This article has been archived and is no longer updated by Apple.
Be OS currently lacks a driver for the Adaptec card. They are aware of the issue and currently working on a resolution. At this time, the only work around is to move the main hard drive to the logic board's SCSI chain. The drive will need to be unterminated.

Machines Affected: Center Pro
Published Date: Feb 20, 2012

Bundled Director comes only with electronic documentation

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

I bought a PowerTower Pro which came with Macromedia Director. However, only electronic documentation was included. Am I missing the printed documentation?
This article has been archived and is no longer updated by Apple.
Software publishers, like Macromedia, often offer special incentives to hardware manufacturers to bundle their products. Printed documentation, however, is typically not included in these offers as the added cost would make such incentives cost prohibitive.

In addition, the industry as a whole is moving to electronic documentation as it adds important functionality like searching, which makes the documentation more usable.

Machines Affected: PowerTower Pro
Published Date: Feb 20, 2012

2940UW appears as 2940W in PowerDomain control panel

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The PowerCenter Pro is advertised as shipping with a Ultra Wide SCSI accelerator card standard. However, when I look in the PowerDomain control panel, I see that I have a 2940W instead of a 2940UW card installed. Do I have the wrong card?
This article has been archived and is no longer updated by Apple.
There is only one PowerDomain 2940 card from Adaptec. However, versions of the firmware prior to 2.0 did not support Ultra SCSI, only Wide.

Cards with older versions of the firmware can be updated to support Ultra SCSI by flashing the card with the new firmware, which is available from Adaptec's site at http://www.adaptec.com/support/BBS_Mac.html.

However, there is a minor bug in firmware revision 2.5 which causes the PowerDomain card to report in the PowerDomain control panel that it is a 2940W instead of a 2940UW. While the card reports itself as supporting only Wide, Ultra SCSI remains active.

Apart from this minor issue, the card will perform as expected in Ultra mode without incident.

To enable Ultra SCSI, select "Set Target Options" from the "Board" menu in the PowerDomain control panel. In the lower left corner, a box should be available for toggling Ultra SCSI support.

If the box is grayed out, the firmware will need to be updated to version 2.0 or later to support Ultra SCSI.

Machines Affected: All
Published Date: Feb 20, 2012

Open Firmware: Versions Shipped With Power Computing Products

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What version of Open Firmware ships on my Power Computing computer?
This article has been archived and is no longer updated by Apple.
Open Firmware is a cross-platform firmware standard for controlling hardware. Open Firmware is used by all PCI-based Mac OS computers, including Power Computing's PCI-based computers.

The following chart displays the various Power Computing computers and the version of Open Firmware they ship with:

Model	Architecture	Version of OF
PowerCurve	Catalyst	1.0.5
PowerWave	Tsunami	1.0.5
PowerCenter	Catalyst	1.0.5
PowerTower	Catalyst	1.0.5
PowerBase	Alchemy	2.0
PowerTower Pro	Tsunami	1.0.5
PowerCenter Pro	Catalyst	1.0.5

Machines Affected: PowerCurve, PowerWave, PowerCenter, PowerTower, PowerBase, PowerTower Pro, PowerCenter Pro
Published Date: Feb 20, 2012

SCSI Drive Installation Guide

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

Installation instructions for new SCSI drives for desktop, MT tower, NT tower, ATX tower cases.
This article has been archived and is no longer updated by Apple.
To install the new SCSI drive, you will need a small coin or a straight-edge screwdriver and a Phillips screwdriver.

Preparing the Drive

First, we'll need to set the ID number and termination on the drive. The drives are SCSI devices and they need a unique ID number. If you have external devices, you may need to change their ID numbers to accommodate the new drive. The chart below shows you the normal settings for SCSI devices installed in your computer.

Device Typical ID
Hard Drive 0
Jaz Drive (optional) 2
CD-ROM 3
Zip Drive (optional) 5
Logic Board 7

Check the documentation that came with your drive to determine how to set the ID and termination. You will need to set the termination for OFF unless you are replacing the drive that's at the end of the SCSI ribbon. The recommended ID number for a second hard drive is ID 1 and the recommended ID for a new CD drive is 3, but you can set it for any available number.

Drive Rails for Tower Units with one thumbscrew securing the case or Desktop Units
If you are installing a 5.25 drive into a 5.25 bay, you will need to attach small plastic rails.

If you are installing a 3.5 drive into a 5.25 bay, you will need to attach the U-shaped metal brackets to the drive first, then attach the plastic rails.

Tower Units with 4 thumbscrews securing the case do not need drive rails.

Drive Rail for TowerPro Units
If you are installing a 5.25 drive into a 5.25 bay, you will need to attach a small metal rail to the right side of the drive.

If you are installing a 3.5 drive into a 5.25 bay, you will need to attach the U-shaped metal brackets to the drive first, then attach the metal rail to the right side.

If you are installing a 3.5 drive into the floppy cage or RAID cage, you need to remove the cage and install the drive. No rails are needed.

Remove the case per PowerSource 1724

When attaching cables, be certain to use a middle connector on the grey SCSI ribbon. the end connector needs to stay on the drive it is currently attached to. It may be easier to attach the other cables if you remove the end connector temporarily. All the cables are keyed, so they cannot be attached upside-down. Except where noted, drives are to be installed label side up with the connectors facing the back of the computer.

Desktop and Tower Units with one screw securing the case

A hard drive will go into the bay that sits on top of the power supply. That bay is held in place by a single screw on the back of the case. Remove that screw. Detach any cables going to the drive in that bay. Lift the left edge of that bay toward the right side of the computer. The drive will be installed label down with the power and SCSI connectors furthest from the hinge. Once the drive is screwed into place, put the drive bay back into it's original position and screw it down. Attach both the grey ribbon (SCSI cable) and multicolored cable (power cable) to the two drives. Be certain the end connector on the SCSI drive goes to the same drive it came off of.

If you're installing a CD-ROM drive, it will go into a bay below the floppy drive. If there is a metal plate covering the bottom bay, remove the screws and throw away the metal bracket. With the bracket removed slide the drive into the bay.

When connecting cables it may be easier to attach them with the drive recessed slightly. This drive requires that you plug in three cables. The wide gray SCSI cable, the small audio cable, and the multi-colored power cable.

The wide gray cable will attach to the fifty pin connector, this cable should attach so that the raised ridge in the center of the SCSI connector is facing towards the top of the machine. Make sure that the cable slides all the way down on the connector, and that you are using the connector

that is located below the one that connects your CD-ROM.

The next cable is the power cable. This cable is slotted so it will go in only one way.
There is a third cable for audio CD. It's typically a small round grey wire with a 3 or 4 prong connector on the ends. One end attaches to the CD-ROM drive. The other end goes on the I/O card (the card to which all the cables go). On the leading edge of the I/O card there two 4 prong connectors. The topmost connector is the audio cable connector. The closed side of the connector faces the back of the computer. If you attach it backwards, it will still work, but your left and right channels will be reversed. If your channels are backwards, just flip the connector the other way. The CD-ROM will function without it, but you won't hear CD audio or Red Book audio.

Tower Units, 4 thumbscrews securing the case

The hard drive will be installed in the bay located either above the floppy drive, or above the CD-ROM drive.

Slide the drive into the bay. It may be easier to connect cables if the drive is not completely pushed into position. You then need to connect the wide gray cable (SCSI cable), and the multi-colored cable (power cable). The power cable is slotted so it will not go in the wrong direction. Once this cable is connected then connect the SCSI cable. The SCSI cable is not slotted so make sure that the notches on the cable are pointed towards the top of the machine.

TowerPro Units

The hard drive will be installed below the CD-ROM Drive. You may need to remove a metal plate if it is blocking the drive bay. To remove the metal plate, insert a Phillips screwdriver into one of the cross shaped holes a pry it loose. Once it's loose, discard it. Slide the hard drive into the bay. Screw in the left side, then secure the rail secured to the right side by screwing it into the front.

3.5 inch drives can be installed into the floppy cage. They go label side up with the connectors toward the rear of the machine.

Drives installed into the RAID rack will be installed label side up, with the connectors facing the front of the computer.

It may be easier to connect cables if the drive is not completely pushed into position. You then need to connect the wide gray cable (SCSI cable), and the multi-colored cable (power cable). The power cable is slotted so it will not go in the wrong direction. Once this cable is connect then connect the SCSI cable. The SCSI cable is not slotted so make sure that the notches on the cable are pointed towards the top of the machine. Once both cables are connected you are ready to test your machine.

Reassemble the computer per PowerSource 1725.

Making sure the drive works.

Before you put the machine back together let's make sure the drive is working and install the software. This part of the installation instructions will work for all machines.

Restart your machine.

Boot from the PowerCD. Go to the Utilities folder on your CD and open the Hard Disk Tool Kit folder. HDT Primer is located in the folder, when this software launches it should scan the SCSI bus, and the hard drive will appear on the line corresponding to the ID number for the drive.

You will need to format the disk. To do that, highlight the line the drive is on and click the Format button in the top right corner of HDT primer. Click OK for all the warnings that the drive will be erased. Once it finishes, install whatever software you want on that drive.

Machines Affected: All desktop, tower and ATX systems
Published Date: Feb 20, 2012

Power Computing Systems: Removing The Case

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How to remove the case for the computer.
This article has been archived and is no longer updated by Apple.
Desktop Unit

The top cover of the desktop unit can be removed by unscrewing the thumbscrew located in the upper center of the back of the machine. Remove this screw with a small coin or straight-edge screwdriver and set it aside. Once the screw is removed, grab the bottom left, and bottom right side of the cover. Pull out slightly and lift the cover up and off of the machine.

Tower Unit

There are two types of covers for the tower units.

The first type (used in the PowerCenter, PowerTower, and PowerBase) has four thumbscrews. Two on the right edge and two on the left edge. Loosen and remove these screws using a small coin or a straight-edge screwdriver. Once these screws are removed, you should be able to slide the cover back about an inch and lift it off the computer.

The second type (used in the Power100, Power120, PowerWave, and PowerCenter) has one thumbscrew, located at the top rear center of the machine. Loosen and remove this screw using a small coin or a straight-edge screwdriver. Once the screw is removed then unhook the tabs located on the bottom left and right corners of the machine. When these tabs are unhooked you should be able to slide the cover off the back of the computer.

In either case, make sure that the power cable is removed when pulling off the top cover of the tower. With the cable removed, lift the top of the cover off. It may be necessary to pull the case away from the chassis to ensure that it will come off easily. When the top cover is off, plug the power cable into the machine.

Once you have the case removed, lie the computer down on itÕs side with the open side up.

Low Profile Units

There are three thumbscrews on the back of the case. Using a small coin or straight-edge screwdriver remove all three screws and set them aside. Slide the case back an inch and lift it off the computer.

Tower Pro
There are two thumbscrews, one near the top and one near the bottom, that are holding that side panel to the back of the computer. Remove those and set them aside. Lay the computer down on its right side so the side with the handhold is facing upward. Pull the side panel toward the back of the computer. It will slide back, then lift off.

The front panel needs to come off. To remove the face plate there are tabs along the front edge. There is a circular tab in the middle. Push this tab closed and push the front panel forward. There are three smaller clips, one above the circular tab and two below, that you can push to release the face plate. It's sometimes easiest to start at the top and work down. Once that side is free, slide your hand between the front panel and the metal front of the computer until you can't go any further. If you push against the face plate, the face plate will come off.

Machines Affected: All
Published Date: Feb 20, 2012

Power Computing Systems: Reassembling the case

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How to reassemble the case.
This article has been archived and is no longer updated by Apple.
Tower Pro
The front panel will simply snap into place. To replace the side panel, lay the computer on its side, open side up. Lay the side panel in place so the handgrip is near the back of the computer and the front edge of the side panel is about half an inch back from the front bezel. Slide it forward into place. Replace the two thumbscrews.

Desktop Unit

Replace the speaker into the front cover. Align and insert the three tabs on the bottom of the front cover. Hold the bottom of the cover in place then push the top back into its original position until the tabs click into place. Angle and align the leading edge of the top cover so the tabs insert into the front bezel. Lower the rear end of the cover into place and push on the right and left rear edges to make sure it's firmly seated. Replace the thumbscrew.

Tower Unit, 1 thumbscrew securing it

To replace the face plate you will need to insert the bottom two tabs and snap the top edge into place. The top cover will slide onto the computer from the top about an inch from the front plate. Then slide it forward into place. Replace the thumbscrew and push the clips into place.

Tower Unit, 4 thumbscrews securing it

The top cover will slide onto the computer from the back. Be certain to align the grooves on the inside of the cover with the grooves on the base of the computer. Slide the top corner forward until the edges meet with the edge of the front bezel. Push the sides inward near the front and push forward so the cover goes between the copper EMI clips and the plastic face plate. Replace the thumbscrews.

Low Profile

The top cover will slide onto the computer from the top about an inch from the front plate. Then slide it forward into place. Replace the thumbscrews.

Machines Affected: All
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Power Computing Systems: Installing an L2 cache

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Walkthru for installing an L2 cache.
This article has been archived and is no longer updated by Apple.
Remove the case according to the following Tech Info Library article:

Article 36388: **Removing the case**

Installing the Cache

Once you have the case removed, plug in the system's power cord. The power cord will serve as a ground for the computer. If you have a grounding strap, clip it to the metal frame of the computer and put it on your wrist. If you do not have a grounding strap, make certain you touch the power supply located in the back right corner of the computer before you touch any cards inside the computer. Do not touch the metal contacts on the cache card. When installing a cache card, be certain you push the card firmly into the slot. You should not see the metal contacts if the card is correctly installed.

Power100/120

In the front left corner of the computer, you'll see two cards. These cards are your ROM and cache cards. The ROM is the one with only four chips on it. It may be easiest to remove the ROM before installing the cache. Touch the power supply then remove the ROM card then the cache card by pulling them straight up. You can grip the card by holding the edges or any green part.

To insert the new card, line up the copper contacts on the bottom of the card with the slot. Push the card straight down into the slot. Replace the ROM card. Be certain both are seated firmly. The metal contacts should not be visible.

PowerWave

In the front left corner of the computer, you'll see 8 slots for the RAM. To the right of that, you'll see another RAM-looking card that runs perpendicular to the RAM slots. This is your cache card. To remove it, pull it straight up out of the slot. You can grip the card by holding the edges or any green part.

To insert the new card, line up the copper contacts on the bottom of the card with the slot. The card and the slot are keyed, so you cannot put the card in backwards. Push the card straight down into the slot firmly. You should not see any of the metal contacts.

PowerCurve

In the front left corner of the computer, you'll see four slots for the RAM and three slots for the VRAM. To the right of that, you'll see another RAM-looking card that runs perpendicular to the RAM slots. This is your cache card. To remove it, pull it straight up out of the slot. You can grip the card by holding the edges or any green part.

To insert the new card, line up the copper contacts on the bottom of the card with the slot. The card and the slot are keyed, so you cannot put the card in backwards. Push the card straight down into the slot firmly. You should not see any of the metal contacts.

PowerBase

In the front left corner of the computer, you'll see four slots for the RAM and three slots for the VRAM. To the right of that, you'll see another RAM-looking slot that runs perpendicular to the RAM slots. This is your cache slot.

In a low profile unit, the floppy drive needs to be removed. There are two screws, one on each side of the floppy drive tray securing it to the CD's drive cage and the support brace. Disconnect the floppy ribbon. Remove those two screws and set them aside. Slide the floppy drive back about half an inch, the left the back end of the drive out. Set the floppy aside.

To insert the new card, line up the copper contacts on the bottom of the card with the slot. The card and the slot are keyed, so you cannot put the card in backwards. Push the card straight down into the slot firmly. You should not see any of the metal contacts.

Reassemble the computer per the following Tech Info Library article:

Article 36389: **Reassembling the case**

Machines Affected: Power 100, Power 120, PowerCurve, PowerWave, PowerBase
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Power Computing Systems: Installing a RAID

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Walkthru for installing a RAID
This article has been archived and is no longer updated by Apple.
To install your RAID array, you will need a small coin or a straight-edge screwdriver and a Phillips screwdriver. We'll need to prepare the drives, remove the case, install the Adaptec SCSI card, install the drives, and reassemble the case.

Preparing the Drives

First, we'll need to set the ID number and termination on the drive. The hard drives are SCSI devices and they need a unique ID number. Because both drives will be controlled by and Adaptec SCSI card and not from the logic boardÕs controller, we won't need to be concerned with the IDs of your other devices.

Seagate Barracuda drives
Pick one drive. This will be your primary drive. To set the primary drive, look at the front of the drive (the end opposite all the connectors for the SCSI ribbon and power cable). Hold the drive with the circuit board (green) side down. On the right, you'll see a set of 20 pins. Make sure none of these pins are closed by jumpers. Look at the circuit board side of the drive with the front of the drive at your left. On the side farthest from you near the back of the drive, you find another set of 16 pins. Going from left to right, the first and seventh vertical pairs should be closed with jumpers. Leave the remaining pins at the default settings. With these settings, your primary drive is set for ID0, termination ON.

The other drive is your secondary drive. Look at the set of 20 pins on the front. Close the rightmost vertical set of pins. Next, look at the set of 16 pins on the side. Going from left to right, the first and seventh vertical pairs should not be closed with jumpers. Leave the remaining pins at the default settings. With these settings, your primary drive is set for ID1, termination OFF.

IBM DFHS drives
Pick one drive. This will be your primary drive. To set the primary drive, look at the front of the drive (the end opposite the connectors for the SCSI ribbon and power cable). Hold the drive with the circuit board (green) side down. On the left you'll see a set of pins arranged in vertical pairs. Going from left to right, you'll see four pairs of pins, then a single marker pin. The two vertical pairs to the right of the marker pin need to be closed. The remaining pins need to be left open. To the right of those pins you'll see a horizontal pair. That horizontal pair will need to be closed. With these settings, the drive is set for ID0, termination ON.

The other drive is your secondary drive. Look at the set of pins. Find the single marker pin. The vertical pair on both sides of the marker pin needs to be closed. None of the other pairs, including the horizontal pair off to the right, need to be closed. With these settings, the drive is set for ID1, termination OFF.

Remove the case according to the following Tech Info Library article:

Article 36388: **Removing the case**

Installing the Adaptec SCSI Controller

See your User's Guide for information on how to install a PCI card. One end of the silver SCSI ribbon will attach to the smaller of the two connectors on the top edge of the Adaptec card. The cable is keyed so it will not fit backwards. We'll attach the cable to the drives later.

Installing the drives

Start with the secondary drive. This one will go in the RAID rack, right in the middle of the computer. Remove the two screws securing the RAID rack. One is located near the PCI slots on the back of the computer. The other is on the support brace that runs from the back of the computer to the front. Once these screws are removed, the RAID rack will slide forward slightly, then you can lift it out. Be careful with the fan wires, since the CPU fan is connected to the RAID rack. Disconnect the fan power cable from the logic board.

Install the drive backwards into the RAID rack, with the power and SCSI connectors going toward the front of the computer and the label side up. Slide the drive into place and screw it to the RAID rack.

The primary drive will go into the lowest of the 5.25 bays. To get to it, first remove the support brace. A screw on the back of the case about halfway between the PCI slots and the power supply is holding it in place. Once that screw is removed, you can lift the support brace up and toward the front of the computer. It clips into the front, just above the floppy drive cage.

Next, the floppy drive cage needs to come out. Remove all cables connecting to any drives in the floppy cage. On the front of the computer, on either side of the floppy drive, there is a screw. Remove those two screws and set them aside. The floppy drive cage will slide back, then lift out. Set that aside.

Slide the hard drive into the bay so that the power and SCSI connectors are facing toward the back of the machine and the label is on top. Secure it by screwing it in from the bottom.

Replace the floppy drive cage. There are tabs on the floppy cage that will line up with notches on the cage above it. Then the floppy cage will slide back into place. Replace the two screws that attach the floppy drive cage to the front of the computer. The screws are located on either side of the floppy drive. Connect all the cables to the drives in the floppy cage.

Replace the support brace. Insert the hooks into the two slots near the front of the computer (above the floppy cage). Lower the support brace into its original position and replace the screw at the back.

Replace the RAID rack. Reconnect the CPU fan power cable to the main logic board. Position the cable so it goes around the CPU heat sink and does not get tangled in the heat sink. Line up the tabs on the the rack with notches on the support brace and slide back into place. Replace the two screws (one near the PCI slots and one on the support brace).

Now we need to connect the cables. Start with the secondary drive. Attach the multicolored cable (power cable) and the middle connector of the silver SCSI ribbon. Both cables are keyed, so you will not be able to put them in upside down. The attach the cables for the primary drive. You'll need one multicolored cable and the end connector of the silver SCSI ribbon.

Reassemble the computer per the following Tech Info Library article:

Article 36389: **Reassembling the case**

Making sure it works

To see if the drives work, boot the computer. Boot from the PowerCD. In the Utilities folder of either the Power CD or your main hard drive, youÕll find Hard Disk Toolkit. In there, go to HDT Primer. When it comes up, click SCSI Bus and select Adaptec. You should see the two hard drives and the controller card listed there. The documentation that came with Conley SoftRAID will explain how to set up the software part of the RAID array.

Machines Affected: PowerTower Pro
Published Date: Feb 20, 2012

RAM Installation Guide

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This article has been archived and is no longer updated by Apple.
Remove the case according to the following Tech Info Library article:

Article 36388: **Removing the case**

Installing the RAM

Once you have the case removed, plug in the system's power cord. The power cord will serve as a ground for the computer. If you have a grounding strap, clip it to the metal frame of the computer and put it on your wrist. If you do not have a grounding strap, make certain you touch the power supply located in the back right corner of the computer before you touch any cards inside the computer. If the RAM is correctly installed, you should not be able to see the metal contacts.

For tower units, be certain the system is lying on itÕs right side.

Power100/120

Note: SIMMs should be installed in like pairs. These pairs are organized into banks A, B, C, and the fixed main logic board bank. The main logic board bank is the farthest away from the drive bays and comes with two 4MB SIMMs, which are required for the system to work. Do not replace the SIMMs in the main logic board bank with SIMMs of any other capacity. That bank will only work with two 4MB chips.

SIMMs can be installed into the other banks in any order, but one pair must be installed per bank. Both slots must be filled with SIMMs of the same capacity.

First, unclip the SIMMs in the main bank (marked DO NOT REMOVE) and angle them to the left, but do not remove them. It's easiest to install RAM from left to right.

1. Hold the module by the ends with the contacts down and the notched end toward the back of the computer.

2. Slide the contacts into the slot at an angle and make sure the contacts are firmly seated in the slot.

3. Push the module toward the floppy drive side of the computer until it snaps into a vertical position. When pushing the cards into place, it's easiest to go from the rightmost card to the left.

PowerCurve/Center/Tower

Note 1: DIMMs and DIMM slots are slotted which prevents backward installation.
Note 2: DIMMs do not need to be installed in pairs. Furthermore, there is no benefit to installing DIMMs in pairs on this computer because this logic board does not take advantage of interleaved memory.

1. Locate the four DIMM slots; they are the only set of four slots on the logic board.

2. Push the white locking device down.

3. Insert the DIMM into one of the slots and press down firmly. The top edge of the DIMM should be flat with respect the main logic board. Verify that the DIMMs are installed properly by firmly pressing down on the DIMMs.

4. If the white locking lever does not come up automatically, pull it up into position level with the rest of the cards. If there is substantial resistance, the card is not seated correctly. Pull it out and push it back into the slot.

PowerWave

Note 1: The PowerWave has eight DIMM slots near the front on the main logic board. The DIMM slots are organized into two banks, A and B. Bank A is in the front and Bank B is behind it, as labeled on the main logic board. Each bank has four slots, numbered A1 A4 and B1 B4. DIMMs can be inserted in any order, but if you install DIMMs of the same capacity in slots with the same number (A1 and B1, etc.), you will get better performance than if you install DIMMs unpaired.

Note 2: DIMMs and DIMM slots are slotted which prevents backward installation.

1. Locate the eight DIMM slots in the front left corner of the logic board.

2. Push the white locking device down.

3. Insert the DIMM into one of the slots and press down firmly. The top edge of the DIMM should be flat with respect the main logic board. Verify that the DIMMs are installed properly by firmly pressing down on the DIMMs.

4. If the white locking lever does not come up automatically, pull it up into position level with the rest of the cards. If there is substantial resistance, the card is not seated correctly. Pull it out and push it back into the slot.

PowerTower Pro

Note 1: The DIMM slots are organized into two banks, A and B. Bank A is in the bottom and Bank B is above it, as labeled on the main logic board. Each bank has four slots, numbered A1►? A4 and B1►? B4. DIMMs can be inserted in any order, but if you install DIMMs of the same capacity in slots with the same number (A1 and B1, etc.), you will get better performance than if you install DIMMs unpaired.

Note 2: DIMMs and DIMM slots are slotted which prevents backward installation.

1. . The floppy drive cage needs to come out. On the front of the computer, on either side of the floppy drive, there is a screw. Remove those two screws and set them aside. The floppy drive cage will slide back, then lift out. Set that aside.

2. The eight slots below it are the RAM slots.

3. Lay the computer on its right side.

4. Push the white locking device down.

5. Insert the DIMM into one of the slots and press down firmly. The top edge of the DIMM should be flat with respect the main logic board. Verify that the DIMMs are installed properly by firmly pressing down on the DIMMs.

6. If the white locking lever does not come up automatically, pull it up into position level with the rest of the cards. If there is substantial resistance, the card is not seated correctly. Pull it out and push it back into the slot.

PowerBase

DIMMs and DIMM slots are slotted which prevents backward installation.

1. In the front, left corner of the logic board, you'll find three slots together. These are your RAM slots.

2. Push the white locking device down.

3. Insert the DIMM into one of the slots and press down firmly. The top edge of the DIMM should be flat with respect to the main logic board. Verify that the DIMMs are installed properly by firmly pressing down on the DIMMs.

4. If the white locking lever does not come up automatically, pull it up into position level with the rest of the cards. If there is substantial resistance, the card is not seated correctly. Pull it out and push it back into the slot.

Reassemble the computer per the following Tech Info Library article:

Article 36389: **Reassembling the case**

Computers Affected: All
Published Date: Feb 20, 2012

Power Computing Systems: Front Bezel Removal

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

Walkthru for removing the front bezel.
This article has been archived and is no longer updated by Apple.
For Desktop (Power 100, Power 120, PowerWave, early PowerCenter):

1. Remove the case according to the following Tech Info Library article:

Article 36388: **Removing the case**

2. Locate the internal speaker connector on the I/O card. The I/O card is mounted vertically in the center of the machine. The internal speaker connects to the card near front on the bottom four prongs with a black connector. The internal speaker cable is a pair of black and yellow wires twisted together leading to the front of the machine where the internal speaker is mounted. Remove the speaker connector.

3. Locate the three plastic tabs that secure the front bezel to the chassis. They are located on the inside top of the bezel on the left, right and center. Press the tabs down, and swing the top of the bezel towards the base of the computer 90 degrees. See figure below.

4. Pull bezel straight out from chassis pulling the speaker wire through its hole in the front of the case.

For MT Mini-Tower (Power 100, Power 120, PowerWave, early PowerCenter):

1. Remove the case according to the following Tech Info Library article:

Article 36388: **Removing the case**

Locate the three plastic tabs that secure the front bezel to the chassis. Tow tabs are located on top of the tower. The third is located on the right side. Push tabs into the chassis and swing the top of the bezel down 90 degrees towards the base of the computer. See figure below.

2. Pull bezel straight out from chassis.

For Low Profile (PowerCurve, PowerCenter, PowerCenter Pro, PowerBase)

1. Remove the case according to the following Tech Info Library article:

Article 36388: **Removing the case**

2. Remove any 5.25Ó drives (CD ROM, Zip, Jaz, etc.) from the front drive bays.

3. Remove the screw located immediately to the right of the drive bay cage, if viewing from the back, that affixes the metal case to the front bezel.

4. Locate the six tabs that attach the front bezel to the front panel of the metal case.
a.Two tabs are located at the top corners along the left and right edges.
b. One tab is located immediately to the left of the stabilizer bar- if viewing from the back.
c. The last three are located along the bottom edge of the front bezel.

5. Disengage these tabs and pull the bezel away from the machine.

6. Remove the speaker from the inside face of the bezel. To do so, remove the two screws from the small plastic space holders that hold the speaker in place.

7. Remove the Ôswitch plateÕ from the inside face of the bezel. To do so, disengage the large tab along the left edge of the plate.

For NT Tower (later PowerCenter, PowerCenter Pro, PowerBase)

1. Remove the case according to the following Tech Info Library article:

Article 36388: **Removing the case**

2. Remove speaker, power LED, reset switch, NMI switch, and power switch connectors from logic board. The connectors attach in the front right corner of the logic board with the exception of the power switch connector which attaches on the right underneath the floppy drive.

3. Remove the six screws securing the bezel to the chassis. The screws are located on the back side of the bezel at the top, center, and bottom of each side.

4. Pull bezel straight away from the chassis removing the power switch cables with it.

For Tower Pro
1. There are three tabs that are located along the open edge of the PTP. All three of these tabs must be disengaged before the front bezel can be removed.
a. the first tab is two inches from the top
b. the second tab is below the center of the machine
c. the third tab is located a half inch from the bottom of the machine

2. With the three tabs disengaged grasp the front bezel by the upper right hand corner. With a very firm pull the front bezel with pop away from the PTP (it may be necessary to pinch the circular tab that is located above the center tab).

Machines Affected: All
Published Date: Feb 20, 2012

Problems when Consecutively Mounting Several CD‘s

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

I have problems when mounting several CD's one after another. Here is an example. I can insert an Art Explosion CD from Nova Development Corporation then eject it by dragging the CD icon to the trash. When I insert another CD from the Art Explosion CD, the computer will crash or the previous CD will show up. Why?
This article has been archived and is no longer updated by Apple.
CD-ROM ToolKit would sometimes not recognize difference editions in series of CDs. This was noticed in "Art Explosion" from Nova Development. If one CD was inserted immediately after another was ejected, CD-ROM toolkit would not notice the CD had changed and present cached data from the previous CD.

FWB recommends updating your version of CDT to 2.0.6 , 2.5.1, or newer.

Since the CD-ROM Toolkit from all of our CDs are OEM (Original Equipment Manufacturer) versions or lite versions customers can not download an upgrade to 2.0.6 or 2.5.1. They will need to call FWB and purchase an upgrade.

WORKAROUNDS:
In between each Art Explosion CD put in the Power Computing CD.

Nova tells their customers to uncheck the Fast box in the CD-ROM Toolkit control panel.

If the customer has CD-ROM Toolkit 2.0 or higher, open the drive setup window in CD-ROM Toolkit and uncheck Remember Static Images.

Machines Affected: All
Published Date: Feb 20, 2012

Connectix: Floppy Drive not Accessible after upgrading to MacOS 8

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

What is the latest word on compatibility of RAM Doubler and Speed Doubler with Mac OS 8?
This article has been archived and is no longer updated by Apple.
The following is a tech support note from the Connectix Corporation.

RAM DOUBLER AND MAC OS 8

Concurrent with the development and release of Mac OS 8, Connectix has been made aware of an incompatibility when mounting floppy disks on some PowerPC based systems running RAM Doubler 2.0.x.

A free maintenance release for RAM Doubler 2.0.x is currently under development to address this issue. As a member of this mailing list, you will be notified of the availability of this release via e-mail. All users can learn more as the details are posted on the Connectix Web site (http://www.connectix.com).

SPEED DOUBLER AND MAC OS 8

Speed Doubler 1.x and 2.x are incompatible with Apple's newly released Mac OS 8. Connectix is working on a new addition to the Speed Doubler product line, to be named Speed Doubler 8.

Speed Doubler 8 will be compatible with Mac OS 7.5.5 and later, including Mac OS 8 (some new features will require OS 8). Owners of previous versions of Speed Doubler (1.x or 2.x) will be offered a rebate towards the purchase price of Speed Doubler 8, which will be available later this summer. Full details, including a description of Speed Doubler 8's new features and pricing, will be announced at Macworld Boston Expo in August.

Machines Affected: All
Published Date: Feb 20, 2012

Iomega Jaz/Zip: Do Not Format with FWB Formatting Tools

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

Are there any problems caused by formatting a Zip or Jaz media with FWB formatting tools?
This article has been archived and is no longer updated by Apple.
The following note is from Iomega tech support and describes both Power Computing's and Iomega's official positioning.

"I strongly recommend you do not use FWB with our drives. You are literally playing Russian Roulette with your data. FWB (HDT) is a known conflict with our software. While it is a fine program, it keeps trying to take control of our drive and operate it. Our drives are made to be very friendly with other programs and if FWB takes over control it may operate it but you will have problems down the road because it was not made to operate our drives. It is our recommendation to disable FWB if you want to use our drives. You will save yourself a lot of headaches down the road. The driver that Images Tools writes to the disk creates a special track on the disks called the 'Z Track' that is used for on-the fly data recovery. The way it works is this: during the writing of a file to the disk, if the drive heads cross an area that the drive feels has lost integrity, that portion of the data will be rewritten to the 'Z Track' instead of writing over the questionable area like other drives do. This is done to preserve your data and map out questionable sectors on the disk. Other software programs do not have this function and that can cause you problems down the road. While FWB is a fine driver software, we hear horror stories everyday about what it does to peoples data when used with our drives. If you have formatted our disk with FWB we recommend take the data off the disk and reformat the disk with Iomega Tools. While we do not support using 3rd party software with our drives, Norton's Disk Doctor seems to work very well with our drives and disk. We have not encountered any problems associated with using NDD with our drives."

Machines Affected: ALL
Published Date: Feb 20, 2012

LisaWrite: Preview Pages

This article has been archived and is no longer updated by Apple.
With Preview Pages comes a variety of display problems (including showing the Page ruler and printing):

-- pieces of text are displayed in the wrong place,
-- the elevator disappears,
-- text disappears,
-- you cannot print a page in a specified range,
-- LisaWrite doesn't display the document past page three.

If you are having such display problems, just avoid using Preview pages or the page ruler. If you are having problems printing a specific page, have that page displayed in the window before you print, or select a larger range.
If a large portion of your document is gone, remember DON'T PANIC. That portion of your document is still there; it's just not being displayed.
Select Don't Preview Pages, then Save and Put Away the document. When you open the document, it will come back whole.
Published Date: Feb 20, 2012

Weight limit for Low Profile systems

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

What is the maximum weight that can go on a low profile case?
This article has been archived and is no longer updated by Apple.
The maximum weight that can be put on a low profile case is 50 pounds or 23 kilograms.

Machines Affected: All
Published Date: Feb 19, 2012

Power Computing Systems: Removing the Base Panel for a Tower System

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

How to remove the base panel.
This article has been archived and is no longer updated by Apple.
1.Remove the case according to the following Tech Info Library article:

Article 36388: **Removing the case**

2. Remove the bezelaccording to the following Tech Info Library article (in an NT tower,this is not necessary):

Article 36393: **Removing the bezel**

3. For an MT case, using a Phillips-head screwdriver, remove the two screws on the top edge of base panel.

For an NT case, using a Phillips-head screwdriver, remove the four (4) screws on the bottom of base panel securing the panel to the chassis.

4. Grasping the top edge of the base panel firmly, pull up to remove the base panel.

Machines Affected: All
Published Date: Feb 19, 2012

Removing the I/O card for a Power 100/120

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

How to remove he I/O card in a Power 100/120
This article has been archived and is no longer updated by Apple.
I/O Card Removal

1. Locate the I/O card. It is installed perpendicular to the logic board in a long brown slot located in the center of the machine.

2. Disconnect all cables from the I/O card.

3. Pull the I/O card straight away from the logic board. It may be necessary to wiggle the card back and forth until it is far enough out of the slot to pull out as the card is held in by a tight pressure fit connector.

Machines Affected: All
Published Date: Feb 19, 2012

Mac OS 8 compatibility with Now Utilities

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

Is Now Utilities compatible with Mac OS 8?
This article has been archived and is no longer updated by Apple.
Now Software does not recommend Now Utilities for use with Mac OS 8. Now is assessing the resources required for a Mac OS 8 compatible update to Now Utilities and may decide to release such an update in the future.

For more information, contact Now Software.

Machines Affected: ALL
Published Date: Feb 18, 2012

"C" key fails to boot from CD-ROM

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

I am trying to boot from my CD-ROM by holding down the "C" key. However, it does not seem to be working like it does on my Apple Power Macintosh.
This article has been archived and is no longer updated by Apple.
Apple uses their own brand CD-ROM drives which use a special ROM routine to cause the computer to boot from the CD-ROM drive instead of the drive selected in the Startup Disk control panel when the "C" key is depressed.

Power Computing does not use Apple brand CD-ROM drives. As a result, this feature is unavailable for Power Computing users. However, Power Computing customers may achieve the same result by holding the Command, Option, Shift, and Delete keys simultaneously during startup.

Machines Affected: All
Published Date: Feb 19, 2012

Wrong CPU speed reported in Apple System Profiler

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

I have a PowerTower Pro 250. However, when I look in Apple System Profiler I see the processor listed as a PowerPC 604e at 200 Mhz.
This article has been archived and is no longer updated by Apple.
Apple System Profiler does not produce accurate results on all Power Computing machines and, as such, has been removed from currently shipping product.

Customers who have Apple System Profiler installed should not be concerned by these reports. When Apple System Profiler is updated to support all Power computers, it may again be installed on Power machines.

Machines Affected: All
Published Date: Feb 19, 2012

Global Village: Dialing 10-Digit Phone Numbers With GlobalFax

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

I live in an area of the United States that has recently switched to a 10 digit phone number format. To make a local call, I must dial a7-digit phone number plus the 3-digit area code, but must not dial a 1 first. GlobalFax will not dial the number without the "1".

I am able to fax to other locations (long distance) fine, but cannot fax locally because of the new phone numbers. How can I fax to local phone numbers?
This article has been archived and is no longer updated by Apple.
There are 2 workarounds:

1. Include the area code in the fax number field in the address book for people that fall into the 10-digit local number area. For example, if Joe Smith lives in area code 123, make the number for Joe Smith 123-555-1234 instead of 555-1234. You will need to make this modification to the phone number of each local fax recipient.

2. Include a 1 before the area code of recipients outside of the local area code. Do not put a 1 in the long distance prefix area of the Dialing Setup dialog. For example, if a recipient lives in area code 456, replace the 456 with 1456. You will need to make this modification to the phone number of each long distance fax recipient. It also requires that the local area code be set to something other than the correct area code so that it always gets dialed.

There are other possible combinations using the Always Dial Area Code and the suggestions above, but they are rather tedious.

Note: For the Always Dial Area Code option you must select the extended option in the address editing mode.

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Machines Affected: All
Published Date: Feb 19, 2012

Apple SuperDrive and Double-Density Disks

This article has been archived and is no longer updated by Apple.

TOPIC ----------

This article discusses the disks required by the Apple SuperDrive (formerly Apple FDHD).

DISCUSSION ----------

In the DOS environment, you can format a 720K double-density disk so that it will appear to be a high-density 1.44MB disk.

However, you must use a genuine high-density disk to translate data from MS-DOS to Macintosh OS using the Apple SuperDrive Apple File Exchange.

The SuperDrive looks for the additional "bonus hole" in the upper left-hand corner of the disk. If the hole is not there, the drive will not recognize the MS-DOS disk as a high-density disk.

A high-density disk can be recognized by the additional hole as well as the letters HD on the disk.

Published Date: Feb 18, 2012

Adaptec 2940 Ultra SCSI card: Read Me

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.
This article has been archived and is no longer updated by Apple.
Please do not remove the Adaptec 2940 Ultra SCSI card. The card must be installed in the top slot of the computer for correct system operation. See the computer user's guide for additional information.

The Adaptec 2940 Ultra SCSI card is capable of supporting up to a 40 MB/sec sustained data transfer rate from the installed primary wide hard drive(s), and up to a 20 MB/sec sustained data transfer rate from the installed primary fast hard drives(s). In conjunction with Ultra SCSI or fast SCSI drives, this can significantly improve data transfer rates in certain applications.

Available SCSI Buses (precautions on adding internal devices)

- The PowerTower Pro G3 has three SCSI buses. The fast built-in SCSI bus is a 10 MB/sec bus used for the CD-ROM drive, other internal SCSI devices such as Zip or Jaz, and any additional hard drives. The connector for this bus is located on the main logic board and uses a separate 50-pin cable. The standard SCSI bus is a 5 MB/sec bus which is used to connect external devices through a 25-pin connector on the back of the computer.

- The Adaptec 2940 Ultra SCSI card adds a faster third internal ultra SCSI bus which is capable of sustained data transfer rates of up to 40 MB/sec using a 68-pin cable and sustained data transfer rates of up to 20 MB/sec using a 50-pin cable which are both specifically designed and tested by Power Computing for this bus.

- The internal SCSI cable, attached to the Adaptec 2940 Ultra SCSI bus, supports a maximum of two wide internal hard drives and/or two narrow internal hard drives.

- Wide-to-narrow and narrow-to-wide SCSI converters are not supported.

- Any pre-installed hard drive(s) attached to the Adaptec 2940 Ultra SCSI bus will be configured for SCSI ID 0 (and ID 1). This Adaptec 2940 Ultra SCSI bus is also compatible with most older generation SCSI 1 and SCSI 2 devices.

- Information about SCSI termination is available in the PowerTower Pro User's Guide and the Adaptec User's Guide included with your PowerTower Pro G3.

External SCSI Buses (precautions on adding external devices)

- A Standard DB25 SCSI connector built into the back of the computer is connected to the 5 MB/sec internal SCSI bus. This bus can be used for other external SCSI devices such as hard drives and scanners.

- A 68-pin wide SCSI connector is present on the Adaptec 2940 Ultra SCSI PCI card backplane. This connector provides access to the 40 MB/sec wide internal bus. Power Computing recommends connecting external SCSI devices to the external SCSI connector on the main logic board. Should you decide to connect external devices to the Adaptec 2940 Ultra SCSI card, care should be taken to ensure that SCSI termination is configured correctly, that the length for SCSI cabling is not exceeded and that only high quality SCSI cables are used; see the Adaptec User's Guide for additional information.

- The Adaptec 2940 Ultra SCSI wide external SCSI connector will not function properly if both the internal wide and internal narrow connectors are being used.

About PowerDomain Control

PowerDomain Control is a utility from Adaptec, Inc. that is used to change various operating parameters on the Adaptec 2940 Ultra SCSI PCI card.

The PowerDomain Control software should be installed in the Control Panels folder. To install the software follow these steps:

1. Double click the System Folder icon on your hard disk to open it.
2. Find the "Control Panels" folder and click on the "PowerDomain Control" icon and drag it onto the "Control Panels" folder icon.

Please refer to the appropriate section of the Adaptec User's Guide for more information on the Adaptec 2940 Ultra SCSI card or the PowerDomain Control software.

(8/25/97)

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Published Date: Feb 18, 2012

Global Village: Red ‘X‘ at Startup

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

I have a Global Village modem and there is a red 'X' across the modem icon on startup. What should I do?

This article has been archived and is no longer updated by Apple.
A red 'X' across the modem icon indicates that the modem software did not load properly. This could be due to a corrupt preference file, damaged modem software, or even a duplicate versions of the modem extensions in the System Folder. Follow the steps listed below to resolve this issue.

Step 1
Open the System Folder and the Global Village Personal folder. Move the files Queue Temp and GlobalFax Preferences to the Trash and restart your computer. This will essentially recreate these files on startup incase one of the files was accidentally damaged. Empty the Trash once you restart the computer to delete the old files.

Step 2
Check your System Folder for duplicate Global Village modem extensions. If you accidentally moved some of the modem extensions to the System Folder then reinstalled the system software you may have duplicate extensions. Delete the duplicate items to prevent the red 'X' from appearing on the modem extension. The following extensions should be installed only once in your Extensions folder:

-GlobalFax
-Global Village Toolbox (NOTE: Older versions of the Global Village software do not include a "Global Village Toolbox." You should only see a Global Village Toolbox if you are running version 2.1.2 or later.)

Step 3
If the above troubleshooting steps fail to resolve your issue, then reinstall the Global Village software from your CD or set of software backup disks to ensure that you have all the necessary files.

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Machines Affected: All
Published Date: Feb 18, 2012

GVC Platinum Modem: Error Correction & Data Compression

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

How can I set error correction and data compression modes on the Global Village Platinum modem, which was included with my computer?
This article has been archived and is no longer updated by Apple.
To set those, you will need to use the Communications module within ClarisWorks to issue AT commands, which are described on pages 47 and 48 of the TelePort User's Guide. Below is a summary of these commands:

%C0 Disables data compression.
%C1 Enables MNP 5 data compression
%C2 Enables V.42 bis data compression.
%C3 Enables both V.42bis and MNP 5 data compression (factory default)

\\N0 Selects normal speed buffered mode; no error correction.
\\N1 Selects direct mode and is equivalentto &M0 and &Q0.
\\N2 The modem will first attempt a LAP-M connekion and then an MNP connection.
\\N3 Same as \\N2, except failure falls back \\N0. Factory default.
\\N4 Tries to establish LAP-M correction; if failure, modem hangs up.
\\N5 MNP mode. Failure to make an MNP connection results in the modem hanging up.

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Machines Affected: All
Published Date: Feb 18, 2012

PowerDomain: Adaptec 2940 Settings

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

How should the PowerDomain control panel for the Adaptec 2940 be set up?
This article has been archived and is no longer updated by Apple.
PowerDomain is the control panel that allows users to make card-level changes. These options are described in the Adaptec documentation.

Go to the control panel and select the Adaptec card.

Pick Automatic from Termination Options.
Parity should be ON.
Leave the card ID at 7.

Pick Target Options from Special.
Pick the ID of the hard drive in question.
For transfer rate, pick the number nearest the transfer rate of the drive.
Allow Disconnect and Wide Negotiation.
If your drive is an Ultra Wide, allow Ultra SCSI.
Click Set to save the settings and close all open stuff, then restart.

Revert: There are two different revert options. The first is under the board option in the menu bar. This will revert the card settings. The second is in the control panel itself. This will revert the control panel settings.

Flash ROM: This will allow the user to update the flash ROM on the card. For this option to work, the customer must have the flash ROM application from Adaptec. Updating the ROM should be done as the new ROM versions are released and in limited cases where there is a possible card level problem.

Machines Affected: All
Published Date: Feb 18, 2012

SoftRAID: Overview

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

This article provides information on the general functions of the Conley SoftRAID software.
This article has been archived and is no longer updated by Apple.
SoftRAID can do 4 things:
1. Standard Mac HFS: Just like volumes created by HDT or Drive Setup.

2. RAID 1 (mirror): Created from two partitions on different disks. One is the primary and the other is a mirror. They contain exactly the same information. If the primary fails, SoftRAID will redirect to the mirror without any interruption. SoftRAID will beep and flash a SoftRAID icon to let you know that the primary or mirror has failed. Read I/Os are done withthe primary. Write I/Os are done with both.

In the SoftRAID software, you can check on the Mirror Status. Optimal means everything is working. Failed means either the primary or the mirror has failed. Rebuilding means the drives have gotten out of sync and the mirror is being rebuilt from the primary. Rebooting during a rebuild does not damage data integrity. Rebuilds will continue once the computer is up and running again.

You can establish a Mirror without wiping out both disks by adding a drive and setting it up in SoftRAID. The Mirror will be built while running in the background.

3. RAID 0 (stripe): This spreads data across 2-7 equal-sized drives. This is not redundant, however, and loss of any one drive causes a total data loss. If one drive is removed from the Stripe, you will see a Partition Missing in the status and the RAID will not function.

4. Weighted stripe: this is made of 2 or more paritions on 2 different buses which have unequal performance (5M/s and 10M/sec or 20M/sec for example). This is specific to Power systems having a RAID Stripe across dual SCSI or a PCI SCSI card and the internal SCSI. The faster bus will receive twice as much data as the slower bus to make up for the speed difference.

Conley will address any drive, but to use the functionality of the software you must update the driver.

There are five major functions under the Volume menu.
1. New: This is the function that allows the user to set up one of the two different levels of RAID. (The setup for RAID is in PowerSource 1927)
2. Delete: Removes the selected volume.
3. Create Mirror: Allows the user to create a mirror of an already existing drive.
4. Rebuild: This will rebuild a mirror that is out of sync. The rebuild happens in the background.
5. Rebuild: This will dictate how fast the rebuild occurs in the background.

There are new features:
Clear out of Sync: This will allow the user to cancel the rebuild request if the drives appear to be out of sync but the user knows they're not.
Split Mirror: Turns a Mirror array into 2 normal HFS volumes.

There are four major functions under the Disk menu.
1. Rescan SCSI bus: Does exactly that.
2. Show partitions: this will show the actual partitions of the drives instead of the drives.
3. Install Driver: Installs the Conley driver on the selected drive.
4. Initialize drive: Performs a standard initialization of a drive.

Machines Affected: PowerTower Pro with RAID
Published Date: Feb 18, 2012

SoftRaid: Setting up HFS, Mirror, and Stripe Volumes

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

How to set up a HFS, Mirror, or Stripe volumes using Conley SoftRAID.
This article has been archived and is no longer updated by Apple.
A RAID must be formed from 2 or more different drives. RAID cannot be done all on one drive.

Modern Memory Manager should be turned on. Virtual memory will decrease the speed of an Array.

You cannot modify the volume booted from. Boot from a different volume or a different device.

The description below lists the way to do it from the menus. It can also be done as drag and drop using the icons in the lower half of the SoftRAID window.

For STRIPE:
1. Click Volume/New
2. Select Stripe
3. Shift-click the devices (physical drives) you want to use.
4. Give the volume a name
5. Set the size of the array.
6. Set the size of the blocks to be split between drives. 128k is a normal setting.

For MIRROR:
1. Click Volume/New
2. Select Mirror
3. Shift-click the devices (physical drives) you want to use.
4. Give the volume a name
5. Set the size of the array.

Mirrors will take twice as much disk space. For example, on a 4G RAID, you could set a 2G Mirror or a 4G Stripe.

For MIRROR based on existing volumes:
1. Select Volume/Create Mirror
2. Select the disk you want to be the primary (the disk that has the data on it)
3. Select the disk to be used as the mirror (the "backup" disk). It must be at least as large as the primary.
4. Choose a build rate by sliding the the two bars up or down. Higher I/O rates will improve the rebuild speed, but cause a slowdown of the system. The Volume entry will show a status bar.

For HFS:
1. Click Volume/New
2. Select Standard Mac
3. Select a device
4. Name the volume
5. Enter the size in Megabytes of the new volume

Machines Affected: PowerTower Pro with RAID
Published Date: Feb 18, 2012

SoftRAID: Minimum Requirements

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

According to Conley documentation, the minimum hardware and software needed for SoftRAID.
This article has been archived and is no longer updated by Apple.
Computer requirements:

- A Power Computing Computer with at least 8M of RAM
- MacOS 7.1 or later (7.5.3 for larger than 4G volumes)
- 2 or more disk drives which can be used to create RAID volumes
- Virtual Memory should be OFF
- PCI Wide SCSI adapter card with high performance Wide SCSI drives recommended
- 32-bit addressing must be enabled (This is built into all Power Computing computers)
- Modern Memory Manager should be ON
- SoftRAID uses approximately 400k of RAM
- For best results, reinitialize all disks to be used in RAID with Conley software.

Drive requirements:

- Compatibility: Verify the compatibility of your disks before storing data on them. Most SCSI-1 and nearly all SCSI-2 drives are compatible. If you are uncertain, check with the disk's manufacturer to see if there are known issues with RAID.
- Removable media: SoftRAID is compatible with removable media, but using removable media is not recommended for RAID.
- Turning Disks on and off: Turning off or disconnecting a disk in use may damage the data on that disk or the computer's SCSI port. Always turn drives on before the computer and off after the computer.

Plan the system: Create a worksheet to plan how to arrange the data.

Formatting utilities: Other formatting software cannot modify SoftRAID volumes. Do not use other software to modify or remove SoftRAID volumes.

Machines Affected: PowerTower Pro with RAID
Published Date: Feb 18, 2012

High-Density and Double-Density Formats Not Interchangeable

This article has been archived and is no longer updated by Apple.

TOPIC ----------

This article discusses the protection feature of the Apple SuperDrive (formerly Apple FDHD) that restricts the media type to high-density disks.

DISCUSSION ----------

When using Apple File Exchange (AFE) and the SuperDrive, AFE does not recognize high-density disks formatted as 720K disks in the SuperDrive.

The SuperDrive does NOT recognize a disk as a high-density (1.44MB.) disk unless the disk has the "bonus" hole, which all high-density disks have. This is a hardware feature of the drive--not a limitation.

High-density media are physically different from the standard double-density media, and they are not compatible with each other. The hole prevents the incorrect use of high-density or double-density disks with the SuperDrive.

IBM systems and most compatibles will allow you to format a double-density disk as a high-density disk and vice versa. This is not the case here. There is no way to bypass this protection feature.

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SoftRAID: Mirror Diagnosis and Rebuild

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

How to tell there's a problem with your Mirror Array and what to do about it.
This article has been archived and is no longer updated by Apple.
There is always a possibility that one drive in an array may fail. Always keep a backup of your data. The best strategy is to keep several backup disks or tapes in case one tape is damaged.

If an error occurs on a primary or mirror partition of a Mirror Array, SoftRAID will warn you with a beep and a flashing icon on the Apple icon. The whole array will have a "failed status" if either disk is down.

Booting with one disk of an Array turned off will give you the "failed" status. It will have to be rebuilt before it's usable again.

If a volume fails more than once, shutdown and disconnect the suspected drive. Check it for SCSI connection problems or a controller failure.

If the bad disk is detected as not present, the good disk will blink. It will show "Failed/Primary Missing" or "Failed/Mirror Missing."

1. As soon as there's a problem, launch SoftRAID. The volume status will show either Failed or Out of Sync. The affected volume and disk icons will be blinking. Depending on they type of failure, you may be able to begin the rebuild immediately.

2. Click on the blinking volume to select it.

3. Select Rebuild from the Volume Menu. If the failed disk is not detected, you will have to choose a new disk to build as a mirror (See PowerSource TIL article #36428.)

4. Adjust the sliders to control the rebuild rate. Selecting higher I/O rates and I/O sizes will rebuild the Mirror faster, but slow down the computer.

Machines Affected: PowerTower Pro with RAID
Published Date: Feb 18, 2012

RAID: Performance Tips

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

Performance tips from Conley documentation.
This article has been archived and is no longer updated by Apple.
Performance tips:

1. Use Fast/Wide or Ultra/Wide PCI SCSI-2 controllers and drives.

2. Use a dedicated boot drive. Some of the settings for Stripe performance may not be of benefit for the boot drive. By using a disk that is not involved in the Stripe will ensure that OS System reads will not interfere with overall Stripe performance.

3. Add a 3rd disk to the Stripe. More than 3 disks on a single controller will give you no substantial benefit because of SCSI overhead.

4. Use 4 disks and 2 controllers. For Mirrors, the benefit of using a second controller is a 5 to 25% speed boost. For Stripes, a second controller isn't too handy for a 2 disk configuration, but with a 3 or 4 disk Stripe and 2 controllers will give you the best results.

5. Get the fastest SCSI drives available.

6. Use 2 identical drives in the array so that the performance difference between drives is minimized.

7. Get the highest rotational speed available. (7200 minimum)

8. Buy drives based on sustained throughput not burst.

9. Drives with a higher amount of cache (512k or 1M) are better.

10. Software settings: For fine tuning, do not rely on benchmarks, but do your comparisons with your own software. Make the changes one at a time.

SCSI Disconnect: Turn it on.

Write Cache: Turning Write cache on can improve write performance significantly. Sometimes it is turned off for Mirrors for greater safety.

Stripe Segment: 100 blocks (51,200 bytes) is optimal for most environments. If the drives have a sufficiently large cache and the application uses large I/O chunks, try experimenting by turning this up.

Test changing cache and buffer configurations: Some drives will permit SoftRAID to change the cache segments. Sometimes, setting this lower will improve performance if the Stripe unit size is increased. You can also change the cache flush size. If you are uncertain of the impact of these settings, it is recommended you not change them, since the wrong settings can have adverse affects on system performance and reliability.

Format the disks occasionally. As bad sectors are found, performance degrades any time the computer has to read past that sector, even if it's mapped out. Reformatting the drive renumbers the blocks to keep them consecutive. This should only be a factor on old drives, but reformatting twice a year is not a bad idea.

Use only the outer areas of the disk in a Stripe. Some users claim to get a 50% speed boost using this. To do this, reformat the drive and create the Stripe using the first partition on each drive and the partition size less than 50% of the drive.

11. Place arrays on their own buses. Avoid putting CDs and Scanners on the same bus as the array. Higher numbers have higher priority on the SCSI chain so make the RAID drives as high a number as possible, if you must share your RAID bus with the rest of your SCSI.

12. Minimize Extensions which affect performance. Some Extensions can have adverse affects on the performance of the system. Generally, keep the Extensions as minimal as possible. There are shareware utilities to check performance in relative terms. One, called Check Ticks, makes 10,000 calls to the system and counts how often it's interrupted. More than 1000 is an indication of slower than optimal performance, but this only measures one type of system performance. Lots of other third party utilities will measure other factors.

13. Cabling. Cabling is critical for performance. Low quality cables can cause system instability and data corruption. See PowerSource 1515 for information on optimal SCSI setup.

14. Use current Technology wherever possible. UltraSCSI is currently available and SCSI-3 Fiber Channel is on the way.

TA39743_RAID_Performance_Tips.pdf

Machines Affected: PowerTower Pro with RAID
Published Date: Feb 18, 2012

RAID: Warm and Hot Spares

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

The difference between Warm Spares and Hot Spares in a RAID.
This article has been archived and is no longer updated by Apple.
Drives that are connected and powered up, but not in use are called Hot Spares. They can be used immediately and automatically when the a drive fails in an array. The data on that drive is rewritten in the background.

A Warm Spare is connected but not powered up unless a failure occurs. When a failure happens, the Warm Spare is powered up and acts like a Hot Spare.

Machines Affected: PowerTower Pro with RAID
Published Date: Feb 18, 2012

RAID: Software vs. Hardware

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

The difference between software and hardware RAID solutions.
This article has been archived and is no longer updated by Apple.
1) Software RAID is implemented by the host computer and require CPU time. This could affect performance, depending on how much spare CPU time the system has.

Hardware RAID is independent of the host system and takes no CPU time.

2) Hardware RAID is implemented by a separate RAID card in an expansion slot. It has it's own CPU and may have DRAM, ROMs, and internal buses all for the RAID. The SCSI overhead is higher, which may decrease performance.

Software RAID uses the CPU of the host system for RAID control and has a lower SCSI overhead.

3) The lower RAID levels (0 and 1) are best done with software.

Higher RAID levels (3 and 5) work better with a hardware solution.

Machines Affected: PowerTower Pro with RAID
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IXMicro‘s: Incompatibility List

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IXMicro's list of incompatible or special requirement monitors.
This article has been archived and is no longer updated by Apple.
Apple:
1710: no pan/zoom
1710AV: no pan/zoom, keyboard must be plugged into monitor to see more than 640x480.
Portraid: not compatible

E-Machine:
T20: needs Adapter, see Griffin
T16: needs Adapter, see Griffin

NEC:
XE21: Remove TwinTurbo upgrade files

Radius:
Pressview 17SR: Calibration software 1.6.7 or later
Pressview 21SR: Calibration software 1.6.7 or later
STD1950: needs Adapter, see Griffin

RastorOps:
2075m: VGA port OK, Mac port needs Adapter, see Griffin

Sony:
GDM 1954: incompatible
GDM 1952: incompatible
W900: nees special ROM/ramdac to support 1920x1200

SuperMac/SuperMatch:
STD9745: needs Adapter, see Griffin
STD9751: needs Adapter, see Griffin
STD9782: needs Adapter, see Griffin
STD9785: needs Adapter, see Griffin
STD9363: needs Adapter, see Griffin
21TX: Liberty adapter to see more than 1152x870

ViewSonic:
G810: Needs ViewSonic adapter attached to the Mac port and monitor attached to VGA port Set ViewSonic adapter to 1,2,5,6,8 ON all else OFF. Viewsonic pin 3 not GND

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Machines Affected: All
Published Date: Feb 18, 2012

GlobalFax: AutoSensing not working

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

AutoSensing is turned on, but GlobalFax won't take over the call.
This article has been archived and is no longer updated by Apple.
In order to use AutoSensing, the phone must first be answered by a person or an answering machine. The GlobalFax software will then listen for a data tone and will take over the call if it hears one.

Machines Affected: All
Published Date: Feb 18, 2012

GlobalFax: Manual Fax Reception

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

How do I receive a fax manually?
This article has been archived and is no longer updated by Apple.
To manually receive a fax, you can hold down Command/Shift/6 at any time as long as the GlobalFax components have been loaded at startup.

Machines Affected: All
Published Date: Feb 18, 2012

Faxes: Sending several at once

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

How do I envelope a fax (send more than one)?
This article has been archived and is no longer updated by Apple.
To envelope a fax, go into Setup -> Envelope. For this to work, they all have to be the same quality.

Machines Affected: All
Published Date: Feb 18, 2012

HyperCard Serial Port Toolkit: Port "B" Data Loss Problem

If you are using the HyperCard Serial Port Toolkit to read data coming into your Macintosh on both serial ports, you may experience problems with Port B (the printer port) losing data. For example, this can happen when inserting a floppy disk.

This article has been archived and is no longer updated by Apple.

This problem is not due to either the serial driver or the interrupt priority. The suggested limitation to the printer port of 300 baud communications or less and output-only connections is caused by the Disk Driver. The Disk Driver, which must turn off interrupts during disk accesses, will buffer the modem port only: it does NOT buffer the printer port.

While you can tell the sender to stop sending before writing to a floppy disk, there is no safe and supported way to get around a disk insertion. You should not be using the two ports in this way, since communications of both ports cannot be guaranteed. If the program is to work on a Macintosh II, CommCard from SuperMac Technologies will allow additional serial ports on NuBus which will be free of the system interrupts.

If the stack is to run on a Macintosh Plus or Macintosh SE, use a NetSerial from Shiva or a C-Server from Solana Electronics. HyperCard will continue to think it is talking to the printer port as a serial device. The NetSerial or C-Server software will convert the serial information into AppleTalk packets, which will be converted by the C-Server or NetSerial back into serial communications. These devices contain buffers that will resend any AppleTalk packets lost when interrupts are turned off by the receiving Macintosh, as in the case of an inserted disk. This is the same as occurs during any AppleTalk transaction from the printer port.

Editor's Note 22 June 1992: Solana has discontinued business to our knowledge, so we are unable to refer you to them directly for further information.

For more information, search under: "SuperMac", and "Shiva".

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Global Fax: Importing Addresses

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

How do I import addresses to Global Fax?
This article has been archived and is no longer updated by Apple.
Importing steps:

1. Export the original database to a tab delimited file.
2. Open up the original database in a spreadsheet (e.g.: Excel)
3. Parse out everything but Name, Company and Fax#
4. Save the information as a text file in the database
5. Import the file to the Fax Center Database.

Machines Affected: All
Published Date: Feb 18, 2012

GlobalFax: Common Errors

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

This article describes what to do if you have trouble receiving faxes, get Retrain Errors, or get blank pages in between faxes.
This article has been archived and is no longer updated by Apple.
Trouble receiving faxes:

If the received faxes are smeared or bar coded, there's a problem with the memory. There may be too much virtual memory, too many applications open, an old version of RAM Doubler or some other memory problem.

Retrain error:
The modem may be attempting to connect to an older fax or modem. Try having it fax out at 9600 instead of 14400. In Fax Setup, uncheck "Enable 14400"

Blank pages between faxes:
GlobalFax is recognizing pages as larger than they actually are. Try going to Page Setup -> Scale Faxes to Receive Page.

Machines Affected: All
Published Date: Feb 18, 2012

Troubleshooting FAQ from Global Village for GlobalFax

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

When sending or receiving faxes, my computer freezes or I can no longer move my mouse.
This article has been archived and is no longer updated by Apple.
If your computer is crashing or hanging during a fax, check the following:

1) Do you get an Error Type -1?
If yes, are you using LaserWriter 8.0? If so, upgrade to 8.1.1

2) Does your GlobalFax Address contain more than 57 characters?
If so, please reduce the number of characters in your GlobalFax Address. You will need to readdress the fax, dragging the old address to the Trash and dragging the edited address into the Scheduled area.

3) Do you have Virtual Memory on?
If not, turn off Modern Memory Manager and turn on Virtual Memory. Please set Virtual Memory for 2M more RAM than you have. Certain applications may conflict with Virtual Memory. Check the manuals or the manufacturer of the program in question.

4) Do you get a -29 error?
Try removing or disabling other drivers you may be loading. You can use the Extensions Manager control panel to set up system only and add only the Global Village software.

5) Are you using RAMDoubler?
If so, they may have an upgrade available that will fix the problem Global Village has been experiencing with this software.

6) Are you using Norton 3.0?
There was a problem with the Speed Disk portion and Symantec issued a Press Release (Sept. 6, 1994). Symantec can be reached at 800 441 7234.

7) Are you using Adobe Type Manager (ATM) 3.5, 3.6.1, or 3.8?
If so, please remove Helvetica 24pt from the fonts suitcase and restart.

8) Did you remove all SAM components before running the installer?
You can do this by booting without extensions. You can use CD-ROM Toolkit to launch the CD driver if you need to do the installer from the CD.

9) Are you running Virex 4.0?
It needs to be changed from loading first to loading last. You can change this in the Virex control panel.

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Machines Affected: All
Published Date: Feb 18, 2012

Miro DC20: Unable to use Software Codecs

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

I'm trying to use a software codec with the Miro DC20, but the video looks bad when I play it back or I just get he Capturing DC20 screen when I play it back.
This article has been archived and is no longer updated by Apple.
The Miro DC20 uses hardware compression. It cannot use software codecs.

Premiere must be set for Miro DC20 REC to cooperate.

Machines Affected: All
Published Date: Feb 18, 2012

Miro DC20: Video Mirroring

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How can I send what's on my screen directly to the Miro card?
This article has been archived and is no longer updated by Apple.
Video Mirroring (redirecting the monitor output through the Miro card) is not supported.

One way to get around this would be to get a color quickcam; shoot his monitor screen (NOT literally, :>)) save it as a QuickTime file; import it into Premiere and do a make movie with the Miro compression scheme- no idea how good it would look though.

Machines Affected: All
Published Date: Feb 18, 2012

Digital Audio Transfer

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

Will all the CD drives bundled with Power machines support Digital Audio Transfer?
This article has been archived and is no longer updated by Apple.
All of our CD-ROM drives support digital audio transfer. Some of the drives will skip in one second intervals (opposed to continuous play) when you do a preview play before doing the actual audio transfer, but the end result is the same (clean, smooth sound). We do not currently have a list of drives and which preview method they use, but all of our CD-ROM drives are capable of digital audio transfer without a problem.

Machines Affected: All
Published Date: Feb 18, 2012

Miro DC20: Minimum and Recommended Requirements

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

What are the minimum requirements for the Miro DC20? What do they recommend?
This article has been archived and is no longer updated by Apple.
Minimum:

- PCI PowerMac
- 16M RAM
- 250M free hard drive space
- 1 free PCI slot
- CD-ROM Drive
- 3.5" High density floppy drive
- Video Input Device such as VCR or camcorder.

Recommended:

- Same as minimum with 604 processor
- 32M RAM
- Video monitor
- Fast and Wide SCSI-2 AV hard drive or disk array with 6M or better transfer rate, no thermal recalibration and minimum of 750M available.
- Faster processors, more drive space, and more RAM increase performance.

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Machines Affected: All
Published Date: Feb 18, 2012

Miro DC30: Minimum and Recommended Requirements

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

What are the minimum requirements for the Miro DC30? What do they recommend?
This article has been archived and is no longer updated by Apple.
Minimum:

- PCI PowerMac
- 16M RAM
- 500M free hard drive space
- 1 free PCI slot
- 8-bit (256 color) onboard or PCI video
- CD-ROM drive
- Video input source (camcorder, VCR, etc)
- System 7.5 or later
- Mouse

Recommended:

- 32M or more RAM
- Fast or Wide SCSI AV hard drive with at least 2G free space
- 24-bit video card or onboard video

Machines Affected: All
Published Date: Feb 18, 2012

Miro DC30: Control Strip Module not appearing

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

After completing the Miro software and hardware installation, and restarting, the control strip with the Miro DC30 module does not appear.
This article has been archived and is no longer updated by Apple.
Enable the control strip option in the Extensions Manager. Restart, and if it's still not there, make sure there's a miroMOTIONDC30ctrlstrip file in System Folder/Control Strip Modules.

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Machines Affected: All
Published Date: Feb 18, 2012

Miro DC30: Compressor or source not available

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

After installing the MiroMotion DC30 hardware and software, the MiroMotion JPEG A compressor and the source Miro DC30 are not selected or available in Premiere, video input menu or the video input menu is greyed out.
This article has been archived and is no longer updated by Apple.
Using the Extensions Manager, make sure the 3 Miro extensions are enabled, check the "Installer Log File" in the MiroMotion DC30 folder for any errors, and check if the System Folder/Extensions contains the following:

- MiroMotion DC30 AudioIn
- MiroMotion DC30 AudioOut
- MiroMotion DC30 Driver
- MiroMotion DC30 QT
- MiroMotion DC30 Lib

If these files are present, reset PRAM.

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Machines Affected: All
Published Date: Feb 18, 2012

HyperCard: Requires XCMD To Dial An All-Digital Phone

This article has been archived and is no longer updated by Apple.

There is no current way for HyperCard to dial a voice call over an all-digital system, such as IBX, without the use of XCMDs.

The problem is that an IBX is a digital phone switch: it communicates with the handsets digitally, instead of using an analog method such as tones. HyperCard (or any program) cannot use these lines to generate a voice call, because the handsets communicate with the switch using a proprietary (and undocumented) protocol specific to that switch. The only way to originate a voice call from HyperCard is to use a hardware interface that understands analog communications specific to the switch.

If you want to generate a data call, one instrument that can be used on IBX is an ADI (Asynchronous Data Interface), and there are similar instruments available for other switches. The ADI communicates with the Macintosh using ASCII, much as a modem communicates. HyperCard, using XCMDs to perform the serial I/O, can originate a data call and communicate with the answering end. A package of serial XCMDs is available through APDA.

For more information, search under: "APDA".

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Miro DC30: Jerky Playback

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

When outputting video to an NTSC monitor, the video appears jerky, or not full motion.
This article has been archived and is no longer updated by Apple.
Make sure the data rate setting in Adobe Premiere is not set higher than 3.5M/sec or that the hard drive is capable of the data rate you are using. Ideally, using a SCSI Ultra-Wide drive will provide the fastest data transfer rate such as the Quantum Atlas II or Micropolis AV Gold drive. If you lower the data rate in increments and reach a point where the video is not jerky, this indicates your drive not performing efficiently. Regular defragmentation of your drive and checking for errors frequently is recommended.

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Machines Affected: All
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Miro DC30: No video input appears in the capture window

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When opening a capture window and selecting Miro DC30 for capturing and MiroMotion JPEG A for the compressor, no video input appears in the video capture window.
This article has been archived and is no longer updated by Apple.
Make sure that the video source has been powered on, is playing video, and that the source has a video recording on it. Make sure the cable has been correctly connected from the video source output to the DC30 input. Check and make sure that the correct input (composite/S-video) has been chosen with the correct Video standard (PAL/NTSC/SECAM) in the Premiere Movie Capture/Video Input/Source pull down window.

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Machines Affected: All
Published Date: Feb 18, 2012

Miro DC30: Clip window shows no video or jerky video

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

After capturing video, there is no display in the clip window or the display appears jerky from a clip window.
This article has been archived and is no longer updated by Apple.
Make sure that the Movie Capture Window has been closed after capturing, and that the Miro Control Strip Module is set to Movies on Video.
Also make sure you are using a video card capable of overlay (eg: ATI Mach 64, IXMicro TwinTurbo). Most Apple integrated displays do not support overlay.

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Machines Affected: All
Published Date: Feb 18, 2012

Miro DC30: No Audio or Distorted Audio

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No audio is heard, distorted audio is heard or no loop-through audio is heard.
This article has been archived and is no longer updated by Apple.
Make sure that the audio source is connected to the inputs on the DC30 audio breakout cable, and make sure you have the outputs from the breakout cable connected to an audio output device (amplified speakers, NTSC monitor with speakers, etc)

Make sure that the DC30 is selected as the Audio Input device in the Apple/Control Panels/Monitors and Sound pull down menu and in Adobe Premiere in the Movie Capture/Sound Input menu. Also make sure the proper input type is selected from the options button (line level or mic level). The incorrect type distorts the audio.

Watch the vu meter in that menu to see if you are reaching red indicators. If so, lower the gain.

Check the audio properties in Adobe Premiere in the Movie Capture/Sound Input/Sample menu for the sampling rate, number of bits, and mono or stereo settings.

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Machines Affected: All
Published Date: Feb 18, 2012

Miro DC30: Overlay Does Not Work

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Overlay is not functioning, poor performance or no video overlay is seen in the movie capture window.
This article has been archived and is no longer updated by Apple.
The integrated graphics controllers on some Mac systems do not support overlay. You will need to use a video card that does support overlay (eg: IXMicro TwinTurbo or ATI Video Adapters)

Note: Make sure the graphics card is not using 24-bit color/Millions of colors. This will degrade overlay performance.

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Machines Affected: All
Published Date: Feb 18, 2012

Miro DC30: Improving Pserformance

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

Some ideas that Miro recommends for improving performance of the DC30.
This article has been archived and is no longer updated by Apple.
If there are more than 3 PCI slots, place the Miro DC30 into slots 4, 5, or 6. The first three are used for standard system function.

- Disable all unnecessary extensions.
- Turn off Virtual Memory.
- Using Ultra Fast/Wide controllers with an Ultra F/W hard drive helps.

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Machines Affected: All
Published Date: Feb 18, 2012

ATI VR: Resolution Chart

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

Supported resolution and refresh rate information for the ATI VR card.
This article has been archived and is no longer updated by Apple.

Resolution	Refresh	Maximum colors: 2M	Maximum colors: 4M
512x384	70	millions	millions
640x480	60,67,72,75,85,90, 100,120	millions	millions
640x870	75	millions	millions
800x600	56,60,72,75,85,90, 100,120	millions	millions
832x624	75	millions	millions
1024x768	60,70,75,85,90, 100,120	thousands	millions
1152x870	75	thousands	millions

Copyright 1997 ATI Technologies

Machines Affected: All
Published Date: Feb 18, 2012

ATI VR: 3D Mode Table

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

How many full sized 3D windows are possible?
This article has been archived and is no longer updated by Apple.
The 3D mode table measures the number of full screen 3D windows that are possible to display at a given resolution. For example, a value of 2.75 means that there is enough memory left over in the current mode to run 2 full screen 3D windows and another 3/4 the size of a full screen window. A value of .4 means that the largest 3D window possible is just less than 1/2 the size of a full screen.

3D acceleration is not supported in 256 color mode because there are not enough colors available to do 3D.

Full Size Windows Possible			
Resolution	Colors	2M	4M
512x384	1000s	2.00	4.50
512x384	Millions	1.00	2.75
640x480	1000s	1.00	2.75
640x480	Millions	0.40	1.50
800x600	1000s	0.50	1.50
800x600	Millions	0.00	0.75
832x624	1000s	0.45	1.50
832x624	Millions	0.00	0.60
1024x768	1000s	0.00	1.75
1152x870	1000s	0.00	0.50

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Machines Affected: All
Published Date: Feb 18, 2012

ATI VR: Chipset Used

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

What graphics controller is used on XCLAIM VR?
This article has been archived and is no longer updated by Apple.
XCLAIM VR uses ATI's 3D RAGE II accelerator. 3D RAGE II delivers features like perspective correction, texture filtering mip-mapping, Gouraud shading, Z-buffering, and alpha-blending.

Copyright 1997 ATI Technologies

Machines Affected: All
Published Date: Feb 18, 2012

HyperCard: A Front End to an HP3000

What methods are available to communicate with an HP3000 through HyperCard?

This article has been archived and is no longer updated by Apple.
HyperCard can act as a front end to an HP3000 using either of two possible solutions currently available. One is a lower-level solution requiring more work, while the other does much of the work for you.

The lower-level solution is the set of serial XCMDs for HyperCard available from the Apple Programmers and Developers Association (APDA). These implement serial communication at a level that allows you to design the front end any way you want. Choosing this requires that you deal with all of the communication, terminal emulation, and formatting information sent from the HP3000.

The second option is a set of external commands and code resources called "FITOS" from MITEM Corporation. These include a number of different terminal emulators, including at least one HP terminal type. The advantage of this package is that it handles everything except the actual information that would normally be presented to the user. You don't have to worry about the communications protocols used or the terminal formatting characters sent by the host. One possible disadvantage is that if it does not support the type of terminal that you need them to support, you would have to deal with the terminal emulation yourself.

For more information, search under: "MITEM" and "APDA".

Published Date: Feb 18, 2012

IXMicro TwinTurbo 4M/8: Supported Resolution Chart

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

What resolutions and refresh rates are supported by the Twin Turbo.
This article has been archived and is no longer updated by Apple.

Resolution	4M Color Depth	8M Color Depth	Refresh Rate
640x480	Millions	Millions	60, 66
800x600	Millions	Millions	60, 72
832x624	Millions	Millions	75
1024x768	Millions	Millions	72, 75
1152x870	Millions	Millions	75, 100
1280x1024	Thousands	Millions	75
1384x1040	Thousands	Millions	75
1600x1200	Thousands	Millions	60, 65, 75
1920x1080	Thousands	Millions	60, 72

Machines Affected: All
Published Date: Feb 18, 2012

CD-ROM Toolkit: Recommended Settings

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

How should I set up CD-ROM Toolkit?
This article has been archived and is no longer updated by Apple.
For the 1.6.3 version and earlier (looks like a chart), mark both boxes on line 3 and the box below line 6. Go to Options, mark the following:

- Read-Ahead: Small
- Pre-Cache: File and folder, Desktop
- Allow Mounting Of: ISO 9660
- In the set of boxes without a header: Upon CD insert, search every track.

Both of these last two settings will allow you to mount multisession disks or other not quite normal disks, but you may see some other side effects such as multiple icons for some CDs. If that annoys you, disable those two settings.

For Toolkit version 2.21 and later (there's a tornado on the left), Mark both On and Fast. Highlight the line and click "Setup". This will give you a row of icons down the left side. Mark them as follows:

- Read-Ahead: Small
- Prescan: File and folder, Desktop
- Mounting: ISO 9660, Upon CD insert search every track.

Machines Affected: All
Published Date: Feb 18, 2012

Accessing CDs with no extension

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

It's best to install programs with all extensions off, but my installer is on the CD.
This article has been archived and is no longer updated by Apple.
For versions 1.6.3 and earlier of CD-ROM Toolkit, boot without extensions by holding down the Shift key. Open the CD-ROM Toolkit control panel. Close the CD-ROM Toolkit control panel (you do not need to change anything while in that window). A window will come up reminding you that changes won't take effect until you restart. Click OK. A second window will come up asking if you want to load the driver. Click OK. You should be able to access the CD now.

For later versions of CDT, boot without extensions by holding down the Shift key. Open the CD-ROM Toolkit control panel. Click the menu option Toolkit/Load Driver. A window will come up asking if you want to load the driver. Click OK. Close the CD-ROM Toolkit control panel. You should be able to access the CD now.

Machines Affected: All
Published Date: Feb 18, 2012

CD-ROM Toolkit: Reports slow response time

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

My CD reports that it is slow responding.
This article has been archived and is no longer updated by Apple.
This means that when CDT asks the device if it is ready, it isn't getting a response in a reasonable amount of time. This message usually indicates a hardware problem with the drive, old firmware, or a SCSI communication problem.

Sometimes another piece of software- notably internet/communications software- will send a query to the CD player. If there is no CD in the player, you may see this message. One workaround for this is to leave CDT and the CD-ROM drive turned off until you are ready to use them. With 2.0.x versions, you can put CDT to sleep when you launch an application that causes this problem. In Drive Setup, choose the Sleep icon, and select an application.

Machines Affected: All
Published Date: Feb 18, 2012

PowerBase: Flashing "?" , Data corruption, and Drive Setup 1.3.1

Power Computing provided the information in this article and it was deemed accurate as of 14 November 1997. Apple Computer, Inc. is not responsible for its content. This article is being provided as is and will not be updated in the future.

Some Apple Macintosh customers have reported a flashing "?" on restart after installing Mac OS 8 or using versions of Drive Setup greater than version 1.1 with ATA (IDE) Disk Drives. In addition, some Power Computing PowerBase customers have also experienced similar issues. Apple Computer recently released Drive Setup version 1.3.1 to address issues with ATA (IDE) disk drives on their computers. This article provides further information for PowerBase customers on this update and when it should be applied.
This article has been archived and is no longer updated by Apple.
First, it is important to remember that a 'flashing "?"' is a symptom where the Macintosh can not locate a suitable system folder or boot device. There can be a number of causes for the symptom - from a system folder being removed from a startup device to minor disk corruption.

A Known PowerBase Issue:
On PowerBase computers, Power Computing identified an issue with a limited number of ATA (IDE) 1.2 GB hard disk drives used with PowerBase computers. In this particular instance, on restart, the computer would display a flashing '?' as if the hard disk was not available.

Turning the power off and restarting would result in the disappearance of the flashing '?' and a successful reboot.

Customers with this particular issue can contact Power Computing Technical Support or their reseller for further assistance with this issue. This was an issue with the disk drive and firmware revision which can be addressed by servicing the disk drive. Power Computing Technical support can verify problematic disk drives and resolve the issue.

Yet Another Flashing '?' Issue:
Since the release of MacOS 8, some Apple Macintosh customers have reported symptoms with ATA(IDE) hard disk drives. Usually, customers report minor disk corruption which can be repaired by the Disk First Aid utility. However, upon a subsequent reboot and test with Disk First Aid, the corruption usually reappears. In the most extreme circumstances, upon reboot the computer displays a flashing '?'. In these circumstances, when the user restarts from a System CD to try to run Disk First Aid and repair the drive, the Macintosh will ask to initialize the drive.

Apple has released Drive Setup version 1.3.1 (ATA driver version 3.07) to address this particular issue on Apple brand Macintosh computers.

What Should PowerBase Customers Do?
At this time, Power Computing has NOT received reports of this issue affecting PowerBase customers. The only reported PowerBase issue, outlined above, is non-destructive to data on the hard disk. Power Computing has not tested or qualified Drive Setup 1.3.1 with PowerBase computers. If you wish to update the drive using Drive Setup 1.3.1, Power Computing recommends that you back up the drive before updating .

However, if a PowerBase user experiences the 'known' issue where the drive no longer is available after a flashing '?' and the data appears to be corrupt, Power Computing recommends the user attempt to repair the data using Disk First Aid and Drive Setup 1.3.1. This involves starting up from the Power System CD, attempting to repair the drive with Disk First Aid, and updating the drive with Drive Setup 1.3.1. Do not initialize the drive until you attempt to update the driver.

Further instructions for repairing the drive and installing the new driver are included in the read me file for Drive Setup 1.3.1.

Drive Setup version 1.3.1 is available on Apple's Software Updates Web site http://www.apple.com/swupdates/ .

Machines Affected: POWERBASE
Published Date: Feb 18, 2012

HyperCard: Global Variables Change at New Application Launch

This article has been archived and is no longer updated by Apple.

If you launch an application after creating a global variable in HyperCard, when you return to HyperCard from the application, the global variable is no longer defined. You will be running under the Finder.

If you want the value of a HyperCard global variable to be saved across a launch, you will need to use the "suspend" and "resume" messages, save the value of the variable somewhere, and then restore it.

(NOTE: If you are running HyperCard under MultiFinder, you will not have this problem since HyperCard stays active when you open another application.)

Published Date: Feb 18, 2012

HyperCard: Memory Requirements

This article has been archived and is no longer updated by Apple.
HyperCard is designed to run on a 1 MB Macintosh system (2 MB under System 7), but this does not ensure that you will have access to all of the tools all of the time. For example, it is possible to create a card on a 2 MB machine that cannot even be opened on a 1 MB machine. Also, HyperCard keeps track of new stacks and/or cards as they are opened. In time, this could use up enough memory to prevent the use of the painting tools. Setting the memory requirements down to 800K will make the problem worse, not better, if MultiFinder or System 7 is running; it will do nothing if running only the Finder under System 6.

Using the "Minimum System" and restricting INITs will reduce the total memory used by the system and may also prevent, or slow down, the above problem. It is hard to make recommendations, because there are many possible variations as to the contents or complexity of the stacks being used.

Some suggestions: - Load a single stack and don't switch to other stacks unnecessarily - Compact stacks on a regular basis - Don't use complex graphics on a 1 MB system unless absolutely necessary.

It may also be necessary to quit to the Finder on a regular basis and then relaunch HyperCard, as this will free the memory used by HyperCard to track the cards opened during the session.

Published Date: Feb 18, 2012

HyperScan: Works With Only Apple Scanners (5/95)

Can I use the HyperScan 2.0.1 HyperCard stack to control non-Apple scanners?

This article has been archived and is no longer updated by Apple.
HyperScan designed specifically to work with Apple scanners, it does not support any non-Apple scanners. The Tech Info Library article "Apple Scanners: Scanner Software Compatibility" contains a complete compatibility list of Apple Scanners and software.

Article Change History:
02 May 1995 - Updated with current version and added article reference.

Support Information Services
Published Date: Feb 18, 2012

HyperCard 1.2.1: Problem Controlling Cursor Shape

Some users have reported what seems to be a problem with HyperCard: that you lose the cursor shape you have set.
This article has been archived and is no longer updated by Apple.
The problem may be that you are setting the cursor within a script and expecting it to stay set until you change the setting at a later time.

The HyperCard system sets the cursor to the current tool at "idle". An idle state is one in which no events have occurred, and you are not operating inside a handler. For example, when you choose the browse tool, the cursor is a hand, except when it is over unlocked fields, where it appears as an insertion bar.

It may be that once you exit all scripts, Hypercard resets the cursor to the hand.

If you wish to globally change the HyperCard "hand" cursor, such specific editing functions as "set cursor" will not do the job, since "set cursor" works only inside its called handler, creating the above situation.

Instead, using ResEdit, open the "FONT" and the "BAD FONT" resources. Find the character with ASCII value 152. Modify this to change the hand cursor in HyperCard.

Published Date: Feb 18, 2012

Newton Discussion Board: Frequently Asked Questions

This article contains a number of questions that have come up frequently on the Newton discussion board in the Tech Exchange area at the Apple Support site. Each question is followed by one or more pointers to articles in the Apple Tech Info Library, which provide answers, suggestions, or troubleshooting advice to help you deal with the issue that creates the question.

Each product area has a section titled "Important" which contains information Apple wants to point out to users. That section has a side-bar called "You Should Know" which also contains links for questions that are frequently asked on the boards, or that describe issues that Apple has identified as important topics to be aware of. It should be considered a supplement to this article.

Some of the answering articles have pointers to useful suggestions posted on the board by other users. These may or may not also have an official Apple answer, but this will be noted where applicable.

If the questions below do not contain an answer to something you are looking for, you can continue to search for an answer by using the Search function here within the Apple Tech Info Library or you can go to the **Newton discussion board** itself.

Take some time to look through the board, or use its search function. It is quite likely your question has come up before, even if it does not have the frequency of the ones listed below. If you find a previously posted question that matches yours, read the posted answers. If you still did not find an answer, please feel free to either post a new topic describing your issue, or add a reply to an existing topic that closely matches your issue.
This article has been archived and is no longer updated by Apple.

I get an error "-16022" whenever I try to connect to the Internet.

- TIL article 24240: "**Newton Internet Enabler 2.0: -16022 Error When Dialing**"

The MessagePad 2100 is sold as having 8 megabytes of DRAM memory. The Memory Info slip shows less than 4 MBs. Where did my other 4 MBs of memory go?

- TIL article 30341: "**MessagePad 2100: Memory Discussion**"
- TIL article 16645: "**Newton MessagePad: Types of Memory & Memory Errors**"

How can I upgrade a MessagePad 120 with Newton Operating System (NOS) version 1.3 to NOS 2.0?

- TIL article 30366: "**Newton OS 2.0: Upgrade Program Ended**"

Newton Backup Utility only allows me to makes a backup, and then drops the connection with the MessagePad.

- TIL article 19014: "**Newton Backup Utility: Only Performs Backup with 1.3 OS**"

How can I tell which version of the Newton OS is installed in my MessagePad?

- TIL article 30384: "**Newton OS: Determining Which OS Version & System Update Is Installed**"

When I try to import information into Newton Works, I get a message "Please make sure Newton Works is installed on your Newton device, and you have run it at least once."

- TIL article 30391: "**Newton Connection Utilities: Newton Works Import Message**"

Someone suggested freezing packages to troubleshoot software issues. How can I do this?

- TIL article 19015: "**Newton 2.x OS: Package Activation, Backdrop Reset, & Freezing Packages**"

Published Date: Feb 18, 2012

eMate 300 Connectivity Software: Updating Classroom Exchange and Newton Connection Utilities Beta Versions

The following information is from "How to Update Classroom Exchange and Newton Connection Utilities 1.0." This printed sheet (**033-0409-A**) was included with the early eMate Connectivity CDs, in a separate package from the eMate 300.

NOTE: This article contains dated information.
This article has been archived and is no longer updated by Apple.

How to Update Classroom Exchange and Newton Connection Utilities 1.0

As an eMate 300 owner, you can update your beta versions of the eMate Classroom Exchange and Newton Connection Utilities (NCU) software to the final versions. This offer is valid through December 31, 1997. You will be able to download the software free of charge from the World Wide Web. If you prefer, you can call and order an update CD, which contains the 1.0 versions of eMate Classroom Exchange and NCU, directly from Apple Computer. There is no charge for the CD, but you will need to pay for shipping and handling.

Note: Apple recommends that you download the software from the World Wide Web.

Downloading the final versions of the software from the World Wide Web

Visit these Web pages for information on getting the updated software:
http://www.newton.apple.com/connect/ *or* http://www.education.apple.com

*** This note is not on the original document. The URLs for obtaining the updates have changed. You can down load the software updaters from **http://www.info.apple.com/swupdates** ***

You need to keep the beta version of the software that came with your eMate in order to properly install the final versions of eMate Classroom Exchange and NCU.

Ordering the final version of the software on CD from Apple

You can order the update CD which contains eMate Classroom Exchange 1.0 and NCU 1.0 by calling Apple. There is no charge for the CD, but you will be billed for shipping and handling. Please allow time for shipping and handling.

To order the software by phone, follow these steps:

1. Have the following information ready before you call:

- first and last name
- shipping address
- daytime telephone number
- the serial number of your eMate, located underneath the unit

2. Call Apple at one of the following numbers and select the eMate Connectivity Update option.

Location	Telephone Number
Australia	1-300-300-771
Austria	0660 6764
Belgium	Flemish 0800-713.94; French 0800-713.95
Canada	Call the United States support number at 800-211-1537
Denmark	Call the Swedish support number at 046-31-21-01
Finland	Call the Swedish support number at 046-31-21-01
France	01 69 86-34-11
Germany	0180 35018
Ireland	0800 639 866
Italy	02 273261
Luxembourg	0800 2069
Netherlands	06-022.1517
Norway	Call the Swedish support number at 046-31-21-01
Spain	902 100 088
Sweden	046-31-21-01

Switzerland	0800 833310
United Kingdom	0800 639 866
United States	800-211-1537 (6 am to 6 pm Pacific time)

Published Date: Feb 18, 2012

MessagePad 2000 Connectivity Software: Updating Newton Connection Utilities Beta Version

The following information is printed on a sheet titled "Limited Time Offer: Update for Newton Connection Utilities 1.0". The sheet (033-0356-A) was included with the early MessagePad 2000 in-box materials.

NOTE: This article contains dated information.
This article has been archived and is no longer updated by Apple.

Limited Time Offer: Update for Newton Connection Utilities 1.0

As MessagePad 2000 owner, you can update your beta version of the Newton Connection Utilities (NCU) software to the final, NCU 1.0. This offer is valid through November 30, 1997. You can download the NCU 1.0 Updater from the World Wide Web, or you can order the software by phone from Apple Computer.

Downloading the final versions of the software from the World Wide Web

Visit our Web page (http://www.newton.apple.com/connect/) for information on getting the updated NCU software. You need to keep the beta version of NCU that came with your MessagePad in order to install the final version.

*** This note is not on the original document. The URL for obtaining the update has changed. You can down load the software updater from **http://www.info.apple.com/swupdates** ***

Ordering the software from Apple

You can order the final version of NCU 1.0 by calling Apple. Please allow time for shipping and handling.

To order the software by phone, follow these steps:

1. Have the following information ready before you call:

- first and last name
- shipping address
- daytime telephone number
- the serial number of your MessagePad, located under the port cover
- your preference of medium (CD-ROM or floppy disks)

2. Call Apple at one of the following numbers and select the Newton Connection Utilities (NCU) option.

Location	Telephone Number
Australia	1-300-300-771
Austria	0660 6764
Belgium	Flemish 0800-713.94; French 0800-713.95
Canada	Call the United States support number at 800-211-1537
Denmark	Call the Swedish support number at 046-31-21-01
Finland	Call the Swedish support number at 046-31-21-01
France	01 69 86-34-11
Germany	0180 35018
Ireland	0800 639 866
Italy	02 273261
Luxembourg	0800 2069
Netherlands	06-022.1517
Norway	Call the Swedish support number at 046-31-21-01
Spain	902 100 088
Sweden	046-31-21-01
Switzerland	0800 833310
United Kingdom	0800 639 866
United States	800-211-1537 (6 am to 6 pm Pacific time)

Published Date: Feb 18, 2012

QuickTime 4: Customizing MIME Type Assignments for QuickTime Plug-in

This article explains how to change the file associations for some of the MIME types that are used by QuickTime 4 in a web browser.
This article has been archived and is no longer updated by Apple.
You can select the MIME types you want the QuickTime Plugin to play in the QuickTime Plug-in Settings..

1. When viewing a QuickTime movie that is displayed in a Web browser, click on the downward pointing arrow and choose Plug-in Settings from the pop-up menu that appears. The arrow is available on the controller of any QuickTime movie that is displayed in a Web browser (Figure 1).

Figure 1: Choosing Plug-in Settings.

2. Click on the MIME Settings button (Figure 2).

Figure 2: Plug-in Settings window.

- Automatic Play. Some movies are set to start playing as soon as they are downloaded. You can choose to have all movies start playing automatically, regardless of how they were set up.
- Disk Cache. You can choose to save movies in a disk cache. This improves performance if you plan to play a movie more than once.
- Connection Speed. Optimize playing media over the Internet by choosing the speed at which your computer connects to the Internet. (This may be different from the maximum speed your modem can achieve.) If you've already set up the QuickTime Settings control panel, you won't need to set the connection speed again.
- MIME Settings. You can select the MIME types you want the QuickTime Plugin to play.
- Language Settings. If movies you view have alternate tracks for languages, you can choose the default language.

3. Double-click to select and deselect MIME types. A plus (+) sign indicates a particular MIME type will be handled by the QuickTime Plug-in (Figure 3).

Figure 3: QuickTime Plug-in MIME Settings window.

Published Date: Feb 18, 2012

A/UX: Support for Programs Written Under MacAPP

Article Change History

08/27/92 - REVIEWED
o For technical accuracy.

Programs written under MacAPP in the Macintosh OS can run under A/UX, if they follow the guidelines for A/UX and Macintosh programming specified by

Developer Technical Support's Tech Notes and
"Inside Macintosh", Volumes I through V
(available from Addison-Wesley).

This article has been archived and is no longer updated by Apple.
These applications will not have access to UNIX services or be able to communicate directly with UNIX processes. This is because there are no libraries for the UNIX calls available under the Macintosh OS in MPW or any other development system that we are aware of.

Under A/UX, libraries do exist, as do the necessary Macintosh libraries for writing Macintosh-style programs that perform UNIX functions and system calls. However, there is no support for object-oriented programming similar to MacAPP. The C compiler available with the system is a standard C compiler without any object-oriented extensions.

Published Date: Feb 18, 2012

A/UX: File Transfer to and from VAX (9/94)

File Transfer to and from a DEC VAX.

This article has been archived and is no longer updated by Apple.
There are several ways to transfer files between A/UX and a VAX, depending on how the communication line is connected physically--that is, whether it is connected via modem (telephone line), direct hard-wired, or on an Ethernet network.

In A/UX, there are two serial TTY ports (modem and printer). You can use either one or both of these two ports to connect to the other end of a VAX machine.

(NOTE: The A/UX distribution is configured with tty0 or dial-in modem port [getty enabled] and tty1 for printer port [getty disabled]. In A/UX 3.0
both ports are disabled by default)

- If the VAX machine is running any flavor of UNIX systems, such as Berkeley 4.2 or 4.3 or AT&T System V, and the serial line connections (modem or hard-wired) are used, you can use the'cu' or 'tip' commands in A/UX for terminal connection and file transfer interactively. You can use the'uucp' (UNIX-to-UNIX copy) command for automatic batch file transfer.

- If the VAX machine is running DEC VMS, one possible solution is to use public domain Kermit software on both A/UX and VMS for connection and file transfer.

- If the A/UX and VAX UNIX are connected via Ethernet, then 'telnet', 'rlogin', 'ftp', and 'rcp' commands in A/UX can be used for terminal connection and file transfer. If the VAX supports NFS (Network File System), then file transfer becomes transparent as long as the remote file system is mounted.

Article Change History:
06 Sep 1994 - Reviewed.

Support Information Services

Published Date: Feb 18, 2012

A/UX: Using a PC as a Terminal (9/94)

It is possible to connect an IBM or IBM-compatible PC as a terminal to a Macintosh A/UX system if the PC has any terminal emulation program, such as CROSSTALK, PCTALK, PROCOMM, MSKERMIT, etc.

This article has been archived and is no longer updated by Apple.
You need to have the following two cables connected together:

1) An Apple cable -- part #590-0550-A -- at the Macintosh A/UX end.

The pinouts of this cable are:

Mini DIN-8 DB-25 Female
---------- ----------
1 6
2 20
3 3
4 & 8 7
5 2
7 4 & 5
Shield Shield

2) A regular DB-25 male-to-DB-25 female straight cable at the PC end
1 - 1
2 - 2
3 - 3
4 - 4
.
.
.
24 - 24
25 - 25

Article Change History:
23 Sep 1994 - Reviewed.
31 Aug 1992 - Reviewed.

Support Information Services
Published Date: Feb 18, 2012

CD-ROM Drivers: Microsoft AutoMac III Conflict

This article has been archived and is no longer updated by Apple.

AutoMac III (a macro package that Microsoft sent out to registered Microsoft Word owners) currently conflicts with the Apple CD-ROM drivers, causing a system crash on startup. Removing AutoMac III solves the problem.

Published Date: Feb 18, 2012

HyperCard: Laser Video Control? (12/95)

This article describes Laser Video Disc players and availability of XCMDS for controlling LaserDisc Players from HyperCard.

This article has been archived and is no longer updated by Apple.

Most laser video is provided on 12-inch LaserDiscs. Many of the industrial-grade LaserDisc players provide serial connections. Control of the 12-inch LaserDisc players is provided via XCMDs for HyperCard. We are unaware of any industrial-grade LaserDisc player that supports the 5-inch CD-V format.

Depending on the source, CD-V may mean only the 5-inch format, or CD-V may mean 5-inch, 8-inch, and 12-inch formats. To support all three video formats, use Voyager Company's The Box to control a Pioneer 1030 or Pioneer 3030. The 1030 and 3030, which are called "combination players", support CD audio, 5-inch CD-V, 8-inch LaserDisc/CD-V, and 12-inch LaserDisc/CD-V. The Box comes with HyperCard XCMDs for controlling these two disc players, among others.

Of the disc players on the Voyager list that we have, the Pioneer 1030 and 3030 are the only LaserDisc players that support multiple disc sizes. Voyager has been adding to the list of supported disc players. Check with them to see if a particular combination player is currently supported.

The Tech Info Library article titled "Locating Vendor Information" can help you search for a Voyager's address and phone number.

Article Change History:

22 Dec 1995 - Reviewed for technical accuracy, updated format.

Support Information Services

TA39793_HyperCard_Laser_Video_Control__(TIL03656).pdf

Published Date: Feb 18, 2012

Apple Dot Matrix Printer: How to Connect to a Macintosh SE

This article has been archived and is no longer updated by Apple.

You can connect an Apple Dot Matrix printer to a Macintosh SE with a parallel-to-serial/serial-to-parallel converter.

Orange Micro makes a cable specifically for connecting parallel devices into serial ports, whether those ports are on an Apple IIGS, Apple IIc, or a Macintosh. It's called "Grappler C/MAC/GS", and it has a converter built into the cable; it emulates an ImageWriter II and only requires using the ImageWriter driver from a Macintosh.

Problems should be minimal in this connection as long as ImageWriter II-specific features are avoided. Using an early version of the ImageWriter driver (2.3 or before) may even be a workaround for that, since those versions of the driver do not have any ImageWriter II-specific functionality.

For more information, search under "Orange Micro".

Published Date: Feb 18, 2012

LaserWriter II: Advantages of Using Downloaded Fonts

This article has been archived and is no longer updated by Apple.

The best method for printing from a LaserWriter is by using either fonts downloaded into RAM from a hard disk attached to the printer, or using fonts downloaded into RAM over the network. Both of these methods are better than printing directly from fonts stored on a hard disk.

Here are two more advantages to this method:

- The hard disk attached to the printer can hold hundreds of fonts, compared to the limited font-storage capability of the printer's RAM.

- All users have access to all fonts stored on the printer, freeing valuable disk space at each computer. Users need only to have the screen fonts installed, not the downloadable printer fonts.

Published Date: Feb 18, 2012

LisaCalc: Management Techniques

This article has been archived and is no longer updated by Apple.
There are some techniques for managing the size of a spreadsheet:

1. Plan Ahead. You can enter the information more easily and, since making changes tends to increase the size of the sheet, planned entries will save you memory.

2. Structure the information to make the row and column lengths fairly even; avoid stretching your spreadsheet too oblong either way. LisaCalc keeps track of all the cells in the grid. Incidentally, this accounts for the printing of blank pages on occasion; since Lisa prints every cell in the grid, even you haven't used them, the blank cells force a page feed.

3. Use Paste Adjusted formulas; unlike regular pasted or entered formulas, they don't take up as much accounting space on a pointer table. However, there are a few things to keep in mind when using Paste Adjust. First, it works best on long formulas pasted into large ranges; Paste Adjusting a small formula to a few cells won't save you any space. Second, LisaCalc, in the process of readjusting formulas, replaces the pointers in the spreadsheet with real formulas. Bigger than the pointer they replace, these Paste Adjusted formulas increase the size of your sheet once you start copying, cutting, pasting, and inserting rows or columns. The reason for this is that the adjusted cells contain a pointer to the original formula with an increment. Plan ahead!
Published Date: Feb 18, 2012

ImageWriter LQ Sheetfeeder: Software Compatibility

This article has been archived and is no longer updated by Apple.

Here is a current list of software that supports multiple bin printing with the ImageWriter LQ:

Applications That Work With the Sheetfeeder:

Cricket Presents 1.0
dBASE Mac 1.0
FullWrite 1.0
MacDraft
MacDraw II 1.0
MacInTax
MacProject II 1.0
Mac3D
Microsoft Word 3.02
MORE 1.1c
PageMaker 3.0
PowerPoint 2.0
Rags to Riches
Ragtime
ReadySetGo! 4.0a
Reflex
Silicon Press
StatWorks 1.2
WordPerfect 1.0

Applications That Don't Work With the Sheetfeeder:

Excel 1.5
MacWrite 5.0
Microsoft Works 1.1
WriteNow 1.7

The following applications were tested last year and, at that point, did not support printing from multiple bins. More current versions may support this feature.

Applications That Probably Don't Work With the Sheetfeeder:

Accountant Inc.
Business Filevision
Cricket Draw
Cricket Graph
Dollars & Sense 1.4
Easy 3D
FileMaker Plus
4th Dimension
FullPaint
General Accounting
Graphic Works
HyperCard
LightSpeed Pascal
MacPaint
MacPublisher III
McCAD 3.1-8 (PCB Design)
Micro Planner Plus
MPW
PrintShop 1.2

Published Date: Feb 18, 2012

AppleShare Security: How Secure Against Viruses Is It?

This article has been archived and is no longer updated by Apple.

Q: How secure is AppleShare from viruses? Users recognize the threat to folders where others have write access and the ability to affect others using applications contained in those folders, but what about the Server Folder itself? Is the running of VACCINE on an AppleShare server indicated? Is there something better? Is it possible to issue low-level I/O calls (PBWrite and lower?) to server volumes (bypassing any AppleShare built-in security) from other Macintosh systems on the network?

A: The AppleShare server folder itself is quite secure when the server is running. Is it not accessible by any system call, whether high-level or low-level. A virus would only be able to attack folders and files that it has access to. It is not necessary or recommended to install Vaccine in the Server folder on the AppleShare server. If the server is running at the Finder level, it is just as susceptible to viruses as any system.

Published Date: Feb 18, 2012

Viruses: Safety of Boot Blocks (4/94)

Are a floppy disk's boot blocks potentially vulnerable? If a user is operating a lab where diskettes are handed out and returned, should those diskettes be reinitialized, or will a volume copy suffice? What about hard disks?

This article has been archived and is no longer updated by Apple.
It is highly unlikely that a virus would be able to use the boot blocks as a mechanism for spreading itself on either a floppy disk or hard disk.

However, a virus can change the information contained in the boot blocks and thereby cause problems. For floppy disks, a volume copy, using an application such as Apple's DiskCopy, from a "known good, virus-free" original replaces all sectors on the disk and eliminates the possibility of virus being on that disk.

Further, for either floppy disks or hard disks, any Macintosh virus detection application can scan and remove known viruses.

Article Change History:
1 April 1994 - Added references to Disk Copy, hard disks and virus detection software references.

Support Information Services

Published Date: Feb 18, 2012

CODE Resource ID=0: Jump Table Implementation

This article has been archived and is no longer updated by Apple.

CODE resource ID=0 in an application is used to implement a jump table for routines that are called from one code segment but reside in another code segment of the application. The first 8 bytes of CODE 0 include such information as the jump table length, the offset from register A5, and so on.

Beginning at the ninth word (usually referred to as "word 8", because numbering starts at 0) are the actual jump table entries for each of the routines that are called from outside their segments. Each entry is four words long. The first word is the offset in hex of the routine being called. This offset is from the beginning of the segment to which the routine belongs.

The next three words are the instructions that will be executed; they have the format:

```
MOVE.W #$0001,-(A7)
_LoadSeg
```

The #$0001 word identifies the segment that is to be loaded and contains the routine. In the example above, code segment 1 contains the routine. In hex, a sample jump table entry is:

```
WORD 1 2 3 4
298C 3F3C 0001 A9F0
```

1) The offset
2) MOVE.W
3) The code segment
4) _LoadSeg

Published Date: Feb 18, 2012

ImageWriter: Printing Superscripts and Subscripts

This article has been archived and is no longer updated by Apple.

There are two ways of creating super/subscript printouts on the ImageWriter (this applies only to ImageWriters with a serial number above 216001; those with lower serial numbers do not super/subscripting):

Method #1) The diskette called "ImageWriter Tool Kit (v1.5)" contains a half-high character set designed for super/subscripting use. To use it, download the character set to the printer prior to using Bank Street Writer. (This download function is a function on the tool kit disk.)

Method #2) If full-size characters shifted half a line up or down are satisfactory, then issue the following codes. The codes to do super/subscripting are not stated as such. Super- and subscripting require the printer to shift forward or reverse, print some characters, then shift back. The reference card in the manual is also not clear what the proper code is for this function.

To subscript:

1) Print some text.
2) Set a new line feed pitch.
3) Issue a forward line feed (for subscripting).
4) Print the character(s) to be subscripted.
5) Set reverse line feeding.
6) Issue a line feed.
7) Reset to original line feed pitch.
8) Continue printing.

To superscript:

1) Print some text.
2) Set a new line feed pitch.
3) Set reverse line feeding.
4) Issue a line feed (for superscripting).
5) Print the character.
6) Set forward line feeding.
7) Issue line feed.
8) Reset to original line feed pitch.

The ImageWriter's "optional line feed function" suppresses the Carriage Return when issuing a Line Feed. (As you can see, none of this is very simple).

A possible scenario for sending codes to do superscripting from BASIC (running under ProDOS):

```
10 D$=CHR$(4):REM CONTROL D
20 A$=CHR$(27)+CHR$(108)+CHR$(49):REM ENABLE OPTIONAL LINE FEED FUNCTION
CODE
30 B$=CHR$(27)+CHR$(84)+"10":REM SET LINE PITCH TO LESS THAN HALF LINE
40 C$=CHR$(27)+CHR$(102):REM FORWARD LINE FEED CODE
50 E$=CHR$(27)+CHR$(114):REM REVERSE LINE FEED
55 F$=CHR$(27)+CHR$(84)+"24":REM SET LINE PITCH BACK TO FULL SIZE
60 PRINT D$;"PR#1":REM IF THIS SLOT IS WHERE THE PRINTER CARD IS LOCATED
70 PRINT "This text is normal";:REM NORMAL TEXT
80 PRINT A$;:REM ENABLE OPTIONAL LINE FEED FUNCTION
85 PRINT B$:REM SET LINE PITCH
90 PRINT CHR$(31)+"1";:REM FEED ONE BLANK LINE OF PAPER
95 PRINT CHR$(27)+CHR$(39);:REM SWITCH TO CUSTOM FONT
100 PRINT "THIS TEXT IS SUBSCRIPTED";:REM SUBSCRIPTED TEXT
110 PRINT E$;:REM SET REVERSE LINE FEED
```

```
120 PRINT CHR$(31)+"1";:REM FEED ONE BLANK LINE OF PAPER
125 PRINT F$;:REM SET REVERSE LINE FEED
135 PRINT CHR$(27)+CHR$(36);:REM SWITCH BACK TO NORMAL FONT
140 PRINT"This text should be normal again"
145 PRINT C$:REM RESET TO FORWARD LINE FEED
150 PRINT D$;"PR#0"
160 END
```

Here is an example of how to enter the codes into Bank Street Writer:

To Begin Subscripting

Characters: ESC l 1 ESC T 1 2 (CONTROL)_ 1
ASCII Codes: 27 108 49 27 84 49 50 31 49

To End Subscripting

Characters: ESC r (CONTROL)_ 1 ESC f ESC A ESC 1 0
ASCII Codes: 27 114 31 49 27 102 27 65 27 108 48

To Begin Superscripting

Characters: ESC l 1 ESC T 1 2 ESC r (CONTROL)_ 1
ASCII Codes: 27 108 49 27 84 49 50 27 114 31 49

To End Superscripting

Characters: ESC f (CONTROL)_ 1 ESC A ESC 1 0
ASCII Codes: 27 102 31 49 27 65 27 108 48

(NOTE: The second character in the command sequence that begins sub- or superscripting, and the next-to-last character in the sequences that ends sub- or superscripting, is a lowercase "L".

The last character in the sequences that ends sub- or superscripting is a zero.

Published Date: Feb 18, 2012

HyperCard: Printing a Scrolling Text Field

This article has been archived and is no longer updated by Apple.

Printing the complete text residing in HyperCard scrolling fields can be done by printing a report of the HyperCard stack.

Unfortunately, one drawback to printing a report is that all the cards in the stack with the selected field name will be printed: there is no easy way to select only one card for printing without cutting and pasting.

Another way to print the entire contents of a scrolling field with only selected information and cards would be to use a report utility like Activision's "Reports".

For more information, search under: "Activision".

Published Date: Feb 18, 2012

Apple IIGS System Disk 5.0: Overview

This article has been archived and is no longer updated by Apple.

Apple IIGS System Disk 5.0 is the new release of system software for the Apple IIGS computer. The main features include:

- Support for AppleShare File Server
- Speed, speed, and more speed
- A Control Panel and Control Panel devices (CDEVs)
- Multiple simultaneous installations with the Installer
- 5.25-inch Disk Driver is installed
- Increased ToolBox support

Packaging

The AppleTalk Network User's Guide and AppleShare Apple II Setup Disk are included only in the System Software 5.0 update box. It will not ship with the Apple IIGS hardware system.

The Apple IIGS manual is being rewritten to include the information in the AppleTalk Network User's Guide.

System Requirements

Apple IIGS System Disk 5.0 requires an Apple IIGS with a least 768K of memory when operating on a network. As a stand-alone system the 5.0 System Disk requires only 512K.

AppleShare and Network Support

One of the main new features of Apple IIGS System Software 5.0 is GS/OS support for AppleShare File Server volumes. To use the Apple IIGS with an AppleShare File Server, you need to use version 2.0 or later of the AppleShare File Server software.

There are a number of additions to GS/OS to support AppleShare. These include:
- Booting GS/OS over the network
- Creation of a 3.5-inch Server Startup Disk
- An AppleShare FST (File System Translator) for GS/OS
- A Control Panel File Server Chooser
- Ability to auto-logon to a server
- Server Logoff
- Finder support of AppleShare

Network Booting

To use the Apple IIGS with an AppleShare File Server, you need to use version 2.0 or later of the AppleShare File Server software. If you have an existing AppleShare File Server you need to order:

Apple IIGS System Software version 5.0

This package includes a new "Apple II Setup Disk". This disk is a Macintosh disk that uses the Macintosh Installer to update the AppleShare File Server 2.0.1 server boot blocks to GS/OS. The boot blocks are sent to the workstation when the user requests network booting from the Apple IIGS. The disk is found in the back of the AppleTalk Network User's Guide that ships inside the stand-alone package. After the Macintosh has been updated, you can use the Apple IIGS Installer (located on the SYSTEM.TOOLS disk) to update the SYSTEM

folder on the server hard drive.

All servers on the network should be updated to the new boot blocks at the same time. You should not have boot blocks from Apple IIGS Workstation Software and System Disk 5.0 on the same network. AppleShare File Server will start shipping with the new Apple II Setup Disk mid-summer 1989.

Local Booting

Using a 3.5-inch disk can speed up server boot times. There are two methods of gaining access to an AppleShare File Server from a 3.5-inch disk:
- Local Network Startup
- AppleShare on 3.5-inch Disk

The first method performs the same function as network booting, and the second boots into the Finder.

Local Network Startup saves time and network traffic when booting an entire class of computers at the same time. The Installer update to allow faster network booting is called "Local Network Startup".

The Installer update that lets you boot into the Finder is called "AppleShare on 3.5 Disk". This type of disk is called a "workstation startup disk".

ExpressLoad

ExpressLoad is new with Apple IIGS System Software 5.0 and causes GS/OS to load the system and applications faster. ExpressLoad enhances the standard Apple IIGS System Loader and lets large applications load in a shorter time.

Developers can turn applications into ExpressLoad format using the APW tool called Express or the MPW IIGS tool called ExpressIIGS. A load file must contain resources and code segments in a specific order to be compatible with ExpressLoad. ExpressLoad checks files first to see if they are in the proper format. If the file is not in ExpressLoad format, the application is launched by the normal Apple IIGS system loader.

To save memory, ExpressLoad is loaded only on systems with more than 512K of memory. Before loading ExpressLoad, the system checks to see if there is more than 512K of memory. It will not ExpressLoad into a 512K system.

ToolBox

A number of the toolbox routines have been modified to increase speed. They include "special case" code that causes QuickDraw and other routines to operate faster, based on the parameters that were passed to QuickDraw. Programmers do not have to modify their code to support any of these "special case" routines.

Control Panel and CDEVs

The Apple IIGS System Disk 5.0 includes the Graphics Control Panel, which is similar to the Macintosh Control Panel and Chooser. The Graphics Control Panel is implemented as an NDA (New Desk Accessory). This type of DA is available only to Apple IIGS desktop applications.

The Graphics Control Panel is an expanded facility for controlling any number of system parameters. This functionality lets Apple and third-party developers add Control Panel "devices" (CDEVs). The Graphics Control Panel sets the same information as the existing Apple IIGS Control Panel (now called the Text Control Panel) which is accessed by using the Command-Control-Escape keys. Icons for all CDEVs look the same, letting you identify a CDEV quickly and

easily.

CDEVs are located inside the SYSTEM folder, just as fonts and desk accessories:

/disk/SYSTEM/CDEV

Desk Accessories

Like the current Apple IIGS System Disk, Apple IIGS System Software 5.0 supports New Desk Accessories (NDAs). The system can now support 128 NDAs, thanks to scrolling menus. Desk Accessories are in the following folder:

/disk/SYSTEM/DESK.ACCS

SCSI Manager

The SCSI manager has been modified to provide a four-fold speed increase and provide additional SCSI support. The new driver is faster because it is loaded into memory and does not use the firmware on the card. When the driver was written, a number of new features were added:

- Full SCSI Device Support
- 7 Physical Devices
- 32 Volumes per Drive
- Full SCSI Command Support
- Access to Non-ProDOS Partitions
- Support for Magneto-Optic Drives (with a driver)

Related Articles

- Apple IIGS System Disk 5.0: ToolBox Changes
- Apple IIGS System Disk 5.0: Changes to BASIC.SYSTEM
- Apple IIGS System Disk 5.0: Disk II/Apple 5.25-inch Driver
- Apple IIGS System Disk 5.0: Advanced Disk Utility and SCSI Manager

Published Date: Feb 18, 2012

Apple IIGS System Disk 5.0: ToolBox Changes

This article has been archived and is no longer updated by Apple.

This article summarizes changes and additions to the Apple IIGS ToolBox
that result from Apple IIGS System Disk 5.0.

The Toolbox on the Apple IIGS has been modified to support a number of new
features that are available to developers. (If these new features are used
in a program, the user must have Apple IIGS System Software 5.0 for the
software to function correctly.)

The Resource Manager and Text Edit are new for System Disk 5.0.

Additional documentation is available from APDA.

Control Manager

The Control Manager has been modified to provide support for more standard
control types, including:
- StatText Control -- Display text messages in a rectangle.
- PictureControl -- Display a picture in a rectangle.
- IconButtonControl -- Icon drawn in a rectangle.
- LineEditControl -- Line Edit item used in List Manager.
- TextEditControl -- Works with new TextEdit Tool.
- PopUpControl -- Provide multiple selection buttons within scrolling lists.
- ListControl -- You can now use the control manager to manipulate items in
the List Manager.

Desk Manager

The classic desk accessory (CDA) menu now supports scrolling when more than
thirteen CDAs are installed. CDAs are accessed by pressing COMMAND-CONTROL-ESC
on the keyboard. Because of this change, selections no longer wrap around the
screen. The number of CDAs is limited by disk space and boot time to install
the files. You may have problems if you install more than 128 CDAs.

Event Manager

The Journaling feature is changed, to better support the ReadMouse function.

Font Manager

A problem was fixed in ChooseFont, which caused the system to hang if any
update events were pending when the call was made.

Line Edit

Line Edit now supports a password field, in which the characters typed by
the user appear on the screen as asterisks (*).

List Manager

The List Manager has been changed to make it easier for programmers to use,
and to support new controls in the Control Manager.

Memory Manager

The Memory Manager has been modified to improve system performance.

Menu Manager

The Menu Manager now supports a number of new features, including:
- Outline and Shadow text styles in a menu
- scrolling menus
- pop-up menus

Note Sequencer

The Note Sequencer has been modified to make it easier for developers to create and use sequences in programs.

Print Manager

The PrChoosePrinter call has been removed. Users should use the Control Panel to select printers. If an application makes this call, a dialog appears on the screen telling the user to use the Control Panel to select a printer. When printing in draft mode to a text printer, the driver translates QuickDraw II commands into command sequences for the printer.

QuickDraw II

QuickDraw II has been modified to function faster.

Resource Manager

The Resource Manager is an INIT file that is loaded when the Apple IIGS is started, and stays loaded when the system is running. The Resource Manager maintains the resource fork of a file. This is similar to the resource fork in the Macintosh. This is the first time the a resource fork has existed in the Apple II world. The format of the data is defined by the application. Resources are referred to by a resource type and resource ID number.

Sound Tools

Four new calls have been added to the sound tools, allowing greater flexibility when playing sounds.

Standard File

Standard File has been modified to fully support GS/OS path names. The following are GS/OS values, not the ProDOS FST values. These include:
- 13,107 files in a folder
- 254 characters in a file name (using new calls)
- 508 characters in a path name
- The List Manager is being used
- Scan of AppleShare File Server volume every 8 seconds
- Checks for write-protected volumes and folders
- Displays the lock icon next to current path name
- Calls to support multi-selection calls
- Hook so applications can draw custom list items

Text Edit

This is a new feature of Apple IIGS System Software 5.0. It provides standard text editing for any application. It can be used as a complete text editor or as the core of a simple word processor. It is similar to Text Edit calls on the Macintosh. The following features are included in GS TextEdit:

- Edit any amount of text that fits in memory (not 32K as in the Macintosh)
- Mouse activity for text selection (single, double, triple clicking for text, words, lines)
- Auto word wrap
- Cut, Copy, and Paste
- Some support of control keys for text manipulation
- Stylistic variations in the text (fonts, sizes, style, color).
- Text can contain a "ruler" to format the text
- Four types of justification
- Three kinds of Tab support
- Programmer can limit the amount of information that can be entered
- Vertical scrolling in a window
- Automatic drag selection
- It is FAST

Window Manager

Numerous changes speed things up and support the Resource Manager.

Related Articles

- Apple IIGS System Disk 5.0: Overview
- Apple IIGS System Disk 5.0: Changes to BASIC.SYSTEM
- Apple IIGS System Disk 5.0: Disk II/Apple 5.25-inch Driver
- Apple IIGS System Disk 5.0: Advanced Disk Utility and SCSI Manager

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LisaCalc: Cell Selection

This article has been archived and is no longer updated by Apple.
If you want to select a range of cells that is larger than the window (such as A1:A100), click in the Cells area at the top of your document (or press APPLE-G) and type the range. Pressing ENTER will select the range.
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Apple IIGS System Disk 5.0: Changes to BASIC.SYSTEM

This article has been archived and is no longer updated by Apple.

Two problems were fixed in BASIC.SYSTEM 1.3, and one new feature was added.

MTR Command

The new feature is the MTR command, which lets the user enter the system monitor without having to remember "CALL -151". The user stays in the monitor until issuing Q or Control-C.

Problem Fixes

When two or more Applesoft programs were chained together and the length of the variable table was a multiple of 256, the chain command functioned incorrectly and the program crashed into the monitor or was sent to the ONERR command address. This is fixed in BASIC.SYSTEM 1.3.

BASIC.SYSTEM 1.3 also fixes a problem in BSAVE that caused the old length and load address to be retained when you BSAVEd over an existing file.

Related Articles

- Apple IIGS System Disk 5.0: Overview
- Apple IIGS System Disk 5.0: ToolBox Changes
- Apple IIGS System Disk 5.0: Disk II/Apple 5.25-inch Driver
- Apple IIGS System Disk 5.0: Advanced Disk Utility and SCSI Manager

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Apple IIGS System Disk 5.0: Advanced Disk Utility and SCSI Mgr.

With System Disk 5.0, the Advanced Disk Utility permits a larger number of partitions on a single SCSI drive. The maximum size of each partition is still limited to 32MB. The following table shows the number of possible partitions on a drive, given the drive size.

This article has been archived and is no longer updated by Apple.

Drive Size	Max. No. of Partitions
20MB	8
40MB	8
80MB	8
160MB	8
256MB	8
320MB	10
512MB	16
640MB	20
800MB	25
1GB and up	32

SCSI Manager

The SCSI manager has been modified to provide a four-fold speed increase and additional SCSI support. The new driver is faster because it is loaded into memory and does not use the firmware on the card. When the driver was written, a number of new features were added:

- Full SCSI device support
- 7 physical devices
- 32 volumes per drive
- full SCSI command support
- access to non-ProDOS partitions
- support for magneto-optical drives (with a driver)

The firmware must run at normal speed (1MHz) and not at fast speed. The new drive talks directly to the hardware on the card and may not be compatible with any other existing SCSI interface cards. The SCSI manager was designed to work only with the Apple SCSI interface card.

The SCSI manager can support seven external boxes (a "box" being something that has a SCSI address). Each box can have up to eight devices, and block devices like hard drives can have up to 32 partitions.

The SCSI Manager works by having a device driver for each different type of SCSI device you want to hook up. This allows different types of devices to be added without modifying the external device or the SCSI card. You just need to add the driver to the system. This is how Apple supports SCSI hard disks and the AppleCD SC. The device drivers are located in the following folder:

/disk/SYSTEM/DRIVERS.

Related Articles

- Apple IIGS System Disk 5.0: Overview
- Apple IIGS System Disk 5.0: ToolBox Changes
- Apple IIGS System Disk 5.0: Changes to BASIC.SYSTEM
- Apple IIGS System Disk 5.0: Disk II/Apple 5.25-inch Driver

Support Information Serives

Published Date: Feb 18, 2012

Apple IIGS System Disk 5.0: Disk II/Apple 5.25-inch Driver

This article has been archived and is no longer updated by Apple.

The 5.25-inch Disk driver is now installed on SYSTEM.DISK that ships with GS/OS. You do not need to run the Installer to support the 5.25-inch drive, but you still need to use the Installer to support a SCSI drive.

The 5.25-inch disk driver included with Apple IIGS System Software 5.0 can support up to fourteen 5.25-inch disk drives. The Apple IIGS limits 5.25-inch drives to slots 4, 5, 6, and 7 when the computer is in fast mode. When using the Apple IIGS System Software 5.0 and the 5.25-inch driver, you can now operate 5.25-inch drives in slots 1 through 7, in slow or fast mode.

The 5.25-inch drive does not use a cache, because the 5.25-inch drive does not provide a method of determining a disk switch. The light on the drive flashes when the Finder issues the status call to the 5.25-inch driver. The driver must check the drive to see if a disk is inserted or has changed since the last status call.

Related Articles

- Apple IIGS System Disk 5.0: Overview
- Apple IIGS System Disk 5.0: ToolBox Changes
- Apple IIGS System Disk 5.0: Changes to BASIC.SYSTEM
- Apple IIGS System Disk 5.0: Advanced Disk Utility and SCSI Manager

Published Date: Feb 18, 2012

Apple II: No Diskless Startup Across Zones

This article has been archived and is no longer updated by Apple.

If you are having problems starting a diskless Apple II on LocalTalk over a Kinetics FastPath, from a server residing on Ethernet, it may be because the diskless start-up capability of Apple II workstations is designed to work over a FastPath or other AppleTalk bridges -- but not across zones. If your FastPath has been set up with the Ethernet as a separate zone from the LocalTalk side, this is your problem.

You should also look at the configuration of the FastPath itself. If a Macintosh can access the server normally from the LocalTalk side of the network, then the Apple II should be able to start, because the same network layers are being used for the information transfer. If a Macintosh cannot access the server properly, then you should suspect the configuration of the FastPath itself.

Published Date: Feb 18, 2012

Macintosh System Software: Sharing a Hard Disk

This article has been archived and is no longer updated by Apple.

If you are installing System software on a hard disk that will be shared by different Macintosh models (for instance, both a Macintosh II and a Macintosh Plus), we suggest installing the System software as if the drive is going to be used on a Macintosh II.

A Macintosh Plus ignores the information for a Macintosh II, while providing all the files and resources a Macintosh II will need.

(NOTE: Do not use the minimum Installer scripts for this purpose.)

Published Date: Feb 18, 2012

ProDOS 8: Finding Volume Size using Assembly Language

You can determine the number of blocks on a ProDOS-compatible device from assembly language.
This article has been archived and is no longer updated by Apple.
On a ProDOS volume, the total number of blocks available is stored on block 2, bytes $29 and $2A. The number is in low byte/high byte format: for example, an 800K floppy will have $40 at byte $29 and $06 at byte $2A.

Byte $2A contains the first two digits and byte $29 contains the last two digits. $0640 is equal to 1600 decimal, which is the total number of blocks on an 800K ProDOS disk.

If you need to determine the number of blocks on a device from the hardware, that information can be obtained regardless of whether or not block 2 is intact.

Check memory locations $Cs01, $Cs03, $Cs05 (s = slot number) for $20, $00, and $03, respectively. If these values are found, then the card in the slot is a disk controller.

Check memory location $CsFF. If the value is $00 or $FF, assume that an Apple Disk II disk controller card is installed ($00 is 16-sector, $FF is 13-sector).

Otherwise, check memory location $Cs07. If the value does not equal $00, the device is not a SmartPort device, and the total number of blocks for the drive are stored at memory locations $CsFC and $CsFD in low-byte/high-byte order.

If the total number of blocks is 0, contact the card manufacturer for details on how to determine the number of blocks.

NOTE: We do not know of any disk controller that does not store the total number of blocks at memory locations $CsFC and $CsFD.

If the value at memory location $Cs07 is $00, the drive is a SmartPort device. To find the number of blocks on the drive, you must make SmartPort status call $03 (get DIB). This call is documented in the "Apple IIGS Firmware Reference Manual" (Apple # 030-3121-A) on pages 114 through 125, with the most specific information starting on page 121.
Published Date: Feb 18, 2012

LisaCalc: The Time It Takes to Save and Put Away

This article has been archived and is no longer updated by Apple.
Yes, it takes a long time to save large Calc spreadsheets. Fifteen minutes or more is neither uncommon nor abnormal. If the sheet has Lookups, Ifs, and Searches, the sheet may take even longer to save. Simply be patient.
Published Date: Feb 18, 2012

HD SC Setup v2.0: How to Set Interleave Factor On a Hard Disk

This article has been archived and is no longer updated by Apple.

With HD SC Setup v2.0, you can a set disk's interleave factor. That is, you can reformat a standard hard disk with a different interleave factor than the one installed.

Make sure the disk you wish to reformat does not contain any valuable data, then follow these steps:

1) Run HD SC Setup.

2) At the first dialog box, choose the drive you want to initialize.

3) Press Command-I.

4) This presents a dialog box asking for the interleave factor. Choose 1 for a 1:1 interleave, 2 for a 2:1 interleave, and so on.

5) Now choose Initialize.

Your drive is now reformatted to the specified interleave factor.

Published Date: Feb 18, 2012

MultiFinder: How to Set File-Protect Bit

This article has been archived and is no longer updated by Apple.

TOPIC ----------

I have a problem with the file-protect bit under System 6.0.2 and MultiFinder. After setting the file-protect bit with ResEdit, I can still copy or delete the protected file.

DISCUSSION ----------

If you have a folder's window open under MultiFinder and change the file-protect bit for a file in that folder, you can still copy the file even though the file-protect bit is clearly set.

However, if you set the file-protect bit for that file and then close and reopen the folder, you will not be able to copy the file.

This is because the directory information for the folder resides in memory, while the folder is open. Thus, the changes written to the disk at the time of the file-protect update are not updated in the copy in memory. Closing and opening the folder causes the directory information to be copied into RAM with the appropriate values.

This applies to an HFS disk, too. To solve this problem you must unmount the HFS disk by dragging it to the trash, then reinsert it.

Published Date: Feb 18, 2012

Synchronous Terminal Emulation on the Macintosh

This article has been archived and is no longer updated by Apple.

There are many ways that synchronous communications can be performed on a Macintosh. The type of hardware and software needed is usually linked to the type of host computer that you want to connect to. Also, the hardware performs the synchronous interface, rather than the terminal emulator itself. The software must be able to communicate with the specific hardware: most of the time, each particular type of synchronous communications hardware has software written specifically for it.

For instance, MacTerminal can be used for synchronous communications with an IBM host through the use of an AppleLine protocol converter, but other standard Macintosh terminal emulators can NOT be used in the same fashion. It is the AppleLine that actually performs the synchronous communications, while MacTerminal is communicating asynchronously with the AppleLine.

Published Date: Feb 18, 2012

Macintosh: Troubleshooting Frequent System Crashes

This article documents some troubleshooting steps if your Macintosh is suffering unusual and periodic crashes.
This article has been archived and is no longer updated by Apple.
1) These types of problems are caused most commonly by conflicting extensions (INITs) or control panels in the System Folder, a corrupted System file, or software that is incompatible with your System and its combination of extensions and control panels. Check for a pattern in the crashes and the exact configuration of the system (extensions and control panels being used, for example). Noting the times at which the crashes actually occur, and the specific series of steps needed to reproduce them, are vital to pinpointing a possible software problem.

2) If you have a large amount of hardware (large monitors, printers, scanners, etc.), it is possible that you are overloading the circuit on which you are running your equipment. For instance, a LaserWriter II itself draws more than 7 amps. Most circuits are only 15-amp circuits, so this doesn't leave much for the Macintosh, large display monitor, scanner, and external hard drive. Thus, it is possible that you are getting low voltage situations. Such situations can cause unusual or periodic crashes. If you have specific hardware problems, like failing hard drives, investigate the electrical circuit as the source of the problem.

Published Date: Feb 18, 2012

LaserWriter: Maximizing Accurate Print Registration

This article offers reasons why LaserWriter print registration may be imperfect, and offers ways to improve it.
This article has been archived and is no longer updated by Apple.
When printing to a LaserWriter, the accuracy of the print location (the consistency of location of lines and letters from one printed sheet to the next) is based partly upon these variables:

1. The weight of the paper being used (16 to 24 lbs. recommended, 20 lbs. preferred). If the paper weight is less than 16 lbs., paper pickup and registration through the paper feed mechanism will probably suffer. If the paper weight is more than 24 lbs., there will probably be paper jams due to poor paper pickup.

2. Paper finish (photocopy or typewriter bond preferred). If the finish of the paper stock is smooth, then the paper may slip or be skewed due to poor or uneven feed roller adhesion.

3. Age and use of the LaserWriter. The older a LaserWriter is, and the more heavily it has been used, then the higher the chances are for poorer print registration. This is due to the wearing of the paper feed roller and accumulation of paper dust. These factors cause the paper to slip slightly during paper pickup and feed. Regular cleaning of the paper pickup and feed rollers should eliminate some of the registration problems.

Published Date: Feb 18, 2012

Macintosh II and Macintosh SE: Sound Level Differences

What are the differences in sound level between the Macintosh SE and Macintosh II?

This article has been archived and is no longer updated by Apple.
There is a significant difference in the sound output of the Macintosh SE and the Macintosh II -- as much as a difference of 14dB in output level for the same digitized sine wave -- because of differences in output strength at the sound jack.

The explanatory information is in the "Macintosh Family Hardware Reference Manual" (Addison-Wesley, ISBN# 0-201-19255-1).

Macintosh SE Sound Circuit:

The external sound line provides a low-impedance, high-level (8VAC peak-to-peak) signal that can drive any load of 32 or more ohms.

(WARNING: The signal available at the external sound jack on the Macintosh SE computer is capable of damaging some power amplifiers and can generate dangerous sound levels in headphones. You should use extreme caution when using this signal with amplifiers or headphones.)

Macintosh II Sound Circuit:

The external sound jack is at standard line level (approximately 1.5VAC peak-to-peak), and its source impedance is approximately 47 ohms. The jack is capable of driving a headphone load of 8 to 600 ohms, or the input to almost any audio amplifier or amplified speakers. It will NOT adequately drive a directly connected external speaker.

Based on this information, with the same volume setting on each machine, regardless of the input impedance of the audiometer, there will be a large difference in the sound level output.

One possible method of equalizing these signals would be to construct a box with a switch. When using a Macintosh SE, you could switch in either a fixed resistor or a potentiometer to drop the audio input level to the audiometer. The other switch position would be straight through from the Macintosh II. This level-matcher would be completely passive in nature, and could be built relatively inexpensively.

Published Date: Feb 18, 2012

LocalTalk Has Effective Electrical Isolation

This article has been archived and is no longer updated by Apple.

The LocalTalk system is much less sensitive to power problems than many networks.

To start with, LocalTalk uses differential signaling, which has a higher noise immunity than normal, directly-connected TTL logic networks (like Corvus, for instance). Also, LocalTalk uses transformer coupling from the network to the node. This provides additional isolation from noise on the network. The transformer specification requires that there be no significant leakage current with 1000VDC applied between the secondary winding and the core.

Because the LocalTalk network is passively coupled, any severe noise spikes would have to come through the system itself. This means any protection provided for the system itself would also be protecting the network.

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Graphical Data Display Manager (GDDM): File Format Specification

This article has been archived and is no longer updated by Apple.

GDDM, Graphical Data Display Manager, is a graphical, character-encoding scheme used for displaying graphics. Two other graphic display schemes are Vector and All Points Addressable (also known as "APA" or "Raster").

Using GDDM to display a box on a display screen might consist of sending four character codes. You might expect the four codes to consist of two parallel-horizontal lines and two vertical-parallel lines, all with end points touching. But instead, one of the character codes might look something like the letter "L". The second would be an "L", but flipped upside down. The third would look like an "L" flipped horizontally, and the fourth character would display like an "L" flipped vertically and horizontally.

Therefore, these "L"s could be used to construct a rectangle on the display. GDDM uses a variety of graphical characters, some looking like "L"s, to construct graphical displays.

Vector graphics, of course, define lines bound by two points. APA (Raster) graphics provide control of every point.

Published Date: Feb 18, 2012

LisaCalc: Cut & Paste

This article has been archived and is no longer updated by Apple.
NOTE: This information applies to versions 1.0 and 2.0.

Although LisaCalc lets you Cut the whole contents of a document, you can't then Paste it anywhere -- not even back into the document you Cut it from.

Instead of using Cut and Paste when the whole document is involved, use Copy and Paste.
Published Date: Feb 18, 2012

InterPoll: How to Identify Active Apple II Systems

Certain requirements must be met before Inter*Poll can identify an Apple II on a network:

This article has been archived and is no longer updated by Apple.

Apple IIGS

For an Apple IIGS to appear in the "Device List" window of Inter*Poll, you must:

1. Select "Built-in AppleTalk" from the Control Panel. At the same time, set the port that the network is connected to, generally the Printer port, to "Your Card".

2. Shut down and restart the system.

3. Run Inter*Poll on the Macintosh, or have it running and checking the network. The Apple IIGS should show up in the Device List window.

Apple IIe
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1. Install Apple II WorkStation card in slot 7 of Apple IIe and connect LocalTalk port to network.

2. Start up system and log into a ProDOS server on the network. Once the system gets past the Password screen, the device shows up in the Device List window of Inter-Poll.

The important requirements are:

- Having Built-in AppleTalk selected in the Control Panel of the Apple IIGS

- Having the proper port set to "Your Card" on the Apple IIGS

- Being past the Password screen on an Apple IIe with WorkStation Card.

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LaserWriter IINT: Not Recognized by Radius Accelerator

This article has been archived and is no longer updated by Apple.

When using a Macintosh with the Radius accelerator card, the system fails to recognize the printer on the network, a LaserWriter IINT. This is a problem with the ROMs on the Radius accelerator card. There is no current solution.

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AppleShare Print Server and Multiple Printers

This article has been archived and is no longer updated by Apple.

If you have multiple printers captured under AppleShare, and the selected printer fails during the printing, the current version of AppleShare Print Server does not allow you to automatically redirect the queued documents to a different captured printer. Apple is not aware of any third-party product that provides this.

Published Date: Feb 18, 2012

AppleShare Network Server 2.0.1: Installation & Error Message

Here are a few tips on troubleshooting AppleShare Network Server installation problems:

This article has been archived and is no longer updated by Apple.

Installing System 6.0.2

Under 6.0.2, the Server Installer disk appears to install normally, but when you launch Admin on the Server Administration disk you get a message: "FINDER IS OLDER VERSION".

The easiest solution is to copy Admin into the Server Folder on the hard drive and start it from there.

No "Apple II" Menu in Server Administration

APPLE II does not appear as a menu choice, until the "Apple II" box is checked in SERVER INFO under the SERVER menu. When that box is checked, Apple II users' folders and a folder called SYSTEM for the Apple IIs are created. You must restart the server before the Apple IIs will start up from the server.

No Boot Server - Apple IIGS

Check the Control Panel on the Apple IIGS. Under the Slots section, SLOT 1 should be YOUR CARD, SLOT 7 should be AppleTalk, and START-UP SLOT should be set to SCAN.

Access Not Allowed

This message can take several forms, but the basic content is always that a user does not have access to a particular file or folder.

In fact, users should see this whenever they try to get to something they shouldn't. If access should be allowed, check the access privileges of all the folders involved, either under SERVER ADMINISTRATION, or using a Macintosh SE logged on as "Administrator".

Access Privileges Are Not the Same as You Set Them

To save time, a person setting access privileges may choose an option on the ACCESS PRIVILEGES box called CHANGE ALL ENCLOSED FOLDERS. If you do this, you change the owner of the enclosed folders, the group designation, and the access privileges. Once this is done, you must go back in and change each of the folders back to the correct owner, group, and access privileges.

No ProDOS Memory Card Found

On the Apple IIe, this means exactly what it says -- you need a ProDOS memory card. Typically, an Apple IIe requires 128K to be a workstation and 512K to be a teacher station.

On the Apple IIGS, this means either not enough memory or, more commonly, that you need to set up a RAM disk using the Control Panel. If you have the current ROMs, a 256K RAM disk will suffice, but 512K is probably better.

No Users in Aristotle

When Aristotle menu management starts, it creates a user list. If no user list is found, it is normally because the groups "STUDENT" and "TEACHER" are not found. Remember, the group names must be exactly "STUDENT" and

"TEACHER". Names like STUDENTS and TEACHERS, or STUDENT GROUP and TEACHER GROUP will not work. Many times, groups still appear correctly in Admin, but recopying the primary group into the User Information folder will correct the situation. CHANGE ALL ENCLOSED FOLDERS is often the culprit here.

(Important Note: STUDENT and TEACHER must be the Primary group.)

A User Still Doesn't Appear After Re-doing Group

If a student or teacher doesn't appear in Aristotle after restoring their group designation, delete the user and then recreate it.

You Must Be a Teacher To Use This Program

Aristotle menu management can be used only by users whose primary group is TEACHER. Check the user's primary group.

How Can I Keep Users From Copying Files to Floppies?

Under the FILES AND FOLDERS menu, choose GET INFO on the program file in question. In the upper-right corner there is a box named COPY-PROTECT. When this box is checked, users cannot make copies of the file.

How Can I Keep Users From Hiding Other Users' Folders, Trashing Them, Etc.?

Again, under the FILES AND FOLDERS menu, open the GET INFO on the folder. In the upper-right corner there is a box named LOCKED. With this box checked, no one except the owner can move a folder, throw it away, or rename it.

Volume Name Must Be a Legal ProDOS Name

For Apple IIs to be able to use a server as a volume, the volume must have a legal ProDOS name. Unfortunately, this message usually appears when you check the APPLE II ADMIN box under the SERVER INFO menu, and there is no handy way to change it. Go back to the Finder and change the name of the disk.

Remember, a name has a maximum of 15 characters, no spaces, starts with a letter, and contains only letters, numbers, and periods.

Illegal ProDOS Name That Appears To Conform to Rules

Check for blanks preceding and/or following the volume name.

AppleTalk Must Be Installed

This usually occurs on a workstation and not the server. In either case, go to the Chooser and select the radio button that makes AppleTalk ACTIVE.

Administration Is an Unavailable Option

If Administration is an option that cannot be selected, then it does not reside in the server folder. This means someone probably copied the ADMIN program onto the hard drive, but not into the Server Folder. Go back to the Finder and drag it into the Server Folder.

Administrator Cannot Use All Folders

This normally occurs when using a Macintosh SE as a workstation logged on as Administrator.

If the Administrator is unable to see any folders or to change names, privileges, and so on, then Administrator was not given all privileges. Go

to the SERVER ADMIN program, open the ADMINISTRATOR's user information, and check the ALL PRIVILEGES box.

Error/Unable To Load Application

On an Apple II running Aristotle, these messages appear when pathnames are incorrectly stated when creating an application for the application list. Aristotle WILL NOT catch this in menu management, but only when a user selects the menu option and tries to load the application. Correct the pathname. It should appear as follows:

/volumename/directory1/directory2...../application

Aristotle... Not Saved Properly

This message occurs when a student logs on, but the teacher has not saved and quit Aristotle menu management. Have the teacher save any unsaved work and quit Aristotle.

Startup Configuration Not Properly Setup

This message occurs when access privileges to start-up files and folders have been corrupted. Check access privileges for the folders Aristotle, MENU.D, and DISPLAY, if the student is using Aristotle.

Garbage When Printing to the LaserWriter

To use the LaserWriter, an ImageWriter emulation program must be downloaded to it. You can do this by printing to the spooler or selecting the printer again in the Chooser.

Article Change History:
5 Oct 1993 - Changed title to reflect version.

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System 6.0.2: How To Protect Files

This article has been archived and is no longer updated by Apple.

Users of System version 5.0 may have found changes in file privileges under System 6.0.2 -- namely, that any files locked using System 5.0 can now be trashed, removed, or moved to another folder.

Under System version 5.0, setting the protect bit on a file causes the following under the Finder:

- The file cannot be moved from its current folder/window.

- The file cannot be thrown in the trash.

- The file cannot be copied.

When any of these were tried, the Finder gave the message: "That may not be duplicated or moved."

Under System version 6.0.2, setting the protect bit on a file only prevents the Finder from copying the file. The file can be moved or thrown in the trash. The message returned by the Finder when you try to copy the file is: "That may not be duplicated or copied."

The change in the wording of the dialog box indicates to us that this was an intentional change and that we can expect this to be the new function of the protect bit.

You can keep a file from being thrown in the trash by setting the locked bit, but the file can still be moved. Also, the locked bit is much more easily changed than the protect bit. We know of no way under System 6.0.2 to prevent a file from being moved under the Finder.

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Macintosh II 800K Drive: Compatible With Macintosh IIx

Are the 800K floppy drives from a Macintosh II computer compatible with a Macintosh IIx computer?

This article has been archived and is no longer updated by Apple.
Macintosh II floppy drives are completely compatible with the Macintosh IIx. The Macintosh IIx ROMs and SWIM chip were in fact designed with this capability.

Published Date: Feb 18, 2012

TV950 Emulation For Macintosh

This article has been archived and is no longer updated by Apple.

An ADDS Viewpoint 60, TV950 emulator is available from Pacer Software. The product is called pcLINK. It performs key sequences, sends ASCII text between Prime and VAX, and has a Prime 50-series and DEC VAX interconnect package. It also serves as a true gateway to minis and mainframes and has command file capabilities. For more information, search under: "Pacer".

Published Date: Feb 18, 2012

Apple IIGS: Sound Modification On Rev "C" Boards Only

This article has been archived and is no longer updated by Apple.

The modification to the Apple IIGS sound circuit to reduce the unwanted background noises from the port was on the Revision "C" logic boards. Unfortunately, due to some parts-availability problems, there were only 34,000 Rev. "C" logic boards produced.

Production has subsequently reverted back to Rev. "B" boards. However, service stock logic boards are modified to Rev. "C" when repaired by the Apple service repair centers.

Published Date: Feb 18, 2012

Apple Access III: Addendum (3 of 7)

This article has been archived and is no longer updated by Apple.

DESCRIPTION OF ACCESS III FILES (CONTINUED)

SOS.DRIVER is a device driver file configured specifically for use with Access III. Simply copy this file onto your boot diskette; alternatively, create you own SOS.DRIVER file using the individual drivers supplied on the System Utilities Data diskette. The SOS.DRIVER includes:

.CONSOLE
.SILENTYPE
.RS232
.ACS3FONT: is the system font
Furthurmore, four disk drives are configured.

SETPREFIX.CODE is a small Pascal program linked to an assembly language subroutine that allows you to set the SOS prefix. As explained in "Using Access III with a ProFile", setting the prefix with the Pascal filer does not change the SOS prefix, meaning that if you execute Access III from a ProFile without executing the SETPREFIX program, Access III will not be able to successfully save and load the Set-Up selections.

The source listing for the program SETPREFIX.TEST is included, so the prefix setting can be customized for unusual situations.

To successfully run Access III stored on a ProFile in a Pascal environment, you must first execute SETPREFIX, which is described in "Using Access III With a ProFile".

ACCESS3.PROFILE is a Business BASIC program enabling you to run Access III from a ProFile in a Business BASIC environment. The only difference between this program and the Access III Business BASIC program is the way the the prefix is set: Access III sets a null prefix to force SOS to look for a diskette, while ACCESS3.PROFILE sets the prefix to /PROFILE, instructing SOS to look there for a subdirectory. See "ProFile and Business BASIC" under "Using Access III with a ProFile" for additional information.

CHANGES AND NEW FEATURES

CHANGES TO THE MAIN MENU

Changing the name of the recording file is not performed from the main menu: it's now an entry on the Set-Up menu. It's therefore saved along with the rest of the Set-Up settings.

ADDITIONS TO SET-UP MODE

Two new selections to the Set-Up menu are: "Set the Answerback" and "Change the recording file name."

When you save the Set-Up settings, both the answerback text and the recording file name are saved. These Set-Up settings are restored the next time you run Access III.

SET THE ANSWERBACK

Selecting this choice causes the screen to clear and the following message to display:

Answerback text?

Respond by entering your answerback message containing up to sixteen

characters followed by a RETURN. The RETURN is NOT stored as part of the answerback text.

The characters that you enter will be transmitted by Access III whenever a CTRL-E (ASCII 5) is received.

To enter control characters in your answerback text, hold down the open-apple key and the CONTROL key while pressing the key you wish to enter. Your control character is displayed as one of the line graphic characters, though it's both transmitted and saved correctly.

See Appendix B of the Access III manual for each key's ASCII code.

You can also cause the answerback text to be transmitted without receiving the CTRL-E: hold down the open-apple key and press the E key.

CHANGE THE RECORDING FILE NAME

Selecting this option clears the screen and closes the old recording file. Access III then prompts you to open a new recording file name:

```
New recording file name?
```

A legal answer may be a block file pathname or a character device name such as .SILENTYPE.

ADDITIONS TO THE STATUS SCREEN

The STATUS screen displays the current answerback text as well as all the previously displayed information.

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LisaCalc: Cut & Paste With Formulas

This article has been archived and is no longer updated by Apple.
When you cut cells, formulas that directly refer to those cells are set to ERROR. When you paste, the formulas will be adjusted to reflect the location of the new cells. If you cut a group of cells and the formulas that refer to them, then paste them to another location, the formulas are automatically adjusted.
Published Date: Feb 18, 2012

Video Disc Cables for Macintosh

This article has been archived and is no longer updated by Apple.

Here are the pinouts for a Macintosh-to-video disc player cable.

Macintosh Plus Video Disk Player
--- ---
Mini-Circular 8 (Male) RS-232 DB-25 (Male)

Frame Ground 1 1 Frame Ground
CTS 2 6
DSR
TXD 3 3 RXD
Signal Ground 4 7 Signal Ground
RXD 5 2 TXD

On the DB-25 side, connect pins 4 (RTS), 6 (DSR), and 20 (DTR) together.

This cable has been tried and tested with the following video disc
players:

- Sony 1000A

- Sony 1500

- Sony 2000

- Philips VP406

- Pioneer LDV6000

Published Date: Feb 18, 2012

LaserWriter: How to Turn Off the Test Page on Startup (10/94)

Normally, your LaserWriter prints a test page every time you turn on its power. This is the page with a large ampersand and other printer configuration facts on it. This article describes how you can disable this test page.

This article has been archived and is no longer updated by Apple.

You can inhibit the LaserWriter from printing a test page every time it's powered up.

With a Macintosh

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Use the LaserWriter Utility (System 7.0 or higher) and select Set Startup Page... from the Utilities menu. You are presented with an option to turn the Startup Page On or Off.

With an MS DOS Based System

==========

A boolean value called dostartpage is stored in the persistent parameters of all LaserWriters. You change this value with these PostScript programs:

Disable Startup Page PostScript Program

This program disables the printing of a start-up page:

```
serverdict begin 0 exitserver

statusdict begin false setdostartpage
```

Enable Startup Page PostScript Program

This program enables the printing of a start-up page:

```
serverdict begin 0 exitserver

statusdict begin true setdostartpage
```

These programs can be sent via a PostScript downloading program, a word processor that supports straight ASCII output (no imbedded control codes), or entered while in PostScript Interactive mode.

Article Change History:

12 Oct 1994 - Added keyword, reformatted, and made minor updates.

25 Oct 1993 - Updated to include MSDOS information

04 Mar 1993 - Revised to provide additional keywords and clarify the title

Support Information Services

Published Date: Feb 18, 2012

HyperCard: How to Select Environments

Under System 6, is it possible to start the Finder, MultiFinder, and A/UX from a HyperCard stack, if HyperCard is the start-up application, and that stack is the start-up stack?
This article has been archived and is no longer updated by Apple.
Here are some things you have to do to make this work:

* Change the file type of MultiFinder to APPL. HyperCard only runs applications (or documents belonging to applications) when you use HyperTalk's Open command. Changing MultiFinder's file type to APPL makes it an 'application'.

* Make sure that no INITs are loaded if you want A/UX to be run. The sash application that launches A/UX 1.0 or 1.0.1 does not coexist with most INITs.

* Make sure that the launch command in the sash application is configured to launch from the proper drive if you are using more than one hard disk on this machine.

* Within HyperCard, you need to decide whether you will include a card on the Home Stack that does the launch, or if you will use the start-up script in the Home stack to open another stack that does the launching.

Published Date: Feb 18, 2012

LisaCalc: Find Missing Value

This article has been archived and is no longer updated by Apple.
Find Next Missing Value does not always work. The problem occurs when the selected cell is in a column that never had any values in it. An alert box appears to report that there are no missing values below the selection. Be sure the selected cell is in a column that has another value.
Published Date: Feb 18, 2012

Apple HD Backup Error: "Tried To Open Too Many Files"

This article has been archived and is no longer updated by Apple.

Note: HD Backup is not compatible with System 7; this article is relevant only for those running System 6.0.x or earlier.

When using Apple's HD Backup, you may get a "Tried to open too many files" error with "Cancel" or "Continue" options. When you click on continue, it goes on to the next file, and then produces the same error.

Such an error message suggests files being backed up are "busy". This may be due to:

* Finder file information flags set incorrectly.

* Damaged system software.

* Maximum number of files allowed set unreasonably low in boot blocks.

* A problem with HD Backup, which Apple's testing could not duplicate.

Resetting the file information flags can be done by "repairing" the hard disk (hold down Command-Option as the volume is mounted).

To fix a system software problem, or ensure the number of files allowed is reasonably set, reinstall the system from known good System Tools disks, preferably by dragging the old System Folder to the trash, and then using the Installer to install new software.

There is no specific limit to the size or type of a hard disk you're able to back up with Apple HD Backup, only a practical one. To back up an 80MB hard disk, you need more than 100 diskettes, and a lot of time and patience for inserting and removing that many diskettes. Theoretically, you could back up much larger drives, 1.5 gigabyte drives for instance, but we haven't tested that capability or know of anyone who is likely to need or want that feature.

Numerous third-party alternatives to HD Backup exist.

Published Date: Feb 18, 2012

A/UX: Ethernet TDR Test Results, "Shorts" (8/94)

If you run a Time Domain Reflectometry (TDR) test on a thin Ethernet network, all the A/UX systems (and only the A/UX systems) may appear as what seem to be shorts -- whether the systems are powered on or off.

Since the systems appear to be shorts even when powered off, the problem is almost definitely not A/UX-specific.

This article has been archived and is no longer updated by Apple.
When a thin Ethernet was tested with Macintosh II or IIx (with the systems both powered on and powered off) the Macintoshes did not appear as shorts during any of Apple's TDR tests -- however, the TDR did show minor disturbances for each of the EtherTalk cards on the network.

Although these disturbances are within specifications when compared to other types of Ethernet connections, they might be interpreted as shorts. Since the network is otherwise operational, the problem described above may be due to the interpretation of the TDR results or to the TDR itself having been improperly configured.

If the TDR sees disturbances other than what appear to be shorts, it is not reporting shorts. Try deliberately shorting one of the connections (temporarily) to see exactly what a short looks like, and how it affects the TDR display.

Article Change History:
23 Aug 1994 - Reviewed and updated.

Support Information Services

Published Date: Feb 18, 2012

A/UX: Tape Driver and 8K Buffer Limitation (8/94)

This article has been archived and is no longer updated by Apple.
People writing their own A/UX device drivers for a tape backup should be aware of a limitation on the physical I/O buffering between the kernel and the tape cartridge driver.

As an example: a fixed, 8K, physical, I/O buffer was built into the kernel. As a result of this limitation, any calls to "physio" split 64K blocks of data into 8K chunks. Any attempt to pass 64K to "physio" will result in 8 passes of 8K instead of one pass of 64K.

Article Change History:
23 Aug 1994 - Reviewed and updated.
27 Aug 1992 - REVIEWED for technical accuracy.

Support Information Services

Published Date: Feb 18, 2012

A.Pack: Converting to AC-3 Format Using the Instant Encoder

This document describes how to convert audio to AC-3 format using the Instant Encoder
This article has been archived and is no longer updated by Apple.

Converting to AC-3 Format Using the Instant Encoder

When you first open A.Pack, the Instant Encoder appears. (You can specify what happens when you open A.Pack using the Preferences command in the Edit menu.) You use the Instant Encoder to encode one AC-3 stream at a time. To encode multiple streams, see Kbase Article ???????.

To encode a single AC-3 stream:

1. Drag a sound file to an input channel button, or click a button and choose a sound file in the dialog box that appears.
2. If you assign a sound file that has more than one channel, choose the channel you want to assign in the Channel pop-up menu and click OK. The name of the file appears on the input channel button.
3. Repeat steps 1 and 2 until all input channels are assigned.
4. If you want to specify encoding settings, click the expansion triangle in the upper-right corner of the Instant Encoder.
5. Click Encode.
6. Specify a name and location for the file.

To change the assigned channel of a multiple-channel sound file:

- Hold down the Control key and click the input channel button, then choose a new channel in the pop-up menu.

Related Documents

34996 DVD Studio Pro: A.Pack: What Are the Different Settings?

Related Documents

34996 DVD Studio Pro: A.Pack: What Are the Different Settings?

This information comes from the DVD Studio Pro User Manual version 1.5. You should refer to your user manual if you have a different version. Updated or expanded information may also exist elsewhere in the Knowledge Base.

Published Date: Feb 18, 2012

DVD Studio Pro: How to Author a Still Menu With Audio

This article describes how to author a still menu with audio in DVD Studio Pro.
This article has been archived and is no longer updated by Apple.
To create a still menu with audio:

1. Import assets for your project.
2. Drag a PICT, .BMP or single layer Photoshop file from the Assets container to the Graphical View. A new menu tile is created. See Figure 1.

Figure 1 New Menu Tile is Created

3. Select the new menu tile in the Graphical View.
4. Choose the audio Asset you would like to use from the Audio pop-up menu in the Property Inspector. See Figure 2.

Figure 2 Choosing Audio Assets

5. Choose the overlay for your buttons from the Overlay Picture pop-up menu in the Button Hilites area of the Property Inspector.
6. Choose Hilite colors for Normal, Selected, and Activated states.
7. Double-click the thumbnail area of the new menu tile. The menu editor opens which allows you to position and draw additional buttons.
8. Click Preview to test.

Note: Multiple layer Photoshop files do not allow you to choose audio.
Published Date: Feb 18, 2012

DVD Studio Pro: Why Is the AUDIO_TS Folder Empty?

This document explains why the AUDIO_TS folder is empty.
This article has been archived and is no longer updated by Apple.
The Audio_TS Folder will only contain files when creating a
DVD-Audio Disc. DVD Studio Pro is a DVD-Video authoring application, so the AUDIO_TS Folder will be empty when a DVD is built or built & formatted.
Published Date: Feb 18, 2012

DVD Studio Pro: Chart of Limitations

This document lists the limits of DVD Studio Pro.
This article has been archived and is no longer updated by Apple.
DVD Studio Pro creates Disks that conform to the DVD-Video 1.0 Specification.

Tracks	99
Buttons	36 per menu
Menus	up to 1 GB
Audio Streams	8 audio streams per video track (.AC3, MPEG-1 audio layer 2, or PCM)
Angles	9 per track
Subtitles	32 per track
Stories	99 per track

Published Date: Feb 18, 2012

DVD Studio Pro: Using 3rd Party Encoders

This document explains the video format requirements for DVD Studio Pro.
This article has been archived and is no longer updated by Apple.
When using a 3rd party MPEG-2 encoder to create video content for use with DVD Studio Pro, create MPEG-2 elementary video streams.
Published Date: Feb 18, 2012

Macintosh: Connecting With the Unisys A4FX Mainframe

This article has been archived and is no longer updated by Apple.

If you need to upload and download files between a Macintosh and an Unisys A4FX mainframe, consider Avenue Software's Contact product. If the connection is asynchronous, you only need the software. If not, you will need their TDI/RS-232 converter, too. Multiple station connectors are available at a lower cost per workstation price. (Avenue Software specializes in terminal emulator and data transfer software for transferring files to/from Unisys mainframes.) For more details, search the Tech Info Library under "Avenue Software".

Published Date: Feb 18, 2012

ImageWriter II: When It Suddenly Starts Printing in Hex

This article has been archived and is no longer updated by Apple.

It can be distressing when your ImageWriter II unexpectedly prints a hexadecimal code dump. Hex printing is actually a feature of the ImageWriter II that can be very helpful for programmers.

Hex printing occurs when the Select button is pressed when the ImageWriter II is turned on. This can easily happen accidentally, because the Select button is so close to the power switch. If this happens:

1. Turn power off.

2. Turn the printer back on, making sure that the Select button is not pressed.

Published Date: Feb 18, 2012

AFE-Compatible Translators: Information on How to Write Them

This article has been archived and is no longer updated by Apple.

Technical information on how to write translators for AFE (Apple File Exchange) is available from APDA in the "Apple File Exchange Technical Reference Package v.1.1". This package includes one 800K Macintosh disk and 184 pages of documentation.

Published Date: Feb 18, 2012

A/UX 3.0: Maximum File Name Length and POSIX (8/94)

This article discusses the maximum file name lengths for A/UX 3.0, POSIX, and BSD 4.3.

This article has been archived and is no longer updated by Apple.
A/UX 3.0 is based on System V Release 2, Version 2 version of UNIX. File names can be up to 255 characters in length.

POSIX, on the other hand, defines file name length in the constant MAXNAMLEN in the "/usr/include/dirent.h" header file. A/UX is certified by the National Institute of Standards and Technology as compliant with FIPS #151 (IEEE POSIX 1003.1-1990, and ISO 9945-1)

The BSD 4.3 maximum file name length is 255 characters. However, the implementation of file system between the BSD UNIX and the System V UNIX is completely different.

The BSD fast file system for A/UX was been requested and has been implemented in A/UX.

Article Change History:
19 Aug 1994 - Updated for A/UX 3.0
27 Aug 1992 - REVIEWED For technical accuracy.

Published Date: Feb 18, 2012

Filming a Macintosh Screen Without Flicker (11/94)

This article describes how to film a Macintosh screen without flicker, using a film (movie) camera, rather than with a video camera. A separate article describes filming a Macintosh screen with a video camera. In all cases, you must use a multisync monitor for the Macintosh II to view the screen after these modifications.

Read the entire article, including warnings, before beginning any procedures described here.

This article has been archived and is no longer updated by Apple.
The techniques given here set up a camera to record the manually genlocked screen. The clock slows the screen updates exactly to the camera frame rate. This makes it possible for all of the horizontal scans to be present during each frame of the camera. The key issue is to slow the video card's video signal. You can do this either by replacing the 30.24MHz clock or by connecting an external signal generator.

WARNING: Any hardware modifications to the video card void the warranty of the video card. Apple Computer does not support any modification to the video card.

CLOCK REPLACEMENT METHOD

To slow the video signal, remove the oscillator from the card and substitute a 5-volt, square-wave, pixel-clock signal at the desired level of 21.77580 MHz. This synchronizes the camera to the screen. However, a visible horizontal/vertical retrace line might appear from the small offset of the two timings.

The clock controls the time period of each pel (displayed picture element) and all display control signals, like the sync (synchronization) signals. For a 48Hz noninterlaced screen (progressive scan), the Macintosh II video needs an oscillator (pixel clock) of 21.77580 MHz.

Notice that a clock is not the same as the sync. The vertical sync and the horizontal sync are normally 66.67Hz and 35KHz, respectively, on a Macintosh II video card.

THE EXTERNAL PROGRAMMABLE SIGNAL SYNTHESIZER METHOD

The best method is to use an external programmable signal synthesizer (generator) that can be set to the adjusted setting and stored in memory. These units can be found at electronic test-equipment rental houses.

If you do not want to remove the clock, you can ground pin 14 of the J3 connector on the card (pins 1, 2, 3, 5, 7, 9, and 11 of J3 are grounds) and connect the external clock from the signal synthesizer to pin 4 of the J3 connector. This causes the external clock to be selected over the Macintosh II Video Card's 30.24-MHz oscillator. The generator must be on for the video card to function. This method also voids your warranty and is not supported by Apple Computer. The pinouts and signal description of the Macintosh II Video Card can be found under "Macintosh II Video Signals".

Note: The J3 connector is not the external port, but a connector on the video card. Usually, it is located under the serial number sticker.

You must set the synthesized clock signal to 22MHz and wait for the scrolling scan bar (as viewed through a camera) to move off the screen. When you see this, set the signal synthesizer to the proper clock timing of 21.77580 MHz.

Appropriate signal synthesizers include the Wavetek 178 Frequency Synthesizer and the Hewlett Packard 3336C or 8340A. The Wavetek 178 has a resolution of 8 significant digits. This allows for the 21.772800MHz square-wave, 5-volt, pixel clock. To sync the vertical retrace line, the operator sets a 22MHz time in memory. The 22MHz causes a slow scroll of the vertical retrace line. When the line is off the screen in the blanked portion of the screen, the operator executes the 21.772800MHz clock from memory.

Article Change History:
07 Nov 1994 - Reviewed for technical accuracy.

Support Information Services
Published Date: Feb 18, 2012

A/UX: Three-Button Mouse Key Equivalents

Article Change History

03/16/89 - REVIEWED
o For technical accuracy.

Currently, the Macintosh II one-button mouse is the only mouse device available under the A/UX X Window System. Although many X client applications are designed for a three-button mouse, the A/UX X Window System uses the keyboard cursor arrow keys to act as the middle and the right mouse buttons. Following are their equivalents:

This article has been archived and is no longer updated by Apple.

Three-button mouse device	Macintosh II equivalents
"Mouse Left" or "Button 1"	Actual Mouse Button
"Mouse Middle" or "Button 2"	Option Key
"Mouse Right" or "Button 3"	Enter Key
"Meta Key"	Command (Open Apple or Cloverleaf) Key

Published Date: Feb 18, 2012

A/UX Response To Callback

If you need to dial into your A/UX computer and want it to dial you back before proceeding, try these steps and the example script that follows: This article has been archived and is no longer updated by Apple.

```
1) Using "cu", "kermit", or other means, login into the remote UNIX
  machine.

2) Exec a program or a shell script saying "callback"; the "callback"
  should perform the following tasks:

-  Logout your current terminal session, hang up the phone line, put the
  originating modem in the listen mode, and set the proper TTY bits mode
  to be used as a dial-out port.

-  Wait a couple seconds, clear the phone line, and dial the phone number
  the user provided.

-  Do an "exec /bin/login" to respawn a login session.

Here is a short example of "callback" in a C Shell script.  You may need to
fool with the "stty -hupcl" command; do not hang up the modem on the last
close. This example assumes that the remote modem is a Hayes or
Hayes-compatible modem.

       #!  /bin/csh
       if ($#argv != 1) then
            echo "Usage: callback YourHomePhoneNumber"
            exit
       endif
       set user=`whoami`
       set number=$argv[1]
       grep "$number" /usr/adm/callback.phones > /dev/null
       if ($status == 1) then
            if ($user != root) then
            echo 'You are not allowed to use dialback because your phone'
            echo 'number can not be found in the dialout-phone list.'
            echo 'Please check the number and try it again.'
            exit
            endif
       endif
       # verify if it is a login shell
       set pid=`ps -u$user |grep -c csh`
       if ($pid[1] != 2) then
           echo "not login shell, pid=$pid"
           exit
       endif
       onintr we-are-back
       set nohup
       stty -hupcl -echo intr ^C
       echo "Please hang up the phone.  Or just turn the modem OFF and ON"
       echo "I'll call you back in about 20 second."
       sleep 15
       echo -n x | tr "x" ""
       sleep 2
       echo -n x | tr "x" ""
       sleep 2
       echo -n x | tr "x" ""
       sleep 4
       echo -n "ATDT $number"
       sleep 4
       echo $*
       # While you're waiting, log the usage of this script.
       set dt=`date`
```

```
        echo $dt[2-4] $user '     ' $* >> /usr/adm/callback.log
        sleep 20
        unset nohup
        we-are-back:
        stty hupcl echo
        echo "HIT <Control-C>"
```

The above script has been tested and worked between a Macintosh SE (running MacTerminal) and an A/UX 1.0 system. You can modify it if it doesn't work on your system.

Published Date: Feb 18, 2012

LisaCalc: Entering a Cell‘s Coordinates

This article has been archived and is no longer updated by Apple.
Here's how to enter a cell's coordinates without typing it: just point at the cell, and then press the OPTION key and the mouse button at the same time.
Published Date: Feb 18, 2012

InterMail 1.36 Patch Available

This article has been archived and is no longer updated by Apple.

InterMail version 1.36 performs unpredictably with System software 6.0 and later versions. Until Microsoft releases 2.0, the best you can do is to get a patch to correct the problem. The patch is available directly from Microsoft or from CompuServe. Note: the patch upgrades version 1.36 to version 1.37.

Call Microsoft Technical Support at (206) 454-2030

Published Date: Feb 18, 2012

A/UX: "ed" and Filenames

Article Change History

08/31/92 - REVIEWED
* For technical accuracy.

Some A/UX users have misunderstood how the "ed" program works in terms of remembering file names.

This article has been archived and is no longer updated by Apple.
In the following illustration the user tries to
edit a file named "testfile", insert the contents of the password file, and
update the original file.

$ ed - testfile
P Get a prompt
* 3 The original script inserted a file at line 3
-r /etc/passwd Include the password file
w Try and update the original
? 'ed' has a problem!
h Explain it.
cannot open file It can't write to the /etc/passwd file
f Show the "current" file
/etc/passwd It's set to /etc/passwd not to "testfile"!
q
$

The user assumed that the file name at the end should be "testfile" and not
"/etc/passwd".

The manual entry for ed(1) gives an explanation for this problem. The
currently remembered filename can be set when you use certain commands
within ed--"r FILE", for example. There are some restrictions; the
currently remembered filename is only changed when FILE is the very first
filename mentioned since ed was invoked. So when you add a command like

f testfile

directly after invoking ed, the currently remembered filename will be
"testfile" until you specify otherwise. This way the "r" command will not
set the filename.

The ed(1) manual pages do mention some restriction on the currently
remembered filename. Paragraph of ($) r file command, states

"The currently remembered filename is NOT changed unless the file is the
very first filename mentioned since ed was invoked."

Published Date: Feb 18, 2012

AST Mac286 Version 2.0 Software Features

This article has been archived and is no longer updated by Apple.

The new version 2.0 of the AST Mac286 Software (downloadable from the AST BBS) has some new features:

- MultiFinder Support. Run DOS and Macintosh Programs at the same time. Mac286 has an option to maximize DOS performance or let your other applications and AST more equally share the 68020.

- Better support for color and graphics modes. CGA mode is faster and both modes (CGA and Mono/Hercules) now support character highlighting. (This should make 1-2-3 easier to use.)

- The D: Drive software has been enhanced to support subdirectory access. Accessing files in directories other than the selected directory in v1.01 did not work and caused some operational problems when using networks to run DOS applications.

Other new functions included in the update are:

- Copying and pasting graphics from the PC to a Macintosh application

- Postscript Printing to LaserWriters over the AppleTalk network system

- Improved Mouse Support for PC applications

AST will update all registered users.

Published Date: Feb 18, 2012

LaserWriter: Problem Printing on Second Side

How can I print on both sides of paper using my LaserWriter?
This article has been archived and is no longer updated by Apple.
Some people have had a problem printing two-sided pages on a LaserWriter. The pages print fine on the first side, but when printing on the second side, the toner smears at the top and the bottom of the page. There is no problem when the paper is manually fed into the printer. This can happen even when you're not using special paper.

The probable cause of the smearing or smudging is the fact that the fuser rollers in Apple LaserWriter printers have a small amount of lubricant on them. The second pass may pick up some of this lubricant, causing the problem.

Your best bet is to experiment with other paper stock until you find one that is less sensitive to the minute amount of lubricant. Consider using paper that is specifically designed for use with photocopiers or laser printers. Definitely avoid Xerographic paper that is designed to have animage placed strictly on one side. For more details on papers, search the Tech Info Library under "James River", "Scotch", and "Avery".
Published Date: Feb 18, 2012

Network Performance and Statistics

This article contains typical network performance statistics.
This article has been archived and is no longer updated by Apple.
With a TrafficWatch on a PhoneNET network consisting of 18 Macintoshes, several LaserWriters, a Kinetics FastPath 4, and a MicroVAX running AlisaShare, here are some typical statistics (with a sampling period of 15 minutes) are as follows:

Total Packets:16451
Timeouts:39
Overruns:12
CRC Errors:0
Length Errors:39

Total Packets:13030
Timeouts:35
Overruns:8
CRC Errors:0
Length Errors:33

Total Packets:16017
Timeouts:28
Overruns:14
CRC Errors:0
Length Errors:29

Total Packets:40672
Timeouts:103
Overruns:43
CRC Errors:1
Length Errors:98

Total Packets:50355
Timeouts:304
Overruns:37
CRC Errors:0
Length Errors:310

Total Packets:33312
Timeouts:78
Overruns:24
CRC Errors:1
Length Errors:77

To date, no rule-of-thumb indications for good or bad network performance have emerged. In general, network engineers consider ratios to be less important than individual categories.

In fact, their recent tests yielded results comparable to those given here. Typically, CRC errors were low or zero. Other types of errors seemed to vary in proportion, depending on the type of network traffic and the specific network.

The worst case in the sample above is a little more than a 1 percent error rate. In most of the samples, you were closer to 0.5 percent. This is certainly acceptable for a network with the number of machines in this example--18 Macintoshes, several LaserWriters, and a FastPath on a single network and zone. This is close to the size that calls for breaking up the network by adding bridges. As you add devices or see increased network use (in its current configuration), the error rate would likely increase.
Published Date: Feb 18, 2012

LisaCalc: Calculation Order

This article has been archived and is no longer updated by Apple.
LisaCalc 7/7 doesn't have a specific calculation order -- it simply determines the approach that will make for the fewest possible passes. Therefore, you don't need to worry about placement of formulas in relation to the cells they involve.

LisaCalc 1.0 and 2.0, on the other hand, calculate first by rows, then by columns. They then check to see if both answers are the same. If they aren't the same, LisaCalc calculates by rows again then rechecks the answers. If Calculate Automatically is selected, this process is repeated until two successive calculations yield the same answers, or until 30 seconds has passed. If Calcualate Manually is selected, the process is repeated indefinitely.
Published Date: Feb 18, 2012

LocalTalk PC Card and PC-Compatibles: Compatibility Issues

This article has been archived and is no longer updated by Apple.

With the number of PC-compatible workstations growing, questions have arisen concerning the compatibility of these workstations with the LocalTalk PC card and AppleShare PC. This article describes the issues surrounding the card.

Bus Speed

Most PCs or compatibles have an 8 MHz bus. Some compatibles run their buses at a faster rate and have a mode to slow the bus speed. Those that do not have this slower mode find a great many cards are not compatible, because most cards are designed for compatibility with the IBM-PC 8MHz bus. The LocalTalk PC card has been tested successfully for 8-MHz compatibility. However, faster bus speeds produce reports of incompatibilities.

DMA

The LocalTalk card works with either DMA channel 1 or 3. One of these DMA channels must be present and available on the PC or compatible.

Control Signal Address Ranges

The LocalTalk card uses the address ranges $240-$247 or $220-$227. One of these ranges must be available.

Software Compatibility

AppleShare PC is compatible with most software. Some packages, while running, don't allow the DA pop application to appear. These packages are capturing either the keyboard command or holding the operating system in a state where the DA cannot appear. In these cases, the DA usually sounds a beep. The only method of using the DA is to set up connections or make configuration changes in the DA prior to running these applications.

Also, some printer utilities reroute the printer ports for spooling, buffering, or emulation. These may not work with AppleShare PC, may cause problems, or may even cause the PC to hang.

Published Date: Feb 18, 2012

GS/OS: "Bard‘s Tale II" Format Incompatibility

This article discusses using GS/OS and the program "Bard's Tale II.

This article has been archived and is no longer updated by Apple.
The Electronic Arts' program "Bard's Tale II" does not recognize a disk formatted under GS/OS. The game requires the user to format a disk that will store the character player information and statistics. When formatted under GS/OS, the disk is not recognized as a ProDOS disk. Electronic Arts has verified that the problem exists regardless of what format options are chosen.

The only workaround is to format using an earlier version of System Software, like 3.1. Here's why...

The ProDOS format has not changed. The information stored in the directory blocks has changed. The change consists of including additional information in the directory structure than in previous versions of ProDOS. The additional information is fully documented in the description of ProDOS/16 directories and is correctly handled by ProDOS/16 directory access routines.

"Bard's Tale II" reads these directories without calling the ProDOS routines. Their program only understands the information previously stored in the directory, despite the documentation for future expansion to the directories. Programs that use the ProDOS calls to access the directory continue to work.

Using earlier versions of ProDOS (v3.2 or earlier) will not write the additional information to the directory and make it possible for "Bard's Tale II" to read the disks. The problem is purely a compatibility issue due to the implementation of accessing files in "Bard's Tale II".
Published Date: Feb 18, 2012

AppleShare PC 1.1: Not Enough Memory For Installation

This article has been archived and is no longer updated by Apple.

Some users have had problems installing AppleShare PC 1.1. Here is a typical example:

The user has a Compaq 386/25 running DOS 3.3. The Compaq is configured with 640K base memory and 1280K extended memory and the following expansion boards: LocalTalk PC, Paradise EGA, Targa 16, and Compaq Multifunction controller board.

The user planned to have the Compaq and another PC share a LaserWriter IINT. After installing AppleShare PC, there is not enough memory to run applications. The memory problem is so severe that there was not enough memory to attach the LaserWriter through the DA.

In solving this type of problem, first consider how AppleShare PC uses memory. There is an AppleLink article titled "AppleShare PC Memory Use" in the Tech Info Library that describes the following:

The amount of memory used by AppleShare PC is:

- No resident DA or other options: 127,344 bytes
- DA resident with expanded memory option: 90,176 bytes
- DA resident (no graphics or memory options): 200,416 bytes
- DA resident and high-resolution graphics support: 215,776 bytes

DOS takes up approximately 40K. AppleShare PC with high-resolution graphics support for the EGA card and DOS will take up approximately 250K. This leaves 330K for applications. Major applications (word processors, spreadsheets, and so on) usually require 384K or 512K. No wonder the user runs out of memory.

In this kind of situation, do NOT install the DA into memory. Rather, activate the by running it as a program from DOS prior to executing the applications. The user can then make the connections to the printer before executing applications.

The user does not have to execute the DA program each time the PC is turned on, if the ANET program is used and AppleShare PC is directed to connect to the LaserWriter or LaserWriters on startup. The ANET program is distributed with AppleShare PC.

Published Date: Feb 18, 2012

IBM-to-LaserWriter IINT With MS Word: Slow Printing Problem

This article has been archived and is no longer updated by Apple.

Some users with DOS computers on an AppleTalk network using the AppleTalk card and running AppleShare PC have complained of slow printing to a LaserWriter IINT. If you print to a LaserWriter set for Diablo emulation across LocalTalk, keep the following facts in mind about Diablo emulation:

1) It is slow because the interpreter for Diablo code is written in PostScript and must be translated to PostScript within the LaserWriter before printing.

2) The printer may not receiving an end-of-file or Control-D from Microsoft Word and is waiting for a time out before printing the page.

If the LaserWriter is set for Diablo emulation, try printing a multiple-page document to the LaserWriter. If the last page takes as much as three minutes to print, the LaserWriter is probably not receiving an end-of-page command.

If the LaserWriter is set for PostScript, use the Microsoft Word APPLASER driver (from the Microsoft Word printer driver disk).

Published Date: Feb 18, 2012

A/UX: Development Tools

This article lists tools Apple recommends for development for UNIX systems (not necessarily A/UX). This list was originally published for A/UX 1.0 but is still relevant for subsequent releases.
This article has been archived and is no longer updated by Apple.

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Under A/UX, the development tools can be summarized in the following categories:

1.  Programming languages (compilers and interpreters)

   -  cc (1)  - The C compiler.
   -  f77 (1) - The FORTRAN 77 compiler.
   -  efl (1) - The Extended FORTRAN language.
   -  cpp (1) - The C language preprocessor.
   -  bs (1)  - A compiler/interpreter for modest-sized programs.
   -  sno (1) - The SNOBOL interpreter.

2.  The Software Generation System (SGS) is a group of programs that
   recognizes a standard binary executable format known as Common Object
   File Format (COFF).

   -  as (1)     - Assembler.
   -  dis (1)    - Disassembler.
   -  ADB (1)    - Debugger.
   -  sdb (1)    - Symbolic debugger.
   -  ar (1)     - Library archiver.
   -  ld (1)     - Linkage Editor.
   -  prof (1)   - Profiler.
   -  nm (1)     - Display symbol table of common object file.
   -  strip (1)  - Strip symbol and line number from object files.
   -  ctrace (1) - C tracing utility.

3.  The Source Code Control System, sccs(1), helps software developers
   control changes to source code and other text files.

4.  A program maintenance utility, make (1), is a utility through which
   system developers define the dependencies among the components of a
   software system and specify the processing that should take place when
   one or more components change.

5.  Terminal-independent I/O, curses (3X), lets programmers write programs
   that read from and write to terminals without concern for the
   specific type or brand of terminal.  The curses routines can use either
   a database called "terminfo" or a database called "termcap" that
   contains a description of control sequences for various types of
   terminals.

6.  Other program development tools include:

   -  awk (1)  - A pattern scanning and processing language.
   -  yacc (1) - Yet another compiler-compiler, is a compiler-writing
                 tool that uses a BNF-like specification to generate a
                 language parser.
   -  lex (1)  - A program that uses a set of user-defined regular
                 expression to generate a lexical analyzer that will
                 analyze the tokens in the input stream.
   -  lint (1) - A C program syntax checker.
   -  cb (1)   - A C program formatter.

7.  Text processing tools

   -  Text editors

      -  ed (1)  - A simple, interactive line editor.
      -  ex (1) and vi (1) - a text-editing family composed of a line
```

```
                              editor and full-screen editor.
      -  sed (1) - A stream editor that transforms text based upon a
                   command script usually stored in a file.

   -  Documentaries Workbench (DWB)

      -  nroff (1) - Format text for output to terminals and line
                     printers.
      -  troff (1) - Device-independent text formatter for
                     phototypesetter.
      -  psdit (1) - Convert troff intermediate format to PostScript
                     format.
      -  tbl (1)   - Format text into tables.
      -  pic (1)   - Format simple line drawings.
      -  eqn (1), neqn (1), checkeq (1) - Format and check command syntax
                                          of mathematical equations.
      -  man (1) - Format text into UNIX-style manual entries.

   -  Other text-processing utilities.

      -  spell (1) - A spelling checker.
      -  grep (1)  - A program that searches for strings or regular
                     expressions within files.
      -  diff (1)  - A program that reports the differences between two
                     files.
These are all included free with the A/UX software package.  Other companies may charge extra.

For a complete list of A/UX commands and detailed information, please refer to "A/UX Command References (A -
L)", "A/UX Command Reference (M - Z)", and "A/UX Programmer's Reference".

Aside from the list above, third parties below have some development products available for A/UX.  For more
details, search the Tech Info Library under the company named.

Product name                          Company name
============                          ============
ADA Compiler for A/UX                 Alsys
Allegro CL, an extended common LISP   Franz Inc.
Data Access Language (DAL),           ITI
  formerly known as "CL/1.",
  a connectivity language
Designer C++                          Oasys, Inc.
NEXPERT OBJECT, an expert system      Neuron Data
NKR FORTRAN                           PenWare, Inc.
Optimizing C                          Unisoft Corp.
Optimizing FORTRAN                    Unisoft Corp.
Optimizing Pascal                     Unisoft Corp.
RAT FORTRAN                           Absoft
RM/COBOL-85 for A/UX                  Unisoft Corp.
S-Plus                                Statistical Science
```

Editor's Note: As of 20 Dec 1999, many of the products mentioned in this article are no longer available. Most of the companies are still producing compilers for other operating systems, so you should check with the companies to determine what products are still available.

Published Date: Feb 18, 2012

A/UX: Ethernet NIC Overflow Problems

This article describes a known A/UX 1.0 networking problem that was reported to A/UX engineering. The problem is resolved in A/UX 3.0. This article is still useful in that it provides a good troubleshooting tip in the Analysis and Solution section.

This article has been archived and is no longer updated by Apple.

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Typical Network Configuration
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The network that experienced this problem is configured as follows:
Ethernet network with A/UX systems, AT&T PCs, VAXs, and DEC terminals.

All Apple systems have Apple Ethernet cards with the new ROMs.  The cable
is a mixture of thick and thin.  The network has connections to the outside
world through gateways.  Most of the time, the network is fine.

The Problem
-----------
On occasion, the user receives these error messages in the following order:

Transmitter frozen and resetting
ae_0 overflow
NIC reset failed
ae6_intr:receive overflow warning

After the error happens, the network has problems with RPC and NFS.  "Show
mount" says that the RPC Program did not register.  If the user kills
"initd" and restarts, everything works until the next time the error
occurs.

On occasion, the user receives screens full of "mexpand returning 0" error
messages.  Then, the transmitter resets, and the user discovers that
"initd" isn't running anymore.

As a test, you can output from "netstat 1", "netstat -s", "netstat -m", and
```
a login on an A/UX system on the network. Although the network doesn't
appear to be too busy, there is a very high error rate.

There is also an IBM PC on another part of the network has been sending out
broadcast storms (broadcasting all zeros) that cripple her network (A/UX
systems and DEC terminals included). This is a recently detected problem
that may have been going on earlier and may be contributing to the ae_0
overflow errors.

Analysis and Solution

The problem seems to involve the broadcast traffic that A/UX made and that
was responded to by other machines.

At this point, the best thing to do is eliminate the broadcast traffic from
and/or to the Macintosh A/UX machines by shutting down some of broadcasting
daemons (like "rwhod") and/or to isolate the A/UX machines by subnetting
them in a separate subnetwork.

For a temporary recovery from the situation, type the following commands to
bring the network up again:

ifconfig ae0 down
ifconfig ae0 up
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LisaCalc: Error Results

This article has been archived and is no longer updated by Apple.
Apparently innocent formulas, like A1+B1, sometimes result in an Error if A1 or B1 is blank. The program has forgotten that blank cells are to be treated as zero in a formula. To get around this lapse of memory, just put a zero (0) in the blank cell.
Published Date: Feb 18, 2012

LaserWriter and VAX: How To Fix An EEROM Problem (3/94)

Some users, especially those with networks, have experienced peculiar situations wherein a LaserWriter (connected via AppleTalk to a Macintosh) works, while another LaserWriter (connected on a serial line to a VAX that spools its print jobs) won't. Quite often, an EEROM problem is involved. (The EEROM is where persistent parameters are stored.)

This article has been archived and is no longer updated by Apple.
When a failure to print across the serial line occurs, the problem can be that the EEROM was left in a state that the VAX is unable to deal with. This can happen if the LaserWriter was serially connected to a non-Macintosh machine before being connected to the VAX. For example, there are a number of MS-DOS programs that leave a LaserWriter EEROM in a non-standard state.

Two common problem areas are improper setting of the "setdefaulttimeouts" persistent parameter in EEROM and the corruption of the EESCRATCH section of the EEROM. The EESCRATCH is the area of EEROM used to extend PostScript. It is also the area most likely to have been set up in a non-standard way.

Initializing (by running a print job) over AppleTalk is a good, simple way to correct the problem. When the LaserWriter is initialized over AppleTalk, the EEROM is set in a state that the VAX can work with. Thereafter, the VAX should be able to print the file.

The AppleTalk LaserWriter drivers can deal with this situation, because they communicate with the LaserWriter as it is printing. When the LaserWriter has an EEROM problem, the driver can set the EEROM up properly. Because the VAX is spooling the document, it cannot maintain this type of back and forth dialog with the LaserWriter.

Article Change History:
18 Mar 1994 - Corrected title which contained errant characters.

Support Information Services

Published Date: Feb 18, 2012

Macintosh II ADB Port: Fuse Specifications

I think I've blown a fuse on my Macintosh II computer's Apple Desktop Bus (ADB) port. Is this something I can fix?

This article has been archived and is no longer updated by Apple.
The +5-volt line on the Macintosh II ADB port is protected by a subminiature 1-amp, 125VAC, normal-blow fuse. This fuse is soldered to the logic board and is not a user-replaceable part.

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Macintosh: Sperry Emulation

This article has been archived and is no longer updated by Apple.

Approximately 80 percent of communications with Sperry systems is accomplished via 3270 protocols. Available third-party solutions are Avatar's MacMainFrame and DCA's MacIrma product. The other 20 percent uses Sperry's UniScope, a modified 3270 protocol. To access these systems, connect through a protocol converter using a VT100 terminal emulator.

For more details, search the Tech Info Library under "Avatar", "DCA", and "Sperry".

Published Date: Feb 18, 2012

LaserWriter: Three Books from Addison-Wesley

This article has been archived and is no longer updated by Apple.

The "Inside LaserWriter" manual is no longer available. It has been replaced by a manual called:

- "Apple LaserWriter Reference" (available from Addison-Wesley)

Two other pertinent titles from Addison-Wesley:

- "PostScript Language Reference Manual"

- "PostScript Language Tutorial and Cookbook"

Published Date: Feb 18, 2012

ProDOS 8: How To Find Disk, Controller, and Block Information

This article describes how to find disk information, by making calls to significant memory locations.
This article has been archived and is no longer updated by Apple.
Is the Card a Disk Controller?

Check memory locations $Cs01, $Cs03, $Cs05 (s = slot number) for $20, $00, and $03, respectively. If these values are found, then the card in the slot is a disk controller.

Apple Disk II Disk Controller and Disk Capacity?

Check memory location $CsFF. If the value is $00 or $FF, assume that an Apple Disk II disk controller card is installed ($00 is 16-sector, $FF is 13-sector).

SmartPort Device and Number of Blocks?

If the device is not an Apple Disk II disk controller card, check memory location $Cs07. If the value does not equal $00, the device is not a SmartPort device, and the total number of blocks for the drive are stored at memory locations $CsFC and $CsFD in low-byte/high-byte order.

If the total number of blocks is 0, contact the card manufacturer for details on how to determine the number of blocks.

Note: We do not know of any disk controller that does not store the total number of blocks at memory locations $CsFC and $CsFD.

If the value at memory location $Cs07 is $00, the drive is a SmartPort device. To find the number of blocks on the drive, you must make SmartPort status call $03 (get DIB). This call is documented in the "Apple IIGS Firmware Reference Manual" on pages 114 through 125 with the most specific information starting on page 121.
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A/UX: How To Link Macintosh OS Object Code (8/94)

A/UX: How To Link Macintosh OS Object Code

This article has been archived and is no longer updated by Apple.
You cannot link the Macintosh OS object code directly from A/UX, because A/UX and Macintosh OS have different object formats. You need to recompile and link them under A/UX.

Article Change History:
23 Aug 1994 - Reviewed and updated.
27 Aug 1992 - REVIEWED for technical accuracy.

Support Information Services

Published Date: Feb 18, 2012

A/UX: Calculating Packets per Second through Ethernet (8/94)

This article shows you how to calculate packets-per-second throughput across Ethernet.

This article has been archived and is no longer updated by Apple.
To find the number of packets per second you can move through your Ethernet, do a quick and dirty test. Try "cp"ing or "cat"ing some files to and/or from an NFS file server. A rough test of "cp" (a 554181-byte file) with a 1K packet size took about 10 seconds (about 55K/sec).

roughly, 550,000 bytes
---------- = 550K in 10 seconds = 55K/sec
1,000 bytes per K

Some factors that might affect this number are network traffic, packet size, the load of the system, NMBUFS (buffers for networking), and so on.

Article Change History:
23 Aug 1994 - Reviewed and updated.
25 Jun 1993 - Revised for clarity.
29 Mar 1989 - Reviewed for technical accuracy.

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A/UX: STREAMS (8/94)

This article has been archived and is no longer updated by Apple.
The STREAMS currently used by A/UX comes from AT&T System V Release 2.1. It includes all features of STREAMS, except it doesn't support the following System V Release 3 features:

- input/output polling
- asynchronous input/output
- multiplexed streams
- putmsg and getmsg routines
- services interfaces and messages
- bufcall, enableok, datamsg, insq, noenable, pullupmsg, rmvq, and testb utility routines
- NSTREVENT, MAXSEPGCNT, NSTRPUSH, STRMSGSZ, STRCTLSZ, STRLOFRAC, and STRMEDFRAC system parameters

Article Change History:
23 Aug 1994 - Reviewed and updated.
31 Aug 1992 - REVIEWED for technical accuracy.

Support Information Services

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LisaCalc: Precision Problems

This article has been archived and is no longer updated by Apple.
When an IF test uses real numbers, problems with round off can cause incorrect evaluations. For example, say you have the formula

IF(A1+A2=A3,"OK","NOT OK")

and cell A1 contains 2.1, A2 contains 1.2, and A3 contains A1+A2. Even though the values look identical, the formula will return "NOT OK", because values in an IF statement (A1+A2) have a different precision than values in a cell (A3).

So, when the two values are compared, they are not the same ("NOT OK"), even though logically they are. To avoid this situation, use integer numbers for equality tests -- or, when you use real numbers, add an INT function to your IF statement.
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Block-Mode Terminal Capability With VAX/VMS

This article has been archived and is no longer updated by Apple.

This article describes why trying to do block-mode terminal emulation on a VAX running VMS is not a good idea. Essentially, it is a very complex, time-consuming process to convert software.

Having block-mode terminal capabilities on a VAX running VMS requires more than writing a terminal emulator. It also requires rewriting all of the programs that run on the VAX so that they support block-mode terminals. At the lowest level, VMS does support block-mode terminals. However, the lowest level only lets these features be implemented by an application. This requires the VMS application, itself, to implement all of the block-mode input and output routines that are usually accessible from the standard I/O routines on machines that run block-mode terminals.

Block-mode transfer is available from a specific model of DEC terminal in the VT100 family, the VT131. Currently, no terminal emulation package is available for the Macintosh that implements the block-mode features of the VT131. The alternative, then, is to write a terminal emulator with the necessary features.

Unfortunately, writing a terminal emulator that has block-mode features does not solve the problem on a VMS machine. The following quote from Digital's "Terminal and Printers Handbook" explains this:

"Digital currently supports the VT131 block mode under VAX/VMS version 3.0 and later versions. Support is at the operating system level, and this requires the use of third-party application programs to take full advantage of the VT131 features. This allows Digital software OEMs that use block mode terminals to use their software on Digital hardware with minimal modification. Digital has no plans to provide application software for the VT131 in other than VT102 (conversational) mode."

What this means is that although you could write a terminal emulator that has block-mode features, none of the standard VMS application software would take advantage of those features. They would read the terminal in character-by-character (conversational) mode, anyway. Thus, to implement block mode, you would have to write the terminal emulator and rewrite every application on the system to support block mode. For example, the VMS editor would need to be completely rewritten.

The use of AppleTalk VMS does not solve this problem for the same reason that writing the terminal emulator will not. Standard VMS applications are still written for conversational mode. It is possible that performance might degrade in a situation where each character is transmitted in its own AppleTalk packet with the echoed character also returned in its own packet.

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Sony MultiScan: Troubleshooting Ghosts

This article describes troubleshooting techniques for clearing video "ghosts" from a Sony Video Graphic MultiScan Projector Model # VPH-1030Q1 attached to a Macintosh II, RGB 8-bit AppleColor Monitor.

This article has been archived and is no longer updated by Apple.
Usually a ghosting image appears because of transmission problems. Such problems are usually because of the cables. Causes include:

- The cable not having enough grounds connected

- A poor ground connection

- Poor shielding on the cable

- Cable length extended too far (depending on the cable and signal). In this case, the cable should be no longer than 50 feet, if at all possible.

First, check the cables. If that doesn't solve the problem, consider these three possibilities:

- All of the video grounds from the Macintosh II video card should be connected to the grounds on the projector.

- The best type of cable is RG-59 75-ohm cabling.

- The Sony 1031Q supports a multiscan ability of up to 36 KHz for horizontal. This is more than enough for our 34 KHz horizontal signal. The bandwidth will cause a blurring if it is much less than 20 MHz, and would be best at 30 MHz.

There are ten open ground pins for connection on the RGB2 connector. Four of these should be used for pins 1, 4, 6, and 11 of the Macintosh II card. Leave pin 9 of 1031 RGB2 connector open for analog video input.

The pin connection should be as follows:

Macintosh II video card 1031Q RGB2 connector
--- ---
1 (ground) --- 15
2 (red) --- 6
4 (ground) --- 16
5 (green & composite sync) --- 5
6 (ground) --- 17
9 (blue) --- 4
11 (ground) --- 18

Published Date: Feb 18, 2012

Apple II: Starting Over Bridges

This article has been archived and is no longer updated by Apple.

When an internet has each side of the InterBridge assigned a different zone name (common practice when using the InterBridge) In this type of internet, the Apple IIe and the Apple IIGS cannot boot across an InterBridge.

However, when both sides of the InterBridge have the same zone name on a one-zone internet, the Apple II systems can start across the InterBridge. This difference occurs, because AppleTalk uses the Name Binding Protocol to understand the network design. (AppleTalk is more concerned with names than it is with numbers.) With both sides of the InterBridge having the same zone name, AppleTalk believes it is dealing with one network (one zone).

This method of name assignment has one disadvantage. All network traffic is passed across the InterBridge, thus defeating the usual reason for installing the bridge--the logical separation of network traffic.

Note: Routers and bridges are different devices. They do perform similar functions, but the router is a higher-level device than the bridge.

Published Date: Feb 18, 2012

GS/OS 4.0: Checkmate MemorySaver

This article discusses GS/OS v4.0 and the program Checkmate MemorySaver.

This article has been archived and is no longer updated by Apple.
Some users have reported problems installing GS/OS on the Checkmate MemorySaver using the Installer and the Control Panel to set the start-up slot. In fact, using the Installer to put GS/OS on the MemorySaver may be the cause of the difficulties. Rather, follow these two steps:

1) Use the Installer to create a boot disk configured the same as the desired MemorySaver configuration.

2) Copy the contents of the configured boot disk to the MemorySaver.

Checkmate Technologies provided the following suggestions:

- Do not create a RAM disk in the Control Panel.
- Check MemorySaver partitions; you need one large enough to accommodate your configuration of GS/OS.
- Use a copy program like "System Utilities", instead of the Installer or the Finder "drag" copy technique.

Published Date: Feb 18, 2012

LisaCalc: Lookup

This article has been archived and is no longer updated by Apple.
Please ignore the implication, on page D32 of the LisaCalc Manual, that you can enter more than one range for Range1 in your Lookup statement. In fact, when you enter the second range, LisaCalc assumes that this is Range2.

You can get around this if your Lookup table spans more than one row or column. Consider, for example, a Lookup table to look up a number in the range of 1 to 300. Obviously, this will be more than one column or row. In Cells B1:B254 you have numbers from 1 to 254. In the column to the right (C1:C254) you have the result to return. In Cell B255, instead of entering the value 255, enter 301, a number outside the range of the Lookup table. To the right of that you have a lookup that looks like this:

LOOKUP(A1,D1:D46,E1:E46).

D1:D46 has the remaining numbers in your Lookup table, the results are to the right in column E. So in your main Lookup Statement you would have this:

Lookup(A1,B1:B255,C1:C255)

If the number you are looking for in A1 is 260, then the value returned will be the result of the Lookup in Cell C255.
Published Date: Feb 18, 2012

Macintosh: Fortune 8025 Connectivity

Do you know how I can connect a Macintosh to Fortune 8025? And do you have any information about Fortune terminal emulation?
This article has been archived and is no longer updated by Apple.
We assume you mean the Fortune computer that was marketed 5 to 7 years ago, a UNIX computer that used UNIX System 7. Any terminal emulation that can be defined in "termcap" can be used with this system. The VT100 emulation provided in many Macintosh telecommunications applications would work.

Here are three Macintosh-to-Fortune 8025 Communication solutions.

* NCSA Telnet is probably the best solution. Telnet is a solid, feature-rich, public-domain, VT100 emulator. It requires an Ethernet connection and a Kinetics FastPath, if you are connecting via PhoneNET or LocalTalk. Telnet supports UNIX FTP.

* Kermit is a file-transfer protocol. The public-domain Kermit package for Macintosh also provides terminal emulation.

* MacTerminal or equivalent creates an asynchronous connection with ASCII text transfer only.

For more information, search for NCSA Telnet, Kermit, or MacTerminal.
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AppleShare PC and LaserWriter Printer Emulations

This article has been archived and is no longer updated by Apple.

AppleShare PC allows the capture and redirection of printer output from a PC application to the attached and selected LocalTalk printer (LaserWriters and so on).

If you have a LaserWriter and want to output to a "normal" PC printer, select the printer at "LPT2:" (or other valid LPTx: address) to be a networked LaserWriter that emulates an Epson LQ2500 or preferred device. If you have a LaserWriter and want to send output to a PostScript printer, select the printer at "LPT3:" (or other valid LPTx: address) to be a networked LaserWriter that emulates a PostScript printer.

You can select the SAME networked LaserWriter to be both the Epson LQ2500 and the PostScript printer via two different line printer (LPTx:) logical addresses. Using the LPTx ports in this manner is a standard part of testing. There are no special techniques for accomplishing the described procedure. The most difficult part of the process is remembering which LPTx belongs with which emulator.

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A/UX: Advantages of "dump.bsd" (8/94)

What are the advantages of using dump.bsd?

This article has been archived and is no longer updated by Apple.
As described in the Local System Administration guide section on Backing Up Your System, the programs "dump.bsd" and "restore" can be used for backup.

The dump.bsd command is used for partial or full file system backups. The restore program is the companion utility of dump.bsd. It retrieves files and directories from a backup medium created with dump.bsd.

The ADVANTAGES of using dump.bsd and restore include the following:

* dump.bsd is generally faster than tar or cpio.

* They allow you to back up only those files modified or created after a certain date.

* The restore command can extract files by their inode numbers.

* A variation of the dump.bsd command, rdump, allows you to back up files over a network.

* You cannot inadvertently backup a file system located on a remote computer.

The DISADVANTAGES of using dump.bsd and restore are as follows:

* They operate only on file systems. As distributed, A/UX has only one file system, so this is not initally a drawback. However, if you add one or more file system, your use of these backup utilities becomes more complicated because you have to backup the file systems individually.

* You must be sure the system's date and time are always correct, or you are likely to lose files when restoring from an incremental backup.

* Backups made with dump.bsd cannot usually be transferred to other systems.

Article Change History:
22 Aug 1994 - Reviewed and updated.
31 Aug 1992 - REVIEWED for technical accuracy.

Support Information Services

Published Date: Feb 18, 2012

A/UX: "termcap" Vs. "terminfo"

Article Change History

08/27/92 - REVIEWED
o For technical accuracy.

Questions have arisen as to when to use "termcap" and when to use "terminfo".

This article has been archived and is no longer updated by Apple.
"termcap" is the Berkeley-based mechanism;
"terminfo" is the preferred and newer System V-based mechanism.

A/UX includes "termcap" to ease porting to the many utilities that still use it.

Published Date: Feb 18, 2012

LisaCalc: How to check for a blank cell

This article has been archived and is no longer updated by Apple.
There are some instances which require a test for an empty or blank cell. To test for this condition, you need to compare the cell in question with another cell that you know will always be blank, such as in:

IF(D5=X255,'blank',G4-D5)

assuming that X255 is always empty.
Published Date: Feb 18, 2012

A/UX: Some Error Messages Explained (8/94)

This article describes the meanings of four A/UX error messages:

- "procdup - can't get 2 pages for udot"
- "SCSI timeout"
- "SCSI reset"
- "ku_fastsend: if_output failed:"

This article has been archived and is no longer updated by Apple.

"procdup - can't get 2 pages for udot"

This message indicates that a kernel memory allocation request failed. It seems that there is not enough memory, and/or there are too many processes running on the particular A/UX system. A suggestion is to add more memory or run fewer processes. With such a message, you should also do the following:

1) Run the "kconfig -av", "pstat -m", and "netstat -m" commands.
2) Examine the output of these commands.
3) Adjust the system parameters from the "kconfig", if necessary.

"SCSI timeout"

This indicates that the SCSI was running into a situation (like doing a huge file transfer) that caused the device driver to issue a SCSI I/O request to a device. The device, has in turn, timed out before it can process the request from the driver.

"SCSI reset"

This was sent from the SCSI manager to the driver simply to clear out any timeout errors. This symptom had been reported in the A/UX Bug Report Database. There is a lot of improvement and many fixes to the SCSI driver since A/UX 1.1.

"ku_fastsend: if_output failed:"

This indicates a failure occurred on an interface output routine when the driver or the controller tried to send data to Ethernet. The "error=70" indicates "Network is down". This might be caused by the previous error messages.

Article Change History:
22 Aug 1994 - Reviewed and updated.
27 Aug 1992 - REVIEWED for technical accuracy.

Support Information Services

Published Date: Feb 18, 2012

A/UX: Shell Argument Limit

Article Change History

08/27/92 - REVIEWED
o For technical accuracy.

Some users have tried unsuccessfully to pass large command-line arguments.

This article has been archived and is no longer updated by Apple.
The problem with the large command line is a shell problem; the shell can't work with the large command line parameters. Passing a large command line to "awk" or to other utilities creates problems. For example, If you try to "echo" a lot of characters (as shown below), it won't work.

```
1 echo '
2 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
3 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
. :::
. ' a lot more X's '
. :::
24 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
25 XXXXXXXXXXXXXXXXXXX
26 '
```

The Korn shell has the same problem, only it allows a much larger number of characters. The Korn shell doesn't dump a core, while "csh" and "sh" do. It seems that the A/UX shells (Bourne, Csh, or Korn) have limitations on the size of their arguments.

The same echo command is successful on a BSD UNIX system.

Published Date: Feb 18, 2012

Apple IIc Plus: Using Apple IIc Memory Expansion Card

This article discusses using the Apple IIc Memory card in the Apple IIc Plus.
This article has been archived and is no longer updated by Apple.
The Apple IIc Plus manual, page 110, states, (The Apple IIc Memory Expansion Card is not designed to be used with the Apple IIc Plus. Ask your authorized Apple dealer to recommend a compatible card.)

The design of the Apple IIc Plus renders the Apple Memory Expansion Card unstable, because of timing problems associated with the gate array.

Use of the Apple IIc Memory Expansion Card in an Apple IIc+ is not supported by Apple.
Published Date: Feb 18, 2012

Macintosh-To-Sun Connectivity

This article describes a number of different solutions for connecting Macintosh systems to Sun workstations. Many of them are applicable to other UNIX systems, as well.
This article has been archived and is no longer updated by Apple.
In terms of connections to UNIX services, like Telnet, NFS, and FTP; look at products like NCSA Telnet and others.

NCSA Telnet is a Macintosh telecommunications program written by the National Center for Supercomputing Applications at the University of Illinois, Champaign-Urbana. It provides a VT100 connection to UNIX systems that have Telnet services. NCSA Telnet also provides FTP (File Transfer Protocol) uploading and downloading and Tektronix 4010 terminal emulation. The most recent version of NCSA Telnet (version 2.2) supports direct connections to an Ethernet via an EtherTalk card (or the EtherPort cards from Kinetics) and connections over LocalTalk/PhoneNET through an AppleTalk-to-TCP/IP gateway, like the FastPath from Kinetics.

CAP (Columbia AppleTalk Package) is a public domain product from Columbia University that turns UNIX systems into AppleShare servers that can be accessed through the Chooser. It also provides various print services for those UNIX systems.

MacKermit is a public domain, serial-based telecommunications program providing VT100 emulation and uploading and downloading via the Kermit file transfer protocols. Most UNIX systems also have Kermit support, and this program provides good asynchronous access and file transfer capabilities to these systems.

Ungerman-Bass Corporation has announced Telnet and FTP programs for the Macintosh, based upon our announced, but not yet released, MacTCP driver.

uShare is a product from Information Presentation Technologies. uShare is comparable to PacerShare or AlisaShare, but for UNIX -- it is software that runs as a process under UNIX and permits the Sun systems that run it to act as AppleShare file servers. A Kinetics FastPath would still be needed to bridge LocalTalk and Ethernet.

Currently, there are no products that translate data files other than raw text files between Suns and Macintosh computers. Many of the terminal and file transfer programs listed above do this properly.
Published Date: Feb 18, 2012

Macintosh II: Can‘t Use 16 Colors Setting Desktop Pattern

This article has been archived and is no longer updated by Apple.

Some Macintosh II users with 8-bit or 4-bit video cards and color monitor, running System software 6.0.2 or 6.0.3 have run into a minor problem when using the Control panel. Results are different depending on whether you set video for 256 colors or 16.

For example, select the Control Panel, and then set the card for 256 colors. Now select General and use the arrows above the sample patterns to move through the predefined options. Create a colored desktop pattern and change your desktop pattern to the new colored pattern. Now select any one of the other Control Panel icons (like Mouse, Keyboard, Monitors, Color, or other), and watch the desktop pattern. If you followed every step, then you should see no unexpected changes while doing the above steps.

Now, set up your video for 16 colors and do the same steps. You should notice that the desktop colors change as you step through the various, predefined, desktop patterns. In addition, they change when you select other Control Panel devices.

The reason 256-color mode works properly and 16-color does not is unusual but not an anomaly. The General CDEV uses the standard system "CLUT" (color look-up table) to define the variety of colors and patterns it stores as default options. The system color-look-up table contains 256 separate entries or colors. When the system is set to the 16-color mode, only 16 of the 256 colors are accessible at a given time, and the system defines 16 colors as the 16-displayable or default colors.

The General CDEV adjusts the 16 default colors to the colors used by its patterns or the patterns created by the end user, as they are selected. This adjustment of the 16 default colors remains in affect only as long as the General CDEV is active. As soon as another CDEV is chosen or the Control Panel is closed, the 16 default colors revert back to those set as default by the system, which causes the desktop colors to change.

Published Date: Feb 18, 2012

LisaCalc: New vs. Used Rows and Columns

This article has been archived and is no longer updated by Apple.
On a new Calc sheet, enter the following:

in cell A1 enter 20
in cell A3 enter 30
in cell A4 enter 50
in cell A5 enter 100
in cell A6 enter MIN(A1:A5)

The value will be 20.

Now, enter anything into any cell (other than A2) in row 2. The value in A6 changes to 0. The problem is that that LisaCalc makes a distinction between new and used rows or columns. To get around this, cut row 2 and insert another in its place.
Published Date: Feb 18, 2012

Macintosh: How To Transfer CP/M Text Files

There are two ways to move documents from a CP/M machine to a Macintosh. The first is to put the documents in text-only format and send them through the serial port. The second is to use a "disk translator" program.
This article has been archived and is no longer updated by Apple.
Ñ Serial Port Transfer

To send documents from a CP/M system to a Macintosh, first save the files from the application that originated them as text-only documents on the CP/M system. Next, transfer the files through the serial port to a Macintosh using a terminal emulator. The computers can be connected via modem or direct cables. Transferred text files are easily opened by most Macintosh applications.

Ñ Disk Translator Programs

There are several products on the market for the IBM and for CP/M machines that read and write different disk formats. One such program is Media Master for the IBM. This program lets you insert a non-IBM-format disk, like Kaypro, SuperBrain, Osborne, or other, into the IBM and save it to IBM format. Once the information is in IBM format, you can use Apple File Exchange, Apple PC Exchange or any other DOS-to-Mac transfer utility to read the information on the Macintosh. The Apple FDHD SuperDrive allows direct transfer of the data from an IBM 3.5-inch disk.

Published Date: Feb 18, 2012

A/UX: Bourne Shell: "ulimit" Security Problem

Here's a security problem in A/UX 1.0 and 1.1. It does not apply
to A/UX 3.0.

$ulimit 0
$passwd # this command means do the normal passwd routines

This article has been archived and is no longer updated by Apple.

```
After this, the "/etc/passwd" file is truncated to 0 length.  This works
both as "su" and as a normal user.  This problem has been verified in the
Bourne Shell "ulimit" built-in function.

If anyone wants to verify it, login as "root".  Otherwise, you can't get
back your root access.
```

Published Date: Feb 18, 2012

A/UX: Avatar‘s "MDPIC" Puts Graphics In "troff" Documents

DCA's (formerly Avatar) "MDPIC" Puts Graphics In "troff" Documents

This article has been archived and is no longer updated by Apple.
A program called "MDPIC" from DCA (formerly Avatar) interprets Macintosh text and graphics formats and converts them into "pic" and "troff" format. The "pic" is the generalized graphical front end to "troff" through which users can include graphics in "troff" documents. "pic" works in much the same way as "tbl" and "eqn".

MDPIC is application-independent; with it, you create "pic" and "troff" graphics using MacDraw, Excel, MacProject, MacDraft, Cricket Draw, MacWrite, and, in fact, almost any Macintosh application (according to their advertisement). To locate a vendor's address and phone numbers, use vendor name as a search string.

Article Change History:
26 July 1993 - Company title changed from Avatar to DCA (Digital Communication Associates), and added "To locate a vendor's address and phone numbers, use vendor name as a search string.
31 August 1992 - Reviewed for technical accuracy

Published Date: Feb 18, 2012

LocalTalk Custom Wiring Kit Is Teflon-Shielded

This article has been archived and is no longer updated by Apple.

The LocalTalk Custom Wiring Kit, which is sold in 100-meter lengths, is Teflon-shielded, and is rated for plenum use. Teflon shielding does not give off toxic fumes when burned and is, therefore, safe in public building installations.

Published Date: Feb 18, 2012

Macintosh SE: How To Drive Macintosh II Monitors

Article Change History

09/16/92 - RETITLED
* To reflect emphasis on compatibility with Macintosh II monitors.
09/16/92 - REVISED
* To include information on how to located third party vendor.

Can I use the Apple 13" RGB monitor with a Macintosh SE? How about other Apple monitors?

This article has been archived and is no longer updated by Apple.
Orchid Technologies sells a board called ColorSE that drives the Apple 13" High Resolution RGB monitor and also displays color. This video card offers 16 colors or grayscales from a palette of 256,000. It supports any monitor that works with Apple's Macintosh II video card.

To locate a vendor's address and phone numbers, use the vendor name as a search string.

Published Date: Feb 18, 2012

Apple IIc Plus: External Pinouts

This article gives the pinouts for the following ports for Apple IIc Plus:

- DB-9 Mouse or Joystick Port

- DB-19 Disk Drive Port

- DB-15 Video Expansion Connector

- MiniDin-8 Modem Port (with startup characteristics)

- MiniDin-8 Printer Port (with startup characteristics)

This article has been archived and is no longer updated by Apple.

DB-9 Mouse or Joystick Port

1- MOUSEID* Mouse identifier: when active, disables NE556 hand controller timer.
2- +5V total current drain from this pin must not exceed 100 mA.
3- GND System Ground.
4- XDIR Mouse X-direction indicator.
5- XMOVE Mouse x-movement interrupt.
6- N.C. Not connected.
7- MSW* Mouse button.
8- YDIR Mouse Y-direction indicator.
9- YMOVE Mouse Y-movement interrupt.

1- GAMESW1 Switch input 1 (sometimes called paddle button 1).
2- +5V total current drain from this pin must not exceed 100mA.
3- GND System ground.
4- Not Used for hand controller.
5- PDL0 hand controller input. Must be connected to a 150K ohm variable resistor connected to +5V.
6- N.C. Not connected.
7- GAMESW0 Switch input 0 (sometimes called paddle button 0).
8- PDL1 hand controller input; must be connected to a 150K ohm variable resistor connected to +5V.
9- Not used with hand controller.

DB-19 Disk Drive Port

1,2,3- Ground.
4- 3.5DISK 3.5 or 5.25-inch drive select.
5- -12V -12 volt supply.
6- +5V +5 volt supply.
7- +12V +12 volt supply.
8- +12V +12 volt supply.
9- DR2 Drive 2 Select.
10- WRPTOTECT Write protect input.
11- PHASE0 Motor Phase 0 output.
12- PHASE1 Motor Phase 1 output.
13- PHASE2 Motor Phase 2 output.
14- PHASE3 Motor Phase 3 output.
15- WREQ Write request.
16- HDSEL Head Select.
17- DR1 Drive 1 select.
18- RDDATA Read data input.
19- WDATA Write data output.

Note: Power connectors on this port are for use by the disk drive only.

DB-15 Video Expansion Connector

1- TEXT Video text signal from TMG; set to inverse of GR, except in double high-resolution mode.
2- 14M 14M master timing signal from the system oscillator.

3- SYNC* Displays horizontal and vertical synchronization signal from IOU pin 39.
4- SEGB Displays vertical counter bit from IOU pin 4; in text mode, indicates second low-order vertical counter; in graphics mode, indicates low-resolution.
5- 1VSOUND One-volt sound signal from pin 5 of the audio hybrid circuit (AUD).
6- LDPS* Video shift-register load enable from pin 12 of TMG.
7- WNDW* Active area display blanking; includes both horizontal and vertical blanking.
8- +12V Regulated +12 volts DC; can drive 300mA.
9- PRAS* RAM row-address strobe from TMG pin 19.
10- GR Graphics mode enable from IOU pin 2.
11- SEROUT* Serialized character generator output from pin 1 of the 74LS166 shift register.
12- NTSC Composite NTSC video signal from VID hybrid chip.
13- GND Ground reference and supply.
14- VIDD7 From 74LS374 video latch; causes half-dot shift high.
15- CREF Color reference signal from TMG pin 3; 3.58 MHz.

Note: The signals at the DB-15 on the Apple IIc are not the same as those at the DB-15 end of the Apple III, Apple IIGS, and Macintosh II. Do not attempt to plug a cable intended for one into the other.

Several of these signals, such as the 14 MHz, must be buffered within about 4 inches of the back panel connector--preferably inside a container directly connected to the back panel.

MiniDin-8 Modem Port

1- DTR Data Terminal Ready (output).
2- DSR Data Set Ready (input).
3- TD Transmit Data (output).
4,6,8- Ground.
5- RD Read Data (input).
7- N.C. Not connected.

Start-up Characteristics
---
300 baud
8 data bits
No parity
1 stop bit
No screen echo
No Line Feed after Carriage Return (no LF after CR)
No Carriage Returns in output stream
Command Char= Control-A

MiniDin-8 Printer Port

1- DTR Data Terminal Ready (output).
2- DSR Data Set Ready (input).
3- TD Transmit Data (output).
4,6,8- Ground.
5- RD Read Data (input).
7- N.C. Not connected.

Start-up Characteristics

9600 baud
8 data bits
No parity
2 stop bits
80-column line
No screen echo
Line Feed after Carriage Return
Command Char= Control-I

TA39895_Apple_IIc_Plus_External_Pinouts_(TIL03798).pdf

The MiniDin-8 pin configuration is this: As you look at the back of the machine, pin 1 being lower-right, pin 3 middle-right, pin 6 upper-right.

8 7 6
5 4 3
2 1

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Macintosh SE/30: SCSI Access Time and Transfer Rate

Article Change History

09/16/92 - REVIEWED
* For technical accuracy.

What is the SCSI access time and transfer rate for the Macintosh SE/30?

This article has been archived and is no longer updated by Apple.
The access time for the drives in the Macintosh SE/30 averages less than 30 ms. The data transfer rate is the same as the Macintosh II and is very close to 935K bps.

Published Date: Feb 18, 2012

Apple Access III: Addendum (4 of 7)

This article has been archived and is no longer updated by Apple.

NEW FILE TRANSMISSION FEATURES

Version 1.1 of Access III recognizes Pascal text files. It doesn't transmit the header, though it correctly expands the DLE sequences to the proper number of blanks.

You can also queue any file for transmission at a later time: merely enter a "Q" when asked if your ready to transmit. The system prompts you to:

```
     Queue password (ESC-RET to abort)?
```

Enter your password containing up to 16 characters for the password. After you enter the password and press RETURN, Access III displays:

```
     Waiting...
```

Access III then compares every word it receives with the password you entered. Upon receiving the exact password from the RS232 port, the system immediately begins transmitting the file you queued. While Access III is waiting for the password to be sent, you're unable to use Access III.

If necessary, abort the wait (or transmisson) by pressing the ESCAPE key.

NEW ESCAPE SEQUENCES

Access III has its own private escape sequences that are not part of the VT100 ANSI escape sequence set. These sequences are active ONLY when Access III is in ANSI mode.

Access III private escape sequences follow the ANSI escape character format: they're followed by a special lead-in character and end with a unique terminator. The format is:

```
     ESC * Pn Ps @
```

Where ESC is the introductory escape character. The asterisk (*) represents special character lead-in that identifies the sequence as an Access III private escape sequence. Pn is a single digit parameter number, while Ps is a parameter string appears in the sequence soley to change the recording file name. The unique terminator is the "at sign" @ which is ASCII 64.

In most of the examples of escape sequences, the characters in the sequence are separated by spaces for easier reading. No real escape sequence should ever contain embedded blanks. Doing so will have unpredictable consequences.

The valid values for Pn are:

Pn	Meaning
0	Turn recording off
1	Turn recording on
2	Turn the filter off
3	Turn the filter on
4	Change the recording file name

TURN RECORDING OFF

It is possible to have a remote computer turn recording on and off by sending Access III a special escape sequence. To turn recording off, simply have the remote computer send Access III the following characters, in the order shown:

```
     ESC * 0 @
```

ESC is the escape character (ASCII 27).

TURN RECORDING ON

To turn recording on, send Access III the following characters, in the order shown:

```
     ESC * 1 @
```

ESC is the escape character (ASCII 27).

TURN THE FILTER OFF

Upon receipt of the following characters, Access III turns the recording filter off:

```
     ESC * 2 @
```

ESC is the escape character (ASCII 27).

TURN THE FILTER ON

The following characters will cause Access III to turn the recording filter on:

```
     ESC * 3 @
```

ESC is the escape character (ASCII 27).

CHANGE THE RECORDING FILE NAME

This sequence causes Access III to close the old recording file and open a new one. The name of the new file is included in the sequence. It can be a block file pathname or a character device name.

When Access III is done processing the sequence, it transmits a reply that indicates the success of the operation, or gives an error code that describes the difficulty.

The sequence to change the recording file name is:

```
     ESC * 4 filename @
```

where ESC is the escape character (ASCII 27), and "filename" is a valid SOS pathname 30 characters in length or less. The sequence must contains NO embedded spaces and it must end with "@".

Some sample sequences:

```
     ESC*4.SILENTYPE@
     ESC*4/APPLCOM/TERMREC@
     ESC*4/PROFILE/MYFILE.DATA@
```

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LisaCalc: Using dates in formulas

This article has been archived and is no longer updated by Apple.
To use a date in a formula, as for calculating cost per day, you need to transform the date part into a number. To accomplish this, use the INT function:

INT('12/4/84'-'1/3/84')*500

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AppleShare File Server 2.0 Does Not Support LaserShare

This article has been archived and is no longer updated by Apple.

The AppleShare File Server software is designed to support the AppleShare Print Server 2.0 and does not support LaserShare (that is, versions of AppleShare Print Server software prior to 2.0).

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eMate 300 Connectivity CD: v1.0 contents

What software is on the eMate 300 Connectivity CD v1.0?
This article has been archived and is no longer updated by Apple.
There are six folders at the root level of the CD; Before you Install, CD Extras, NIE 1.1, NetHopper 3.0, Pre-installed Software Backup, and Connectivity Applications. Listed below are the folders and files inside them.

Before You Install

- eMate 300 Read Me
- Install Acrobat Reader 3.0

CD Extras

- CD Extras Read Me

NIE 1.1

- NIE 1.1 Read Me
- Internet Enabler.pkg
- InternetSetup.pkg
- ISPTemplates.pkg
- NIE 1.1 User Guide.pdf

NetHopper 3.0

- License Agreement
- NetHopper 3.0 Read Me
- NH_Manu.pdf
- NetHopper.pkg

Preinstalled Software Backup

eMate Tour 1.0.pkg

Works Practice.pkg

Modem Enablers (folder)

- GSM-Ericsson.pkg
- GSM-Motorola.pkg
- GSM-Nokia.pkg
- TDKselector.pkg

QuickFigure Works Spreadsheet (folder)

- QuickFigure Works 1.0 Read Me
- QF Exchange 3.0.pkg
- QF Works 1.0.pkg
- QF Works Release Notes

QFX Installer (folder)

- QFX Library
- QuickFigure Exchange

Put In System Folder (folder)

- AppleTalk ADSP Tool
- Serial Tool

System Updates (folder)

- eMate 300 Update 2.1 (737041)
- FontWidths.pkg

Newton Works Graphing Calc (folder)

- Works Calculations.pkg

Connectivity Applications

eMate Classroom Exchange (folder)

- Classrm Exchange Read Me
- Classroom Exchange Install
- eMate Classrm Exchge.pdf

Newton Press1.0 (folder)

- Newton Press/Mac.pdf

Newton Press Install I (folder)

- Read Me First!
- Installer
- SimpleText
- Espy Sans (font)
- Install Newton Press script
- New York (fonts)
- Tome 1

Newton Press Install II (folder)

- Tome 2

Newton Connection Utilties 1.0 (folder)

- Read Me First
- NCU 1.0b6 Installer
- NCU/Mac 1.0.pdf

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PC Compatibility Software 1.6: Read Me

PC Compatibility Card 1.6 Read Me
This article has been archived and is no longer updated by Apple.
Important Information for Users of the PC Compatibility Card

This document provides late-breaking information that could not be included in the PC Compatibility Card User's Manual.

Be sure to read the first section, 'Before You Install,' before you install the Compatibility Card software. You can read the rest of this document later.

Contents

- Before You Install
- PC System
- Macintosh System
- Third-Party Applications
- Printing
- Video
- Networking
- Sound

Before You Install

System Software

The PC Compatibility Card software requires that you have system software version 7.5.3 or later installed on your computer. If you are currently using System 7.5, 7.5.1, 7.5.2, you should install System 7.5.3 update 2.0 to upgrade to System 7.5.3.

For PC Compatibility Card users, System 7.5.3 is on the PC Compatibility Card Mac OS Software CD. To install the update, follow the instructions in the PC Compatibility Card User?s Manual.

Open Transport

The PC Compatibility Card Software requires that you have Open Transport 1.1.1 or later.
For PC Compatibility Card users, Open Transport 1.1.1 is on the PC Compatibility Card Mac OS Software CD. To install the update, follow the instructions in the PC Compatibility Card User?s Manual.
Open Transport 1.1.1 is also available from the Apple Web site at http://www.apple.com.

Upgrading

If you are upgrading from an older PC Compatibility Card, do not use the Internal PC audio/video socket. Follow the installation instructions in the manual that came with your card.
If you are upgrading from an older PC Compatibility Card, use the CD/Audio cable that came with your new card and set aside the older cables. Follow the installation instructions described in the manual that came with your card.
If you are upgrading from an older PC Compatibility Card and you want to use a pre-existing drive container, you should create a new drive container, install the necessary PC system software, and then copy your files and applications. Follow these steps:

1. Assign your old drive container to drive D.
2. Create a new drive container and assign it to drive C.
3. Install the PC system software.
4. Copy the necessary applications and files.

If you are using a drive container that is larger than 1023 MB you may experience problems. If you are upgrading your software and want to use a drive container that is greater than 1023 MB, you should create a new drive container, install the necessary PC system software, and then copy your files and applications as described in the steps above.

PC System

Ejecting Floppy Disks and CD-ROMs

To eject a floppy disk in the PC environment, press Command-E.
To eject a CD-ROM in the PC environment, press Command-Y.

Macintosh System

Starting Up the PC and Macintosh Environments

The Energy dialog box may appear each time you start your Macintosh; you can turn off this message at startup by opening and closing the Energy Saver control panel.

Auto-Start PC

Do not rebuild the desktop if the "Auto-Start PC" option is selected in the PC Setup control panel.

Switch at Startup

If Switch at Startup is selected in the PC Setup control panel make sure the "Warn me if my computer was not shut down properly" option is not selected in the General Controls control panel and the Energy Saver control panel is set never to go into energy saving mode.

Shared Folders

Shared folders between the Mac and PC environment should only be used to transfer files. Do not open files or applications from a shared folder.

Switching between the Mac OS and the PC environment

Press Command-Return instead of using the control strip to switch between the Mac OS and the PC environment for the first time.

Third-Party Applications

Connectix RAM Doubler

When using RAM Doubler with the PC Compatibility Card make sure to use version 1.6.x or later.

Symantec AntiVirus for Macintosh

If Symantec AntiVirus for Macintosh (SAM) is installed and you mount a drive container, your screen may appear to freeze for a few minutes while SAM scans the container for viruses. The drive container will mount once the scan is complete.

Symantec Norton AntiVirus for Windows 95

Before you change the number of display colors in the Display Settings control panel, turn off Norton AntiVirus Auto-Protect by double-clicking its icon in the Task bar and clicking Disable in the dialog box that appears.

Formatting disks or creating a Rescue disk may not work properly if Norton AntiVirus is installed. If you encounter a problem, do the following:

1. Double-click the 'Norton AntiVirus Auto-Protect' icon in the Task bar.
2. Click Options, and then click Advanced.
3. Change the 'Low-level format of hard disk' option to 'Allow,' and then click OK.

QuickTime for Windows

When playing QuickTime movies in the PC environment, you may notice synchronization problems between the audio and video.

SoftWindows

Do not run SoftWindows while using the PC Compatibility Card.

Now Utilities for Macintosh

Now Utilities for Macintosh may cause errors when used with the PC Compatibility Card. If you experience system problems when using floppy disks in the PC environment, disable Now Utilities.

Other Programs

Apple recommends using only the memory management programs that are included with DOS or Windows. Do not use third-party memory management programs.

A program that attempts to directly control the floppy controller (such as a backup program) will not work properly.

Any program that sends data to the parallel port during setup or initialization may cause a blank page to print on your printer.

Printing

LaserWriter Select 300 and Personal LaserWriter 300 Printers

The LaserWriter Select 300 and Personal LaserWriter 300 printers are not fully supported. Files printed in the PC environment may not print properly on these printer models.

LaserWriter 310 PostScript Incompatibility

The LaserWriter Select 310 and Personal LaserWriter 310 with PostScript upgrades are not fully supported with Desktop Printing 2.x or later and the PC Printing Software v1.5 and later. If you are using the LaserWriter Select 310 or Personal LaserWriter 310 with a PostScript upgrade, you need to remove Desktop Printing 2.0 from the System Folder. Follow these steps:

1. Open the System Folder.

2. Open the Extensions folder

3. Remove the following files:

- Desktop Printer Extension
- Desktop PrintMonitor
- Desktop Printer Spooler

4. Close the Extensions folder.

5. Open the Control Strip Modules folder.

6. Remove Printer Selector.

Video

For best results, use Apple multiple scan monitors with the PC Compatibility Card.

Video Drivers

After the Windows 95 installation process make sure to install the video drivers from the PC Compatibility Card PC Utilities CD. Follow the instructions in the instructions in the PC Compatibility Card User's Manual.

After installing video software for Windows 3.1 you will need to install Video for Windows if you get the following error message; "Cannot load the Universal Draw Handler driver. The driver file may be missing. Try installing the driver again or contact your system administrator." This message appears when you try to open the Drivers control panel in Windows 3.1 or select the Universal Draw Handler driver in the Drivers control panel in Windows 3.1. To install video for Windows follow these steps:

1. If necessary, switch to the PC environment.

2. If necessary, exit Windows 3.1 into DOS.

3. Insert the PC Compatibility Card - PC Utilities CD into the CD-ROM Drive

4. Type the following:

```
E: <return>
CD \\VIDEO\\VFW <return>
SETUP <return>
```

Video Driver Switching in Windows 95

Some 16-color 640 x 480 modes use the Windows 95 video drivers instead of the ATI video drivers. The ATI options will not appear in the

control panel when the Windows 95 video drivers are being used. To make the ATI options available, change the color depth to a higher value, such as 256 colors.

Monitor Adapters

Selecting a 'pass-through' mode on a monitor adapter may cause the PC Compatibility Card to incorrectly sense the monitor. When the PC Compatibility Card does not sense the monitor because of an incorrect monitor adapter setting, it will automatically assume that the monitor is a 14" RGB monitor and restrict the resolution to 640 x 480. Make sure that the monitor adapter correctly represents the attached monitor.

AppleVision 1705 Display

The AppleVision 1705 Display will only appear to the PC as a DDC monitor if you use the optional 1705 VGA adapter cable and a VGA-to-Macintosh video adapter to connect the display to the PC Compatibility Card. Using the standard Apple-supplied cable will result in the monitor being identified as a 17" multiscan monitor. Although the PC Setup control panel lists Multiscan 17" in the Displays pop-up menu, you should select AppleVision 1705 in the Windows Display control panel.

Macintosh 21" Color Display

If you are using the Macintosh 21" Color Display with Windows 95, do not select a 24-bit driver in the Display control panel, even though it is an available selection. Select an 8 or 16-bit driver instead. Choosing a 24-bit driver may cause the PC environment to boot improperly.

21" Black and White monitors may not be compatible with the PC compatibility card.

Screen Display

When used with some monitors, a particular monitor resolution (such as 640x480) may cause the display to show a smaller viewable area surrounded by a black border. To correct the problem, try selecting a different monitor resolution.

If your PC Compatibility Card has 1 MB of video memory installed, then the only refresh rates available at 1280 x 1024 resolution are interlaced display modes. However, Apple multiple scan monitors and many third-party monitors do not support interlaced display modes. To display 1280x1024 resolution, you may have to upgrade the video memory on the 12" card to 2 MB, which supports higher refresh rates.

Fixed Frequency Monitors

Playing a Video for Windows (.AVI) file in full-screen mode may not work properly on a fixed frequency monitor. A multisynchronous or multiple scan monitor will work properly. Refer to the PC Compatibility Card User?s Manual for information about supported monitors and video modes.

Fixed frequency monitors do not support video 'Mode X' (320 x 240 resolution), which is primarily used by game programs.

Playing Video Files

When playing real-time based video files or games in the PC environment, you may notice synchronization problems between the audio and video.

Networking

To avoid network problems make sure to defragment your hard drive periodically.

GeoPort

The GeoPort modem is not recommended for use with the PC Compatibility Card.

ODI and NDIS

The MACODI.COM and MACNDIS.DOS drivers found on the PC Compatibility Card-PC Software floppy disk are also contained on the PC Compatibility Card-PC Utilities CD in the \\Apple directory.

ODI and NDIS 2.0 network drivers are provided with your PC Compatibility Card software. If you need additional network software (such as LSL.COM 2.11) contact your network software provider.

If you are experiencing network problems using ODI and NDIS, make the following changes to your CONFIG.SYS file:

Windows For Workgroups
If you are using NDIS change the stack size to 64,256
If you are using ODI change the stack size to 64,128

Windows 95
If you are using NDIS change the stack size to 64,256
If you are using ODI add the following line to your CONFIG.SYS file:
Stacks=9,256

Token Ring

Token Ring is not supported by the PC Compatibility Card.

SETNET

After making any changes to the Windows 95 Network control panel, always run SETNET. For more information, see the user's manual that came with your card.

Sound

Sound Drivers

After the Windows 95 installation process make sure to install the Sound Blaster drivers from the PC Compatibility Card PC Utilities CD. Follow the instructions in the instructions in the PC Compatibility Card User's Manual.

Sound Blaster Driver

If you hear fragmented sound after installing Windows 95, you may need change the settings of your Creative Labs Sound Driver. Follow these steps:

1. In Windows 95 click Start, choose Settings, and then choose Control Panels.
2. Double click the System Control Panel.
3. Select the Device Manager Tab.
4. Double click the current Creative Labs Sound Blaster Driver from the 'Sound, video, and game controllers heading'.
5. Select the Resource Tab.
6. Make sure that the 'Use automatic setting' box is unchecked.
7. Select 'Basic Configuration 0000' from the 'Setting based on' popup menu.
8. Click OK to close the open control panels.
9. Restart Windows 95.

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Modem setups shipping on eMate 300 and MP2000

Modem Setups that ship with the eMate 300 and the MP2000
This article has been archived and is no longer updated by Apple.
To use a modem with either the MessagePad 2000 or the eMate 300 you must select the correct modem driver in modem preferences. Following is a list of drivers that Apple included with your Newton device; also included are the names of corresponding drivers found on older MessagePads, and if the modem driver is in ROM or in Flash Ram.

If your modem is not in the list, check with the modem manufacturer to see if it is compatible with your Newton device. Additional modem setups may be required and would be supplied by the modem manufacturer.

SETUP NAME	LOCATED IN FLASH MEMORY OR IN ROM?	CORRESPONDING MP120/130 DRIVER
28.8 and faster	ROM	(was Hayes 28.8)
14.4 Normal	ROM	(was Hayes EC)
14.4 Alternate 1	ROM	(was Hayes Basic)
14.4 Alternate 2	ROM	(was Hayes Compatible)
GSM-Ericsson	FLASH	NONE
GSM-Motorola	FLASH	NONE
GSM-Nokia	FLASH	NONE
Megahertz Cruse 28.8	ROM	NONE
Newton Fax Modem	ROM	NONE
TDKDF2814	ROM	NONE

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Using an Apple Keyboard with Windows Software

PC Compatibility Card-Windows Software Keyboards Read Me
This article has been archived and is no longer updated by Apple.

IMPORTANT KEYBOARD INFORMATION

This document provides late-breaking information that could not be included in the PC Compatibility Card User`s Manual or in the DOS Compatibility Software Update User`s Manual.

INSTALLING APPLE KEYBOARD FILES ON WINDOWS 3.1

1. Start Windows.

2. Insert the "International keyboard files" floppy in the drive.

3. Open the International control panel.

4. Select the desired language in the Keyboard layout area; then click OK.

5. In the Install Driver dialog box, click Browse.

6. Select the appropriate drive containing the keyboard file of the desired language.

(Keyboard files have .DLL file name extensions). The path is

<floppy drive>\\KEYBOARD\\WIN31\\<language>\\<filename>.DLL

7. Select the desired file, then close the control panel and restart Windows.

INSTALLING APPLE KEYBOARD FILES ON WINDOWS 95

1. Start Windows 95 and click the Start button.

2. Verify the keyboard file (file names have .kbd extension) for the desired language does not exist in the System directory (under the Windows directory). If the file exist, delete it by dragging it to the Recycle Bin and deleting.

3. Click on Settings; then select Control Panel.

4. Double click on the Keyboard icon.

5. Click on the Language tab.

6. If the language you desire to install already appears in the language list, select it and click on the Remove button.

7. Click on the Add button.

8. In the list that appears, select the desired language and click OK.

9. Click the name of the language whose keyboard layout you want to use; then click Set as Default.

10. On the bottom of the window, click on the Apply button.

11. At this point, a small dialog box for locating the keyboard file will appear if Windows is searching for the keyboard file for the first time.

12. Insert the "International keyboard files" floppy in the drive.

13. Click on the Browse button; then select the floppy drive.

14. In the Folders window, locate the folder containing the desired file, then click OK.

The path is: <floppy drive>\\KEYBOARD\\WIN95\\<language>

15. Make sure to switch the language in the keyboard bar on bottom right hand (this bar is where the current time appears).

16. Restart any applications that were running during the keyboard installation to activate the recently selected keyboard file.

ADDITIONAL INFORMATION

The keyboard drivers included on the "International keyboard files" floppy correspond to the keyboard layout of the Apple Design Keyboard and

the Apple ISO Extended Keyboard II. Some of the drivers are updates to the ones included on the PC Utility CD; users should install keyboard files from the floppy rather than from the CD.

Keyboard drivers are included for Window 3.1 and Windows 95 to support the following layouts: Belgian, British, Danish, Dutch, Finnish, French-Canadian, French, German, Italian, Norwegian, Spanish, Swedish, Swiss-French

In some drivers, the numeric separator in the numeric keypad does not match the separator of the Apple Design Keyboard and the Apple ISO Extended Keyboard II. If that is the case with your desired keyboard driver, you should enter the separator from the main portion of the keyboard.

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Newton Connection Utilities 1.0 for Windows ReadMe

Newton Connection Utilities 1.0 for Windows - ReadMe
This article has been archived and is no longer updated by Apple.
This document contains the latest information on Newton Connection Utilities version 1.0. Be sure to read this information to use the Newton Connection Utilities (NCU) software effectively.

This Readme contains information about:
1. Getting started
2. Using the import, export, and synchronize features
--General information
--Names (or Name File)
--Dates (or Date Book)
--To Do Tasks
--Notes (or Notepad)
--Schedule+
--Lotus Organizer
--Sidekick
--Troubleshooting
3. Using NCU with Newton Works
4. Making a connection
5. Backing up and restoring
6. Using your desktop computer's keyboard
7. Using the Auto Dock feature
8. Improving Performance
9. Using supported file formats

1. Getting Started

IMPORTANT: Before using NCU version 1.0, backup your Newton device and desktop application data files. Store the backup in a safe place. If you have used a previous version of NCU, please delete the contents inside the ILINK\\Ildata folder of your NCU directory.

If you haven't done so already, install the latest Newton System Updates on your Newton device. You can find the latest Newton System Updates and release notes on the Newton web page located at: (subject to change without prior notice)

http://www.newton.apple.com/newton/solutions/solutions.html

When installing NCU using the Windows NT or Windows 95 OS, you will only use 3 of the 5 installation disks.

NOTE: If you use the Newton Backup Utility (NBU) to backup information or install system updates, be sure to quit NBU before using NCU. You cannot run the two programs simultaneously. Also, NCU does not support IrDA as a connection type.

The Newton Connection Utilities application must remain in the NCU application folder in order to run properly. If you want to launch NCU from the desktop, create a shortcut.

You may experience difficulties if you Stop a connection while transferring data.

To run NCU with Windows 3.1, you must turn on your computer's file-sharing and virtual memory functions, if they are not already on. Refer to your Windows and DOS manuals for instructions on how to turn on file-sharing and virtual memory functions. Apple recommends that you create a permanent swap file (instead of a temporary one) for your computer system if you are running Windows 3.1 with Win32s.

Please refer to the manual for information about NCU's features. If your copy of the manual is a PDF file, you need a copy of Adobe Acrobat Reader or Adobe Acrobat Viewer. If you don't have Adobe Acrobat Reader or Viewer, they are available on-line at the following location: (subject to change without prior notice) On the World Wide Web http://www.adobe.com/

2. Using the import, export, and synchronize features

General information

- In order to import or export a file, you must first choose or type a name (in the File Name field) in the Choose Translator dialog.
- When defining a desktop PIM file as the file to synchronize with using NCU, be careful about replacing that PIM file with one that has the same name but different data (such as an empty file). Differences in data between the two files will be interpreted as deliberate changes,

which will then be updated on your Newton device.
- When synchronizing repeating meetings with the desktop and then changing information for the repeating meetings on the desktop, the meeting information may be broken into a series of individual meetings.
- When importing delimited ASCII files and the "Column Headings Exist" check box within the Advanced Settings is selected (there is an X in the check box), the first record in the file is interpreted as a column heading. If your file doesn't contain column headings, the first record won't be imported.
- You may notice small changes in your data after importing, exporting, or round-tripping (import, export, and then import again).
- If you don't have Microsoft Word installed, you will not be able to import a Microsoft Word document.
- In order to import a Microsoft Word document into Windows 3.1, you will first need to install Microsoft's OLE software.

Names (or Name File)

- When exporting name cards, phone numbers with the label "Phone" will not be exported unless you change the default field map. NCU exports phone numbers with the labels, Home, Work, Fax, and Cellular.
- If any name cards have duplicate phone labels (for example, two numbers both use the Work label), only the first number with that label is exported.
- Name card stationary other than those shipped with Newton OS are not supported.

Dates (or Date Book)

- When importing Date Book items using delimited ASCII format, all meeting lengths must be in minutes format (for example, 160 minutes). If items are in the hourly and minutes format (HH:MM) such as 01:30, they are assigned a default meeting length of 15 minutes.
- When importing Date Book items using delimited ASCII format, all meeting times must be in 24hr format. Meeting times using the 12hr format (AM and PM) will always import as AM.

To Do Tasks

- Repeating To Do tasks are not supported by NCU.

Notes (or Notepad)

- NCU doesn't reliably support importing graphics greater then 640x480 pixels into the Notepad.
- The connection between your Newton device and NCU may drop if you are importing a very large RTF or Word file into Notepad. If this happens, split your original documents into smaller ones and import them.
- Microsoft Word will not export graphics created using its OLE object to RTF (Rich Text Format). If you import an RTF file containing an OLE object, you'll export text only. To export graphics from Microsoft Word using RTF, make sure the graphics are pasted or inserted into the Word document.
- You may experience problems when importing a WMF file 17k or larger, in an RTF document.
- Ink text is replaced by a "[]" - If you have some ink text in close proximity with digital ink (sketches or shapes) in Notepad, and you export them to a RTF format, you will notice that the ink text is represented by "[]" in your exported RTF document.
- When importing an RTF document into Notepad that uses Courier or Century Schoolbook fonts with Tabs, the first word after each Tab will be missing.
- Exporting outline or checklist stationary to RTF format will result in additional carriage returns being inserted between your bullet items.
- Notepad stationary other then those shipped with Newton OS are not supported.

Schedule+

- If you have a repeating event on the Newton device and it is not a consecutive daily repeating event (i.e. the event occurs on Monday, Wednesday and Friday), this event becomes an 8am appointment when it is exported into a Microsoft Schedule+ file.
- Alarms added to To Do items in Schedule+ after the first synchronization, will not appear on the Newton after the next synchronization.
- If you are using Schedule+ version 7.0. You will not be able to use "Named/Local" files. This is only supported in Schedule+ version 7.0a.

Lotus Organizer

- If you have a note on your Newton device with graphics/drawings in it and you synchronize to Lotus Organizer, you will notice that the graphic/drawing turns into a '*' in your note after a couple of synchronize operations.
- When doing an import, export, or a synchronization with a name file entry where the first and last name begins with a lower case "a", the file is not transferred.
- Business extensions are not supported. When synchronizing a name with a business phone number that has an extension in the Ext field, that extension will be lost. In order to save a business extension you must enter it as 555-1212x1234.

Sidekick

- When using Sidekick for Windows 2.0 with NCU, some of your appointment data may not be imported to the Newton device if you initiated the IMPORT process from your Newton device; initiating the IMPORT process from NCU will solve this problem.
- If you have a multi-day event in Sidekick for Windows 2.0 and you import it into the Newton device, you will notice that the name of the event is followed by "{2}". i.e. The event "Mike's event" becomes "Mike's event {2}" on the Newton device.
- If you have a To Do task on the Newton device with a priority of "None" and you synchronize it to an empty file in Sidekick for Windows

2.0, this To Do task will be set to a priority of C6 in the priority field.

Troubleshooting

- Can't connect - If you have a mouse connected to serial port COM1 and you choose serial port COM3 for your Newton device connection, and your mouse stops working; it is likely that your COM1 and COM3 ports are using the same IRQ interrupt, just as your COM2 and COM4 ports may use the same IRQ. NCU requires that you use a COM port that doesn't have an IRQ conflict with a device connected to another port. Quit Windows to get your mouse running again, then choose a different COM port for your Newton device connection.
- Can't connect - If you experience connection problems between your Newton device and your PC, it may be because your PC cannot support the communications speeds required by NCU. Several packages are supplied with NCU that allow the Newton device to communicate with your computer at speeds slower than the default 38.4 KB. These packages are named 2400.PKG, 4800.PKG, and 9600.PKG in the NCU directory. It's recommended that you install and try out the package that represents the fastest baud rate (9600 KB) first. Install the other packages if communications problems persist.
- Can't connect - If the "star" is active at the top of your Newton screen, that is an indication that the Newton is busy. You need to wait, or stop the event in order to connect.
- File not recognized as a .pkg (Package) - If you can't expand an HQX archive successfully, the package was probably archived in Mac format. When using StuffIt Expander to expand a Mac HQX archive, make sure that the StuffIt Expander cross platform flag preferences are set to convert Mac files to a DOS format.
- Not enough memory - NCU works best when an adequate amount of memory is available when you perform IMPORT, EXPORT or SYNCHRONIZATION operations between the Newton device and your desktop applications. If you are running Windows 3.1x, this can be achieved by setting your virtual memory partition to a larger value. If you are running Windows 95 or Windows NT 3.5x, it is best to let the operating system manage the virtual memory setting instead of changing the setting yourself.
- Newton setup instructions appeared - If you transfer information from a Newton device using the Newton 1.x operating system to a Newton device using the Newton 2.0 operating system, the Newton setup instructions may appear. If you've already entered setup information on your Newton device, you don't need to repeat the information. The information appears when you open the Extras Drawer and start the setup application.
- Problem with large storage card - NCU supports storage cards of 4MB or less.
- There is an "X" on top of the Package Icon - When you restore packages to your Newton device, you may see an "X" on top of the package icon. This means the package hasn't been activated or that the package is installed in the internal store and on a card. To activate the package, restart your Newton device or open the package by tapping its icon.
- Extra carriage returns - If you use "Bullets and Numbering" in your Microsoft Word documents or RTF files, you will notice that there are two extra carriage returns after the first "bullet" character when the file is imported to the Newton device; you can just delete these two extra carriage returns to get your desired layout.
- Asking for a password - If you remove your password from NCU, and have the Save Password option set on your Newton device, your Newton device will ask you for the empty password. Just tap the X to continue.
- Drag and Drop - Shortcuts to packages are not supported when you try to drag and drop it into the NCU window to install the package. Please click on the Install Package button and use the File selection dialog to locate the package.
- Patterns - Some patterns in your WMF files are all currently imported as a solid color.
- Can't translate or Backup - If NCU cannot translate or backup a record, copy and paste the problem data into a new record and/or delete the old record and then try again.
- In cases where NCU is having problems reading data, there may be more than one record that's causing problems or you may have data created with the Newton 1.x operating system. Try backing up all of the information and applications on your Newton device to a storage card, and do a hard reset to delete all of the information in the internal memory of the Newton device. Then do a restore from the card.
- If you have problems importing a delimited ASCII text file, ensure you specified the correct delimiters. Each field is contained within a set of quotes (for example, "field one", "field two", "field three"). The last record is terminated with an end of record character (usually, a carriage return).
- Error details - NCU may generate two files when a problem occurs. These text files contain information that may show where an error may have occurred during an information transfer. These two files are called: XLATE.LOG and ILERRORS.LOG. The ILERRORS.LOG is located in the Windows Folder. The XLATE.LOG file is located in the ILINK Folder within the NCU Folder.

3. Using NCU with Newton Works

- Importing of documents over 60K into Newton Works Drawing documents is not supported.
- NCU only supports import and export of the 'Paper' and 'Drawing' stationary. At this time the 'Drawing' stationary is not supported on the Message Pad 2000 so although you can import WMFs to the MP2000, it won't be able to display them. Graphics that are part of an RTF can be imported and displayed to the 'Paper' stationary portion of an MP2000.
- RTF files containing graphics totaling greater then 32k will import to the Paper stationary, but only the first 32k of graphics will import. Graphics imported via the WMF filter to the Drawing stationary are not subject to this limitation.
- When you import Newton Works Drawings to the desktop, gradients are not imported.
- When using line spacing in an RTF document, this line spacing is not preserved when you import it into a Newton Works Paper.
- When importing WMFs containing bit-mapped images to your Newton device, they may not rotate or flip properly.
- When importing bitmaps that are vertically greater then 320 pixels, the portion greater then 320 pixels will be truncated.
- Dotted lines in a WMF file will import into Newton Works Drawing documents as a solid line.
- When using colors in your WMF file, and you import it into Newton Works Drawing documents and then export it back to a WMF file,

your color information is lost because the Newton device does not support color.
- Rotation of text in WMF files imported into Newton Works Drawing documents is not supported.
- When trying to export a .txt file to a full floppy disk, the file may appear to have copied successfully when it did not (you may not receive an error message).
- After importing line objects of different width into Newton Works, all the lines will be the same width.

4. Making a connection

- Can't Connect - If you have a mouse connected to serial port COM1 and you choose serial port COM3 for your Newton device connection, and your mouse stops working; it is likely that your COM1 and COM3 ports are using the same IRQ interrupt, just as your COM2 and COM4 ports may use the same IRQ. NCU requires that you use a COM port that doesn't have an IRQ conflict with a device connected to another port. Quit Windows to get your mouse running again, then choose a different COM port for your Newton device connection.
- If you experience problems using NCU from your Newton device, initiate actions from you desktop computer.
- NCU works best when there is enough available memory on your Newton device. If an error message appears saying your Newton device is out of memory, quit any applications you are no longer using, delete applications you don't need, or store information on a storage card then delete it from the internal memory of your Newton device.
- NCU does not support IrDA as a connection type.

5. Backing up and restoring

- NCU cannot backup both cards in a Message Pad 2000 if the cards have an identical name. Please make sure your cards are named differently.
- When you first backup information on your Newton device, NCU creates a new backup file. When you make subsequent backups, NCU creates a copy of your backup file and adds new information to it. Occasionally, (for example, when the backup file gets very large) it is a good idea to move the existing backup file to a different directory and make a new backup of all the information and packages on your Newton device.
- If you have EnRoute packages (EnRoute Core, EnRoute Internet, EnRoute Rule Editor) installed on your Newton device and are trying to restore these packages from a backup file, you should remove these packages from the Newton device first before performing the backup; otherwise your Newton device will reset in the middle of the restore operation.
- NCU cannot backup Newton Works documents containing graphics greater than 32k.
- NCU will fail to backup your Newton Device entirely if a Newton Works document with graphics greater than 32k is stored in your InOut Box. To complete your backup, you must remove this Newton Works document from your InOut Box.
- If you restore information to your Newton device and it has very little memory, or storage space, the restore may not be complete. Delete outdated or unnecessary information to increase the available storage space and try restoring again.

6. Using your desktop computer's keyboard

- When using a Newton device that is running Newton OS 2.0, you will notice that numbers entered from the numeric keypad of your desktop computer's keyboard are not passed to the Calculator on the Newton device. This is not a problem on a Newton device running the Newton 2.1 OS.
- Using the desktop computer's keyboard with Notepad may be slow after large amounts of text are entered (greater than 4 Kilobytes).

7. Using the Auto Dock feature

- If your password is not saved, Auto Dock will not back up or synchronize. If you use a password for connection, and the box Save Password on your Newton is not checked, AutoDock will not backup or synchronize. Make sure you indicate the password is saved in the Dock preferences or don't use a password.

8. Improving Performance

- Importing, exporting and synchronizing may be faster once you have done a backup of your Newton device.

9. Using supported file formats

You can use NCU version 1.0 to transfer and synchronize information with applications that read these file formats:

- Sidekick for Windows 2.0
- Lotus Organizer 2.1
- Microsoft Word 6.0 or 7.0
- Microsoft Schedule+ 7.0/7.0a

TA39904_Newton_Connection_Utilities_for_Windows_ReadMe.pdf

- Rich Text Format (RTF) Files
- Text files
- Delimited Text files

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PC Compatibility Card memory speed

PC Compatibility Card /166 memory speed is 60ns

This article has been archived and is no longer updated by Apple.

The manual for the new 166mhz PC Compatibility Card references the minimum RAM chip speed defferently. There are at least two references to the type of RAM necessary for the card; one reference indicates 60ns of faster, another specifies 70ns or faster. The correct memory speed to use is 60ns.

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Newton Connection Utilities: Installing NCU 1.0 Updater for Windows

Newton Connection Utilities 1.0 Updater for Windows.
This article has been archived and is no longer updated by Apple.
This software updates Newton Connection Utilities version 1.0b6 for Windows to the final release, version 1.0. This software is only for MessagePad 2000 and eMate 300 customers who received the 1.0b6 release. The updater software consists of three self-extracting archive files.

Before you install Updater for Windows:

You must have Newton Connection Utilities 1.0b6 installed on your computer

During installation Updater:

Replaces the NCU 1.0b6 program files.

Deletes your NCU 1.0b6 custom field mapping and synchronization history files.

Before you use Updater

Make sure NCU 1.0b6 is NOT running

Synchronize your Newton with your desktop computer if you use the synchronization function; skip this step if you don't use the function.

Make a backup copy of NCU 1.0b6.

To install the Updater

1. Download the following three files to your hard drive:

- NCUUP1.EXE about 1.2MB
- NCUUP2.EXE about 1.4MB
- NCUUP3.EXE about 270KB

2. Place each .EXE file in a separate directory.

3. Decompress the file by double-clicking on the file in File Manager or on the desktop. Each file decompresses into several data files and an INSTALL.BAT file.

4. Double-click on each INSTALL.BAT. The data files will decompress into directories called "Disk1", "Disk2", and "Disk3" at the root level of your hard drive.

5. Double click on Setup.exe in the "Disk1" directory and respond to the dialog prompts to complete the installation.

The NCU 1.0 Updater is published in the Apple Software Updates section of the Internet, America Online and CompuServe.

For more information on the Newton Connection Utilities 1.0 for the Windows Operating System, see the README.TXT included with this software or in the article Tech Info Library titled -- Newton Connection Utilities 1.0 for Windows - ReadMe

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Farallon PhoneNET: Troubleshooting Information

This article has been archived and is no longer updated by Apple.

The typical reason for strange behavior in PhoneNET networks is having drops from a backbone that contain resistors at their ends. A PhoneNET network should have only two terminating resistors: one at each end of the network. If a StarController is being used, there should be one resistor at the end of each drop from the StarController.

Each added resistor pulls down the voltage level across the whole network. This will cause uneven performance as the signal is degraded to below the response level of the nodes and/or the serial ports. The signal may be acceptable near the source but, depending on the configuration of the network, the signal will probably be pulled lower than can be registered by a destination node or serial port as it moves away from the source.

The nodes may be receiving signals at the lower limit of their sensitivity (something under 5 volts). For example: The voltage level is normally 5 volts when high. If added resistors increase the impedance of the network without any added current to draw from, the voltage level may be around 4 volts, depending on how many extra resistors are added, and how far from the source the receiving node is.

Now, assume that the nodes are specified to work with 4.5 to 5.5 volts, but are actually sensitive to signals as low as 4 volts. (Most will be, but some may be sensitive to only 4.5 volts.) These are perfectly good nodes on a properly configured network. Because your network might have signals at 4.2 volts in some places and 4.6 volts in others, some nodes, sensitive to 4.5-volt levels, would not receive the signals in some spots and will in others.

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PC Compatibility Card, Mach64 drivers PC read me file

Mach64 Driver Installation Notes
This article has been archived and is no longer updated by Apple.
This is the readme file on the PC Software CD that ships with the PC Compatibility card, 166mhz Pentium. Please note this is a generic file for the Mach64 video card for any Windows computer, so the references to installing the adapter card are not applicable since the "Mach64 adapter card" is a component on the PC Card.

IMPORTANT INFORMATION for mach64 Products

READ THIS FILE COMPLETELY BEFORE ATTEMPTING TO USE THIS PRODUCT !

Contents

1.0 Introduction

2.0 Adapter Installation

3.0 Installation Notes for Windows 3.1

4.0 Installation Notes for Software MPEG for Windows 3.1x

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6.0 Installation Notes for Software MPEG for Windows 95

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1.0 Introduction

This file contains last-minute updates that are not found in the User's Guide or in any addendum accompanying the display adapter. Please read this file before proceeding with the installation.

2.0 Adapter Installation

The adapter installation requires a step by step methodical approach to ensure that the adapter does not conflict with other system resources and to ensure optimal performance.

The following technical information is a basic outline of the steps required to install a mach64 graphics adapter.

1) Upon removing the mach64 card from the box, record in your User's Guide the serial number (found on the non-component side of the card) and the BIOS version (located on a white label on a plug-in BIOS chip on the component side of the card).

The serial number will be helpful if you require ATI Customer Support and will also be required to complete the Warranty Form.

2) If you have a system containing an on-board graphics controller, consult your owner's manual on how to disable it.

Check and record how much system memory is installed on the system motherboard.

3) After powering down your system, remove your old graphics adapter (or disable the on-board graphics controller) and plug-in the mach64.

If the system fails to produce text on the monitor, return to Step 2 and re-check the installed hardware for address conflicts. If no obvious conflicts are present, carefully remove all non- essential peripheral adapters (scanner, FAX/modem, audio, CD ROM cards, etc.) to determine the nature of the conflict.

As a last resort, if possible, see if the card works in a different system.

3.0 Installation Notes for Windows 3.1x

You need to install ATI's mach64 enhanced driver for Windows 3.1x to take advantage of your card's higher performance, resolutions, and special features not available using the standard VGA display driver.

If you have ATI drivers already installed from a previous installation, it is recommended that you uninstall them first.

To install the mach64 enhanced driver for Windows 3.1x:

1) Start Windows.

2) Insert the ATI CD-ROM into your CD-ROM drive.

3) Pull-down the File menu in the Program Manager.

4) Select Run.

5) Type the following: D:\\ATISETUP (D being the letter of your CD-ROM drive.)

5a) Click on Uninstall icon.

5b) Click on Display Drivers to uninstall.

5c) Follow the online screen instructions to complete the installation.

6) Click on Display Drivers.

7) Follow the online screen instructions to complete the installation.

7a) Make sure you restart Windows for changes to take effect.

For correct resolution and refresh rate operation, you need to select a monitor. Please refer to the online help in the Screen Adjustment utility for more information.

The ATI Desktop Program Group will be installed automatically when you install the mach64 enhanced driver. Please refer to the online help for more information about how to use the ATI DeskTop.

Note: If you wish to change the Windows display driver to a different driver (i.e. VGA), do not use the Windows Setup icon within Windows. To change the display, exit Windows and change directory to the Windows subdirectory. When at the Windows prompt type SETUP and select the desired display driver.

Note: The Super VGA 256 color drivers supplied with Microsoft Windows for Work Groups 3.11 will not function correctly on a mach64 based card. These SVGA drivers appear to check for specific Super VGA adapter chip sets and incorrectly identifies the mach64 card as a SVGA adapter.

If you wish to use other Windows for Work Groups supplied graphics drivers, you may select the VGA or Super VGA (800x600, 16 color) driver.

4.0 Installation Notes for Software MPEG for Windows 3.1x

The ATI VIDEO PLAYER is a software MPEG player designed for your MPEG, video and graphics accelerator card. The ATI VIDEO PLAYER provides full-motion, full-screen MPEG video playback with excellent color quality. For the best playback quality, the recommended requirement for the ATI VIDEO PLAYER is a Pentium system.

Microsoft's Video for Windows(r) is required to run the ATI VIDEO PLAYER. If you do not have Video for Windows installed on your system, you can install it during the installation of the ATI VIDEO PLAYER.

If you have ATI VIDEO PLAYER already installed from a previous installation, it is recommended that you uninstall it first.

To open the ATI VIDEO PLAYER in Windows 3.1x:

1) Start Windows.

2) Insert the ATI CD-ROM into your CD-ROM drive.

3) Pull-down the File menu in the Program Manager.

4) Select Run.

5) Type the following: D:\\ATISETUP (D being the letter of your CD-ROM drive.)

5a) Click on Uninstall icon.

5b) Click on ATI VIDEO PLAYER to uninstall.

5c) Follow the online screen instructions to complete the installation.

6) Click on ATI VIDEO PLAYER.

7) Follow the online screen instructions to complete the installation.

7a) Make sure you restart Windows for changes to take effect.

For information about using the controls of the ATI VIDEO PLAYER, see the online help.

5.0 Installation Notes for Windows 95 Display Driver

You need to install ATI's mach64 enhanced driver for Windows 95 to take advantage of you card's higher performance, resolutions, and special features not available using the standard VGA display driver.

Note: Windows 95 will require a re-start to implement certain display settings

1) Insert the ATI CD-ROM into your CD-ROM drive.

Note: CD ROM drives that are configured for Auto Insert Notification will automatically load the ATI Installation application. Proceed to Step 5 to complete the installation.

2) Click Start.

3) Select Run.

4) Type the following: D:\\ATISETUP (D being the letter of your CD-ROM drive.)

5) Click on Display Drivers.

6) Follow the online screen instructions to complete the installation.

For correct resolution and refresh rate operation, you need to select a monitor during the installation. Please refer to the online help for more information.

6.0 Installation Notes for Software MPEG for Windows 95

1) Insert the ATI CD-ROM into your CD-ROM drive.

Note: CD ROM drives that are configured for Auto Insert Notification will automatically load the ATI Installation application. Proceed to Step 5a to complete the installation.

2) Click Start.

3) Select Run.

4) Type the following: D:\\ATISETUP (D being the letter of your CD-ROM drive.)

5) Click on ATI VIDEO PLAYER.

6) Follow the online screen instructions to complete the installation.

To open the ATI VIDEO PLAYER for Windows 95:

1) Click Start.

2) Select Programs.

3) Select ATI Multimedia.

4) Click ATI VIDEO PLAYER.

For information about using the controls of the ATI VIDEO PLAYER, see the online help.

7.0 Installation Notes for AutoDesk Products

Note: The following applications are supported: AutoCAD R10, R11, R12 and R13(Protected Mode only); 3D Studio R2, R3 and R4, and AutoShade 386 with Renderman.

To install the mach64 enhanced driver, you use the INSTALL program. Before installing the driver, run AutoCAD to ensure that it is properly installed on your system. The INSTALL program is a DOS application and cannot be run inside a Windows DOS box.

To run the INSTALL program:

1) Note the location of the AutoCAD, 3D Studio, or AutoShade program files before you start the INSTALL program. You will need this information later.

2) Insert the ATI CD-ROM into your CD-ROM drive.

3) Type D: (D being the letter of your CD-ROM drive.)

4) Type CD UTILITY.

5) Type INSTALL.

6) Select Utilities Installation from the Main Menu. This copies the INSTALL program and utilities onto your hard drive.

7) Press ENTER to select the default destination directory. or Type a new destination directory.

8) When prompted, let the INSTALL program make changes to your Autoexec.bat file.

9) Select Quick Setup You need to select QUICK SETUP to specify a monitor. Proper monitor selection is necessary for correct resolution and refresh rate operation.

10) Select your monitor from the list.

After you select a monitor, you are ready to install the mach64 enhanced driver for AutoCAD.

To install the mach64 enhanced driver:

1) Select Drivers Installation from the Main Menu.

2) From the list of applications, select one of the following: AutoCAD AutoDesk 3D Studio AutoShade

When asked for the source drive and directory, type in the information and insert the requested diskettes.

(When the menu appears, select Read Installation Notes for help and tips on the installation.)

3) Follow the on-screen instructions to install the enhanced driver.

4) When driver installation is completed, press ESC.

(Two documents called MANUAL.TXT and README.DLD are copied to your AutoCAD, 3D Studio, or AutoShade Drivers directory. You can read or print these files using any word processor.)

5) Start AutoCAD, 3D Studio, or AutoShade and reconfigure to use the new enhanced display list driver. Please refer to the documentation provided by AutoDesk for information on how to select/change a video driver.

8.0 VESA Support

The VESA modes supported by your mach64 card are dependent upon the amount of video memory and the monitor type selected. To determine the modes supported by your current configuration, you must install the mach64 utilities, then run VESATEST from the mach64 directory.

1) In DOS, Run D:\\utility\\INSTALL from the ATI CD-ROM (D being the drive letter of your CD-ROM).

2) Select Utilities Installation from the Main Menu.

3) Follow the screen instructions to completion.

4) When INSTALL is finished copying all necessary files, press <escape> to exit install.

5) Change directory to the mach64 (default) directory and type VESATEST.

6) All the modes currently supported will be displayed.

If you experience problems using applications which support VESA, please install the mach64 Utilities and consult README.VBE for further information.

9.0 DMI Support

To install the ATI DMI Component Instrumentation:

1) Ensure that DOS and Windows versions of DMTF are already installed. If not, please follow the instructions provided with the DMTF package.

2) Run INSTALL and select "Utilities Installation" from the Main Menu.

3) Follow the screen instructions to completion.

4) When INSTALL is finished copying all necessary files, press <escape> to exit INSTALL.

5) Change directory to the mach64 (default) directory and type "INSTDMI".

6) You may now use the DOS or Windows browsers to examine the current status of your video card.

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Apple Displays: Configuring From MS-Windows

Using APPLEVDO.INF to configure an Apple Display
This article has been archived and is no longer updated by Apple.
The APPLEVDO.INF file is posted on Apple's software update web site. Also posted is a text file with installation instructions. The path to the software update is: <http//:swupdates.info.apple.com>. The content of the text file follows:

This file, included with the PC Compatibility software, allows you to configure an Apple Display connected to a

computer running Microsoft Windows.

Instructions for installing the APPLEVDO.INF file.

1. Put the file anywhere on the C: drive or on a floppy.

2. Open the Display control panel.

3. Click the Settings tab.

4. Click the Change Display Type button (Advanced Properties button if using Windows 95 SR2).

5. Click the Monitor tab if using Windows 95 SR2 (Does not apply to Windows 95 version 4.00.95 or 4.00.95 A).

6. Click the Change button in the Monitor Type section.

7. Click the Have Disk button in the Select Device window.

8. In the Install From Disk window, either browse for or type the path to the APPLEVDO.INF file.

9. Click OK in the Install From Disk window.

10. A list of Apple monitors should be displayed. You may have to click the show all devices button.

11. Select your monitor and click OK.

12. Click the Close button.

13. Click the OK button to close the Display control panel.

Published Date: Feb 18, 2012

Double-Density Versus High-Density Disks

This article has been archived and is no longer updated by Apple.
This article gives the specifications for the 800K floppy disks and the 1.4MB floppy disks. It also describes why you should not drill a hole in a double-density disk and format it as a high-density disk.

STARTDISCUSSThe table below compares the formatted capacity of the different media:

	800K Disk	1.4MB Disk
	1600 sectors	2880 sectors
Bytes/Sector	512	512
Sectors/Track	8-12	18
Tracks/Side	80	80
Bytes/Side	409,600	737,280
Bytes/Disk	819,200	1,474,560

The Apple SuperDrive (formerly Apple FDHD) can read and write to any of the major 3.5-inch disk formats, including Macintosh (GCR 400K, 800K, and MFM 1.44MB), Apple II (800K), and MS-DOS and OS/2 (MFM 720 and 1.44MB). GCR stands for "Group Code Recording" and MFM stands for "Modified Frequency Modulation".

When the SuperDrive writes 400K/800K disks in GCR mode, the motor speed is variable, and the disk surface is divided into five zones to allow a constant recording density as the head moves from the outer edge to the center. When using high-density media, data is written in MFM mode, and the drive speed is constant for each track.

The table that follows compares the speed of the different disk structures:

Tracks	800K Disk	1.4MB Disk
00-15	394/12	300/18
16-31	429/11	300/18
32-47	472/10	300/18
48-63	525/9	300/18
64-79	590/8	300/18

Revolutions Per Minute/Sectors Per Track

GCR and MFM only affect how the data is written to the disk. GCR and MFM do not care how the tracks and sectors are laid out on the disk. They also have no effect on the directory structure. GCR and MFM deal with how the bits are recorded on the surface of the media.

The MFM Method

MFM was originally recommended by Shugart Associates for double-density, floppy drives and was used in a small number of systems. IBM was the first major vendor to use MFM, and now Apple also provides MFM support for the Apple SuperDrive. MFM uses a transition pulse to write data to drive media. There are two locations for the transition pulse: the data boundary or the cell boundary. A transition occurs at a cell boundary only when two zero bits occur next to each other. This encoding method guarantees that no more than two-bit cells can occur without a transition and is, thus, self-clocking.

The GCR Method

GCR is a method that Apple has used to record information since the Apple II Disk Controller. Each group of four bits is translated into a 5-bit code (the Run-Length code). A translation table is used to find this 5-bit

code. This 5-bit code seems to increase data bits by 20%. However, the 5-bit codes never contain more than two consecutive zeros, and GCR writes the data in NRZI format. When a 1 occurs in the data stream, a transition occurs on the data boundary. Thus, GCR is guaranteed to be self-clocking. You also save the cell boundary transitions required for MFM. Thus, GCR is more efficient than MFM and is widely used in high-density disks and tape recordings. The disadvantage of GCR is the relatively high complexity of the encoding and decoding logic.

High-Density vs Double-Density Disks

High-density disks are physically different and tested to a different specification than double-density disks. In this case, high-density disks are of higher quality than double-density disks. The high-density disks have a special, thin, recording surface that allows the higher data rates used in MFM. The 800K or 400K disk may not be sensitive enough to properly pick up and align the magnetic particles when the SuperDrive writes in MFM. This could cause corruption of the stored data and may result in errors. Thus, it is unreliable, unsupported, and not suggested.

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System Software:Installation On a One-Floppy-Drive System (2/95)

This article explains a workaround for system software installation on a one-floppy-drive system.

This article has been archived and is no longer updated by Apple.
If your Macintosh has only one floppy disk drive and no hard disk drive (for example: a Macintosh II, Macintosh IIx, or Macintosh SE/30 with no hard disk), you can still install system software 6.0.3 onto a bootable floppy disk.

Such a System Software upgrade, even on a Macintosh IIx with an Apple SuperDrive (formerly Apple FDHD), takes 402 disk insertions (or disk swaps).

Rather than numerous disk insertions/swaps, a simpler procedure may be to use a RAM-disk program. On a system with 2 or more megabytes (MB) of RAM, you can create a RAM disk of 800K to 1500K, and then copy the Installer and associated files to it. The Finder on the RAM-disk could be Option-clicked to make it become the start-up disk. After restarting with the RAM disk as your startup disk, you can run the installation as though a two-floppy system were being used.

Article Change History:
22 Feb 1995 - Reviewed for technical accuracy and added the commonly used term "disk swap" to enhance searching capabilities.
22 Aug 1991 - Reviewed for technical accuracy.

Support Information Services
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A/UX: How to Start from an External Disk (8/94)

This article discusses the following error message:

Disk c0d0s0
Error: Cannot select SCSI device generic disk c0d0s0
Fatal Error: Logical block 0, physical block 1768387954
chroot failed

startup#

This article has been archived and is no longer updated by Apple.
This error appears when the startup shell looks to see which disk you want it to automatically launch and encounters a problem. It is most likely because the A/UX startup device is different than the device on which the A/UX Startup application is installed.

As shipped, A/UX Startup is configured to start the A/UX kernel from the same disk that contains A/UX Startup. You can change this to have A/UX Startup start the A/UX kernel from another device, which must be identified as a SCSI device with an ID from SCSI ID 0 through 6. The A/UX kernel must be in the root file system of the disk you select as the boot device.

To change the A/UX startup device to be different than the device on which the application A/UX Startup resides, follow these steps:

1) Start the A/UX Startup application.

2) Cancel the A/UX Startup application: press CMD-period.

3) Choose the General menu item from Preferences in the menu bar.

4) Identify the SCSI ID of the hard disk that contains the root file system and kernel.

Initially, the Root Directory box contains the (default)/ parameter, which is the disk on which A/UX Startup resides. Change this parameter only when the root file system is on a different disk than A/UX Startup.

5) Change the (default)/ parmater in the Root Directoy Box.

Enter the SCSI ID number of the device you want to use as the A/UX startup device; use the following format where ID is the scsi ID number:

(ID,0,0)/

6) Click the OK box.

7) Start A/UX by choosing Boot from the Execute menu.

Article Change History:
23 Aug 1994 - Reviewed and updated to describe startup shell.

Support Information Services

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A/UX: The Macintosh Toolbox, "rlogin", and Xindows (8/94)

This article discusses the relationship of the A/UX Toolbox to "rlogin", and XWindows.

This article has been archived and is no longer updated by Apple.
The basis for the statements in this article is that the current implementation of A/UX Toolbox does not let any device other than the local console device ("/dev/console") access the Macintosh Toolbox ROM functions.

1) You cannot launch a Toolbox application after an "rlogin" to the other Macintosh A/UX. If you launch it, you will get an error message similar to the one below:

Can't open video device
/dev/console: Permission denied
Fatal error in Toolbox

This happens only if you rlogin as somebody different than whoever is logged into the console.

2) From your local A/UX Macintosh, you can run the Toolbox "term" program, then "rlogin" to another A/UX Macintosh. After you are in the remote Macintosh A/UX system, no more Toolbox applications can be executed. It will give you the same error message as above, if you execute it.

3) You cannot run a Macintosh Toolbox application under an X11 window. The reason is that they are two different window systems, and both use the same console device. They don't know each other and don't know how to share the resource. If you run a Toolbox application under X11 windows, you will get an unpredictable result, like getting the console mixed up and/or the system hanging.

Article Change History:
23 Aug 1994 - Reviewed and updated.
31 Aug 1992 - Reviewed.

Support Information Services

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A/UX: Why You Can‘t Set I/O Buffer Size (8/94)

Some users have wanted to increase the serial input/output buffer size to improve system performance.

This article has been archived and is no longer updated by Apple.
You probably won't be able to do this in a direct fashion. The reason is that a linked list of data structures in the kernel controls A/UX serial input and output. These structures include:

- "clist" (the head of a linked-list queue of characters)

- "cblock" (a character-block structure)

- "ccblock" (a character-control block for interrupt-level control).

Some of the data structure sizes were constant when the A/UX kernel was built. These include "CLSIZE" (26, size of "clist" block) defined in the "clist" structure and the "TTYHOG" (256, maximum number of input characters buffer). As a result, you cannot change these numbers, unless you have source to recompile the kernel. Likewise, it is doubtful that the programming can change these constants.

However, there is a kernel-tunable parameter called "NCLIST" (number of system "clists"). You can raise this number with the "kconfig" command. This might speed up the input/output processing.

Article Change History:
23 Aug 1994 - Reviewed and updated.
31 Aug 1992 - REVIEWED for technical accuracy.

Support Information Services

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MacWorkStation: The X003 and X004 Exec Modules

This article has been archived and is no longer updated by Apple.

This article describes the difference between the X003 Invoke Exec Module and the X004 Call Exec Module.

The X003 Invoke Exec Module command actually runs the external procedure. You call this module after you have loaded the procedure and want it to execute for the first time to initialize its structures and perform its function.

The X004 Call Exec Module command passes data to an external procedure that has already been run by the X003 command. The data is passed in the "msgData" field of the TRMsg record that is sent to your external field.

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MacWorkStation: MARK Parity Workaround

This article has been archived and is no longer updated by Apple.

A developer of a TCP/IP network contributed the following tip.
MacWorkStation does support MARK parity, even though it is used on some mainframes. To work around this, try defining settings as follows:

Mark parity, 7 data bits, 1 stop bit

as:

No parity, 7 data bits, 2 stop bits

This kludge seems to be working, but MacWorkStation should support all parity settings, including EVEN, ODD, NONE, SPACE, and MARK. Note that NONE can mean no parity bit (NONE) or a zero bit (SPACE), depending on the vendor.

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LocalTalk: 32-Device Limit Is a Recommendation

This article describes the 32-device limit recommended for LocalTalk cabled networks.
This article has been archived and is no longer updated by Apple.
The 32-node limit for LocalTalk is a recommendation. It is specific to AppleTalk networks using LocalTalk cabling scheme. The considerations for this limit is the average traffic generated by these nodes and the physical transmission limitations of LocalTalk, so the 32-node limit is more of a performance limit.

Having more than 32 nodes can have an impact on network performance. Since there are 254 possible node addresses on a LocalTalk network, using all possible node IDs will reduce network performance due to increased traffic.

The node addresses are divided up this way:

1 - 127 are user node IDs
128 - 254 are server node IDs
0 and 255 these two node IDs are reserved

From a traffic standpoint, only active nodes have an effect on performance. In addition, both active and non-active workstations affect the electrical characteristics of the network, because the LocalTalk connector box (transformer isolation) puts a load on the network, regardless of whether the workstation is on.

The document, "Inside AppleTalk", gives detailed technical information about AppleTalk and is available from Addison-Wesley Publishers.

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Apple IIGS: Tabbing In Applesoft BASIC

This article has been archived and is no longer updated by Apple.

An Applesoft "PRINT TAB" statement, such as:

PRINT TAB(10);"A"; TAB(20);"B"; TAB(30);"C"

works on the Apple IIe and ImageWriter II, provided that you precede it with a Tab Enable statement. For example

PRINT CHR$(9);"T E"

However, the PRINT TAB statement (shown above) on an Apple IIGS and an ImageWriter II results in spacing 10 or 20 spaces rather than tabbing to those columns. When using PRINT TAB for screen formatting, there is no such problem.

The reason for this is that, when printing hardcopy, PRINT TAB appears to be tabbing the specified spaces from last character. For example:

50 PRINT TAB (20);"Column 20";TAB (40);"Column 40"

causes the first tab to be placed at column 20, but the second tab is placed at column 68. Here's why. The first tab statement puts the cursor at column 20. Because the Tab Enable statement defines each tab as 9-characters wide, the tab extends from column 20 to column 28 (one character at column 20 with the remaining 8 characters pushing the last character out to column 28). When the TAB 40 statement executes, 40 spaces are added to the last cursor location (column 28), placing the cursor at column 68.

There are two ways to handle this problem on the Apple IIGS. The first way is use the HTAB statement to format columns correctly:

40 HTAB 40:PRINT "Column 40":HTAB 60: PRINT "Column 60"

Old Apple II manuals state that this is not possible, but HTAB works correctly on the Apple IIGS, both on the screen and on the printer.

Overall, TAB and HTAB work as expected on the screen. When TAB and HTAB are used for printing, three factors must be considered:

- The type of Apple II.

- The interface card through which printing takes place.

- The active printer.

Each of these variables affect the TAB and HTAB commands when used in printing.

The second way to handle this is with the "A" command. Page 92 of the "Apple IIGS Firmware Reference Manual" states that the "A" command ('A'pplesoft Tabbing) duplicates the function of the "T" command of the Super Serial Card. Issuing this command makes the TAB command work as you would expect when using a printer.

Note: The command name ("A") was changed to avoid a conflict between "T"erminal mode and "T"abbing.

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Apple IIe: NEC SpinWriter Model 360 Connectivity

This article has been archived and is no longer updated by Apple.

If you are printing from Apple IIe to a NEC SpinWriter Model 360 Daisy Wheel Printer through the Apple Super Serial Card, use the following DIP Switch Settings on the Apple Super Serial Card:

Bank 1:
1:OFF / 2,3,4:ON / 5,6:OFF / 7:ON

Bank 2:
1:ON / 2-7:OFF

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GS/OS: Disk Drive Anomaly

This article describes a configuration in which GS/OS thinks disks are locked when they aren't or unlocked when they aren't.
This article has been archived and is no longer updated by Apple.
To see the problem "live", try the following on an Apple IIGS with one or two 3.5-inch disk drives and one 5.25-inch disk drive all daisy-chained from the SmartPort.

1) Start GS/OS on the 3.5-inch drives.

2) Insert a locked 5.25-inch disk into its drive and put it on the desktop.

3) Remove the 5.25-inch disk.

4) Insert a write-enabled, 5.25-inch disk and mount it on the desktop.

5) Copy the locked 5.25-inch disk onto the unlocked 5.25-inch disk. When the copy process ends, try to rename the unlocked 5.25-inch disk.

The Finder thinks the disk is locked. The problem appears to be with the driver for the 5.25-inch drives and seems to be related to how GS/OS sees 3.5-inch disks. If a 3.5-inch disk is unlocked, then the "Get Info" for all 5.25-inch disks displays "Unlocked", whether the 5.25-inch disk is physically locked or unlocked. Conversely, the same is true for a locked 3.5-inch disk. If a 3.5-inch disk is locked, then the "Get Info" for all 5.25-inch disks displays "Locked". Again, it does not matter if the 5.25-inch disk is physically locked or unlocked.

The workaround for this problem is to make sure that your 3.5-inch disks are not write-protected. This lets the user make copies and rename new 5.25-inch disks without having to restart the system.
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LaserWriter IINT: MS-DOS PC Printing Problem

This article has been archived and is no longer updated by Apple.

Some people have had problems printing to a LaserWriter IINT from an MS-DOS PC using Apple's LocalTalk PC card, along with the printing software included with AppleShare PC. A typical configuration includes Microsoft Word (PC) 4.0, under DOS 3.1. Printing originates at the PC and is sent to a LaserShare print server, which, in turn, prints to the LaserWriter. All connections are standard PhoneNET.

About six out of 10 print jobs from Microsoft Word fail and are flushed by the LaserShare during despooling due to an "unknown error". Note: Microsoft Technical Support (on the PC side) says that AppleTalk printing is "an unsupported network".

Interestingly enough, users don't have printing problems with other MS-DOS applications, printing directories, and so on or from any Macintoshes on the network.

This causes the suspicion that the PostScript driver in Microsoft Word may have problems with some of its commands. A number of drivers send their own libraries and even reconfigure the persistent parameters in a LaserWriter. Assuming the LocalTalk cabling and node have been tested along with the LocalTalk PC card for any problems, the source of the problem is the PostScript driver from Microsoft Word.

If you study some of the driver output from various PC packages, you will find that they define huge libraries of commands and even change the parameter-RAM settings. Part of the problem is that the PC software drivers expect to have the LaserWriter connected serially and set the LaserWriter or expect the LaserWriter in a configuration all to themselves. This means that the memory taken up by Macintosh Prep libraries may not let all of the libraries of PostScript code from the PC driver load. This may be what is happening here. To beat the problem, try the following:

1) Try a LaserWriter IINTX with memory expanded to at least 4MB.

2) Try printing to the LaserWriter just after a powerup and when no other Macintoshes or PCs are printing. This should show if the problem is with the different drivers from the PCs and Macintoshes.

3) Print the documents to an Epson printer from the application and configure the AppleShare PC printer connection for Epson emulation. This produce PostScript code from the AppleShare PC drivers. These are known to be compatible with Apple's Macintosh drivers.

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LaserWriter: Problem Printing from WordPerfect (PC) Over TOPS

This article has been archived and is no longer updated by Apple.

Some users have had a problem using WordPerfect on a TOPS network. When they try to print from WordPerfect to a LaserWriter from an IBM PC, the LaserWriter prints a bitmap, instead of PostScript.

The problem is not with TOPS, LocalTalk, or the printer. Rather, this situation calls for a software reconfiguration. Here's why:

1) The printer is printing the document.

2) The TOPS card is making the connection.

3) The LaserWriter in PostScript mode only prints PostScript commands.

4) Because the document is printing, the PostScript driver from WordPerfect is working.

5) Because the printer is printing, the TOPS card is connecting to the network.

6) What does "bitmap" mean? A PostScript printer only prints the PostScript commands sent to the printer. If a bit-mapped image is sent using PostScript commands, then this is due to the PostScript driver. It may be that the customer's document is using a font that is not available or is creating a new font for itself that is a bit-mapped font.

The Macintosh prints correctly when printing to the LaserWriter because of our font support, both in the driver and the LaserWriter. A different set of fonts is usually used in the PC world. Another possibility is that the LaserWriter prints a bitmap of graphics when set in the Hewlett-Packard LaserJet Plus mode. To print, a Hewlett-Packard driver must be selected from the application.

As you can see, the problem is more than likely a configuration of the application and, possibly, the WordPerfect driver itself. Connect to the LaserWriter with a serial connection, and see if the problem remains. If it does, contact WordPerfect's technical support.

Published Date: Feb 18, 2012

Apple IIe: Two Ways to Make it into AppleTalk Workstations

This article has been archived and is no longer updated by Apple.

There are two ways to make an Apple IIe with a 5.25-inch drive into an AppleTalk workstation. The first is to start the Apple IIe systems over the network. The second method is to use a 3.5-inch disk drive temporarily to build a startup disk. (Workstation Card software is shipped only on a 3.5-inch disk.)

Option 1: Startup Across the Network

With this option, there is no need for the 5.25-inch drives or the Workstation software. Just prepare the AppleShare file server for use with Apple II computers. With that done, users with Apple IIe/Workstation Card systems need only power on with no disks in the drives. The computers start across the network. Having the 5.25-inch drives lets users copy files to their own disks to take home.

Option 2: Building a Local Startup Disk

This second option uses the 5.25-inch drive for local starting. The Workstation Card software ships on a 3.5-inch disk, because of software space requirements. However, you can build a workable 5.25-inch disk. This requires use of a 3.5-inch drive while building the 5.25-inch disk. Once the 5.25-inch disk is built, the 3.5-inch drive is not necessary for running the labs. The following files are the absolute minimum for a network start-up disk:

- PRODOS
- ATINIT
- SELECTOR.SYSTEM
- System.APPS
- LOGOFF
- LOGON
- BASIC

In this configuration, SELECTOR.SYSTEM displays several applications from which to choose. However, only the "File Server Log On", "File Server Log Off", and "ProDOS BASIC" items actually run programs. All other choices display an error message. When acknowledged, the error message returns to the SELECTOR. Unfortunately, the applications list in the SELECTOR window cannot be changed.

With the above files on the 5.25-inch disk, the student may log on, log off, and enter Applesoft BASIC. If leaving the student in BASIC is satisfactory, this is all that is needed.

If Aristotle is used for a menu system, you will need a 3.5-inch drive to transfer the Aristotle programs to the server. Once the Aristotle programs have been moved to the server, saving a one-line Applesoft BASIC program to the 5.25-inch will let the student access the Aristotle program. The program should look something like:

```
10 PRINT CHR$(4);"-/PRODOS.SERVER/ARISTOTLE/MENU.D/DISPLAY"
```

Save this one-line program as "MENU". To use it, select "ProDOS BASIC" in the SELECTOR window, and the Applesoft prompt appears. Then type "-MENU" to get the Aristotle menu. Here is the structure of the Applesoft program:

```
PRINT CHR$(4); -- to let an immediate command be executed
"- -- run the program at the end of this pathname
/PRODOS.SERVER -- name of the AppleShare file server volume
/ARISTOLE -- name of the subdirectory containing Aristotle programs
```

/MENU.D -- name of the subdirectory containing Display
/DISPLAY" -- name of the Aristotle menu program to run

Published Date: Feb 18, 2012

Apple II Workstation Card: Workstations and Zones (2/97)

This article discusses the ways in which the Apple II Workstation Card understands zones and network IDs. Some of the discussion refers to the following setup diagram:

This article has been archived and is no longer updated by Apple.

```
Setup:

   Ethernet                           LocalTalk

--------|-------------- FastPath---------|----------|---------------|
       |                                |          |               |
   Macintosh II server              diskless       LaserWriter     |
   w/Apple II start                  Apple II                  Macintosh SE
   blocks
   zone: zone1                           zone: zone1
  net #: 1                              net #:   2
-----------------------------------------------------------------------
```

The only zone-related limitation concerns starting an Apple II diskless workstation. The ProDOS-prepared AppleShare server must be within the same zone as the diskless workstation. Once the Apple II has started over the network, the Workstation Card and the Apple IIGS are fully aware of zones and network IDs. This means that, once started, the Apple II can log on any ProDOS-prepared, AppleShare file server in any zone available on the Internet. The number of bridges or zones does not affect the access to another server.

When the Apple II broadcasts an AppleTalk Transaction Protocol (ATP) request, this ATP request is sent across the entire zone in search of a file server with boot blocks. In the given example, both 'net#1' and 'net#2' are in the same zone, "zone1". The FastPath passes zone broadcasts from either "net#1" or "net#2" to the other.

Once startup is completed, the AppleShare II Workstation software is executed. From this application, the user can choose the appropriate zone and log on to the desired ProDOS-prepared server. At this time, Name Binding Protocol (NBP) translates the names into the associated Internet socket addresses of the corresponding network entities. In this case, the Apple II workstation name is translated to an address, and the server name is translated to an address. These addresses notate network IDs, zone IDs, bridge IDs, and network entity IDs.

When a workstation is instructed to print, it looks for the chosen printer with the address provided by NBP. The address specifies the location of the printer. Because the printer is on "net#2" (the same network as the Macintosh SE), the FastPath determines that the address belongs on "net#2". The FastPath does not accept the traffic, because the address is local to "net#2". However, when the Apple II requests service from the server, the FastPath recognizes the address as one that belongs to "net#1". In this condition, the FastPath lets the request travel over the bridge to the server.

Typically, routing is handled at the fourth OSI layer, the transport layer of AppleTalk. Manufacturers working with AppleTalk use the transport layer to handle routing. Manufacturers working with other protocols may handle routing at a higher layer in the OSI model.

Article Change History:
12 Feb 1997 - Reviewed for technical accuracy, revised formatting.

Published Date: Feb 18, 2012

LisaCalc: Sorting

This article has been archived and is no longer updated by Apple.
There is a way of sorting in LisaCalc. Let's say, for example, that you wanted to sort a column of numbers (B1:B35) in Ascending order. To do this, you need to set up an additional column of formulas like this:

In the first cell (C1), put

search(B1:B35,cell<result,500,cell)

In the next cell (C2), put

search(B1:B35,cell<result and cell>C1,500,cell)

Now, Paste Adjust it to C3:C35, adjusting the C1. This will search the range B1:B35 and sort them in ascending order. The 500 value is any number larger then the largest number in the range. To sort in Descending order, the formulas would look like this:

In the first cell (C1), put

search(B1:B35,cell>result,1,cell)

In the next cell (C2), put

search(B1:B35,cell>result and cell<C1,1,cell)

and then Paste Adjust it to C3:C35, adjusting the C1.

Please keep a couple of things in mind when sorting:

1. This method will only sort a single row or column, NOT entire rows or columns as in LisaList.
2. If there are repeats of numbers in the range you are sorting, they will show up as NAs at the end of the list.

Published Date: Feb 18, 2012

HyperCard: Problems Sending Sounds On AppleTalk

This article has been archived and is no longer updated by Apple.

Reports have appeared of problems with HyperCard sending sounds over a network. The sounds break up badly when they arrive at a workstation. This includes sounds accessed from CD-ROM. Also, network performance slows noticeably when sounds are being transmitted.

Some people have guessed that the breakup of the sound is due to clipping of packets, but this is not the case. If packets were being clipped, there would be no sound played at all. When AppleTalk receives an incomplete packet, it throws the packet away and requests a retry. If the packet is thrown away, HyperCard would never know the packet had been sent.

The breakup is due to the sounds being shipped in packets. In tests, the sound starting and stopping correlates to the beginning and the ending of packets. This is especially true with longer sounds, such as musical passages.

Applications used across the network need to take into account the limits of the network. Other performance difficulties have appeared in other applications not designed for network access. Ethernet speed may solve this particular issue. However, to achieve the best performance, an application needs to be designed for the network environment. Long, digitized sounds being transmitted over the network are less than ideal for network-application design.

One approach to using long music passages in HyperCard is to keep the music passages on local storage. HyperCard looks first for the requested resource in the stack, next it looks in the Home card, then in HyperCard itself, and finally in the system. If the required sounds are installed in a local Home stack, the breaking up of the sound does not happen. If these sounds are stored locally, you must remove them from the stack residing on the server. Because HyperCard looks at the current stack first, the sounds in the server stack are used, unless removed.

If the applications have not been optimized for multiuser network access, a drop in network performance would not be unusual. Additionally, the AppleCD SC has a slower access time than the typical hard drive that is used as an AppleShare server.

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HD80 SC: Format With Either A/UX or Macintosh OS

This article has been archived and is no longer updated by Apple.

All the HD80 SCs used by Apple have the same level of firmware (Quantum ROM rev. B). The quantity of bad blocks may vary from one disk to another, but this is transparent to the user.

More specifically, any Apple HD80 SC can be formatted for use with either A/UX or the Macintosh OS. It is possible that drives displaying larger numbers of bad blocks are older drives and, therefore, have more bad blocks due to time. However, all of the drives should format to the same volume size under either operating system.

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Macintosh Desk Accessories: Multiple Windows

This article has been archived and is no longer updated by Apple.

A desk accessory can own (and open) multiple windows. The following methods for doing this are taken from information in "Inside Macintosh Volume I" on page I-109. (This article assumes you are familiar with the basics of resources.)

The resource ID of a WIND resource shows ownership. The following ranges are used for this purpose:

Range
-32768 to -16385 reserved
-16384 to -1 used for owned resources
0 to 127 used for other system resources
128 to 32767 Not owned

The range to look at is -16384 to -1. To decipher the owner information, view the individual bits in the resource ID:

bit 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1 0
1 1 type bits owning resource id you set these bits

Bits 14 and 15 are always 1. Bits 11 to 13 define the OWNING resource type. In the case of a desk accessory, they would be 000, which indicates a DRVR resource. Bits 5 to 10 specify the OWNING resource ID in the range of 0 through 63. Bits 0 to 4 are set by you. Thus, you can have up to 32 different OWNED resources of the same type for a desk accessory. For example, a WIND resource with ID -16000:

bit 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1 0
1 1 0 0 0 0 0 1 1 0 0 0 0 0 0 0
1 1 type bits owning resource id you set these bits
|----------|
|
12

This WIND resource is owned by a DRVR resource with ID 12. If the WIND resource ID is -15599, then you have:

bit 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1 0
1 1 0 0 0 0 1 1 0 0 0 1 0 0 0 1
1 1 type bits owning resource id you set these bits
|----------|
|
24

You can access these WIND resources through the standard window manager calls.

Published Date: Feb 18, 2012

Editing "troff" Files In the Macintosh OS

Article Change History

08/31/92 - REVIEWED
o For technical accuracy.
08/31/92 - UPDATED
o To include A/UX 3.0 Information.

Currently, you cannot do the following process:

1) Use "troff" on a UNIX 4.3 system to generate "troff" files.

2) Transfer these files to a Macintosh for editing with MacWrite or similar application under the Macintosh OS (on a non-A/UX system).

3) Ship these files, once edited and modified, back to the UNIX system as "troff" files.

This article has been archived and is no longer updated by Apple.

```
The problem is in the way that "troff" and Macintosh word-processing
applications specify document format within a file.  They are quite
different and not understood by one another.

Although transferring a "troff" file, which has been converted to
PostScript, is possible, once the document is opened by a Macintosh
application that understands PostScript, its format cannot be changed.

If know of a way to do this, please forward the information to TECH.COMM
for evaluation and review.

In A/UX 3.0, you may now print postscript files from the Macintosh to
a postscript printer using the lasarwriter font utility.
```

Published Date: Feb 18, 2012

MousePaint: 3.5-Inch Disk Must Be Named /MOUSEPAINT

When copying the MousePaint program onto a 3.5-inch disk, for use with the Apple IIc Plus for example, be sure the new disk is named /MOUSEPAINT.
This article has been archived and is no longer updated by Apple.
If the disk has any other name, it will not start up: the program gets to the "Welcome to MousePaint" screen and then scans down to the Disk IIs that are connected. When it comes back to the 3.5-inch drive, it gives an error message "Path Not Found". The next line says "Break in 10" and displays the bracket prompt.

Another solution is to set the pathname in the startup program MP.START on the MousePaint disk. Either of these solutions works; the first is easier.
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LisaDraw: Location of Pasted Objects

This article has been archived and is no longer updated by Apple.

When pasted into LisaDraw, objects are centered around the last mouse click. If you haven't clicked in the document, the object is centered on the first page.

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LaserWriter Landscape through AUTOEXEC.BAT

This article has been archived and is no longer updated by Apple.

This article describes how to use the AUTOEXEC.BAT file make it possible for you to choose whether to print landscape or portrait. It assumes you are using a LocalTalk PC card, LaserWriter software, and AppleShare PC (1.1) print drivers, so you can access the printer directly from Lotus 123 and Microsoft Word.

Here is a typical AUTOEXEC.BAT prepared for use with AppleShare:

```
atalk /mem=7K
\\ashare
\\aprint
\\minses
\\redir
\\anet auto
\\MOUSE1\\mouse
\\MOUSE\\cpanel
@echo off
path=c:\\;c:\\dos;c:\\lwdir;c:\\ashare;c:G0
prompt $P$G
lwprint -a postscrp.ini
PATH C:\\WINDOWS;c:\\;c:\\dos;c:\\lwdir;c:\\ashare;c:G0
```

The confusing part about printing Landscape is that it is not a mode. Drivers take the information going to the LaserWriter and massage everything necessary to rotate it on the printed page. The printer never gets set to a Landscape "mode".

To be able to flip between Portrait and Landscape, remove the line that begins with "lwprint" from the .BAT file. Then, use the DA pop-up application that is provided with AppleShare PC to set up the printer.

Using this method, you must print the desired file to a text file. At this point, you have two choices:

- If you choose to print to the LaserWriter through the Epson emulator (in the DA application), you need Sideways or an equivalent program to rotate the output.

- If you have chosen not to use the emulator, you must use the LWASC-R <filename> command in a batch file. This command is described on page 102 of the "AppleTalk PC Card Manual".

Published Date: Feb 18, 2012

LaserWriter IINTX: Compatible SCSI Drives

This article has been archived and is no longer updated by Apple.

Adobe submitted the following list of drives tested by them and known
to work with the LaserWriter IINTX:

Seagate ST225N
Rodime 650 series (RO651, RO652, RO751, RO752)
Quantum Q200 series (Q250, Q280)
MiniScribe 8425-SCSI
MiniScribe 80515

Other drives using embedded SCSI controllers have been reported
compatible but have not been tested by Adobe. For more information on this

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Parallel Printer On AppleTalk

This article has been archived and is no longer updated by Apple.

If you need Centronics parallel-compatibility on a network, consider products offered by Solana Electronics. Solana Electronics markets devices that are designed to connect, for example, a Printronix printer (with a Centronics interface) to an AppleTalk network.

However, purchasing an R-Server to connect a relatively inexpensive dot-matrix printer to the network costs more than replacing that printer outright with a new ImageWriter. Furthermore, after connecting an Epson to the network via an R-Server, you have no "network" driver support providing even minimal graphic support. All you have are the printer's built-in fonts with minimal or no formatting of text.

Solana has several options. If the printers are serial, consider the Solana R-Server X810.1 or X810.2. If the printer is parallel, use the X810.2. The X8120 devices can be set up with up to 2MB of memory for use as a data buffer to store and forward messages and so on.

Editor's Note 22 June 1992: Solana has discontinued business to our knowledge, so we are unable to refer you to them directly for further information.

Published Date: Feb 18, 2012

Apple Scanner: No Apple II Scanner Software

This article has been archived and is no longer updated by Apple.

Although a great deal of interest has been expressed in having the Apple Scanner work with the Apple IIGS, there is at this writing no Apple II Scanner software.

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System 6.0.2: Microsoft InterMail Incompatibility

This article has been archived and is no longer updated by Apple.

There is an incompatibility between Microsoft InterMail and System Software 6.0.2 or later. Version 1.36 of InterMail gives unpredictable performance with System software 6.0 or 6.0.2. Symptoms include unexpected and unpredictable lockups and/or system bombs (including those that happen while saving).

Microsoft has released a patch to fix InterMail versions 1.35 and 1.36, so they would work with System 6.0 and System 6.0.2. Reports from the field indicate the patch works correctly.

Here is a description of this problem:

After upgrading to System 6.0.2, intermittent problems occur as system bombs (mostly ID=03 and a few ID=02) when using Microsoft Word or Microsoft Excel and executing a "Save" or "Save As" menu option (75% of reports). Occasionally, a Print command (25% of reports) also causes a system error.

This is occurring on about seven to 10 machines that use Microsoft Word or Excel very heavily. All users are using Microsoft Word 3.01, Microsoft Word 3.02, or Excel 1.5 and operating under Finder, rather than MultiFinder. The errors occur uniformly across the population and are not isolated to one vendor's hard drive.

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Videodisc Driver Information

This article has been archived and is no longer updated by Apple.

Whitney Systems has a Macintosh HyperCard Videodisc driver package called Videodisc Writer. It is an easy way for customers to incorporate videodiscs into their HyperCard stacks without having to learn HyperTalk or how to write XCMDs or XFCNs. It presently supports the Pioneer 4200, 6000, and 6010 Videodisc players. Whitney Systems is willing to write an interface for other players, too, should there be sufficient demand.

For more details, search the Tech Info Library under "Whitney Systems".

Note: "Videodisc" is spelled with a "c" at the end and is all one word. This was established with the original Phillips/Sony patent on Videodisc and Compact Disc. If you are referring to magnetic media, then spell "disk" with a "k", as in "floppy disk". If you are referring to read-only media, spell "disc" with a "c", as in "compact disc".

Published Date: Feb 18, 2012

LisaDraw: Centered Text

This article has been archived and is no longer updated by Apple.
When you select certain objects in LisaDraw, such as rectangles and circles, then start typing, the text aligns in that object. This means that if you have "Align Centers" selected (the default), your text is centered in the object.
Published Date: Feb 18, 2012

Excel 1.5 and TOPS 2.0: Compatibility

This article has been archived and is no longer updated by Apple.

Macintosh hangs if TOPS 2.0 is selected from the Apple Menu, while in Excel 1.5. TOPS technical support does not know of any compatibility problems between TOPS 2.0 and Excel 1.5. They recommend upgrading to version 2.1 of TOPS, which is now available and has been fully tested with Excel 1.5. For more information, call TOPS at (800) 627-5858 for upgrade information.

Published Date: Feb 18, 2012

Lex Compiler for Macintosh OS

This article has been archived and is no longer updated by Apple.

I am working on projects like decision-support systems and I need a lexical compiler or other tool for lexical analysis for the Macintosh operating system.

DISCUSSION ----------

Abraxas sells an MPW tool called MacYACC which is a complete language development environment and contains a lexical analyzer. For more information about the latest version of this package contact the company. Search on "Abraxas" for vendor information.

Published Date: Feb 18, 2012

Macintosh: Tandy 100 and 102 Connectivity

This article has been archived and is no longer updated by Apple.

TOPIC ----------

I need to connect a Macintosh to a Tandy Model 100 and to a Tandy Model 102 portable computer for our work group.

DISCUSSION ----------

Connecting a Macintosh computer to a Tandy Model 100 or Tandy Model 102 portable computer requires a cable and communications software. Here are the pinouts for the cable:

* Macintosh 128K, Macintosh 512K, and Macintosh 512Ke to Tandy Model 100 and Tandy Model 102 cable:

Macintosh (DB-9 male) Tandy (DB-25 male)
--- ---
3 7
5 3
7 6, 8, and 20 (tied together)
9 2
4, 5 (tied together)

* All other Macintosh models (from Macintosh Plus onward) to Tandy Model 100 and Tandy Model 102 cable:

Macintosh (Mini-Circular 8 male) Tandy (DB-25 male)
--- ---
2 6, 8, and 20 (tied together)
3 3
4 7
5 2
4, 5 (tied together)

Note: A Macintosh (DB-9)-to-ImageWriter I cable (Service Part #590-0169) properly connects a Macintosh 128K, Macintosh 512K, and Macintosh 512Ke to the Tandy Model 100 and Tandy Model 102 computers. The same cable connects the Macintosh Plus, Macintosh SE, and Macintosh II to the Tandy Model 100 and Tandy Model 102 computers, if used in conjunction with the Macintosh Plus Peripheral Adapter Cable (Service Part #590-0341 or #590-0553).

Using this custom cable and a terminal program for the Macintosh, you should be able to transfer files between the Tandy computers and the Macintosh with no difficulty. The Macintosh will think it's talking to an external modem; the terminal program will let you "talk" to the Tandy computers, or upload or download from the Tandy computer as if it were a mainframe. The Tandy, of course, uses its built-in TELCOM program in the TERM mode and can upload and download files, as if it were talking to a mainframe.

The communication parameters must be the same at each end: baud rate, stop bits, XON/XOFF, and so on. A commonly used parameter for the Model 100 is 77I1E for 4800 baud, 7-bit, Ignore parity, 1 stop bit, and XON/XOFF enabled (although you could choose other baud rates or other parameters).

Published Date: Feb 18, 2012

LaserWriter: How To Use Preprinted Letterhead

This article has been archived and is no longer updated by Apple.

Apple has no documented specifications for paper or ink requirements when working with preprinted letterhead and logos, beyond the information in the "LaserWriter II Owner's Guide". Below is a copy of this specification.

"16-lb. to 20-lb. photocopy or typewriter bond (60 to 80 g/m2) in normal mode; up to 36-lb. (135 g/m2) stock in manual mode with face-up tray open. Accepts most letterhead and colored stock. Accepts medium-weight photocopy transparencies. Envelopes can be printed with manual feed or from the envelope cassette. Labels can be printed using manual feed."

However, any paper or ink used with the LaserWriter must be able to withstand the temperature of the fuser roller. This temperature varies between 165 and 180 degrees centigrade. It takes an 8.5-inch by 11-inch piece of paper approximately 5.8 seconds to travel over the fuser roller or approximately 1.5 inches per second.

Published Date: Feb 18, 2012

Aristotle: Improper Updating Of User List

This article has been archived and is no longer updated by Apple.

This article discusses why Aristotle users continue to appear in Menu Management and how to fix this problem. They are present, because the Access Privileges are not set properly on the Any User folder that is in the Users folder.

Within the Users folder is a folder called Any User. Within the Any User folder is a folder called ESP. Within that folder is a file called "userlist". "userlist" contains the current Aristotle Menu Management user list. If the privileges are set improperly on the Any User folder and the enclosed ESP folder, the "userlist" file cannot get updated. The userlist in ESP gets updated from the "userlist" in the server folder. AppleShare checks the dates of the two files and updates whichever file has the older date. If the userlist is not updated, the old users remain, and the new users don't show up.

To clear up this problem, change the Any User Access Privileges to See Folders, See Files, and Make Changes to everyone. Then change the ESP Access Privileges to See Folders, See Files to everyone. Make sure that the Teacher owns the Any User and the enclosed ESP folder. Then launch Aristotle Menu Management.

For more details, this entire case is documented in the "Aristotle Administrator's Guide", starting on page 66.

Published Date: Feb 18, 2012

Macintosh: Wang VS Connectivity Issues

This article has been archived and is no longer updated by Apple.

This article discusses problems with connecting Macintoshes to Wang VS processors. The client is currently doing terminal emulation and file transfer on local and remote Wang VS processors. After some experimentation, they have attached a NetSerial modem to their AppleTalk network (using LocalTalk) with a customized version of VS Term. They are connected to the Wang VS through a WACS controller and use the RS-232 cable (19.2 bps) to attach to the NetSerial.

This solution is too slow for them, particularly when doing file transfers. The slowness in the network is due not to LocalTalk (LocalTalk transmissions are 230.4K bits-per-second), but to the RS-232 connection running at 19.2K bits-per-second. This means the RS-232 segment of your connection to the Wang is running 12 times slower than the LocalTalk.

There might be a way to connect Macintoshes to the Wang via Ethernet, but there are some prerequisites. NCSA Telnet from the University of Illinois' National Center for Supercomputer Applications, or NetOne from Ungermann-Bass, must be used on the Macintosh to make a VT100-emulation connection through TCP/IP and FTP communications. These packages are compatible with LocalTalk or EtherTalk for the Macintosh.

Connecting the Macintoshes to the Wang Ethernet is fairly straightforward using Kinetics FastPaths, Cayman GatorBoxes, Apple EtherTalk cards, or any of the various Macintosh Ethernet connectivity units from Kinetics.

The difficulties are with the Wang system, itself. The following questions must be resolved before the above solution can be implemented:

1) Does the Wang VS system use TCP/IP and FTP? If it uses WangNet, then these communication protocols will not work.

2) Can terminals be connected through the Ethernet? Some office systems may implement Ethernet for file transfers only and have no facilities for handling remote terminal connections across the Ethernet.

Published Date: Feb 18, 2012

HyperCard: Freeing Up Memory

This article has been archived and is no longer updated by Apple.

TOPIC ----------

I find myself frequently running low on memory when in HyperCard. Sometimes it won't launch all.

DISCUSSION ----------

There are various things you can do to free up memory for HyperCard. When running under System 6, consider running HyperCard without MultiFinder turned on. In System 7 turning off MultiFinder is not an option; for this case, consider purchasing more RAM for your Macintosh, especially if you currently have only 2 MB. Also, adjust the current memory setting for HyperCard to at least 1000K, depending on the size and complexity of the stacks you will be using. Some other suggestions for freeing up memory are given below.

* Minimize use of INITs, extensions, and control panels, moving them out of the System Folder if necessary. Specifically, watch for memory-hungry items such as macro programs (QuicKeys, MacroMaker, and so on), and those that create a desktop picture (like ColorDesk).

* Don't run HyperCard simultaneously with AppleShare, InBox, or other memory-intensive applications.

* Turn the RAM cache as low as possible - in System 6, you can even turn it off.

* Run in two-color mode.

* Don't use huge beep sounds.

* Don't call lots of XFCNs/XCMDs within HyperCard.

* Empty global variables when no longer needed.

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Macintosh: HP150 Connectivity

This article has been archived and is no longer updated by Apple.

You can pass ASCII files between a Macintosh computer and a Hewlett-Packard HP150. To do this, you need a software package named "Reflection" from Walker, Richer, and Quinn, Inc. Although Reflection can do binary file transfer, the HP150 binary files are not usable on the Macintosh without a translator.

There are two physical methods for connecting Macintosh and HP150. First, a null modem cable can be used for a direct connect between the two computers. Reflection supports both Kermit and Xmodem. Reflection, running on both the Macintosh and the HP150, can transfer files in either direction.

The second method requires an Hewlett-Packard minicomputer, like an HP3000. Both Macintosh and HP150 then connect through Reflection to the HP minicomputer. The Macintosh and HP150 use the HP minicomputer as a central location for holding the files being transferred.

Note: The HP150 is not quite an MS-DOS machine. The operating system is a Hewlett-Packard design. The 3.5-inch disk drive is not formatted like MS-DOS, OS/2, or Macintosh.

For more details, search the Tech Info Library under "Walker, Richer, and Quinn, Inc."

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Kanji: Sending Characters Via Electronic Mail

How to create documents in Japanese (Kanji), transfer them to Macintosh systems in the U.S., and still display them in Kanji.
This article has been archived and is no longer updated by Apple.
One method is to use file transfer via one of the international network services, like CompuServe. Create the document in Japan, transfer the document file, and open the document in the U.S. To do this, the Macintosh systems, both in Japan and in the U.S., must have KanjiTalk software (the Japanese Macintosh operating system) to display the Kanji characters.

You can get KanjiTalk in the U.S. through a Kanji authorized reseller. Call 1-800-882-8856 to find your nearest Kanji authorized reseller.
Published Date: Feb 18, 2012

LisaDraw: Cut & Paste from LisaWrite

This article has been archived and is no longer updated by Apple.
Text can be cut or copied from LisaWrite and pasted into LisaDraw; however, LisaDraw doesn't understand "wraparound", so the information is pasted in one long line. For example, a paragraph consuming 5 or 6 lines copied from LisaWrite is pasted into LisaDraw as one long line (up to approximately 225 characters if there's sufficient room).
Published Date: Feb 18, 2012

AppleCD SC: Audio Questions

This article provides questions and answers about AppleCD SC audio.
This article has been archived and is no longer updated by Apple.
Question: Is the player oversampling; if so, what is the rate?

Answer: The AppleCD SC samples at the normal 44.1 KHz rate.

Question: Does it have an analog, digital, or combination output filter?

Answer: The AppleCD SC does have digital and analog filters; the analog filter is a "Brickwall" or steep analog filter.

Question: What is the output of the CD player in volts?

Answer: The mini-stereo jack outputs 0.6 +/- 0.1 volts RMS, at 32 ohms. The RCA plugs in the back output 0.5 +/- 0.1 volts RMS, at 47K ohms.

Question: Are the audio output sections of the player discrete?

Answer: The audio sections of the AppleCD SC are not discrete.

Published Date: Feb 18, 2012

AppleShare: Responding to System Crashes and ID=29

This article has been archived and is no longer updated by Apple.

This article describes what to do about AppleShare system crashes that give an error ID=29 and restart as the only option.

When an error occurs on the file server, AppleShare tries to react to the error. If successful, it does some general housecleaning before reporting the error to the user as error 29. This housecleaning includes writing buffers to disk and closing open files, like the PDS file.

Because the server is reporting errors, use the AppleShare Admin program to verify the volumes for consistency. It is also possible that there is a problem with the file server hardware. It may be prudent to verify the integrity of the hardware. If the errors continue, it may be necessary to rebuild the server from scratch.

Published Date: Feb 18, 2012

Macintosh SE/30 Direct Slot: Where to Get Information

Article Change History

09/16/92 - REVIEWED
* For technical accuracy.

Where can I get information on developing cards for the Macintosh SE/30 PDS (Processor Direct Slot)?

This article has been archived and is no longer updated by Apple.
A 35-page document is available from APDA titled "Macintosh SE/30 Developer Notes". This document focuses on the electrical and mechanical specifications of the Macintosh SE/30's 030 direct slot. Anyone developing a card for the Macintosh SE/30 needs this document.

For more information, search under "APDA".

Published Date: Feb 18, 2012

A/UX 1.0 and 1.1: f77 Compiler Problem (8/94)

This article describes a major problem in the A/UX f77 compiler as it exists in A/UX 1.0 through A/UX 1.1 (including A/UX1.1Beta1). NOTE: This problem is fixed in A/UX 2.0 and 3.0.

This article has been archived and is no longer updated by Apple.

```
The compiler incorrectly allocates common on the stack when it should allocate it in the data segment.  You
can force it to allocate the common block in the data segment by using a data statement, but this also causes
problems.

As an example, try this program, first as a single file and then split into two files.

  program test1
  common /fred/ array
  integer array(2)
  save
  array(1)=55
  array(2)=66
  print *,'Array in main is ',array
  call sub1
  print *,'Array after call to sub1 is ',array
  stop
  end
*
  subroutine sub1
  common /fred/ array
  integer array(2)
  save
  print *,'Array in sub1 is ',array
  return
  end

The problem keeps S from running under A/UX.  Here are tests with A/UX 1.0.1 and A/UX 1.1Beta1:

A/UX 1.0.1
----------
a) Source in same file (f77 foo.f):

  Array in main is  55 66
  Array in sub1 is  55 66
  Array after call to sub1 is  55 66

b) Source in two files (f77 foo.f bar.f):

  Array in main is  55 66
  Array in sub1 is  55 66
  Array after call to sub1 is  55 66

A/UX1.1Beta1
------------
a) Source in same file (f77 foo.f):

  Array in main is  55 66
  Array in sub1 is  55 66
  Array after call to sub1 is  55 66

b) Source in two files (f77 foo.f bar.f):
  Array in main is  55 66
  Array in sub1 is  0 0
  ~~~~~~~~~~~~~~~~~~~~~~
  Array after call to sub1 is  55 66
```

Article Change History:
19 Aug 1994 - Reviewed.
31 Aug 1992 - REVIEWED For technical accuracy

Support Information Services

Published Date: Feb 18, 2012

Grayscale Information

A user has found (using very sophisticated photometric devices) that when he generates a monochrome palette from a color palette, some of the tones are identical. This article discusses this phenomenon.

This article has been archived and is no longer updated by Apple.

In regard to using the color palette, the Palette Manager does not place new colors into the display device's color look-up table (CLUT). It maps the requested colors in a palette to available colors within the current color table. The correct method for using specific color values is to use the Color Manager calls to create and load a programmed color table.

There are some other points that must taken into account after setting your colors with the Color Manager.

- It is possible to produce grays by setting the monitor to monochrome output and not setting grays, as the user in question probably does. When selecting monochrome from the monitor's Control Panel CDEV, luminance mapping of the colors in the color table is done to calculate and replace the RGB values for a monochrome pixel. The luminance mapping follows this equation:

```
  Luminance = .3*red + .59*green + .11*blue
```

The resulting value is placed into the display device's table for R, G, and B. The values are altered according to the above equation. This needs to be taken into account if the monochrome option is chosen for the Apple High-Resolution Color Monitor.

- If you place your own RGB "gray" values into a color table, you must also take into account gamma correction. Gamma correction is done by the display device's driver to correct the disproportionate light output of the CRT phosphors by comparison with the proportional input voltages of the video signal. To set a linear relationship between colors and output, the values set for the Macintosh II Video Card are changed to new values, which then produce the corrected color output on the monitor. Test equipment detects a gamma-filtered set of values from the monitor.

The gamma correction is automatically handled for all values written to the device's color table. This is based on an empirically-derived gamma look-up table. If the selected values fall within the same look-up table reference, they can be mapped to the same gamma value. This would explain why some values are the same. The gamma table ID is located in the SCRN resource of the System file for the Macintosh II Video Card. A new GAMA Resource table can be defined and installed in the System file for use by the Macintosh II Video Card. To use the new gamma table, the GAMA resource ID must be changed in the SCRN resource to that of the new table.

The safest values for any testing will probably be a linear table that does no gamma correction. A quick and easy way to do this is to pass -1 to the SetGamma Control parameter block as the new table address. This causes a linear table to be used, guaranteeing that all of the possible gray levels of the card are available. At that point, the actual color output on the monitor depends on the phosphors themselves, which have a variance from monitor to monitor of +/-.02 for the red and green phosphors and +/-.015 for the blue. The CIE coordinates of the phosphors are:

```
  Red: x=.625 y=.34 Green: x=.28   y=.595 Blue:     x=.155 y=.070
```

To properly set the gamma table, see the information below about how the driver uses this table. You should also investigate how to control device

drivers. This is described in "Inside Macintosh Volume II." Another source of information is the "Designing Cards and Drivers Manual for the Macintosh."

Gamma Information

In the current implementation of the video drivers, gamma correction is applied to requested, absolute colors, immediately before they are set in the color look-up table by the SetEntries control call. More specifically, some number of high-order bits are extracted from the red, green, and blue channels and used as an index into tables of corrected values. These values are then placed into the hardware, yielding corrected output. On the Macintosh II Video Card (the TFB card), the high eight bits of each channel are used to reference the gamma table.

There are a number of minor shortcomings in this implementation. First, there is not absolute symmetry between the SetEntries control call, which sets the CLUT, and the GetEntries status call, which reads the CLUT hardware, because the gamma correction took place as part of the SetEntries call. Also, the uncorrected values are generally unrecoverable (although a copy of the absolute colors are always available in the GDevice structure).

Finally, it is most desirable to extract more bits as an index to the gamma table than the number of bits of color information that will be set in the CLUT. This way, you avoid a loss of color resolution after correction. For example, the TFB card has an eight-bit-per-channel CLUT, but only uses the most-significant eight bits of the (16-bit) channel information for gamma lookup. At lower intensities, the gamma correction increases the distance between adjacent values. As a result, on the TFB card, some dynamic range is lost at lower intensities. This could be corrected by extracting nine or ten bits of channel information rather than eight and using a larger, gamma-correction table, but this option was declined to reduce gamma table size.

The GammaTbl Data Structure

The structure itself has been a bit of a mystery, as it is not defined in either "Inside Macintosh Volume V" or the Designing Cards and Drivers Manual. This is the structure:

```
  record GammaTable of
  gVersion: integer; {gtab version, currently 0}
  gType: integer; {drHwId value}
  gFormulaSize: integer; {size of formula data, below}
  gChanCnt: integer; {# of component channels}
  gDataCnt: integer; {# of values per channel}
  gDataWidth: integer; {size of data in tables}
  {gamma correction look-up tables}
  gFormulaData: array [0.. gFormulaSize] of byte;
  {data for gamma calculation formula}
  gData: array [0.. gDataCnt] of byte;
  end;
```

In this structure, gVersion represents the gamma table format version, which is 0 for all current cards. The gType field holds the drHwId value for this board to identify the board that this table was measured for. Note that this means that a single gamma table can't directly be shared between two different cards, even if they both have the same CLUT response curve (which is usually linear). This lets the data in the gamma table be in an appropriate form for varying hardware (that is, a card could have four-bit/channel DACs and might prefer gamma data in the range $0..$F rather than $0..$FF).

gFormulaSize defines the number of bytes occupied by the gFormulaData

field. On Apple's current video cards, gamma correction is done by modifying the values loaded into the CLUT by the SetEntries control call to approximate linear response on the display. On these systems, the gamma correction table acts as a final, look-up, data table, which translates the requested color into closest available linearized level. These gamma table values are determined empirically by measuring the output of a calibrated display.

More sophisticated systems may choose an alternative to this simple look-up mechanism. For instance, you can calculate gamma correction factors based on a mathematical response function. By default, the TFB card uses a single correction table for all three channels. No calculations are performed on the incoming color table other than simple lookup. Cards can remember the specific monitor configuration at the beginning of the gFormulaData field, allowing it to identify and use only gamma tables developed for the currently connected monitor.

gChanCnt is the number of look-up tables in gData, below. If there is more than one channel of gamma correction data, then the R, G, and B tables follow each other, respectively, at the end of the structure.

gDataCnt is the number of discrete look-up values included in each of the channel's correction table. It is always equal to 2gDataWidth, but refers to number of bytes that this channel's data occupies.

gDataWidth describes the number of significant bits of information available in each entry in a channel's correction table. The data always appears as gDataWidth bits, right-justified in a field that is the next larger number of bytes than gDataWidth. Because it is rare to have devices with more than eight bits of CLUT resolution, virtually all devices pack their correction data into bytes.

gData is actual correction table data. If there is more than one channel's information, each table follows the next in R, G, B order. The standard tables included in Apple's driver have only one table, which is applied to all three output channels. Because Pascal cannot express variable size fields in record structures, the independent channels are not individually named.

"gama" Resource Format

In addition to the RAM data structure for gamma tables covered above, there is a standard resource format for gamma table resources. Like many other resource templates, the gamma structure is an image of the RAM form stored in resource format. There are no changes.

Using Gamma Correction

Gamma correction is always applied by the TFB video driver. At driver open time, the driver is usually initialized with a linear (noncorrecting) gamma table. When _InitGraf is called, the "scrn" screen configuration resource is read from the System file. This resource (described in "Inside Macintosh Volume V") includes information about the size and orientation of the different monitors configured into the system, including their last video mode (pixelsize), color table, and gamma table.

If there is no "gama" resource ID specified, or the specified ID is not present, then a default gamma table, "gama" =0 is loaded from the System file and used (this is the table calculated for the TFB card). If the specified resource is found, then the appropriate resource is loaded, and a control call is issued to the driver to make this the current gamma table. Unfortunately, there is currently no tool to set the "gama" ID, short of modifying the "scrn" resource directly.

To facilitate the use of the gamma table, there are two calls in the

standard, video-driver routines that set the gamma table (control call 4, SetGamma) and retrieve the pointer to the current gamma table (status call 6 on TFB rev 2 drivers and up). These calls simply take and return a pointer to a GammaTbl structure.

Published Date: Feb 18, 2012

HyperCard: Global Paths & Avoiding Lost Pathnames

Whenever I move various applications, stacks, and folders comprising my HyperCard projects to another hard disk, I am inundated with "Where is..." dialog boxes as my scripts try to re-find the correct paths to jump between stacks.

This article has been archived and is no longer updated by Apple.
Some HyperCard developers have asked if there is any way to provide a global path command or to assign physical or logical names that initiate at startup. This becomes important when a program is moved to another machine (with different names). This kind of porting can make all the pathnames incorrect with the result, as above, that the program constantly asks for help in finding files.

Many users try to avoid this problem by beginning the path names with the actual volume name. This is not necessary.

An easier solution is to load the folders in question into the same folder that contains the HyperCard application itself, then place a colon at the beginning of the path name, like this:

:HyperCard Ideas:Idea Stacks:

The first colon in this statement tells HyperCard to look for the "HyperCard Ideas" folder within the same folder that contains HyperCard itself. HyperCard will then continue on to the "Ideas Stack" folder for the chosen stack.

The problem can also be handled by getting the Long Name of the currently executing stack. This name returns the path to the stack. As long as the other stacks or accessed files are kept in the same folder, the pathname can be manipulated to open those files. You can even place the stacks or files in subfolders, as long as the folder names are placed in the path.

An example:

```
Function PathWay
put the long name of this stack into NewName
delete char 1 to 7 of NewName
repeat
if offset(":",NewName) is 0 then
exit repeat
else
put char 1 to offset(":",NewName) of NewName after NewPath
delete char 1 to offset(":",NewName) of NewName
end if
end repeat
return NewPath
end PathWay

put PathWay () into the message
```

This piece of code returns the current path to the stack. By appending the name of a stack or file onto the end of the returned path, your stacks can open any stacks or files in the same folder. By placing a folder name and the name of the stack after the returned path, you can open the stacks within a subfolder.

Published Date: Feb 18, 2012

HyperCard: Error Code 19374

This article has been archived and is no longer updated by Apple.

Error 19374 means that HyperCard was not able to dispose of all of the objects in memory. This probably means that your stack is corrupted.

To solve this problem, create a new stack and transfer all of the scripts, data, and so on from the old stack to the new stack. If the stack is large, you may want to create a script to automate this process.

Published Date: Feb 18, 2012

LisaDraw: Even Spacing

This article has been archived and is no longer updated by Apple.
Two methods for spacing objects evenly are:

- Select all the objects you wish to space evenly, then select Align to Autogrid from the Arrangement menu.

- Make evenly spaced copies of an object by duplicating the object and moving it the distance you want. While the duplicate is still selected, duplicate this duplicate. Each subsequent duplicate moves the same distance as the first duplicate you moved.

Published Date: Feb 18, 2012

HyperCard 1.2.2: "Print Reports" Produces Only One Copy

This article describes an issue with HyperCard 1.2.2.
This article has been archived and is no longer updated by Apple.
No matter how many copies you specify in the "Print report" dialog, you still get only one copy. This was tested with System 6.0.2 and was reproducible.
Published Date: Feb 18, 2012

Macintosh: Order Of Devices Checked During Startup

Article Change History

09/28/92 - REVIEWED
* For technical accuracy.

What is the order of devices checked by the Macintosh during startup?

This article has been archived and is no longer updated by Apple.
Here is the correct order of devices the Macintosh checks during the startup sequence:

1) Floppy drive 0
- On a Macintosh II, IIx, & IIfx this is the right-side internal drive.
- On a Macintosh SE with two floppy drives, this is the lower drive.
- On other systems, this is the internal drive.

2) Floppy drive 1
- On a Macintosh II, IIx, & IIfx this is the left-side internal drive.
- On a Macintosh SE with two floppy drives, this is the upper drive.
- On other systems, this is the external drive.

3) Floppy drive 2
- This applies only to a Macintosh SE with a third floppy drive.

4) Startup device selected via the Startup Disk CDEV
- This may include SCSI or NuBus startup devices.

5) SCSI devices, beginning with ID 6 and ending with ID 0.

6) NuBus startup devices.
- This applies only to a Macintosh II.

Both the "Inside Macintosh V" and the "Macintosh Family Hardware Reference" manuals state that the internal SCSI device is checked before any other SCSI device, regardless of SCSI ID. This is NOT True. Unless the internal SCSI device is selected as the startup device via the Startup Device CDEV, it has no special priority during the startup process.

Published Date: Feb 18, 2012

LaserWriter: Power Consumption For All Models

This article provides the power consumption of Apple LaserWriter printers.
This article has been archived and is no longer updated by Apple.
The following table gives the power consumption for Apple LaserWriter printers. Four levels of consumption are expressed: energy-saving mode (average), standby mode (average), operation (average), and maximum operation. The operation columns provide only the maximum consumption if no average is available.

LaserWriter Model	Power Consumption			
	energy- saving mode (average) W	standby mode (average) W	operation W (100 V to 120 V)	operation W (220 V to 240 V)
LaserWriter	--	120	800	700
LaserWriter Plus	--	120	800	700
LaserWriter IISC	--	170	900	780
LaserWriter IINT	--	170	900	780
LaserWriter IINTX	--	170	900	780
LaserWriter IINTXJ	--	170	900	--
LaserWriter IIf	--	170	900	780
LaserWriter IIg	--	170	900	780
LaserWriter Pro 400	--	--	--	--
LaserWriter Pro 405	--	--	--	--
LaserWriter Pro 600	--	95	560	530
LaserWriter Pro 630	--	95	560	530
LaserWriter Pro 810	--	95	560	530
LaserWriter 16/600 PS	26	125	390 average 790 max	370 average 770 max
LaserWriter 12/640 PS	15	125	390 average 790 max	370 average 770 max
LaserWriter 12/640 PS Plus	less than 25	125	390 average 790 max	370 average 770 max
LaserWriter 8500	25	150	390 average 860 max	370 average 840 max
Color LaserWriter 12/600 PS	42	215	535 average 1 100 max	524 average 1 000 max
Color LaserWriter 12/660 PS	42	215	535 average 1 100 max	524 average 1 000 max
Personal LaserWriter SC	--	90	600	550
Personal LaserWriter LS	--	90	600	550
Personal LaserWriter NT	--	90	600	550
Personal LaserWriter NTR	--	90	600	550
Personal LaserWriter 300	5	--	180 average	180 average
Personal LaserWriter 320	less than 10	--	180 average	180 average
LaserWriter Select 300	20	--	450	450
LaserWriter Select 310	20	--	450	450
LaserWriter Select 360	20	--	450	450
LaserWriter Select 610	--	--	--	--
LaserWriter 4/600 PS	less than 10	--	120 average	120 average

Published Date: Feb 18, 2012

A/UX: NFS and Hard Disk Space (9/94)

This article describes three things you might do to free up some space on a workstation's hard disk to increase the size of the Macintosh OS partition. These include:

1) Changing the SWAP partition.

2) Moving selected files onto an NFS server.

3) Reclaiming disk space for the Macintosh OS, as files are transferred to the server.

This article has been archived and is no longer updated by Apple.

1) Under A/UX, by default, 18 MB is allocated for SWAP partition. You can change this size if you wish. Normally, if you do a large number of huge compilations or use any specific application that requires a lot of swap space to be used by the memory management, you probably need to increase the SWAP size. Typically, the swap space should be between two and three times the size of physical RAM installed in the machine.

2) Depending on what files you want to be shared by the users, you can move them to the NFS server. For example, you could have an NFS server contain:

- The on-line documentation (/usr/catman).
- The public domain software sources and binaries.
- The common toolbox applications, such as MacWrite, MacDraw, and so on.
- The X Window server and/or client applications.
- The Domain Name server and/or Yellow Pages Server Database.

3) After you move files to the server and before you "reclaim" some space for the Macintosh OS, you need to:

a) Use a method like "tar" or "cpio" to back up files that will remain on that hard disk.

b) Use HD SC Setup software to repartition A/UX file systems. You may "customize" the entire hard disk partitions or choose the "MINIMUM A/UX" configuration option to get the minimum A/UX file system partition.

c) Boot A/UX from another A/UX hard disk (usually an external hard disk).

d) Do "mkfs" on the hard disk that was repartitioned in step b, and restore the files that were backed up in step a.

e) Finally, it is a good practice to do "fsck" on the newly created filesystem(s).

Article Change History:
1 Sept 1994 - Reviewed.

Support Information Services

Published Date: Feb 18, 2012

DA Handler: Memory Constraints

This article has been archived and is no longer updated by Apple.

Note: The following information is applicable only to System 6.0.X running under MultiFinder.

TOPIC ----------

What causes the DA Handler to cease functioning occasionally? I am working on a color Macintosh II (with an Apple monitor) with 4 MB RAM, a 40 MB hard drive, and an AppleCD SC and running system software version 6.0.3 and MultiFinder. (I'm also running numerous INITs.) I see the problem when I try to select any DA.

The DA Handler icon flashes in the menu bar, but the system simply returns to the current application. If I try selecting a different application or returning to the Finder, the same thing happens. It also happens under system software versions 6.0.2 and 6.0. The only solution appears to be to restart.

DISCUSSION ----------

This situation can occur when you run low on the available MultiFinder memory. If you have enough memory to load the DA Handler, but not enough to run the desk accessory, the desk accessory quits. DA Handler then exits, because there are no desk accessories currently running. Unless the desk accessory reports an error, all you see is the DA Handler launching and then exiting, because there are no loaded desk accessories.

The reason this happens under MultiFinder, and not under Finder, is that DA Handler is an application that is run when a desk accessory is selected from the Apple menu. There is not necessarily enough memory left for it to run, after you have loaded other applications.

In the Finder, desk accessories are loaded into the memory taken by the currently running application. You can force the same thing in MultiFinder by holding down the Option key when you select the desk accessory.

Published Date: Feb 18, 2012

LisaDraw: Shading Arcs and Curves

This article has been archived and is no longer updated by Apple.
The default shade for text in LisaDraw is white, as it is for all closed objects (circles, squares, etc.). The default shade for arcs and freehand curves is "none." Consider shading arcs and freehand curves to give them a larger selectable area, making them easiler to select.
Published Date: Feb 18, 2012

TA39963_La_Cie_USA.pdf

La Cie USA

La Cie USA
This article has been archived and is no longer updated by Apple.
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Company Profile:
Hardware and software, specializing in disk drives, removable media, and disk utility software.
Published Date: Feb 18, 2012

Apple IIc Plus: Third-Party Add-On Products

This article lists four third-party products for the Apple IIc Plus.
This article has been archived and is no longer updated by Apple.

RGB Video Adapter

An RGB video adapter called the "PEACOCK", Model CM2C (RGB Module for the Apple IIc) from Telemax can support both analog and digital RGB. Therefore, let Telemax know what monitor you plan to use when you order the Peacock video adapter.

Internal 2400 Baud Modem

An internal 2400 baud modem, available from MDIdeas, is called CommLink IIc Plus. The modem uses an internal connector.

Hard Disk (20MB)

Chinook Technology has a 20Mb hard drive (the CT-20c) that works with the Apple IIc and Apple IIc Plus computers. The drive connects to the disk port on the Apple IIc or Apple IIc Plus.

Memory Expansion Card

A memory expansion card is available from Applied Engineering. The card uses the memory expansion port inside of the computer. The card can add 1MB of memory to the Apple IIc or Apple IIc Plus.

The Tech Info Library Article 17159: "**Locating Vendor Information**" can help you search for a particular vendor's address and phone number.
Published Date: Feb 18, 2012

A/UX: Name Server Slow BNET Response (8/94)

This article describes three solutions to slow response of BNET utilities.

This article has been archived and is no longer updated by Apple.
Some users have noticed a slow startup of the BNET utilities "remsh", "rlogin", and even "ping." Suspicions were that this was related to the utilities' failure to make contact with the "named" daemon, thereby causing a timeout before continuing. When this daemon was turned on in "/etc/inittab", it did not appear when the system reached the appropriate run state.

Note that a line in the "inittab" references "/etc/named.boot", a file that does not exist in A/UX as shipped. If you create "/etc/named.boot" as a zero-sized file and restart the system, the "named" daemon runs and networking is much faster. For example, the "ping" program responds almost immediately instead of after five to six seconds. The same applies to "remsh", "rlogin", "rcp", and others.

There are three workarounds for this problem:

Method 1
---
1. Choose one system on the network to act as the "name" server.
2. Create a zero-sized file called "/etc/named.boot" on that system.
3. Enable the "named" daemon from within "/etc/inittab".
4. On all other systems on the network, edit the "/etc/resolv.conf"
file to include:

nameserver <Ethernet address of above machine in dot notation>

5. Restart all network utilities that are running.

Method 2
---
1. Turn on the "named" daemon on all systems on the network.
2. Create a zero-sized file called "/etc/named.boot" on each system as
previously described.

The second method is slightly less efficient, but may be the better choice because every system on the network has a "name" server and does not have to rely on one system to be present.

Method 3

Methods 1 and 2 sound good, but neither includes any "name" server database. You would do well to build a "name" server with real name database into your network.

The reason network activities like "rlogin", "ftp", "remsh" ran slower was because the "name" server was either down or not running, and the libraries (resolver software) that query the domain name server already are built in to A/UX. Because of this, hostname or address queries from a user process are:

a. First sent to the name server.
b. If the information is not found, the query is sent to the Yellow
Pages.
c. If the information is not found, the query is sent to the local
"/etc/hosts" file.
d. If the information is not found, the query fails.

For additional information about Name Servers, refer to the A/UX Network System Administration manual section on "Setting Up the Name Server".

Article Change History:
24 Aug 1994 - Reviewed and updated.

Support Information Services

Published Date: Feb 18, 2012

A/UX: How to Use the "daiw" Command

Article Change History

08/31/92 - REVIEWED
* For technical accuracy.

If you have had problems piping to and from "daiw", consider the following command string.

This article has been archived and is no longer updated by Apple.
It sends the file "args.1" to the ImageWriter II (directly connected to A/UX tty1) without any problem:

```
troff -man -Tiw args.1 | daiw | lp
```

The key point is that you must specify the "-Tiw" option in the "troff" command, so that the output of "troff" can be recognized by the "daiw" command. This assumes that ImageWriter II is the default system printer.

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AppleCD SC: High Sierra CDs Are Accessed Like Any Other Volume

How are High Sierra CDs accessed?
This article has been archived and is no longer updated by Apple.
Accessing the information on a CD-ROM volume isn't much different than accessing the information on most magnetic disks, whether the CD-ROM discs use HFS (Hierarchical File System) for Macintosh files, ProDOS (Professional Disk Operating System) for Apple II files, or the High Sierra format for either system. Generally, if you know how to work with files and folders (subdirectories) on a hard disk, 3.5-inch disk, or 5.25-inch disk, you know how to work with the files on a CD-ROM under these formats.

High Sierra is a standard way of organizing the information on a CD-ROM. CD-ROM discs that conform to the High Sierra standard can be accessed from a variety of computers. The discs need not be customized for each different computer's operating system. You don't need to know anything about the High Sierra format to use High Sierra CD-ROM discs. You communicate with application programs as you always have.

Likewise, your application sees the CD-ROM disc as any other disk connected to the system. All file I/O calls are standard Macintosh calls. Nothing special needs to be done. For example, if, in your program, you want to read a file from a High Sierra, issue a Read command.

Nevertheless, a custom search engine may be required if the file format is unique and cannot be accessed via another application (like Microsoft Word opening a MacWrite file). If a custom, search engine must be written, using HyperCard might be the most elegant and expedient tool.

Note that there are two specifications of the High Sierra format, High Sierra and ISO 9660. Both are standards that specify a hierarchical volume and file structure for CD-ROM discs.

The High Sierra standard came about when a group of industry representatives met at Del Webb's High Sierra Hotel and Casino in Stateline, Nevada, in late 1985 to cooperatively develop a common logical format for CD-ROM discs. The result of this series of meetings was a standard known as the "High Sierra" standard. This standard is fully specified in the May 28, 1986, "Working Paper for Information Processing--Volume File Structure of Compact Read Only Optical Discs for Information Interchange." For obvious reasons, this is known as the "High Sierra paper."

As is the case with all good standards, the world at large wanted to adopt an equivalent standard. The International Standards Organization (ISO) has modified the High Sierra standard by running it through the ISO standardization process. The result is a new international standard, "ISO 9660-- Volume and File Structure of CD-ROM for Information Interchange." This is known as the "ISO 9660 Standard."

Although most existing CD-ROM discs are High Sierra, ISO is the wave of the future, and most future discs will be ISO. Regardless, Apple's driver will enable you to read CD-ROM discs pressed in either format, and wherever we use the term High Sierra in this article, we're referring to both the ISO 9660 and High Sierra, except where explicitly stated differently.

Finally, and as with installing the System software, ALWAYS use the Installer to install the CD-ROM driver. Using the Installer on a Macintosh installs five drivers, including the Apple CD-ROM, ISO 9660, and High Sierra drivers. Copying the Apple CD-ROM icon installs only that file. If you did a "proper" install and cannot access a "High Sierra" disc, that disk might have been created early in the development of optical storage CD-ROM technology and probably didn't follow the standards as they now read.

References:

- Tech Note #209
- AppleCD SC Developer's Guide, both available from APDA.

The following Tech Info Library article can help you find the Tech Note mentioned here:

Article 24493: "**Apple Tech Notes: What They Are, Where To Find Them**"
Published Date: Feb 18, 2012

LisaDraw: Error 3001 or 3007

This article has been archived and is no longer updated by Apple.
When printing a document, you might receive error message 3001 or 3007 as a result of having entered some text in your document then backspacing over a portion of it.

The BACKSPACE sometimes changes the type style of the text string to the system font, the font used for displaying Lisa menus and messages. Unfortunately, LisaDraw doesn't know how to print the system font.

The text typically displays normally, though it is sometimes displayed in the system font which is easily distiguished when the text contains a "V". Just compare the "V" with the V in the option Save from the File/Print menu. The system font V, just as in the pull down menus, slants towards the right.

The easiest way to resolve this problem is to "Select All" of the document with the Edit menu, change the type style to another type style. Change the typstyle back to what you originally selected if you wish. Then print as you normally would.

The other option is to locate, select and change the font of, or re-enter, the specific offending text. Look for the "V"s as described above, or select Print While You Wait. LisaDraw stops printing when it encounters the offending text string.
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LaserWriter II: Duplex Printing and Smudging

This article has been archived and is no longer updated by Apple.

When doing duplex printing on a LaserWriter II, many users find a smudge on the top of the second page. It is important to understand why the smudge appears. Most people do duplex printing the following way:

They fill up the paper tray and print out a number of sheets (for example, 50 pages). They then take those 50 sheets from the output tray and put then back into the paper tray with the blank side up. Then, they print the second side on the pages they just put back in the tray. Presto! Duplex two-sided pages.

The problem with printing this way is the pressure that the paper-pickup roller puts on the paper, as it is pulled out of the tray. When printing side two, side one is face down in the paper tray. As each piece of paper is pulled out of the tray, the pickup roller applies pressure to help separate the pieces of paper. As the piece of paper is pulled out of the tray, toner from side one of the page is smeared onto the top of the next piece of paper. The smear is the caused by the pressure of the paper-pickup roller as it pushes down on the pieces of paper.

There is no way to prevent this from happening. That is why Apple states in the LaserWriter II owner's manual that duplex printing should be done manually, one sheet at a time.

Published Date: Feb 18, 2012

MacDraw 1.9.5 and LaserWriter 5.2 Conflict

This article has been archived and is no longer updated by Apple.

This problem is caused by the combination of MacDraw 1.9.5 (or 1.9.6 from CLARIS) and the LaserWriter 5.2 print drivers. When you rotate a block of text and print to the LaserWriter, you get an ID=2 system error.

This happens with the Macintosh SE, Macintosh Plus, or Macintosh 512Ke, when using the LaserWriter 5.2 drivers. The workaround is to use an older version of the LaserWriter drivers. For the Macintosh 512Ke, this means the LaserWriter 4.0 drivers (versions between 4.0 and 5.2 do not work on a Macintosh 512Ke). For the other machines, choose one of the previous 5.0 levels of the LaserWriter drivers.

Published Date: Feb 18, 2012

Responder 1.0.1: How to Cure an Unwanted Dialog Box

My copy of Responder 1.0.1 issues a dialog box with the following message:

"No Workstation Name Registered. Be sure to install Responder INIT in the System Folder."

If you click OK, Inter*Poll continues, and the workstation appears with the correct names.
This article has been archived and is no longer updated by Apple.
Responder was updated to version 1.0.1 to fix an issue Inter*Poll had identifying the Macintosh IIx. (The Installer for System Software 6.0.3 automatically installs Responder 1.0.1.) When you use this version with the older Inter*Poll 1.0, the problem appears. The fix is to use Inter*Poll 1.0.1 with Responder 1.0.1. Also note that this is not the current version of Responder. Version 2.0.x is available as of this review.
Published Date: Feb 18, 2012

LaserWriter IINTX: How to Print from an IBM PC/AT

This article has been archived and is no longer updated by Apple.

The LaserWriter IINTX manual states that the printer can be set for higher speeds (beyond 9600 bps), but the IBM PC/AT serial port can be set only to 9600 baud on some versions of DOS. Only versions 4.00 and greater of DOS have an option for 19,200 baud (the current upper limit). Although ATs and 386 systems can be programmed to handle faster rates, any application accessing the serial ports through DOS is restricted to DOS Mode Command options.

There are two ways to handle the speed restriction. First, you could buy a LocalTalk PC Card. With it, you can communicate with the printer at 230K bps, instead of 9600.

Second, you could try this method for changing speeds:

1) Check the version of DOS being used and the upper limit of its serial port communications.

2) Set the PC communications port to 96, N, 8, 1, P to talk to the LaserWriter IINTX.

3) Set the LaserWriter DIP switches for serial communications at 9600 baud.

4) Send the PostScript Command to the LaserWriter to set the new faster communications speed.

5) Reset the PC communications port to the desired speed and parameters using the DOS MODE Command.

The LaserWriter should now be set for the new speed.

Note: It is important to set the handshaking in the LaserWriter to DTR/DSR for DOS if you are not using XON/XOFF. The LaserWriter's default is XON/XOFF, and DOS defaults to DTR/DSR.

Published Date: Feb 18, 2012

Excel PC Files: How to Prepare Them for the Macintosh

This article has been archived and is no longer updated by Apple.

Excel 1.5 for the Macintosh can read only those Excel PC files that are saved in SYLK format. The default format for Excel PC is XLS. The Excel PC user must save a document using the SYLK format before Macintosh Excel can read it. Using AppleShare PC or AFE does not affect the data formats, nor should they in this case. The use of different data formats was a decision made by Microsoft.

However, this is not necessary for Excel 2.2. All versions of Excel now use the same native ("BIFF") file format, and SYLK is not necessary. Users can specify a date system to use 1900 or 1904 via the Calculations, Options dialog box.

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LocalTalk PC Cards and AppleShare PC: Compatible Systems

This article has been archived and is no longer updated by Apple.

The following IBM PC and PC-compatible systems have been tested and found to work with the LocalTalk PC Card and AppleShare PC. The actual working configuration depends on what other cards are in the machine.

- Wyse 286

- Compaq 386, and portable PC

- IBM PC, XT, AT

- PS/2 Model 30

- AT&T 5300

Units that have problems are:

- The Compaq 286 running in 25-MHz mode. This can be changed to run at 8 MHz to work with the LocalTalk PC Card.

- The IBM PC 3270 is not an IBM PC and is not compatible with the LocalTalk PC Card. It is essentially a 3270 workstation whose expanded capabilities include PC operations. This system uses all of the DMA lines and is not compatible with the LocalTalk PC Card.

- Any system that has a bus speed higher the 8 MHz. (Most do not provide provide a speed-mode to switch to a slower speed, compatible with the standard PC bus timing of 8 MHz.)

- Any system that uses all of the DMA lines.

- All pre-2.0 versions of ATALK.EXE do not support noninterrupt operation. (Anyone running AppleShare PC or anyone who has purchased the LocalTalk PC Card since mid-1988 will have version 2.0 or later, which DOES support noninterrupt operation and will work in this situation.)

Published Date: Feb 18, 2012

Apple II Systems: How to Identify them With Inter-Poll

This article describes what to do, so that Inter*Poll can identify an Apple IIe or Apple IIGS connected to a network. There are some very specific criteria that must be met:

This article has been archived and is no longer updated by Apple.

- The Apple IIGS must have Built-in AppleTalk selected in the Control Panel.

- The Apple IIGS must have the proper port set to "Your Card".

- An Apple IIe with the Workstation Card must be past the Password screen.

The steps for each computer are given below.

Apple IIGS

For an Apple IIGS to appear in the "Device List" window of Inter*Poll, these steps must be followed:

1) Select "Built-in AppleTalk" from the Control Panel. At the same time, set the port that the network is connected to, generally the Printer port, to "Your Card".

2) Shut down and restart the system.

3) Run Inter*Poll on the Macintosh, or have it running and checking the network.

The Apple IIGS should show up in the Device List window.

Note: Responder is built into the AppleTalk portion of the software for the Apple IIGS.

Apple IIe
---
1) Install the Apple II Workstation Card in slot 7 of the Apple IIe and connect the LocalTalk port to the network.

2) Start up the system and log on to a ProDOS server on the network.

Once the system goes past the Password screen, the device shows up in the Device List window of Inter*Poll.

To see if there was something unique about this setup procedure, we considered the Macintosh in a similar environment. If the system is powered up, but no software is loaded (that is, the Macintosh screen shows the disk with a flashing question mark in the middle of the disk), the system is not identifiable from Inter*Poll. At this point, there is no AppleTalk software to respond to the Inter*Poll request. The same is true for an Apple II.

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Macintosh II: Power Supply Pinouts and Power Fail Circuitry

This article discusses the pinouts for the Macintosh II's 15-pin, power connector from the power supply to the motherboard. It also includes information about the Power Fail circuitry, in case you must use an alternative power supply.

This article has been archived and is no longer updated by Apple.

Pinouts

Pin #	Function
1	+12V
2	+5V
3	+5V
4	+5V
5	+5V
6	+5V
7	Ground
8	Ground
9	Ground
10	Ground
11	Ground
12	Ground
13	N/C
14	-12V
15	/PFW

The Power Fail circuitry in the Macintosh II power supply senses a level transition from the logic board, initiated by pressing either the button on the back of the machine or the reset key on the ADB keyboard. If this transition does not occur, the power-up sequence does not start. If a steady voltage is applied to the Power Fail signal line into the power supply, the sequence will not start. The power supply must see the transition to begin the power-up cycle. A modified power supply that would power up with a voltage applied steadily, instead of level-shifted, would work in this case.

When the Reset key is pressed, pin 4 (Ground) of the ADB port is connected to pin 2 (PwrOn*) of the ADB port through a 1N914 diode. This applies a ground to the input of a CMOS chip on the logic board, which turns on a transistor and applies approximately +6VDC to the /PFW signal line (Power Fail Warning*), pin 15. This level shift on the PFW* signal line initiates the power-up sequence in the power supply. Once the power supply comes up, +5VDC is applied through another diode to the same line to keep the power supply up.

A power-fail-type circuit is necessary in the current power supply, because there is a thermal sensor on the Macintosh II logic board, which shuts down the system in the event of too-high temperatures. The same circuit shuts off the power supply in response to the Shut Down menu command.

There is also logic in the power supply that generates a Power Fail Warning signal to the system in the event of an AC input voltage failure. Additionally, if AC power is removed from the system, the power fail circuit pulls /PFW low at least 2 ms before the DC outputs fail. There is further information on the operational restrictions of the power fail circuitry in "Designing Cards and Drivers for the Macintosh II and Macintosh SE" from Addison Wesley.

Published Date: Feb 18, 2012

SCSI Bus: Maximum Length Is 5.5 meters

How long can a SCSI Bus be?
This article has been archived and is no longer updated by Apple.
If there is only one SCSI device, segment length and maximum length are the same, 5.5 meters (18 feet). If there are multiple SCSI devices on the bus, the maximum segment length recommended is no longer than 2.75 meters (9 feet), assuming the maximum bus length is not exceeded.
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Apple Access III: Addendum (5 of 7)

This article has been archived and is no longer updated by Apple.

The Reply Sequence

Access III returns an escape sequence in acknowledgment ONLY to a request to change the recording file name. This escape sequence is:

ESC * Pe

where ESC is the escape character (ASCII 27) and Pe is the SOS error code plus 32 (decimal). The offset of 32 is added to the error code so that the reply sequence will not include any control characters which might adversely affect some remote computers.

If the recording file name change is successful, then Pe is the blank character (ASCII 32 plus the SOS OK code of zero). If the new recording file already exists, Pe is 32 (decimal) plus the SOS error code 47 (hex) for a total of 103 (decimal) which is a lower case "g".

When Access III receives the escape sequence commanding the name change, it first checks the new recording file name for validity. If any problems are found, the SOS error code (+32) is returned in the reply sequence. If no problems are found, the old recording file is closed, the new one is opened, and the operation successful reply sequence is sent.

The reply sequence is NOT followed by a carriage return.

If the new recording file cannot be successfully opened, the previous recording file is reinstated. If the previous recording file was a disk file, the file pointer is moved to the end of the file so that any additional recorded information will be added to the end.

A NEW COMMAND KEY

It is possible to force transmission of the answerback text by holding down the open-apple key and pressing the "E" key. The complete answerback text is transmitted every time the "E" key is pressed with the open-apple key held down.

USING ACCESS III WITH A PROFILE

Access III can be used from a ProFile. The procedure differs slightly depending on whether you usually use Pascal or Business BASIC.

No matter what language you are using, you must have a correctly configured SOS.DRIVER file to use the ProFile. The SOS.DRIVER file included on the Access III master diskette does not have a ProFile driver in it. You can use the system configuration feature of the Utility program to add the ProFile driver to the SOS.DRIVER file from the Access III master diskette, or you can construct a new SOS.DRIVER file. Just be sure that your new driver file contains both the RS232 driver and the ACS3FONT character font from the Access III master diskette.

Consult the Standard Device Drivers Manual for instructions on how to configure a SOS.DRIVER file.

In the following discussions it is assumed that the root volume name of your ProFile is /PROFILE. The root volume name is the one that is displayed at the top of any directory listing of the device. If your ProFile has a different volume name, substitute it for /PROFILE in all commands given below.

It is also assumed that you have already configured your system diskette to

include the ProFile driver, and you have read and followed the instructions for setting up and using your ProFile.

PROFILE AND PASCAL

If you use Pascal, use the Pascal Filer to create a subdirectory on the ProFile called APPLCOM. This is done with the Make command as follows:

```
M
Make what file? applcom![4]
```

The exclamation point after the subdirectory name tells the Filer that you're creating a subdirectory. The four in square brackets is the amount of space you're allocating for the subdirectory.

After the subdirectory has been created, transfer ACCESS3.CODE to that subdirectory.

```
T
Transfer what file? /APPLCOM/ACCESS3.CODE
To where? /PROFILE/APPLCOM/ACCESS3.CODE
```

Then transfer SETPREFIX.CODE to the root volume of your ProFile.

```
T
Transfer what file? /APPLCOM/SETPREFIX.CODE
To where? /PROFILE/SETPREFIX.CODE
```

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LisaDraw: Shrinking and Stretching

This article has been archived and is no longer updated by Apple.
Shrinking and stretching objects in LisaDraw is described

on pp. B19-B21 and C75-C76 of the LisaDraw manual

on pp. 137-138 of the Lisa 7/7 manual

To prevent distorting your objects when you stretch and shrink them, use the handles in the middle (not in the corners) of each side, moving each of the handles the same distance from the center. For example, if you have a 2 x 2 square that you wish to increase to 4 x 4, take the handle at the middle of each side and move it an inch out from the center. To stretch or shrink several objects, group them first.
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LisaDraw: Pasting from LisaGraph

This article has been archived and is no longer updated by Apple.
Remember that graphs pasted from LisaGraph to LisaDraw are grouped, sometimes in many layers. Therefore, to access a specific part of the graph, ungroup the objects until the one you wish can be selected individually.
Published Date: Feb 18, 2012

AppleWorks on 5.25-Inch Disks: Printing to LaserWriter

This article describes how to put together three 5.25-inch disks for printing to a LaserWriter from an Apple II with AppleWorks (releases 2.0 and later). This makes the AppleWorks-LaserWriter connection available when only one or two 5.25-inch disk drives reside on the Apple II system. This article has been archived and is no longer updated by Apple.

Overview

The process requires these three disks:

- The IWEM.BOOT Disk
- The APPLEWORKS Startup Disk
- The APPLEWORKS Program Disk

Have these disks handy to go through the process described below. The rest of the article describes what to do with each disk, beginning with the IWEM.BOOT disk. The article concludes with listings of the catalogs of the three disks.

The IWEM.BOOT Disk

For AppleWorks to print to a LaserWriter, you need to download the ImageWriter Emulator (IWEM) to the LaserWriter. To do this, you need the disk labeled: IWEM.BOOT. Follow these steps:

1) Start up the Apple II with the IWEM.BOOT disk. This leaves the user at the Applesoft BASIC prompt.

2) At the prompt, type: -CHOOSER.II

3) Select "LaserWriter" in the top left scroll box.

4) In the lower left scroll box, select the zone of the desired LaserWriter.

5) In the top right scroll box, select the name of the desired LaserWriter. Once you select the LaserWriter in the third box, CHOOSER.II checks for the presence of IWEM. If not already downloaded, it will be downloaded.

6) Quit from CHOOSER.II.

This procedure needs to be used each time the LaserWriter is powered off and back on. The power cycle causes IWEM to be purged. Occasionally, the IWEM may be corrupted by other printing sessions, like a Macintosh printing session. If an Apple II workstation attempts to print to the IWEM with no results, try downloading the IWEM again.

The APPLEWORKS Startup Disk

With the IWEM downloaded, the next step is to start up with the APPLEWORKS startup disk and set the desired printer as the default printer for the user. With the disk configured as below, on startup, the Applesoft prompt appears.

Follow these steps:

1) At the prompt, type: -CHOOSER.II

This time, CHOOSER.II is used only to select the printer for use by AppleWorks. The APPLEWORKS startup disk assumes the IWEM is downloaded.

2) Select the same choices that were selected in the IWEM.BOOT section. The selection is written to the APPLEWORKS startup disk. Unless the printer is moved, renamed, or an alternate printer is desired, you do not need to run CHOOSER.II again during future AppleWorks sessions.

3) Quit CHOOSER.II.

This presents the following request: ENTER PREFIX (PRESS "RETURN" TO ACCEPT)

4) In response, type: /APPLEWORKS/ and press RETURN.

5) This displays the request: ENTER PATHNAME OF NEXT APPLICATION

6) In response, type: APLWORKS and press RETURN.

7) This runs the AppleWorks application. AppleWorks requests the APPLEWORKS program disk.

The APPLEWORKS Program Disk

Continue the process by following these instructions:

1) Insert the APPLEWORKS program disk. Then press the space bar and RETURN.

2) Once in AppleWorks, select: #5: Other Activities.

3) Then select: #7: Specify information about your printer(s)

4) Then select: #2: Add a printer (maximum of 3)

5) Next select: #2: Apple ImageWriter

6) Give this ImageWriter driver a name to represent it as the LaserWriter on the network (like "Network LaserWriter").

7) Designate the correct slot -- the slot the Workstation Card is in on an Apple IIe or slot 7 on an Apple IIGS.

8) The default settings on the next screen are correct, therefore, ESCAPE back to the Main Menu. From this point, everything (including control codes for underlining, bold-facing, and so on) functions as though AppleWorks is printing to an ImageWriter.

Changes To Be Made

Beyond configuring the disks with the following files, one filename needs to be changed. On the APPLEWORKS startup disk, APLWORKS.SYSTEM needs to be changed to APLWORKS. Leaving the .SYSTEM off allows BASIC.SYSTEM to be the startup application, thus, allowing CHOOSER.II to be run, following startup with the APPLEWORKS startup disk and before running APLWORKS.

There are 21 blocks available on the APPLEWORKS startup disk. It may be possible to create a small menu program to "front end" the APPLEWORKS disk. The menu program is not covered in this document.

The three disk configurations follow:

IWEM.BOOT

PRODOS
CHOOSER.II
CHOOSER5.OVR
IWEM
CHOOSER4.OVR
CHOOSER3.OVR
MTXABS.0
CHOOSER2.OVR
CHOOSER1.OVR
CHOOSER.0
ATINIT
BASIC.SYSTEM

12 Files Listed, 262 Blocks Used, 18 Available

APPLEWORKS (startup disk)

PRODOS
APLWORKS
SEG.00
SEG.RM
SEG.XM
SEG.EL
CHOOSER.II
CHOOSER5.OVR

CHOOSER4.OVR
CHOOSER3.OVR
CHOOSER2.OVR
CHOOSER1.OVR
CHOOSER.0
MTXABS.0
ATINIT
BASIC.SYSTEM

16 Files Listed, 259 Blocks Used, 21 Available

APPLEWORKS (program disk)

SEG.M0
SEG.M1
SEG.PR

3 Files Listed, 279 Blocks Used, 1 Available
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INIT 31 Mechanism and INIT 29 Virus

This article has been archived and is no longer updated by Apple.

Only files in the System Folder of the type "INIT", "CDEV", or "RDEV" are searched for INITs at startup. In fact, with System 6.0.2 and later, only visible files in the System Folder are searched for INITs.

The INIT 29 virus installs an INIT in every resource file that is opened, in which a code resource is installed, excluding applications. Because the Desktop file is a resource file and not an application, an INIT is installed. This INIT is never activated.

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MPW 3.0 Installer Program: Conflict with TOPS

This article has been archived and is no longer updated by Apple.

The MPW 3.0 Installer program crashes, if TOPS is installed. Note that TOPS does not need to be active, just installed.

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Async LaserWriter Driver 4.0: Use with LaserPrep 4.0

This article has been archived and is no longer updated by Apple.

If you have had a problem using the Asynchronous LaserWriter Driver, the problem may be the version of your LaserPrep file. The Asynchronous LaserWriter Driver version 4.0 works fine with LaserPrep version 4.0. Other versions of the LaserPrep file, like 5.2, may not print--even though the connection to the LaserWriter is sound.

A successful configuration is:

LaserWriter IINT
SL Laser 4.0 (Asynchronous LaserWriter Driver)
LaserPrep 4.0
Macintosh IIx

Set the baud rate to 9600 in the Chooser. The DIP-switch settings on the LaserWriter IINT had switch 1 up and switch 2 down. Connect the printer to the Macintosh using an 8-to-25-pin cable.

To ensure that the LaserWriter has the proper settings, power on the LaserWriter and look at the test page it prints. The RS-232 9600-baud and RS-422 baud options should be listed on the test page.

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Kodak KEEPS to Macintosh: How To Transfer Files

Article Change History

08/31/92 - REVIEWED
*For technical accuracy

How do I transfer files from a Kodak KEEPS system to the Macintosh?

This article has been archived and is no longer updated by Apple.
One way to transfer files from a Kodak KEEPS system to the Macintosh is to use a serial connection and Kermit from Columbia University. The Kodak KEEPS system is based on Interleaf running on a Sun platform. Interleaf is also available for the Macintosh and supports the importing of RFT, ASCII, EPS, TIFF, and PICT files.

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AppleShare: Alphanumeric Characters Only for User Names

This article has been archived and is no longer updated by Apple.

Users have complained that they cannot change the access privileges on folders created in AppleShare 2.0.1. The response received when trying to change privileges is, "User ID not known". This seems strange, because all characters are accepted when an account name is defined.

The fix is to ensure that only alphanumeric characters appear in registered user names. That is, "Albert Cohoe 3933440" works properly, but "Albert Cohoe: 393-3440" does not.

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LisaDraw: Printing Landscape, High Resolution

This article has been archived and is no longer updated by Apple.
When you print LisaDraw documents in landscape high resolution, horizontal lines and text may be longer on paper than they appeared on the screen. This distortion is due to the difference in the pixel size between the screen and the printer.

If you are designing a document to be printed in landscape high resolution, compensate for the line length by drawing your horizontal lines a little shorter, position text in boxes a little to the left, etc.

Alternatively, print your landscape document in normal resolution
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Macintosh 512K: How to Localize to Spanish

This article has been archived and is no longer updated by Apple.

When trying to localize a Macintosh 512K, some people have reported that the process resulted in the keyboard becoming completely unmapped. That is, keys were interchanged throughout. This can happen when to the standard U.S. Macintosh 512K keyboard (no numeric pad).

The problem results from the U.S. standard keyboard having a different number of keys than the international keyboard. The number of keys affects the mapping. If you are using a Spanish keyboard, select "international keyboard" from the Keyboard CDEV in the Control Panel. Using any Macintosh Plus keyboard also eliminates difficulties.

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AppleShare Server: One Log on per Workstation

This article has been archived and is no longer updated by Apple.

Some AppleShare administrators have inquired if there is anyway to partition a server volume into application and work file sections, so that users could mount applications more quickly. In effect, they want users to log on to multiple volumes on a single AppleShare server.

Although this approach could speed up user access time, the problem is that when connecting to an AppleShare File Server, the user logs on to the server itself; not the individual volume. The current implementation of AppleShare File Services does not allow multiple logging on to a server from a single workstation. Allowing multiple connections could create situations that would severely confuse the Finder. To eliminate this as a possibility, each workstation is allowed only one connection to any server.

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System 6.0.2 & 6.0.3: Printing Changes "Last Modified Date"

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A user noticed that after printing to an ImageWriter or LaserWriter, the "last modified" date of the Finder and the printer driver changed to the current date. Also, changing a setting in the Control Panel changes the "last modified" date of the System changes to the current date. This occurs with System 6.0.2 and System 6.0.3.

Tech Comm engineers were unable to create a situation that changes the "last modified" date of the Finder. However, the change in the "last modified" date of the printer driver and the System file is normal.

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Aristotle: Add Memory to Apple IIGS when Adding Users

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To avoid running out of memory in Aristotle while working with more than 500 users, you need to increase the Control Panel setting for the RAM disk from 256K to 512K on the administrator's Apple IIGS. This allows up to 1,000 users in Aristotle. For 1,001 to 1,500 Aristotle users, increase RAM disk size another 256K for a total of 768K in the RAM disk. The Aristotle manual discusses this on page xii:

"By setting 256K minimum RAM (on the RAM disk in an Apple IIGS or with 256K RAM on the expansion card in an Apple IIe), you can manage up to 150 applications on the server and use them to create up to 50 menus for up to 500 users. (Aristotle calls the menus 'classes'.)"

"You can raise these limits by increasing the amount of RAM. With each 256K increment--to a maximum of 1MB--you can manage 150 more applications, 50 more menus, and 500 more students. If you're using an Apple IIGS, however, remember that 256K of the RAM on the expansion card is needed for the workstation to access the network. In fact, more memory may be needed if the user has desk accessories or other memory-resident programs."

Aristotle does not recognize the Apple II Memory Expansion Card (Part number A2B2086) as usable RAM when it is installed in the Apple IIGS. However, Aristotle does recognize this memory card automatically when installed in an Apple IIe.

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Step-Up, Step-Down Transformers: Where to Buy Them

Where can I purchase a step-up or step-down transformer?
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Generally, the best source for step-up or step-down transformers is the country of destination. Once in the country, a hardware store (as they are known in the U.S.) is the most likely vendor of step-down transformers.

If you prefer to buy in the U.S., stores handling travel goods (luggage and travel accessories) are a possible source, as are ordinary hardware stores and electronic supply stores.
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Text Files: The "Lost" Tabs Problem

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If, when saving files as text only (for transfer to MS-DOS applications, for example), you lose tabs, consider the following. Most Macintosh word processing applications save the tabs in the files. Most MS-DOS word processing applications replace tabs with space runs. This is why the MS-DOS files appear to keep their formatting.

Apple File Exchange replaces tabs n spaces if that option is selected in the Macintosh-to-MS-DOS section of the standard text file translator.

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A/UX: Supports HyperCard (9/94)

Many Macintosh applications, including HyperCard, now can run under A/UX. As a result, you can develop programs that run under A/UX, such that HyperCard can communicate with a user's application programs.

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In general, HyperCard front-end interface XCMDs (external commands) and/or XFCNs (external functions) can be written in C or Pascal to communicate with a user's application via generic A/UX system calls or A/UX toolbox calls. This means that you can port an application from a different UNIX platform to A/UX and give it a HyperCard interface.

Oracle Relational DBMS has developed such a HyperCard interface for their applications running under A/UX. For more details, search under "Oracle".

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A/UX: How to Specify Nonstandard Macintosh Partition Sizes

This article has been archived and is no longer updated by Apple.

When running Apple HD SC Setup to partition an A/UX drive, you can specify nonstandard Macintosh partition sizes. However, be aware that the method this article describes should not be used on drives already containing the Root and Usr partition of a standard A/UX drive. Rather, this method is best suited for partitioning secondary volumes for use as additional disk space on an A/UX system.

1) In the HD SC Setup 2.0 initial window, select the drive to be partitioned.

2) Click on the partition button.

You should see a window with several standard setups, such as 50% Macintosh and 50% A/UX. If one of these configurations fits the your needs, choose that setup.

3) If you want something else, click the Custom button.

This presents you with a third window that graphically depicts the partitioning on the hard disk drive.

By clicking and dragging in the gray, nonallocated region, you can create partitions and specify their sizes. You can double-click on a created partition to declare its type (like Macintosh partition).

Your first partition should be a 16K partition of the type "Macintosh Driver".

With the one exception that you can have only one Macintosh partition per hard drive, subsequent partitions can be of any type you desire.

DO NOT PARTITION A HARD DRIVE THAT HAS VALUABLE INFORMATION ON IT. Doing this is the equivalent of initializing the hard disk. You also should not do this on your boot A/UX volume. If you want to change the partition sizes on your boot A/UX volume that was shipped from Apple, first read the articles in the Tech Info Library on that topic.

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Mixed Environment Network Issues

This article has been archived and is no longer updated by Apple.

This article describes IBM PCs connected via LocalTalk PC Cards via FastPaths to a mixed environment network. Pacer software on the VAX does have the capability to support MS-DOS machines. Although connections are provided for both AppleTalk and Ethernet, the services on an Ethernet direct-connect are a subset of the services for a machine using the LocalTalk PC Card.

Using the LocalTalk PC Card and routing through a Kinetics FastPath, you have complete access to file, terminal, and printing services. Currently, using the supported Ethernet cards for the MS-DOS machine, you have the terminal and printing services, but not the file services.

Ethernet cards currently supported by Pacer on the MS-DOS machines are:

- 3COM Corporation's 501,503,505
- Micom's NI5010,NI5210
- Western Digital's AD03

In the Macintosh world, you have access to the full range of services whether you use Ethernet or LocalTalk.

Alisa Systems supports AppleShare PC using the LocalTalk PC Card connected to a Kinetics FastPath through an AppleTalk network.

With regard to PCSA (Personal Computing Systems Architecture), because this product was specifically designed by DEC to provide file and print services for MS-DOS machines from VAX systems, it should work. Because it is not AppleTalk-based, its presence on the network should have no effect.

Note: This is a theoretical statement, because no reports of problems with both architectures residing on the same network have appeared. The area for potential problems is having AppleTalk and PCSA reside on the same MS-DOS machine and somehow conflicting. The usual concerns of interrupt, DMA, and driver conflicts would apply in this case.

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LaserWriter: To Avoid Paper Curl, Keep the Paper Dry

The pages coming out of my LaserWriter are sometimes curled. What causes that, and what can I do about it?
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The curved or wrinkled edge on almost all paper is normally caused by humidity. The higher the humidity, the more likely a paper stock is to curl. This is due to a rapid, but uneven, drying of the paper stock as it is passed through the heated fuser assembly in the LaserWriter.

This condition can be lessened by storing the paper stock and printing in a dryer, humidity-controlled environment. You may need to use a dehumidifier to lower the relative humidity in the room where the printer is located to lessen the amount of curl. However, an environment that is too dry may cause the toner to scatter on the page before it is fused. This can cause grey areas that look like dust.
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SCSI Disk Controller Card: Two Drive Relationship

This article describes the relationship of a SCSI disk controller card, the two hard disks connected to it, and the Macintosh system software.
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When two hard drives are connected to a controller card, which is connected to the SCSI bus; then accessing, mounting, and arbitration of the hard disks volumes is handled by the disk controller card and not the SCSI bus.

The SCSI address is assigned to the SCSI controller card and sets the priority for the controller card, not the disk drives. So, the system software (Macintosh Operating System) is not addressing the hard drives as SCSI drives but as devices through the SCSI-attached drive controller (the disk drives are talking to the disk controller, not the SCSI bus).

SCSI is a transport medium and does not care what is connected to the SCSI controller, provided the SCSI controller follows the rules for placing information on the SCSI bus. In this case, an INIT is required to tell the SCSI controller how to talk to the two separate hard disks.
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LaserWriter and Word 3.02: Driver 5.1 Versus 5.2

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While running Microsoft Word 3.02 and LaserWriter Driver 5.1, some users find that the London and Venice fonts print fine -- but that after they upgrade to LaserWriter Driver 5.2, the fonts print jaggedly.

LaserWriter Driver 5.2 added a feature to allow smoothing on text, graphics, or both. This was different from previous versions where smoothing was a global option. Driver 5.2 provides greater control over the document by letting the user choose among three options.

Venice and London are bitmapped screen fonts and require smoothing when printing. Because Microsoft Word uses its own Page Setup and Print dialogs, it does not properly select the two different smoothing options. It selects smoothing for graphics only.

You can test this by cutting and pasting a PICT of Venice text from MacPaint into Microsoft Word. The picture of the text will be smoothed, but some Venice text in the same Microsoft Word document will not be.

The problem could have been worked around by letting the user select and print with the system's Print dialog. Microsoft Word lets the user display the system dialogs by holding the Shift key when selecting Page Setup or when selecting Print. However, with Microsoft Word, the system's Print dialog command is ignored, and the Microsoft Word dialog must be used.

Products like MacWrite, that use the standard system Print dialogs, smooth correctly with the new driver.

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